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

Report No.: ET94S-12-054-01

Client:	LIGHTSPEED INTERNATIONAL CO.
Product:	EDGE PCMCIA CARD
Model:	EDGE-100M
FCC ID:	NGJEDGE100MPCMCIA
Manufacturer/supplier:	LIGHTSPEED INTERNATIONAL CO.

Date test item received:	2005/12/06
Date test campaign completed:	2006/02/06
Date of issue:	2006/02/08

Total number of pages of this test report: 120 pages

Total number of pages of photos: External photos 1 pages
Internal photos 3 pages
Setup photos 2 pages

Test Engineer	Checked By	Approved By
Mark	Mark	Joe Hsieh

ELECTRONICS TESTING CENTER, TAIWAN
NO.8, LANE 29, WEN-MING RD.,
LO-SHAN TSUN, KUI-SHAN HSIANG,
TAOYUAN HSIEN 333
TAIWAN, R.O.C.

TEL: (03) 3276170~4
INT: +886-3-3276170~4
FAX: (03) 3276188
INT: +886-3-3276188

TEST REPORT CERTIFICATION

Client	:	LIGHTSPEED INTERNATIONAL CO.
Address	:	5F-1, NO.9, SEC3, CHUNG HUA RD, HSINCHU, TAIWAN
Manufacturer	:	LIGHTSPEED INTERNATIONAL CO.
Address	:	5F-1, NO.9, SEC3, CHUNG HUA RD, HSINCHU, TAIWAN
EUT	:	EDGE PCMCIA CARD
Trade name	:	LIGHTSPEED
Model No.	:	EDGE-100M
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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- ISO/IEC 17025: BSMI, CNLA, DGT, NVLAP, CCIBLAC, UL, Compliance
- Filing: FCC, Industry Canada, VCCI
- MRA: Australia, Hong Kong, New Zealand, Singapore, USA, Japan, Korea, China, APLAC through CNLA
- FCC Registration Number: 90588, 91094, 91095

NVLAP Lab Code 200133-0

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1. GENERAL INFORMATION

1.1 Product Description

a) Type of EUT : EDGE PCMCIA CARD
b) Trade Name : LIGHTSPEED
c) Model No. : EDGE-100M
d) Power Supply : 5V DC (From Notebook PCMCIA Interface)

1.2 Characteristics of Device

EDGE-100M is an EDGE NETWORK PCMCIA CARD that is compatible with 850/900/1800/ 1900MHZ EDGE/GPRS/GSM NETWORK. It can send/receive data, fax, voice, SMS & MMS.

Mode	GSM (Class8)		GPRS (Class10)		EGPRS (Class10)	
Band(MHz)	850	1900	850	1900	850	1900
Frequency Range(MHz)	824-849	1850-1910	824-849	1850-1910	824-849	1850-1910
Modulation Mode	GMSK		GMSK		8PSK	
Crast Factor	1:8.3		1:4		1:4	

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 Modifiction 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
* EDGE PCMCIA CARD	LIGHTSPEED INTERNATIONAL CO.	EDGE-100M	----
Notebook PC	ACER	N-30N3	3.3m, Unshielded Power Line (Adaptor)

Remark "*" means equipment under test.

Test Channel – Frequency comparison table for test:

850 Band		1900 Band	
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

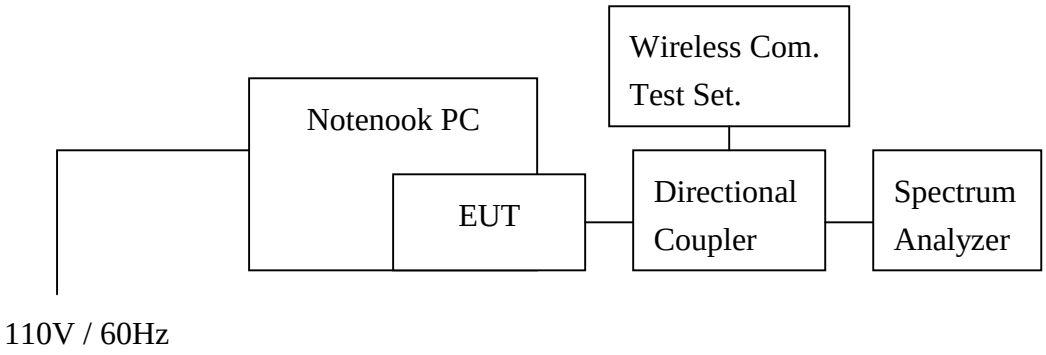
3.1 Applicable Standard

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	11/02/2006
Directional Coupler	AR	DC7420	12/05/2006
Wireless Com. Test Set	Agilent	E5515C	02/26/2006

3.4 Test Result

Test Date : 01/ 05/2006 Temperature : 16℃ Humidity : 66%

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)
GSM850	128	824.2	21.12	10.8	31.92
	190	836.6	21.22	10.8	32.02
	251	848.8	21.37	10.8	32.17
GPRS850	128	824.2	21.11	10.8	31.91
	190	836.6	21.25	10.8	32.05
	251	848.8	21.43	10.8	32.23
EGPRS850	128	824.0	21.36	10.8	32.16
	190	836.6	21.48	10.8	32.28
	251	848.8	21.61	10.8	32.41

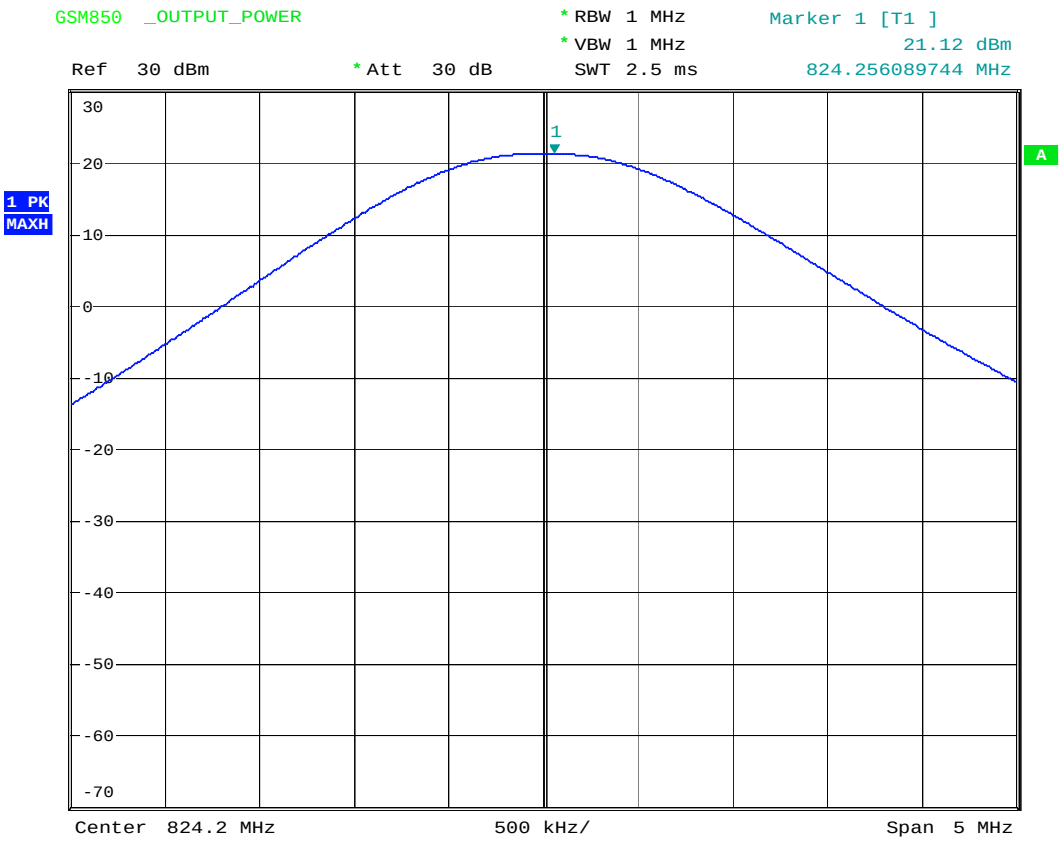
1900 Band
Limits:

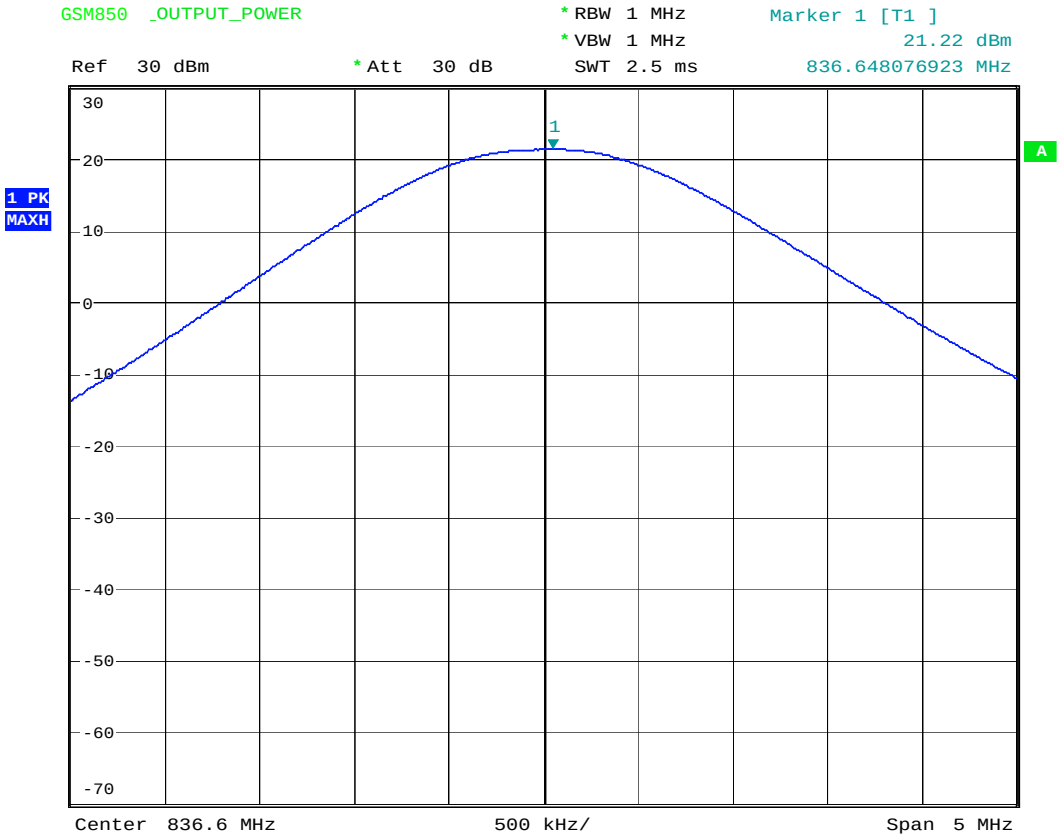
Power Control Level	Normal Peak Output Power	Tolerance (dB)
0	30dBm (1W)*	±2

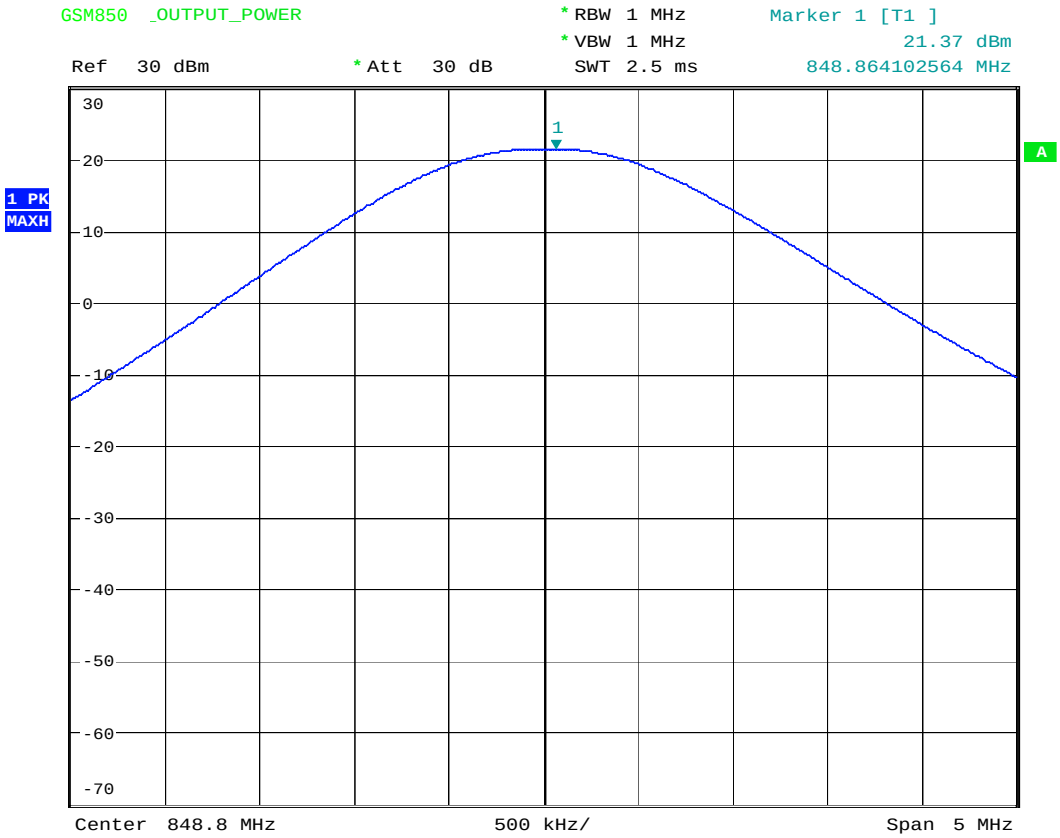
*GSM Specification – ETSI EN 300 910 V8.5.1 (2000-11) Section 4.1

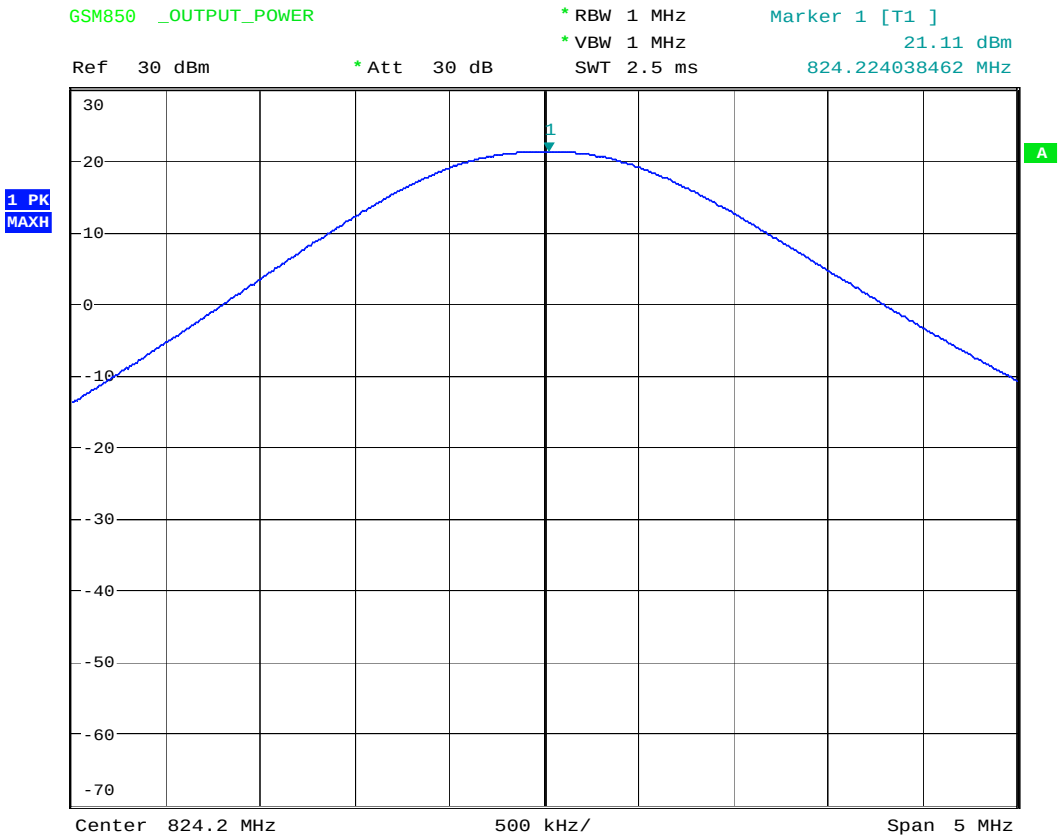
Power measurements:

Test Mode	Channel	Frequency (MHz)	Reading (dBm)	Attenuator & Cable Loss (dB)	Maximum Peak Output Power (dBm)
PCS1900	512	1850.2	17.48	11.4	28.88
	661	1880.0	17.19	11.4	28.59
	810	1908.8	16.60	11.4	28.00
GPRS1900	512	1850.2	17.50	11.4	28.90
	661	1880.0	17.05	11.4	28.45
	810	1909.8	16.64	11.4	28.04
EGPRS1900	512	1850.2	17.55	11.4	28.95
	661	1880.0	17.11	11.4	28.51
	810	1909.8	16.95	11.4	28.35


GSM850 _OUTPUT_POWER
*RBW 1 MHz
*VBW 1 MHz
SWT 2.5 ms
Marker 1 [T1]
21.12 dBm
824.256089744 MHz
Ref 30 dBm
*Att 30 dB
1 PK
MAXH
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 824.2 MHz
500 kHz/
Span 5 MHz


GSM850 _OUTPUT_POWER
*RBW 1 MHz
*VBW 1 MHz
SWT 2.5 ms
Marker 1 [T1]
21.22 dBm
836.648076923 MHz
Ref 30 dBm
*Att 30 dB
1 PK
MAXH
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 836.6 MHz
500 kHz/
Span 5 MHz


GSM850 _OUTPUT_POWER
*RBW 1 MHz
*VBW 1 MHz
SWT 2.5 ms
Marker 1 [T1]
21.37 dBm
848.864102564 MHz
Ref 30 dBm
*Att 30 dB
1 PK
MAXH
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 848.8 MHz
500 kHz/
Span 5 MHz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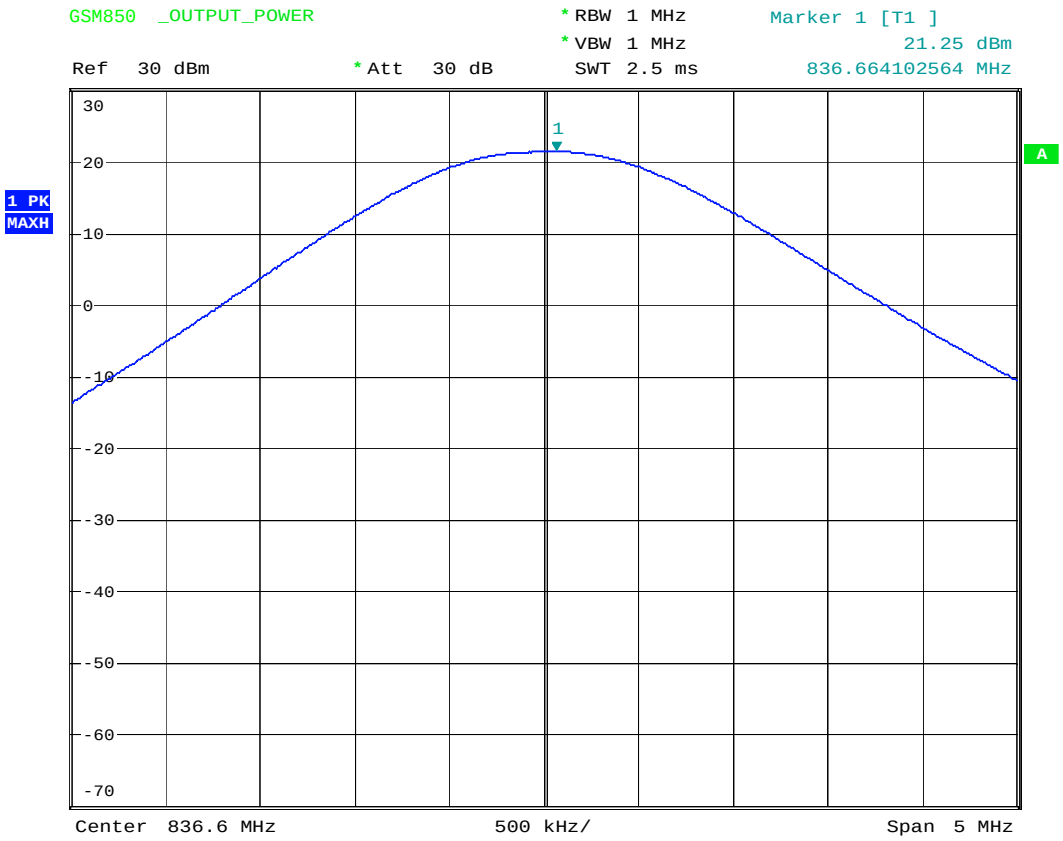
*VBW 1 MHz
SWT 2.5 ms
Marker 1 [T1]
21.11 dBm
824.224038462 MHz
Ref 30 dBm
*Att 30 dB
1 PK
MAXH
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 824.2 MHz
500 kHz/
Span 5 MHz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*RBW 1 MHz
*VBW 1 MHz
SWT 2.5 ms
Marker 1 [T1]
21.25 dBm
836.664102564 MHz
Ref 30 dBm
*Att 30 dB
1 PK
MAXH
A
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20
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0
-10
-20
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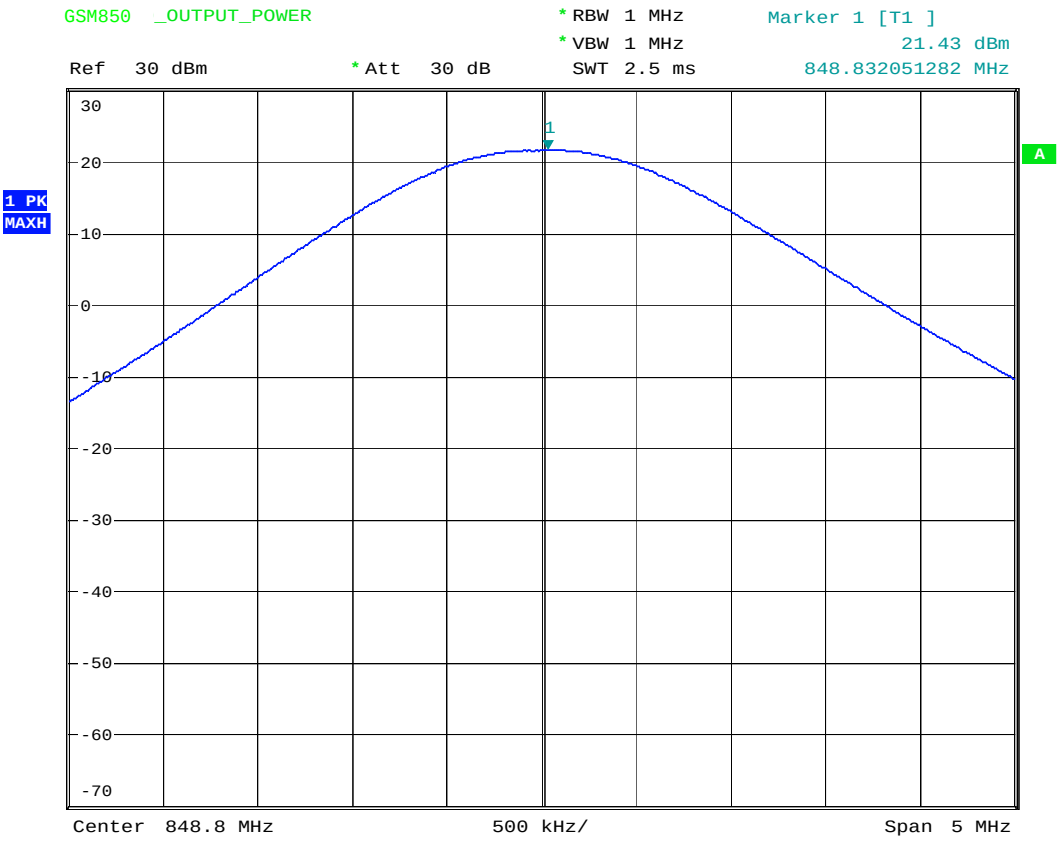
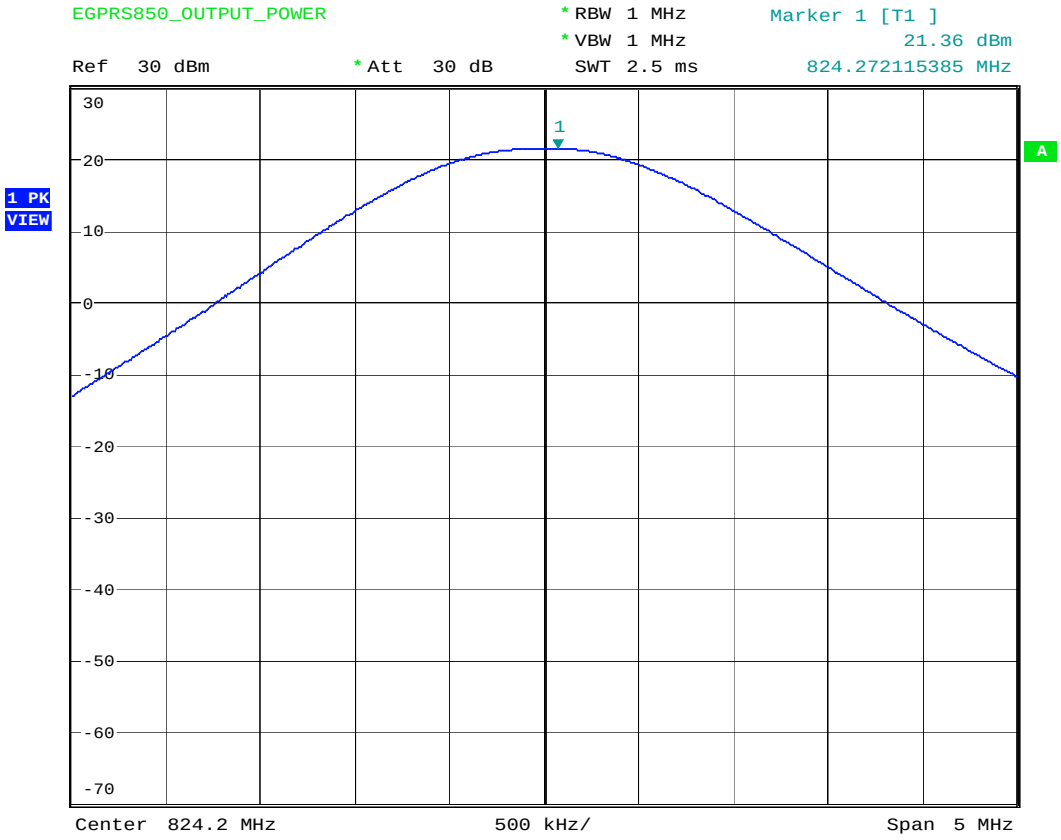
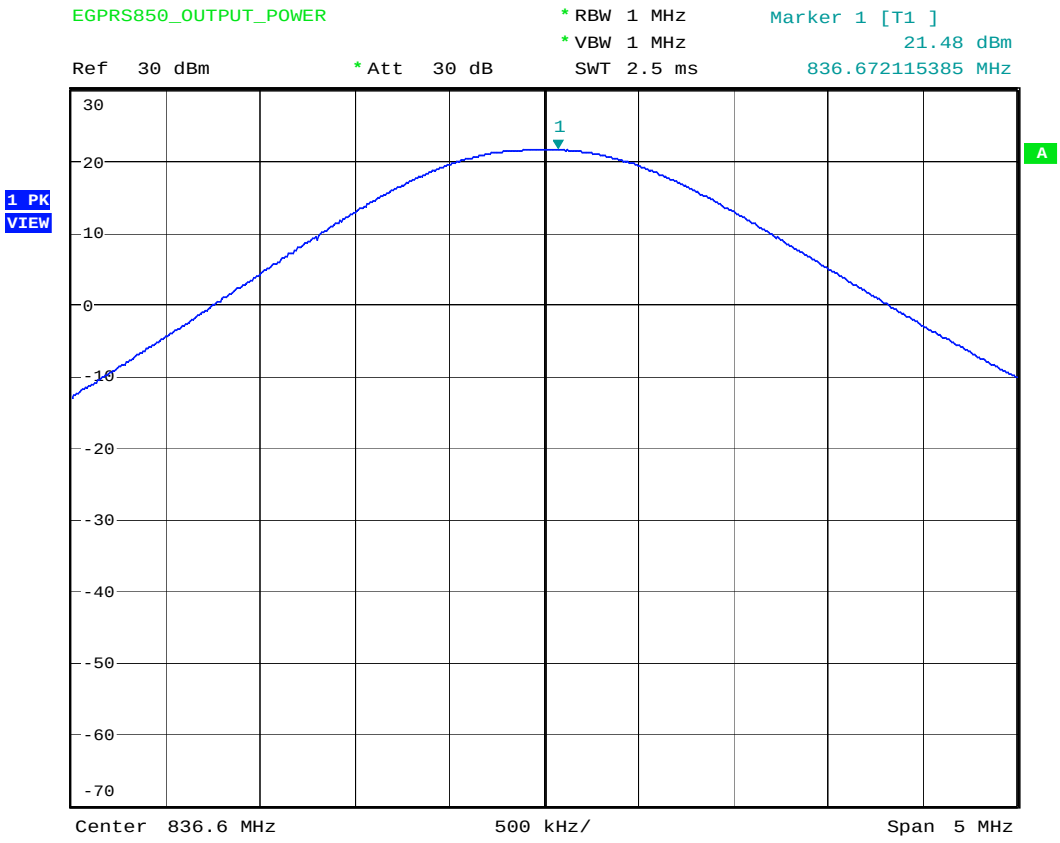
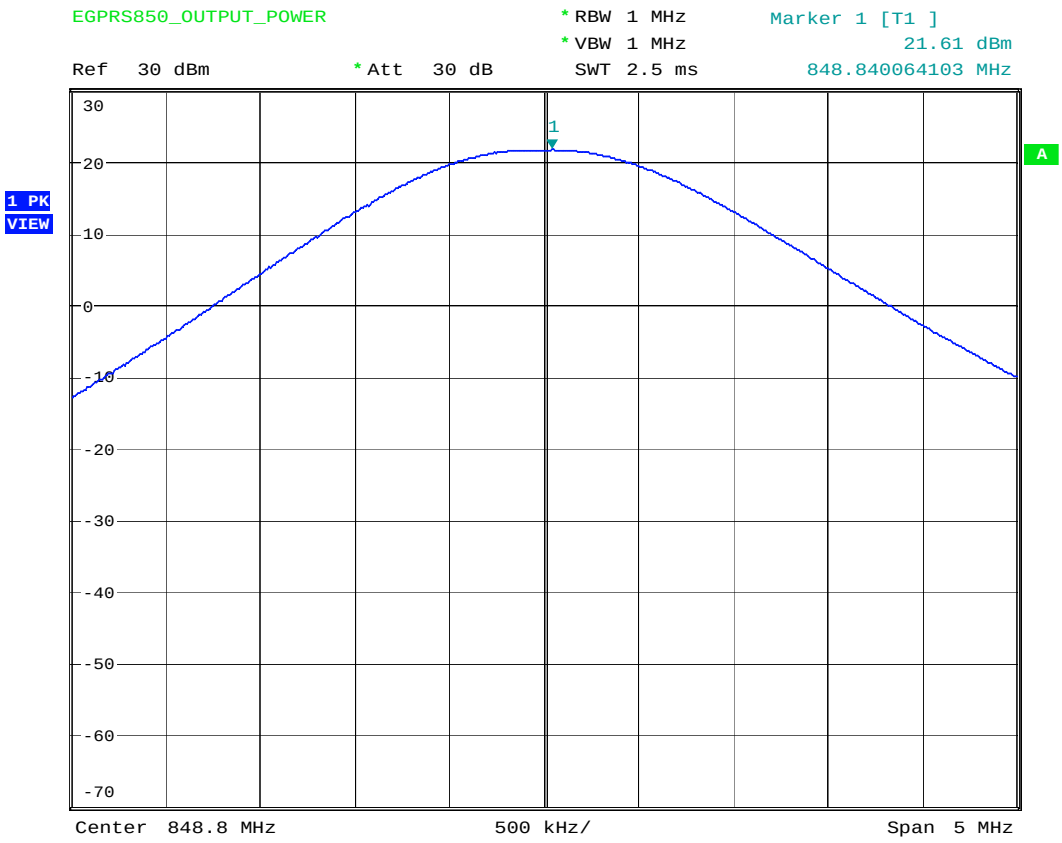
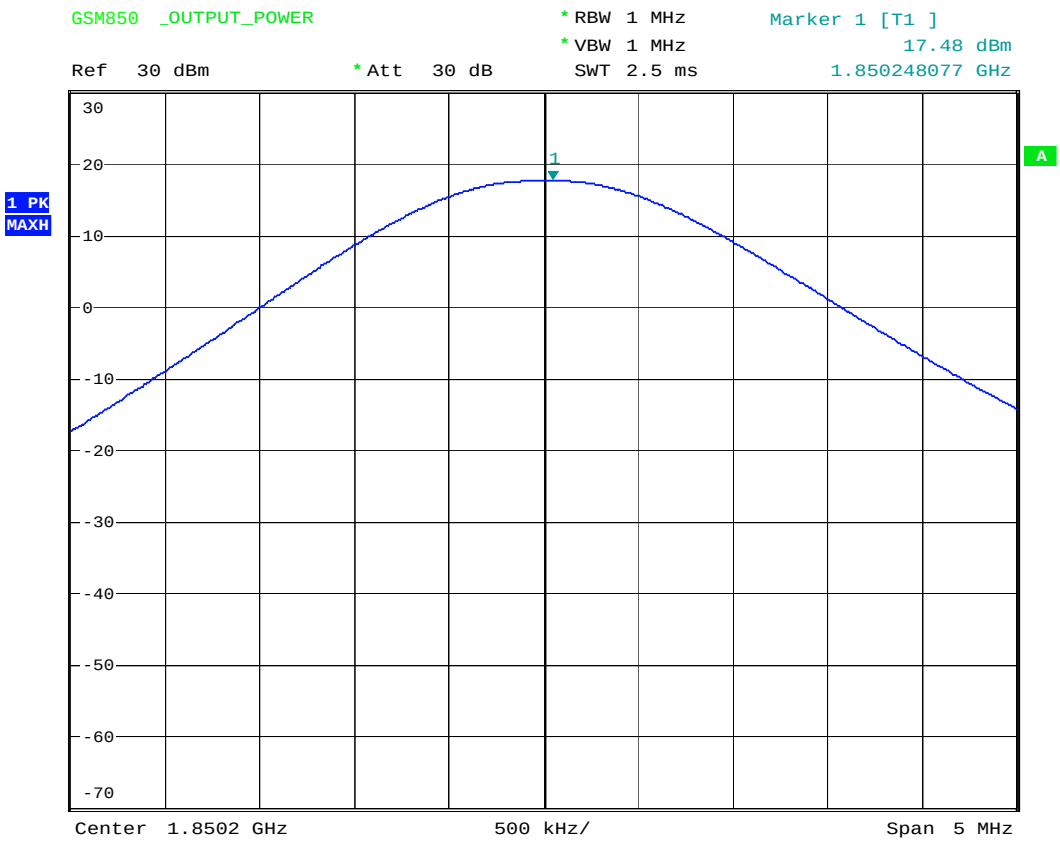
-40
-50
-60
-70
Center 836.6 MHz
500 kHz/
Span 5 MHz

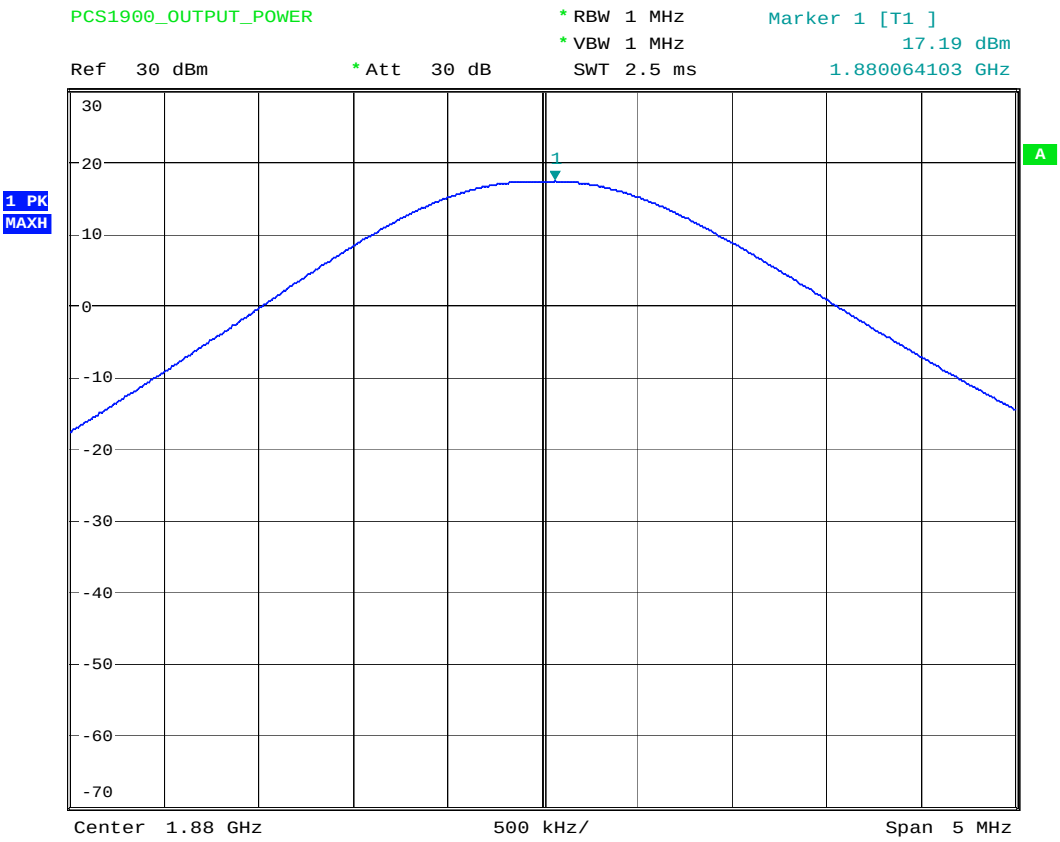

GSM850 _OUTPUT_POWER
*RBW 1 MHz
*VBW 1 MHz
SWT 2.5 ms
Marker 1 [T1]
21.43 dBm
848.832051282 MHz
Ref 30 dBm
*Att 30 dB
1 PK
MAXH
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 848.8 MHz
500 kHz/
Span 5 MHz

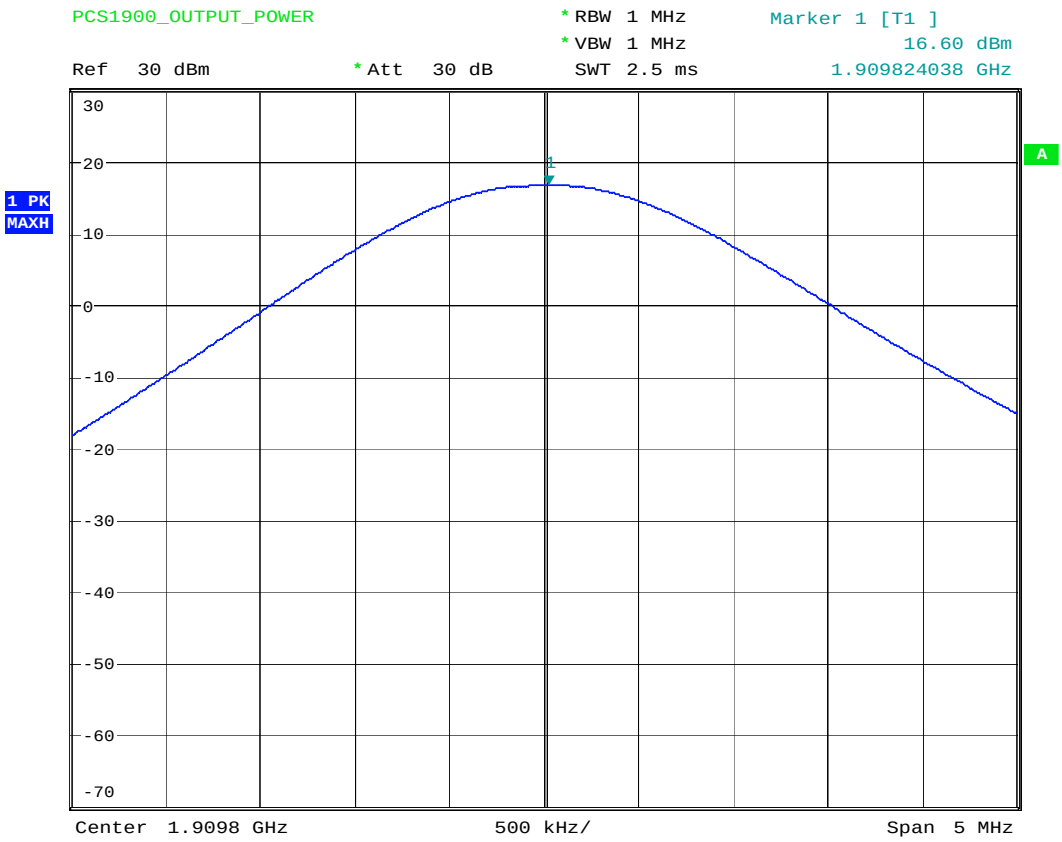

EGPRS850_OUTPUT_POWER
*RBW 1 MHz
*VBW 1 MHz
SWT 2.5 ms
Marker 1 [T1]
21.36 dBm
824.272115385 MHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 824.2 MHz
500 kHz/
Span 5 MHz

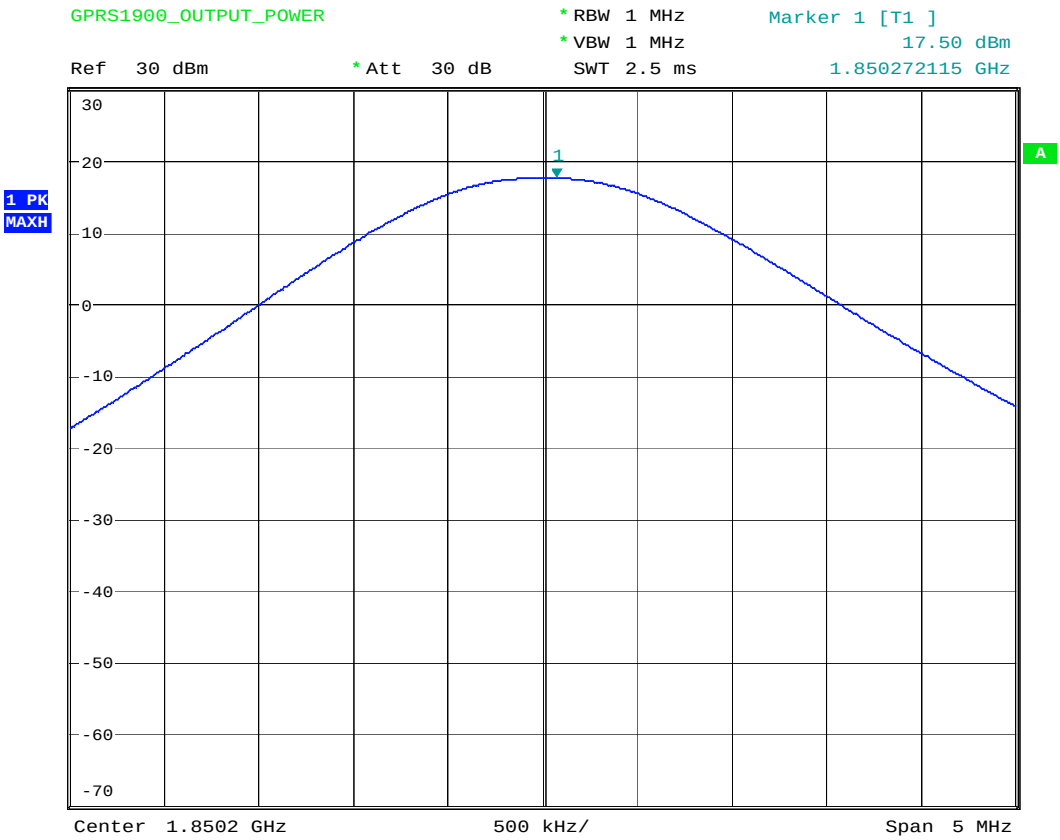

EGPRS850_OUTPUT_POWER
*RBW 1 MHz
*VBW 1 MHz
SWT 2.5 ms
Marker 1 [T1]
21.48 dBm
836.672115385 MHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 836.6 MHz
500 kHz/
Span 5 MHz

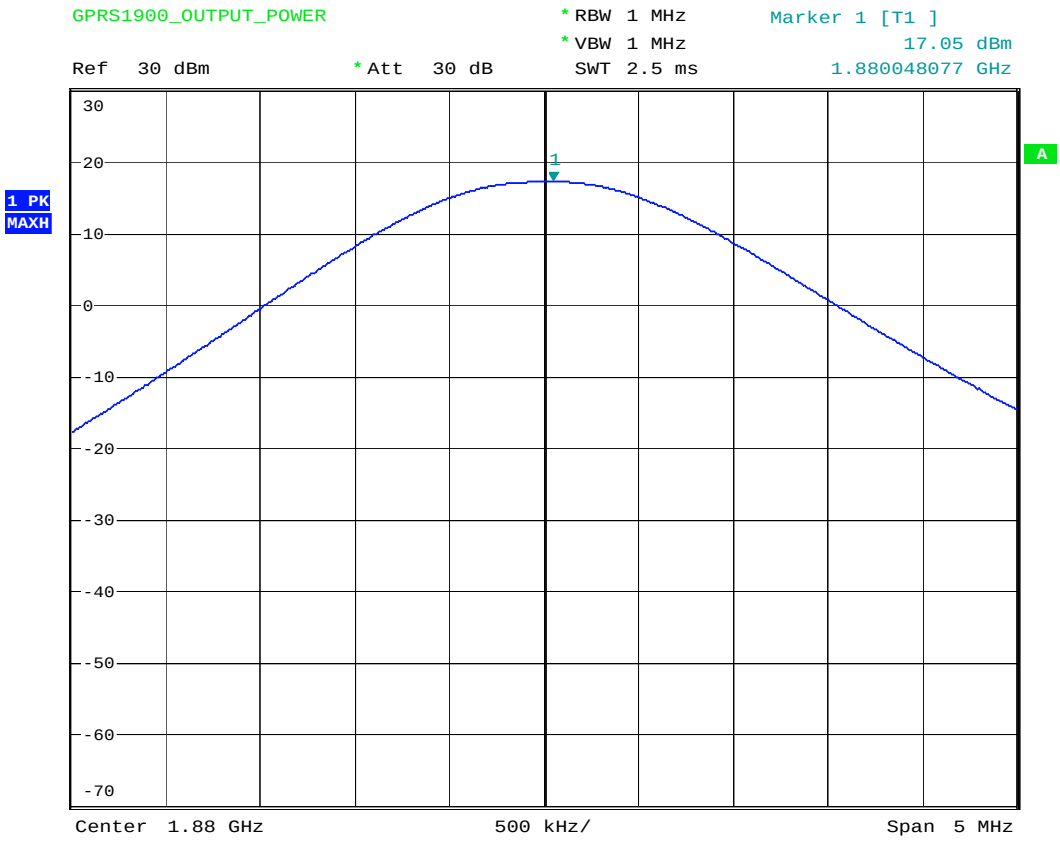

EGPRS850_OUTPUT_POWER
*RBW 1 MHz
*VBW 1 MHz
Marker 1 [T1]
21.61 dBm
Ref 30 dBm
*Att 30 dB
SWT 2.5 ms
848.840064103 MHz
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 848.8 MHz
500 kHz/
Span 5 MHz

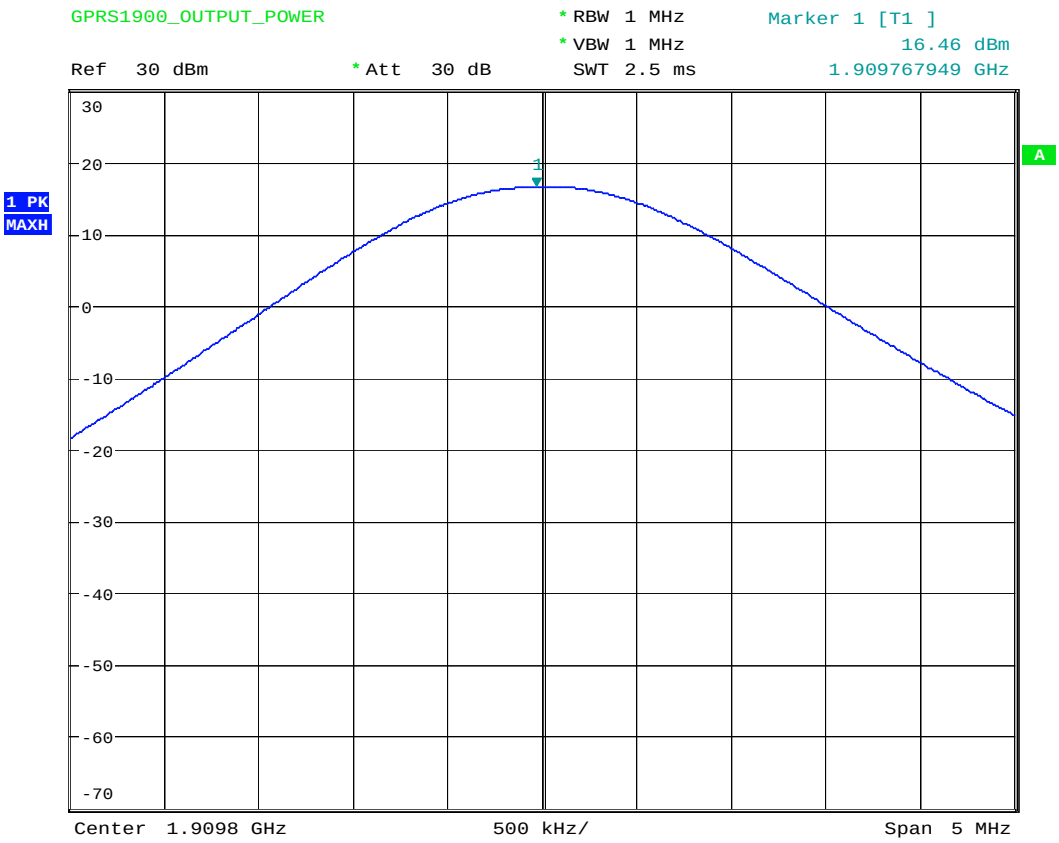

GSM850 _OUTPUT_POWER
*RBW 1 MHz
*VBW 1 MHz
SWT 2.5 ms
Marker 1 [T1]
17.48 dBm
1.850248077 GHz
Ref 30 dBm
*Att 30 dB
1 PK
MAXH
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.8502 GHz
500 kHz/
Span 5 MHz


PCS1900_OUTPUT_POWER
*RBW 1 MHz
*VBW 1 MHz
Marker 1 [T1]
17.19 dBm
1.880064103 GHz
Ref 30 dBm
*Att 30 dB
SWT 2.5 ms
1 PK
MAXH
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.88 GHz
500 kHz/
Span 5 MHz


PCS1900_OUTPUT_POWER
*RBW 1 MHz
*VBW 1 MHz
Marker 1 [T1]
16.60 dBm
Ref 30 dBm
*Att 30 dB
SWT 2.5 ms
1.909824038 GHz
1 PK
MAXH
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.9098 GHz
500 kHz/
Span 5 MHz


GPRS1900_OUTPUT_POWER
*RBW 1 MHz
*VBW 1 MHz
Marker 1 [T1]
17.50 dBm
Ref 30 dBm
*Att 30 dB
SWT 2.5 ms
1.850272115 GHz
1 PK
MAXH
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.8502 GHz
500 kHz/
Span 5 MHz


GPRS1900_OUTPUT_POWER
*RBW 1 MHz
*VBW 1 MHz
SWT 2.5 ms
Marker 1 [T1]
17.05 dBm
1.880048077 GHz
Ref 30 dBm
*Att 30 dB
1 PK
MAXH
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.88 GHz
500 kHz/
Span 5 MHz


GPRS1900_OUTPUT_POWER
*RBW 1 MHz
*VBW 1 MHz
SWT 2.5 ms
Marker 1 [T1]
16.46 dBm
1.909767949 GHz
Ref 30 dBm
*Att 30 dB
1 PK
MAXH
A
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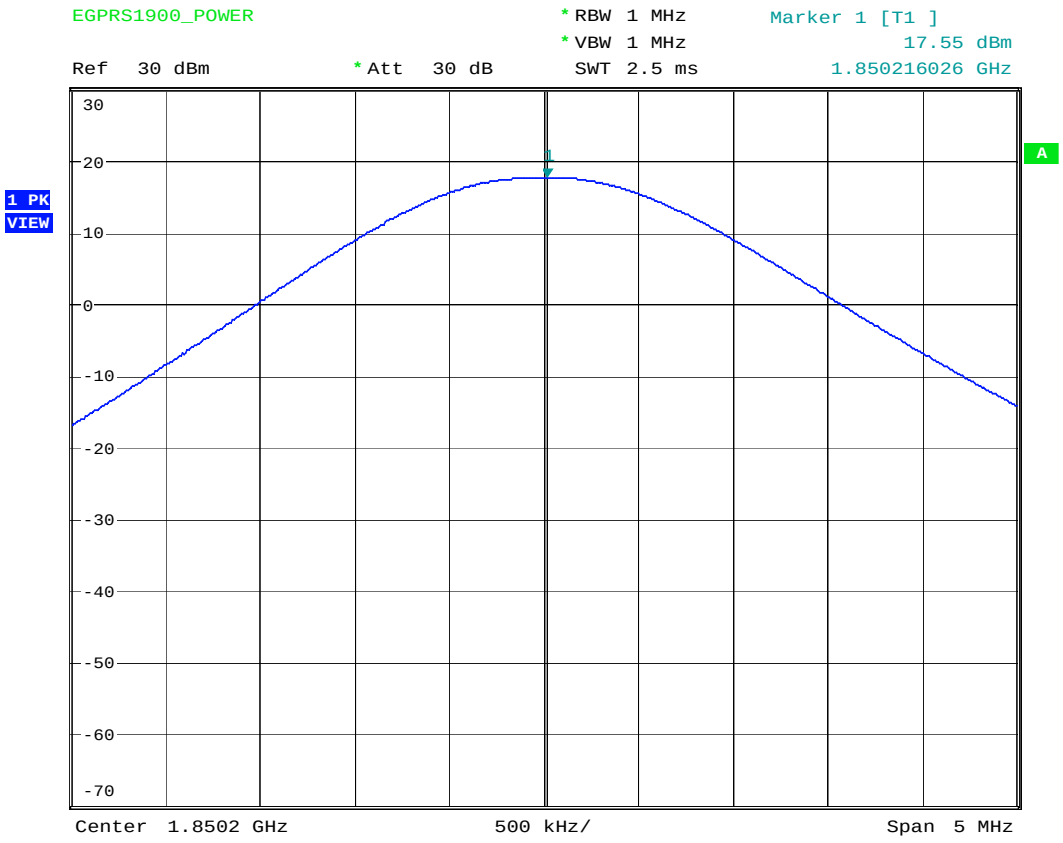
0
-10
-20
-30
-40
-50
-60
-70
Center 1.9098 GHz
500 kHz/
Span 5 MHz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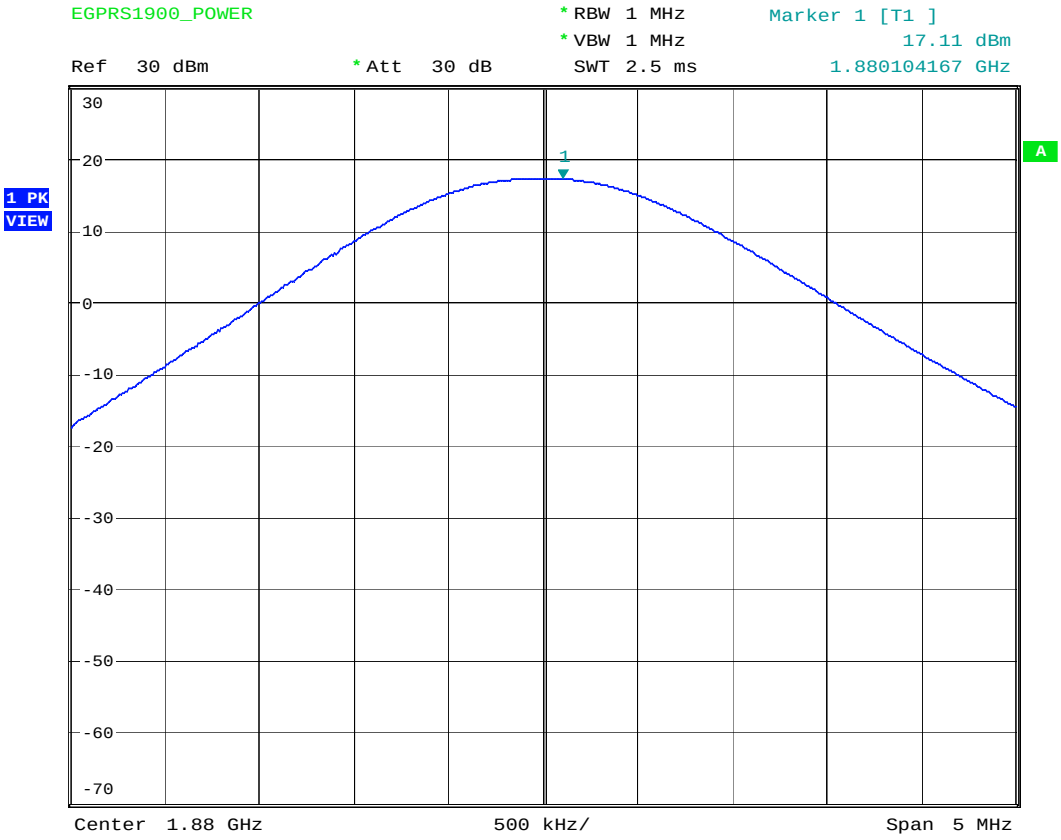
*RBW 1 MHz
*VBW 1 MHz
Marker 1 [T1]
17.55 dBm
Ref 30 dBm
*Att 30 dB
SWT 2.5 ms
1.850216026 GHz
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.8502 GHz
500 kHz/
Span 5 MHz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*VBW 1 MHz
SWT 2.5 ms
Marker 1 [T1]
17.11 dBm
1.880104167 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
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0
-10
-20
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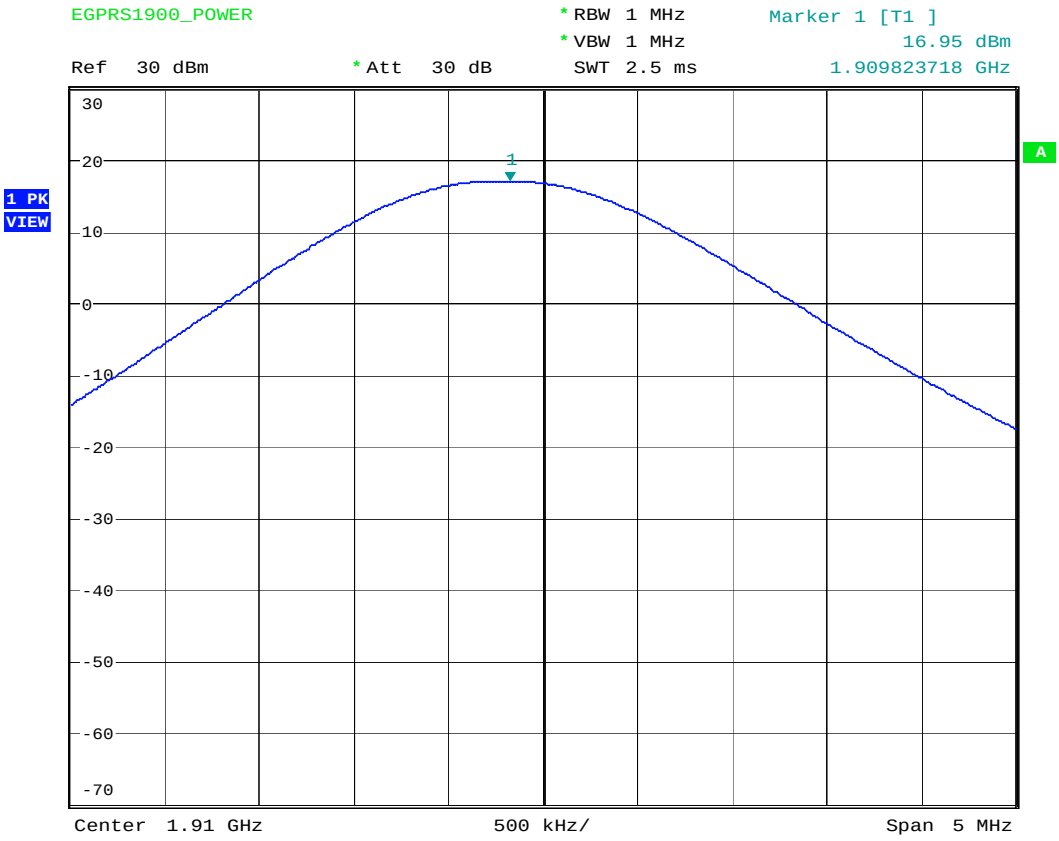
-50
-60
-70
Center 1.88 GHz
500 kHz/
Span 5 MHz


EGPRS1900_POWER
*RBW 1 MHz
*VBW 1 MHz
Marker 1 [T1]
16.95 dBm
1.909823718 GHz
Ref 30 dBm
*Att 30 dB
SWT 2.5 ms
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.91 GHz
500 kHz/
Span 5 MHz

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 an 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:

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

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

4.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
EMI Test Receiver	Hewlett-Packard	8546A	08/27/2006
Spectrum Analyzer	Rohde & Schwarz	FSU46	11/02/2006
Horn Antenna	EMCO	3115	06/04/2006
LogBicone Antenna	Schwarzbeck	9160	10/28/2006
Horn Antenna	EMCO	3116	07/21/2006
Preamplifier	Hewlett-Packard	8449B	09/19/2006
SYNESIZED SWEEPER	AGILENT	83640B	09/21/2006
DIPOLE ANTENNA	SCHWRZBECK	914;915	07/13/2007
DIPOLE ANTENNA	SCHWRZBECK	897;898	07/13/2007

Figure 2 : Frequencies measured below 1 GHz configuration

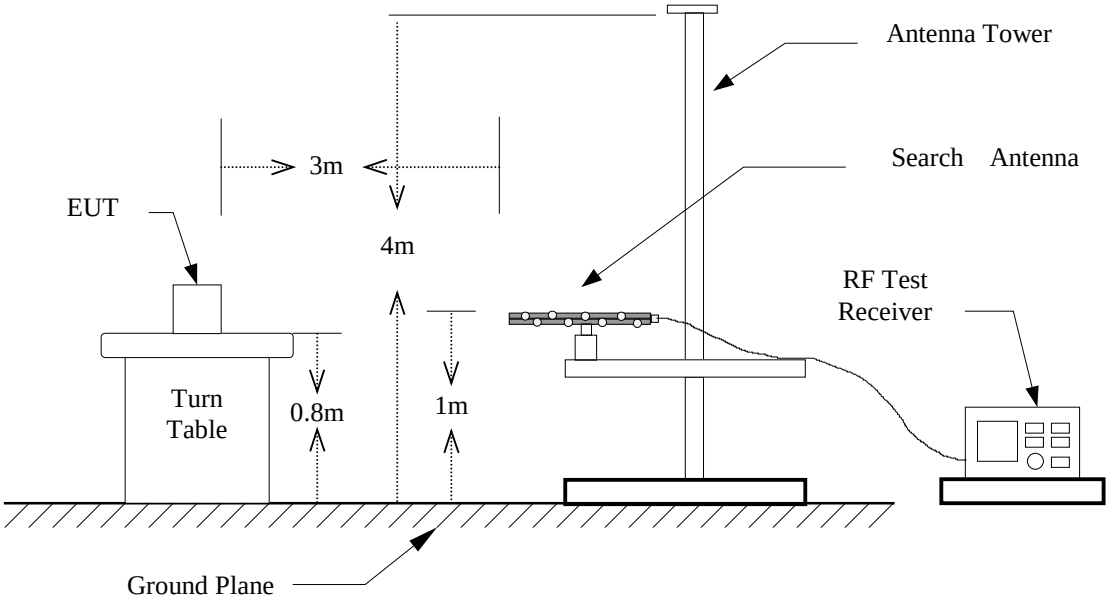
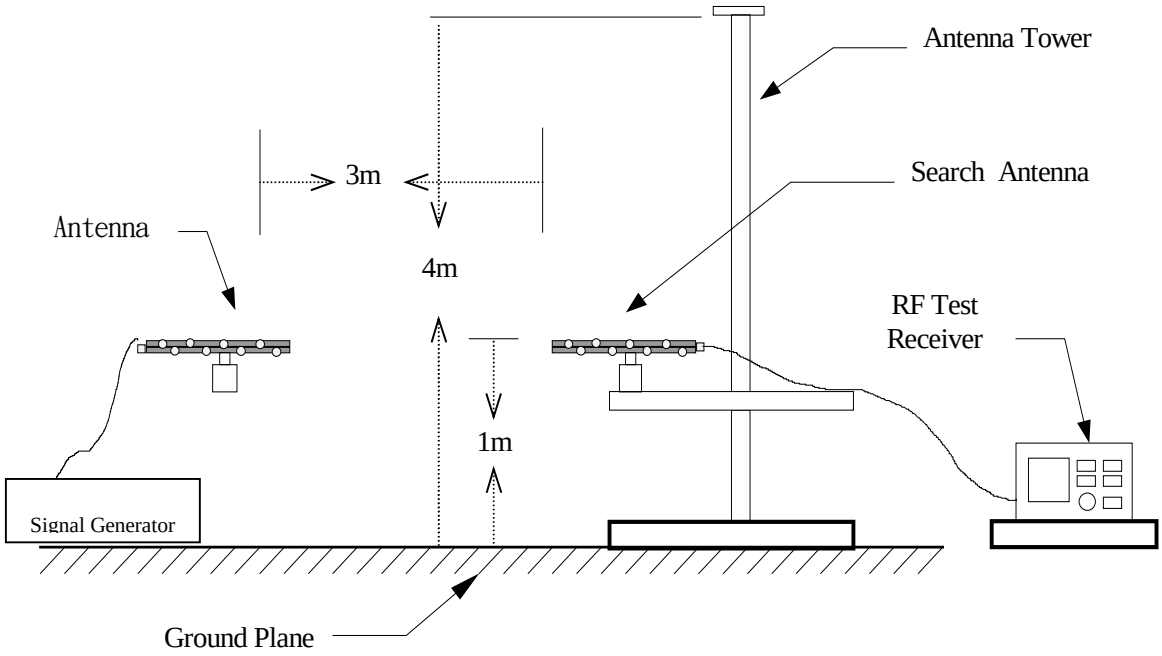


Figure 3 : Frequencies measured above 1 GHz configuration



4.4 Test Result

Test Date : 01/ 05/2006 Temperature : 16℃ Humidity : 66%

850 Band (ERP)

Test Mode	Channel	Frequency (MHz)	Reading (dBm)	Antenna Pol.	Factor (dB)	Result (dBm)	Limit (dBm)
GSM850	128	824.2	-0.3	H	32.5	32.2	38.45
	128	824.2	-5.6	V	32.5	26.9	38.45
	190	836.6	-0.1	H	32.5	32.4	38.45
	190	836.6	-5.4	V	32.5	27.1	38.45
	251	848.8	0	H	32.5	32.5	38.45
	251	848.8	-5.3	V	32.5	27.2	38.45
GPRS850	128	824.2	-0.4	H	32.5	32.1	38.45
	128	824.2	-5.7	V	32.5	26.8	38.45
	190	836.6	-0.2	H	32.5	32.3	38.45
	190	836.6	-5.5	V	32.5	27.0	38.45
	251	848.8	0	H	32.5	32.5	38.45
	251	848.8	-5.4	V	32.5	27.1	38.45
EGPRS850	128	824.2	-0.5	H	32.5	32.0	38.45
	128	824.2	-5.7	V	32.5	26.8	38.45
	190	836.6	-0.1	H	32.5	32.4	38.45
	190	836.6	-5.5	V	32.5	27.0	38.45
	251	848.8	0	H	32.5	32.5	38.45
	251	848.8	-5.5	V	32.5	27.0	38.45

1900 Band (EIRP)

Test Mode	Channel	Frequency (MHz)	Reading (dBm)	Antenna Pol.	Factor (dB)	Result (dBm)	Limit (dBm)
PCS1900	512	1850.2	38.8	H	-10.9	27.9	33.0
	512	1850.2	36.7	V	-10.9	25.8	33.0
	661	1880.0	38.3	H	-10.9	27.4	33.0
	661	1880.0	36.3	V	-10.9	25.4	33.0
	810	1909.8	38.2	H	-10.9	27.3	33.0
	810	1909.8	36.3	V	-10.9	25.4	33.0
GPRS1900	512	1850.2	38.7	H	-10.9	27.8	33.0
	512	1850.2	36.6	V	-10.9	25.7	33.0
	661	1880.0	38.2	H	-10.9	27.3	33.0
	661	1880.0	36.2	V	-10.9	25.3	33.0
	810	1909.8	38.3	H	-10.9	27.4	33.0
	810	1909.8	36.1	V	-10.9	25.2	33.0
EGPRS1900	512	1850.2	38.6	H	-10.9	27.7	33.0
	512	1850.2	36.6	V	-10.9	25.7	33.0
	661	1880.0	38.2	H	-10.9	27.3	33.0
	661	1880.0	36.1	V	-10.9	25.2	33.0
	810	1909.8	38.3	H	-10.9	27.4	33.0
	810	1909.8	36.1	V	-10.9	25.2	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	11/02/2006
Directional Coupler	AR	DC7420	12/05/2006
Wireless Com. Test Set	Agilent	E5515C	02/26/2006

5.4 Test Result

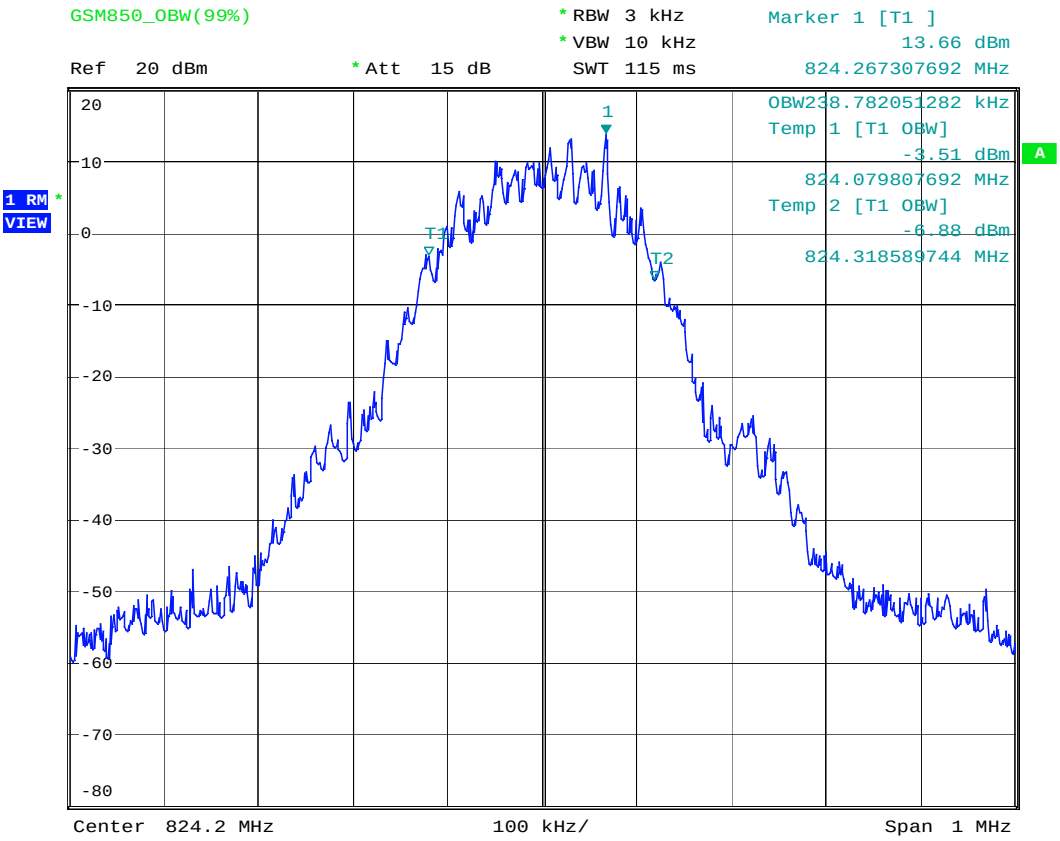
Test Date : 01/ 05/2006 Temperature : 16℃ Humidity : 66%

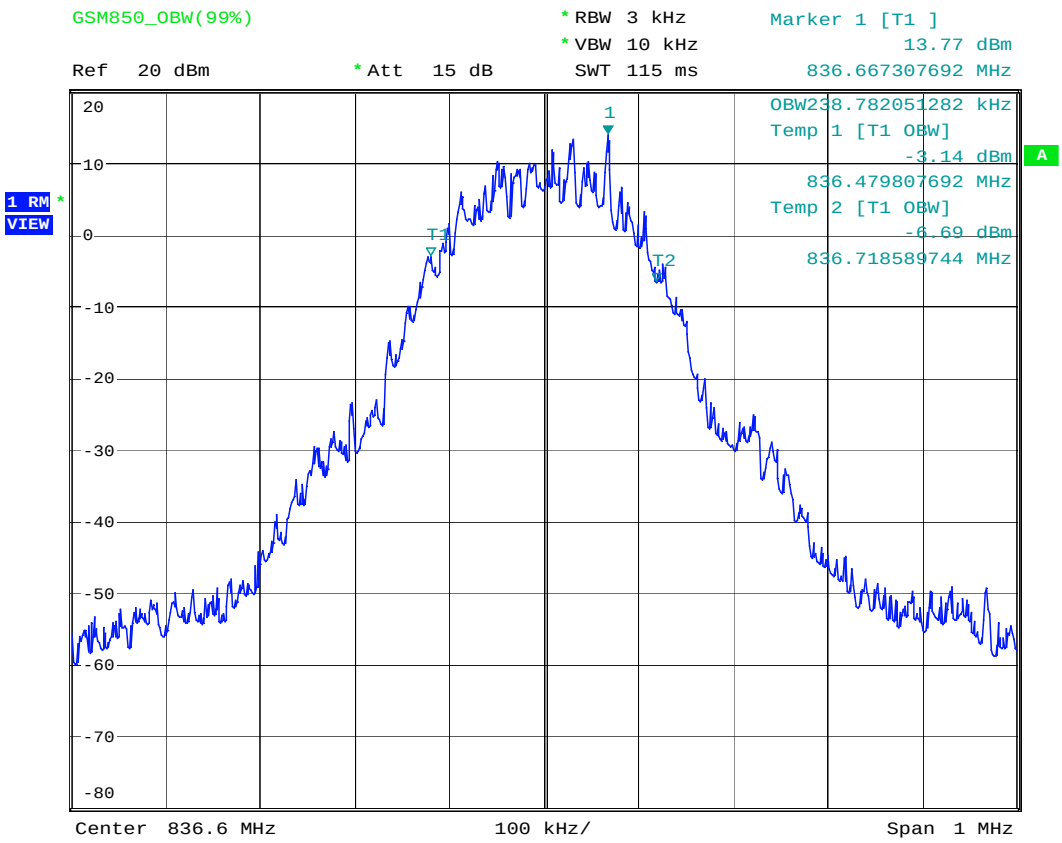
850MHz Band

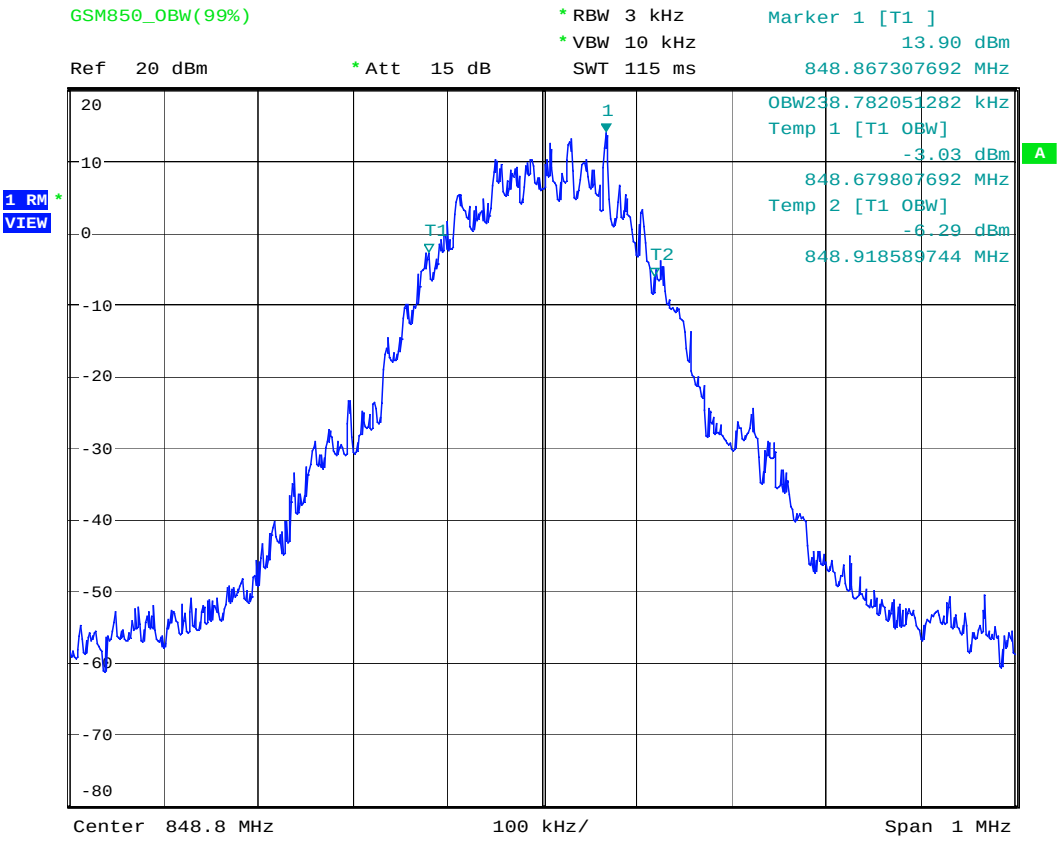
Test Mode	Channel	Frequency (MHz)	Bandwidth (kHz)
GSM850	128	824.2	238.782
	190	836.6	238.782
	251	848.8	238.782
GPRS850	128	824.2	238.782
	190	836.6	238.782
	251	848.8	238.782
EGPRS850	128	824.2	238.782
	190	836.6	238.782
	251	848.8	238.987

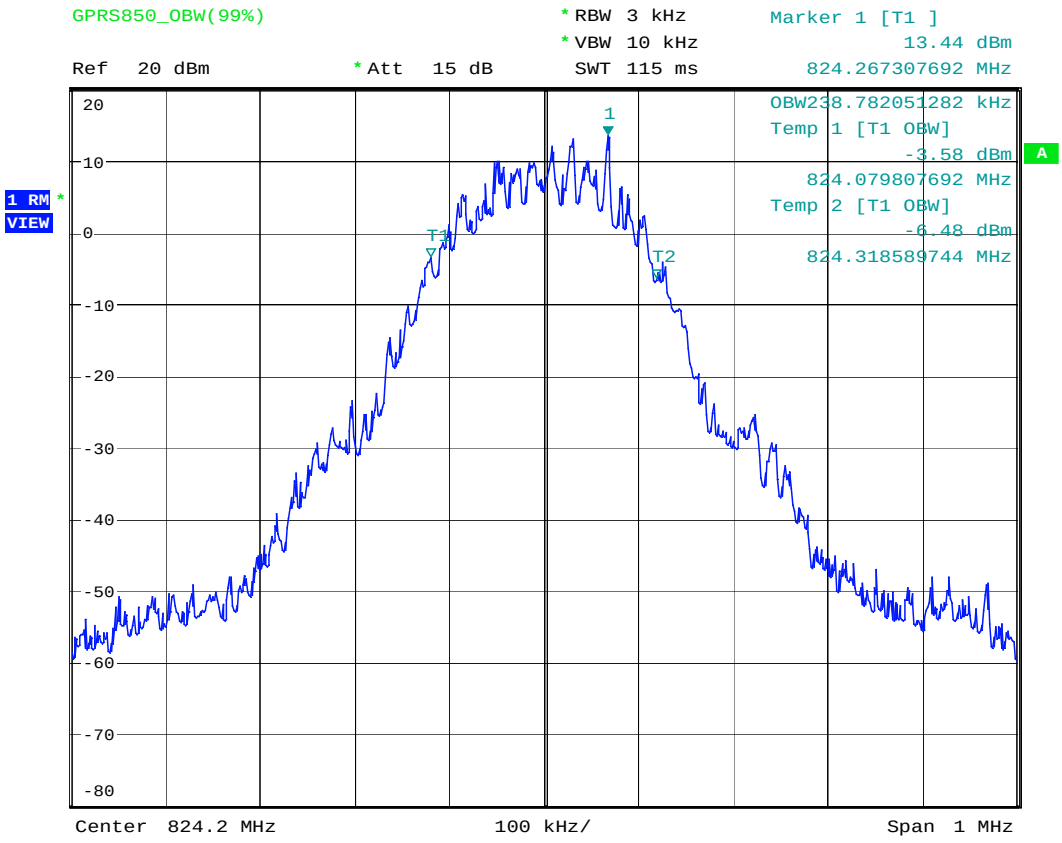
1900 Band

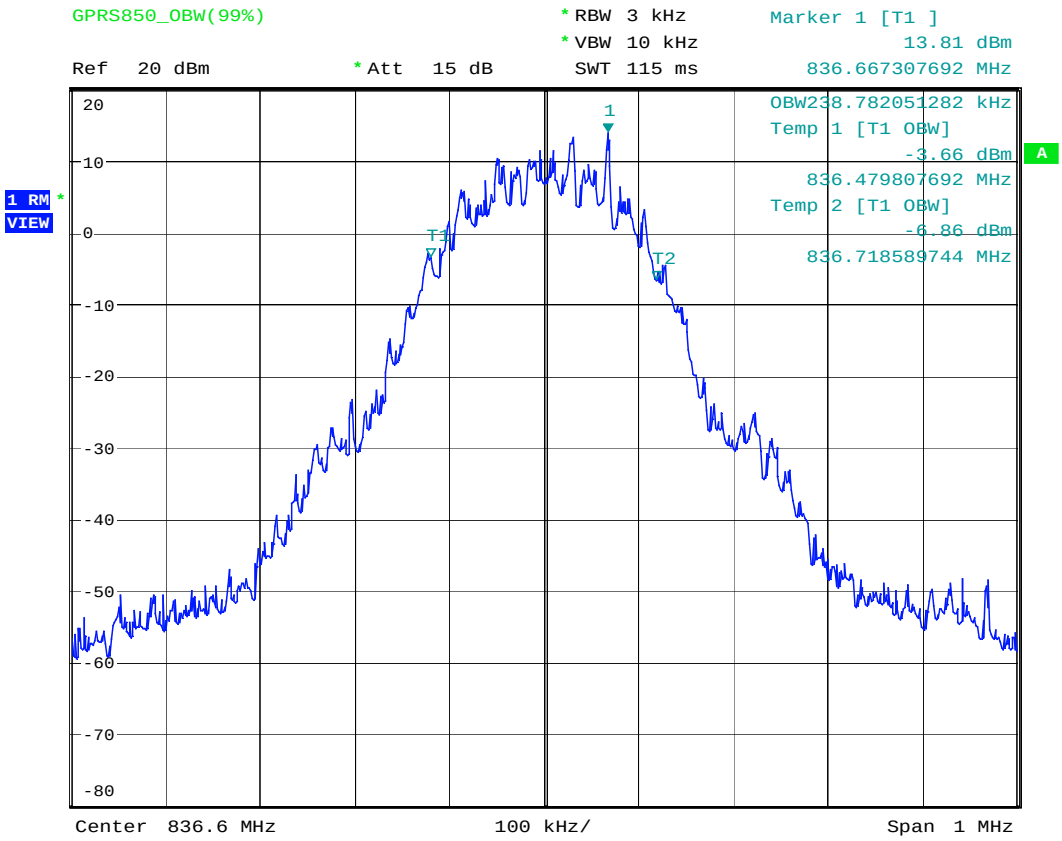
Test Mode	Channel	Frequency (MHz)	Bandwidth (kHz)
PCS1900	512	1850.2	238.782
	661	1880.0	238.782
	810	1909.8	238.782
GPRS1900	512	1850.2	238.782
	661	1880.0	238.385
	810	1909.8	238.782
EGPRS1900	512	1850.2	238.385
	661	1880.0	238.385
	810	1909.8	238.782

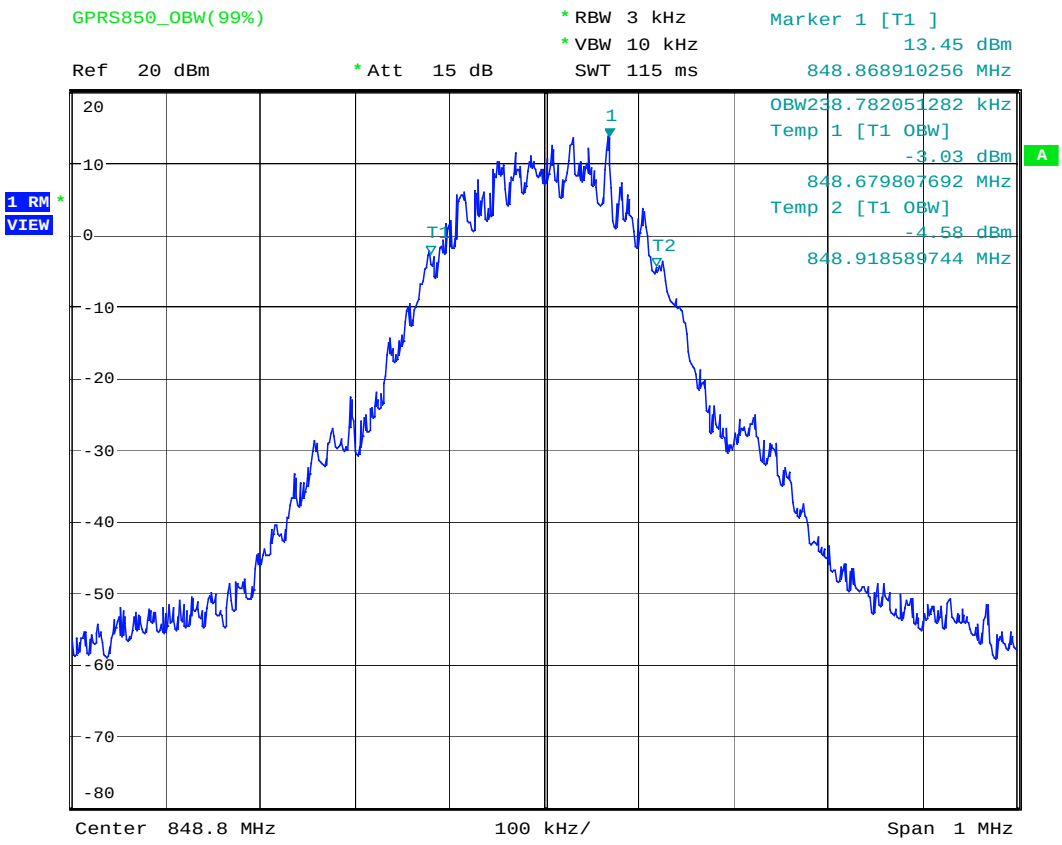

GSM850_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
13.66 dBm
824.267307692 MHz
Ref 20 dBm
*Att 15 dB
OBW238.782051282 kHz
Temp 1 [T1 OBW]
-3.51 dBm
824.079807692 MHz
Temp 2 [T1 OBW]
-6.88 dBm
824.318589744 MHz
1 RM
VIEW
A
T1
T2
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 824.2 MHz
100 kHz/
Span 1 MHz

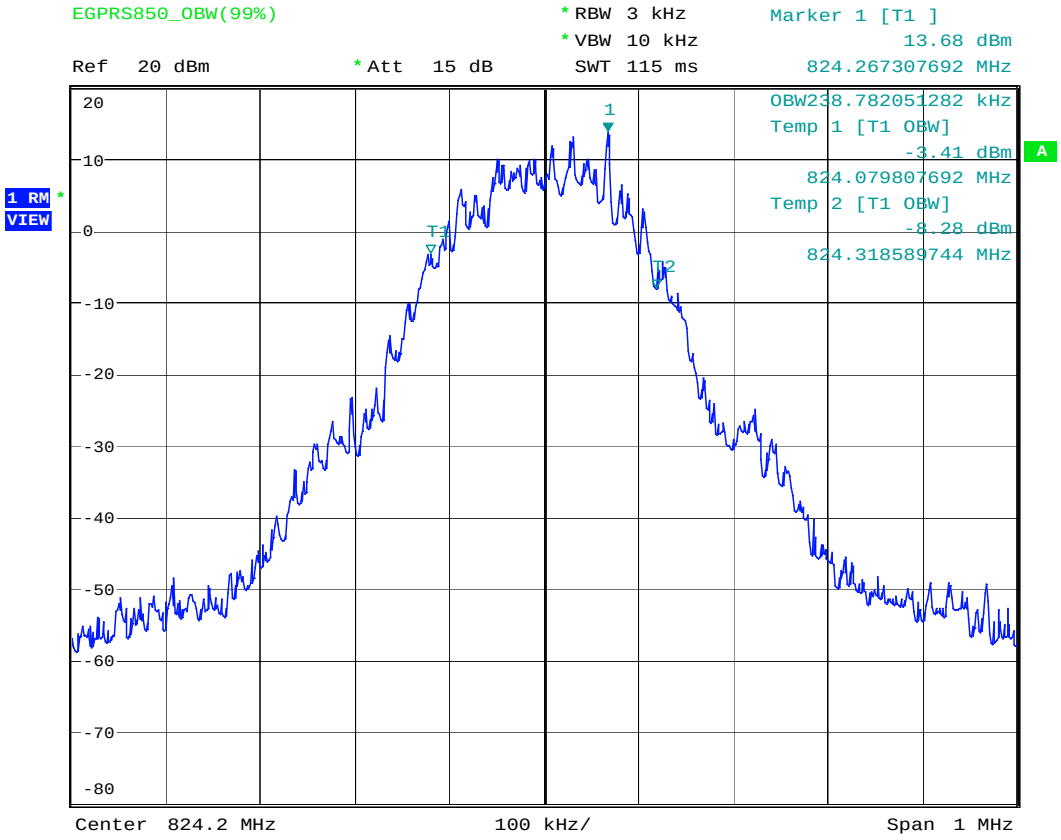

GSM850_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
13.77 dBm
836.667307692 MHz
Ref 20 dBm
*Att 15 dB
OBW238.782051282 kHz
Temp 1 [T1 OBW]
-3.14 dBm
836.479807692 MHz
Temp 2 [T1 OBW]
-6.69 dBm
836.718589744 MHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
T1
T2
Center 836.6 MHz
100 kHz/
Span 1 MHz

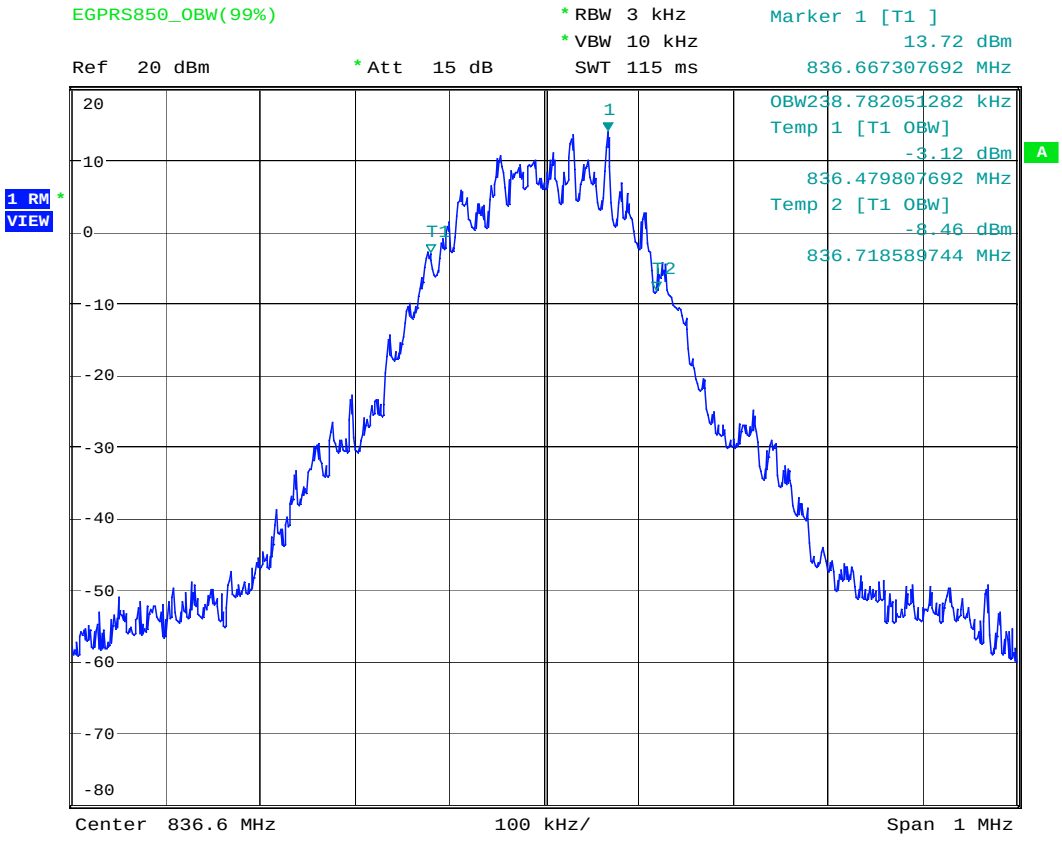

GSM850_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
13.90 dBm
848.867307692 MHz
Ref 20 dBm
*Att 15 dB
OBW238.782051282 kHz
Temp 1 [T1 OBW]
-3.03 dBm
848.679807692 MHz
Temp 2 [T1 OBW]
-6.29 dBm
848.918589744 MHz
1 RM *
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
T1
T2
1
Center 848.8 MHz
100 kHz/
Span 1 MHz

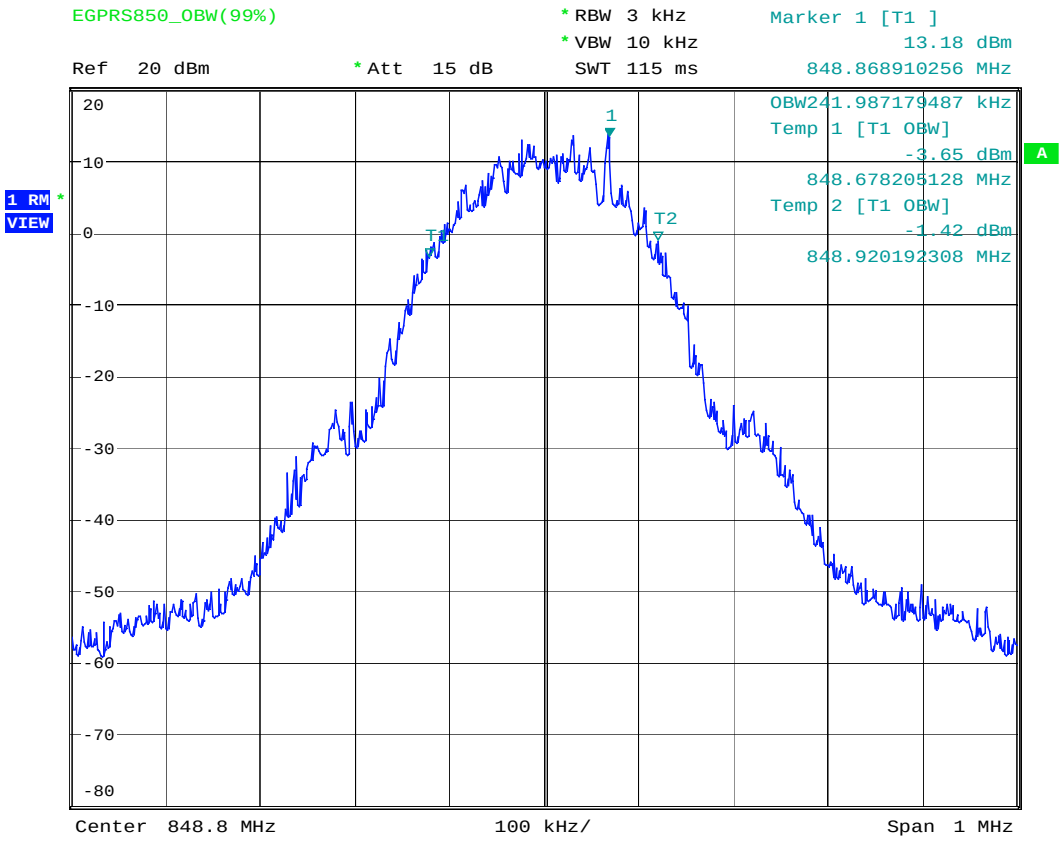

GPRS850_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
13.44 dBm
824.267307692 MHz
Ref 20 dBm
*Att 15 dB
OBW238.782051282 kHz
Temp 1 [T1 OBW]
-3.58 dBm
824.079807692 MHz
Temp 2 [T1 OBW]
-6.48 dBm
824.318589744 MHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
T1
T2
Center 824.2 MHz
100 kHz/
Span 1 MHz

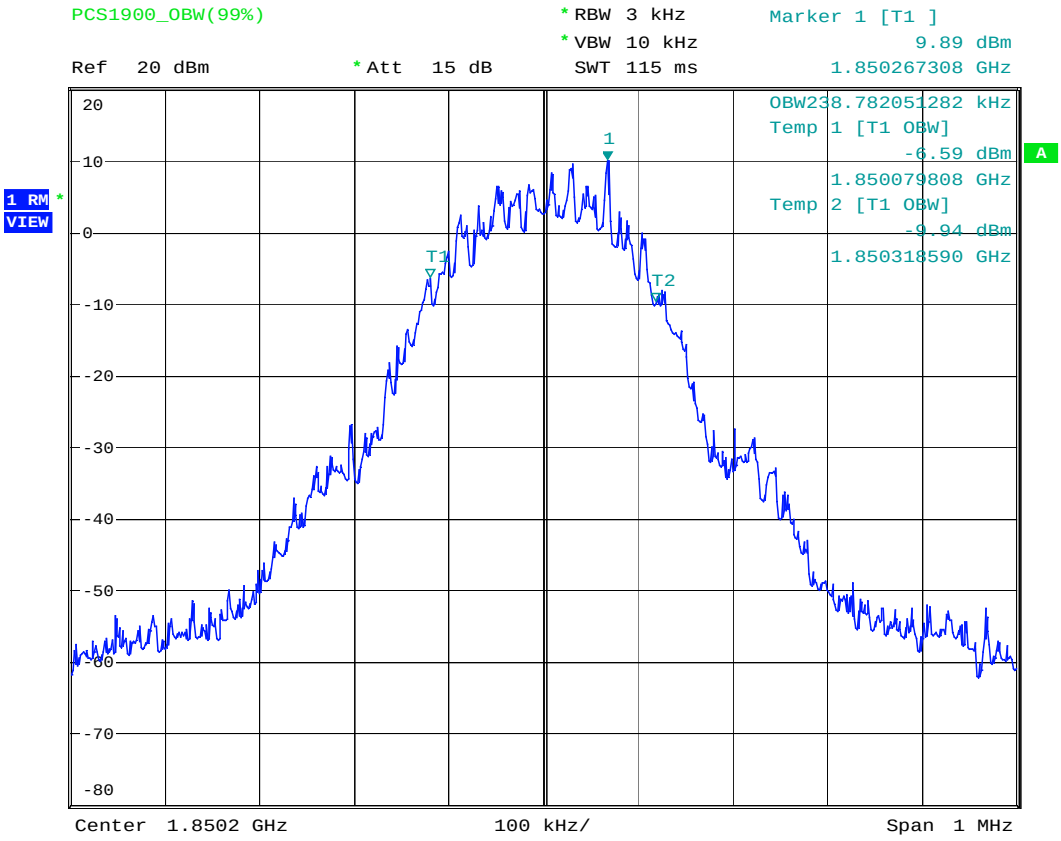

GPRS850_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
Ref 20 dBm
*Att 15 dB
SWT 115 ms
Marker 1 [T1]
13.81 dBm
836.667307692 MHz
OBW238.782051282 kHz
Temp 1 [T1 OBW]
-3.66 dBm
836.479807692 MHz
Temp 2 [T1 OBW]
-6.86 dBm
836.718589744 MHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
T1
T2
Center 836.6 MHz
100 kHz/
Span 1 MHz

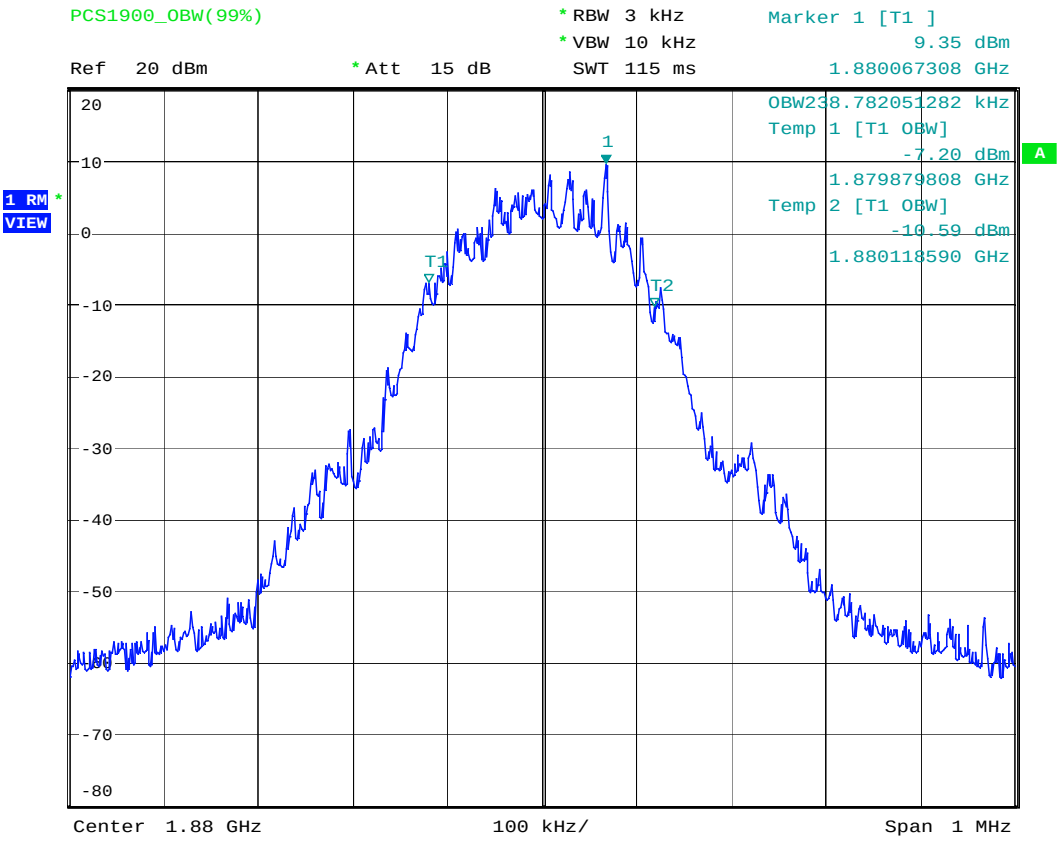

GPRS850_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
Ref 20 dBm
*Att 15 dB
SWT 115 ms
Marker 1 [T1]
13.45 dBm
848.868910256 MHz
OBW238.782051282 kHz
Temp 1 [T1 OBW]
-3.03 dBm
848.679807692 MHz
Temp 2 [T1 OBW]
-4.58 dBm
848.918589744 MHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
T1
T2
1
Center 848.8 MHz
100 kHz/
Span 1 MHz

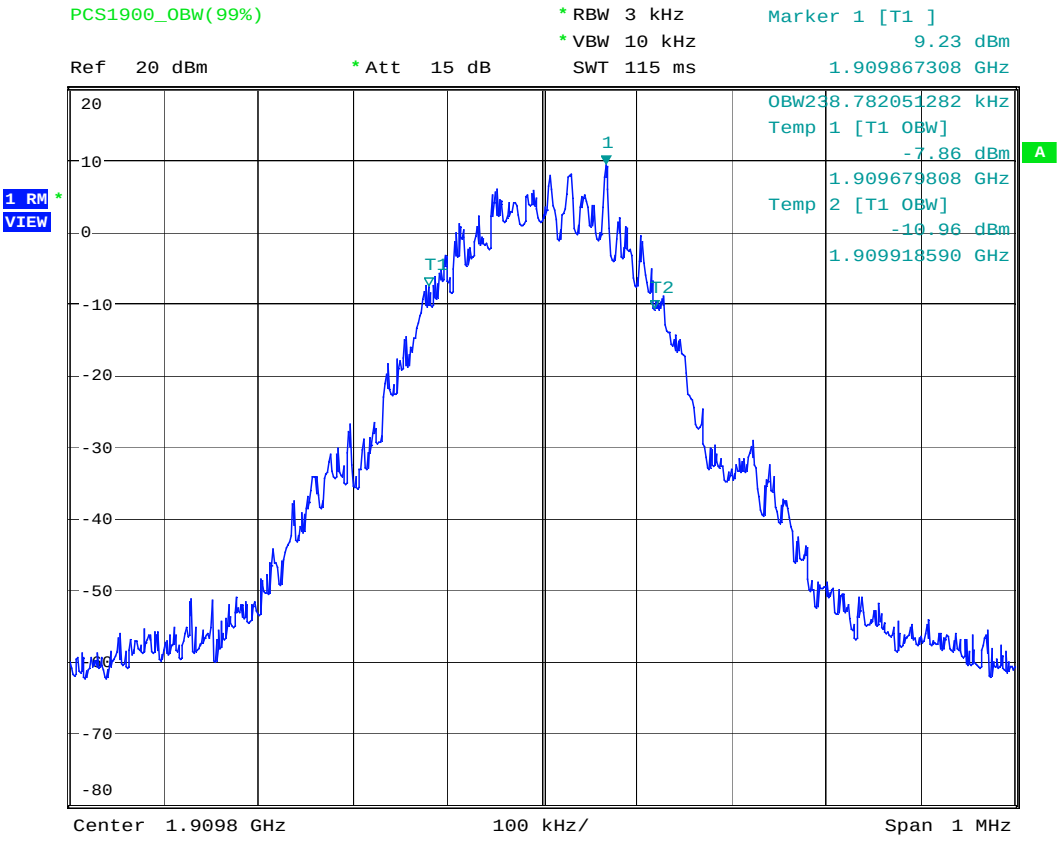

EGPRS850_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
Ref 20 dBm
*Att 15 dB
SWT 115 ms
Marker 1 [T1]
13.68 dBm
824.267307692 MHz
OBW238.782051282 kHz
Temp 1 [T1 OBW]
-3.41 dBm
824.079807692 MHz
Temp 2 [T1 OBW]
-8.28 dBm
824.318589744 MHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 824.2 MHz
100 kHz/
Span 1 MHz

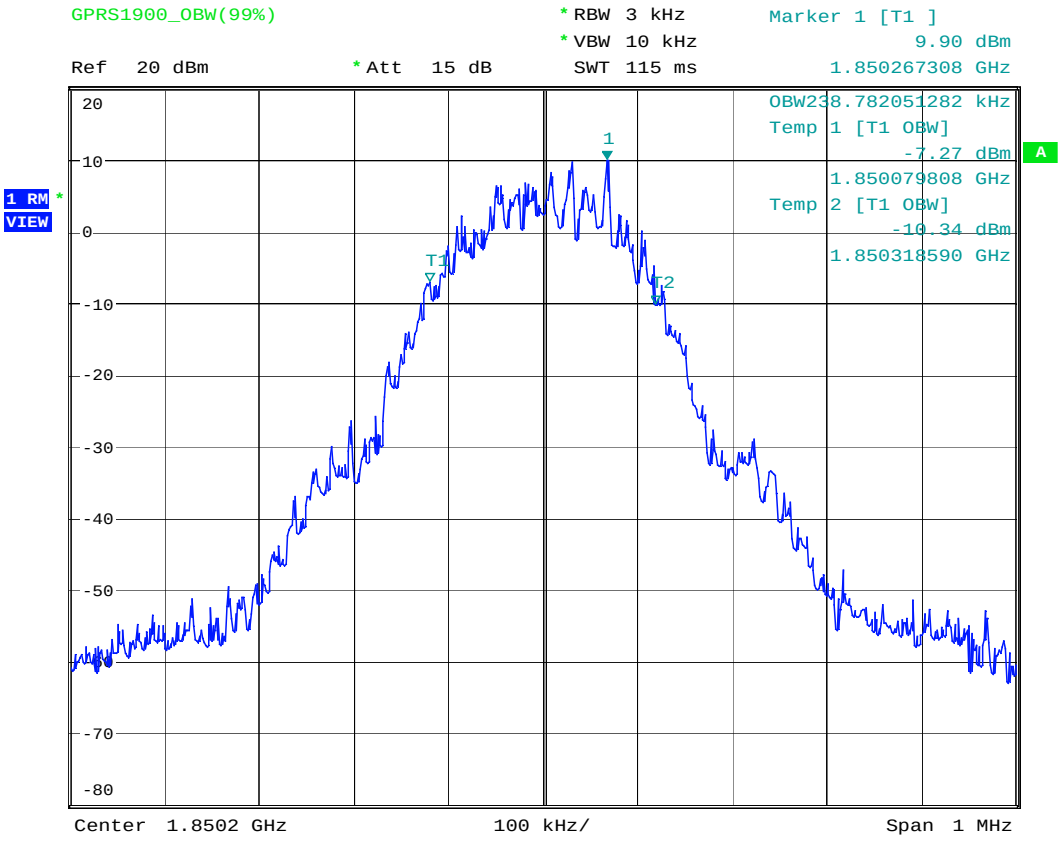

EGPRS850_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
Ref 20 dBm
*Att 15 dB
SWT 115 ms
Marker 1 [T1]
13.72 dBm
836.667307692 MHz
OBW238.782051282 kHz
Temp 1 [T1 OBW]
-3.12 dBm
836.479807692 MHz
Temp 2 [T1 OBW]
-8.46 dBm
836.718589744 MHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 836.6 MHz
100 kHz/
Span 1 MHz

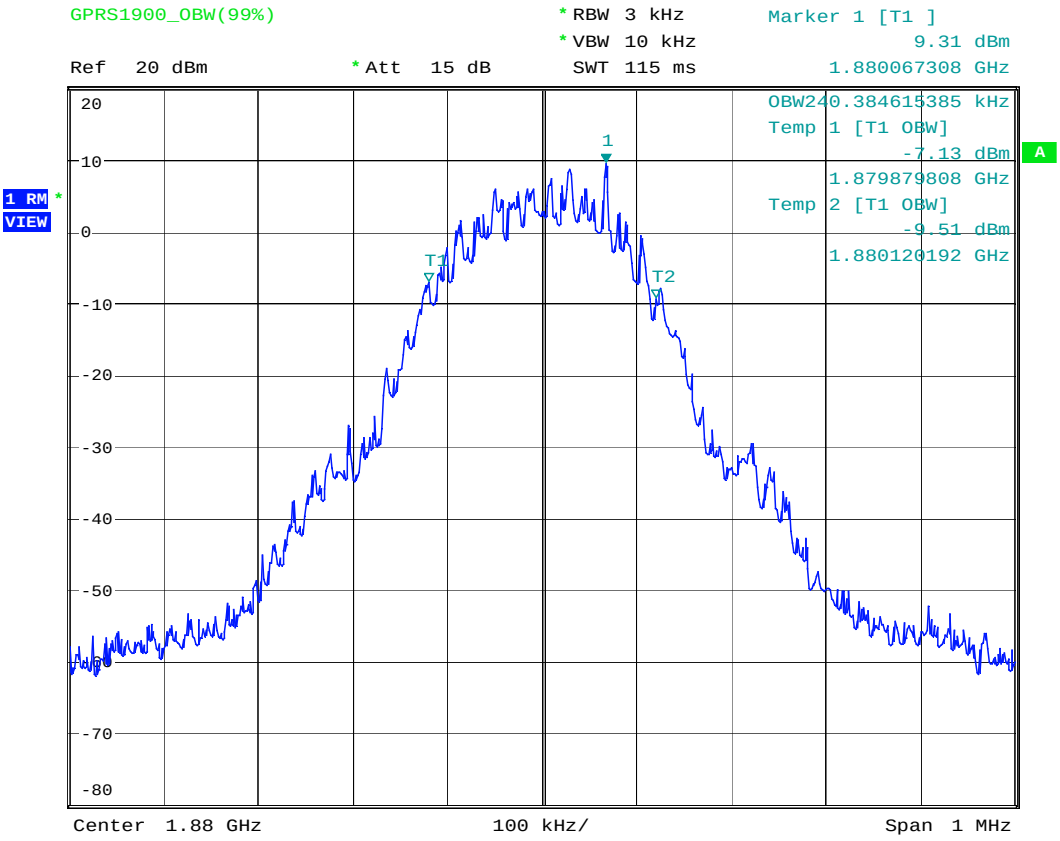

EGPRS850_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
Ref 20 dBm
*Att 15 dB
SWT 115 ms
Marker 1 [T1]
13.18 dBm
848.868910256 MHz
OBW241.987179487 kHz
Temp 1 [T1 OBW]
-3.65 dBm
848.678205128 MHz
Temp 2 [T1 OBW]
-1.42 dBm
848.920192308 MHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
T1
T2
Center 848.8 MHz
100 kHz/
Span 1 MHz

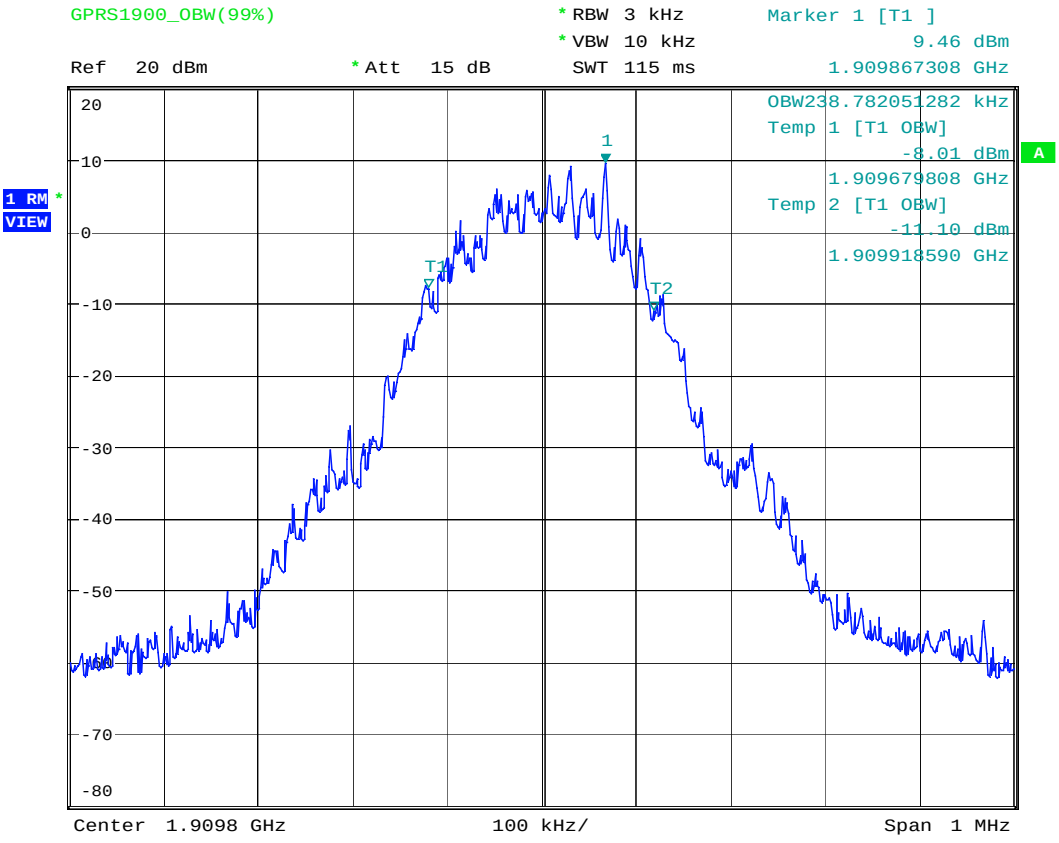

PCS1900_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
Ref 20 dBm
*Att 15 dB
SWT 115 ms
Marker 1 [T1]
9.89 dBm
1.850267308 GHz
OBW238.782051282 kHz
Temp 1 [T1 OBW]
-6.59 dBm
1.850079808 GHz
Temp 2 [T1 OBW]
-9.94 dBm
1.850318590 GHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
T1
T2
1
Center 1.8502 GHz
100 kHz/
Span 1 MHz

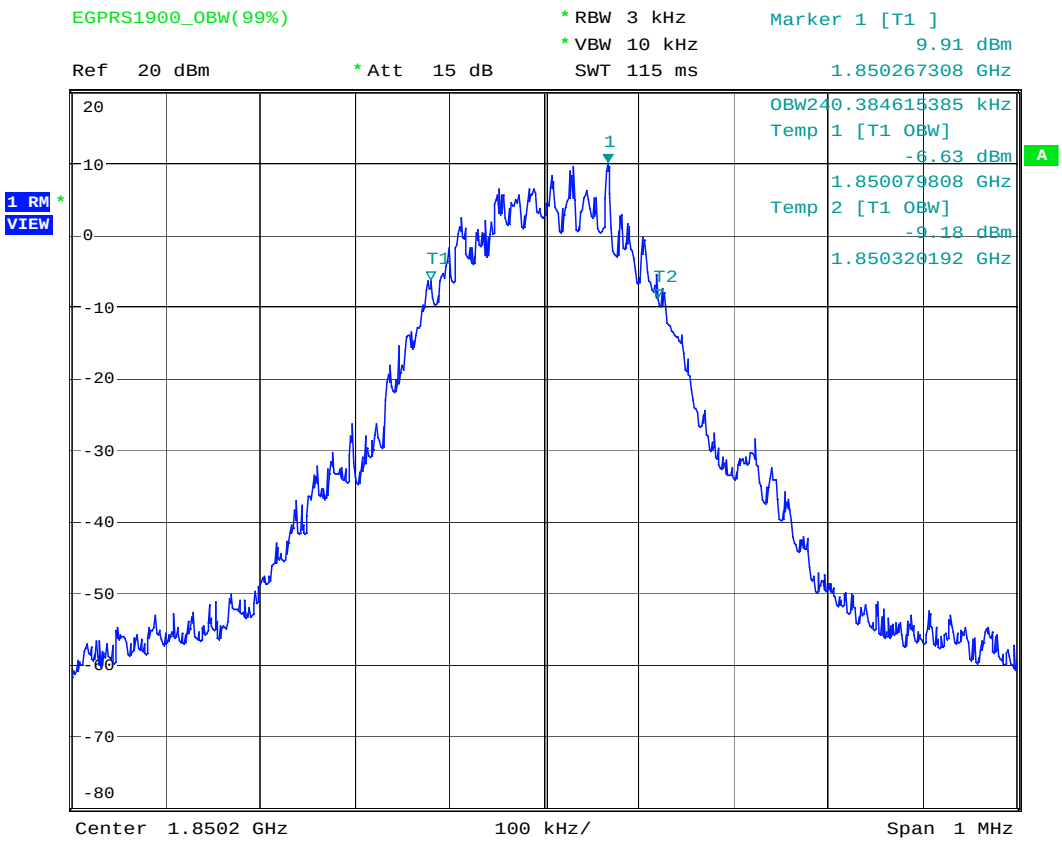

PCS1900_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
9.35 dBm
1.880067308 GHz
Ref 20 dBm
*Att 15 dB
OBW238.782051282 kHz
Temp 1 [T1 OBW]
-7.20 dBm
1.879879808 GHz
Temp 2 [T1 OBW]
-10.59 dBm
1.880118590 GHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
T1
T2
1
Center 1.88 GHz
100 kHz/
Span 1 MHz

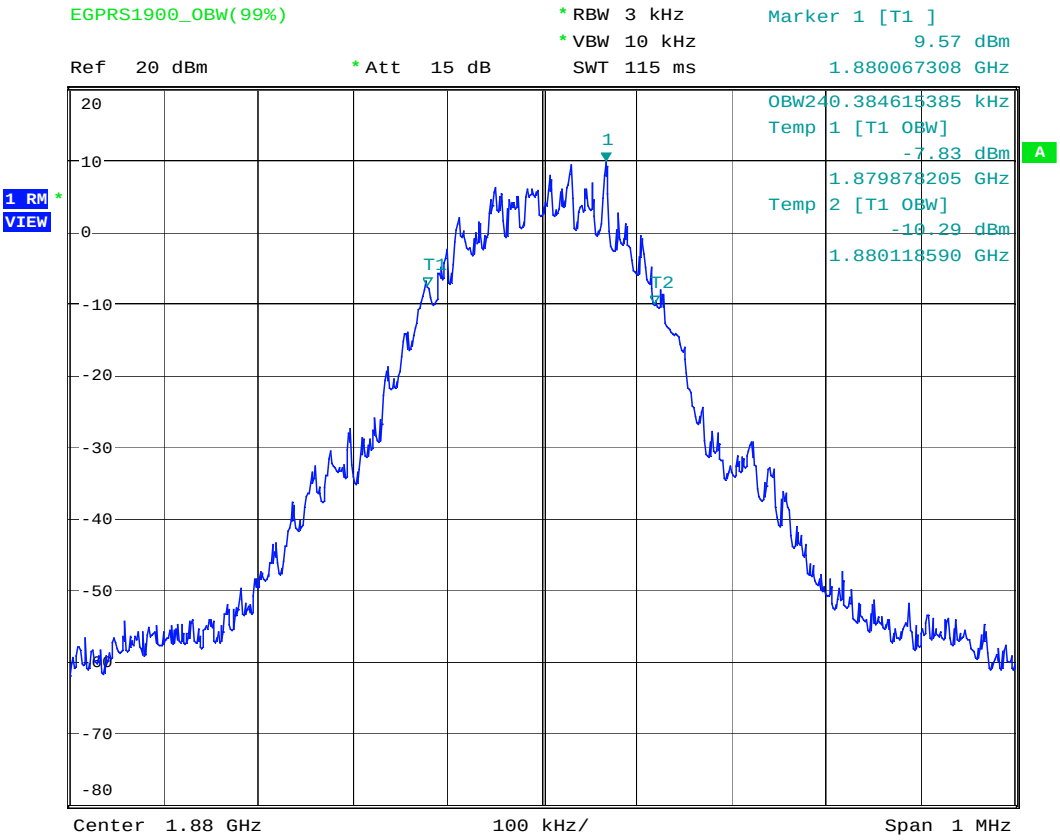

PCS1900_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
Ref 20 dBm
*Att 15 dB
SWT 115 ms
Marker 1 [T1]
9.23 dBm
1.909867308 GHz
OBW238.782051282 kHz
Temp 1 [T1 OBW]
-7.86 dBm
1.909679808 GHz
Temp 2 [T1 OBW]
-10.96 dBm
1.909918590 GHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 1.9098 GHz
100 kHz/
Span 1 MHz

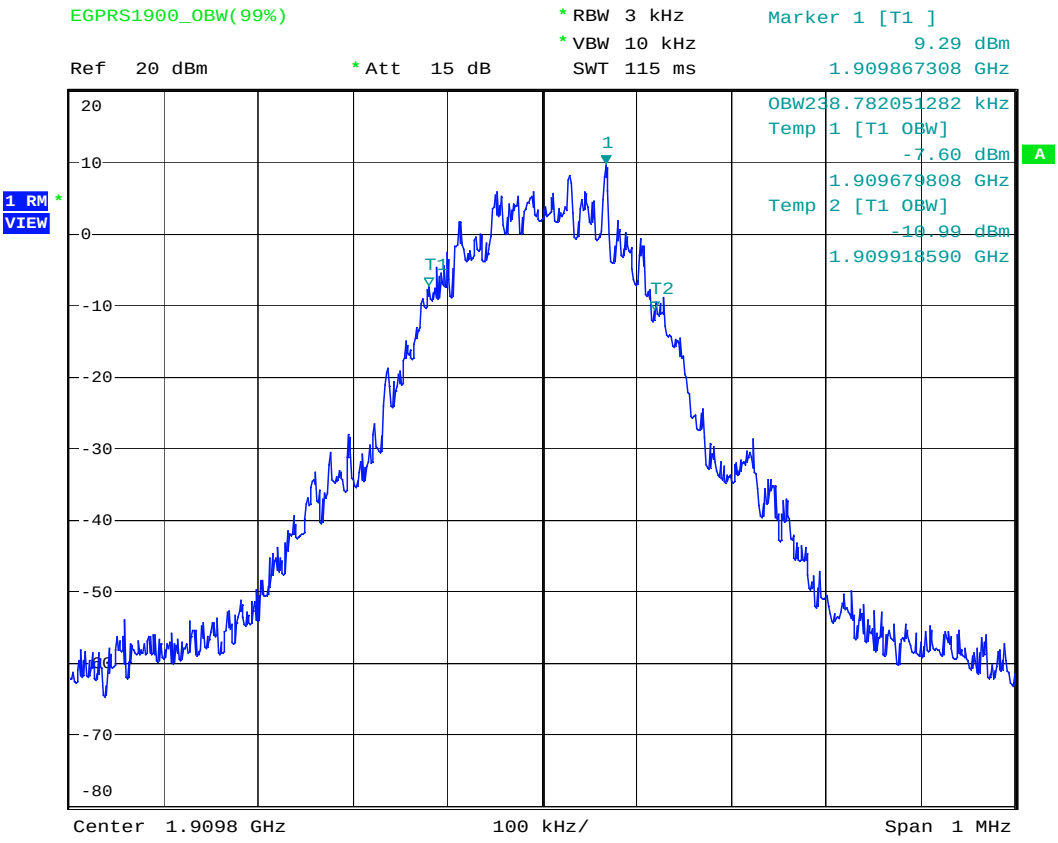

GPRS1900_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
Ref 20 dBm
*Att 15 dB
SWT 115 ms
Marker 1 [T1]
9.90 dBm
1.850267308 GHz
OBW238.782051282 kHz
Temp 1 [T1 OBW]
-7.27 dBm
1.850079808 GHz
Temp 2 [T1 OBW]
-10.34 dBm
1.850318590 GHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-70
-80
Center 1.8502 GHz
100 kHz/
Span 1 MHz


GPRS1900_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
Ref 20 dBm
*Att 15 dB
SWT 115 ms
Marker 1 [T1]
9.31 dBm
1.880067308 GHz
OBW240.384615385 kHz
Temp 1 [T1 OBW]
-7.13 dBm
1.879879808 GHz
Temp 2 [T1 OBW]
-9.51 dBm
1.880120192 GHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-70
-80
T1
T2
1
Center 1.88 GHz
100 kHz/
Span 1 MHz


GPRS1900_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
Ref 20 dBm
*Att 15 dB
SWT 115 ms
Marker 1 [T1]
9.46 dBm
1.909867308 GHz
OBW238.782051282 kHz
Temp 1 [T1 OBW]
-8.01 dBm
1.909679808 GHz
Temp 2 [T1 OBW]
-11.10 dBm
1.909918590 GHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-70
-80
T1
T2
1
Center 1.9098 GHz
100 kHz/
Span 1 MHz


EGPRS1900_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
9.91 dBm
1.850267308 GHz
Ref 20 dBm
*Att 15 dB
OBW240.384615385 kHz
Temp 1 [T1 OBW]
-6.63 dBm
1.850079808 GHz
Temp 2 [T1 OBW]
-9.18 dBm
1.850320192 GHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
T1
T2
1
Center 1.8502 GHz
100 kHz/
Span 1 MHz


EGPRS1900_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
Ref 20 dBm
*Att 15 dB
SWT 115 ms
Marker 1 [T1]
9.57 dBm
1.880067308 GHz
OBW240.384615385 kHz
Temp 1 [T1 OBW]
-7.83 dBm
1.879878205 GHz
Temp 2 [T1 OBW]
-10.29 dBm
1.880118590 GHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
T1
T2
Center 1.88 GHz
100 kHz/
Span 1 MHz


EGPRS1900_OBW(99%)
*RBW 3 kHz
*VBW 10 kHz
Ref 20 dBm
*Att 15 dB
SWT 115 ms
Marker 1 [T1]
9.29 dBm
1.909867308 GHz
OBW238.782051282 kHz
Temp 1 [T1 OBW]
-7.60 dBm
1.909679808 GHz
Temp 2 [T1 OBW]
-10.99 dBm
1.909918590 GHz
1 RM
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-70
-80
Center 1.9098 GHz
100 kHz/
Span 1 MHz

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 lease 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 lease 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	11/02/2006
Coupler	AR	DC7420	12/05/2006
Wireless Com. Tst. Set	Agilent	E5515C	02/26/2006

6.4 Test Result

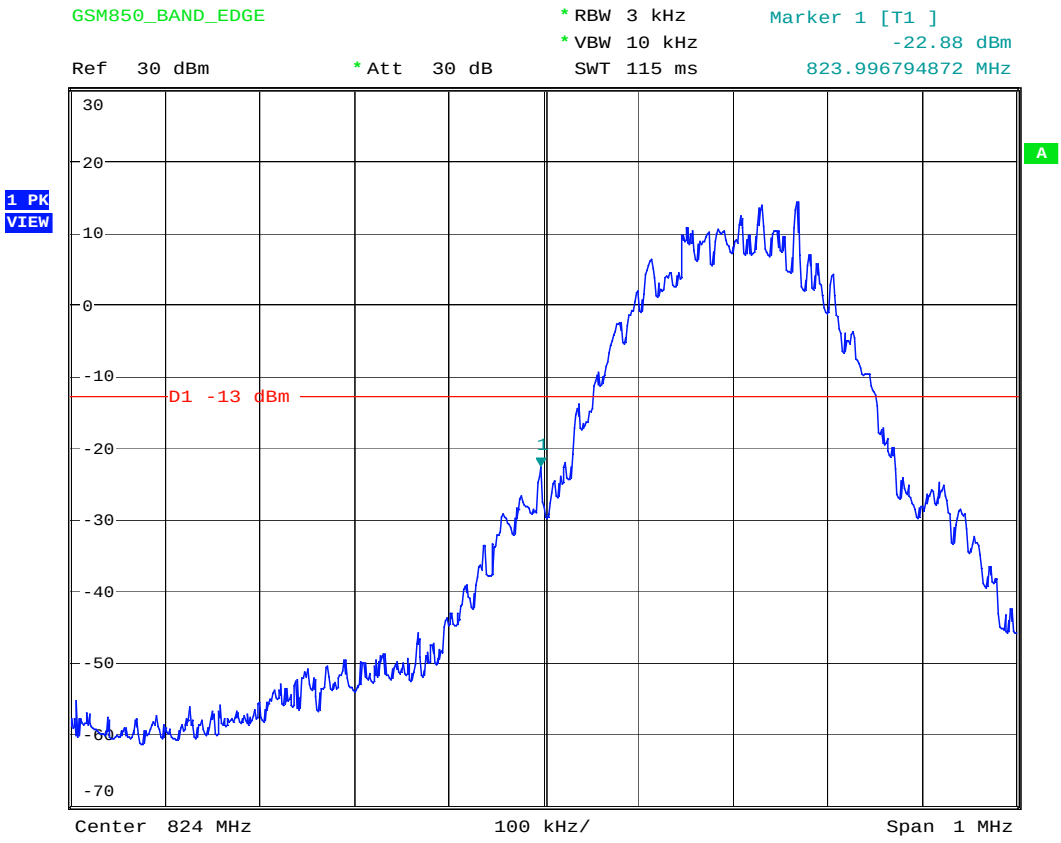
Test Date : 01/ 05/2006 Temperature : 16℃ Humidity : 66%

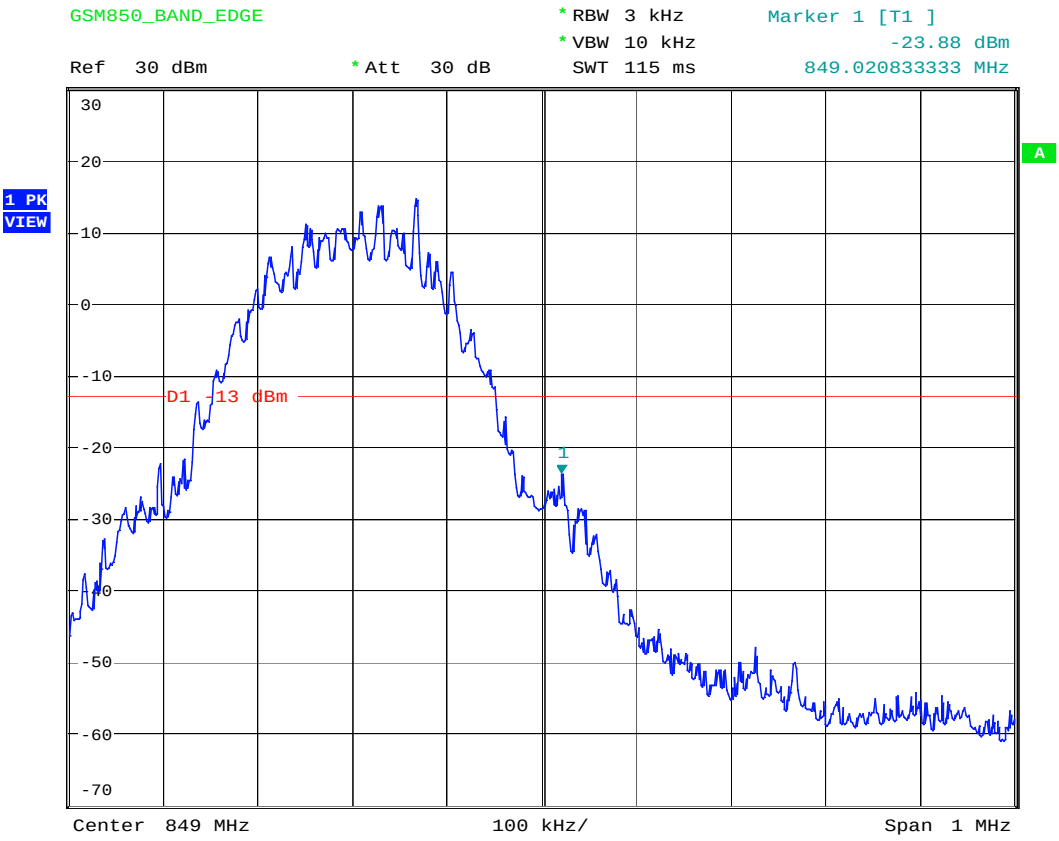
850 Band

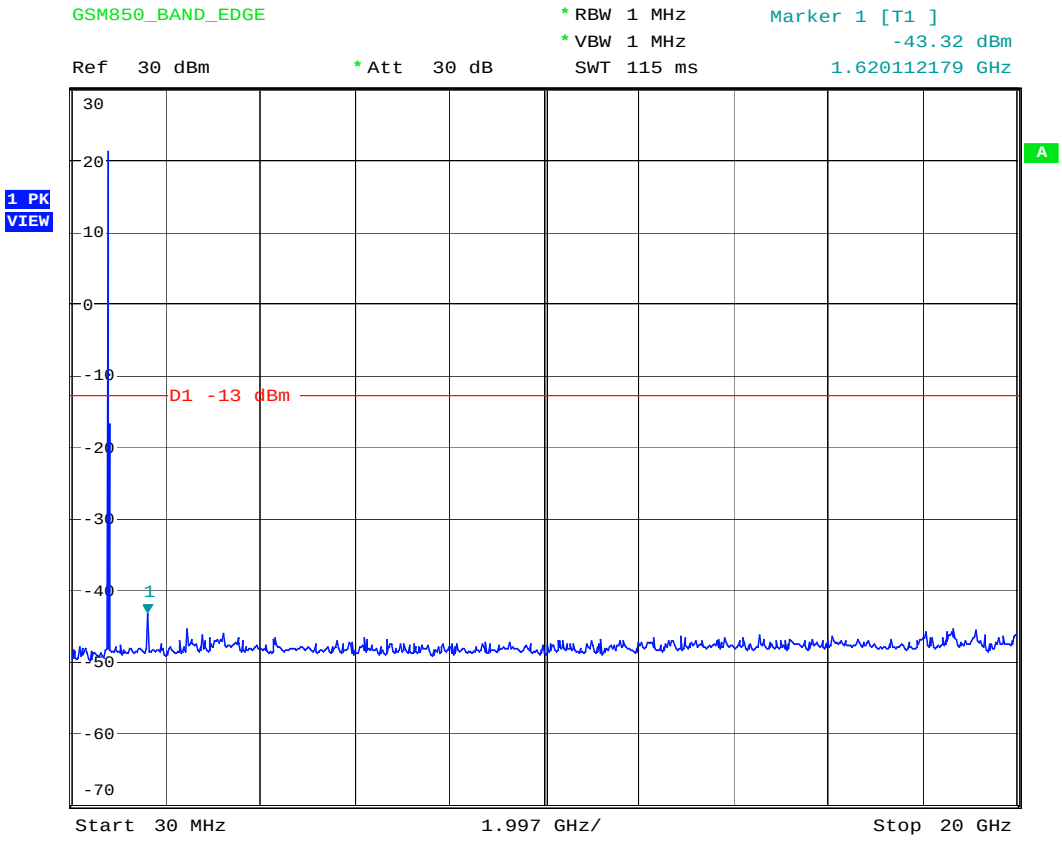
Test Mode	Channel	Frequency Range	Note	Chart
GSM850	128	823MHz-825MHz	Lower Band Edge	Page53
	251	823MHz-825MHz	Upper Band Edge	Page54
	128	30MHz-20GHz	All Band Edge	Page55
	190	30MHz-20GHz	All Band Edge	Page56
	251	30MHz-20GHz	All Band Edge	Page57
GPRS850	128	823MHz-825MHz	Lower Band Edge	Page58
	251	823MHz-825MHz	Upper Band Edge	Page59
	128	30MHz-20GHz	All Band Edge	Page60
	190	30MHz-20GHz	All Band Edge	Page61
	251	30MHz-20GHz	All Band Edge	Page62
EGPRS850	128	823MHz-825MHz	Lower Band Edge	Page63
	251	823MHz-825MHz	Upper Band Edge	Page64
	128	30MHz-20GHz	All Band Edge	Page65
	190	30MHz-20GHz	All Band Edge	Page66
	251	30MHz-20GHz	All Band Edge	Page67

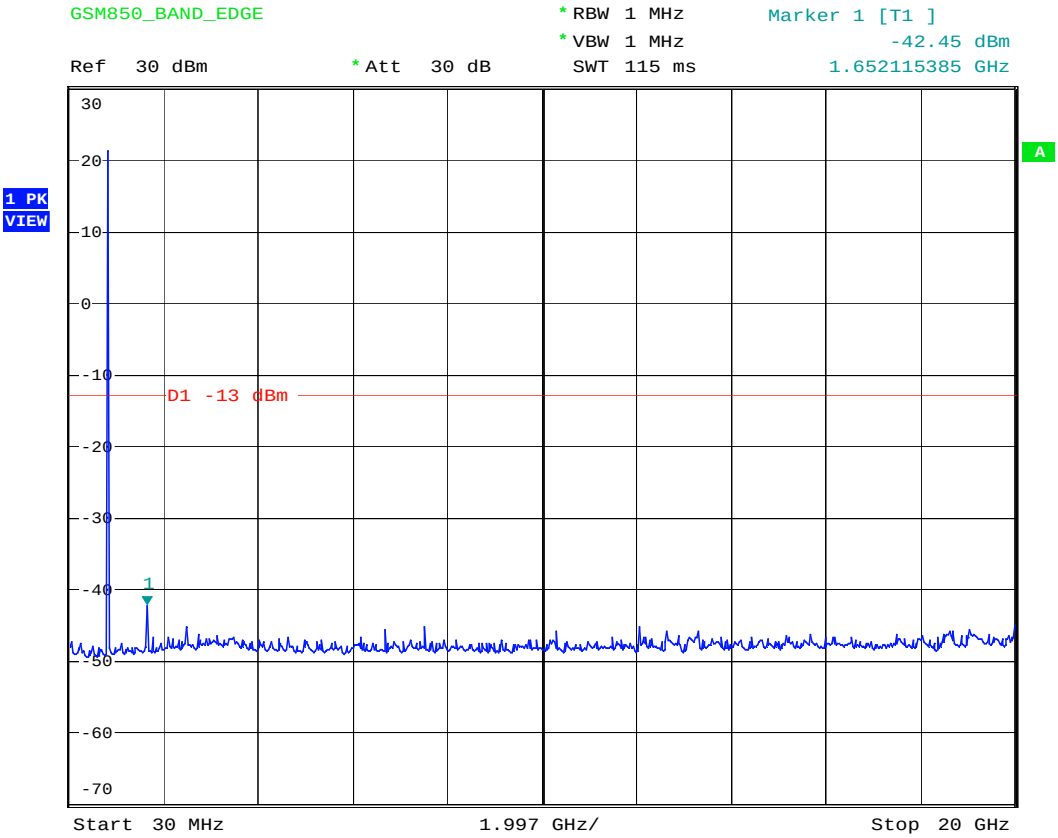
1900 Band

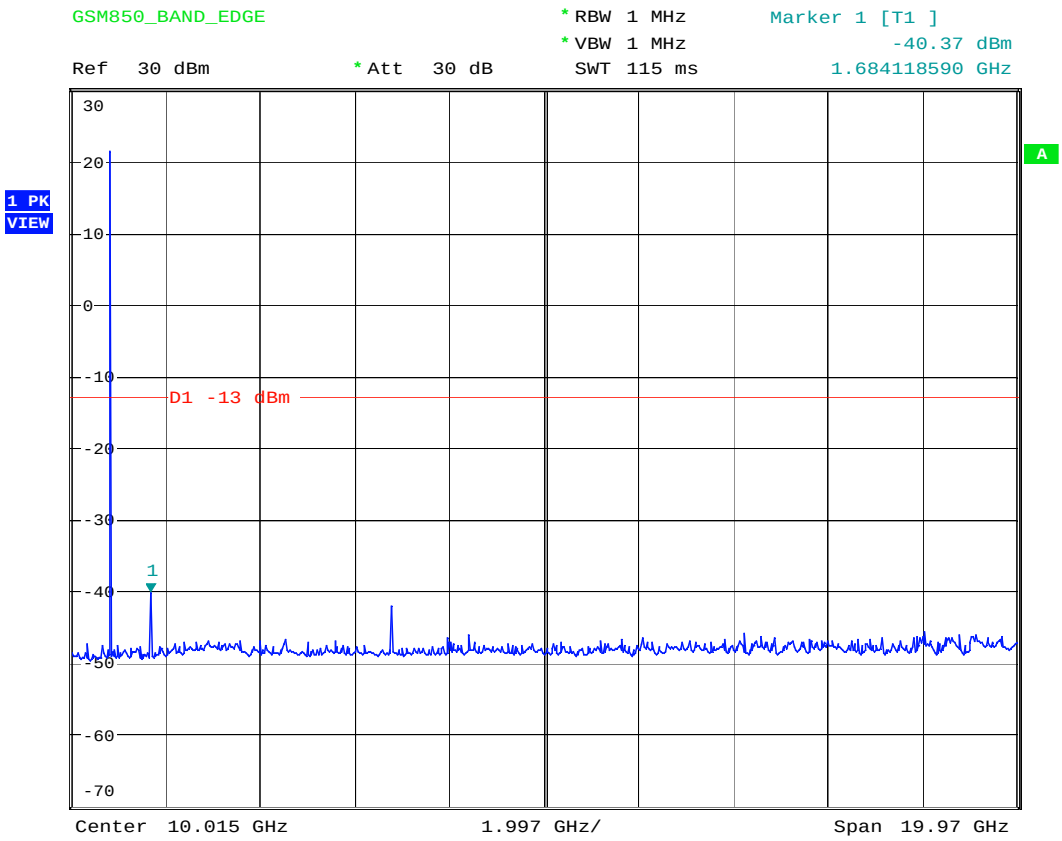
Test Mode	Channel	Frequency Range	Note	Chart
PCS1900	512	1849MHz-1851MHz	Lower Band Edge	Page68
	810	1909MHz-1901MHz	Upper Band Edge	Page69
	512	30MHz-20GHz	All Band Edge	Page70
	661	30MHz-20GHz	All Band Edge	Page71
	810	30MHz-20GHz	All Band Edge	Page72
GPRS1900	512	1849MHz-1851MHz	Lower Band Edge	Page73
	810	1909MHz-1901MHz	Upper Band Edge	Page74
	512	30MHz-20GHz	All Band Edge	Page75
	661	30MHz-20GHz	All Band Edge	Page76
	810	30MHz-20GHz	All Band Edge	Page77
EGPRS1900	512	1849MHz-1851MHz	Lower Band Edge	Page78
	810	1909MHz-1901MHz	Upper Band Edge	Page79
	512	30MHz-20GHz	All Band Edge	Page80
	661	30MHz-20GHz	All Band Edge	Page81
	810	30MHz-20GHz	All Band Edge	Page82

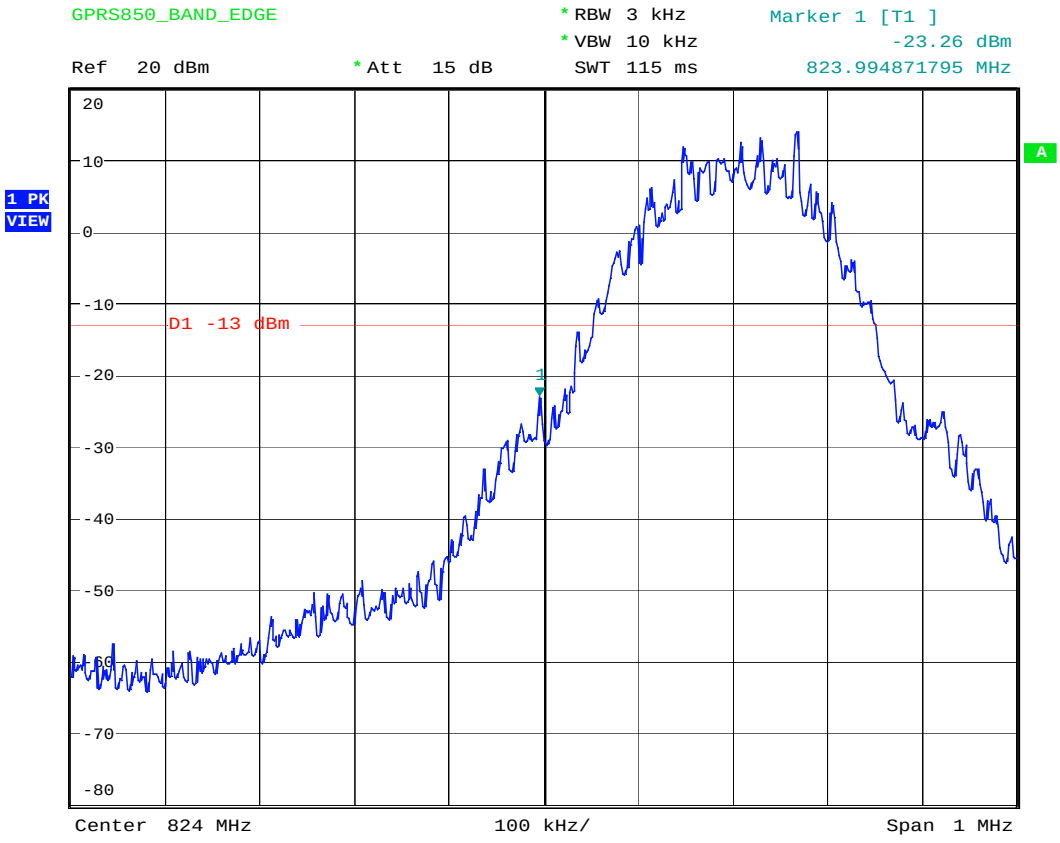

GSM850_BAND_EDGE
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
-22.88 dBm
823.996794872 MHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 -13 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 824 MHz
100 kHz/
Span 1 MHz

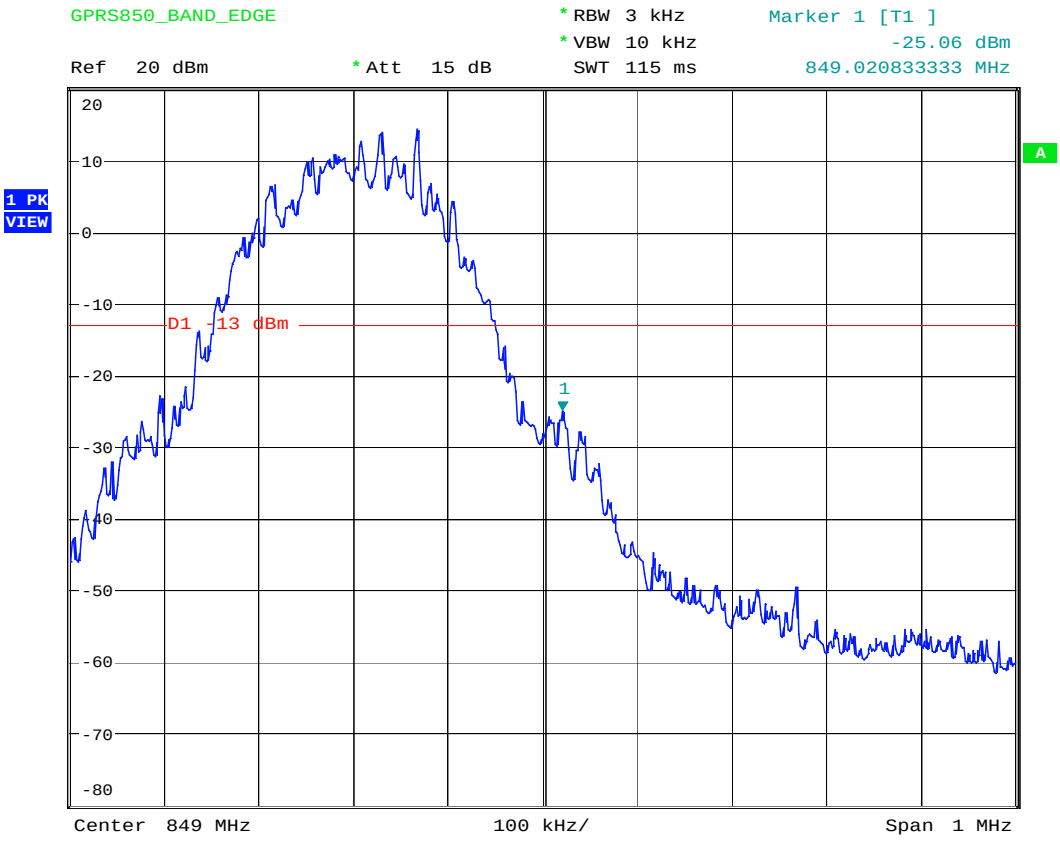

GSM850_BAND_EDGE
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
-23.88 dBm
849.020833333 MHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
D1 -13 dBm
1
Center 849 MHz
100 kHz/
Span 1 MHz

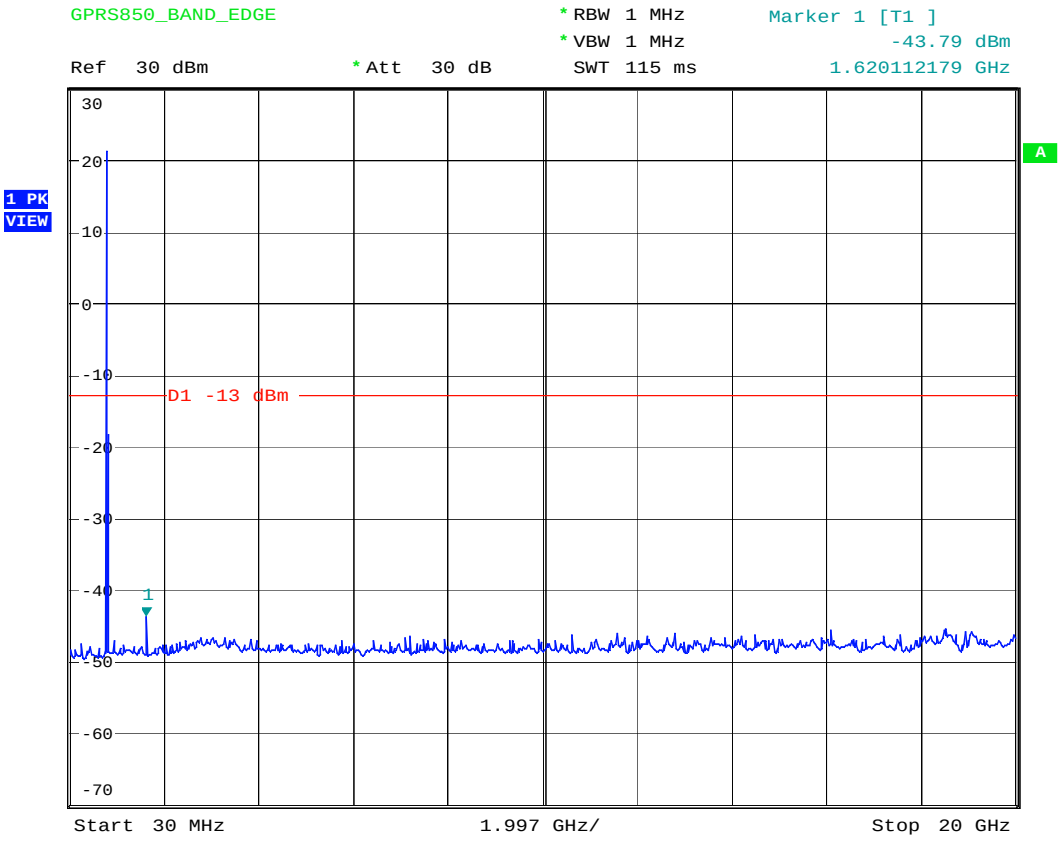

GSM850_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
SWT 115 ms
Marker 1 [T1]
-43.32 dBm
1.620112179 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 -13 dBm
Start 30 MHz
1.997 GHz/
Stop 20 GHz

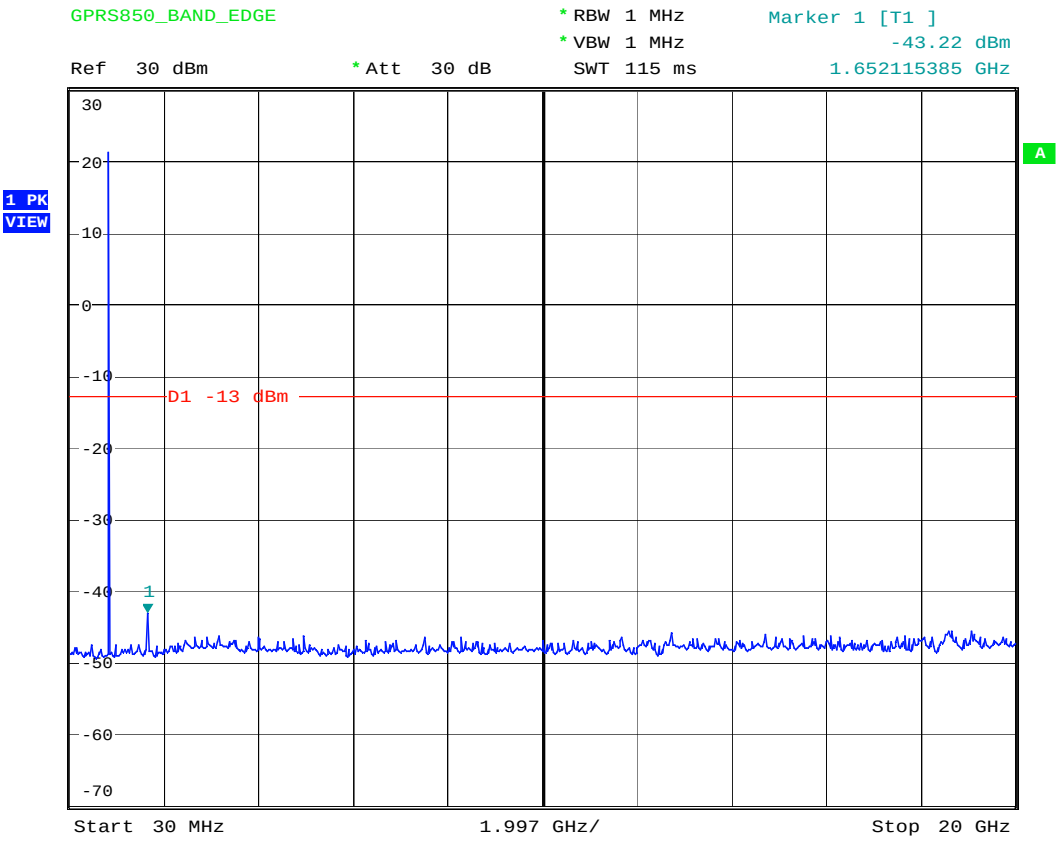

GSM850_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
SWT 115 ms
Marker 1 [T1]
-42.45 dBm
1.652115385 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 -13 dBm
Start 30 MHz
1.997 GHz/
Stop 20 GHz

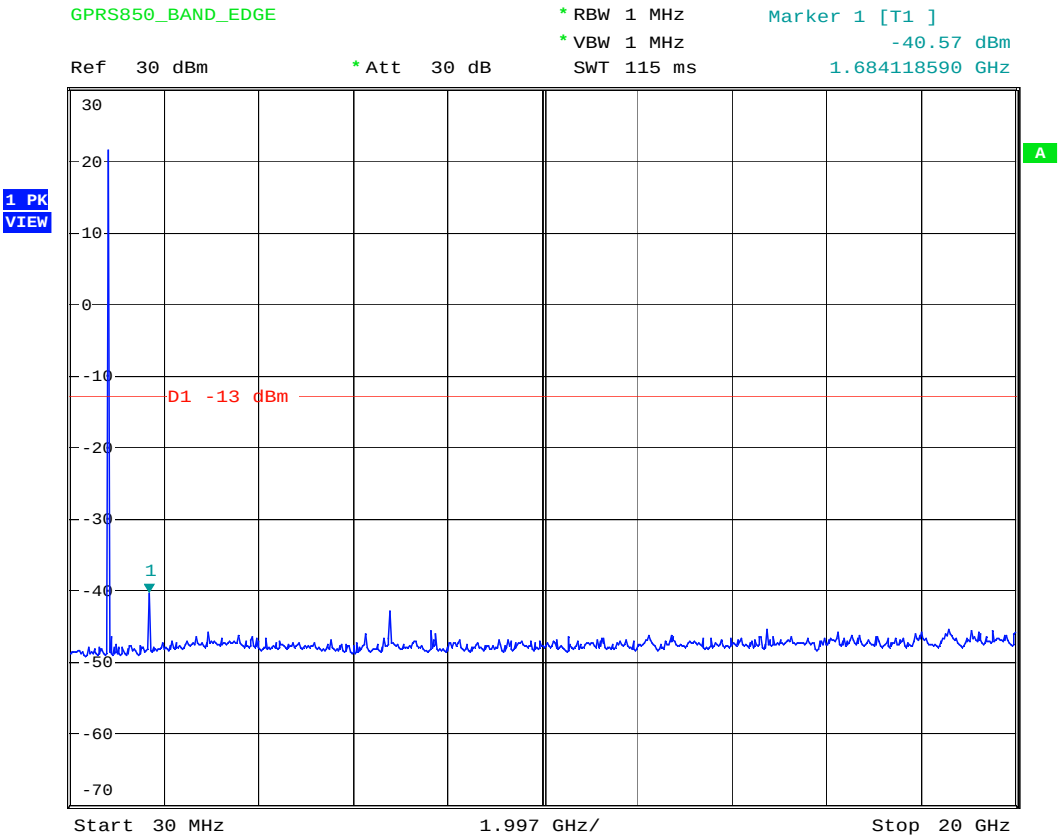

GSM850_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
SWT 115 ms
Marker 1 [T1]
-40.37 dBm
1.684118590 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 -13 dBm
Center 10.015 GHz
1.997 GHz/
Span 19.97 GHz

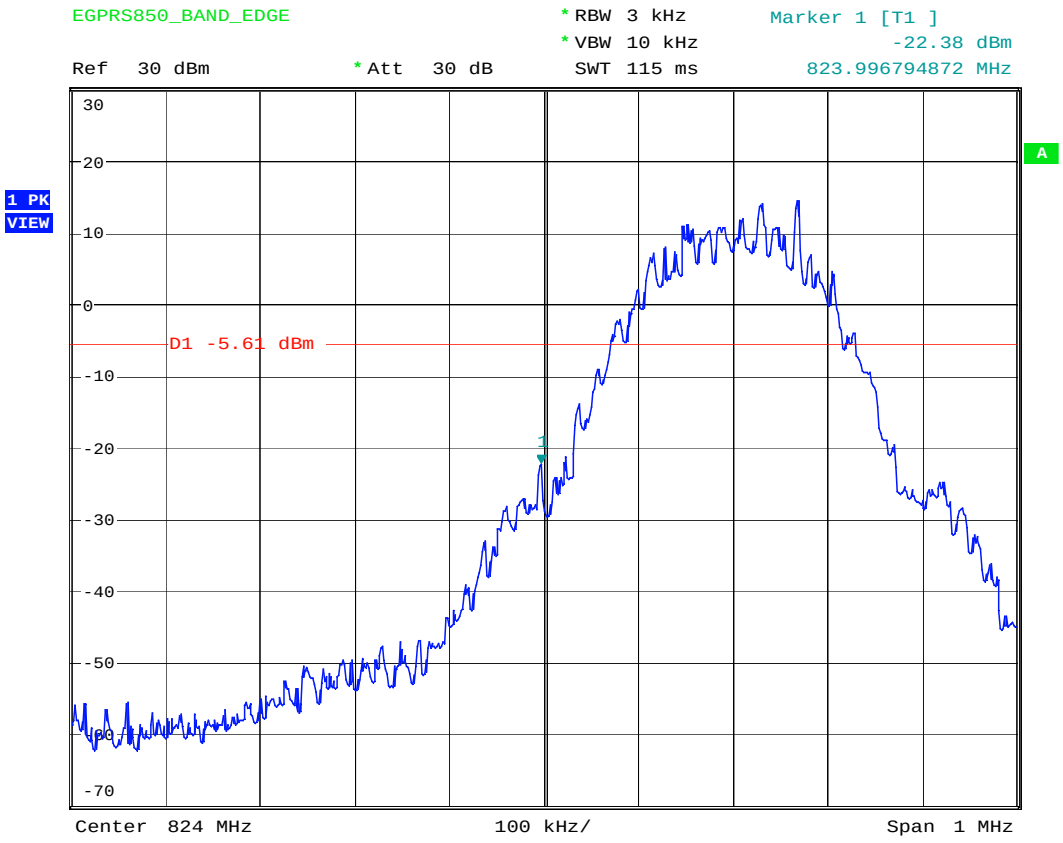

GPRS850_BAND_EDGE
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
-23.26 dBm
823.994871795 MHz
Ref 20 dBm
*Att 15 dB
1 PK
VIEW
A
D1 -13 dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 824 MHz
100 kHz/
Span 1 MHz

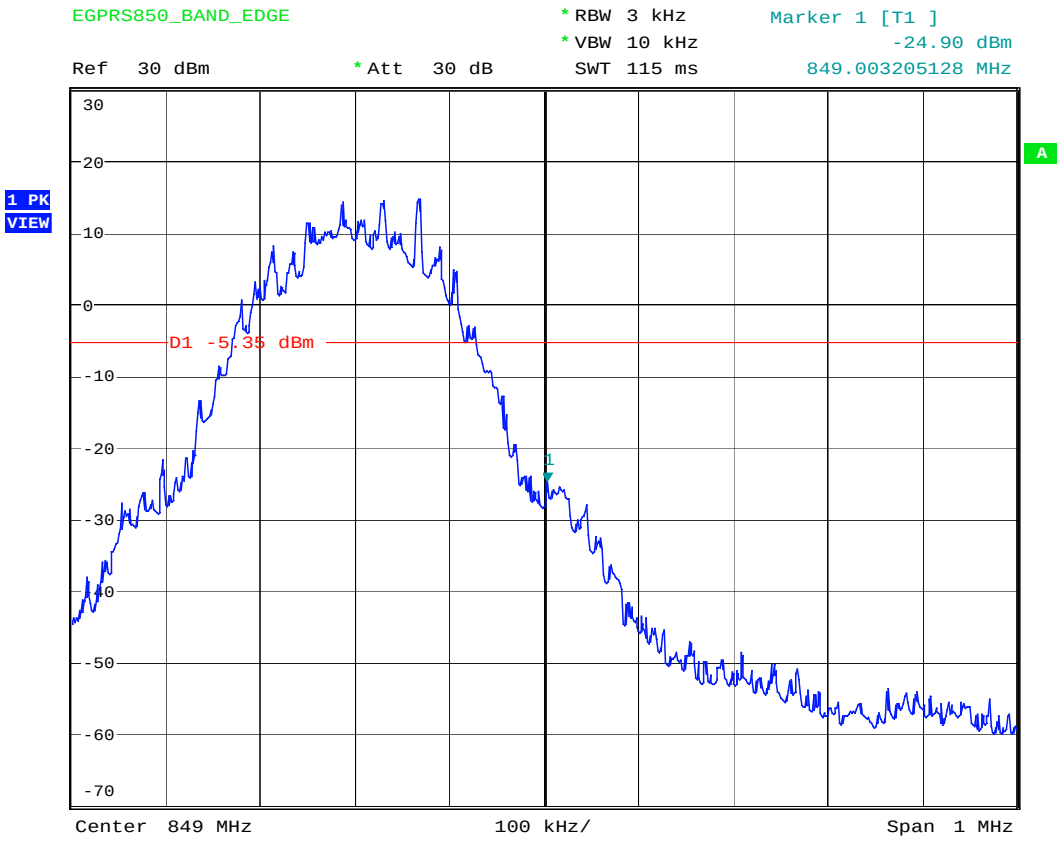

GPRS850_BAND_EDGE
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
-25.06 dBm
849.020833333 MHz
Ref 20 dBm
*Att 15 dB
1 PK
VIEW
A
D1 -13 dBm
1
Center 849 MHz
100 kHz/
Span 1 MHz

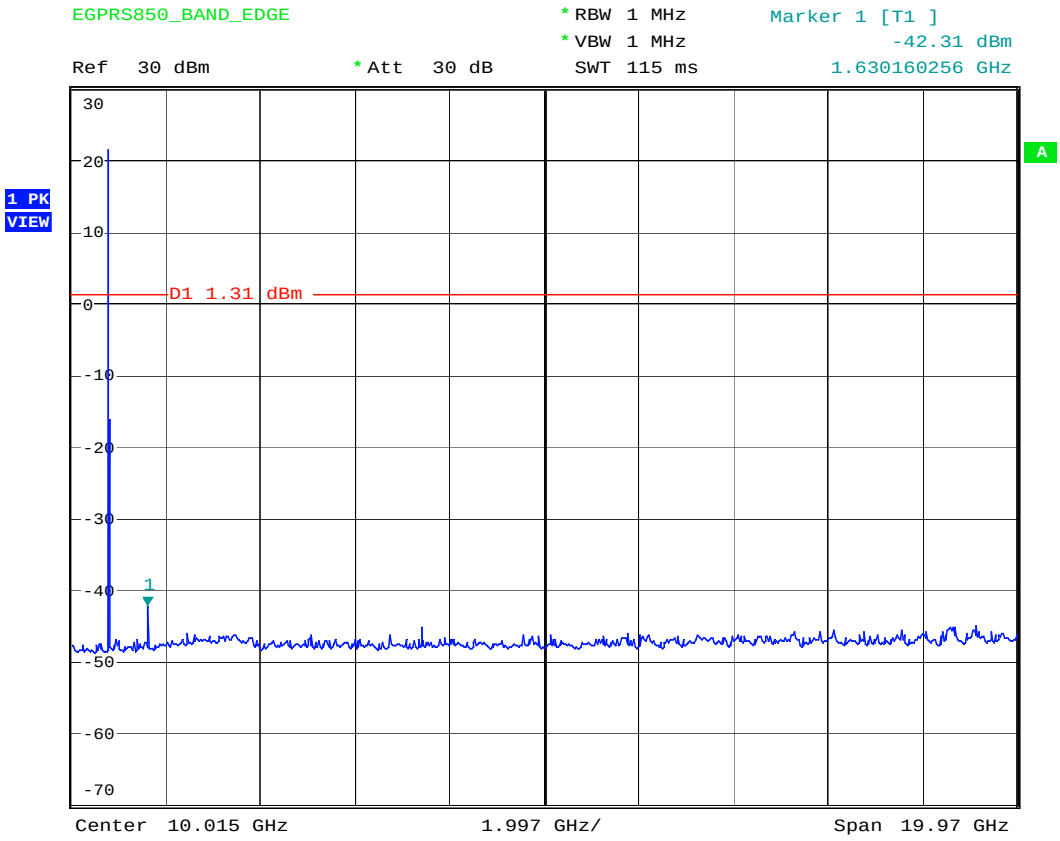

GPRS850_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
SWT 115 ms
Marker 1 [T1]
-43.79 dBm
1.620112179 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 -13 dBm
Start 30 MHz
1.997 GHz/
Stop 20 GHz

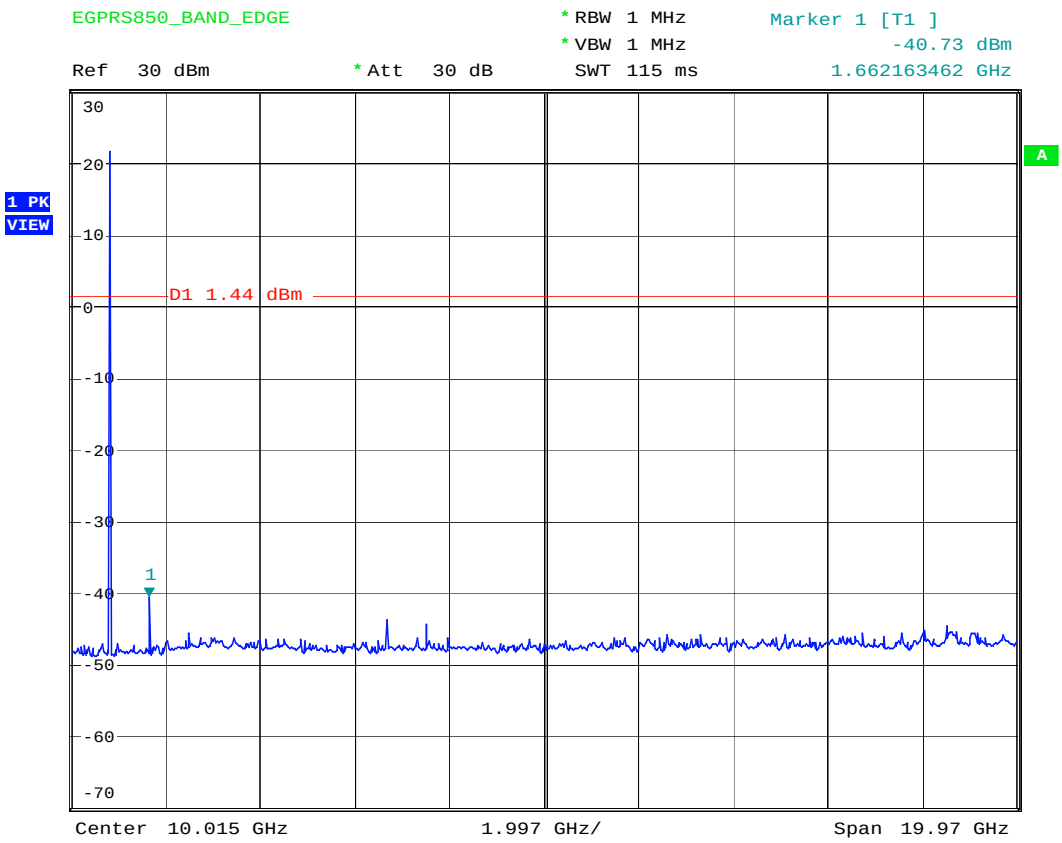

GPRS850_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
Marker 1 [T1]
-43.22 dBm
Ref 30 dBm
*Att 30 dB
SWT 115 ms
1.652115385 GHz
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
D1 -13 dBm
1
Start 30 MHz
1.997 GHz/
Stop 20 GHz

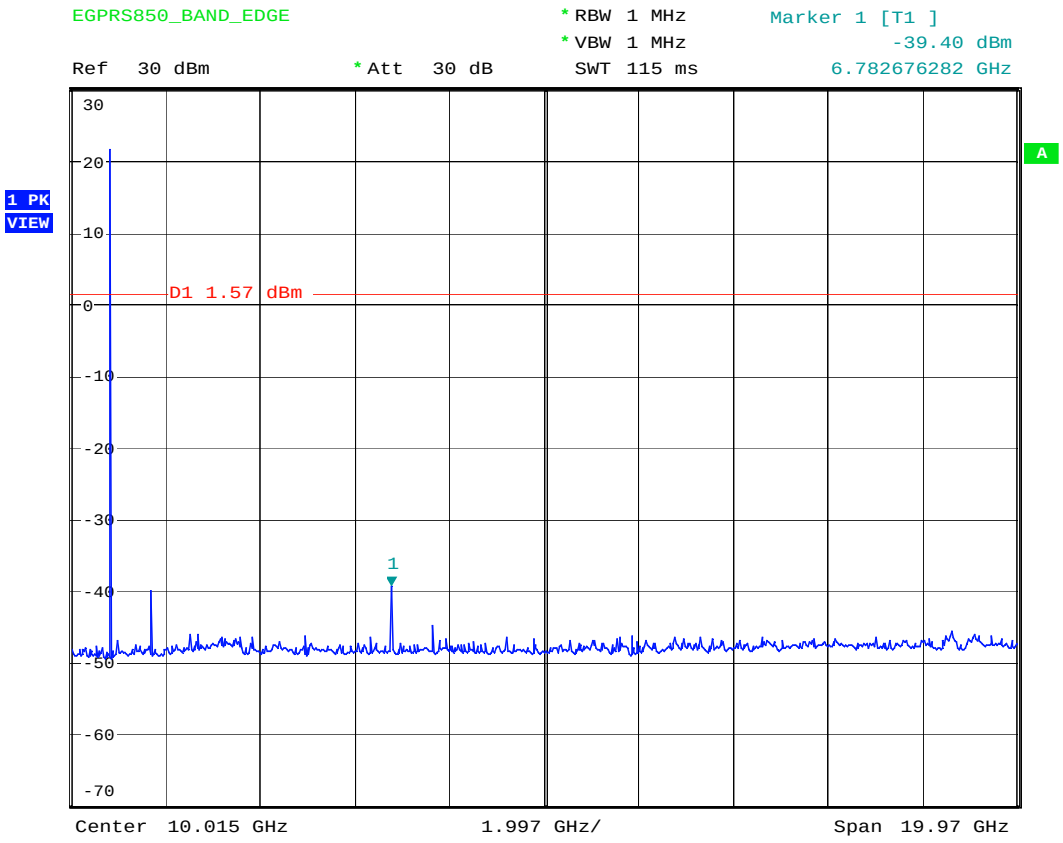

GPRS850_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
Marker 1 [T1]
-40.57 dBm
1.684118590 GHz
Ref 30 dBm
*Att 30 dB
SWT 115 ms
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
D1 -13 dBm
1
Start 30 MHz
1.997 GHz/
Stop 20 GHz

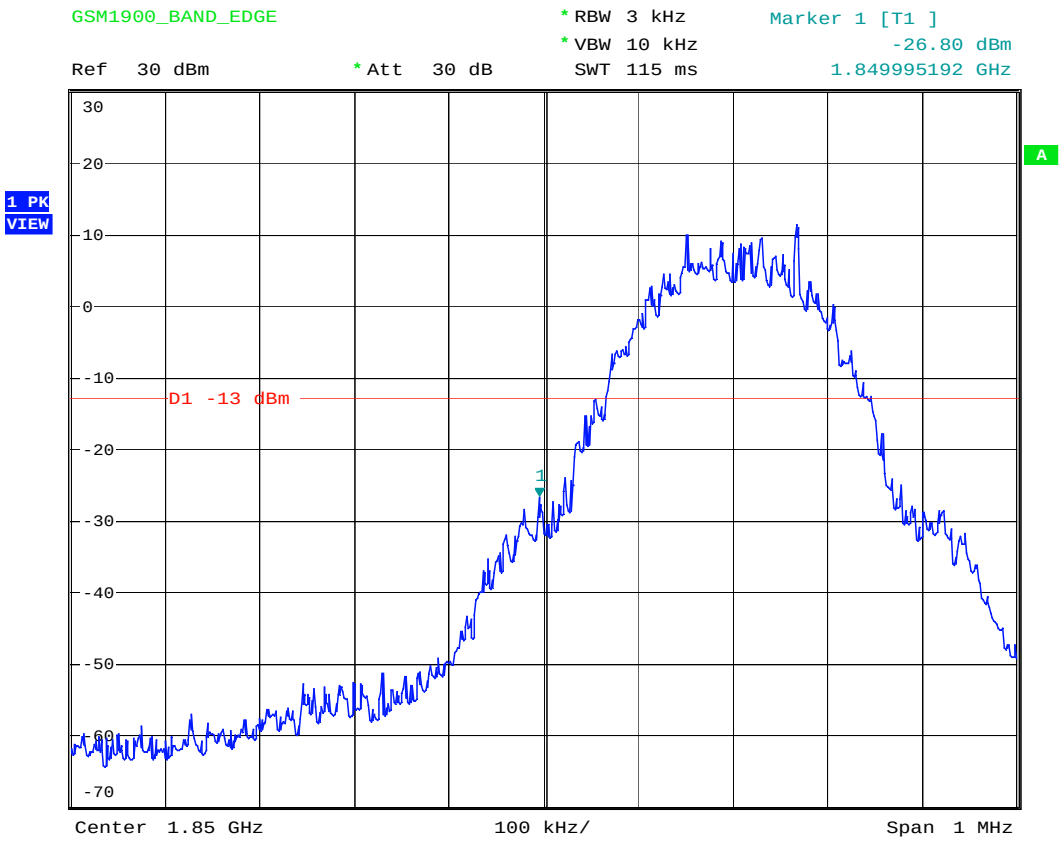

EGPRS850_BAND_EDGE
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
-22.38 dBm
823.996794872 MHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 -5.61 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 824 MHz
100 kHz/
Span 1 MHz


EGPRS850_BAND_EDGE
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
-24.90 dBm
849.003205128 MHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 -5.35 dBm
Center 849 MHz
100 kHz/
Span 1 MHz

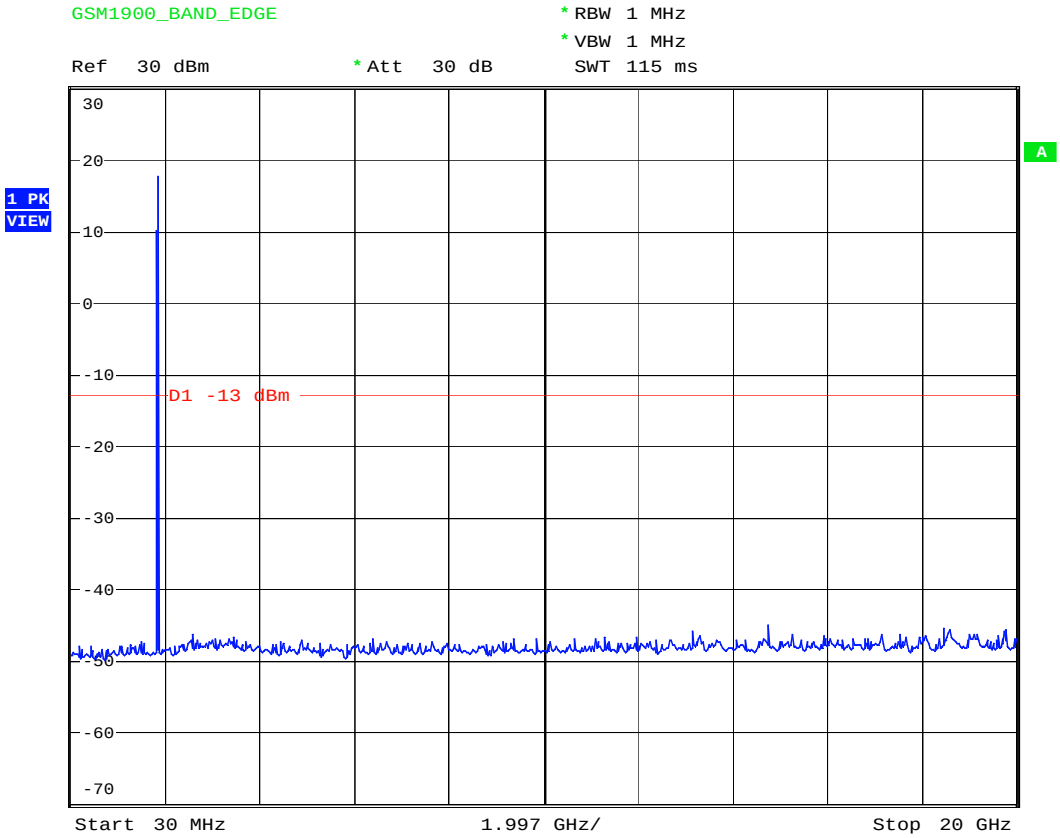

EGPRS850_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
SWT 115 ms
Marker 1 [T1]
-42.31 dBm
1.630160256 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 1.31 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
1
Center 10.015 GHz
1.997 GHz/
Span 19.97 GHz

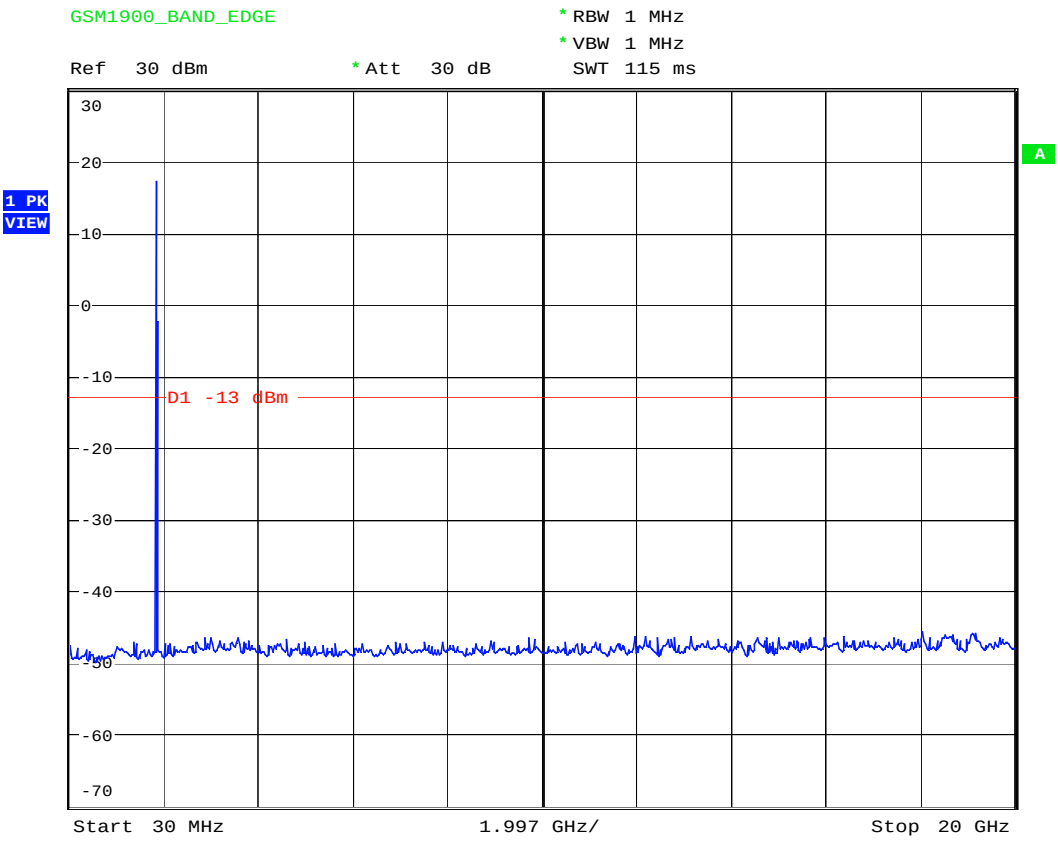

EGPRS850_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
SWT 115 ms
Marker 1 [T1]
-40.73 dBm
1.662163462 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 1.44 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 10.015 GHz
1.997 GHz/
Span 19.97 GHz

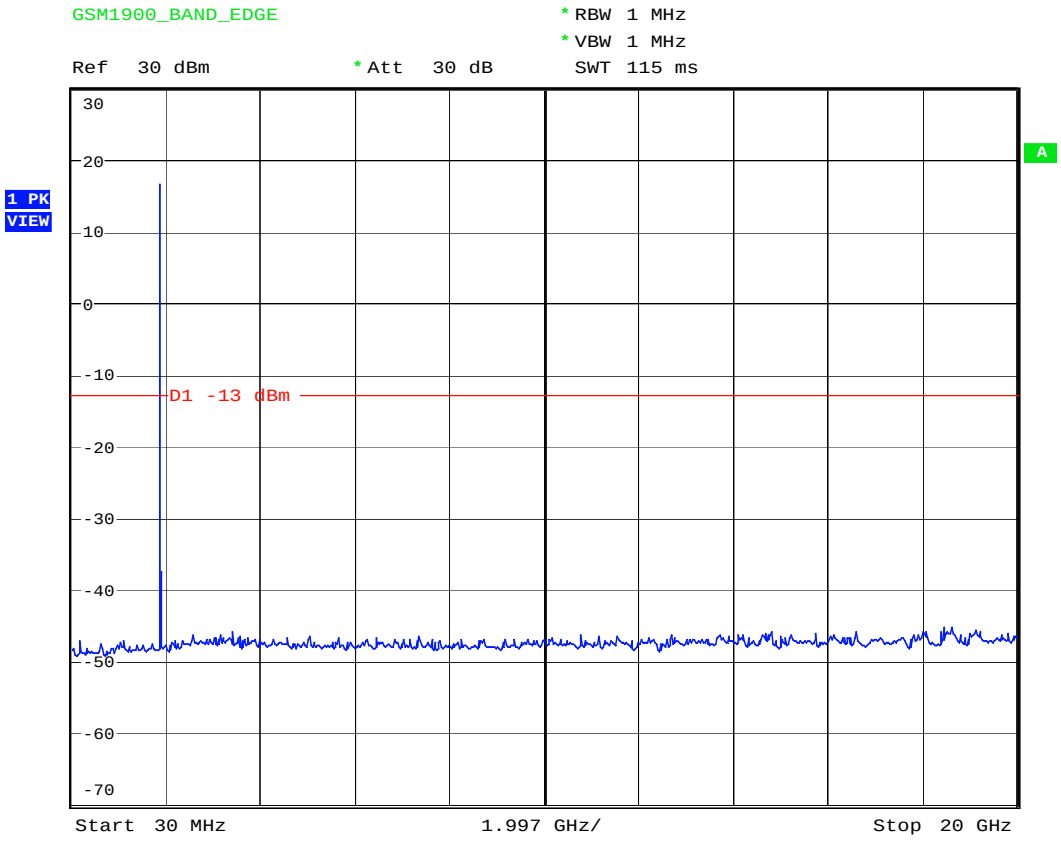

EGPRS850_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
SWT 115 ms
Marker 1 [T1]
-39.40 dBm
6.782676282 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 1.57 dBm
1
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 10.015 GHz
1.997 GHz/
Span 19.97 GHz

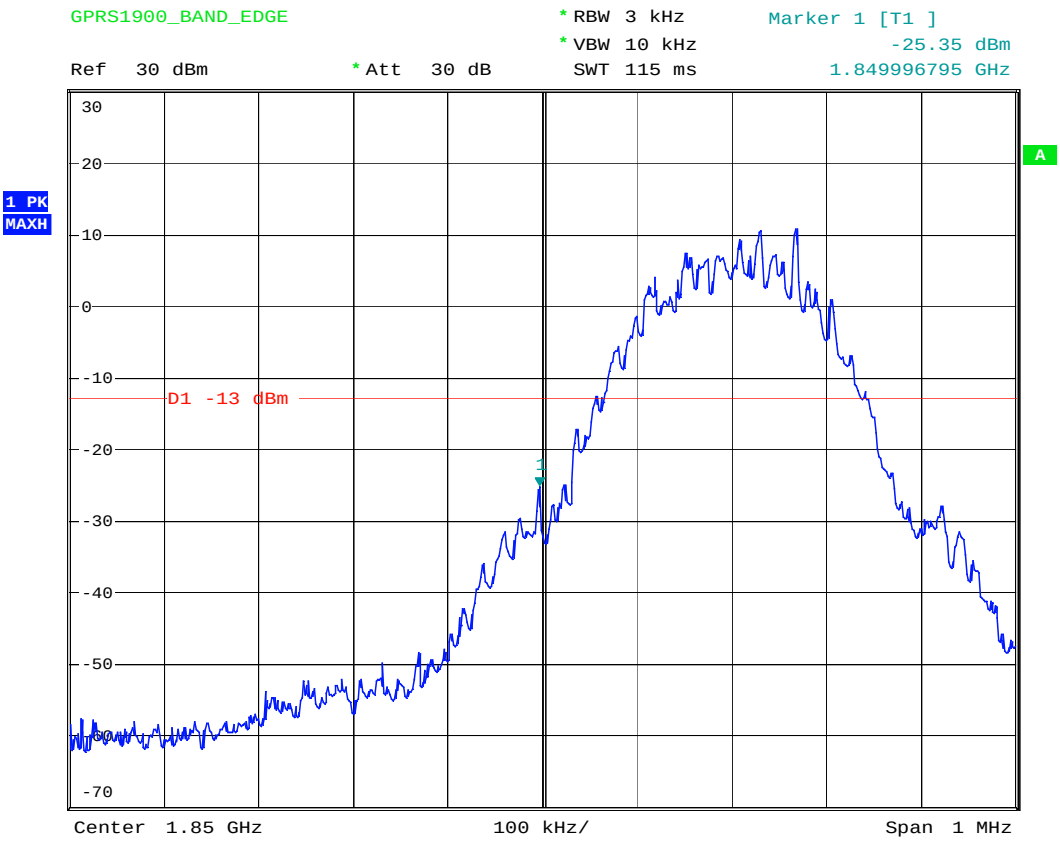

GSM1900_BAND_EDGE
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
-26.80 dBm
1.849995192 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 -13 dBm
Center 1.85 GHz
100 kHz/
Span 1 MHz


GSM1900_BAND_EDGE
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
-30.14 dBm
1.910020833 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 -13 dBm
1
Center 1.91 GHz
100 kHz/
Span 1 MHz

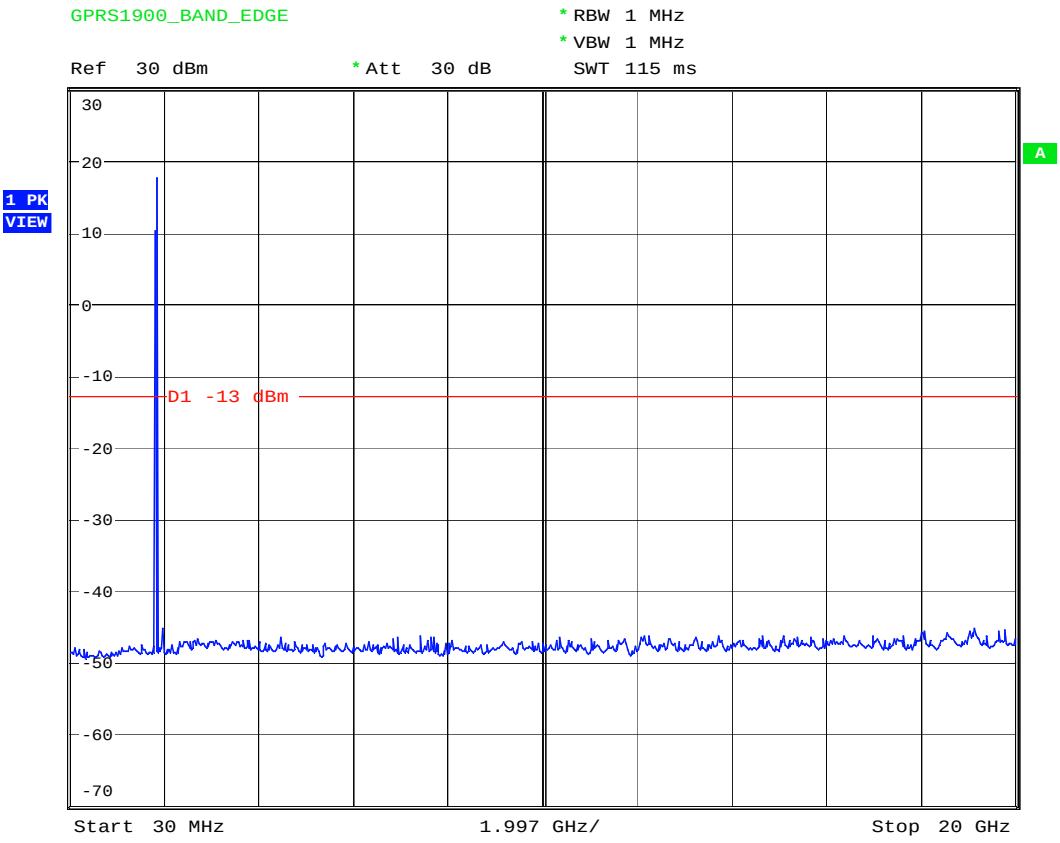

GSM1900_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
Ref 30 dBm
*Att 30 dB
SWT 115 ms
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
D1 -13 dBm
Start 30 MHz
1.997 GHz/
Stop 20 GHz

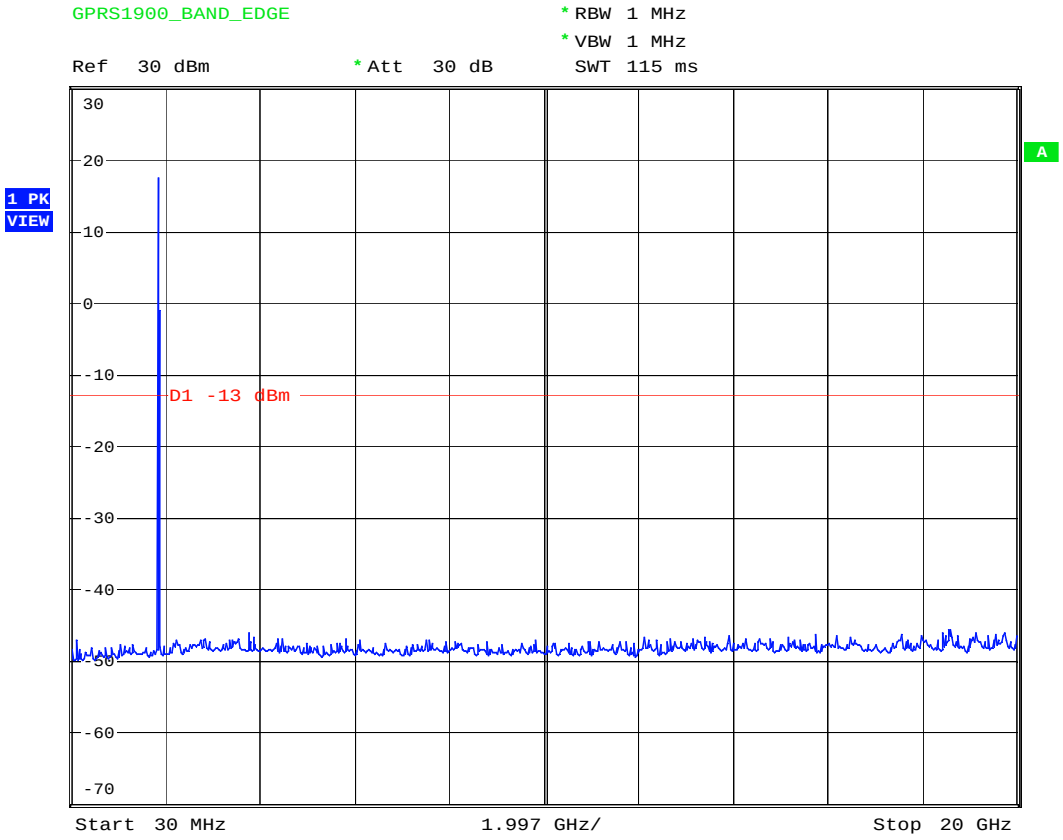

GSM1900_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
Ref 30 dBm
*Att 30 dB
SWT 115 ms
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
D1 -13 dBm
Start 30 MHz
1.997 GHz/
Stop 20 GHz

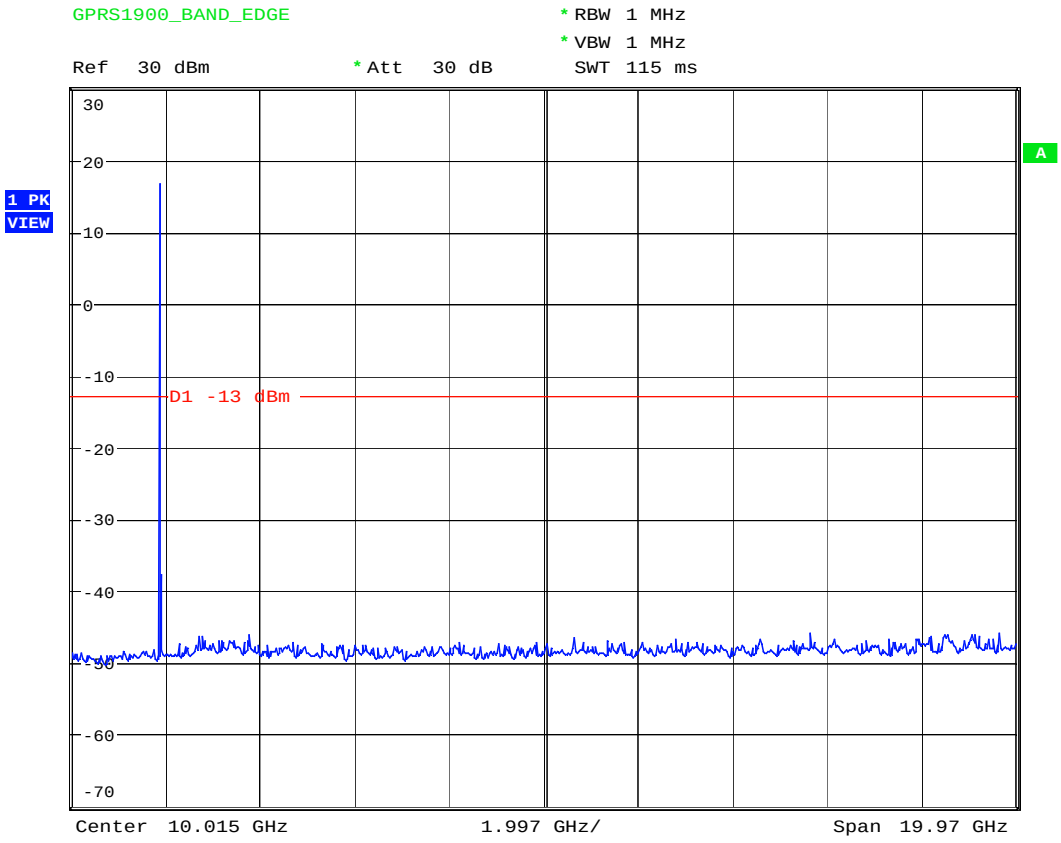

GSM1900_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
Ref 30 dBm
*Att 30 dB
SWT 115 ms
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
D1 -13 dBm
Start 30 MHz
1.997 GHz/
Stop 20 GHz

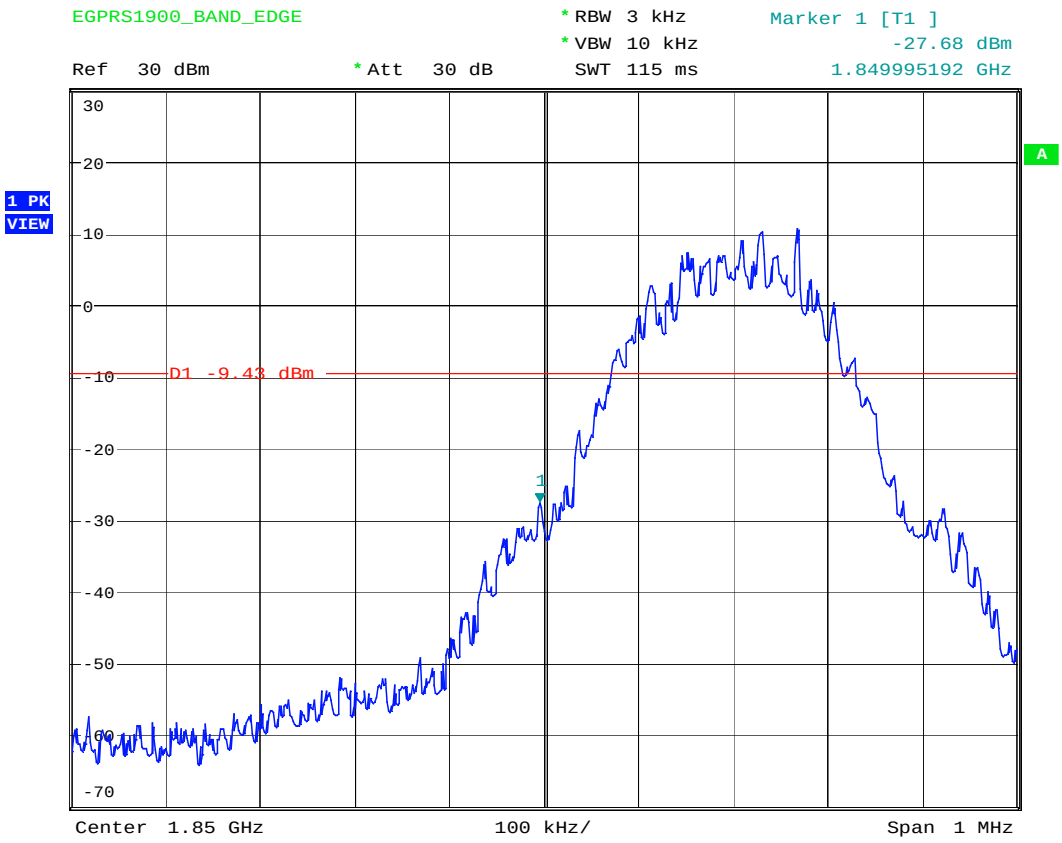

GPRS1900_BAND_EDGE
*RBW 3 kHz
*VBW 10 kHz
Marker 1 [T1]
-25.35 dBm
1.849996795 GHz
Ref 30 dBm
*Att 30 dB
SWT 115 ms
1 PK
MAXH
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
D1 -13 dBm
Center 1.85 GHz
100 kHz/
Span 1 MHz

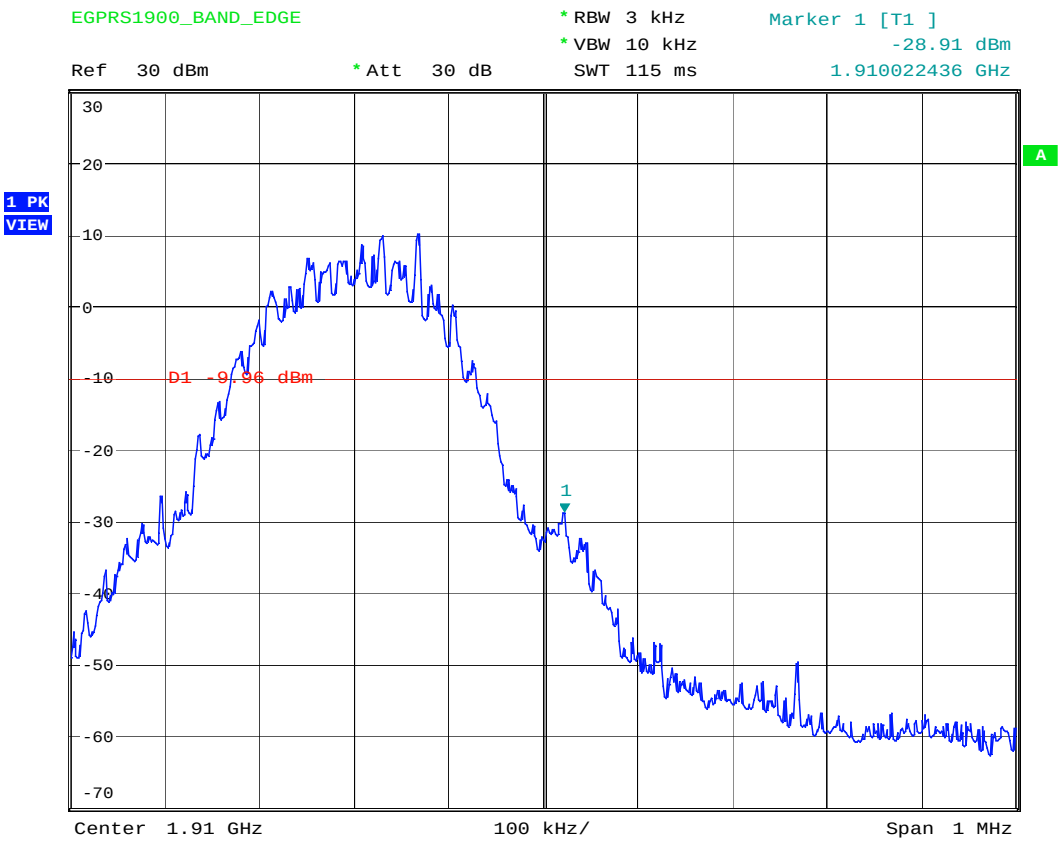

GPRS1900_BAND_EDGE
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
-29.68 dBm
1.910022436 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
D1 -13 dBm
1
Center 1.91 GHz
100 kHz/
Span 1 MHz

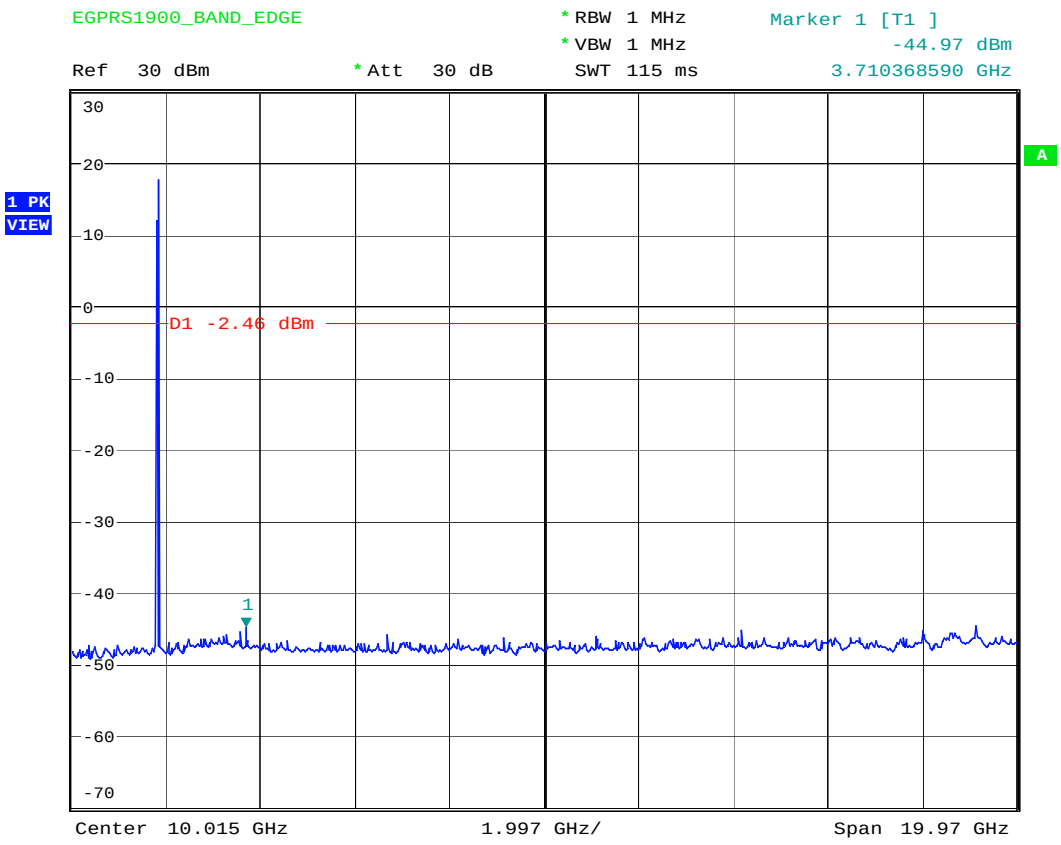

GPRS1900_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
Ref 30 dBm
*Att 30 dB
SWT 115 ms
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
D1 -13 dBm
Start 30 MHz
1.997 GHz/
Stop 20 GHz

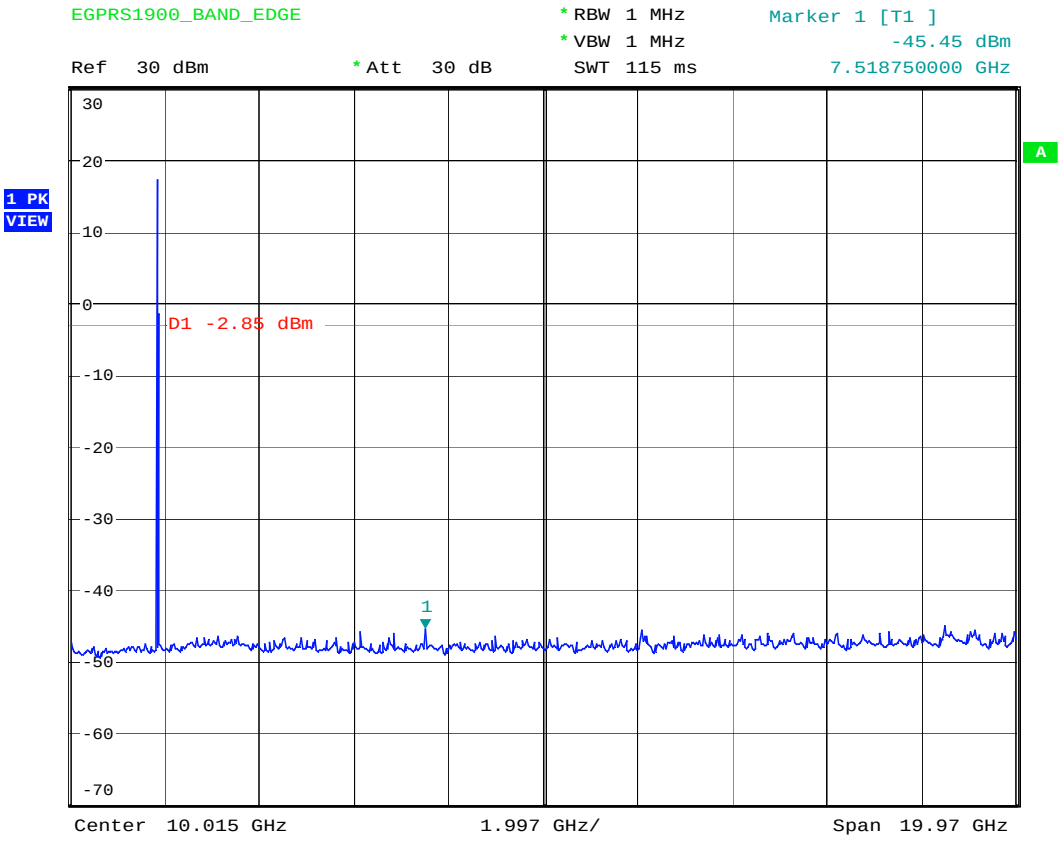

GPRS1900_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
Ref 30 dBm
*Att 30 dB
SWT 115 ms
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
D1 -13 dBm
Start 30 MHz
1.997 GHz/
Stop 20 GHz

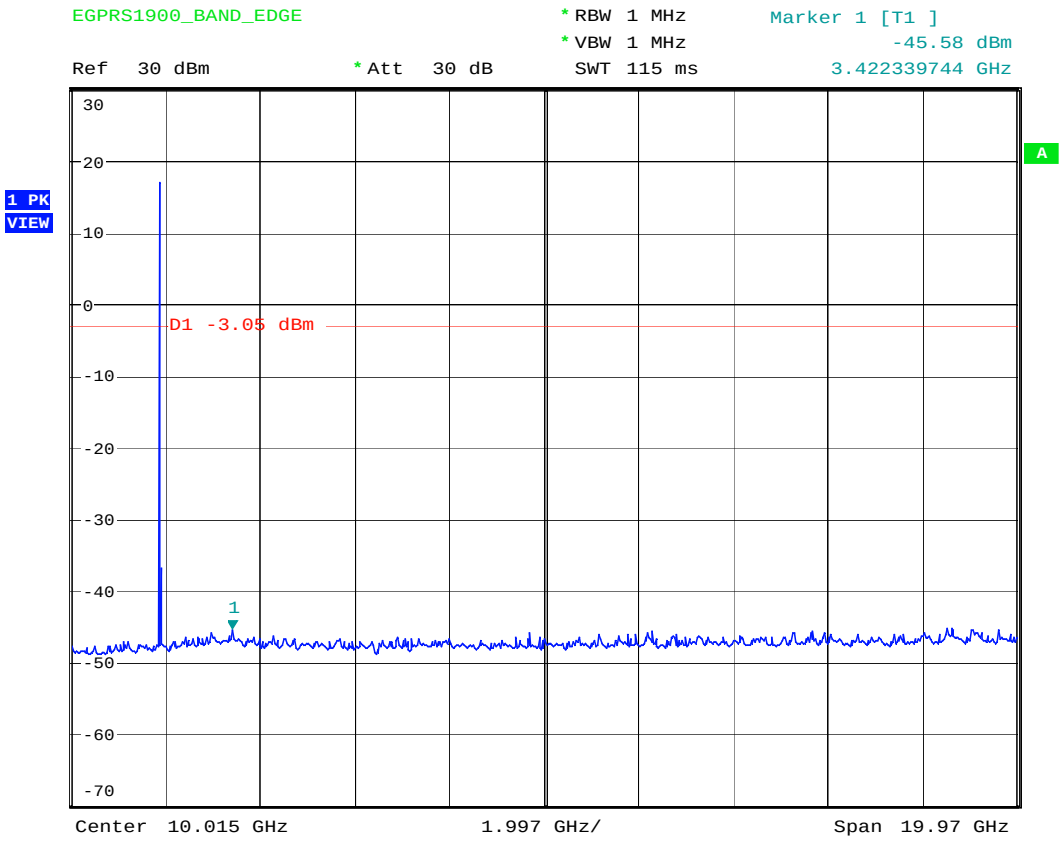

GPRS1900_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
Ref 30 dBm
*Att 30 dB
SWT 115 ms
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
D1 -13 dBm
Center 10.015 GHz
1.997 GHz/
Span 19.97 GHz


EGPRS1900_BAND_EDGE
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
-27.68 dBm
1.849995192 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 -9.43 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.85 GHz
100 kHz/
Span 1 MHz


EGPRS1900_BAND_EDGE
*RBW 3 kHz
*VBW 10 kHz
SWT 115 ms
Marker 1 [T1]
-28.91 dBm
1.910022436 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
D1 -9.96 dBm
1
Center 1.91 GHz
100 kHz/
Span 1 MHz


EGPRS1900_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
SWT 115 ms
Marker 1 [T1]
-44.97 dBm
3.710368590 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 -2.46 dBm
Center 10.015 GHz
1.997 GHz/
Span 19.97 GHz


EGPRS1900_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
Marker 1 [T1]
-45.45 dBm
Ref 30 dBm
*Att 30 dB
SWT 115 ms
7.518750000 GHz
1 PK
VIEW
A
D1 -2.85 dBm
Center 10.015 GHz
1.997 GHz/
Span 19.97 GHz


EGPRS1900_BAND_EDGE
*RBW 1 MHz
*VBW 1 MHz
SWT 115 ms
Marker 1 [T1]
-45.58 dBm
3.422339744 GHz
Ref 30 dBm
*Att 30 dB
1 PK
VIEW
A
D1 -3.05 dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 10.015 GHz
1.997 GHz/
Span 19.97 GHz

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 Test Receiver	Hewlett-Packard	8546A	08/27/2006
Spectrum Analyzer	Rohde & Schwarz	FSU46	11/02/2006
Horn Antenna	EMCO	3115	06/04/2006
LogBicone Antenna	Schwarzbeck	9160	10/28/2006
Horn Antenna	EMCO	3116	07/21/2006
Preamplifier	Hewlett-Packard	8449B	09/19/2006
SYNESIZED SWEEPER	AGILENT	83640B	09/21/2006
DIPOLE ANTENNA	SCHWRZBECK	914; 915	07/13/2007
DIPOLE ANTENNA	SCHWRZBECK	897; 898	07/13/2007

7.4 Test Result

Test Date : 01/ 05/2006 Temperature : 16℃ Humidity : 66%

Operated mode : GSM850/CH128

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
240.49	H	-58.3	-13.0
271.48	V	-59.3	-13.0
271.53	H	-54.3	-13.0
381.14	V	-60.2	-13.0
402.48	H	-55.6	-13.0
460.68	V	-53.3	-13.0

Operated mode : GSM850/CH190

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
240.49	H	-58.3	-13.0
271.48	V	-58.3	-13.0
271.53	H	-54.7	-13.0
381.14	V	-59.2	-13.0
402.48	H	-55.6	-13.0
460.68	V	-52.3	-13.0

Operated mode : GSM850/CH251

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
240.49	H	-58.3	-13.0
271.48	V	-58.3	-13.0
271.53	H	-54.3	-13.0
381.14	V	-60.1	-13.0
402.48	H	-56.6	-13.0
460.68	V	-53.8	-13.0

Operated mode : GPRS850/CH128

Frequency (MHz)	**Antenna Pol.**	**Result (dBm)**	**Limit (dBm)**
240.49	H	-57.3	-13.0
271.48	V	-60.1	-13.0
271.53	H	-54.3	-13.0
381.14	V	-59.2	-13.0
402.48	H	-57.6	-13.0
460.68	V	-53.8	-13.0

Operated mode : GPRS 850/CH190

Frequency (MHz)	**Antenna Pol.**	**Result (dBm)**	**Limit (dBm)**
240.49	H	-60.6	-13.0
271.48	V	-59.3	-13.0
271.53	H	-58.3	-13.0
381.14	V	-60.9	-13.0
402.48	H	-56.8	-13.0
460.68	V	-53.1	-13.0

Operated mode : GPRS 850/CH251

Frequency (MHz)	**Antenna Pol.**	**Result (dBm)**	**Limit (dBm)**
240.49	H	-59.5	-13.0
271.48	V	-58.3	-13.0
271.53	H	-54.7	-13.0
381.14	V	-61.0	-13.0
402.48	H	-56.8	-13.0
460.68	V	-54.1	-13.0

Operated mode : EGPRS850/CH128

Frequency (MHz)	**Antenna Pol.**	**Result (dBm)**	**Limit (dBm)**
240.49	H	-57.1	-13.0
271.48	V	-60.1	-13.0
271.53	H	-54.5	-13.0
381.14	V	-59.2	-13.0
402.48	H	-57.8	-13.0
460.68	V	-53.8	-13.0

Operated mode : EGPRS 850/CH190

Frequency (MHz)	**Antenna Pol.**	**Result (dBm)**	**Limit (dBm)**
240.49	H	-60.6	-13.0
271.48	V	-59.2	-13.0
271.53	H	-58.3	-13.0
381.14	V	-60.9	-13.0
402.48	H	-56.9	-13.0
460.68	V	-53.2	-13.0

Operated mode : EGPRS 850/CH251

Frequency (MHz)	**Antenna Pol.**	**Result (dBm)**	**Limit (dBm)**
240.49	H	-59.5	-13.0
271.48	V	-58.3	-13.0
271.53	H	-54.7	-13.0
381.14	V	-61.3	-13.0
402.48	H	-56.8	-13.0
460.68	V	-54.7	-13.0

Operated mode : PCS1900/CH512

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
240.49	H	-57.3	-13.0
271.48	V	-59.3	-13.0
271.53	H	-54.7	-13.0
381.14	V	-60.4	-13.0
402.48	H	-54.6	-13.0
460.68	V	-52.8	-13.0

Operated mode : PCS1900/CH661

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
240.49	H	-58.9	-13.0
271.48	V	-58.2	-13.0
271.53	H	-54.3	-13.0
381.14	V	-61.1	-13.0
402.48	H	-56.6	-13.0
460.68	V	-53.7	-13.0

Operated mode : PCS1900/CH810

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
240.49	H	-57.3	-13.0
271.48	V	-59.3	-13.0
271.53	H	-55.3	-13.0
381.14	V	-60.1	-13.0
402.48	H	-55.5	-13.0
460.68	V	-54.3	-13.0

Operated mode : GPRS1900/CH512

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
240.49	H	-57.3	-13.0
271.48	V	-59.3	-13.0
271.53	H	-56.3	-13.0
381.14	V	-61.2	-13.0
402.48	H	-55.8	-13.0
460.68	V	-53.9	-13.0

Operated mode : GPRS1900/CH661

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
240.49	H	-58.3	-13.0
271.48	V	-61.3	-13.0
271.53	H	-58.3	-13.0
381.14	V	-60.2	-13.0
402.48	H	-57.6	-13.0
460.68	V	-54.9	-13.0

Operated mode : GPRS1900/CH810

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
240.49	H	-59.1	-13.0
271.48	V	-59.2	-13.0
271.53	H	-56.1	-13.0
381.14	V	-61.2	-13.0
402.48	H	-55.9	-13.0
460.68	V	-52.3	-13.0

Operated mode : EGPRS1900/CH512

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
240.49	H	-57.3	-13.0
271.48	V	-59.3	-13.0
271.53	H	-56.7	-13.0
381.14	V	-61.2	-13.0
402.48	H	-55.3	-13.0
460.68	V	-53.8	-13.0

Operated mode : EGPRS1900/CH661

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
240.49	H	-58.3	-13.0
271.48	V	-61.9	-13.0
271.53	H	-58.3	-13.0
381.14	V	-60.1	-13.0
402.48	H	-57.6	-13.0
460.68	V	-54.8	-13.0

Operated mode : EGPRS1900/CH810

Frequency (MHz)	Antenna Pol.	Result (dBm)	Limit (dBm)
240.49	H	-59.5	-13.0
271.48	V	-59.2	-13.0
271.53	H	-56.1	-13.0
381.14	V	-61.2	-13.0
402.48	H	-55.3	-13.0
460.68	V	-52.1	-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.

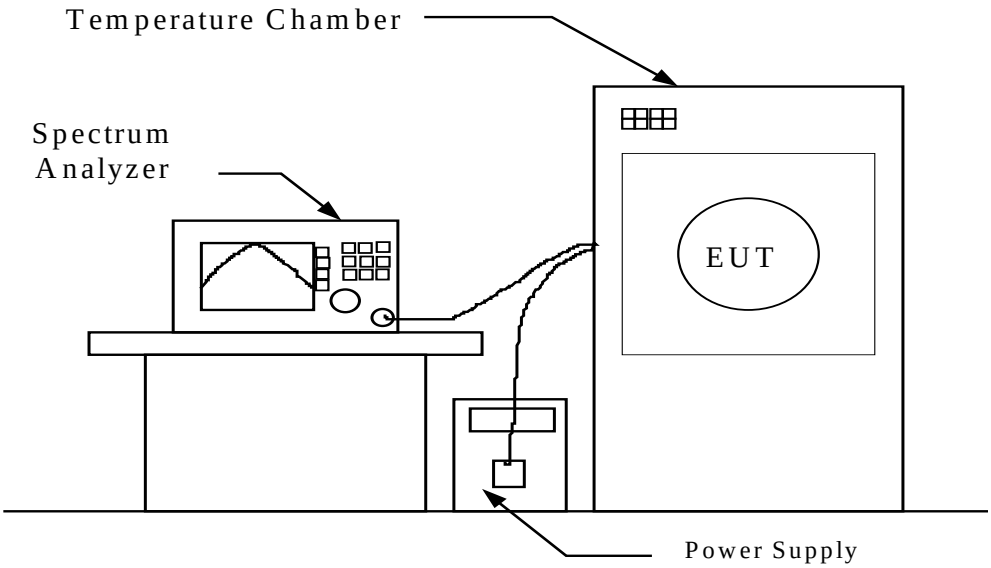


Figure 4: Frequency stability measurement configuration.

8.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Date
Spectrum Analyzer	Rohde & Schwarz	FSU46	11/02/2006
Temperature Chamber	ESPEC	SH-240	02/14/2006
DC Power Supply	GW	GPC-3030D	N/A
Digital Multi Meter	YF-FONG	YF1069	04/12/2006

8.4 Test Result

Test Date : 01/ 05/2006 Temperature : 16℃ Humidity : 66%

Reference Frequency: GSM850 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	836.600021	4.0	2091.5
	40	836.600021	4.0	
	30	836.600020	3.0	
	20	836.600017	0.0	
	10	836.600016	-1.0	
	0	836.600018	1.0	
	-10	836.600020	3.0	
	-20	836.600019	2.0	
	-30	836.600019	2.0	
4.25	20	836.600017	0.0	
5.75		836.60017	0.0	

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	836.600021	4.0	2091.5
	40	836.600021	4.0	
	30	836.600021	4.0	
	20	836.600017	0.0	
	10	836.600017	0.0	
	0	836.600018	1.0	
	-10	836.600021	4.0	
	-20	836.600019	2.0	
	-30	836.600019	2.0	
4.25	20	836.600017	0.0	
5.75		836.600017	0.0	

Reference Frequency: EGPRS850 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	836.600021	4.0	2091.5
	40	836.600021	4.0	
	30	836.600017	0.0	
	20	836.600017	0.0	
	10	836.600017	0.0	
	0	836.600018	1.0	
	-10	836.600018	1.0	
	-20	836.600019	2.0	
	-30	836.600019	2.0	
4.25	20	836.600017	0.0	
5.75		836.600017	0.0	

Reference Frequency: PCS1900 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	1880.000027	2.0	4700
	40	1880.000027	2.0	
	30	1880.000027	2.0	
	20	1880.000025	0.0	
	10	1880.000023	-2.0	
	0	1880.000025	0.0	
	-10	1880.000025	0.0	
	-20	1880.000023	-2.0	
	-30	1880.000023	-2.0	
4.25	20	1880.000025	0.0	
5.75		1880.000025	0.0	

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	1880.000027	2.0	4700
	40	1880.000026	1.0	
	30	1880.000027	2.0	
	20	1880.000025	0.0	
	10	1880.000023	-2.0	
	0	1880.000025	0.0	
	-10	1880.000024	-1.0	
	-20	1880.000023	-2.0	
	-30	1880.000022	-3.0	
4.25	20	1880.000025	0.0	
5.75		1880.000025	0.0	

Reference Frequency: EGPRS1900 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	1880.000027	2.0	4700
	40	1880.000026	1.0	
	30	1880.000026	1.0	
	20	1880.000025	0.0	
	10	1880.000023	-2.0	
	0	1880.000024	-1.0	
	-10	1880.000024	-1.0	
	-20	1880.000023	-2.0	
	-30	1880.000022	-3.0	
4.25	20	1880.000025	0.0	
5.75		1880.000025	0.0	

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 (dBμV)	
	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.

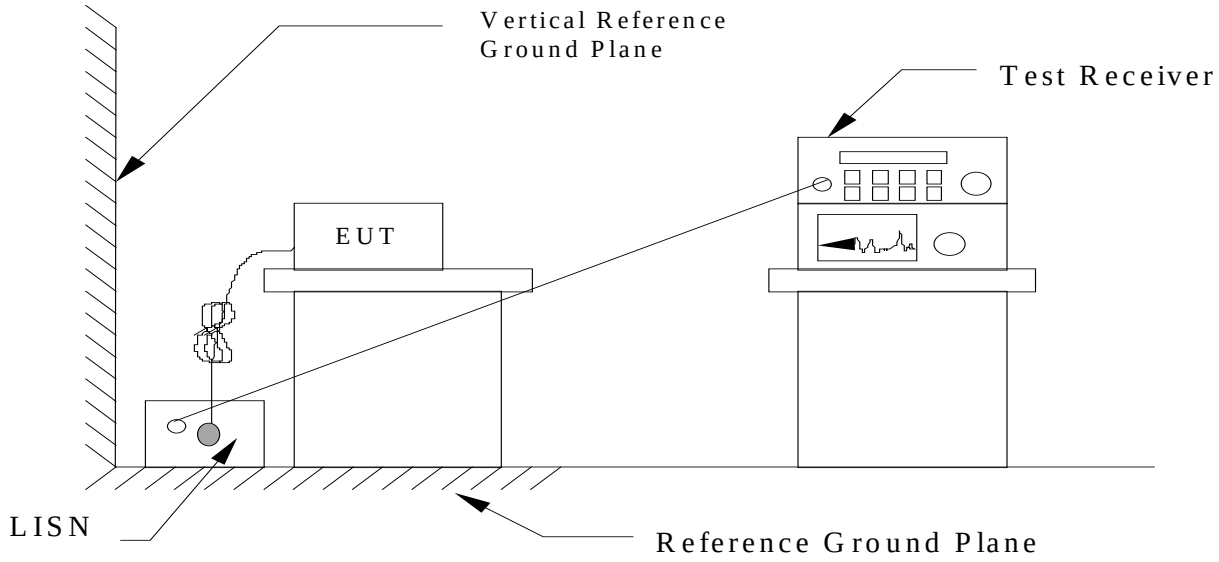


Figure 5 : Conducted emissions measurement configuration

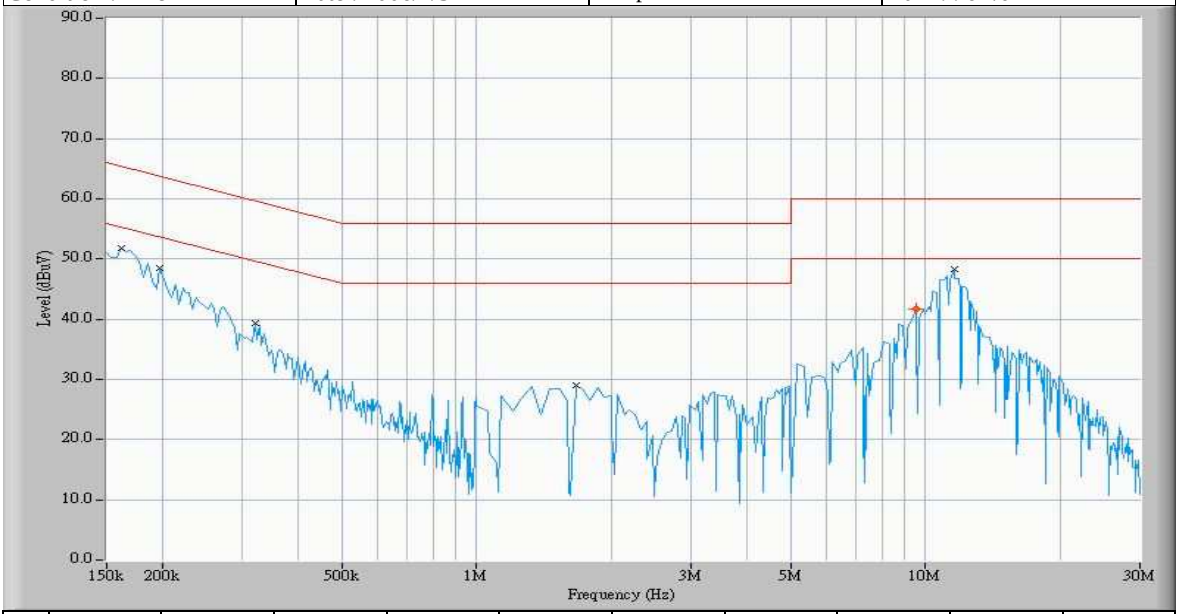
9.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
RF Test Receiver	Rohde and Schwarz	ESCS30	03/31/2006
Line Impedance Stabilization network	EMCO	3825	11/09/2006
Line Impedance Stabilization network	Rolf Heine	NNB-2/16Z	03/31/2006

9.4 Test Result

9.4.1

EUT :	Model :	Status : GSM850_IDLE_MODE	
Condition : Line 1	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%

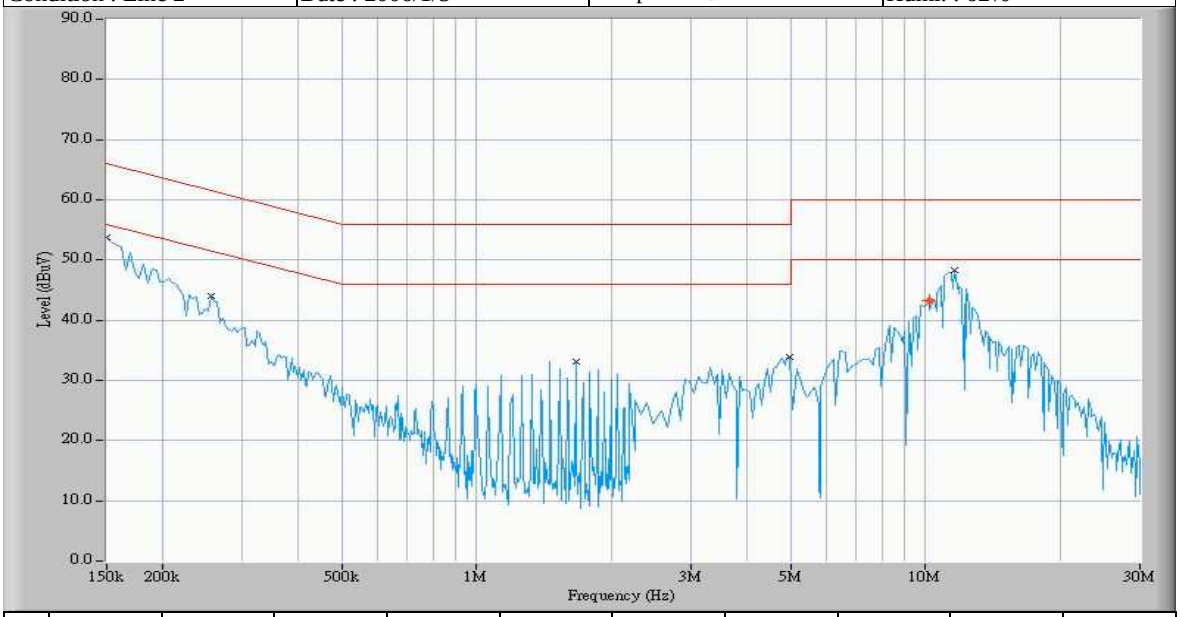


	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.162	48.8	----	0.1	48.9	----	65.4	55.4	-13.5	----
2	0.198	45.5	----	0.1	45.6	----	63.7	53.7	-18.1	----
3	0.320	36.3	----	0.1	36.4	----	59.7	49.7	-23.3	----
4	1.660	29.1	----	0.2	29.3	----	56.0	46.0	-26.7	----
5	9.500	38.7	----	0.3	39.0	----	60.0	50.0	-21.0	----
6	11.560	45.3	----	0.4	46.7	----	60.0	50.0	-13.3	----

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.

EUT :	Model :	Status : GSM850_IDLE_MODE	
Condition : Line 2	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%



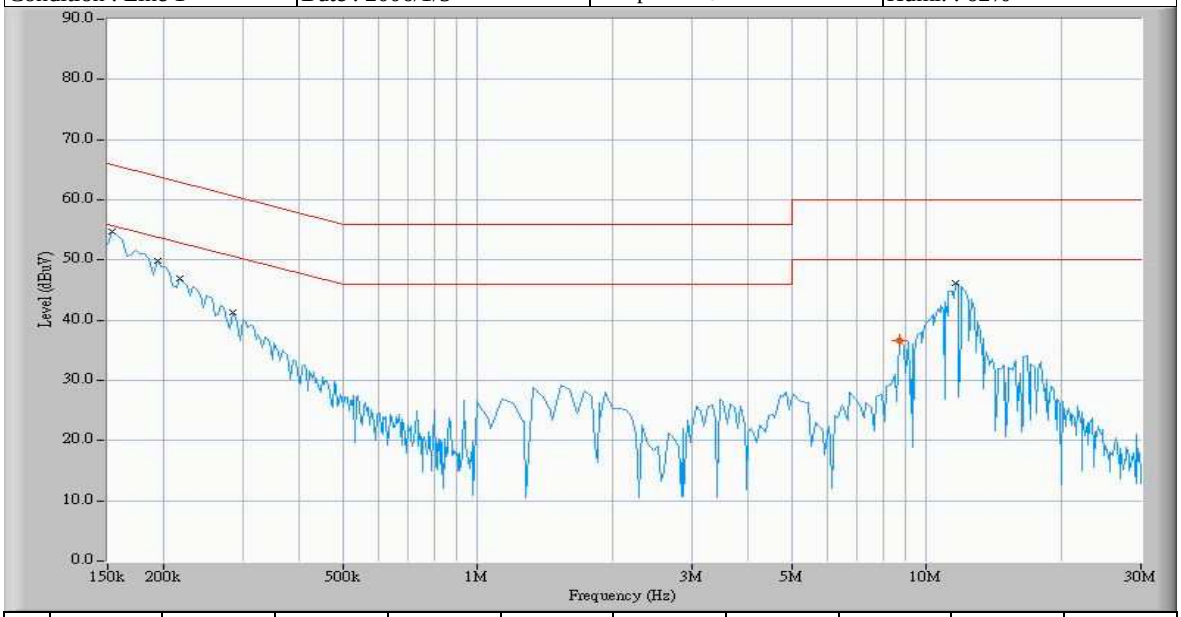
	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.150	50.8	----	0.1	50.9	----	66.0	56.0	-15.1	----
2	0.257	40.0	----	0.1	40.1	----	61.5	51.5	-21.4	----
3	1.660	30.2	----	0.2	30.4	----	56.0	46.0	-25.6	----
4	4.980	30.8	----	0.2	31.0	----	56.0	46.0	-25.0	----
5	10.160	40.1	----	0.4	40.5	----	60.0	50.0	-19.5	----
6	11.620	45.3	----	0.4	45.7	----	60.0	50.0	-14.3	----

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.

9.4.2

EUT :	Model :	Status : GSM850_CALL_MODE	
Condition : Line 1	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%

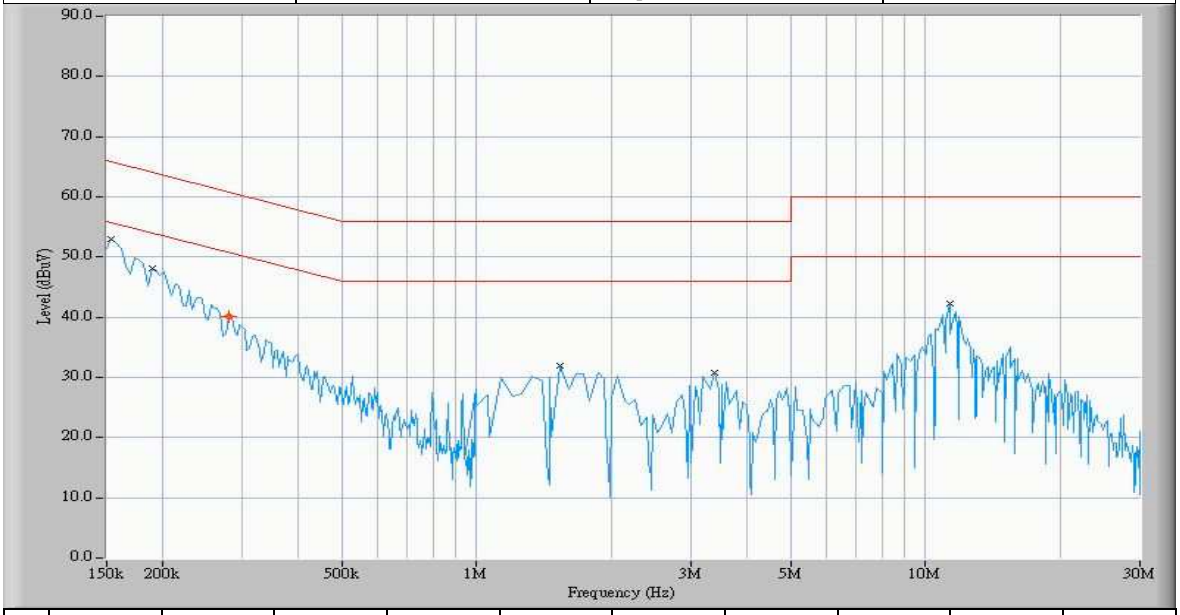


	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.154	50.7	----	0.1	50.8	----	65.8	55.8	-15.0	----
2	0.194	45.0	----	0.1	45.1	----	63.9	53.9	-18.8	----
3	0.217	42.9	----	0.1	43.0	----	62.9	52.9	-19.9	----
4	0.285	38.3	----	0.1	38.4	----	60.7	50.7	-22.3	----
5	8.720	33.6	----	0.3	33.9	----	60.0	50.0	-26.1	----
6	11.580	42.1	----	0.4	42.5	----	60.0	50.0	-17.5	----

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.

EUT :	Model :	Status : GSM850_CALL_MODE	
Condition : Line 2	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%



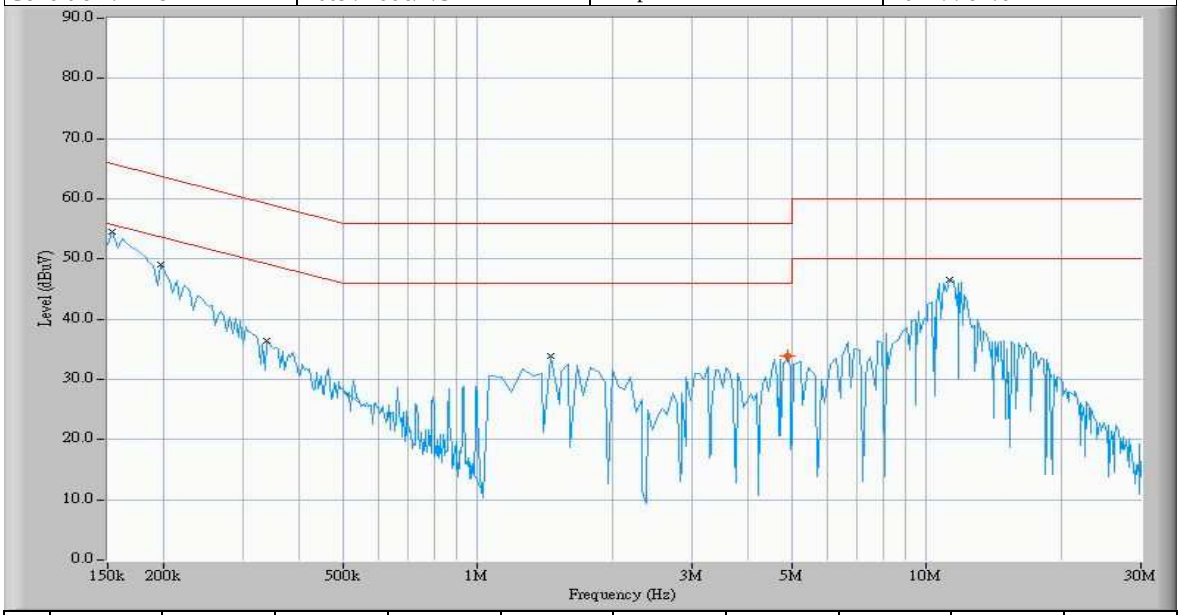
	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.154	50.0	----	0.1	50.1	----	65.8	55.8	-15.7	----
2	0.190	44.2	----	0.1	44.3	----	64.1	54.1	-19.8	----
3	0.281	37.2	----	0.1	37.3	----	60.8	50.8	-23.5	----
4	1.530	30.0	----	0.2	30.2	----	56.0	46.0	-25.8	----
5	3.390	28.7	----	0.2	28.9	----	56.0	46.0	-27.1	----
6	11.300	38.2	----	0.4	38.6	----	60.0	50.0	-21.4	----

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.

9.4.3

EUT :	Model :	Status : GPRS850_IDLE_MODE	
Condition : Line 1	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%

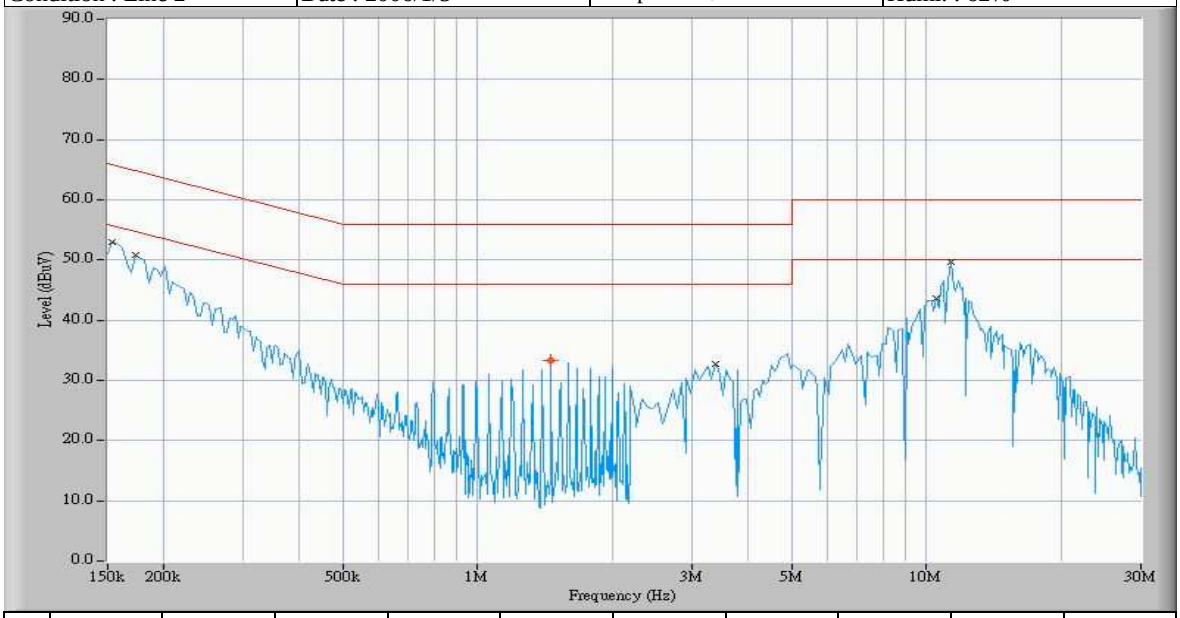


	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.154	50.6	----	0.1	50.7	----	65.8	55.8	-11.1	----
2	0.198	45.0	----	0.1	45.1	----	63.7	53.7	-14.6	----
3	0.340	32.5	----	0.1	32.6	----	59.2	49.2	-22.6	----
4	1.460	30.0	----	0.2	30.2	----	56.0	46.0	-21.8	----
5	4.910	30.9	----	0.2	31.1	----	56.0	46.0	-21.9	----
6	11.280	42.6	----	0.4	43.0	----	60.0	50.0	-13.0	----

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.

EUT :	Model :	Status : GPRS850_IDLE_MODE	
Condition : Line 2	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%



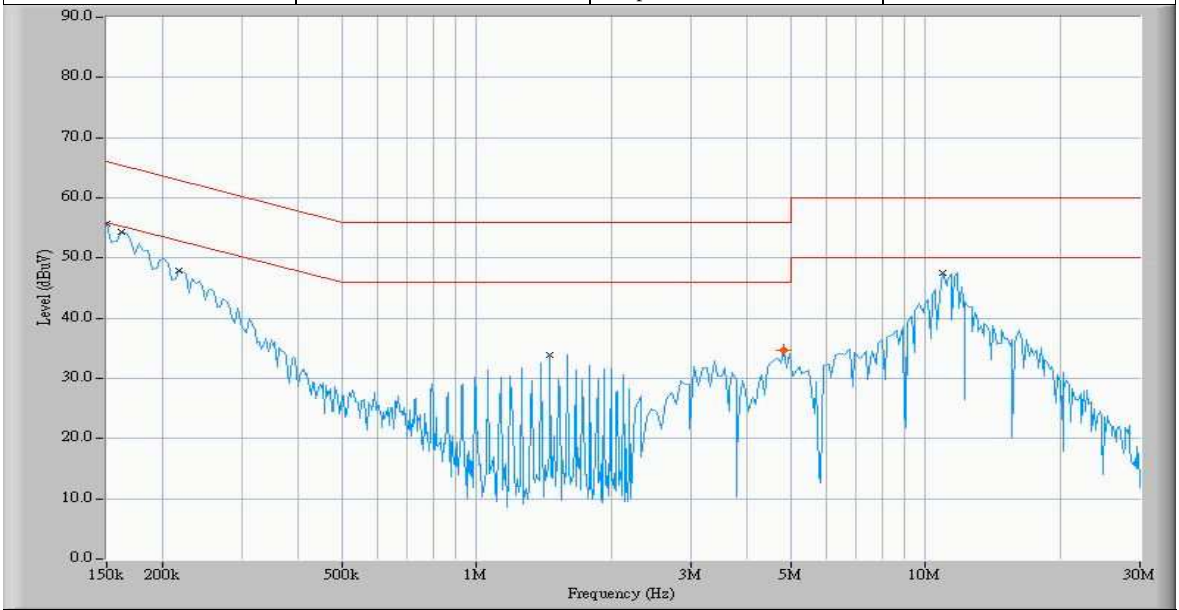
	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.154	50.0	----	0.1	50.1	----	65.8	55.8	-12.7	----
2	0.174	45.9	----	0.1	46.0	----	64.8	54.8	-13.8	----
3	1.460	30.4	----	0.2	30.6	----	56.0	46.0	-22.4	----
4	3.380	30.8	----	0.2	30.0	----	56.0	46.0	-23.0	----
5	10.540	40.7	----	0.4	41.1	----	60.0	50.0	-15.9	----
6	11.340	43.6	----	0.4	44.0	----	60.0	50.0	-10.0	----

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

EUT :	Model :	Status : GPRS850_CALL_MODE	
Condition : Line 1	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%

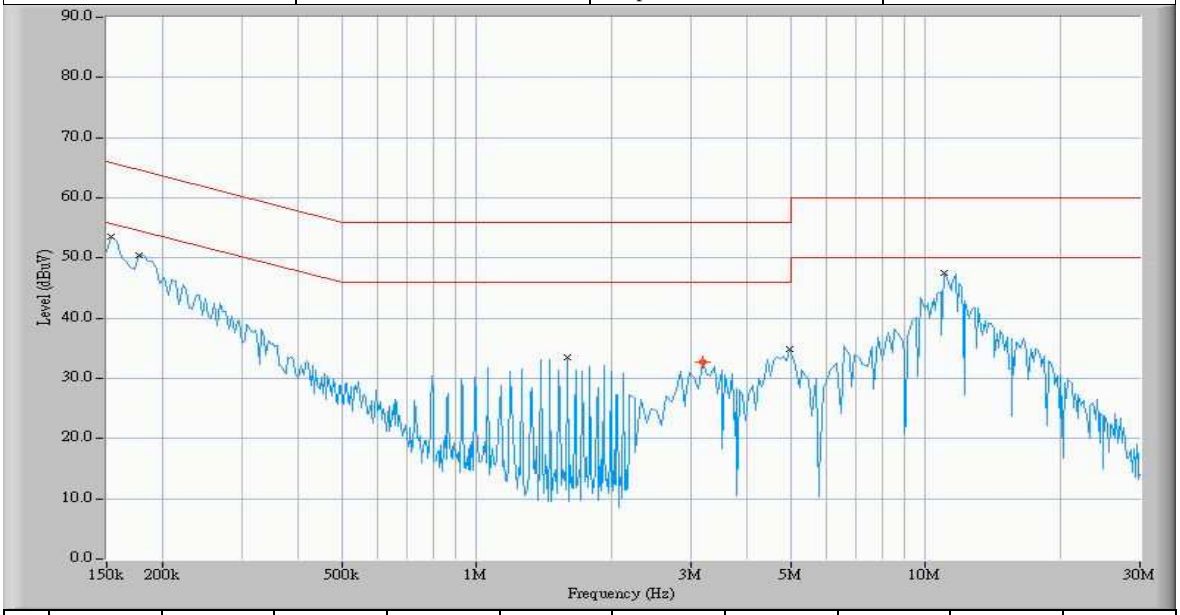


	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.150	50.8	----	0.1	50.9	----	66.0	56.0	-10.1	----
2	0.162	50.4	----	0.1	50.5	----	65.4	55.4	-10.9	----
3	0.217	44.9	----	0.1	45.0	----	62.9	52.9	-14.9	----
4	1.460	30.0	----	0.2	30.2	----	56.0	46.0	-21.8	----
5	4.840	31.8	----	0.2	32.0	----	56.0	46.0	-21.0	----
6	10.940	43.5	----	0.4	43.9	----	60.0	50.0	-12.1	----

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.

EUT :	Model :	Status : GPRS850_CALL_MODE	
Condition : Line 2	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%



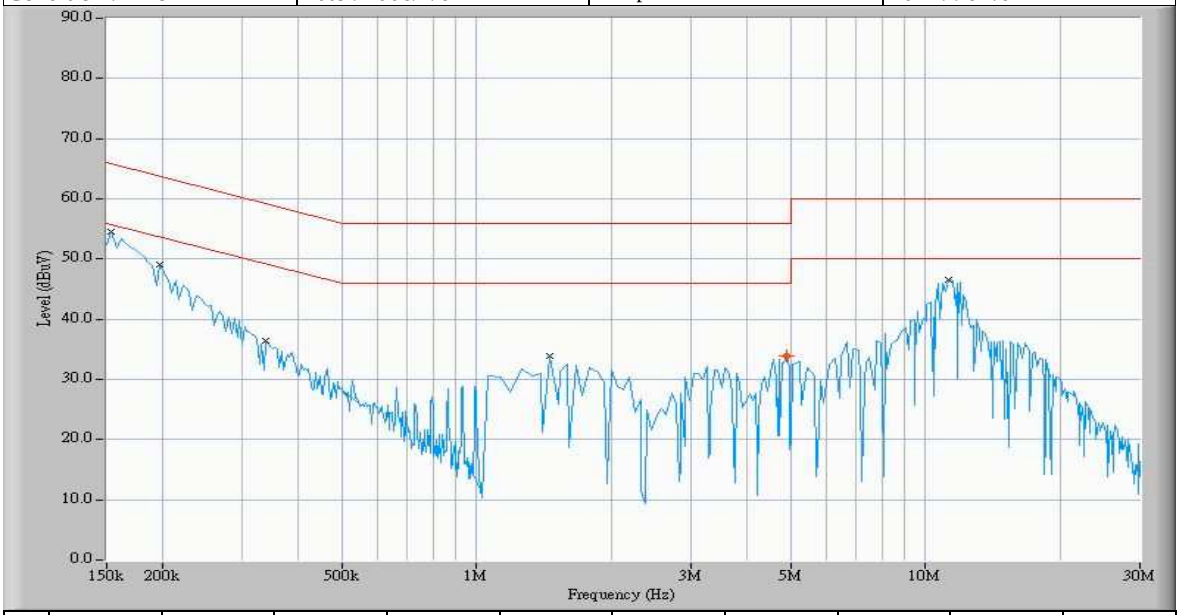
	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.154	50.5	----	0.1	50.6	----	65.8	55.8	-12.2	----
2	0.178	45.5	----	0.1	45.6	----	64.6	54.6	-14.0	----
3	1.590	30.4	----	0.2	30.6	----	56.0	46.0	-22.4	----
4	3.180	28.8	----	0.2	29.0	----	56.0	46.0	-23.0	----
5	4.970	30.9	----	0.2	31.1	----	56.0	46.0	-20.9	----
6	11.000	42.5	----	0.4	42.9	----	60.0	50.0	-12.1	----

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.

9.4.5

EUT :	Model :	Status : EGPRS850_IDLE_MODE	
Condition : Line 1	Date : 2006/2/6	Temp. : 17℃	Humi. : 62%

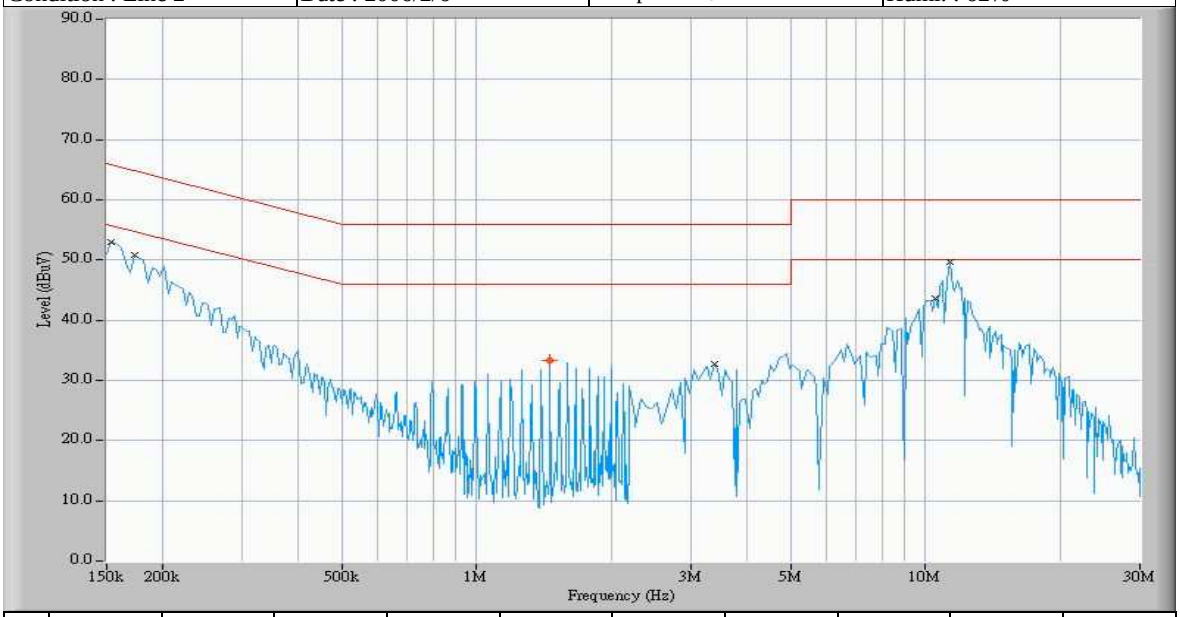


	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.154	50.6	----	0.1	50.7	----	65.8	55.8	-11.1	----
2	0.198	45.0	----	0.1	45.1	----	63.7	53.7	-14.6	----
3	0.340	32.5	----	0.1	32.6	----	59.2	49.2	-22.6	----
4	1.460	30.0	----	0.2	30.2	----	56.0	46.0	-21.8	----
5	4.910	30.9	----	0.2	31.1	----	56.0	46.0	-21.9	----
6	11.280	42.6	----	0.4	43.0	----	60.0	50.0	-13.0	----

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.

EUT :	Model :	Status : EGPRS850_IDLE_MODE	
Condition : Line 2	Date : 2006/2/6	Temp. : 17℃	Humi. : 62%



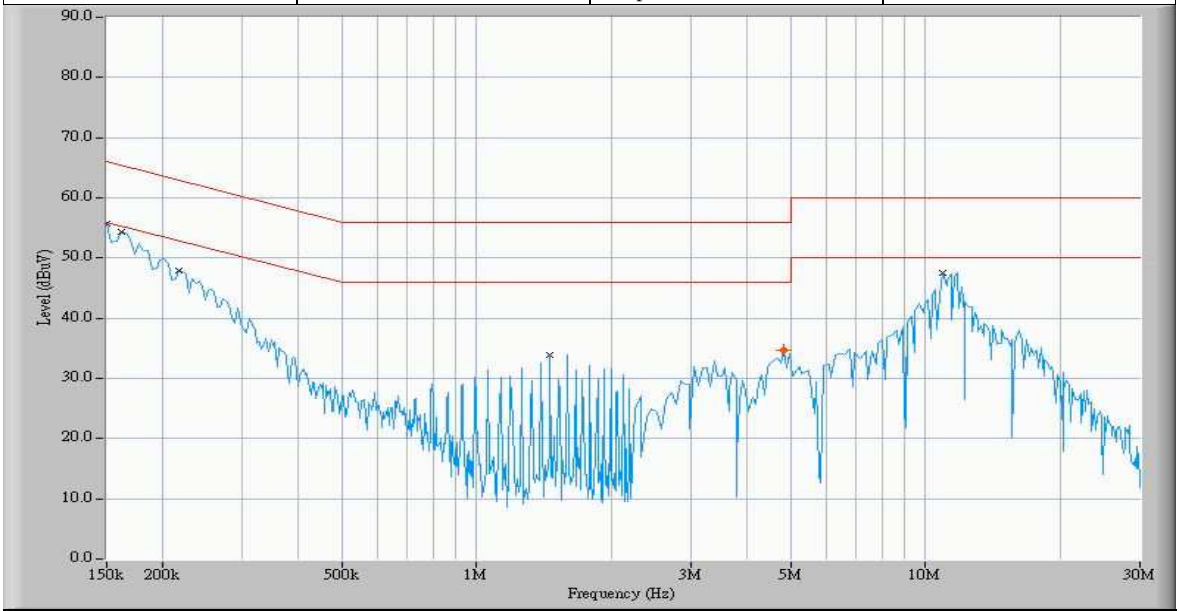
	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.154	50.0	----	0.1	50.1	----	65.8	55.8	-12.7	----
2	0.174	45.9	----	0.1	46.0	----	64.8	54.8	-13.8	----
3	1.460	30.4	----	0.2	30.6	----	56.0	46.0	-22.4	----
4	3.380	30.8	----	0.2	30.0	----	56.0	46.0	-23.0	----
5	10.540	40.7	----	0.4	41.1	----	60.0	50.0	-15.9	----
6	11.340	43.6	----	0.4	44.0	----	60.0	50.0	-10.0	----

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.

9.4.6

EUT :	Model :	Status : EGPRS850_CALL_MODE	
Condition : Line 1	Date : 2006/2/6	Temp. : 17℃	Humi. : 62%

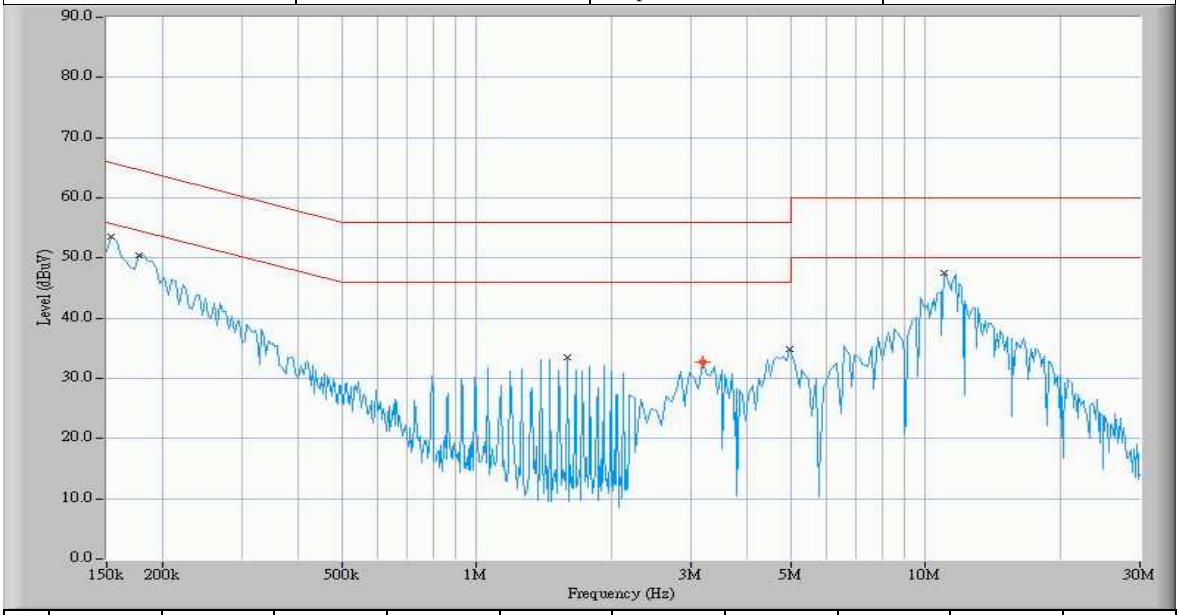


	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.150	50.8	----	0.1	50.9	----	66.0	56.0	-10.1	----
2	0.162	50.4	----	0.1	50.5	----	65.4	55.4	-10.9	----
3	0.217	44.9	----	0.1	45.0	----	62.9	52.9	-14.9	----
4	1.460	30.0	----	0.2	30.2	----	56.0	46.0	-21.8	----
5	4.840	31.8	----	0.2	32.0	----	56.0	46.0	-21.0	----
6	10.940	43.5	----	0.4	43.9	----	60.0	50.0	-12.1	----

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.

EUT :	Model :	Status : EGPRS850_CALL_MODE	
Condition : Line 2	Date : 2006/2/6	Temp. : 17℃	Humi. : 62%



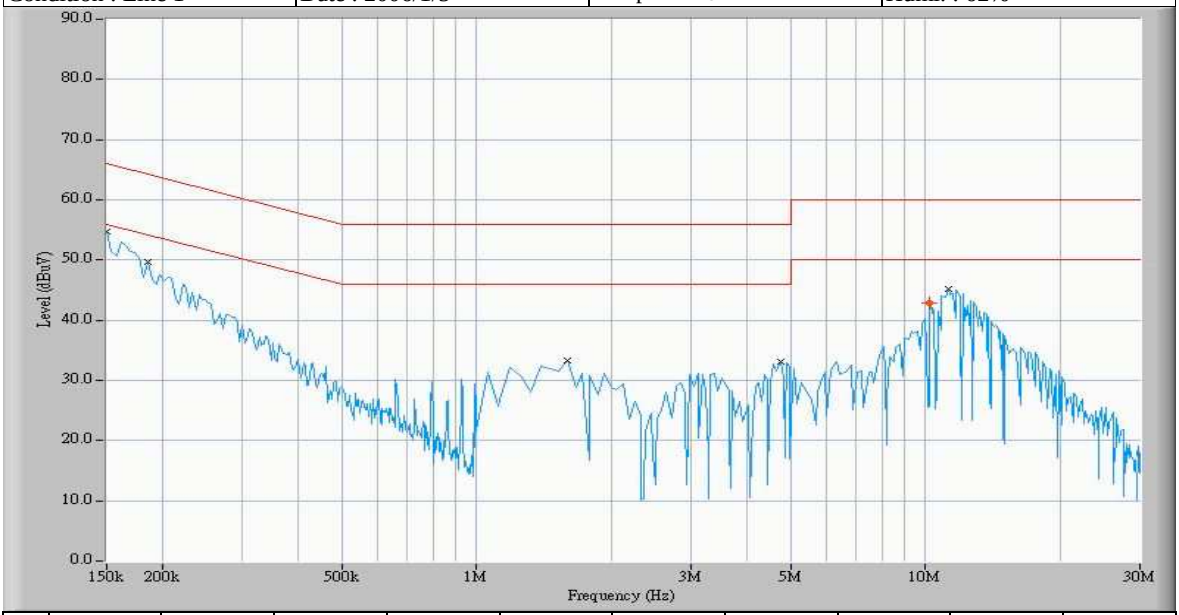
	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.154	50.5	----	0.1	50.6	----	65.8	55.8	-12.2	----
2	0.178	45.5	----	0.1	45.6	----	64.6	54.6	-14.0	----
3	1.590	30.4	----	0.2	30.6	----	56.0	46.0	-22.4	----
4	3.180	28.8	----	0.2	29.0	----	56.0	46.0	-23.0	----
5	4.970	30.9	----	0.2	31.1	----	56.0	46.0	-20.9	----
6	11.000	42.5	----	0.4	42.9	----	60.0	50.0	-12.1	----

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.

9.4.7

EUT :	Model :	Status : PCS1900_IDLE_MODE	
Condition : Line 1	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%

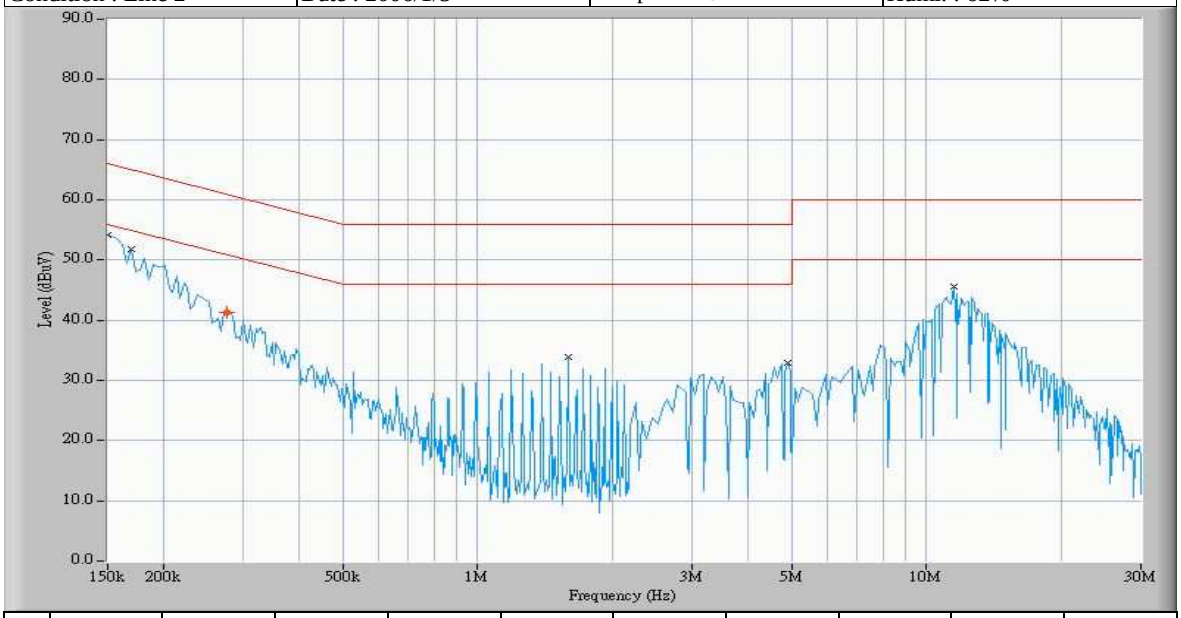


	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.150	50.7	----	0.1	50.8	----	66.0	56.0	-11.2	----
2	0.186	45.7	----	0.1	45.8	----	64.2	54.2	-14.4	----
3	1.590	30.3	----	0.2	30.5	----	56.0	46.0	-22.5	----
4	4.770	30.1	----	0.2	30.3	----	56.0	46.0	-22.7	----
5	10.200	40.0	----	0.4	40.4	----	60.0	50.0	-16.6	----
6	11.260	40.2	----	0.4	40.6	----	60.0	50.0	-14.4	----

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.

EUT :	Model :	Status : PCS1900_IDLE_MODE	
Condition : Line 2	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%



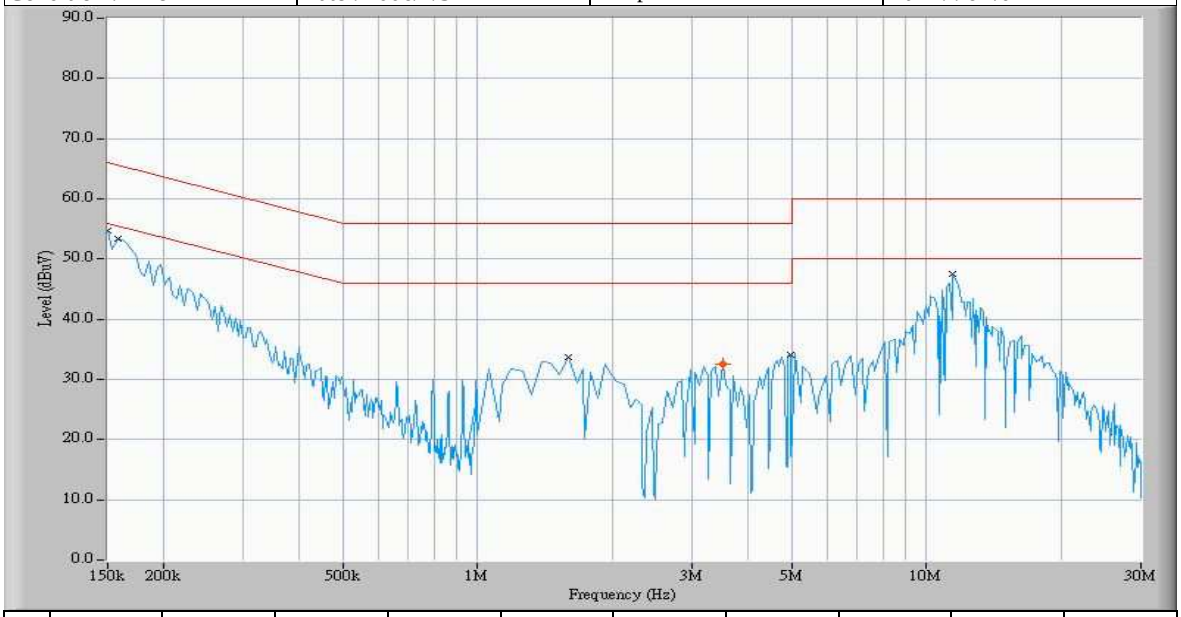
	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.150	50.1	----	0.1	50.2	----	66.0	56.0	-11.8	----
2	0.170	47.9	----	0.1	48.0	----	65.0	55.0	-13.0	----
3	0.277	38.3	----	0.1	38.4	----	60.9	50.9	-19.5	----
4	1.590	30.9	----	0.2	31.1	----	56.0	46.0	-21.9	----
5	4.900	30.9	----	0.2	31.1	----	56.0	46.0	-22.9	----
6	11.520	40.6	----	0.4	41.0	----	60.0	50.0	-14.0	----

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.

9.4.8

EUT :	Model :	Status : PCS1900_CALL_MODE	
Condition : Line 1	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%

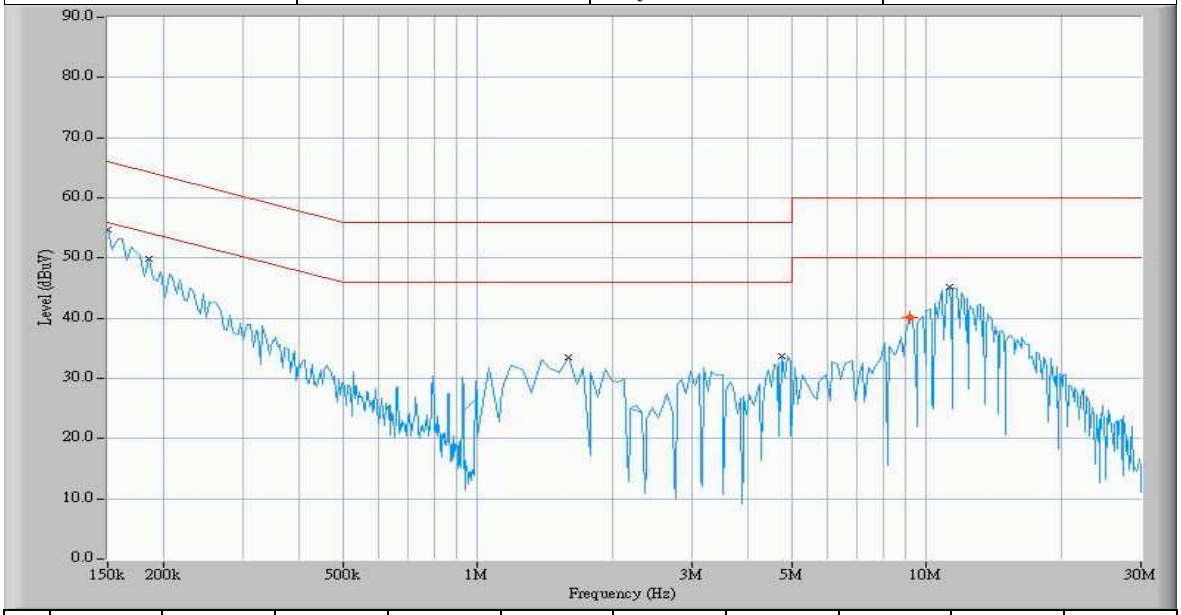


	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.150	50.6	----	0.1	50.7	----	66.0	56.0	-11.3	----
2	0.158	49.4	----	0.1	49.5	----	65.6	55.6	-12.1	----
3	1.590	30.8	----	0.2	31.0	----	56.0	46.0	-22.0	----
4	3.510	28.5	----	0.2	28.7	----	56.0	46.0	-23.3	----
5	4.970	30.2	----	0.2	30.4	----	56.0	46.0	-21.6	----
6	11.460	42.5	----	0.4	42.9	----	60.0	50.0	-12.1	----

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.

EUT :	Model :	Status : PCS1900_CALL_MODE	
Condition : Line 2	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%



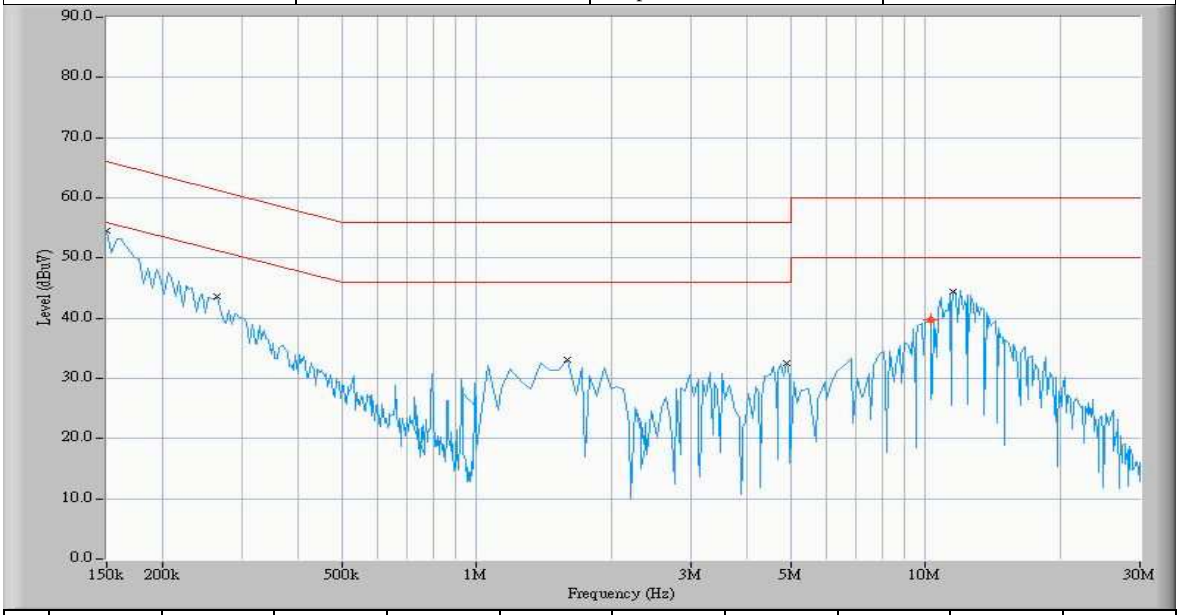
	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.150	50.7	----	0.1	50.8	----	66.0	56.0	-11.2	----
2	0.186	45.9	----	0.1	46.0	----	64.2	54.2	-14.2	----
3	1.590	30.5	----	0.2	30.7	----	56.0	46.0	-22.3	----
4	4.770	30.6	----	0.2	30.8	----	56.0	46.0	-22.2	----
5	9.140	37.1	----	0.3	37.4	----	60.0	50.0	-19.6	----
6	11.260	40.2	----	0.4	40.6	----	60.0	50.0	-14.4	----

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.

9.4.9

EUT :	Model :	Status : GPRS1900_IDLE_MODE	
Condition : Line 1	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%

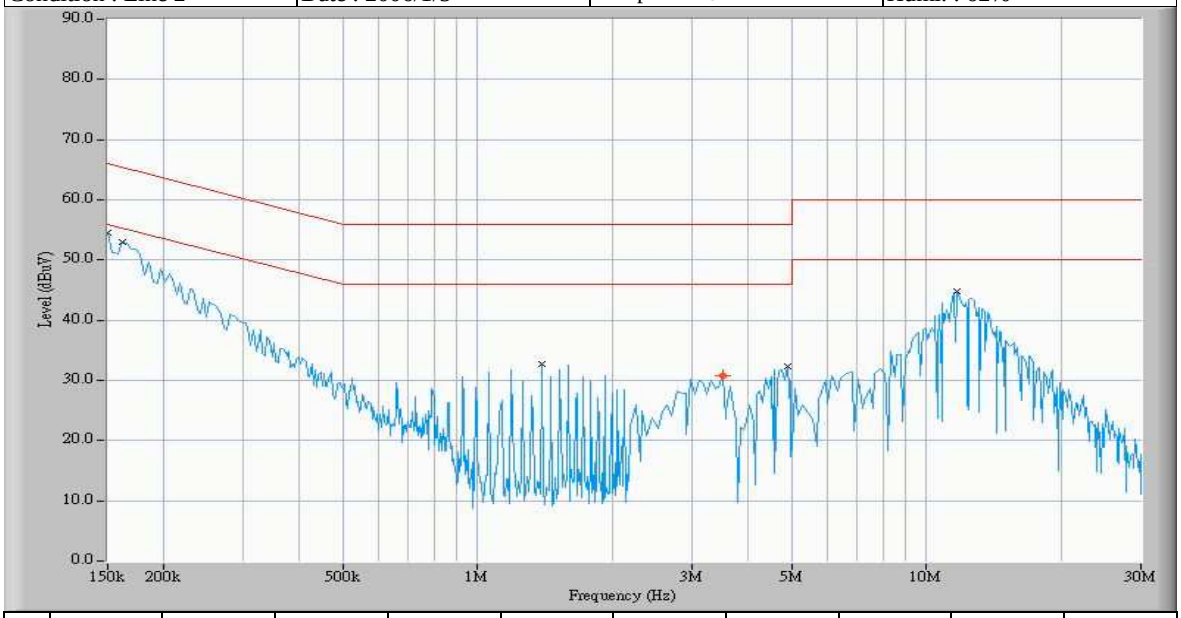


	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.150	50.6	----	0.1	50.7	----	66.0	56.0	-11.3	----
2	0.265	40.6	----	0.1	40.7	----	61.3	51.3	-17.6	----
3	1.590	30.2	----	0.2	30.4	----	56.0	46.0	-22.6	----
4	4.900	28.6	----	0.2	28.8	----	56.0	46.0	-23.2	----
5	10.260	37.7	----	0.4	38.1	----	60.0	50.0	-19.9	----
6	11.520	40.4	----	0.4	40.8	----	60.0	50.0	-15.2	----

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.

EUT :	Model :	Status : GPRS1900_IDLE_MODE	
Condition : Line 2	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%



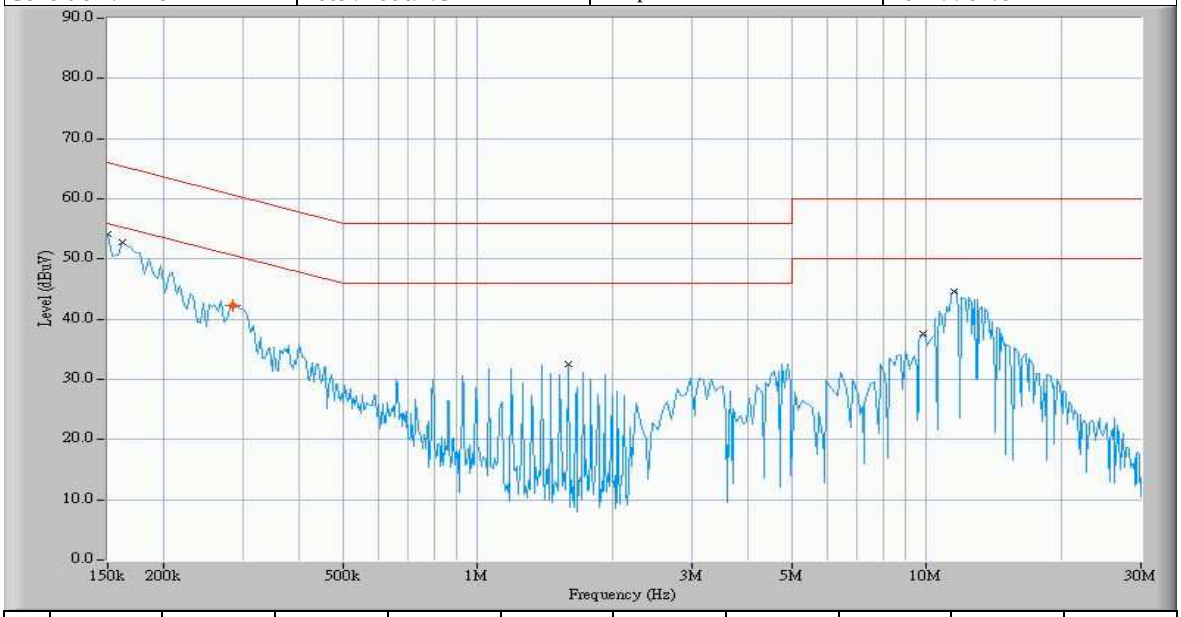
	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.150	50.5	----	0.1	50.6	----	66.0	56.0	-11.4	----
2	0.162	48.1	----	0.1	48.2	----	65.4	55.4	-12.2	----
3	1.390	30.6	----	0.2	30.8	----	56.0	46.0	-23.2	----
4	3.510	27.8	----	0.2	28.0	----	56.0	46.0	-25.0	----
5	4.900	30.3	----	0.2	30.5	----	56.0	46.0	-23.5	----
6	11.720	40.8	----	0.4	40.2	----	60.0	50.0	-14.8	----

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.

9.4.10

EUT :	Model :	Status : GPRS1900_CALL_MODE	
Condition : Line 1	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%

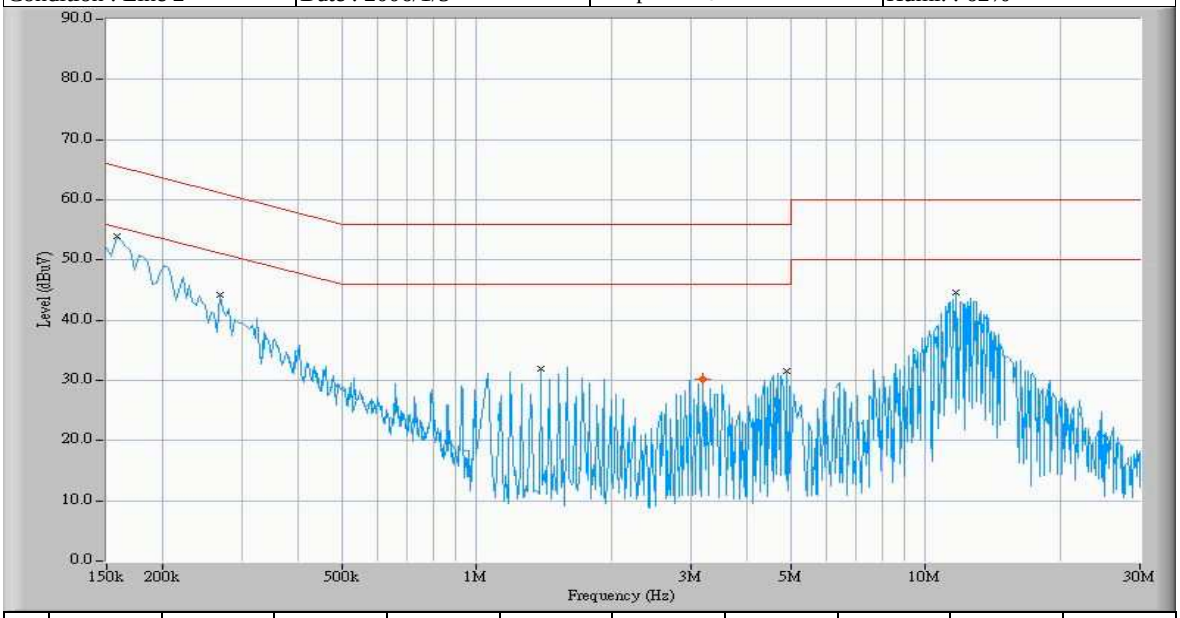


	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.150	50.1	----	0.1	50.2	----	66.0	56.0	-11.8	----
2	0.162	50.9	----	0.1	51.0	----	65.4	55.4	-12.4	----
3	0.285	38.4	----	0.1	38.5	----	60.7	50.7	-18.2	----
4	1.590	29.5	----	0.2	29.7	----	56.0	46.0	-23.3	----
5	9.800	33.6	----	0.3	33.9	----	60.0	50.0	-22.1	----
6	11.520	40.7	----	0.4	40.1	----	60.0	50.0	-14.9	----

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.

EUT :	Model :	Status : GPRS1900_CALL_MODE	
Condition : Line 2	Date : 2006/1/5	Temp. : 17℃	Humi. : 62%



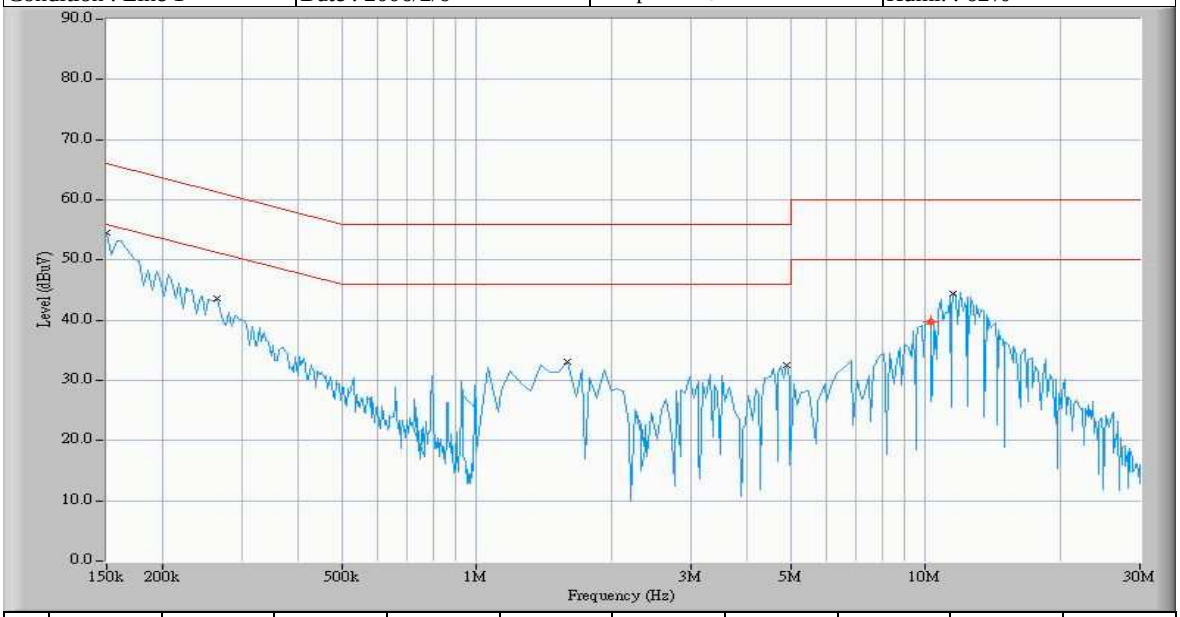
	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.158	50.0	----	0.1	50.1	----	65.6	55.6	-11.5	----
2	0.269	40.1	----	0.1	40.2	----	61.2	51.2	-17.0	----
3	1.390	28.0	----	0.2	28.2	----	56.0	46.0	-23.8	----
4	3.180	25.2	----	0.2	25.4	----	56.0	46.0	-25.6	----
5	4.900	28.6	----	0.2	28.8	----	56.0	46.0	-24.2	----
6	11.720	40.7	----	0.4	41.1	----	60.0	50.0	-14.9	----

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.

9.4.11

EUT :	Model :	Status : EGPRS1900_IDLE_MODE	
Condition : Line 1	Date : 2006/2/6	Temp. : 17℃	Humi. : 62%

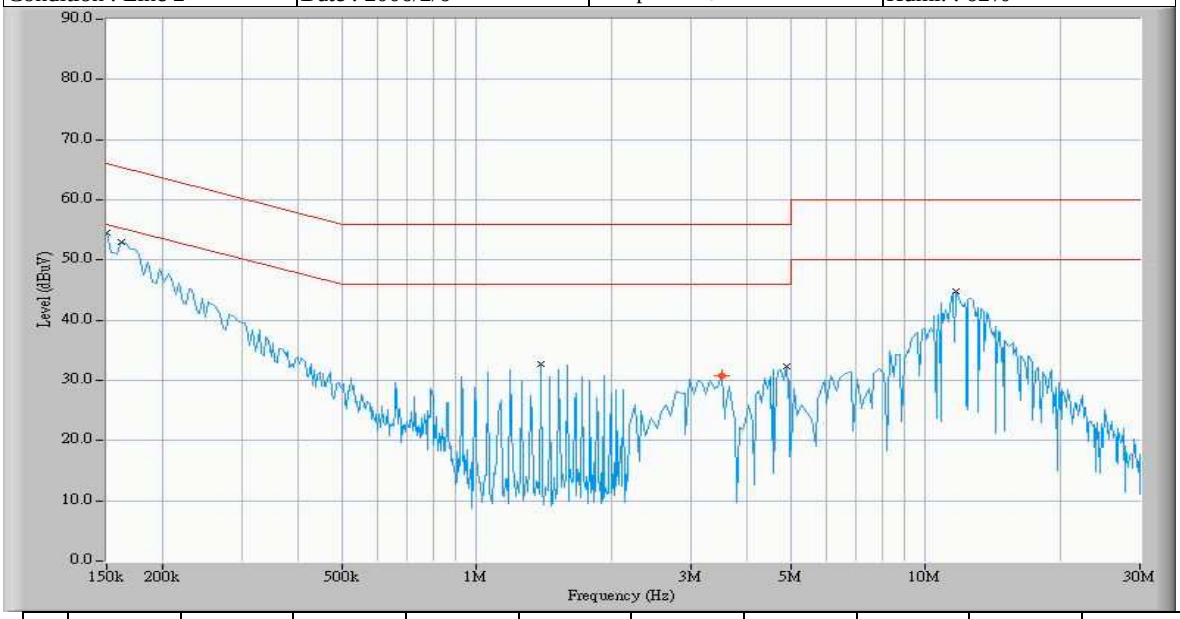


	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.150	50.6	----	0.1	50.7	----	66.0	56.0	-11.3	----
2	0.265	40.6	----	0.1	40.7	----	61.3	51.3	-17.6	----
3	1.590	30.2	----	0.2	30.4	----	56.0	46.0	-22.6	----
4	4.900	28.6	----	0.2	28.8	----	56.0	46.0	-23.2	----
5	10.260	37.7	----	0.4	38.1	----	60.0	50.0	-19.9	----
6	11.520	40.4	----	0.4	40.8	----	60.0	50.0	-15.2	----

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.

EUT :	Model :	Status : EGPRS1900_IDLE_MODE	
Condition : Line 2	Date : 2006/2/6	Temp. : 17℃	Humi. : 62%



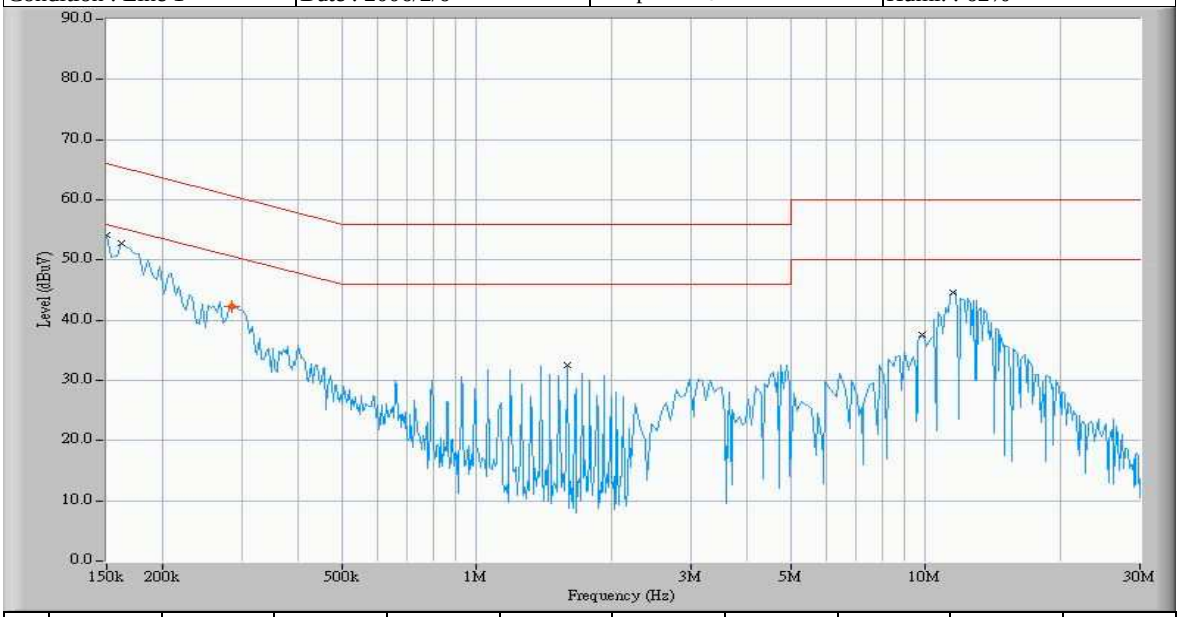
	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.150	50.5	----	0.1	50.6	----	66.0	56.0	-11.4	----
2	0.162	48.1	----	0.1	48.2	----	65.4	55.4	-12.2	----
3	1.390	30.6	----	0.2	30.8	----	56.0	46.0	-23.2	----
4	3.510	27.8	----	0.2	28.0	----	56.0	46.0	-25.0	----
5	4.900	30.3	----	0.2	30.5	----	56.0	46.0	-23.5	----
6	11.720	40.8	----	0.4	40.2	----	60.0	50.0	-14.8	----

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.

9.4.12

EUT :	Model :	Status : EGPRS1900_CALL_MODE	
Condition : Line 1	Date : 2006/2/6	Temp. : 17℃	Humi. : 62%

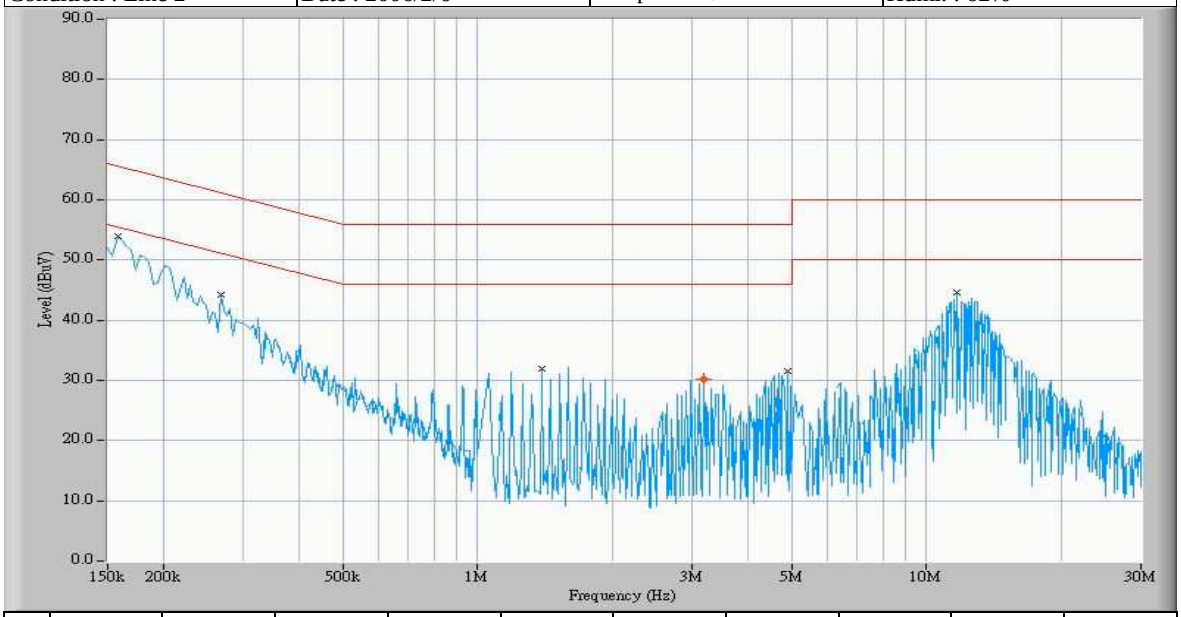


	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.150	50.1	----	0.1	50.2	----	66.0	56.0	-11.8	----
2	0.162	50.9	----	0.1	51.0	----	65.4	55.4	-12.4	----
3	0.285	38.4	----	0.1	38.5	----	60.7	50.7	-18.2	----
4	1.590	29.5	----	0.2	29.7	----	56.0	46.0	-23.3	----
5	9.800	33.6	----	0.3	33.9	----	60.0	50.0	-22.1	----
6	11.520	40.7	----	0.4	40.1	----	60.0	50.0	-14.9	----

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.

EUT :	Model :	Status : EGPRS1900_CALL_MODE	
Condition : Line 2	Date : 2006/2/6	Temp. : 17℃	Humi. : 62%



	Freq (MHz)	QP Level (dBuV)	AVG Level (dBuV)	Factor (dB)	QP Result (dBuV)	AVG Result (dBuV)	QP Limit (dBuV)	AVG Limit (dBuV)	QP Margin (dB)	AVG Margin (dB)
1	0.158	50.0	----	0.1	50.1	----	65.6	55.6	-11.5	----
2	0.269	40.1	----	0.1	40.2	----	61.2	51.2	-17.0	----
3	1.390	28.0	----	0.2	28.2	----	56.0	46.0	-23.8	----
4	3.180	25.2	----	0.2	25.4	----	56.0	46.0	-25.6	----
5	4.900	28.6	----	0.2	28.8	----	56.0	46.0	-24.2	----
6	11.720	40.7	----	0.4	41.1	----	60.0	50.0	-14.9	----

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.