

APPLICATION FOR CERTIFICATION

On Behalf of

TP-Link Technologies Co., Ltd

3G Mobile Wi-Fi

Model No. : M5250

FCC ID : TE7M5250

Brand : TP-LINK

Prepared for: TP-Link Technologies Co., Ltd
Building 24 (Floors 1,2,4,5) and 28 (floorsl-4)
Central Science and technology park , Shennan
Rd, Nanshan, Shenzhen, China

Prepared by: AUDIX Technology Corporation
EMC Department
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Date of Test : Dec. 05 ~ 13, 2013
Date of Report : Dec. 13, 2013

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TEST REPORT CERTIFICATION

Applicant : TP-Link Technologies Co., Ltd
Manufacturer : TP-Link Technologies Co., Ltd
EUT Description : 3G Mobile Wi-Fi
FCC ID : **TE7M5250**
(A) Model No. : M5250
(B) Serial No. : N/A
(C) Brand : TP-LINK
(D) Power Supply : **(1)**DC 5V (Via USB)
(2)DC 3.7V (Via Battery)

Measurement Procedure Used:

FCC Rules and Regulations Part 22 Subpart H and Part 24 Subpart E
And ANSI C63.4/2003, ANSI/TIA/EIA 603C/2004

The device described above was tested by AUDIX Technology Corporation to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 22 Subpart H, Part 24 Subpart E limits.

The measurement results are contained in this test report and AUDIX Technology Corporation is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the requirements of FCC Part 22H, Part 24E standards.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX Technology Corporation.

Date of Test: Dec. 05 ~ 13, 2013

Date of Report: Dec. 13, 2013

Producer: Annie Yu
(Annie Yu/Administrator)

Signatory: Ben Cheng
(Ben Cheng/Manager)

1. DESCRIPTION OF REVISION HISTORY

Edition No.	Date of Rev.	Revision Summary	Report No.
0	Dec. 13, 2013	Original Report	EM-F1020903

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Product	3G Mobile Wi-Fi
Model Number	M5250
Serial Number	N/A
Brand Name	TP-LINK
Applicant	TP-Link Technologies Co., Ltd Building 24 (Floors 1,2,4,5) and 28 (floorsl-4) Central Science and technology park , Shennan Rd, Nanshan, Shenzhen, China
Manufacturer	TP-Link Technologies Co., Ltd Building 24 (Floors 1,2,4,5) and 28 (floorsl-4) Central Science and technology park , Shennan Rd, Nanshan, Shenzhen, China
FCC ID	TE7M5250
Fundamental Range	802.11b/g: 2412MHz ~ 2462MHz 802.11n-HT20: 2412MHz ~ 2462MHz GPRS/EGPRS 850: UL: 824MHz to 849MHz DL: 869MHz to 894MHz GPRS/EGPRS 1900: UL: 1850MHz to 1910MHz DL: 1930MHz to 1990MHz
Frequency Channel	802.11b/g: 11 channels 802.11n-HT20: 2.4GHz: 11 channels GPRS/EGPRS 850: CH 128- CH 251 GPRS/EGPRS 1900: CH 512-CH 810
Radio Technology	802.11b: DSSS Modulation (DBPSK/DQPSK/CCK) 802.11g: DSSS /OFDM Modulation (BPSK/QPSK/16QAM/64QAM) 802.11n: DSSS /OFDM Modulation (SISO) (BPSK/QPSK/16QAM/64QAM) GSM/GPRS/EDGE (GMSK/8DPSK)
Data Transfer Rate	802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 72.2Mbps GSM:DL 14.4kbps/UL 14.4kbps GPRS: DL 85.6kbps/UL 85.6kbps EGPRS:DL 236.8kbps/UL 236.8kpbs
USB Cable	Shielded, Detachable, 0.6m
Battery	M/N: TBL-71A20000, Rating: 3.7V, 2000mAh, 7.4Wh
Date of Receipt of Sample	Dec. 02, 2013
Date of Test	Dec. 05 ~ 13, 2013

Note: This EUT has 2.4GHz (WLAN) and GPRS/EGPRS function. See below for related test reports based on radio functionality.

1. The 2.4GHz (WLAN) function has been test in other report of EM-F1020902.
2. The GPRS/EGPRS function has been test in other report of EM-F1020903.

2.2. Antenna Information

Antenna Part Number	Manufacture	Antenna Type	Peak Gain
			Max Gain
F	SHENZHEN SKYCROSS	PIFA	GSM 850: -2dBi
			GSM1900: 2.3dBi

2.3. Tested Supporting System Details

【For Conducted Measurement】

2.3.1. NOTEBOOK PC

Model Number : ZL5
 Serial Number : N/A
 Manufacturer : acer
 AC Adapter : LITEON, M/N PA-1650-02
 DC Cord: Non-Shielded, Undetachable, 1.8m
 AC Power Cord : Non-Shielded, Detachable, 1.8m

【For Radiated Emission Measurement】

2.3.2. DC POWER SUPPLY

Model Number : 3303A
 Serial Number : 721773X
 Manufacturer : TOP WARD
 Power Cord : Non-Shielded, Detachable, 1.8m

2.4. Description of Test Facility

Name of Firm : **AUDIX Technology Corporation**
EMC Department
 No. 53-11, Dingfu, Linkou Dist.,
 New Taipei City 244, Taiwan, R.O.C.

Test Site : **No. 8 Shielded Room**
 (C8/Semi-AC) No. 53-11, Dingfu, Linkou Dist.,
 New Taipei City 244, Taiwan, R.O.C.

Semi-Anechoic Chamber
 No. 53-11, Dingfu, Linkou Dist.,
 New Taipei City 244, Taiwan, R.O.C.

May 11, 2012 Renewal on
 Federal Communication Commission
 Registration Number: 90993

NVLAP Lab. Code : 200077-0

TAF Accreditation No : 1724

2.5. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB), (V/m)
Conduction Test	150kHz~30MHz	±1.73dB
Radiation Test (Distance: 3m)	30MHz~300MHz	± 2.91dB
	300MHz~1000MHz	± 2.74dB
	Above 1GHz	± 5.02dB

Remark : Uncertainty = $k_{uc}(y)$

Test Item	Uncertainty
99% Bandwidth	± 0.05kHz
Emission Limitations	± 0.13dB
Maximum Peak Output Power	± 0.33dB
Band Edges	± 0.13dB
Frequency Tolerance	± 0.0074ppm

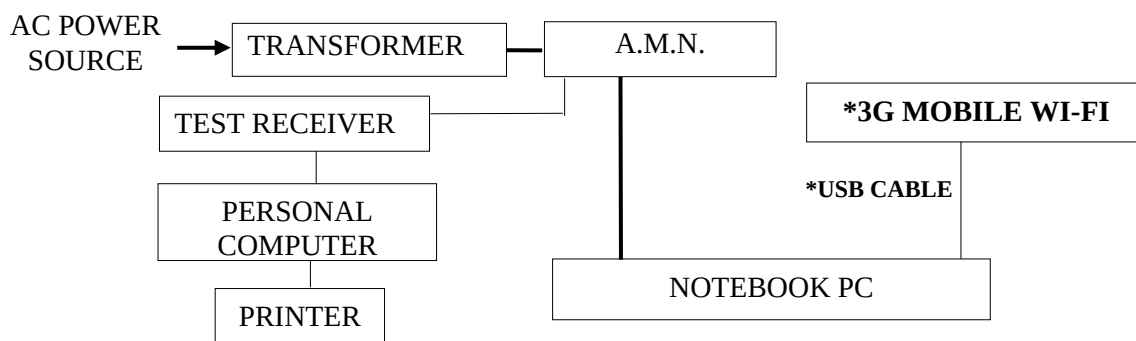
3. CONDUCTED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipment was used during the conducted emission measurement :
(No. 8 Shielded Room)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCS30	100265	Aug. 22, 13'	Aug. 21, 14'
2.	A.M.N.	R&S	ESH2-Z5	100366	Mar. 19, 13'	Mar. 18, 14'

3.2. Block Diagram of Test Setup



* : EUT — : DATA CABLE — : POWER CABLE

3.3. Conducted Emission Limits (§15.207)

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level	Average Level
150kHz ~ 500kHz	66 ~ 56 dB μ V	56 ~ 46 dB μ V
500kHz ~ 5MHz	56 dB μ V	46 dB μ V
5MHz ~ 30MHz	60 dB μ V	50 dB μ V

Remark 1.: If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.

2.: The lower limit applies at the band edges.

3.4. Operating Condition of EUT

- 3.4.1. Set up the EUT and simulator as shown on 3.2.
- 3.4.2. Turn on the power of all equipment.
- 3.4.3. The test program “QPST” and “QRCT” was used to enable the EUT to transmit data during all testing.

3.5. Test Procedure

The EUT was put on table which was above the ground by 80cm and its AC adapter's power cord connected to the AC mains through an Artificial Mains Network (A.M.N.). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provided a 50 ohm coupling impedance for the measuring equipment. (Please refer to the block diagram of the test setup and photographs.)

Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions simulators of the interface cables should be manipulated according to FCC ANSI C63.4-2003, Canada IC RSS-Gen regulation during conducted measurement.

The bandwidth of the R&S Test Receiver ESCS30 was set at 9kHz.

The frequency range from 150kHz to 30MHz was checked.

All the final readings from Test Receiver were measured with the Quasi-Peak detector and Average detector. Remark: If the Average limit is met when using a Quasi-Peak detector, the Average detector is unnecessary)

3.6. Conducted Emission Measurement Results

PASSED.

(All the emissions not reported below are too low against the prescribed limits.)

EUT was performed during this section testing and all the test results are attached in next pages.

EUT: 3G Mobile Wi-Fi

Model No.: M5250

Test Date: Dec. 10, 2013

Temperature: 21°C

Humidity: 50%

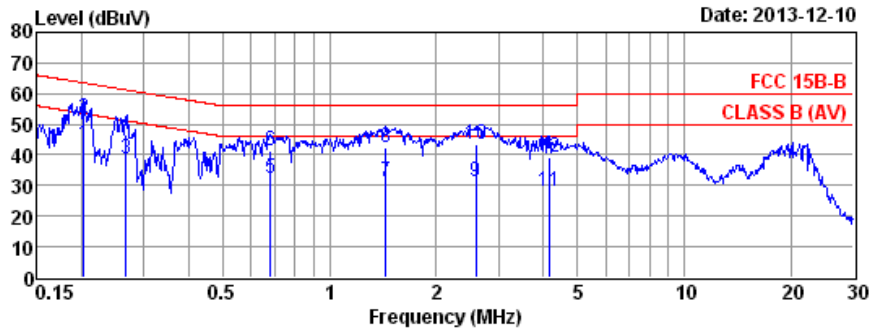
The details are as follows :

Mode	Test Voltage	Operation of EUT	Reference Test Data No.	
			Neutral	Line
1	AC 120V/60Hz (Via Notebook)	Operating	# 22	# 21



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Email: emc@audixtech.com

Data: 22 File: D:\test data\REPORT\2013\1M1312XXX\1M1312001-C-D-EM6 (24)



Site no. : No.8 Shielded Room Data no. : 22
Dis. / Ant. : ESH2-Z5 366 Ant. pol. : NEUTRAL
Limit : FCC 15B-B
Env. / Ins. : 21°C / 50% ESCS (265) Engineer : Jack_Wu
EUT : M5250
Power Rating : 120Vac/60Hz
Test Mode : Operating

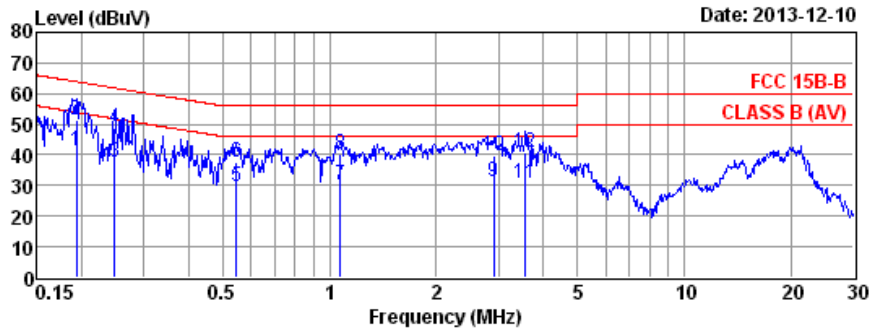
	Freq. (MHz)	CLAMP. Factor (dB)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.20	0.21	0.03	42.94	43.18	53.49	10.31	Average
2	0.20	0.21	0.03	51.94	52.18	63.49	11.31	QP
3	0.27	0.21	0.03	38.21	38.45	51.20	12.75	Average
4	0.27	0.21	0.03	46.21	46.45	61.20	14.75	QP
5	0.68	0.23	0.04	32.12	32.39	46.00	13.61	Average
6	0.68	0.23	0.04	41.12	41.39	56.00	14.61	QP
7	1.44	0.26	0.06	30.87	31.19	46.00	14.81	Average
8	1.44	0.26	0.06	41.87	42.19	56.00	13.81	QP
9	2.58	0.28	0.09	31.07	31.44	46.00	14.56	Average
10	2.58	0.28	0.09	43.07	43.44	56.00	12.56	QP
11	4.16	0.31	0.12	27.66	28.09	46.00	17.91	Average
12	4.16	0.31	0.12	38.66	39.09	56.00	16.91	QP

Remarks: 1. Emission Level= CLAMP Factor + Cable Loss + Reading.
2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



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Email: emc@audixtech.com

Data: 21 File: D:\test data\REPORT\2013\1M1312XXX\1M1312001-C-D-EM6 (24)



Site no. : No.8 Shielded Room Data no. : 21
Dis. / Ant. : ESH2-Z5 366 Ant. pol. : LINE
Limit : FCC 15B-B
Env. / Ins. : 21°C / 50% ESCS (265) Engineer : Jack_Wu
EUT : M5250
Power Rating : 120Vac/60Hz
Test Mode : Operating

	Freq. (MHz)	CLAMP. Factor (dB)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.19	0.11	0.03	41.29	41.43	53.89	12.46	Average
2	0.19	0.11	0.03	51.29	51.43	63.89	12.46	QP
3	0.25	0.11	0.03	37.46	37.60	51.82	14.22	Average
4	0.25	0.11	0.03	48.46	48.60	61.82	13.22	QP
5	0.55	0.13	0.04	29.67	29.84	46.00	16.16	Average
6	0.55	0.13	0.04	37.67	37.84	56.00	18.16	QP
7	1.07	0.14	0.05	30.02	30.21	46.00	15.79	Average
8	1.07	0.14	0.05	40.02	40.21	56.00	15.79	QP
9	2.90	0.18	0.10	31.24	31.52	46.00	14.48	Average
10	2.90	0.18	0.10	39.24	39.52	56.00	16.48	QP
11	3.57	0.19	0.11	30.50	30.80	46.00	15.20	Average
12	3.57	0.19	0.11	40.50	40.80	56.00	15.20	QP

Remarks: 1. Emission Level= CLAMP Factor + Cable Loss + Reading.
2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

4. RF OUTPUT POWER MEASUREMENT

4.1. Test Equipment

4.1.1. For Conducted Measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	R&S	FSV30	101181	Mar. 13, 13'	Mar. 12, 14'
2.	Power Divider	Anritsu	K240C	019728	Jan. 05, 13'	Jan. 04, 14'
3.	Universal Radio Communication Tester	R & S	CMU200	102280	Nov. 22, 13'	Nov. 21, 14'
4.	Horn Antenna	EMCO	3115	9112-3775	May 07, 13'	May 06, 14'

4.1.2. For Radiated Measurement (for 30MHz-1GHz)

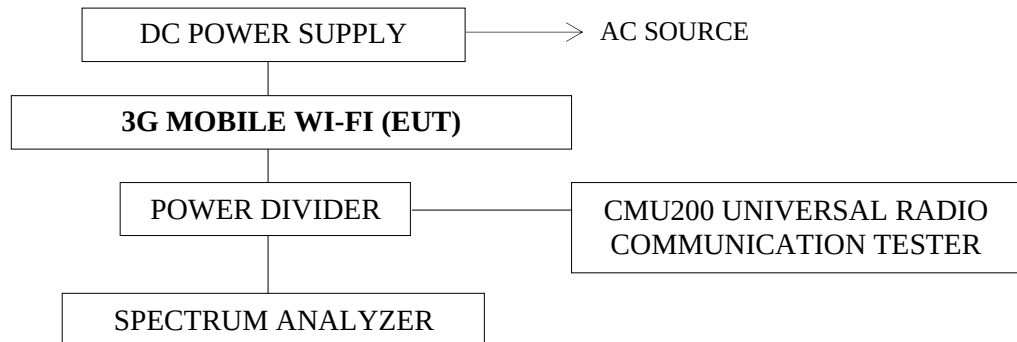
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Jul. 30, 13'	Jul. 29, 14'
2.	Test Receiver	R & S	ESCS30	100338	Jul. 01, 13'	Jun. 30, 14'
3.	Amplifier	HP	8447D	2944A06305	Feb. 29, 13'	Feb. 28, 14'
4.	Bilog Antenna	TESEQ	CBL6112D	33821	Aug. 08, 13'	Aug. 07, 14'
5.	Universal Radio Communication Tester	R & S	CMU200	102280	Nov. 22, 13'	Nov. 21, 14'
6.	Horn Antenna	EMCO	3115	9112-3775	May 07, 13'	May 06, 14'

4.1.3. For Radiated Measurement (for above 1GHz)

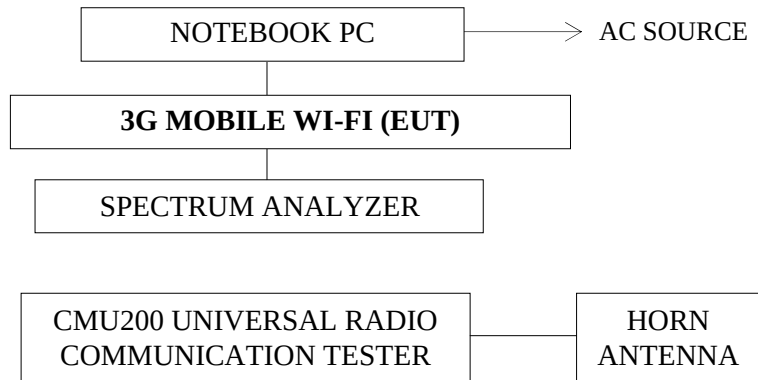
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Jul. 30, 13'	Jul. 29, 14'
2.	Pre-Amplifier	HP	8449B	3008A02678	Mar. 08, 13'	Mar. 07, 14'
3.	Horn Antenna (1GHz ~ 18GHz)	EMCO	3115	9609-4927	Jun. 17, 13'	Jun. 16, 14'
4.	Universal Radio Communication Tester	R & S	CMU200	102280	Nov. 22, 13'	Nov. 21, 14'
5.	Horn Antenna	EMCO	3115	9112-3775	May 07, 13'	May 06, 14'

4.2. Block Diagram of Test Setup

4.2.1. For Conducted Measurement



4.2.2. For Radiated Measurement



4.3. Specification Limits

FCC §2.1046

FCC §22.913(a): The Effective Radiated Power (E.R.P) of Mobile transmitter auxiliary test transmitter must not exceed 7 Watts (38.45dBm)

FCC §24.232(d): Mobile/portable stations are limited to 2 Watts (33dBm) Effective Isotropic Radiated Power (E.I.R.P) peak power.

4.4. Test Procedure

The conducted RF output power measurements were made at the RF output terminals of the EUT using an attenuator, power splitter and spectrum analyzer. The EUT was controlled via the Universal Radio Communication tester R&S CMU200 selecting maximum transmission power of the EUT and different modes of modulation.

For radiated measurements the EUT was placed on a 1m high non-conductive stand inside an anechoic chamber. The measuring antenna was placed at 3m distance and the maximum field strength was measured for the three channels. The EUT was controlled via the Universal Radio Communication tester R&S CMU200 selecting maximum transmission power of the EUT and different modes of modulation.

The Effective Radiated Power (E.R.P.) is obtained by using the Substitution Method according to ANSI/TIA/EIA603C:2004.

The Effective Isotropic Radiated Power (E.I.R.P.) is obtained by using the Substitution Method according to ANSI/TIA/EIA603C:2004.

4.5. Test Results

PASSED. All the test results are listed below.

4.5.1. For Conducted Test Results

(Test Date: Dec. 05, 2013 Temperature: 25°C Humidity: 50%)
(Test Date: Dec. 09, 2013 Temperature: 25°C Humidity: 50%)

Type of Modulation	Channel	Frequency (MHz)	Conducted Peak Power (dBm)
GPRS 850	CH 128	824.20	31.71dBm
	CH 189	836.40	31.41dBm
	CH 251	848.80	31.34dBm
EGPRS 850	CH 128	824.20	26.22dBm
	CH 189	836.40	26.15dBm
	CH 251	848.80	26.18dBm

Type of Modulation	Channel	Frequency (MHz)	Conducted Peak Power (dBm)
GPRS 1900	CH 512	1850.20	30.37dBm
	CH 661	1880.00	30.40dBm
	CH 810	1909.80	29.93dBm
EGPRS 1900	CH 512	1850.20	24.21dBm
	CH 661	1880.00	24.04dBm
	CH 810	1909.80	23.50dBm

4.5.2. For Radiated Test Results

(Test Date: Dec. 13, 2013 Temperature: 25°C Humidity: 50%)

Type of Modulation	Channel	Frequency (MHz)	Filed Strength (dBuV/m)	E(V/m)	eirp (dBm)	E.R.P Peak Power (dBm)
GPRS 850	CH 128	824.20	128.58	2.69	33.35	31.20
	CH 189	836.40	127.35	2.33	32.12	29.97
	CH 251	848.80	128.31	2.60	33.08	30.93
EGPRS 850	CH 128	824.20	125.41	1.86	30.18	28.03
	CH 189	836.40	125.24	1.83	30.01	27.86
	CH 251	848.80	125.09	1.80	29.86	27.71

Type of Modulation	Channel	Frequency (MHz)	Filed Strength (dBuV/m)	E(V/m)	eirp (dBm)	E.R.P Peak Power (dBm)
GPRS 1900	CH 512	1850.20	127.90	2.48	32.67	30.52
	CH 661	1880.00	127.92	2.49	32.69	30.54
	CH 810	1909.80	127.63	2.40	32.40	30.25
EGPRS 1900	CH 512	1850.20	125.16	1.81	29.93	27.78
	CH 661	1880.00	127.39	2.34	32.16	30.01
	CH 810	1909.80	127.49	2.37	32.26	30.11

Remark: According to KDB412172 D01

$$\text{eirp} = \text{pt} \times \text{gt} = (\text{E} \times \text{d})^2 / 30,$$

pt = transmitter output power in watts,

gt = numeric gain of the transmitting antenna (unitless),

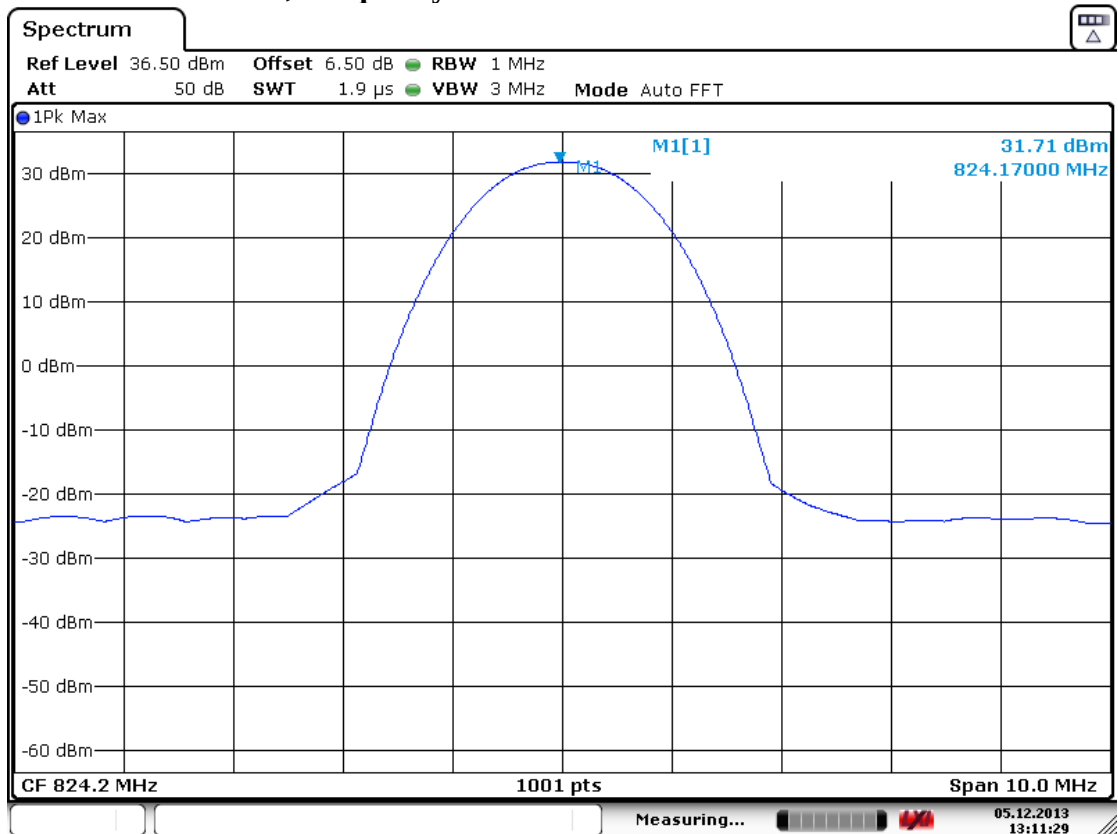
E = electric field strength in V/m,

d = measurement distance in meters (m).

$$\text{ERP} = \text{EIRP} - 2.15 \text{ dB}.$$

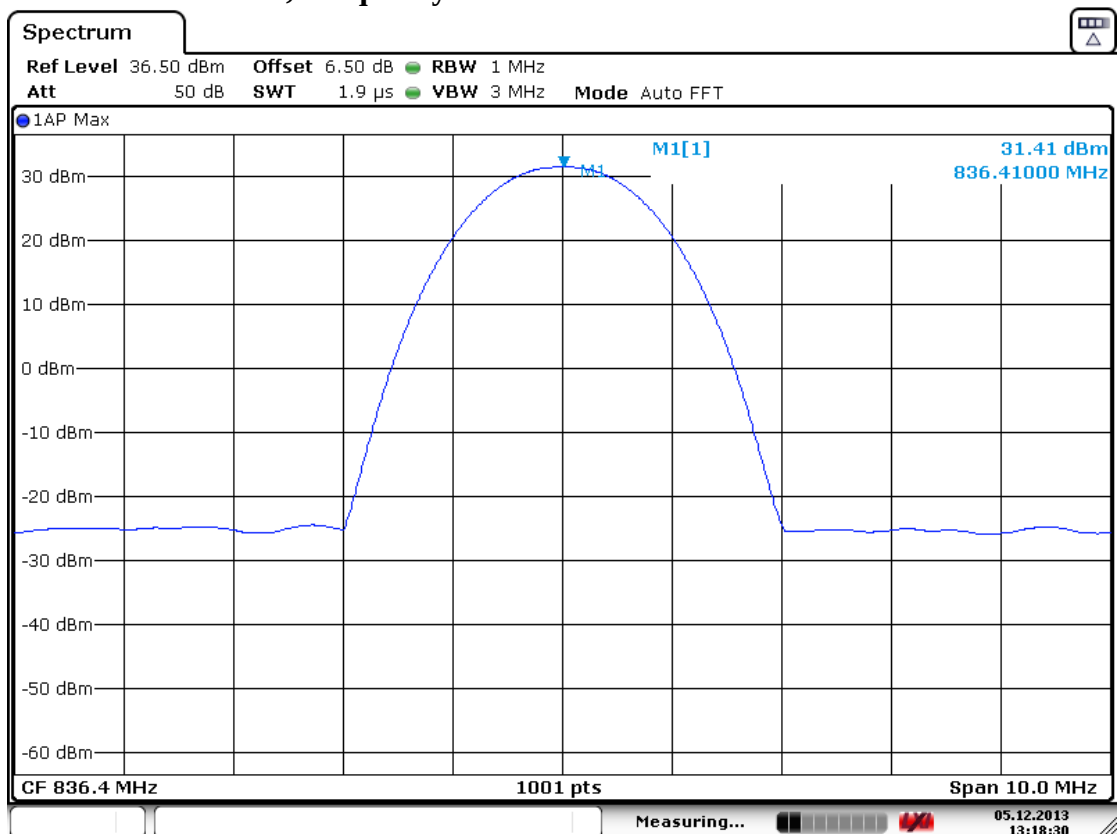
Peak Output Power (conducted)— GPRS 850/EGPRS 850

GPRS Modulation, Frequency: 824.20MHz

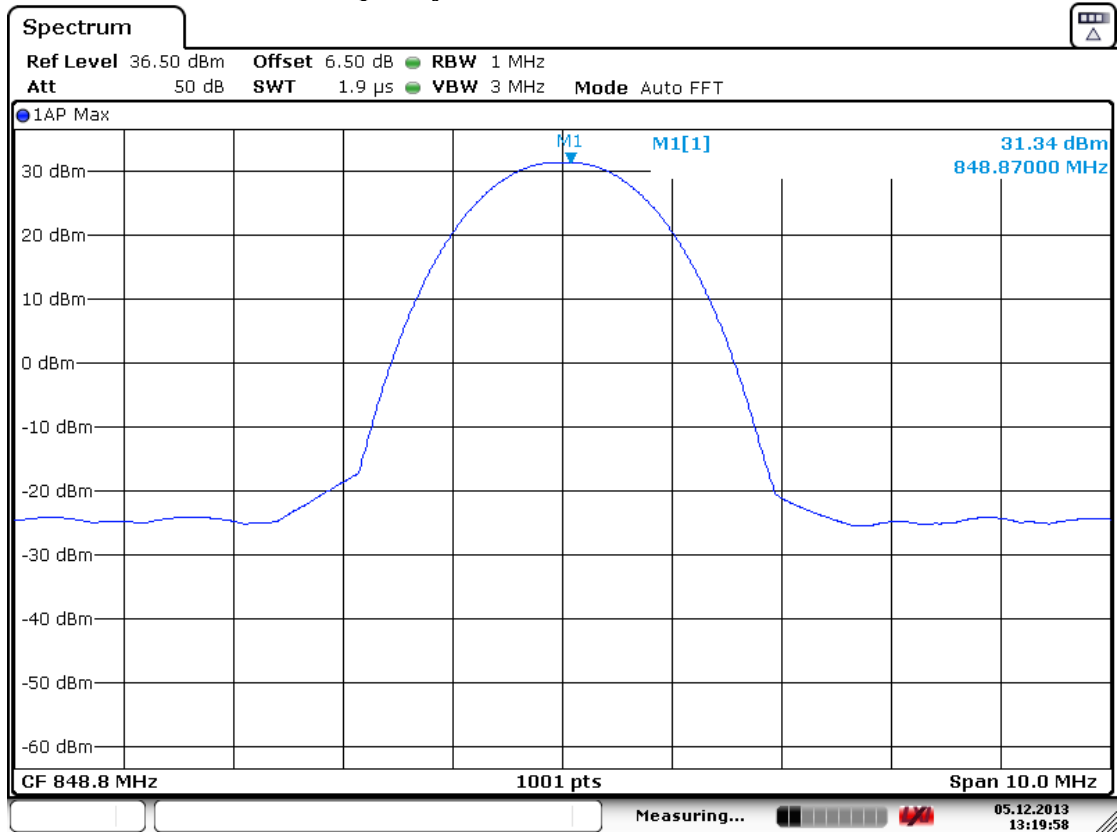


Date: 5.DEC.2013 13:11:29

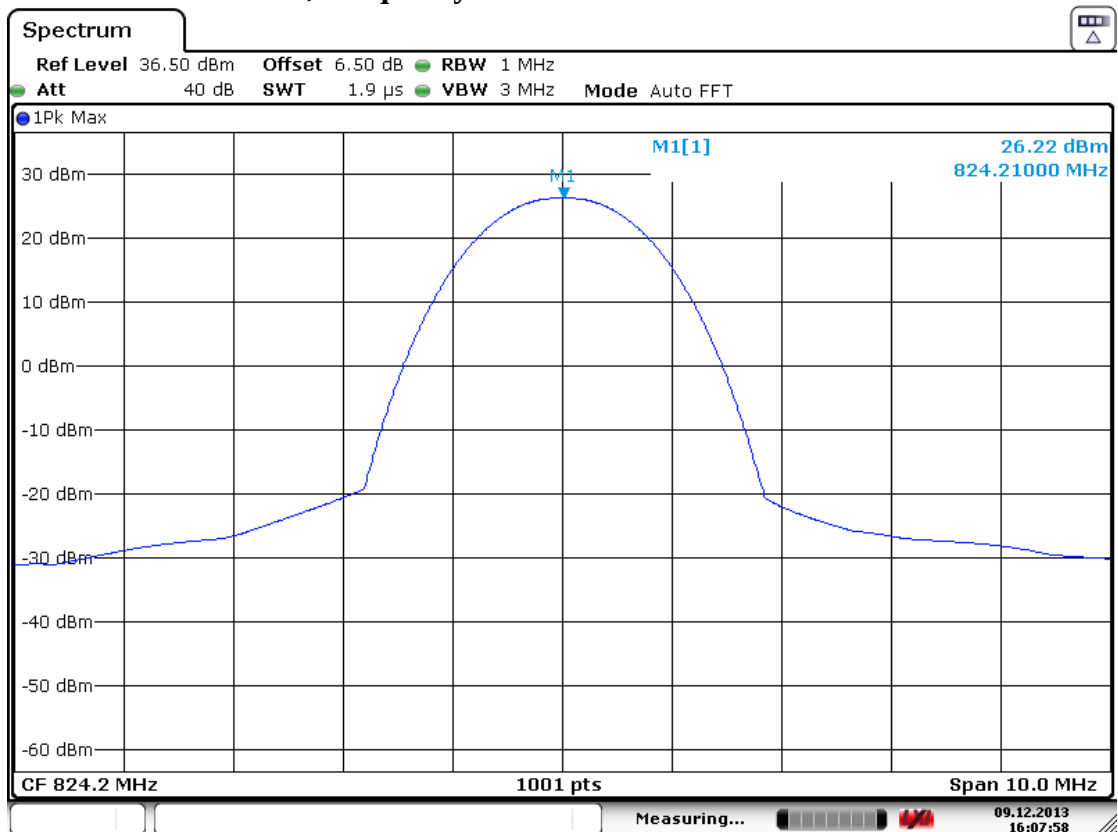
GPRS Modulation, Frequency: 836.40MHz



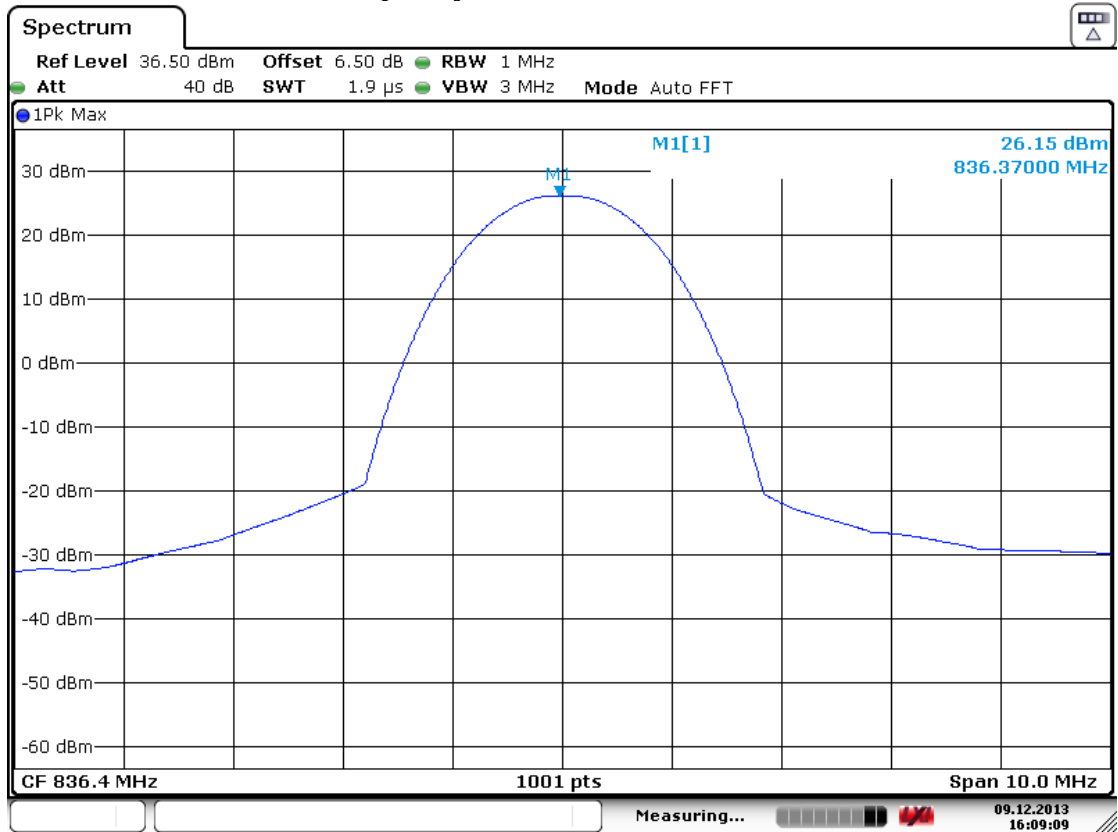
Date: 5.DEC.2013 13:18:29

GPMS Modulation, Frequency: 848.80MHz

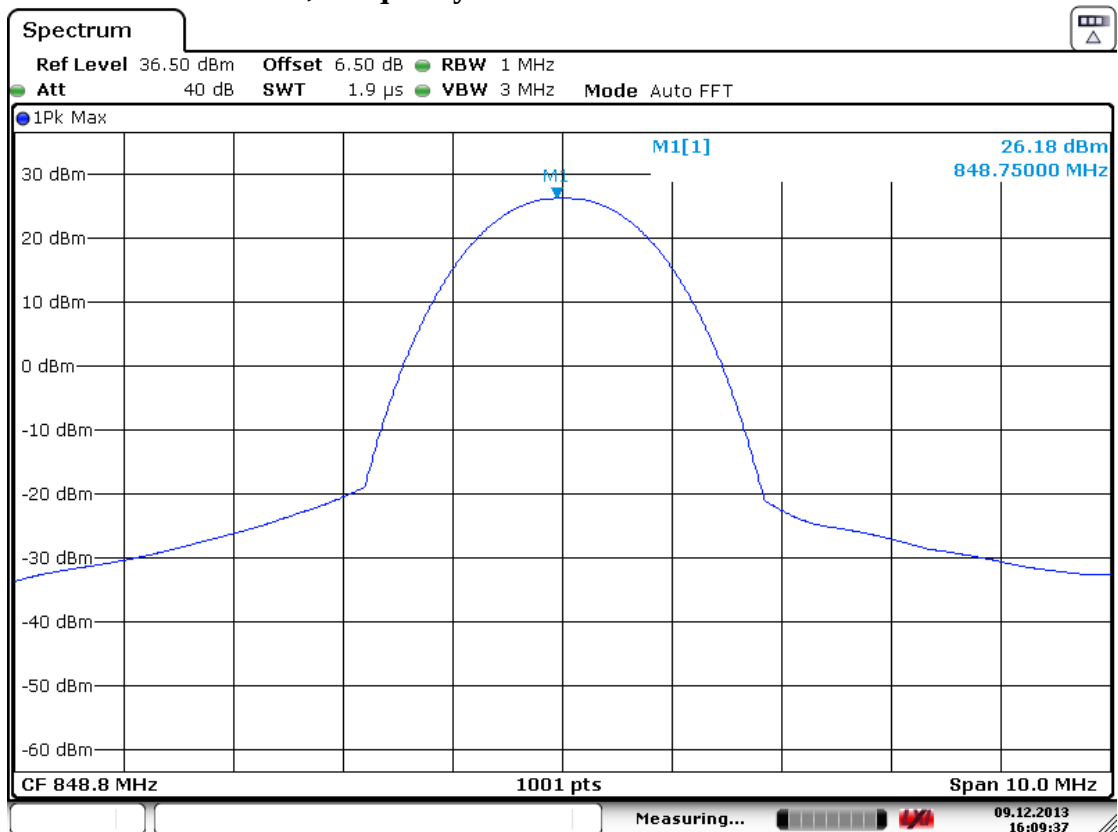
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EGPRS Modulation, Frequency: 824.20MHz

Date: 9.DEC.2013 16:07:58

EGPRS Modulation, Frequency: 836.40MHz

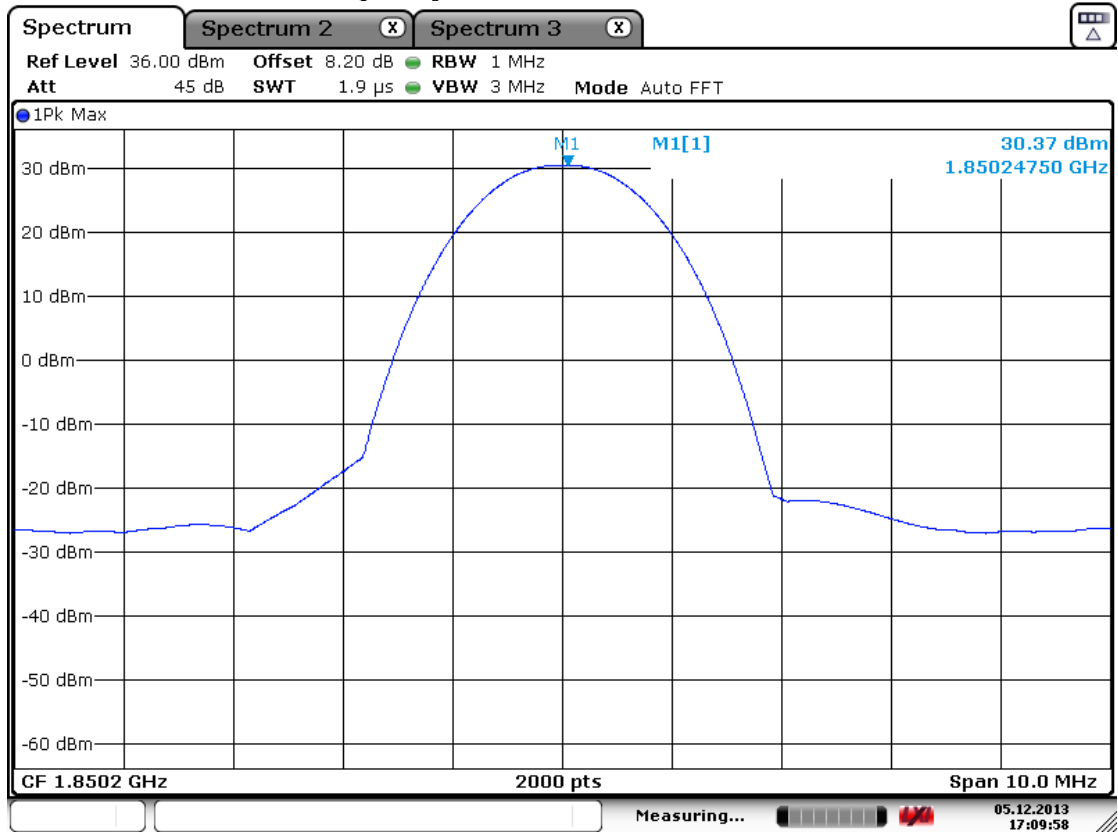
Date: 9.DEC.2013 16:09:09

EGPRS Modulation, Frequency: 848.80MHz

Date: 9.DEC.2013 16:09:37

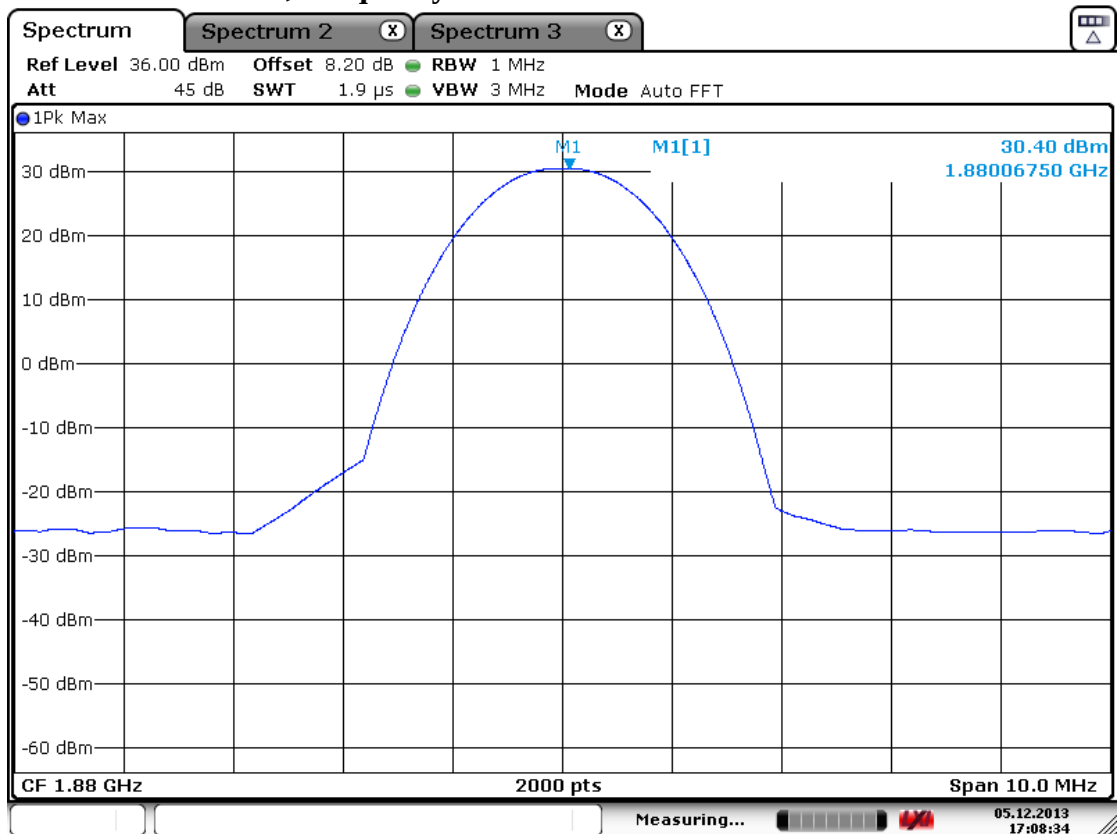
Peak Output Power (conducted)— GPRS 1900/EGPRS 1900

GPRS Modulation, Frequency: 1850.20MHz

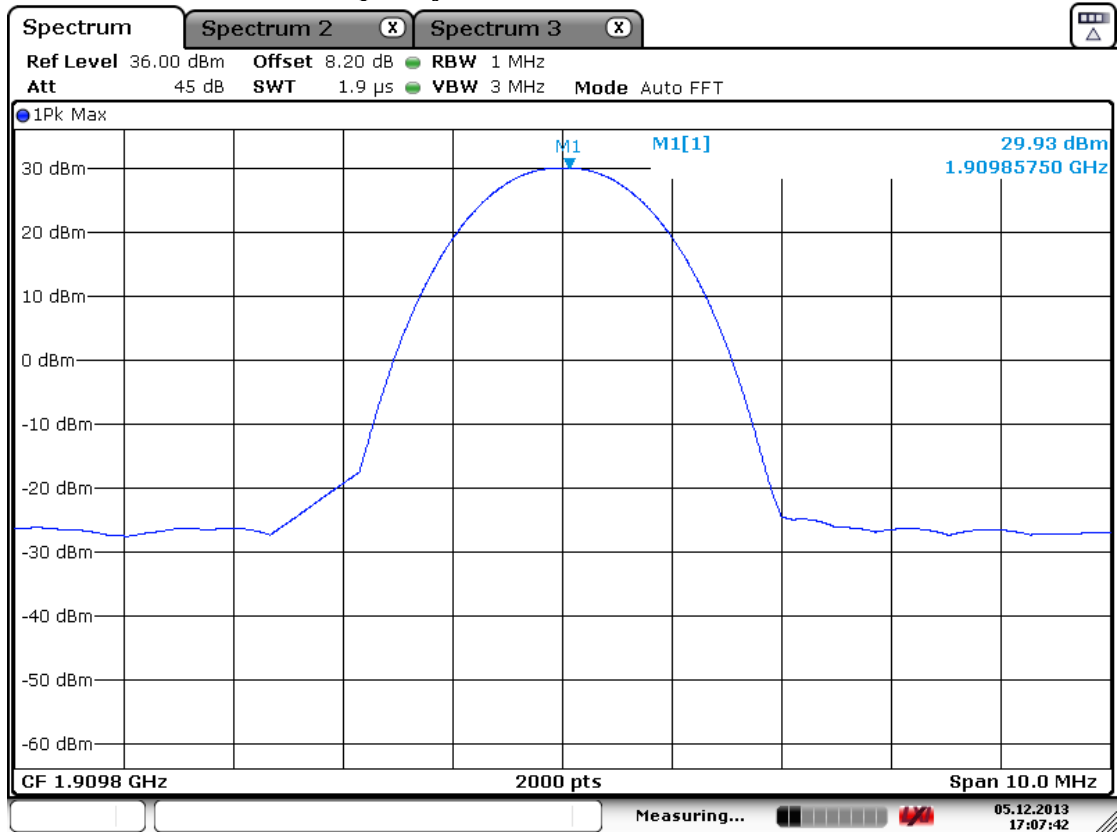


Date: 5.DEC.2013 17:09:58

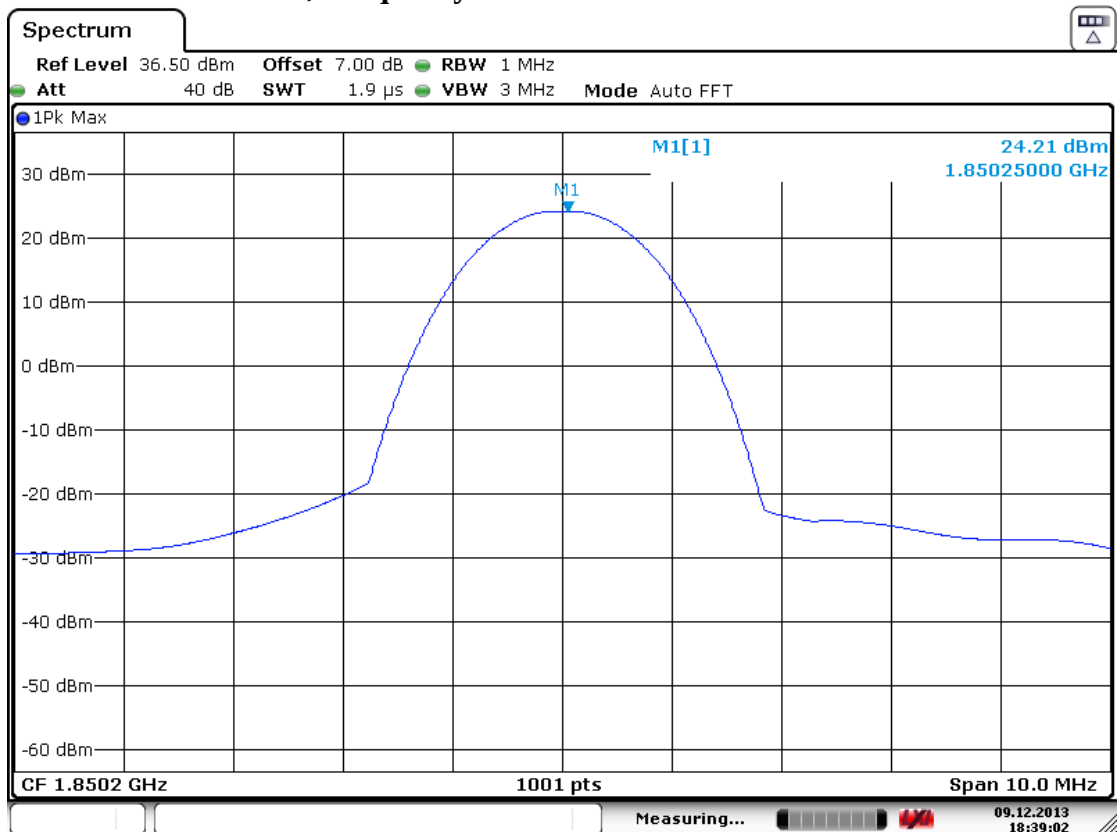
GPRS Modulation, Frequency: 1880.00MHz



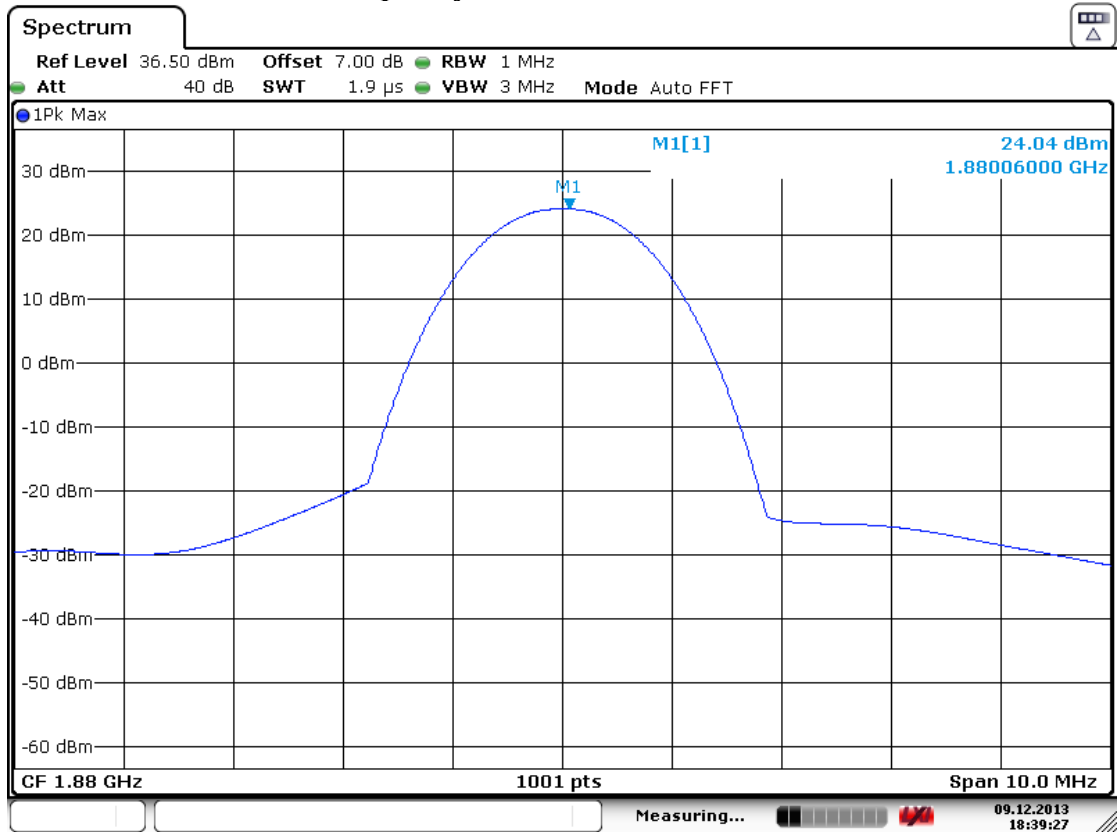
Date: 5.DEC.2013 17:08:34

GPRS Modulation, Frequency: 1909.80MHz

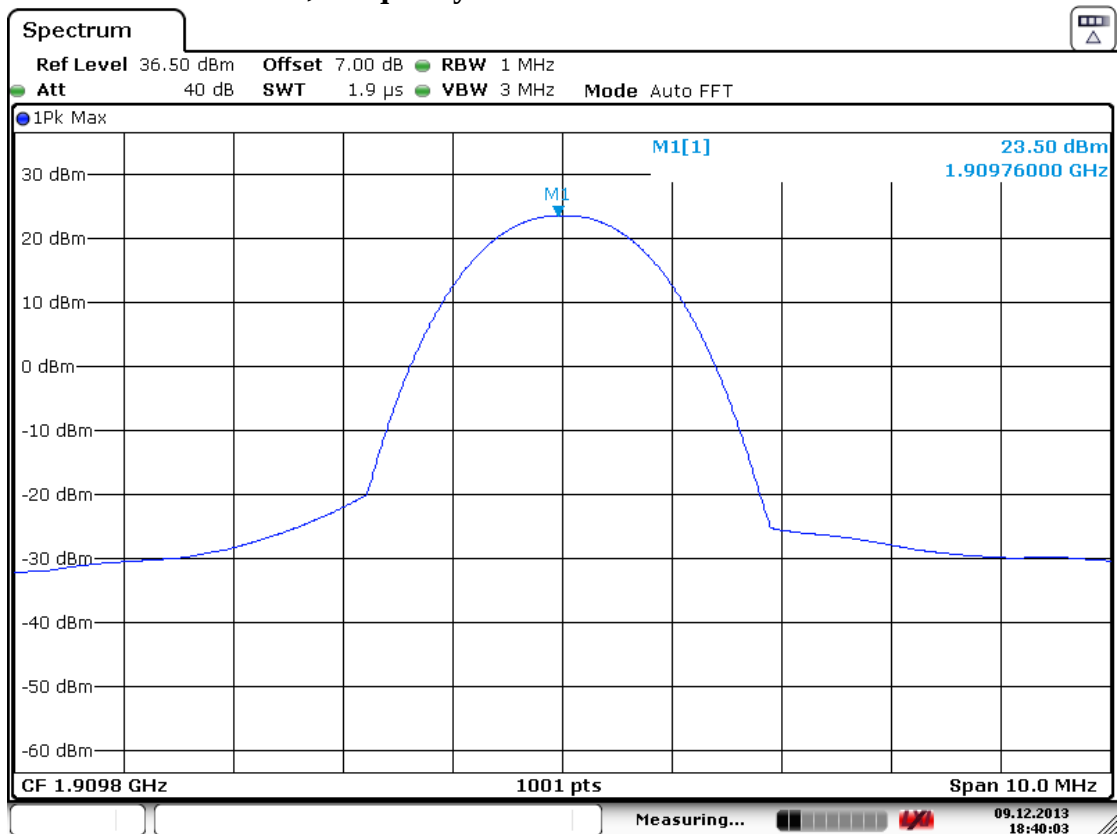
Date: 5.DEC.2013 17:07:41

EGPRS Modulation, Frequency: 1850.20MHz

Date: 9.DEC.2013 18:39:02

EGPRS Modulation, Frequency: 1880.00MHz

Date: 9.DEC.2013 18:39:27

EGPRS Modulation, Frequency: 1909.80MHz

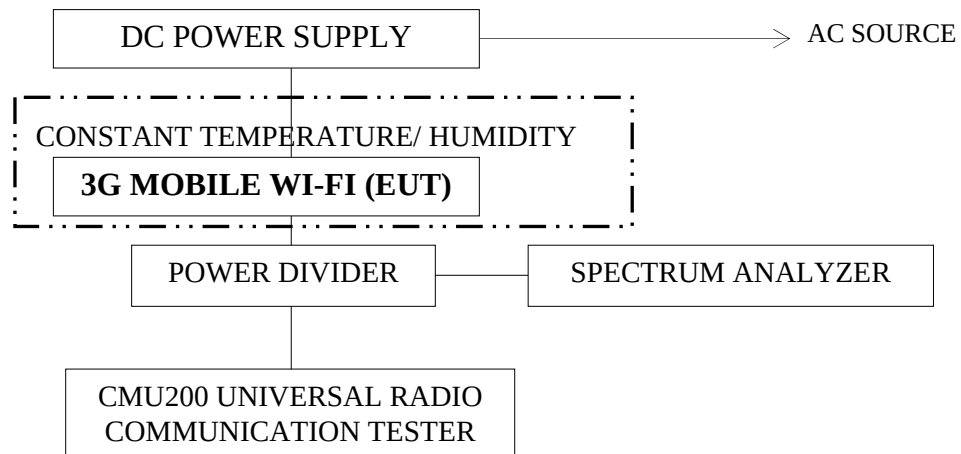
Date: 9.DEC.2013 18:40:03

5. FREQUENCY STABILITY MEASUREMENT

5.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Constant Temperature/ Humidity	Taichy	MHG-120LF	920538	Sep. 16, 13'	Sep. 15, 14'
2.	Spectrum Analyzer	R&S	FSV30	101181	Mar. 13, 13'	Mar. 12, 14'
3.	Universal Radio Communication Tester	R & S	CMU200	102280	Nov. 22, 13'	Nov. 21, 14'
4.	Power Divider	Anritsu	K240C	019728	Jan. 05, 13'	Jan. 04, 14'

5.2. Block Diagram of Test Setup



5.3. Specification Limits

FCC §2.1055(a)(1)

FCC §22.355

FCC §24.235

Frequency Tolerance: +/- 2.5ppm

5.4. Test Procedure

The frequency tolerance measurements over temperature variations were made over the temperature range of -30°C to $+50^{\circ}\text{C}$. The EUT was placed inside a Constant Temperature/ Humidity and the temperature was raised hourly in 10°C steps from -30°C up to $+50^{\circ}\text{C}$.

Reduce the input voltage to specified extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

The EUT was set in “call mode” in the middle channel using the Universal Radio Communication tester R&S CMU200 (for modulations GPRS and EGPRS) and the maximum frequency error was measured using the frequency meter of CMU200.

5.5. Test Results

PASSED. All the test results are attached in next pages.

(Test Date: Dec. 13, 2013 Temperature: 25°C

Humidity: 50%)

Power (VDC)	Temperature ($^{\circ}\text{C}$)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Frequency Deviation (%)
GPRS Modulation/850				
3.7	20	-42	-0.050203203	-0.0000000060
	-30	-37	-0.044226632	-0.0000000053
	-20	-38	-0.045421946	-0.0000000054
	-10	-35	-0.041836003	-0.0000000050
	0	-40	-0.047812575	-0.0000000057
	10	-44	-0.052593832	-0.0000000063
	20	-41	-0.049007889	-0.0000000059
	30	-48	-0.05737509	-0.0000000069
	40	-49	-0.058570404	-0.0000000070
	50	-46	-0.054984461	-0.0000000066
4.26	20	-41	-0.049007889	-0.0000000059
3.6 (Battery end point)	20	-39	-0.04661726	-0.0000000056
EGPRS Modulation/850				
3.7	20	-37	-0.043590952	-0.0000000051
	-30	-31	-0.036522149	-0.0000000043
	-20	-35	-0.041234684	-0.0000000049
	-10	-32	-0.037700283	-0.0000000044
	0	-36	-0.042412818	-0.0000000050
	10	-39	-0.04594722	-0.0000000054
	20	-38	-0.044769086	-0.0000000053
	30	-43	-0.050659755	-0.0000000060
	40	-41	-0.048303487	-0.0000000057
	50	-46	-0.054194156	-0.0000000064
4.26	20	-35	-0.041234684	-0.0000000049
3.6 (Battery end point)	20	-37	-0.043590952	-0.0000000051

Power (VDC)	Temperature (°C)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Frequency Deviation (%)
GPRS Modulation/1900				
3.7	20	-63	-0.075304805	-0.0000000090
	-30	-55	-0.06574229	-0.0000000079
	-20	-59	-0.070523548	-0.0000000084
	-10	-56	-0.066937605	-0.0000000080
	0	-60	-0.071718862	-0.0000000086
	10	-62	-0.074109491	-0.0000000089
	20	-64	-0.07650012	-0.0000000091
	30	-68	-0.081281377	-0.0000000097
	40	-66	-0.078890748	-0.0000000094
	50	-69	-0.082476691	-0.0000000099
4.26	20	-61	-0.072914176	-0.0000000087
3.6 (Battery end point)	20	-64	-0.07650012	-0.0000000091
GPRS Modulation/1900				
3.7	20	-79	-0.093072573	-0.0000000110
	-30	-80	-0.094250707	-0.0000000111
	-20	-75	-0.088360038	-0.0000000104
	-10	-73	-0.08600377	-0.0000000101
	0	-77	-0.090716305	-0.0000000107
	10	-83	-0.097785108	-0.0000000115
	20	-81	-0.095428841	-0.0000000112
	30	-86	-0.10131951	-0.0000000119
	40	-86	-0.10131951	-0.0000000119
	50	-85	-0.100141376	-0.0000000118
4.26	20	-78	-0.091894439	-0.0000000108
3.6 (Battery end point)	20	-80	-0.094250707	-0.0000000111

6. OCCUPIED BANDWIDTH 99% POWER MEASUREMENT

6.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	R&S	FSV30	101181	Mar. 13, 13'	Mar. 12, 14'
2.	Power Divider	Anritsu	K240C	019728	Jan. 05, 13'	Jan. 04, 14'
3.	Universal Radio Communication Tester	R & S	CMU200	102280	Nov. 22, 13'	Nov. 21, 14'
4.	Horn Antenna	EMCO	3115	9112-3775	May 15, 09'	May 14, 10'

6.2. Block Diagram of Test Setup

The same as section.4.2.1.

6.3. Specification Limit

FCC §2.1049

6.4. Test Procedure

The EUT was configured to transmit a modulated carrier signal. For GPRS and EGPRS, RBW was set to about 1% of emission BW, VBW=3 times RBW.

6.5. Test Results

PASSED. All the test results are attached in next pages.

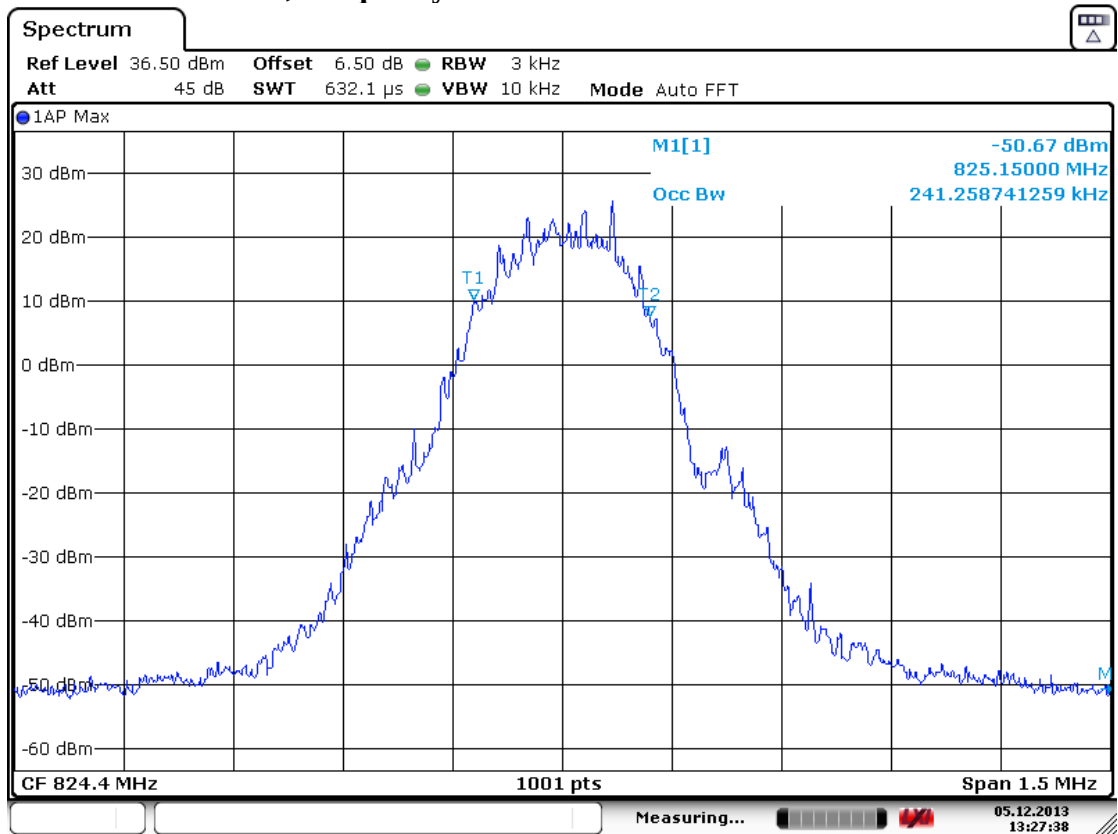
(Test Date: Dec. 05, 2013 Temperature: 25°C Humidity: 50%)

(Test Date: Dec. 09, 2013 Temperature: 25°C Humidity: 50%)

Type of Modulation	Channel	Frequency (MHz)	Occupied Bandwidth
GPRS 850	CH 128	824.20	241.2587kHz
	CH 189	836.40	242.7572kHz
	CH 251	848.80	241.2587kHz
EGPRS 850	CH 128	824.20	236.7632kHz
	CH 189	836.40	237.7622kHz
	CH 251	848.80	238.7612kHz
Type of Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
GPRS 1900	CH 512	1850.20	243.7500kHz
	CH 661	1880.00	241.5000kHz
	CH 810	1909.80	244.5000kHz
EGPRS 1900	CH 512	1850.20	238.7612kHz
	CH 661	1880.00	238.7612kHz
	CH 810	1909.80	238.7612kHz

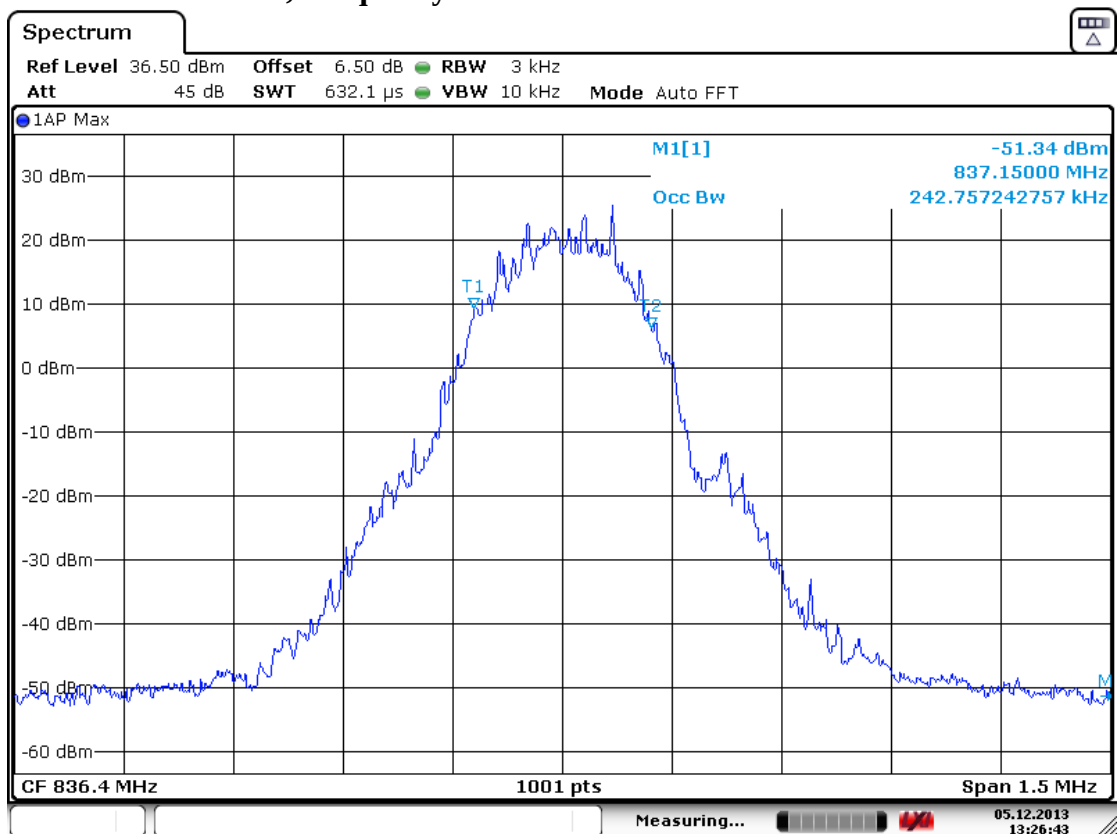
99% Occupied Bandwidth — GPRS 850/EGPRS 850

GPRS Modulation, Frequency: 824.20MHz

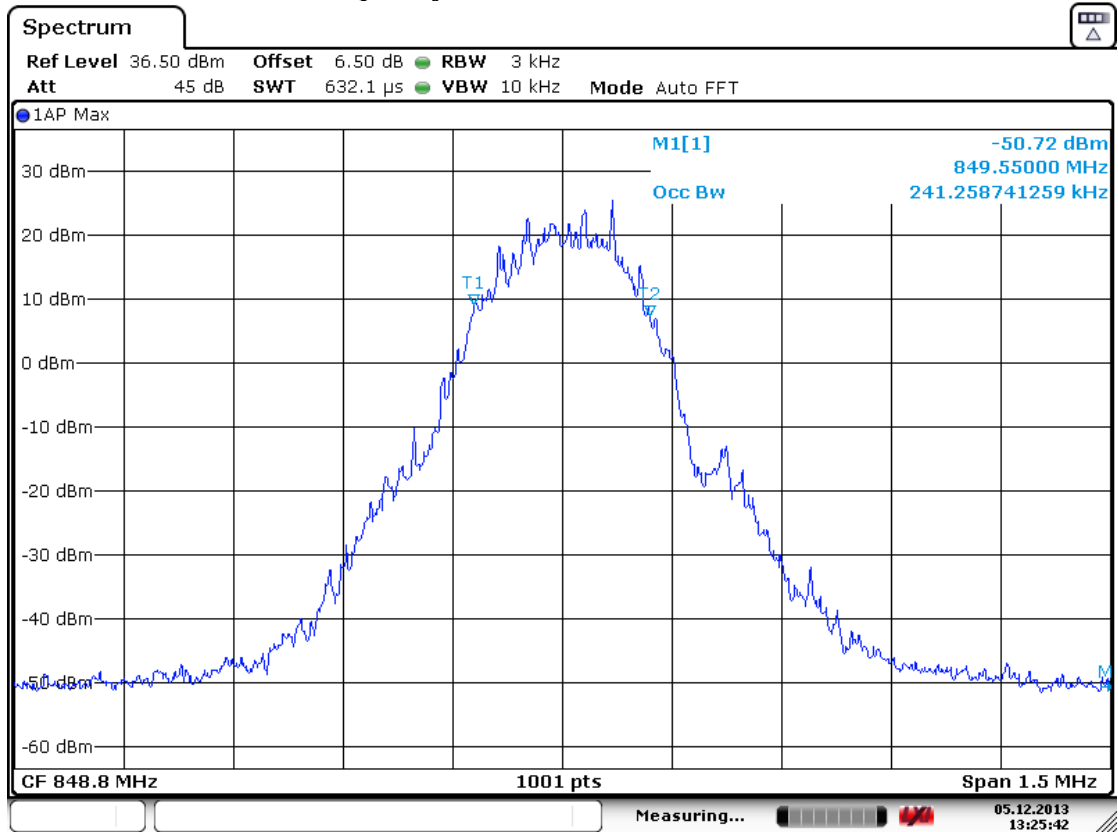


Date: 5.DEC.2013 13:27:37

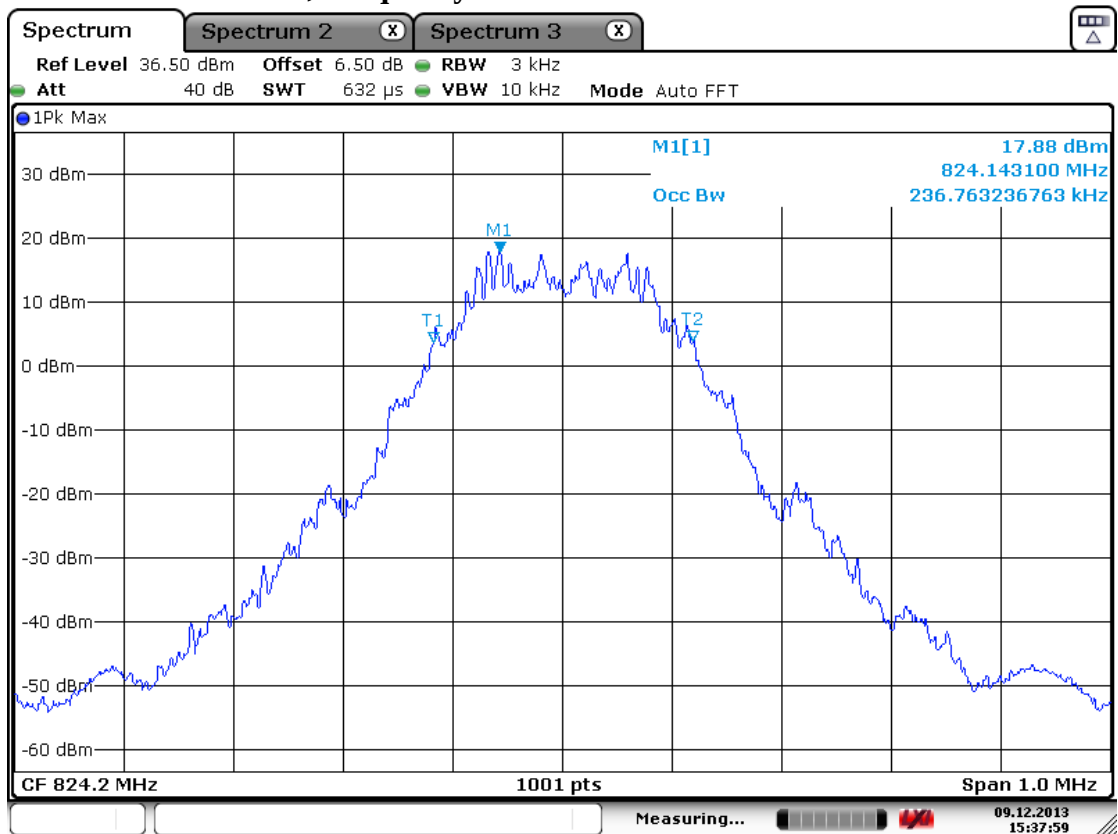
GPRS Modulation, Frequency: 836.40MHz



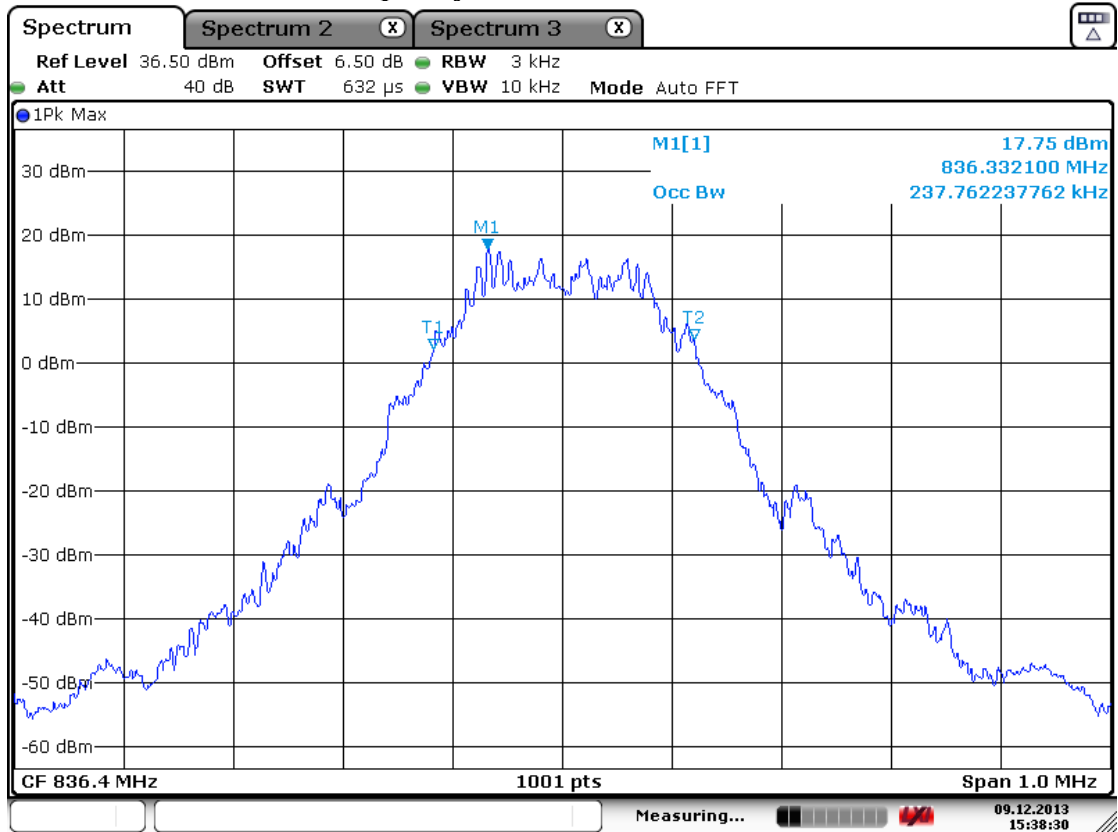
Date: 5.DEC.2013 13:26:43

GPRS Modulation, Frequency: 848.80MHz

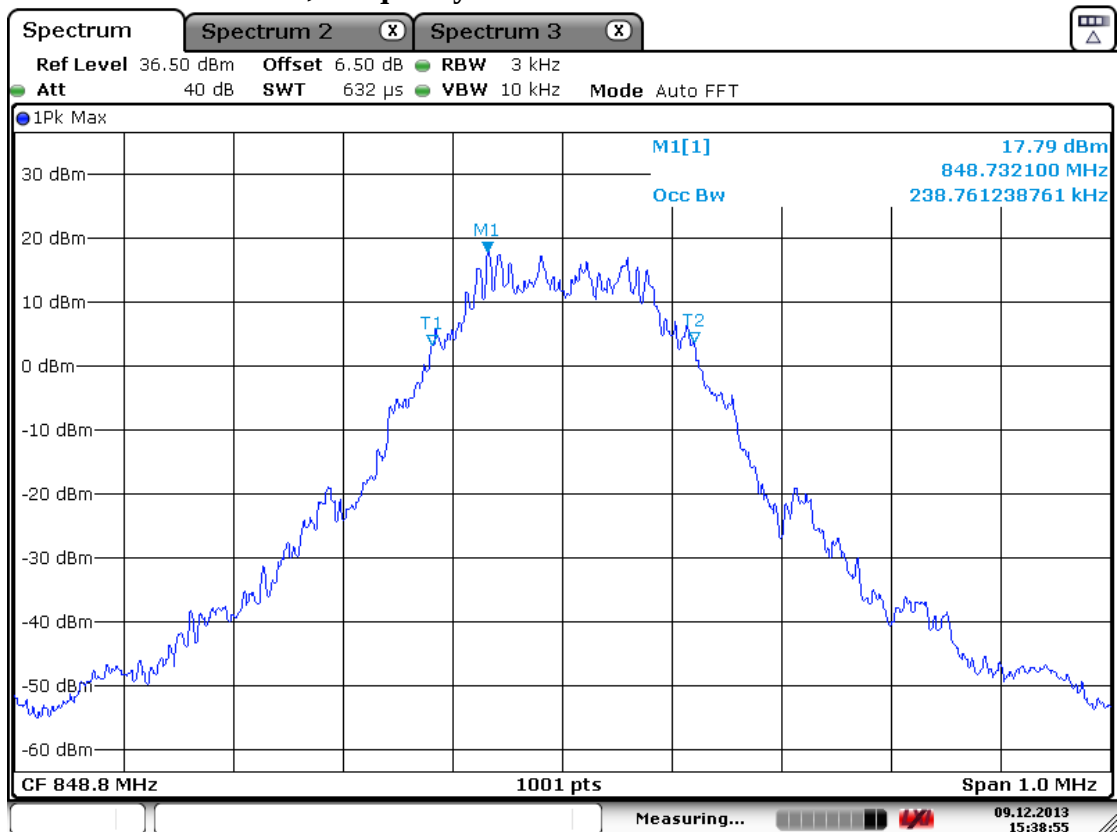
Date: 5.DEC.2013 13:25:42

EGPRS Modulation, Frequency: 824.20MHz

Date: 9.DEC.2013 15:37:59

EGPRS Modulation, Frequency: 836.40MHz

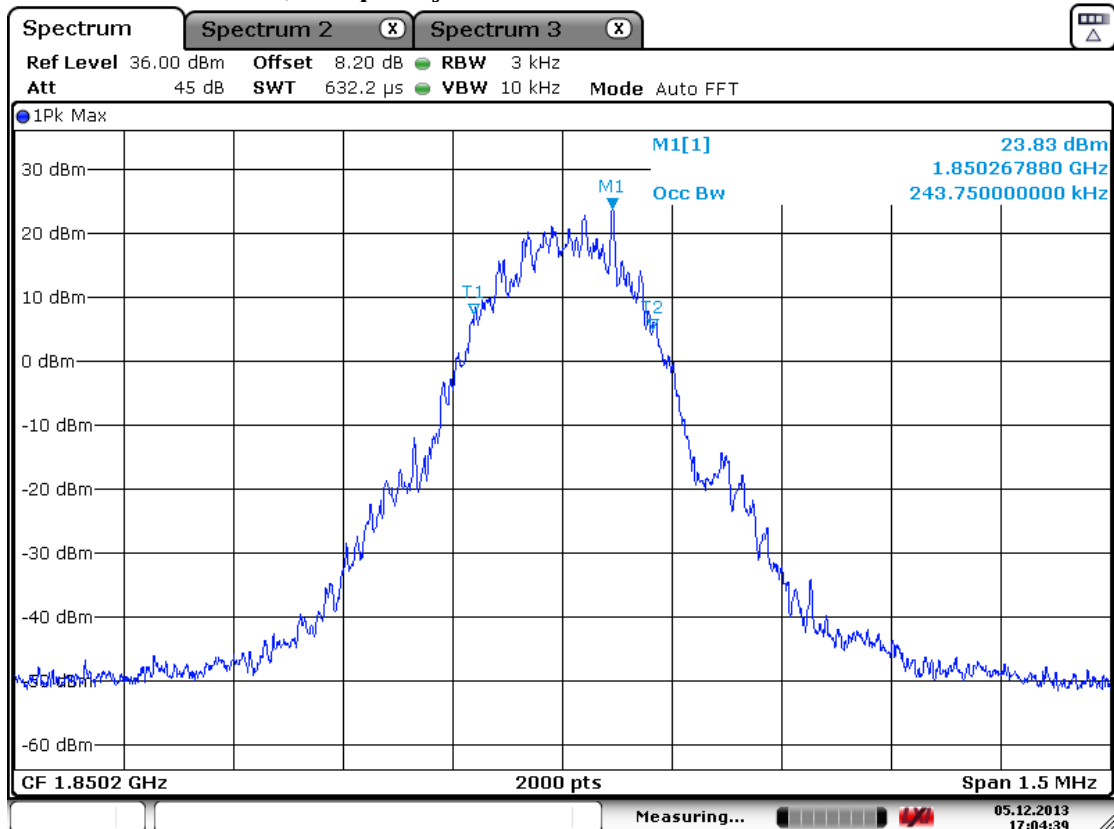
Date: 9.DEC.2013 15:38:31

EGPRS Modulation, Frequency: 848.80MHz

Date: 9.DEC.2013 15:38:56

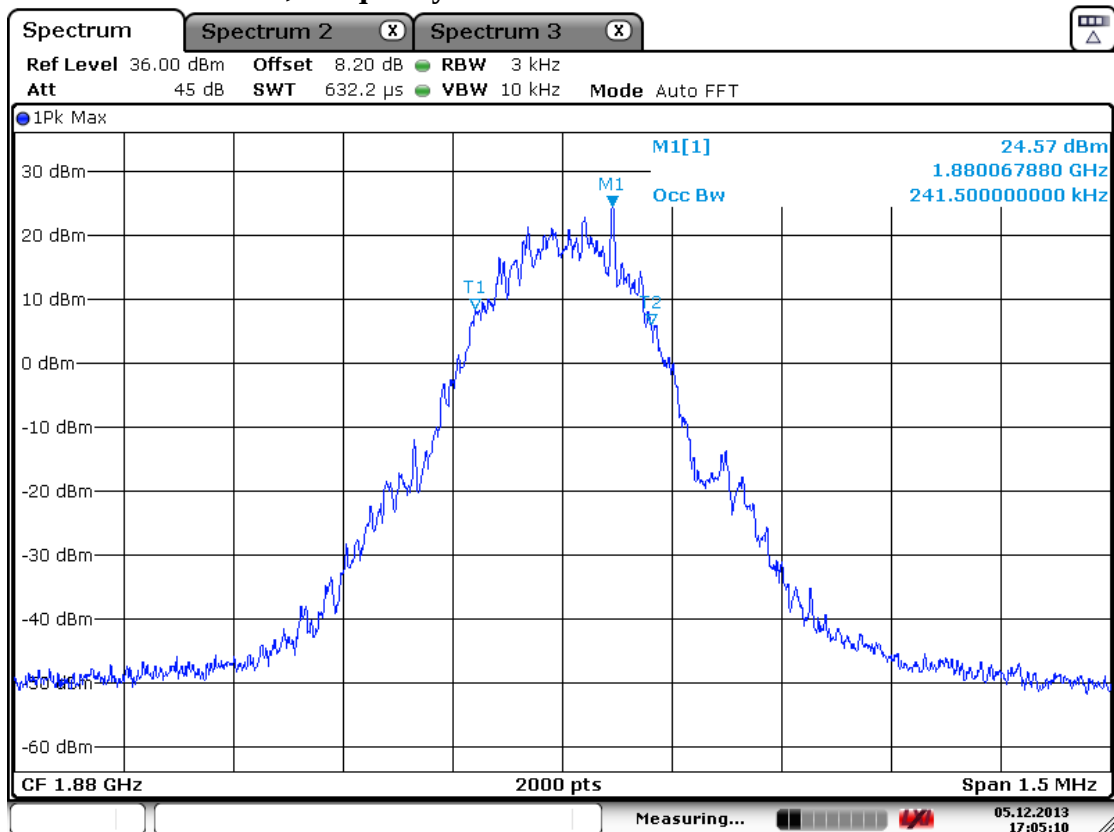
99% Occupied Bandwidth — GPRS 1900/EGPRS 1900

GPRS Modulation, Frequency: 1850.20MHz

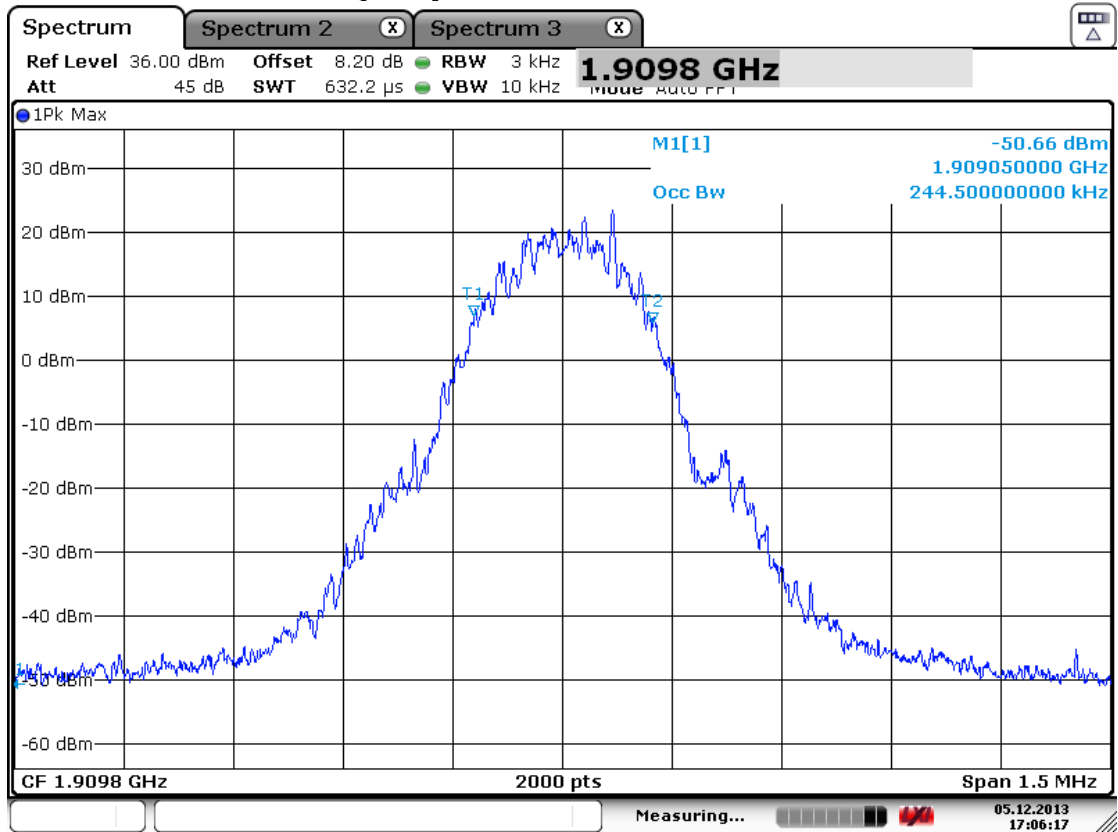


Date: 5.DEC.2013 17:04:39

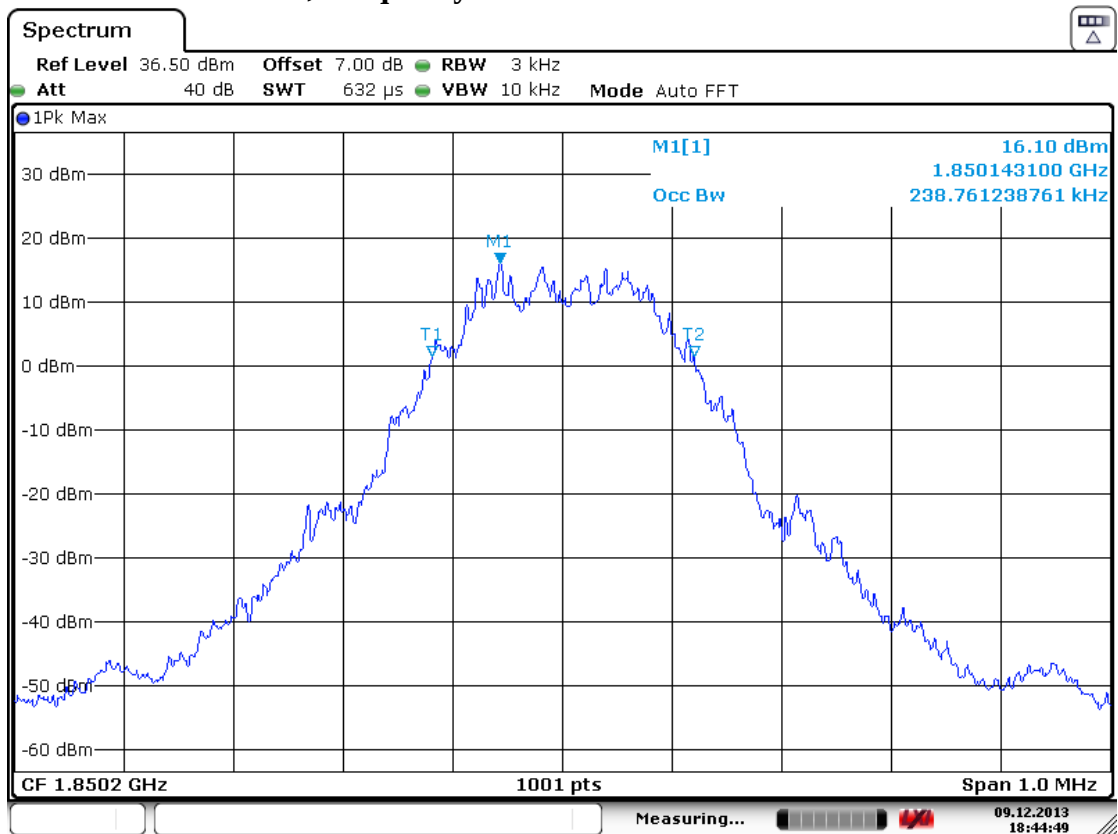
GPRS Modulation, Frequency: 1880.00MHz



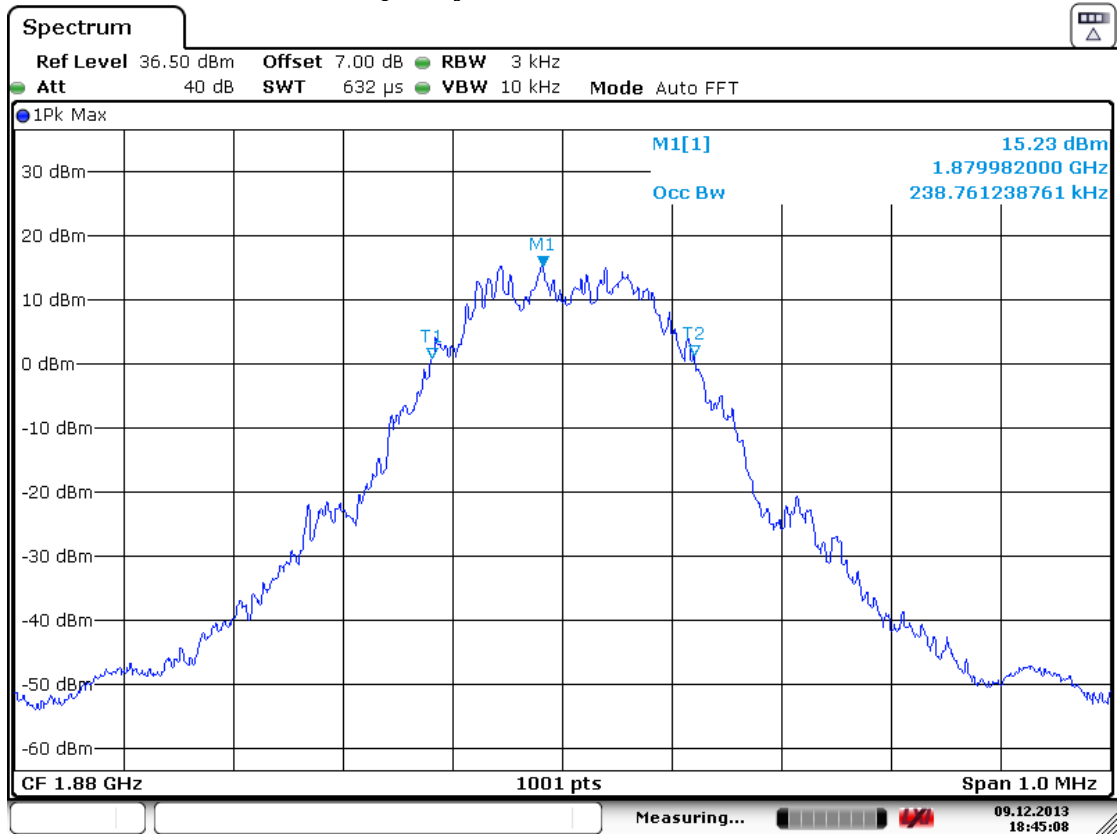
Date: 5.DEC.2013 17:05:10

GPRS Modulation, Frequency: 1909.80MHz

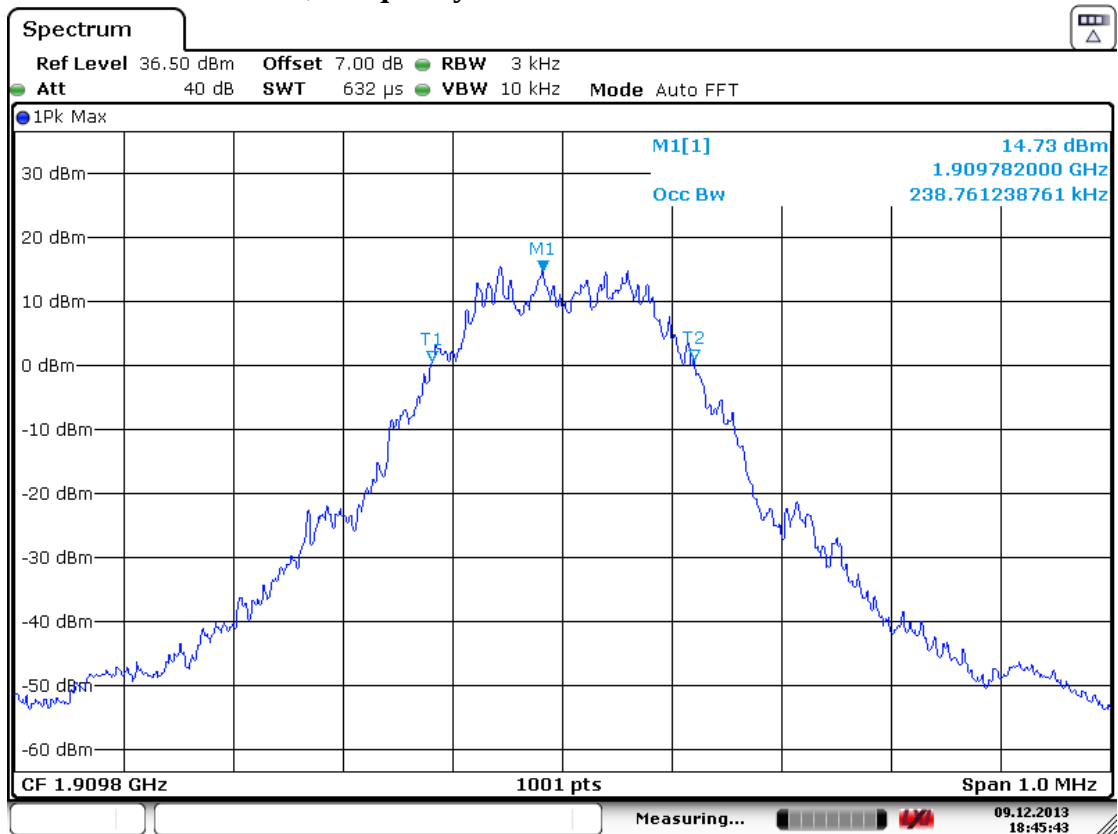
Date: 5.DEC.2013 17:06:17

EGPRS Modulation, Frequency: 1850.20MHz

Date: 9.DEC.2013 18:44:49

EGPRS Modulation, Frequency: 1880.00MHz

Date: 9.DEC.2013 18:45:08

EGPRS Modulation, Frequency: 1909.80MHz

Date: 9.DEC.2013 18:45:43

7. SPURIOUS EMISSION AT ANTENNA TERMINALS MEASUREMENT

7.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	R&S	FSV30	101181	Mar. 13, 13'	Mar. 12, 14'
2.	Power Divider	Anritsu	K240C	019728	Jan. 05, 13'	Jan. 04, 14'
3.	Universal Radio Communication Tester	R & S	CMU200	102280	Nov. 22, 13'	Nov. 21, 14'
4.	Horn Antenna	EMCO	3115	9112-3775	May 07, 13'	May 06, 14'

7.2. Block Diagram of Test Setup

The same as section 4.2.1.

7.3. Specification Limit

FCC §2.1051

FCC §22.917(a)

FCC §24.238(a)

According to specification, the power of emissions shall be attenuated below the transmitter power (P) by a factor of at least $43+10\log(P)$ dB, P in watts.

At P_o transmitting power, the specified minimum attenuation becomes $43+10\log(P_o)$, and the level in dBm relative P_o becomes:

$P_o \text{ (dBm)} - [43+10\log(P_o \text{ in m watts})-30] = -13\text{dBm}$

7.4. Test Procedure

The EUT RF output connector was connected to a spectrum analyzer using a 50ohm attenuator and there solution bandwidth of the spectrum analyzer was set to at least 100kHz. The spectrum was investigated from 30MHz to 20GHz.

The reading of the spectrum analyzer is corrected with the attenuation loss of connection between output terminal of EUT and input of the spectrum analyzer.

7.5. Test Results

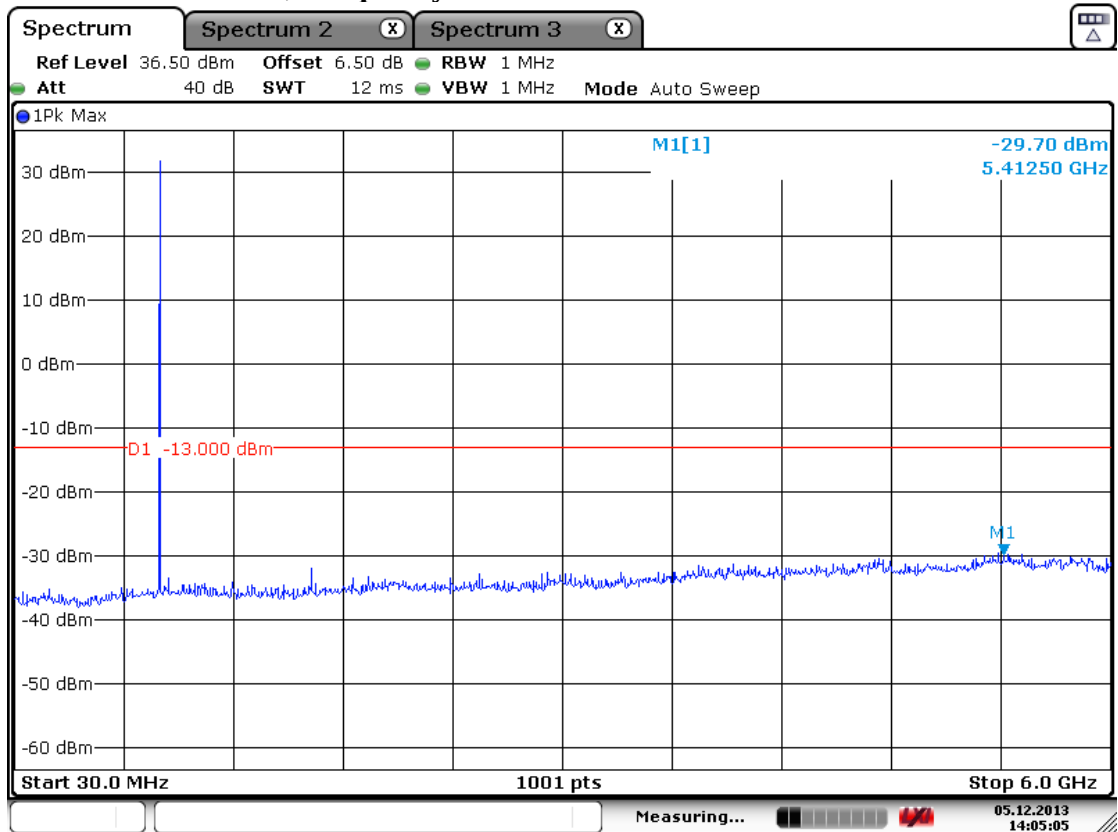
PASSED. The testing data was attached in the next pages.

(Test Date: Dec. 05, 2013 Temperature: 25°C Humidity: 50%)

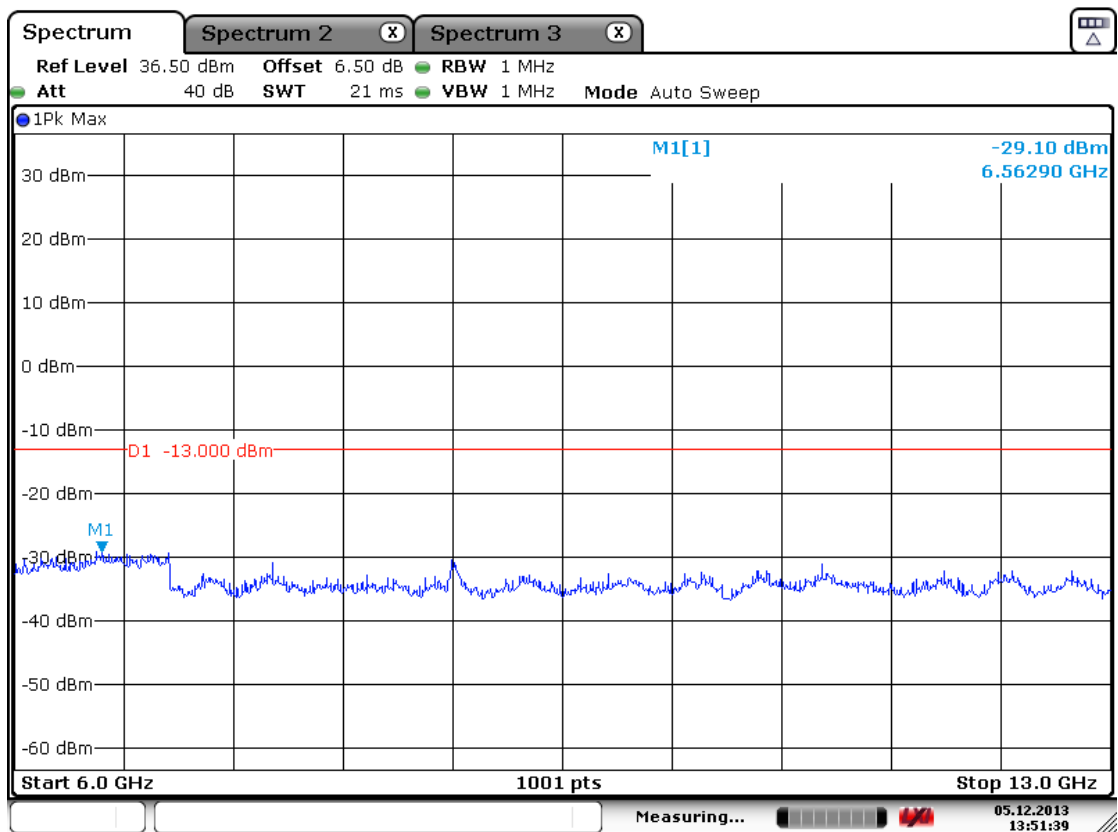
(Test Date: Dec. 09, 2013 Temperature: 25°C Humidity: 50%)

Spurious Emissions at Antenna Terminals (Conducted)— GPRS 850/EGPRS 850

GPRS Modulation, Frequency: 824.20MHz

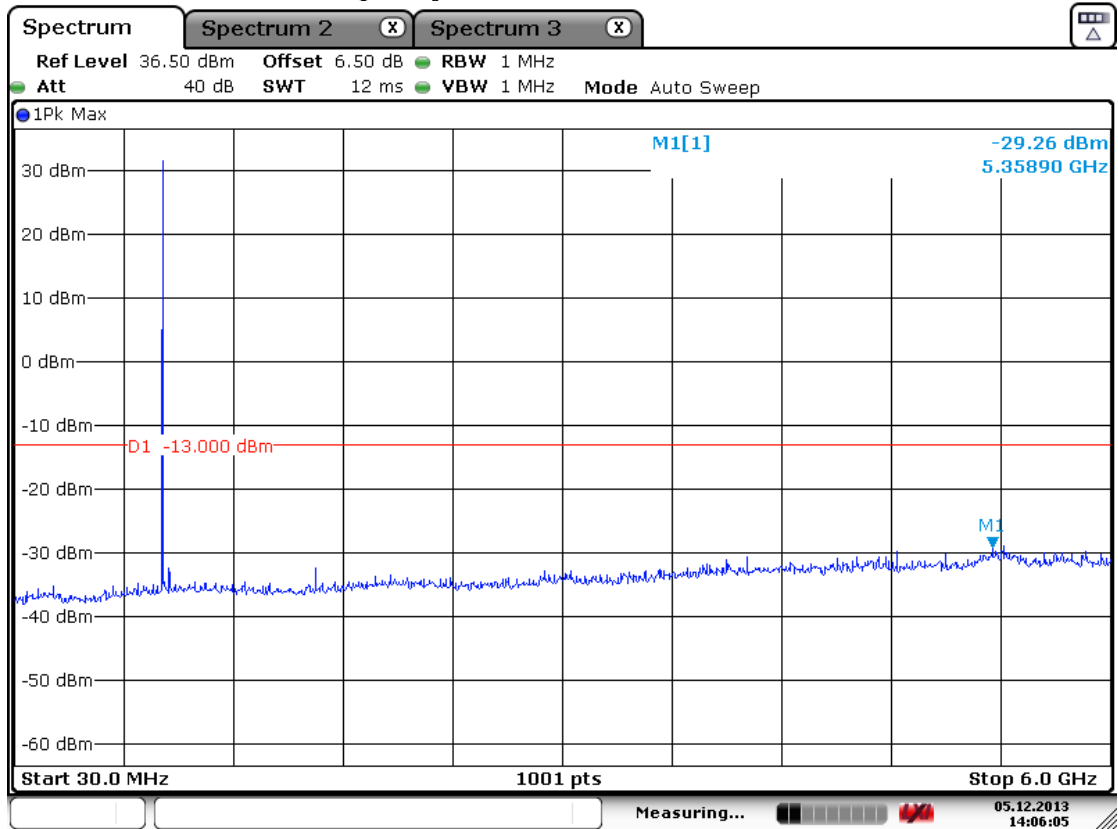


Date: 5.DEC.2013 14:05:05

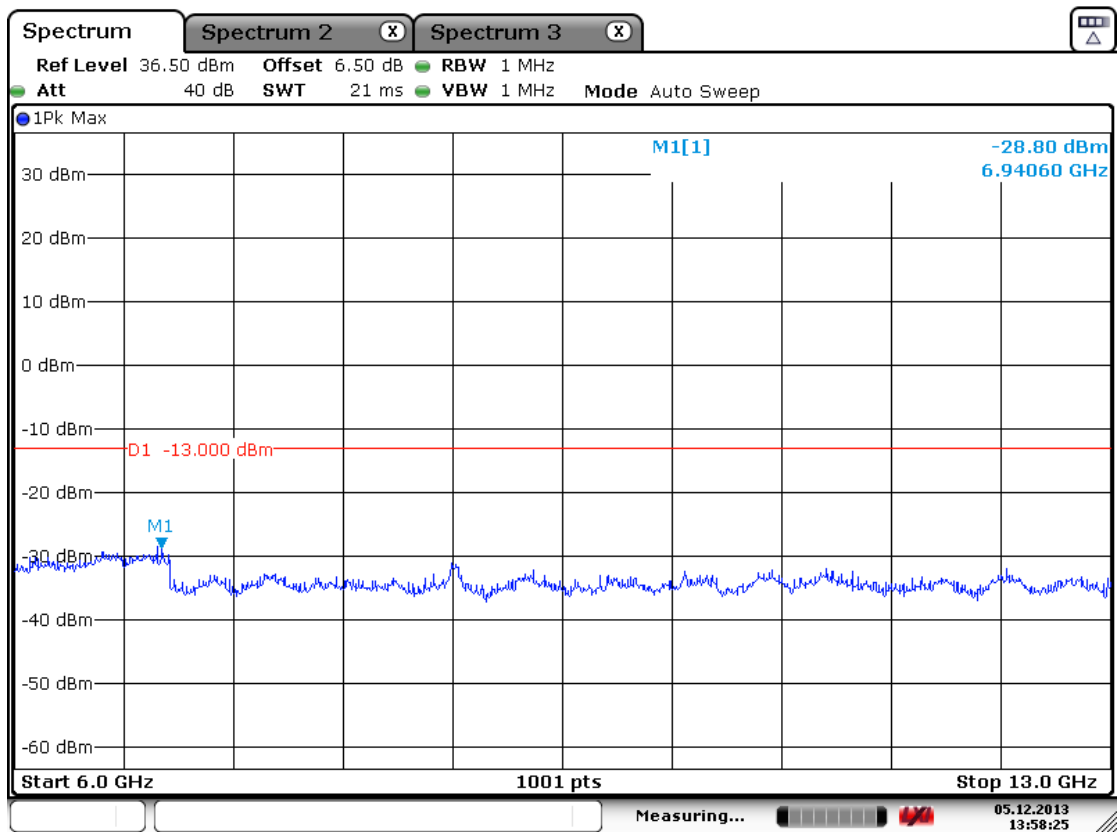


Date: 5.DEC.2013 13:51:39

GPRS Modulation, Frequency: 836.40MHz

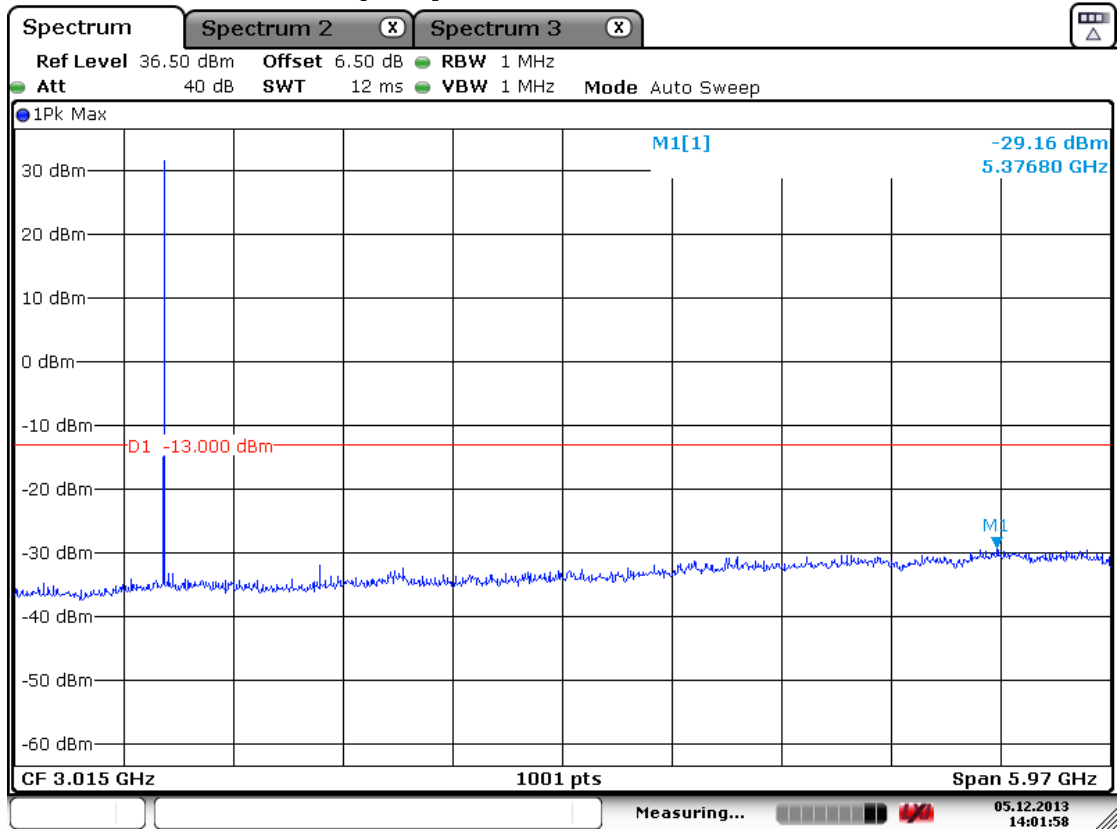


Date: 5.DEC.2013 14:06:04

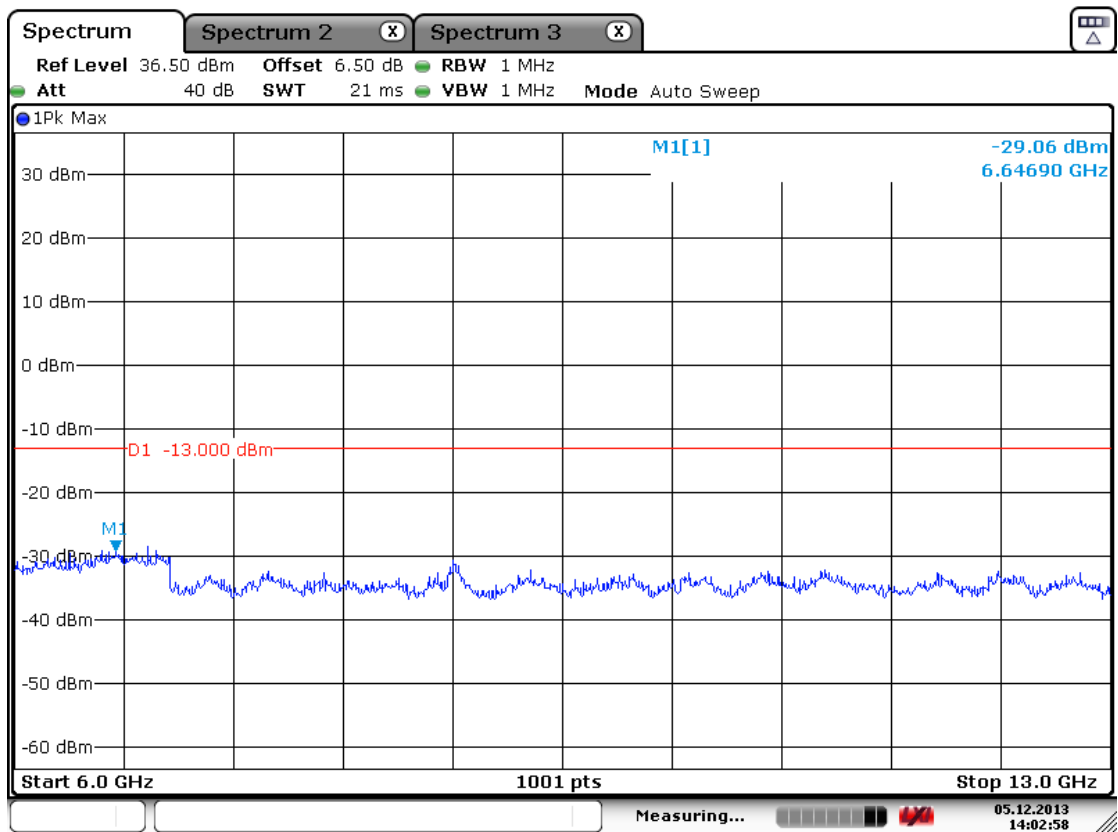


Date: 5.DEC.2013 13:58:25

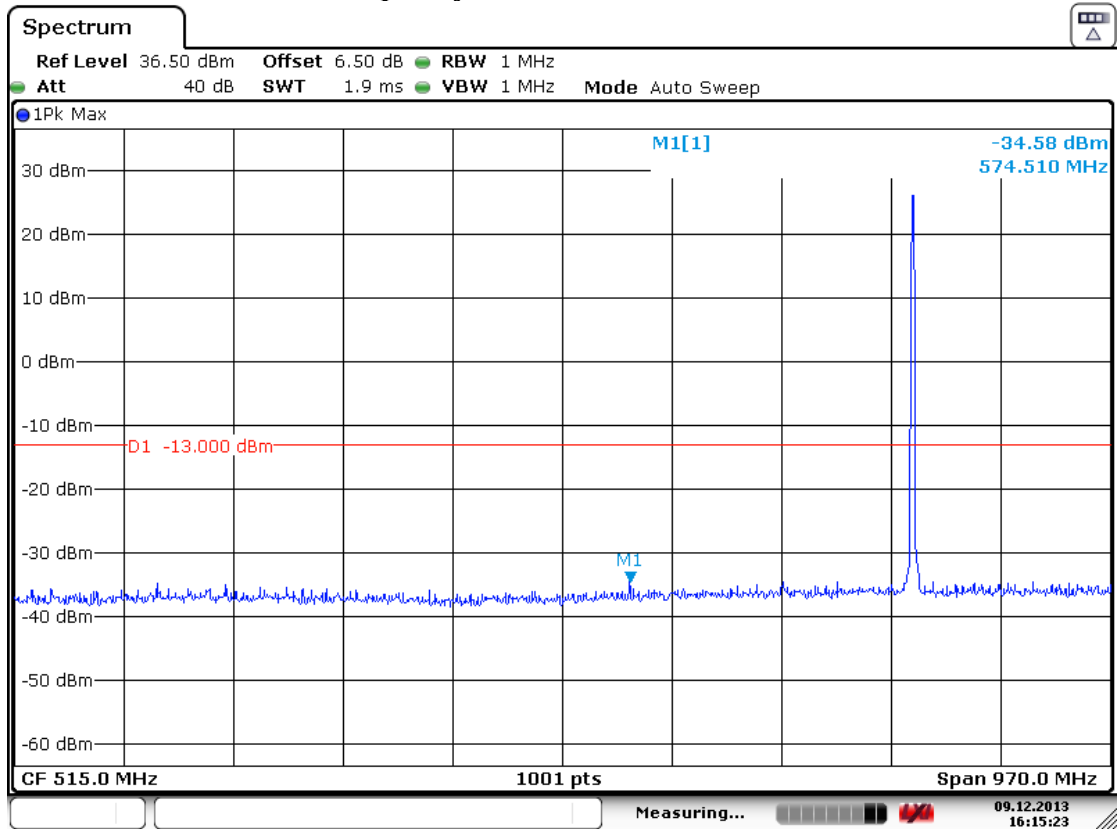
GPRS Modulation, Frequency: 848.80MHz



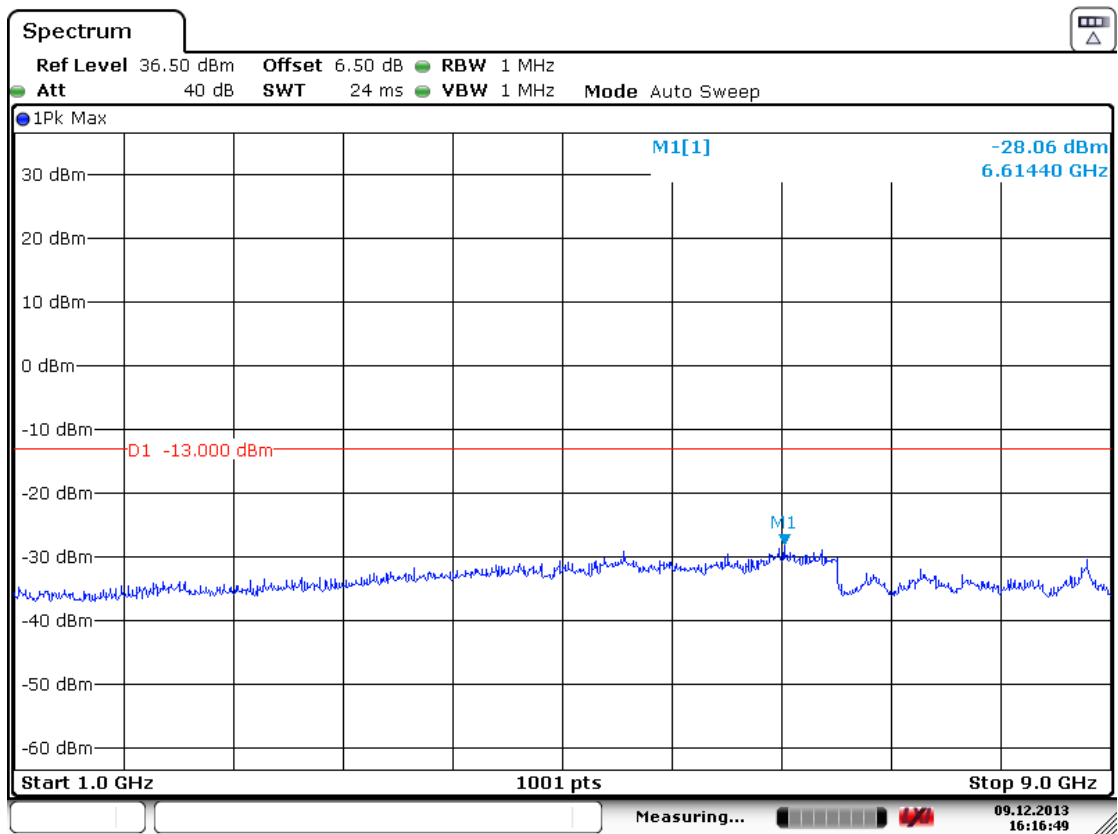
Date: 5.DEC.2013 14:01:58



Date: 5.DEC.2013 14:02:58

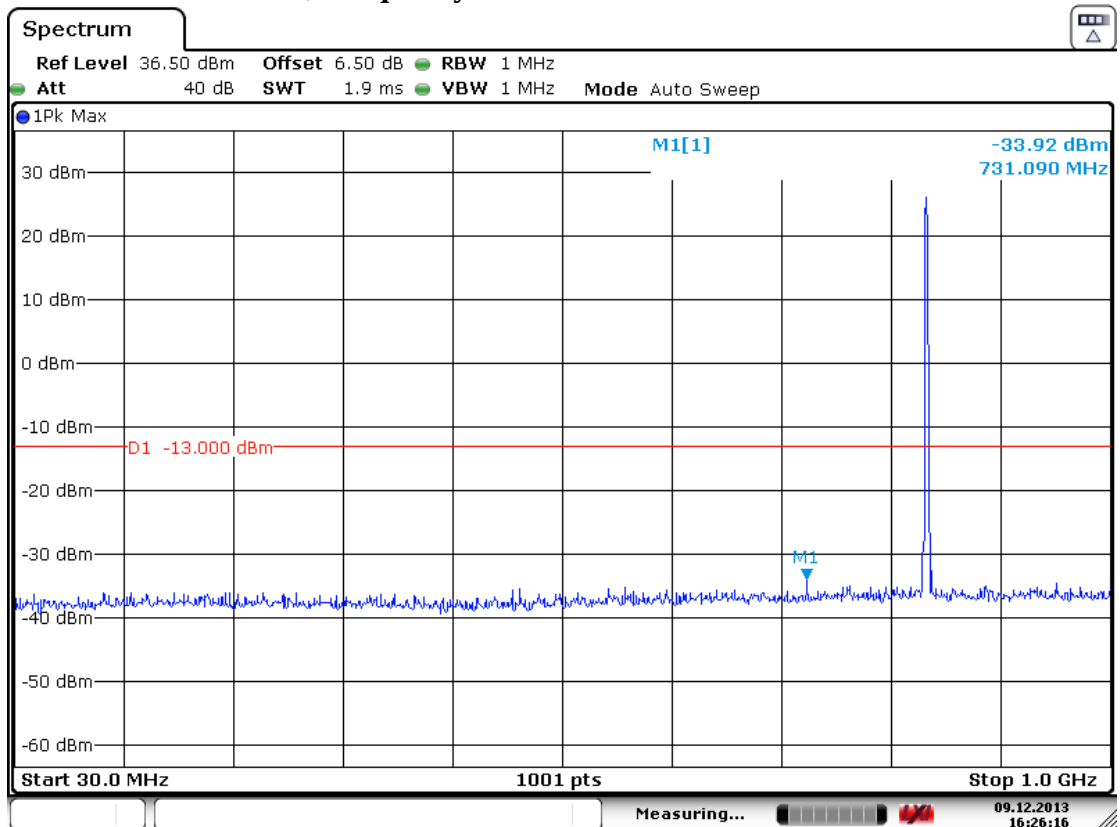
EGPRS Modulation, Frequency: 824.20MHz

Date: 9.DEC.2013 16:15:23

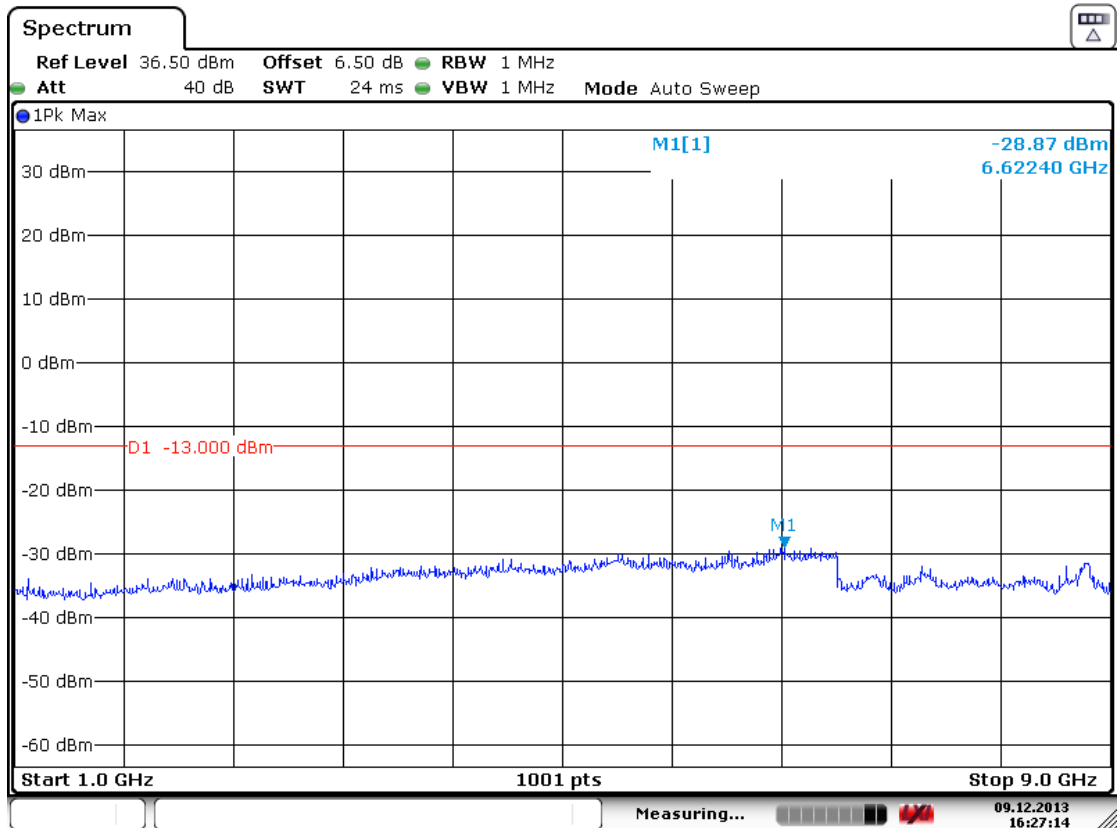


Date: 9.DEC.2013 16:16:50

EGPRS Modulation, Frequency: 836.40MHz

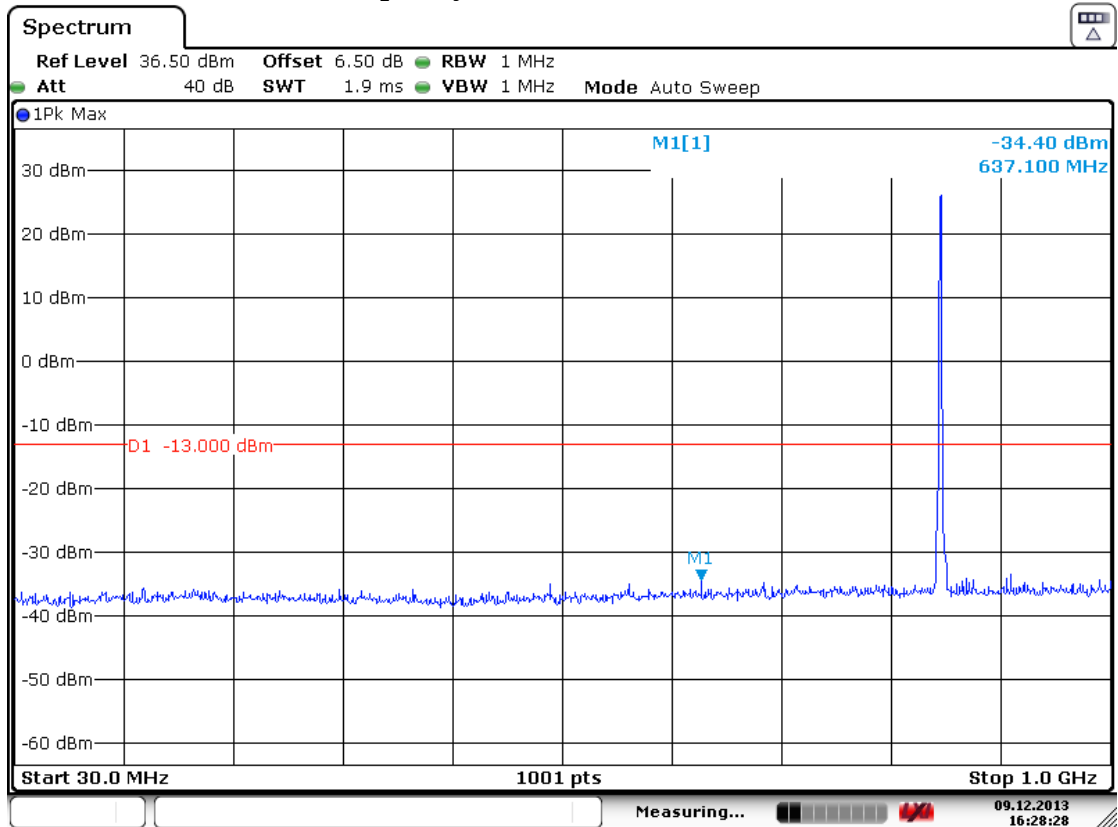


Date: 9.DEC.2013 16:26:16

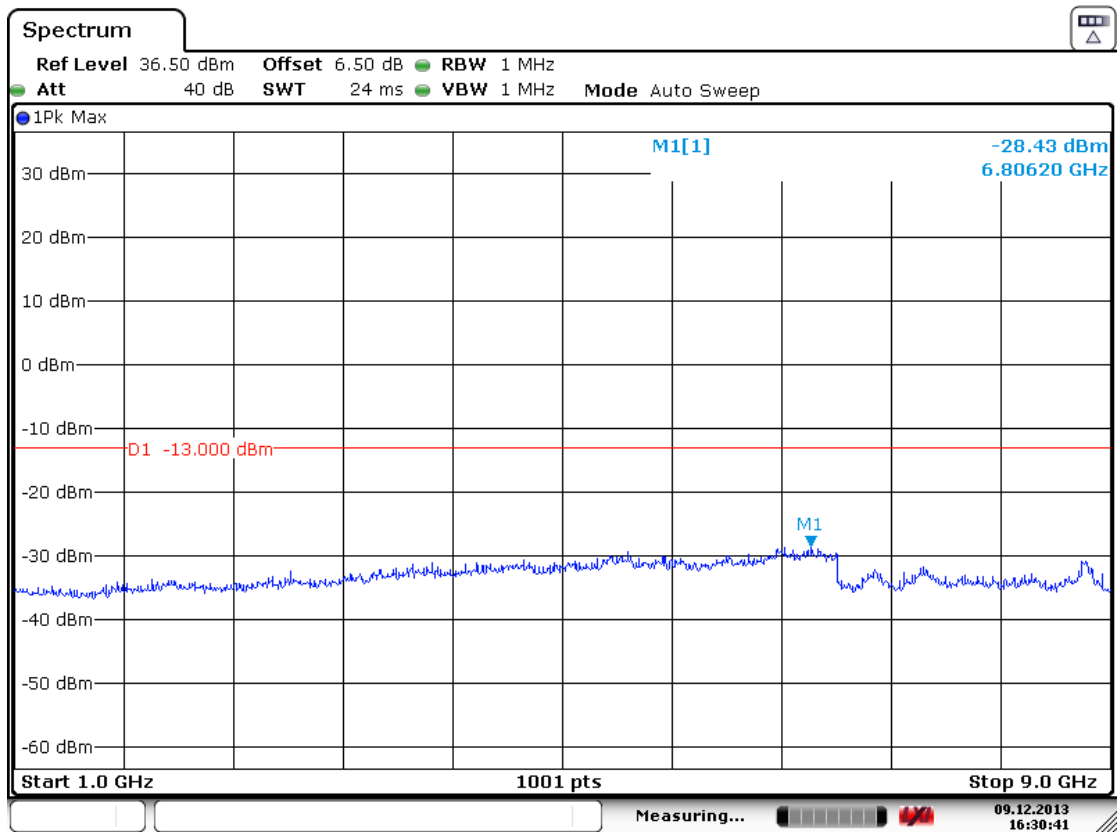


Date: 9.DEC.2013 16:27:14

EGPRS Modulation, Frequency: 848.80MHz



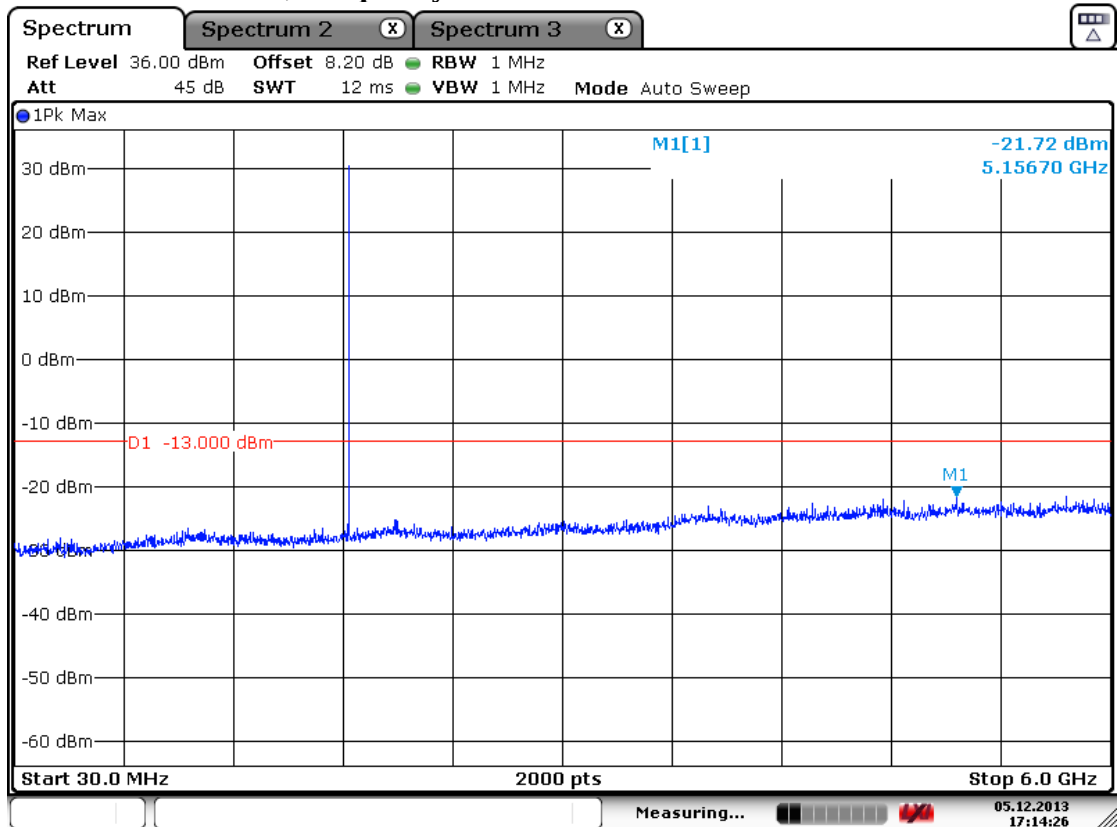
Date: 9.DEC.2013 16:28:28



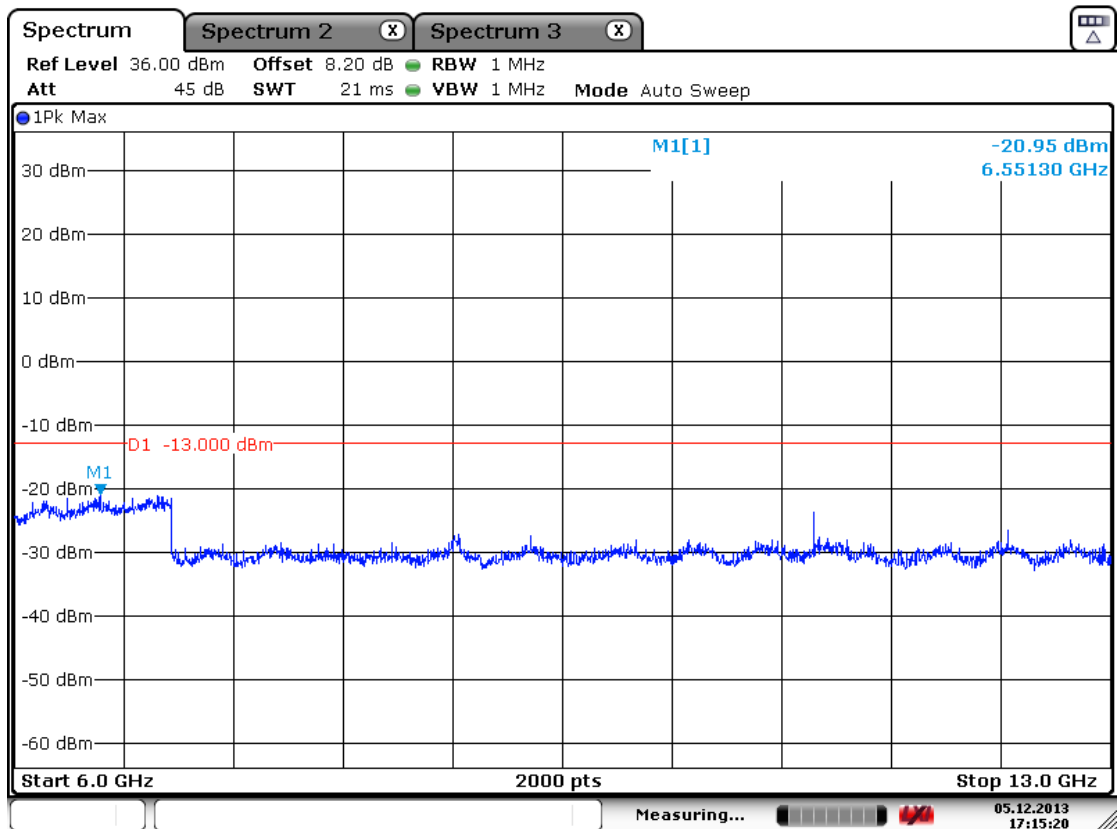
Date: 9.DEC.2013 16:30:41

Spurious Emissions at Antenna Terminals (Conducted)— GPRS 1900/EGPRS 1900

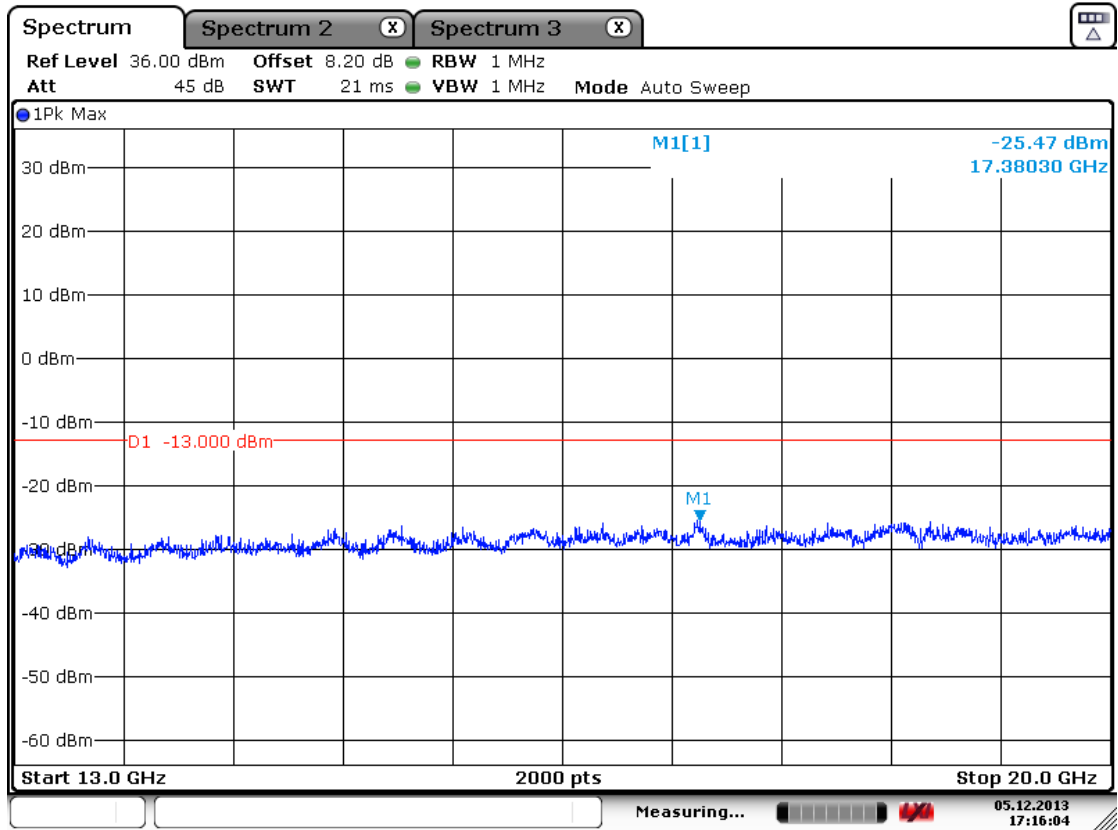
GPRS Modulation, Frequency: 1850.20MHz



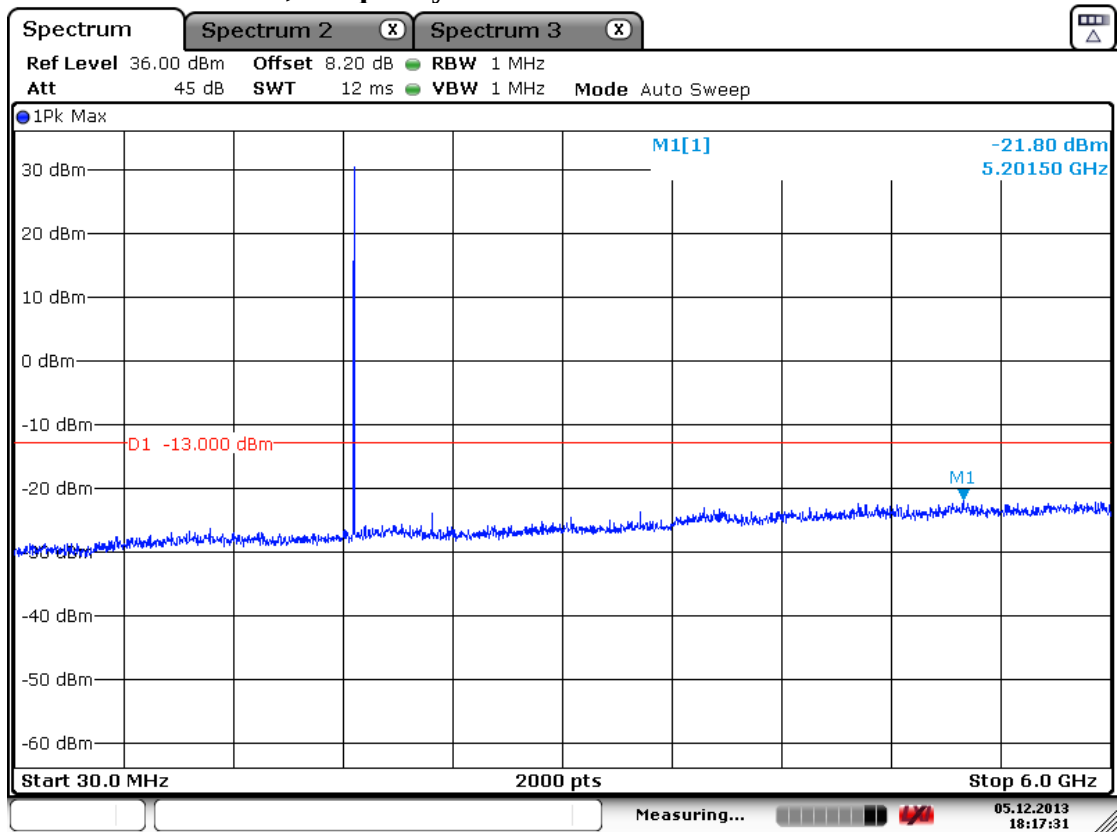
Date: 5.DEC.2013 17:14:26



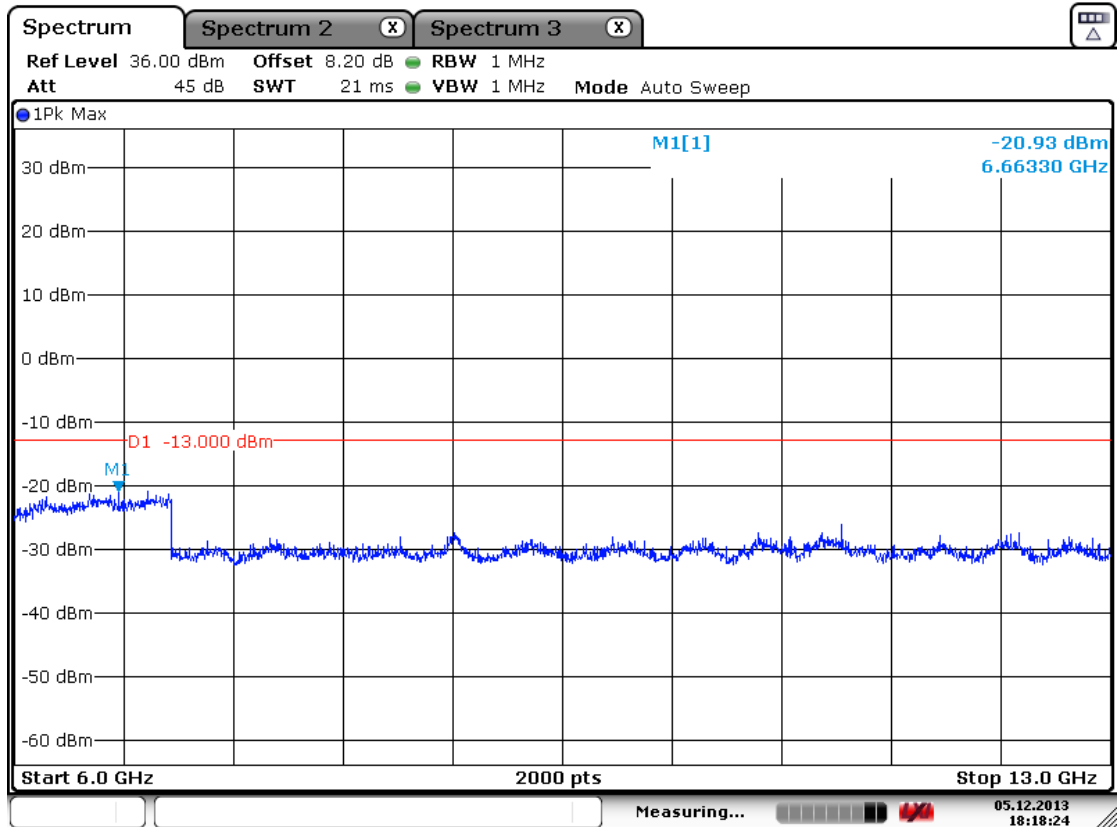
Date: 5.DEC.2013 17:15:20



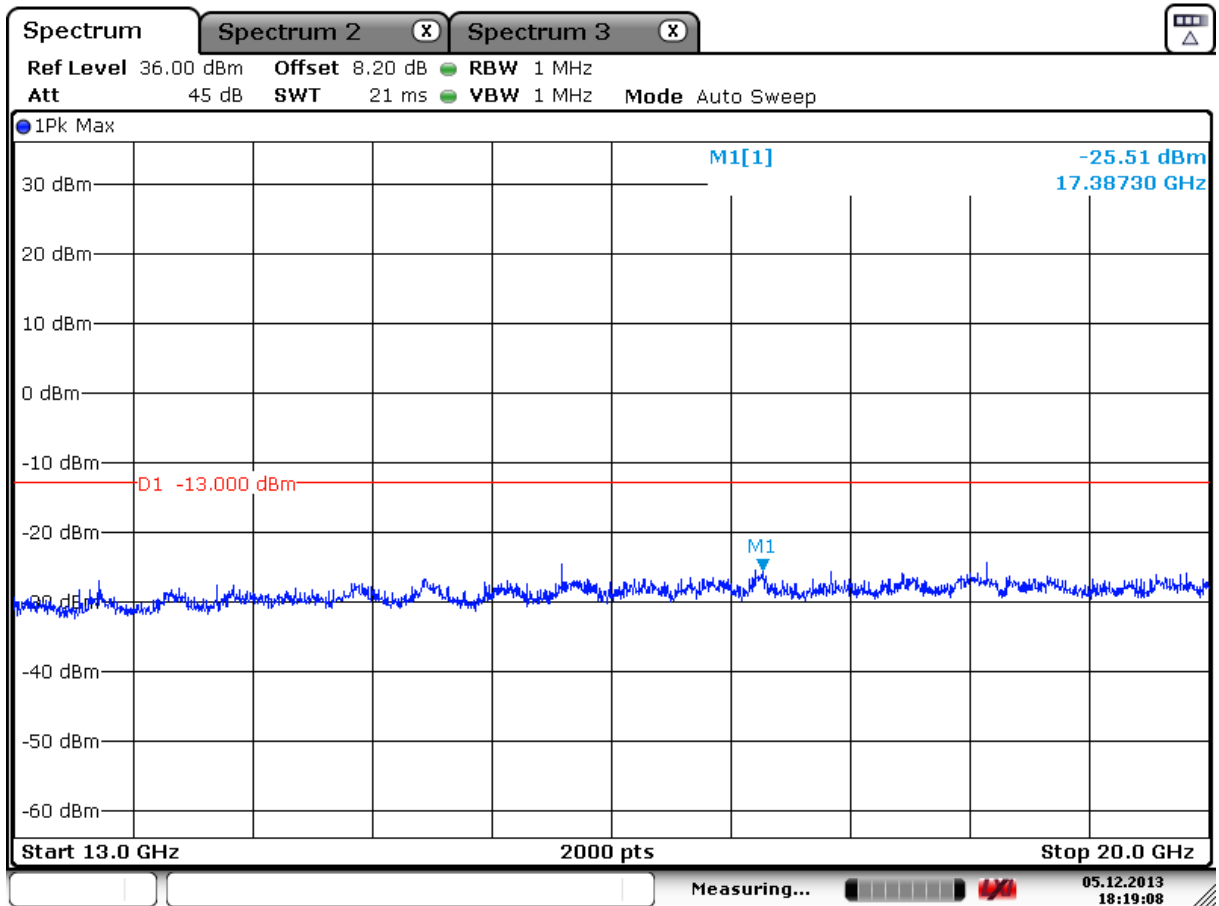
Date: 5.DEC.2013 17:16:04

GPRS Modulation, Frequency: 1880.00MHz

Date: 5.DEC.2013 18:17:31

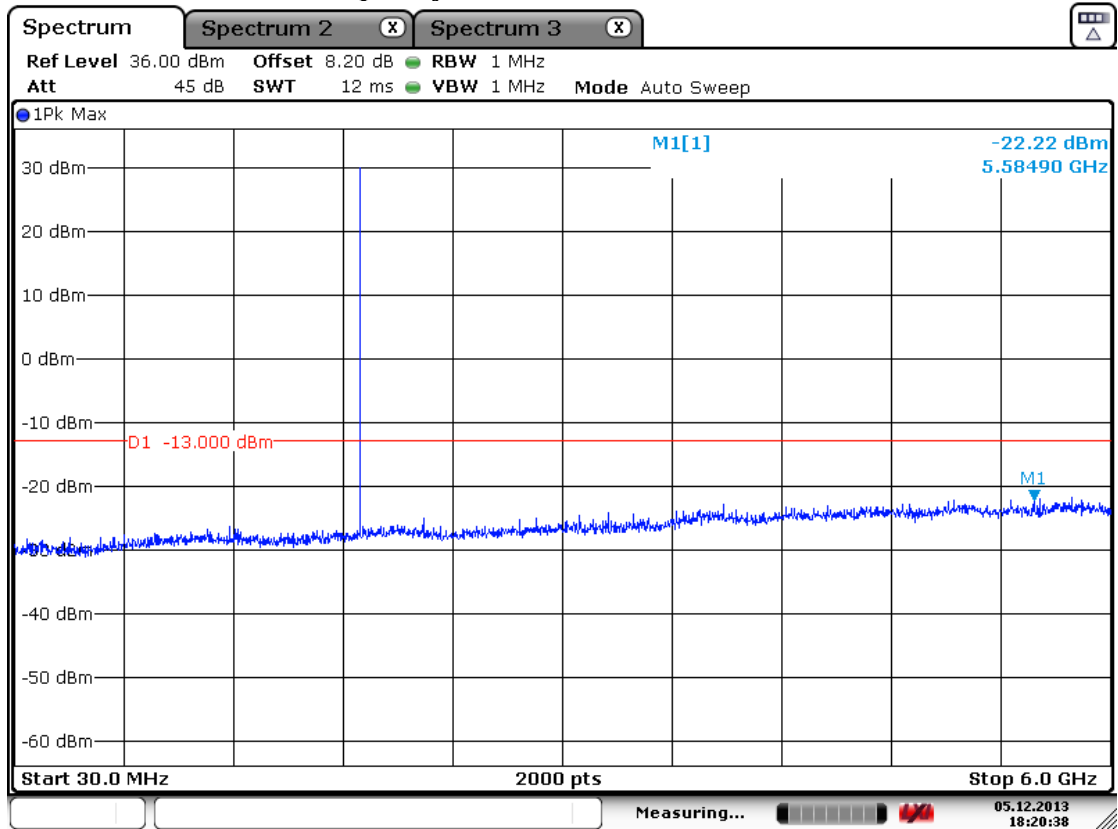


Date: 5.DEC.2013 18:18:24

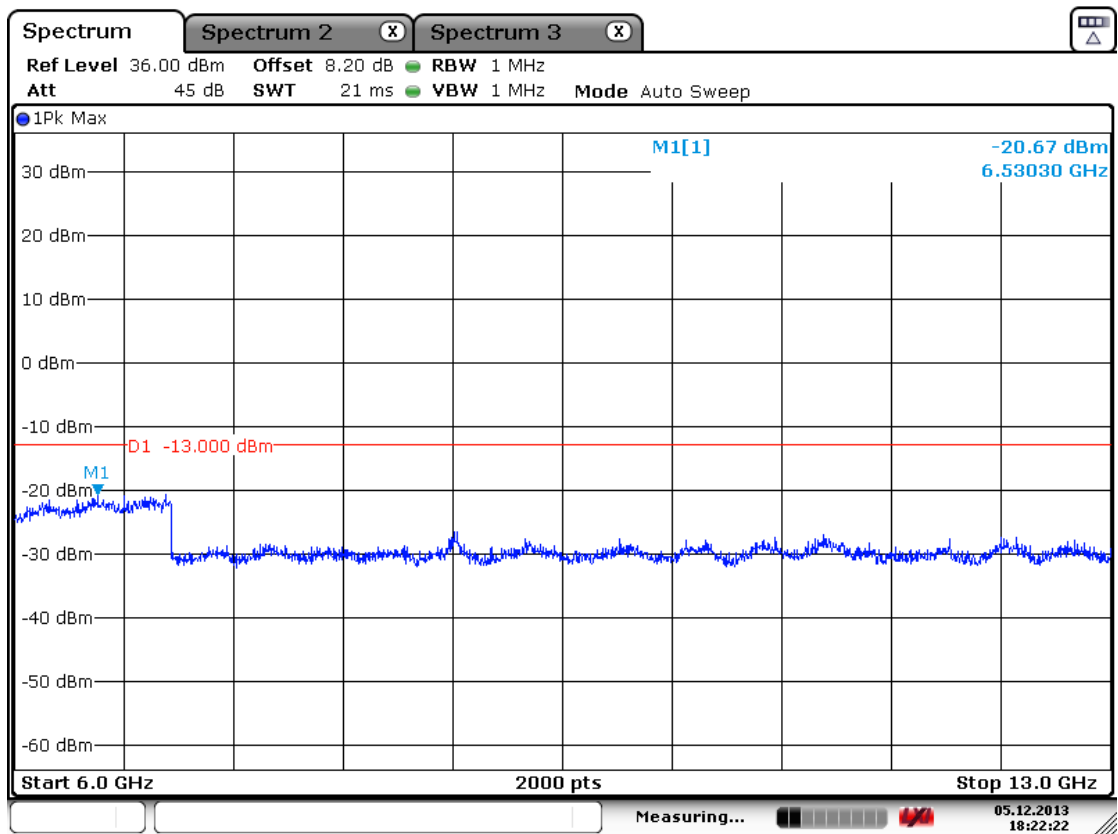


Date: 5.DEC.2013 18:19:08

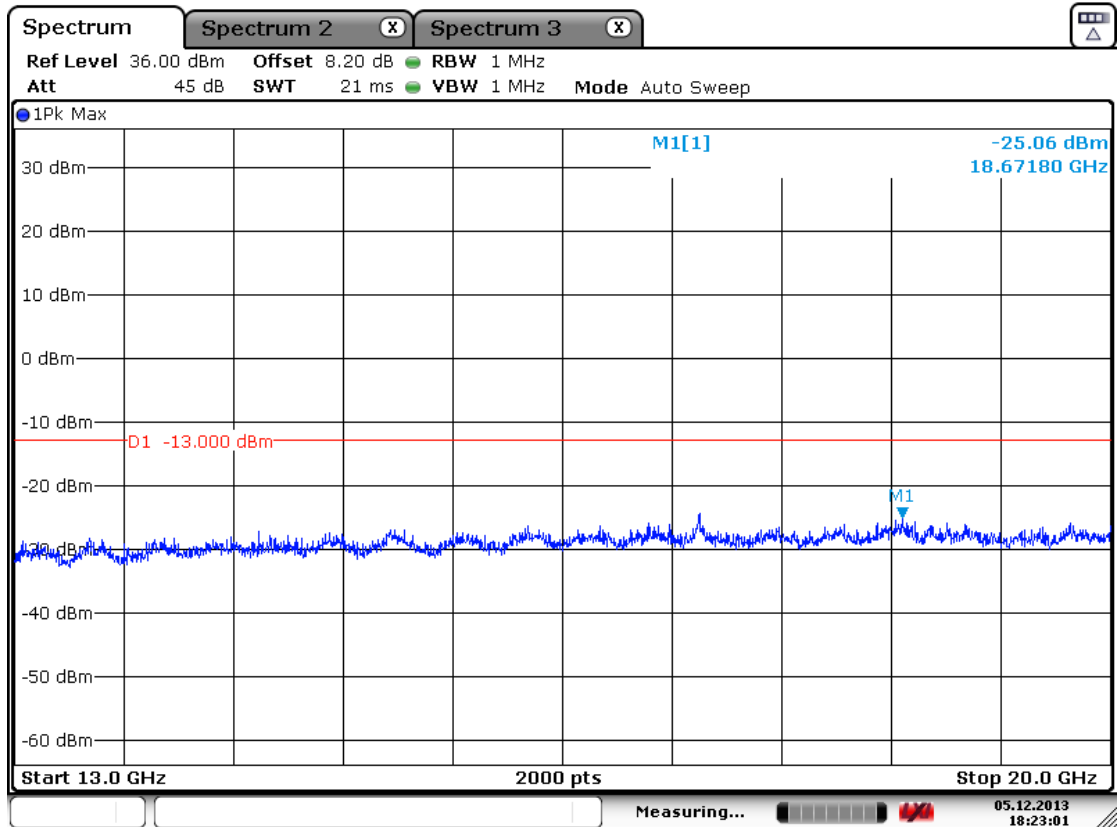
GPRS Modulation, Frequency: 1909.80MHz



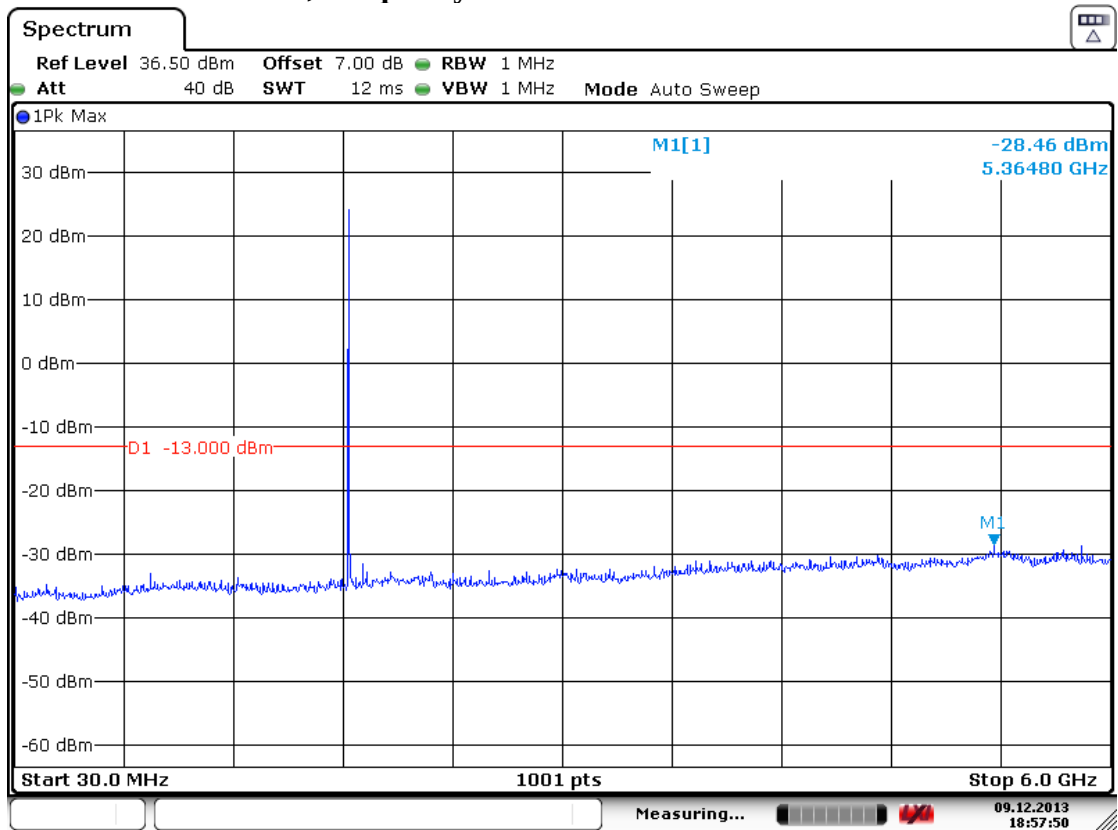
Date: 5.DEC.2013 18:20:38



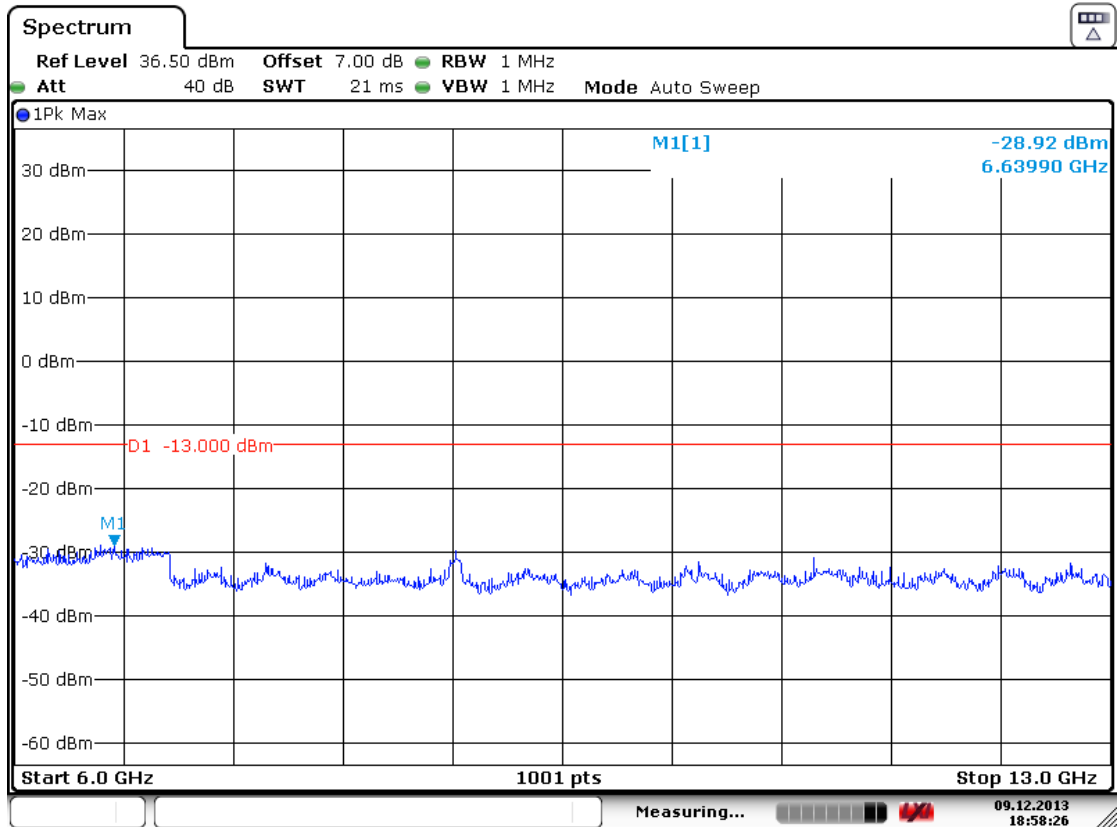
Date: 5.DEC.2013 18:22:22



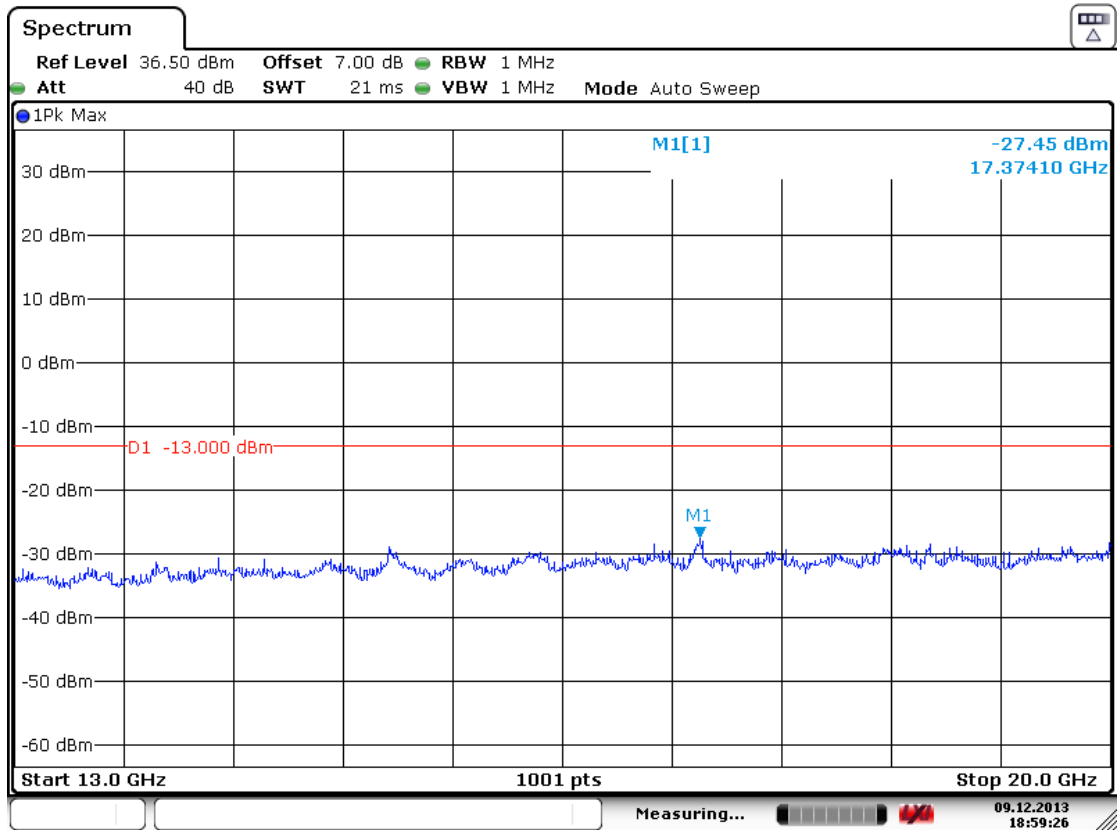
Date: 5.DEC.2013 18:23:01

EGPRS Modulation, Frequency: 1850.20MHz

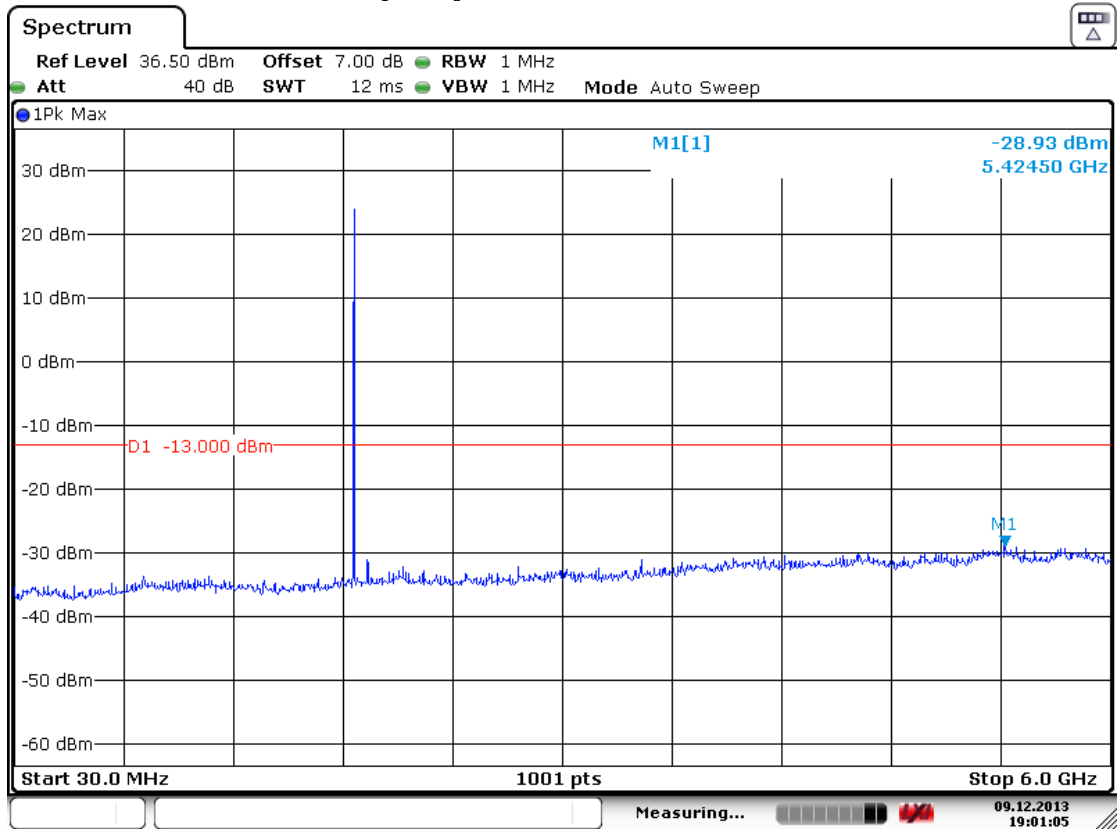
Date: 9.DEC.2013 18:57:50



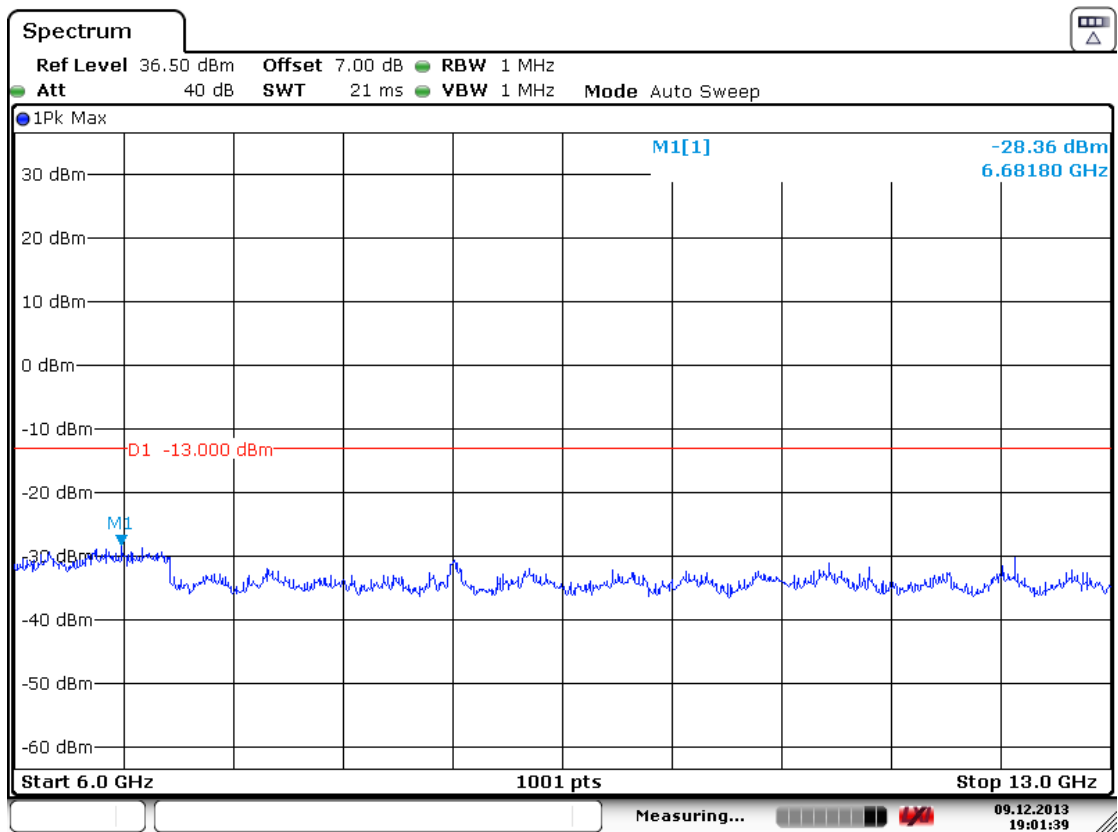
Date: 9.DEC.2013 18:58:26



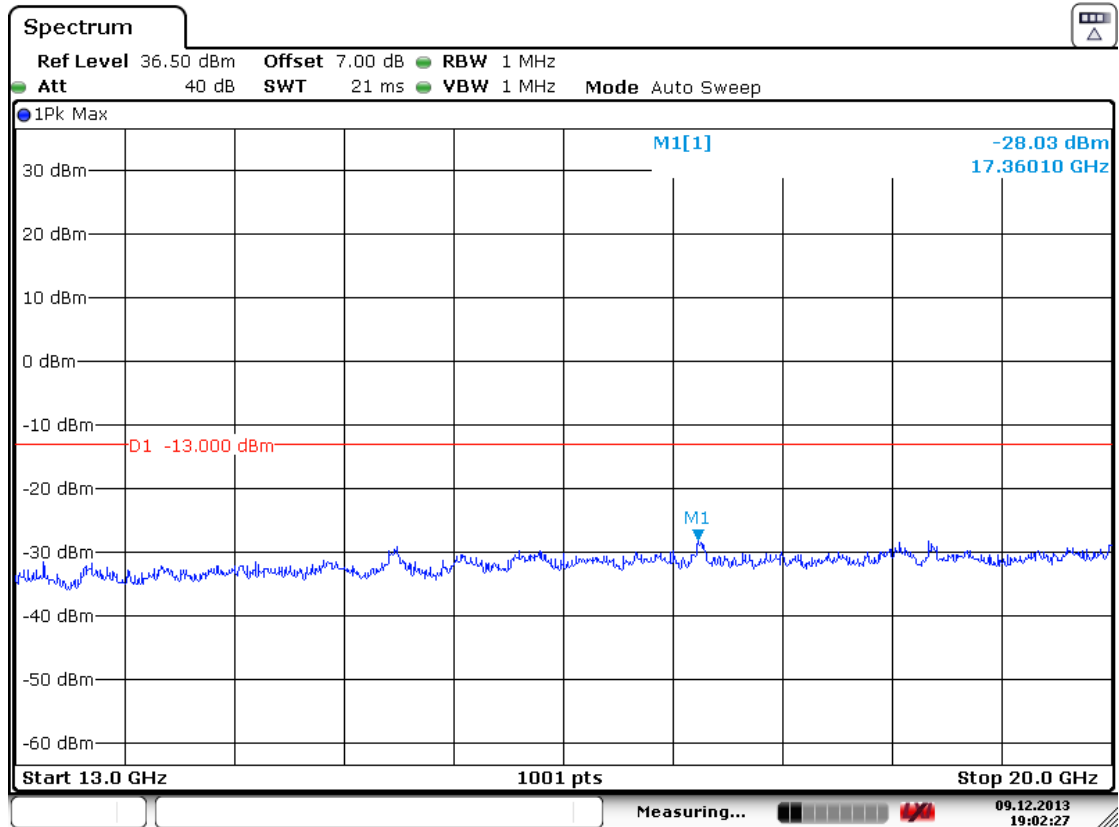
Date: 9.DEC.2013 18:59:27

EGPRS Modulation, Frequency: 1880.00MHz

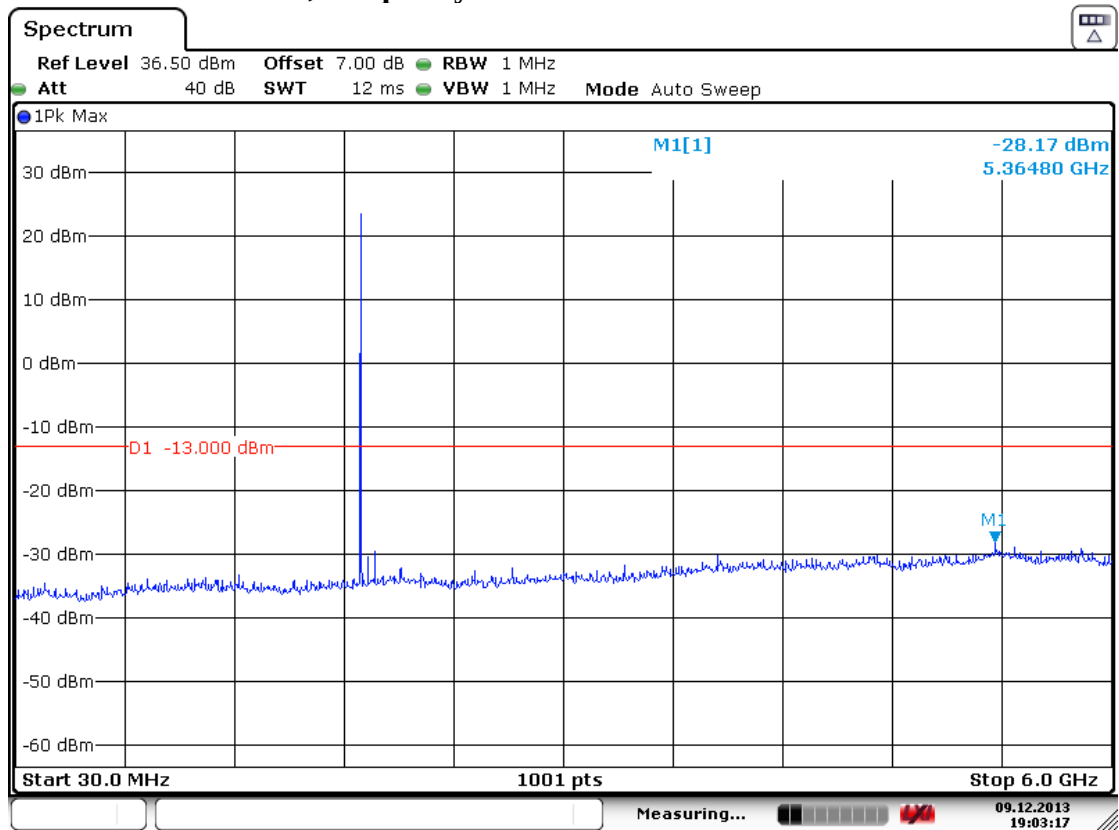
Date: 9.DEC.2013 19:01:06



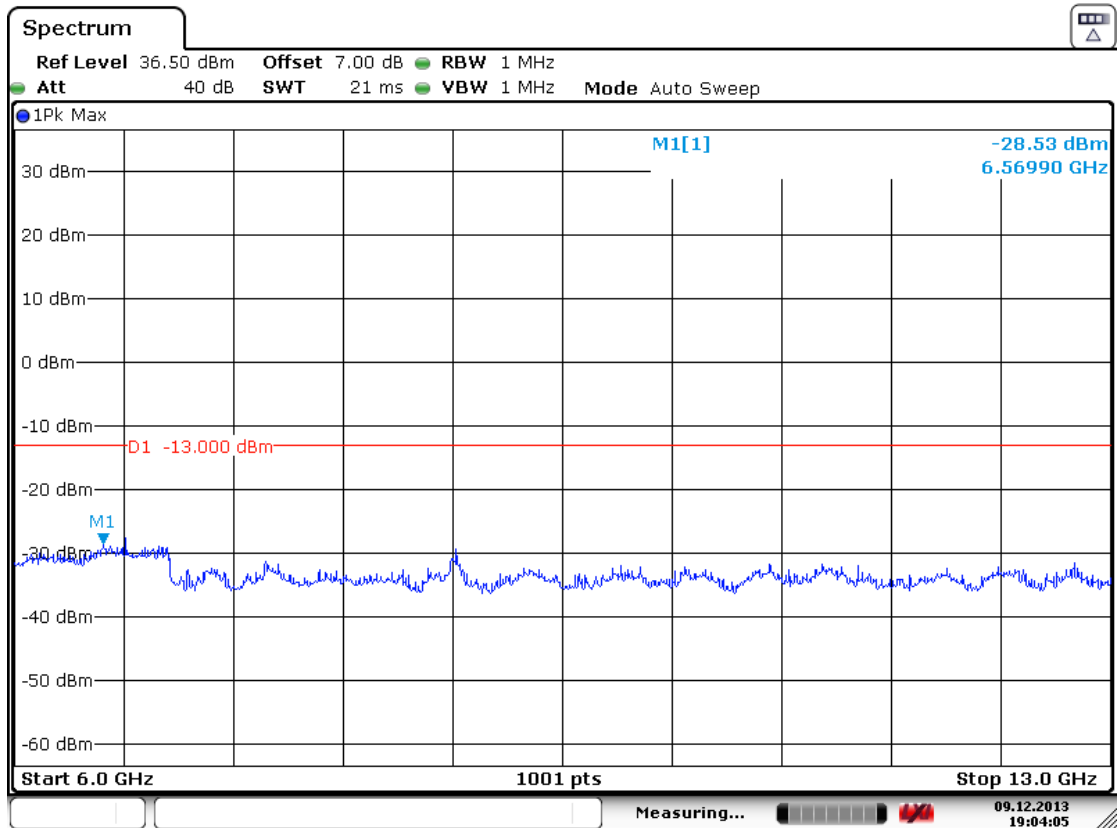
Date: 9.DEC.2013 19:01:39



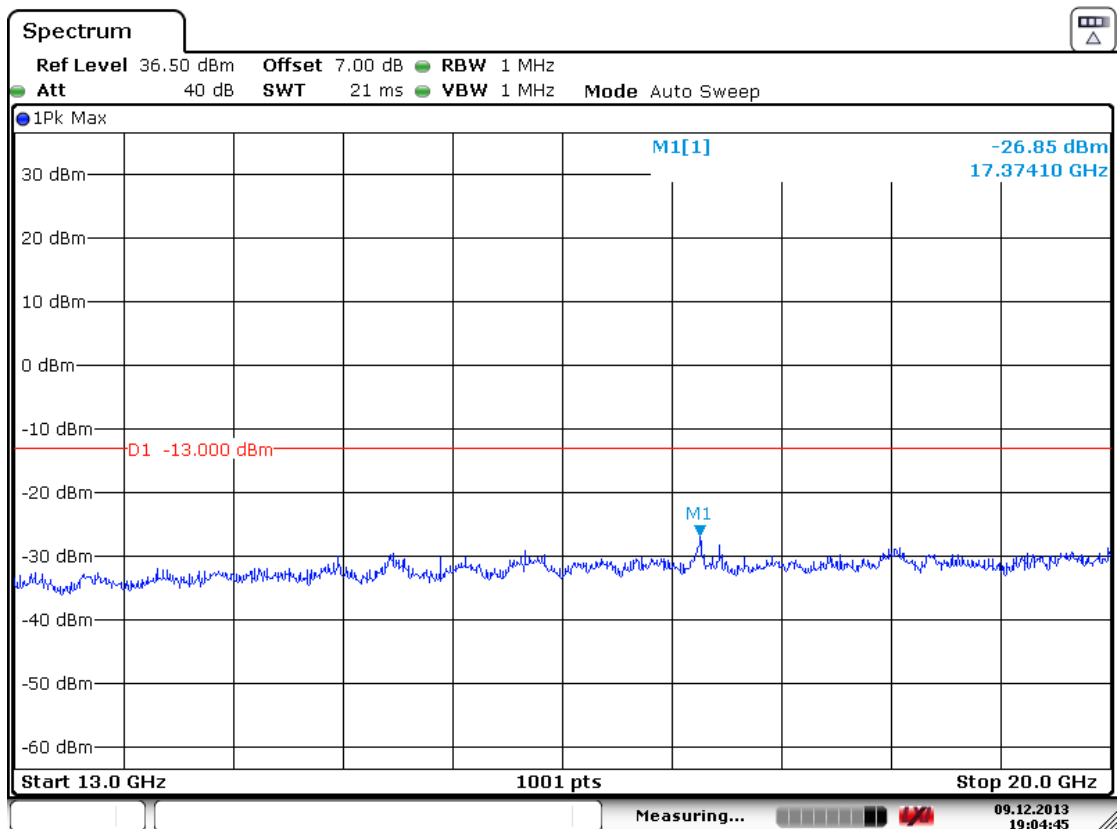
Date: 9.DEC.2013 19:02:28

EGPRS Modulation, Frequency: 1909.80MHz

Date: 9.DEC.2013 19:03:17



Date: 9.DEC.2013 19:04:05



Date: 9.DEC.2013 19:04:46

8. BAND EDGES EMISSION AT ANTENNA TERMINALS MEASUREMENT

8.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	R&S	FSV30	101181	Mar. 13, 13'	Mar. 12, 14'
2.	Power Divider	Anritsu	K240C	019728	Jan. 05, 13'	Jan. 04, 14'
3.	Universal Radio Communication Tester	R & S	CMU200	102280	Nov. 22, 13'	Nov. 21, 14'
4.	Horn Antenna	EMCO	3115	9112-3775	May 07, 13'	May 06, 14'

8.2. Block Diagram of Test Setup

The same as section.3.2.1.

8.3. Specification Limit

FCC §2.1051

FCC §22.917(a)

FCC §24.238(a)

According to specification, the power of emissions shall be attenuated below the transmitter power (P) by a factor of at least $43+10\log(P)$ dB, P in watts.

At P_o transmitting power, the specified minimum attenuation becomes $43+10\log(P_o)$, and the level in dBm relative P_o becomes:

$P_o \text{ (dBm)} - [43+10\log(P_o \text{ in m watts})-30] = -13\text{dBm}$

8.4. Test Procedure

As indicated in FCC Part 22 and Part 24, in the 1MHz bands immediately out side and adjacent to the frequency block or band are solution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A resolution bandwidth of 3.3kHz was used for GPRS and EGPRS modulations.

8.5. Test Results

PASSED. The testing data was attached in the next pages.

(Test Date: Dec. 05, 2013 Temperature: 25°C

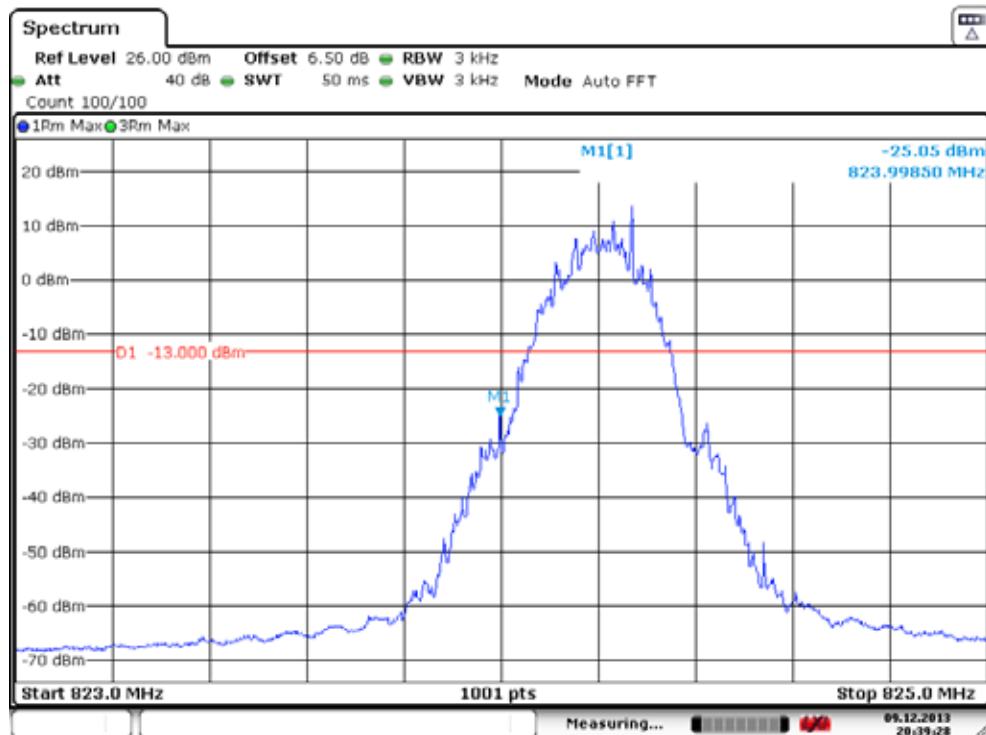
Humidity: 50%)

(Test Date: Dec. 09, 2013 Temperature: 25°C

Humidity: 50%)

Band Edges Emissions at Antenna Terminals (Conducted)— GPRS 850/EGPRS 850

GPRS Modulation, Below Band Edges



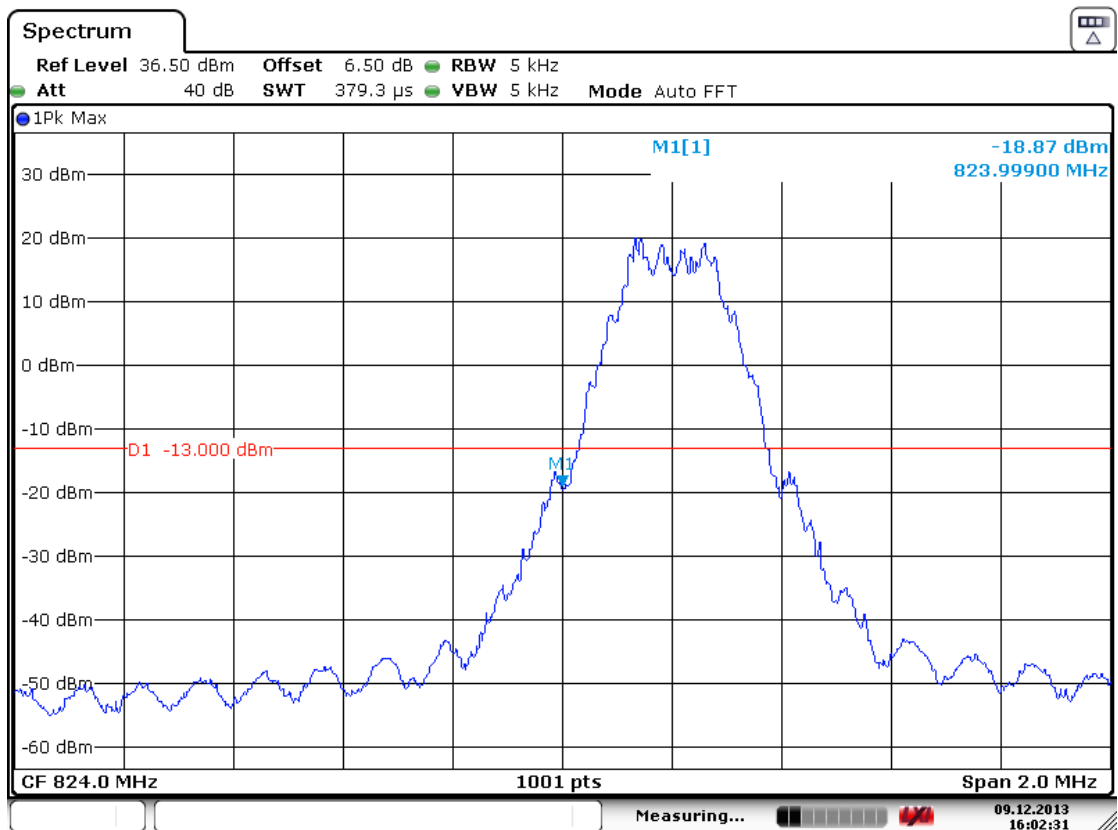
Date: 9.DEC.2013 20:39:28

GPRS Modulation, Upper Band Edges



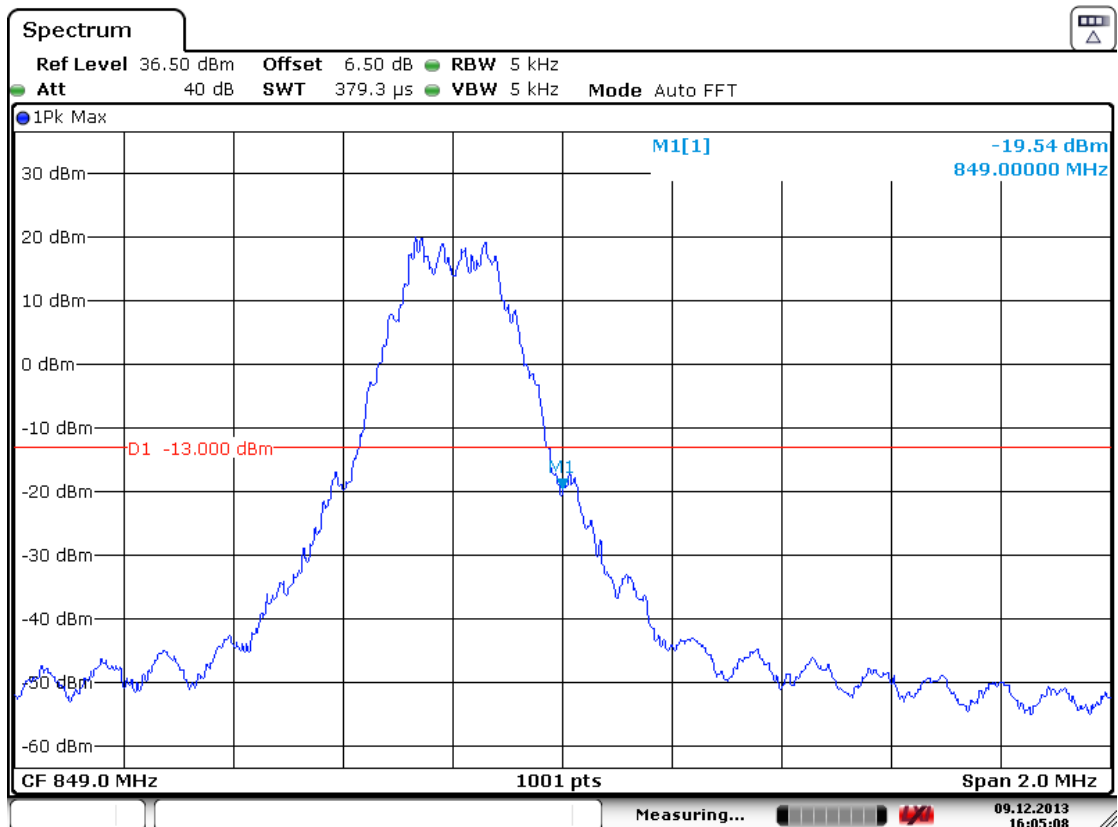
Date: 9.DEC.2013 20:40:54

EGPRS Modulation, Below Band Edges



Date: 9.DEC.2013 16:02:31

EGPRS Modulation, Upper Band Edges



Date: 9.DEC.2013 16:05:09

Band Edges Emissions at Antenna Terminals (Conducted)— GPRS 1900/EGPRS 1900

GPRS Modulation, Below Band Edges



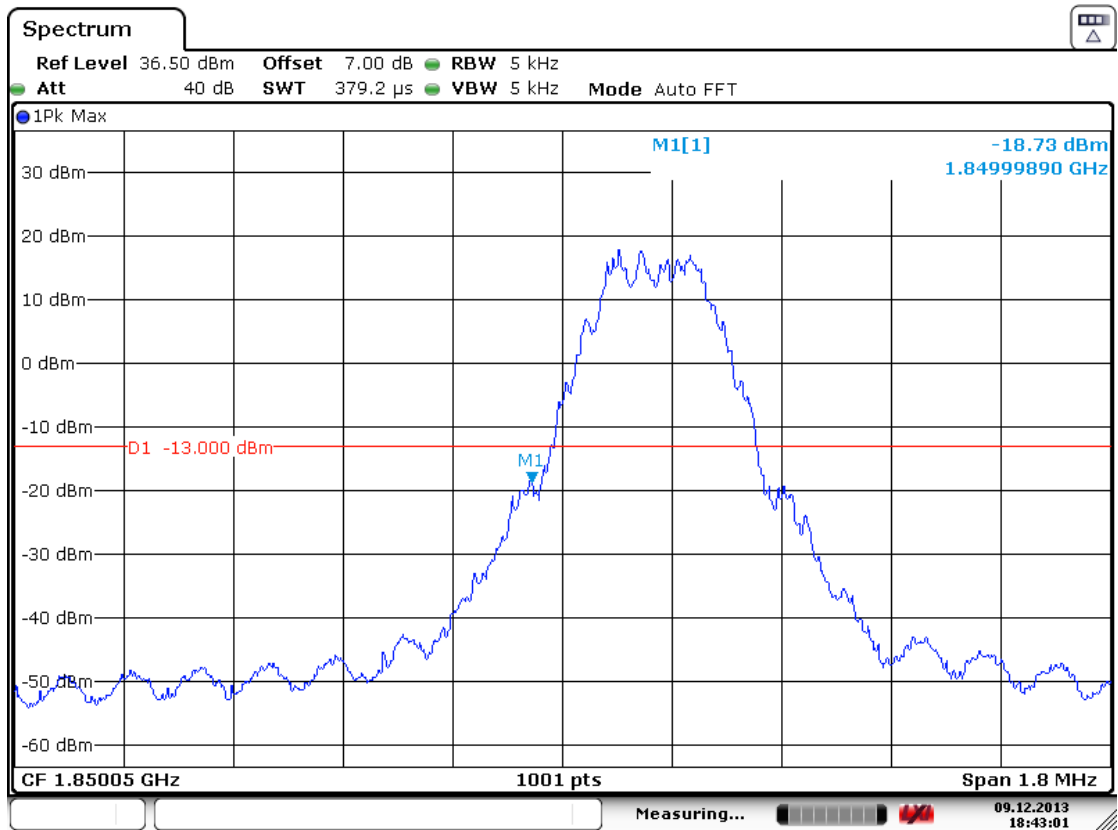
Date: 12.DEC.2013 13:29:15

GPRS Modulation, Upper Band Edges



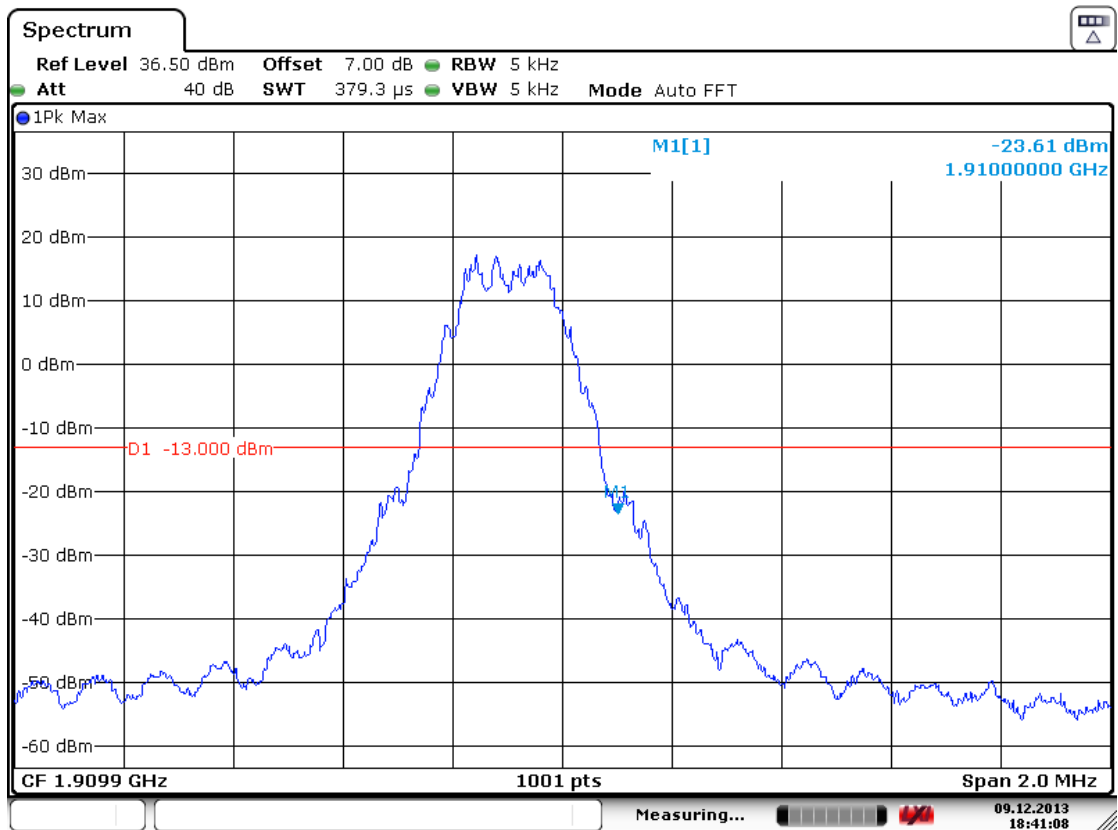
Date: 12.DEC.2013 13:30:14

EGPRS Modulation, Below Band Edges



Date: 9.DEC.2013 18:43:01

EGPRS Modulation, Upper Band Edges



Date: 9.DEC.2013 18:41:08

9. RADIATED EMISSION MEASUREMENT

9.1. Test Equipment

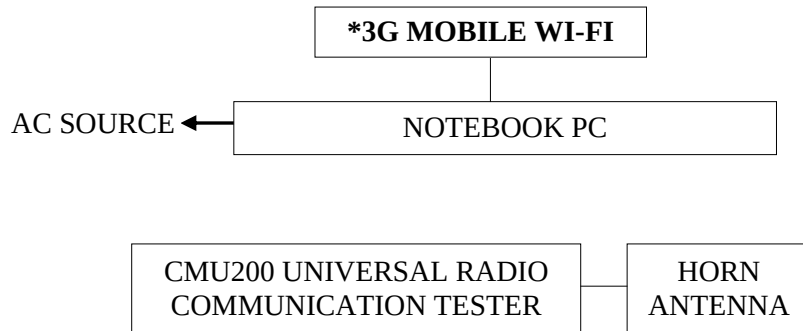
9.1.1. For Radiated Measurement (for 30MHz-1GHz)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Jul. 30, 13'	Jul. 29, 14'
2.	Test Receiver	R & S	ESCS30	100338	Jul. 01, 13'	Jun. 30, 14'
3.	Amplifier	HP	8447D	2944A06305	Feb. 29, 13'	Feb. 28, 14'
4.	Bilog Antenna	TESEQ	CBL6112D	33821	Aug. 08, 13'	Aug. 07, 14'
8.	Universal Radio Communication Tester	R & S	CMU200	102280	Nov. 22, 13'	Nov. 21, 14'
9.	Horn Antenna	EMCO	3115	9112-3775	May 07, 13'	May 06, 14'

9.1.2. For Radiated Measurement (for above 1GHz)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	Jul. 30, 13'	Jul. 29, 14'
2.	Pre-Amplifier	HP	8449B	3008A02678	Mar. 08, 13'	Mar. 07, 14'
3.	Tunable Notch Filter	K&L	3TNF-800/1000 -0.2-N/N	498	Jan. 08, 13'	Jan. 07, 14'
4.	Tunable Notch Filter	K&L	5TNF-1700/20 00-01-N/N	344	Jan. 08, 13'	Jan. 07, 14'
5.	Notch Filter	Micro Wave	H3G018G1	484797	Jan. 21, 13'	Jan. 20, 14'
6.	Notch Filter	Micro Wave	H1G013G1	459777	Jun. 13, 13'	Jun. 12, 14'
7.	Low Pass Filter	Mini-Circuits	BLP-1200+	15542	Oct. 24, 13'	Oct. 23, 14'
8.	Horn Antenna (1GHz ~ 18GHz)	EMCO	3115	9609-4927	Jun. 17, 13'	Jun. 16, 14'
9.	Universal Radio Communication Tester	R & S	CMU200	102280	Nov. 22, 13'	Nov. 21, 14'
10.	Horn Antenna	EMCO	3115	9112-3775	May 07, 13'	May 06, 14'

9.2. Block Diagram of Test Setup



9.3. Specification Limits

FCC §2.1053

FCC §22.917(a)

FCC §24.238(a)

According to specification, the power of emissions shall be attenuated below the transmitter power (P) by a factor of at least $43+10\log(P)$ dB, P in watts.

At P_o transmitting power, the specified minimum attenuation becomes $43+10\log(P_o)$, and the level in dBm relative P_o becomes:

$P_o \text{ (dBm)} - [43+10\log(P_o \text{ in m watts})-30] = -13\text{dBm}$

9.4. Test Procedure

The measurement was performed with the EUT inside a semi-anechoic chamber. The spectrum was scanned from 30MHz to at least the 10th harmonic of the highest frequency generated within the equipment. The EUT was placed on a 1 meter high non-conductive stand at a 3 meter distance from the measuring antenna for measurements below 1GHz and above 1GHz.

Detected emissions were maximized at each frequency by rotating the EUT and adjusting the measuring antenna height and polarization. The maximum meter reading was recorded. The radiated emissions were measured with peak detector and 1MHz bandwidth. Each detected emissions were substituted by the Substitution method, in accordance with the ANSI/TIA/EIA603C:2004.

9.5. Test Results

PASSED. All the test results are attached in next pages.

(Test Date: Dec. 13, 2009 Temperature: 24°C Humidity: 50%)

GPRS 850 Band, Frequency: 824.20MHz

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
771.51	Horizontal	-70.07	-13.00	-57.07
869.20	Horizontal	-61.50	-13.00	-48.50
876.00	Horizontal	-59.46	-13.00	-46.46
1648.48	Horizontal	-40.28	-13.00	-27.28
2473.36	Horizontal	-37.83	-13.00	-24.83
3808.60	Horizontal	-47.46	-13.00	-34.46

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
767.66	Vertical	-71.29	-13.00	-58.29
869.20	Vertical	-59.91	-13.00	-46.91
876.00	Vertical	-57.42	-13.00	-44.42
1648.48	Vertical	-44.62	-13.00	-31.62
2473.36	Vertical	-42.52	-13.00	-29.52

Note 1. : All the emissions (up to 12.75GHz) not reported are too low to be measured.

Note 2. : The emission behavior belongs to narrowband spurious emission.

GPRS 850 Band, Frequency: 836.40MHz

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
351.09	Horizontal	-58.52	-13.00	-45.52
360.33	Horizontal	-54.63	-13.00	-41.63
368.03	Horizontal	-49.16	-13.00	-36.16
380.35	Horizontal	-46.23	-13.00	-33.23
659.09	Horizontal	-51.43	-13.00	-38.43
756.88	Horizontal	-49.96	-13.00	-36.96
817.80	Horizontal	-65.66	-13.00	-52.66
824.00	Horizontal	-60.14	-13.00	-47.14
825.60	Horizontal	-54.42	-13.00	-41.42
830.20	Horizontal	-46.11	-13.00	-33.11
831.80	Horizontal	-46.39	-13.00	-33.39
841.20	Horizontal	-42.06	-13.00	-29.06
876.00	Horizontal	-56.16	-13.00	-43.16
881.40	Horizontal	-52.02	-13.00	-39.02
1673.68	Horizontal	-43.71	-13.00	-30.71
2510.32	Horizontal	-37.69	-13.00	-24.69

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
71.58	Vertical	-52.09	-13.00	-39.09
143.19	Vertical	-53.69	-13.00	-40.69
494.31	Vertical	-58.04	-13.00	-45.04
633.68	Vertical	-52.16	-13.00	-39.16
772.28	Vertical	-54.67	-13.00	-41.67
831.80	Vertical	-48.75	-13.00	-35.75
839.60	Vertical	-50.35	-13.00	-37.35
876.00	Vertical	-50.75	-13.00	-37.75
881.40	Vertical	-50.04	-13.00	-37.04
1673.68	Vertical	-47.45	-13.00	-34.45
2508.64	Vertical	-41.29	-13.00	-28.29

Note 1. : All the emissions (up to 12.75GHz) not reported are too low to be measured.

Note 2. : The emission behavior belongs to narrowband spurious emission.

GPRS 850 Band, Frequency: 848.80MHz

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
348.01	Horizontal	-58.60	-13.00	-45.60
350.32	Horizontal	-54.72	-13.00	-41.72
372.65	Horizontal	-48.97	-13.00	-35.97
677.57	Horizontal	-51.07	-13.00	-38.07
762.27	Horizontal	-53.39	-13.00	-40.39
814.60	Horizontal	-50.41	-13.00	-37.41
818.20	Horizontal	-53.02	-13.00	-40.02
824.80	Horizontal	-52.03	-13.00	-39.03
844.20	Horizontal	-45.30	-13.00	-32.30
852.00	Horizontal	-40.96	-13.00	-27.96
853.60	Horizontal	-46.30	-13.00	-33.30
876.00	Horizontal	-52.79	-13.00	-39.79
893.80	Horizontal	-47.43	-13.00	-34.43
1697.20	Horizontal	-42.65	-13.00	-29.65
2547.28	Horizontal	-41.23	-13.00	-28.23

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
71.58	Vertical	-53.75	-13.00	-40.75
143.19	Vertical	-54.60	-13.00	-41.60
629.06	Vertical	-58.91	-13.00	-45.91
769.97	Vertical	-51.97	-13.00	-38.97
845.80	Vertical	-52.48	-13.00	-39.48
852.00	Vertical	-50.26	-13.00	-37.26
876.00	Vertical	-52.38	-13.00	-39.38
893.80	Vertical	-48.94	-13.00	-35.94
1697.20	Vertical	-47.26	-13.00	-34.26
2547.28	Vertical	-42.92	-13.00	-29.92

Note 1. : All the emissions (up to 12.75GHz) not reported are too low to be measured.

Note 2. : The emission behavior belongs to narrowband spurious emission.

GPRS 1900 Band, Frequency: 1850.20MHz

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
138.64	Horizontal	-57.45	-13.00	-44.45
169.68	Horizontal	-50.18	-13.00	-37.18
175.50	Horizontal	-45.24	-13.00	-32.24
353.01	Horizontal	-42.93	-13.00	-29.93
361.74	Horizontal	-43.73	-13.00	-30.73
370.47	Horizontal	-40.97	-13.00	-27.97
378.23	Horizontal	-44.97	-13.00	-31.97
773.99	Horizontal	-47.13	-13.00	-34.13
778.84	Horizontal	-47.56	-13.00	-34.56
786.60	Horizontal	-47.50	-13.00	-34.50
794.36	Horizontal	-48.62	-13.00	-35.62
3700.00	Horizontal	-45.12	-13.00	-32.12
11100.00	Horizontal	-47.87	-13.00	-34.87
12954.00	Horizontal	-45.12	-13.00	-32.12

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
72.68	Vertical	-53.08	-13.00	-40.08
80.44	Vertical	-51.24	-13.00	-38.24
141.55	Vertical	-48.08	-13.00	-35.08
631.40	Vertical	-53.54	-13.00	-40.54
747.80	Vertical	-54.06	-13.00	-41.06
761.38	Vertical	-50.27	-13.00	-37.27
778.84	Vertical	-51.83	-13.00	-38.83
3700.00	Vertical	-43.97	-13.00	-30.97
9250.00	Vertical	-45.43	-13.00	-32.43
11100.00	Vertical	-44.57	-13.00	-31.57
12954.00	Vertical	-41.61	-13.00	-28.61

Note 1. : All the emissions (up to 12.75GHz) not reported are too low to be measured.

Note 2. : The emission behavior belongs to narrowband spurious emission.

GPRS 1900 Band, Frequency: 1880.00MHz

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
72.68	Horizontal	-55.34	-13.00	-42.34
139.61	Horizontal	-53.37	-13.00	-40.37
167.74	Horizontal	-46.07	-13.00	-33.07
365.62	Horizontal	-43.78	-13.00	-30.78
370.47	Horizontal	-44.37	-13.00	-31.37
759.44	Horizontal	-46.83	-13.00	-33.83
764.29	Horizontal	-48.71	-13.00	-35.71
770.11	Horizontal	-47.70	-13.00	-34.70
774.96	Horizontal	-48.68	-13.00	-35.68
3760.00	Horizontal	-47.54	-13.00	-34.54
11280.00	Horizontal	-48.91	-13.00	-35.91

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
72.68	Vertical	-69.32	-13.00	-56.32
80.44	Vertical	-68.48	-13.00	-55.48
141.55	Vertical	-61.76	-13.00	-48.76
433.52	Vertical	-54.63	-13.00	-41.63
759.44	Vertical	-53.33	-13.00	-40.33
776.90	Vertical	-46.99	-13.00	-33.99
3760.00	Vertical	-48.74	-13.00	-35.74
11280.00	Vertical	-49.17	-13.00	-36.17
13158.00	Vertical	-49.18	-13.00	-36.18

Note 1. : All the emissions (up to 12.75GHz) not reported are too low to be measured.

Note 2. : The emission behavior belongs to narrowband spurious emission.

GPRS 1900 Band, Frequency: 1909.80MHz

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
139.61	Horizontal	-58.40	-13.00	-45.40
170.65	Horizontal	-51.64	-13.00	-38.64
367.56	Horizontal	-50.19	-13.00	-37.19
764.29	Horizontal	-50.37	-13.00	-37.37
780.78	Horizontal	-51.50	-13.00	-38.50
3820.00	Horizontal	-47.32	-13.00	-34.32

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
72.68	Vertical	-55.34	-13.00	-42.34
139.61	Vertical	-54.35	-13.00	-41.35
628.49	Vertical	-58.52	-13.00	-45.52
765.26	Vertical	-49.77	-13.00	-36.77
773.99	Vertical	-51.07	-13.00	-38.07
1188.00	Vertical	-39.32	-13.00	-26.32
1484.00	Vertical	-47.88	-13.00	-34.88
1956.00	Vertical	-47.24	-13.00	-34.24
3820.00	Vertical	-47.81	-13.00	-34.81
6380.00	Vertical	-49.52	-13.00	-36.52
6412.00	Vertical	-50.88	-13.00	-37.88
9550.00	Vertical	-47.70	-13.00	-34.70
1146.00	Vertical	-47.71	-13.00	-34.71
13368.00	Vertical	-47.97	-13.00	-34.97

Note 1. : All the emissions (up to 12.75GHz) not reported are too low to be measured.

Note 2. : The emission behavior belongs to narrowband spurious emission.

10.DEVIATION TO TEST SPECIFICATIONS

【NONE】

11.PHOTOGRAPHS

11.1.Photos of Conducted Disturbance Measurement

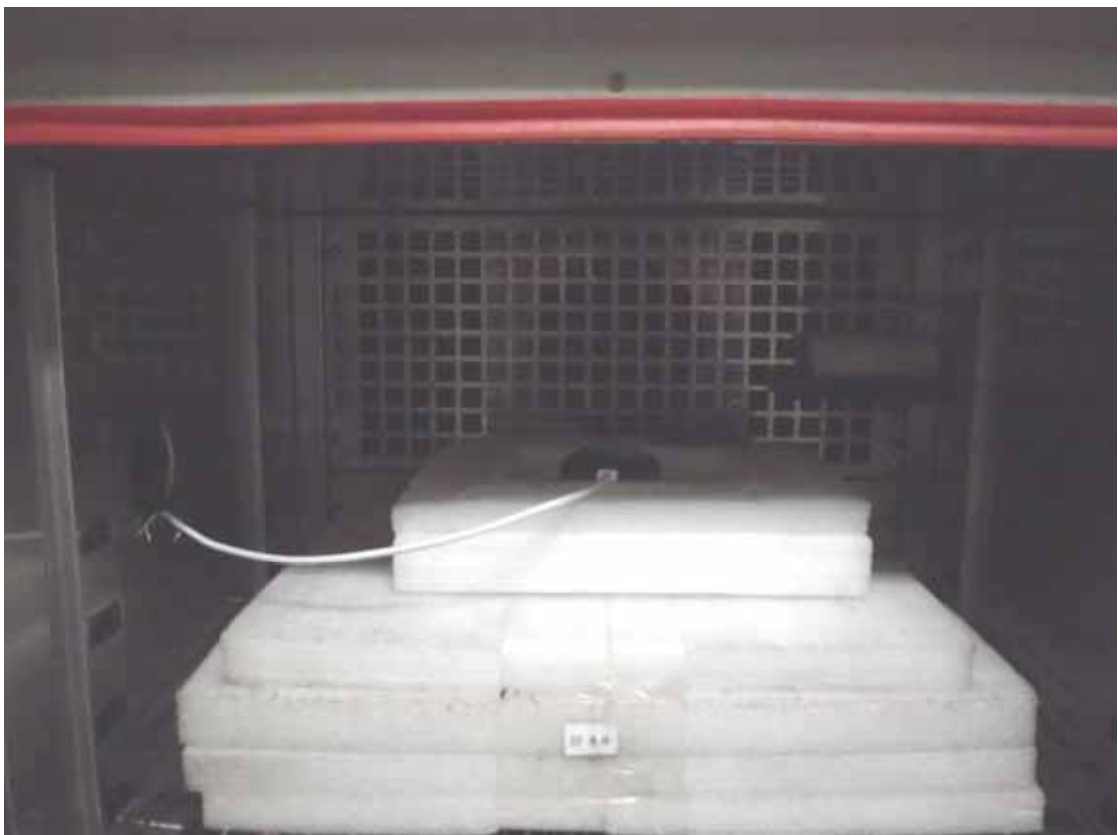


FRONT VIEW OF CONDUCTED MEASUREMENT



BACK VIEW OF CONDUCTED MEASUREMENT

11.2.Photo of Conducted Measurement



11.3.Photos of Radiated Emission Measurement at Semi-Anechoic Chamber

11.3.1. Frequency Below 1GHz



11.3.2. Frequency Above 1GHz

