Testing Laboratory 1190

FCC TEST REPORT

for

47 CFR Part 22H, 24E

Equipment	:	**Mini-PCI express data card (GSM/GPRS/EDGE/WCDMA/HSDPA)**
Trade Name	:	**Inventec**
Model No.	:	**Minerva 3023**
FCC ID	:	**DGIMINERVA3023**
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) : 0.64W** **GSM850(EDGE) : 0.23 W** **PCS1900(GSM) : 0.37W** **PCS1900(EDGE) : 0.18 W** **WCDMA Band V : 0.06 W** **WCDMA Band V(HSDPA) : 0.04 W** **WCDMA Band II : 0.07 W** **WCDMA Band II(HSDPA) : 0.06 W**
Emission Designator	:	**GSM : 300KGXW** **EDGE : 300KG7W** **WCDMA : 4M22F9W**
Applicant	:	**Inventec Corporation** Inventec Building, No. 66, Hou-Kang Street Shih-Lin District, 111 Taipei, Taiwan, R.O.C

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- The data shown in this test report were carried out on Jul. 16, 2007 at **Sporton International Inc. LAB.**
- Report No.: FG770402, Report Version: Rev. 01.

Roy Wu
Manager

SPORTON International Inc.
6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

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History of this test report

Report Issue Date: Jul. 21, 2007

Report No.	Description

1. General Information

1.1. Applicant

Inventec Corporation
Inventec Building, No. 66, Hou-Kang Street Shih-Lin District, 111 Taipei, Taiwan, R.O.C

1.2 Manufacturer

Inventec Corporation
Inventec Building, No. 66, Hou-Kang Street Shih-Lin District, 111 Taipei, Taiwan, R.O.C

1.3 Basic Description of Equipment under Test

Equipment	: Mini-PCI express data card (GSM/GPRS/EDGE/WCDMA/HSDPA)
Trade Name	: Inventec
Model No.	: Minerva 3023
FCC ID	: DGIMINERVA3023
Power Supply Type	: From System

1.4 Feature of Equipment under Test

DUT Type :	Mini-PCI express data card (GSM/GPRS/EDGE/WCDMA/HSDPA)
Trade Name :	Inventec
Model Name :	Minerva 3023
FCC ID :	DGIMINERVA3023
Tx Frequency :	GSM850 : 824 ~ 849 MHz PCS1900 : 1850 ~1910 MHz WCDMA Band V : 824 ~ 849 MHz WCDMA Band II : 1850 ~ 1910 MHz
Rx Frequency :	GSM850 : 869 ~ 894 MHz PCS1900 : 1930 ~ 1990 MHz WCDMA Band V : 869 ~ 894 MHz WCDMA Band II : 1930 ~ 1990 MHz
Maximum Output Power to Antenna :	GSM850 : 31.99 dBm (GSM), 27.73 dBm (EDGE) PCS1900 : 29.38 dBm (GSM), 26.59 dBm (EDGE) WCDMA Band V : 22.51 dBm WCDMA Band V(HSDPA) : 22.52 dBm WCDMA Band II : 22.00 dBm WCDMA Band II(HSDPA) : 21.86 dBm
Maximum ERP/EIRP :	GSM850(GSM) : 0.64 W (28.06 dBm) GSM850(EDGE) : 0.23 W (23.61 dBm) PCS1900(GSM) : 0.37 W (25.69 dBm) PCS1900(EDGE) : 0.18 W (22.63 dBm) WCDMA Band V : 0.06 W (17.56 dBm) WCDMA Band V(HSDPA) : 0.04 W (15.83 dBm) WCDMA Band II : 0.07 W (18.38 dBm) WCDMA Band II(HSDPA) : 0.06 W (17.67 dBm)
Antenna Type :	Dipole Antenna
Digital Modulation Emission :	GSM : GMSK EDGE : 8PSK WCDMA / HSDPA : QPSK
Type of Emission :	GSM : 300KGXW EDGE : 300KG7W WCDMA : 4M22F9W
DUT Stage :	Production Unit

1.5 Report Date

EUT Received : Jul. 4, 2007

Report Date : Jul. 21, 2007

2 Test Configuration of Equipment under Test

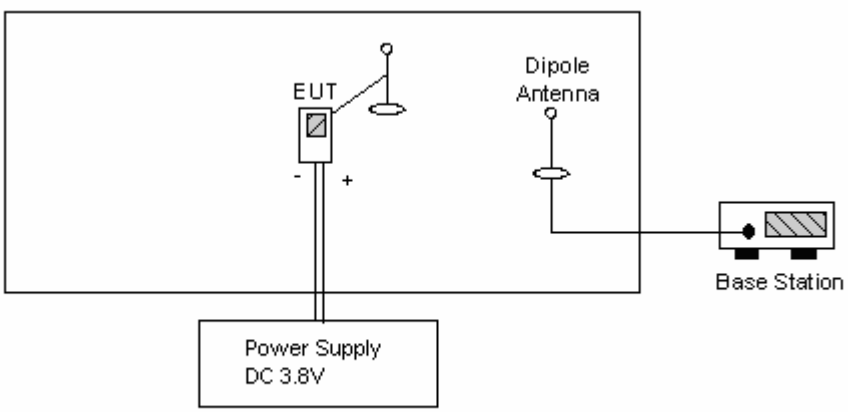
2.1 Test Manner

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	☒ Mode 1: GSM Link ☒ Mode 2: EDGE Link	☒ Mode 3: GSM Link ☒ Mode 4: EDGE Link	☒ Mode 5: WCDMA Link ☒ Mode 6: HSDPA Link	☒ Mode 7: WCDMA Link ☒ Mode 8: HSDPA Link
Conducted Measurement	☒ Mode 1: GSM Link ☒ Mode 2: EDGE Link	☒ Mode 3: GSM Link ☒ Mode 4: EDGE Link	☒ Mode 5: WCDMA Link ☒ Mode 6: HSDPA Link	☒ Mode 7: WCDMA Link ☒ Mode 8: HSDPA Link

2.3 Connection Diagram of Test System



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

DC 3.8V

3.2 Test in Compliance with

47 CFR Part 22H, 24E, Part 2

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

4.2 RF Output Power

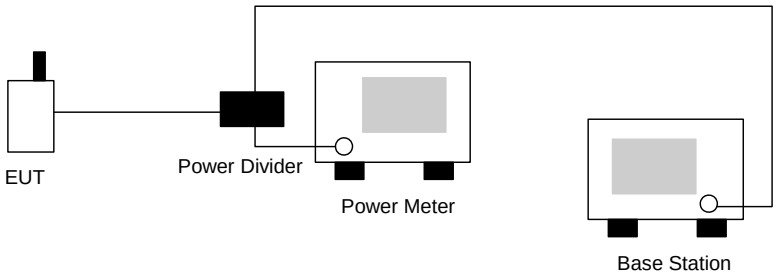
4.2.1 Measurement Instruments：

As described in chapter 5 of this test report.

4.2.2 Test Procedure：

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 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)	31.91	1.552
	189	836.4 (Mid)	31.99	1.581
	251	848.8 (High)	31.72	1.486
GSM850 (EDGE)	128	824.2 (Low)	27.68	0.586
	189	836.4 (Mid)	27.73	0.593
	251	848.8 (High)	27.47	0.558
PCS1900 (GSM)	512	1850.2 (Low)	29.23	0.838
	661	1880.0 (Mid)	29.20	0.832
	810	1909.8 (High)	29.38	0.867
PCS1900 (EDGE)	512	1850.2 (Low)	26.50	0.447
	661	1880.0 (Mid)	26.39	0.436
	810	1909.8 (High)	26.59	0.456
WCDMA Band V (12.2k bps)	4132	826.4 (Low)	21.90	0.155
	4182	836.4 (Mid)	21.42	0.139
	4233	846.6 (High)	22.09	0.162
WCDMA Band V (64k bps)	4132	826.4 (Low)	21.90	0.156
	4182	836.4 (Mid)	21.50	0.141
	4233	846.6 (High)	21.70	0.147
WCDMA Band V (144k bps)	4132	826.4 (Low)	22.29	0.169
	4182	836.4 (Mid)	22.27	0.169
	4233	846.6 (High)	22.51	0.178
WCDMA Band V (384k bps)	4132	826.4 (Low)	22.34	0.171
	4182	836.4 (Mid)	22.12	0.163
	4233	846.6 (High)	22.39	0.173
WCDMA Band V (AMR)	4132	826.4 (Low)	21.60	0.145
	4182	836.4 (Mid)	21.29	0.135
	4233	846.6 (High)	21.60	0.145
WCDMA Band V (HSDPA)	4132	826.4 (Low)	22.10	0.162
	4182	836.4 (Mid)	21.85	0.153
	4233	846.6 (High)	22.52	0.179

WCDMA Band II (12.2k bps)	9262	1852.4 (Low)	21.84	0.153
	9400	1880.0 (Mid)	21.88	0.154
	9538	1907.6 (High)	21.34	0.136
WCDMA Band II (64k bps)	9262	1852.4 (Low)	21.90	0.154
	9400	1880.0 (Mid)	22.00	0.157
	9538	1907.6 (High)	21.40	0.137
WCDMA Band II (144k bps)	9262	1852.4 (Low)	21.87	0.154
	9400	1880.0 (Mid)	21.91	0.155
	9538	1907.6 (High)	21.46	0.140
WCDMA Band II (384k bps)	9262	1852.4 (Low)	21.73	0.149
	9400	1880.0 (Mid)	21.83	0.152
	9538	1907.6 (High)	21.32	0.136
WCDMA Band II (AMR)	9262	1852.4 (Low)	21.92	0.156
	9400	1880.0 (Mid)	21.76	0.150
	9538	1907.6 (High)	21.36	0.137
WCDMA Band II (HSDPA)	9262	1852.4 (Low)	21.86	0.153
	9400	1880.0 (Mid)	21.47	0.140
	9538	1907.6 (High)	21.27	0.134

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 = Ps + Et – Es + Gs = Ps + Rt – Rs + Gs

   Ps (dBm)：Input power to substitution antenna.

   Gs (dBi or dBd)：Substitution antenna Gain.

   Et = Rt + AF

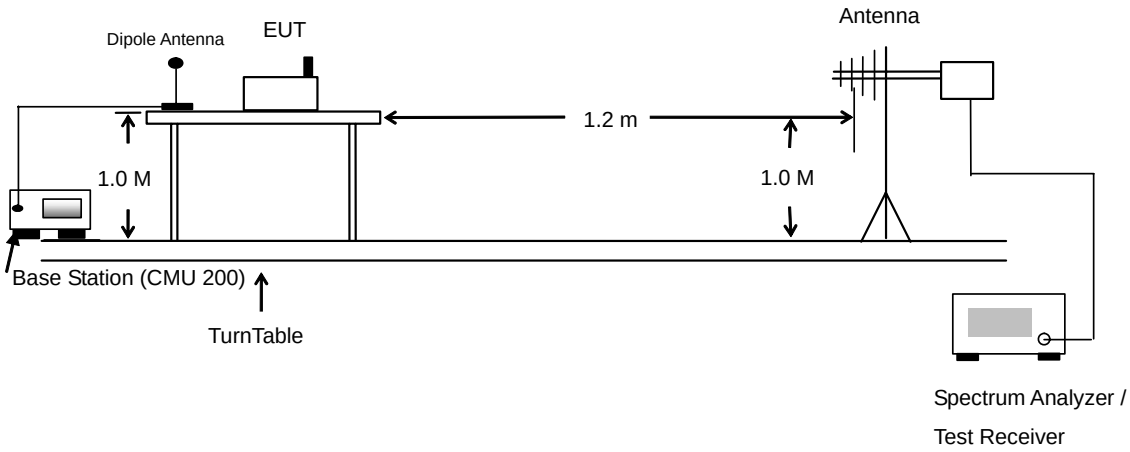
   Es = Rs + AF

   AF (dB/m)：Receive antenna factor

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

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

4.3.3 Test Setup Layout of ERP/EIRP



4.3.4 Test Result

GSM850 (GSM) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-22.48	-48.12	0.00	-1.08	24.56	0.29
836.40	-20.45	-48.28	0.00	-0.93	26.90	0.49
848.80	-19.53	-48.35	0.00	-0.76	28.06	0.64
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-35.65	-47.97	0.00	-1.08	11.24	0.01
836.40	-30.66	-48.01	0.00	-0.93	16.42	0.04
848.80	-27.81	-48.05	0.00	-0.76	19.48	0.09

GSM850 (EDGE) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-26.96	-48.12	0.00	-1.08	20.08	0.10
836.40	-23.88	-48.28	0.00	-0.93	23.47	0.22
848.80	-23.98	-48.35	0.00	-0.76	23.61	0.23
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-40.12	-47.97	0.00	-1.08	6.77	0.00
836.40	-35.21	-48.01	0.00	-0.93	11.87	0.02
848.80	-32.60	-48.05	0.00	-0.76	14.69	0.03

PCS1900 (GSM) Radiated Power EIRP						
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	-29.49	-52.99	0.00	2.00	25.50	0.35
1909.80	-30.57	-54.28	0.00	1.98	25.69	0.37
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-41.74	-52.13	0.00	1.96	12.35	0.02
1880.00	-41.16	-53.17	0.00	2.00	14.01	0.03
1909.80	-40.15	-54.13	0.00	1.98	15.96	0.04

PCS1900 (EDGE) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-31.21	-51.88	0.00	1.96	22.63	0.18
1880.00	-32.63	-52.99	0.00	2.00	22.36	0.17
1909.80	-33.69	-54.28	0.00	1.98	22.57	0.18
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-45.07	-52.13	0.00	1.96	9.02	0.01
1880.00	-44.31	-53.17	0.00	2.00	10.86	0.01
1909.80	-43.56	-54.13	0.00	1.98	12.55	0.02

WCDMA Band V Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-31.10	-48.12	0.00	-1.08	15.94	0.04
836.40	-30.24	-48.28	0.00	-0.93	17.11	0.05
848.80	-30.03	-48.35	0.00	-0.76	17.56	0.06
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-43.56	-47.97	0.00	-1.08	3.33	0.00
836.40	-40.26	-48.01	0.00	-0.93	6.82	0.00
848.80	-38.91	-48.05	0.00	-0.76	8.38	0.01

WCDMA Band V (HSDPA) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-33.29	-48.12	0.00	-1.08	13.75	0.02
836.40	-31.89	-48.28	0.00	-0.93	15.46	0.04
848.80	-31.76	-48.35	0.00	-0.76	15.83	0.04
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-45.77	-47.97	0.00	-1.08	1.12	0.00
836.40	-42.06	-48.01	0.00	-0.93	5.02	0.00
848.80	-40.63	-48.05	0.00	-0.76	6.66	0.00

WCDMA Band II Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
824.20	-36.32	-51.88	0.00	1.96	17.52	0.06
836.40	-37.94	-52.99	0.00	2.00	17.05	0.05
848.80	-37.88	-54.28	0.00	1.98	18.38	0.07
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
824.20	-48.67	-52.13	0.00	1.96	5.42	0.00
836.40	-48.50	-53.17	0.00	2.00	6.67	0.00
848.80	-46.43	-54.13	0.00	1.98	9.68	0.01

WCDMA Band II (HSDPA) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
824.20	-36.87	-51.88	0.00	1.96	16.97	0.05
836.40	-38.48	-52.99	0.00	2.00	16.51	0.04
848.80	-38.59	-54.28	0.00	1.98	17.67	0.06
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
824.20	-49.15	-52.13	0.00	1.96	4.94	0.00
836.40	-48.88	-53.17	0.00	2.00	6.29	0.00
848.80	-46.29	-54.13	0.00	1.98	9.82	0.01

4.4 Occupied Bandwidth and Band Edge Measurement

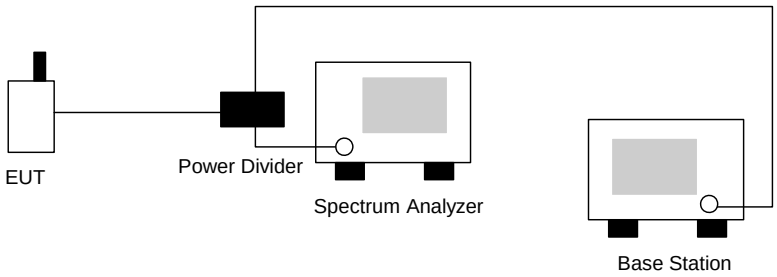
4.4.1 Measurement Instruments

As described in chapter 5 of this test report.

4.4.2 Test Procedure

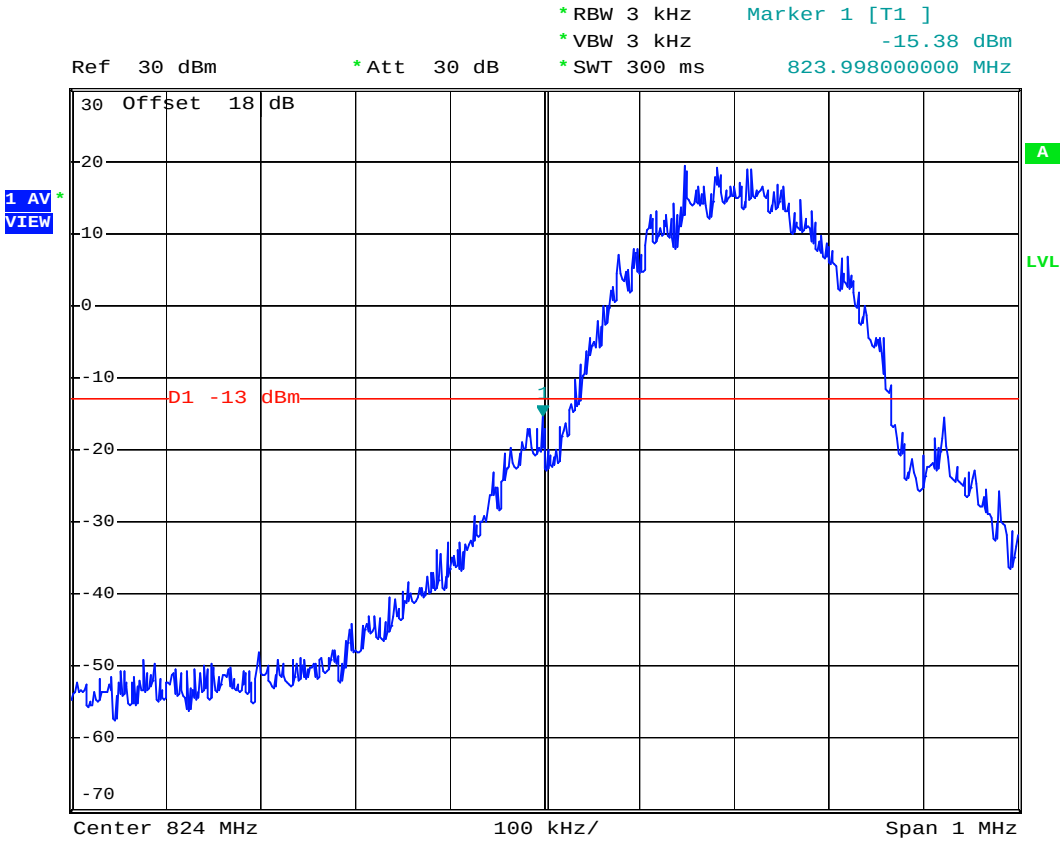
1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The 99% occupied bandwidth of middle channel for the highest and lowest RF powers were measured.
3. The bandedge of low and high channels for the highest RF powers within the transmitting frequency band were measured.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

4.4.3 Test Setup Layout



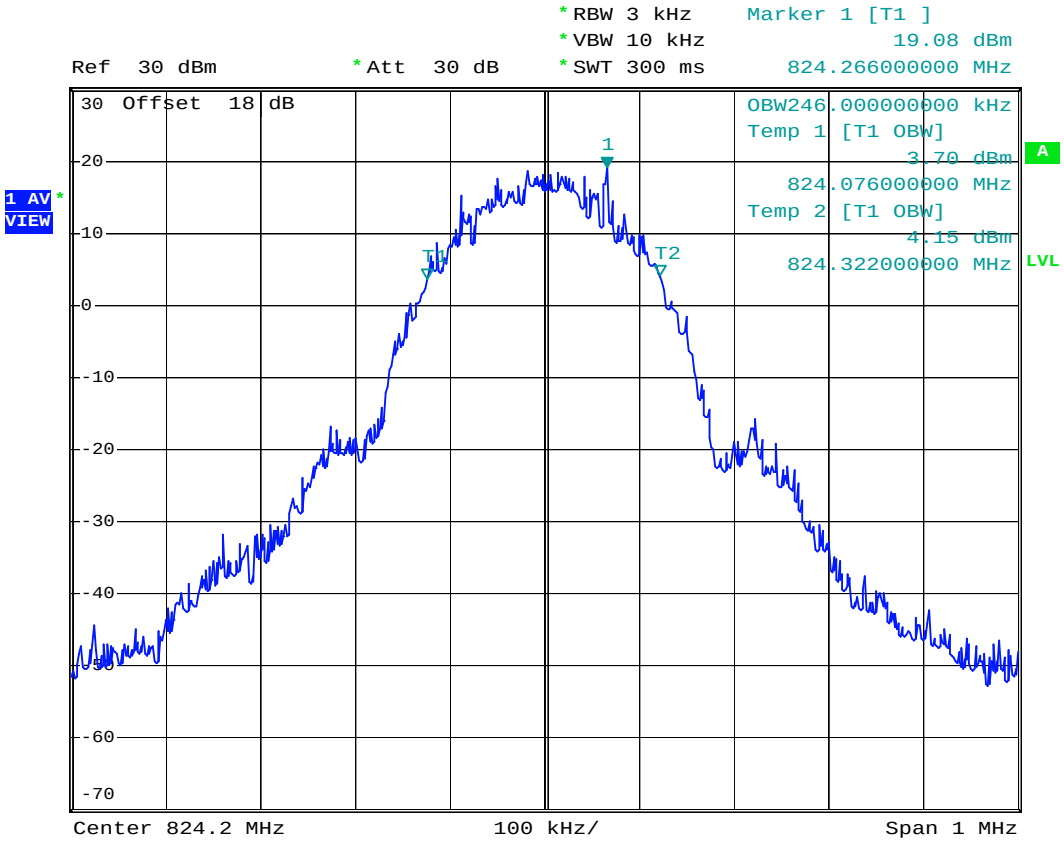
4.4.4 Test Result

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

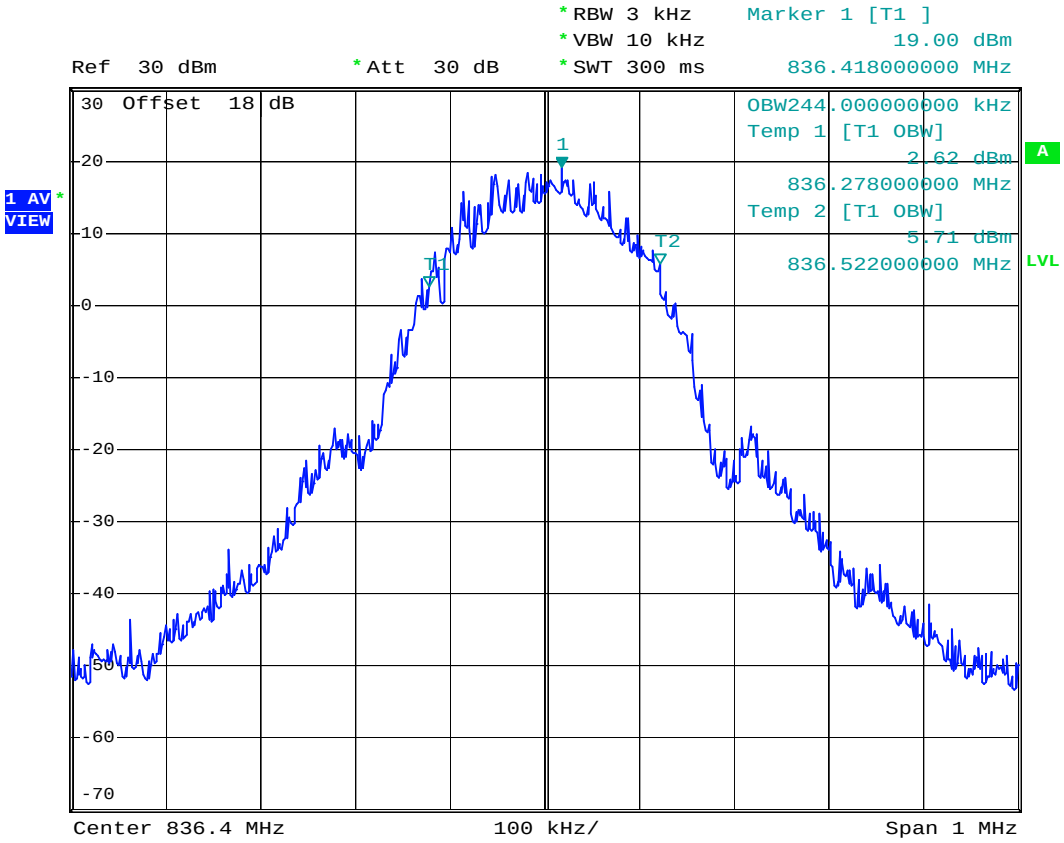


Date: 13.JUL.2007 01:16:40

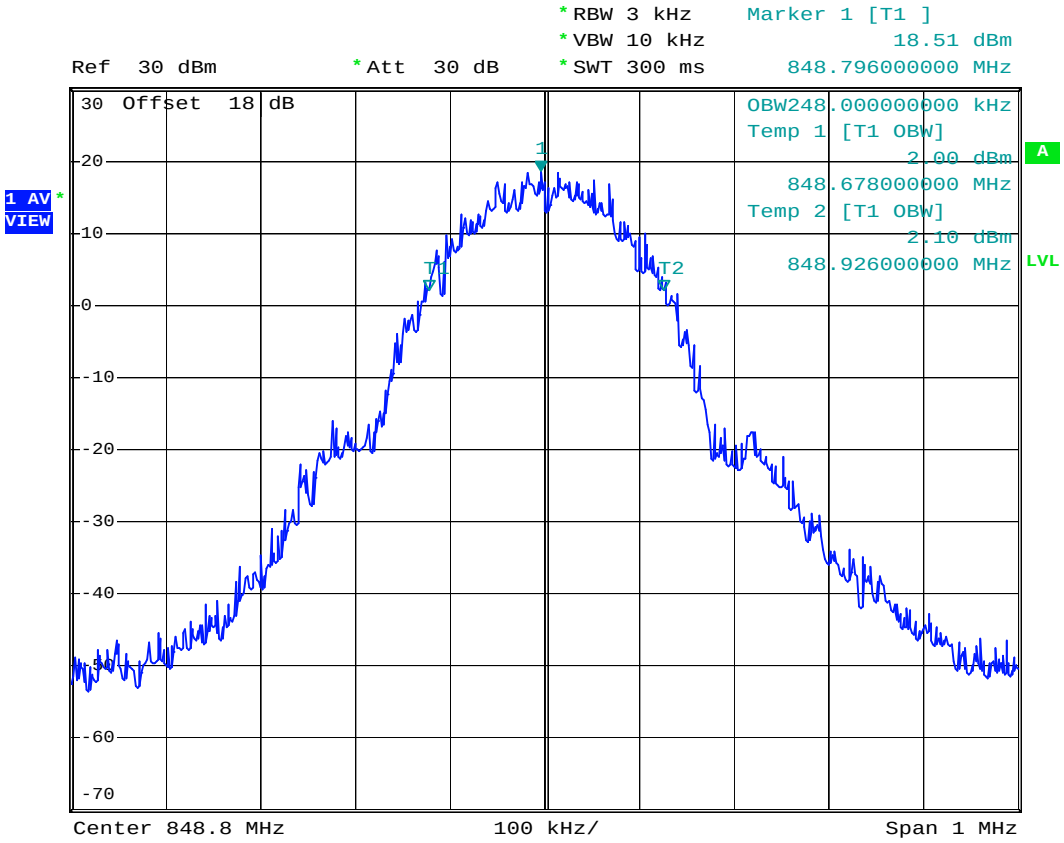
- Test Mode : GSM850 (GSM) CH128 99% Occupid Bandwidth
- Power State : High



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



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



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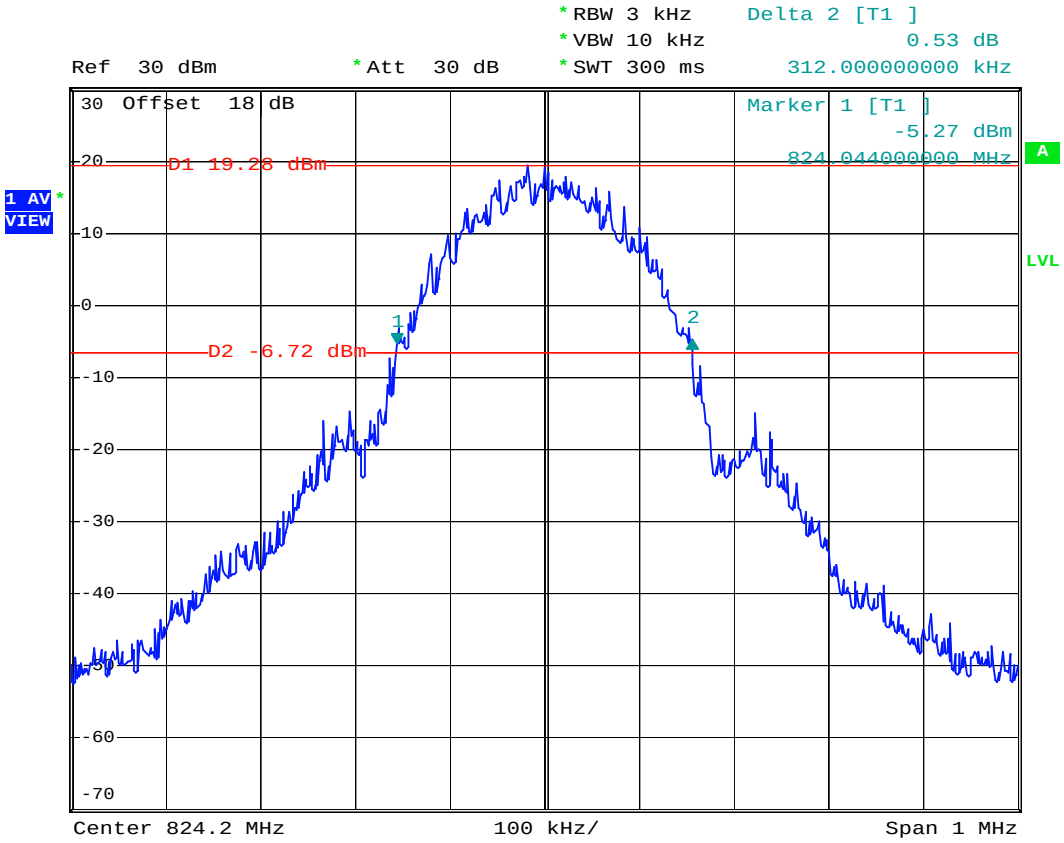
- Test Mode : GSM850 (GSM) CH128 26dB Bandwidth
- Power State : High



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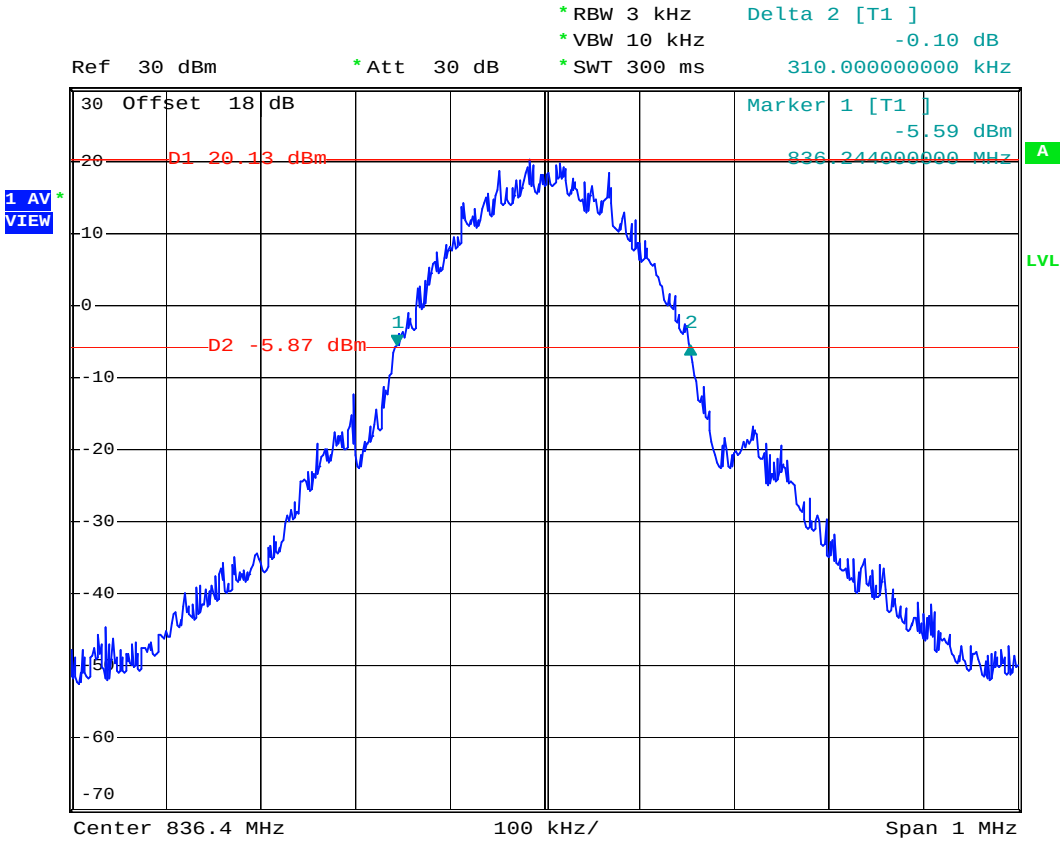
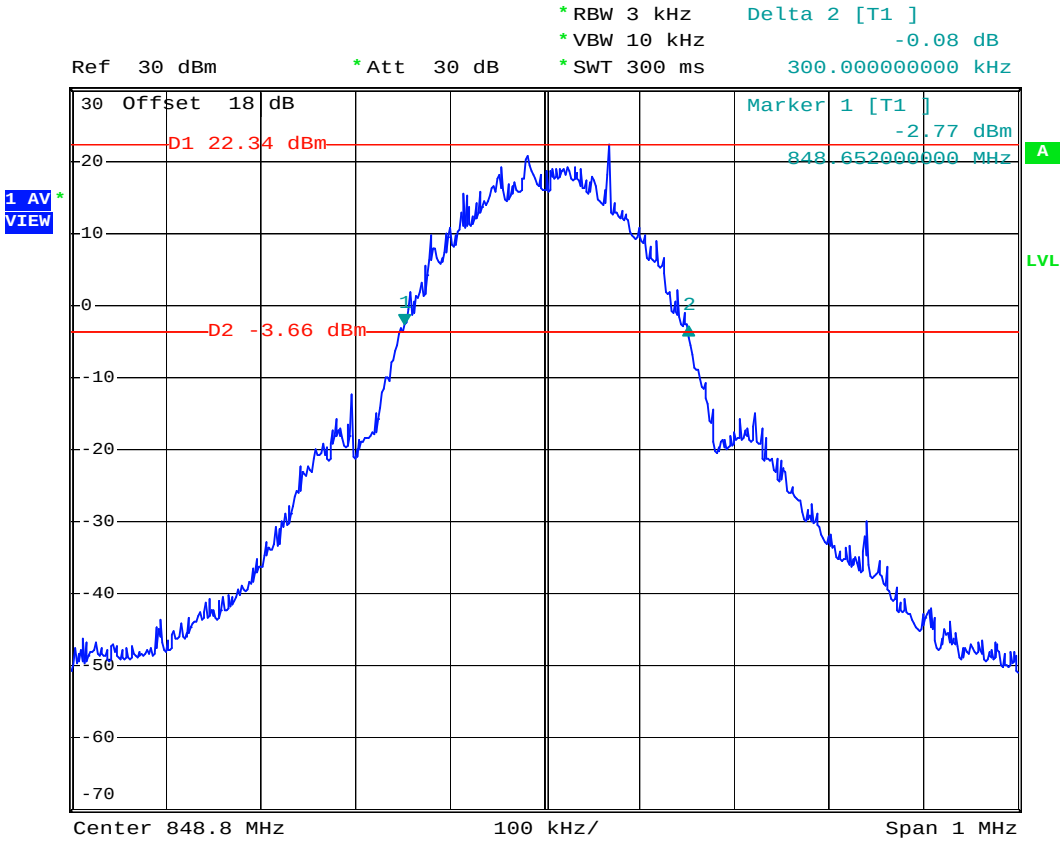
- Test Mode : GSM850 (GSM) CH189 26dB Bandwidth
- Power State : High



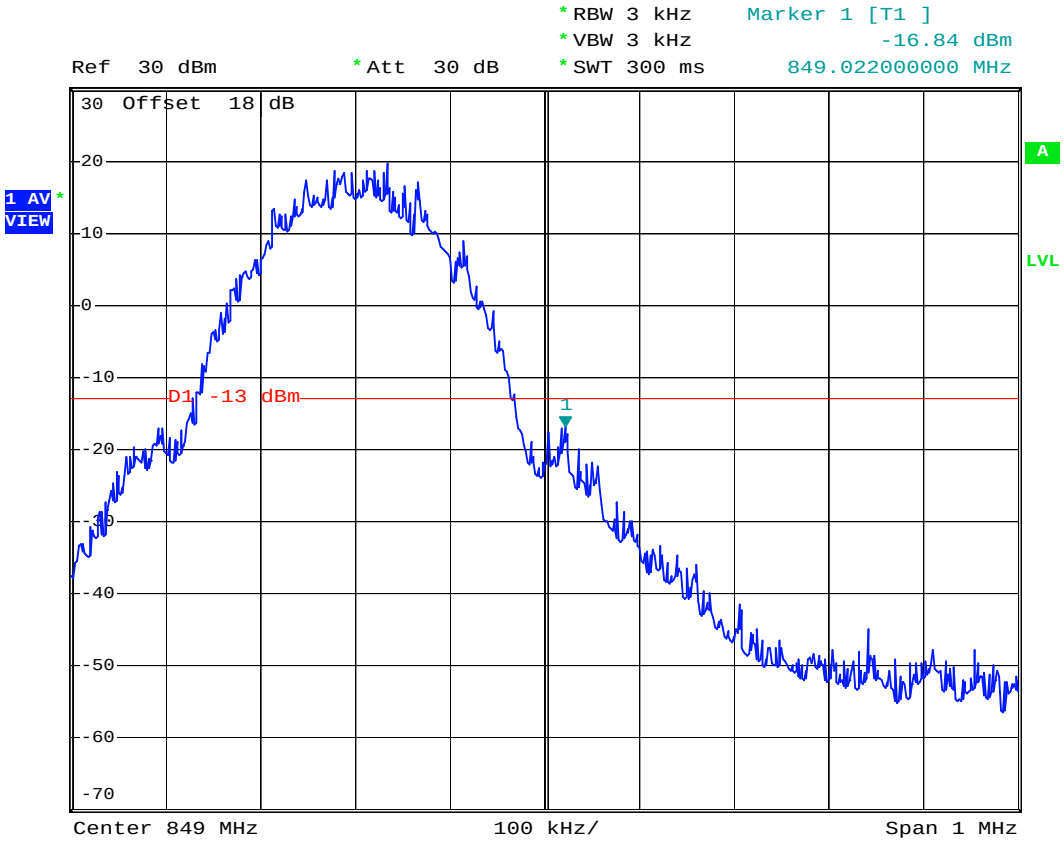
Date: 13.JUL.2007 01:44:21

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



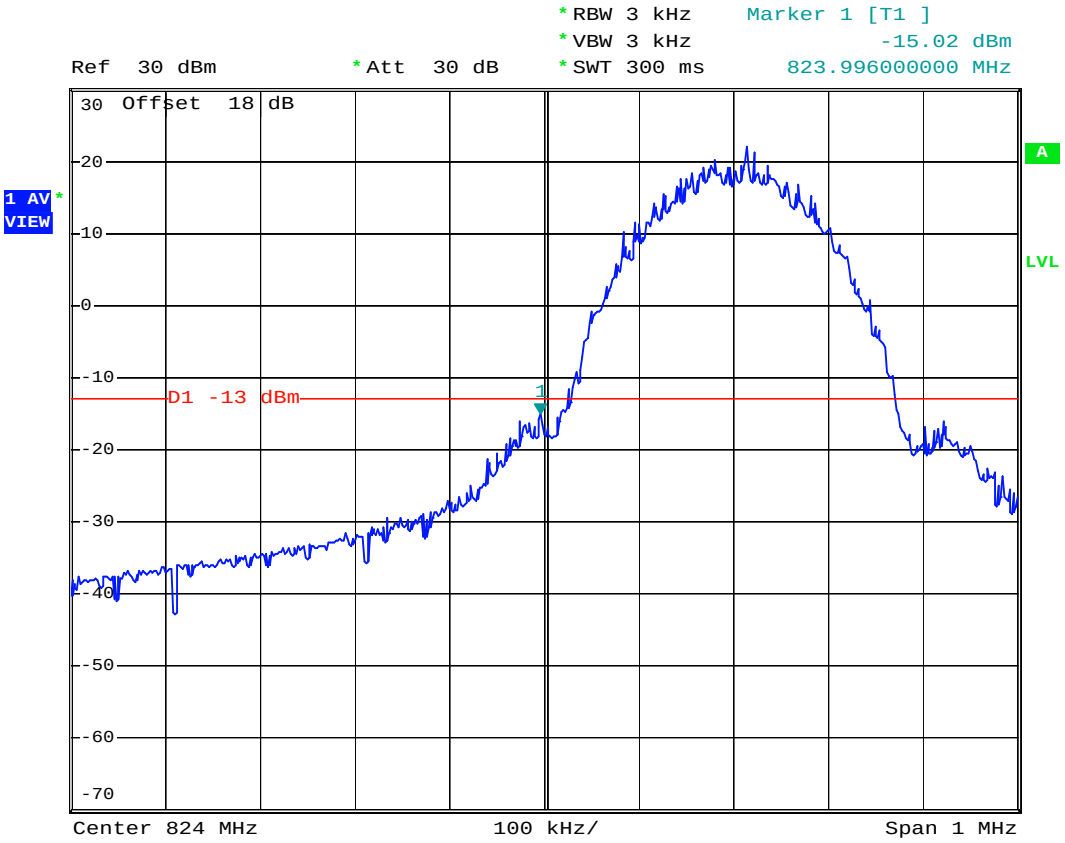
Date: 13.JUL.2007 01:29:03

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



Date: 13.JUL.2007 01:17:43

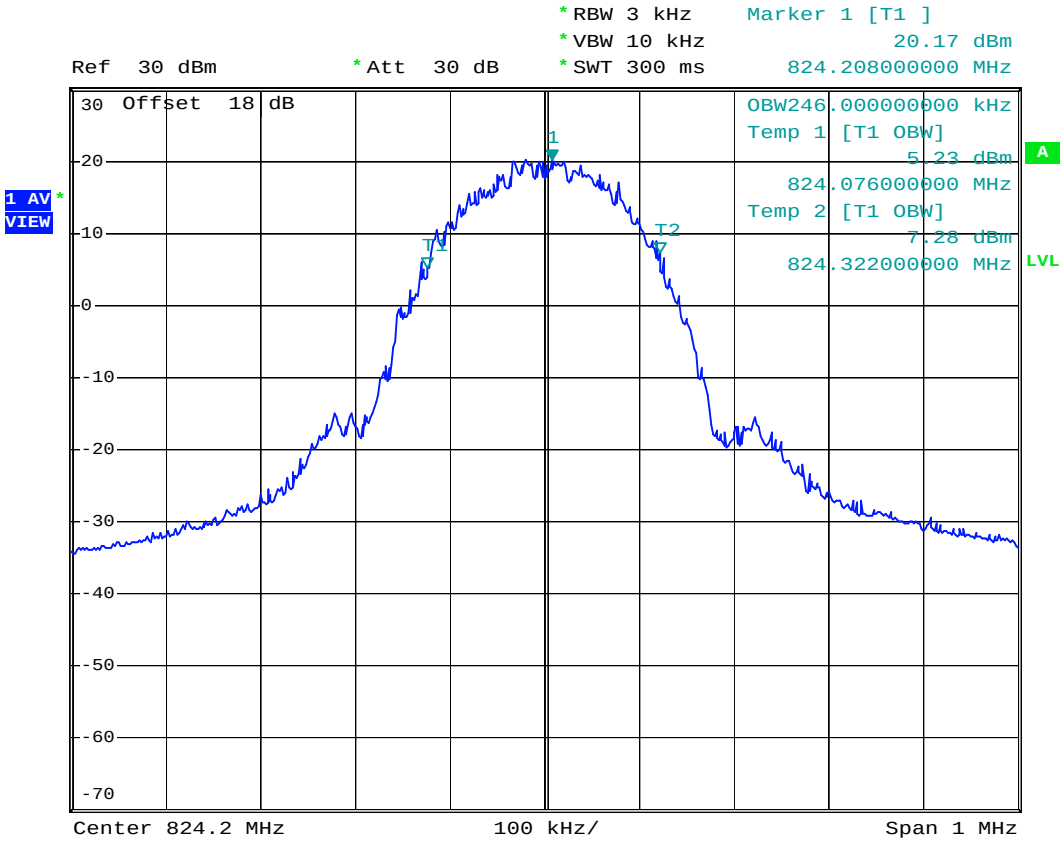
- Mode 2
- Test Mode : GSM850 (EDGE) CH128 Lower Band Edge
- Power State : High



-

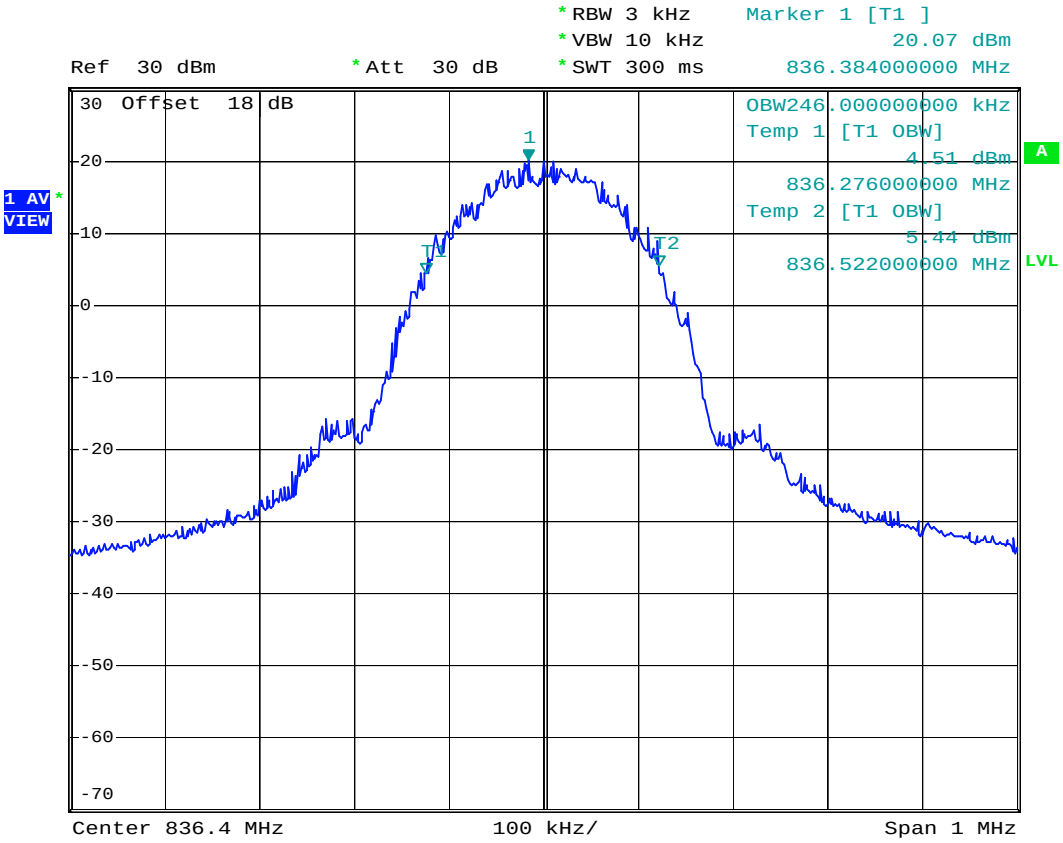
Test Mode : GSM850 (EDGE) CH128 99% Occupid Bandwidth

- Power State : High



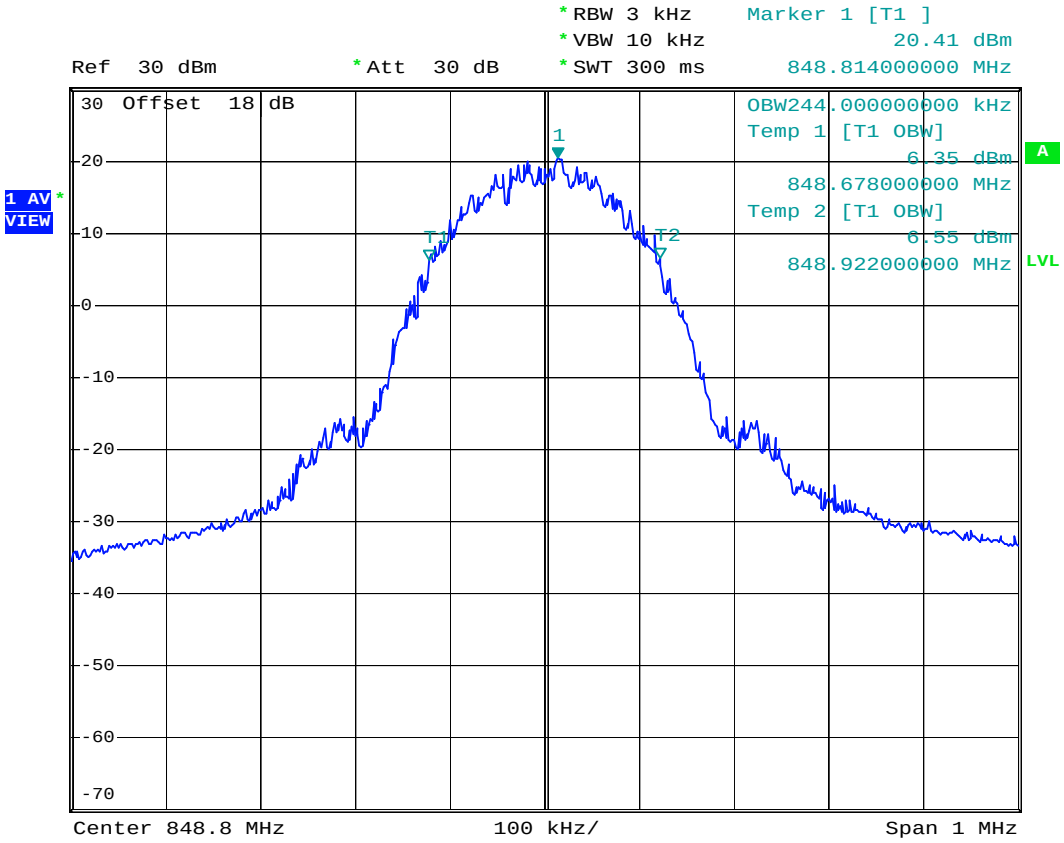
Date: 13.JUL.2007 00:15:38

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



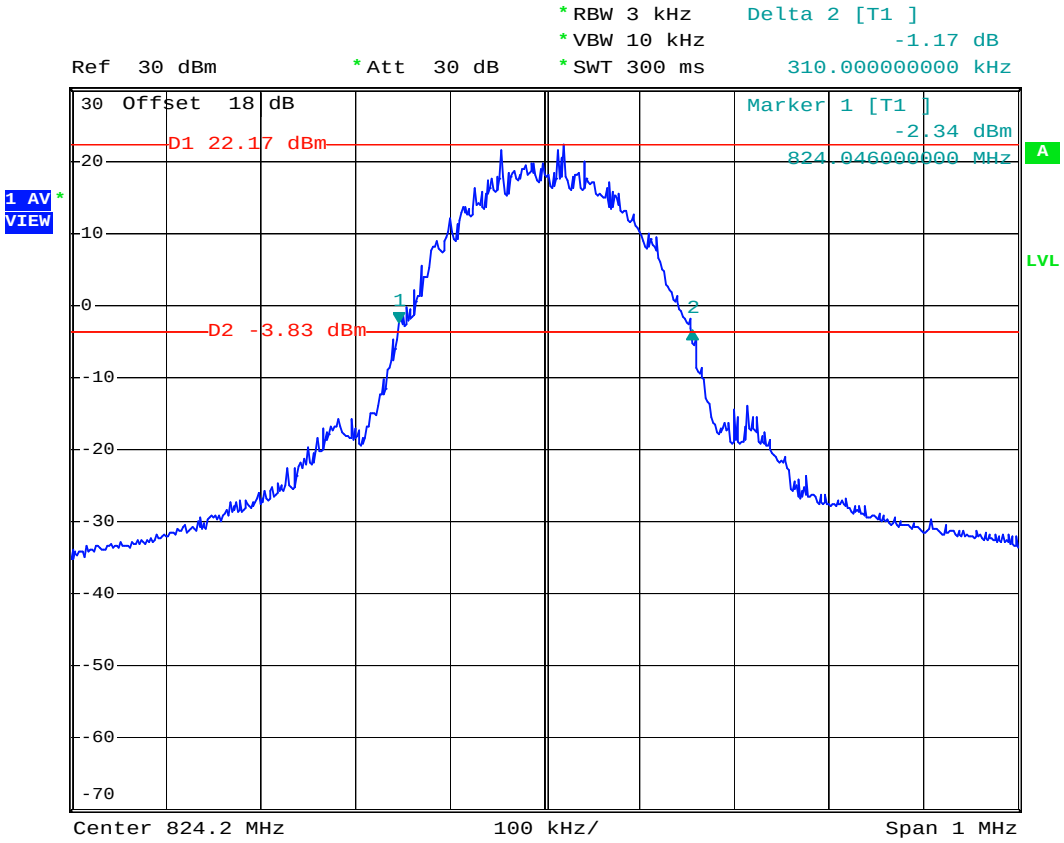
Date: 13.JUL.2007 00:14:06

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



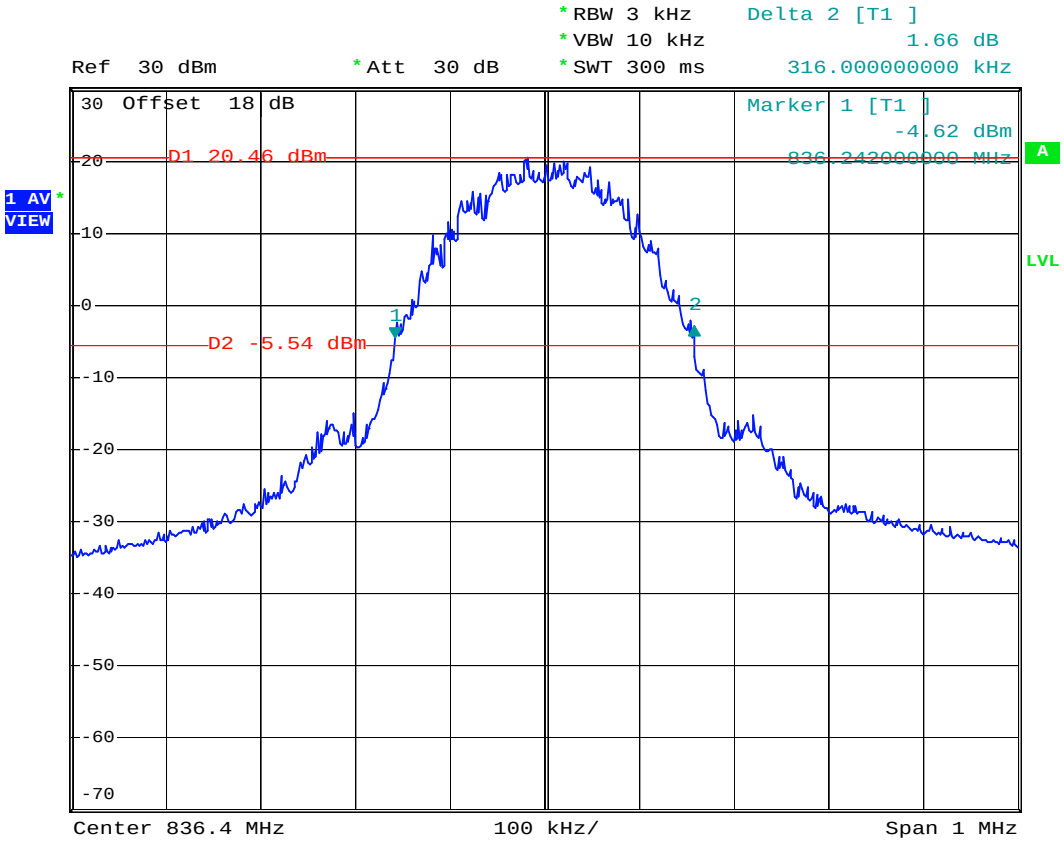
Date: 13.JUL.2007 00:13:04

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



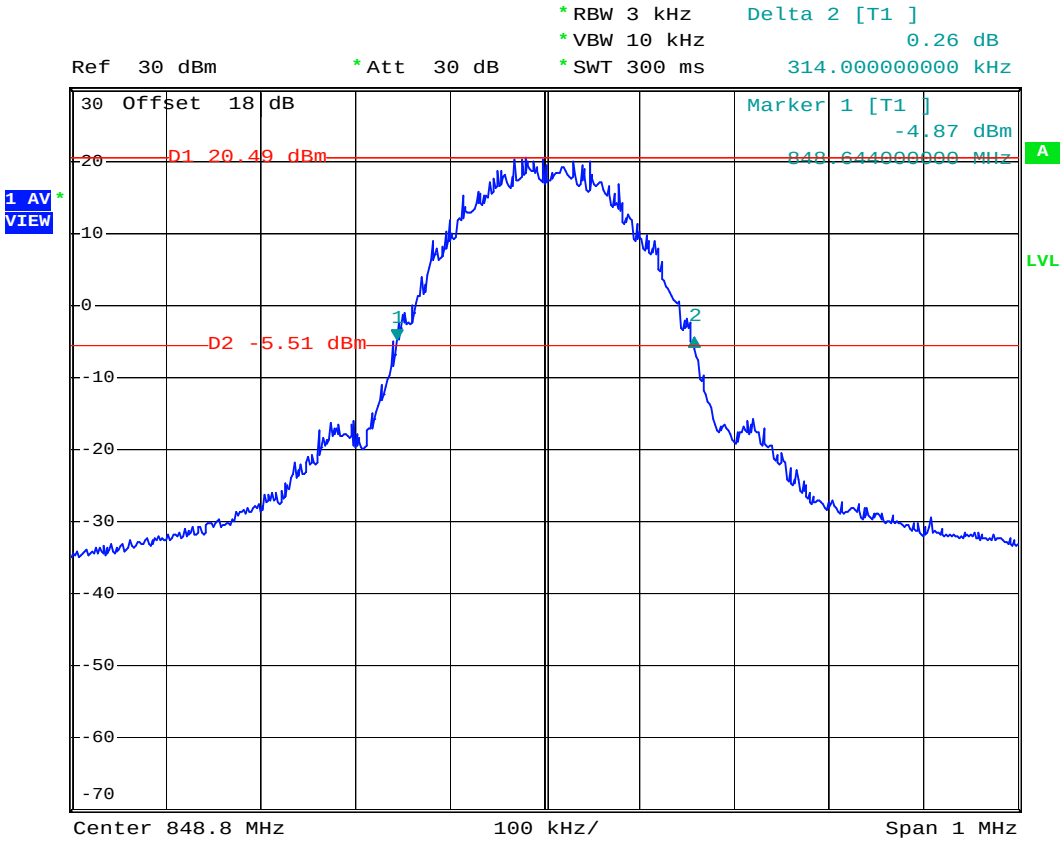
Date: 13.JUL.2007 02:31:12

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



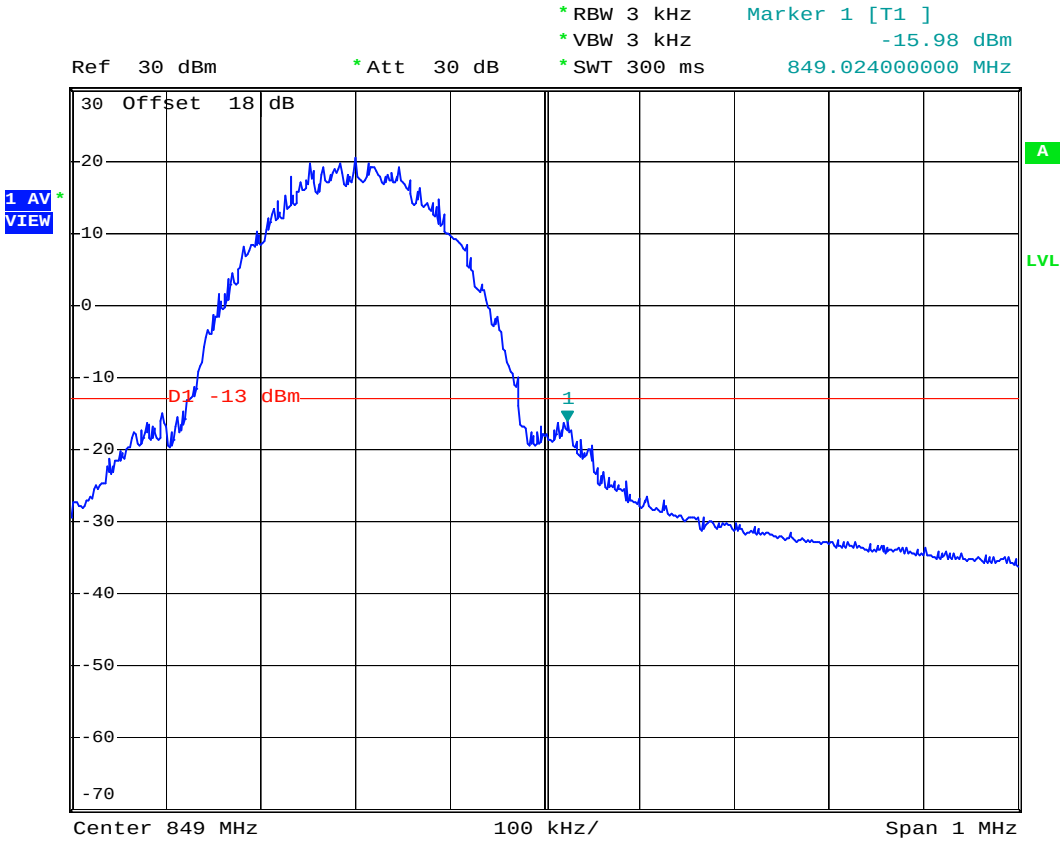
Date: 13.JUL.2007 02:29:45

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



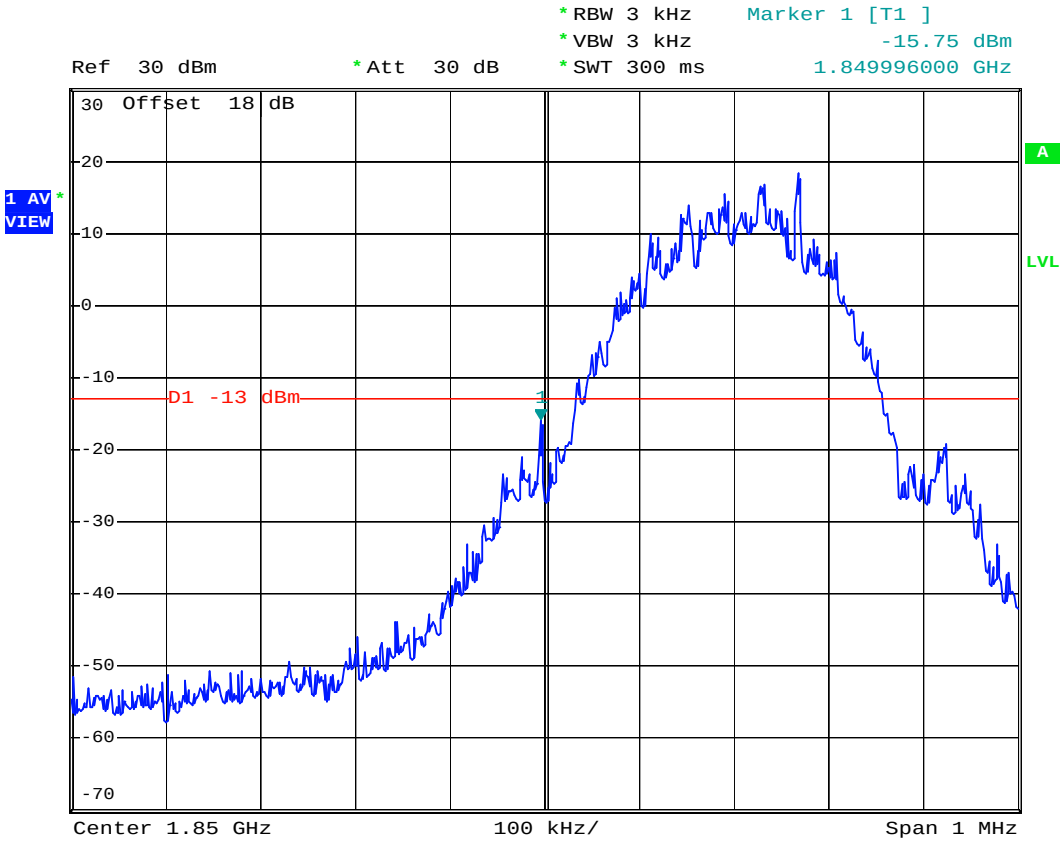
Date: 13.JUL.2007 02:28:17

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



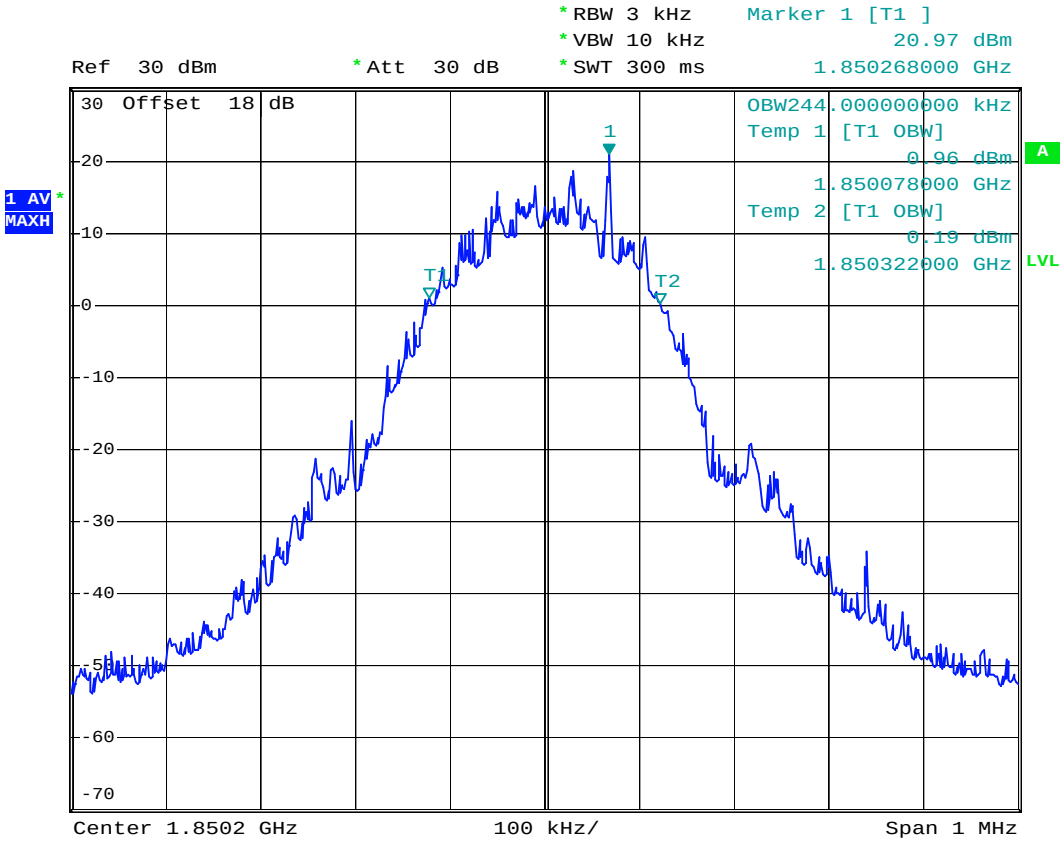
Date: 13.JUL.2007 01:12:13

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



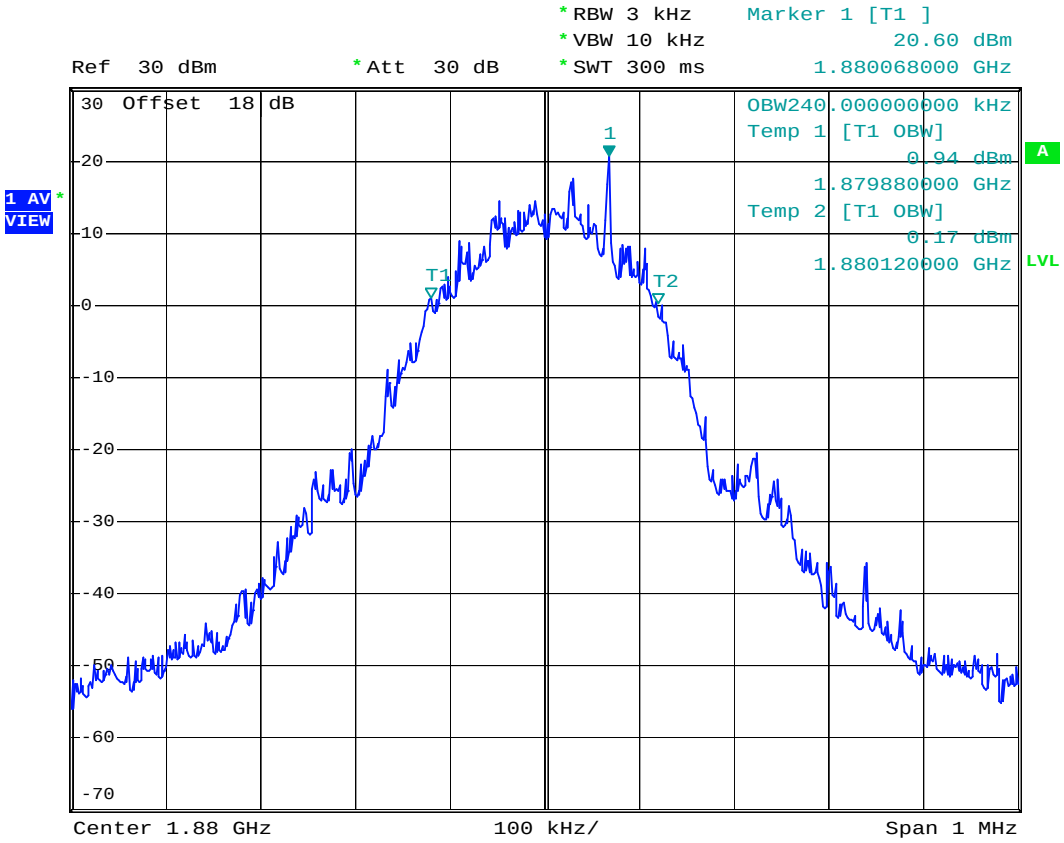
Date: 13.JUL.2007 03:34:27

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

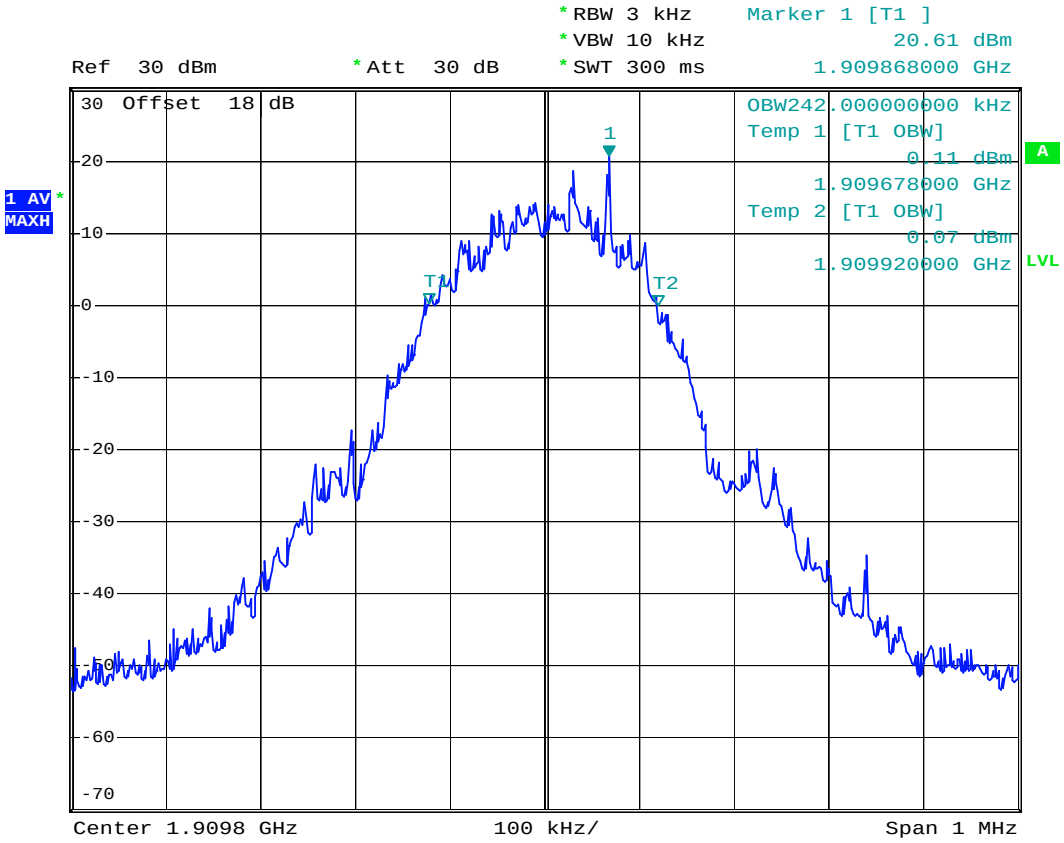


Date: 13.JUL.2007 03:21:54

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

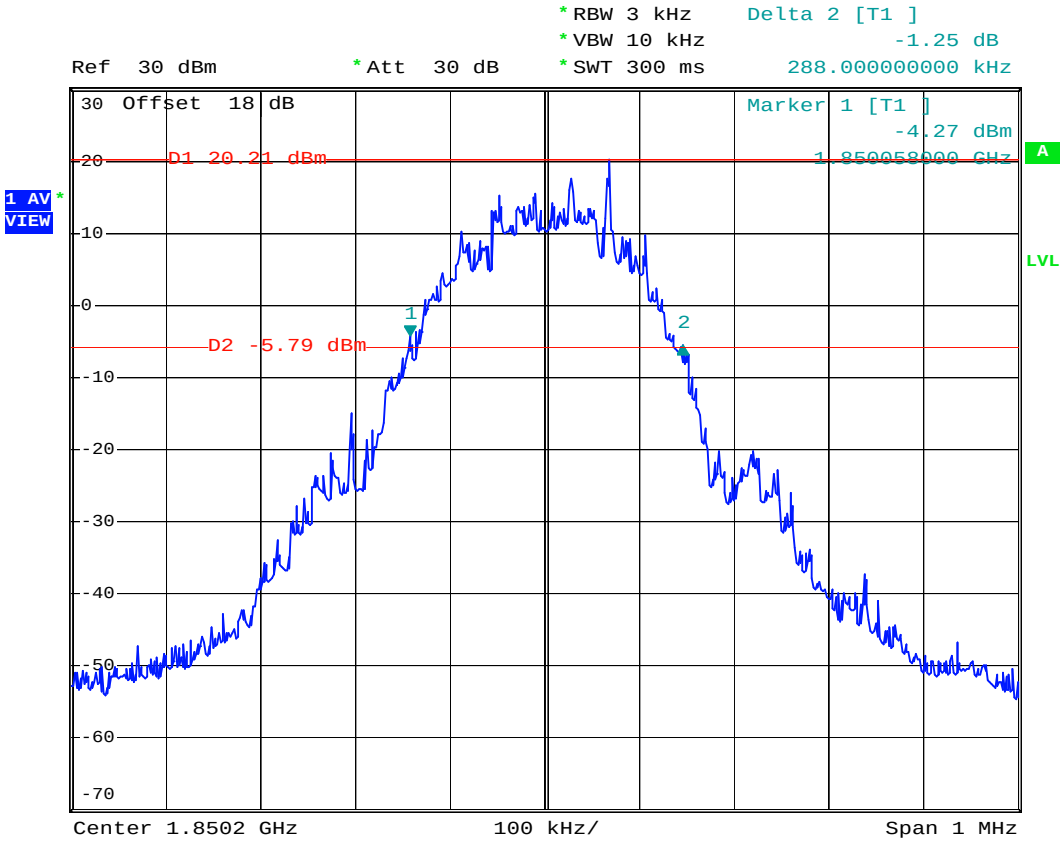


- Test Mode : PCS1900 (GSM) CH810 99% Occupid Bandwidth
- Power State : High



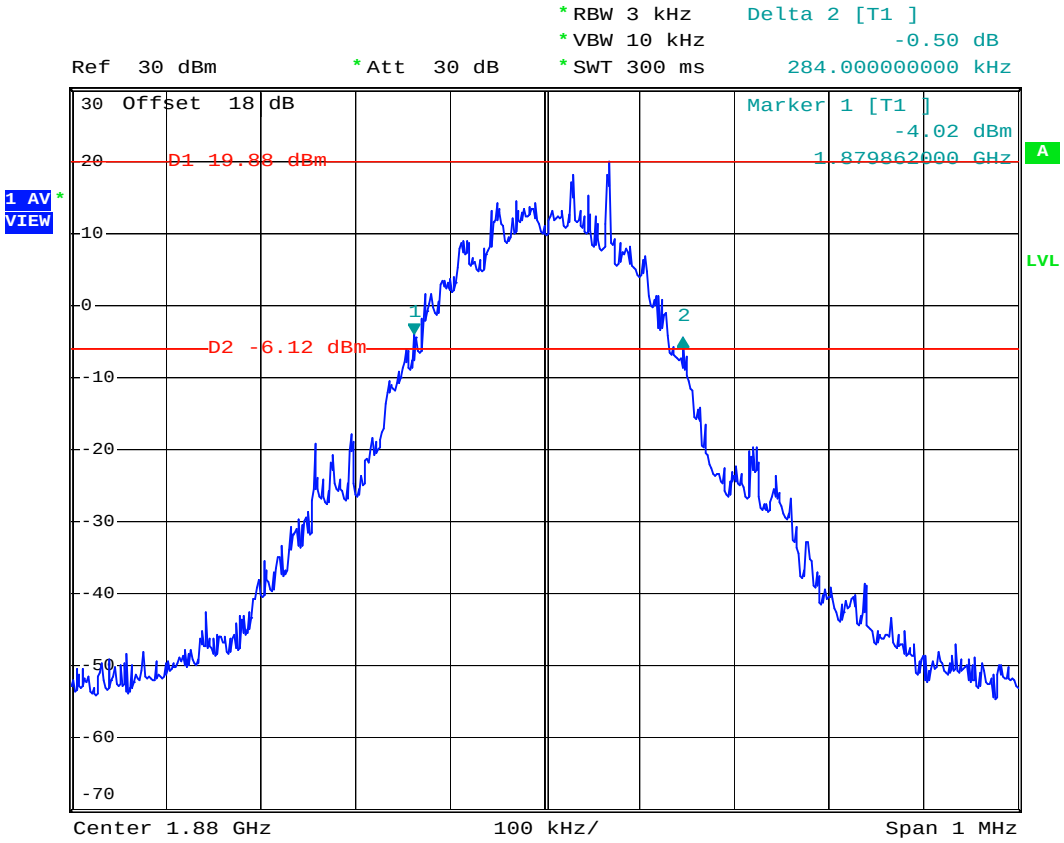
Date: 13.JUL.2007 03:20:43

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



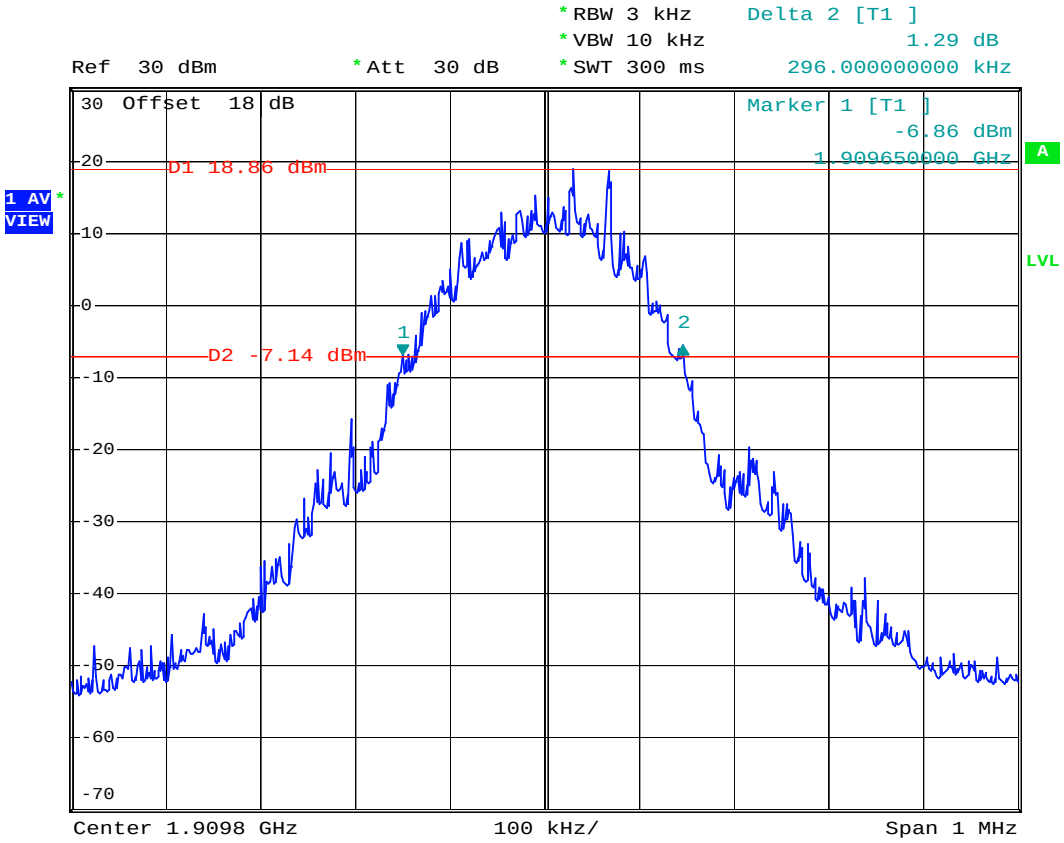
Date: 13.JUL.2007 04:05:28

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



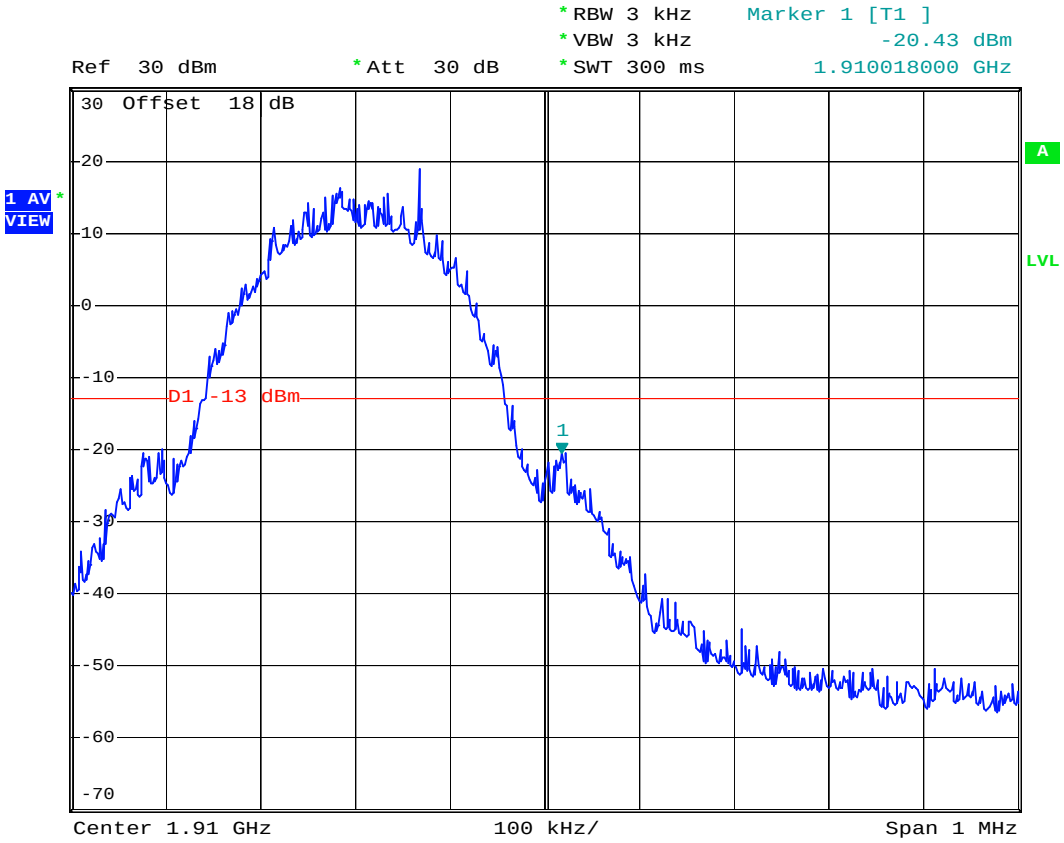
Date: 13.JUL.2007 04:01:02

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



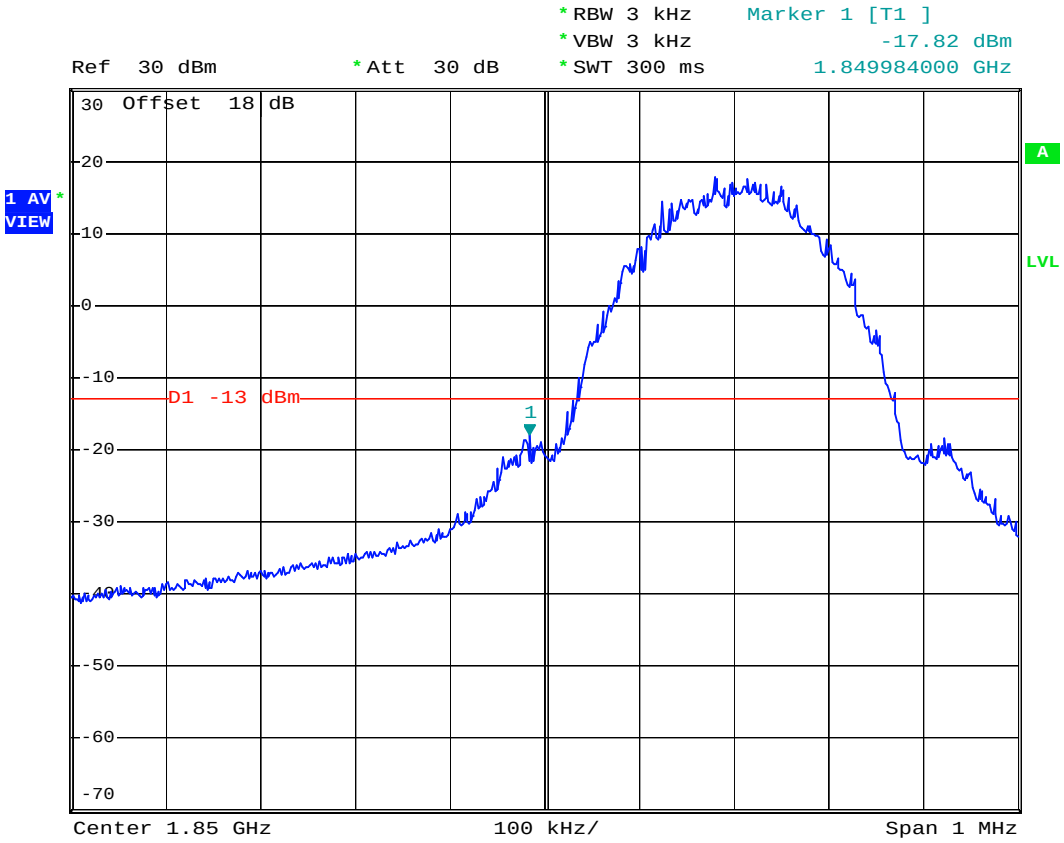
Date: 13.JUL.2007 04:03:53

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



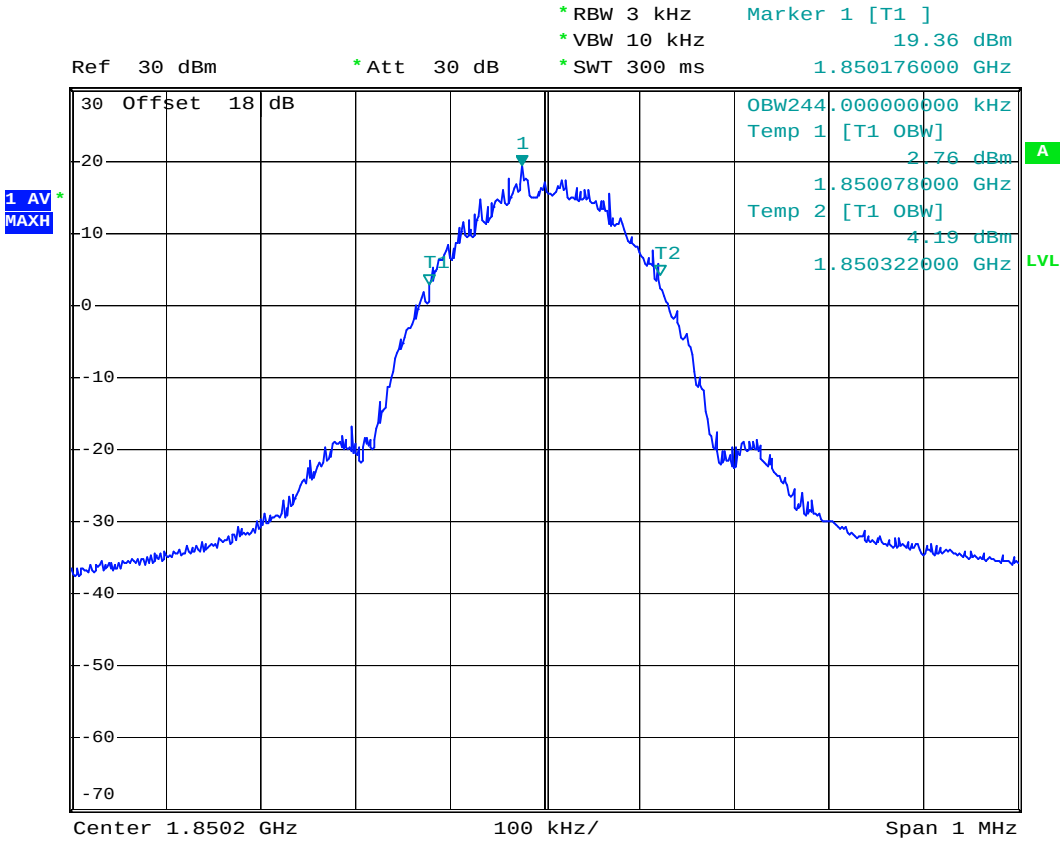
Date: 13.JUL.2007 03:37:01

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



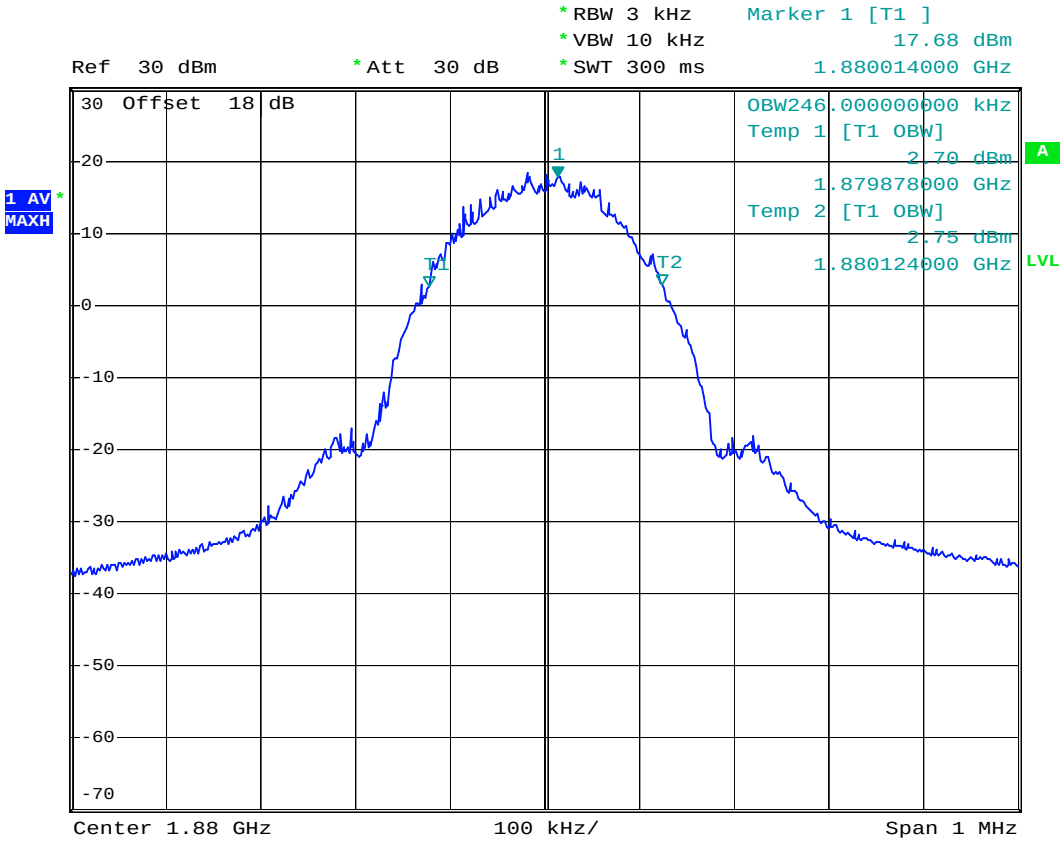
Date: 13.JUL.2007 03:40:12

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



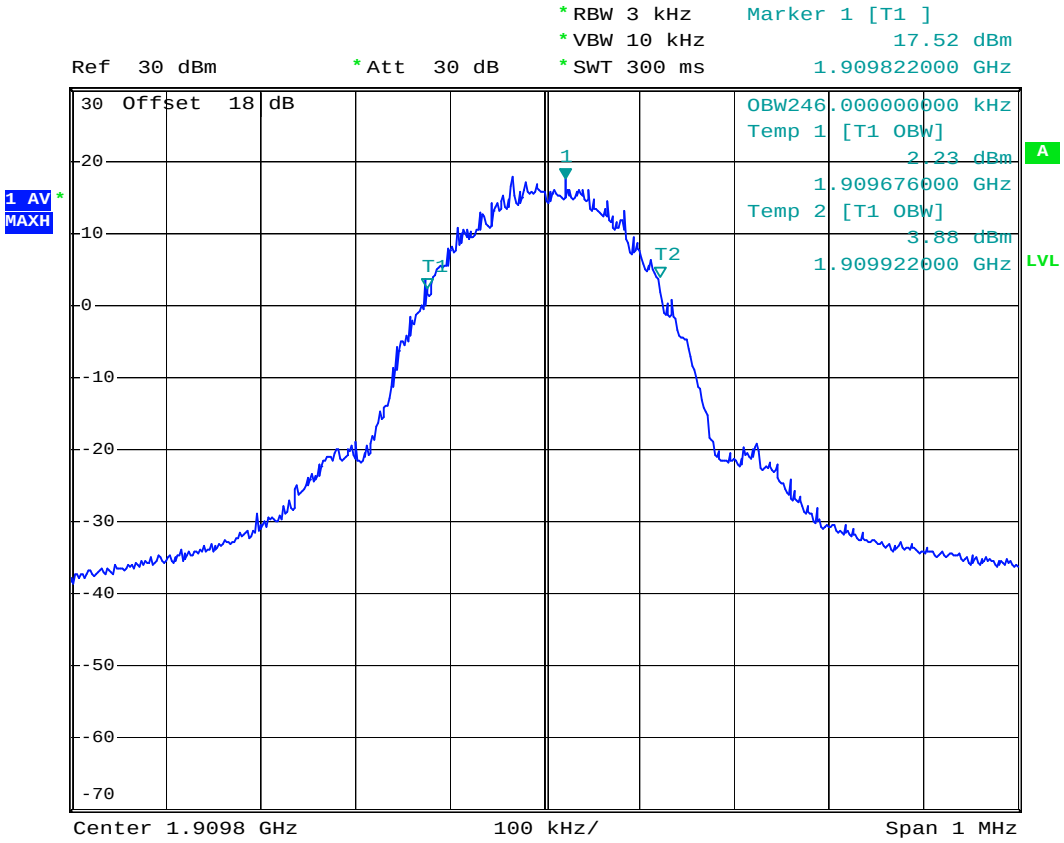
Date: 13.JUL.2007 03:02:50

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



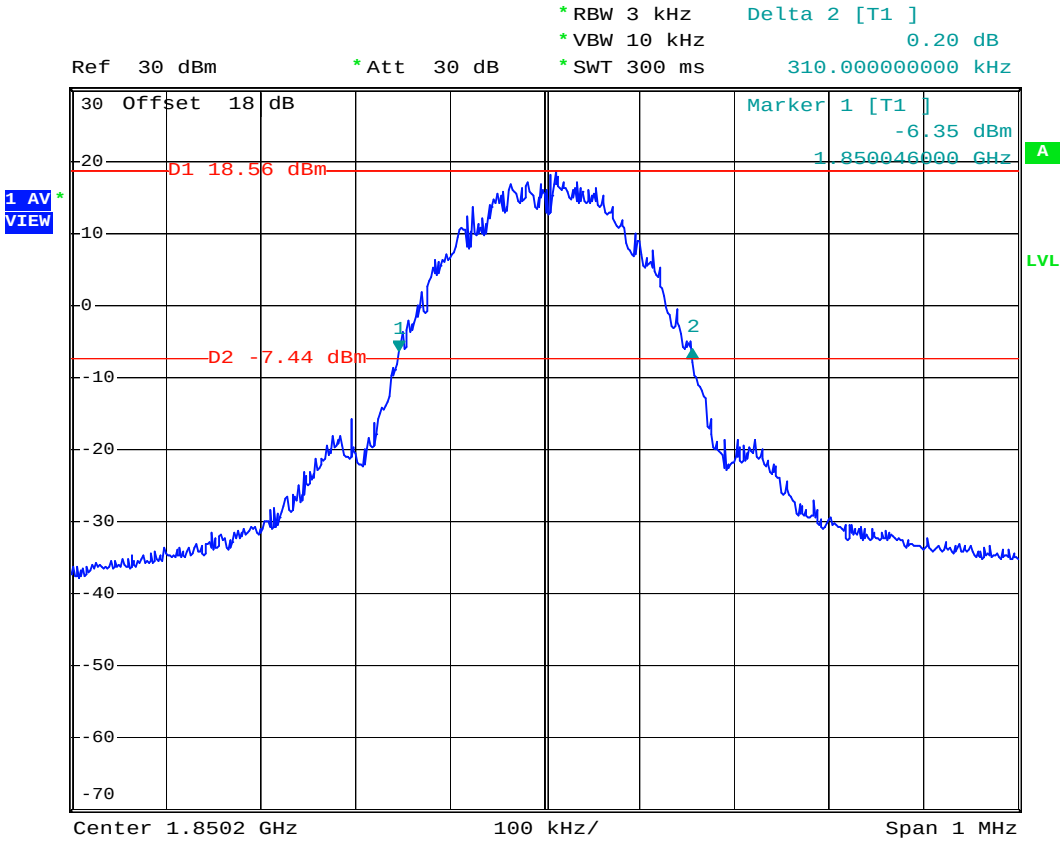
Date: 13.JUL.2007 03:16:18

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



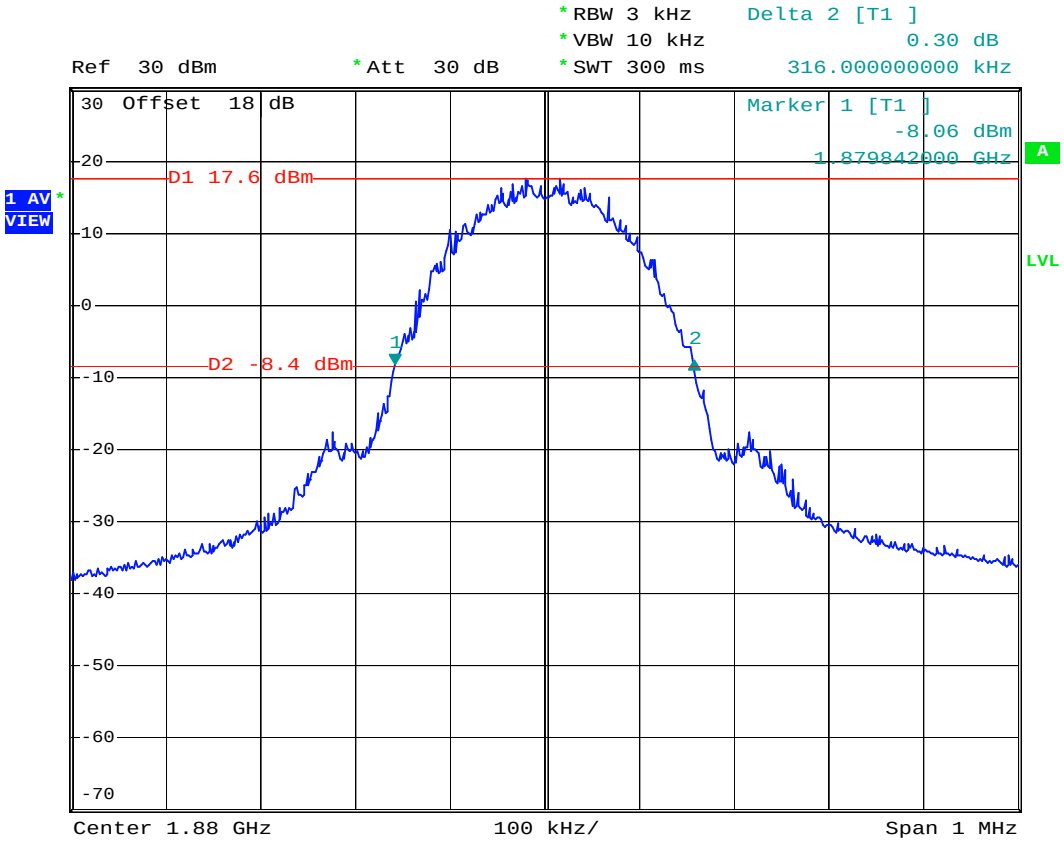
Date: 13.JUL.2007 03:17:46

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



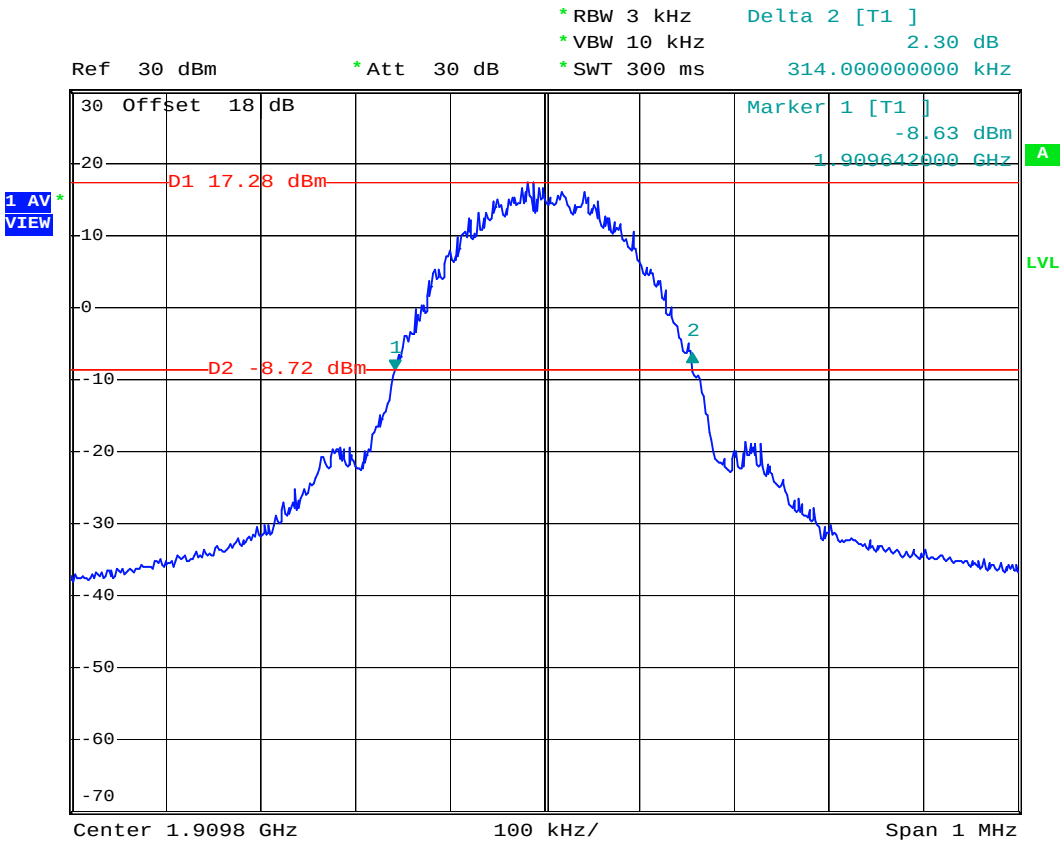
Date: 13.JUL.2007 04:07:15

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



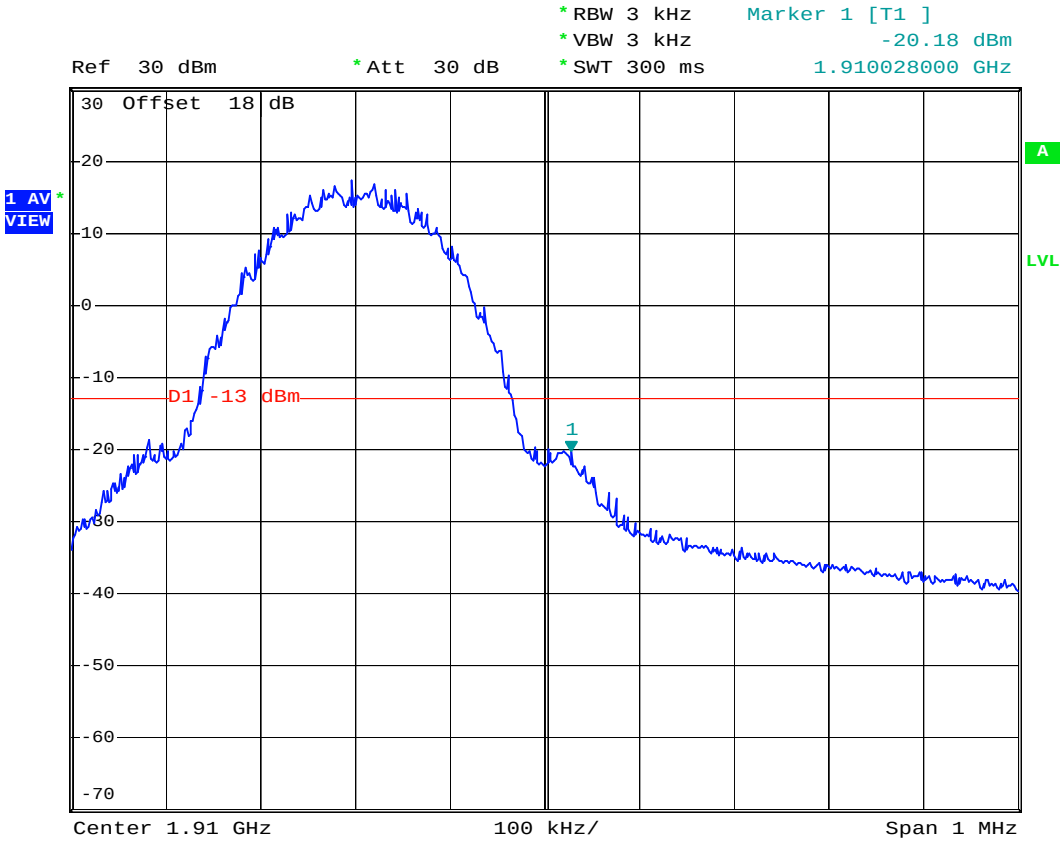
Date: 13.JUL.2007 04:22:34

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



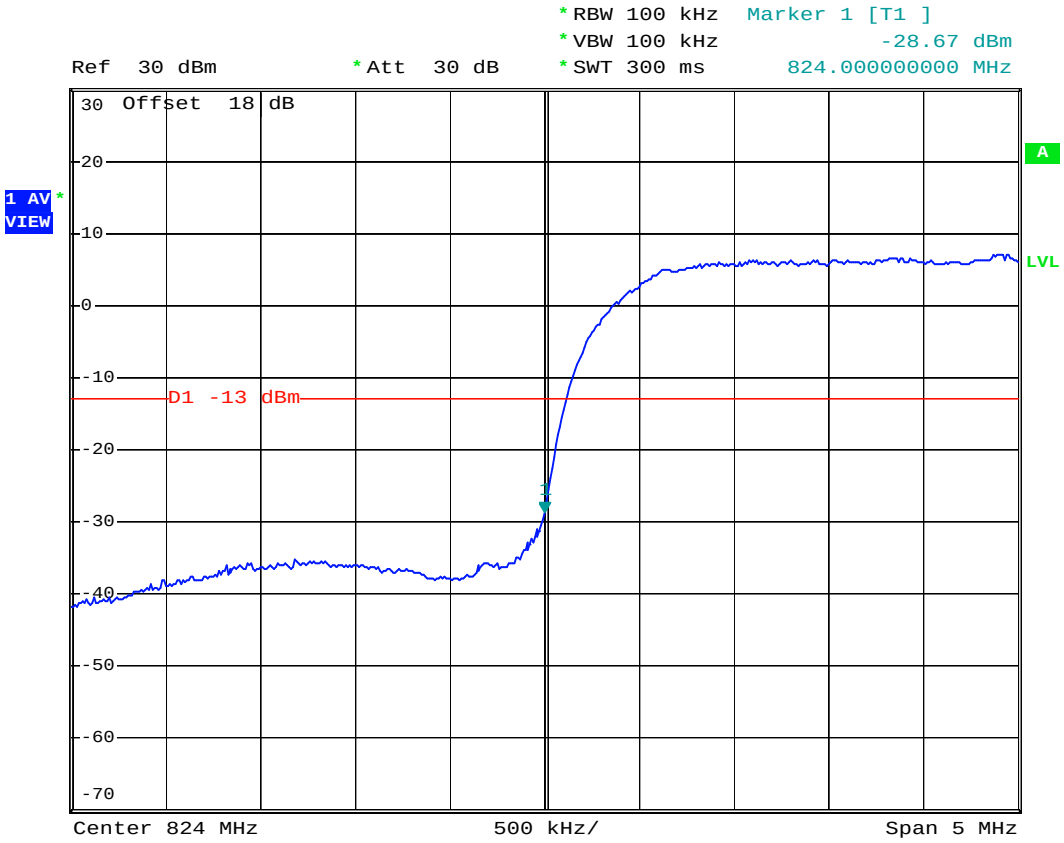
Date: 13.JUL.2007 04:24:55

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



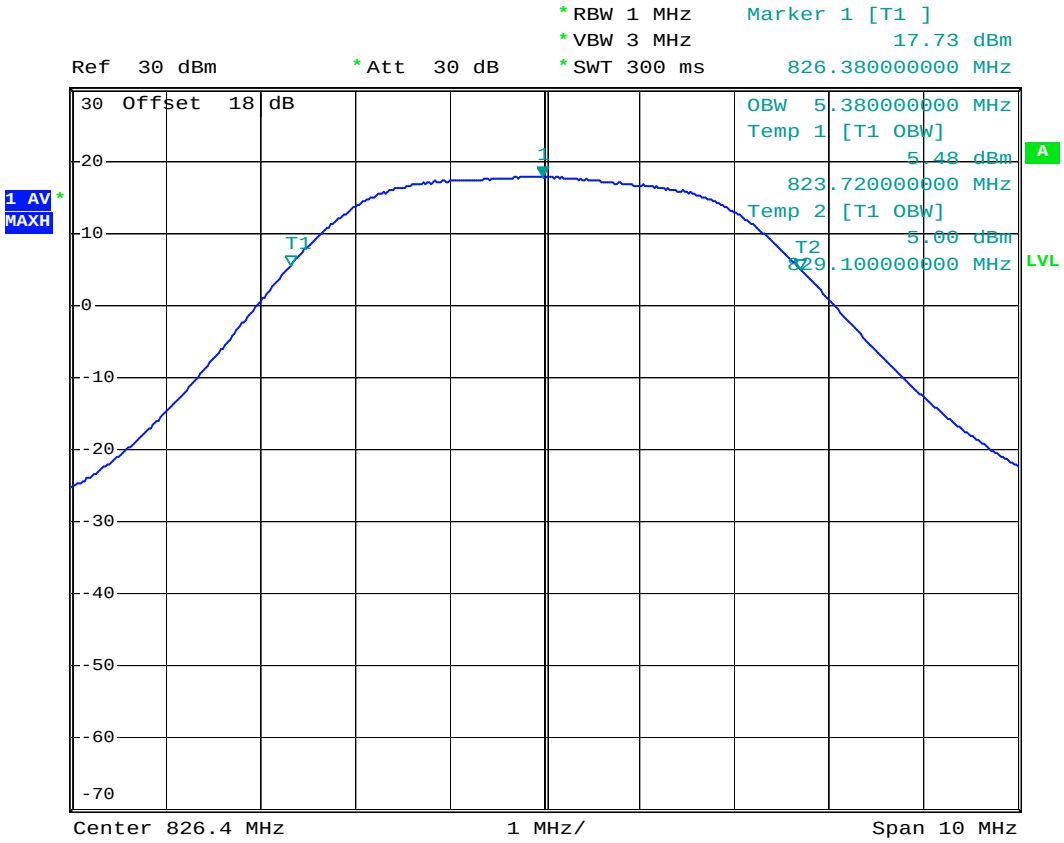
Date: 13.JUL.2007 03:39:04

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



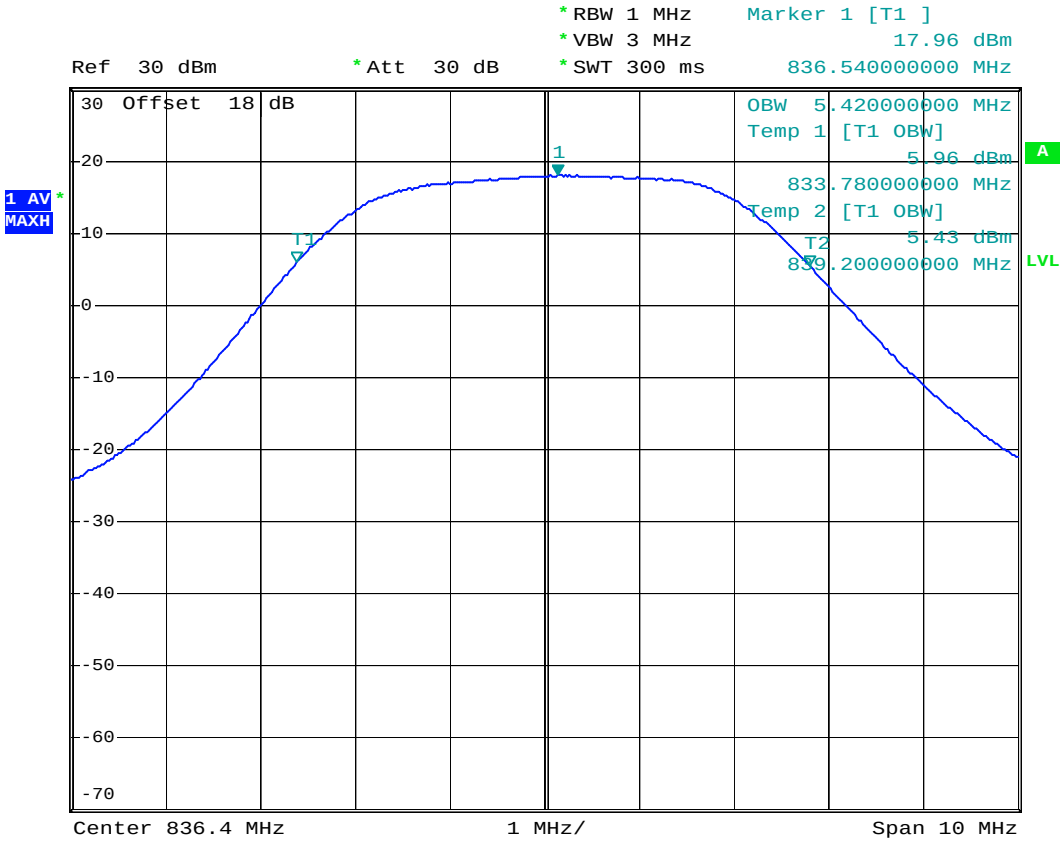
Date: 13.JUL.2007 05:33:22

- Test Mode : WCDMA Band V CH4132 99% Occupid Bandwidth
- Power State : High



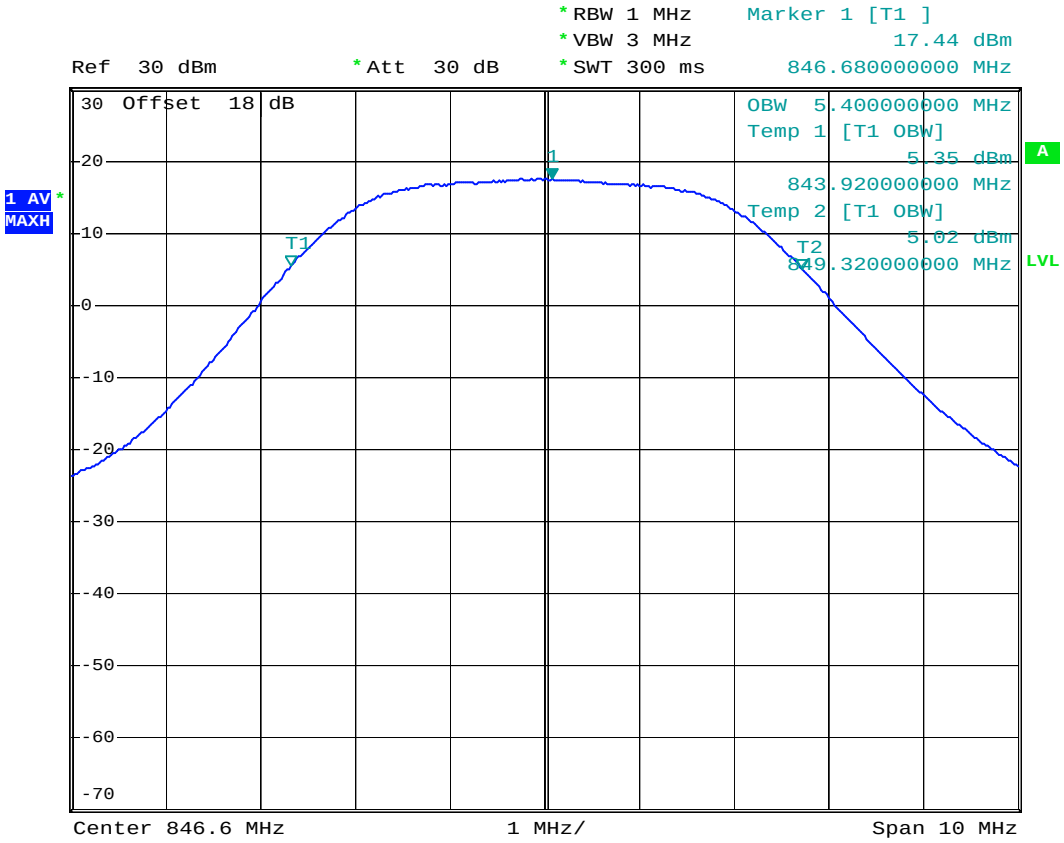
Date: 17.JUL.2007 05:53:04

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



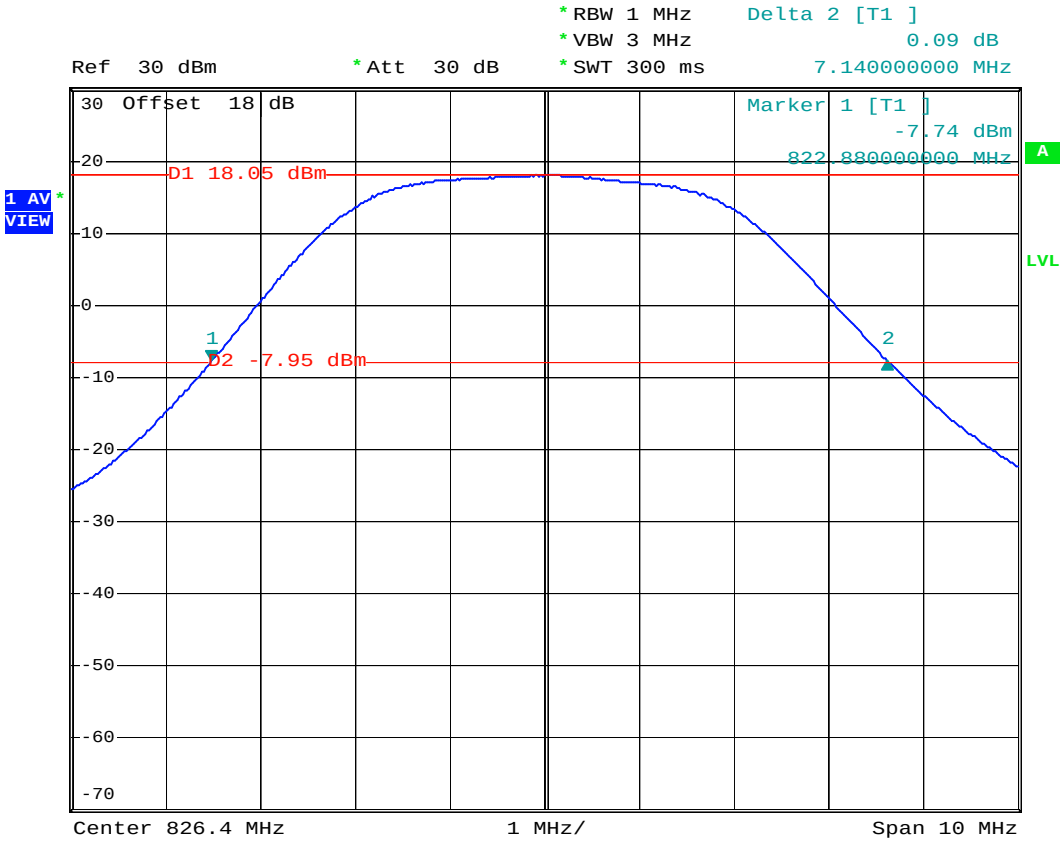
Date: 17.JUL.2007 05:53:40

- Test Mode : WCDMA Band V CH4233 99% Occupid Bandwidth
- Power State : High



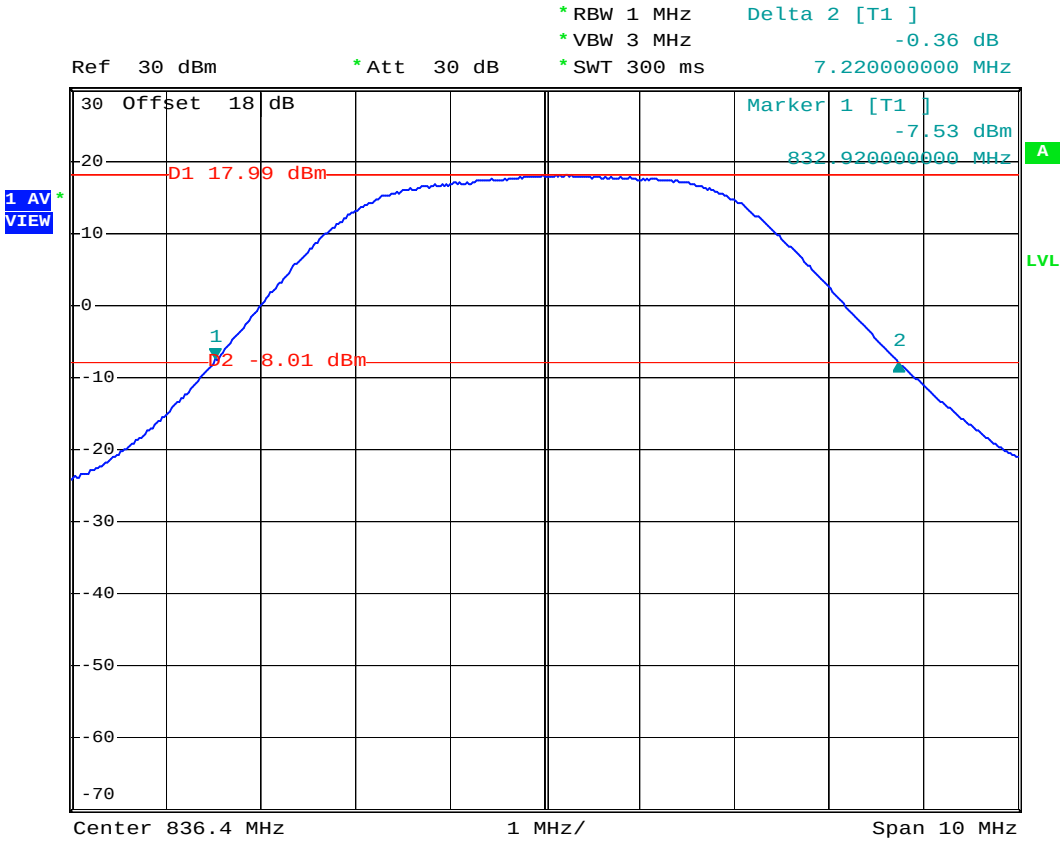
Date: 17.JUL.2007 05:54:13

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



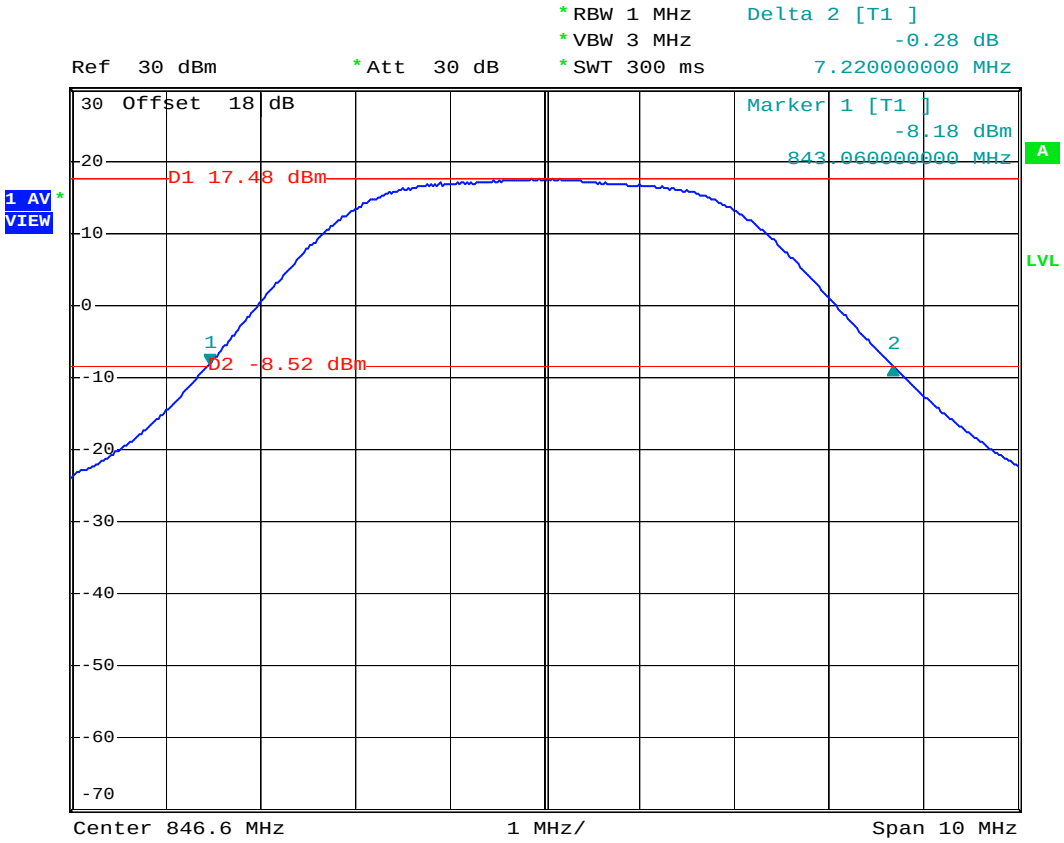
Date: 17.JUL.2007 09:18:22

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



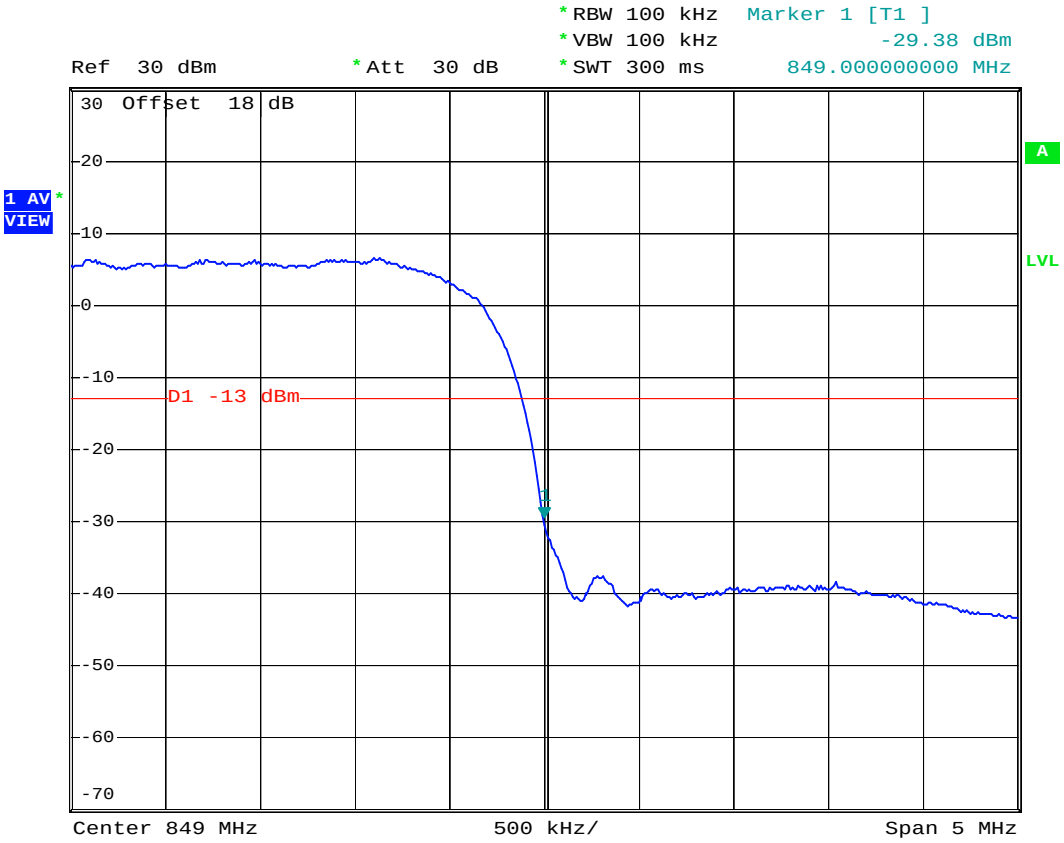
Date: 17.JUL.2007 06:08:47

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



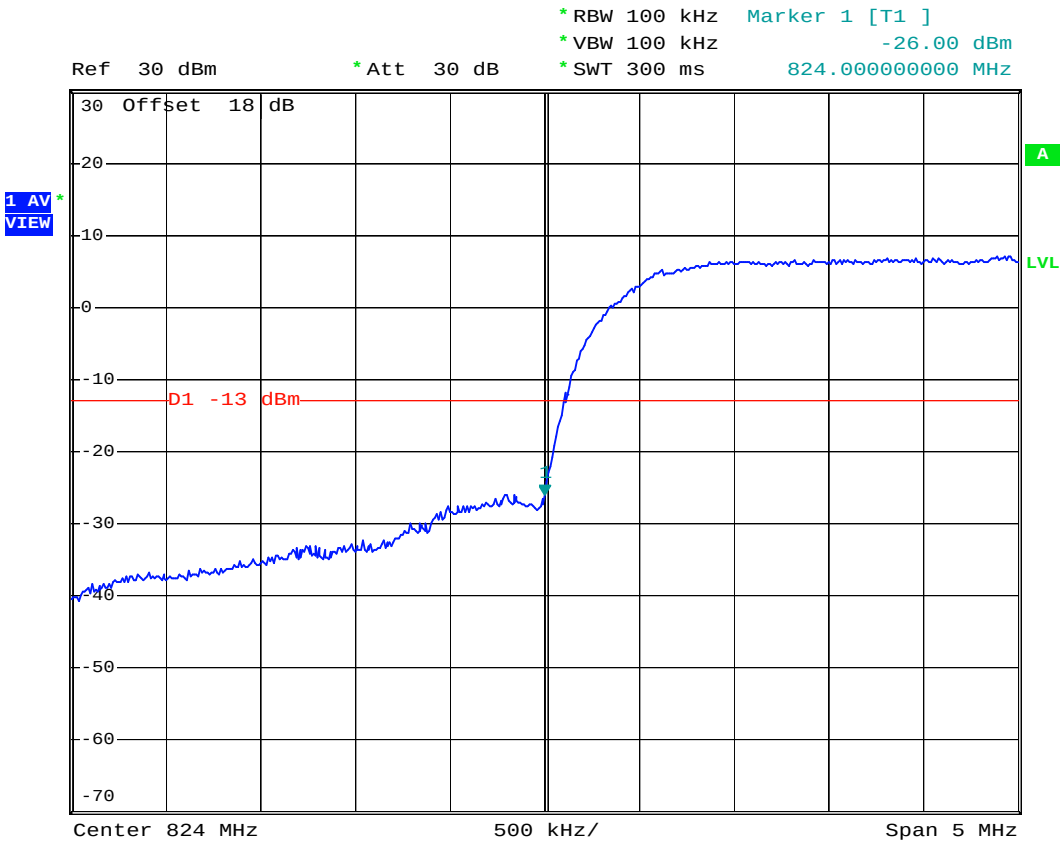
Date: 17.JUL.2007 05:58:05

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



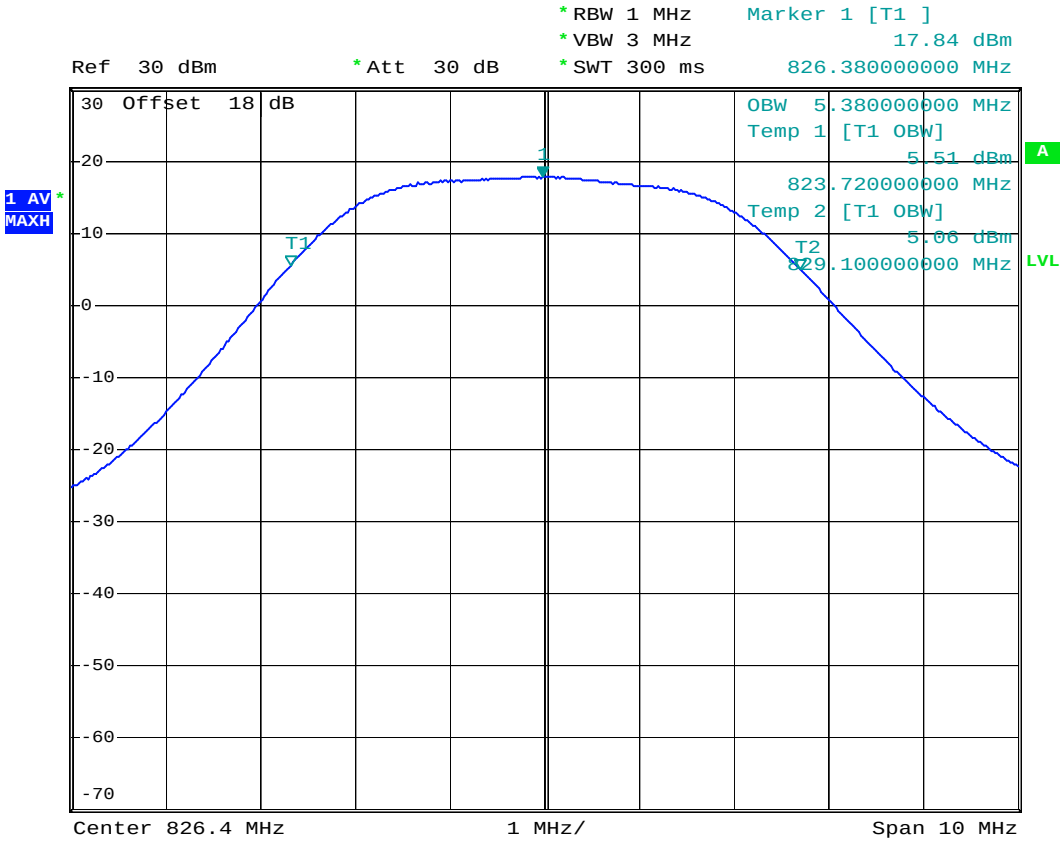
Date: 13.JUL.2007 05:48:19

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



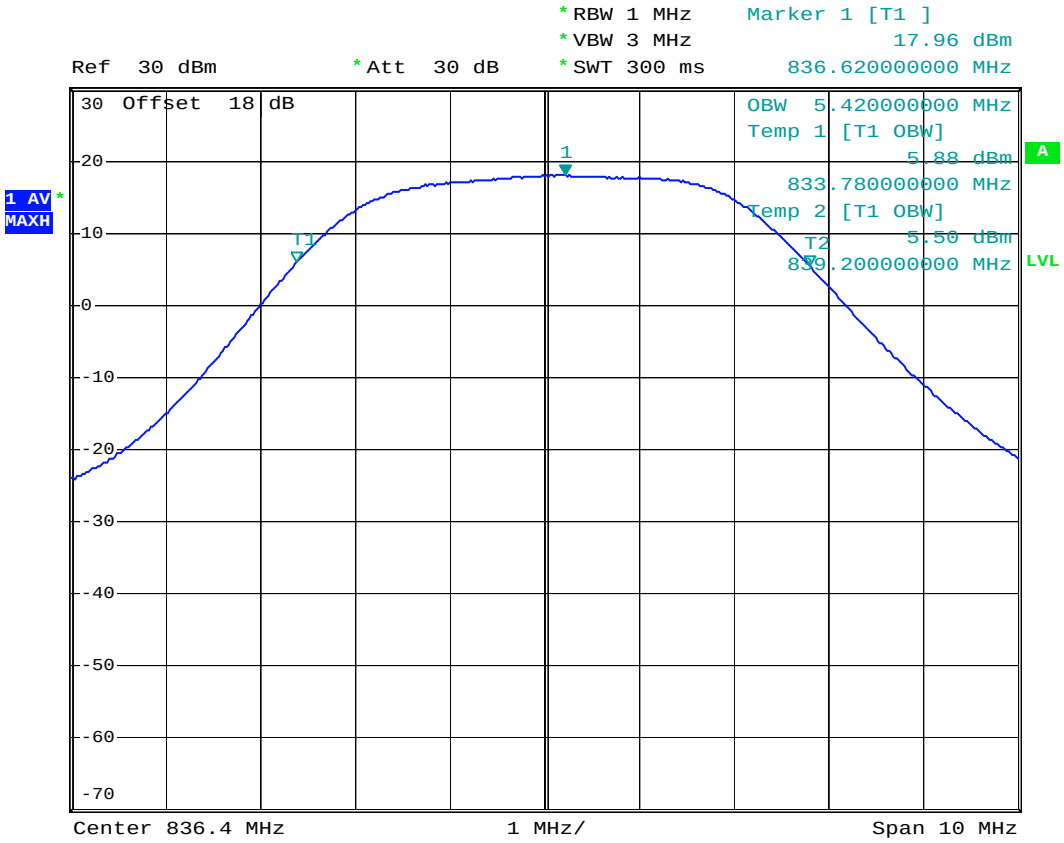
Date: 13.JUL.2007 05:41:25

- Test Mode : WCDMA Band V (HSDPA) CH4132 99% Occupid Bandwidth
- Power State : High



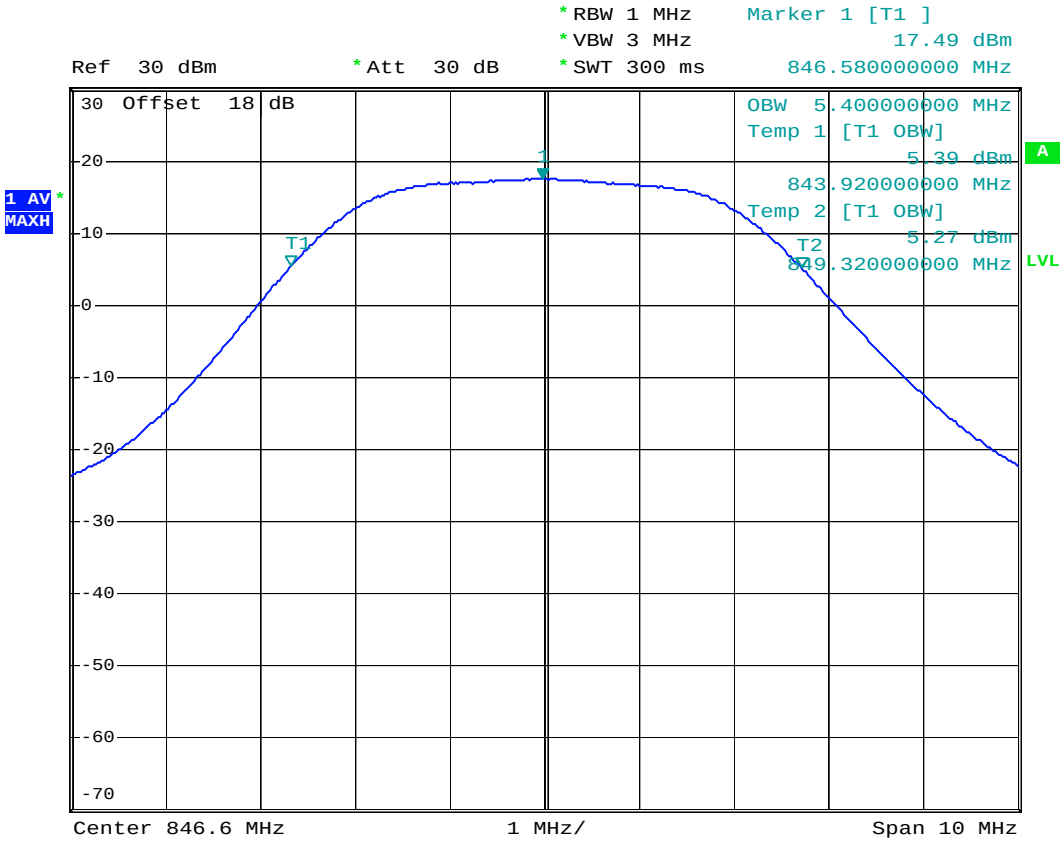
Date: 17.JUL.2007 05:55:06

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



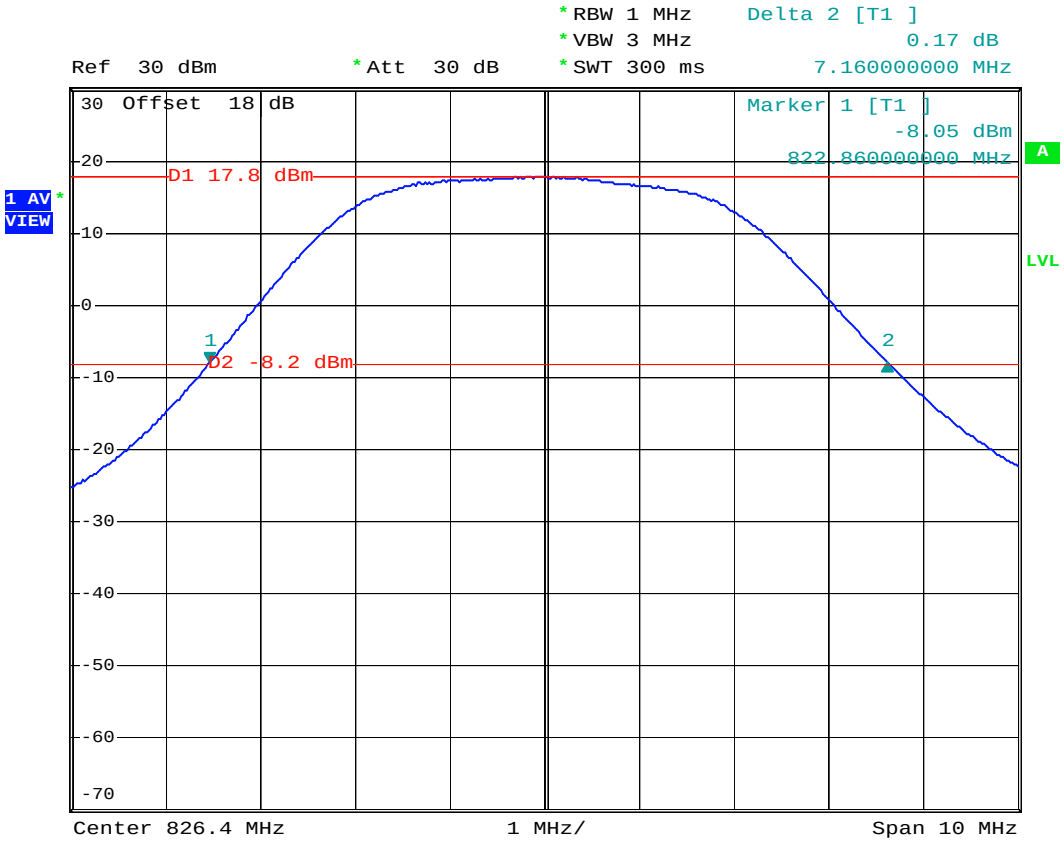
Date: 17.JUL.2007 05:55:35

- Test Mode : WCDMA Band V (HSDPA) CH4233 99% Occupid Bandwidth
- Power State : High



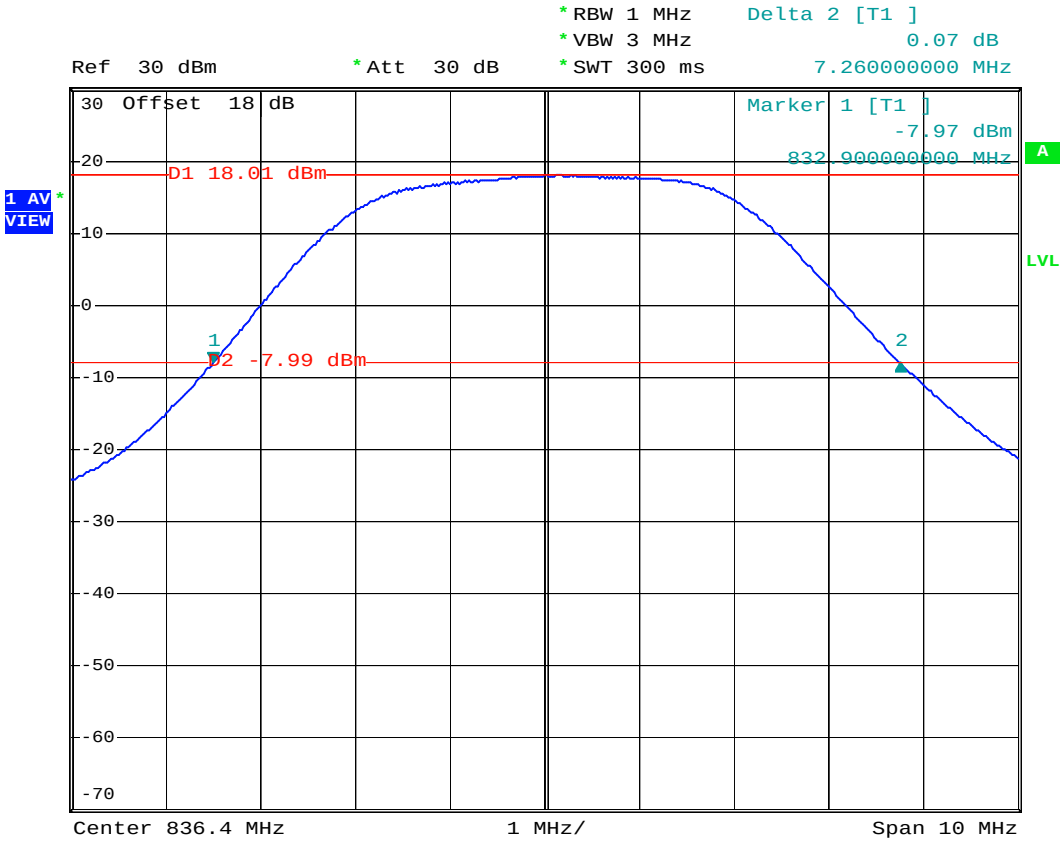
Date: 17.JUL.2007 05:56:18

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



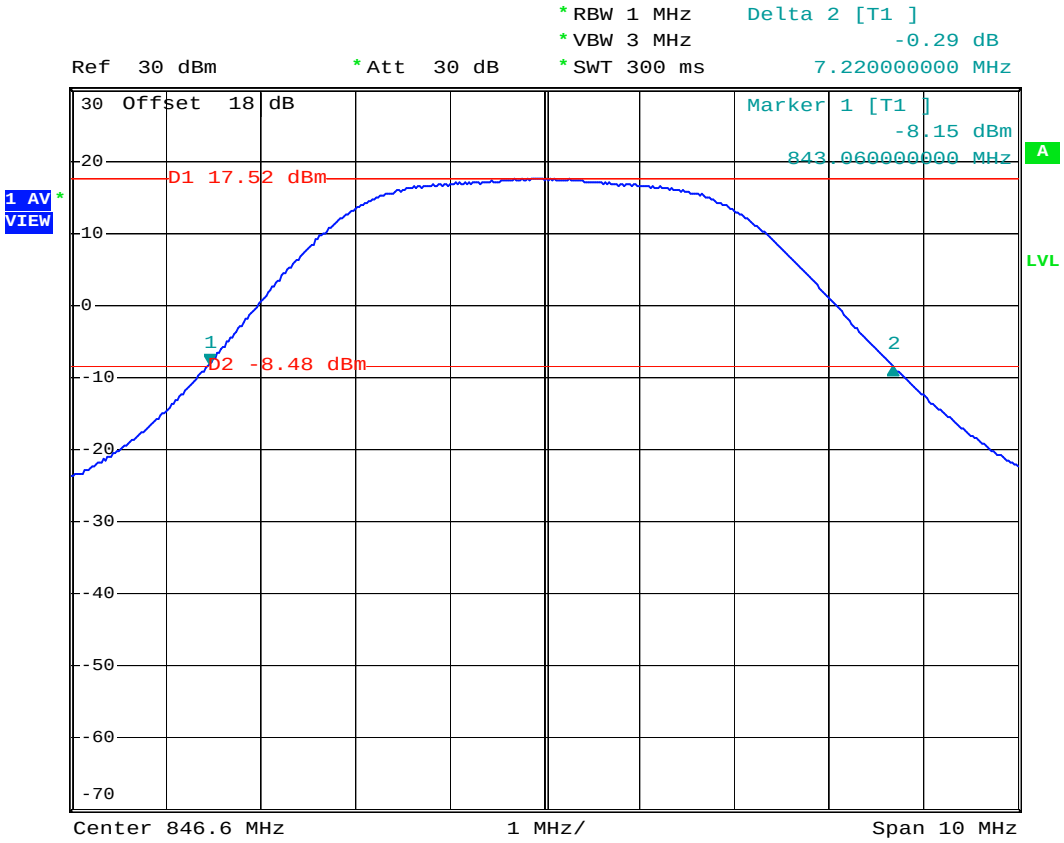
Date: 17.JUL.2007 06:36:35

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



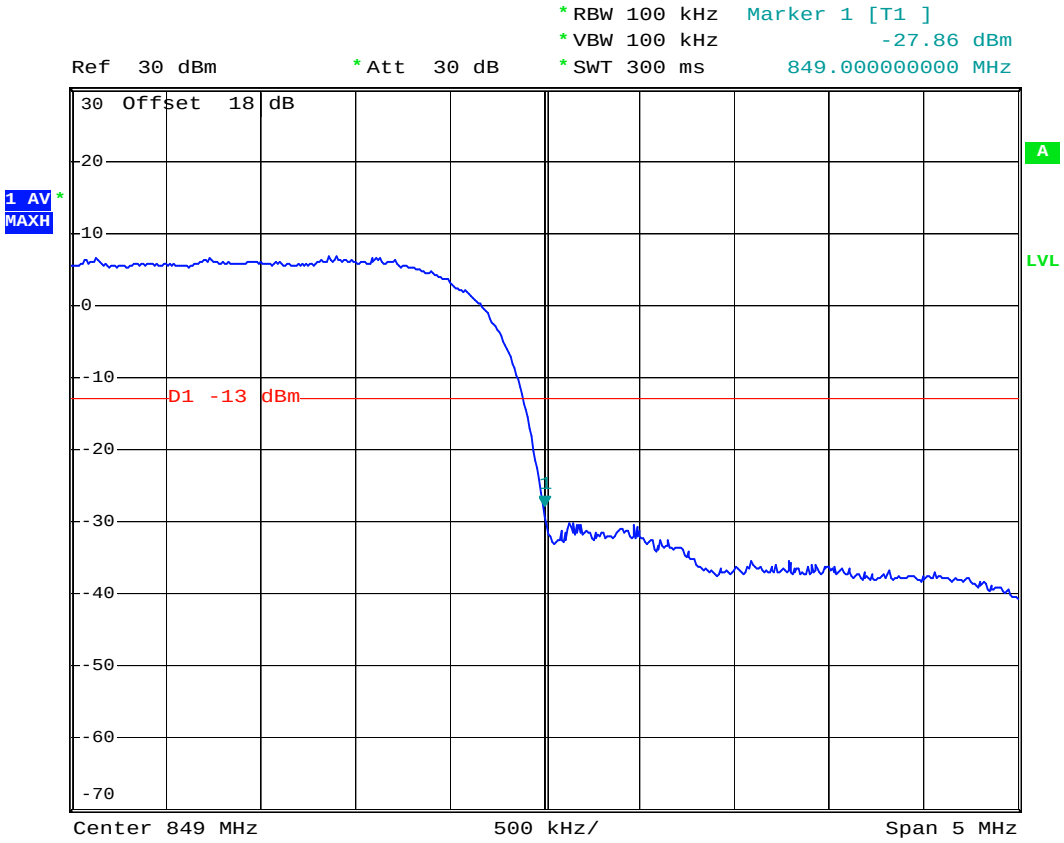
Date: 17.JUL.2007 06:34:53

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



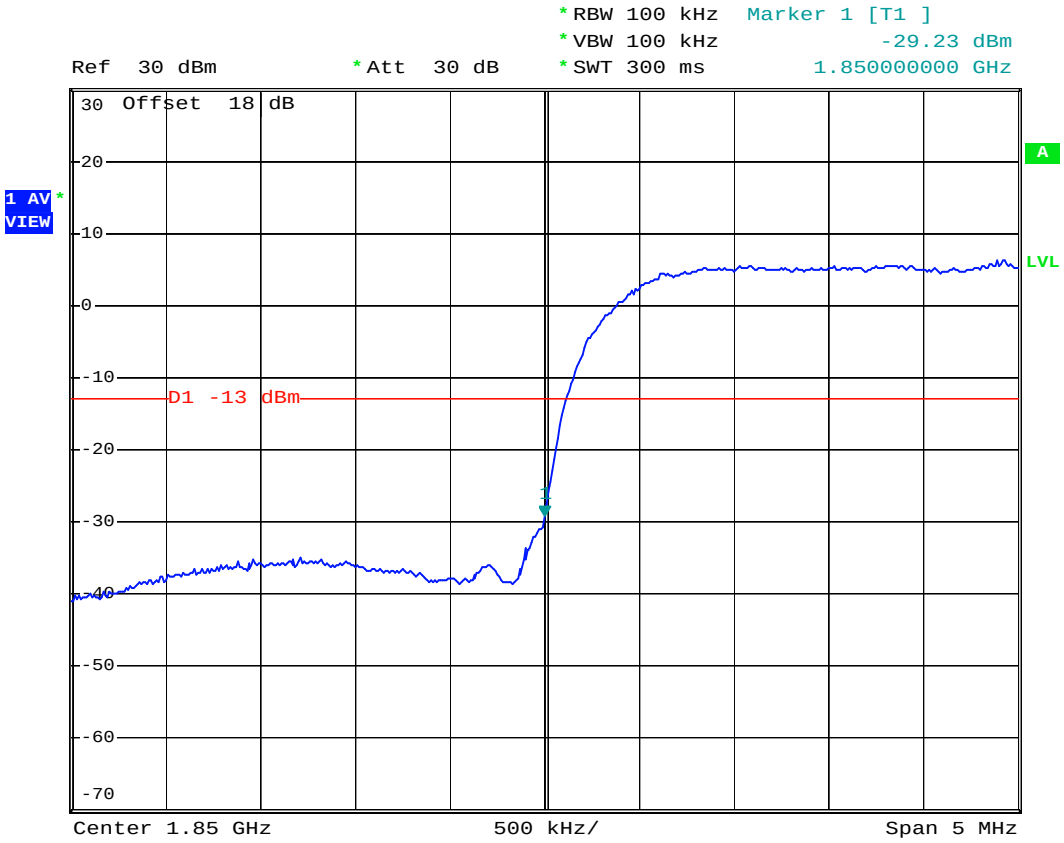
Date: 17.JUL.2007 06:33:38

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



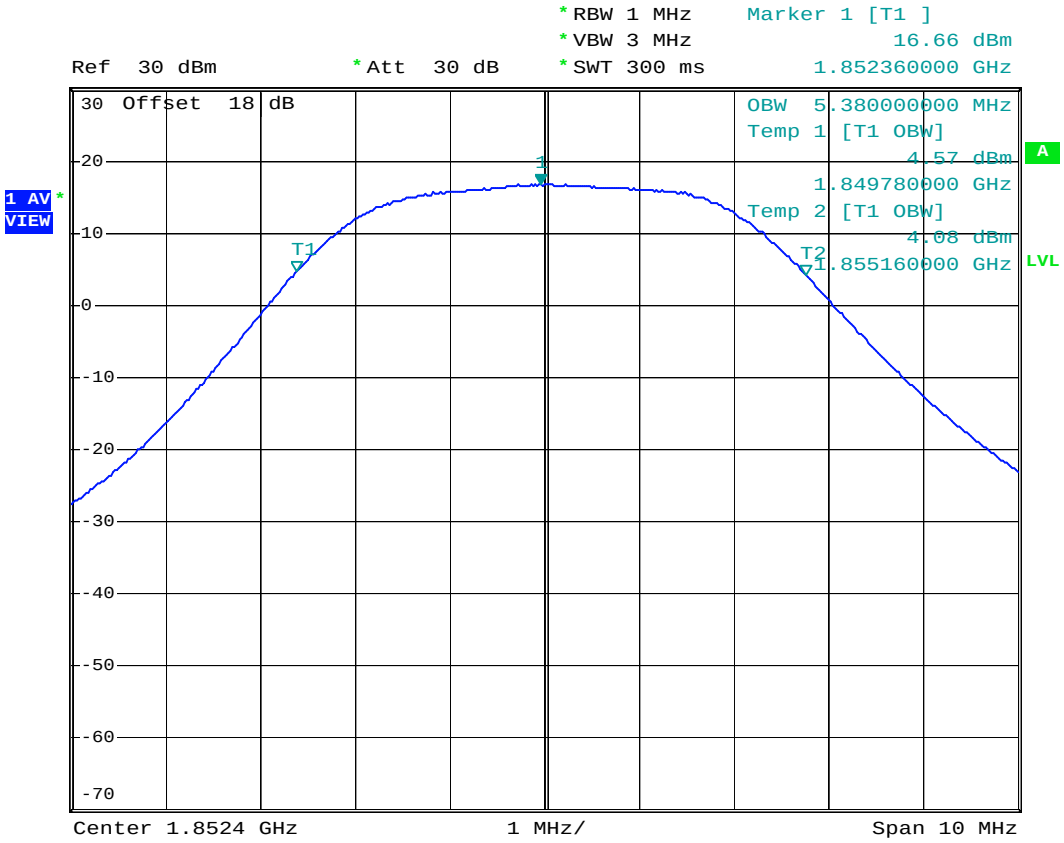
Date: 13.JUL.2007 05:42:20

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



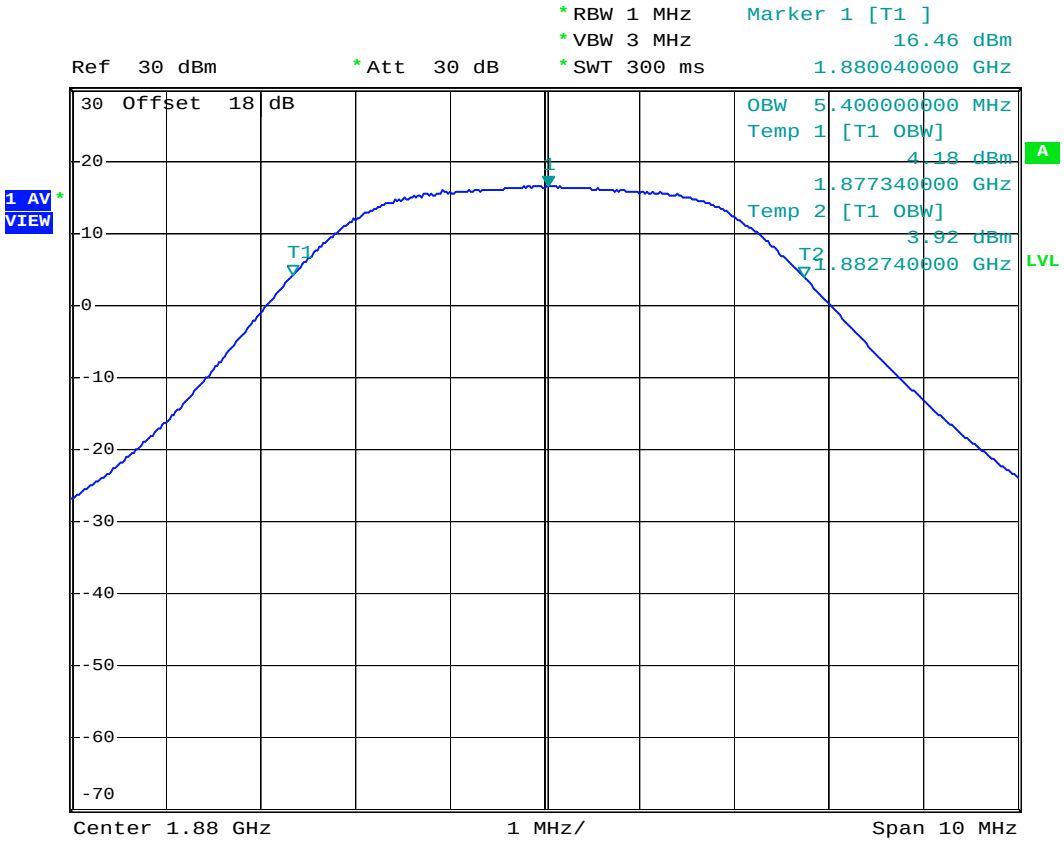
Date: 13.JUL.2007 07:32:02

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



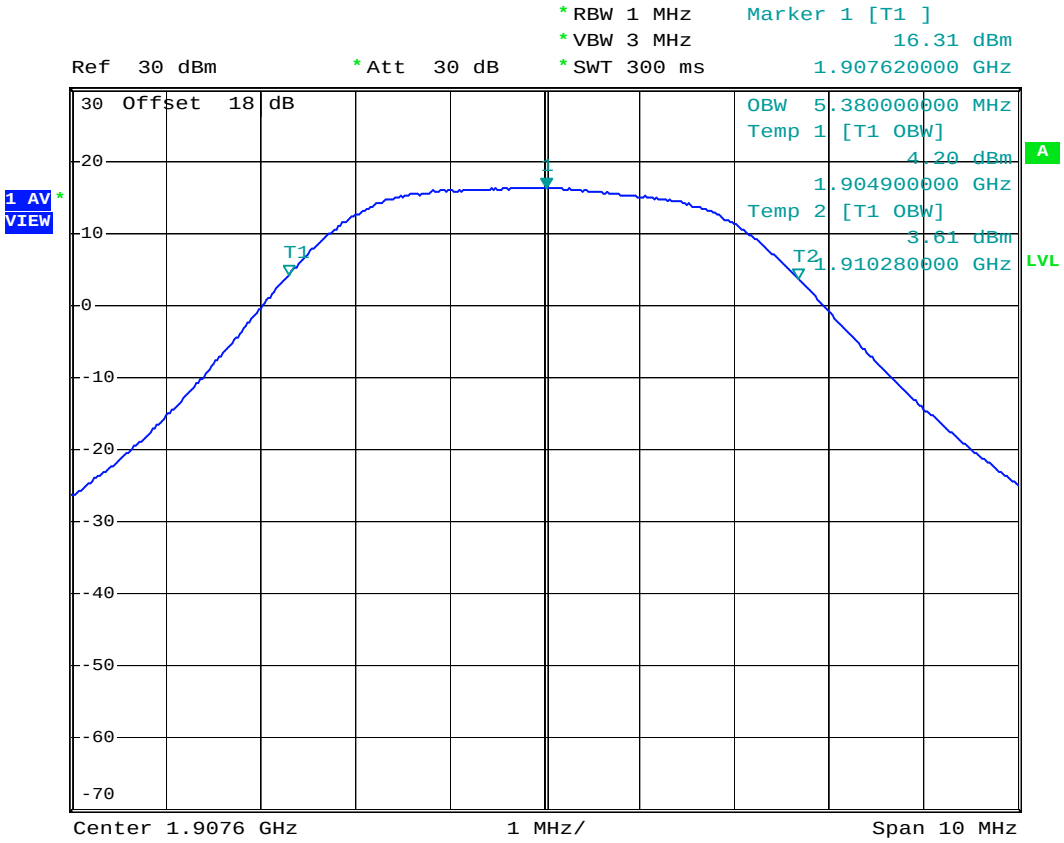
Date: 17.JUL.2007 08:31:20

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



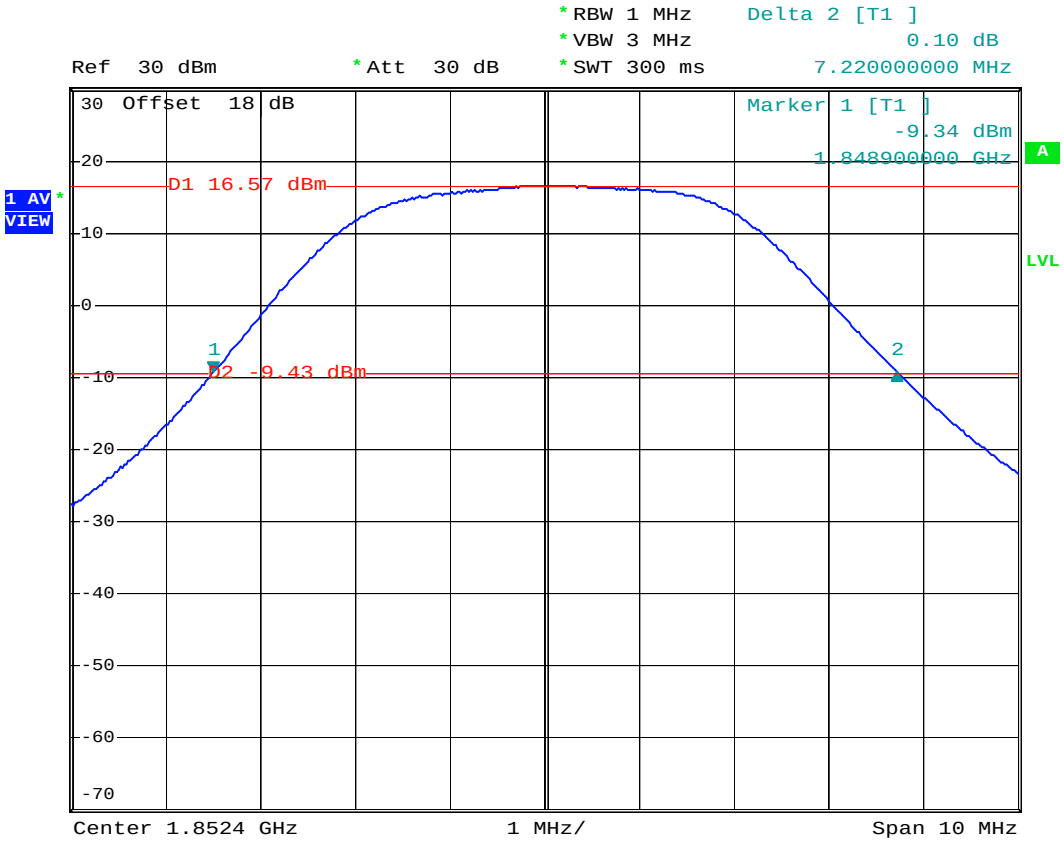
Date: 17.JUL.2007 08:30:27

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



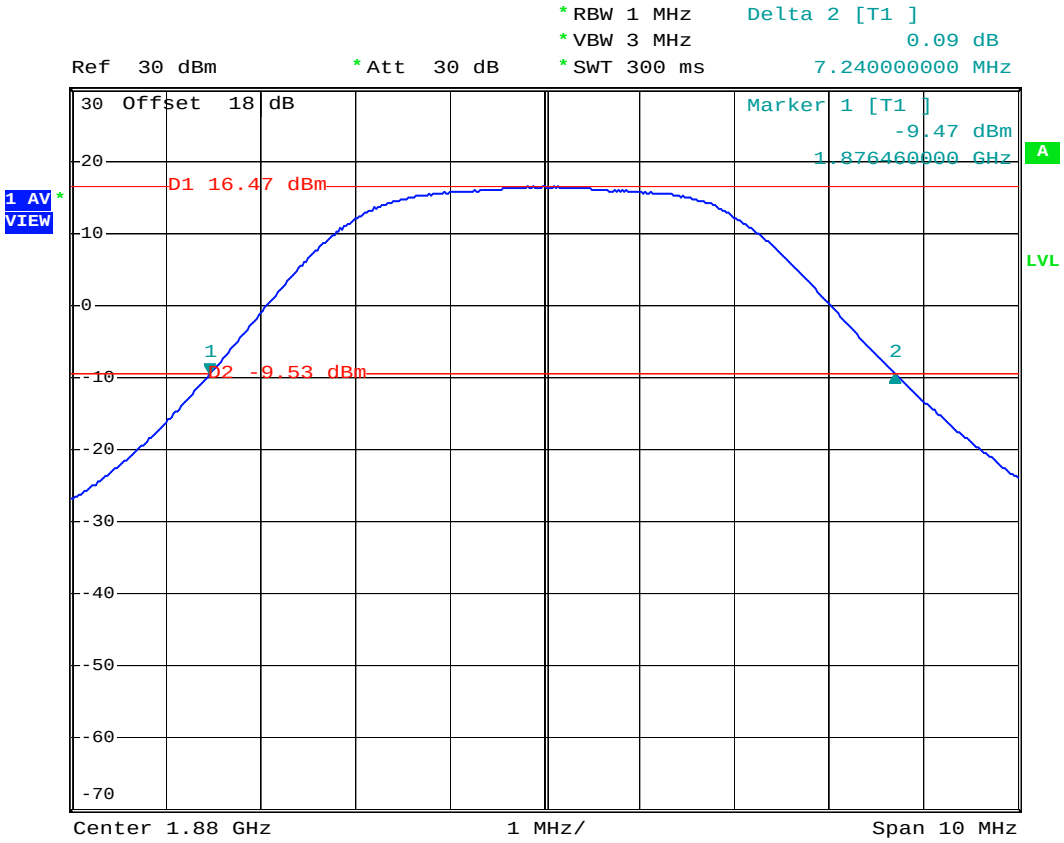
Date: 17.JUL.2007 08:29:44

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



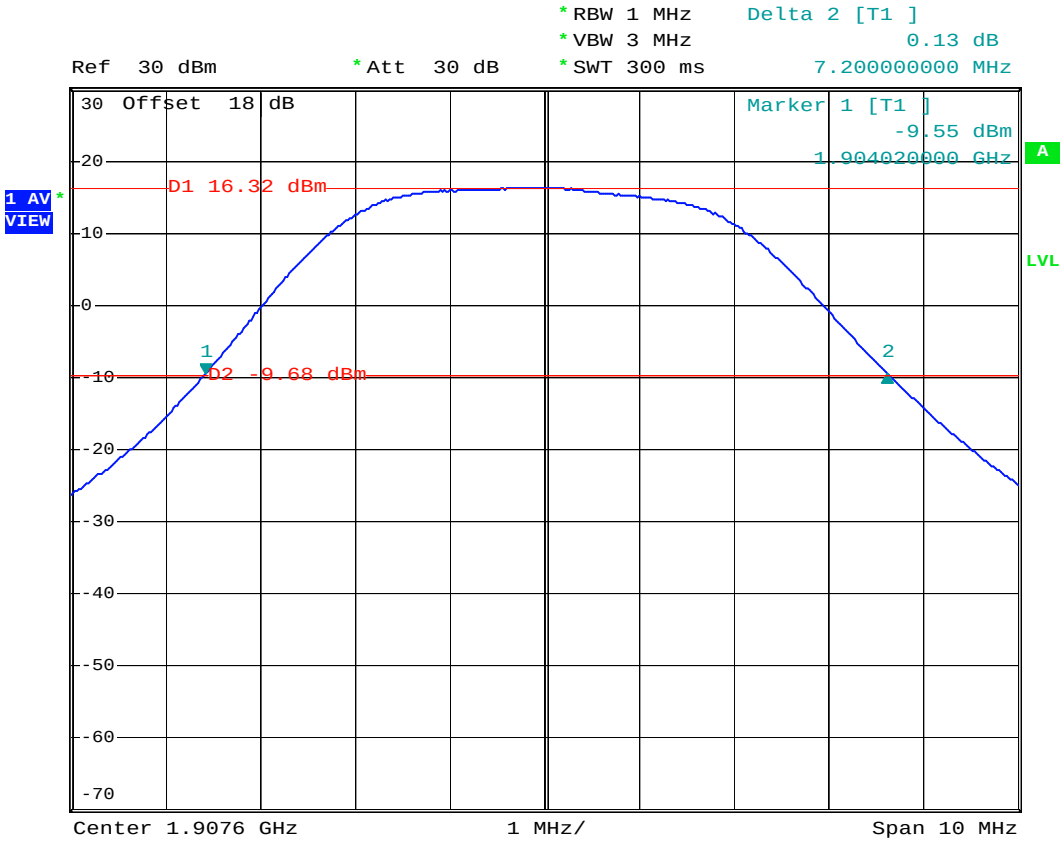
Date: 17.JUL.2007 07:06:46

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



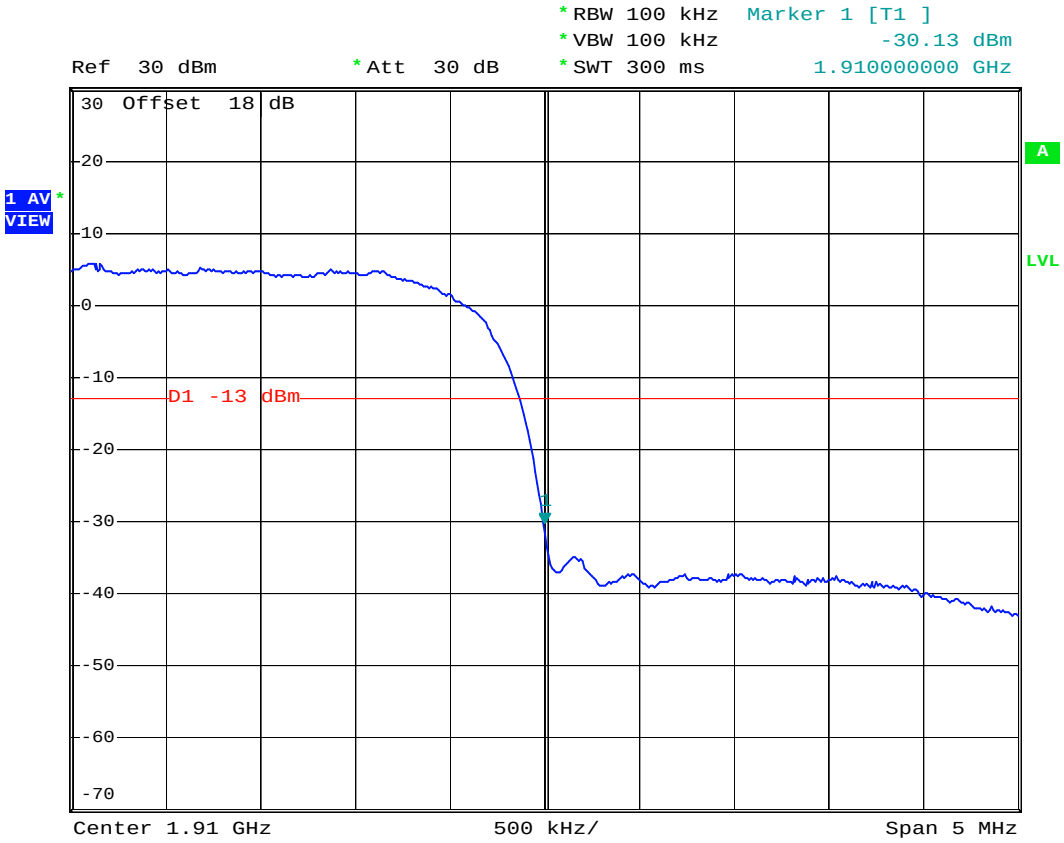
Date: 17.JUL.2007 07:08:01

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



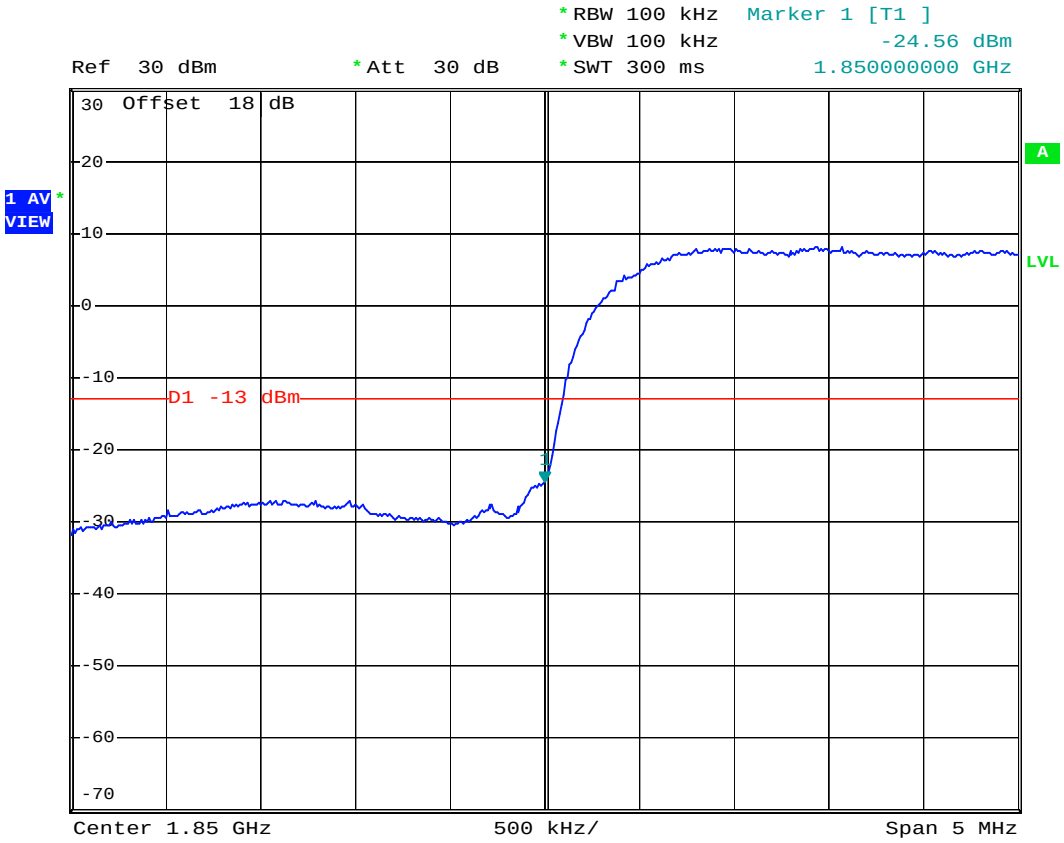
Date: 17.JUL.2007 07:09:30

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

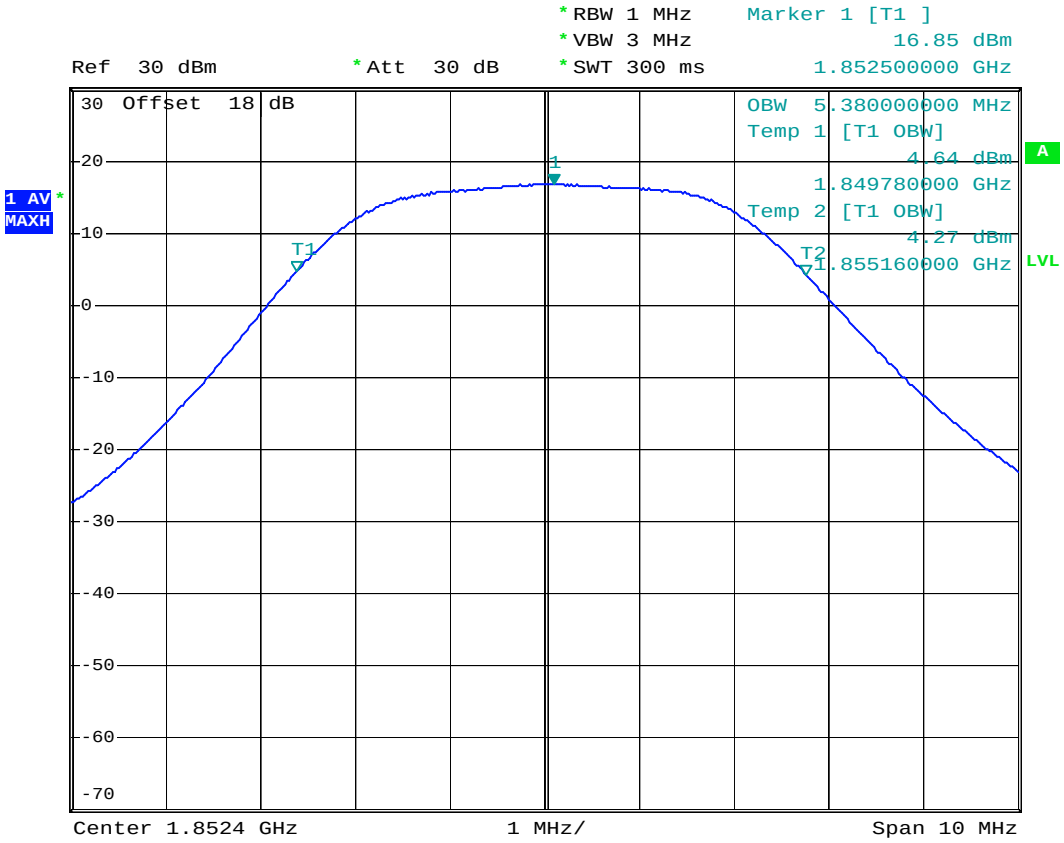


Date: 13.JUL.2007 07:22:06

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

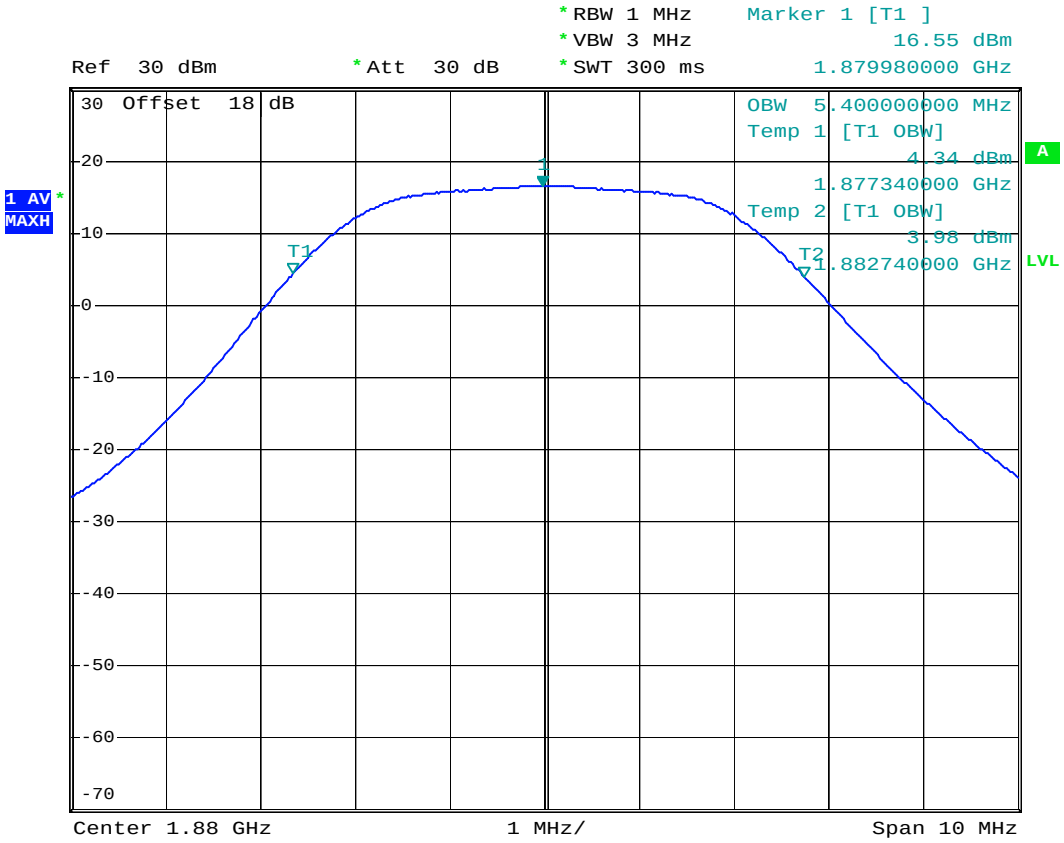


- Test Mode : WCDMA Band II (HSDPA) CH9262 99% Occupid Bandwidth
- Power State : High



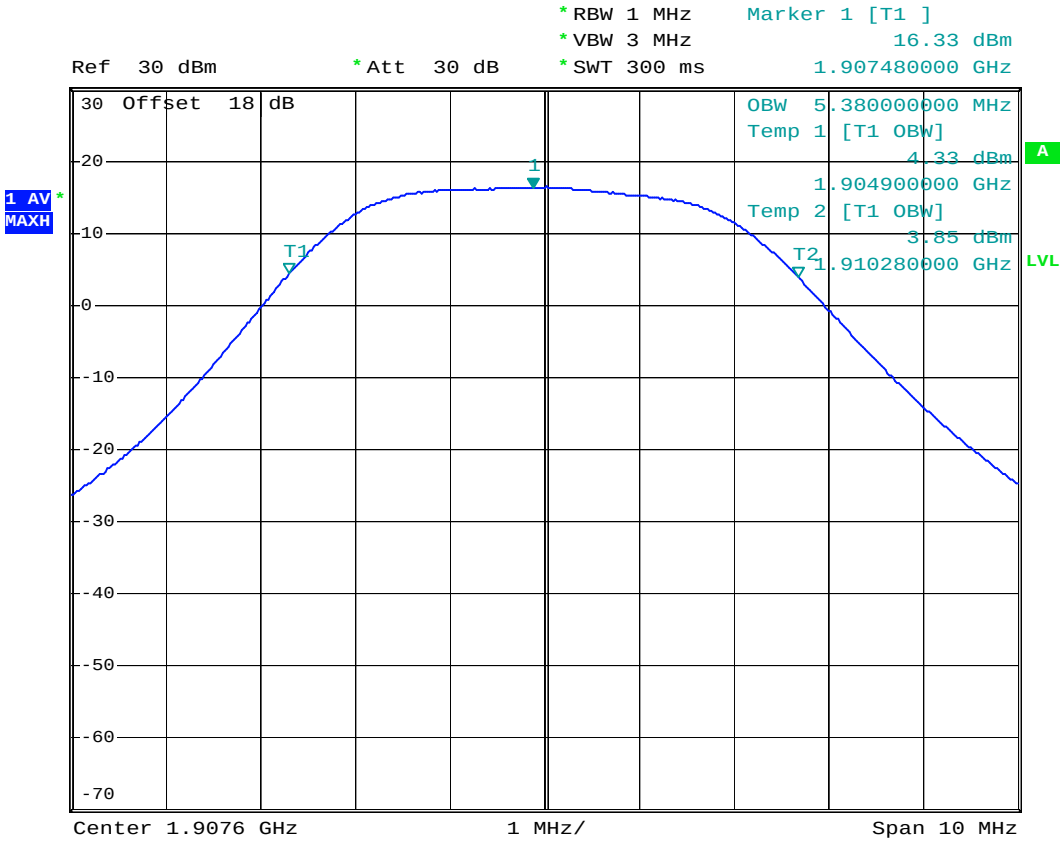
Date: 17.JUL.2007 08:28:43

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



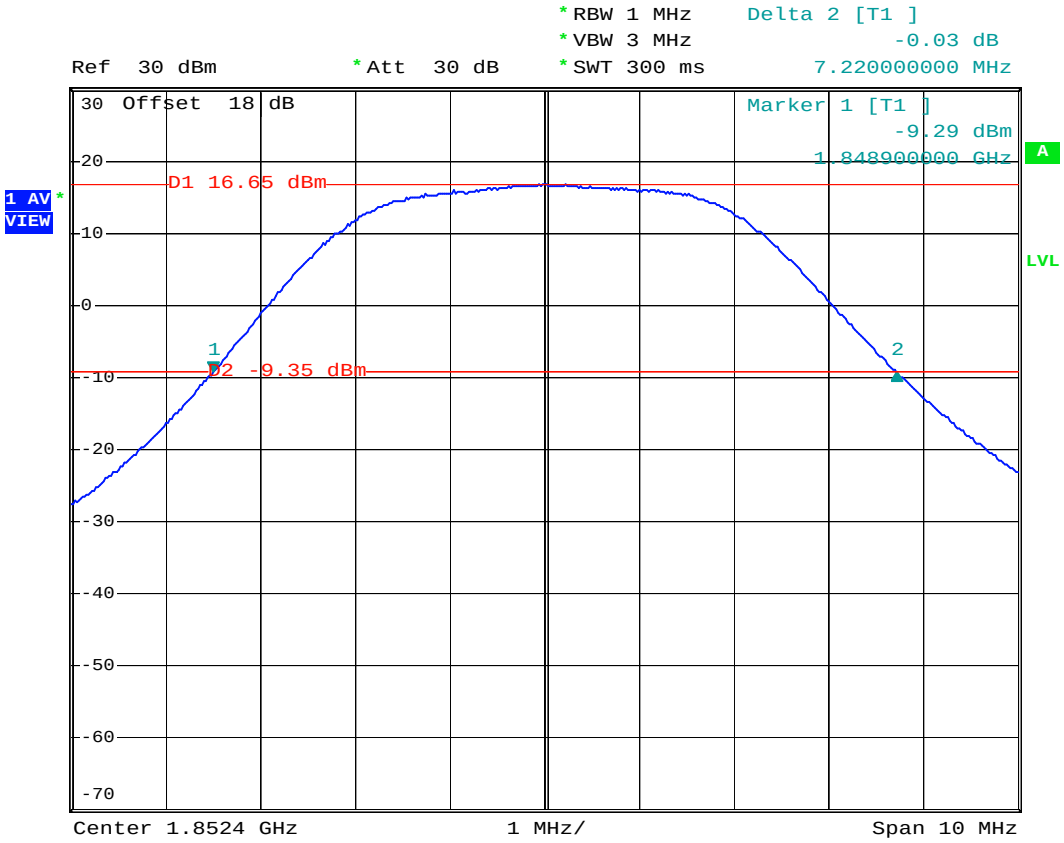
Date: 17.JUL.2007 08:27:41

- Test Mode : WCDMA Band II (HSDPA) CH9538 99% Occupid Bandwidth
- Power State : High



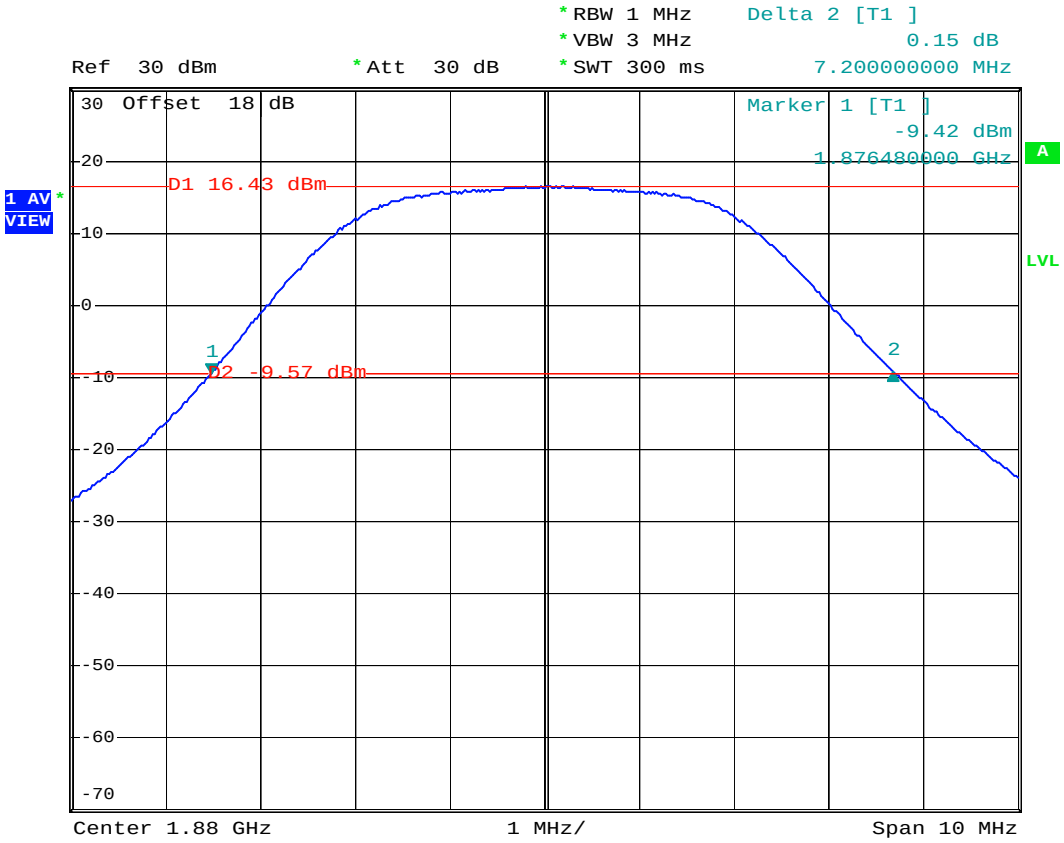
Date: 17.JUL.2007 08:26:50

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



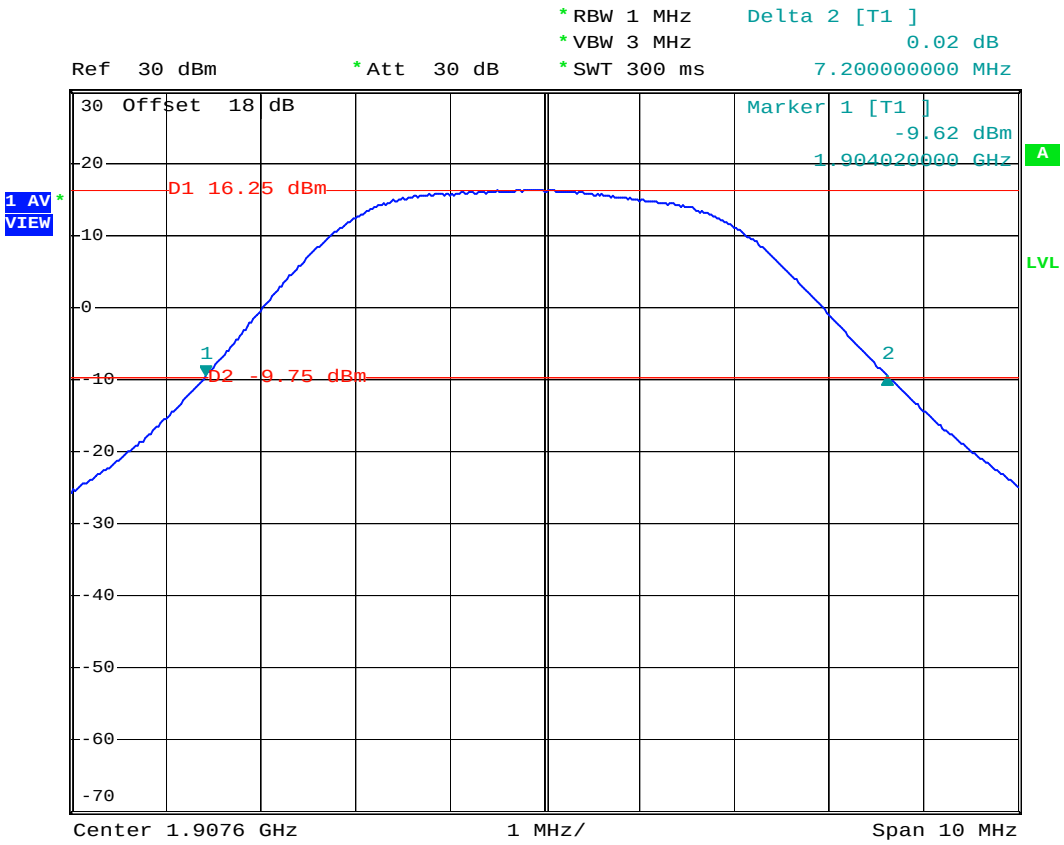
Date: 17.JUL.2007 07:10:53

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



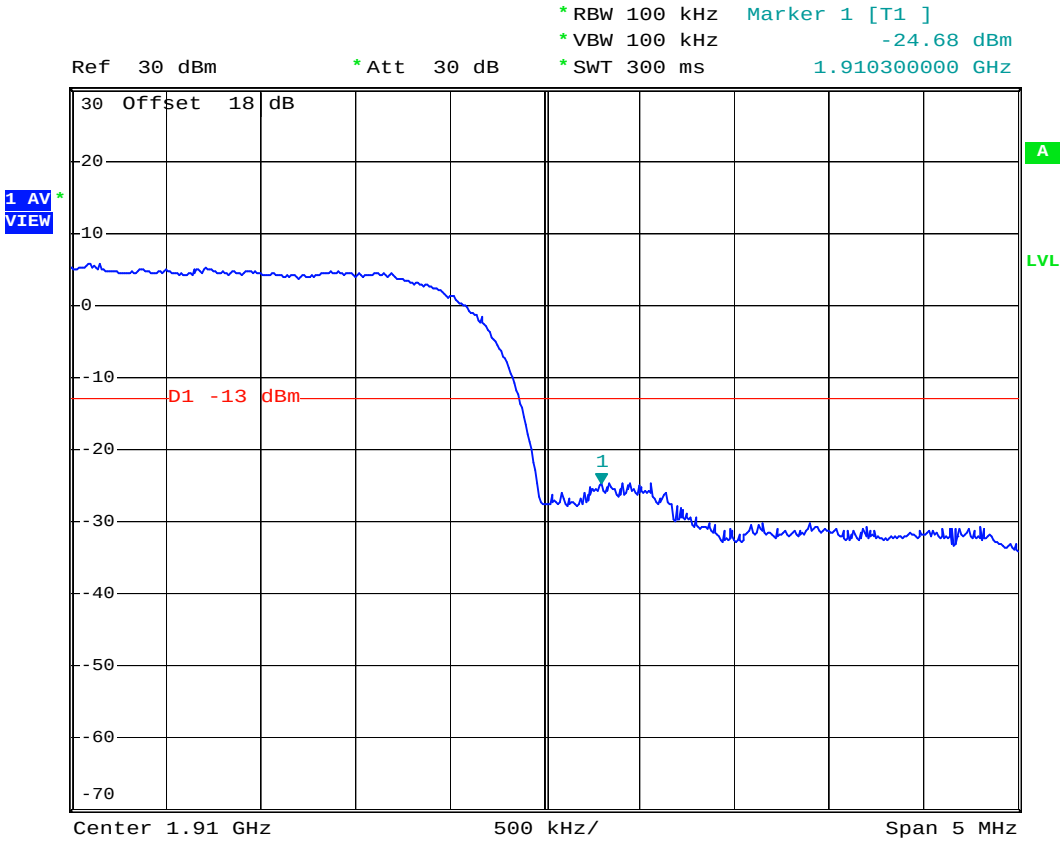
Date: 17.JUL.2007 07:12:13

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



Date: 17.JUL.2007 07:13:33

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



Date: 13.JUL.2007 07:20:11

4.5 Conducted Emission

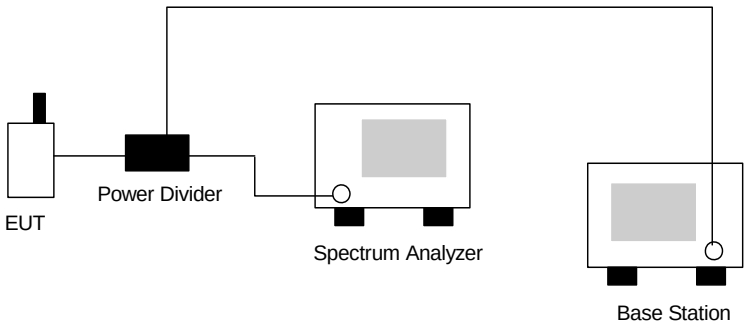
4.5.1 Measurement Instruments

As described in chapter 5 of this test report.

4.5.2 Test Procedure

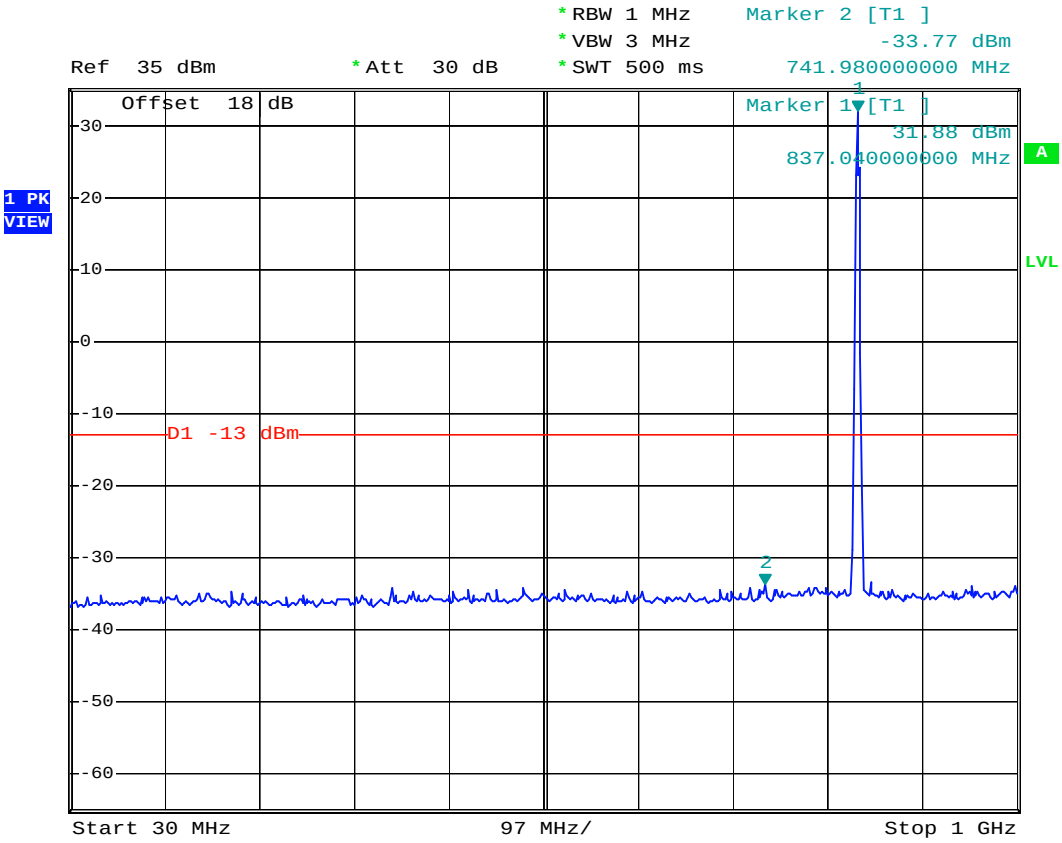
1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The middle channel for the highest RF power within the transmitting frequency was measured.
3. The conducted spurious emission for the whole frequency range was taken.

4.5.3 Test Setup Layout



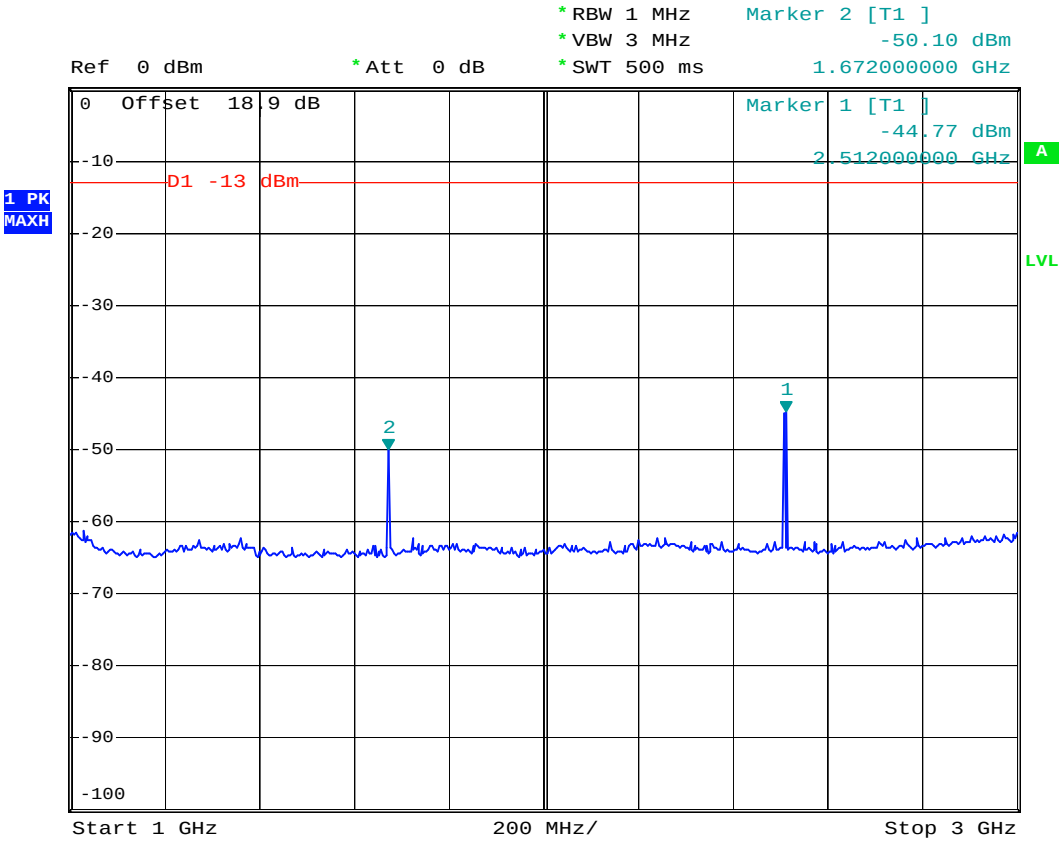
4.5.4 Test Result

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



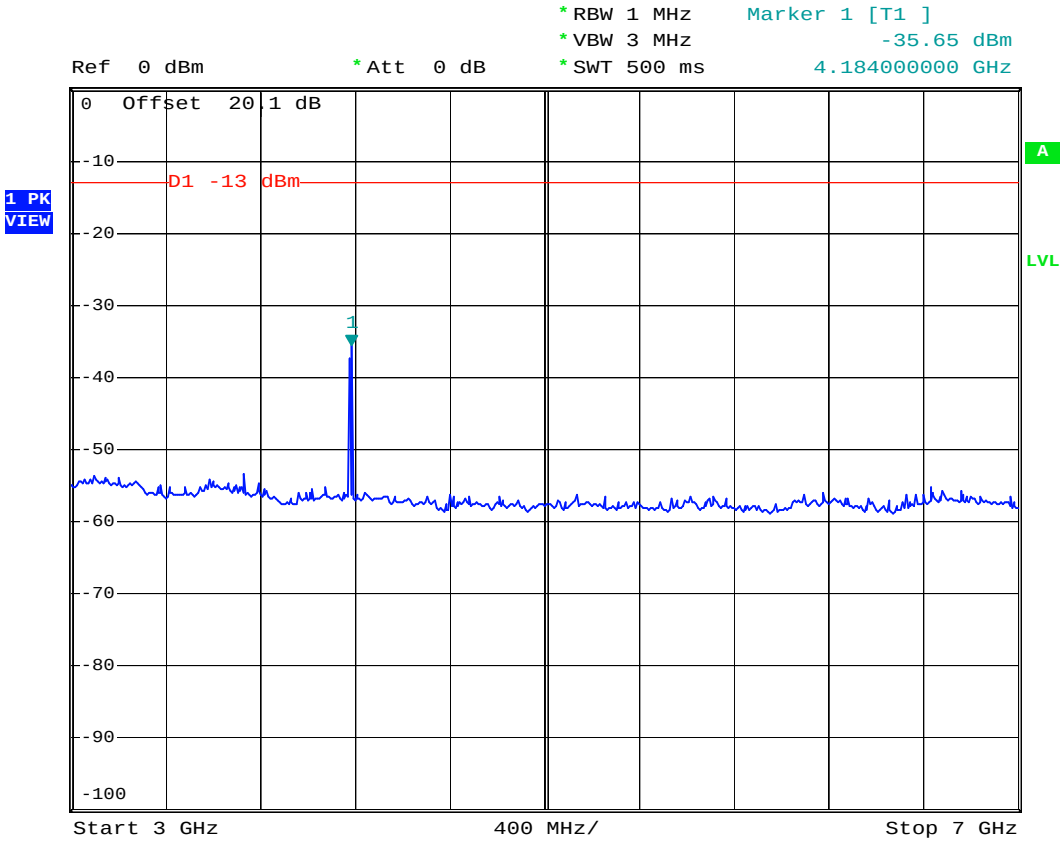
Date: 14.JUL.2007 02:39:42

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



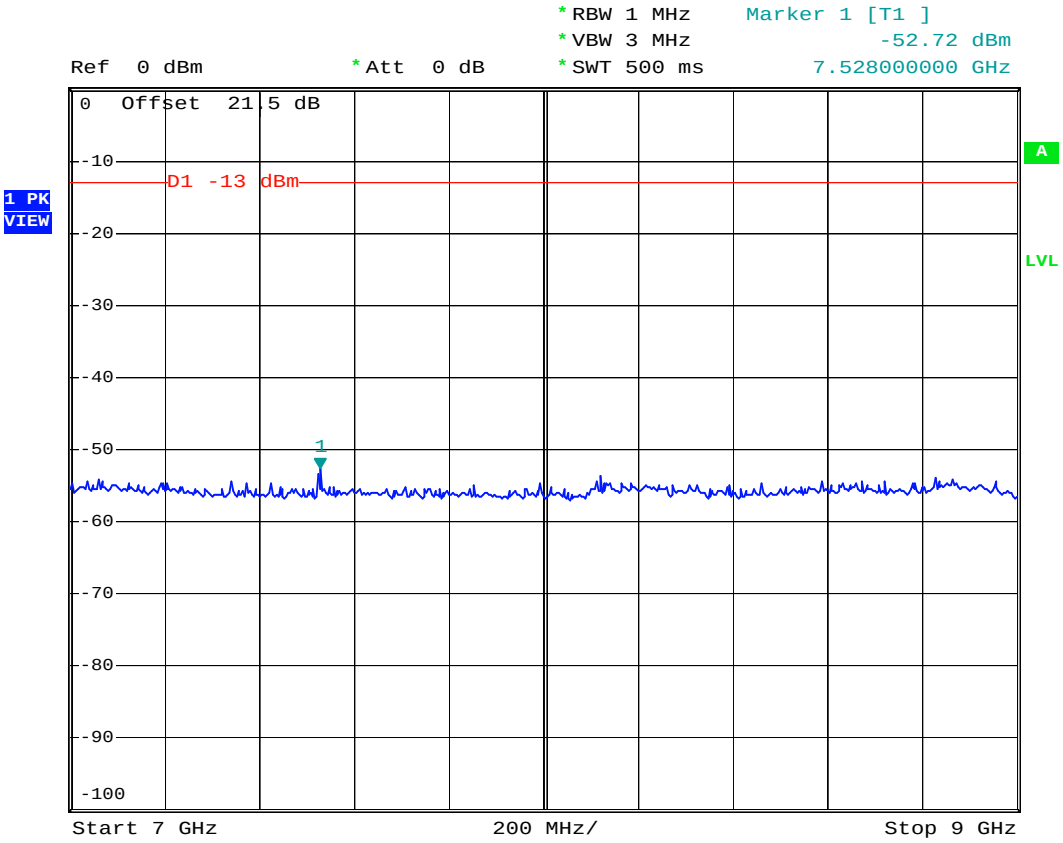
Date: 14.JUL.2007 02:45:34

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



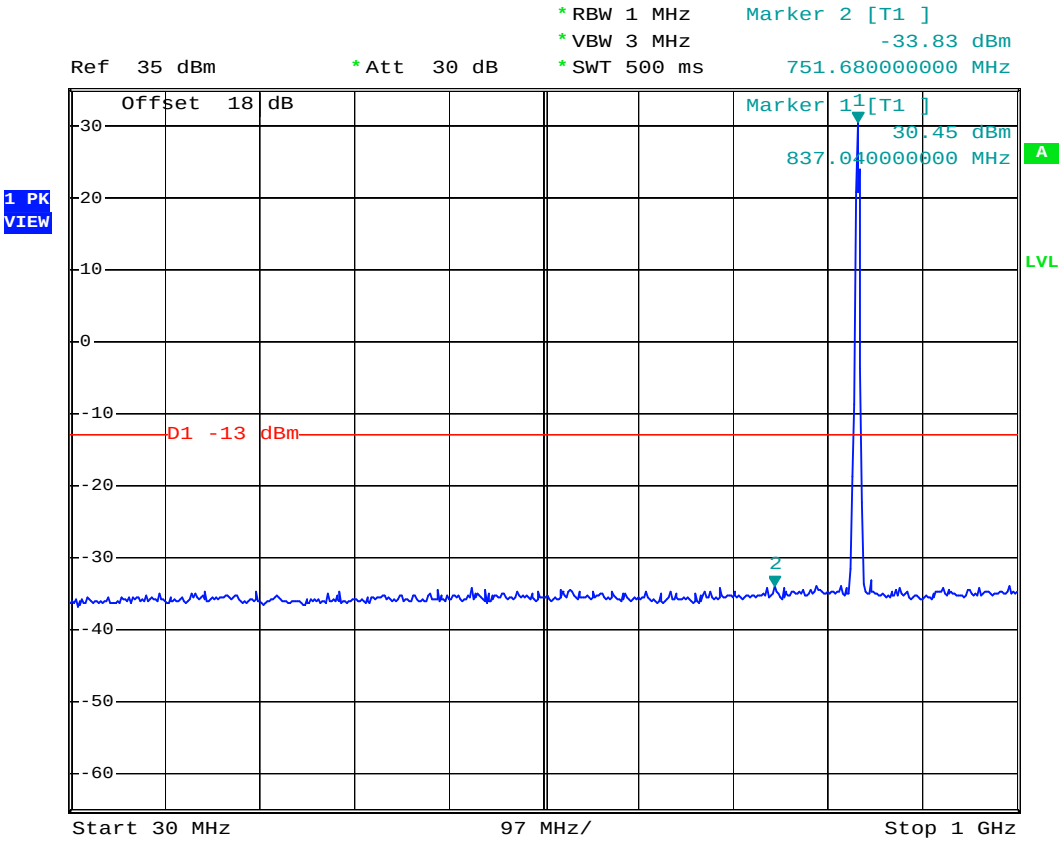
Date: 14.JUL.2007 02:54:52

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



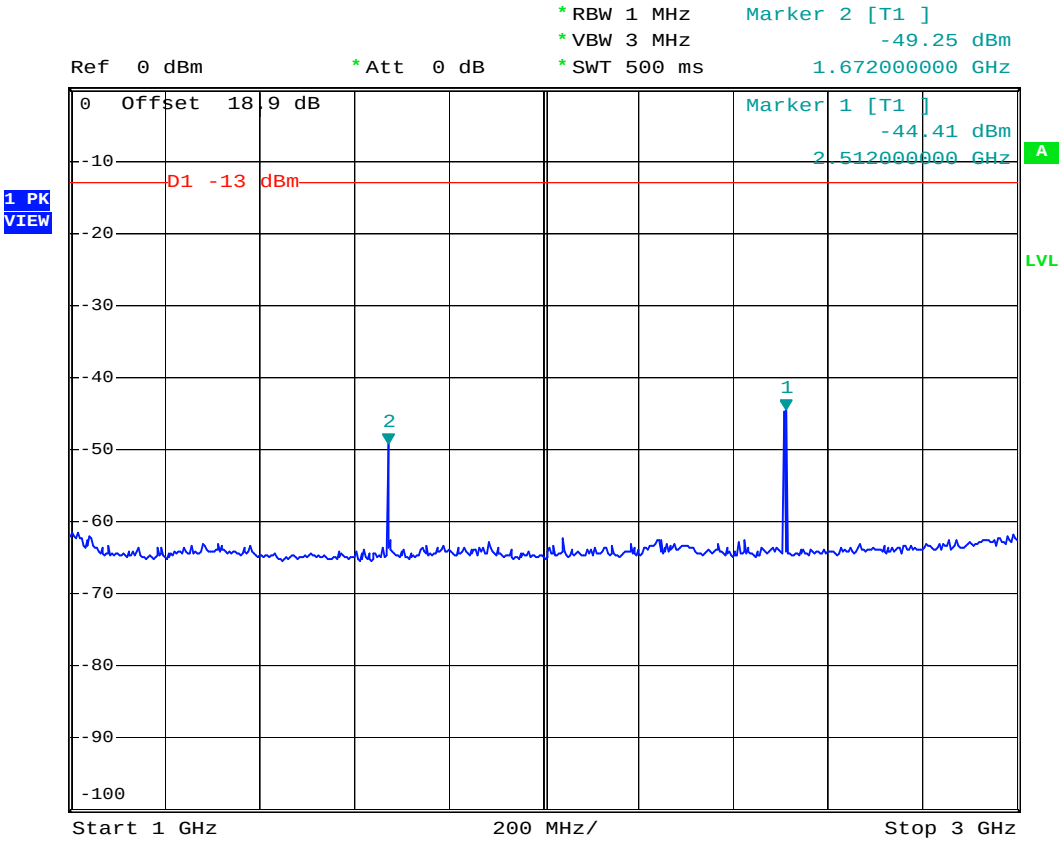
Date: 14.JUL.2007 02:58:09

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



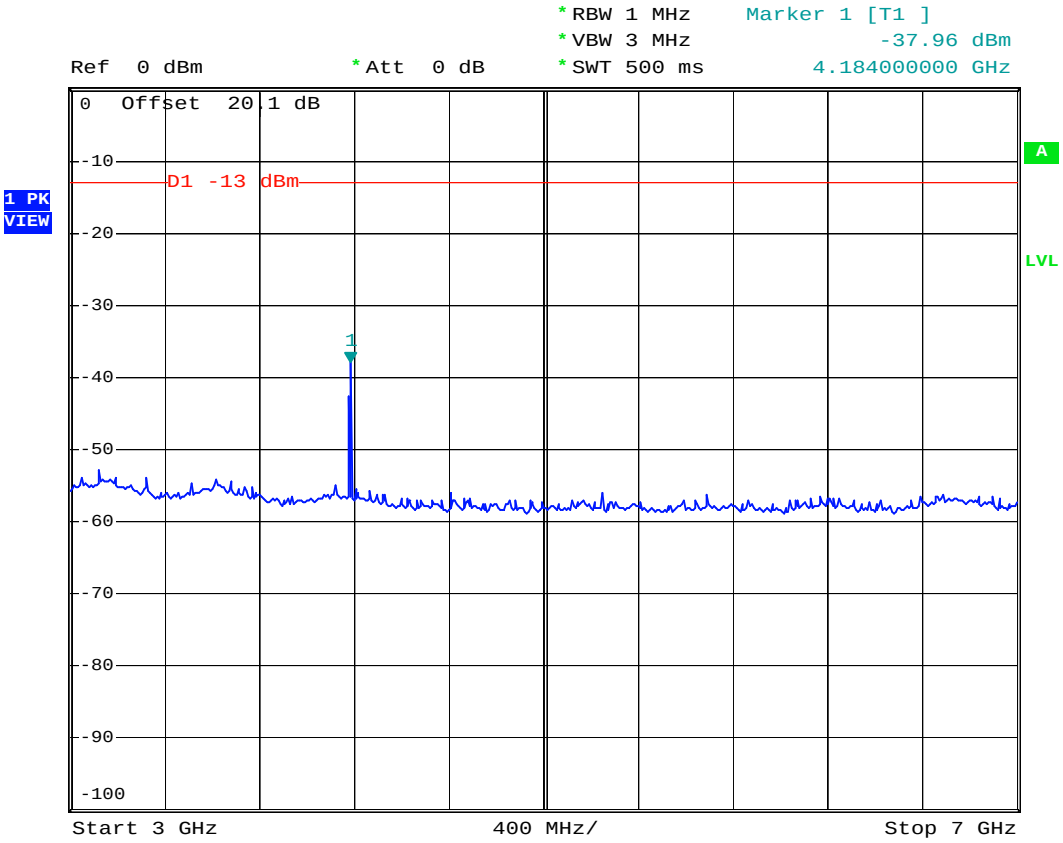
Date: 14.JUL.2007 02:40:56

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



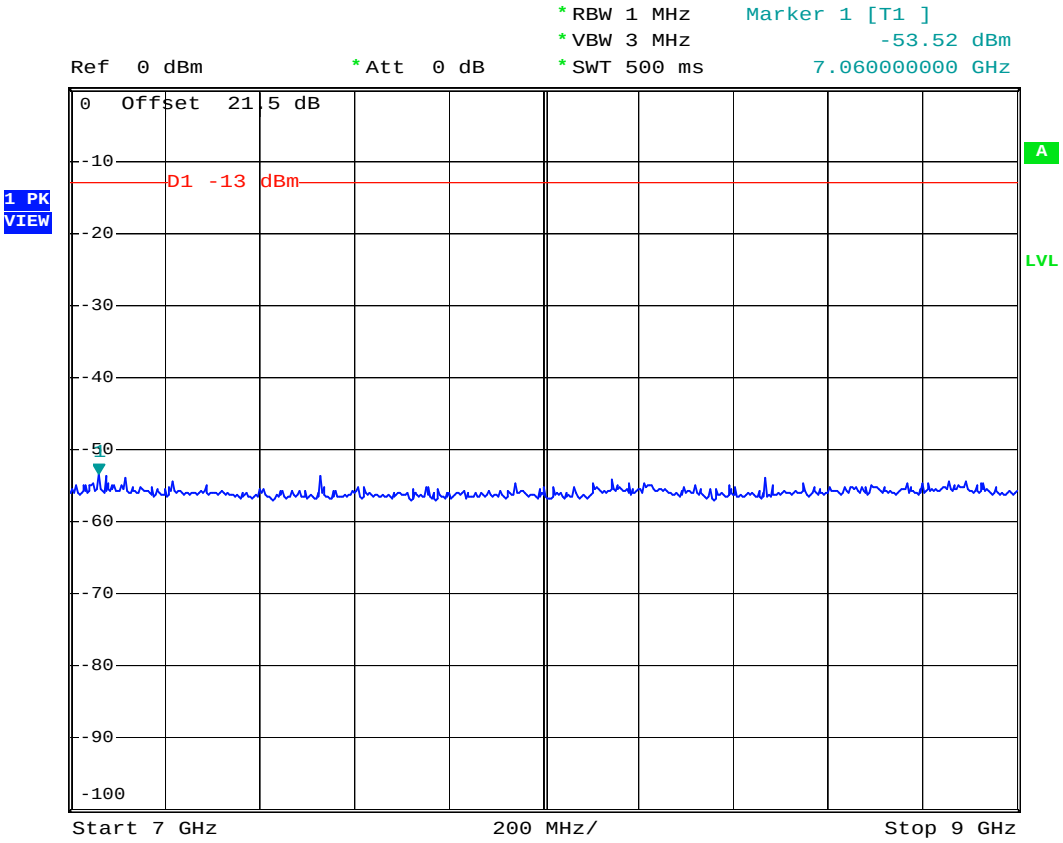
Date: 14.JUL.2007 02:43:58

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



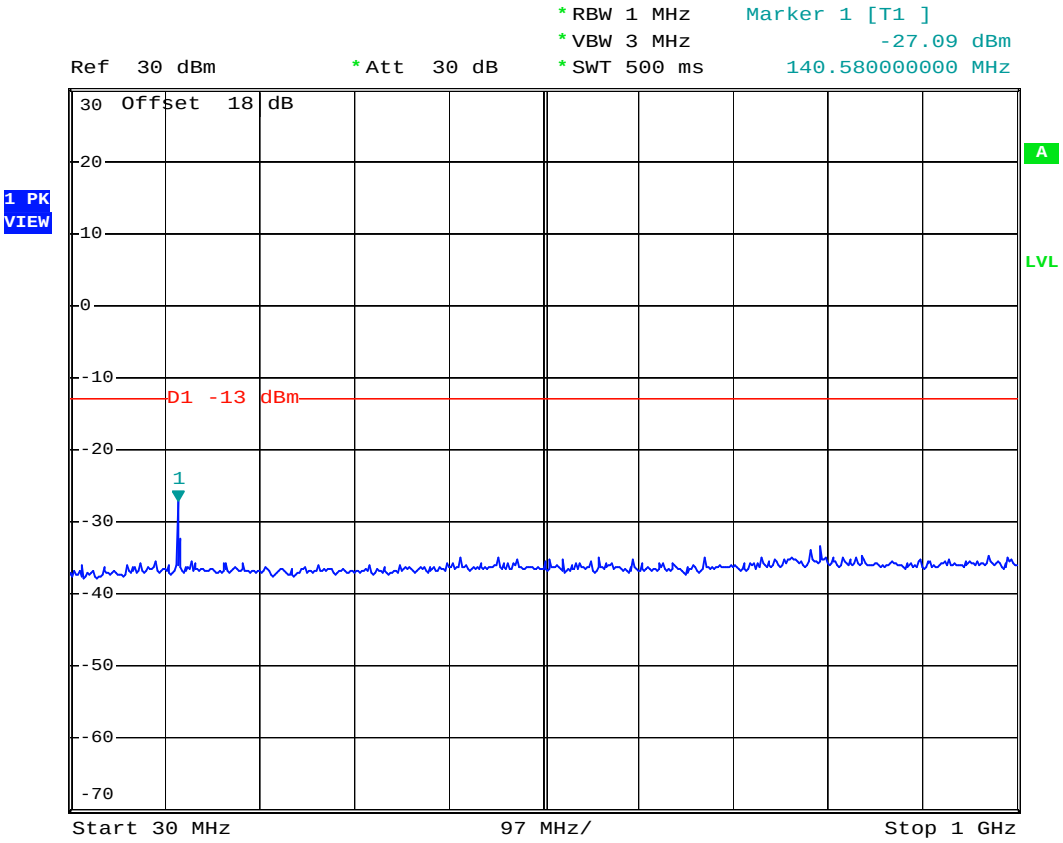
Date: 14.JUL.2007 02:55:42

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



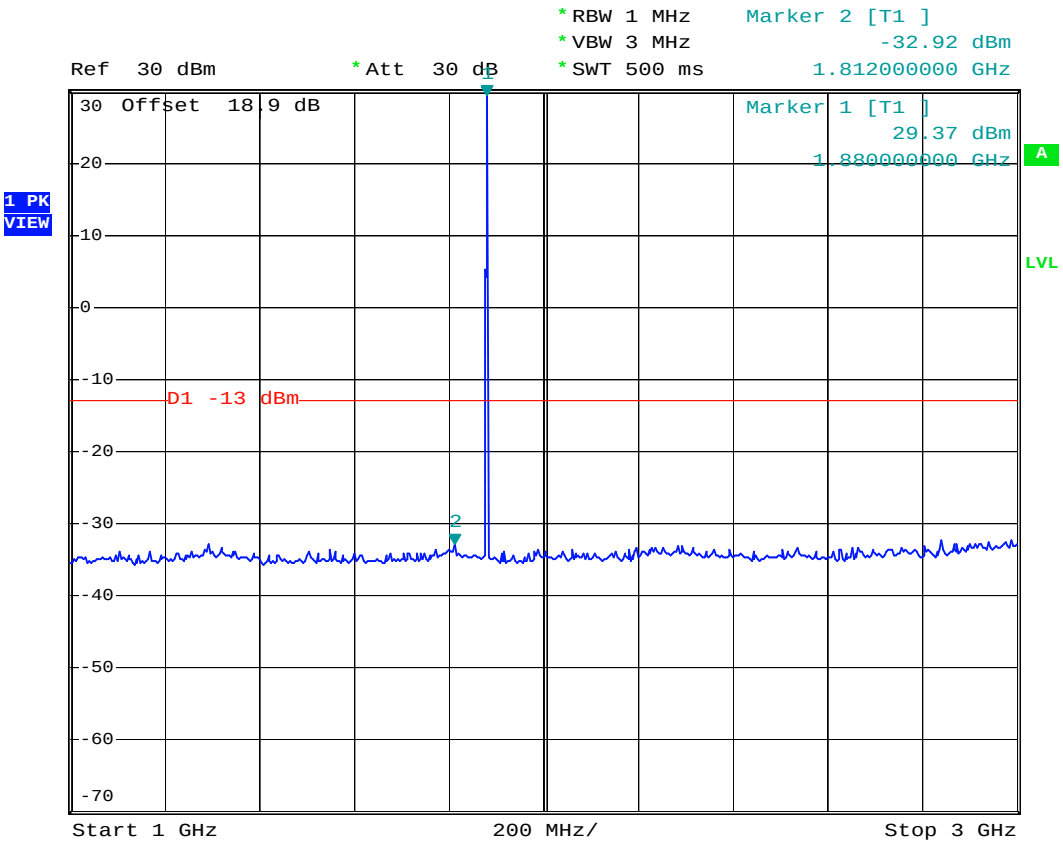
Date: 14.JUL.2007 02:59:10

- Mode 3
- Test Mode : PCS1900 (GSM) CH661
- Frequency Range : 30M-1G



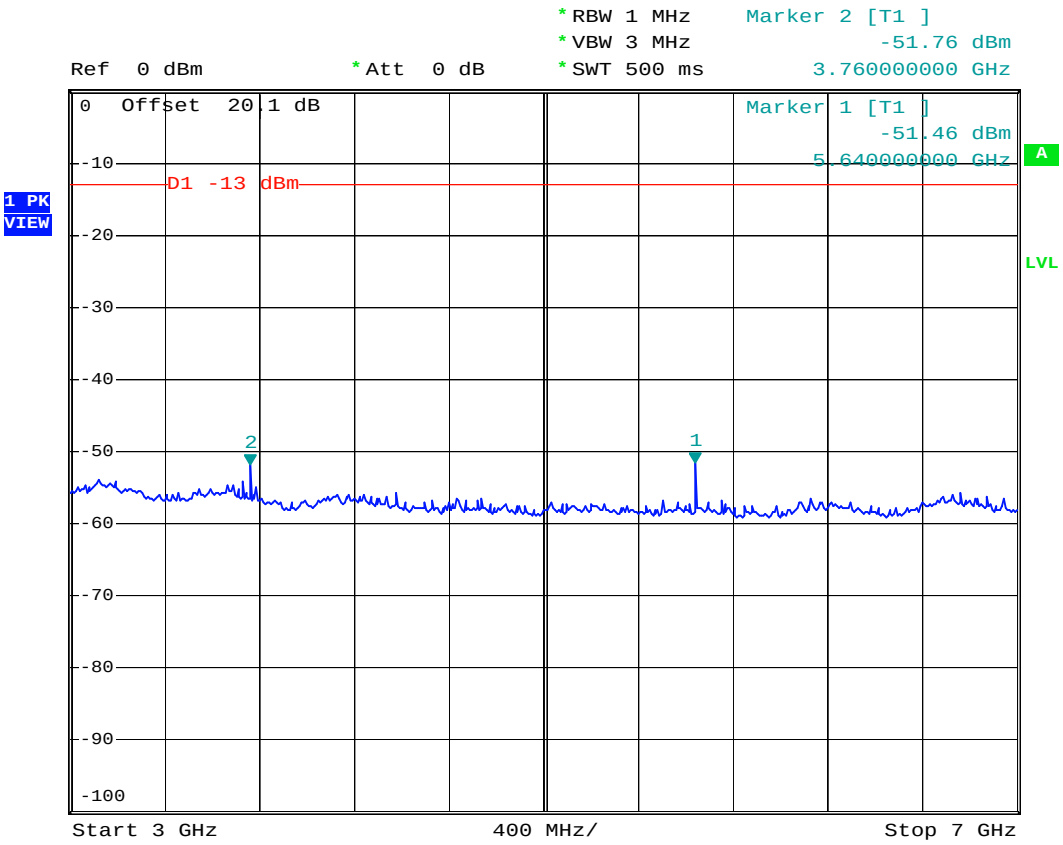
Date: 14.JUL.2007 03:36:43

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



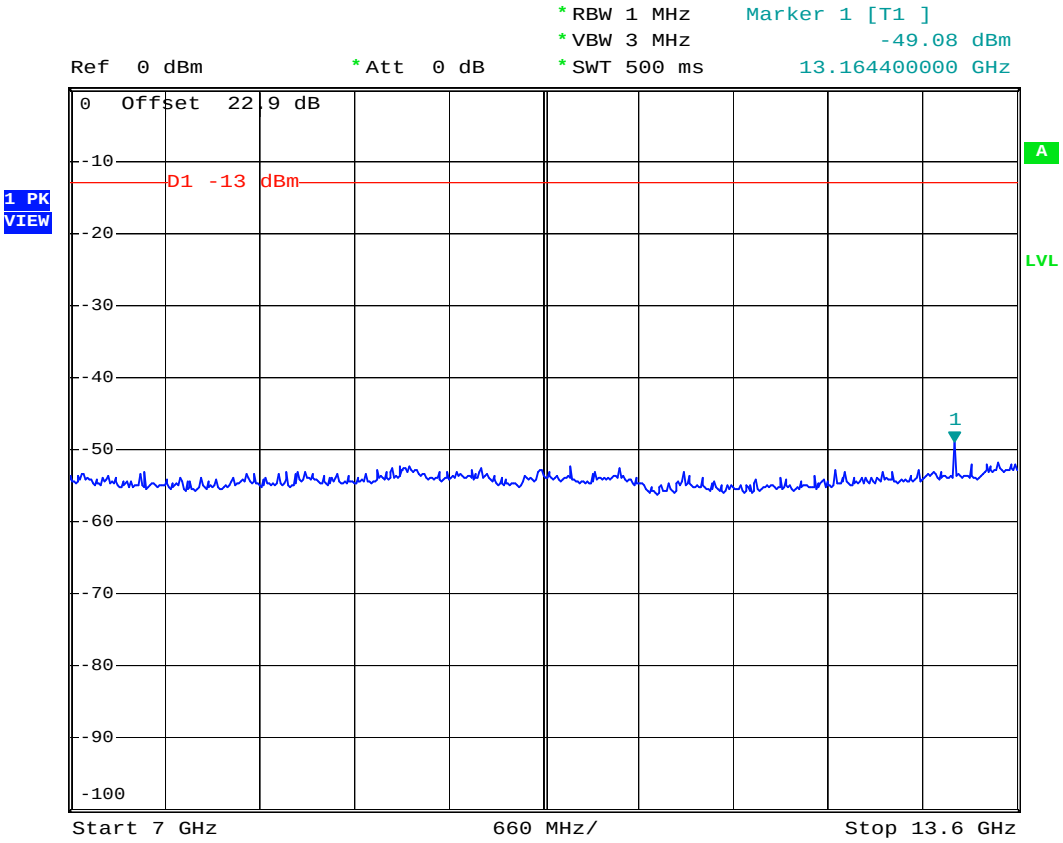
Date: 14.JUL.2007 03:41:13

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



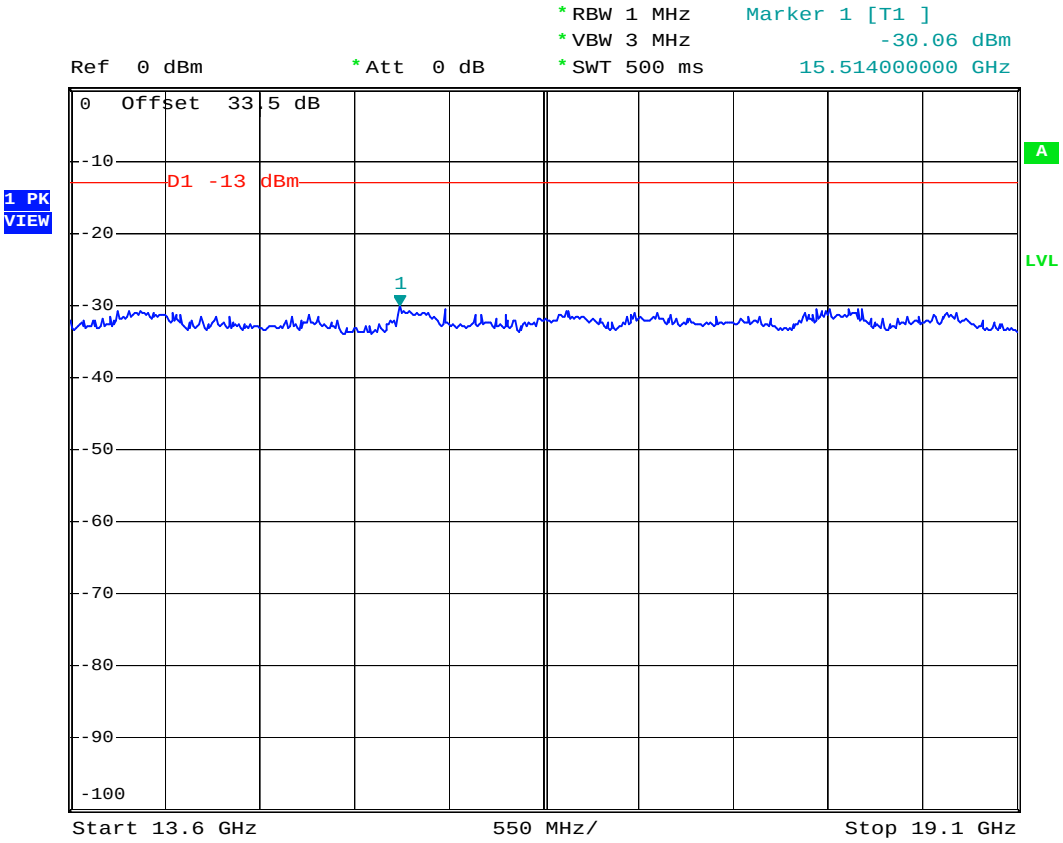
Date: 14.JUL.2007 03:51:43

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



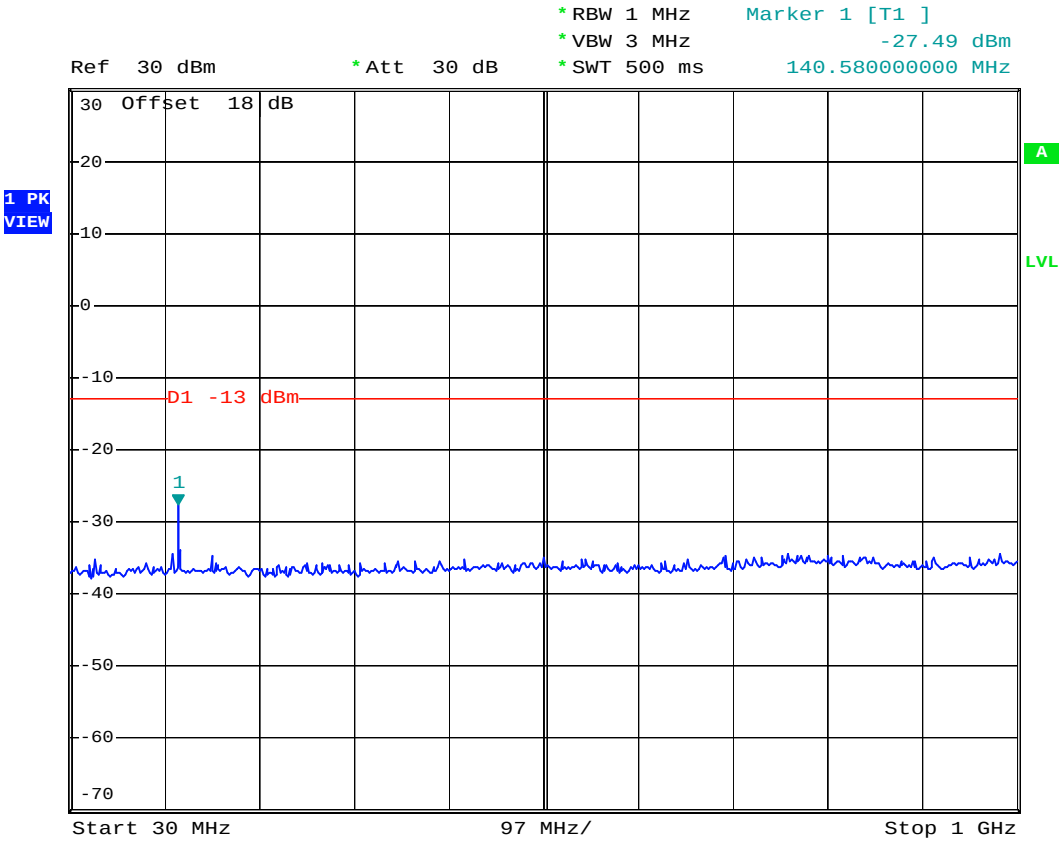
Date: 14.JUL.2007 03:52:52

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



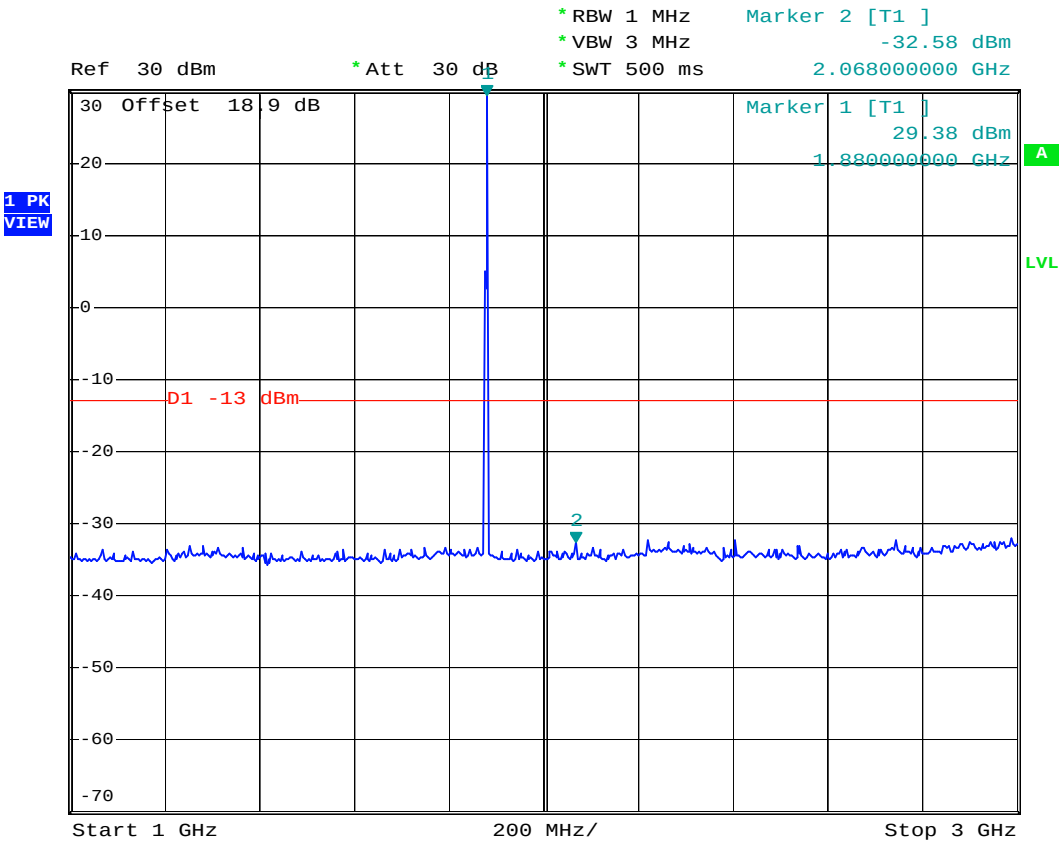
Date: 14.JUL.2007 04:06:32

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



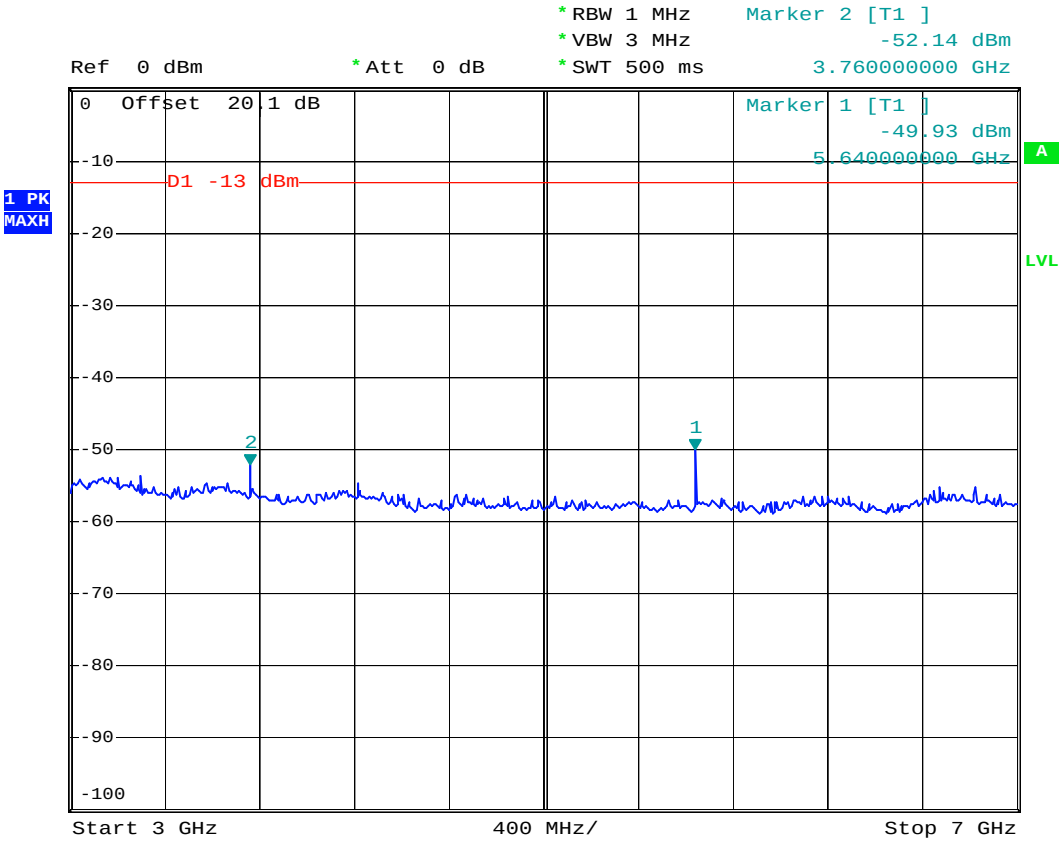
Date: 14.JUL.2007 03:37:36

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



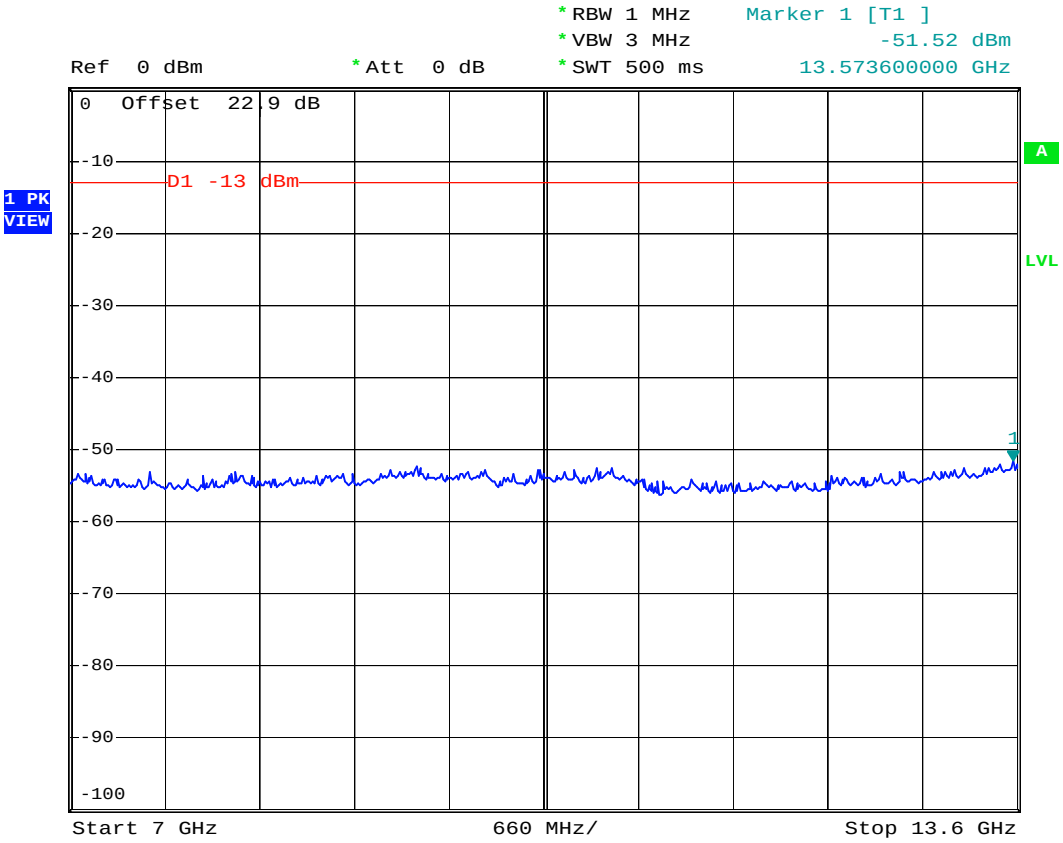
Date: 14.JUL.2007 03:39:57

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



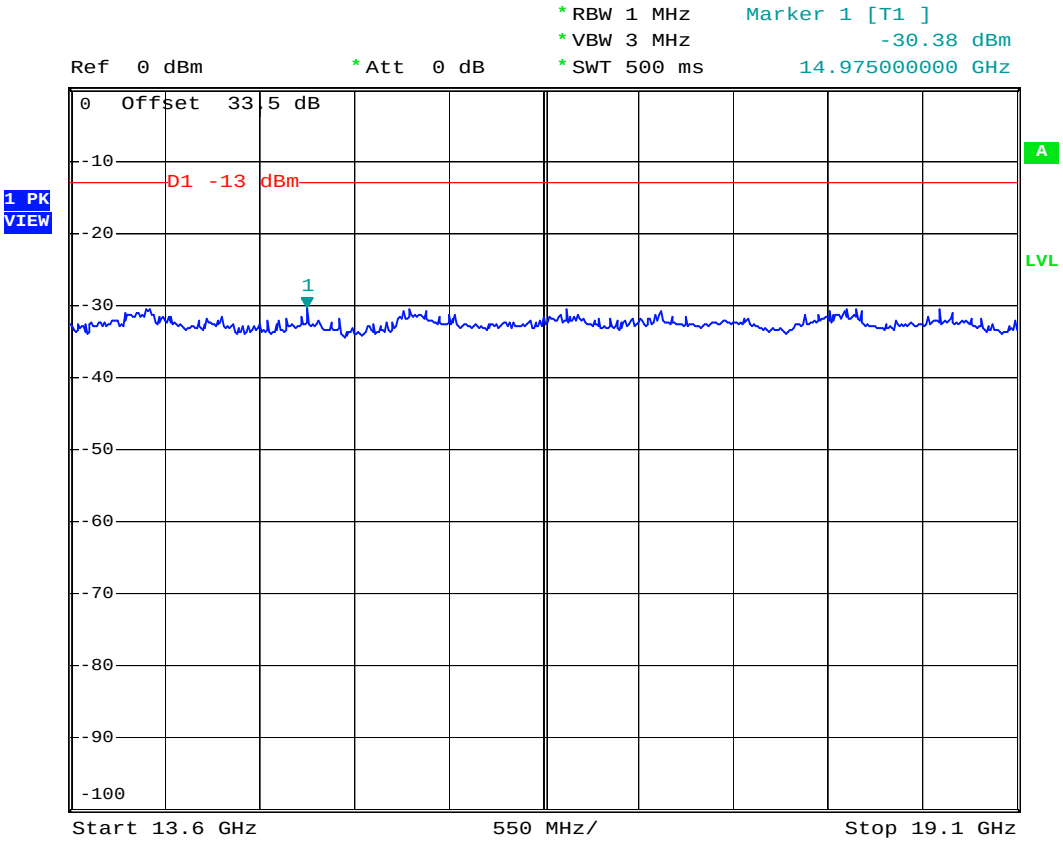
Date: 14.JUL.2007 03:51:08

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



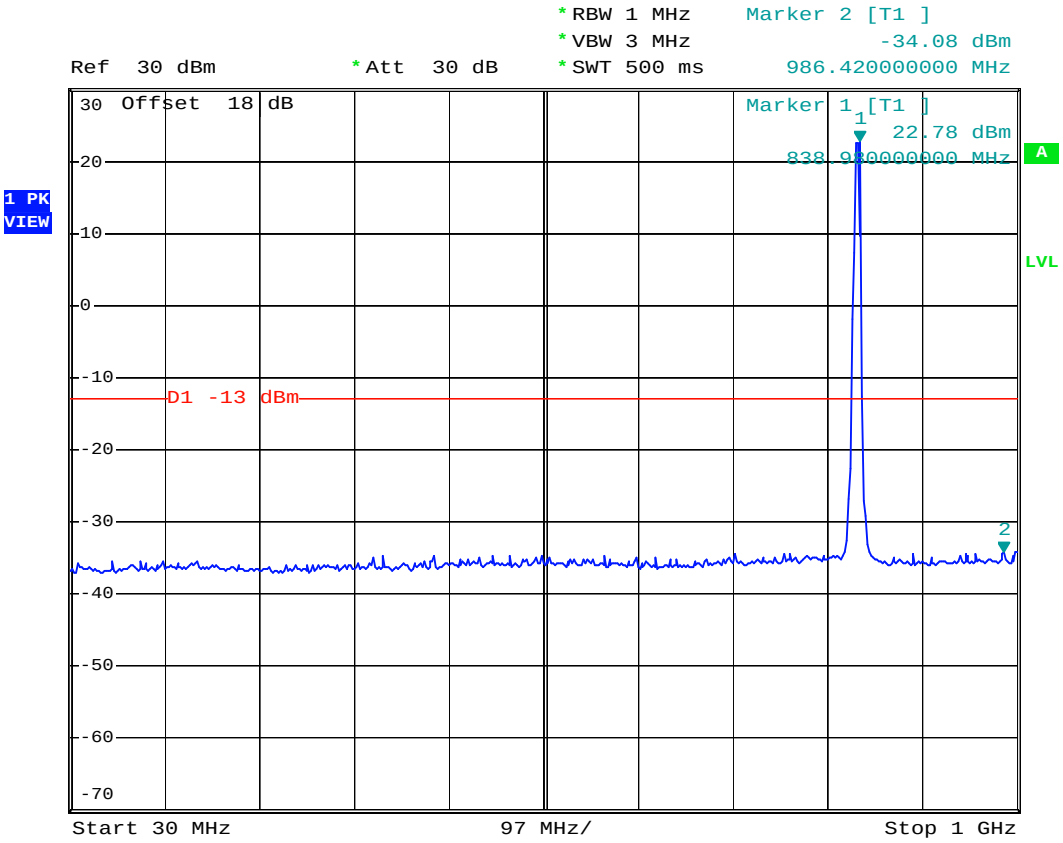
Date: 14.JUL.2007 03:55:22

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



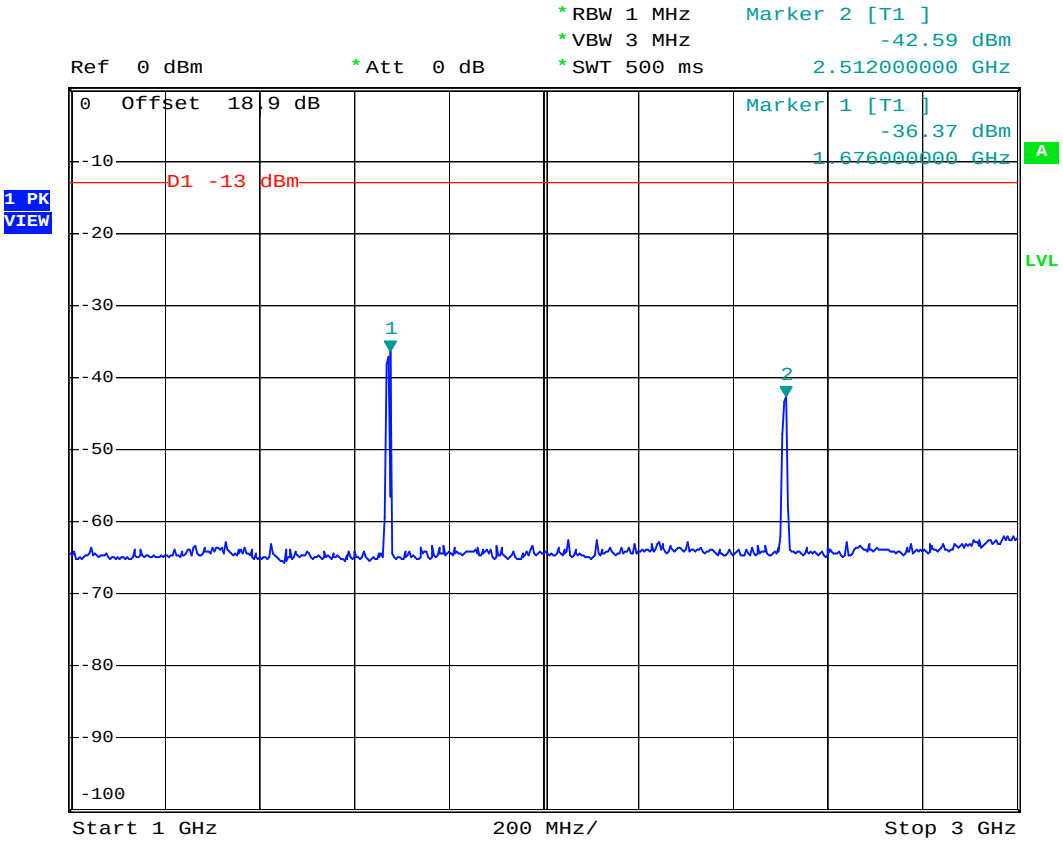
Date: 14.JUL.2007 04:05:07

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



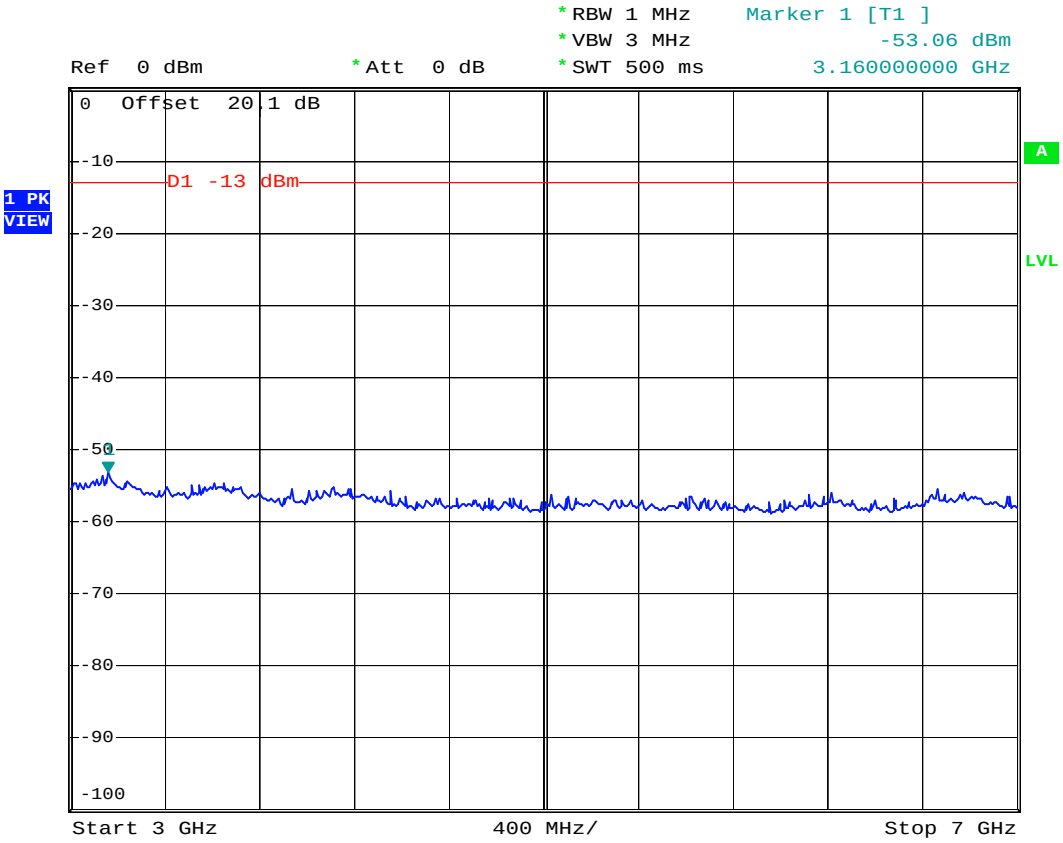
Date: 14.JUL.2007 02:36:03

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



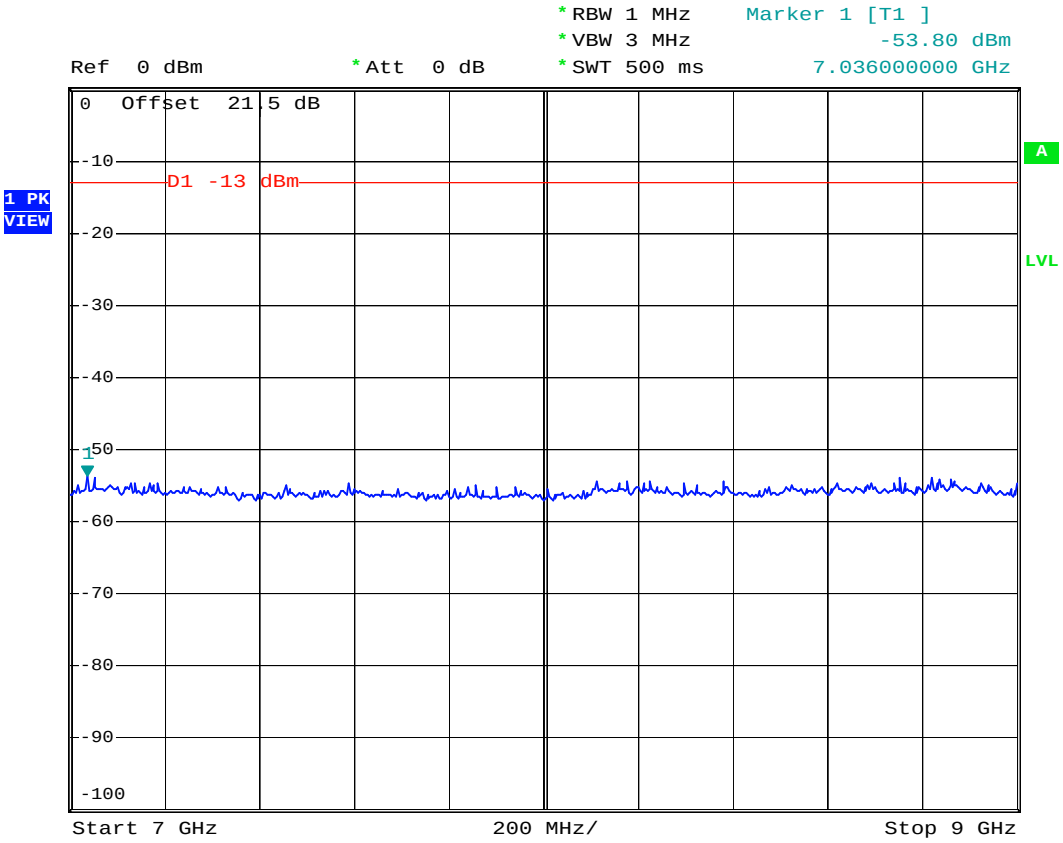
Date: 14.JUL.2007 02:47:11

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



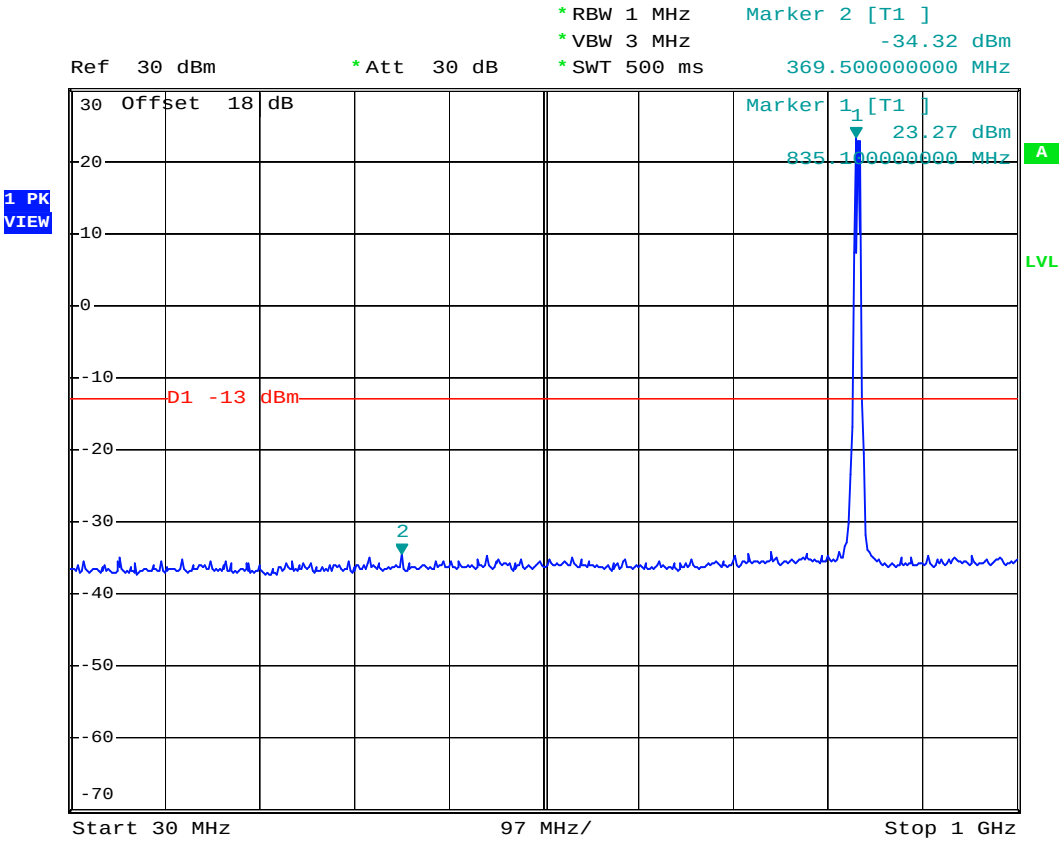
Date: 14.JUL.2007 02:53:17

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



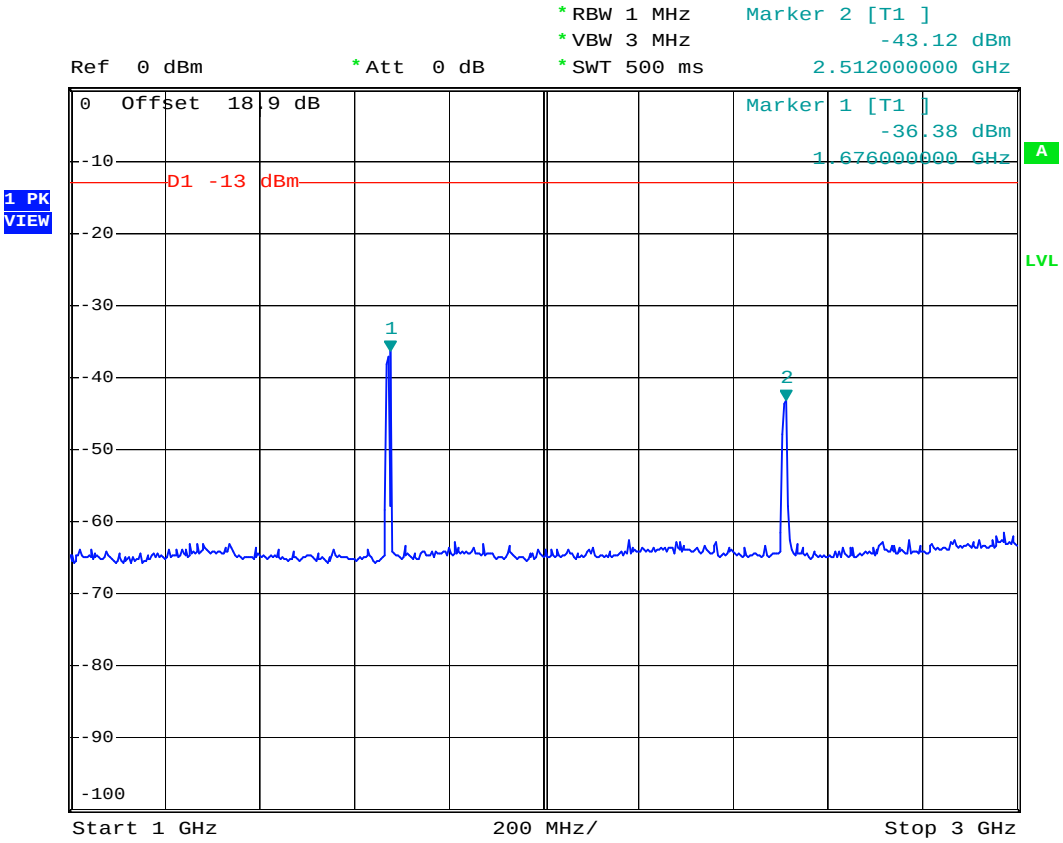
Date: 14.JUL.2007 03:00:55

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



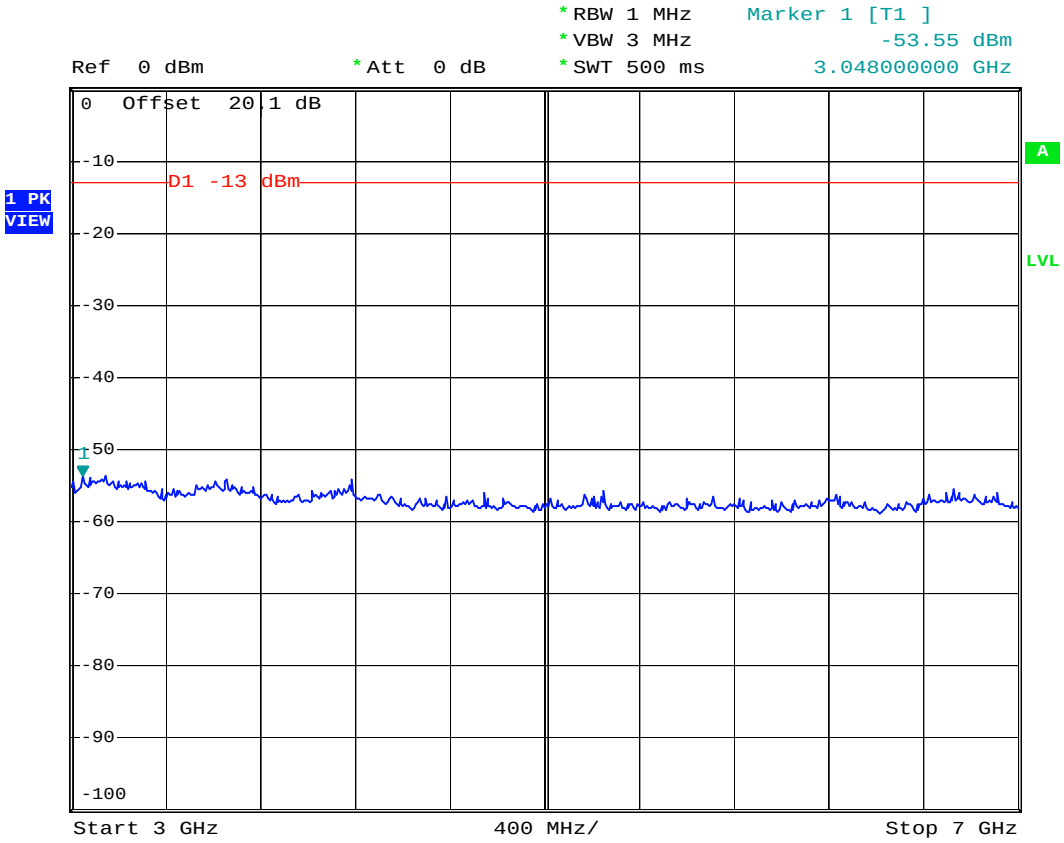
Date: 14.JUL.2007 04:46:22

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



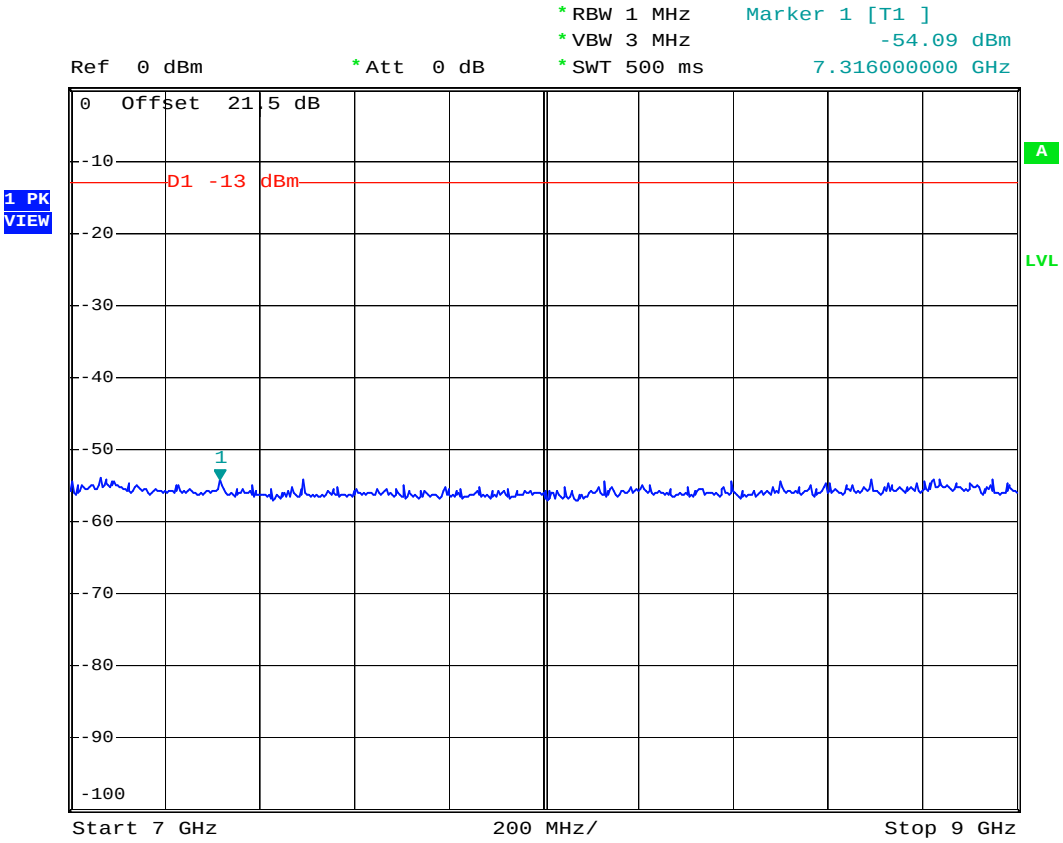
Date: 14.JUL.2007 04:40:48

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



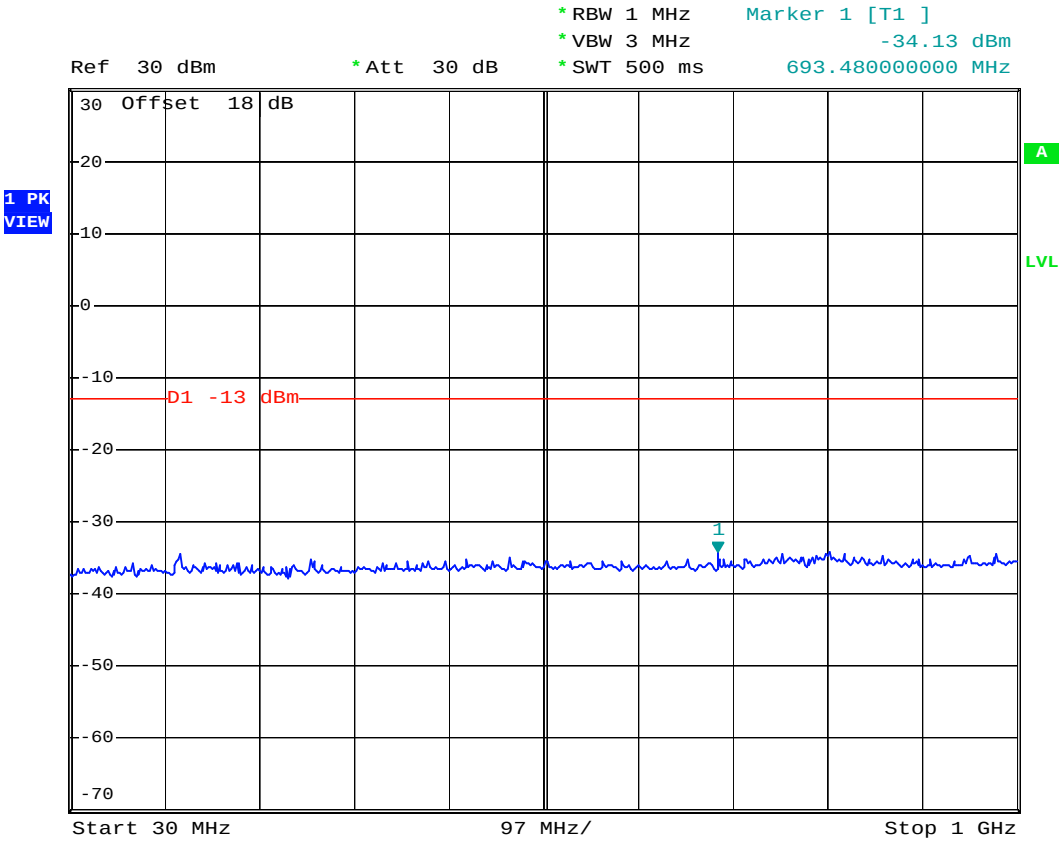
Date: 14.JUL.2007 04:42:51

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



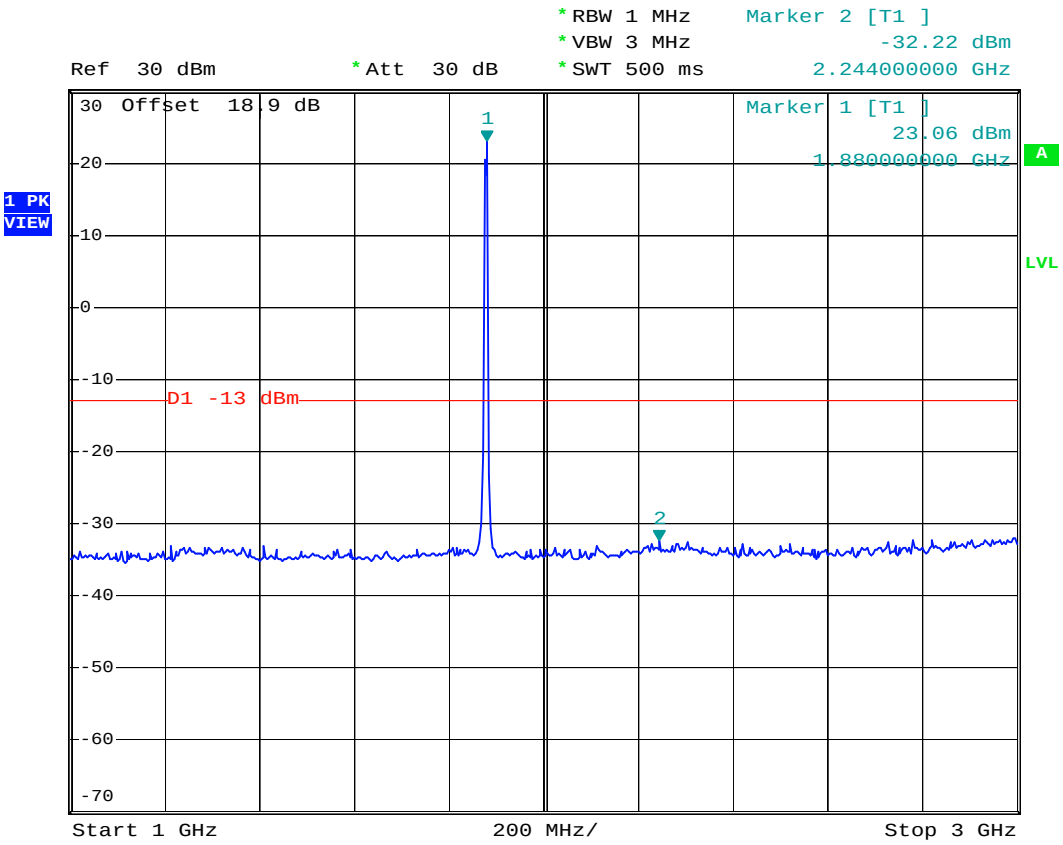
Date: 14.JUL.2007 04:44:04

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



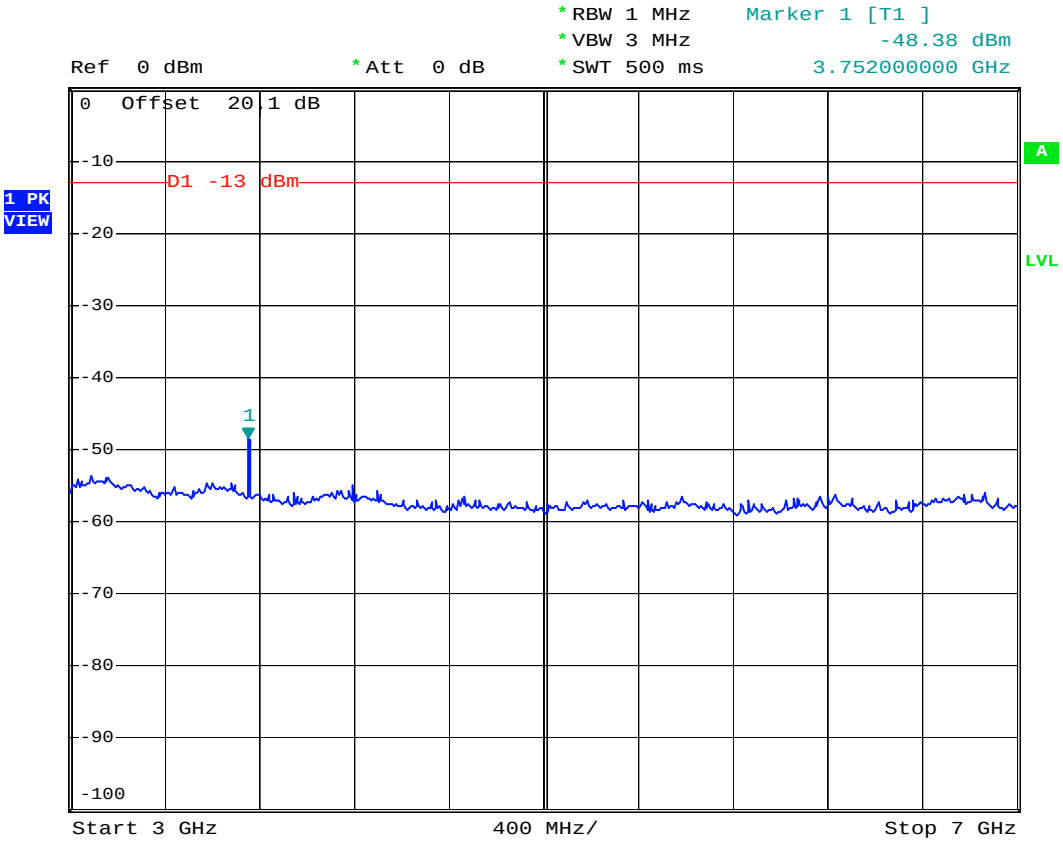
Date: 14.JUL.2007 03:33:59

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



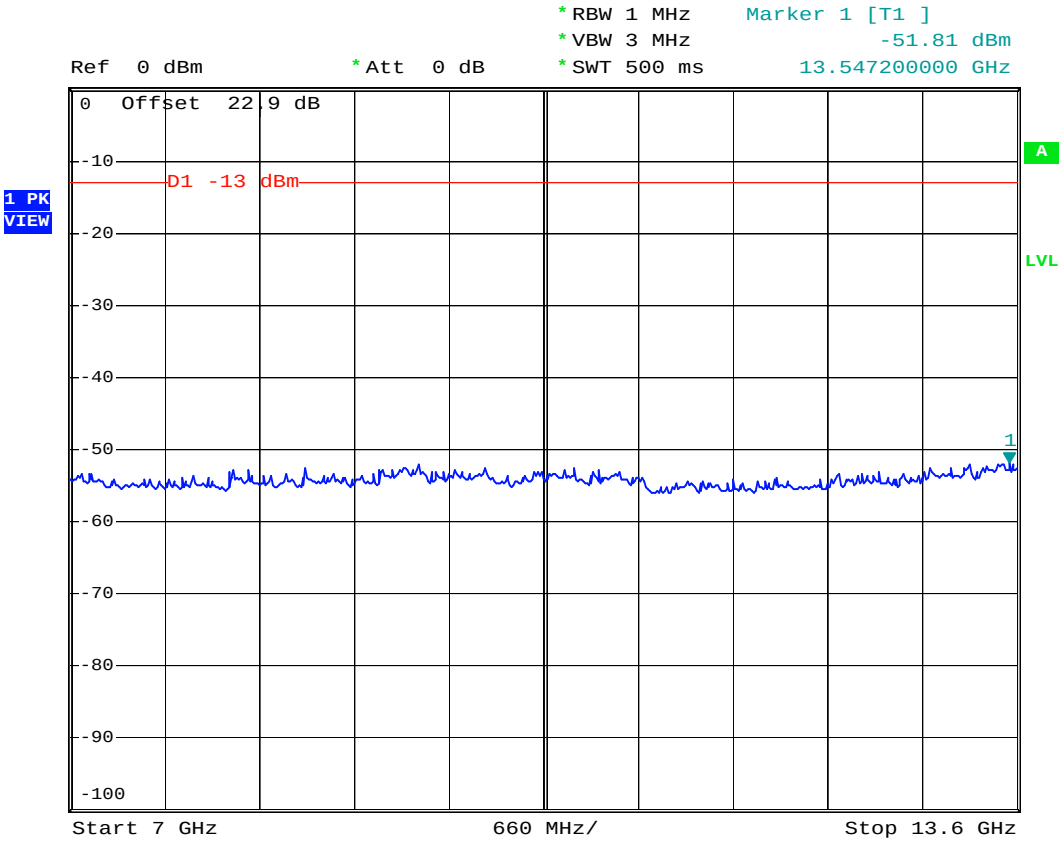
Date: 14.JUL.2007 03:43:22

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



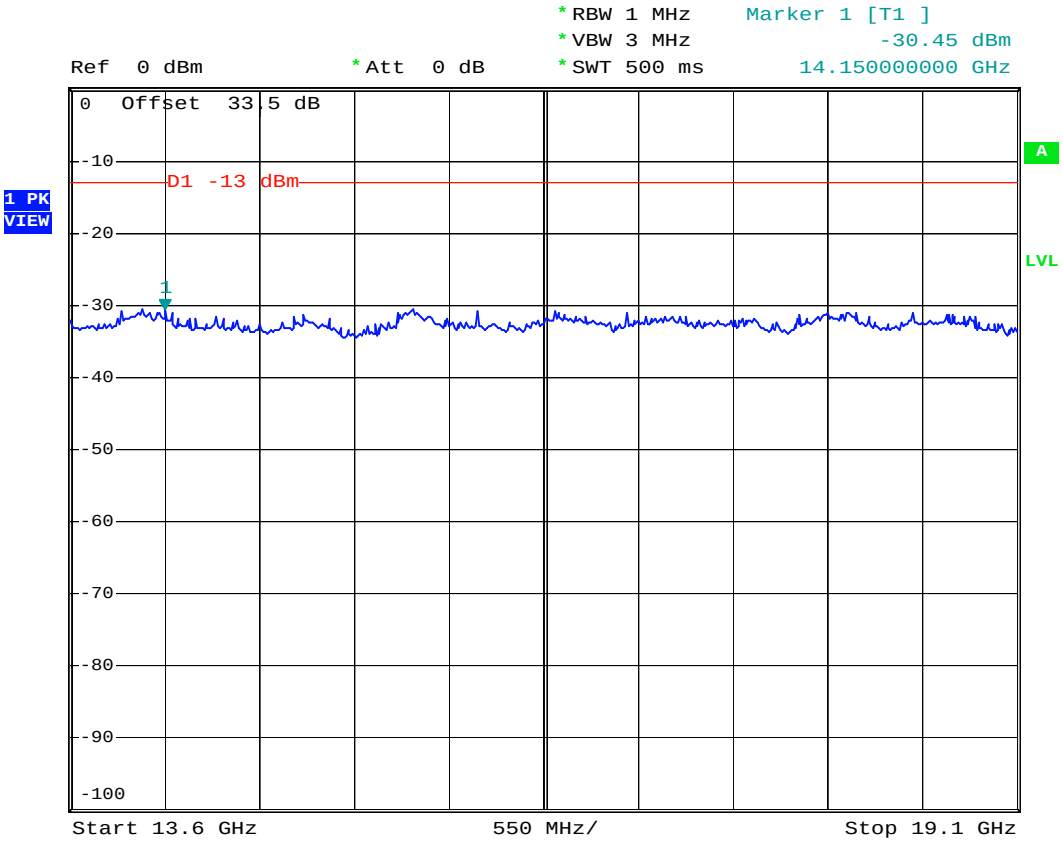
Date: 14.JUL.2007 03:50:02

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



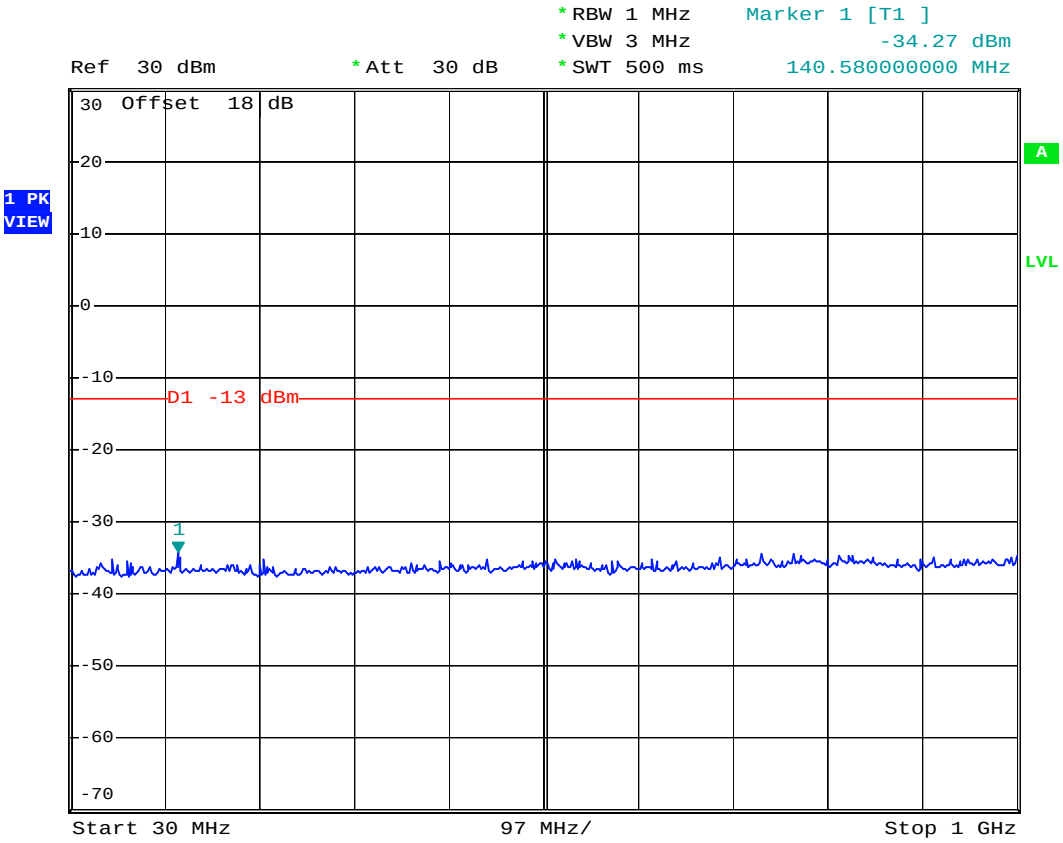
Date: 14.JUL.2007 03:58:19

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



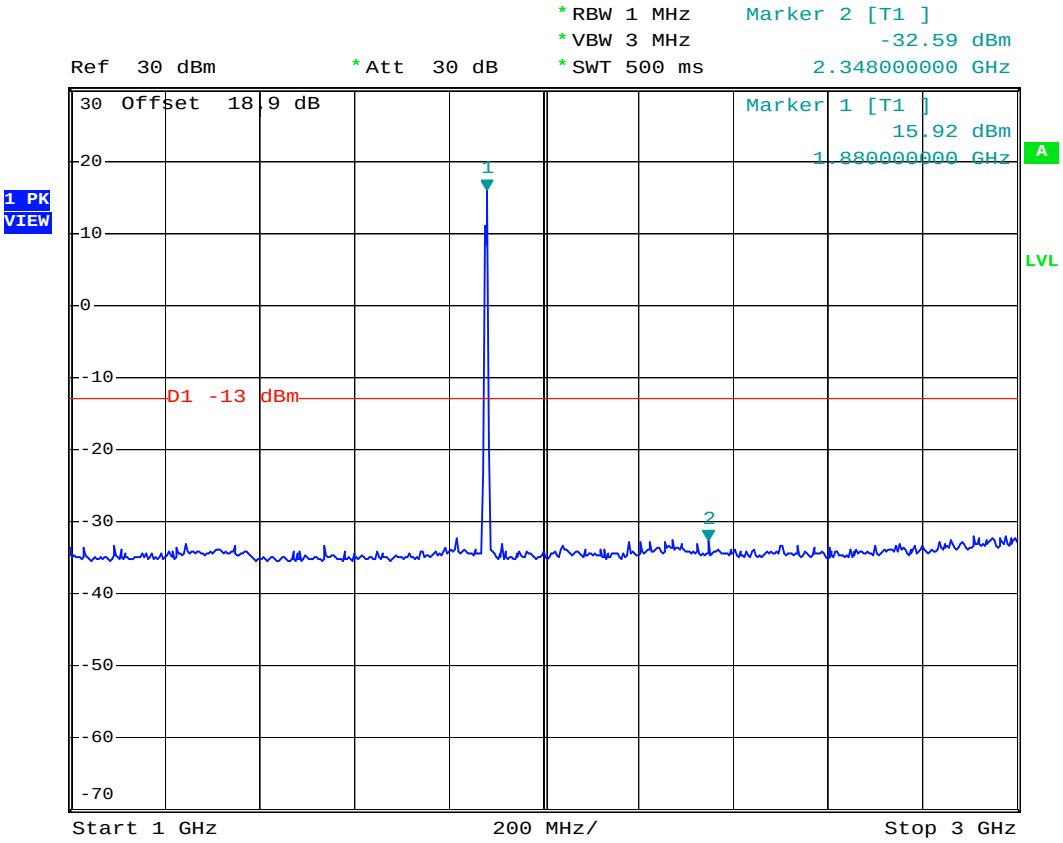
Date: 14.JUL.2007 04:02:17

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



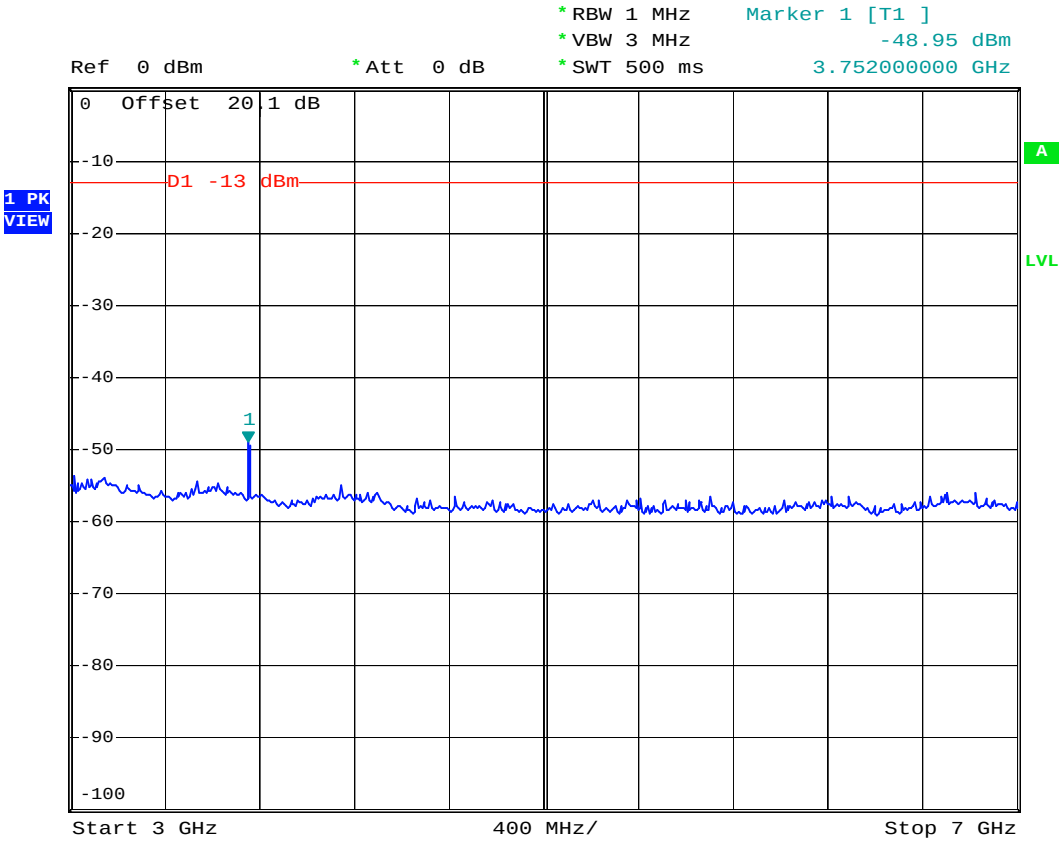
Date: 14.JUL.2007 03:35:02

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



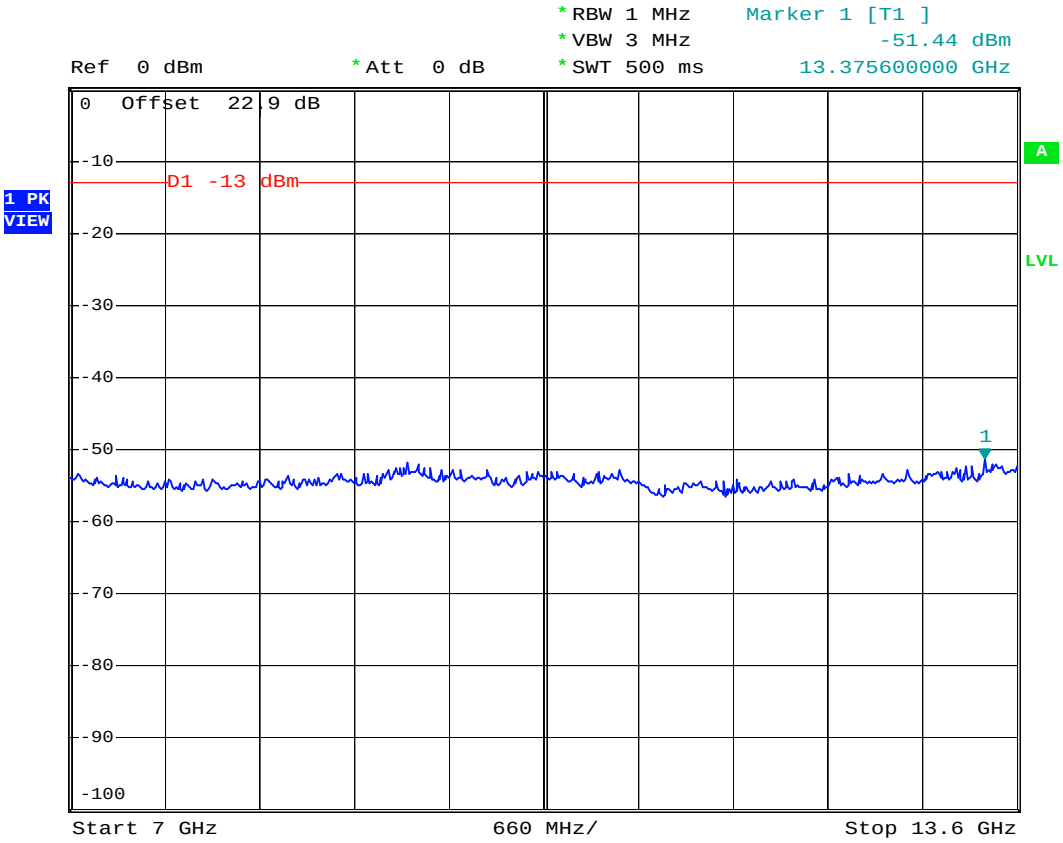
Date: 14.JUL.2007 03:44:37

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



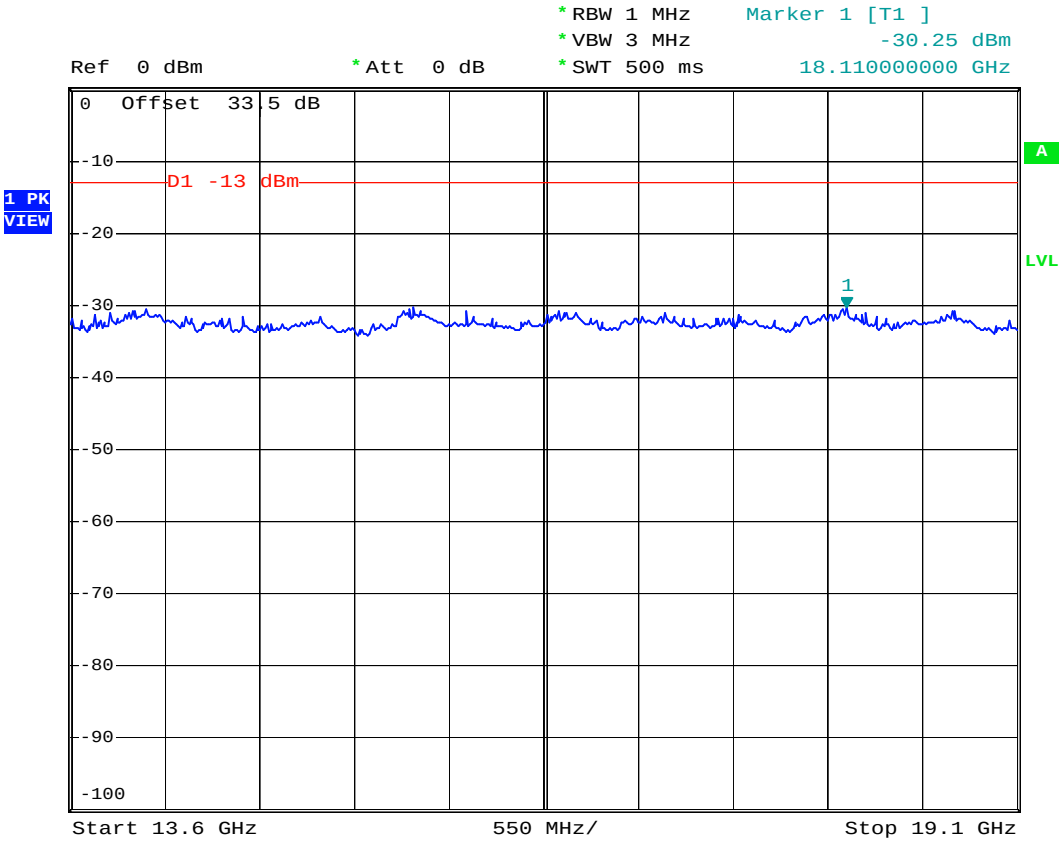
Date: 14.JUL.2007 03:49:03

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



Date: 14.JUL.2007 03:59:53

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



Date: 14.JUL.2007 04:02:55

4.6 Field Strength of Spurious Radiation

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

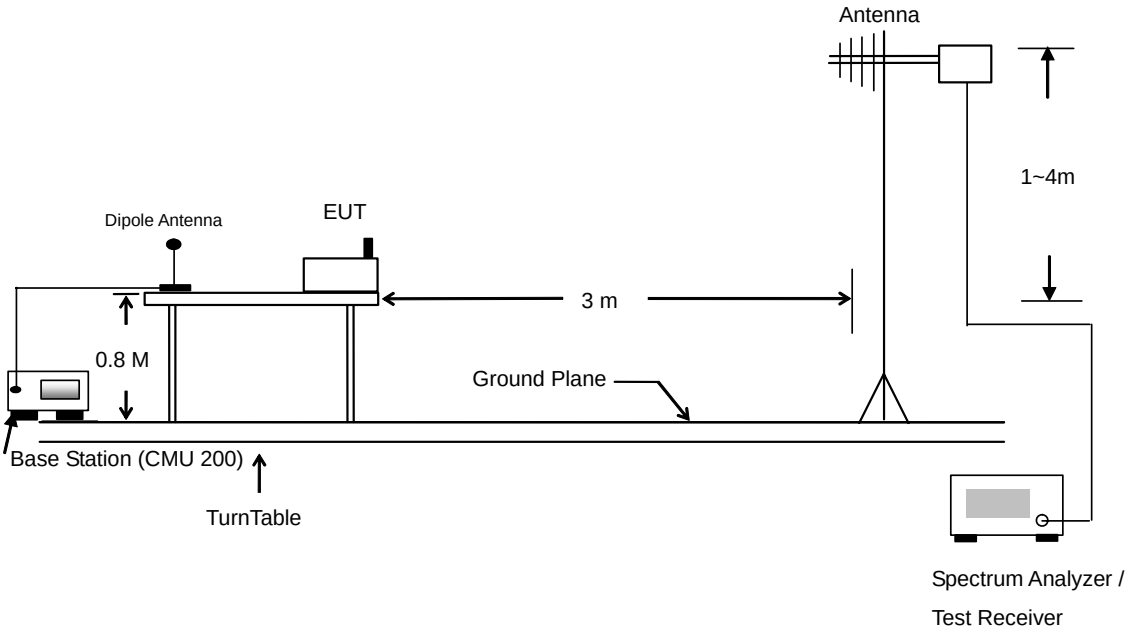
4.6.1 Measurement Instruments

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 recored of output power at antenna port.
9. Repeat step 7 to step 8 for another polariztion.
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)
31.890	-69.880	-13	-56.88	98.580	-71.040	-13	-58.04
38.640	-74.420	-13	-61.42	245.730	-71.530	-13	-58.53
245.190	-73.530	-13	-60.53	255.990	-66.080	-13	-53.08
502.300	-67.150	-13	-54.15	432.300	-68.010	-13	-55.01
6648.000	**-52.760**	**-13**	**-39.76**	1674.000	-61.240	-13	-48.24

- 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)
32.430	-62.420	-13	-49.42	31.890	-70.870	-13	-57.87
200.640	-69.260	-13	-56.26	91.290	-69.030	-13	-56.03
245.730	-69.490	-13	-56.49	245.730	-69.380	-13	-56.38
992.300	-65.870	-13	-52.87	939.800	-63.680	-13	-50.68
1674.000	-61.640	-13	-48.64	1744.000	-62.720	-13	-49.72
				5398.000	**-55.930**	**-13**	**-42.93**

- 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)
30.540	-60.500	-13	-47.50	34.590	-67.850	-13	-54.85
134.490	-64.270	-13	-51.27	91.290	-67.690	-13	-54.69
245.730	-66.280	-13	-53.28	191.190	-66.210	-13	-53.21
336.400	-66.420	-13	-53.42	344.800	-62.630	-13	-49.63
924.400	-64.400	-13	-51.40	855.800	-62.390	-13	-49.39
987.400	-64.120	-13	-51.12	980.400	-61.380	-13	-48.38
9398.000	-39.090	-13	-26.09	3758.000	-50.930	-13	-37.93
11278.000	**-35.980**	**-13**	**-22.98**	9398.000	-39.600	-13	-26.60
13158.000	-44.130	-13	-31.13	11278.000	-36.260	-13	-23.26
				15036.000	-44.020	-13	-31.02

- 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)
32.430	-61.010	-13	-48.01	106.140	-68.160	-13	-55.16
63.480	-66.070	-13	-53.07	191.730	-66.840	-13	-53.84
245.190	-66.310	-13	-53.31	278.130	-63.420	-13	-50.42
343.400	-66.340	-13	-53.34	343.400	-61.410	-13	-48.41
852.300	-64.620	-13	-51.62	679.400	-61.810	-13	-48.81
976.900	-64.130	-13	-51.13	988.800	-61.410	-13	-48.41
9398.000	-39.430	-13	-26.43	3758.000	-50.910	-13	-37.91
11278.000	-36.220	-13	-23.22	**9398.000**	**-35.510**	**-13**	**-22.51**
				11278.000	-38.360	-13	-25.36
				15033.000	-44.730	-13	-31.73

- 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)
31.080	-61.890	-13	-48.89	66.180	-69.320	-13	-56.32
275.430	-70.530	-13	-57.53	196.320	-66.280	-13	-53.28
285.150	-67.460	-13	-54.46	277.050	-66.950	-13	-53.95
455.400	-67.460	-13	-54.46	351.800	-67.800	-13	-54.80
1674.000	**-54.170**	**-13**	**-41.17**	1674.000	-44.610	-13	-31.61

- 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)
31.890	-62.200	-13	-49.20	93.990	-54.120	-13	-41.12
181.740	-71.490	-13	-58.49	213.330	-65.660	-13	-52.66
273.540	-63.650	-13	-50.65	273.540	-67.180	-13	-54.18
329.400	-53.300	-13	-40.30	505.800	-67.230	-13	-54.23
1674.000	-53.940	-13	-40.94	**1674.000**	**-46.450**	**-13**	**-33.45**

- 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)
31.080	-60.550	-13	-47.55	42.690	-67.510	-13	-54.51
164.730	-66.900	-13	-53.90	91.290	-68.240	-13	-55.24
245.730	-67.000	-13	-54.00	245.190	-67.860	-13	-54.86
308.400	-68.550	-13	-55.55	343.400	-65.140	-13	-52.14
871.900	-64.960	-13	-51.96	887.300	-62.060	-13	-49.06
983.900	-64.090	-13	-51.09	964.300	-61.300	-13	-48.30
				3764.000	**-53.560**	**-13**	**-40.56**

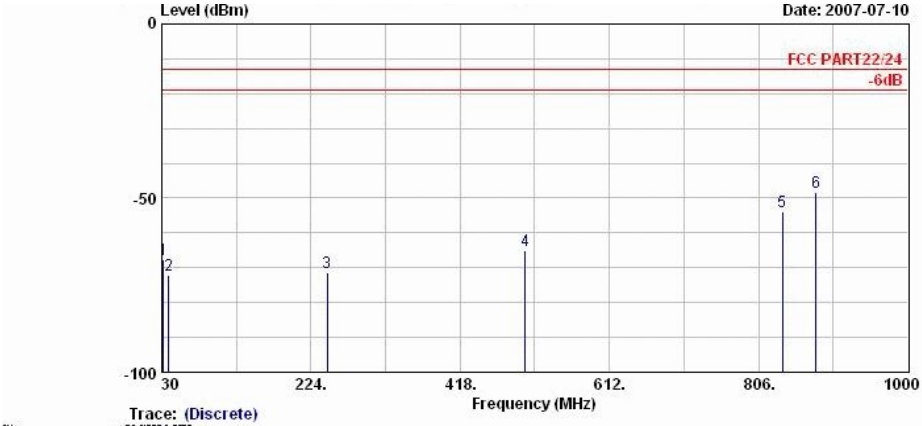
- Test Mode : Mode 8

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)
31.890	-60.290	-13	-47.29	32.430	-68.280	-13	-55.28
182.280	-67.330	-13	-54.33	111.540	-63.560	-13	-50.56
273.540	-60.600	-13	-47.60	182.280	-65.410	-13	-52.41
364.400	-67.620	-13	-54.62	344.800	-65.210	-13	-52.21
455.400	-66.870	-13	-53.87	871.900	-62.150	-13	-49.15
955.900	-63.910	-13	-50.91	971.300	-61.230	-13	-48.23
				3764.000	**-54.090**	**-13**	**-41.09**

4.6.5 Test Data

4.6.5.1 Mode 1

Horizontal Polarization



Trace: (Discrete)

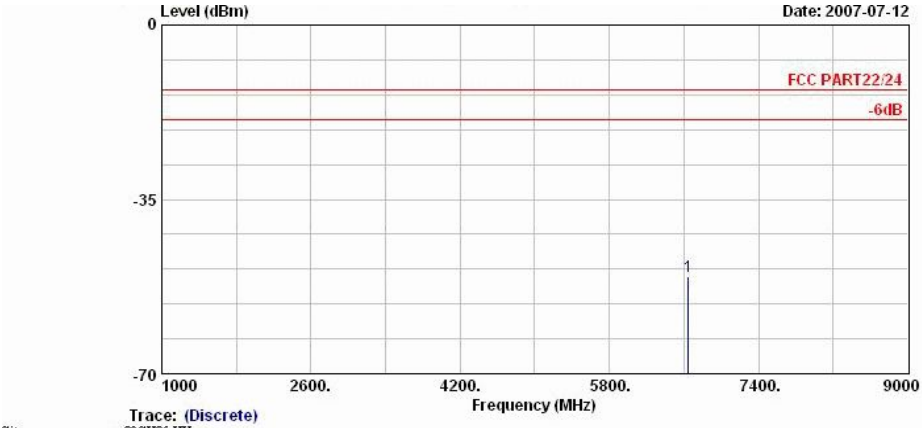
Site : 03CH06-HY
Condition : LF-SPURIOUS HORIZONTAL
EUT : Data card module(GSM850/PCS1900/WCDMA850/WCDMA1900)
Power : DC 3.8V
Model : FG 770402
Memo : GSM 850 Link Mode ;Ch189

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	31.9	-67.73	-54.73	-13.00	-66.87	-0.86	Peak	HORIZONTAL
2	38.6	-72.27	-59.27	-13.00	-67.15	-5.12	Peak	HORIZONTAL
3	245.2	-71.38	-58.38	-13.00	-59.56	-11.82	Peak	HORIZONTAL
4	502.3	-65.00	-52.00	-13.00	-59.92	-5.09	Peak	HORIZONTAL
5	836.9	-53.77			-52.43	-1.33	Peak	HORIZONTAL
6 @	880.3	-48.49			-47.57	-0.91	Peak	HORIZONTAL

Remark:

1. #5: MS Signal

2. #6: BS Signal

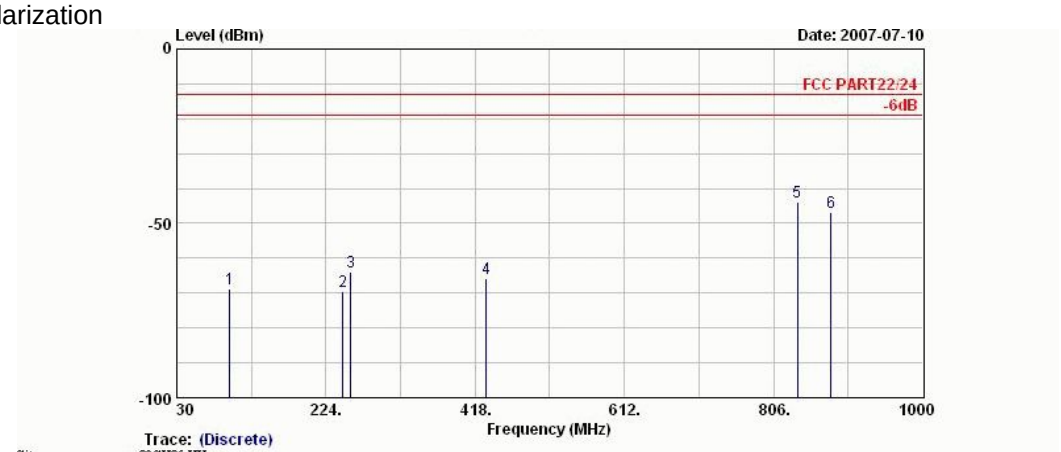


Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-SPURIOUS HORIZONTAL
EUT : Data card module(GSM850/PCS1900/WCDMA850/WCDMA1900)
Power : DC 3.8V
Model : FG 770402
Memo : GSM 850 Link Mode ;Ch189

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	6648.0	-50.61	-37.61	-13.00	-63.70	13.09	Peak	HORIZONTAL

Vertical Polarization



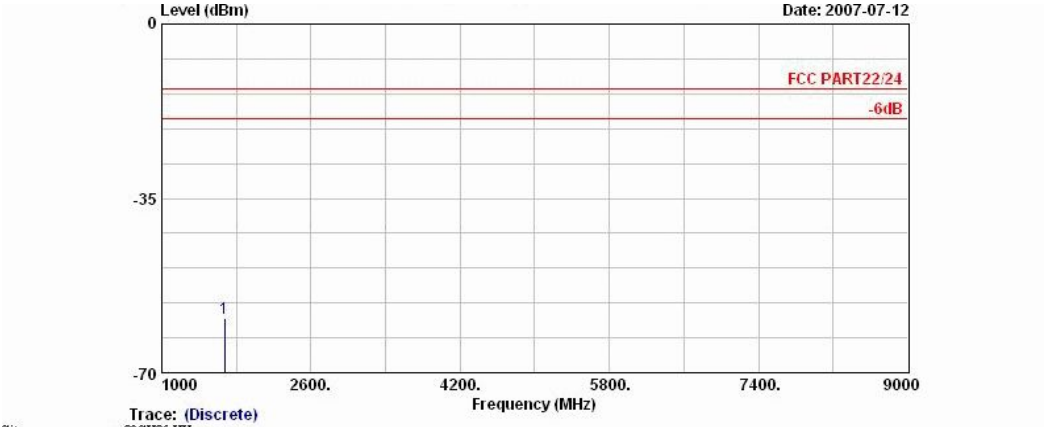
Site : 03CH06-HY
Condition : LF-SPURIOUS VERTICAL
EUT : Data card module(GSM850/PCS1900/WCDMA850
: AWCDMA1900)
Power : DC 3.8V
Model : FG 770402
Memo : GSM 850 Link Mode ;Ch189

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	98.6	-68.89	-55.89	-13.00	-61.06	-7.83	Peak	VERTICAL
2	245.7	-69.38	-56.38	-13.00	-61.76	-7.62	Peak	VERTICAL
3	256.0	-63.93	-50.93	-13.00	-56.54	-7.39	Peak	VERTICAL
4	432.3	-65.86	-52.86	-13.00	-61.92	-3.94	Peak	VERTICAL
5 @	836.9	-43.79			-45.15	1.36	Peak	VERTICAL
6 @	880.3	-47.02			-48.73	1.71	Peak	VERTICAL

Remark:

1. #5: MS Signal

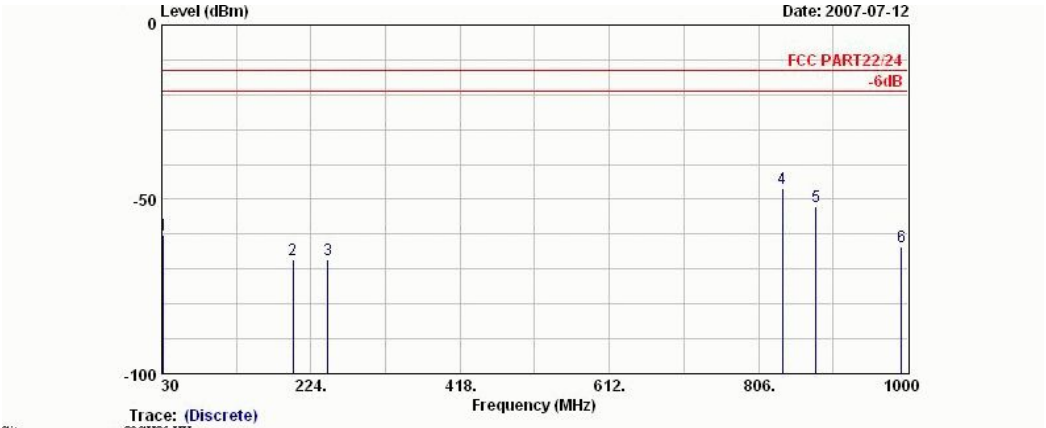
2. #6: BS Signal



Site : 03CH06-HY
Condition : HF-SPURIOUS VERTICAL
EUT : Data card module(GSM850/PCS1900/WCDMA850
: AWCDMA1900)
Power : DC 3.8V
Model : FG 770402
Memo : GSM 850 Link Mode ;Ch189

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	1674.0	-59.09	-46.09	-13.00	-58.61	-0.48	Peak	VERTICAL

4.6.5.2 Mode 2
Horizontal Polarization



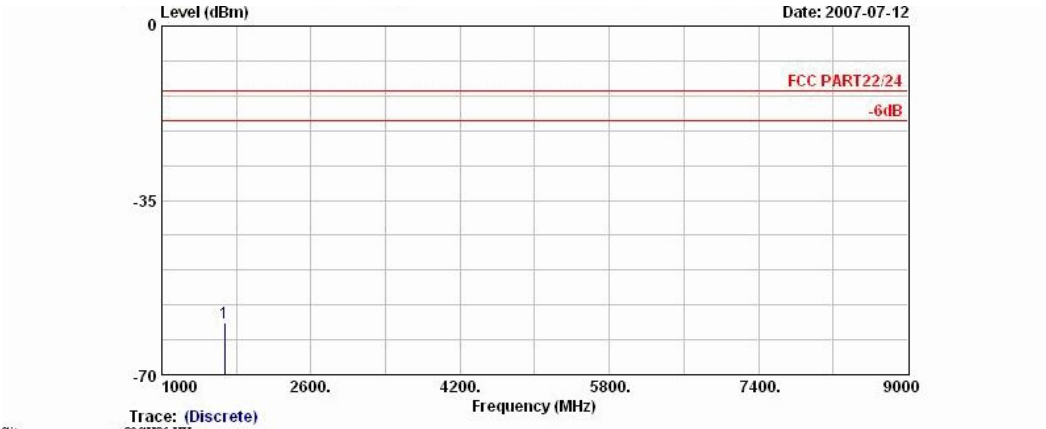
Site : 03CH06-HY
Condition : LF-SPURIOUS HORIZONTAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : EDGE(GSM 850) Link Mode ;Ch189

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	32.4	-60.27	-47.27	-13.00	-58.80	-1.47	Peak	HORIZONTAL
2	200.6	-67.11	-54.11	-13.00	-53.75	-13.36	Peak	HORIZONTAL
3	245.7	-67.34	-54.34	-13.00	-55.52	-11.82	Peak	HORIZONTAL
4 @	836.9	-46.79			-45.45	-1.33	Peak	HORIZONTAL
5 @	880.3	-52.22			-51.30	-0.91	Peak	HORIZONTAL
6	992.3	-63.72	-50.72	-13.00	-63.89	0.17	Peak	HORIZONTAL

Remark:

1. #4: MS Signal

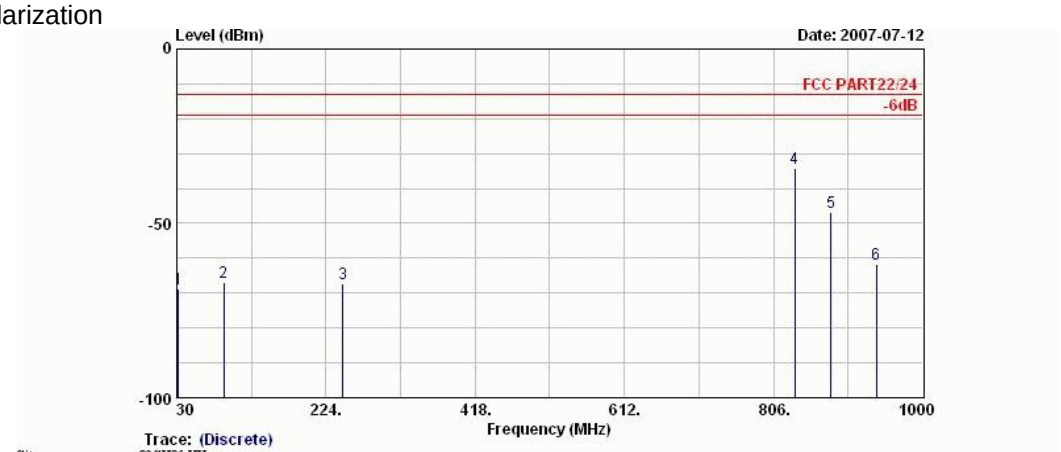
2. #5: BS Signal



Site : 03CH06-HY
Condition : HF-SPURIOUS HORIZONTAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : EDGE(GSM 850) Link Mode ;Ch189

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	1674.0	-59.49	-46.49	-13.00	-59.72	0.22	Peak	HORIZONTAL

Vertical Polarization



Trace: (Discrete)

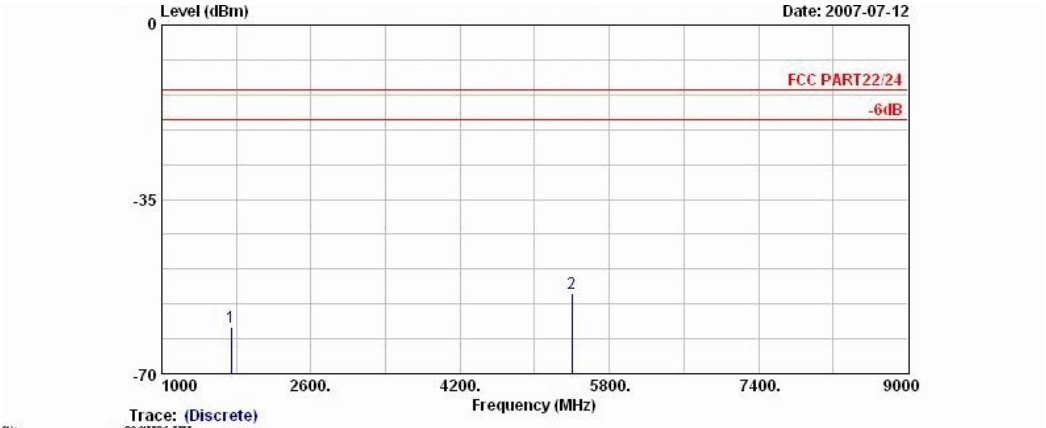
Site : 03CH06-HY
Condition : LF-SPURIOUS VERTICAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : EDGE(GSM 850) Link Mode ;Ch189

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	31.9	-68.72	-55.72	-13.00	-59.10	-9.62	Peak	VERTICAL
2	91.3	-66.88	-53.88	-13.00	-57.94	-8.95	Peak	VERTICAL
3	245.7	-67.23	-54.23	-13.00	-59.61	-7.62	Peak	VERTICAL
4 @	833.4	-34.23			-35.56	1.33	Peak	VERTICAL
5 @	880.3	-46.86			-48.57	1.71	Peak	VERTICAL
6	939.8	-61.53	-48.53	-13.00	-63.71	2.18	Peak	VERTICAL

Remark:

1. #4: MS Signal

2. #5: BS Signal

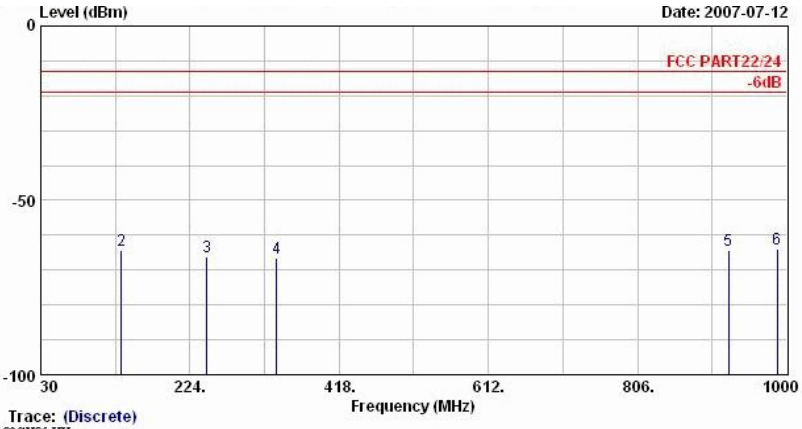


Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-SPURIOUS VERTICAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : EDGE(GSM 850) Link Mode ;Ch189

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	1744.0	-60.57	-47.57	-13.00	-60.23	-0.34	Peak	VERTICAL
2 @	5398.0	-53.78	-40.78	-13.00	-62.48	8.71	Peak	VERTICAL

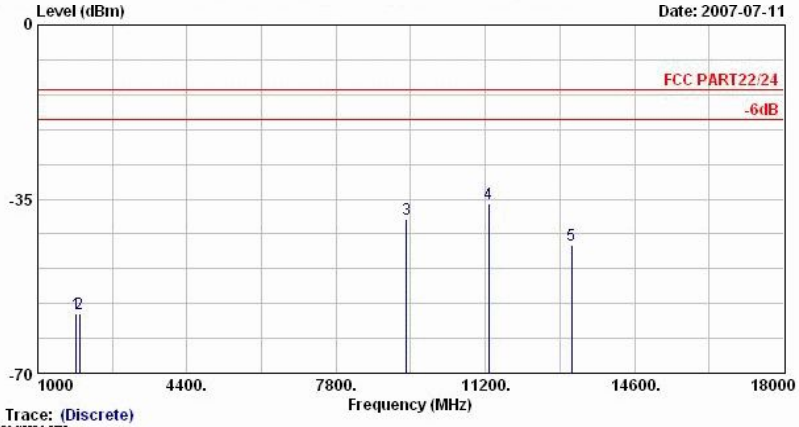
4.6.5.3 Mode 3
Horizontal Polarization



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-SPURIOUS HORIZONTAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : PCS 1900 Link Mode ;Ch661

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	30.5	-60.50	-47.50	-13.00	-60.25	-0.25	Peak	HORIZONTAL
2	134.5	-64.27	-51.27	-13.00	-51.62	-12.64	Peak	HORIZONTAL
3	245.7	-66.28	-53.28	-13.00	-54.47	-11.82	Peak	HORIZONTAL
4	336.4	-66.42	-53.42	-13.00	-57.75	-8.67	Peak	HORIZONTAL
5	924.4	-64.40	-51.40	-13.00	-63.91	-0.49	Peak	HORIZONTAL
6	987.4	-64.12	-51.12	-13.00	-64.24	0.12	Peak	HORIZONTAL



Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-SPURIOUS HORIZONTAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : PCS 1900 Link Mode ;Ch661

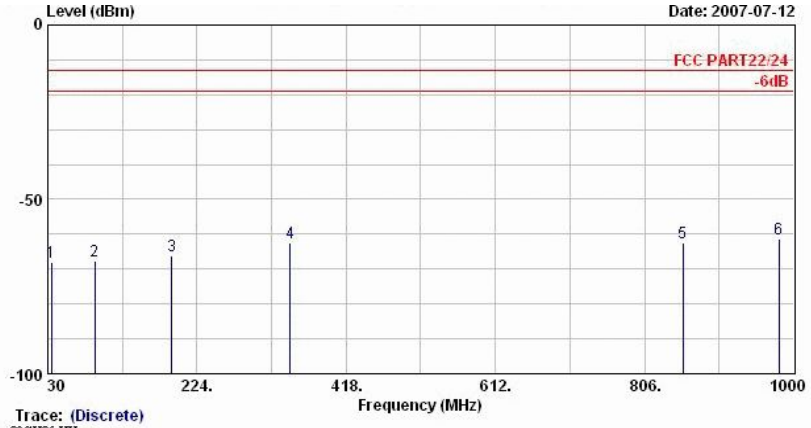
	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	1878.0	-58.01			-57.50	-0.51	Peak	HORIZONTAL
2	1958.0	-58.03			-56.92	-1.11	Peak	HORIZONTAL
3	9398.0	-39.09	-26.09	-13.00	-57.31	18.22	Peak	HORIZONTAL
4 @	11278.0	-35.98	-22.98	-13.00	-56.28	20.30	Peak	HORIZONTAL
5	13158.0	-44.13	-31.13	-13.00	-62.84	18.71	Peak	HORIZONTAL

Remark:

1. #1: MS Signal

2. #2: BS Signal

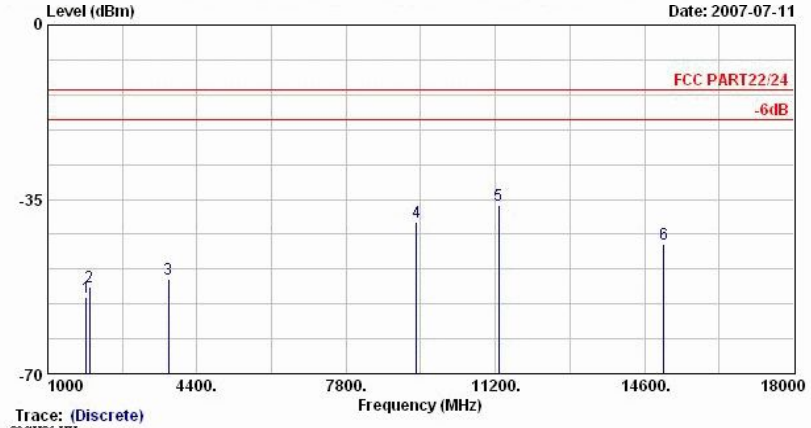
Vertical Polarization



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-SPURIOUS VERTICAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : PCS 1900 Link Mode ;Ch661

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	34.6	-67.85	-54.85	-13.00	-57.41	-10.44	Peak	VERTICAL
2	91.3	-67.69	-54.69	-13.00	-58.74	-8.95	Peak	VERTICAL
3	191.2	-66.21	-53.21	-13.00	-57.70	-8.51	Peak	VERTICAL
4	344.8	-62.63	-49.63	-13.00	-57.14	-5.49	Peak	VERTICAL
5	855.8	-62.39	-49.39	-13.00	-63.90	1.51	Peak	VERTICAL
6	980.4	-61.38	-48.38	-13.00	-63.89	2.51	Peak	VERTICAL



Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-SPURIOUS VERTICAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : PCS 1900 Link Mode ;Ch661

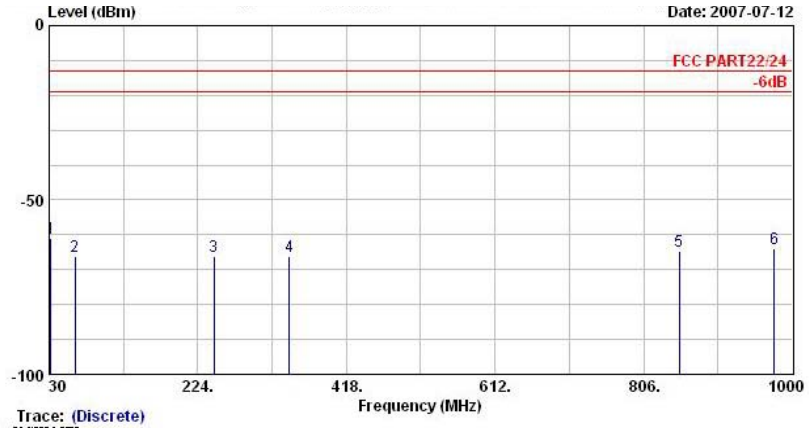
	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	1878.0	-54.52			-54.12	-0.40	Peak	VERTICAL
2	1958.0	-52.64			-52.05	-0.60	Peak	VERTICAL
3	3758.0	-50.93	-37.93	-13.00	-57.56	6.64	Peak	VERTICAL
4	9398.0	-39.60	-26.60	-13.00	-56.80	17.20	Peak	VERTICAL
5 @	11278.0	-36.26	-23.26	-13.00	-55.14	18.87	Peak	VERTICAL
6	15036.0	-44.02	-31.02	-13.00	-60.80	16.78	Peak	VERTICAL

Remark:

1. #1: MS Signal

2. #2: BS Signal

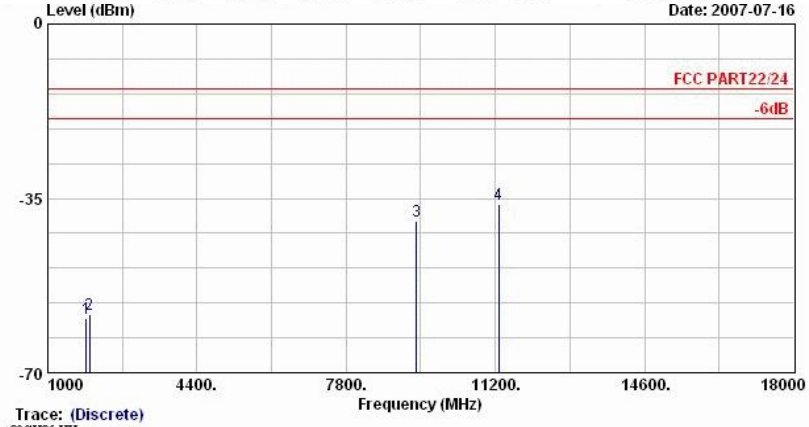
4.6.5.4 Mode 4
Horizontal Polarization



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-SPURIOUS HORIZONTAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : EDGE(PCS 1900) Link Mode ;Ch661
Plane :

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	32.4	-61.01	-48.01	-13.00	-59.54	-1.47	Peak	HORIZONTAL
2	63.5	-66.07	-53.07	-13.00	-53.69	-12.38	Peak	HORIZONTAL
3	245.2	-66.31	-53.31	-13.00	-54.50	-11.82	Peak	HORIZONTAL
4	343.4	-66.34	-53.34	-13.00	-57.90	-8.44	Peak	HORIZONTAL
5	852.3	-64.62	-51.62	-13.00	-63.43	-1.18	Peak	HORIZONTAL
6	976.9	-64.13	-51.13	-13.00	-64.14	0.02	Peak	HORIZONTAL



Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-SPURIOUS HORIZONTAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : EDGE(PCS 1900) Link Mode ;Ch661
Plane :

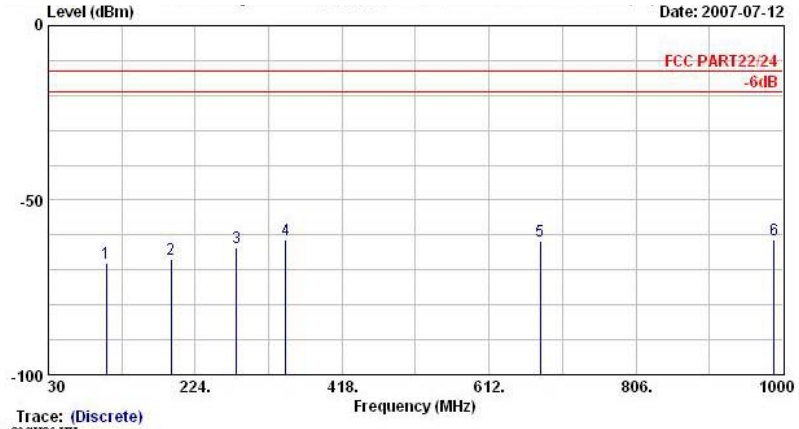
	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	1878.0	-59.08			-58.57	-0.51	Peak	HORIZONTAL
2	1958.0	-58.41			-57.30	-1.11	Peak	HORIZONTAL
3	9398.0	-39.43	-26.43	-13.00	-57.65	18.22	Peak	HORIZONTAL
4	11278.0	-36.22	-23.22	-13.00	-56.52	20.30	Peak	HORIZONTAL

Remark:

1. #1: MS Signal

2. #2: BS Signal

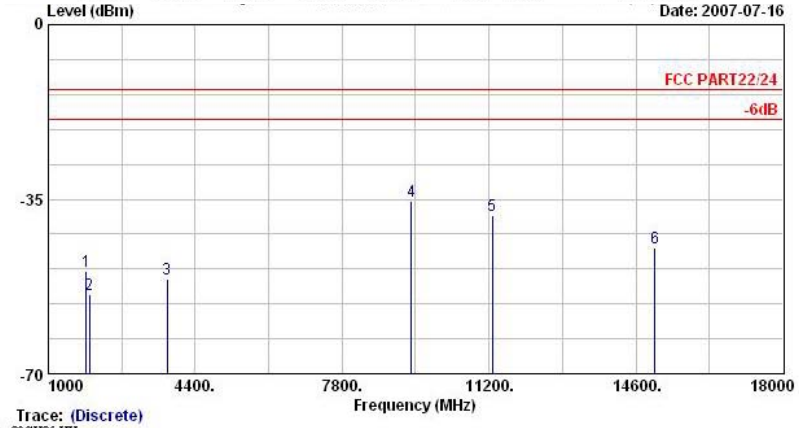
Vertical Polarization



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-SPURIOUS VERTICAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : EDGE/PCS 1900) Link Mode ;Ch661
Plane :

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	106.1	-68.16	-55.16	-13.00	-60.41	-7.74	Peak	VERTICAL
2	191.7	-66.84	-53.84	-13.00	-58.32	-8.52	Peak	VERTICAL
3	278.1	-63.42	-50.42	-13.00	-56.51	-6.91	Peak	VERTICAL
4	343.4	-61.41	-48.41	-13.00	-55.88	-5.53	Peak	VERTICAL
5	679.4	-61.81	-48.81	-13.00	-61.06	-0.75	Peak	VERTICAL
6	988.8	-61.41	-48.41	-13.00	-63.98	2.57	Peak	VERTICAL



Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-SPURIOUS VERTICAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : EDGE/PCS 1900) Link Mode ;Ch661
Plane :

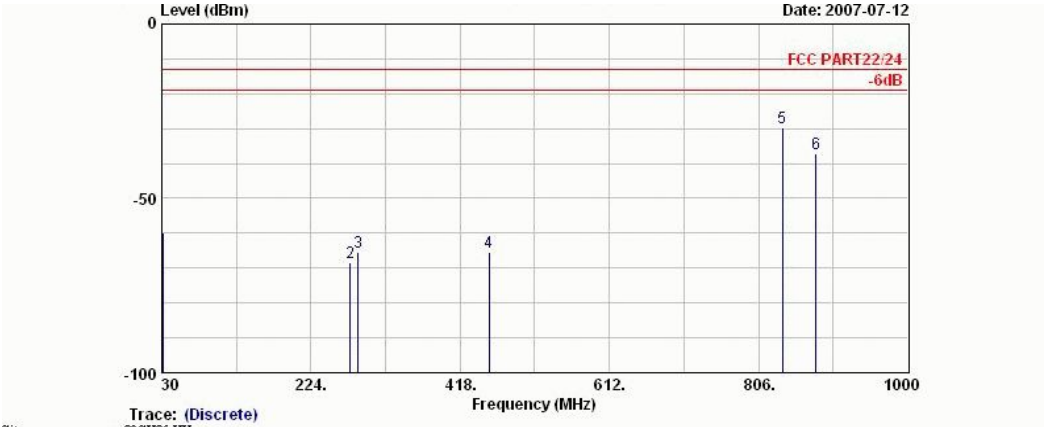
	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	1884.0	-49.33			-48.83	-0.50	Peak	VERTICAL
2	1958.0	-54.00			-53.40	-0.60	Peak	VERTICAL
3	3758.0	-50.91	-37.91	-13.00	-57.55	6.64	Peak	VERTICAL
4 @	9398.0	-35.51	-22.51	-13.00	-52.71	17.20	Peak	VERTICAL
5	11278.0	-38.36	-25.36	-13.00	-57.23	18.87	Peak	VERTICAL
6	15033.0	-44.73	-31.73	-13.00	-61.51	16.78	Peak	VERTICAL

Remark:

1. #1: MS Signal

2. #2: BS Signal

4.6.5.5 Mode 5
Horizontal Polarization



Trace: (Discrete)

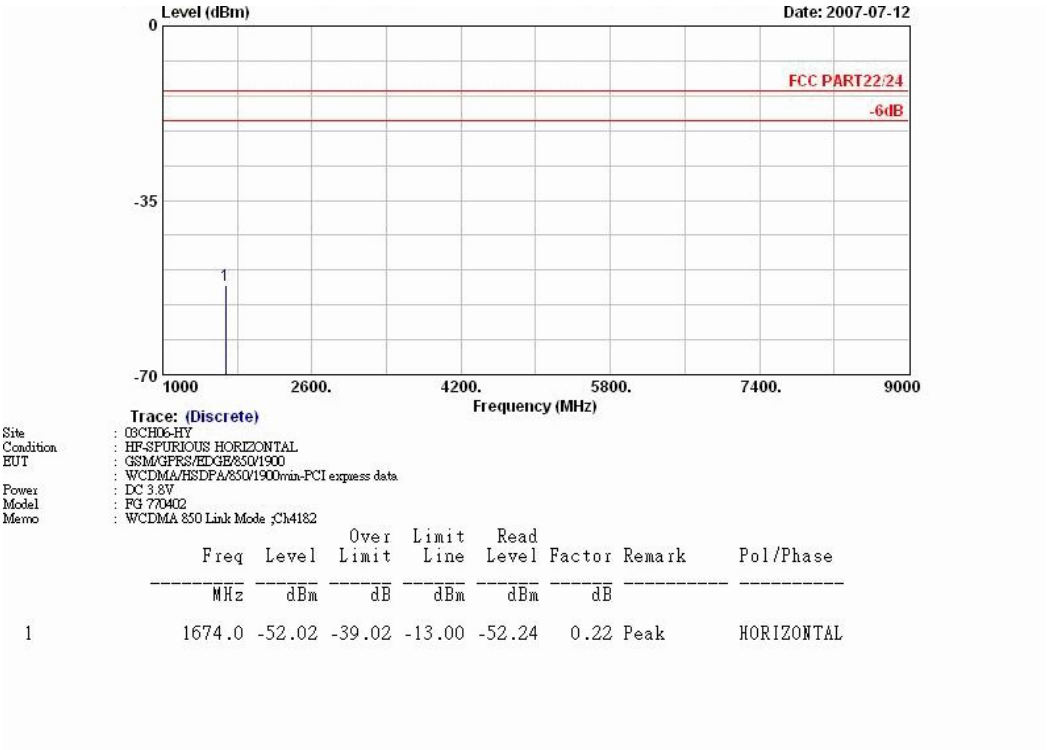
Site : 03CH06-HY
Condition : LF-SPURIOUS HORIZONTAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : HSDPA Link Mode ;Ch4182

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	31.1	-59.74	-46.74	-13.00	-59.50	-0.25	Peak	HORIZONTAL
2	275.4	-68.38	-55.38	-13.00	-57.60	-10.78	Peak	HORIZONTAL
3	285.2	-65.31	-52.31	-13.00	-54.86	-10.45	Peak	HORIZONTAL
4	455.4	-65.31	-52.31	-13.00	-59.58	-5.73	Peak	HORIZONTAL
5 @	836.9	-29.76			-28.42	-1.33	Peak	HORIZONTAL
6	881.0	-37.24			-36.33	-0.91	Peak	HORIZONTAL

Remark:

1. #5: MS Signal

2. #6: BS Signal

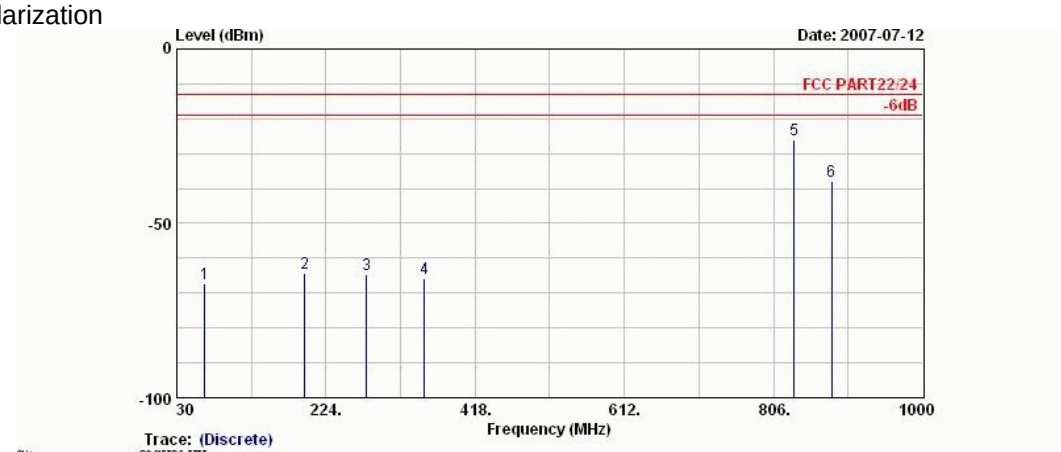


Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-SPURIOUS HORIZONTAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : WCDMA 850 Link Mode ;Ch4182

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	1674.0	-52.02	-39.02	-13.00	-52.24	0.22	Peak	HORIZONTAL

Vertical Polarization



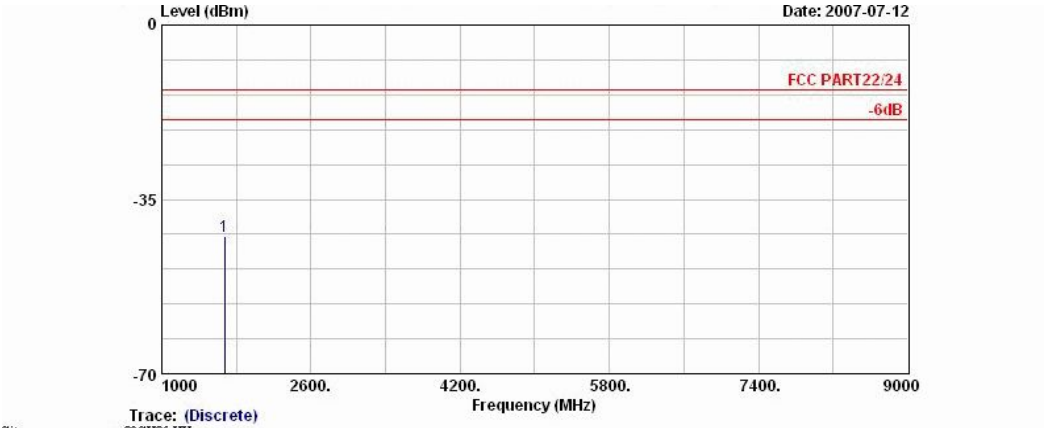
Site : 03CH06-HY
Condition : LF-SPURIOUS VERTICAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : HSDPA Link Mode ;Ch4182

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	66.2	-67.17	-54.17	-13.00	-54.59	-12.58	Peak	VERTICAL
2	196.3	-64.13	-51.13	-13.00	-55.58	-8.56	Peak	VERTICAL
3	277.1	-64.80	-51.80	-13.00	-57.86	-6.94	Peak	VERTICAL
4	351.8	-65.65	-52.65	-13.00	-60.30	-5.34	Peak	VERTICAL
5 @	832.7	-26.00			-27.33	1.33	Peak	VERTICAL
6	881.7	-38.04			-39.76	1.72	Peak	VERTICAL

Remark:

1. #5: MS Signal

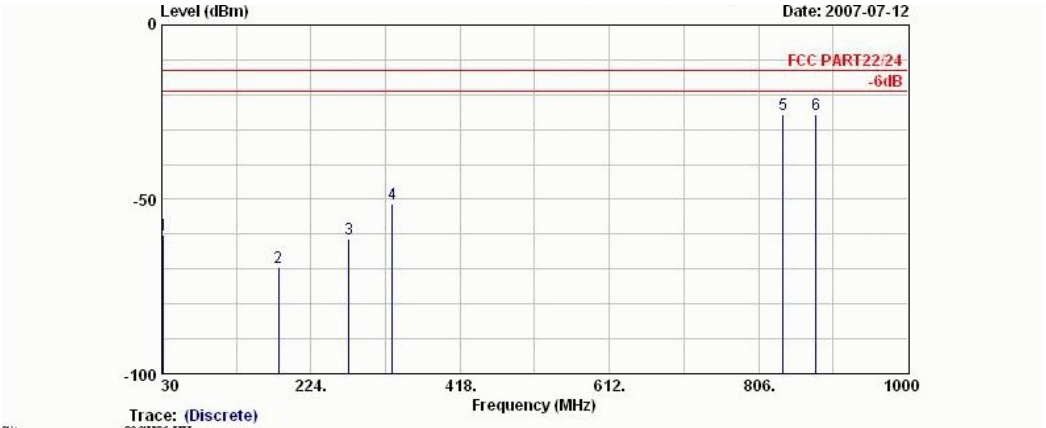
2. #6: BS Signal



Site : 03CH06-HY
Condition : HF-SPURIOUS VERTICAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : WCDMA 850 Link Mode ;Ch4182

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	1674.0	-42.46	-29.46	-13.00	-41.98	-0.48	Peak	VERTICAL

4.6.5.6 Mode 6
Horizontal Polarization



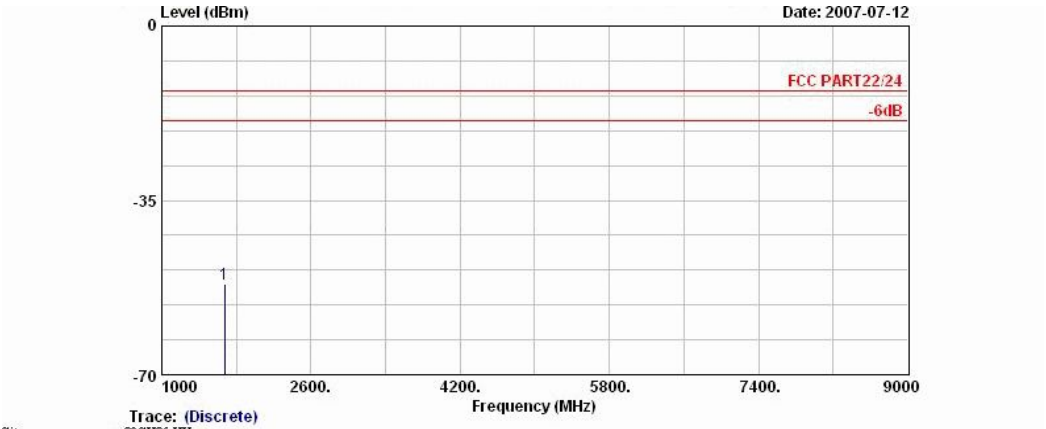
Site : 03CH06-HY
Condition : LF-SPURIOUS HORIZONTAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : HSDPA Link Mode ;Ch4182

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	31.9	-60.05	-47.05	-13.00	-59.19	-0.86	Peak	HORIZONTAL
2	181.7	-69.34	-56.34	-13.00	-56.17	-13.18	Peak	HORIZONTAL
3	273.5	-61.50	-48.50	-13.00	-50.65	-10.85	Peak	HORIZONTAL
4	329.4	-51.15	-38.15	-13.00	-42.24	-8.91	Peak	HORIZONTAL
5 @	838.3	-25.73			-24.41	-1.32	Peak	HORIZONTAL
6	880.3	-25.80			-24.89	-0.91	Peak	HORIZONTAL

Remark:

1. #5: MS Signal

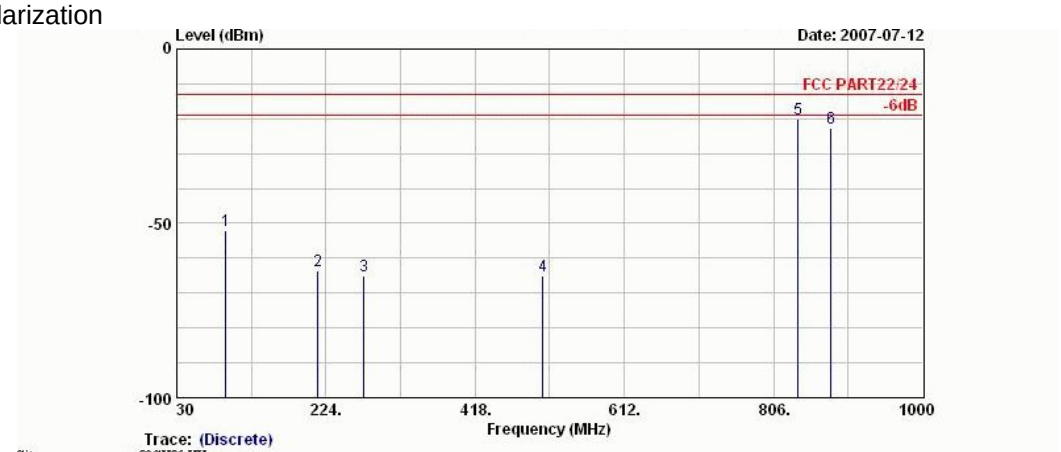
2. #6: BS Signal



Site : 03CH06-HY
Condition : HF-SPURIOUS HORIZONTAL
EUT : Data card module(GSM850/PCS1900/WCDMA850
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : HSDPA Link Mode ;Ch4182

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	1674.0	-51.79	-38.79	-13.00	-52.02	0.22	Peak	HORIZONTAL

Vertical Polarization



Trace: (Discrete)

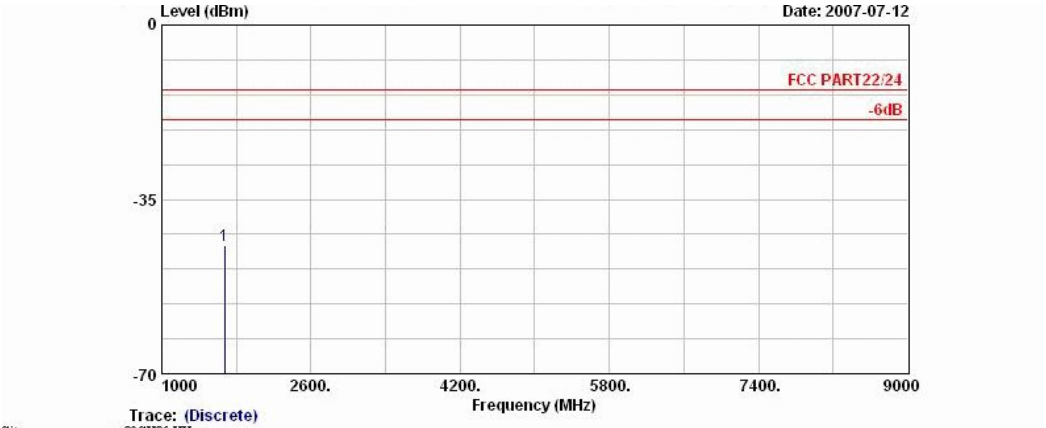
Site : 03CH06-HY
Condition : LF-SPURIOUS VERTICAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : HSDPA Link Mode ;Ch4182

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	94.0	-51.97	-38.97	-13.00	-43.44	-8.53	Peak	VERTICAL
2	213.3	-63.51	-50.51	-13.00	-55.21	-8.30	Peak	VERTICAL
3	273.5	-65.03	-52.03	-13.00	-58.01	-7.02	Peak	VERTICAL
4	505.8	-65.08	-52.08	-13.00	-62.02	-3.05	Peak	VERTICAL
5 @	838.3	-20.10			-21.47	1.37	Peak	VERTICAL
6 @	880.3	-22.66			-24.37	1.71	Peak	VERTICAL

Remark:

1. #5: MS Signal

2. #6: BS Signal

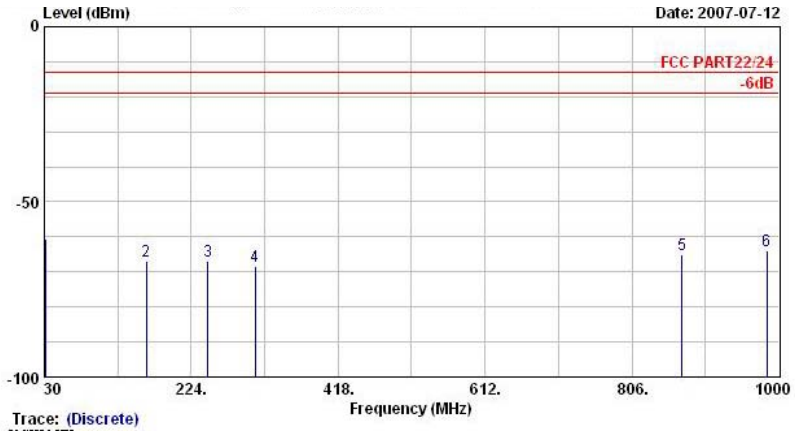


Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-SPURIOUS VERTICAL
EUT : Data card module(GSM850/PCS1900/WCDMA850
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : HSDPA Link Mode ;Ch4182

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	1674.0	-44.30	-31.30	-13.00	-43.82	-0.48	Peak	VERTICAL

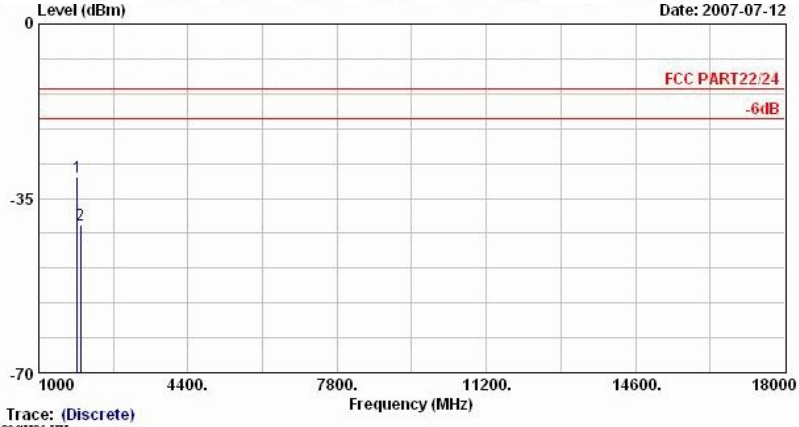
4.6.5.7 Mode 7
Horizontal Polarization



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-SPURIOUS HORIZONTAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900/min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : WCDMA 1900 Link Mode ;Ch9400
Plane :

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	31.1	-60.55	-47.55	-13.00	-60.30	-0.25	Peak	HORIZONTAL
2	164.7	-66.90	-53.90	-13.00	-53.92	-12.99	Peak	HORIZONTAL
3	245.7	-67.00	-54.00	-13.00	-55.18	-11.82	Peak	HORIZONTAL
4	308.4	-68.55	-55.55	-13.00	-58.91	-9.64	Peak	HORIZONTAL
5	871.9	-64.96	-51.96	-13.00	-63.97	-1.00	Peak	HORIZONTAL
6	983.9	-64.09	-51.09	-13.00	-64.17	0.08	Peak	HORIZONTAL



Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-SPURIOUS HORIZONTAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900/min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : WCDMA 1900 Link Mode ;Ch9400
Plane :

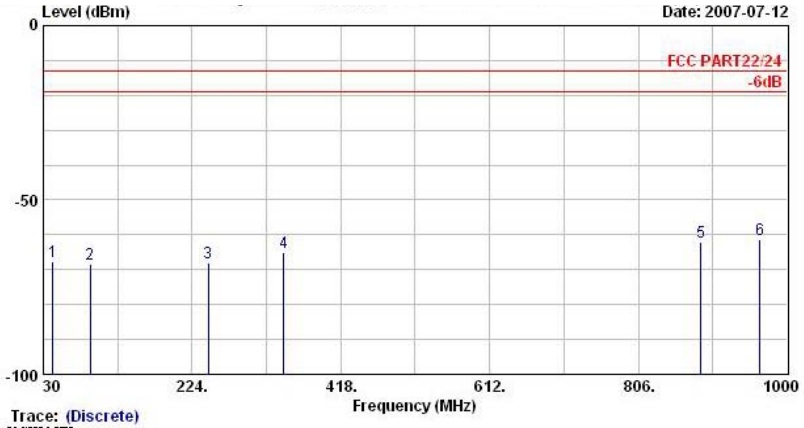
	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	1878.0	-30.69			-30.18	-0.51	Peak	HORIZONTAL
2	1958.0	-40.42			-39.31	-1.11	Peak	HORIZONTAL

Remark:

1. #1: MS Signal

2. #2: BS Signal

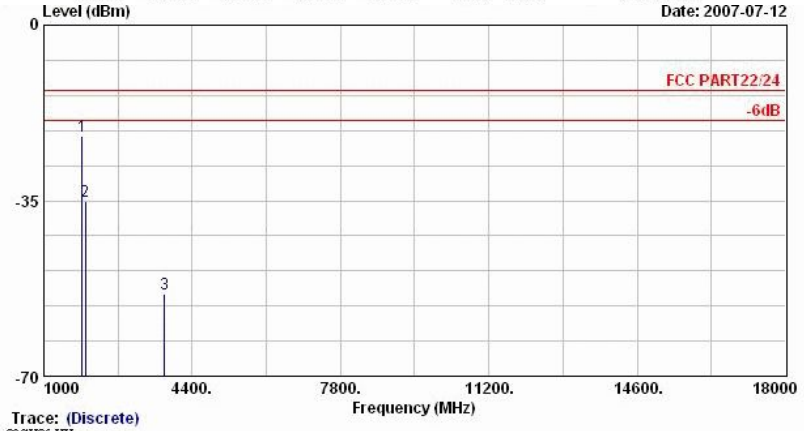
Vertical Polarization



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-SPURIOUS VERTICAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : WCDMA 1900 Link Mode ;Ch9400
Plane :

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	42.7	-67.51	-54.51	-13.00	-54.88	-12.63	Peak	VERTICAL
2	91.3	-68.24	-55.24	-13.00	-59.30	-8.95	Peak	VERTICAL
3	245.2	-67.86	-54.86	-13.00	-60.25	-7.62	Peak	VERTICAL
4	343.4	-65.14	-52.14	-13.00	-59.61	-5.53	Peak	VERTICAL
5	887.3	-62.06	-49.06	-13.00	-63.82	1.76	Peak	VERTICAL
6	964.3	-61.30	-48.30	-13.00	-63.68	2.37	Peak	VERTICAL



Trace: (Discrete)

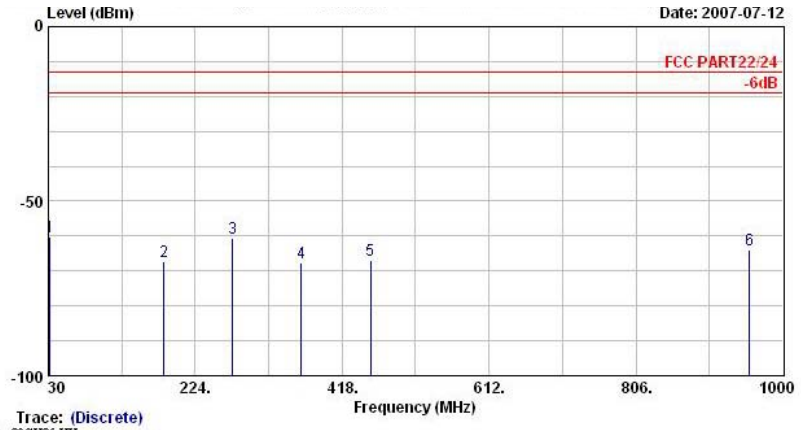
Site : 03CH06-HY
Condition : HF-SPURIOUS VERTICAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : WCDMA 1900 Link Mode ;Ch9400
Plane :

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1 @	1878.0	-22.23			-21.83	-0.40	Peak	VERTICAL
2	1958.0	-35.17			-34.58	-0.60	Peak	VERTICAL
3	3764.0	-53.56	-40.56	-13.00	-60.20	6.64	Peak	VERTICAL

Remark:

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

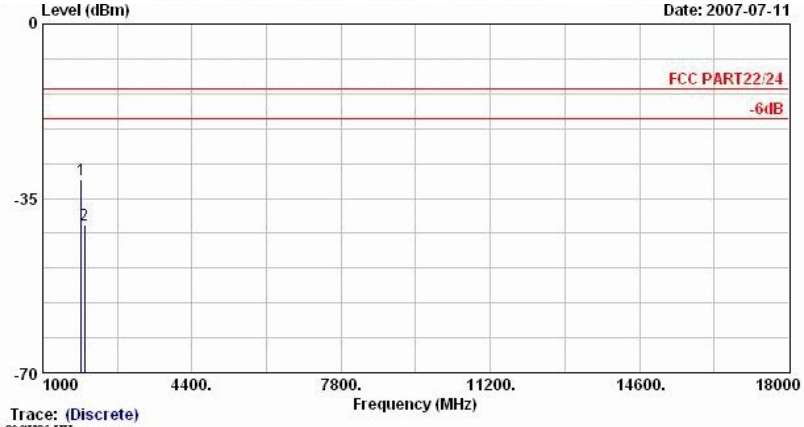
4.6.5.8 Mode 8
Horizontal Polarization



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-SPURIOUS HORIZONTAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : HSDPA Link Mode ;Ch9400
Plane :

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1 @	31.9	-60.29	-47.29	-13.00	-59.43	-0.86	Peak	HORIZONTAL
2	182.3	-67.33	-54.33	-13.00	-54.14	-13.19	Peak	HORIZONTAL
3	273.5	-60.60	-47.60	-13.00	-49.75	-10.85	Peak	HORIZONTAL
4	364.4	-67.62	-54.62	-13.00	-59.92	-7.70	Peak	HORIZONTAL
5	455.4	-66.87	-53.87	-13.00	-61.14	-5.73	Peak	HORIZONTAL
6	955.9	-63.91	-50.91	-13.00	-63.73	-0.18	Peak	HORIZONTAL



Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-SPURIOUS HORIZONTAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : HSDPA Link Mode ;Ch9400
Plane :

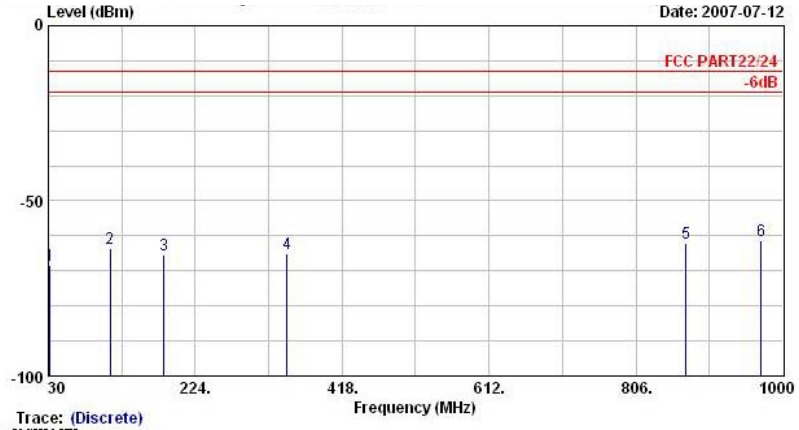
	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1 @	1874.0	-31.13			-30.62	-0.51	Peak	HORIZONTAL
2 @	1958.0	-40.21			-39.10	-1.11	Peak	HORIZONTAL

Remark:

1. #1: MS Signal

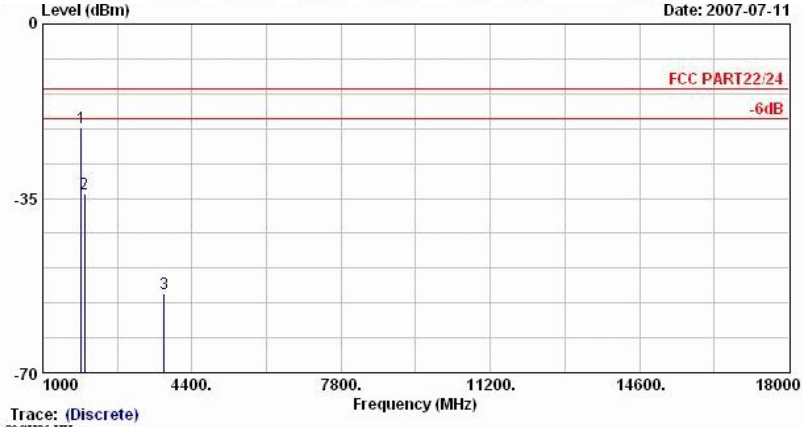
2. #2: BS Signal

Vertical Polarization



Site : 03CH06-HY
Condition : LF-SPURIOUS VERTICAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : HSDPA Link Mode ;Ch9400
Plane :

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1	32.4	-68.28	-55.28	-13.00	-58.39	-9.89	Peak	VERTICAL
2	111.5	-63.56	-50.56	-13.00	-55.76	-7.79	Peak	VERTICAL
3	182.3	-65.41	-52.41	-13.00	-56.97	-8.43	Peak	VERTICAL
4	344.8	-65.21	-52.21	-13.00	-59.72	-5.49	Peak	VERTICAL
5	871.9	-62.15	-49.15	-13.00	-63.79	1.64	Peak	VERTICAL
6	971.3	-61.23	-48.23	-13.00	-63.66	2.43	Peak	VERTICAL



Site : 03CH06-HY
Condition : HF-SPURIOUS VERTICAL
EUT : GSM/GPRS/EDGE/850/1900
: WCDMA/HSDPA/850/1900min-PCI express data
Power : DC 3.8V
Model : FG 770402
Memo : HSDPA Link Mode ;Ch9400
Plane :

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Remark	Pol/Phase
	MHz	dBm	dB	dBm	dBm	dB		
1 @	1884.0	-20.79			-20.29	-0.50	Peak	VERTICAL
2 @	1958.0	-34.04			-33.44	-0.60	Peak	VERTICAL
3 @	3764.0	-54.09	-41.09	-13.00	-60.72	6.64	Peak	VERTICAL

Remark:

1. #1: MS Signal

2. #2: BS Signal

4.7 Frequency Stability (Temperature Variation)

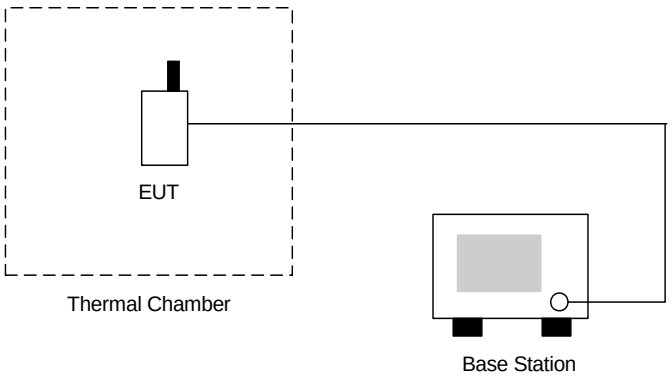
4.7.1 Measurement Instrument

As decribed 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°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°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(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	78	0.04	2.5	Passed
-20	-60	-0.07		
-10	-57	-0.07		
0	-40	-0.05		
10	35	0.04		
20	-38	-0.04		
30	41	0.05		
40	48	0.06		
50	58	0.07		

- Test Mode : GSM850 (EDGE) CH189

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	71	0.04	2.5	Passed
-20	-46	-0.05		
-10	-45	-0.05		
0	-52	-0.06		
10	-55	-0.06		
20	56	0.07		
30	58	0.07		
40	59	0.07		
50	54	0.06		

- Test Mode : PCS1900 (GSM) CH661

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-19	-0.01	2.5	Passed
-20	42	0.02		
-10	41	0.02		
0	28	0.01		
10	-48	-0.03		
20	-34	-0.02		
30	43	0.02		
40	51	0.03		
50	49	0.03		

- Test Mode : PCS1900 (EDGE) CH661

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-18	-0.01	2.5	Passed
-20	-32	-0.02		
-10	-22	-0.01		
0	18	0.01		
10	20	0.01		
20	21	0.01		
30	23	0.01		
40	-22	-0.01		
50	-10	-0.01		

- Test Mode : WCDMA Band V CH4182

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	24	0.03	2.5	Passed
-20	47	0.06		
-10	34	0.04		
0	22	0.03		
10	-41	-0.05		
20	-22	-0.03		
30	-37	-0.04		
40	33	0.04		
50	28	0.03		

- Test Mode : WCDMA Band V (HSDPA) CH4182

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	42	0.05	2.5	Passed
-20	-35	-0.04		
-10	-33	-0.04		
0	-51	-0.06		
10	28	0.03		
20	29	0.03		
30	34	0.04		
40	-33	-0.04		
50	29	0.03		

- Test Mode : WCDMA Band II CH9400

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-24	-0.01	2.5	Passed
-20	22	0.01		
-10	32	0.02		
0	-22	-0.01		
10	-21	-0.01		
20	-20	-0.01		
30	-34	-0.02		
40	22	0.01		
50	42	0.02		

- Test Mode : WCDMA Band II (HSDPA) CH9400

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	14	0.01	2.5	Passed
-20	25	0.01		
-10	-28	-0.01		
0	-25	-0.01		
10	33	0.02		
20	41	0.02		
30	34	0.02		
40	-22	-0.01		
50	28	0.01		

4.8 Frequency Stability (Voltage Variation)

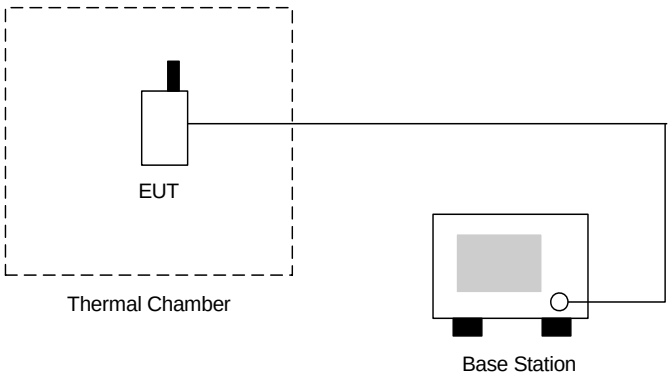
4.8.1 Measurement Instrument

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±5 °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	22.0	0.03	2.5	Passed
BEP	-37.0	-0.04		
4.2	41.0	0.05		

- Test Mode : GSM850 (EDGE) CH189

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-28.0	-0.03	2.5	Passed
BEP	-34.0	-0.04		
4.2	23.0	0.03		

- Test Mode : PCS1900 (GSM) CH661

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	28.0	0.01	2.5	Passed
BEP	41.0	0.02		
4.2	-20.0	-0.01		

- Test Mode : PCS1900 (EDGE) CH661

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-22.0	-0.01	2.5	Passed
BEP	34.0	0.02		
4.2	32.0	0.02		

- Test Mode : WCDMA Band V CH4182

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	28	0.03	2.5	Passed
BEP	-22	-0.03		
4.2	33	0.04		

- Test Mode : WCDMA Band V (HSDPA) CH4182

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-34	-0.04	2.5	Passed
BEP	41	0.05		
4.2	24	0.03		

- Test Mode : WCDMA Band II CH9400

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	28	0.01	2.5	Passed
BEP	-42	-0.02		
4.2	22	0.01		

- Test Mode : WCDMA Band II (HSDPA) CH9400

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	29	0.02	2.5	Passed
BEP	-51	-0.03		
4.2	-28	-0.01		

Remark:
1. Normal Voltage=3.7V.
2. Battery End Point (BEP)= 3.1 V.

5 List of Measurement Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
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. 13, 2007	Jul. 12, 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)
Thermal Chamber	Tenyi technology	TTH-D35P	TBN-930701	N/A	Jul. 24, 2006	Jul. 23, 2007	TH02-HY
Spectrum	R&S	FSP40	100055	9KHz~40GHz	Jun. 25, 2007	Jun. 24, 2008	TH02-HY
Bluetooth Test	ANRITSU	MT8852A	6K00003939	N/A	N/A	N/A	TH02-HY
POWER DIVIDER	ARRA	5200-1	3871	N/A	Oct. 07, 2006	Oct. 06, 2007	TH02-HY
DC POWER SUPPLY	TOPWARD	3303D	740889	N/A	May 25, 2005	May 24, 2009	TH02-HY
Power Meter	Agilent	E4416A	GB41292344	N/A	Feb. 08, 2007	Feb. 07, 2008	TH02-HY
Power Sensor	Agilent	E9327A	US40441548	N/A	Feb. 08, 2007	Feb. 07, 2008	TH02-HY

6 Uncertainty Evaluation

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

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

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

Contribution	Uncertainty of x_i		$u(x_i)$	Ci	$Ci*u(x_i)$
	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 Γ1= 0.197 Antenna VSWR Γ2= 0.194 Uncertainty=20log(1-Γ1*Γ2*Γ3)	+0.34/-0.35	U-shaped	0.244	1	0.244
Combined standard uncertainty Uc(y)	**2.36**				
Measuring uncertainty for a level of confidence of 95% U=2Ue(y)	**4.72**				

END OF TEST REPORT