FCC Test Report

According to

47 CFR Part 22H, 24E

Equipment	:	**iPAQ Voice messenger**
Trade Name	:	**HP**
Model Name	:	**HSTNH-F20C**
FCC ID	:	**B94HHF20C**
Tx Frequency Range	:	**GSM850 : 824.2 ~ 848.8MHz** **GSM1900 : 1850.2 ~ 1909.8 MHz** **WCDMA Band II : 1852.4 ~ 1907.6 MHz**
Max. ERP/EIRP Power	:	**GSM850(GSM) : 0.89 W** **GSM850(EDGE) : 0.27 W** **GSM1900(GSM) : 0.85 W** **GSM1900(EDGE) : 0.50 W** **WCDMA Band II : 0.15 W** **WCDMA Band II(HSUPA) : 0.13 W**
Emission Designator	:	**GSM : 300KGXW** **EDGE : 300KG7W** **WCDMA : 4M22F9W**
Applicant	:	**Hewlett-Packard Company** 10955 Tantau Ave., CupertinoCA, 95014-0770, USA

- The test result refers exclusively to the tested model / sample.
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- The data shown in this test report were carried out on July 18, 2008 at **Sporton International Inc. LAB.**
- Report No.: FG852219-02, Report Version: Rev. 03.

Daniel Lee
Manager

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

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History of This Test Report

Report Issue Date: Oct. 21, 2008

Report No.	Description

1. General Information

1.1 Applicant

Hewlett-Packard Company
10955 Tantau Ave., CupertinoCA, 95014-0770, USA

1.2 Manufacturer

FOXCONN Technology Group
4F G5 No.2,2nd Donghuan Road, 10th Yousong Industrial District, Longhua, Baoan, Shenzhen City, Guangdong Province, China 518109

1.3 Basic Description of Equipment under Test

AC Adapter 1	**Brand Name**	HP
	Model Name	PSAA05-050
	Power Rating	I/P:100-240Vac, 50-60Hz, 200mA; O/P: 5Vdc, 1A
	AC Power Cord Type	1.8 meter shielded cable without ferrite core
AC Adapter 2	**Brand Name**	HP
	Model Name	PSB05R-050Q
	Power Rating	I/P:100-240Vac, 50-60Hz, 200mA; O/P: 5Vdc, 1A
Battery 1	**Brand Name**	HP
	Model Name	HSTNH-T20B-S
	Power Rating	3.7Vdc, 1200mAh
	Type	Li-ion
Battery 2	**Brand Name**	HP
	Model Name	HSTNH-K20B-H
	Power Rating	3.7Vdc, 1940mAh
	Type	Li-ion
Earphone	**Brand Name**	FOSTER
	Model Name	480052
	Signal Line Type	1.45 meter non-shielded cable without ferrite core
USB Cable	**Brand Name**	Foxconn
	Model Name	CUNC005B-T45-EF
	Signal Line Type	1.4 meter shielded cable without ferrite core
LCD Panel	**Brand Name**	SAMSUNG
	Model Name	LMS241GF17
Camera	**Brand Name**	SAMSUNG
	Model Name	MOMBE547G6A

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

1.4 Feature of Equipment under Test

Product Feature & Specification	
EUT Type :	iPAQ Voice messenger
Trade Name :	HP
Model Name :	HSTNH-F20C
FCC ID :	B94HHF20C
Tx Frequency :	GSM850 : 824 MHz ~ 849 MHz GSM1900 : 1850 MHz ~ 1910 MHz WCDMA Band II : 1850 MHz ~ 1910 MHz Bluetooth : 2400 MHz ~ 2483.5 MHz WLAN : 2400 MHz ~ 2483.5 MHz
Rx Frequency :	GSM850 : 869 MHz ~ 894 MHz GSM1900 : 1930 MHz ~ 1990 MHz WCDMA Band II : 1930 MHz ~ 1990 MHz Bluetooth : 2400 MHz ~ 2483.5 MHz WLAN : 2400 MHz ~ 2483.5 MHz
Channel Spacing :	GSM / WCDMA : 200 KHz Bluetooth : 1 MHz WLAN : 5 MHz
Maximum Output Power to Antenna :	GSM850 : 32.08 dBm GSM1900 : 29.24 dBm WCDMA Band II : 22.97 dBm
Maximum ERP/EIRP :	GSM850(GSM) : 0.89 W (29.48 dBm) GSM850(EDGE) : 0.27 W (24.37 dBm) GSM1900(GSM) : 0.85 W (29.30 dBm) GSM1900(EDGE) : 0.50 W (26.98 dBm) WCDMA Band II : 0.15 W (21.67 dBm) WCDMA Band II(HSUPA) : 0.13 W (21.21 dBm)
Antenna Type :	Fixed Internal Antenna
HW Version :	DVT
SW Version :	00.15.50.185
Power Rating (DC/AC Voltage) :	Battery : DC 3.7V Adapter : AC 100-240V
GPRS / EGPRS Multislot class :	10
Type of Modulation :	GSM / GPRS : GMSK EDGE : 8PSK WCDMA : QPSK HSDPA : QPSK / 16QAM HSUPA : BPSK Bluetooth : GFSK WLAN : DSSS / OFDM
Type of Emission :	GSM : 300KGXW EDGE : 300KG7W WCDMA : 4M22F9W
EUT Stage :	Identical Prototype

2. Test Configuration of Equipment under Test

2.1 Test Manner

1. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range.
2. During all testings, EUT is in link mode with base station emulator at maximum power level.
3. Frequency range investigated: radiated emission 30 MHz to 9000 MHz for GSM850 and WCDMA Band V; 30MHz to 19000 MHz for GSM1900 and WCDMA Band II.

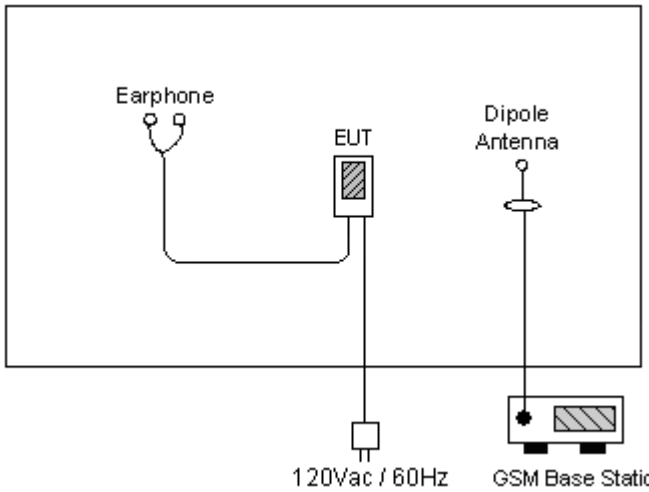
2.2 Test Mode

Application	GSM850	GSM1900
Radiated Emission	☒ Mode 1: GSM Link ☒ Mode 2: EDGE Link ☒ Mode 7: GSM Link + BT Link ☒ Mode 8: GSM Link + WLAN Link	☒ Mode 3: GSM Link ☒ Mode 4: EDGE Link
Conducted Measurement	☒ Mode 1: GSM Link ☒ Mode 2: EDGE Link	☒ Mode 3: GSM Link ☒ Mode 4: EDGE Link

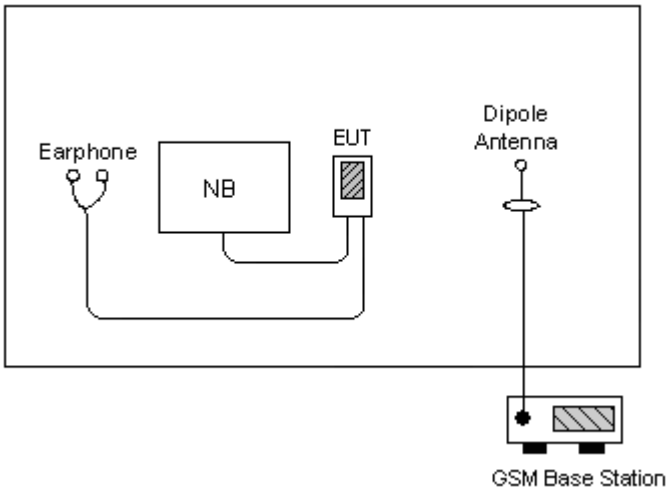
Application	WCDMA Band II
Radiated Emission	☒ Mode 5: WCDMA Link ☒ Mode 6: HSUPA Link
Conducted Measurement	☒ Mode 5: WCDMA Link ☒ Mode 6: HSUPA Link

2.3 Connection Diagram of Test System

GSM Link Mode



WLAN



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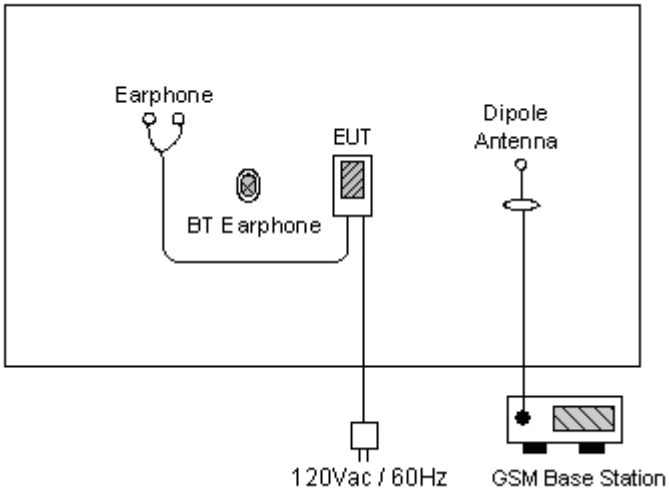


2.4 Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Code
1.	GSM Base Station	R&S	CMU200	N/A	N/A	Unshielded, 1.8m
2.	WLAN AP	SMC	SMC-100	N/A	N/A	Unshielded, 1.8m
3.	NOTE BOOK	ASUS	N/A	N/A	N/A	N/A

3. General Information of Test Site

Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,
Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
TEL : 886-3-327-3456
FAX : 886-3-328-4978
Test Site No : 03CH07-HY, TH02-HY
FCC Designation No : TW1022

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

Preliminary Guidance for Receiving Applications for Certification of 3G Device. May 9, 2006.

3.3 Frequency Range

Radiation: from 30 MHz to 9000 MHz for GSM900 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.

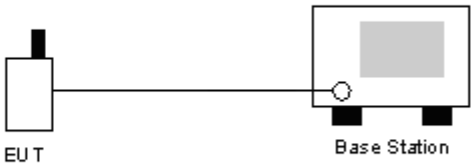
4.2.2 Test Procedure

a. The transmitter output was connected to power meter and base station.

b. Set EUT at maximum power through base station.

c. Select lowest, middle, and highest channels for each band.

4.2.3 Test Setup Layout



4.2.4 Test Result

Bands	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power (Watts)
GSM850 (GSM)	128	824.2 (Low)	32.04	1.600
	189	836.4 (Mid)	32.04	1.600
	251	848.8 (High)	32.08	1.614
GSM850 (EDGE)	128	824.2 (Low)	26.89	0.489
	189	836.4 (Mid)	26.88	0.488
	251	848.8 (High)	26.90	0.490
GSM1900 (GSM)	512	1850.2 (Low)	29.24	0.839
	661	1880.0 (Mid)	29.00	0.794
	810	1909.8 (High)	28.90	0.776
GSM1900 (EDGE)	512	1850.2 (Low)	26.01	0.399
	661	1880.0 (Mid)	25.81	0.381
	810	1909.8 (High)	25.71	0.372

Bands	Channel	Frequency (MHz)	Conducted Power (dBm)	Conducted Power (Watts)
WCDMA Band II (12.2k bps)	9262	1852.4 (Low)	22.52	0.179
	9400	1880.0 (Mid)	22.61	0.182
	9538	1907.6 (High)	21.63	0.146
WCDMA Band II (64k bps)	9262	1852.4 (Low)	22.53	0.179
	9400	1880.0 (Mid)	22.66	0.185
	9538	1907.6 (High)	21.67	0.147
WCDMA Band II (144k bps)	9262	1852.4 (Low)	22.45	0.176
	9400	1880.0 (Mid)	22.63	0.183
	9538	1907.6 (High)	21.64	0.146
WCDMA Band II (384k bps)	9262	1852.4 (Low)	22.56	0.180
	9400	1880.0 (Mid)	22.65	0.184
	9538	1907.6 (High)	21.67	0.147
WCDMA Band II (AMR)	9262	1852.4 (Low)	22.50	0.178
	9400	1880.0 (Mid)	22.62	0.183
	9538	1907.6 (High)	21.65	0.146
WCDMA Band II (HSDPA)	9262	1852.4 (Low)	22.04	0.160
	9400	1880.0 (Mid)	22.24	0.167
	9538	1907.6 (High)	21.32	0.136
WCDMA Band II (HSUPA) β(11/15)	9262	1852.4 (Low)	22.97	0.198
	9400	1880.0 (Mid)	22.87	0.194
	9538	1907.6 (High)	22.24	0.167
WCDMA Band II (HSUPA) β(6/15)	9262	1852.4 (Low)	20.60	0.115
	9400	1880.0 (Mid)	20.30	0.107
	9538	1907.6 (High)	20.15	0.104
WCDMA Band II (HSUPA) β(15/9)	9262	1852.4 (Low)	22.06	0.161
	9400	1880.0 (Mid)	21.89	0.155
	9538	1907.6 (High)	21.74	0.149
WCDMA Band II (HSUPA) β(2/15)	9262	1852.4 (Low)	20.93	0.124
	9400	1880.0 (Mid)	20.63	0.116
	9538	1907.6 (High)	20.37	0.109
WCDMA Band II (HSUPA) β(15/15)	9262	1852.4 (Low)	22.57	0.181
	9400	1880.0 (Mid)	22.60	0.182
	9538	1907.6 (High)	22.35	0.172

4.3 ERP / EIRP Measurement

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

4.3.1 Measurement Instruments

As described in chapter 5 of this test report.

4.3.2 Test Procedure

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

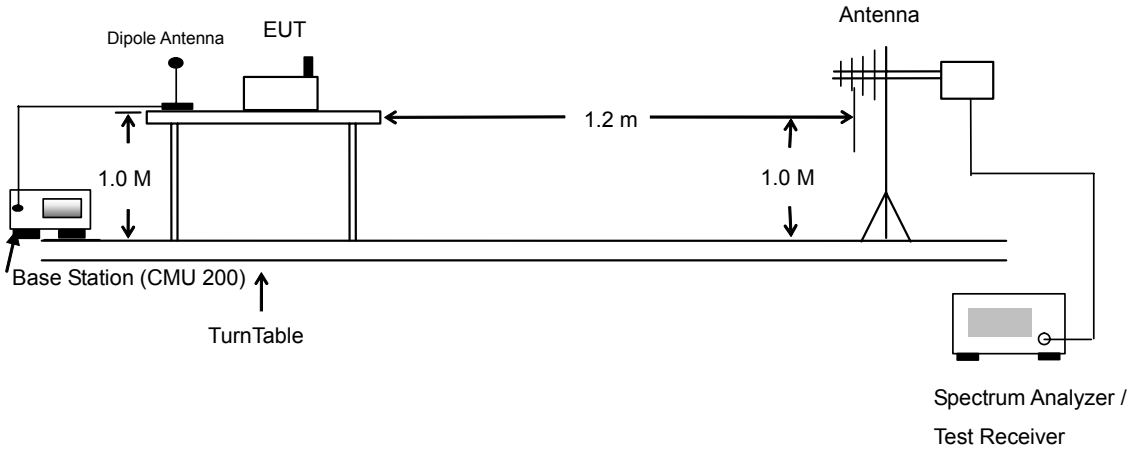
   Es = Rs + AF

   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	-36.23	-48.12	0.00	-1.08	10.81	0.01
836.40	-36.80	-48.28	0.00	-0.93	10.55	0.01
848.80	-37.07	-48.35	0.00	-0.76	10.52	0.01
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-17.41	-47.97	0.00	-1.08	29.48	0.89
836.40	-17.80	-48.01	0.00	-0.93	29.28	0.85
848.80	-17.91	-48.05	0.00	-0.76	29.38	0.87

GSM850 (EDGE) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-39.53	-48.12	0.00	-1.08	7.51	0.01
836.40	-40.29	-48.28	0.00	-0.93	7.06	0.01
848.80	-40.05	-48.35	0.00	-0.76	7.54	0.01
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-22.67	-48.12	0.00	-1.08	24.37	0.27
836.40	-23.21	-48.28	0.00	-0.93	24.14	0.26
848.80	-23.30	-48.35	0.00	-0.76	24.29	0.27

GSM1900 (GSM) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-28.32	-51.88	0.00	1.96	25.52	0.36
1880.00	-31.10	-52.99	0.00	2.00	23.89	0.24
1909.80	-31.77	-54.28	0.00	1.98	24.49	0.28
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-24.79	-52.13	0.00	1.96	29.30	0.85
1880.00	-26.53	-53.17	0.00	2.00	28.64	0.73
1909.80	-28.19	-54.13	0.00	1.98	27.92	0.62

GSM1900 (EDGE) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-32.18	-51.88	0.00	1.96	21.66	0.15
1880.00	-34.13	-52.99	0.00	2.00	20.86	0.12
1909.80	-35.19	-54.28	0.00	1.98	21.07	0.13
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-27.11	-52.13	0.00	1.96	26.98	0.50
1880.00	-29.44	-53.17	0.00	2.00	25.73	0.37
1909.80	-31.39	-54.13	0.00	1.98	24.72	0.30

WCDMA Band II Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1852.40	-37.39	-51.88	0.00	1.96	16.45	0.04
1880.00	-36.88	-52.99	0.00	2.00	18.11	0.06
1907.60	-39.01	-54.28	0.00	1.98	17.25	0.05
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1852.40	-33.37	-52.13	0.00	1.96	20.72	0.12
1880.00	-33.50	-53.17	0.00	2.00	21.67	0.15
1907.60	-35.41	-54.13	0.00	1.98	20.70	0.12

WCDMA Band II (HSUPA) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1852.40	-36.93	-51.88	0.00	1.96	16.91	0.05
1880.00	-37.00	-52.99	0.00	2.00	17.99	0.06
1907.60	-39.07	-54.28	0.00	1.98	17.19	0.05
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1852.40	-32.97	-52.13	0.00	1.96	21.12	0.13
1880.00	-33.96	-53.17	0.00	2.00	21.21	0.13
1907.60	-35.70	-54.13	0.00	1.98	20.41	0.11

4.4 Occupied Bandwidth and Band Edge Measurement

4.4.1 Measurement Instruments

As described in chapter 5 of this test report.

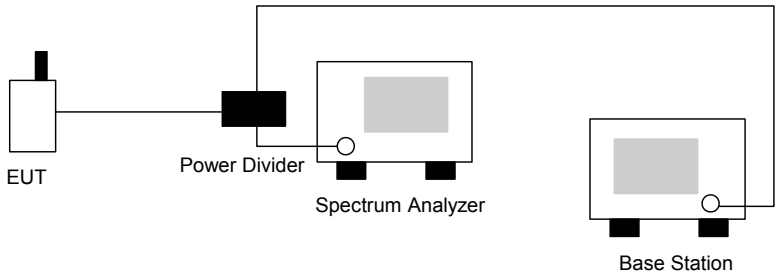
4.4.2 Test Procedure

a. The EUT was connected to Spectrum Analyzer and Base Station via power divider.

b. The 99% occupied bandwidth of middle channel for the highest and lowest RF powers were measured.

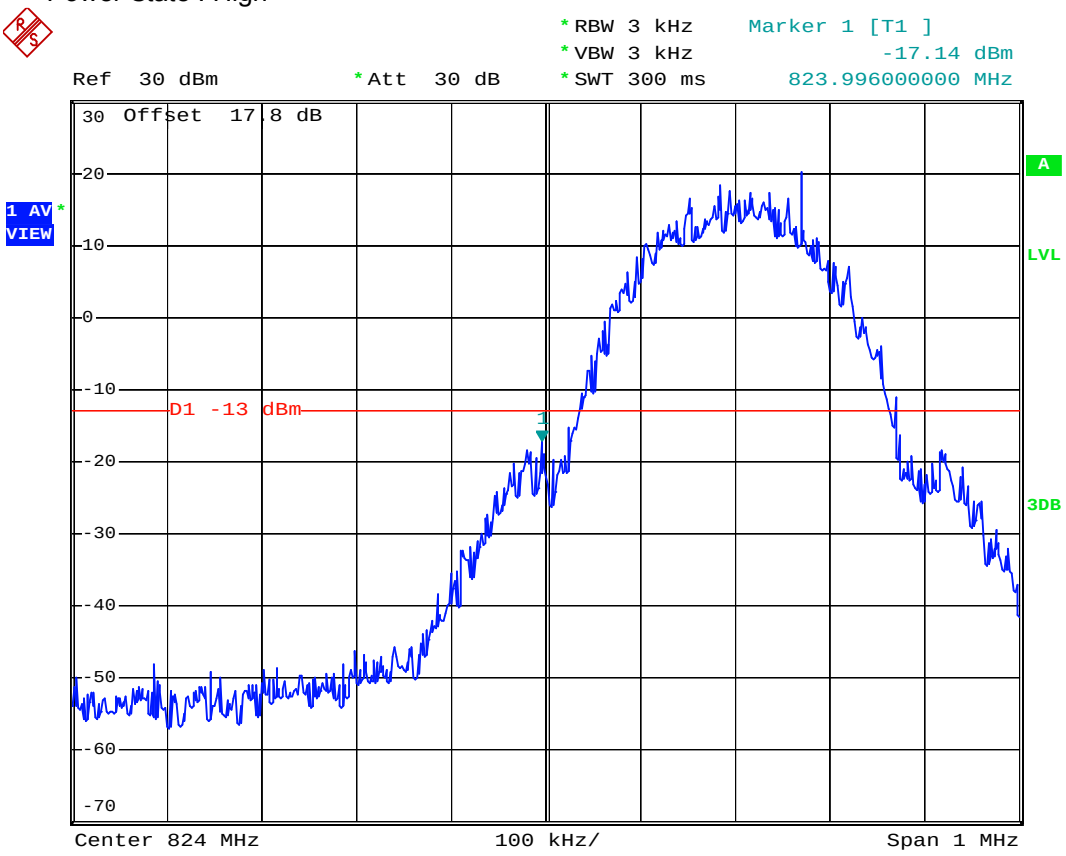
c. The bandedge of low and high channels for the highest RF powers within the transmitting frequency band were measured. Setting RBW as roughly BW/100.

4.4.3 Test Setup Layout



4.4.4 Test Result

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



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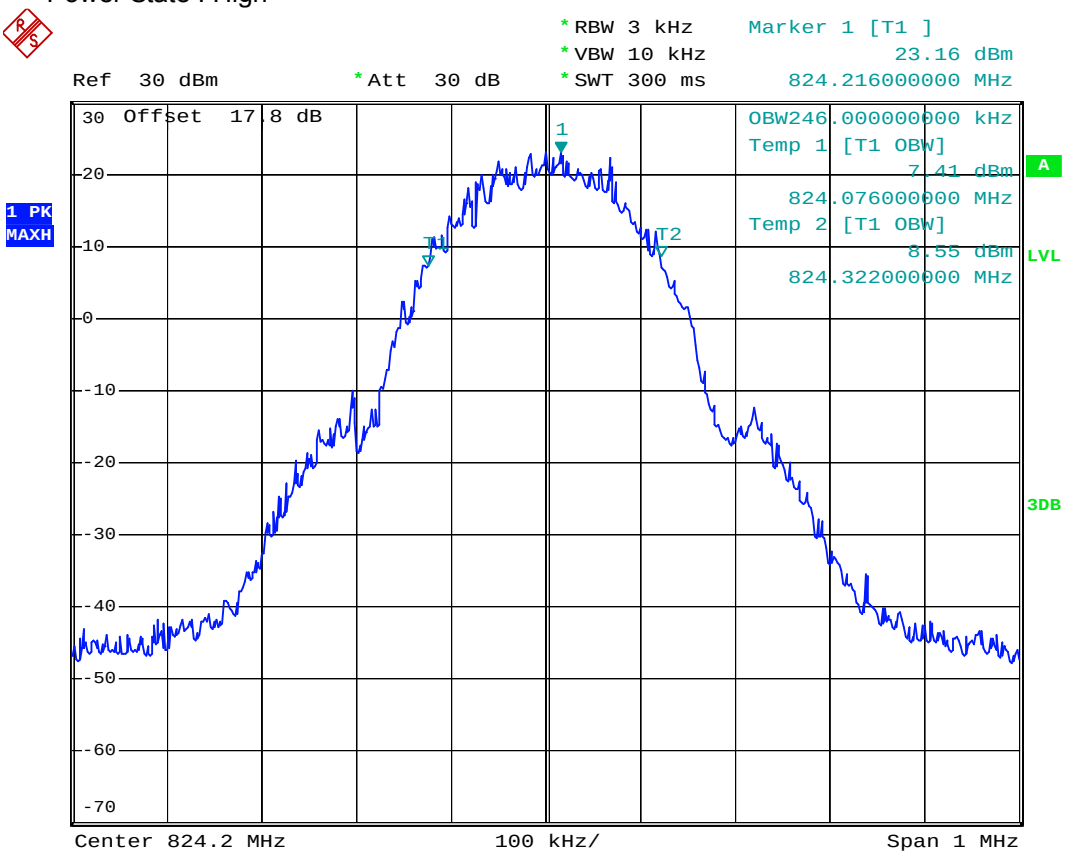
- Test Mode : GSM850 (GSM) CH128 99% Occupid Bandwidth
- Power State : High



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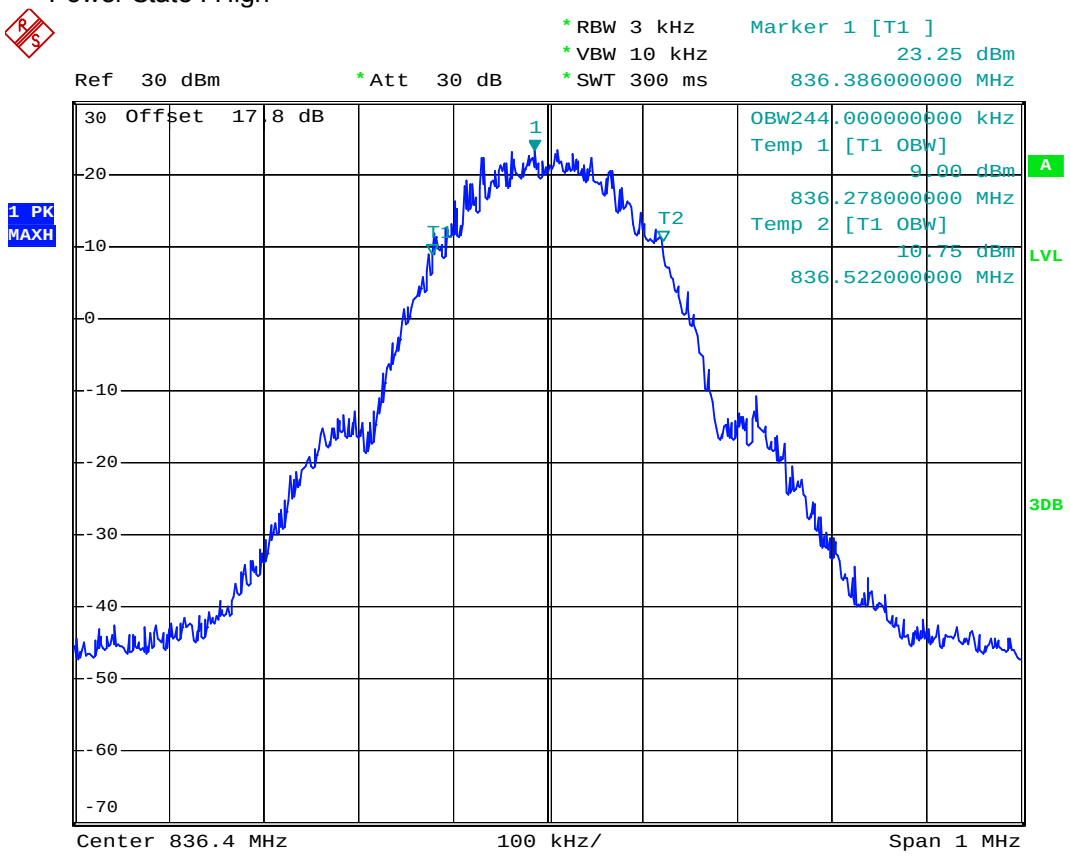
- Test Mode : GSM850 (GSM) CH189 99% Occupid Bandwidth
- Power State : High



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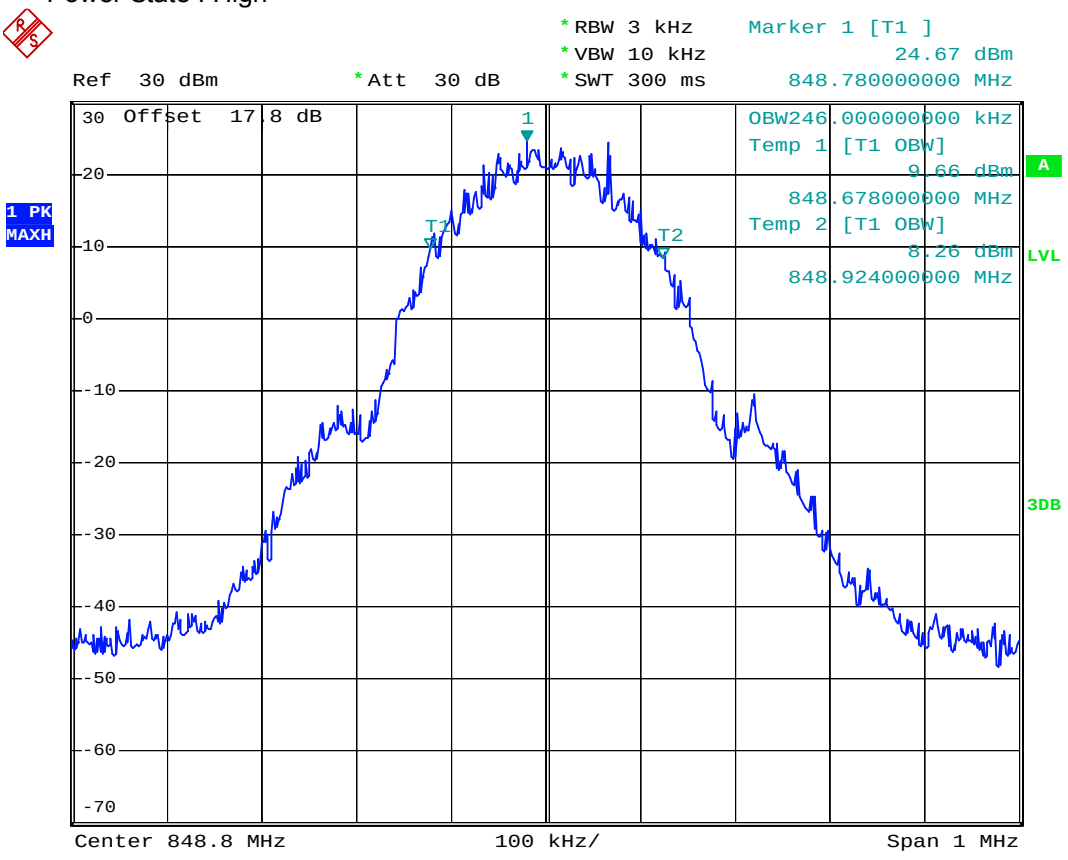
- Test Mode : GSM850 (GSM) CH 251 99% Occupid Bandwidth
- Power State : High



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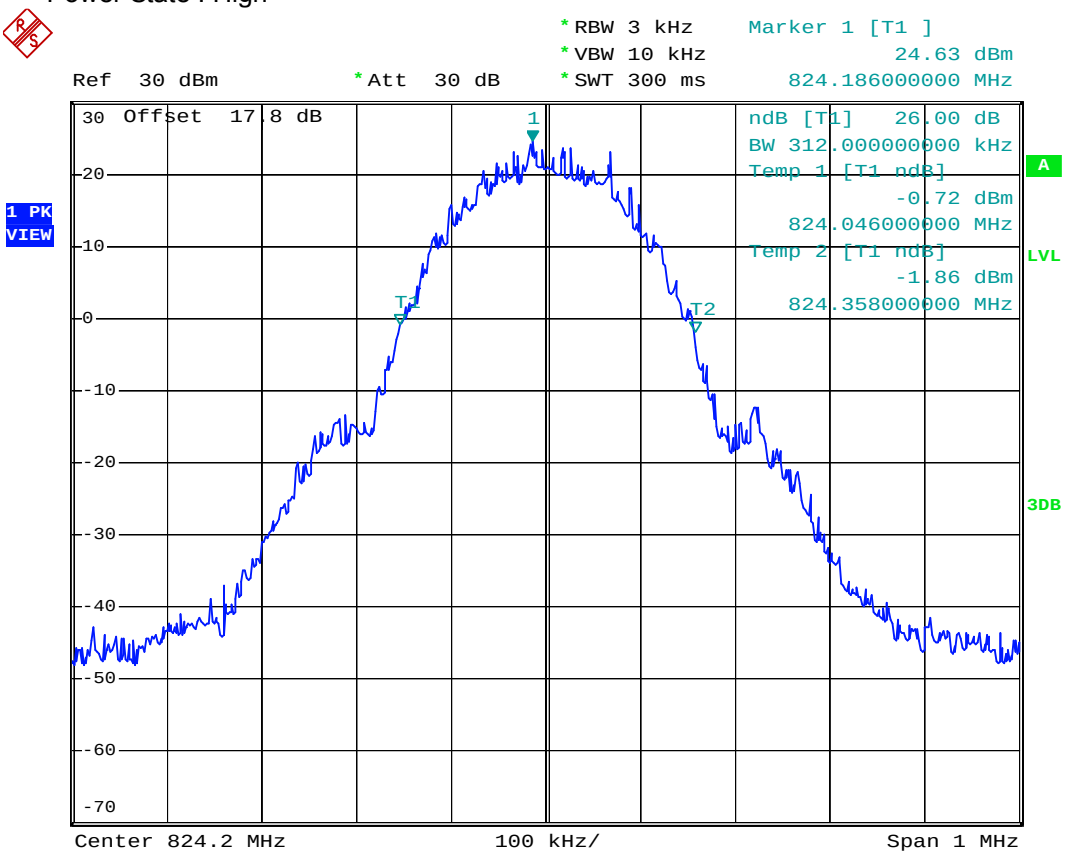
- Test Mode : GSM850 (GSM) CH128 26dB Bandwidth
- Power State : High



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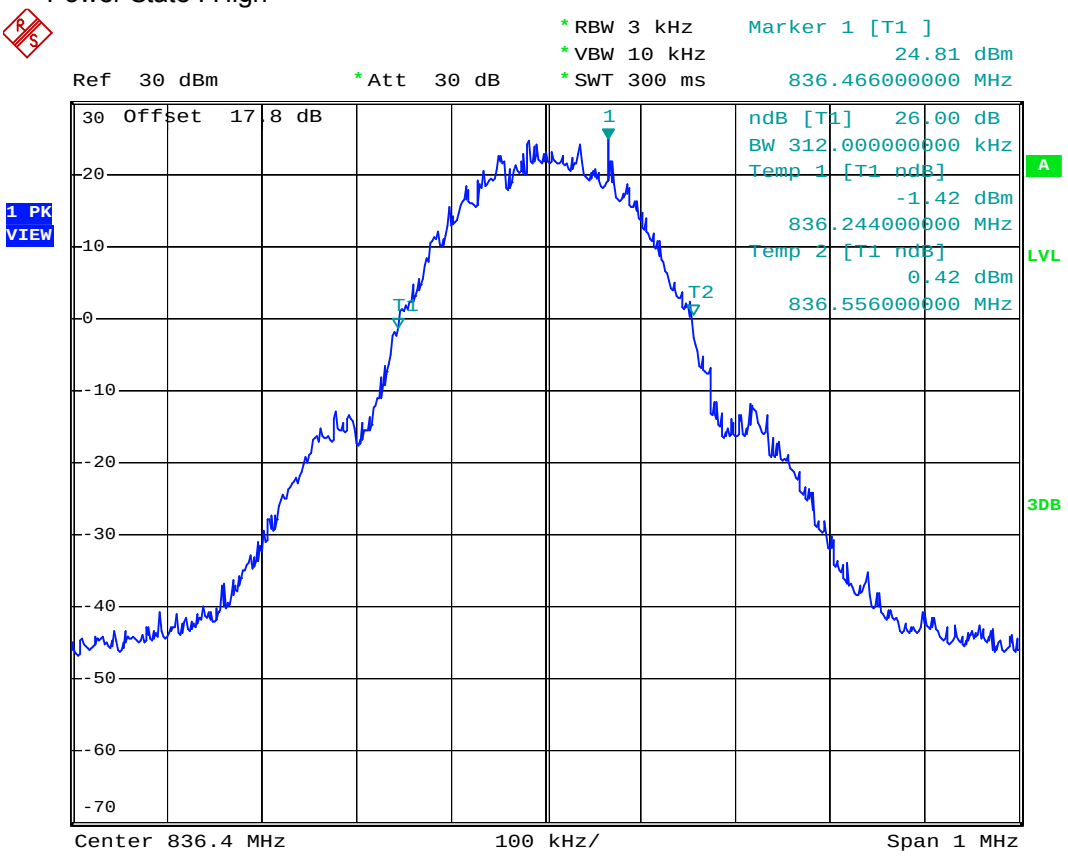
- Test Mode : GSM850 (GSM) CH189 26dB Bandwidth
- Power State : High



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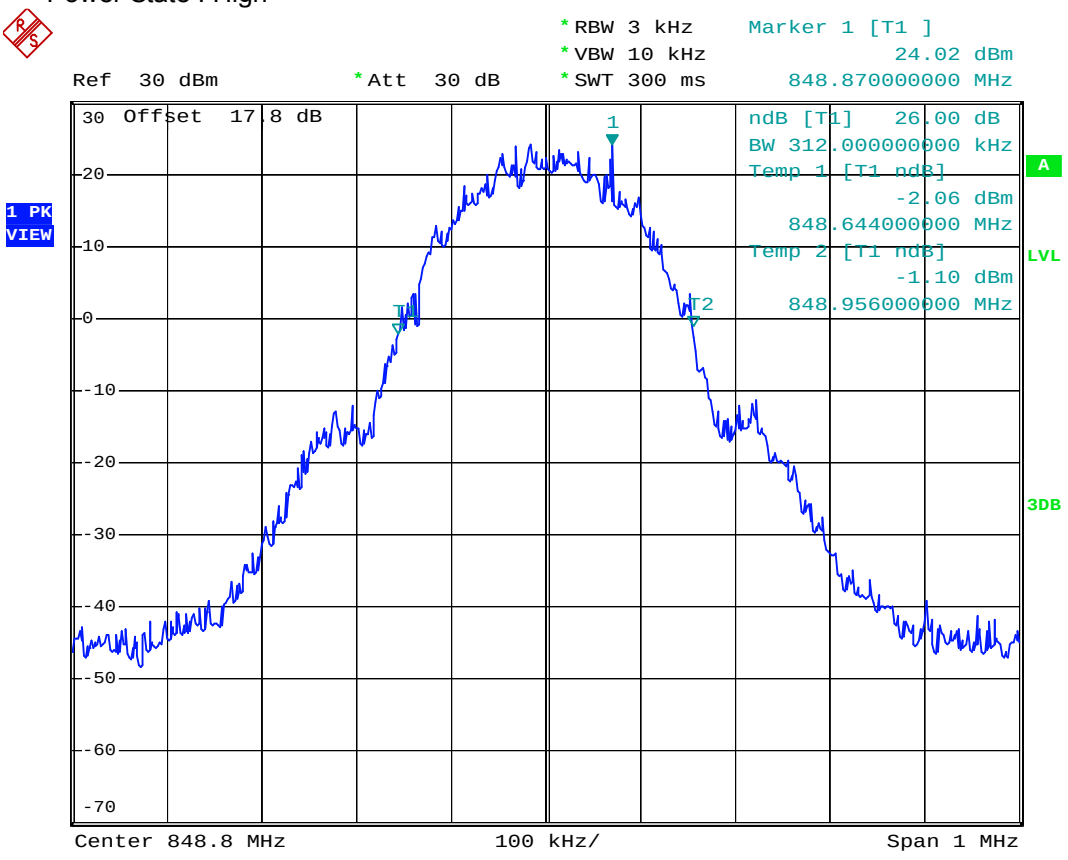
- Test Mode : GSM850 (GSM) CH 251 26dB Bandwidth
- Power State : High



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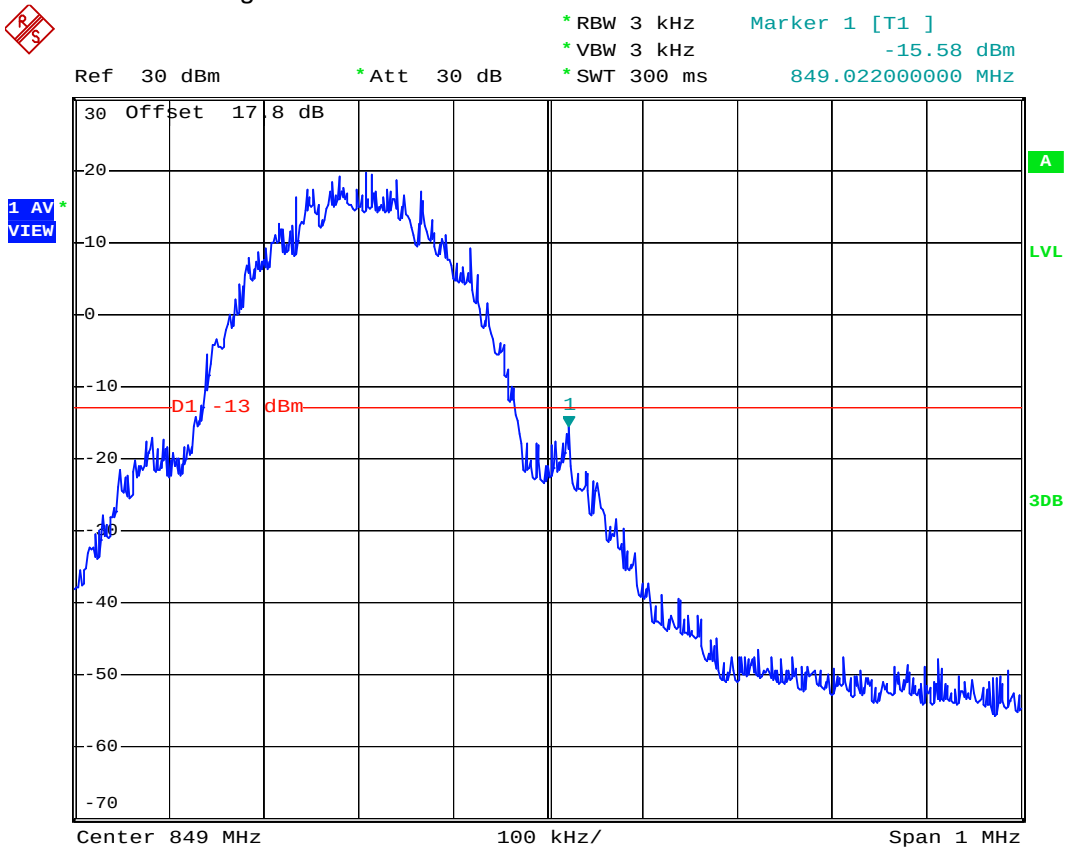
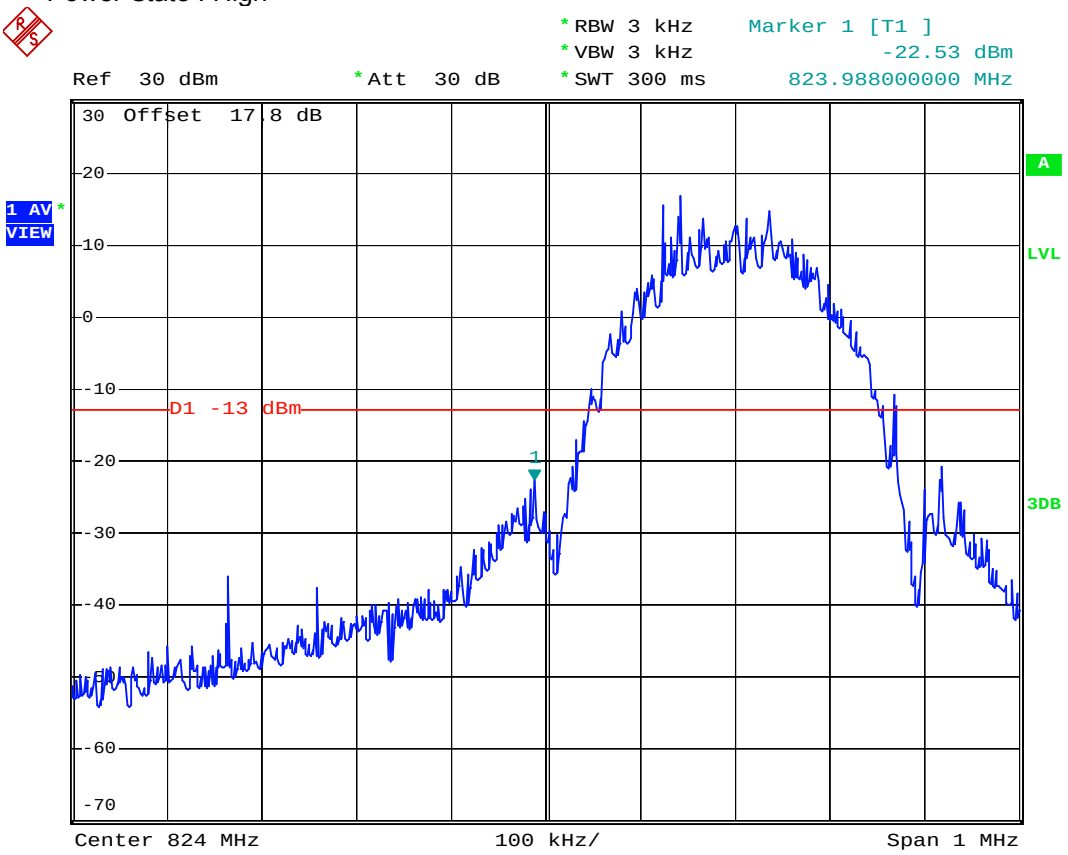
- Test Mode : GSM850 (GSM) CH251 Higher Band Edge
- Power State : High



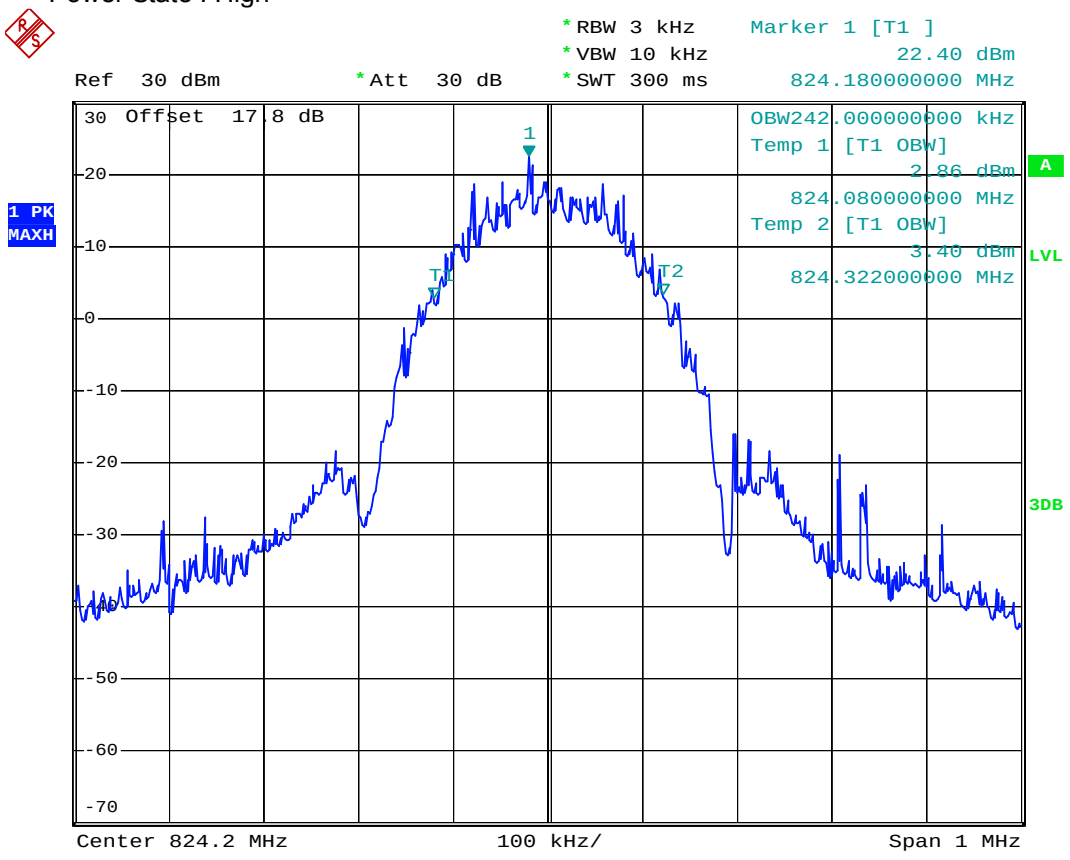
Date: 18.JUL.2008 10:58:29

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



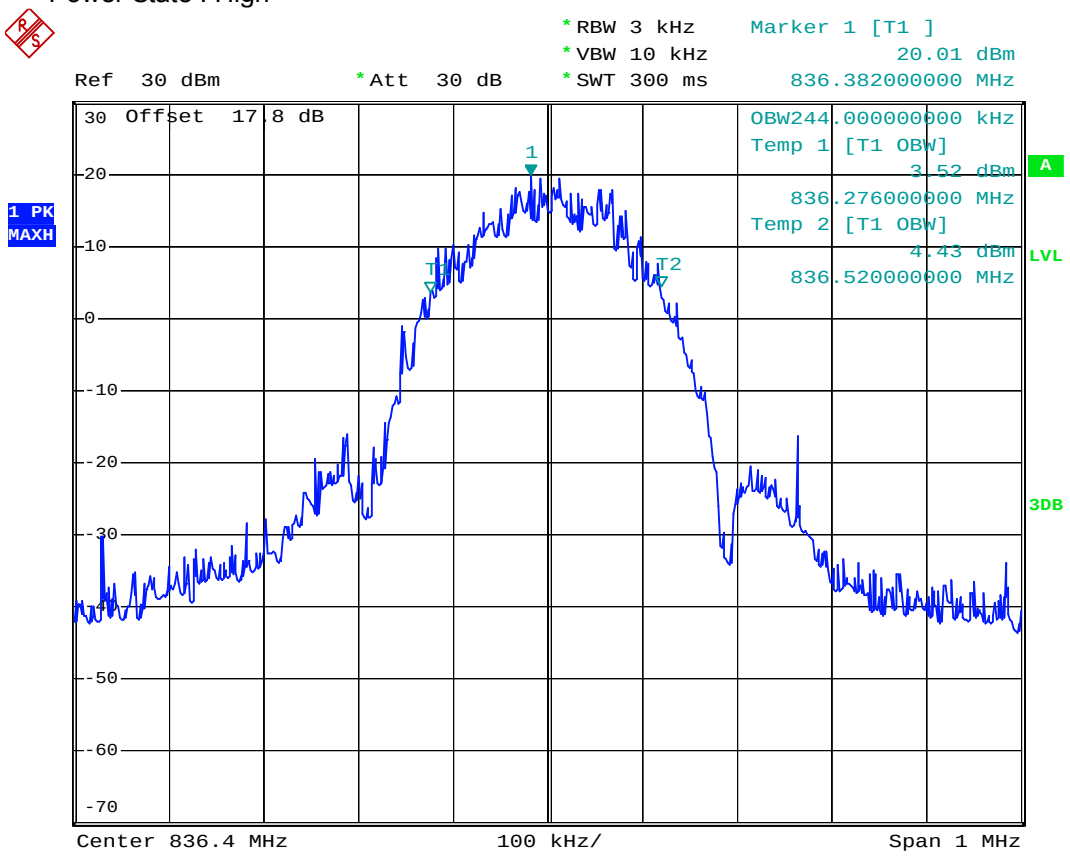
Date: 18.JUL.2008 12:03:12

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



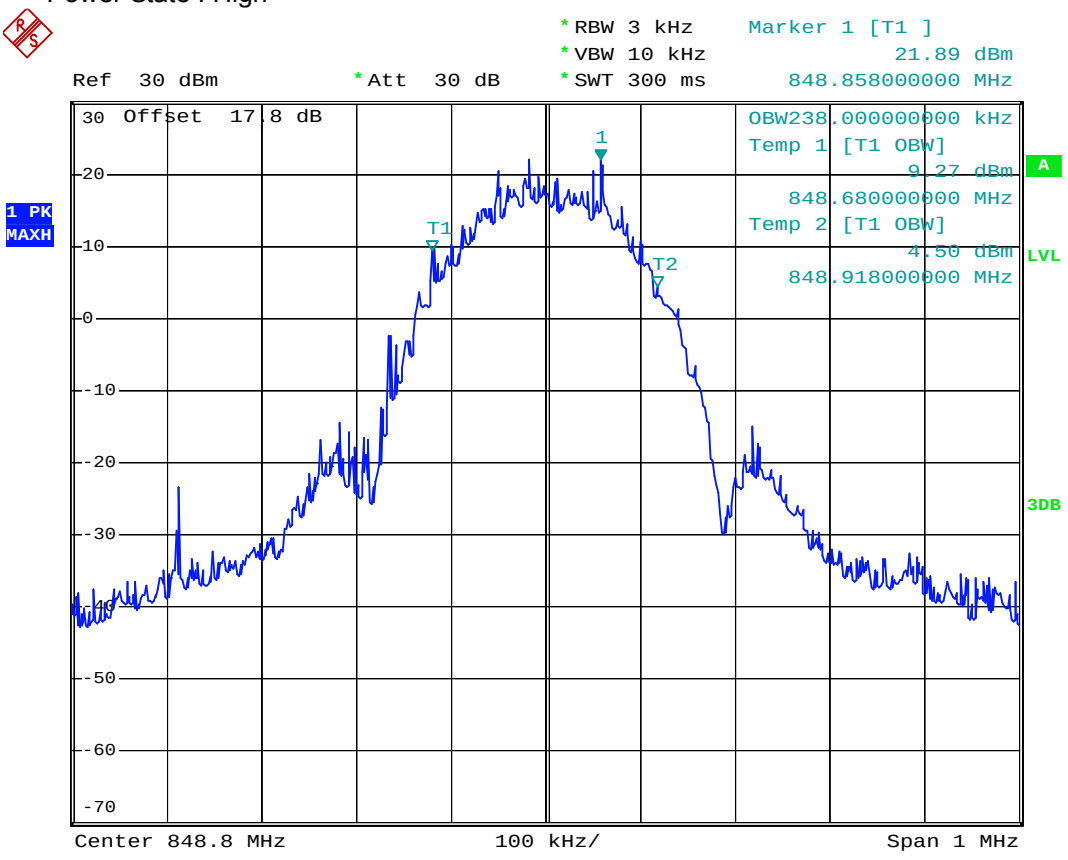
Date: 18.JUL.2008 11:57:06

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



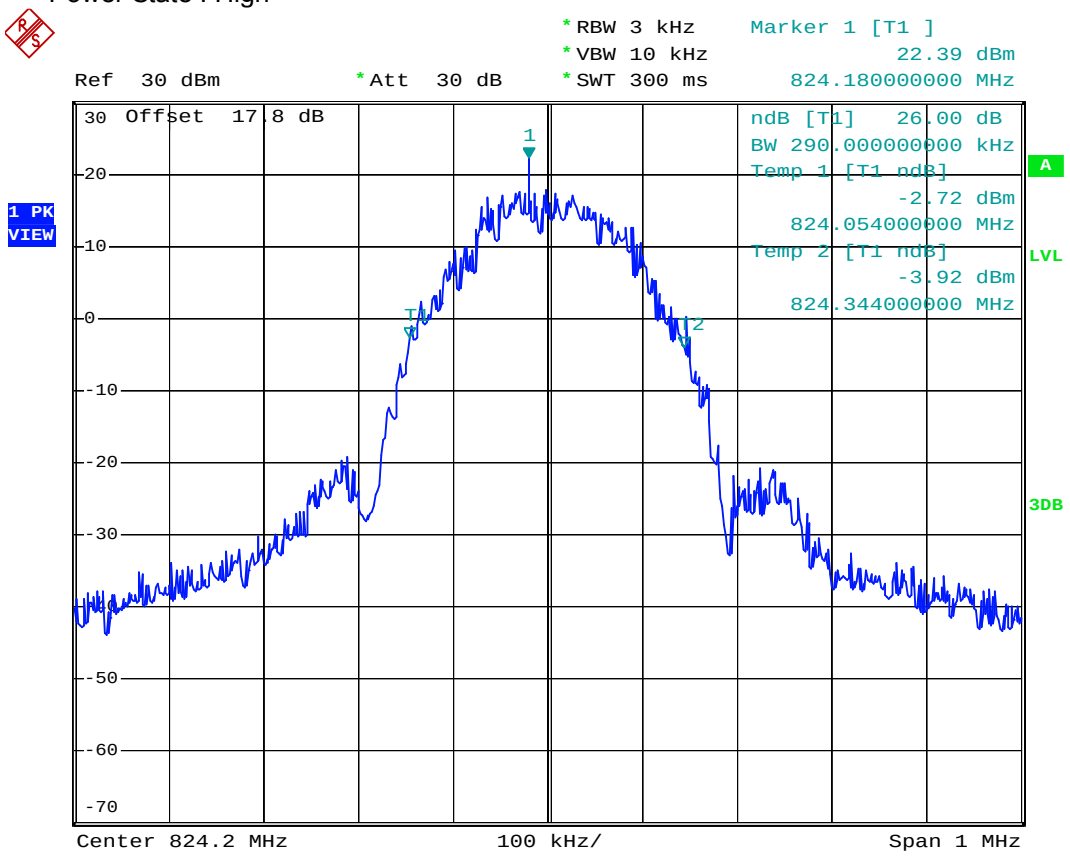
Date: 18.JUL.2008 11:54:28

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



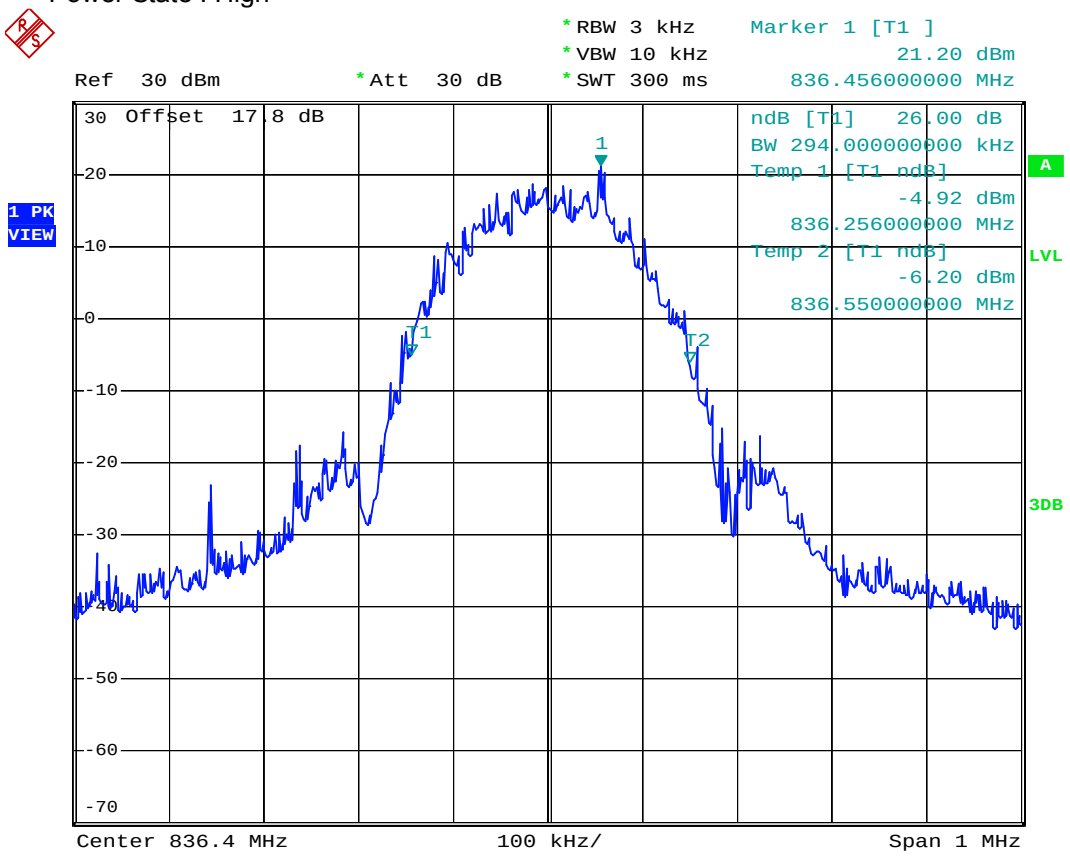
Date: 18.JUL.2008 11:57:52

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



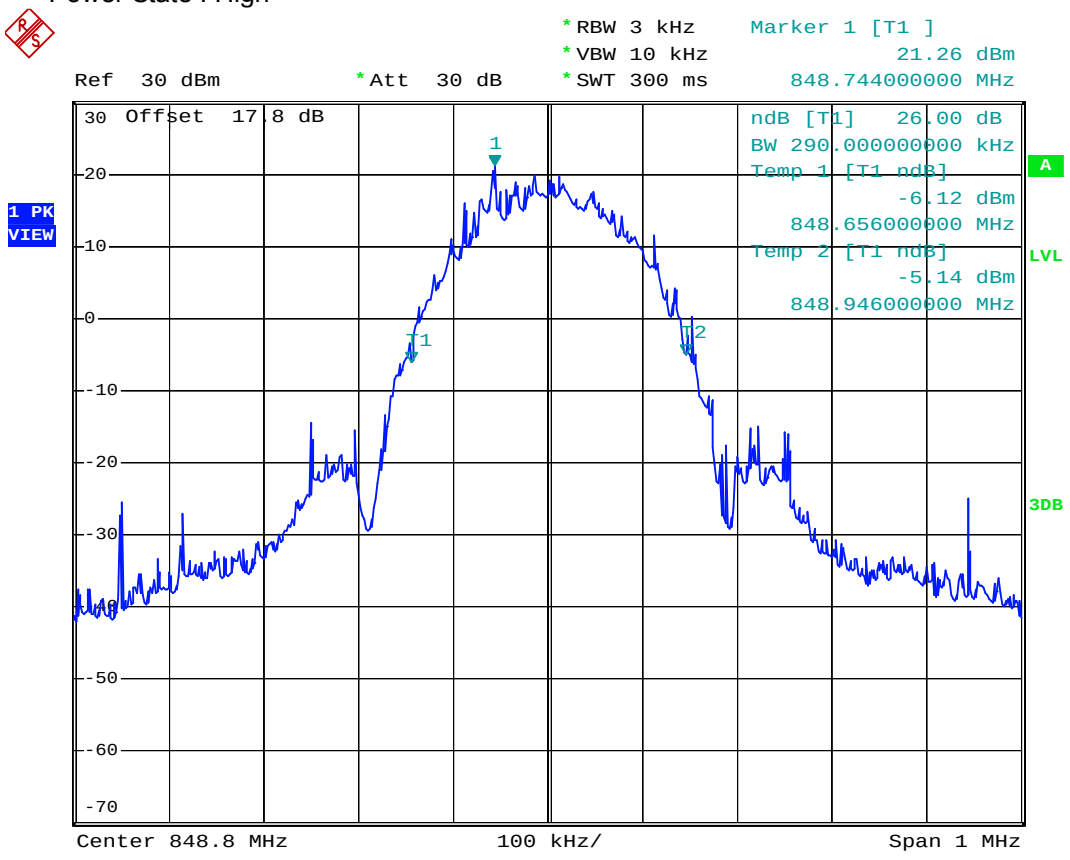
Date: 18.JUL.2008 12:01:56

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



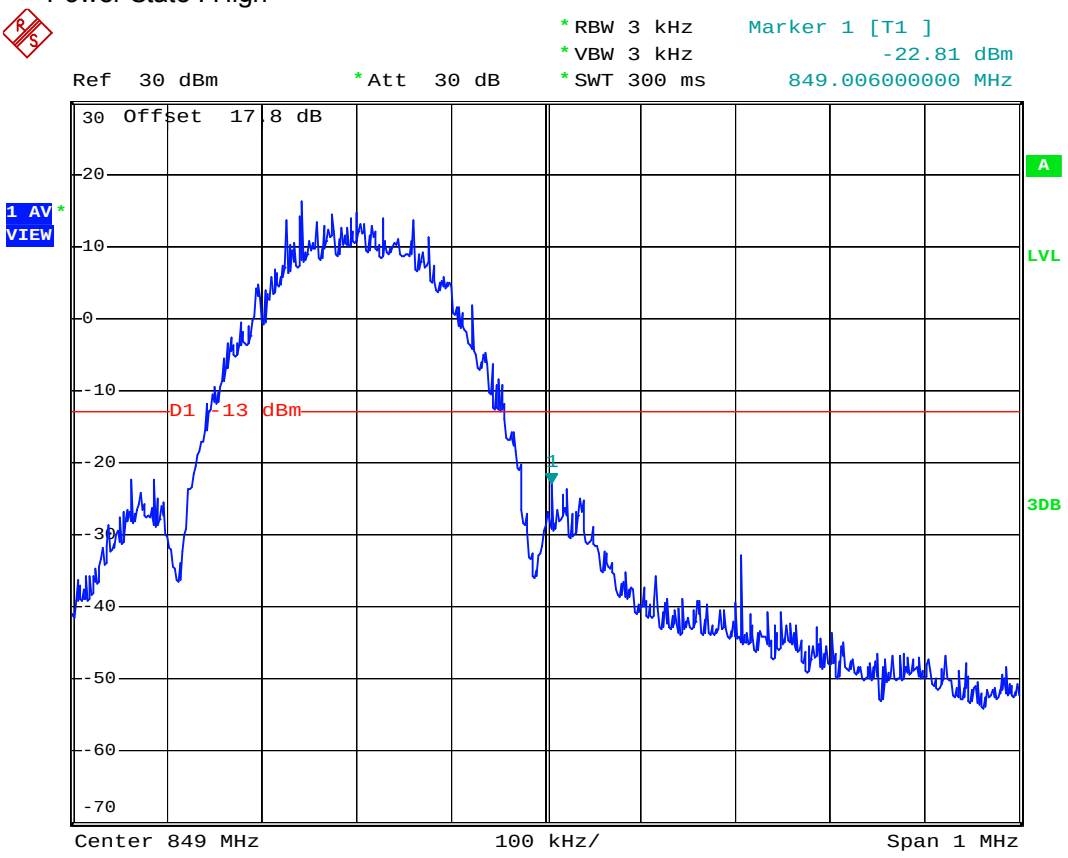
Date: 18.JUL.2008 11:59:34

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



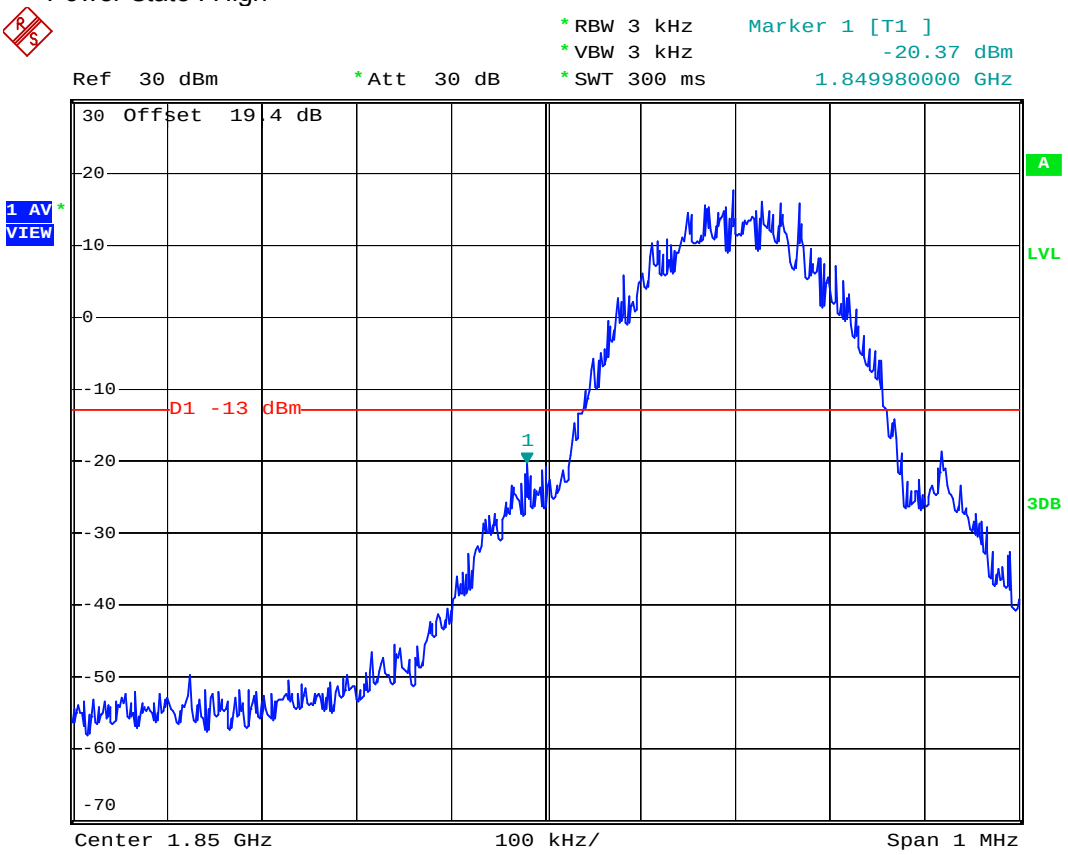
Date: 18.JUL.2008 12:00:36

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



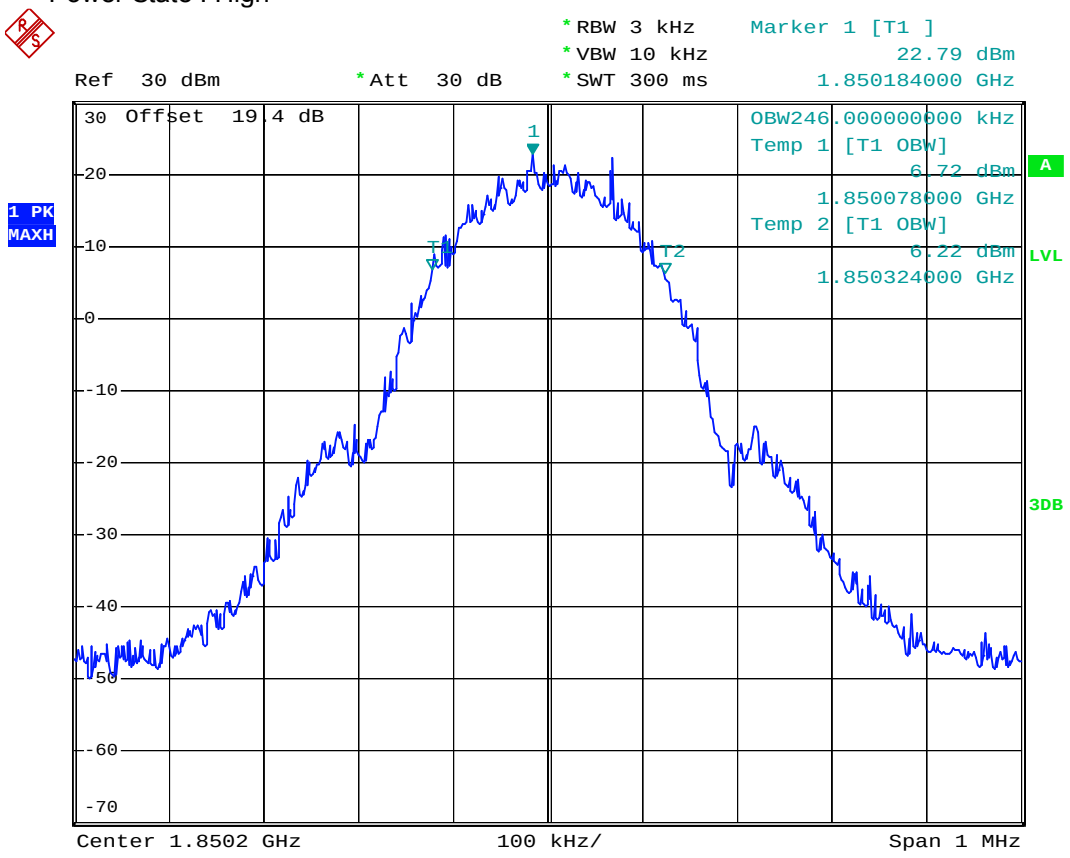
Date: 18.JUL.2008 12:05:18

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



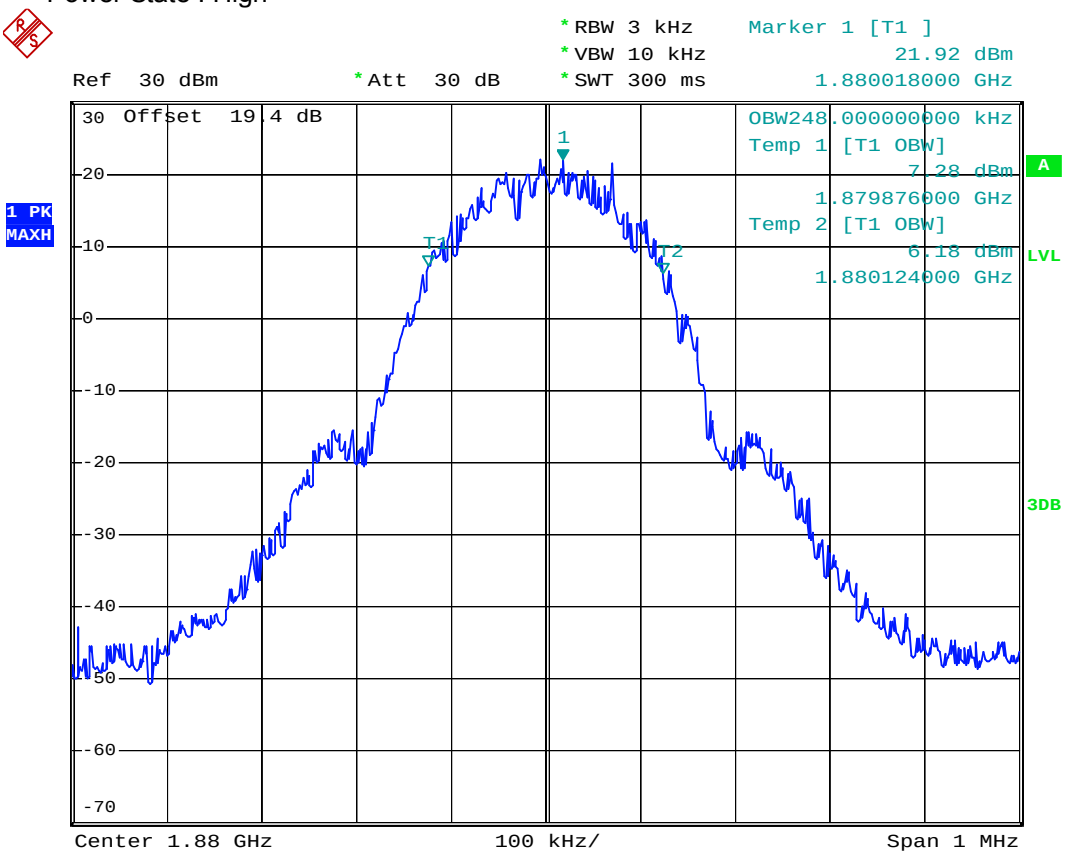
Date: 18.JUL.2008 12:13:57

- Test Mode : GSM1900 (GSM) CH512 99% Occupid Bandwidth
- Power State : High



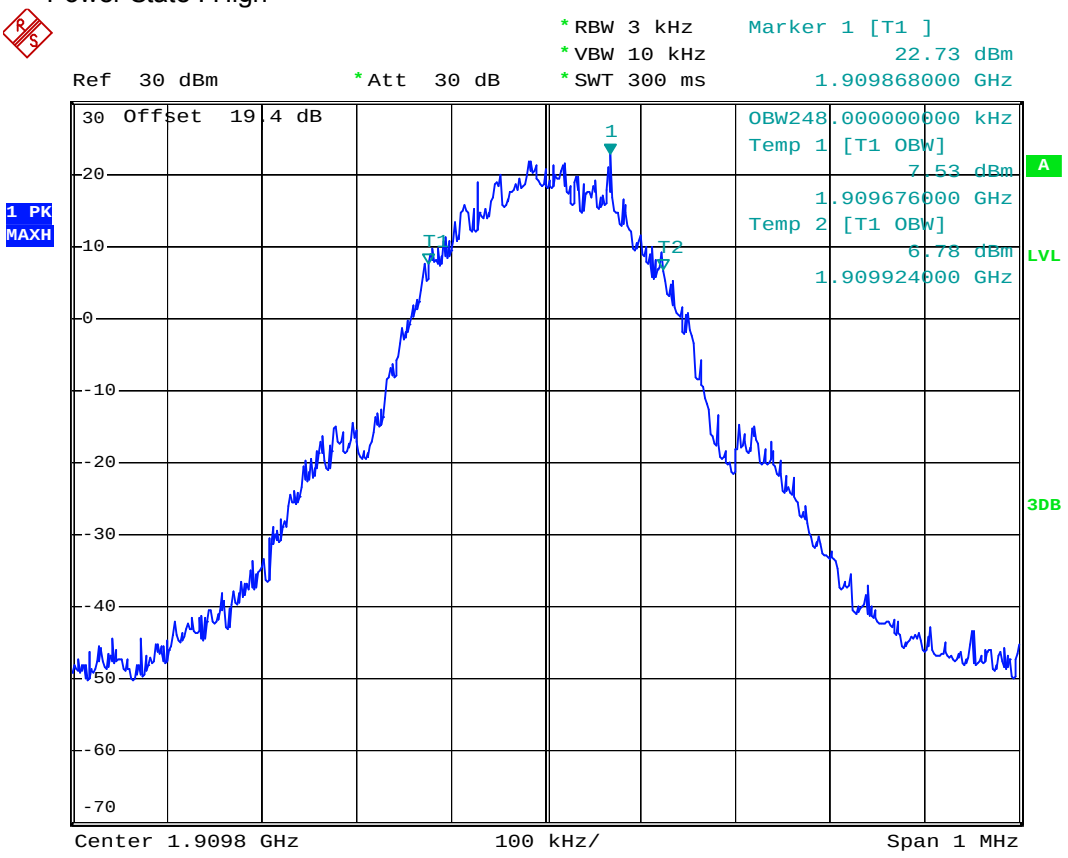
Date: 18.JUL.2008 12:12:49

- Test Mode : GSM1900 (GSM) CH661 99% Occupid Bandwidth
- Power State : High



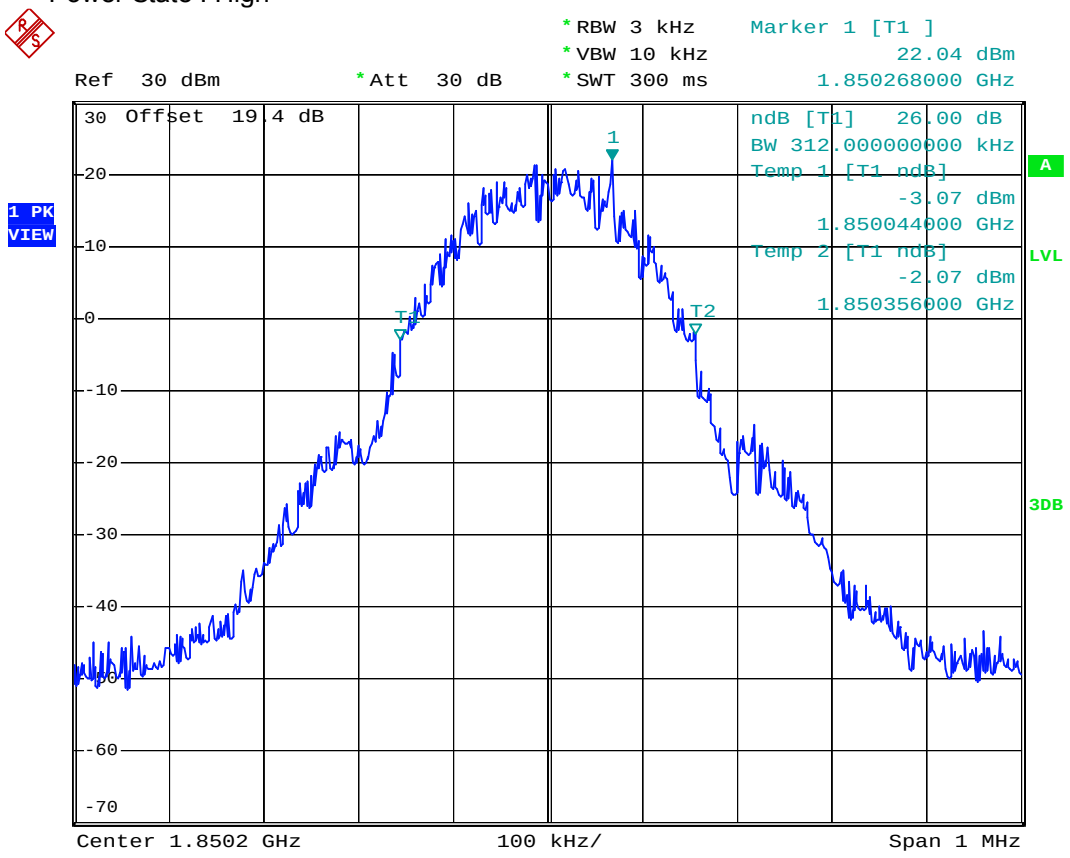
Date: 18.JUL.2008 12:11:09

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



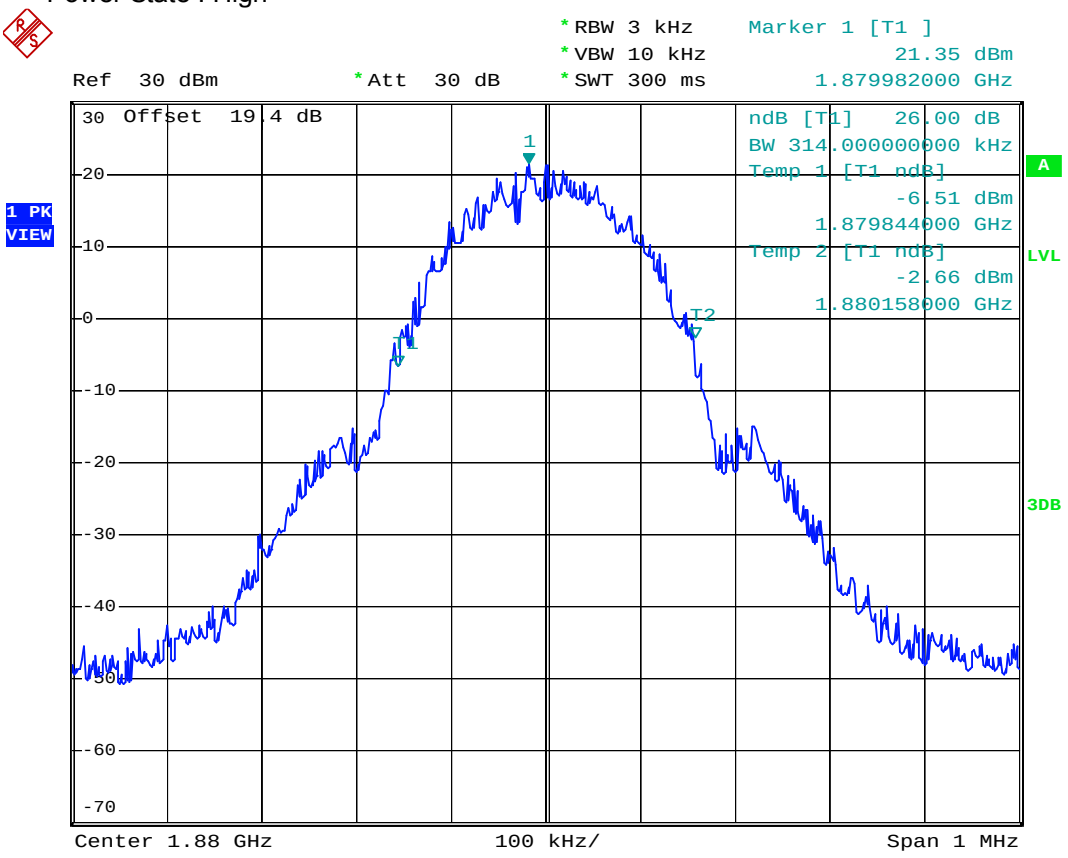
Date: 18.JUL.2008 12:10:42

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



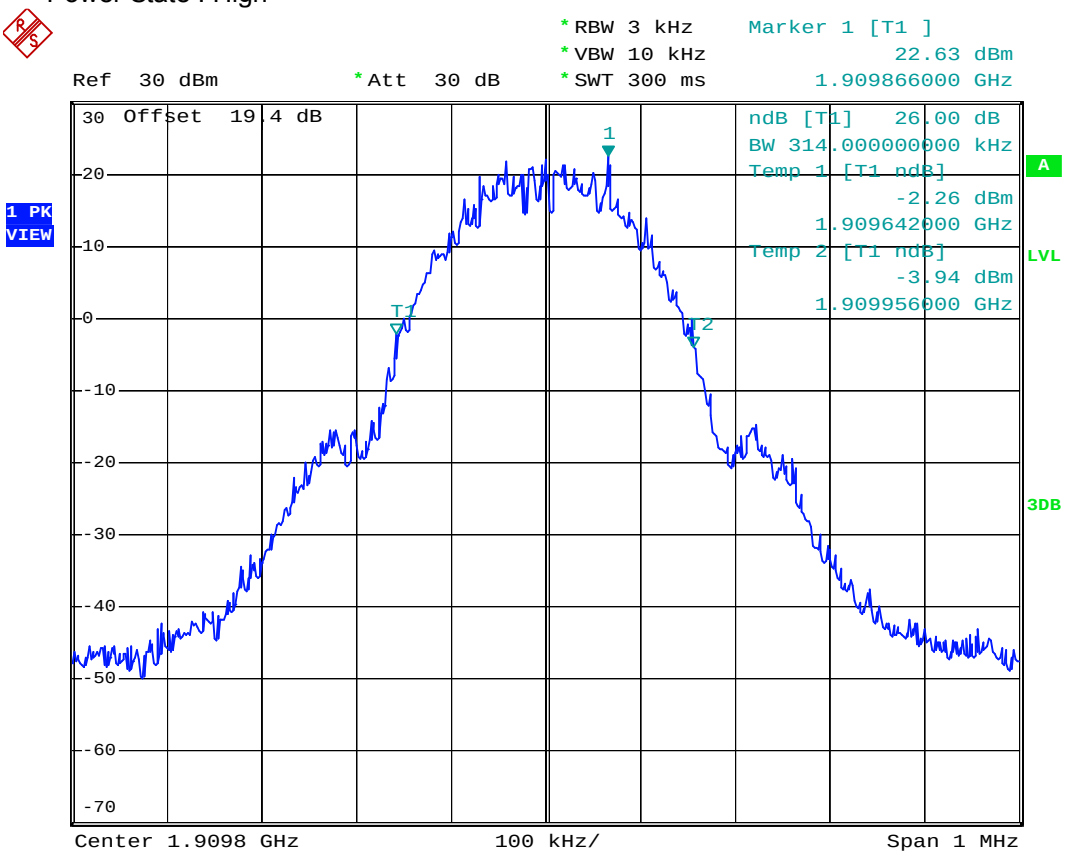
Date: 18.JUL.2008 12:08:50

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



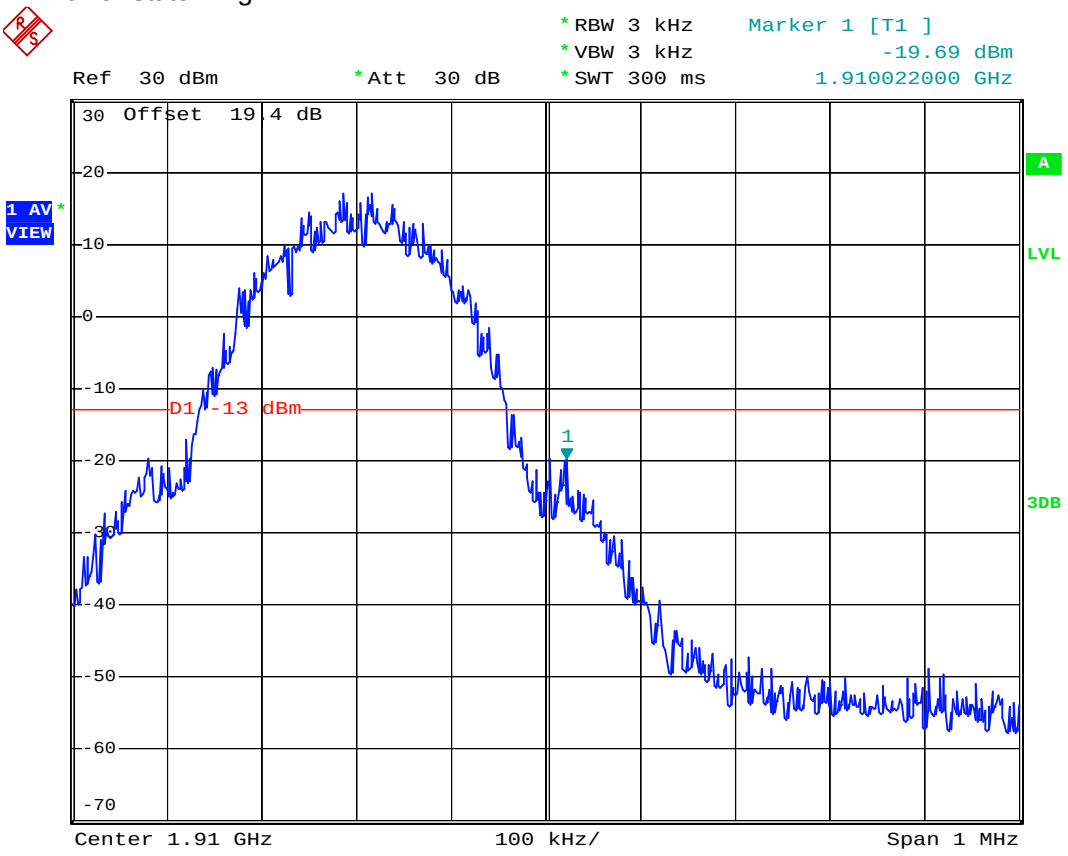
Date: 18.JUL.2008 12:09:21

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



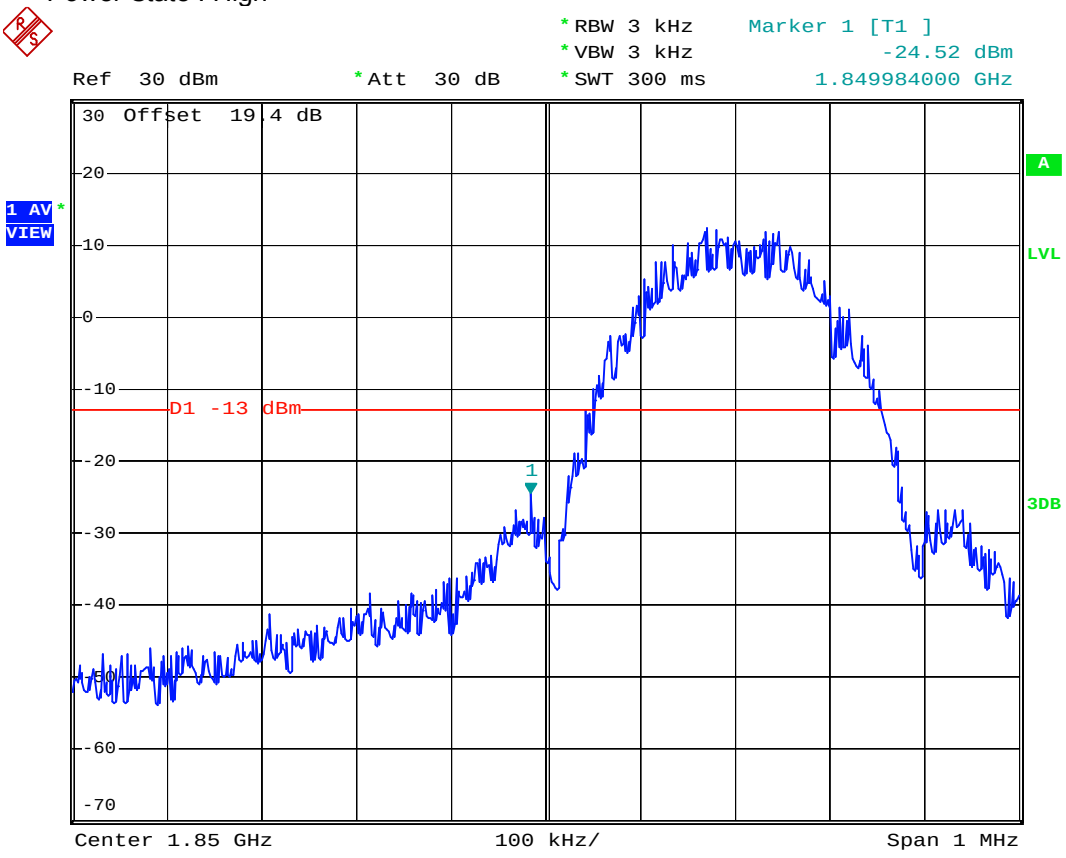
Date: 18.JUL.2008 12:10:08

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



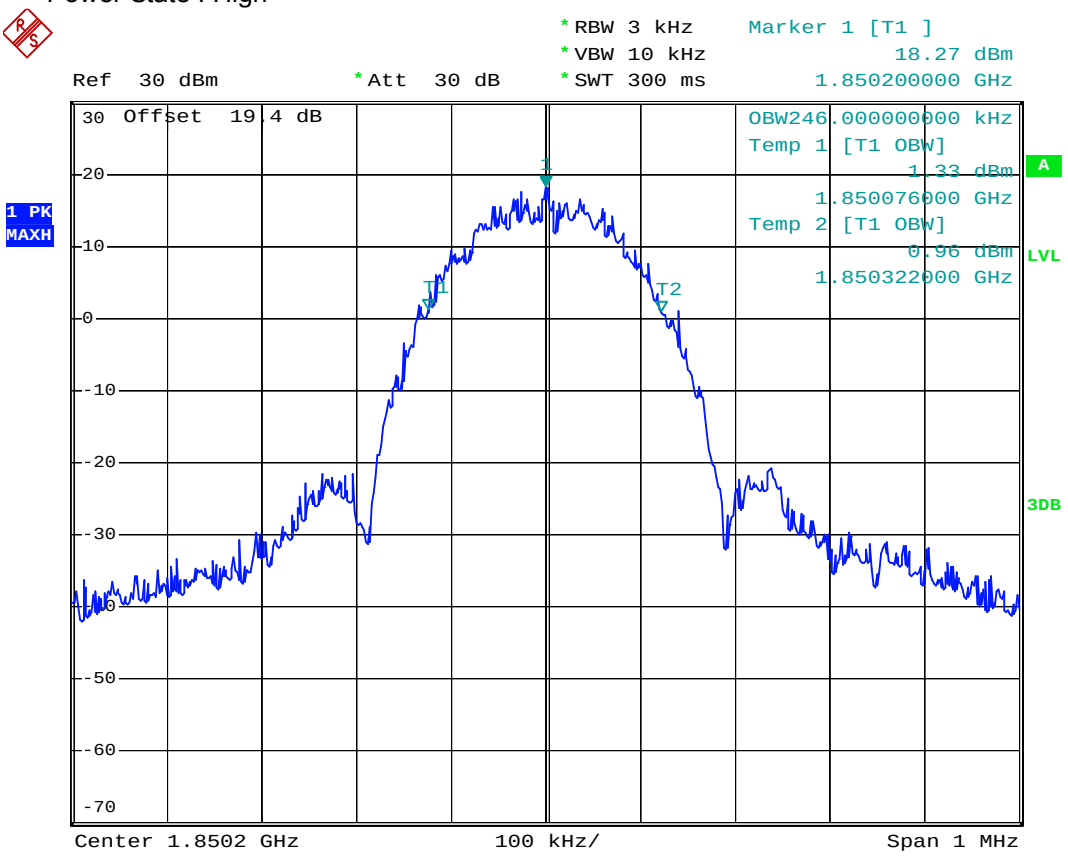
Date: 18.JUL.2008 12:16:57

- Mode 4
- Test Mode : GSM1900 (EDGE) CH512 Lower Band Edge
- Power State : High



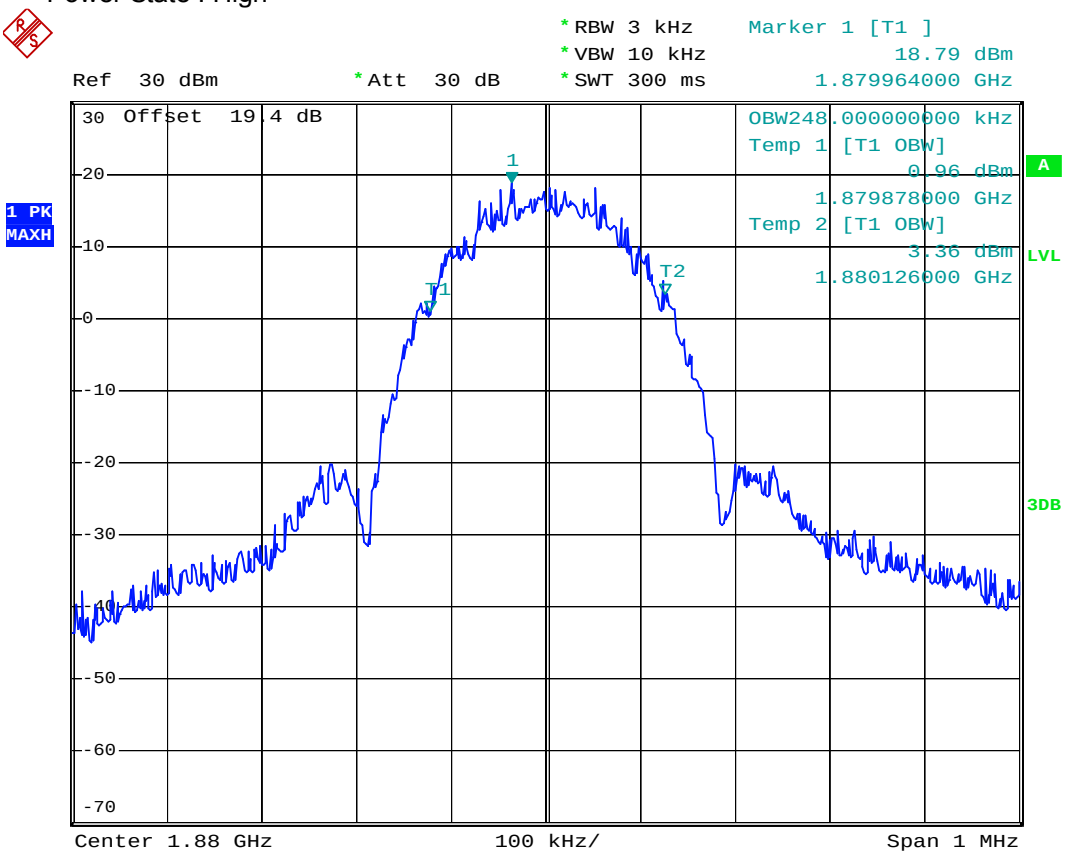
Date: 18.JUL.2008 14:22:33

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



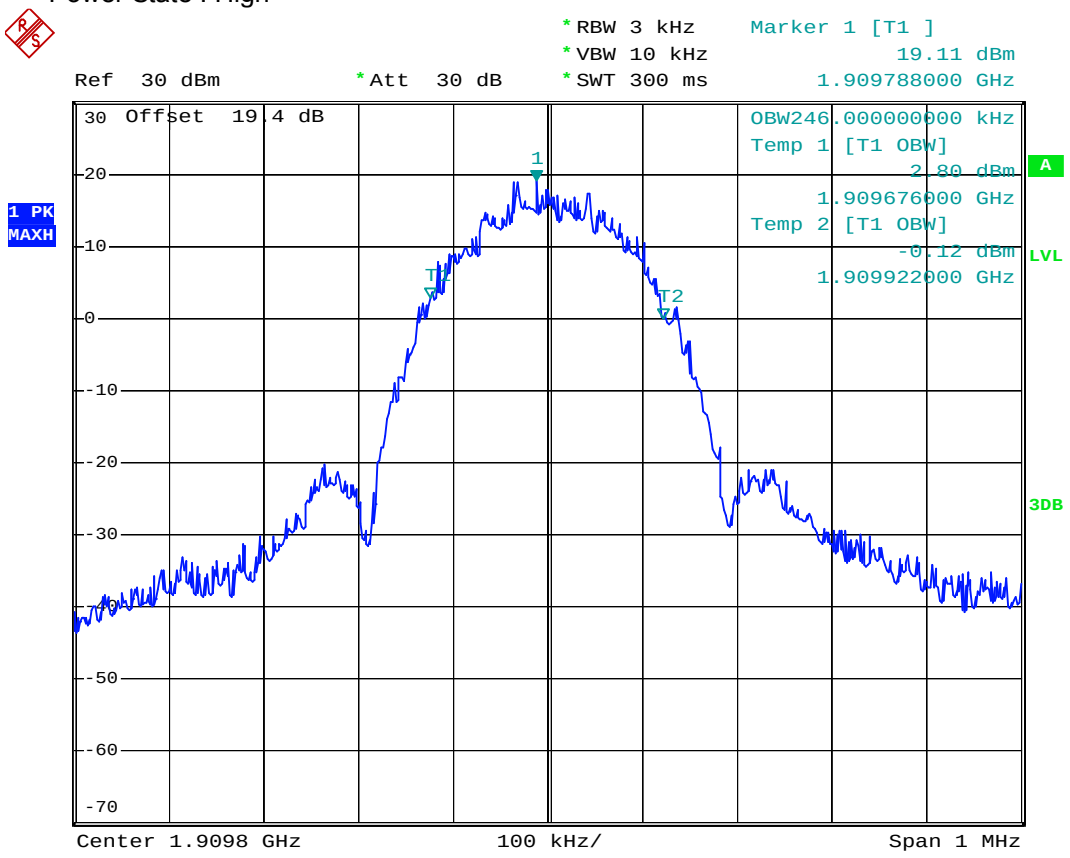
Date: 18.JUL.2008 14:19:28

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



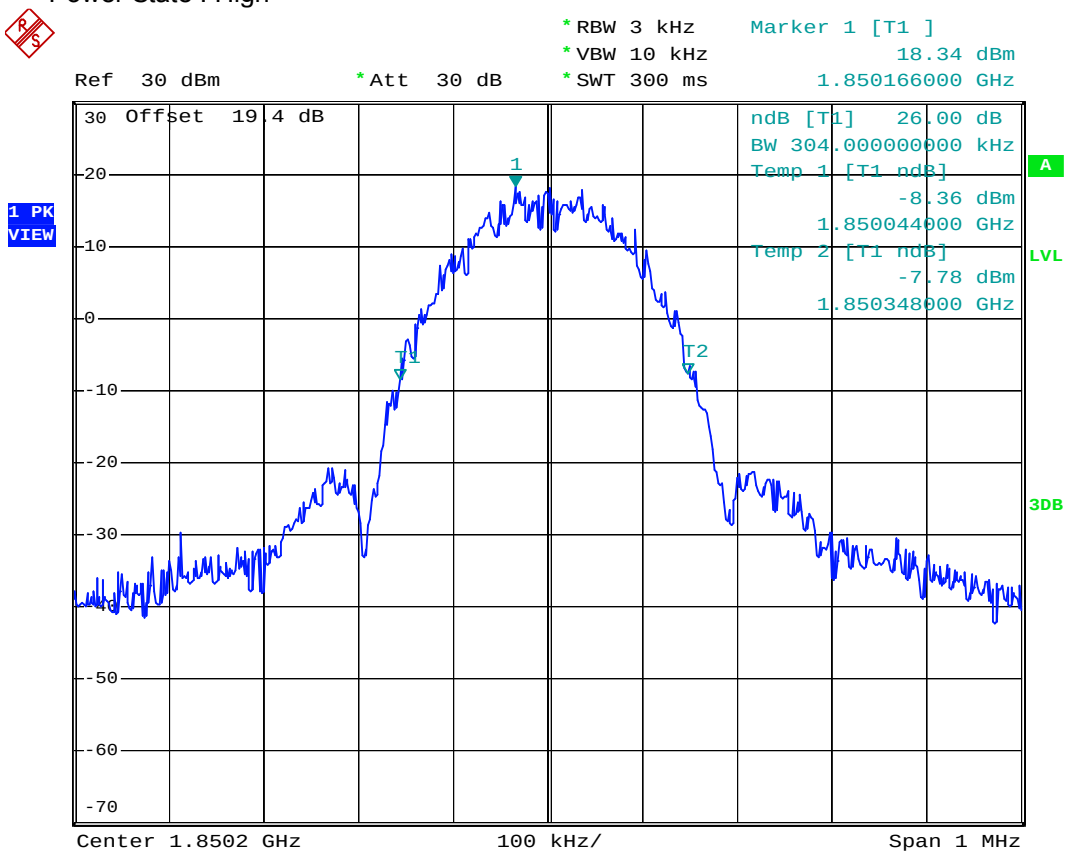
Date: 18.JUL.2008 14:20:07

- Test Mode : GSM1900 (EDGE) CH810 99% Occupid Bandwidth
- Power State : High



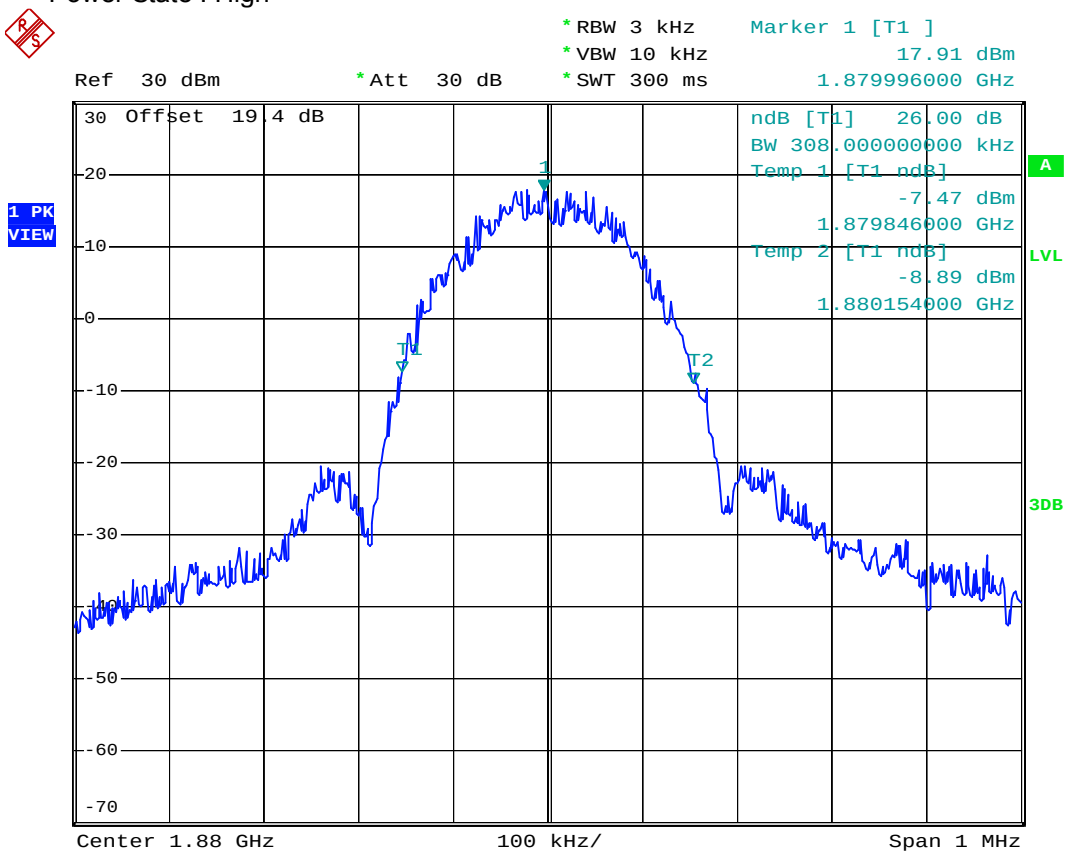
Date: 18.JUL.2008 14:21:30

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



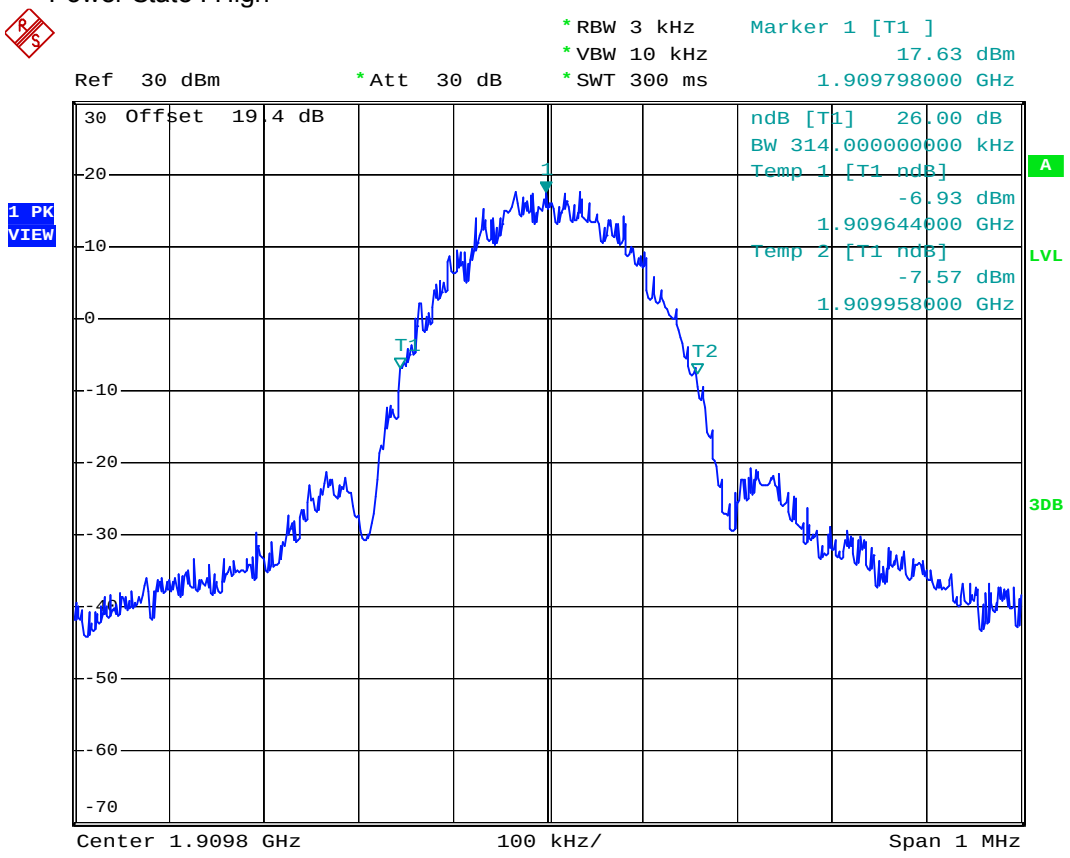
Date: 18.JUL.2008 14:18:59

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



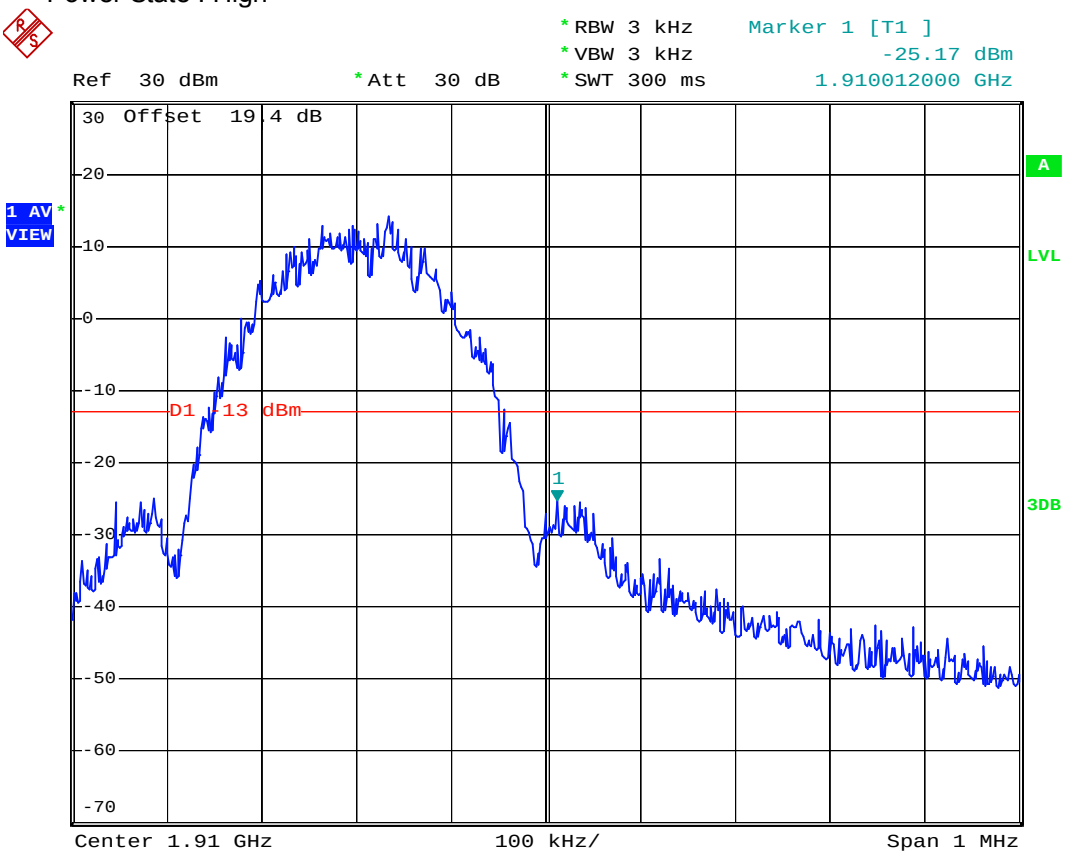
Date: 18.JUL.2008 14:17:17

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



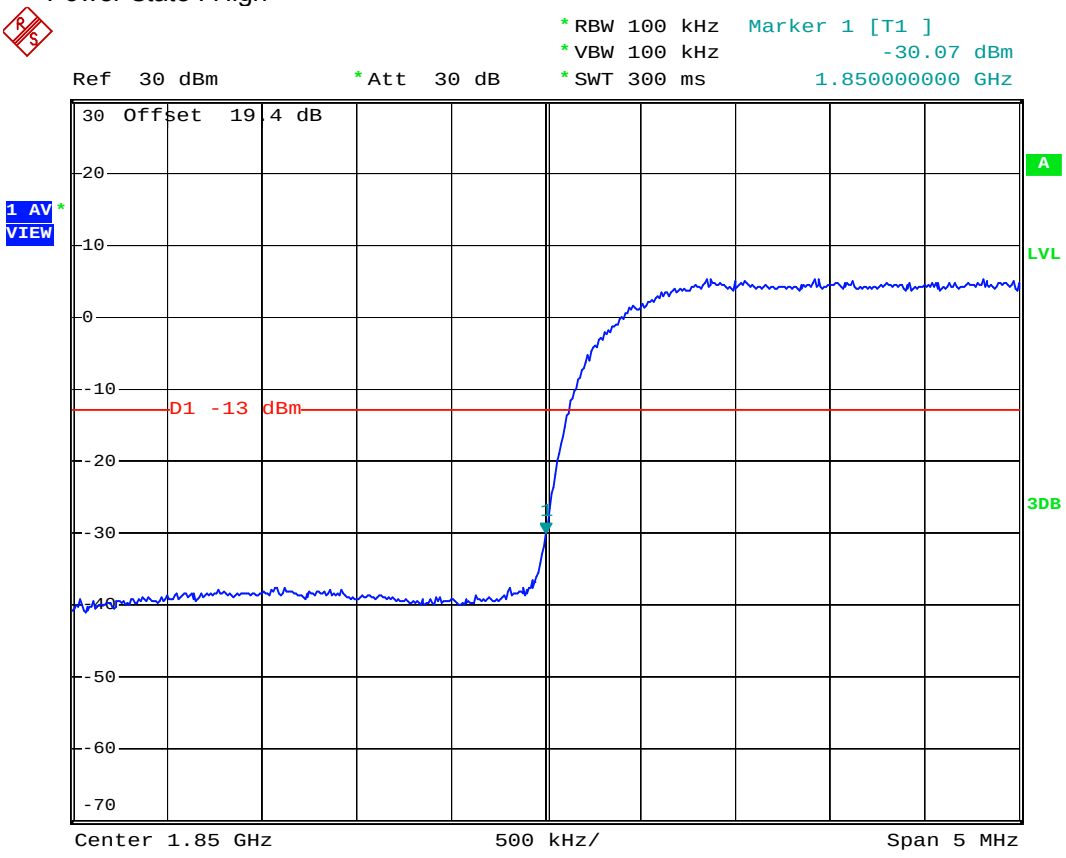
Date: 18.JUL.2008 14:18:14

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



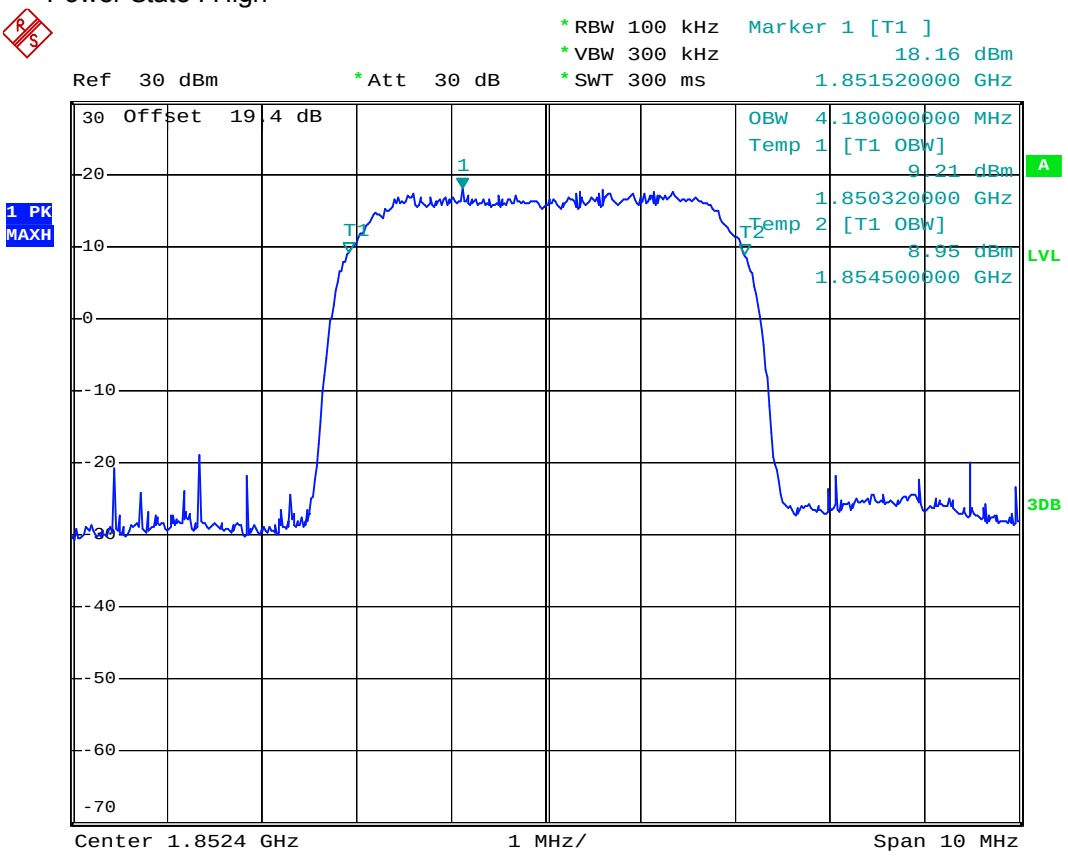
Date: 18.JUL.2008 14:25:10

- Mode 5
- Test Mode : WCDMA Band II CH9262 Lower Band Edge
- Power State : High



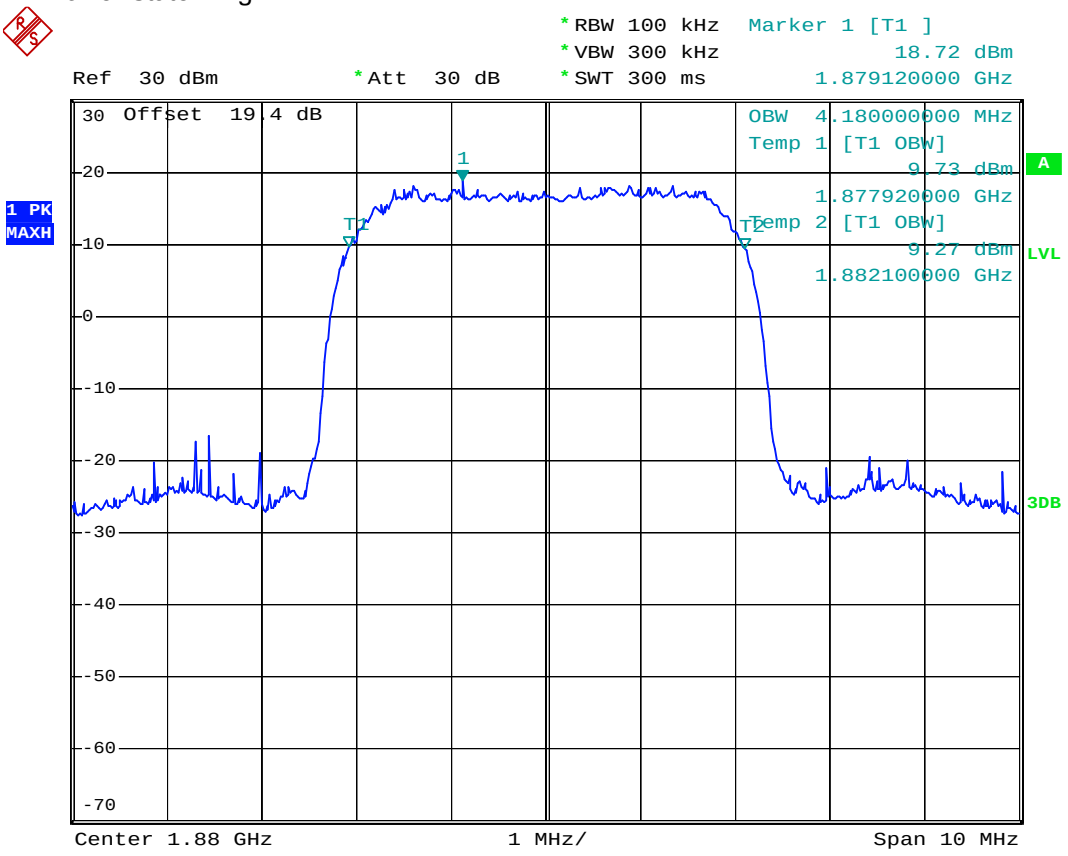
Date: 18.JUL.2008 17:17:59

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



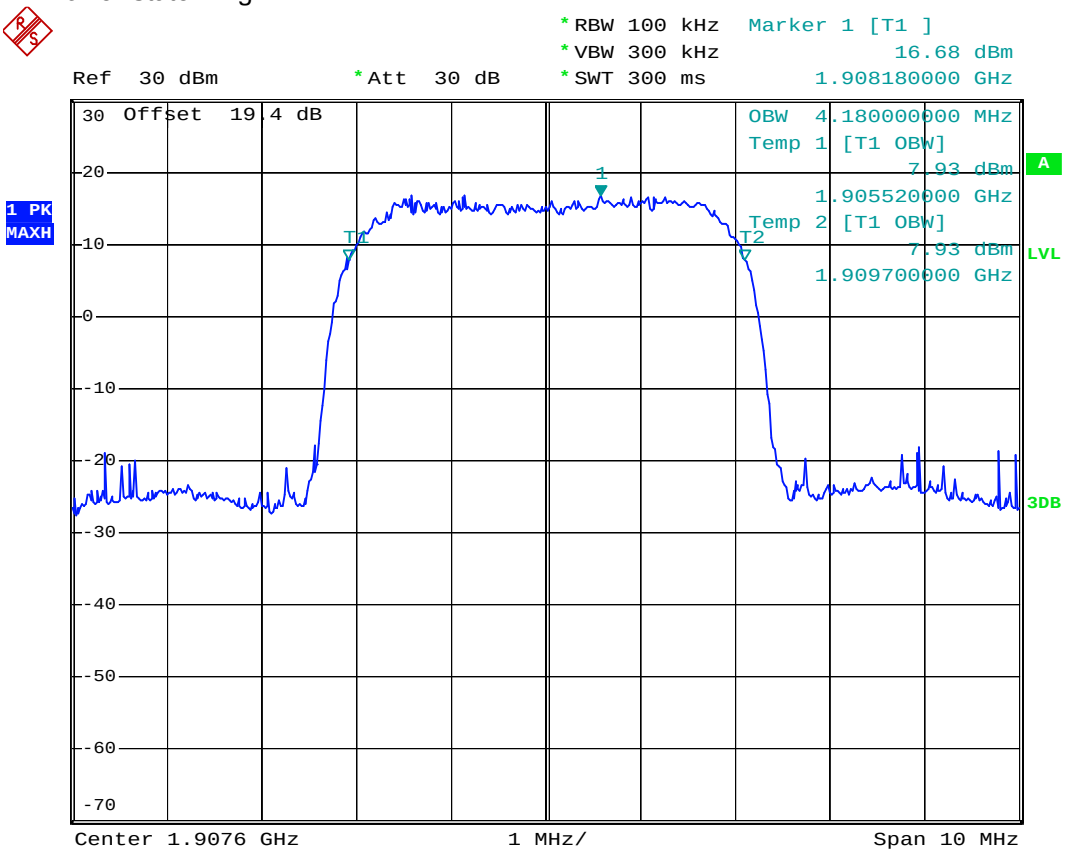
Date: 18.JUL.2008 17:04:22

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



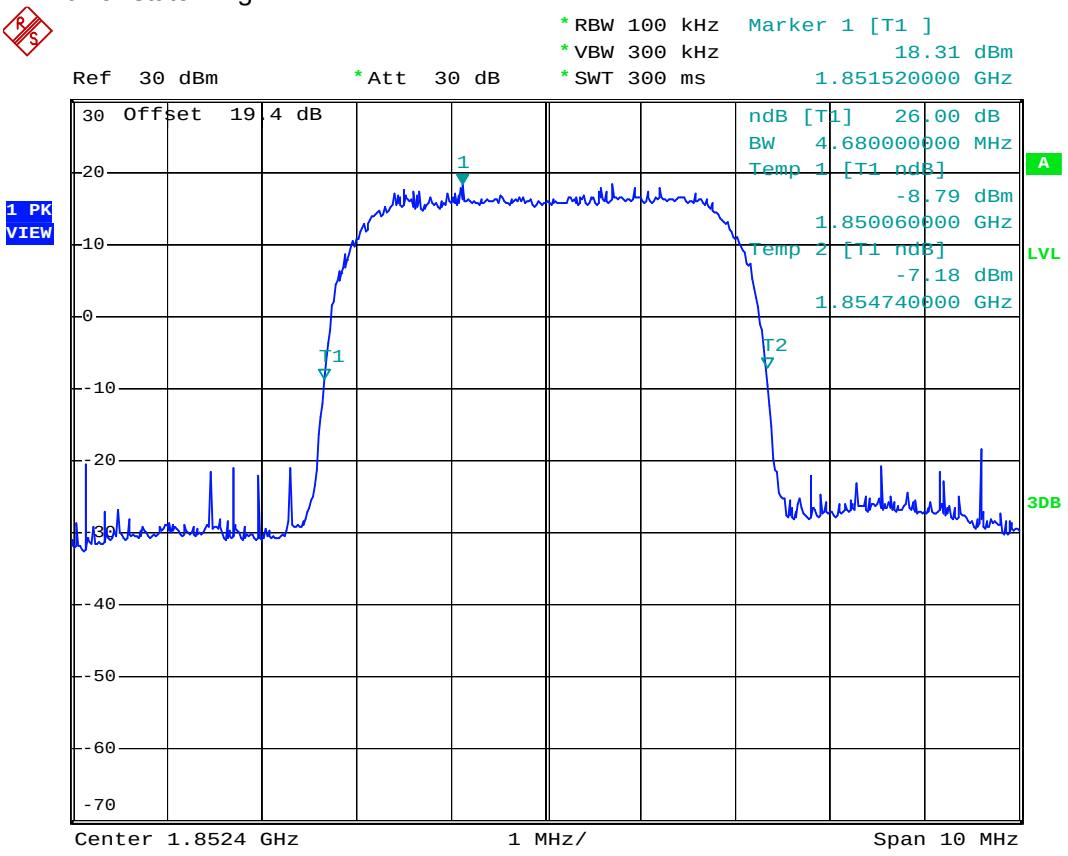
Date: 18.JUL.2008 17:03:17

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



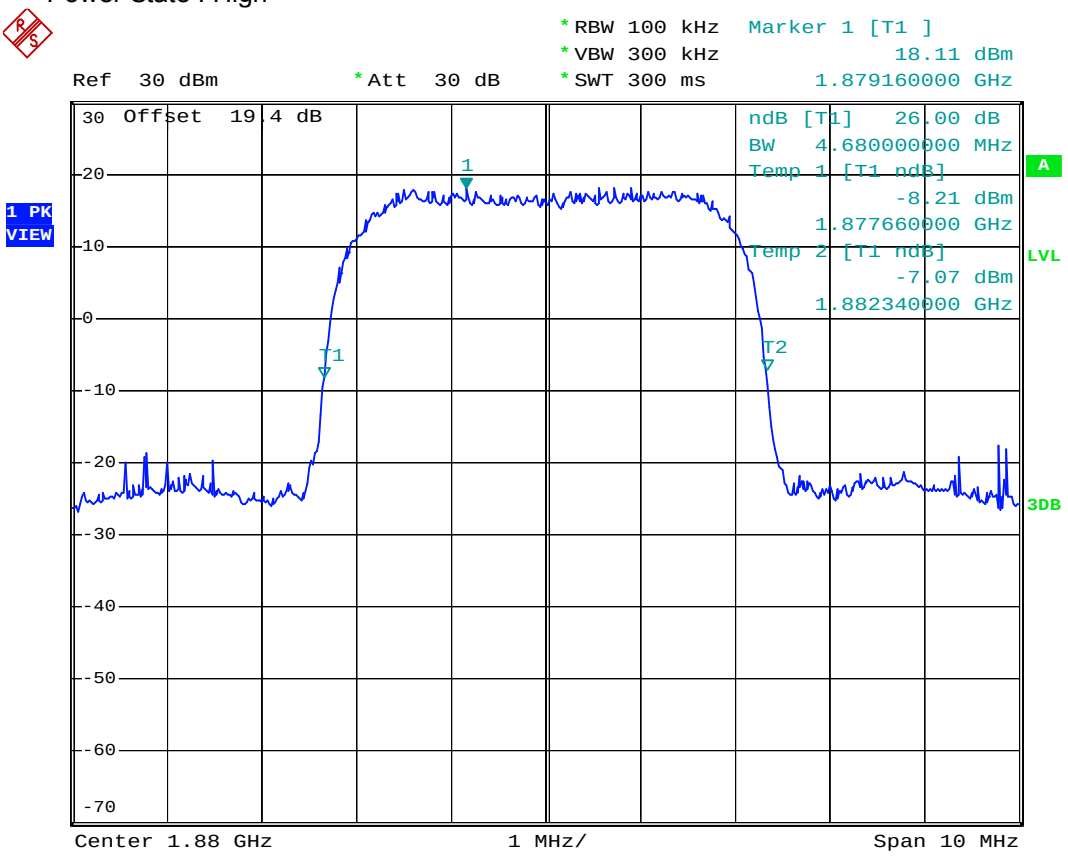
Date: 18.JUL.2008 17:02:55

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



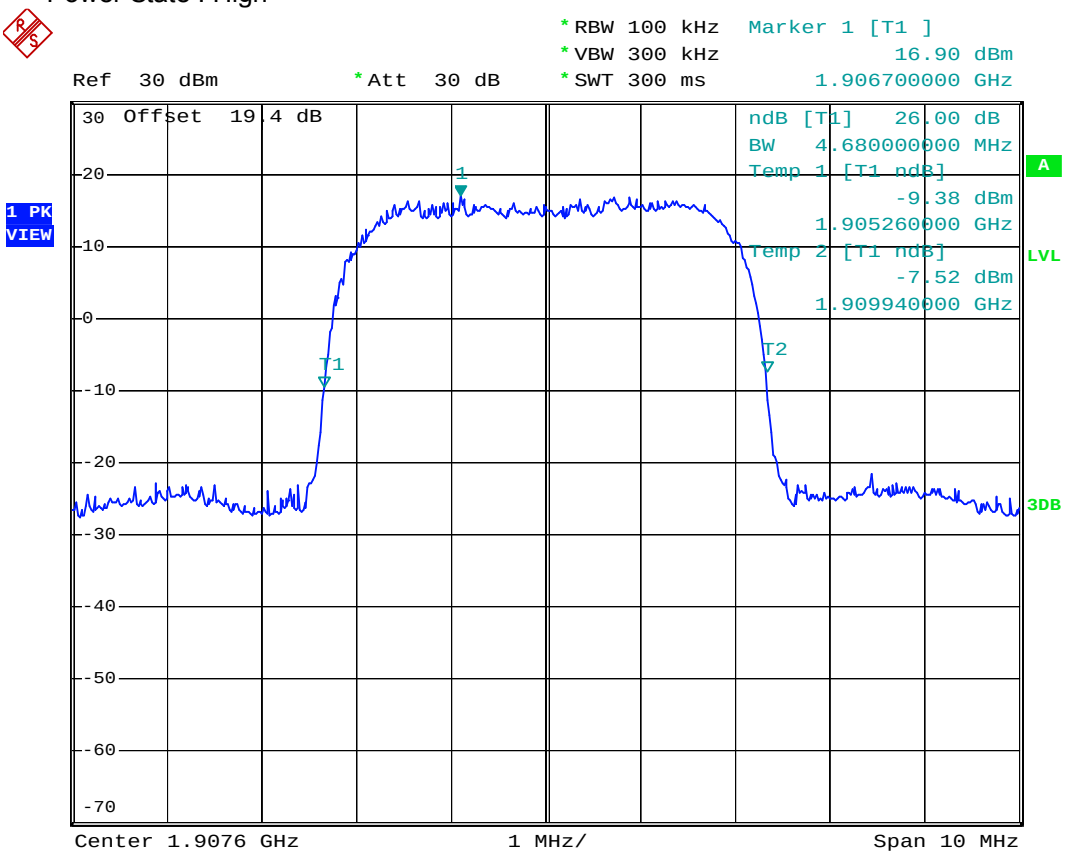
Date: 18.JUL.2008 16:59:20

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



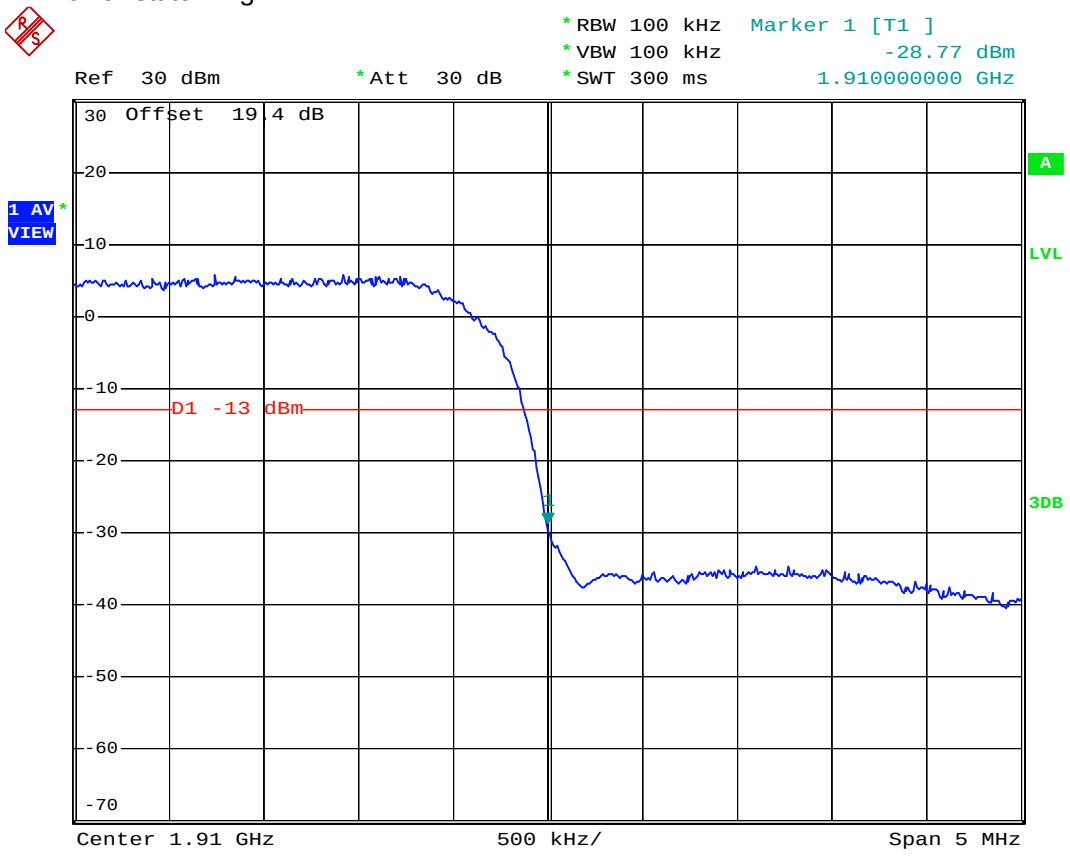
Date: 18.JUL.2008 16:59:49

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



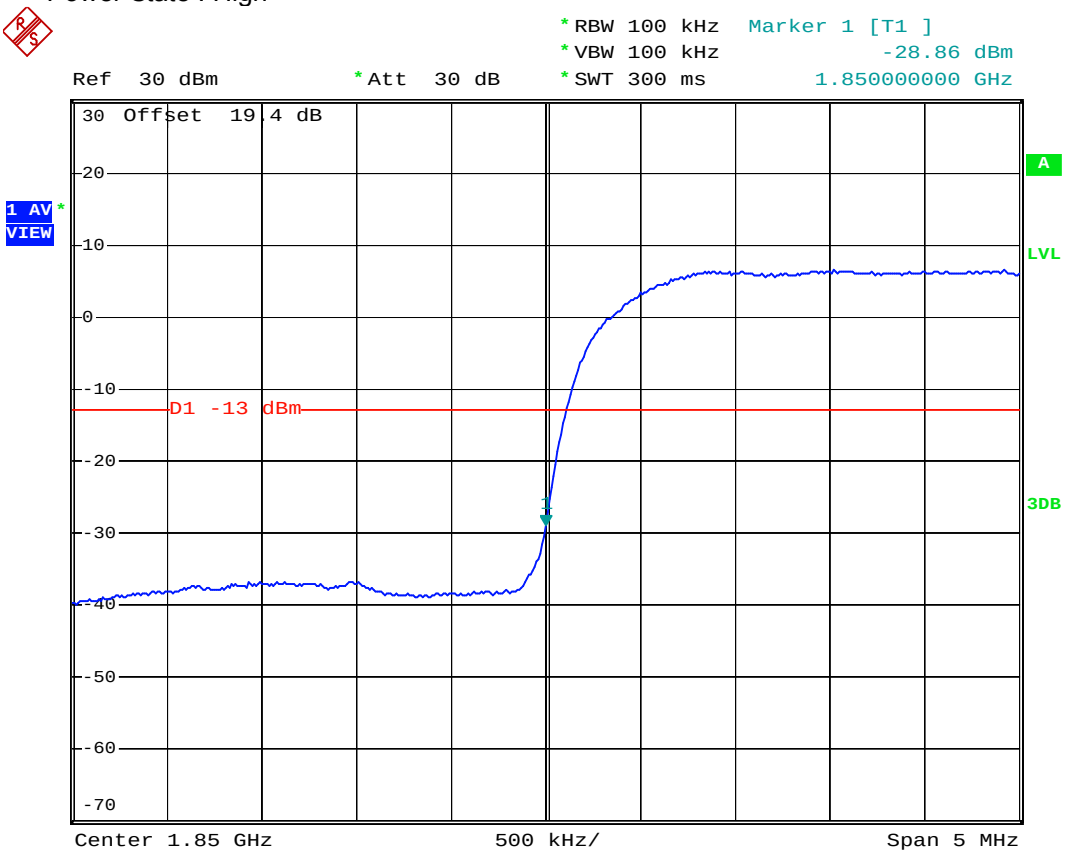
Date: 18.JUL.2008 17:00:14

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



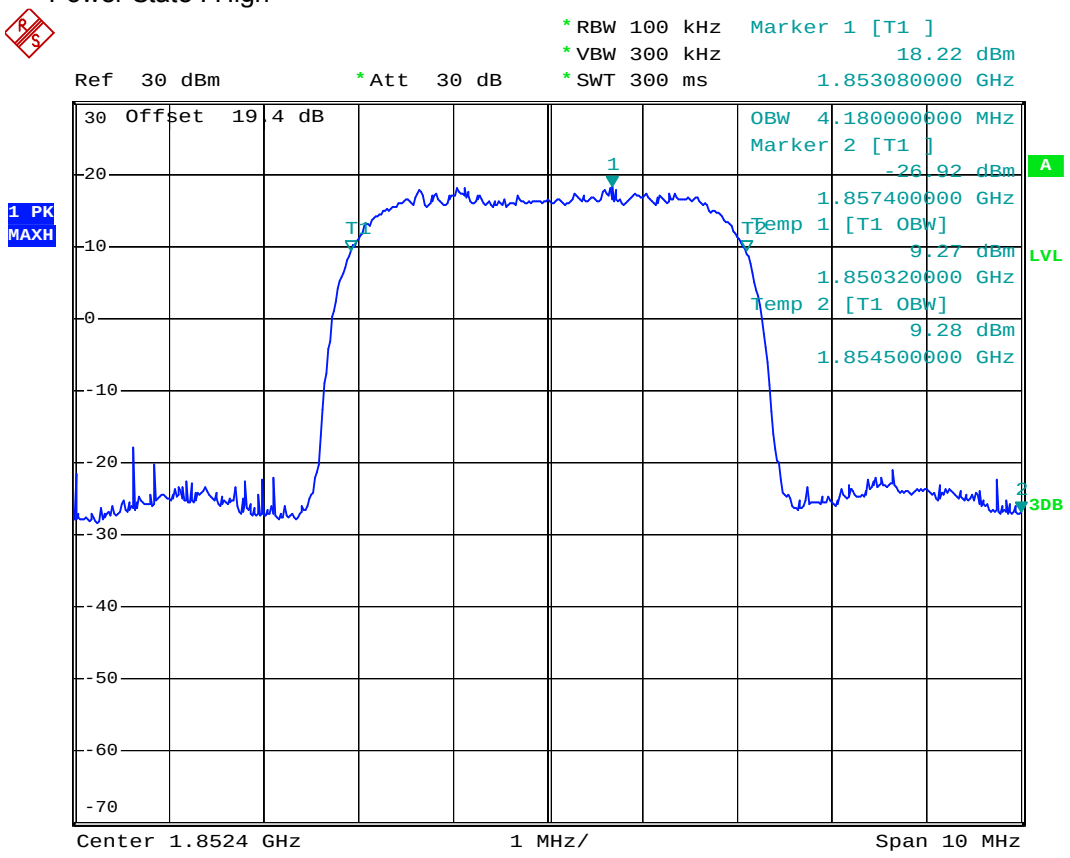
Date: 18.JUL.2008 17:24:28

- Mode 6
- Test Mode : WCDMA Band II (HSUPA) CH9262 Lower Band Edge
- Power State : High



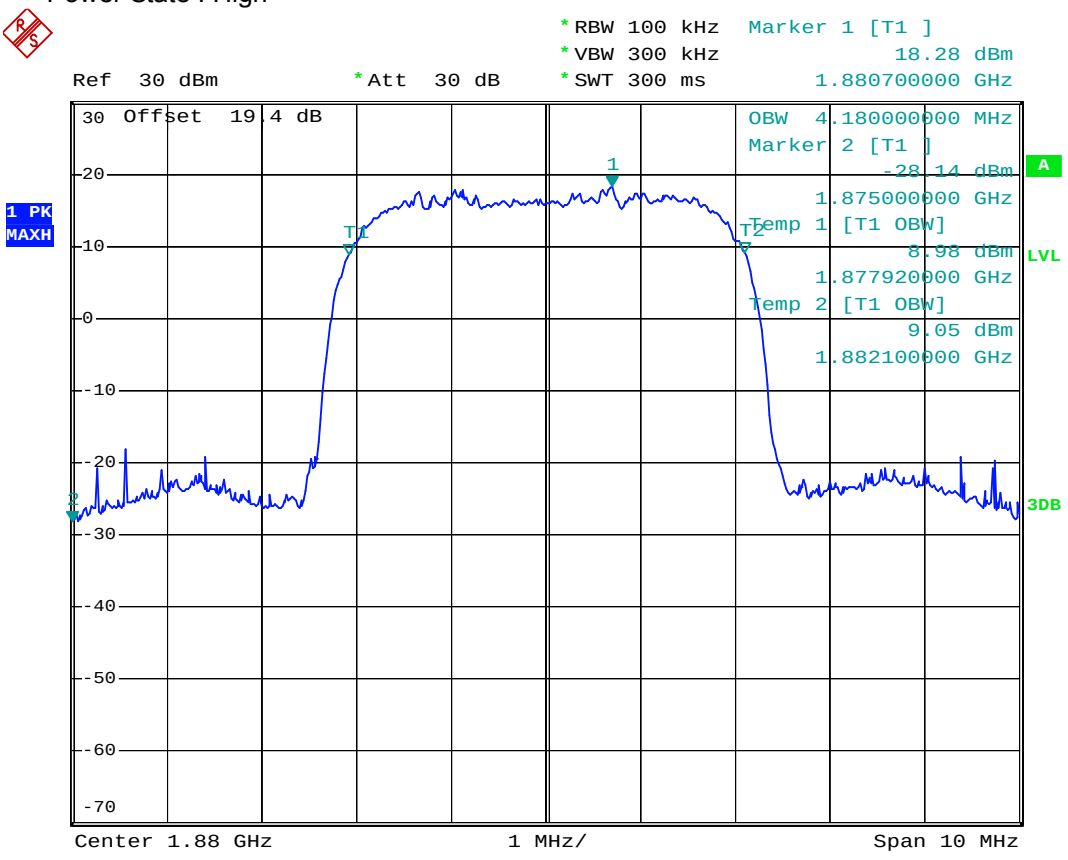
Date: 18.JUL.2008 18:16:53

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



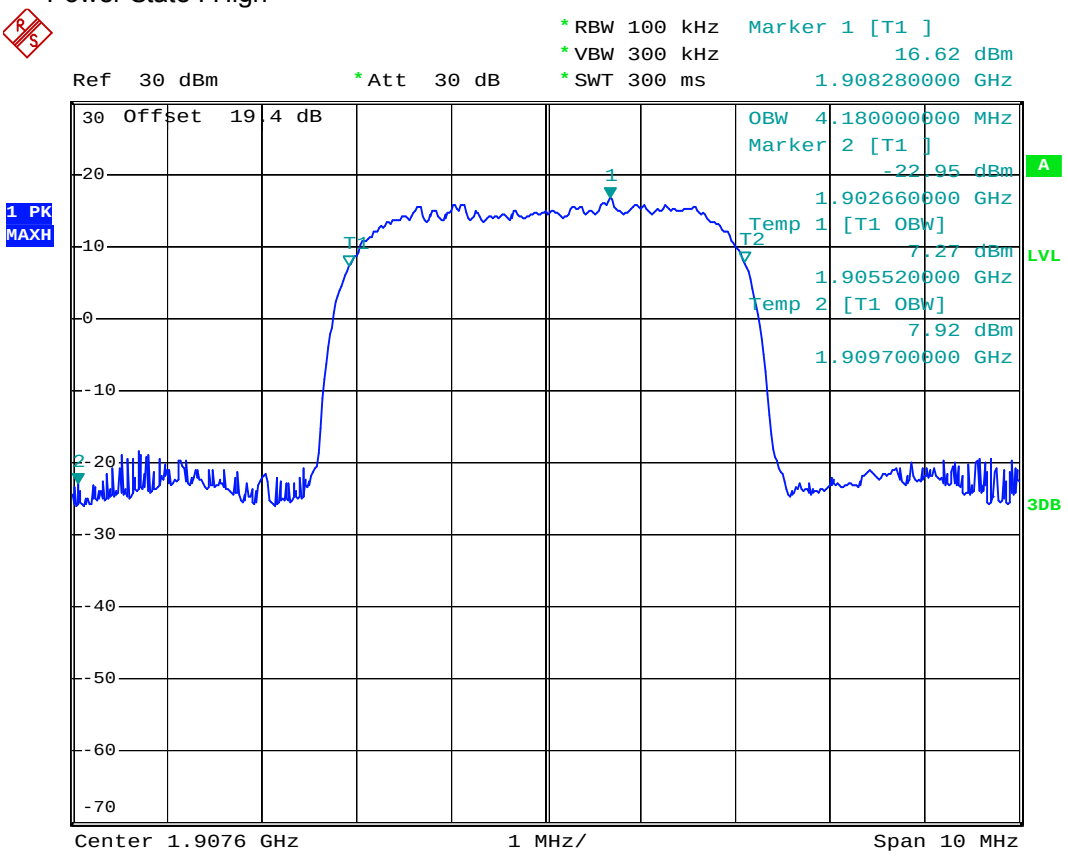
Date: 18.JUL.2008 18:14:49

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

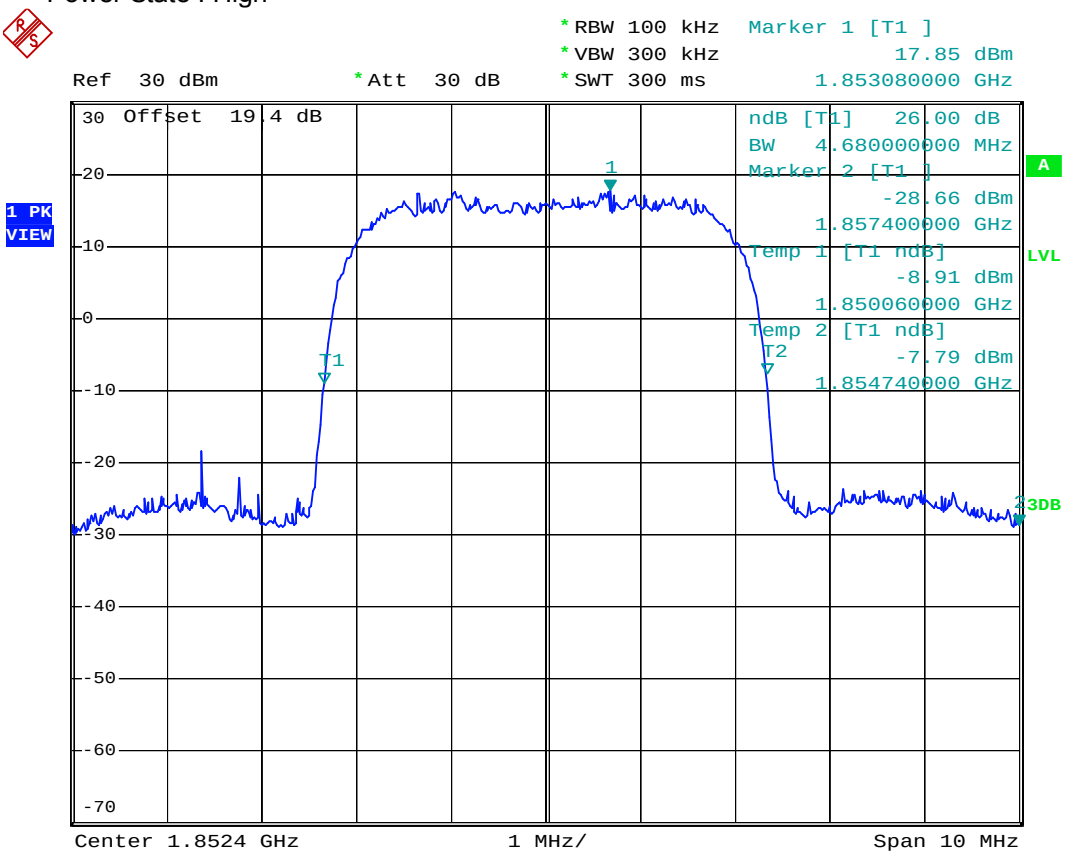


Date: 18.JUL.2008 18:15:18

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

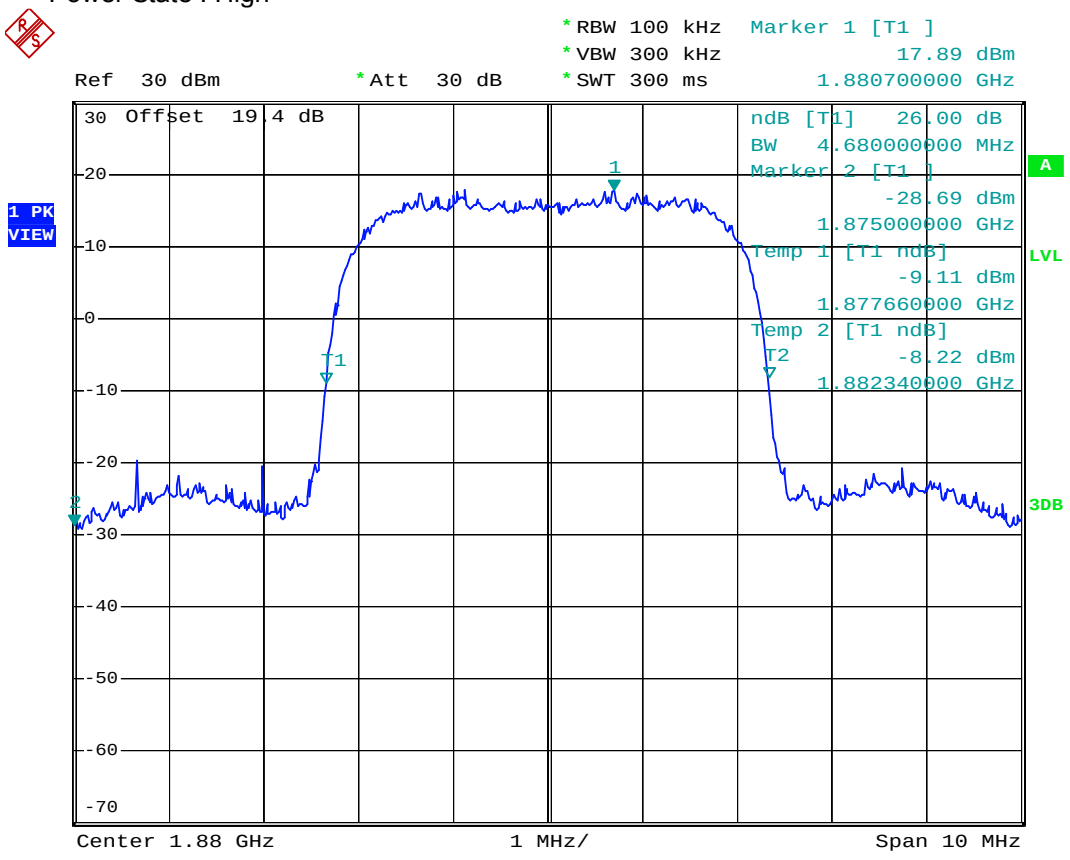


- Test Mode : WCDMA Band II (HSUPA) CH9262 26dB Bandwidth
- Power State : High



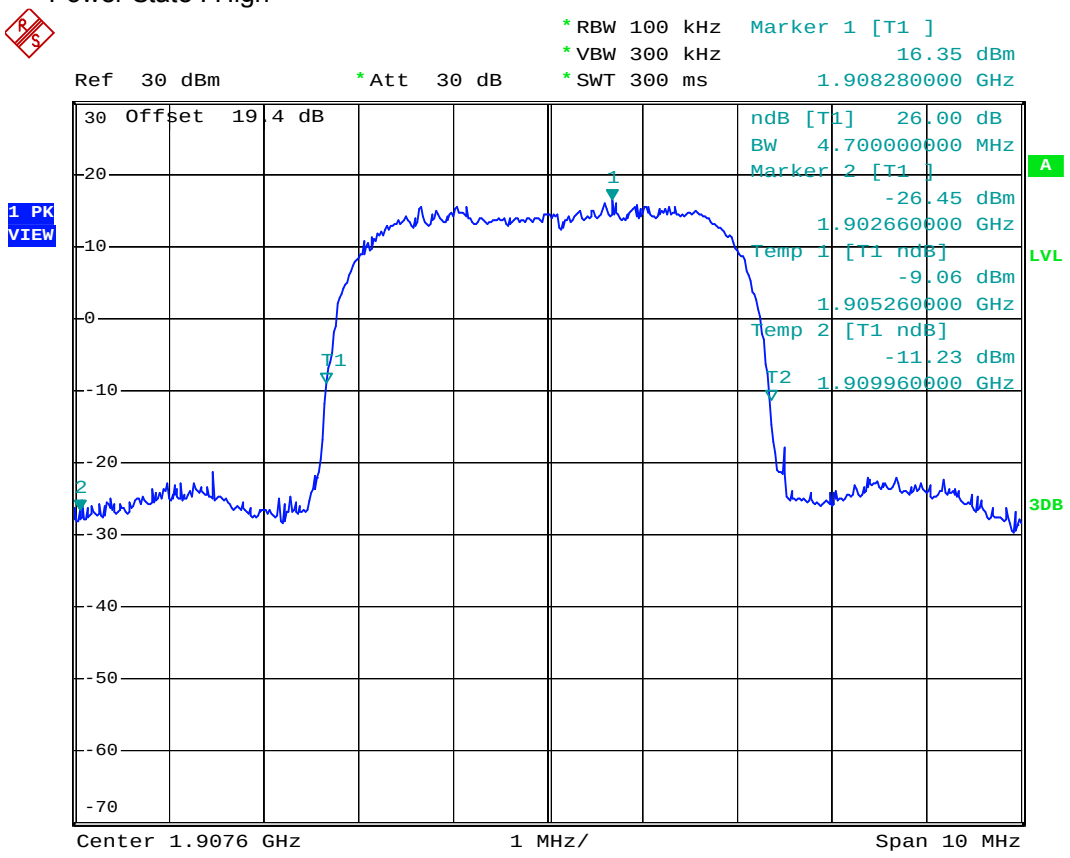
Date: 18.JUL.2008 18:08:32

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

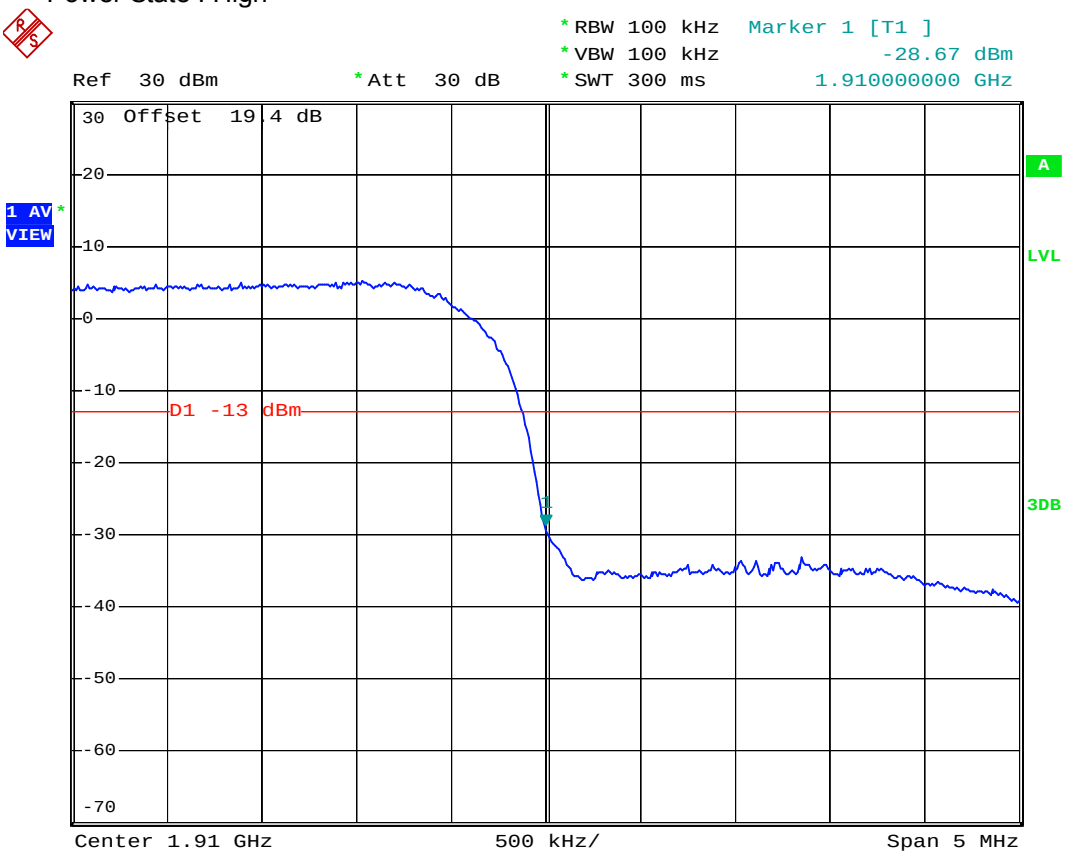


Date: 18.JUL.2008 18:09:10

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



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



Date: 18.JUL.2008 18:19:00

4.5 Conducted Emission

4.5.1 Measurement Instruments

As described in chapter 5 of this test report.

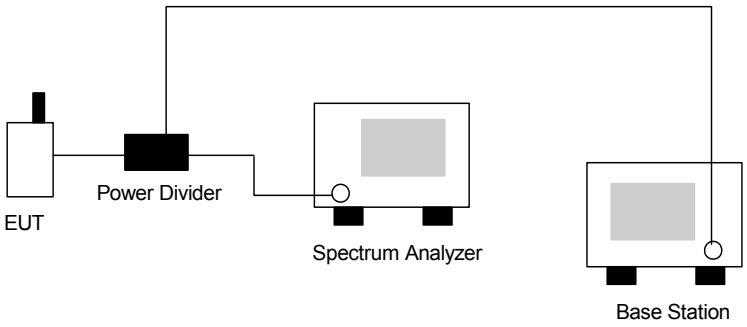
4.5.2 Test Procedure

a. The EUT was connected to Spectrum Analyzer and Base Station via power divider.

b. The middle channel for the highest RF power within the transmitting frequency was measured.

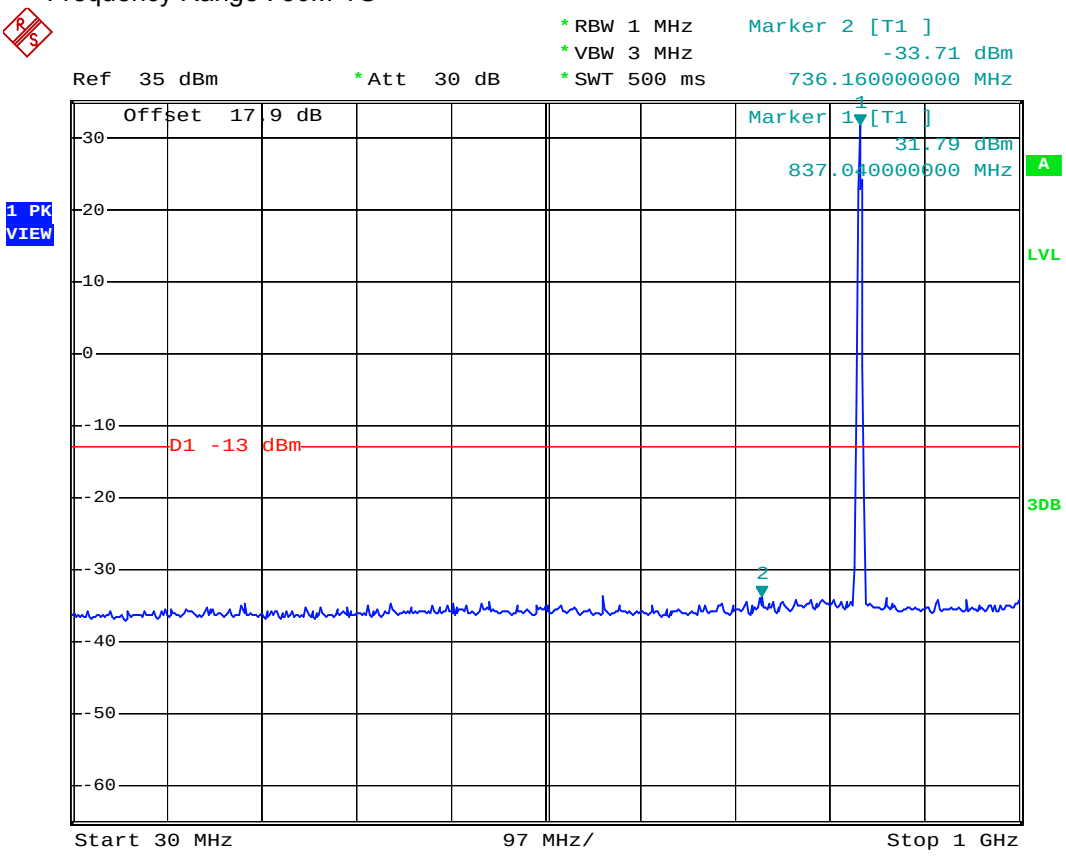
c. The conducted spurious emission for the whole frequency range was taken.

4.5.3 Test Setup Layout



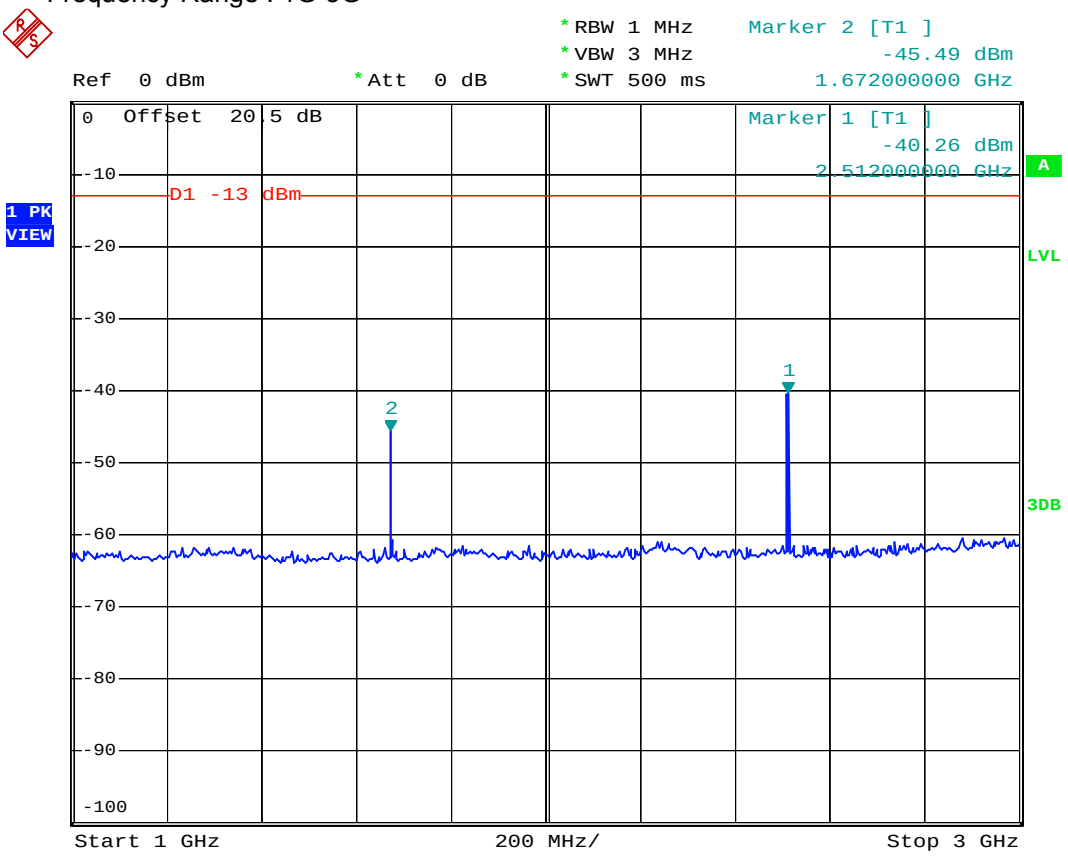
4.5.4 Test Result

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



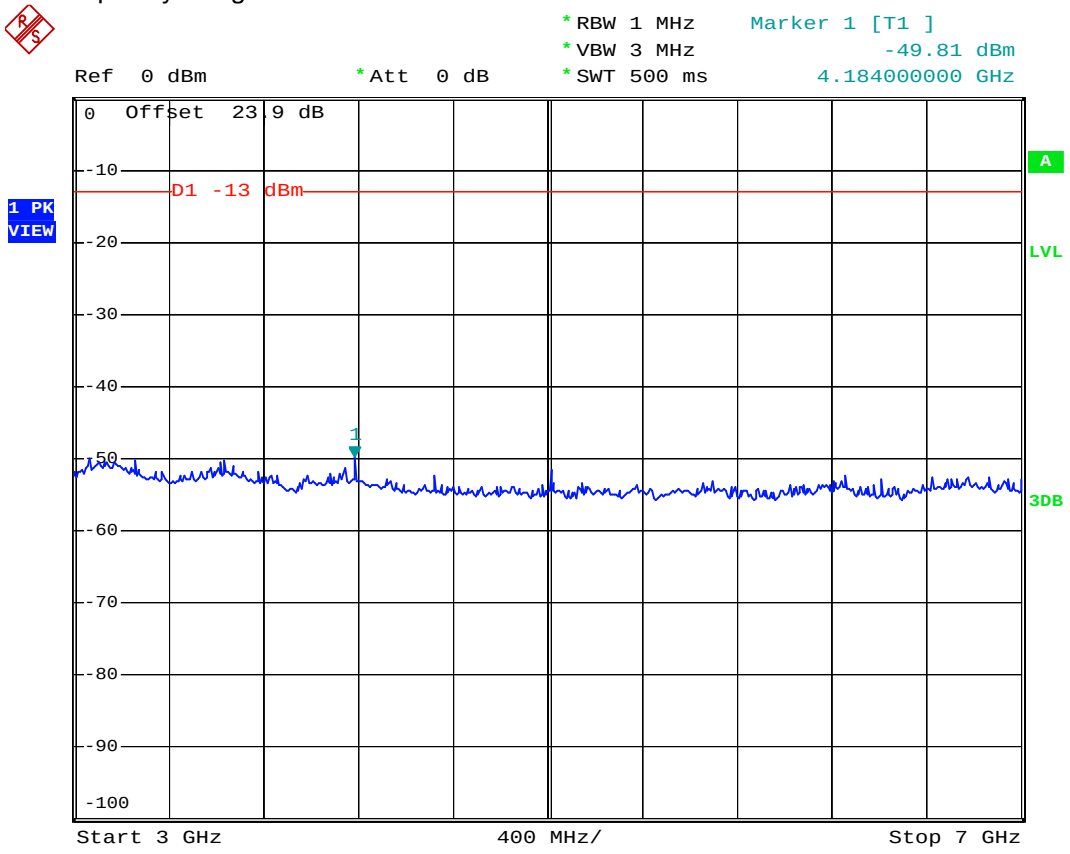
Date: 18.JUL.2008 14:47:26

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



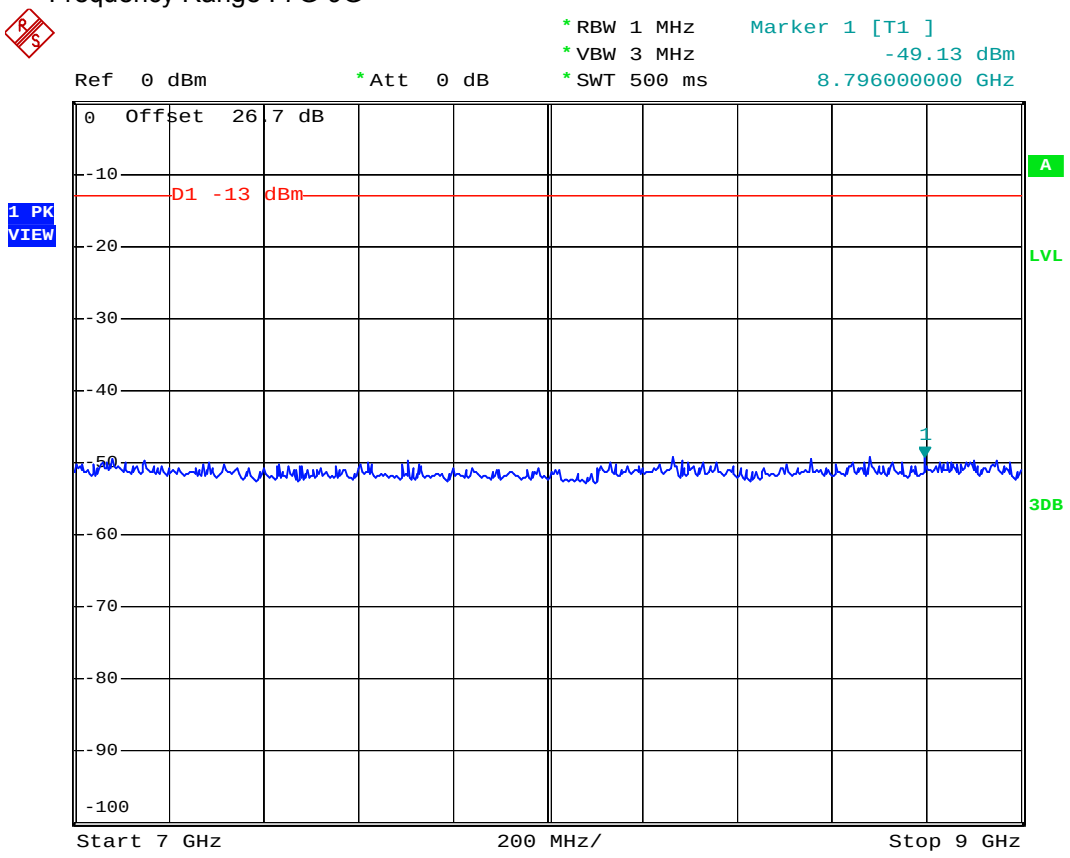
Date: 18.JUL.2008 16:19:11

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



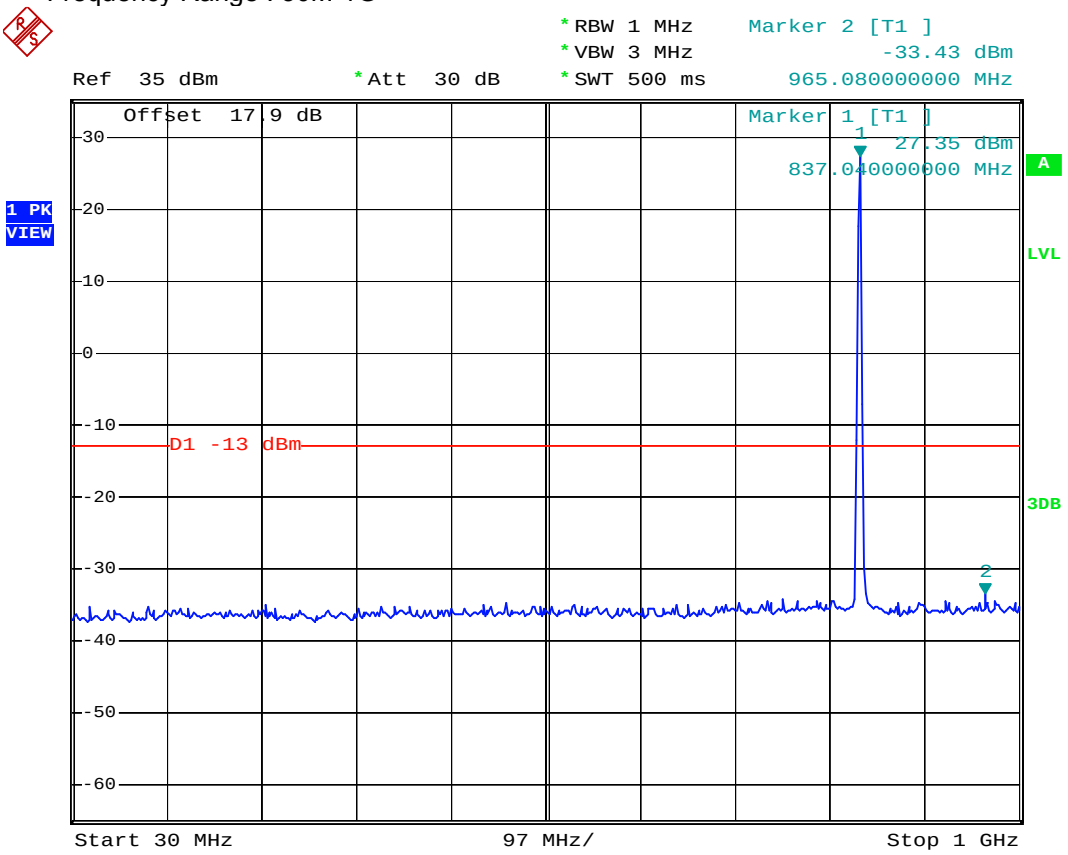
Date: 18.JUL.2008 16:21:57

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



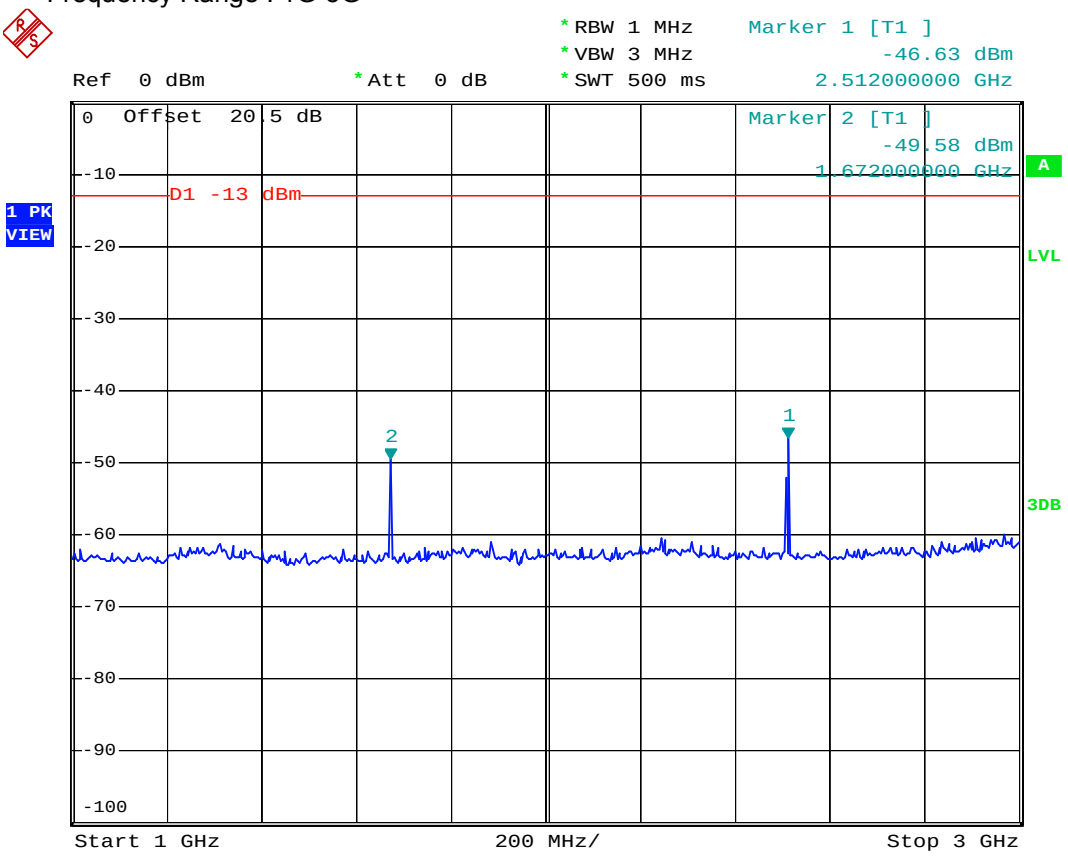
Date: 18.JUL.2008 16:23:14

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



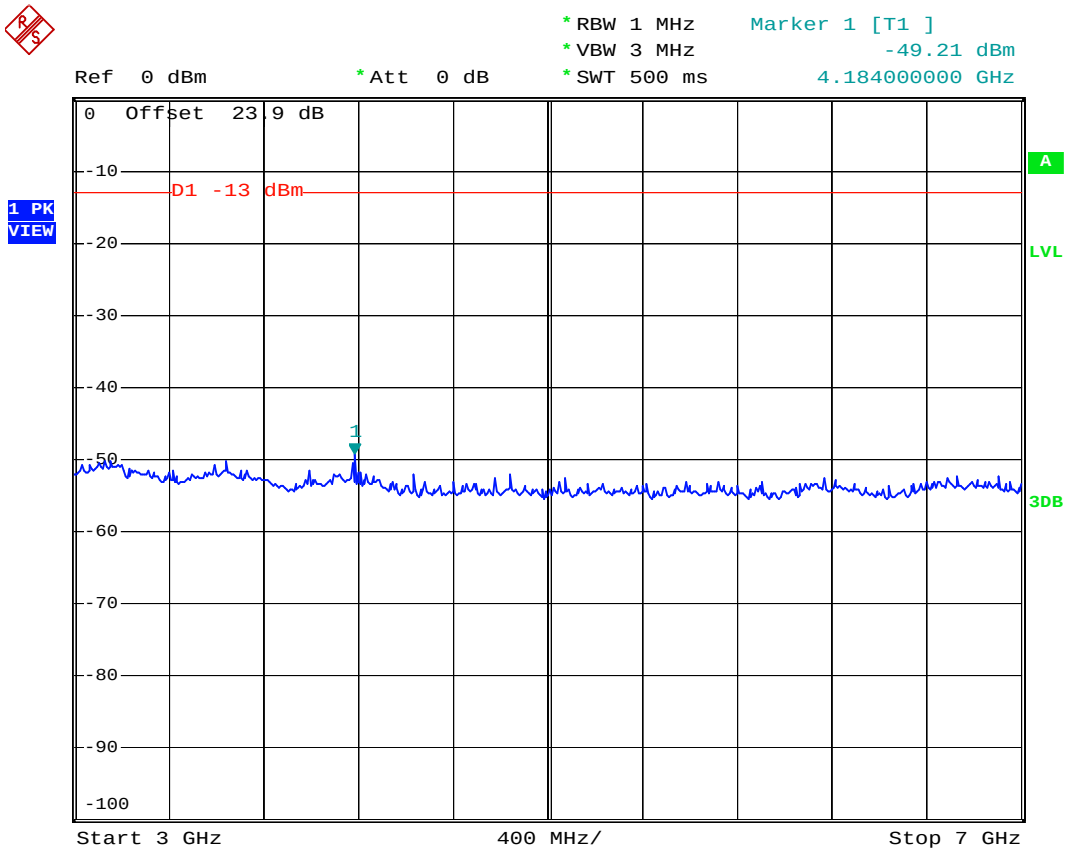
Date: 18.JUL.2008 14:45:33

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



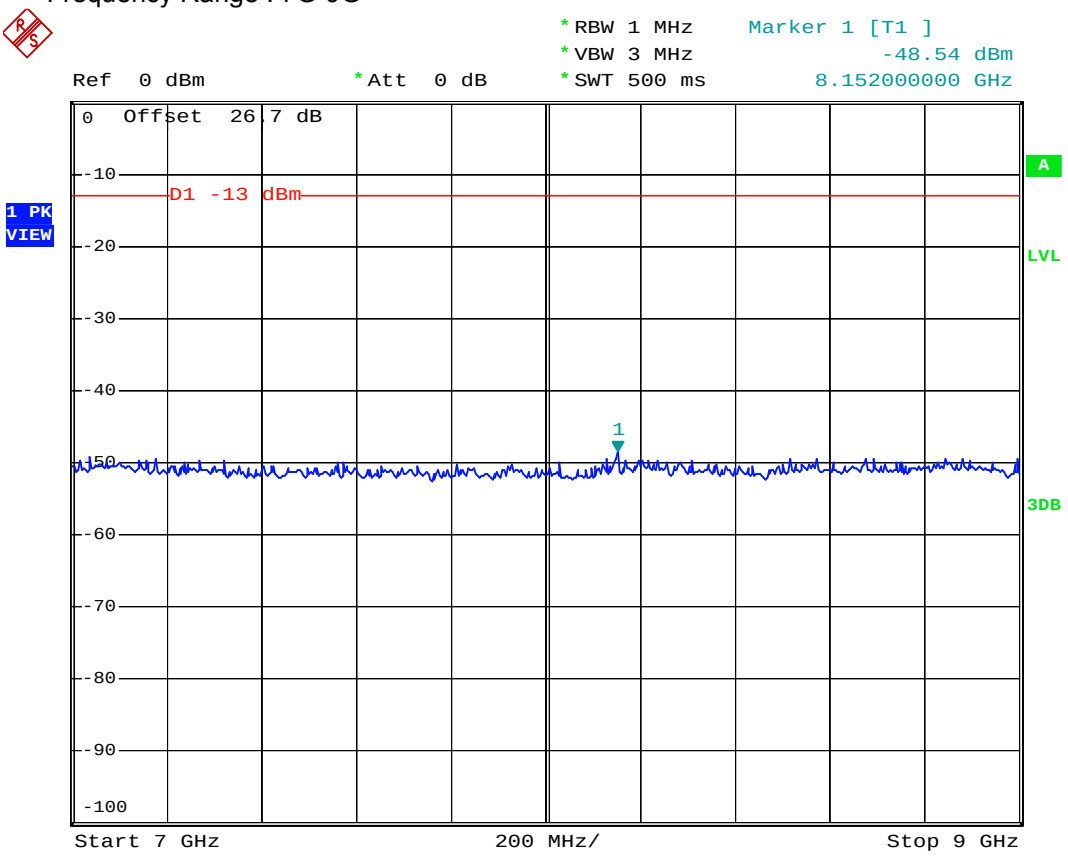
Date: 18.JUL.2008 16:19:38

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



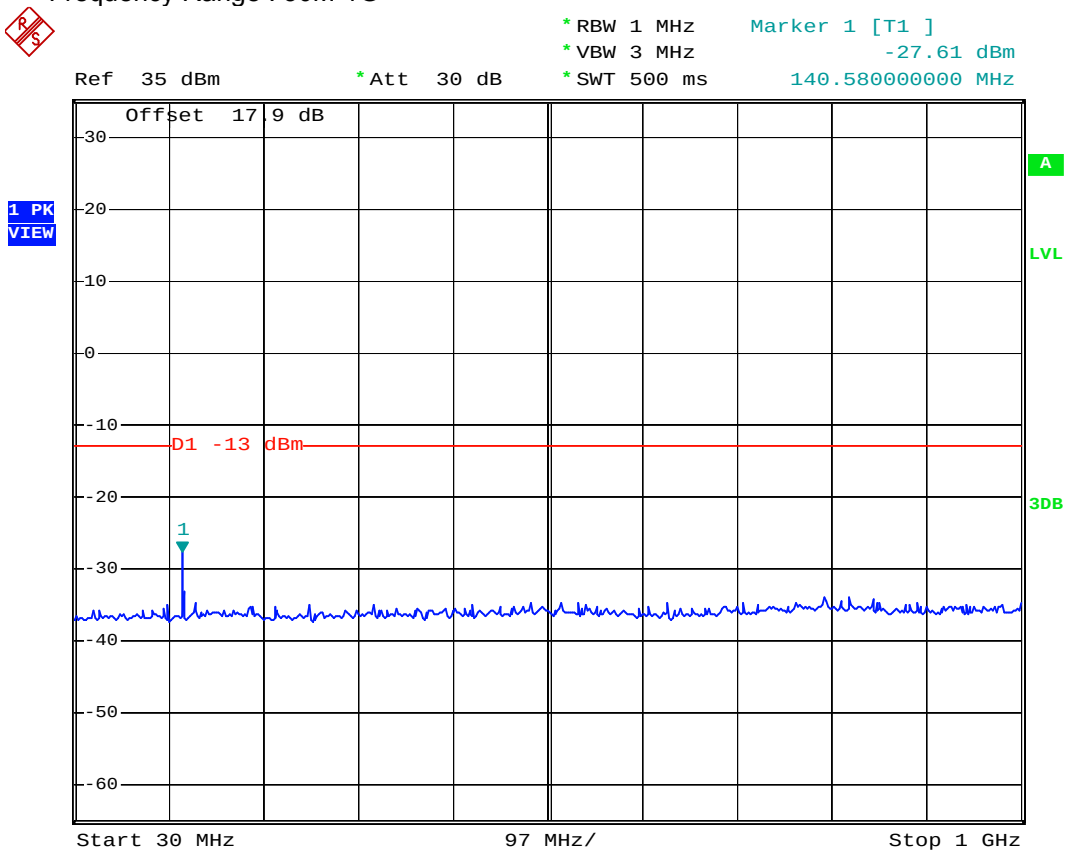
Date: 18.JUL.2008 16:20:22

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



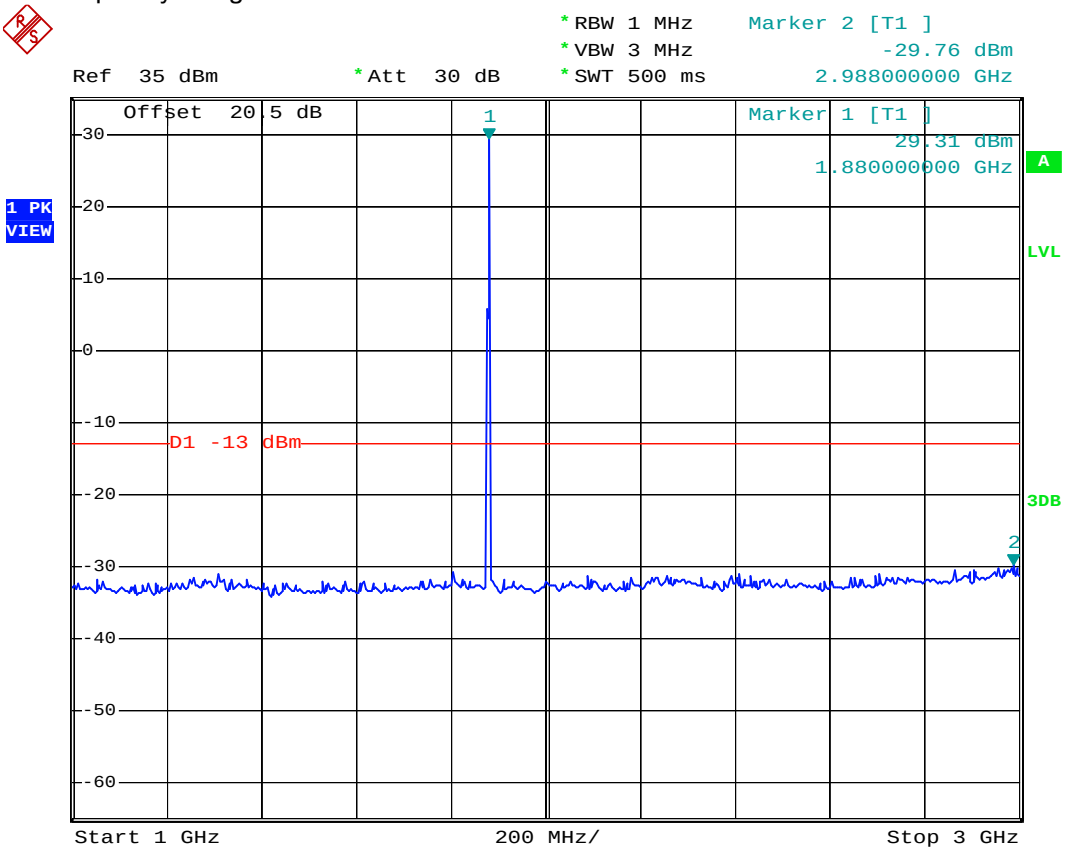
Date: 18.JUL.2008 16:23:38

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



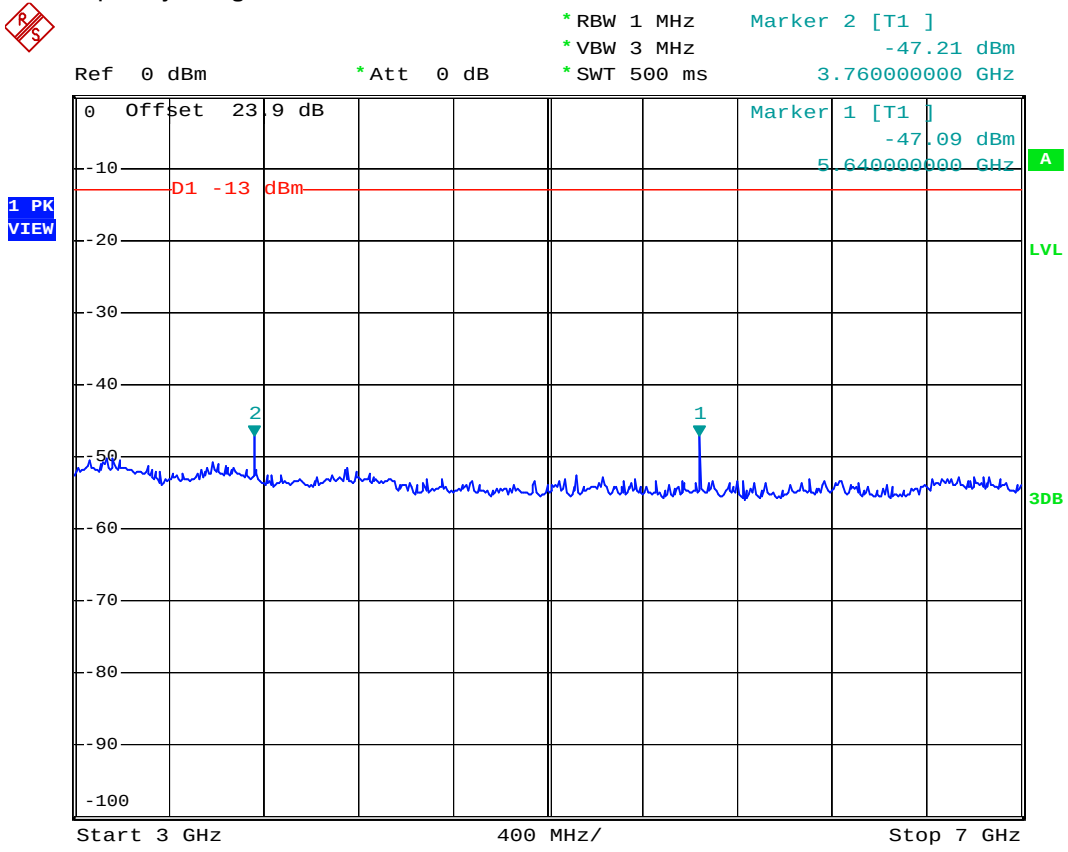
Date: 18.JUL.2008 14:46:16

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



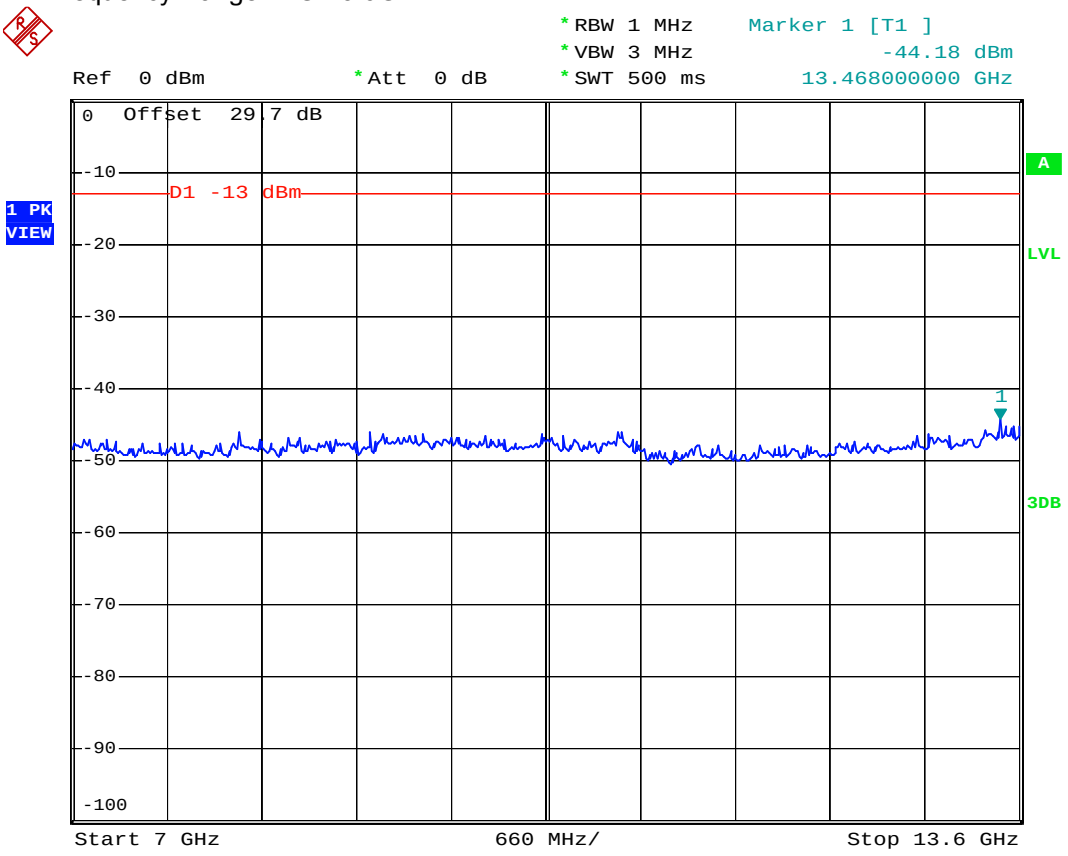
Date: 18.JUL.2008 14:49:16

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



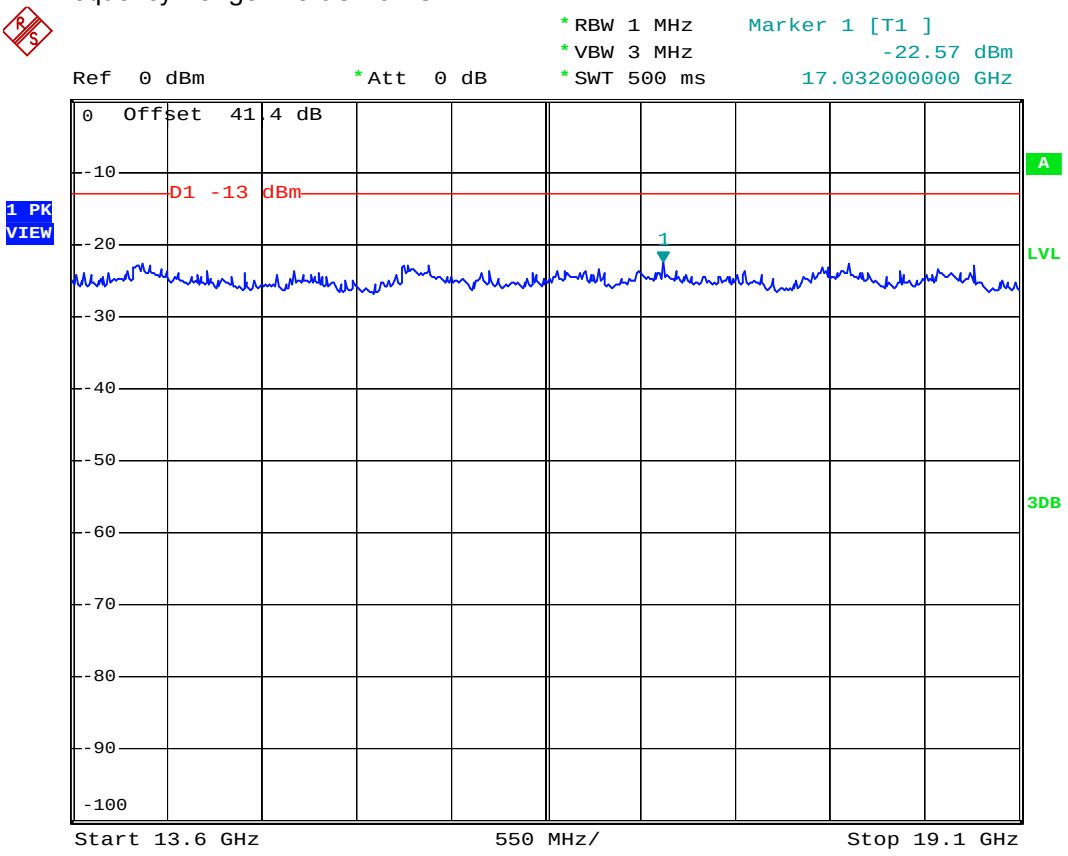
Date: 18.JUL.2008 16:22:20

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



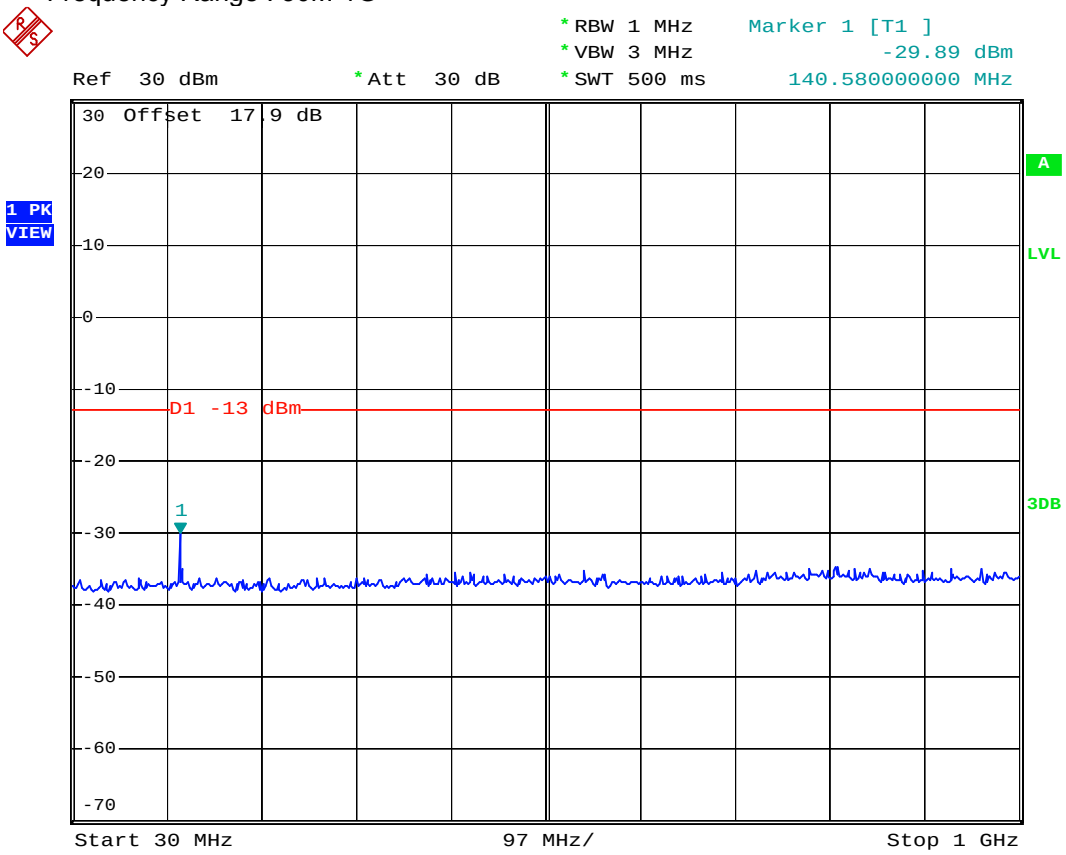
Date: 18.JUL.2008 16:25:36

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



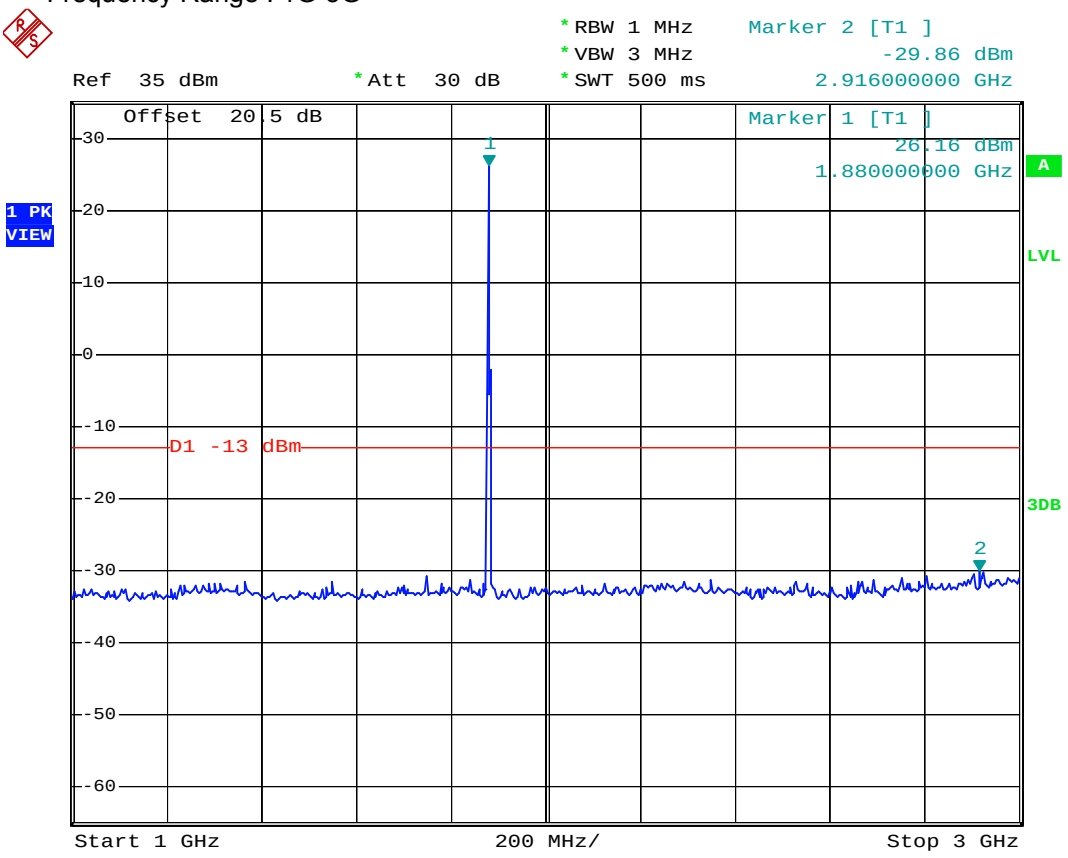
Date: 18.JUL.2008 16:27:00

- Mode 4
- Test Mode : GSM1900 (EDGE) CH661
- Frequency Range : 30M-1G



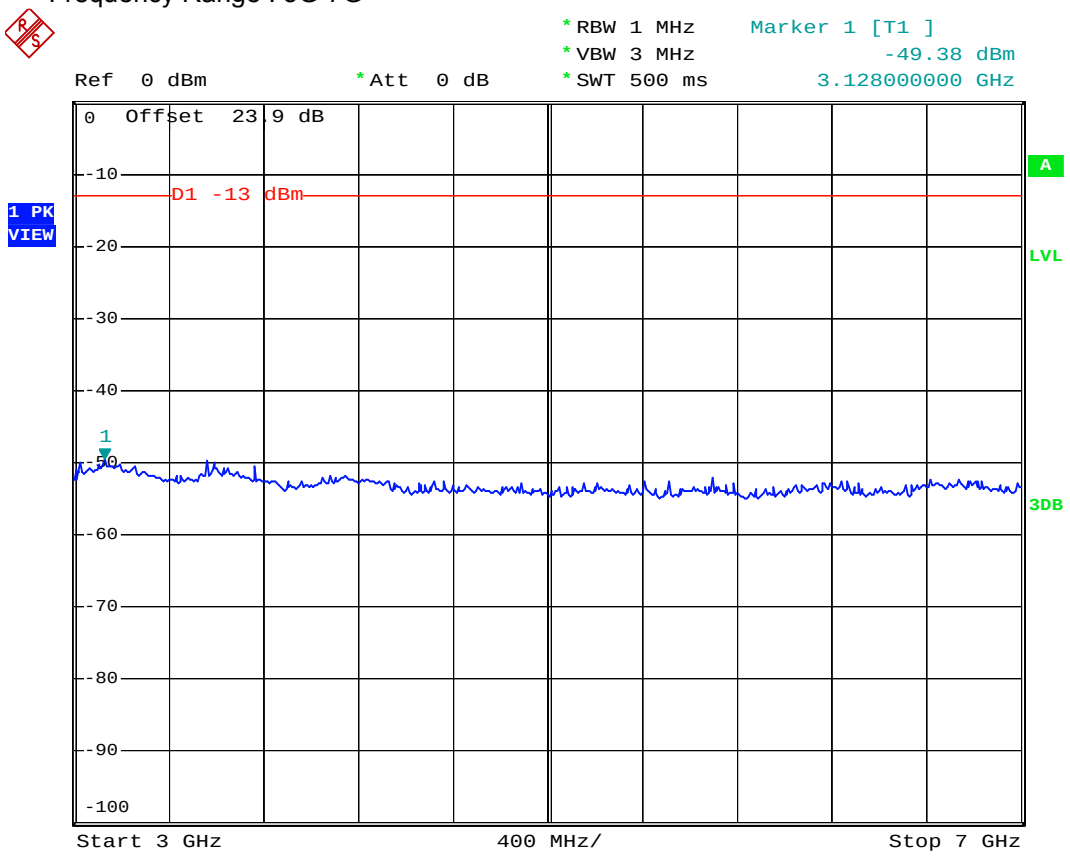
Date: 18.JUL.2008 14:34:13

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



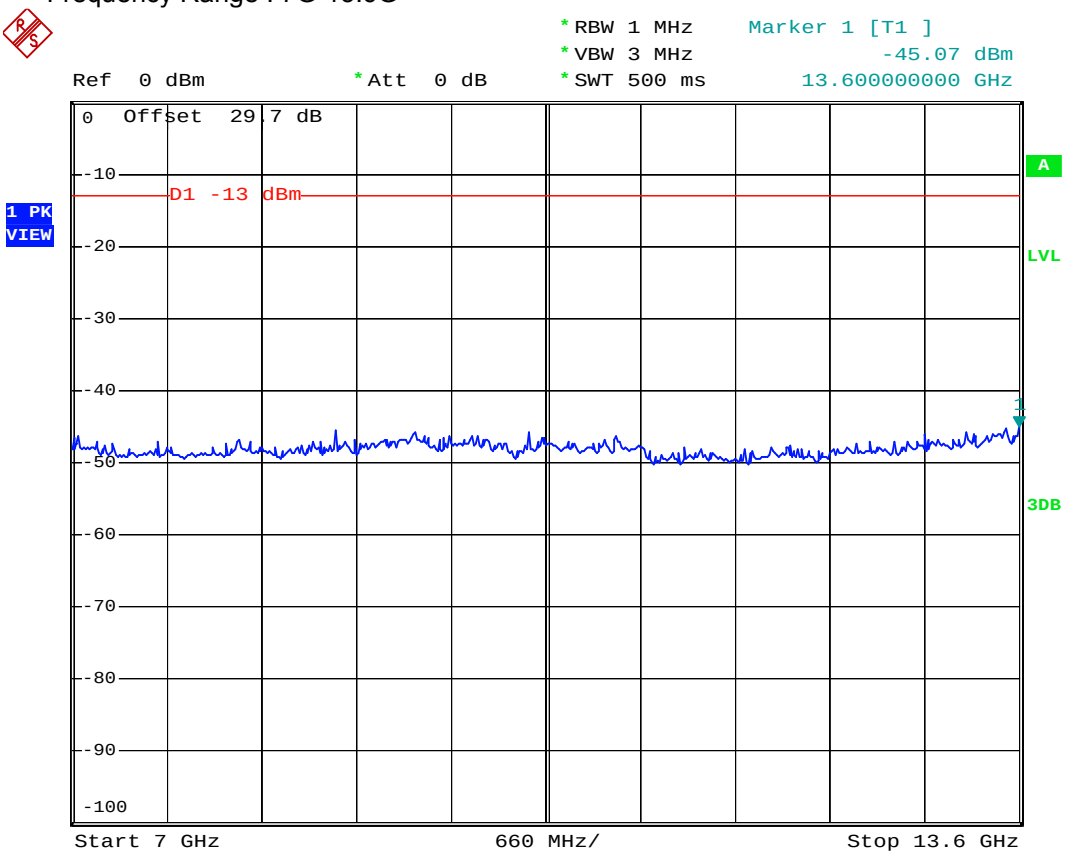
Date: 18.JUL.2008 14:56:17

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



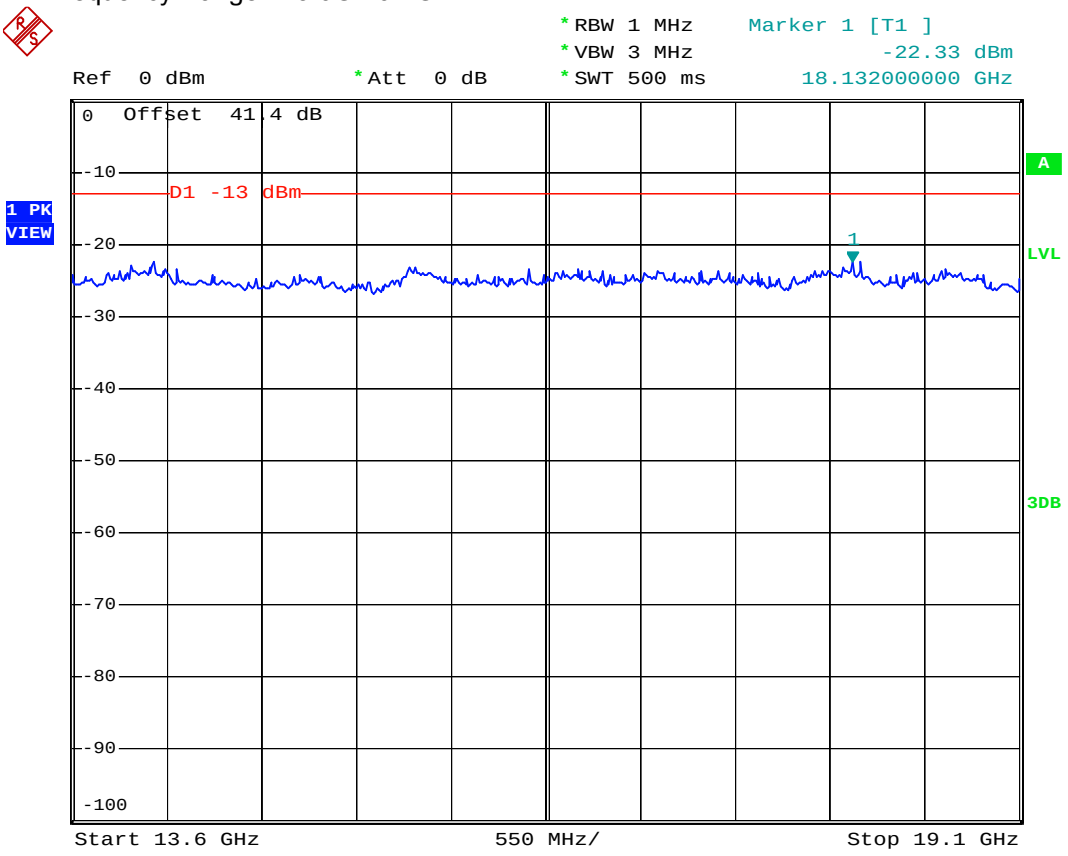
Date: 18.JUL.2008 16:21:17

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



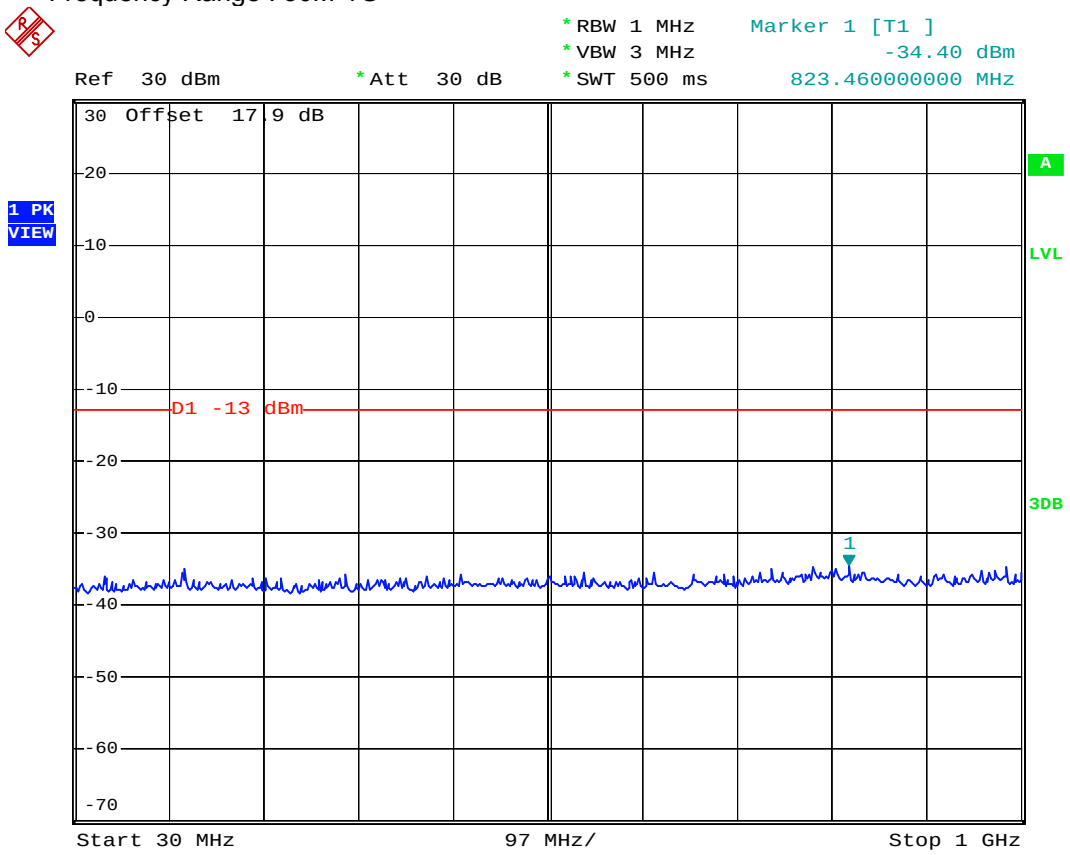
Date: 18.JUL.2008 16:24:36

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



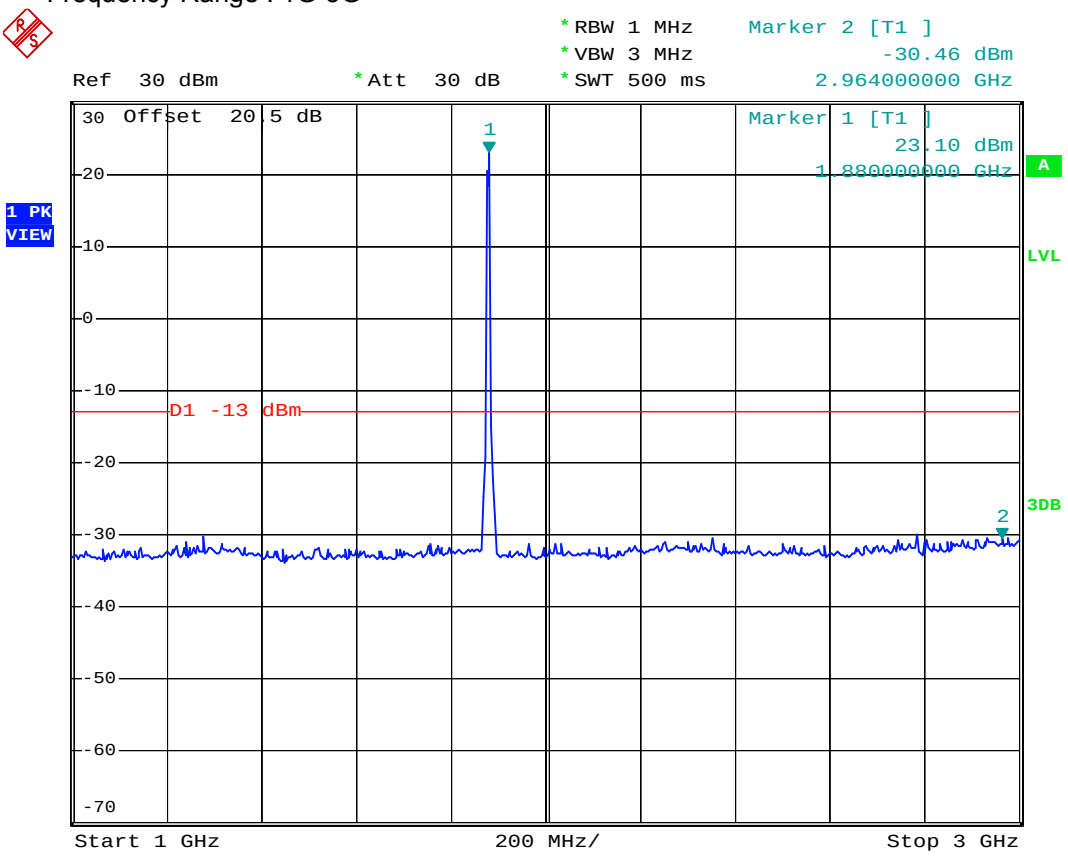
Date: 18.JUL.2008 16:27:45

- Mode 5
- Test Mode : WCDMA Band II CH9400
- Frequency Range : 30M-1G



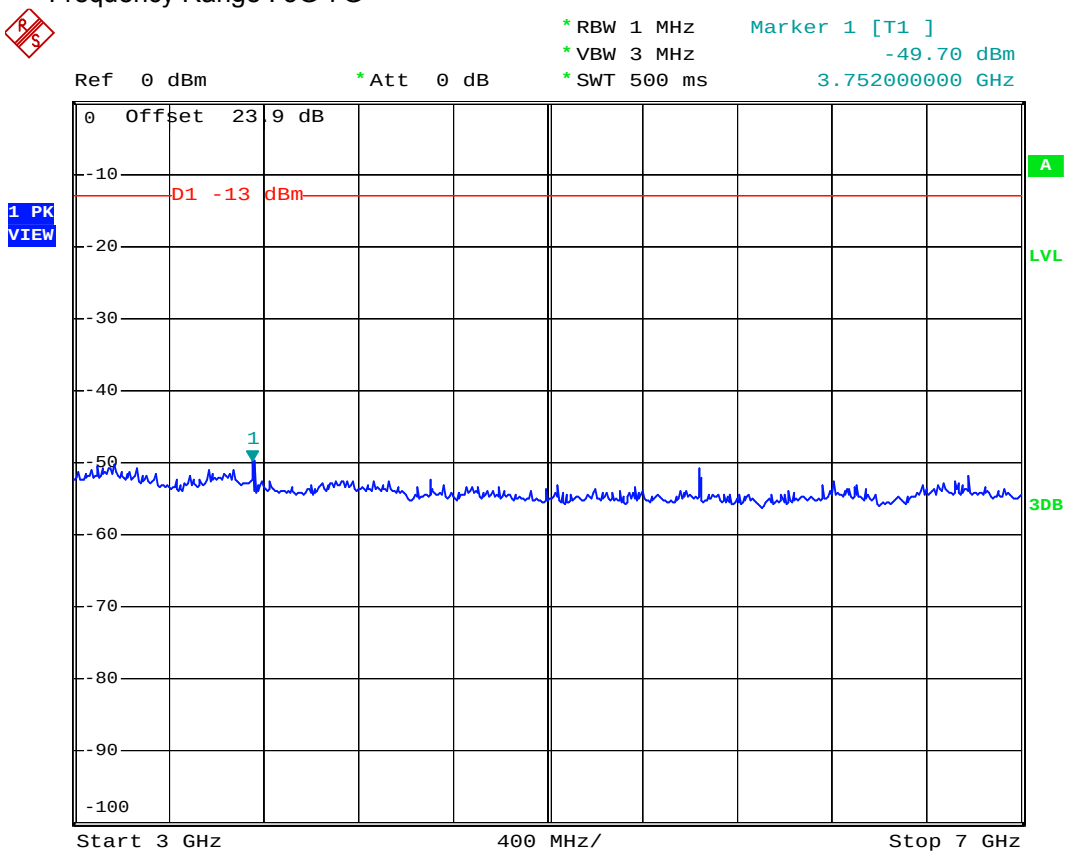
Date: 18.JUL.2008 17:37:00

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



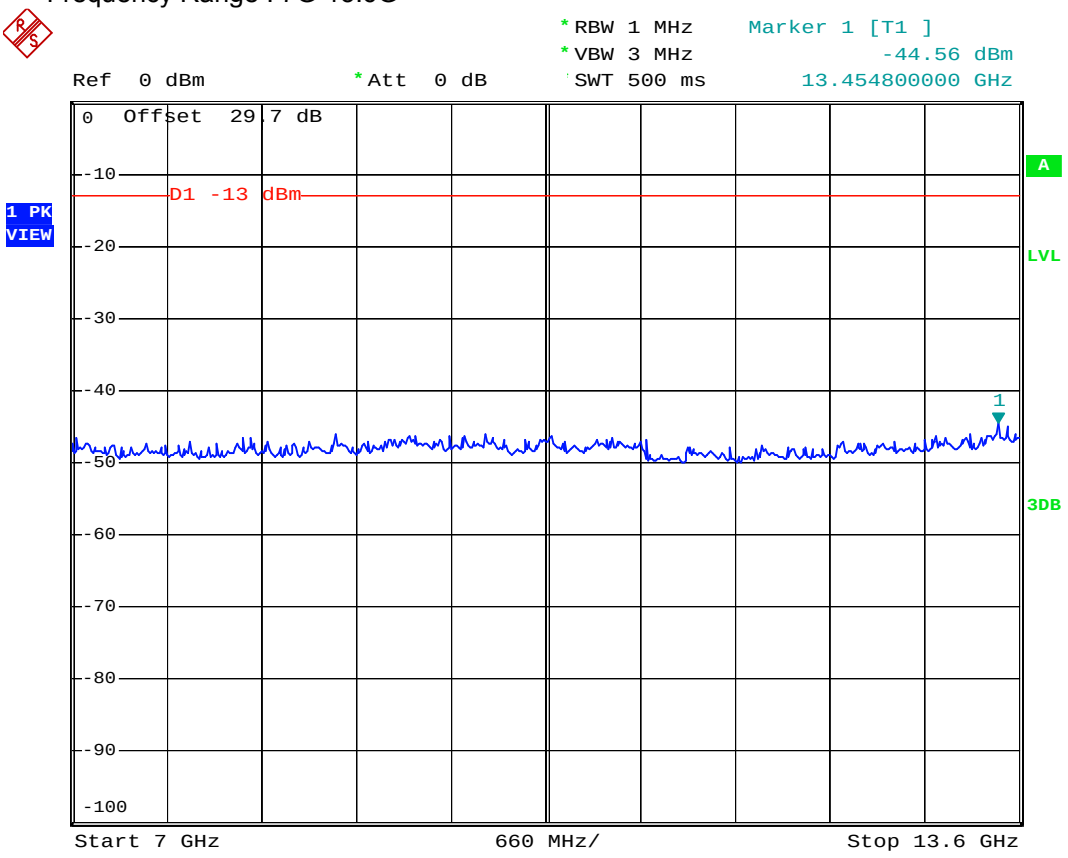
Date: 18.JUL.2008 17:39:37

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



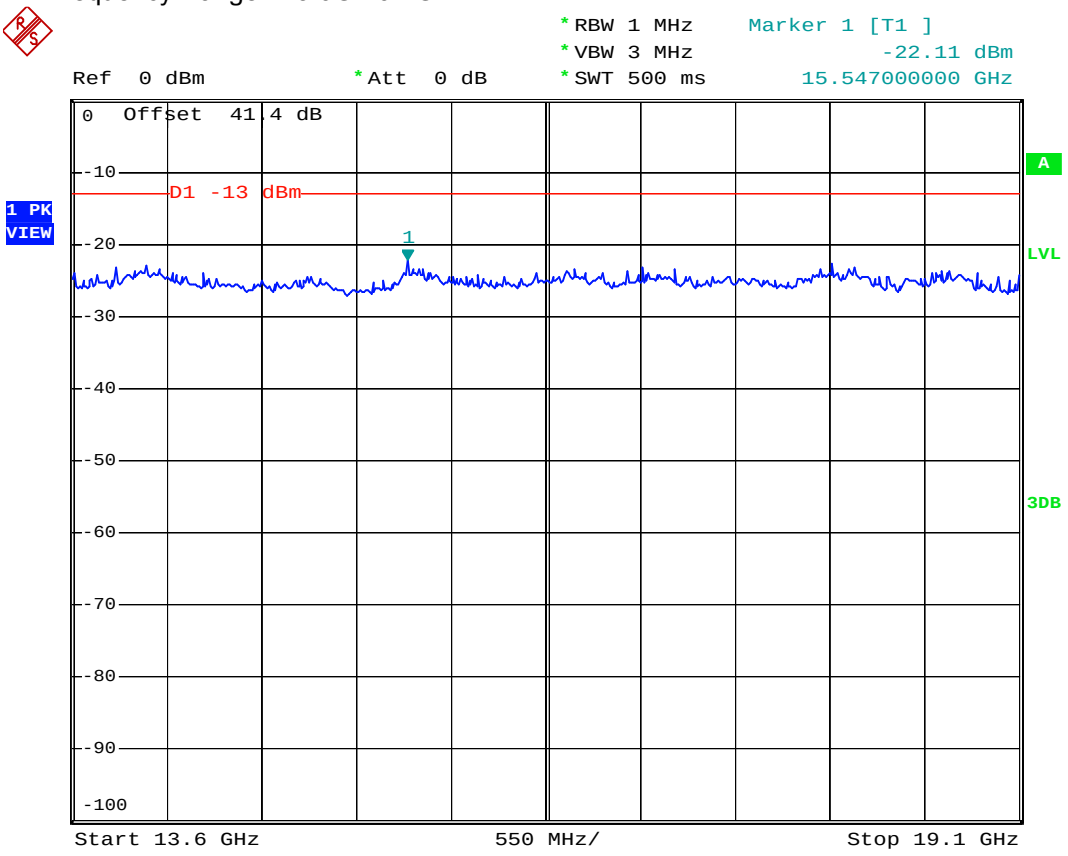
Date: 18.JUL.2008 17:43:00

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



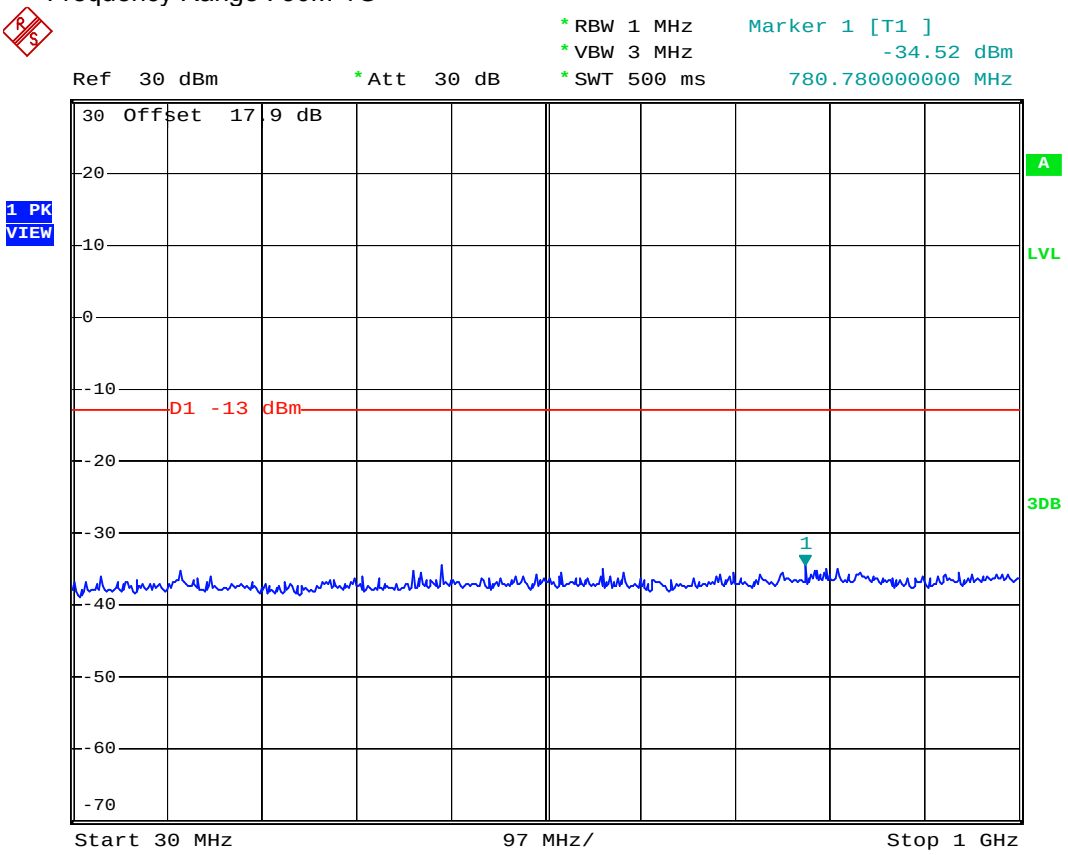
Date: 18.JUL.2008 17:41:38

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



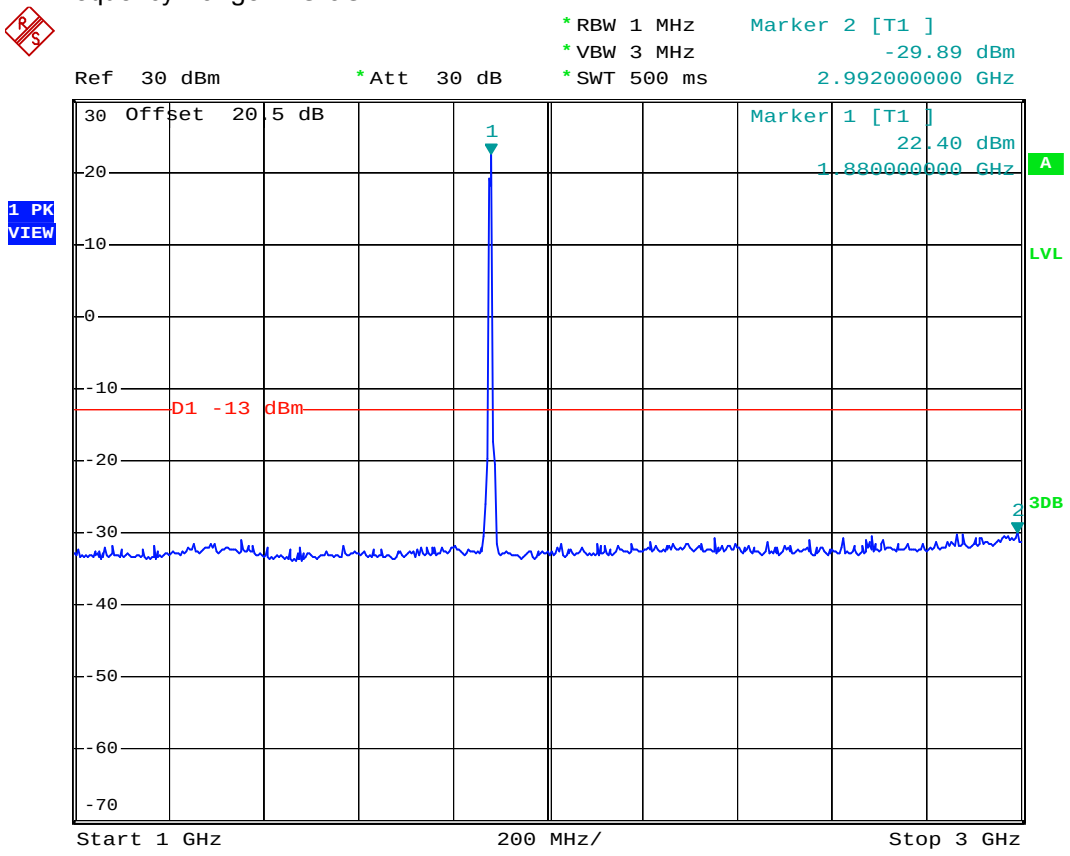
Date: 18.JUL.2008 17:42:13

- Mode 6
- Test Mode : WCDMA Band II (HSUPA) CH9400
- Frequency Range : 30M-1G



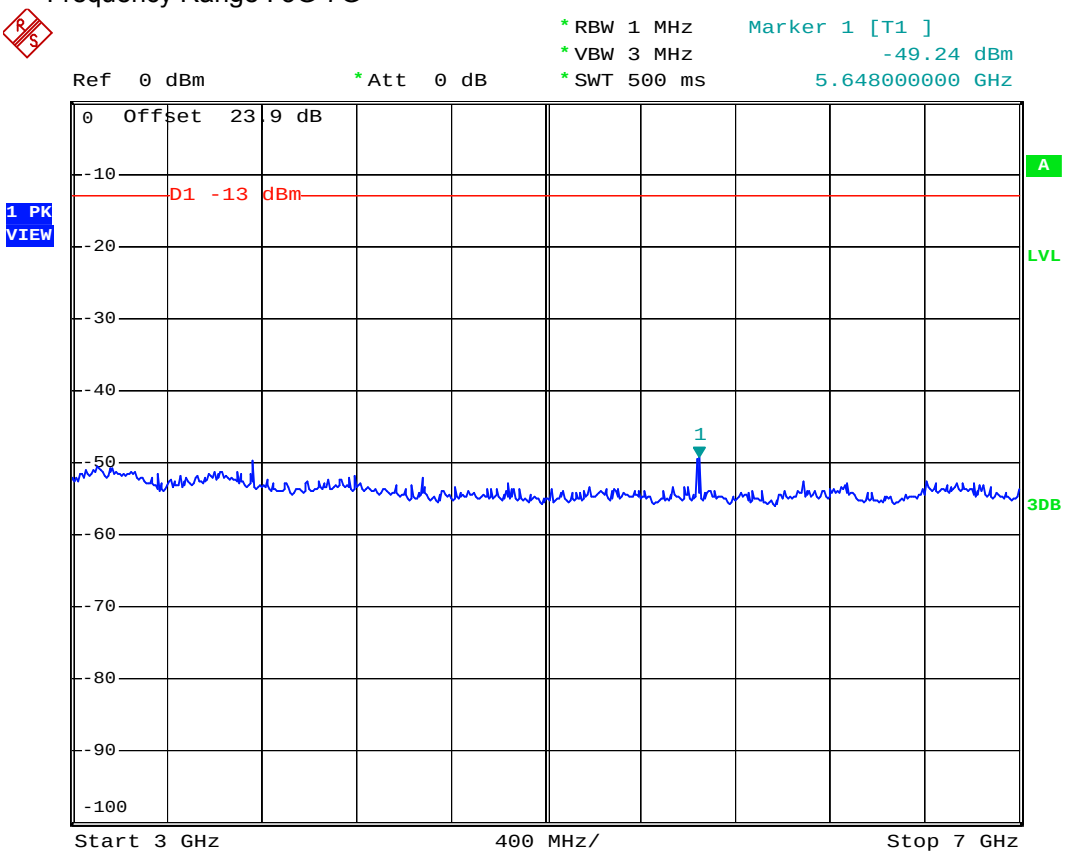
Date: 18.JUL.2008 17:56:02

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



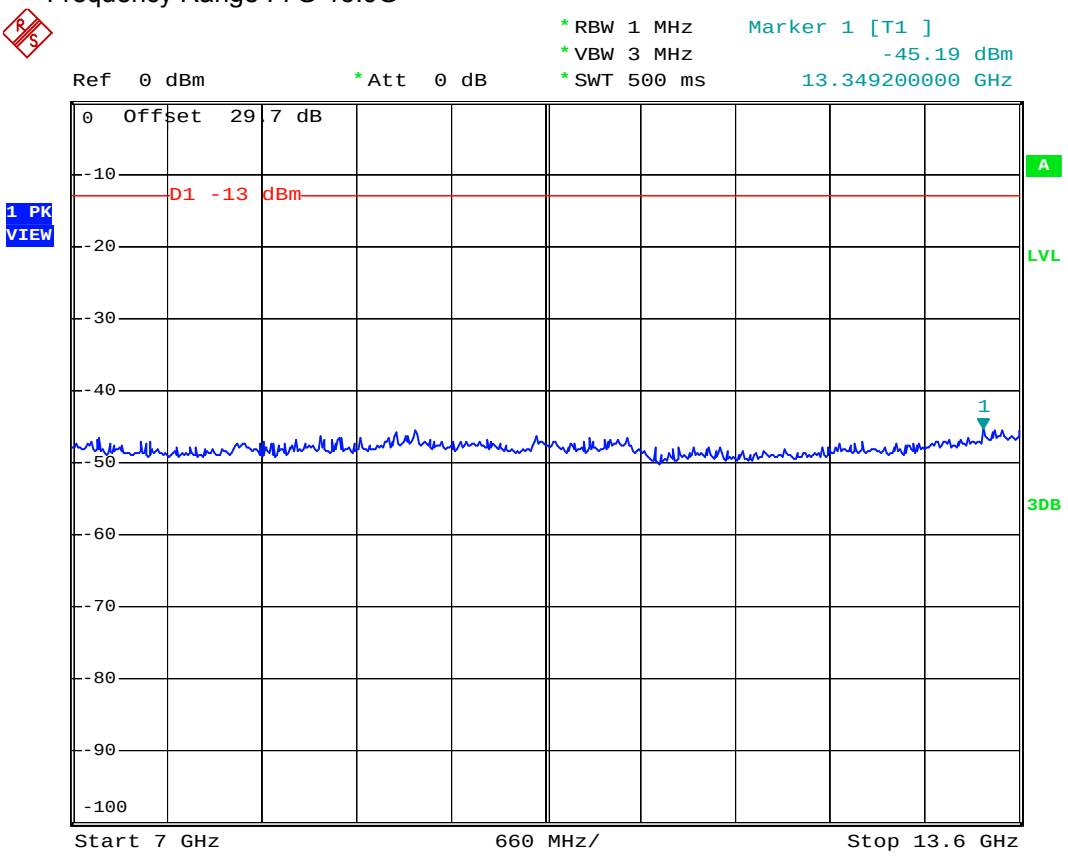
Date: 18.JUL.2008 17:57:32

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



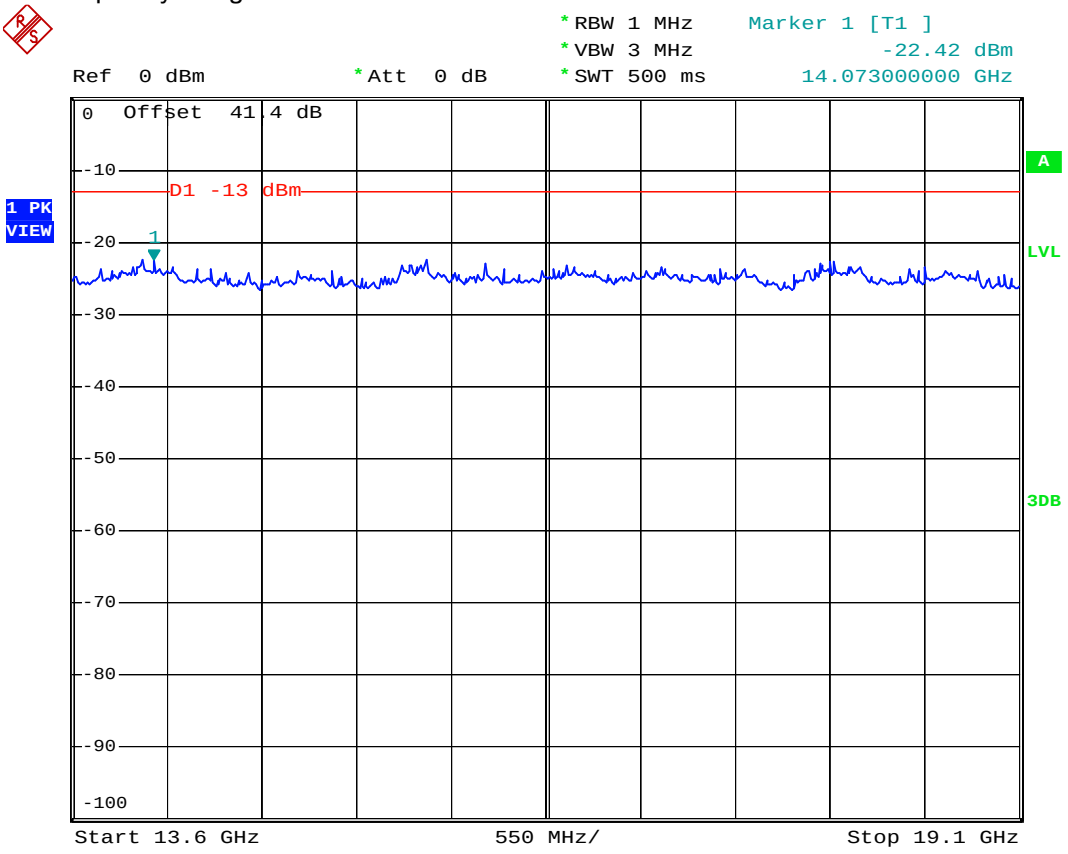
Date: 18.JUL.2008 17:53:52

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



Date: 18.JUL.2008 17:54:47

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



Date: 18.JUL.2008 17:55:22

4.6 Field Strength of Spurious Radiation

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

4.6.1 Measurement Instruments

As described in chapter 5 of this test report.

4.6.2 Test Procedure

a. The EUT was placed on a rotatable wooden table with 0.8 meter about ground.

b. The EUT was set 3 meters from the receiving antenna which was mounted on the antenna tower.

c. The table was rotated 360 degrees to determine the position of the highest spurious emission.

d. The height of the receiving antenna is varied between one meter and four meters to reach the maximum spurious emission for both horizontal and vertical polarizations.

e. Taking the record of maximum spurious emission.

f. A Horn antenna was substituted in place of the EUT and was driven by a signal generator.

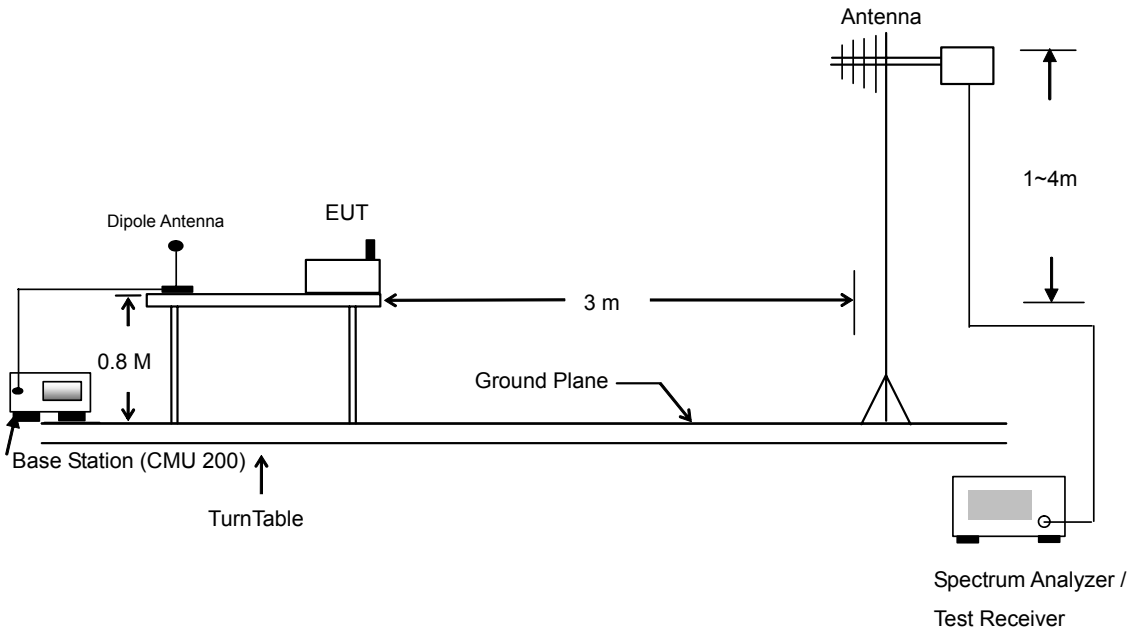
g. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.

h. Taking the recored of output power at antenna port.

i. Repeat step 7 to step 8 for another polarization.

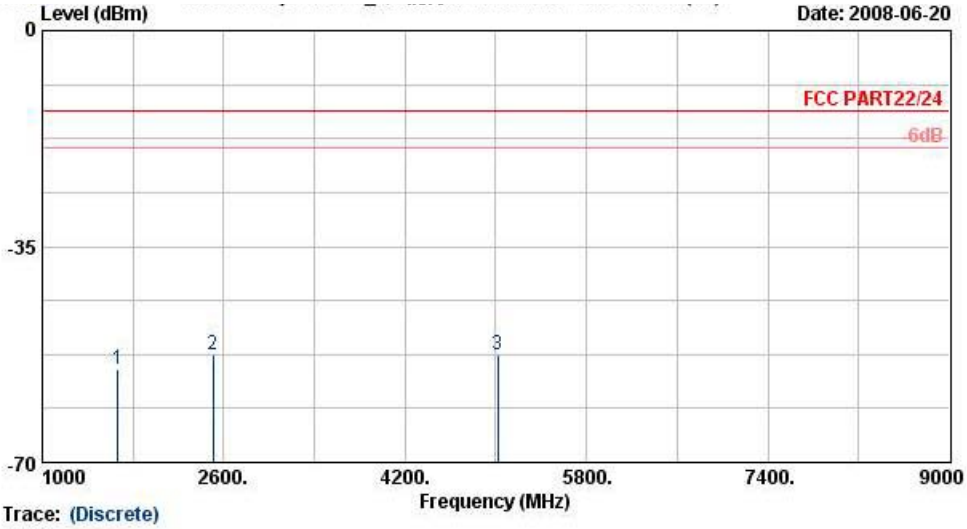
j. Emission level (dBm) = output power + substitution Gain.

4.6.3 Test Setup Layout



4.6.4 Test Data

- Mode 1
- Horizontal Polarization

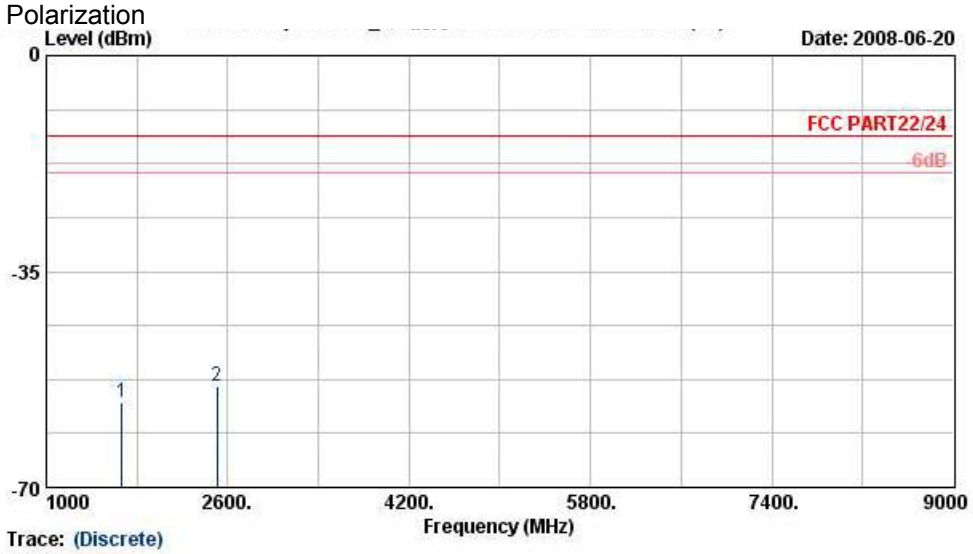


Site : 03CH07-HY
Condition : HF-EIRP(080306) HORIZONTAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : 120 Vac/60 Hz
Model : FG 852219
Mode : GSM 850 Link ; Ch189+ Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1669	-55.00	-13	-42.00	-59.63	-54.01	3.39	4.55	H	Pass
2506	-52.68	-13	-39.68	-62.82	-52.74	3.71	5.92	H	Pass
5015	-52.64	-13	-39.64	-67.44	-56.39	2.61	8.51	H	Pass

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

- Vertical Polarization

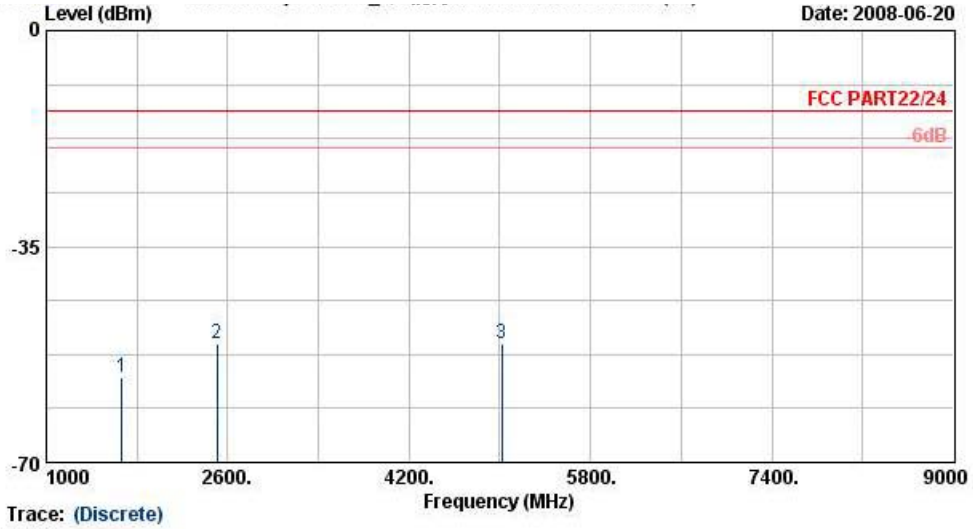


Site : 03CH07-HY
Condition : HF-EIRP(080306) VERTICAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : 120 Vac/60 Hz
Model : FG 852219
Mode : GSM 850 Link ; Ch189+ Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1669	-56.20	-13	-43.20	-64.12	-54.82	3.39	4.16	V	Pass
2509	-53.60	-13	-40.60	-64.19	-53.46	3.71	5.72	V	Pass

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

- Mode 2
- Horizontal Polarization



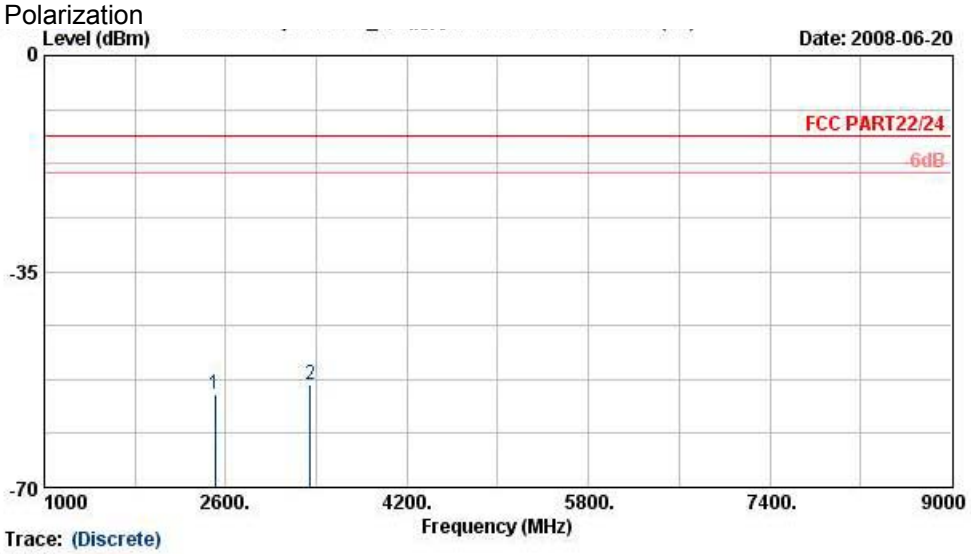
Trace: (Discrete)

Site : 03CH07-HY
Condition : HF-EIRP(080306) HORIZONTAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : 120 Vac/60 Hz
Model : FG 852219
Mode : EDGE Link ; Ch189+ Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1669	-56.11	-13	-43.11	-61.8	-55.12	3.39	4.55	H	Pass
2509	-50.65	-13	-37.65	-60.79	-50.71	3.71	5.92	H	Pass
5015	-50.81	-13	-37.81	-65.57	-54.56	2.61	8.51	H	Pass

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

- Vertical Polarization

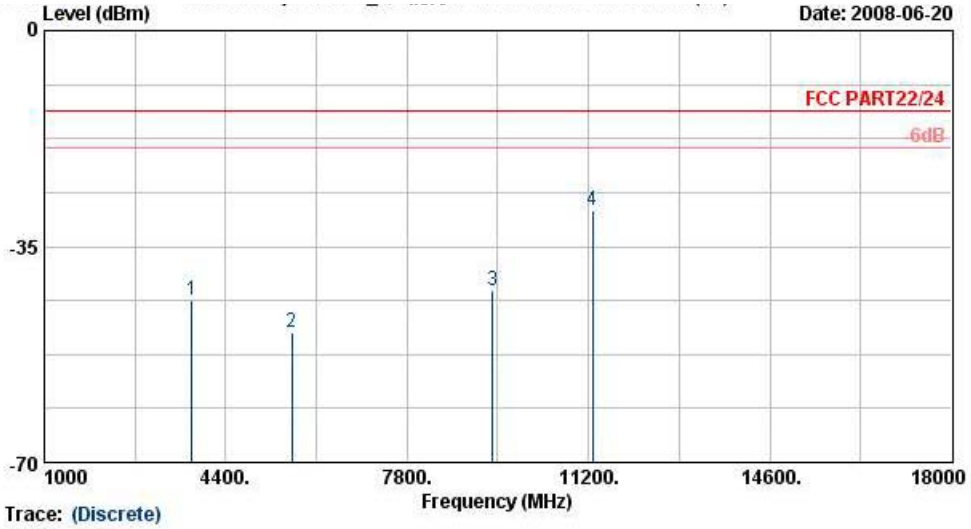


Site : 03CH07-HY
Condition : HF-EIRP(080306) VERTICAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : 120 Vac/60 Hz
Model : FG 852219
Mode : EDGE Link ; Ch189+ Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
2509	-54.83	-13	-41.83	-65.42	-54.69	3.71	5.72	V	Pass
3349	-53.44	-13	-40.44	-65.88	-55.64	3.13	7.48	V	Pass

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

- Mode 3
- Horizontal Polarization



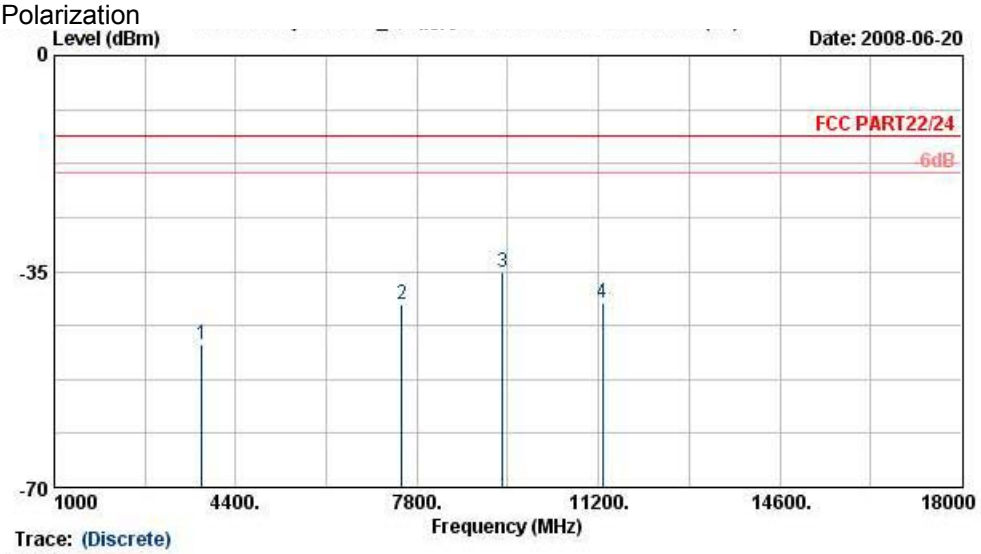
Trace: (Discrete)

Site : 03CH07-HY
Condition : HF-EIRP(080306) HORIZONTAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : 120 Vac/60 Hz
Model : FG 852219
Mode : PCS1900 Link ; Ch661+ Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-43.70	-13	-30.70	-58.42	-47.07	4.03	7.40	H	Pass
5636	-48.96	-13	-35.96	-66.5	-53.9	3.87	8.81	H	Pass
9396	-42.05	-13	-29.05	-64.71	-46.75	6.02	10.72	H	Pass
11280	-29.02	-13	-16.02	-61.26	-31.3	8.48	10.76	H	Pass

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

- Vertical Polarization

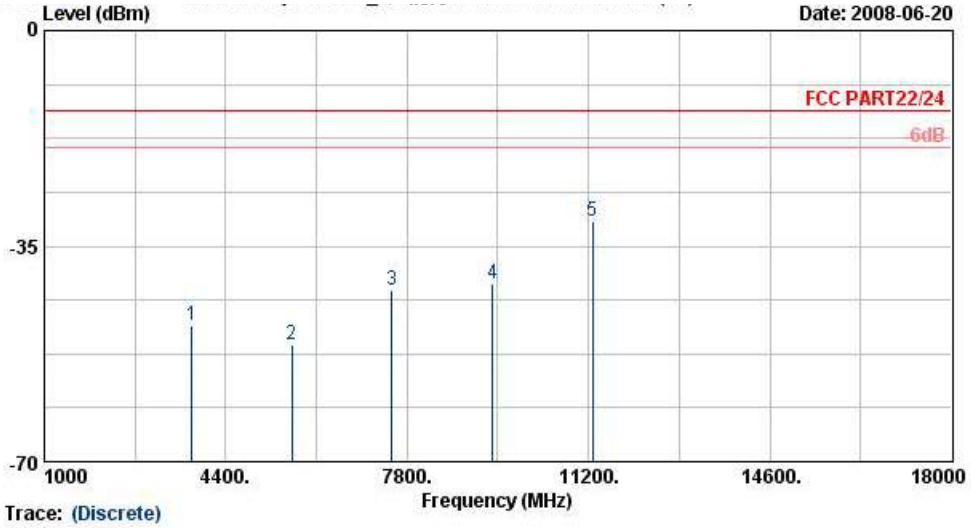


Site : 03CH07-HY
Condition : HF-EIRP(080306) VERTICAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : 120 Vac/60 Hz
Model : FG 852219
Mode : PCS1900 Link ; Ch661+ Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-46.92	-13	-33.92	-62.61	-50.8	4.03	7.91	V	Pass
7520	-40.25	-13	-27.25	-66.4	-45.23	5.83	10.81	V	Pass
9396	-35.18	-13	-22.18	-60.73	-40.68	6.02	11.52	V	Pass
11280	-39.97	-13	-26.97	-70.15	-42.85	8.48	11.36	V	Pass

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

- Mode 4
- Horizontal Polarization



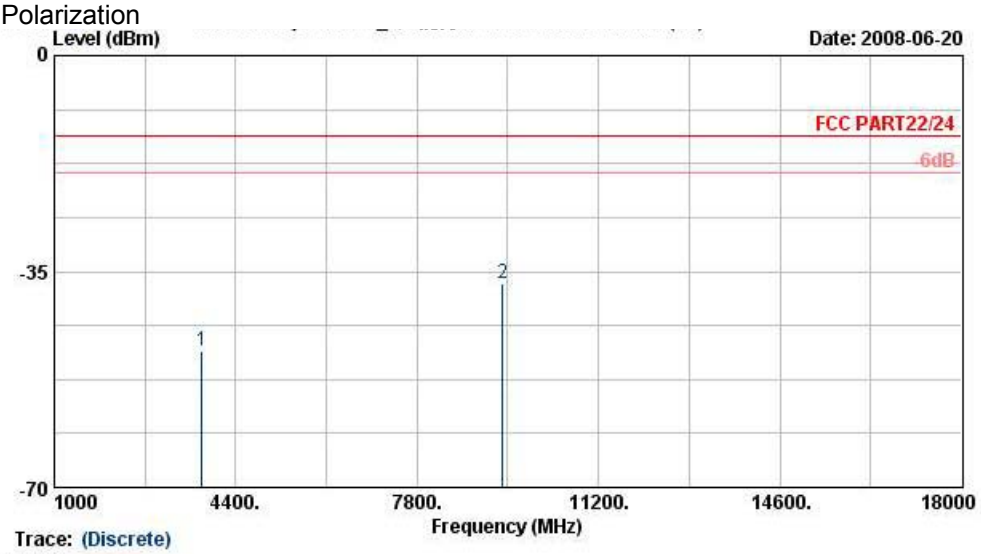
Trace: (Discrete)

Site : 03CH07-HY
Condition : HF-EIRP(080306) HORIZONTAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : 120 Vac/60 Hz
Model : FG852219
Mode : EDGE Link ; Ch661+ Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-47.88	-13	-34.88	-61.76	-51.25	4.03	7.40	H	Pass
5636	-50.92	-13	-37.92	-67.52	-55.86	3.87	8.81	H	Pass
7520	-42.08	-13	-29.08	-68.35	-45.96	5.83	9.71	H	Pass
9396	-41.07	-13	-28.07	-63.59	-45.77	6.02	10.72	H	Pass
11280	-30.97	-13	-17.97	-62.79	-33.25	8.48	10.76	H	Pass

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

- Vertical Polarization

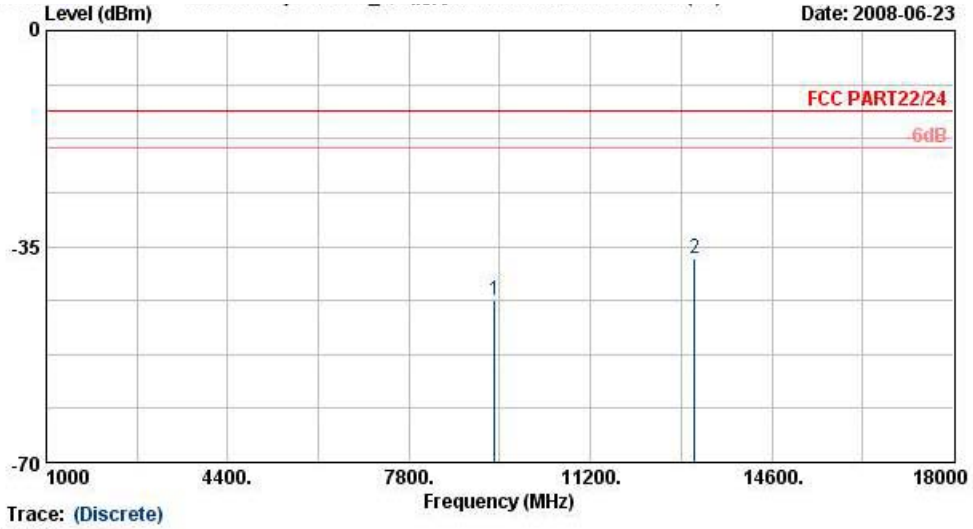


Site : 03CH07-HY
Condition : HF-EIRP(080306) VERTICAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : 120 Vac/60 Hz
Model : FG 852219
Mode : EDGE Link ; Ch661+ Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-47.91	-13	-34.91	-63.29	-51.79	4.03	7.91	V	Pass
9396	-37.05	-13	-24.05	-64.37	-42.55	6.02	11.52	V	Pass

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

- Mode 5
- Horizontal Polarization

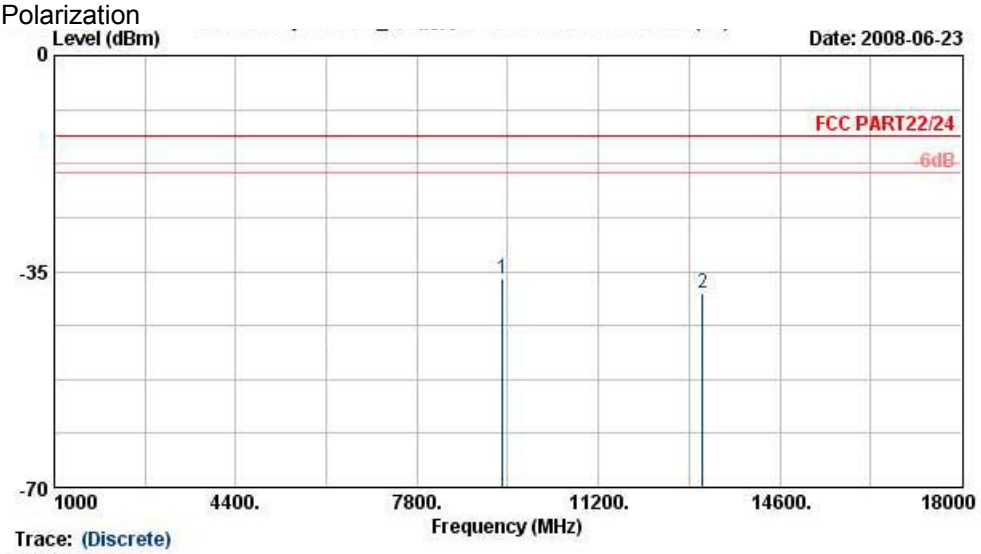


Site : 03CH07-HY
Condition : HF-EIRP(080306) HORIZONTAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : 120 Vac/60 Hz
Model : FG 852219
Mode : WCDMA Link ; Ch9400+ Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
9396	-43.66	-13	-30.66	-68.09	-48.36	6.02	10.72	H	Pass
13156	-36.85	-13	-23.85	-68.2	-39.75	8.13	11.03	H	Pass

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

- Vertical Polarization

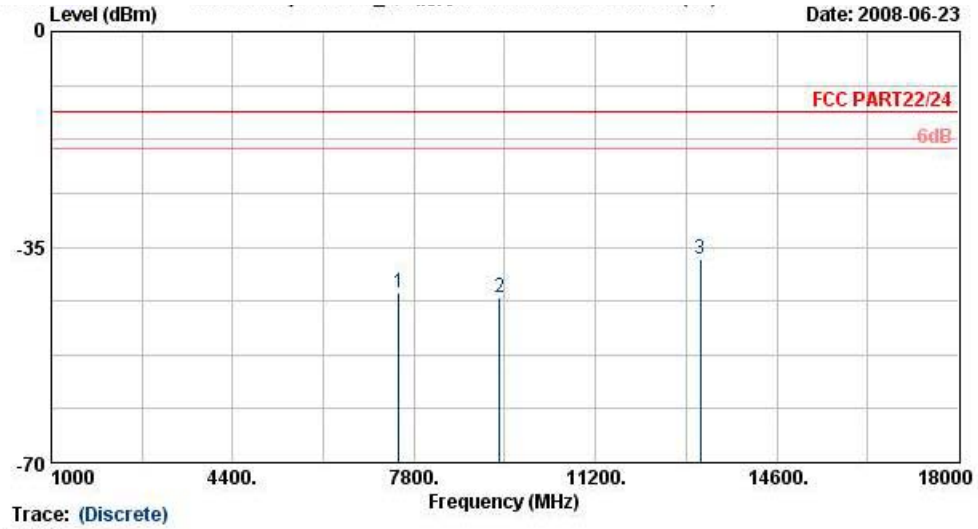


Site : 03CH07-HY
Condition : HF-EIRP(080306) VERTICAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : 120 Vac/60 Hz
Model : FG 852219
Mode : WCDMA Link ; Ch9400+ Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
9408	-36.08	-13	-23.08	-63.98	-41.58	6.02	11.52	V	Pass
13152	-38.60	-13	-25.60	-69.83	-42.63	8.13	12.16	V	Pass

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

- Mode 6
- Horizontal Polarization

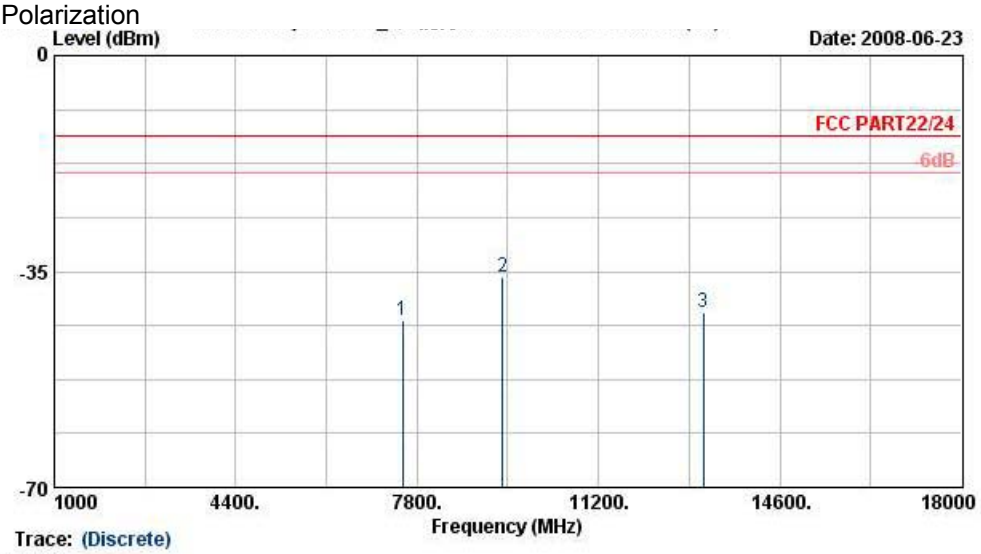


Site : 03CH07-HY
Condition : HF-EIRP(080306) HORIZONTAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : 120 Vac/60 Hz
Model : FG 852219
Mode : HSUPA Link ; Ch9400+ Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
7520	-42.45	-13	-29.45	-68.6	-46.33	5.83	9.71	H	Pass
9408	-43.14	-13	-30.14	-68.55	-47.84	6.02	10.72	H	Pass
13168	-37.05	-13	-24.05	-69.41	-39.95	8.13	11.03	H	Pass

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

- Vertical Polarization

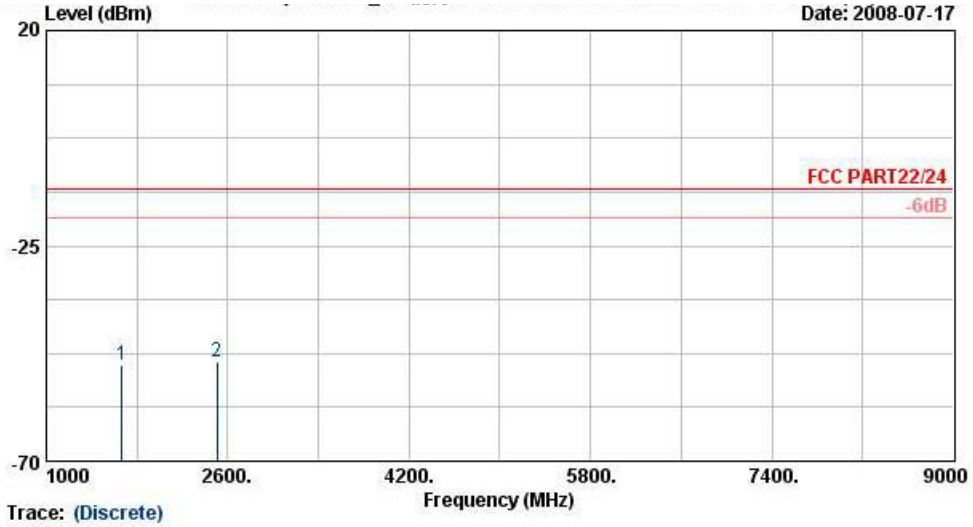


Site : 03CH07-HY
Condition : HF-EIRP(080306) VERTICAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : 120 Vac/60 Hz
Model : FG 852219
Mode : HSUPA Link ; Ch9400+ Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
7524	-42.86	-13	-29.86	-67.89	-47.84	5.83	10.81	V	Pass
9408	-35.95	-13	-22.95	-63.88	-41.45	6.02	11.52	V	Pass
13168	-41.70	-13	-28.70	-71.08	-45.73	8.13	12.16	V	Pass

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

- Mode 7
- Horizontal Polarization

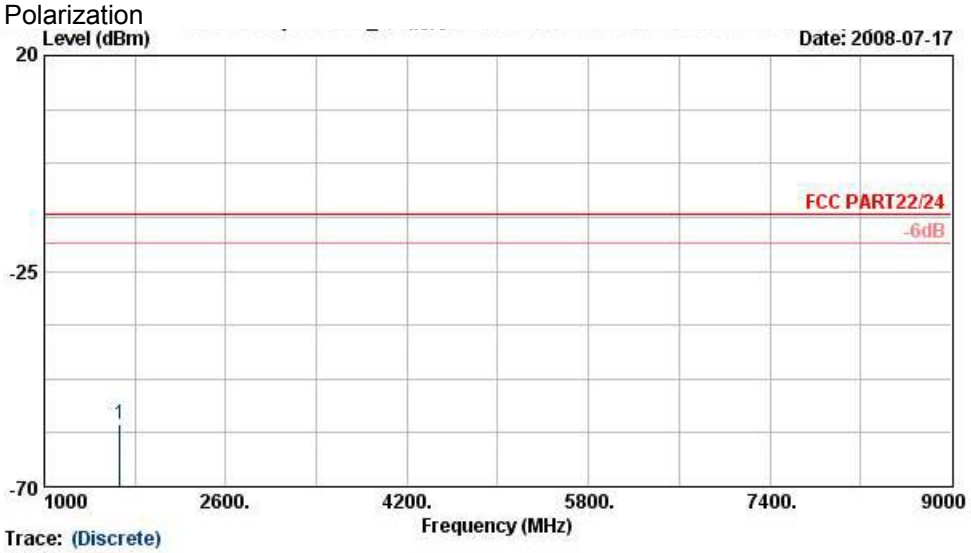


Site : 03CH07-HY
Condition : HF-EIRP(080306) HORIZONTAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : 120 Vac/60 Hz
Model : FG 852219
Mode : GSM 850 Link ; Ch189 + BT Link
: + Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1669	-49.86	-13	-36.86	-56.15	-48.87	3.39	4.55	H	Pass
2509	-49.10	-13	-36.10	-55.84	-49.16	3.71	5.92	H	Pass

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

- Vertical Polarization

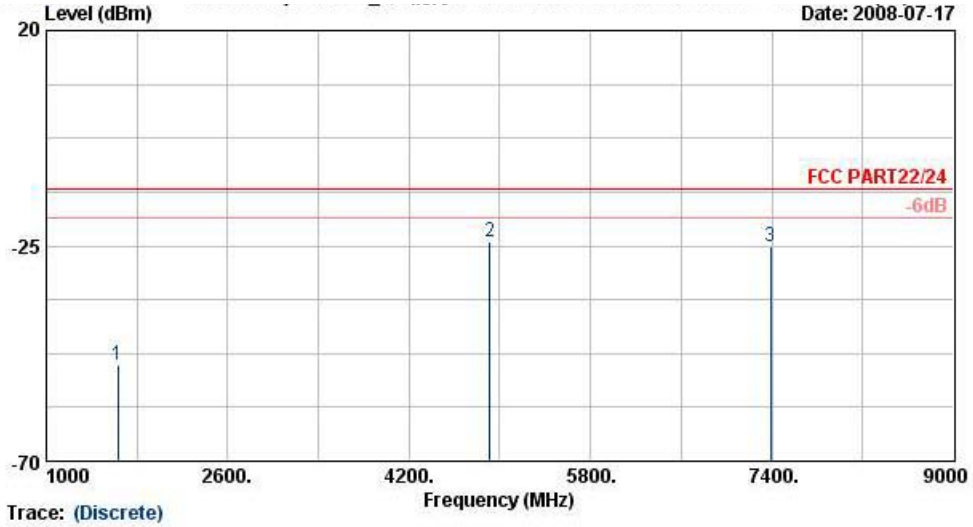


Site : 03CH07-HY
Condition : HF-EIRP(080306) VERTICAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : 120 Vac/60 Hz
Model : FG 852219
Mode : GSM 850 Link ; Ch189 + BT Link
: + Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1669	-56.84	-13	-43.84	-59.42	-55.46	3.39	4.16	V	Pass

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

- Mode 8
- Horizontal Polarization



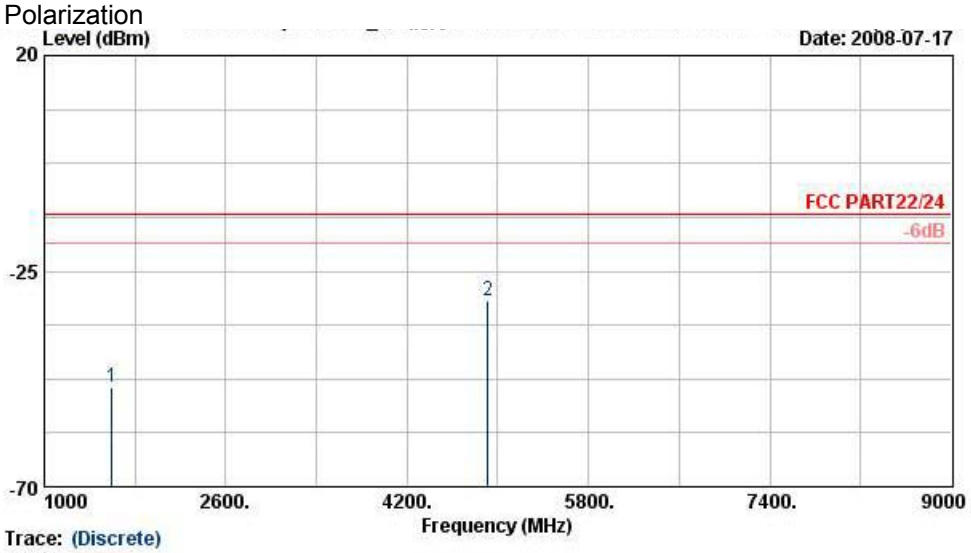
Trace: (Discrete)

Site : 03CH07-HY
Condition : HF-EIRP(080306) HORIZONTAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : From System
Model : FG 852219
Mode : GSM 850 Link ; Ch189 + 11g Tx_Ch11
: + Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1630	-50.03	-13	-37.03	-56.31	-49.03	3.35	4.50	H	Pass
4915	-24.00	-13	-11.00	-39.67	-27.76	2.65	8.56	H	Pass
7390	-25.10	-13	-12.10	-44.00	-26.43	6.17	9.65	H	Pass

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

- Vertical Polarization



Site : 03CH07-HY
Condition : HF-EIRP(080306) VERTICAL
EUT : Mobile Phone (GSM Qual-band_GPRS
: /EDGE,WCDMA Tri-band_HSDPA/HSUPA)
: ,WiFi_VOIP,Bluetooth 2.1 EDR,A-GPS
Power : From System
Model : FG 852219
Mode : GSM 850 Link ; Ch189 + 11g Tx_Ch11
: + Adaptor + Earphone
Plane : E2
IMEI : 359979010012641

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1597	-49.17	-13	-36.17	-53.88	-47.78	3.33	4.09	V	Pass
4915	-31.34	-13	-18.34	-48.32	-35.71	2.65	9.17	V	Pass

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

4.7 Frequency Stability (Temperature Variation)

4.7.1 Measurement Instrument

As decribed in chapter 5 of this test report.

4.7.2 Test Procedure

a. The EUT and test equipment were set up as shown on the following section.

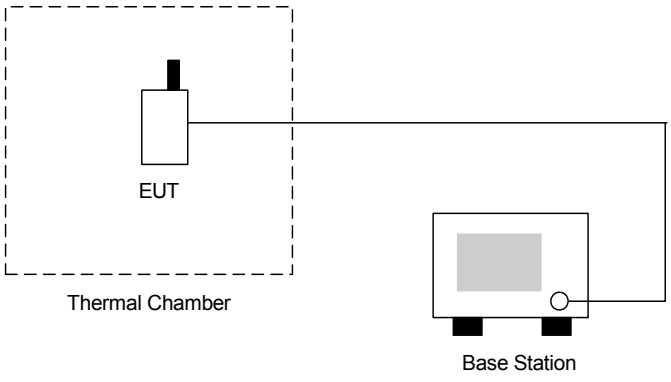
b. With all power removed, the temperature was decreased to -30°C and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was note within one minute.

c. With power OFF, the temperature was raised in 10°C steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change ws noted within one minute.

d. The temperature tests were performed for the worst case.

e. Test data was recorded.

4.7.3 Test Setup Layout



4.7.4 Test Result

- Test Mode : GSM850 (GSM) CH189

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-58	-0.03	2.5	Passed
-20	-41	-0.05		
-10	-44	-0.05		
0	-49	-0.06		
10	-51	-0.06		
20	-57	-0.07		
30	-51	-0.06		
40	-39	-0.05		
50	-49	-0.06		

- Test Mode : GSM850 (EDGE) CH189

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-23	-0.01	2.5	Passed
-20	-40	-0.05		
-10	-42	-0.05		
0	-50	-0.06		
10	-52	-0.06		
20	-47	-0.06		
30	-65	-0.08		
40	-51	-0.06		
50	-48	-0.06		

- Test Mode : GSM1900 (GSM) CH661

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-27	-0.01	2.5	Passed
-20	-46	-0.02		
-10	-44	-0.02		
0	-39	-0.02		
10	-58	-0.03		
20	-32	-0.02		
30	-59	-0.03		
40	-51	-0.03		
50	-49	-0.03		

- Test Mode : GSM1900 (EDGE) CH661

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-40	-0.02	2.5	Passed
-20	-44	-0.02		
-10	-36	-0.02		
0	-55	-0.03		
10	-39	-0.02		
20	-47	-0.02		
30	-44	-0.02		
40	-46	-0.02		
50	-43	-0.02		

- Test Mode : WCDMA Band II CH9400

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-54	-0.028	2.5	Passed
-20	-59	-0.031		
-10	-50	-0.026		
0	-47	-0.025		
10	-65	-0.034		
20	-48	-0.025		
30	-41	-0.022		
40	-62	-0.033		
50	-46	-0.024		

- Test Mode : WCDMA Band II (HSUPA) CH9400

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-60	-0.032	2.5	Passed
-20	-53	-0.028		
-10	-80	-0.042		
0	-45	-0.024		
10	-48	-0.025		
20	-45	-0.024		
30	-51	-0.027		
40	-64	-0.034		
50	-54	-0.028		

4.8 Frequency Stability (Voltage Variation)

4.8.1 Measurement Instrument

As described in chapter 5 of this test report.

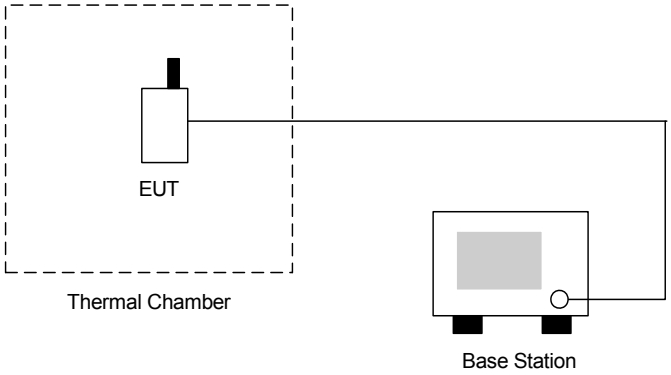
4.8.2 Test Procedure

a. The EUT was placed in a temperature chamber at 25±5 °C and connected as the following section.

b. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.

c. The variation in frequency was measured for the worst case.

4.8.3 Test Setup Layout



4.8.4 Test Result

- Test Mode : GSM850 (GSM) CH189

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-57	-0.07	2.5	Passed
BEP	-61	-0.07		
4.2	-53	-0.06		

- Test Mode : GSM850 (EDGE) CH189

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-47	-0.06	2.5	Passed
BEP	-75	-0.09		
4.2	-39	-0.05		

- Test Mode : GSM1900 (GSM) CH661

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-32	-0.02	2.5	Passed
BEP	-78	-0.04		
4.2	-76	-0.04		

- Test Mode : GSM1900 (EDGE) CH661

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-47	-0.02	2.5	Passed
BEP	-43	-0.02		
4.2	-48	-0.03		

- Test Mode : WCDMA Band II CH9400

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-48	-0.025	2.5	Passed
BEP	-53	-0.028		
4.2	-68	-0.036		

- Test Mode : WCDMA Band II (HSUPA) CH9400

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-45	-0.024	2.5	Passed
BEP	-73	-0.038		
4.2	-37	-0.019		

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
Spectrum Analyzer	Agilent	E4408B	MY44211028	9KHz-26.5GHz	Oct. 17, 2007	Oct. 16, 2008	Radiation (03CH07-HY)
EMI Test Receiver	R&S	ESCS30	100356	9KHz-2.75GHz	Jul. 26, 2007	Jul. 25, 2008	Radiation (03CH07-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Dec. 01, 2007	Nov. 30, 2008	Radiation (03CH07-HY)
Double Ridge Horn Antenna	EMCO	3117	00075962	1G~18G	Aug. 29, 2007	Aug. 28, 2008	Radiation (03CH07-HY)
SHF-EHF Horn	SCHWARZBECK	BBHA 9170	9170-251	14G - 40G	Oct. 17, 2007	Oct. 16, 2008	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A01917	1G - 26.5G	Nov. 22, 2007	Nov. 21, 2008	Radiation (03CH07-HY)
Pre Amplifier	COM - POWER	PA-103	161069	10M – 1GHz	Mar. 31, 2008	Mar. 30, 2009	Radiation (03CH07-HY)
Pre Amplifier	EMEC	PA303	PA303-SMA-059	100K~3GHz	Nov. 26, 2007	Nov. 25, 2008	Radiation (03CH07-HY)
Base Station Simulator	R & S	CMU200	103937	Third-Band	Oct. 19, 2007	Oct. 18, 2008	Radiation (03CH07-HY)
Thermal Chamber	Ten Billion	TTH-D35P	TBN-930701	N/A	Aug. 02, 2007	Aug. 01, 2008	Conducted (TH02-HY)
Spectrum	R&S	FSP40	100057	9KHz~40GHz	Aug. 09, 2007	Aug. 09, 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. 01, 2007	Sep. 30, 2008	Conducted (TH02-HY)
DC Power Supply	TOPWARD	3303D	740889	N/A	May 25, 2007	May 24, 2009	Conducted (TH02-HY)
Power Meter	Agilent	E4416A	GB41292344	N/A	Feb. 21, 2008	Feb. 20, 2009	Conducted (TH02-HY)
Power Sensor	Agilent	E9327A	US40441548	N/A	Feb. 21, 2008	Feb. 20, 2009	Conducted (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=2Uc(y)	**4.72**				

END OF TEST REPORT

Appendix A. Photographs of EUT

Please refer to Sporton report number EP852219-02 as below.