



# FCC/IC TEST REPORT

for

**47 CFR Part 22H, 24E, RSS-132, and RSS-133**

**Equipment** : Expedite module  
**Trade Name** : Expedite EU870D  
**Model No.** : EU870D  
**FCC ID** : NBZNRM-EU870D  
**IC ID** : 3229A-EU870D  
**Tx Frequency Range** : GSM850 : 824~849 MHz  
PCS1900 : 1850~1910 MHz  
WCDMA Band V : 824~849 MHz  
WCDMA Band II : 1850~1910 MHz  
**Max. ERP/EIRP Power** : GSM850 (GSM) : 0.86 W  
GSM850 (EDGE) : 0.27 W  
PCS1900 (GSM) : 0.81 W  
PCS1900 (EDGE) : 0.40 W  
WCDMA Band V : 0.14 W  
WCDMA Band V (HSDPA) : 0.09 W  
WCDMA Band II : 0.27 W  
WCDMA Band II (HSDPA) : 0.26 W  
**Emission Designator** : GSM : 300KGXW  
EDGE : 300KG7W  
WCDMA : 4M20F9W  
**Applicant** : **Novatel Wireless, Inc.**  
9645 Scranton Rd., Suite 205, San Diego, CA 92121

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- The data shown in this test report were carried out on Dec. 20, 2006 at **Sporton International Inc. LAB.**
- Report No.: FG6D1306, Report Version: Rev. 02.

  
Roy Wu  
Deputy Manager

**SPORTON International Inc.**

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**SPORTON International Inc.**

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Report Version: Rev. 02



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## **1. General Information**

### **1.1. Applicant**

**Novatel Wireless, Inc.**  
9645 Scranton Rd., Suite 205, San Diego, CA 92121

### **1.2 Manufacturer**

**Novatel Wireless, Inc.**  
9645 Scranton Rd., Suite 205 San Diego, CA 92121

### **1.3 Basic Description of Equipment under Test**

Equipment : Expedite module  
Trade Name : Expedite EU870D  
Model No. : EU870D  
FCC ID : NBZNRM-EU870D  
IC ID : 3229A-EU870D  
Power Supply Type : DC 3.3V  
DC Power Cable : DC 3.3V, 0.2 meter, 2 pin



#### 1.4 Feature of Equipment under Test

<b>DUT Type :</b>	Expedite module
<b>Trade Name :</b>	Expedite EU870D
<b>Model Name :</b>	EU870D
<b>FCC ID :</b>	NBZNRM-EU870D
<b>IC ID :</b>	3229A-EU870D
<b>Tx Frequency :</b>	GSM850 : 824 ~ 849 MHz PCS1900 : 1850 ~ 1910 MHz WCDMA Band V : 824 ~ 849 MHz WCDMA Band II : 1850 ~ 1910 MHz
<b>Rx Frequency :</b>	GSM850 : 869 ~ 894 MHz PCS1900 : 1930 ~ 1990 MHz WCDMA Band V : 869 ~ 894 MHz WCDMA Band II : 1930 ~ 1990 MHz
<b>Maximum Output Power to Antenna :</b>	GSM850(GSM) : 32.5 dBm GSM850(EDGE) : 27.2 dBm PCS1900(GSM) : 28.4 dBm PCS1900(EDGE) : 25.2 dBm WCDMA Band V : 24.31 dBm WCDMA Band V (HSDPA) : 22.46 dBm WCDMA Band II : 23.85 dBm WCDMA Band II (HSDPA) : 22.25 dBm
<b>Maximum ERP/EIRP :</b>	GSM850(GSM) : 0.86 W ( 29.33 dBm) GSM850(EDGE) : 0.27 W ( 24.32 dBm) PCS1900(GSM) : 0.81 W ( 29.07 dBm) PCS1900(EDGE) : 0.40 W ( 26.00 dBm) WCDMA Band V : 0.14 W ( 21.31 dBm) WCDMA Band V (HSDPA) : 0.09 W ( 19.36 dBm) WCDMA Band II : 0.27 W (24.31 dBm) WCDMA Band II (HSDPA) : 0.26 W (24.10 dBm)
<b>Antenna Type :</b>	Fixed External
<b>HW Version :</b>	Rev. 1
<b>Firmware Version :</b>	10.7.00.0-00
<b>Power Rating (DC/AC , Voltage and Current of RF element or PA) :</b>	DC 3.3V / 2000mA
<b>Digital Modulation Emission :</b>	GSM : GMSK EDGE : 8PSK WCDMA / HSDPA : QPSK
<b>Type of Emission :</b>	GSM : 300KGXW EDGE : 300KG7W WCDMA : 4M20F9W
<b>Device Power Class :</b>	GSM850 : 4 PCS1900 : 1 WCDMA Band V : 3 WCDMA Band II : 3
<b>DUT Stage :</b>	Identical Prototype



## 1.5 Report Date

EUT Received : Dec. 13, 2006

Report Date : Dec. 25, 2006

## 2 Test Configuration of Equipment under Test

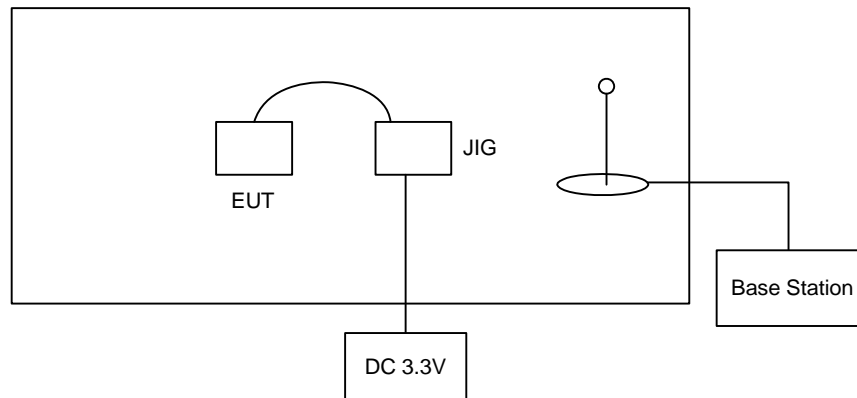
### 2.1 Test Manner

- a. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range.
- b. During all testings, EUT is in link mode with base station emulator at maximum power level.
- c. Frequency range investigated: radiated emission 30 MHz to 9000 MHz for GSM850 and WCDMA Band V; 30MHz to 19000 MHz for PCS1900 and WCDMA Band II.

### 2.2 Test Mode

Application	GSM850	PCS1900	WCDMA Band V	WCDMA Band II
Radiated Emission	<input checked="" type="checkbox"/> Mode 1: GSM Link	<input checked="" type="checkbox"/> Mode 3: GSM Link	<input checked="" type="checkbox"/> Mode 5: WCDMA Link	<input checked="" type="checkbox"/> Mode 7: WCDMA Link
	<input checked="" type="checkbox"/> Mode 2: EDGE Link	<input checked="" type="checkbox"/> Mode 4: EDGE Link	<input checked="" type="checkbox"/> Mode 6: HSDPA Link	<input checked="" type="checkbox"/> Mode 8: HSDPA Link
Conducted Measurement	<input checked="" type="checkbox"/> Mode 1: GSM Link	<input checked="" type="checkbox"/> Mode 3: GSM Link	<input checked="" type="checkbox"/> Mode 5: WCDMA Link	<input checked="" type="checkbox"/> Mode 7: WCDMA Link
	<input checked="" type="checkbox"/> Mode 2: EDGE Link	<input checked="" type="checkbox"/> Mode 4: EDGE Link	<input checked="" type="checkbox"/> Mode 6: HSDPA Link	<input checked="" type="checkbox"/> Mode 8: HSDPA Link

### 2.3 Connection Diagram of Test System



### 2.4 Ancillary Equipment List

Item	Equipment	Model No.	Serial No.
1.	Base Station(R&S)	CMU200	106656
2.	DC Power Supply (GW)	Gpc-60300	N/A



### **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 : 886-3-318-0055  
Test Site No : 03CH06-HY

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

#### **3.1 Test Voltage**

DC 3.3V

#### **3.2 Test in Compliance with**

47 CFR Part 22H, 24E, Part 2, IC RSS-132 Issued 2 and RSS-133 Issued 3

#### **3.3 Frequency Range Investigated**

- a. Radiation: from 30MHz to 9000MHz for GSM850 and WCDMA Band V.
- b. Radiation: from 30 MHz to 19000 MHz for PCS and WCDMA Band II.

#### **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	IC Rule	DESCRIPTION OF TEST	Result	Section
§2.1046	RSS-132 §4.4 RSS-133 §6.4	RF Output Power	Passed	4.2
§ 22.913 §24.232	RSS-132 §4.4 RSS-133 §6.4	ERP / EIRP	Passed	4.3
§2.1049, § 22.917, § 24.238(b)	RSS-132 §4.5 RSS-133 §6.5	Occupied Bandwidth & Band Edge Measurement	Passed	4.4
§2.1051	RSS-132 §4.5 RSS-133 §6.5	Conducted Emission	Passed	4.5
§2.1053	RSS-132 §4.5 RSS-133 §6.5	Field Strength of Spurious Radiation	Passed	4.6
§2.1055, § 22.355, §24.235	RSS-132 §4.3 RSS-133 §6.3	Frequency Stability vs. Temperature	Passed	4.7
§2.1055, §22.355, §24.235	RSS-132 §4.3 RSS-133 §6.3	Frequency Stability vs. Voltage	Passed	4.8

## 4.2 RF Output Power

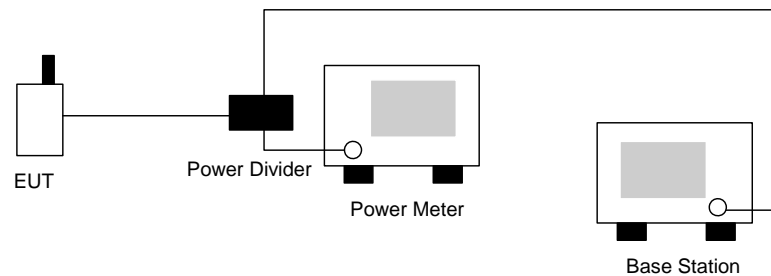
### 4.2.1 Measurement Instruments :

As described in chapter 5 of this test report.

### 4.2.2 Test Procedure :

1. The transmitter output was connected to power meter and base station through power divider.
2. Set EUT at PCL=5 for GSM850 and/or PCL=0 for PCS1900 and WCDMA maximum power through base station.
3. 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)	32.0	1.585
	189	836.4 (Mid)	32.3	1.698
	251	848.8 (High)	32.5	1.778
GSM850 (EDGE12)	128	824.2 (Low)	27.0	0.501
	189	836.4 (Mid)	27.2	0.525
	251	848.8 (High)	27.2	0.525
PCS1900 (GSM)	512	1850.2 (Low)	28.4	0.692
	661	1880.0 (Mid)	28.4	0.692
	810	1909.8 (High)	28.3	0.676
PCS1900 (EDGE12)	512	1850.2 (Low)	25.2	0.331
	661	1880.0 (Mid)	25.1	0.324
	810	1909.8 (High)	25.2	0.331
WCDMA Band V	4132	826.4 (Low)	24.22	0.264
	4182	836.4 (Mid)	23.90	0.245
	4233	846.6 (High)	24.31	0.270
WCDMA Band V (HSDPA)	4132	826.4 (Low)	22.1	0.162
	4182	836.4 (Mid)	22.46	0.176
	4233	846.6 (High)	22.3	0.170
WCDMA Band II	9262	1852.4 (Low)	23.30	0.214
	9400	1880.0 (Mid)	23.70	0.234
	9538	1907.6 (High)	23.85	0.243
WCDMA Band II (HSDPA)	9262	1852.4 (Low)	21.60	0.145
	9400	1880.0 (Mid)	22.25	0.168
	9538	1907.6 (High)	22.16	0.164



### 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

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

$P_s$  (dBm) : Input power to substitution antenna.

$G_s$  (dBi or dBd) : Substitution antenna Gain.

$E_t = R_t + AF$

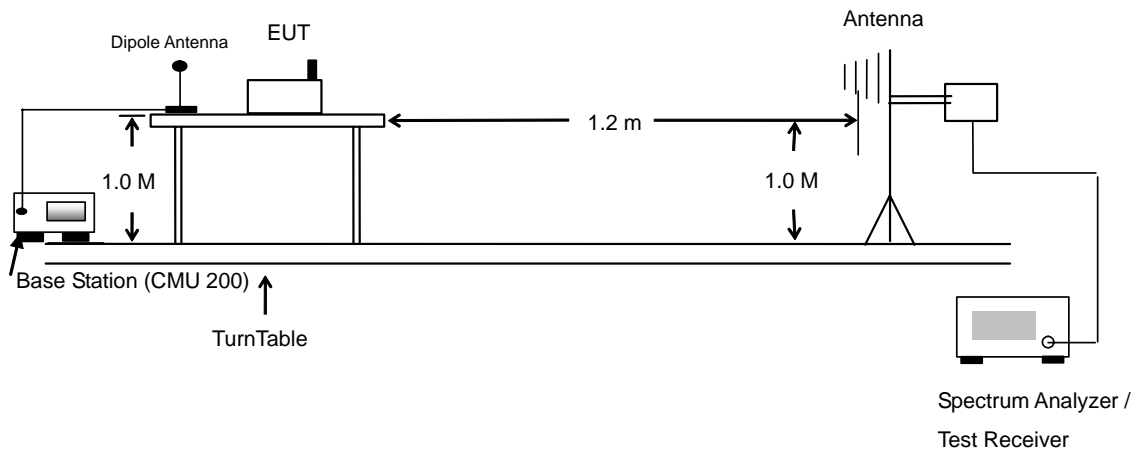
$E_s = R_s + AF$

$AF$  (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

<b>GSM850 (GSM) Radiated Power ERP</b>						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-19.72	-48.12	0.00	-1.08	27.32	0.54
<b>836.40</b>	<b>-18.02</b>	<b>-48.28</b>	<b>0.00</b>	<b>-0.93</b>	<b>29.33</b>	<b>0.86</b>
848.80	-19.58	-48.35	0.00	-0.76	28.01	0.63
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-28.48	-47.97	0.00	-1.08	18.41	0.07
836.40	-29.78	-48.01	0.00	-0.93	17.30	0.05
848.80	-28.60	-48.05	0.00	-0.76	18.69	0.07

<b>GSM850 (EDGE) Radiated Power ERP</b>						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-24.88	-48.12	0.00	-1.08	22.16	0.16
<b>836.40</b>	<b>-23.03</b>	<b>-48.28</b>	<b>0.00</b>	<b>-0.93</b>	<b>24.32</b>	<b>0.27</b>
848.80	-24.21	-48.35	0.00	-0.76	23.38	0.22
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-33.48	-47.97	0.00	-1.08	13.41	0.02
836.40	-31.13	-48.01	0.00	-0.93	15.95	0.04
848.80	-32.95	-48.05	0.00	-0.76	14.34	0.03



<b>PCS1900 (GSM) Radiated Power EIRP</b>						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-25.34	-51.88	0.00	1.96	28.50	0.71
1880.00	-26.37	-52.99	0.00	2.00	28.62	0.73
<b>1909.80</b>	<b>-27.19</b>	<b>-54.28</b>	<b>0.00</b>	<b>1.98</b>	<b>29.07</b>	<b>0.81</b>
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-45.13	-52.13	0.00	1.96	8.96	0.01
1880.00	-45.76	-53.17	0.00	2.00	9.41	0.01
1909.80	-47.35	-54.13	0.00	1.98	8.76	0.01

<b>PCS1900 (EDGE) Radiated Power EIRP</b>						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-28.20	-51.88	0.00	1.96	25.64	0.37
1880.00	-29.21	-52.99	0.00	2.00	25.78	0.38
<b>1909.80</b>	<b>-30.26</b>	<b>-54.28</b>	<b>0.00</b>	<b>1.98</b>	<b>26.00</b>	<b>0.40</b>
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-48.55	-52.13	0.00	1.96	5.54	0.00
1880.00	-48.79	-53.17	0.00	2.00	6.38	0.00
1909.80	-50.31	-54.13	0.00	1.98	5.80	0.00



WCDMA Band V Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
826.40	-35.78	-48.12	0.00	-1.08	11.26	0.01
836.60	-36.16	-48.28	0.00	-0.93	11.19	0.01
848.60	-36.42	-48.35	0.00	-0.76	11.17	0.01
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
826.40	-25.80	-47.97	0.00	-1.08	21.09	0.13
836.60	-26.01	-48.01	0.00	-0.93	21.07	0.13
<b>848.60</b>	<b>-25.98</b>	<b>-48.05</b>	<b>0.00</b>	<b>-0.76</b>	<b>21.31</b>	<b>0.14</b>

WCDMA Band V (HSDPA) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
826.40	-38.82	-51.88	0.00	1.96	8.22	0.01
836.60	-38.09	-52.99	0.00	2.00	9.26	0.01
848.60	-38.70	-54.28	0.00	1.98	8.89	0.01
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
826.40	-29.51	-52.13	0.00	1.96	17.38	0.05
<b>836.60</b>	<b>-27.72</b>	<b>-53.17</b>	<b>0.00</b>	<b>2.00</b>	<b>19.36</b>	<b>0.09</b>
848.60	-28.90	-54.13	0.00	1.98	18.39	0.07





<b>WCDMA Band II Radiated Power EIRP</b>						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
<b>1852.40</b>	<b>-29.53</b>	<b>-48.12</b>	<b>0.00</b>	<b>-1.08</b>	<b>24.31</b>	<b>0.27</b>
1880.00	-30.79	-48.28	0.00	-0.93	24.20	0.26
1907.60	-34.16	-48.35	0.00	-0.76	22.10	0.16
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1852.40	-48.66	-47.97	0.00	-1.08	5.43	0.00
1880.00	-49.99	-48.01	0.00	-0.93	5.18	0.00
1907.60	-53.92	-48.05	0.00	-0.76	2.19	0.00

<b>WCDMA Band II (HSDPA) Radiated Power EIRP</b>						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1852.40	-47.05	-51.88	0.00	1.96	6.79	0.00
1880.00	-48.26	-52.99	0.00	2.00	6.73	0.00
1907.60	-50.91	-54.28	0.00	1.98	5.35	0.00
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
<b>1852.40</b>	<b>-29.99</b>	<b>-52.13</b>	<b>0.00</b>	<b>1.96</b>	<b>24.10</b>	<b>0.26</b>
1880.00	-31.59	-53.17	0.00	2.00	23.58	0.23
1907.60	-34.39	-54.13	0.00	1.98	21.72	0.15

## 4.4 Occupied Bandwidth and Band Edge Measurement

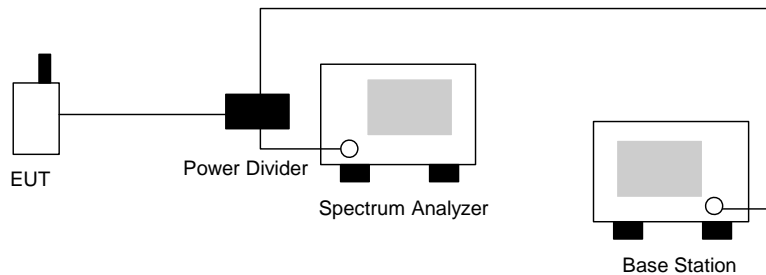
### 4.4.1 Measurement Instruments

As described in chapter 5 of this test report.

### 4.4.2 Test Procedure

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The 99% occupied bandwidth of middle channel for the highest and lowest RF powers were measured.
3. The bandedge of low and high channels for the highest RF powers within the transmitting frequency band were measured. Setting RBW as roughly  $BW/100$ .

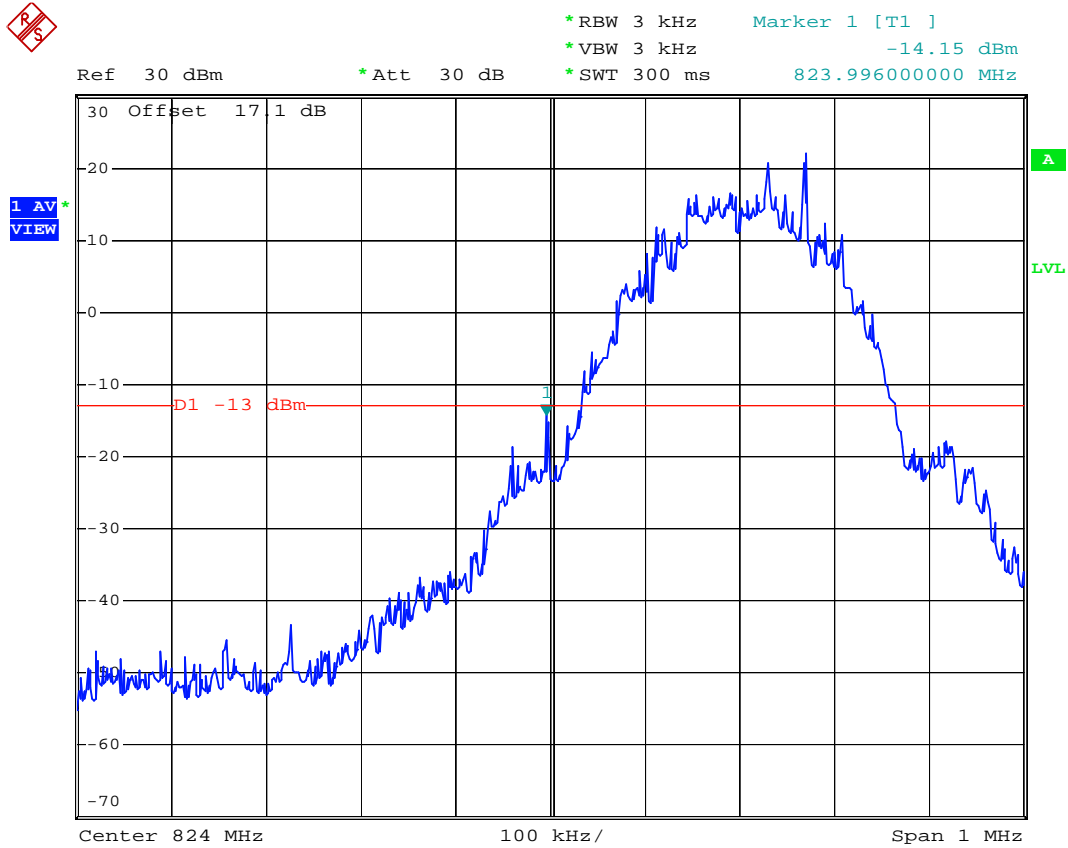
### 4.4.3 Test Setup Layout





4.4.4 Test Result

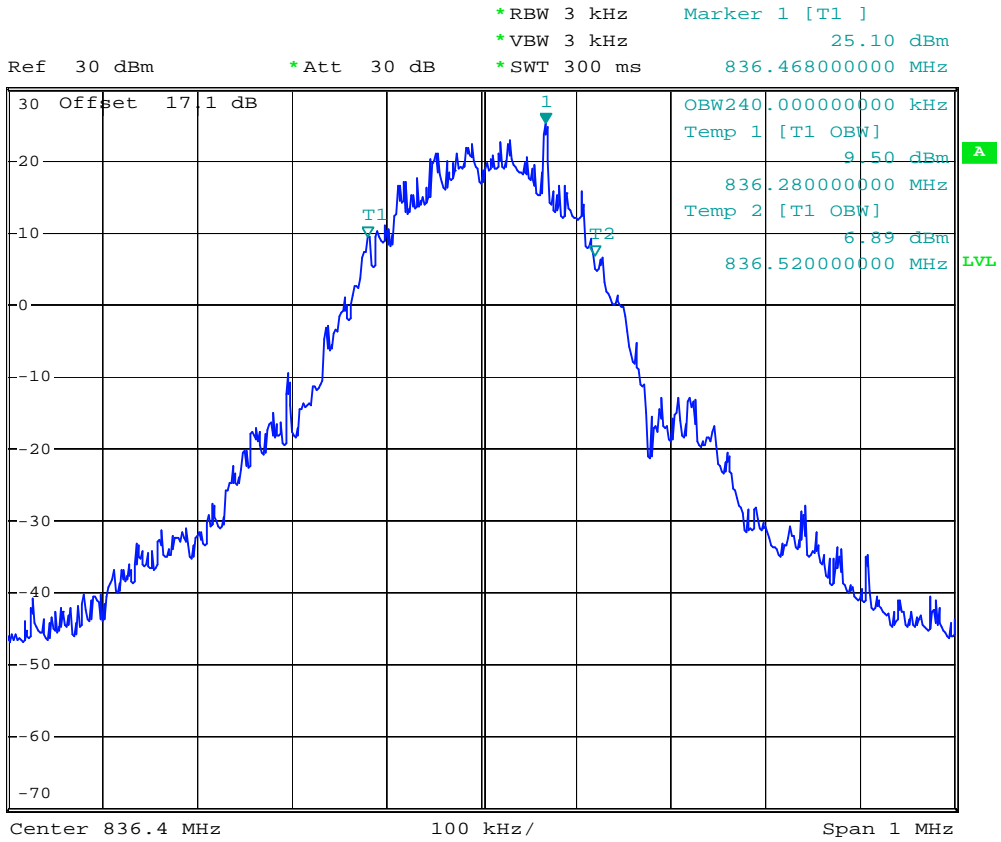
- Mode 1
- Test Mode : GSM850 (GSM) CH128 Lower Band Edge
- Power State : High



Date: 18.DEC.2006 13:35:26



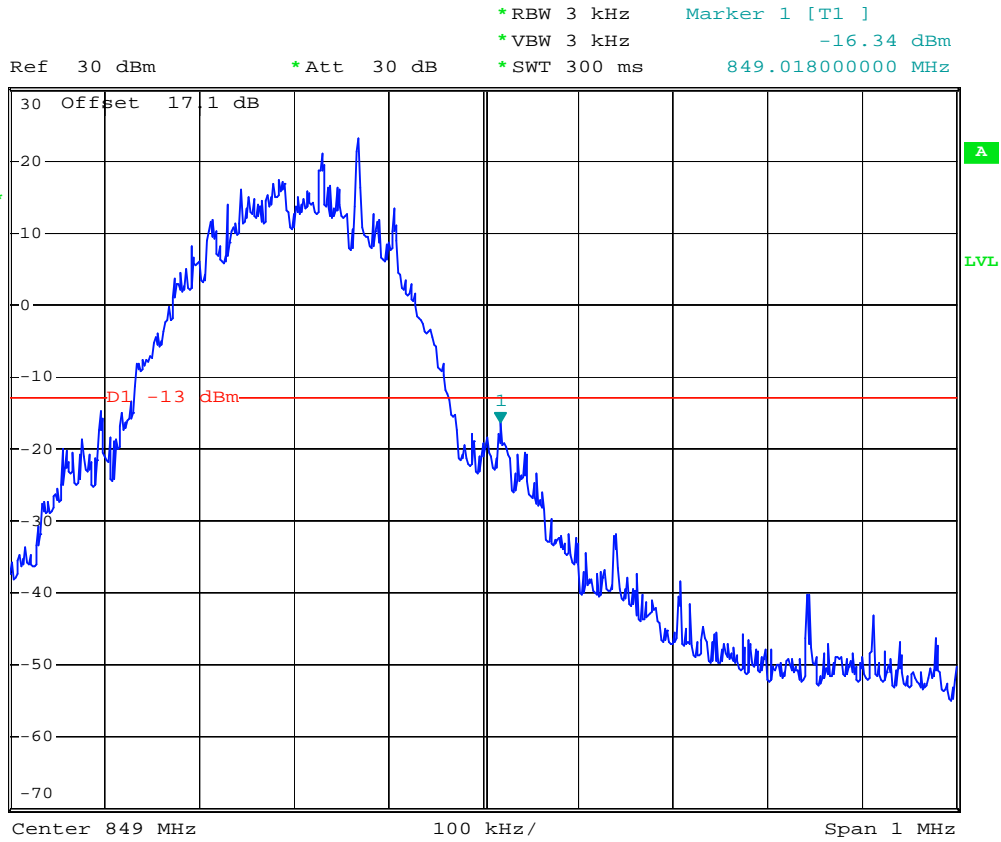
- Test Mode : GSM850 (GSM) CH189 99% Occupied Bandwidth
- Power State : High



Date: 18.DEC.2006 13:39:06



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

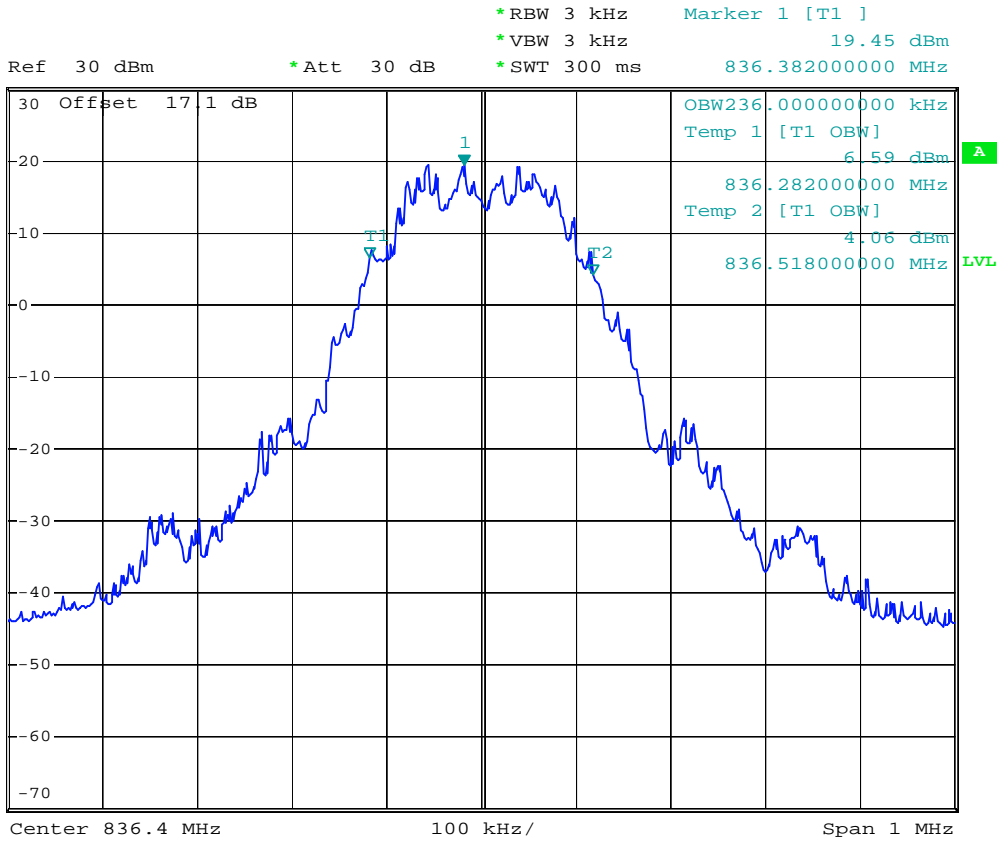


Date: 18.DEC.2006 13:37:32





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



Date: 20.DEC.2006 11:05:12



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

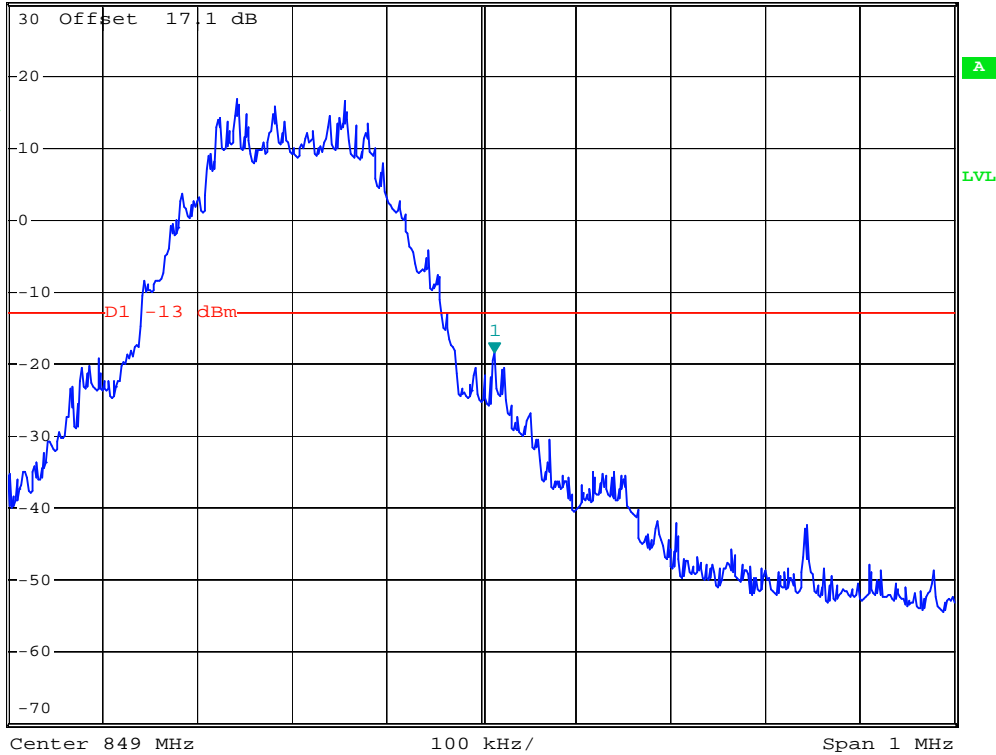


\*RBW 3 kHz      Marker 1 [T1 ]  
\*VBW 3 kHz      -18.46 dBm  
\*SWT 300 ms      849.014000000 MHz

Ref 30 dBm

\*Att 30 dB

1 AV\*  
VIEW



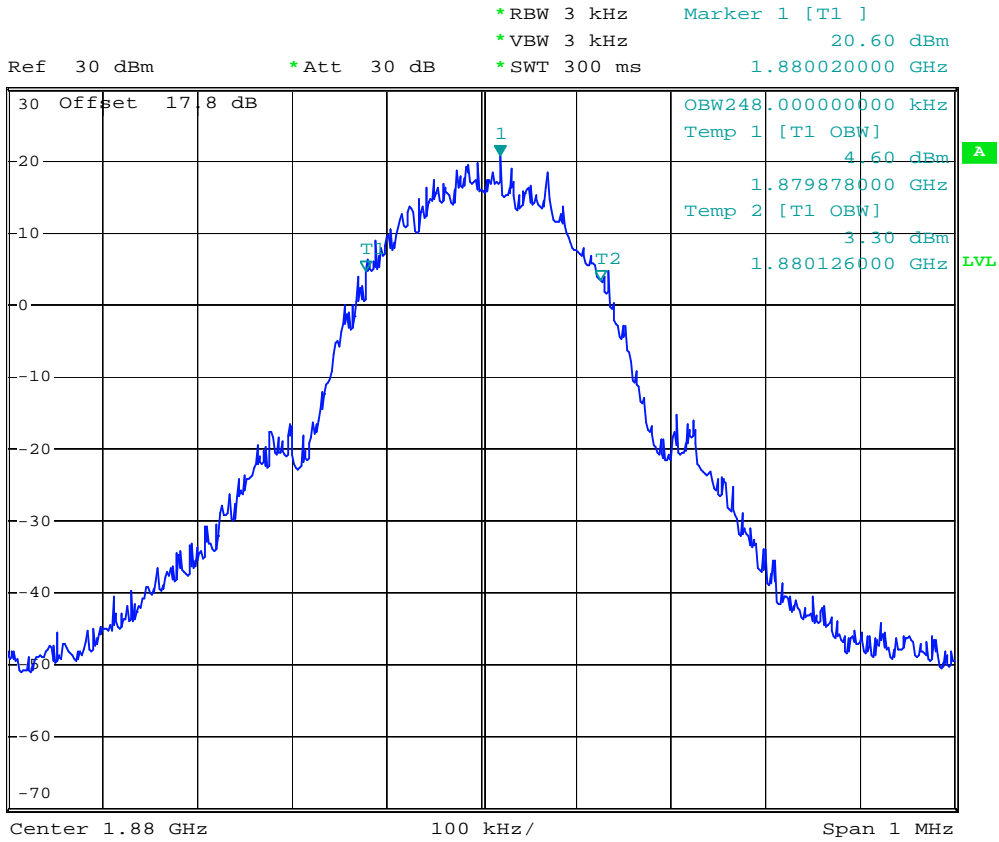
Date: 20.DEC.2006 11:10:04







- Test Mode : PCS1900 (GSM) CH661 99% Occupied Bandwidth
- Power State : High



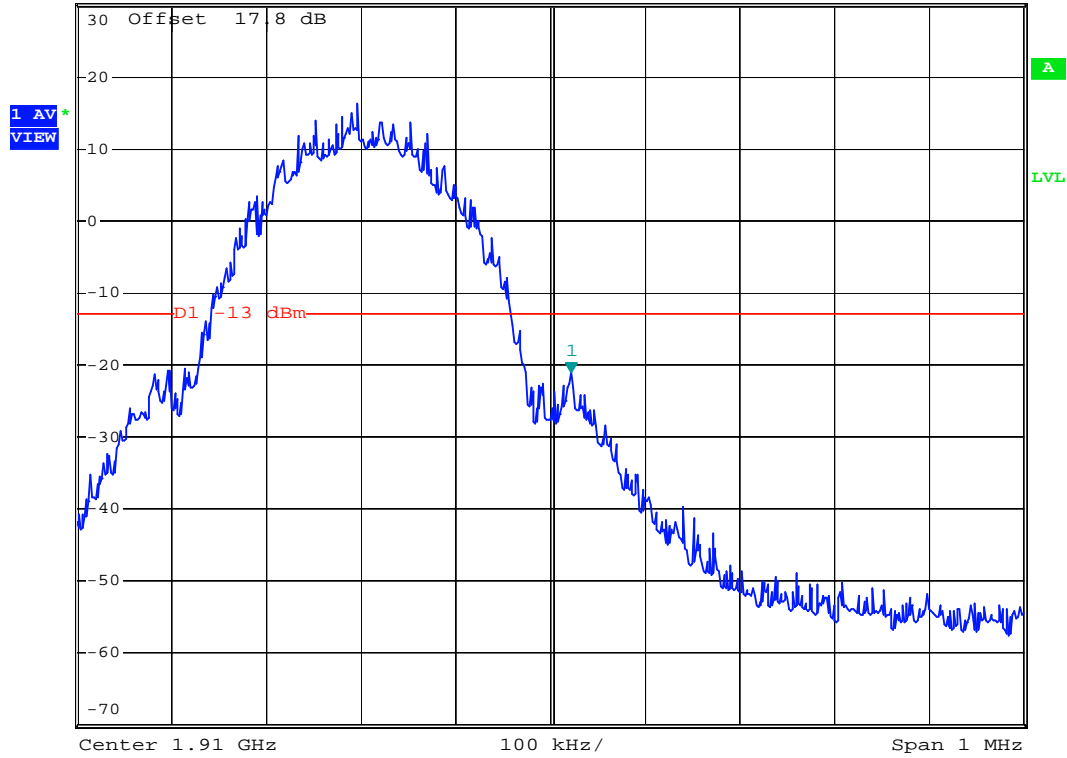
Date: 18.DEC.2006 13:46:28



- Test Mode : PCS1900 (GSM) CH810 Higher Band Edge
- Power State : High



Ref 30 dBm      \*Att 30 dB      \*RBW 3 kHz      Marker 1 [T1 ]  
\*VBW 3 kHz      -20.97 dBm  
\*SWT 300 ms      1.910022000 GHz

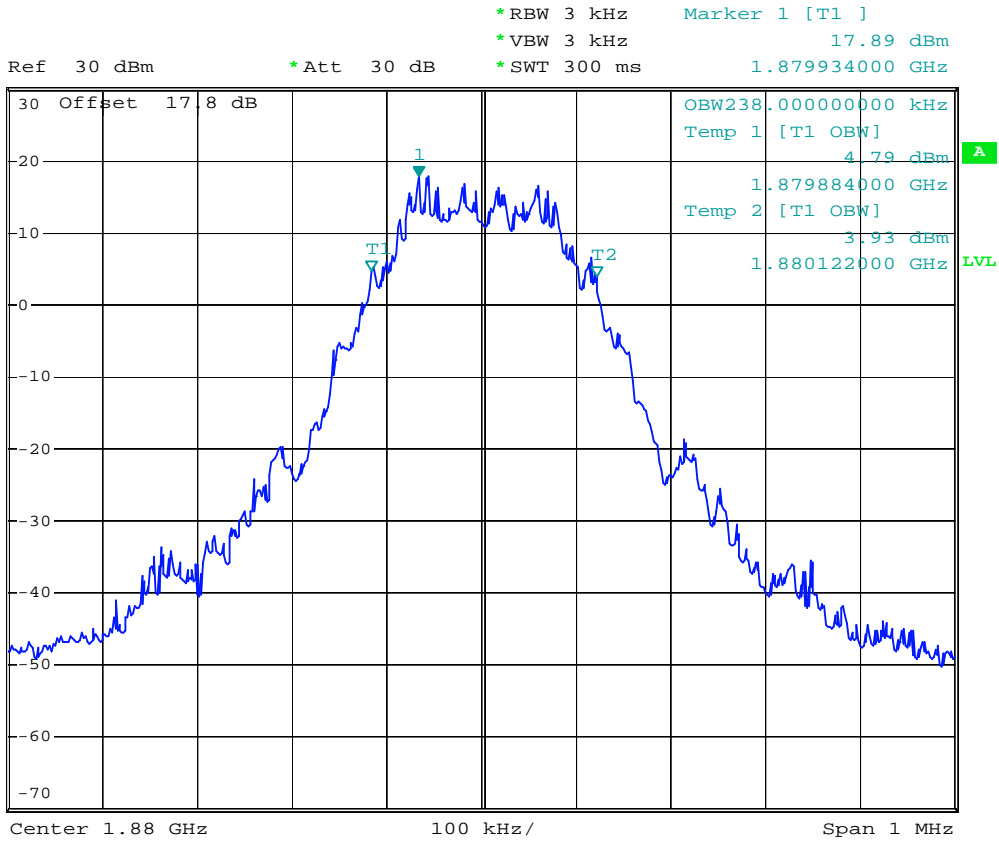


Date: 18.DEC.2006 13:49:48





- Test Mode : PCS1900 (EDGE) CH661 99% Occupied Bandwidth
- Power State : High



Date: 20.DEC.2006 11:45:05



- Test Mode : PCS1900 (EDGE) CH810 Higher Band Edge
- Power State : High



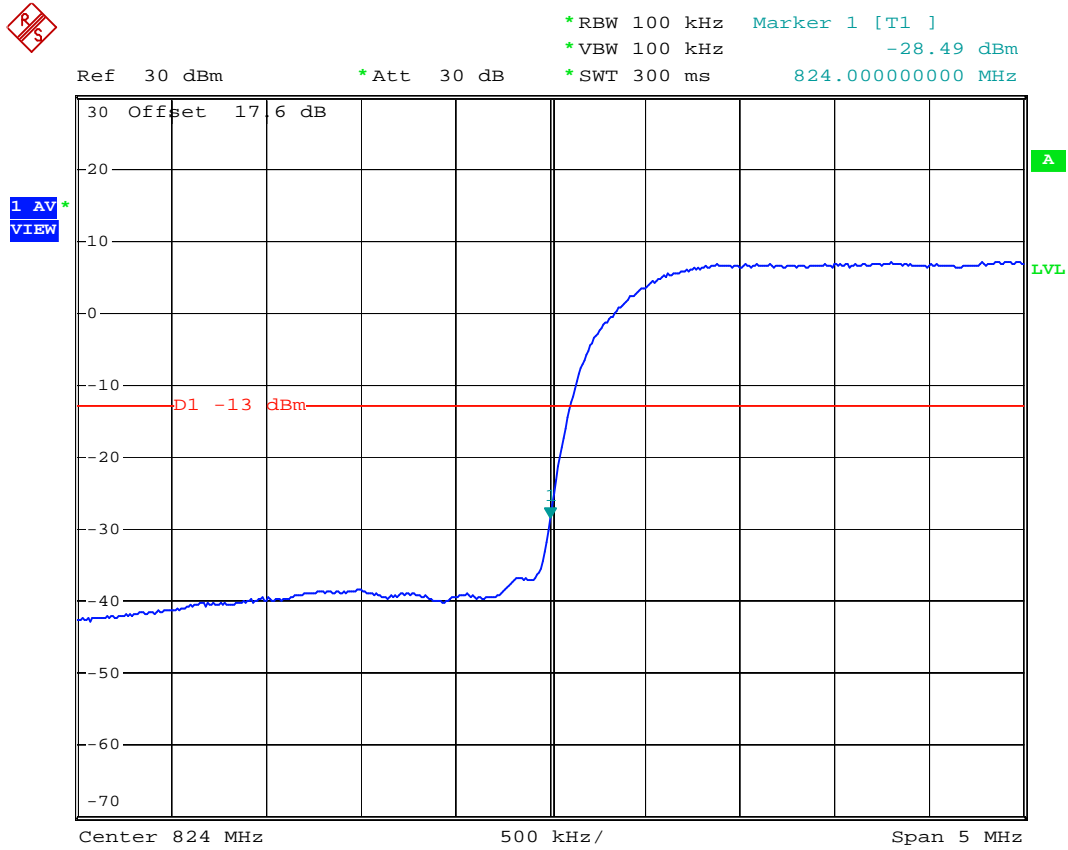
Ref 30 dBm      \*Att 30 dB      \*RBW 3 kHz      Marker 1 [T1 ]  
\*VBW 3 kHz      -20.56 dBm  
\*SWT 300 ms      1.910014000 GHz



Date: 20.DEC.2006 13:12:21



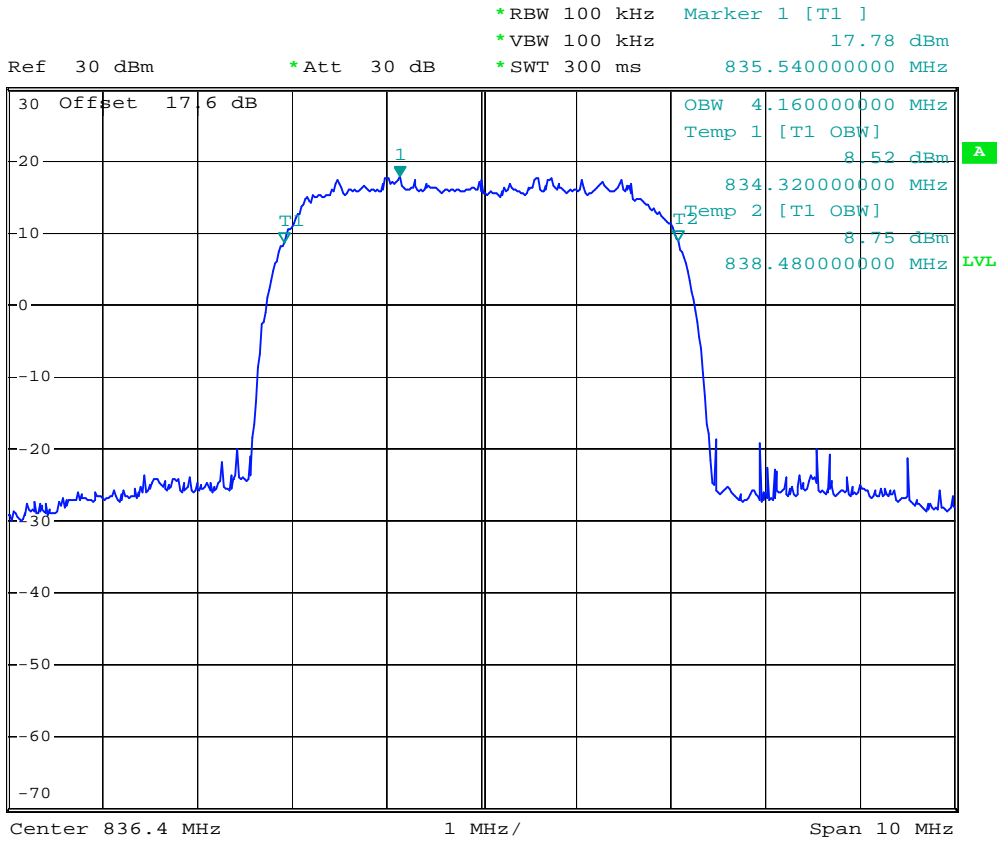
- Mode 5
- Test Mode : WCDMA Band V CH4132 Lower Band Edge
- Power State : High



Date: 19.DEC.2006 19:51:29



- Test Mode : WCDMA Band V CH4182 99% Occupied Bandwidth
- Power State : High

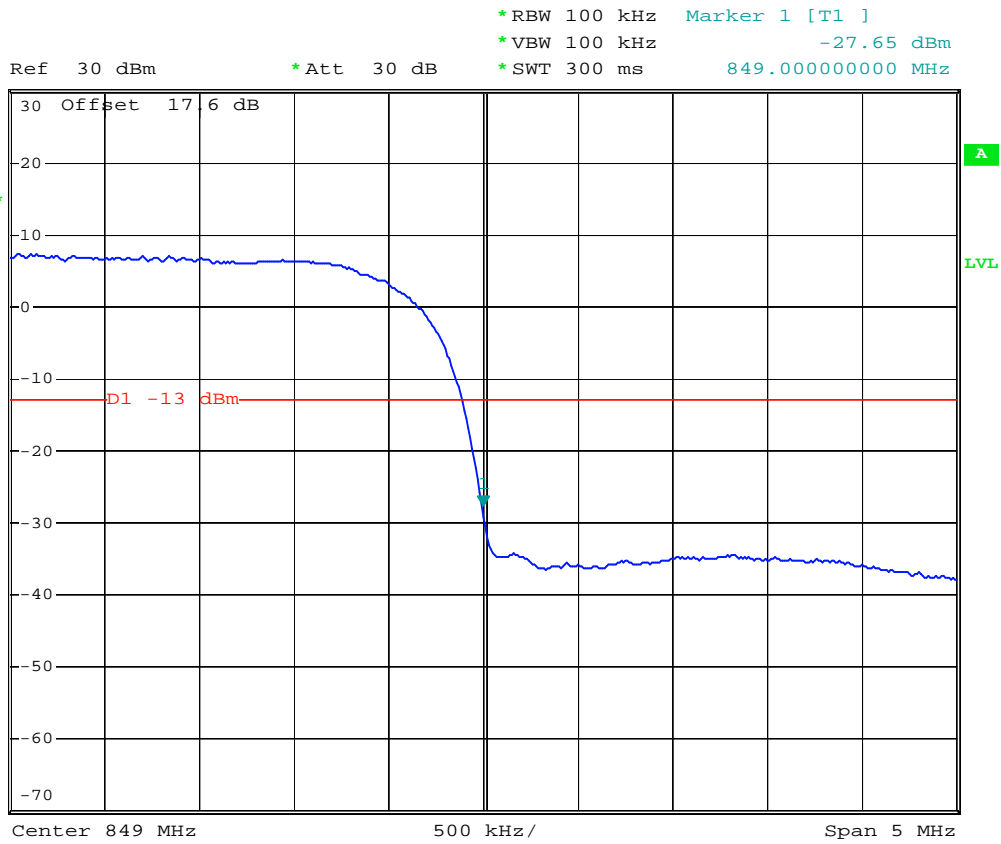


Date: 19.DEC.2006 19:49:14





- Test Mode : WCDMA Band V CH4233 Higher Band Edge
- Power State : High

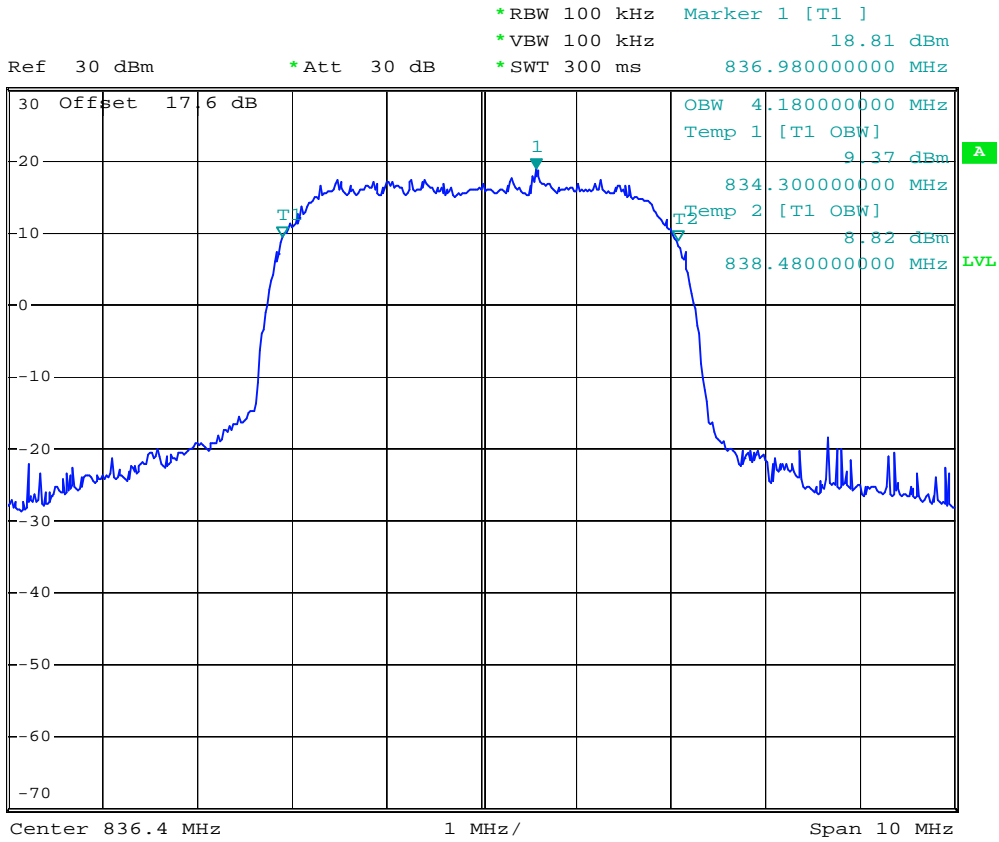


Date: 19.DEC.2006 19:52:46





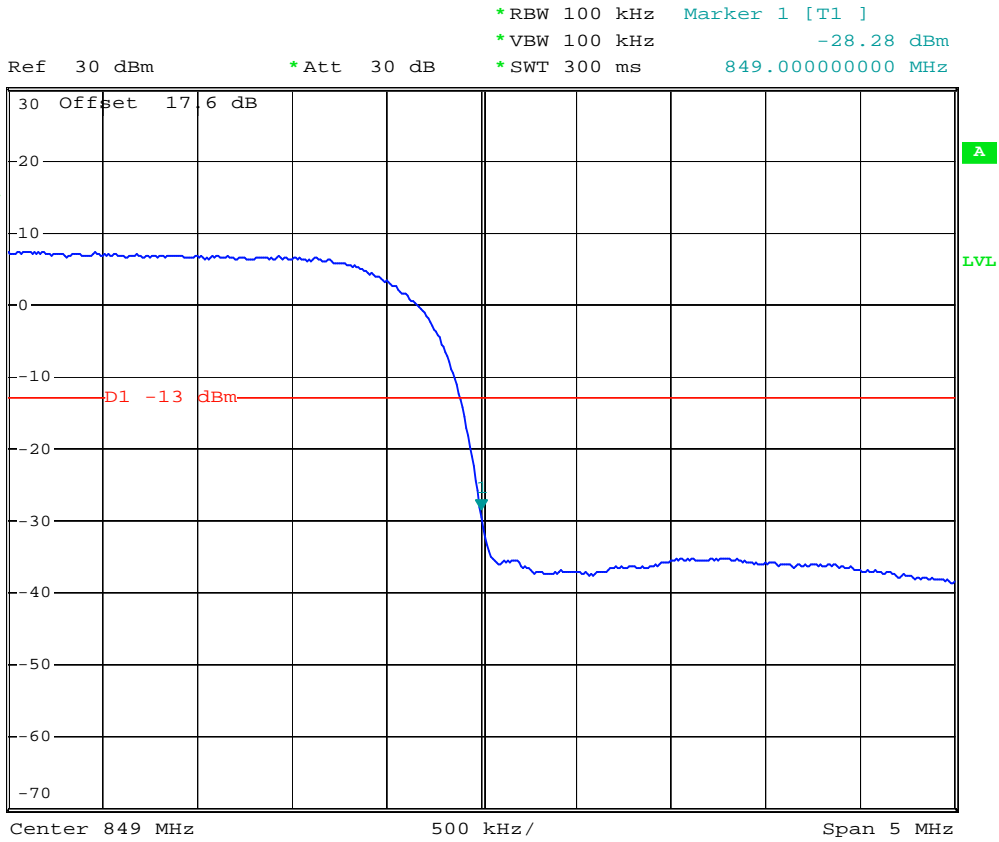
- Test Mode : WCDMA Band V (HSDPA) CH4182 99% Occupied Bandwidth
- Power State : High



Date: 19.DEC.2006 23:00:23



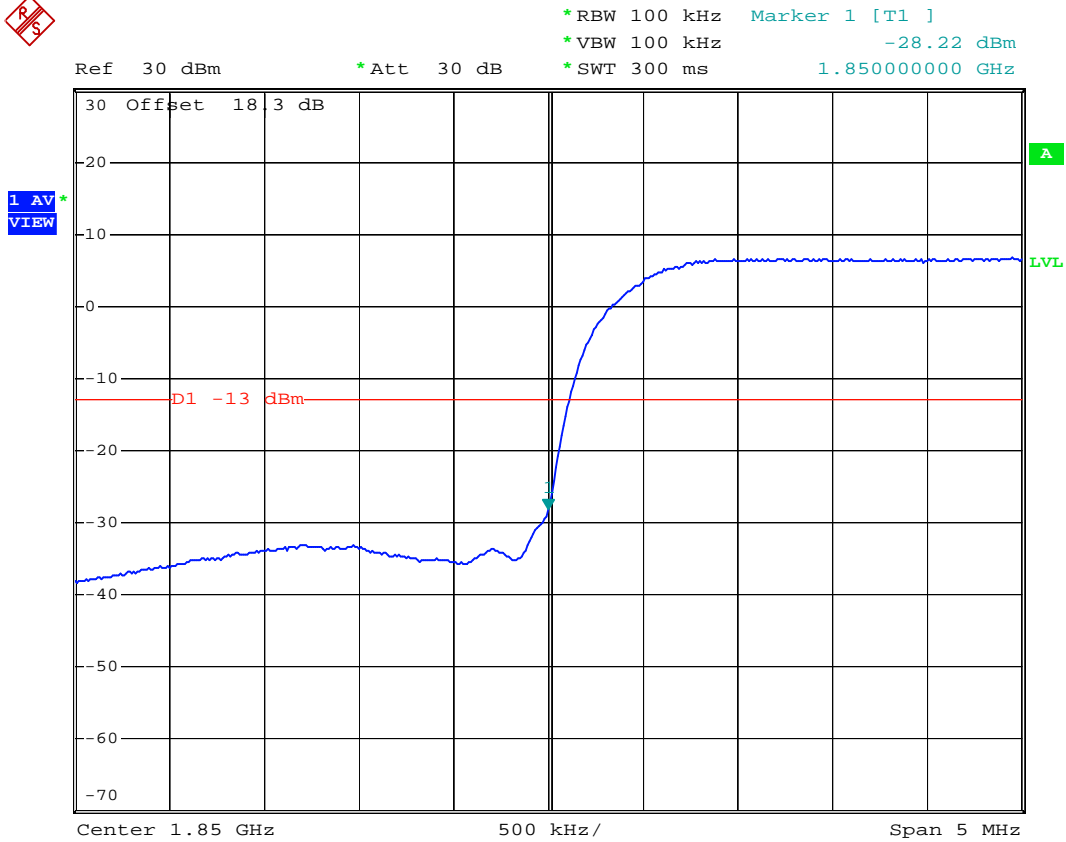
- Test Mode : WCDMA Band V (HSDPA) CH4233 Higher Band Edge
- Power State : High



Date: 19.DEC.2006 23:30:42



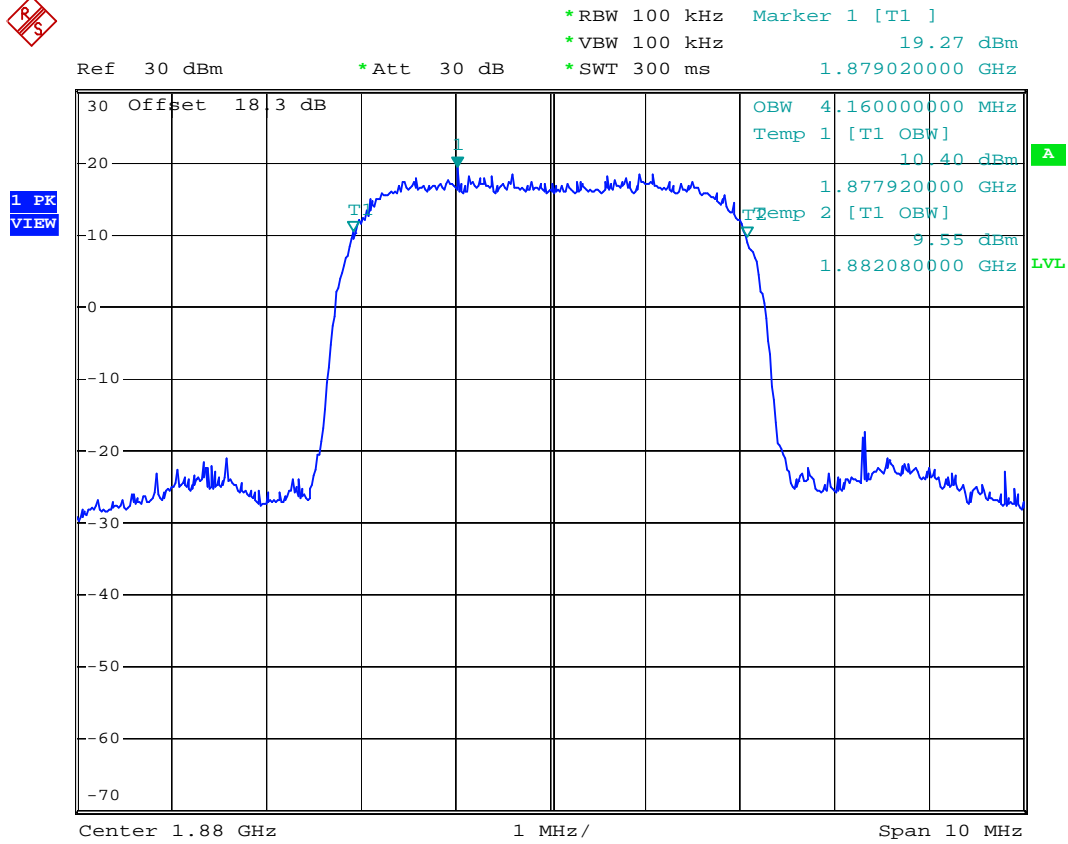
- Mode 7
- Test Mode : WCDMA Band II CH9262 Lower Band Edge
- Power State : High



Date: 19.DEC.2006 16:29:41



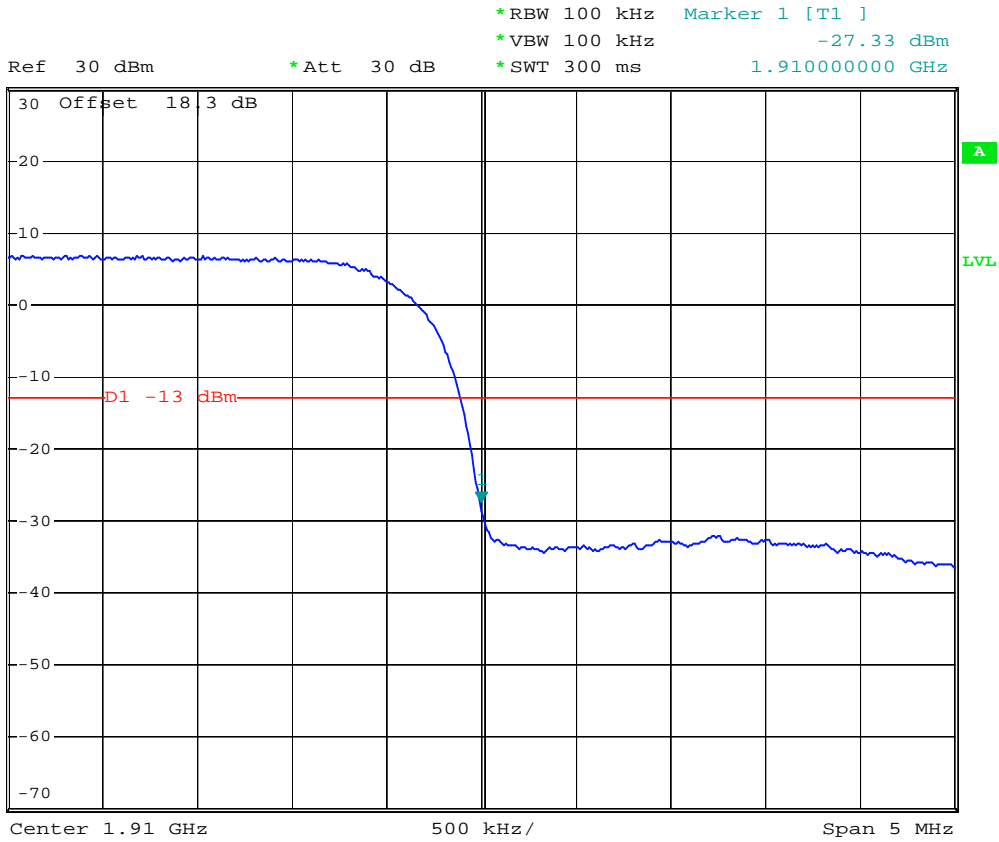
- Test Mode : WCDMA Band II CH9400 99% Occupied Bandwidth
- Power State : High



Date: 19.DEC.2006 16:34:09



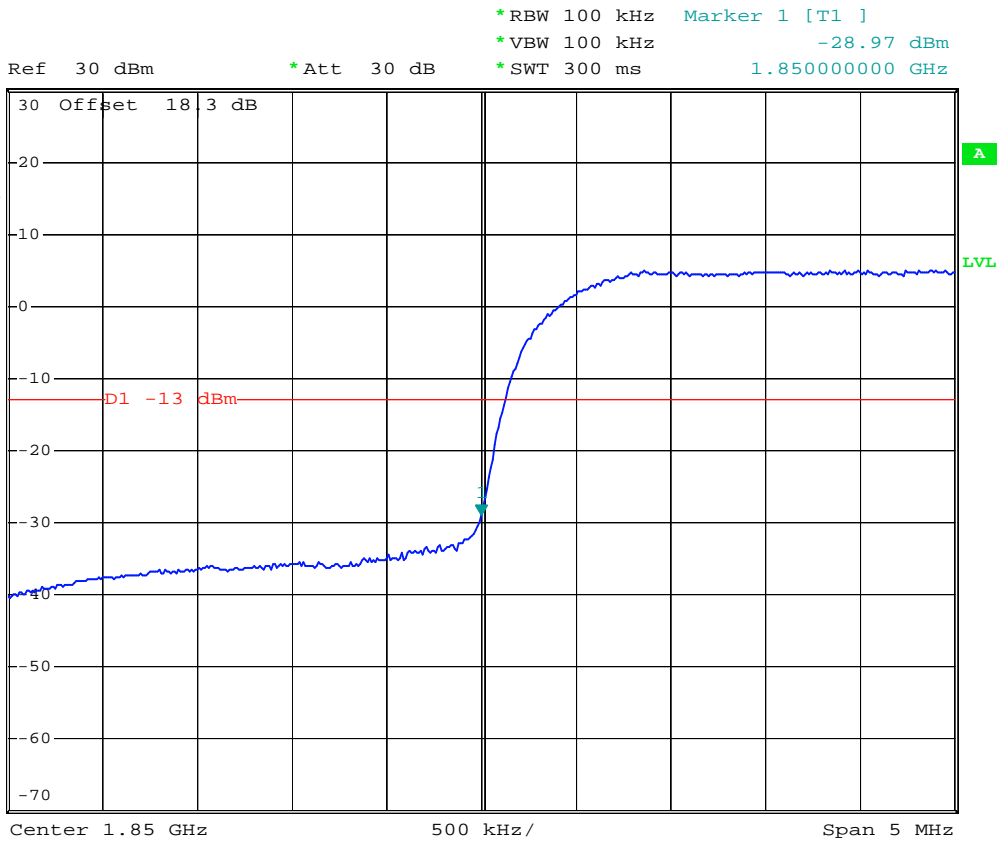
- Test Mode : WCDMA Band II CH9538 Higher Band Edge
- Power State : High



Date: 19.DEC.2006 16:32:39



- Mode 8
- Test Mode : WCDMA Band II (HSDPA) CH9262 Lower Band Edge
- Power State : High

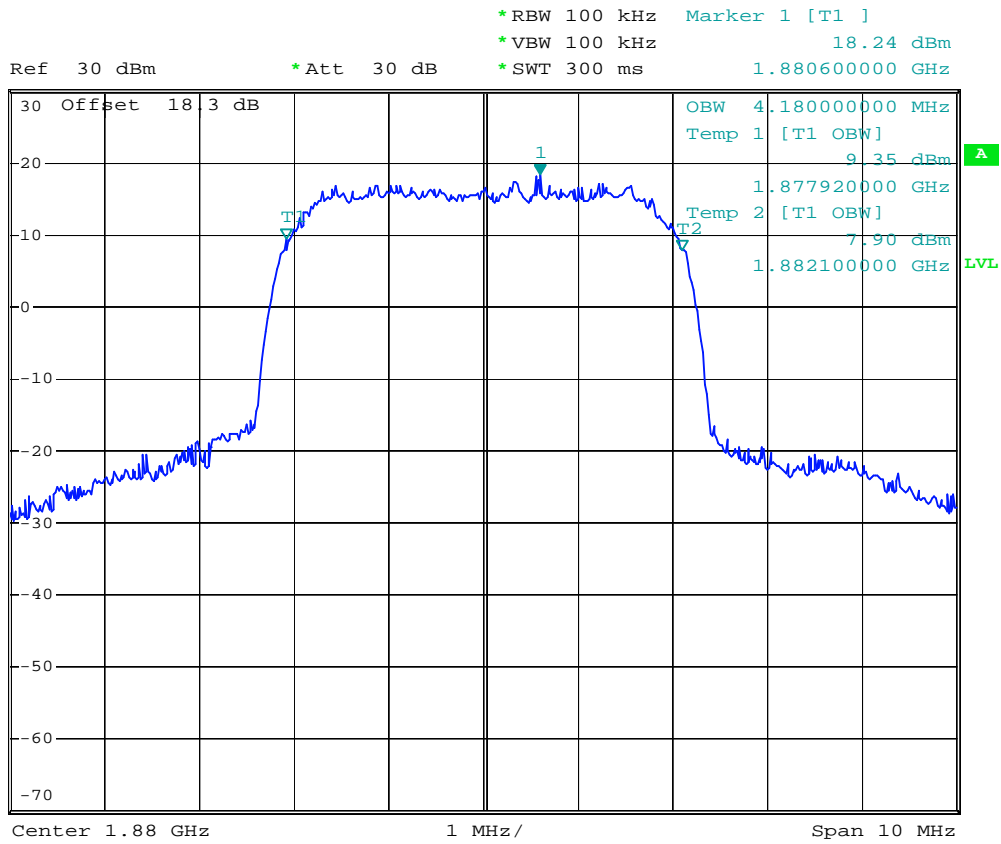


Date: 19.DEC.2006 21:20:32





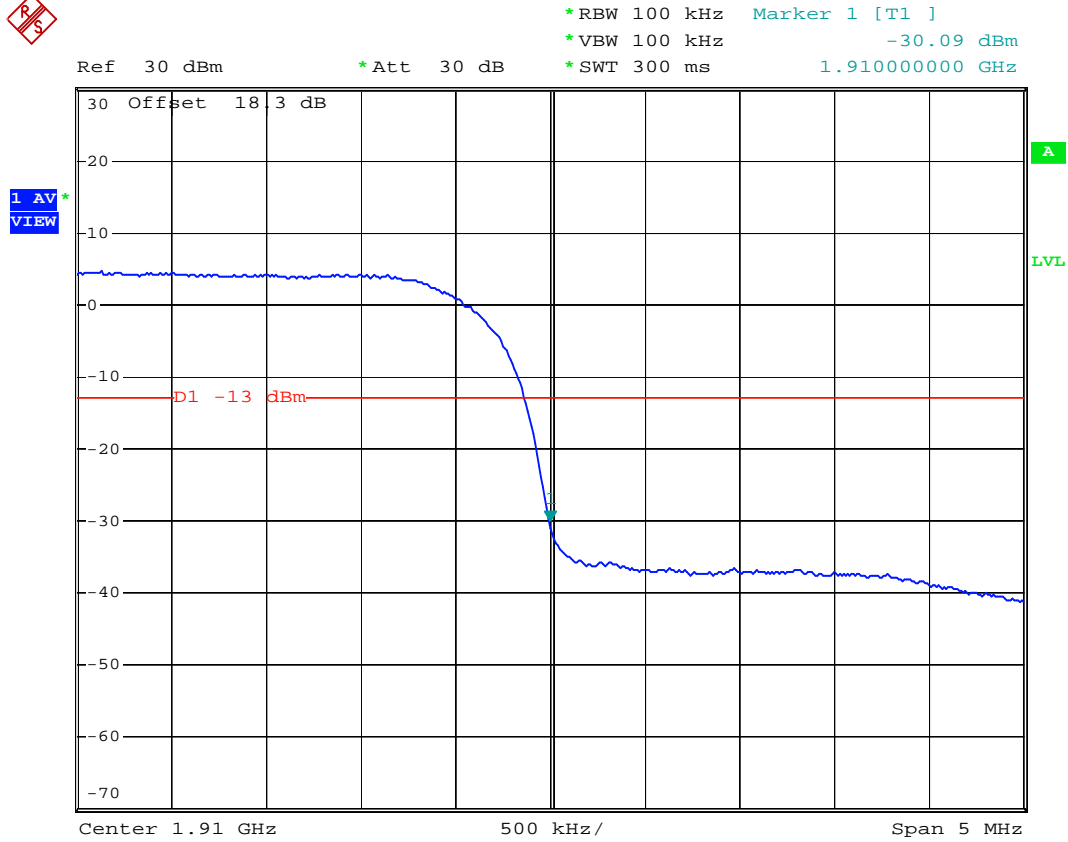
- Test Mode : WCDMA Band II (HSDPA) CH9400 99% Occupied Bandwidth
- Power State : High



Date: 19.DEC.2006 21:18:02



- Test Mode : WCDMA Band II (HSDPA) CH9538 Higher Band Edge
- Power State : High



Date: 19.DEC.2006 21:22:15

## 4.4 Conducted Emission

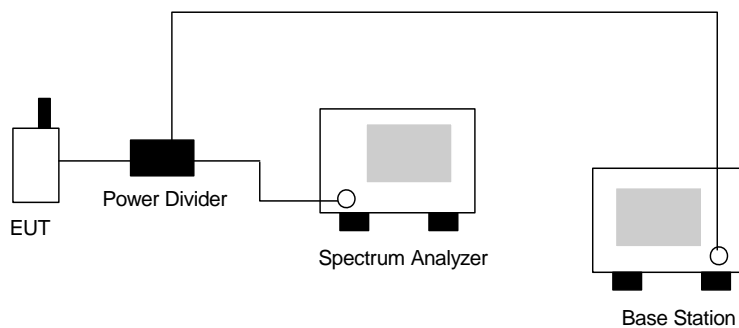
### 4.5.1 Measurement Instruments

As described in chapter 5 of this test report.

### 4.5.2 Test Procedure

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.

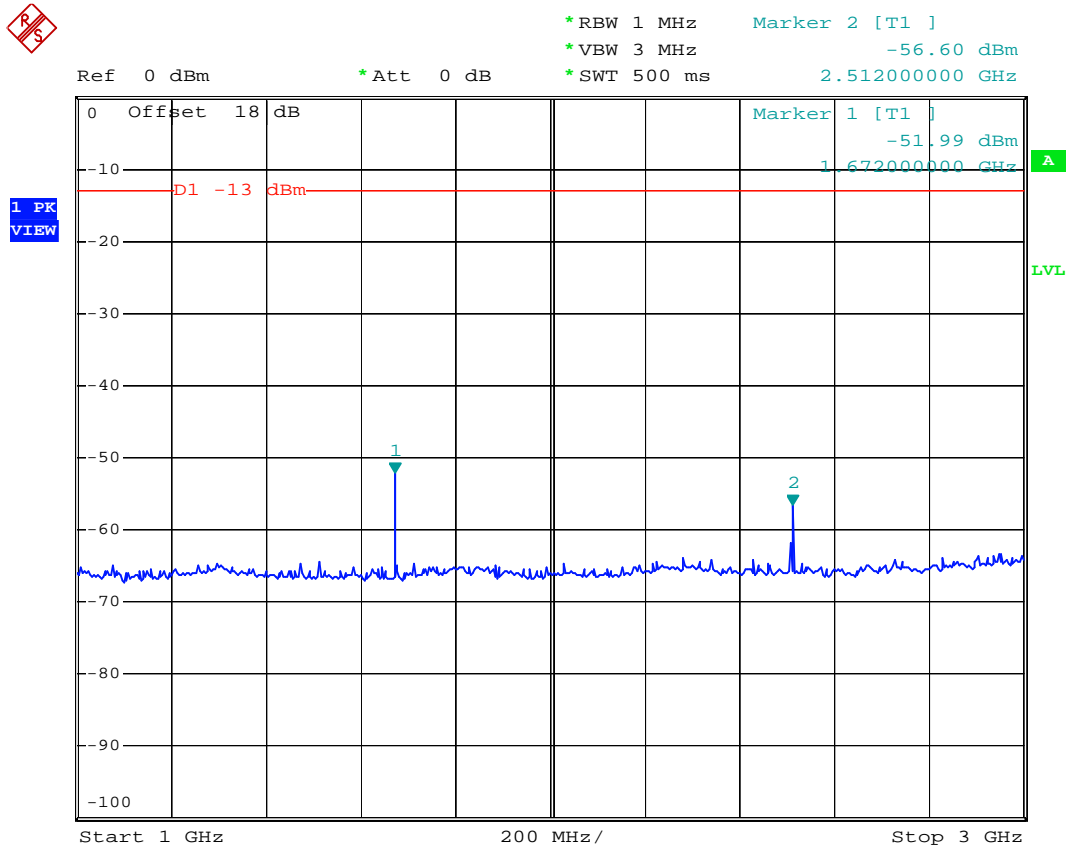
### 4.5.3 Test Setup Layout







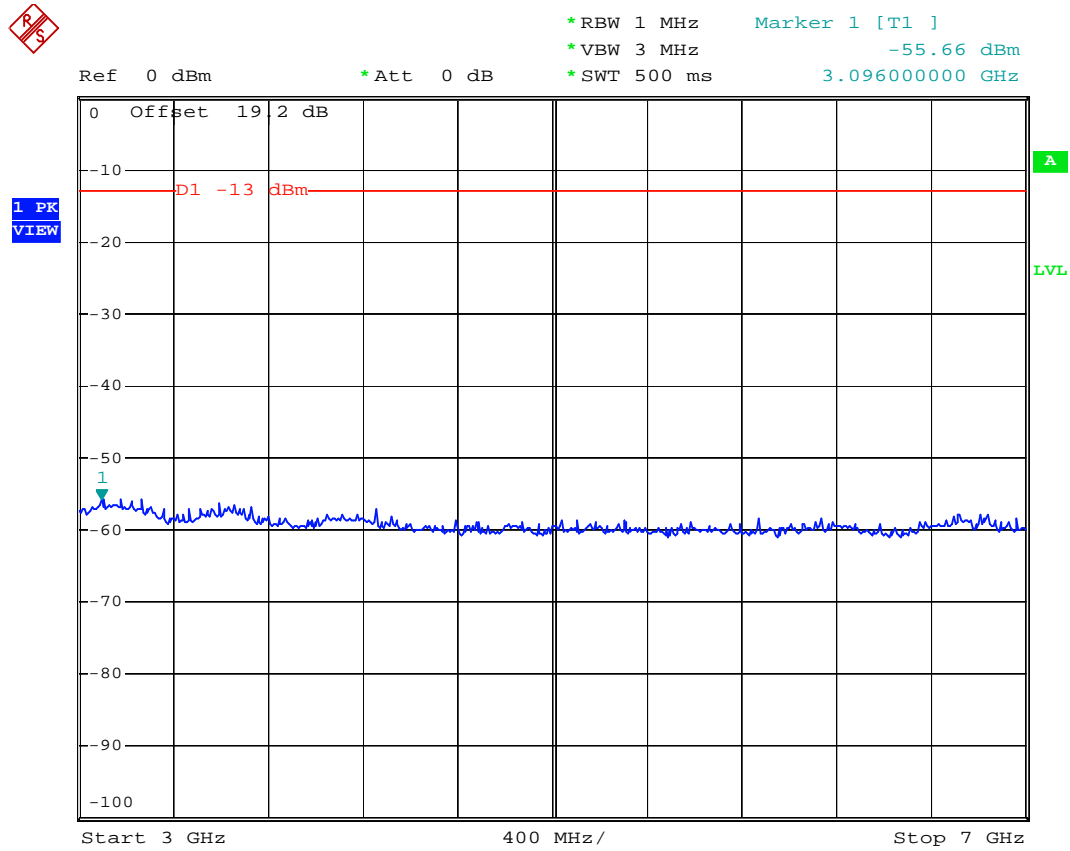
- Test Mode : GSM850 (GSM) CH189
- Frequency Range : 1G-3G



Date: 19.DEC.2006 20:08:21



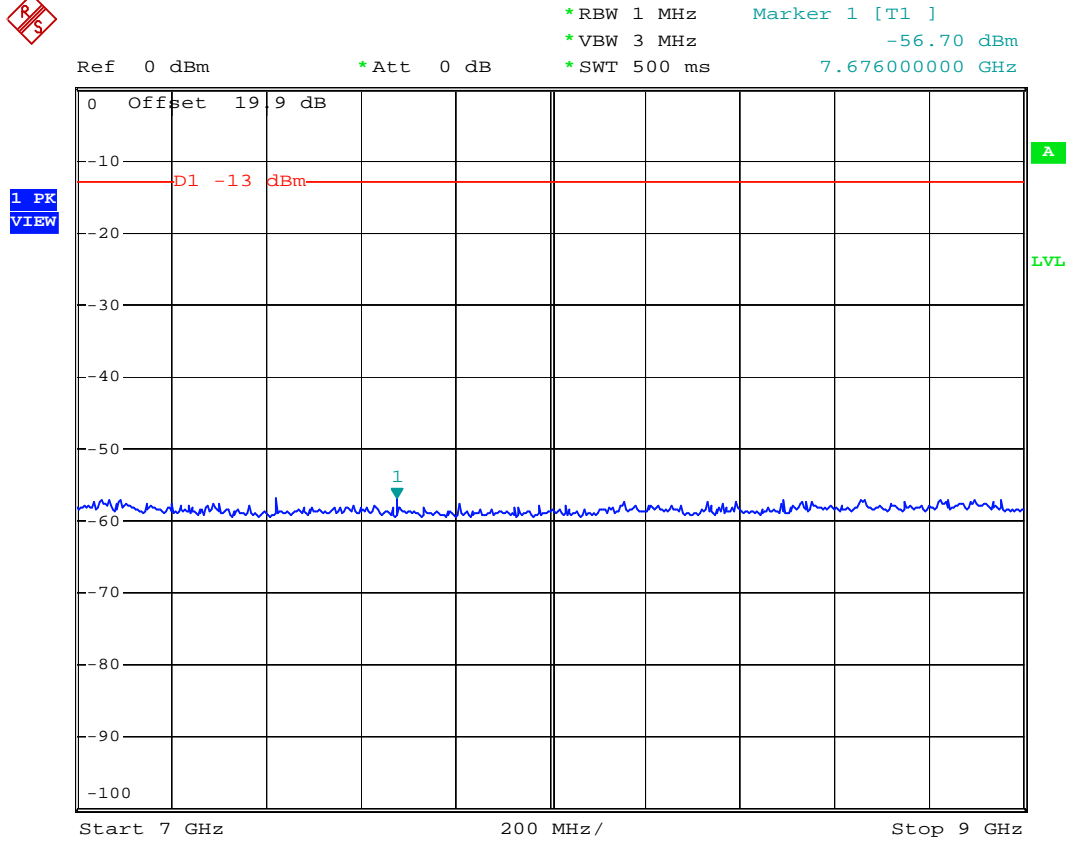
- Test Mode : GSM850 (GSM) CH189
- Frequency Range : 3G-7G



Date: 19.DEC.2006 20:09:17



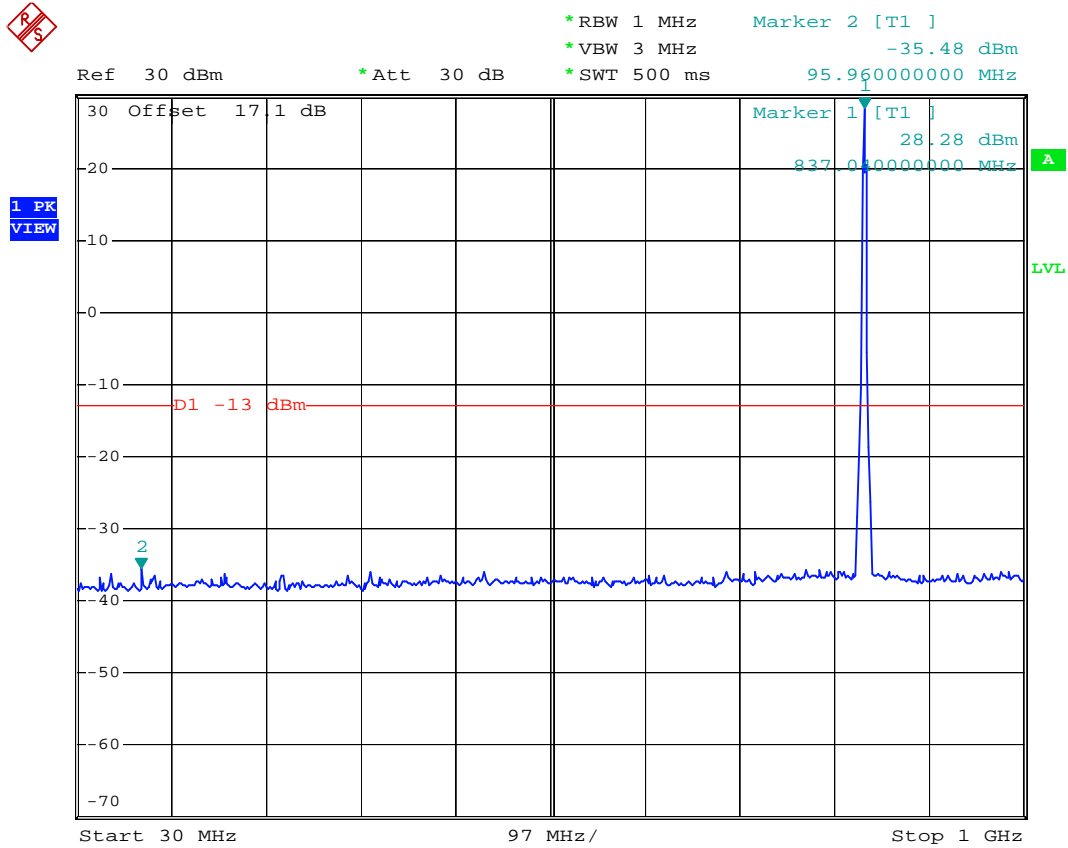
- Test Mode : GSM850 (GSM) CH189
- Frequency Range : 7G-9G



Date: 19.DEC.2006 20:10:18



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

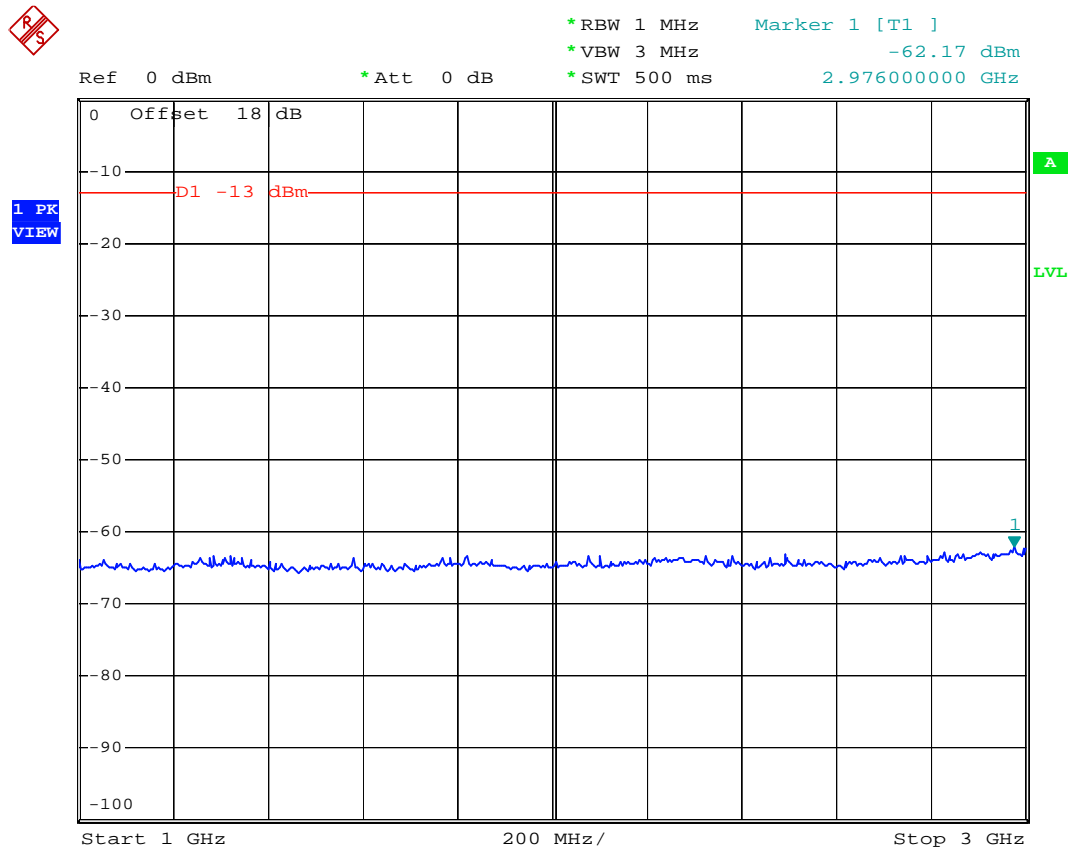


Date: 20.DEC.2006 11:26:38





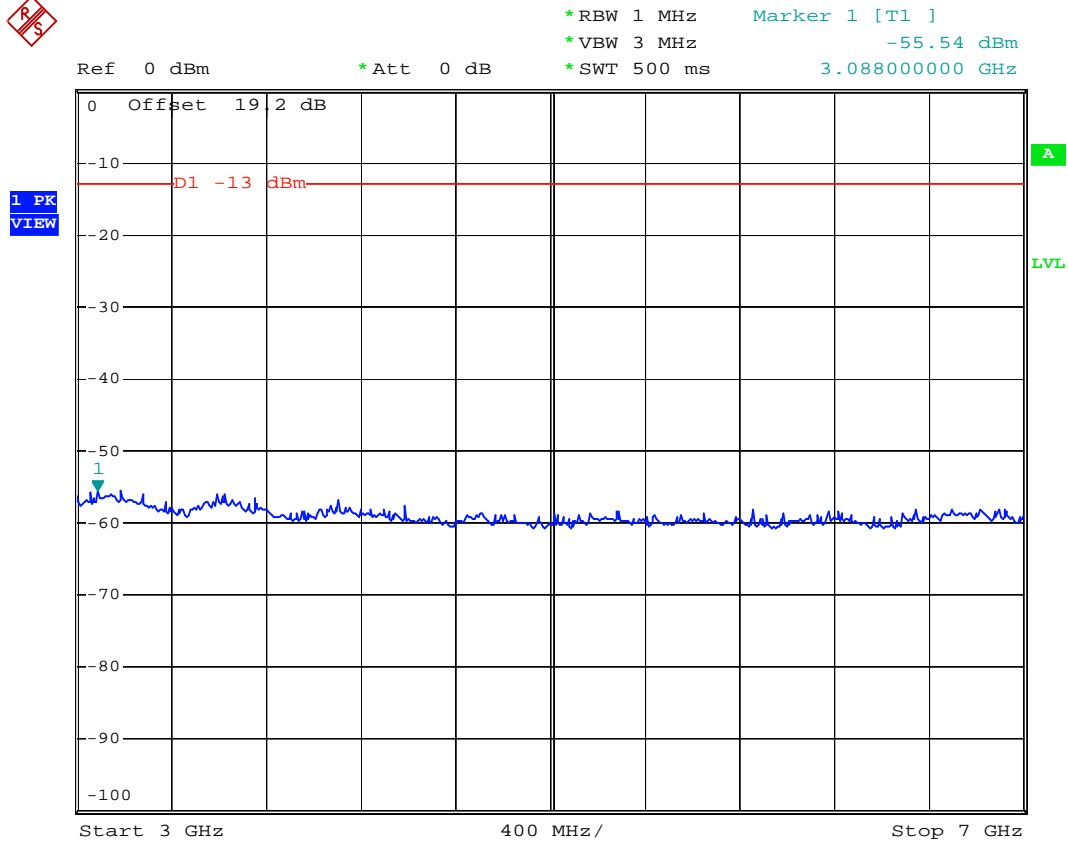
- Test Mode : GSM850 (EDGE) CH189
- Frequency Range : 1G-3G



Date: 20.DEC.2006 11:21:34



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



Date: 20.DEC.2006 11:22:18



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

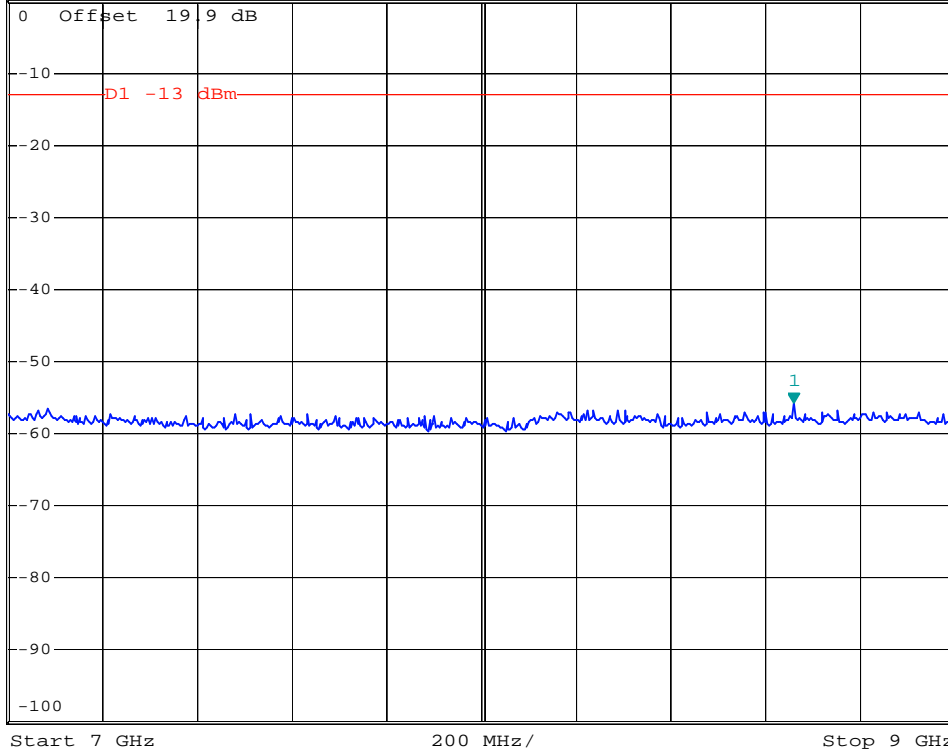


\*RBW 1 MHz      Marker 1 [T1 ]  
\*VBW 3 MHz      -55.88 dBm  
\*SWT 500 ms      8.660000000 GHz

Ref 0 dBm

\*Att 0 dB

1 PK  
VIEW

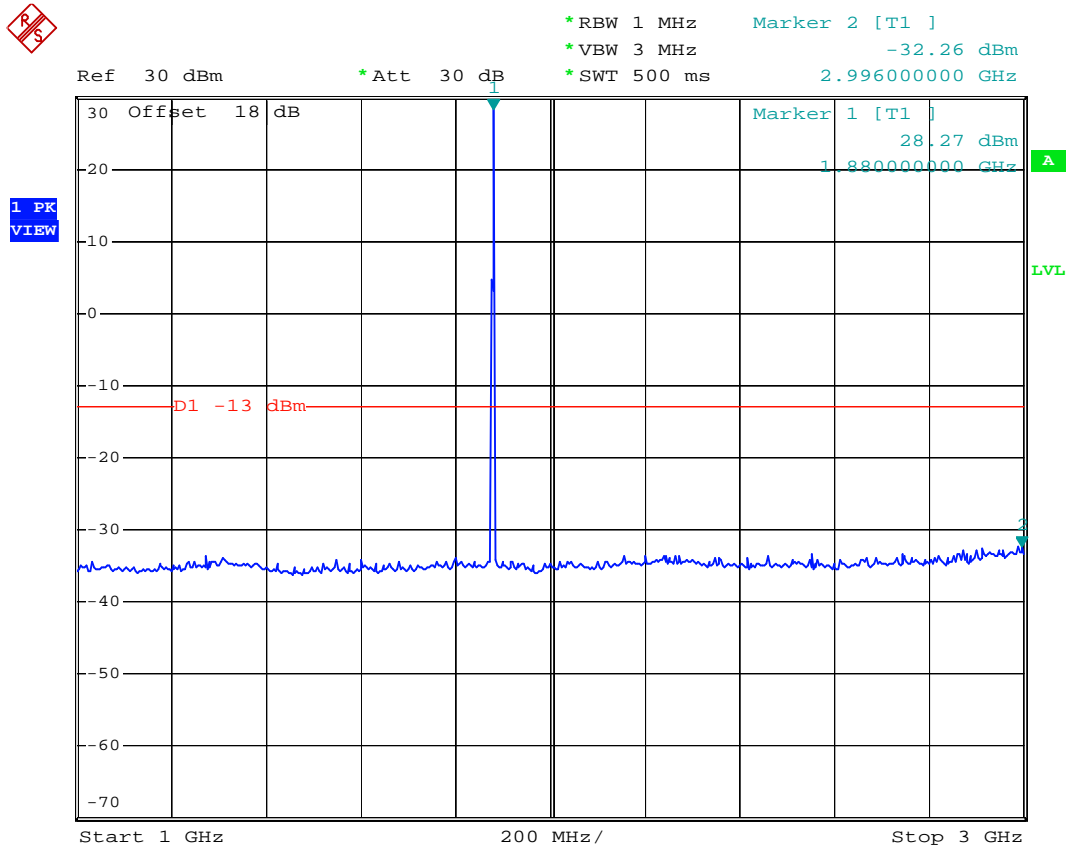


Date: 20.DEC.2006 11:23:04





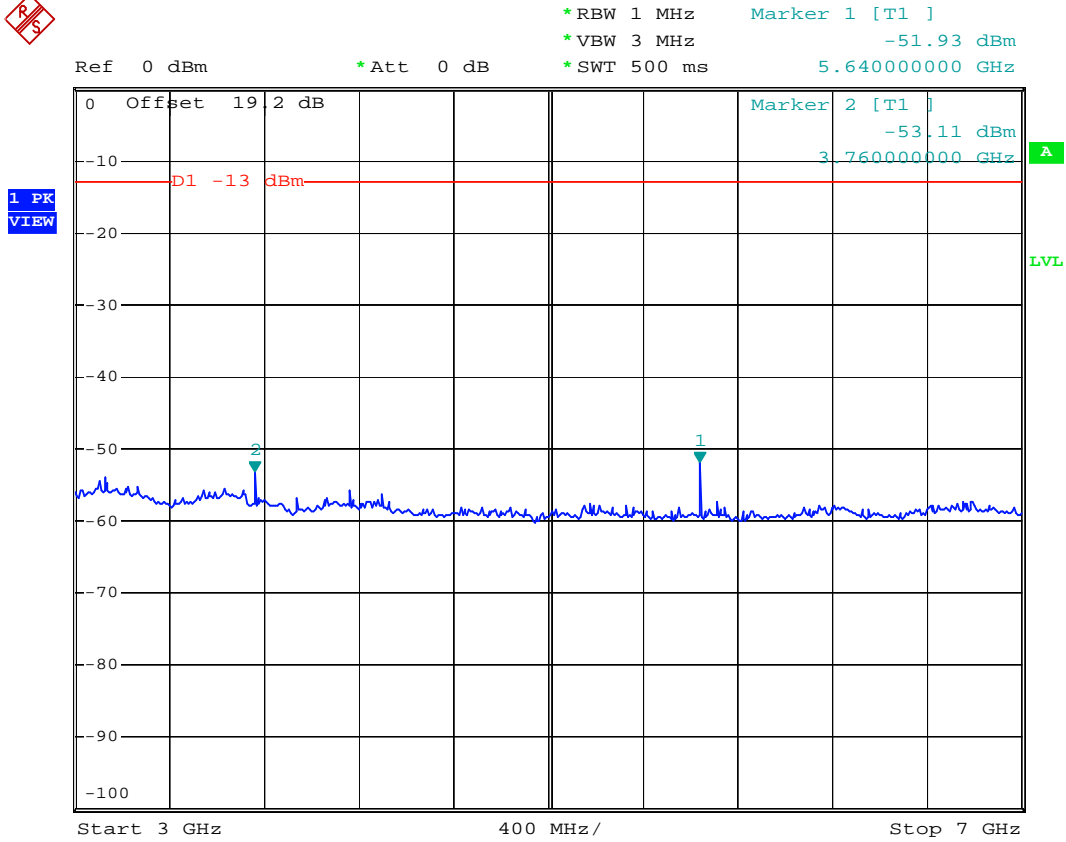
- Test Mode : PCS1900 (GSM) CH661
- Frequency Range : 1G-3G



Date: 18.DEC.2006 13:57:09



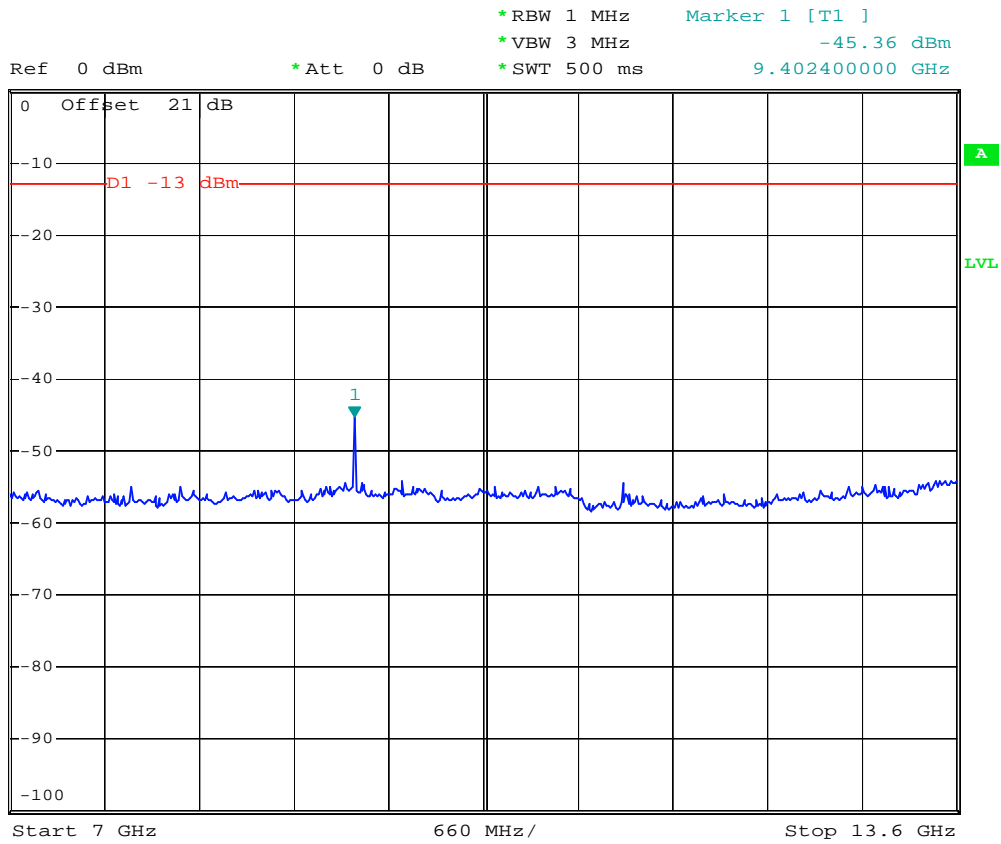
- Test Mode : PCS1900 (GSM) CH661
- Frequency Range : 3G-7G



Date: 18.DEC.2006 13:58:34



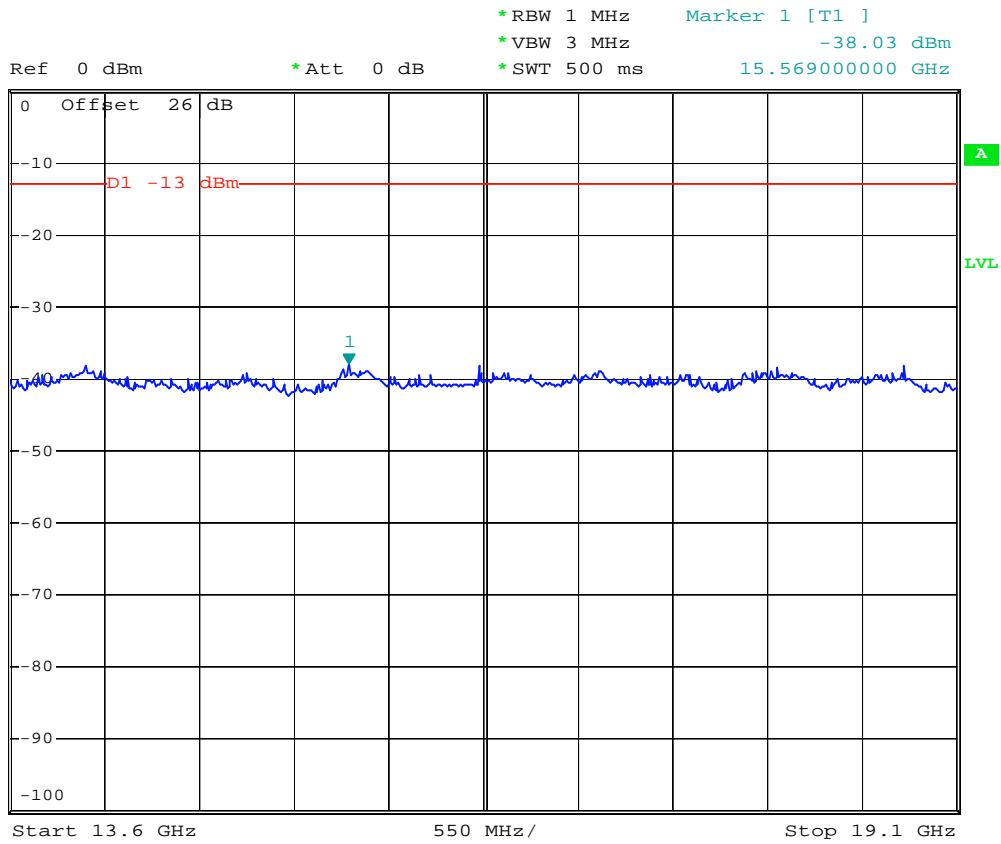
- Test Mode : PCS1900 (GSM) CH661
- Frequency Range : 7G-13.6G



Date: 18.DEC.2006 13:59:51



- Test Mode : PCS1900 (GSM) CH661
- Frequency Range : 13.6G-19.1G

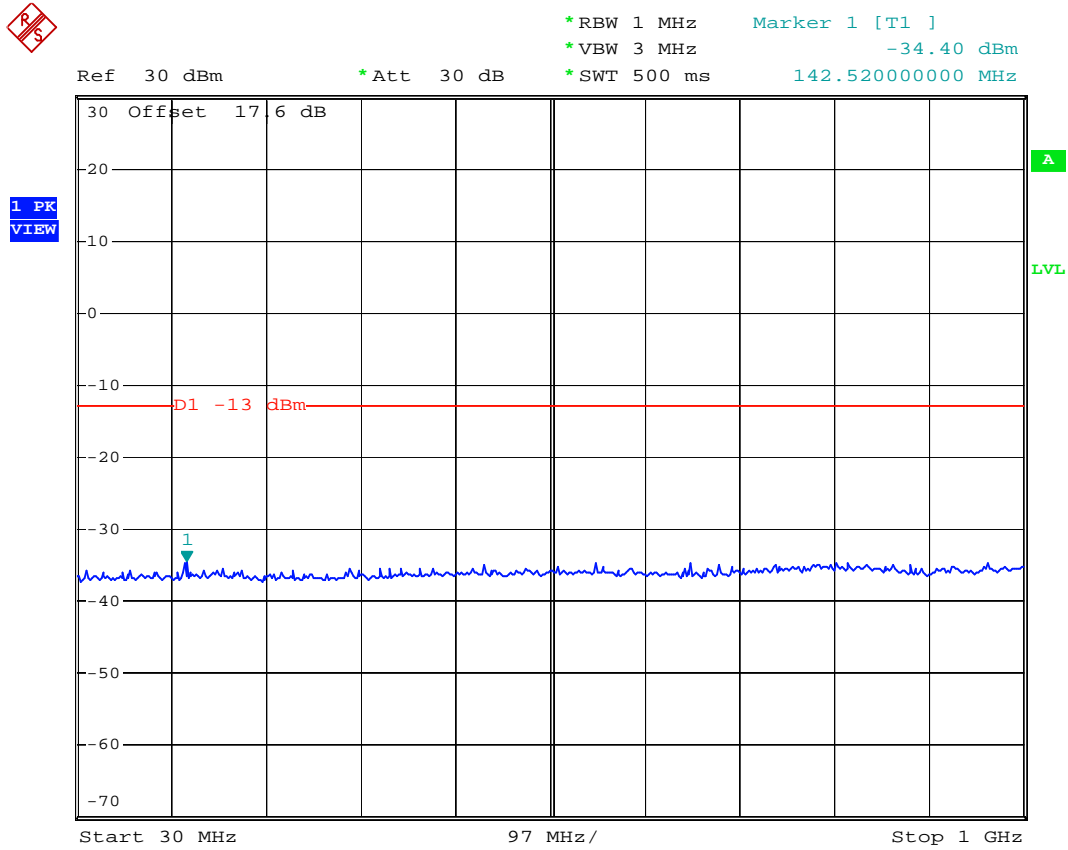


Date: 18.DEC.2006 14:00:50





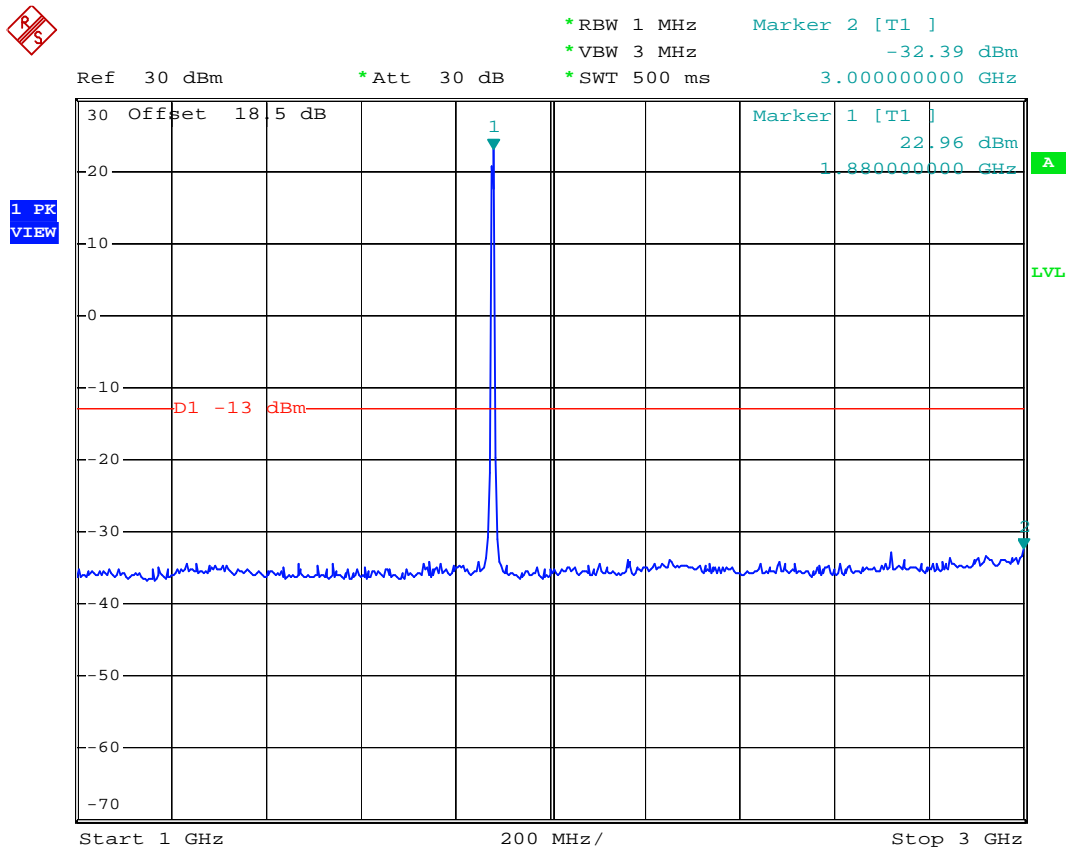
- Mode 4
- Test Mode : PCS1900 (EDGE) CH661
- Frequency Range : 30M-1G



Date: 19.DEC.2006 21:10:58



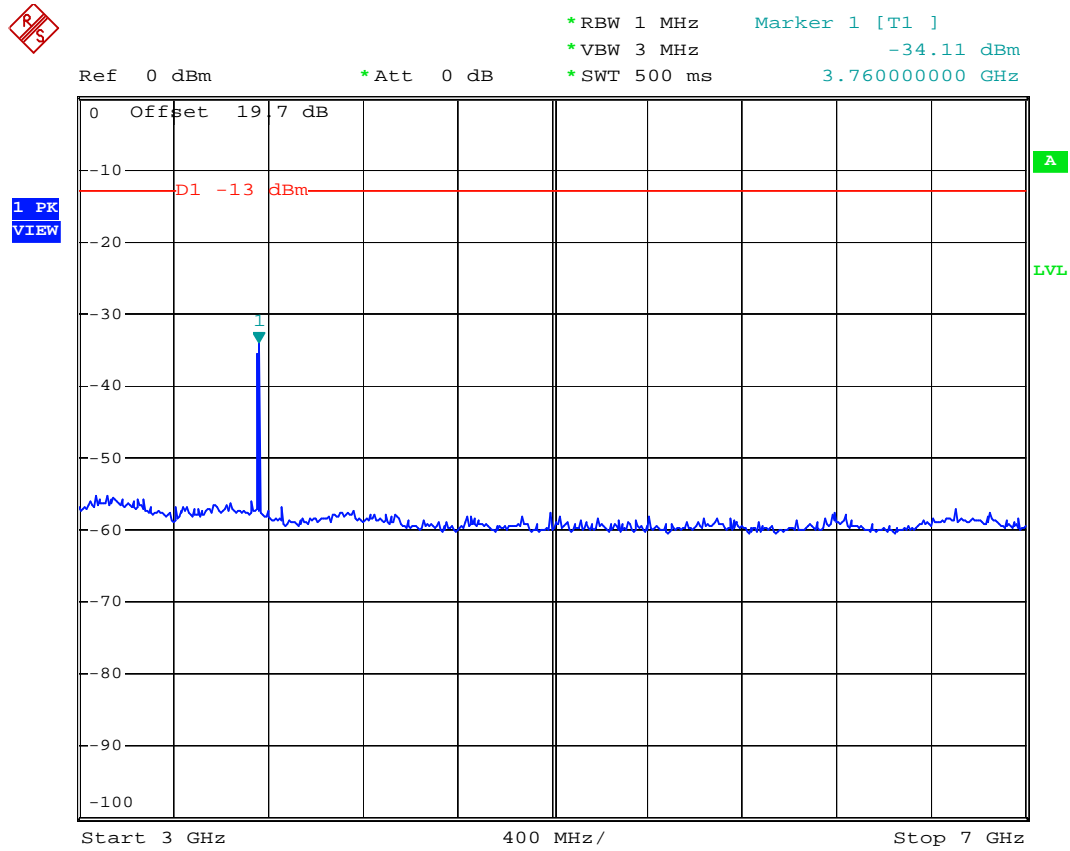
- Test Mode : PCS1900 (EDGE) CH661
- Frequency Range : 1G-3G



Date: 19.DEC.2006 21:12:52



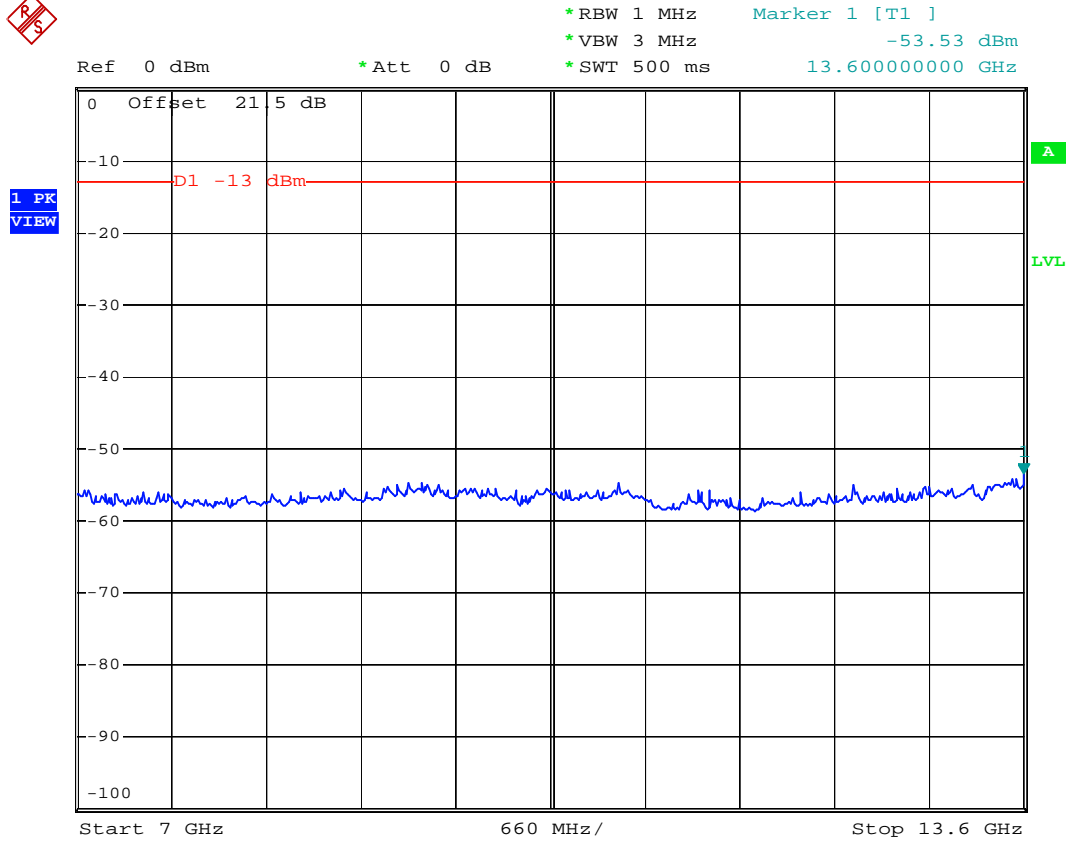
- Test Mode : PCS1900 (EDGE) CH661
- Frequency Range : 3G-7G



Date: 19.DEC.2006 21:13:59



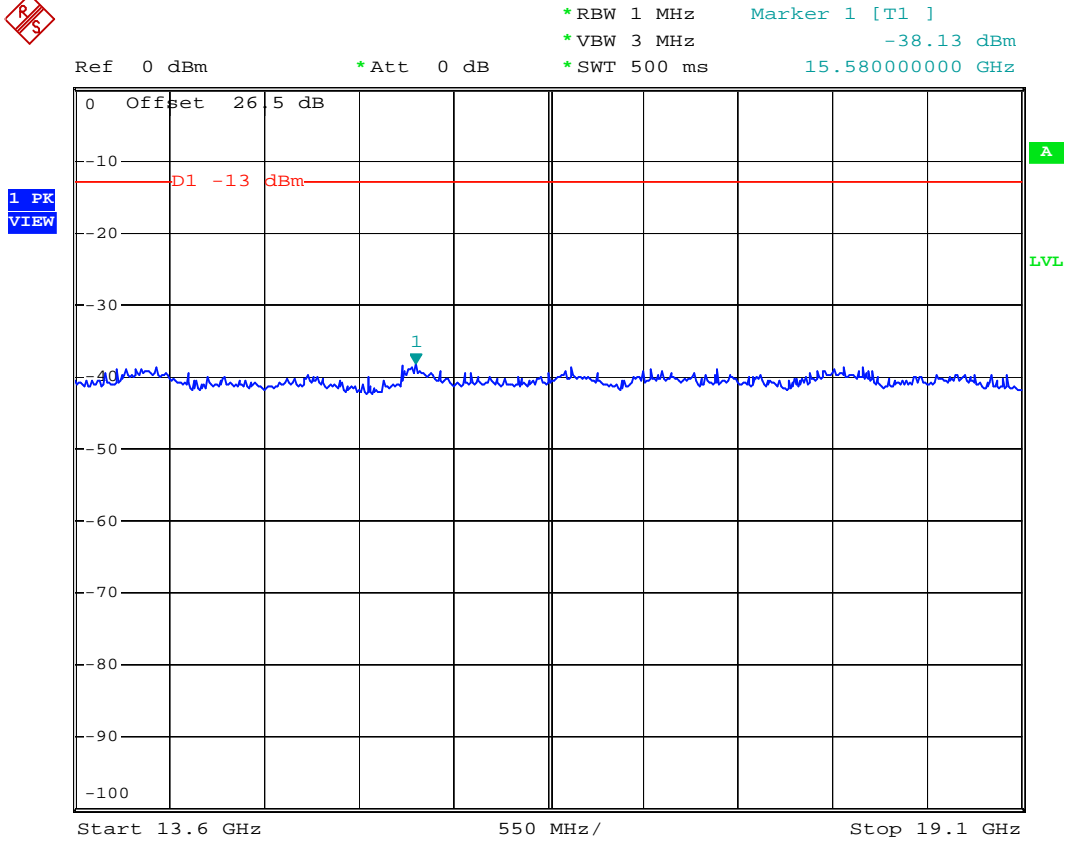
- Test Mode : PCS1900 (EDGE) CH661
- Frequency Range : 7G-13.6G



Date: 19.DEC.2006 21:14:45



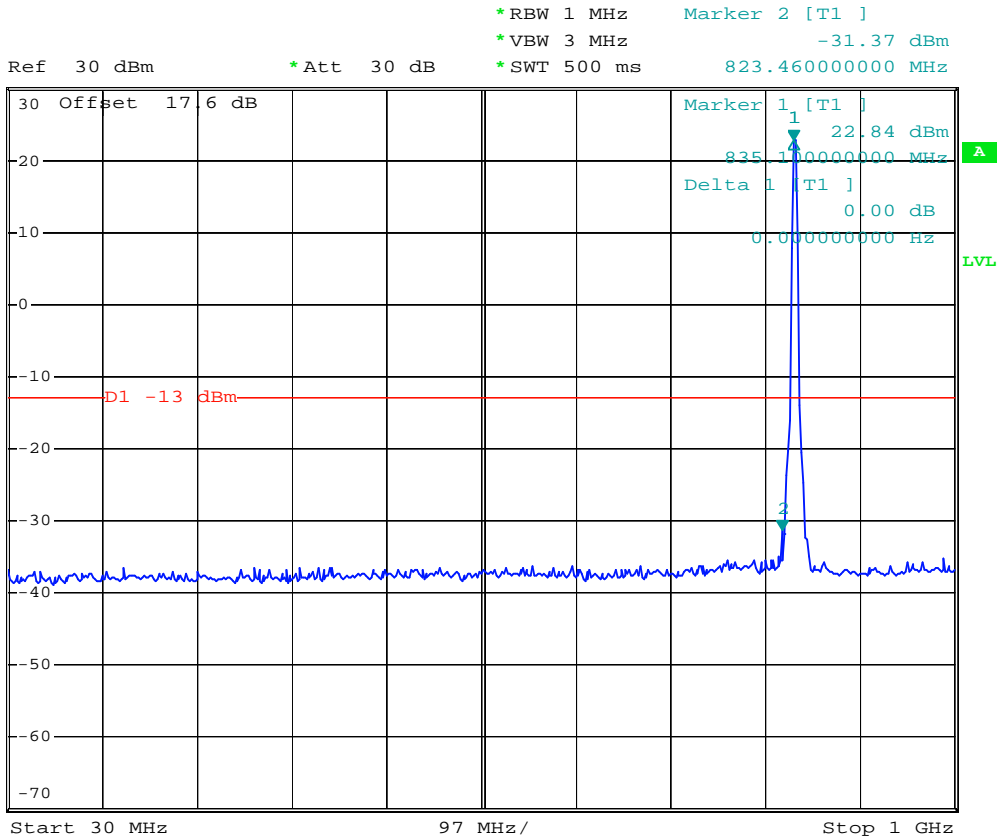
- Test Mode : PCS1900 (EDGE) CH661
- Frequency Range : 13.6G-19.1G



Date: 19.DEC.2006 21:15:39



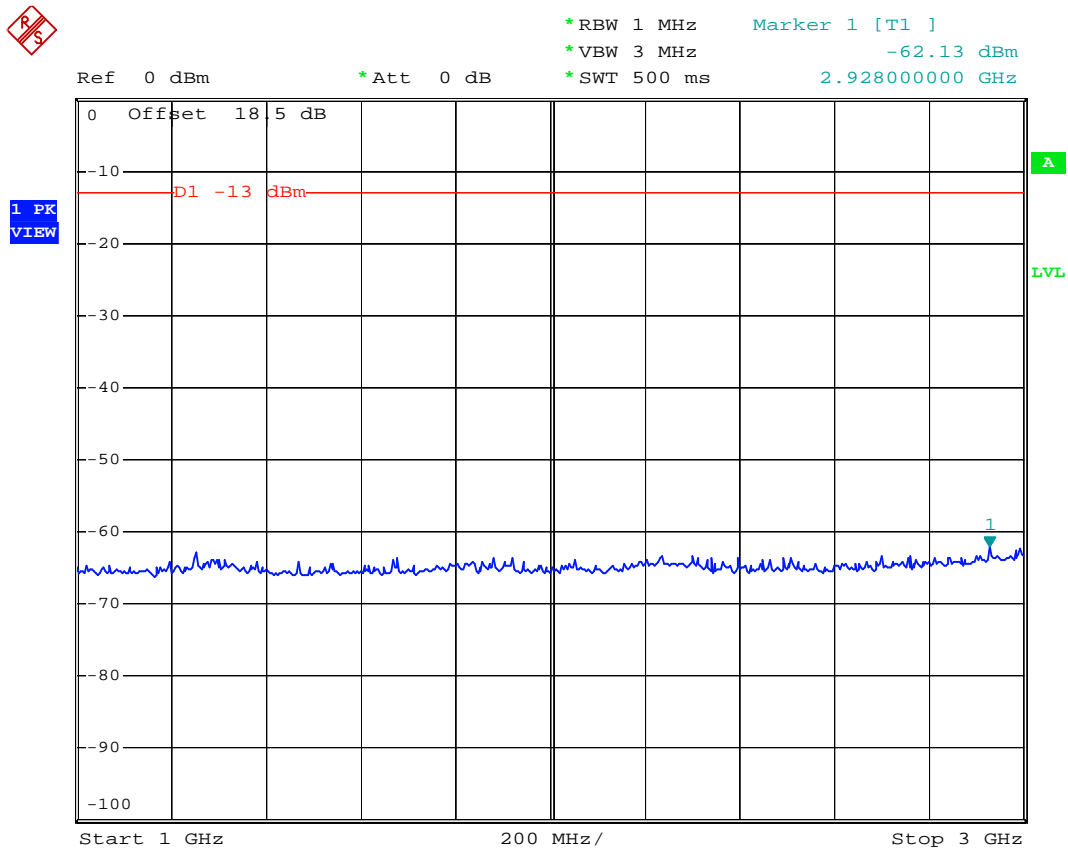
- Mode 5
- Test Mode : WCDMA Band V CH4182
- Frequency Range : 30M-1G



Date: 19.DEC.2006 19:36:28



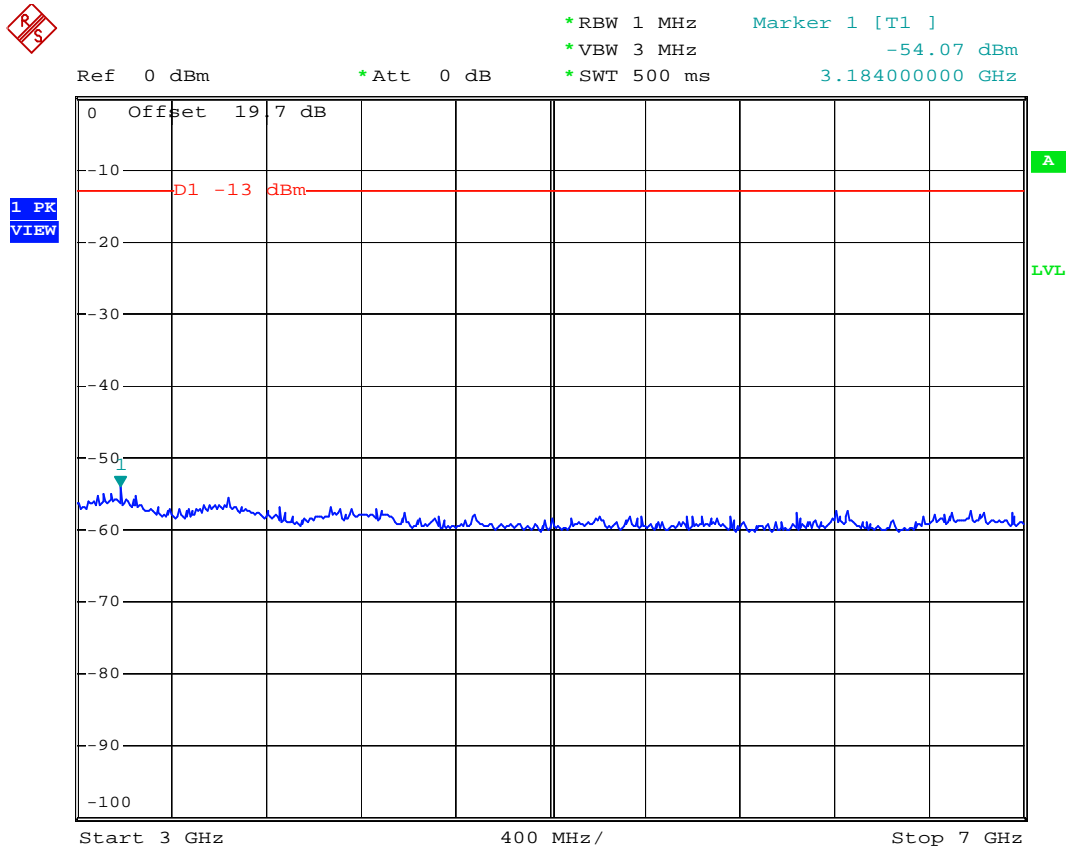
- Test Mode : WCDMA Band V CH4182
- Frequency Range : 1G-3G



Date: 19.DEC.2006 19:43:51



- Test Mode : WCDMA Band V CH4182
- Frequency Range : 3G-7G

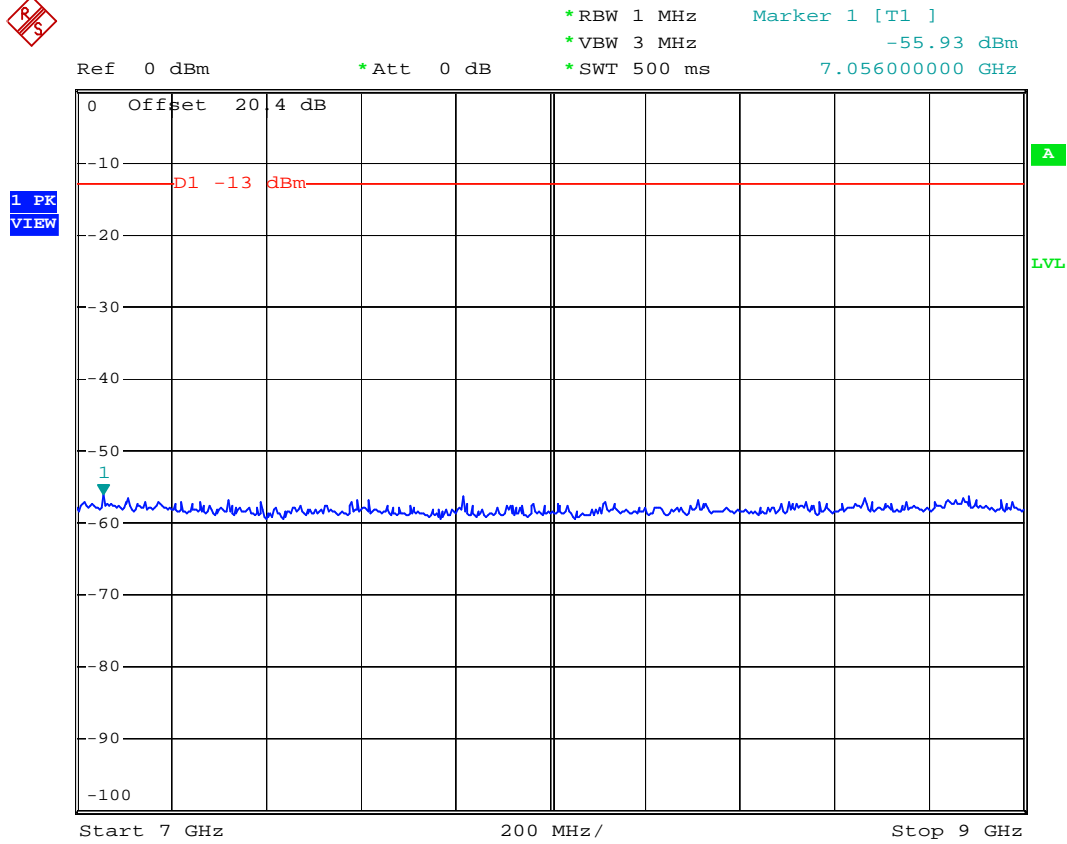


Date: 19.DEC.2006 19:45:04





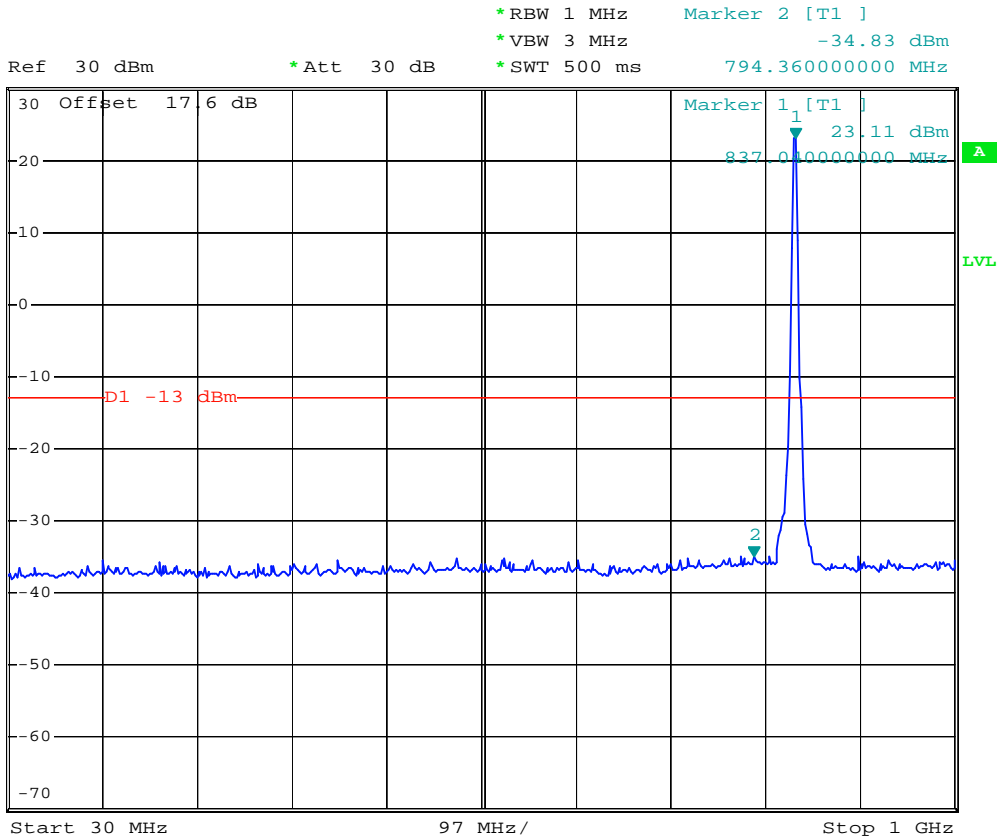
- Test Mode : WCDMA Band V CH4182
- Frequency Range : 7G-9G



Date: 19.DEC.2006 19:45:54



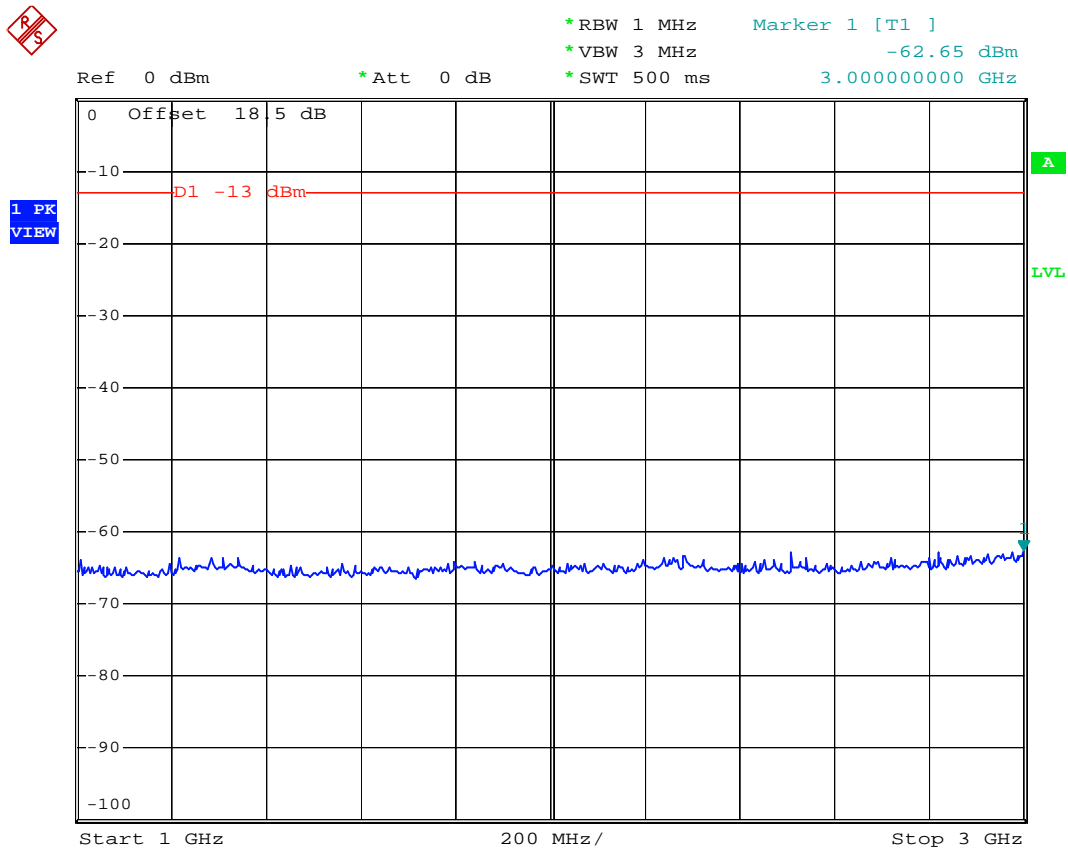
- Mode 6
- Test Mode : WCDMA Band V (HSDPA) CH4182
- Frequency Range : 30M-1G



Date: 19.DEC.2006 23:06:52



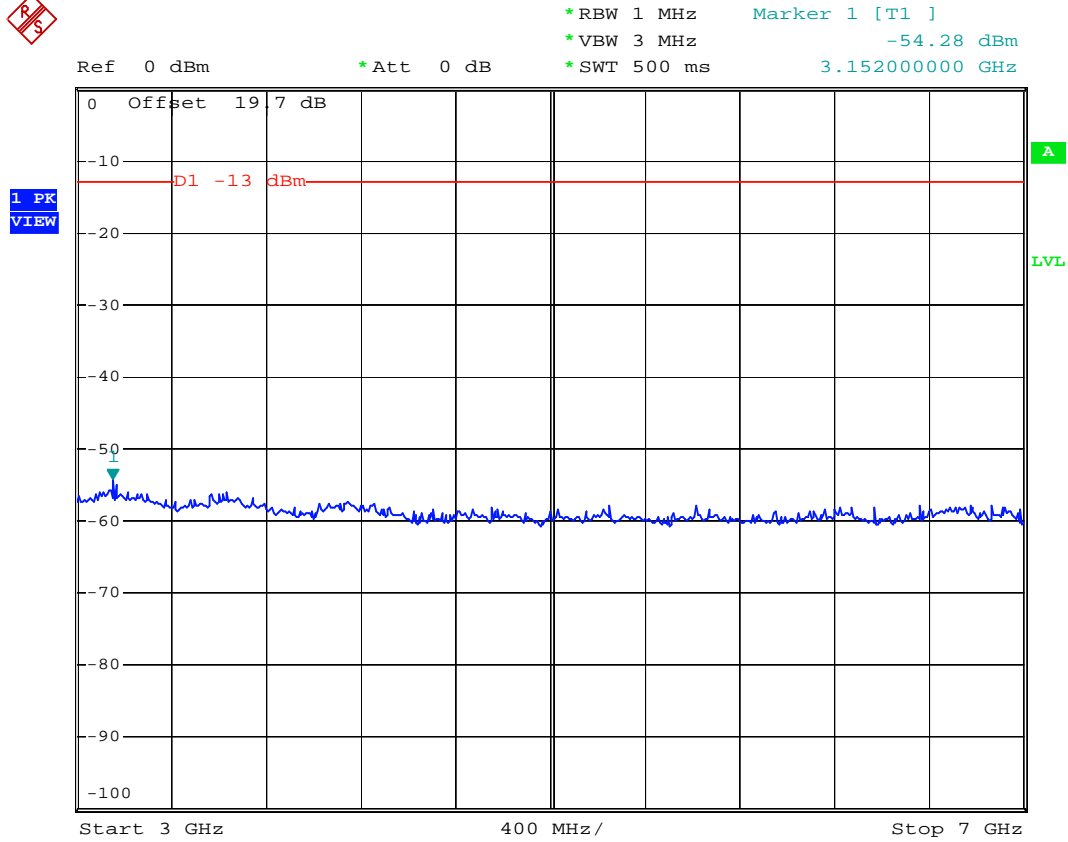
- Test Mode : WCDMA Band V (HSDPA) CH4182
- Frequency Range : 1G-3G



Date: 19.DEC.2006 23:08:49



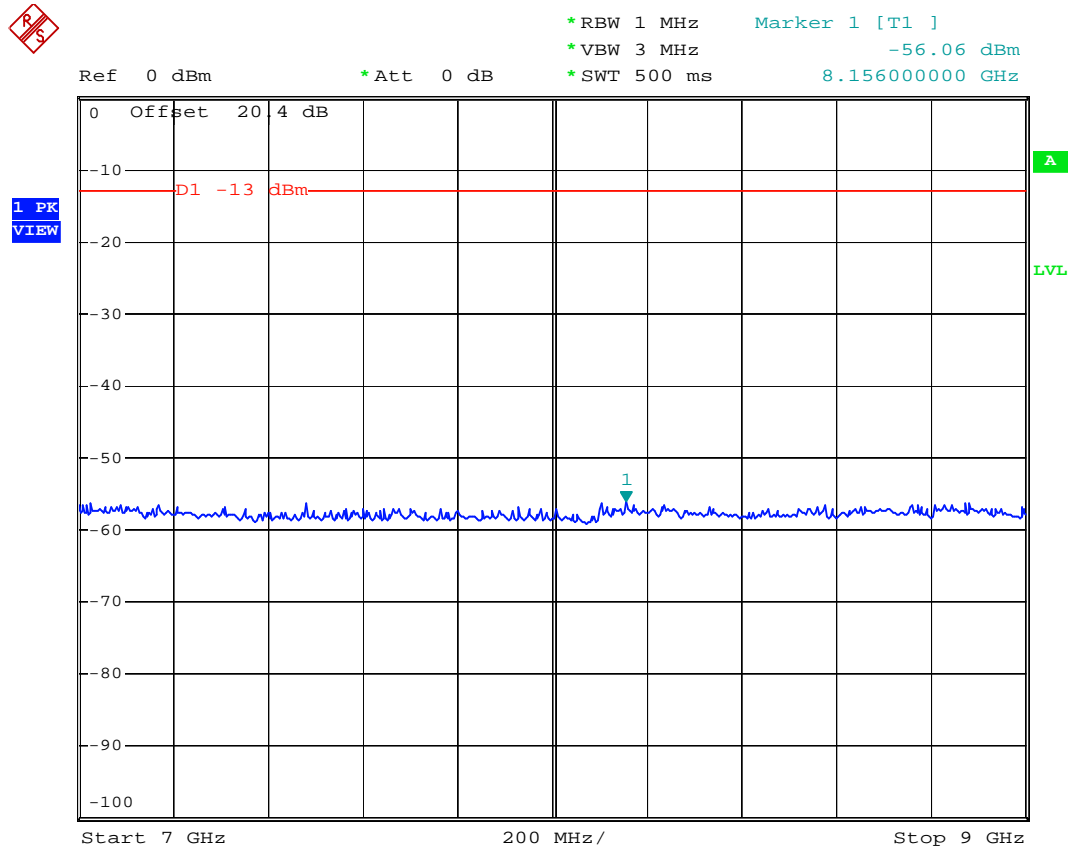
- Test Mode : WCDMA Band V (HSDPA) CH4182
- Frequency Range : 3G-7G



Date: 19.DEC.2006 23:09:29



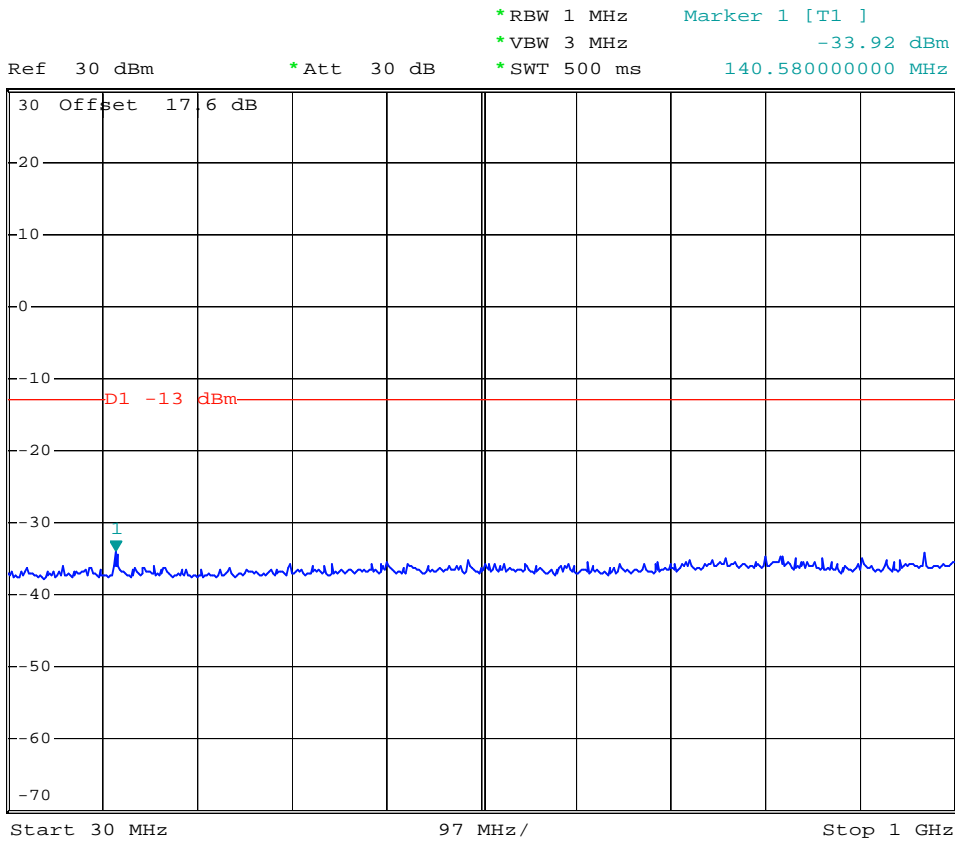
- Test Mode : WCDMA Band V (HSDPA) CH4182
- Frequency Range : 7G-9G



Date: 19.DEC.2006 23:10:21



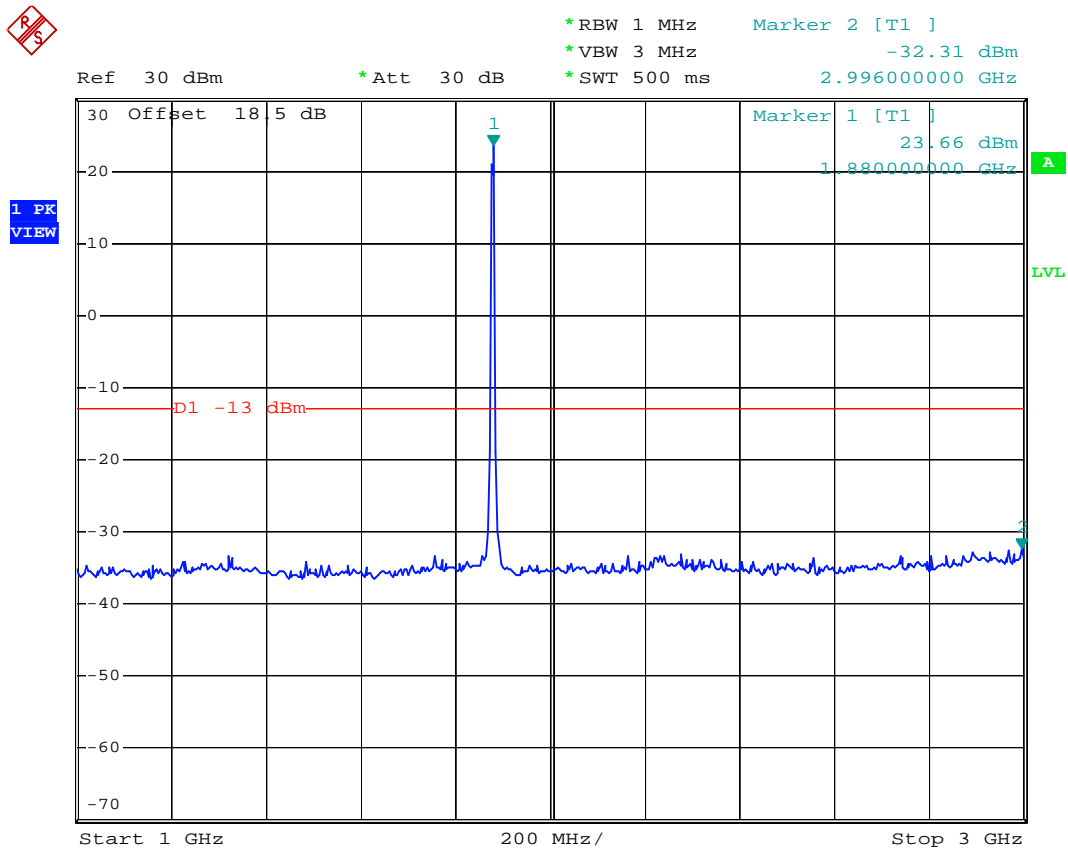
- Mode 7
- Test Mode : WCDMA Band II CH9400
- Frequency Range : 30M-1G



Date: 19.DEC.2006 16:38:11



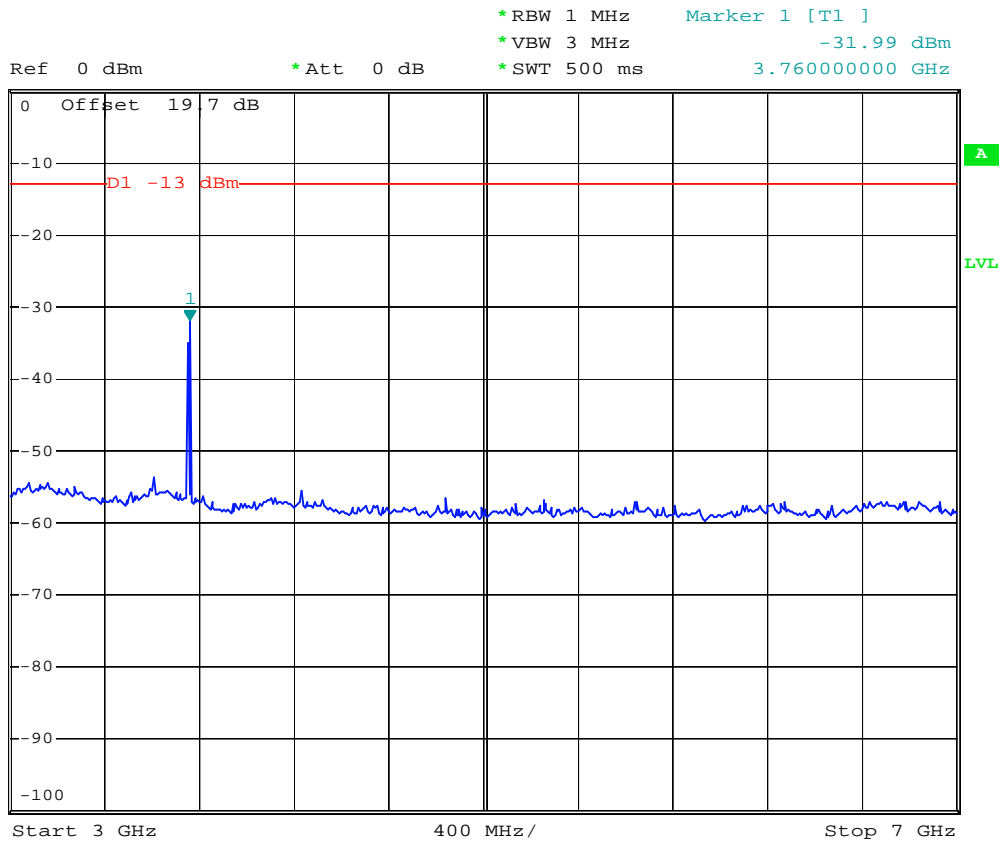
- Test Mode : WCDMA Band II CH9400
- Frequency Range : 1G-3G



Date: 19.DEC.2006 16:41:53



- Test Mode : WCDMA Band II CH9400
- Frequency Range : 3G-7G

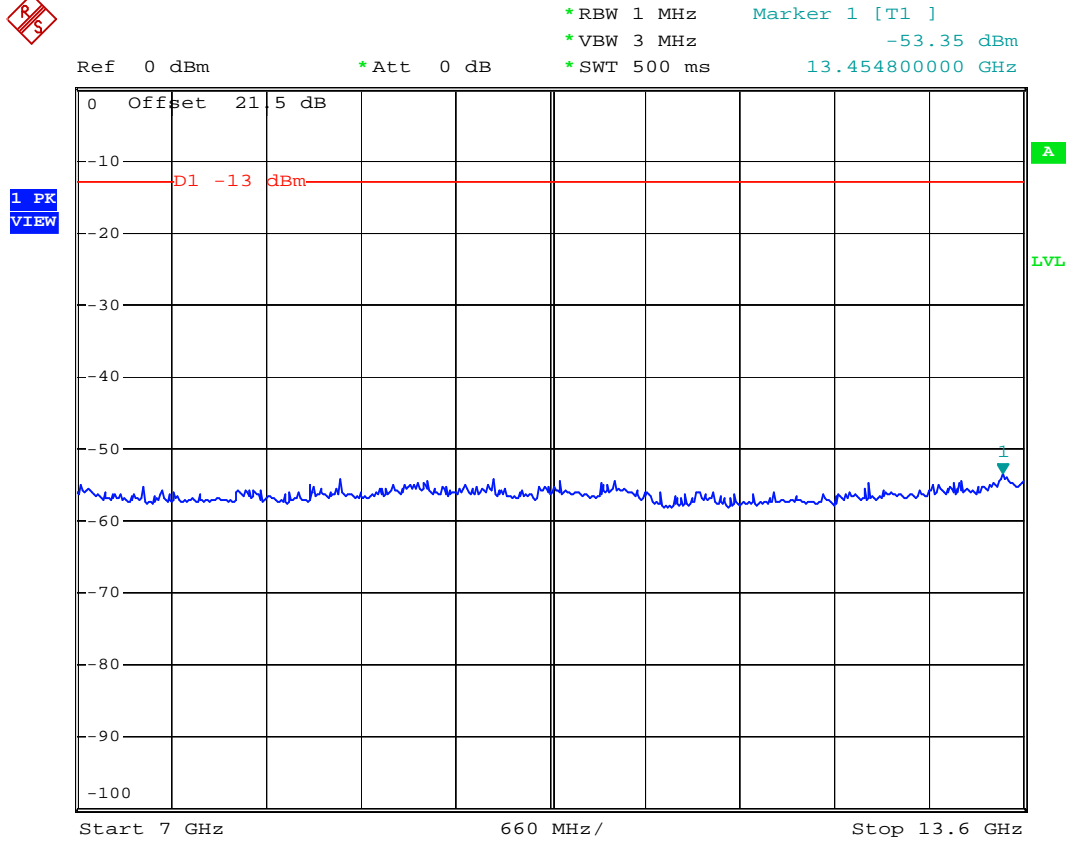


Date: 19.DEC.2006 16:44:43





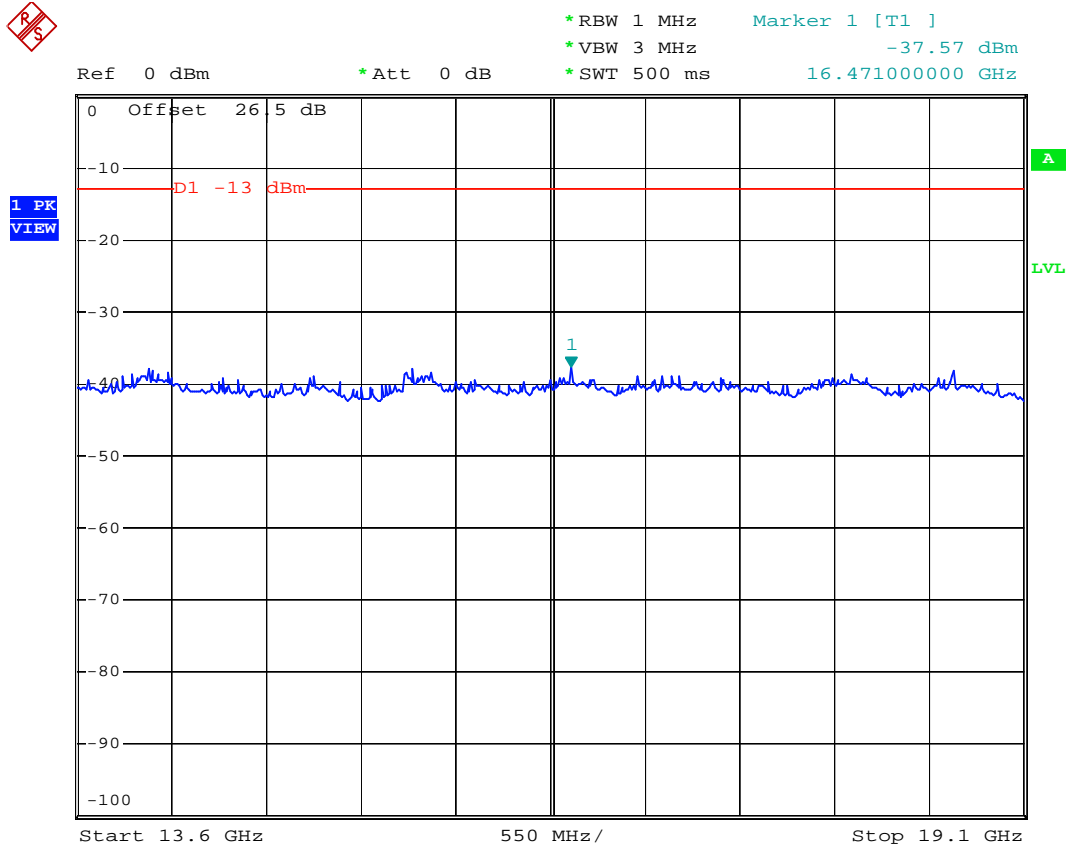
- Test Mode : WCDMA Band II CH9400
- Frequency Range : 7G-13.6G



Date: 19.DEC.2006 16:51:44



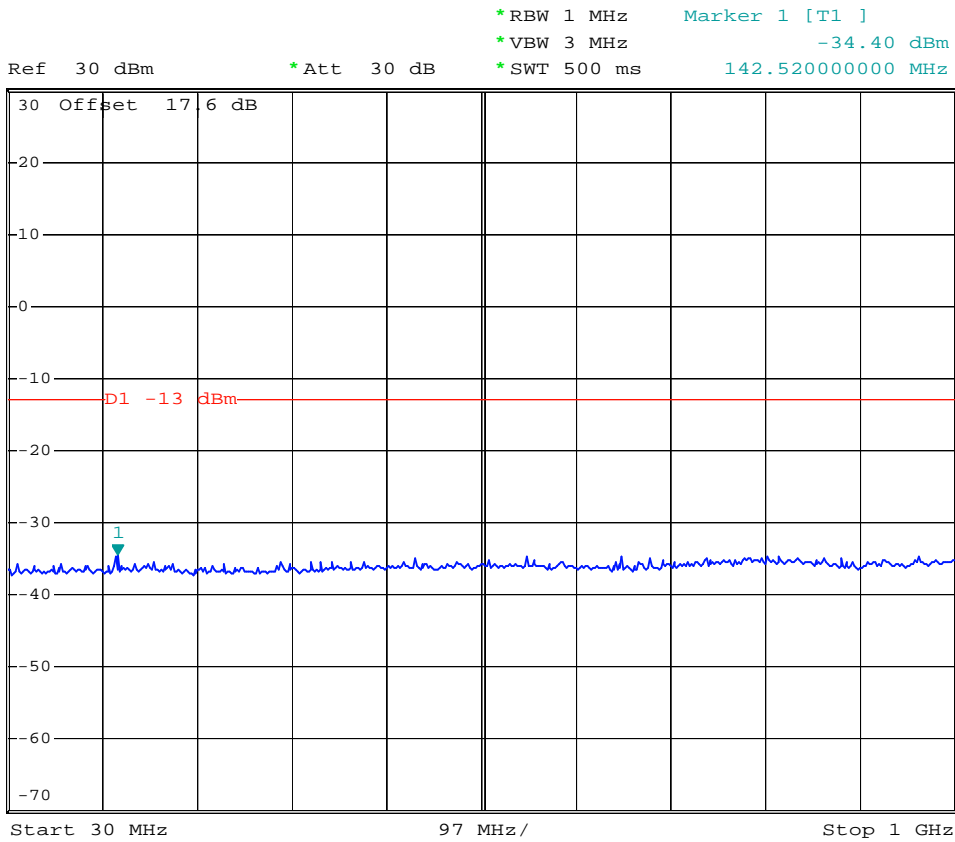
- Test Mode : WCDMA Band II CH9400
- Frequency Range : 13.6G-19.1G



Date: 19.DEC.2006 16:52:25



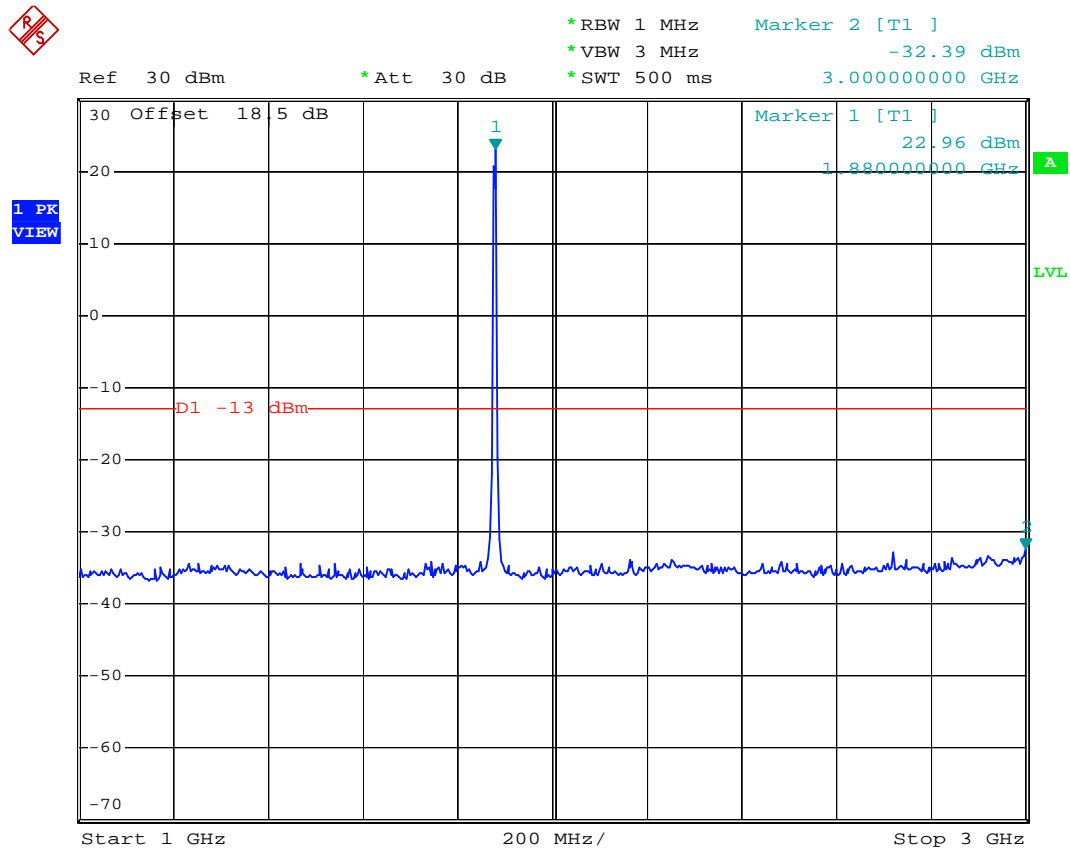
- Mode 8
- Test Mode : WCDMA Band II (HSDPA) CH9400
- Frequency Range : 30M-1G



Date: 19.DEC.2006 21:10:58



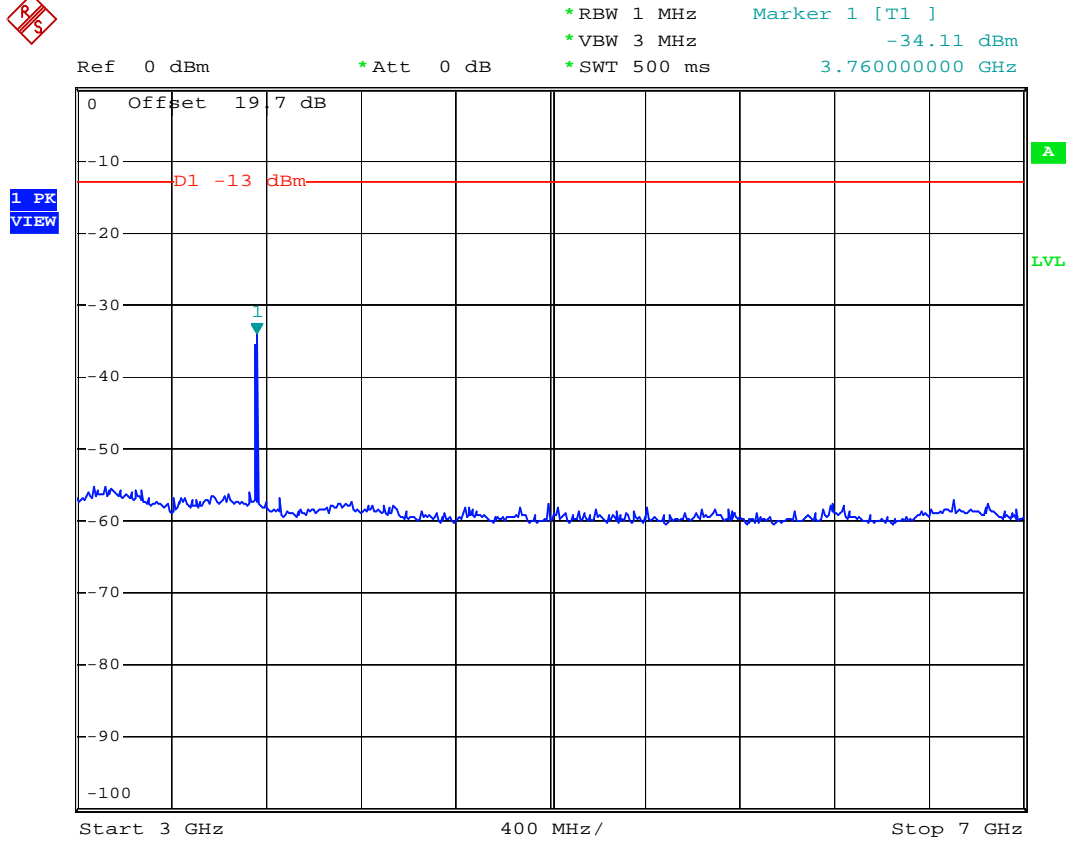
- Test Mode : WCDMA Band II (HSDPA) CH9400
- Frequency Range : 1G-3G



Date: 19.DEC.2006 21:12:52



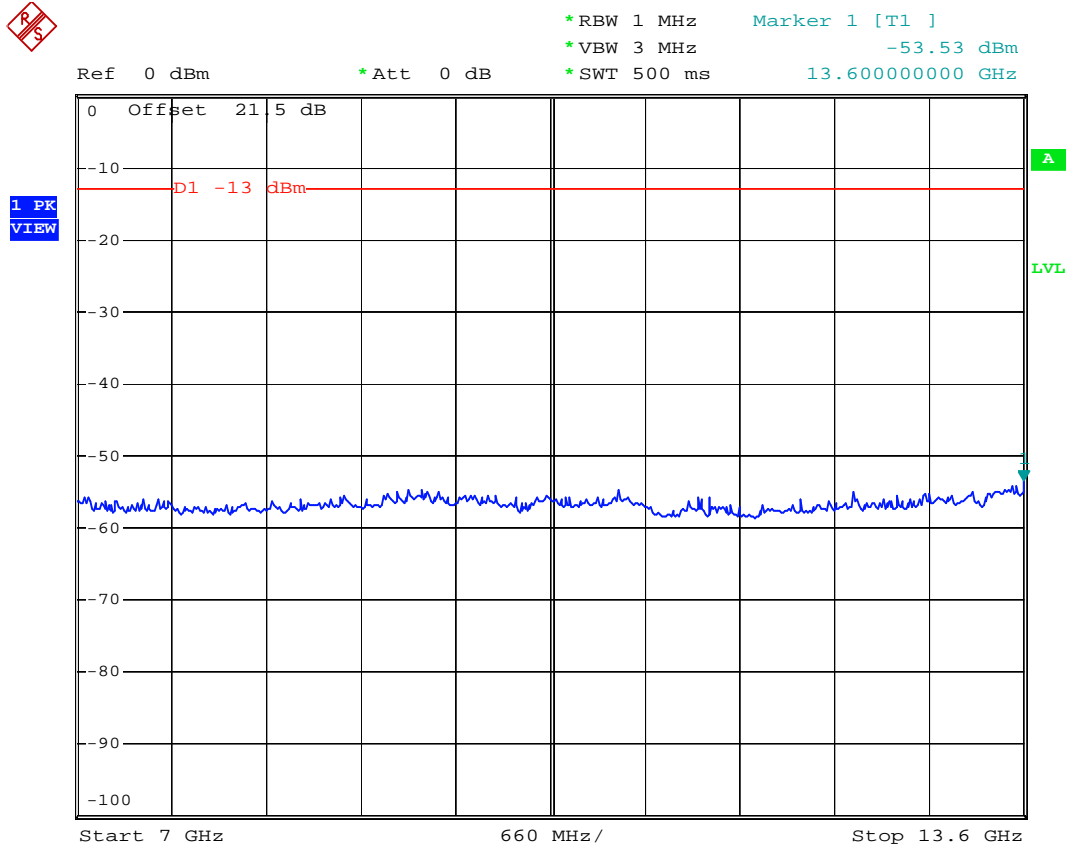
- Test Mode : WCDMA Band II (HSDPA) CH9400
- Frequency Range : 3G-7G



Date: 19.DEC.2006 21:13:59



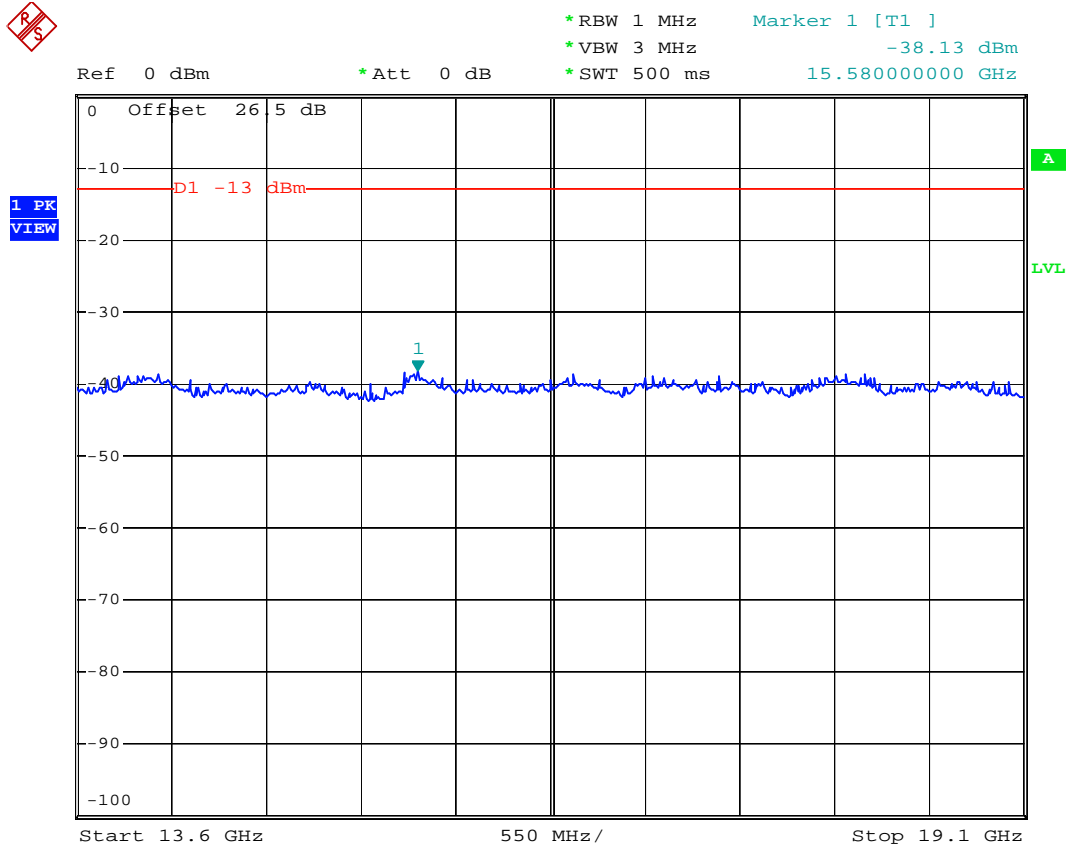
- Test Mode : WCDMA Band II (HSDPA) CH9400
- Frequency Range : 7G-13.6G



Date: 19.DEC.2006 21:14:45



- Test Mode : WCDMA Band II (HSDPA) CH9400
- Frequency Range : 13.6G-19.1G



Date: 19.DEC.2006 21:15:39

## 4.6 Field Strength of Spurious Radiation

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

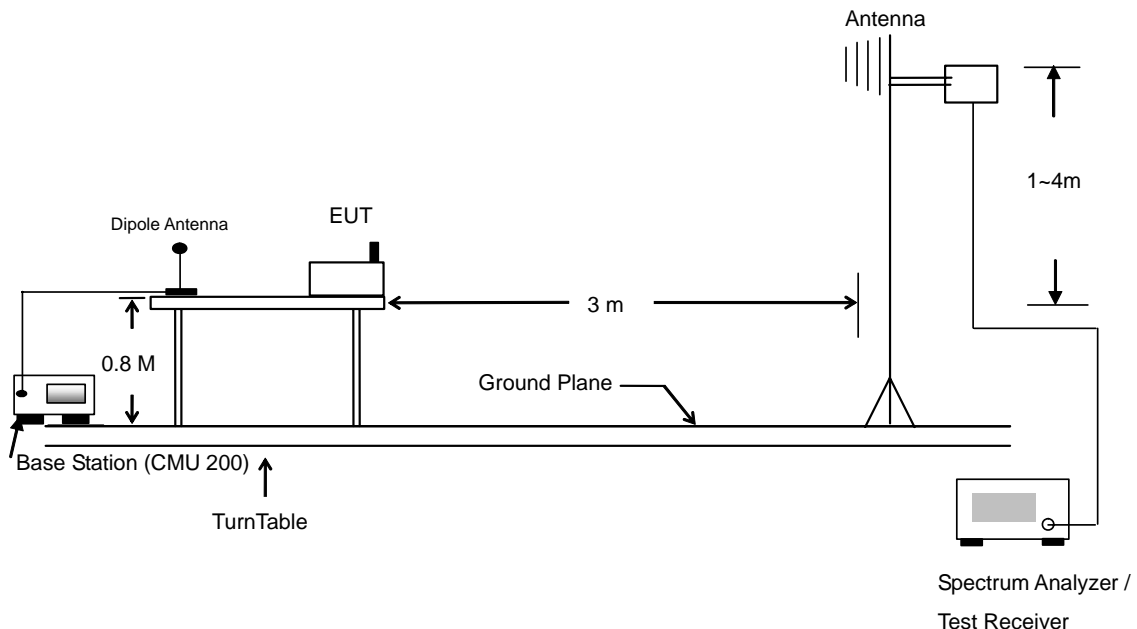
### 4.6.1 Measurement Instruments

As described in chapter 5 of this test report.

### 4.6.2 Test Procedure

1. The EUT was placed on a rotatable wooden table with 0.8 meter about ground.
2. The EUT was set 3 meters from the receiving antenna which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. 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.
5. Taking the record of maximum spurious emission.
6. A Horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. Emission level (dBm) = output power + substitution Gain.

### 4.6.3 Test Setup Layout







4.6.4 Test Result

- Test Mode : Mode 1

GSM850 (GSM) Radiated Spurious ERP							
H Polarization				V Polarization			
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)
30.000	-66.080	-13	-53.08	67.530	-67.290	-13	-54.29
102.630	-69.770	-13	-56.77	108.030	-67.240	-13	-54.24
288.390	-70.770	-13	-57.77	288.930	-67.250	-13	-54.25
988.800	-66.210	-13	-53.21	992.300	-63.560	-13	-50.56
<b>1674.000</b>	<b>-54.370</b>	<b>-13</b>	<b>-41.37</b>	1674.000	-58.080	-13	-45.08
2508.000	-56.080	-13	-43.08	2508.000	-58.180	-13	-45.18

Remark: There's no more obvious spurious emission except the listings above.

- Test Mode : Mode 2

GSM850 (EDGE) Radiated Spurious ERP							
H Polarization				V Polarization			
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)
30.000	-65.680	-13	-52.68	76.980	-68.690	-13	-55.69
139.080	-69.520	-13	-56.52	99.390	-66.340	-13	-53.34
198.480	-69.560	-13	-56.56	123.690	-66.680	-13	-53.68
988.800	-65.720	-13	-52.72	981.800	-62.850	-13	-49.85
<b>1674.000</b>	<b>-55.030</b>	<b>-13</b>	<b>-42.03</b>	1674.000	-56.160	-13	-43.16
2508.000	-58.880	-13	-45.88	2388.000	-55.830	-13	-42.83
				2508.000	-56.340	-13	-43.34

Remark: There's no more obvious spurious emission except the listings above.



- Test Mode : Mode 3

PCS1900 (GSM) Radiated Spurious EIRP							
H Polarization				V Polarization			
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)
30.270	-63.750	-13	-50.75	58.080	-54.450	-13	-41.45
57.540	-60.870	-13	-47.87	61.590	-54.730	-13	-41.73
62.130	-61.780	-13	-48.78	80.490	-54.850	-13	-41.85
575.800	-65.140	-13	-52.14	897.800	-61.610	-13	-48.61
920.900	-64.170	-13	-51.17	943.300	-61.870	-13	-48.87
994.400	-63.770	-13	-50.77	997.900	-61.800	-13	-48.80
3758.000	-48.450	-13	-35.45	3758.000	-44.000	-13	-31.00
7968.000	-42.310	-13	-29.31	7518.000	-42.670	-13	-29.67
<b>9398.000</b>	<b>-33.420</b>	<b>-13</b>	<b>-20.42</b>	9398.000	-33.580	-13	-20.58
11278.000	-39.790	-13	-26.79	11278.000	-39.830	-13	-26.83

- Test Mode : Mode 4

PCS1900 (EDGE) Radiated Spurious EIRP							
H Polarization				V Polarization			
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)
30.540	-63.040	-13	-50.04	90.480	-70.300	-13	-57.30
222.780	-74.540	-13	-61.54	268.680	-69.950	-13	-56.95
297.840	-73.020	-13	-60.02	299.730	-69.750	-13	-56.75
824.300	-64.440	-13	-51.44	859.300	-61.370	-13	-48.37
920.900	-62.690	-13	-49.69	920.900	-60.440	-13	-47.44
981.800	-63.070	-13	-50.07	990.900	-61.200	-13	-48.20
9398.000	-40.690	-13	-27.69	7518.000	-45.970	-13	-32.97
11278.000	-40.750	-13	-27.75	<b>9398.000</b>	<b>-37.190</b>	<b>-13</b>	<b>-24.19</b>
				11278.000	-42.580	-13	-29.58



- Test Mode : Mode 5

WCDMA Band V Radiated Spurious ERP							
H Polarization				V Polarization			
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)
30.000	-64.150	-13	-51.15	92.640	-72.880	-13	-59.88
95.880	-71.770	-13	-58.77	149.880	-72.820	-13	-59.82
141.240	-69.230	-13	-56.23	296.490	-72.360	-13	-59.36
985.300	-65.790	-13	-52.79	1000.000	-63.200	-13	-50.20
1674.000	-60.050	-13	-47.05	1674.000	-59.900	-13	-46.90
				<b>3348.000</b>	<b>-52.840</b>	<b>-13</b>	<b>-39.84</b>

- Test Mode : Mode 6

WCDMA Band V (HSDPA) Radiated Spurious ERP							
H Polarization				V Polarization			
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)
30.000	-65.460	-13	-52.46	30.270	-75.220	-13	-62.22
179.040	-75.650	-13	-62.65	102.090	-72.460	-13	-59.46
297.840	-74.950	-13	-61.95	299.730	-71.410	-13	-58.41
964.300	-65.070	-13	-52.07	994.400	-63.270	-13	-50.27
1674.000	-60.920	-13	-47.92	1674.000	-60.560	-13	-47.56
3344.000	-55.390	-13	-42.39	<b>3348.000</b>	<b>-52.460</b>	<b>-13</b>	<b>-39.46</b>



- Test Mode : Mode 7

WCDMA Band II Radiated Spurious EIRP							
H Polarization				V Polarization			
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)
30.270	-63.890	-13	-50.89	31.890	-68.830	-13	-55.83
38.640	-63.940	-13	-50.94	71.040	-65.680	-13	-52.68
288.930	-73.130	-13	-60.13	106.680	-69.920	-13	-56.92
854.400	-64.760	-13	-51.76	847.400	-61.590	-13	-48.59
948.900	-64.430	-13	-51.43	889.400	-61.760	-13	-48.76
980.400	-63.840	-13	-50.84	987.400	-61.580	-13	-48.58
3764.000	-43.860	-13	-30.86	3764.000	-48.130	-13	-35.13
9404.000	-41.510	-13	-28.51	<b>9404.000</b>	<b>-38.800</b>	<b>-13</b>	<b>-25.80</b>

- Test Mode : Mode 8

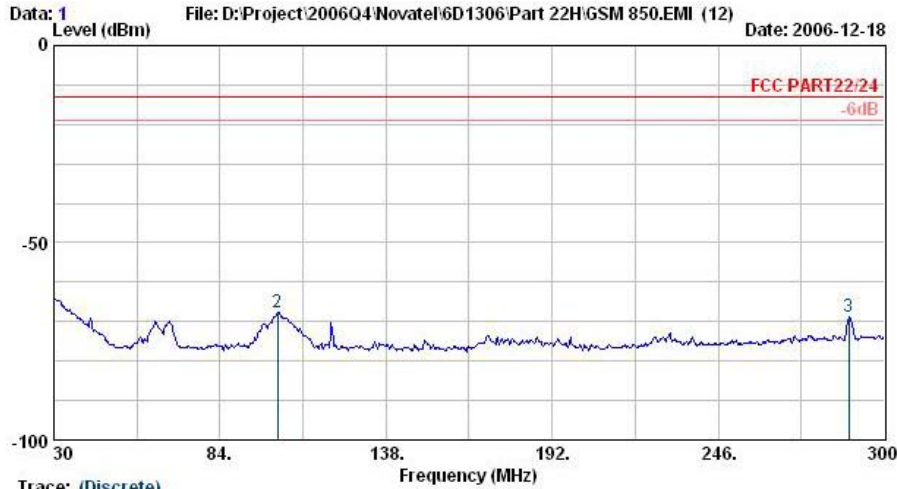
WCDMA Band II (HSDPA) Radiated Spurious EIRP							
H Polarization				V Polarization			
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)
30.270	-64.260	-13	-51.26	90.480	-70.800	-13	-57.80
181.740	-73.770	-13	-60.77	104.790	-64.910	-13	-51.91
291.090	-73.070	-13	-60.07	295.140	-69.920	-13	-56.92
882.400	-64.630	-13	-51.63	871.900	-61.260	-13	-48.26
974.800	-63.770	-13	-50.77	953.800	-61.480	-13	-48.48
995.800	-63.820	-13	-50.82	987.400	-61.440	-13	-48.44
3764.000	-44.520	-13	-31.52	3758.000	-48.440	-13	-35.44
9404.000	-42.120	-13	-29.12	<b>9404.000</b>	<b>-38.810</b>	<b>-13</b>	<b>-25.81</b>



4.6.5 Test Data

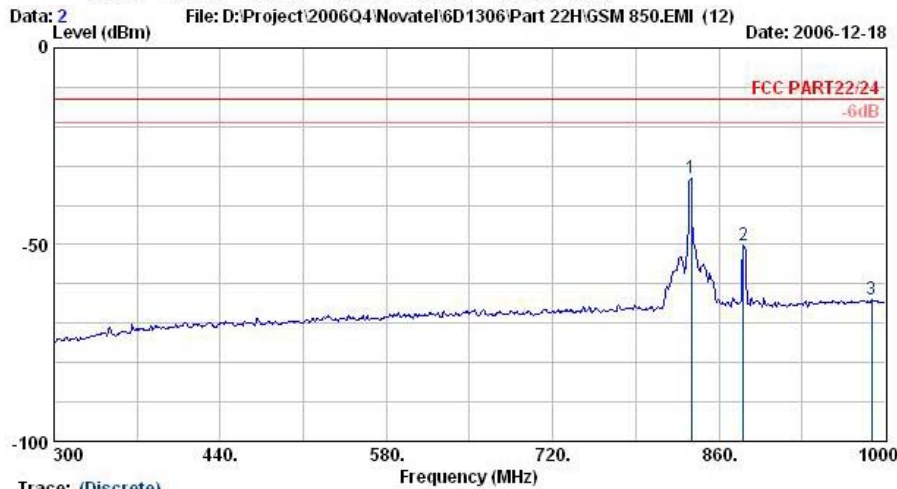
4.6.5.1 Mode 1

Horizontal Polarization



Site : GSCH06-HY  
 Condition : LF-SPURIOUS HORIZONTAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : GSM 850 Link Mode,CH189

	Freq	Level	Over	Limit	Read		
	MHz	dBm	dB	dBm	dBm	dB	Remark
1	30.0	-63.93	-50.93	-13.00	-64.29	0.36	Peak
2	102.6	-67.62	-54.62	-13.00	-55.35	-12.27	Peak
3	288.4	-68.62	-55.62	-13.00	-58.27	-10.35	Peak

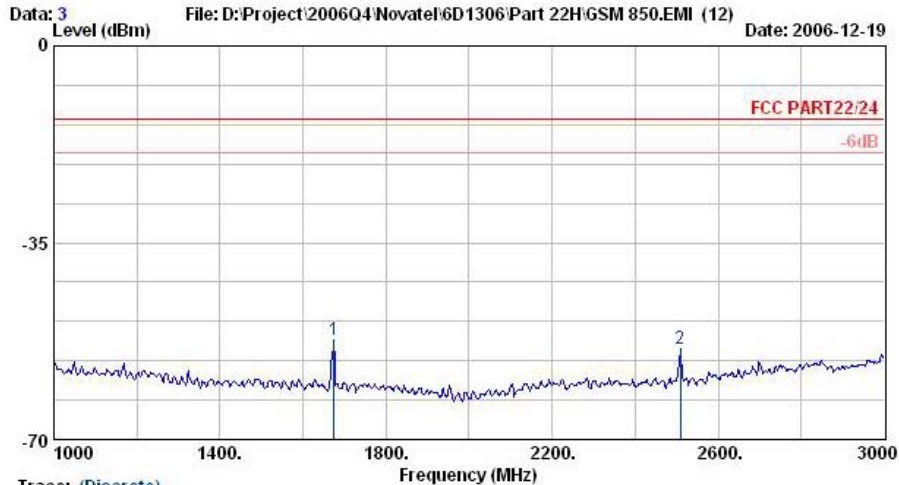


Site : GSCH06-HY  
 Condition : LF-SPURIOUS HORIZONTAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : GSM 850 Link Mode,CH189

	Freq	Level	Over	Limit	Read		
	MHz	dBm	dB	dBm	dBm	dB	Remark
1 @	836.9	-33.26	-20.26	-13.00	-31.93	-1.33	Peak
2	880.3	-50.22			-49.31	-0.91	Peak
3	988.8	-64.06			-64.19	0.13	Peak

Remark:

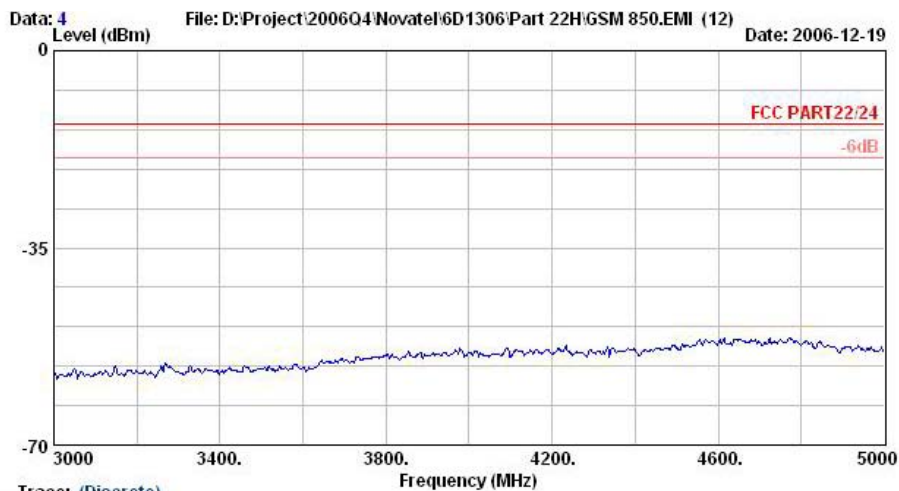
- 1. #2: MS Signal
- 2. #3: BS Signal



Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : GSM 850 Link Mode,Ch189

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	1674.0	-52.22	-39.22	-13.00	-52.44	0.22	Peak
2	2508.0	-53.93	-40.93	-13.00	-55.13	1.20	Peak



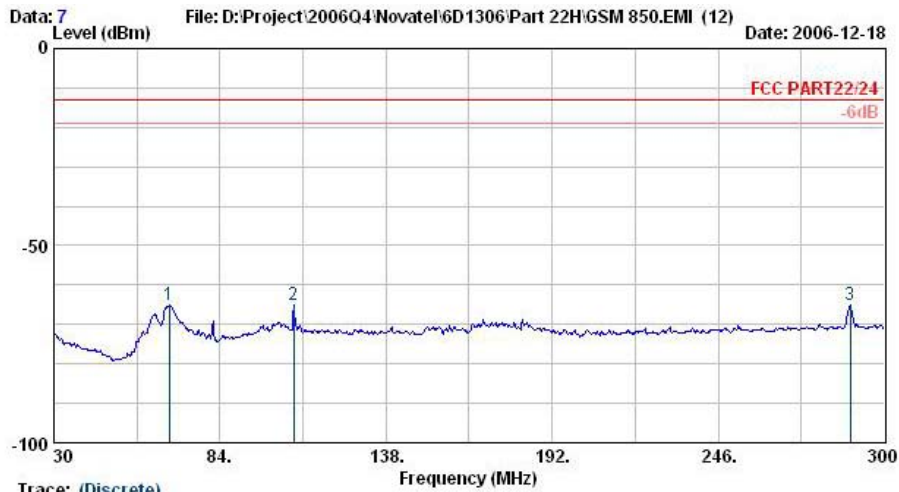
Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : GSM 850 Link Mode,Ch189

Remark : There is no more obvious emission except the listings above.

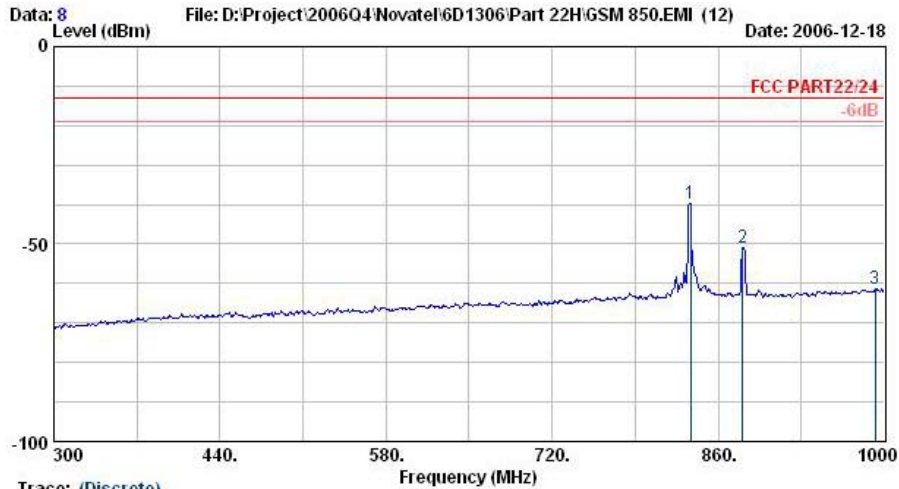


Vertical Polarization



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LP-SPURIOUS VERTICAL  
 EUT :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : GSM 850 Link Mode,CH189

	Freq MHz	Level dBm	Over Limit dB	Limit Line dBm	Read Level dBm	Factor dB	Remark
1	67.5	-65.14	-52.14	-13.00	-52.84	-12.30	Peak
2	108.0	-65.09	-52.09	-13.00	-57.33	-7.76	Peak
3	288.9	-65.10	-52.10	-13.00	-58.41	-6.69	Peak



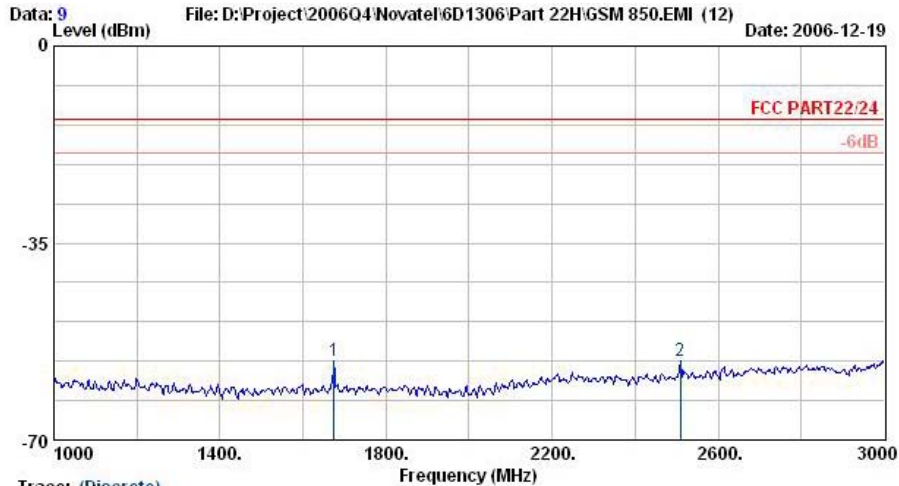
Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LP-SPURIOUS VERTICAL  
 EUT :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : GSM 850 Link Mode,CH189

	Freq MHz	Level dBm	Over Limit dB	Limit Line dBm	Read Level dBm	Factor dB	Remark
1	836.9	-39.65	-26.65	-13.00	-41.01	1.36	Peak
2	880.3	-50.75			-52.46	1.71	Peak
3	992.3	-61.41			-64.01	2.60	Peak

Remark:

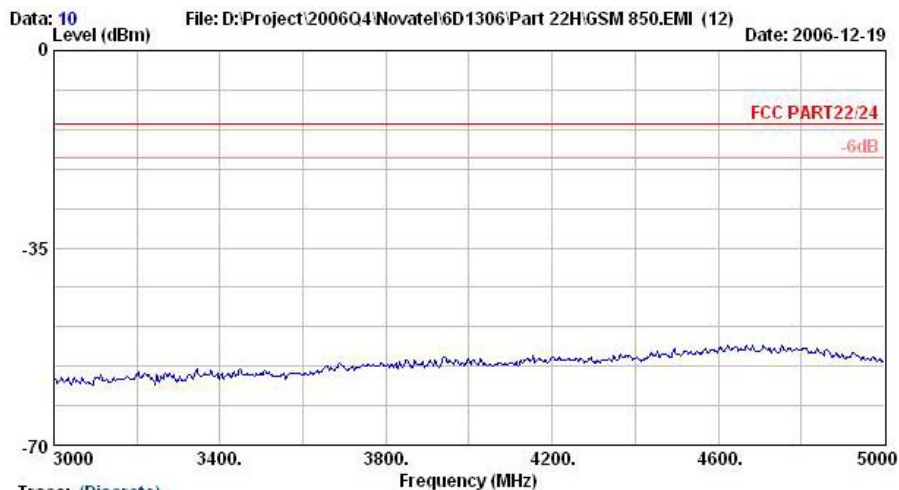
- #2: MS Signal
- #3: BS Signal





Trace: (Discrete)  
 Site : 05CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : GSM 850 Link Mode,Ch189

	Freq	Level	Over	Limit	Read	
	MHz	dBm	Limit	Line	Level	Factor Remark
			dB	dBm	dBm	dB
1	1674.0	-55.93	-42.93	-13.00	-55.45	-0.48 Peak
2	2508.0	-56.03	-43.03	-13.00	-58.30	2.27 Peak



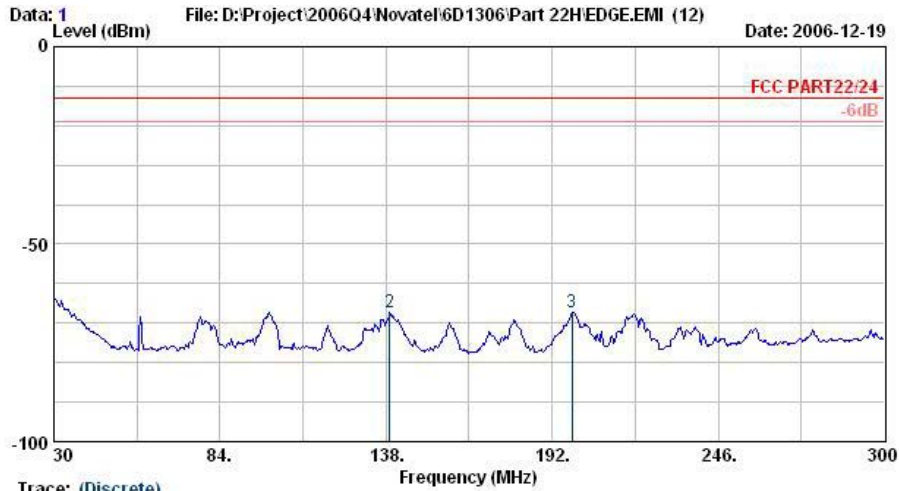
Trace: (Discrete)  
 Site : 05CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : GSM 850 Link Mode,Ch189

Remark : There is no more obvious emission except the listings above.



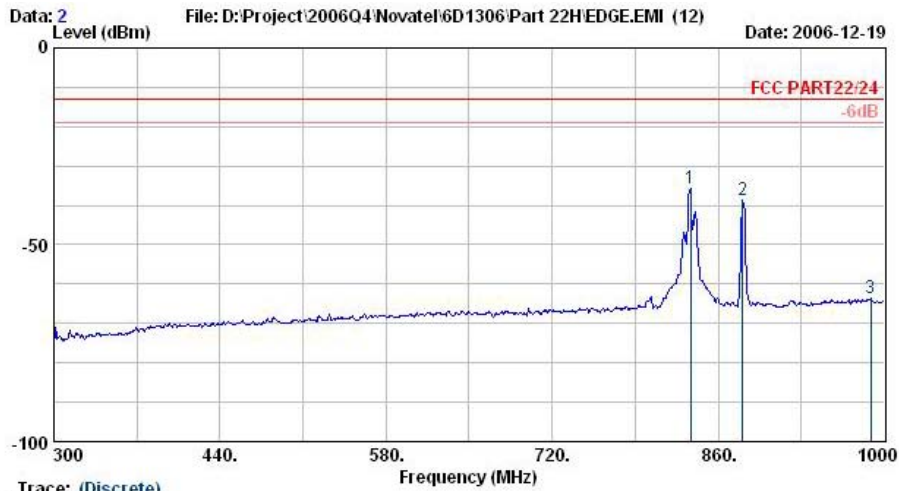


4.6.5.2 Mode 2  
Horizontal Polarization



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LP-SPURIOUS HORIZONTAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch189

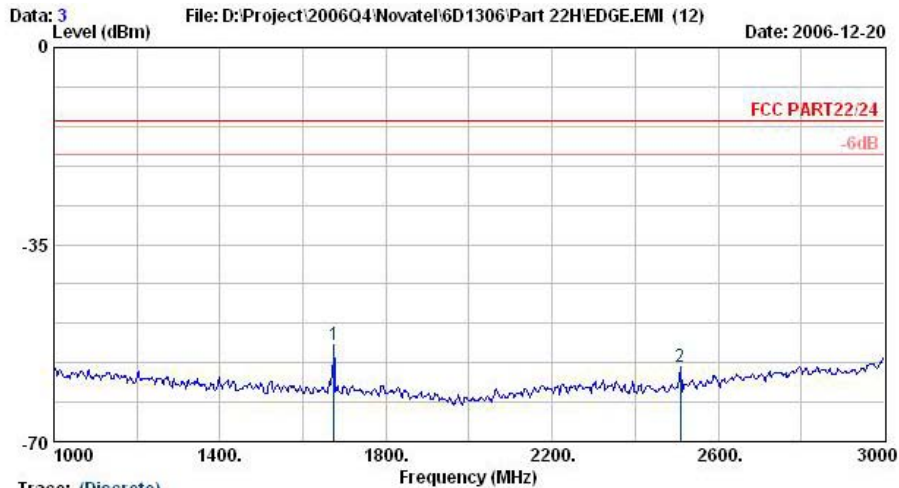
	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1	30.0	-63.53	-50.53	-13.00	-63.89	0.36	Peak
2	139.1	-67.37	-54.37	-13.00	-54.68	-12.69	Peak
3	198.5	-67.41	-54.41	-13.00	-54.03	-13.38	Peak



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LP-SPURIOUS HORIZONTAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch189

	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1 @	836.9	-35.70			-34.36	-1.33	Peak
2 @	880.3	-38.80			-37.89	-0.91	Peak
3	988.8	-63.57	-50.57	-13.00	-63.70	0.13	Peak

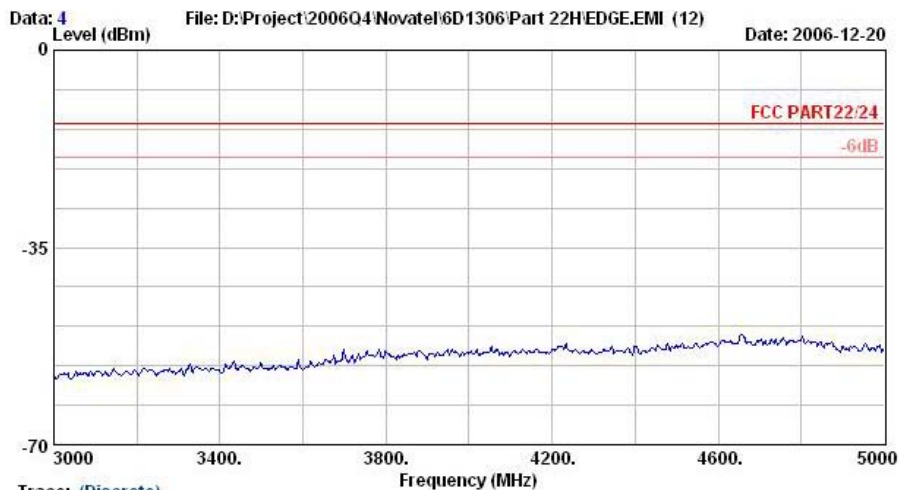
Remark:  
 1. #1: MS Signal  
 2. #2: BS Signal



Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch189

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1 @	1674.0	-52.88	-39.88	-13.00	-53.10	0.22	Peak
2	2508.0	-56.73	-43.73	-13.00	-57.93	1.20	Peak



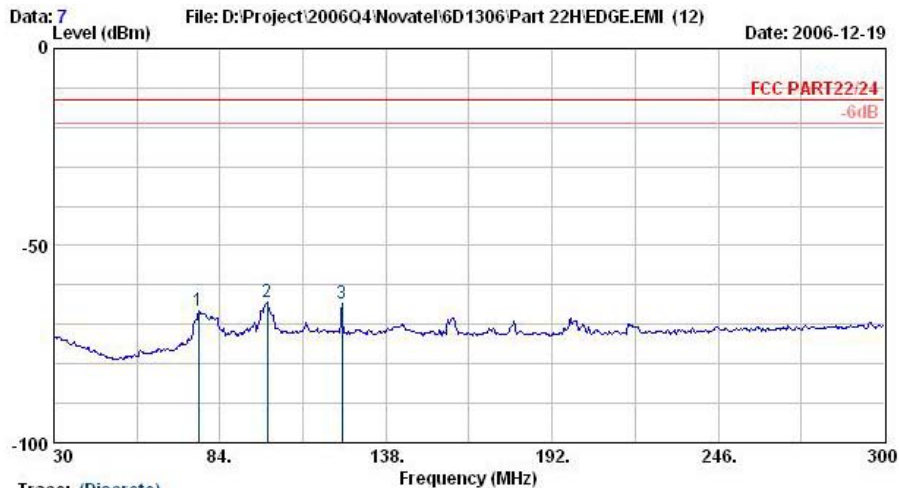
Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch189

Remark : There is no more obvious emission except the listings above.

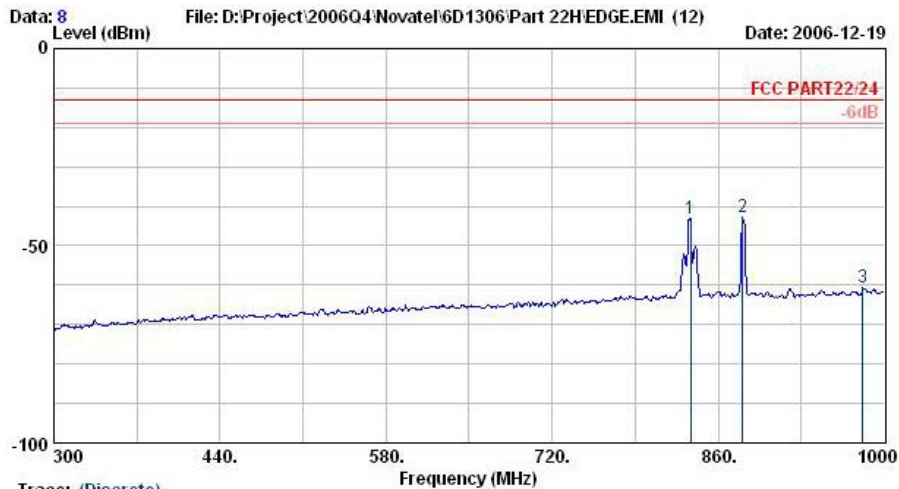


Vertical Polarization



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LP-SPURIOUS VERTICAL  
 EUT :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch189

	Freq	Level	Over	Limit	Read	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	77.0	-66.54	-53.54	-13.00	-55.49	-11.05	Peak
2	99.4	-64.19	-51.19	-13.00	-56.50	-7.69	Peak
3	123.7	-64.53	-51.53	-13.00	-56.62	-7.91	Peak

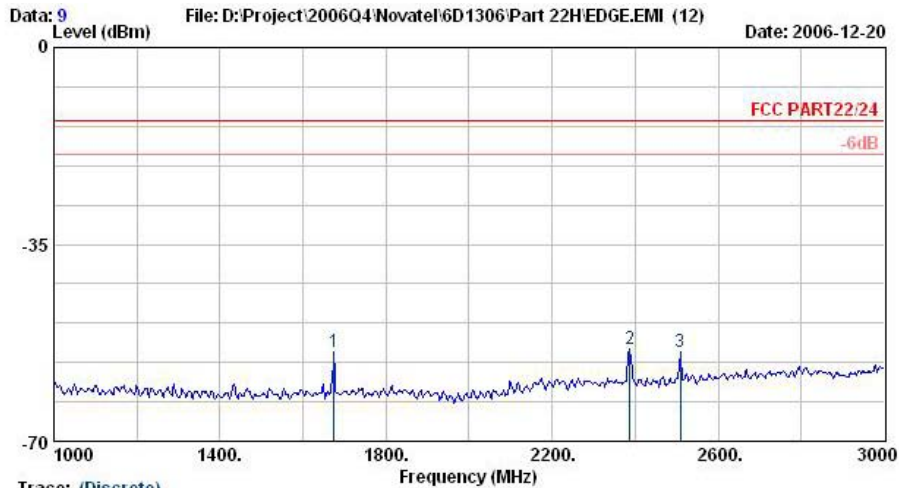


Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LP-SPURIOUS VERTICAL  
 EUT :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch189

	Freq	Level	Over	Limit	Read	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1 @	836.9	-43.14			-44.50	1.36	Peak
2 @	880.3	-42.71			-44.42	1.71	Peak
3	981.8	-60.70	-47.70	-13.00	-63.21	2.51	Peak

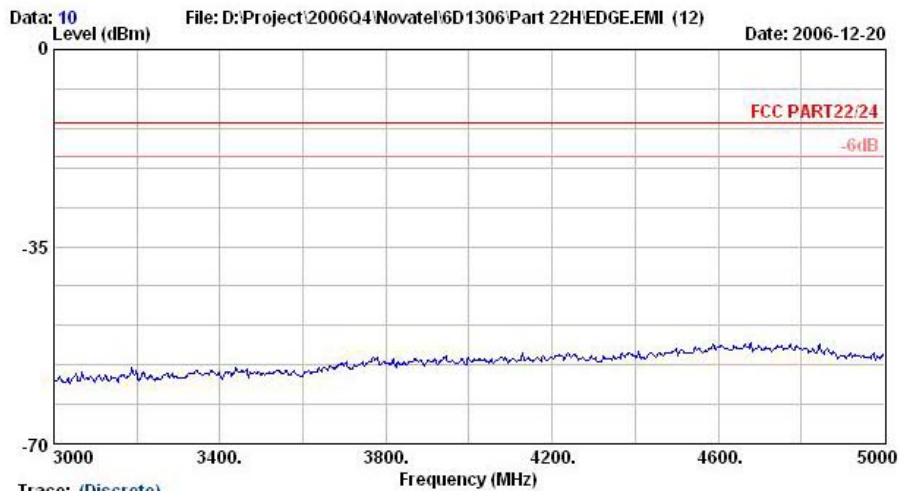
Remark:

- #1: MS Signal
- #2: BS Signal



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch189

	Freq	Level	Over	Limit	Read	
	MHz	dBm	Limit	Line	Level	Factor Remark
			dB	dBm	dBm	dB
1	1674.0	-54.01	-41.01	-13.00	-53.53	-0.48 Peak
2 @	2388.0	-53.68	-40.68	-13.00	-55.49	1.81 Peak
3	2508.0	-54.19	-41.19	-13.00	-56.46	2.27 Peak

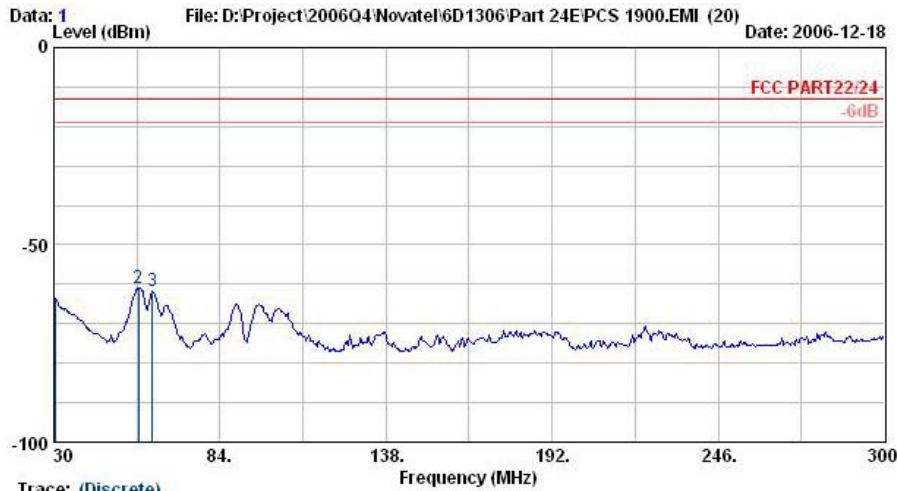


Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch189

Remark : There is no more obvious emission except the listings above.

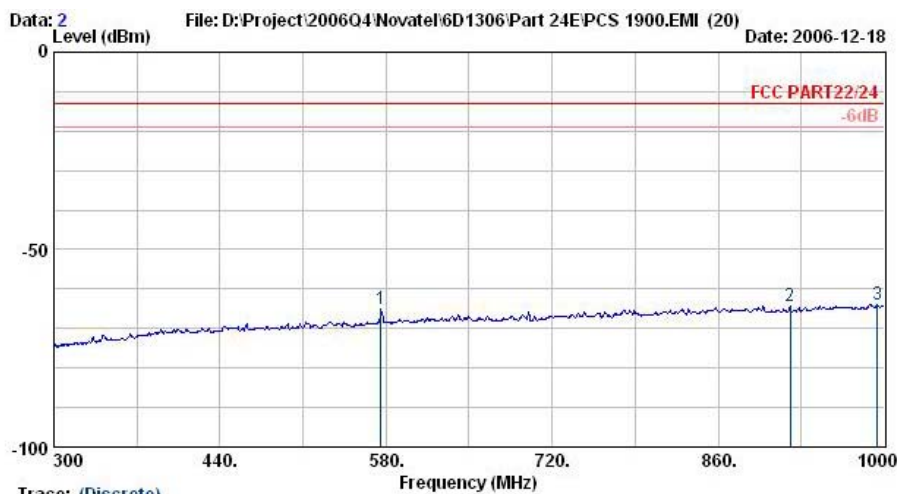


4.6.5.3 Mode 3  
Horizontal Polarization



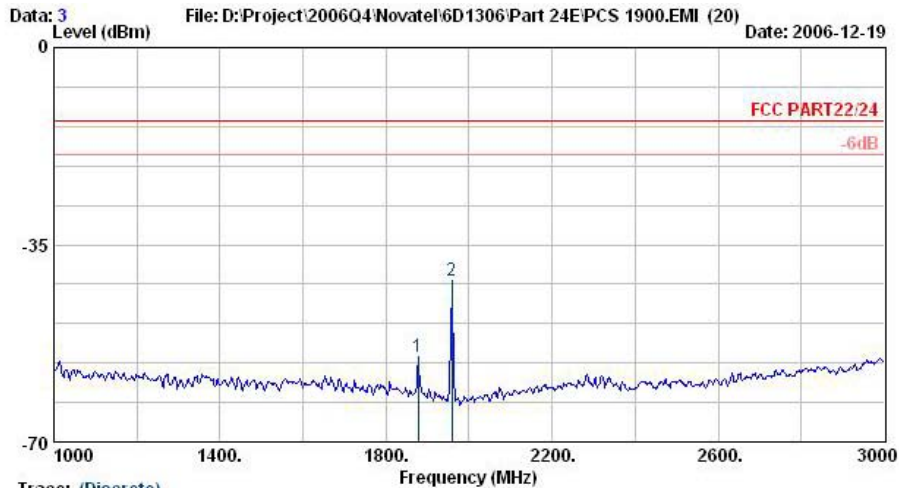
Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LP-SPURIOUS HORIZONTAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode,Ch661

	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1	30.3	-63.75	-50.75	-13.00	-64.11	0.36	Peak
2 @	57.5	-60.87	-47.87	-13.00	-48.46	-12.40	Peak
3	62.1	-61.78	-48.78	-13.00	-49.40	-12.39	Peak



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LP-SPURIOUS HORIZONTAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode,Ch661

	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1	575.8	-65.14	-52.14	-13.00	-61.07	-4.07	Peak
2	920.9	-64.17	-51.17	-13.00	-63.64	-0.53	Peak
3	994.4	-63.77	-50.77	-13.00	-63.95	0.18	Peak

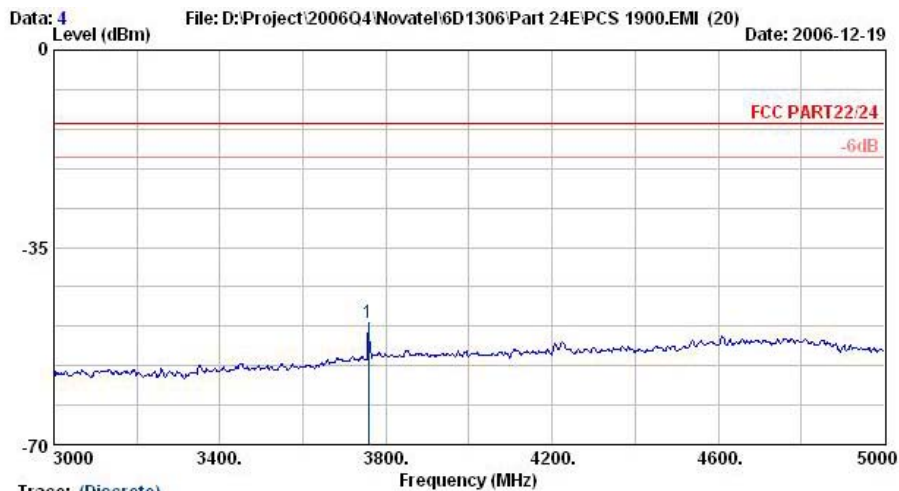


Trace: (Discrete)  
 Site : 0SCH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode,Ch661

	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1 @	1878.0	-54.87			-54.36	-0.51	Peak
2 @	1958.0	-41.39			-40.28	-1.11	Peak

Remark:

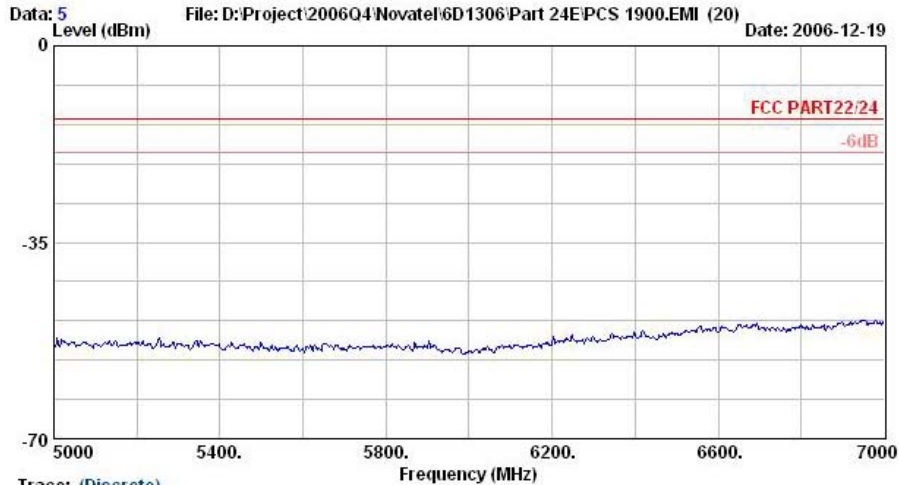
- #1: MS Signal
- #2: BS Signal



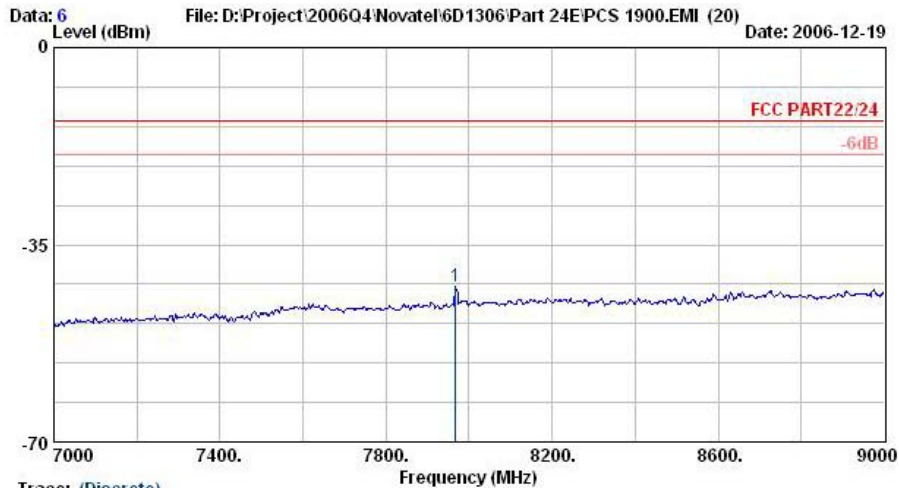
Trace: (Discrete)  
 Site : 0SCH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode,Ch661

	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1 @	3758.0	-48.45	-35.45	-13.00	-56.37	7.92	Peak





Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode,Ch661

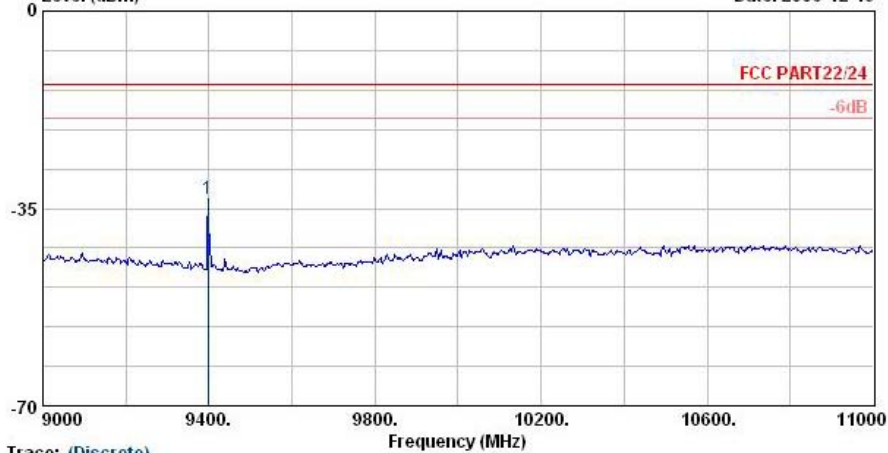


Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode,Ch661

	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	dB	Line	Level	Factor Remark
			dB	dBm	dBm	dB	
1 @	7968.0	-42.31	-29.31	-13.00	-60.06	17.74	Peak



Data: 7 File: D:\Project\2006Q4\Novatel\6D1306\Part 24E\PCS 1900.EMI (20) Date: 2006-12-19



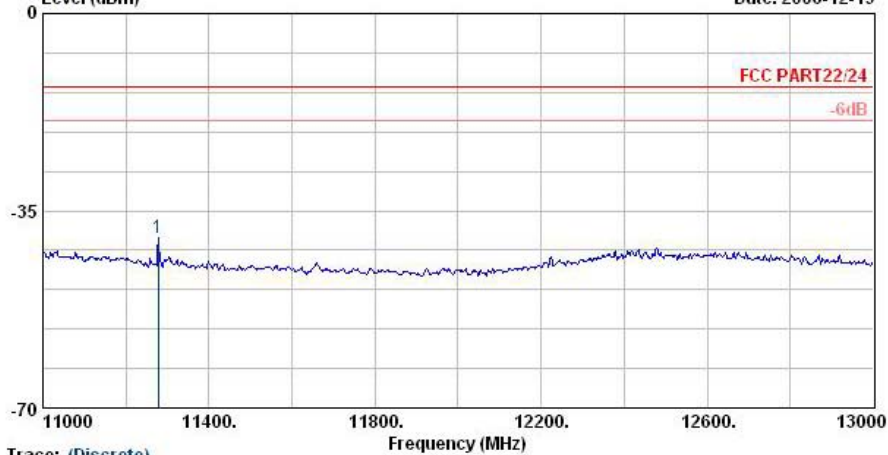
Trace: (Discrete)

Site : 0SCH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode,Ch661

Freq	Level	Over	Limit	Read	Factor	Remark
MHz	dBm	dB	dBm	dBm	dB	

1 @	9398.0	-33.42	-20.42	-13.00	-51.64	18.22 Peak
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Data: 8 File: D:\Project\2006Q4\Novatel\6D1306\Part 24E\PCS 1900.EMI (20) Date: 2006-12-19



Trace: (Discrete)

Site : 0SCH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode,Ch661

Freq	Level	Over	Limit	Read	Factor	Remark
MHz	dBm	dB	dBm	dBm	dB	

1 @	11278.0	-39.79	-26.79	-13.00	-60.09	20.30 Peak
-----	---------	--------	--------	--------	--------	------------

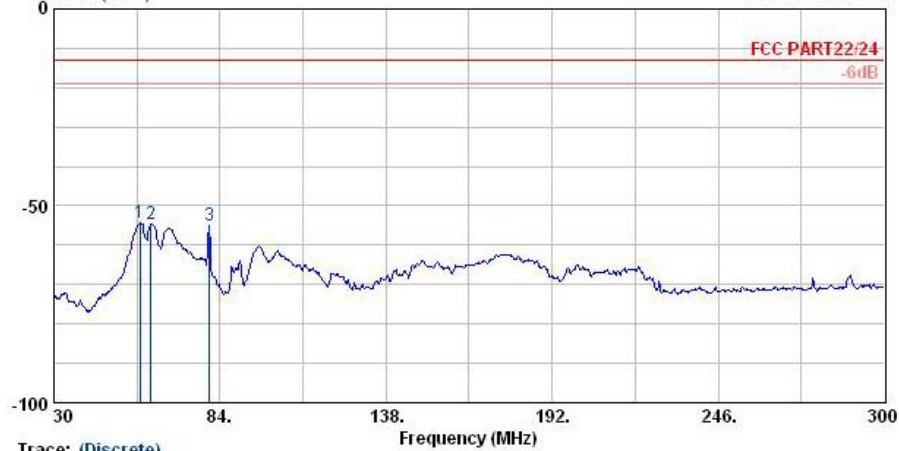
Remark : There is no more obvious emission except the listings above.





Vertical Polarization

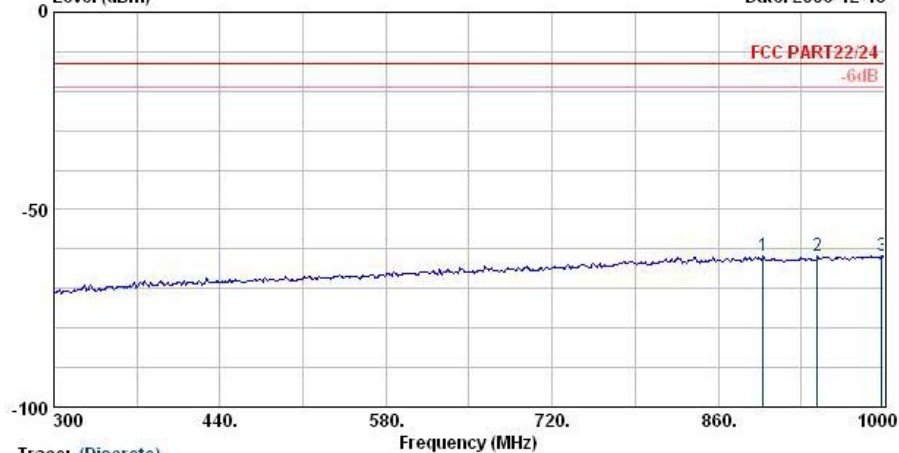
Data: 11 File: D:\Project\2006Q4\Novatel\6D1306\Part 24E\PCS 1900.EMI (20) Date: 2006-12-18



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LP-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode;CH661

	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1 @	58.1	-54.45	-41.45	-13.00	-40.75	-13.70	Peak
2 @	61.6	-54.73	-41.73	-13.00	-41.59	-13.14	Peak
3 @	80.5	-54.85	-41.85	-13.00	-44.36	-10.49	Peak

Data: 12 File: D:\Project\2006Q4\Novatel\6D1306\Part 24E\PCS 1900.EMI (20) Date: 2006-12-18

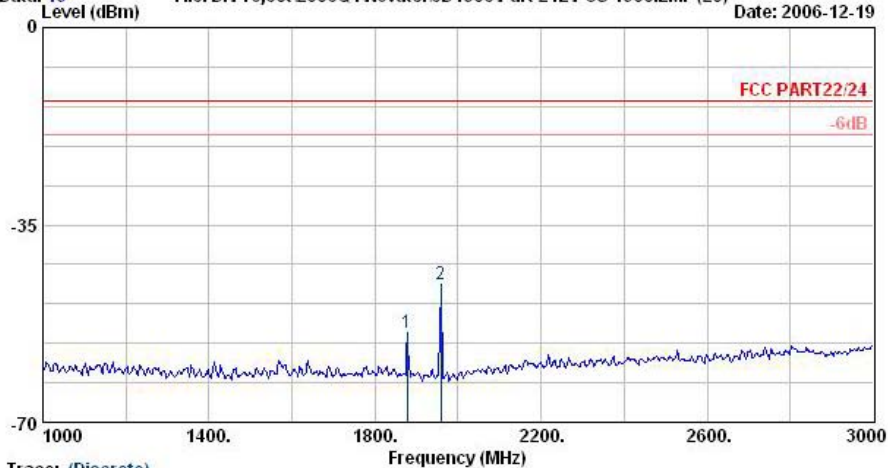


Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LP-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode;CH661

	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1	897.8	-61.61	-48.61	-13.00	-63.46	1.85	Peak
2	943.3	-61.87	-48.87	-13.00	-64.08	2.21	Peak
3	997.9	-61.80	-48.80	-13.00	-64.45	2.64	Peak



Data: 13 File: D:\Project\2006Q4\Novatel\6D1306\Part 24\PCS 1900.EMI (20) Date: 2006-12-19



Trace: (Discrete)

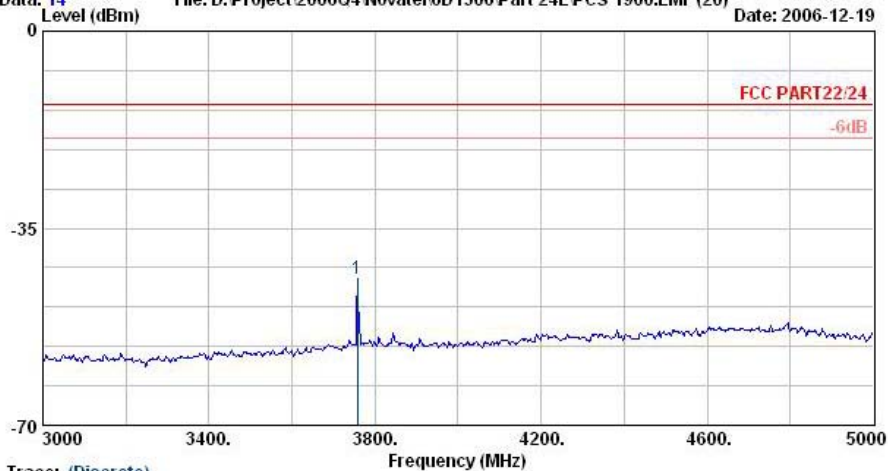
Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode;CM661

	Freq	Level	Over	Limit	Read	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1 @	1878.0	-54.15			-53.75	-0.40	Peak
2 @	1958.0	-45.65			-45.05	-0.60	Peak

Remark:

- #1: MS Signal
- #2: BS Signal

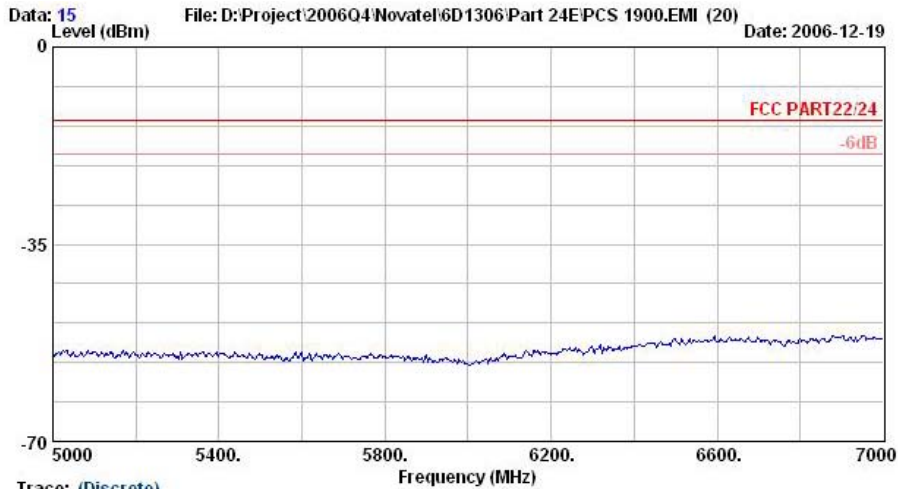
Data: 14 File: D:\Project\2006Q4\Novatel\6D1306\Part 24\PCS 1900.EMI (20) Date: 2006-12-19



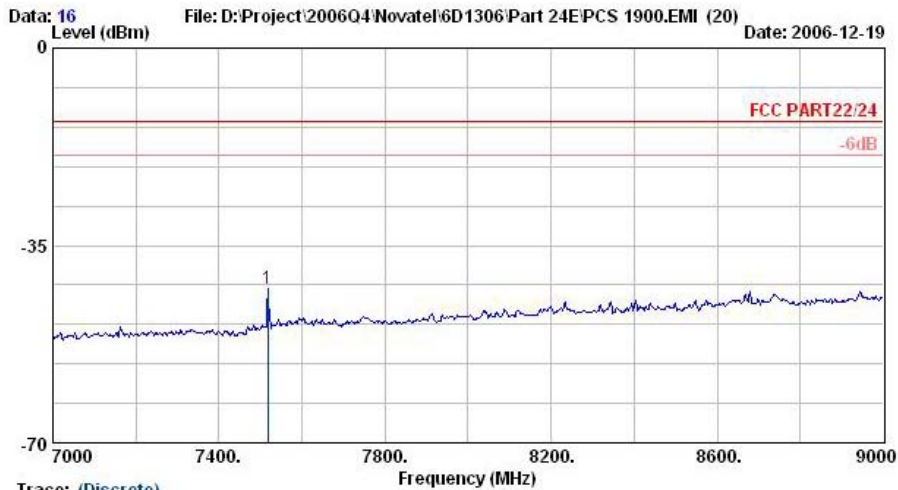
Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode;CM661

	Freq	Level	Over	Limit	Read	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1 @	3758.0	-44.00	-31.00	-13.00	-50.64	6.64	Peak



Trace: (Discrete)  
 Site : 08CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode,Ch661

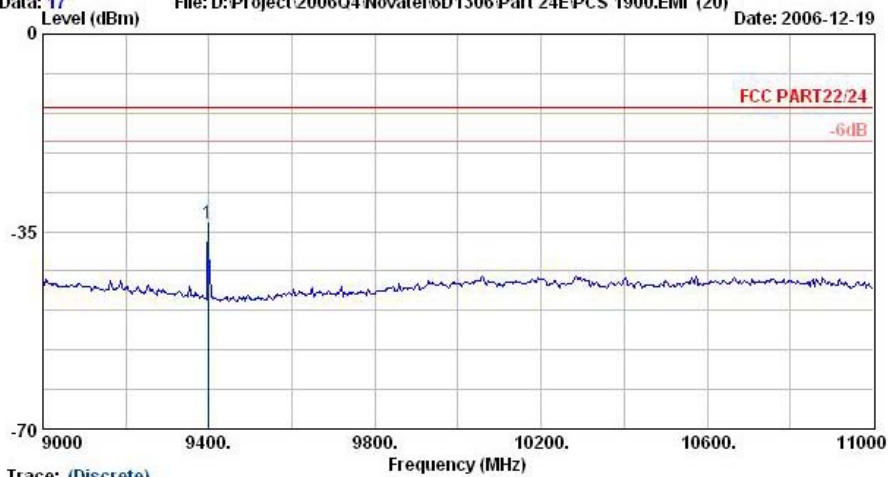


Trace: (Discrete)  
 Site : 08CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode,Ch661

	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1 @	7518.0	-42.67	-29.67	-13.00	-56.03	13.37	Peak



Data: 17 File: D:\Project\2006Q4\Novatel\6D1306\Part 24E\PCS 1900.EMI (20) Date: 2006-12-19

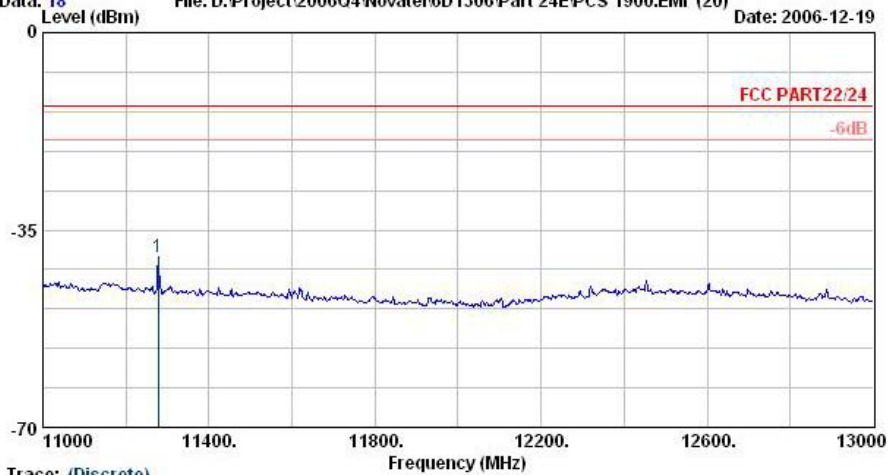


Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode;Ch661

Freq	Level	Over	Limit	Read	Factor	Remark
MHz	dBm	dB	dBm	dBm	dB	

1 @ 9398.0 -33.58 -20.58 -13.00 -50.78 17.20 Peak

Data: 18 File: D:\Project\2006Q4\Novatel\6D1306\Part 24E\PCS 1900.EMI (20) Date: 2006-12-19



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : PCS 1900 Link Mode;Ch661

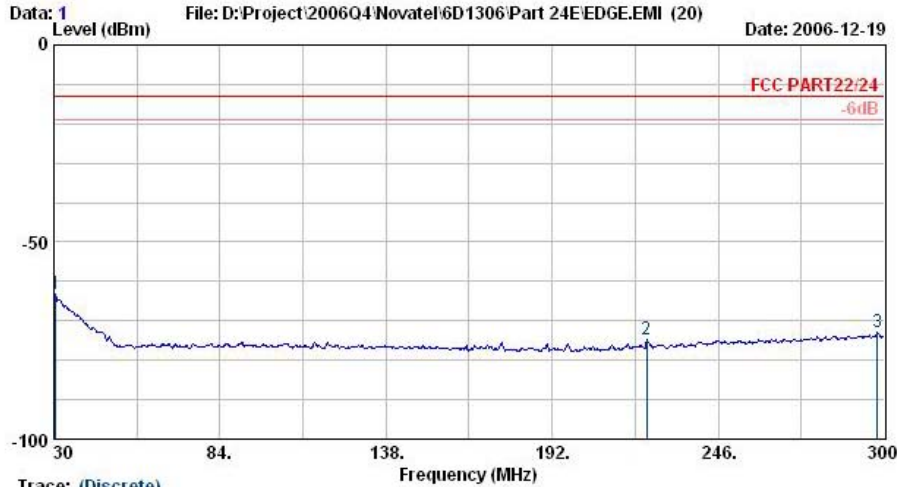
Freq	Level	Over	Limit	Read	Factor	Remark
MHz	dBm	dB	dBm	dBm	dB	

1 @ 11278.0 -39.83 -26.83 -13.00 -58.70 18.87 Peak

Remark: There is no more obvious emission except the listings above.

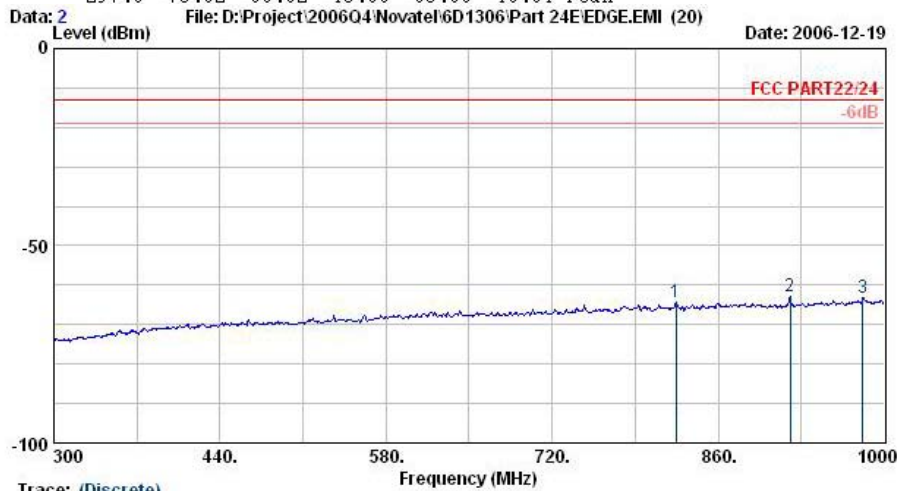


4.6.5.4 Mode 4  
Horizontal Polarization



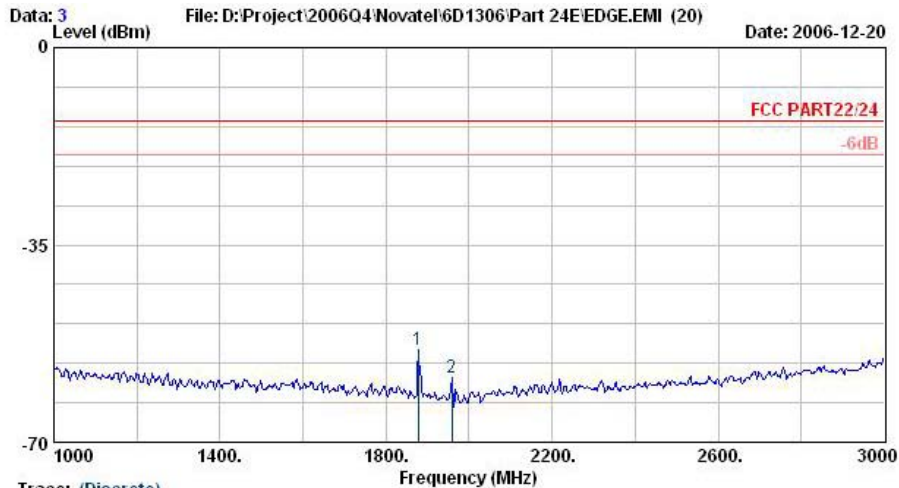
Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LF-SPURIOUS HORIZONTAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch661

	Freq	Level	Over	Limit	Read	
	MHz	dBm	Limit	Line	Level	Factor Remark
			dB	dBm	dBm	dB
1	30.5	-63.04	-50.04	-13.00	-62.79	-0.25 Peak
2	222.8	-74.54	-61.54	-13.00	-61.96	-12.59 Peak
3	297.8	-73.02	-60.02	-13.00	-63.00	-10.01 Peak



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LF-SPURIOUS HORIZONTAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch661

	Freq	Level	Over	Limit	Read	
	MHz	dBm	Limit	Line	Level	Factor Remark
			dB	dBm	dBm	dB
1	824.3	-64.44	-51.44	-13.00	-62.99	-1.46 Peak
2	920.9	-62.69	-49.69	-13.00	-62.16	-0.53 Peak
3	981.8	-63.07	-50.07	-13.00	-63.13	0.06 Peak



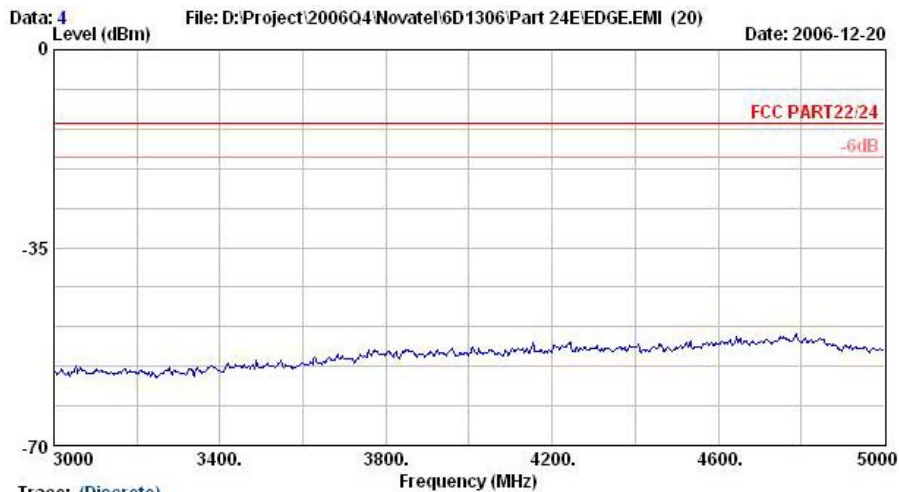
Trace: (Discrete)

Site : 05CH06-HY  
 Condition : HP-SPURIOUS HORIZONTAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch661

	Freq	Level	Over	Limit	Read	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	1878.0	-53.49			-52.98	-0.51	Peak
2	1958.0	-58.62			-57.51	-1.11	Peak

Remark:

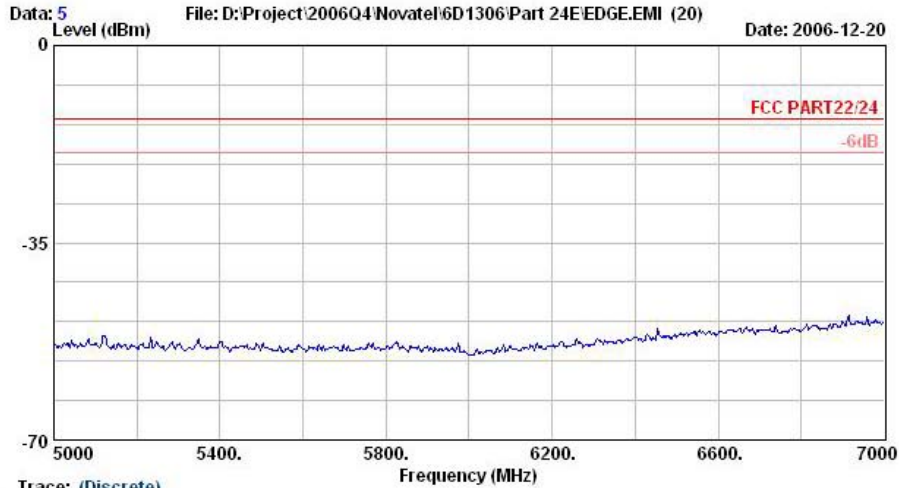
- #1: MS Signal
- #2: BS Signal



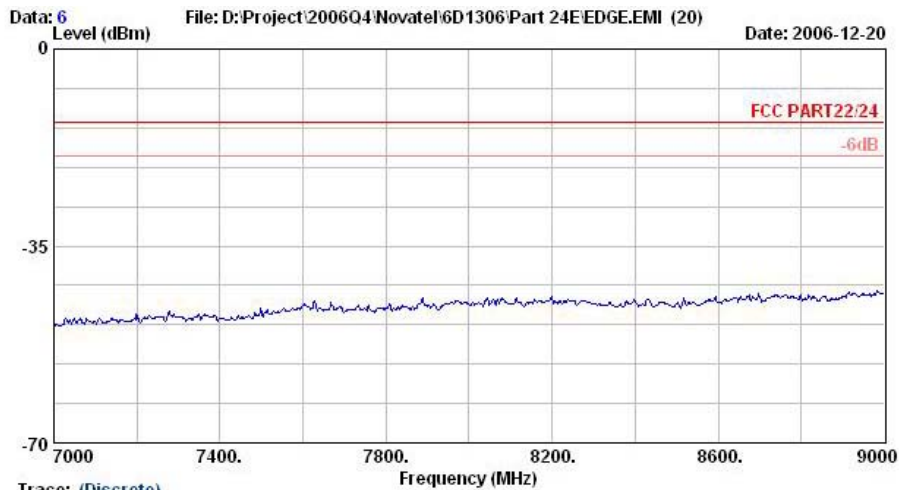
Trace: (Discrete)

Site : 05CH06-HY  
 Condition : HP-SPURIOUS HORIZONTAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch661

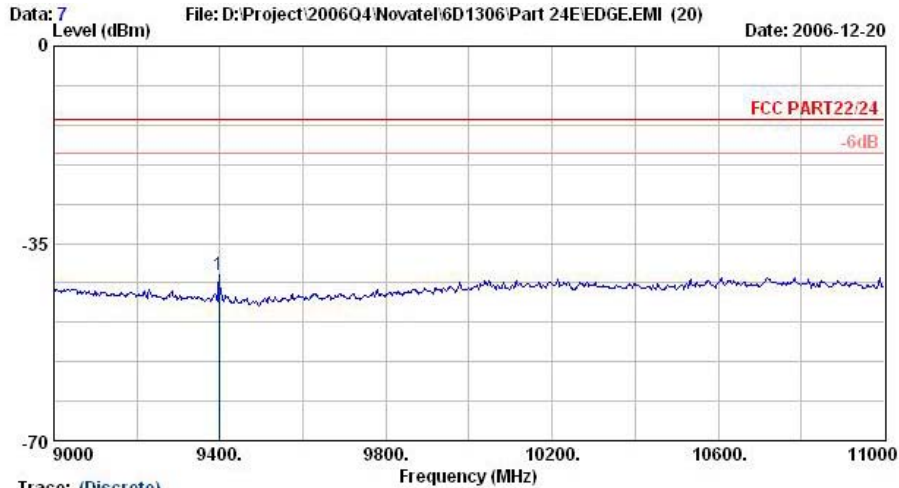




Trace: (Discrete)  
Site : 08CH06-HY  
Condition : HF-SPURIOUS HORIZONTAL  
EUT : Module  
Power : Dummy Battery (3.3Vdc)  
Model : FG 6D1306  
Mode : EDGE Link Mode;Ch661

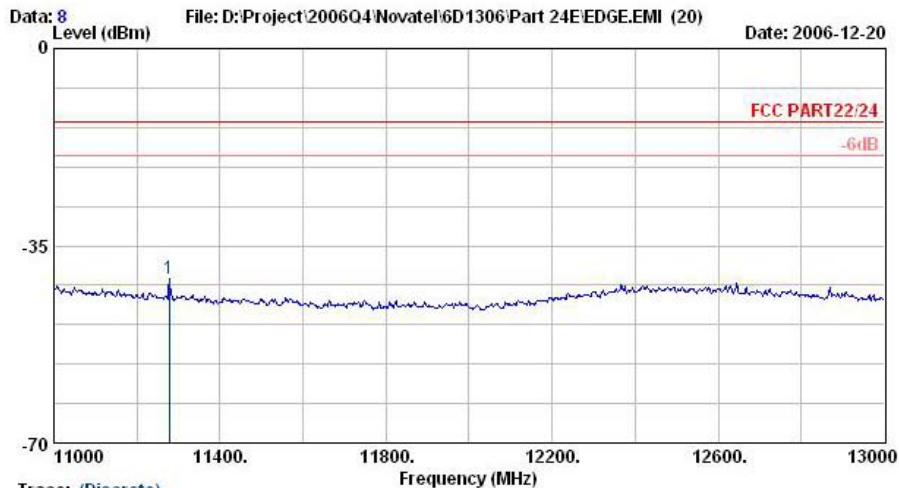


Trace: (Discrete)  
Site : 08CH06-HY  
Condition : HF-SPURIOUS HORIZONTAL  
EUT : Module  
Power : Dummy Battery (3.3Vdc)  
Model : FG 6D1306  
Mode : EDGE Link Mode;Ch661



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch661

	Freq	Level	Over	Limit	Read	
	MHz	dBm	Limit	Line	Level	Factor Remark
			dB	dBm	dBm	dB
1 @	9398.0	-40.69	-27.69	-13.00	-58.91	18.22 Peak



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch661

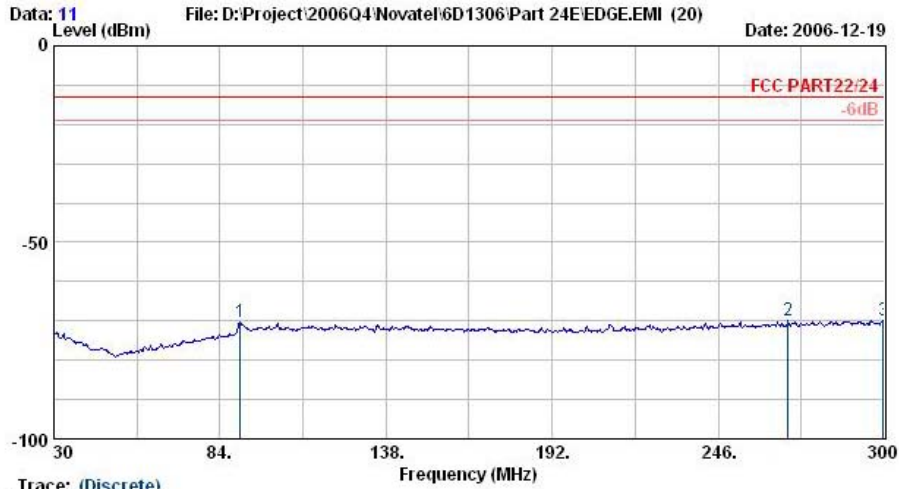
	Freq	Level	Over	Limit	Read	
	MHz	dBm	Limit	Line	Level	Factor Remark
			dB	dBm	dBm	dB
1 @	11278.0	-40.75	-27.75	-13.00	-61.05	20.30 Peak

Remark : There is no more obvious emission except the listings above.



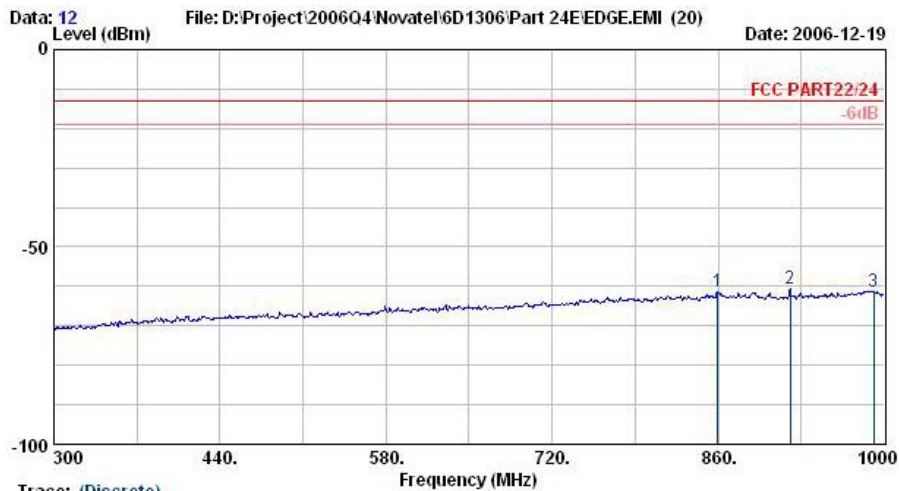


Vertical Polarization



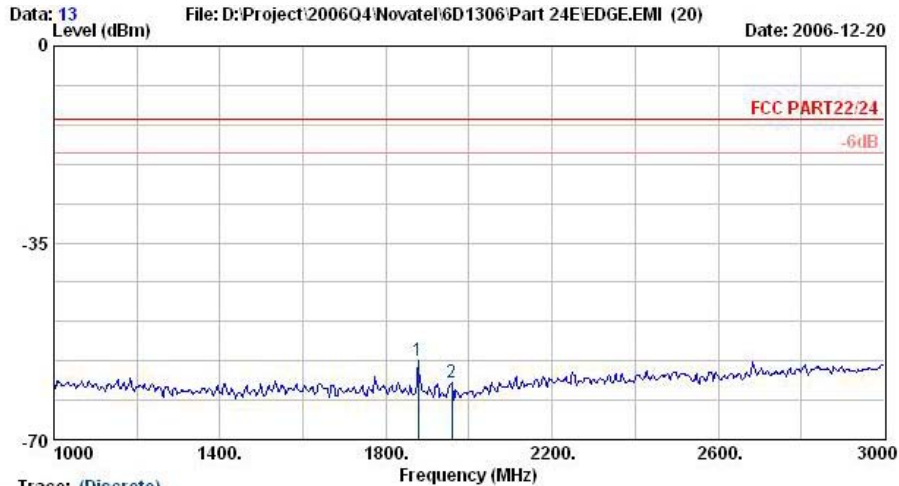
Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LP-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch661

	Freq	Level	Over	Limit	Read	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	90.5	-70.30	-57.30	-13.00	-61.21	-9.09	Peak
2	268.7	-69.95	-56.95	-13.00	-62.83	-7.12	Peak
3	299.7	-69.75	-56.75	-13.00	-63.29	-6.46	Peak



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LP-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch661

	Freq	Level	Over	Limit	Read	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	859.3	-61.37	-48.37	-13.00	-62.91	1.54	Peak
2	920.9	-60.44	-47.44	-13.00	-62.47	2.03	Peak
3	990.9	-61.20	-48.20	-13.00	-63.79	2.59	Peak

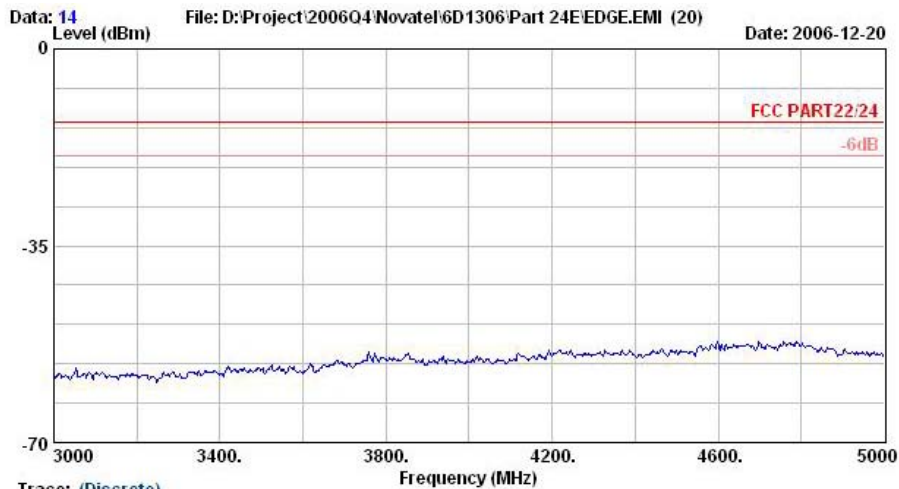


Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch661

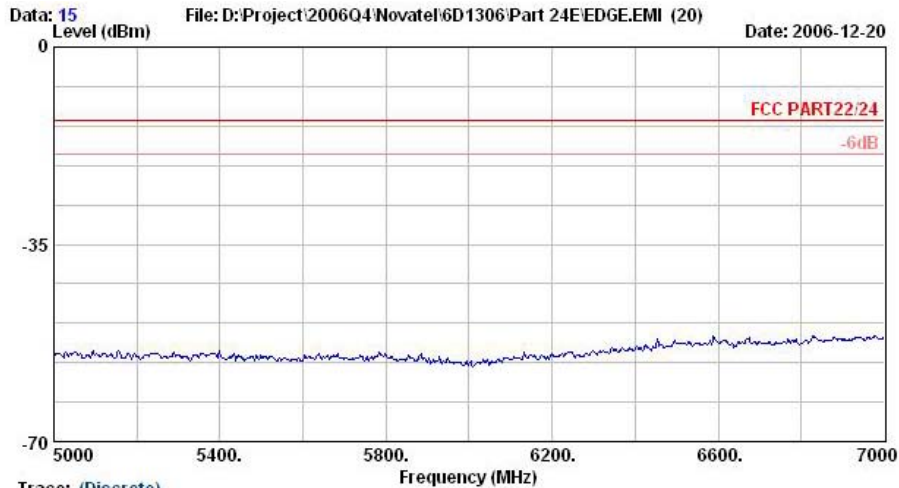
	Freq	Level	Over	Limit	Read	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	1878.0	-55.94			-55.54	-0.40	Peak
2	1958.0	-59.72			-59.13	-0.60	Peak

Remark:

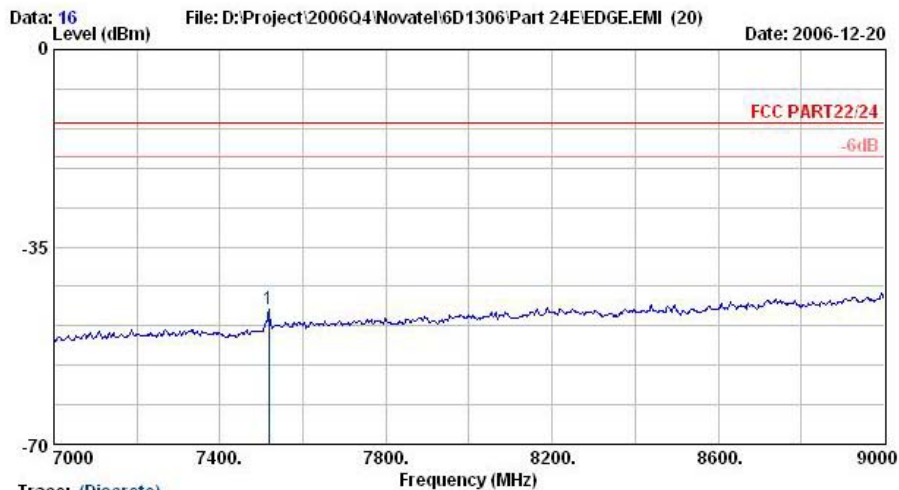
1. #1: MS Signal
2. #2: BS Signal



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch661

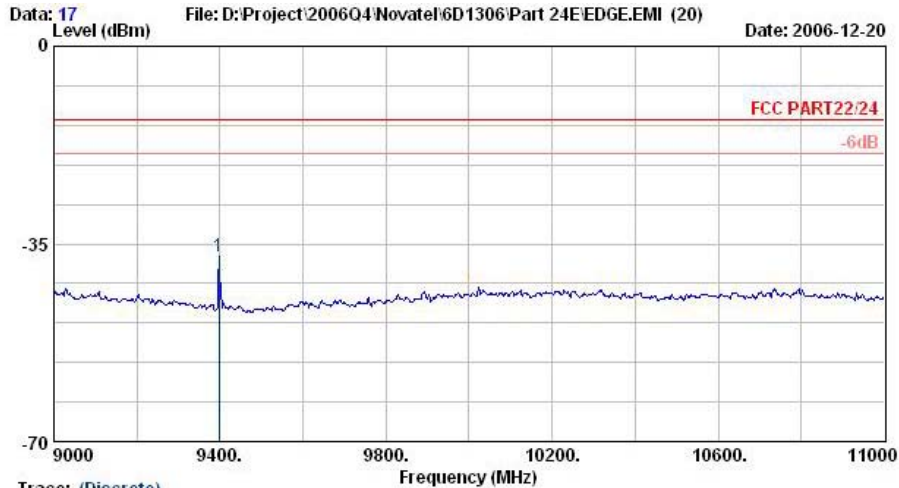


Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch661



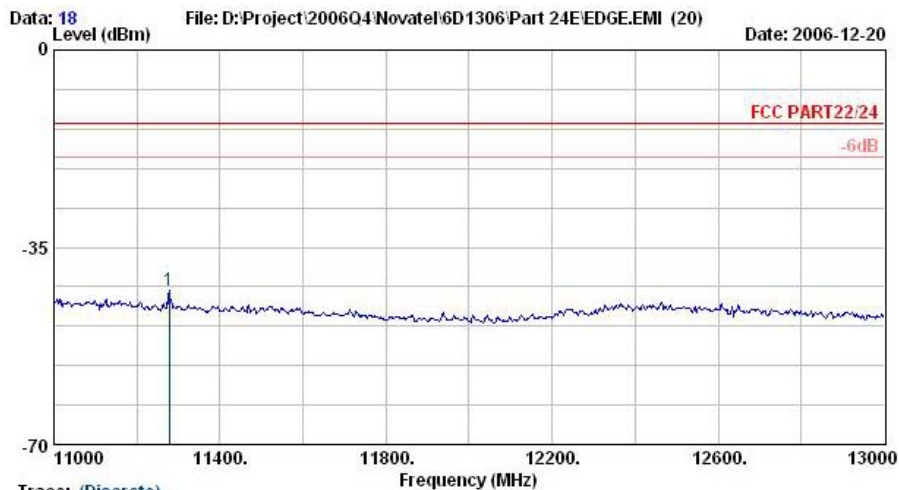
Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch661

	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1	7518.0	-45.97	-32.97	-13.00	-59.34	13.37	Peak



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch661

	Freq	Level	Over	Limit	Read		
	MHz	dBm	dB	dBm	dBm	dB	Remark
1 @	9398.0	-37.19	-24.19	-13.00	-54.39	17.20	Peak



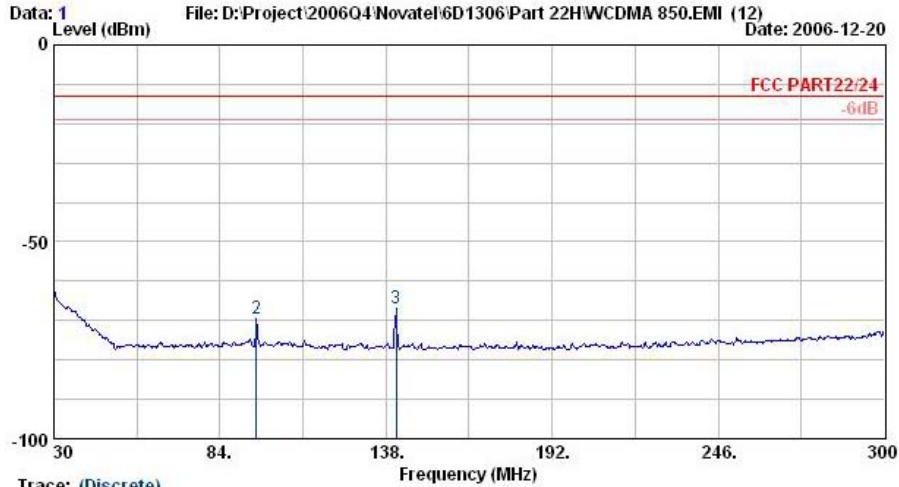
Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : EDGE Link Mode;Ch661

	Freq	Level	Over	Limit	Read		
	MHz	dBm	dB	dBm	dBm	dB	Remark
1 @	11278.0	-42.58	-29.58	-13.00	-61.46	18.87	Peak

Remark: There is no more obvious emission except the listings above.

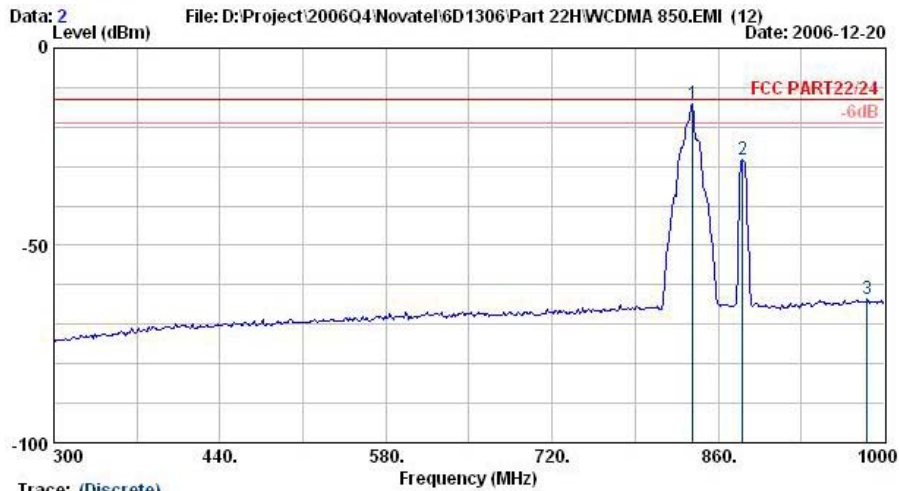


4.6.5.5 Mode 5  
Horizontal Polarization



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LP-SPURIOUS HORIZONTAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : WCDMA 850 Link Mode;Ch4182

	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1	30.0	-62.00	-49.00	-13.00	-62.36	0.36	Peak
2	95.9	-69.62	-56.62	-13.00	-57.37	-12.25	Peak
3	141.2	-67.08	-54.08	-13.00	-54.36	-12.72	Peak

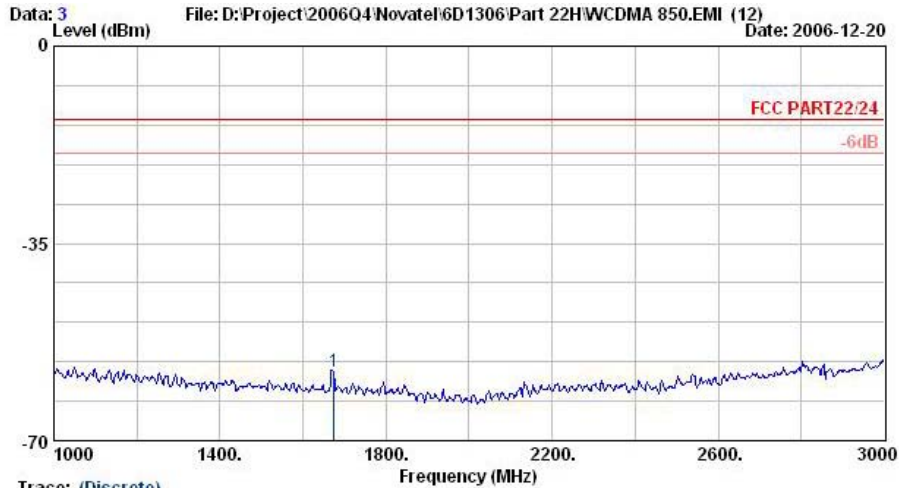


Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : LP-SPURIOUS HORIZONTAL  
 EUT :  
 Module :  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : WCDMA 850 Link Mode;Ch4182

	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1 @	838.3	-14.25			-12.92	-1.32	Peak
2 @	880.3	-28.36			-27.45	-0.91	Peak
3	985.3	-63.64	-50.64	-13.00	-63.74	0.10	Peak

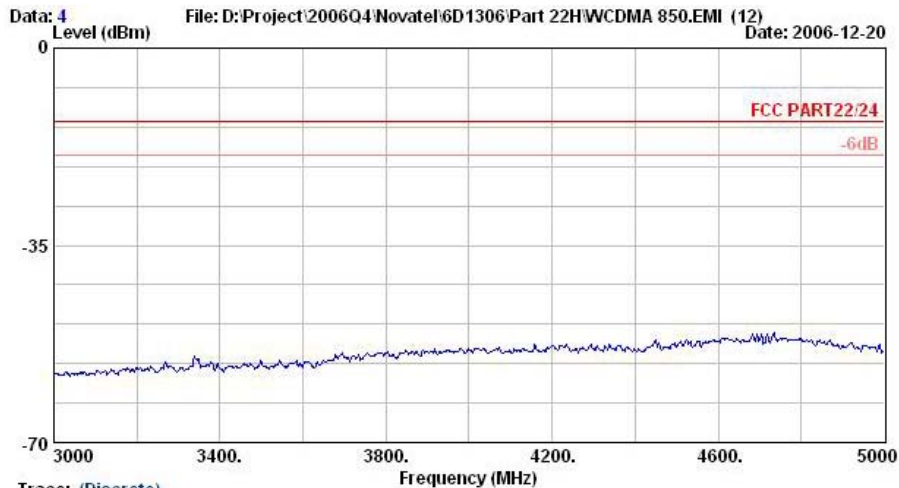
Remark:

- #1: MS Signal
- #2: BS Signal



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : WCDMA 850 Link Mode;Ch4182

	Freq	Level	Over	Limit	Read	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	1674.0	-57.90	-44.90	-13.00	-58.12	0.22	Peak



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : Module  
 Power : Dummy Battery (3.3Vdc)  
 Model : FG 6D1306  
 Mode : WCDMA 850 Link Mode;Ch4182

Remark : There is no more obvious emission except the listings above.