



47 CFR PART 22 SUBPART H & 24 SUBPART E

TEST REPORT

of

Pocket PC Mobile Phone

Model Name: V83
Brand Name: Inventec / Velocity
Report No.: SH08090014E03
FCC ID: DGIV83

prepared for

Inventec Corporation

Inventec Building, 66 Hou-Kang St., Shih-Lin District,
Taipei 11170, Taiwan, R.O.C .

prepared by
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1. TEST CERTIFICATION

Equipment under Test: Pocket PC Mobile Phone

Brand Name: Inventec / Velocity

Model Name: V83

FCC ID: DGIV83

Applicant: Inventec Corporation

Inventec Building, 66 Hou-Kang St., Shih-Lin District, Taipei
11170, Taiwan, R.O.C

Manufacturer: Inventec Hi-tech Corporation

789 Puxing Road, Min Hang District Shanghai 201114, China

Test Standards: 47 CFR Part 2

47 CFR Part 22 Subpart H

47 CFR Part 24 Subpart E

Test Date(s): September 22, 2008 – Oct 10, 2008

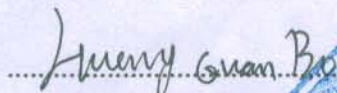
Test Result: PASS

* We Hereby Certify That:

The equipment under test was tested by Shenzhen Electronic Product Quality Testing Center Morlab Laboratory. The test data, data evaluation, test procedures and equipment configurations shown in this report were made in accordance with the requirement of related FCC rules.

The test results of this report only apply for the tested sample equipment identified above. The test report shall be invalid without all the signatures of the test engineer, the reviewer and the approver.

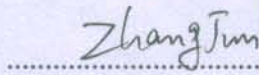
Tested by:


Huang QuanBo

Dated:

2008.11.05

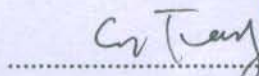
Reviewed by:


Zhang Jun

Dated:

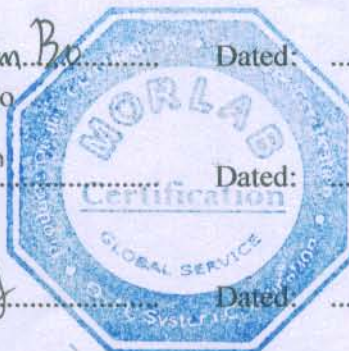
2008.11.05

Approved by:


Su Feng

Dated:

2008.11.05



2. GENERAL INFORMATION

2.1 EUT Description

EUT Type.....	Pocket PC Mobile Phone
Model Name	V83
Serial No.....	(n.a, marked #1 by test site)
IMEI	0000000000000000
Hardware Version	DVT2.2
Software Version	ver8227
Frequency Range	GSM 850MHz: Tx: 824.20 - 848.80MHz (at intervals of 200kHz); Rx: 869.20 - 893.80MHz (at intervals of 200kHz) GSM 1900MHz: Tx: 1850.20 - 1909.80MHz (at intervals of 200kHz); Rx: 1930.20 - 1989.80MHz (at intervals of 200kHz)
Modulation Type.....	GSM
Emission Designators	300KGXW
Power Supply.....	Battery Brand name: Jingyou / SIMPLO Mode no.: M30/S30 / V83 Capacitance: 1100mAh Rated voltage: 3.7V Charge limited: 4.2V Manufacturer: SHENZHEN JINGYOU COMMUCATION TECH.CO.,LTD /SIMPLO Technology Co.Ltd Manufacturer Address: Building A5-5, Tongfuyu Industrial Park, Buchong, Shajing Street, Baoan District, Shenzhen City, China / No.471,2nd section, Bade Road, Hukou village, Xinzhu county, Taipei
Ancillary Equipments.....	AC Adapter (Charger for Battery) Model Name: STC-A22050U5-X A / AD7112B Brand Name: Ruide / PI Electronics Serial No.: (n.a) Rated Input: ~ 100/240V,150mA,50/60Hz Rated Output: = 5 V, 700mA, Max 3.5W/ 5 V, 1A, Max 5W Manufacturer: Shenzhen Ruide Electronic Industrial Co.,Ltd/ PI Electronics(Taiwan) LTD Wire Length: (n.a)

Note 1: The EUT is Four-band GSM Module; here only 850MHz and PCS 1900MHz was tested in the report.

Note 2: The transmitter (Tx) frequency arrangement of the Cellular 850MHz band used by the EUT can be represented with the formula $F(n)=824.2+0.2*(n-128)$, $128 \leq n \leq 251$; the lowest, middle, highest channel numbers (ARFCHs) used and tested in this report are separately 128 (824.2MHz), 190 (836.6MHz) and 251 (848.8MHz).

Note 3: The transmitter (Tx) frequency arrangement of the PCS 1900MHz band used by the EUT can be represented with the formula $F(n)=1850.2+0.2*(n-512)$, $512 \leq n \leq 810$; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 512 (1850.2MHz), 661 (1880.0MHz) and 810 (1909.8MHz).

Note 4: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

2.2 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 2, Part 22 and Part 24 for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 2 (10-1-05 Edition)	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22 (10-1-05 Edition)	Public Mobile Services
3	47 CFR Part 24 (10-1-05 Edition)	Personal Communications Services

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Result
1	2.106 22.905 24.229	Frequencies	PASS
2	2.1046	Conducted RF Output Power	PASS
3	2.1049	20dB Occupied Bandwidth	PASS
4	2.1055 22.355 24.235	Frequency Stability	PASS
5	2.1051 2.1057 22.917 24.238	Conducted Spurious Emissions at Antenna Terminal	PASS
6	22.913 24.232	Transmitter Radiated Power (EIRP/ERP)	PASS
7	2.1053 2.1057 22.917 24.238	Radiated Spurious Emissions	PASS

2.3 Facilities and Accreditations

2.3.1 Facilities

Shenzhen Electronic Product Quality Testing Center Morlab Laboratory is a testing organization accredited by China National Accreditation Board for Laboratories (CNAL) according to ISO/IEC 17025. The accreditation certificate number is L1659.

All measurement facilities used to collect the measurement data are located at Electronic Testing Building, Shahe Road, Xili, Nanshan District, Shenzhen 518055 CHINA. The test site is constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22; the FCC registration number is 741109.

2.3.2 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	20 - 25
Relative Humidity (%):	40 - 60
Atmospheric Pressure (kPa):	960

3. 47 CFR PART 2, PART 22H REQUIREMENTS

3.1 Frequencies

3.1.1 Requirement

According to FCC section 22.905, the frequency blocks assignment for the cellular radiotelephone service is listed as below:

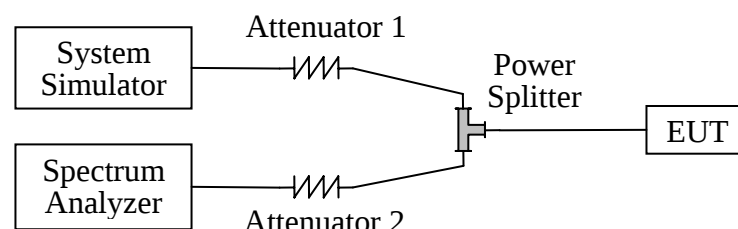
- (a) Channel Block A:
Mobile 824 - 835MHz, Base 869 - 880MHz;
Mobile 845 - 846.5MHz, Base 890 - 891.5MHz
- (b) Channel Block B:
Mobile 835 - 845 MHz, Base 880 - 890MHz;
Mobile 846.5 - 849 MHz, Base 891.5 - 894MHz

According to FCC section 24.229, the frequencies available in the Broadband PCS services are listed as below, in accordance with the frequency allocations table of FCC section 2.106.

- (a) The following frequency blocks are available for assignment on an MTA basis:
Block A: 1850 - 1865MHz paired with 1930 - 1945MHz;
Block B: 1870 - 1885MHz paired with 1950 - 1965MHz.
- (b) The following frequency blocks are available for assignment on a BTA basis:
Block C: 1895 - 1910 MHz paired with 1975 - 1990MHz;
Block D: 1865 - 1870 MHz paired with 1945 - 1950MHz;
Block E: 1885 - 1890 MHz paired with 1965 - 1970MHz;
Block F: 1890 - 1895 MHz paired with 1970 - 1975MHz.

3.1.2 Test Description

1. Test Setup:



The EUT, which is powered by the Battery, is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna

terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

2. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Rohde&Schwarz	CMU200	105571	2007.11	1year
Spectrum Analyzer	Rohde&Schwarz	FSP30	101020	2007.11	1year
Power Splitter	Weinschel	1506A	NW521	(n.a.)	(n.a.)
Attenuator 1	Resnet	20dB	(n.a.)	(n.a.)	(n.a.)
Attenuator 2	Resnet	3dB	(n.a.)	(n.a.)	(n.a.)

3.1.3 Test Result

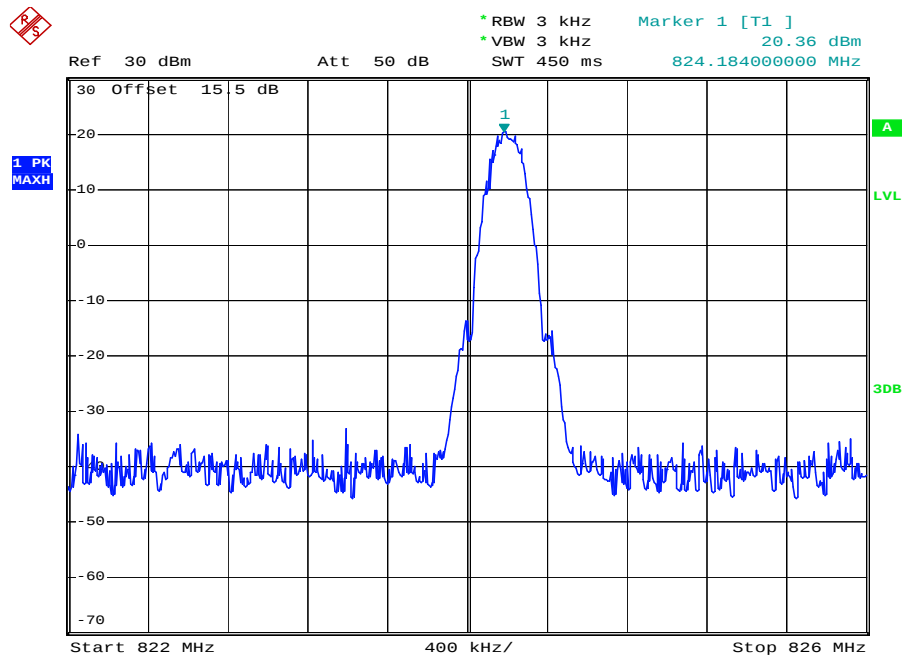
The Tx frequency arrangement of the Cellular 850MHz band employed by the EUT should be from 824.2MHz to 848.8MHz (the corresponding frequency block is from 824MHz to 849MHz), and Tx frequency arrangement of the PCS 1900MHz band employed by the EUT should be from 1850.2MHz to 1909.8MHz (the corresponding frequency block is from 1850MHz to 1910MHz). Here the lowest and highest channels are tested to verify the EUT's using the frequency block required.

1. Test Verdict:

The required frequency block is employed legally, the verdict is PASS.

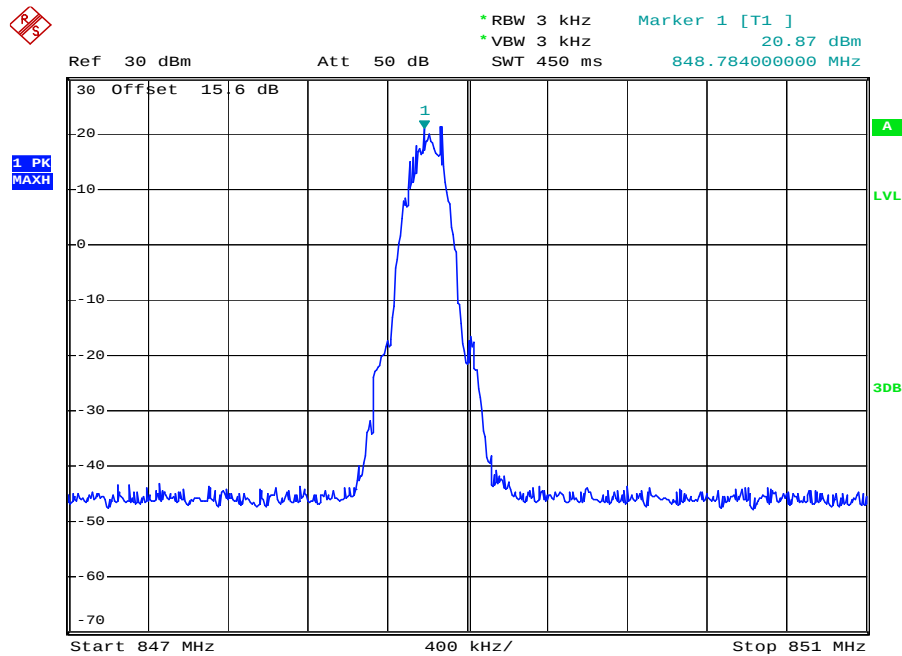
2. Test Plot:

I Mode 1 GSM 850MHz(GSM)



Date: 22.SEP.2008 03:57:58

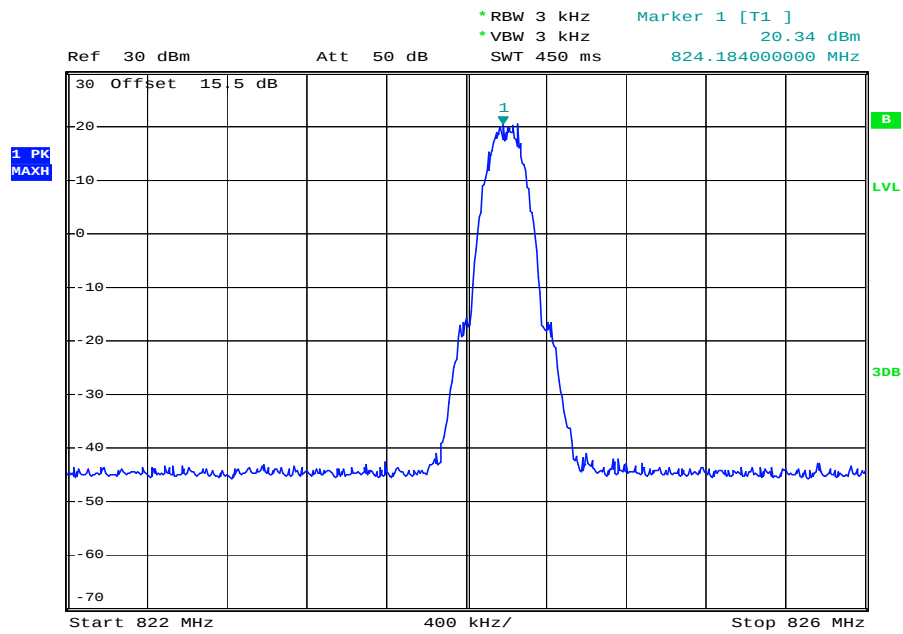
(Plot A: GSM 850MHz Channel = 128)



Date: 22.SEP.2008 03:59:30

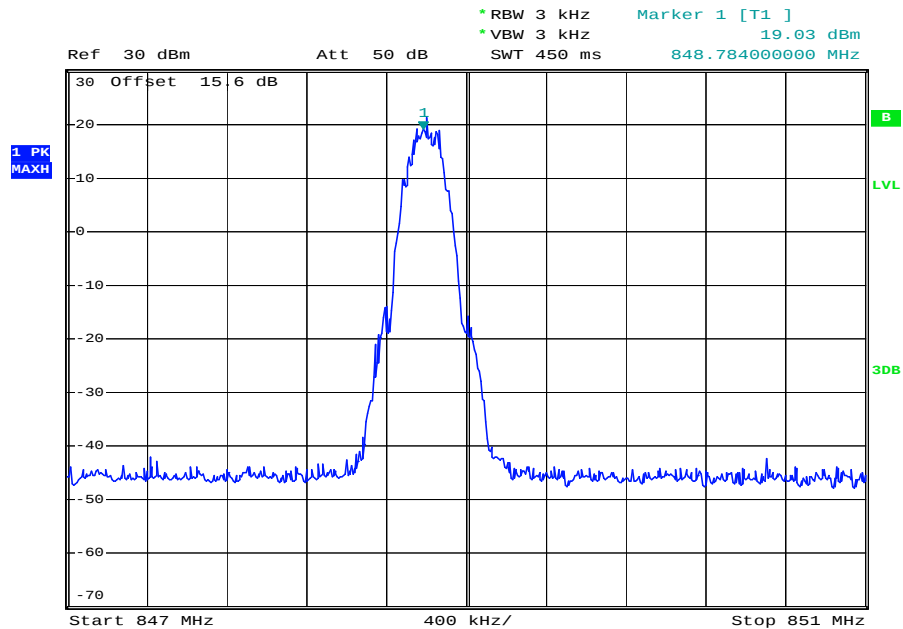
(Plot B: GSM 850MHz Channel = 251)

II Mode 2 GSM 850MHz(EDGE)



Date: 25.SEP.2008 09:58:29

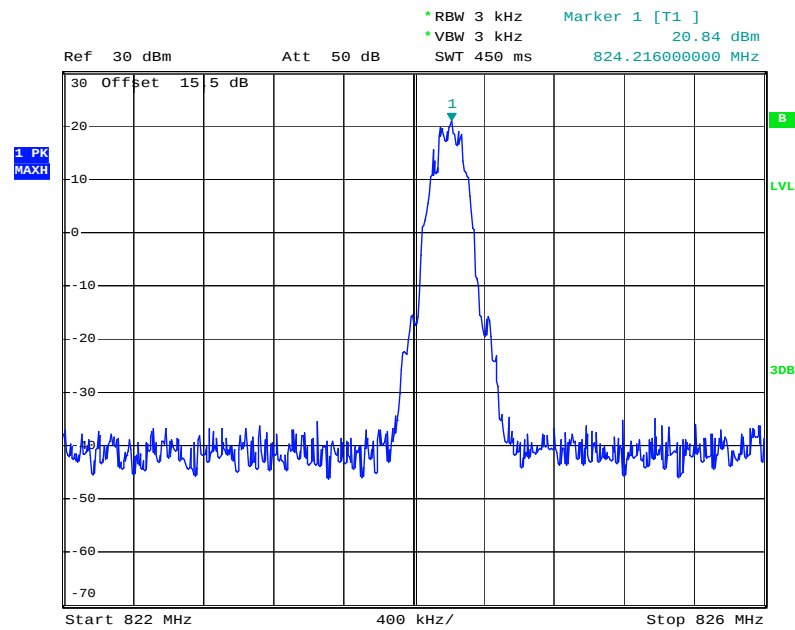
(Plot A: GSM 850MHz Channel = 128)



Date: 25.SEP.2008 10:03:30

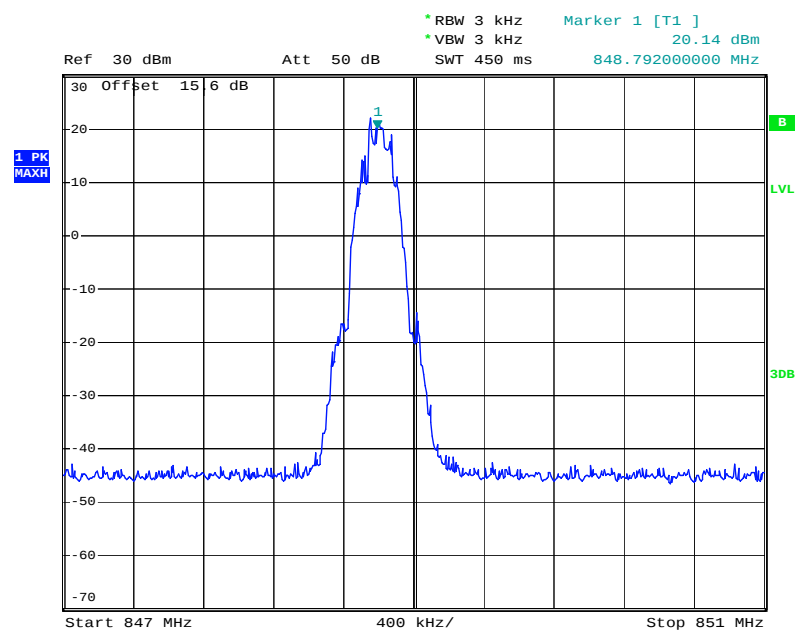
(Plot B: GSM 850MHz Channel = 251)

III Mode 3 GSM 850MHz(GPRS)



Date: 6.OCT.2008 10:14:56

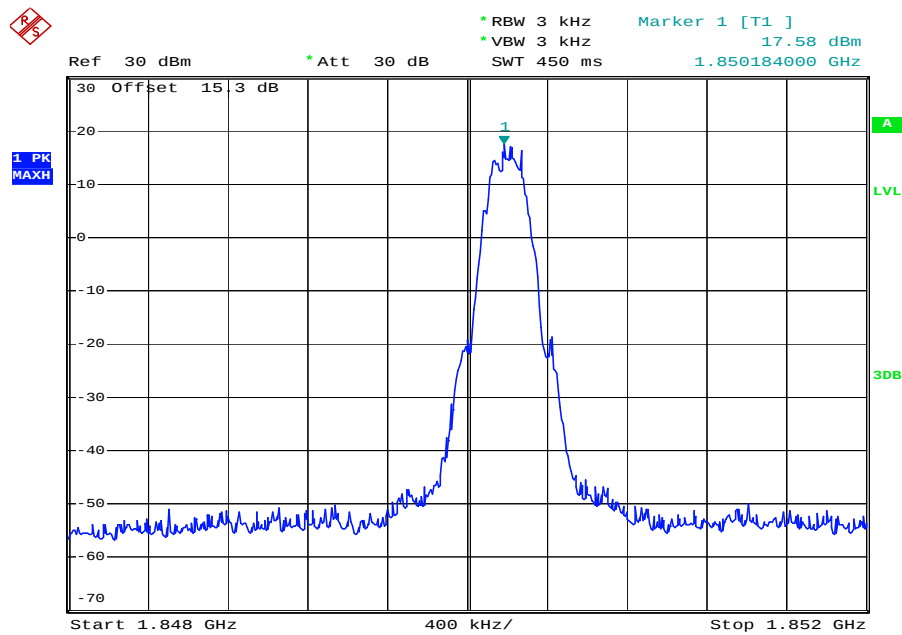
(Plot A: GSM 850MHz Channel = 128)



Date: 6.OCT.2008 10:16:58

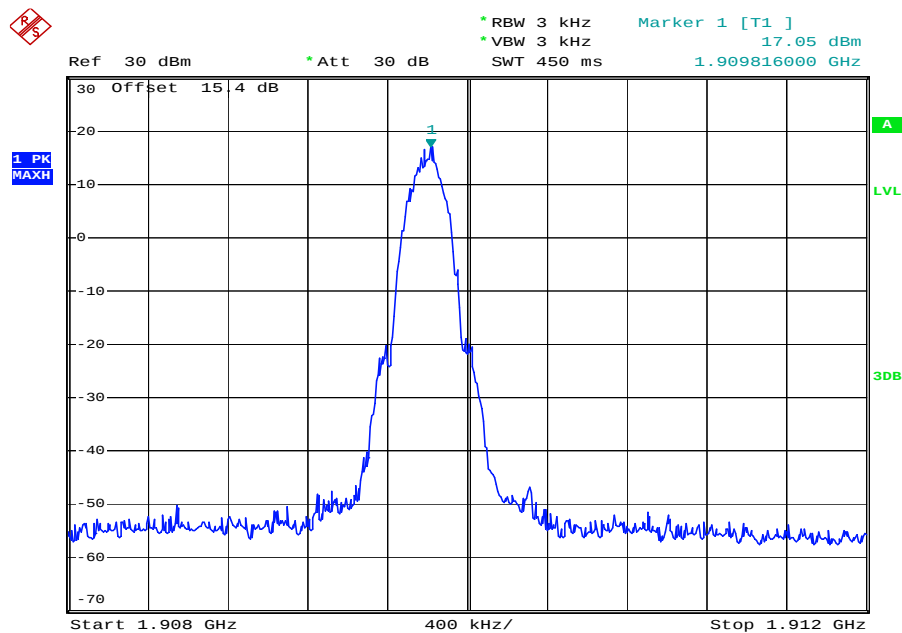
(Plot B: GSM 850MHz Channel = 251)

IV Mode 4 PCS 1900MHz (GSM)



Date: 22.SEP.2008 04:41:31

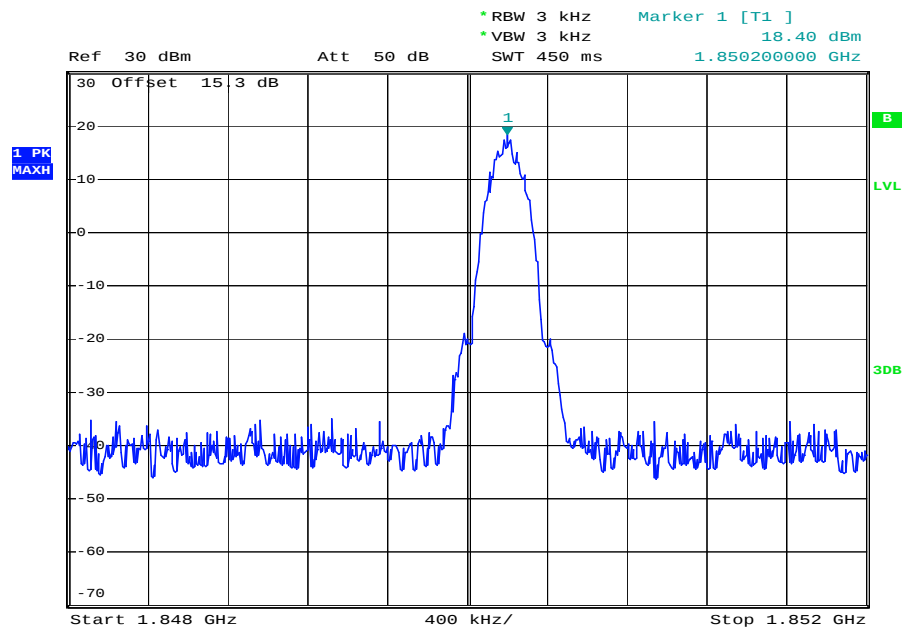
(Plot A: GSM 1900MHz Channel = 512)



Date: 22.SEP.2008 04:42:46

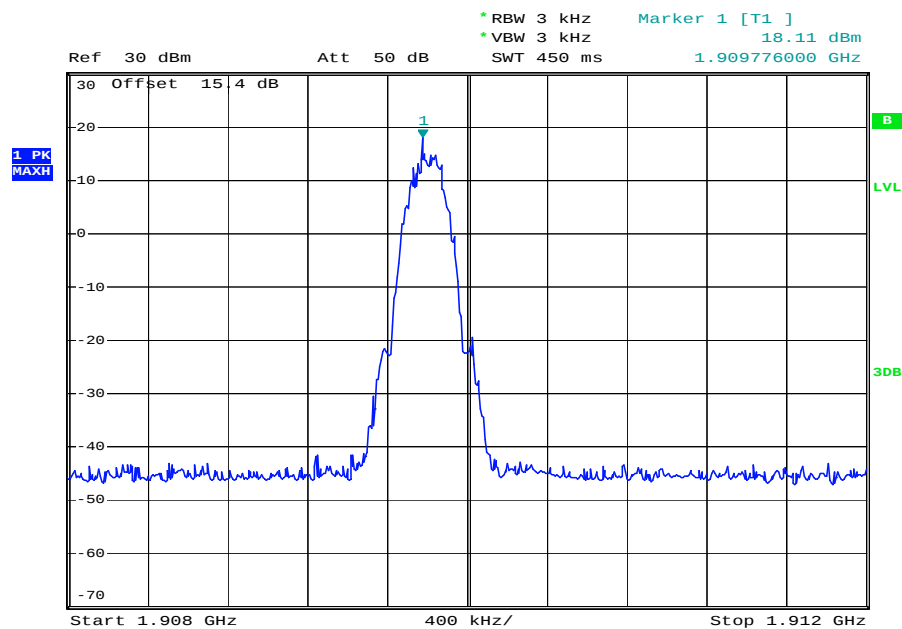
(Plot B: GSM 1900MHz Channel = 810)

V Mode 5 PCS 1900MHz (EDGE)



Date: 25.SEP.2008 10:25:07

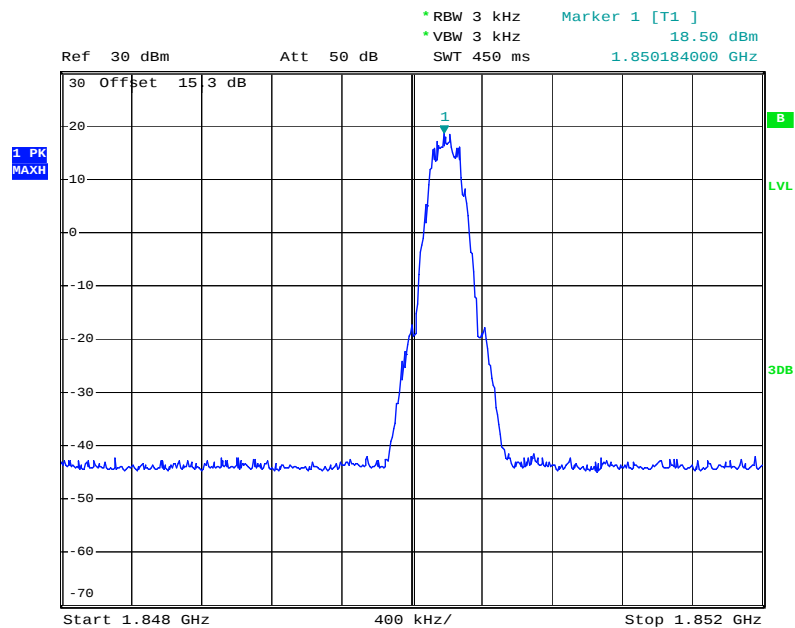
(Plot A: GSM 1900MHz Channel = 512)



Date: 25.SEP.2008 10:26:16

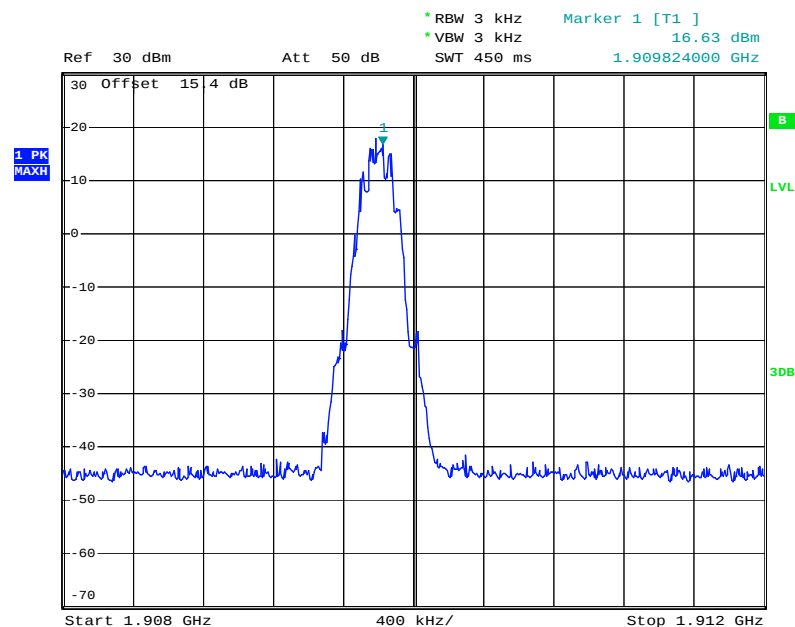
(Plot B: GSM 1900MHz Channel = 810)

VI Mode 6 PCS 1900MHz (GPRS)



Date: 6.OCT.2008 10:41:33

(Plot A: GSM 1900MHz Channel = 512)



Date: 6.OCT.2008 10:48:28

(Plot B: GSM 1900MHz Channel = 810)

3.2 Conducted RF Output Power

3.2.1 Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

3.2.2 Test Description

See section 3.2 of this report.

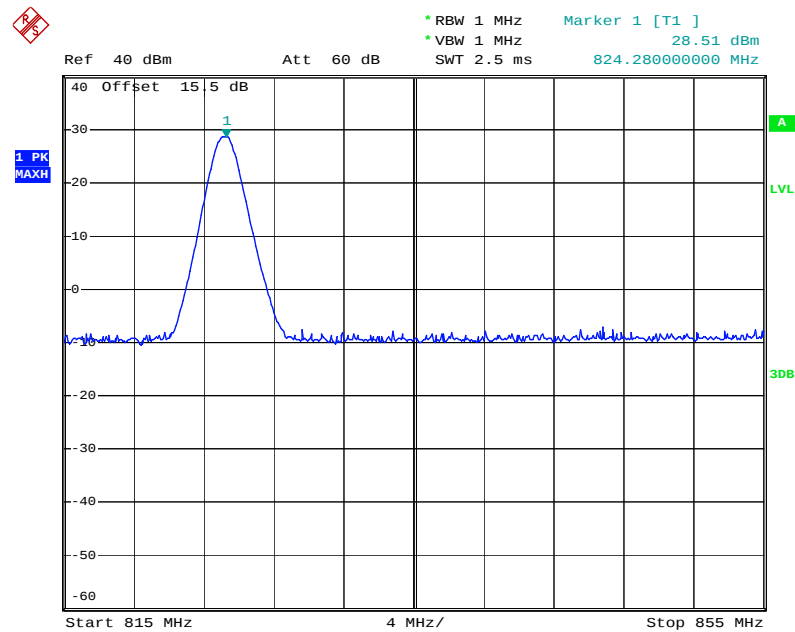
3.2.3 Test Result

Here the lowest, middle and highest channels are selected to perform testing to verify the conducted RF output power of the EUT. For the GSM 850MHz operates at PCL=5 (where Power Class is 4), the rated conducted RF output power is 33dBm within the tolerance of ± 3 dB, and For the GSM 1900MHz operates at PCL=0 (where Power Class is 1), the rated conducted RF output power is 30dBm within the tolerance of ± 3 dB.

Test Plot:

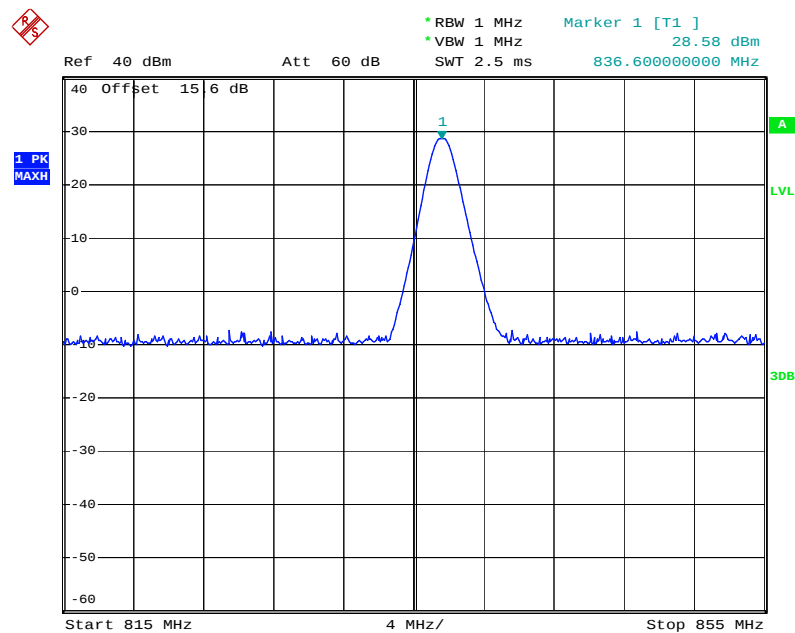
I. GSM 850MHz Band(GSM)

Band	Channel	Frequency (MHz)	Measured Output Power		Rated Output Power		Verdict
			dBm	Refer to Plot	dBm	Tolerance (dB)	
GSM 850MHz	128	824.2	28.51	Plot A	33	± 3	PASS
	190	836.6	28.58	Plot B			PASS
	251	848.9	28.38	Plot C			PASS



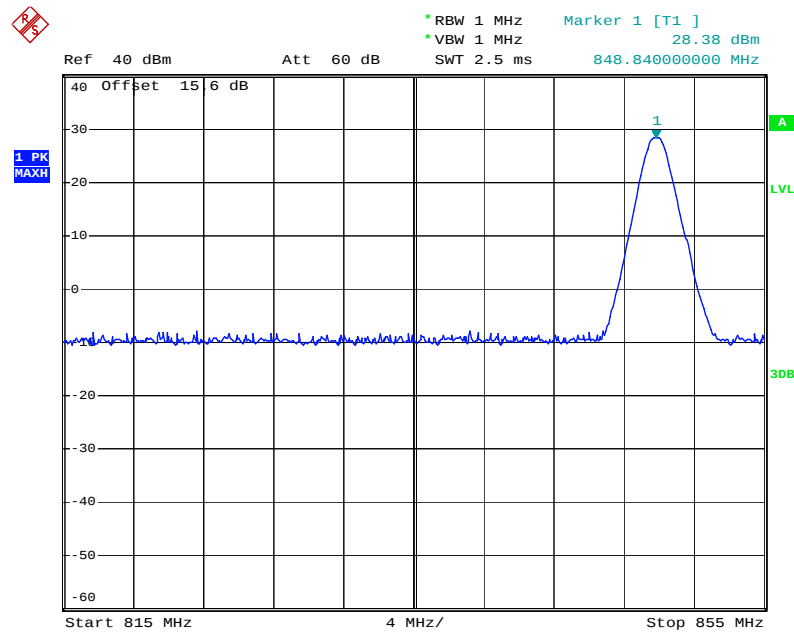
Date: 22.SEP.2008 04:04:02

(Plot A: GSM 850MHz Channel = 128)



Date: 22.SEP.2008 04:06:57

(Plot B: GSM 850MHz Channel = 190)

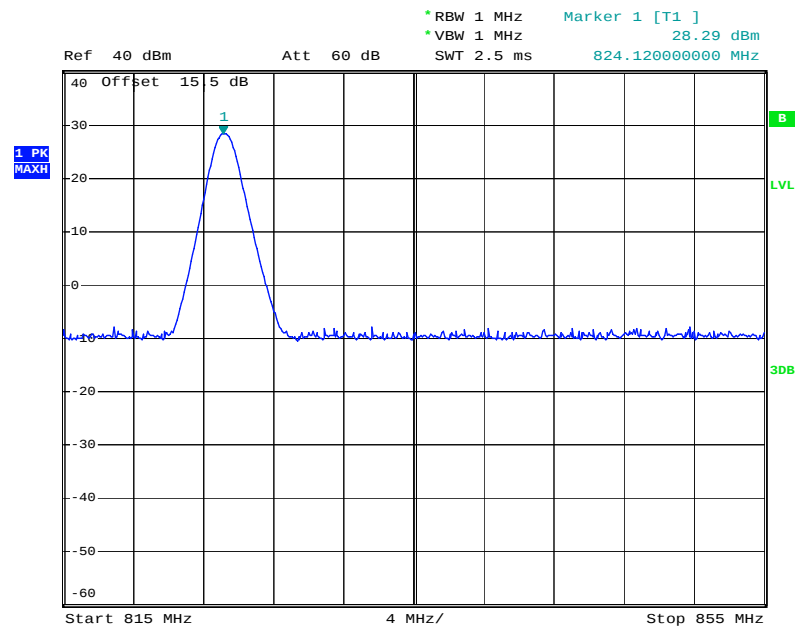


Date: 22.SEP.2008 04:07:32

(Plot C: GSM 850MHz Channel = 251)

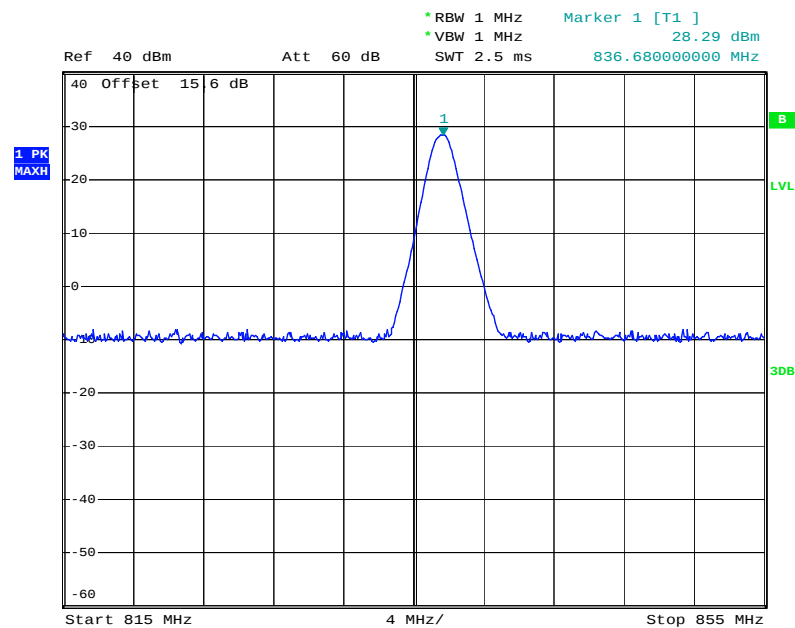
II. GSM 850MHz Band(EDGE)

Band	Channel	Frequency (MHz)	Measured Output Power		Rated Output Power		Verdict
			dBm	Refer to Plot	dBm	Tolerance (dB)	
GSM 850MHz	128	824.2	28.29	Plot A	33	±3	PASS
	190	836.6	28.29	Plot B			PASS
	251	848.9	28.66	Plot C			PASS



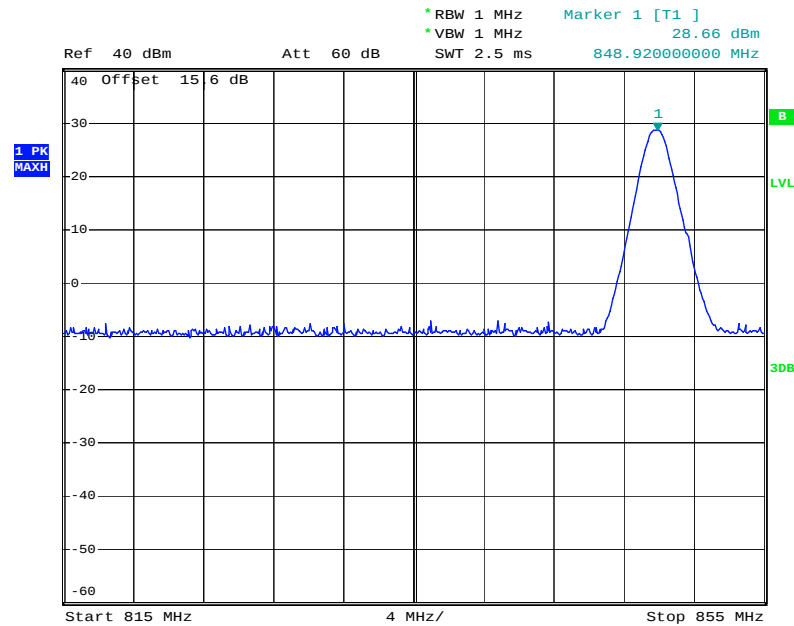
Date: 25.SEP.2008 10:08:02

(Plot A: GSM 850MHz Channel = 128)



Date: 25.SEP.2008 10:06:37

(Plot B: GSM 850MHz Channel = 190)

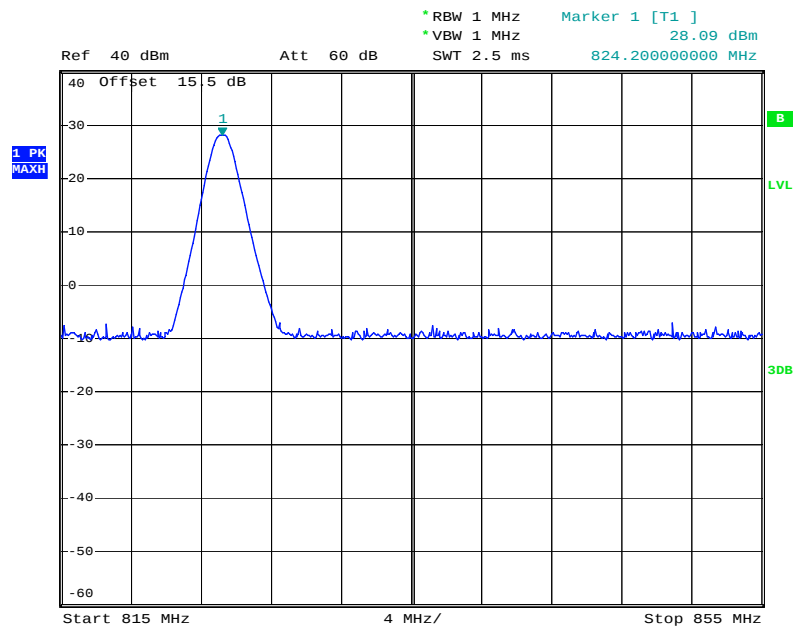


Date: 25.SEP.2008 10:05:57

(Plot C: GSM 850MHz Channel = 251)

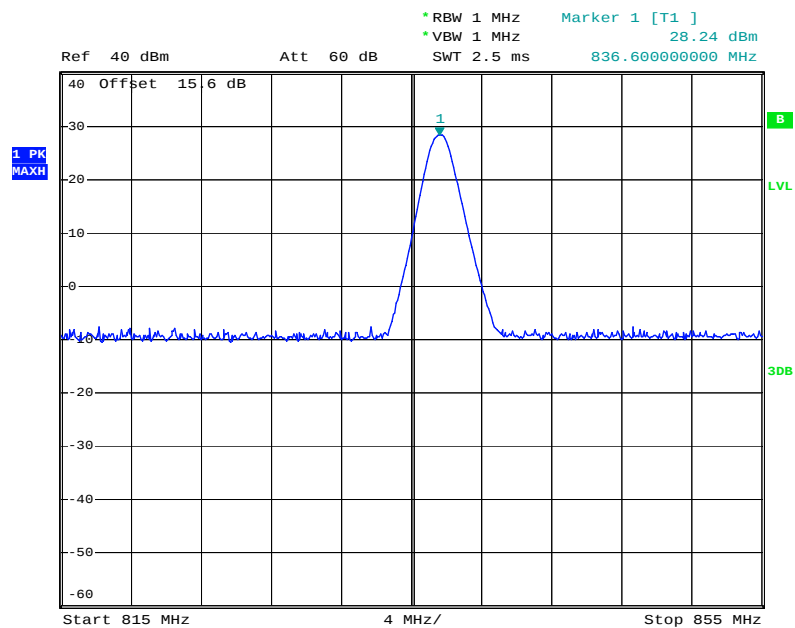
III GSM 850MHz Band(GPRS)

Band	Channel	Frequency (MHz)	Measured Output Power		Rated Output Power		Verdict
			dBm	Refer to Plot	dBm	Tolerance (dB)	
GSM 850MHz	128	824.2	28.09	Plot A	33	±3	PASS
	190	836.6	28.24	Plot B			PASS
	251	848.9	28.73	Plot C			PASS



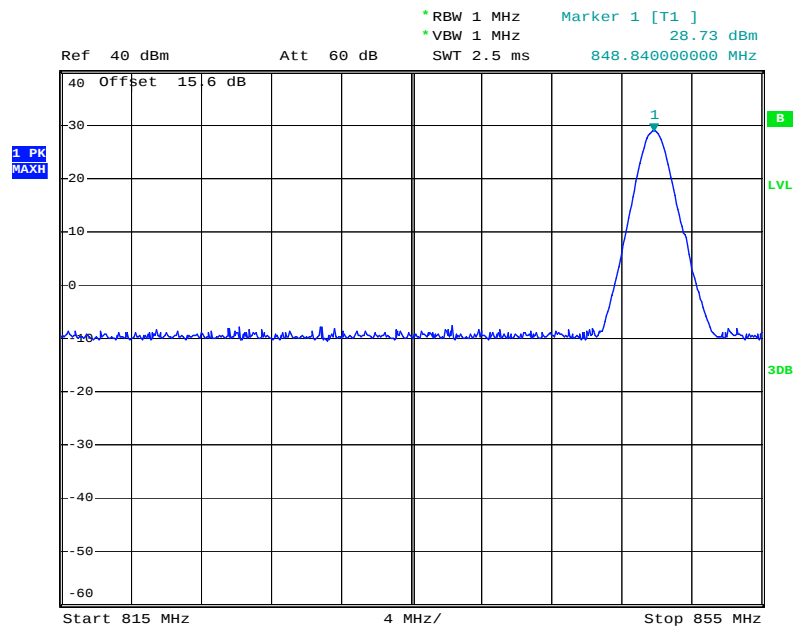
Date: 26.SEP.2008 04:41:44

(Plot A: GSM 850MHz Channel = 128)



Date: 26.SEP.2008 04:43:00

(Plot B: GSM 850MHz Channel = 190)

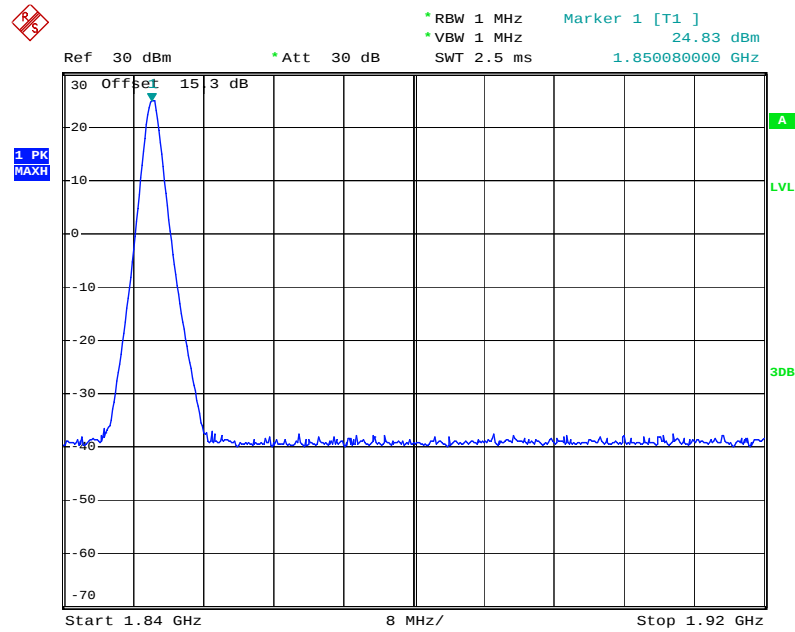


Date: 26.SEP.2008 04:43:56

(Plot C: GSM 850MHz Channel = 251)

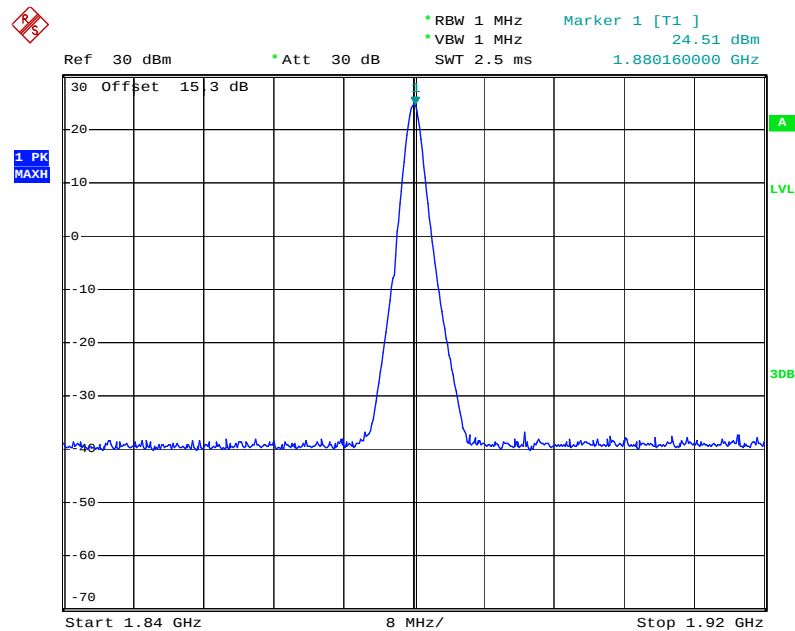
IV. PCS 1900MHz (GSM)

Band	Channel	Frequency (MHz)	Measured Output Power		Rated Output Power		Verdict
			dBm	Refer to Plot	dBm	Tolerance (dB)	
GSM 1900MHz	512	1850.2	24.83	Plot D	30	±3	PASS
	661	1869.9	24.51	Plot E			PASS
	810	1909.9	24.29	Plot F			PASS



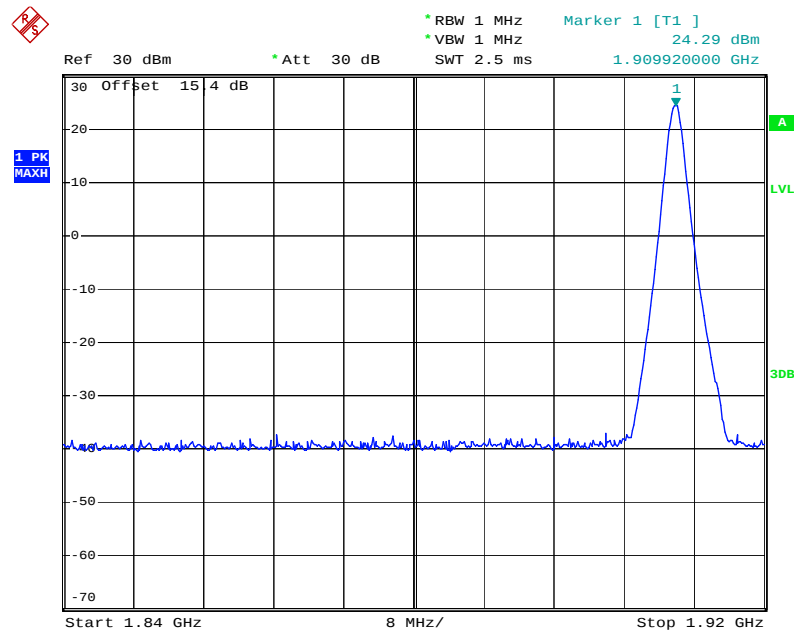
Date: 22.SEP.2008 04:46:35

(Plot D: GSM 1900MHz Channel = 512)



Date: 22.SEP.2008 04:47:25

(Plot E: GSM 1900MHz Channel = 661)

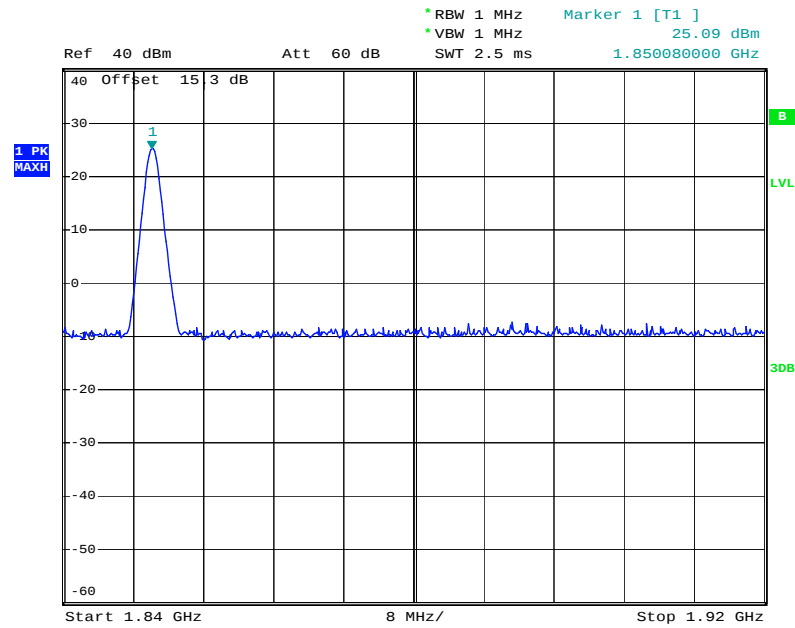


Date: 22.SEP.2008 04:48:55

(Plot F: GSM 1900MHz Channel = 810)

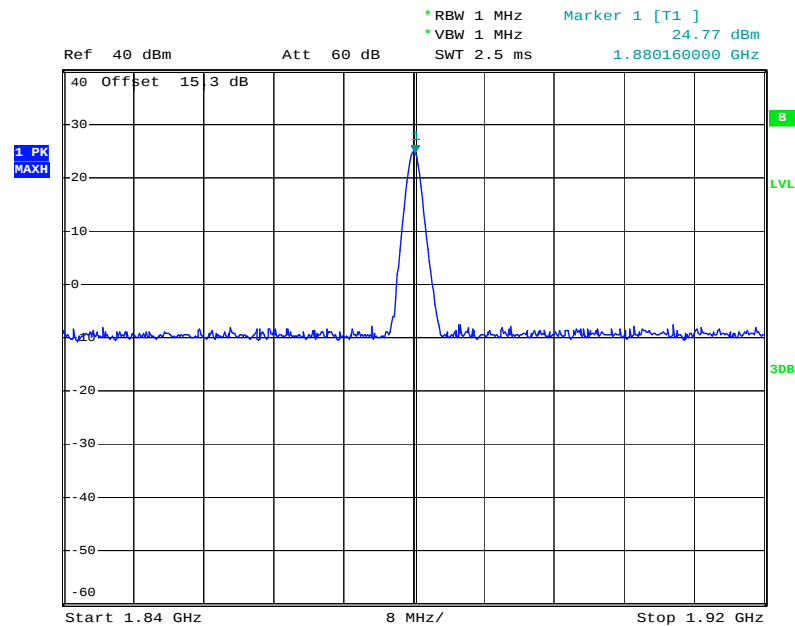
V. PCS 1900MHz Band (EDGE)

Band	Channel	Frequency (MHz)	Measured Output Power		Rated Output Power		Verdict
			dBm	Refer to Plot	dBm	Tolerance (dB)	
GSM 1900MHz	512	1850.0	25.09	Plot D	30	±3	PASS
	661	1880.0	24.77	Plot E			PASS
	810	1910.0	24.29	Plot F			PASS



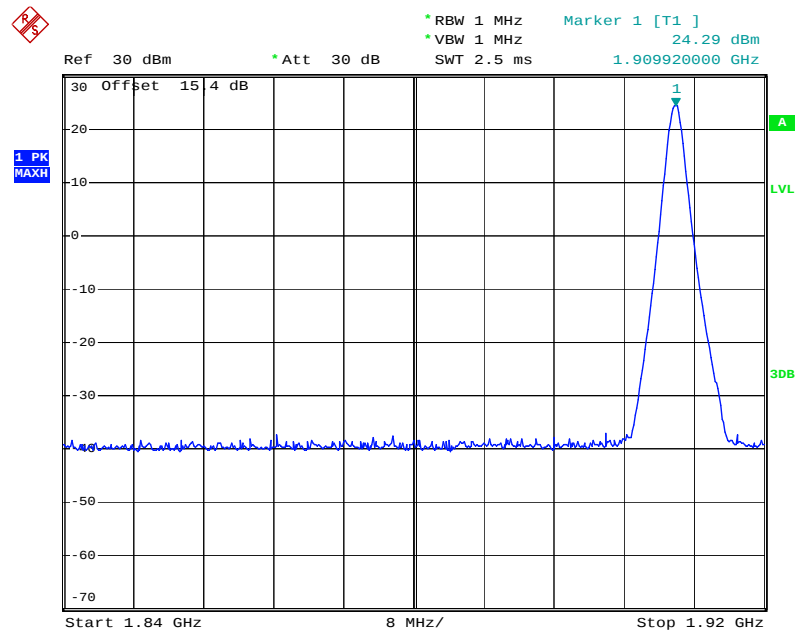
Date: 25.SEP.2008 10:31:04

(Plot D: GSM 1900MHz Channel = 512)



Date: 25.SEP.2008 10:30:10

(Plot E: GSM 1900MHz Channel = 661)

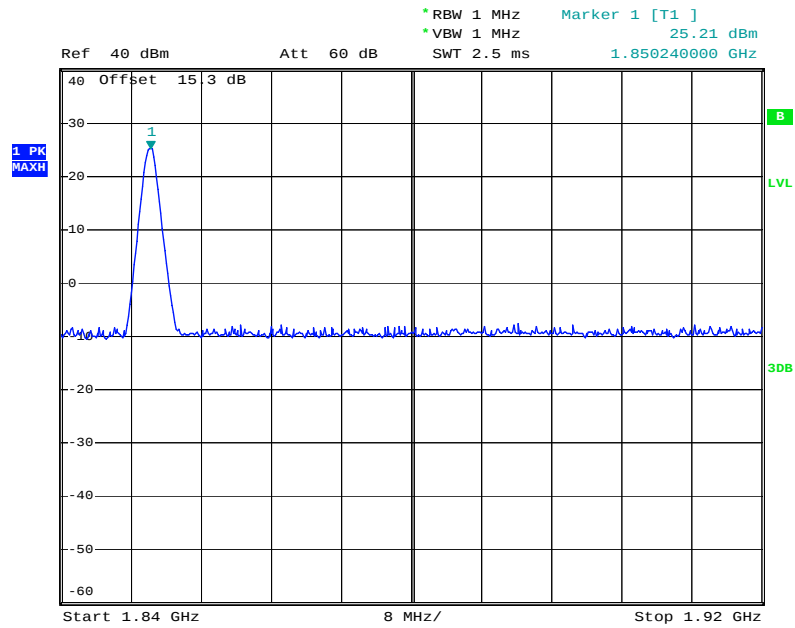


Date: 22.SEP.2008 04:48:55

(Plot F: GSM 1900MHz Channel = 810)

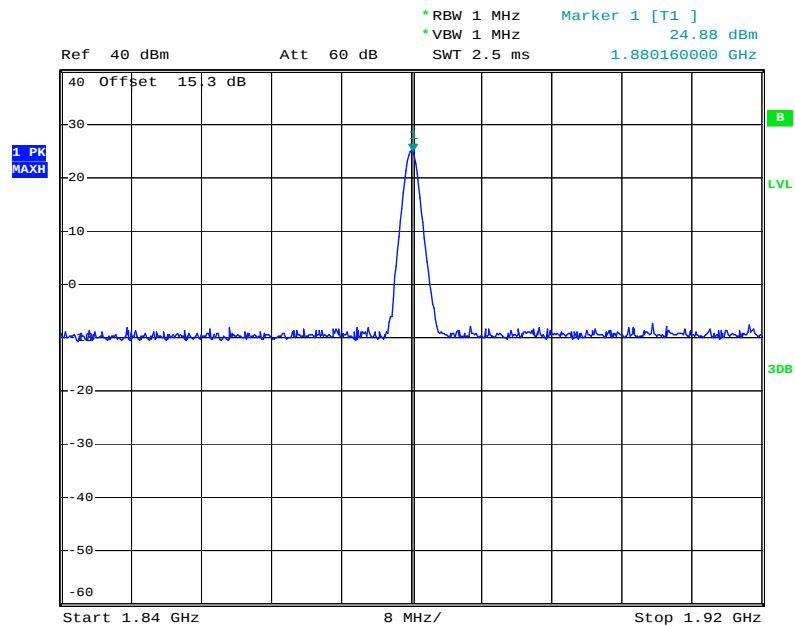
VI. PCS 1900MHz Band (GPRS)

Band	Channel	Frequency (MHz)	Measured Output Power		Rated Output Power		Verdict
			dBm	Refer to Plot	dBm	Tolerance (dB)	
GSM 1900MHz	512	1850.0	25.21	Plot D	30	±3	PASS
	661	1880.0	24.88	Plot E			PASS
	810	1910.0	24.09	Plot F			PASS



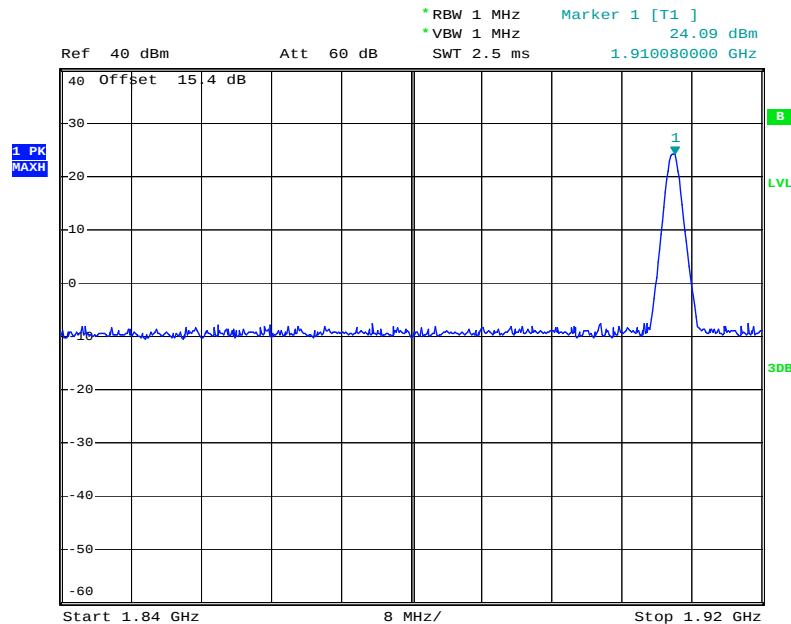
Date: 26.SEP.2008 05:54:07

(Plot D: GSM 1900MHz Channel = 512)



Date: 26.SEP.2008 05:55:19

(Plot E: GSM 1900MHz Channel = 661)



Date: 26.SEP.2008 05:56:26

(Plot F: GSM 1900MHz Channel = 810)

3.3 20dB Occupied Bandwidth

3.3.1 Definition

According to FCC section 2.1049, the occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

Occupied bandwidth is also known as the 99% emission bandwidth, or 20dB bandwidth ($10 \cdot \log 1\% = 20\text{dB}$) taking the total RF output power as reference.

3.3.2 Test Description

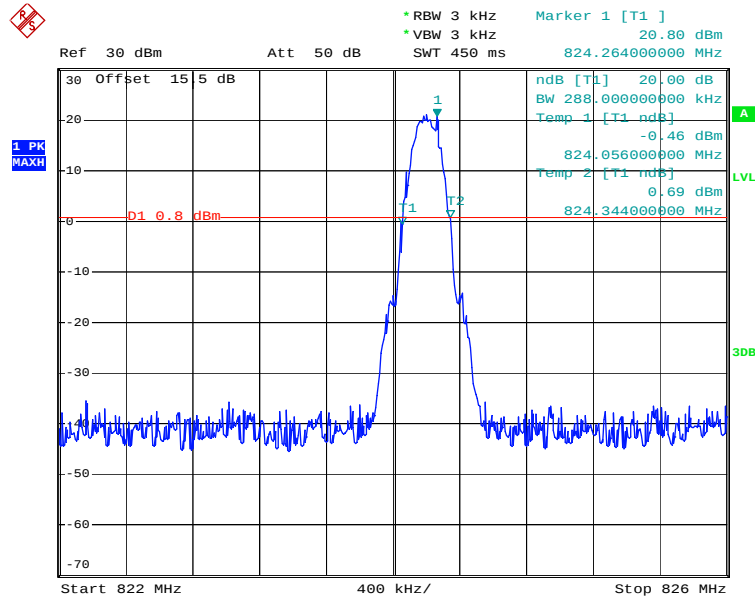
See section 3.2 of this report.

3.3.3 Test Verdict

Here the lowest, middle and highest channels are tested to record the 20dB occupied bandwidth, it's about 300kHz.

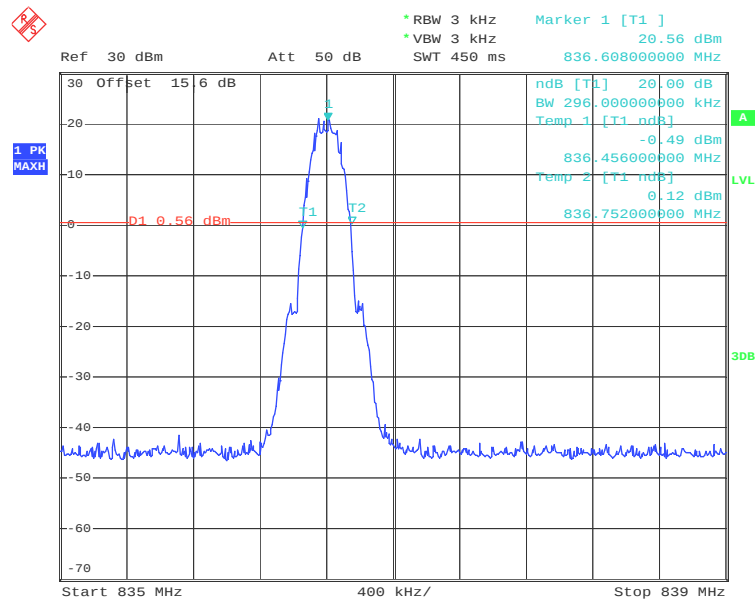
1 Test Plot:

I. GSM 850 MHz (GSM)



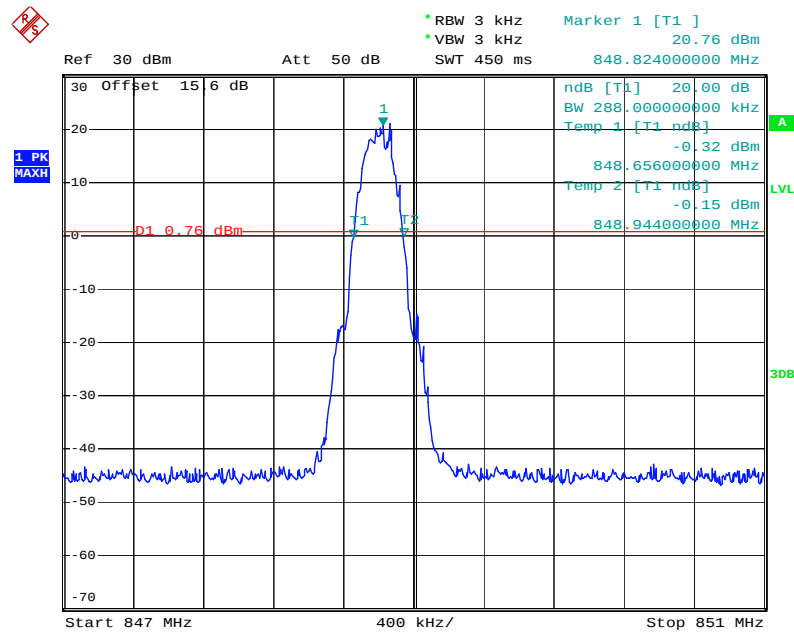
Date: 22.SEP.2008 04:12:01

(Plot A: GSM 850MHz Channel = 128)



Date: 22.SEP.2008 04:15:22

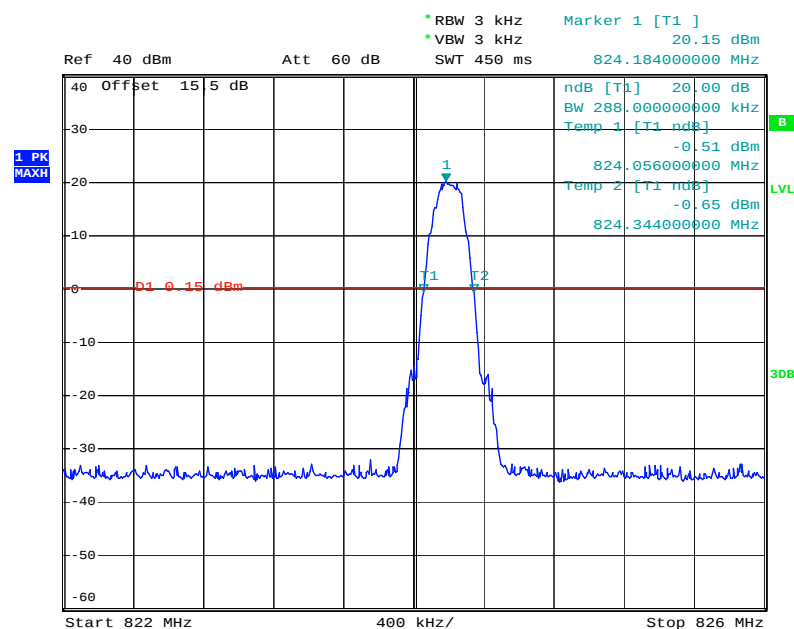
(Plot B: GSM 850MHz Channel = 190)



Date: 22.SEP.2008 04:17:27

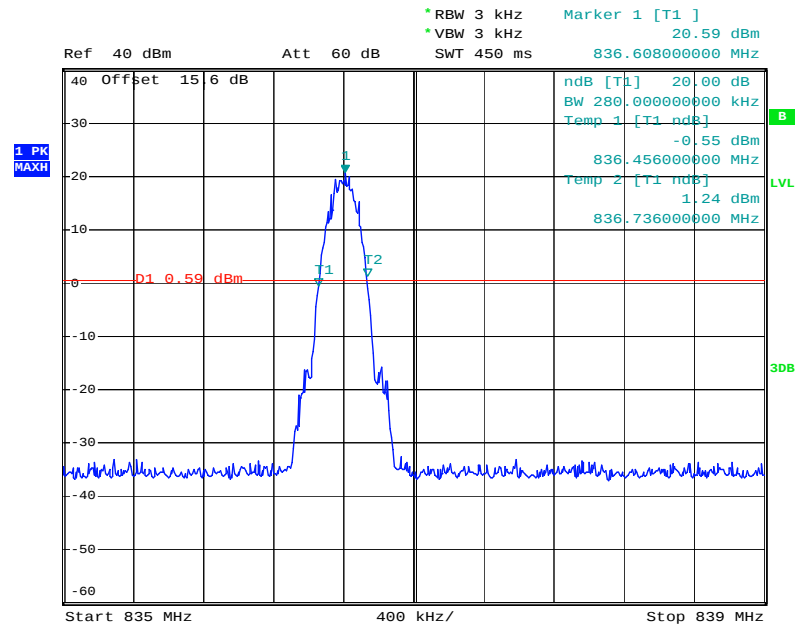
(Plot C: GSM 850MHz Channel = 251)

II. GSM 850 MHz (EDGE)



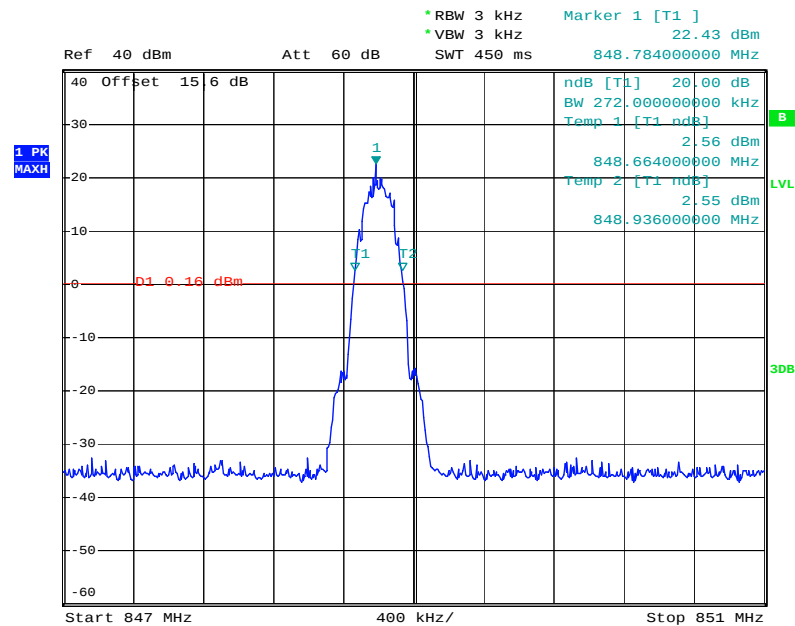
Date: 25.SEP.2008 10:12:59

(Plot A: GSM 850MHz Channel = 128)



Date: 25.SEP.2008 10:14:14

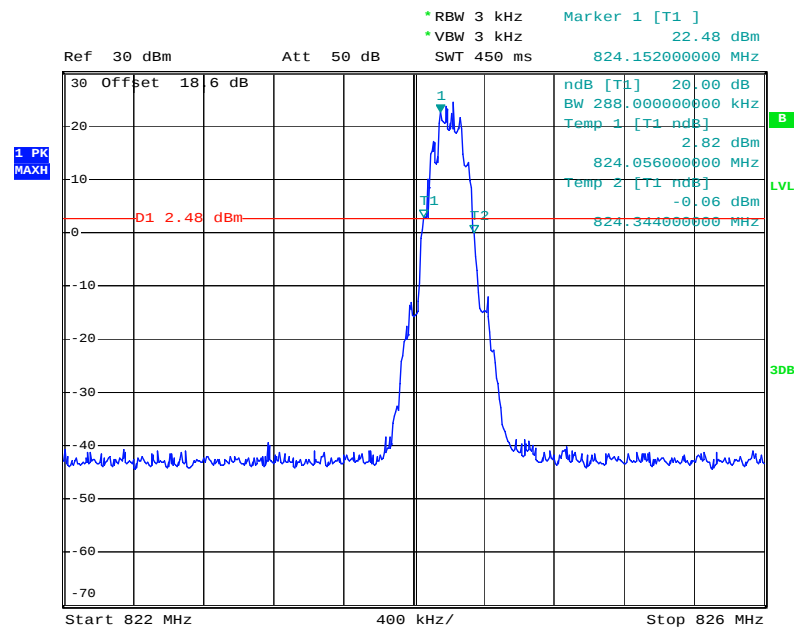
(Plot B: GSM 850MHz Channel = 190)



Date: 25.SEP.2008 10:15:56

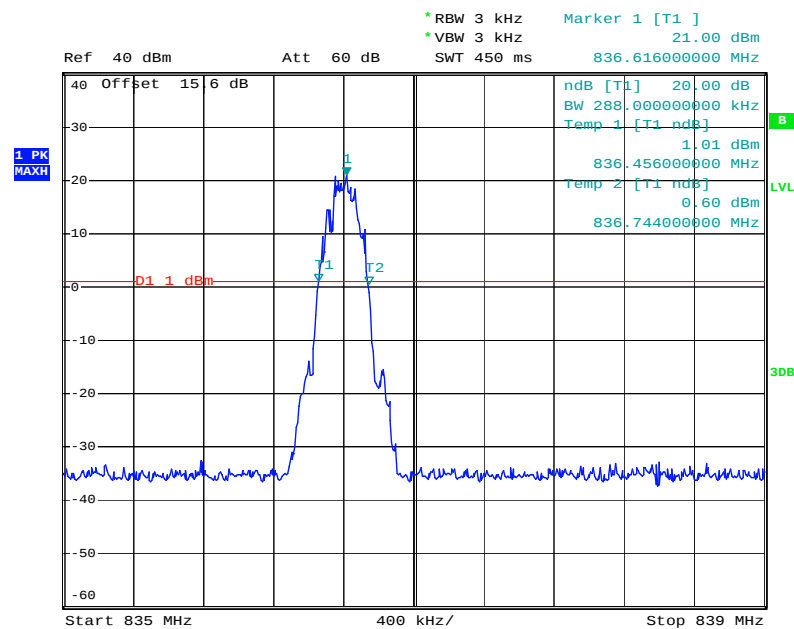
(Plot C: GSM 850MHz Channel = 251)

III. GSM 850 MHz (GPRS)



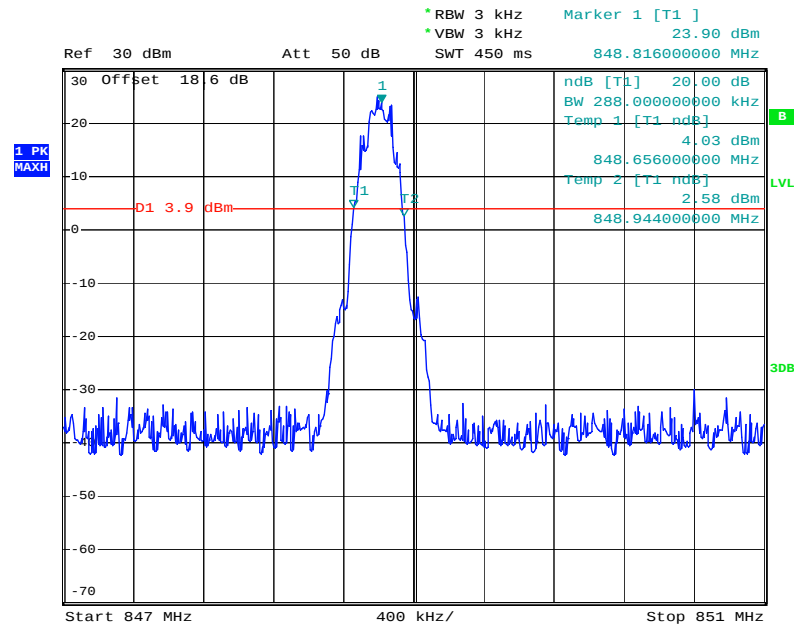
Date: 26.SEP.2008 04:55:23

(Plot A: GSM 850MHz Channel = 128)



Date: 6.OCT.2008 10:13:05

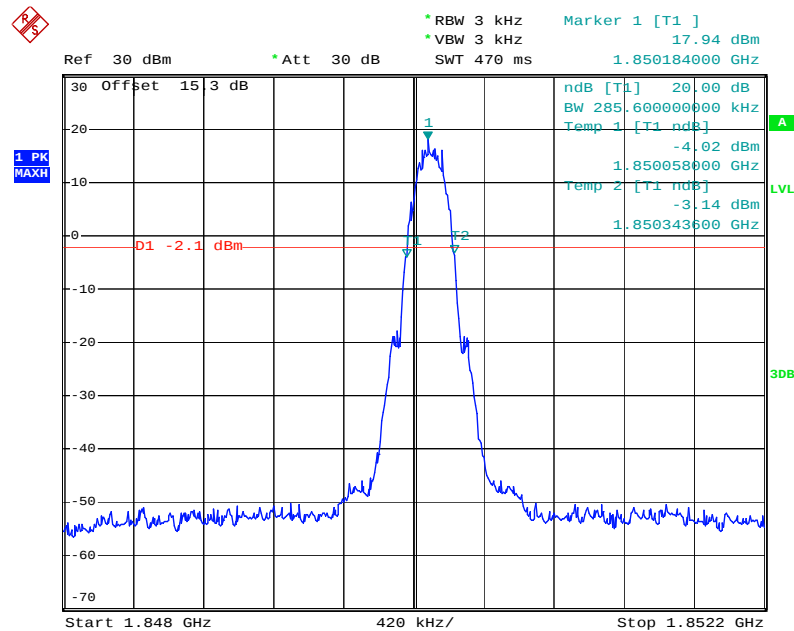
(Plot B: GSM 850MHz Channel = 190)



Date: 26.SEP.2008 04:52:18

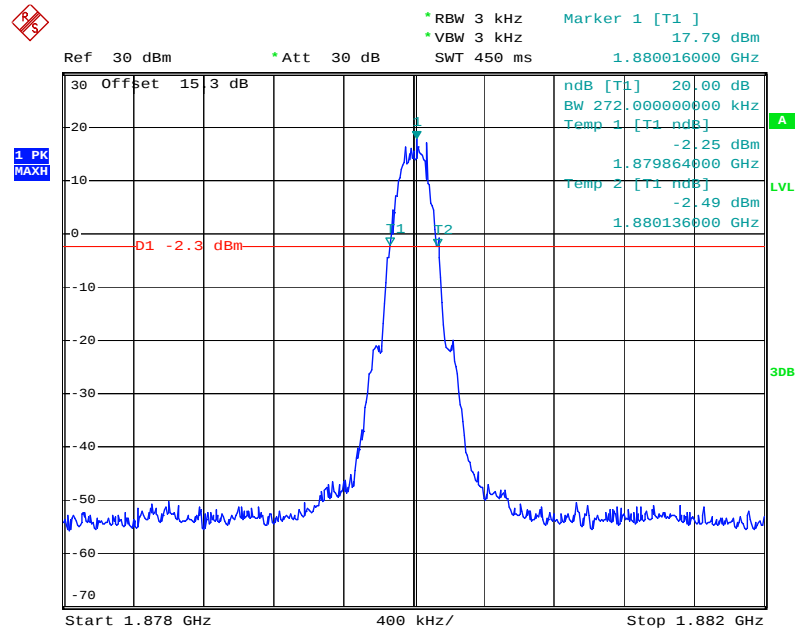
(Plot C: GSM 850MHz Channel = 251)

IV. PCS 1900MHz (GSM)



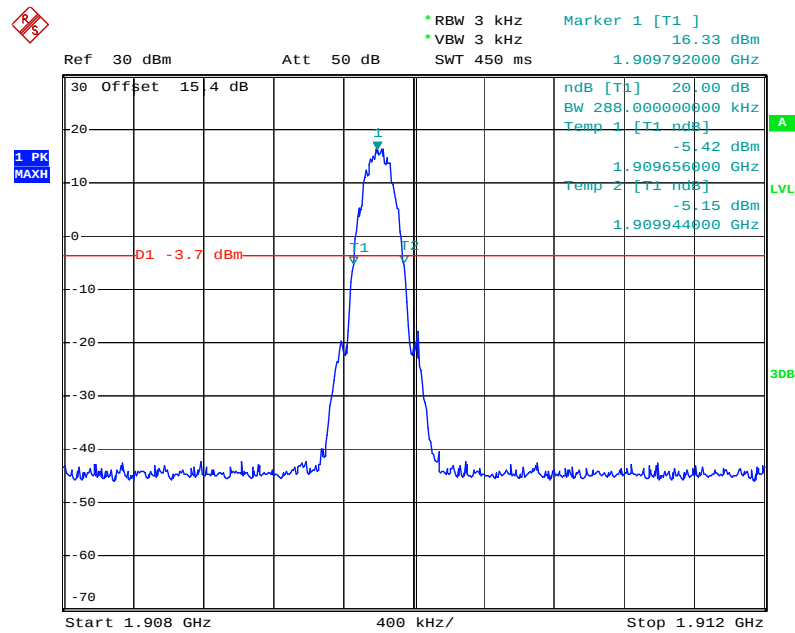
Date: 22.SEP.2008 04:52:16

(Plot D: GSM 1900MHz Channel = 512)



Date: 22.SEP.2008 04:54:41

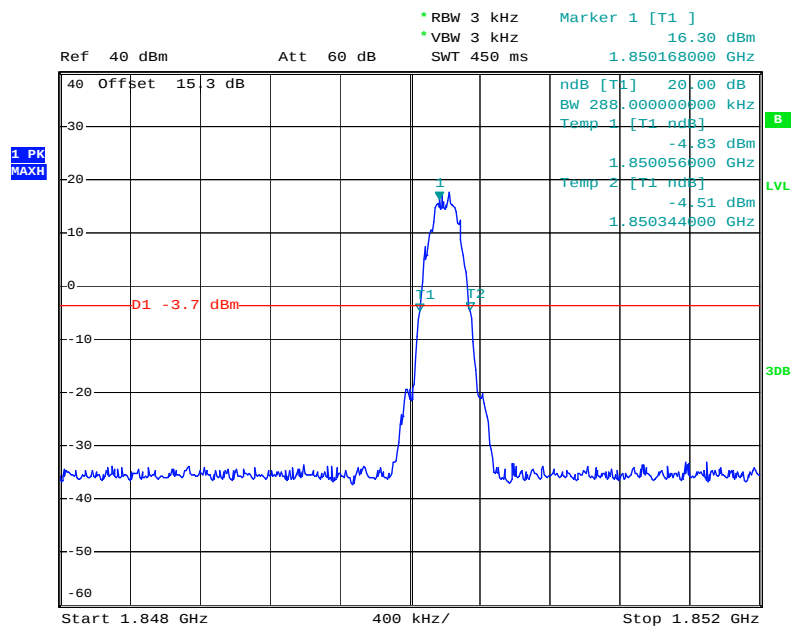
(Plot E: GSM 1900MHz Channel = 661)



Date: 22.SEP.2008 04:59:08

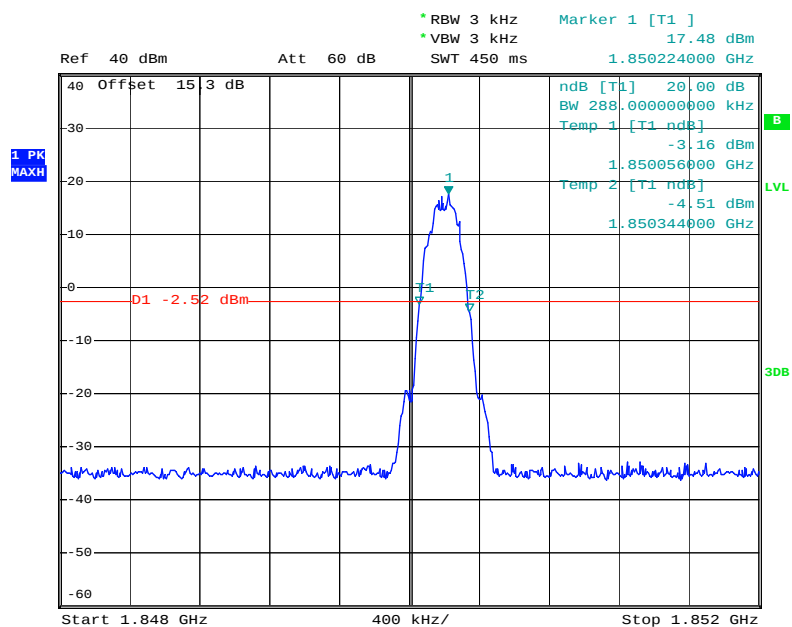
(Plot F: GSM 1900MHz Channel = 810)

V. PCS 1900MHz (EDGE)



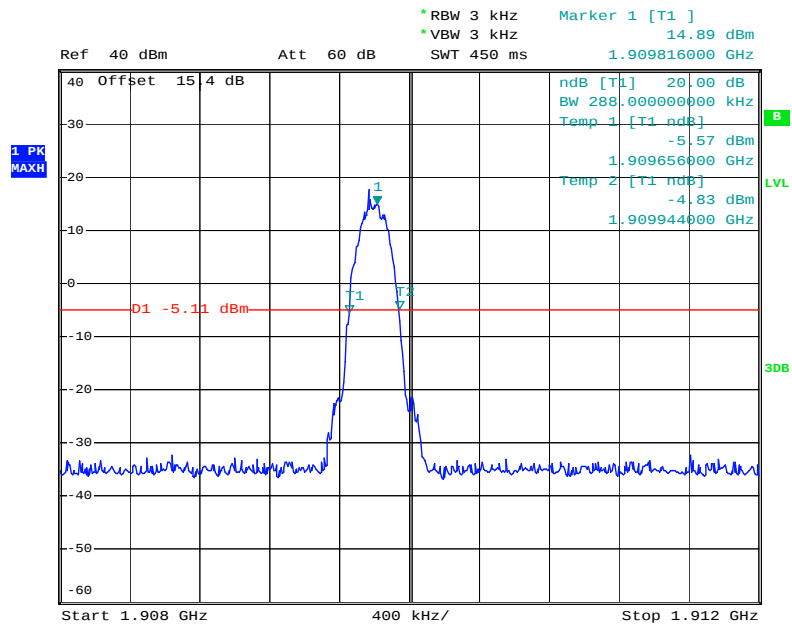
Date: 25.SEP.2008 10:32:30

(Plot D: GSM 1900MHz Channel = 512)



Date: 25.SEP.2008 10:34:11

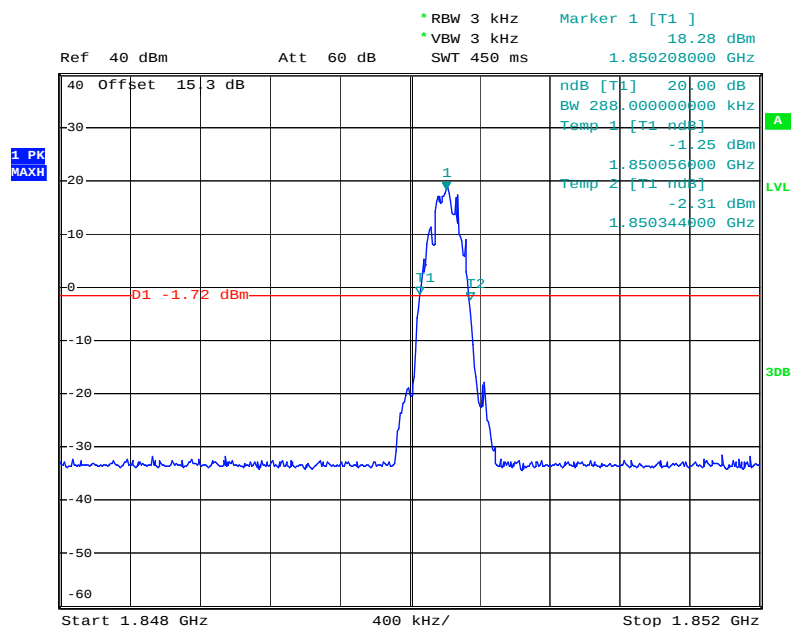
(Plot E: GSM 1900MHz Channel = 661)



Date: 25.SEP.2008 10:35:59

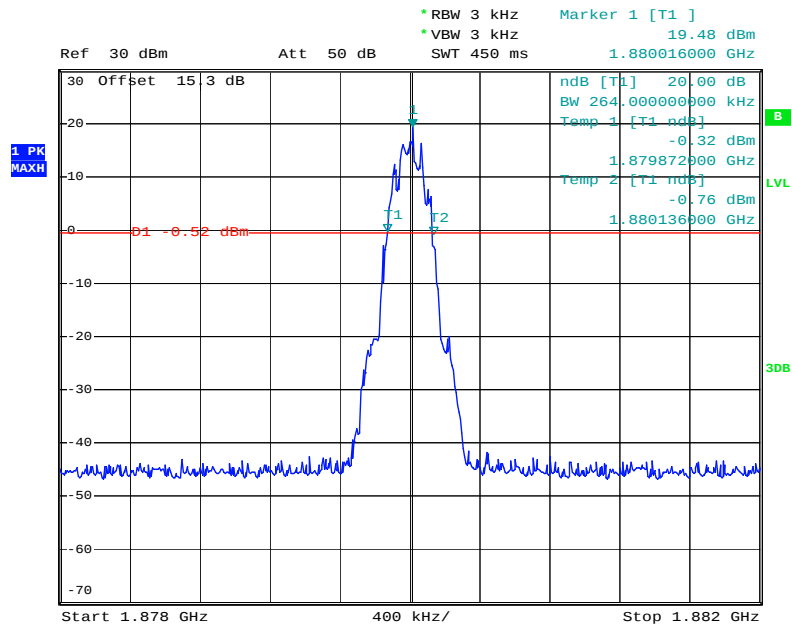
(Plot F: GSM 1900MHz Channel = 810)

V. PCS 1900MHz (GPRS)



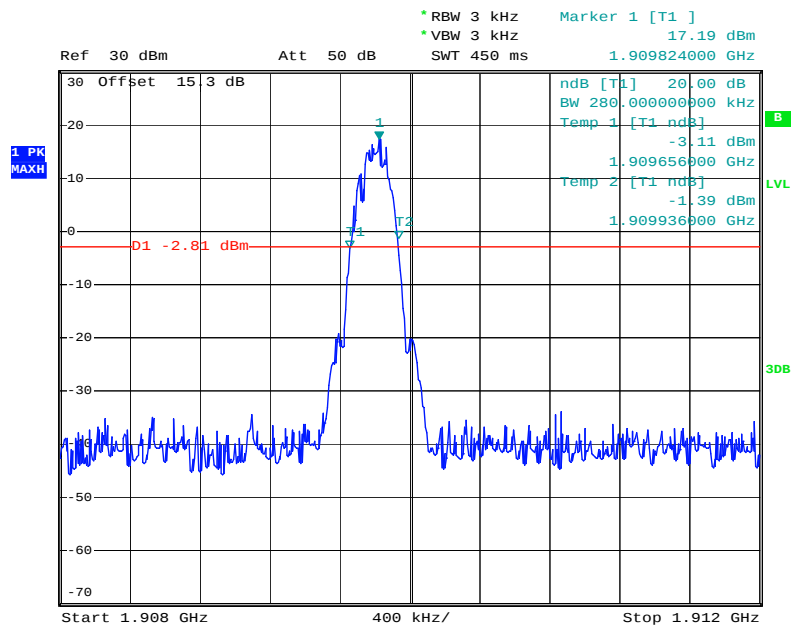
Date: 26.SEP.2008 07:33:23

(Plot D: GSM 1900MHz Channel = 512)



Date: 26.SEP.2008 05:59:35

(Plot E: GSM 1900MHz Channel = 661)



Date: 26.SEP.2008 05:58:12

(Plot F: GSM 1900MHz Channel = 810)

3.4 Frequency Stability

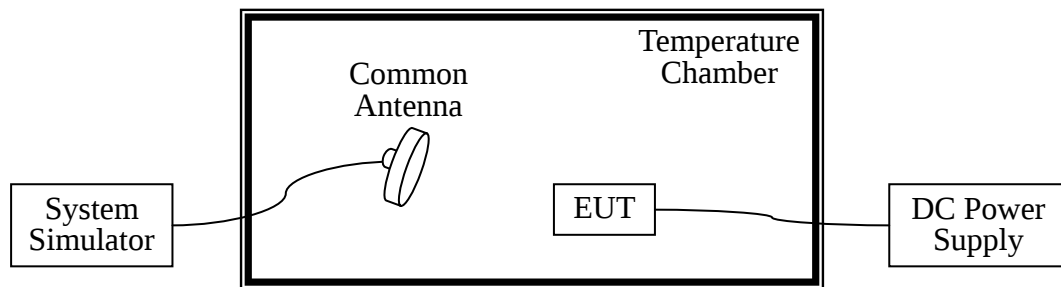
3.4.1 Requirement

According to FCC section 22.355 and FCC section 24.235, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

- The temperature is varied from -30°C to $+50^{\circ}\text{C}$ at intervals of not more than 10°C .
- For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

3.4.2 Test Description

1. Test Setup:



The EUT, which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS via a Common Antenna.

2. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Rohde&Schwarz	FSP30	101020	2007.11	1year
DC Power Supply	Good Will	GPS-3030DD	EF920938	2007.06	2year
Temperature Chamber	YinHe Experimental Equip.	HL4003T	(n.a.)	2008.03	1year

3.4.3 Test Verdict

The nominal, highest and lowest extreme voltages are separately 3.7VDC, 4.2VDC and 3.3VDC, which are specified by the applicant; the normal temperature here used is 25°C . The frequency

deviation limit is ± 2.5 ppm.

I. GSM 850 MHz Band (GSM)

Band	Test Conditions		Frequency Deviation						Verdict
	Power (VDC)	Temperature (°C)	Channel = 128		Channel = 190		Channel = 251		
			Hz	Limit	Hz	Limit	Hz	Limit	
GSM 850MHz	3.7	-30	1.0	±2060.5	-4.0	±2091.5	-17.5	±2122.0	PASS
		-20	15.1		15.0		-10.2		
		-10	13.0		3.4		-3.7		
		0	10.2		12.0		1.3		
		+10	-10.6		-12.8		4.0		
		+20	7.0		-3.0		-18.9		
		+30	6.8		12.5		11.0		
		+40	8.2		-13.5		-3.2		
		+50	-20.0		7.0		-8.5		
	4.2	+25	-10.68	-13.35	13.46				
	3.3	+25	-14.43	-18.08	12.52				

II. GSM 850MHz Band (EDGE)

Band	Test Conditions		Frequency Deviation						Verdict
	Power (VDC)	Temperature (°C)	Channel = 128		Channel = 190		Channel = 251		
			Hz	Limit	Hz	Limit	Hz	Limit	
GSM 850MHz	3.7	-30	-19.2	±2060.5	-1.6	±2091.5	-17.5	±2122.0	PASS
		-20	-4.0		-15.5		6.3		
		-10	-18.5		-4.0		10.5		
		0	-17.0		-15.6		6.0		
		+10	-15.3		12.8		-2.1		
		+20	8.8		6.0		-2.0		
		+30	20.0		17.2		3.8		
		+40	-5		-14.7		15.5		
		+50	-17.6		-18.0		10.1		
	4.2	+25	-10.12	-13.42	13.23				
	3.3	+25	-14.25	-18.12	12.47				

III. GSM 850MHz Band (GPRS)

Band	Test Conditions		Frequency Deviation						Verdict
	Power (VDC)	Temperature (°C)	Channel = 128		Channel = 190		Channel = 251		
			Hz	Limit	Hz	Limit	Hz	Limit	
GSM 850MHz	3.7	-30	1.1	±2060.5	-4.5	±2091.5	-17.7	±2122.0	PASS
		-20	15.5		15.4		-10.6		
		-10	13.4		3.5		-3.8		
		0	10.7		12.5		1.8		
		+10	-10.5		-12.4		4.8		
		+20	7.5		-3.4		-18.5		
		+30	6.5		12.6		11.5		
		+40	8.6		-13.6		-3.4		
		+50	-20.1		7.5		-8.2		
	4.2	+25	-10.08	-13.24	13.09				
	3.3	+25	-14.15	-18.03	12.23				

IV. PCS 1900MHz Band (GSM)

Band	Test Conditions		Frequency Deviation						Verdict
	Power (VDC)	Temperature (°C)	Channel = 512		Channel = 661		Channel = 810		
			Hz	Limit	Hz	Limit	Hz	Limit	
GSM 1900MHz	3.7	-30	-16.5	±1850.2	-3.5	±1880.0	1.0	±1909.8	PASS
		-20	-16.3		-18.0		-12.8		
		-10	-0.6		-15.6		-17.7		
		0	9.9		-10.0		9.0		
		+10	14.8		4.6		17.6		
		+20	14.7		19.9		-10.2		
		+30	-20.0		-17.0		-9.6		
		+40	-11.8		10.5		-9.0		
		+50	-10.2		-2.9		-8.8		
	4.2	+25	-12.51	-9.87	-15.92				
	3.3	+25	-8.39	-19.04	15.83				

V. PCS 1900MHz Band (EDGE)

Band	Test Conditions		Frequency Deviation						Verdict
	Power (VDC)	Temperature (°C)	Channel = 512		Channel = 661		Channel = 810		
			Hz	Limit	Hz	Limit	Hz	Limit	
GSM 1900MHz	3.7	-30	-13.5	±1850.2	-19.5	±1880.0	2.0	±1909.8	PASS
		-20	2.6		-19.0		0.0		
		-10	-2.0		-18.8		-1.5		
		0	-7.8		-11.8		7.9		
		+10	4.6		20.0		-18.8		
		+20	4.0		-12.8		-13.0		
		+30	11.8		16.0		1.7		
		+40	-15.2		13.5		-11.0		
		+50	13.6		17.8		5.5		
	4.2	+25	-12.47	-9.79	-15.98				
	3.3	+25	-8.25	-19.12	15.77				

VI. PCS 1900MHz Band (GPRS)

Band	Test Conditions		Frequency Deviation						Verdict
	Power (VDC)	Temperature (°C)	Channel = 512		Channel = 661		Channel = 810		
			Hz	Limit	Hz	Limit	Hz	Limit	
GSM 1900MHz	3.7	-30	-16.3	±1850.2	-3.8	±1880.0	1.5	±1909.8	PASS
		-20	-16.3		-18.4		-12.5		
		-10	-0.8		-15.3		-17.5		
		0	9.1		-10.1		9.5		
		+10	15.1		4.5		17.5		
		+20	14.5		19.7		-10.4		
		+30	-20.2		-17.1		-9.5		
		+40	-11.4		10.5		-9.1		
		+50	-10.7		-2.6		-8.4		
	4.2	+25	-12.41	-9.46	-15.41				
	3.3	+25	-8.10	-19.32	15.50				

3.5 Conducted Spurious Emissions Test

3.5.1 Requirement

According to FCC section 22.917(a) and FCC section 24.238(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43+10*\log(P)$ dB. This calculated to be -13dBm.

3.5.2 Test Description

See section 3.2 of this report.

3.5.3 Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the out of band emissions.

1. Test Verdict:

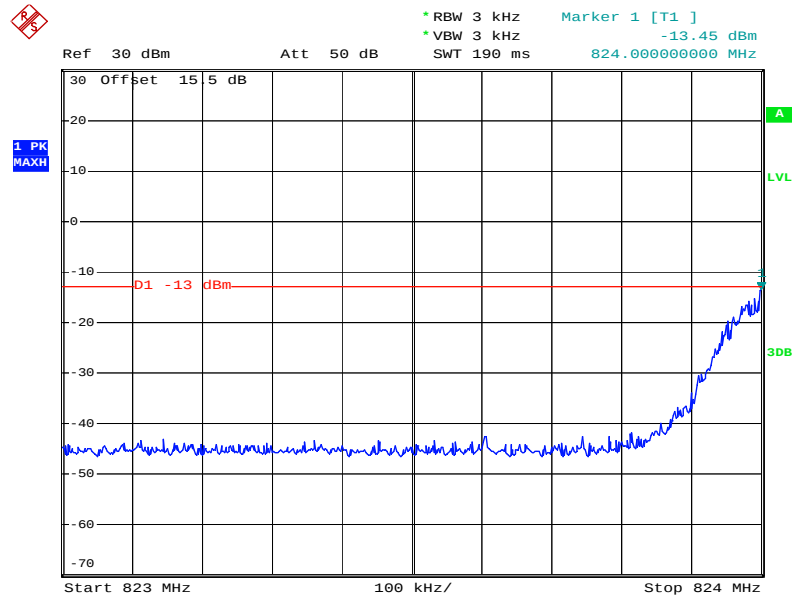
Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)	Refer to Plot	Limit (dBm)	Verdict
GSM850 MHz(GSM)	128	5120.0	-27.11	Plot A	-13	PASS
	190	5260.0	-27.09	Plot B		PASS
	251	3500.0	-27.12	Plot C		PASS
GSM1900MHz(GSM)	512	3920.0	-27.79	Plot D	-13	PASS
	661	17800.0	-17.22	Plot E		PASS
	810	7400.0	-27.21	Plot F		PASS
GSM850 MHz(GPRS)	128	3480.0	-17.73	Plot A	-13	PASS
	190	6620.0	-17.42	Plot B		PASS
	251	3460.0	-16.83	Plot C		PASS
GSM1900MHz(GPRS)	512	9200.0	-27.67	Plot D	-13	PASS
	661	3000.0	-28.22	Plot E		PASS
	810	15120.0	-17.72	Plot F		PASS

2. Test Plot for the Whole Measurement Frequency Range:

Note: the power of the EUT transmitting frequency should be ignored.

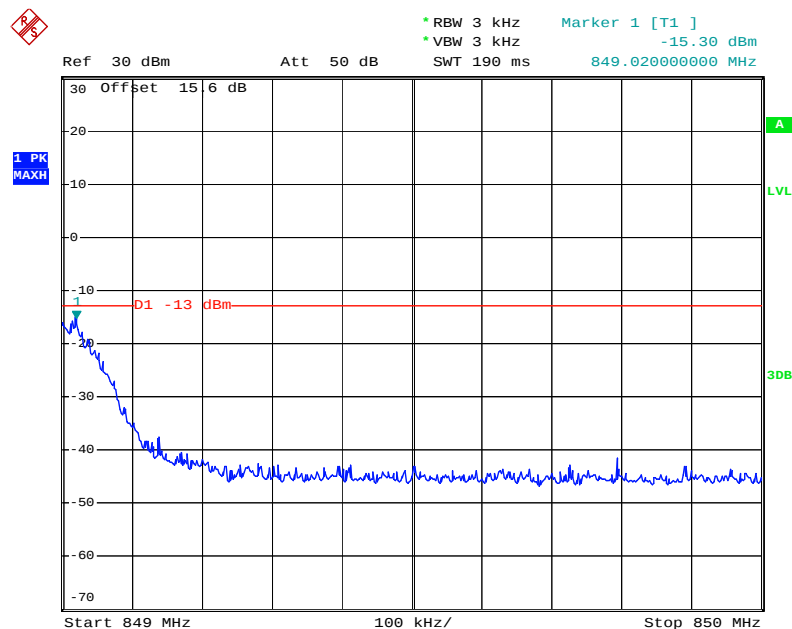
I. GSM 850MHz Band(GSM)

Plot of Band Edge



Date: 22.SEP.2008 04:21:49

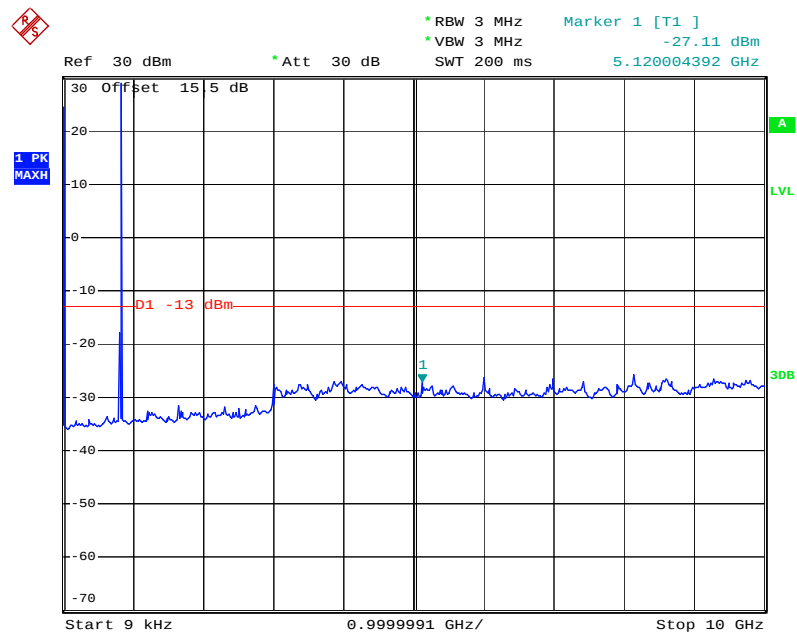
(Plot A: GSM 850MHz Channel = 128)



Date: 22.SEP.2008 04:23:44

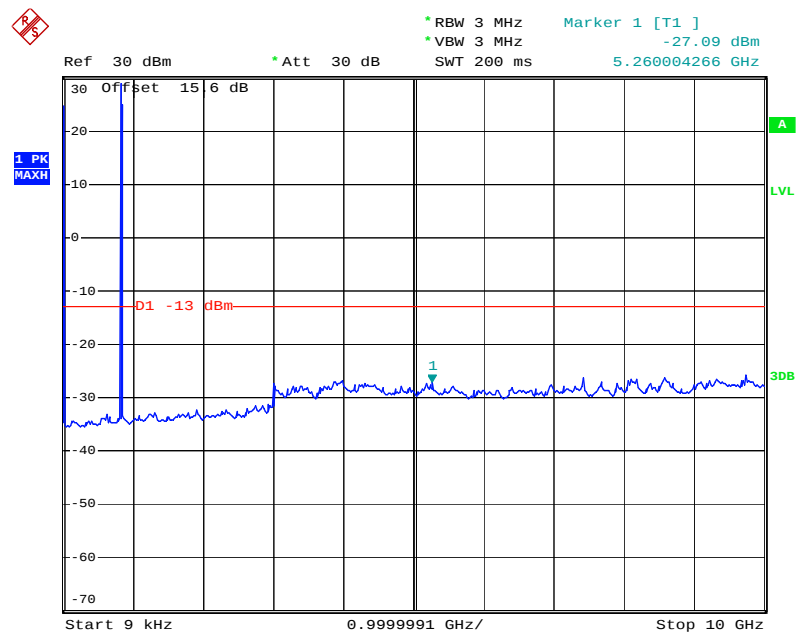
(Plot B: GSM 850MHz Channel = 251)

Plot of Spurious Emission



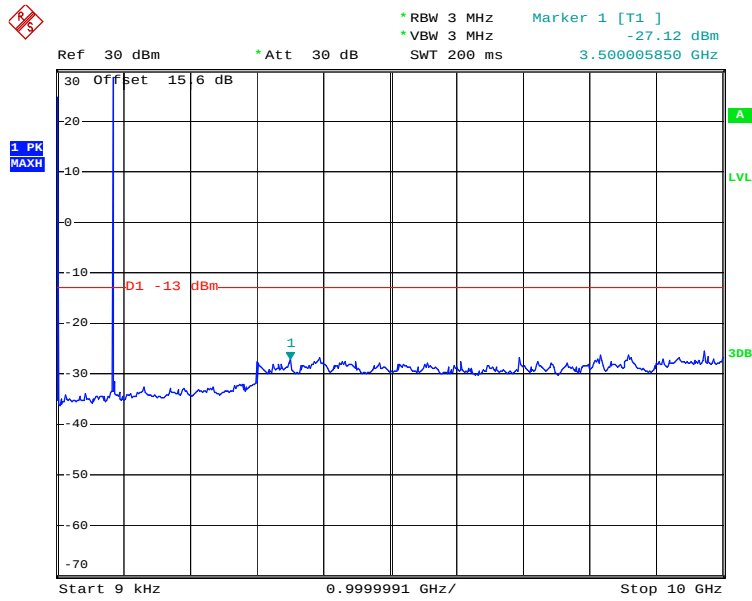
Date: 22.SEP.2008 04:28:48

(Plot A: GSM 850MHz Channel = 128)



Date: 22.SEP.2008 04:33:03

(Plot B: GSM 850MHz Channel = 190)

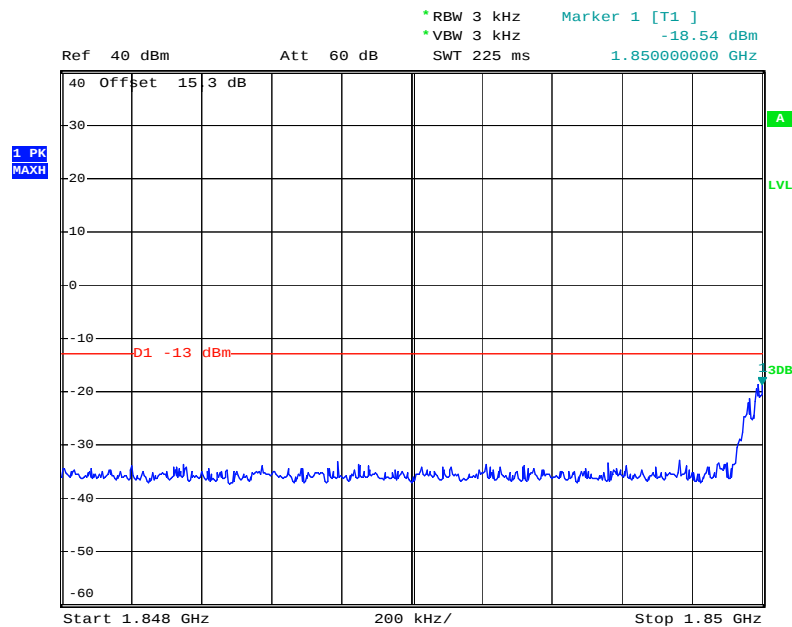


Date: 22.SEP.2008 04:34:49

(Plot C: GSM 850MHz Channel = 251)

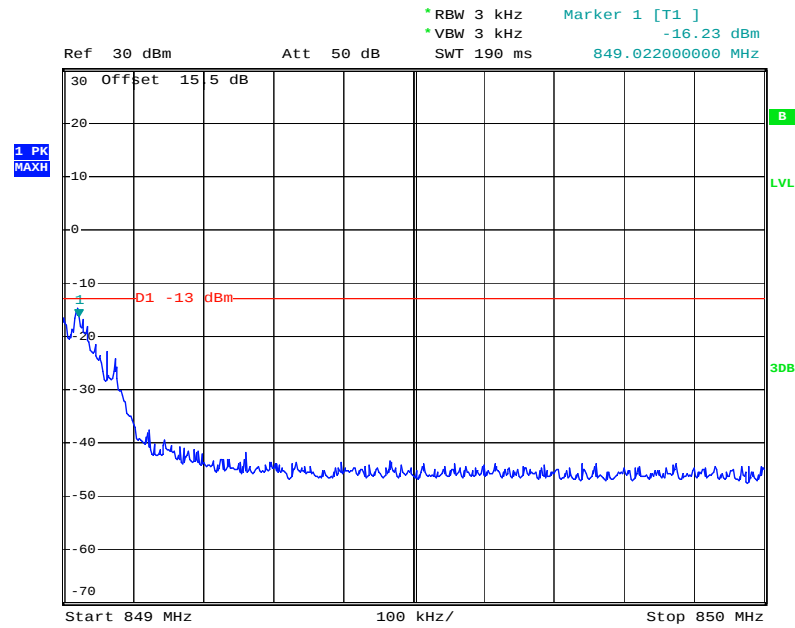
II. GSM 850MHz Band(GPRS)

Plot of Band Edge



Date: 26.SEP.2008 07:37:08

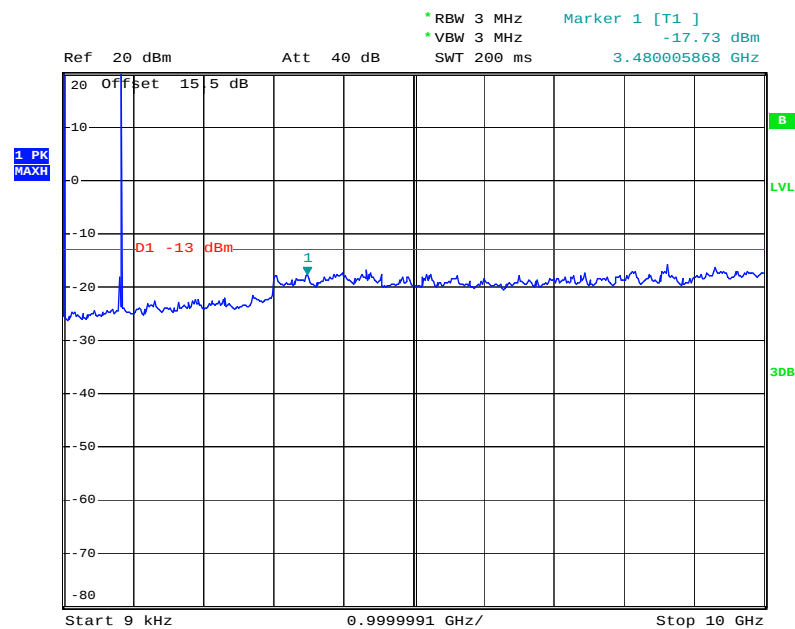
(Plot A: GSM 850MHz Channel = 128)



Date: 26.SEP.2008 05:02:49

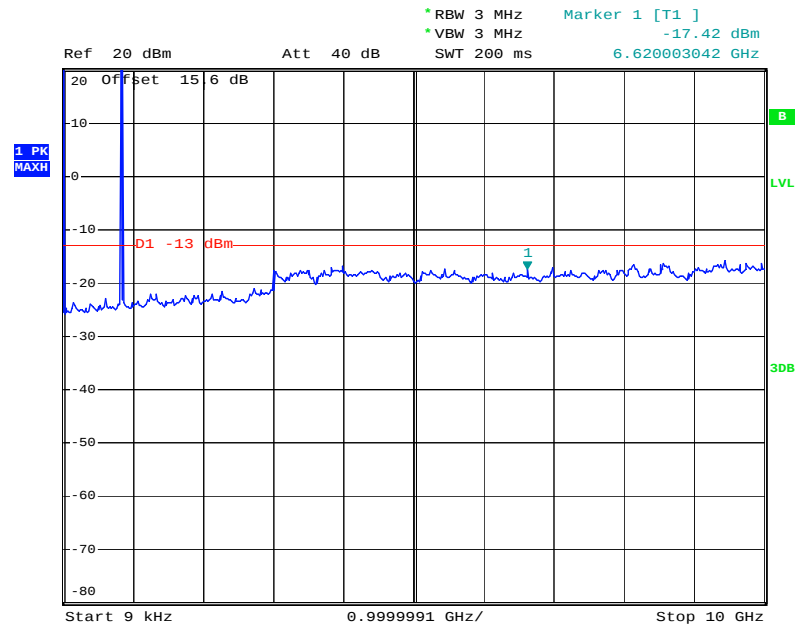
(Plot B: GSM 850MHz Channel = 251)

Plot of Spurious Emission



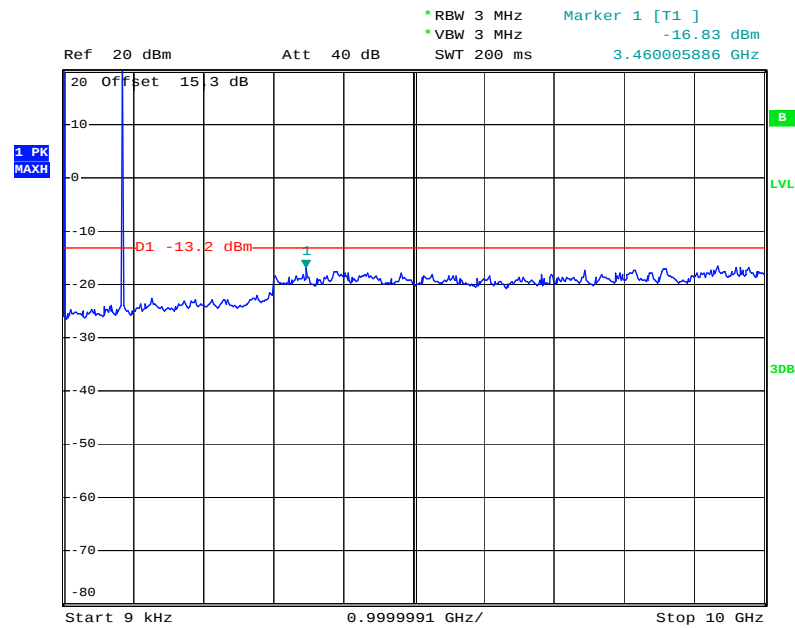
Date: 26.SEP.2008 05:15:11

(Plot A: GSM 850MHz Channel = 128)



Date: 26.SEP.2008 05:11:40

(Plot B: GSM 850MHz Channel = 190)

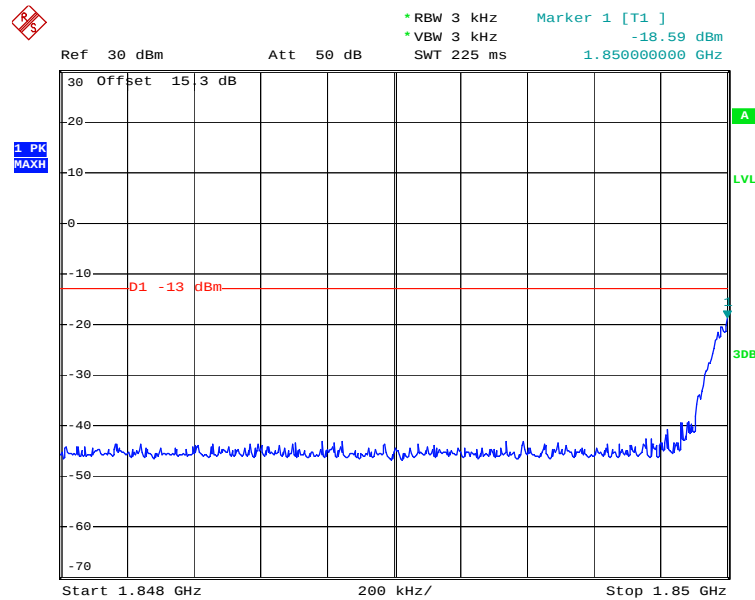


Date: 26.SEP.2008 05:07:57

(Plot C: GSM 850MHz Channel = 251)

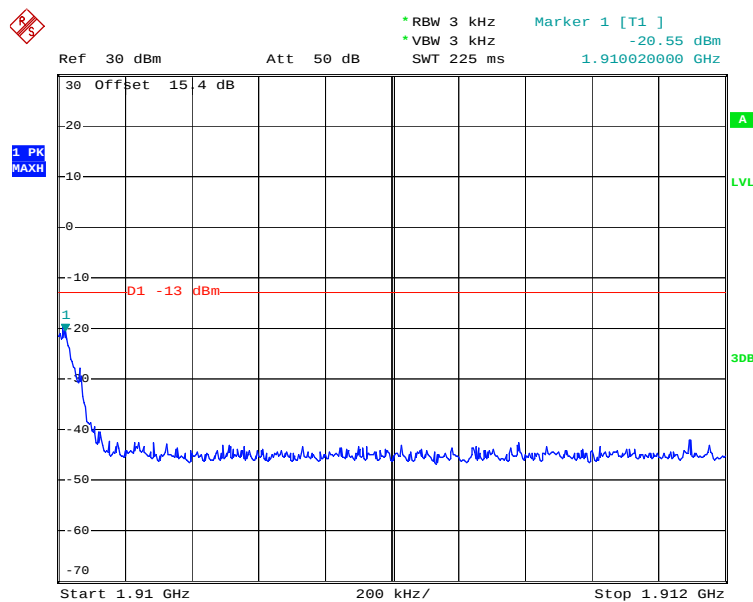
III. PCS 1900 MHz Band(GSM)

Plot of Band Edge



Date: 22.SEP.2008 05:01:28

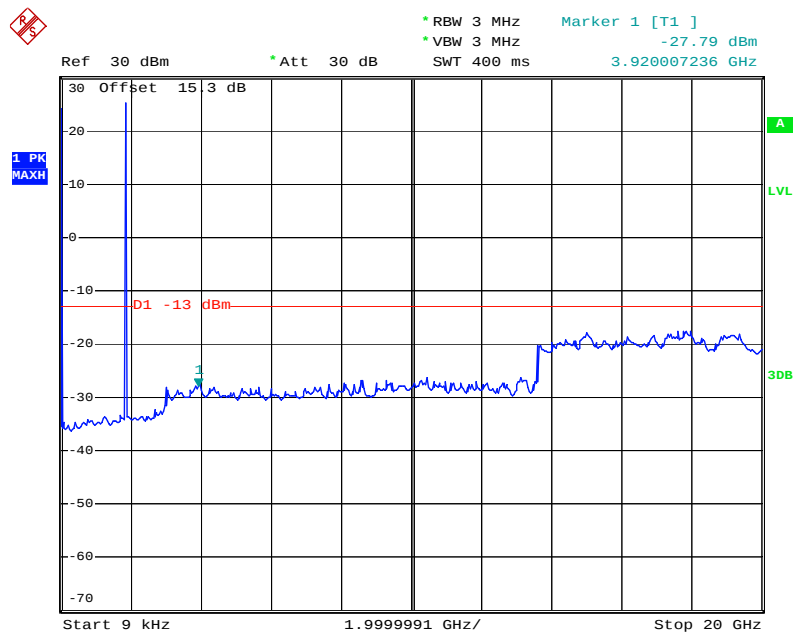
(Plot A: GSM 1900MHz Channel = 512)



Date: 22.SEP.2008 05:03:08

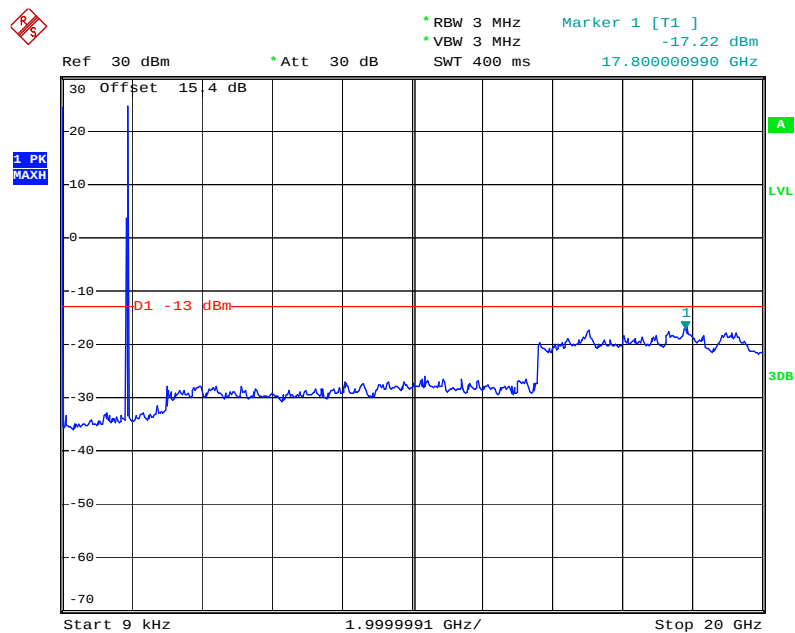
(Plot B: GSM 1900MHz Channel = 810)

Plot of Spurious Emission



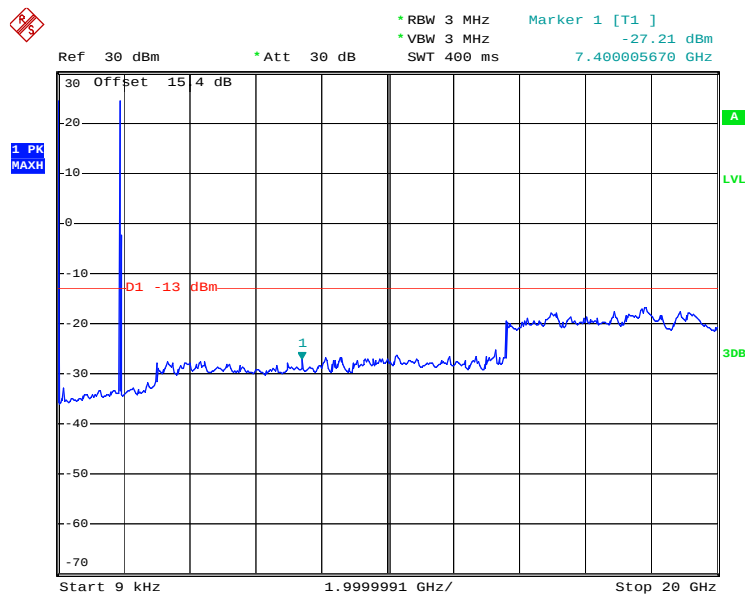
Date: 22.SEP.2008 05:13:13

(Plot D: GSM 1900MHz Channel = 512)



Date: 22.SEP.2008 05:11:38

(Plot E: GSM 1900MHz Channel = 661)

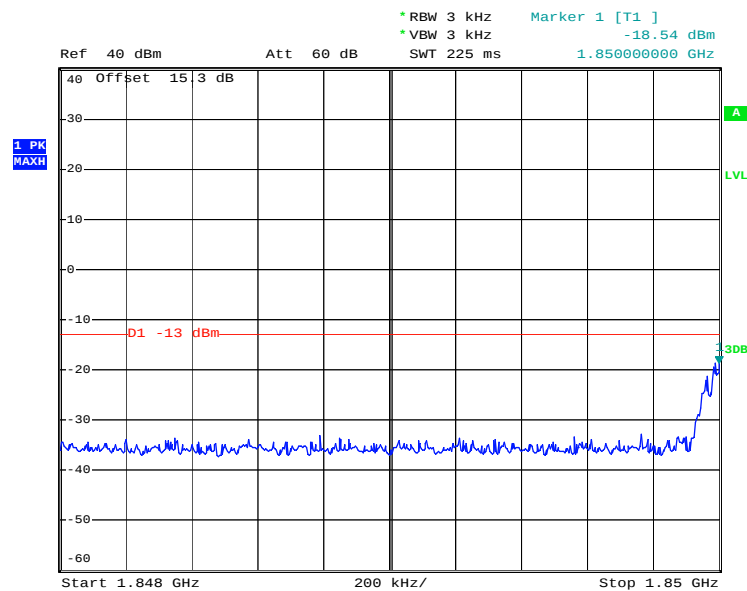


Date: 22.SEP.2008 05:08:18

(Plot F: GSM 1900MHz Channel = 810)

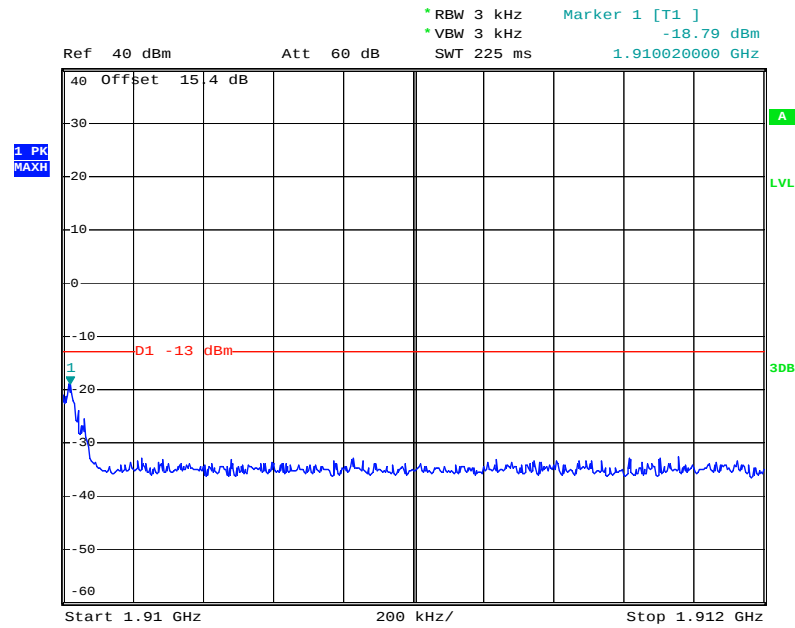
IV. PCS 1900 MHz Band(GPRS)

Plot of Band Edge



Date: 26.SEP.2008 07:37:08

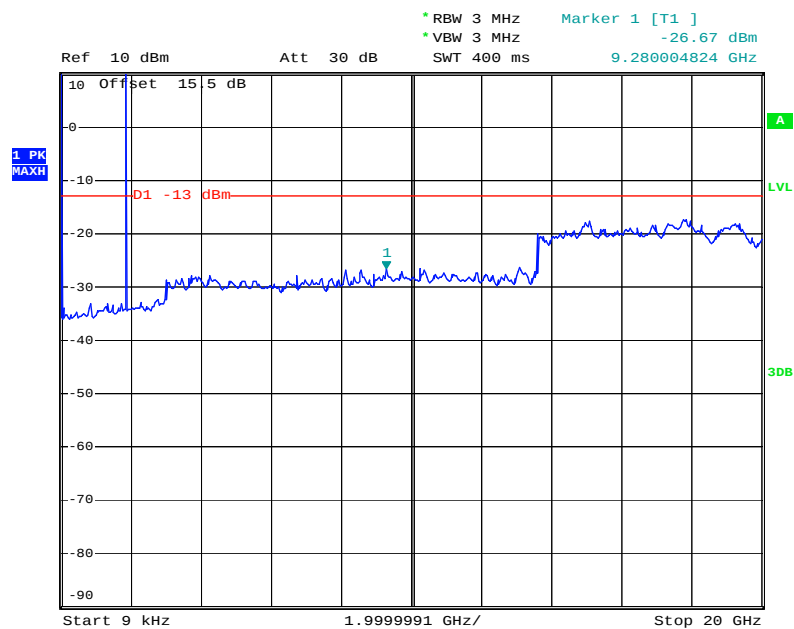
(Plot A: GSM 1900MHz Channel = 512)



Date: 26.SEP.2008 07:39:06

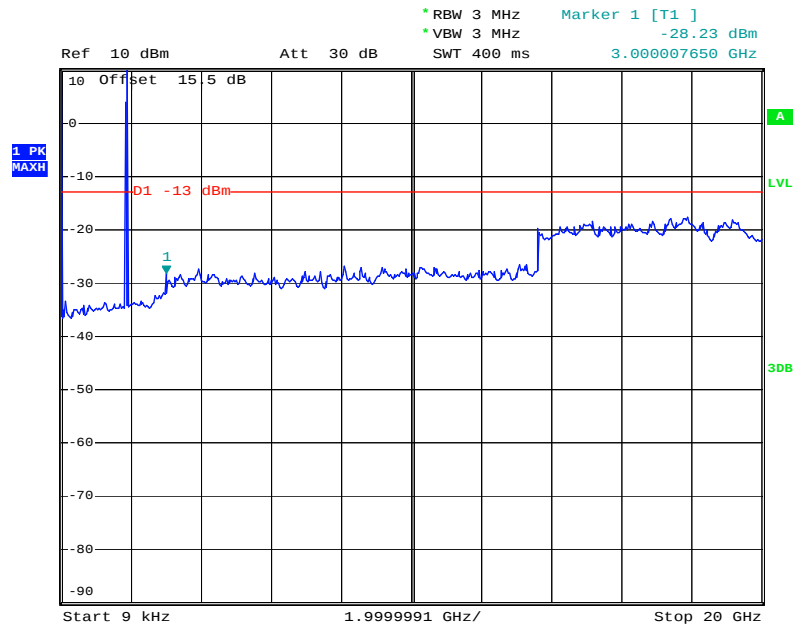
(Plot B: GSM 1900MHz Channel = 810)

Plot of Spurious Emission



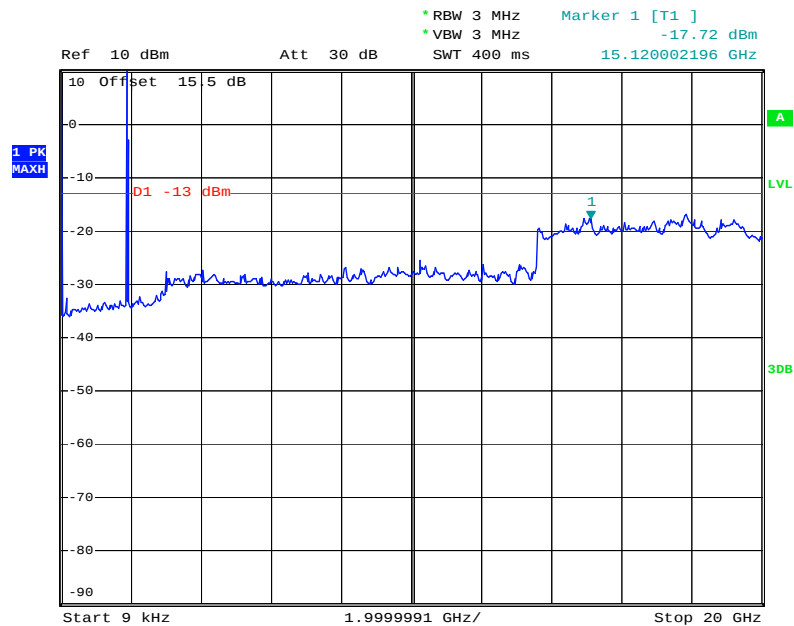
Date: 26.SEP.2008 07:46:48

(Plot D: GSM 1900MHz Channel = 512)



Date: 26.SEP.2008 07:45:37

(Plot E: GSM 1900MHz Channel = 661)



Date: 26.SEP.2008 07:44:15

(Plot F: GSM 1900MHz Channel = 810)

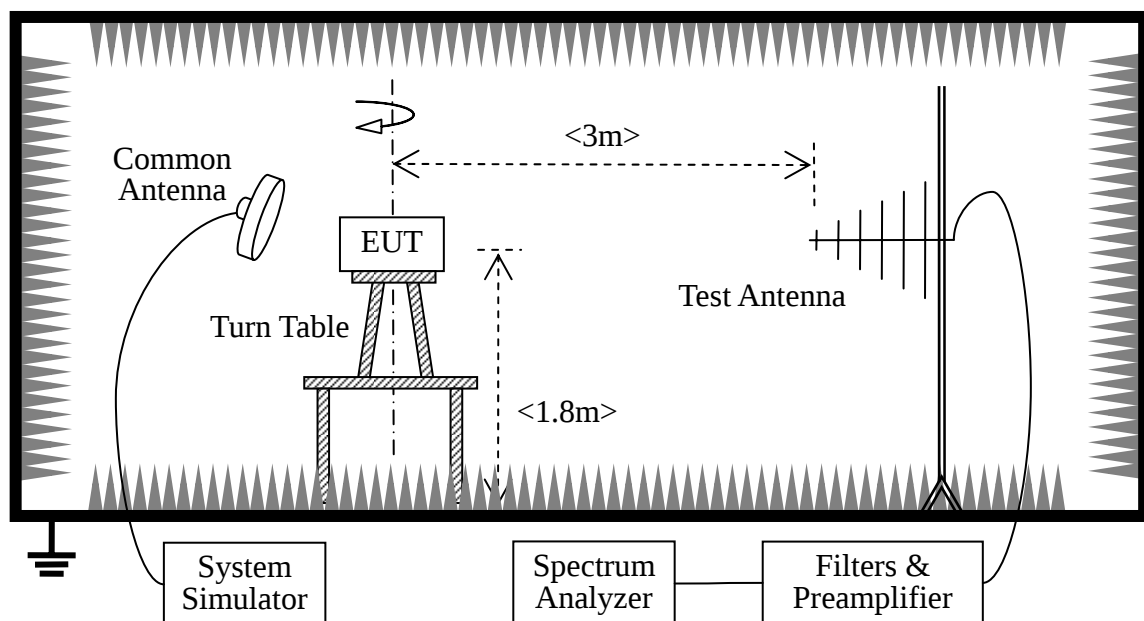
3.6 Transmitter Radiated Power (EIRP/ERP)

3.6.1 Requirement

According to FCC section 22.913, the Effective Radiated Power (ERP) of mobile transmitters and auxiliary test transmitters must not exceed 7Watts, and FCC section 24.232, the broadband PCS mobile station is limited to 2Watts e.i.r.p. peak power.

3.6.2 Test Description

1. Test Setup:



The EUT, which is powered by the Battery charged with the AC Adapter, is located in a 3m Full-Anechoic Chamber; the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. GSM850MHz band Power Control Level (PCL) = 5 and Power Class = 4 and GSM1900MHz band Power Control Level (PCL) = 0 and Power Class = 1. A call is established between the EUT and the SS via a Common Antenna.

The Test Antenna is a Bi-Log one (used for 30MHz to 1GHz) or a Horn one (used for above 3GHz), and it's located at the same height as the EUT. The Filters consists of Notch Filters and High Pass Filter.

2. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	Rohde&Schwarz	CMU200	105571	2007.11	1year
Spectrum Analyzer	Rohde&Schwarz	FSP30	101020	2007.11	1year
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2007.08	2year
Test Antenna - Bi-Log	Rohde&Schwarz	HL562	100385	2007.11	1year
Test Antenna - Horn	Rohde&Schwarz	HF906	100565	2007.11	1year

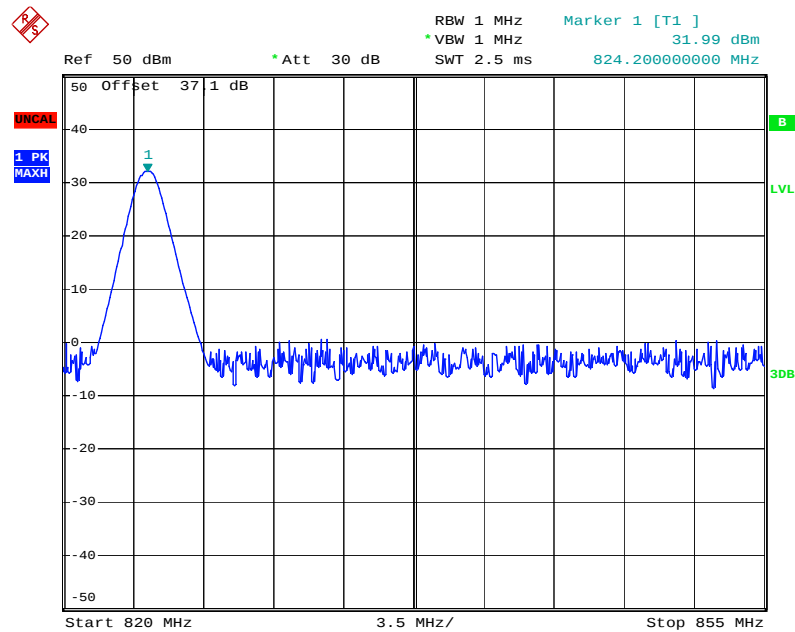
3.6.3 Test Result

The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested.

1. Test Verdict:

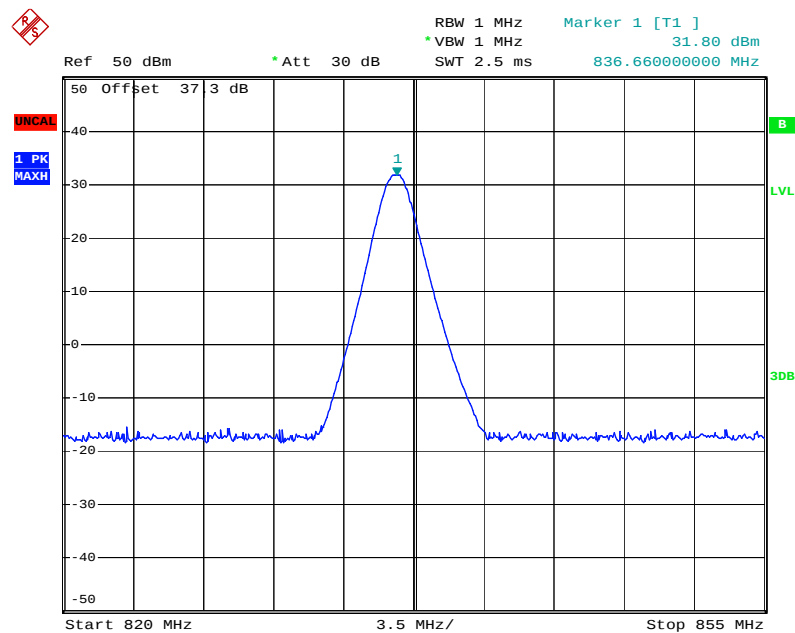
I. GSM 850MHz (GSM)

Band	Channel	Frequency (MHz)	Measured ERP			Limit		Verdict
			dBm	W	Refer to Plot	dBm	W	
GSM 850MHz	128	824.27	31.99	1.58	Plot A	38.45	7	PASS
	190	836.59	31.80	1.51	Plot B			PASS
	251	848.84	30.85	1.21	Plot C			PASS



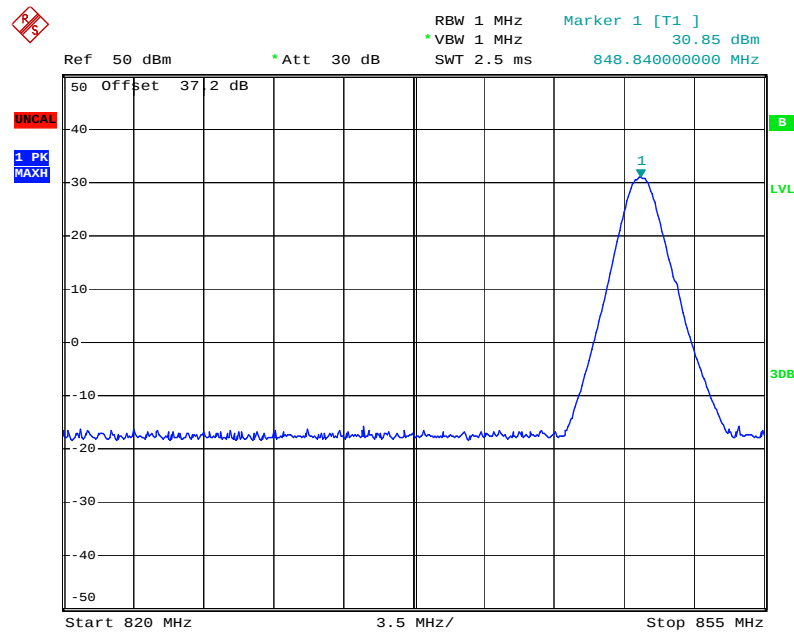
Date: 23.SEP.2008 07:23:19

(Plot A: GSM 850MHz Channel = 128)



Date: 23.SEP.2008 07:25:07

(Plot B: GSM 850MHz Channel = 190)

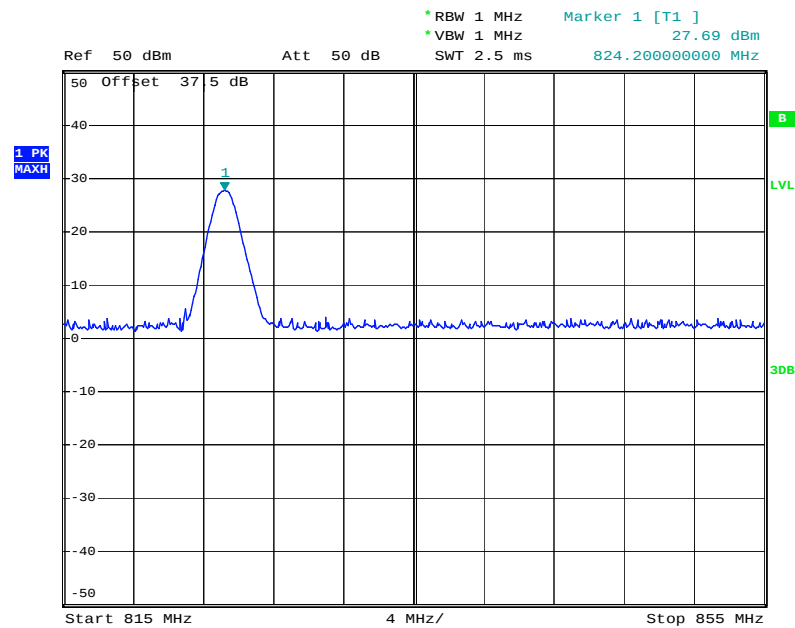


Date: 23.SEP.2008 07:26:41

(Plot C: GSM 850MHz Channel = 251)

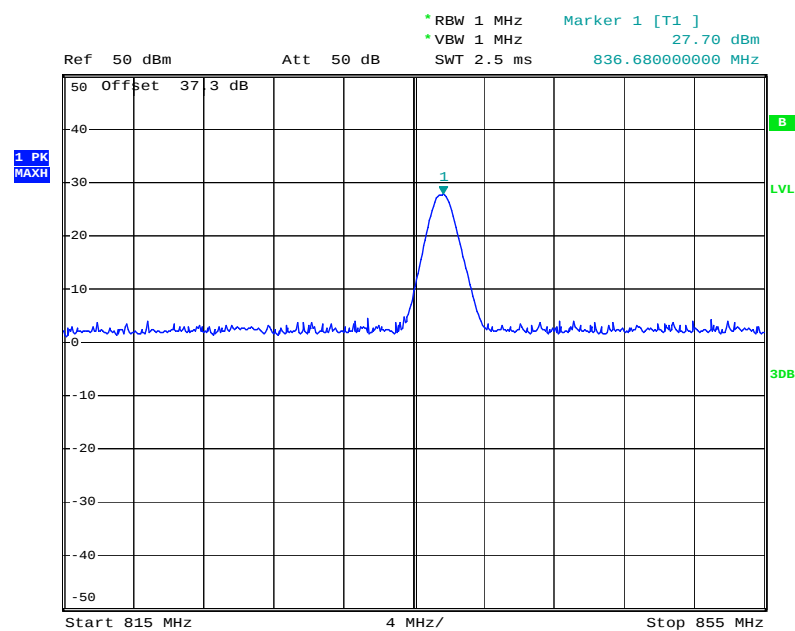
II. GSM 850 MHz(EDGE)

Band	Chann el	Frequency (MHz)	Measured ERP			Limit		Verdict
			dBm	W	Refer to Plot	dBm	W	
GSM 850MHz	128	824.12	27.69	0.58	Plot A	38.45	7	PASS
	190	836.68	27.70	0.59	Plot B			PASS
	251	848.91	29.30	0.85	Plot C			PASS



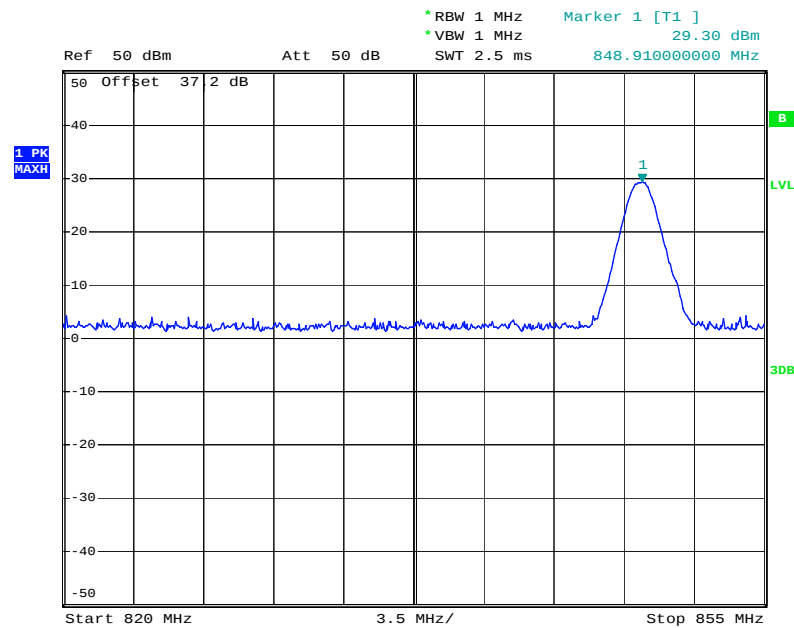
Date: 25.SEP.2008 11:14:54

(Plot A: GSM 850MHz Channel = 128)



Date: 25.SEP.2008 11:13:52

(Plot B: GSM 850MHz Channel = 190)

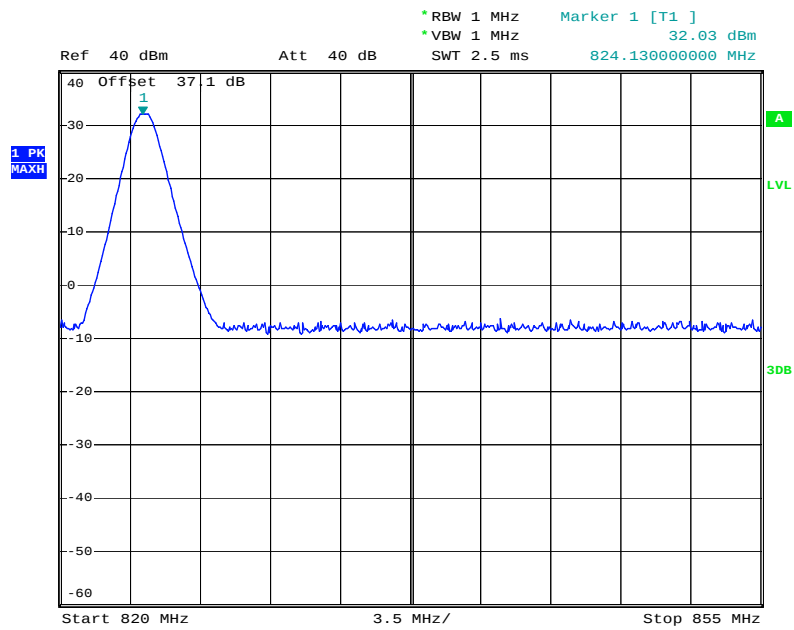


Date: 25.SEP.2008 11:12:14

(Plot C: GSM 850MHz Channel = 251)

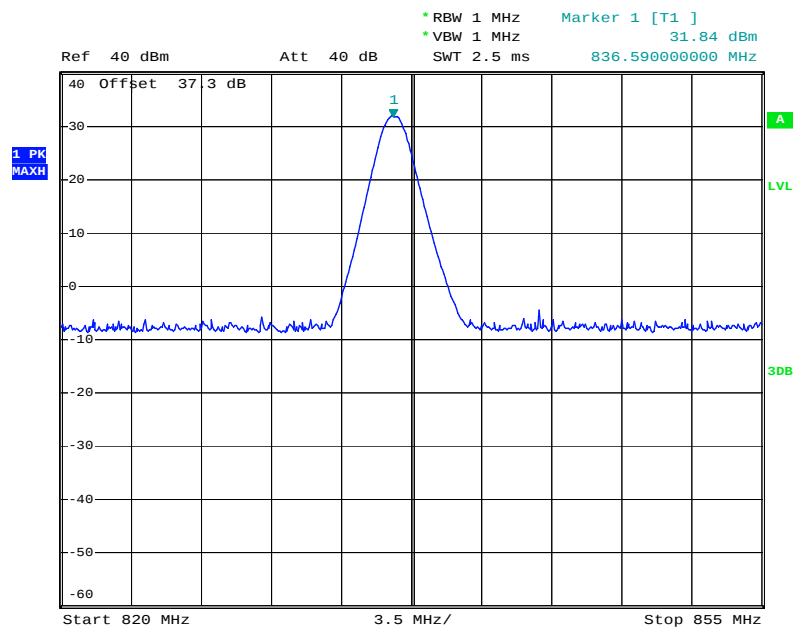
III. GSM 850 MHz(GPRS)

Band	Chann el	Frequency (MHz)	Measured ERP			Limit		Verdict
			dBm	W	Refer to Plot	dBm	W	
GSM 850MHz	128	824.12	32.03	1.59	Plot A	38.45	7	PASS
	190	836.68	31.84	1.52	Plot B			PASS
	251	848.91	30.89	1.23	Plot C			PASS



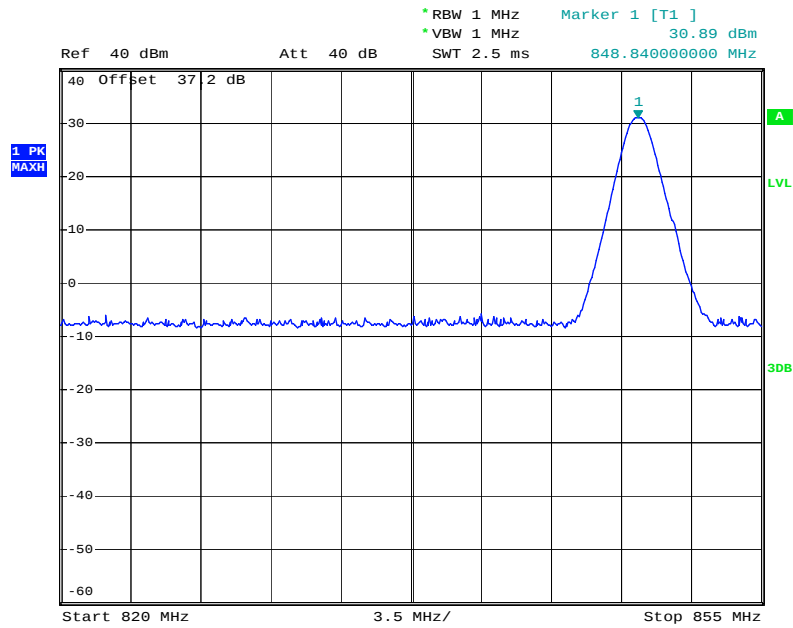
Date: 26.SEP.2008 09:16:45

(Plot A: GSM 850MHz Channel = 128)



Date: 26.SEP.2008 09:16:03

(Plot B: GSM 850MHz Channel = 190)

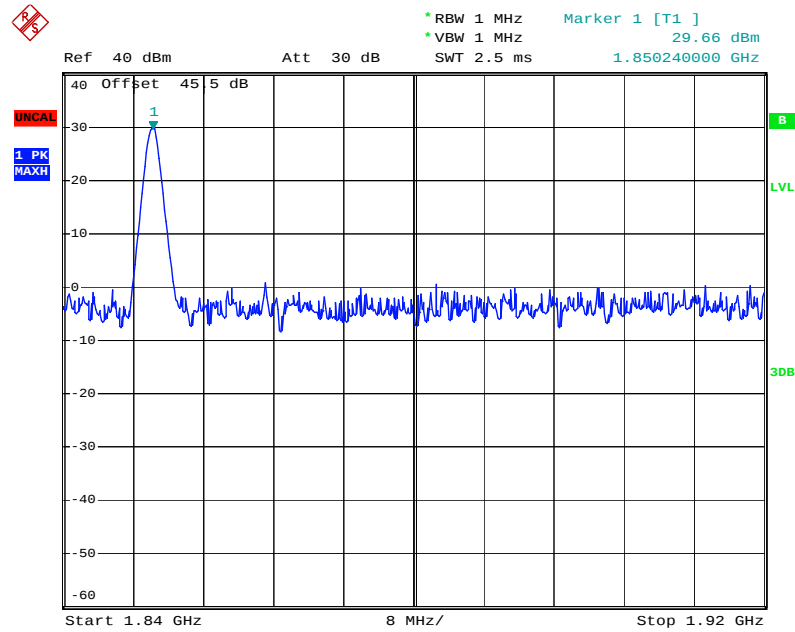


Date: 26.SEP.2008 09:15:12

(Plot C: GSM 850MHz Channel = 251)

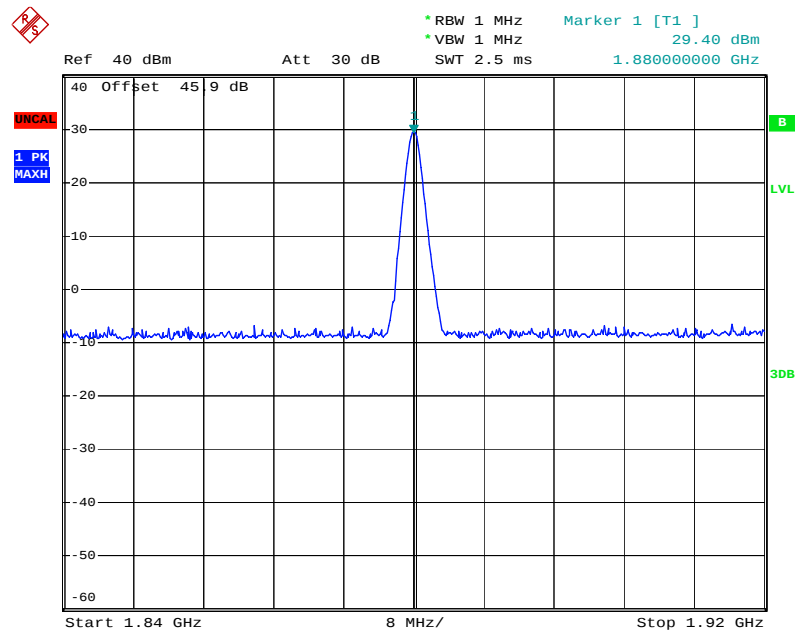
IV. PCS 1900MHz Band (GSM)

Band	Channel	Frequency (MHz)	Measured ERP			Limit		Verdict
			dBm	W	Refer to Plot	dBm	W	
GSM 1900MHz	512	1850.2	29.66	0.92	Plot D	33	2	PASS
	661	1869.9	29.40	0.87	Plot E			PASS
	810	1909.9	29.55	0.90	Plot F			PASS



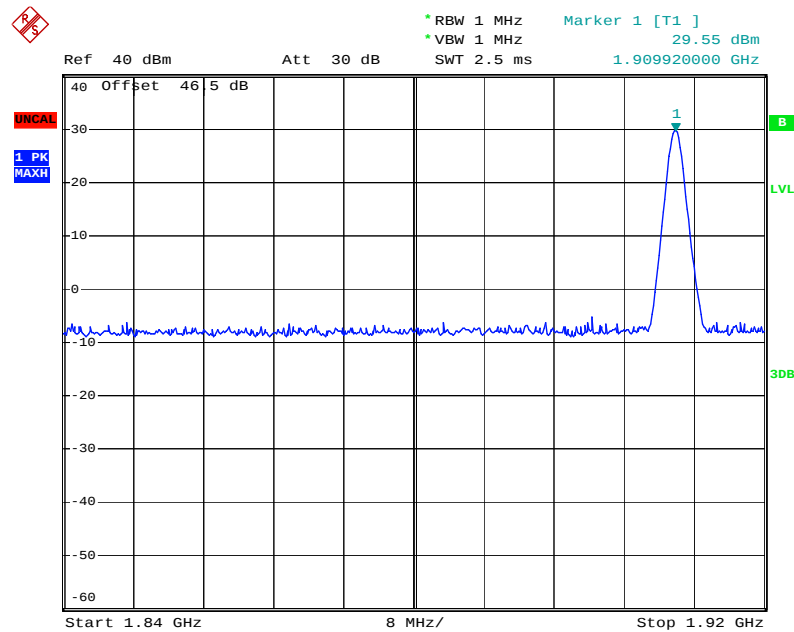
Date: 23.SEP.2008 07:44:51

(Plot D: GSM 1900MHz Channel = 512)



Date: 23.SEP.2008 07:46:34

(Plot E: GSM 1900MHz Channel = 661)

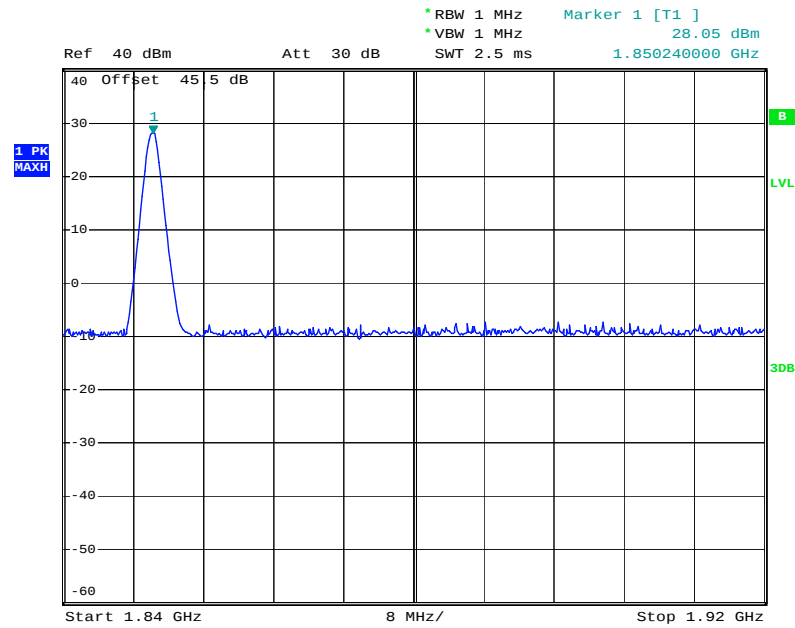


Date: 23.SEP.2008 07:48:08

(Plot F: GSM 1900MHz Channel = 810)

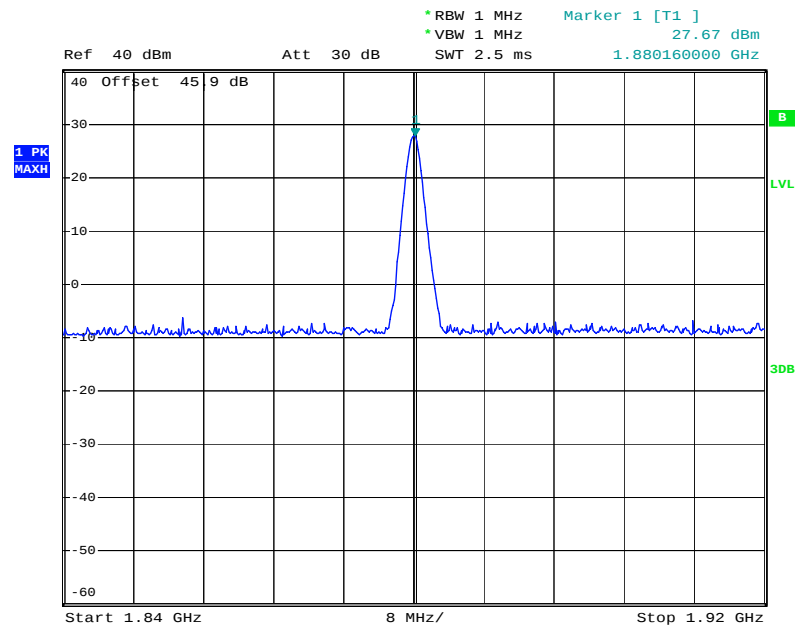
V. PCS 1900MHz Band (EDGE)

Band	Channel	Frequency (MHz)	Measured ERP			Limit		Verdict
			dBm	W	Refer to Plot	dBm	W	
GSM 1900MHz	512	1850.2	28.05	0.64	Plot D	33	2	PASS
	661	1880.0	27.67	0.58	Plot E			PASS
	810	1909.9	27.71	0.59	Plot F			PASS



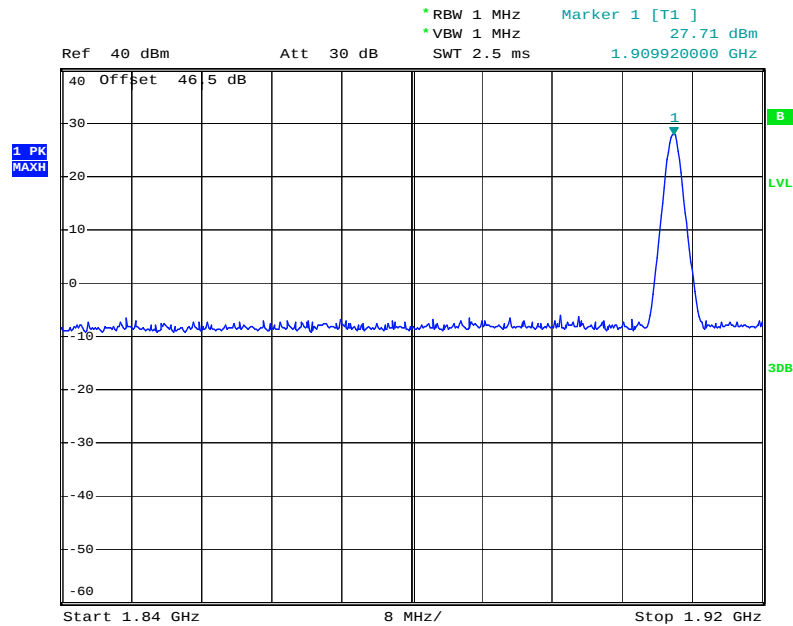
Date: 25.SEP.2008 11:06:43

(Plot D: GSM 1900MHz Channel = 512)



Date: 25.SEP.2008 11:08:01

(Plot E: GSM 1900MHz Channel = 661)

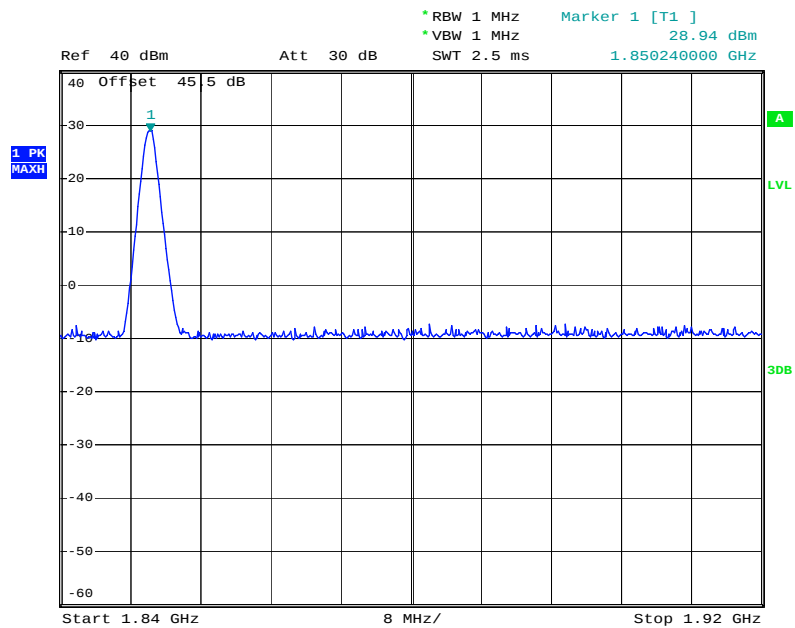


Date: 25.SEP.2008 11:10:04

(Plot F: GSM 1900MHz Channel = 810)

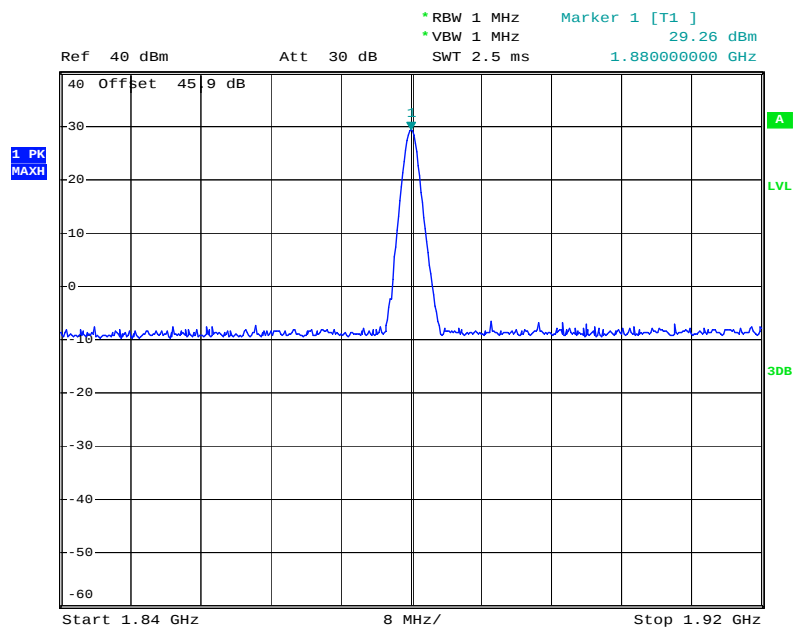
VI. PCS 1900MHz Band (GPRS)

Band	Channel	Frequency (MHz)	Measured ERP			Limit		Verdict
			dBm	W	Refer to Plot	dBm	W	
GSM 1900MHz	512	1850.2	28.94	0.78	Plot D	33	2	PASS
	661	1880.0	29.26	0.84	Plot E			PASS
	810	1909.9	22.85	0.19	Plot F			PASS



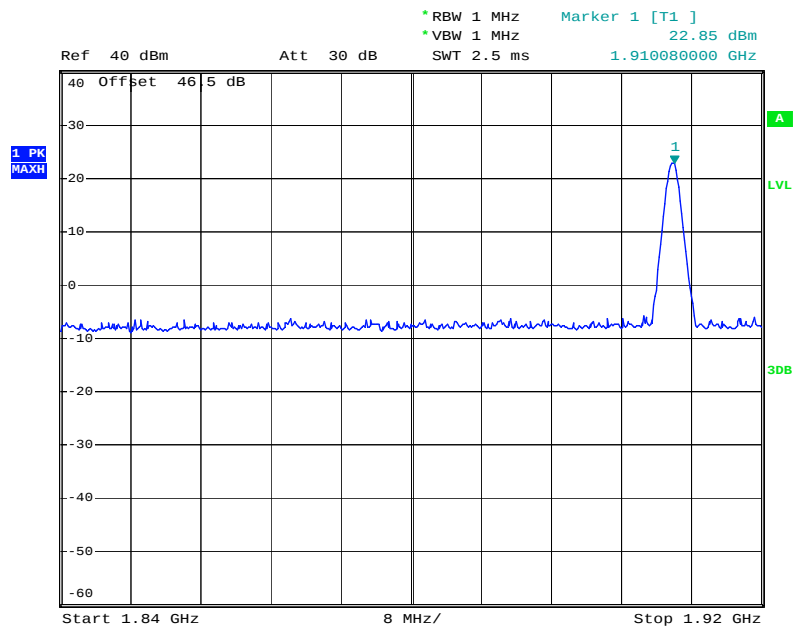
Date: 26.SEP.2008 09:22:25

(Plot D: GSM 1900MHz Channel = 512)



Date: 26.SEP.2008 09:21:25

(Plot E: GSM 1900MHz Channel = 661)



Date: 26.SEP.2008 09:02:35

(Plot F: GSM 1900MHz Channel = 810)

3.7 Radiated Spurious Emissions Test

3.7.1 Requirement

According to FCC section 22.917(a) and section 24.238(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43+10*\log(P)$ dB. This calculated to be -13dBm.

3.7.2 Test Description

See section 3.6.2 of this report.

3.7.3 Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested to verify the out of band emissions.

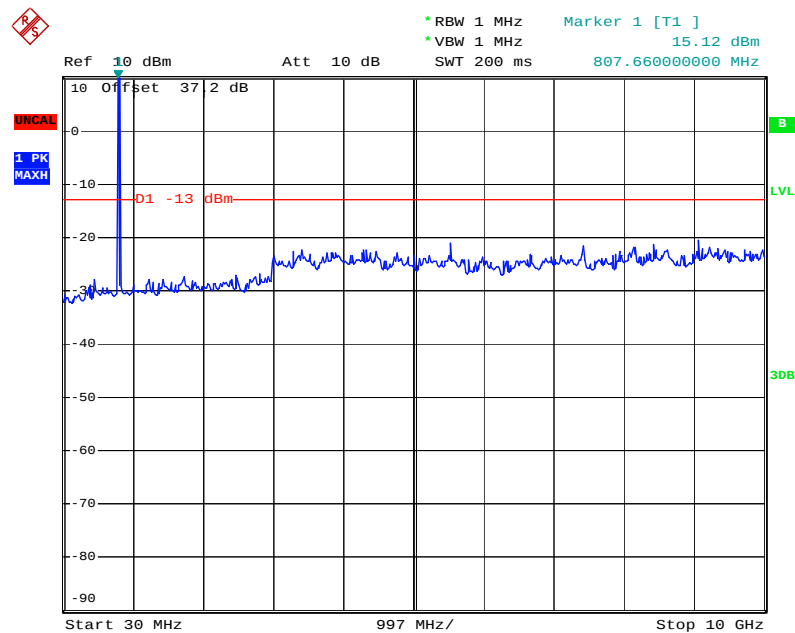
1. Test Verdict:

Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)		Refer to Plot	Limit (dBm)	Verdict
			Test Antenna Horizontal	Test Antenna Vertical			
GSM850 MHz(GSM)	128	824.2	< -20	< -20	Plot A.1/A.2	-13	PASS
	190	836.6	< -20	< -20	Plot B.1/B.2		PASS
	251	848.8	< -20	< -20	Plot C.1/C.2		PASS
GSM1900MHz(GSM)	512	1850.2	< -20	< -20	Plot D.1/D.2	-13	PASS
	661	1880.0	< -20	< -20	Plot E.1/E.2		PASS
	810	1909.8	< -20	< -20	Plot F.1/F.2		PASS
GSM850 MHz(GPRS)	128	824.2	< -30	< -30	Plot A.1/A.2	-13	PASS
	190	836.6	< -30	< -30	Plot B.1/B.2		PASS
	251	848.8	< -30	< -30	Plot C.1/C.2		PASS
GSM1900MHz(GPRS)	512	1850.2	< -20	< -20	Plot D.1/D.2	-13	PASS
	661	1880.0	< -20	< -20	Plot E.1/E.2		PASS
	810	1909.8	< -20	< -20	Plot F.1/F.2		PASS

2. Test Plot for the Whole Measurement Frequency Range:

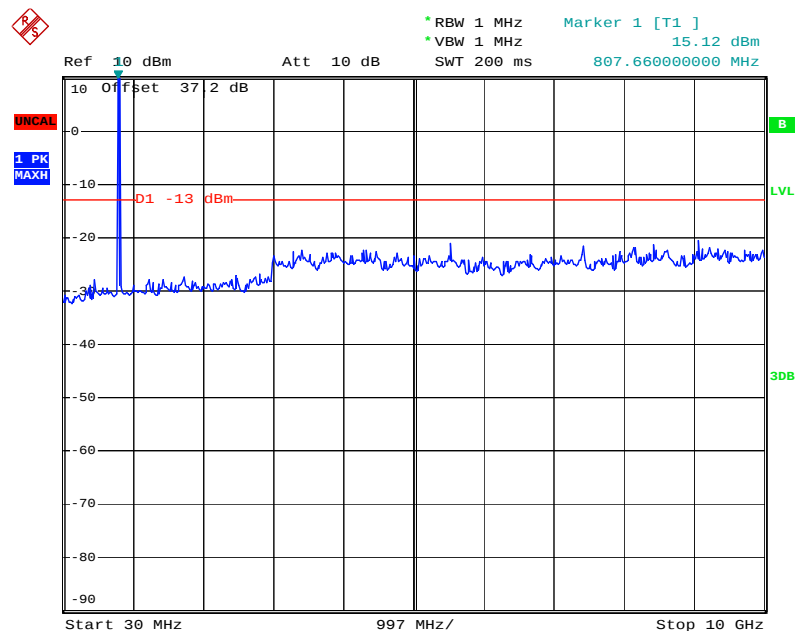
Note: the power of the EUT transmitting frequency should be ignored.

I .GSM 850MHz Band (GSM)



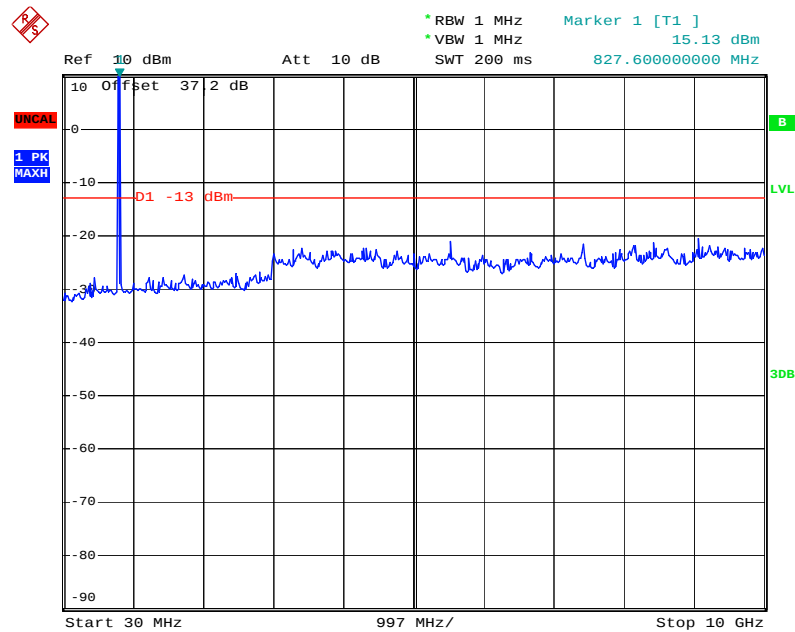
Date: 23.SEP.2008 07:57:18

(Plot A.1: GSM 850MHz Channel = 128, Test Antenna Horizontal)



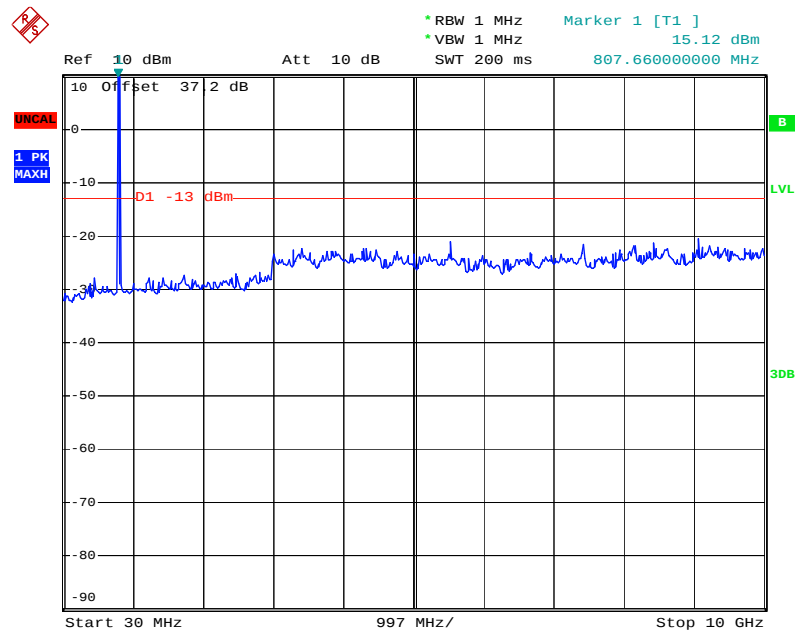
Date: 23.SEP.2008 07:59:05

(Plot A.2: GSM 850MHz Channel = 128, Test Antenna Vertical)



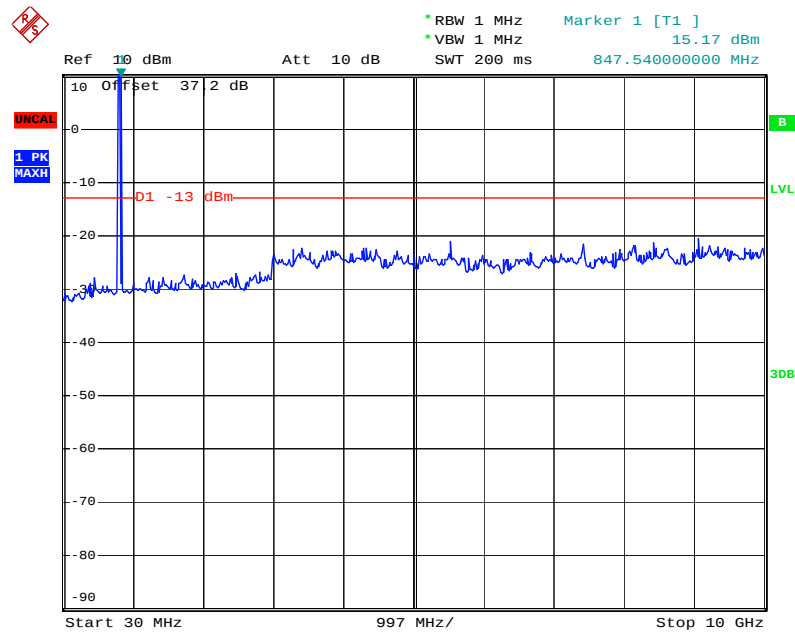
Date: 23.SEP.2008 08:03:00

(Plot B.1: GSM 850MHz Channel = 190, Test Antenna Horizontal)



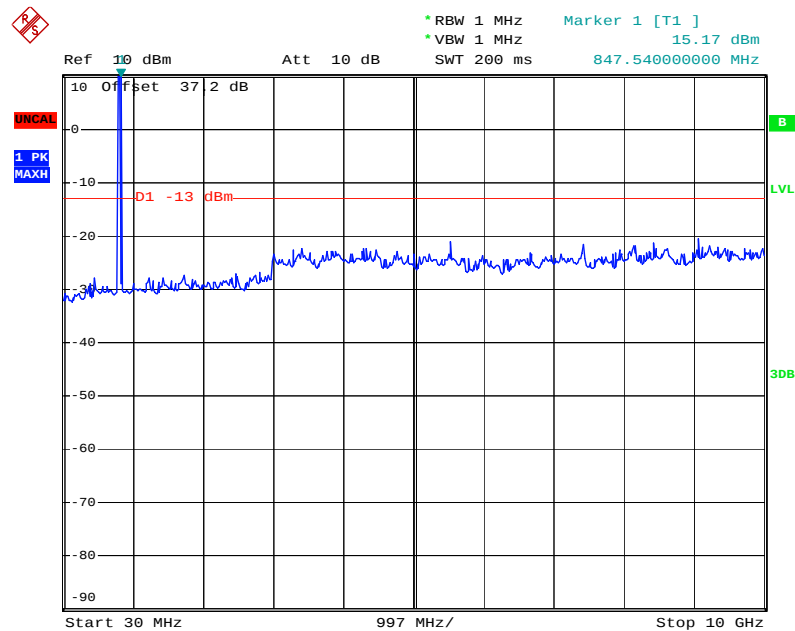
Date: 23.SEP.2008 08:00:59

(Plot B.2: GSM 850MHz Channel = 190, Test Antenna Vertical)



Date: 23.SEP.2008 08:04:55

(Plot C.1: GSM 850MHz Channel = 251, Test Antenna Horizontal)

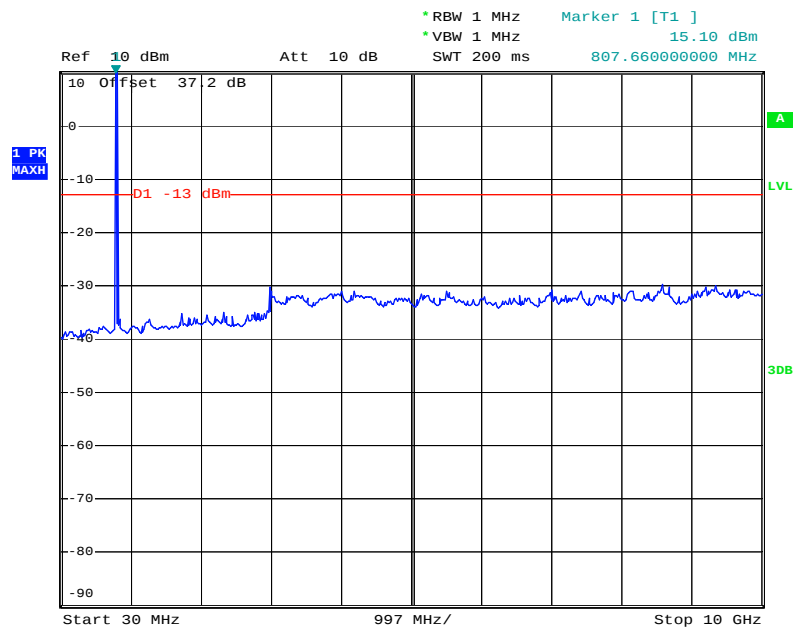


Date: 23.SEP.2008 08:06:51

(Plot C.2: GSM 850MHz Channel = 251, Test Antenna Vertical)

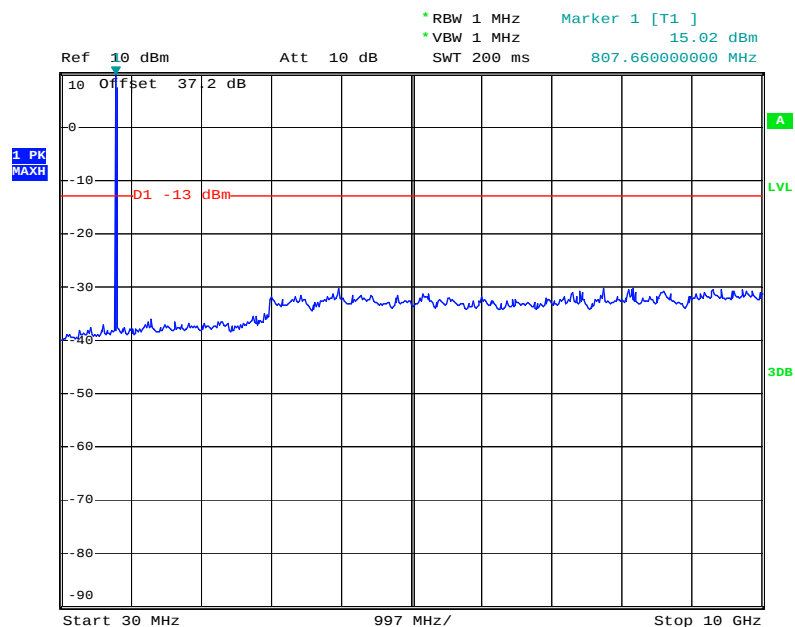
]

II. GSM 850MHz Band (GPRS)



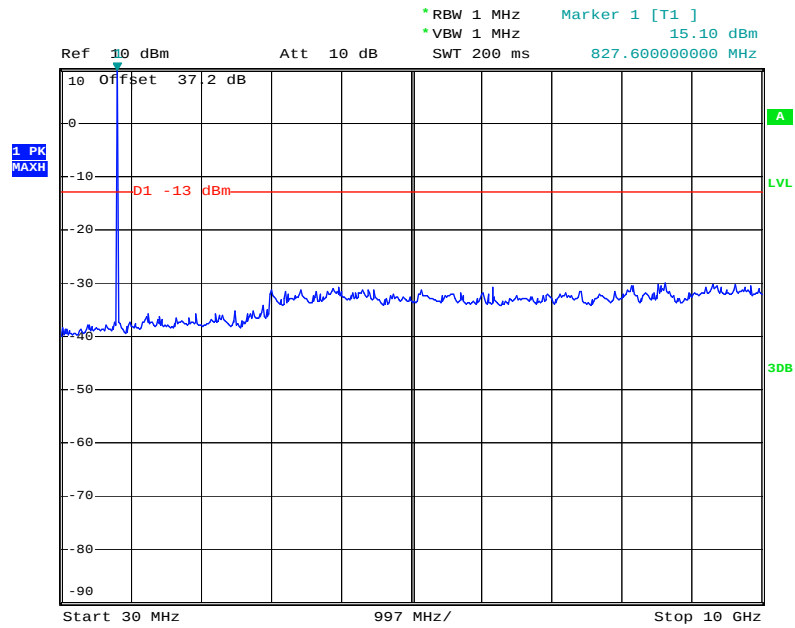
Date: 26.SEP.2008 08:33:25

(Plot A.1: GSM 850MHz Channel = 128, Test Antenna Horizontal)



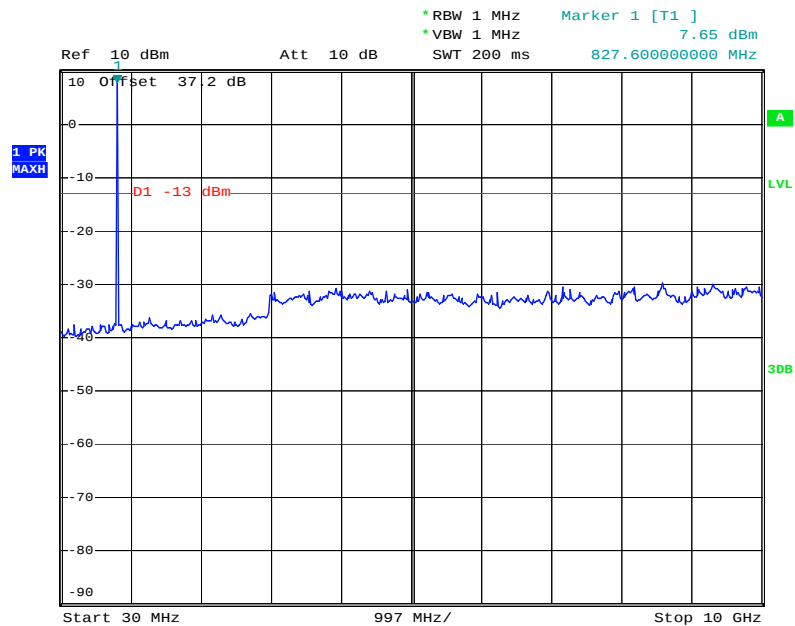
Date: 26.SEP.2008 08:34:22

(Plot A.2: GSM 850MHz Channel = 128, Test Antenna Vertical)



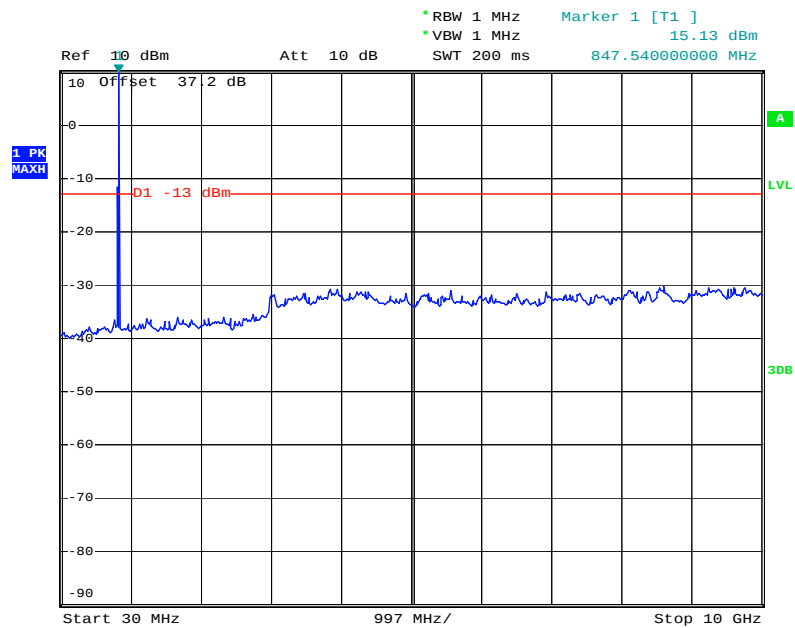
Date: 26.SEP.2008 08:36:32

(Plot B.1: GSM 850MHz Channel = 190, Test Antenna Horizontal)



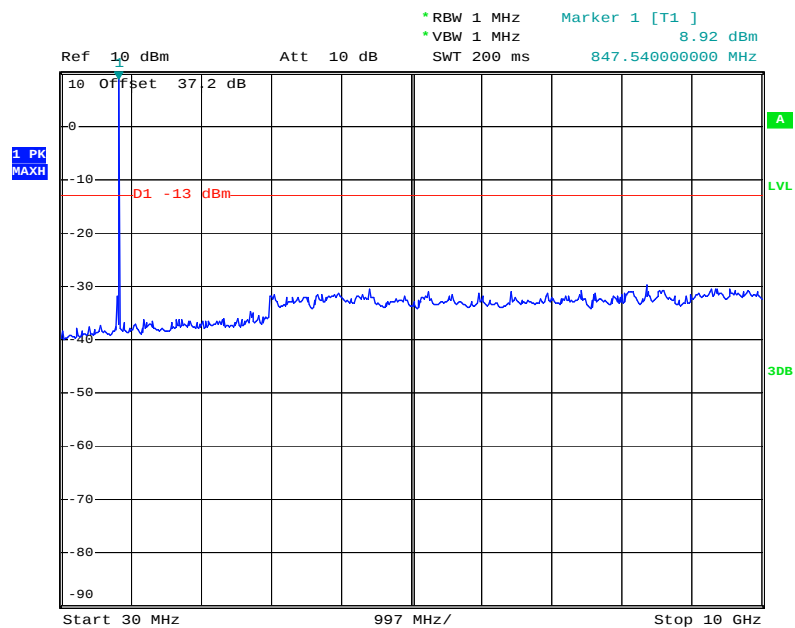
Date: 26.SEP.2008 08:35:47

(Plot B.2: GSM 850MHz Channel = 190, Test Antenna Vertical)



Date: 26.SEP.2008 08:37:48

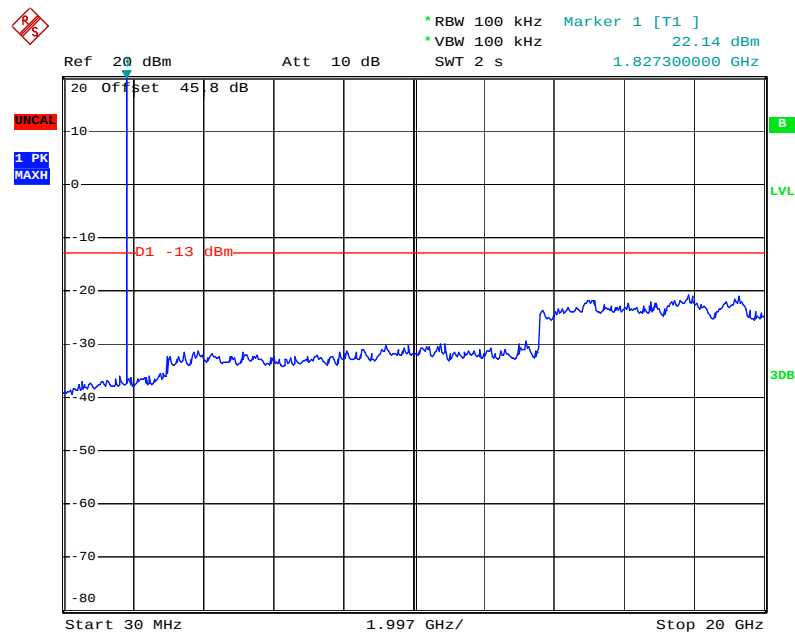
(Plot C.1: GSM 850MHz Channel = 251, Test Antenna Horizontal)



Date: 26.SEP.2008 08:38:51

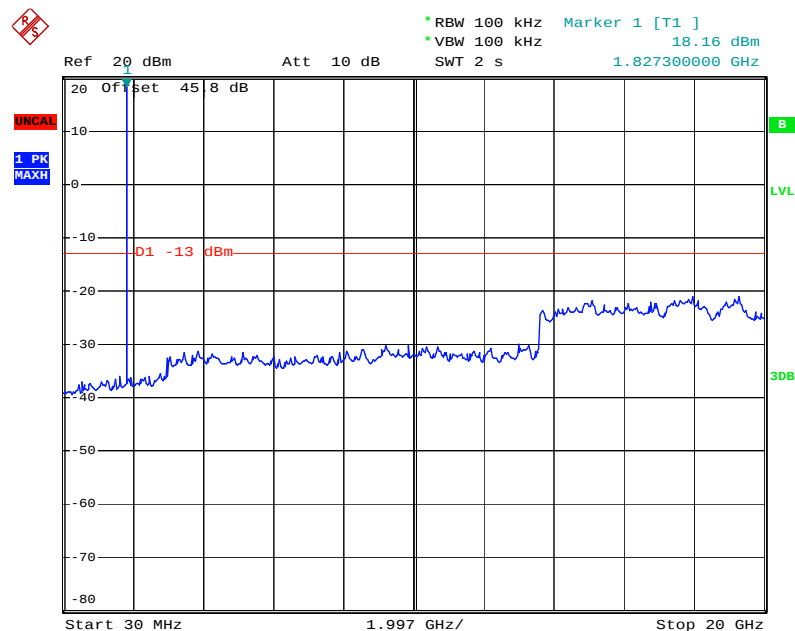
(Plot C.2: GSM 850MHz Channel = 251, Test Antenna Vertical)

III. PCS 1900MHz Band (GSM)



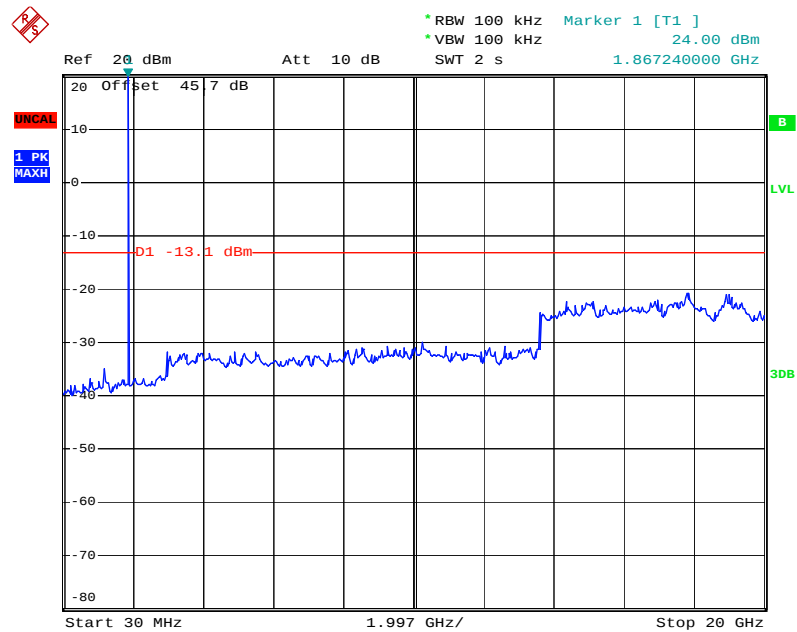
Date: 23.SEP.2008 08:11:48

(Plot D.1: GSM 1900MHz Channel = 512, Test Antenna Horizontal)



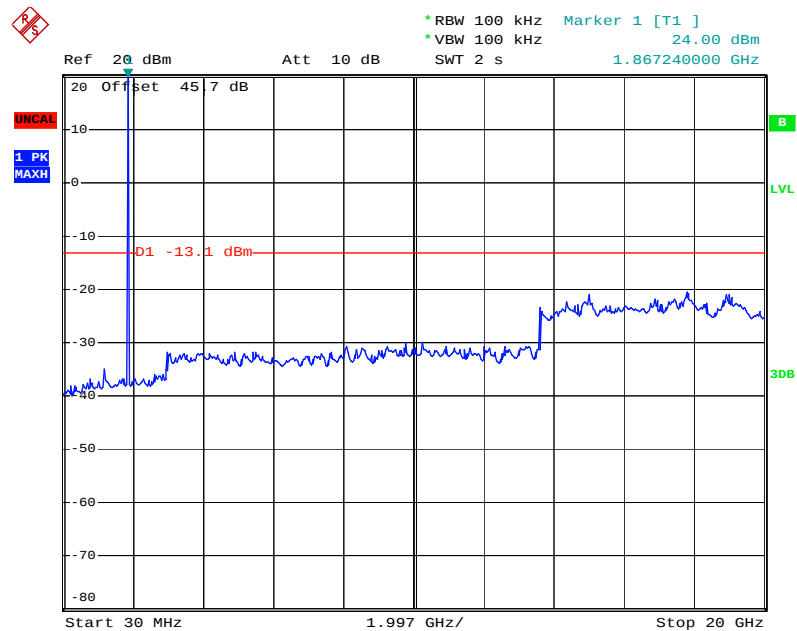
Date: 23.SEP.2008 08:10:19

(Plot D.2: GSM 1900MHz Channel = 512, Test Antenna Vertical)



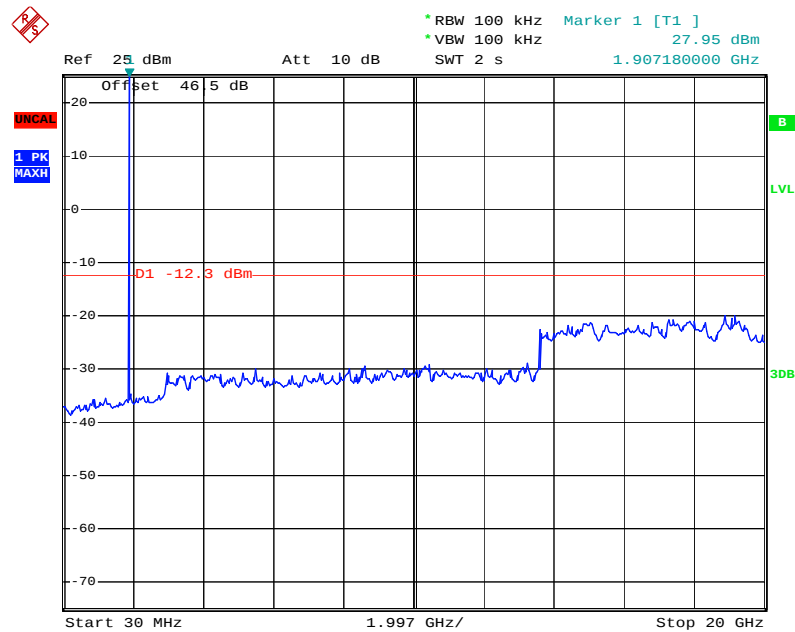
Date: 23.SEP.2008 08:13:24

(Plot E.1: GSM 1900MHz Channel = 661, Test Antenna Horizontal)



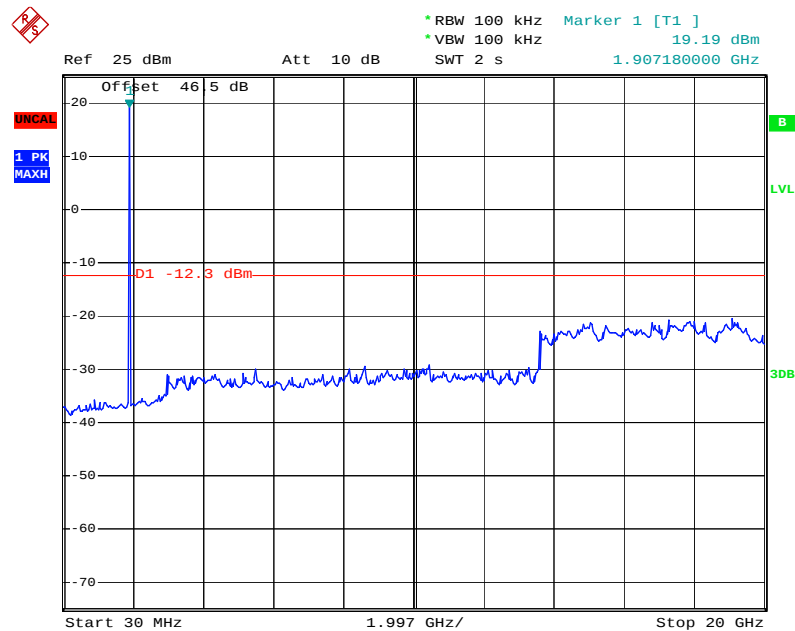
Date: 23.SEP.2008 08:14:45

(Plot E.2: GSM 1900MHz Channel = 661, Test Antenna Vertical)



Date: 23.SEP.2008 08:18:20

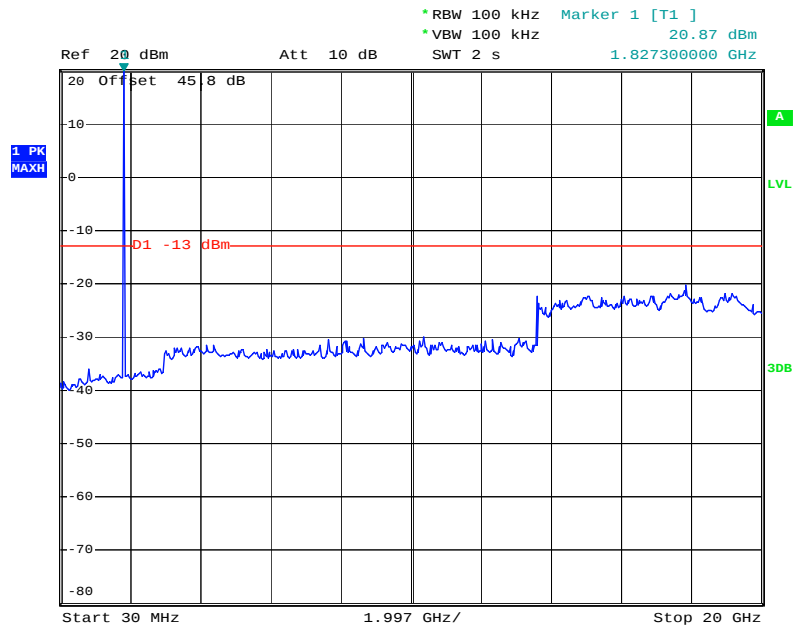
(Plot F.1: GSM 1900MHz Channel = 810, Test Antenna Horizontal)



Date: 23.SEP.2008 08:17:07

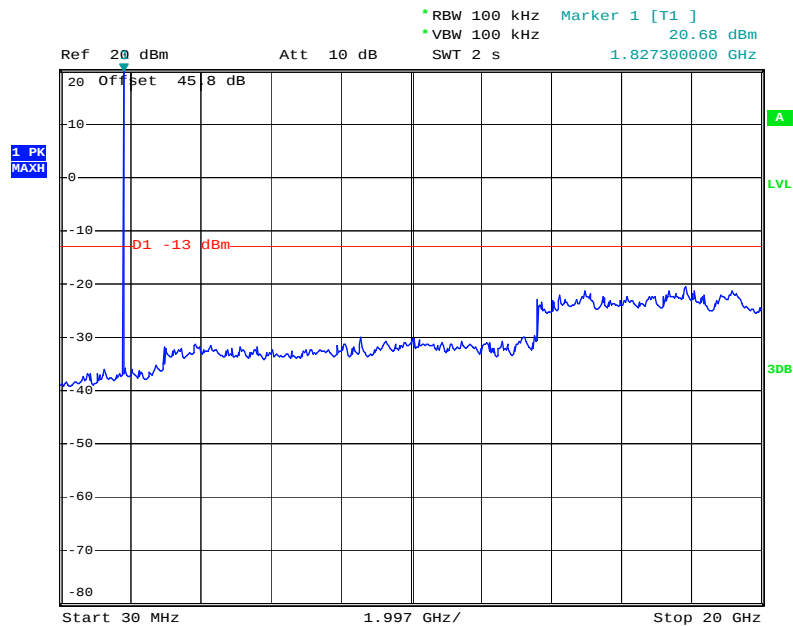
(Plot F.2: GSM 1900MHz Channel = 810, Test Antenna Vertical)

IV. PCS 1900MHz Band (GPRS)



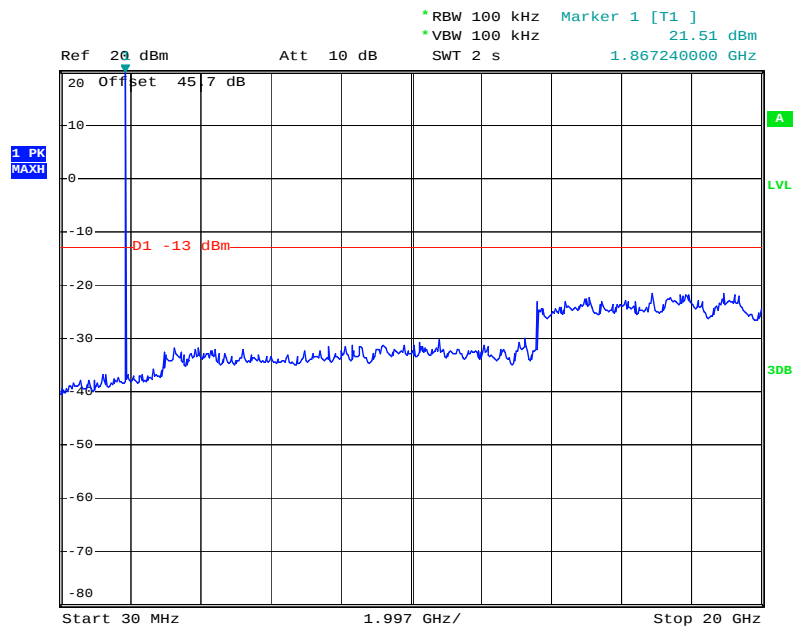
Date: 26.SEP.2008 08:42:43

(Plot D.1: GSM 1900MHz Channel = 512, Test Antenna Horizontal)



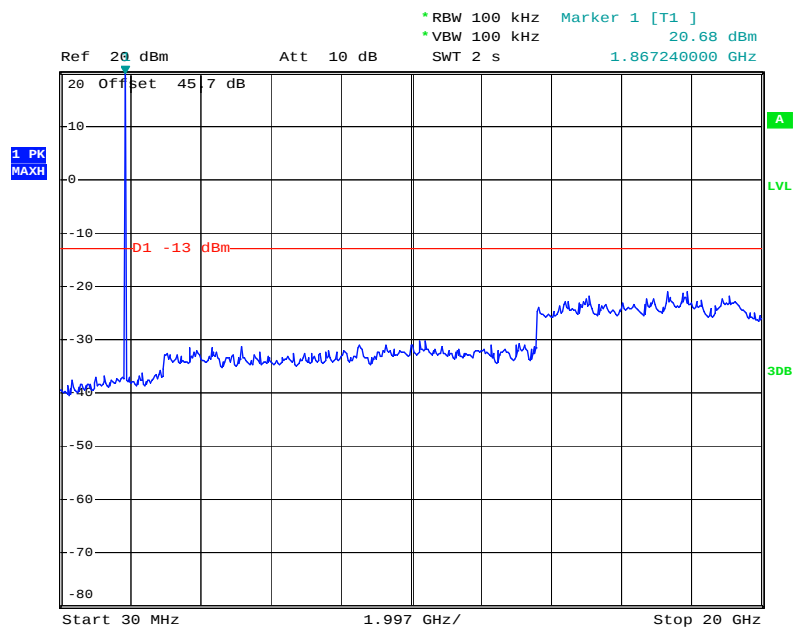
Date: 26.SEP.2008 08:46:28

(Plot D.2: GSM 1900MHz Channel = 512, Test Antenna Vertical)



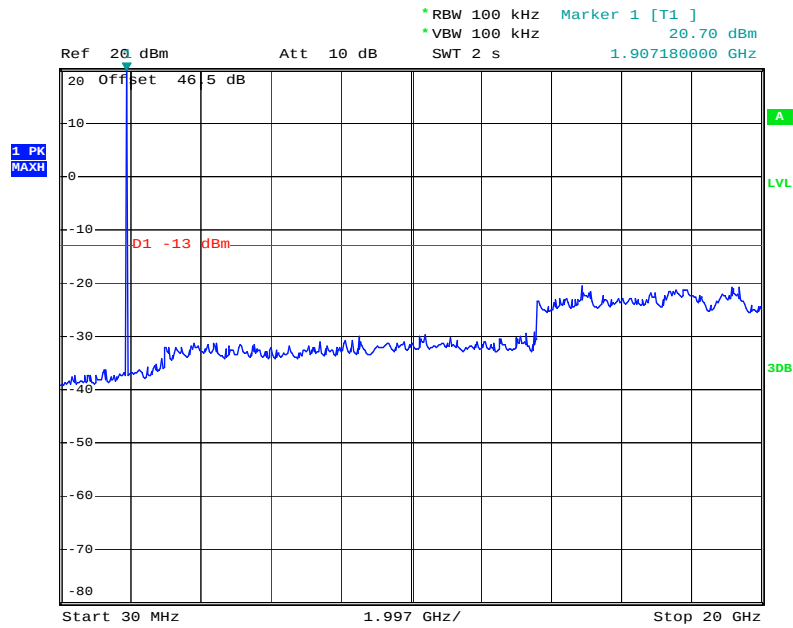
Date: 26.SEP.2008 08:48:37

(Plot E.1: GSM 1900MHz Channel = 661, Test Antenna Horizontal)



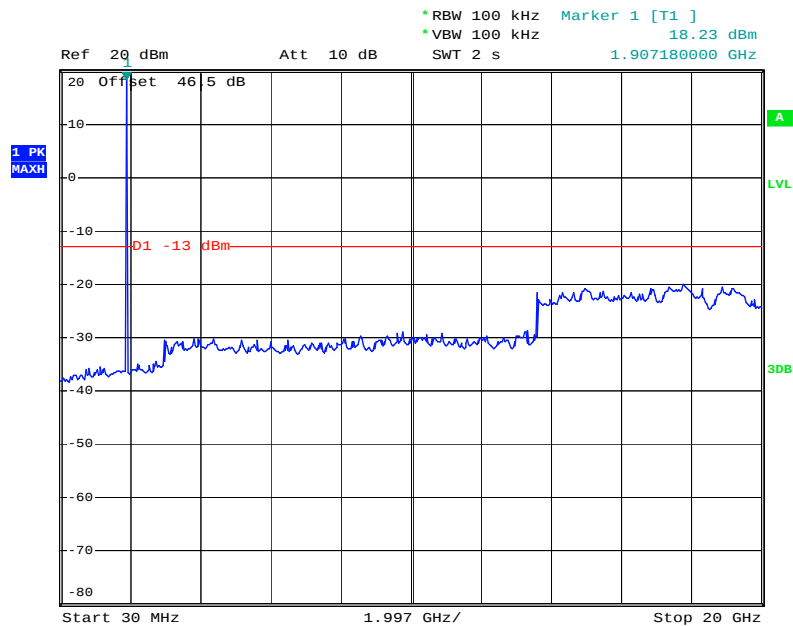
Date: 26.SEP.2008 08:47:49

(Plot E.2: GSM 1900MHz Channel = 661, Test Antenna Vertical)



Date: 26.SEP.2008 08:49:41

(Plot F.1: GSM 1900MHz Channel = 810, Test Antenna Horizontal)



Date: 26.SEP.2008 08:59:59

(Plot F.2: GSM 1900MHz Channel = 810, Test Antenna Vertical)

END OF REPORT **