FCC Test Report

According to

47 CFR Part 22H, 24E

Equipment	:	**GSM 850/1900 Mobile Phone**
Trade Name	:	**HUAWEI**
Model No.	:	**HUAWEI T211**
FCC ID	:	**QIST211**
Tx Frequency Range	:	**GSM850 : 824.2 ~ 848.8 MHz** **GSM1900 : 1850.2 ~1909.8 MHz**
Max. ERP/EIRP Power	:	**GSM850 : 0.35 W** **GSM1900 : 0.36 W**
Emission Designator	:	**300KGXW**
Applicant	:	**Huawei Technologies Co., Ltd.** P.O. Box 518129, Huawei base, bantian, Longgang District, Shenzhen, China

- The test result refers exclusively to the test presented test model / sample.
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- **Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by NVLAP or any agency of U.S. government.**
- The data shown in this test report were carried out on May 18, 2008 at **Sporton International Inc. LAB.**
- Report No.: FG841820, Report Version: Rev. 01.

Roy Wu
Manager

SPORTON International (Kunshan) Inc.
No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.

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Appendix A - Setup Photographs

History of This Test Report

Report Issue Date: May 21, 2008

Report No.	Description

1. General Information

1.1 Applicant

Huawei Technologies Co., Ltd.

P.O. Box 518129, Huawei base, bantian, Longgang District, Shenzhen, China

1.2 Manufacturer

Huawei Technologies Co., Ltd.

P.O. Box 518129, Huawei base, bantian, Longgang District, Shenzhen, China

1.3 Basic Description of Equipment under Test

Equipment		GSM 850/1900 Mobile Phone
Trade Name		HUAWEI
Model Name		HUAWEI T211
FCC ID		QIST211
AC Adapter	**Brand Name**	DVE
	Model Name	DSA-5W-05 FUS
	Power Rating	I/P:100-240Vac, 50-60Hz, 0.2A; O/P: 6Vdc, 0.3A
	AC Power Cord Type	1.5 meter non-shielded cable without ferrite core
Battery	**Brand Name**	HUAWEI
	Model Name	HBG68S
	Power Rating	3.7Vdc, 680mAh
	Type	Li-ion
Earphone	**Brand Name**	MEEYON
	Model Name	ZW002603
	Signal Line Type	1.2 meter non-shielded cable without ferrite core

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	
DUT Type :	GSM 850/1900 Mobile Phone
Trade Name :	HUAWEI
Model Name :	HUAWEI T211
FCC ID :	QIST211
Tx Frequency :	GSM850 : 824 MHz ~ 849 MHz GSM1900 : 1850 MHz ~1910 MHz
Rx Frequency :	GSM850 : 869 MHz ~ 894 MHz GSM1900 : 1930 MHz ~ 1990 MHz
Channel Spacing	200 KHz
Maximum Output Power to Antenna :	GSM850 : 31.82dBm GSM1900 : 29.43dBm
Maximum ERP/EIRP :	GSM850 : 0.35 W (25.48 dBm) GSM1900 : 0.36 W (25.57 dBm)
Antenna Type :	Fixed Internal
HW Version :	Ver B
SW Version :	B532CA.P00.I33.12.00
Power Rating (DC/AC , Voltage and Current of RF element or PA) :	DC 2.7V
Type of Modulation :	GMSK
Type of Emission :	300KGXW
DUT Stage :	Identical Prototype

1.5 Report Date

EUT Received : Apr. 18, 2008

Report Date : May 21, 2008

2. Test Configuration of Equipment under Test

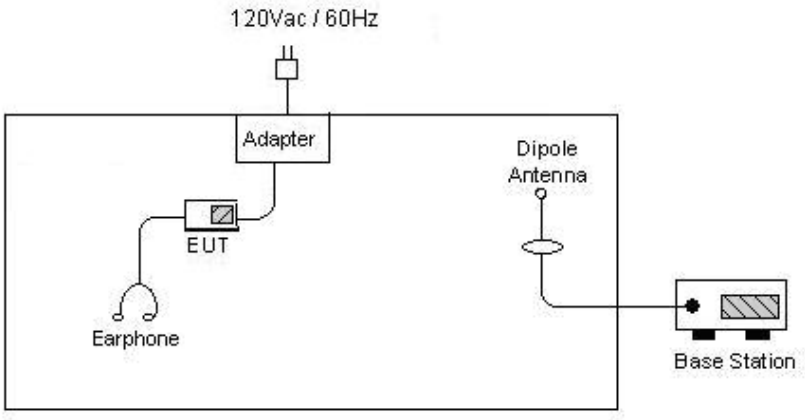
2.1 Test Manner

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; 30MHz to 19000 MHz for GSM1900.

2.2 Test Mode

Application	GSM850	GSM1900
Radiated Emission	☒ Mode 1: GSM Link	☒ Mode 2: GSM Link
Conducted Measurement	☒ Mode 1: GSM Link	☒ Mode 2: GSM Link

2.3 Connection Diagram of Test System



2.4 Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable / Power Code
1.	Base Station	R&S	CMU200	N/A	Unshielded, 1.8m

3. General Information of Test Site

Test Site Location : No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.
TEL : 86-0512-5790-0158
FAX : 86-0512-5790-0958
Test Site No. : 03CH01-KS, TH02-HY

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

3.1 Test Voltage

AC 120V / 60Hz

3.2 Test Compliance

47 CFR Part 22H, 24E, Part 2

3.3 Frequency Range

a. Radiation: from 30MHz to 9000MHz for GSM850.
b. Radiation: from 30 MHz to 19000 MHz for GSM1900.

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.

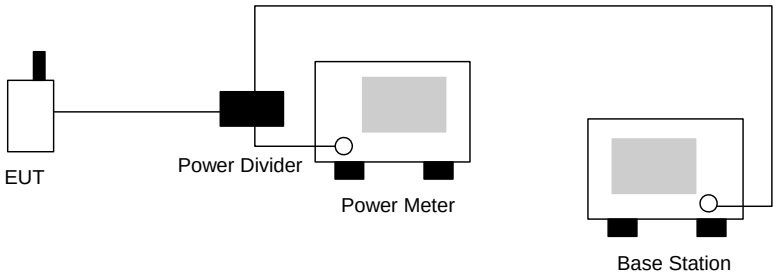
4.2.2 Test Procedure

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

b. Set EUT at PCL=5 for GSM850 and/or PCL=0 for GSM1900 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	128	824.2 (Low)	31.81	1.517
	189	836.4 (Mid)	31.82	1.521
	251	848.8 (High)	31.80	1.514
GSM1900	512	1850.2 (Low)	29.34	0.859
	661	1880.0 (Mid)	29.39	0.869
	810	1909.8 (High)	29.43	0.877

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

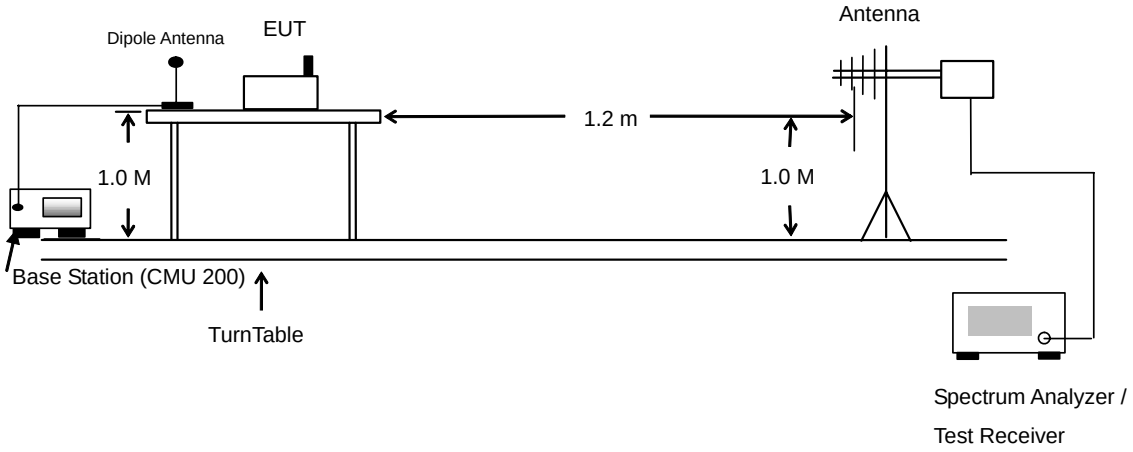
Es = Rs + AF

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 Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-22.93	-48.12	0.00	-1.08	24.11	0.26
836.40	-22.55	-48.28	0.00	-0.93	24.80	0.30
848.80	-22.11	-48.35	0.00	-0.76	25.48	0.35
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-45.99	-47.97	0.00	-1.08	0.90	0.00
836.40	-44.57	-48.01	0.00	-0.93	2.51	0.00
848.80	-43.39	-48.05	0.00	-0.76	3.90	0.00

GSM1900 Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-30.78	-51.88	0.00	1.96	23.06	0.20
1880.00	-31.14	-52.99	0.00	2.00	23.85	0.24
1909.80	-30.69	-54.28	0.00	1.98	25.57	0.36
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-32.45	-52.13	0.00	1.96	21.64	0.15
1880.00	-32.86	-53.17	0.00	2.00	22.31	0.17
1909.80	-32.41	-54.13	0.00	1.98	23.70	0.23

4.4 Occupied Bandwidth and Band Edge Measurement

4.4.1 Measurement Instruments

As described in chapter 5 of this test report.

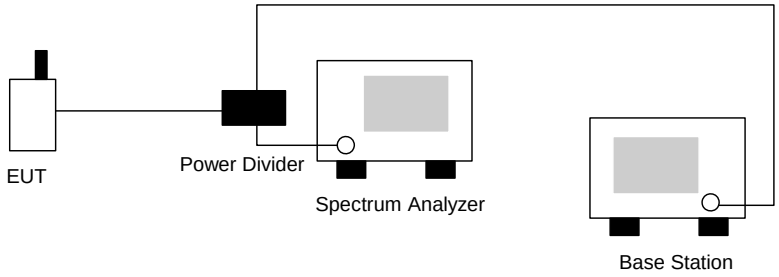
4.4.2 Test Procedure

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.

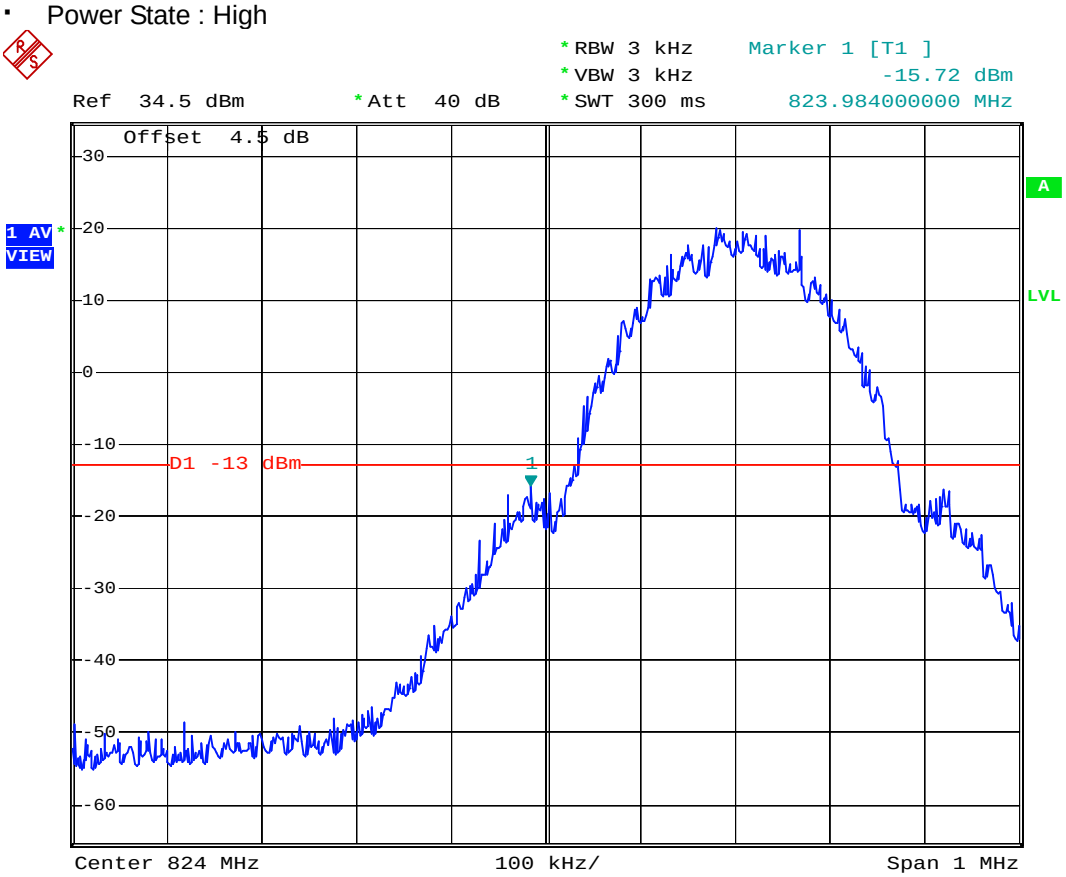
c. The bandedge of low and high channels for the highest RF powers within the transmitting frequency band were measured. Setting RBW as roughly BW/100.

4.4.3 Test Setup Layout



4.4.4 Test Result

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



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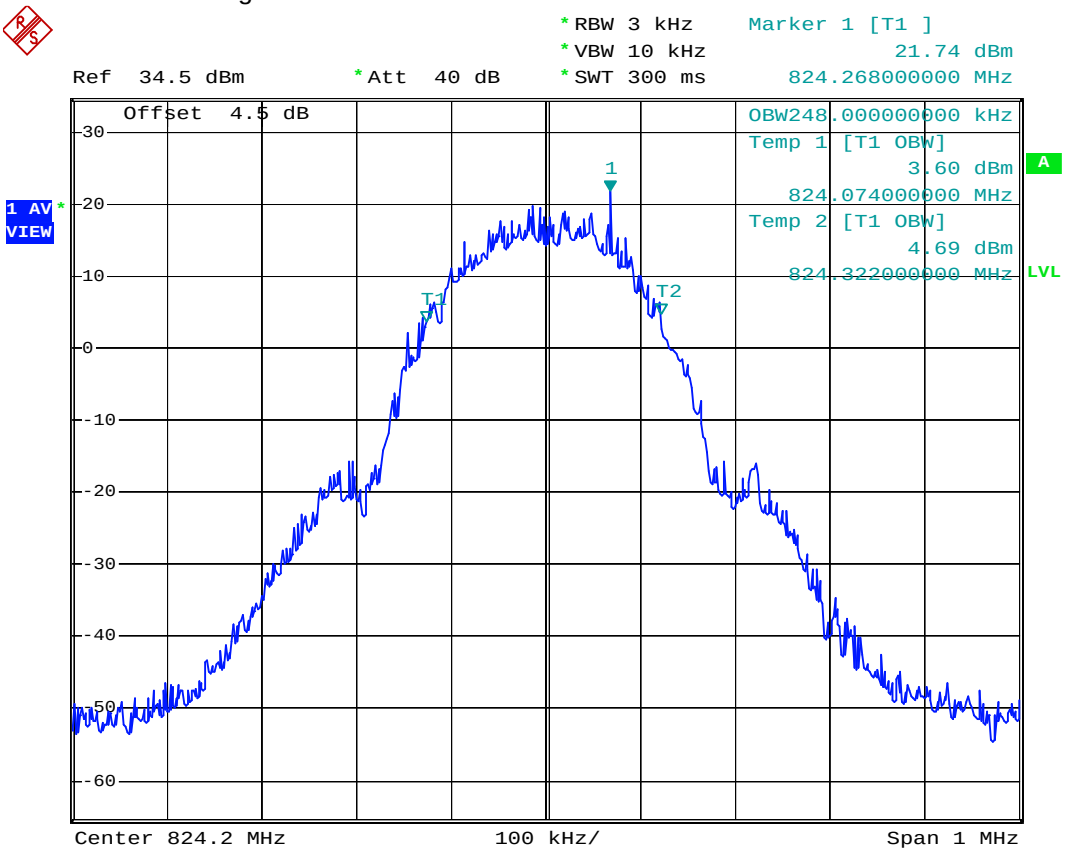
- Test Mode : GSM850 CH128 99% Occupid Bandwidth
- Power State : High



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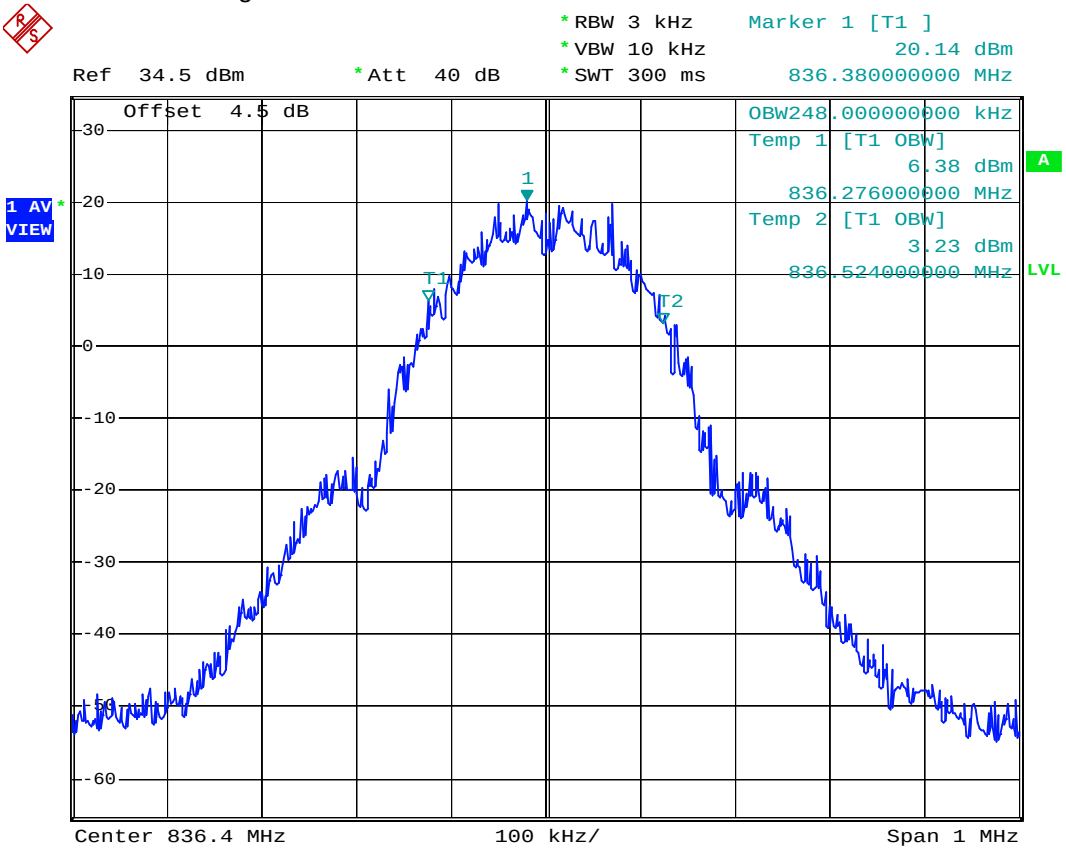
- Test Mode : GSM850 CH189 99% Occupid Bandwidth
- Power State : High



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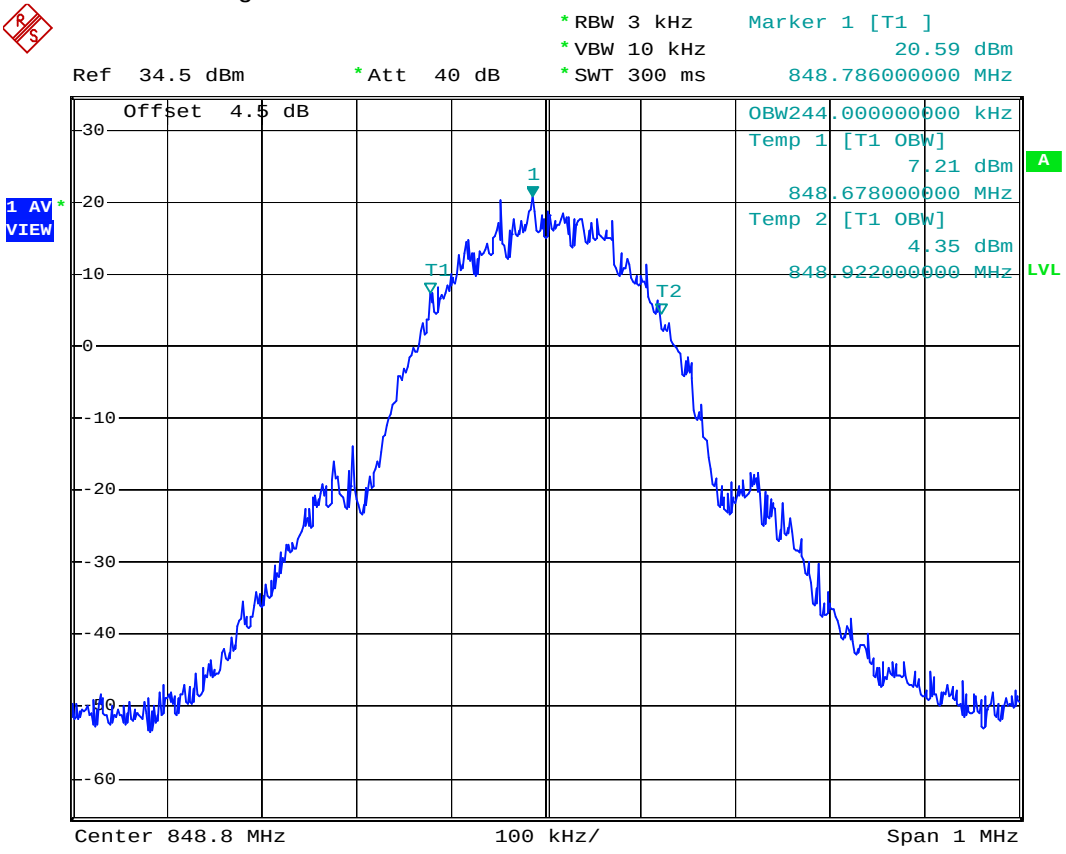
- Test Mode : GSM850 CH 251 99% Occupid Bandwidth
- Power State : High



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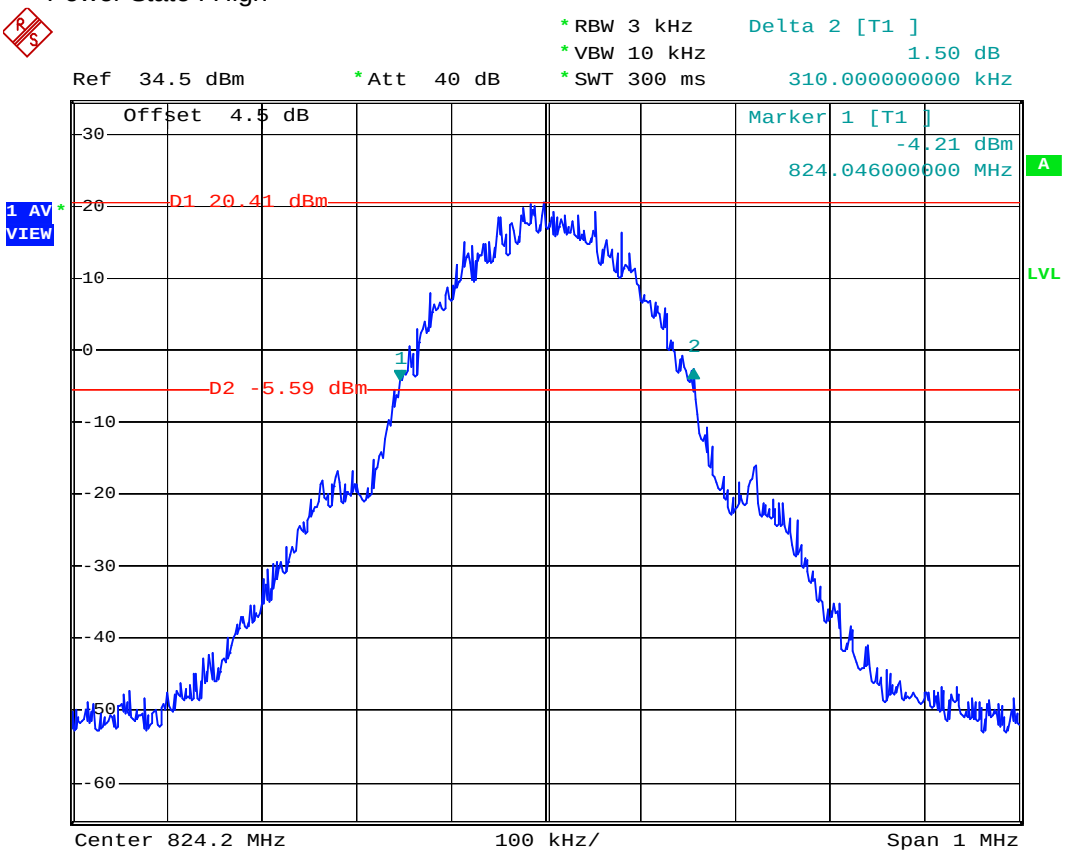
- Test Mode : GSM850 CH128 26dB Bandwidth
- Power State : High



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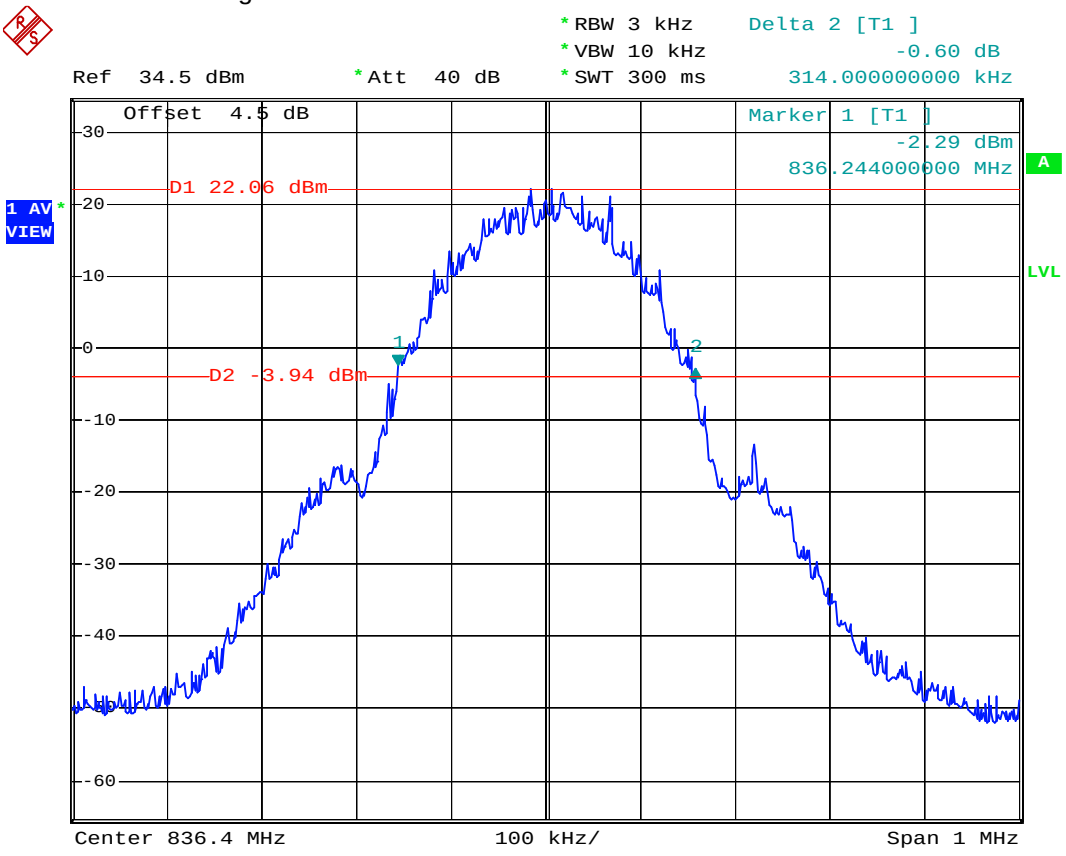
- Test Mode : GSM850 CH189 26dB Bandwidth
- Power State : High



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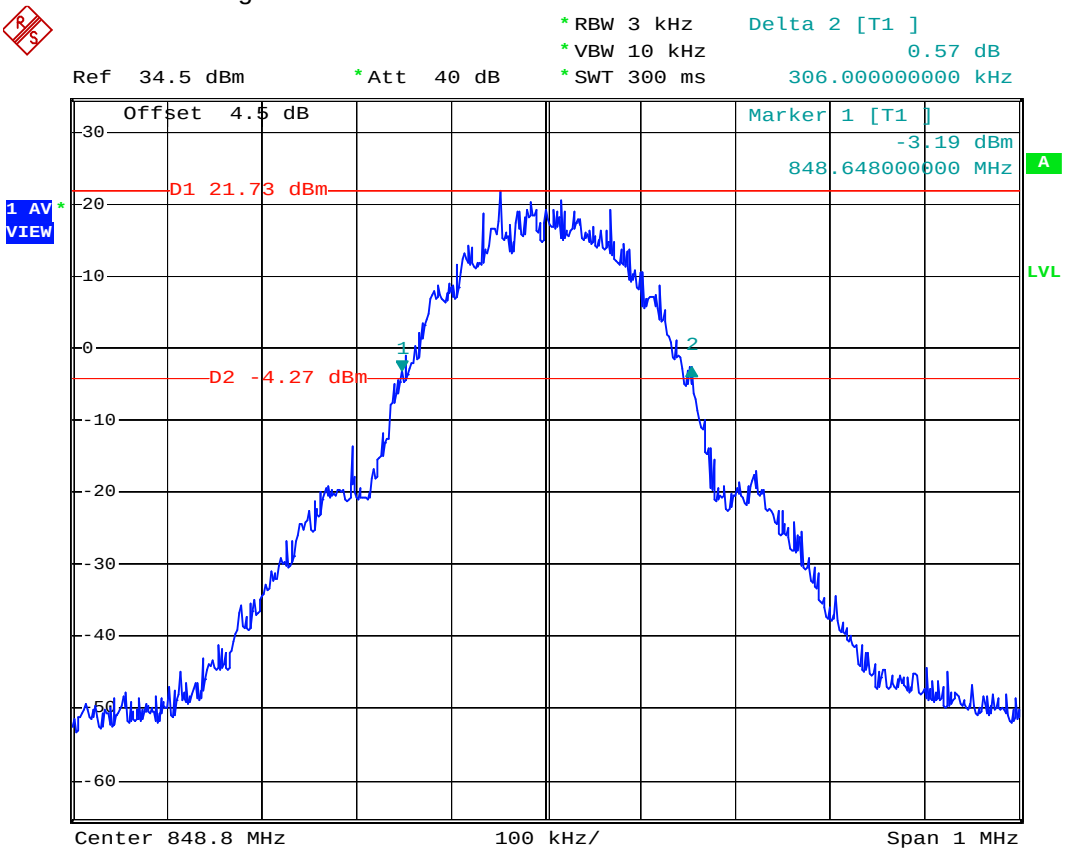
- Test Mode : GSM850 CH 251 26dB Bandwidth
- Power State : High



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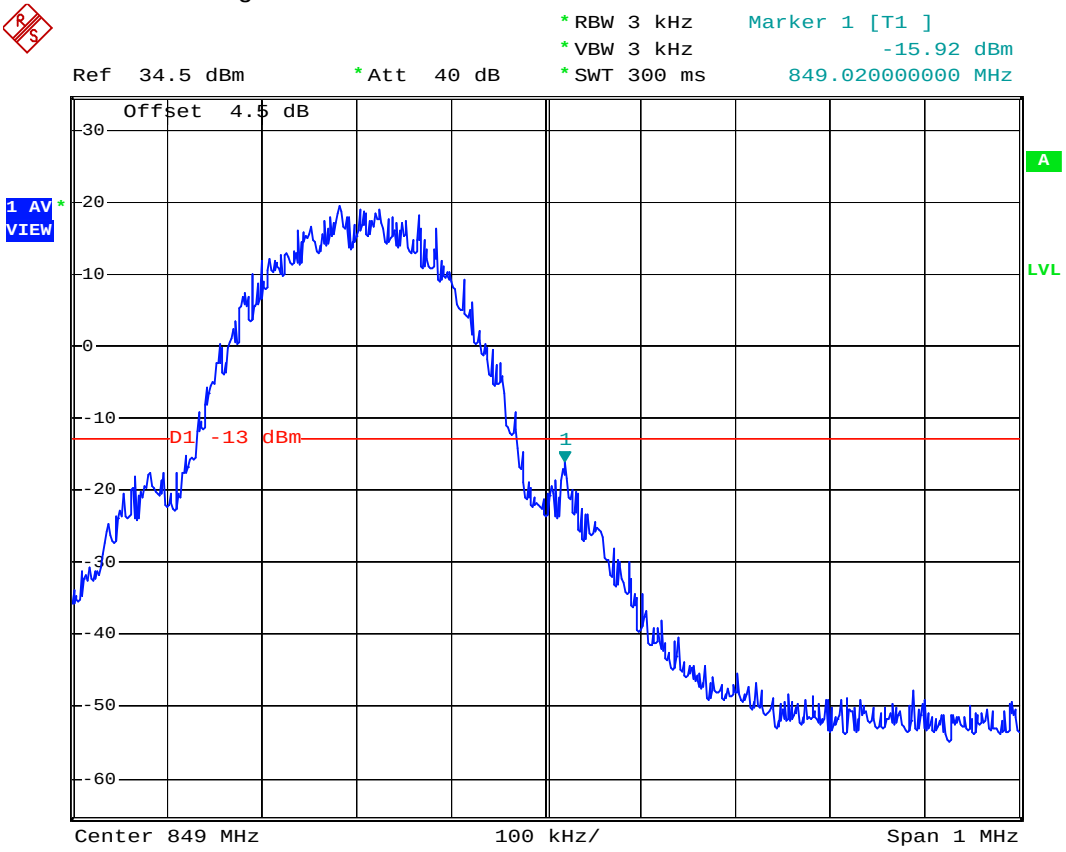
- Test Mode : GSM850 (GSM) CH251 Higher Band Edge
- Power State : High



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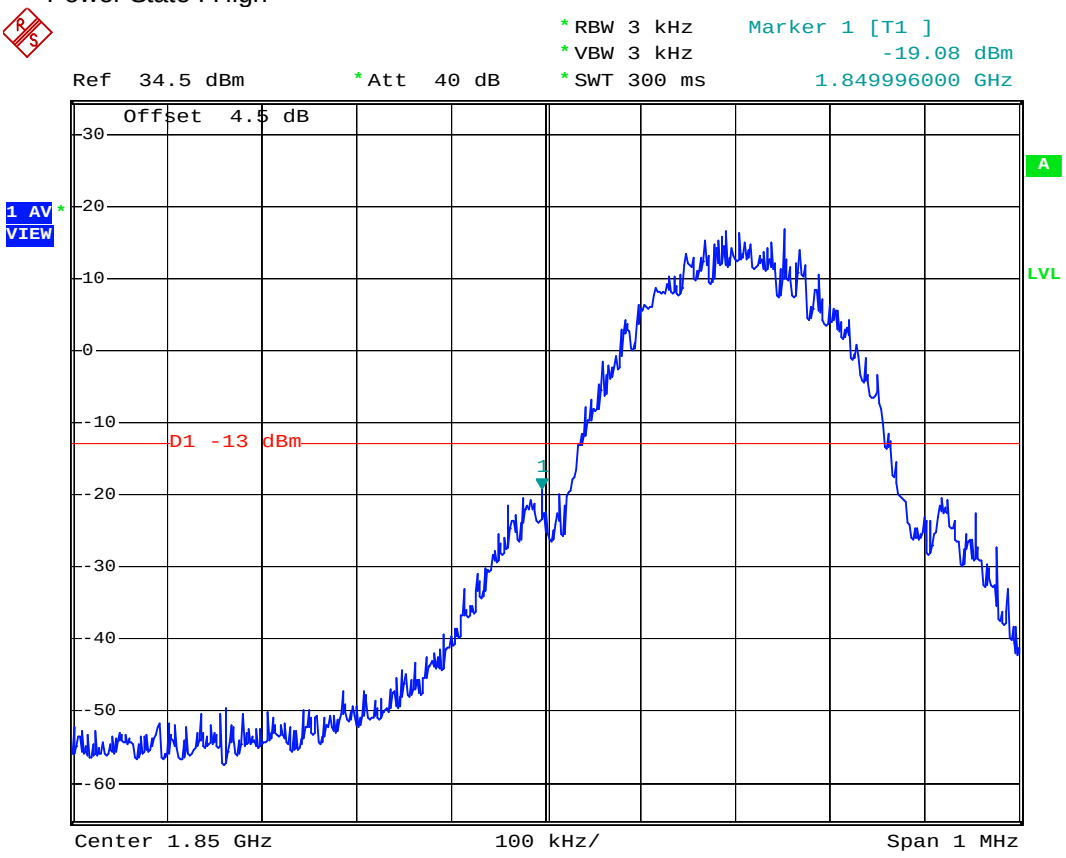
- Mode 2
- Test Mode : GSM1900 CH512 Lower Band Edge
- Power State : High



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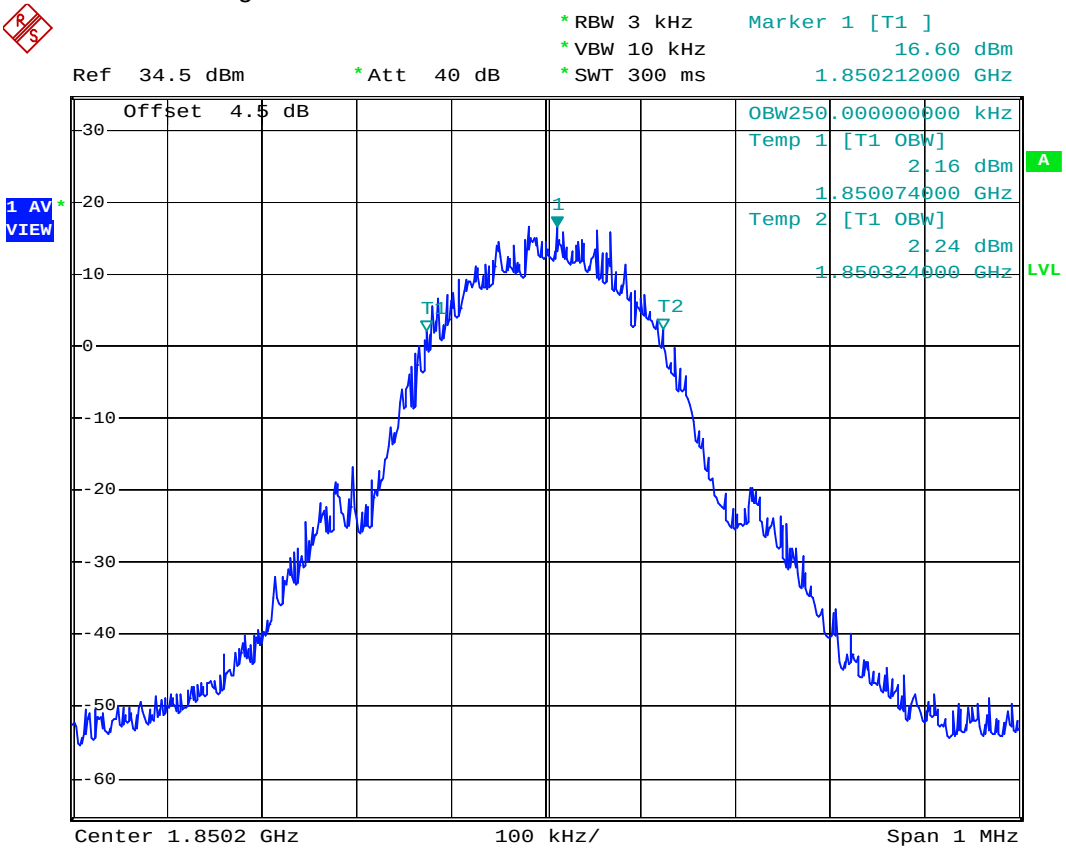
- Test Mode : GSM1900 CH512 99% Occupid Bandwidth
- Power State : High



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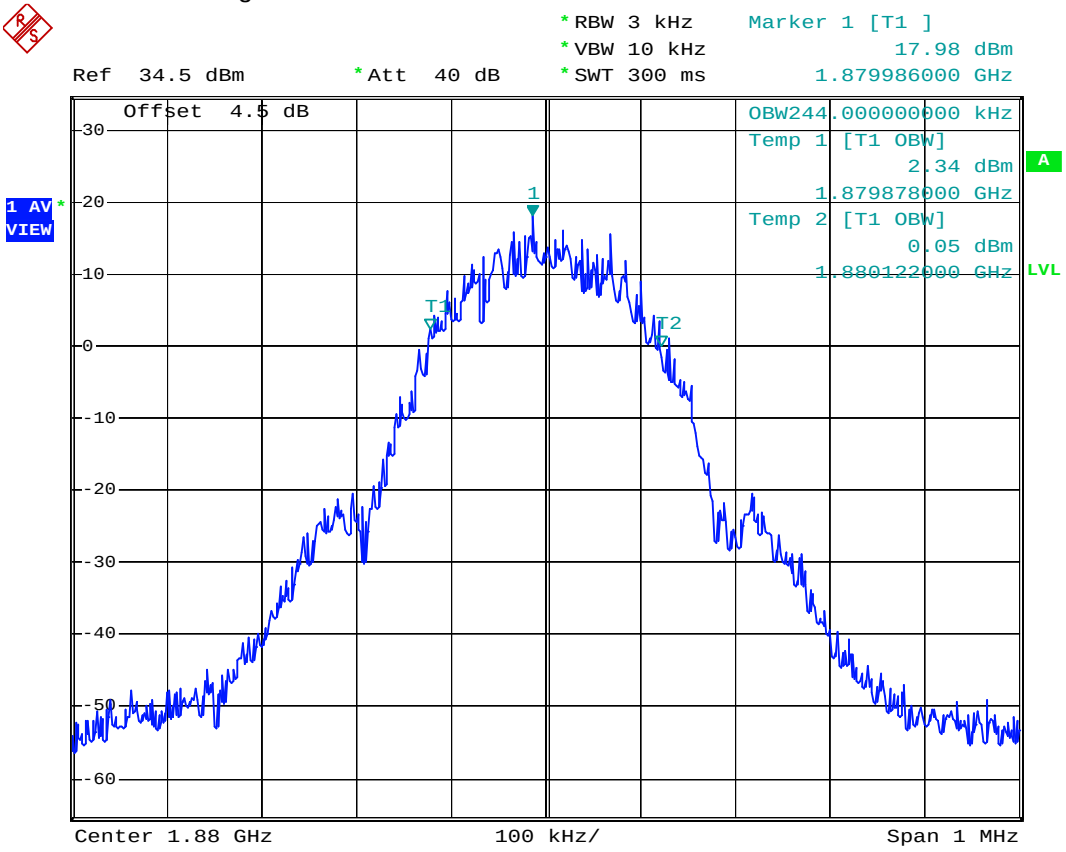
- Test Mode : GSM1900 CH661 99% Occupid Bandwidth
- Power State : High



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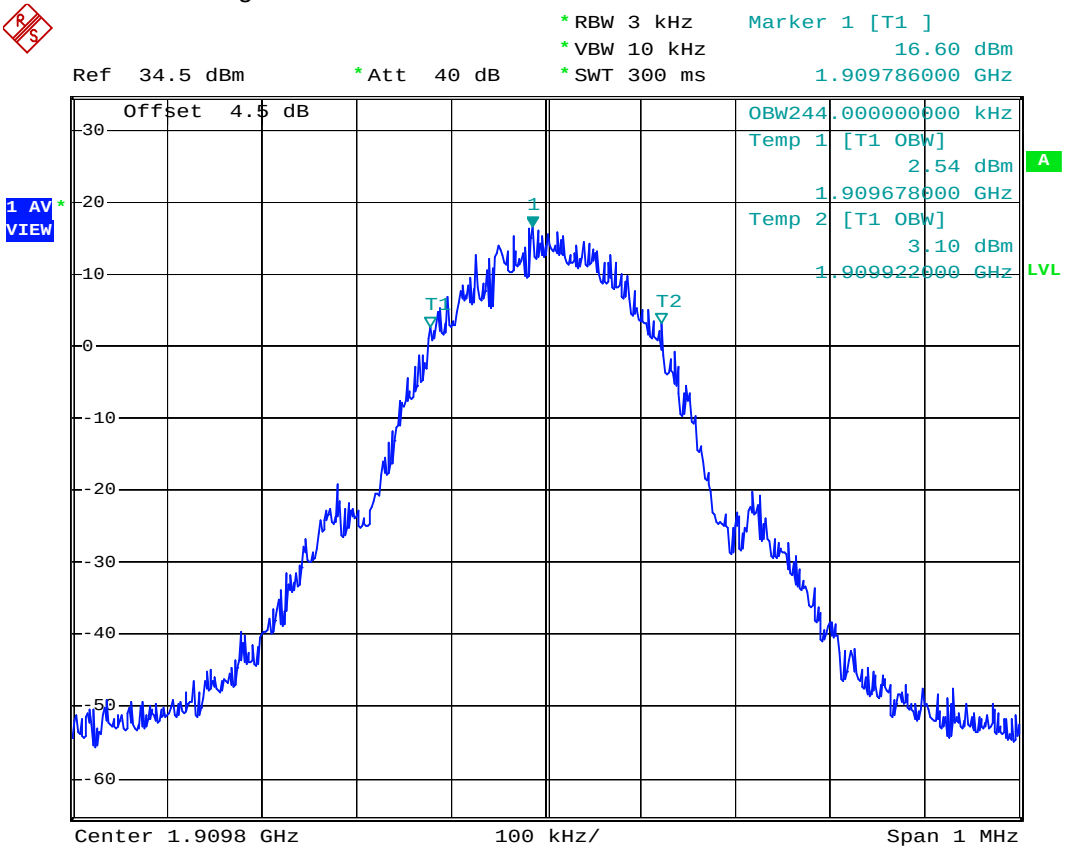
- Test Mode : GSM1900 CH810 99% Occupid Bandwidth
- Power State : High



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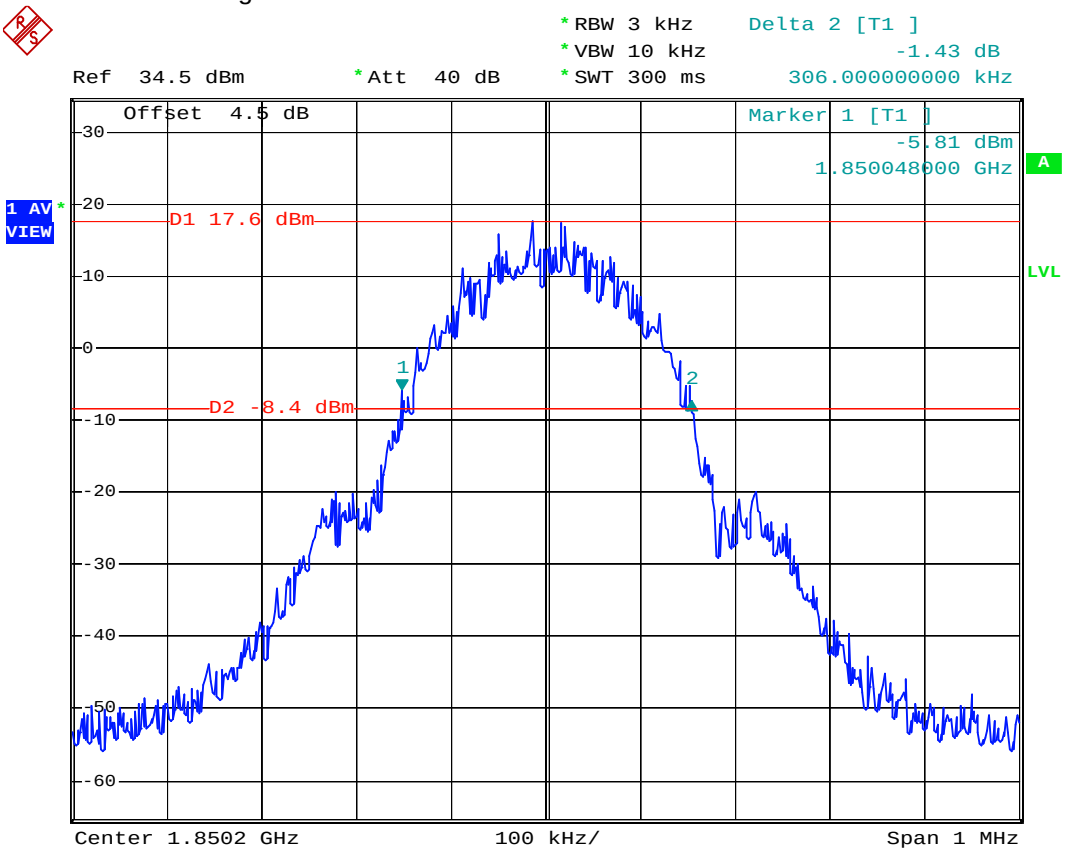
- Test Mode : GSM1900 CH512 26dB Bandwidth
- Power State : High



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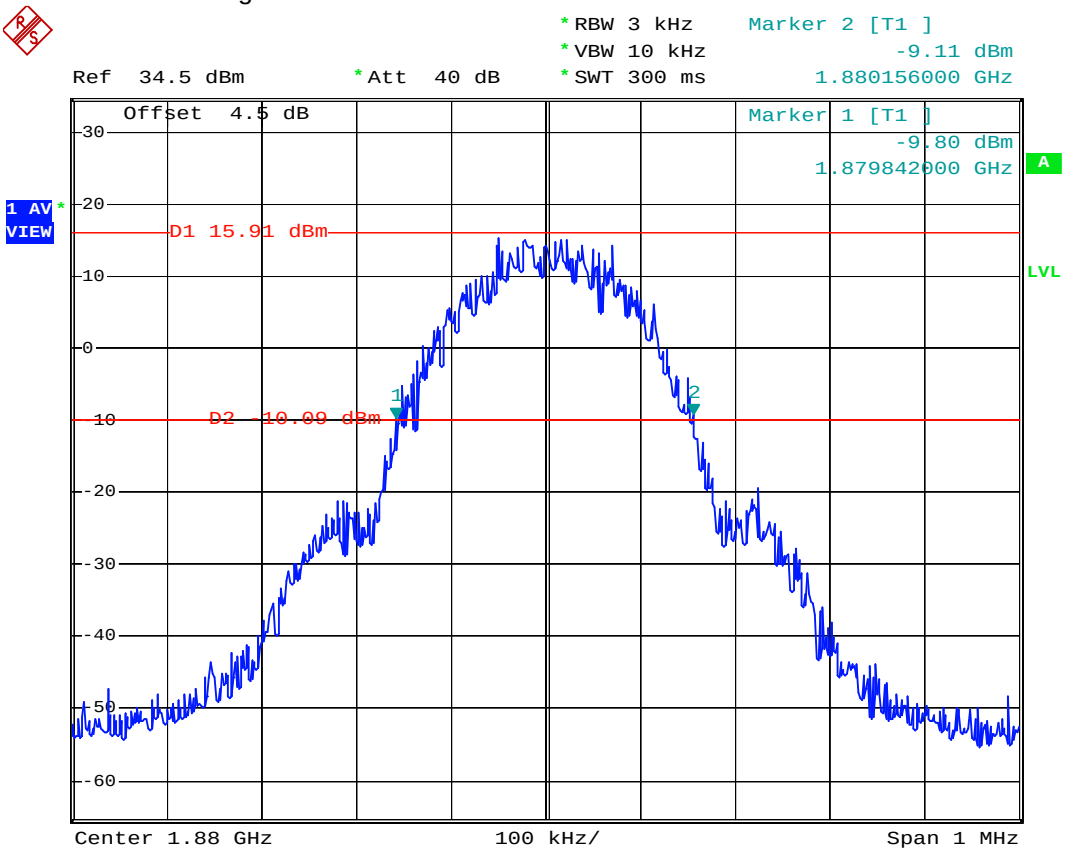
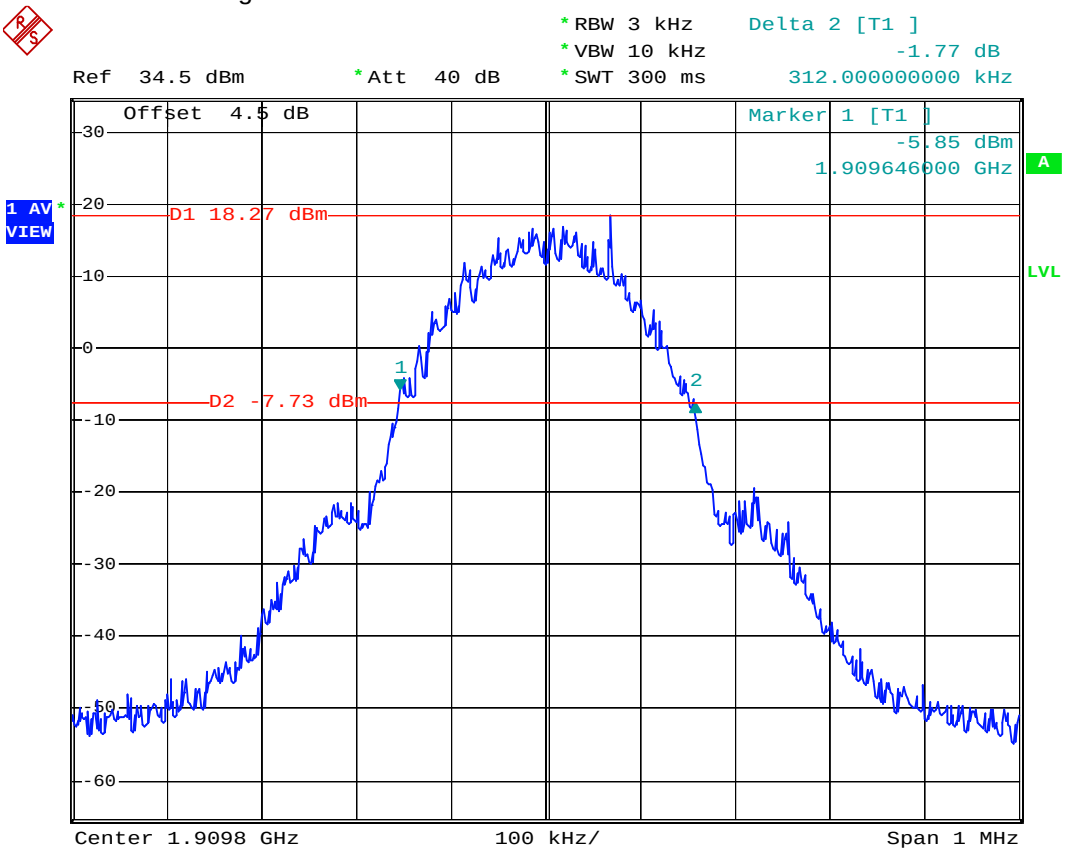
- Test Mode : GSM1900 CH661 26dB Bandwidth
- Power State : High



Date: 25.APR.2008 18:40:13

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



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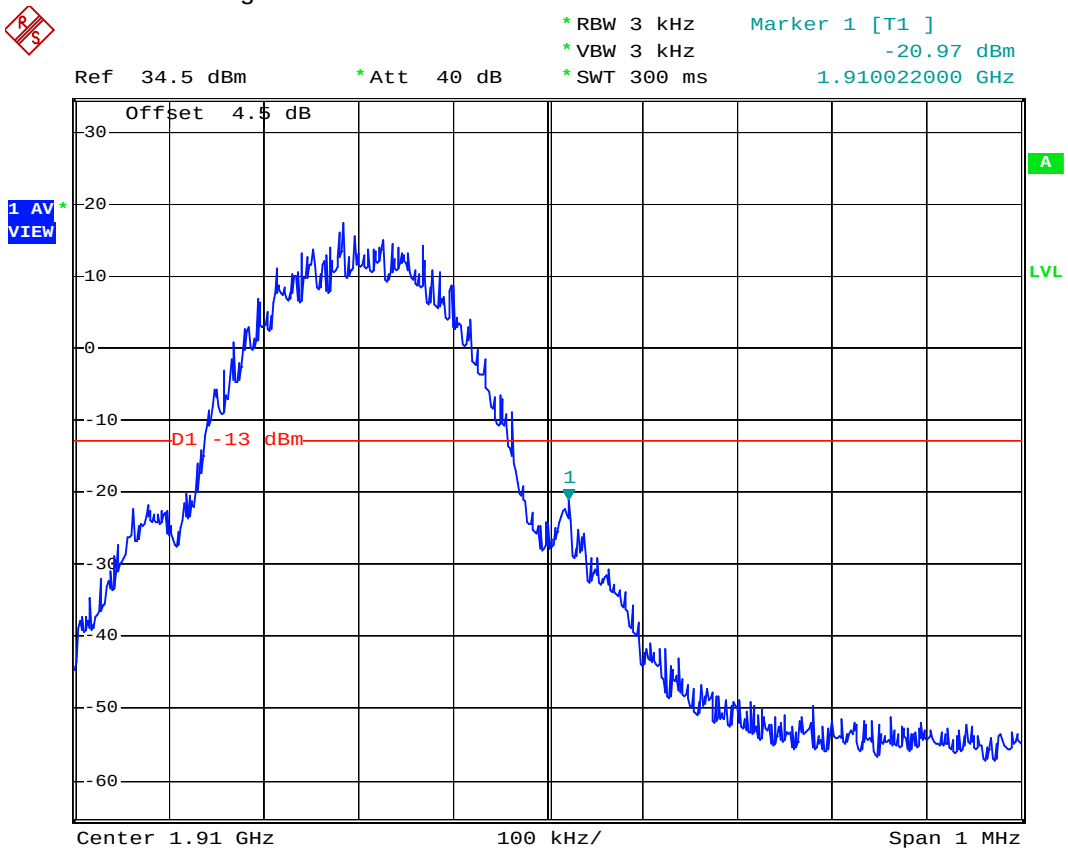
- Test Mode : GSM1900 CH810 Higher Band Edge
- Power State : High



Date: 25.APR.2008 18:49:58

4.5 Conducted Emission

4.5.1 Measurement Instruments

As described in chapter 5 of this test report.

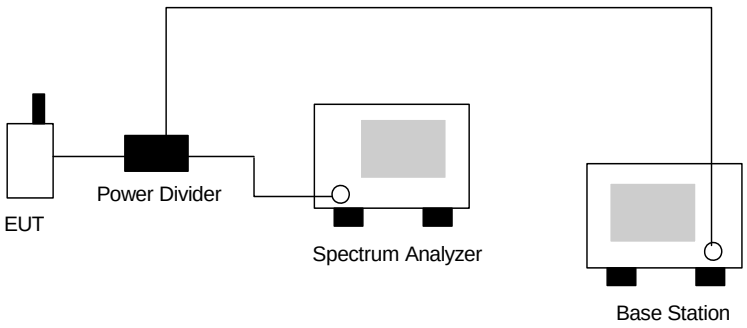
4.5.2 Test Procedure

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.

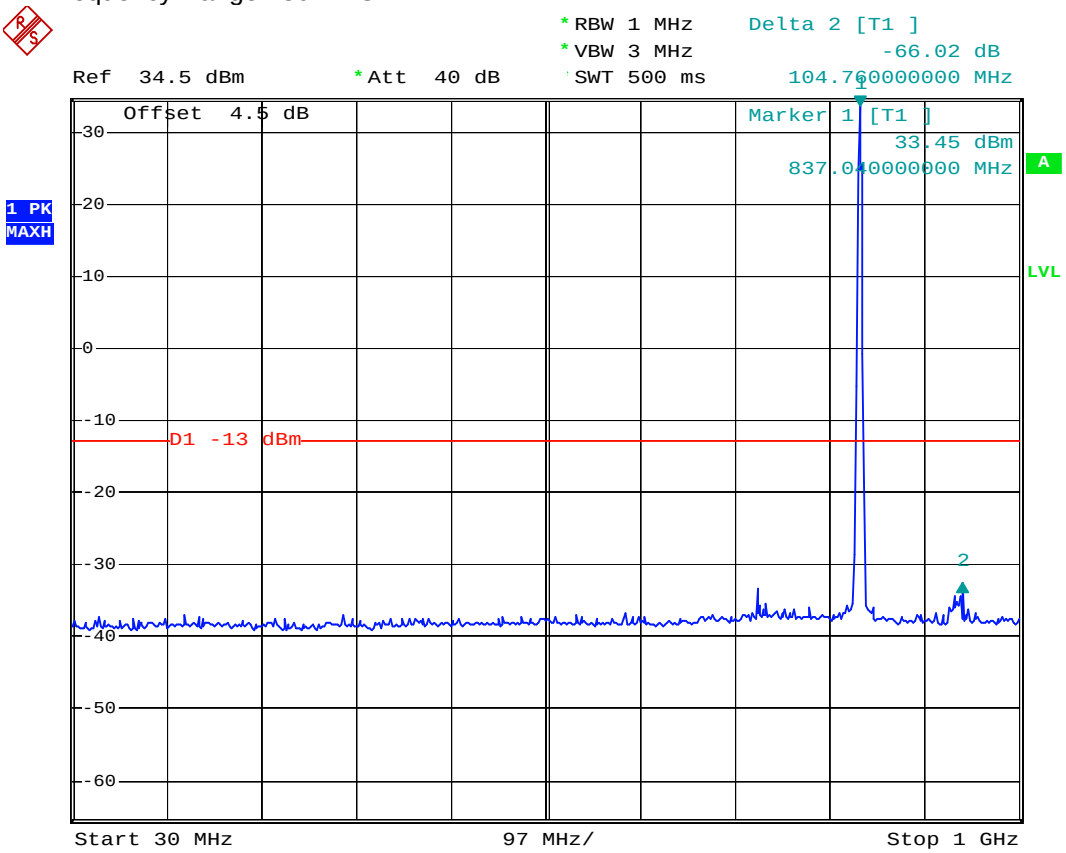
c. The conducted spurious emission for the whole frequency range was taken.

4.5.3 Test Setup Layout



4.5.4 Test Result

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



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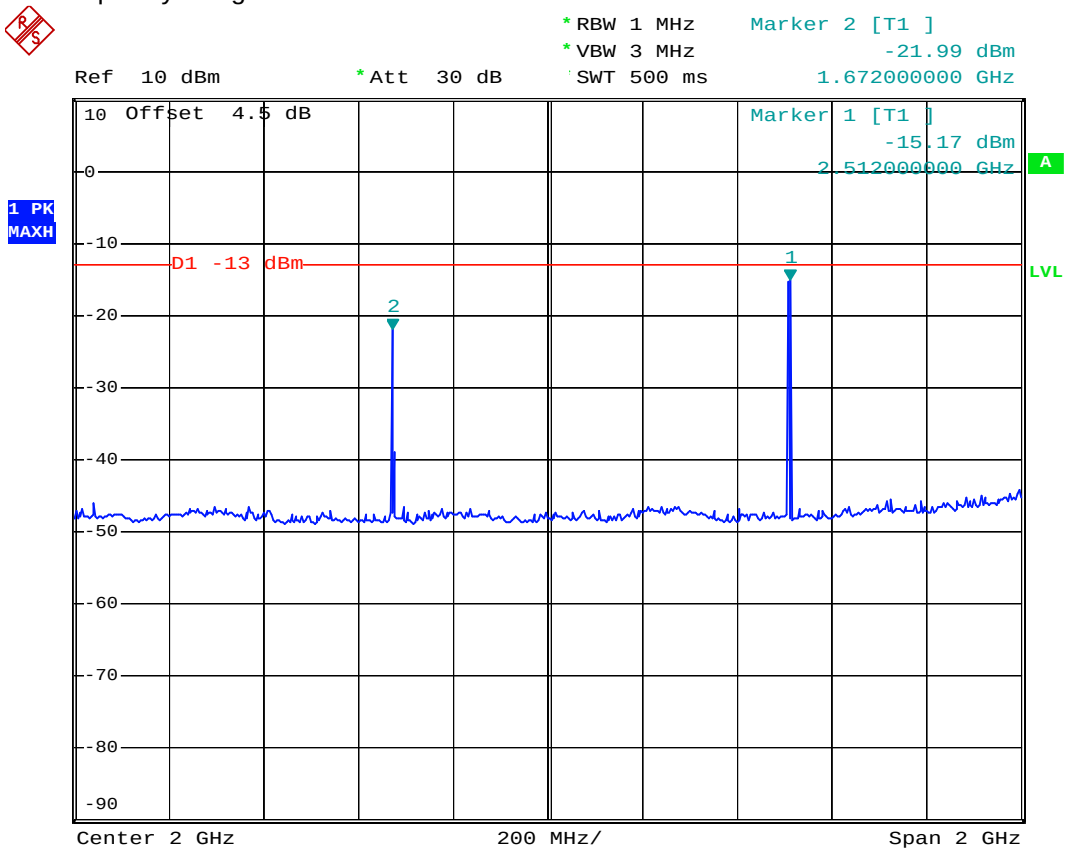
- Test Mode : GSM850 CH189
- Frequency Range : 1G-3G



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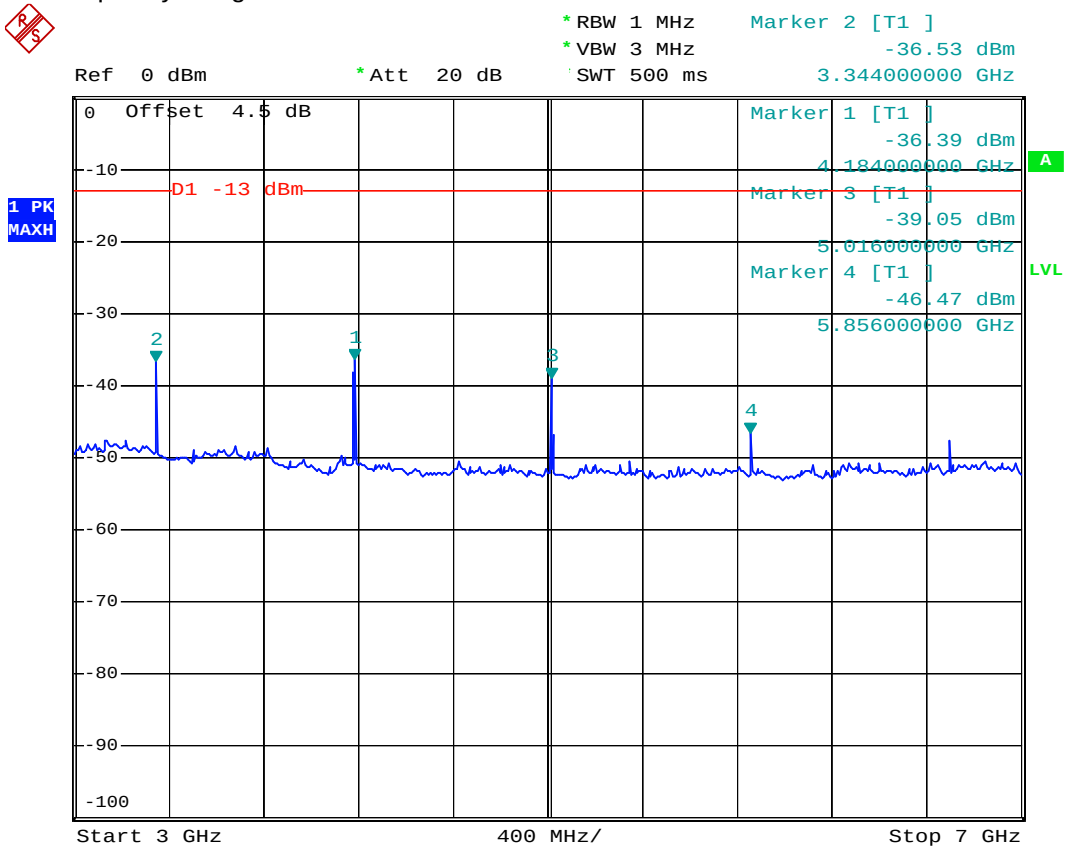
- Test Mode : GSM850 CH189
- Frequency Range : 3G-7G



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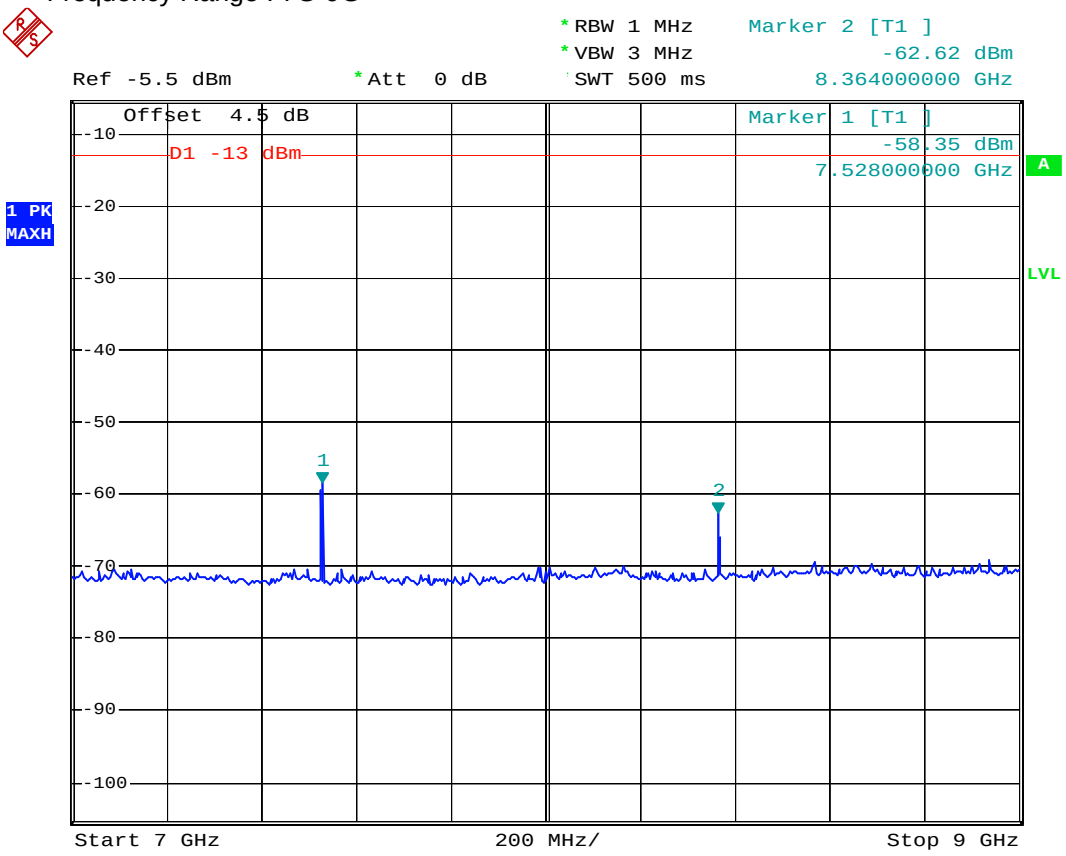
- Test Mode : GSM850 CH189
- Frequency Range : 7G-9G



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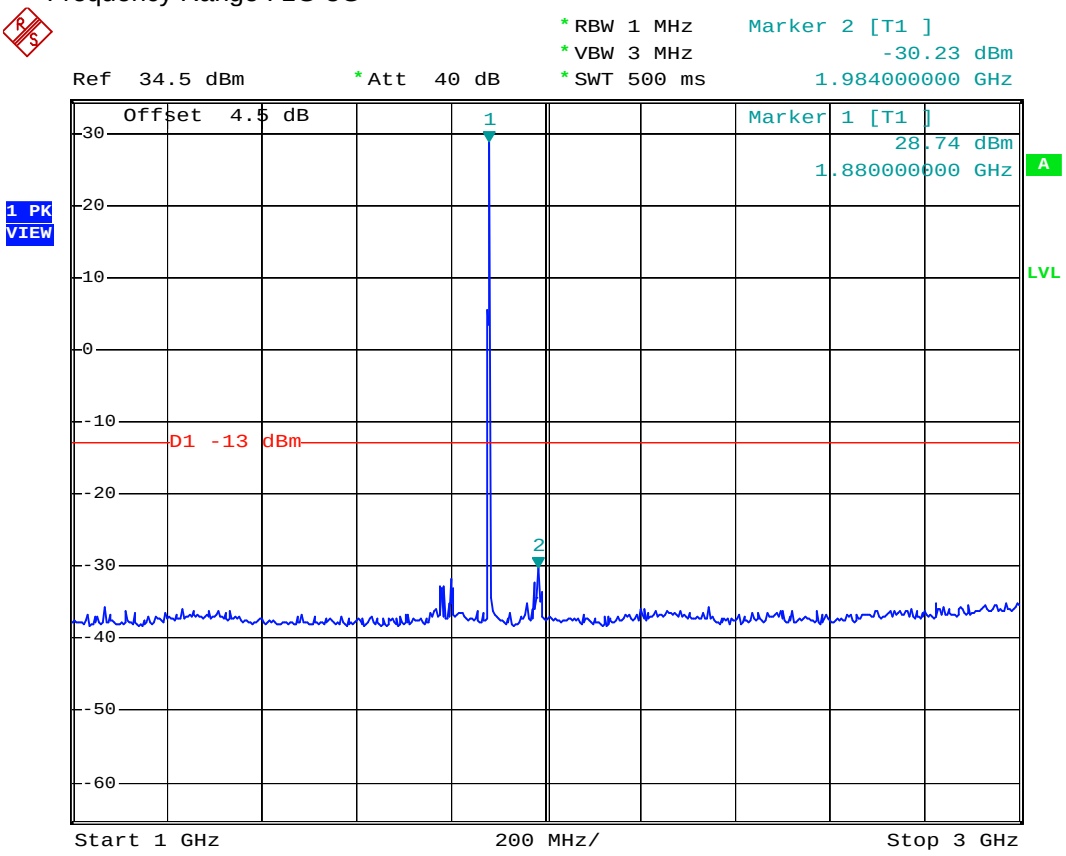
- Mode 2
  Test Mode : GSM1900 CH661
- Frequency Range : 1G-3G



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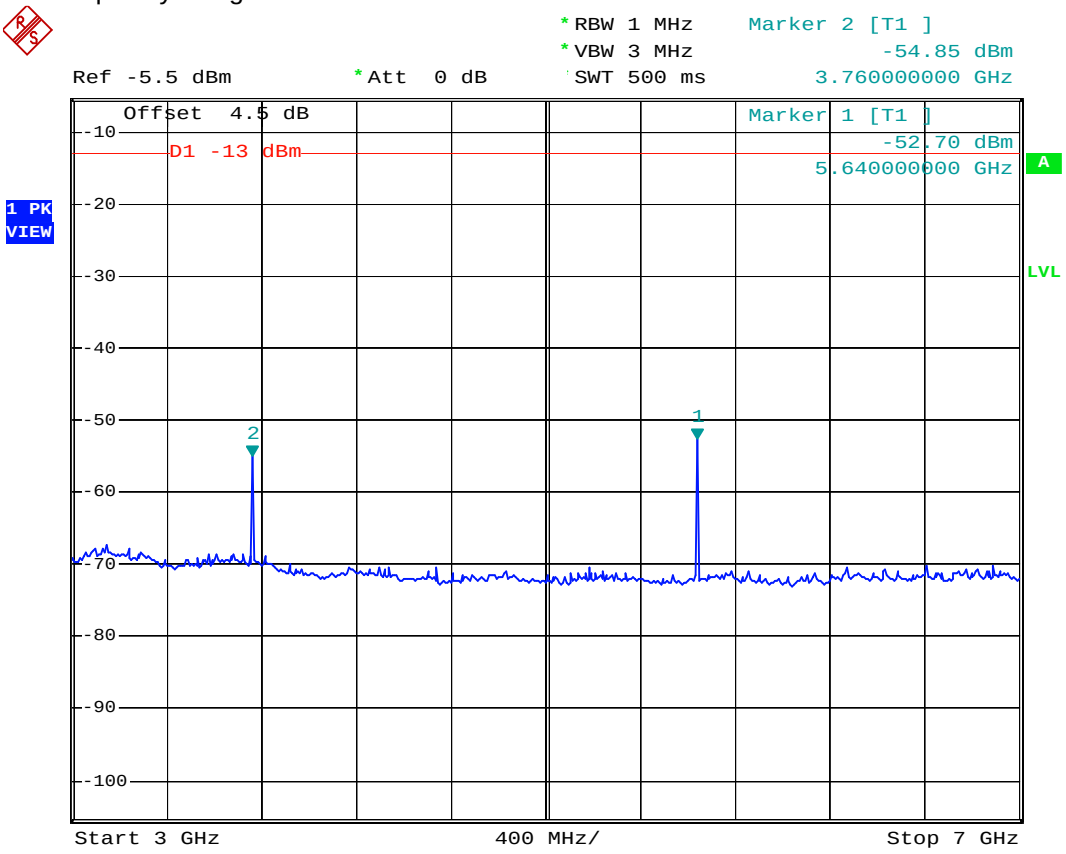
- Test Mode : GSM1900 CH661
- Frequency Range : 3G-7G



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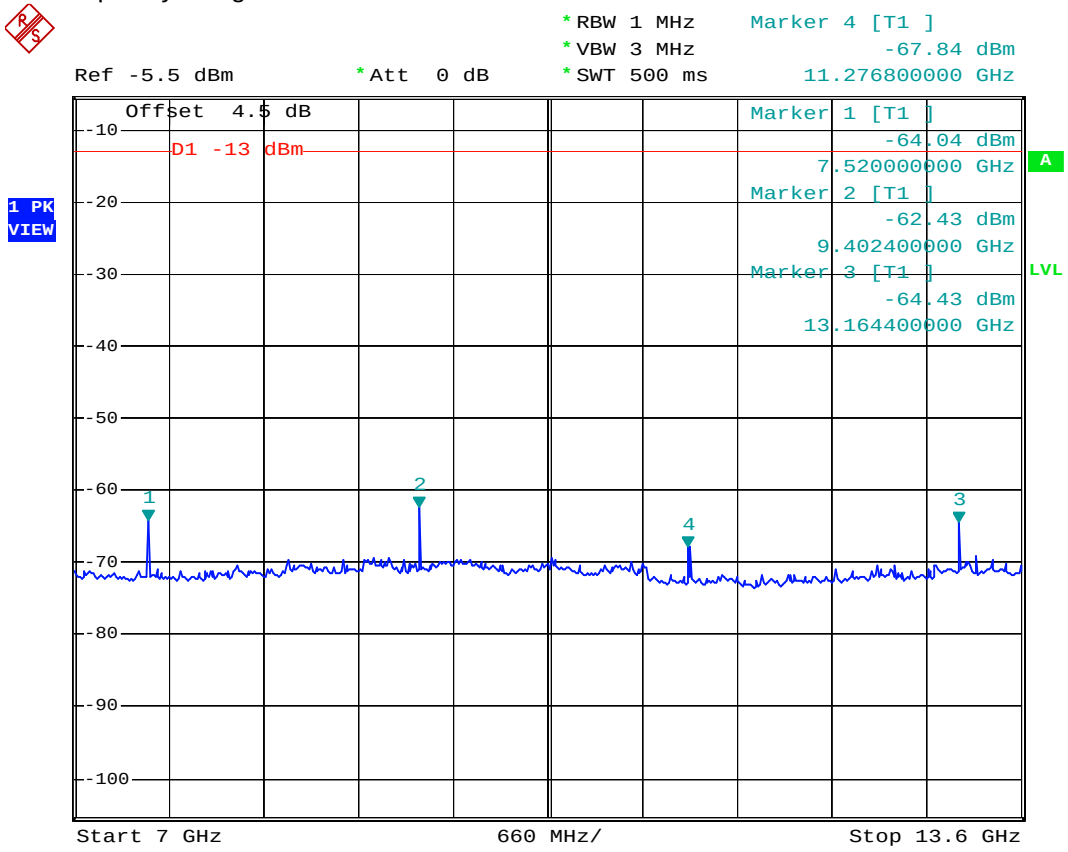
- Test Mode : GSM1900 CH661
- Frequency Range : 7G-13G



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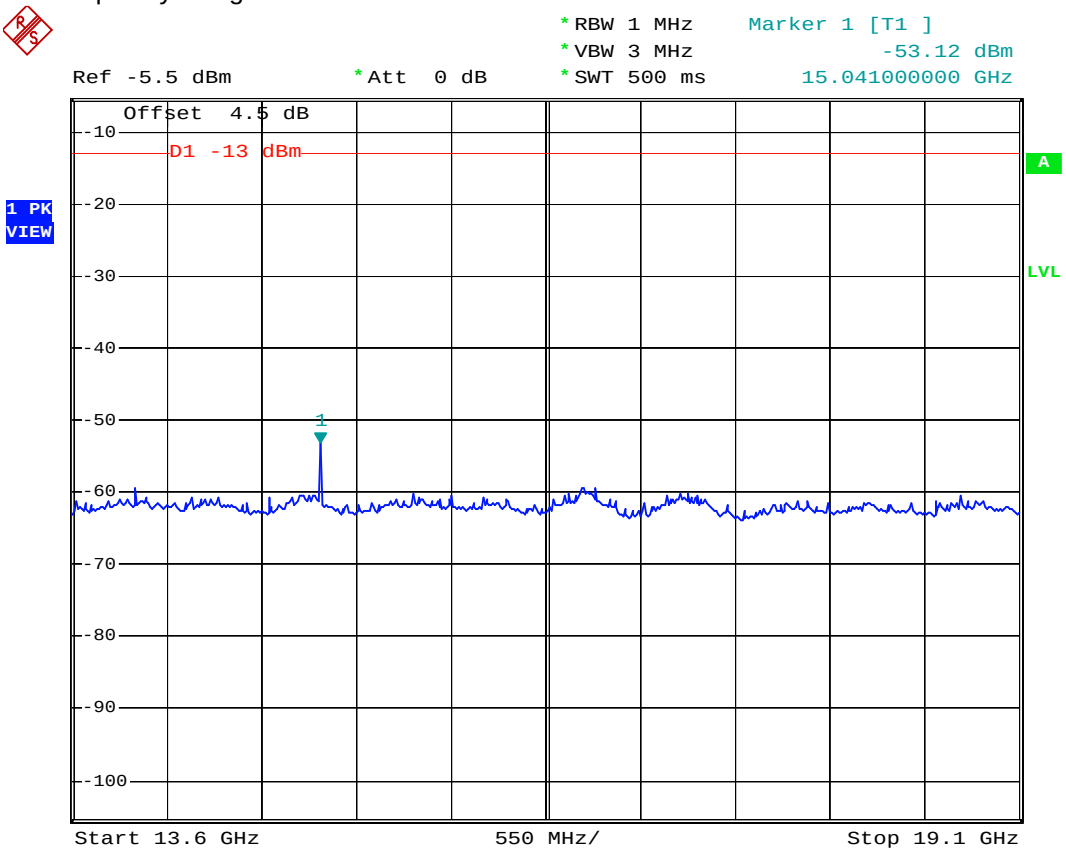
- Test Mode : GSM1900 CH661
- Frequency Range : 13G-19G



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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.

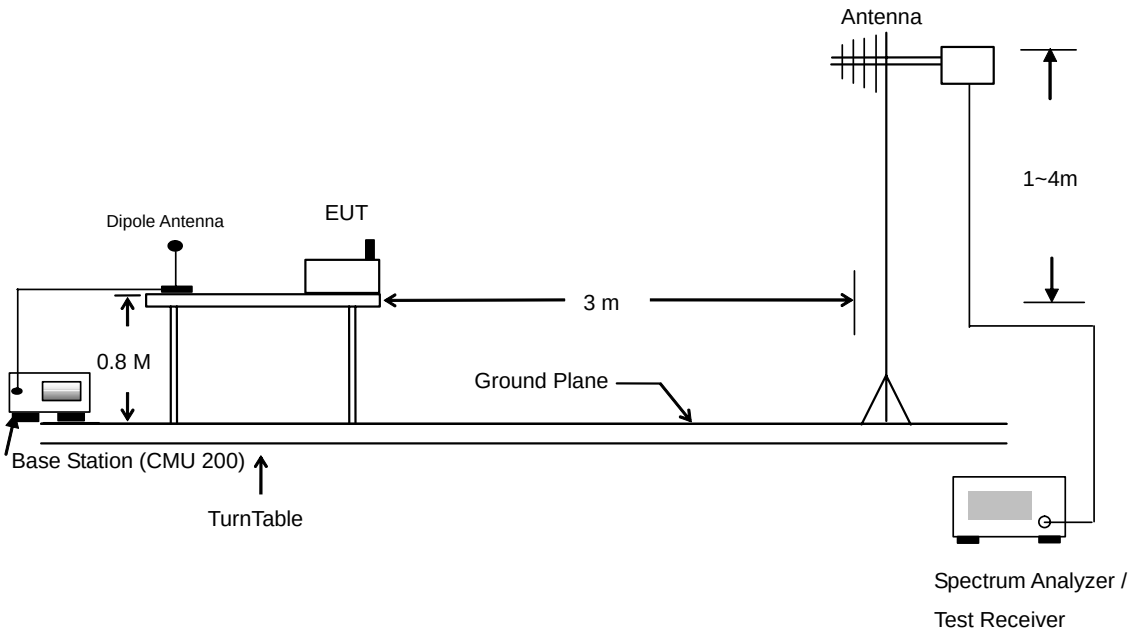
g. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.

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

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

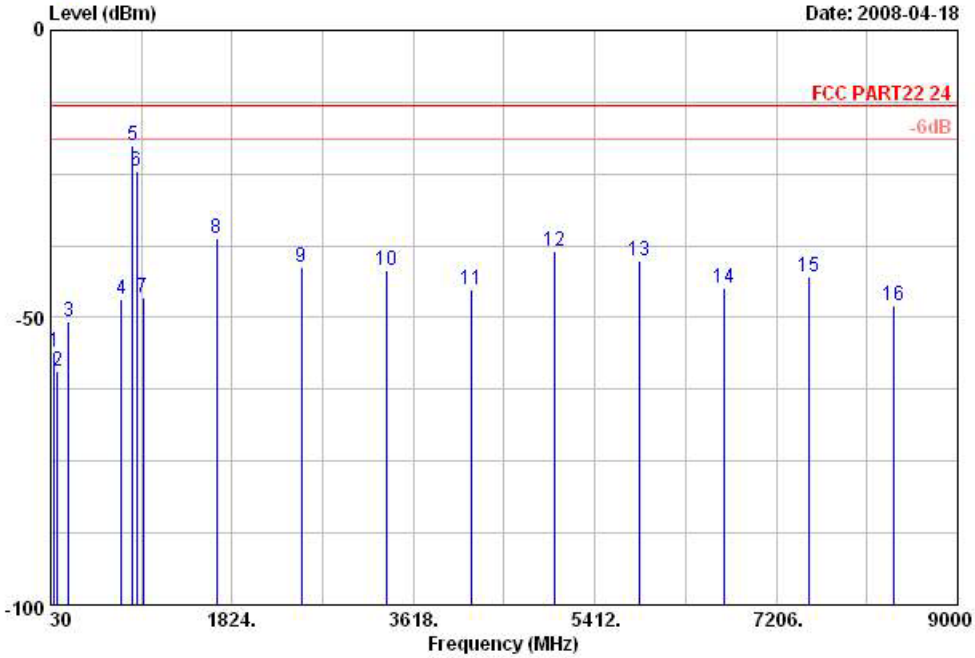
j. Emission level (dBm) = output power + substitution Gain.

4.6.3 Test Setup Layout



4.6.4 Test Data

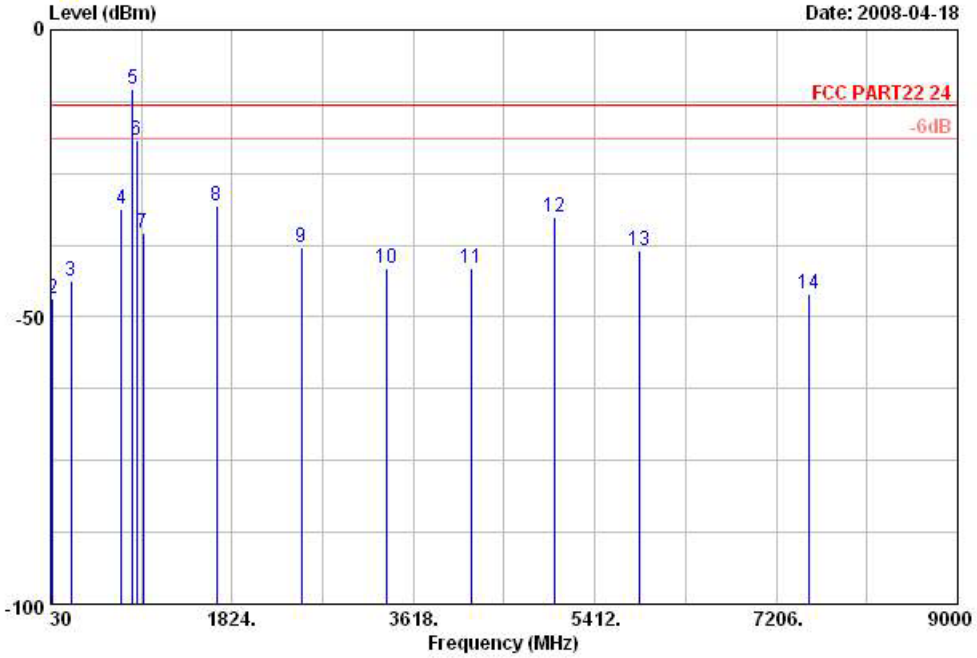
- Mode 1
- Horizontal Polarization



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
62.94	-58.15	-13	-45.15	-54.69	-57.39	-0.41	0.98	H	Pass
97.50	-61.47	-13	-48.47	-64.01	-71.99	-0.52	12.15	H	Pass
209.55	-52.88	-13	-39.88	-63.01	-64.57	-0.69	13.15	H	Pass
733.30	-48.84	-13	-35.84	-62.01	-62.07	-1.23	14.15	H	Pass
836.90	-22.21	-	-	-61.01	-36.45	-1.24	15.15	H	-
881.70	-26.77	-	-	-60.01	-42.02	-1.25	16.15	H	-
941.20	-48.54	-13	-35.54	-59.01	-64.84	-1.30	17.15	H	Pass
1674.00	-38.50	-13	-25.50	-58.01	-56.29	-1.79	18.15	H	Pass
2512.00	-43.43	-13	-30.43	-57.01	-62.62	-2.19	19.15	H	Pass
3346.00	-43.91	-13	-30.91	-56.01	-64.38	-2.47	20.15	H	Pass
4184.00	-47.21	-13	-34.21	-55.01	-69.15	-2.94	21.15	H	Pass
5018.00	-40.66	-13	-27.66	-54.01	-63.93	-3.27	22.15	H	Pass
5856.00	-42.22	-12	-30.22	-53.01	-66.64	-3.42	23.15	H	Pass
6694.00	-46.92	-11	-35.92	-52.01	-72.75	-3.83	24.15	H	Pass
7530.00	-45.04	-10	-35.04	-51.01	-71.95	-3.91	25.15	H	Pass
8366.00	-50.00	-9	-41.00	-50.01	-78.09	-4.09	26.15	H	Pass

Remark :1. 836.90MHz is MS Singal.
2. 881.70MHz is BS Singal.

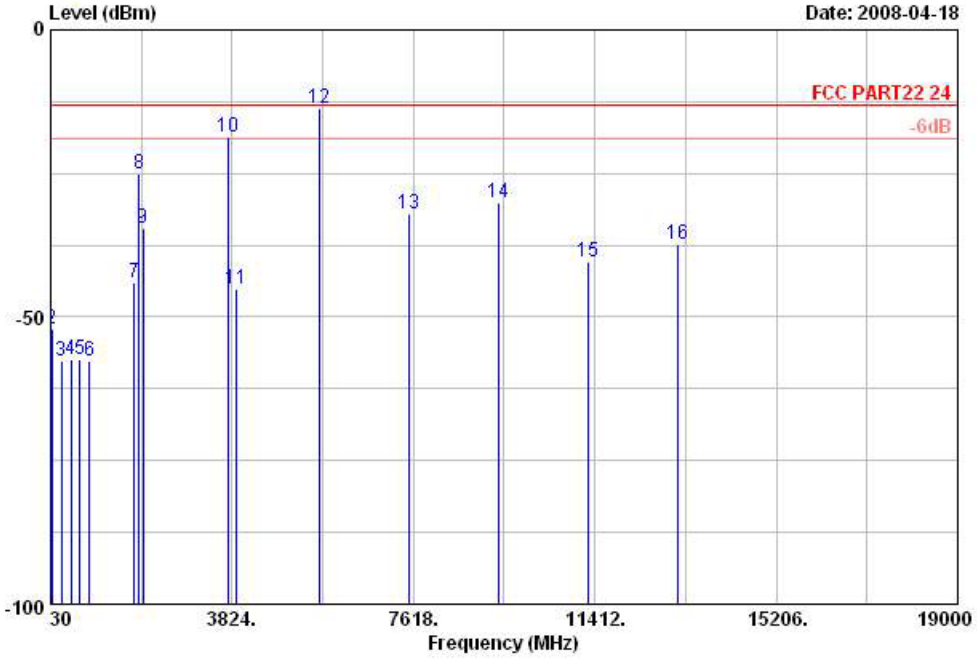
- Vertical Polarization



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
34.86	-48.98	-13	-35.98	-60.41	-33.18	-0.31	-13.96	V	Pass
47.55	-48.98	-13	-35.98	-52.76	-42.06	-0.33	-5.10	V	Pass
232.23	-45.85	-13	-32.85	-47.79	-52.22	-0.74	7.78	V	Pass
732.60	-33.21	-13	-20.21	-38.96	-40.14	-1.23	7.85	V	Pass
837.60	-12.44	-	-	-23	-20.13	-1.24	8.60	V	-
881.70	-21.43	-	-	-30.26	-29.31	-1.25	8.78	V	-
947.50	-37.45	-13	-24.45	-45.59	-45.77	-1.30	9.17	V	Pass
1674.00	-32.73	-13	-19.73	-35.05	-41.31	-1.79	8.94	V	Pass
2512.00	-40.12	-13	-27.12	-48.4	-50.46	-2.19	10.30	V	Pass
3346.00	-43.54	-13	-30.54	-51.79	-54.09	-2.47	10.23	V	Pass
4184.00	-43.78	-13	-30.78	-54.56	-55.73	-2.94	11.16	V	Pass
5020.00	-34.78	-13	-21.78	-46.94	-46.91	-3.27	11.01	V	Pass
5858.00	-40.71	-13	-27.71	-55.44	-53.60	-3.42	11.62	V	Pass
7530.00	-47.99	-13	-34.99	-63.26	-61.59	-3.91	11.84	V	Pass

Remark :1. 837.60MHz is MS Singal.
2. 881.70MHz is BS Singal.

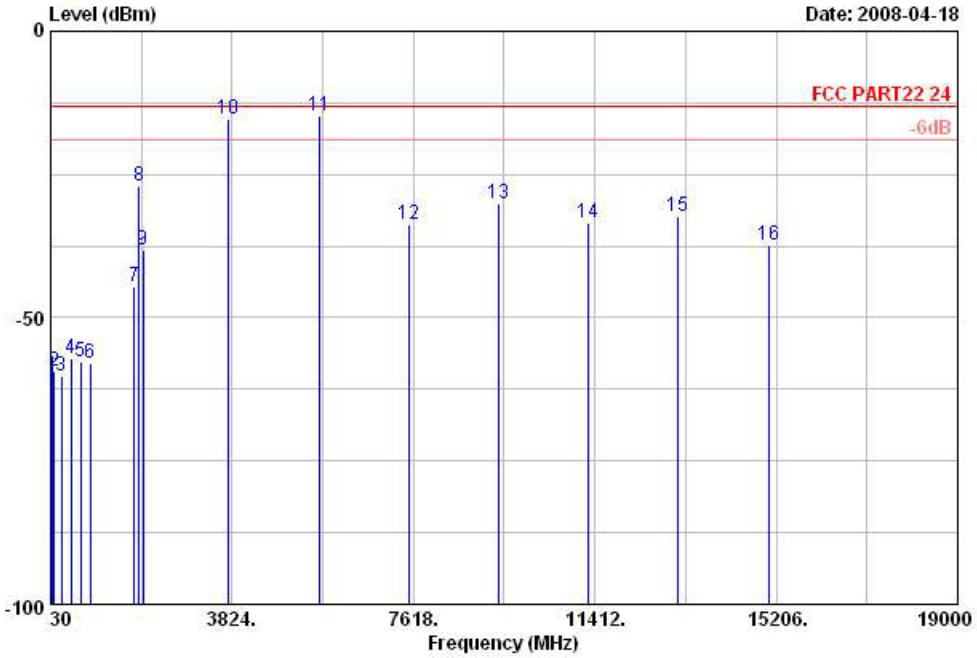
- Mode 2
- Horizontal Polarization



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
46.20	-46.39	-13	-33.39	-63.01	-57.71	-0.32	13.15	H	Pass
61.86	-51.98	-13	-38.98	-62.01	-64.39	-0.41	14.15	H	Pass
251.13	-57.76	-13	-44.76	-61.01	-71.50	-0.74	15.15	H	Pass
448.40	-57.40	-13	-44.40	-60.01	-72.38	-0.98	16.15	H	Pass
647.90	-57.36	-13	-44.36	-59.01	-73.41	-1.05	17.15	H	Pass
843.20	-57.73	-13	-44.73	-58.01	-74.97	-1.24	18.15	H	Pass
1784.00	-43.99	-13	-30.99	-57.01	-62.85	-1.86	19.15	H	Pass
1880.00	-24.98	-	-	-56.01	-44.90	-1.92	20.15	H	-
1960.00	-34.60	-	-	-55.01	-55.55	-1.95	21.15	H	-
3760.00	-18.60	-13	-5.60	-54.01	-41.32	-2.72	22.15	H	Pass
3920.00	-45.02	-13	-32.02	-53.01	-68.89	-2.87	23.15	H	Pass
5639.00	-13.54	-13	-0.54	-52.01	-38.89	-3.35	24.15	H	Pass
7523.00	-32.17	-13	-19.17	-51.01	-59.08	-3.91	25.15	H	Pass
9401.00	-30.17	-13	-17.17	-50.01	-58.54	-4.37	26.15	H	Pass
11280.00	-40.46	-13	-27.46	-49.01	-70.88	-5.42	27.15	H	Pass
13160.00	-37.24	-13	-24.24	-48.01	-69.27	-6.03	28.15	H	Pass

Remark :1. 1880.00MHz is MS Singal.
2. 1960.00MHz is BS Singal.

- Vertical Polarization



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	SPA. Reading (dBm)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result
61.32	-56.61	-13	-43.61	-55.37	-55.54	-0.41	0.67	V	Pass
97.77	-59.34	-13	-46.34	-57.7	-57.41	-0.53	-0.31	V	Pass
250.05	-60.27	-13	-47.27	-66.71	-65.03	-0.74	6.17	V	Pass
454.00	-57.17	-13	-44.17	-69.83	-62.93	-0.98	6.93	V	Pass
650.00	-57.67	-13	-44.67	-71.16	-64.09	-1.05	7.52	V	Pass
854.40	-57.97	-13	-44.97	-71.05	-65.71	-1.24	8.65	V	Pass
1776.00	-44.68	-13	-31.68	-50.09	-53.50	-1.86	9.11	V	Pass
1880.00	-26.99	-	-	-33.22	-36.02	-1.92	9.26	V	-
1960.00	-38.12	-	-	-44.81	-47.26	-1.95	9.34	V	-
3760.00	-15.39	-13	-2.39	-26.98	-26.43	-2.72	10.47	V	Pass
5639.00	-14.65	-13	-1.65	-30.89	-27.32	-3.35	11.47	V	Pass
7520.00	-33.69	-13	-20.69	-51.11	-47.29	-3.91	11.84	V	Pass
9401.00	-30.08	-13	-17.08	-50.09	-45.28	-4.37	12.98	V	Pass
11279.00	-33.41	-13	-20.41	-56.21	-50.38	-5.42	13.70	V	Pass
13160.00	-32.31	-13	-19.31	-55.67	-49.57	-6.03	13.38	V	Pass
15044.00	-37.23	-13	-24.23	-64.01	-52.50	-5.27	12.15	V	Pass

Remark :1. 1880.00MHz is MS Singal.
2. 1960.00MHz is BS Singal.

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.

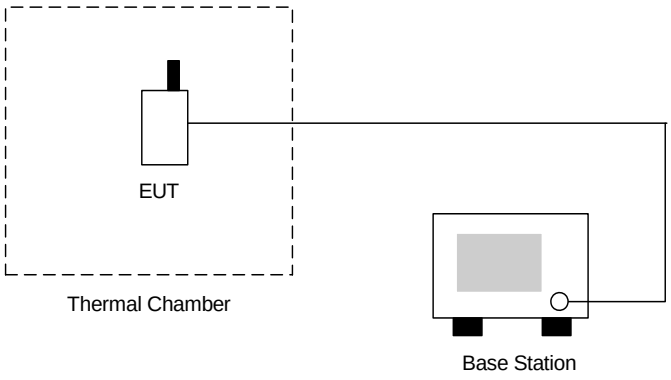
b. With all power removed, the temperature was decreased to -30°C and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was note within one minute.

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 CH189

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-	-	2.5	Passed
-20	-13	-0.02		
-10	-9	-0.01		
0	-6	-0.01		
10	-4	0.00		
20	-8	-0.01		
30	-7	-0.01		
40	-9	-0.01		
50	-10	-0.01		

Remark : The DUT can not be turn on at -30°C.

- Test Mode : GSM1900 CH661

Temperature(℃)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	-	-	2.5	Passed
-20	12	0.01		
-10	18	0.01		
0	20	0.01		
10	19	0.01		
20	10	0.01		
30	6	0.00		
40	4	0.00		
50	14	0.01		

Remark : The DUT can not be turn on at -30°C.

4.8 Frequency Stability (Voltage Variation)

4.8.1 Measurement Instrument

As described in chapter 5 of this test report.

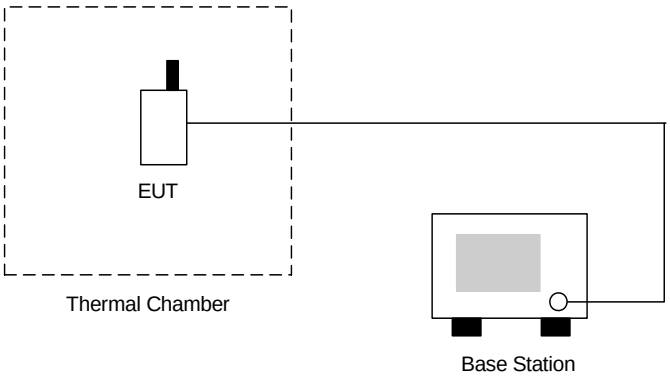
4.8.2 Test Procedure

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 CH189

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	3.0	0.00	2.5	Passed
BEP	12.0	0.01		
4.2	-15.0	-0.02		

- Test Mode : GSM1900 CH661

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	10.0	0.01	2.5	Passed
BEP	15.0	0.01		
4.2	7.0	0.00		

Remark:

1. Normal Voltage = 3.7V.
2. Battery End Point (BEP) = 3.6V.

5. List of Measurement Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
Thermal Chamber	Tenyi technology	TTH-D35P	TBN-930701	N/A	Aug. 02, 2007	Aug. 01, 2008	Conducted (TH02-HY)
Spectrum	R&S	FSP40	100055	9KHz~40GHz	Jun. 25, 2007	Jun. 24, 2008	Conducted (TH02-HY)
Bluetooth Test	ANRITSU	MT8852A	6K00003939	N/A	N/A	N/A	Conducted (TH02-HY)
Power Divider	ARRA	5200-1	3871	N/A	Oct. 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)
Spectrum Analyzer	R&S	FSP40	100319	9K~40GHz	Mar. 13, 2008	Mar. 12, 2009	Radiation (03CH01-KS)
EMI Test Receiver	R&S	ESCI	100534	9KHz~2.75GHz	Mar. 15, 2008	Mar. 14, 2009	Radiation (03CH01-KS)
Bilog Antenna	Schaffner	CBL6112D	23182	25MHz~2000MHz	May 22, 2007	May 21, 2008	Radiation (03CH01-KS)
Preamplifier	Agilent	8449B	3008A02370	1G~26.5GHz	Jun. 04, 2007	Jun. 03, 2008	Radiation (03CH01-KS)
Preamplifier	Wireless	FPA6592G	60006	30M~2000MHz	Jul. 24, 2007	Jul. 23, 2008	Radiation (03CH01-KS)
High Pass filter (3GHz)	Microwave Circuits	H3G018G	N/A	N/A	N/A	N/A	Radiation (03CH01-KS)
High Pass filter (7GHz)	Microwave Circuits	H07G18G3	N/A	N/A	N/A	N/A	Radiation (03CH01-KS)
High Pass filter	N/A	WHKX1.5/15G-10SS	23	N/A	N/A	N/A	Radiation (03CH01-KS)
High Pass filter	N/A	WHKX2.2-18G-10SS	8	N/A	N/A	N/A	Radiation (03CH01-KS)
Band Reject Filter	WI	WRCG2400/2483-2390/2493-35/10SS	14	N/A	N/A	N/A	Radiation (03CH01-KS)
Band Reject Filter	WI	WRCG 1850/1910-1835/1925-40/	15	N/A	N/A	N/A	Radiation (03CH01-KS)
Band Reject Filter	WI	WRCG 824/849-814/859-40/8SS	34	N/A	N/A	N/A	Radiation (03CH01-KS)
Low pass filter (1.2GHz)	N/A	WLKS 1200-8SS	2	N/A	N/A	N/A	Radiation (03CH01-KS)
DRG Horn(Medium)	EMCO	3117	75959	1GHz ~ 18GHz	Aug. 17, 2007	Aug. 16, 2008	Radiation (03CH01-KS)

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