



CONFORMANCE TEST REPORT FOR FCC 47 CFR, Part 22 Subpart H / Part 24 Subpart E

Report No.: 08-12-MAS-013-01Client: **LIGHTSPEED INTERNATIONAL CO.**Product: **GPRS Modem**Model: **GPRS-100S**FCC ID: **NGJGPRS-100S**Manufacturer/supplier: **LIGHTSPEED INTERNATIONAL CO.**

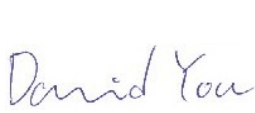
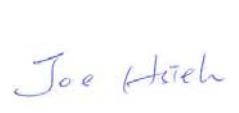
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TEST REPORT CERTIFICATION

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Manufacturer : LIGHTSPEED INTERNATIONAL CO.
Address : No.20 LANE 526 NIUPU EAST ROAD, HSIN CHU, TAIWAN
EUT : GPRS Modem
Trade name : LIGHTSPEED
Model No. : GPRS-100S
Power Source : 5V dc (From Notebook PCMCIA Interfac)
Regulations applied : FCC 47 CFR, Part 22 Subpart H and Part 24 Subpart E

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1. GENERAL INFORMATION

1.1 Product Description

- a) Type of EUT : GPRS Modem
- b) Trade Name : LIGHTSPEED
- c) Model No. : GPRS-100S
- d) Power Supply : 5V dc (From Notebook PCMCIA Interface)

1.2 Characteristics of Device

GPRS-100S is an GPRS Modem (for USA market) (PCMCIA CARD) that is compatible with 850/1900MHZ /GPRS/GSM NETWORK. It can send/receive data, fax, voice, SMS & MMS.

1.3 Test Methodology

Both conducted and radiated testing were performed according to the procedures document on chapter 13 of ANSI C63.4 and FCC CFR 47, 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057.

1.4 Modification List of EUT

N/A

1.5 Test Facility

The semi-anechoic chamber and conducted measurement facility used to collect the radiated and conducted data are located inside the Building at No.8, Lane 29, Wen-ming Road, Lo-shan Tsun, Kweishan Hsiang, Taoyuan, Taiwan, R.O.C.

This site has been accreditation as a FCC filing site.

2. SYSTEM TEST CONFIGURATION

2.1 Justification

For the purposes of this test report ancillary equipment is defined as equipment which is used in conjunction with the EUT to provide operational and control features to the EUT during the test. The simulate equipment was used to control the RF channel under the hightest, middle and lowest frequency and transmit the maximun RF power.

2.2 Devices for Tested System

Device	Manufacture	Model	Cable Description
* GPRS Modem	LIGHTSPEED INTERNATIONAL CO.	GPRS-100S	----
Notebook PC	HP	nx6320	3.3m, Unshielded Power Line (Adaptor)

Remark “*” means equipment under test.

Test Channel – Frequency comparison table for test:

GSM & GPRS 850		PCS & GPRS 1900	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
128	824.2	512	1850.2
190	836.6	661	1880.0
251	848.8	810	1909.8

3. PEAK POWER MEASUREMENT

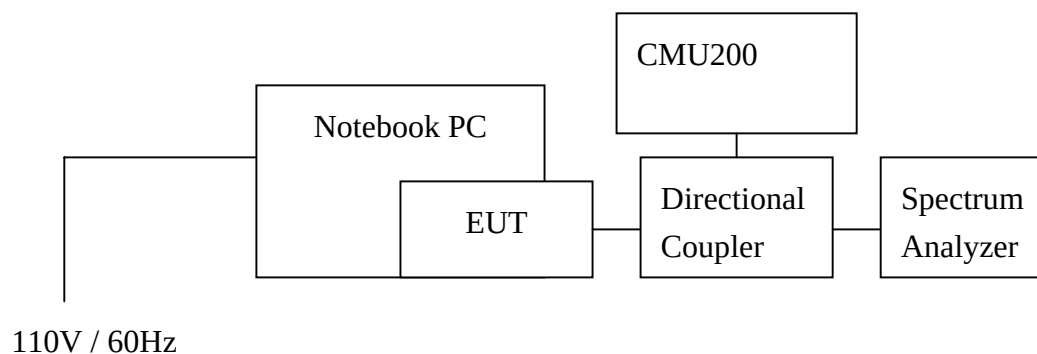
3.1 Applicable Standard

According to FCC § 2.1046.

3.2 Measurement Procedure

The setup of the EUT as shown in figure 1. The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a Spectrum Analyzer. Transmitter output was read off the Spectrum Analyzer in dBm. The power output at the transmitter antenna port was determined by adding the value of the attenuator to the Spectrum Analyzer reading.

Figure 1: Peak power measurement configuration.



3.3 Measuring Instrument

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Rohde & Schwarz	FSU46	11/24/2009
Directional Coupler	AR	DC7420	08/13/2009
Universal Radio Communication Tester	Rohde & Schwarz	CMU200	01/06/2009

3.4 Test Result

Test Date : 11/17/2008Temperature : 14°CHumidity : 58%

850 Band

Limits:

Power Control Level	Normal Peak Output Power	Tolerance (dB)
5	33dBm (2W)*	±2

*GSM Specification – ETSI EN 300 910 V8.5.1 (2000-11) Section 4.1

Power measurements:

Test Mode	Channel	Frequency (MHz)	Reading (dBm)	Attenuator & Cable Loss (dB)	Maximum Peak Output Power (dBm)
GPRS850	128	824.2	9.87	20	29.87
	190	836.6	9.83	20	29.83
	251	848.8	10.16	20	30.16

1900 Band

Limits:

Power Control Level	Normal Peak Output Power	Tolerance (dB)
0	30dBm (1W)*	±2

*GSM Specification – ETSI EN 300 910 V8.5.1 (2000-11) Section 4.1

Power measurements:

Test Mode	Channel	Frequency (MHz)	Reading (dBm)	Attenuator & Cable Loss (dB)	Maximum Peak Output Power (dBm)
GPRS1900	512	1850.2	7.75	20	27.75
	661	1880.0	8.01	20	28.01
	810	1909.8	8.00	20	28.00

850 Band

AVERAGE POWER

Power measurements:

Test Mode	Channel	Frequency (MHz)	Reading (dBm)	Attenuator & Cable Loss (dB)	Maximum Peak Output Power (dBm)
GPRS850	128	824.2	4.48	20	24.48
	190	836.6	4.23	20	24.23
	251	848.8	4.32	20	24.32

1900 Band

AVERAGE POWER

Power measurements:

Test Mode	Channel	Frequency (MHz)	Reading (dBm)	Attenuator & Cable Loss (dB)	Maximum Peak Output Power (dBm)
GPRS1900	512	1850.2	1.93	20	21.93
	661	1880.0	2.09	20	22.09
	810	1909.8	1.81	20	21.81

Test Date : 11/17/2008Temperature : 14°CHumidity : 58%

850MHz Band

Test Mode	Channel	Frequency (MHz)	Bandwidth (kHz)
GPRS850	128	824.2	250.000
	190	836.6	254.808
	251	848.8	250.000

1900 Band

Test Mode	Channel	Frequency (MHz)	Bandwidth (kHz)
GPRS1900	512	1850.2	246.795
	661	1880.0	250.000
	810	1910.0	248.397

Peak power

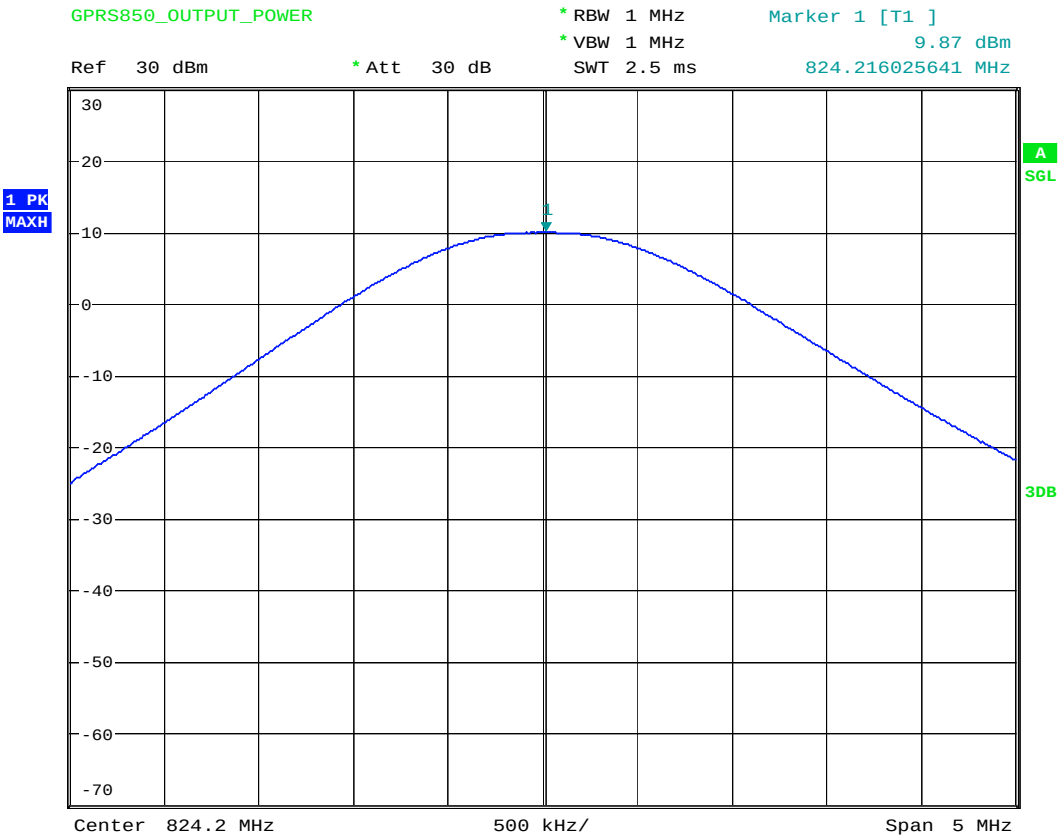
Mode/Channel	GSM 850/Cellular Band			GSM 1900/PCS Band			Modulation	Worse
	128	190	251	512	661	810		
GSM	29.49	29.51	30.00	27.62	27.31	27.78	GMSK	
GPRS/Class10	29.87	29.83	30.16	27.75	28.01	28.00	GMSK	*

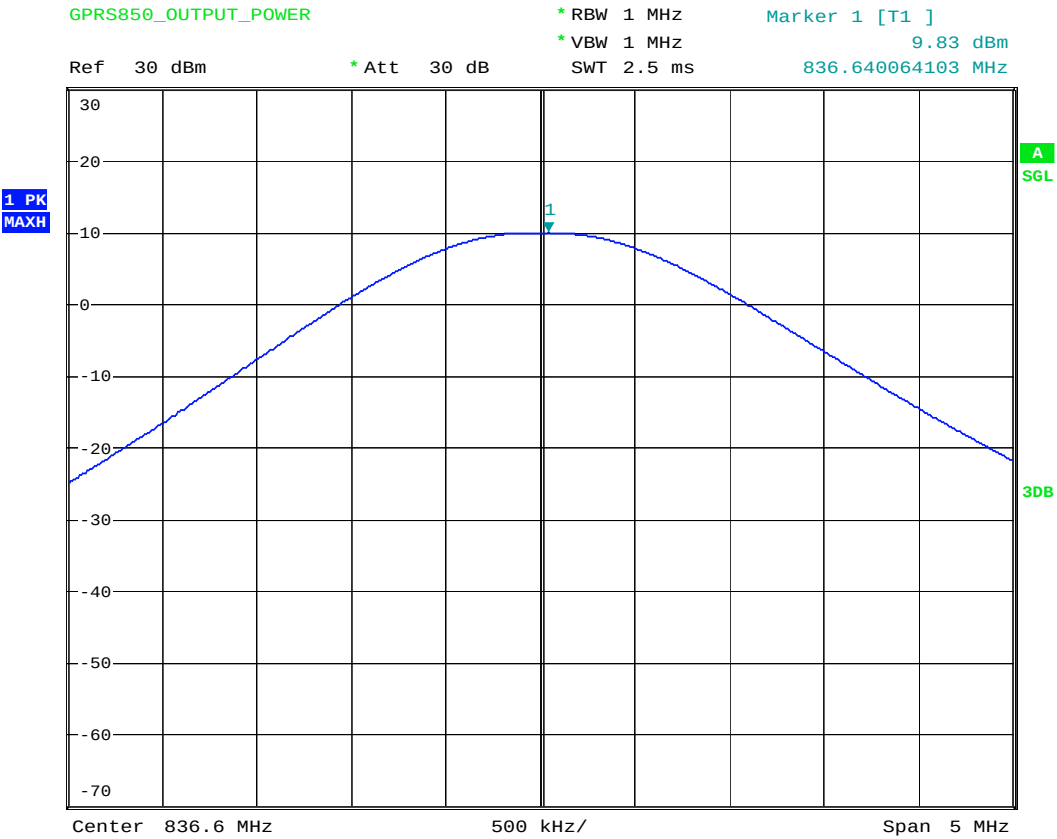
AV power

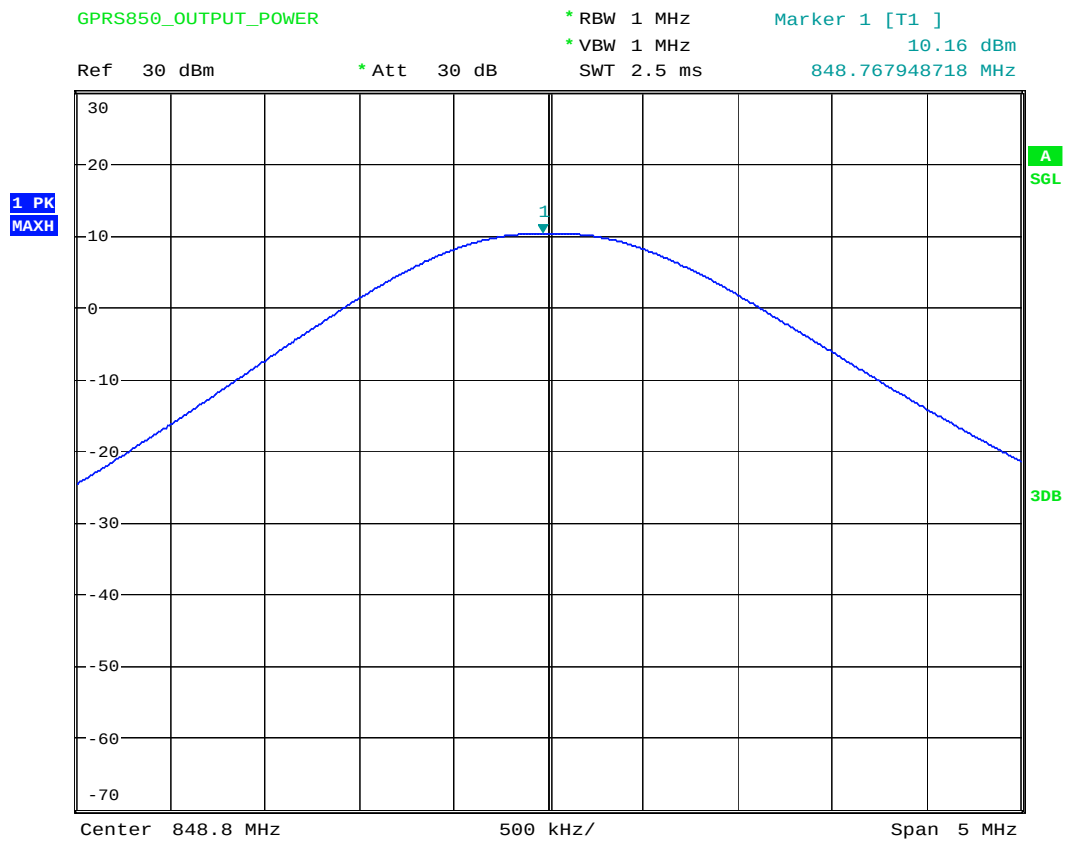
Mode/Channel	GSM 850/Cellular Band			GSM 1900/PCS Band			Modulation	Worse
	128	190	251	512	661	810		
GSM	21.73	21.55	21.86	19.50	18.66	18.43	GMSK	
GPRS/Class10	24.48	24.23	24.32	21.93	22.09	21.81	GMSK	*

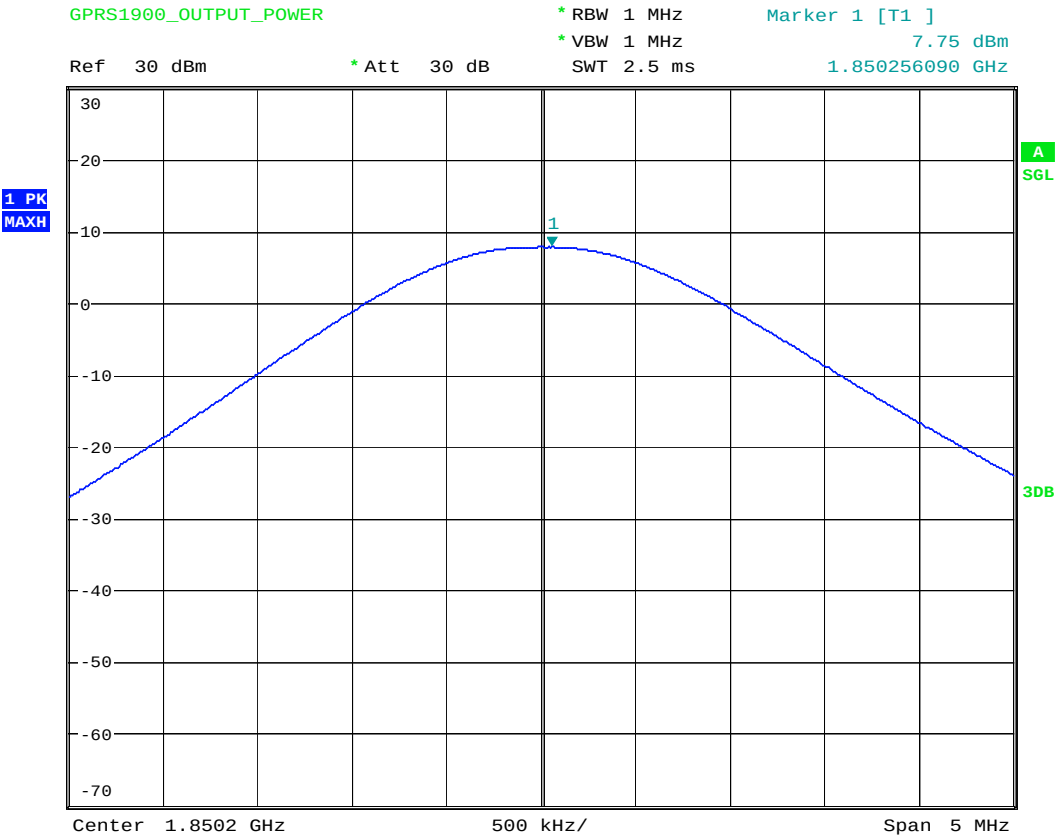
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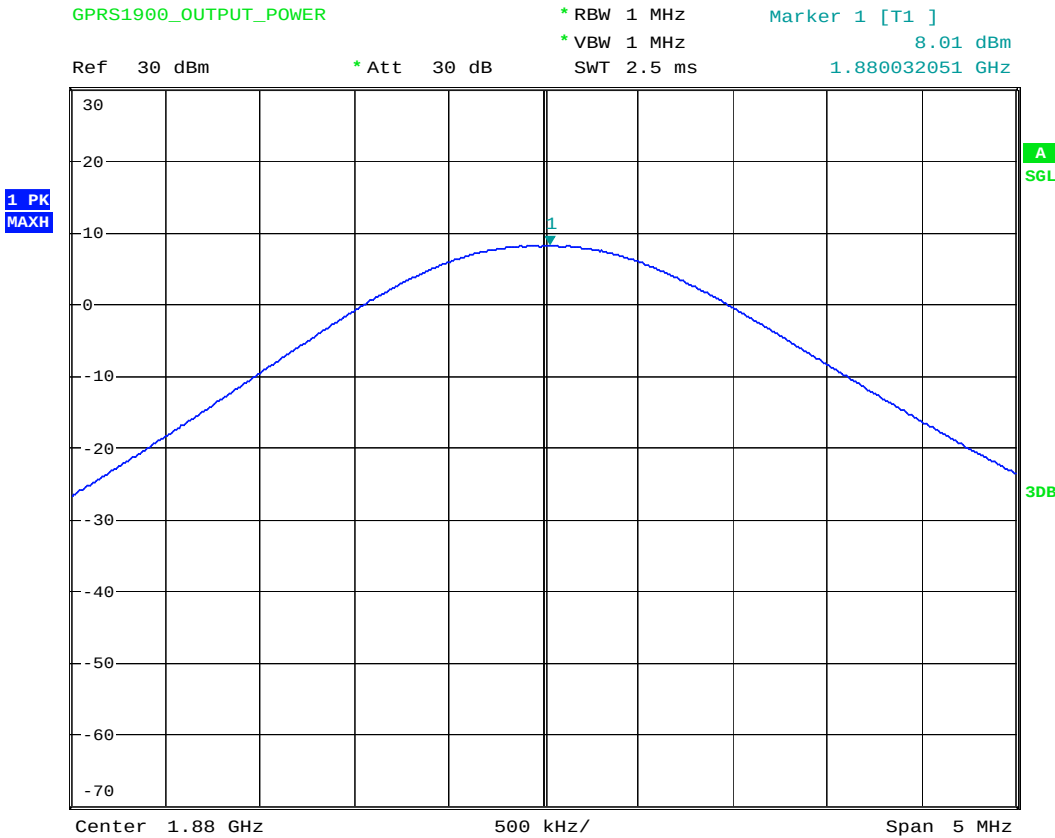
The symbol of "*" means the worse case.

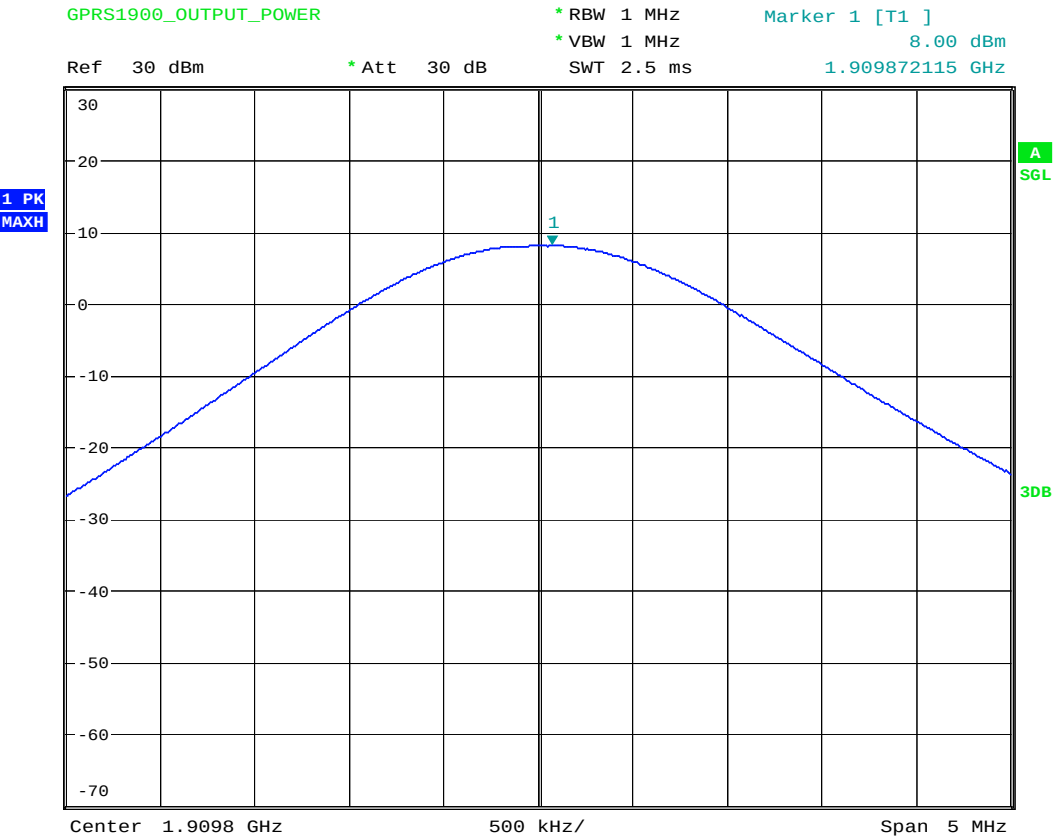












4. ERP & EIRP MEASUREMENT

4.1 Standard Applicable

According to FCC § 2.1046 and FCC § 22.913(b): The Effective Radiated Power (ERP) of mobile transmitters must not exceed 7 Watts. FCC § 24.232(b): The equivalent Isotropic Radiated Power (EIRP) must not exceed 2 Watts.

4.2 Measurement Procedure

The setup of the EUT as shown in figure 2 and figure 3. The EUT was placed on a non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.

During the measurement of the EUT, the resolution bandwidth was set to 3MHz and the average bandwidth was set to 3MHz. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna. The reading was recorded and the field strength (E in dBuV/m) was calculated.

ERP in frequency band 824-849MHz, and EIRP in frequency band 1851.25 –1910MHz were measured using a substitution method. The EUT was replaced by half-wave dipole (824-849MHz) or horn antenna (1851.25-1910MHz) connected to a signal generator. The spectrum analyzer reading was recorded and ERP/EIRP was calculated as follows:

$$\text{ERP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable (dB)}$$

$$\text{EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable (dB)}$$

4.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
EMI Receiver	Rohde & Schwarz	ESIB7	07/17/2009
Spectrum Analyzer	Rohde & Schwarz	FSU46	11/24/2009
Horn Antenna	EMCO	3115	06/12/2009
LogBicone Antenna	Schwarzbeck	9160	01/03/2009
Horn Antenna	EMCO	3116	07/15/2009
Preamplifier	Hewlett-Packard	8449B	10/08/2009
SYNTHESIZED SWEEPER	AGILENT	83640B	09/21/2009
DIPOLE ANTENNA	SCHWRZBECK	914;915	07/30/2009
DIPOLE ANTENNA	SCHWRZBECK	897;898	07/30/2009

Figure 2 : Frequencies measured below 1 GHz configuration

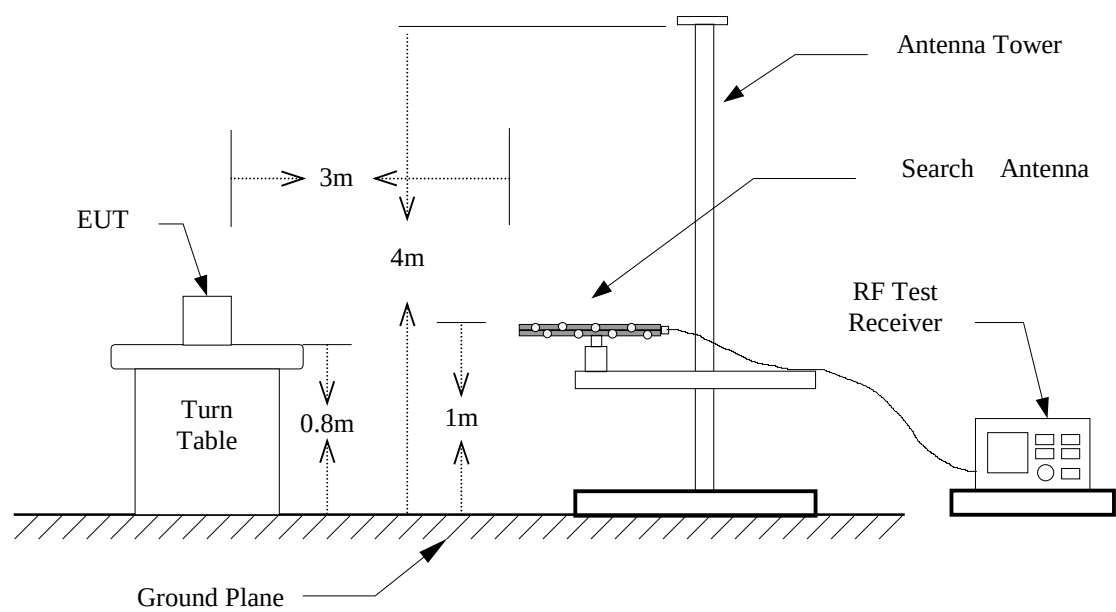
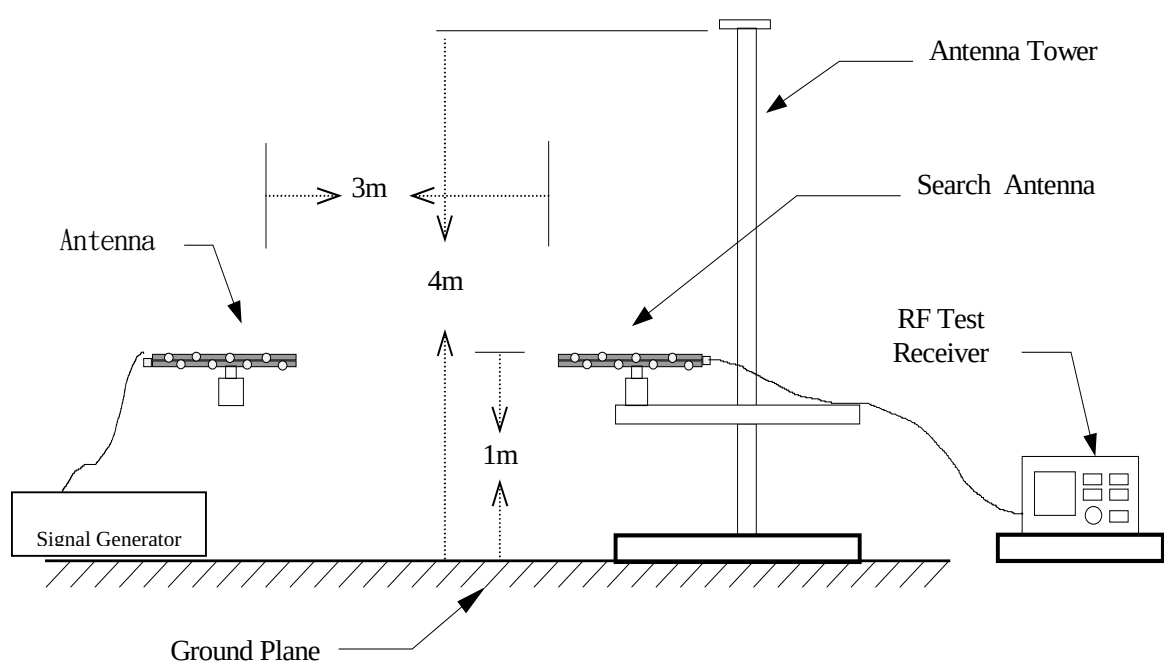


Figure 3 : Frequencies measured above 1 GHz configuration



4.4 Test ResultTest Date : 11/17/2008Temperature : 14°CHumidity : 58%**FUNDAMENTAL**

Test Mode	Channel	Frequency (MHz)	Reading (dBm)	Antenna Pol.	Factor (dB)	Result (dBm)	Limit (dBm)
GPRS850	128	824.2	-9.61	H	33.7	24.09	38.45
	128	824.2	-5.04	V	33.7	28.66	38.45
	190	836.6	-8.56	H	33.7	25.14	38.45
	190	836.6	-4.01	V	33.7	29.69	38.45
	251	848.8	-8.30	H	33.7	25.40	38.45
	251	848.8	-4.27	V	33.7	29.43	38.45
GPRS1900	512	1850.2	6.82	H	2.8	9.62	33.0
	512	1850.2	3.56	V	2.8	6.36	33.0
	661	1880.0	7.11	H	2.8	9.91	33.0
	661	1880.0	3.52	V	2.8	6.32	33.0
	810	1910.0	6.91	H	2.8	9.71	33.0
	810	1910.0	3.47	V	2.8	6.27	33.0

5. OCCUPIED BANDWIDTH MEASUREMENT

5.1 Standard Applicable

According to §FCC 2.1049.

5.2 Measurement Procedure

The setup of the EUT as shown in figure 1. The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW is set to 3 times the RBW, -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

5.3 Measuring Instrument

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Rohde & Schwarz	FSU46	11/24/2009
Directional Coupler	AR	DC7420	08/13/2009
Universal Radio Communication Tester	Rohde & Schwarz	CMU200	01/06/2009

5.4 Test Result

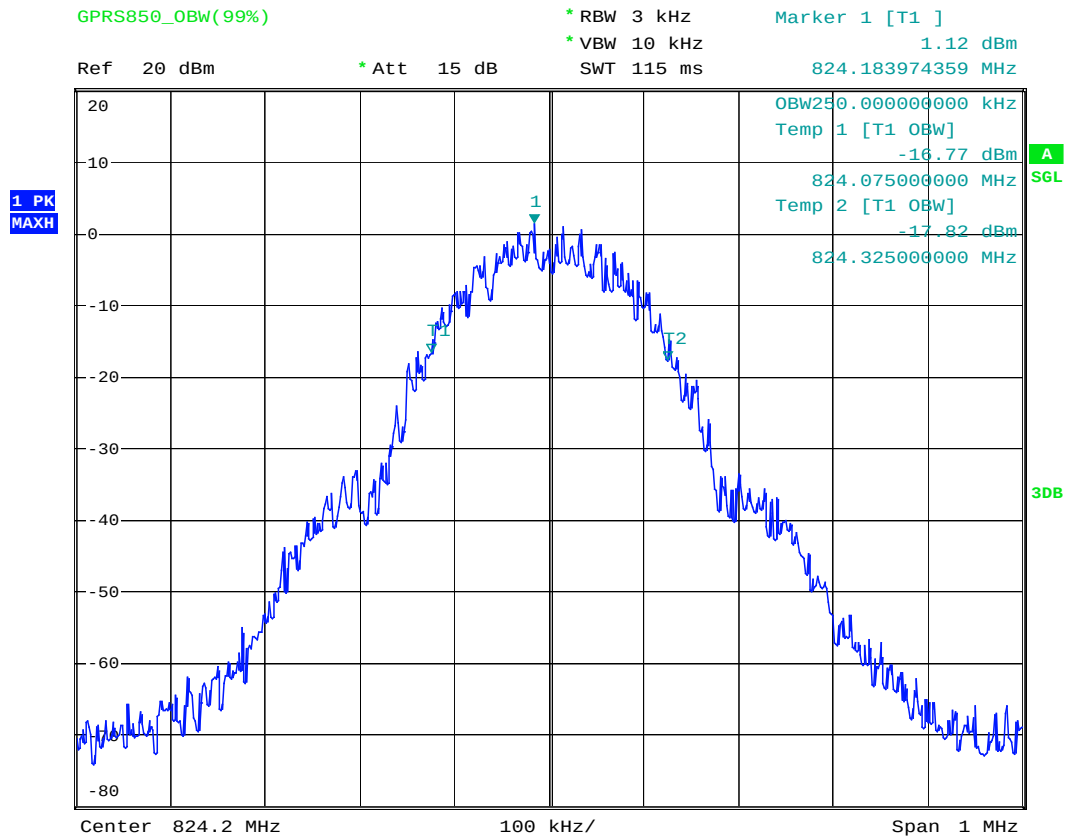
Test Date : 11/17/2008Temperature : 14°CHumidity : 58%

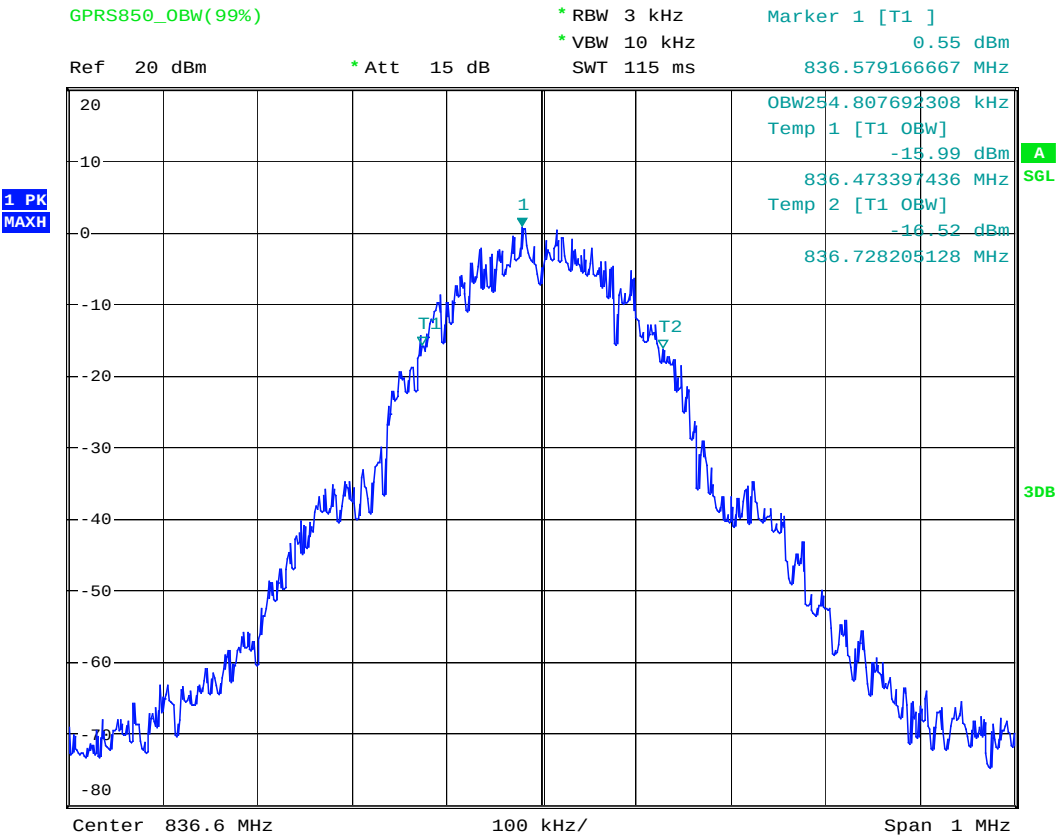
850MHz Band

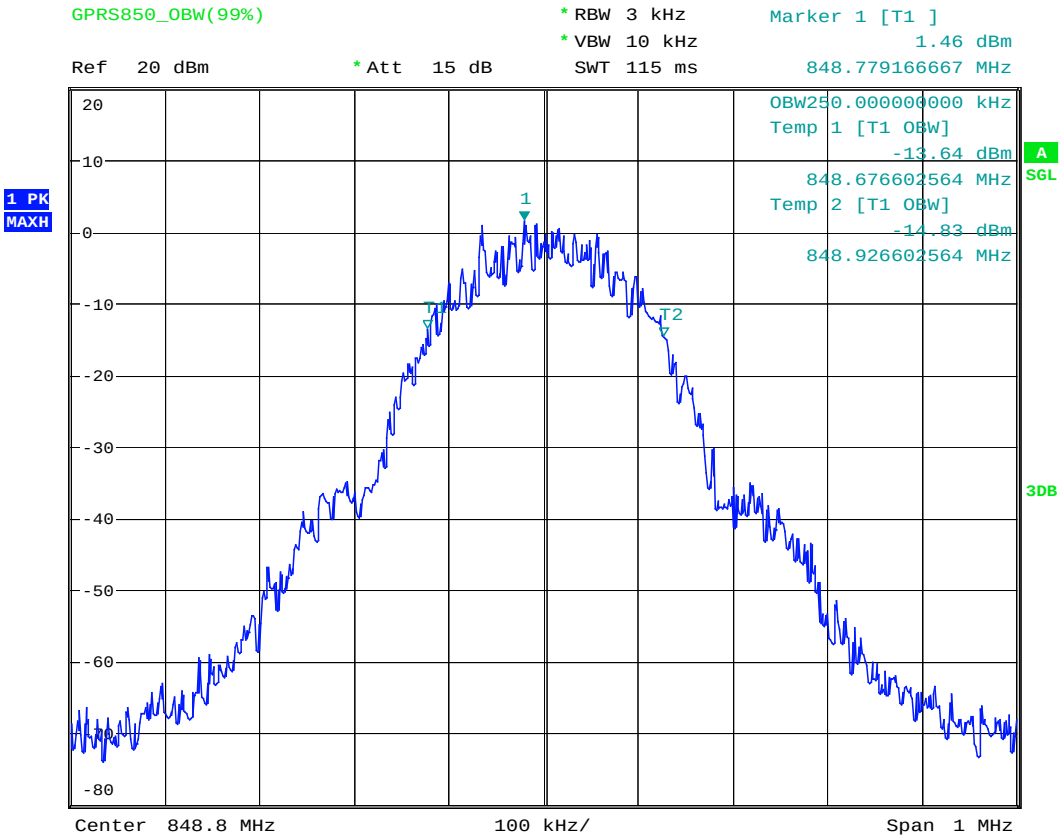
Test Mode	Channel	Frequency (MHz)	Bandwidth (kHz)
GPRS850	128	824.2	250.000
	190	836.6	254.808
	251	848.8	250.000

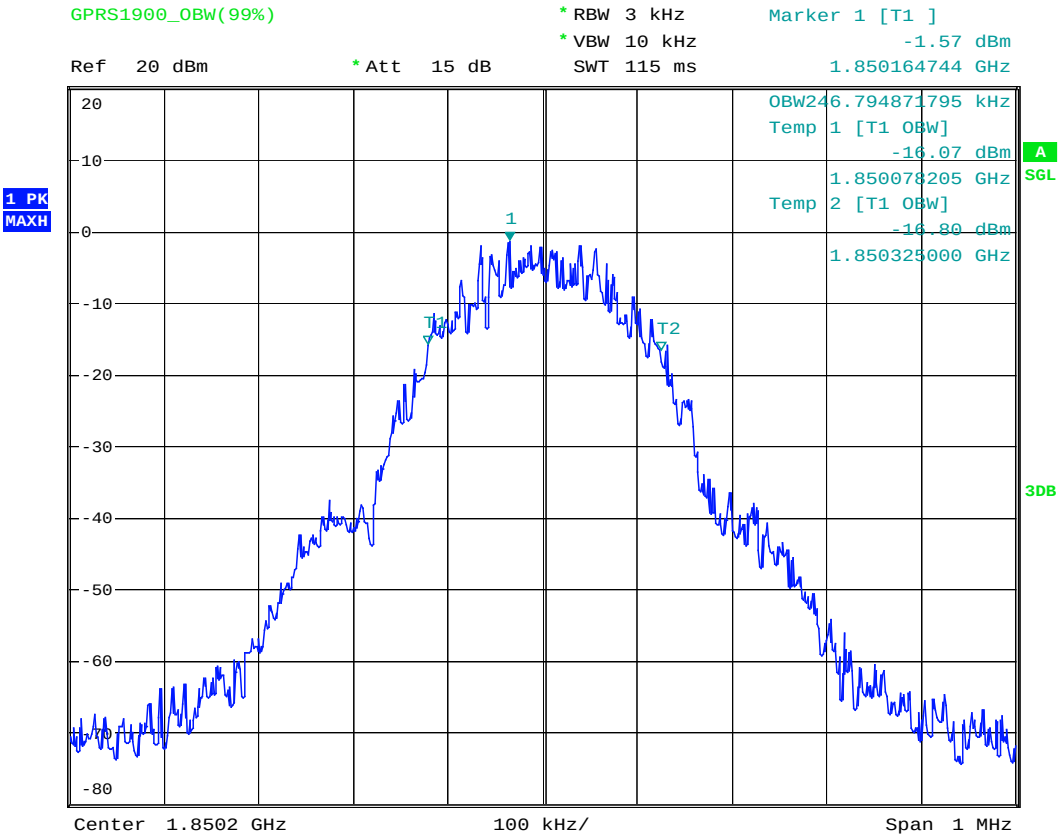
1900 Band

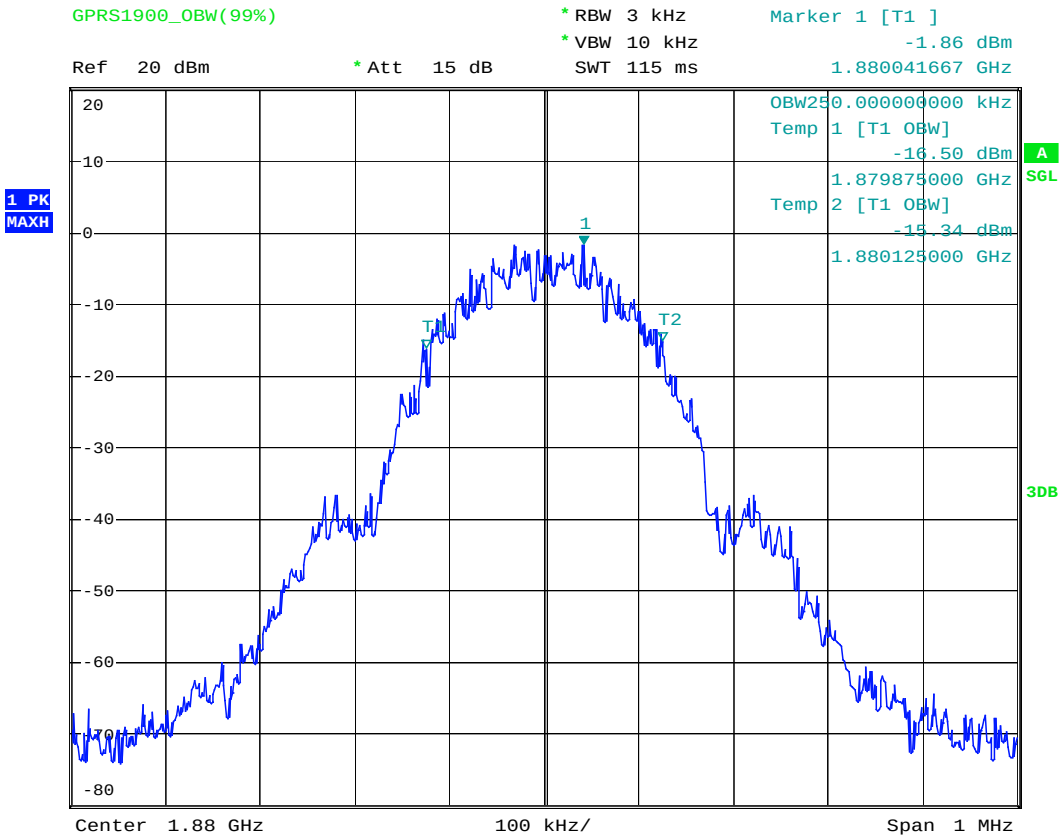
Test Mode	Channel	Frequency (MHz)	Bandwidth (kHz)
GPRS1900	512	1850.2	246.795
	661	1880.0	250.000
	810	1910.0	248.397

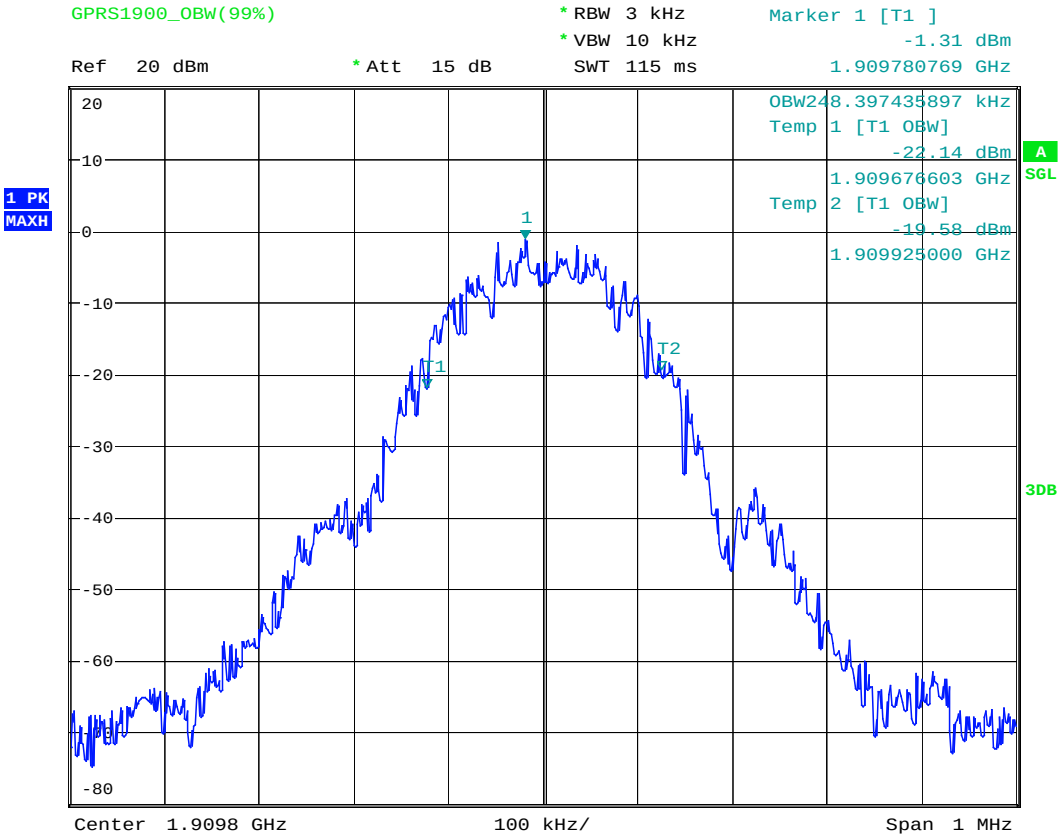












6. OUT OF BAND EMISSION AT ANTENNA TERMINALS

6.1 Standard Applicable

According to FCC § 2.1051, FCC § 22.917(f), FCC § 24.238(a).

Out of Band Emissions: The mean power of emission must be attenuated below the mean power of the non-modulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at least $43 + 10 \log P$ dB.

Mobile Emissions in Base Frequency Range: The mean power of any emissions appearing in the base station frequency range from cellular mobile transmitters operated must be attenuated to a level not exceed -80 dBm at the transmit antenna connector.

Band Edge Requirements: In the 1MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1% of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the Out of band Emission.

6.2 Measurement Procedure

The setup of the EUT as shown in figure 1. The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.

For the out of band: Set the RBW, VBW=1MHz, Start=30MHz, Stop= 10th harmonic. Limit = -13 dBm

Band Edge Requirements (824 MHz and 849 MHz / 1850MHz and 1910MHz): In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band emissions. Limit = -13dBm.

6.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Rohde & Schwarz	FSU46	11/24/2009
Directional Coupler	AR	DC7420	08/13/2009
Universal Radio Communication Tester	Rohde & Schwarz	CMU200	01/06/2009

6.4 Test Result

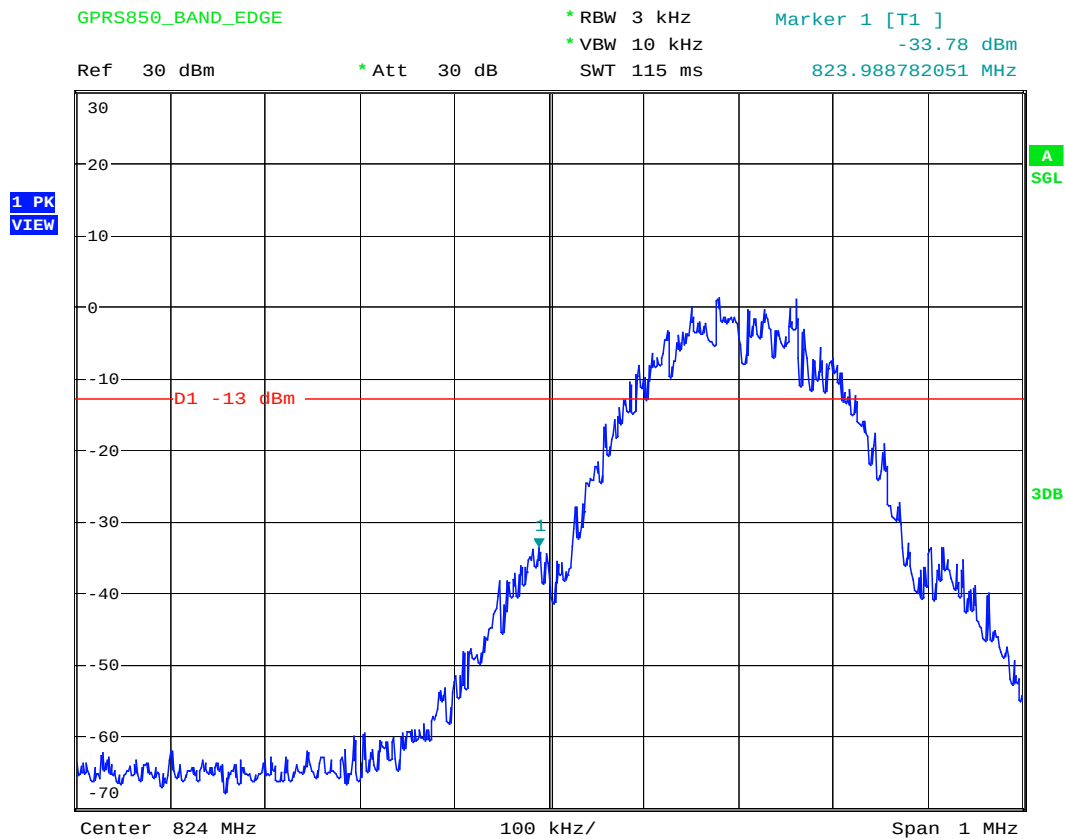
Test Date : 11/17/2008Temperature : 14°CHumidity : 58%

850 Band

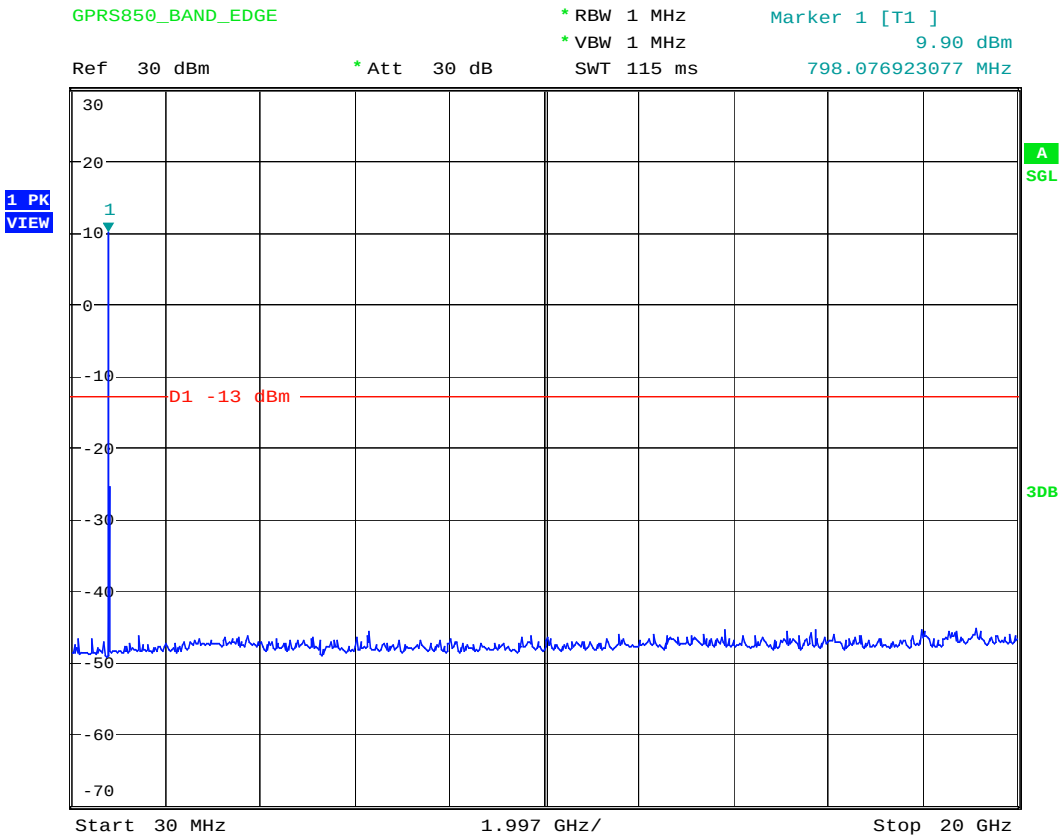
Test Mode	Channel	Frequency Range	Note	Chart
GPRS850	128	823MHz-825MHz	Lower Band Edge	Page 30
	251	823MHz-825MHz	Upper Band Edge	Page 31
	128	30MHz-20GHz	All Band Edge	Page 32
	190	30MHz-20GHz	All Band Edge	Page 33
	251	30MHz-20GHz	All Band Edge	Page 34

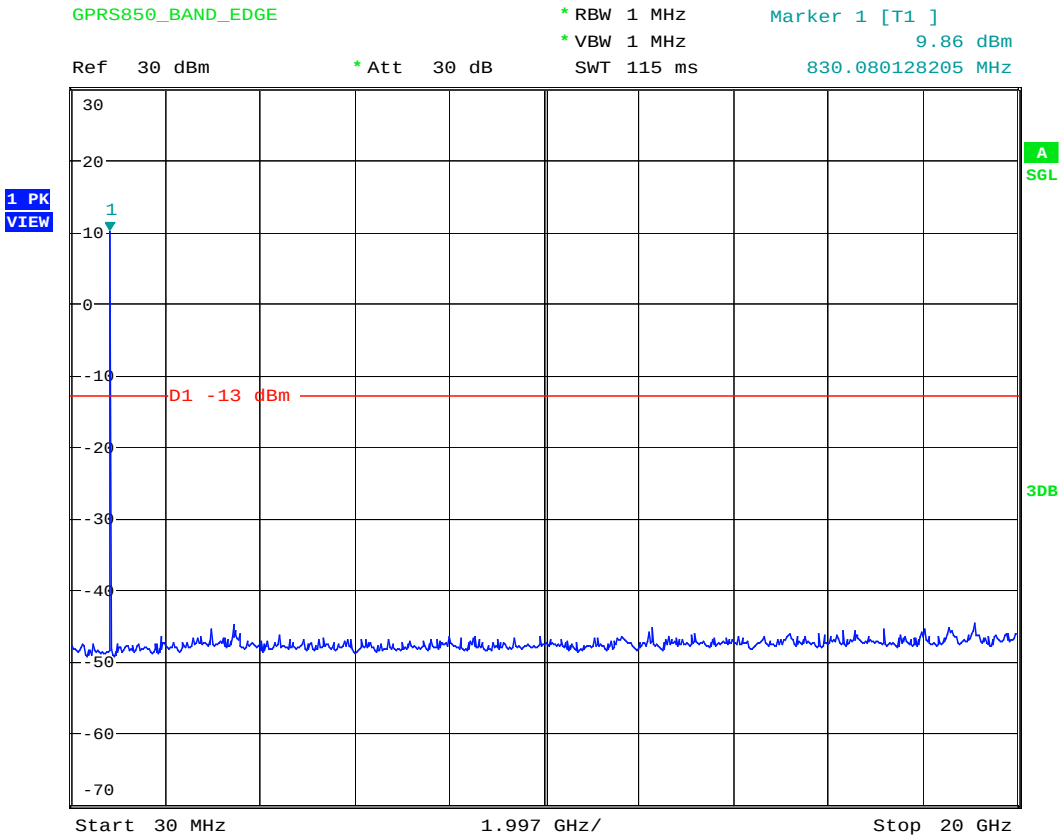
1900 Band

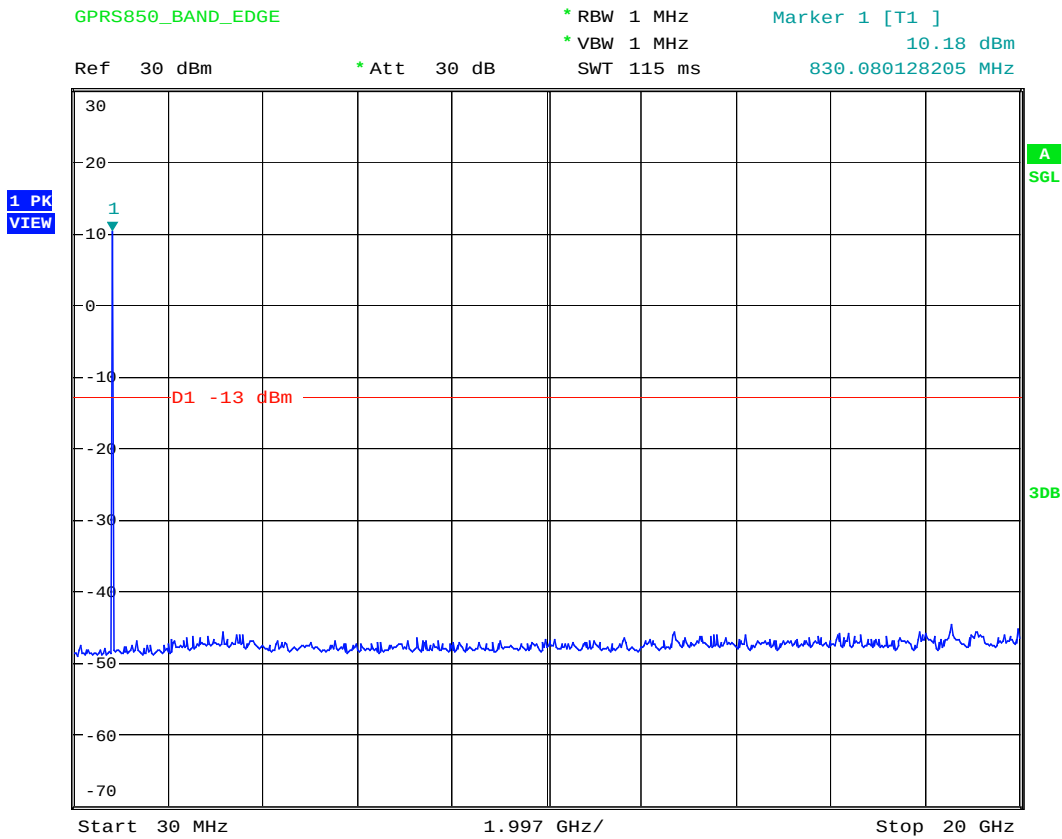
Test Mode	Channel	Frequency Range	Note	Chart
GPRS1900	512	1849MHz-1851MHz	Lower Band Edge	Page 35
	810	1909MHz-1901MHz	Upper Band Edge	Page 36
	512	30MHz-20GHz	All Band Edge	Page 37
	661	30MHz-20GHz	All Band Edge	Page 38
	810	30MHz-20GHz	All Band Edge	Page 39

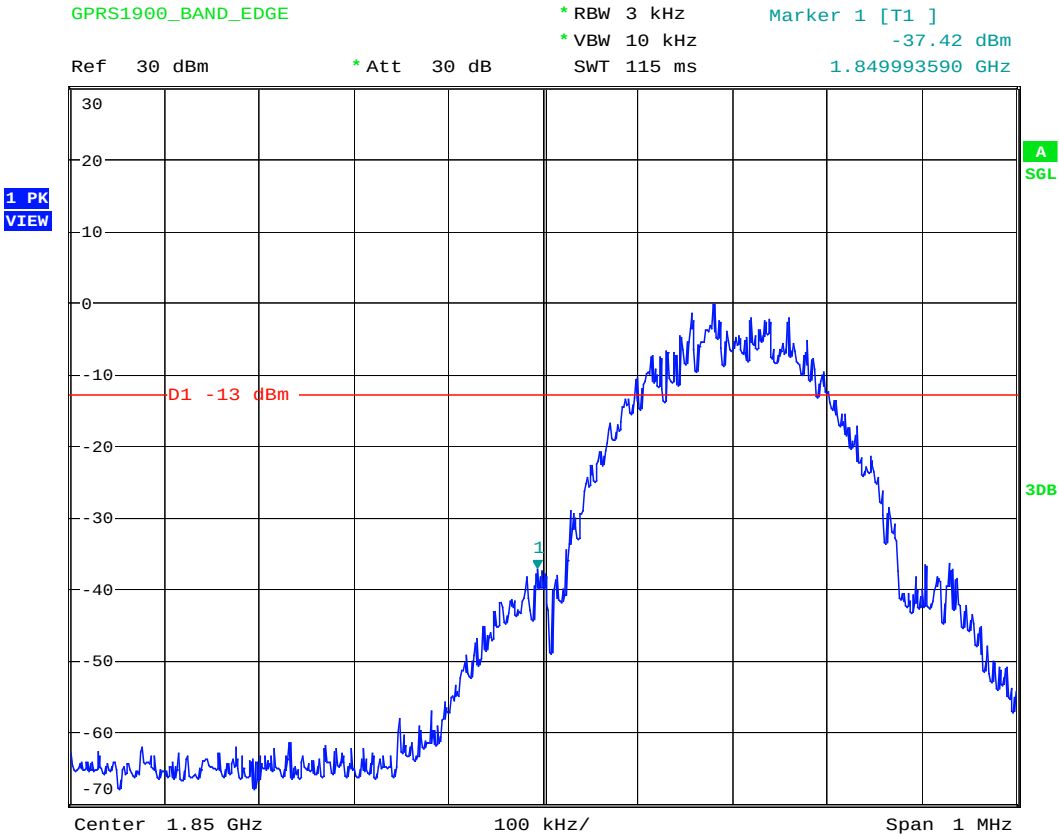


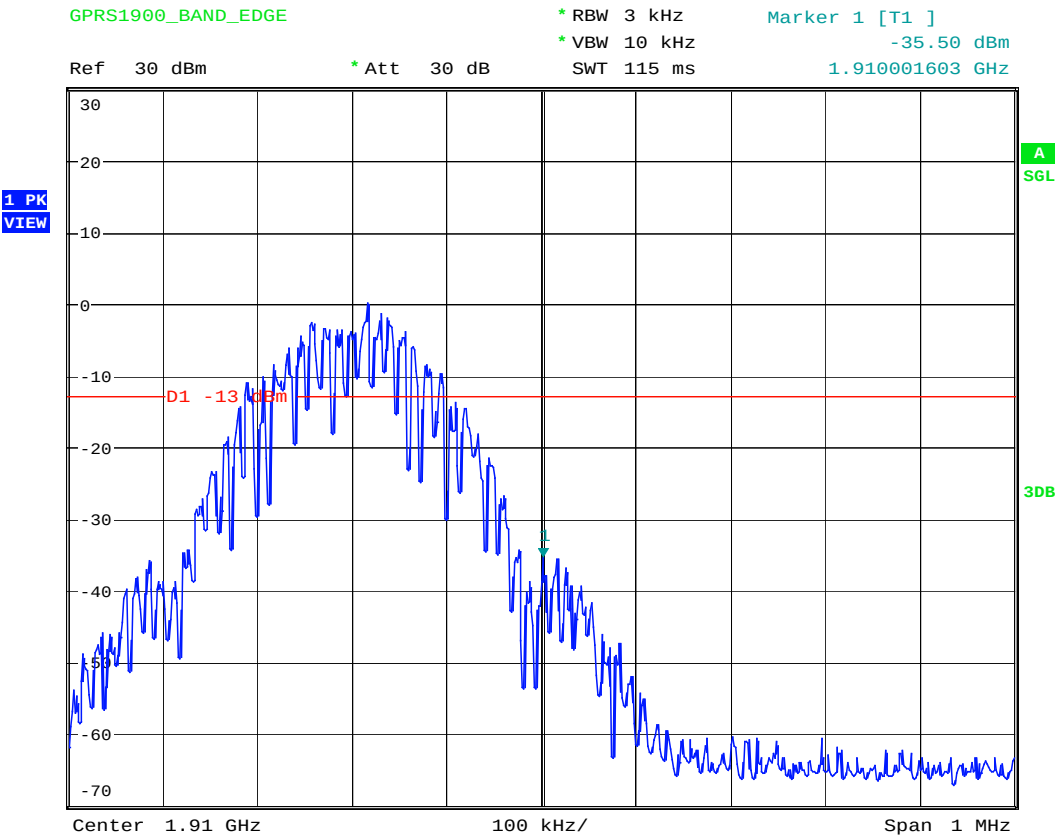


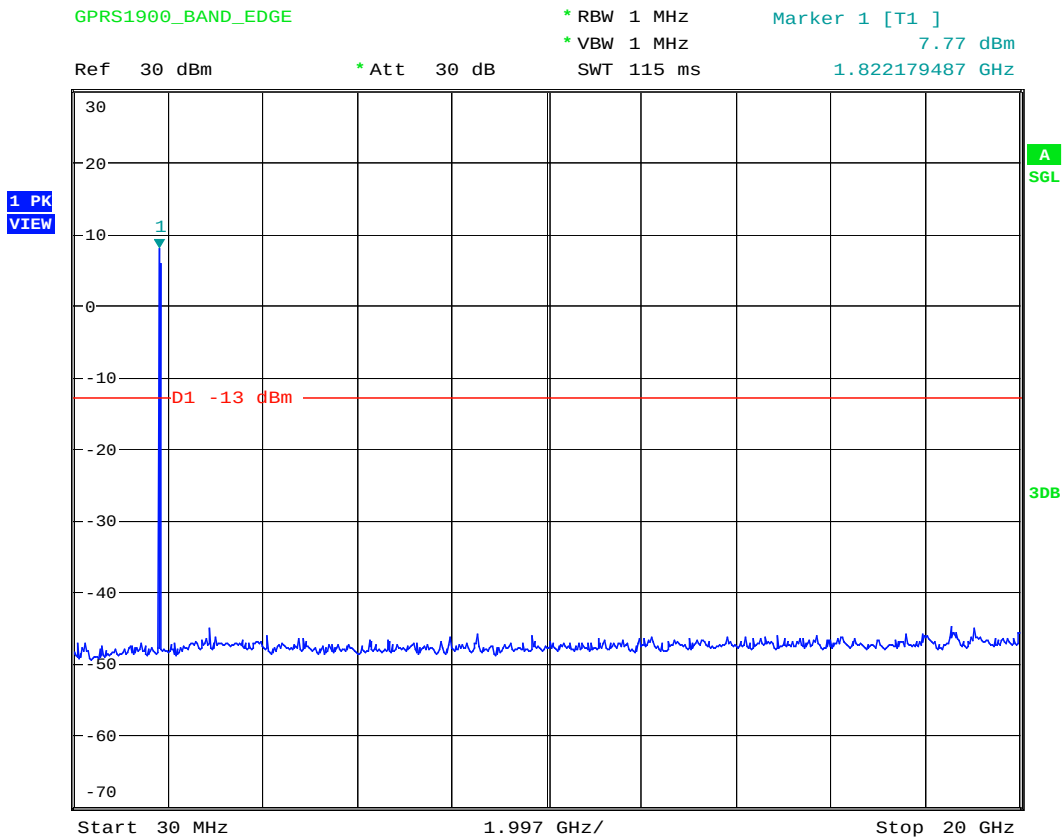


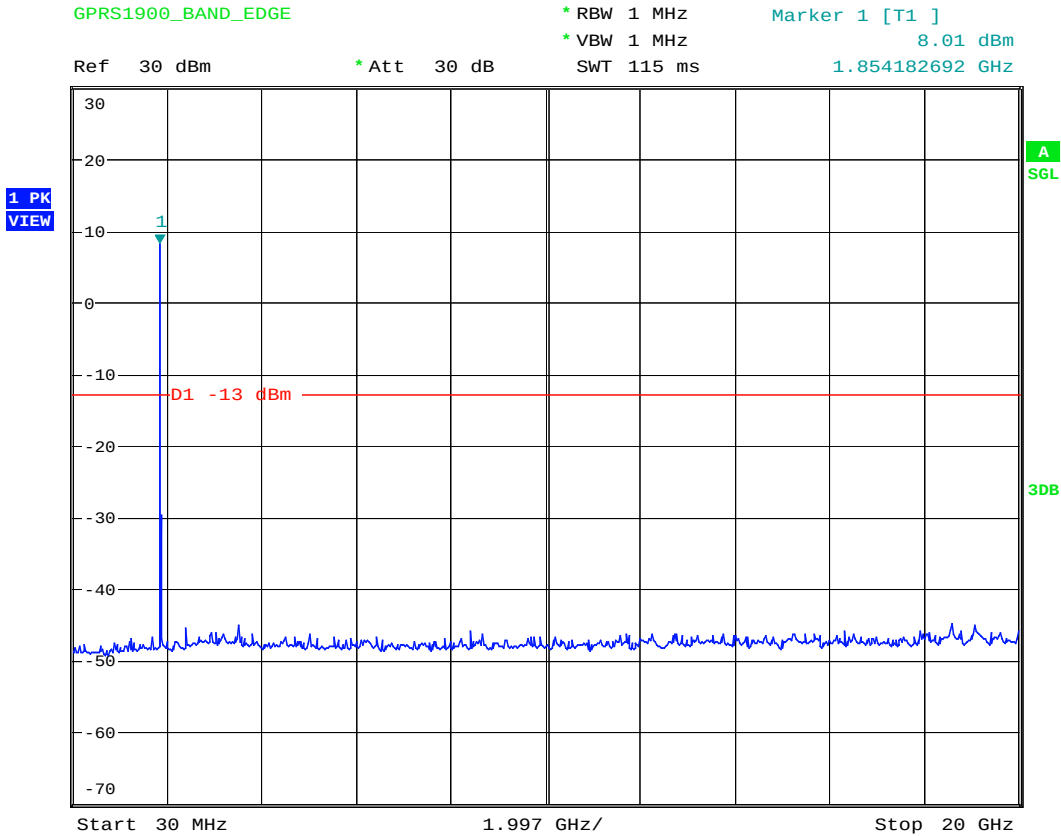


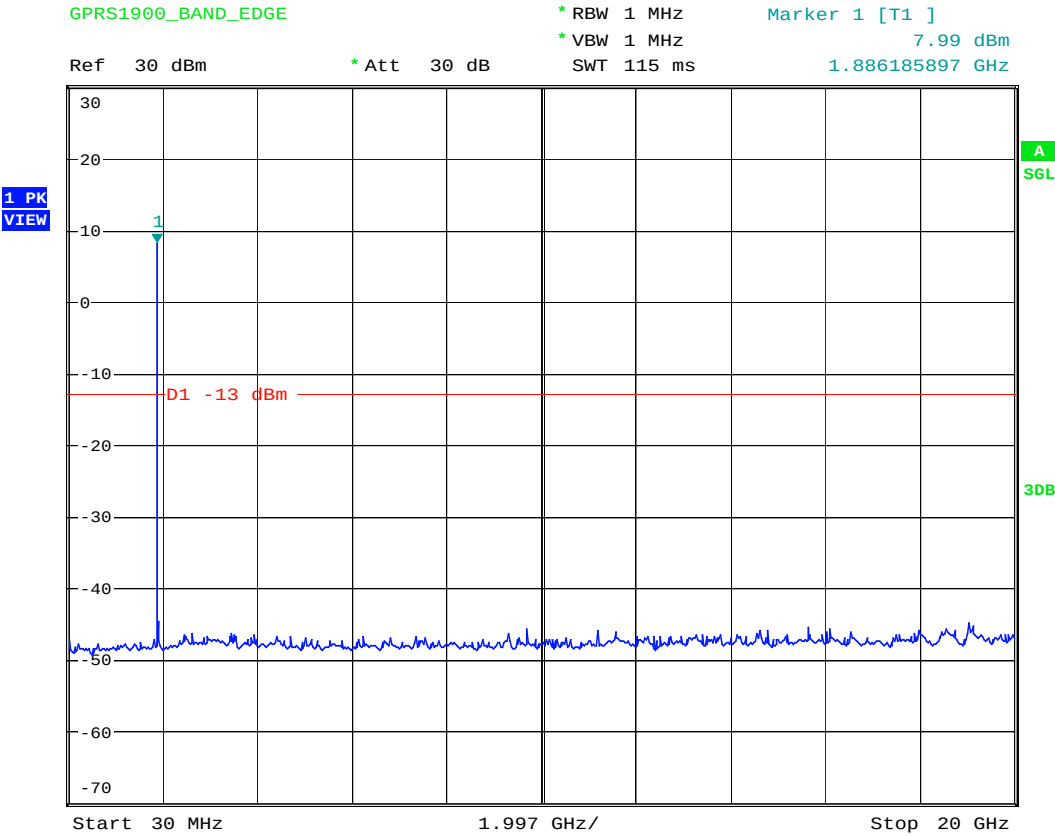












7. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

7.1 Standard Applicable

According to FCC § 2.1053

7.2 Measurement Procedure

The setup of the EUT as shown in figure 2 and figure 3. The EUT was placed on a non-conductive, the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission were identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable (dB)

EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

7.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
EMI Receiver	R&S	ESIB7	07/17/2009
Spectrum Analyzer	Rohde & Schwarz	FSU46	11/24/2009
Horn Antenna	EMCO	3115	06/12/2009
LogBicone Antenna	Schwarzbeck	9160	01/03/2009
Horn Antenna	EMCO	3116	07/15/2009
Preamplifier	Hewlett-Packard	8449B	10/08/2009
SYNTHESIZED SWEEPER	AGILENT	83640B	09/21/2009
DIPOLE ANTENNA	SCHWRZBECK	914;915	07/30/2009
DIPOLE ANTENNA	SCHWRZBECK	897;898	07/30/2009

7.4 Test Result

Test Date : 11/17/2008Temperature : 14°CHumidity : 58%Operated mode : GPRS850/CH128

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
203.01	H	-54.02	-13.0
203.03	V	-56.61	-13.0
271.04	H	-56.45	-13.0
399.08	V	-57.15	-13.0
945.57	H	-55.77	-13.0
477.10	V	-56.48	-13.0

Operated mode : GPRS850/CH190

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
203.01	H	-52.08	-13.0
203.03	V	-54.21	-13.0
271.04	H	-53.73	-13.0
399.08	V	-59.17	-13.0
945.57	H	-58.64	-13.0
477.10	V	-52.33	-13.0

Operated mode : GPRS850/CH251

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
203.01	H	-54.21	-13.0
203.03	V	-56.12	-13.0
271.04	H	-57.88	-13.0
399.08	V	-56.43	-13.0
945.57	H	-55.97	-13.0
477.10	V	-55.45	-13.0

Operated mode : GPRS1900/CH512

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
203.01	H	-53.53	-13.0
203.03	V	-54.45	-13.0
271.04	H	-56.78	-13.0
399.08	V	-56.48	-13.0
945.57	H	-54.95	-13.0
477.10	V	-55.52	-13.0

Operated mode : GPRS1900/CH661

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
203.01	H	-58.16	-13.0
203.03	V	-55.41	-13.0
271.04	H	-55.26	-13.0
399.08	V	-58.85	-13.0
945.57	H	-54.97	-13.0
477.10	V	-57.31	-13.0

Operated mode : GPRS900/CH810

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
203.01	H	-55.72	-13.0
203.03	V	-57.84	-13.0
271.04	H	-55.22	-13.0
399.08	V	-56.78	-13.0
945.57	H	-54.82	-13.0
477.10	V	-55.31	-13.0

8. FREQUENCY STABILITY MEASUREMENT

8.1 Standard Applicable

According to FCC §2.1055, FCC §22.355, .FCC §24.235.

Frequency Tolerance: 2.5 ppm

8.2 Measurement Procedure

Frequency Error V.S. Temperature:

The setup of the EUT as shown in figure 4. The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Frequency Error V.S. Voltage:

Set chamber temperature to 20°C. Use a variable DC (AC) power supply to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. Reduce the input voltage to specify extreme voltage variation (15%) and endpoint, record the maximum frequency change.

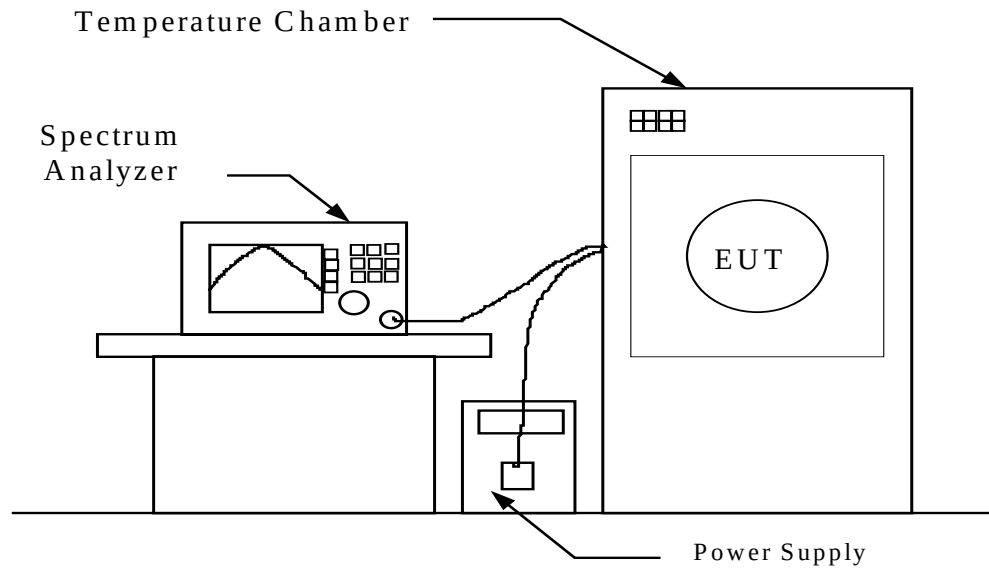


Figure 4: Frequency stability measurement configuration.

8.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Date
Spectrum Analyzer	Rohde & Schwarz	FSU46	11/24/2009
Temperature Chamber	YEOW LONG	MHP-3-L	05/26/2009
DC Power Supply	GW	GPC-3030D	N/A
Digital Multi Meter	YF-FONG	YF1069	04/16/2009

8.4 Test Result

Test Date : 11/20/2008Temperature : 16°CHumidity : 51%

Reference Frequency: GPRS850 Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2091.5 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (MHz)	Delta (Hz)	Limit (Hz)
5.0	50	836.6.00042	21	2091.5
	40	836.6.00006	-15	
	30	836.6.00036	15	
	20	836.6.00036	15	
	10	836.6.00042	21	
	0	836.6.00021	0	
	-10	836.6.00008	-13	
	-20	836.6.00042	21	
	-30	836.6.00051	30	
4.25	20	836.6.00010	-11	
5.75		836.6.00028	7	

Reference Frequency: GPRS1900 Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (MHz)	Delta (Hz)	Limit (Hz)
5.0	50	1880.000000	-41	4700
	40	1880.000005	-36	
	30	1880.000003	-38	
	20	1880.000007	-34	
	10	1880.000008	-33	
	0	1880.000041	0	
	-10	1880.000008	-33	
	-20	1880.000009	-32	
	-30	1880.000013	-28	
4.25	20	1880.000010	-31	
5.75		1880.000012	-29	

9. POWERLINE CONDUCTED EMISSIONS

9.1 Standard Applicable

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

9.2 Measurement Procedure

1. Setup the configuration per figure 5.
2. A preliminary scan with a spectrum monitor is performed to identify the frequency of emission that has the highest amplitude relative to the limit by operating the EUT in selected modes of operation, typical cable positions, and with a typical system configuration.
3. Record the 6 highest emissions relative to the limit.
4. Measure each frequency obtained from step 3 by a test receiver set on quasi peak detector function, and then record the accuracy frequency and emission level. If all emissions measured in the specified band are attenuated more than 20 dB from the limit, this step would be ignored, and the peak detector function would be used.
5. Confirm the highest three emissions with variation of the EUT cable configuration and record the final data.
6. Repeat all above procedures on measuring each operation mode of EUT.

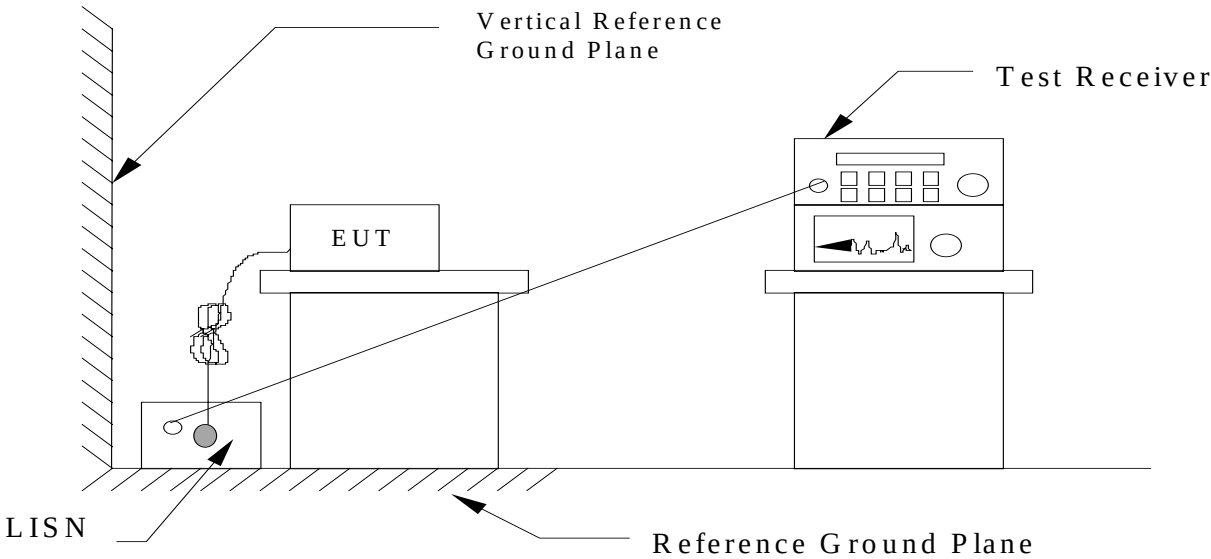


Figure 5 : Conducted emissions measurement configuration

9.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
RF Test Receiver	Rohde & Schwarz	ESCS30	08/13/2009
Line Impedance Stabilization network	EMCO	37100/2M	02/12/2009

9.4 Test Result

9.4.1

File: IVAN

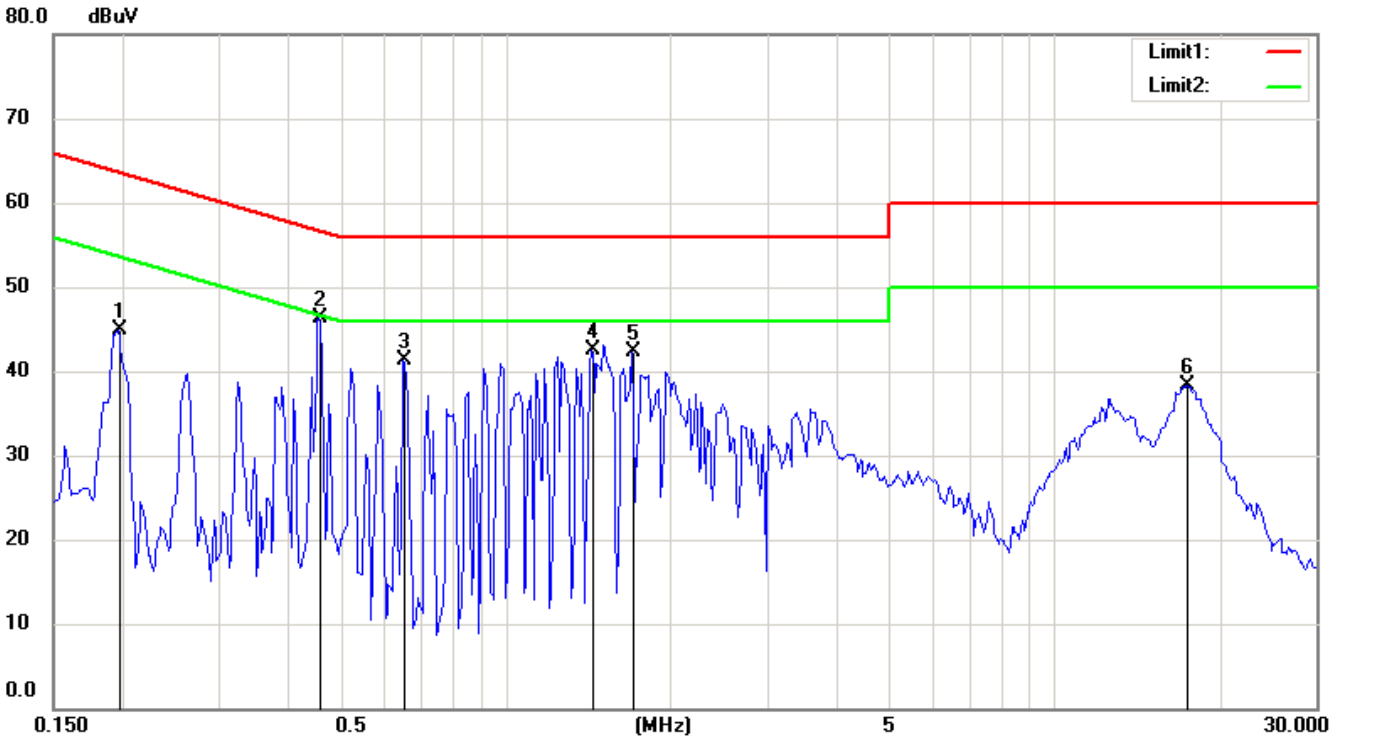
Data: #13

Date: 2008/11/8

Temperature: 26 °C

Time: 下午 03:52:29

Humidity: 60 %



Condition:

FCC Part15 CE-Class B_QP

Phase:

L1

EUT:

GPRS PCMCIA Modem

Model:

GPRS-100S

Test Mode:

GPRS850 IDLE

No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
	(MHz)	(dBuV)		Factor(dB)	(dBuV)	(dBuV)	(dB)
1	0.1970	34.71	peak	10.10	44.81	63.74	-18.93
2	0.4586	36.16	peak	10.10	46.26	56.72	-10.46
3	0.6540	31.15	peak	10.10	41.25	56.00	-14.75
4	1.4391	32.37	peak	10.10	42.47	56.00	-13.53
5	1.7008	32.18	peak	10.10	42.28	56.00	-13.72
6	17.4117	27.87	peak	10.35	38.22	60.00	-21.78

- Note:
1. Place of measurement: EMC LAB. of the ETC.

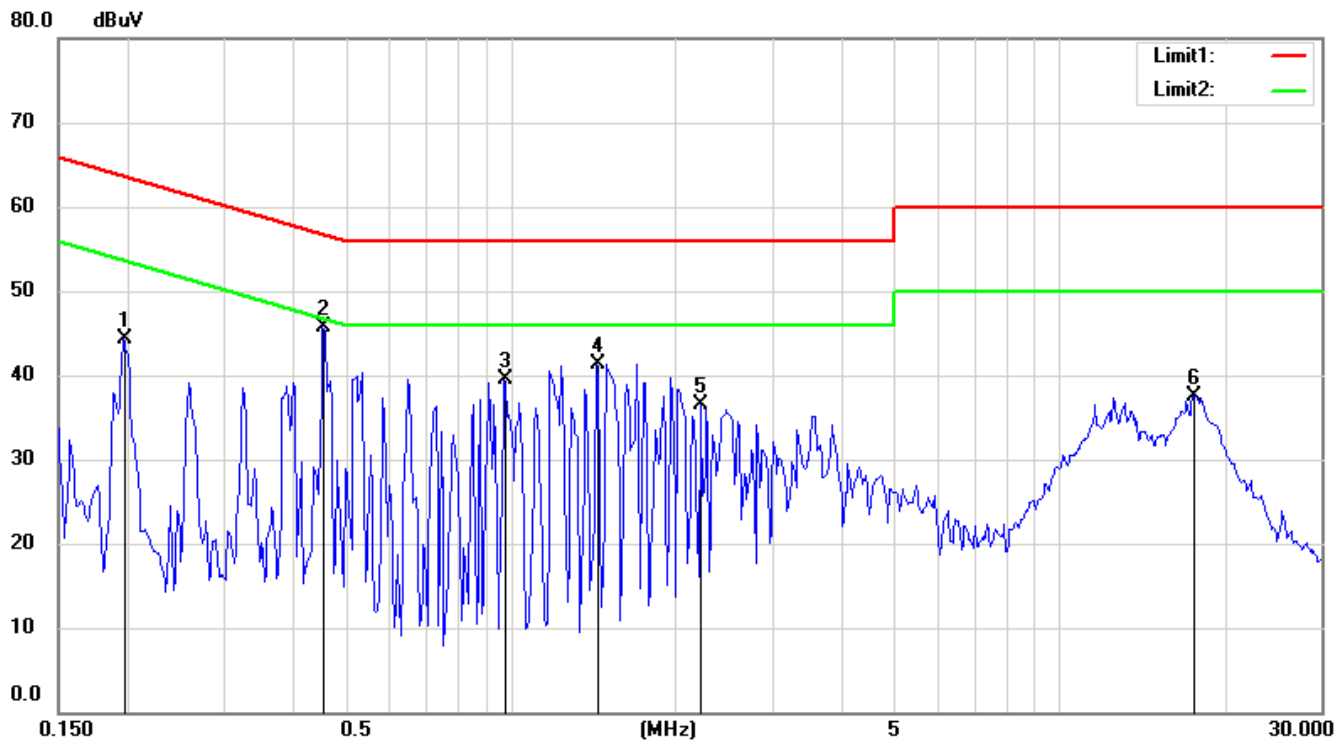
2. The full frequency range scanning test data is shown in next two pages.

3. “****” means the value was too low to be measured.

4. If the data table appeared symbol of "----" means the Q.P. value is under the limit of AVG. so, the AVG. value doesn't need to be measured.

5. The estimated measurement uncertainty of the result measurement is ±2.5dB.

File: IVAN_tmp Data: #9 Date: 2008/11/8 Temperature: 26 °C
Time: 下午 03:43:40 Humidity: 60 %



Condition: FCC Part15 CE-Class B_QP Phase: L2
EUT: GPRS PCMCIA Modem
Model: GPRS-100S
Test Mode: GPRS850 IDLE

No.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.1970	34.17	peak	10.10	44.27	63.74	-19.47
2	0.4547	35.66	peak	10.10	45.76	56.79	-11.03
3	0.9781	29.41	peak	10.10	39.51	56.00	-16.49
4	1.4391	31.30	peak	10.10	41.40	56.00	-14.60
5	2.2203	26.48	peak	10.11	36.59	56.00	-19.41
6	17.5328	27.19	peak	10.35	37.54	60.00	-22.46

Note:

1. Place of measurement: EMC LAB. of the ETC.
2. The full frequency range scanning test data is shown in next two pages.
3. "****" means the value was too low to be measured.
4. If the data table appeared symbol of "----" means the Q.P. value is under the limit of AVG. so, the AVG. value doesn't need to be measured.
5. The estimated measurement uncertainty of the result measurement is $\pm 2.5\text{dB}$.

9.4.2

File: IVAN

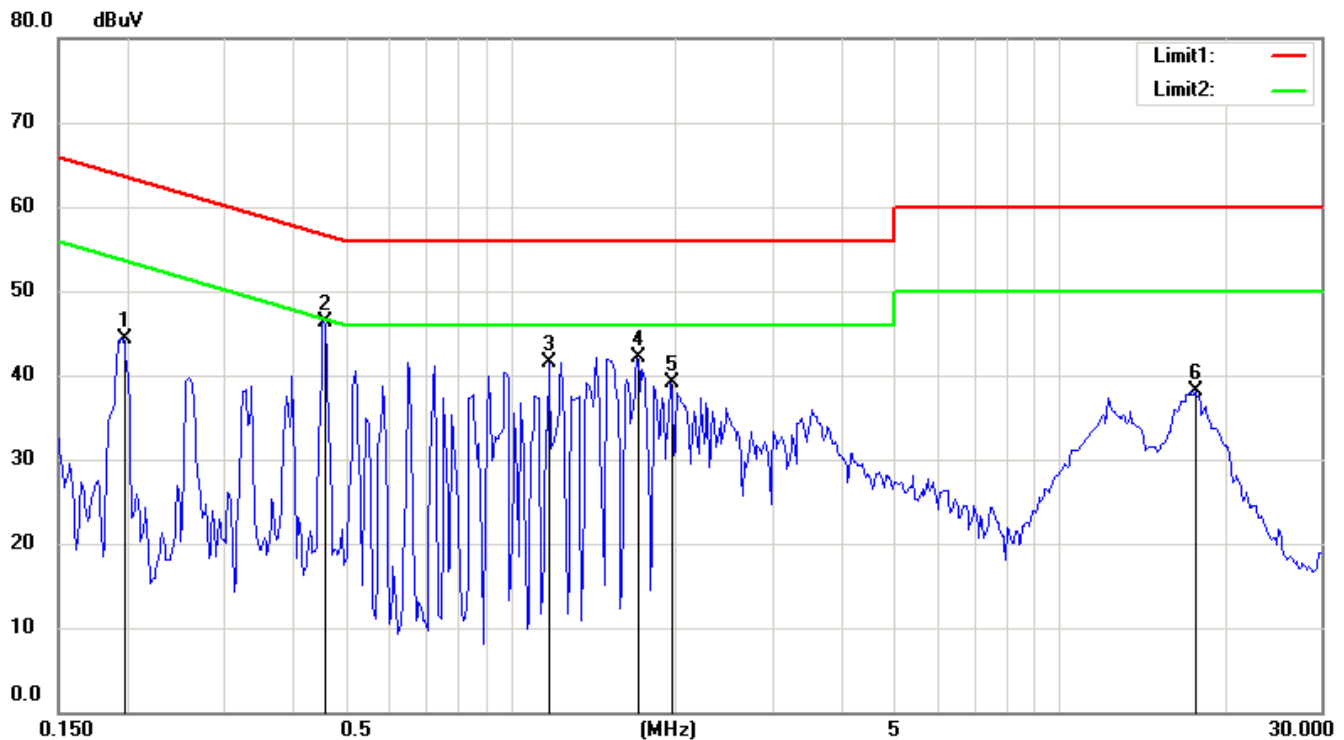
Data: #12

Date: 2008/11/8

Temperature: 26 °C

Time: 下午 03:50:58

Humidity: 60 %



Condition: FCC Part15 CE-Class B_QP

Phase: L1

EUT: GPRS PCMCIA Modem

GPRS-100S

Model: GPRS PCMCIA Modem

GPRS-100S

Test Mode: GPRS850 CALL

No.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.1970	34.23	peak	10.10	44.33	63.74	-19.41
2	0.4586	36.20	peak	10.10	46.30	56.72	-10.42
3	1.1773	31.44	peak	10.10	41.54	56.00	-14.46
4	1.7008	32.06	peak	10.10	42.16	56.00	-13.84
5	1.9664	29.04	peak	10.10	39.14	56.00	-16.86
6	17.7203	27.73	peak	10.35	38.08	60.00	-21.92

Note:

1. Place of measurement: EMC LAB. of the ETC.
2. The full frequency range scanning test data is shown in next two pages.
3. "***" means the value was too low to be measured.
4. If the data table appeared symbol of "----" means the Q.P. value is under the limit of AVG. so, the AVG. value doesn't need to be measured.
5. The estimated measurement uncertainty of the result measurement is $\pm 2.5\text{dB}$.

File: IVAN

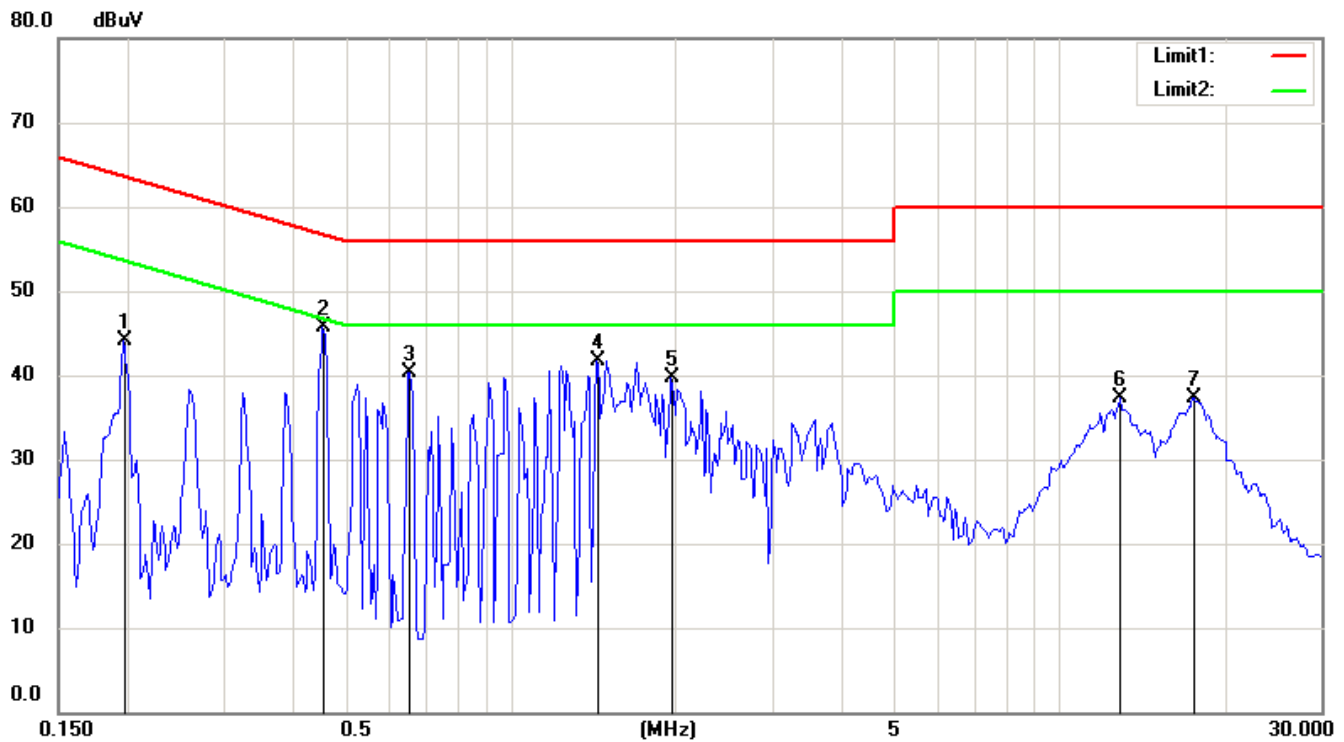
Data: #7

Date: 2008/11/8

Temperature: 26 °C

Time: 下午 03:34:57

Humidity: 60 %



Condition: FCC Part15 CE-Class B_QP

Phase: L2

EUT: GPRS PCMCIA Modem

Model: GPRS-100S

Test Mode: GPRS850 CALL

No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
	(MHz)	(dBuV)		Factor(dB)	(dBuV)	(dBuV)	(dB)
1	0.1970	34.09	peak	10.10	44.19	63.74	-19.55
2	0.4547	35.70	peak	10.10	45.80	56.79	-10.99
3	0.6540	30.30	peak	10.10	40.40	56.00	-15.60
4	1.4391	31.54	peak	10.10	41.64	56.00	-14.36
5	1.9625	29.68	peak	10.10	39.78	56.00	-16.22
6	12.9194	27.08	peak	10.26	37.34	60.00	-22.66
7	17.5211	27.03	peak	10.35	37.38	60.00	-22.62

Note:

1. Place of measurement: EMC LAB. of the ETC.
2. The full frequency range scanning test data is shown in next two pages.
3. "****" means the value was too low to be measured.
4. If the data table appeared symbol of "----" means the Q.P. value is under the limit of AVG. so, the AVG. value doesn't need to be measured.
5. The estimated measurement uncertainty of the result measurement is $\pm 2.5\text{dB}$.

9.4.3

File: IVAN

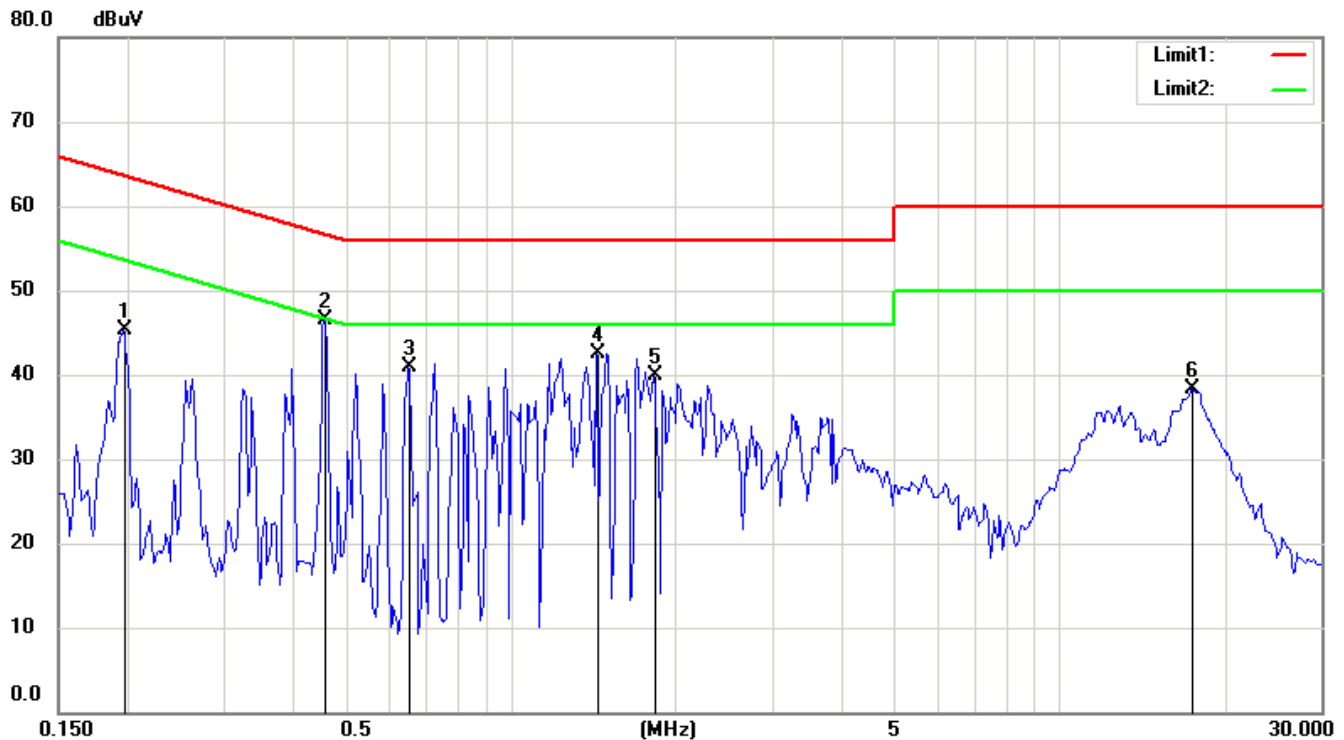
Data: #11

Date: 2008/11/8

Temperature: 26 °C

Time: 下午 03:49:25

Humidity: 60 %



Condition: FCC Part15 CE-Class B_QP

Phase: L1

EUT: GPRS PCMCIA Modem

Model: GPRS-100S

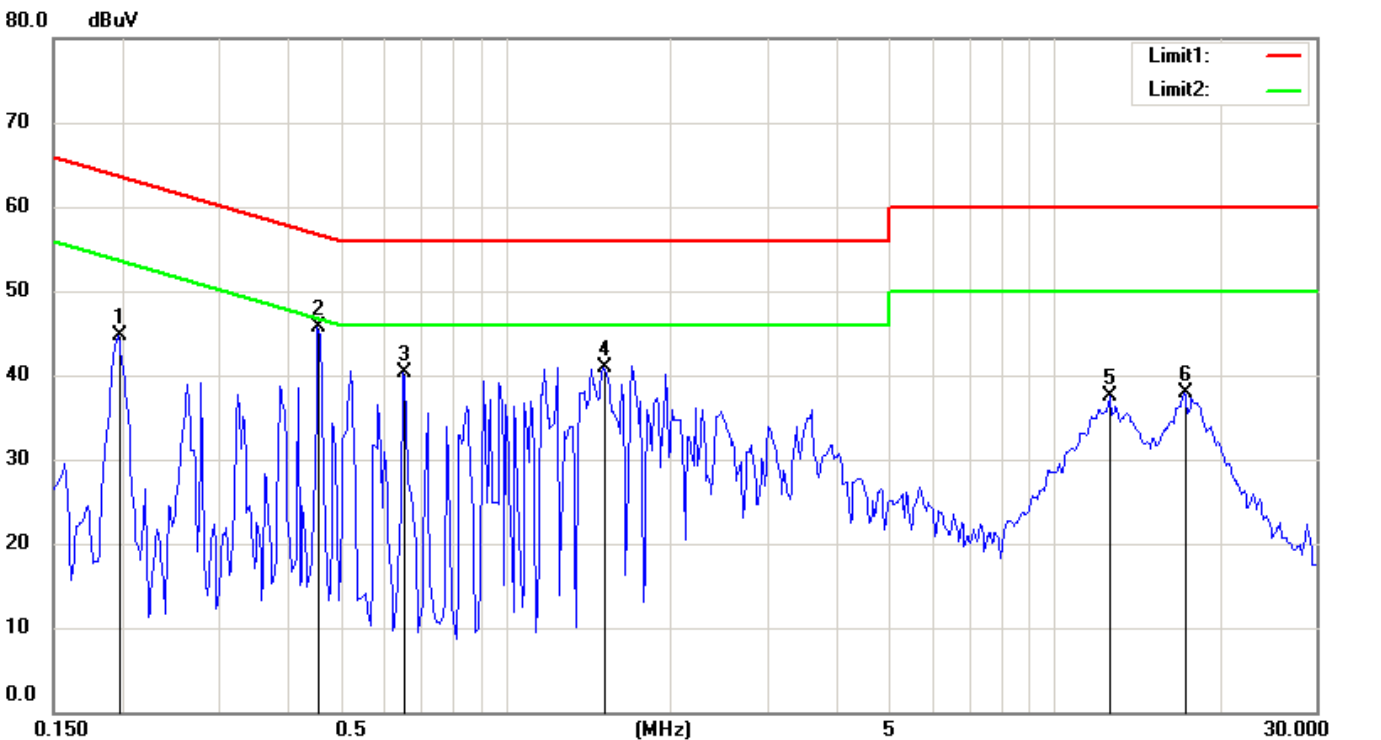
Test Mode: GPRS1900 IDLE

No.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.1970	35.22	peak	10.10	45.32	63.74	-18.42
2	0.4586	36.32	peak	10.10	46.42	56.72	-10.30
3	0.6540	30.87	peak	10.10	40.97	56.00	-15.03
4	1.4391	32.41	peak	10.10	42.51	56.00	-13.49
5	1.8220	29.84	peak	10.10	39.94	56.00	-16.06
6	17.4234	27.97	peak	10.35	38.32	60.00	-21.68

Note:

1. Place of measurement: EMC LAB. of the ETC.
2. The full frequency range scanning test data is shown in next two pages.
3. "***" means the value was too low to be measured.
4. If the data table appeared symbol of "----" means the Q.P. value is under the limit of AVG. so, the AVG. value doesn't need to be measured.
5. The estimated measurement uncertainty of the result measurement is $\pm 2.5\text{dB}$.

File: IVAN Data: #8 Date: 2008/11/8 Temperature: 26 °C
Time: 下午 03:38:08 Humidity: 60 %



Condition: FCC Part15 CE-Class B_QP Phase: L2
EUT: GPRS PCMCIA Modem
Model: GPRS-100S
Test Mode: GPRS1900 IDLE

No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
	(MHz)	(dBuV)		Factor(dB)	(dBuV)	(dBuV)	(dB)
1	0.1970	34.55	peak	10.10	44.65	63.74	-19.09
2	0.4547	35.66	peak	10.10	45.76	56.79	-11.03
3	0.6540	30.20	peak	10.10	40.30	56.00	-15.70
4	1.5055	30.75	peak	10.10	40.85	56.00	-15.15
5	12.6227	27.28	peak	10.25	37.53	60.00	-22.47
6	17.2672	27.50	peak	10.35	37.85	60.00	-22.15

- Note:
1. Place of measurement: EMC LAB. of the ETC.
 2. The full frequency range scanning test data is shown in next two pages.
 3. “***” means the value was too low to be measured.
 4. If the data table appeared symbol of "----" means the Q.P. value is under the limit of AVG. so, the AVG. value doesn't need to be measured.
 5. The estimated measurement uncertainty of the result measurement is ±2.5dB.

9.4.4

File: IVAN

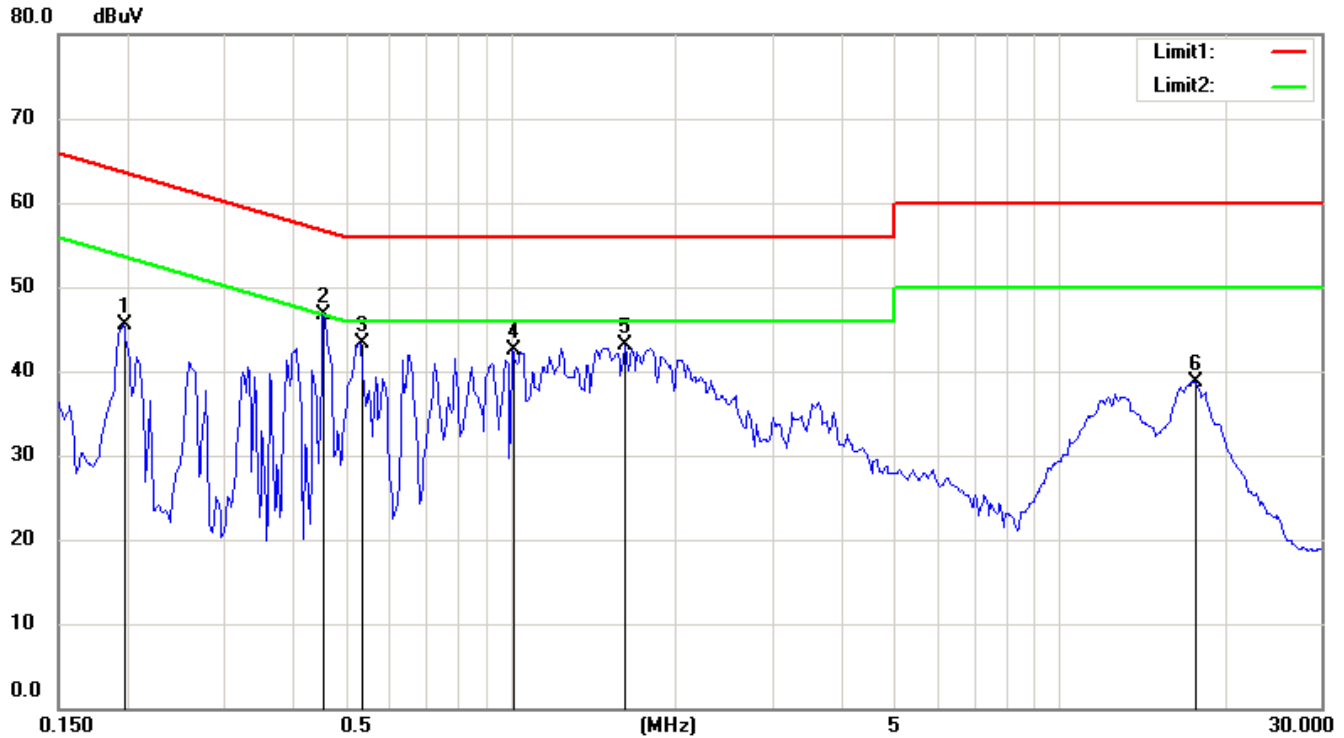
Data: #10

Date: 2008/11/8

Temperature: 26 °C

Time: 下午 03:48:03

Humidity: 60 %



Condition: FCC Part15 CE-Class B_QP

Phase: L1

EUT: GPRS PCMCIA Modem

Model: GPRS-100S

Test Mode: GPRS1900 CALL

No.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.1970	35.38	peak	10.10	45.48	63.74	-18.26
2	0.4547	36.56	peak	10.10	46.66	56.79	-10.13
3	0.5328	33.25	peak	10.10	43.35	56.00	-12.65
4	1.0055	32.33	peak	10.10	42.43	56.00	-13.57
5	1.6187	33.04	peak	10.10	43.14	56.00	-12.86
6	17.6305	28.36	peak	10.35	38.71	60.00	-21.29

Note:

1. Place of measurement: EMC LAB. of the ETC.
2. The full frequency range scanning test data is shown in next two pages.
3. "***" means the value was too low to be measured.
4. If the data table appeared symbol of "----" means the Q.P. value is under the limit of AVG. so, the AVG. value doesn't need to be measured.
5. The estimated measurement uncertainty of the result measurement is ± 2.5 dB.

File: IVAN

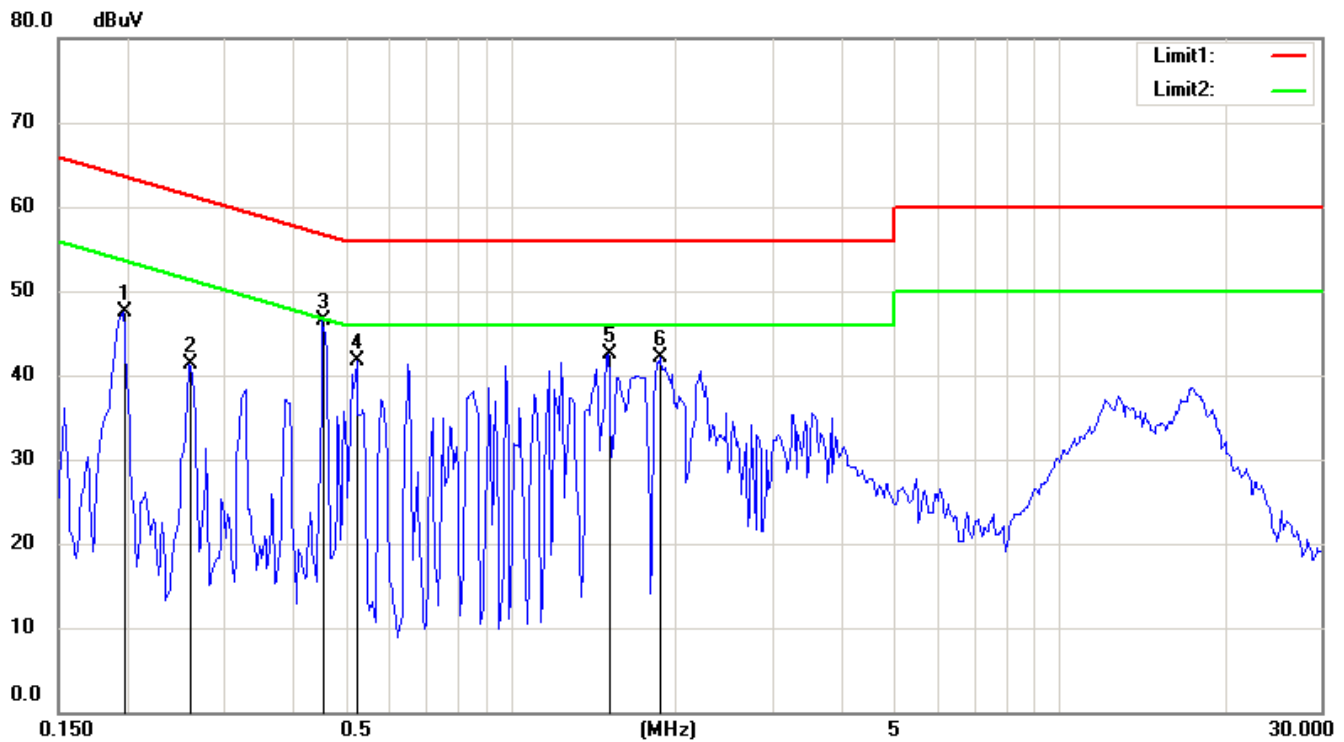
Data: #5

Date: 2008/11/8

Temperature: 26 °C

Time: 下午 03:20:05

Humidity: 60 %



Condition: FCC Part15 CE-Class B_QP

Phase: L2

EUT: GPRS PCMCIA Modem

Model: GPRS-100S

Test Mode: GPRS1900 CALL

No.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.1968	37.43	peak	10.10	47.53	63.74	-16.21
2	0.2594	31.22	peak	10.10	41.32	61.45	-20.13
3	0.4546	36.33	peak	10.10	46.43	56.79	-10.36
4	0.5250	31.63	peak	10.10	41.73	56.00	-14.27
5	1.5055	32.45	peak	10.10	42.55	56.00	-13.45
6	1.8766	31.91	peak	10.10	42.01	56.00	-13.99

Note:

1. Place of measurement: EMC LAB. of the ETC.
2. The full frequency range scanning test data is shown in next two pages.
3. “***” means the value was too low to be measured.
4. If the data table appeared symbol of "----" means the Q.P. value is under the limit of AVG. so, the AVG. value doesn't need to be measured.
5. The estimated measurement uncertainty of the result measurement is $\pm 2.5\text{dB}$.