



FCC Test Report

According to

47 CFR Part 22H, 24E

Equipment : EDA (Enterprise Digital Assistant)
Trade Name : Symbol
Model No. : MC5574
FCC ID : H9PMC5574
Tx Frequency Range : GSM850 : 824.2 ~ 848.8MHz
GSM1900 : 1850.2 ~1909.8 MHz
Max. ERP/EIRP Power : GSM850(GSM) : 0.51 W
GSM850(EDGE) : 0.16 W
GSM1900(GSM) : 1.98 W
GSM1900(EDGE) : 0.79 W
Emission Designator : GSM : 300KGXW
EDGE : 300KG7W
Applicant : Symbol Technologies Inc
One Symbol Plaza Holtsville, NY 11742 -1300 United States

- 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.**
- The data shown in this test report were carried out on Apr. 10, 2008 at **Sporton International Inc. LAB.**
- Report No.: FG840317, Report Version: Rev. 01.

Roy Wu
Manager

SPORTON International Inc.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.



Table of Contents

History of This Test Report ii

1. General Information 1

1.1 Applicant..... 1

1.2 Manufacturer 1

1.3 Basic Description of Equipment under Test..... 1

1.4 Feature of Equipment under Test..... 2

1.5 Report Date 2

2. Test Configuration of Equipment under Test 3

2.1 Test Manner 3

2.2 Test Mode 3

2.3 Connection Diagram of Test System 4

2.4 Ancillary Equipment List 4

3. General Information of Test Site..... 5

3.1 Test Voltage 5

3.2 Test Compliance..... 5

3.3 Frequency Range 5

3.4 Test Distance..... 5

4. Test Data and Test Result 6

4.1 List of Measurements and Examinations 6

4.2 RF Output Power 7

4.3 ERP / EIRP Measurement 8

4.4 Occupied Bandwidth and Band Edge Measurement 12

4.5 Conducted Emission..... 45

4.6 Field Strength of Spurious Radiation 64

4.7 Frequency Stability (Temperature Variation) 89

4.8 Frequency Stability (Voltage Variation) 92

5. List of Measurement Equipments 94

6. Uncertainty Evaluation 95

Appendix A - External Photographs of EUT

Appendix B - Internal Photographs of EUT

Appendix C - Setup Photographs



1. General Information

1.1 Applicant

Symbol Technologies Inc
 One Symbol Plaza Holtsville, NY 11742 -1300 United States

1.2 Manufacturer

ASKEY COMPUYER CORP
 10F, No. 119, CHIENKANG RD., CHUNG-HO, TAIPEI, TAIWAN, 235, R.O.C

1.3 Basic Description of Equipment under Test

| | | |
|--------------------------------|---------------------------|---|
| Equipment | | EDA (Enterprise Digital Assistant) |
| Trade Name | | Symbol |
| Model Name | | MC5574 |
| FCC ID | | H9PMC5574 |
| Sample A | | 1D scanner without camera |
| Sample B | | 2D scanner without camera |
| Sample C | | 1D scanner with camera |
| Sample D | | 2D scanner with camera |
| AC Adapter | Brand Name | DELTA |
| | Model Name | ADP-16GB |
| | Power Rating | I/P: 100-240Vac, 50-60Hz, 0.4A; O/P: 5.4Vdc, 3A |
| | AC Power Cord Type | AC: 1.8 meter non-shielded cable with ferrite core DC: 1.8 meter non-shielded cable without ferrite core |
| Battery | Brand Name | MOTOROLA |
| | Part Number | 82-107172-01 Rev A |
| | Power Rating | 3.7Vdc, 2400mAh |
| | Type | Li-ion |
| USB with Charging Cable | Brand Name | SYMBOL / MOTOROLA |
| | Part Number | 25-108022-01R Rev. 1 |
| | Signal Line Type | 1.5 meter shielded cable without ferrite core |

Remark: Above EUT's information was declared by manufacturer. Please refer to specifications of manufacturer or User's Manual for more detailed features description.



1.4 Feature of Equipment under Test

| Product Feature & Specification | |
|--|---|
| DUT Type : | EDA (Enterprise Digital Assistant) |
| Trade Name : | Symbol |
| Model Name : | MC5574 |
| FCC ID : | H9PMC5574 |
| Tx Frequency : | GSM850 : 824 MHz ~ 849 MHz GSM1900 : 1850 MHz ~ 1910 MHz Bluetooth : 2400 MHz ~ 2483.5 MHz WLAN : 2400 MHz ~ 2483.5 MHz |
| Rx Frequency : | GSM850 : 869 MHz ~ 894 MHz GSM1900 : 1930 MHz ~ 1990 MHz Bluetooth : 2400 MHz ~ 2483.5 MHz WLAN : 2400 MHz ~ 2483.5 MHz |
| Maximum Output Power to Antenna : | GSM850 : 32.43 dBm (GSM) / 32.41 dBm (GPRS8) / 30.62 dBm (GPRS10) / 26.87 dBm (GPRS12) / 25.94 dBm (EGPRS8) / 23.83 dBm (EGPRS10) / 19.67 dBm (EGPRS12) / GSM1900 : 29.50 dBm (GSM) / 29.39 dBm (GPRS8) / 27.55 dBm (GPRS10) / 23.79 dBm (GPRS12) / 25.06 dBm (EGPRS8) / 23.26 dBm (EGPRS10) / 19.22 dBm (EGPRS12) / Bluetooth : 4.76 dBm WLAN : 14.57 dBm (802.11b) / 15.52 dBm (802.11g) |
| Maximum ERP/EIRP : | GSM850(GSM) : 0.51 W (27.04 dBm) GSM850(EDGE) : 0.16 W (21.95 dBm) GSM1900(GSM) : 1.98 W (32.96 dBm) GSM1900(EDGE) : 0.79 W (28.99 dBm) |
| Type of Antenna Connector : | N/A |
| Antenna Type : | GSM : PIFA Antenna Bluetooth : Chip antenna WLAN : PIFA Antenna |
| Antenna Gain : | Bluetooth : -0.94 dBi WLAN : 1.22 dBi |
| Power Rating (DC/AC , Voltage and Current of RF element or PA) : | GSM : DC 3.8V / 2A |
| GPRS / EGPRS Multislot class : | 12 |
| Type of Modulation : | GSM / GPRS : GMSK EDGE : 8PSK Bluetooth : GFSK WLAN : DSSS / OFDM |
| Type of Emission : | GSM : 300KGXW EDGE : 300KG7W |
| DUT Stage : | Identical Prototype |

1.5 Report Date

EUT Received : Apr. 03, 2008

Report Date : Apr. 14, 2008



2. Test Configuration of Equipment under Test

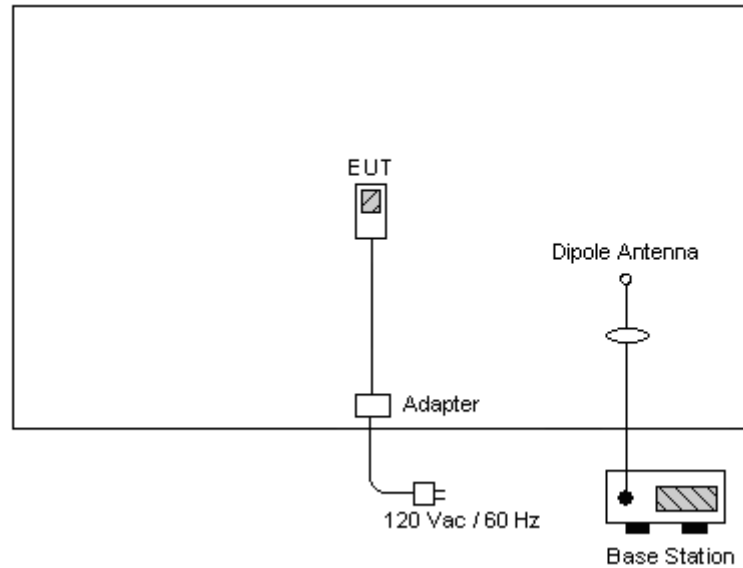
2.1 Test Manner

1. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range.
2. During all testings, EUT is in link mode with base station emulator at maximum power level.
3. Frequency range investigated: radiated emission 30 MHz to 9000 MHz for GSM850; 30MHz to 19000 MHz for GSM1900.
4. After prescanning, the Sample A was fully tested for different configurations as following table

2.2 Test Mode

| Application | GSM850 | GSM1900 |
|-----------------------|---|--|
| Radiated Emission | <Sample A> <input checked="" type="checkbox"/> Mode 1: GSM Link <input checked="" type="checkbox"/> Mode 2: EDGE Link <input checked="" type="checkbox"/> Mode 5: GSM Link + BT Tx CH39 <input checked="" type="checkbox"/> Mode 6: GSM Link + 802.11b Tx CH01 | <Sample A> <input checked="" type="checkbox"/> Mode 3: GSM Link <input checked="" type="checkbox"/> Mode 4: EDGE Link |
| | <Sample B> <input checked="" type="checkbox"/> Mode 7: GSM Link | <Sample B> <input checked="" type="checkbox"/> Mode 8: GSM Link |
| | <Sample C> <input checked="" type="checkbox"/> Mode 9: GSM Link | <Sample C> <input checked="" type="checkbox"/> Mode 10: GSM Link |
| | <Sample D> <input checked="" type="checkbox"/> Mode 11: GSM Link | <Sample D> <input checked="" type="checkbox"/> Mode 12: GSM Link |
| Conducted Measurement | <input checked="" type="checkbox"/> Mode 1: GSM Link <input checked="" type="checkbox"/> Mode 2: EDGE Link | <input checked="" type="checkbox"/> Mode 3: GSM Link <input checked="" type="checkbox"/> Mode 4: EDGE Link |

2.3 Connection Diagram of Test System



2.4 Ancillary Equipment List

| Item | Equipment | Trade Name | Model No. | FCC ID | Data Cable / Power Code |
|------|--------------|------------|-----------|--------|-------------------------|
| 1. | Base Station | R&S | CMU200 | N/A | Unshielded, 1.8m |



3. General Information of Test Site

Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,
Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
TEL : 886-3-327-3456
FAX : 886-3-328-4978
Test Site No : 03CH06-HY, TH02-HY

The chamber meets the characteristics of ANSI C63.4-2003. This site is on file with the FCC.

3.1 Test Voltage

AC 120V / 60Hz

3.2 Test Compliance

47 CFR Part 22H, 24E, Part 2

3.3 Frequency Range

- a. Radiation: from 30MHz to 9000MHz for GSM850.
- b. Radiation: from 30 MHz to 19000 MHz for GSM1900.

3.4 Test Distance

The test distance of radiated emission from antenna to EUT is 3 m.



4. Test Data and Test Result

4.1 List of Measurements and Examinations

| FCC Rule | Description of Test | Result | Section |
|--------------------------------------|--|--------|---------|
| §2.1046 | RF Output Power | Passed | 4.2 |
| § 22.913 §24.232 | ERP / EIRP | Passed | 4.3 |
| §2.1049, § 22.917, § 24.238(b) | Occupied Bandwidth & Band Edge Measurement | Passed | 4.4 |
| §2.1051 | Conducted Emission | Passed | 4.5 |
| §2.1053 | Field Strength of Spurious Radiation | Passed | 4.6 |
| §2.1055, § 22.355, §24.235 | Frequency Stability vs. Temperature | Passed | 4.7 |
| §2.1055, §22.355, §24.235 | Frequency Stability vs. Voltage | Passed | 4.8 |

4.2 RF Output Power

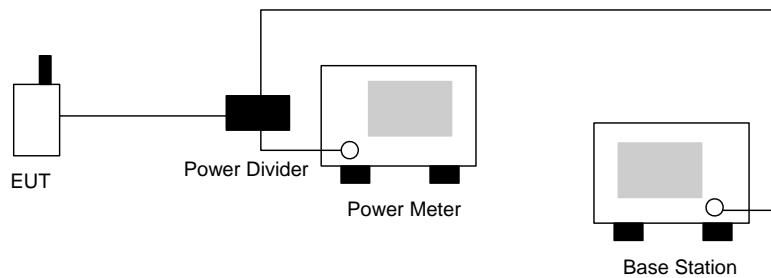
4.2.1 Measurement Instruments

As described in chapter 5 of this test report.

4.2.2 Test Procedure

- a. The transmitter output was connected to power meter and base station through power divider.
- b. Set EUT at PCL=5 for GSM850 and/or PCL=0 for GSM1900 maximum power through base station.
- c. Select lowest, middle, and highest channels for each band.

4.2.3 Test Setup Layout



4.2.4 Test Result

| Bands | Channel | Frequency (MHz) | Conducted Power (dBm) | Conducted Power (Watts) |
|----------------|---------|-----------------|-----------------------|-------------------------|
| GSM850 (GSM) | 128 | 824.2 (Low) | 32.11 | 1.626 |
| | 189 | 836.4 (Mid) | 32.26 | 1.683 |
| | 251 | 848.8 (High) | 32.43 | 1.750 |
| GSM850 (EDGE) | 128 | 824.2 (Low) | 25.94 | 0.393 |
| | 189 | 836.4 (Mid) | 25.86 | 0.385 |
| | 251 | 848.8 (High) | 25.76 | 0.377 |
| GSM1900 (GSM) | 512 | 1850.2 (Low) | 29.50 | 0.891 |
| | 661 | 1880.0 (Mid) | 29.21 | 0.834 |
| | 810 | 1909.8 (High) | 28.87 | 0.771 |
| GSM1900 (EDGE) | 512 | 1850.2 (Low) | 25.06 | 0.321 |
| | 661 | 1880.0 (Mid) | 25.03 | 0.318 |
| | 810 | 1909.8 (High) | 24.91 | 0.310 |



4.3 ERP / EIRP Measurement

Equivalent isotropic radiated power measurements by substitution method according to ANSI/TIA/EIA-603-C.

4.3.1 Measurement Instruments

As described in chapter 5 of this test report.

4.3.2 Test Procedure

- a. The EUT was placed on a tutable with 1.0 meter height in an fully anechoic chamber.
- b. The EUT was set 1.2 meters from the receiving antenna which was mounted on the antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiated power.
- d. The height of the receiving antenna is also kept at 1.0M height.
- e. Taking the record of maximum ERP/EIRP.
- f. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
- g. The conducted power at the terminal of the dipole antenna is measured.
- h. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
- i. $ERP/EIRP = P_s + E_t - E_s + G_s = P_s + R_t - R_s + G_s$

P_s (dBm) : Input power to substitution antenna.

G_s (dBi or dBd) : Substitution antenna Gain.

$E_t = R_t + AF$

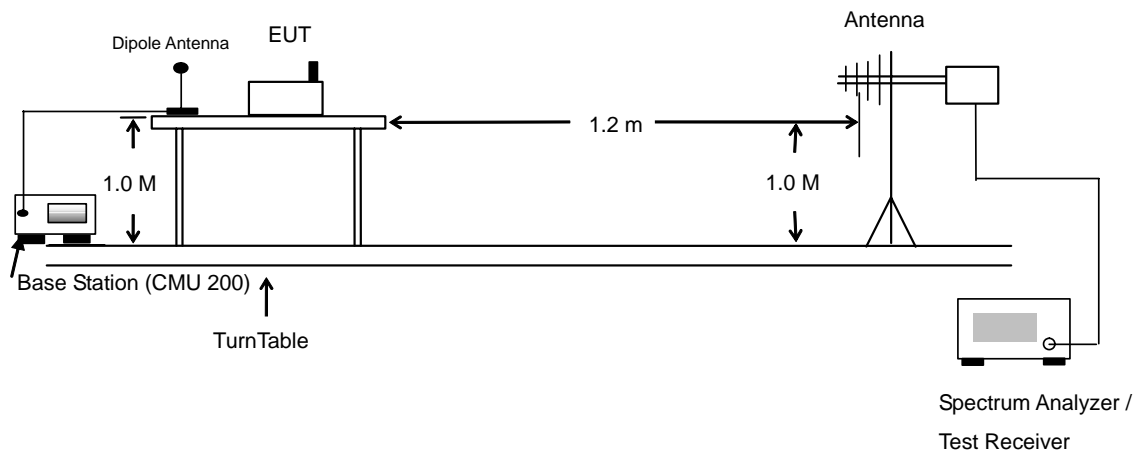
$E_s = R_s + AF$

AF (dB/m) : Receive antenna factor

R_t : The highest received signal in Spectrum Analyzer for EUT.

R_s : The highest received signal in spectrum analyzer for substitution antenna.

4.3.3 Test Setup Layout of ERP/EIRP





4.3.4 Test Result

| GSM850 (GSM) Radiated Power ERP | | | | | | |
|--|----------|----------|----------|----------|-----------|---------|
| Horizontal Polarization | | | | | | |
| Frequency (MHz) | Rt (dBm) | Rs (dBm) | Ps (dBm) | Gs (dBd) | ERP (dBm) | ERP (W) |
| 824.20 | -29.80 | -48.12 | 0.00 | -1.08 | 17.24 | 0.05 |
| 836.40 | -30.08 | -48.28 | 0.00 | -0.93 | 17.27 | 0.05 |
| 848.80 | -29.87 | -48.35 | 0.00 | -0.76 | 17.72 | 0.06 |
| Vertical Polarization | | | | | | |
| Frequency (MHz) | Rt (dBm) | Rs (dBm) | Ps (dBm) | Gs (dBd) | ERP (dBm) | ERP (W) |
| 824.20 | -20.38 | -47.97 | 0.00 | -1.08 | 26.51 | 0.45 |
| 836.40 | -20.70 | -48.01 | 0.00 | -0.93 | 26.38 | 0.43 |
| 848.80 | -20.25 | -48.05 | 0.00 | -0.76 | 27.04 | 0.51 |

| GSM850 (EDGE) Radiated Power ERP | | | | | | |
|---|----------|----------|----------|----------|-----------|---------|
| Horizontal Polarization | | | | | | |
| Frequency (MHz) | Rt (dBm) | Rs (dBm) | Ps (dBm) | Gs (dBd) | ERP (dBm) | ERP (W) |
| 824.20 | -34.65 | -48.12 | 0.00 | -1.08 | 12.39 | 0.02 |
| 836.40 | -34.91 | -48.28 | 0.00 | -0.93 | 12.44 | 0.02 |
| 848.80 | -34.65 | -48.35 | 0.00 | -0.76 | 12.94 | 0.02 |
| Vertical Polarization | | | | | | |
| Frequency (MHz) | Rt (dBm) | Rs (dBm) | Ps (dBm) | Gs (dBd) | ERP (dBm) | ERP (W) |
| 824.20 | -25.06 | -47.97 | 0.00 | -1.08 | 21.83 | 0.15 |
| 836.40 | -25.21 | -48.01 | 0.00 | -0.93 | 21.87 | 0.15 |
| 848.80 | -25.34 | -48.05 | 0.00 | -0.76 | 21.95 | 0.16 |



| GSM1900 (GSM) Radiated Power EIRP | | | | | | |
|-----------------------------------|----------|----------|----------|----------|------------|----------|
| Horizontal Polarization | | | | | | |
| Frequency (MHz) | Rt (dBm) | Rs (dBm) | Ps (dBm) | Gs (dBi) | EIRP (dBm) | EIRP (W) |
| 1850.20 | -22.29 | -51.88 | 0.00 | 1.96 | 31.55 | 1.43 |
| 1880.00 | -24.57 | -52.99 | 0.00 | 2.00 | 30.42 | 1.10 |
| 1909.80 | -27.62 | -54.28 | 0.00 | 1.98 | 28.64 | 0.73 |
| Vertical Polarization | | | | | | |
| Frequency (MHz) | Rt (dBm) | Rs (dBm) | Ps (dBm) | Gs (dBi) | EIRP (dBm) | EIRP (W) |
| 1850.20 | -21.13 | -52.13 | 0.00 | 1.96 | 32.96 | 1.98 |
| 1880.00 | -23.14 | -53.17 | 0.00 | 2.00 | 32.03 | 1.60 |
| 1909.80 | -24.10 | -54.13 | 0.00 | 1.98 | 32.01 | 1.59 |

| GSM1900 (EDGE) Radiated Power EIRP | | | | | | |
|------------------------------------|----------|----------|----------|----------|------------|----------|
| Horizontal Polarization | | | | | | |
| Frequency (MHz) | Rt (dBm) | Rs (dBm) | Ps (dBm) | Gs (dBi) | EIRP (dBm) | EIRP (W) |
| 1850.20 | -25.88 | -51.88 | 0.00 | 1.96 | 27.96 | 0.63 |
| 1880.00 | -28.23 | -52.99 | 0.00 | 2.00 | 26.76 | 0.47 |
| 1909.80 | -31.02 | -54.28 | 0.00 | 1.98 | 25.24 | 0.33 |
| Vertical Polarization | | | | | | |
| Frequency (MHz) | Rt (dBm) | Rs (dBm) | Ps (dBm) | Gs (dBi) | EIRP (dBm) | EIRP (W) |
| 1850.20 | -25.13 | -52.13 | 0.00 | 1.96 | 28.96 | 0.79 |
| 1880.00 | -26.18 | -53.17 | 0.00 | 2.00 | 28.99 | 0.79 |
| 1909.80 | -27.42 | -54.13 | 0.00 | 1.98 | 28.69 | 0.74 |

4.4 Occupied Bandwidth and Band Edge Measurement

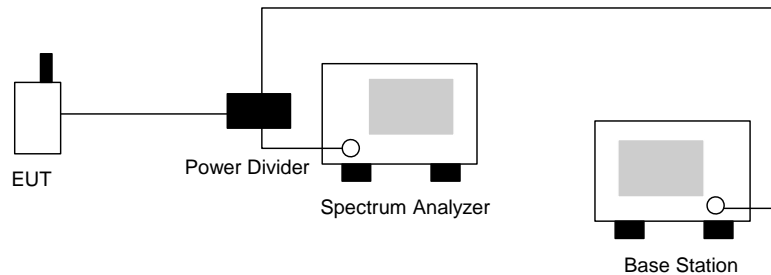
4.4.1 Measurement Instruments

As described in chapter 5 of this test report.

4.4.2 Test Procedure

- a. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
- b. The 99% occupied bandwidth of middle channel for the highest power was measured.
- c. The 26dB bandwidth were measured for low, middle, high channels.
- d. The bandedge of low and high channels for the highest RF powers within the transmitting frequency band were measured. Setting RBW as roughly BW/100.

4.4.3 Test Setup Layout



4.4.4 Test Summary

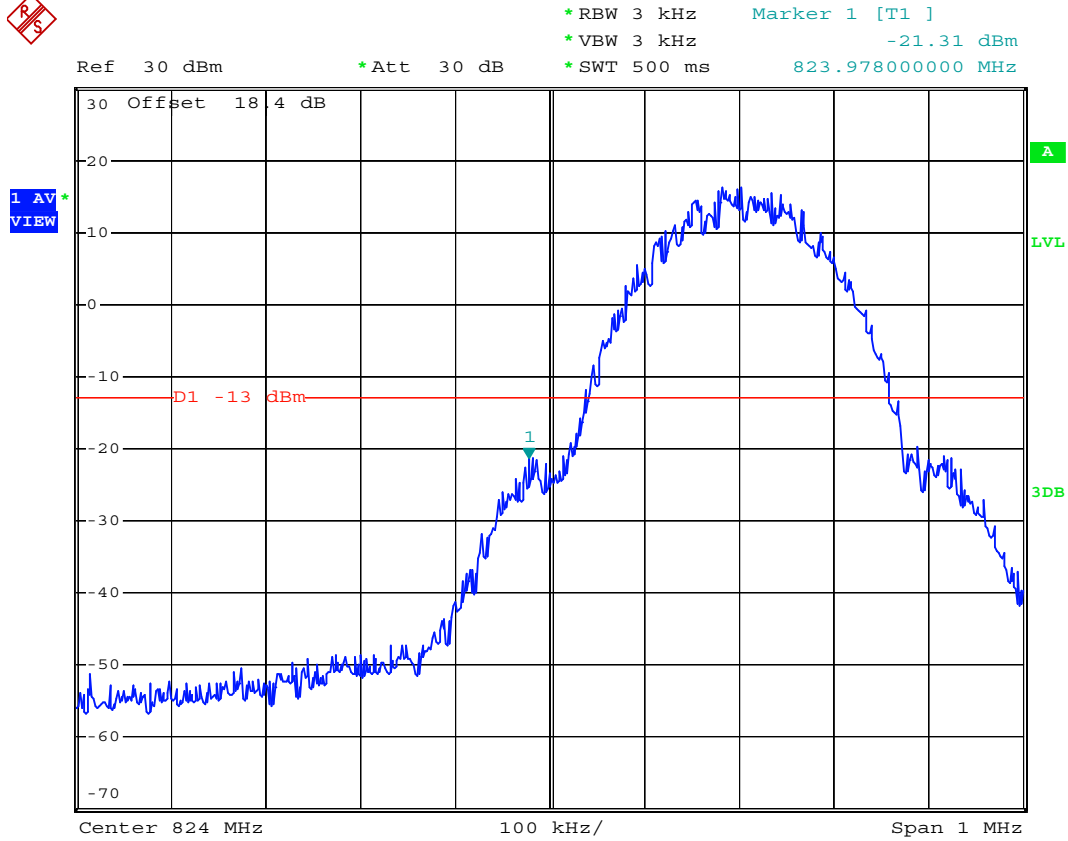
| GSM850 | | | | | |
|------------------------------|--------|----------------------|--------|--------|--------|
| 99% Occupied Bandwidth (kHz) | | 26dB Bandwidth (kHz) | | | |
| Channel | Ch 189 | Channel | Ch 128 | Ch 189 | Ch 251 |
| GSM | 242.00 | GSM | 306.00 | 302.00 | 302.00 |
| EDGE | 236.00 | EDGE | 308.00 | 308.00 | 302.00 |

| GSM1900 | | | | | |
|------------------------|--------|----------------------|--------|--------|--------|
| 99% Occupied Bandwidth | | 26dB Bandwidth (kHz) | | | |
| Channel | Ch 661 | Channel | Ch 512 | Ch 661 | Ch 810 |
| GSM | 240.00 | GSM | 302.00 | 308.00 | 308.00 |
| EDGE | 240.00 | EDGE | 304.00 | 302.00 | 306.00 |



4.4.5 Test Result

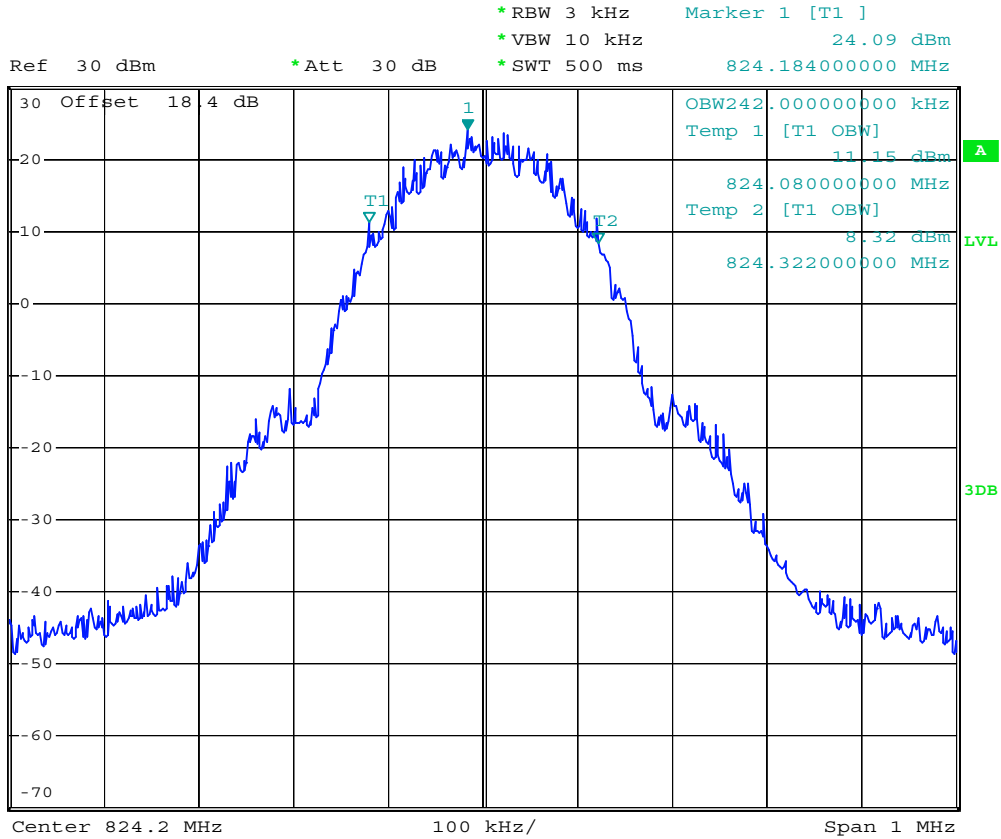
- Mode 1
- Test Mode : GSM850 (GSM) CH128 Lower Band Edge
- Power State : High



Date: 4.APR.2008 04:08:00



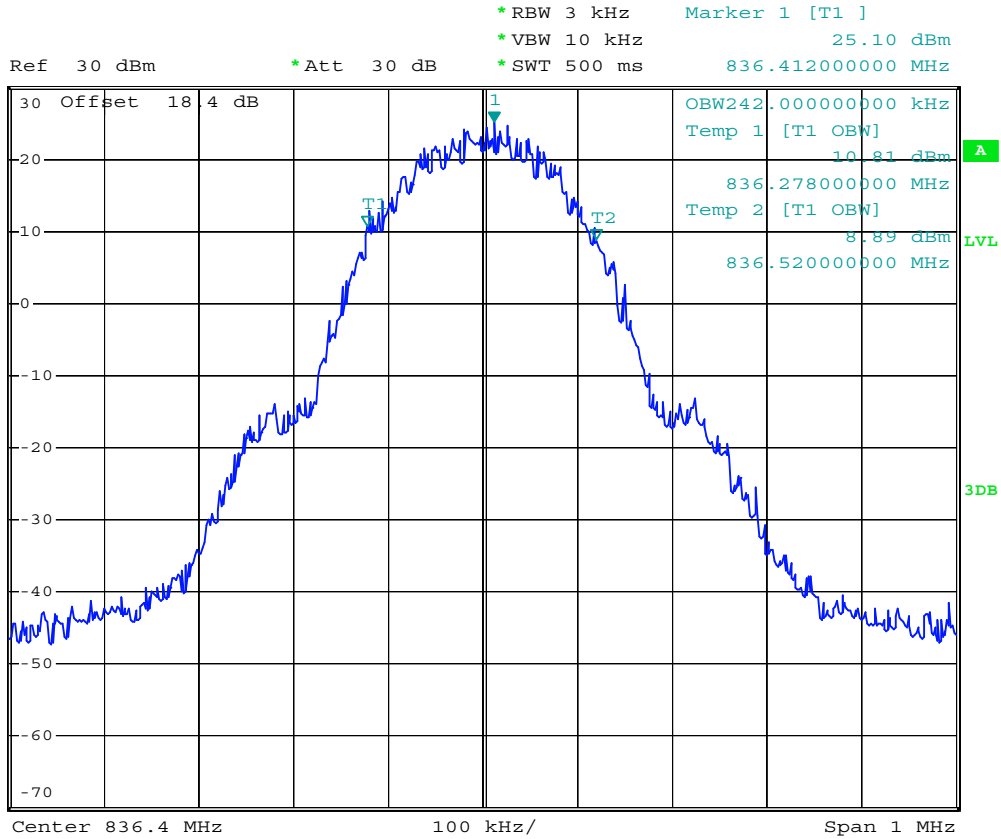
- Test Mode : GSM850 (GSM) CH128 99% Occupied Bandwidth
- Power State : High



Date: 4.APR.2008 04:04:13



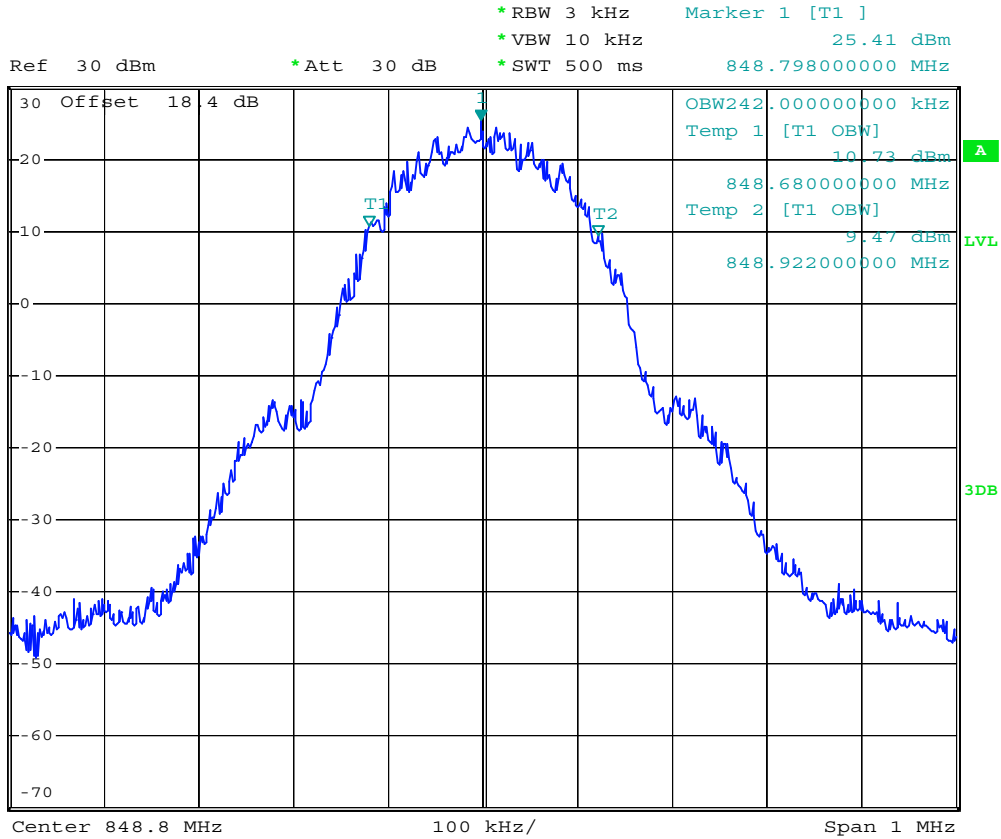
- Test Mode : GSM850 (GSM) CH189 99% Occupied Bandwidth
- Power State : High



Date: 4.APR.2008 04:04:46



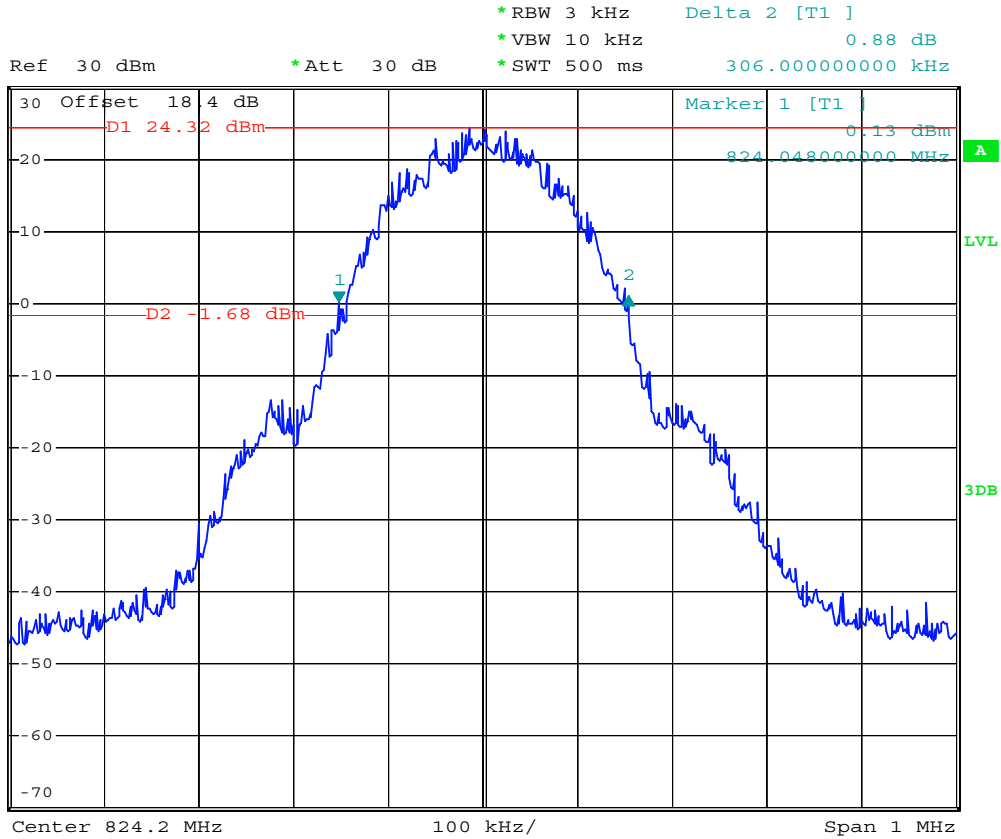
- Test Mode : GSM850 (GSM) CH 251 99% Occupied Bandwidth
- Power State : High



Date: 4.APR.2008 04:03:40



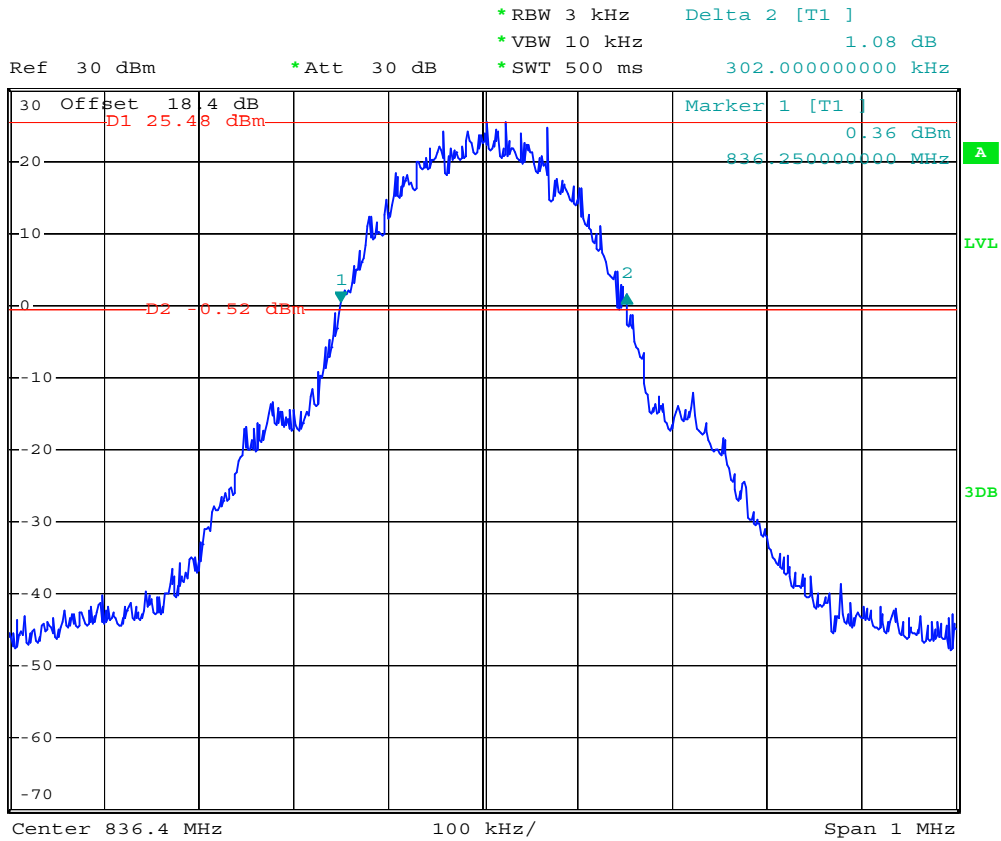
- Test Mode : GSM850 (GSM) CH128 26dB Bandwidth
- Power State : High



Date: 4.APR.2008 04:01:02



- Test Mode : GSM850 (GSM) CH189 26dB Bandwidth
- Power State : High



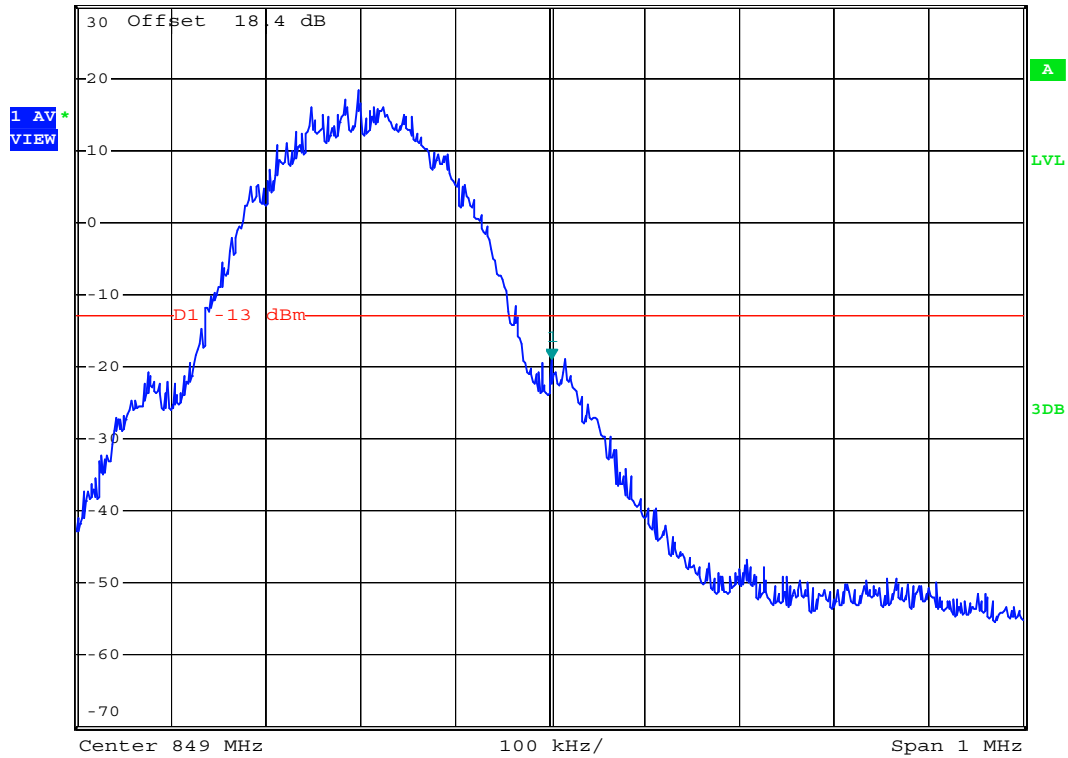
Date: 4.APR.2008 04:01:59



- Test Mode : GSM850 (GSM) CH251 Higher Band Edge
- Power State : High



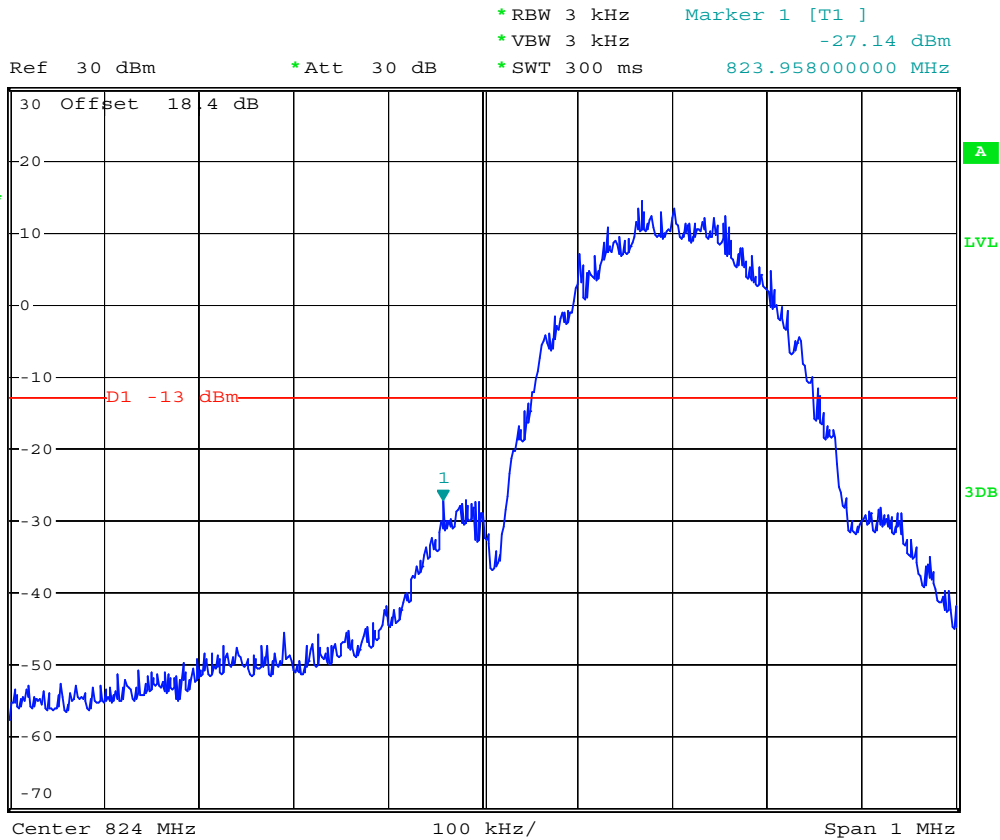
Ref 30 dBm *Att 30 dB *RBW 3 kHz Marker 1 [T1]
 *VBW 3 kHz -18.93 dBm
 *SWT 500 ms 849.002000000 MHz



Date: 4.APR.2008 04:11:08



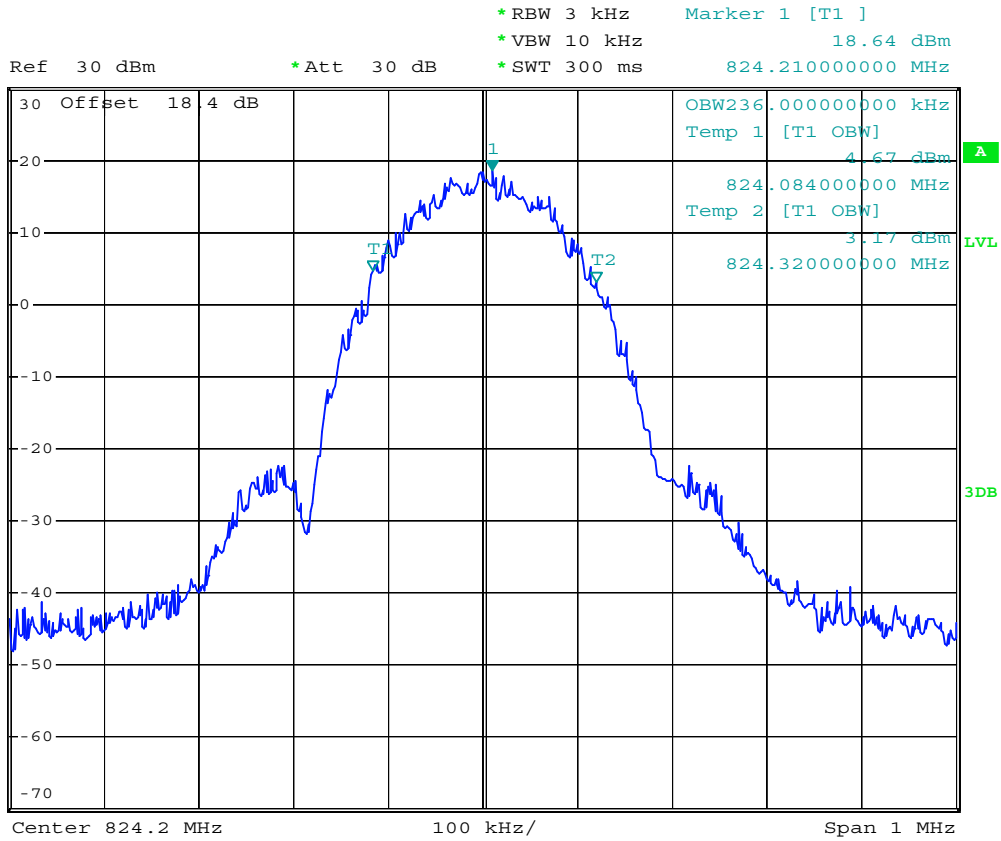
- Mode 2
- Test Mode : GSM850 (EDGE) CH128 Lower Band Edge
- Power State : High



Date: 4.APR.2008 04:23:34



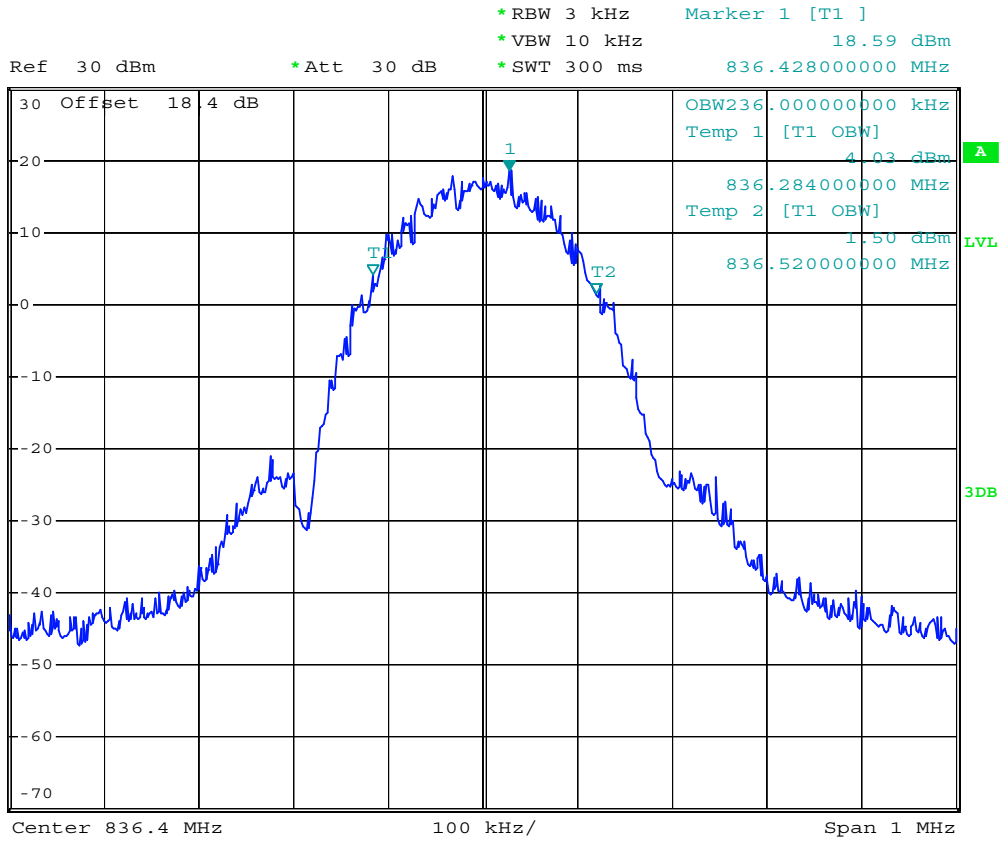
- Test Mode : GSM850 (EDGE) CH128 99% Occupied Bandwidth
- Power State : High



Date: 4.APR.2008 04:40:49



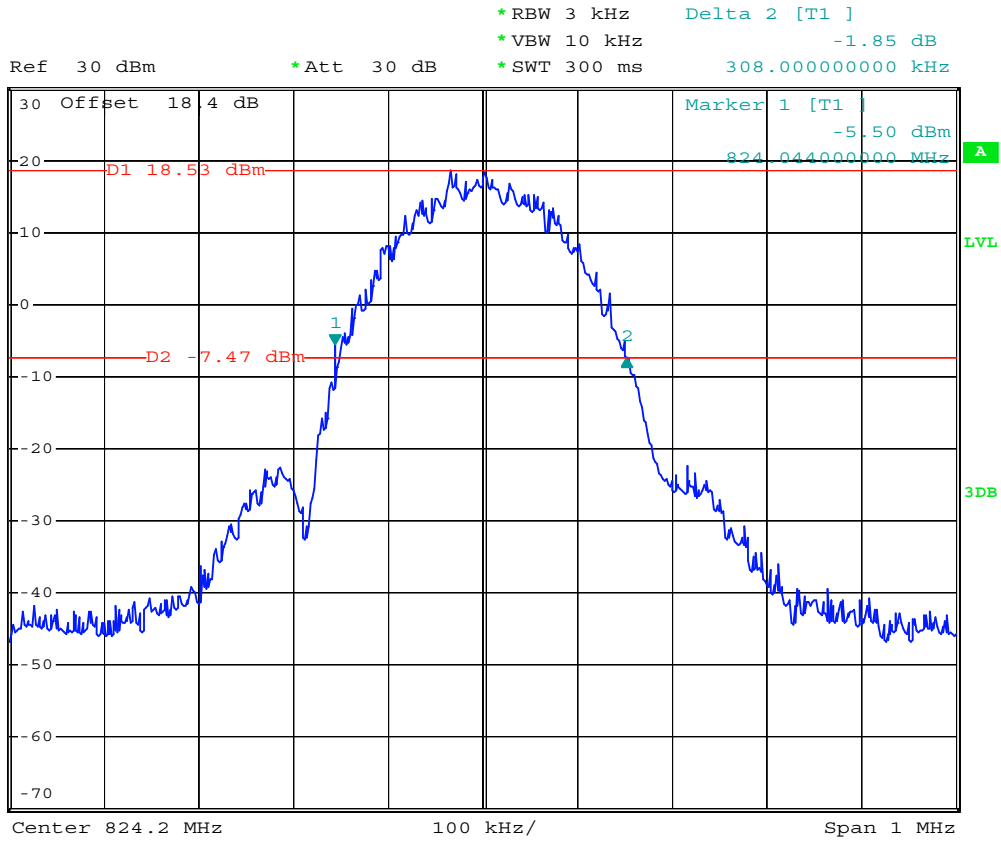
- Test Mode : GSM850 (EDGE) CH189 99% Occupied Bandwidth
- Power State : High



Date: 4.APR.2008 04:41:35



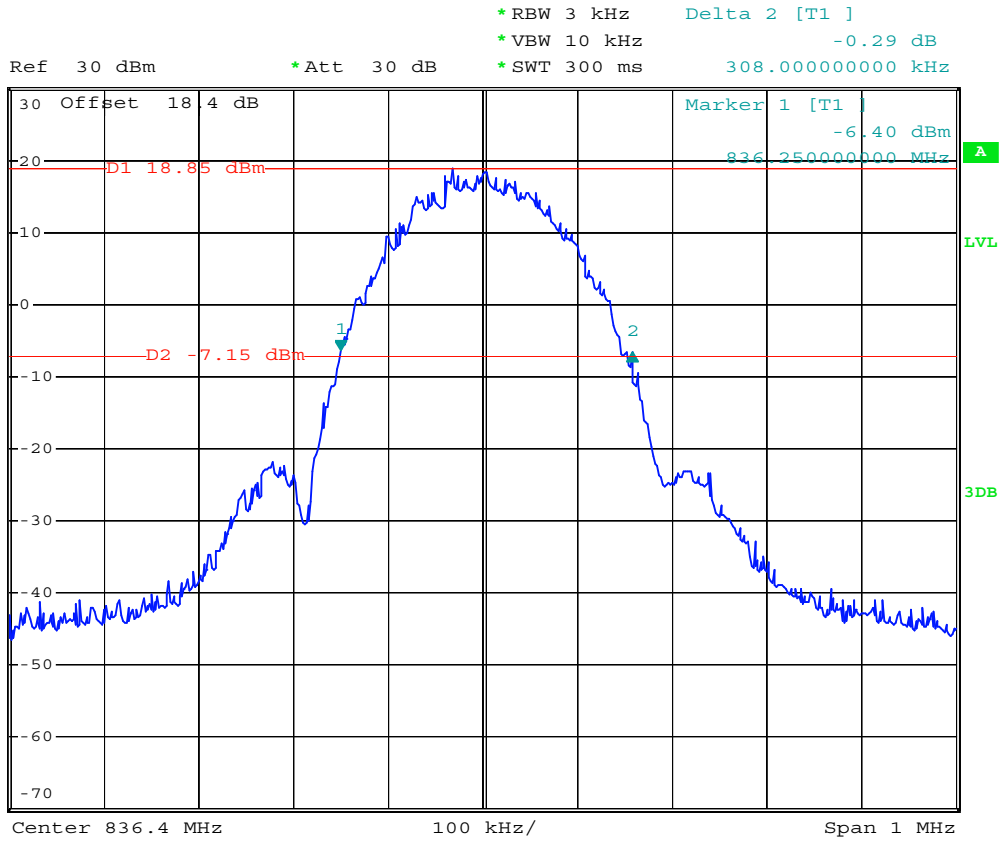
- Test Mode : GSM850 (EDGE) CH128 26dB Bandwidth
- Power State : High



Date: 4.APR.2008 04:34:44



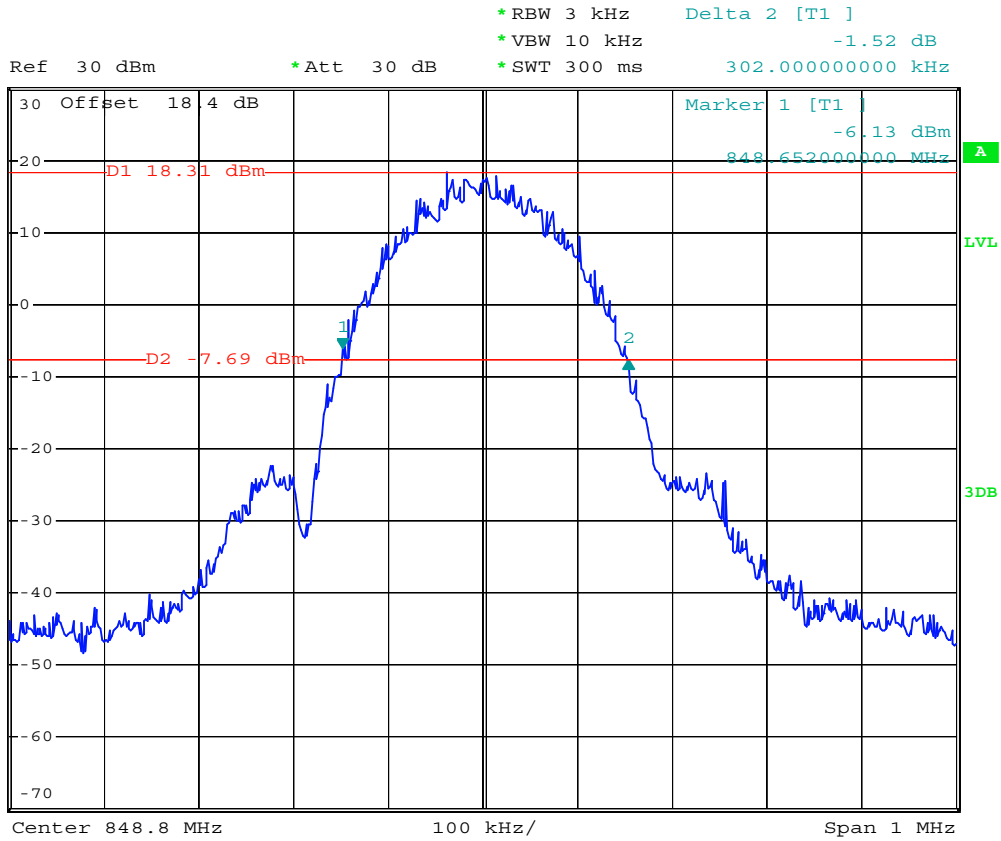
- Test Mode : GSM850 (EDGE) CH189 26dB Bandwidth
- Power State : High



Date: 4.APR.2008 04:36:41



- Test Mode : GSM850 (EDGE) CH 251 26dB Bandwidth
- Power State : High



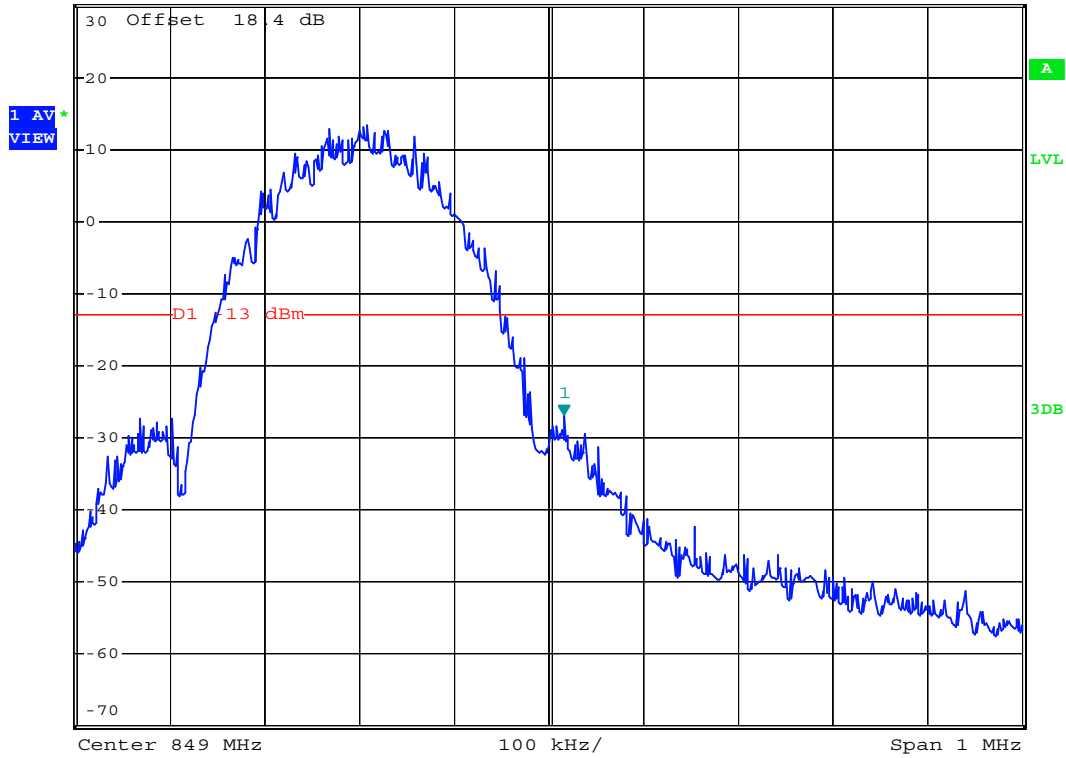
Date: 4.APR.2008 04:39:00



- Test Mode : GSM850 (EDGE) CH251 Higher Band Edge
- Power State : High



Ref 30 dBm *Att 30 dB *RBW 3 kHz Marker 1 [T1] -26.78 dBm
 *VBW 3 kHz 849.01600000 MHz
 *SWT 300 ms



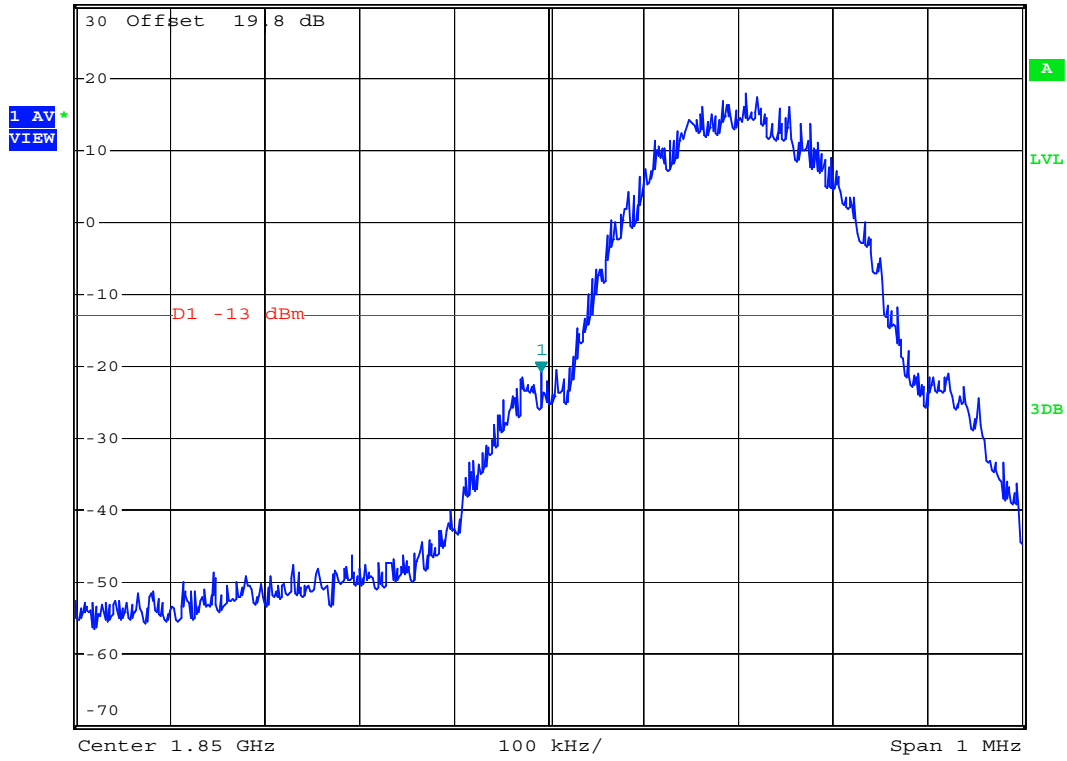
Date: 4.APR.2008 04:32:08



- Mode 3
- Test Mode : GSM1900 (GSM) CH512 Lower Band Edge
- Power State : High



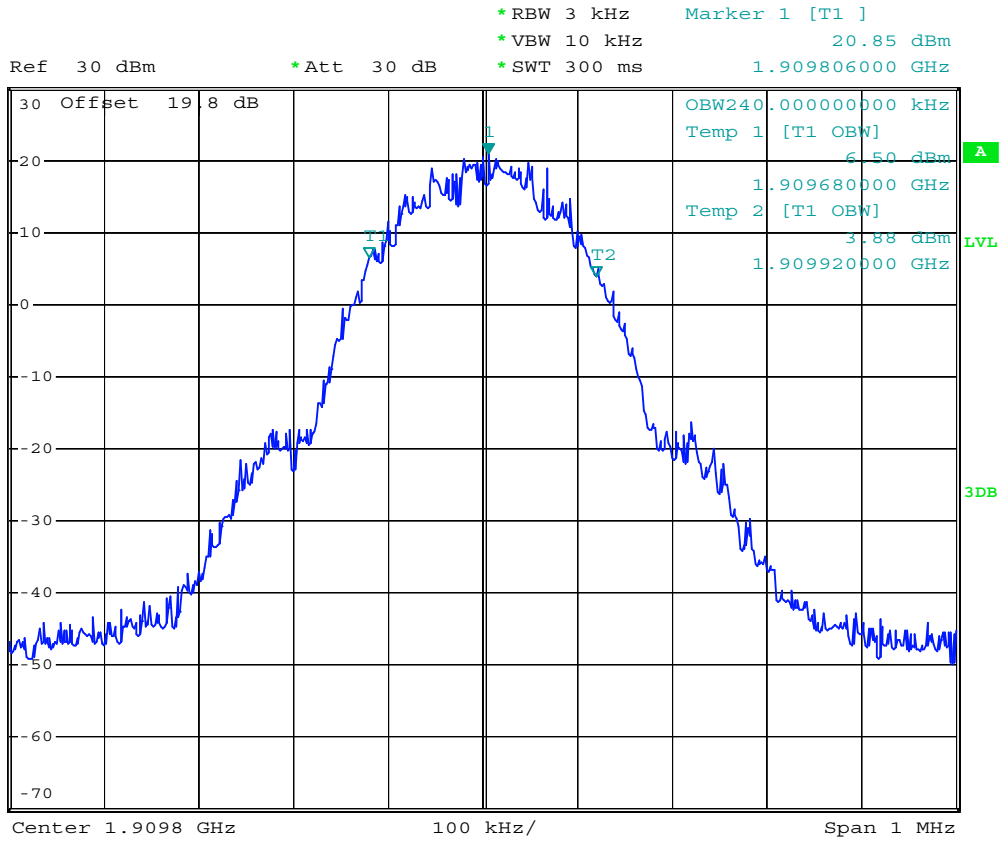
Ref 30 dBm *Att 30 dB *RBW 3 kHz Marker 1 [T1]
*VBW 3 kHz -20.68 dBm
*SWT 300 ms 1.849992000 GHz



Date: 4.APR.2008 05:37:04



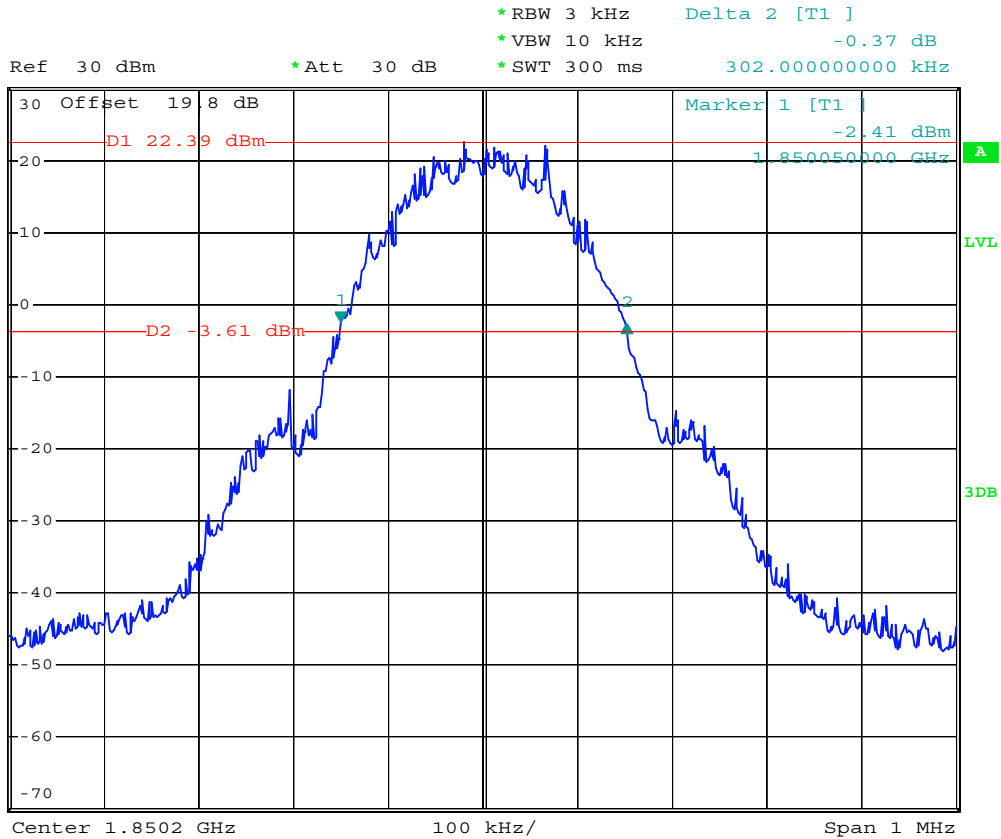
- Test Mode : GSM1900 (GSM) CH810 99% Occupied Bandwidth
- Power State : High



Date: 4.APR.2008 05:41:45



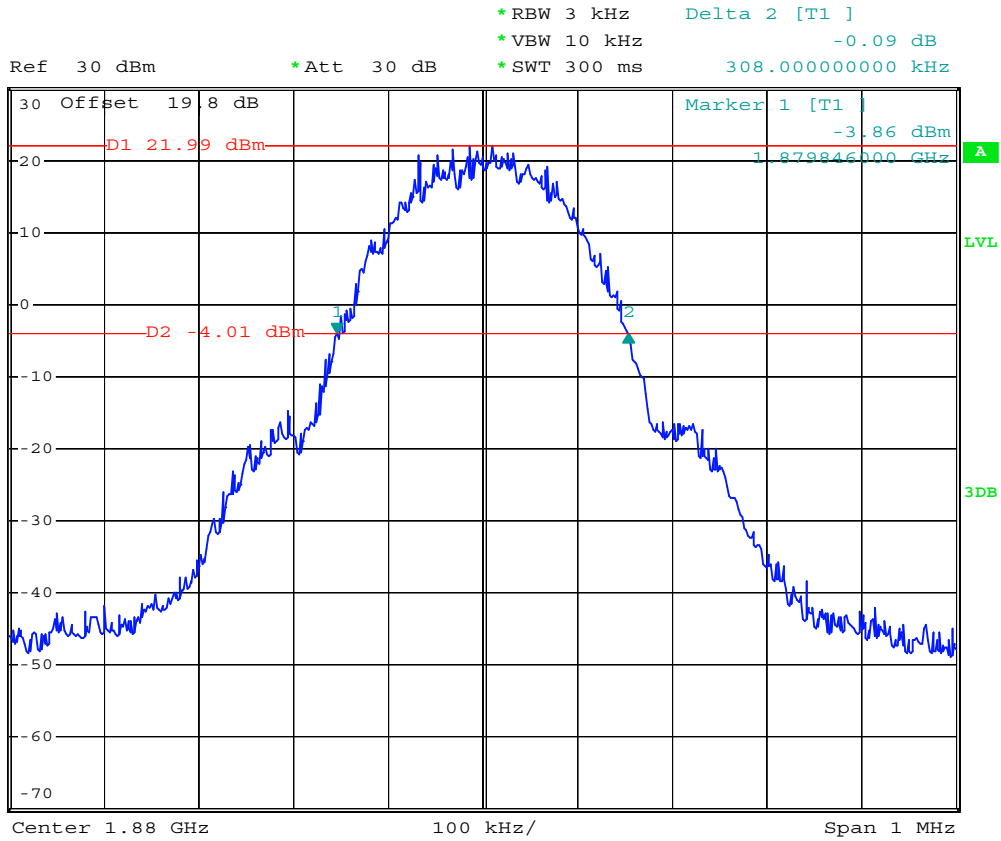
- Test Mode : GSM1900 (GSM) CH512 26dB Bandwidth
- Power State : High



Date: 4.APR.2008 05:38:22



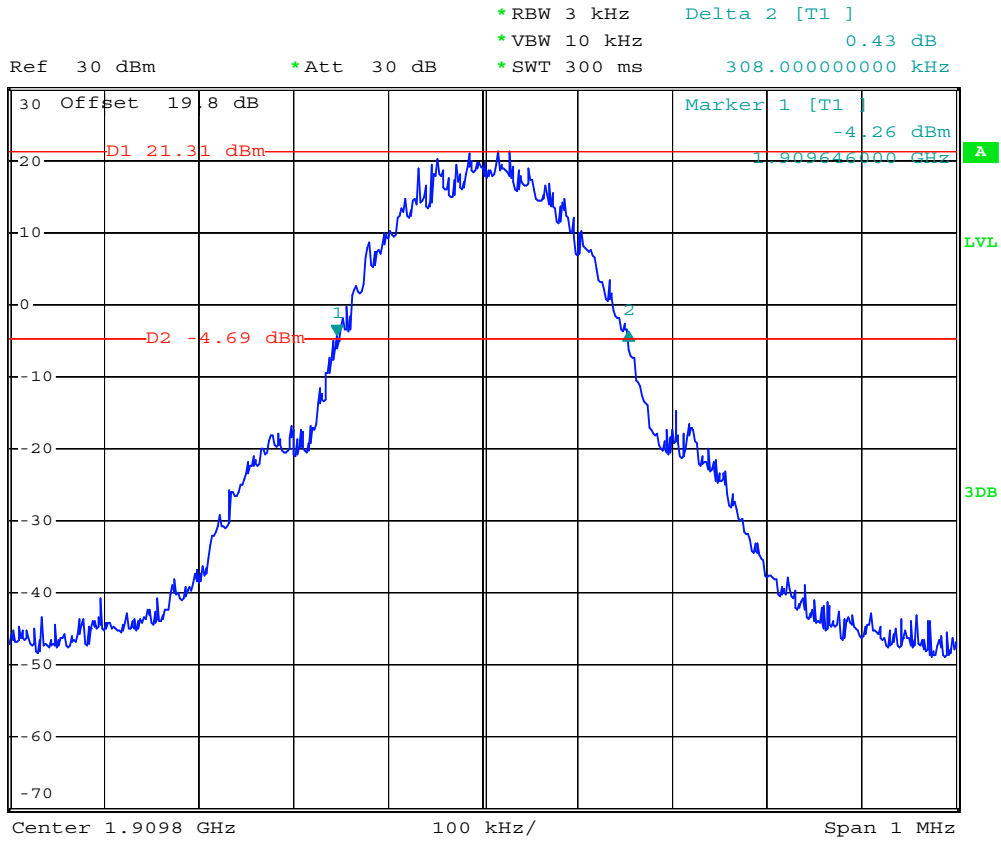
- Test Mode : GSM1900 (GSM) CH661 26dB Bandwidth
- Power State : High



Date: 4.APR.2008 05:39:39



- Test Mode : GSM1900 (GSM) CH810 26dB Bandwidth
- Power State : High



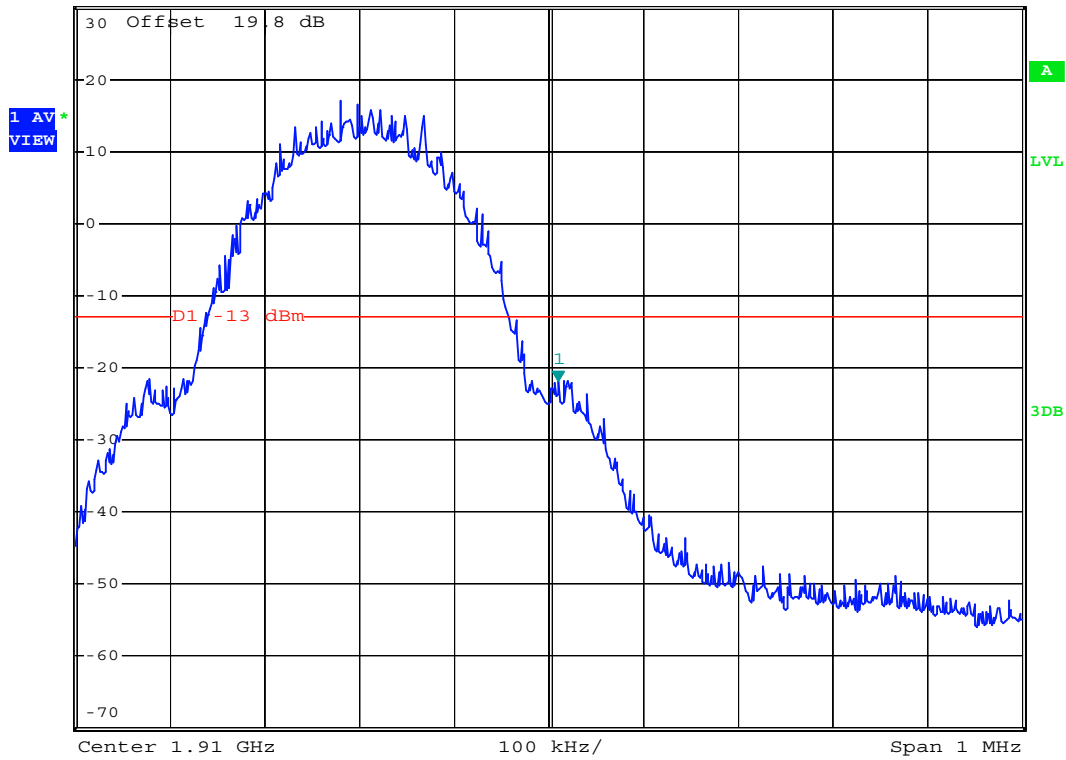
Date: 4.APR.2008 05:41:04



- Test Mode : GSM1900 (GSM) CH810 Higher Band Edge
- Power State : High



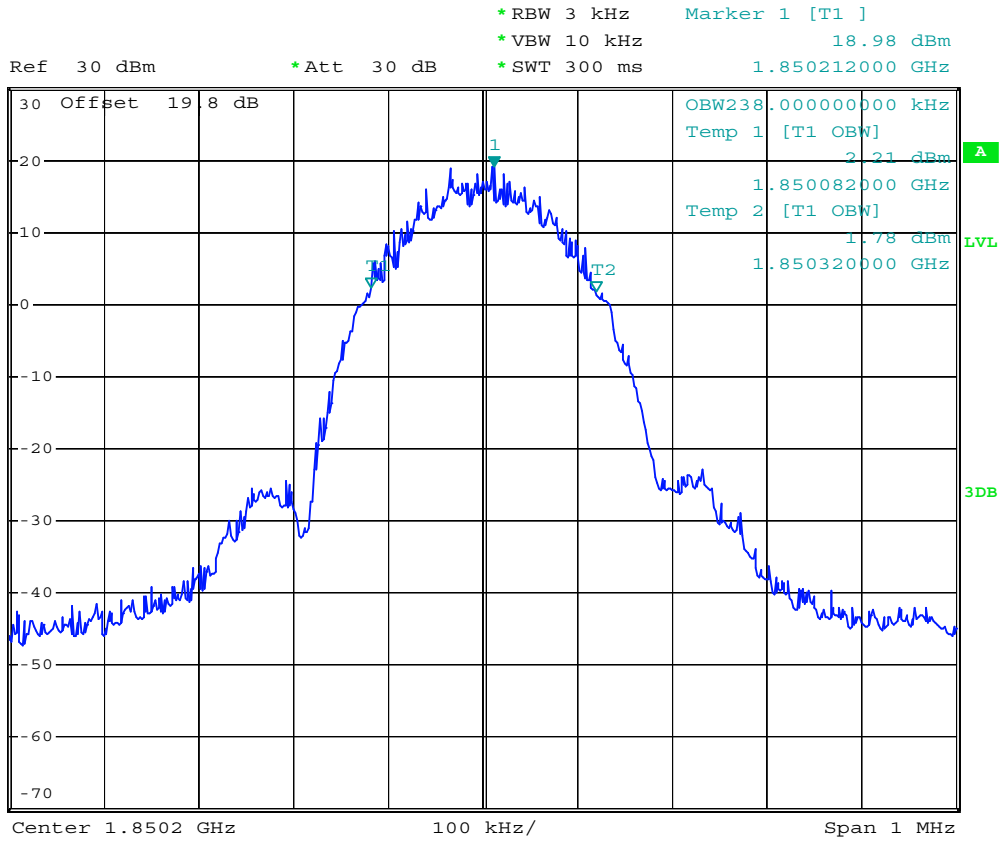
Ref 30 dBm *Att 30 dB *RBW 3 kHz Marker 1 [T1] -21.73 dBm
*VBW 3 kHz *SWT 300 ms 1.910010000 GHz



Date: 4.APR.2008 05:34:06



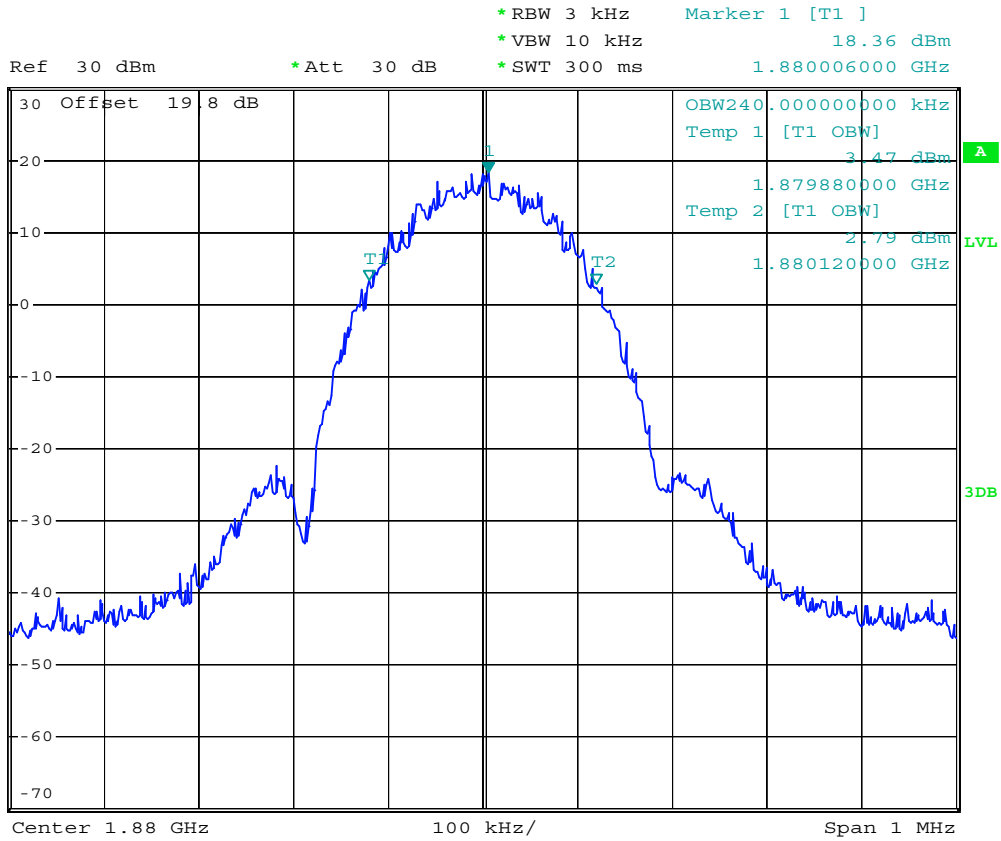
- Test Mode : GSM1900 (EDGE) CH512 99% Occupied Bandwidth
- Power State : High



Date: 4.APR.2008 05:17:33



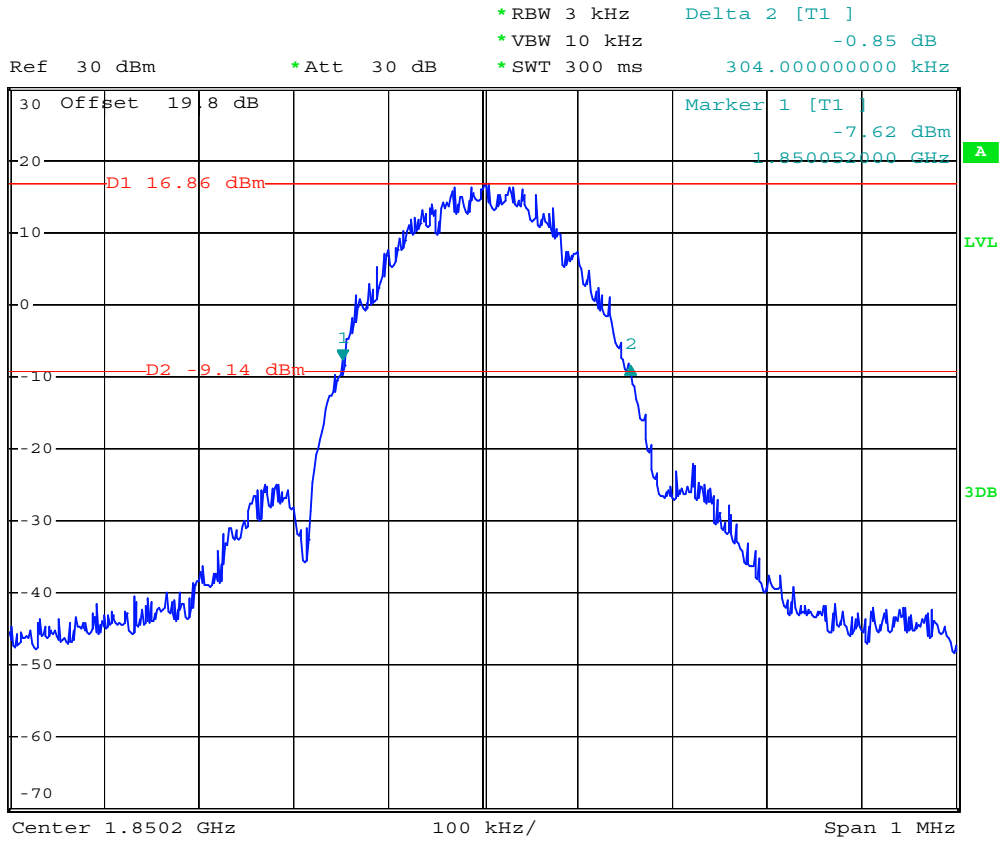
- Test Mode : GSM1900 (EDGE) CH661 99% Occupied Bandwidth
- Power State : High



Date: 4.APR.2008 05:18:50



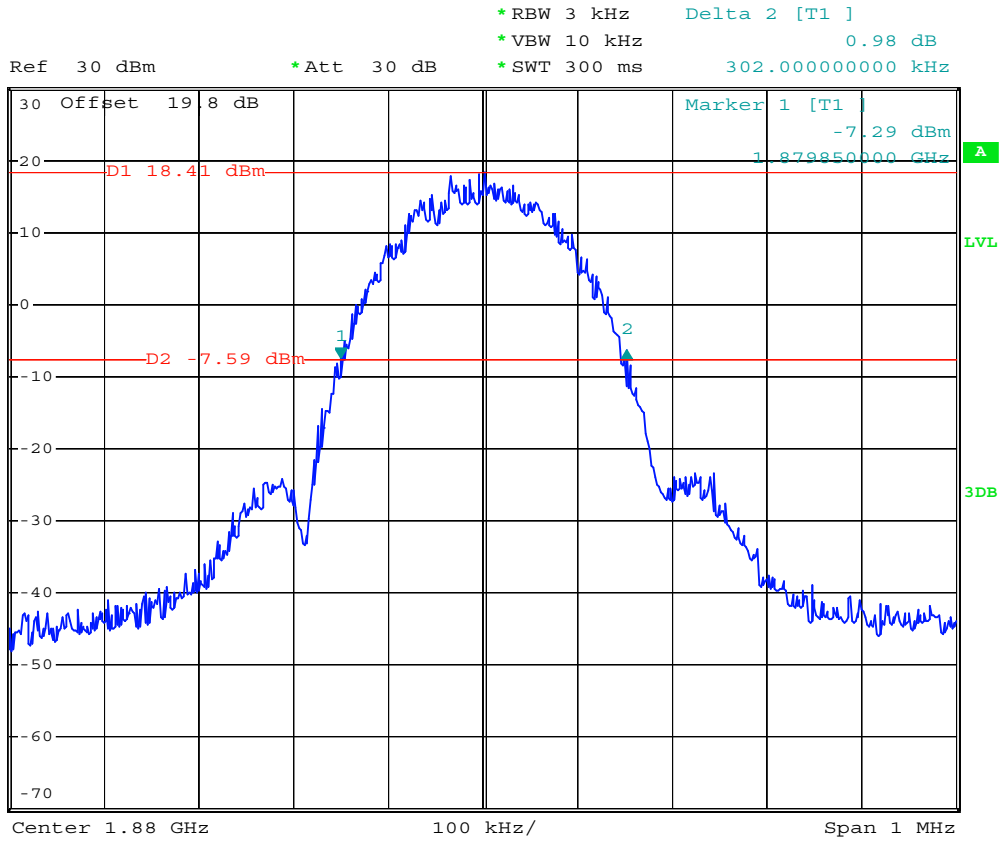
- Test Mode : GSM1900 (EDGE) CH512 26dB Bandwidth
- Power State : High



Date: 4.APR.2008 05:10:27



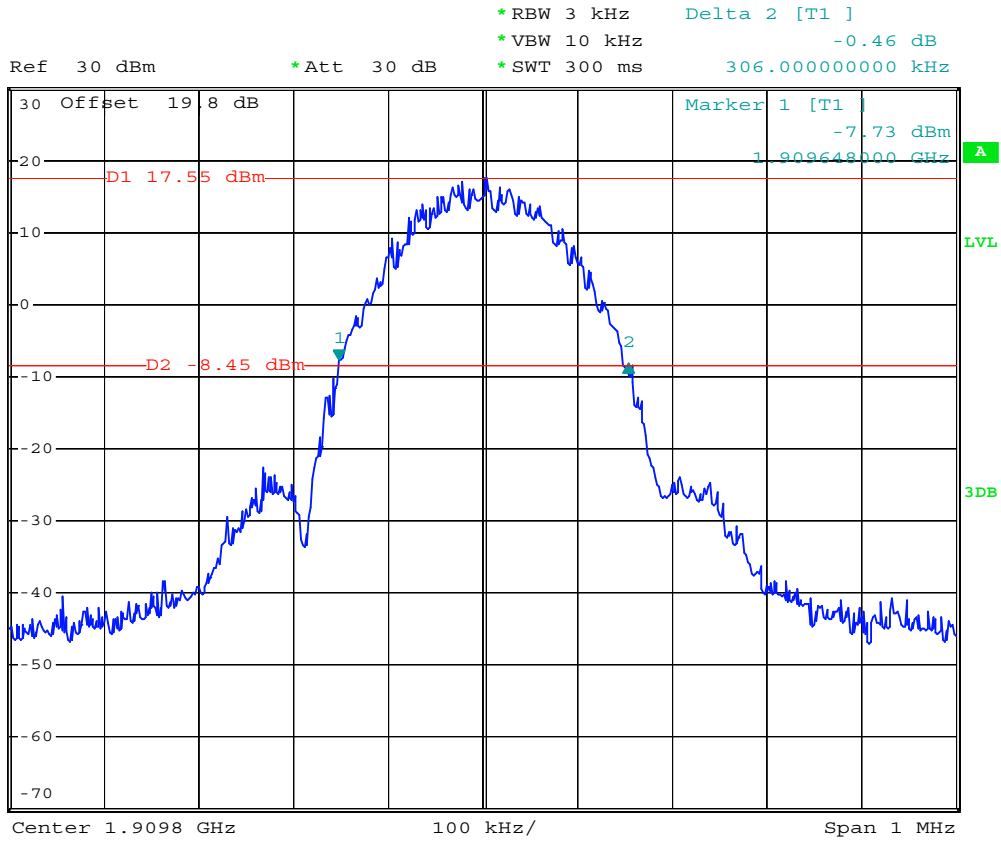
- Test Mode : GSM1900 (EDGE) CH661 26dB Bandwidth
- Power State : High



Date: 4.APR.2008 05:13:07



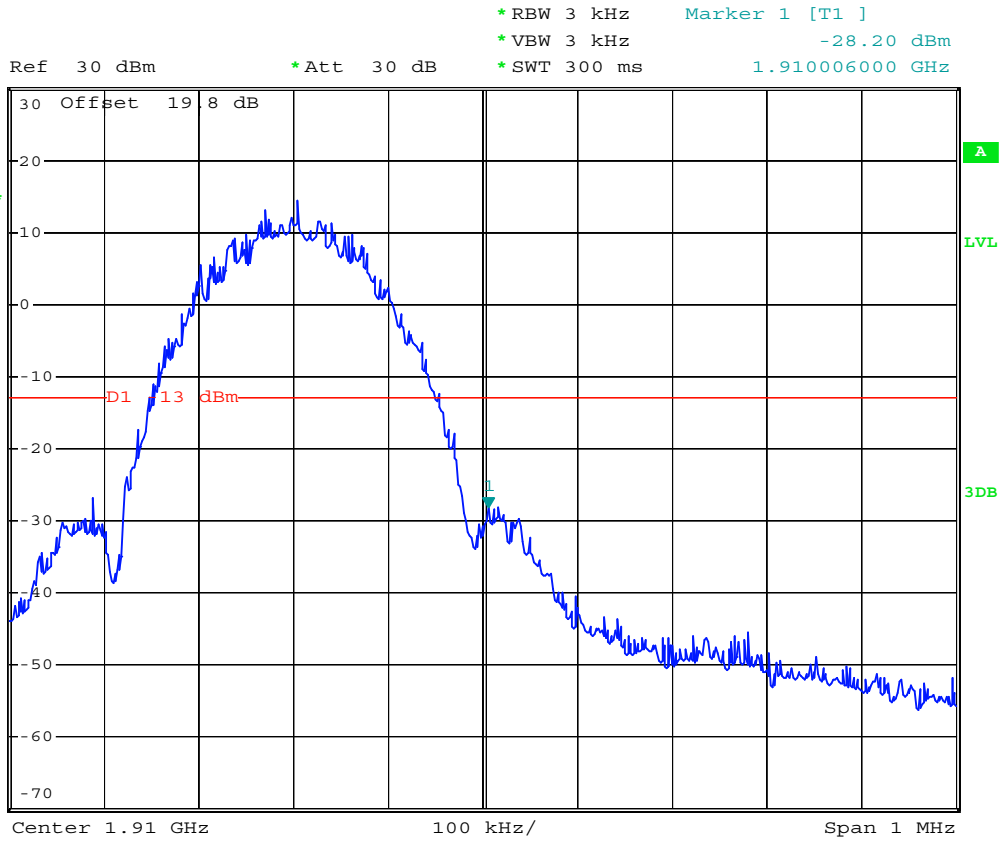
- Test Mode : GSM1900 (EDGE) CH810 26dB Bandwidth
- Power State : High



Date: 4.APR.2008 05:14:34



- Test Mode : GSM1900(EDGE) CH810 Higher Band Edge
- Power State : High



Date: 4.APR.2008 05:28:25

4.5 Conducted Emission

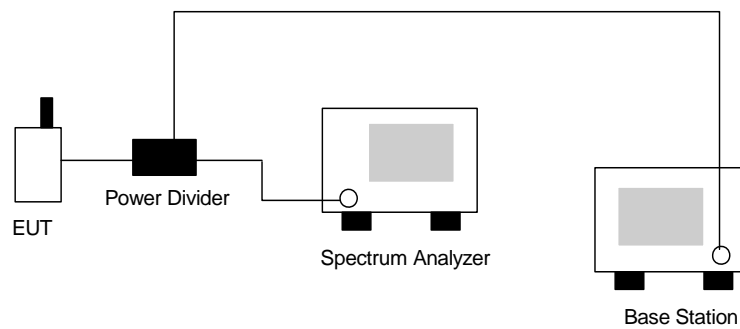
4.5.1 Measurement Instruments

As described in chapter 5 of this test report.

4.5.2 Test Procedure

- a. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
- b. The middle channel for the highest RF power within the transmitting frequency was measured.
- c. The conducted spurious emission for the whole frequency range was taken.

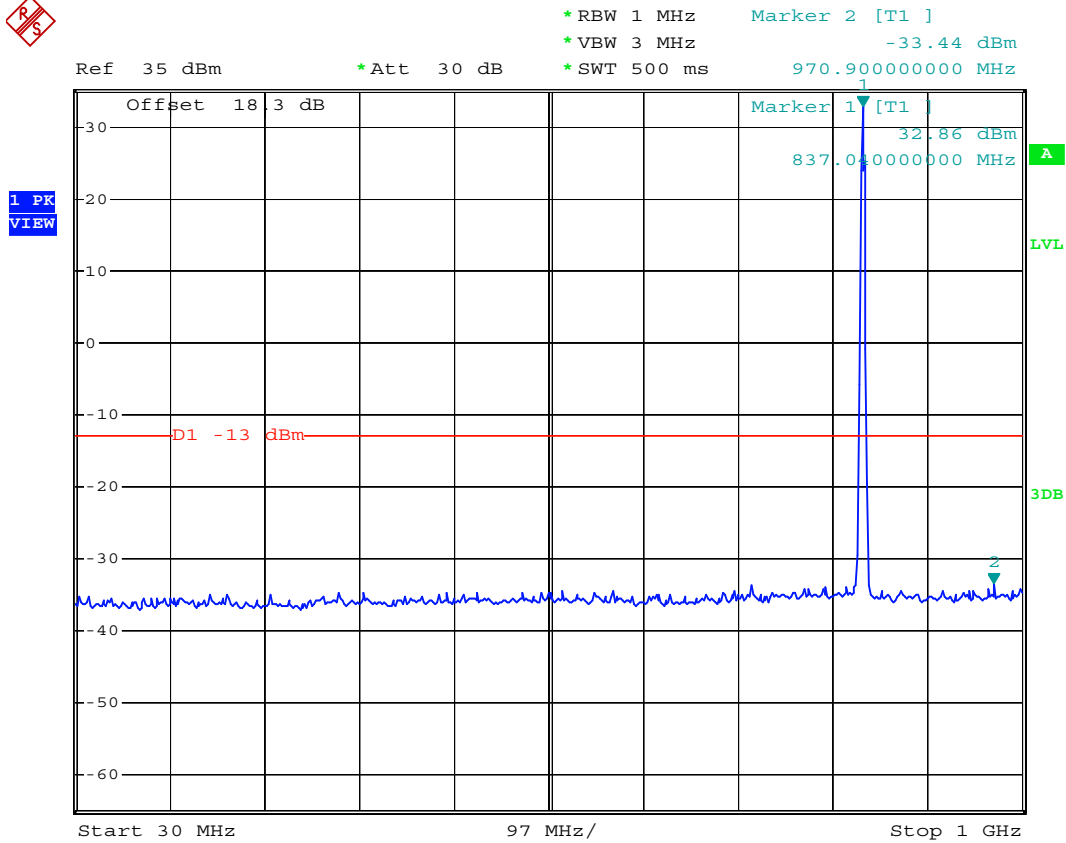
4.5.3 Test Setup Layout





4.5.4 Test Result

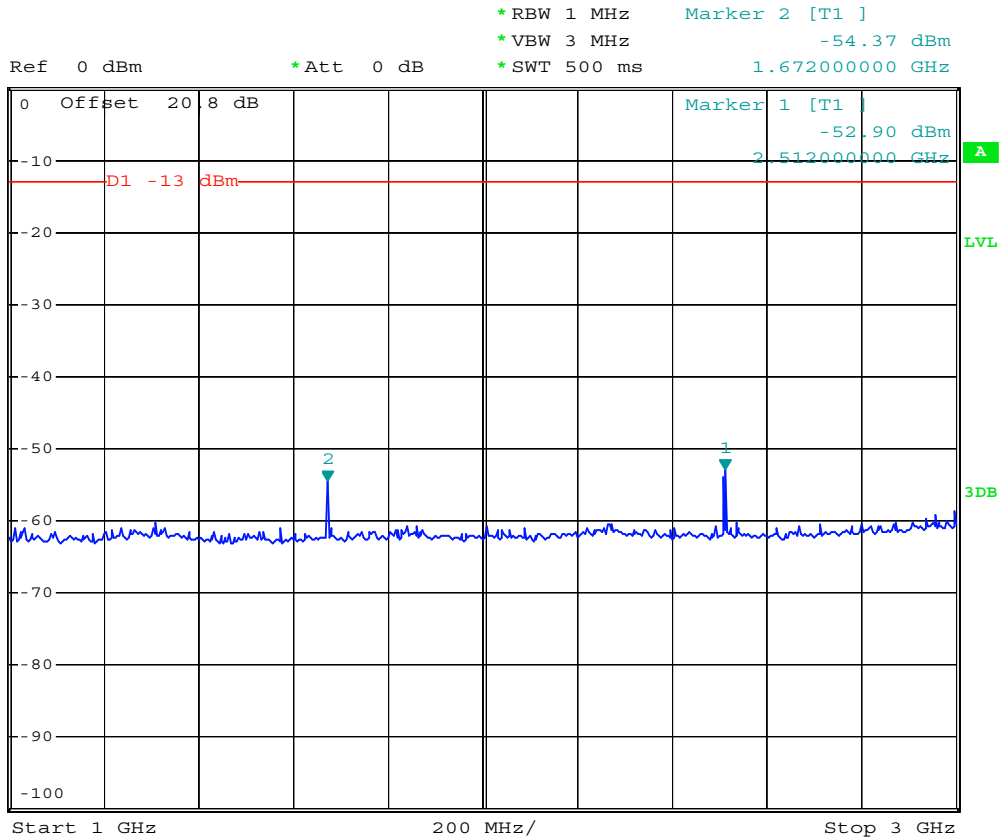
- Mode 1
- Test Mode : GSM850 (GSM) CH189
- Frequency Range : 30M-1G



Date: 4.APR.2008 05:56:52



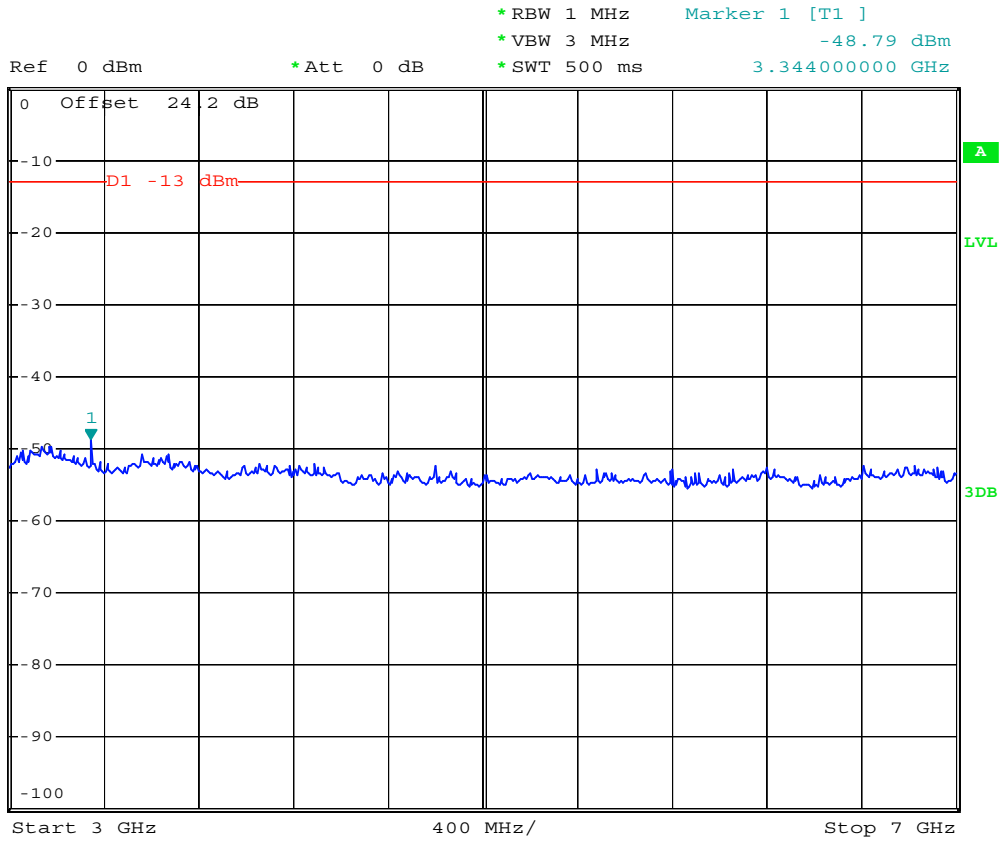
- Test Mode : GSM850 (GSM) CH189
- Frequency Range : 1G-3G



Date: 4.APR.2008 06:22:11



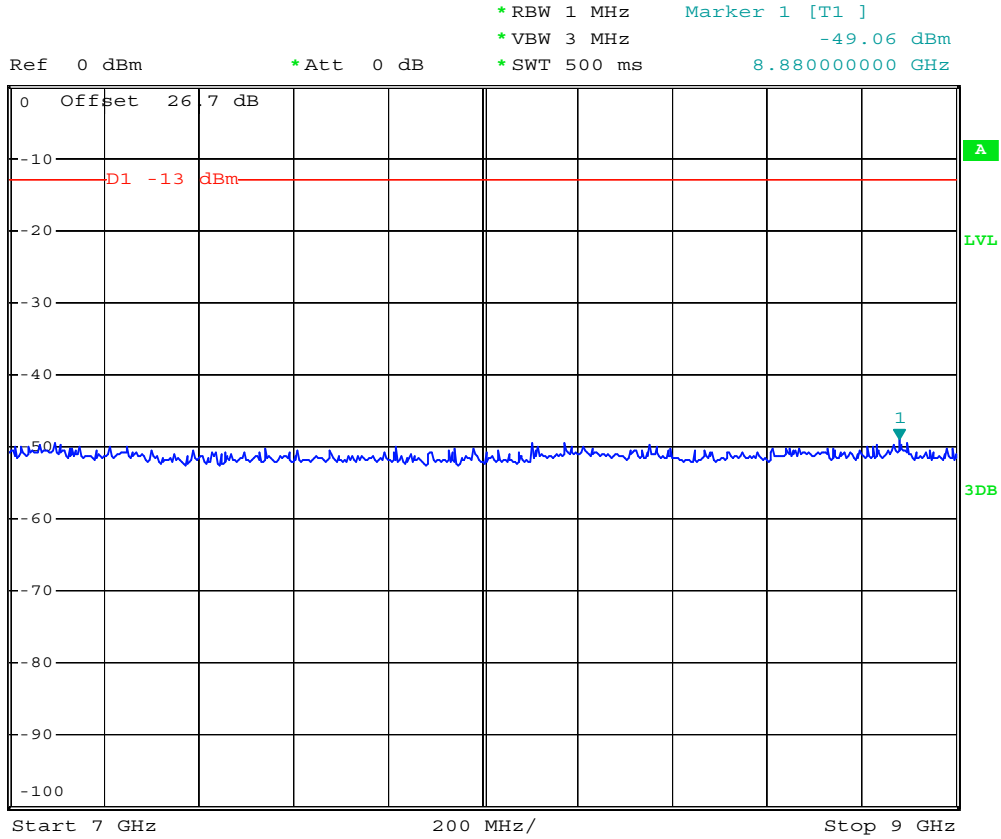
- Test Mode : GSM850 (GSM) CH189
- Frequency Range : 3G-7G



Date: 4.APR.2008 06:30:02



- Test Mode : GSM850 (GSM) CH189
- Frequency Range : 7G-9G



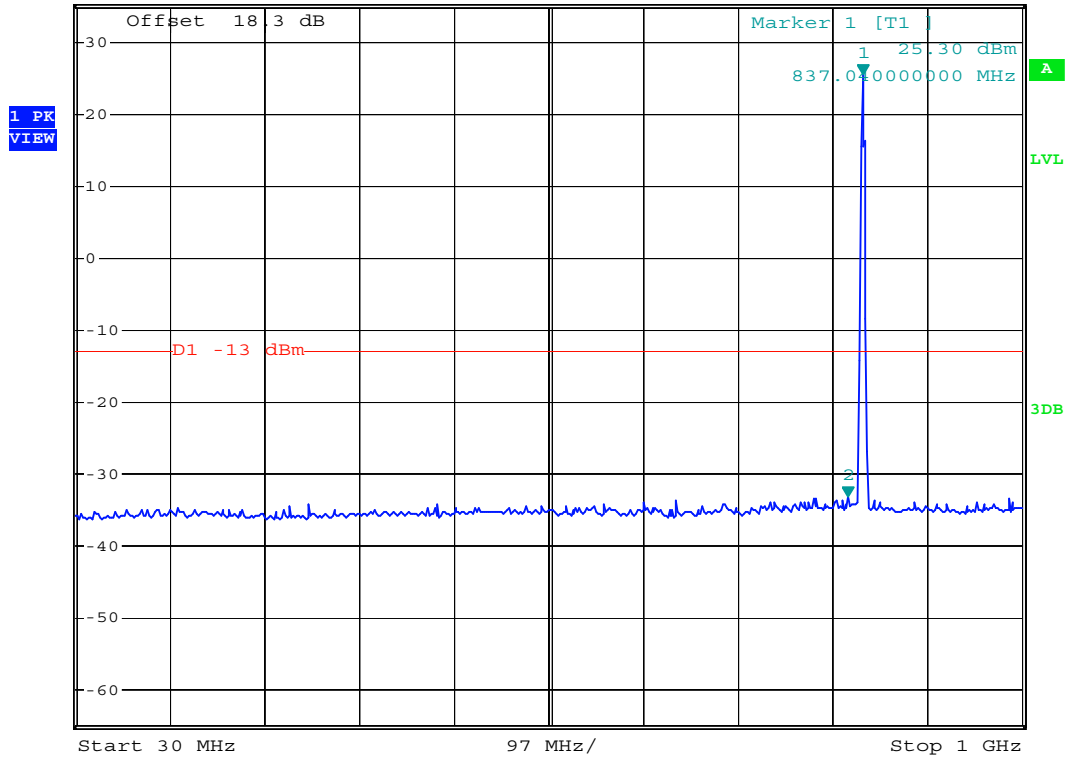
Date: 4.APR.2008 06:30:51



- Mode 2
- Test Mode : GSM850 (EDGE) CH189
- Frequency Range : 30M-1G



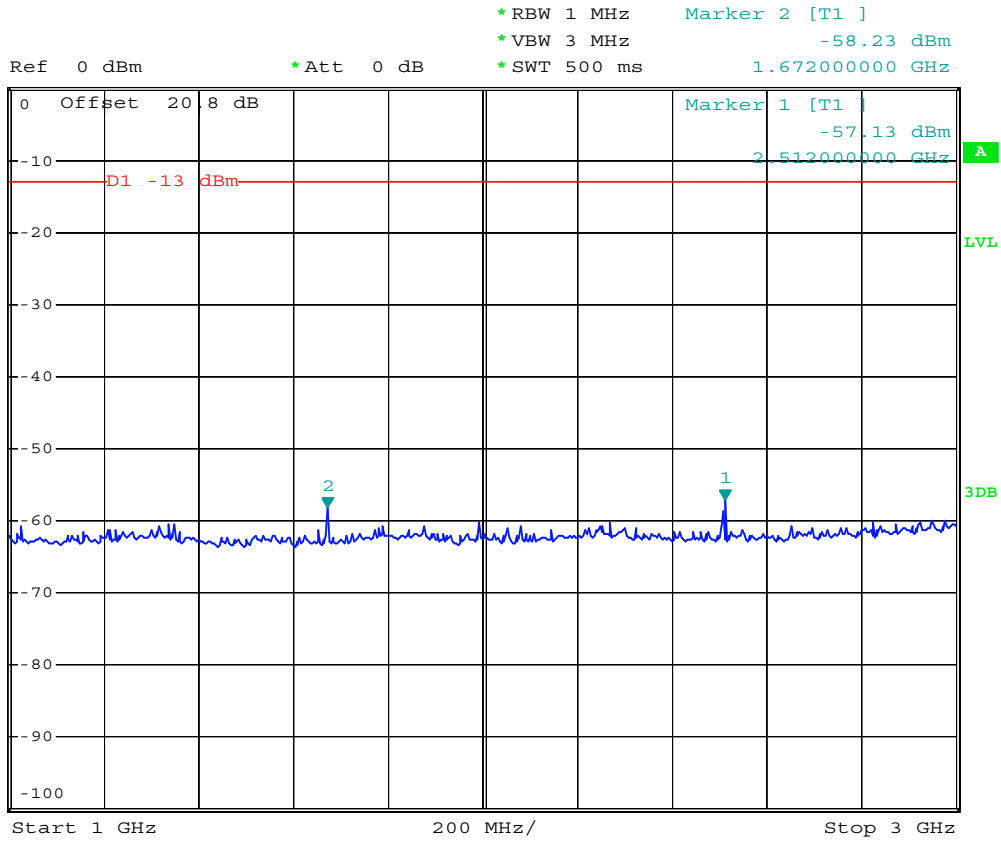
Ref 35 dBm *Att 30 dB *RBW 1 MHz Marker 2 [T1]
 *VBW 3 MHz -33.24 dBm
 *SWT 500 ms 821.520000000 MHz



Date: 4.APR.2008 06:15:05



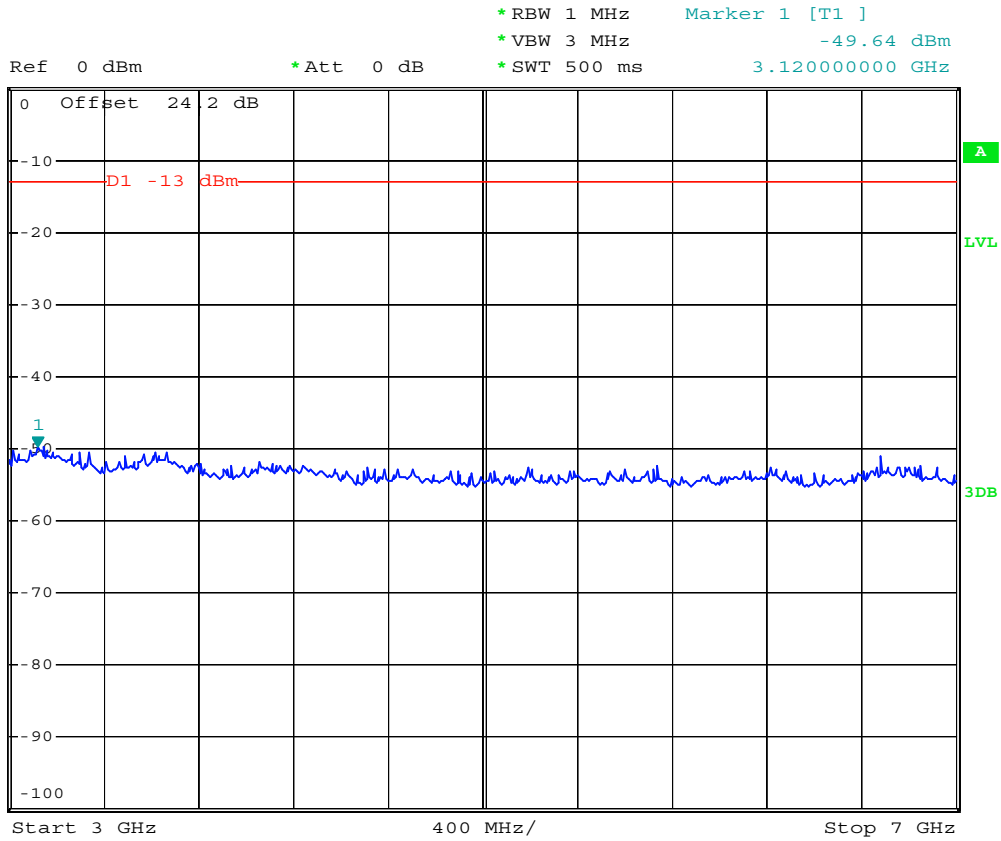
- Test Mode : GSM850 (EDGE) CH189
- Frequency Range : 1G-3G



Date: 4.APR.2008 06:23:03



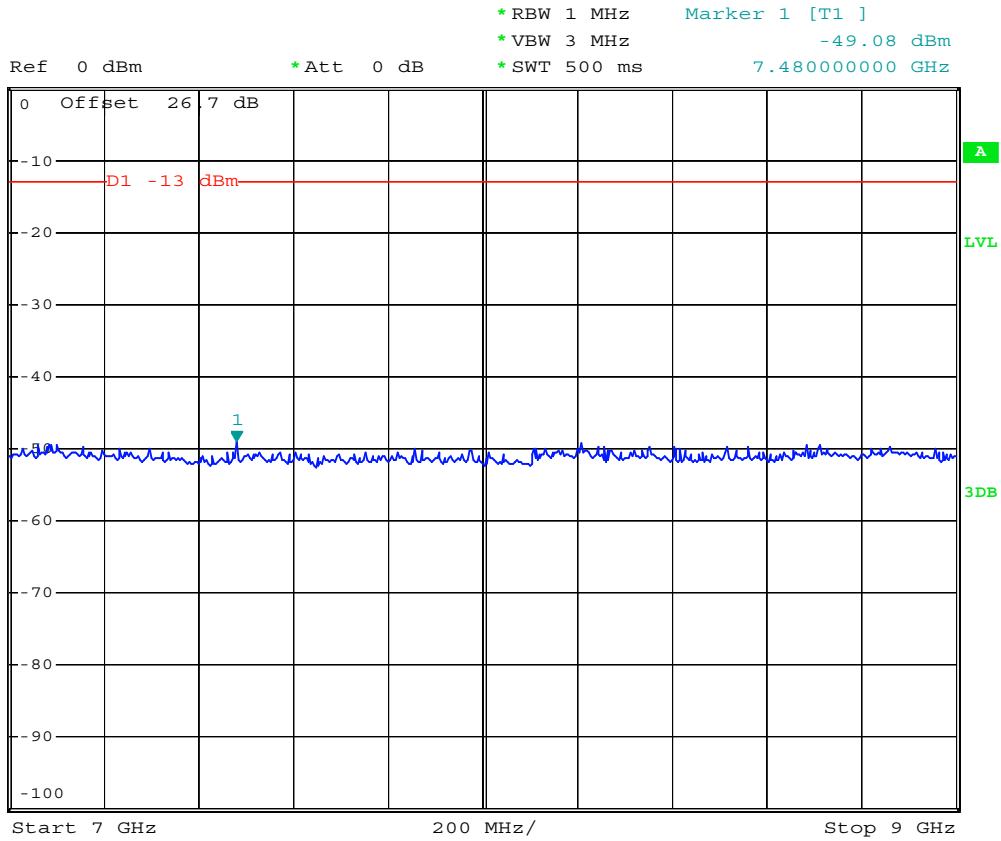
- Test Mode : GSM850 (EDGE) CH189
- Frequency Range : 3G-7G



Date: 4.APR.2008 06:27:16



- Test Mode : GSM850 (EDGE) CH189
- Frequency Range : 7G-9G



Date: 4.APR.2008 06:31:26



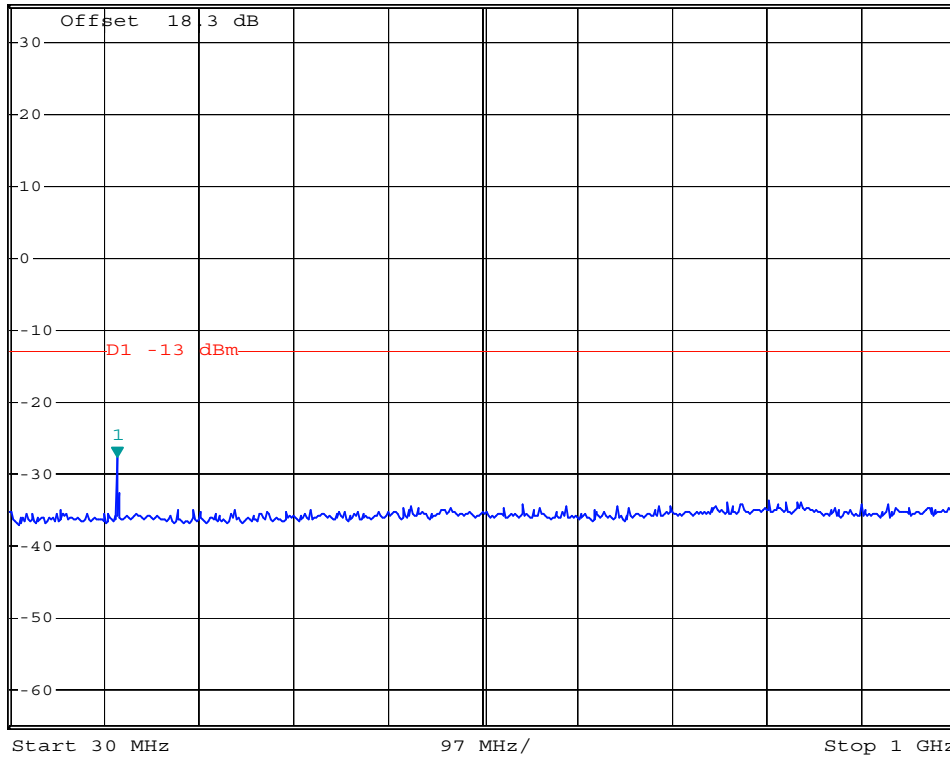
- Mode 3
- Test Mode : GSM1900 (GSM) CH661
- Frequency Range : 30M-1G



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -27.61 dBm
 *SWT 500 ms 140.58000000 MHz

Ref 35 dBm *Att 30 dB

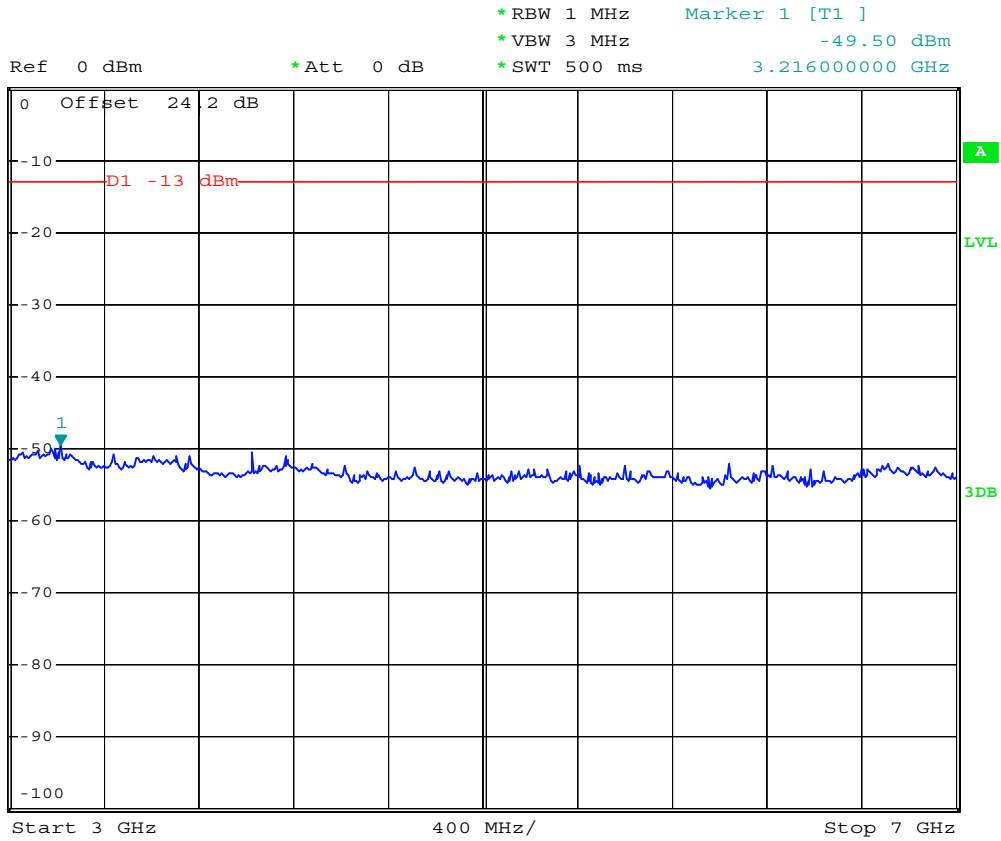
1 PK
VIEW



Date: 4.APR.2008 05:57:40



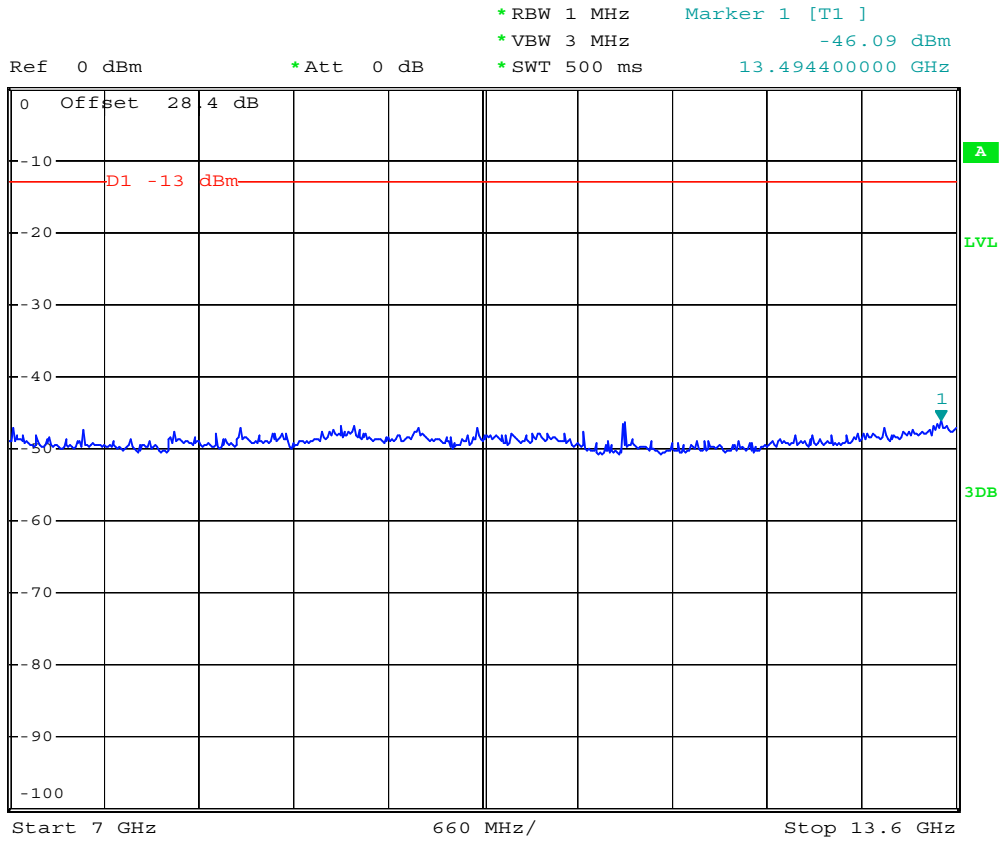
- Test Mode : GSM1900 (GSM) CH661
- Frequency Range : 3G-7G



Date: 4.APR.2008 06:29:29



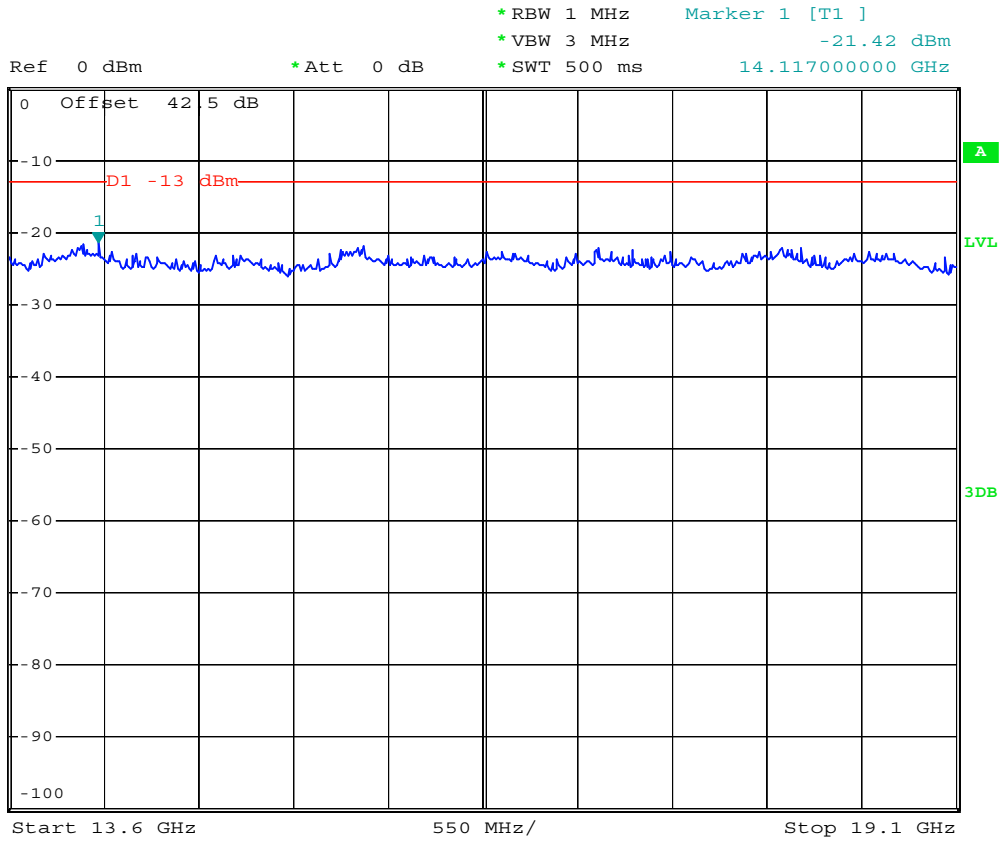
- Test Mode : GSM1900 (GSM) CH661
- Frequency Range : 7G-13.6G



Date: 4.APR.2008 06:34:20



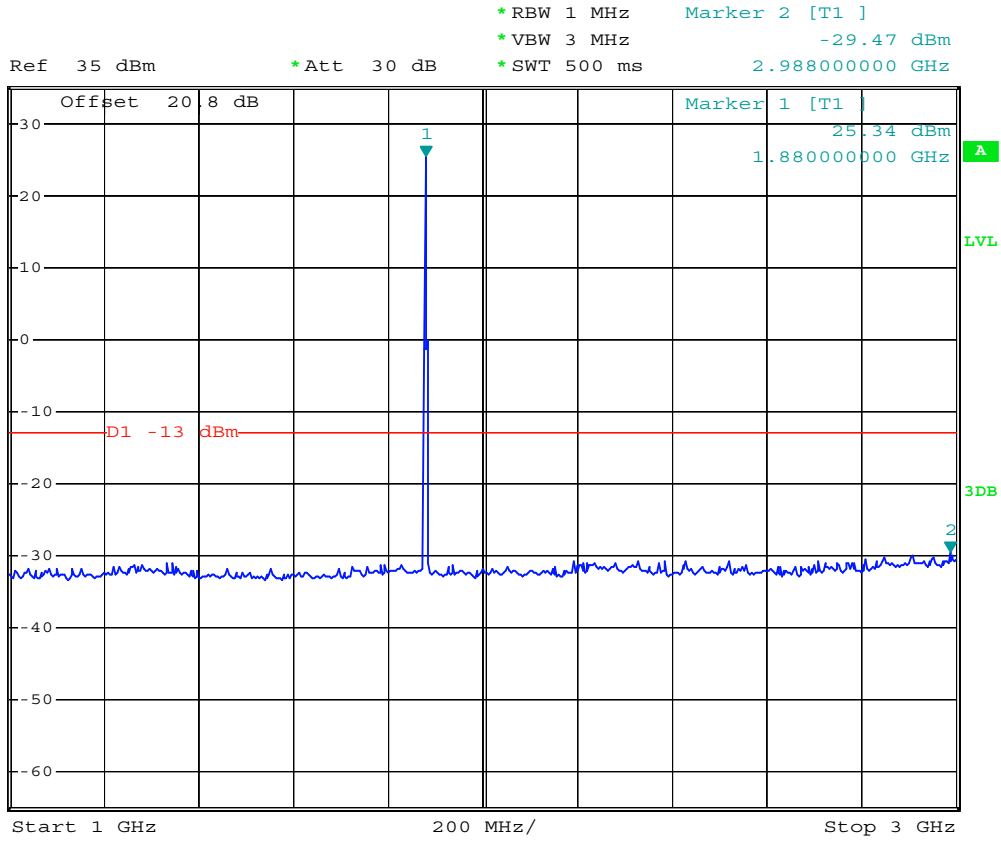
- Test Mode : GSM1900 (GSM) CH661
- Frequency Range : 13.6G-19.1G



Date: 4.APR.2008 06:36:34



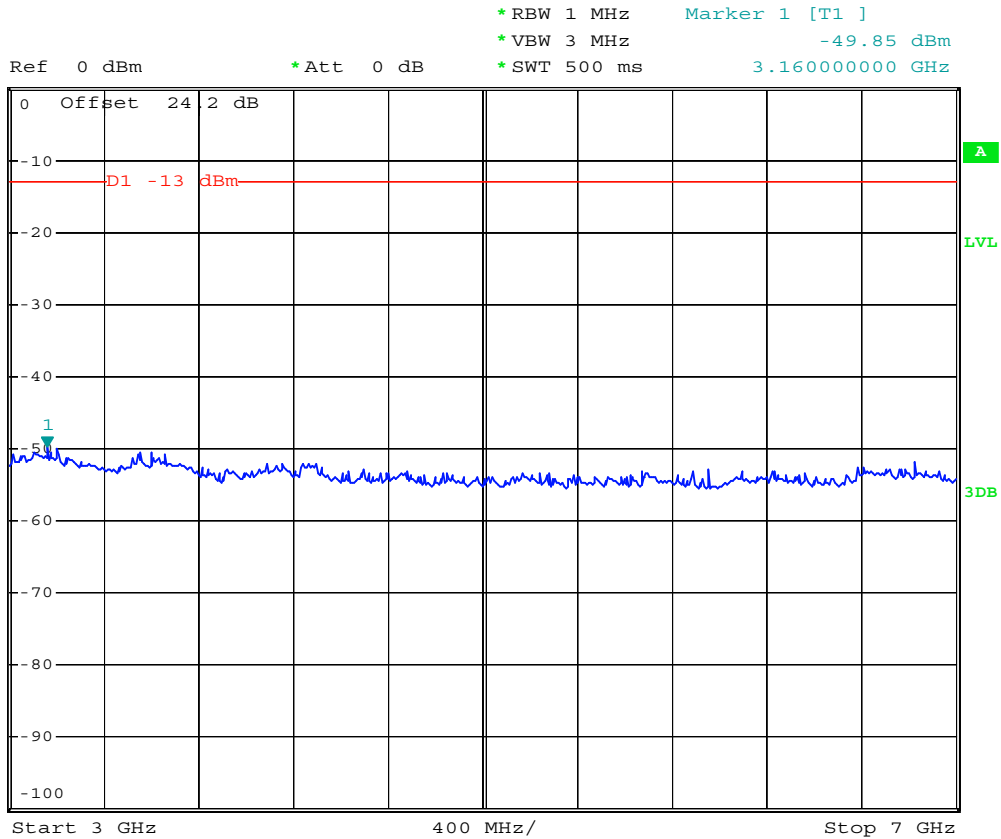
- Test Mode : GSM1900 (EDGE) CH661
- Frequency Range : 1G-3G



Date: 4.APR.2008 06:17:39



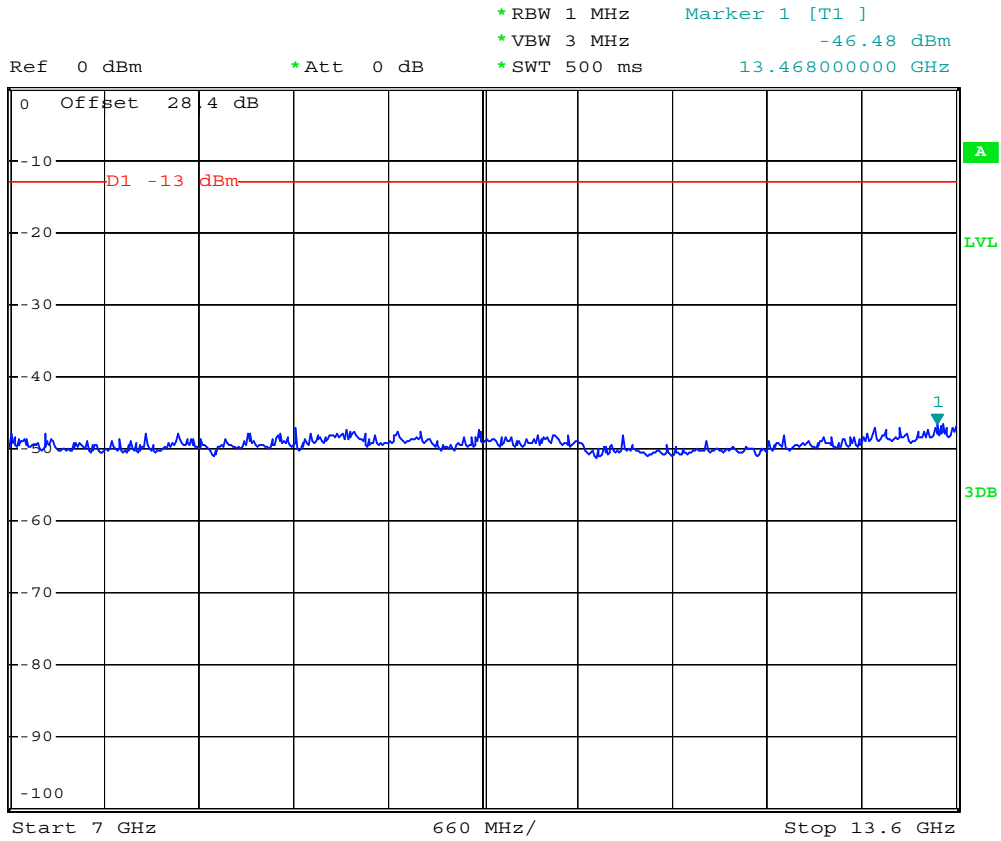
- Test Mode : GSM1900 (EDGE) CH661
- Frequency Range : 3G-7G



Date: 4.APR.2008 06:27:43



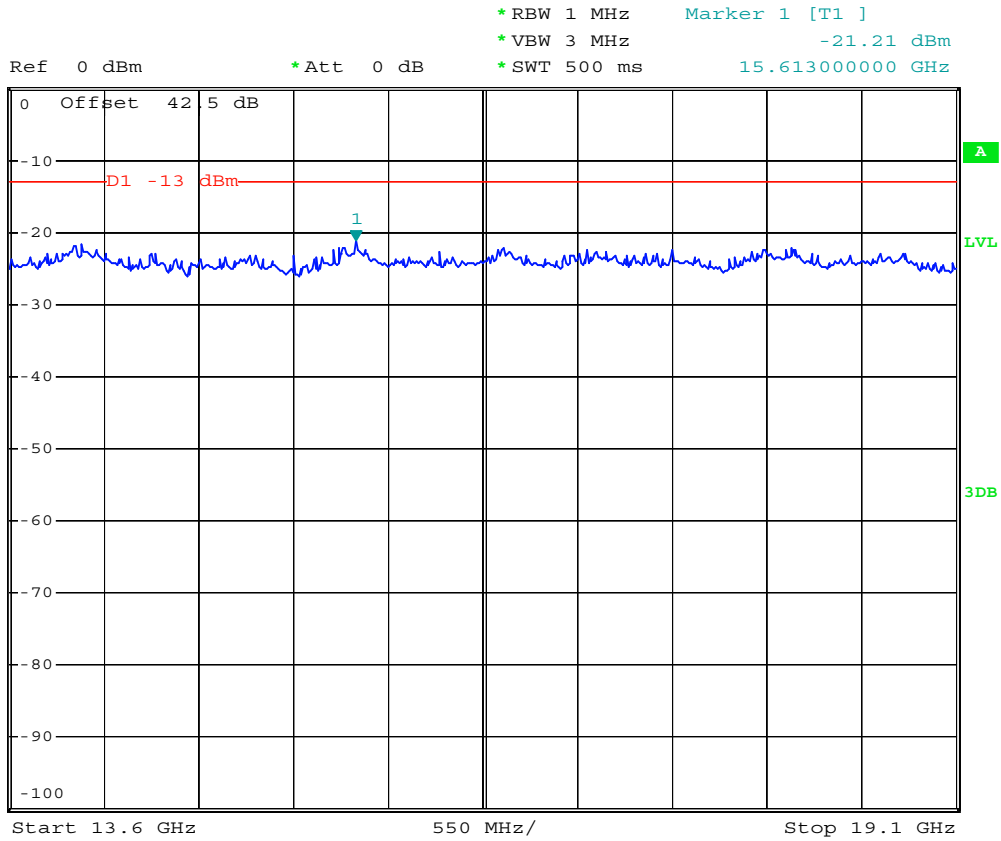
- Test Mode : GSM1900 (EDGE) CH661
- Frequency Range : 7G-13.6G



Date: 4.APR.2008 06:35:29



- Test Mode : GSM1900 (EDGE) CH661
- Frequency Range : 13.6G-19.1G



Date: 4.APR.2008 06:36:08

4.6 Field Strength of Spurious Radiation

Equivalent isotropic radiated Power Measurements by substitution method according to ANSI/TIA/EIA-603-C.

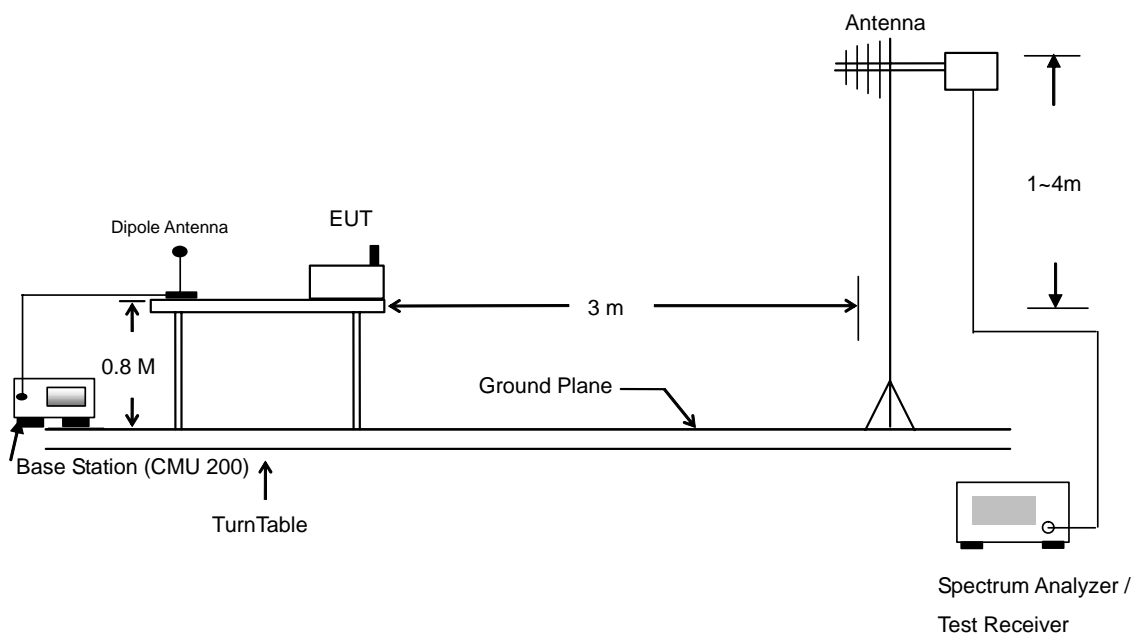
4.6.1 Measurement Instruments

As described in chapter 5 of this test report.

4.6.2 Test Procedure

- a. The EUT was placed on a rotatable wooden table with 0.8 meter about ground.
- b. The EUT was set 3 meters from the receiving antenna which was mounted on the antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest spurious emission.
- d. The height of the receiving antenna is varied between one meter and four meters to reach the maximum spurious emission for both horizontal and vertical polarizations.
- e. Taking the record of maximum spurious emission.
- f. A Horn antenna was substituted in place of the EUT and was driven by a signal generator.
- g. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
- h. Taking the record of output power at antenna port.
- i. Repeat step 7 to step 8 for another polarization.
- j. Emission level (dBm) = output power + substitution Gain.

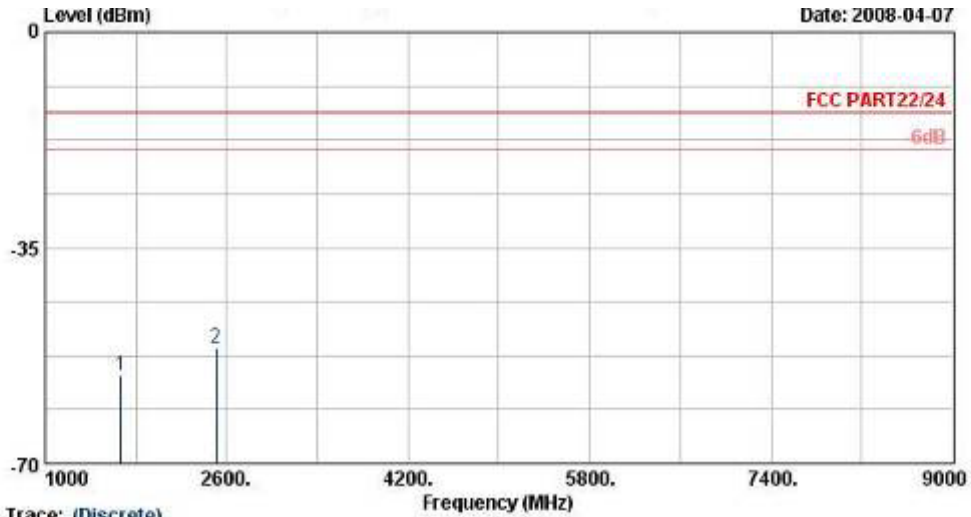
4.6.3 Test Setup Layout





4.6.4 Test Data

- Sample A
- Mode 1
- Horizontal Polarization



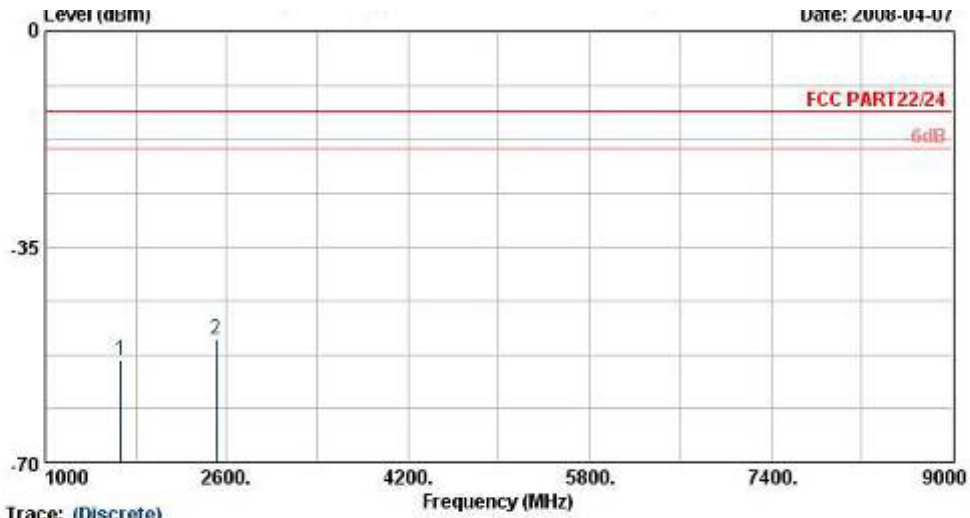
Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) HORIZONTAL
 EUT : MCS574 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : GSM 850 Link Mode ; Ch189 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 1669 | -55.69 | -13 | -58.97 | -54.7 | 3.39 | 4.55 | H | Pass |
| 2509 | -51.14 | -13 | -58.57 | -51.2 | 3.71 | 5.92 | H | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Vertical Polarization



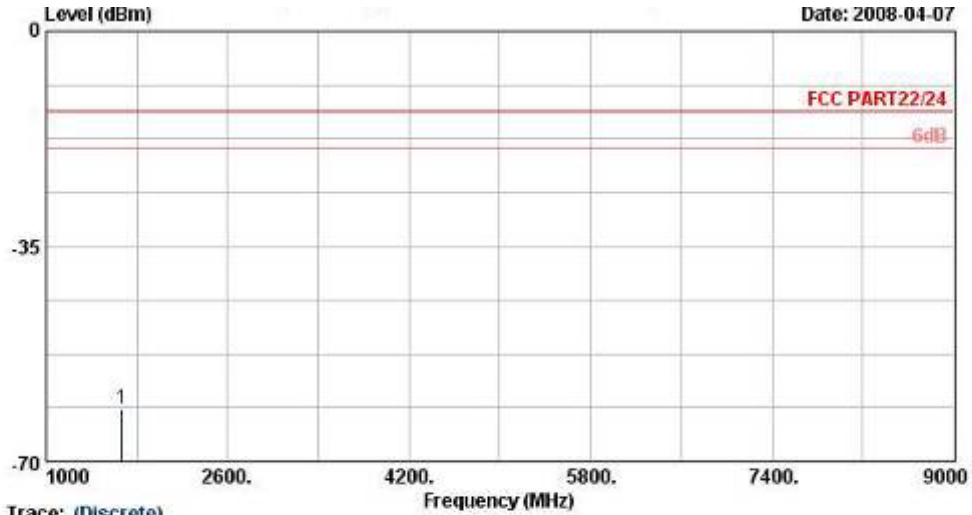
Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) VERTICAL
 EUT : MCS574 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : GSM 850 Link Mode ; Ch1 89 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 1669 | -53.28 | -13 | -58.21 | -51.9 | 3.39 | 4.16 | V | Pass |
| 2509 | -49.84 | -13 | -59.41 | -49.7 | 3.71 | 5.72 | V | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



- Sample A
- Mode 2
- Horizontal Polarization



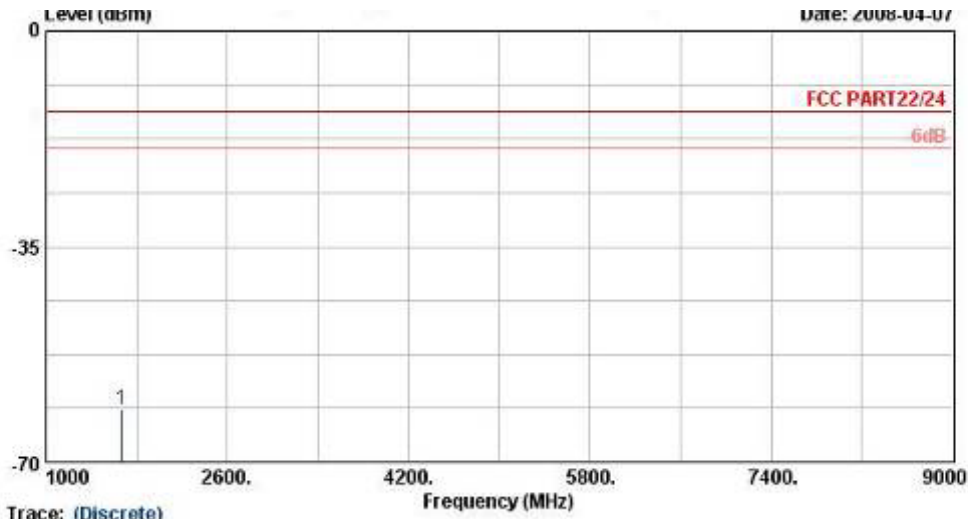
Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) HORIZONTAL
 EUT : MC5574 EV1 FCC submit with 1D 2D Scanner
 and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : EDGE Link Mode ; Ch189 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 1669 | -61.29 | -13 | -62.2 | -60.3 | 3.39 | 4.55 | H | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Vertical Polarization



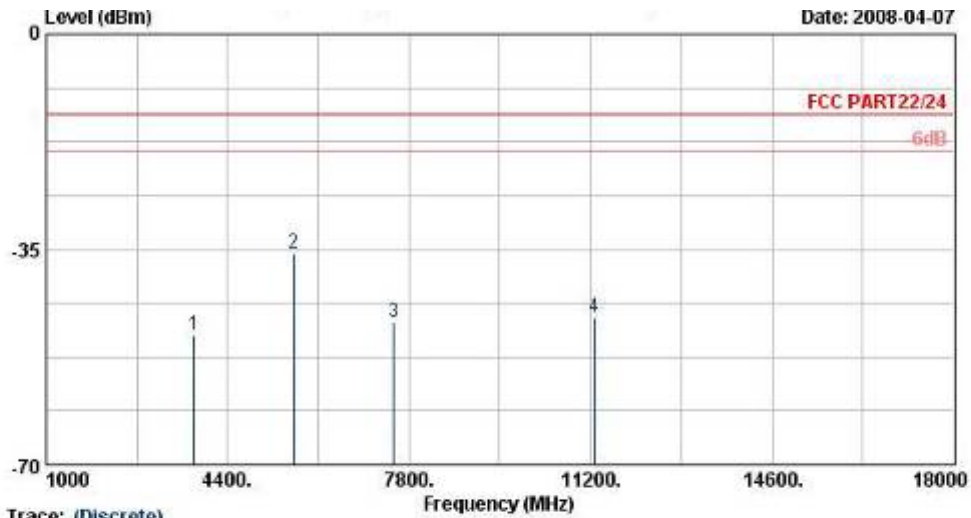
Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) VERTICAL
 EUT : MC5574 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : EDGE Link Mode ; Ch189 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 1669 | -61.48 | -13 | -64.09 | -60.1 | 3.39 | 4.16 | V | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



- Sample A
- Mode 3
- Horizontal Polarization



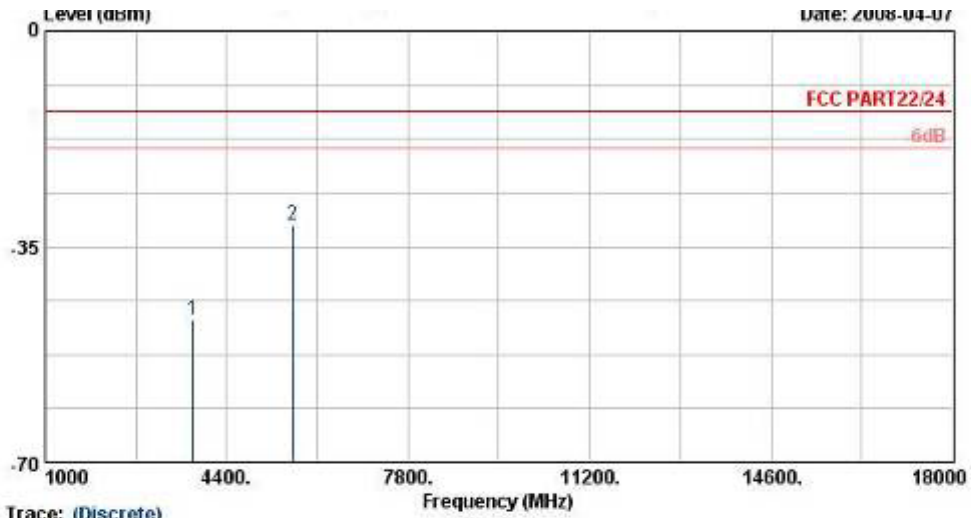
Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) HORIZONTAL
 EUT : MCS574 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : PCS 1900 Link Mode ; Ck661 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 3760 | -48.83 | -13 | -60.46 | -52.2 | 4.03 | 7.40 | H | Pass |
| 5636 | -35.66 | -13 | -54.27 | -40.6 | 3.87 | 8.81 | H | Pass |
| 7520 | -46.82 | -13 | -65.53 | -50.7 | 5.83 | 9.71 | H | Pass |
| 11280 | -46.02 | -13 | -68.07 | -48.3 | 8.48 | 10.76 | H | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Vertical Polarization



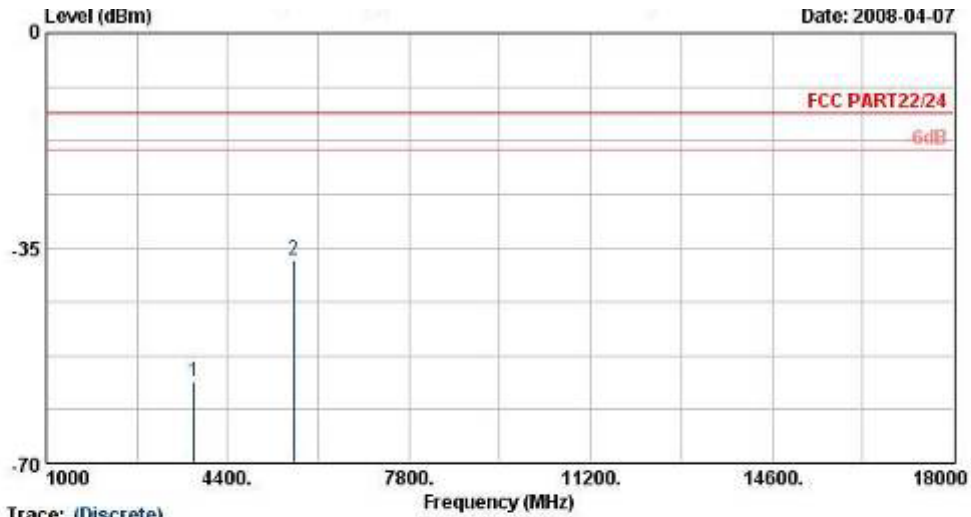
Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) VERTICAL
 EUT : MCS574 EV1 FCC submit with 1D 2D Scanner
 and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : PCS 1900 Link Mode ; Ch661 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 3760 | -46.72 | -13 | -60.71 | -50.6 | 4.03 | 7.91 | V | Pass |
| 5636 | -31.40 | -13 | -51.39 | -37.3 | 3.87 | 9.77 | V | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



- Sample A
- Mode 4
- Horizontal Polarization



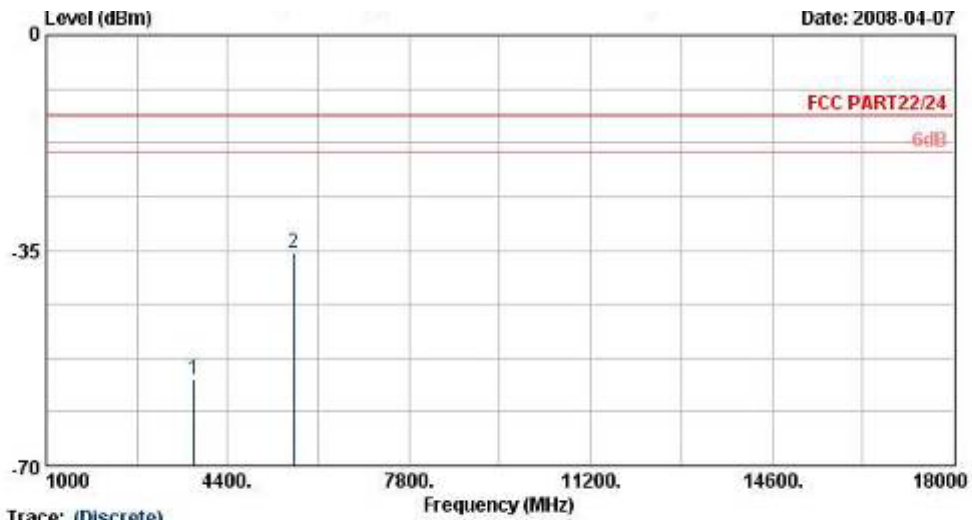
Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) HORIZONTAL
 EUT : MC5574 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : EDGE Link Mode ; Ch561 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 3760 | -56.63 | -13 | -65 | -60 | 4.03 | 7.40 | H | Pass |
| 5636 | -37.06 | -13 | -55.54 | -42 | 3.87 | 8.81 | H | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Vertical Polarization



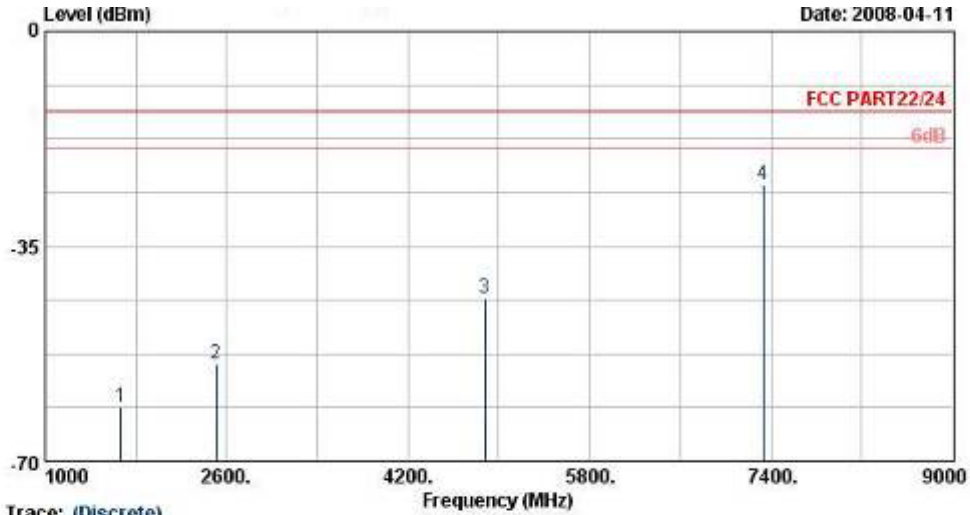
Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(060306) VERTICAL
 EUT : MC5574 EV1 FCC submit with ID 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : EDGE Link Mode ; Ch661 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 3760 | -55.82 | -13 | -65.32 | -59.7 | 4.03 | 7.91 | V | Pass |
| 5636 | -35.30 | -13 | -54.64 | -41.2 | 3.87 | 9.77 | V | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



- Sample A
- Mode 5
- Horizontal Polarization



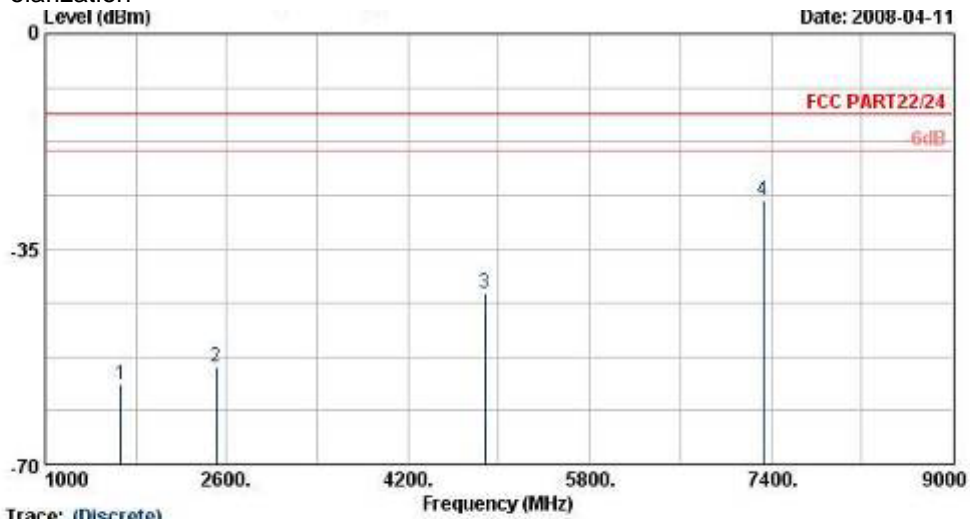
Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) HORIZONTAL
 EUT : MCS574 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : GSM 850 Link Mode ; Ch189 + Adaptor
 : + BT Tx_Ch39
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 1669 | -61.09 | -13 | -64.08 | -60.1 | 3.39 | 4.55 | H | Pass |
| 2509 | -54.14 | -13 | -61.69 | -54.2 | 3.71 | 5.92 | H | Pass |
| 4875 | -43.35 | -13 | -58.31 | -47.1 | 2.61 | 8.51 | H | Pass |
| 7330 | -24.96 | -13 | -43.88 | -26.3 | 6.22 | 9.71 | H | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Vertical Polarization



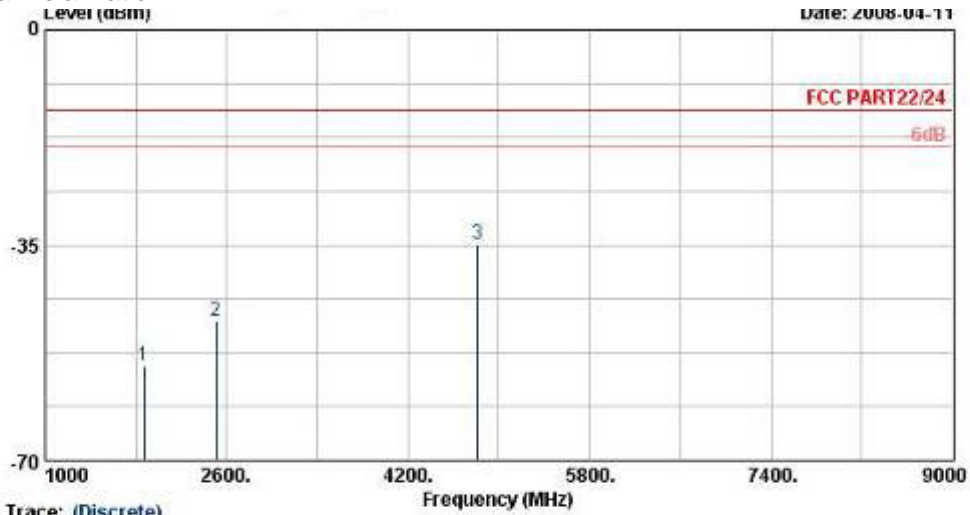
Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) VERTICAL
 EUT : MCS574 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : GSM 850 Link Mode ; Ch189 + Adaptor
 : + BT Tx_Ch39
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 1666 | -56.98 | -13 | -60.87 | -55.6 | 3.39 | 4.16 | V | Pass |
| 2509 | -54.14 | -13 | -62.75 | -54.0 | 3.71 | 5.72 | V | Pass |
| 4875 | -42.04 | -13 | -59.3 | -46.4 | 2.61 | 9.12 | V | Pass |
| 7330 | -26.96 | -13 | -46.38 | -29.4 | 6.22 | 10.81 | V | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



- Sample A
- Mode 6
- Horizontal Polarization



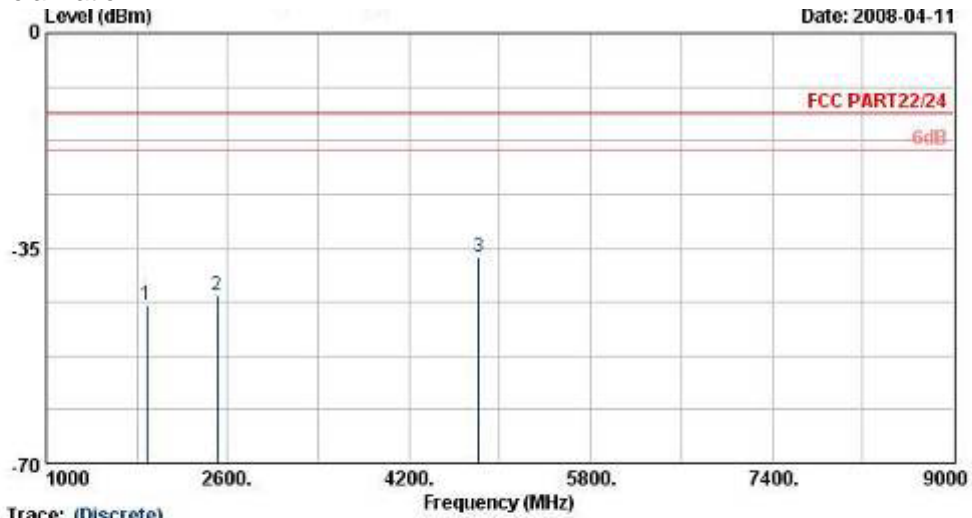
Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) HORIZONTAL
 EUT : MCSS74 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : GSM 850 Link Mode , Ch189 + Adaptor
 : + 11b Tx_Ch01
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 1873 | -54.69 | -13 | -60.69 | -53.7 | 3.39 | 4.55 | H | Pass |
| 2506 | -47.44 | -13 | -55.83 | -47.5 | 3.71 | 5.92 | H | Pass |
| 4815 | -34.85 | -13 | -51.84 | -38.6 | 2.61 | 8.51 | H | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Vertical Polarization



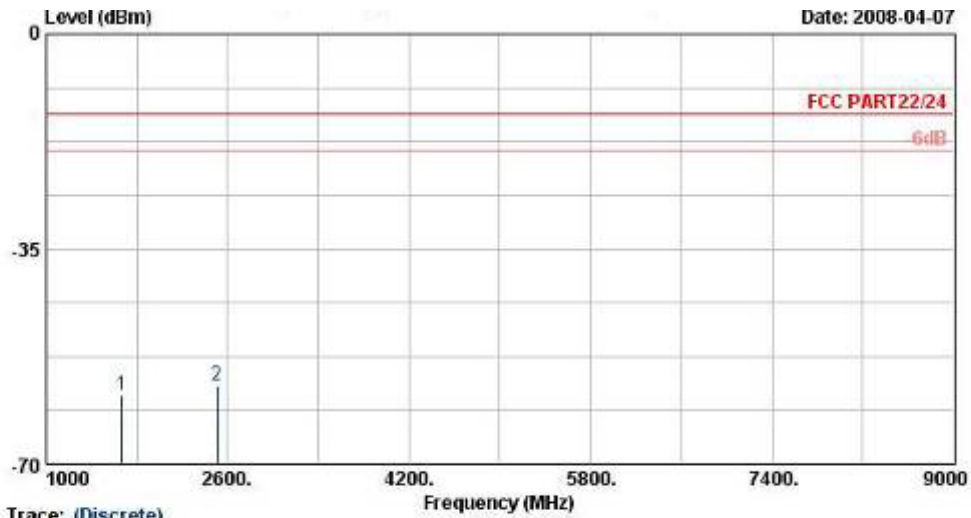
Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) VERTICAL
 EUT : MCS574 EV1 FCC submit with 1D 2D Scanner
 and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : GSM 850 Link Mode ; Ch189 + Adaptor
 + 11b Tx_Cb01
 Plans : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 1882 | -44.18 | -13 | -54.93 | -42.8 | 3.39 | 4.16 | V | Pass |
| 2509 | -42.74 | -13 | -53.97 | -42.6 | 3.71 | 5.72 | V | Pass |
| 4815 | -36.44 | -13 | -55.75 | -40.8 | 2.61 | 9.12 | V | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



- Sample B
- Mode 7
- Horizontal Polarization



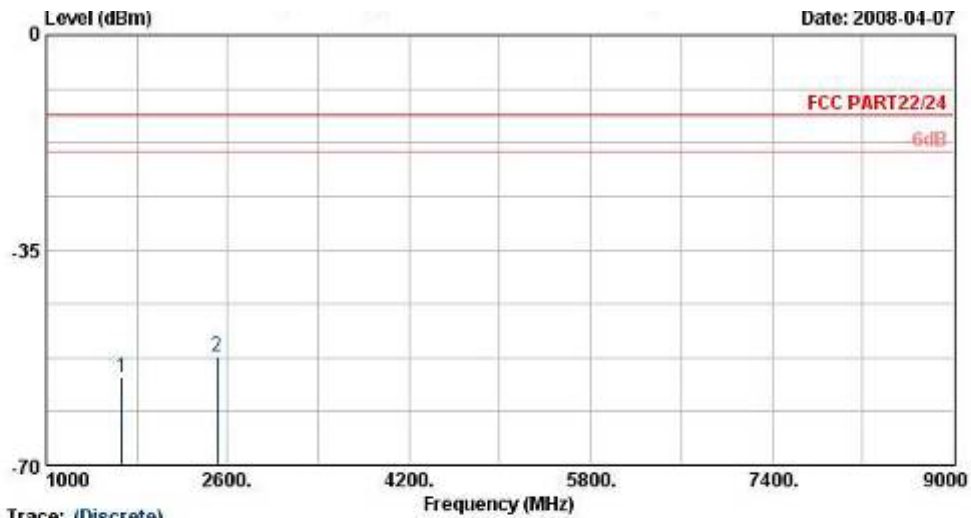
Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) HORIZONTAL
 EUT : MCS574 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : GSM 850 Link Mode ; Ch189 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 1669 | -58.69 | -13 | -60.77 | -57.7 | 3.39 | 4.55 | H | Pass |
| 2509 | -57.14 | -13 | -62.58 | -57.2 | 3.71 | 5.92 | H | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Vertical Polarization



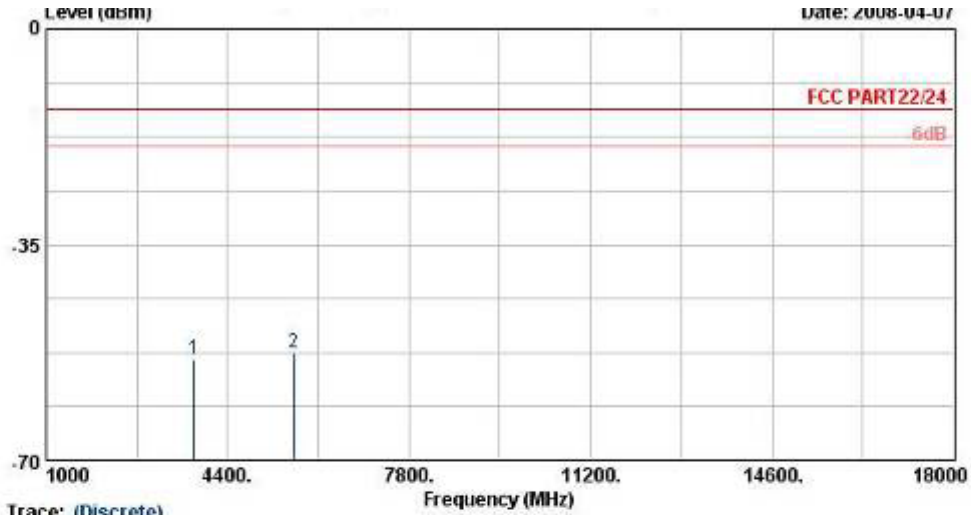
Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) VERTICAL
 EUT : MC5574 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : GSM 850 Link Mode ; Ch189 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 1669 | -55.58 | -13 | -60.17 | -54.2 | 3.39 | 4.16 | V | Pass |
| 2509 | -52.34 | -13 | -60.86 | -52.2 | 3.71 | 5.72 | V | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



- Sample B
- Mode 8
- Horizontal Polarization



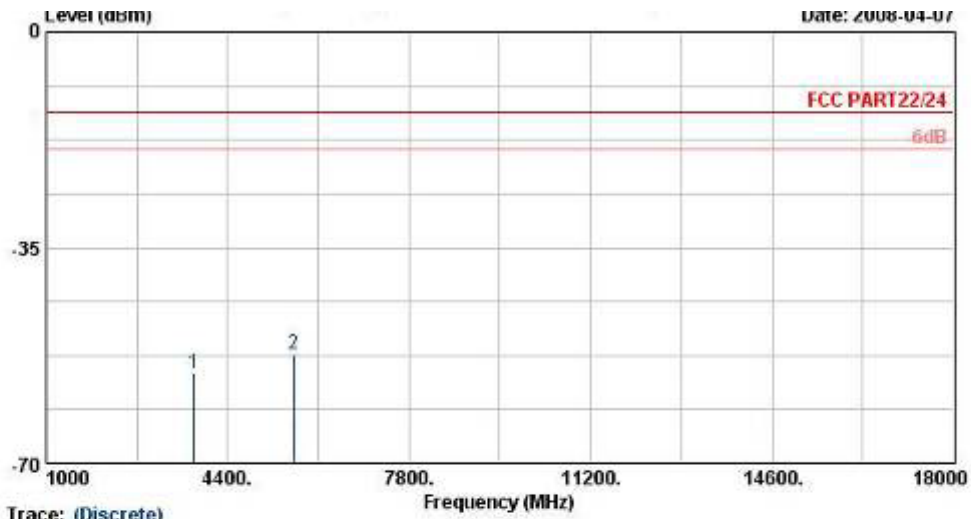
Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) HORIZONTAL
 EUT : MCS574 EV1 FCC submit with 1D 2D Scanner
 and w/ camera w/o camera.
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : PCS 1900 Link Mode ; Ch661 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 3760 | -53.73 | -13 | -63.73 | -57.1 | 4.03 | 7.40 | H | Pass |
| 5636 | -52.46 | -13 | -65.47 | -57.4 | 3.87 | 8.81 | H | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Vertical Polarization



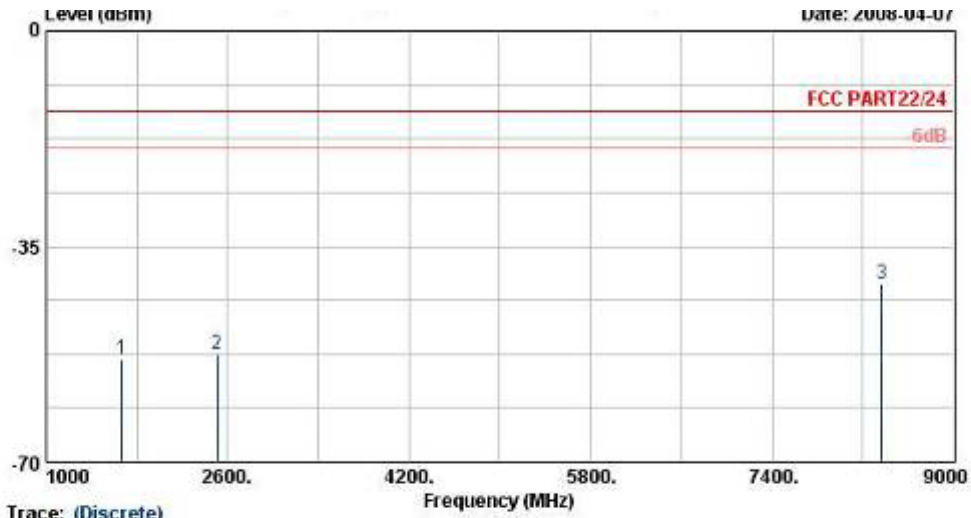
Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) VERTICAL
 EUT : MC5574 EV1 FCC submit with 1D 2D Scanner
 and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : PCS 1900 Link Mode ; Ch661 + Adaptor
 Plasma : F1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 3760 | -55.52 | -13 | -65.27 | -59.4 | 4.03 | 7.91 | V | Pass |
| 5636 | -52.20 | -13 | -65.46 | -58.1 | 3.87 | 9.77 | V | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



- Sample C
- Mode 9
- Horizontal Polarization



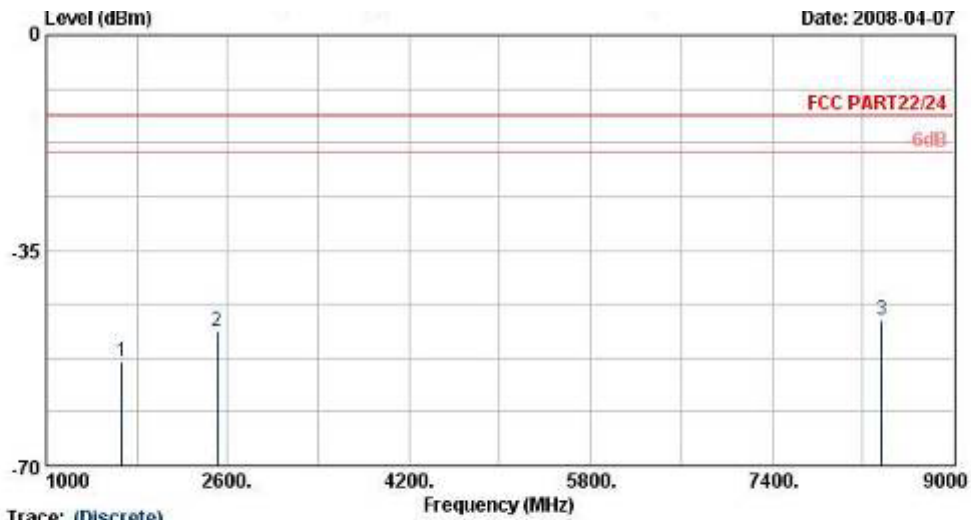
Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) HORIZONTAL
 EUT : MC5574 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : GSM 850 Link Mode ; Ch189 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 1669 | -53.39 | -13 | -57.41 | -52.4 | 3.39 | 4.55 | H | Pass |
| 2509 | -52.64 | -13 | -59.79 | -52.7 | 3.71 | 5.92 | H | Pass |
| 8370 | -41.06 | -13 | -60.61 | -43.8 | 5.59 | 10.48 | H | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Vertical Polarization



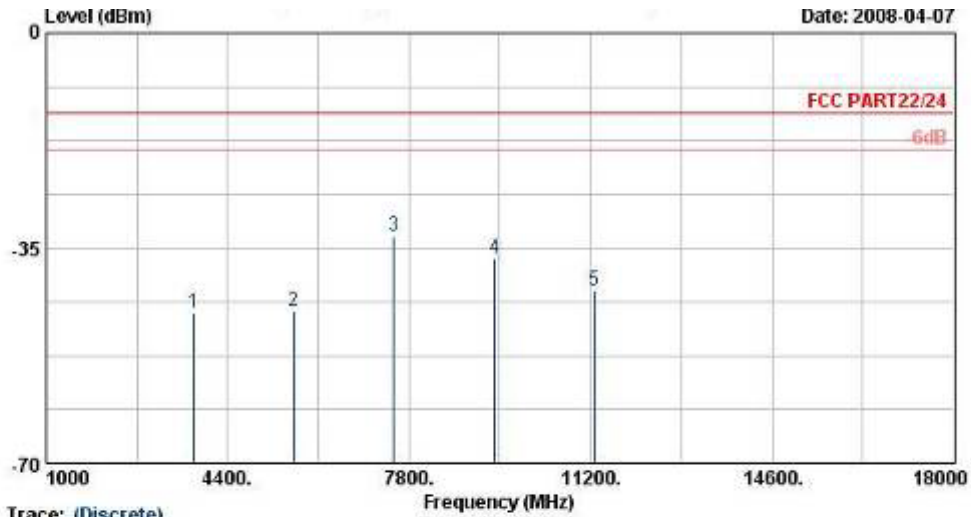
Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) VERTICAL
 EUT : MC5574 EV1 FCC submit with ID 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : GSM 830 Link Mode ; Ch1 89 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 1669 | -53.18 | -13 | -58.72 | -51.8 | 3.39 | 4.16 | V | Pass |
| 2509 | -48.14 | -13 | -58.22 | -48.0 | 3.71 | 5.72 | V | Pass |
| 8370 | -46.38 | -13 | -64.43 | -50.0 | 5.59 | 11.36 | V | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



- Sample C
- Mode 10
- Horizontal Polarization



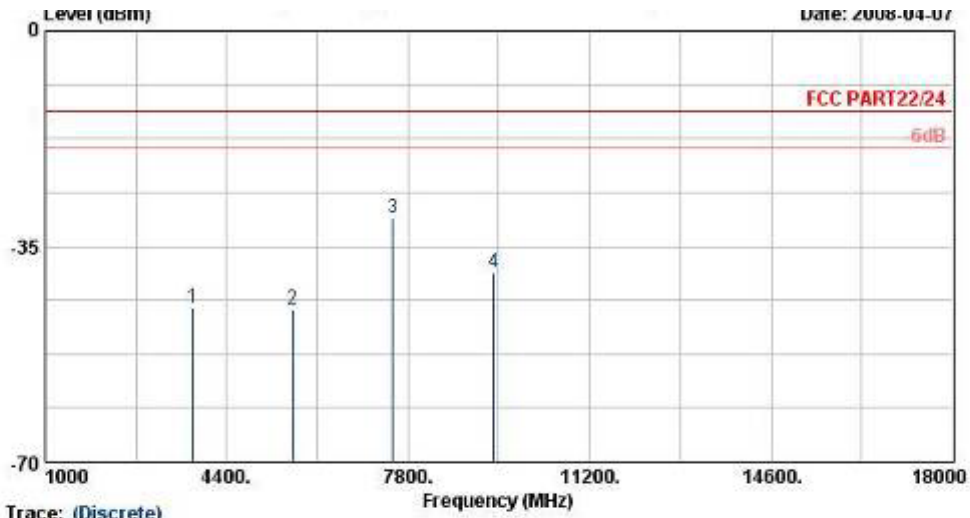
Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) HORIZONTAL
 EUT : MCS574 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : PCS 1900 Link Mode ; Ch661 * Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 3760 | -45.53 | -13 | -57.94 | -48.9 | 4.03 | 7.40 | H | Pass |
| 5636 | -45.16 | -13 | -61.63 | -50.1 | 3.87 | 8.81 | H | Pass |
| 7520 | -33.12 | -13 | -53.04 | -37.0 | 5.83 | 9.71 | H | Pass |
| 9396 | -36.60 | -13 | -58.92 | -41.3 | 6.02 | 10.72 | H | Pass |
| 11280 | -42.02 | -13 | -65.44 | -44.3 | 8.48 | 10.76 | H | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Vertical Polarization



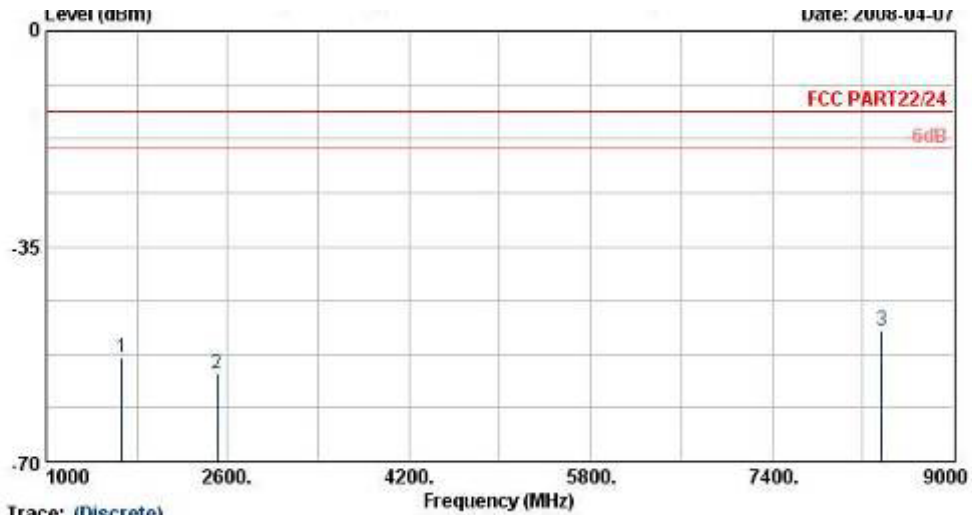
Site : 09CH07-HY
 Condition : FCC PART22/24 HF-EIRP(090306) VERTICAL
 EUT : MCS574 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : PCS 1900 Link Mode ; Ch661 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 3760 | -45.02 | -13 | -59.78 | -48.9 | 4.03 | 7.91 | V | Pass |
| 5636 | -45.40 | -13 | -62.26 | -51.3 | 3.87 | 9.77 | V | Pass |
| 7520 | -30.42 | -13 | -52.59 | -35.4 | 5.83 | 10.81 | V | Pass |
| 9396 | -39.40 | -13 | -61.99 | -44.9 | 6.02 | 11.52 | V | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



- Sample D
- Mode 11
- Horizontal Polarization



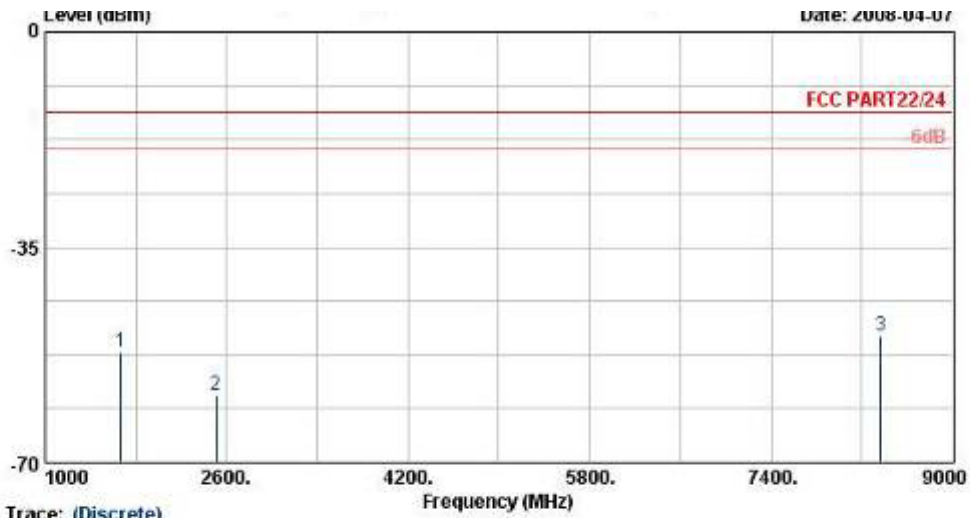
Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) HORIZONTAL
 EUT : MC5574 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : GSM 850 Link Mode ; Ch189 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 1669 | -53.09 | -13 | -57.40 | -52.1 | 3.39 | 4.55 | H | Pass |
| 2509 | -55.74 | -13 | -65.77 | -55.8 | 3.71 | 5.92 | H | Pass |
| 8370 | -48.56 | -13 | -65.58 | -51.3 | 5.59 | 10.48 | H | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Vertical Polarization



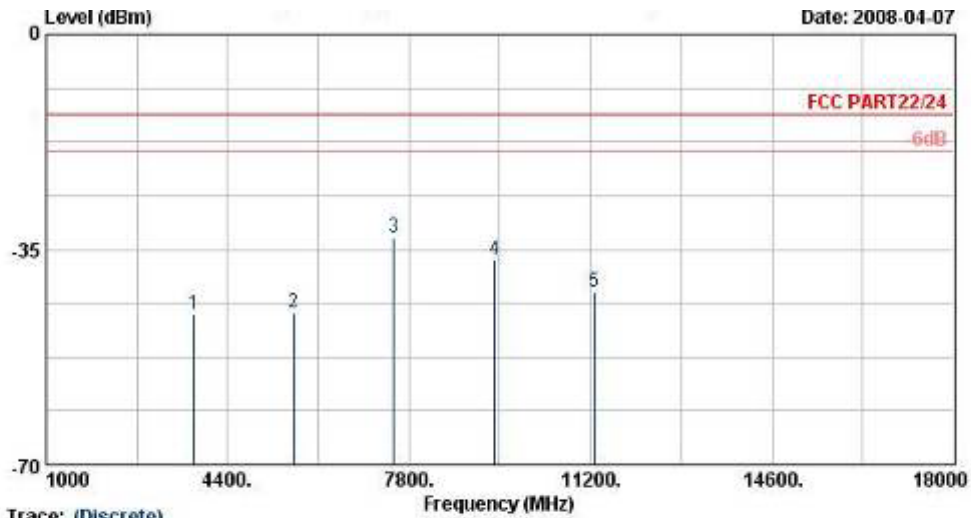
Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) VERTICAL
 EUT : MCSS74 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : GSM 850 Link Mode ; Ch189 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 1669 | -51.98 | -13 | -57.69 | -50.6 | 3.39 | 4.16 | V | Pass |
| 2509 | -59.04 | -13 | -64.82 | -58.9 | 3.71 | 5.72 | V | Pass |
| 8370 | -49.48 | -13 | -66.34 | -53.1 | 5.59 | 11.36 | V | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



- Sample D
- Mode 12
- Horizontal Polarization



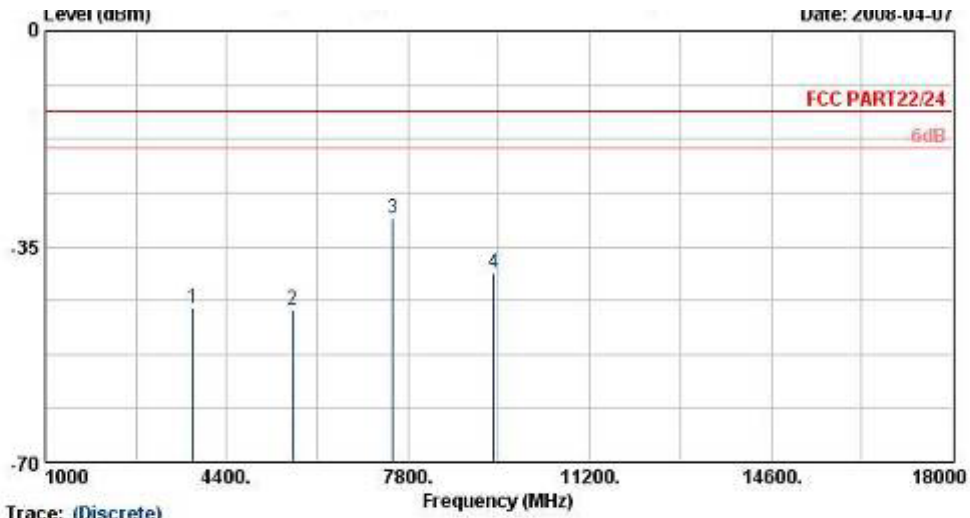
Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-EIRP(080306) HORIZONTAL
 EUT : MC5574 EV1 FCC submit with 1D 2D Scanner
 : and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : PCS 1900 Link Mode ; Ck661 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 3760 | -55.53 | -13 | -64.67 | -58.9 | 4.03 | 7.40 | H | Pass |
| 7520 | -37.72 | -13 | -57.01 | -41.6 | 5.83 | 9.71 | H | Pass |
| 9396 | -40.40 | -13 | -61.52 | -45.1 | 6.02 | 10.72 | H | Pass |
| 11280 | -42.22 | -13 | -65.19 | -44.5 | 8.48 | 10.76 | H | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Vertical Polarization



Site : 09CH07-HY
 Condition : FCC PART22/24 HF-EIRP(090306) VERTICAL
 EUT : MC5574 EV1 FCC submit with 1D 2D Scanner
 and w/ camera w/o camera
 Power : 120Vac/60Hz
 Model : FG 840317
 Mode : PCS 1900 Link Mode ; Ch661 + Adaptor
 Plane : E1

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 3760 | -51.42 | -13 | -63.88 | -55.3 | 4.03 | 7.91 | V | Pass |
| 5636 | -52.80 | -13 | -66.02 | -58.7 | 3.87 | 9.77 | V | Pass |
| 7520 | -36.12 | -13 | -57.49 | -41.1 | 5.83 | 10.81 | V | Pass |
| 9396 | -43.80 | -13 | -63.22 | -49.3 | 6.02 | 11.52 | V | Pass |

Remark : Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

4.7 Frequency Stability (Temperature Variation)

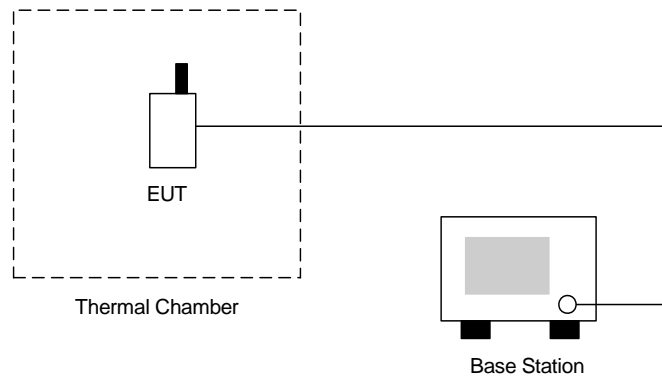
4.7.1 Measurement Instrument

As described in chapter 5 of this test report.

4.7.2 Test Procedure

- a. The EUT and test equipment were set up as shown on the following section.
- b. With all power removed, the temperature was decreased to -30°C and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was noted within one minute.
- c. With power OFF, the temperature was raised in 10°C steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.
- d. The temperature tests were performed for the worst case.
- e. Test data was recorded.

4.7.3 Test Setup Layout





4.7.4 Test Result

• Test Mode : GSM850 (GSM) CH189

| Temperature() | Change (Hz) | Change (ppm) | Limit (ppm) | Result |
|----------------|-------------|--------------|-------------|--------|
| -30 | -17 | -0.01 | 2.5 | Passed |
| -20 | 20 | 0.02 | | |
| -10 | 19 | 0.02 | | |
| 0 | -23 | -0.03 | | |
| 10 | -27 | -0.03 | | |
| 20 | -10 | -0.01 | | |
| 30 | -26 | -0.03 | | |
| 40 | -25 | -0.03 | | |
| 50 | -23 | -0.03 | | |

• Test Mode : GSM850 (EDGE) CH189

| Temperature() | Change (Hz) | Change (ppm) | Limit (ppm) | Result |
|----------------|-------------|--------------|-------------|--------|
| -30 | 18 | 0.01 | 2.5 | Passed |
| -20 | 21 | 0.02 | | |
| -10 | 23 | 0.03 | | |
| 0 | -16 | -0.02 | | |
| 10 | 16 | 0.02 | | |
| 20 | 20 | 0.02 | | |
| 30 | 28 | 0.03 | | |
| 40 | 21 | 0.02 | | |
| 50 | -18 | -0.02 | | |

• Test Mode : GSM1900 (GSM) CH661

| Temperature() | Change (Hz) | Change (ppm) | Limit (ppm) | Result |
|----------------|-------------|--------------|-------------|--------|
| -30 | -103 | -0.05 | 2.5 | Passed |
| -20 | 88 | 0.05 | | |
| -10 | -28 | -0.01 | | |
| 0 | -24 | -0.01 | | |
| 10 | -30 | -0.02 | | |
| 20 | 19 | 0.01 | | |
| 30 | 17 | 0.01 | | |
| 40 | -22 | -0.01 | | |
| 50 | -15 | -0.01 | | |



• Test Mode : GSM1900 (EDGE) CH661

| Temperature() | Change (Hz) | Change (ppm) | Limit (ppm) | Result |
|----------------|-------------|--------------|-------------|--------|
| -30 | 139 | 0.07 | 2.5 | Passed |
| -20 | 67 | 0.04 | | |
| -10 | 36 | 0.02 | | |
| 0 | 19 | 0.01 | | |
| 10 | -18 | -0.01 | | |
| 20 | -21 | -0.01 | | |
| 30 | 25 | 0.01 | | |
| 40 | -15 | -0.01 | | |
| 50 | 31 | 0.02 | | |

4.8 Frequency Stability (Voltage Variation)

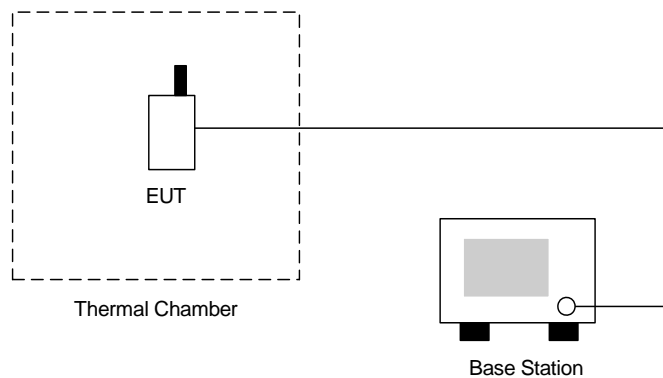
4.8.1 Measurement Instrument

As described in chapter 5 of this test report.

4.8.2 Test Procedure

- a. The EUT was placed in a temperature chamber at $25\pm 5^{\circ}\text{C}$ and connected as the following section.
- b. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
- c. The variation in frequency was measured for the worst case.

4.8.3 Test Setup Layout



**4.8.4 Test Result**

- Test Mode : GSM850 (GSM) CH189

| Voltage(Volt) | Change (Hz) | Change (ppm) | Limit (ppm) | Result |
|---------------|-------------|--------------|-------------|--------|
| 3.7 | -28.0 | -0.03 | 2.5 | Passed |
| 4.2 | -33.0 | -0.04 | | |

- Test Mode : GSM850 (EDGE) CH189

| Voltage(Volt) | Change (Hz) | Change (ppm) | Limit (ppm) | Result |
|---------------|-------------|--------------|-------------|--------|
| 3.7 | 17.0 | 0.02 | 2.5 | Passed |
| 4.2 | 24.0 | 0.03 | | |

- Test Mode : GSM1900 (GSM) CH661

| Voltage(Volt) | Change (Hz) | Change (ppm) | Limit (ppm) | Result |
|---------------|-------------|--------------|-------------|--------|
| 3.7 | -60.0 | -0.03 | 2.5 | Passed |
| 4.2 | -53.0 | -0.03 | | |

- Test Mode : GSM1900 (EDGE) CH661

| Voltage(Volt) | Change (Hz) | Change (ppm) | Limit (ppm) | Result |
|---------------|-------------|--------------|-------------|--------|
| 3.7 | 32.0 | 0.02 | 2.5 | Passed |
| 4.2 | 44.0 | 0.02 | | |

Remark:

1. Normal Voltage = 3.7V.
2. Battery End Point (BEP) = 3.7V.



5. List of Measurement Equipments

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Due Date | Remark |
|---------------------------|------------------|-----------|------------|-----------------|------------------|---------------|-----------------------|
| Spectrum Analyzer | Agilent | E4408B | MY44211028 | 9KHz-26.5GHz | Oct. 17, 2007 | Oct. 16, 2008 | Radiation (03CH06-HY) |
| EMI Test Receiver | R&S | ESCS30 | 100356 | 9KHz-2.75GHz | Jul. 26, 2007 | Jul. 25, 2008 | Radiation (03CH06-HY) |
| Bilog Antenna | SCHAFFNER | CBL6112B | 2885 | 30MHz -2GHz | Dec. 01, 2007 | Nov. 30, 2008 | Radiation (03CH06-HY) |
| Double Ridge Horn Antenna | Com-Power | AH118 | 071025 | 1G~18G | Jun. 04, 2007 | Jun. 03, 2008 | Radiation (03CH06-HY) |
| SHF-EHF Horn | SCHWARZBEC K | BBHA 9170 | 9170-251 | 14G - 40G | Oct. 17, 2007 | Oct. 16, 2008 | Radiation (03CH06-HY) |
| Pre Amplifier | Agilent | 8449B | 3008A01917 | 1G - 26.5G | Nov. 22, 2007 | Nov. 21, 2008 | Radiation (03CH06-HY) |
| Pre Amplifier | EMEC | PA303 | PA303-SMA- | 100K~3GHz | Nov. 26, 2007 | Nov. 25, 2008 | Radiation (03CH06-HY) |
| Base Station Simulator | R & S | CMU200 | 103937 | Third-Band | Oct. 19, 2007 | Oct. 18, 2008 | Radiation (03CH06-HY) |
| Thermal Chamber | Tenyi technology | TTH-D35P | TBN-930701 | N/A | Aug. 02, 2007 | Aug. 01, 2008 | Conduction (TH02-HY) |
| Spectrum | R&S | FSP40 | 100055 | 9KHz~40GHz | Jun. 25, 2007 | Jun. 24, 2008 | Conduction (TH02-HY) |
| Bluetooth Test | ANRITSU | MT8852A | 6K00003939 | N/A | N/A | N/A | Conduction (TH02-HY) |
| Power Divider | ARRA | 5200-1 | 3871 | N/A | Oct. 01, 2007 | Sep. 30, 2008 | Conduction (TH02-HY) |
| DC Power Supply | TOPWARD | 3303D | 740889 | N/A | May 25, 2007 | May 24, 2009 | Conduction (TH02-HY) |
| Power Meter | Agilent | E4416A | GB41292344 | N/A | Feb. 21, 2008 | Feb. 20, 2009 | Conduction (TH02-HY) |
| Power Sensor | Agilent | E9327A | US40441548 | N/A | Feb. 21, 2008 | Feb. 20, 2009 | Conduction (TH02-HY) |



6. Uncertainty Evaluation

Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

| Contribution | Uncertainty of x_i | | $u(x_i)$ |
|--|----------------------|--------------------------|----------|
| | dB | Probability Distribution | |
| Receiver reading | 0.41 | Normal(k=2) | 0.21 |
| Antenna factor calibration | 0.83 | Normal(k=2) | 0.42 |
| Cable loss calibration | 0.25 | Normal(k=2) | 0.13 |
| Pre Amplifier Gain calibration | 0.27 | Normal(k=2) | 0.14 |
| RCV/SPA specification | 2.50 | Rectangular | 0.72 |
| Antenna Factor Interpolation for Frequency | 1.00 | Rectangular | 0.29 |
| Site imperfection | 1.43 | Rectangular | 0.83 |
| Mismatch | +0.39/-0.41 | U-shaped | 0.28 |
| Combined standard uncertainty Uc(y) | 1.27 | | |
| Measuring uncertainty for a level of confidence of 95% U=2Uc(y) | 2.54 | | |

Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

| Contribution | Uncertainty of x_i | | $u(x_i)$ | C_i | $C_i * u(x_i)$ |
|--|----------------------|--------------------------|----------|-------|----------------|
| | dB | Probability Distribution | | | |
| Receiver reading | ±0.10 | Normal(k=1) | 0.10 | 1 | 0.10 |
| Antenna factor calibration | ±1.70 | Normal(k=2) | 0.85 | 1 | 0.85 |
| Cable loss calibration | ±0.50 | Normal(k=2) | 0.25 | 1 | 0.25 |
| Receiver Correction | ±2.00 | Rectangular | 1.15 | 1 | 1.15 |
| Antenna Factor Directional | ±1.50 | Rectangular | 0.87 | 1 | 0.87 |
| Site imperfection | ±2.80 | Triangular | 1.14 | 1 | 1.14 |
| Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20 \log(1 - \Gamma_1 * \Gamma_2 * \Gamma_3)$ | +0.34/-0.35 | U-shaped | 0.244 | 1 | 0.244 |
| Combined standard uncertainty Uc(y) | 2.36 | | | | |
| Measuring uncertainty for a level of confidence of 95% U=2Uc(y) | 4.72 | | | | |

END OF TEST REPORT