



# FCC / IC TEST REPORT

for

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

**Equipment** : iPAQ 600 series  
**Trade Name** : HP  
**Model No.** : HSTNH-I14C-N  
**FCC ID** : B94HHI14CN  
**IC ID** : 466Q-HHI14CN  
**Tx Frequency Range** : GSM850 : 824.2~848.8 MHz  
PCS1900 : 1850.2~1909.8 MHz  
WCDMA Band V : 826.4~846.6 MHz  
WCDMA Band II : 1852.4~1907.6 MHz  
**Max. ERP/EIRP Power** : GSM850(GSM) : 1.12 W  
GSM850(EDGE) : 0.22 W  
PCS1900(GSM) : 1.37 W  
PCS1900(EDGE) : 0.28 W  
WCDMA Band V : 0.08 W  
WCDMA Band II : 0.10 W  
**Emission Designator** : GSM : 300KGXW  
EDGE : 300KG7W  
WCDMA : 4M22F9W  
**Applicant** : Hewlett-Packard Company  
11445 Compaq Center Drive West Houston, Texas 77070

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- The data shown in this test report were carried out on Jun. 15, 2007 at **Sporton International Inc. LAB.**
- Report No.: FG750203-B, Report Version: Rev. 01.

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Report Version: Rev. 01



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## 1. General Information

### 1.1. Applicant

**Hewlett-Packard Company**  
11445 Compaq Center Drive West Houston, Texas 77070

### 1.2 Manufacturer

**Inventec Appliances(Pudong) Corp.**  
699, Pu Xin Road, Shanghai, PRC

### 1.3 Basic Description of Equipment under Test

<b>Equipment</b>		iPAQ 600 series
<b>Trade Name</b>		HP
<b>Model Name</b>		HSTNH-I14C-N
<b>AC Adapter 1</b>	<b>Manufacturer Name</b>	Phihong Technology Co., Ltd.
	<b>Brand Name</b>	HP / Phihong
	<b>Model Name</b>	PSB05R-050Q
	<b>Power Rating</b>	I/P:100-240Vac, 50-60Hz, 200mA; O/P: 5Vdc, 1A
	<b>AC Power Cord Type</b>	1.4 meter shielded cable without ferrite core
<b>AC Adapter 2</b>	<b>Manufacturer Name</b>	Phihong Technology Co., Ltd.
	<b>Brand Name</b>	HP / Phihong
	<b>Model Name</b>	PSAA05X-050 (X=A, C, E, K or S)
	<b>Power Rating</b>	I/P:100-240Vac, 50-60Hz, 200mA, 13-20VA; O/P: 5Vdc, 1A
	<b>AC Power Cord Type</b>	1.8 meter shielded cable without ferrite core
<b>Battery</b>	<b>Brand Name</b>	HP
	<b>Model Name</b>	HSTNH-K14B-CS
	<b>Rating</b>	3.7Vdc, 1590mAH
	<b>Type</b>	Li-polymer
<b>Earphone</b>	<b>Brand Name</b>	Merry
	<b>Model Name</b>	EMC147-021-01
	<b>Signal line Type</b>	1.6 meter non-shielded cable without ferrite core
<b>USB Cable</b>	<b>Brand Name</b>	Phihong
	<b>Model Name</b>	419184-001
	<b>Signal line Type</b>	1.4 meter shielded cable without ferrite core
<b>LCD Panel</b>	<b>Brand Name</b>	Hitachi
	<b>Model Name</b>	TX07D05VM0APA
<b>Camera</b>	<b>Brand Name</b>	LITE-ON Semi
	<b>Model Name</b>	DCM-300MBD

Remark : PSAA05X-050 (X=A, C, E, K or S) have the same circuit design. The difference between these models is plug, only PSAA05A-050 used for testing.

**1.4 Feature of Equipment under Test**

<b>DUT Type :</b>	iPAQ 600 series
<b>Trade Name :</b>	HP
<b>Model Name :</b>	HSTNH-I14C-N
<b>FCC ID :</b>	B94HHI14CN
<b>IC ID :</b>	466Q-HHI14CN
<b>Tx Frequency :</b>	GSM850 : 824 ~ 849 MHz PCS1900 : 1850 ~ 1910 MHz WCDMA Band V : 824 ~ 849 MHz WCDMA Band II : 1850 ~ 1910 MHz WLAN / Bluetooth : 2400 ~ 2483.5 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 WLAN / Bluetooth : 2400 ~ 2483.5 MHz
<b>Maximum Output Power to Antenna :</b>	GSM850 : 32.19 dBm (GSM); 27.19 dBm (EDGE) PCS1900 : 28.81 dBm (GSM); 25.72 dBm (EDGE) WCDMA Band V : 22.85 dBm (64Kbps); 22.69 dBm (HSDPA) WCDMA Band II : 23.05 dBm (384Kbps); 23.62 dBm (HSDPA) BT : 1.45 dBm (1Mbps); 2.13 dBm (EDR 2Mbps); 2.39 dBm (EDR 3Mbps) WLAN : 14.06 dBm (802.11b); 18.83 dBm (802.11g)
<b>Maximum ERP/EIRP :</b>	GSM850(GSM) : 1.12 W (32.63 dBm) GSM850(EDGE) : 0.22 W (25.60 dBm) PCS1900(GSM) : 1.37 W (31.36 dBm) PCS1900(EDGE) : 0.28 W (24.46 dBm) WCDMA Band V : 0.08 W (21.04 dBm) WCDMA Band II : 0.10 W (20.02 dBm)
<b>Antenna Type :</b>	GSM / WCDMA : PIFA Antenna BT : PIFA Antenna WLAN : PIFA Antenna
<b>Type of Antenna Connector</b>	N/A
<b>Power Rating (DC/AC , Voltage and Current of RF element or PA) :</b>	DC 3.7V / 2A
<b>Digital Modulation Emission :</b>	GSM : GMSK EDGE : 8PSK WCDMA / HSDPA : QPSK WLAN : DSSS / OFDM BT (1Mbps) : GFSK BT EDR (2Mbps) : $\pi/4$ -DQPSK BT EDR (3Mbps) : 8-DPSK
<b>Type of Emission :</b>	GSM : 300KGXW EDGE : 300KG7W WCDMA : 4M22F9W



## **1.5 Report Date**

EUT Received : May 02, 2007

Report Date : Aug. 08, 2007

## 2 Test Configuration of Equipment under Test

### 2.1 Test Manner

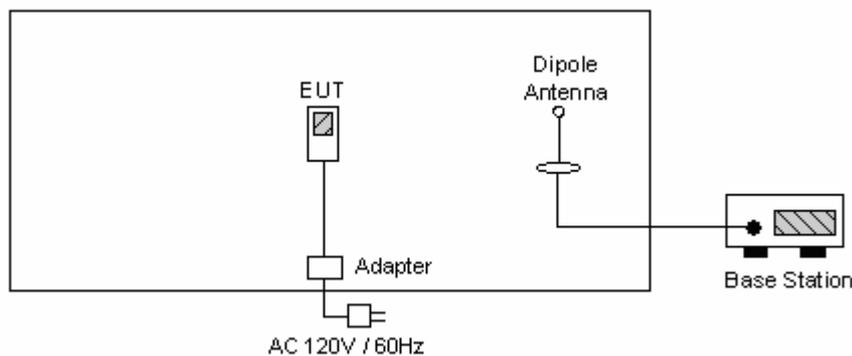
- a. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range.
- b. During all testings, EUT is in link mode with base station emulator at maximum power level.
- c. Frequency range investigated: radiated emission 30 MHz to 9000 MHz for GSM850 and WCDMA Band 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
	<input checked="" type="checkbox"/> Mode 9: GSM Link + WLAN 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

<Mode 1~9>



### 2.4 Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Serial No.
1.	Base Station	R&S	CMU200	N/A	106656



### **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**

AC 120V / 60Hz

#### **3.2 Test Compliance**

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

#### **3.3 Frequency Range**

- a. Radiation: from 30MHz to 9000MHz for GSM850 and WCDMA Band V.
- b. Radiation: from 30 MHz to 19000 MHz for PCS1900 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

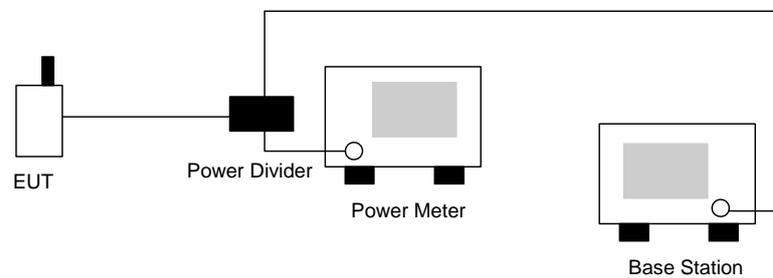
### 4.2.1 Measurement Instruments :

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 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)	32.15	1.641
	189	836.4 (Mid)	32.19	1.656
	251	848.8 (High)	32.11	1.626
GSM850 (EDGE)	128	824.2 (Low)	27.15	0.519
	189	836.4 (Mid)	27.19	0.524
	251	848.8 (High)	27.10	0.513
PCS1900 (GSM)	512	1850.2 (Low)	28.72	0.745
	661	1880.0 (Mid)	28.81	0.760
	810	1909.8 (High)	28.70	0.741
PCS1900 (EDGE)	512	1850.2 (Low)	25.67	0.369
	661	1880.0 (Mid)	25.72	0.373
	810	1909.8 (High)	25.63	0.366
WCDMA Band V (12.2k bps)	4132	826.4 (Low)	22.54	0.179
	4182	836.4 (Mid)	22.56	0.180
	4233	846.6 (High)	22.36	0.172
WCDMA Band V (64k bps)	4132	826.4 (Low)	22.58	0.181
	4182	836.4 (Mid)	22.85	0.193
	4233	846.6 (High)	22.34	0.171
WCDMA Band V (144k bps)	4132	826.4 (Low)	22.31	0.170
	4182	836.4 (Mid)	22.66	0.185
	4233	846.6 (High)	22.38	0.173
WCDMA Band V (384k bps)	4132	826.4 (Low)	22.55	0.180
	4182	836.4 (Mid)	22.70	0.186
	4233	846.6 (High)	22.21	0.166
WCDMA Band V (AMR)	4132	826.4 (Low)	22.58	0.181
	4182	836.4 (Mid)	22.78	0.190
	4233	846.6 (High)	22.43	0.175
WCDMA Band V (HSDPA)	4132	826.4 (Low)	22.48	0.177
	4182	836.4 (Mid)	22.69	0.186
	4233	846.6 (High)	22.42	0.175



WCDMA Band II (12.2k bps)	9262	1852.4 (Low)	22.96	0.198
	9400	1880.0 (Mid)	22.82	0.191
	9538	1907.6 (High)	22.71	0.187
WCDMA Band II (64k bps)	9262	1852.4 (Low)	22.98	0.199
	9400	1880.0 (Mid)	22.83	0.192
	9538	1907.6 (High)	22.81	0.191
WCDMA Band II (144k bps)	9262	1852.4 (Low)	22.99	0.199
	9400	1880.0 (Mid)	22.80	0.191
	9538	1907.6 (High)	22.75	0.188
WCDMA Band II (384k bps)	9262	1852.4 (Low)	23.05	0.202
	9400	1880.0 (Mid)	22.94	0.197
	9538	1907.6 (High)	22.81	0.191
WCDMA Band II (AMR)	9262	1852.4 (Low)	23.04	0.201
	9400	1880.0 (Mid)	22.77	0.189
	9538	1907.6 (High)	22.74	0.188
WCDMA Band II (HSDPA)	9262	1852.4 (Low)	23.62	0.230
	9400	1880.0 (Mid)	23.44	0.221
	9538	1907.6 (High)	23.60	0.229



### 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.

$E_t = R_t + AF$

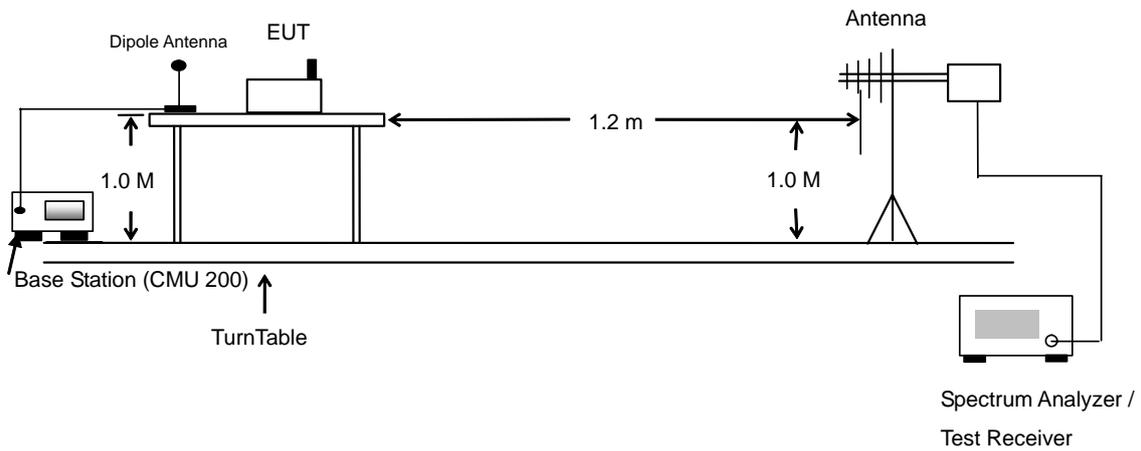
$E_s = R_s + AF$

$AF$  (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	-31.04	-48.12	0.00	-1.08	16.00	0.04
836.40	-31.44	-48.28	0.00	-0.93	15.91	0.04
848.80	-31.21	-48.35	0.00	-0.76	16.38	0.04
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-17.16	-47.97	0.00	-1.08	29.73	0.94
836.40	-16.60	-48.01	0.00	-0.93	30.48	1.12
848.80	-17.55	-48.05	0.00	-0.76	29.74	0.94

<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	-39.64	-48.12	0.00	-1.08	7.40	0.01
836.40	-39.94	-48.28	0.00	-0.93	7.41	0.01
848.80	-40.41	-48.35	0.00	-0.76	7.18	0.01
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-24.27	-47.97	0.00	-1.08	22.62	0.18
836.40	-23.63	-48.01	0.00	-0.93	23.45	0.22
848.80	-24.07	-48.05	0.00	-0.76	23.22	0.21



PCS1900 (GSM) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-28.75	-51.88	0.00	1.96	25.09	0.32
1880.00	-29.38	-52.99	0.00	2.00	25.61	0.36
1909.80	-30.59	-54.28	0.00	1.98	25.67	0.37
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-22.93	-52.13	0.00	1.96	31.16	1.31
1880.00	-23.93	-53.17	0.00	2.00	31.24	1.33
1909.80	-24.75	-54.13	0.00	1.98	31.36	1.37

PCS1900 (EDGE) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-34.25	-51.88	0.00	1.96	19.59	0.09
1880.00	-35.06	-52.99	0.00	2.00	19.93	0.10
1909.80	-36.54	-54.28	0.00	1.98	19.72	0.09
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-29.74	-52.13	0.00	1.96	24.35	0.27
1880.00	-30.71	-53.17	0.00	2.00	24.46	0.28
1909.80	-31.89	-54.13	0.00	1.98	24.22	0.26



WCDMA Band V Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
826.40	-42.63	-48.12	0.00	-1.08	4.41	0.00
836.60	-42.33	-48.28	0.00	-0.93	5.02	0.00
846.60	-43.02	-48.35	0.00	-0.76	4.57	0.00
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
826.40	-28.59	-47.97	0.00	-1.08	18.30	0.07
836.60	-28.19	-48.01	0.00	-0.93	18.89	0.08
846.60	-28.93	-48.05	0.00	-0.76	18.36	0.07

WCDMA Band II Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1852.40	-39.61	-51.88	0.00	1.96	14.23	0.03
1880.00	-40.80	-52.99	0.00	2.00	14.19	0.03
1907.60	-42.76	-54.28	0.00	1.98	13.50	0.02
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1852.40	-34.07	-52.13	0.00	1.96	20.02	0.10
1880.00	-35.40	-53.17	0.00	2.00	19.77	0.09
1907.60	-37.42	-54.13	0.00	1.98	18.69	0.07

## 4.4 Occupied Bandwidth and Band Edge Measurement

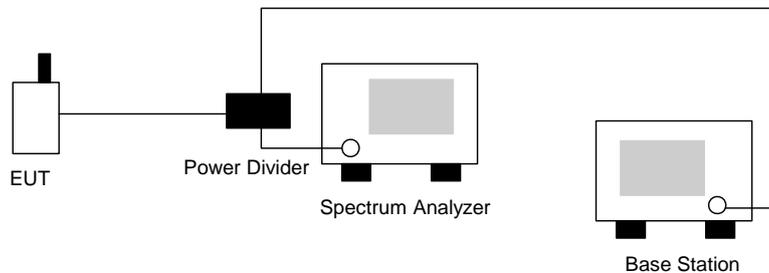
### 4.4.1 Measurement Instruments

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 :

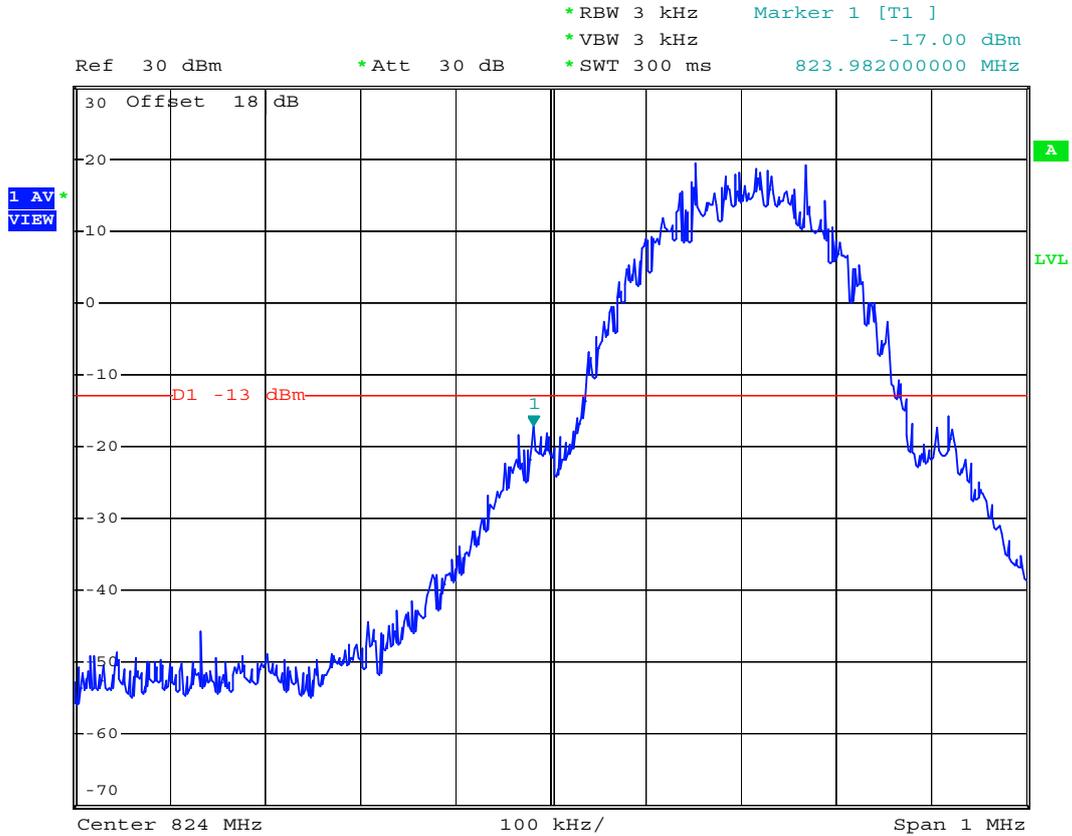
- Temperature : 24C
- Relative Humidity : 51%
- Test Enginner : Andy

Test Result in GSM850 (GSM)	:	<b>PASS</b>
Test Result in GSM850 (EDGE)	:	<b>PASS</b>
Test Result in PCS1900 (GSM)	:	<b>PASS</b>
Test Result in PCS1900 (EDGE)	:	<b>PASS</b>
Test Result in WCDMA Band V	:	<b>PASS</b>
Test Result in WCDMA Band V (HSDPA)	:	<b>PASS</b>
Test Result in WCDMA Band II	:	<b>PASS</b>
Test Result in WCDMA Band II (HSDPA)	:	<b>PASS</b>



4.4.5 Test Plots

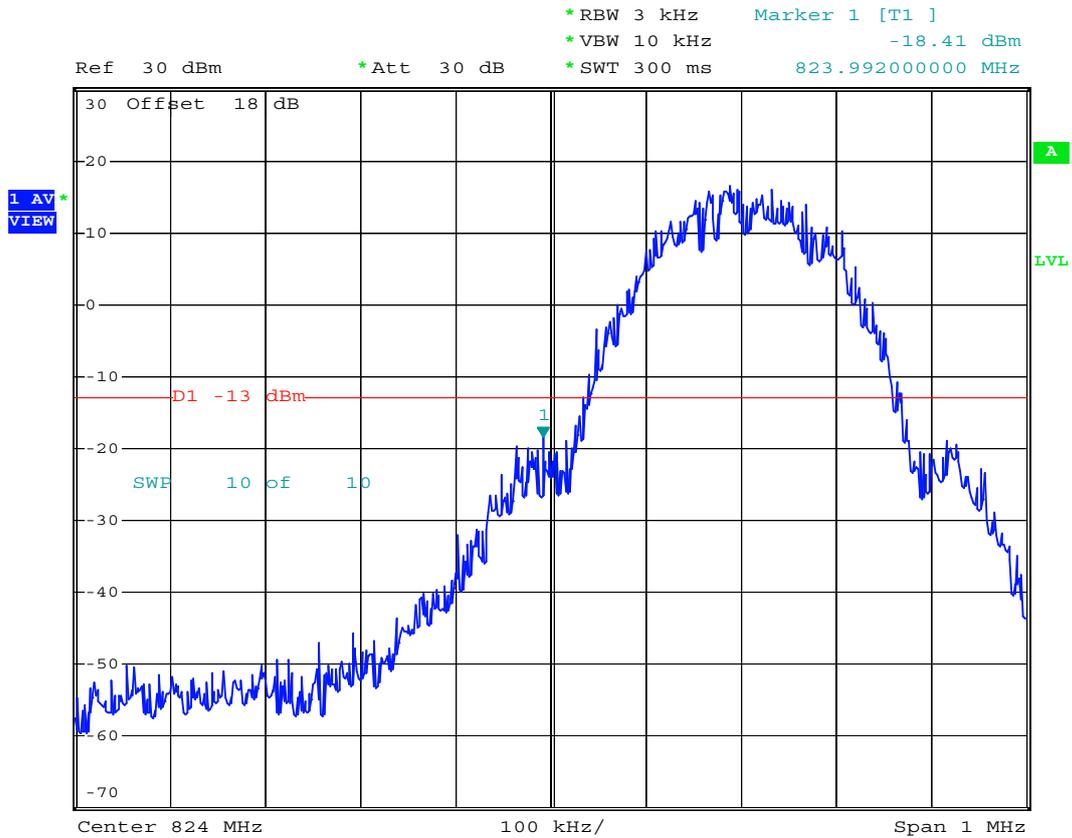
- Mode 1
- Test Mode : GSM850 (GSM) CH128 Lower Band Edge (VBW 3kHz)
- Power State : High



Date: 13.MAY.2007 11:32:44



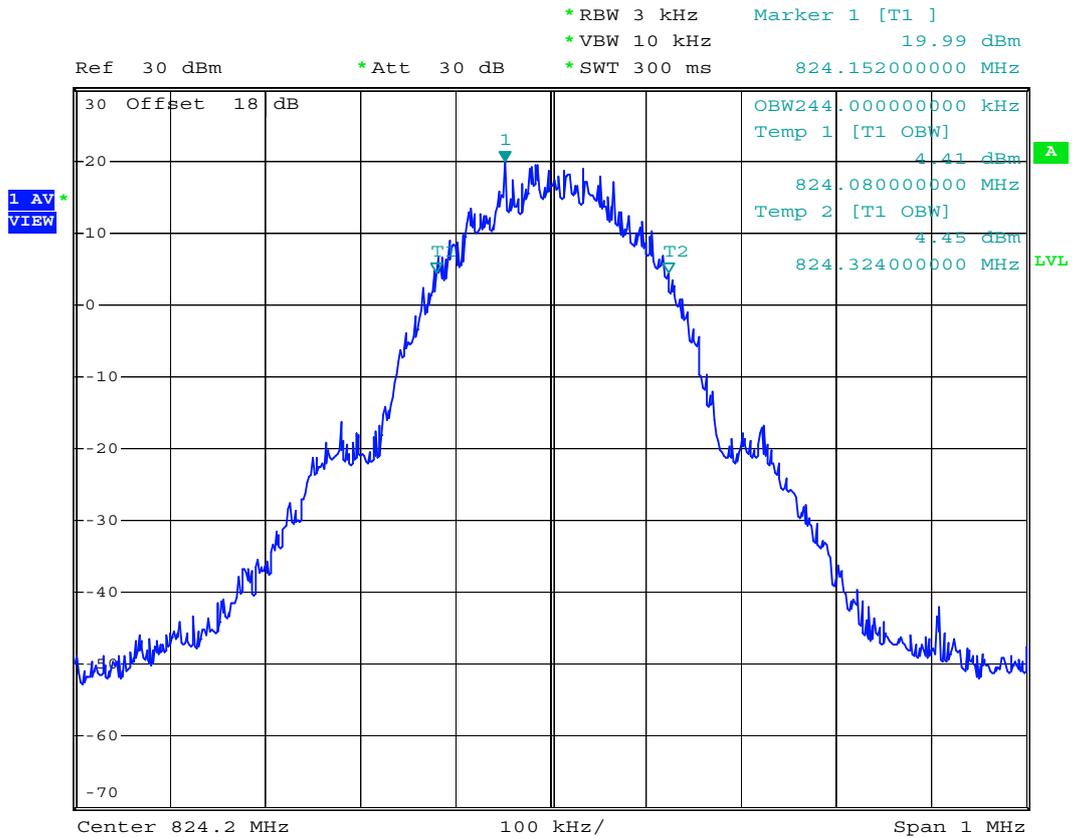
- Test Mode : GSM850 (GSM) CH128 Lower Band Edge (VBW 10kHz)
- Power State : High



Date: 13.MAY.2007 11:33:13



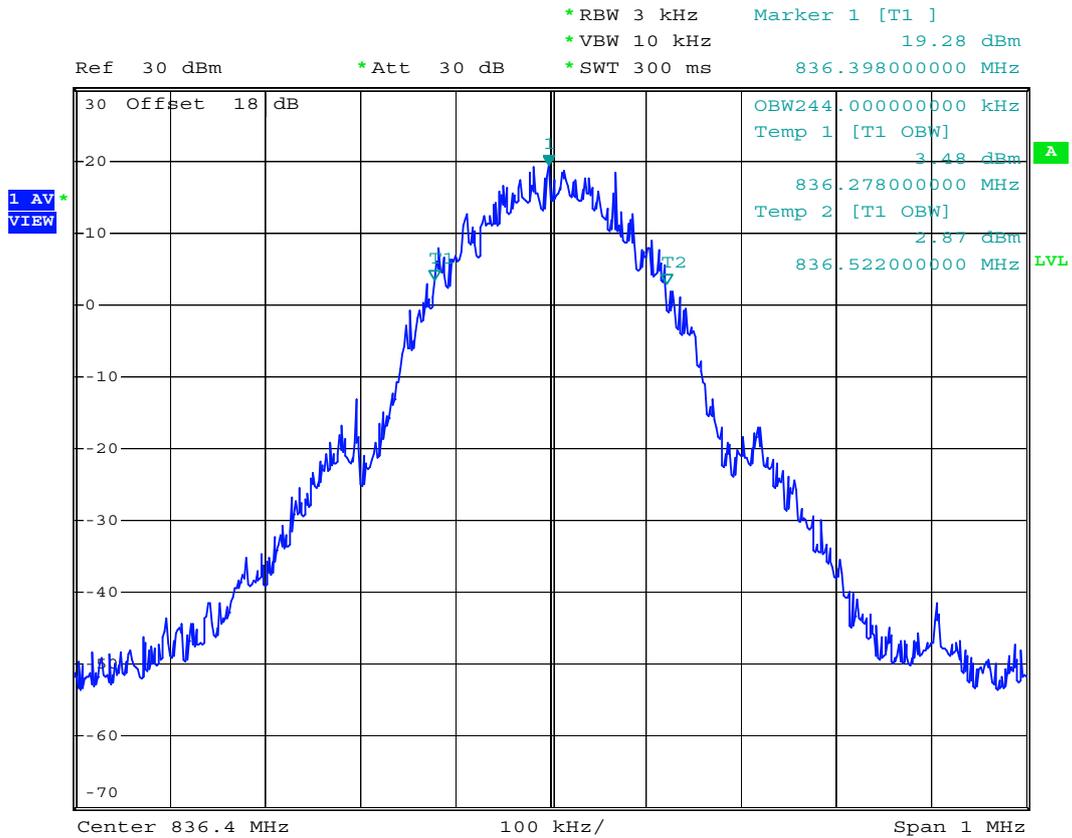
- Test Mode : GSM850 (GSM) CH128 99% Occupied Bandwidth
- Power State : High



Date: 26.JUN.2007 07:41:21



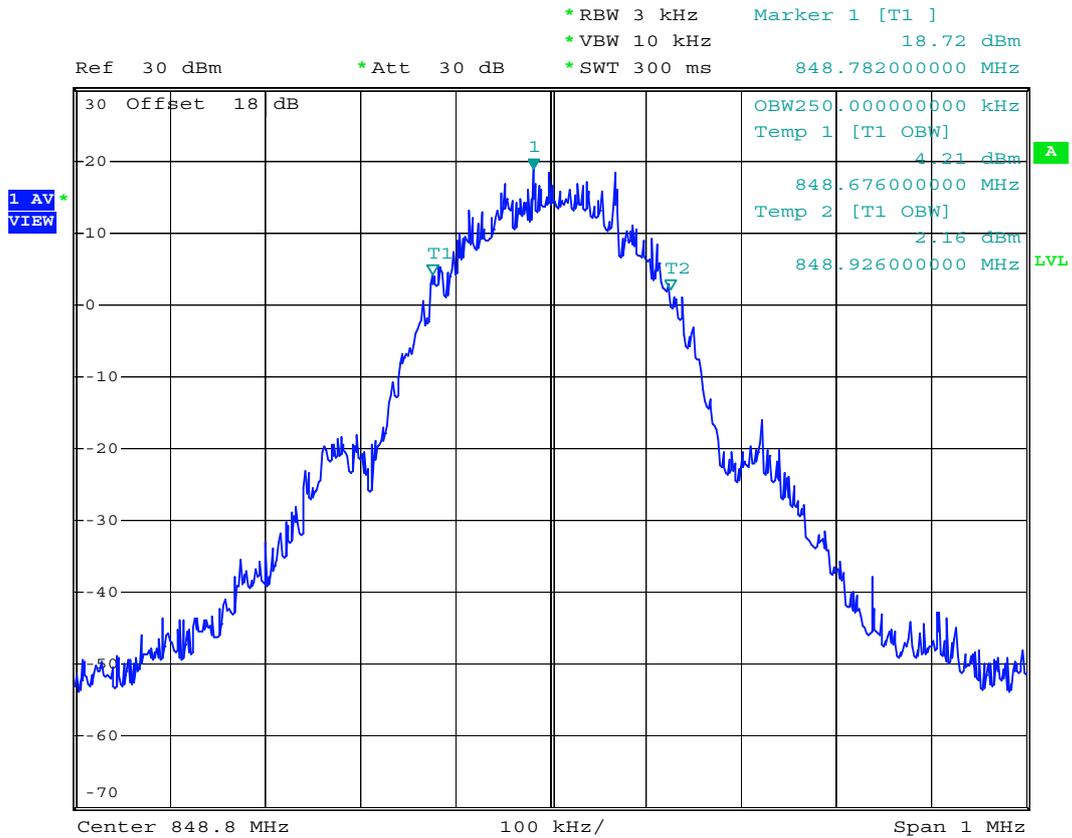
- Test Mode : GSM850 (GSM) CH189 99% Occupied Bandwidth
- Power State : High



Date: 26.JUN.2007 07:39:54



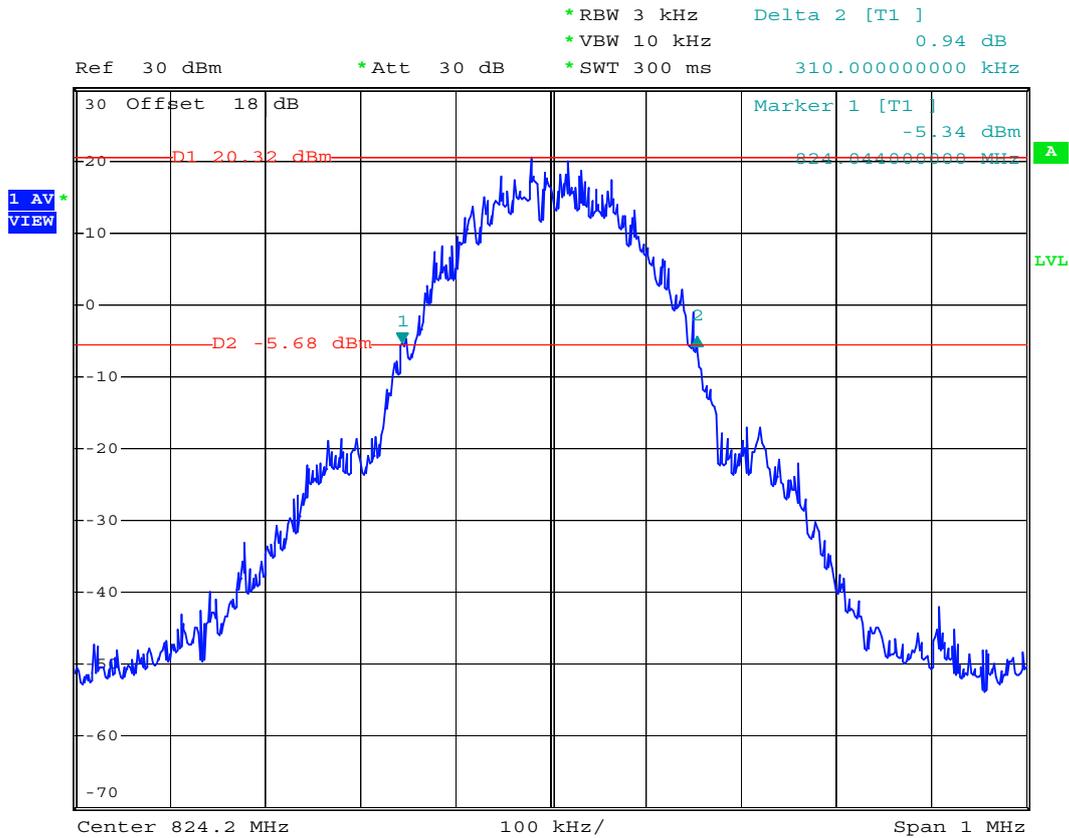
- Test Mode : GSM850 (GSM) CH 251 99% Occupied Bandwidth
- Power State : High



Date: 26.JUN.2007 07:38:52



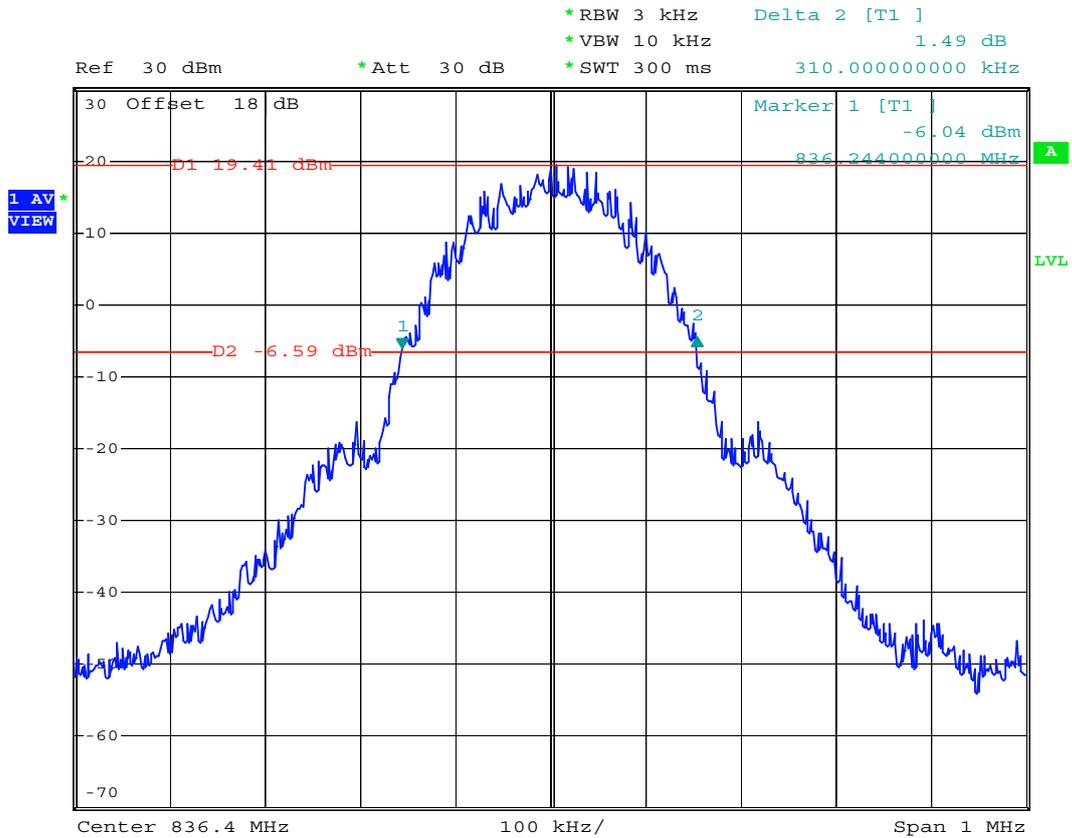
- Test Mode : GSM850 (GSM) CH128 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 07:25:20



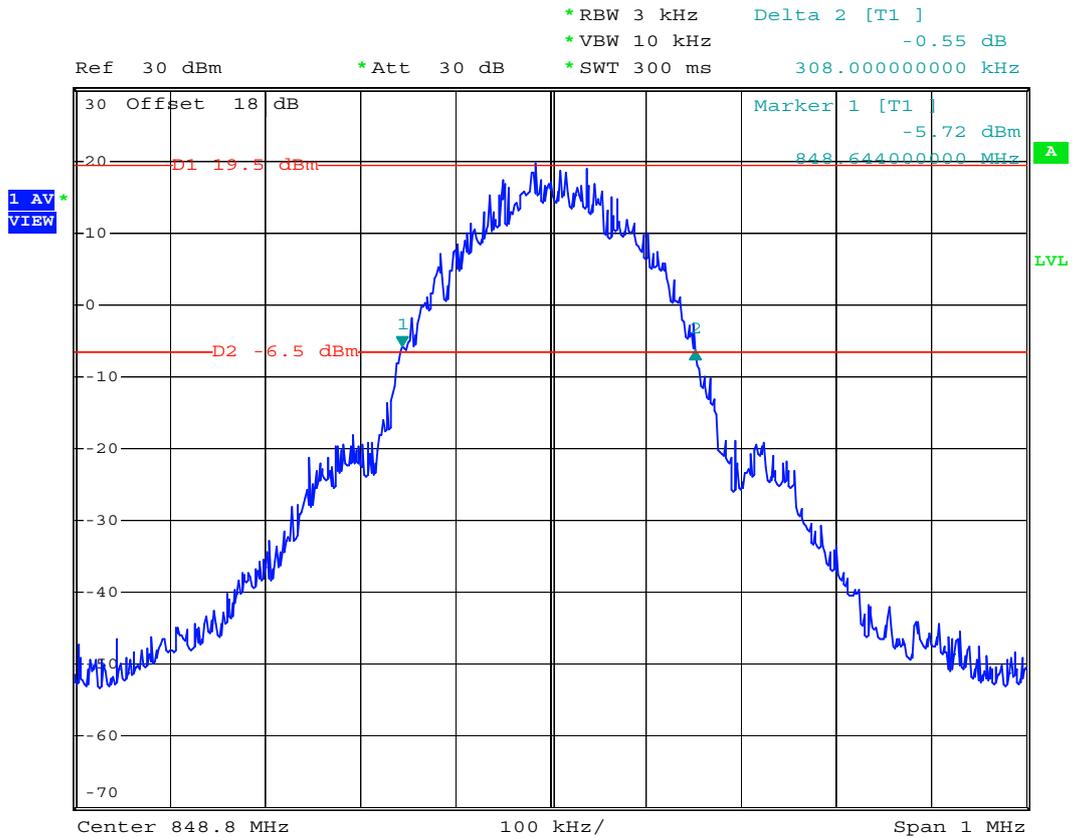
- Test Mode : GSM850 (GSM) CH189 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 07:23:25



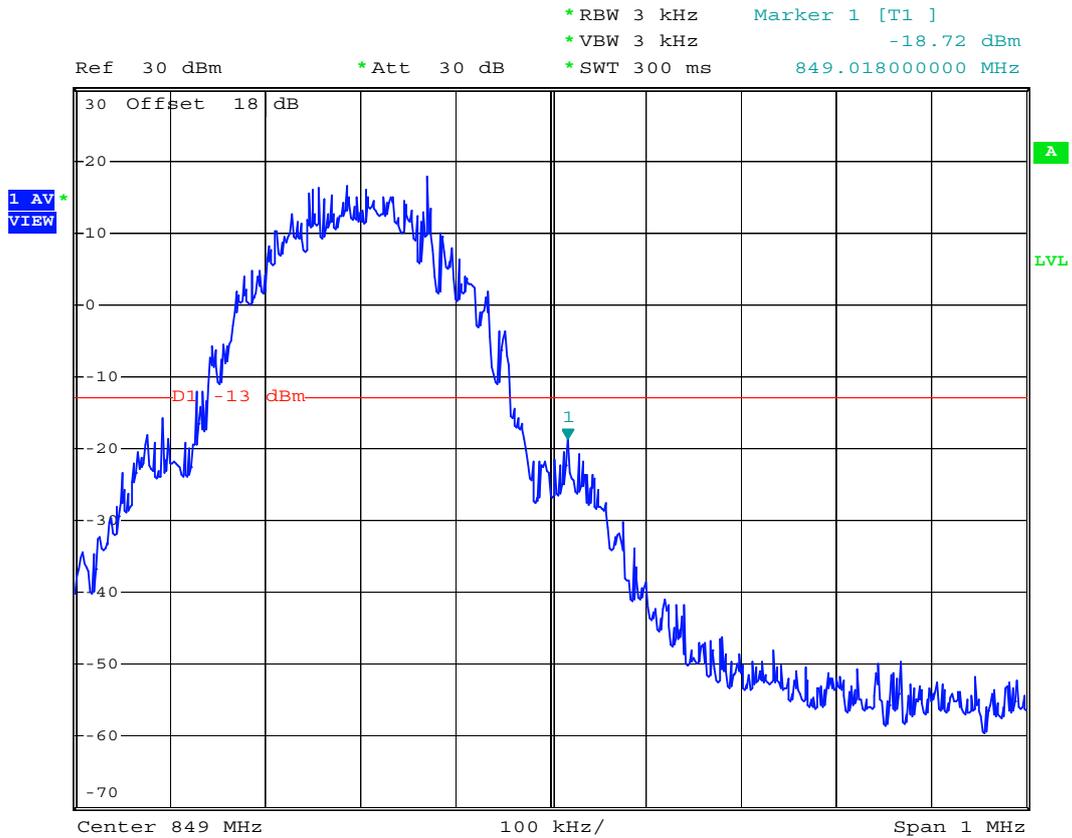
- Test Mode : GSM850 (GSM) CH 251 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 07:26:40



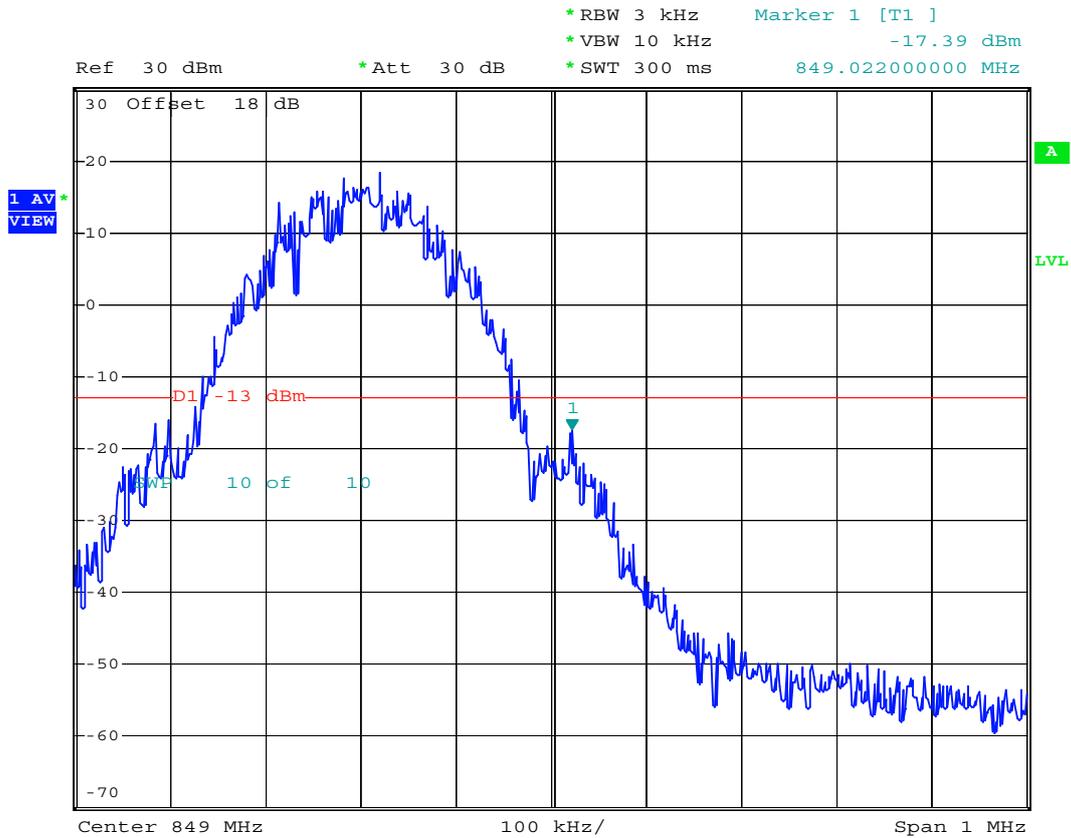
- Test Mode : GSM850 (GSM) CH251 Higher Band Edge (VBW 3kHz)
- Power State : High



Date: 13.MAY.2007 11:34:25



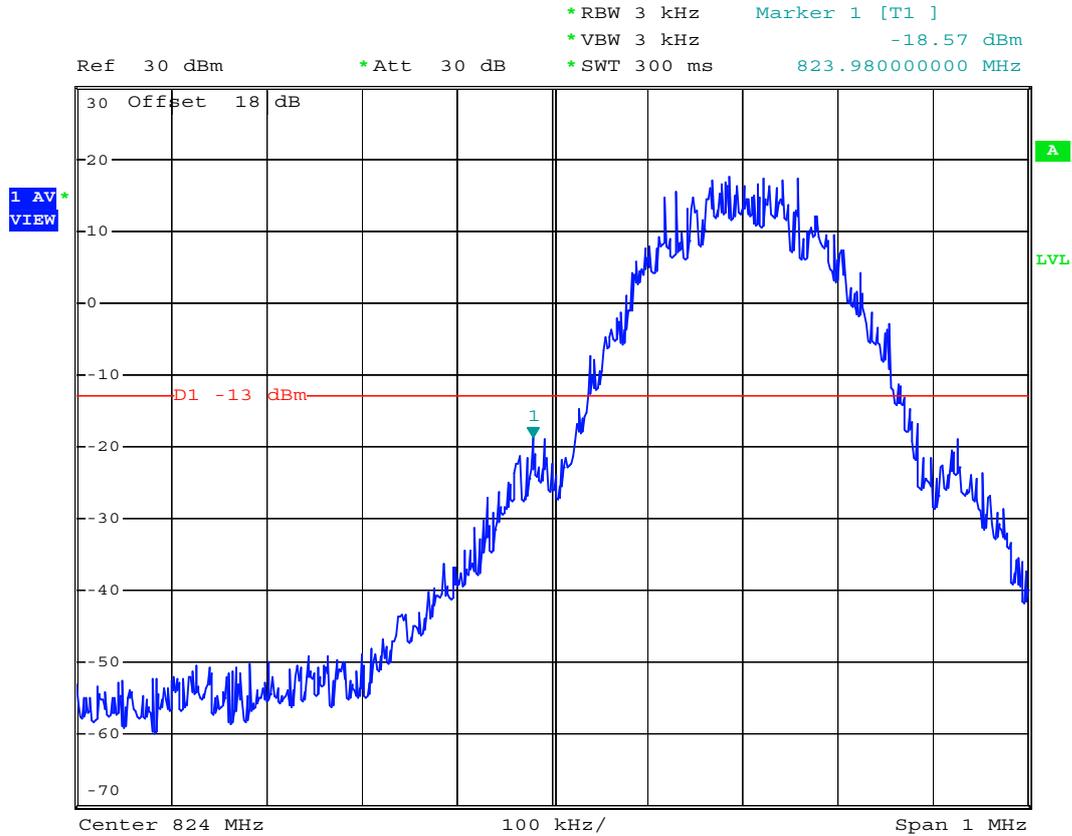
- Test Mode : GSM850 (GSM) CH251 Higher Band Edge (VBW 10kHz)
- Power State : High



Date: 13.MAY.2007 11:33:58



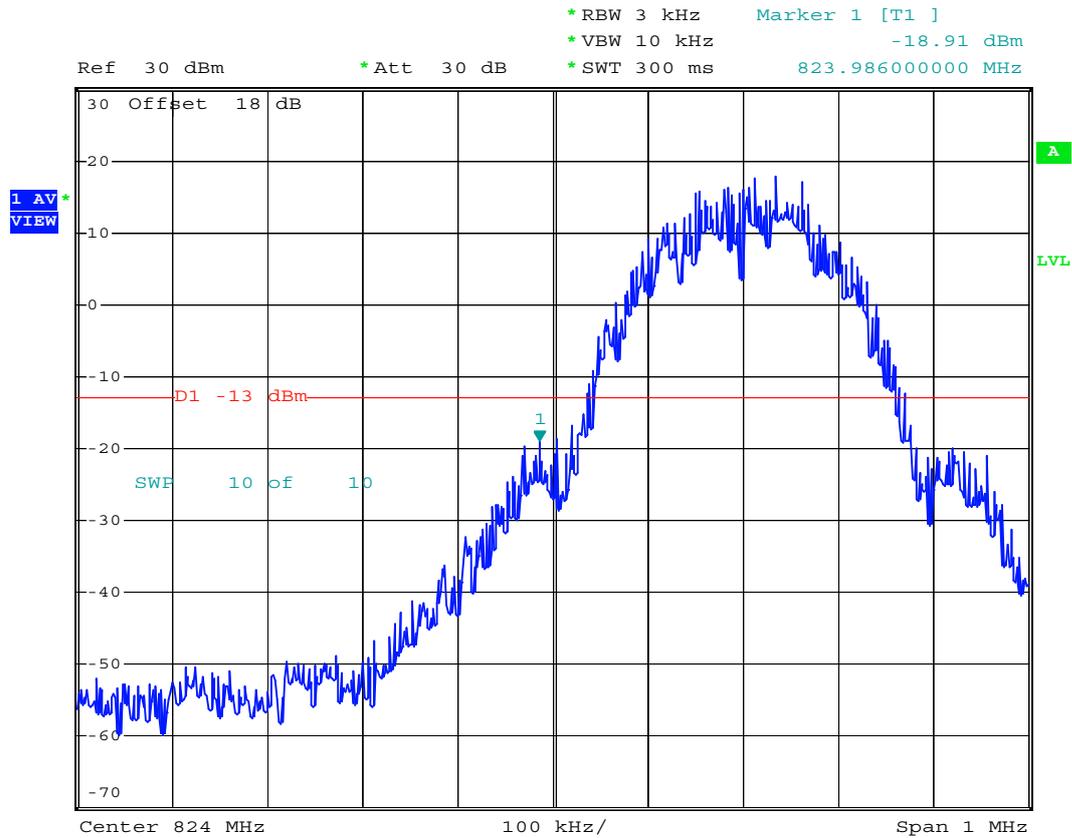
- Mode 2
- Test Mode : GSM850 (EDGE) CH128 Lower Band Edge (VBW 3kHz)
- Power State : High



Date: 13.MAY.2007 11:59:12



- Test Mode : GSM850 (EDGE) CH128 Lower Band Edge (VBW 10kHz)
- Power State : High

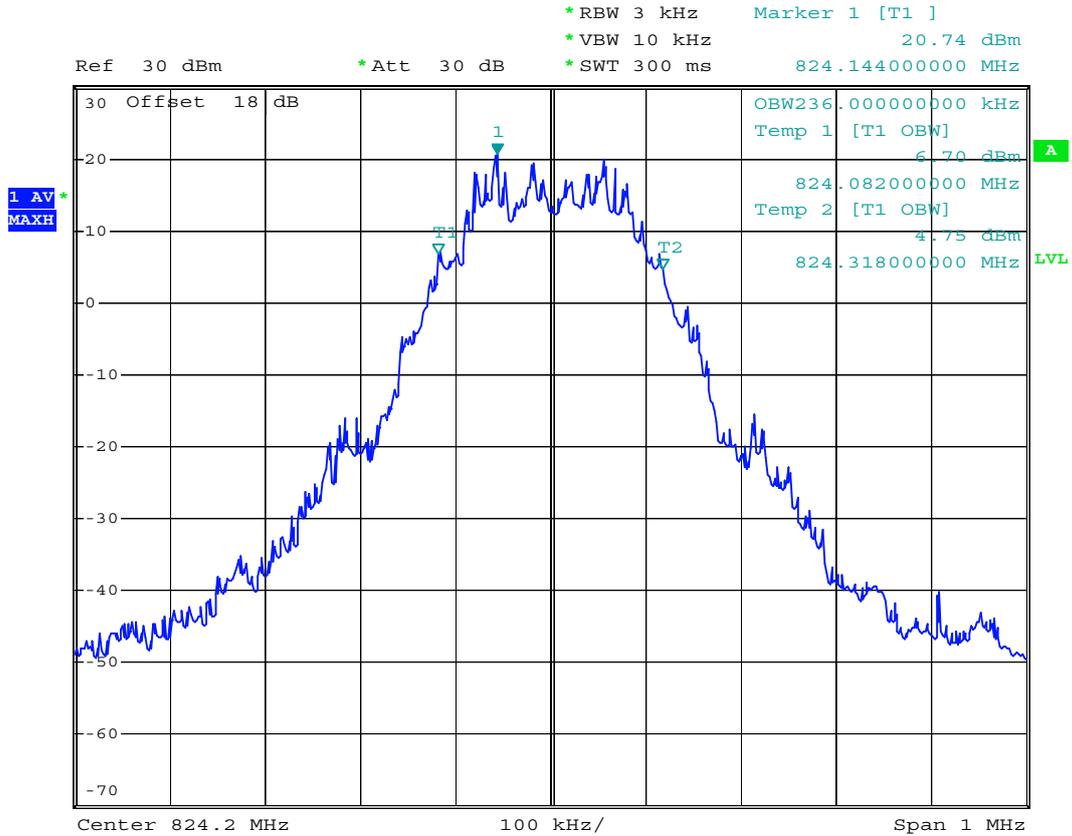


Date: 13.MAY.2007 11:59:58



Test Mode : GSM850 (EDGE) CH128 99% Occupied Bandwidth

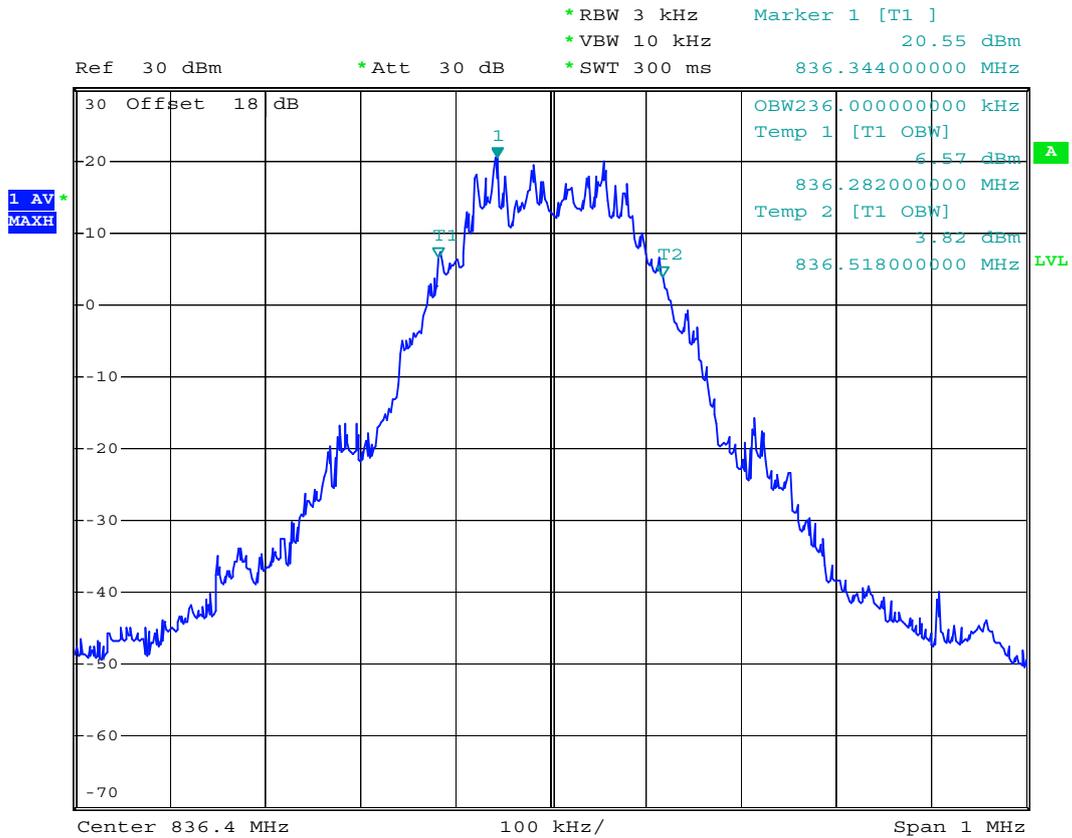
Power State : High



Date: 26.JUN.2007 07:32:33



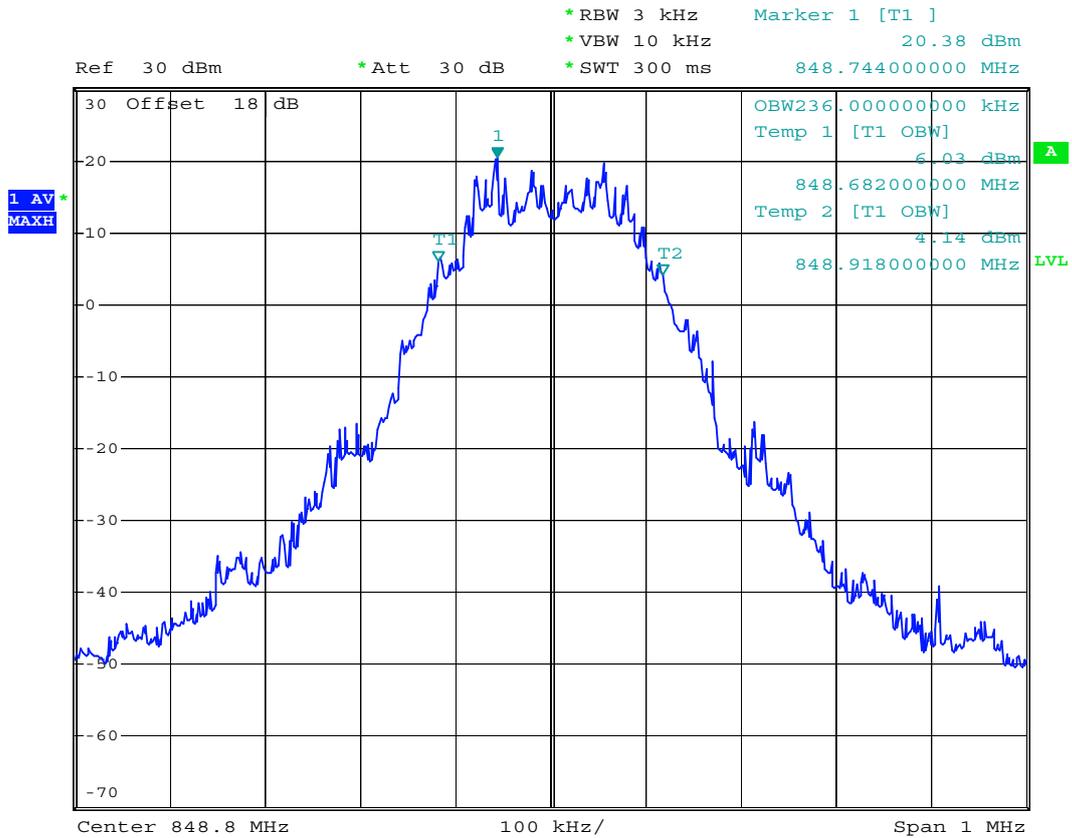
- Test Mode : GSM850 (EDGE) CH189 99% Occupied Bandwidth
- Power State : High



Date: 26.JUN.2007 07:33:23



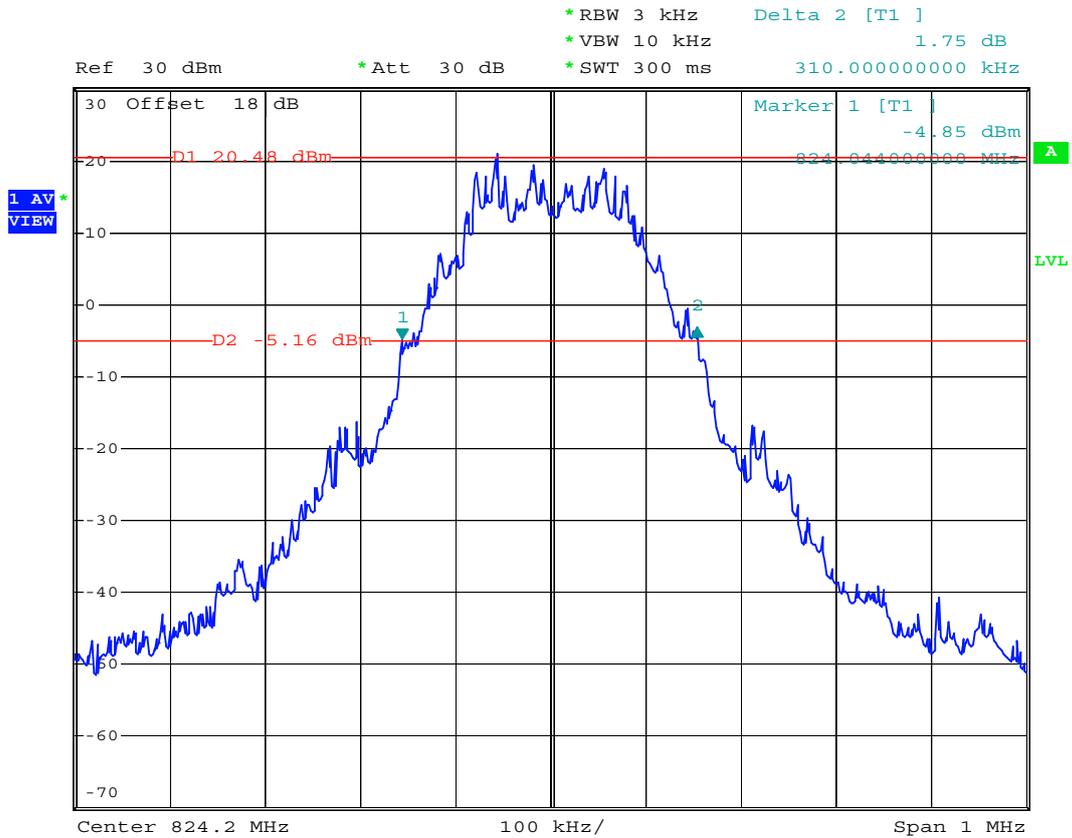
- Test Mode : GSM850 (EDGE) CH 251 99% Occupied Bandwidth
- Power State : High



Date: 26.JUN.2007 07:37:19



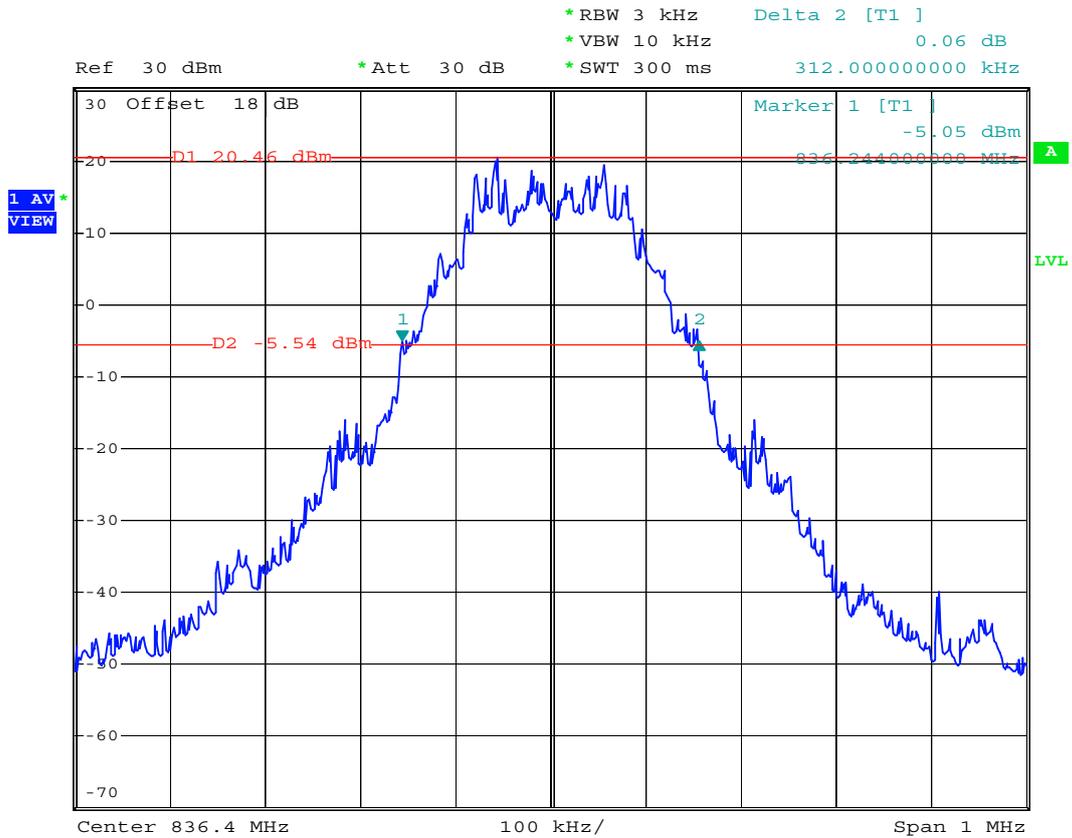
- Test Mode : GSM850 (EDGE) CH128 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 07:31:48



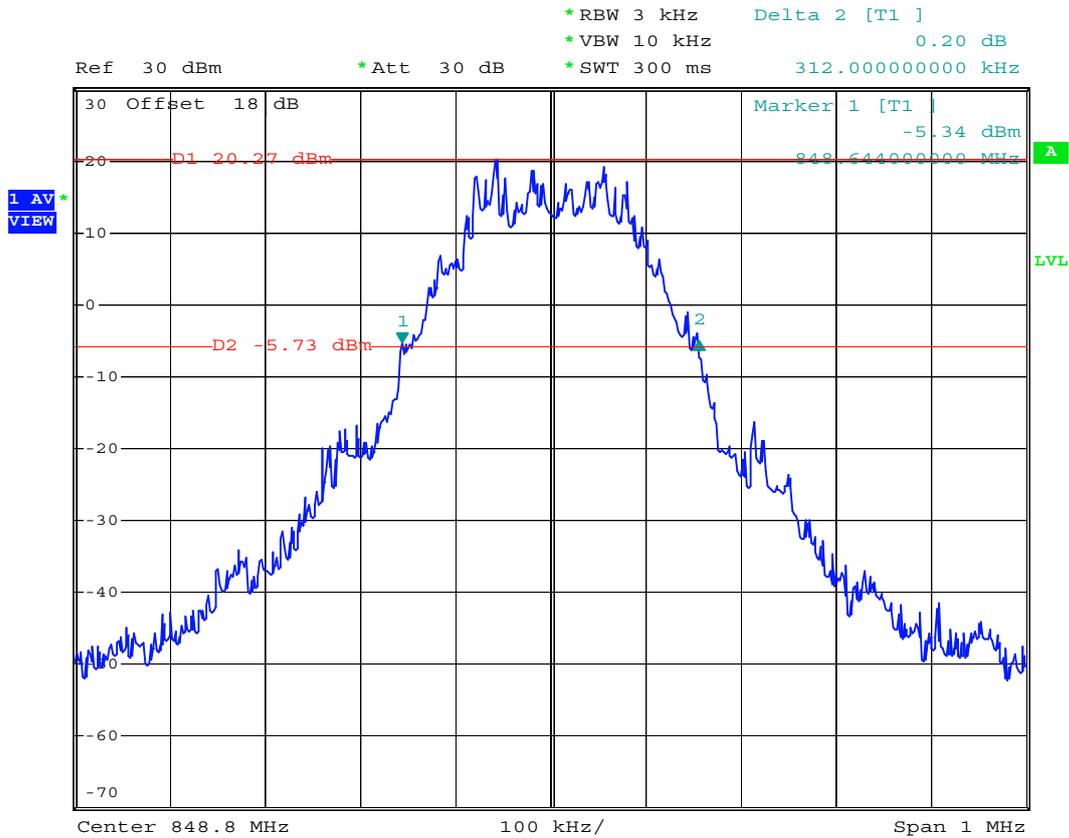
- Test Mode : GSM850 (EDGE) CH189 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 07:30:42



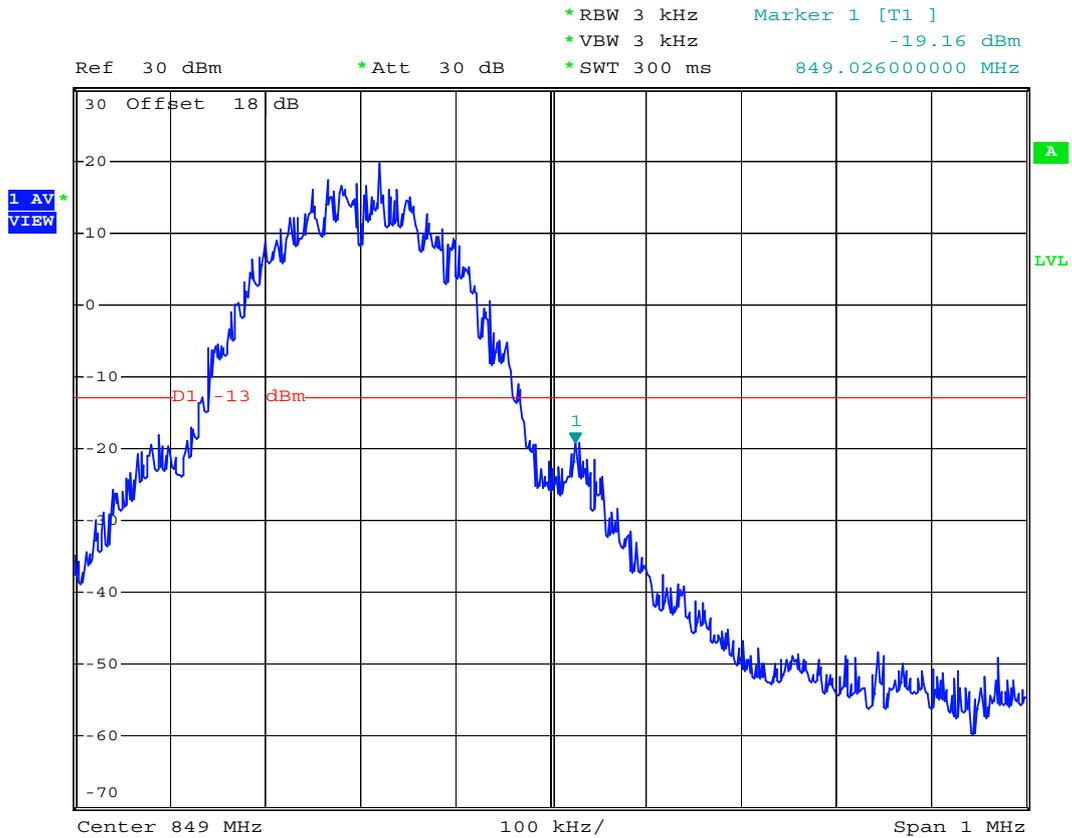
- Test Mode : GSM850 (EDGE) CH 251 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 07:29:09



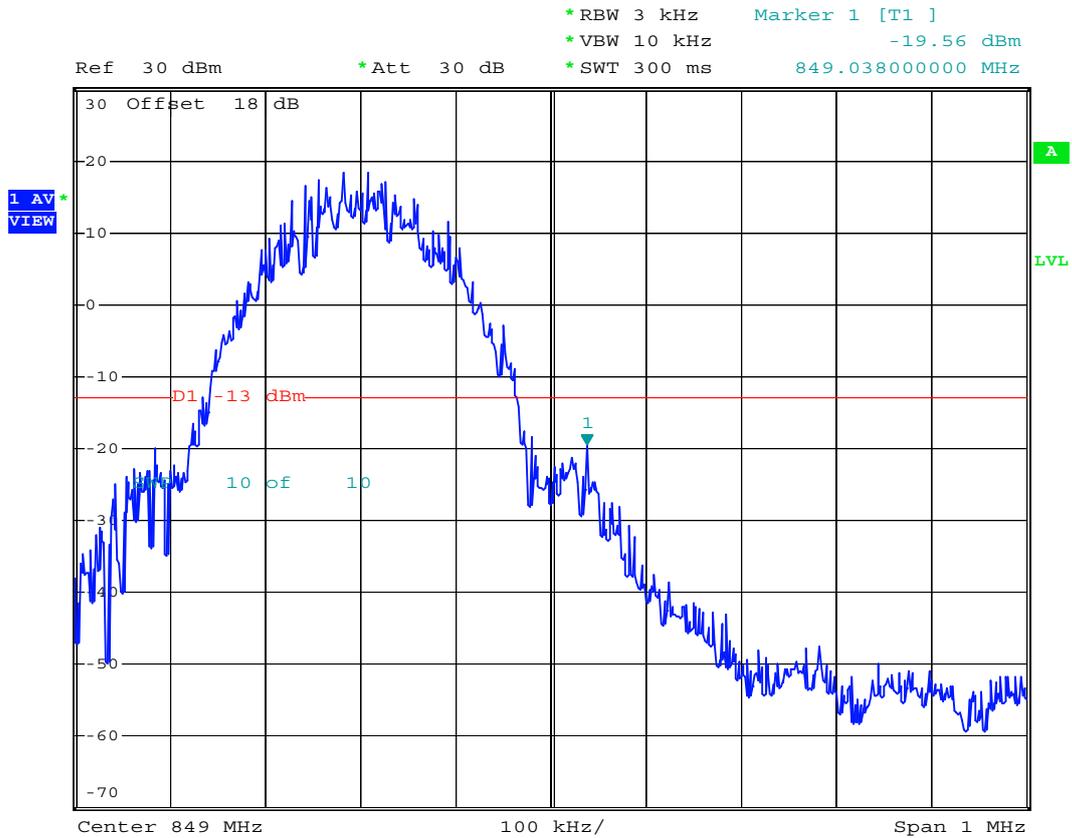
- Test Mode : GSM850 (EDGE) CH251 Higher Band Edge (VBW 3kHz)
- Power State : High



Date: 13.MAY.2007 12:01:40



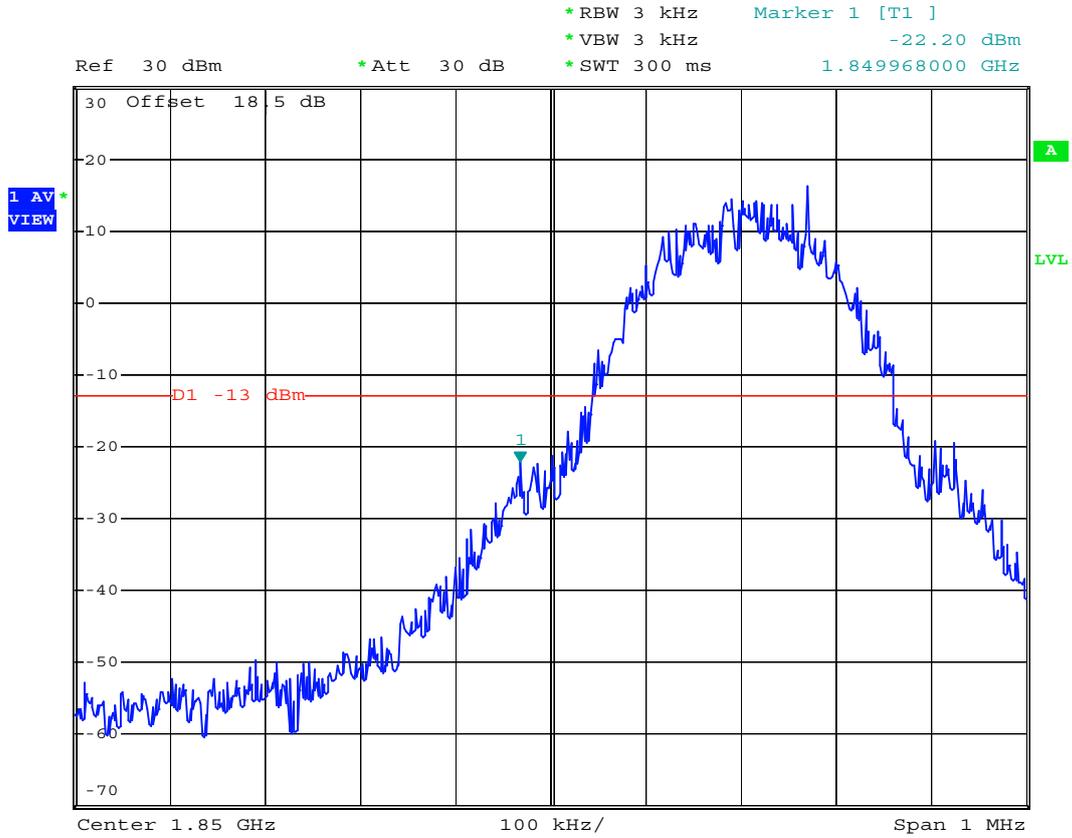
- Test Mode : GSM850 (EDGE) CH251 Higher Band Edge (VBW 10kHz)
- Power State : High



Date: 13.MAY.2007 12:00:50



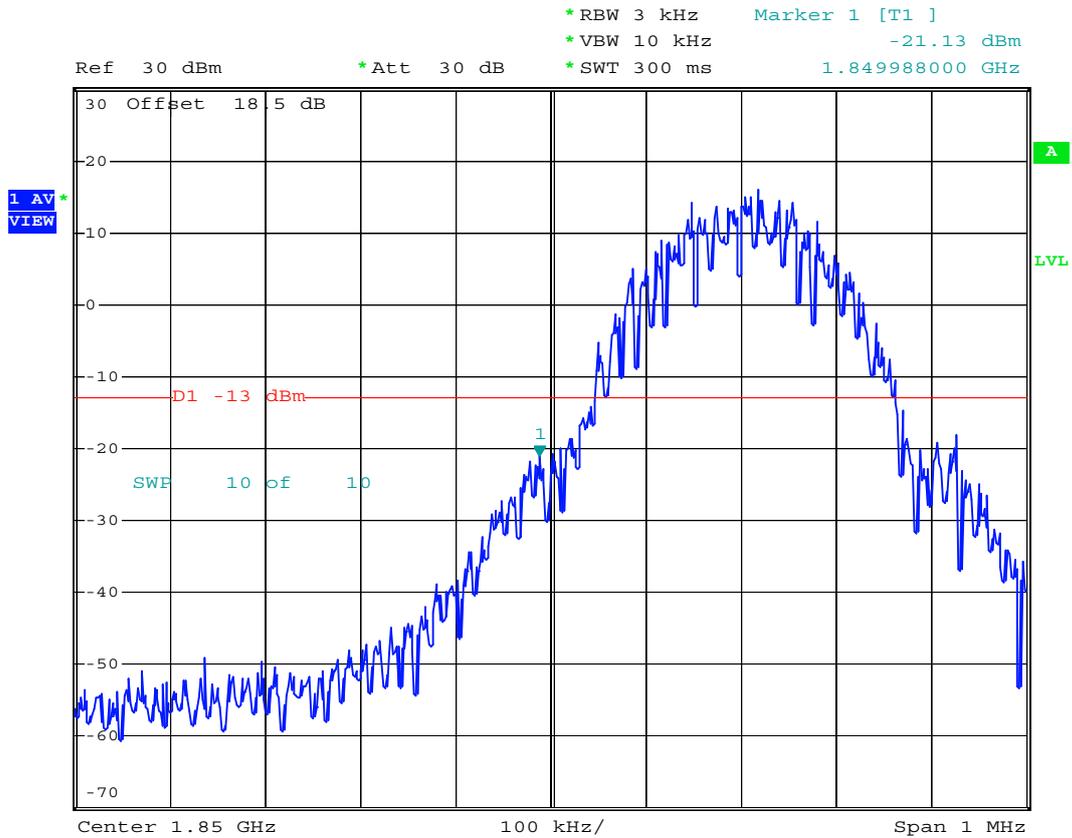
- Mode 3
- Test Mode : PCS1900 (GSM) CH512 Lower Band Edge (VBW 3kHz)
- Power State : High



Date: 13.MAY.2007 12:16:02



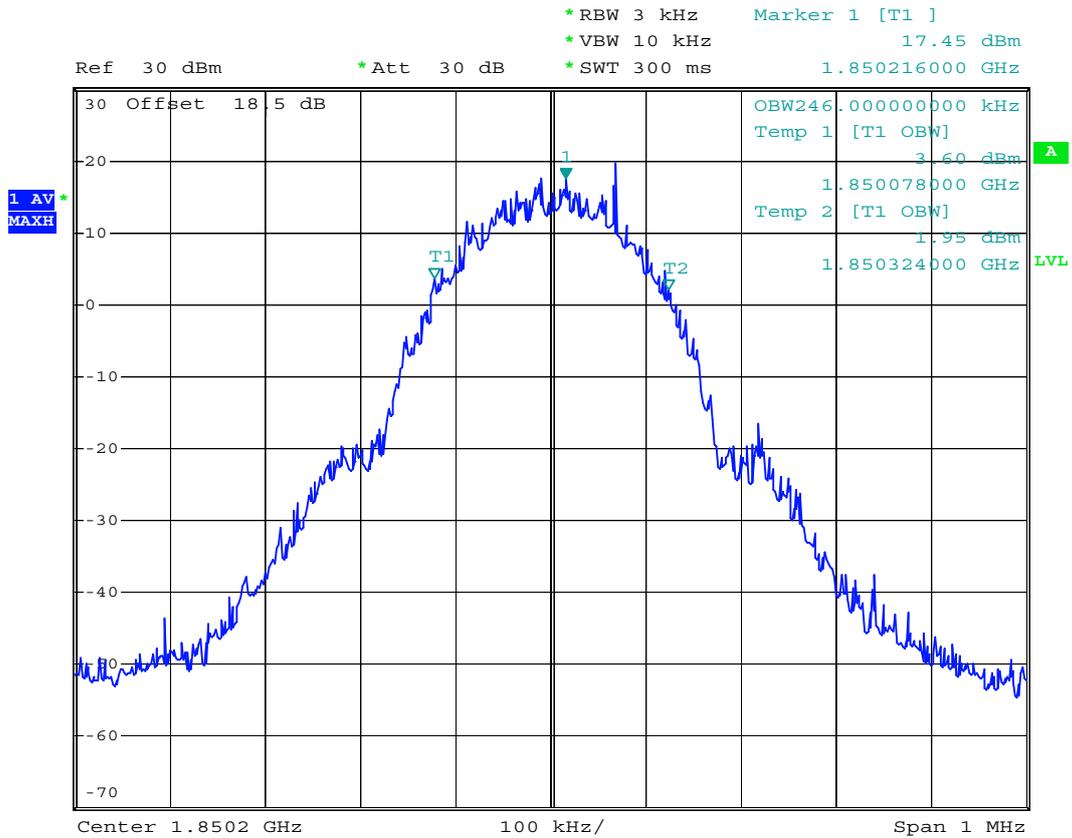
- Test Mode : PCS1900 (GSM) CH512 Lower Band Edge (VBW 10kHz)
- Power State : High



Date: 13.MAY.2007 12:16:43



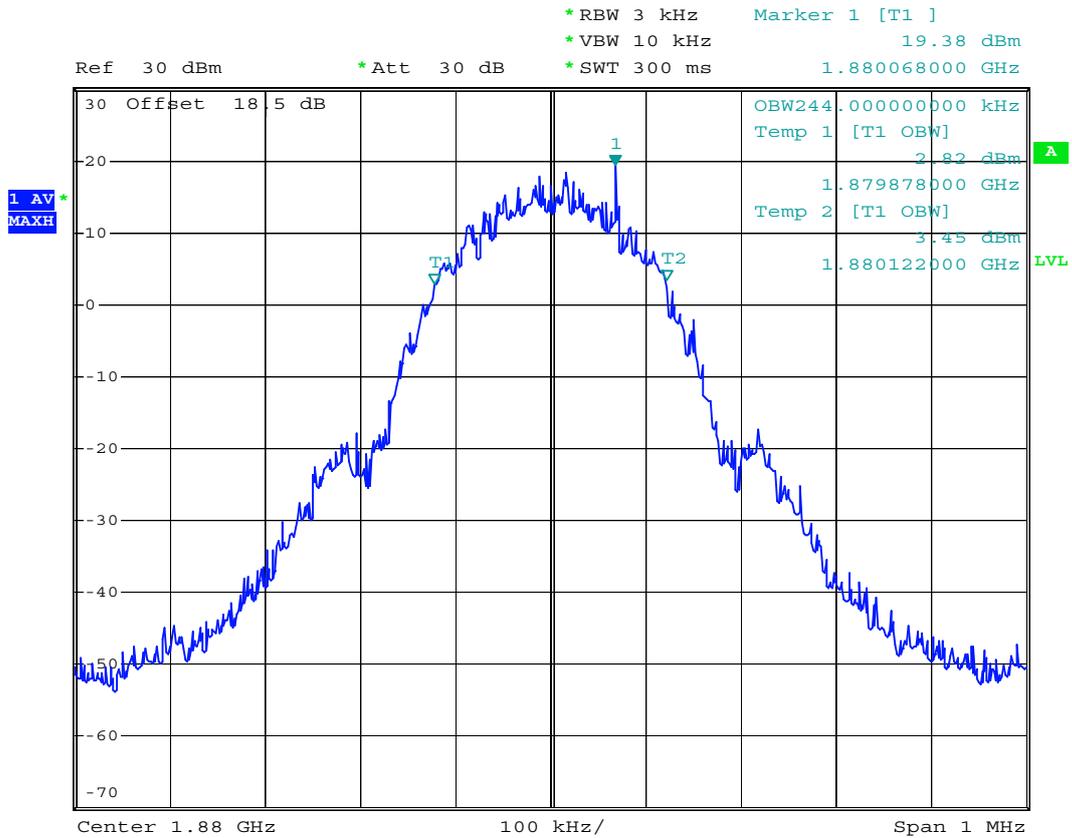
- Test Mode : PCS1900 (GSM) CH512 99% Occupied Bandwidth
- Power State : High



Date: 26.JUN.2007 06:46:12



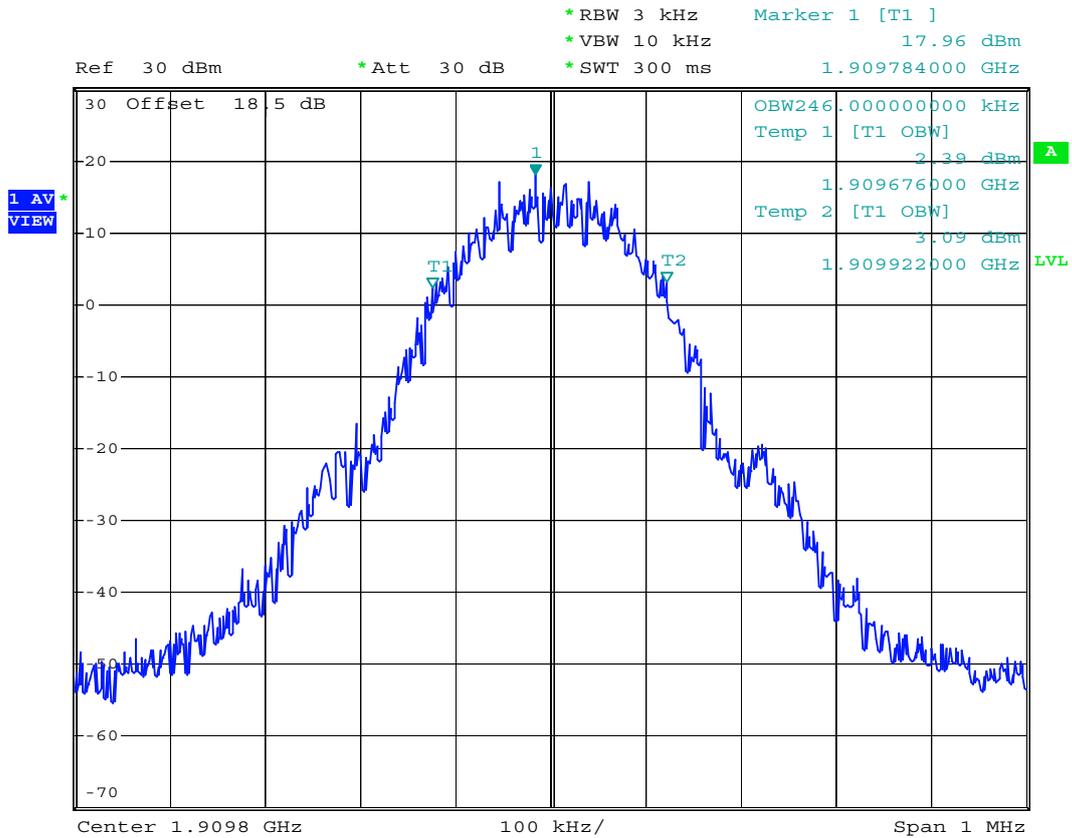
- Test Mode : PCS1900 (GSM) CH661 99% Occupied Bandwidth
- Power State : High



Date: 26.JUN.2007 06:52:35



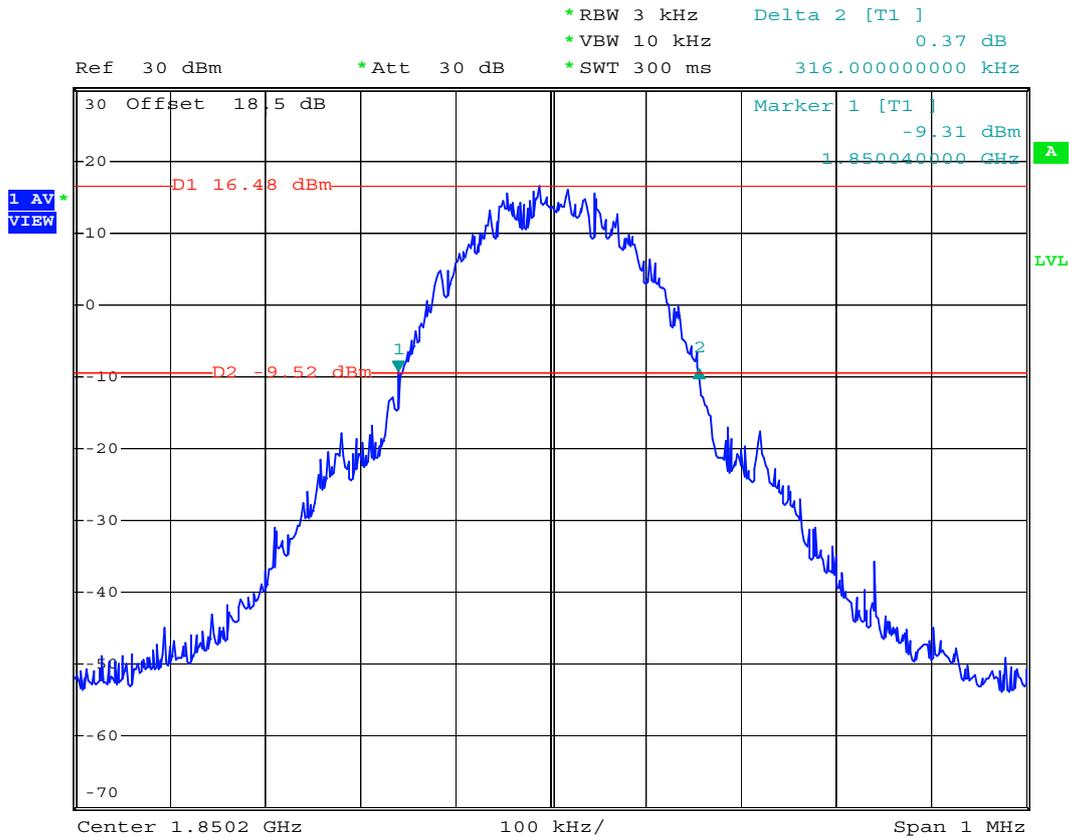
- Test Mode : PCS1900 (GSM) CH810 99% Occupied Bandwidth
- Power State : High



Date: 26.JUN.2007 06:44:04



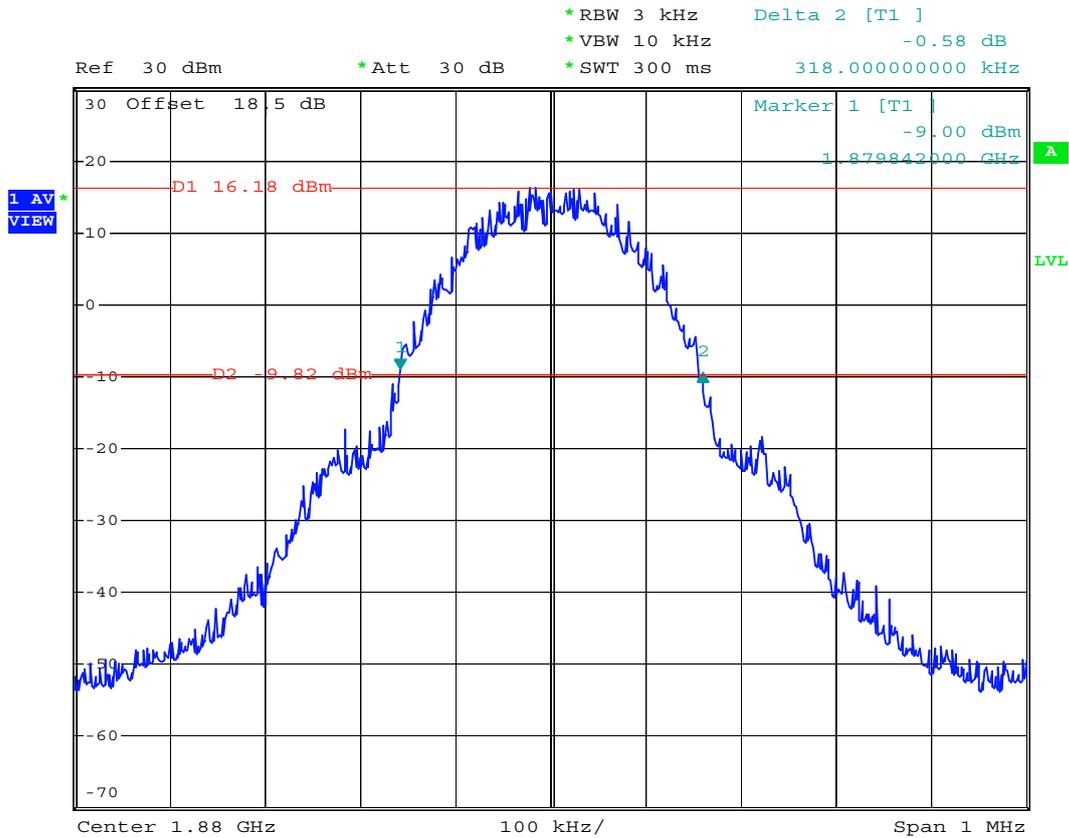
- Test Mode : PCS1900 (GSM) CH512 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 06:38:29



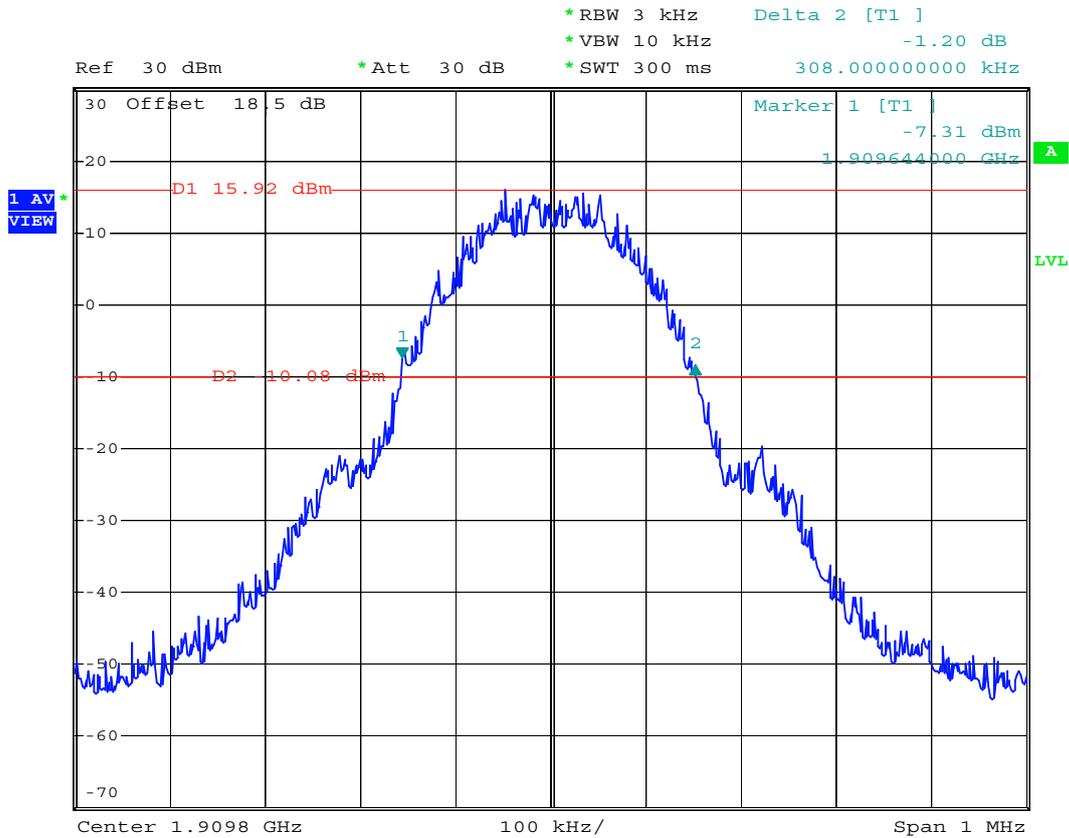
- Test Mode : PCS1900 (GSM) CH661 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 06:39:55



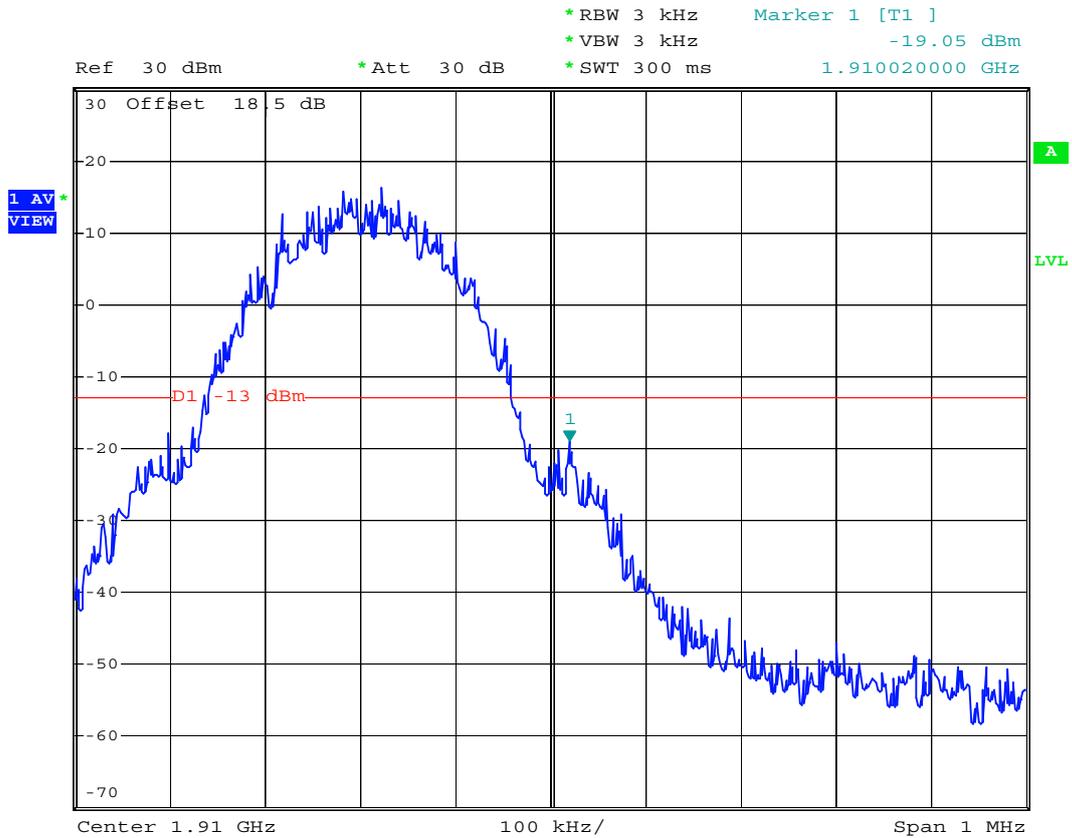
- Test Mode : PCS1900 (GSM) CH810 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 06:41:19



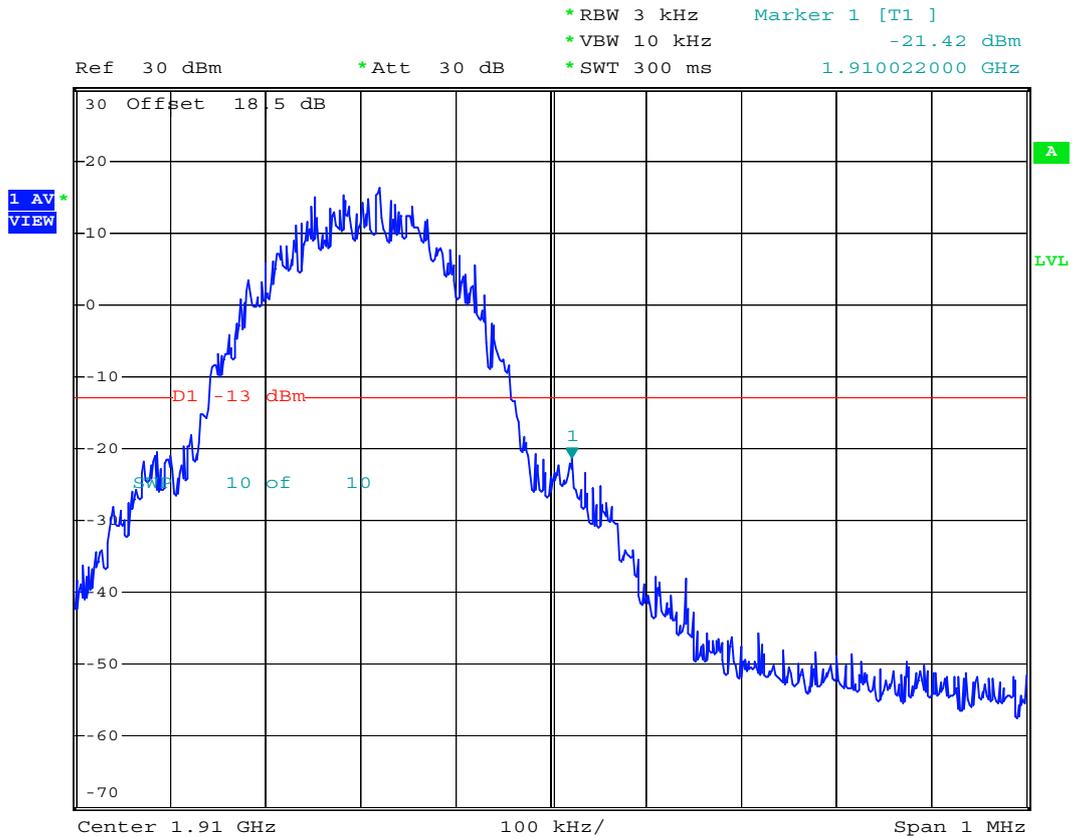
- Test Mode : PCS1900 (GSM) CH810 Higher Band Edge (VBW 3kHz)
- Power State : High



Date: 13.MAY.2007 12:18:08



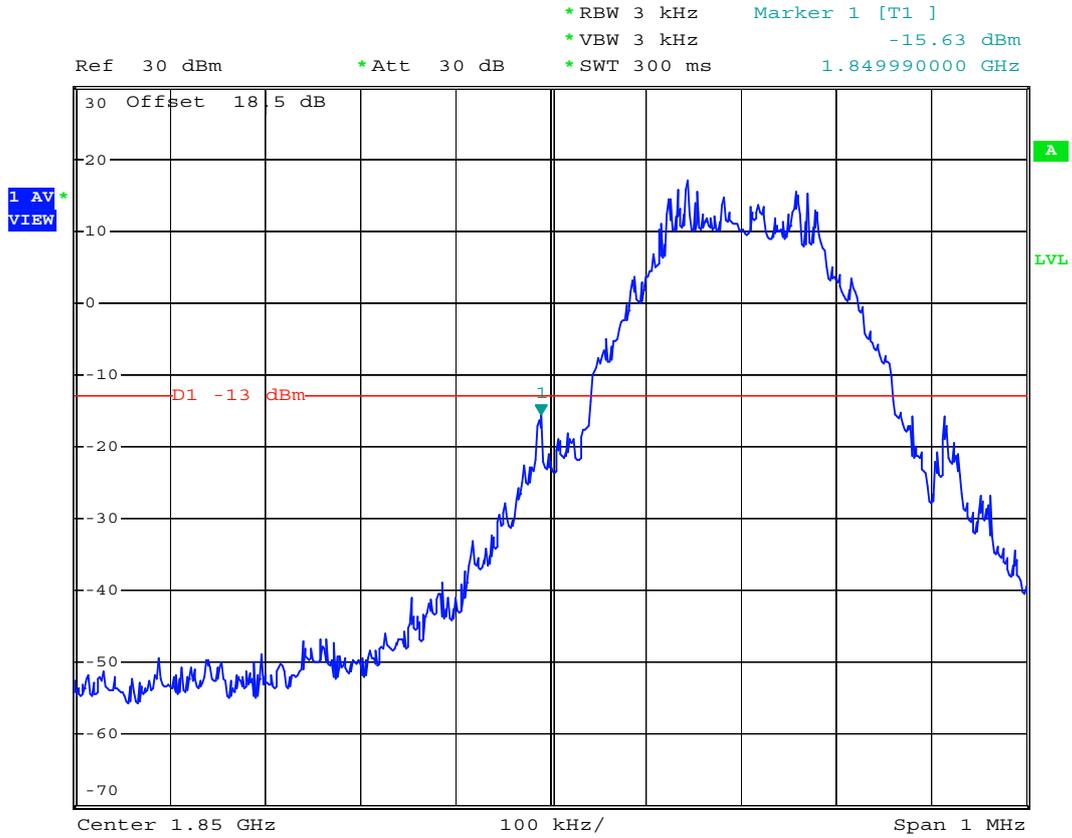
- Test Mode : PCS1900 (GSM) CH810 Higher Band Edge (VBW 10kHz)
- Power State : High



Date: 13.MAY.2007 12:17:33



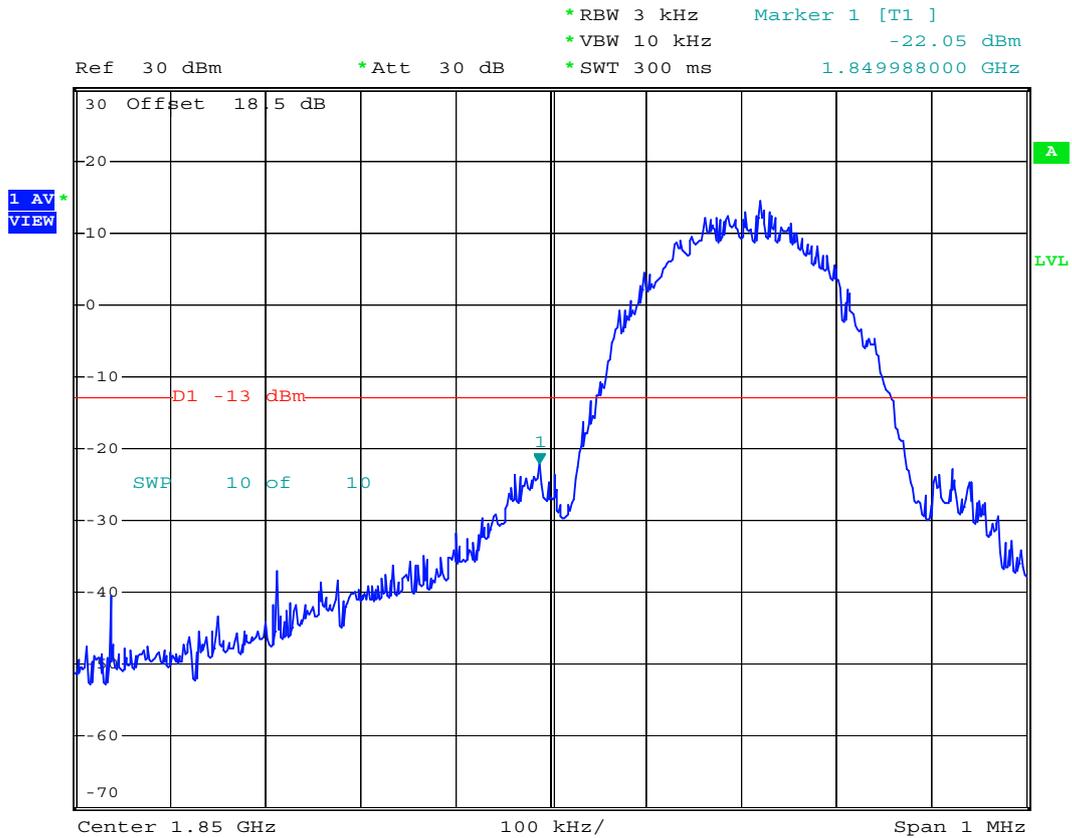
- Mode 4
- Test Mode : PCS1900 (EDGE) CH512 Lower Band Edge (VBW 3kHz)
- Power State : High



Date: 13.MAY.2007 12:43:01



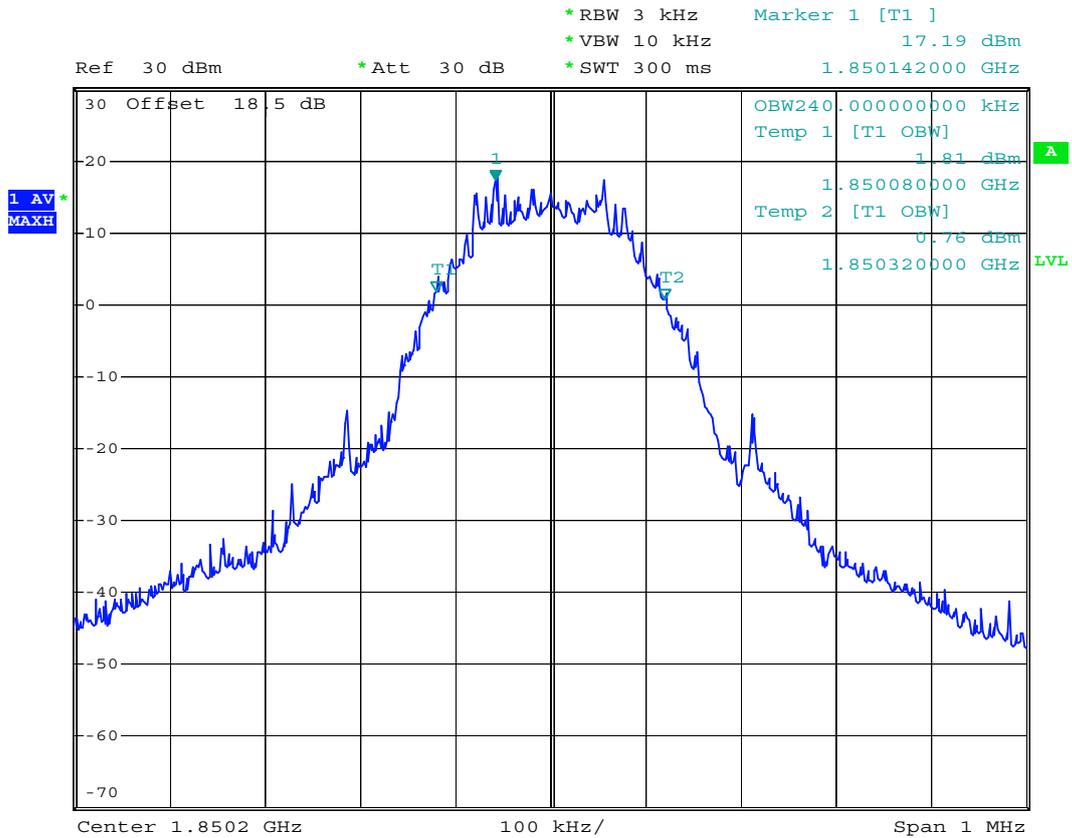
- Test Mode : PCS1900 (EDGE) CH512 Lower Band Edge (VBW 10kHz)
- Power State : High



Date: 13.MAY.2007 12:48:49



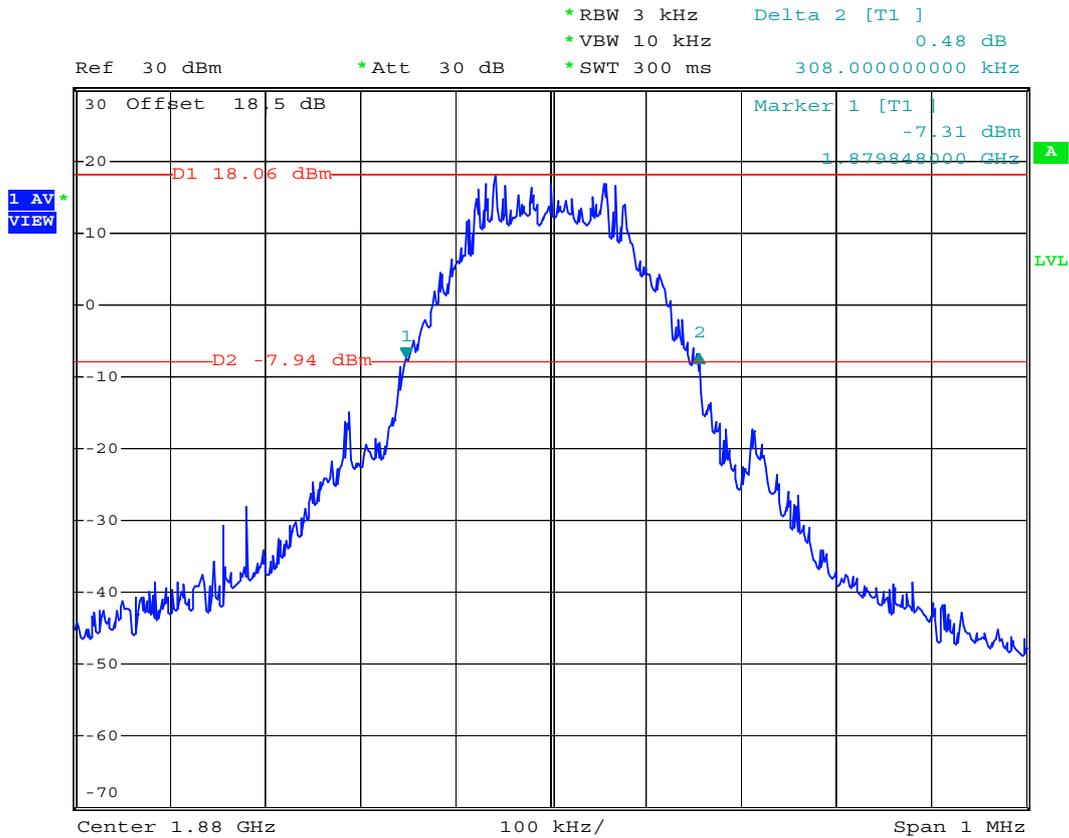
- Test Mode : PCS1900 (EDGE) CH512 99% Occupied Bandwidth
- Power State : High



Date: 26.JUN.2007 06:48:23



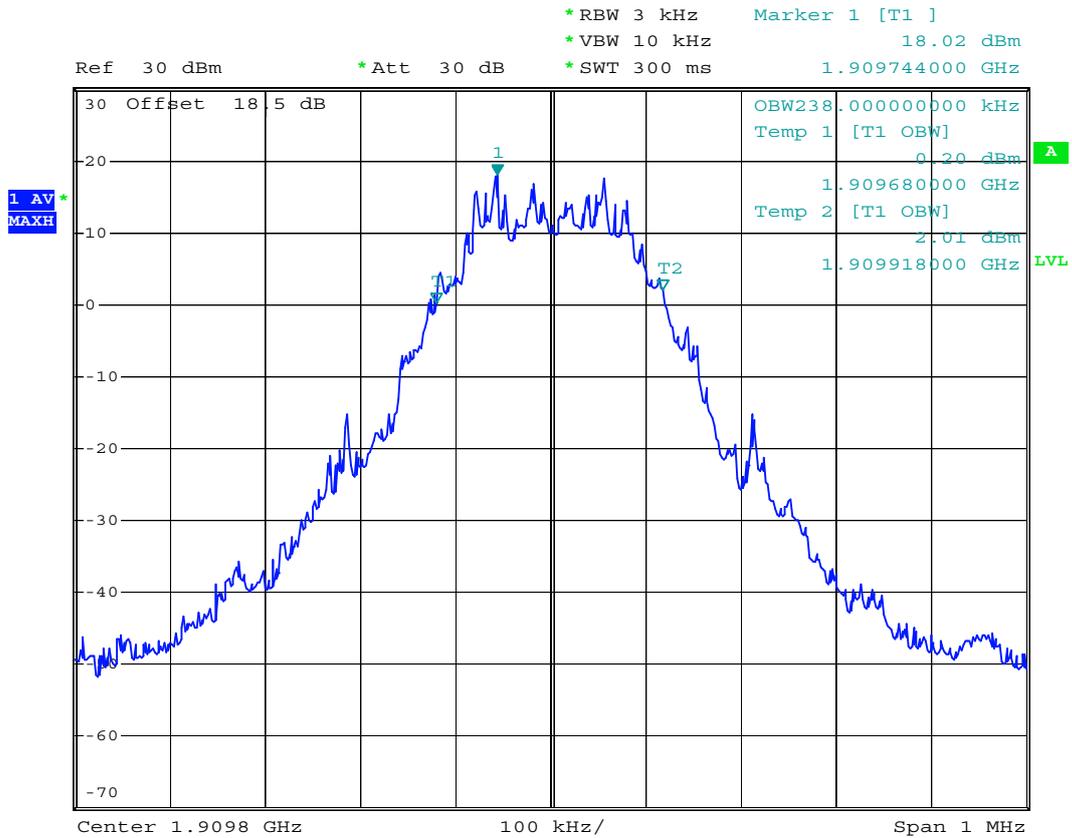
- Test Mode : PCS1900 (EDGE) CH661 99% Occupied Bandwidth
- Power State : High



Date: 26.JUN.2007 07:18:44



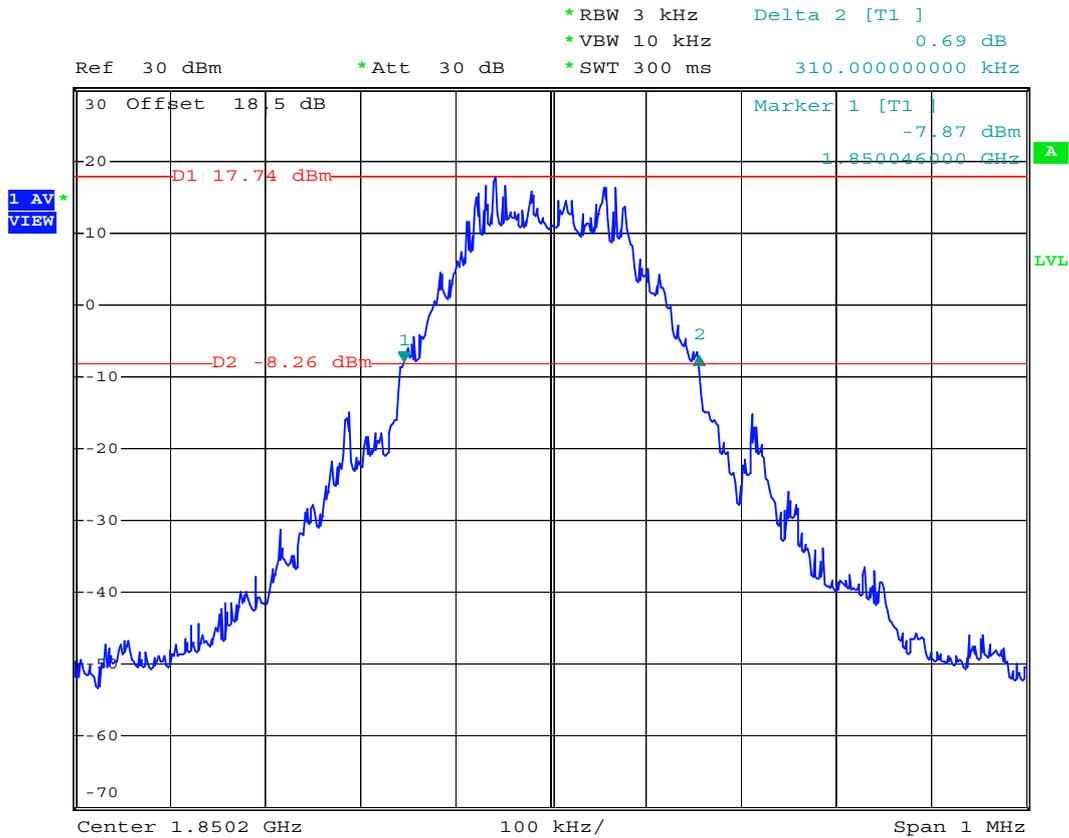
- Test Mode : PCS1900 (EDGE) CH810 99% Occupied Bandwidth
- Power State : High



Date: 26.JUN.2007 06:51:27



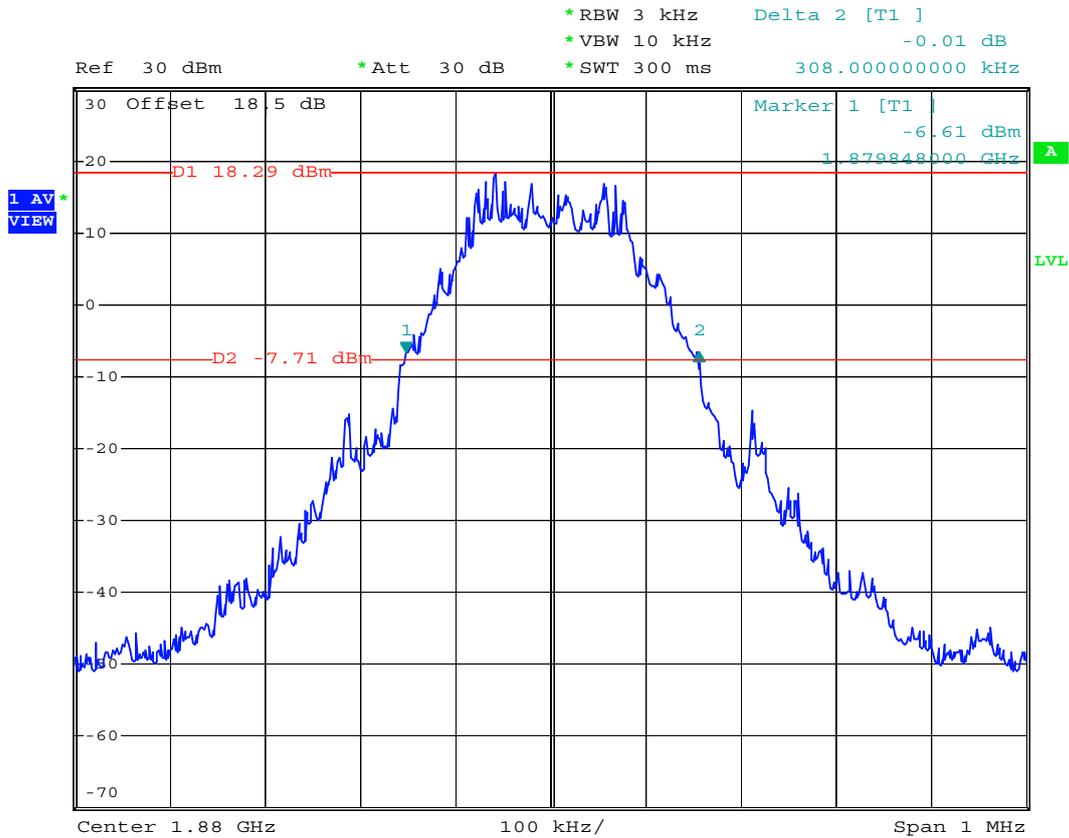
- Test Mode : PCS1900 (EDGE) CH512 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 06:56:55



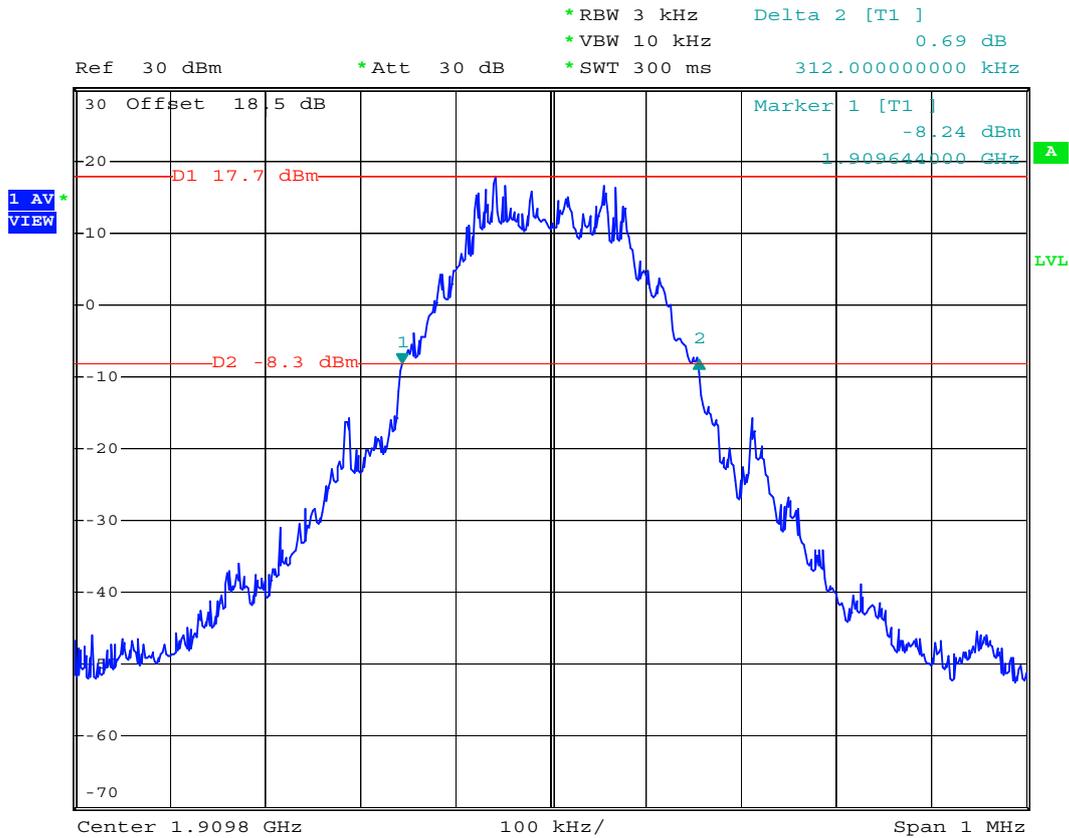
- Test Mode : PCS1900 (EDGE) CH661 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 06:58:45



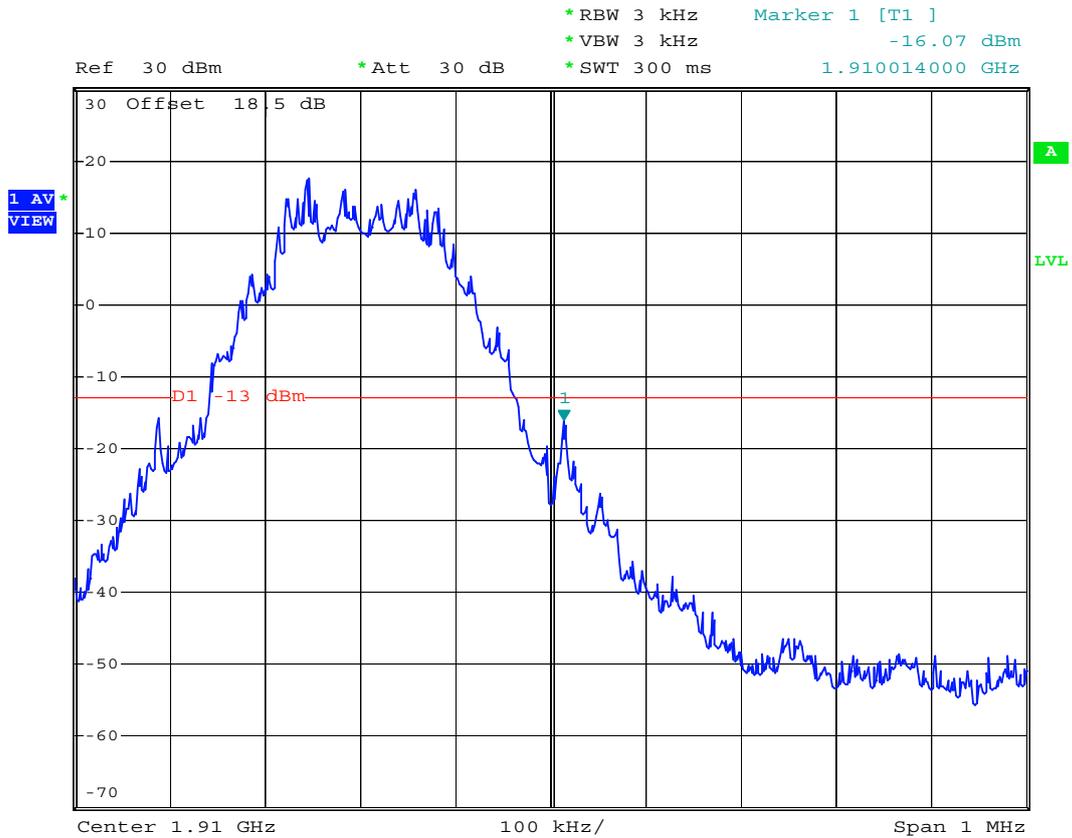
- Test Mode : PCS1900 (EDGE) CH810 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 07:00:27



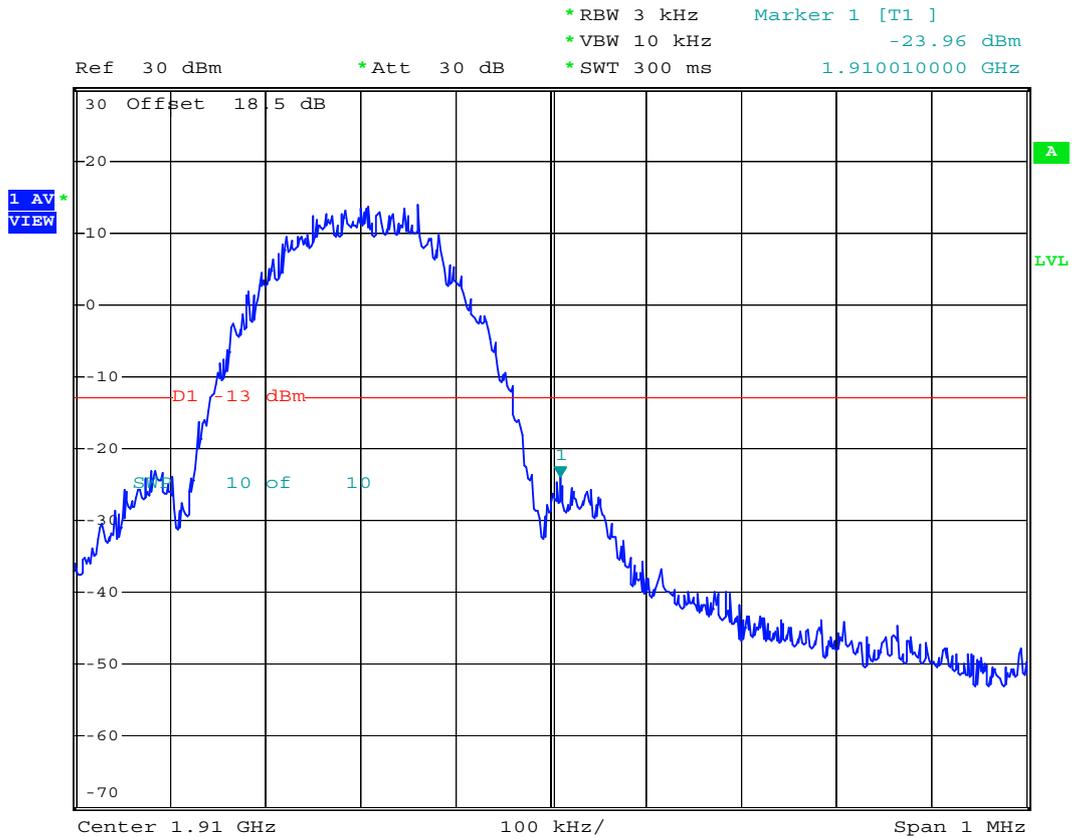
- Test Mode : PCS1900(EDGE) CH810 Higher Band Edge (VBW 3kHz)
- Power State : High



Date: 13.MAY.2007 12:49:57



- Test Mode : PCS1900(EDGE) CH810 Higher Band Edge (VBW 10kHz)
- Power State : High



Date: 13.MAY.2007 12:49:28



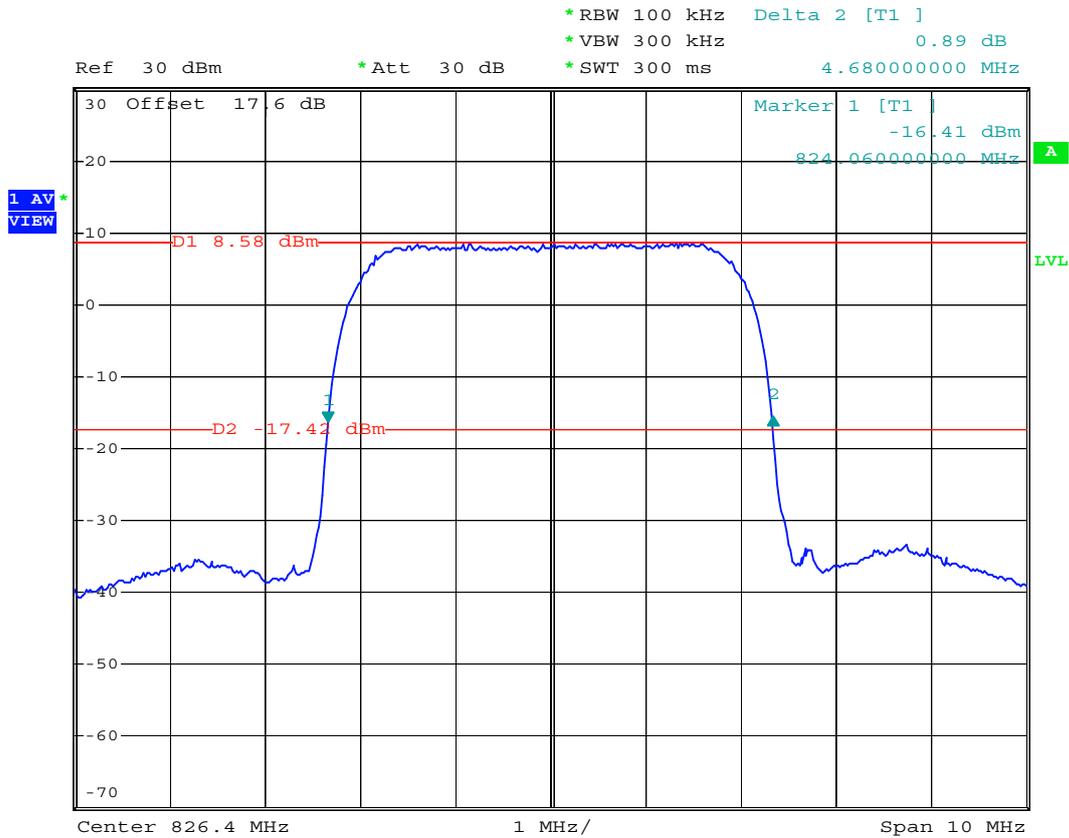








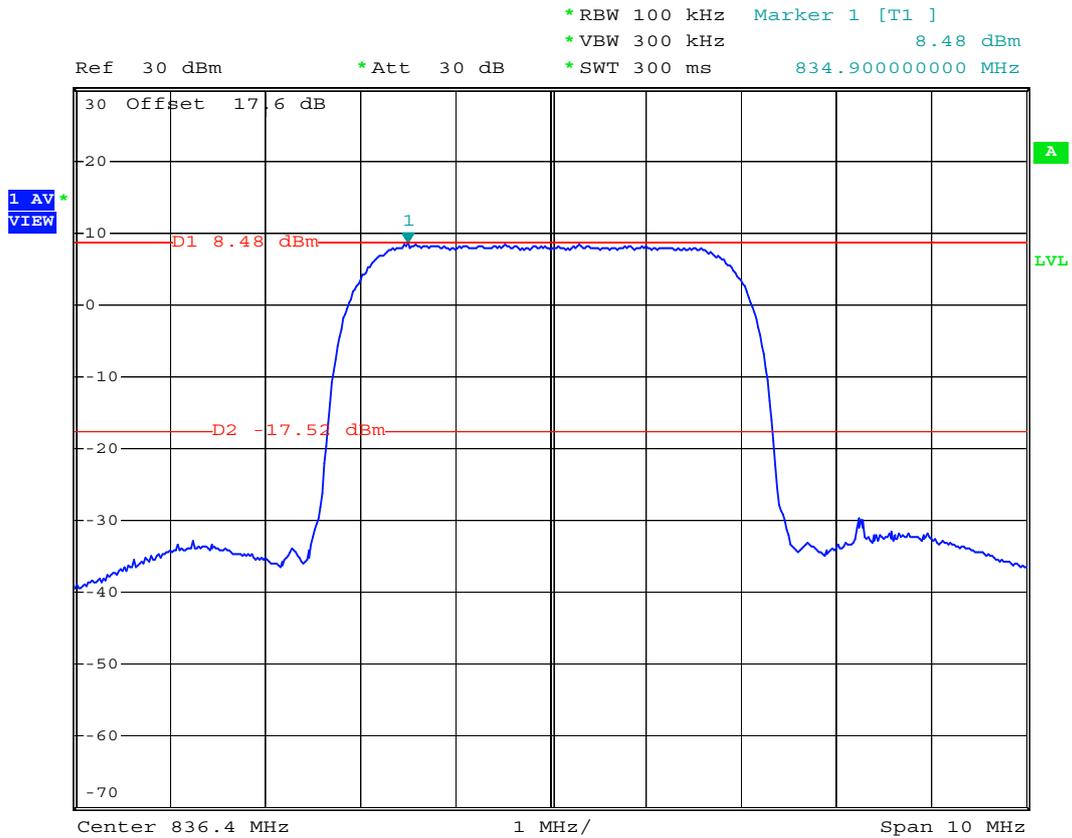
- Test Mode : WCDMA Band V CH4132 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 05:15:58



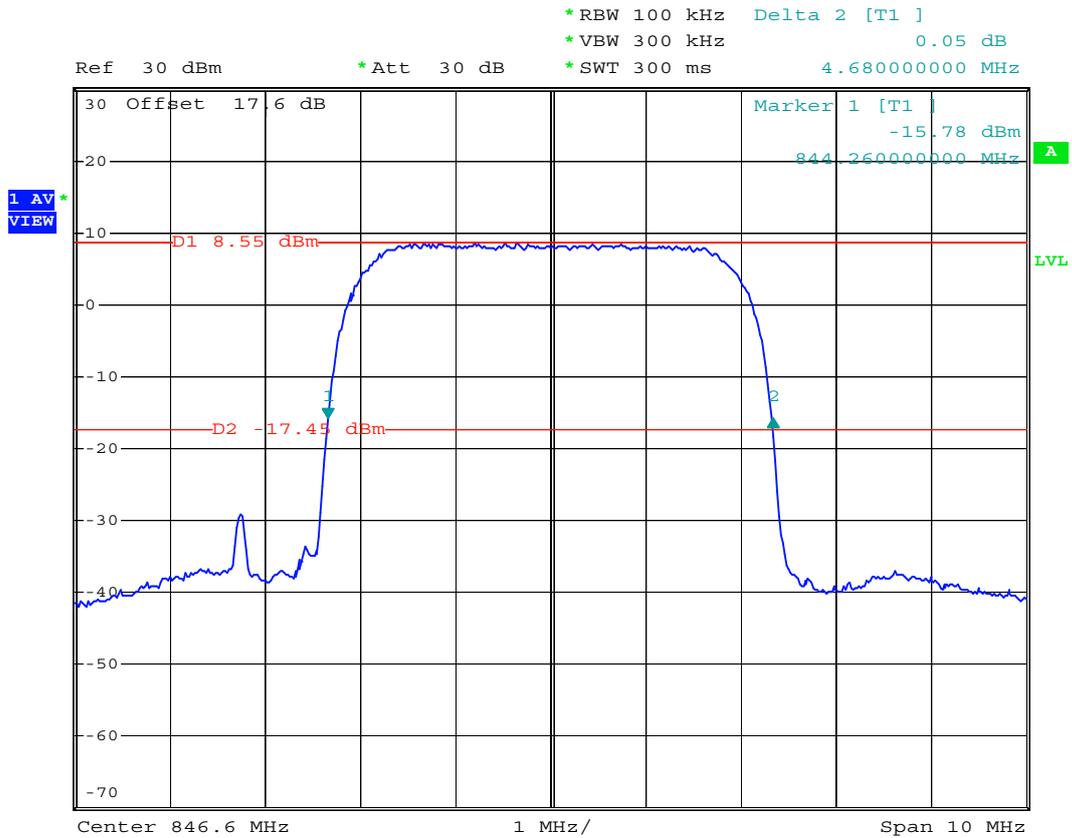
- Test Mode : WCDMA Band V CH4182 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 05:09:56



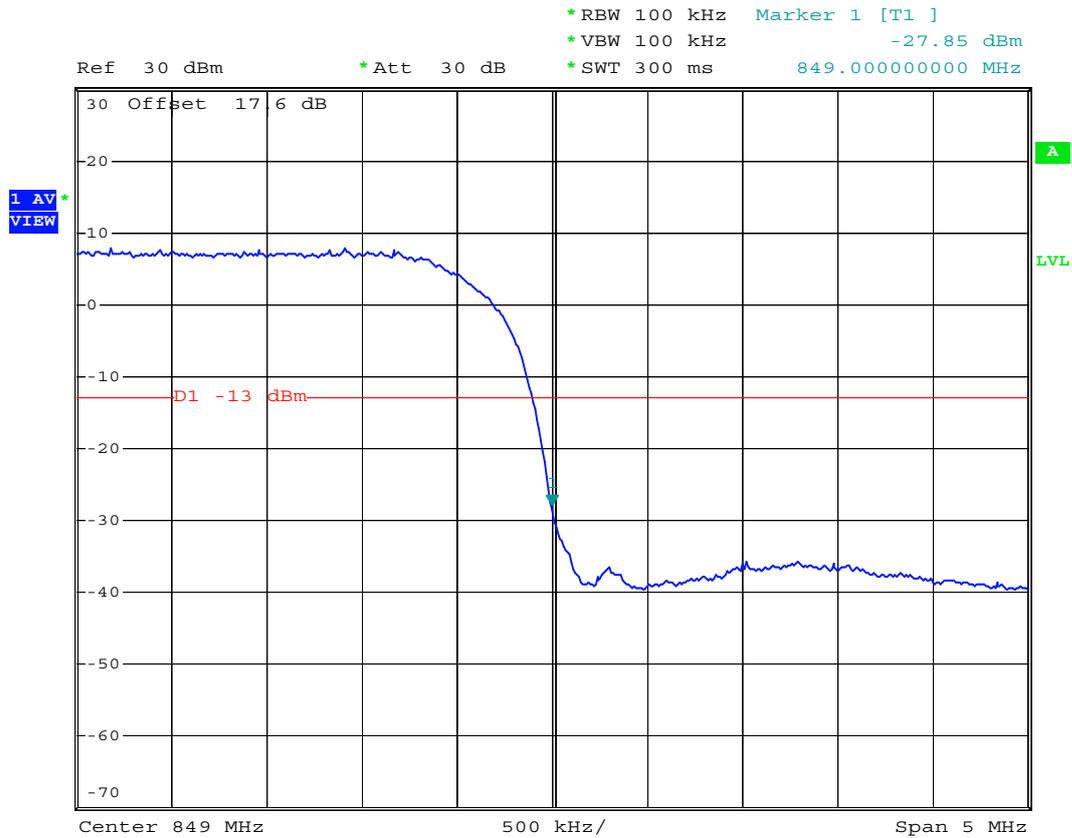
- Test Mode : WCDMA Band V CH4233 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 05:12:10



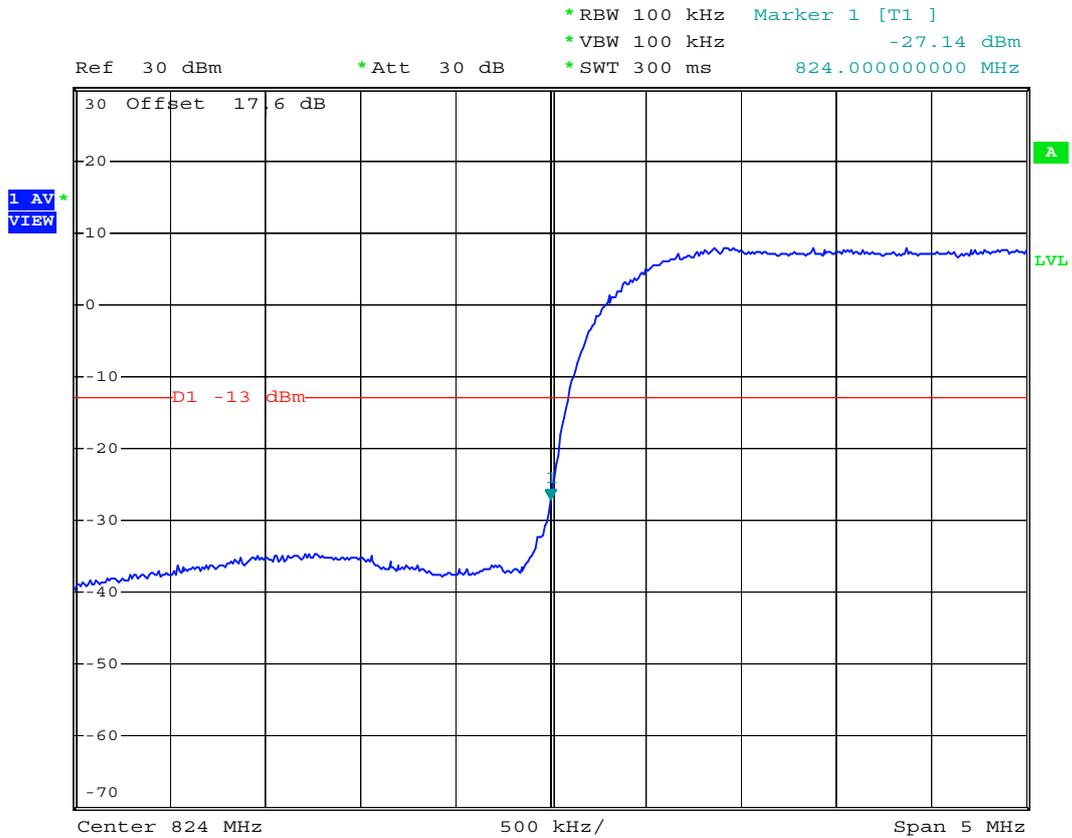
- Test Mode : WCDMA Band V CH4233 Higher Band Edge (VBW 100kHz)
- Power State : High



Date: 22.MAY.2007 00:27:49



- Mode 6
- Test Mode : WCDMA Band V (HSDPA) CH4132 Lower Band Edge (VBW 100kHz)
- Power State : High



Date: 22.MAY.2007 01:49:44

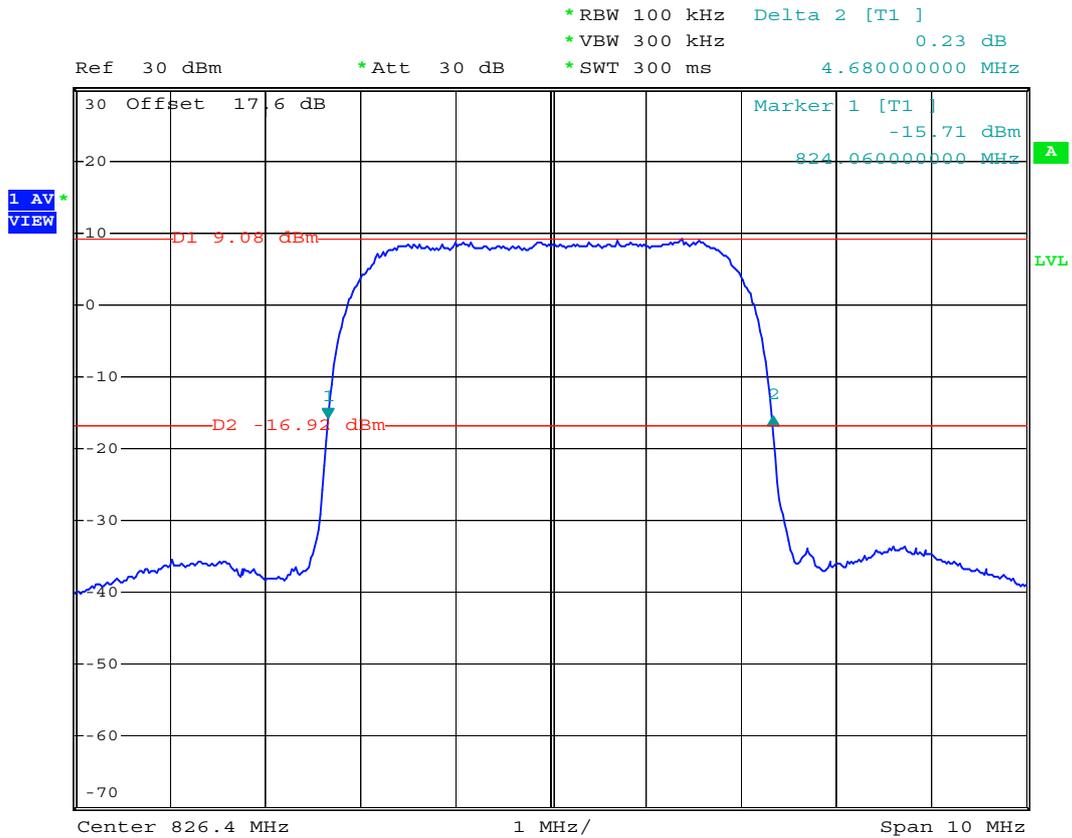








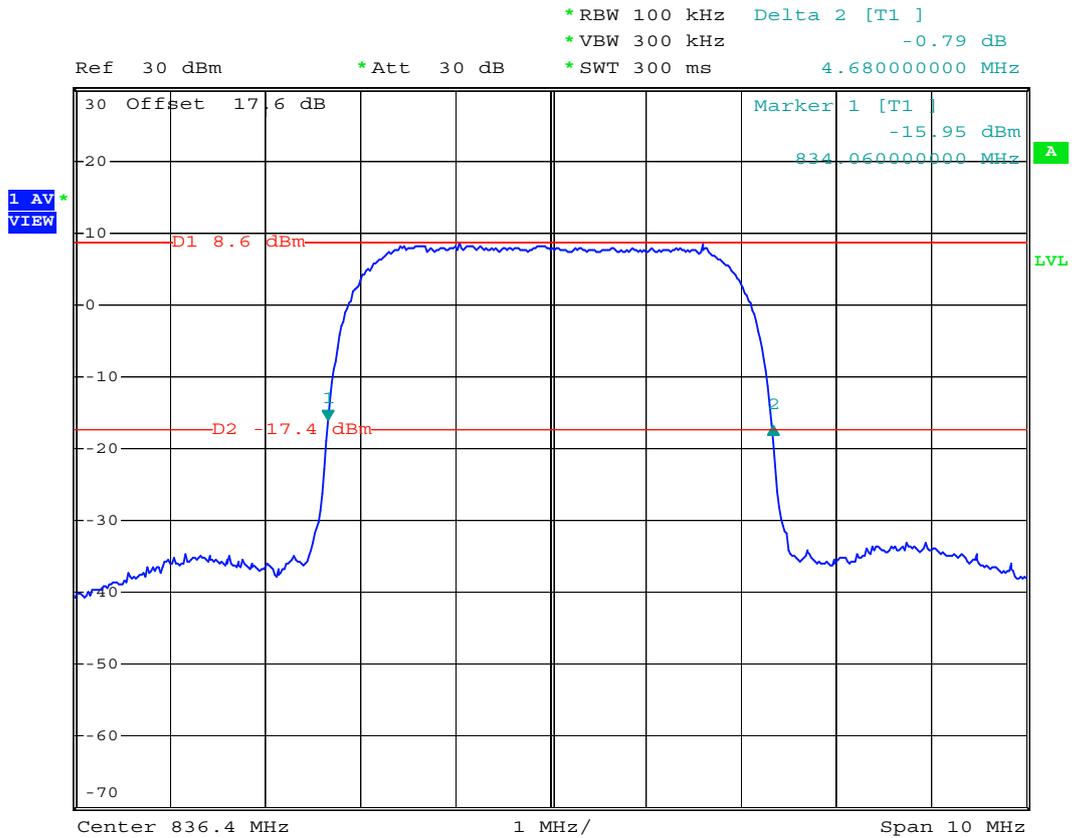
- Test Mode : WCDMA Band V (HSDPA) CH4132 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 05:19:38



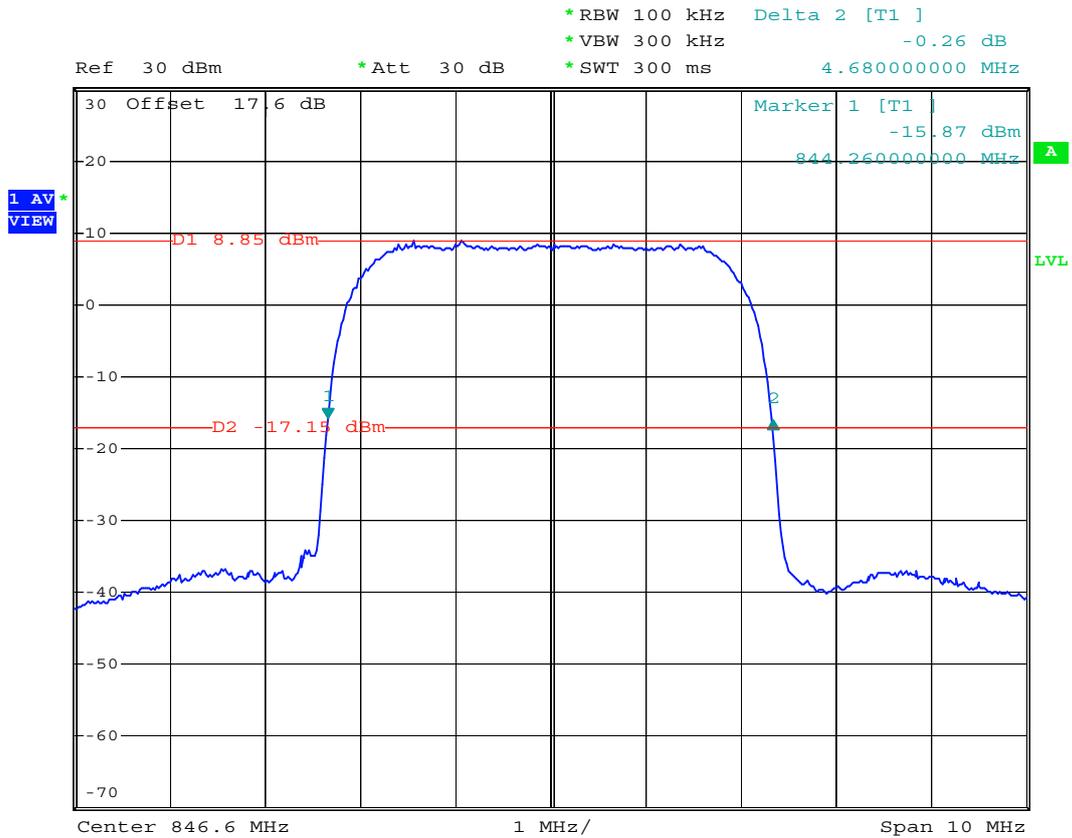
- Test Mode : WCDMA Band V (HSDPA) CH4182 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 05:21:21



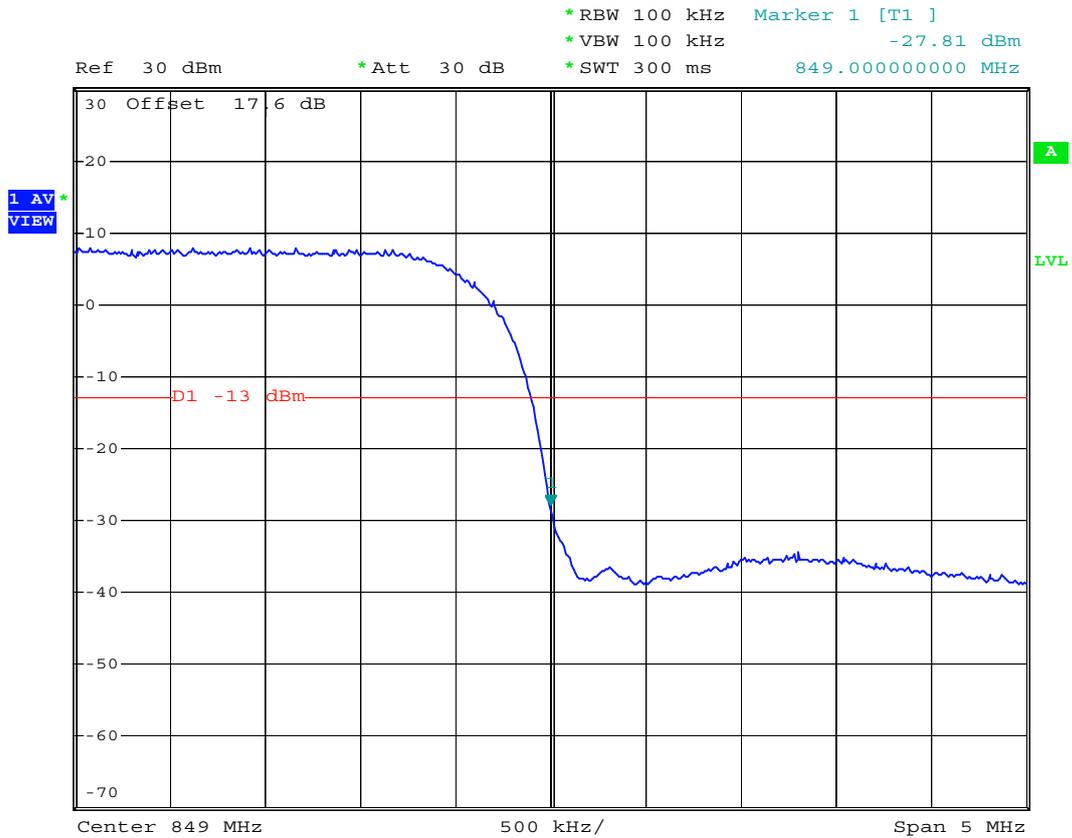
- Test Mode : WCDMA Band V (HSDPA) CH4233 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 05:22:37



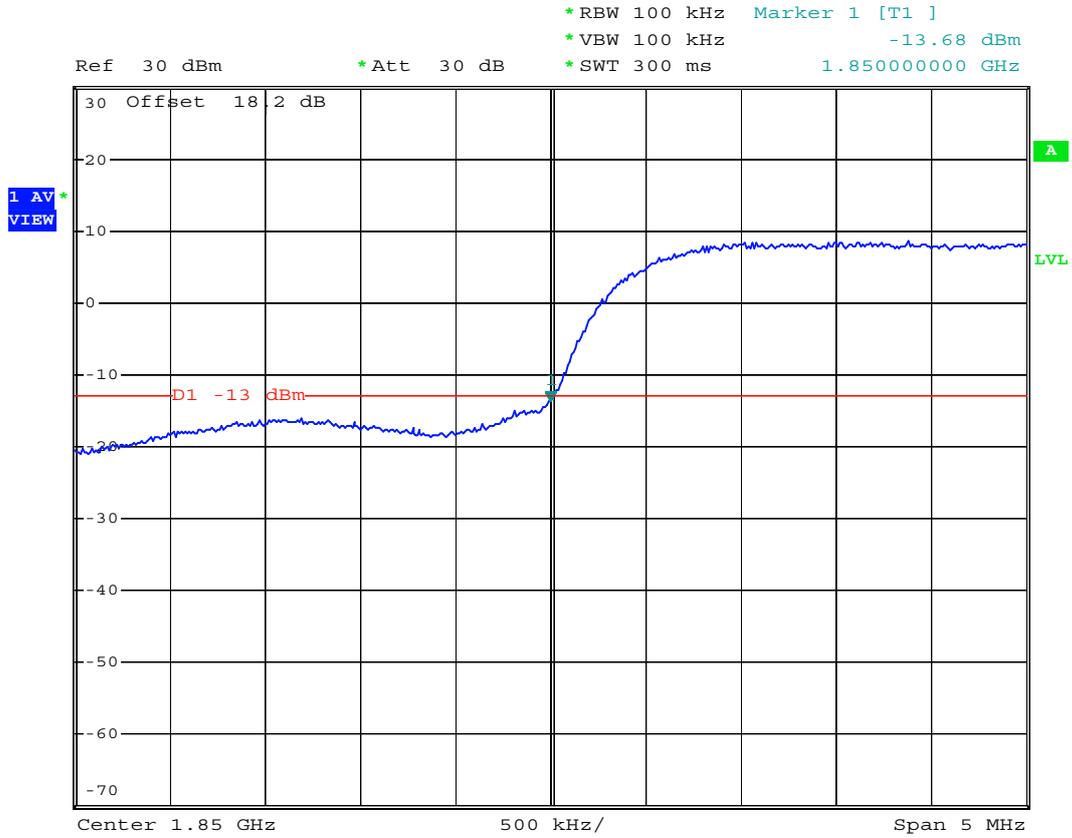
- Test Mode : WCDMA Band V (HSDPA) CH4233 Higher Band Edge (VBW 100kHz)
- Power State : High



Date: 22.MAY.2007 01:50:52



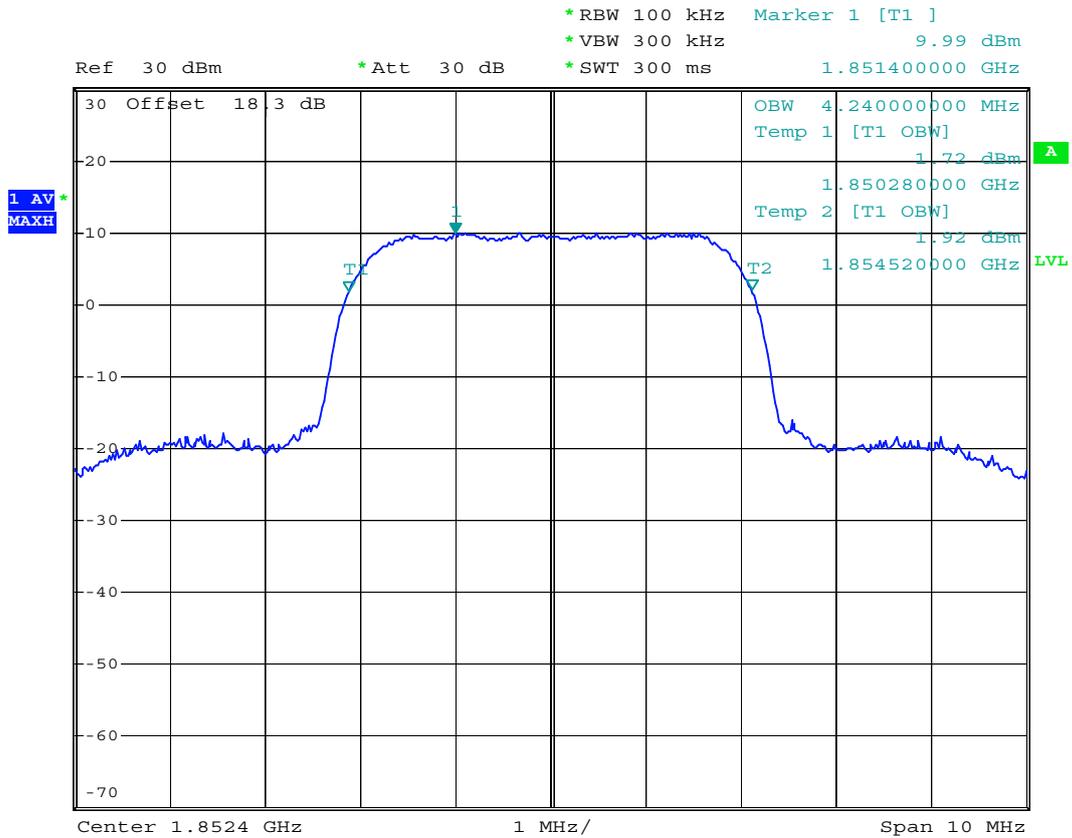
- Mode 7
- Test Mode : WCDMA Band II CH9262 Lower Band Edge (VBW 100kHz)
- Power State : High



Date: 21.MAY.2007 22:20:36



- Test Mode : WCDMA Band II CH9262 99% Occupied Bandwidth
- Power State : High

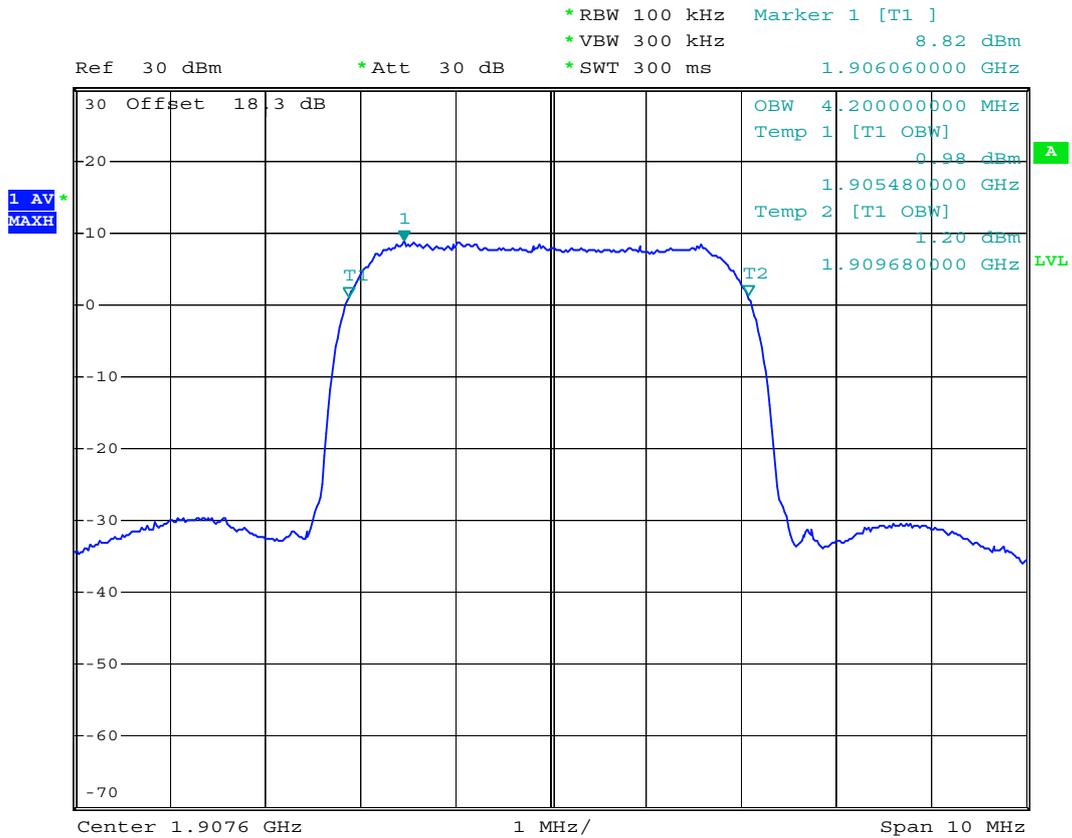


Date: 26.JUN.2007 03:57:46





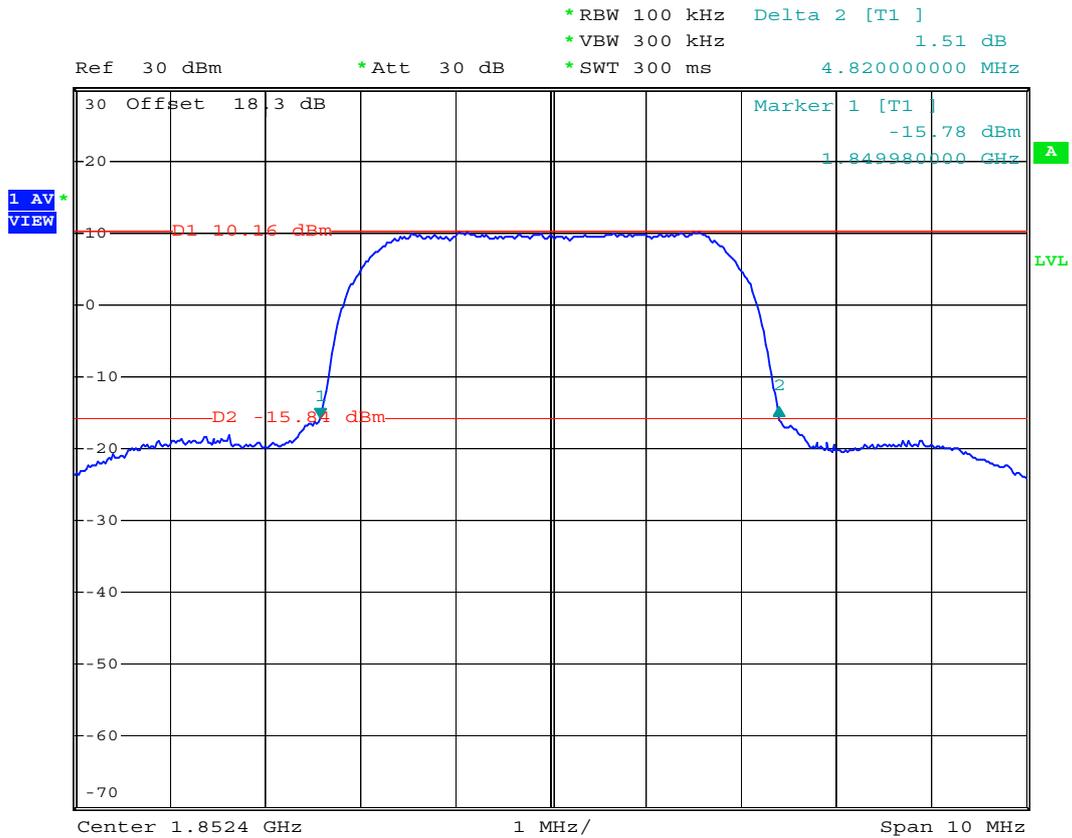
- Test Mode : WCDMA Band II CH9538 99% Occupied Bandwidth
- Power State : High



Date: 26.JUN.2007 04:00:37



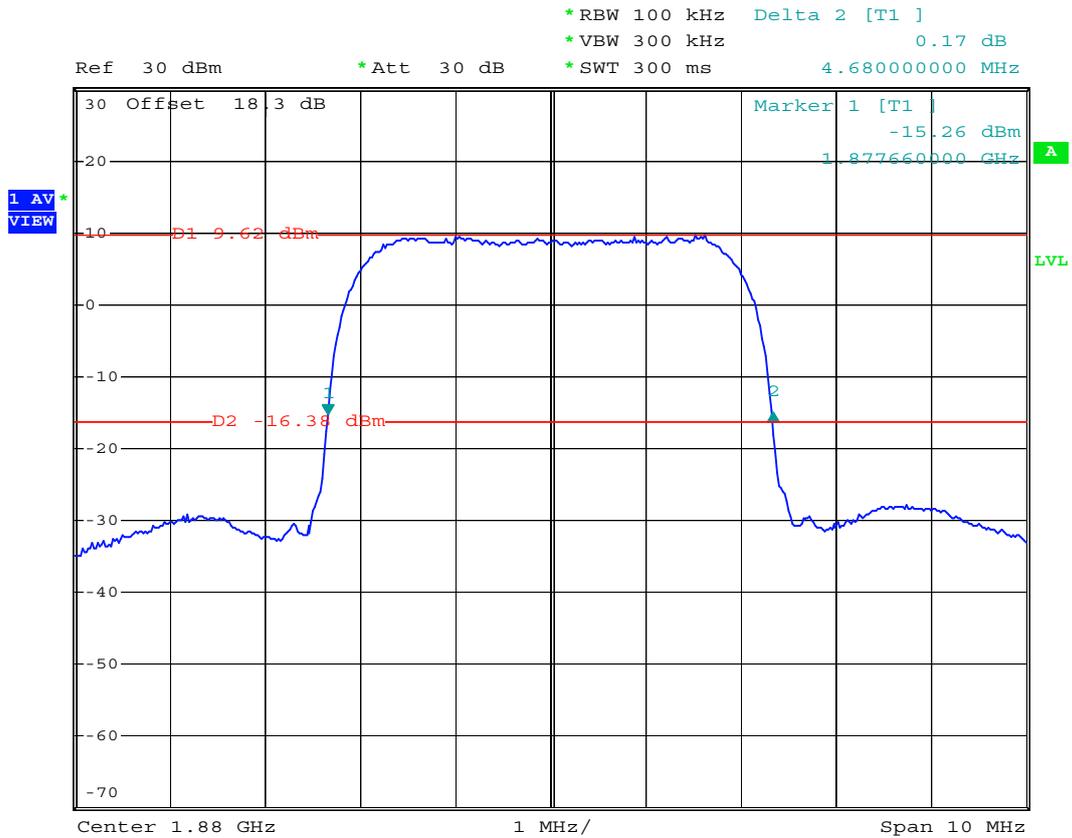
- Test Mode : WCDMA Band II CH9262 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 03:52:13



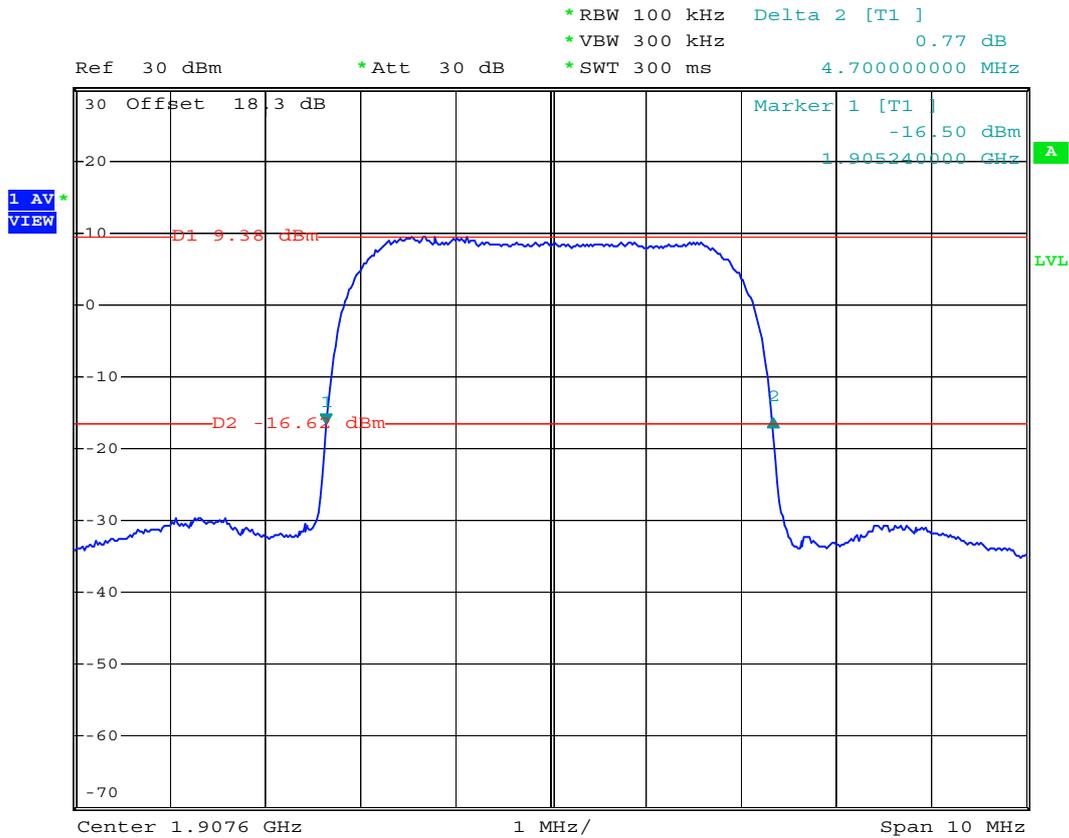
- Test Mode : WCDMA Band II CH9400 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 03:49:38



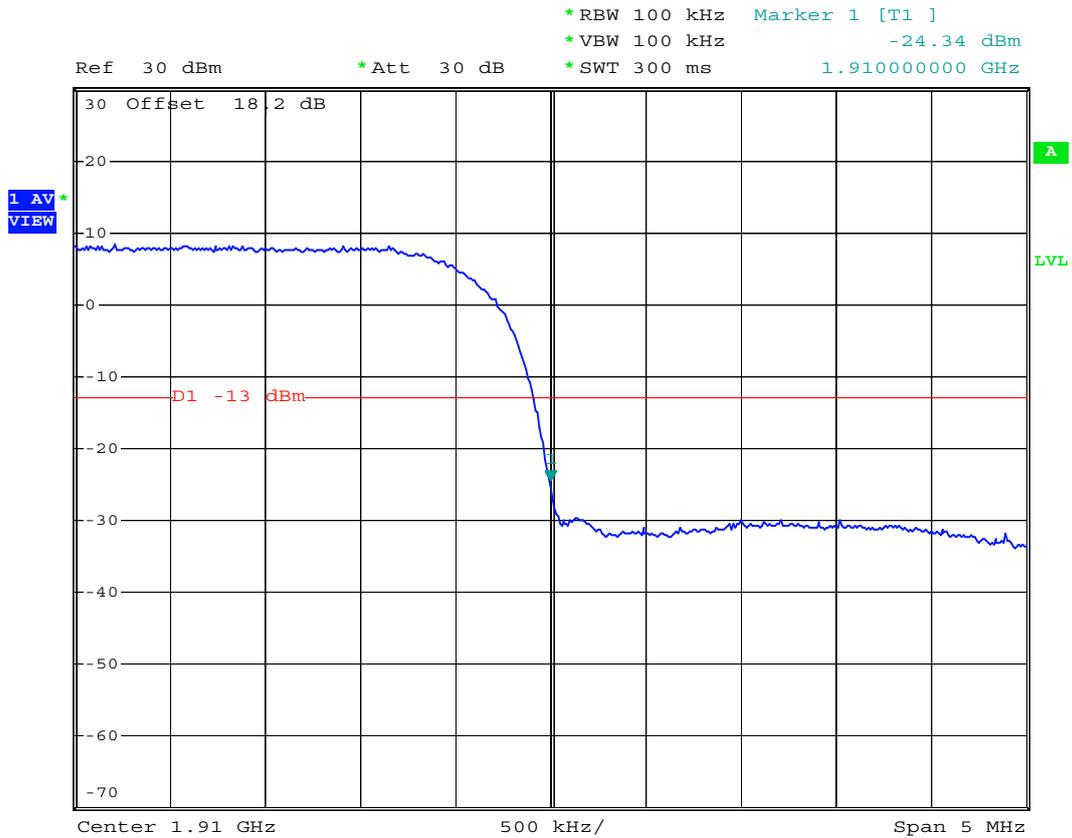
- Test Mode : WCDMA Band II CH9538 26dB Bandwidth
- Power State : High



Date: 26.JUN.2007 03:47:31



- Test Mode : WCDMA Band II CH9538 Higher Band Edge (VBW 100kHz)
- Power State : High

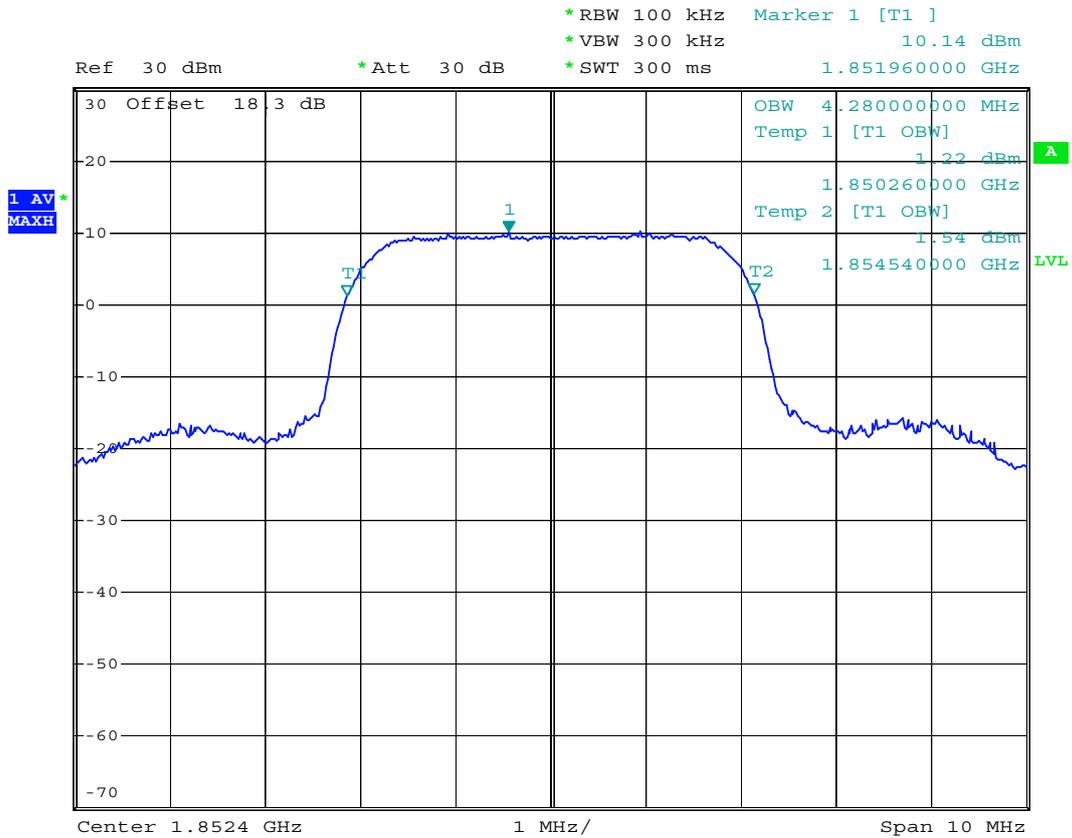


Date: 21.MAY.2007 22:21:23





- Test Mode : WCDMA Band II (HSDPA) CH9262 99% Occupied Bandwidth
- Power State : High



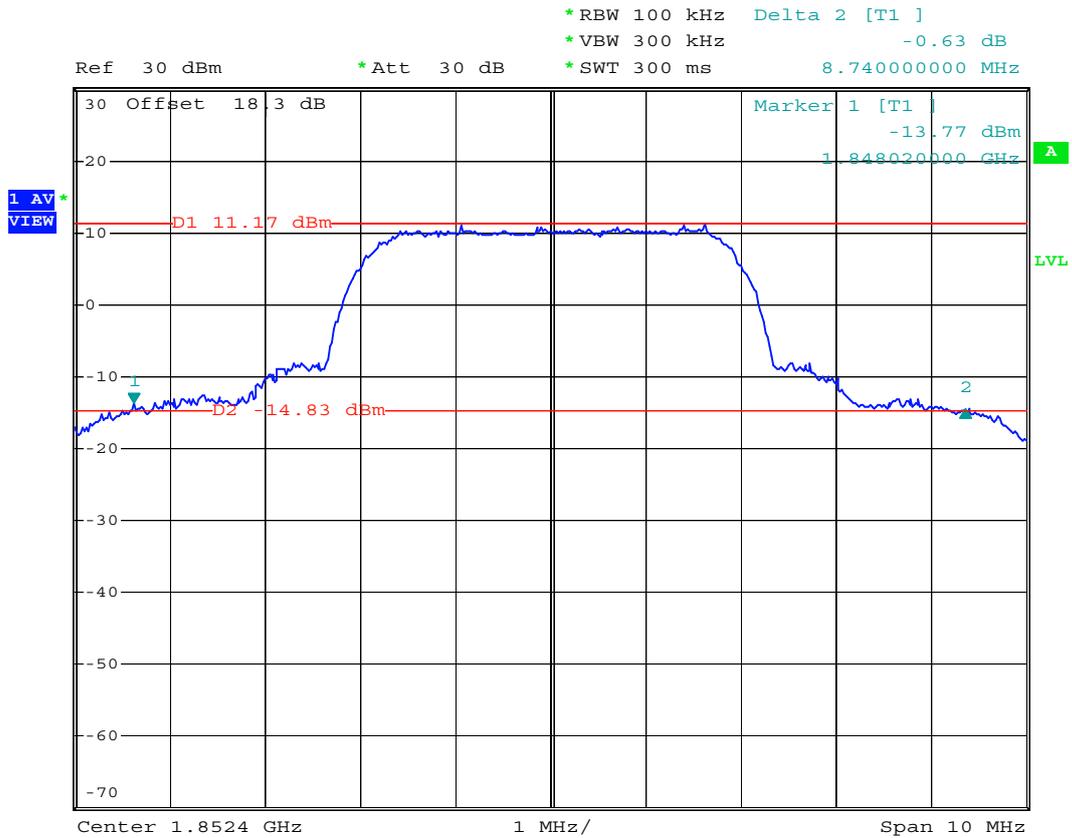
Date: 26.JUN.2007 04:19:28







- Test Mode : WCDMA Band II (HSDPA) CH9262 26dB Bandwidth
- Power State : High



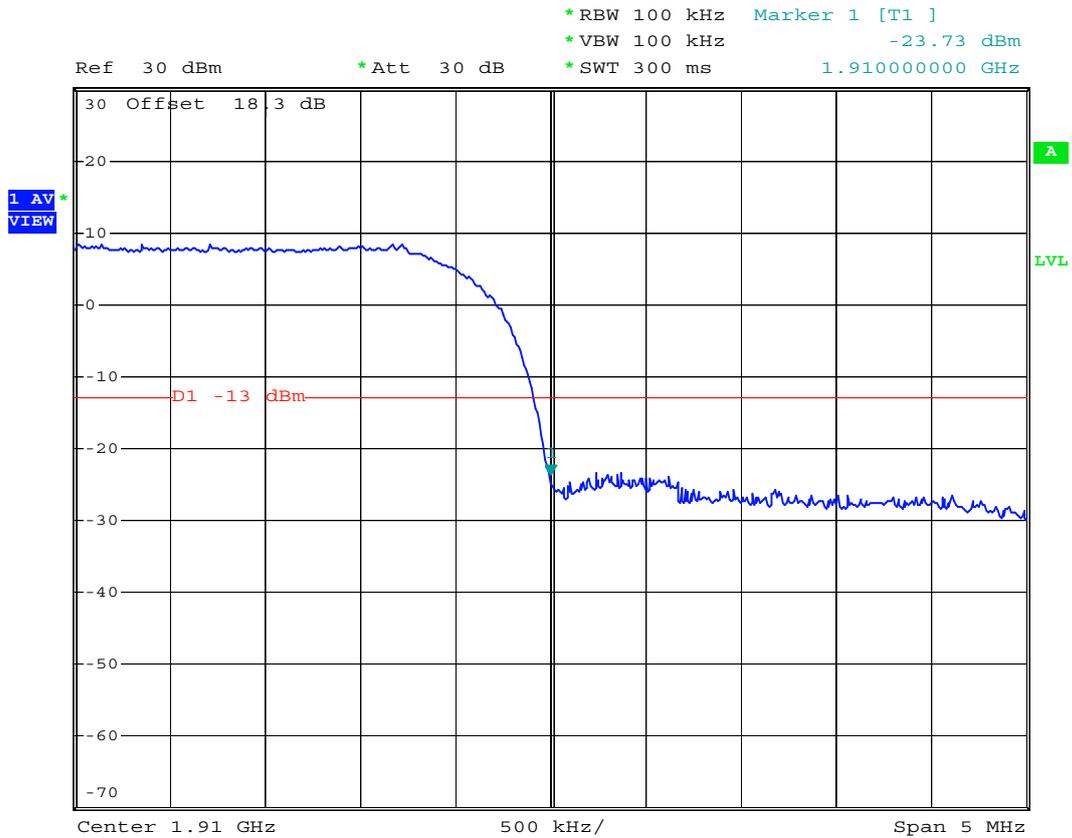
Date: 22.JUN.2007 08:47:02







- Test Mode : WCDMA Band II (HSDPA) CH9538 Higher Band Edge (VBW 100kHz)
- Power State : High



Date: 21.MAY.2007 23:36:16

## 4.5 Conducted Emission

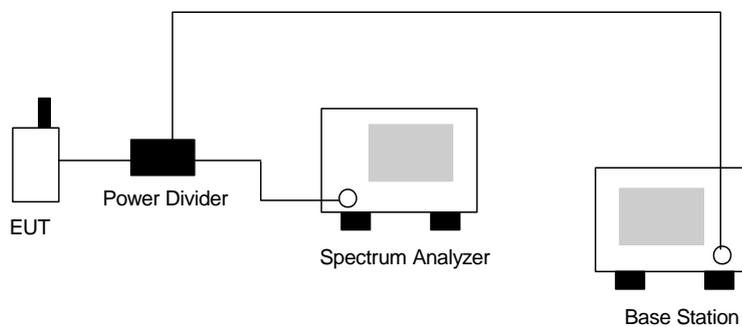
### 4.5.1 Measurement Instruments

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.

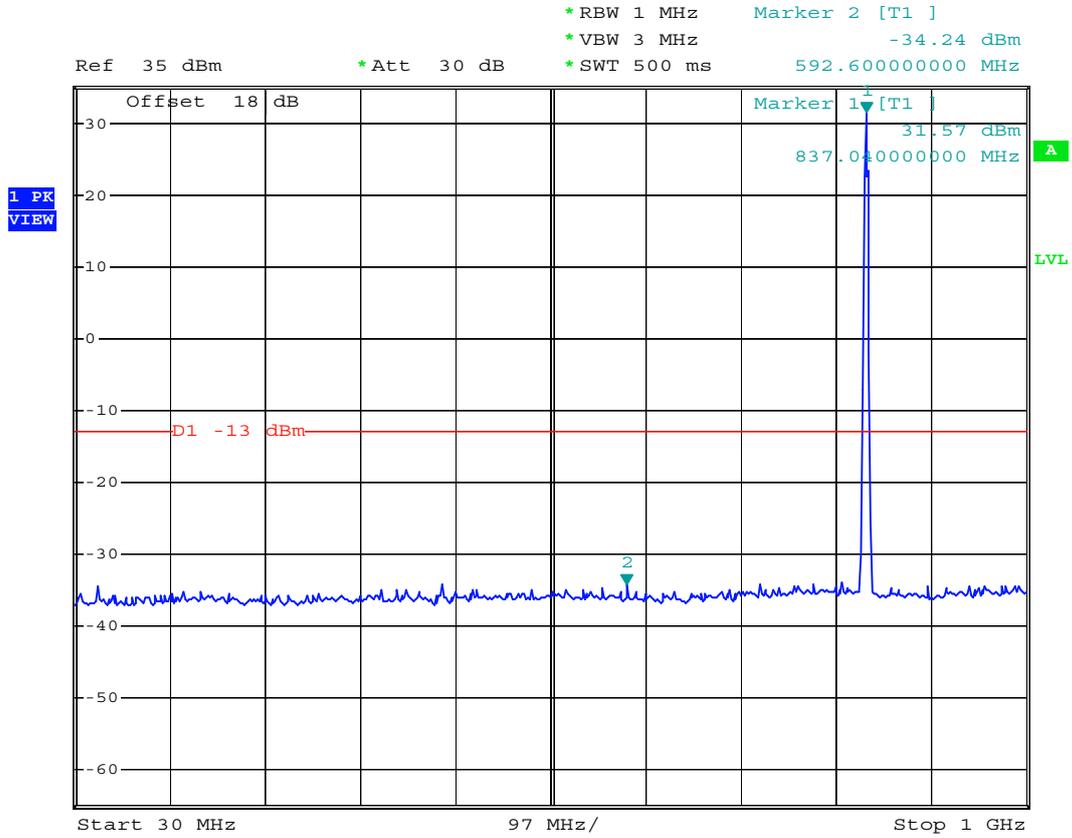
### 4.5.3 Test Setup Layout





4.5.4 Test Result

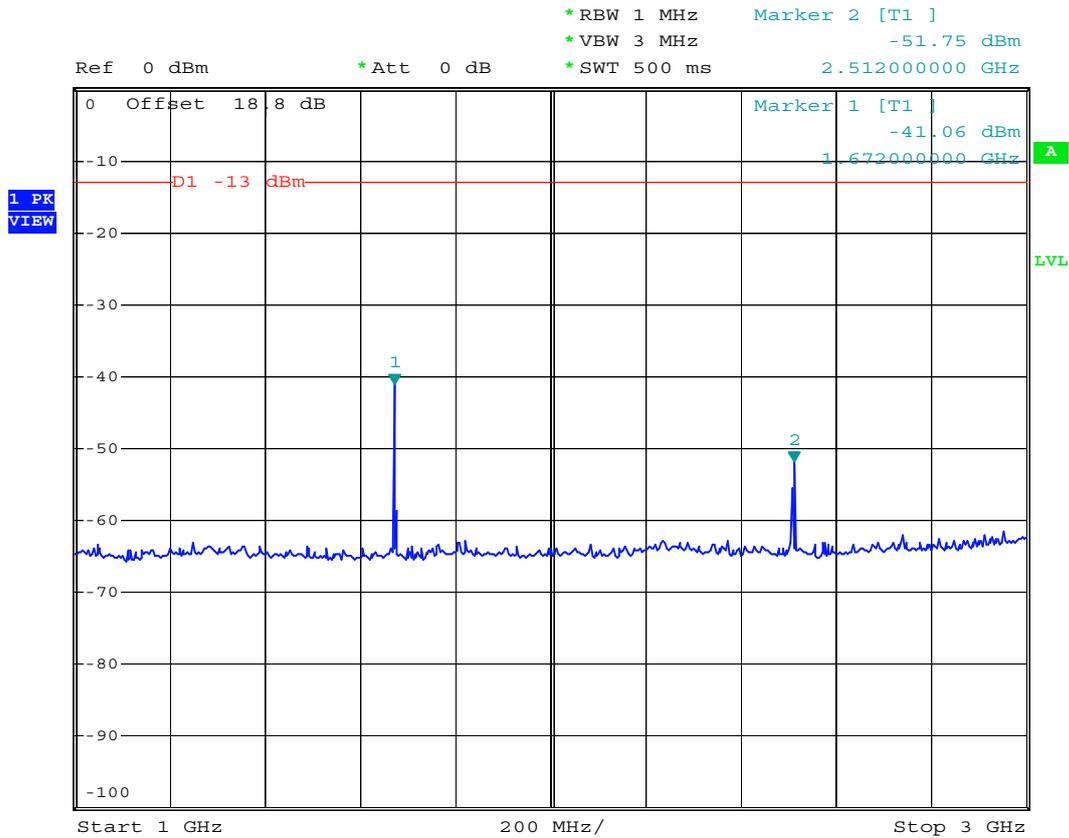
- Mode 1
- Test Mode : GSM850 (GSM) CH189
- Frequency Range : 30M-1G



Date: 13.MAY.2007 11:38:24



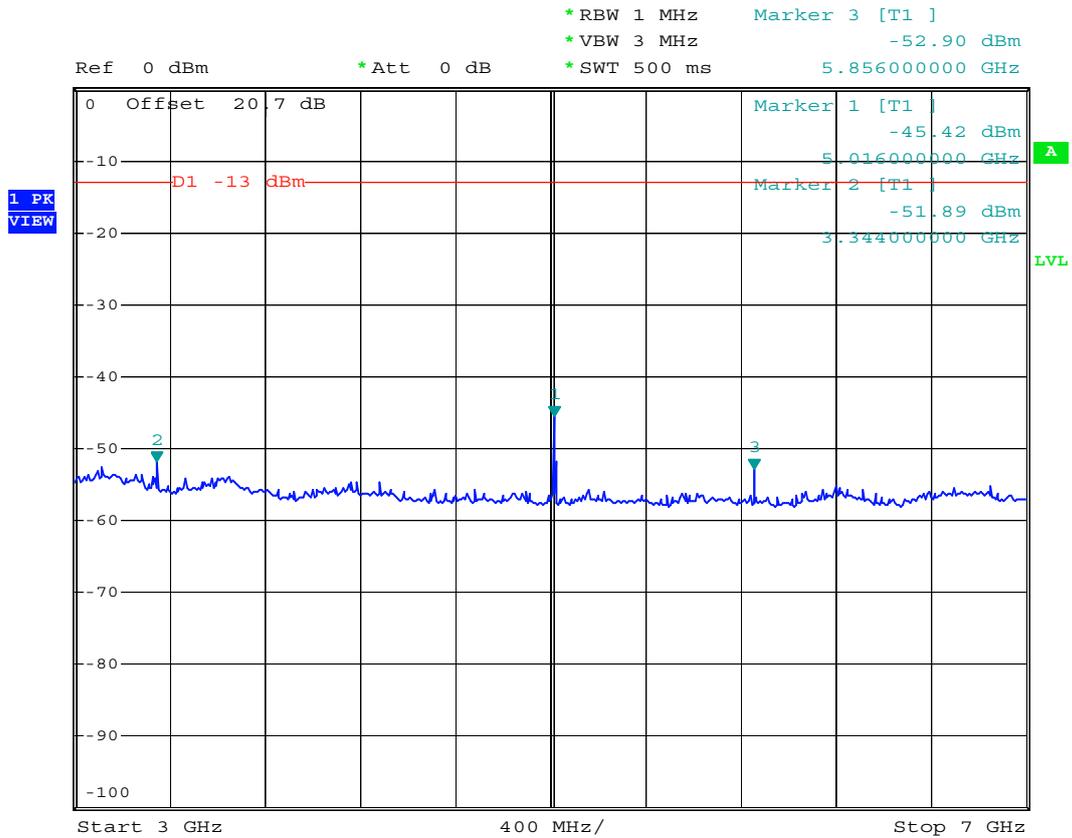
- Test Mode : GSM850 (GSM) CH189
- Frequency Range : 1G-3G



Date: 13.MAY.2007 11:40:35



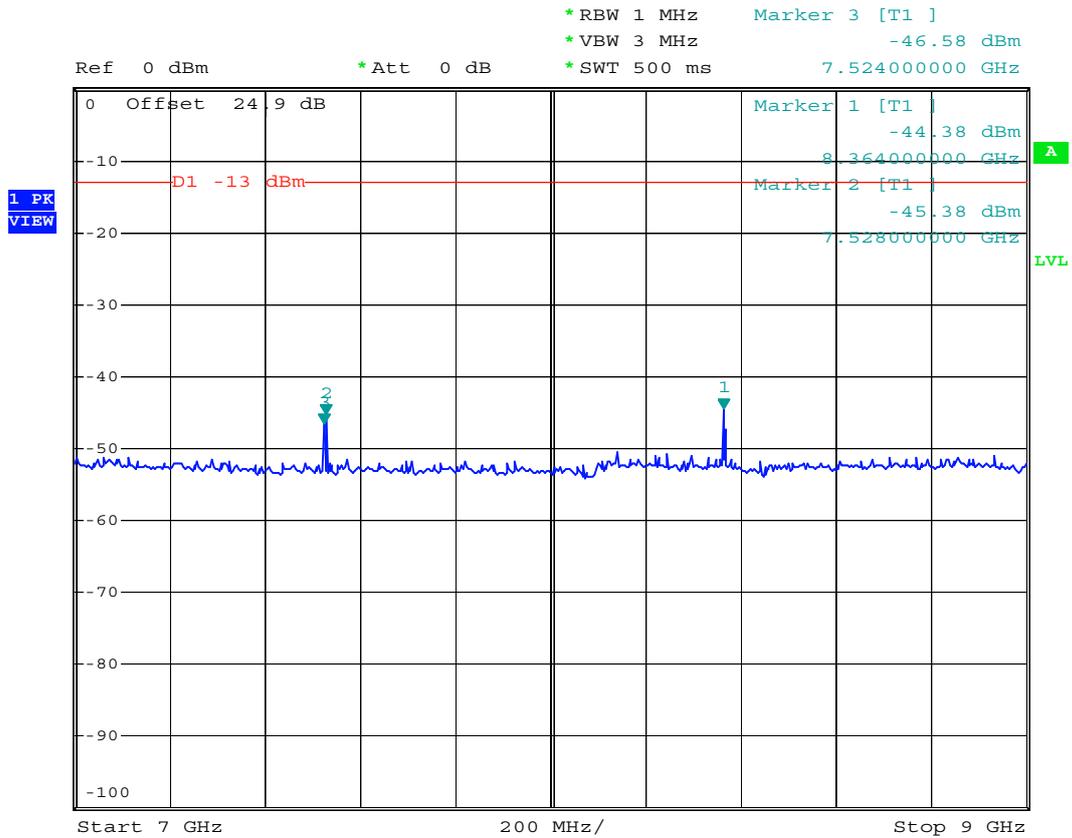
- Test Mode : GSM850 (GSM) CH189
- Frequency Range : 3G-7G



Date: 13.MAY.2007 11:41:53



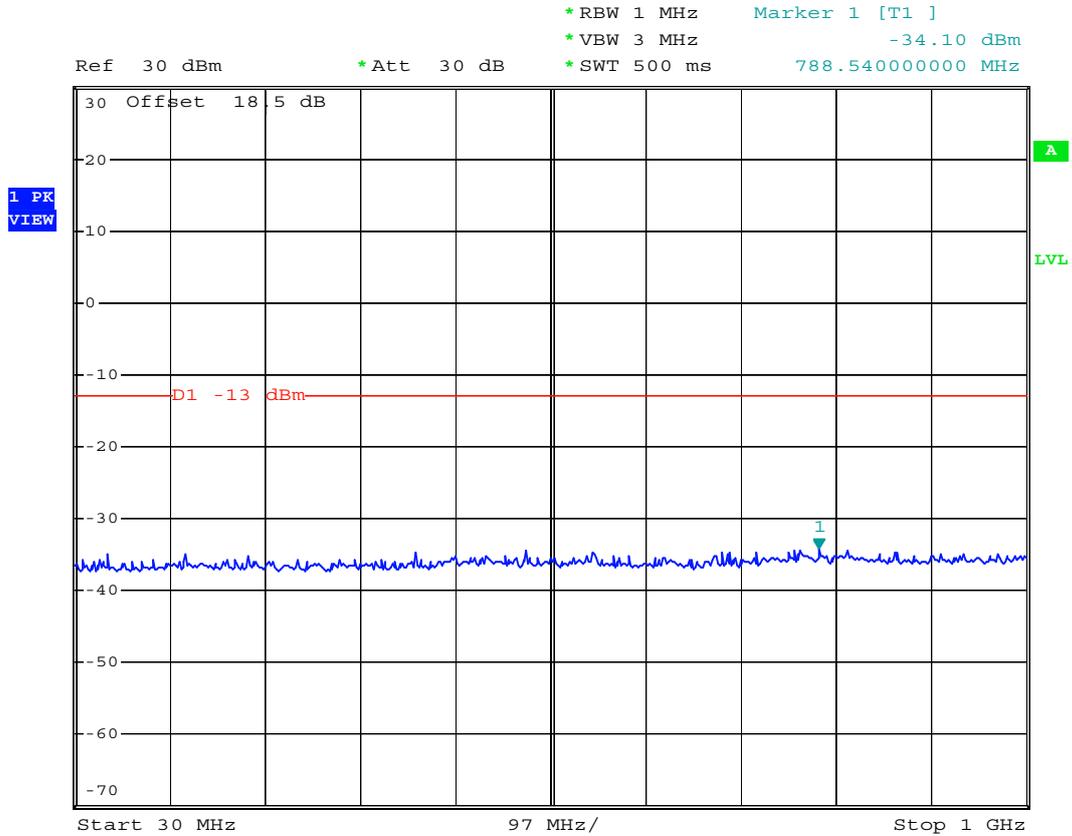
- Test Mode : GSM850 (GSM) CH189
- Frequency Range : 7G-9G



Date: 13.MAY.2007 11:42:58



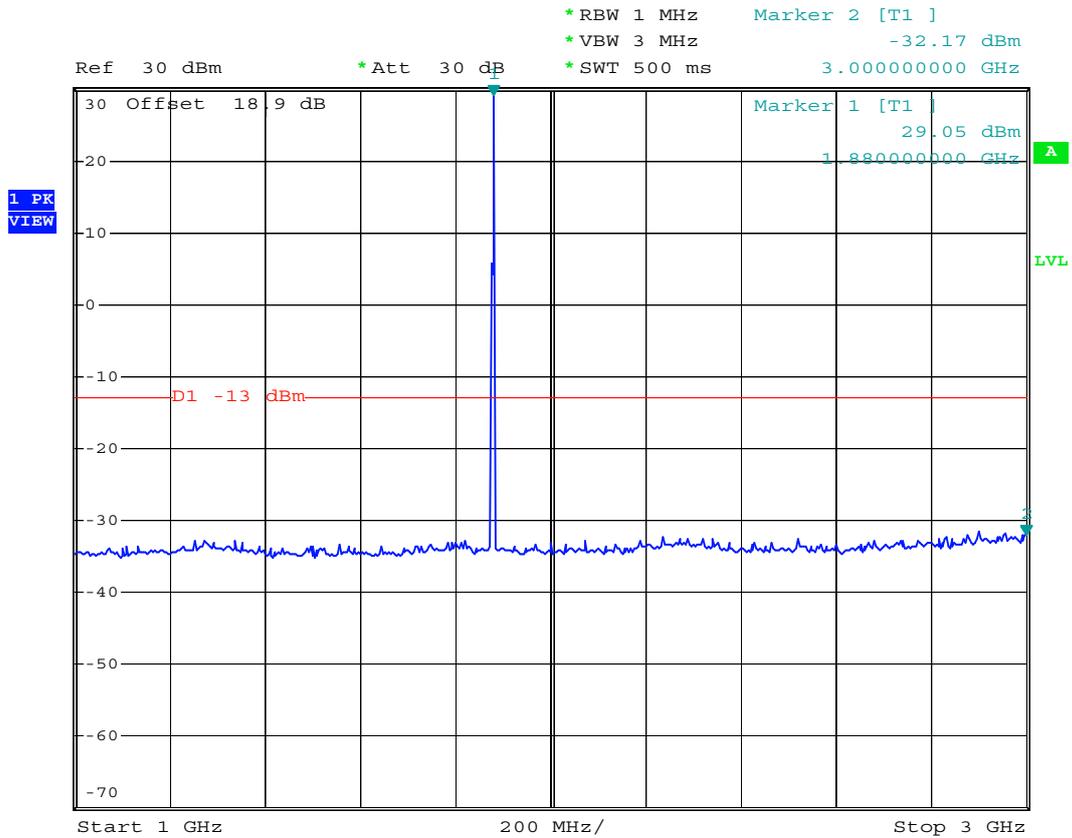
- Mode 2
- Test Mode : PCS1900 (GSM) CH661
- Frequency Range : 30M-1G



Date: 13.MAY.2007 12:23:09



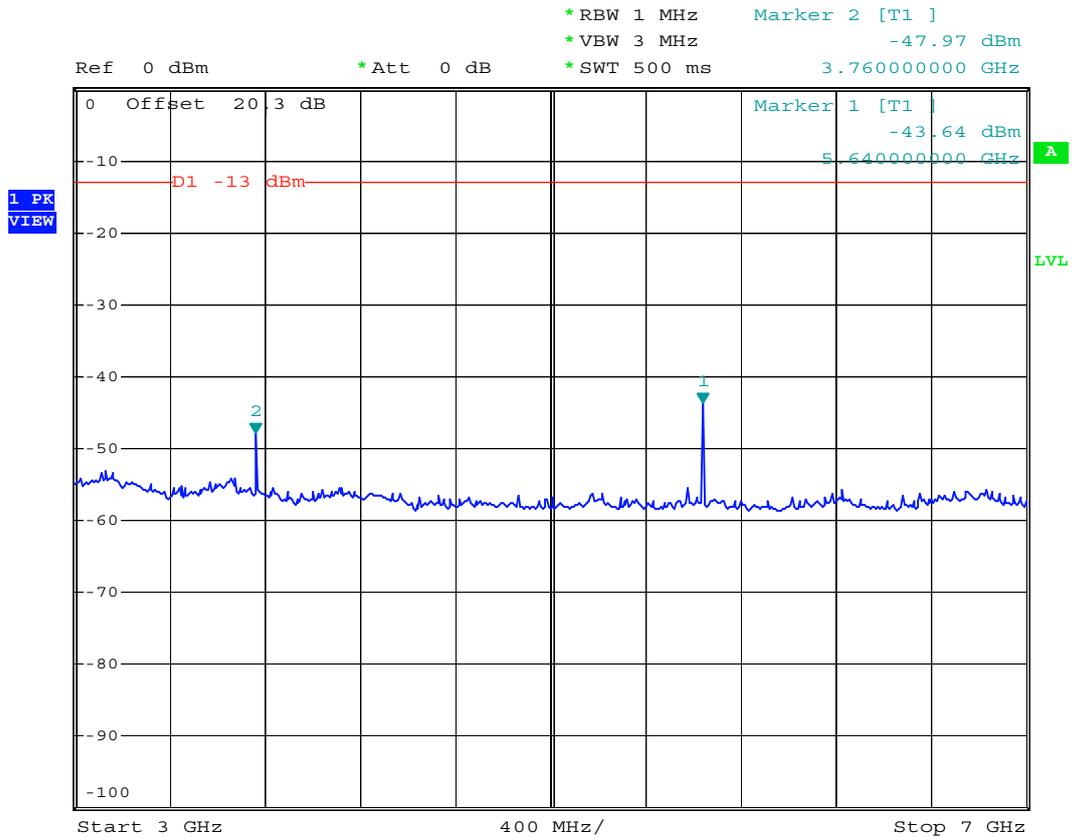
- Test Mode : PCS1900 (GSM) CH661
- Frequency Range : 1G-3G



Date: 13.MAY.2007 12:26:19



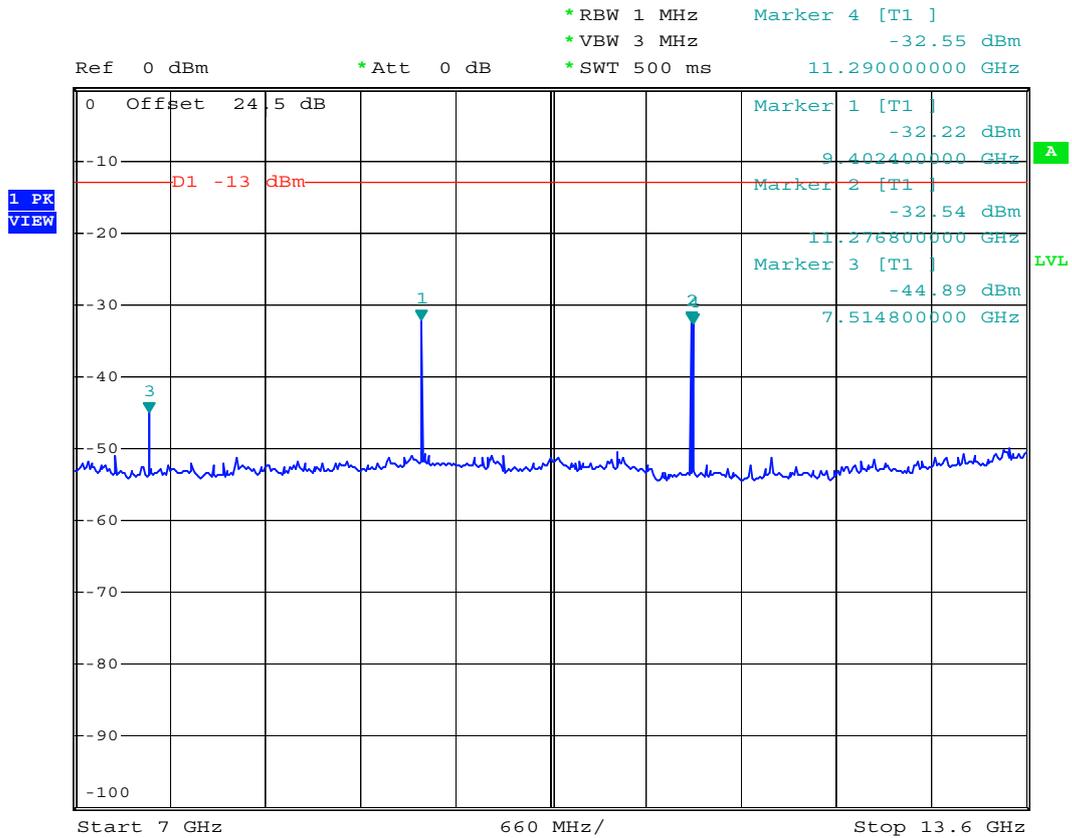
- Test Mode : PCS1900 (GSM) CH661
- Frequency Range : 3G-7G



Date: 13.MAY.2007 12:27:54



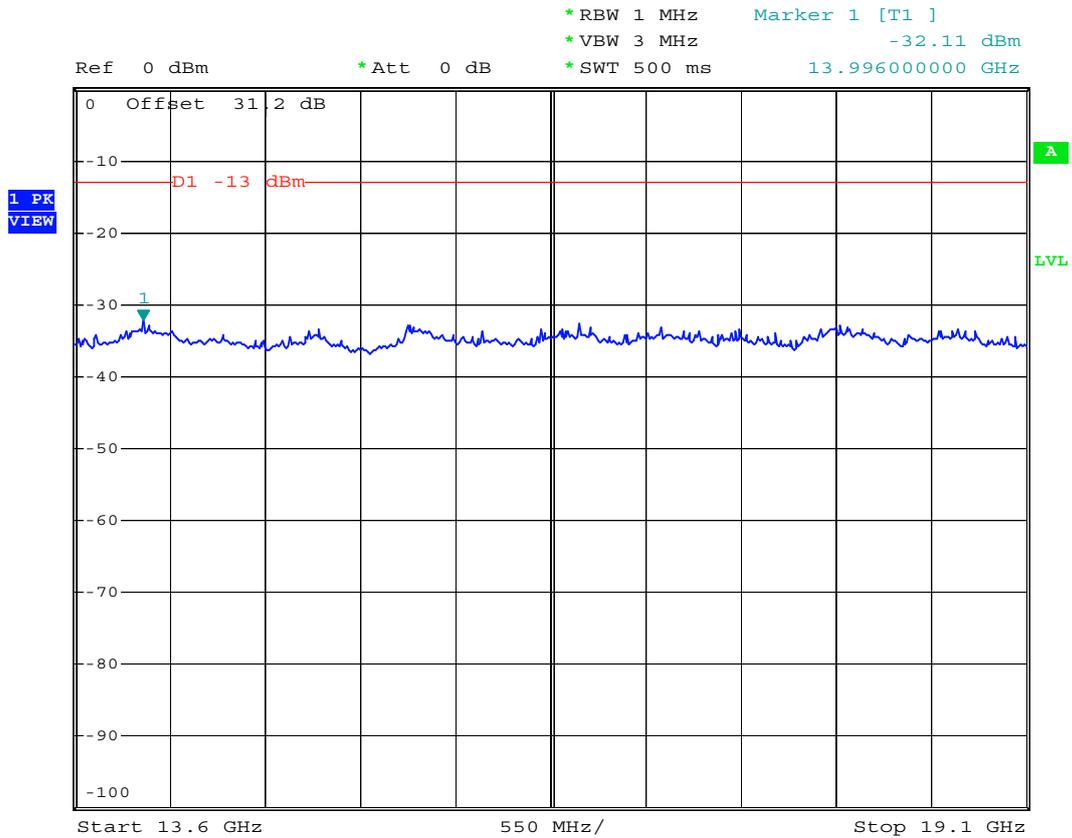
- Test Mode : PCS1900 (GSM) CH661
- Frequency Range : 7G-13.6G



Date: 13.MAY.2007 12:29:13



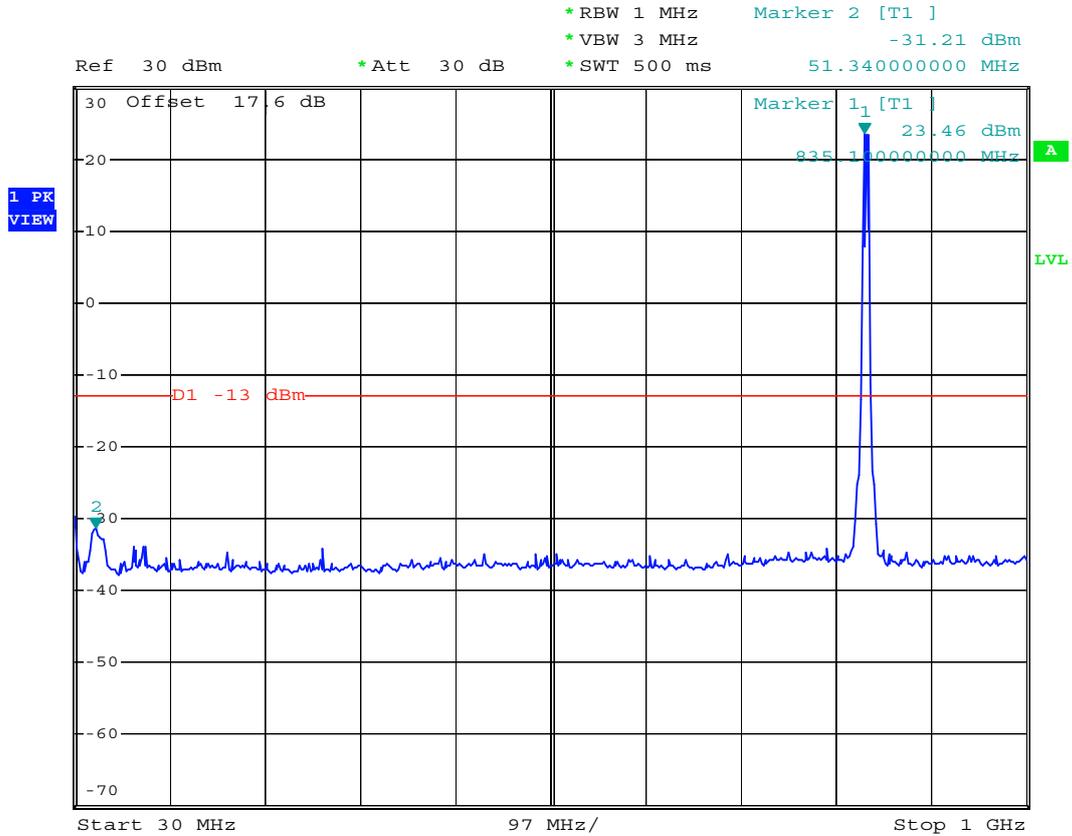
- Test Mode : PCS1900 (GSM) CH661
- Frequency Range : 13.6G-19.1G



Date: 13.MAY.2007 12:30:44



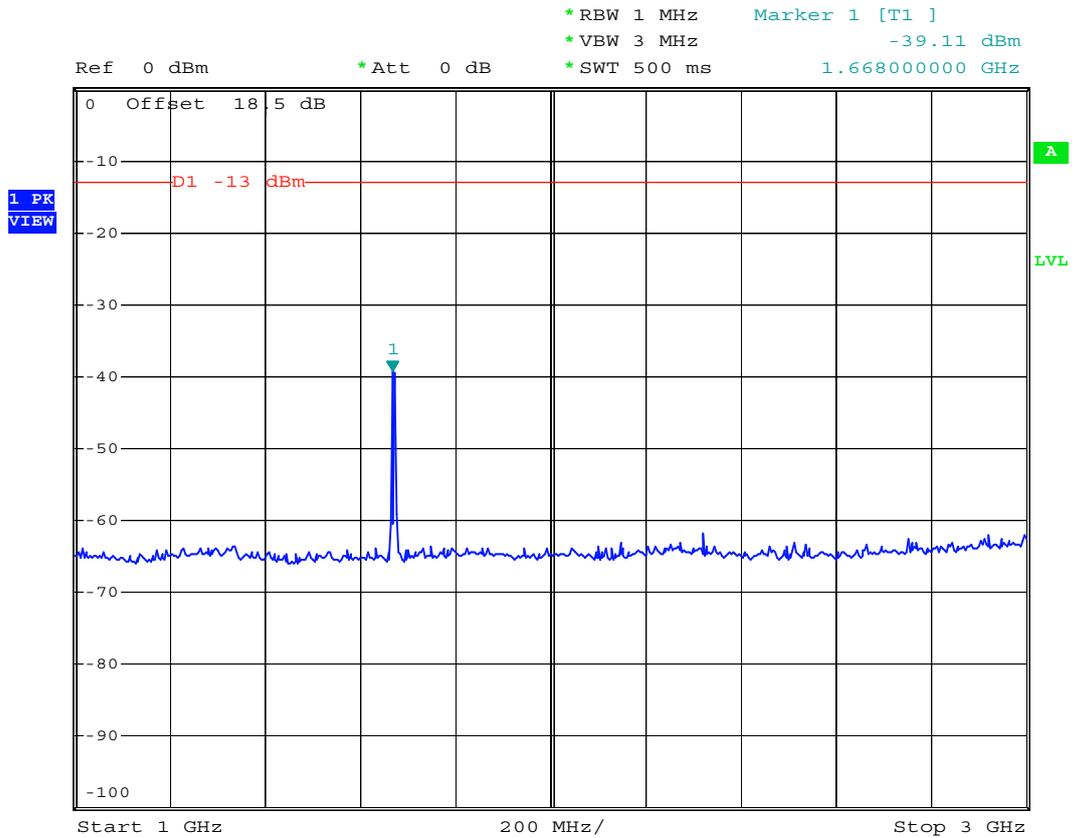
- Mode 3
- Test Mode : WCDMA Band V CH4182
- Frequency Range : 30M-1G



Date: 22.MAY.2007 01:35:56



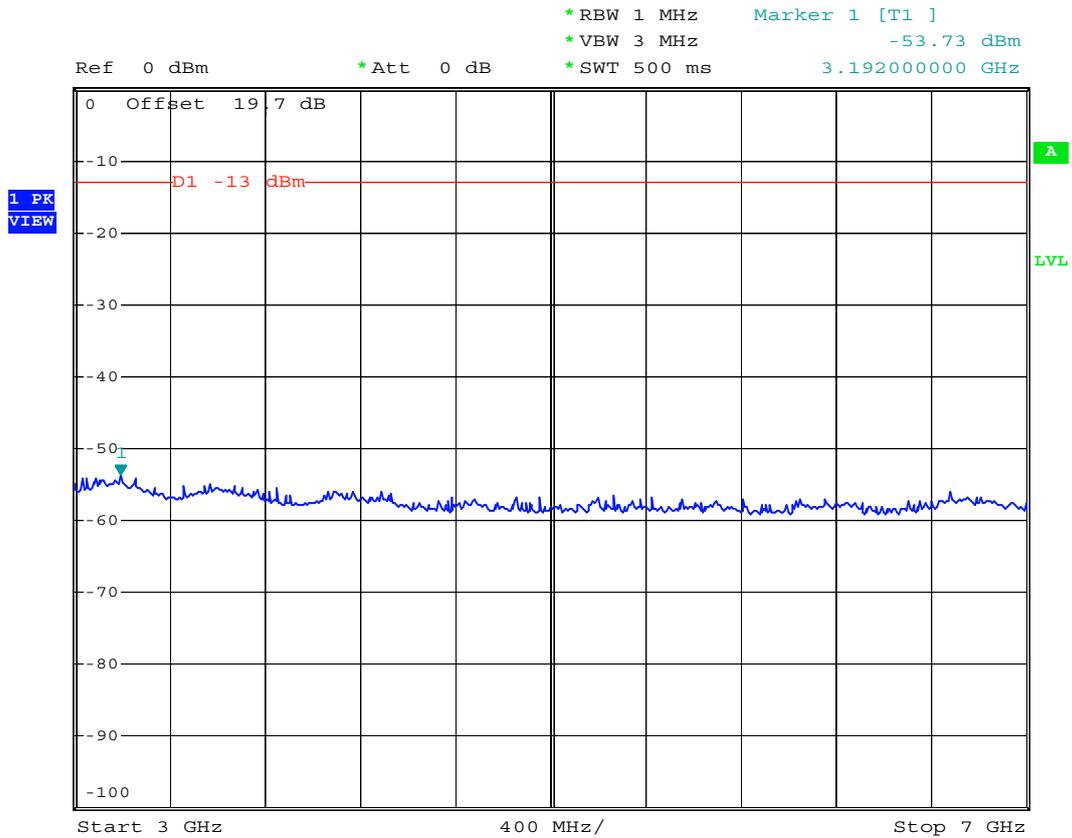
- Test Mode : WCDMA Band V CH4182
- Frequency Range : 1G-3G



Date: 22.MAY.2007 01:39:32



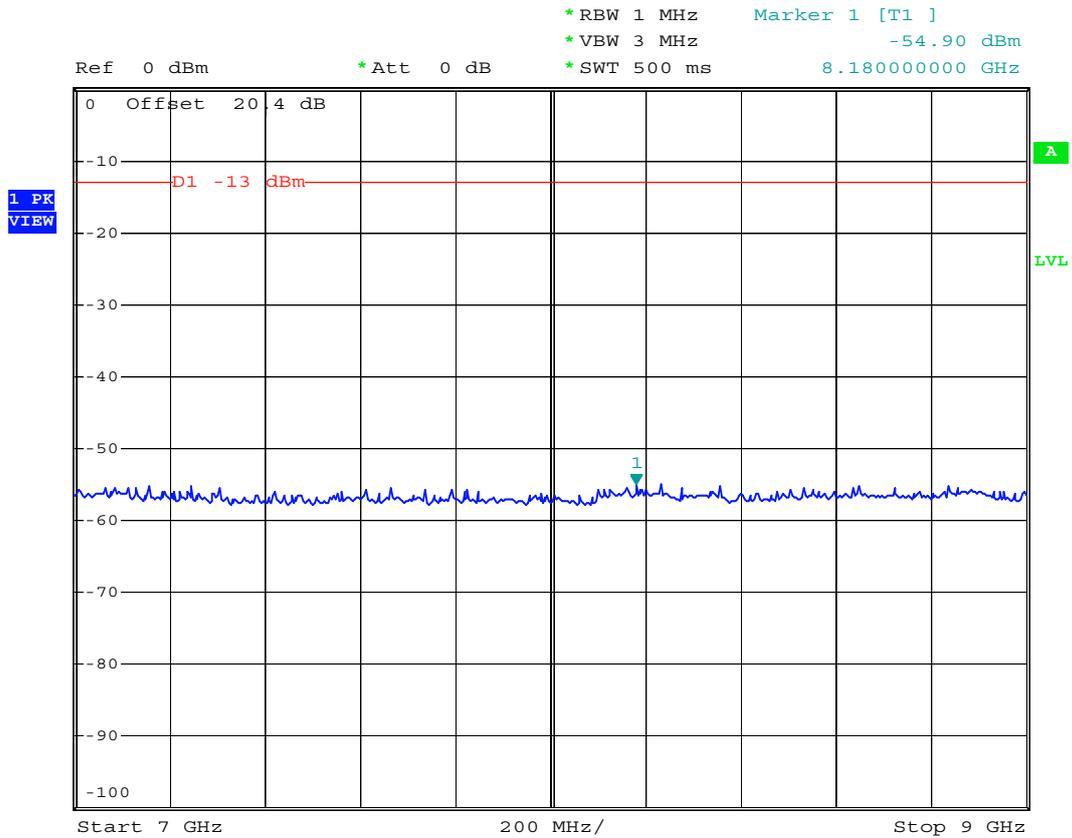
- Test Mode : WCDMA Band V CH4182
- Frequency Range : 3G-7G



Date: 22.MAY.2007 01:31:32



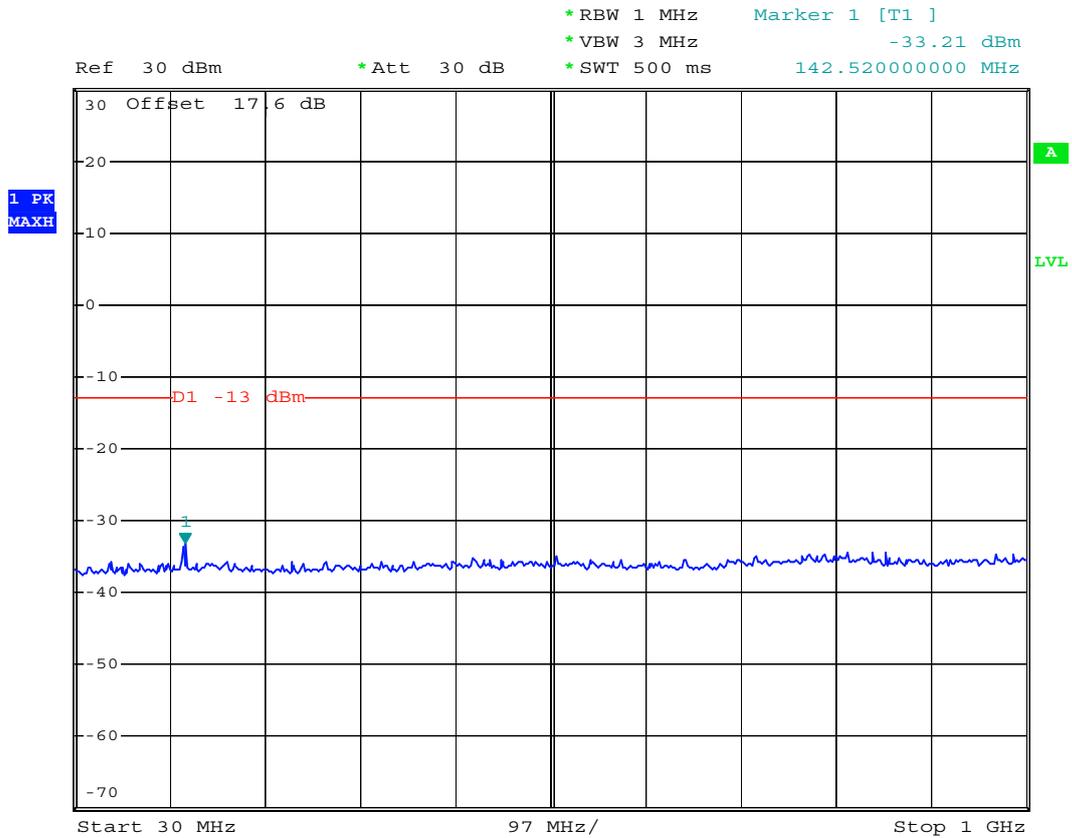
- Test Mode : WCDMA Band V CH4182
- Frequency Range : 7G-9G



Date: 22.MAY.2007 01:33:18



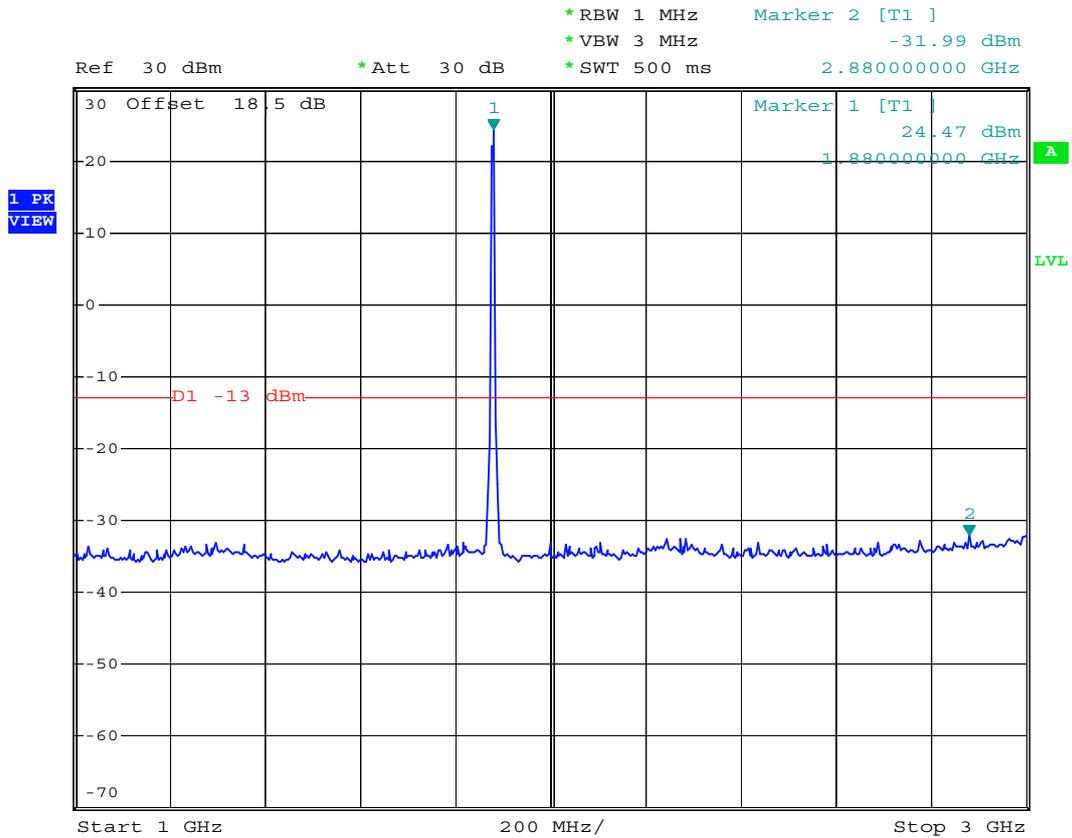
- Mode 4
- Test Mode : WCDMA Band II CH9400
- Frequency Range : 30M-1G



Date: 21.MAY.2007 22:25:15



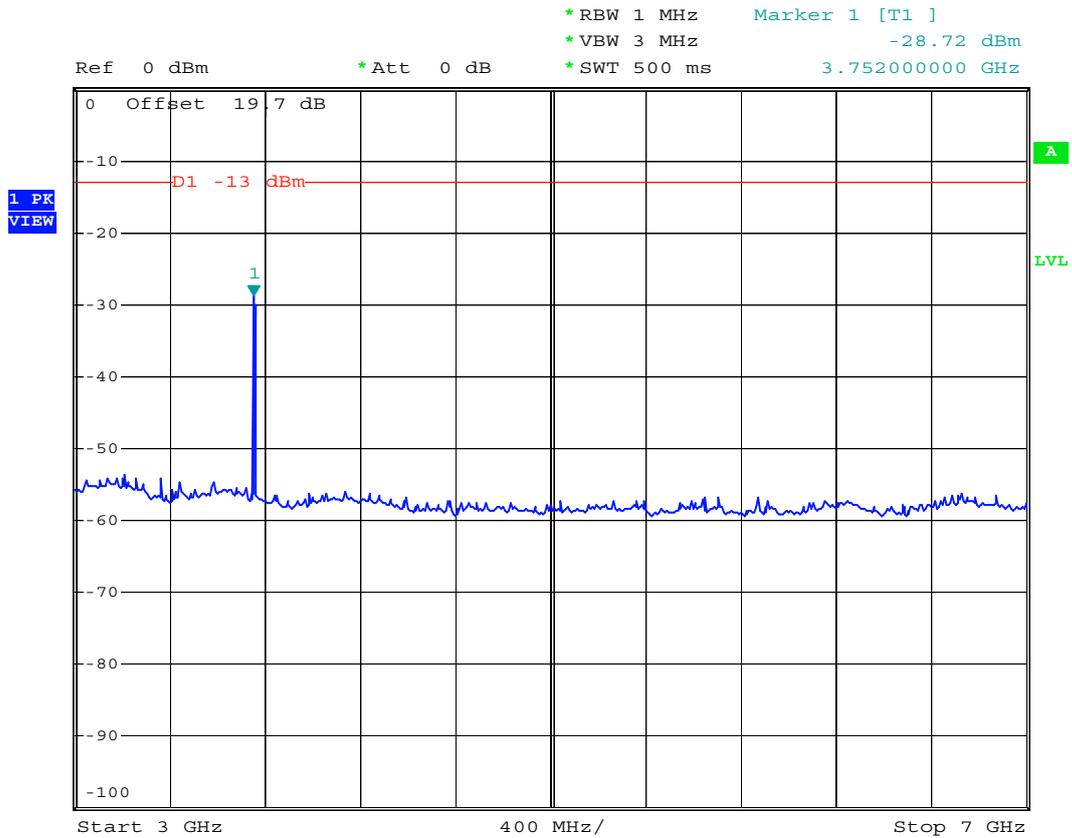
- Test Mode : WCDMA Band II CH9400
- Frequency Range : 1G-3G



Date: 21.MAY.2007 22:46:06



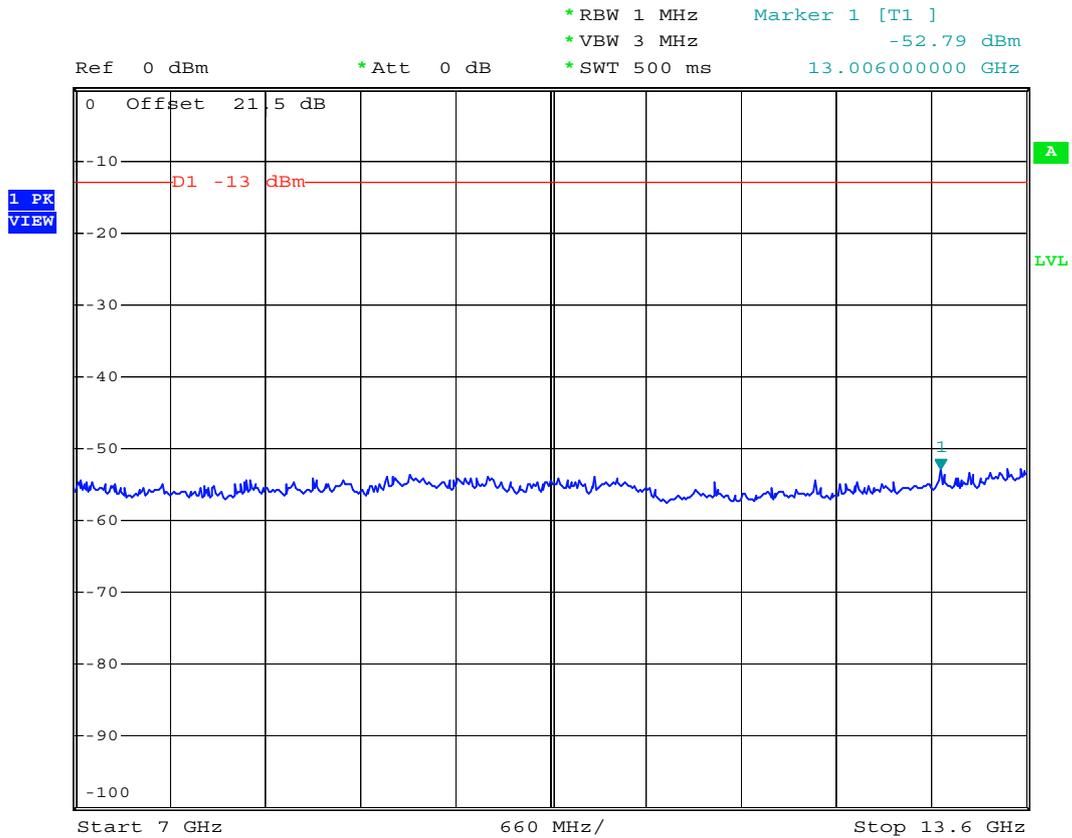
- Test Mode : WCDMA Band II CH9400
- Frequency Range : 3G-7G



Date: 21.MAY.2007 22:55:37



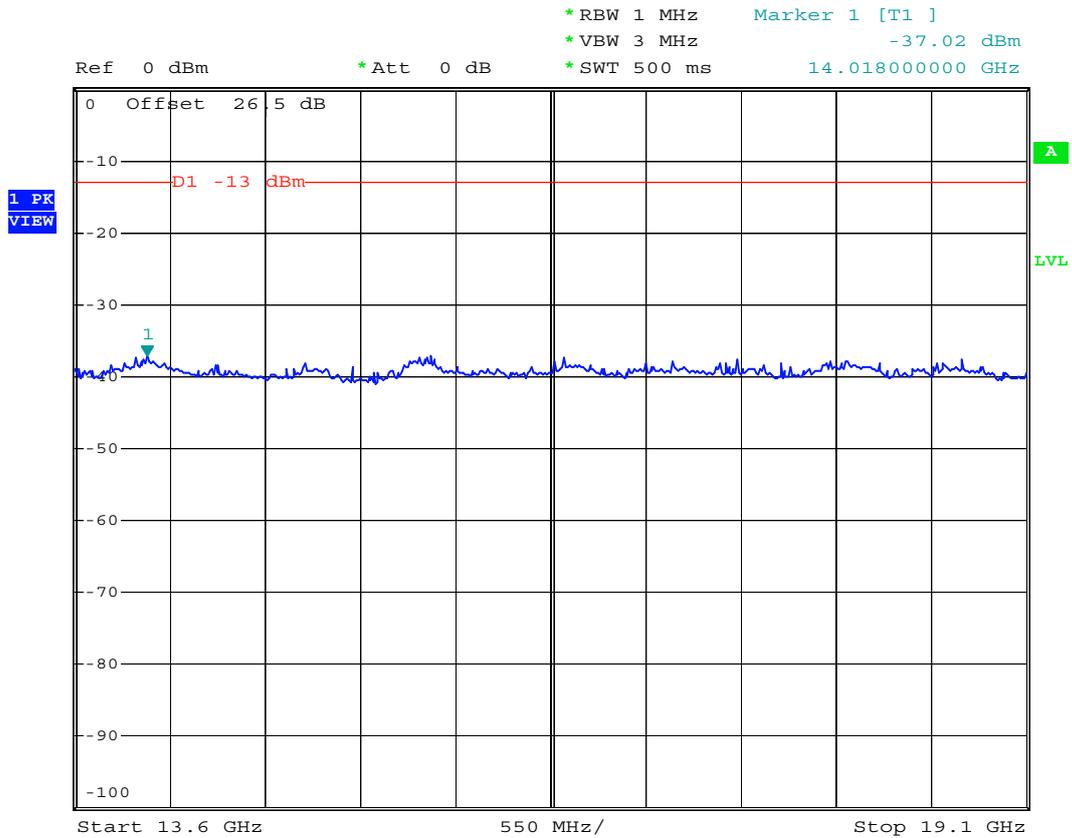
- Test Mode : WCDMA Band II CH9400
- Frequency Range : 7G-13.6G



Date: 21.MAY.2007 23:01:56



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



Date: 21.MAY.2007 23:03:51

## 4.6 Field Strength of Spurious Radiation

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

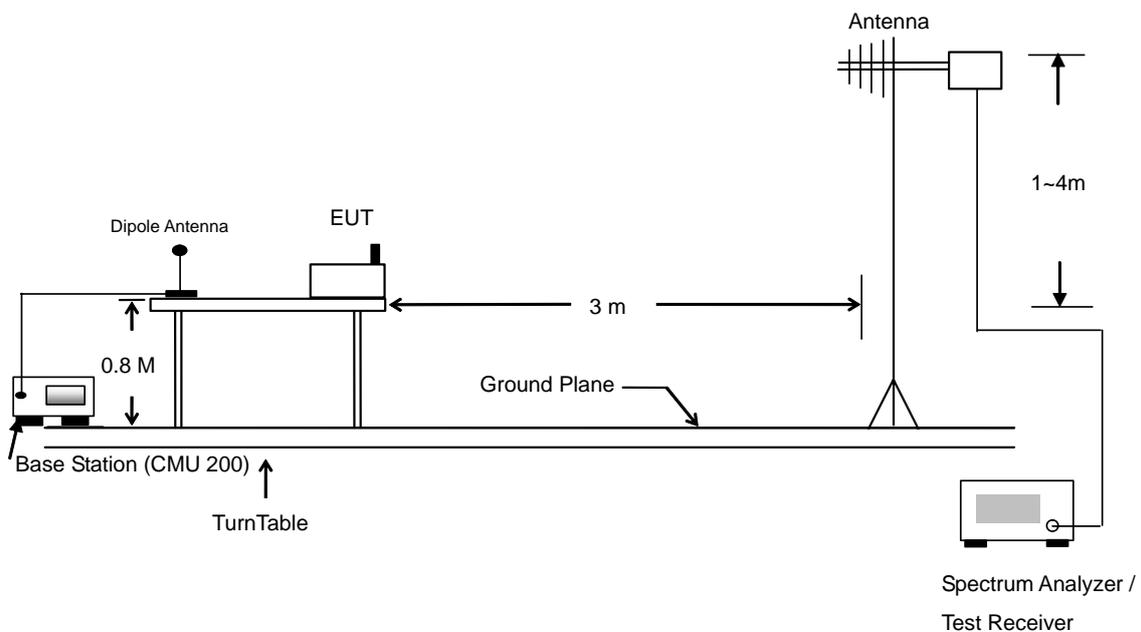
### 4.6.1 Measurement Instruments

As described in chapter 5 of this test report.

### 4.6.2 Test Procedure

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)
76.980	-61.760	-13	-48.76	44.580	-54.670	-13	-41.67
95.340	-53.300	-13	-40.30	89.130	-50.200	-13	-37.20
195.780	-55.480	-13	-42.48	169.590	-52.010	-13	-39.01
983.900	-65.920	-13	-52.92	302.800	-63.230	-13	-50.23
1674.000	-46.680	-13	-33.68	1674.000	-55.870	-13	-42.87
2508.000	-48.780	-13	-35.78	2508.000	-49.340	-13	-36.34
3344.000	-53.880	-13	-40.88	3344.000	-57.450	-13	-44.45
5018.000	-49.930	-13	-36.93	4184.000	-49.310	-13	-36.31
				5018.000	-48.770	-13	-35.77
				5854.000	-50.720	-13	-37.72
				7524.000	-45.980	-13	-32.98



- 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)
91.290	-59.990	-13	-46.99	44.040	-54.030	-13	-41.03
161.490	-62.210	-13	-49.21	155.280	-53.290	-13	-40.29
193.890	-56.770	-13	-43.77	189.840	-53.590	-13	-40.59
990.900	-65.530	-13	-52.53	994.400	-63.280	-13	-50.28
1674.000	-45.360	-13	-32.36	1674.000	-55.190	-13	-42.19
2508.000	-47.950	-13	-34.95	2508.000	-50.090	-13	-37.09
3344.000	-55.990	-13	-42.99	3344.000	-54.910	-13	-41.91
4184.000	-51.810	-13	-38.81	4178.000	-48.470	-13	-35.47
5018.000	-49.870	-13	-36.87	5018.000	-45.940	-13	-32.94
				5854.000	-49.970	-13	-36.97
				7528.000	-45.420	-13	-32.42



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)
30.000	-64.300	-13	-51.30	43.230	-59.830	-13	-46.83
76.980	-60.290	-13	-47.29	71.580	-57.010	-13	-44.01
145.830	-64.310	-13	-51.31	219.540	-62.010	-13	-49.01
728.400	-66.340	-13	-53.34	729.800	-64.070	-13	-51.07
854.400	-64.450	-13	-51.45	845.300	-62.090	-13	-49.09
971.300	-64.080	-13	-51.08	952.400	-61.710	-13	-48.71
3758.000	-45.960	-13	-32.96	3758.000	-39.560	-13	-26.56
5638.000	-48.030	-13	-35.03	5638.000	-45.970	-13	-32.97
7518.000	-38.370	-13	-25.37	7518.000	-34.900	-13	-21.90
9398.000	-32.380	-13	-19.38	9398.000	-28.160	-13	-15.16
11278.000	-26.090	-13	-13.09	11278.000	-17.030	-13	-4.03
				13158.000	-42.790	-13	-29.79



- Test Mode : Mode 4

<b>PCS1900 (EDGE) Radiated Spurious EIRP</b>							
<b>H Polarization</b>				<b>V Polarization</b>			
<b>Frequency (MHz)</b>	<b>EIRP (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Frequency (MHz)</b>	<b>EIRP (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>
30.000	-57.890	-13	-44.89	41.880	-49.850	-13	-36.85
78.330	-52.320	-13	-39.32	58.620	-50.280	-13	-37.28
177.690	-57.340	-13	-44.34	72.930	-52.730	-13	-39.73
300.000	-66.600	-13	-53.60	330.800	-65.290	-13	-52.29
323.800	-66.680	-13	-53.68	477.800	-59.070	-13	-46.07
959.400	-63.810	-13	-50.81	997.900	-61.100	-13	-48.10
3758.000	-41.580	-13	-28.58	3758.000	-37.800	-13	-24.80
5638.000	-45.380	-13	-32.38	5638.000	-43.550	-13	-30.55
7518.000	-37.960	-13	-24.96	7518.000	-37.320	-13	-24.32
9398.000	-31.200	-13	-18.20	9398.000	-27.360	-13	-14.36
11278.000	-25.120	-13	-12.12	11278.000	-18.690	-13	-5.69
				13158.000	-45.380	-13	-32.38



- Test Mode : Mode 5

<b>WCDMA Band V Radiated Spurious ERP</b>							
<b>H Polarization</b>				<b>V Polarization</b>			
<b>Frequency (MHz)</b>	<b>ERP (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Frequency (MHz)</b>	<b>ERP (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>
91.290	-60.100	-13	-47.10	44.040	-54.530	-13	-41.53
160.140	-62.070	-13	-49.07	169.590	-53.300	-13	-40.30
196.590	-57.400	-13	-44.40	196.590	-54.150	-13	-41.15
990.900	-65.810	-13	-52.81	593.300	-58.500	-13	-45.50
1668.000	-36.700	-13	-23.70	1668.000	-47.360	-13	-34.36
2514.000	-46.660	-13	-33.66	2514.000	-51.660	-13	-38.66



- Test Mode : Mode 6

<b>WCDMA Band V (HSDPA) Radiated Spurious ERP</b>							
<b>H Polarization</b>				<b>V Polarization</b>			
<b>Frequency (MHz)</b>	<b>ERP (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Frequency (MHz)</b>	<b>ERP (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>
76.980	-62.260	-13	-49.26	44.040	-54.730	-13	-41.73
91.290	-60.760	-13	-47.76	73.740	-56.420	-13	-43.42
196.590	-58.060	-13	-45.06	169.590	-52.990	-13	-39.99
393.800	-66.170	-13	-53.17	838.300	-17.390	-13	-4.39
1668.000	-36.530	-13	-23.53	1668.000	-47.370	-13	-34.37
2504.000	-46.280	-13	-33.28	2514.000	-51.460	-13	-38.46



- Test Mode : Mode 7

<b>WCDMA Band II Radiated Spurious EIRP</b>							
<b>H Polarization</b>				<b>V Polarization</b>			
<b>Frequency (MHz)</b>	<b>EIRP (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>	<b>Frequency (MHz)</b>	<b>EIRP (dBm)</b>	<b>Limit (dBm)</b>	<b>Margin (dB)</b>
88.590	-60.510	-13	-47.51	42.690	-52.030	-13	-39.03
166.080	-59.080	-13	-46.08	72.930	-54.340	-13	-41.34
202.530	-56.340	-13	-43.34	167.430	-51.250	-13	-38.25
395.900	-65.010	-13	-52.01	300.000	-62.340	-13	-49.34
906.900	-63.850	-13	-50.85	848.800	-61.460	-13	-48.46
987.400	-63.520	-13	-50.52	950.300	-61.380	-13	-48.38
3764.000	-45.260	-13	-32.26	3758.000	-44.860	-13	-31.86
				5644.000	-52.840	-13	-39.84



- Test Mode : Mode 8

<b>WCDMA Band II (HSDPA) Radiated Spurious EIRP</b>							
H Polarization				V Polarization			
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)
78.330	-62.120	-13	-49.12	42.690	-50.920	-13	-37.92
87.240	-58.860	-13	-45.86	156.090	-49.630	-13	-36.63
193.080	-54.590	-13	-41.59	191.190	-50.970	-13	-37.97
680.800	-65.550	-13	-52.55	763.400	-63.130	-13	-50.13
883.800	-63.850	-13	-50.85	903.400	-62.100	-13	-49.10
990.900	-63.670	-13	-50.67	995.800	-61.330	-13	-48.33
2924.000	-52.580	-13	-39.58	3764.000	-43.500	-13	-30.50
				5644.000	-50.220	-13	-37.22



- Test Mode : Mode 9

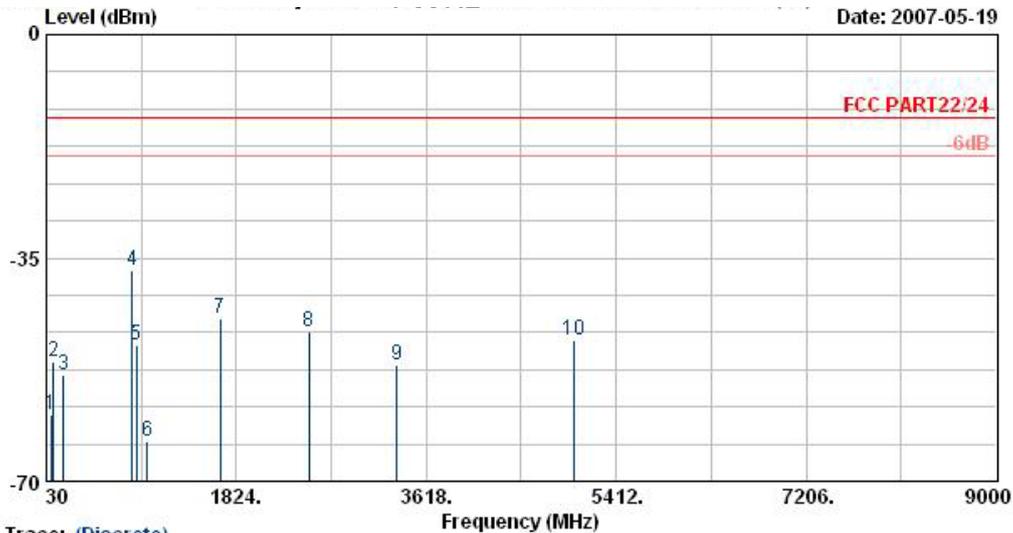
GSM850 (GSM) with WLAN Co-location Radiated Spurious ERP							
H Polarization				V Polarization			
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)
30.540	-52.350	-13	-39.35	59.430	-53.440	-13	-40.44
91.290	-57.640	-13	-44.64	92.640	-57.570	-13	-44.57
176.340	-51.130	-13	-38.13	160.680	-48.150	-13	-35.15
792.800	-49.840	-13	-36.84	794.900	-51.710	-13	-38.71
1018.000	-51.170	-13	-38.17	1674.000	-54.230	-13	-41.23
1674.000	-46.860	-13	-33.86	2508.000	-50.310	-13	-37.31
2508.000	-48.020	-13	-35.02	3344.000	-58.100	-13	-45.10
3248.000	-52.280	-13	-39.28	4178.000	-51.620	-13	-38.62
4184.000	-53.200	-13	-40.20	5018.000	-46.970	-13	-33.97
5018.000	-49.020	-13	-36.02	5854.000	-49.770	-13	-36.77
8364.000	-46.390	-13	-33.39	7524.000	-48.970	-13	-35.97
				8364.000	-44.850	-13	-31.85



4.6.5 Test Data

4.6.5.1 Mode 1

Horizontal Polarization



Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : GSM 850 Link Mode;Ch169+Adaptor  
 Plane : E2

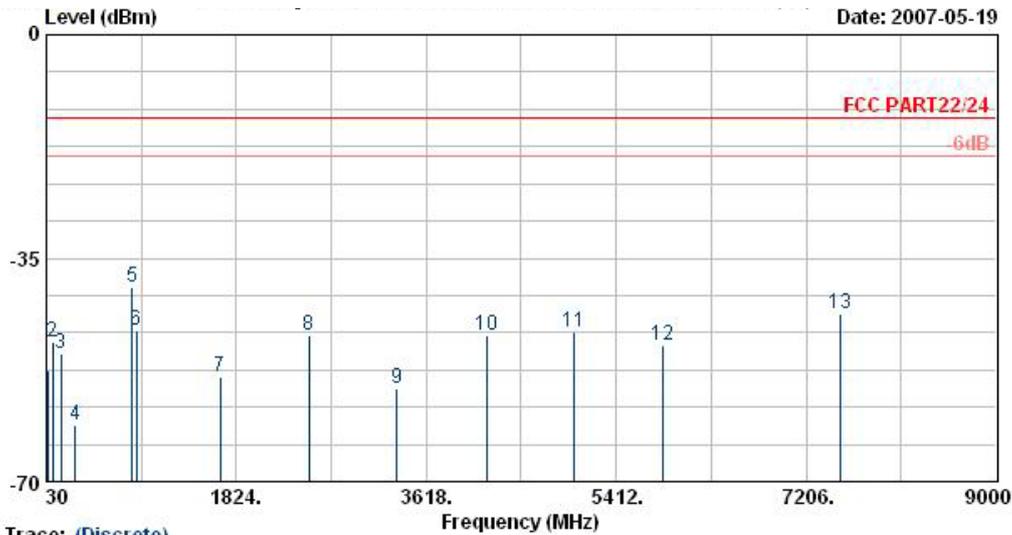
	Freq	Level	Over	Limit	Read		Remark
	MHz	dBm	Limit	Line	Level	Factor	
			dB	dBm	dBm	dB	
1	76.98	-59.61	-46.61	-13.00	-47.28	-12.33	Peak
2	95.34	-51.15	-38.15	-13.00	-38.89	-12.26	Peak
3	195.78	-53.33	-40.33	-13.00	-39.98	-13.35	Peak
4 @	836.90	-37.04			-35.71	-1.33	Peak
5	880.30	-48.61			-47.70	-0.91	Peak
6	983.90	-63.77	-50.77	-13.00	-63.85	0.08	Peak
7	1674.00	-44.53	-31.53	-13.00	-44.75	0.22	Peak
8	2508.00	-46.63	-33.63	-13.00	-47.83	1.20	Peak
9	3344.00	-51.73	-38.73	-13.00	-57.13	5.41	Peak
10	5018.00	-47.78	-34.78	-13.00	-58.02	10.24	Peak

Remark:

- 1. #4: MS Signal
- 2. #5: BS Signal



Vertical Polarization



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : GSM 850 Link Mode;Ch169+Adaptor  
 Plane : E2

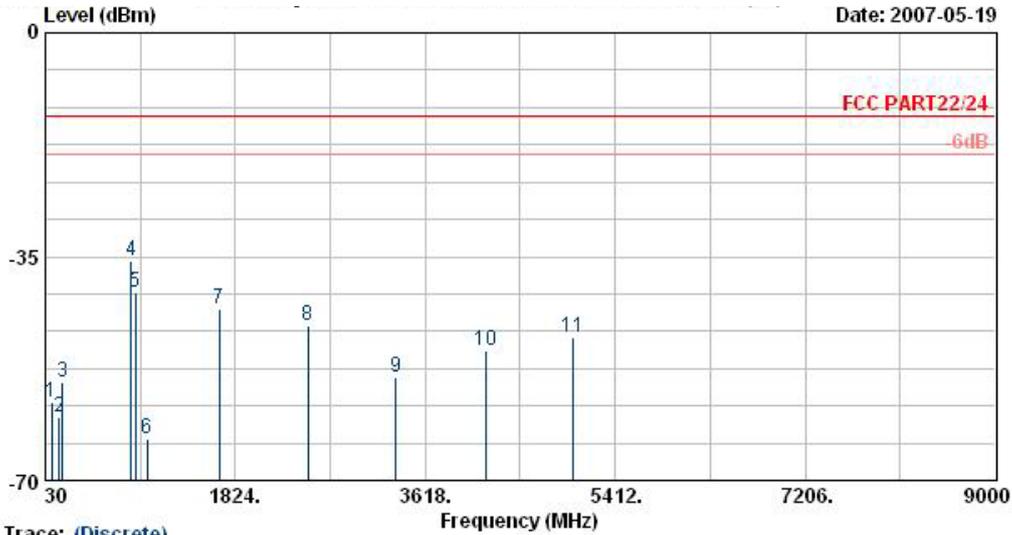
	Freq	Level	Over	Limit	Read		
	MHz	dBm	dB	dBm	dBm	dB	Remark
1	44.58	-52.52	-39.52	-13.00	-39.34	-13.18	Peak
2	89.13	-48.05	-35.05	-13.00	-38.82	-9.23	Peak
3	169.59	-49.86	-36.86	-13.00	-41.55	-8.32	Peak
4	302.80	-61.08	-48.08	-13.00	-54.68	-6.40	Peak
5	836.90	-39.54			-40.90	1.36	Peak
6	880.30	-46.38			-48.09	1.71	Peak
7	1674.00	-53.72	-40.72	-13.00	-53.24	-0.48	Peak
8	2508.00	-47.19	-34.19	-13.00	-49.46	2.27	Peak
9	3344.00	-55.30	-42.30	-13.00	-59.76	4.47	Peak
10	4184.00	-47.16	-34.16	-13.00	-55.51	8.36	Peak
11	5018.00	-46.62	-33.62	-13.00	-55.46	8.85	Peak
12	5854.00	-48.57	-35.57	-13.00	-57.38	8.81	Peak
13	7524.00	-43.83	-30.83	-13.00	-57.19	13.37	Peak

Remark:

- #5: MS Signal
- #6: BS Signal



4.6.5.2 Mode 2  
Horizontal Polarization



Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : EDGE Link Mode;Ch169+Adaptor  
 Plane : E2

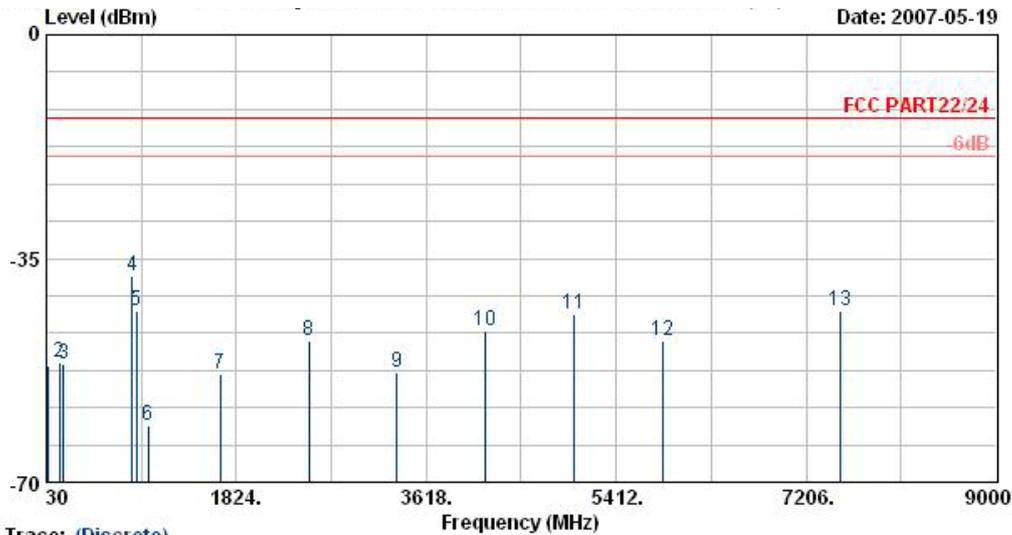
	Freq	Level	Over	Limit	Read		Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	91.29	-57.84	-44.84	-13.00	-45.56	-12.27	Peak
2	161.49	-60.06	-47.06	-13.00	-47.11	-12.95	Peak
3	193.89	-54.62	-41.62	-13.00	-41.29	-13.32	Peak
4 @	836.90	-35.60			-34.27	-1.33	Peak
5	880.30	-40.63			-39.72	-0.91	Peak
6	990.90	-63.38	-50.38	-13.00	-63.54	0.16	Peak
7	1674.00	-43.21	-30.21	-13.00	-43.43	0.22	Peak
8	2508.00	-45.80	-32.80	-13.00	-47.00	1.20	Peak
9	3344.00	-53.84	-40.84	-13.00	-59.25	5.41	Peak
10	4184.00	-49.66	-36.66	-13.00	-59.45	9.79	Peak
11	5018.00	-47.72	-34.72	-13.00	-57.96	10.24	Peak

Remark:

- #4: MS Signal
- #5: BS Signal



Vertical Polarization



Date: 2007-05-19

Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : EDGE Link Mode;Ch169+Adaptor  
 Plane : E2

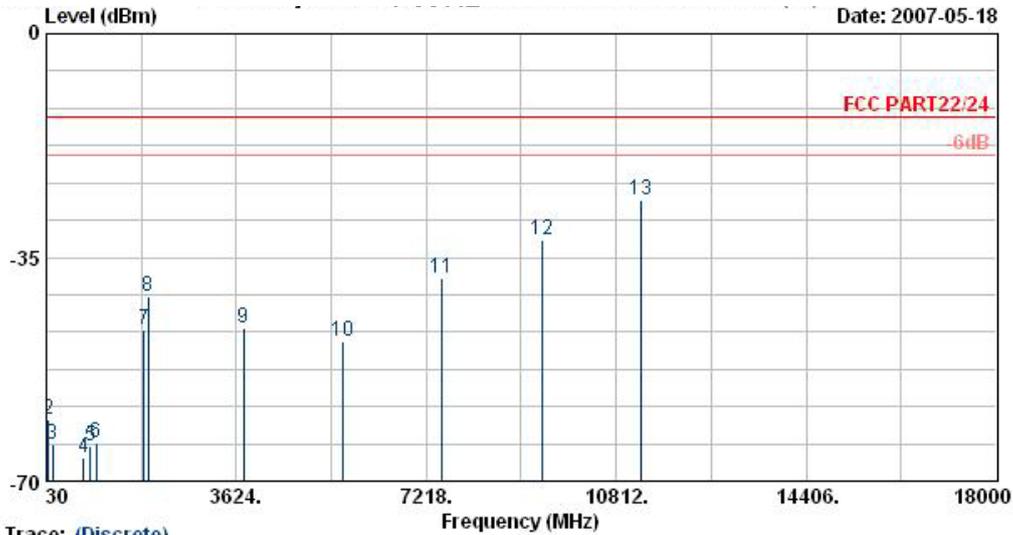
	Freq	Level	Over	Limit	Read	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	44.04	-51.88	-38.88	-13.00	-38.98	-12.90	Peak
2	155.28	-51.14	-38.14	-13.00	-42.95	-8.19	Peak
3	189.84	-51.44	-38.44	-13.00	-42.93	-8.50	Peak
4	836.90	-37.72			-39.09	1.36	Peak
5	880.30	-43.29			-45.00	1.71	Peak
6	994.40	-61.13	-48.13	-13.00	-63.74	2.61	Peak
7	1674.00	-53.04	-40.04	-13.00	-52.56	-0.48	Peak
8	2508.00	-47.94	-34.94	-13.00	-50.21	2.27	Peak
9	3344.00	-52.76	-39.76	-13.00	-57.22	4.47	Peak
10	4178.00	-46.32	-33.32	-13.00	-54.68	8.36	Peak
11	5018.00	-43.79	-30.79	-13.00	-52.64	8.85	Peak
12	5854.00	-47.82	-34.82	-13.00	-56.63	8.81	Peak
13	7528.00	-43.27	-30.27	-13.00	-56.64	13.37	Peak

Remark:

- #4: MS Signal
- #5: BS Signal



4.6.5.3 Mode 3  
Horizontal Polarization



Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FC 750203  
 Memo : PCS 1900 Link Mode;Ch661+Adaptor  
 Plane : E2

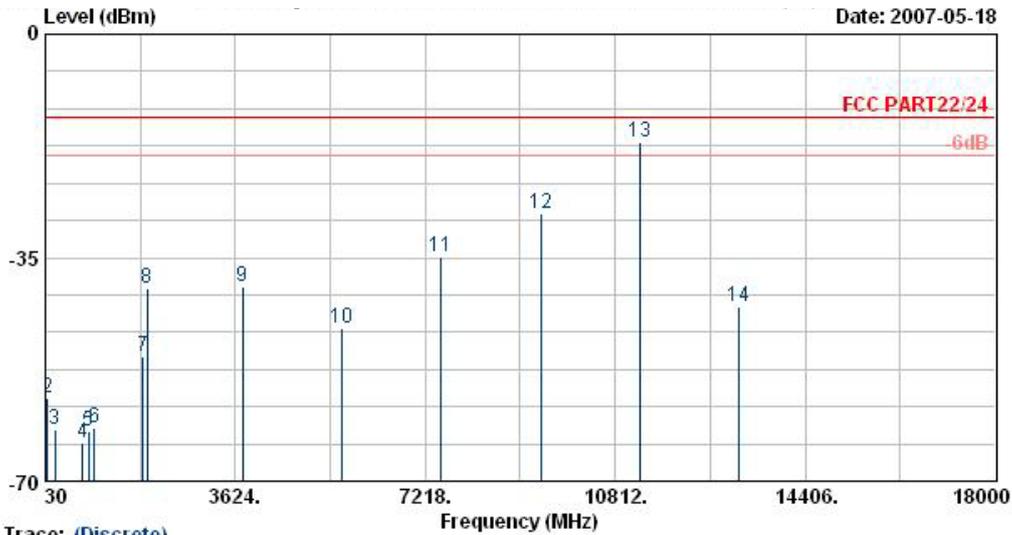
	Freq	Level	Over	Limit	Read		Remark
	MHz	dBm	Limit	Line	Level	Factor	
			dB	dBm	dBm	dB	
1	30.00	-64.30	-51.30	-13.00	-64.66	0.36	Peak
2	76.98	-60.29	-47.29	-13.00	-47.96	-12.33	Peak
3	145.83	-64.31	-51.31	-13.00	-51.54	-12.76	Peak
4	728.40	-66.34	-53.34	-13.00	-63.91	-2.43	Peak
5	854.40	-64.45	-51.45	-13.00	-63.28	-1.17	Peak
6	971.30	-64.08	-51.08	-13.00	-64.03	-0.04	Peak
7	1878.00	-46.22			-45.71	-0.51	Peak
8	1958.00	-41.13			-40.02	-1.11	Peak
9	3758.00	-45.96	-32.96	-13.00	-53.88	7.92	Peak
10	5638.00	-48.03	-35.03	-13.00	-58.00	9.97	Peak
11	7518.00	-38.37	-25.37	-13.00	-54.17	15.80	Peak
12	9398.00	-32.38	-19.38	-13.00	-50.60	18.22	Peak
13	11278.00	-26.09	-13.09	-13.00	-46.39	20.30	Peak

Remark:

- #7: MS Signal
- #8: BS Signal



Vertical Polarization



Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : PCS 1800 Link Mode;Ch661+Adaptor  
 Plane : E2

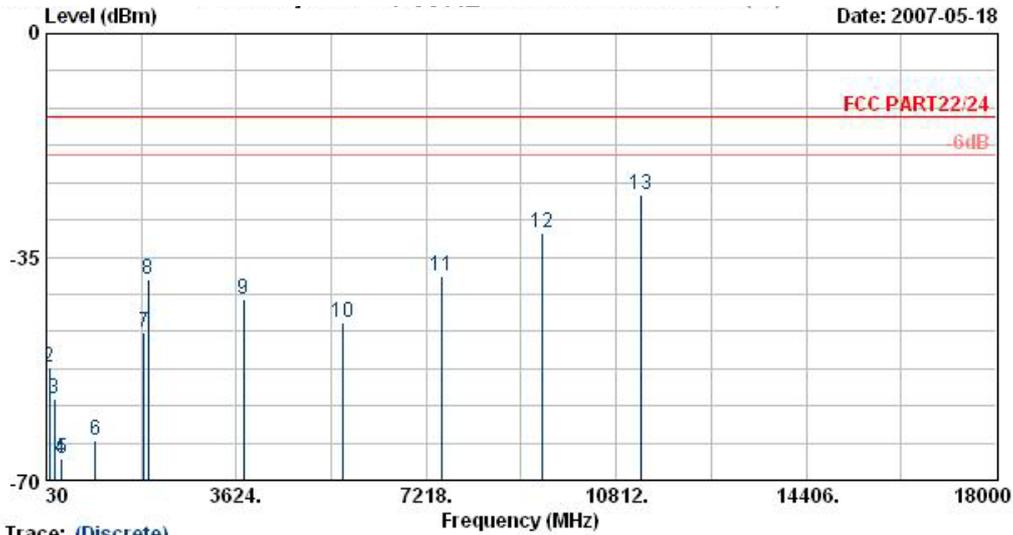
	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1	43.23	-59.83	-46.83	-13.00	-46.93	-12.90	Peak
2	71.58	-57.01	-44.01	-13.00	-45.26	-11.74	Peak
3	219.54	-62.01	-49.01	-13.00	-53.83	-8.18	Peak
4	729.80	-64.07	-51.07	-13.00	-64.08	0.01	Peak
5	845.30	-62.09	-49.09	-13.00	-63.53	1.43	Peak
6	952.40	-61.71	-48.71	-13.00	-63.99	2.28	Peak
7	1878.00	-50.39			-49.99	-0.40	Peak
8	1958.00	-39.82			-39.22	-0.60	Peak
9	3758.00	-39.56	-26.56	-13.00	-46.19	6.64	Peak
10	5638.00	-45.97	-32.97	-13.00	-54.62	8.65	Peak
11	7518.00	-34.90	-21.90	-13.00	-48.26	13.37	Peak
12	9398.00	-28.16	-15.16	-13.00	-45.36	17.20	Peak
13 @	11278.00	-17.03	-4.03	-13.00	-35.90	18.87	Peak
14	13158.00	-42.79	-29.79	-13.00	-58.59	15.79	Peak

Remark:

- #7: MS Signal
- #8: BS Signal



4.6.5.4 Mode 4  
Horizontal Polarization



Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FC 750203  
 Memo : EDGE Link Mode;Ch661+Adaptor  
 Plane : E2

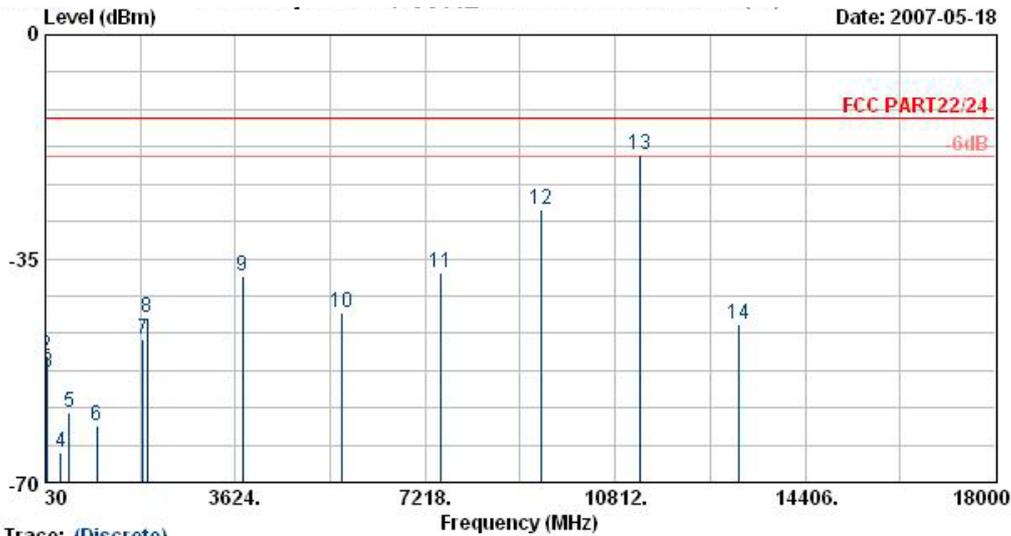
	Freq	Level	Over	Limit	Read		Remark
	MHz	dBm	Limit	Line	Level	Factor	
			dB	dBm	dBm	dB	
1	30.00	-57.89	-44.89	-13.00	-58.25	0.36	Peak
2	78.33	-52.32	-39.32	-13.00	-40.00	-12.32	Peak
3	177.69	-57.34	-44.34	-13.00	-44.21	-13.13	Peak
4	300.00	-66.60	-53.60	-13.00	-56.65	-9.95	Peak
5	323.80	-66.68	-53.68	-13.00	-57.57	-9.11	Peak
6	959.40	-63.81	-50.81	-13.00	-63.65	-0.15	Peak
7	1878.00	-46.80			-46.29	-0.51	Peak
8	1958.00	-38.39			-37.28	-1.11	Peak
9	3758.00	-41.58	-28.58	-13.00	-49.50	7.92	Peak
10	5638.00	-45.38	-32.38	-13.00	-55.34	9.97	Peak
11	7518.00	-37.96	-24.96	-13.00	-53.76	15.80	Peak
12	9398.00	-31.20	-18.20	-13.00	-49.42	18.22	Peak
13	11278.00	-25.12	-12.12	-13.00	-45.41	20.30	Peak

Remark:

1. #7: MS Signal
2. #8: BS Signal



Vertical Polarization



Date: 2007-05-18

Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : EDGE Link Mode;Ch661+Adaptor  
 Plane : E2

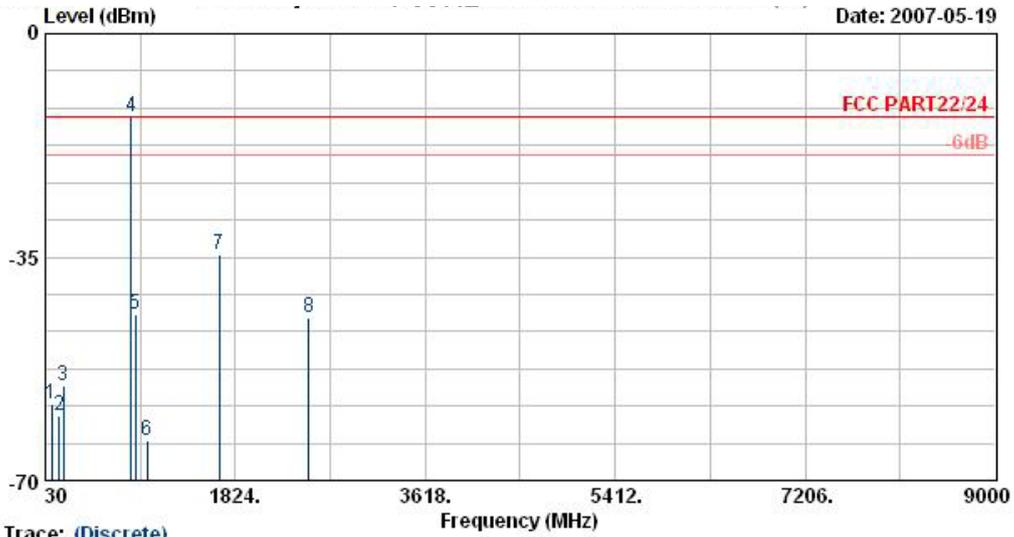
	Freq	Level	Over	Limit	Read		
	MHz	dBm	dB	dBm	dBm	dB	Remark
1	41.88	-49.85	-36.85	-13.00	-37.49	-12.36	Peak
2	58.62	-50.28	-37.28	-13.00	-36.72	-13.56	Peak
3	72.93	-52.73	-39.73	-13.00	-41.12	-11.60	Peak
4	330.80	-65.29	-52.29	-13.00	-59.49	-5.80	Peak
5	477.80	-59.07	-46.07	-13.00	-55.68	-3.39	Peak
6	997.90	-61.10	-48.10	-13.00	-63.75	2.64	Peak
7	1878.00	-47.68			-47.28	-0.40	Peak
8	1958.00	-44.21			-43.61	-0.60	Peak
9	3758.00	-37.80	-24.80	-13.00	-44.44	6.64	Peak
10	5638.00	-43.55	-30.55	-13.00	-52.21	8.65	Peak
11	7518.00	-37.32	-24.32	-13.00	-50.68	13.37	Peak
12	9398.00	-27.36	-14.36	-13.00	-44.56	17.20	Peak
13 @	11278.00	-18.69	-5.69	-13.00	-37.57	18.87	Peak
14	13158.00	-45.38	-32.38	-13.00	-61.17	15.79	Peak

Remark:

- #7: MS Signal
- #8: BS Signal



4.6.5.5 Mode 5  
Horizontal Polarization



Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FC 750203  
 Memo : WCDMA Link Mode+Adaptor  
 Plane : E2

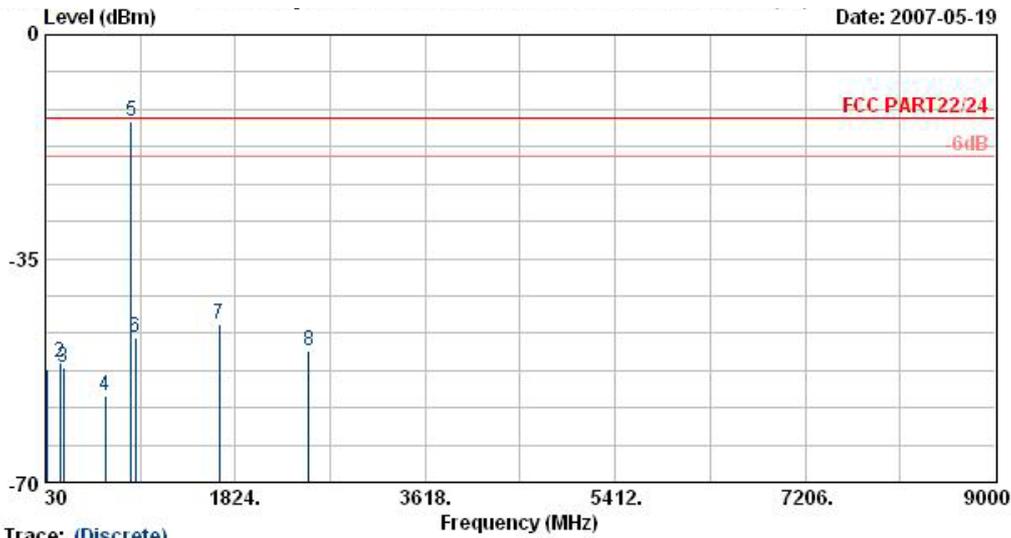
	Freq	Level	Over	Limit	Read		Remark
	MHz	dBm	Limit	Line	Level	Factor	
			dB	dBm	dBm	dB	
1	91.29	-57.95	-44.95	-13.00	-45.68	-12.27	Peak
2	160.14	-59.92	-46.92	-13.00	-46.98	-12.93	Peak
3	196.59	-55.25	-42.25	-13.00	-41.90	-13.36	Peak
4 @	838.30	-13.06			-11.74	-1.32	Peak
5	880.30	-44.04			-43.12	-0.91	Peak
6	990.90	-63.66	-50.66	-13.00	-63.82	0.16	Peak
7	1668.00	-34.55	-21.55	-13.00	-34.77	0.22	Peak
8	2514.00	-44.51	-31.51	-13.00	-45.71	1.20	Peak

Remark:

- #4: MS Signal
- #5: BS Signal



Vertical Polarization



Date: 2007-05-19

Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : WCDMA Link Mode+Adaptor  
 Plane : E2

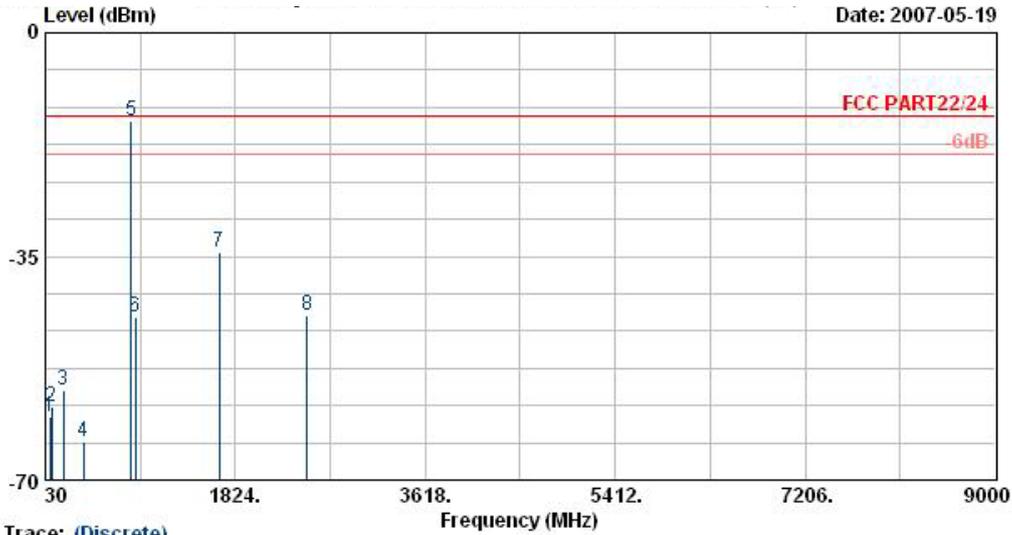
	Freq	Level	Over	Limit	Read	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	44.04	-52.38	-39.38	-13.00	-39.48	-12.90	Peak
2	169.59	-51.15	-38.15	-13.00	-42.83	-8.32	Peak
3	196.59	-52.00	-39.00	-13.00	-43.43	-8.56	Peak
4	593.30	-56.35	-43.35	-13.00	-54.34	-2.01	Peak
5 @	840.40	-13.55			-14.94	1.39	Peak
6	882.40	-47.23			-48.96	1.73	Peak
7	1668.00	-45.21	-32.21	-13.00	-44.73	-0.48	Peak
8	2514.00	-49.51	-36.51	-13.00	-51.78	2.27	Peak

Remark:

- #5: MS Signal
- #6: BS Signal



4.6.5.6 Mode 6  
Horizontal Polarization



Date: 2007-05-19

Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : HSDPA Link Mode+Adaptor  
 Plane : E2

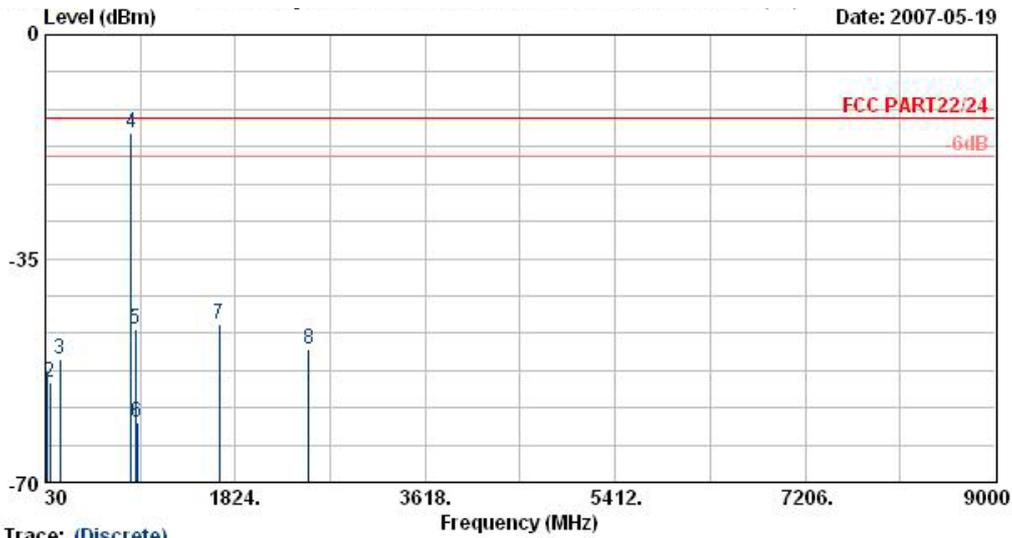
	Freq	Level	Over	Limit	Read		Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	76.98	-60.11	-47.11	-13.00	-47.79	-12.33	Peak
2	91.29	-58.61	-45.61	-13.00	-46.34	-12.27	Peak
3	196.59	-55.91	-42.91	-13.00	-42.55	-13.36	Peak
4	393.80	-64.02	-51.02	-13.00	-57.32	-6.70	Peak
5 @	838.30	-13.77			-12.44	-1.32	Peak
6	880.30	-44.48			-43.57	-0.91	Peak
7	1668.00	-34.38	-21.38	-13.00	-34.60	0.22	Peak
8	2504.00	-44.13	-31.13	-13.00	-45.33	1.20	Peak

Remark:

- #5: MS Signal
- #6: BS Signal



Vertical Polarization



Date: 2007-05-19

Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : HSDPA Link Mode+Adaptor  
 Plane : E2

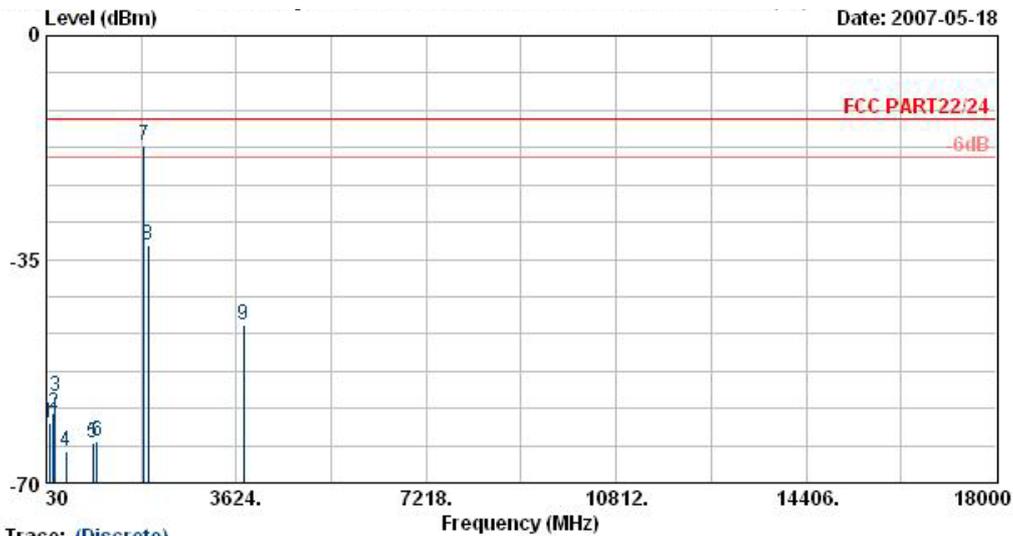
	Freq	Level	Over	Limit	Read	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	44.04	-52.58	-39.58	-13.00	-39.67	-12.90	Peak
2	73.74	-54.27	-41.27	-13.00	-42.80	-11.46	Peak
3	169.59	-50.84	-37.84	-13.00	-42.52	-8.32	Peak
4 !	838.30	-15.24			-16.61	1.37	Peak
5	880.30	-46.03			-47.74	1.71	Peak
6	897.80	-60.65	-47.65	-13.00	-62.50	1.85	Peak
7	1668.00	-45.22	-32.22	-13.00	-44.74	-0.48	Peak
8	2514.00	-49.31	-36.31	-13.00	-51.58	2.27	Peak

Remark:

- #4: MS Signal
- #5: BS Signal



4.6.5.7 Mode 7  
Horizontal Polarization



Date: 2007-05-18

Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : WCDMA Link Mode+Adaptor  
 Plane : E2

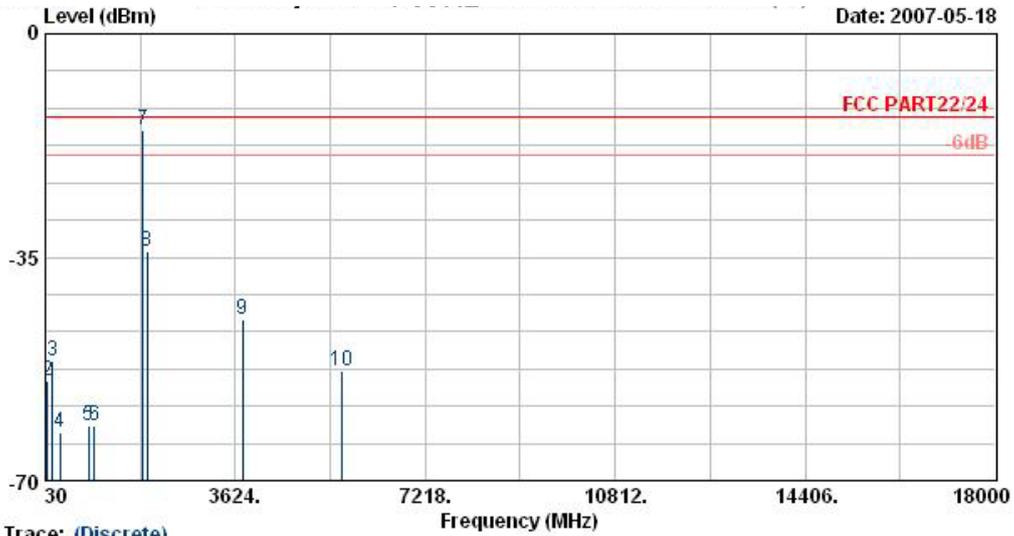
	Freq	Level	Over	Limit	Read		Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	88.59	-60.51	-47.51	-13.00	-48.23	-12.28	Peak
2	166.08	-59.08	-46.08	-13.00	-46.09	-13.00	Peak
3	202.53	-56.34	-43.34	-13.00	-43.05	-13.29	Peak
4	395.90	-65.01	-52.01	-13.00	-58.38	-6.63	Peak
5	906.90	-63.85	-50.85	-13.00	-63.19	-0.66	Peak
6	987.40	-63.52	-50.52	-13.00	-63.64	0.12	Peak
7 !	1878.00	-17.10			-16.59	-0.51	Peak
8	1958.00	-32.84			-31.73	-1.11	Peak
9	3764.00	-45.26	-32.26	-13.00	-53.18	7.92	Peak

Remark:

1. #7: MS Signal
2. #8: BS Signal



Vertical Polarization



Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : WCDMA Link Mode+Adaptor  
 Plane : E2

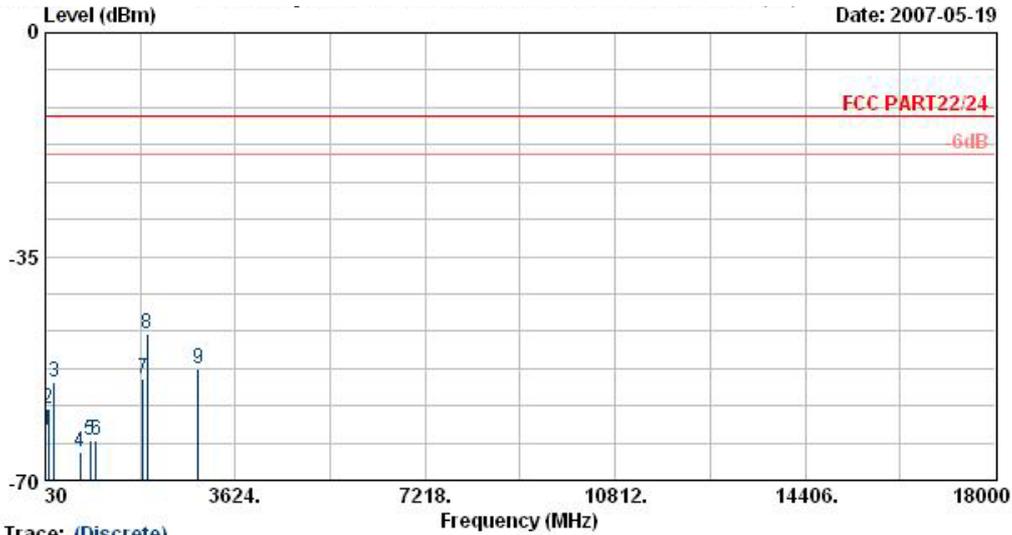
	Freq	Level	Over	Limit	Read	Factor	Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	42.69	-52.03	-39.03	-13.00	-39.40	-12.63	Peak
2	72.93	-54.34	-41.34	-13.00	-42.73	-11.60	Peak
3	167.43	-51.25	-38.25	-13.00	-42.94	-8.30	Peak
4	300.00	-62.34	-49.34	-13.00	-55.88	-6.46	Peak
5	848.80	-61.46	-48.46	-13.00	-62.91	1.46	Peak
6	950.30	-61.38	-48.38	-13.00	-63.64	2.27	Peak
7 @	1884.00	-15.13			-14.63	-0.50	Peak
8	1958.00	-33.96			-33.37	-0.60	Peak
9	3758.00	-44.86	-31.86	-13.00	-51.49	6.64	Peak
10	5644.00	-52.84	-39.84	-13.00	-61.50	8.65	Peak

Remark:

- #7: MS Signal
- #8: BS Signal



4.6.5.8 Mode 8  
Horizontal Polarization



Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : HSDPA Link Mode+Adaptor  
 Plane : E2

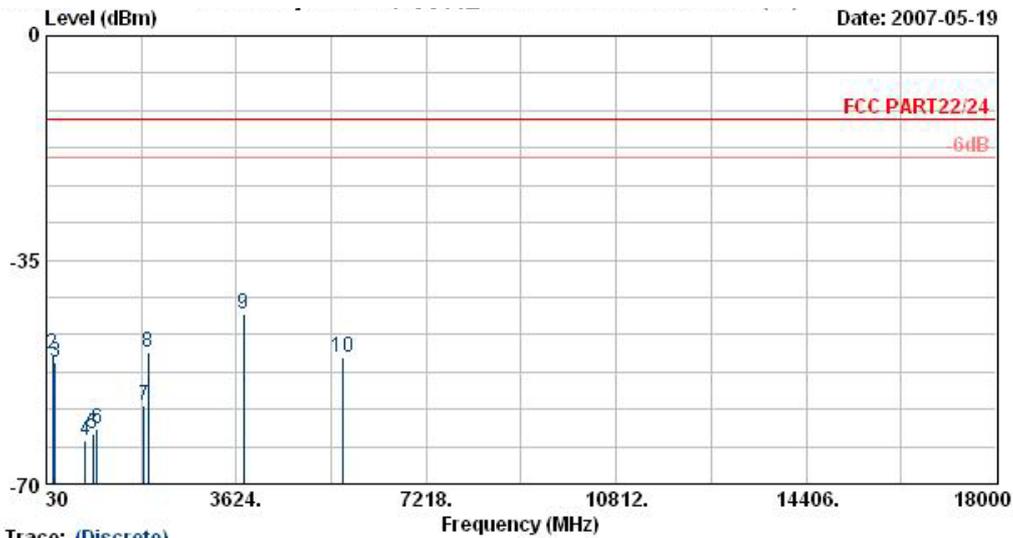
	Freq	Level	Over	Limit	Read		Remark
	MHz	dBm	dB	dBm	dBm	dB	
1	78.33	-62.12	-49.12	-13.00	-49.80	-12.32	Peak
2	87.24	-58.86	-45.86	-13.00	-46.57	-12.29	Peak
3	193.08	-54.59	-41.59	-13.00	-41.28	-13.31	Peak
4	680.80	-65.55	-52.55	-13.00	-62.64	-2.91	Peak
5	883.80	-63.85	-50.85	-13.00	-62.96	-0.88	Peak
6	990.90	-63.67	-50.67	-13.00	-63.82	0.16	Peak
7	1884.00	-54.00			-53.33	-0.68	Peak
8	1958.00	-47.14			-46.03	-1.11	Peak
9	2924.00	-52.58	-39.58	-13.00	-56.42	3.84	Peak

Remark:

- #7: MS Signal
- #8: BS Signal



Vertical Polarization



Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : HSDPA Link Mode+Adaptor  
 Plane : E2

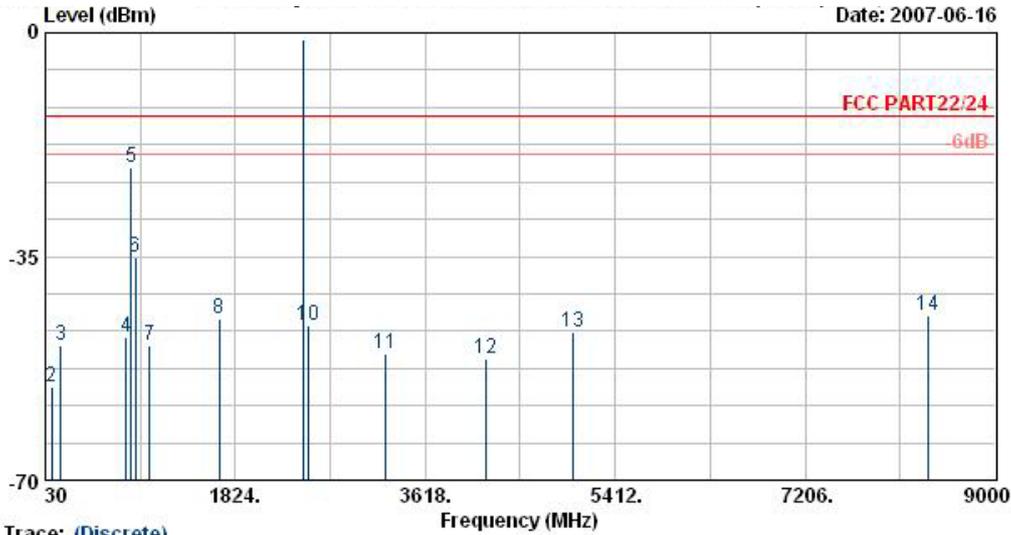
	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1	42.69	-50.92	-37.92	-13.00	-38.29	-12.63	Peak
2	156.09	-49.63	-36.63	-13.00	-41.43	-8.20	Peak
3	191.19	-50.97	-37.97	-13.00	-42.46	-8.51	Peak
4	763.40	-63.13	-50.13	-13.00	-63.65	0.52	Peak
5	903.40	-62.10	-49.10	-13.00	-63.99	1.89	Peak
6	995.80	-61.33	-48.33	-13.00	-63.96	2.63	Peak
7	1878.00	-57.64			-57.24	-0.40	Peak
8	1958.00	-49.33			-48.74	-0.60	Peak
9 @	3764.00	-43.50	-30.50	-13.00	-50.14	6.64	Peak
10	5644.00	-50.22	-37.22	-13.00	-58.88	8.65	Peak

Remark:

- #7: MS Signal
- #8: BS Signal



4.6.5.9 Mode 9  
Horizontal Polarization



Trace: (Discrete)

Site : 03CH06-HY  
 Condition : HF-SPURIOUS HORIZONTAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : GSM 850 Link Mode;Ch169 +Adaptor  
 Plane : +1lg Tx Ch11  
 : E2

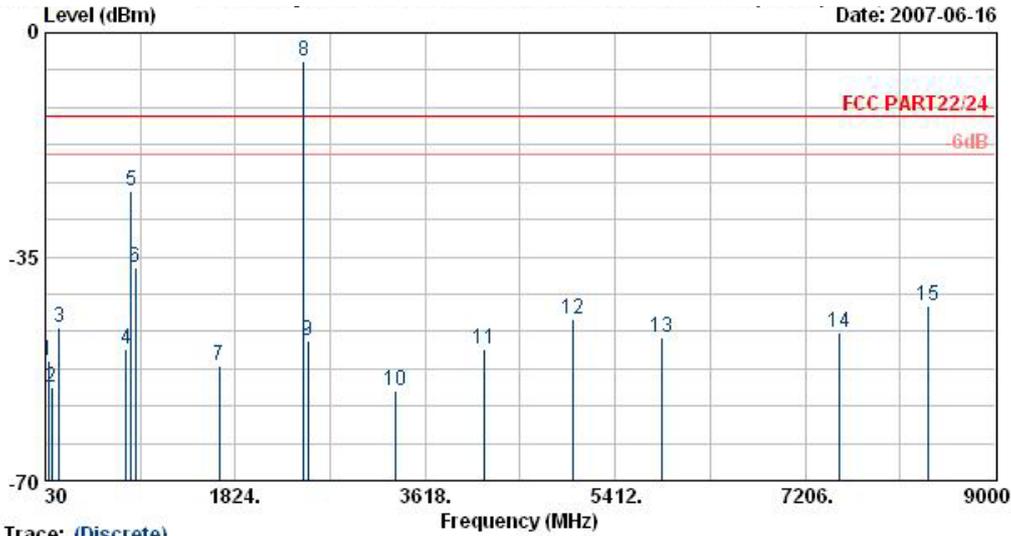
	Freq	Level	Over	Limit	Read		Remark	Pol/Phase
	MHz	dBm	Limit	Line	Level	Factor		
			dB	dBm	dBm	dB		
1	30.54	-50.20	-37.20	-13.00	-49.95	-0.25	Peak	HORIZONTAL
2	91.29	-55.49	-42.49	-13.00	-43.22	-12.27	Peak	HORIZONTAL
3	176.34	-48.98	-35.98	-13.00	-35.86	-13.12	Peak	HORIZONTAL
4	792.80	-47.69	-34.69	-13.00	-45.93	-1.77	Peak	HORIZONTAL
5	840.40	-21.06			-19.75	-1.31	Peak	HORIZONTAL
6	880.30	-35.18			-34.27	-0.91	Peak	HORIZONTAL
7	1018.00	-49.02	-36.02	-13.00	-50.79	1.78	Peak	HORIZONTAL
8	1674.00	-44.71	-31.71	-13.00	-44.94	0.22	Peak	HORIZONTAL
9 @	2468.00	-1.16			-2.31	1.16	Peak	HORIZONTAL
10	2508.00	-45.87	-32.87	-13.00	-47.07	1.20	Peak	HORIZONTAL
11	3248.00	-50.13	-37.13	-13.00	-55.13	4.99	Peak	HORIZONTAL
12	4184.00	-51.05	-38.05	-13.00	-60.84	9.79	Peak	HORIZONTAL
13	5018.00	-46.87	-33.87	-13.00	-57.11	10.24	Peak	HORIZONTAL
14	8364.00	-44.24	-31.24	-13.00	-62.59	18.35	Peak	HORIZONTAL

Remark:

- #5: MS Signal
- #6: BS Signal
- #9: WLAN Signal



Vertical Polarization



Trace: (Discrete)  
 Site : 03CH06-HY  
 Condition : HF-SPURIOUS VERTICAL  
 EUT : PDA Phone  
 Power : 120Vac/60Hz  
 Model : FG 750203  
 Memo : GSM 850 Link Mode;Ch169 +Adaptor  
 Memo : +1lg Tx Ch11  
 Plane : E2

	Freq	Level	Over	Limit	Read		Remark	Pol/Phase
	MHz	dBm	Limit	Line	Level	Factor		
			dB	dBm	dBm	dB		
1	59.43	-51.29	-38.29	-13.00	-37.73	-13.56	Peak	VERTICAL
2	92.64	-55.42	-42.42	-13.00	-46.75	-8.67	Peak	VERTICAL
3	160.68	-46.00	-33.00	-13.00	-37.76	-8.24	Peak	VERTICAL
4	794.90	-49.56	-36.56	-13.00	-50.56	1.00	Peak	VERTICAL
5	840.40	-24.81			-26.20	1.39	Peak	VERTICAL
6	880.30	-36.58			-38.29	1.71	Peak	VERTICAL
7	1674.00	-52.08	-39.08	-13.00	-51.60	-0.48	Peak	VERTICAL
8 @	2468.00	-4.36			-6.57	2.21	Peak	VERTICAL
9	2508.00	-48.16	-35.16	-13.00	-50.43	2.27	Peak	VERTICAL
10	3344.00	-55.95	-42.95	-13.00	-60.42	4.47	Peak	VERTICAL
11	4178.00	-49.47	-36.47	-13.00	-57.83	8.36	Peak	VERTICAL
12	5018.00	-44.82	-31.82	-13.00	-53.67	8.85	Peak	VERTICAL
13	5854.00	-47.62	-34.62	-13.00	-56.43	8.81	Peak	VERTICAL
14	7524.00	-46.82	-33.82	-13.00	-60.18	13.37	Peak	VERTICAL
15	8364.00	-42.70	-29.70	-13.00	-59.81	17.12	Peak	VERTICAL

Remark:

1. #5: MS Signal
2. #6: BS Signal
3. #8: WLAN Signal

## 4.7 Frequency Stability (Temperature Variation)

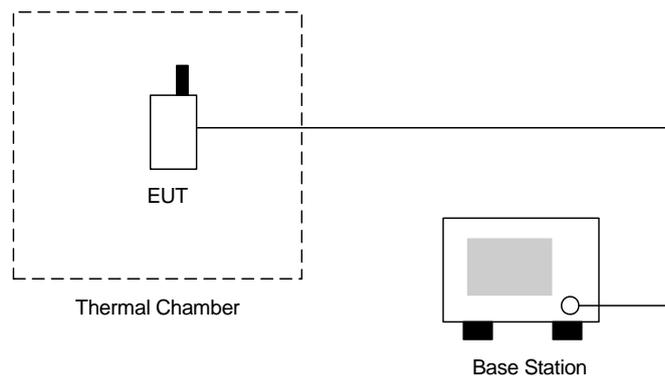
### 4.7.1 Measurement Instrument

As described in chapter 5 of this test report.

### 4.7.2 Test Procedure

1. The EUT and test equipment were set up as shown on the following section.
2. With all power removed, the temperature was decreased to  $-30^{\circ}\text{C}$  and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was noted within one minute.
3. With power OFF, the temperature was raised in  $10^{\circ}\text{C}$  steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.
4. The temperature tests were performed for the worst case.
5. Test data was recorded.

### 4.7.3 Test Setup Layout





4.7.4 Test Result

- Test Mode : GSM850 (GSM) CH189

Temperature(°C)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-39	-0.02	2.5	Passed
-20	-27	-0.03		
-10	-19	-0.02		
0	11	0.01		
10	-8	-0.01		
20	4	0.00		
30	10	0.01		
40	14	0.02		
50	16	0.02		

- Test Mode : GSM850 (EDGE) CH189

Temperature(°C)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-45	-0.02	2.5	Passed
-20	-26	-0.03		
-10	-34	-0.04		
0	-18	-0.02		
10	16	0.02		
20	7	0.01		
30	-14	-0.02		
40	25	0.03		
50	14	0.02		

- Test Mode : PCS1900 (GSM) CH661

Temperature(°C)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-49	-0.03	2.5	Passed
-20	-42	-0.02		
-10	-35	-0.02		
0	-64	-0.03		
10	-24	-0.01		
20	-47	-0.02		
30	14	0.01		
40	16	0.01		



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50	8	0.00		
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## ▪ Test Mode : PCS1900 (EDGE) CH661

Temperature(°C)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-68	-0.04	2.5	Passed
-20	-54	-0.03		
-10	-47	-0.02		
0	-21	-0.01		
10	-18	-0.01		
20	-24	-0.01		
30	-21	-0.01		
40	12	0.01		
50	-14	-0.01		

## ▪ Test Mode : WCDMA Band V CH4182

Temperature(°C)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	27	0.03	2.5	Passed
-20	17	0.02		
-10	19	0.02		
0	15	0.02		
10	18	0.02		
20	22	0.03		
30	12	0.01		
40	15	0.02		
50	16	0.02		

## ▪ Test Mode : WCDMA Band V (HSDPA) CH4182

Temperature(°C)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	28	0.03	2.5	Passed
-20	33	0.04		
-10	27	0.03		
0	29	0.03		
10	22	0.03		
20	-24	-0.03		
30	18	0.02		
40	-37	-0.04		
50	38	0.04		



▪ Test Mode : WCDMA Band II CH9400

Temperature(°C)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-54	-0.03	2.5	Passed
-20	32	0.02		
-10	33	0.02		
0	30	0.02		
10	-26	-0.01		
20	-23	-0.01		
30	-22	-0.01		
40	-31	-0.02		
50	-31	-0.02		

▪ Test Mode : WCDMA Band II (HSDPA) CH9400

Temperature(°C)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	62	0.03	2.5	Passed
-20	33	0.02		
-10	42	0.02		
0	-31	-0.02		
10	22	0.01		
20	50	0.03		
30	-20	-0.01		
40	-48	-0.03		
50	38	0.02		

### 4.8 Frequency Stability (Voltage Variation)

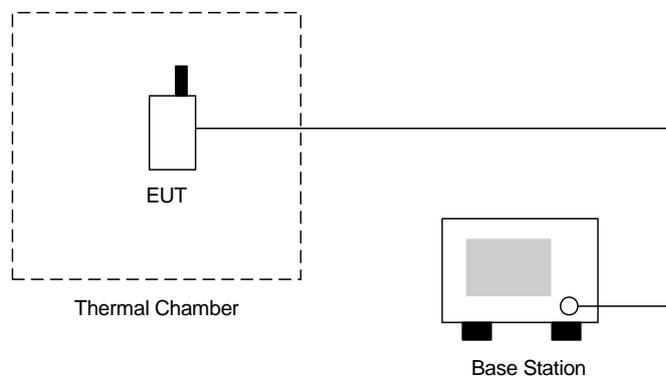
#### 4.8.1 Measurement Instrument

As described in chapter 5 of this test report.

#### 4.8.2 Test Procedure

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

#### 4.8.3 Test Setup Layout



#### 4.8.4 Test Result

- Test Mode : GSM850 (GSM) CH189

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-8.0	-0.01	2.5	Passed
BEP	-32.0	-0.04		
4.2	-6.0	-0.01		

- Test Mode : GSM850 (EDGE) CH189

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-15.0	-0.02	2.5	Passed
BEP	-24.0	-0.03		
4.2	-19.0	-0.02		



- Test Mode : PCS1900 (GSM) CH661

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-65.0	-0.03	2.5	Passed
BEP	-91.0	-0.05		
4.2	-51.0	-0.03		

- Test Mode : PCS1900 (EDGE) CH661

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-84.0	-0.04	2.5	Passed
BEP	-44.0	-0.02		
4.2	-36.0	-0.02		

- Test Mode : WCDMA Band V CH4182

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	14	0.02	2.5	Passed
BEP	52	0.06		
4.2	14	0.02		

- Test Mode : WCDMA Band V (HSDPA) CH4182

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	20	0.02	2.5	Passed
BEP	59	0.07		
4.2	27	0.03		



- Test Mode : WCDMA Band II CH9400

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-18	-0.01	2.5	Passed
BEP	-76	-0.04		
4.2	29	0.02		

- Test Mode : WCDMA Band II (HSDPA) CH9400

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-32	-0.02	2.5	Passed
BEP	-90	-0.05		
4.2	46	0.02		

Remark:

1. Normal Voltage=3.7V.
2. Battery End Point (BEP)= 3.2 V.



## 5 List of Measurement Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
Thermal Chamber	Ten Million	TTH-D35P	TBN-930701	N/A	Jul. 24, 2007	Jul. 23, 2008	Conducted (TH02-HY)
Spectrum	R&S	FSP40	100055	9KHz~40GHz	Jun. 25, 2007	Jun. 24, 2008	Conducted (TH02-HY)
Bluetooth Test	ANRITSU	MT8852A	6K00003939	N/A	N/A	N/A	Conducted (TH02-HY)
Power Divider	ARRA	5200-1	3871	N/A	Oct. 07, 2006	Oct. 06, 2007	Conducted (TH02-HY)
Dc Power Supply	TOPWARD	3303D	740889	N/A	May 25, 2005	May 24, 2009	Conducted (TH02-HY)
Power Meter	Agilent	E4416A	GB41292344	N/A	Feb. 08, 2007	Feb. 07, 2008	Conducted (TH02-HY)
Spectrum analyzer	Agilent	E4408B	MY44211030	9KHz-26.5GHz	Oct. 05, 2006	Oct. 04, 2007	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESCS30	100356	9KHz-2.75GHz	Jul. 26, 200	Jul. 25, 2008	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Nov. 20, 2006	Nov. 19, 2007	Radiation (03CH06-HY)
Double Ridge Horn Antenna	Com-Power	AH118	071025	1G~18G	Jun. 04, 2007	Jun. 03, 2008	Radiation (03CH06-HY)
SHF-EHF Horn	SCHWARZBECK	BBHA 9170	9170-249	14G - 40G	Nov. 20, 2006	Nov. 19, 2008	Radiation (03CH06-HY)
Pre Amplifier	Agilent	8449B	3008A01917	1G - 26.5G	Nov. 15, 2006	Nov. 14, 2007	Radiation (03CH06-HY)
Pre Amplifier	Mini Circuits	ZKL-2	D092004-1	10~2500MHz	Nov. 15, 2006	Nov. 14, 2007	Radiation (03CH06-HY)
Base Station Simulator	R & S	CMU200	106656	WCDMA	Nov. 20, 2006	Nov. 19, 2007	Radiation (03CH06-HY)



## 6 Uncertainty Evaluation

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

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

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

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

END OF TEST REPORT