

# Partial FCC/IC RF Test Report

APPLICANT : Nokia Corporation  
EQUIPMENT : Internet Stick  
BRAND NAME : Nokia  
MODEL NAME : CS-18  
TYPE DESIGNATION : RD-11  
MARKETING NAME : Nokia Internet Stick CS-18  
FCC ID : PYARD-11  
IC : 661V-RD11  
STANDARD : FCC 47 CFR Part 2, 22(H), 24(E)  
RSS-132 Issued 2, RSS-133 Issued 5  
CLASSIFICATION : PCS Licensed Transmitter (PCB)  
Tx/Rx FREQUENCY RANGE : GSM850 : 824.2 ~ 848.8 MHz /  
869.2 ~ 893.8 MHz  
GSM1900 : 1850.2 ~ 1909.8 MHz /  
1930.2 ~ 1989.8 MHz  
WCDMA Band V : 826.4 ~ 846.6 MHz /  
871.4 ~ 891.6 MHz  
WCDMA Band II : 1852.4 ~ 1907.6 MHz /  
1932.4 ~ 1987.6 MHz  
EMISSION DESIGNATOR : GMSK : 248KGXW  
8PSK : 248KG7W  
QPSK : 4M16F9W

This is a partial report which only contains conducted test and radiated emission test results. The product was received on Mar. 31, 2010 and completely tested on Apr. 13, 2010. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI / TIA / EIA-603-C-2004 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:



Roy Wu / Manager



## SPORTON INTERNATIONAL INC.

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

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## REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FG033106B  | Rev. 01 | Initial issue of report | Apr. 21, 2010 |
|            |         |                         |               |
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## SUMMARY OF TEST RESULT

| Report Section | FCC Rule                            | IC Rule                            | Description                                   | Limit                                 | Result | Remark                                  |
|----------------|-------------------------------------|------------------------------------|-----------------------------------------------|---------------------------------------|--------|-----------------------------------------|
| 3.1            | §2.1046                             | N/A                                | Conducted Output Power                        | N/A                                   | PASS   | -                                       |
| 3.2            | §2.1049<br>§22.917(a)<br>§24.238(a) | N/A                                | Occupied Bandwidth                            | N/A                                   | PASS   | -                                       |
| 3.3            | §2.1051<br>§22.917(a)<br>§24.238(a) | RSS-132 (4.5.1)<br>RSS-133 (6.5.1) | Band Edge Measurement                         | $< 43 + 10\log_{10}(P[\text{Watts}])$ | PASS   | -                                       |
| 3.4            | §2.1051<br>§22.917(a)<br>§24.238(a) | RSS-132 (4.5.1)<br>RSS-133 (6.5.1) | Conducted Emission                            | $< 43 + 10\log_{10}(P[\text{Watts}])$ | PASS   | -                                       |
| 3.5            | §2.1053<br>§22.917(a)<br>§24.238(a) | RSS-132 (4.5.1)<br>RSS-133 (6.5.1) | Field Strength of Spurious Radiation          | $< 43 + 10\log_{10}(P[\text{Watts}])$ | PASS   | Under limit<br>23.08 dB at<br>13160 MHz |
| 3.6            | §2.1055<br>§22.355<br>§24.235       | RSS-132(4.3)<br>RSS-133(6.3)       | Frequency Stability for Temperature & Voltage | $< 2.5 \text{ ppm}$                   | PASS   | -                                       |



# **1 General Description**

## **1.1 Applicant**

**Nokia Corporation**  
Keilalahdentie 2-4  
02150 ESPOO  
FINLAND

## **1.2 Manufacturer**

**Nokia Corporation**  
Keilalahdentie 2-4  
02150 ESPOO  
FINLAND

### 1.3 Feature of Equipment Under Test

| Product Feature & Specification |                                                                                                                                        |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Equipment                       | Internet Stick                                                                                                                         |
| Brand Name                      | Nokia                                                                                                                                  |
| Model Name                      | CS-18                                                                                                                                  |
| Type Designation                | RD-11                                                                                                                                  |
| Marketing Name                  | Nokia Internet Stick CS-18                                                                                                             |
| FCC ID                          | PYARD-11                                                                                                                               |
| IC                              | 661V-RD11                                                                                                                              |
| IMEI Code                       | 004402130193968                                                                                                                        |
| Tx Frequency                    | GSM850 : 824 MHz ~ 849 MHz<br>GSM1900 : 1850 MHz ~ 1910 MHz<br>WCDMA Band V : 824 MHz ~ 849 MHz<br>WCDMA Band II : 1850 MHz ~ 1910 MHz |
| Rx Frequency                    | GSM850 : 869 MHz ~ 894 MHz<br>GSM1900 : 1930 MHz ~ 1990 MHz<br>WCDMA Band V : 869 MHz ~ 894 MHz<br>WCDMA Band II : 1930 MHz ~ 1990 MHz |
| Maximum Output Power to Antenna | GSM850 : 29.50 dBm<br>GSM1900 : 25.97 dBm<br>WCDMA Band V : 21.01 dBm<br>WCDMA Band II : 21.06 dBm                                     |
| Antenna Type                    | Fixed Internal Antenna                                                                                                                 |
| HW Version                      | 2.1                                                                                                                                    |
| SW Version                      | 1.4                                                                                                                                    |
| ME Version                      | 4.0                                                                                                                                    |
| Type of Modulation              | GSM / GPRS : GMSK<br>EDGE : 8PSK<br>WCDMA : QPSK<br>HSDPA : QPSK / 16QAM<br>HSUPA : BPSK                                               |
| Type of Emission                | GMSK : 248KGXW<br>8PSK : 248KG7W<br>QPSK : 4M16F9W                                                                                     |
| EUT Stage                       | Production Unit                                                                                                                        |

**Remark:**

1. This test report recorded only product characteristics and test results of PCS Licensed Transmitter (PCB).

**List of Accessory:**

| Specification of Accessory |                    |                                                |
|----------------------------|--------------------|------------------------------------------------|
| USB Cable                  | Brand Name         | Nokia                                          |
|                            | Model Name         | CA-175D                                        |
|                            | Signal Line Type   | 0.22 meter shielded cable without ferrite core |
|                            | HW Version         | 1.0                                            |
|                            | Mechanical Version | 1.0                                            |
| Micro SD Card              | Brand Name         | Nokia                                          |
|                            | Model Name         | MU-43 (8 GB)<br>MU-41 (4 GB)                   |

**Remark:**

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. For accessories equipped with this EUT, please refer to the appendix of the external photo.

## 1.4 Testing Site

|                    |                                                                                                                                                                 |           |                         |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------|
| Test Site          | SPORTON INTERNATIONAL INC.                                                                                                                                      |           |                         |
| Test Site Location | No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park,<br>Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.<br>TEL: +886-3-327-3456<br>FAX: +886-3-328-4978 |           |                         |
| Test Site No.      | Sporton Site No.                                                                                                                                                |           | FCC/IC Registration No. |
|                    | TH02-HY                                                                                                                                                         | 03CH07-HY | TW1022/4086B-1          |

## 1.5 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ Preliminary Guidance for Receiving Applications for Certification of 3G Device. May 9, 2006.
- ♦ FCC 47 CFR Part 2, 22(H), 24(E)
- ♦ ANSI / TIA / EIA-603-C-2004
- ♦ IC RSS-132 Issue 2
- ♦ IC RSS-133 Issue 5

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

## 1.6 Ancillary Equipment List

| Item | Equipment        | Trade Name | Model No.   | FCC ID  | Data Cable | Power Cord                                                 |
|------|------------------|------------|-------------|---------|------------|------------------------------------------------------------|
| 1.   | System Simulator | R&S        | CMU200      | N/A     | N/A        | Unshielded, 1.8 m                                          |
| 2.   | Notebook         | DELL       | Vostro 1510 | FCC DoC | N/A        | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |

## 2 Test Configuration of Equipment Under Test

### 2.1 Test Mode

During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

Frequency range investigated for radiated emission is as follows:

1. 30 MHz to 9000 MHz for GSM850 and WCDMA Band V.
2. 30 MHz to 19000 MHz for GSM1900 and WCDMA Band II.

| Test Modes    |                                                                                                                                                               |                                                                                        |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Band          | Radiated TCs                                                                                                                                                  | Conducted TCs                                                                          |
| GSM 850       | <ul style="list-style-type: none"> <li>■ GPRS 8 Link with USB Cable</li> <li>■ EDGE 8 Link with USB Cable</li> <li>■ GPRS 8 Link without USB Cable</li> </ul> | <ul style="list-style-type: none"> <li>■ GPRS 8 Link</li> <li>■ EDGE 8 Link</li> </ul> |
| GSM 1900      | <ul style="list-style-type: none"> <li>■ GPRS 8 Link with USB Cable</li> <li>■ EDGE 8 Link with USB Cable</li> </ul>                                          | <ul style="list-style-type: none"> <li>■ GPRS 8 Link</li> <li>■ EDGE 8 Link</li> </ul> |
| WCDMA Band V  | <ul style="list-style-type: none"> <li>■ RMC 12.2Kbps Link with USB Cable</li> </ul>                                                                          | <ul style="list-style-type: none"> <li>■ RMC 12.2Kbps Link</li> </ul>                  |
| WCDMA Band II | <ul style="list-style-type: none"> <li>■ RMC 12.2Kbps Link with USB Cable</li> <li>■ RMC 12.2Kbps Link without USB Cable</li> </ul>                           | <ul style="list-style-type: none"> <li>■ RMC 12.2Kbps Link</li> </ul>                  |

**Note:** The maximum power levels are GPRS multi-slot class 8 mode for GMSK link, EDGE multi-slot class 8 mode for 8PSK link, RMC 12.2Kbps mode for WCDMA band V, and RMC 12.2Kbps mode for WCDMA band II, only these modes were used for all tests.

The conducted power tables are as follows:

| Conducted Power |              |       |              |              |        |              |
|-----------------|--------------|-------|--------------|--------------|--------|--------------|
| Band            | GSM850       |       |              | GSM1900      |        |              |
| Channel         | 128          | 189   | 251          | 512          | 661    | 810          |
| Frequency       | 824.2        | 836.4 | 848.8        | 1850.2       | 1880.0 | 1909.8       |
| GPRS 8          | 29.50        | 29.49 | <b>29.50</b> | 25.89        | 25.94  | <b>25.97</b> |
| GPRS 10         | 26.55        | 26.56 | 26.59        | 23.36        | 23.42  | 23.46        |
| GPRS 12         | 23.49        | 23.51 | 23.53        | 20.42        | 20.44  | 20.56        |
| EGPRS 8         | <b>26.56</b> | 26.51 | 26.46        | <b>25.46</b> | 25.38  | 25.42        |
| EGPRS 10        | 24.60        | 24.66 | 24.64        | 23.02        | 23.11  | 23.08        |
| EGPRS 12        | 21.47        | 21.43 | 21.45        | 19.80        | 19.84  | 19.85        |

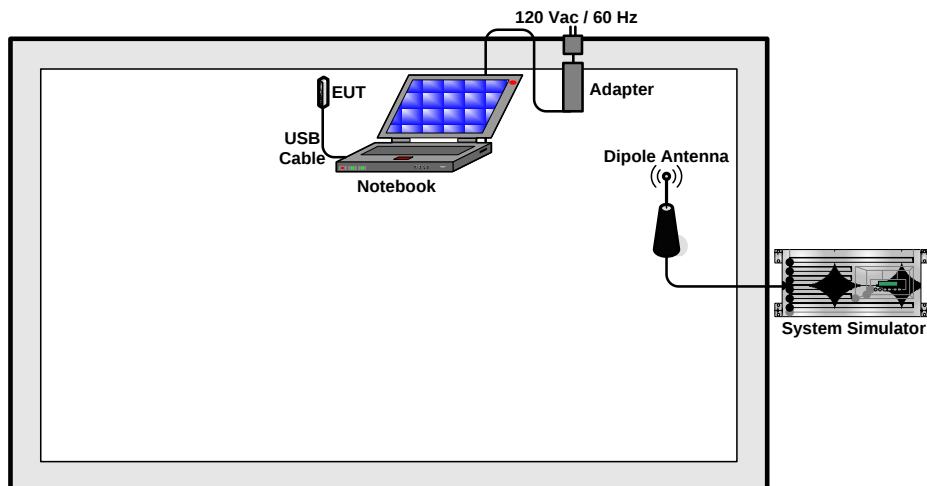
(\*Unit: dBm)

| Conducted Power |              |              |       |               |              |        |
|-----------------|--------------|--------------|-------|---------------|--------------|--------|
| Band            | WCDMA Band V |              |       | WCDMA Band II |              |        |
| Channel         | 4132         | 4182         | 4233  | 9262          | 9400         | 9538   |
| Frequency       | 826.4        | 836.4        | 846.6 | 1852.4        | 1880.0       | 1907.6 |
| RMC 12.2K       | 21.01        | <b>21.01</b> | 20.99 | 21.03         | <b>21.06</b> | 21.06  |
| HSDPA Subtest-1 | 20.96        | 20.93        | 20.98 | 20.81         | 20.95        | 20.98  |
| HSDPA Subtest-2 | 20.81        | 20.93        | 20.80 | 20.91         | 20.94        | 20.76  |
| HSDPA Subtest-3 | 20.43        | 20.47        | 20.35 | 20.53         | 20.43        | 20.32  |
| HSDPA Subtest-4 | 20.23        | 20.34        | 20.23 | 20.25         | 20.33        | 20.32  |
| HSUPA Subtest-1 | 18.70        | 18.38        | 18.56 | 18.60         | 18.70        | 18.64  |
| HSUPA Subtest-2 | 18.76        | 18.72        | 18.63 | 18.74         | 18.78        | 18.99  |
| HSUPA Subtest-3 | 19.52        | 19.69        | 19.68 | 19.65         | 19.66        | 19.73  |
| HSUPA Subtest-4 | 18.67        | 18.77        | 18.58 | 18.54         | 18.78        | 18.72  |
| HSUPA Subtest-5 | 19.68        | 19.61        | 19.72 | 19.42         | 19.26        | 19.62  |

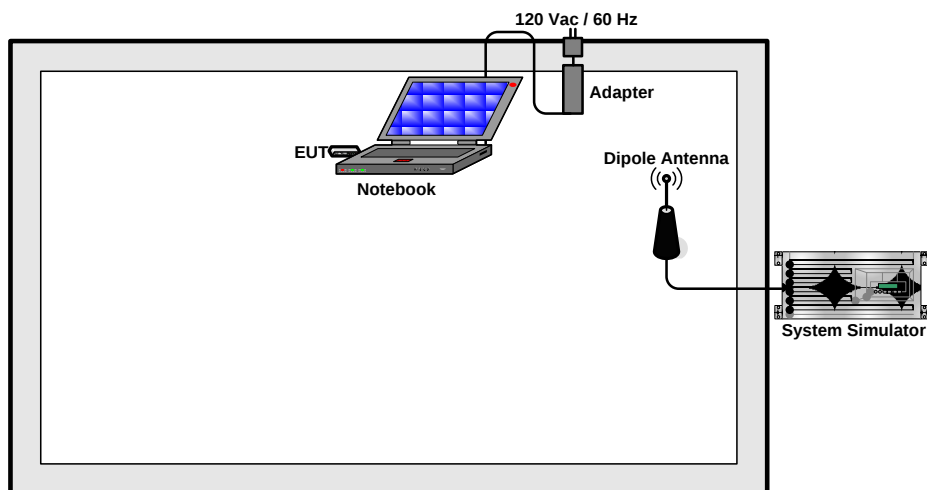
(\*Unit: dBm)

## 2.2 Connection Diagram of Test System

### <EUT Link with USB Cable>



### <EUT Link without USB Cable>



### 3 Test Result

#### 3.1 Conducted Output Power Measurement

##### 3.1.1 Description of the Conducted Output Power Measurement

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals shall be reported.

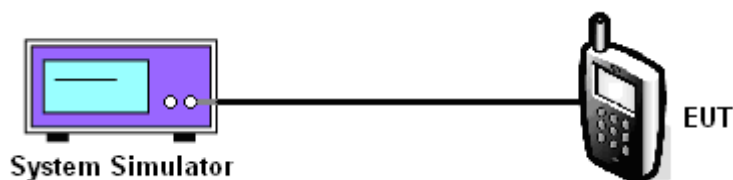
##### 3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

##### 3.1.3 Test Procedures

1. The transmitter output port was connected to base station.
2. Set EUT at maximum power through base station.
3. Select lowest, middle, and highest channels for each band and different modulation.

##### 3.1.4 Test Setup



**3.1.5 Test Result of Conducted Output Power**

| Cellular Band               |             |                 |                       |                         |
|-----------------------------|-------------|-----------------|-----------------------|-------------------------|
| Modes                       | Channel     | Frequency (MHz) | Conducted Power (dBm) | Conducted Power (Watts) |
| GSM850 (GPRS 8)             | 128 (Low)   | 824.2           | 29.50                 | 0.89                    |
|                             | 189 (Mid)   | 836.4           | 29.49                 | 0.89                    |
|                             | 251 (High)  | 848.8           | 29.50                 | 0.89                    |
| GSM850 (EDGE 8)             | 128 (Low)   | 824.2           | 26.56                 | 0.45                    |
|                             | 189 (Mid)   | 836.4           | 26.51                 | 0.45                    |
|                             | 251 (High)  | 848.8           | 26.46                 | 0.44                    |
| WCDMA Band V (RMC 12.2Kbps) | 4132 (Low)  | 826.4           | 21.01                 | 0.13                    |
|                             | 4182 (Mid)  | 836.4           | 21.01                 | 0.13                    |
|                             | 4233 (High) | 846.6           | 20.99                 | 0.13                    |

| PCS Band                     |             |                 |                       |                         |
|------------------------------|-------------|-----------------|-----------------------|-------------------------|
| Modes                        | Channel     | Frequency (MHz) | Conducted Power (dBm) | Conducted Power (Watts) |
| GSM1900 (GPRS 8)             | 512 (Low)   | 1850.2          | 25.89                 | 0.39                    |
|                              | 661 (Mid)   | 1880.0          | 25.94                 | 0.39                    |
|                              | 810 (High)  | 1909.8          | 25.97                 | 0.40                    |
| GSM1900 (EDGE 8)             | 512 (Low)   | 1850.2          | 25.46                 | 0.35                    |
|                              | 661 (Mid)   | 1880.0          | 25.38                 | 0.35                    |
|                              | 810 (High)  | 1909.8          | 25.42                 | 0.35                    |
| WCDMA Band II (RMC 12.2Kbps) | 9262 (Low)  | 1852.4          | 21.03                 | 0.13                    |
|                              | 9400 (Mid)  | 1880.0          | 21.06                 | 0.13                    |
|                              | 9538 (High) | 1907.6          | 21.06                 | 0.13                    |

## 3.2 Occupied Bandwidth Measurement

### 3.2.1 Description of Occupied Bandwidth Measurement

The emission bandwidth is defined as the width of the signal between two points, located at the 2 sides of the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

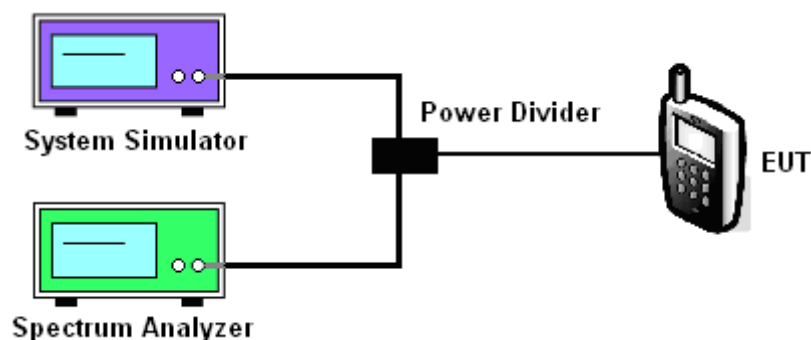
### 3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.2.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The 99% and 26 dB occupied bandwidth (BW) of the middle channel for the highest RF powers were measured.
3. The RBW was replaced by 10 kHz, due to the spectrum analyzer IF-Filter including an excess of the limit. A worst case correction factor of  $10 \log (1\% \text{ BW/measurement RBW})$  was implemented.

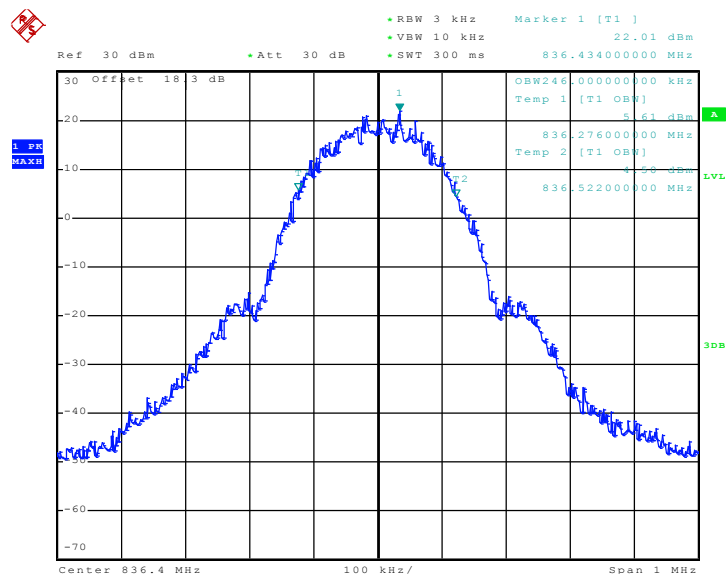
### 3.2.4 Test Setup



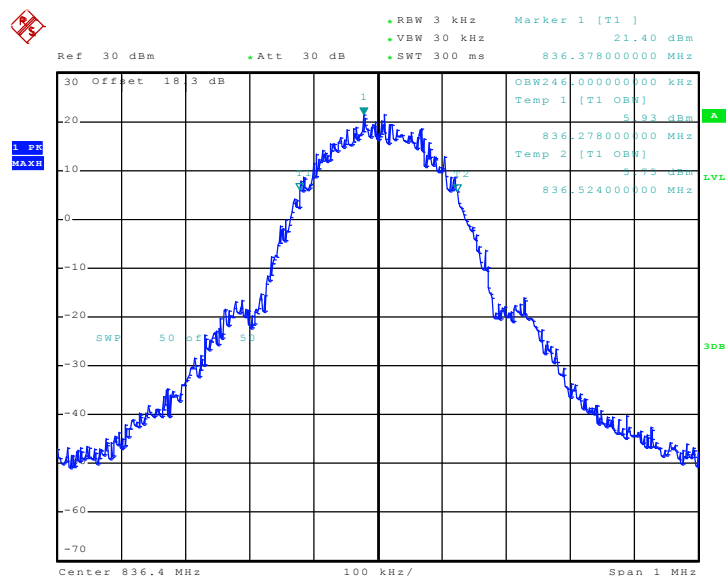
### 3.2.5 Test Result (Plots) of Occupied Bandwidth

|             |             |               |        |
|-------------|-------------|---------------|--------|
| Band :      | GSM 850     | Power Stage : | High   |
| Test Mode : | GPRS 8 Link | Channel :     | CH 189 |

#### 99% Occupied Bandwidth Plot on Channel 189



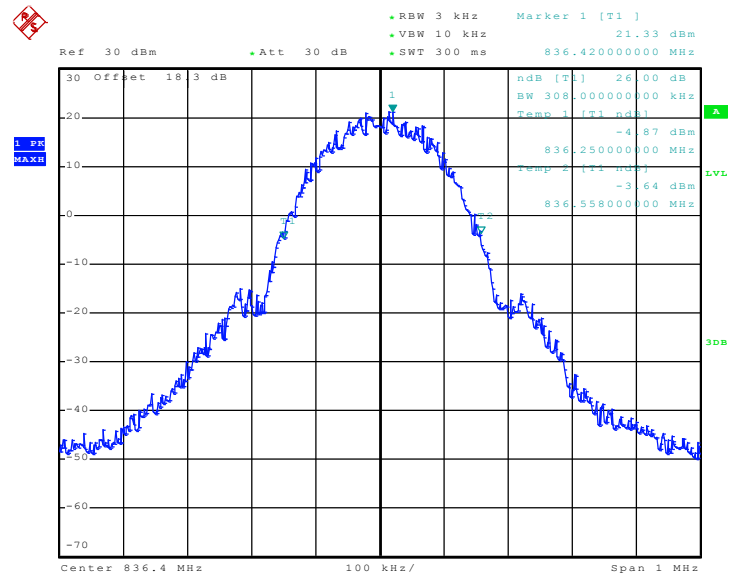
Date: 2.APR.2010 20:01:30



Date: 2.APR.2010 20:03:03



26dB Bandwidth Plot

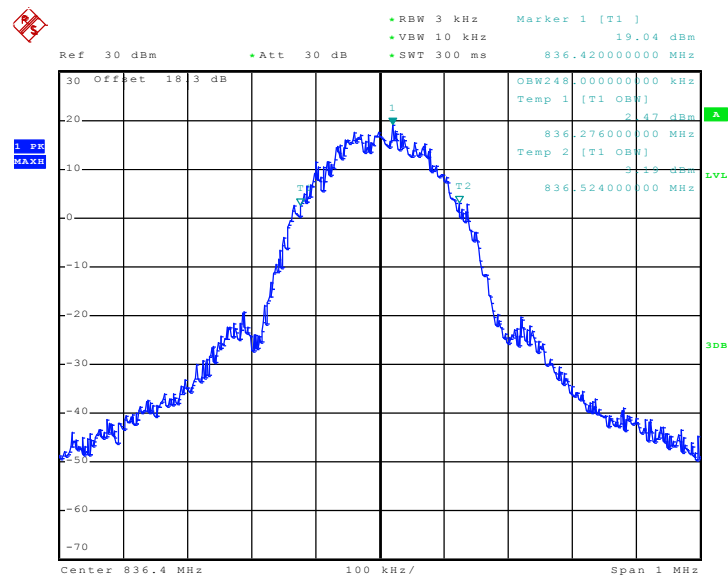


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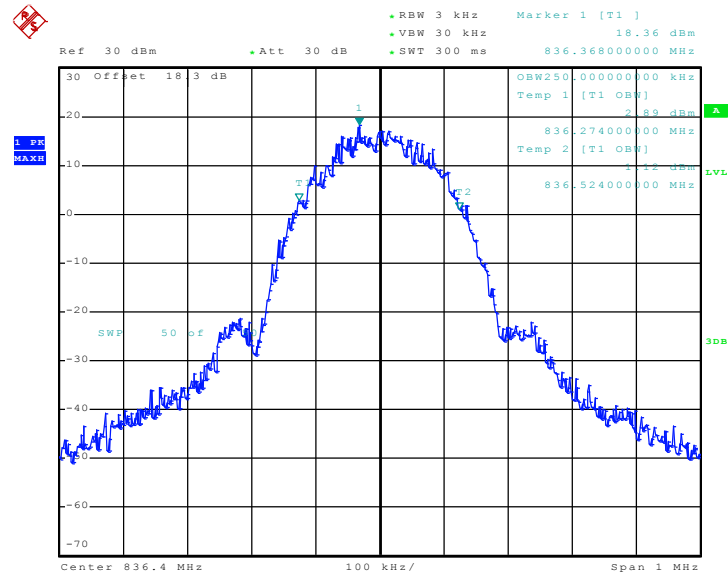


|             |             |               |        |
|-------------|-------------|---------------|--------|
| Band :      | GSM 850     | Power Stage : | High   |
| Test Mode : | EDGE 8 Link | Channel :     | CH 189 |

99% Occupied Bandwidth Plot on



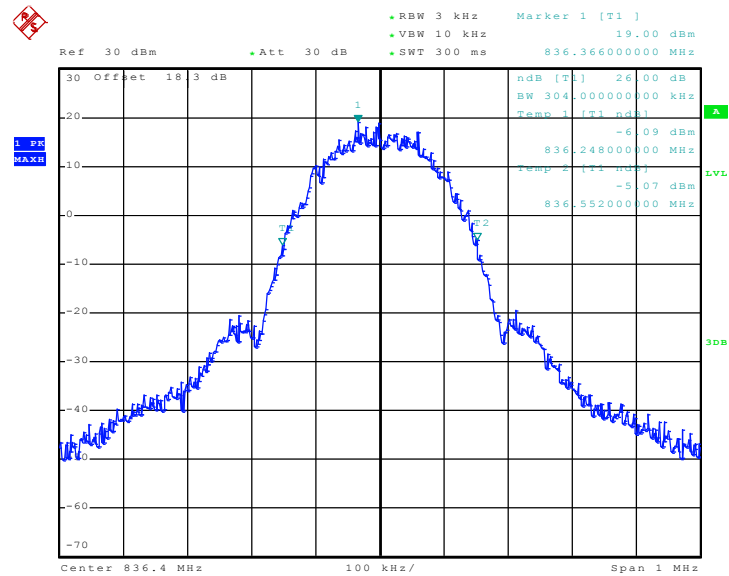
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Date: 2.APR.2010 20:13:24



26dB Bandwidth Plot

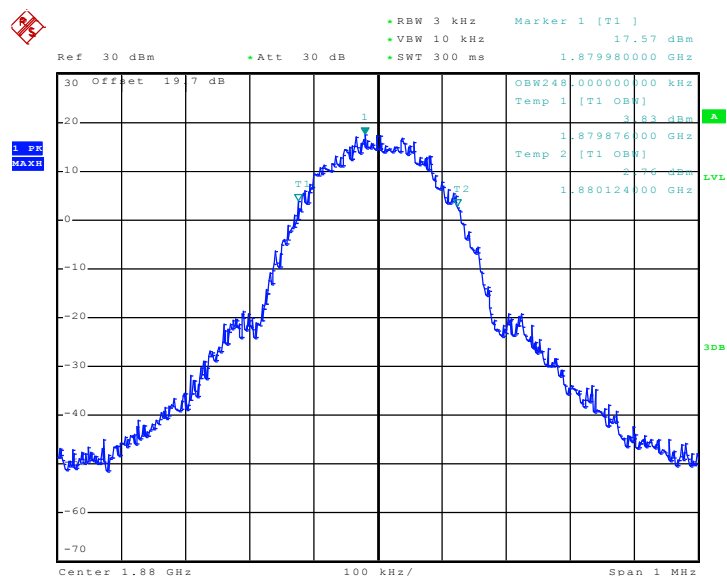


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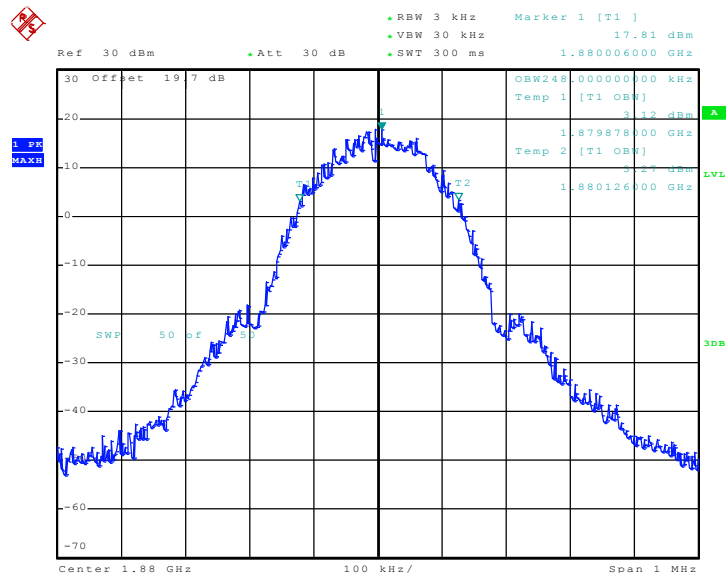


|             |             |               |        |
|-------------|-------------|---------------|--------|
| Band :      | GSM 1900    | Power Stage : | High   |
| Test Mode : | GPRS 8 Link | Channel :     | CH 661 |

99% Occupied Bandwidth Plot



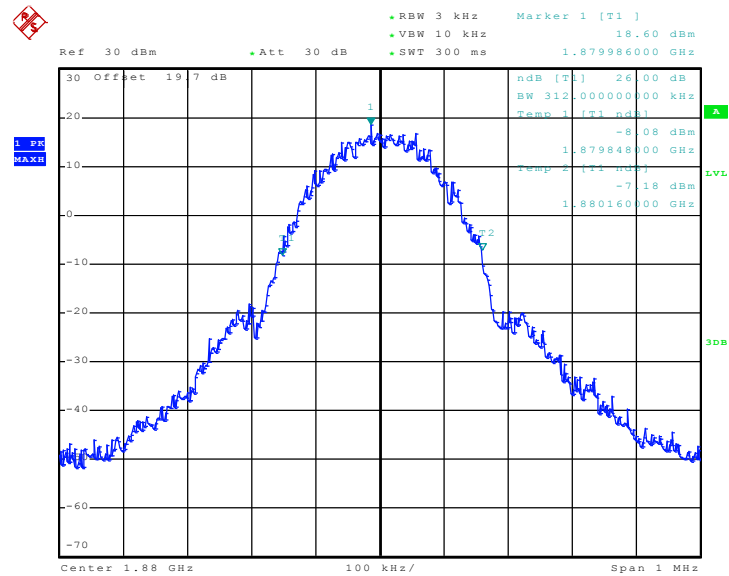
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26dB Bandwidth Plot

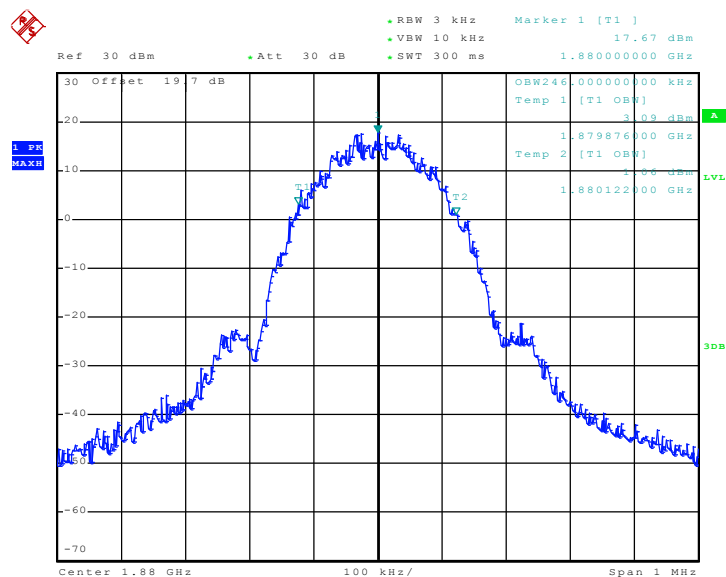


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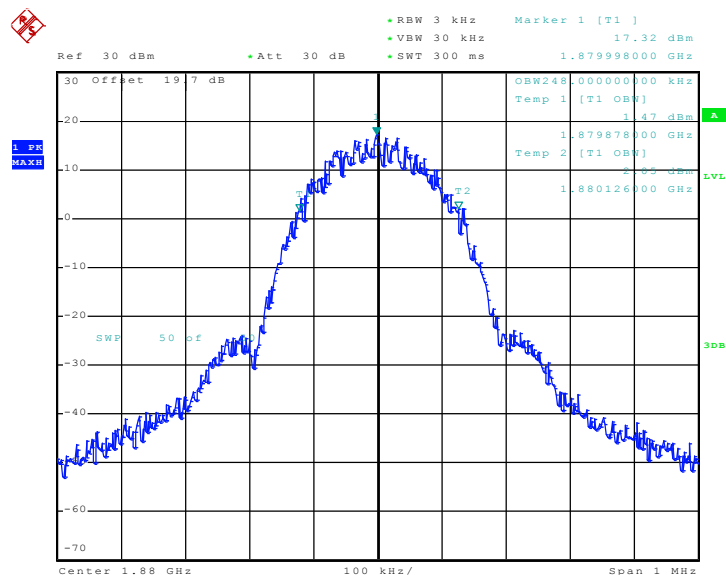


|             |             |               |        |
|-------------|-------------|---------------|--------|
| Band :      | GSM 1900    | Power Stage : | High   |
| Test Mode : | EDGE 8 Link | Channel :     | CH 661 |

99% Occupied Bandwidth Plot

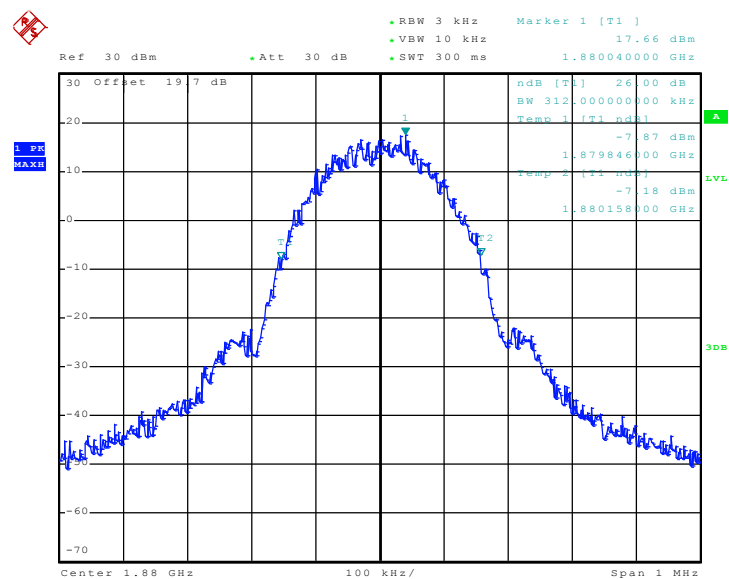


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Date: 2.APR.2010 20:34:49

### 26dB Bandwidth Plot

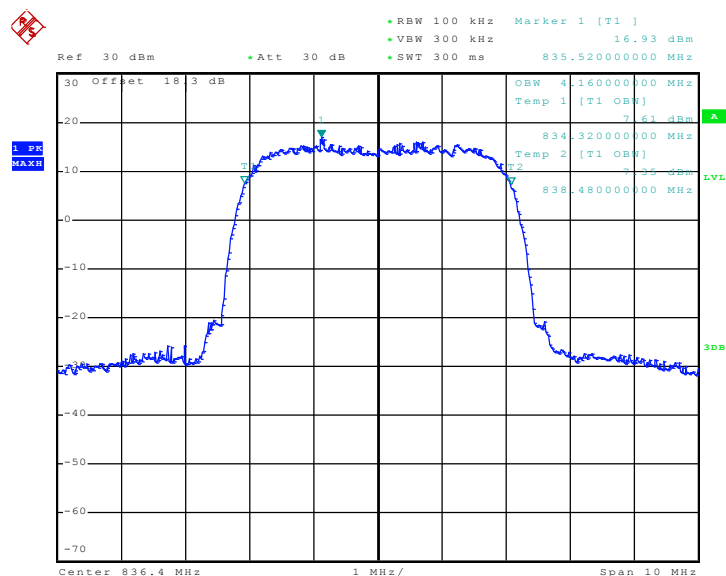


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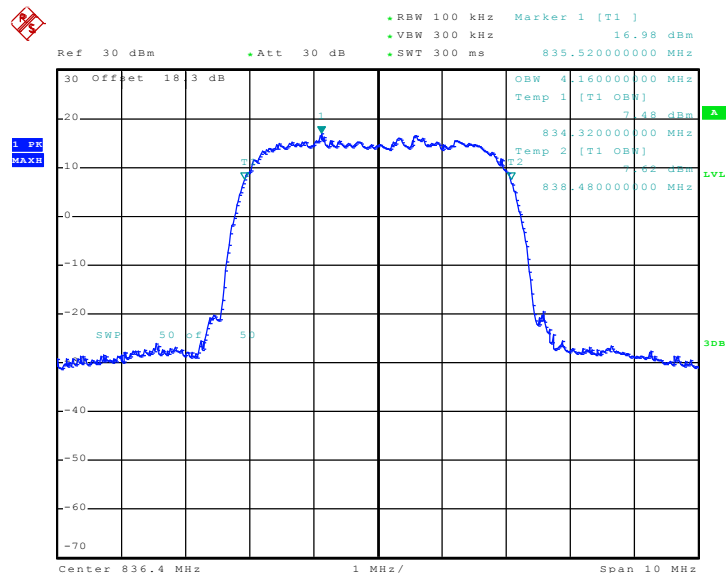


|             |                   |               |         |
|-------------|-------------------|---------------|---------|
| Band :      | WCDMA Band V      | Power Stage : | High    |
| Test Mode : | RMC 12.2Kbps Link | Channel :     | CH 4182 |

99% Occupied Bandwidth Plot



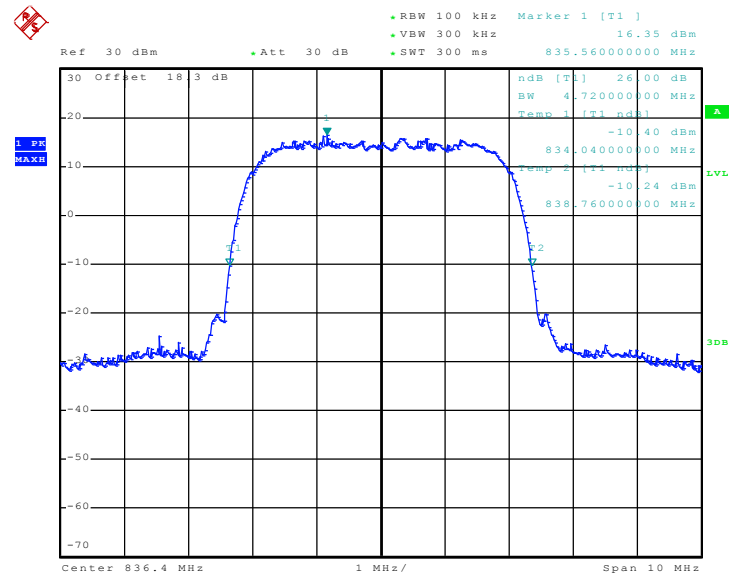
Date: 2.APR.2010 20:54:09



Date: 2.APR.2010 20:55:51



26dB Bandwidth Plot

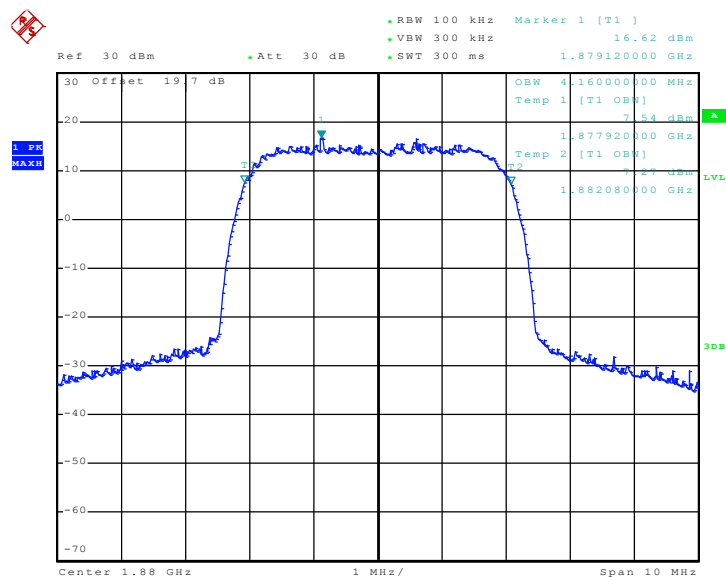


Date: 2.APR.2010 20:53:22

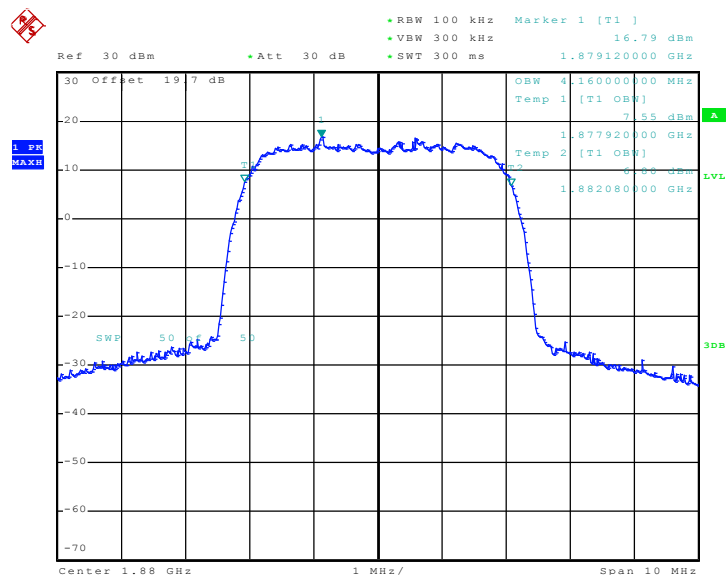


|             |                   |               |         |
|-------------|-------------------|---------------|---------|
| Band :      | WCDMA Band II     | Power Stage : | High    |
| Test Mode : | RMC 12.2Kbps Link | Channel :     | CH 9400 |

99% Occupied Bandwidth Plot



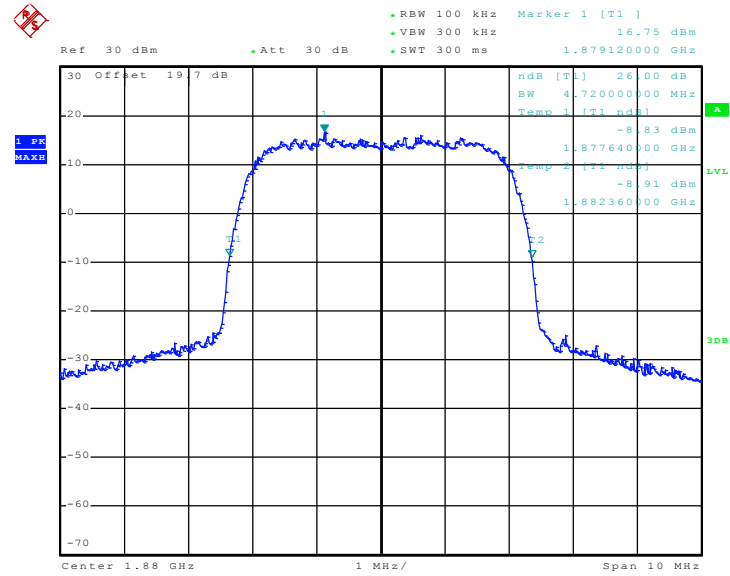
Date: 2.APR.2010 20:43:55



Date: 2.APR.2010 20:45:22



## 26dB Bandwidth Plot



Date: 2.APR.2010 20:43:08

### 3.3 Band Edge Measurement

#### 3.3.1 Description of Band Edge Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

#### 3.3.2 Measuring Instruments

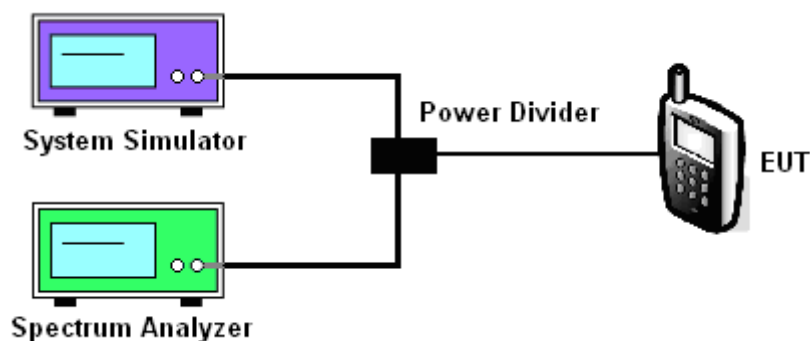
See list of measuring instruments of this test report.

#### 3.3.3 Test Procedures

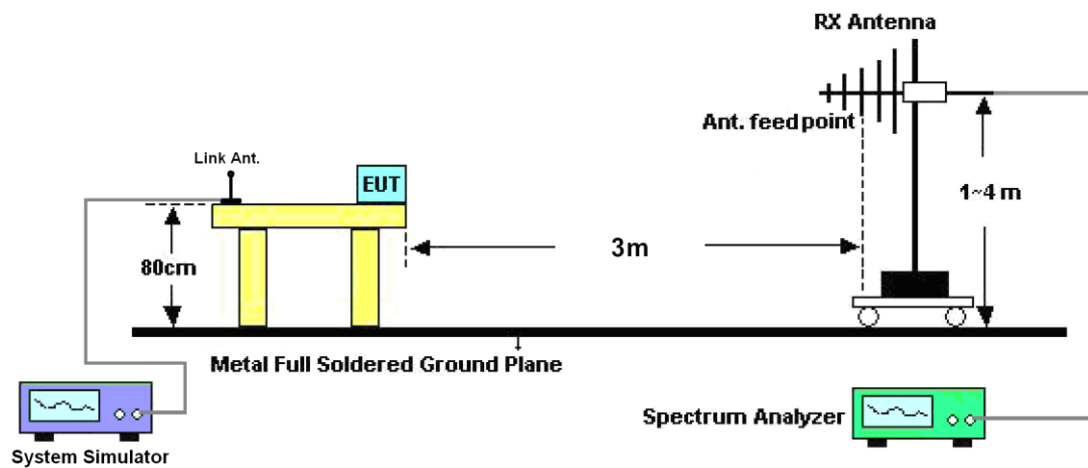
1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The band edges of low and high channels for the highest RF powers were measured. Setting RBW as roughly BW/100.

#### 3.3.4 Test Setup

<Conducted Band Edge >



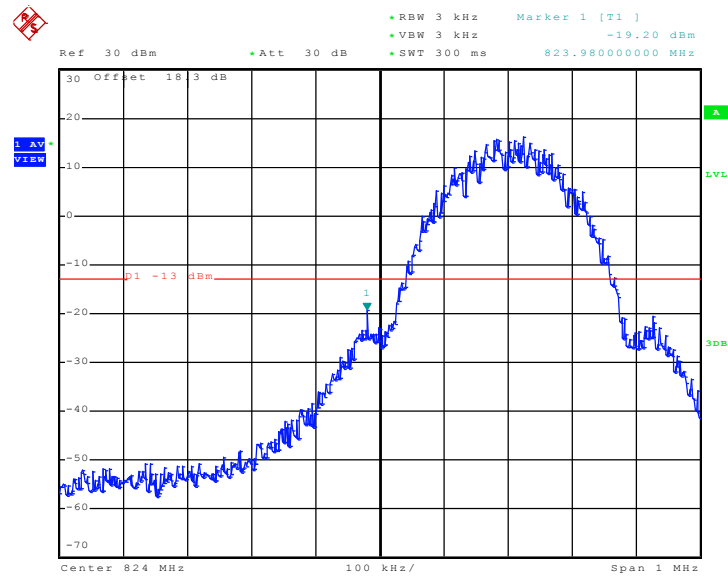
<Radiated Band Edge>



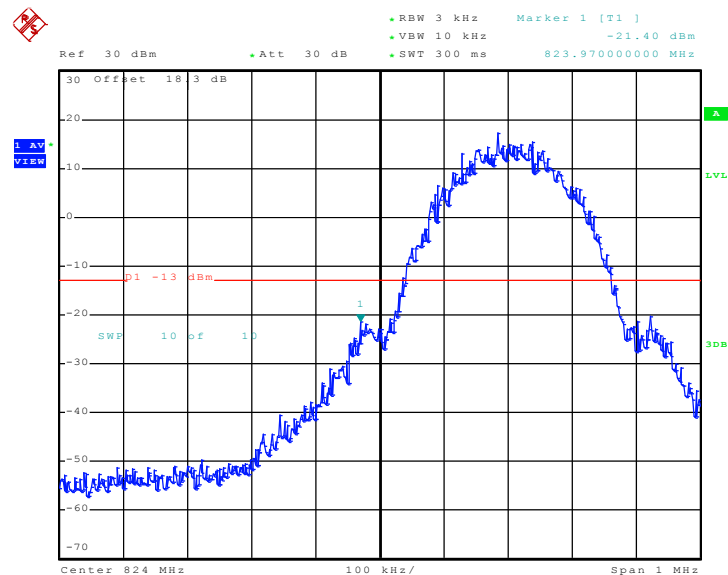
### 3.3.5 Test Result (Plots) of Conducted Band Edge

|                    |             |                      |      |
|--------------------|-------------|----------------------|------|
| <b>Band :</b>      | GSM850      | <b>Power Stage :</b> | High |
| <b>Test Mode :</b> | GPRS 8 Link |                      |      |

**Lower Band Edge Plot on Channel 128**



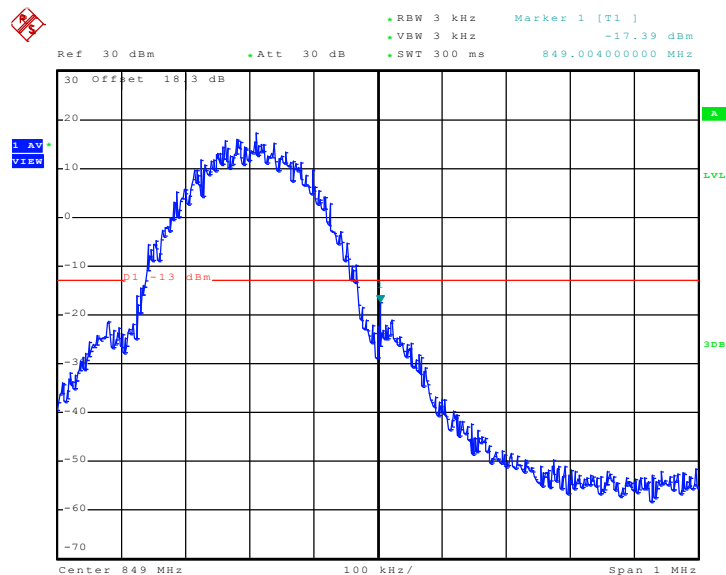
Date: 2.APR.2010 20:04:09



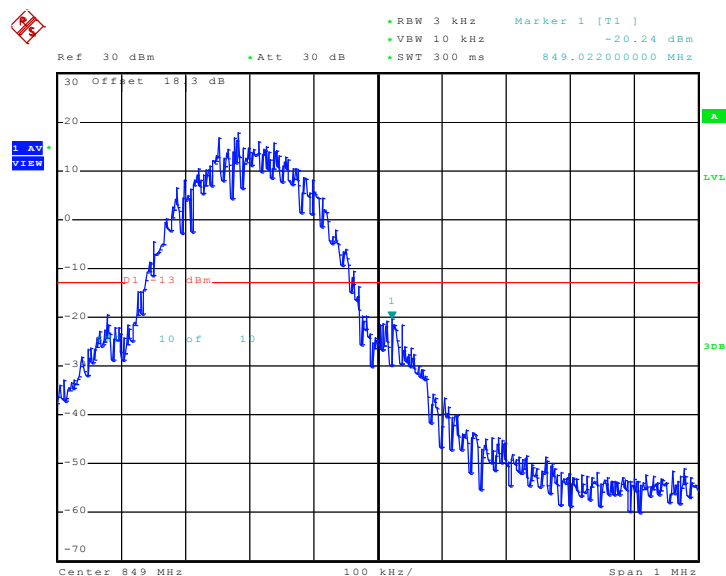
Date: 2.APR.2010 20:05:02



### Higher Band Edge Plot on Channel 251



Date: 2.APR.2010 20:04:35

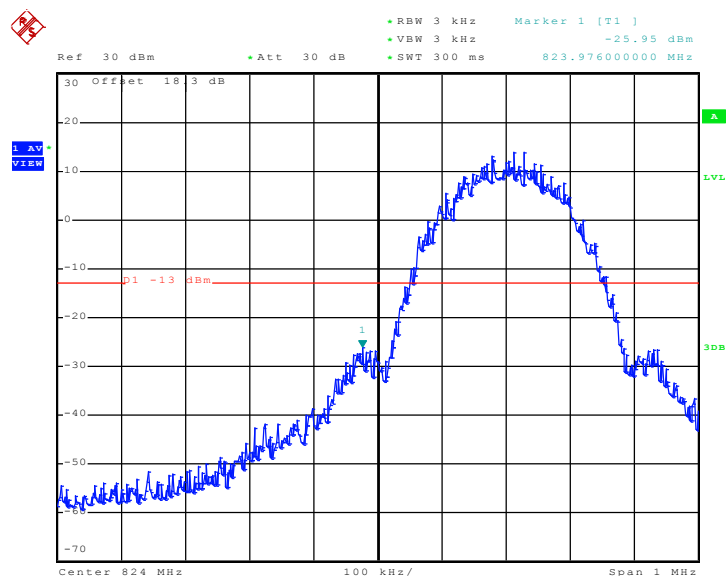


Date: 2.APR.2010 20:05:28

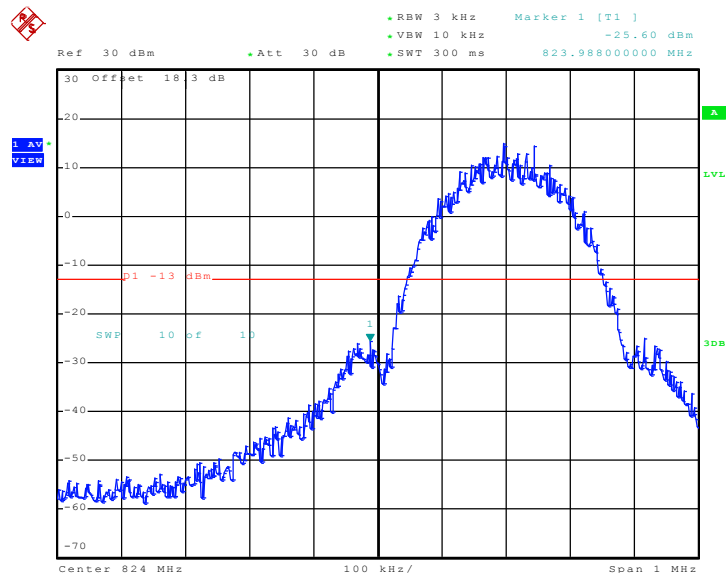


|             |             |               |      |
|-------------|-------------|---------------|------|
| Band :      | GSM850      | Power Stage : | High |
| Test Mode : | EDGE 8 Link |               |      |

Lower Band Edge Plot on Channel 128



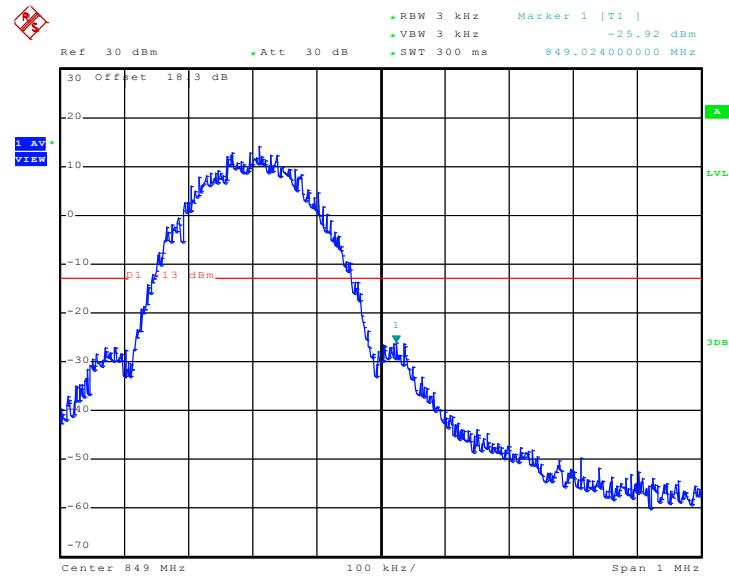
Date: 2.APR.2010 20:14:25



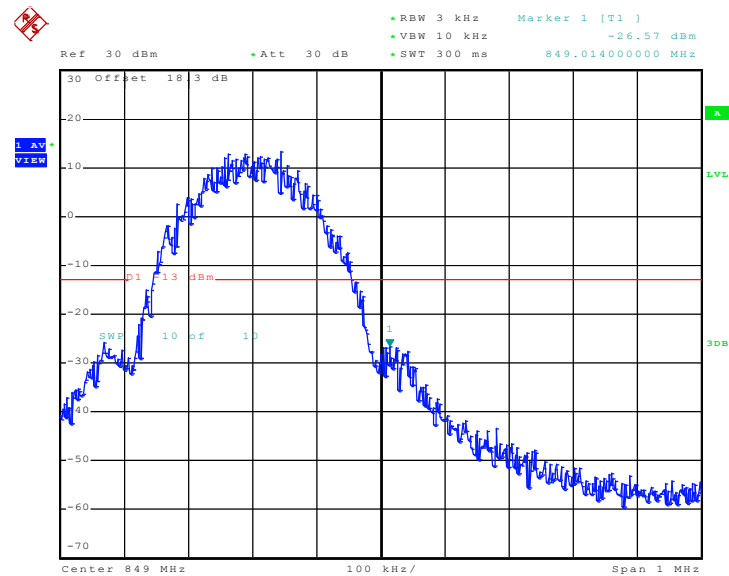
Date: 2.APR.2010 20:15:18



Higher Band Edge Plot on Channel 251



Date: 2.APR.2010 20:14:51

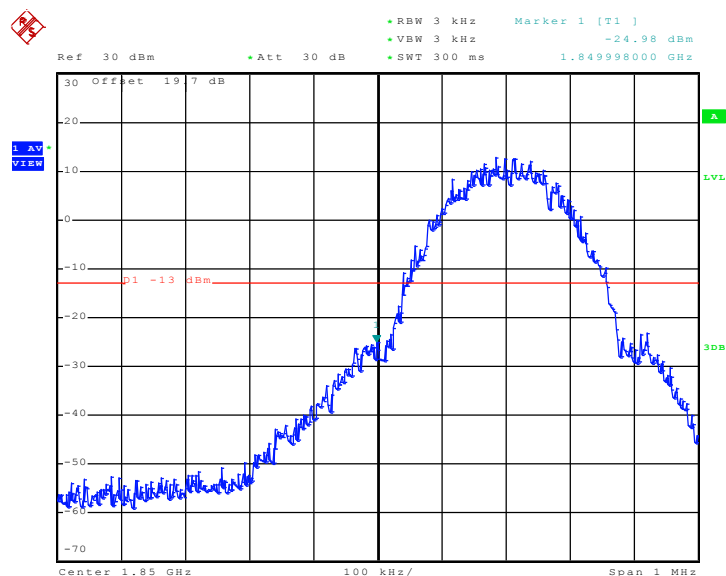


Date: 2.APR.2010 20:15:44

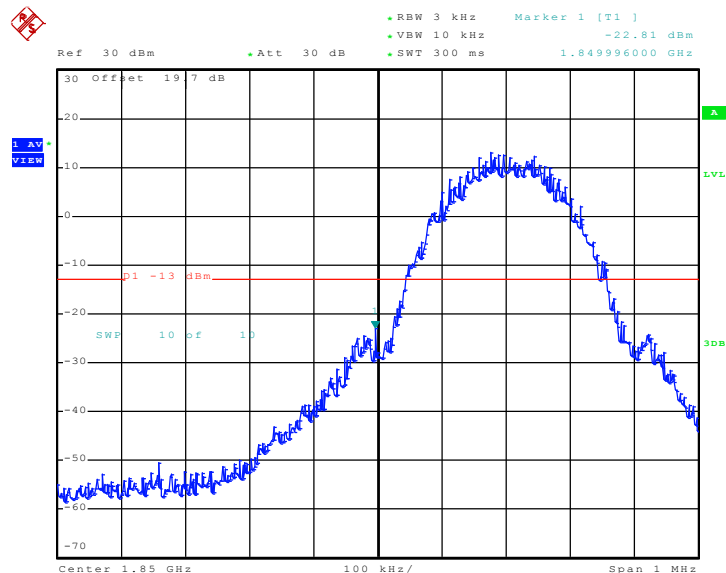


|             |             |               |      |
|-------------|-------------|---------------|------|
| Band :      | GSM1900     | Power Stage : | High |
| Test Mode : | GPRS 8 Link |               |      |

Lower Band Edge Plot on Channel 512



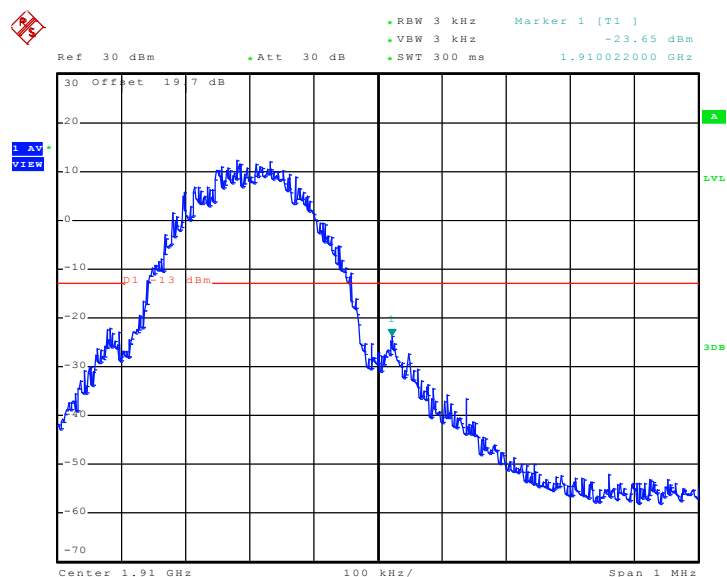
Date: 2.APR.2010 20:26:11



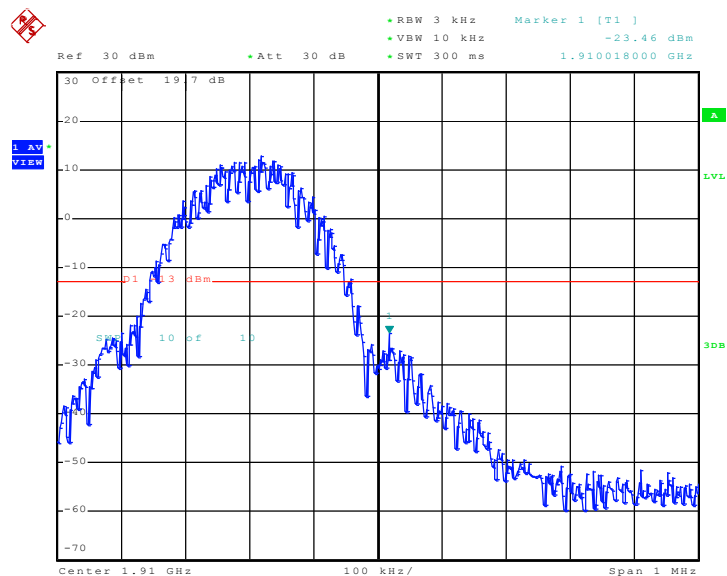
Date: 2.APR.2010 20:27:03



### Higher Band Edge Plot on Channel 810



Date: 2.APR.2010 20:26:37

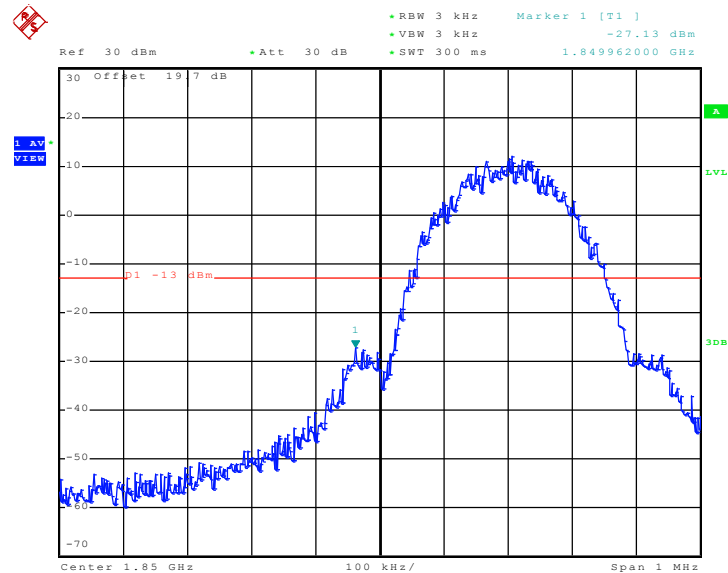


Date: 2.APR.2010 20:27:30

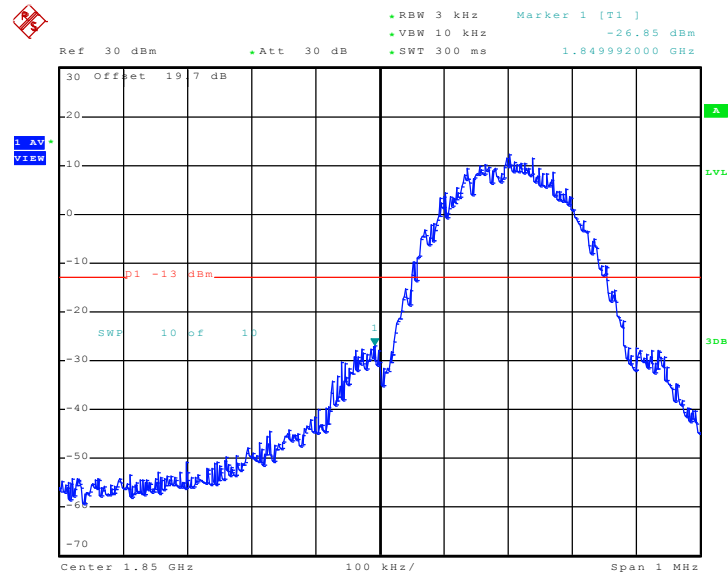


|             |             |               |      |
|-------------|-------------|---------------|------|
| Band :      | GSM1900     | Power Stage : | High |
| Test Mode : | EDGE 8 Link |               |      |

Lower Band Edge Plot on Channel 512



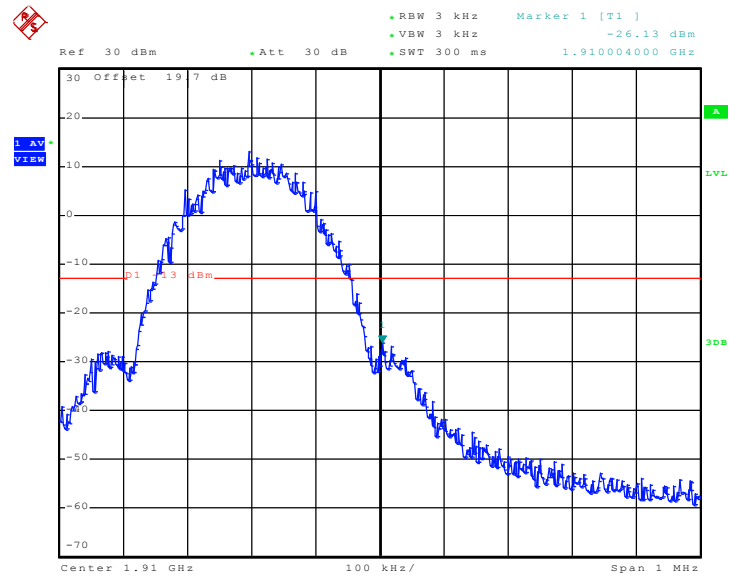
Date: 2.APR.2010 20:35:46



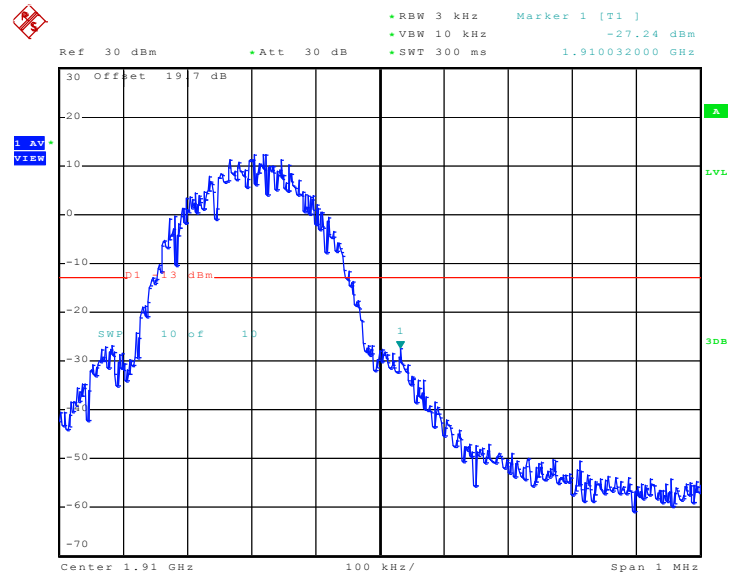
Date: 2.APR.2010 20:36:39



Higher Band Edge Plot on Channel 810



Date: 2.APR.2010 20:36:12

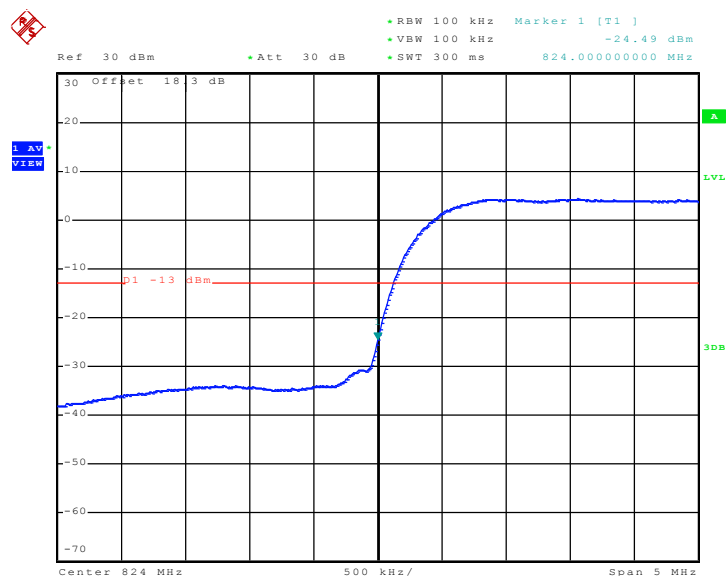


Date: 2.APR.2010 20:37:05

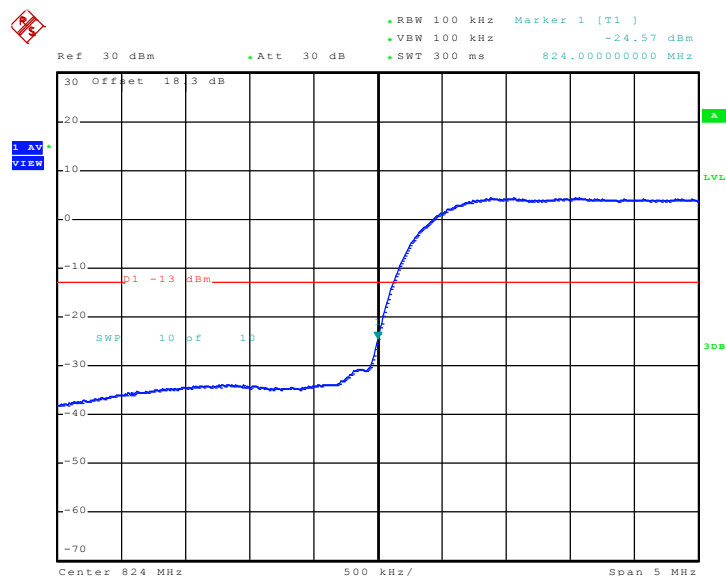


|             |                   |               |      |
|-------------|-------------------|---------------|------|
| Band :      | WCDMA Band V      | Power Stage : | High |
| Test Mode : | RMC 12.2Kbps Link |               |      |

Lower Band Edge Plot on Channel 4132



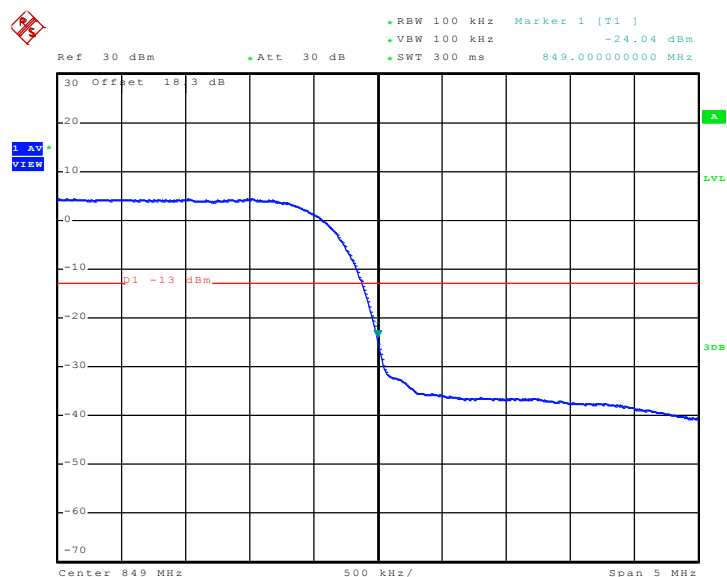
Date: 2.APR.2010 20:56:48



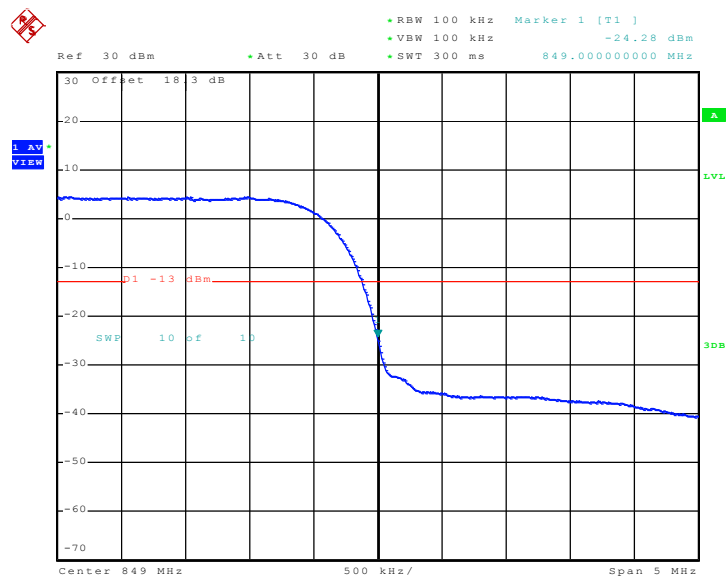
Date: 2.APR.2010 20:57:20



Higher Band Edge Plot on Channel 4233



Date: 2.APR.2010 20:57:04

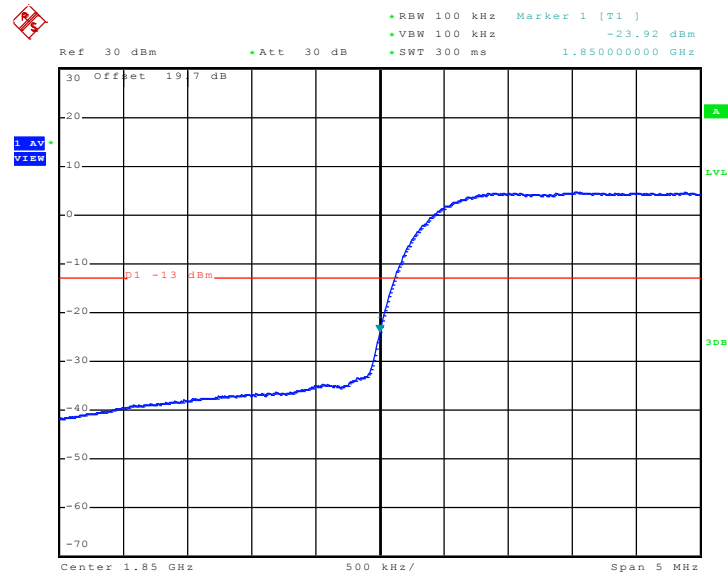


Date: 2.APR.2010 20:57:36

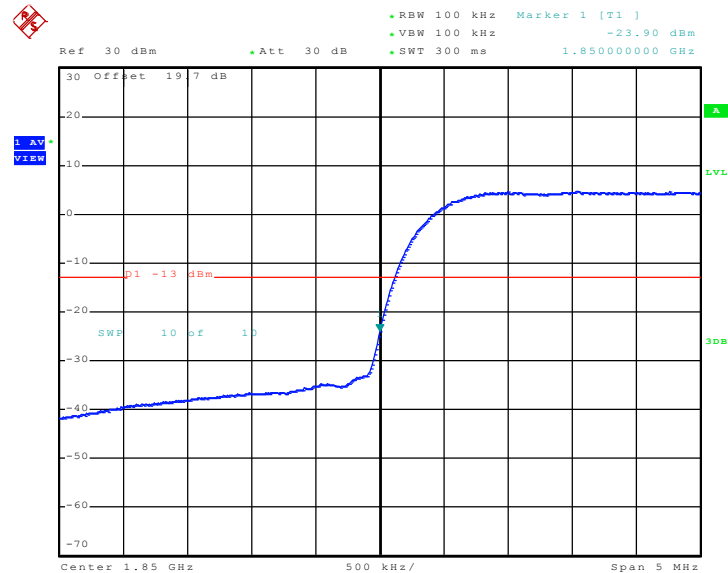


|             |                   |               |      |
|-------------|-------------------|---------------|------|
| Band :      | WCDMA Band II     | Power Stage : | High |
| Test Mode : | RMC 12.2Kbps Link |               |      |

Lower Band Edge Plot on Channel 9262



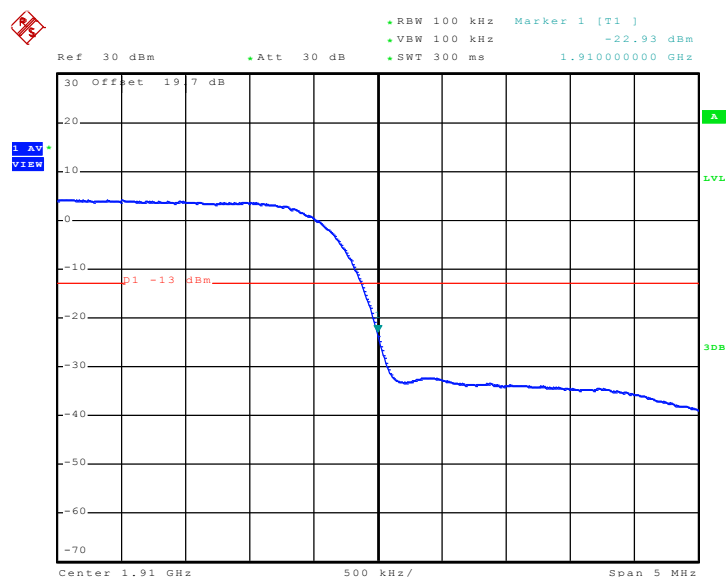
Date: 2.APR.2010 20:46:14



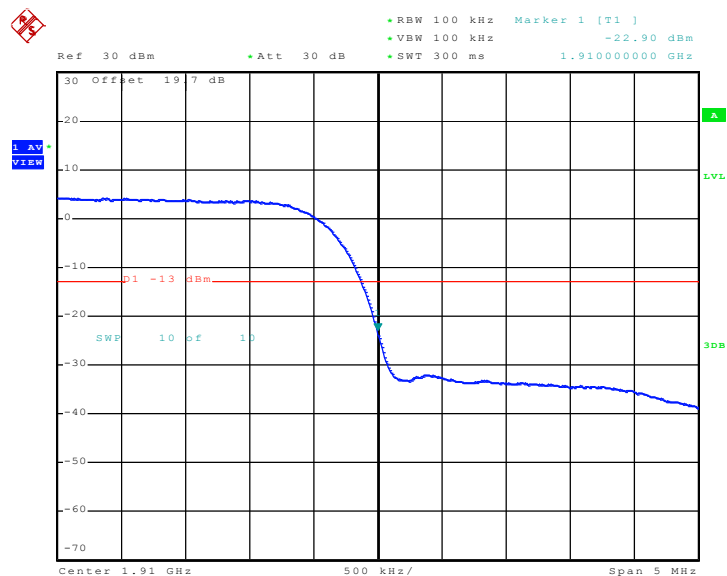
Date: 2.APR.2010 20:46:46



Higher Band Edge Plot on Channel 9538

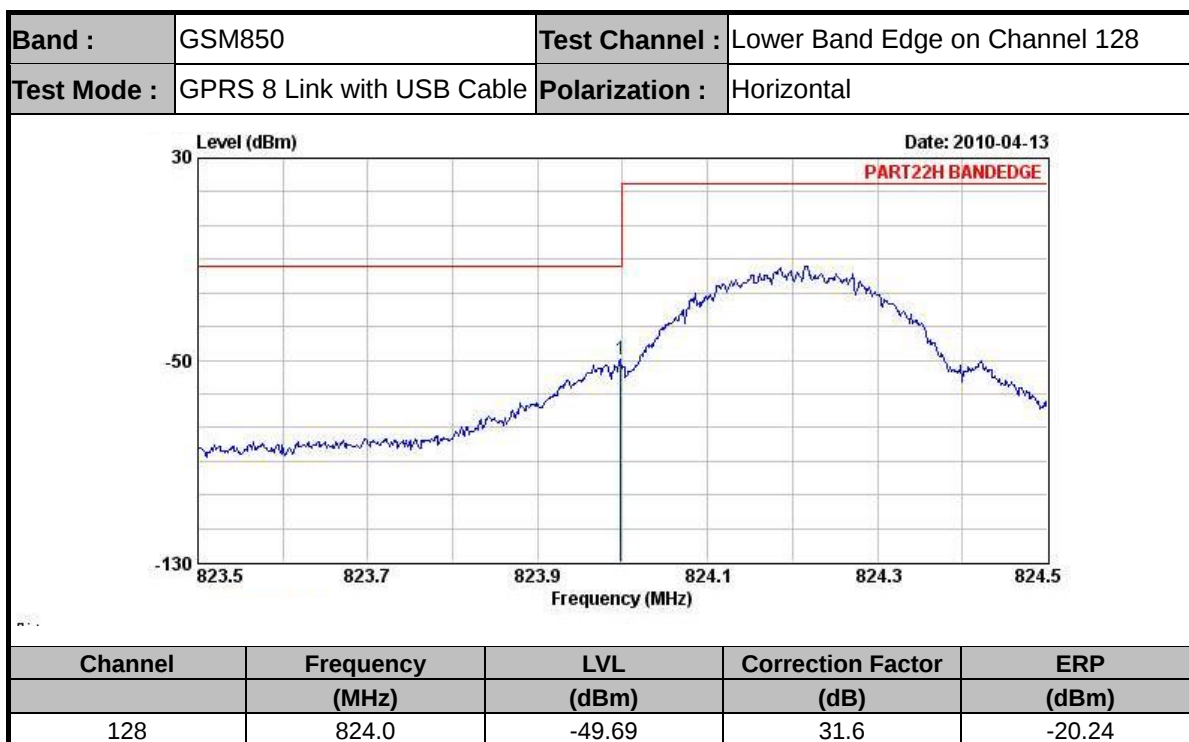


Date: 2.APR.2010 20:46:30

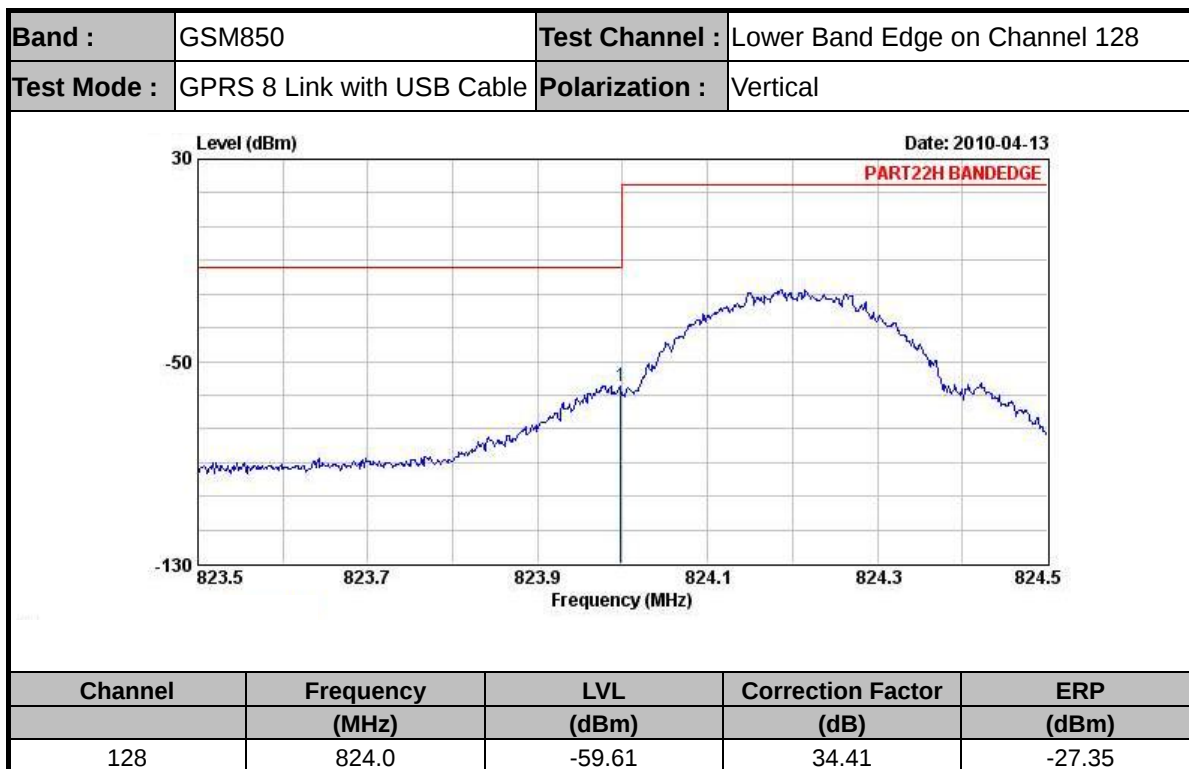


Date: 2.APR.2010 20:47:02

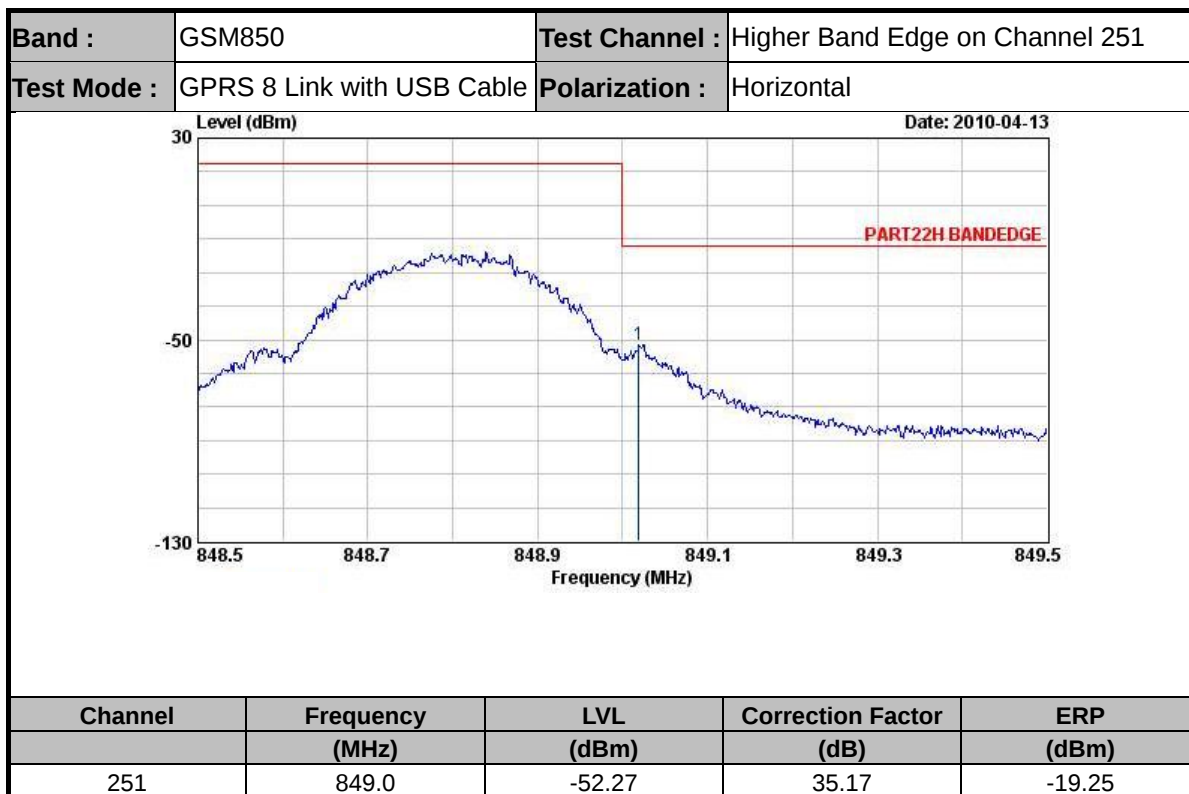
### 3.3.6 Test Result of Radiated Band Edge



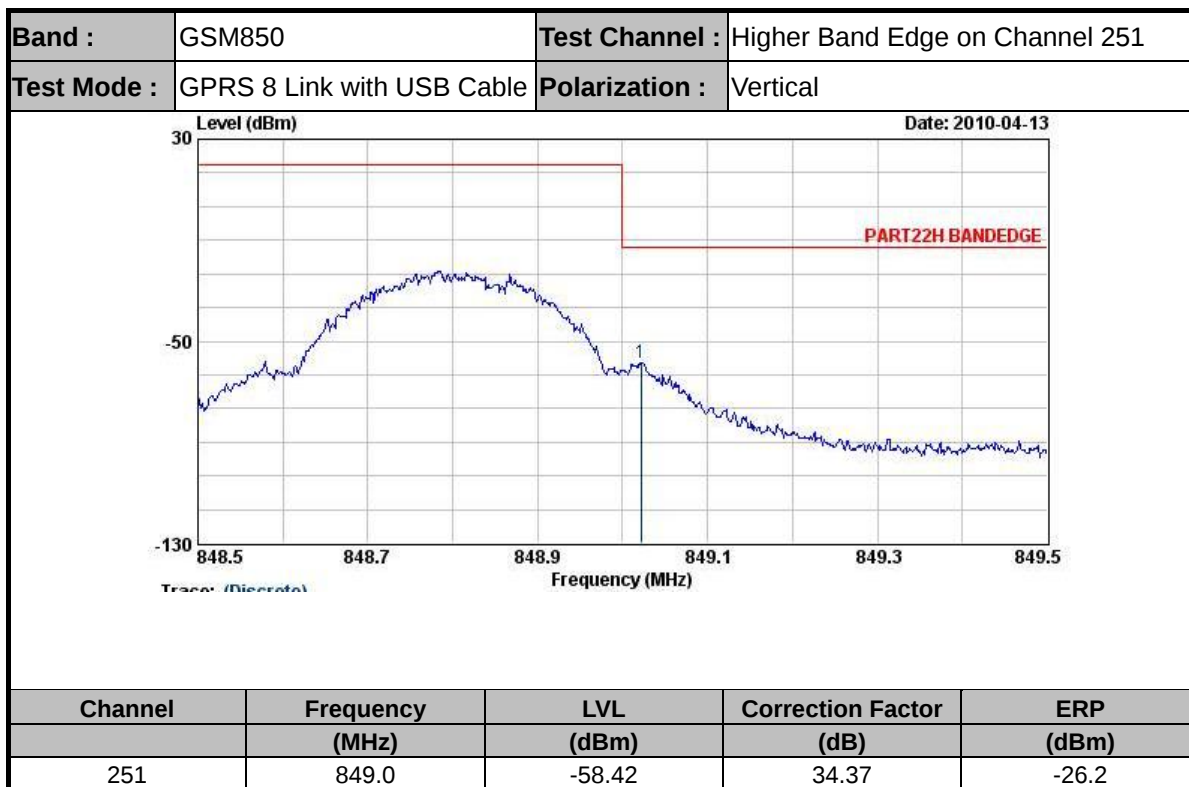
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



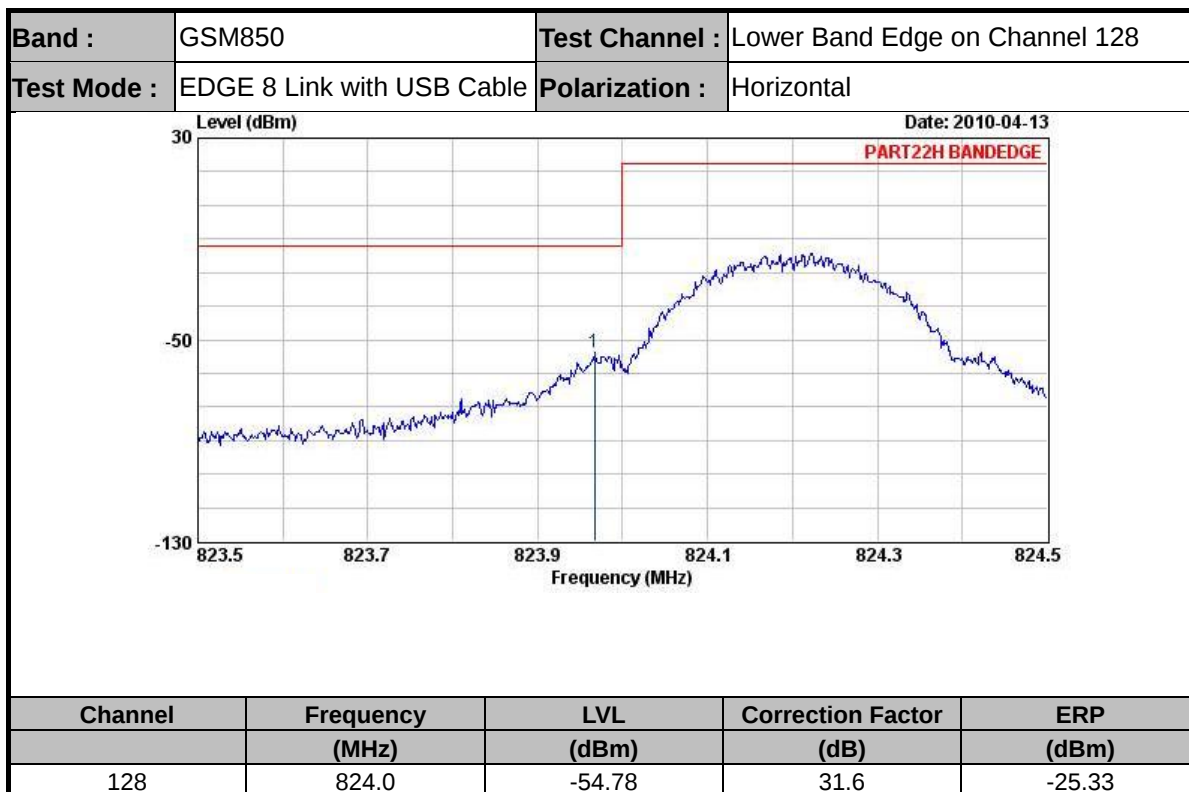
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



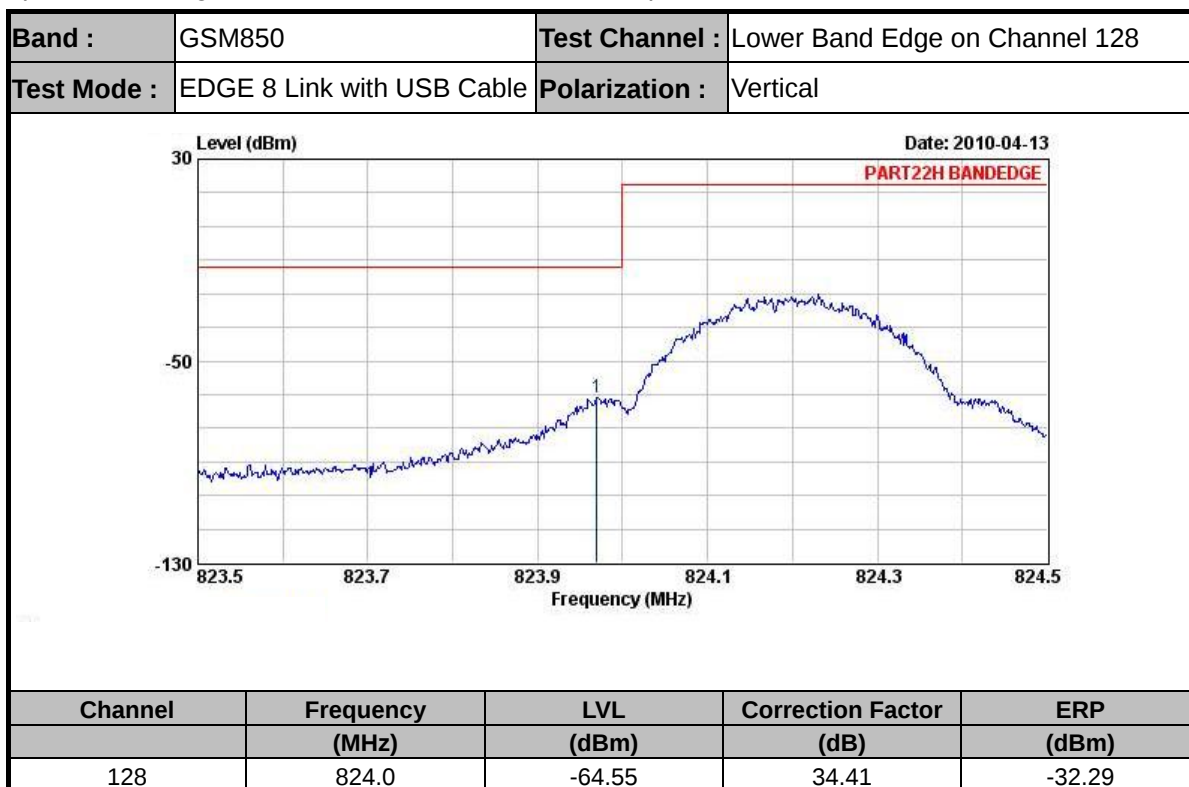
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



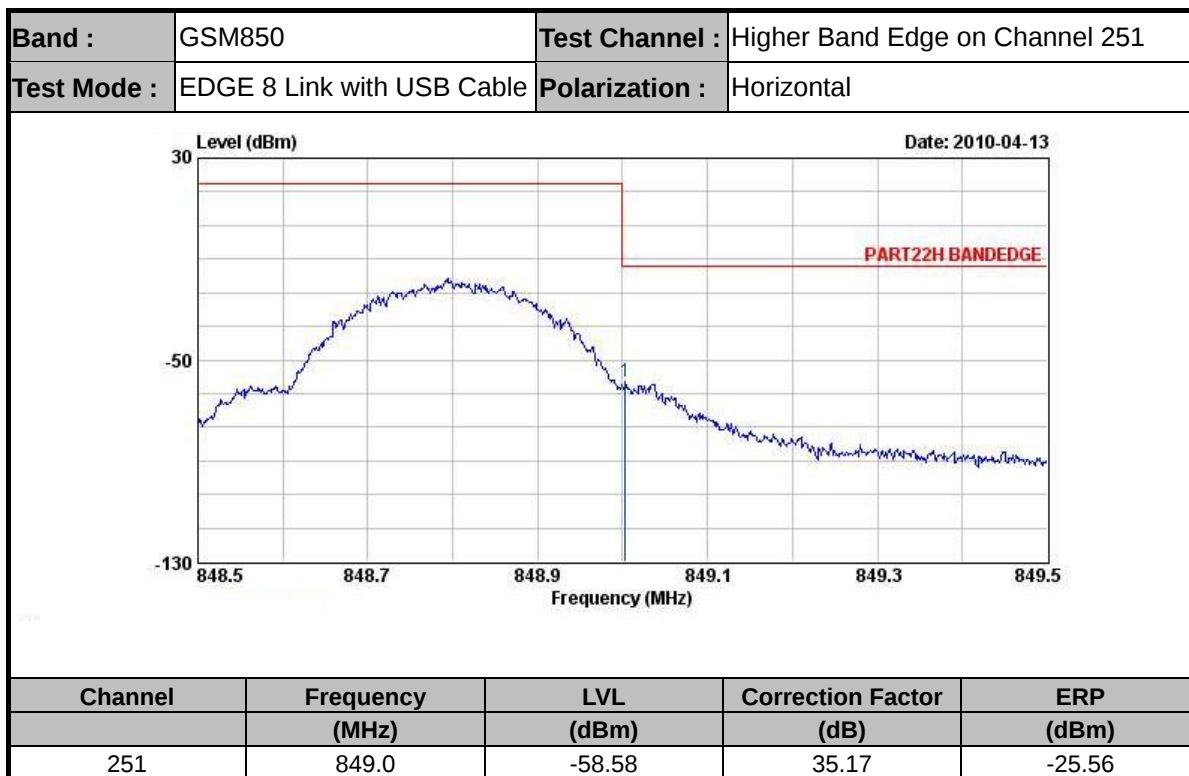
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



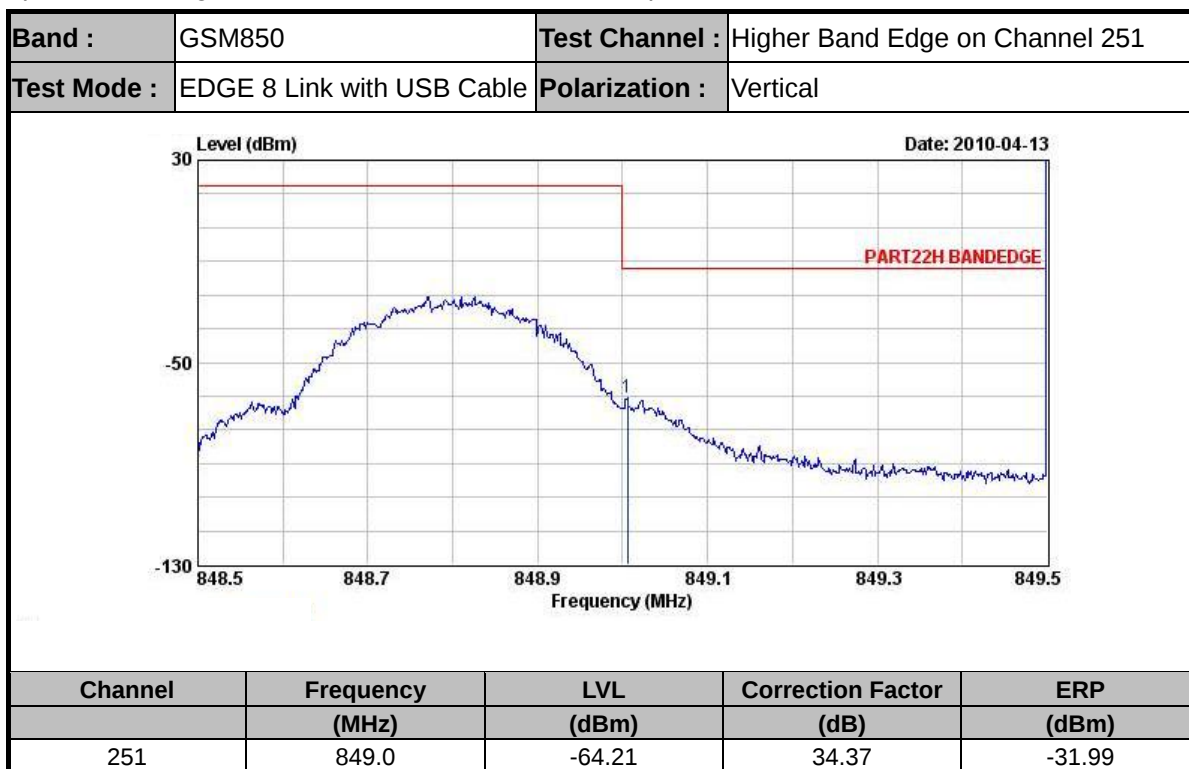
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



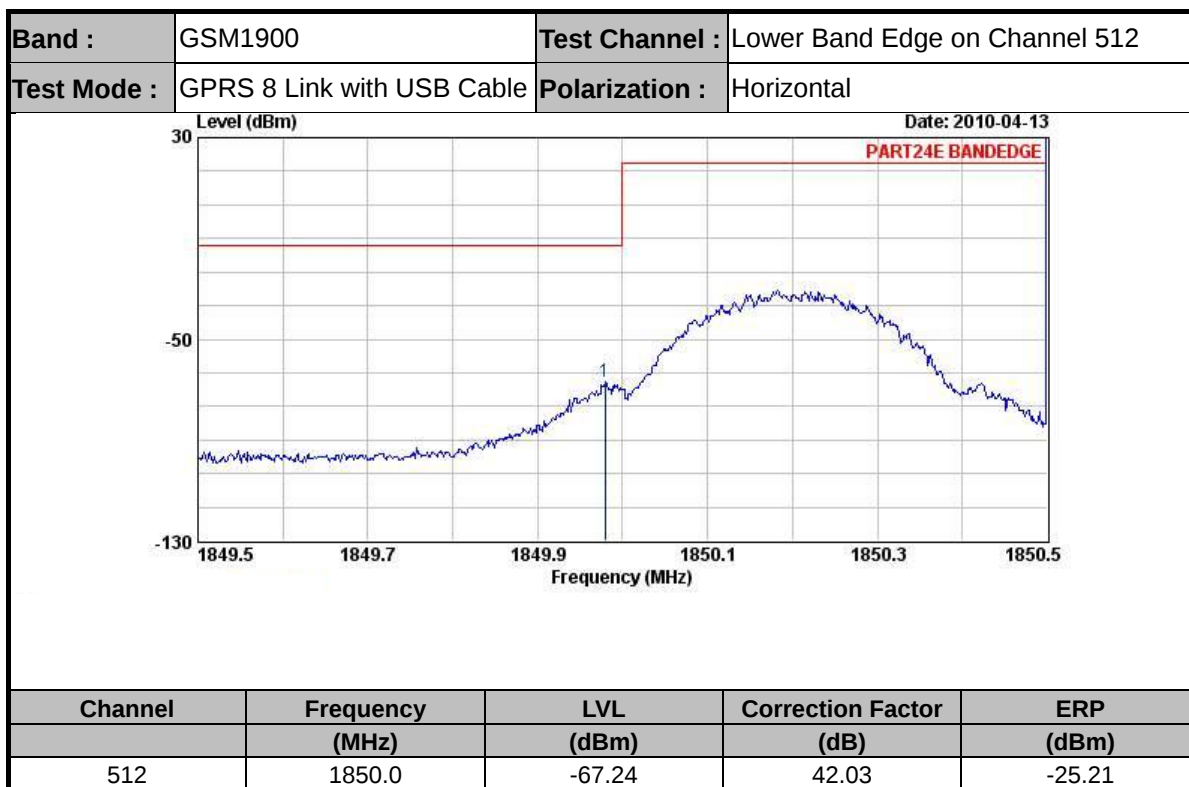
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



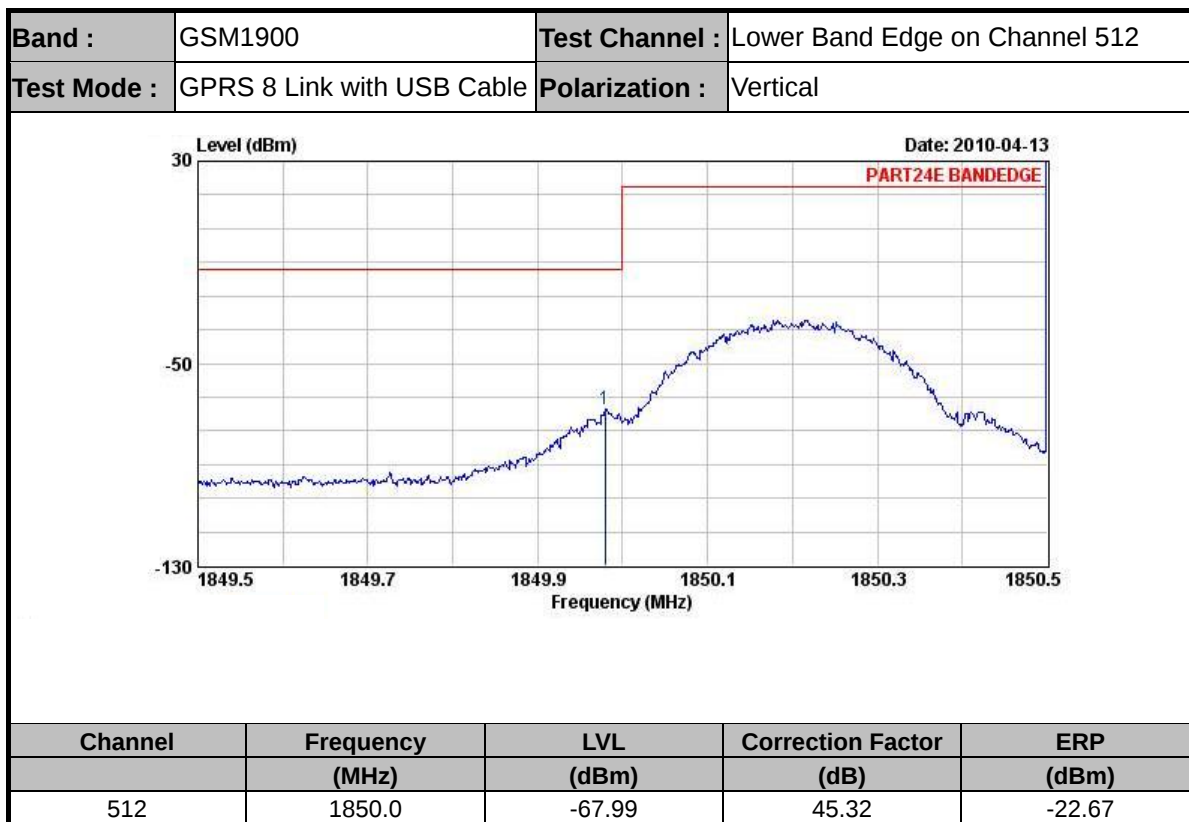
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



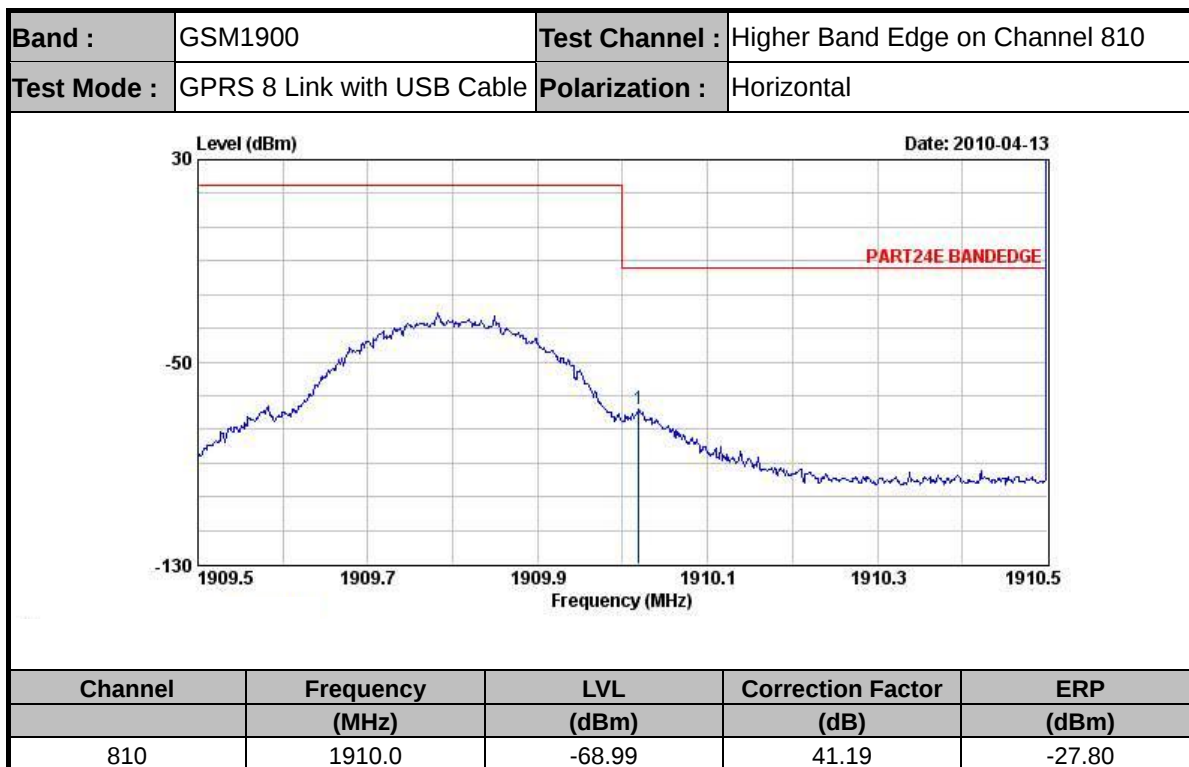
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



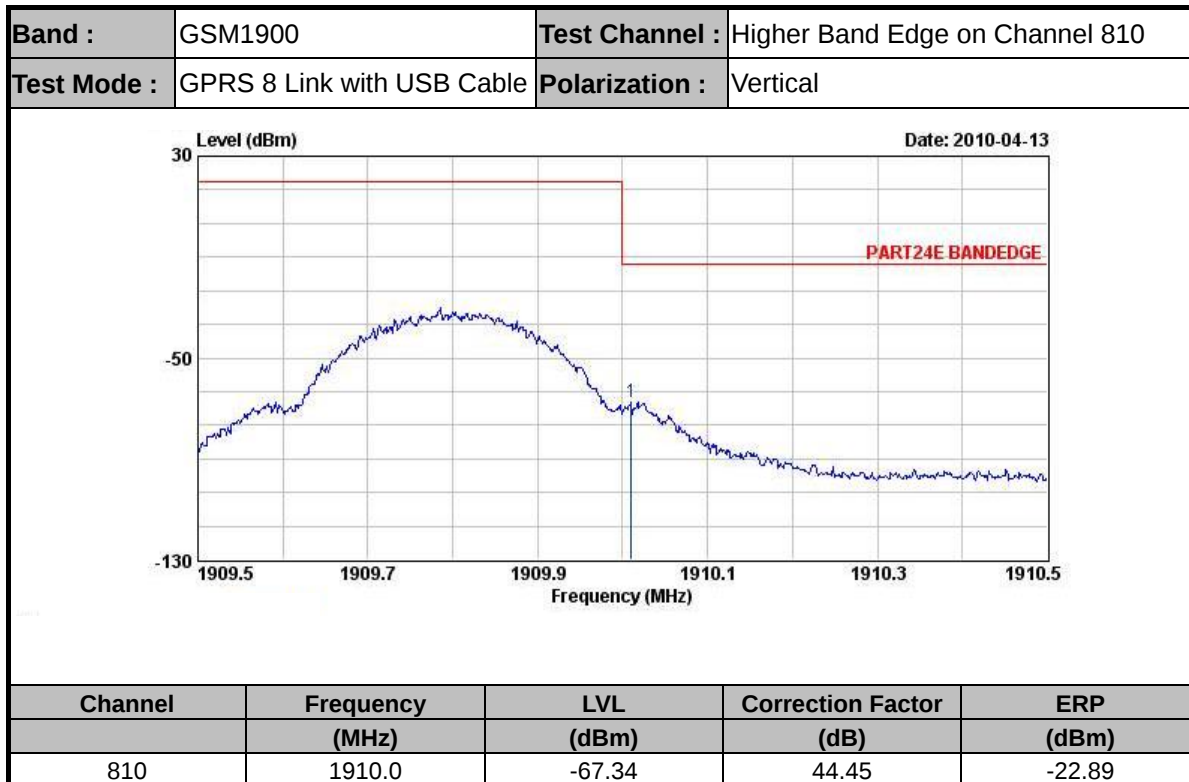
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



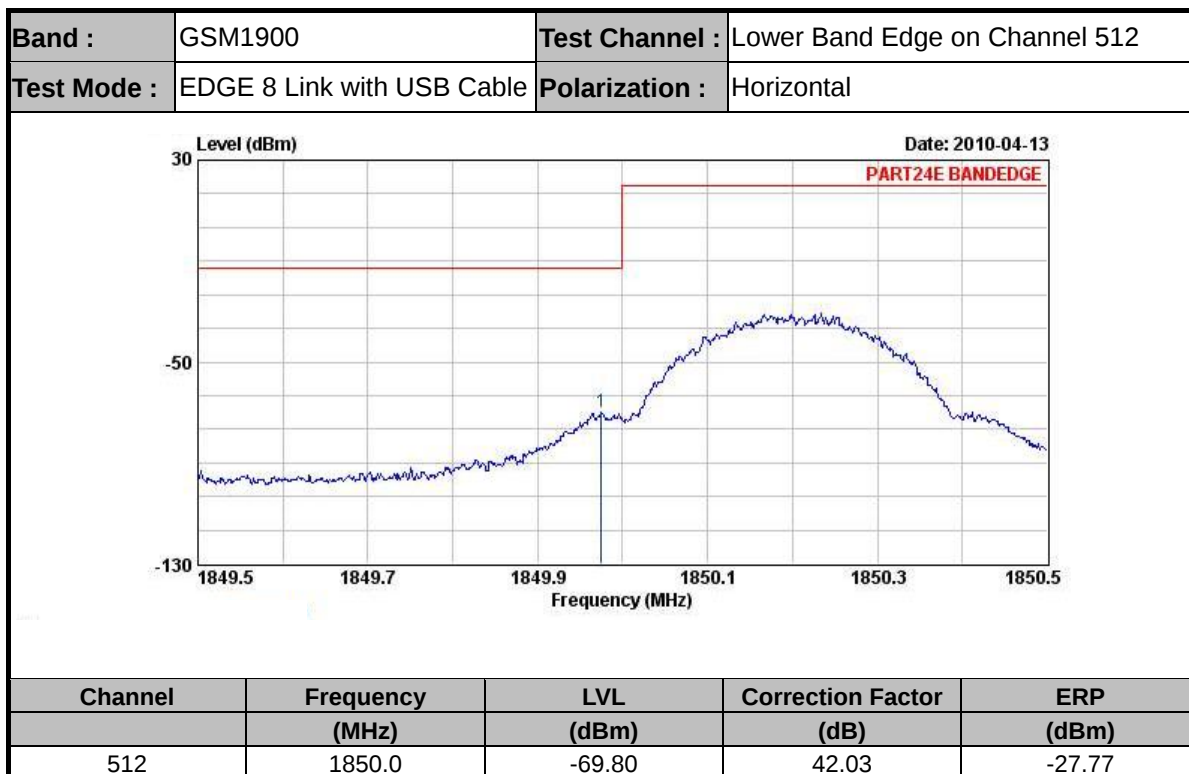
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



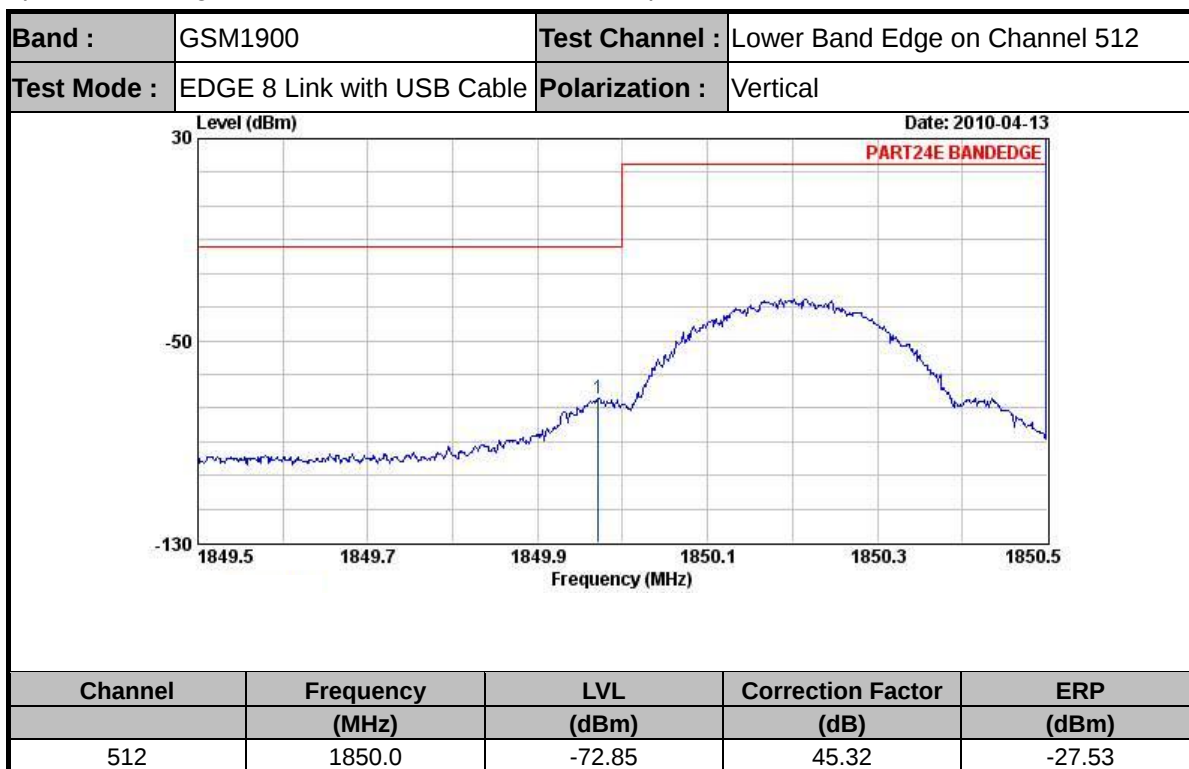
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



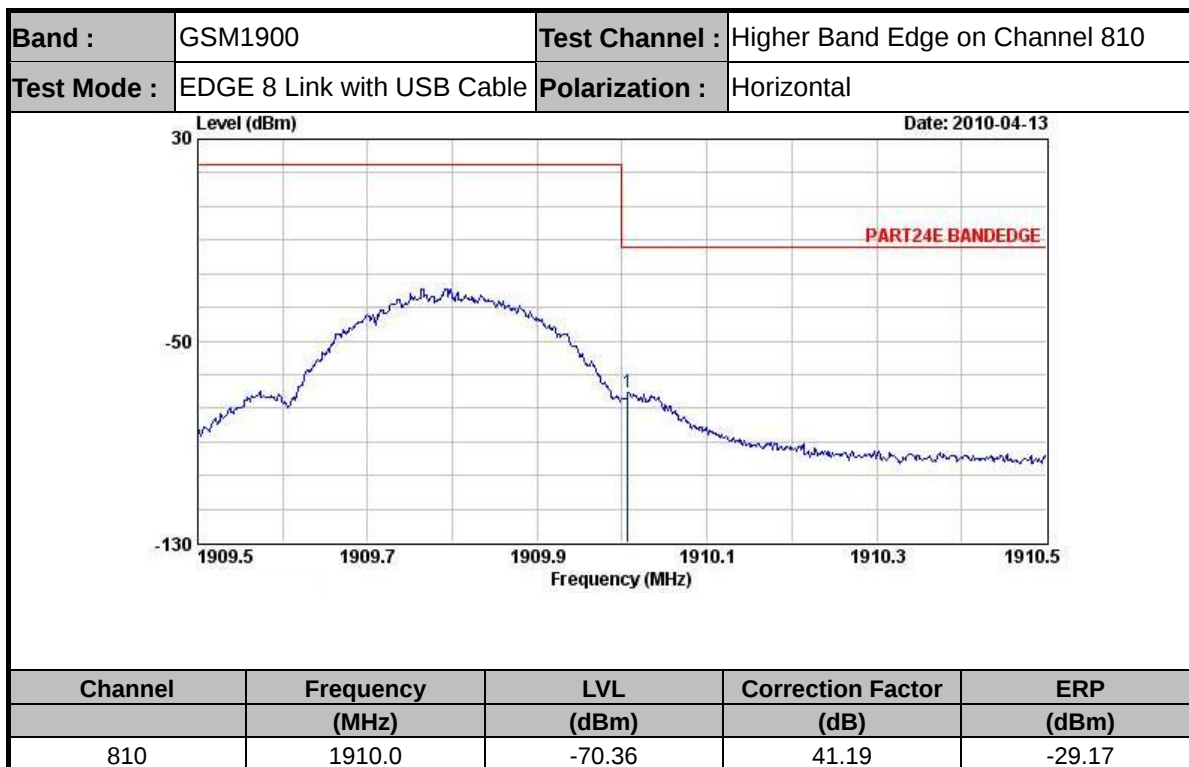
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



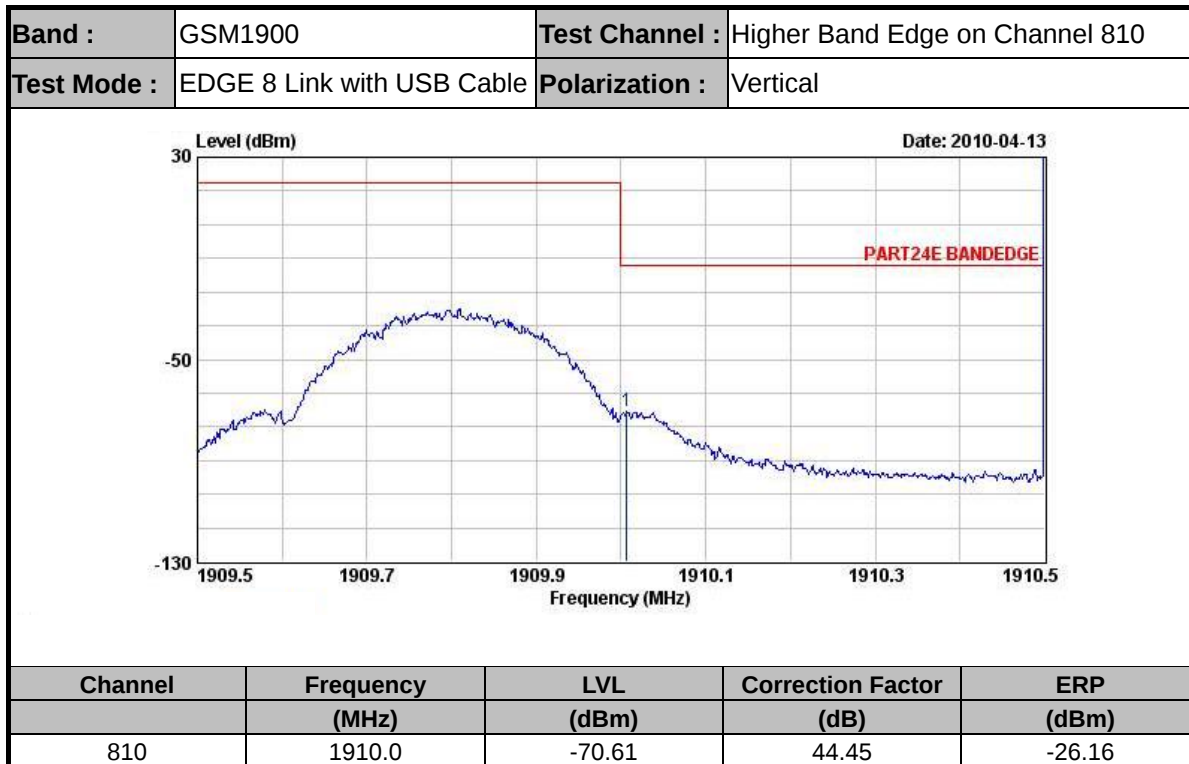
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



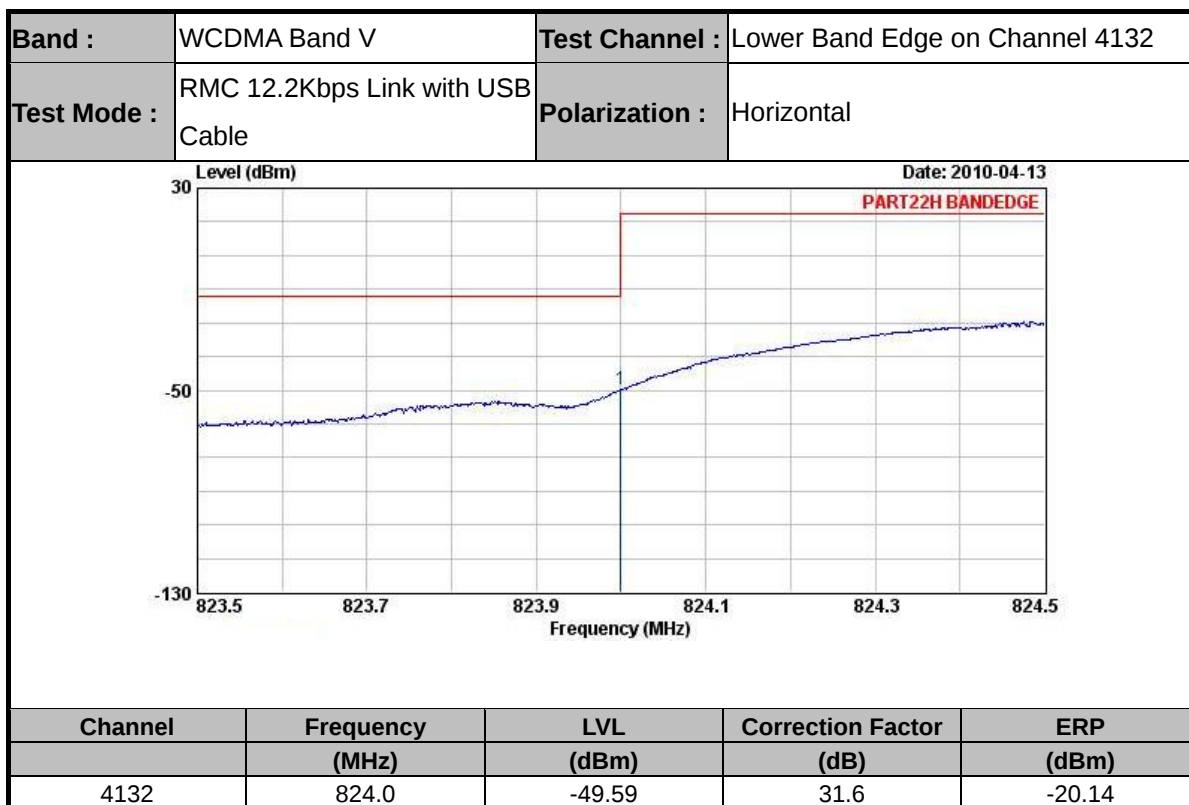
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



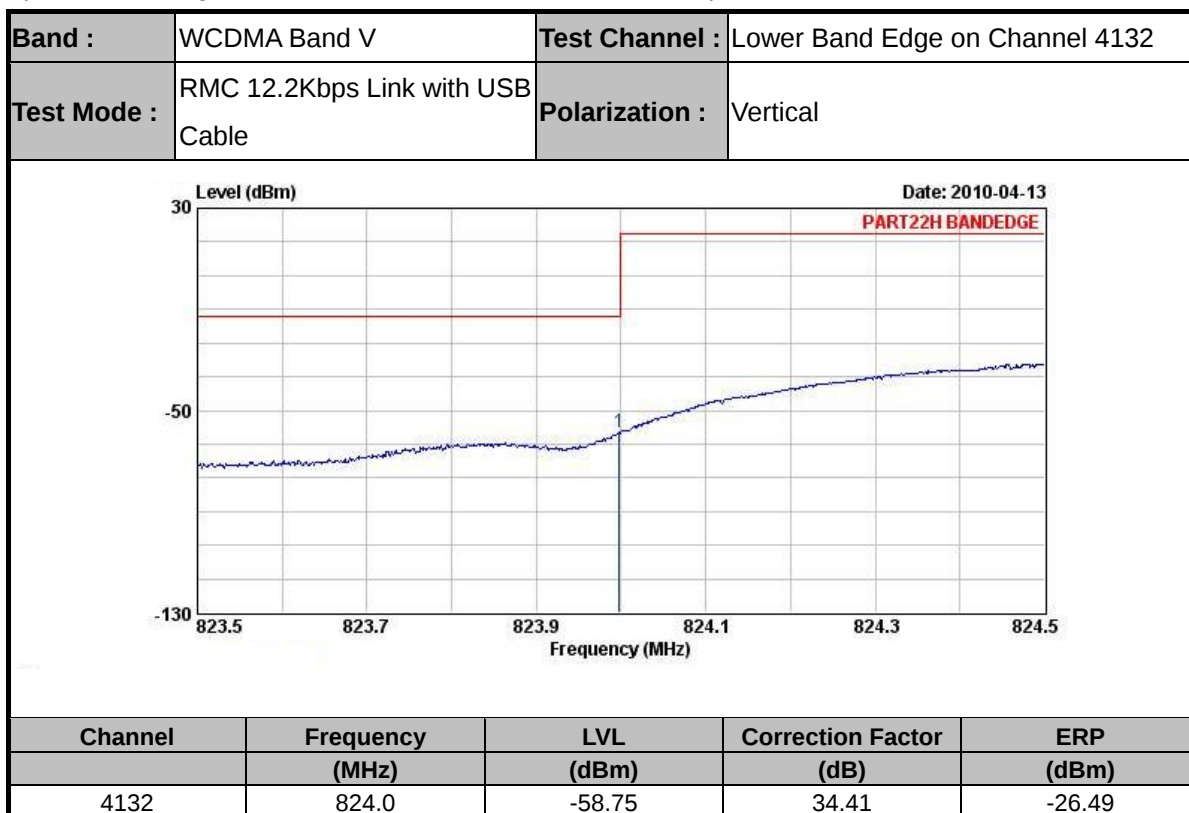
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



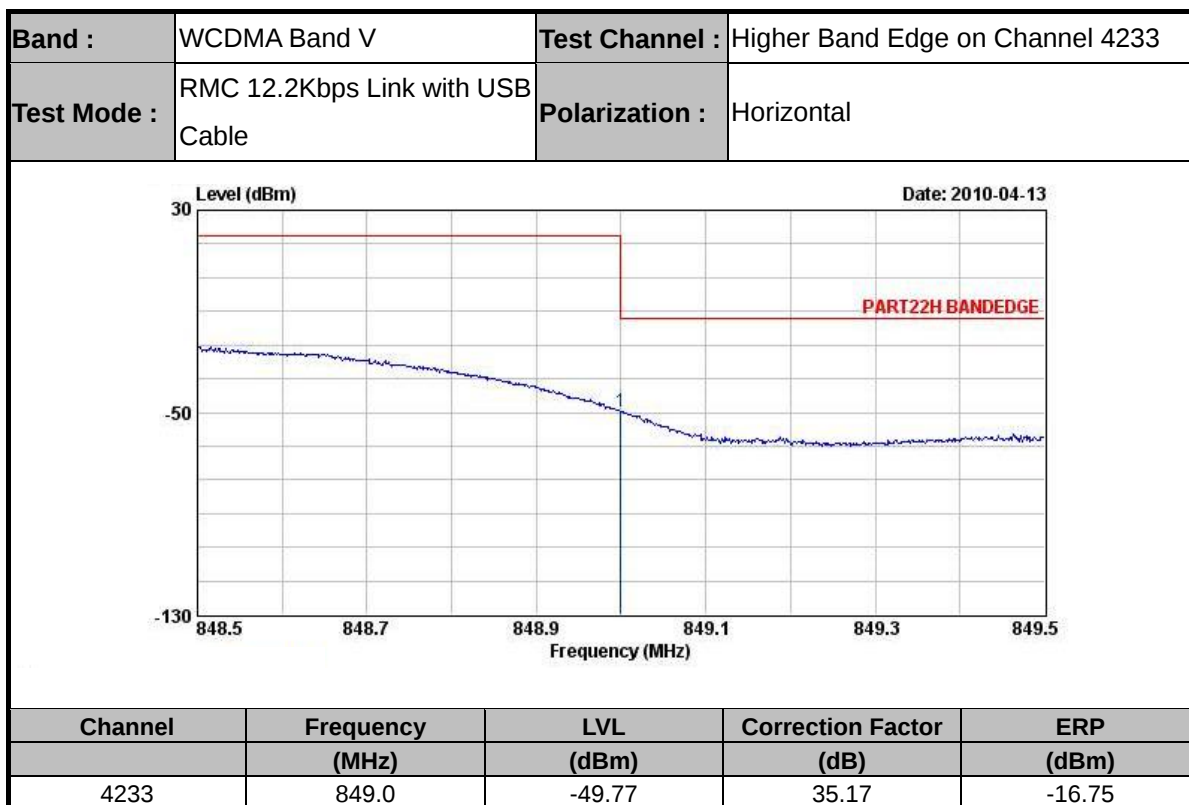
Spectrum Setting : RBW = 3 kHz, VBW = 3 kHz, Sweep = 300 ms



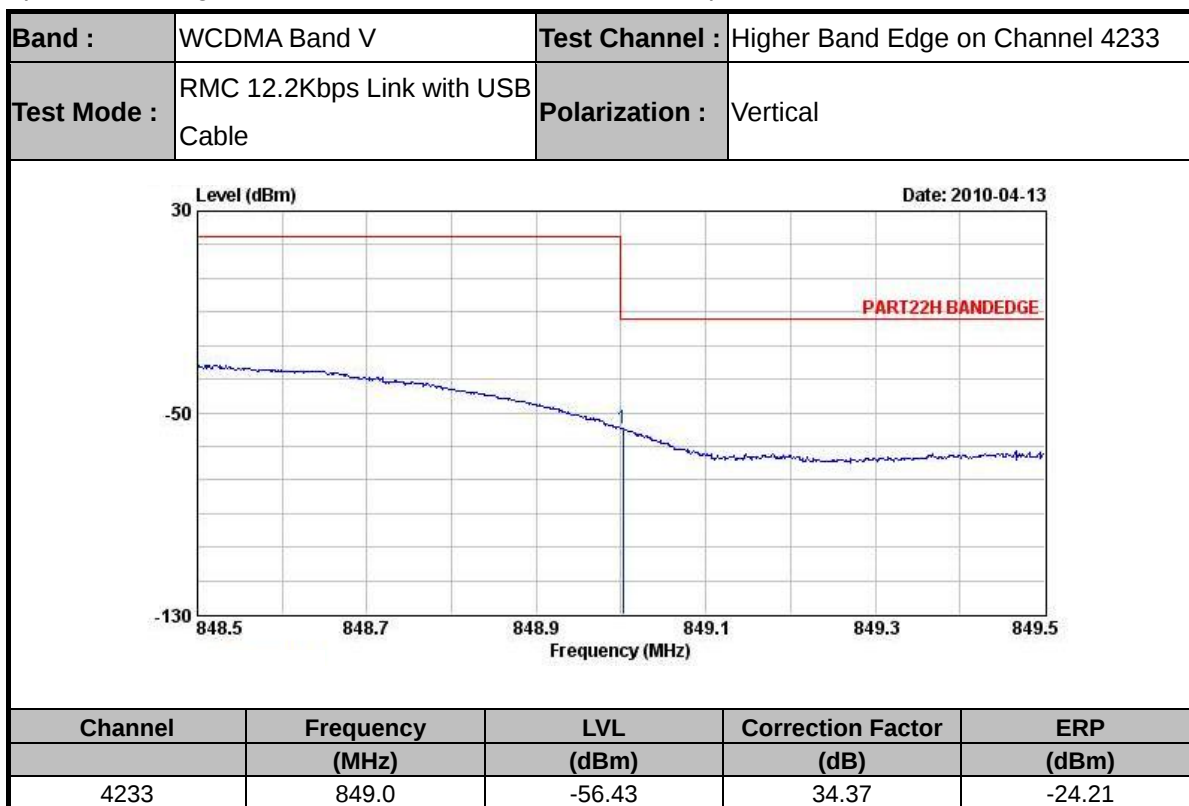
Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



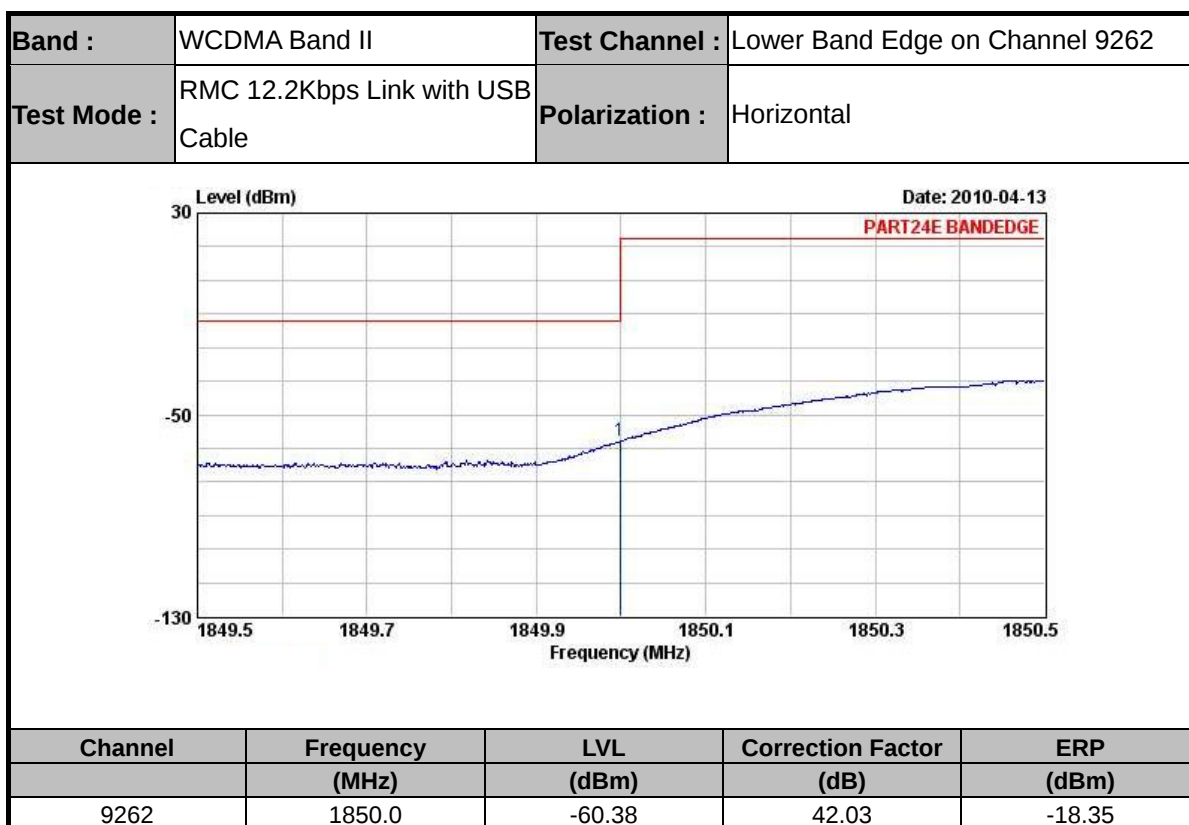
Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



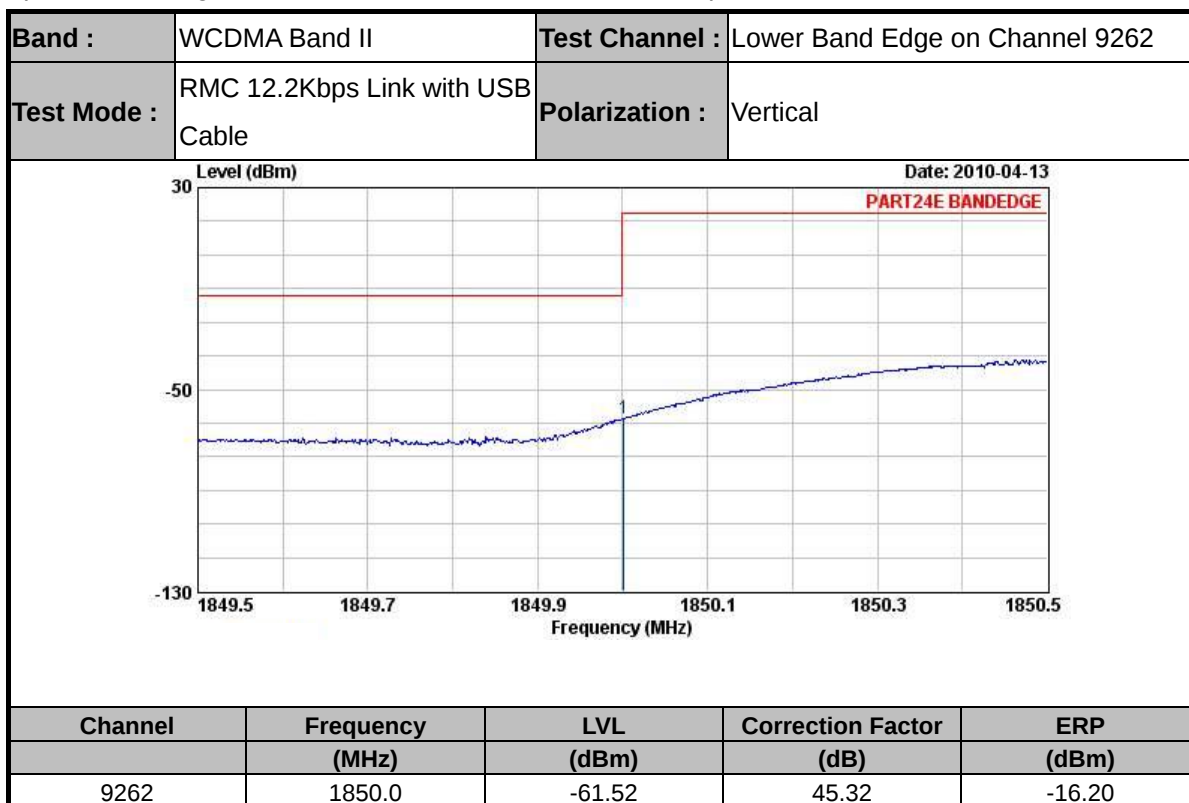
Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



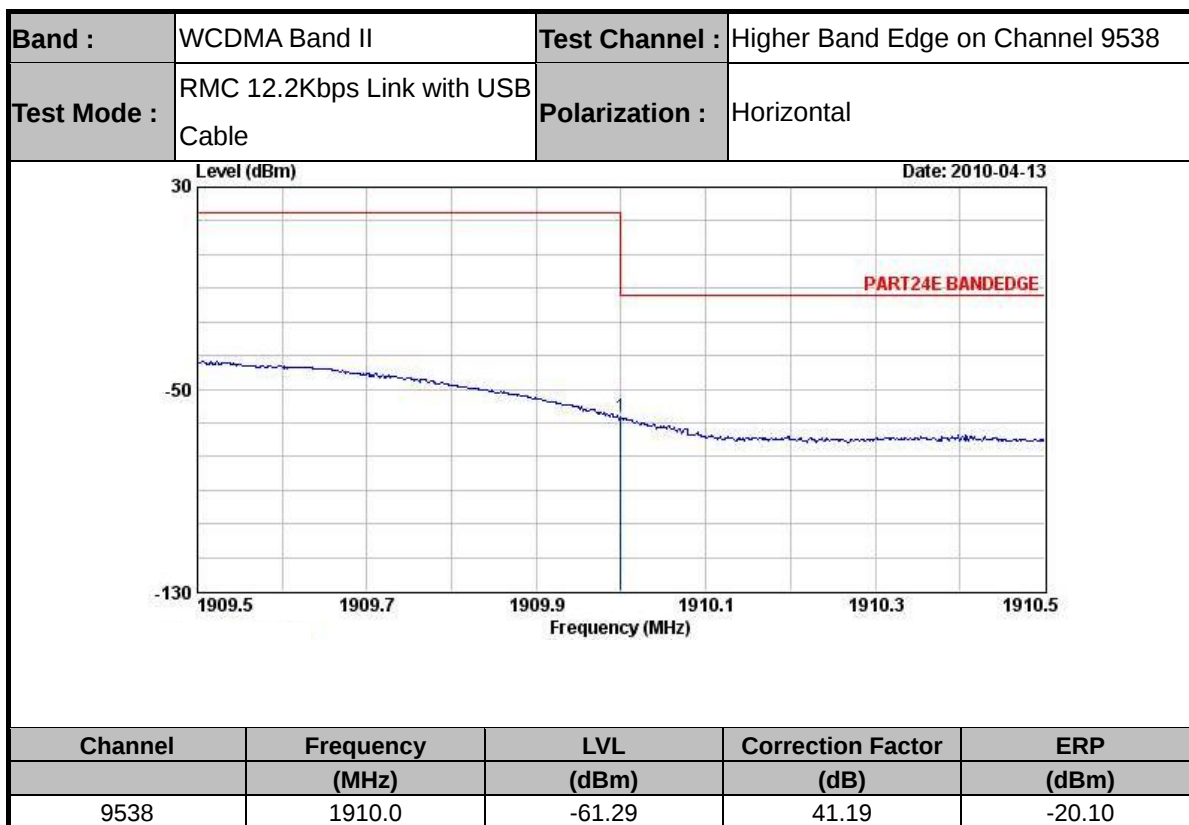
Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



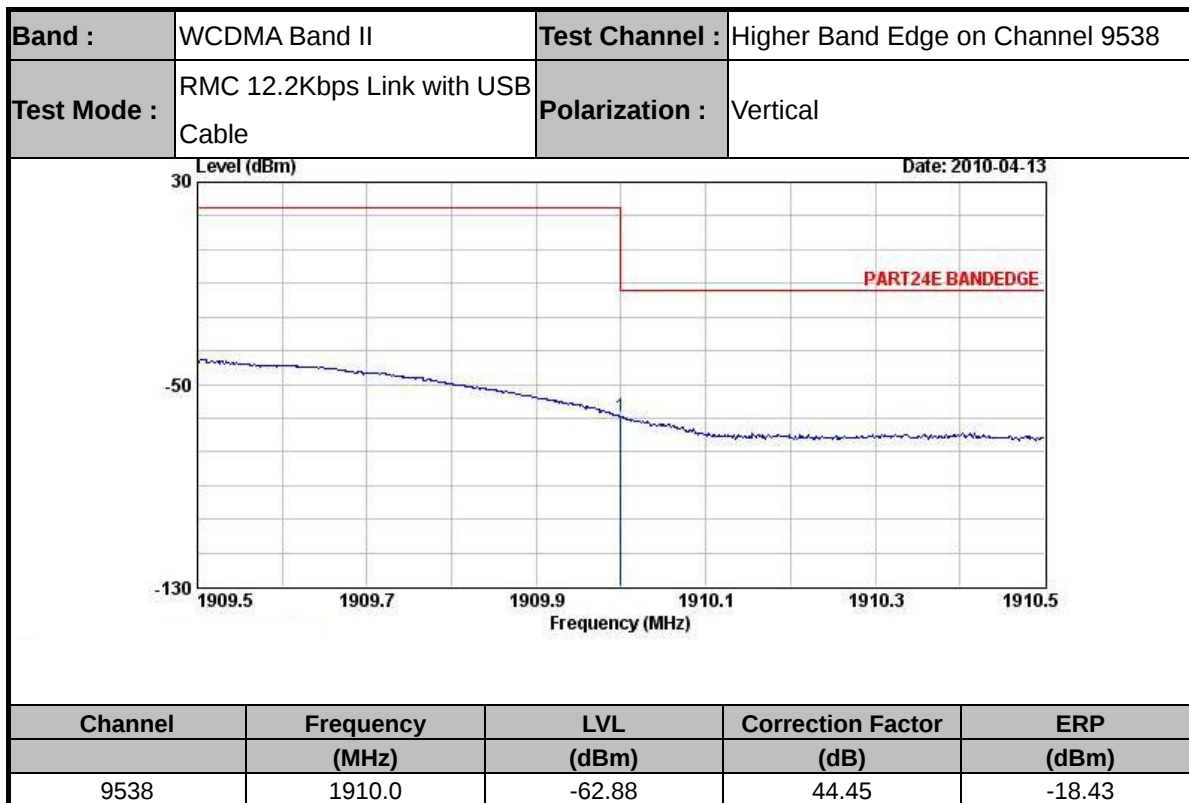
Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



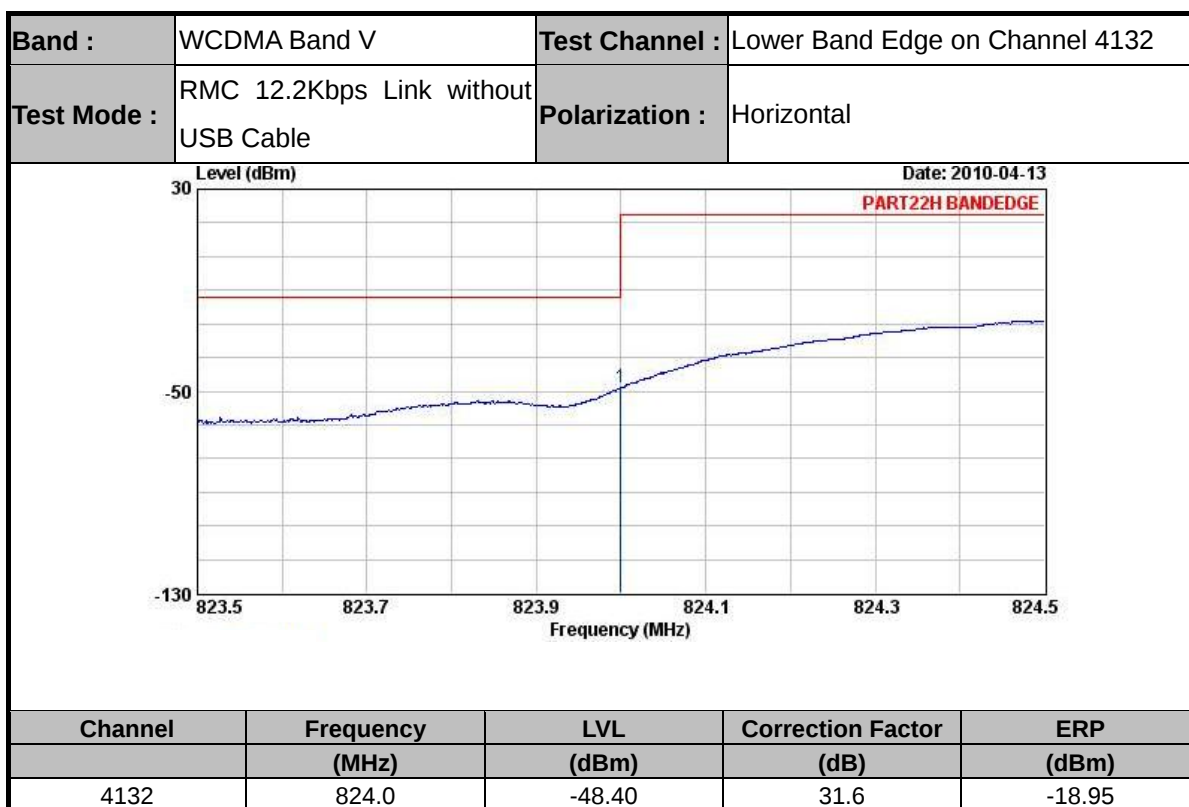
Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



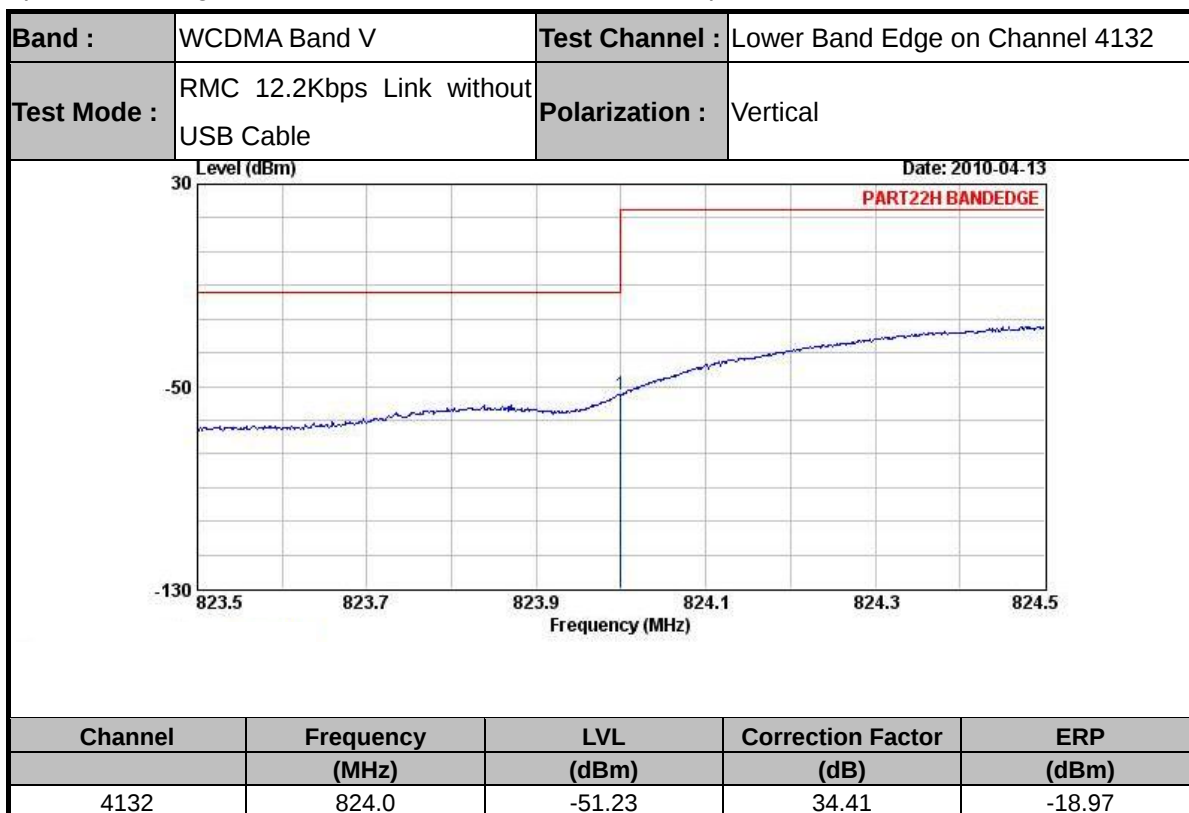
Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



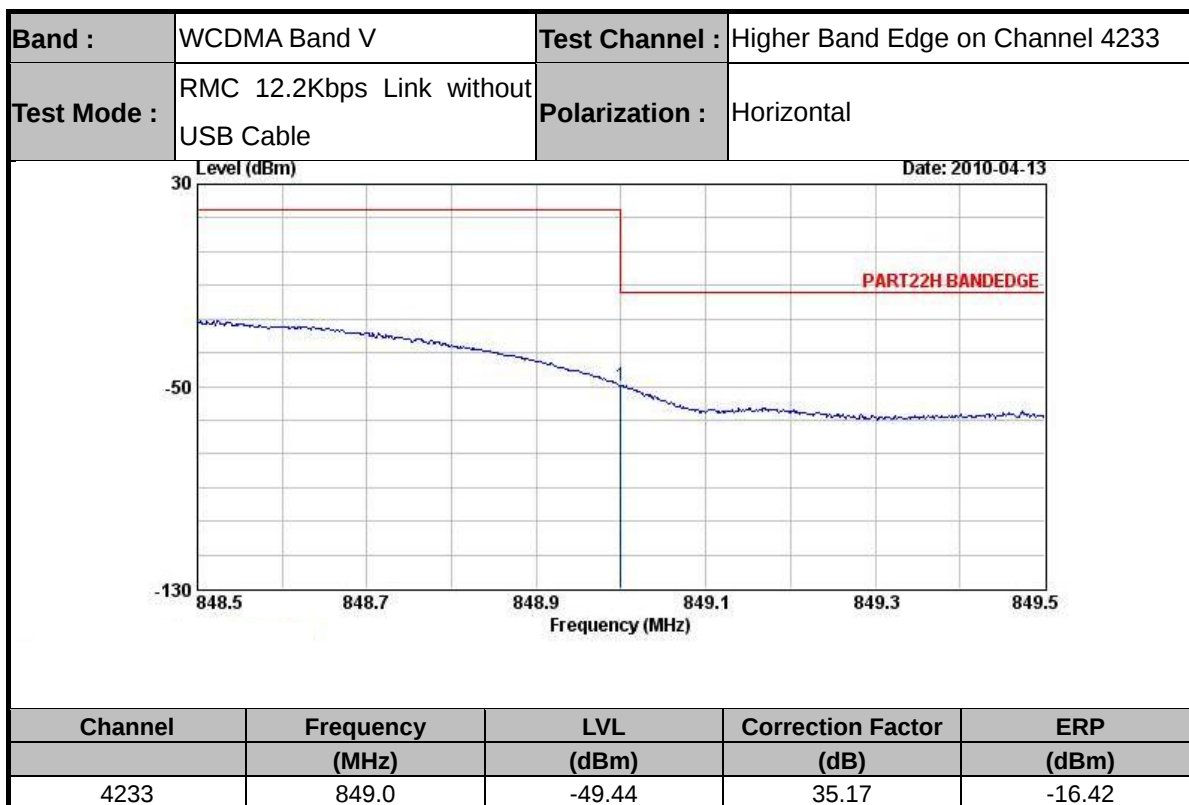
Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



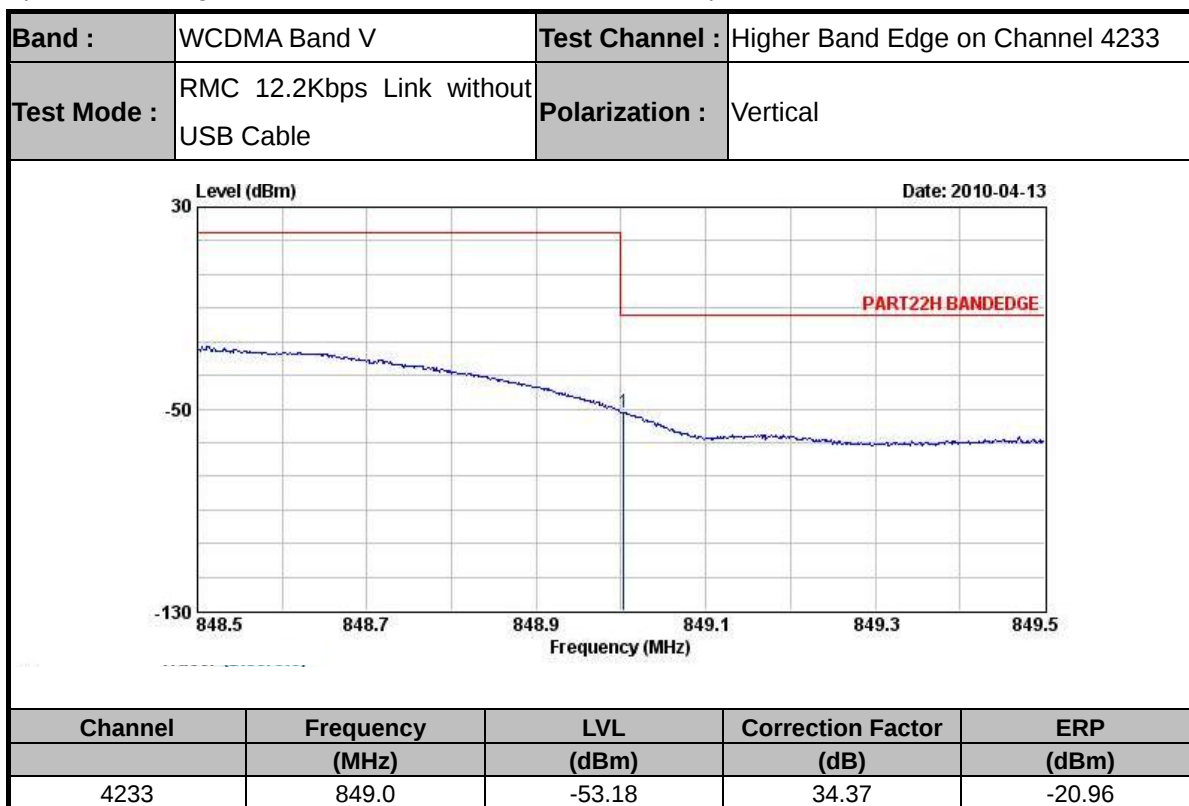
Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



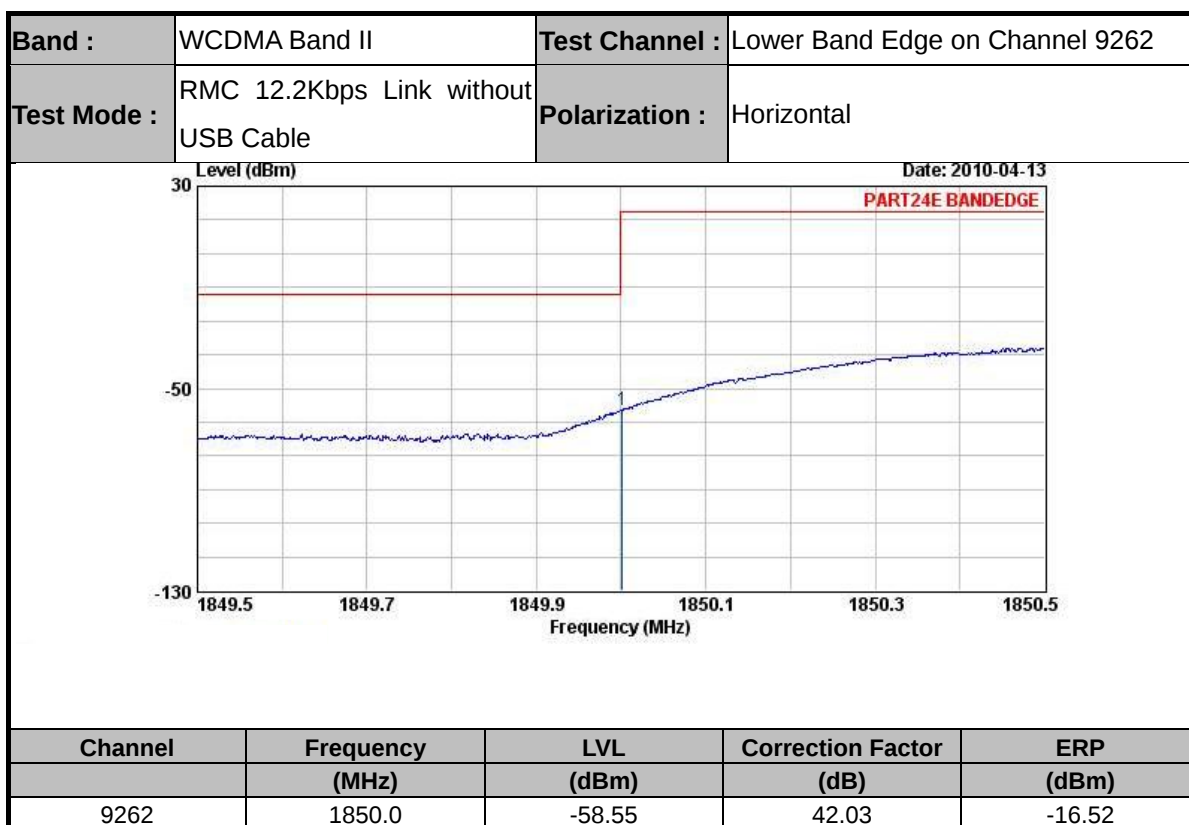
Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



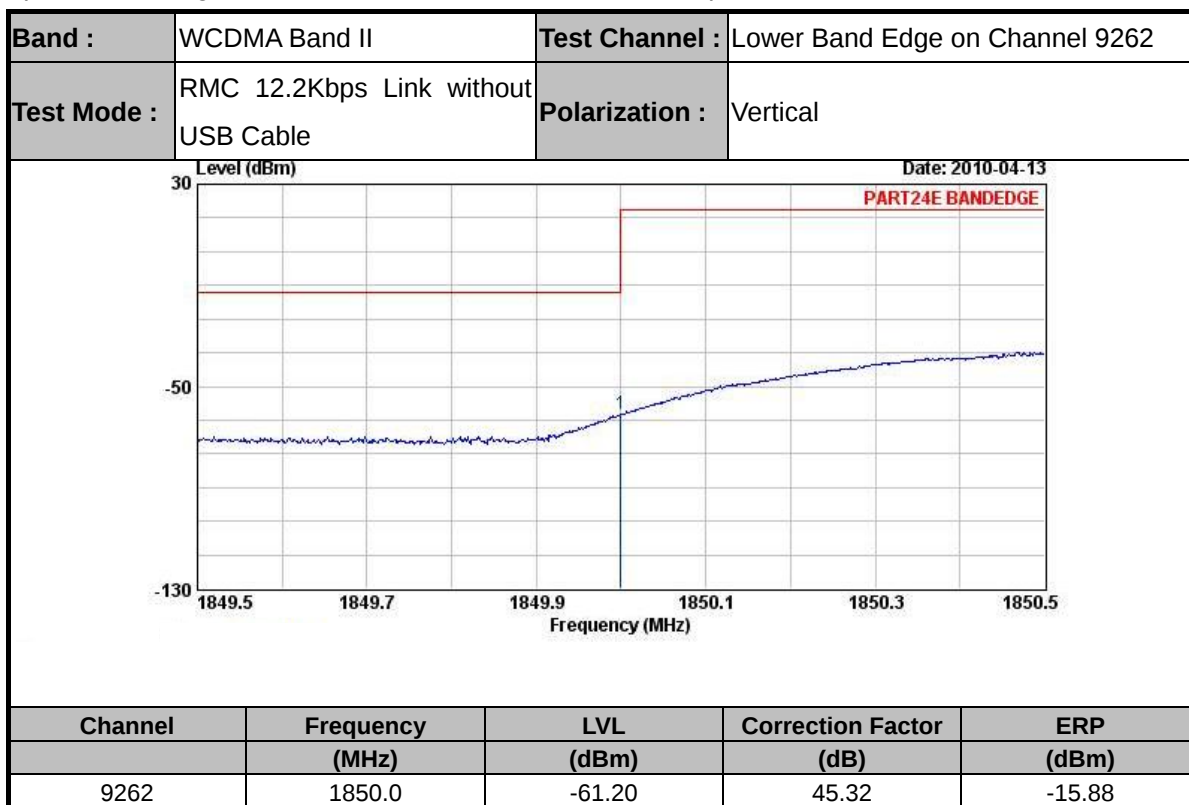
Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



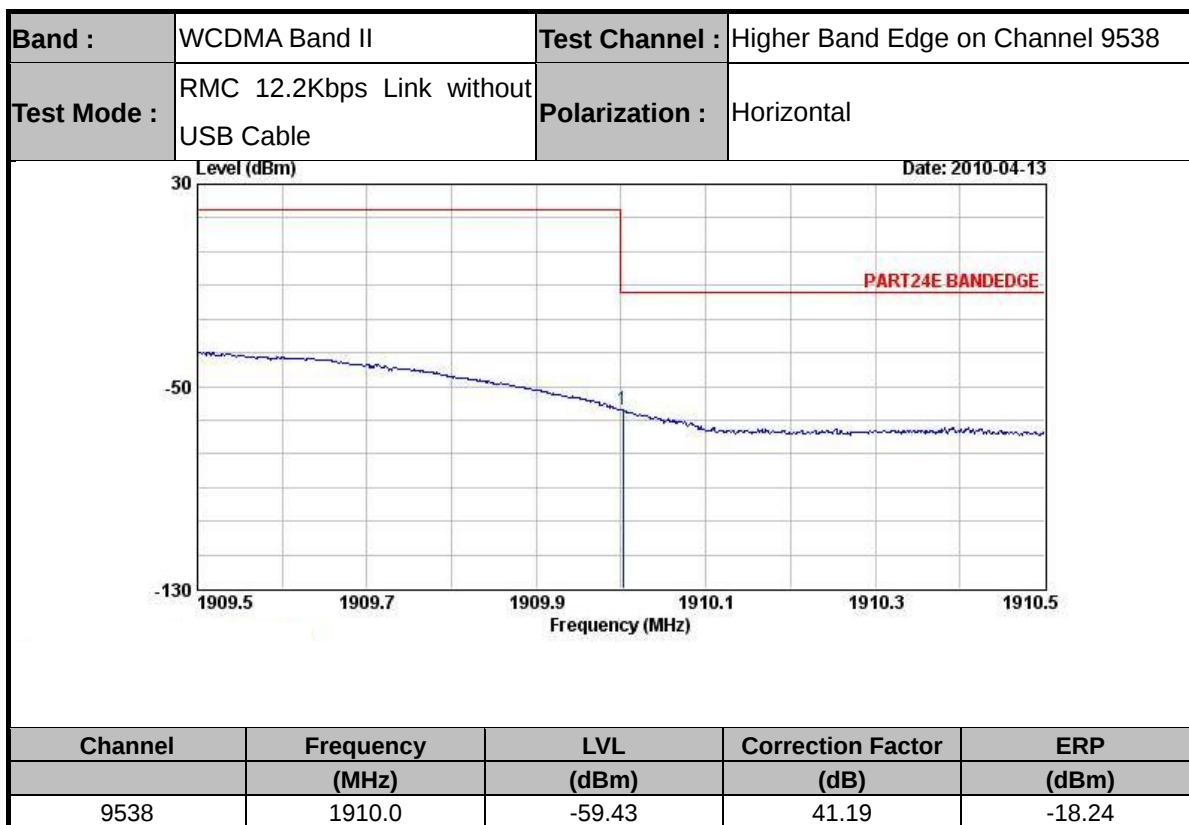
Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



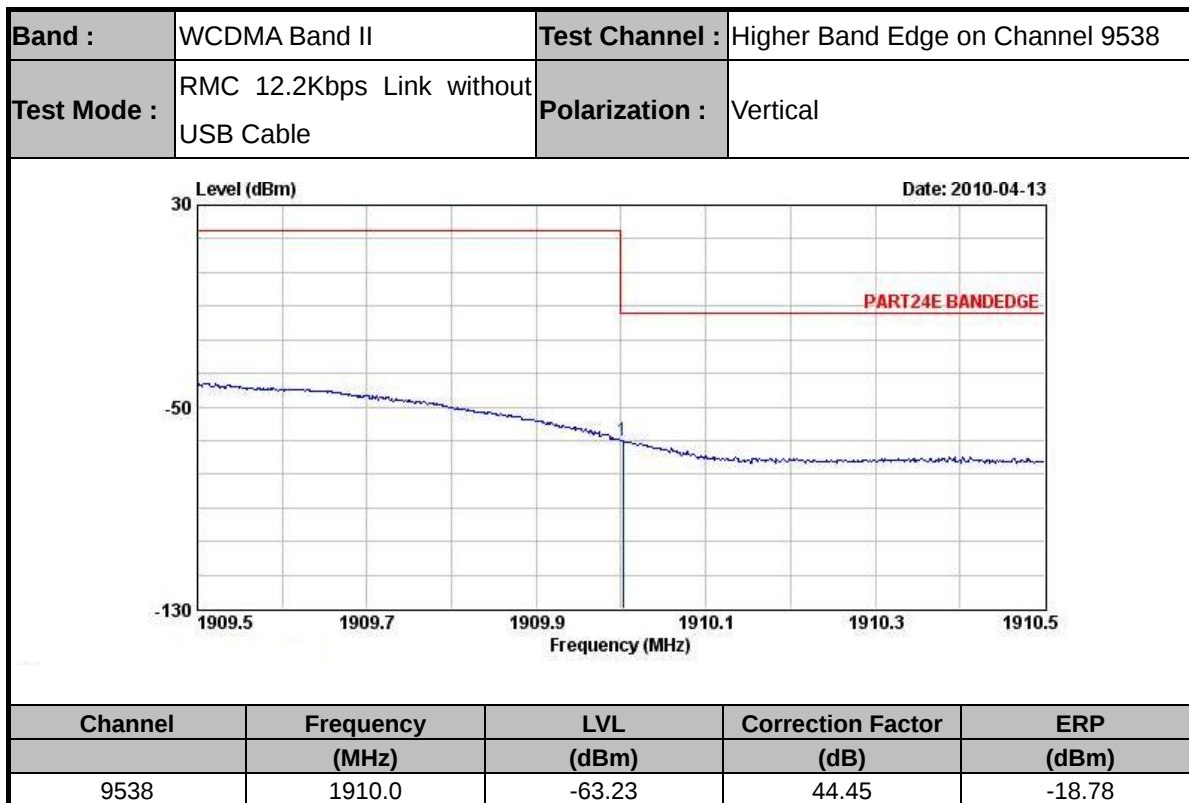
Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms



Spectrum Setting : RBW = 100 kHz, VBW = 100 kHz, Sweep = 300 ms

### 3.4 Conducted Emission Measurement

#### 3.4.1 Description of Conducted Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10<sup>th</sup> harmonic.

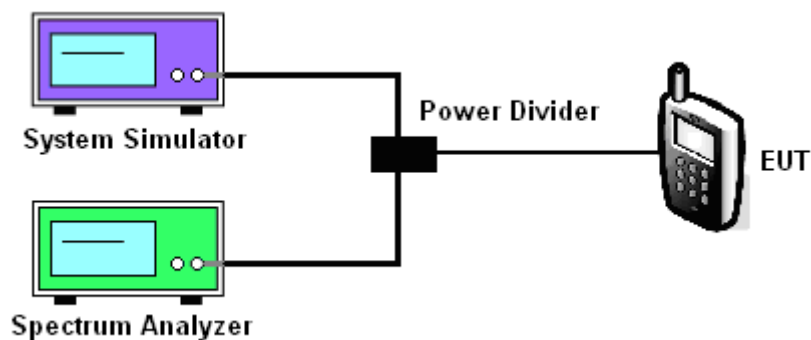
#### 3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

#### 3.4.3 Test Procedures

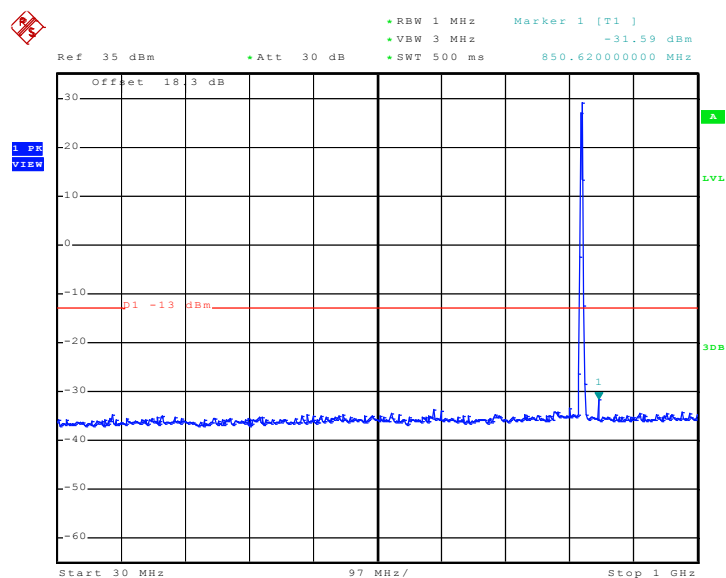
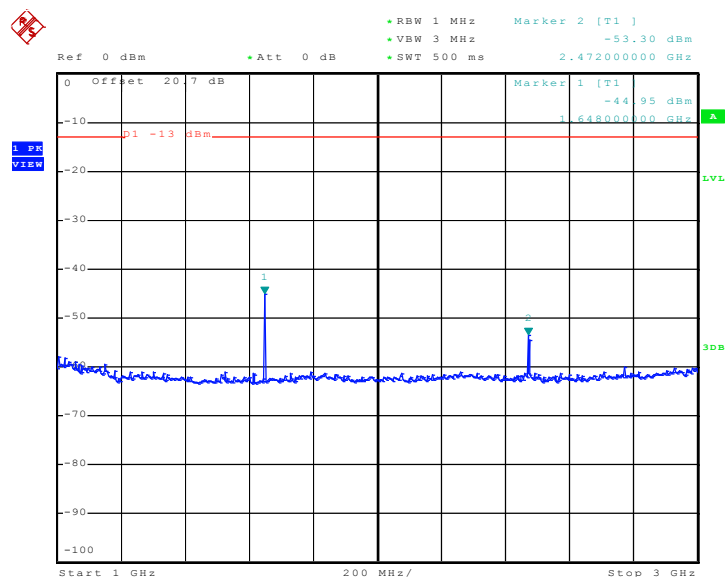
1. The EUT was connected to spectrum analyzer and base station via power divider.
2. The middle channel for the highest RF power within the transmitting frequency was measured.
3. The conducted spurious emission for the whole frequency range was taken.

#### 3.4.4 Test Setup

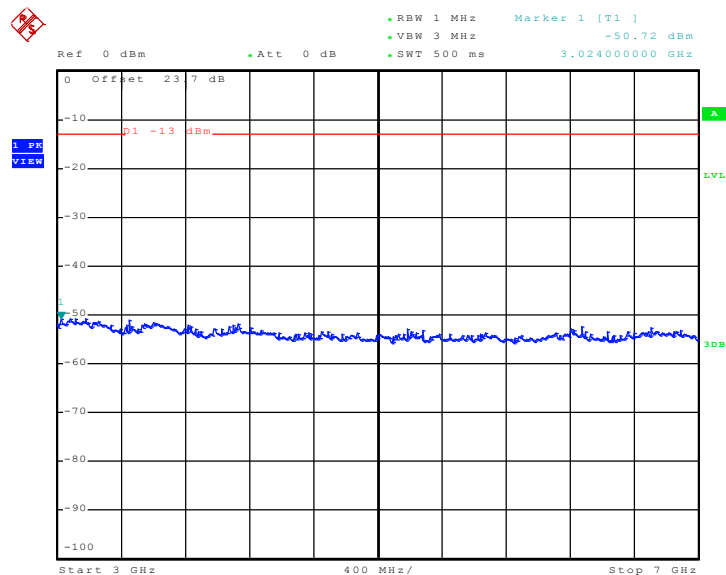


### 3.4.5 Test Result (Plots) of Conducted Emission

|                    |             |                  |       |
|--------------------|-------------|------------------|-------|
| <b>Band :</b>      | GSM850      | <b>Channel :</b> | CH128 |
| <b>Test Mode :</b> | GPRS 8 Link |                  |       |

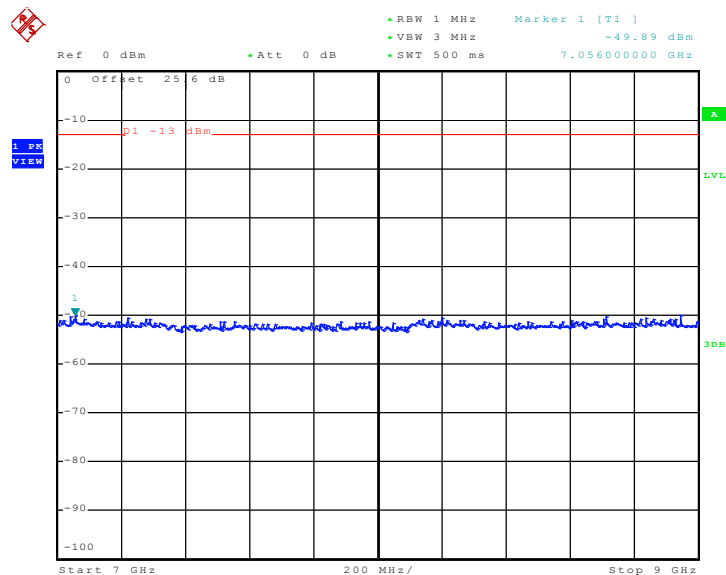
**Conducted Emission Plot between 30MHz ~ 1GHz**

**Conducted Emission Plot between 1GHz ~ 3GHz**


### Conducted Emission Plot between 3GHz ~ 7GHz



Date: 2.APR.2010 22:57:23

### Conducted Emission Plot between 7GHz ~ 9GHz

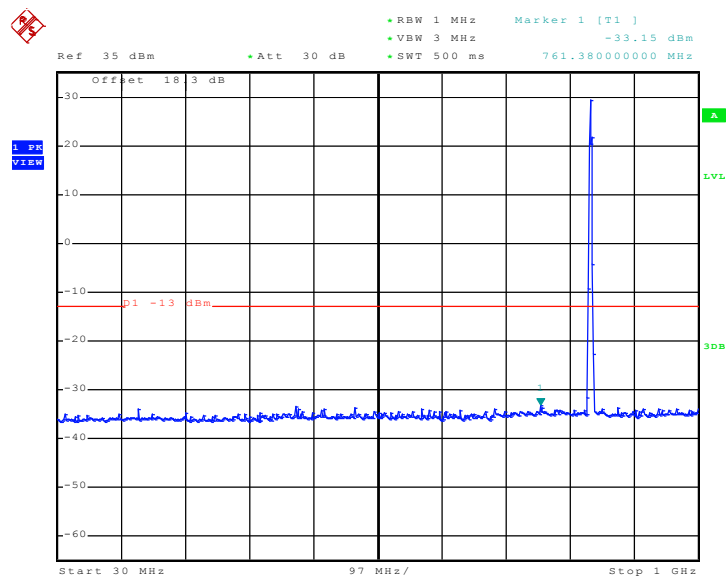


Date: 2.APR.2010 22:59:37



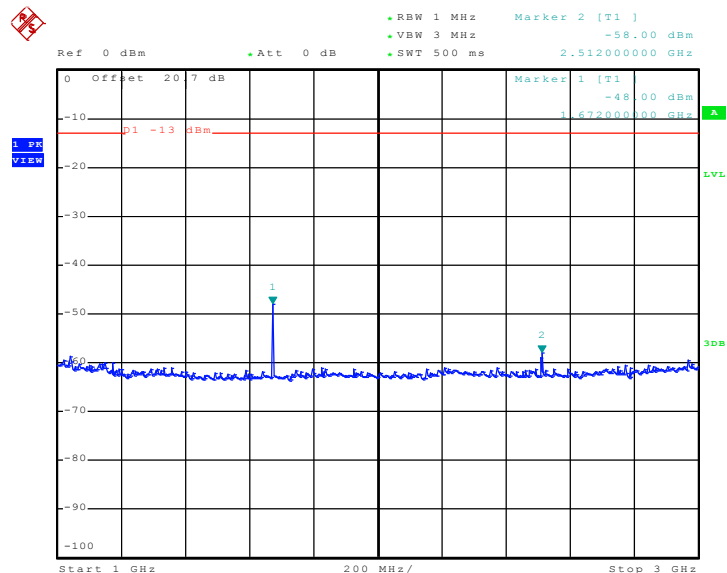
|             |             |           |       |
|-------------|-------------|-----------|-------|
| Band :      | GSM850      | Channel : | CH189 |
| Test Mode : | GPRS 8 Link |           |       |

Conducted Emission Plot between 30MHz ~ 1GHz



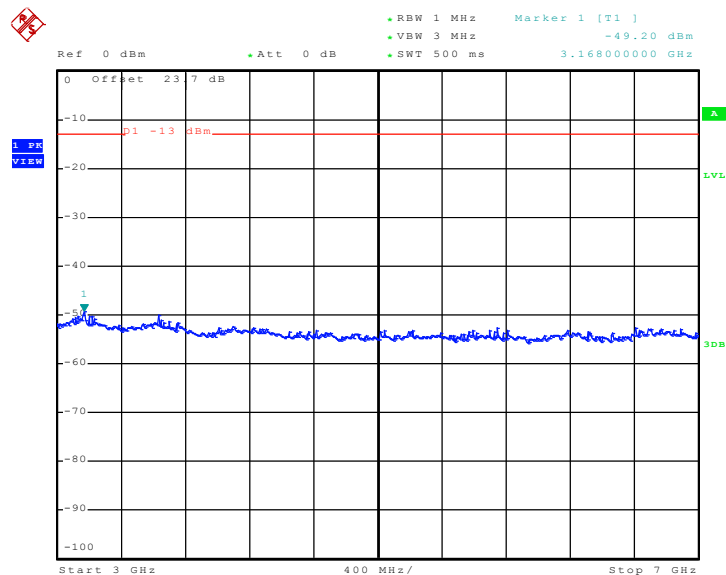
Date: 2.APR.2010 21:29:02

Conducted Emission Plot between 1GHz ~ 3GHz



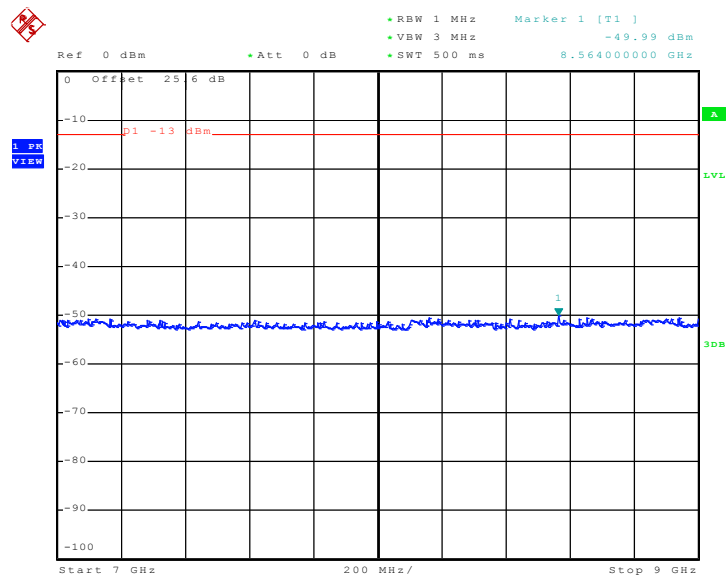
Date: 2.APR.2010 21:34:34

### Conducted Emission Plot between 3GHz ~ 7GHz



Date: 2.APR.2010 21:35:32

### Conducted Emission Plot between 7GHz ~ 9GHz

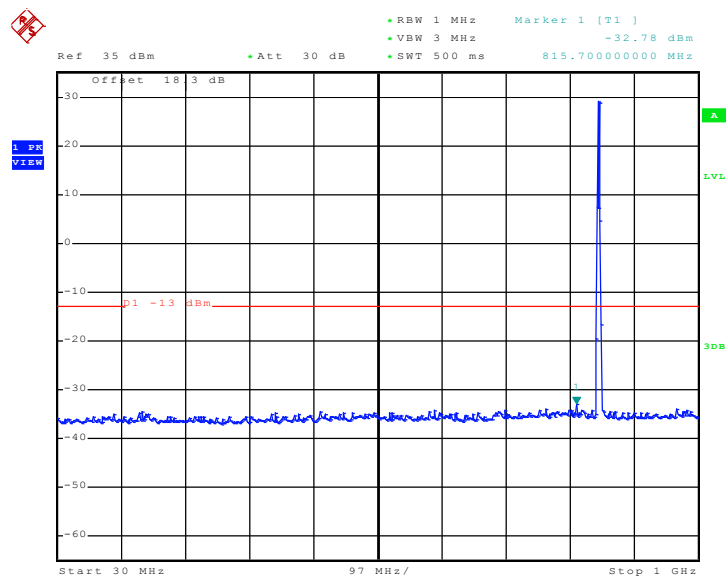


Date: 2.APR.2010 21:39:35



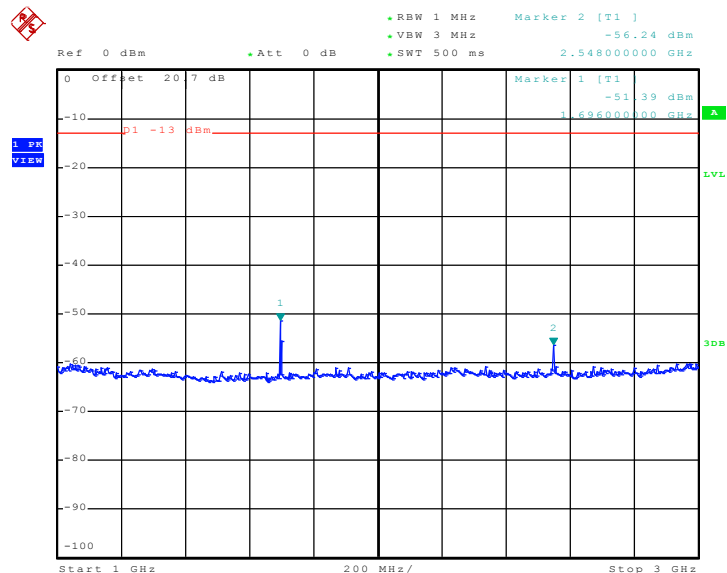
|             |             |           |       |
|-------------|-------------|-----------|-------|
| Band :      | GSM850      | Channel : | CH251 |
| Test Mode : | GPRS 8 Link |           |       |

Conducted Emission Plot between 30MHz ~ 1GHz



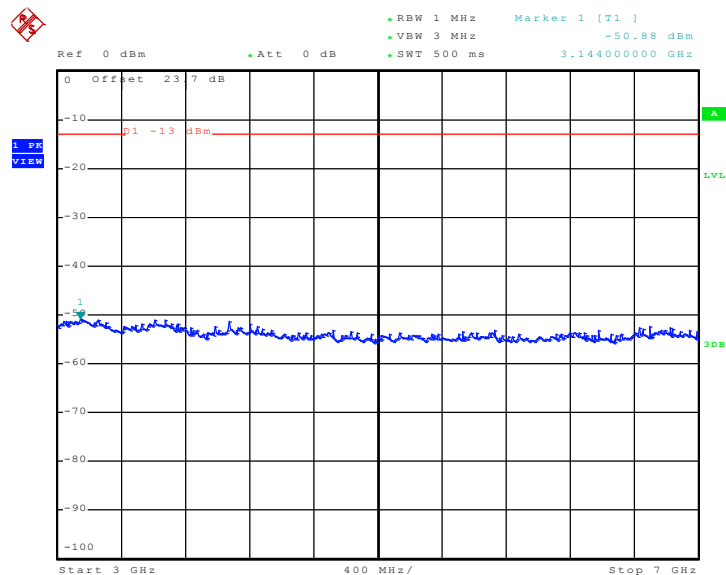
Date: 2.APR.2010 22:54:10

Conducted Emission Plot between 1GHz ~ 3GHz



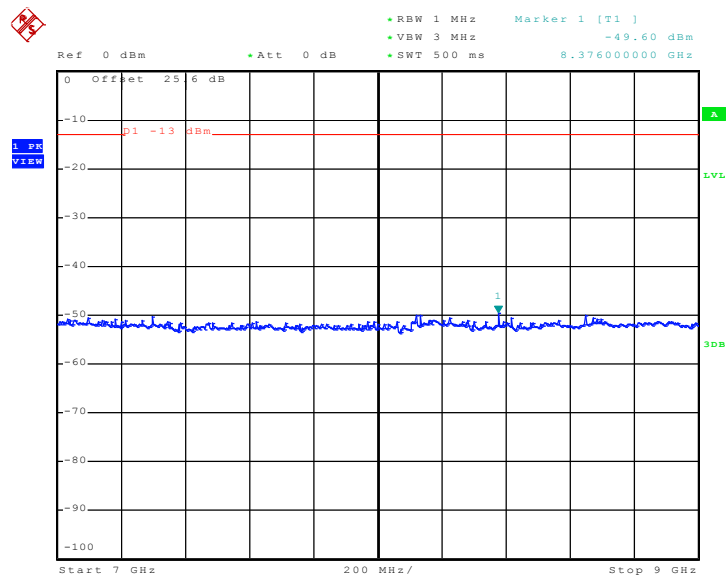
Date: 2.APR.2010 22:55:32

## Conducted Emission Plot between 3GHz ~ 7GHz



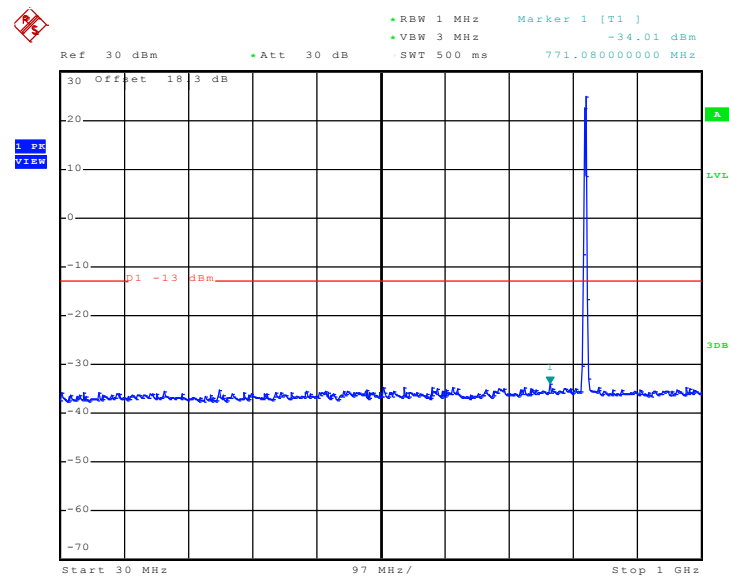
Date: 2.APR.2010 22:57:57

## Conducted Emission Plot between 7GHz ~ 9GHz

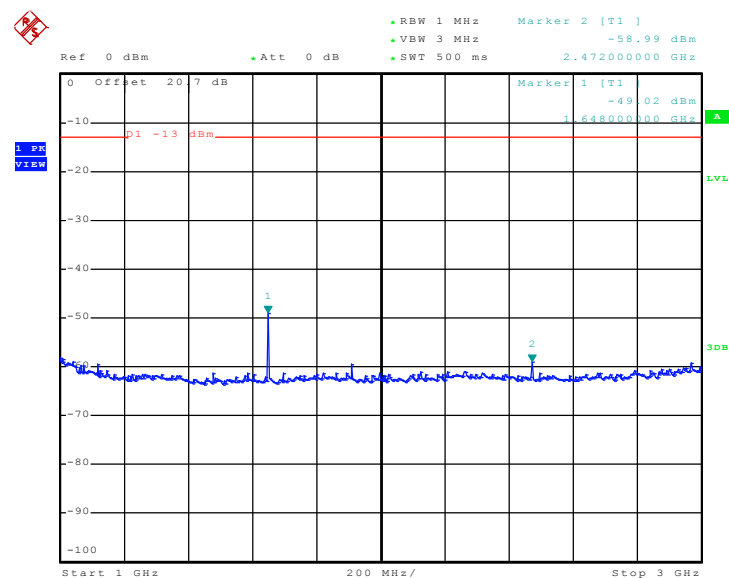


Date: 2.APR.2010 22:59:04

|                    |             |                  |       |
|--------------------|-------------|------------------|-------|
| <b>Band :</b>      | GSM850      | <b>Channel :</b> | CH128 |
| <b>Test Mode :</b> | EDGE 8 Link |                  |       |

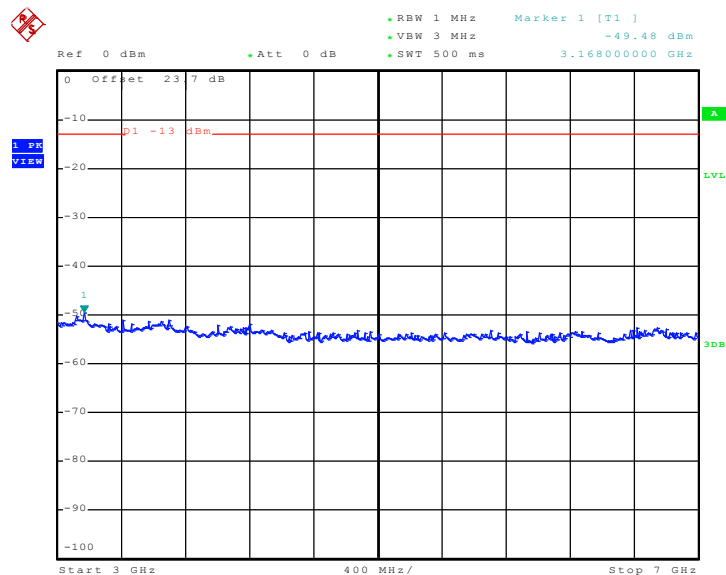
**Conducted Emission Plot between 30MHz ~ 1GHz**


Date: 2.APR.2010 23:11:22

**Conducted Emission Plot between 1GHz ~ 3GHz**


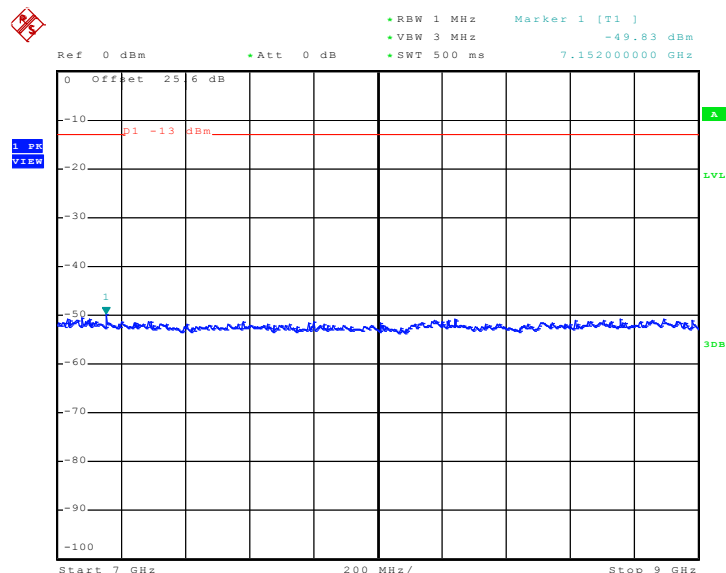
Date: 2.APR.2010 23:07:34

## Conducted Emission Plot between 3GHz ~ 7GHz



Date: 2.APR.2010 23:05:45

## Conducted Emission Plot between 7GHz ~ 9GHz

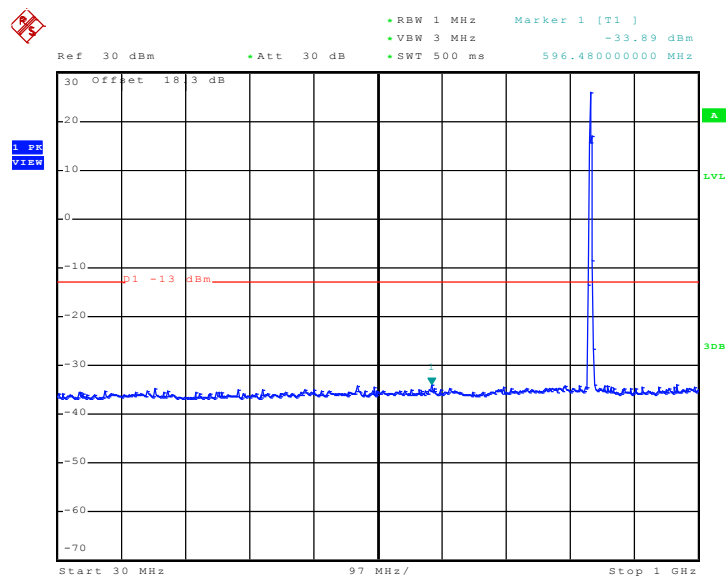


Date: 2.APR.2010 23:03:29



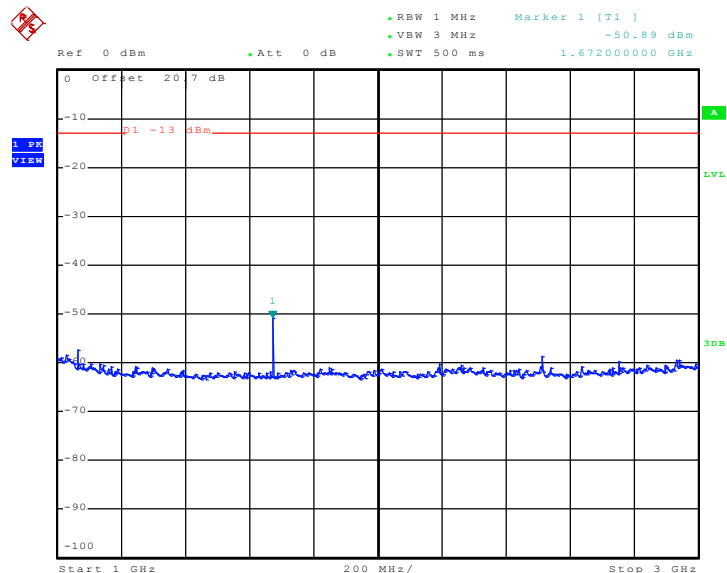
|             |             |           |       |
|-------------|-------------|-----------|-------|
| Band :      | GSM850      | Channel : | CH189 |
| Test Mode : | EDGE 8 Link |           |       |

Conducted Emission Plot between 30MHz ~ 1GHz



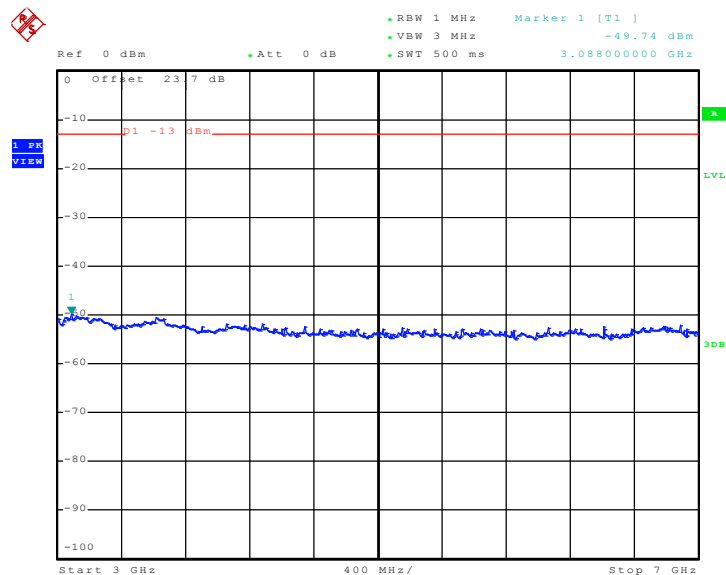
Date: 2.APR.2010 21:31:39

Conducted Emission Plot between 1GHz ~ 3GHz



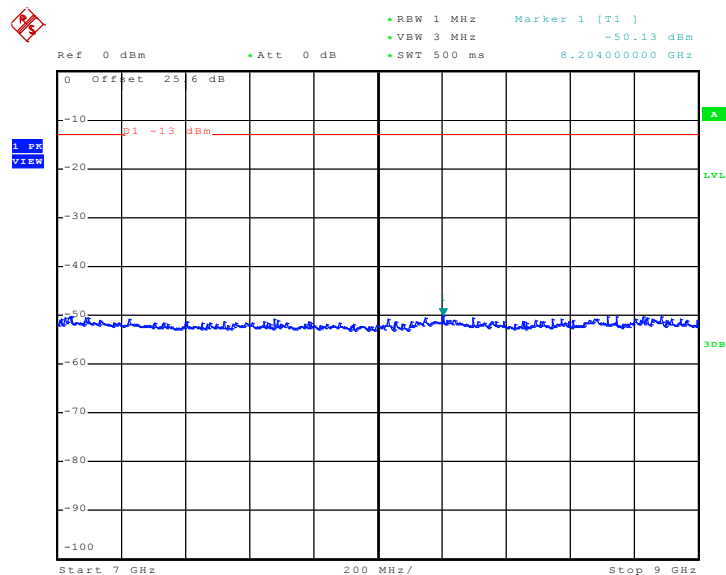
Date: 2.APR.2010 21:33:29

### Conducted Emission Plot between 3GHz ~ 7GHz



Date: 2.APR.2010 21:37:51

### Conducted Emission Plot between 7GHz ~ 9GHz

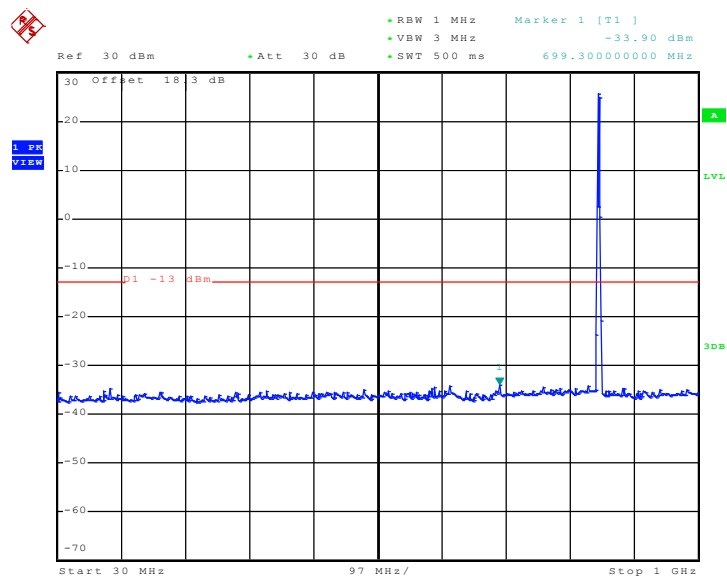


Date: 2.APR.2010 21:38:40



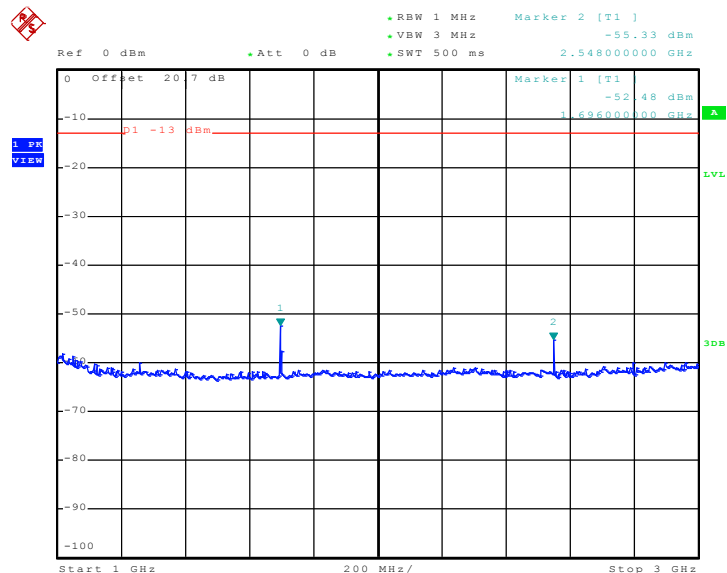
|             |             |           |       |
|-------------|-------------|-----------|-------|
| Band :      | GSM850      | Channel : | CH251 |
| Test Mode : | EDGE 8 Link |           |       |

Conducted Emission Plot between 30MHz ~ 1GHz



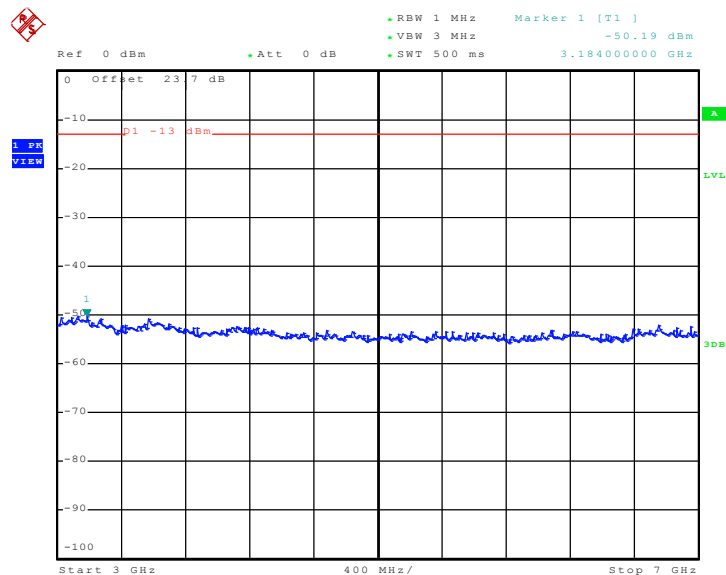
Date: 2.APR.2010 23:12:55

Conducted Emission Plot between 1GHz ~ 3GHz



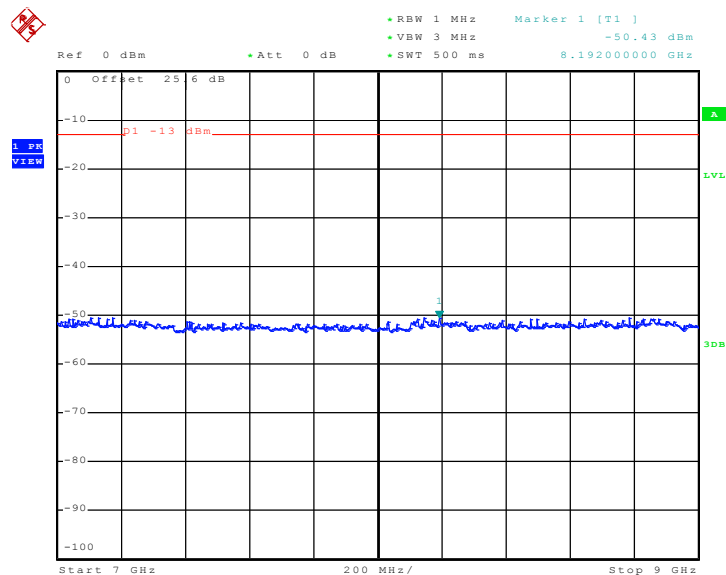
Date: 2.APR.2010 23:08:34

## Conducted Emission Plot between 3GHz ~ 7GHz



Date: 2.APR.2010 23:05:05

## Conducted Emission Plot between 7GHz ~ 9GHz

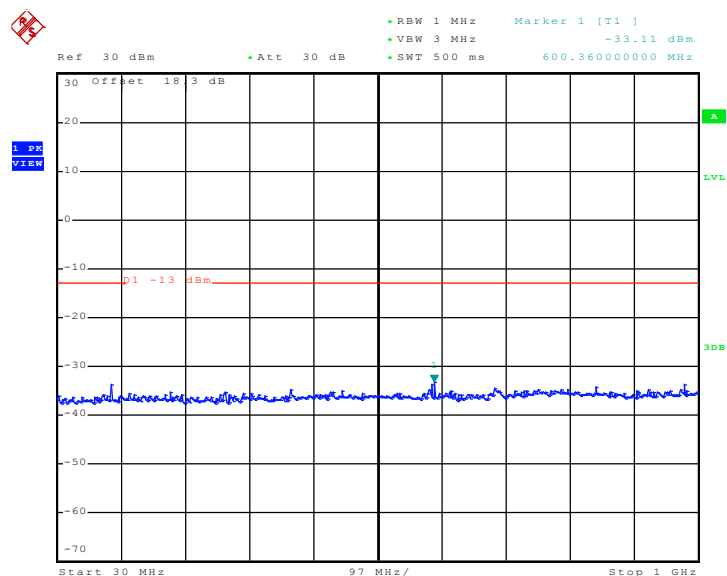


Date: 2.APR.2010 23:04:02



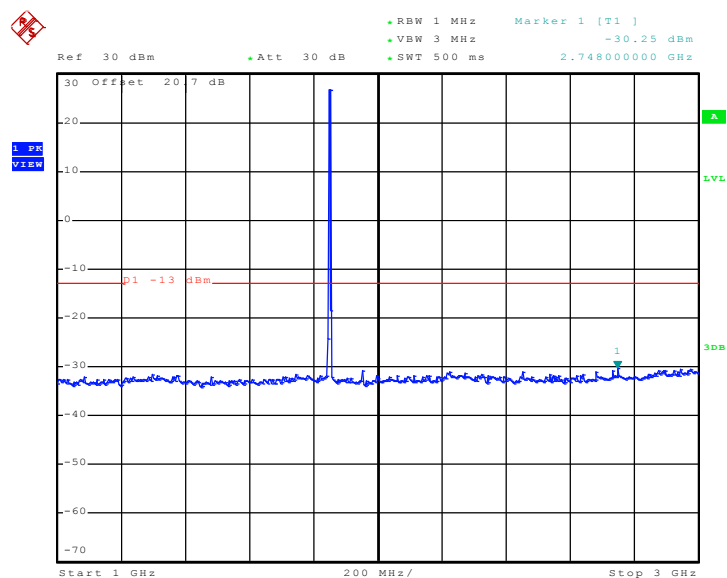
|             |             |           |       |
|-------------|-------------|-----------|-------|
| Band :      | GSM1900     | Channel : | CH512 |
| Test Mode : | GPRS 8 Link |           |       |

Conducted Emission Plot between 30MHz ~ 1GHz



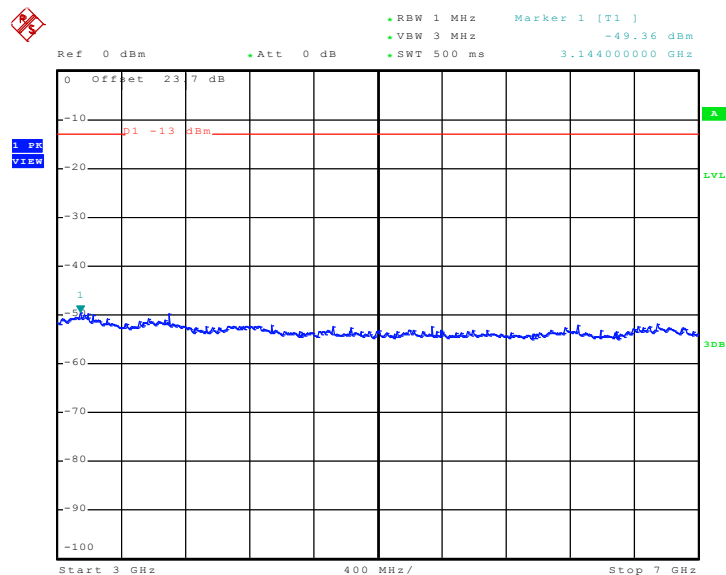
Date: 2.APR.2010 22:37:57

Conducted Emission Plot between 1GHz ~ 3GHz



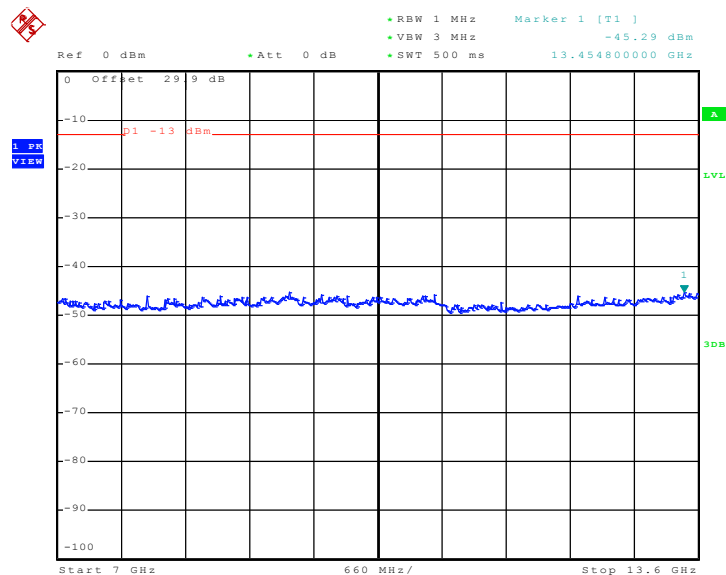
Date: 2.APR.2010 22:40:39

### Conducted Emission Plot between 3GHz ~ 7GHz



Date: 2.APR.2010 22:44:27

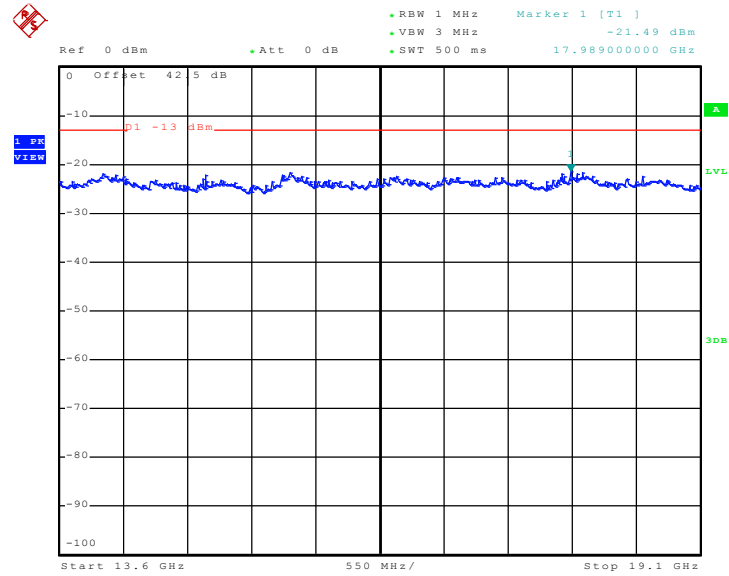
### Conducted Emission Plot between 7GHz ~ 13.6GHz



Date: 2.APR.2010 22:46:44



Conducted Emission Plot between 13.6GHz ~ 19.1GHz

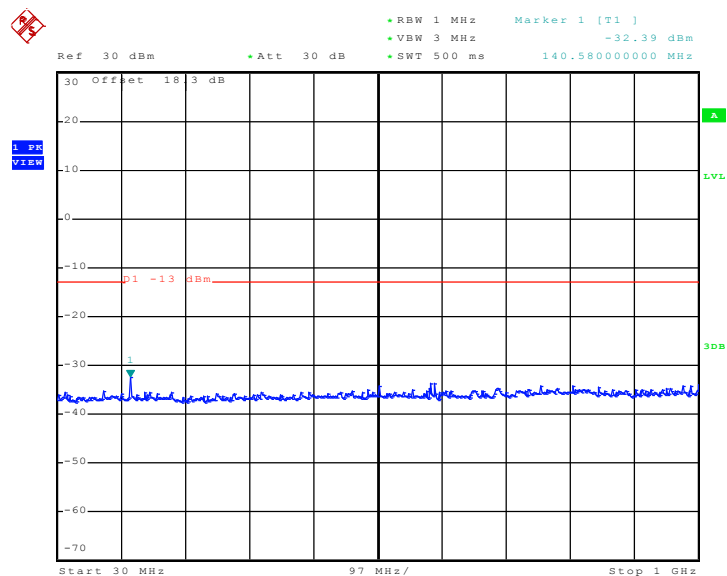


Date: 2.APR.2010 22:47:49



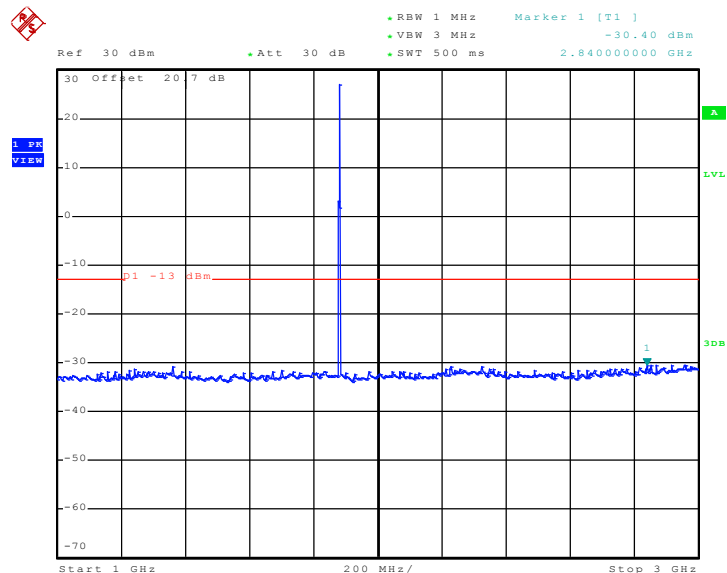
|             |             |           |       |
|-------------|-------------|-----------|-------|
| Band :      | GSM1900     | Channel : | CH661 |
| Test Mode : | GPRS 8 Link |           |       |

Conducted Emission Plot between 30MHz ~ 1GHz



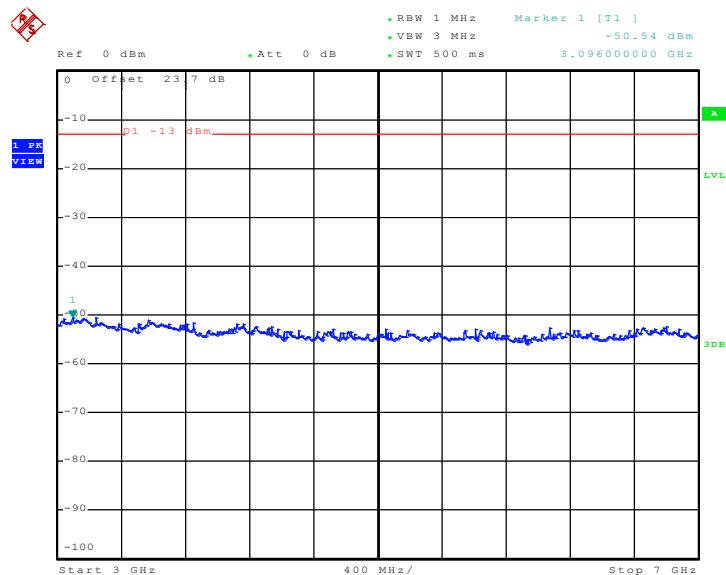
Date: 2.APR.2010 21:44:40

Conducted Emission Plot between 1GHz ~ 3GHz



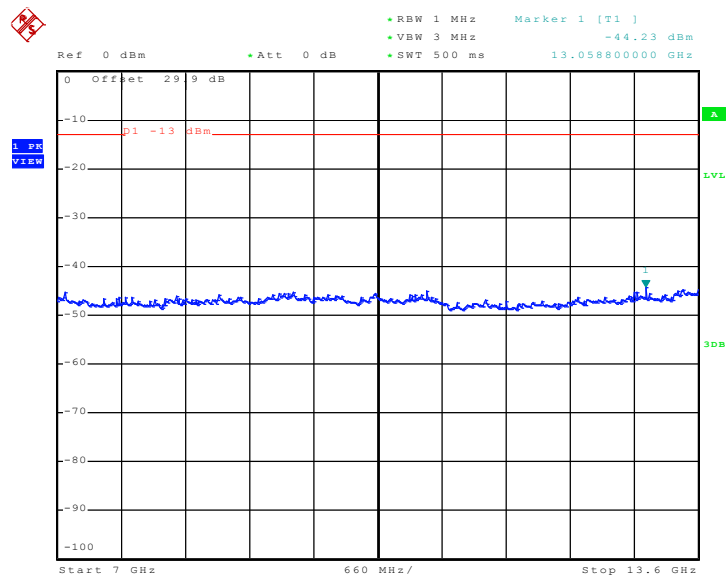
Date: 2.APR.2010 21:48:50

## Conducted Emission Plot between 3GHz ~ 7GHz



Date: 2.APR.2010 21:50:28

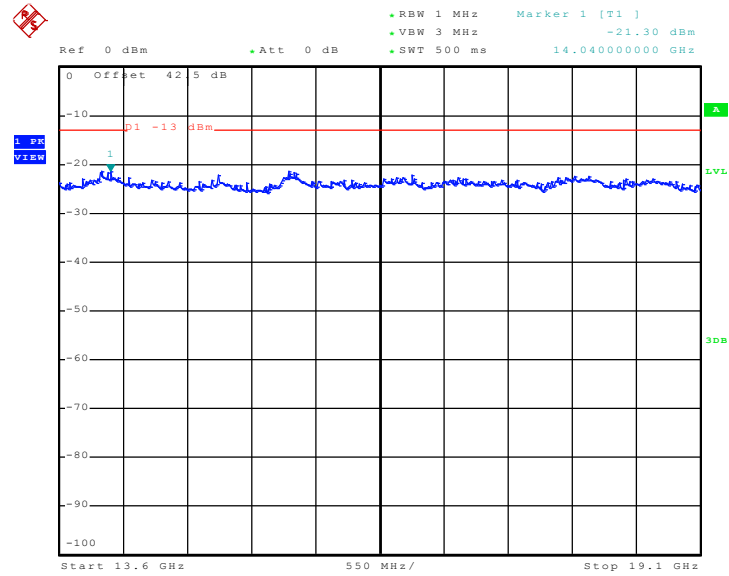
## Conducted Emission Plot between 7GHz ~ 13.6GHz



Date: 2.APR.2010 21:53:48



Conducted Emission Plot between 13.6GHz ~ 19.1GHz

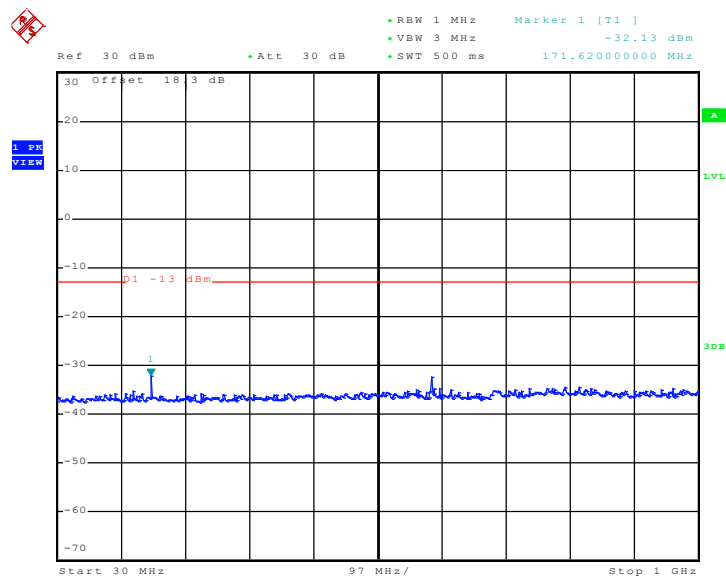


Date: 2.APR.2010 21:54:44



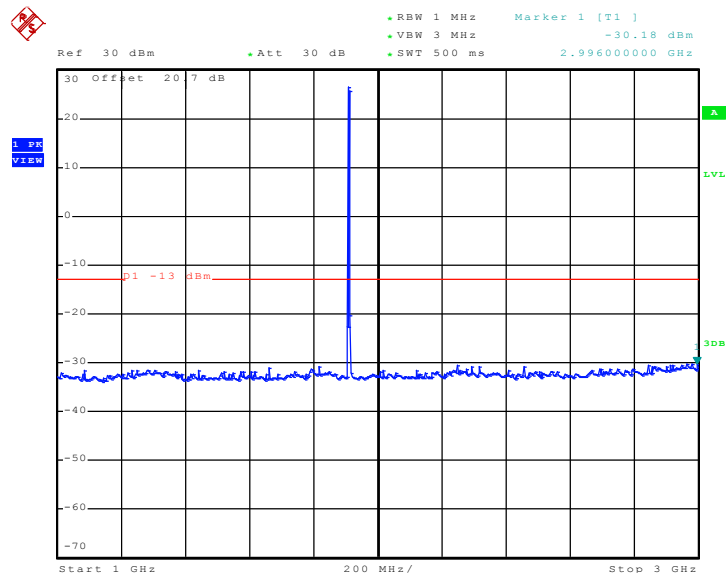
|             |             |           |       |
|-------------|-------------|-----------|-------|
| Band :      | GSM1900     | Channel : | CH810 |
| Test Mode : | GPRS 8 Link |           |       |

Conducted Emission Plot between 30MHz ~ 1GHz



Date: 2.APR.2010 22:38:37

Conducted Emission Plot between 1GHz ~ 3GHz



Date: 2.APR.2010 22:39:58

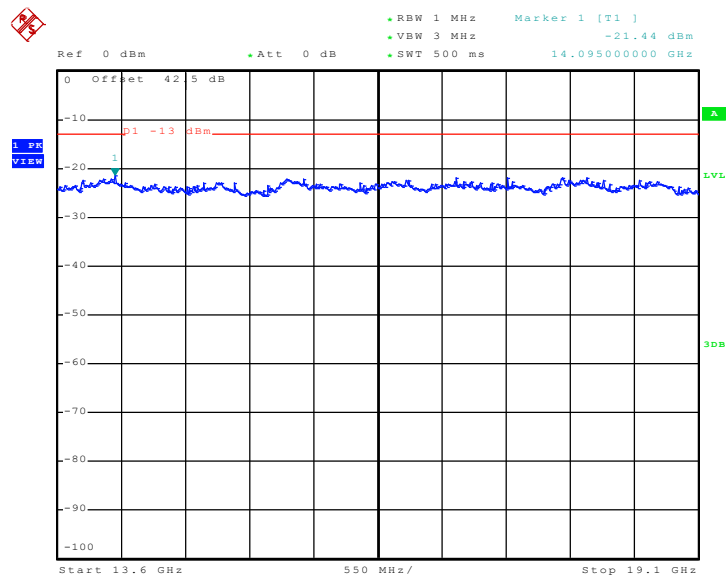


### Conducted Emission Plot between 7GHz ~ 13.6GHz



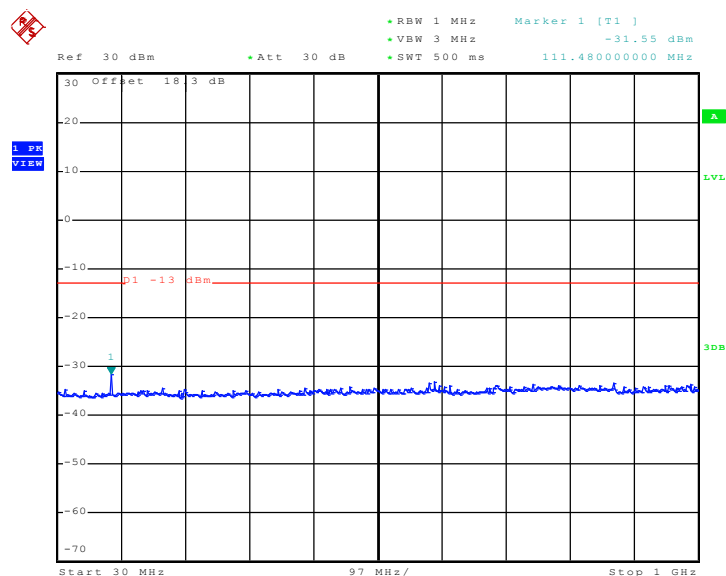


Conducted Emission Plot between 13.6GHz ~ 19.1GHz

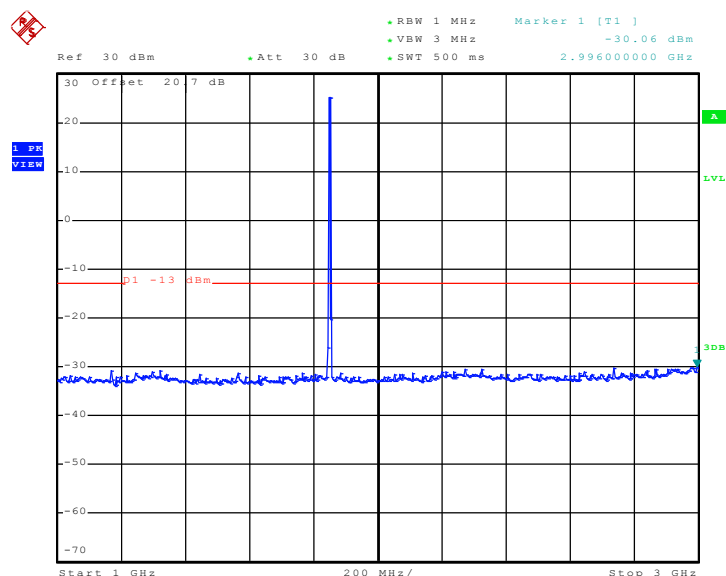


Date: 2.APR.2010 22:48:30

|                    |             |                  |       |
|--------------------|-------------|------------------|-------|
| <b>Band :</b>      | GSM1900     | <b>Channel :</b> | CH512 |
| <b>Test Mode :</b> | EDGE 8 Link |                  |       |

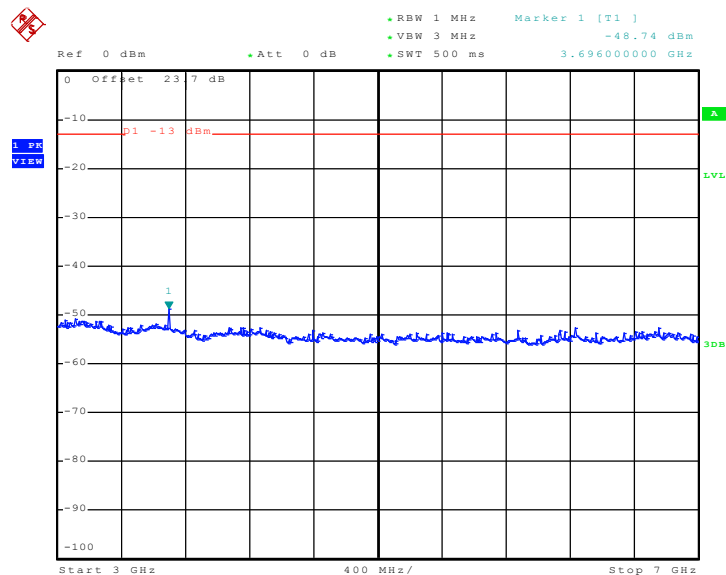
**Conducted Emission Plot between 30MHz ~ 1GHz**


Date: 2.APR.2010 22:15:20

**Conducted Emission Plot between 1GHz ~ 3GHz**


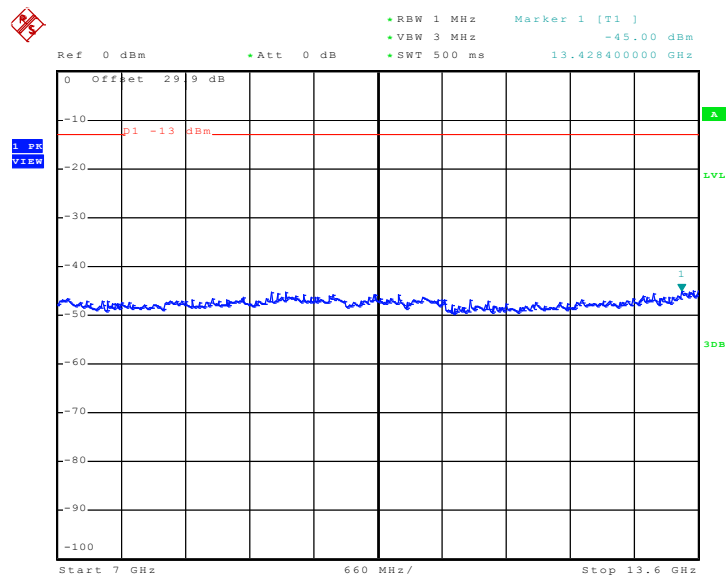
Date: 2.APR.2010 22:18:56

## Conducted Emission Plot between 3GHz ~ 7GHz



Date: 2.APR.2010 22:27:17

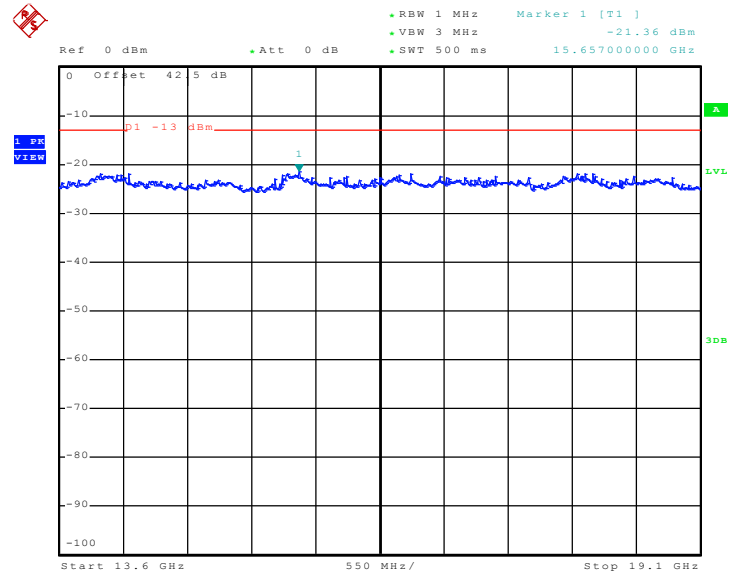
## Conducted Emission Plot between 7GHz ~ 13.6GHz



Date: 2.APR.2010 22:23:08



Conducted Emission Plot between 13.6GHz ~ 19.1GHz

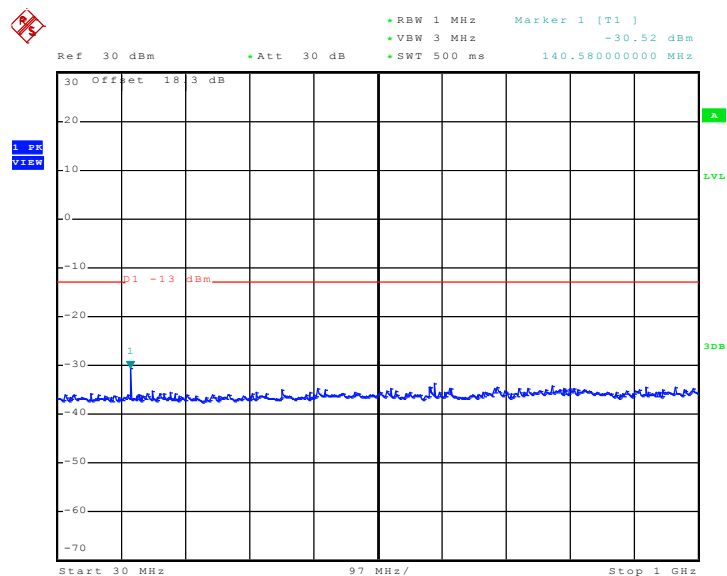


Date: 2.APR.2010 22:24:10



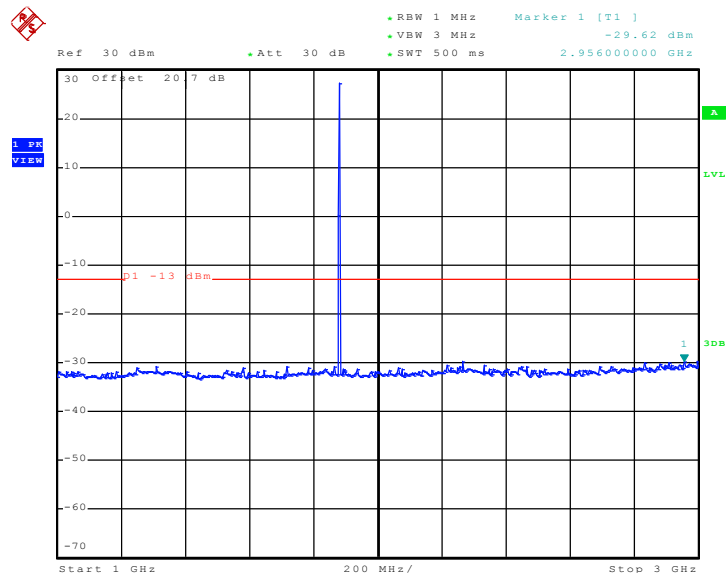
|             |             |           |       |
|-------------|-------------|-----------|-------|
| Band :      | GSM1900     | Channel : | CH661 |
| Test Mode : | EDGE 8 Link |           |       |

Conducted Emission Plot between 30MHz ~ 1GHz



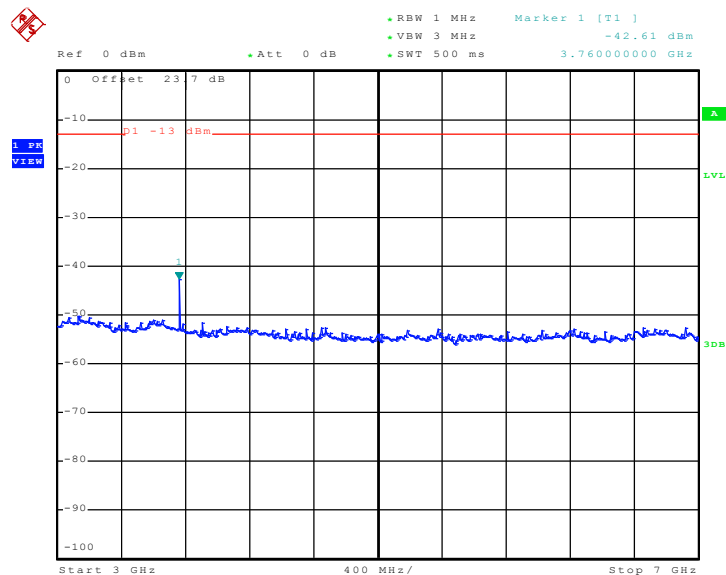
Date: 2.APR.2010 21:45:26

Conducted Emission Plot between 1GHz ~ 3GHz



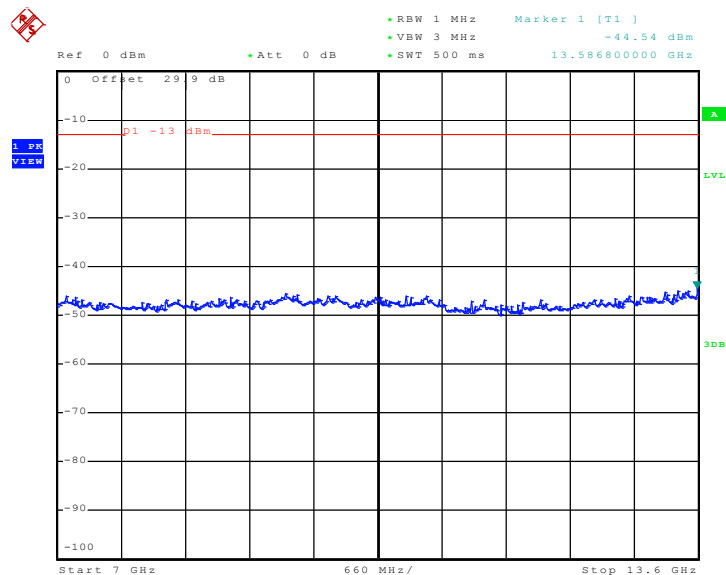
Date: 2.APR.2010 21:47:50

## Conducted Emission Plot between 3GHz ~ 7GHz



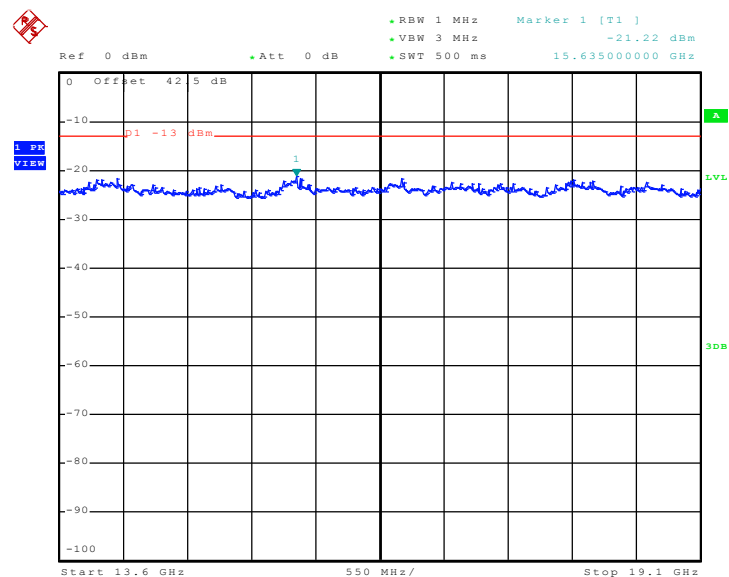
Date: 2.APR.2010 21:51:20

## Conducted Emission Plot between 7GHz ~ 13.6GHz



Date: 2.APR.2010 21:52:11

### Conducted Emission Plot between 13.6GHz ~ 19.1GHz

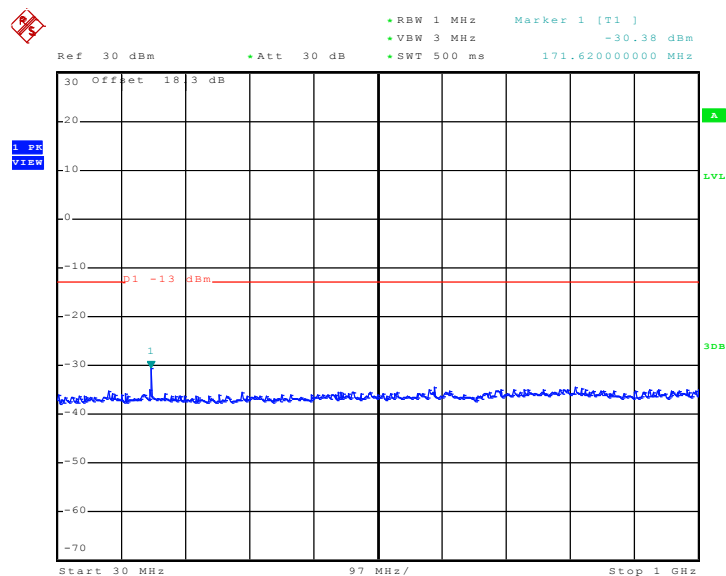


Date: 2.APR.2010 21:55:17



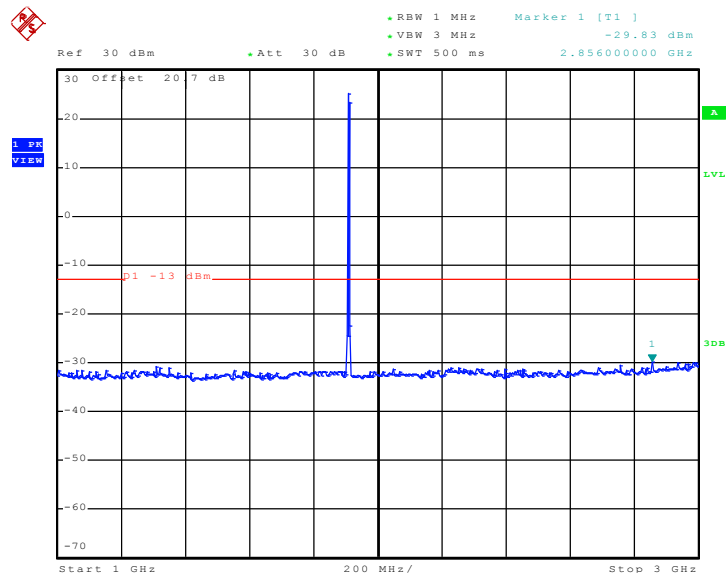
|             |             |           |       |
|-------------|-------------|-----------|-------|
| Band :      | GSM1900     | Channel : | CH810 |
| Test Mode : | EDGE 8 Link |           |       |

Conducted Emission Plot between 30MHz ~ 1GHz

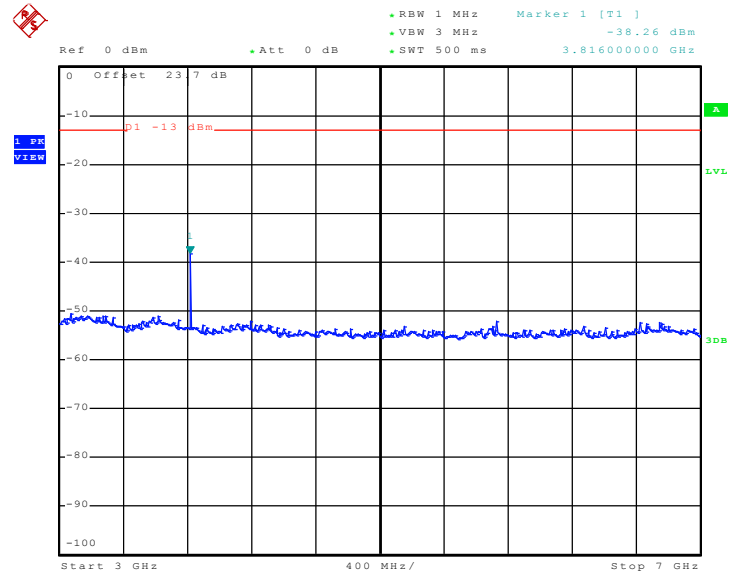


Date: 2.APR.2010 22:15:48

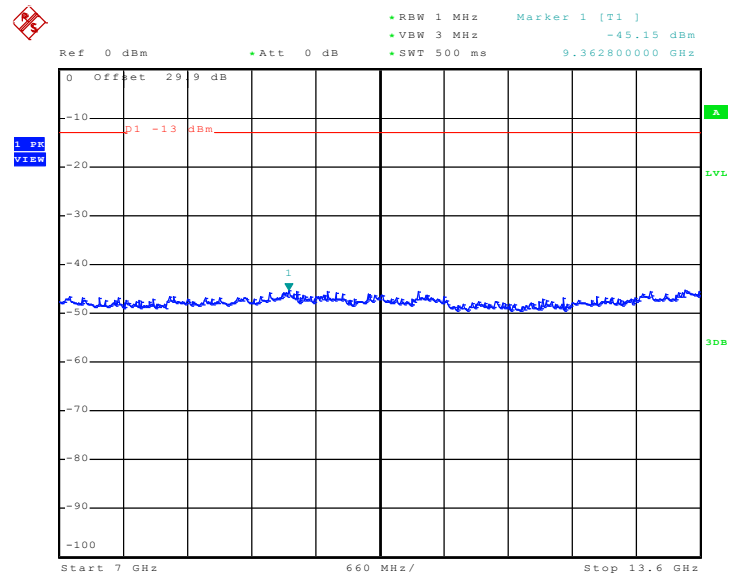
Conducted Emission Plot between 1GHz ~ 3GHz



Date: 2.APR.2010 22:17:54

**Conducted Emission Plot between 3GHz ~ 7GHz**


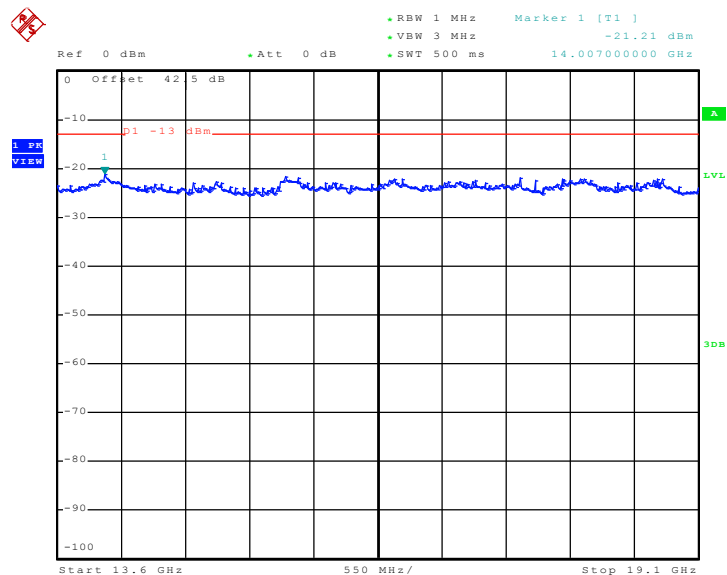
Date: 2.APR.2010 22:25:58

**Conducted Emission Plot between 7GHz ~ 13.6GHz**


Date: 2.APR.2010 22:22:25

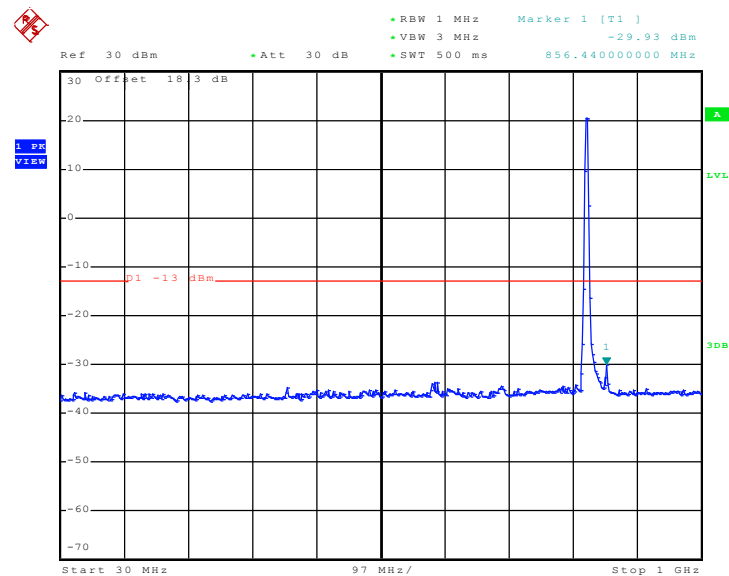


Conducted Emission Plot between 13.6GHz ~ 19.1GHz

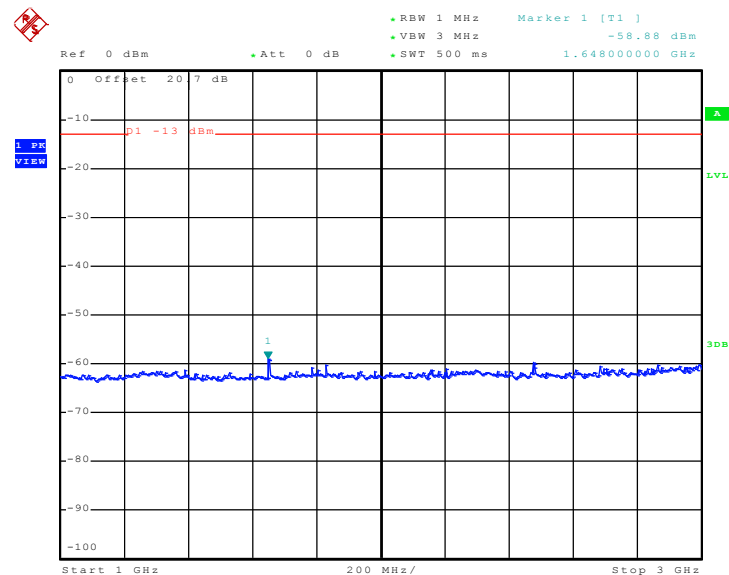


Date: 2.APR.2010 22:25:03

|                    |                   |                  |        |
|--------------------|-------------------|------------------|--------|
| <b>Band :</b>      | WCDMA Band V      | <b>Channel :</b> | CH4132 |
| <b>Test Mode :</b> | RMC 12.2Kbps Link |                  |        |

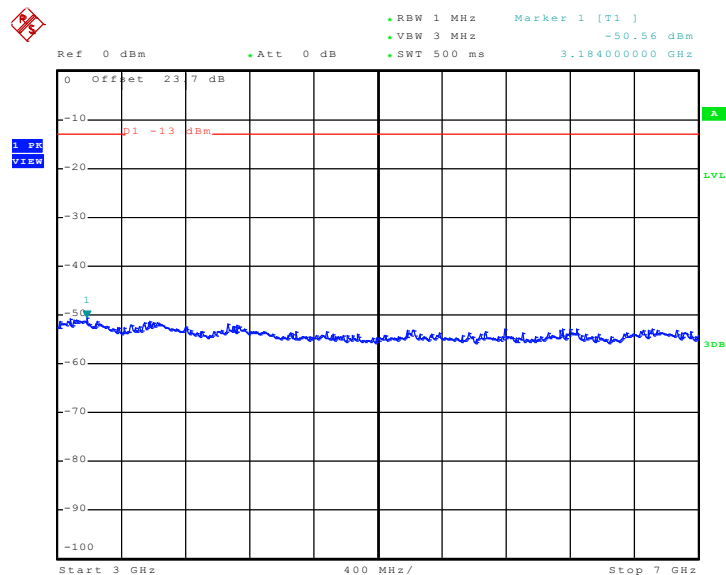
**Conducted Emission Plot between 30MHz ~ 1GHz**


Date: 2.APR.2010 23:16:57

**Conducted Emission Plot between 1GHz ~ 3GHz**


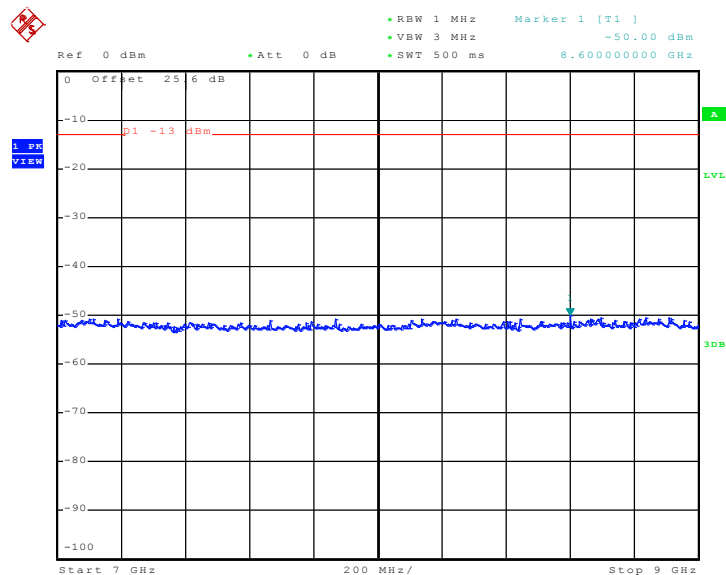
Date: 2.APR.2010 23:21:36

### Conducted Emission Plot between 3GHz ~ 7GHz



Date: 2.APR.2010 23:22:32

### Conducted Emission Plot between 7GHz ~ 9GHz

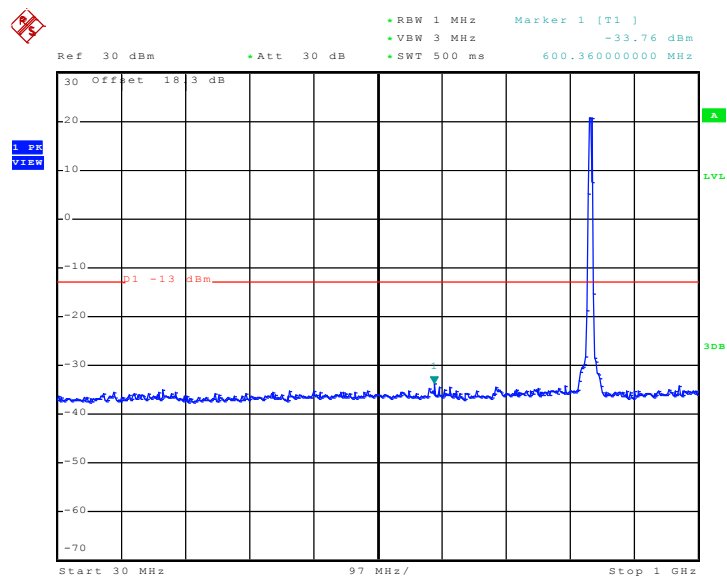


Date: 2.APR.2010 23:26:18



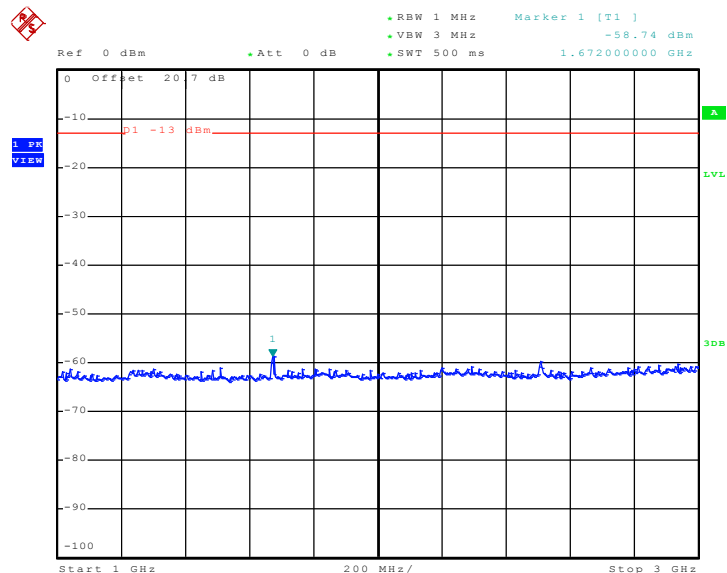
|             |                   |           |        |
|-------------|-------------------|-----------|--------|
| Band :      | WCDMA Band V      | Channel : | CH4182 |
| Test Mode : | RMC 12.2Kbps Link |           |        |

Conducted Emission Plot between 30MHz ~ 1GHz



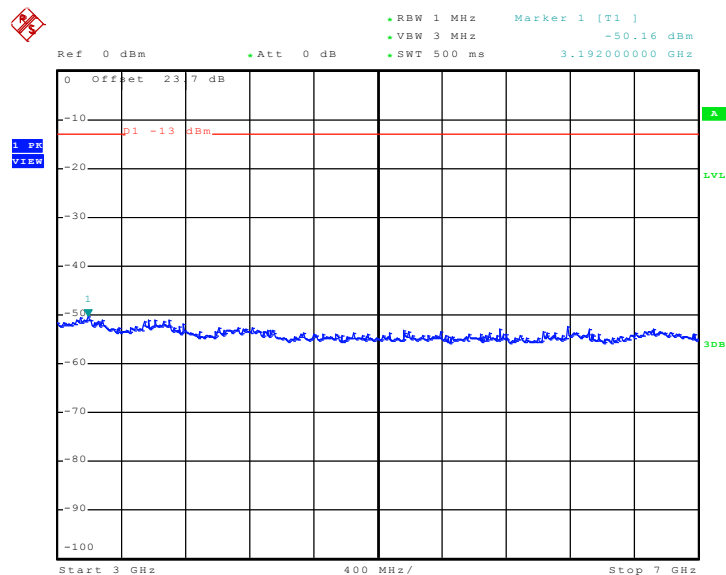
Date: 2.APR.2010 23:17:39

Conducted Emission Plot between 1GHz ~ 3GHz



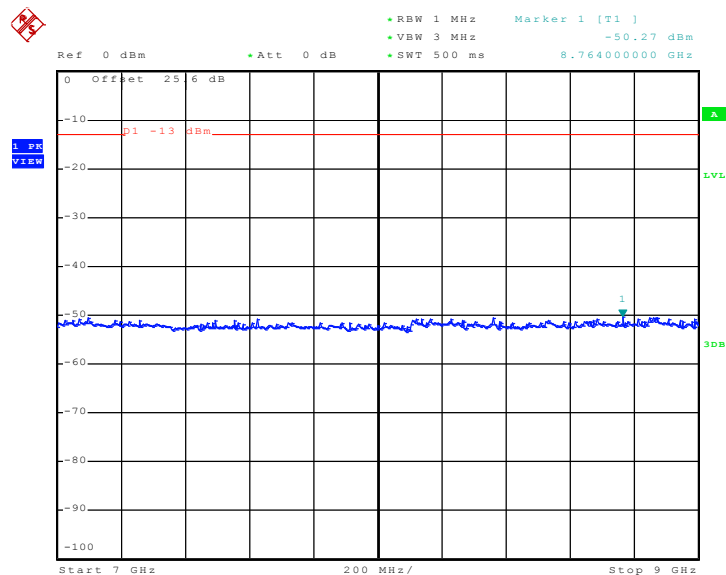
Date: 2.APR.2010 23:20:46

### Conducted Emission Plot between 3GHz ~ 7GHz



Date: 2.APR.2010 23:23:02

### Conducted Emission Plot between 7GHz ~ 9GHz

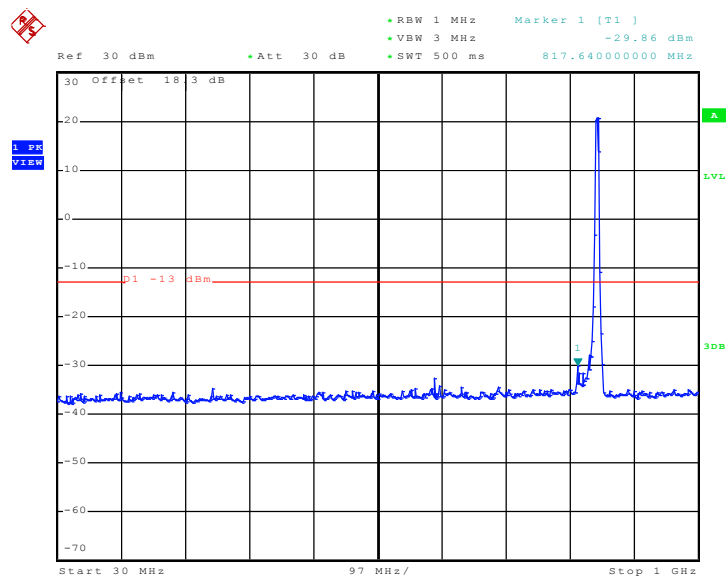


Date: 2.APR.2010 23:25:37



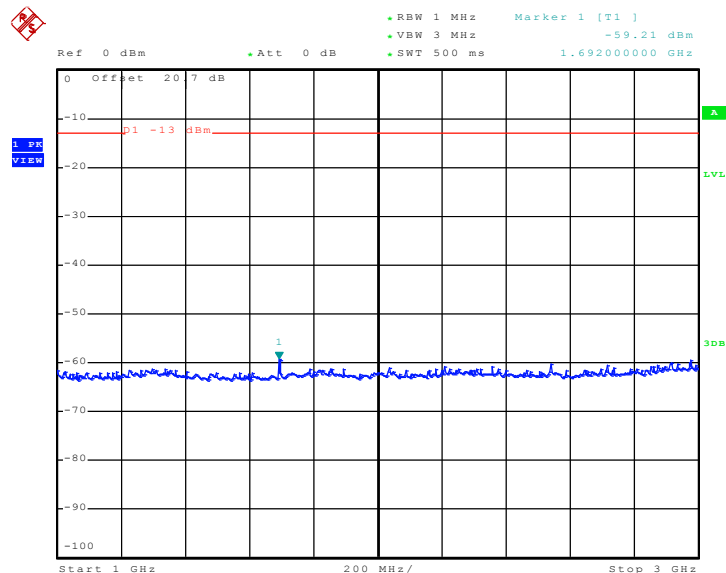
|             |                   |           |        |
|-------------|-------------------|-----------|--------|
| Band :      | WCDMA Band V      | Channel : | CH4233 |
| Test Mode : | RMC 12.2Kbps Link |           |        |

Conducted Emission Plot between 30MHz ~ 1GHz



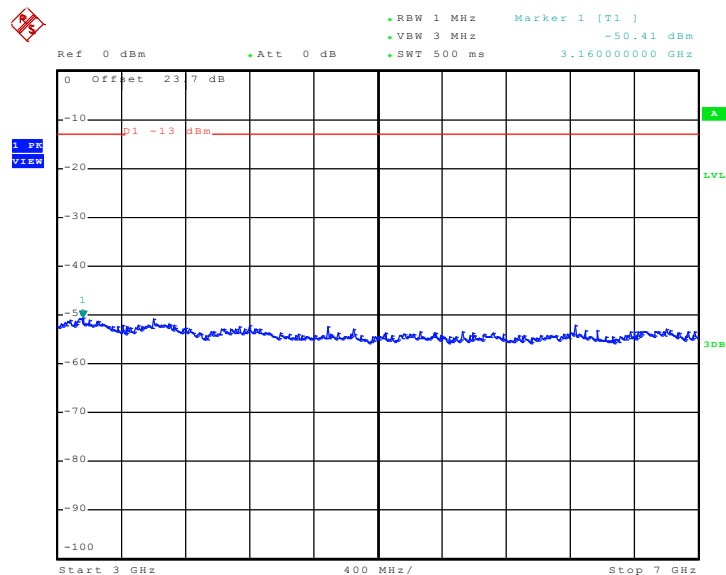
Date: 2.APR.2010 23:18:15

Conducted Emission Plot between 1GHz ~ 3GHz



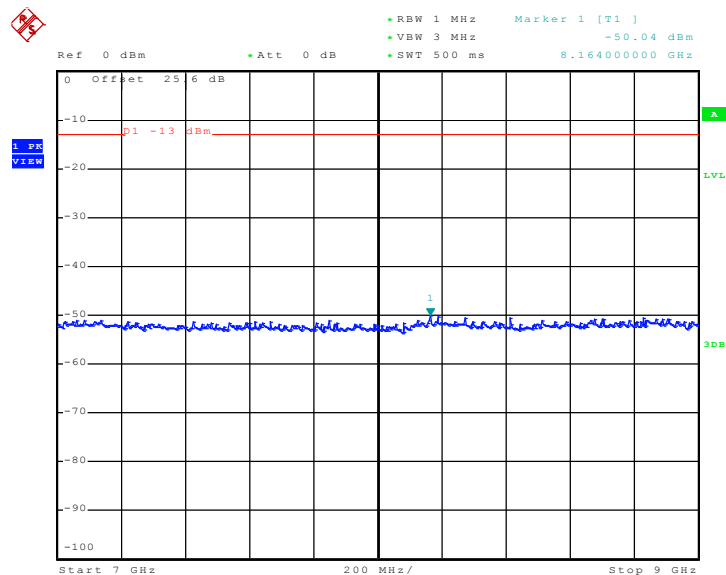
Date: 2.APR.2010 23:20:09

## Conducted Emission Plot between 3GHz ~ 7GHz



Date: 2.APR.2010 23:23:45

## Conducted Emission Plot between 7GHz ~ 9GHz

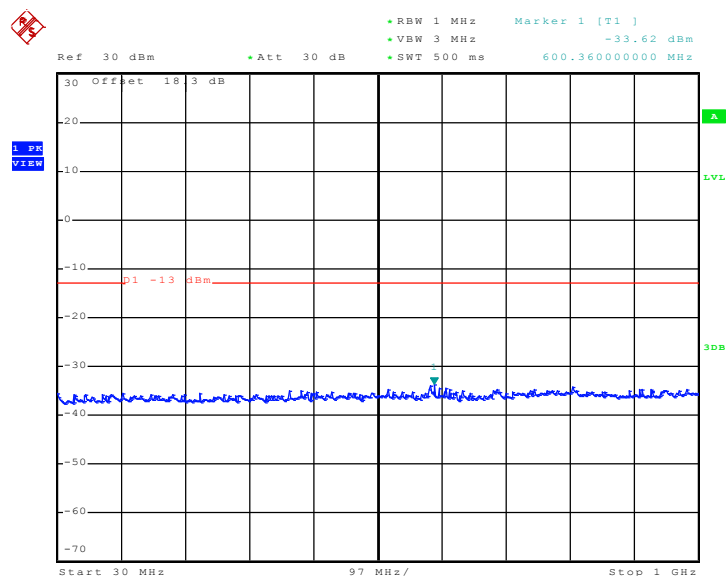


Date: 2.APR.2010 23:24:52



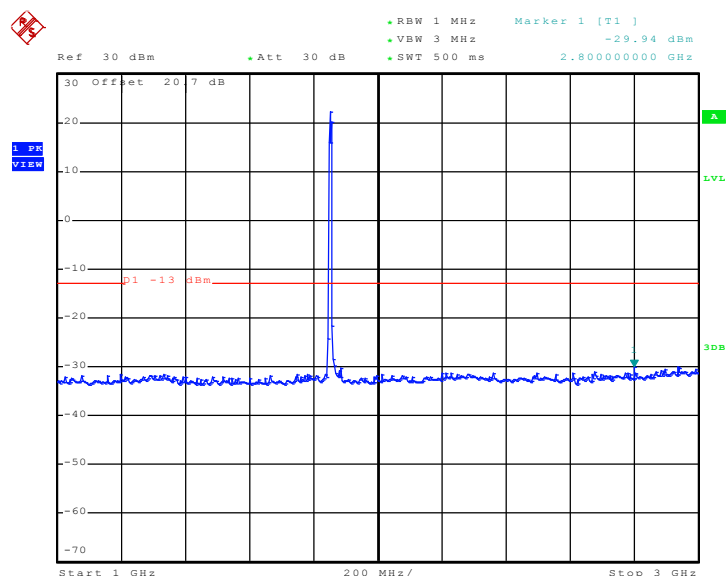
|             |                   |           |        |
|-------------|-------------------|-----------|--------|
| Band :      | WCDMA Band II     | Channel : | CH9262 |
| Test Mode : | RMC 12.2Kbps Link |           |        |

Conducted Emission Plot between 30MHz ~ 1GHz



Date: 2.APR.2010 23:32:54

Conducted Emission Plot between 1GHz ~ 3GHz



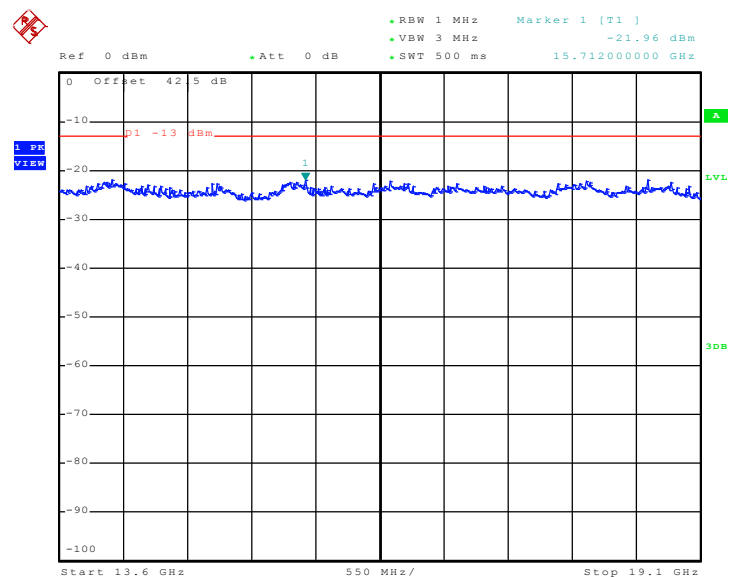
Date: 2.APR.2010 23:37:21



### Conducted Emission Plot between 7GHz ~ 13.6GHz



### Conducted Emission Plot between 13.6GHz ~ 19.1GHz

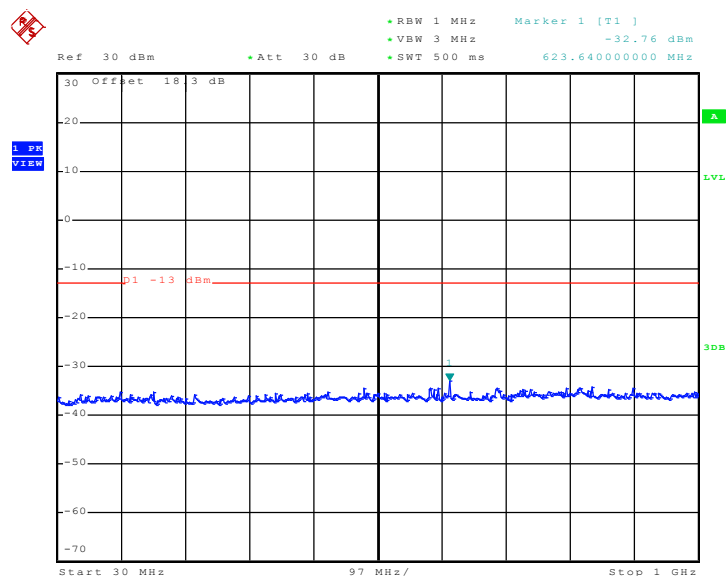


Date: 2.APR.2010 23:43:13



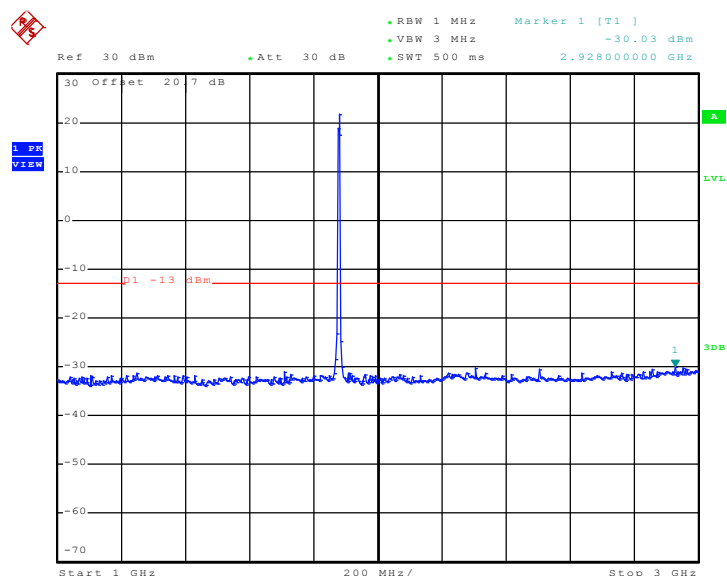
|             |                   |           |        |
|-------------|-------------------|-----------|--------|
| Band :      | WCDMA Band II     | Channel : | CH9400 |
| Test Mode : | RMC 12.2Kbps Link |           |        |

Conducted Emission Plot between 30MHz ~ 1GHz



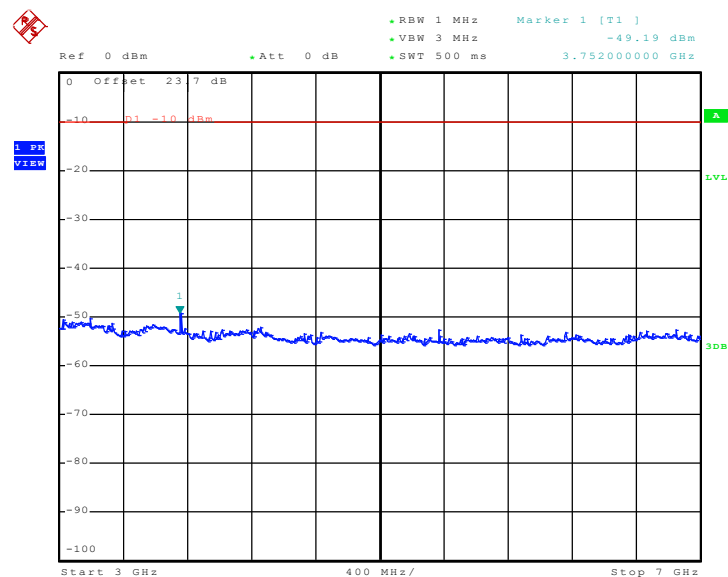
Date: 2.APR.2010 23:33:21

Conducted Emission Plot between 1GHz ~ 3GHz



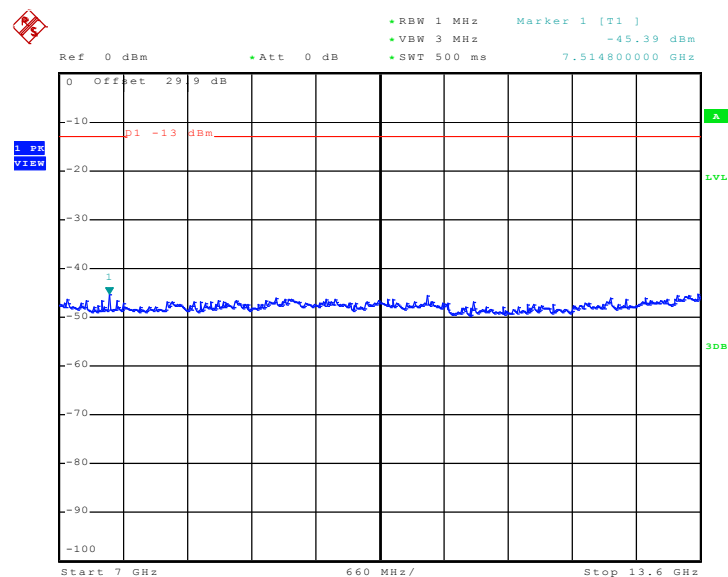
Date: 2.APR.2010 23:36:24

### Conducted Emission Plot between 3GHz ~ 7GHz



Date: 2.APR.2010 23:39:26

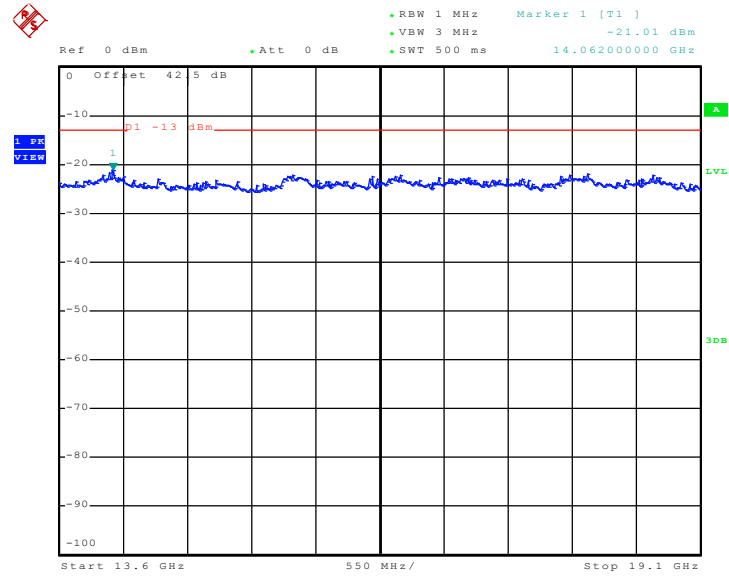
### Conducted Emission Plot between 7GHz ~ 13.6GHz



Date: 2.APR.2010 23:41:43



Conducted Emission Plot between 13.6GHz ~ 19.1GHz

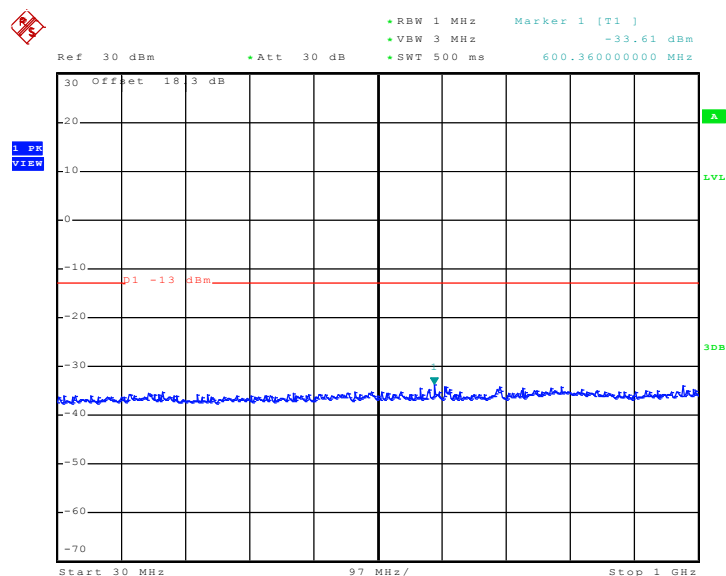


Date: 2.APR.2010 23:43:48



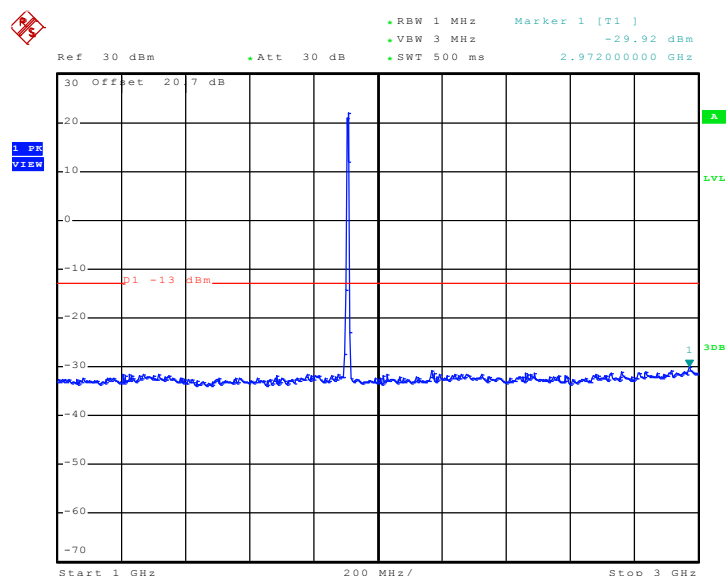
|             |                   |           |        |
|-------------|-------------------|-----------|--------|
| Band :      | WCDMA Band II     | Channel : | CH9538 |
| Test Mode : | RMC 12.2Kbps Link |           |        |

Conducted Emission Plot between 30MHz ~ 1GHz



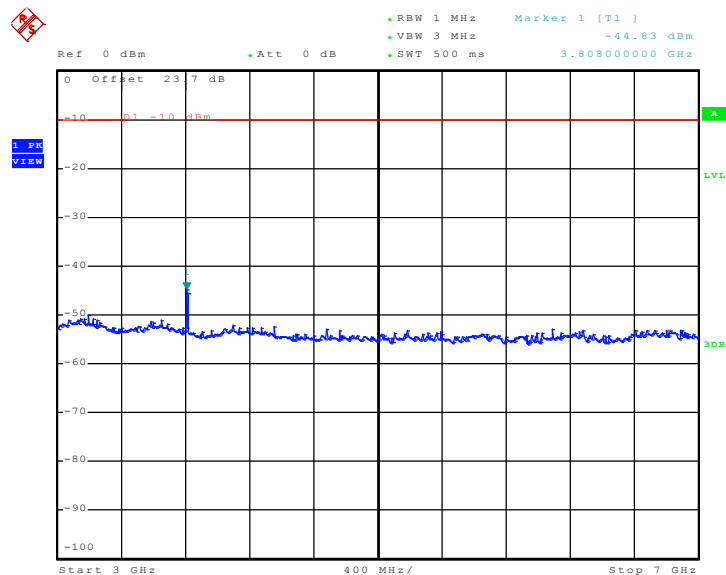
Date: 2.APR.2010 23:33:56

Conducted Emission Plot between 1GHz ~ 3GHz



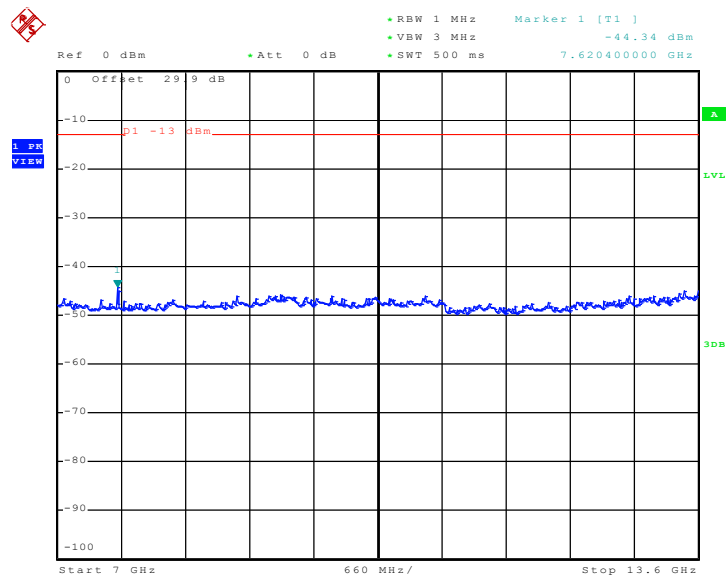
Date: 2.APR.2010 23:35:32

## Conducted Emission Plot between 3GHz ~ 7GHz



Date: 2.APR.2010 23:40:05

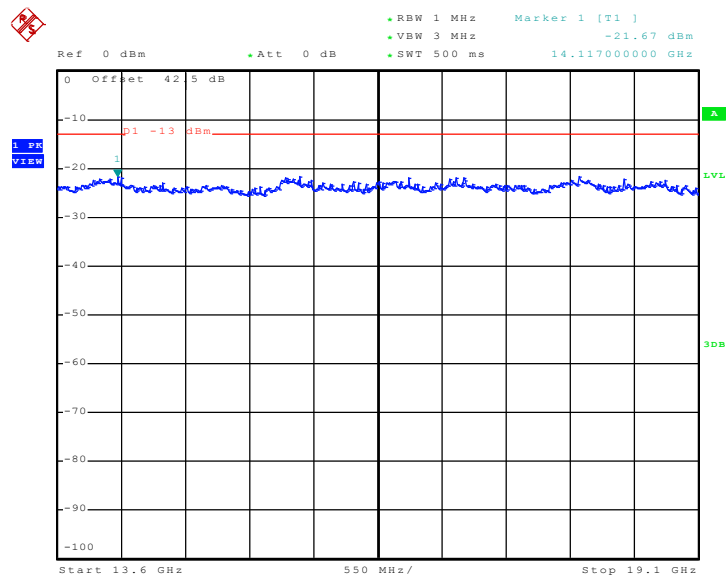
## Conducted Emission Plot between 7GHz ~ 13.6GHz



Date: 2.APR.2010 23:41:04



Conducted Emission Plot between 13.6GHz ~ 19.1GHz



Date: 2.APR.2010 23:44:27