



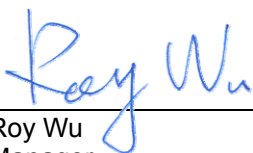
FCC Test Report

for

47 CFR Part 22H, 24E

Equipment : Neo 1973
Trade Name : FIC
Model No. : GTA02E
FCC ID : EUNGTA02E
Tx Frequency Range : PCS1900 : 1850.2 ~1909.8 MHz
Max. ERP/EIRP Power : PCS1900 : 0.83 W
Emission Designator : 300KGXW
Applicant : **FIC (First International Computer, Inc.)**
1-9F., No. 300, Yang Guang, NeiHu, Taipei, Taiwan, 114

- The test result refers exclusively to the test presented test model / sample.
- Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.
- **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 Jan. 09, 2008 at **Sporton International Inc. LAB.**
- Report No.: FG7O1101-01, Report Version: Rev. 01.



Roy Wu
Manager

SPORTON International Inc.

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



Table of Contents

History of this test report	ii
1. General Information.....	1
1.1 Applicant.....	1
1.2 Manufacturer	1
1.3 Basic Description of Equipment under Test.....	1
1.4 Feature of Equipment under Test.....	2
1.5 Report Date	3
2. Test Configuration of Equipment under Test.....	4
2.1 Test Manner	4
2.2 Test Mode	4
2.3 Radiation Diagram of Test System	5
2.4 Ancillary Equipment List	5
3. General Information of Test Site	6
3.1 Test Voltage	6
3.2 Test Compliance	6
3.3 Frequency Range.....	6
3.4 Test Distance	6
4. Test Data and Test Result.....	7
4.1 List of Measurements and Examinations.....	7
4.2 RF Output Power.....	8
4.3 ERP / EIRP Measurement.....	9
4.4 Occupied Bandwidth and Band Edge Measurement	12
4.5 Conducted Emission.....	23
4.6 Field Strength of Spurious Radiation	29
4.7 Frequency Stability (Temperature Variation)	35
4.8 Frequency Stability (Voltage Variation)	37
5. List of Measurement Equipments	38
6. Uncertainty Evaluation.....	39
 Appendix A - External Photographs of EUT	
Appendix B - Internal Photographs of EUT	
Appendix C - Setup Photographs	



History of this test report

Report Issue Date: Jan. 10, 2008

Report No.	Description

1. General Information

1.1 Applicant

FIC (First International Computer, Inc.)

1-9F., No. 300, Yang Guang, NeiHu, Taipei, Taiwan, 114

1.2 Manufacturer

First International Computer (Suzhou) Inc.

No. 200, Central Suhong Road, SuZhou Industrial Park, China

1.3 Basic Description of Equipment under Test

Equipment		Neo 1973
Trade Name		FIC
Model Name		GTA02E
FCC ID :		EUNGTA02E
AC Adapter	Manufacture	AKII TECHNOLOGY CO., LTD.
	Brand Name	AKII Technology
	Model Name	A10P1-05MP
	Power Rating	I/P:100-240 Vac, 47-63 Hz, 0.3A; O/P: 5Vdc, 2.0A
	AC Power Cord Type	1.49 meter non-shielded cable without ferrite core
Battery	Manufacture	WELLDONE COMPANY
	Brand Name	FIC
	Model Name	GTC-01 / GTA-01
	Rating	3.7Vdc, 1200mAh
	Type	Li-ion
Earphone	Brand Name	Xport
	Model Name	Ko-11-1020a
	Signal line Type	1.42 meter non-shielded cable without ferrite core
USB Cable	Brand Name	Golden Bridge
	Model Name	AS52-0607007
	Signal Line Type	1.29 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 :	Neo 1973
Trade Name :	FIC
Model Name :	GTA02E
FCC ID :	EUNGTA02E
Tx Frequency :	GSM900 : 880 ~ 915 MHz DCS1800 : 1710 ~ 1785 MHz PCS1900 : 1850 ~ 1910 MHz Bluetooth : 2400 ~ 2483.5 MHz WLAN : 2400 ~ 2483.5 MHz
Rx Frequency :	GSM900 : 925 ~ 960 MHz DCS1800 : 1805 ~ 1880 MHz PCS1900 : 1930 ~ 1990 MHz Bluetooth : 2400 ~ 2483.5 MHz WLAN : 2400 ~ 2483.5 MHz GPS : 1575.42 MHz
Number of Channels :	Bluetooth : 79 WLAN : 11
Carrier Frequency of Each Channel :	Bluetooth : 2402+n*1 MHz; n=0~78 WLAN : 2412+(n-1)*5 MHz; n=1~11
Channel Spacing	GSM : 200 KHz Bluetooth : 1 MHz WLAN : 5 MHz
Maximum Output Power to Antenna :	PCS1900 : 29.27 dBm (GSM) Bluetooth : 2.25 dBm (1Mbps) Bluetooth EDR : 2.4 dBm (2Mbps) / 2.53 dBm (3Mbps) WLAN : 14.02 dBm (802.11b) / 14.89 dBm (802.11g)
Maximum ERP/EIRP :	PCS1900 : 0.83 W (29.18 dBm)
Type of Antenna Connector	N/A
Antenna Type :	GSM : Monopole Antenna GPS : Ceramic Antenna Bluetooth : Chip Antenna WLAN : Chip Antenna
Antenna Gain :	GSM : 0.07 dBi GPS : 0.5 dBi Bluetooth : -4.84 dBi WLAN : -3 dBi
HW Version :	A5
SW Version :	Moko5
Power Rating :	DC 3.4V
Type of Modulation :	GSM : GMSK Bluetooth (1Mbps) : GFSK Bluetooth EDR (2Mbps) : $\pi/4$ -DQPSK Bluetooth EDR (3Mbps) : 8-DPSK WLAN : DSSS / OFDM
Type of Emission :	GSM : 300KGXW
DUT Stage :	Identical Prototype



1.5 Report Date

EUT Received : Oct. 11, 2007

Report Date : Jan. 10, 2008



2. Test Configuration of Equipment under Test

2.1 Test Manner

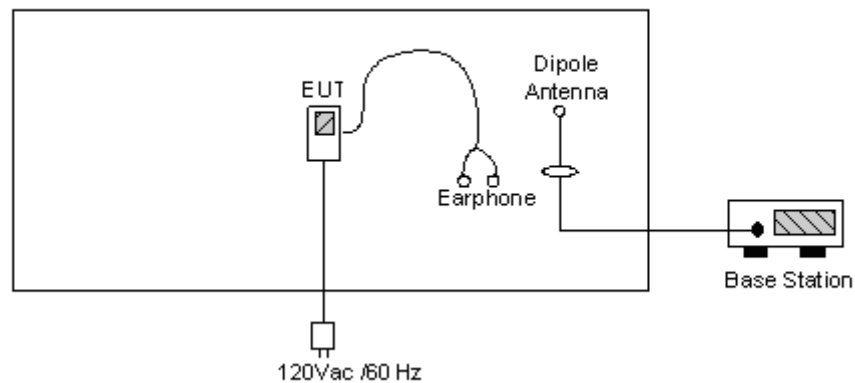
1. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range.
2. During all testings, EUT is in link mode with base station emulator at maximum power level.
3. Frequency range investigated: radiated emission 30 MHz to 19000 MHz for PCS1900.

2.2 Test Mode

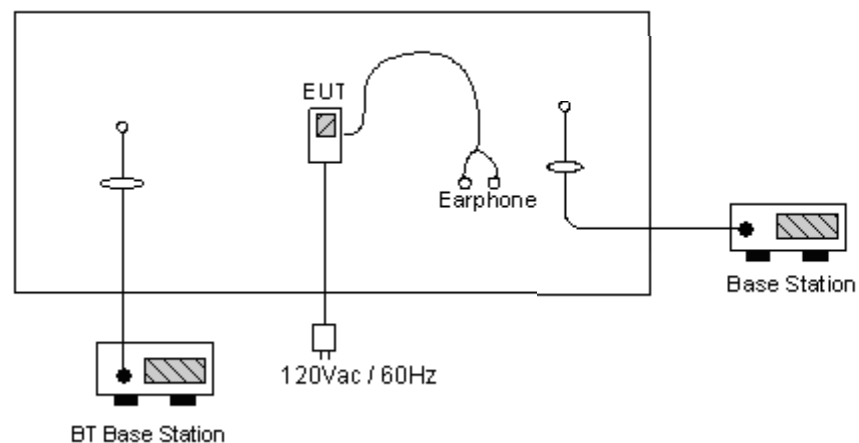
Application	PCS1900
Radiated Emission	☒ Mode 1: GSM Link
	☒ Mode 2: GSM Link + BT Link
Conducted Measurement	☒ Mode 1: GSM Link

2.3 Radiation Diagram of Test System

<GSM Link>



<GSM Link + BT Link>



2.4 Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Cable Cord / Power Code
1.	Base Station	R&S	CMU200	N/A	Unshielded, 1.8m
2.	BT Base Station	Anritus	8852A	N/A	Unshielded, 1.8m



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 : 03CH06-HY, 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 30 MHz to 19000 MHz for PCS1900.

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

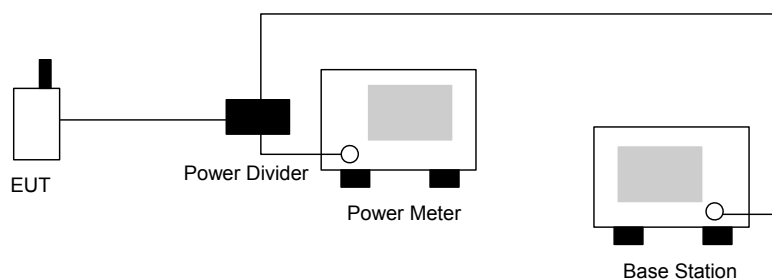
4.2.1 Measurement Instruments

As described in chapter 5 of this test report.

4.2.2 Test Procedure

- The transmitter output was connected to power meter and base station through power divider.
- Set EUT at PCL=0 for PCS1900 maximum power through base station.
- 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)
PCS1900	512	1850.2 (Low)	28.85	0.767
	661	1880.0 (Mid)	29.27	0.845
	810	1909.8 (High)	29.25	0.841

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 table 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. $ERP/EIRP = P_s + E_t - E_s + G_s = P_s + R_t - R_s + G_s$

P_s (dBm) : Input power to substitution antenna.

G_s (dBi or dBd) : Substitution antenna Gain.

$E_t = R_t + AF$

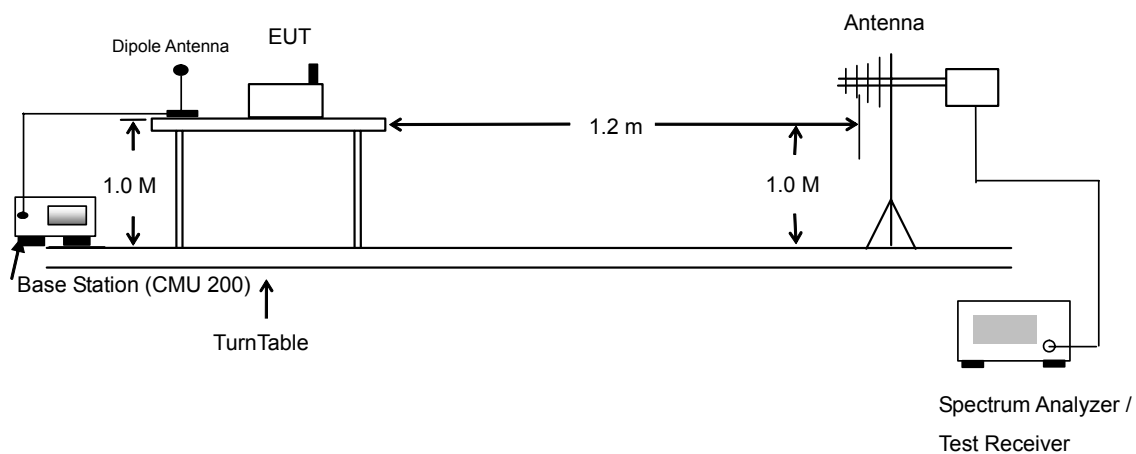
$E_s = R_s + AF$

AF (dB/m) : Receive antenna factor

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

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

4.3.3 Test Setup Layout of ERP/EIRP



**4.3.4 Test Result**

PCS1900 Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
824.20	-24.71	-51.88	0.00	1.96	29.13	0.82
836.40	-25.81	-52.99	0.00	2.00	29.18	0.83
848.80	-28.19	-54.28	0.00	1.98	28.07	0.64
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
824.20	-27.29	-52.13	0.00	1.96	26.80	0.48
836.40	-28.10	-53.17	0.00	2.00	27.07	0.51
848.80	-30.25	-54.13	0.00	1.98	25.86	0.39

4.4 Occupied Bandwidth and Band Edge Measurement

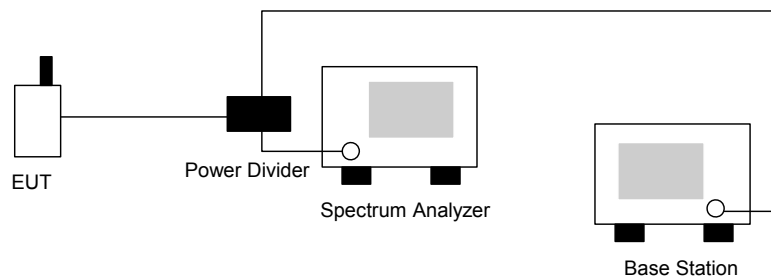
4.4.1 Measurement Instruments

As described in chapter 5 of this test report.

4.4.2 Test Procedure

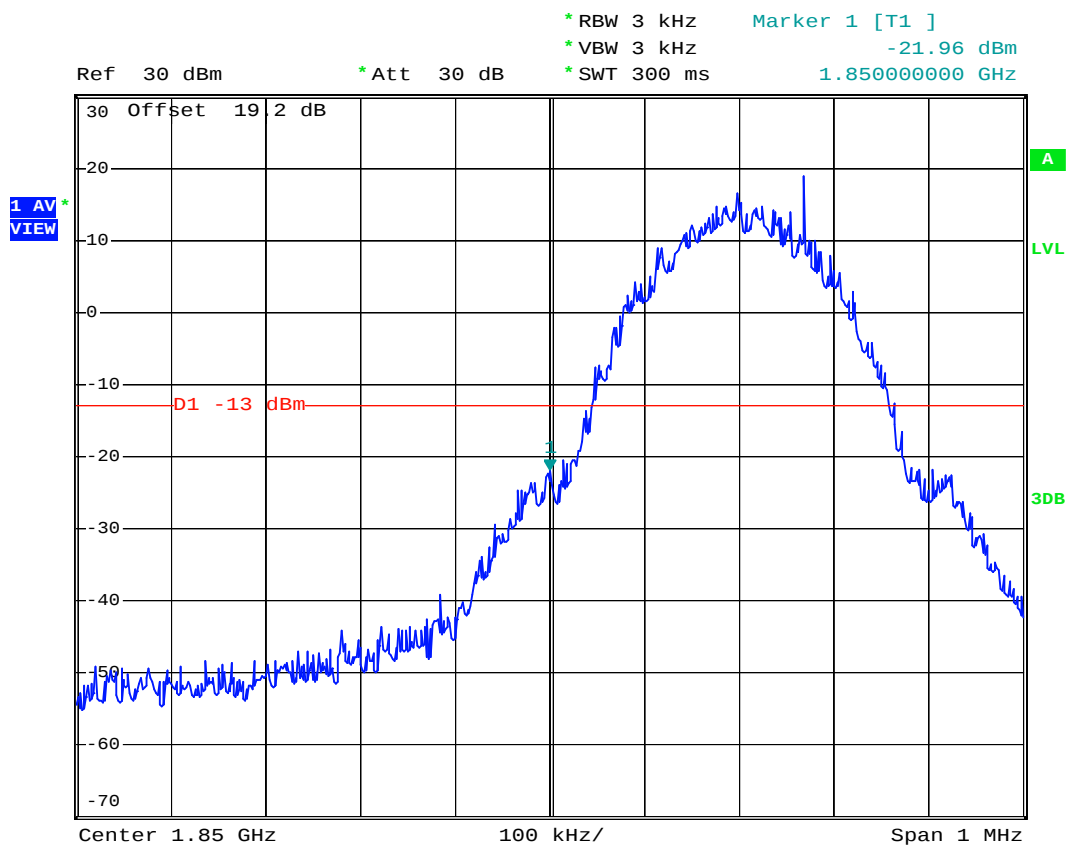
- a. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
- b. The 99% occupied bandwidth of middle channel for the highest and lowest RF powers were measured.
- c. The bandedge of low and high channels for the highest RF powers within the transmitting frequency band were measured.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

4.4.3 Test Setup Layout

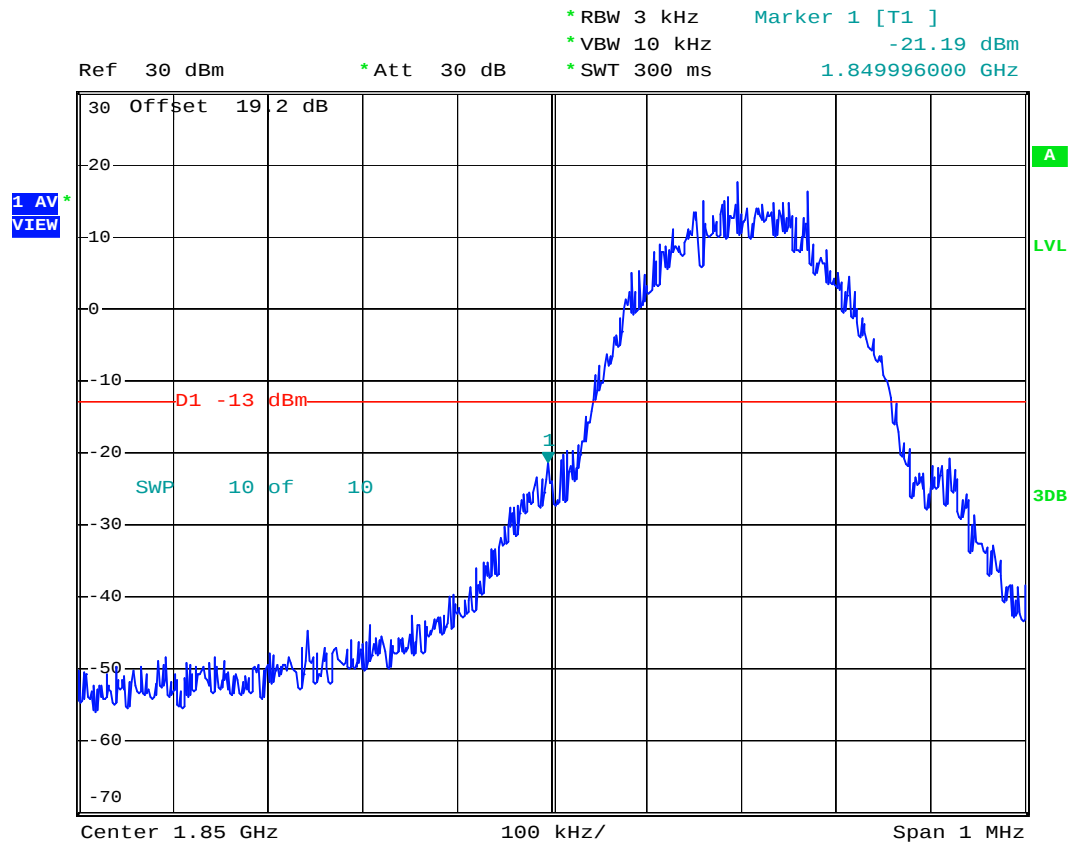


**4.4.4 Test Result**

- Mode 1
- Test Mode : PCS1900 CH512 Lower Band Edge
- Power State : High



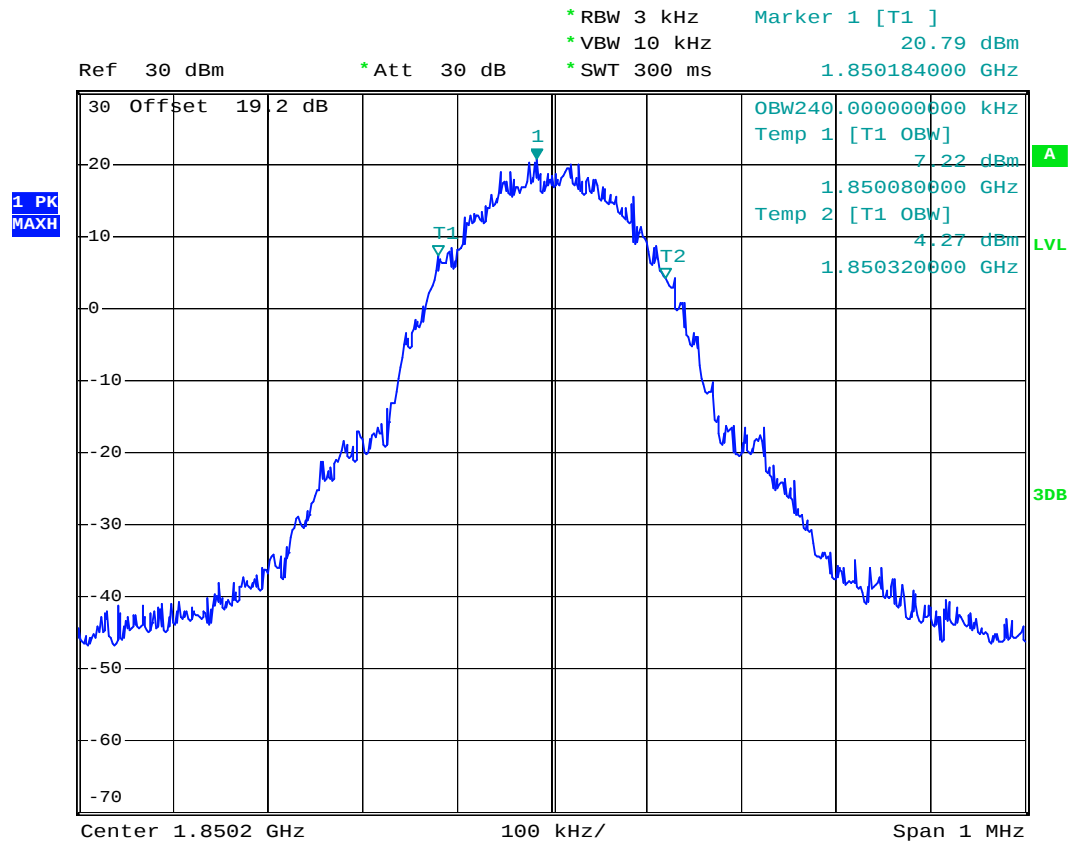
Date: 13.DEC.2007 01:59:19



Date: 13.DEC.2007 02:00:31



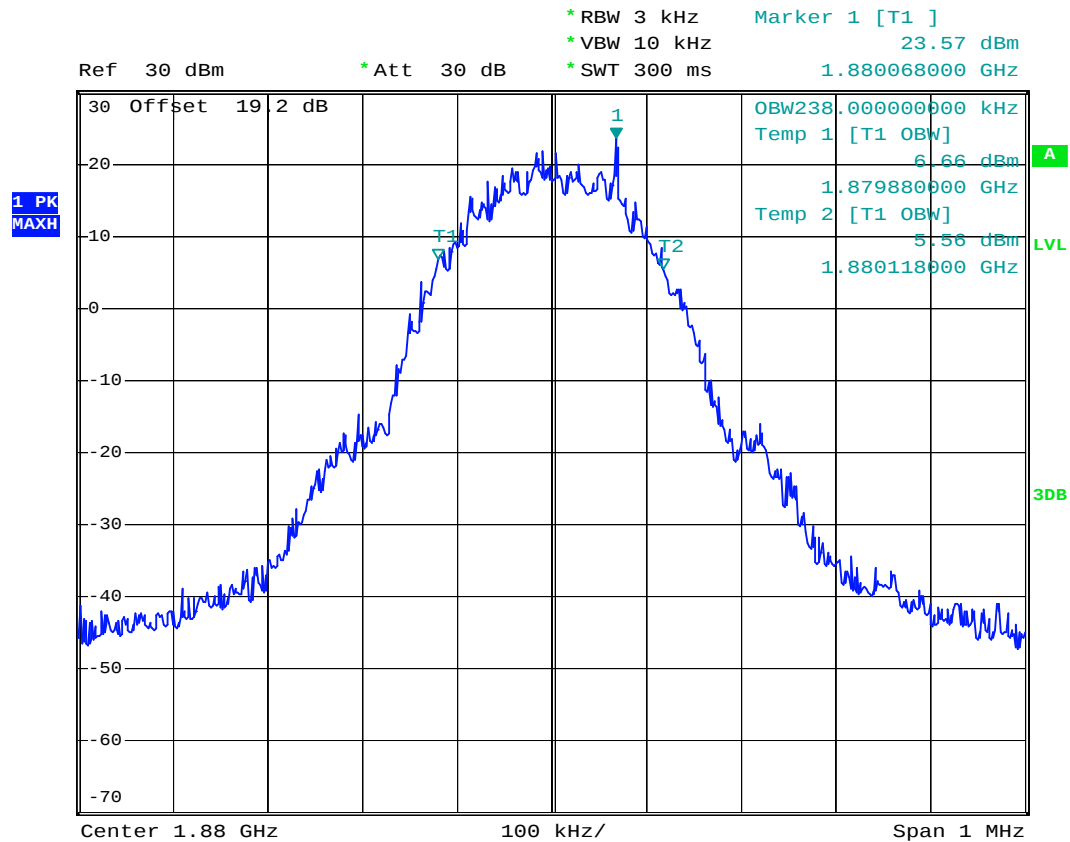
- Test Mode : PCS1900 CH512 99% Occupied Bandwidth
- Power State : High



Date: 13.DEC.2007 01:55:29



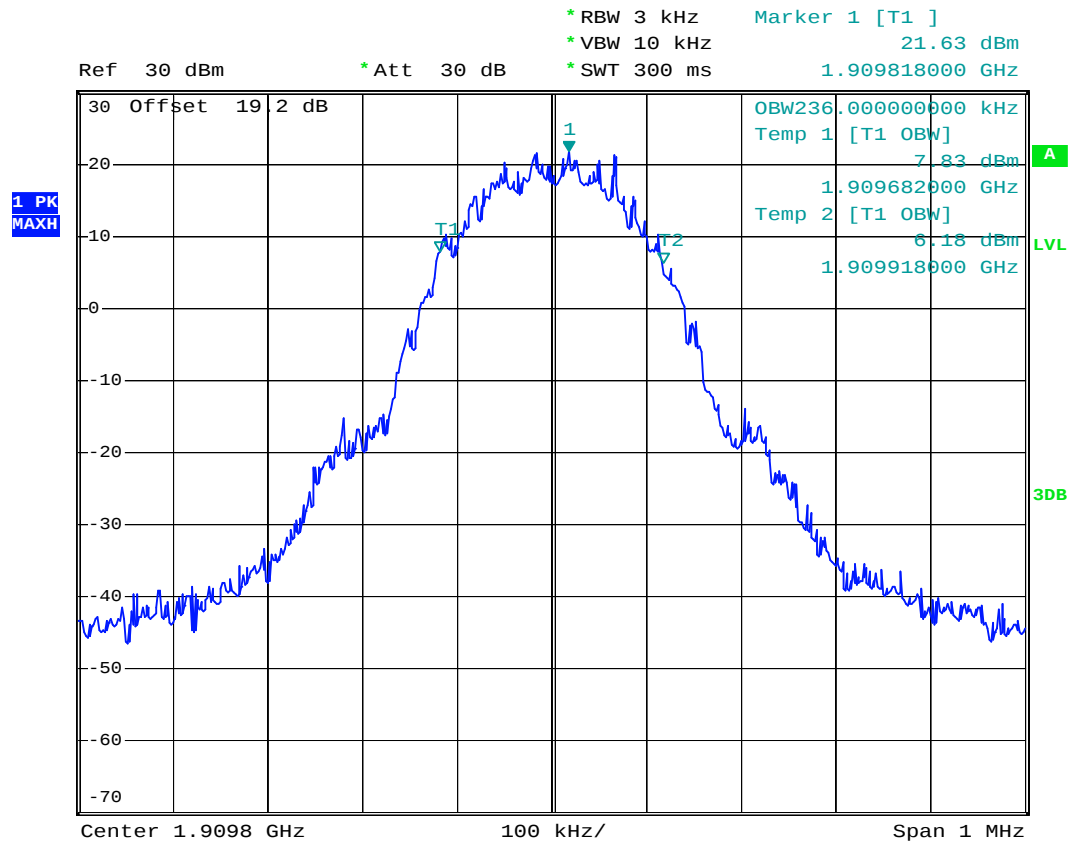
- Test Mode : PCS1900 CH661 99% Occupied Bandwidth
- Power State : High



Date: 13.DEC.2007 01:55:57



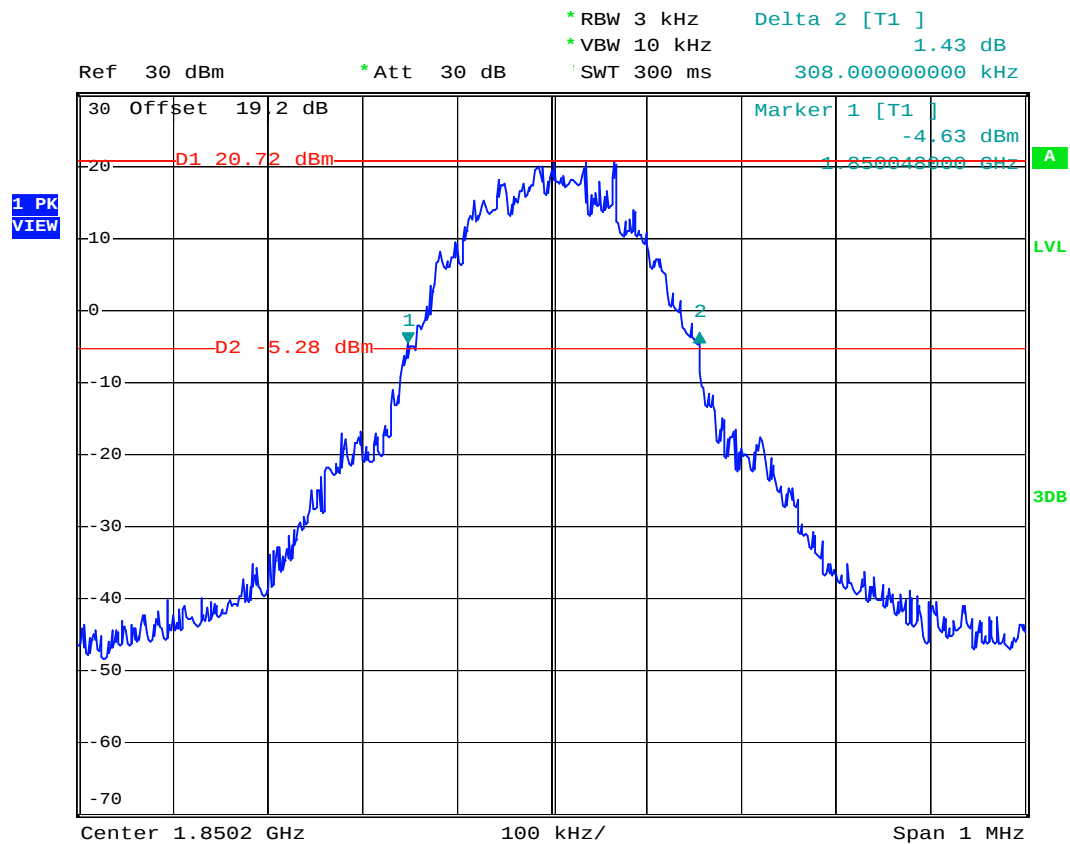
- Test Mode : PCS1900 CH810 99% Occupied Bandwidth
- Power State : High



Date: 13.DEC.2007 01:54:49



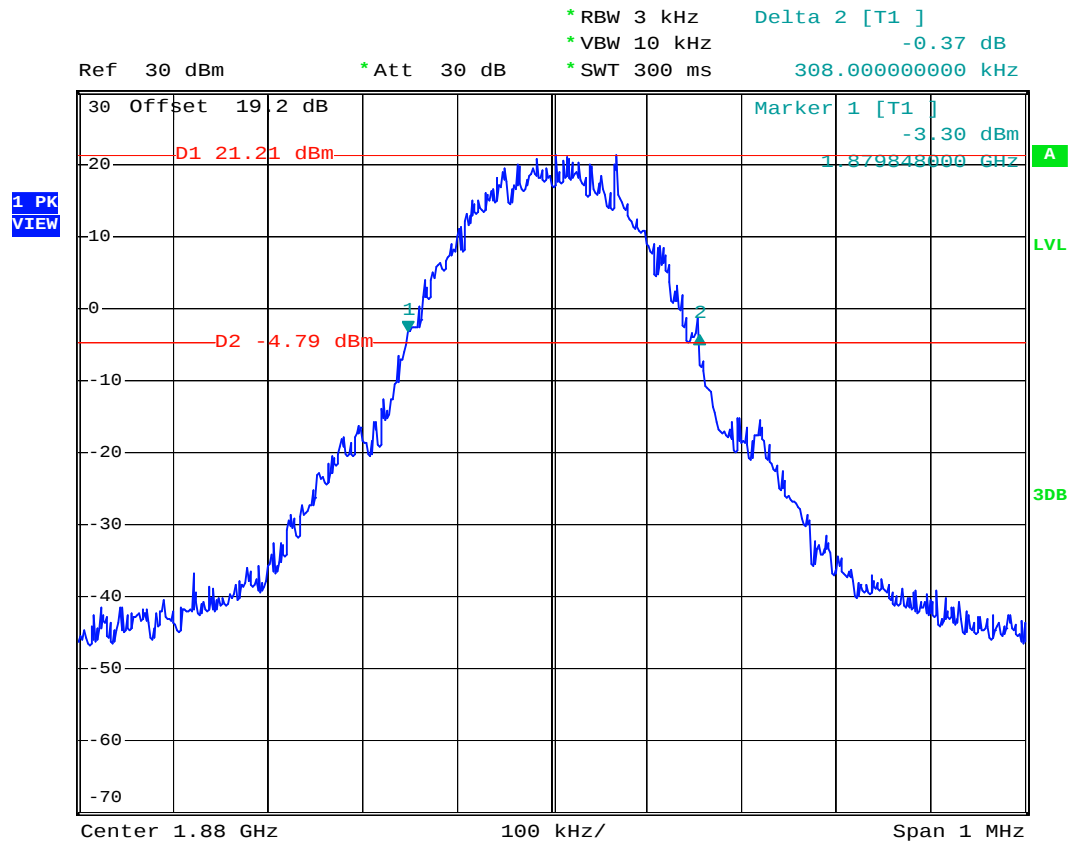
- Test Mode : PCS1900 CH512 26dB Bandwidth
- Power State : High



Date: 13.DEC.2007 01:51:03



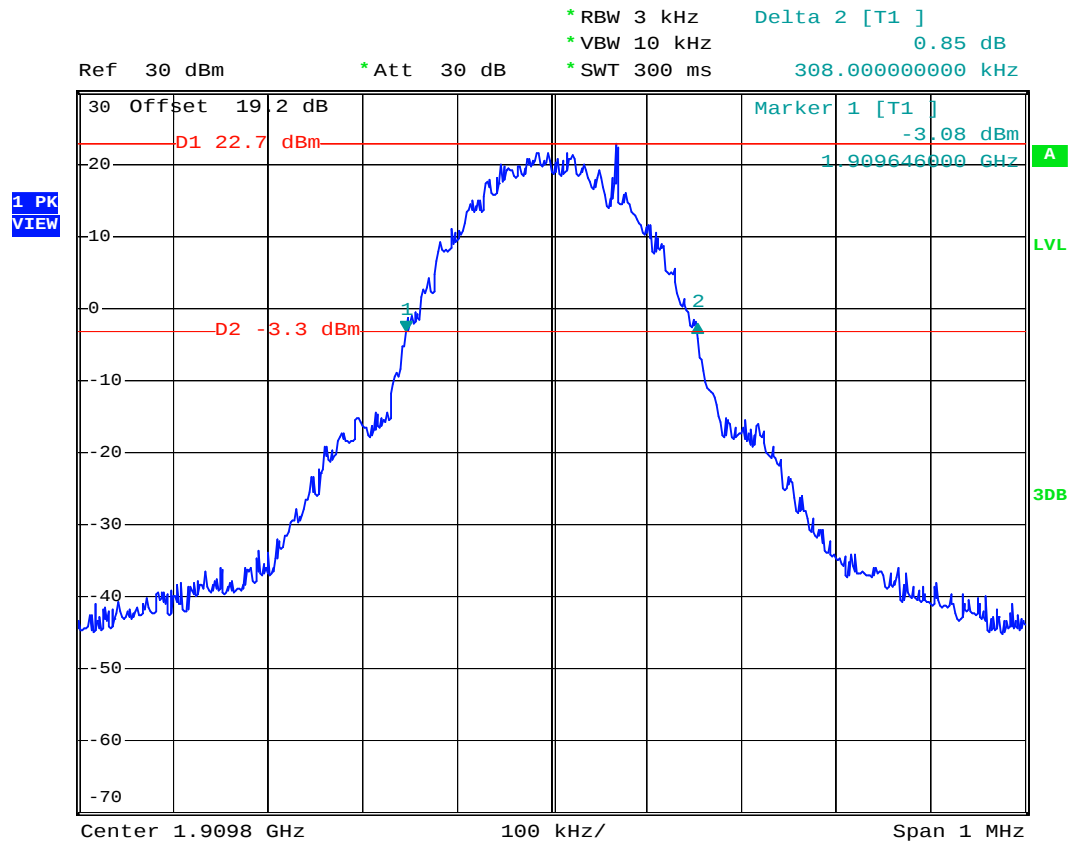
- Test Mode : PCS1900 CH661 26dB Bandwidth
- Power State : High



Date: 13.DEC.2007 01:51:59



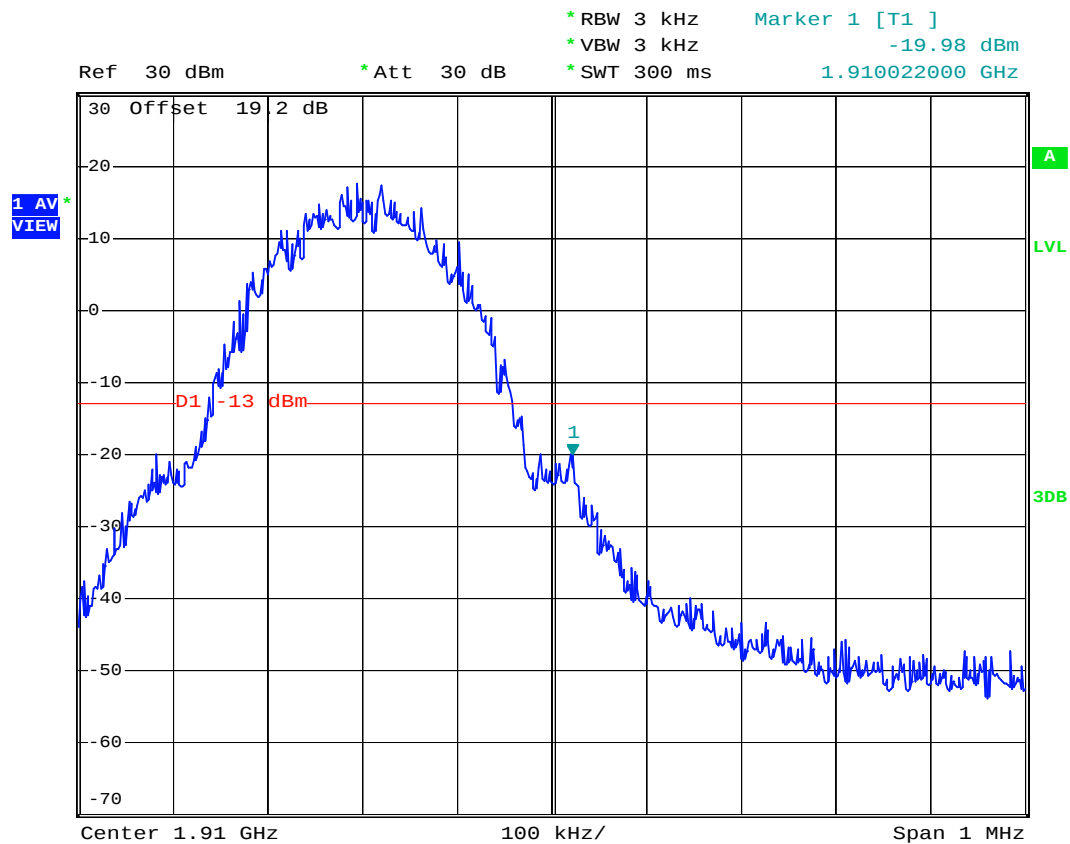
- Test Mode : PCS1900 CH810 26dB Bandwidth
- Power State : High



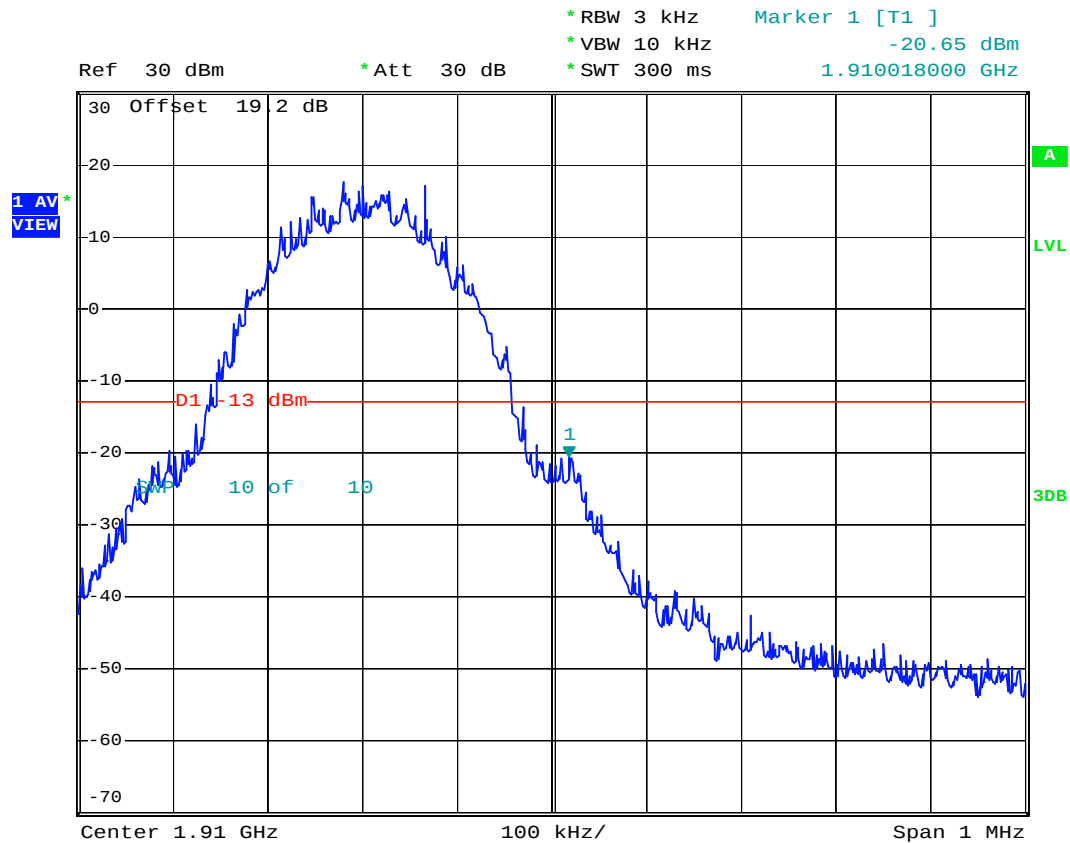
Date: 13.DEC.2007 01:53:46



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



Date: 13.DEC.2007 02:02:28



Date: 13.DEC.2007 02:01:28

4.5 Conducted Emission

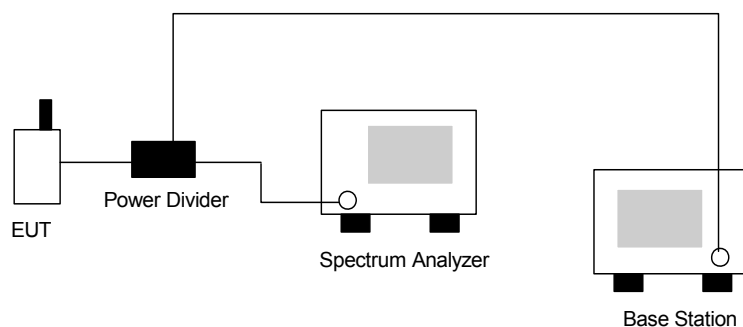
4.5.1 Measurement Instruments

As described in chapter 5 of this test report.

4.5.2 Test Procedure

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

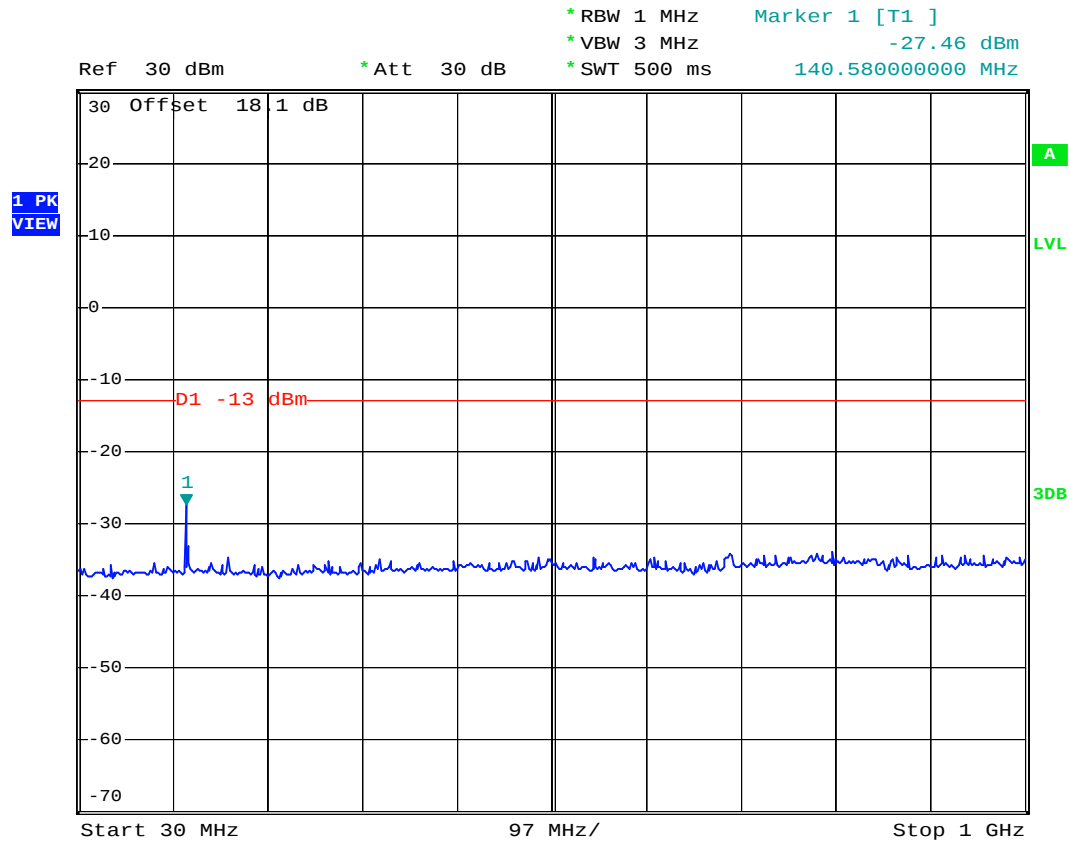
4.5.3 Test Setup Layout





4.5.4 Test Result

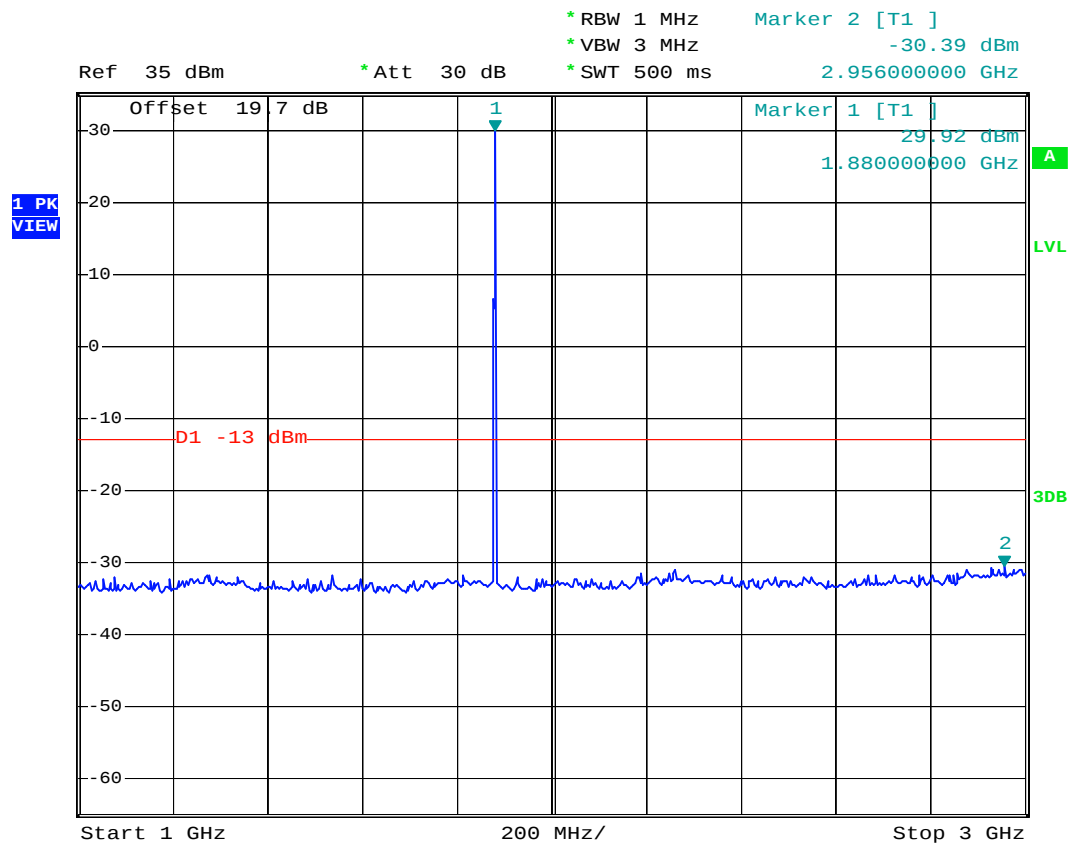
- Mode 1
- Test Mode : PCS1900 CH661
- Frequency Range : 30M-1G



Date: 13.DEC.2007 02:23:46



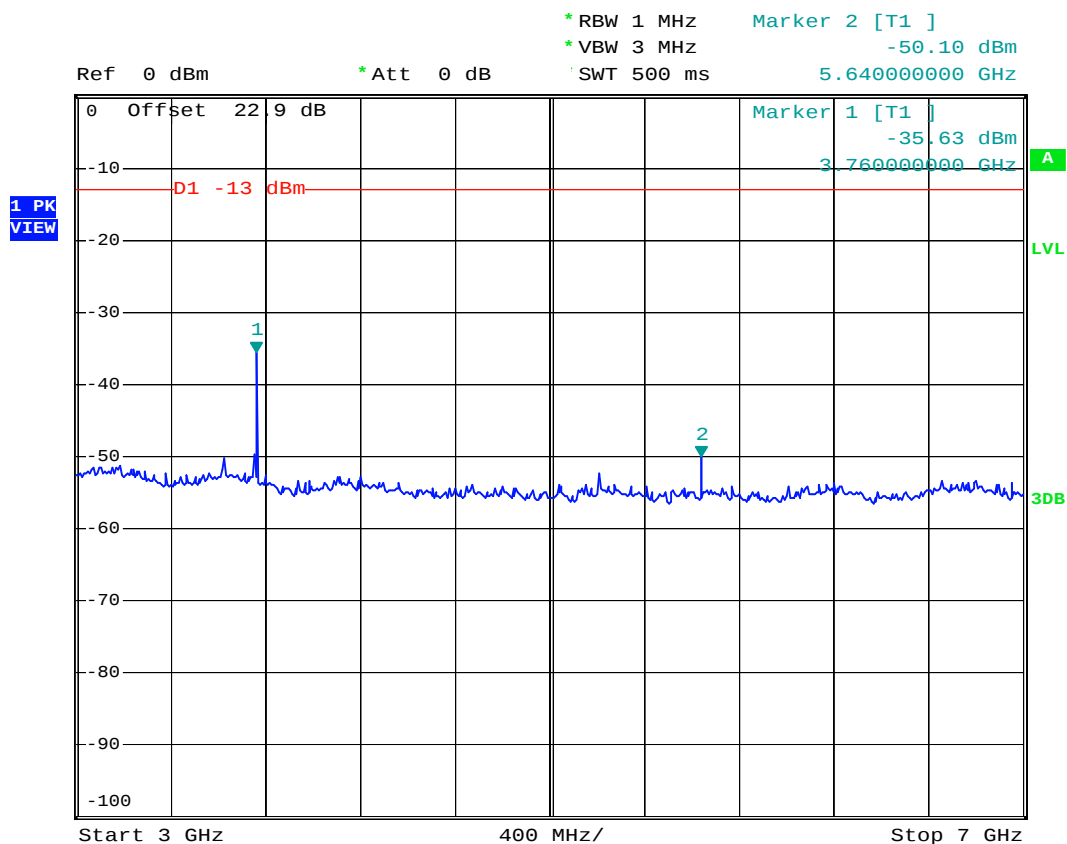
- Test Mode : PCS1900 CH661
- Frequency Range : 1G-3G



Date: 13.DEC.2007 02:13:53



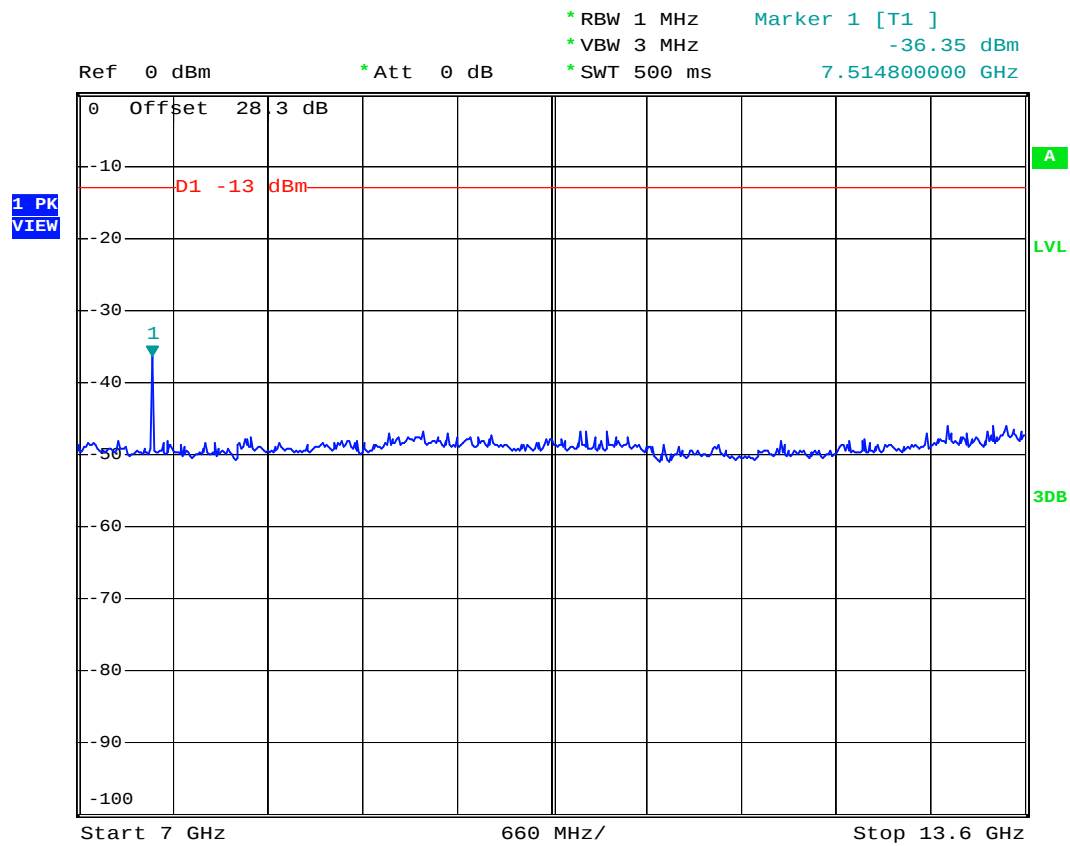
- Test Mode : PCS1900 CH661
- Frequency Range : 3G-7G



Date: 13.DEC.2007 02:17:38



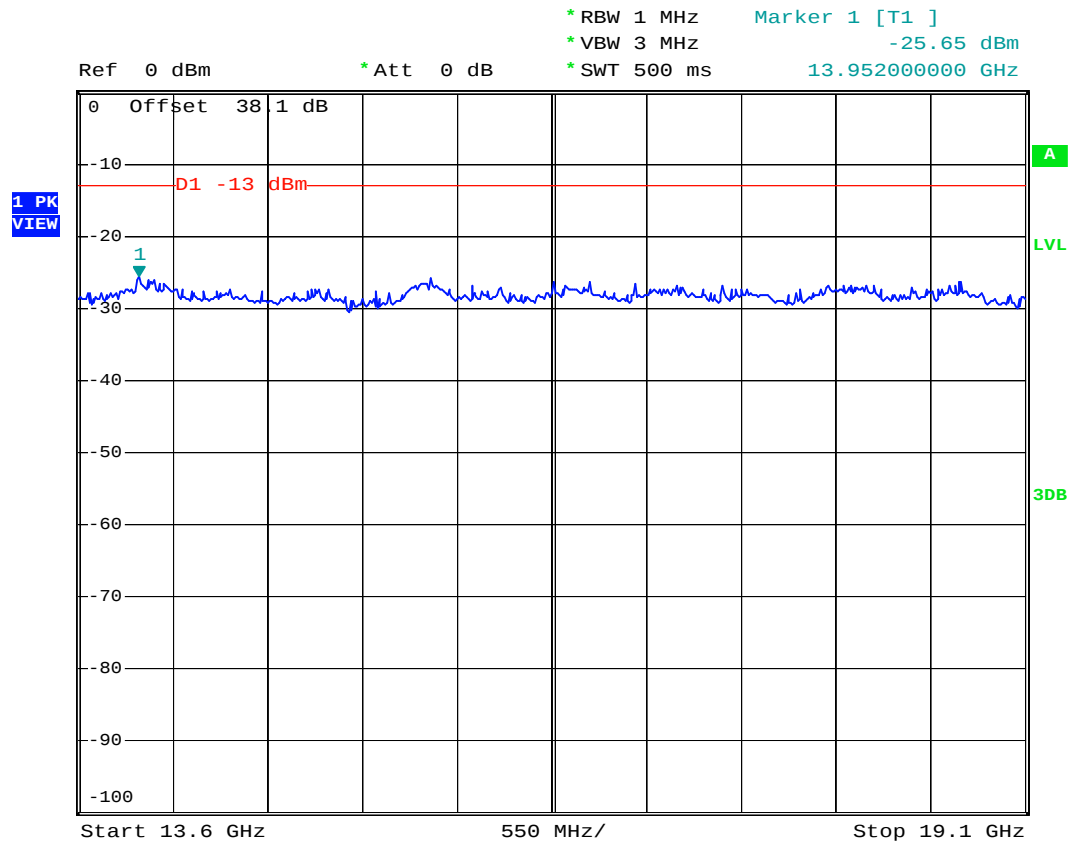
- Test Mode : PCS1900 CH661
- Frequency Range : 7G-13.6G



Date: 13.DEC.2007 02:18:52



- Test Mode : PCS1900 CH661
- Frequency Range : 13.6G-19.1G



Date: 13.DEC.2007 02:19:38

4.6 Field Strength of Spurious Radiation

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

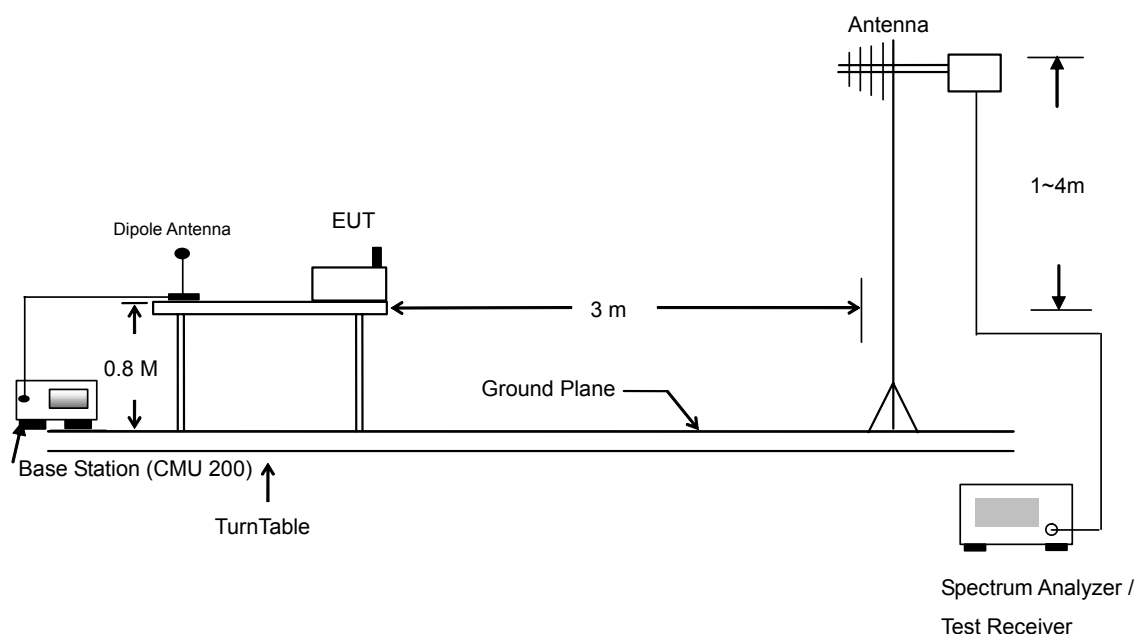
4.6.1 Measurement Instruments

As described in chapter 5 of this test report.

4.6.2 Test Procedure

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

4.6.3 Test Setup Layout

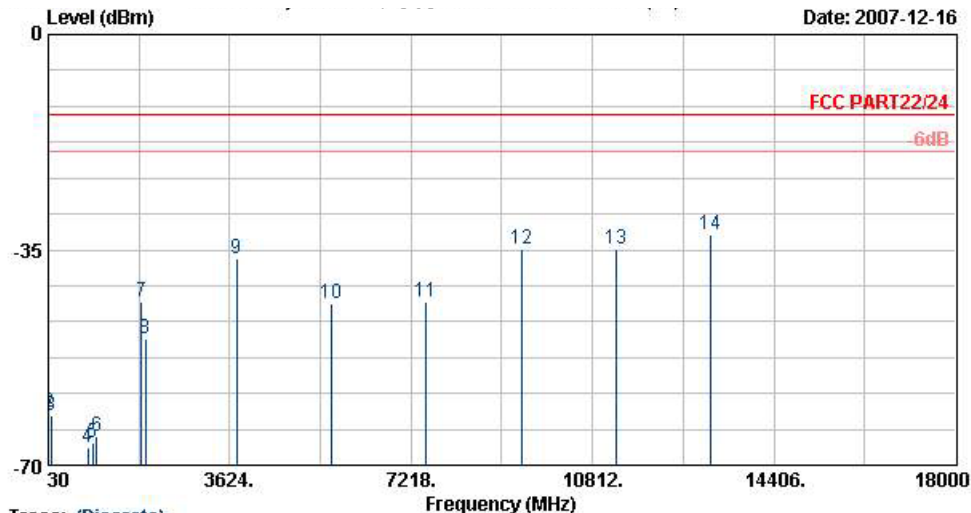




4.6.4 Test Data

4.6.4.1 Mode 1

Horizontal Polarization



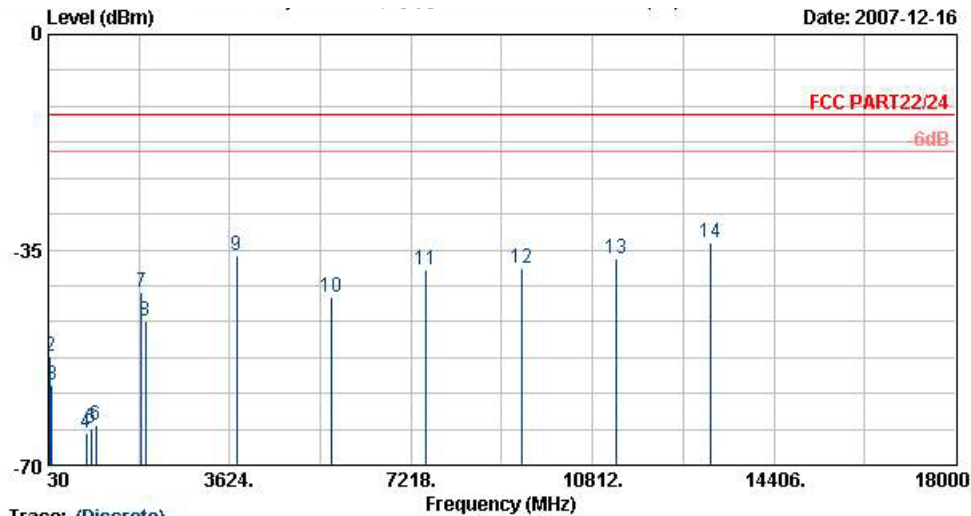
Site : 03CH06-HY
 Condition : FCC PART22/24 ETRP-071107 HORIZONTAL
 EUT : Smart Phone
 Power : 120Vac/60Hz
 Model : FG 701101
 Mode : PCS1900 Link ; Ch661 +Adaptor + Earphone
 Plane : H

	Freq	Level	Over Limit	Limit Line	Read Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBm	dB	dBm	dBm	dB	dB	cm	deg	
1	30.00	-53.45	-40.45	-13.00	-53.81	0.36	0.00	---	---	Peak
2	44.04	-61.32	-48.32	-13.00	-53.16	-8.17	0.00	---	---	Peak
3	91.83	-62.05	-49.05	-13.00	-49.78	-12.27	0.00	---	---	Peak
4	819.40	-67.23	-54.23	-13.00	-65.73	-1.50	0.00	---	---	Peak
5	904.80	-66.33	-53.33	-13.00	-65.66	-0.68	0.00	---	---	Peak
6	994.40	-65.39	-52.39	-13.00	-65.58	0.18	0.00	---	---	Peak
7	1878.00	-43.46	-30.46	-13.00	-50.47	7.01	0.00	---	---	Peak
8	1958.00	-49.32	-36.32	-13.00	-56.85	7.54	0.00	---	---	Peak
9	3760.00	-36.43	-23.43	-13.00	-49.75	13.32	0.00	---	---	Peak
10	5640.00	-43.73	-30.73	-13.00	-60.76	17.03	0.00	---	---	Peak
11	7520.00	-43.46	-30.46	-13.00	-60.88	17.42	0.00	---	---	Peak
12	9400.00	-34.96	-21.96	-13.00	-53.75	18.79	0.00	---	---	Peak
13	11280.00	-34.77	-21.77	-13.00	-56.59	21.82	0.00	---	---	Peak
14 @	13160.00	-32.40	-19.40	-13.00	-56.48	24.08	0.00	---	---	Peak

Frequency	ERP	Limit	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
(MHz)	(dBm)	(dBm)	Reading (dBm)	Power (dBm)	loss (dB)	Gain (dBi)	(H/V)	
3760	-41.77	-13	-49.75	-45.7	7.17	11.1	H	Pass
5640	-53.31	-13	-60.76	-55.1	8.77	10.56	H	Pass
7520	-53.11	-13	-60.88	-50.3	10.21	7.4	H	Pass
9400	-37.85	-13	-53.75	-36	11.61	9.76	H	Pass
11280	-38.79	-13	-56.59	-35.8	13.32	10.33	H	Pass
13160	-32.74	-13	-56.48	-29.7	13.81	10.77	H	Pass



Vertical Polarization



Site : 03CH06-HY
 Condition : FCC PART22/24 ETRP-071107 VERTICAL
 EUT : Smart Phone
 Power : 120Vac/60Hz
 Model : FG 701101
 Mode : PCS1900 Link ; Ch661 +Adaptor + Earphone
 Plane : H

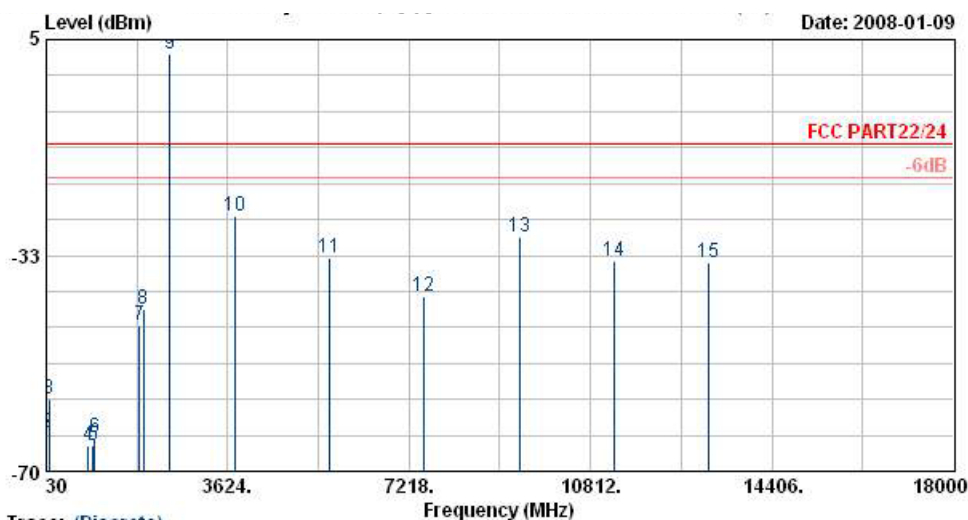
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBm	dB	dBm	dBm	dB	dB	cm	deg	
1	30.00	-55.99	-42.99	-13.00	-46.92	-9.07	0.00	---	---	Peak
2	75.09	-52.21	-39.21	-13.00	-40.89	-11.32	0.00	---	---	Peak
3	106.68	-57.06	-44.06	-13.00	-49.31	-7.75	0.00	---	---	Peak
4	780.90	-64.91	-51.91	-13.00	-65.69	0.78	0.00	---	---	Peak
5	878.90	-64.04	-51.04	-13.00	-65.73	1.70	0.00	---	---	Peak
6	974.80	-63.44	-50.44	-13.00	-65.90	2.46	0.00	---	---	Peak
7	1878.00	-41.96	-28.96	-13.00	-48.97	7.01	0.00	---	---	Peak
8	1958.00	-46.49	-33.49	-13.00	-54.03	7.54	0.00	---	---	Peak
9	3760.00	-35.87	-22.87	-13.00	-49.19	13.32	0.00	---	---	Peak
10	5640.00	-42.66	-29.66	-13.00	-59.69	17.03	0.00	---	---	Peak
11	7520.00	-38.34	-25.34	-13.00	-55.76	17.42	0.00	---	---	Peak
12	9400.00	-37.91	-24.91	-13.00	-56.70	18.79	0.00	---	---	Peak
13	11280.00	-36.38	-23.38	-13.00	-58.20	21.82	0.00	---	---	Peak
14 @	13160.00	-33.72	-20.72	-13.00	-57.80	24.08	0.00	---	---	Peak

Frequency (MHz)	ERP (dBm)	Limit (dBm)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-38.07	-13	-49.19	-42	7.17	11.1	V	Pass
5640	-51.91	-13	-59.69	-53.7	8.77	10.56	V	Pass
7520	-44.11	-13	-55.76	-41.3	10.21	7.4	V	Pass
9400	-43.65	-13	-56.7	-41.8	11.61	9.76	V	Pass
11280	-42.49	-13	-58.2	-39.5	13.32	10.33	V	Pass
13160	-37.54	-13	-57.8	-34.5	13.81	10.77	V	Pass



4.6.4.2 Mode 2

Horizontal Polarization



Trace: (Discrete)

Site : 03CH06-HY
 Condition : FCC PART22/24 ETRP-071107 HORIZONTAL
 EUT : Smart Phone
 Power : 120Vac/60Hz
 Model : FG 701101
 Memo : PCS 1900 Link : Ch661 + Adaptor +
 Memo : Earphone + BT Tx_Ch76;2460MHz
 Plane : H

	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1	30.00	-54.69	-41.69	-13.00	-55.05	0.36	Peak
2	44.04	-63.40	-50.40	-13.00	-55.23	-8.17	Peak
3	81.03	-57.51	-44.51	-13.00	-45.20	-12.31	Peak
4	868.40	-65.62	-52.62	-13.00	-64.58	-1.03	Peak
5	953.80	-65.55	-52.55	-13.00	-65.34	-0.21	Peak
6	994.40	-64.16	-51.16	-13.00	-64.34	0.18	Peak
7	1878.00	-44.59			-51.60	7.01	Peak
8	1958.00	-41.84			-49.37	7.54	Peak
9 @	2478.00	2.43			-7.68	10.11	Peak
10	3756.00	-25.61	-12.61	-13.00	-38.93	13.32	Peak
11	5636.00	-32.79	-19.79	-13.00	-49.83	17.03	Peak
12	7516.00	-39.49	-26.49	-13.00	-56.80	17.31	Peak
13	9396.00	-29.36	-16.36	-13.00	-48.15	18.79	Peak
14	11276.00	-33.46	-20.46	-13.00	-55.29	21.83	Peak
15	13156.00	-33.76	-20.76	-13.00	-57.83	24.08	Peak

Remark :

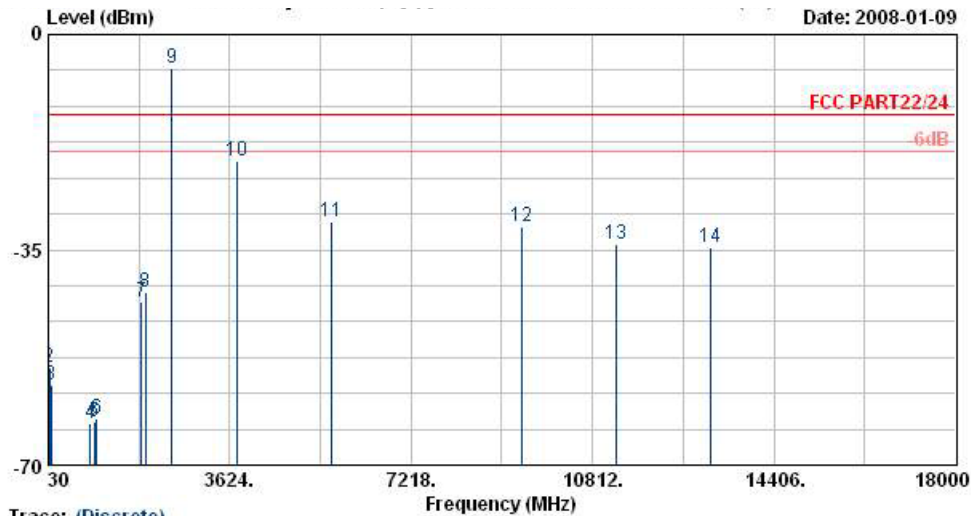
1. #7 MS Signal
2. #8 BS Signal
3. #9 BT Signal



Frequency (MHz)	ERP (dBm)	Limit (dBm)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3756	-28.27	-13	-38.93	-32.2	7.17	11.1	H	Pass
5636	-37.41	-13	-49.83	-39.2	8.77	10.56	H	Pass
7516	-44.61	-13	-56.8	-41.8	10.21	7.4	H	Pass
9396	-31.65	-13	-48.15	-29.8	11.61	9.76	H	Pass
11276	-38.19	-13	-55.29	-35.2	13.32	10.33	H	Pass
13156	-38.74	-13	-57.83	-35.7	13.81	10.77	H	Pass



Vertical Polarization



Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC PART22/24 ETRP-071107 VERTICAL
EUT : Smart Phone
Power : 120Vac/60Hz
Model : FG 701101
Memo : PCS 1900 Link : Ch661 + Adaptor +
Memo : Earphone + BT Tx_Ch76;2480MHz
Plane : H

	Freq	Level	Over	Limit	Read		
	MHz	dBm	Limit	Line	Level	Factor	Remark
			dB	dBm	dBm	dB	
1	30.00	-58.10	-45.10	-13.00	-49.03	-9.07	Peak
2	58.08	-54.23	-41.23	-13.00	-40.53	-13.70	Peak
3	81.03	-56.89	-43.89	-13.00	-46.54	-10.35	Peak
4	861.40	-63.14	-50.14	-13.00	-64.69	1.56	Peak
5	934.90	-63.07	-50.07	-13.00	-65.21	2.14	Peak
6	987.40	-62.55	-49.55	-13.00	-65.11	2.56	Peak
7	1884.00	-43.49			-50.50	7.01	Peak
8	1958.00	-41.79			-49.32	7.54	Peak
9 @	2478.00	-5.46			-15.57	10.11	Peak
10	3756.00	-20.44	-7.44	-13.00	-33.76	13.32	Peak
11	5636.00	-30.51	-17.51	-13.00	-47.55	17.03	Peak
12	9396.00	-31.19	-18.19	-13.00	-49.99	18.79	Peak
13	11276.00	-34.15	-21.15	-13.00	-55.98	21.83	Peak
14	13156.00	-34.52	-21.52	-13.00	-58.59	24.08	Peak

Remark :

- #7 MS Signal
- #8 BS Signal
- #9 BT Signal

Frequency (MHz)	ERP (dBm)	Limit (dBm)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3756	-20.57	-13	-33.76	-24.5	7.17	11.1	V	Pass
5636	-35.31	-13	-47.55	-37.1	8.77	10.56	V	Pass
9396	-34.75	-13	-49.99	-32.9	11.61	9.76	V	Pass
11276	-39.89	-13	-55.98	-36.9	13.32	10.33	V	Pass
13156	-42.44	-13	-58.59	-39.4	13.81	10.77	V	Pass

4.7 Frequency Stability (Temperature Variation)

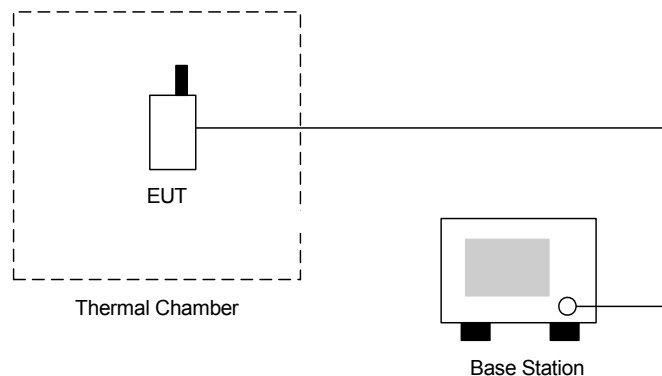
4.7.1 Measurement Instrument

As described in chapter 5 of this test report.

4.7.2 Test Procedure

- 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 noted 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 was 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 : PCS1900 CH661

Temperature(°C)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
-30	38	0.02	2.5	Passed
-20	49	0.03		
-10	28	0.01		
0	37	0.02		
10	44	0.02		
20	43	0.02		
30	46	0.02		
40	45	0.02		
50	41	0.02		

4.8 Frequency Stability (Voltage Variation)

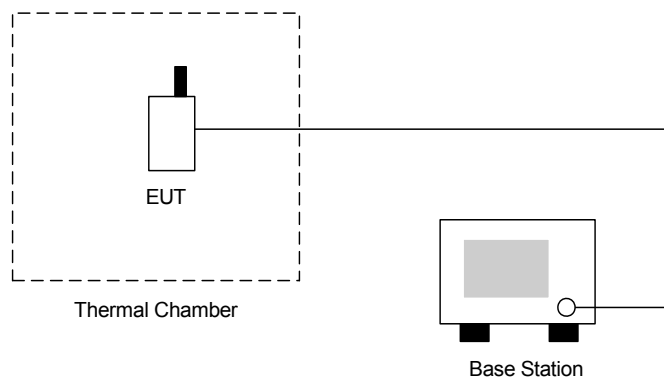
4.8.1 Measurement Instrument

As described in chapter 5 of this test report.

4.8.2 Test Procedure

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

4.8.3 Test Setup Layout



4.8.4 Test Result

- Test Mode : PCS1900 CH661

Voltage(Volt)	Change (Hz)	Change (ppm)	Limit (ppm)	Result
3.7	-39.0	-0.02	2.5	Passed
BEP	-37.0	-0.02		
4.2	38.0	0.02		

Remark:

- Normal Voltage=3.7V.
- Battery End Point (BEP)= 3.3V.



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 (03CH06-HY)
EMI Test Receiver	R&S	ESCS30	100356	9KHz-2.75GHz	Jul. 26, 2007	Jul. 25, 2008	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Dec. 01, 2007	Nov. 30, 2008	Radiation (03CH06-HY)
Double Ridge Horn Antenna	Com-Power	AH118	071025	1G~18G	Jun. 04, 2007	Jun. 03, 2008	Radiation (03CH06-HY)
SHF-EHF Horn	SCHWARZBECK	BBHA 9170	9170-249	14G - 40G	Nov. 20, 2006	Nov. 19, 2008	Radiation (03CH06-HY)
Thermal Chamber	Tenyi technology	TTH-D35P	TBN-930701	N/A	Aug. 02, 2007	Aug. 01, 2008	Conduction (TH02-HY)
Spectrum	R&S	FSP40	100055	9KHz~40GHz	Jun. 25, 2007	Jun. 24, 2008	Conduction (TH02-HY)
Bluetooth Test	ANRITSU	MT8852A	6K00003939	N/A	N/A	N/A	Conduction (TH02-HY)
Power Divider	ARRA	5200-1	3871	N/A	Oct. 01, 2007	Sep. 30, 2008	Conduction (TH02-HY)
DC Power Supply	TOPWARD	3303D	740889	N/A	May 25, 2007	May 24, 2009	Conduction (TH02-HY)
Power Meter	Agilent	E4416A	GB41292344	N/A	Feb. 08, 2007	Feb. 07, 2008	Conduction (TH02-HY)
Power Sensor	Agilent	E9327A	US40441548	N/A	Feb. 08, 2007	Feb. 07, 2008	Conduction (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		$u(x_i)$	C_i	$C_i * u(x_i)$
	dB	Probability Distribution			
Receiver reading	±0.10	Normal(k=1)	0.10	1	0.10
Antenna factor calibration	±1.70	Normal(k=2)	0.85	1	0.85
Cable loss calibration	±0.50	Normal(k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20 \log(1 - \Gamma_1 * \Gamma_2 * \Gamma_3)$	+0.34/-0.35	U-shaped	0.244	1	0.244
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