

FCC TEST REPORT

for

47 CFR Part 22H and 24E

Equipment : **W11 GPRS with WLAN PC Card**
Model No. : **56W11**
FCC ID : **JVP56W11**
Filing Type : **Certification**
Applicant : **BENQ Corporation**
No. 157, Shan-Ying Road, Gueishan Taoyuan
333, Taiwan, R.O.C.

- The test result refers exclusively to the test presented test model / sample.
- Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.
- **Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by NVLAP or any agency of U.S. government.**

SPORTON International Inc.

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

The applicant has been cautioned as to the following:

15.21 Information to User.

The users manual or instruction manual for an intentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.27(a) Special Accessories.

Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer, without additional charge.

Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.

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Required information per ISO/IEC Guide 25-1990, paragraph 13.2:

a) **Test Report**

b) Laboratory: Sporton International Inc.
No.52, Hwa-Ya 1st RD., Hwa Ya Technology Park, Kwei-Shan Hsiang,
TaoYuan Hsien, Taiwan, R.O.C.

c) Report Number: F413003

d) Client: BENQ Corporation
No. 157, Shan-Ying Road, Gueishan Taoyuan 333, Taiwan, R.O.C.

e) Identification: Model Name: 56W11
FCC ID : JVP56W11
Description: GSM/GPRS 850/1900 Radio

f) EUT Condition: Not required unless specified in individual tests.

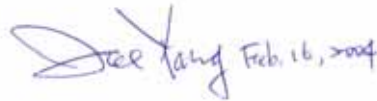
g) Report Date: Feb. 16, 2004
EUT Received: Jan. 30, 2004

h, j, k): As indicated in individual tests.

i) Sampling method: No sampling procedure used.

l) Uncertainty: In accordance with Sporton internal quality manual.

m) Supervised by:



Joe Yang

n) Results: The results presented in this report relate only to the item tested.

o) Reproduction: This report must not be reproduced, except in full, without written permission from this laboratory.

Accessories Used During Testing:

Type	Model
EUT	56W11
Earpiece	N/A
Laptop	DELL/PP05L

List of General Information Required for Certification

In Accordance with FCC Rules and Regulations,
Volume II, Part 2 and
22H, 24E, Confidentiality

Sub-Part 2.1033

(c)(1): Name and Address of Applicant:

BENQ Corporation
No. 157, Shan-Ying Road, Gueishan Taoyuan 333,
Taiwan, R.O.C.

Manufacturer

As above

(c)(2): FCC ID: JVP56W11

Model Number: 56W11

(c)(3): Instruction Manual(s):

Please See Attached Exhibits

(c)(4): Type of Emission: GSM/GPRS 850; GSM/GPRS 1900

(c)(5): FREQUENCY RANGE, MHz: 824.2 to 848.8 GSM/GPRS 850
1850.2 to 1909.8 GSM/GPRS 1900

(c)(6): Power Rating, Watts: 1.076 (GSM/GPRS 850)
1.072 (GSM/GPRS 1900)
Switchable x Variable N/A

(c)(7): Maximum Power Rating, Watts: 2 GSM/GPRS 850
1 GSM/GPRS 1900

Subpart 2.1033 (continued)

(c)(8): Voltages & Currents in All Elements in Final RF Stage, Including Final Transistor or Solid State Device:

Collector Current, A = 0.5
Collector Voltage, Vdc = 5.0
Supply Voltage, Vdc = 5.0

(c)(9): **Tune-Up Procedure:**

Please See Attached Exhibits

(c)(10): **Circuit Diagram/Circuit Description:**

Including description of circuitry & devices provided for determining and stabilizing frequency, for suppression of spurious radiation, for limiting modulation and limiting power.

Please See Attached Exhibits

(c)(11): **Label Information:**

Please See Attached Exhibits

(c)(12): **Photographs:**

Please See Attached Exhibits

(c)(13): **Digital Modulation Description:**

Attached Exhibits
 N/A

(c)(14): **Test and Measurement Data:**

Follows

Certificate of NVLAP Accreditation



Sub-part

2.1033(c)(14): Test and Measurement Data

All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Volume II; Part 2, Sub-part J, Sections 2.947, 2.1033(c), 2.1041, 2.1046, 2.1047, 2.1079, 2.1051, 2.1053, 2.1055, 2.1057 and the following individual Parts:

- 21 – Domestic Public Fixed Radio Services
- 22 – Public Mobile Services
- x 22 Subpart H - Cellular Radiotelephone Service
 - 22.901(d) - Alternative technologies and auxiliary services
- 23 – International Fixed Public Radiocommunication services
- x 24 – Personal Communications Services
 - 74 Subpart H - Low Power Auxiliary Stations
 - 80 – Stations in the Maritime Services
 - 80 Subpart E - General Technical Standards
 - 80 Subpart F - Equipment Authorization for Compulsory Ships
 - 80 Subpart K - Private Coast Stations and Marine Utility Stations
 - 80 Subpart S - Compulsory Radiotelephone Installations for Small Passenger Boats
 - 80 Subpart T - Radiotelephone Installation Required for Vessels on the Great Lakes
 - 80 Subpart U - Radiotelephone Installations Required by the Bridge-to-Bridge Act
 - 80 Subpart V - Emergency Position Indicating Radiobeacons (EPIRB'S)
 - 80 Subpart W - Global Maritime Distress and Safety System (GMDSS)
 - 80 Subpart X - Voluntary Radio Installations
- 87 – Aviation Services
- 90 – Private Land Mobile Radio Services
- 94 – Private Operational-Fixed Microwave Service
- 95 Subpart A - General Mobile Radio Service (GMRS)
- 95 Subpart C - Radio Control (R/C) Radio Service
- 95 Subpart D - Citizens Band (CB) Radio Service
- 95 Subpart E - Family Radio Service
- 95 Subpart F - Interactive Video and Data Service (IVDS)
- 97 - Amateur Radio Service
- 101 – Fixed Microwave Services

General Information

Product Feature & Specification	
1. Host/Radio Interface	PCMCIA
2. Type of Modulation	GMSK
3. Number of Channels	GSM/GPRS 850 : 128 to 251 GSM/GPRS 1900 : 512 to 810
4. Frequency Band , MHz	Tx: 824-850/GSM850;1850-1910/GSM 1900 Rx: 869-894/GSM850;1930-1990/GSM 1900
5. Bandwidth of each channel	200 KHz
6. Maximum Output Power to Antenna	GSM/GPRS 850 : 33 dBm GSM/GPRS 1900: 30 dBm
7. Power Rating (DC/AC , Voltage)	DC 5V \pm 0.5V
8. Duty Cycle	12%, 24%
9. Basic function of product	GPRS Muti-Slot Class 10
10. Temperature Range (Operating)	0°C ~ 55°C
11. Humidity	15% at 85%RH
12. Other Special	N/A
13. Remark	N/A

**Standard Test Conditions
and
Engineering Practices**

Except as noted herein, the following conditions and procedures were observed during the testing:

In accordance with TIA603, and unless otherwise indicated in the specific measurement results, the ambient temperature of the actual EUT was maintained within the range of 10° to 40°C (50° to 104 °F) unless the particular equipment requirements specify testing over a different temperature range. Also, unless otherwise indicated, the humidity levels were in the range of 10% to 90% relative humidity.

Prior to testing, the EUT was tuned up in accordance with the manufacturer's alignment procedures. All external gain controls were maintained at the position of maximum and/or optimum gain throughout the testing.

Measurement results, unless otherwise noted, are worst-case measurements.

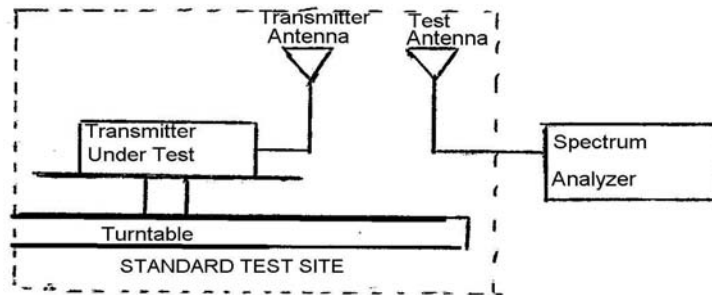
Name of Test: EIRP Carrier Power (Radiated)

Specification: TIA/EIA 603A (Substitution Method)

Definition: The average radiated power of device is the equivalent power required, when delivered to a substitution antenna, to produce at a distant point the same average received power as produced by the licensed device.

Method Of Measurement:

a) Connect the equipment as illustrated. Place the transmitter to be tested on the turntable in the standard test site.



b) Raise and lower the test antenna from 1m to 4m and rotate turntable from 0° to 360°. Record the highest received signal showed in spectrum analyzer as R_t . Calculate electric field strength in receive antenna as E_t .

$$E_t = R_t + AF$$

AF (dB/m): Receive Antenna Factor

c) Replace the transmitter under test with a substitution antenna. The center of the antenna should be at the same location as the transmitter under test. Connect the antenna to a signal generator with a known output power level P_s . Raise and lower the test antenna like in step b) and record the highest received signal showed in spectrum analyzer as R_s . Calculate electric field strength in receive antenna as E_s .

$$E_s = R_s + AF$$

AF (dB/m): Receive Antenna Factor

d) Calculate radiated power as following:

$$EIRP = P_s + E_t - E_s + G_s$$

P_s (dBm): Input Power to Substitution Antenna

G_s (dBi) : Substitution Antenna Gain

Results Attached

Test Results For: EIRP Carrier Power (Radiated)

Conducted Power

GSM850/1900

Bands	Channel	Frequency (MHz)	Conducted Power (dBm)
GSM850	128	824.2 (Low)	31.76
	189	836.4 (Mid)	31.69
	251	848.8 (High)	31.55
GSM1900	512	1850.2 (Low)	30.19
	661	1880.0 (Mid)	29.66
	810	1909.8 (High)	29.53

GPRS850/1900

Bands	Channel	Frequency (MHz)	Conducted Power 1st TS (dBm)	Conducted Power 2st TS (dBm)
GSM850	128	824.2 (Low)	31.67	31.65
	189	836.4 (Mid)	31.59	31.57
	251	848.8 (High)	31.44	31.43
GSM1900	512	1850.2 (Low)	30.08	30.06
	661	1880.0 (Mid)	29.57	29.55
	810	1909.8 (High)	29.4	29.39

GSM850 ERP

Freq MHz	Pol	Substitution Antenna Input Power dBm	Substitution Antenna Gain dBd	Et	Es	Et - Es dB	Radiated P Out dBm	Radiated P Out Watts
824.13	H	-2.49	0.53	131.09	93.62	37.47	35.51	3.557
836.33	H	-2.49	0.61	131.02	93.85	37.17	35.29	3.383
848.73	H	-2.48	0.69	130.11	94.09	36.02	34.23	2.651
824.26	V	-2.49	0.53	119.9	92.90	27.00	25.05	0.320
836.47	V	-2.49	0.61	119.41	93.19	26.22	24.34	0.272
848.73	V	-2.48	0.69	121.4	93.52	27.88	26.09	0.407

GPRS850 ERP

Freq MHz	Pol	Substitution Antenna Input Power dBm	Substitution Antenna Gain dBd	Et	Es	Et - Es dB	Radiated P Out dBm	Radiated P Out Watts
824.13	H	-2.49	0.53	125.57	93.62	31.95	29.99	0.998
836.47	H	-2.49	0.61	126.97	93.86	33.11	31.24	1.331
848.73	H	-2.48	0.69	127.72	94.09	33.63	31.84	1.529
824.13	V	-2.49	0.53	118.57	92.90	25.67	23.72	0.235
836.33	V	-2.49	0.61	119.23	93.19	26.04	24.17	0.261
848.87	V	-2.48	0.69	120.75	93.52	27.23	25.44	0.350

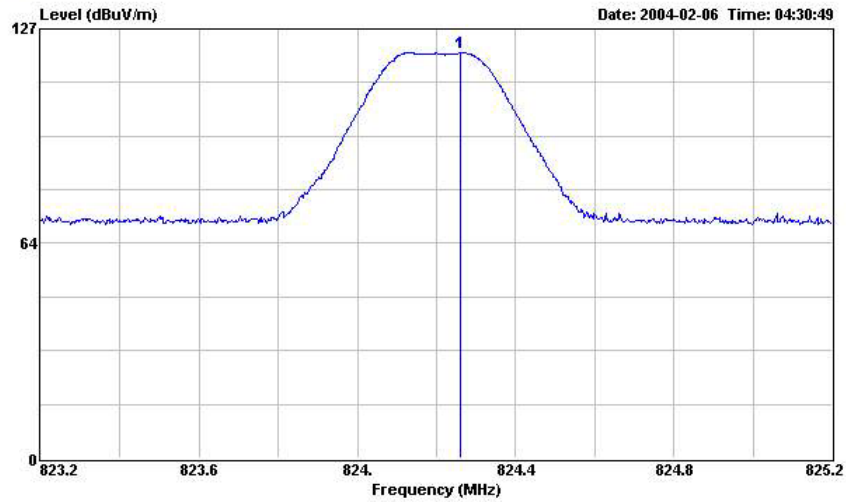
GSM1900 EIRP

Freq MHz	Pol	Substitution Antenna Input Power dBm	Substitution Antenna Gain dBi	Et	Es	Et - Es dB	Radiated P Out dBm	Radiated P Out Watts
1850.06	H	-3.76	8.79	127.47	101.70	25.77	28.66	0.73
1879.88	H	-3.78	8.80	129.50	101.64	27.86	30.73	1.18
1909.64	H	-3.81	8.81	129.62	101.58	28.04	30.89	1.23
1850.06	V	-3.76	8.79	121.37	101.70	19.67	22.56	0.18
1879.90	V	-3.78	8.80	121.42	101.64	19.78	22.65	0.18
1909.80	V	-3.81	8.81	119.68	101.58	18.10	20.95	0.12

GPRS1900 EIRP

Freq MHz	Pol	Substitution Antenna Input Power dBm	Substitution Antenna Gain dBi	Et	Es	Et - Es dB	Radiated P Out dBm	Radiated P Out Watts
1850.20	H	-3.76	8.79	127.58	101.70	25.88	28.77	0.75
1880.06	H	-3.78	8.80	124.29	101.64	22.65	25.52	0.36
1909.80	H	-3.81	8.81	129.16	101.58	27.58	30.43	1.11
1850.12	V	-3.76	8.79	122.08	101.70	20.38	23.27	0.21
1879.90	V	-3.78	8.80	122.58	101.64	20.94	23.81	0.24
1909.80	V	-3.81	8.81	121.78	101.58	20.20	23.05	0.20

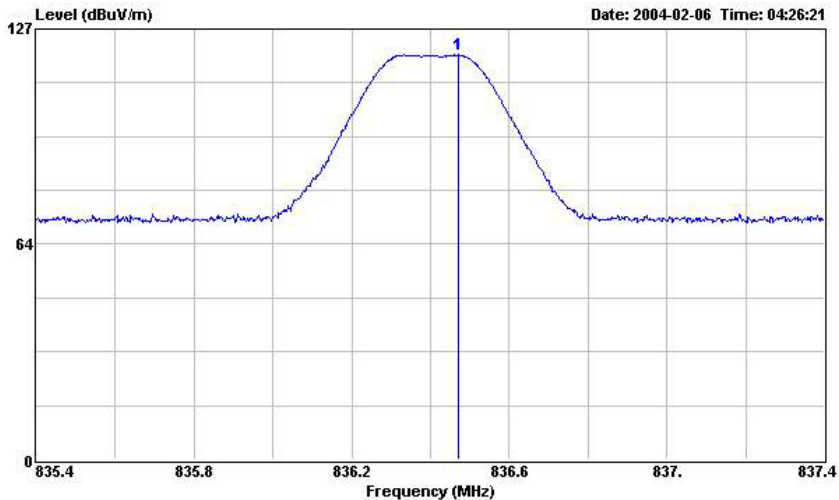
GSM 850 CH128 Vertical Polarization



Site : 03CH03-HY
 Condition : 3m LOG-9111-221 VERTICAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM850 CH128

1	824.260	119.90	-----	-----	97.74	20.62	1.54	0.00	Peak	100	286
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB	dB	Remark	Ant Pos	Table Pos

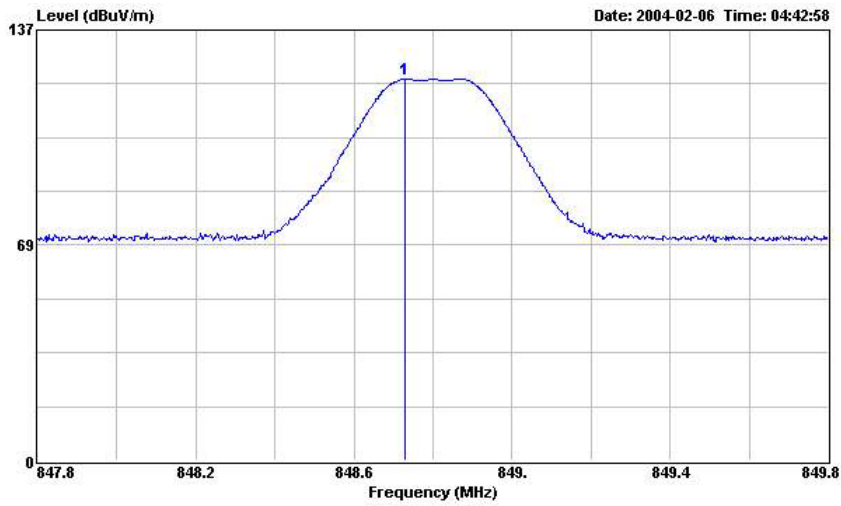
GSM 850 CH189 Vertical Polarization



Site : 03CH03-HY
 Condition : 3m LOG-9111-221 VERTICAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM850 CH189

1	836.470	119.41	-----	-----	96.88	20.74	1.79	0.00	Peak	102	282
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB	dB	Remark	Ant Pos	Table Pos

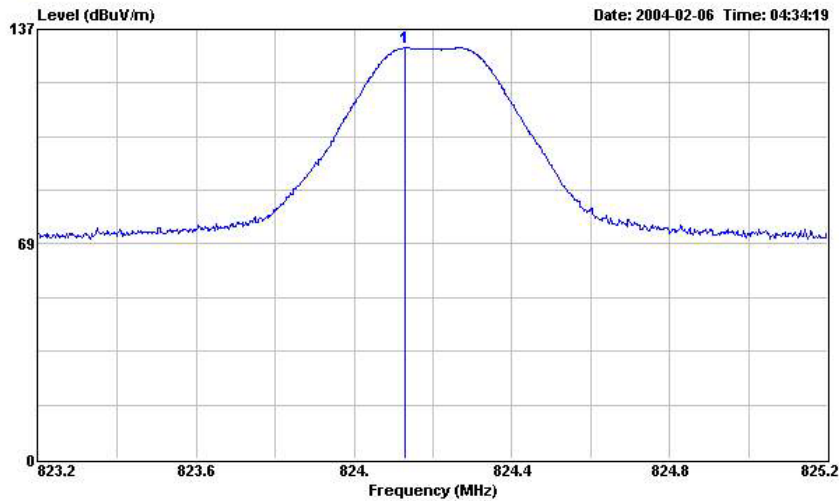
GSM 850 CH251 Vertical Polarization



Site : 03CH03-HY
 Condition : 3m LOG-9111-221 VERTICAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM850 CH251

Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	848.730	121.40	-----	98.99	20.86	1.55	0.00	Peak	100	285

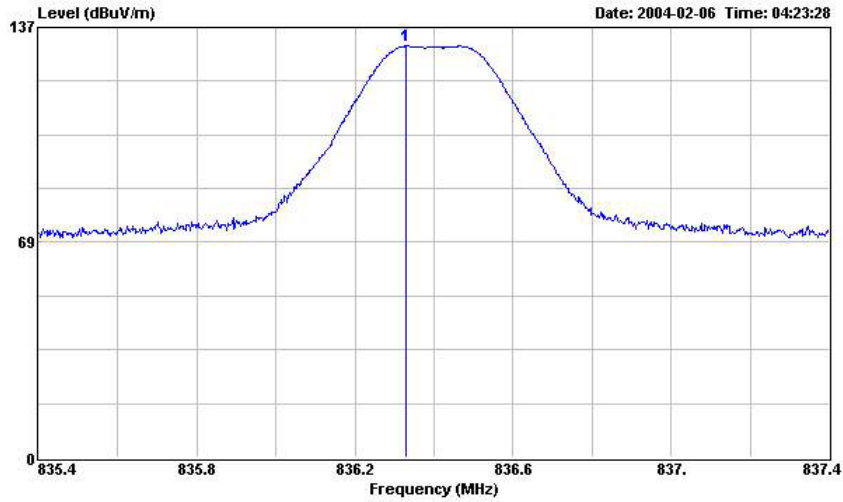
GSM 850 CH128 Horizontal Polarization



Site : 03CH03-HY
 Condition : 3m LOG-9111-221 HORIZONTAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM850 CH128

Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	824.130	131.09	-----	108.93	20.62	1.54	0.00	Peak	119	18

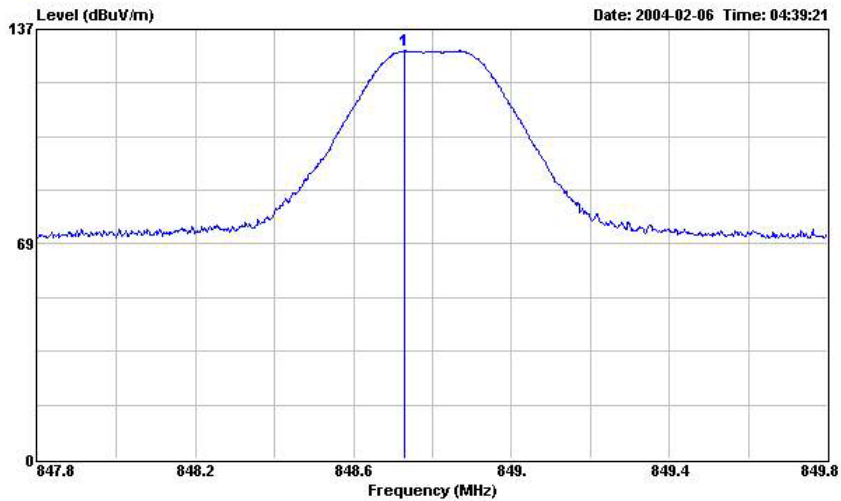
GSM 850 CH189 Horizontal Polarization



Site : 03CH03-HY
 Condition : 3m LOG-9111-221 HORIZONTAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM850 CH189

Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1 836.330	131.02	-----	-----	108.49	20.74	1.79	0.00	Peak	118	7

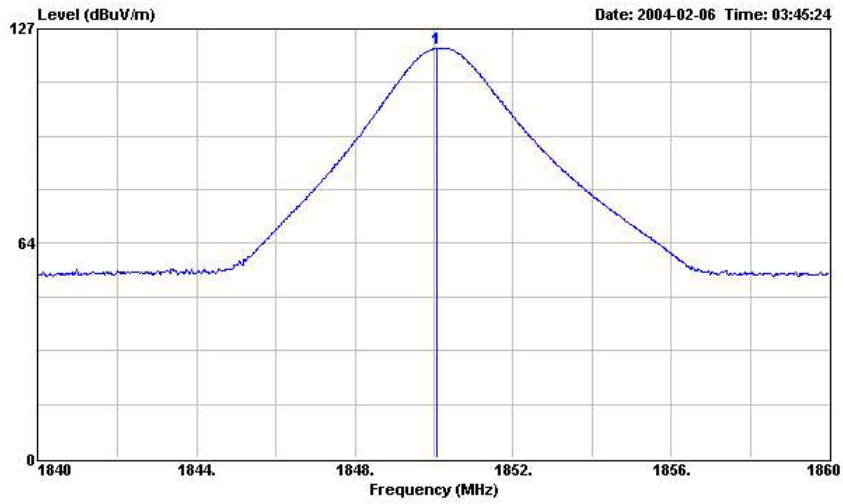
GSM 850 CH251 Horizontal Polarization



Site : 03CH03-HY
 Condition : 3m LOG-9111-221 HORIZONTAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM850 CH251

Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1 848.730	130.11	-----	-----	107.70	20.86	1.55	0.00	Peak	113	30

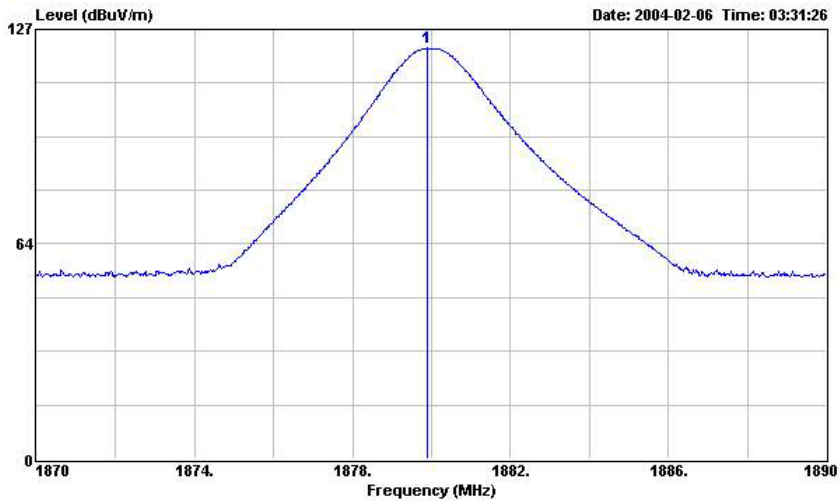
GSM 1900 CH512 Vertical Polarization



Site : 03CH03-HY
 Condition : 3m HORN-ANT-6741 VERTICAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM1900 CH512

Over	Limit	Read	Probe	Cable	Preamp	Ant	Table			
Level	Line	Level	Factor	Loss	Factor	Pos	Pos			
dB	dBuV/m	dBuV	dB	dB	dB	cm	deg			
1	1850.060	121.37	-----	92.91	26.81	1.65	0.00	Peak	100	0

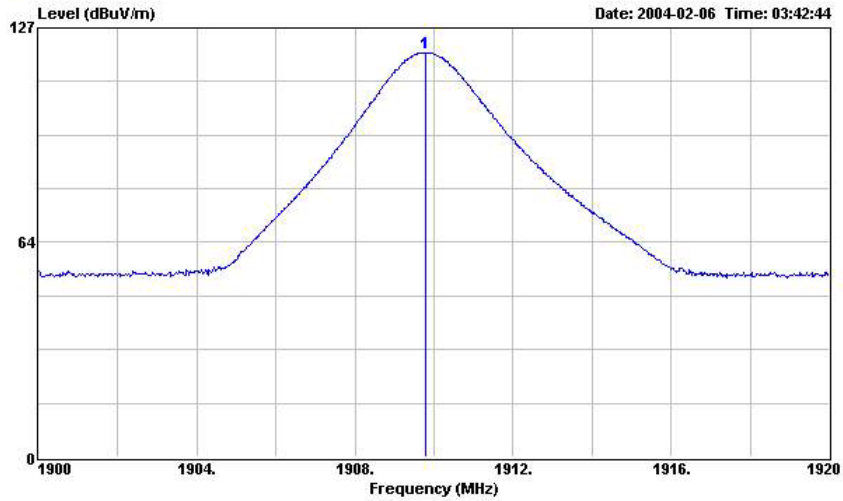
GSM 1900 CH661 Vertical Polarization



Site : 03CH03-HY
 Condition : 3m HORN-ANT-6741 VERTICAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM1900 CH661

Over	Limit	Read	Probe	Cable	Preamp	Ant	Table			
Level	Line	Level	Factor	Loss	Factor	Pos	Pos			
dB	dBuV/m	dBuV	dB	dB	dB	cm	deg			
1	1879.900	121.42	-----	92.92	26.91	1.59	0.00	Peak	100	330

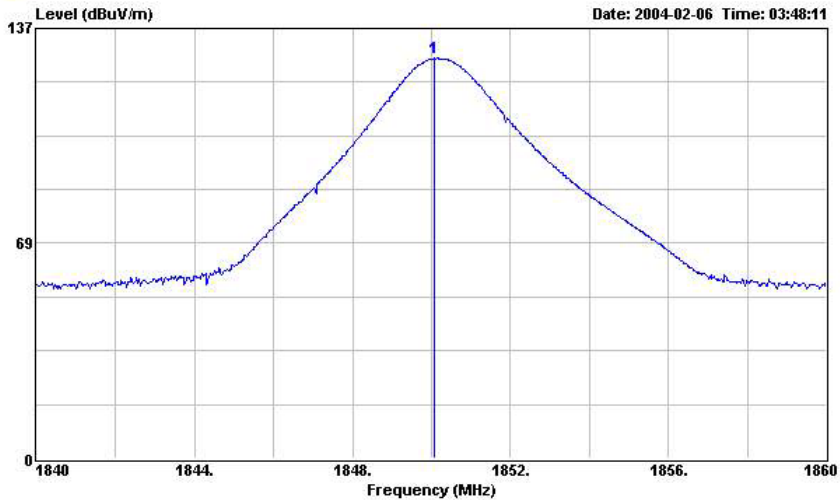
GSM 1900 CH810 Vertical Polarization



Site : 03CH03-HY
 Condition : 3m HORN-ANT-6741 VERTICAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM1900 CH810

Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1 1909.800	119.68	-----	-----	91.06	27.05	1.57	0.00	Peak	100	333

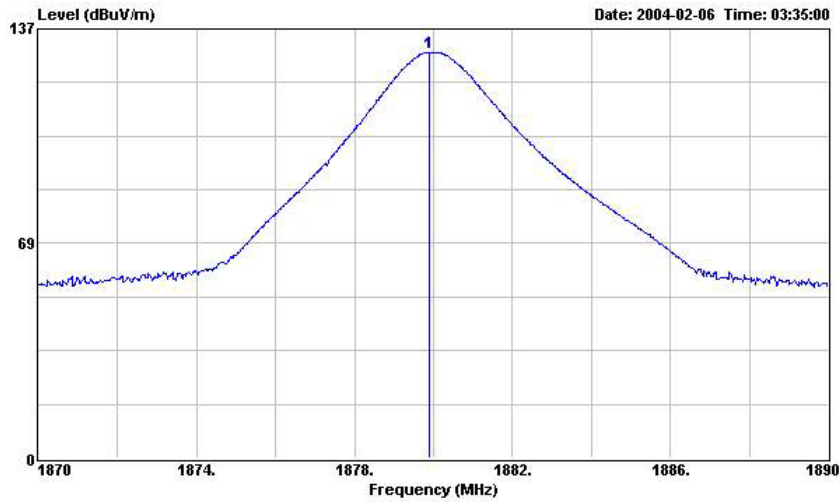
GSM 1900 CH512 Horizontal Polarization



Site : 03CH03-HY
 Condition : 3m HORN-ANT-6741 HORIZONTAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM1900 CH512

Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1 1850.060	127.47	-----	-----	99.01	26.81	1.65	0.00	Peak	100	80

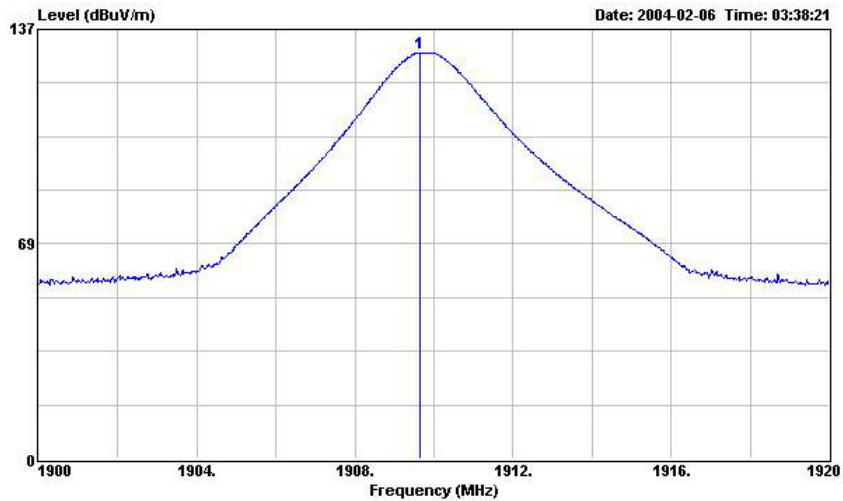
GSM 1900 CH661 Horizontal Polarization



Site : 03CH03-HY
 Condition : 3m HORN-ANT-6741 HORIZONTAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM1900 CH661

Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1 1879.880	129.50	-----	-----	101.00	26.91	1.59	0.00	Peak	100	79

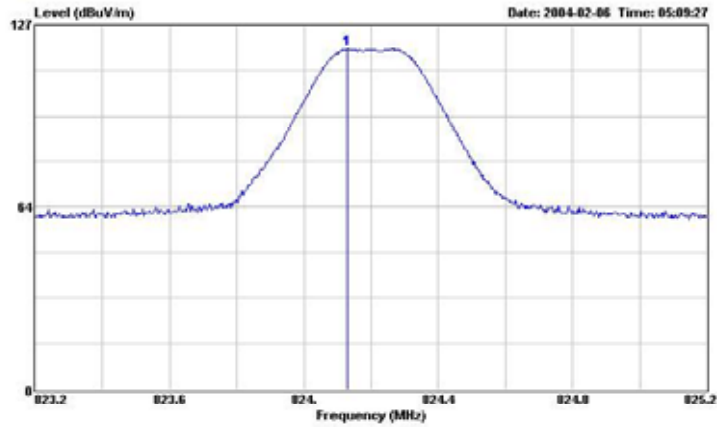
GSM 1900 CH810 Horizontal Polarization



Site : 03CH03-HY
 Condition : 3m HORN-ANT-6741 HORIZONTAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM1900 CH810

Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1 1909.640	129.62	-----	-----	101.00	27.05	1.57	0.00	Peak	100	99

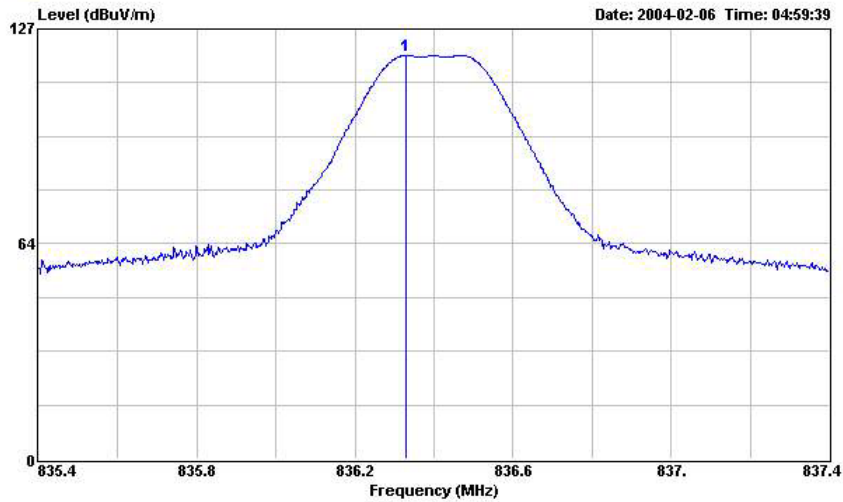
GPRS 850 CH128 Vertical Polarization



Site : 03CH03-HY
 Condition : 3m LOG-9111-221 VERTICAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM850 CH128

Line	Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	824.130	110.57	-----	-----	96.41	20.62	1.54	0.00	Peak	100	274

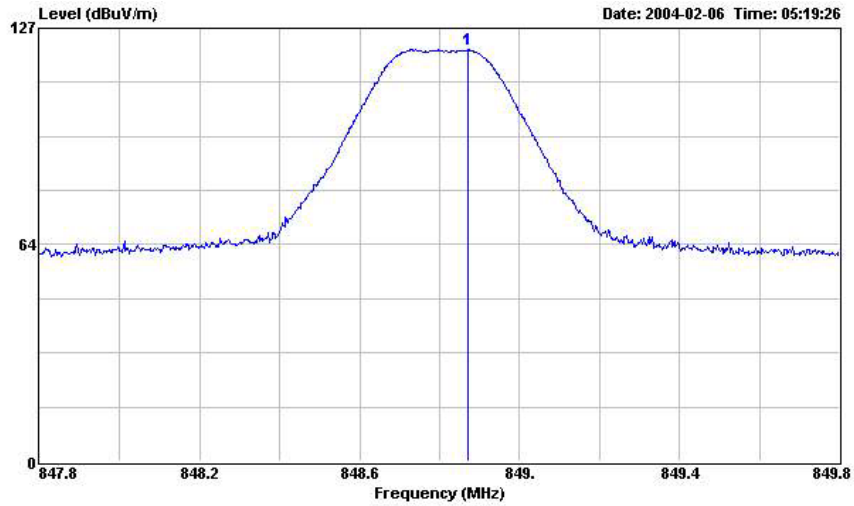
GPRS 850 CH189 Vertical Polarization



Site : 03CH03-HY
 Condition : 3m LOG-9111-221 VERTICAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM850 CH189

Line	Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	836.330	119.23	-----	-----	96.70	20.74	1.79	0.00	Peak	100	278

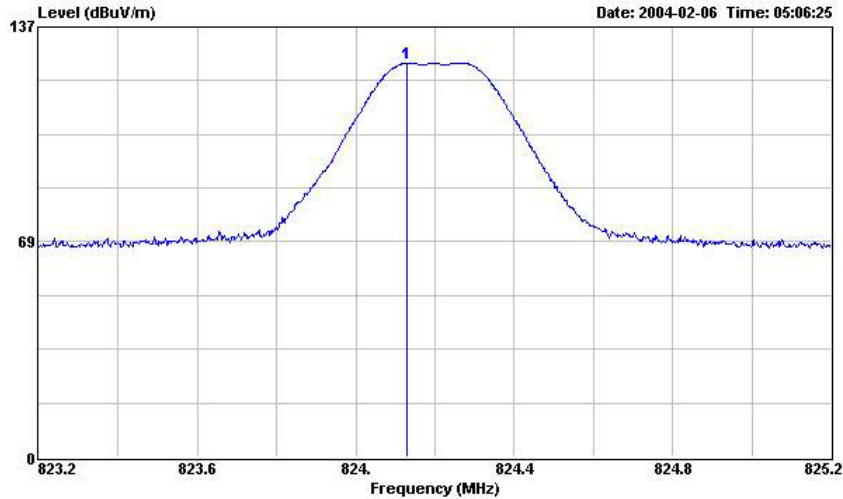
GPRS 850 CH251 Vertical Polarization



Site : 03CH03-HY
 Condition : 3m LOG-9111-221 VERTICAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM850 CH251

Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	848.870	120.75	-----	98.33	20.86	1.56	0.00	Peak	128	255

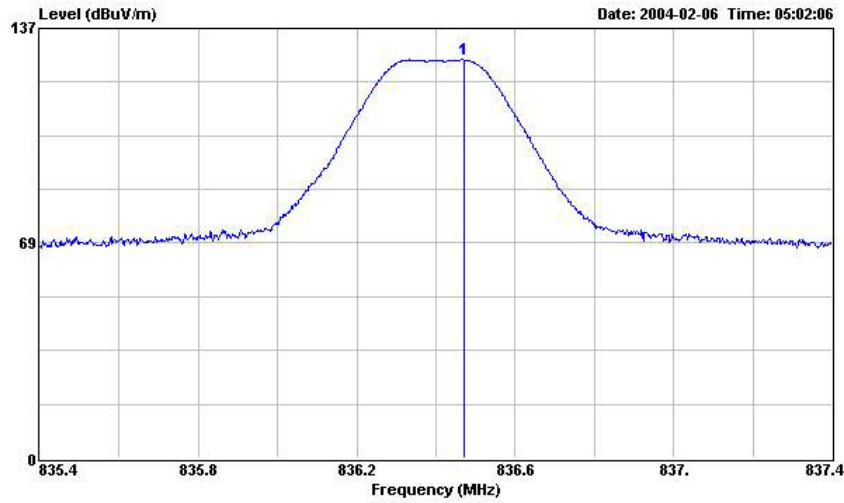
GPRS 850 CH128 Horizontal Polarization



Site : 03CH03-HY
 Condition : 3m LOG-9111-221 HORIZONTAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM850 CH128

Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	824.130	125.57	-----	103.41	20.62	1.54	0.00	Peak	125	224

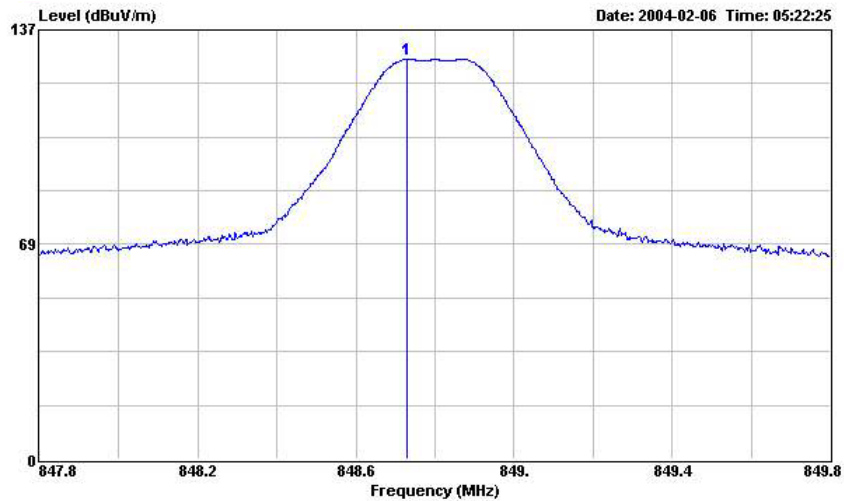
GPRS 850 CH189 Horizontal Polarization



Site : 03CH03-HY
 Condition : 3m LOG-9111-221 HORIZONTAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM850 CH189

Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1 836.470	126.97	-----	-----	104.44	20.74	1.79	0.00	Peak	126	220

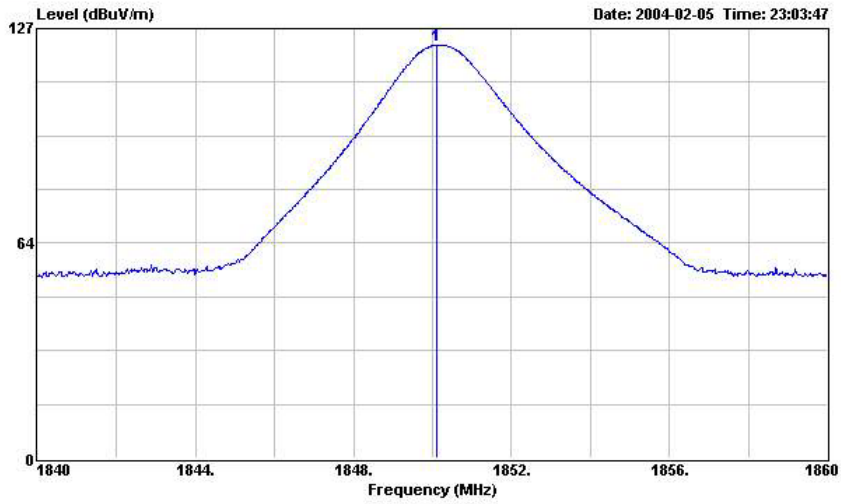
GPRS 850 CH512 Horizontal Polarization



Site : 03CH03-HY
 Condition : 3m LOG-9111-221 HORIZONTAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM850 CH251

Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1 848.730	127.72	-----	-----	105.31	20.86	1.55	0.00	Peak	126	225

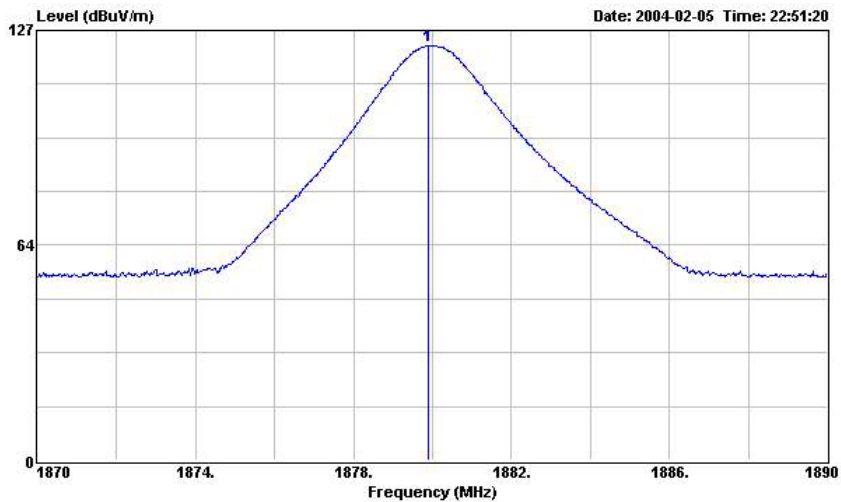
GPRS 1900 CH512 Vertical Polarization



Site : 03CH03-HY
 Condition : 3m HORN-ANT-6741 VERTICAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM1900 CH512

1	1850.120	122.08	-----	-----	93.62	26.81	1.65	0.00	Peak	100	350
Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Loss	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB	dB		cm	deg

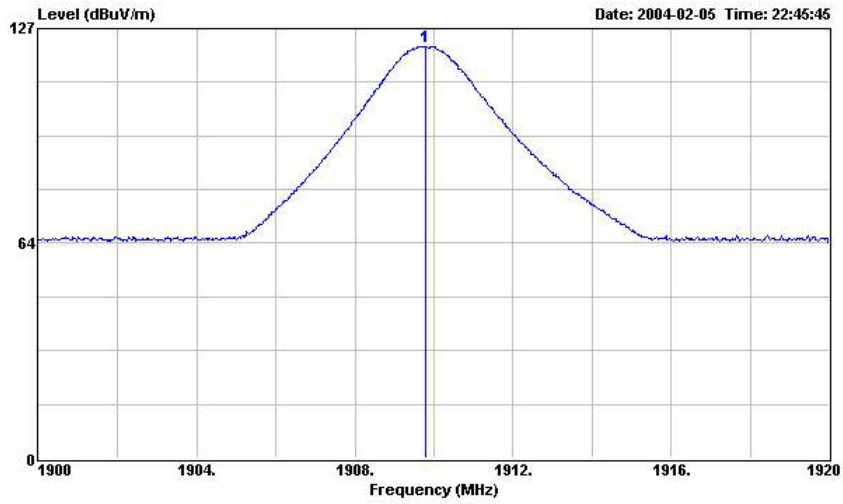
GPRS 1900 CH661 Vertical Polarization



Site : 03CH03-HY
 Condition : 3m HORN-ANT-6741 VERTICAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM1900 CH661

1	1879.900	122.58	-----	-----	94.08	26.91	1.59	0.00	Peak	100	337
Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Loss	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB	dB		cm	deg

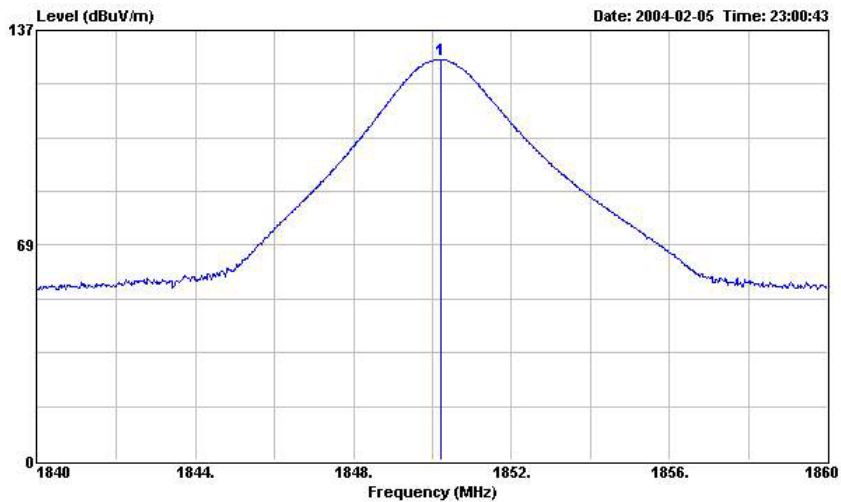
GPRS 1900 CH810 Vertical Polarization



Site : 03CH03-HY
 Condition : 3m HORN-ANT-6741 VERTICAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM1900 CH810

Over	Limit	Read	Probe	Cable	Preamp	Ant	Table			
Level	Line	Level	Factor	Loss	Factor	Pos	Pos			
dB	dBuV/m	dBuV	dB	dB	dB	cm	deg			
1	1909.800	121.78	-----	93.16	27.05	1.57	0.00	Peak	100	338

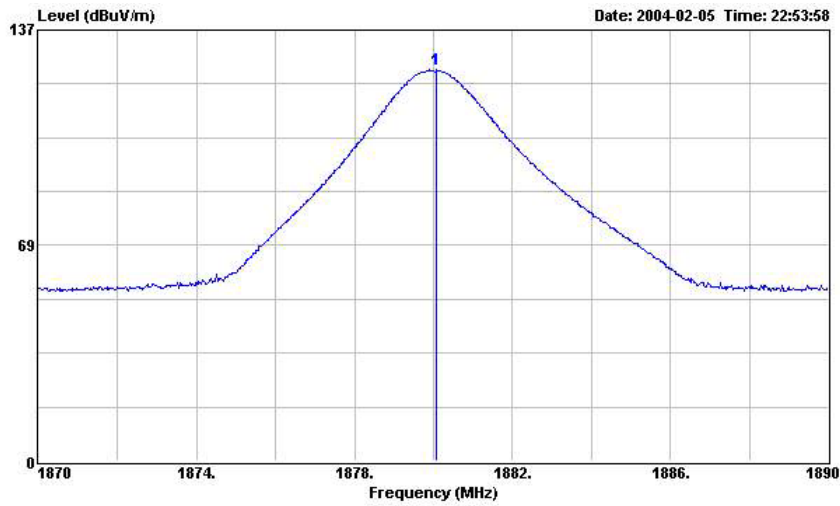
GPRS 1900 CH512 Horizontal Polarization



Site : 03CH03-HY
 Condition : 3m HORN-ANT-6741 HORIZONTAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM1900 CH512

Over	Limit	Read	Probe	Cable	Preamp	Ant	Table			
Level	Line	Level	Factor	Loss	Factor	Pos	Pos			
dB	dBuV/m	dBuV	dB	dB	dB	cm	deg			
1	1850.200	127.58	-----	99.12	26.81	1.65	0.00	Peak	100	83

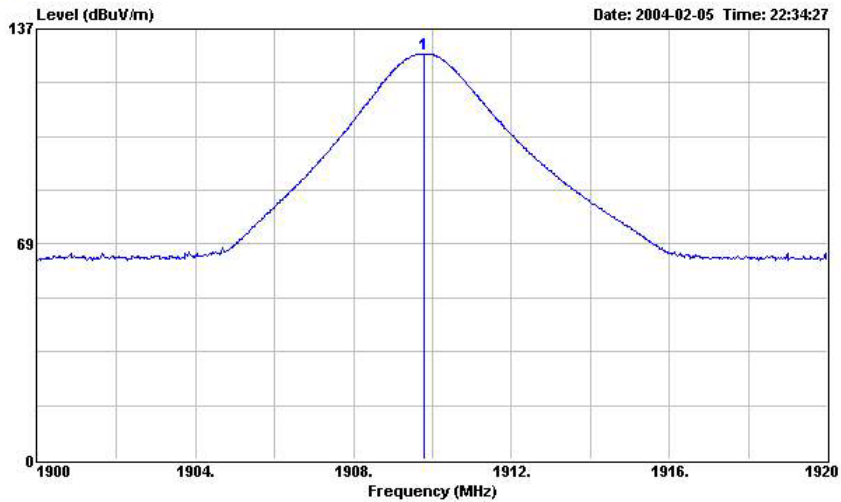
GPRS 1900 CH661 Horizontal Polarization



Site : 03CH03-HY
 Condition : 3m HORN-ANT-6741 HORIZONTAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM1900 CH661

Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1 1880.060	124.29	-----	-----	95.79	26.91	1.59	0.00	Peak	100	270

GPRS 1900 CH810 Horizontal Polarization



Site : 03CH03-HY
 Condition : 3m HORN-ANT-6741 HORIZONTAL
 EUT : Tri Band GSM/WLAN (802.11b) PCMCIA Card
 Power : AC 110V / 60Hz
 Model : 56W11
 Memo : GSM1900 CH810

Freq	Level	Over	Limit	Read	Probe	Cable	Preamp	Remark	Ant	Table
MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1 1909.800	129.16	-----	-----	100.54	27.05	1.57	0.00	Peak	100	79

Name of Test: Emission Masks (Occupied Bandwidth)

Specification: 47 CFR 2.1049(c)(1), 22

Test Equipment: As per attached page

Measurement Procedure

1. The EUT and test equipment were set up as shown on the following page with the Spectrum Analyzer connected.
2. For EUTs supporting digital modulation, the digital modulation mode was operated to its maximum extent.
3. The occupied bandwidth was measured with the Spetrum Analyzer controls set as shown on the test results.
4. Measurement Results: Attached



Performed By:

Hendry Yang

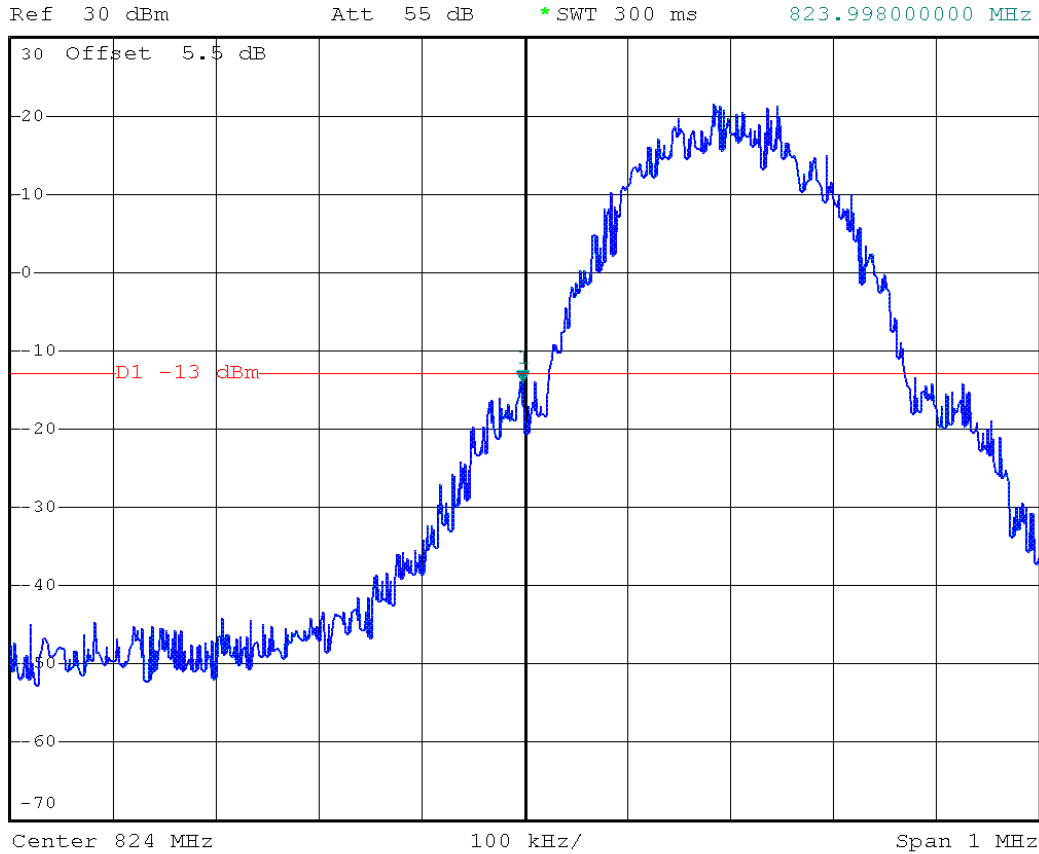
FCC TEST REPORT

Report No. : F413003

Name of Test: Emission Masks (Occupied Bandwidth)
State 2:High Power



*RBW 3 kHz Marker 1 [T1]
*VBW 3 kHz -14.03 dBm
*SWT 300 ms 823.998000000 MHz

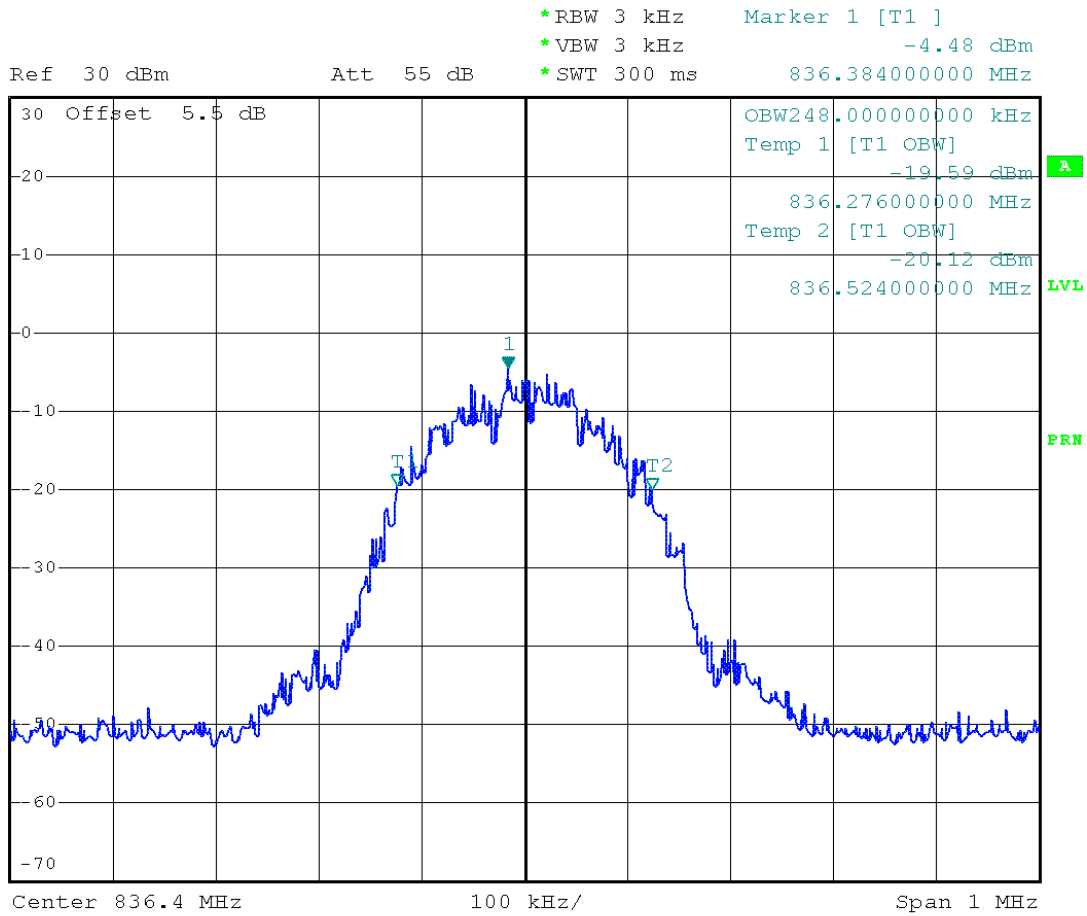


Date: 7.FEB.2004 15:11:14

Power: HIGH
Modulation: GSM 850
LOWER BAND EDGE

Performed By: Hendry Yang

Name of Test: Emission Masks (Occupied Bandwidth)
 State 1:Low Power

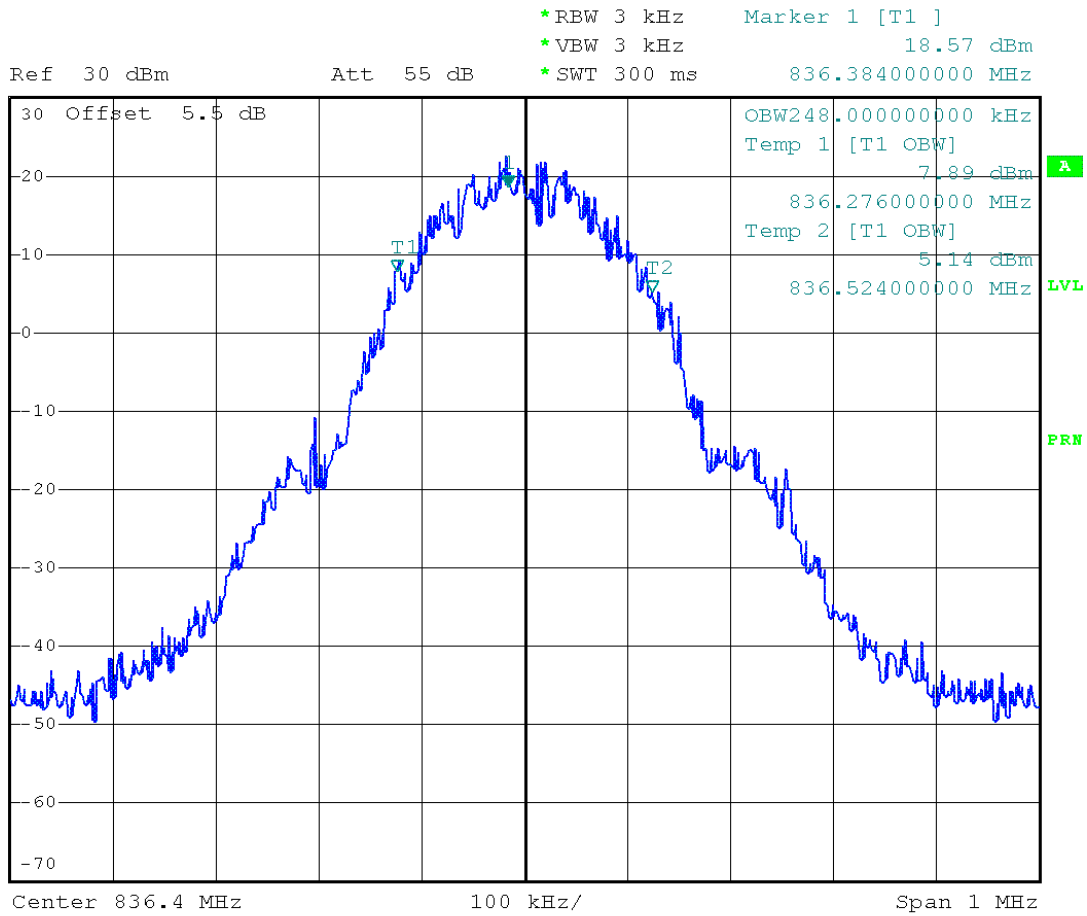


Date: 7.FEB.2004 15:28:16

Power: LOW
 Modulation: GSM 850
 99% BANDWIDTH

Performed By: Hendry Yang

Name of Test: Emission Masks (Occupied Bandwidth)
State 2:High Power



Date: 7.FEB.2004 15:23:01

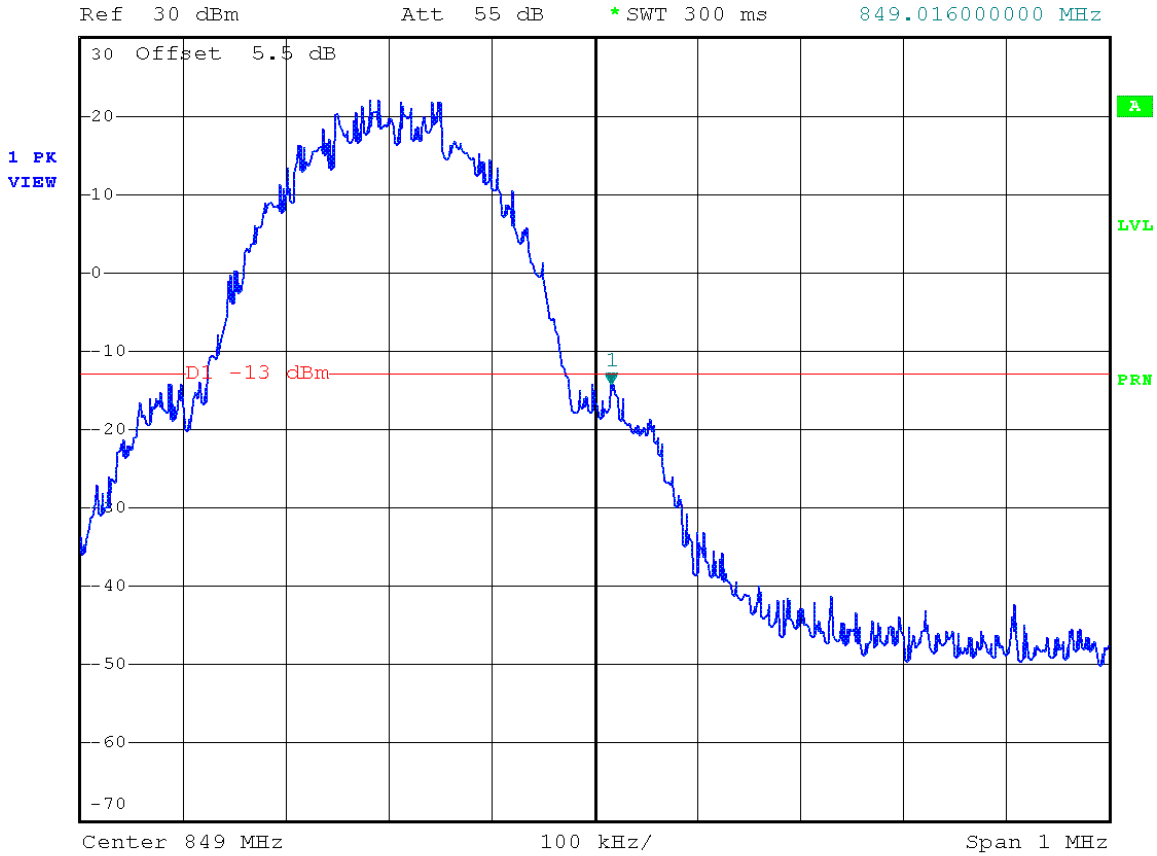
Power: HIGH
Modulation: GSM 850
99% BANDWIDTH

Performed By: Hendry Yang

Name of Test: Emission Masks (Occupied Bandwidth)
State 2:High Power



*RBW 3 kHz Marker 1 [T1]
*VBW 3 kHz -14.18 dBm
*SWT 300 ms 849.01600000 MHz

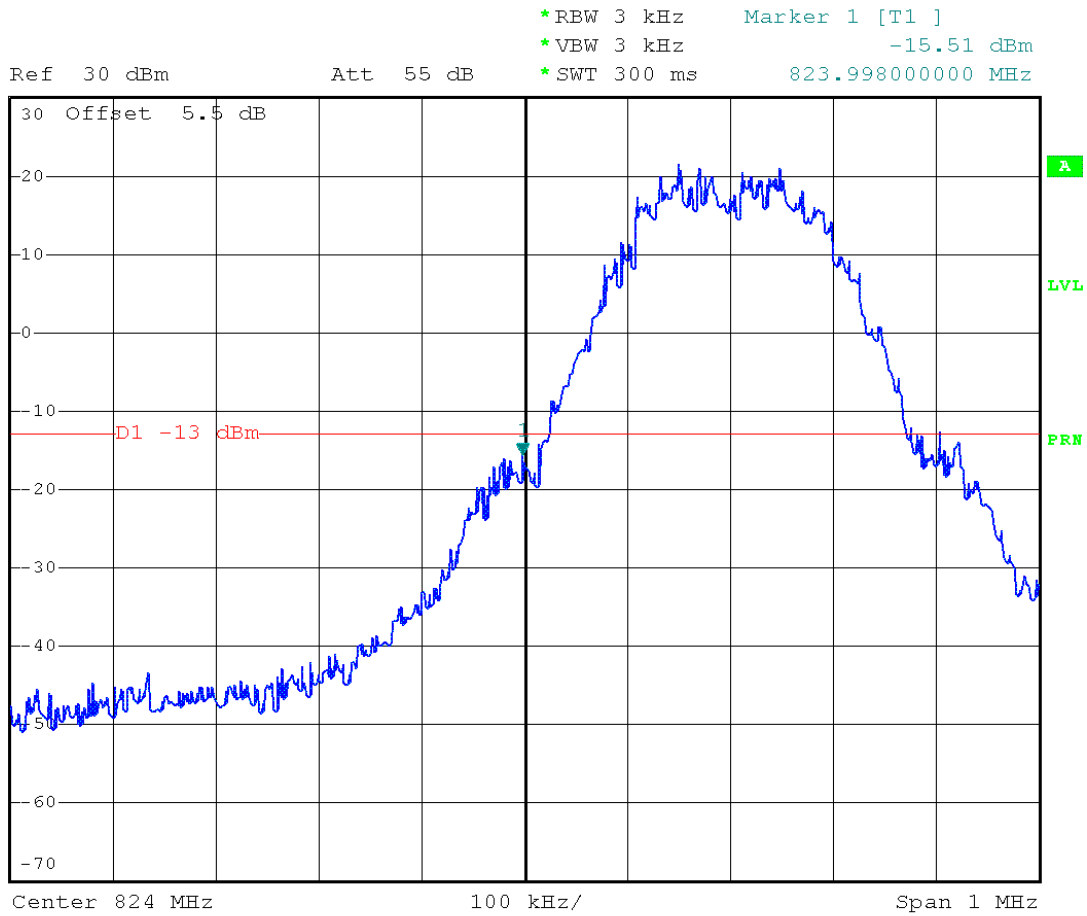


Date: 7.FEB.2004 15:17:18

Power: HIGH
Modulation: GSM 850
UPPER BAND EDGE

Performed By: Hendry Yang

Name of Test: Emission Masks (Occupied Bandwidth)
State 2:High Power



Date: 7.FEB.2004 16:00:34

Power: HIGH
Modulation: GPRS 850
LOWER BAND EDGE

Performed By: Hendry Yang

FCC TEST REPORT

Report No. : F413003

Name of Test: Emission Masks (Occupied Bandwidth)
State 1:Low Power

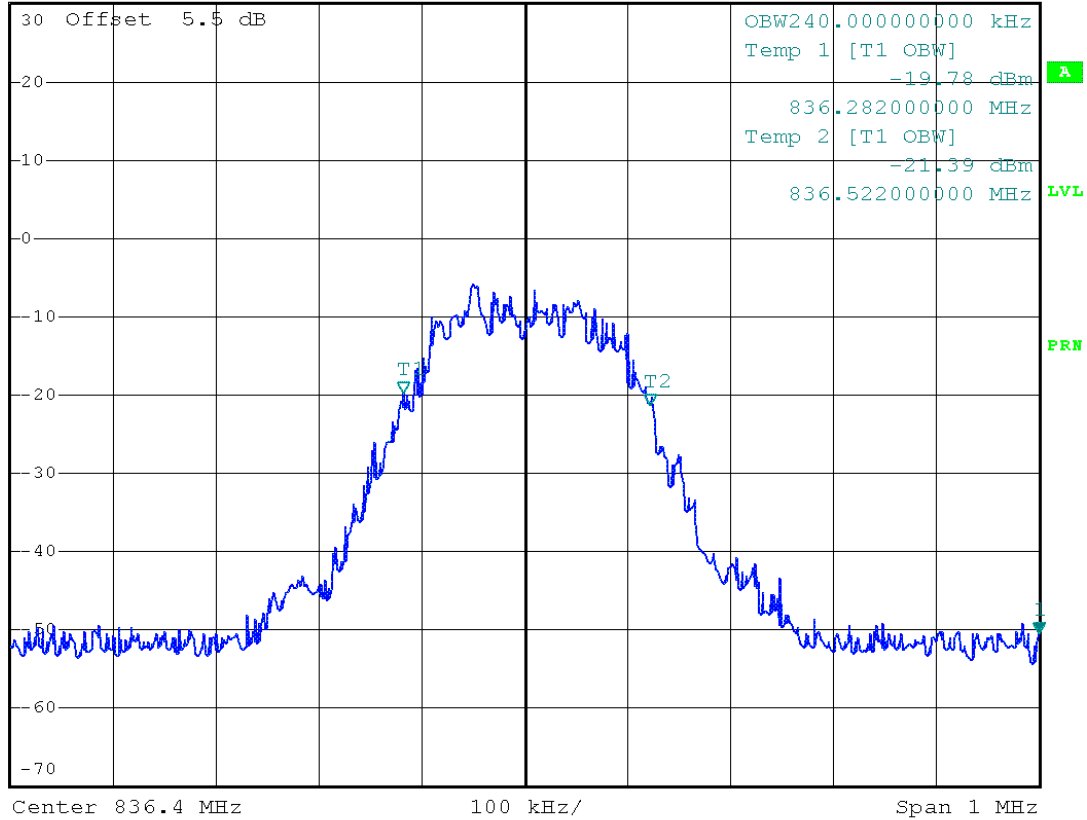


*RBW 3 kHz Marker 1 [T1]
*VBW 3 kHz -50.46 dBm
*SWT 300 ms 836.900000000 MHz

Ref 30 dBm

Att 55 dB

1 PK
VIEW



Date: 7.FEB.2004 16:15:04

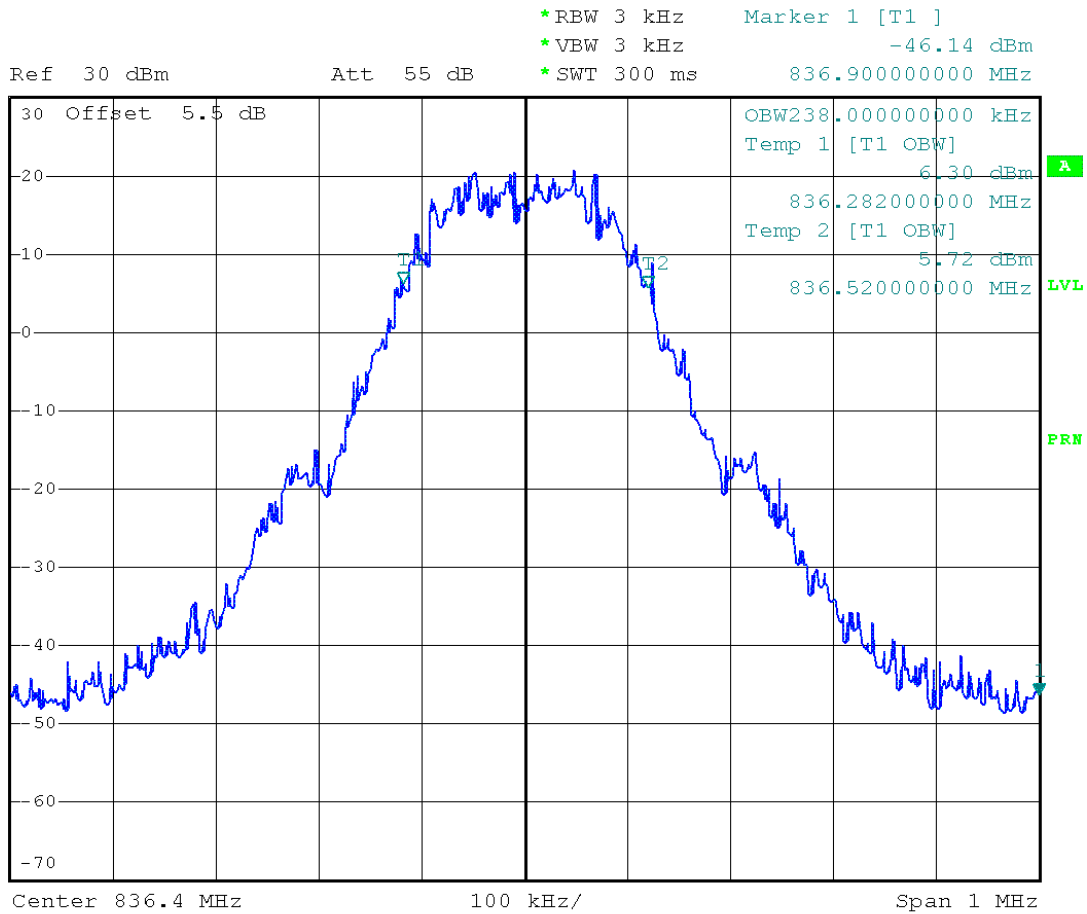
Power: LOW
Modulation: GPRS 850
99% BANDWIDTH

Performed By: Hendry Yang

FCC TEST REPORT

Report No. : F413003

Name of Test: Emission Masks (Occupied Bandwidth)
State 2:High Power



Date: 7.FEB.2004 16:12:01

Power: HIGH
Modulation: GPRS 850
99% BANDWIDTH

Performed By: Hendry Yang

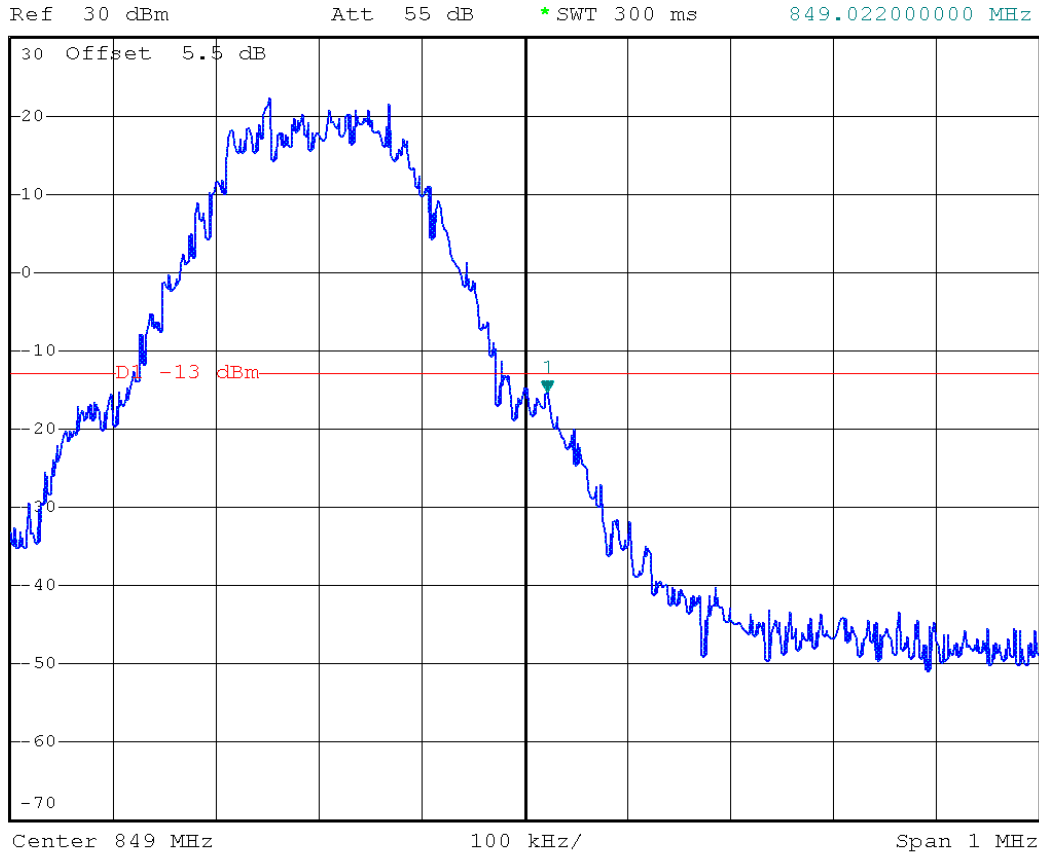
FCC TEST REPORT

Report No. : F413003

Name of Test: Emission Masks (Occupied Bandwidth)
State 2:High Power



*RBW 3 kHz Marker 1 [T1]
*VBW 3 kHz -15.27 dBm
*SWT 300 ms 849.022000000 MHz



Date: 7.FEB.2004 16:08:27

Power: HIGH
Modulation: GPRS 850
UPPER BAND EDGE

Performed By: Hendry Yang

Name of Test: Transmitter Conducted Measurements

Specification: 47 CFR 2.1051: Unwanted (spurious) Emissions
2.1049(c), 24.238(b): Occupied Bandwidth
24: Emissions at Band Edges

Test Equipment: As per attached page

Measurement Procedure

1. The EUT and test equipment were set up as shown on the following page with the Spectrum Analyzer connected.
2. The low and high channels for all RF powers within the Transmitting frequency band were measured.
3. Measurement Results: Attached

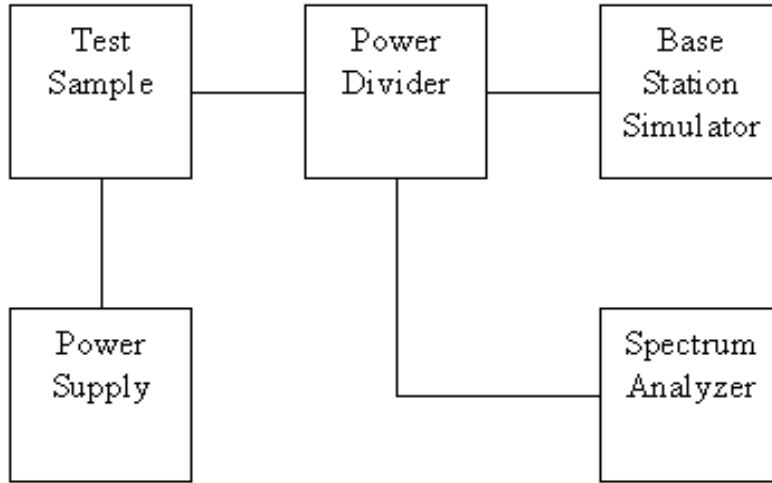


Performed By:

Hendry Yang

Transmitter Spurious Emission

Test A. Occupied Bandwidth (In-Band Spurious)
Test B. Out-of-Band Spurious

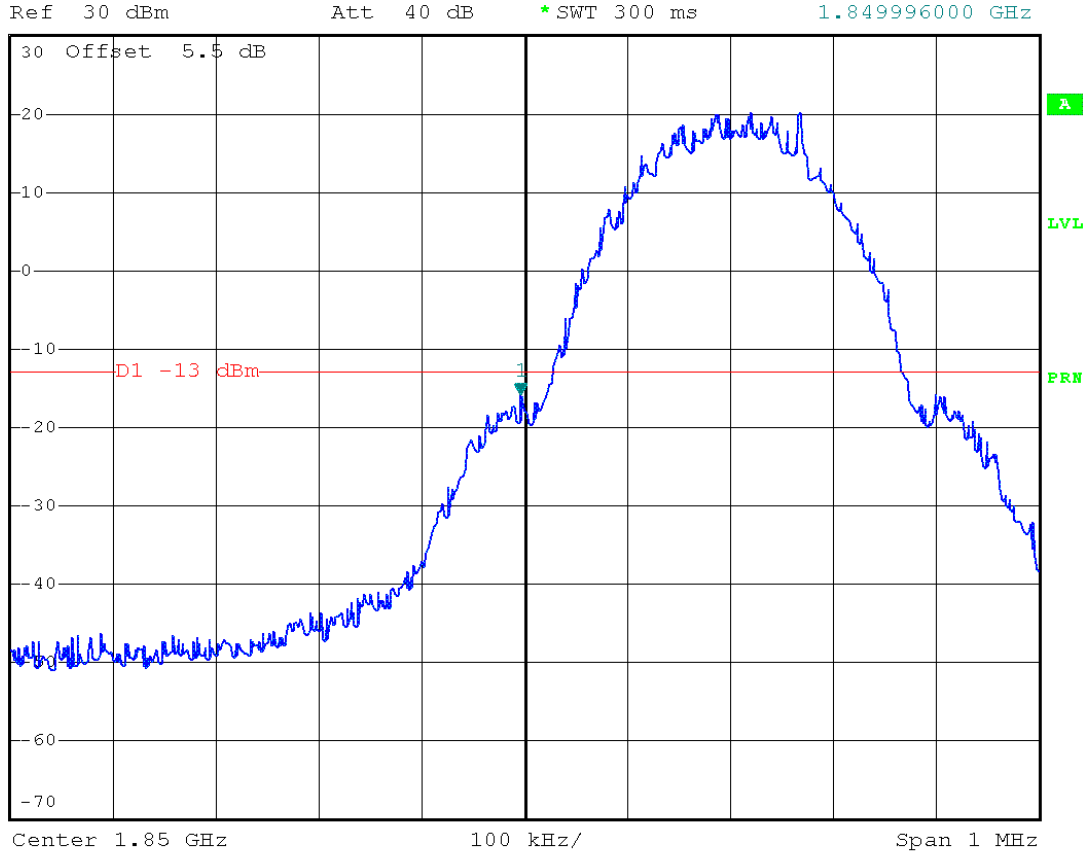


Asset	Model Name	S/N
Base Station Simulator	CMU200	102278
Spectrum Analyzer	FSP30	838858/014
AC/DC Power Source	HPA-500W	HPA0100024

Name of Test: Emission Masks (Occupied Bandwidth)
State 2:High Power



*RBW 3 kHz Marker 1 [T1]
*VBW 3 kHz -15.82 dBm
*SWT 300 ms 1.849996000 GHz



Date: 7.FEB.2004 15:37:43

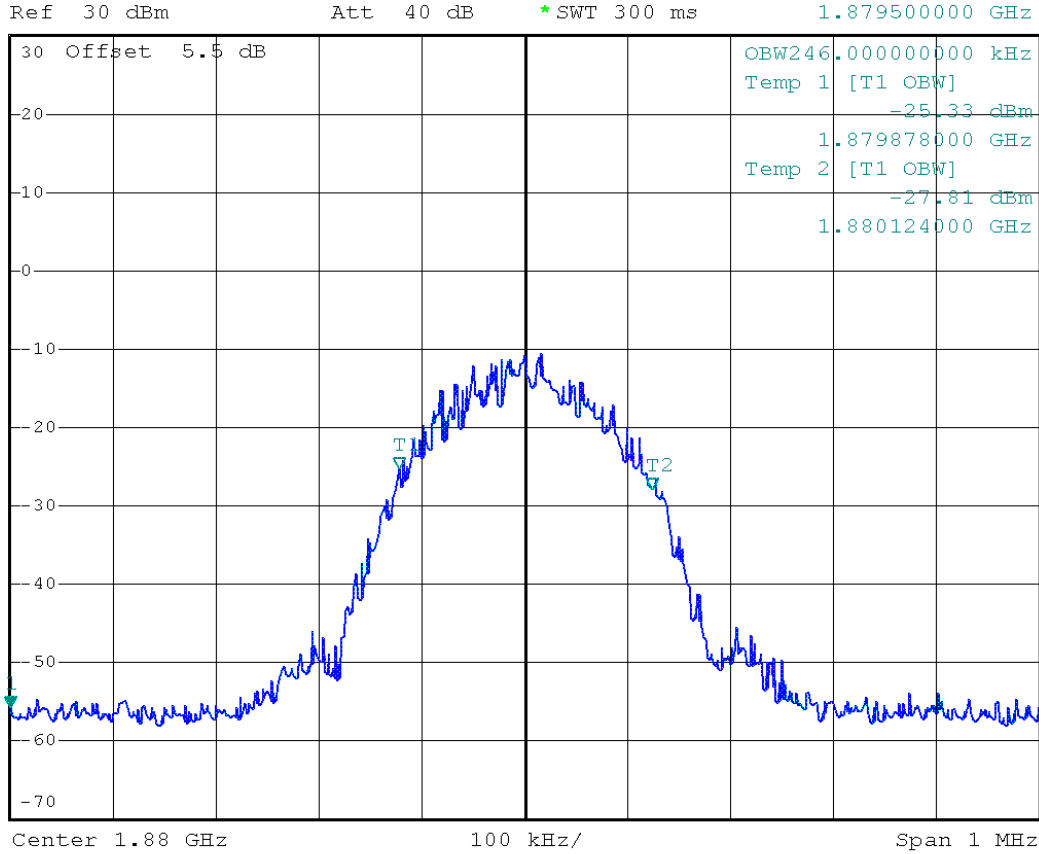
Power: HIGH
Modulation: GSM 1900
LOWER BAND EDGE

Performed By: Hendry Yang

Name of Test: Emission Masks (Occupied Bandwidth)
State 1:Low Power



*RBW 3 kHz Marker 1 [T1]
*VBW 3 kHz -55.61 dBm
*SWT 300 ms 1.879500000 GHz



Date: 7.FEB.2004 15:31:31

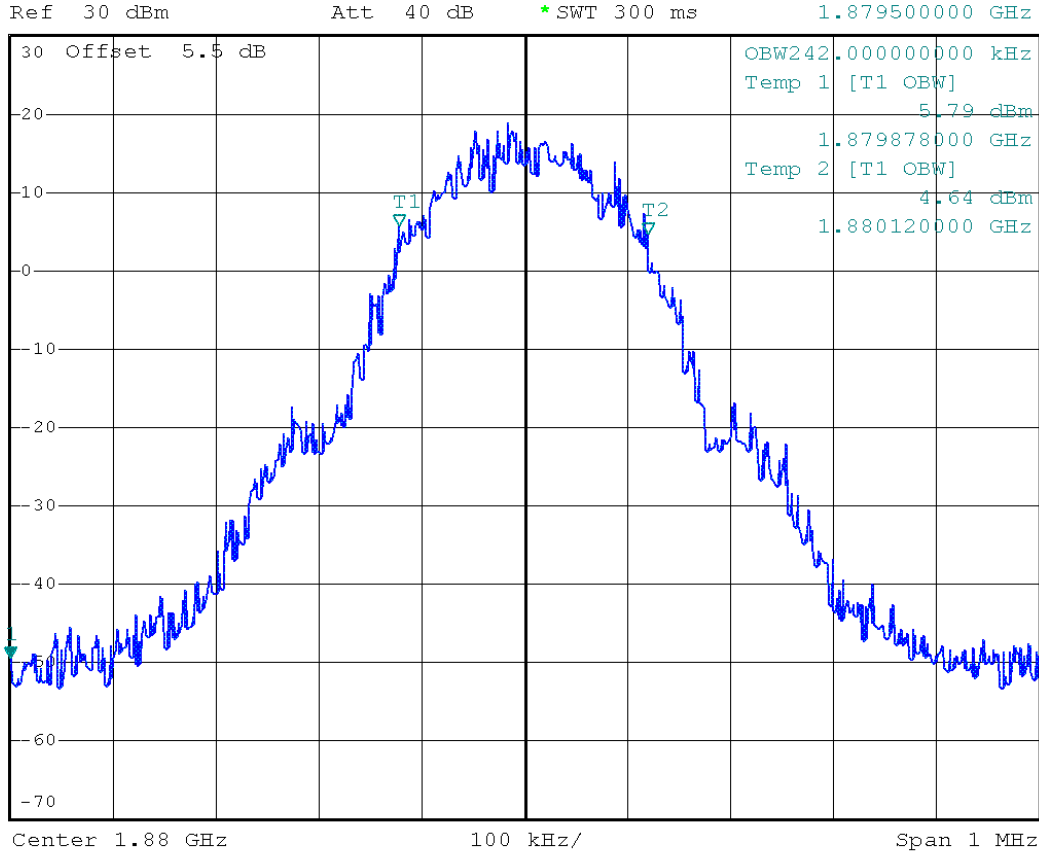
Power: LOW
Modulation: GSM 1900
99% BANDWIDTH

Performed By: Hendry Yang

Name of Test: Emission Masks (Occupied Bandwidth)
 State 2:High Power



*RBW 3 kHz Marker 1 [T1]
 *VBW 3 kHz -49.45 dBm
 *SWT 300 ms 1.879500000 GHz



Date: 7.FEB.2004 15:33:36

Power: HIGH
 Modulation: GSM 1900
 99% BANDWIDTH

Performed By: Hendry Yang