

APPLICATION FOR CERTIFICATION

On Behalf of

LG Electronics Inc.

Notebook PC

Model No. : LGX30

FCC ID: BEJ9QK-LGX30G02

Brand: LG

Prepared for: LG Electronics Inc.
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Pyungtaik-Shi, Kyunggi-Do,
451-713 Korea, Republic of

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Date of Report : Dec. 18, 2009

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TEST REPORT CERTIFICATION

Applicant : LG Electronics Inc.
 Manufacturer #1 : LG Electronics De Sao Paulo Ltda
 Manufacturer #2 : LG Electronics Inc.
 Manufacturer #3 : MSI Electronics (Kunshan) Co., Ltd.
 EUT Description : Notebook PC
 FCC ID : **BEJ9QK-LGX30G02**
 (A) Model No. : LGX30
 (B) Serial No. : N/A
 (C) Brand : LG
 (D) Power Supply : DC 20V, 2A
 (E) Test Voltage : AC 120V/60Hz Via AC Adapter

Measurement Procedure Used:

Industry Canada Rules and Regulations RSS-Gen (Issue 2), June 2007 and
 RSS-132 (Issue 2), September 2005 and RSS-133 (Issue 5), February 2009
 FCC Rules and Regulations Part 22 Subpart H and Part 24 Subpart E, October 2008
 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 and Canada IC RSS-Gen, RSS-132, RSS-133 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 and Canada IC RSS-Gen, RSS-132, RSS-133 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:	<u>Dec. 08 ~ 09, 2009</u>	Date of Report:	<u>Dec. 18, 2009</u>
Producer:	 (Nita Lee /Administrator)		
Reviewer:	 (Henning Chang/Supervisor)		
Signatory:	 (Ben Cheng/Manager)		

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	Notebook PC (The EUT is built-in wireless LAN, Bluetooth module and Mobile Broadband Module, this report for Mobile Broadband Module, Wireless LAN and Bluetooth are tested in others report of EM-F980914 and EM-F980915)
Model Number	:	LGX30
Serial Number	:	N/A
Brand	:	LG
FCC ID	:	BEJ9QK-LGX30G02
Applicant	:	LG Electronics Inc. 19-1, Cheongho-Ri, Jinway-Myun, Pyungtaik-Shi, Kyunggi-Do, 451-713 Korea, Republic of
Manufacturer #1	:	LG Electronics De Sao Paulo Ltda Av Dom Pedro 1 W7777 Distrito Industrial 12010-970 Taubate- SP Brazil.
Manufacturer #2	:	LG Electronics Inc. 73 Hyang Jeong-Dong, Cheingju Plant Cheongju-Shi, Hungduk-Gu Chengbuk Republic of Korea
Manufacturer #3	:	MSI Electronics (Kunshan) Co., Ltd. 88 E Quanjin Rd Kunshan Jiangsu 215300 China
AC Adapter	:	SUNG HO, M/N SHA913L I/P: 100-240V~, 2A, 50/60Hz O/P: 20V, 2A, 40W DC Cord: Non-Shielded, Undetached, 1.5m Bonded a ferrite core AC Cord: Non-Shielded, Detached, 1.0m (2Pin)
Date of Receipt of Sample	:	Nov. 10, 2009
Date of Test	:	Dec. 08 ~ 09, 2009

**F3307 Ericsson Mobile Broadband Module –
850/900/1800/1900 GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA
Mini-PCle Wireless WAN Card**

Model Number : F3307
 FCC ID : VV7-MBMF33071
 Frequency Range : 824.2MHz – 848.8MHz (GPRS)
 824.2MHz – 848.8MHz (EGPRS)
 1850.2MHz – 1909.8MHz (GPRS)
 1850.2MHz – 1909.8MHz (EGPRS)

Test Frequency :

850MHz Band for GPRS, EGPRS Modulation –
 824.20MHz, 836.40MHz, 848.80MHz

1900MHz Band for GPRS, EGPRS Modulation –
 1850.20MHz, 1880.00MHz, 1909.80MHz

Antenna Information :

Antenna Part Number	Manufacture	Antenna Type	3D Average Gain (dBi)	
			Frequency	Gain
[X300] Main GSM900, 1800 Antenna	Ace Antenna	PIFA Antenna	880MHz	-3.36dBi
			915MHz	-1.78dBi
			925MHz	-2.41dBi
			960MHz	-5.62dBi
			1710MHz	-5.28dBi
			1785MHz	-2.70dBi
			1805MHz	-1.93dBi
			1880MHz	-1.57dBi
			1850MHz	-1.16dBi
			1910MHz	-1.72dBi
			1930MHz	-1.99dBi
			1990MHz	-2.09dBi
			1920MHz	-1.92dBi
			1980MHz	-2.06dBi
			2110MHz	-2.03dBi
[X300] AUX Antenna	Ace Antenna	PIFA Antenna	2170MHz	-5.21dBi
			869MHz	-7.82dBi
			894MHz	-4.55dBi
			925MHz	-3.30dBi
			960MHz	-5.96dBi
			1805MHz	-3.65dBi
			1880MHz	-3.40dBi
			1930MHz	-3.50dBi
			1990MHz	-4.82dBi
			2110MHz	-4.14dBi
			2170MHz	-2.90dBi

1.2. Tested Supporting System Details

【For Conducted & Radiated Emission Measurement】

1.2.1. I-POD PLAYER #1

Model Number	:	A1204
Serial Number	:	4H722TDYVTE
FCC ID	:	By DoC
BSMI ID	:	R33057
Manufacturer	:	APPLE
USB Data Cable	:	Shielded, Undetachable, 1m

1.2.2. I-POD PLAYER #2

Model Number	:	A1204
Serial Number	:	4H722TNUVTE
FCC ID	:	By DoC
BSMI ID	:	R33057
Manufacturer	:	APPLE
USB Data Cable	:	Shielded, Undetachable, 1m

1.2.3. EARPHONE

Model Number	:	N/A
Serial Number	:	N/A
Manufacturer	:	APPLE
Earphone Cable	:	Non-Shielded, Detachable, 0.9m

1.2.4. SD CARD (INSTALL IN EUT)

Model Number	:	SDHC Card
Serial Number	:	BH0822813475D
Manufacturer	:	SanDisk
Capacity	:	4GB

1.3. Description of Test Facility

Name of Firm : **AUDIX Technology Corporation**
 EMC Department
 No. 53-11, Tin-Fu Tsun, Lin-Kou Hsiang,
 Taipei Hsien, Taiwan

Test Site : **No. 3 Shielded Room**
 (C3/Semi-AC) No. 67-4, Tin-Fu Tsun, Lin-Kou Hsiang
 Taipei Hsien, Taiwan

Semi-Anechoic Chamber
 No. 53-11, Tin-Fu Tsun, Lin-Kou, Hsiang,
 Taipei Hsien, Taiwan

May 14, 2009 Renewal on
 Federal Communication Commission
 Registration Number: 90993

NVLAP Lab. Code : 200077-0

TAF Accreditation No : 1724

1.4. Measurement Uncertainty

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

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

Test Item	Uncertainty
99% Bandwidth	$\pm 0.05\text{kHz}$
Emission Limitations	$\pm 0.13\text{dB}$
Maximum Peak Output Power	$\pm 0.33\text{dB}$
Band Edges	$\pm 0.13\text{dB}$
Frequency Tolerance	$\pm 0.0074\text{ppm}$

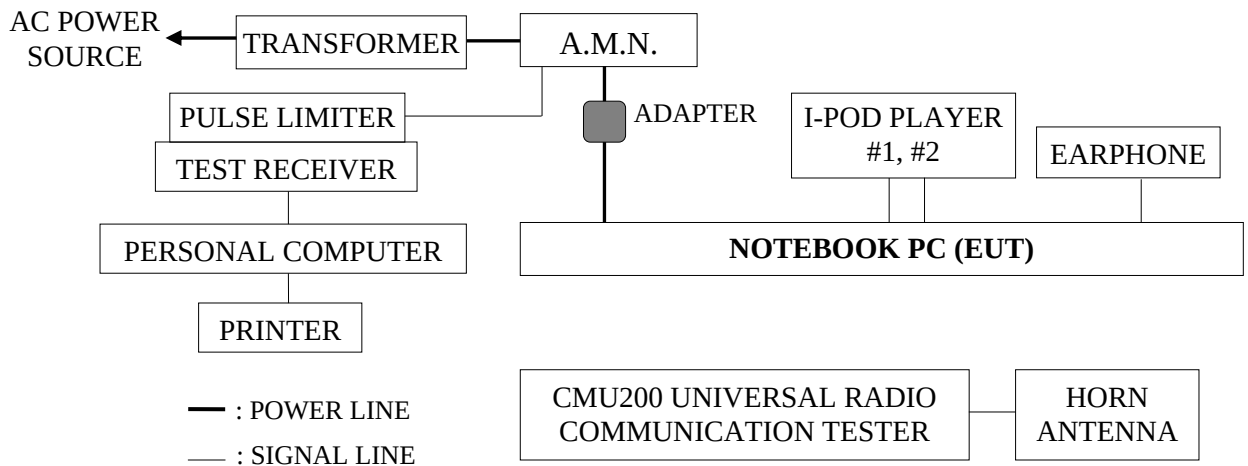
2. CONDUCTED EMISSION MEASUREMENT

2.1. Test Equipment

The following test equipment was used during the conducted emission measurement :
(No. 2 Shielded Room)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R & S	ESCS30	100339	Mar. 05, 09'	Mar. 04, 10'
2.	A.M.N.	R & S	ESH2-Z5	890485/023	Jan. 14, 09'	Jan. 13, 10'
3.	L.I.S.N.	Kyoritsu	KNW-407	8-855-9	Mar. 09, 09'	Mar. 08, 10'
4.	Pulse Limiter	R & S	ESH3-Z2	001	Feb. 20, 09'	Feb. 19, 10'
5.	Universal Radio Communication Tester	R & S	CMU200	102280	Dec. 16, 08'	Dec. 15, 09'
6.	Horn Antenna	EMCO	3115	9112-3775	May 15, 09'	May 14, 10'

2.2. Block Diagram of Test Setup



2.3. Conducted Emission Limits (§15.207 and RSS-Gen §7.2.2/Table 2)

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.

2.4. Operating Condition of EUT

- 2.4.1. Set up the EUT and simulator as shown on 2.2.
- 2.4.2. Turn on the power of all equipment.
- 2.4.3. The Mobile Broadband Module was installed in the Notebook PC (EUT), the Notebook PC was setting on GPRS mode through CMU200 during the testing.
- 2.4.4. The other peripheral devices were driven and operated in turn during all testing.

2.5. 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)

2.6. 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 : Notebook PC

M/N : LGX30

Test Date : Dec. 09, 2009

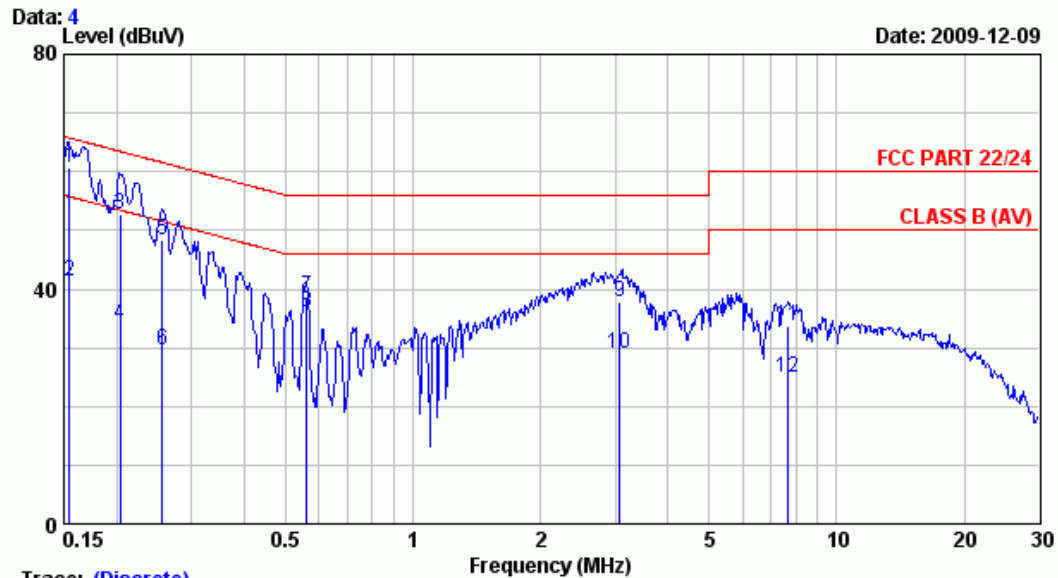
Temperature : 25°C

Humidity : 65%

Mode	Operating Mode of EUT	Reference Test Data No.	
		Neutral	Line
1.	GPRS Mode (1900 Band)	# 4	# 3



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County, Taiwan R.O.C. Post Code:24443
Tel:02-26092133 Fax:02-26099303
Email:ttmc@ttmc.com.tw



Site : No.2 Shielded room
Condition : ESH2-Z5
Limit : FCC PART 22/24
Env. / Ins. : 25°C,65% / ESCS 30 (339)
EUT : Notebook PC M/N:LGX30
Power Rating : 120Vac/60Hz
Test Mode : GPRS OPERATING

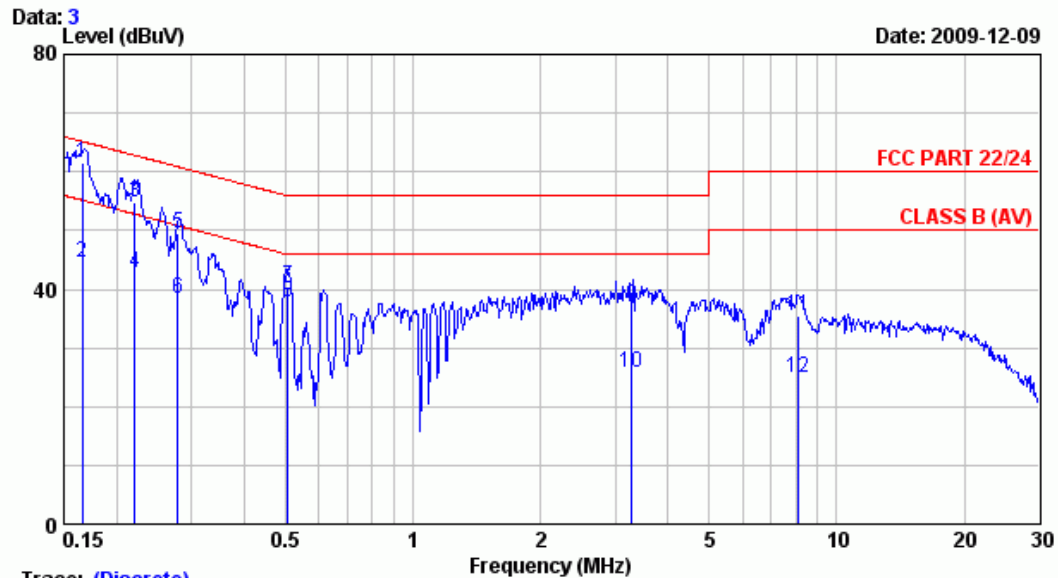
Data : 4
Phase : NEUTRAL
Engineer: Albert_Liang

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.154	0.10	0.24	60.43	60.77	65.77	5.00	QP
2	0.154	0.10	0.24	40.88	41.22	55.77	14.55	AVERAGE
3	0.203	0.10	0.26	52.47	52.83	63.48	10.64	QP
4	0.203	0.10	0.26	33.59	33.95	53.48	19.52	AVERAGE
5	0.256	0.10	0.28	48.09	48.47	61.56	13.09	QP
6	0.256	0.10	0.28	29.24	29.62	51.56	21.94	AVERAGE
7	0.561	0.14	0.35	38.05	38.54	56.00	17.46	QP
8	0.561	0.14	0.35	35.49	35.98	46.00	10.02	AVERAGE
9	3.070	0.20	0.40	37.26	37.86	56.00	18.14	QP
10	3.070	0.20	0.40	28.54	29.14	46.00	16.86	AVERAGE
11	7.690	0.27	0.61	32.92	33.80	60.00	26.20	QP
12	7.690	0.27	0.61	23.89	24.77	50.00	25.23	AVERAGE

Remarks: 1.Emission Level= LISN 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.



AUDIX TECHNOLOGY Corp. EMC Laboratory
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Email:ttemc@ttemc.com.tw



Site : No.2 Shielded room
Condition : ESH2-Z5
Limit : FCC PART 22/24
Env. / Ins. : 25°C,65% / ESCS 30 (339)
EUT : Notebook PC M/N:LGX30
Power Rating : 120Vac/60Hz
Test Mode : GPRS OPERATING

Data : 3
Phase : LINE
Engineer: Albert_Liang

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.165	0.10	0.24	61.08	61.42	65.18	3.76	QP
2	0.165	0.10	0.24	44.16	44.50	55.18	10.68	AVERAGE
3	0.220	0.10	0.27	54.36	54.73	62.81	8.08	QP
4	0.220	0.10	0.27	42.45	42.82	52.81	9.99	AVERAGE
5	0.278	0.10	0.29	49.04	49.43	60.86	11.43	QP
6	0.278	0.10	0.29	37.86	38.25	50.86	12.61	AVERAGE
7	0.507	0.13	0.34	39.91	40.38	56.00	15.62	QP
8	0.507	0.13	0.34	37.24	37.71	46.00	8.29	AVERAGE
9	3.290	0.20	0.40	36.71	37.31	56.00	18.69	QP
10	3.290	0.20	0.40	25.30	25.90	46.00	20.10	AVERAGE
11	8.110	0.28	0.63	34.63	35.54	60.00	24.46	QP
12	8.110	0.28	0.63	23.97	24.88	50.00	25.12	AVERAGE

Remarks: 1.Emission Level= LISN 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.

3. RF OUTPUT POWER MEASUREMENT

3.1. Test Equipment

3.1.1. For Conducted Measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	Jul. 23, 09'	Jul. 22, 10'
2.	Power Divider	Anritsu	K240C	019728	May 22, 09'	May 21, 10'
3.	Universal Radio Communication Tester	R & S	CMU200	102280	Dec. 16, 08'	Dec. 15, 09'
4.	Horn Antenna	EMCO	3115	9112-3775	May 15, 09'	May 14, 10'

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

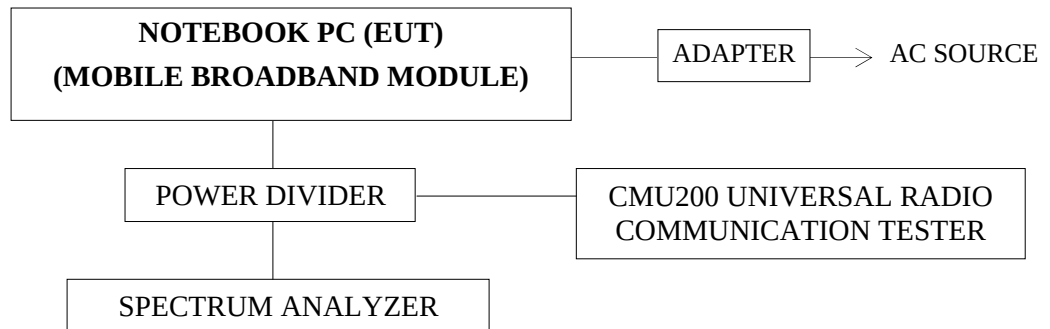
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	HP	8593EM	3826A00272	Jun. 26, 09'	Jun. 25, 10'
2.	Signal Generator	HP	83732B	US34490489	Apr. 10, 09'	Apr. 09, 10'
3.	Pre-Amplifier	HP	8447D	2944A06305	Feb. 04, 09'	Feb. 03, 10'
4.	Log Periodic Antenna	Schwarzbeck	UHALP9108-A	0810	Mar. 20, 09'	Mar. 19, 10'
5.	Dipole antenna	Schwarzbeck	VHAP	751	Sep. 14, 09'	Sep. 13, 10'
6.	Dipole antenna	Schwarzbeck	UHAP	736	Sep. 14, 09'	Sep. 13, 10'
7.	Universal Radio Communication Tester	R & S	CMU200	102280	Dec. 16, 08'	Dec. 15, 09'
8.	Horn Antenna	EMCO	3115	9112-3775	May 15, 09'	May 14, 10'

3.1.3. For Radiated Measurement (for above 1GHz)

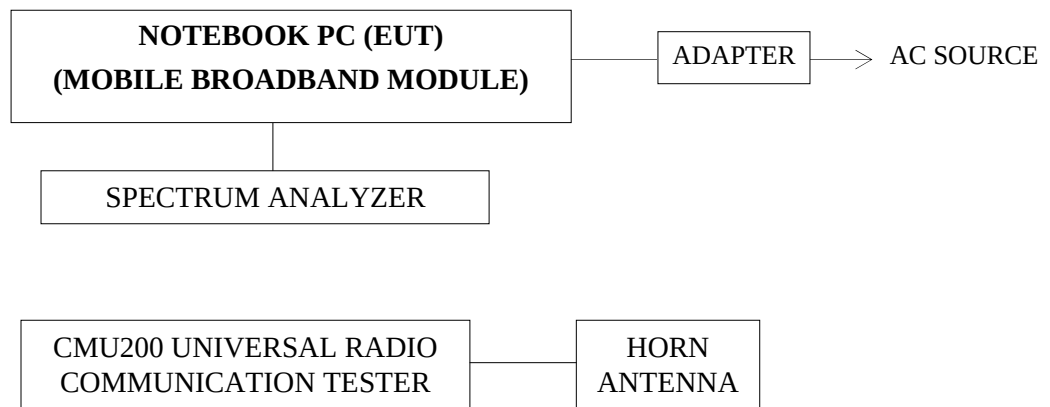
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	HP	8593EM	3826A00272	Jun. 26, 09'	Jun. 25, 10'
2.	Signal Generator	HP	83732B	US34490489	Apr. 10, 09'	Apr. 09, 10'
3.	Pre-Amplifier	HP	8449B	3008A00529	Dec. 31, 08'	Dec. 30, 09'
4.	Horn Antenna (1GHz ~ 18GHz)	EMCO	3115	9609-4927	Jul. 09, 09'	Jul. 08, 10'
5.	Universal Radio Communication Tester	R & S	CMU200	102280	Dec. 16, 08'	Dec. 15, 09'
6.	Horn Antenna	EMCO	3115	9112-3775	May 15, 09'	May 14, 10'

3.2. Block Diagram of Test Setup

3.2.1. For Conducted Measurement



3.2.2. For Radiated Measurement



3.3. Specification Limits

FCC §2.1046

FCC §22.913(a)/RSS-132 §4.4: The Effective Radiated Power (E.R.P) of Mobile transmitter auxiliary test transmitter must not exceed 7 Watts (38.45dBm)

FCC §24.232(d)/RSS-133 §6.4: Mobile/portable stations are limited to 2 Watts (33dBm) Effective Isotropic Radiated Power (E.I.R.P) peak power.

3.4. 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.

3.5. Test Results

PASSED. All the test results are listed below.

3.5.1. For Conducted Test Results

(Test Date: Dec. 08, 2009 Temperature: 26°C Humidity: 55%)

Type of Modulation	Channel	Frequency (MHz)	E.R.P Peak Power (dBm)
GPRS 850	CH 128	824.20	32.18dBm
	CH 189	836.40	32.62dBm
	CH 251	848.80	32.98dBm
EGPRS 850	CH 128	824.20	26.54dBm
	CH 189	836.40	26.48dBm
	CH 251	848.80	26.41dBm

Type of Modulation	Channel	Frequency (MHz)	E.I.R.P Peak Power (dBm)
GPRS 1900	CH 512	1850.20	29.10dBm
	CH 661	1880.00	29.54dBm
	CH 810	1909.80	29.53dBm
EGPRS 1900	CH 512	1850.20	25.98dBm
	CH 661	1880.00	26.05dBm
	CH 810	1909.80	26.02dBm

3.5.2. For Radiated Test Results

(Test Date: Dec. 08, 2009 Temperature: 26°C Humidity: 55%)

Type of Modulation	Channel	Frequency (MHz)	Filed Strength (dBuV/m)	0dBm Factor (dBuV/m)	Antenna Gain (dB)	Cable Loss (dB)	E.R.P Peak Power (dBm)
GPRS 850	CH 128	824.20	127.34	86.40	-6.39	0.24	32.16
	CH 189	836.40	127.42	86.30	-6.35	0.25	32.37
	CH 251	848.80	127.45	86.10	-6.30	0.26	32.64
EGPRS 850	CH 128	824.20	121.33	86.40	-6.39	0.24	26.15
	CH 189	836.40	121.48	86.30	-6.35	0.25	26.43
	CH 251	848.80	121.37	86.10	-6.30	0.26	26.56

Remark: E.R.P (dBm) = Filed Strength-(0dBm Factor-Antenna Gain+Cable Loss)-2.15

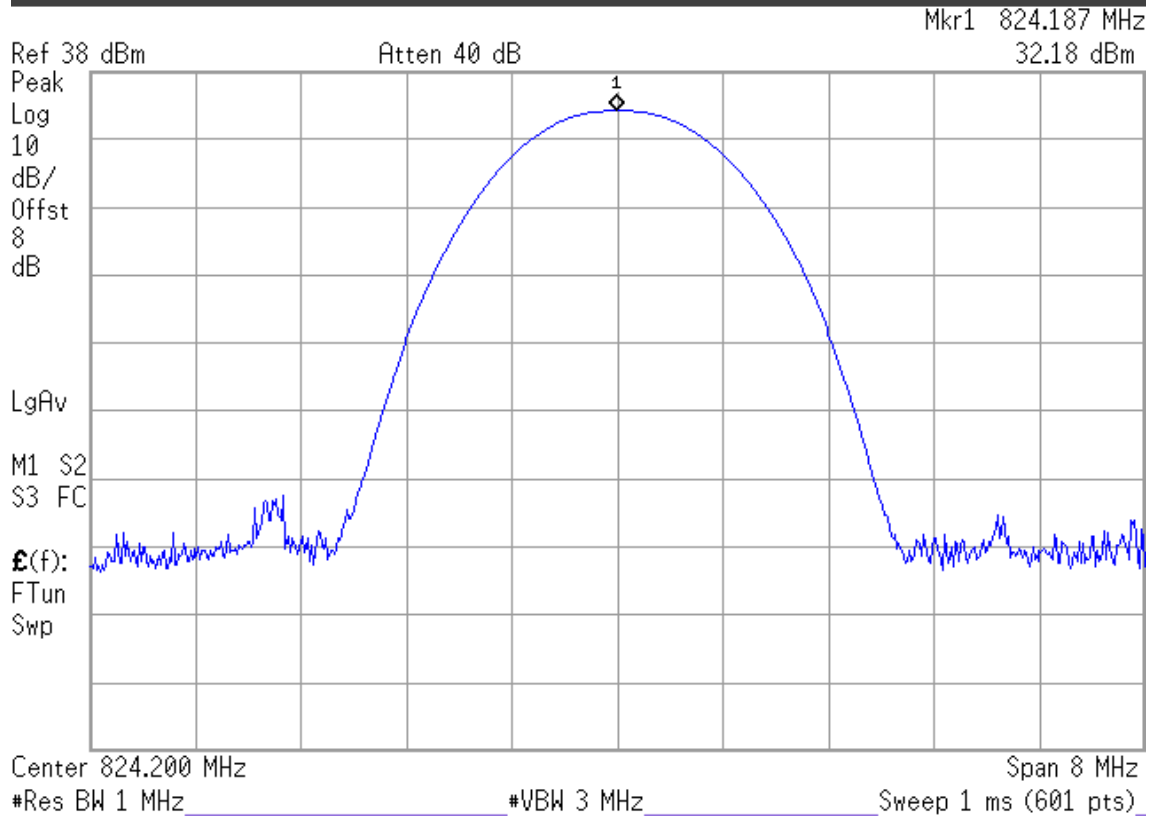
Type of Modulation	Channel	Frequency (MHz)	Filed Strength (dBuV/m)	0dBm Factor (dBuV/m)	Antenna Gain (dB)	Cable Loss (dB)	E.I.R.P Peak Power (dBm)
GPRS 1900	CH 512	1850.20	124.65	102.34	8.92	0.39	30.84
	CH 661	1880.00	124.52	102.45	9.00	0.40	30.67
	CH 810	1909.80	124.50	102.38	9.11	0.44	30.79
EGPRS 1900	CH 512	1850.20	119.35	102.34	8.92	0.39	25.54
	CH 661	1880.00	119.65	102.45	9.00	0.40	25.80
	CH 810	1909.80	119.48	102.38	9.11	0.44	25.77

Remark: E.I.R.P (dBm) = Filed Strength-(0dBm Factor-Antenna Gain+Cable Loss)

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

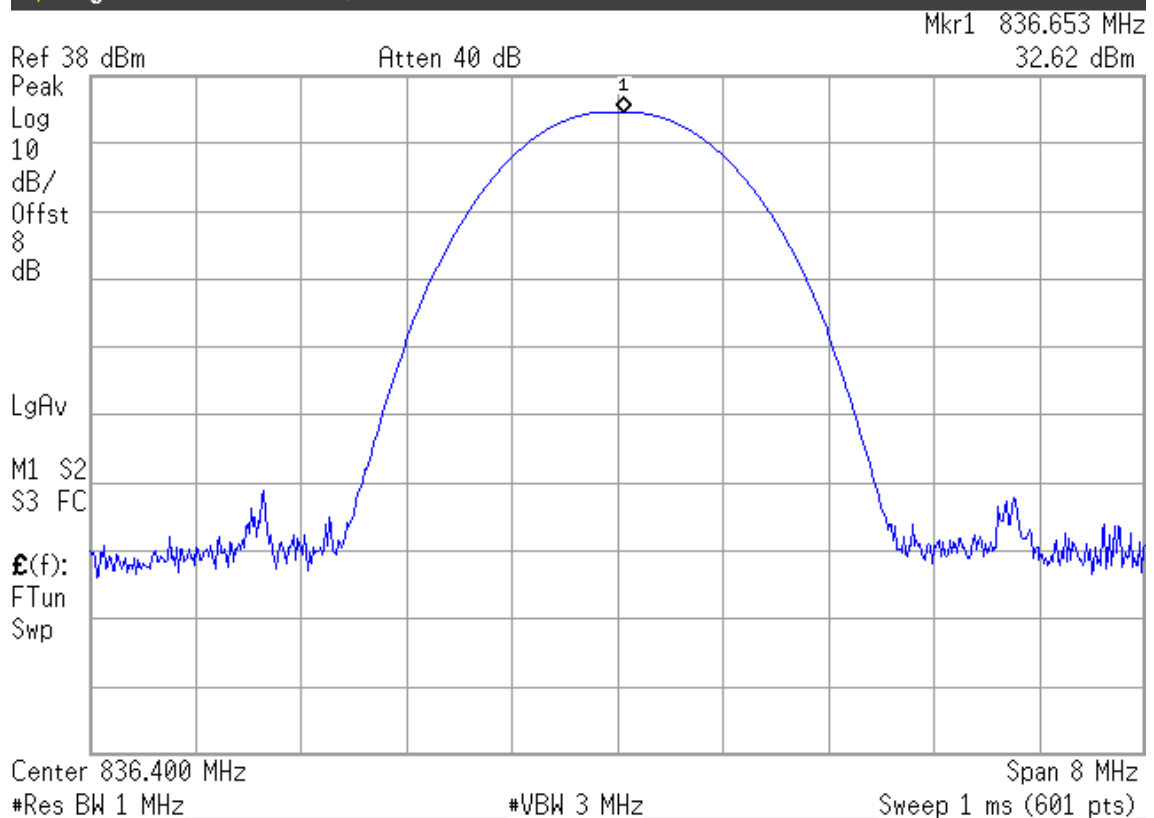
GPRS Modulation, Frequency: 824.20MHz

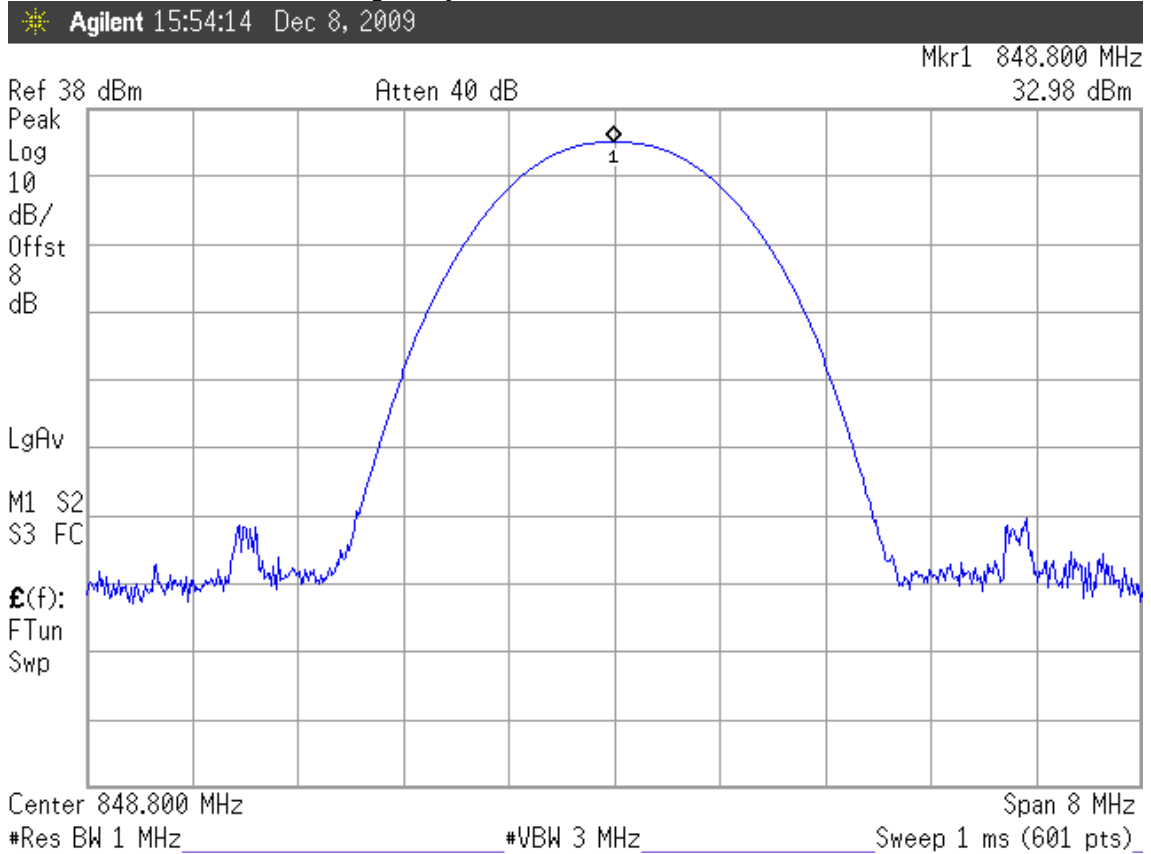
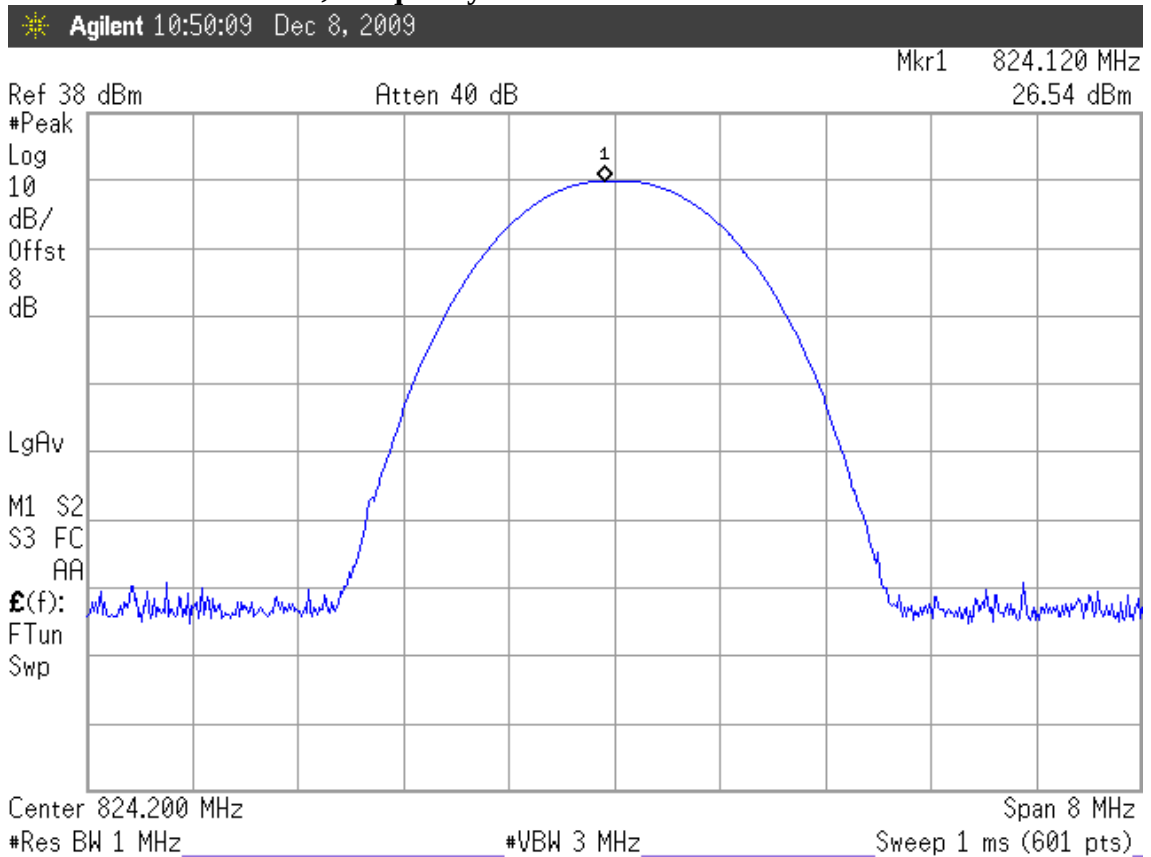
Agilent 15:52:11 Dec 8, 2009

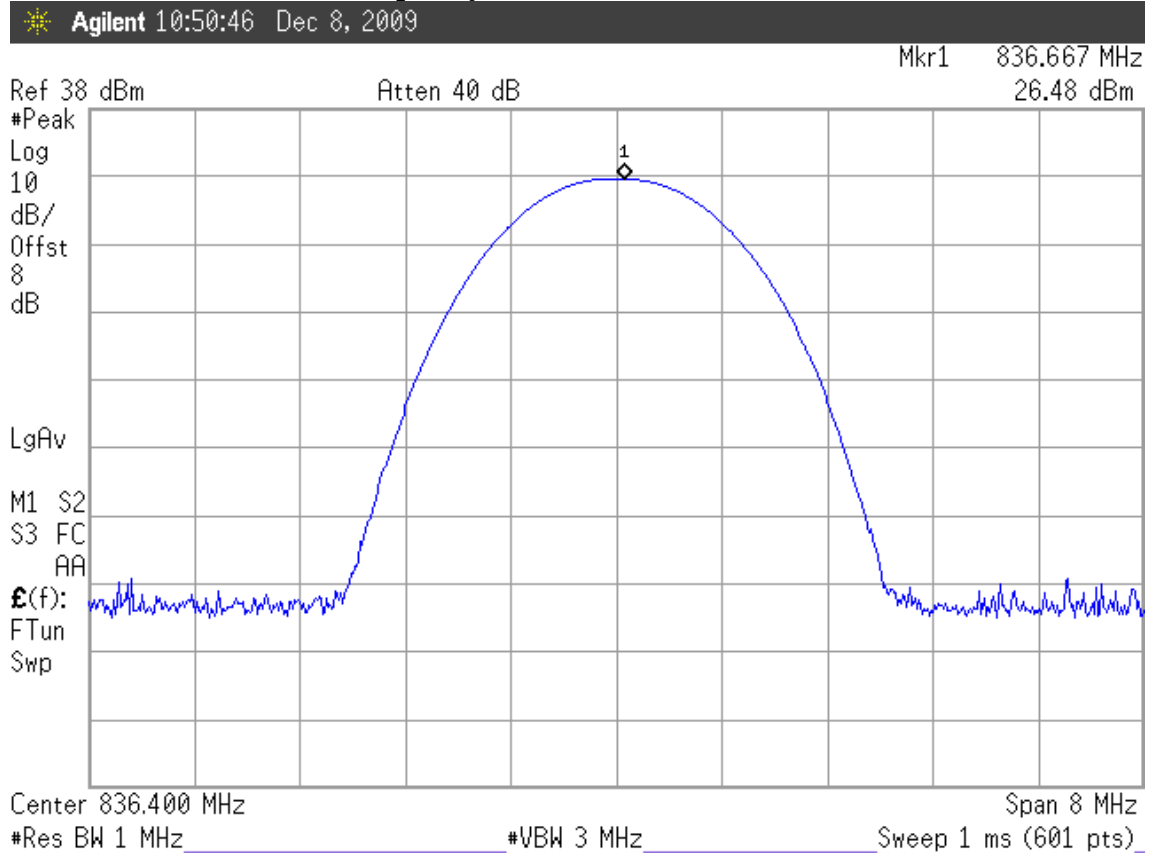
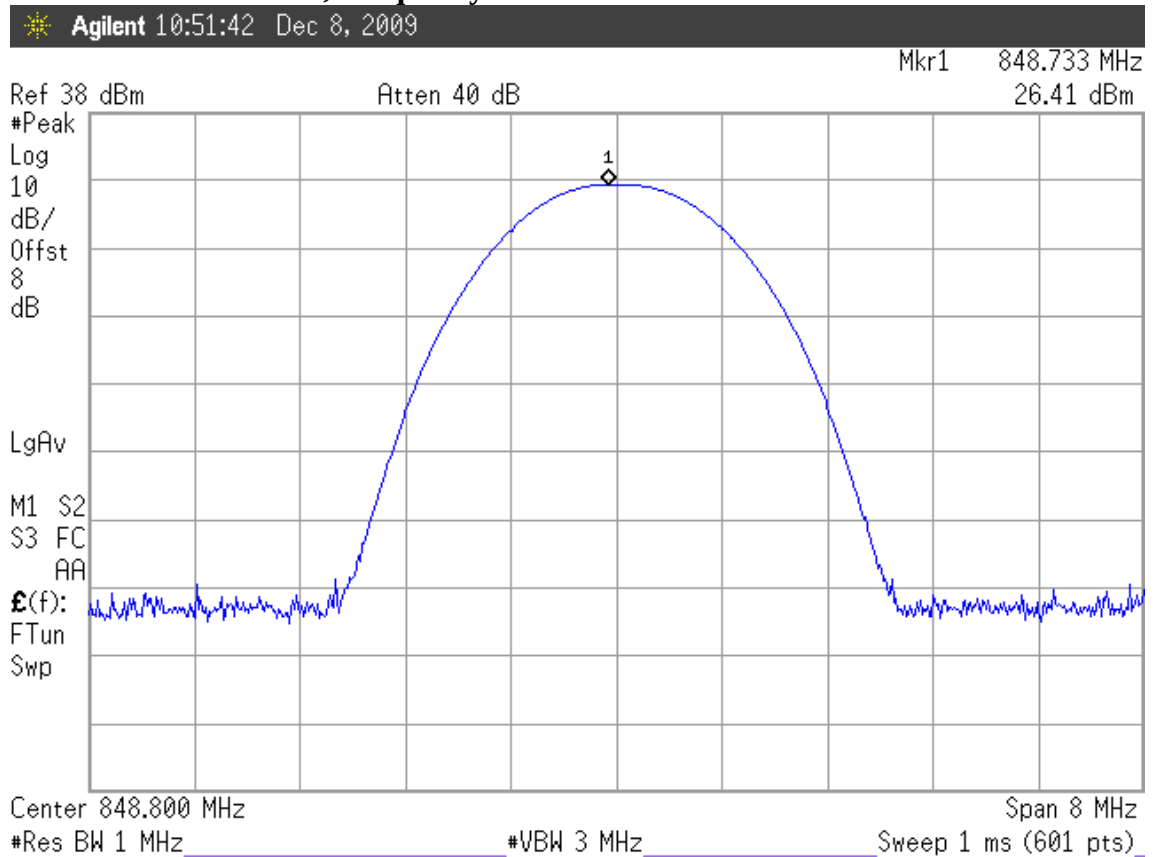


GPRS Modulation, Frequency: 836.40MHz

Agilent 15:53:18 Dec 8, 2009



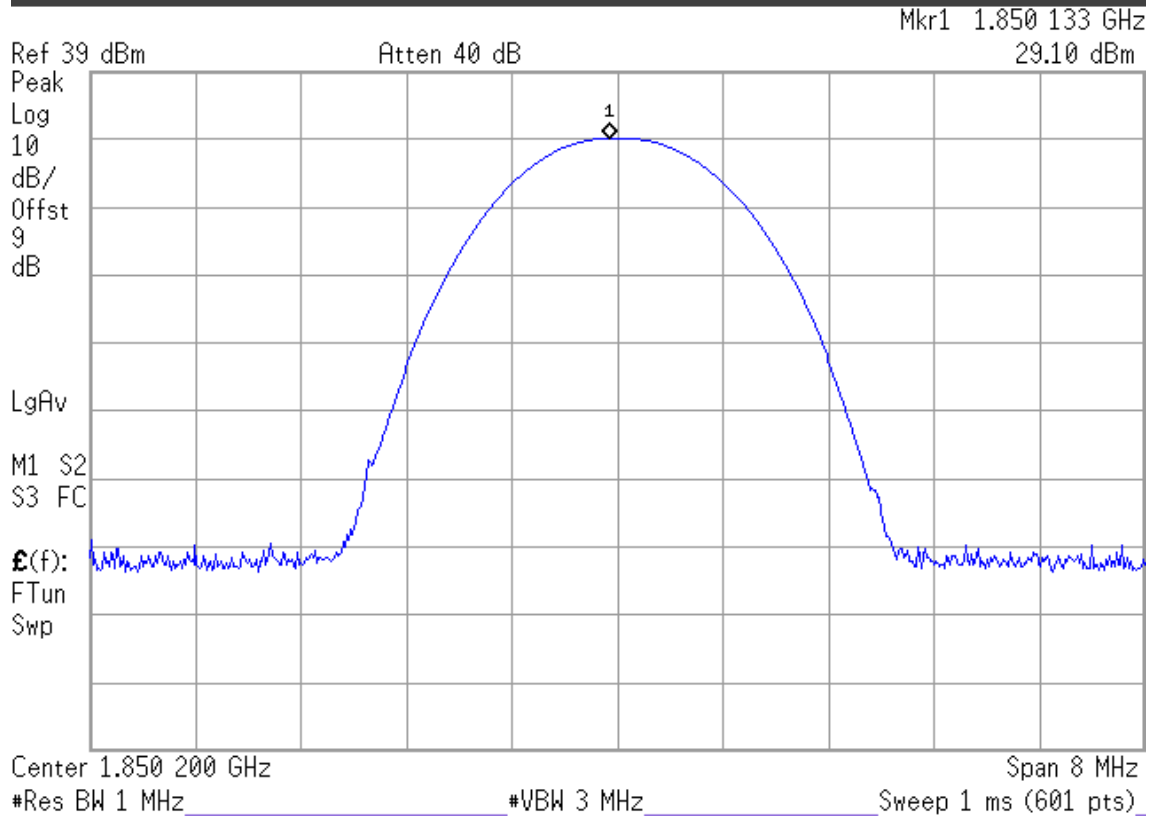
GPMS Modulation, Frequency: 848.80MHz**EGPRS Modulation, Frequency: 824.20MHz**

EGPRS Modulation, Frequency: 836.40MHz**EGPRS Modulation, Frequency: 848.80MHz**

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

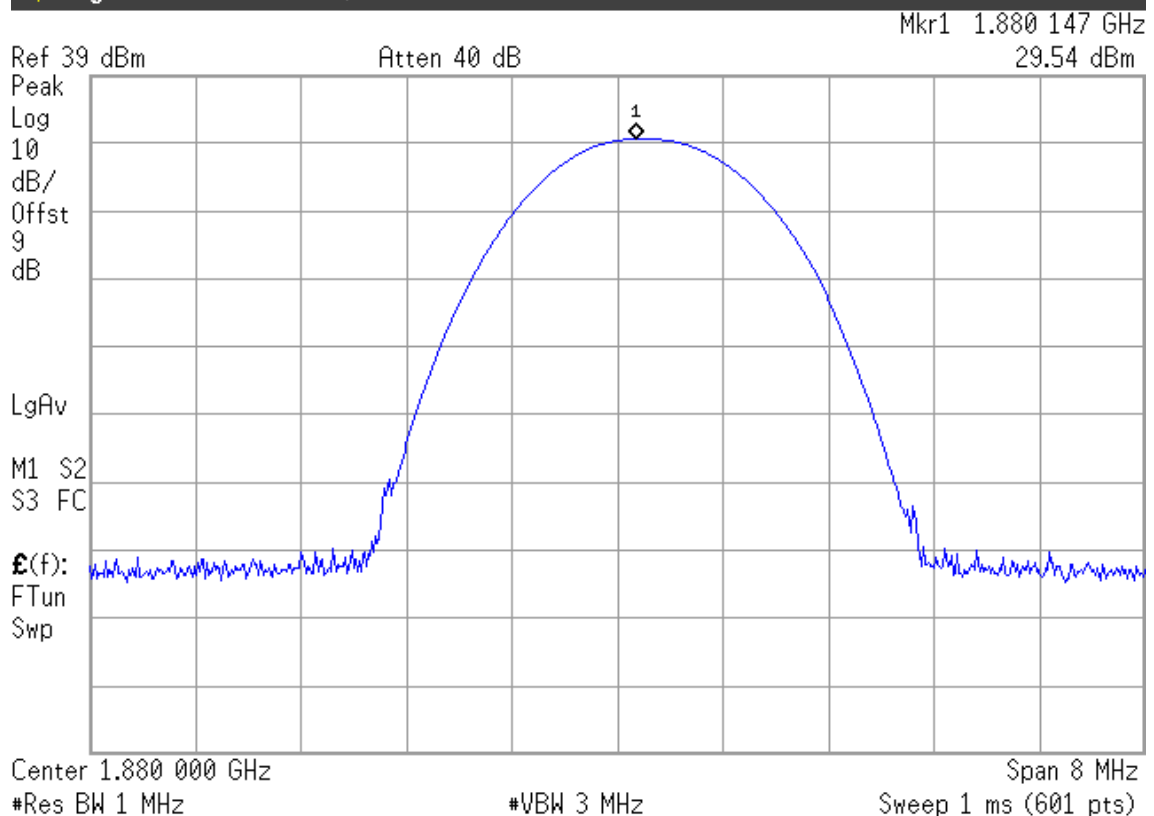
GPRS Modulation, Frequency: 1850.20MHz

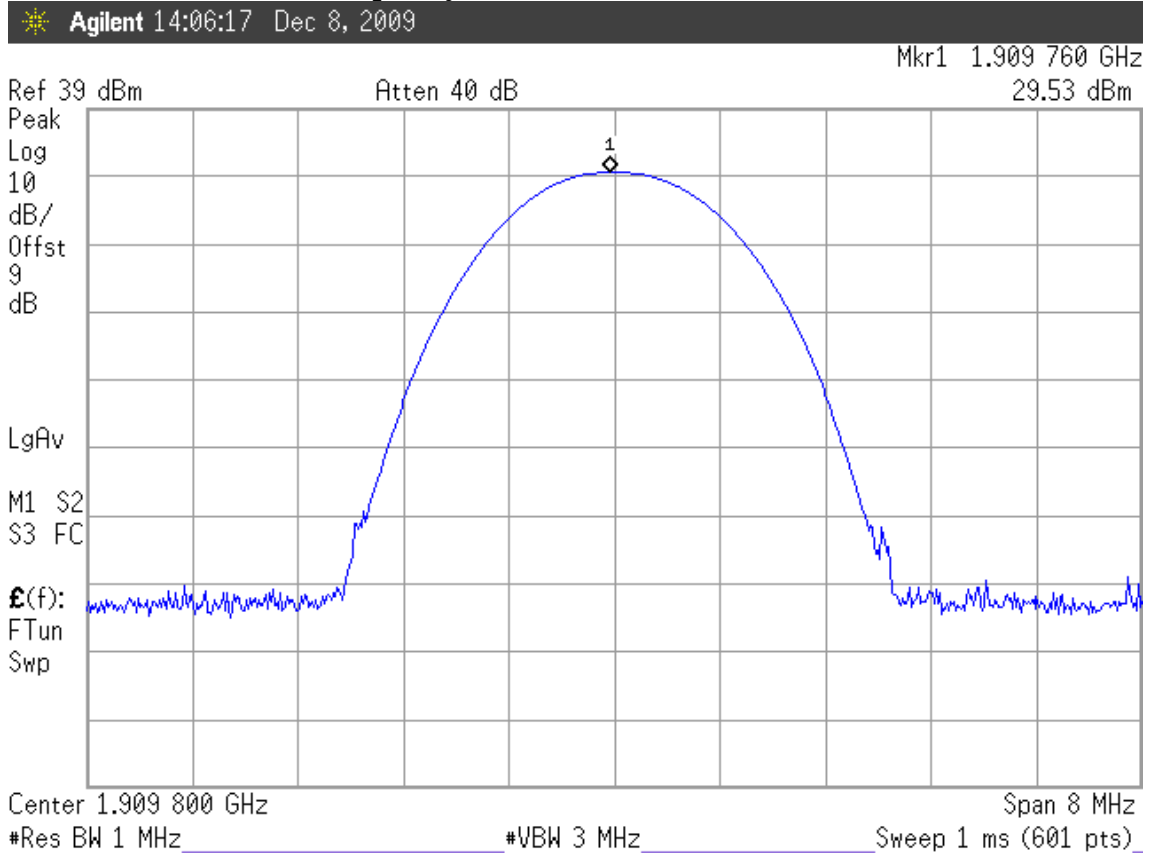
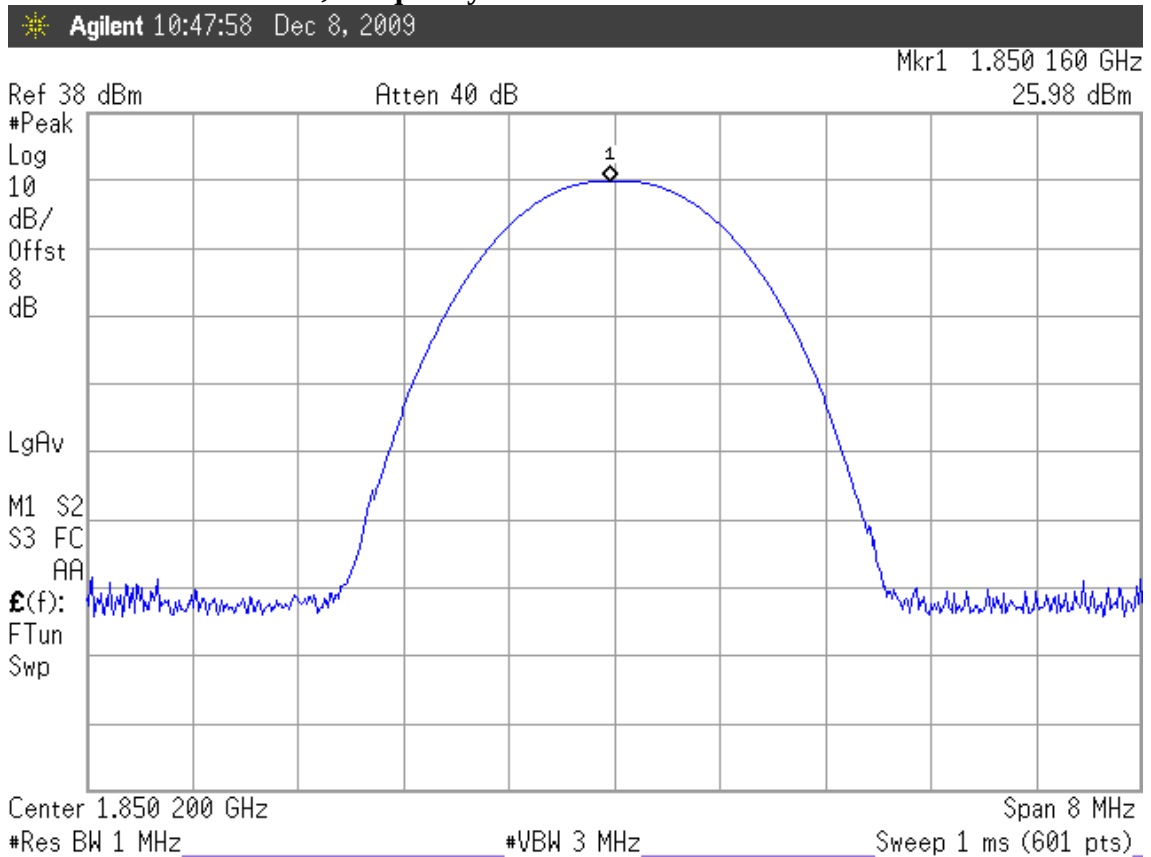
Agilent 14:05:29 Dec 8, 2009

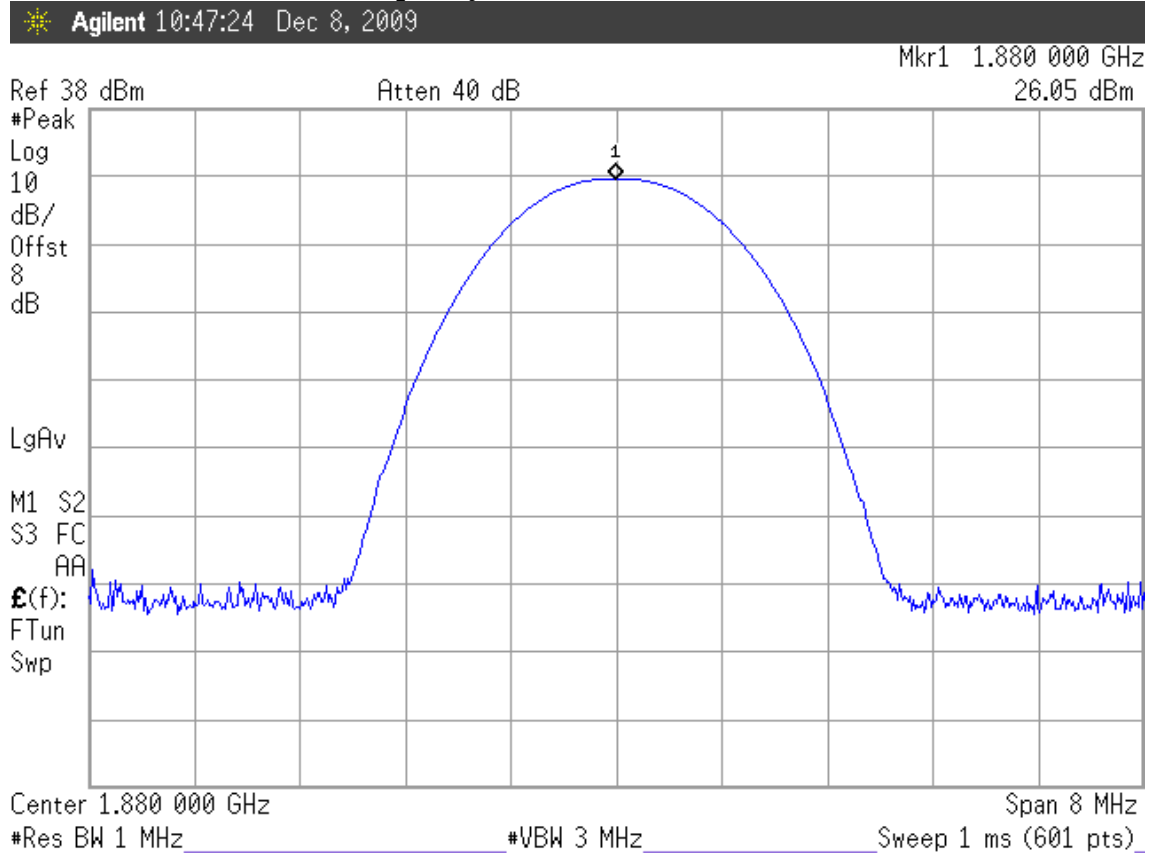
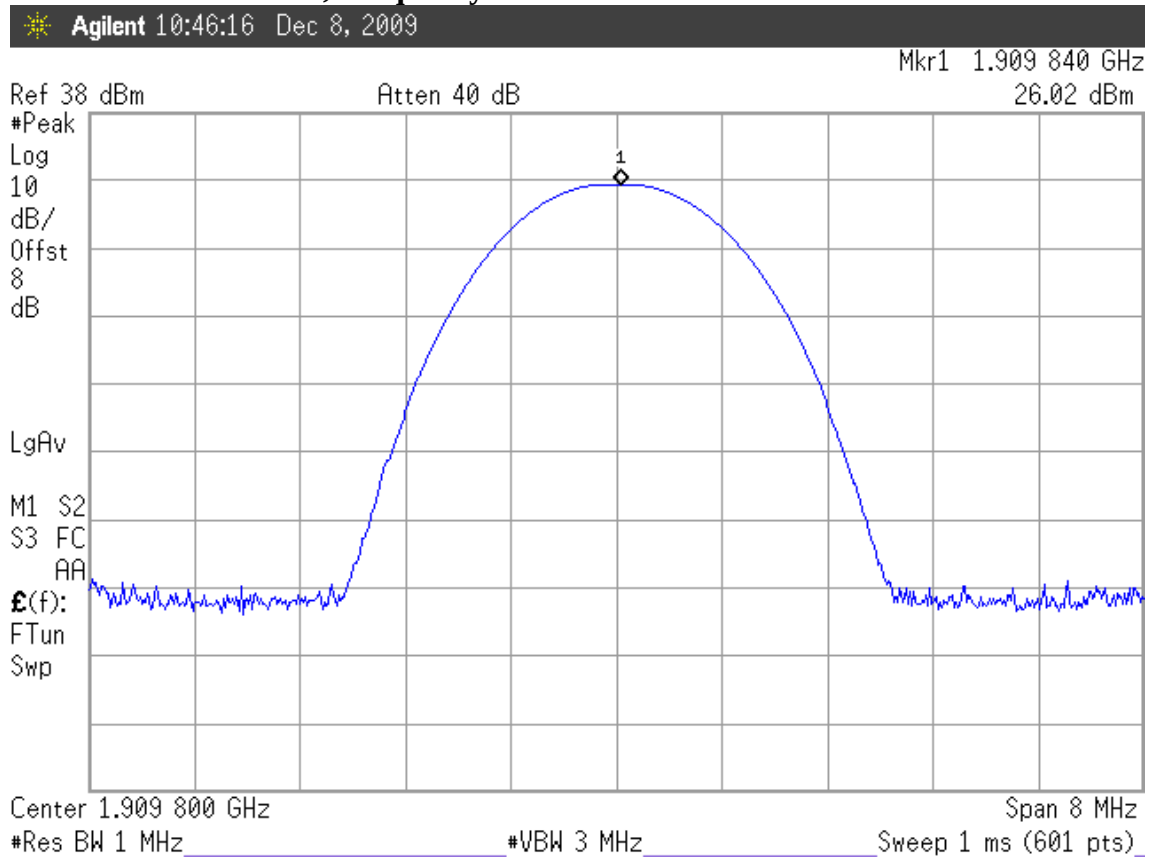


GPRS Modulation, Frequency: 1880.00MHz

Agilent 14:05:51 Dec 8, 2009



GPMS Modulation, Frequency: 1909.80MHz**EGPRS Modulation, Frequency: 1850.20MHz**

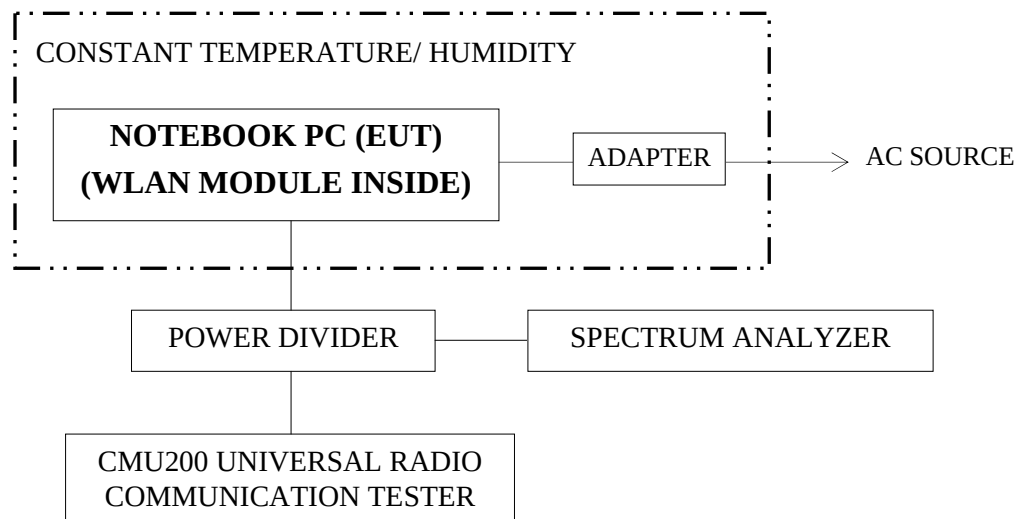
EGPRS Modulation, Frequency: 1880.00MHz**EGPRS Modulation, Frequency: 1909.80MHz**

4. FREQUENCY STABILITY MEASUREMENT

4.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Constant Temperature/ Humidity	Taichy	MHG-120LF	920538	Jun. 12, 09'	Jun. 11, 10'
2.	Spectrum Analyzer	Agilent	E4446A	US44300366	Jul. 23, 09'	Jul. 22, 10'
3.	Universal Radio Communication Tester	R & S	CMU200	102280	Dec. 16, 08'	Dec. 15, 09'
4.	Power Divider	Anritsu	K240C	019728	May 22, 09'	May 21, 10'

4.2. Block Diagram of Test Setup



4.3. Specification Limits

FCC §2.1055(a)(1)

FCC §22.355/RSS-132 §4.3

FCC §24.235/RSS-133 §6.3

Frequency Tolerance: +/- 2.5ppm

4.4. 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.

4.5. Test Results

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

4.5.1. For Frequency Stability Over Temperature Variations

(Test Date: Dec. 09, 2009)

Temperature ($^{\circ}\text{C}$)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
GPRS Modulation/850			
+50	42	0.0494	0.00000494
+40	28	0.0351	0.00000351
+30	-31	-0.0399	-0.00000399
+20	-11	-0.0145	-0.00000145
+10	-24	-0.0280	-0.00000280
0	15	0.0202	0.00000202
-10	36	0.0462	0.00000462
-20	40	0.0514	0.00000514
-30	45	0.0533	0.00000533
EGPRS Modulation/850			
+50	29	0.0386	0.00000386
+40	32	0.0405	0.00000405
+30	26	0.0350	0.00000350
+20	10	0.0124	0.00000124
+10	-9	-0.0139	-0.00000139
0	9	0.0152	0.00000152
-10	17	0.0302	0.00000302
-20	28	0.0388	0.00000388
-30	33	0.0421	0.00000421

GPRS Modulation/1900			
+50	-45	-0.0243	-0.00000243
+40	-63	-0.0350	-0.00000350
+30	-61	-0.0322	-0.00000322
+20	-34	-0.0185	-0.00000185
+10	-31	-0.0172	-0.00000172
0	-4	-0.0021	-0.00000021
-10	36	0.0217	0.00000217
-20	64	0.0341	0.00000341
-30	57	0.0302	0.00000302
GPRS Modulation/1900			
+50	45	0.0277	0.00000277
+40	51	0.0291	0.00000291
+30	-64	-0.0342	-0.00000342
+20	-36	-0.0210	-0.00000210
+10	25	0.0139	0.00000139
0	-20	-0.0123	-0.00000123
-10	30	0.0166	0.00000166
-20	33	0.0165	0.00000165
-30	39	0.0196	0.00000196

4.5.2. For Frequency Stability Over Voltage Variation

(Test Date: Dec. 09, 2009 Temperature: 27°C Humidity: 51%)

Power Supply Voltage	Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
GPRS Modulation/850				
Vmax	138.0	-20	-0.0187	-0.00000187
Vmin	102.0	-37	-0.0426	-0.00000426
EGPRS Modulation/850				
Vmax	138.0	29	0.0368	0.00000368
Vmin	102.0	26	0.0342	0.00000342
GPRS Modulation/1900				
Vmax	138.0	55	0.0291	0.00000291
Vmin	102.0	4	0.0021	0.00000021
EGPRS Modulation/1900				
Vmax	138.0	-14	-0.0074	-0.00000074
Vmin	102.0	-29	-0.0151	-0.00000151

5. OCCUPIED BANDWIDTH 99% POWER MEASUREMENT

5.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	Jul. 23, 09'	Jul. 22, 10'
2.	Power Divider	Anritsu	K240C	019728	May 22, 09'	May 21, 10'
3.	Universal Radio Communication Tester	R & S	CMU200	102280	Dec. 16, 08'	Dec. 15, 09'
4.	Horn Antenna	EMCO	3115	9112-3775	May 15, 09'	May 14, 10'

5.2. Block Diagram of Test Setup

The same as section.3.2.1.

5.3. Specification Limit

FCC §2.1049

RSS-Gen §4.6.1

5.4. 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.

5.5. Test Results

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

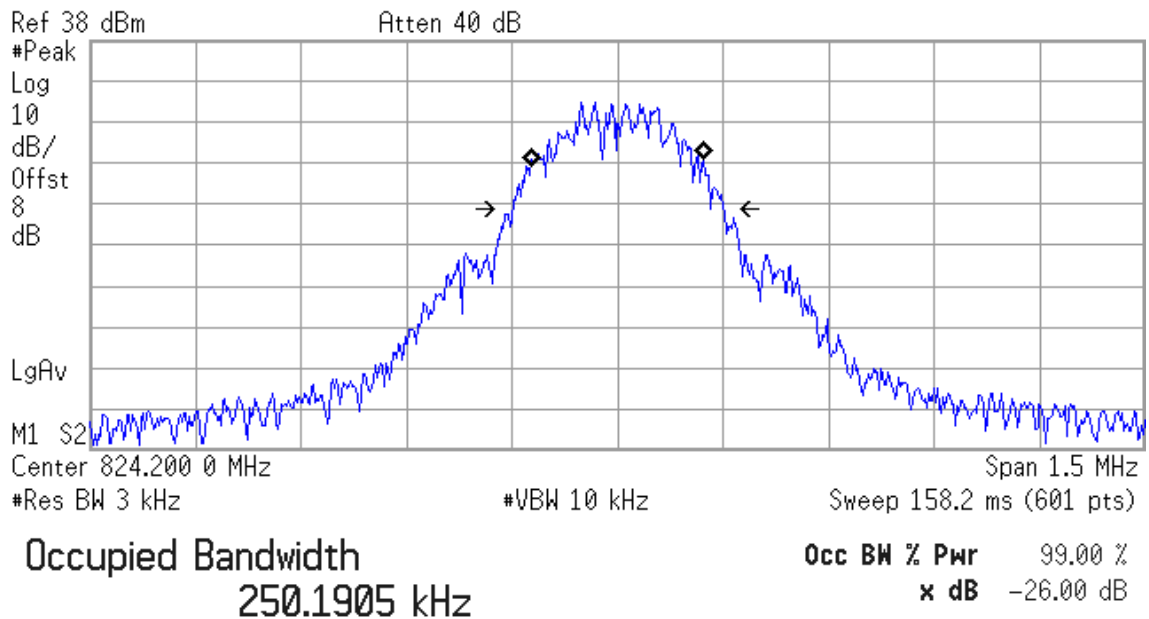
(Test Date: Dec. 08, 2009 Temperature: 26°C Humidity: 55%)

Type of Modulation	Channel	Frequency (MHz)	Occupied Bandwidth
GPRS 850	CH 128	824.20	250.1905 kHz
	CH 189	836.40	243.4326 kHz
	CH 251	848.80	241.8083 kHz
EGPRS 850	CH 128	824.20	234.7290 kHz
	CH 189	836.40	247.3389 kHz
	CH 251	848.80	243.5760 kHz
Type of Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (kHz)
GPRS 1900	CH 512	1850.20	239.5743 kHz
	CH 661	1880.00	245.1254 kHz
	CH 810	1909.80	246.2087 kHz
EGPRS 1900	CH 512	1850.20	237.8409 kHz
	CH 661	1880.00	240.9565 kHz
	CH 810	1909.80	242.0425 kHz

99% Occupied Bandwidth — GPRS 850/EGPRS 850

GPRS Modulation, Frequency: 824.20MHz

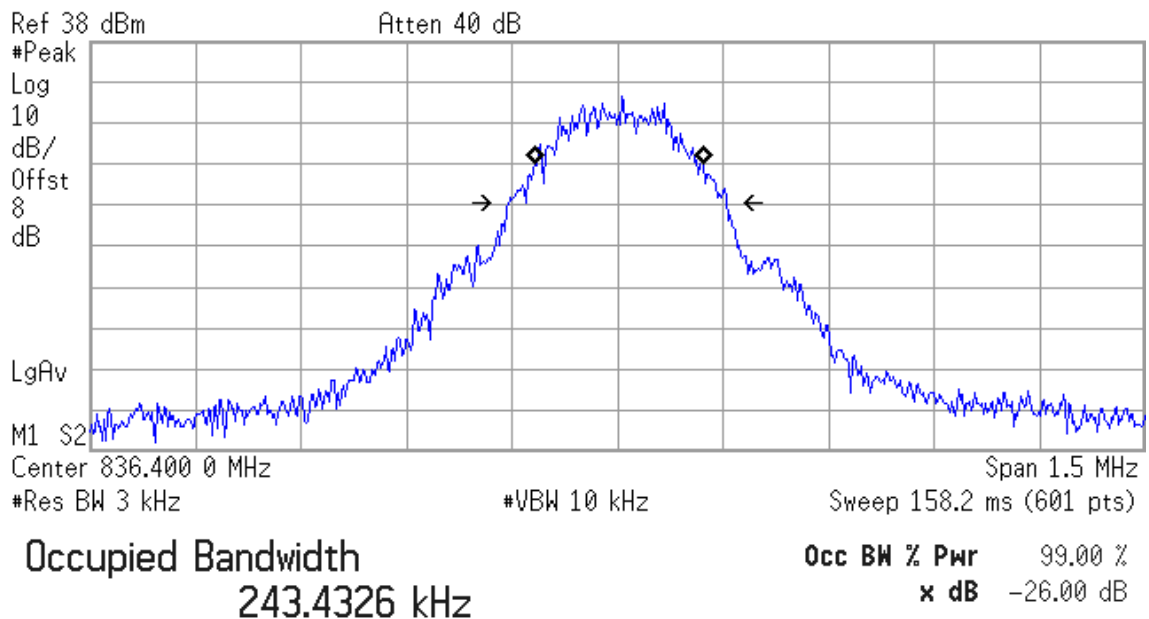
Agilent 16:13:06 Dec 8, 2009



Transmit Freq Error -857.194 Hz
x dB Bandwidth 305.732 kHz

GPRS Modulation, Frequency: 836.40MHz

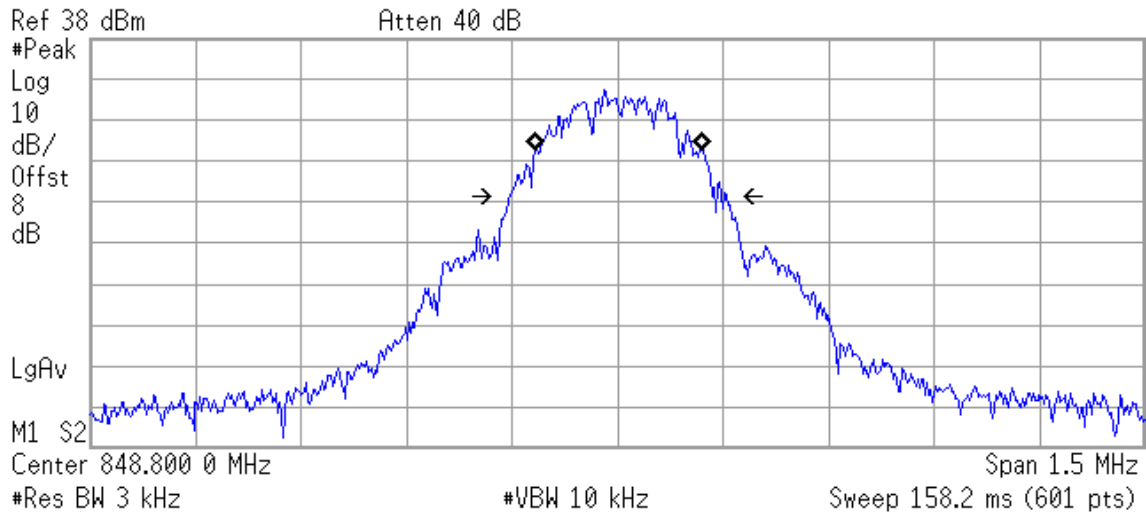
Agilent 16:14:55 Dec 8, 2009



Transmit Freq Error 2.320 kHz
x dB Bandwidth 315.648 kHz

GPRS Modulation, Frequency: 848.80MHz

Agilent 16:16:49 Dec 8, 2009



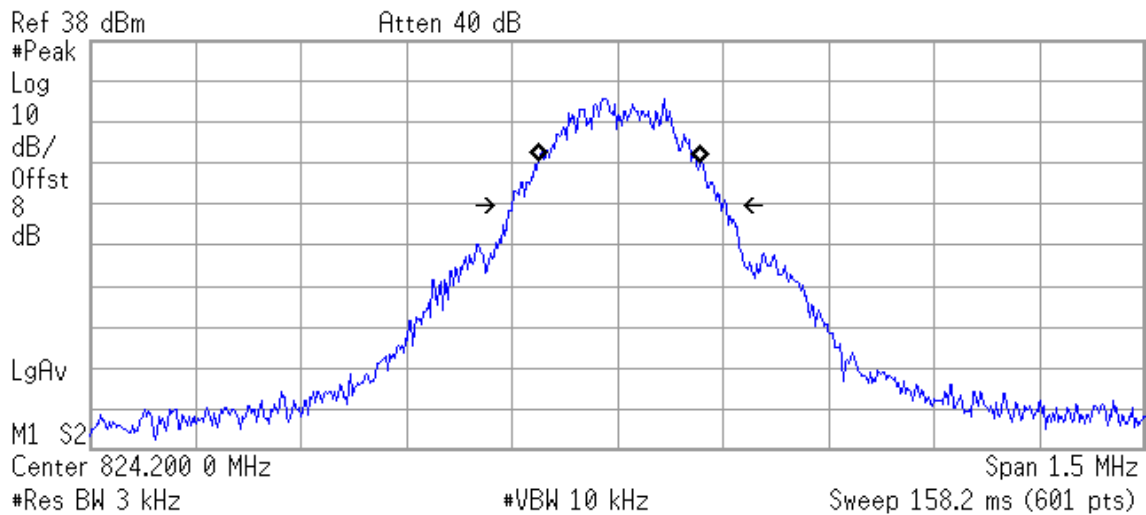
Occupied Bandwidth
241.8083 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.201 kHz
x dB Bandwidth 315.459 kHz

EGPRS Modulation, Frequency: 824.20MHz

Agilent 16:13:35 Dec 8, 2009



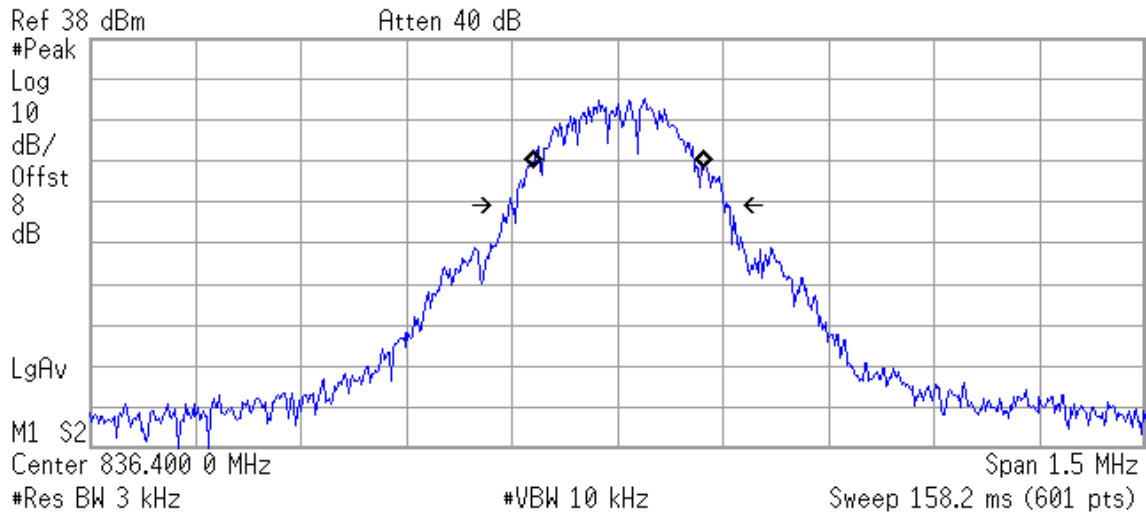
Occupied Bandwidth
234.7290 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.862 kHz
x dB Bandwidth 309.463 kHz

EGPRS Modulation, Frequency: 836.40MHz

Agilent 16:14:19 Dec 8, 2009



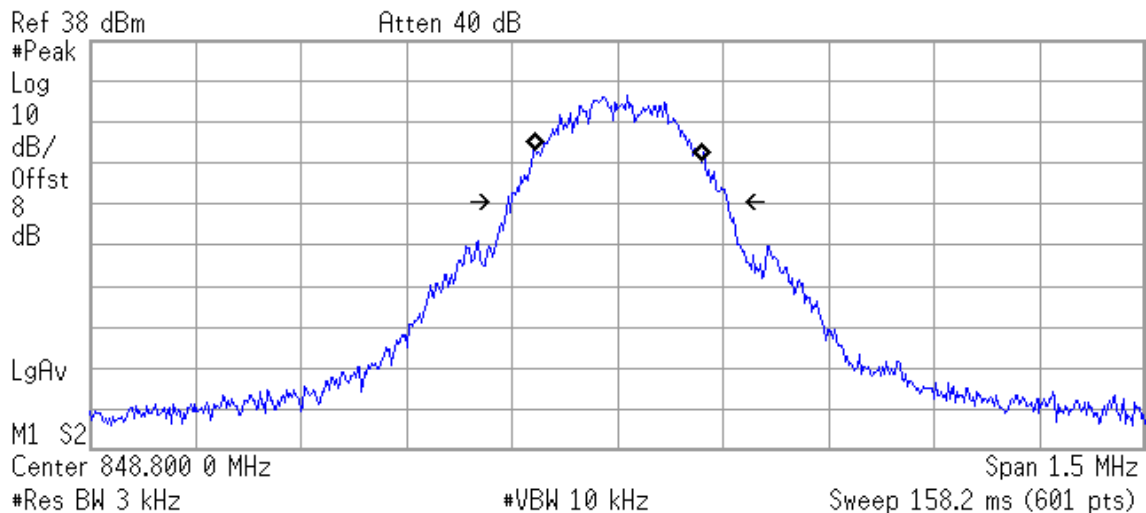
Occupied Bandwidth
247.3389 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.336 kHz
x dB Bandwidth 315.709 kHz

EGPRS Modulation, Frequency: 848.80MHz

Agilent 16:17:47 Dec 8, 2009



Occupied Bandwidth
243.5760 kHz

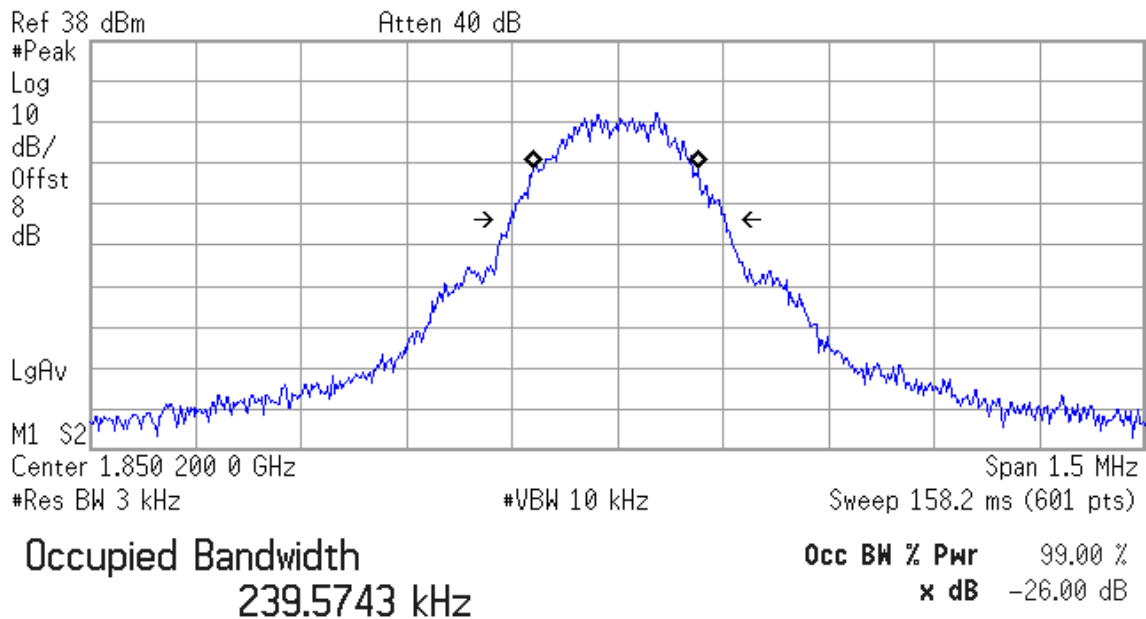
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 1.087 kHz
x dB Bandwidth 319.492 kHz

99% Occupied Bandwidth — GPRS 1900/EGPRS 1900

GPRS Modulation, Frequency: 1850.20MHz

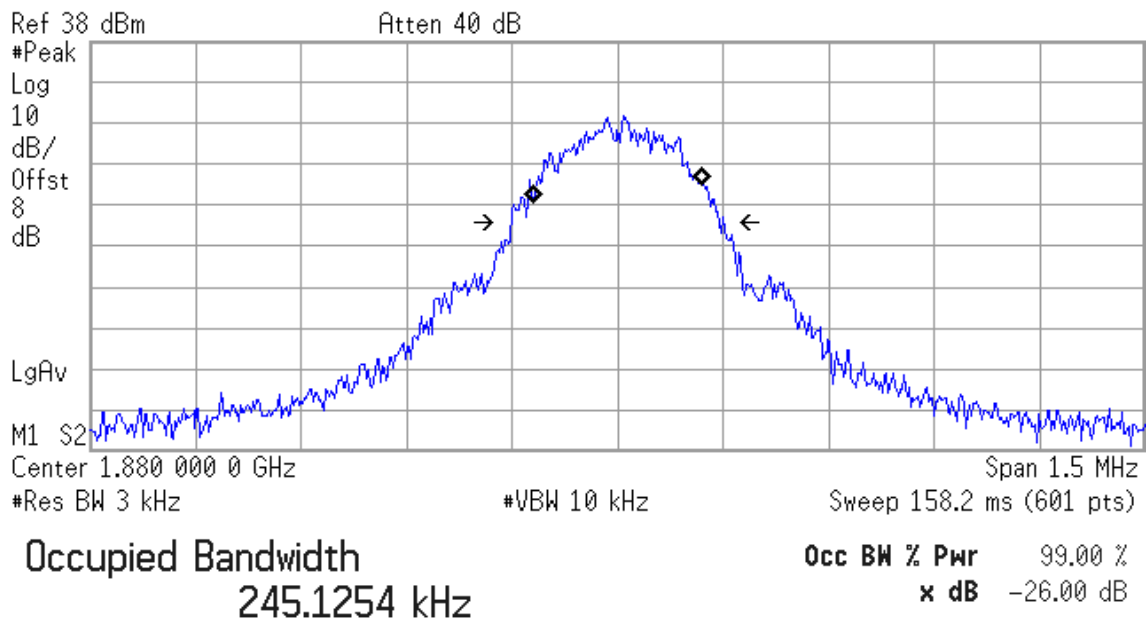
Agilent 16:36:05 Dec 8, 2009



Transmit Freq Error -2.713 kHz
x dB Bandwidth 311.452 kHz

GPRS Modulation, Frequency: 1880.00MHz

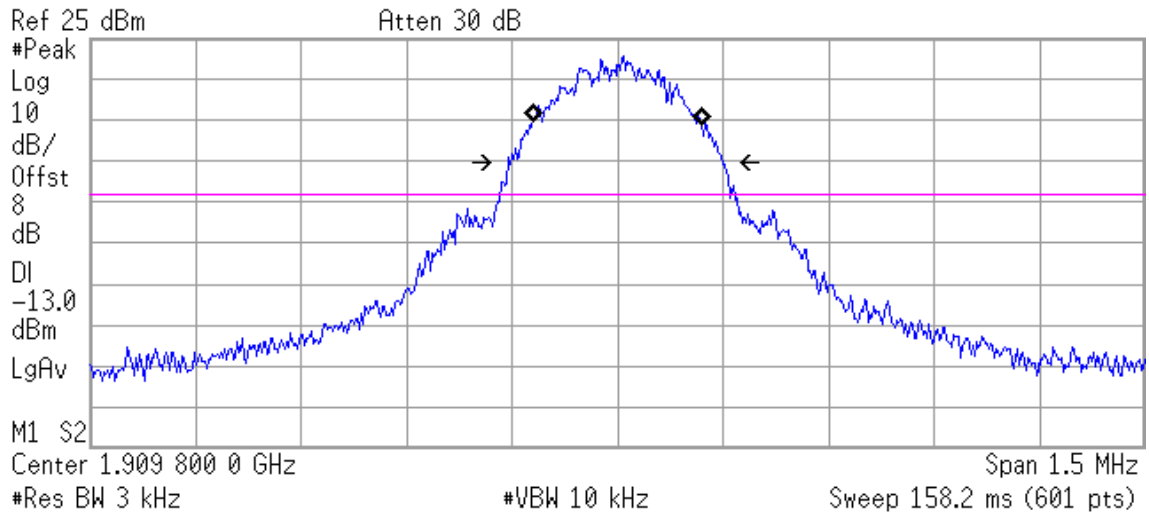
Agilent 16:37:12 Dec 8, 2009



Transmit Freq Error 461.057 Hz
x dB Bandwidth 308.077 kHz

GPMS Modulation, Frequency: 1909.80MHz

Agilent 09:16:15 Dec 9, 2009



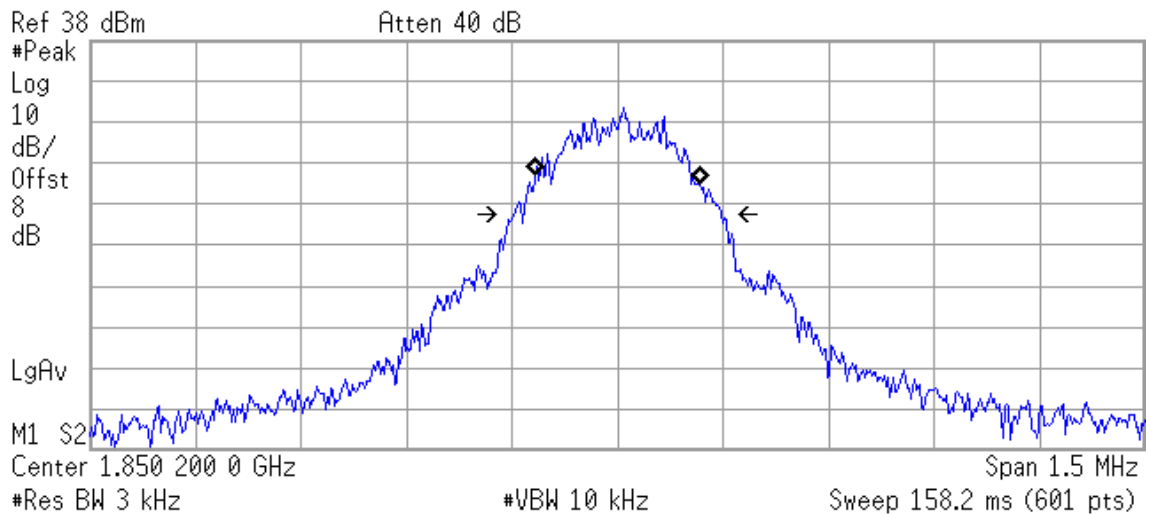
Occupied Bandwidth
246.2087 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -238.318 Hz
x dB Bandwidth 311.964 kHz

EGPRS Modulation, Frequency: 1850.20MHz

Agilent 16:35:03 Dec 8, 2009



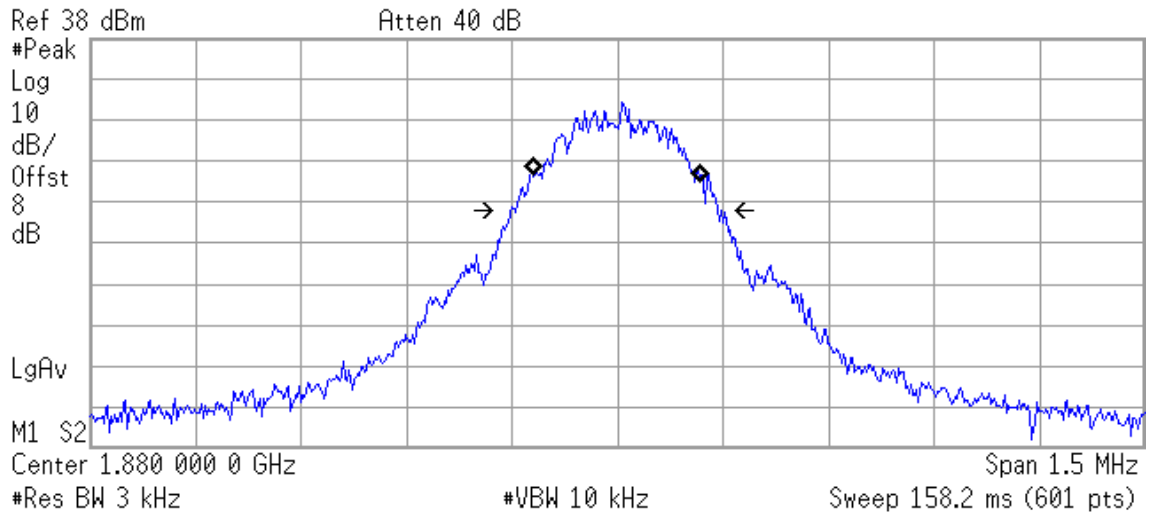
Occupied Bandwidth
237.8409 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -364.404 Hz
x dB Bandwidth 300.604 kHz

EGPRS Modulation, Frequency: 1880.00MHz

Agilent 16:38:02 Dec 8, 2009



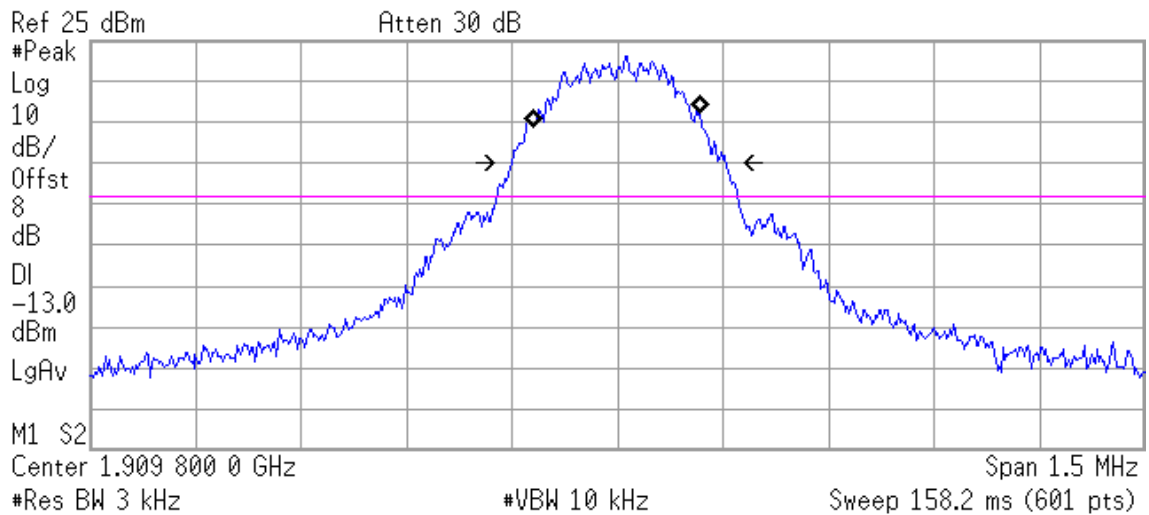
Occupied Bandwidth
240.9565 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -1.000 kHz
x dB Bandwidth 299.002 kHz

EGPRS Modulation, Frequency: 1909.80MHz

Agilent 09:17:06 Dec 9, 2009



Occupied Bandwidth
242.0425 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -2.041 kHz
x dB Bandwidth 309.655 kHz

6. SPURIOUS EMISSION AT ANTENNA TERMINALS MEASUREMENT

6.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	Jul. 23, 09'	Jul. 22, 10'
2.	Power Divider	Anritsu	K240C	019728	May 22, 09'	May 21, 10'
3.	Universal Radio Communication Tester	R & S	CMU200	102280	Dec. 16, 08'	Dec. 15, 09'
4.	Horn Antenna	EMCO	3115	9112-3775	May 15, 09'	May 14, 10'

6.2. Block Diagram of Test Setup

The same as section.3.2.1.

6.3. Specification Limit

FCC §2.1051

FCC §22.917(a)/RSS-132 §4.5

FCC §24.238(a)/RSS-133 §6.5

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:

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

6.4. 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.

6.5. Test Results

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

(Test Date: Dec. 08, 2009 Temperature: 26°C Humidity: 55%)

GPRS 850/EGPRS 850

GPRS 850 Band

824.20MHz: No spurious signals were found in all the range.

836.40MHz: No spurious signals were found in all the range.

848.80MHz: No spurious signals were found in all the range.

EGPRS 850 Band

824.20MHz: No spurious signals were found in all the range.

836.40MHz: No spurious signals were found in all the range.

848.80MHz: No spurious signals were found in all the range.

GPRS 1900/EGPRS 1900

GPRS 1900 Band

1850.20MHz: No spurious signals were found in all the range.

1880.00MHz: No spurious signals were found in all the range.

1909.80MHz: No spurious signals were found in all the range.

EGPRS 1900 Band

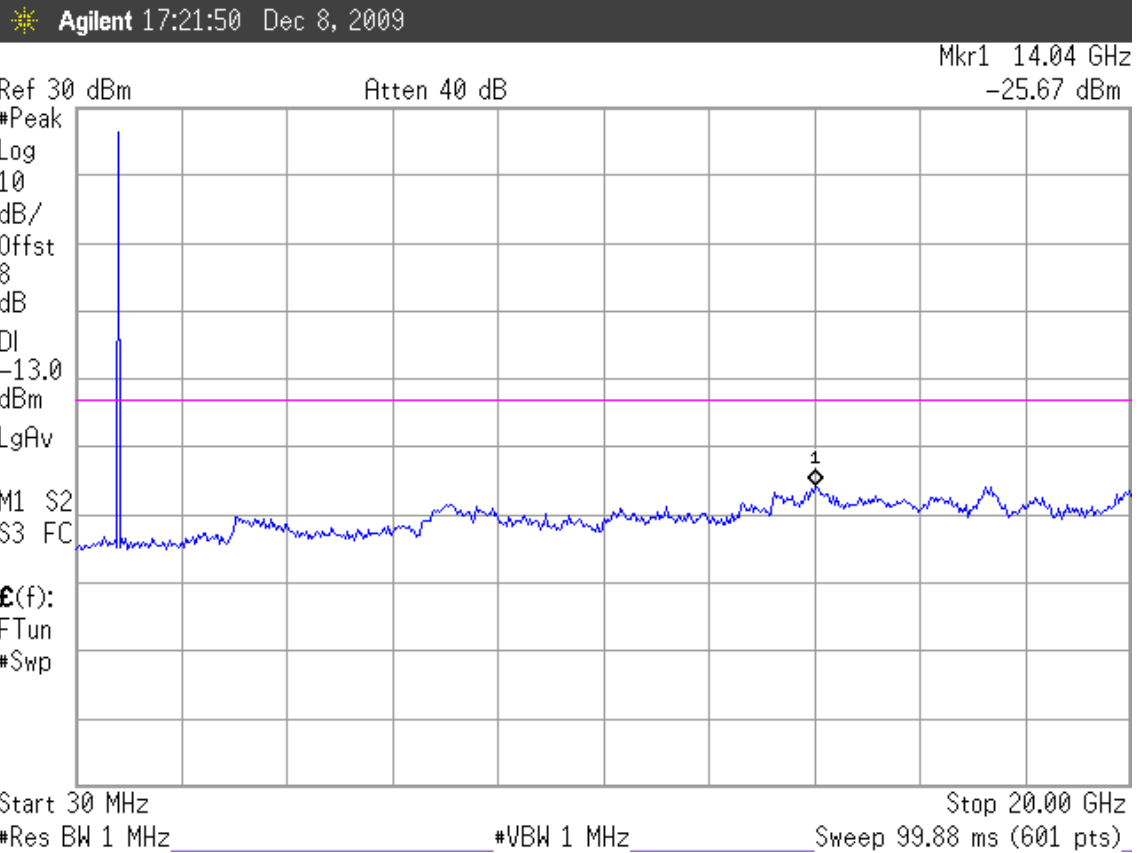
1850.20MHz: No spurious signals were found in all the range.

1880.00MHz: No spurious signals were found in all the range.

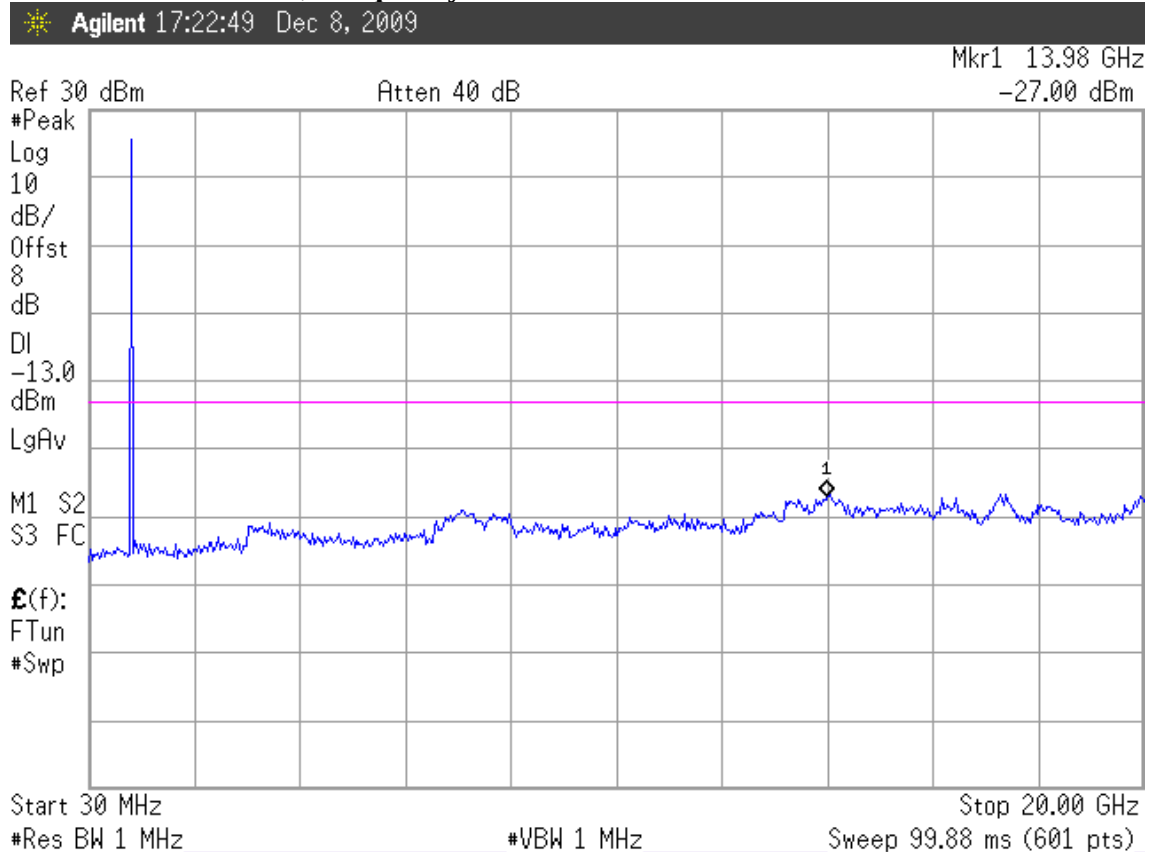
1909.80MHz: No spurious signals were found in all the range.

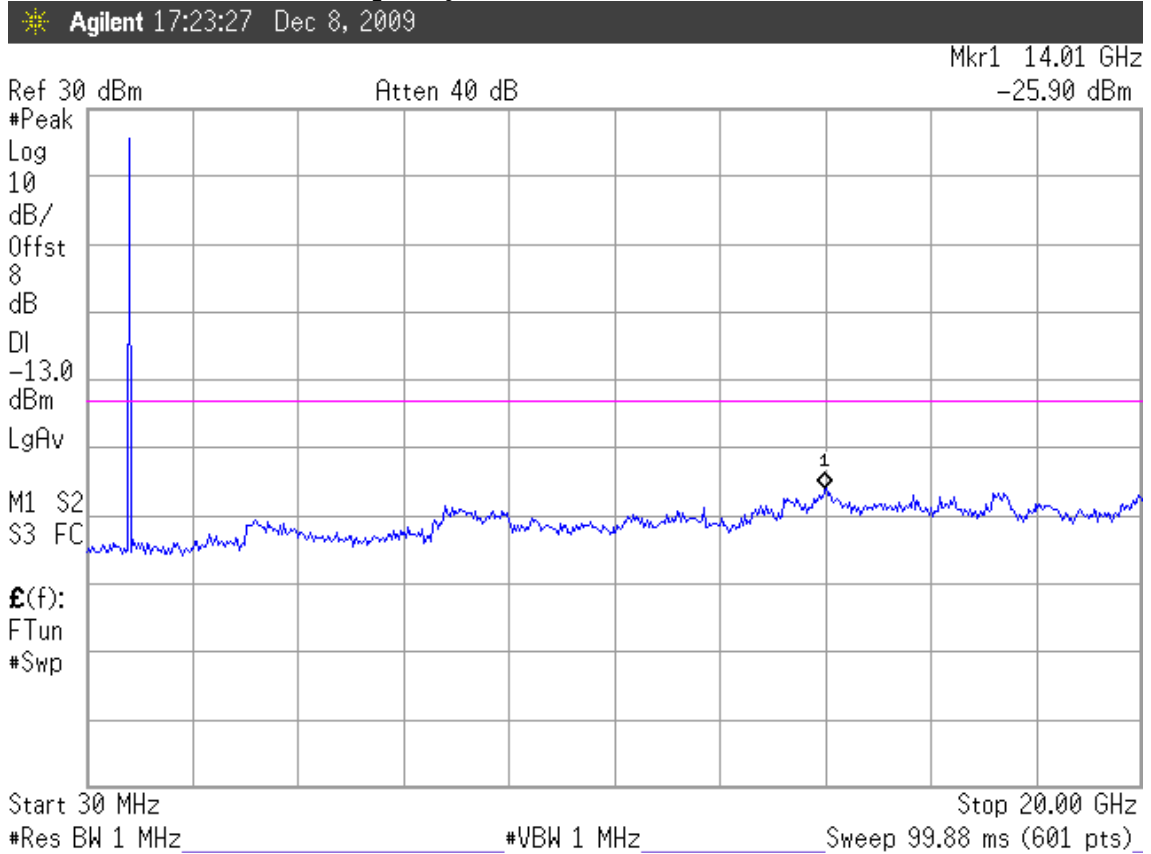
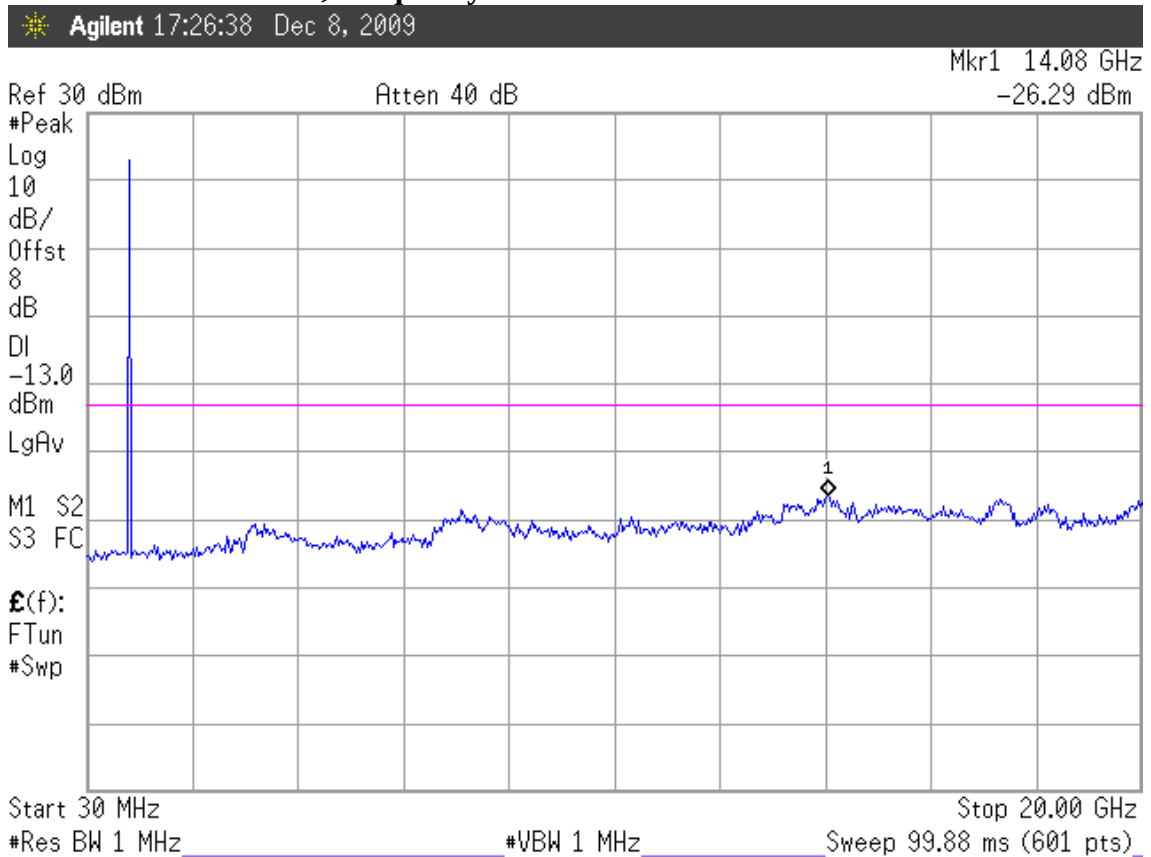
Spurious Emissions at Antenna Terminals (Conducted)— GPRS 850/EGPRS 850

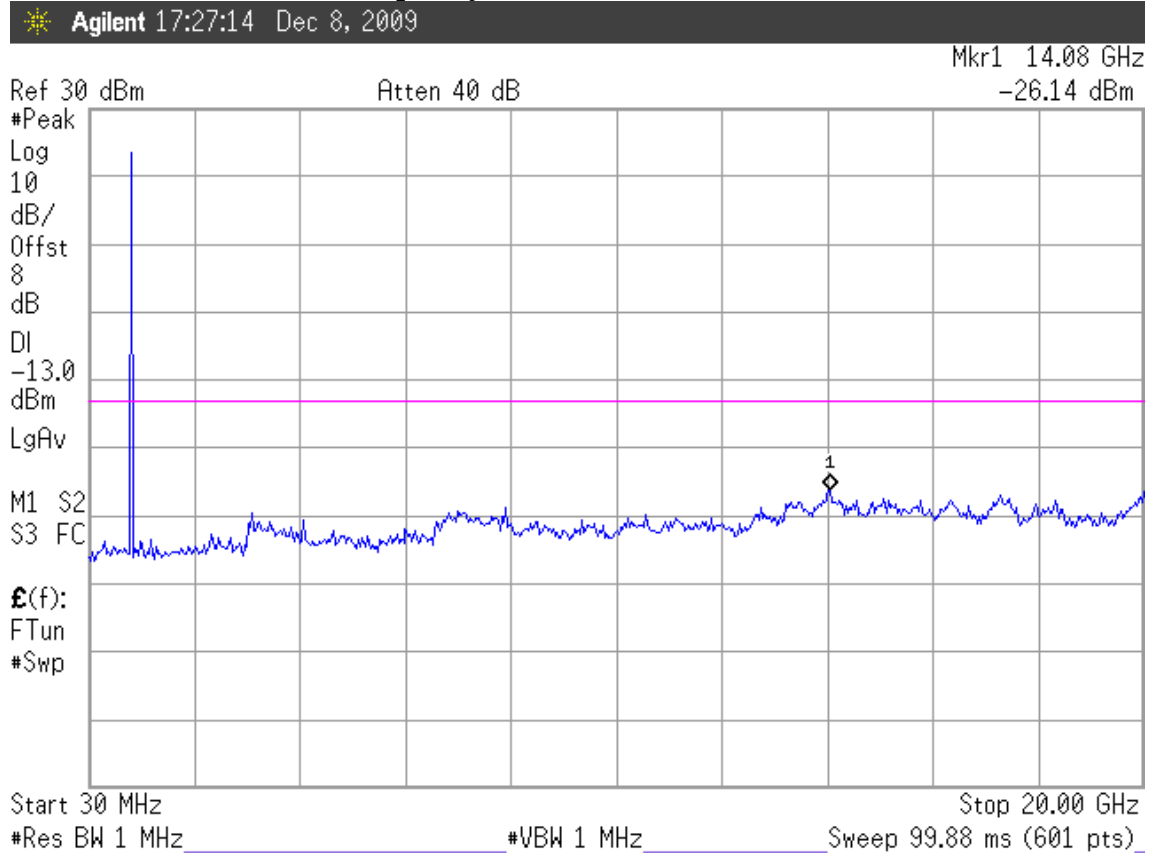
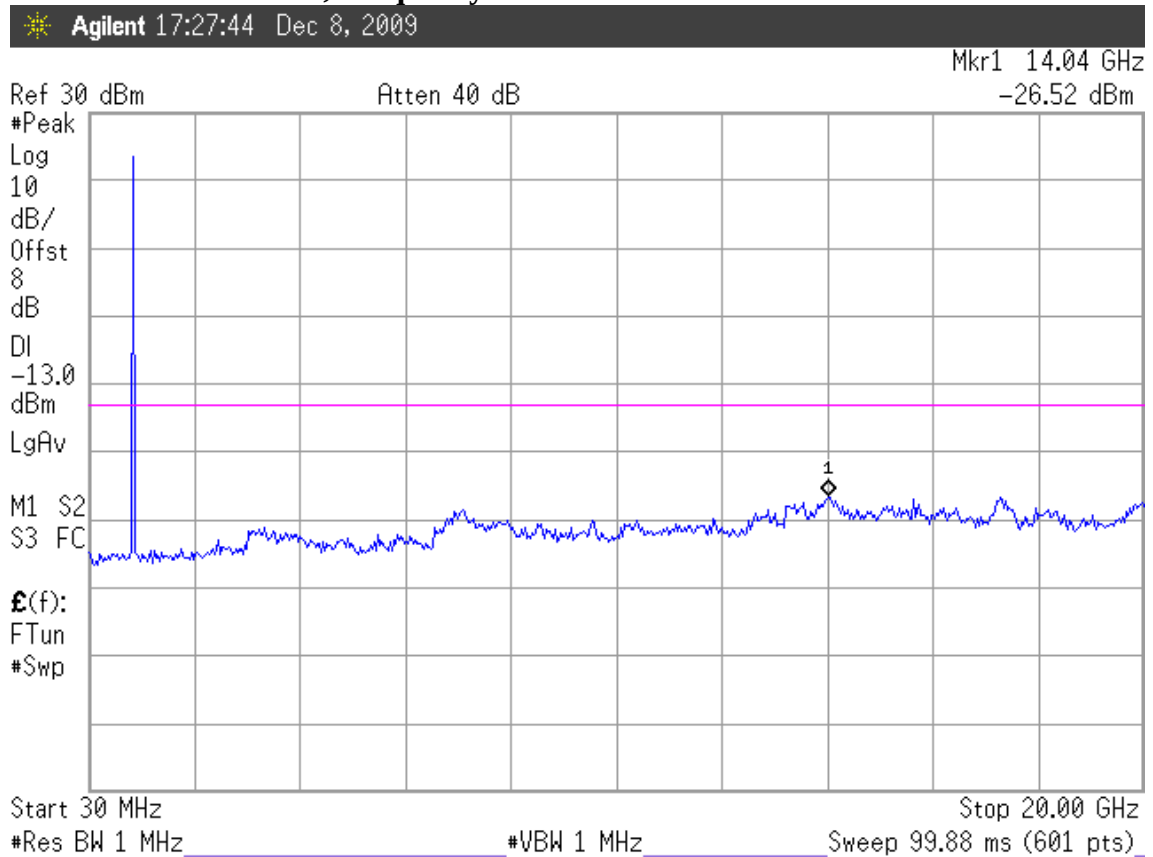
GPRS Modulation, Frequency: 824.20MHz



GPRS Modulation, Frequency: 836.40MHz

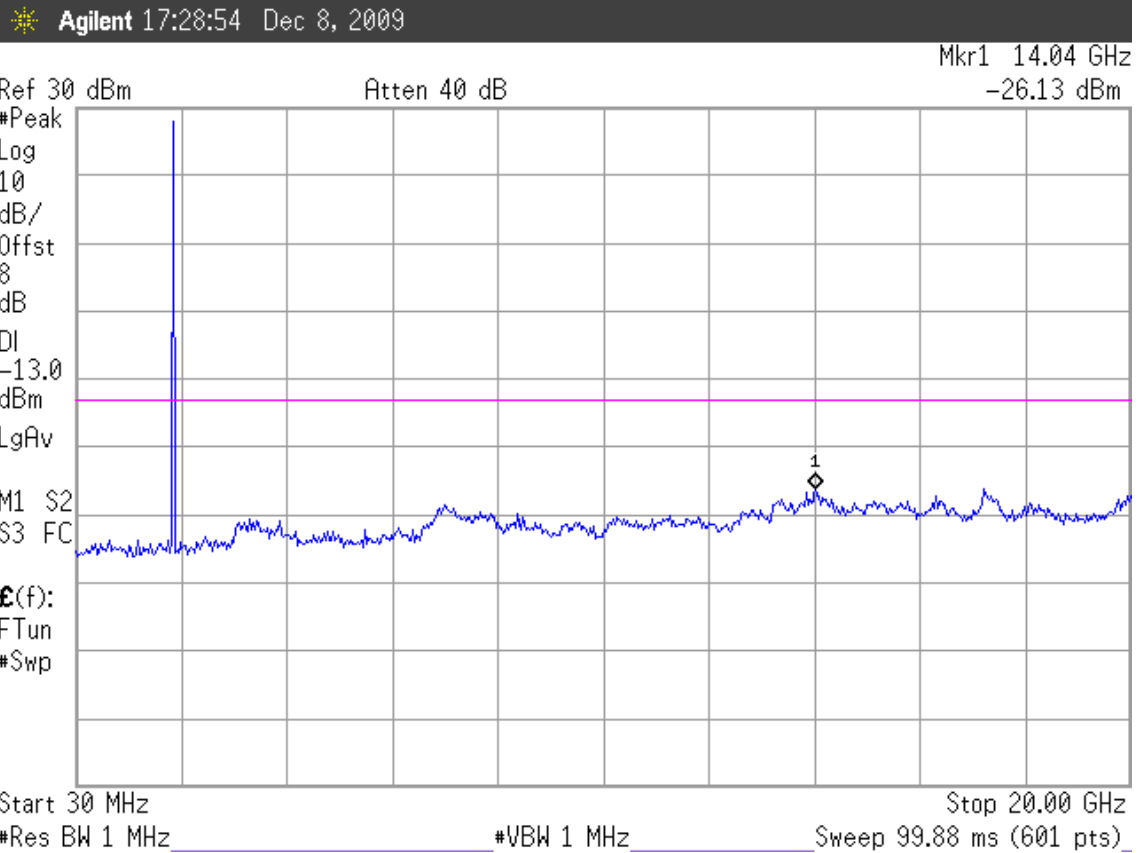


GPRS Modulation, Frequency: 848.80MHz**EGPRS Modulation, Frequency: 824.20MHz**

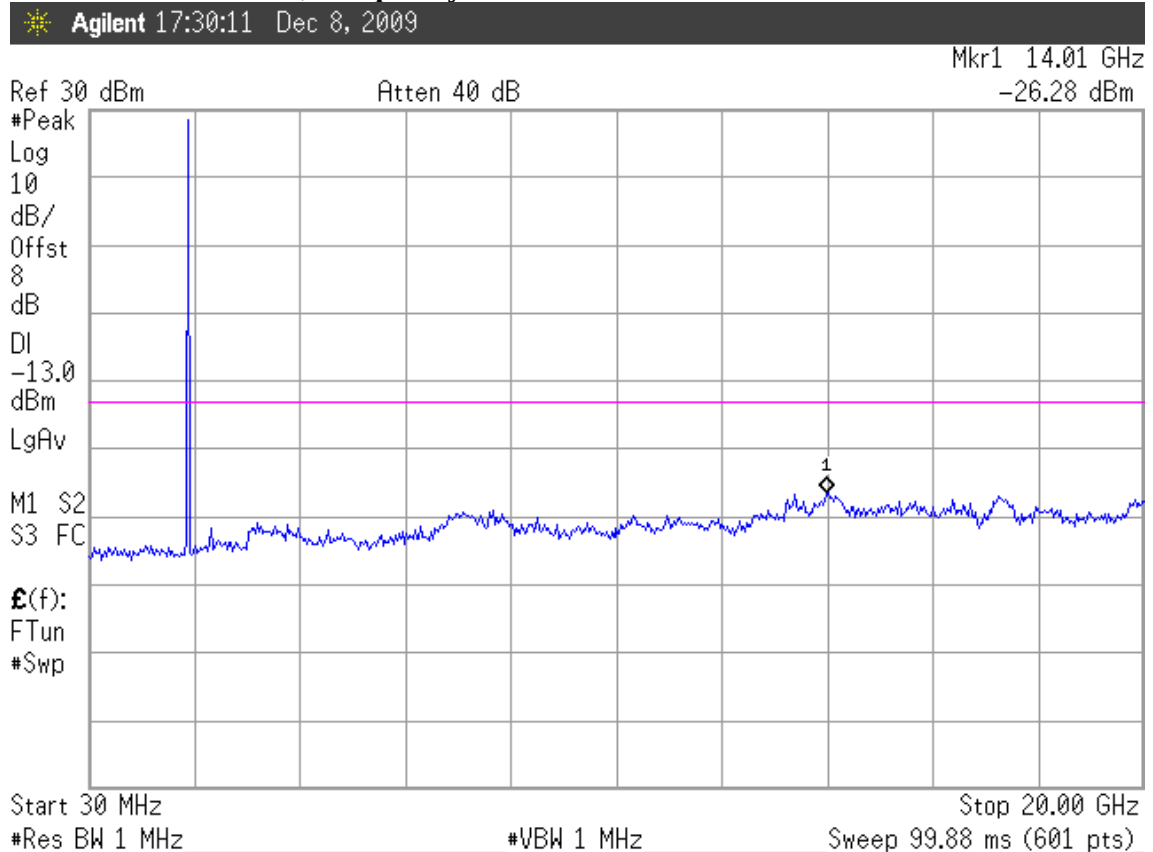
EGPRS Modulation, Frequency: 836.40MHz**EGPRS Modulation, Frequency: 848.80MHz**

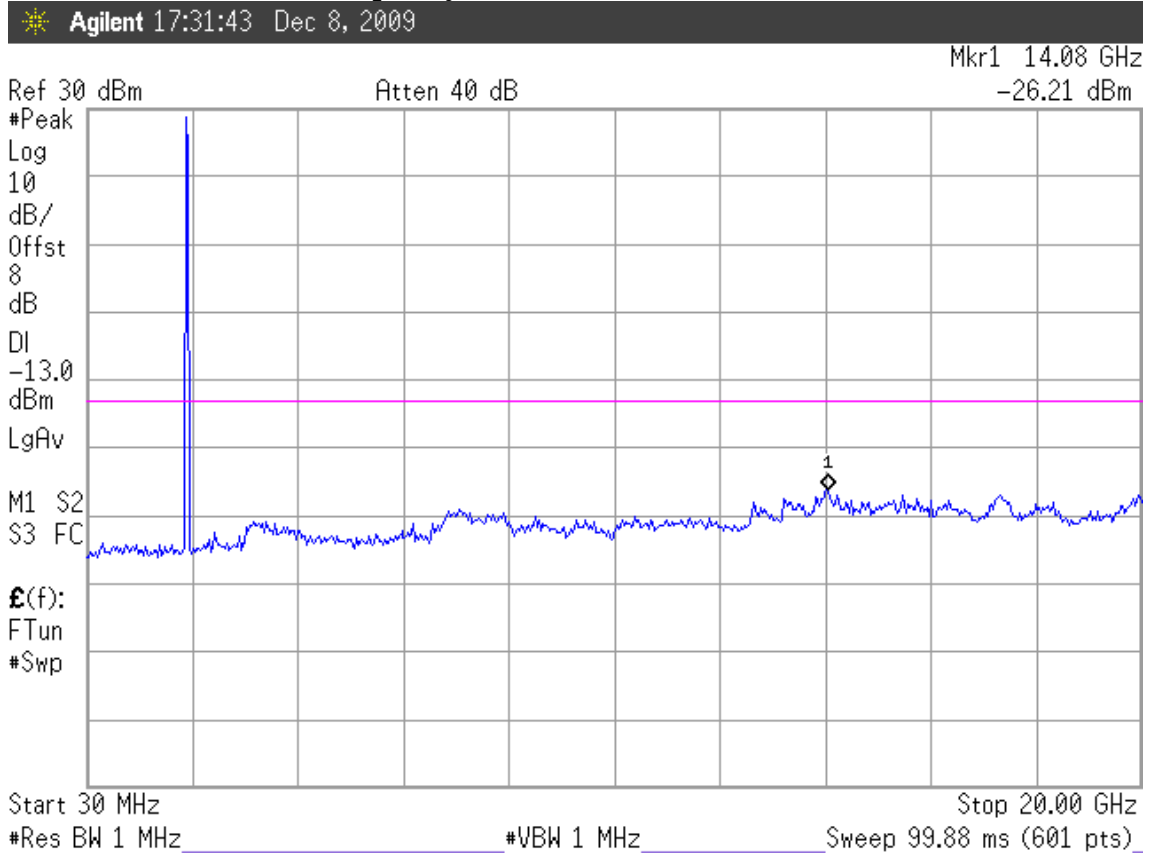
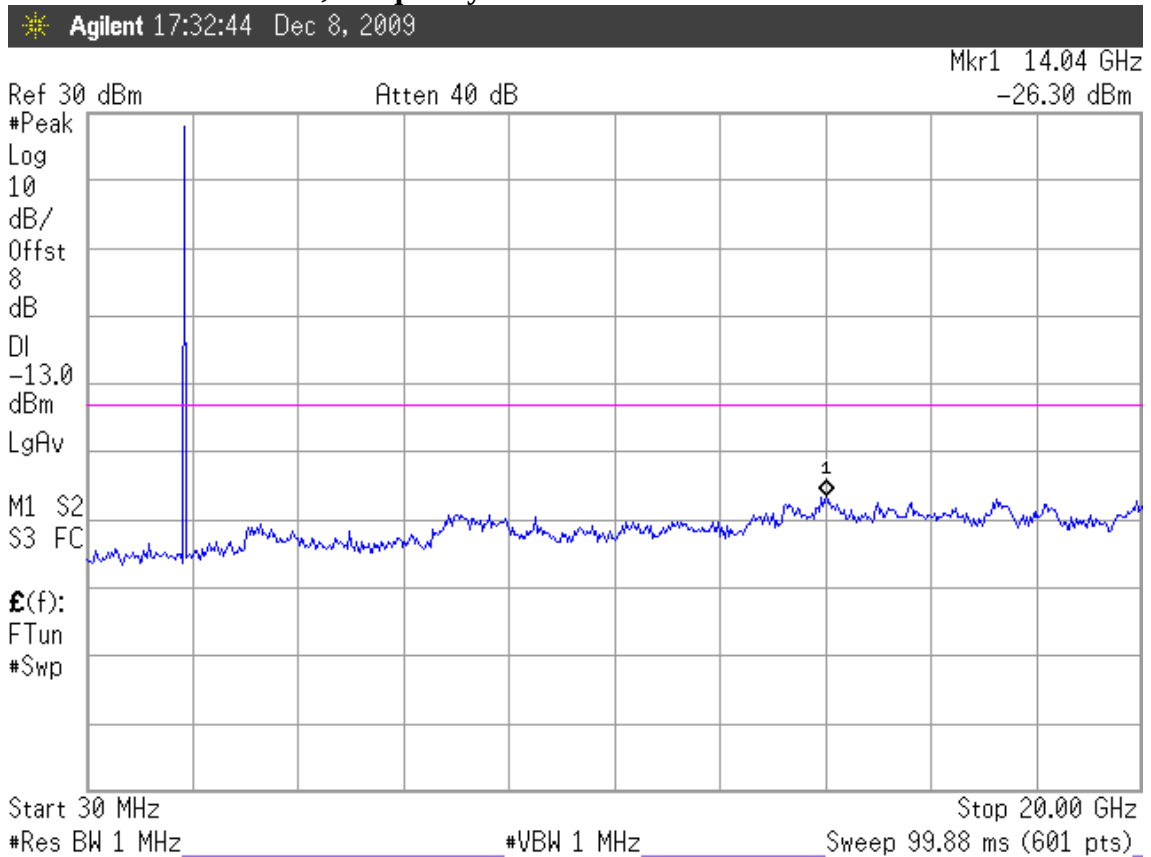
Spurious Emissions at Antenna Terminals (Conducted)— GPRS 1900/EGPRS 1900

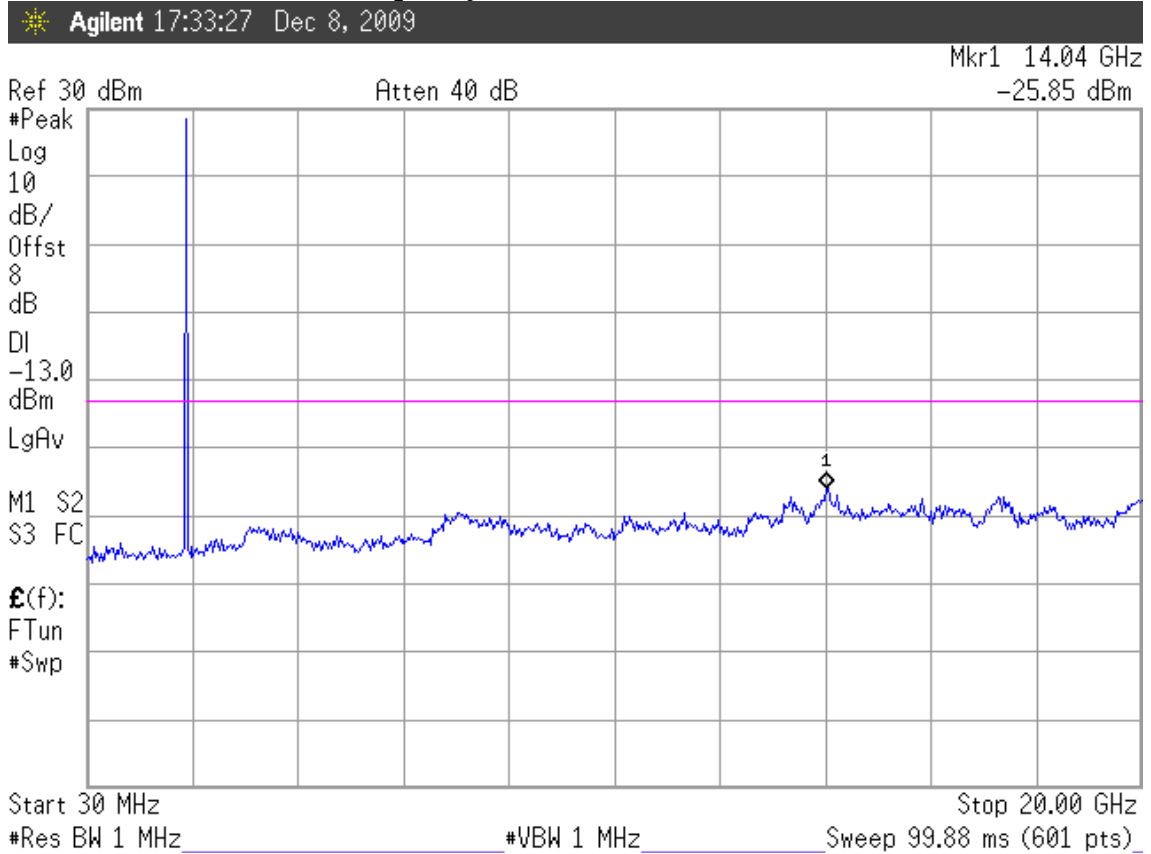
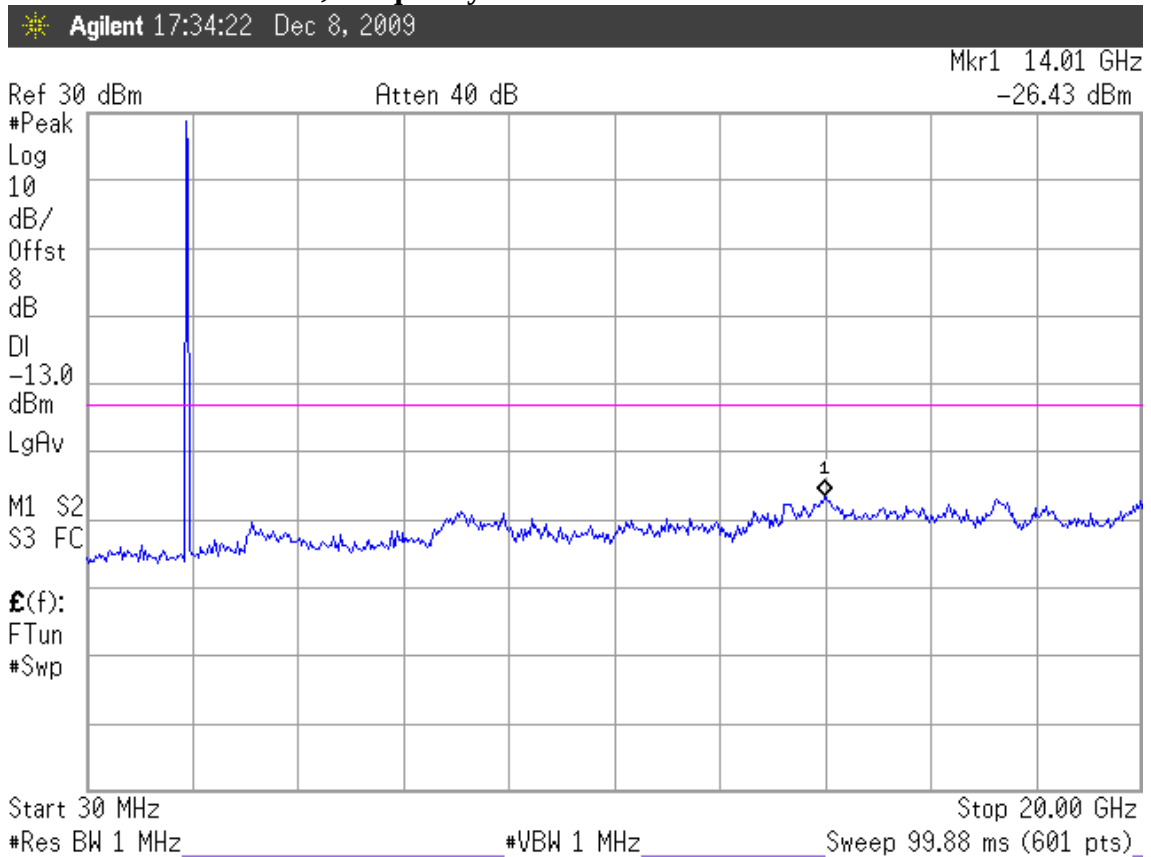
GPRS Modulation, Frequency: 1850.20MHz



GPRS Modulation, Frequency: 1880.00MHz



GPMS Modulation, Frequency: 1909.80MHz**EGPRS Modulation, Frequency: 1850.20MHz**

EGPRS Modulation, Frequency: 1880.00MHz**EGPRS Modulation, Frequency: 1909.80MHz**

7. BAND EDGES EMISSION AT ANTENNA TERMINALS MEASUREMENT

7.1. Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US44300366	Jul. 23, 09'	Jul. 22, 10'
2.	Power Divider	Anritsu	K240C	019728	May 22, 09'	May 21, 10'
3.	Universal Radio Communication Tester	R & S	CMU200	102280	Dec. 16, 08'	Dec. 15, 09'
4.	Horn Antenna	EMCO	3115	9112-3775	May 15, 09'	May 14, 10'

7.2. Block Diagram of Test Setup

The same as section.3.2.1.

7.3. Specification Limit

FCC §2.1051

FCC §22.917(a)/RSS-132 §4.5

FCC §24.238(a)/RSS-133 §6.5

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

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.

7.5. Test Results

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

(Test Date: Dec. 08, 2009 Temperature: 26°C Humidity: 55%)

GPRS 850/EGPRS 850

GPRS 850 Band

Below Band edge: The highest emission level is -21.58dBm on 823.996MHz.

Upper Band edge : The highest emission level is -23.82dBm on 849.022MHz.

EGPRS 850 Band

Below Band edge: The highest emission level is -20.36dBm on 823.998MHz.

Upper Band edge : The highest emission level is -23.32dBm on 849.022MHz.

GPRS 1900/EGPRS 1900

GPRS 1900 Band

Below Band edge: The highest emission level is -25.42dBm on 1.849998GHz.

Upper Band edge : The highest emission level is -26.29dBm on 1.910016GHz.

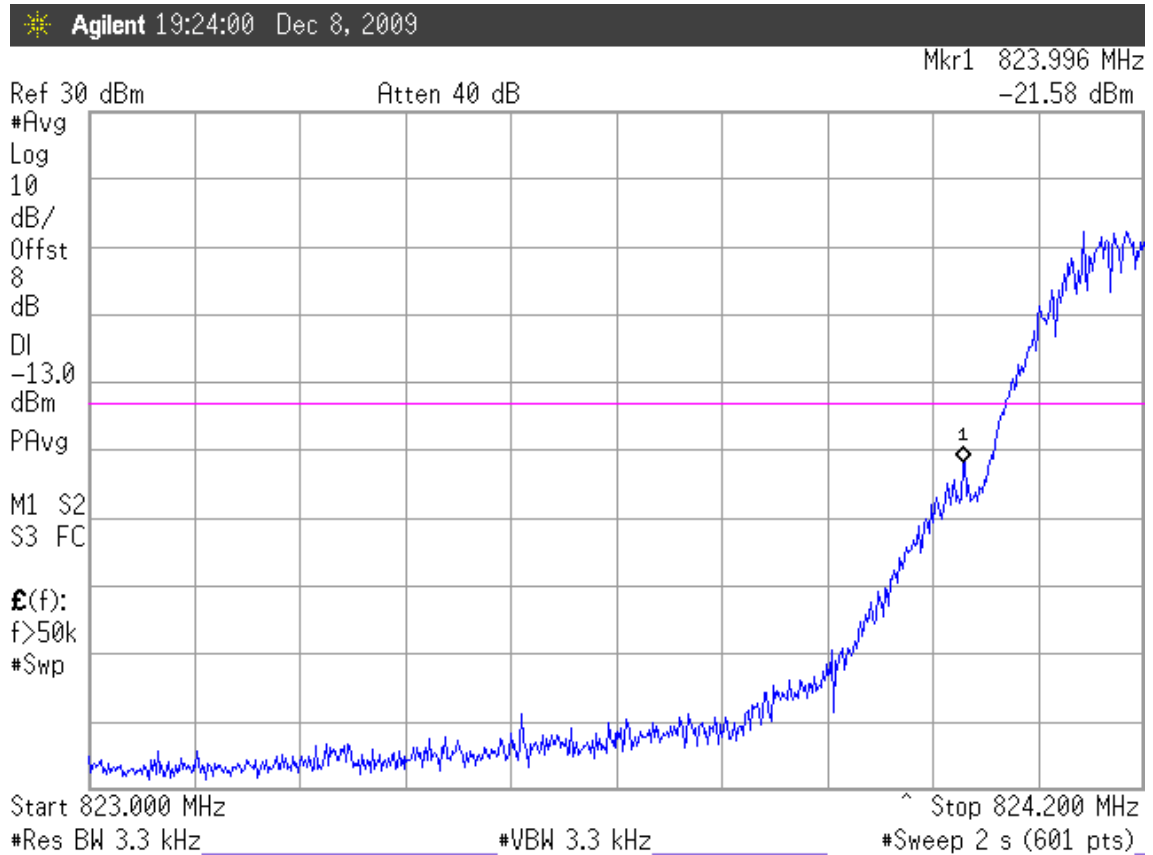
EGPRS 1900 Band

Below Band edge: The highest emission level is -27.17dBm on 1.849996GHz.

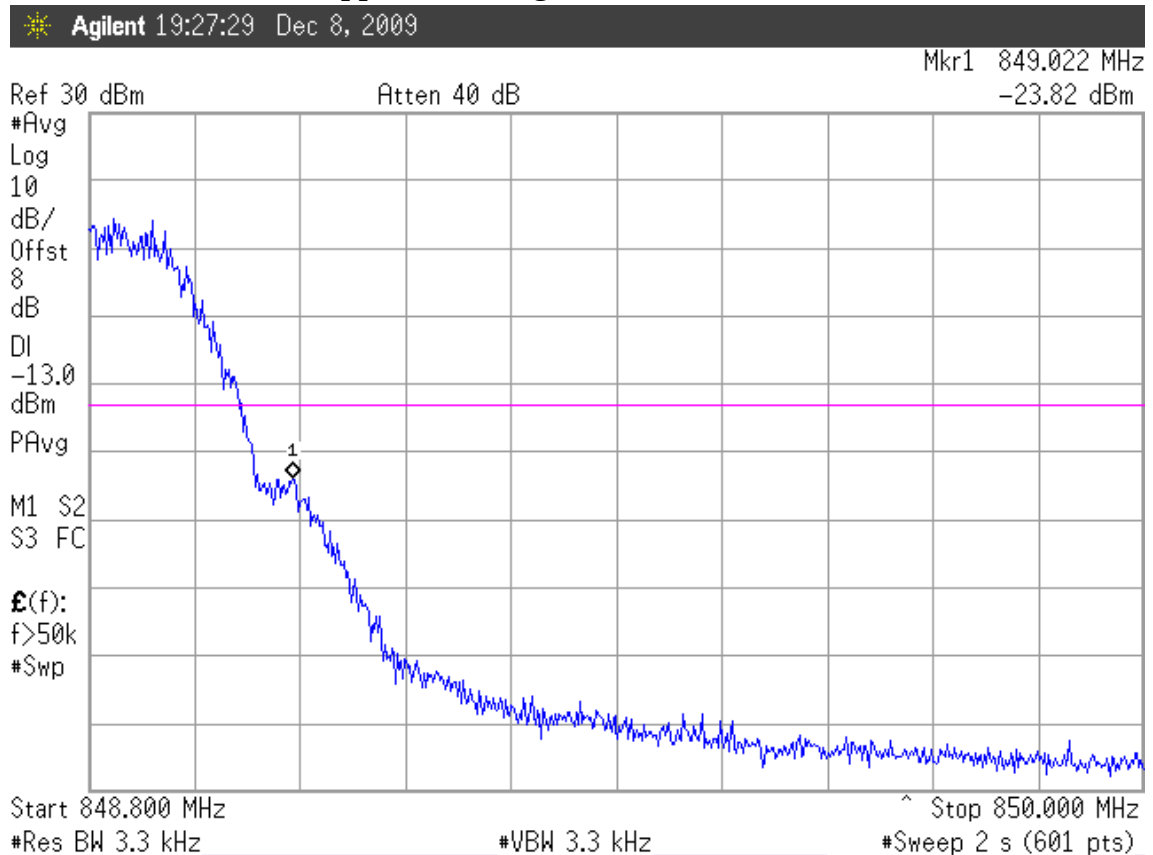
Upper Band edge : The highest emission level is -26.81dBm on 1.910018GHz.

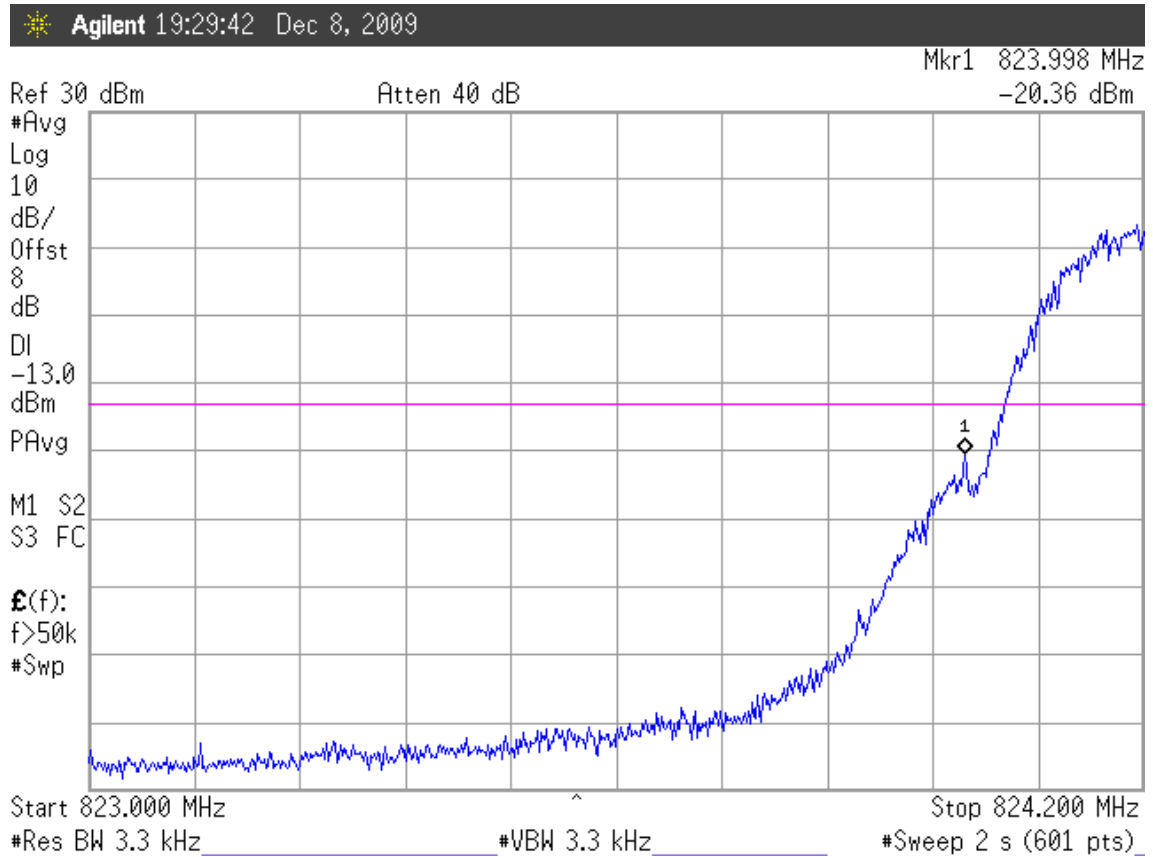
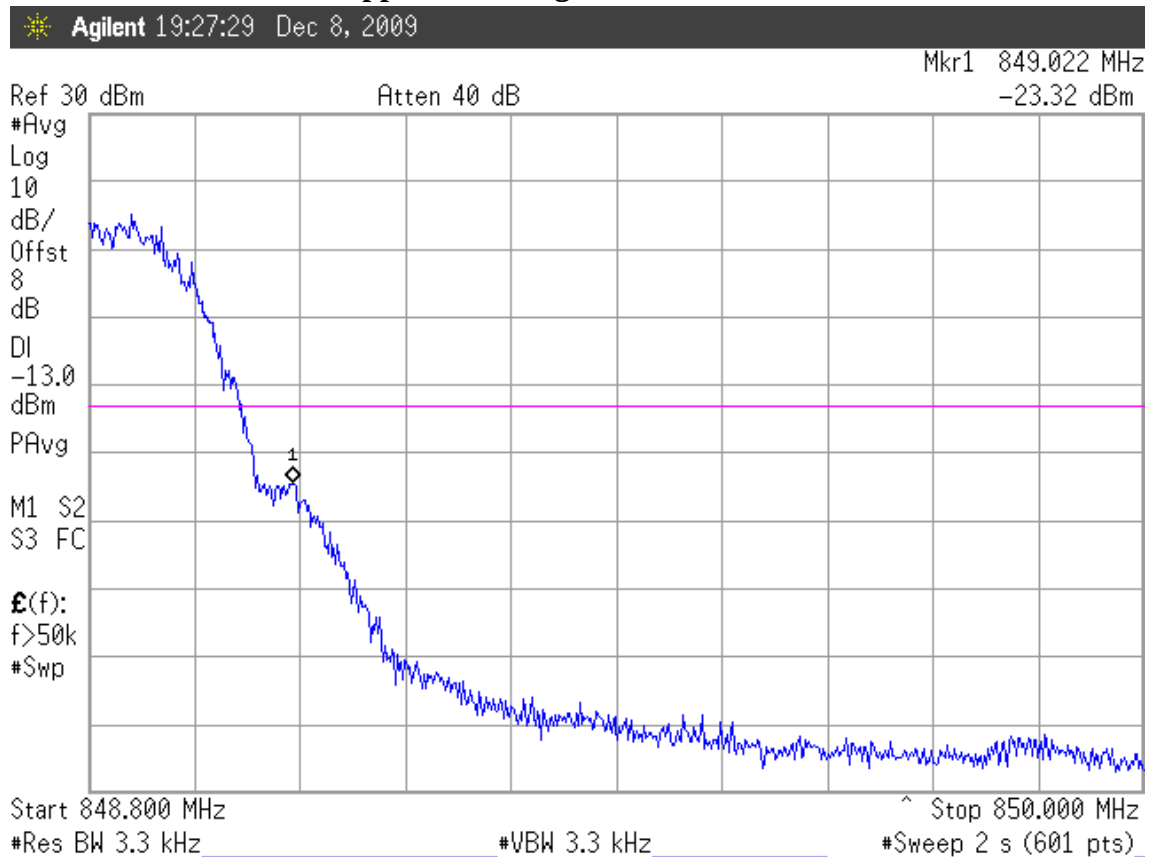
Band Edges Emissions at Antenna Terminals (Conducted)— GPRS 850/EGPRS 850

GPRS Modulation, Below Band Edges



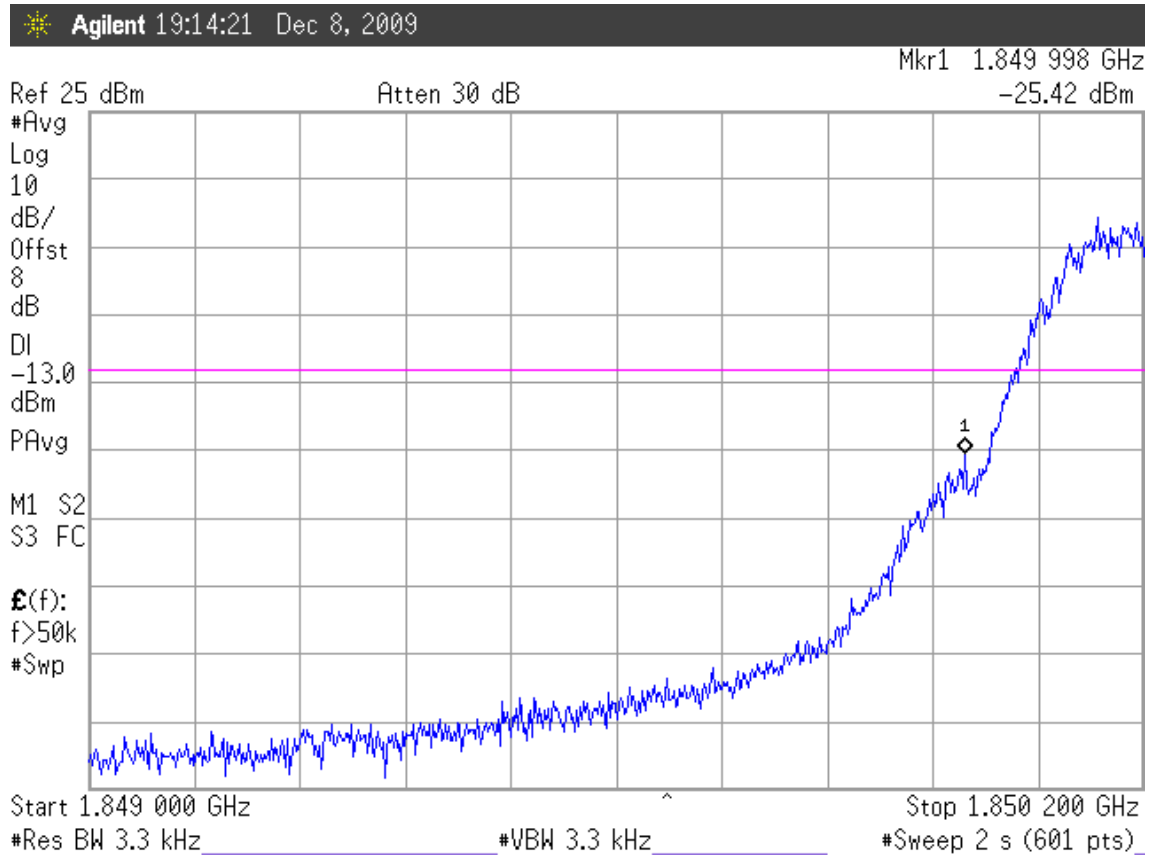
GPRS Modulation, Upper Band Edges



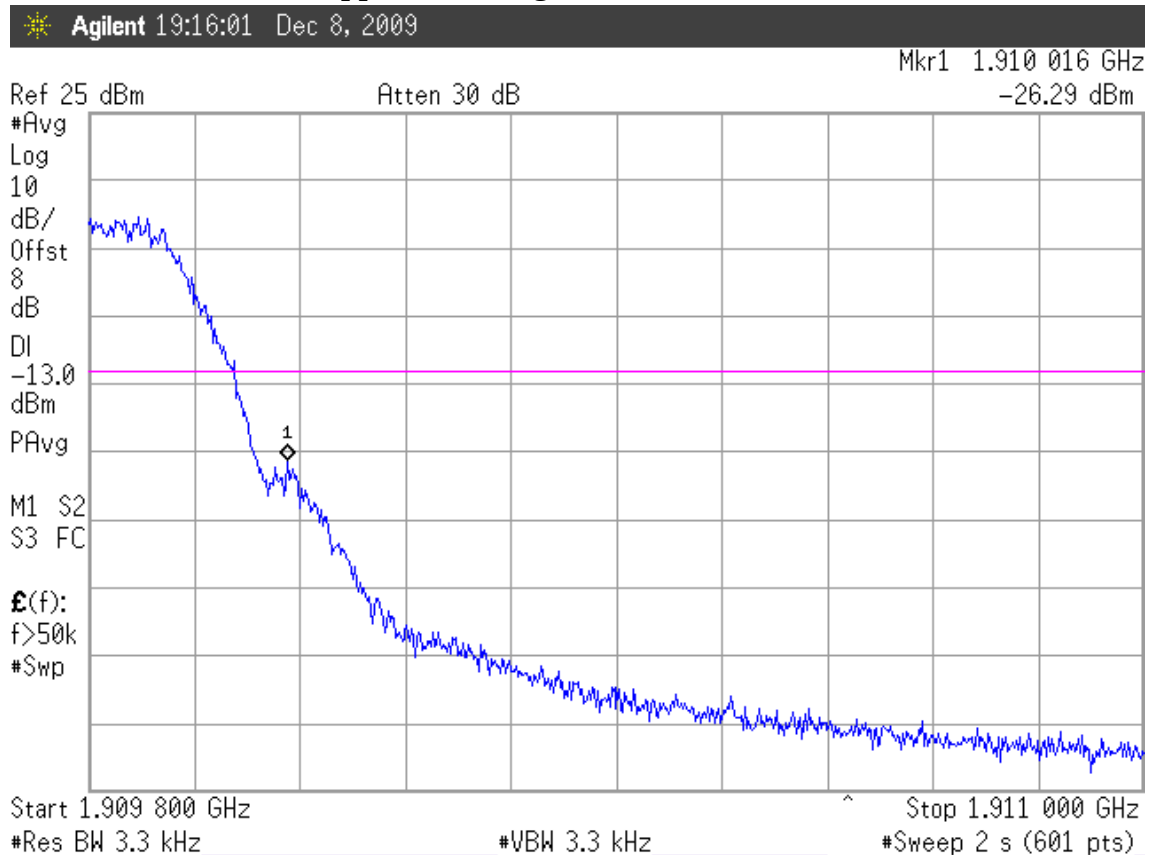
EGPRS Modulation, Below Band Edges**EGPRS Modulation, Upper Band Edges**

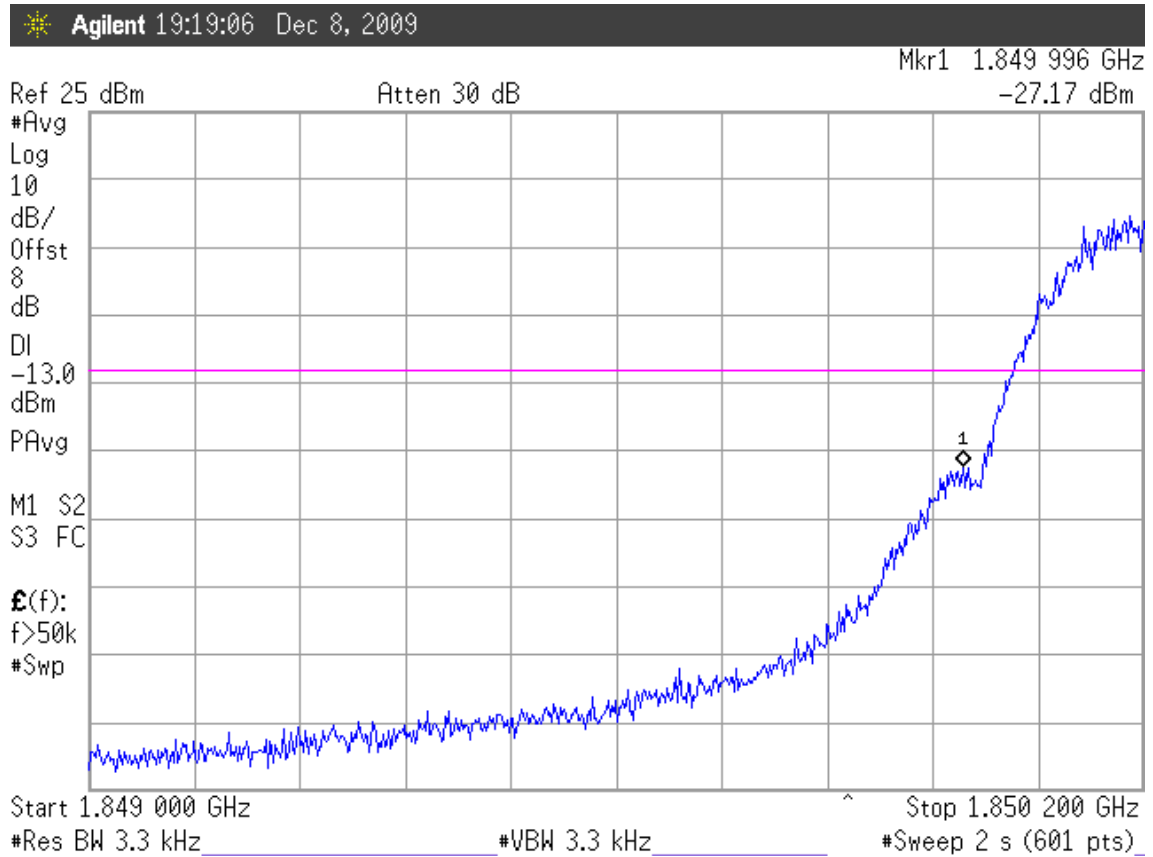
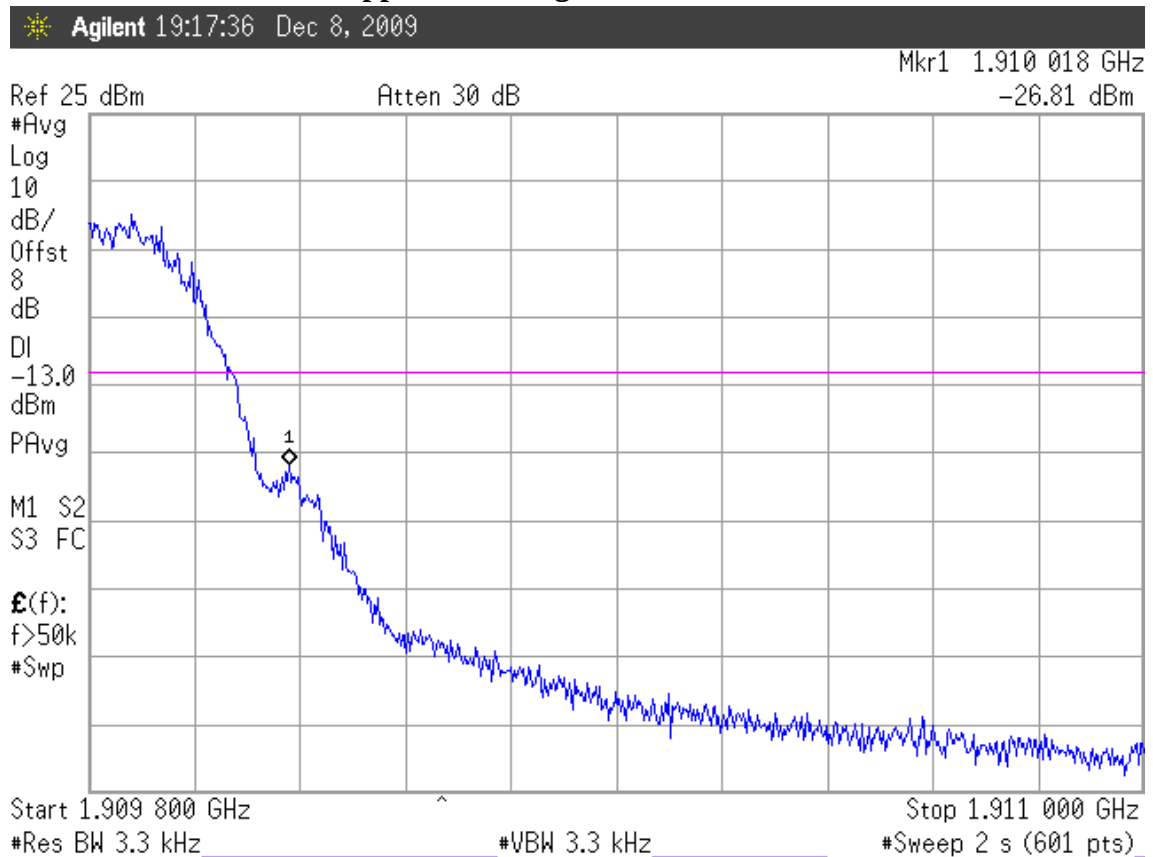
Band Edges Emissions at Antenna Terminals (Conducted)— GPRS 1900/EGPRS 1900

GPRS Modulation, Below Band Edges



GPRS Modulation, Upper Band Edges



EGPRS Modulation, Below Band Edges**EGPRS Modulation, Upper Band Edges**

8. RADIATED EMISSION MEASUREMENT

8.1. Test Equipment

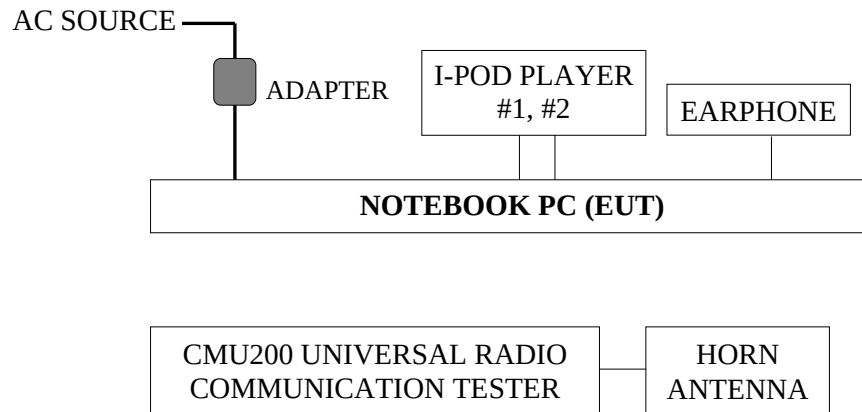
8.1.1. For Radiated Measurement (for 30MHz-1GHz)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	HP	8593EM	3826A00272	Jun. 26, 09'	Jun. 25, 10'
2.	Signal Generator	HP	83732B	US34490489	Apr. 10, 09'	Apr. 09, 10'
3.	Pre-Amplifier	HP	8447D	2944A06305	Feb. 04, 09'	Feb. 03, 10'
4.	Biconical Antenna	CHASE	VBA6106A	1264	Mar. 20, 09'	Mar. 19, 10'
5.	Log Periodic Antenna	Schwarzbeck	UHALP9108-A	0810	Mar. 20, 09'	Mar. 19, 10'
6.	Dipole antenna	Schwarzbeck	VHAP	751	Sep. 14, 09'	Sep. 13, 10'
7.	Dipole antenna	Schwarzbeck	UHAP	736	Sep. 14, 09'	Sep. 13, 10'
8.	Universal Radio Communication Tester	R & S	CMU200	102280	Dec. 16, 08'	Dec. 15, 09'
9.	Horn Antenna	EMCO	3115	9112-3775	May 15, 09'	May 14, 10'

8.1.2. For Radiated Measurement (for above 1GHz)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	HP	8593EM	3826A00272	Jun. 26, 09'	Jun. 25, 10'
2.	Signal Generator	HP	83732B	US34490489	Apr. 10, 09'	Apr. 09, 10'
3.	Pre-Amplifier	HP	8449B	3008A00529	Dec. 31, 08'	Dec. 30, 09'
4.	Tunable Notch-Filter	Wainwright	WRCT800/960-0.2/40-8EEK	6	Jan. 08, 09'	Jan. 07, 10'
5.	Tunable Notch-Filter	Wainwright	WRCT1700/2000-0.2/40-10EEK	34	Dec. 07, 08'	Dec. 06, 09'
6.	Horn Antenna (1GHz ~ 18GHz)	EMCO	3115	9609-4927	Jul. 09, 09'	Jul. 08, 10'
7.	Universal Radio Communication Tester	R & S	CMU200	102280	Dec. 16, 08'	Dec. 15, 09'
8.	Horn Antenna	EMCO	3115	9112-3775	May 15, 09'	May 14, 10'

8.2. Block Diagram of Test Setup



8.3. Specification Limits

FCC §2.1053

FCC §22.917(a)/RSS-132 §4.5

FCC §24.238(a)/RSS-133 §6.5

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

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 at 1m distance for measurements 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.

Note: The LGX30 build with 3.5G module, WiFi module and BT, it can be transmitted simultaneously. After evaluating, while 3.5 G module, WiFi and BT module transmit simultaneously is the worst case for radiation emission. The radiated spurious emission is performed in the worst case.

8.5. Test Results

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

(Test Date: Dec. 09, 2009 Temperature: 27°C Humidity: 51%)

GPRS 850 Band, Frequency: 824.20MHz

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
165.80	Horizontal	-68.82	-13.00	-55.82
365.62	Horizontal	-68.61	-13.00	-55.61
565.00	Horizontal	-66.53	-13.00	-53.53
700.27	Horizontal	-66.24	-13.00	-53.24
796.30	Horizontal	-65.64	-13.00	-52.64
999.00	Horizontal	-65.07	-13.00	-52.07
2128.90	Horizontal	-51.25	-13.00	-38.25

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
189.08	Vertical	-66.52	-13.00	-53.52
700.27	Vertical	-67.26	-13.00	-54.26
999.00	Vertical	-66.67	-13.00	-53.67
2128.90	Vertical	-51.52	-13.00	-38.52

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)
165.80	Horizontal	-66.52	-13.00	-53.52
365.62	Horizontal	-69.35	-13.00	-56.35
565.00	Horizontal	-64.87	-13.00	-51.87
700.27	Horizontal	-66.72	-13.00	-53.72
796.30	Horizontal	-64.62	-13.00	-51.62
999.00	Horizontal	-56.17	-13.00	-43.17
2128.90	Horizontal	-51.28	-13.00	-38.28

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
189.08	Vertical	-65.82	-13.00	-52.82
700.27	Vertical	-65.93	-13.00	-52.93
999.00	Vertical	-65.86	-13.00	-52.86
2128.90	Vertical	-51.61	-13.00	-38.61

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 850 Band, Frequency: 848.80MHz

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
165.80	Horizontal	-66.52	-13.00	-53.52
365.62	Horizontal	-69.45	-13.00	-56.45
565.00	Horizontal	-65.06	-13.00	-52.06
700.27	Horizontal	-66.57	-13.00	-53.57
796.30	Horizontal	-66.74	-13.00	-53.74
999.00	Horizontal	-65.67	-13.00	-52.67
2128.90	Horizontal	-50.61	-13.00	-37.61

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
189.08	Vertical	-65.72	-13.00	-52.72
700.27	Vertical	-66.57	-13.00	-53.57
999.00	Vertical	-64.82	-13.00	-51.82
2128.90	Vertical	-50.82	-13.00	-37.82

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)
165.80	Horizontal	-65.80	-13.00	-52.80
365.62	Horizontal	-69.47	-13.00	-56.47
565.00	Horizontal	-65.67	-13.00	-52.67
700.27	Horizontal	-65.54	-13.00	-52.54
796.30	Horizontal	-66.16	-13.00	-53.16
999.00	Horizontal	-65.35	-13.00	-52.35
2128.90	Horizontal	-51.64	-13.00	-38.64

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
189.08	Vertical	-65.43	-13.00	-52.43
700.27	Vertical	-66.74	-13.00	-53.74
999.00	Vertical	-65.01	-13.00	-52.01
2128.90	Vertical	-51.18	-13.00	-38.18

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: 1880.00MHz

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
165.80	Horizontal	-66.56	-13.00	-53.56
365.62	Horizontal	-69.51	-13.00	-56.51
565.00	Horizontal	-65.34	-13.00	-52.34
700.27	Horizontal	-66.74	-13.00	-53.74
796.30	Horizontal	-65.03	-13.00	-52.03
999.00	Horizontal	-64.57	-13.00	-51.57
2128.90	Horizontal	-51.31	-13.00	-38.31

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
189.08	Vertical	-65.68	-13.00	-52.68
700.27	Vertical	-66.90	-13.00	-53.90
999.00	Vertical	-65.19	-13.00	-52.19
2128.90	Vertical	-51.61	-13.00	-38.61

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: 1909.80MHz

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
165.80	Horizontal	-65.20	-13.00	-52.20
365.62	Horizontal	-69.31	-13.00	-56.31
565.00	Horizontal	-65.51	-13.00	-52.51
700.27	Horizontal	-66.72	-13.00	-53.72
796.30	Horizontal	-65.04	-13.00	-52.04
999.00	Horizontal	-64.61	-13.00	-51.61
2128.90	Horizontal	-51.25	-13.00	-38.25

Frequency (MHz)	Antenna Polarization	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)
189.08	Vertical	-64.54	-13.00	-51.54
700.27	Vertical	-66.61	-13.00	-53.61
999.00	Vertical	-65.19	-13.00	-52.19
2128.90	Vertical	-51.33	-13.00	-38.33

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.

9. DEVIATION TO TEST SPECIFICATIONS

【NONE】