Partial FCC Test Report

APPLICANT	:	Acer Inc.
EQUIPMENT	:	3G Module
BRAND NAME	:	Acer, Gateway, PackardBell
MODEL NAME	:	Gobi2000
FCC ID	:	HLZGOBI2000A
STANDARD	:	47 CFR Part 2, 22(H), 24(E)
CLASSIFICATION	:	PCS Licensed Transmitter (PCB)
TX/RX FREQUENCY RANGE	:	GSM850 : 824.2 ~ 848.8 MHz / 869.2 ~ 893.8 MHz GSM1900 : 1850.2 ~ 1909.8 MHz / 1930.2 ~ 1989.8 MHz WCDMA Band V : 826.4 ~ 846.6 MHz / 871.4 ~ 891.6 MHz WCDMA Band II : 1852.4 ~ 1907.6 MHz / 1932.4 ~ 1987.6 MHz CDMA2000 Cellular : 824.70 ~ 848.31 MHz / 869.70 ~ 893.31 MHz CDMA2000 PCS : 1851.25 ~ 1908.75 MHz / 1931.25 ~ 1988.75 MHz
MAX. ERP/EIRP POWER	:	GSM850 (GPRS 8) : 0.45 W GSM850 (EDGE 8) : 0.15 W GSM1900 (GPRS 8) : 0.22 W GSM1900 (EDGE 8) : 0.10 W WCDMA Band V (WCDMA) : 0.09 W WCDMA Band II (WCDMA) : 0.05 W CDMA2000 Cellular : 0.07 W CDMA2000 PCS : 0.28 W

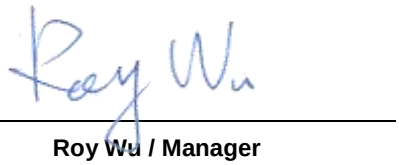
This is a partial report which is only valid combined with the Integrated WWAN Module (Brand name : Qualcomm / Modle name : Gobi2000, FCC ID : J9CGOBI2000) Report.

The product sample received on May 13, 2009 and completely tested on May 21, 2009. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown compliance with the applicable technical standards.

The EUT was installed into notebook computers (brand name: Acer, Gateway, PackardBell / model name: KAV60 / marketing name: Aspire one, AOD210, AOD250, LT20 is integrated with GSM/WCDMA antenna; brand name: Acer, Gateway, PackardBell / model name: KAV80 / marketing name: dot s, dot sr is integrated with CDMA2000 antenna) during test.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:



Roy Wu / Manager

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG931617-10	Rev. 01	Initial issue of report	Jun. 15, 2009
FG931617-10	Rev. 02	Revise model names and add marketing names for Host notebook computers.	Jun. 30, 2009

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result
3.1	§22.913(a)(2)	RSS-132(4.4) SRSP-503(5.1.3)	Effective Radiated Power	< 7 Watts for FCC (<6.3 Watts for IC)	PASS
3.2	§24.232(c)	RSS-133 (6.4) SRSP-510(5.1.2)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS
3.2	§2.1053 §22.917(a) §24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	Field Strength of Spurious Radiation	< $43+10\log_{10}$(P[Watts])	PASS

1 General Description

1.1 Applicant

Acer Inc.
8F, No. 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

1.2 Manufacturer

1. **Compal Electronics (China) Co., Ltd.**
   No. 988, Tong Feng East Rd., Kunshan Economics & Technical Development Zone, Kunshan, Jiangsu, P.R. China
2. **Compal Information (Kunshan) Co., Ltd.**
   The Third Street, Kunshan Export Processing Zone, Jiangsu, P.R. China
3. **Compal Information Technology (Kunshan) Co., Ltd.**
   No. 58, the 1st Street, Kunshan Export Processing Zone, Jiangsu, P.R. China
4. **Compal Electronics Technology (Kunshan) Co., Ltd.**
   No. 25, The Third Street, Kunshan Export Processing Zone, Jiangsu, P.R. China
5. **Kunshang Botai Electronics Co., Ltd.**
   No. 988, Tong Feng East Rd., Kunshan Economic & Technical Development Zone, Kunshan, Jiangsu, P.R. China

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	3G Module
Brand Name	Acer, Gateway, PackardBell
Model Name	Gobi2000
FCC ID	HLZGOBI2000A
Tx Frequency	GSM850 : 824 MHz ~ 849 MHz GSM1900 : 1850 MHz ~ 1910 MHz WCDMA Band V : 824 MHz ~ 849 MHz WCDMA Band II : 1850 MHz ~ 1910 MHz CDMA2000 Cellular : 824 MHz ~ 849 MHz CDMA2000 PCS : 1850 MHz ~1910 MHz
Rx Frequency	GSM850 : 869 MHz ~ 894 MHz GSM1900 : 1930 MHz ~ 1990 MHz WCDMA Band V : 869 MHz ~ 894 MHz WCDMA Band II : 1930 MHz ~ 1990 MHz CDMA2000 Cellular : 869 MHz ~ 894 MHz CDMA2000 PCS : 1930 MHz ~ 1990 MHz
Maximum ERP/EIRP	GSM850 (GPRS 8) : 0.45 W (26.48 dBm) GSM850 (EDGE 8) : 0.15 W (21.75 dBm) GSM1900 (GPRS 8) : 0.22 W (23.47 dBm) GSM1900 (EDGE 8) : 0.10 W (20.09 dBm) WCDMA Band V (WCDMA) : 0.09 W (19.75 dBm) WCDMA Band II (WCDMA) : 0.05 W (17.26 dBm) CDMA2000 Cellular (1xRTT) : 0.07 W (18.12 dBm) CDMA2000 PCS (1xRTT) : 0.28 W (24.45 dBm)
Antenna Type	PIFA Antenna
Host Notebook Computer Model	<GSM/WCDMA> Brand Name : Acer, Gateway, PackardBell Model Name : KAV60 Marketing Name : Aspire one, AOD210, AOD250, LT20 <CDMA2000> Brand Name : Acer, Gateway, PackardBell Model Name : KAV80 Marketing Name : dot s, dot sr
WWAN Module HW Version	P3 Rev C
WWAN Module SW Version	3574
Type of Modulation	GSM / GPRS : GMSK EDGE : 8PSK CDMA2000 / WCDMA : QPSK HSDPA : QPSK / 16QAM HSUPA : BPSK
EUT Stage	Production Unit

Remark: This test report recorded only product characteristics and test results of PCS Licensed Transmitter (PCB).

Accessory of host notebook computer:

Specification of Accessory		
AC Adapter	**Brand Name**	HIPRO
	Model Name	HP-A0301R3
	Power Rating	I/P:100-240Vac, 50-60Hz, 1A; O/P: 19Vdc, 1.58A, 30W
	AC Power Cord Type	1.5 meter shielded cable without ferrite core
Battery	**Brand Name**	Panasonic
	Model Name	UM08A51
	Power Rating	10.8Vdc, 2200mAh, 24Wh
	Type	Li-ion
WLAN Module	**Brand Name**	Atheros
	Model Name	AR5BHB63

Remark: Please refer to the user's manual for more detailed information of host notebook computer (brand name: Acer, Gateway, PackardBell / model name: KAV60 / marketing name: Aspire one, AOD210, AOD250, LT20 is integrated with GSM/WCDMA antenna; brand name: Acer, Gateway, PackardBell / model name: KAV80 / marketing name: dot s, dot sr is integrated with CDMA2000 antenna).

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL INC.	
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.	**Sporton Site No.**	**FCC/IC Registration No.**
	03CH07-HY	TW1022/4086B-1

1.5 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- Preliminary Guidance for Receiving Applications for Certification of 3G Device. May 9, 2006.
- 47 CFR Part 2, 22(H), 24(E)
- ANSI C63.4-2003
- ANSI / TIA / EIA-603-C-2004
- IC RSS-132 Issue 2
- IC RSS-133 Issue 5

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.

2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B (DoC), recorded in a separate test report.

1.6 Ancillary Equipment List

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

2 Test Configuration of Equipment Under Test

2.1 Test Mode

During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range.

Frequency range investigated for radiated emission is as follows:

1. 30 MHz to 9000 MHz for GSM850, WCDMA Band V and CDMA2000 Cellular.
2. 30MHz to 19000 MHz for GSM1900, WCDMA Band II and CDMA2000 PCS.

Test Modes	
Band	**Radiated TCs**
GSM 850	■ GPRS 8 Link ■ EDGE 8 Link
GSM 1900	■ GPRS 8 Link ■ EDGE 8 Link
WCDMA Band V	■ WCDMA Link
WCDMA Band II	■ WCDMA Link
CDMA2000 Cellular	■ 1xRTT Link Mode ■ 1xRTT Link Mode + WLAN Link
CDMA2000 PCS	■ 1xRTT Link Mode
Remark: Only the radiated emission of the WWAN module in the host notebook computer was performed in this report, and the conducted test cases can be referred to Qualcomm module report (FCC ID: J9CGOBI2000).	

Note: The maximum power levels are GPRS multi-slot class 8 mode for GMSK, EDGE multi-slot class 8 mode for 8PSK link, RMC 12.2Kbps mode for WCDMA and 1xRTT mode for CDMA2000, only these modes were used for all tests. The power tables are listed as follows:

Conducted Power						
Band	**GSM850**			**GSM1900**		
Channel	**128**	**189**	**251**	**512**	**661**	**810**
Frequency	**824.2**	**836.4**	**848.8**	**1850.2**	**1880.0**	**1909.8**
GPRS 8	**32.13**	32.07	31.89	29.08	29.16	**29.17**
GPRS 10	32.11	32.03	31.84	29.05	29.13	29.15
EGPRS 8	**27.31**	27.24	27.08	25.90	25.94	**25.95**
EGPRS 10	27.26	27.21	27.04	25.92	25.90	25.93

(*Unit: dBm)

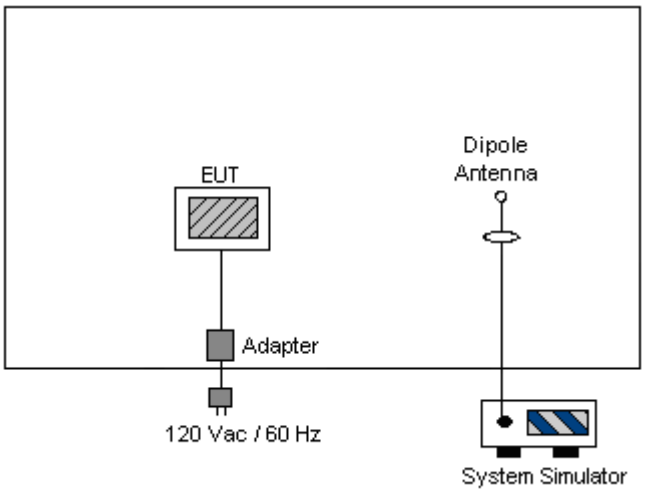
Conducted Power						
Band	WCDMA Band V			WCDMA Band II		
Channel	4132	4182	4233	9262	9400	9538
Frequency	826.4	836.4	846.6	1852.4	1880.0	1907.6
RMC 12.2K	**24.12**	24.11	24.12	24.04	**24.08**	23.83
HSDPA Subtest-1	24.04	23.98	23.96	23.94	24.07	23.73
HSDPA Subtest-2	23.85	23.79	23.80	23.84	23.98	23.69
HSDPA Subtest-3	23.37	23.28	23.33	23.41	23.58	23.51
HSDPA Subtest-4	23.32	23.38	23.31	23.30	23.60	23.29
HSUPA Subtest-1	23.84	23.55	23.82	23.35	23.48	23.23
HSUPA Subtest-2	22.18	22.13	22.02	22.06	21.93	21.86
HSUPA Subtest-3	22.61	22.52	22.44	22.40	22.47	22.44
HSUPA Subtest-4	22.23	22.19	22.14	22.17	22.82	22.04
HSUPA Subtest-5	23.81	23.62	23.83	23.01	23.52	23.48

(*Unit: dBm)

Conducted Power						
Band	CDMA2000 Cellular			CDMA2000 PCS		
Channel	1013	384	777	25	600	1175
Frequency	824.7	836.52	848.31	1851.25	1880	1908.75
1xRTT FCH_RC1+SO55	24.16	23.84	23.89	24.17	24.51	24.20
1xRTT FCH_RC3+SO55	24.20	24.14	23.98	24.13	24.53	24.22
1xRTT FCH+SCH_RC3+SO32	**24.25**	24.05	23.89	24.12	**24.56**	24.17
1xEV-DO RTAP 9.6K	23.75	23.65	23.62	23.77	24.29	23.76
1xEV-DO RTAP 38.4K	23.83	23.70	23.61	23.89	24.32	23.87
1xEV-DO RTAP 153.6K	23.90	23.57	23.62	23.96	24.54	23.99
1xEV-DO RETAP 128K	23.56	23.24	23.28	23.54	24.09	23.4
1xEV-DO RETAP 2048K	23.52	23.36	23.47	23.61	24.18	23.56
1xEV-DO RETAP 12288K	23.46	23.24	23.23	23.68	24.19	23.45

(*Unit: dBm)

2.2 Connection Diagram of Test System



Note: The EUT is a 3G Module which was installed in the host notebook computers (brand name: Acer, Gateway, PackardBell / model name: KAV60 / marketing name: Aspire one, AOD210, AOD250, LT20 is integrated with GSM/WCDMA antenna; brand name: Acer, Gateway, PackardBell / model name: KAV80 / marketing name: dot s, dot sr is integrated with CDMA2000 antenna).

3 Test Result

3.1 Effective Radiated Power and Effective Isotropic Radiated Power Measurement

3.1.1 Description of the ERP/EIRP Measurement

ERP/EIRP is measured by substitution method according to
ANSI / TIA / EIA-603-C-2004. The ERP of mobile transmitters must not exceed 7 Watts and the EIRP of mobile transmitters are limited to 2 Watts.

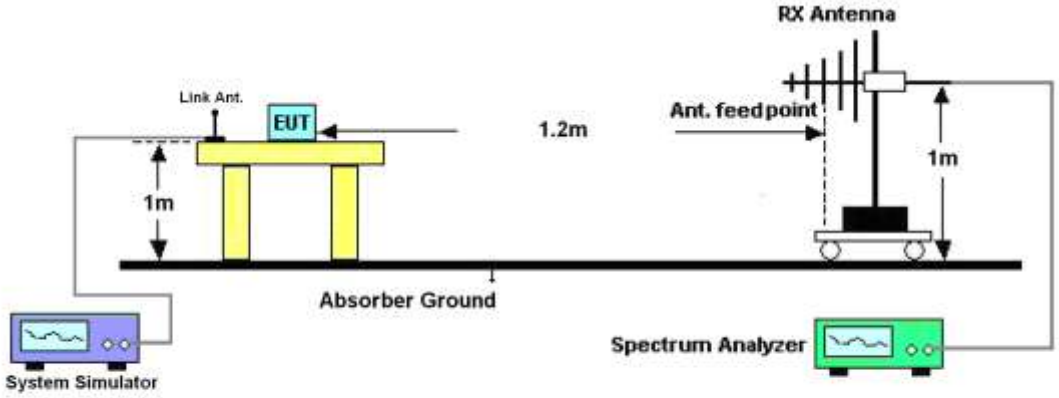
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The EUT was placed on a turntable with 1.0 meter height in a fully anechoic chamber.
2. The EUT was set at 1.2 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiated power.
4. The height of the receiving antenna is adjusted to look for the maximum ERP/EIRP.
5. Taking the record of maximum ERP/EIRP.
6. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
7. The conducted power at the terminal of the dipole antenna is measured.
8. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
9. ERP/EIRP = Ps + Et – Es + Gs = Ps + Rt – Rs + Gs
   Ps (dBm)：Input power to substitution antenna.
   Gs (dBi or dBd)：Substitution antenna Gain.
   Et = Rt + AF
   Es = Rs + AF
   AF (dB/m)：Receive antenna factor
   Rt：The highest received signal in spectrum analyzer for EUT.
   Rs：The highest received signal in spectrum analyzer for substitution antenna.

3.1.4 Test Setup



3.1.5 Test Result of ERP

GSM850 (GPRS 8) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**ERP (dBm)**	**ERP (W)**
824.20	-20.95	-48.12	0.00	-1.08	26.09	0.41
836.40	-21.47	-48.28	0.00	-0.93	25.88	0.39
848.80	-21.11	-48.35	0.00	-0.76	26.48	0.44
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**ERP (dBm)**	**ERP (W)**
824.20	-20.92	-47.97	0.00	-1.08	25.97	0.40
836.40	-21.69	-48.01	0.00	-0.93	25.39	0.35
848.80	-21.26	-48.05	0.00	-0.76	26.03	0.40

GSM850 (EDGE 8) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**ERP (dBm)**	**ERP (W)**
824.20	-25.49	-48.12	0.00	-1.08	21.55	0.14
836.40	-26.00	-48.28	0.00	-0.93	21.35	0.14
848.80	-25.84	-48.35	0.00	-0.76	21.75	0.15
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**ERP (dBm)**	**ERP (W)**
824.20	-26.30	-47.97	0.00	-1.08	20.59	0.11
836.40	-26.84	-48.01	0.00	-0.93	20.24	0.11
848.80	-26.35	-48.05	0.00	-0.76	20.94	0.12

WCDMA Band V (WCDMA) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**ERP (dBm)**	**ERP (W)**
826.40	-27.29	-48.12	0.00	-1.08	19.75	0.09
836.40	-27.84	-48.28	0.00	-0.93	19.51	0.09
846.60	-28.65	-48.35	0.00	-0.76	18.94	0.08
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**ERP (dBm)**	**ERP (W)**
826.40	-27.62	-47.97	0.00	-1.08	19.27	0.08
836.40	-28.34	-48.01	0.00	-0.93	18.74	0.07
846.60	-28.79	-48.05	0.00	-0.76	18.50	0.07

CDMA2000 Cellular 1xRTT_FCH+SCH_RC3 Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**ERP (dBm)**	**ERP (W)**
824.70	-28.92	-48.12	0.00	-1.08	18.12	0.06
836.52	-29.96	-48.28	0.00	-0.93	17.39	0.05
848.31	-30.01	-48.35	0.00	-0.76	17.58	0.06
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**ERP (dBm)**	**ERP (W)**
824.70	-29.57	-47.97	0.00	-1.08	17.32	0.05
836.52	-30.71	-48.01	0.00	-0.93	16.37	0.04
848.31	-30.62	-48.05	0.00	-0.76	16.67	0.05

3.1.6 Test Result of EIRP

GSM1900 (GPRS 8) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBi)**	**EIRP (dBm)**	**EIRP (W)**
1850.20	-30.37	-51.88	0.00	1.96	23.47	0.22
1880.00	-34.94	-52.99	0.00	2.00	20.05	0.10
1909.80	-35.25	-54.28	0.00	1.98	21.01	0.13
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBi)**	**EIRP (dBm)**	**EIRP (W)**
1850.20	-31.95	-52.13	0.00	1.96	22.14	0.16
1880.00	-36.77	-53.17	0.00	2.00	18.40	0.07
1909.80	-36.18	-54.13	0.00	1.98	19.93	0.10

GSM1900 (EDGE 8) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBi)**	**EIRP (dBm)**	**EIRP (W)**
1850.20	-33.75	-51.88	0.00	1.96	20.09	0.10
1880.00	-38.60	-52.99	0.00	2.00	16.39	0.04
1909.80	-38.69	-54.28	0.00	1.98	17.57	0.06
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBi)**	**EIRP (dBm)**	**EIRP (W)**
1850.20	-34.53	-52.13	0.00	1.96	19.56	0.09
1880.00	-39.51	-53.17	0.00	2.00	15.66	0.04
1909.80	-39.07	-54.13	0.00	1.98	17.04	0.05

WCDMA Band II (WCDMA) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBi)**	**EIRP (dBm)**	**EIRP (W)**
1852.40	-36.75	-51.88	0.00	1.96	17.09	0.05
1880.00	-37.73	-52.99	0.00	2.00	17.26	0.05
1907.60	-41.21	-54.28	0.00	1.98	15.05	0.03
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBi)**	**EIRP (dBm)**	**EIRP (W)**
1852.40	-38.09	-52.13	0.00	1.96	16.00	0.04
1880.00	-39.09	-53.17	0.00	2.00	16.08	0.04
1907.60	-41.68	-54.13	0.00	1.98	14.43	0.03

CDMA2000 PCS 1xRTT_FCH+SCH_RC3 Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBi)**	**EIRP (dBm)**	**EIRP (W)**
1851.25	-30.95	-51.88	0.00	1.96	22.89	0.19
1880.00	-31.84	-52.99	0.00	2.00	23.15	0.21
1908.75	-31.81	-54.28	0.00	1.98	24.45	0.28
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBi)**	**EIRP (dBm)**	**EIRP (W)**
1851.25	-31.39	-52.13	0.00	1.96	22.70	0.19
1880.00	-32.32	-53.17	0.00	2.00	22.85	0.19
1908.75	-33.31	-54.13	0.00	1.98	22.80	0.19

3.2 Field Strength of Spurious Radiation Measurement

3.2.1 Description of Field Strength of Spurious Radiated Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

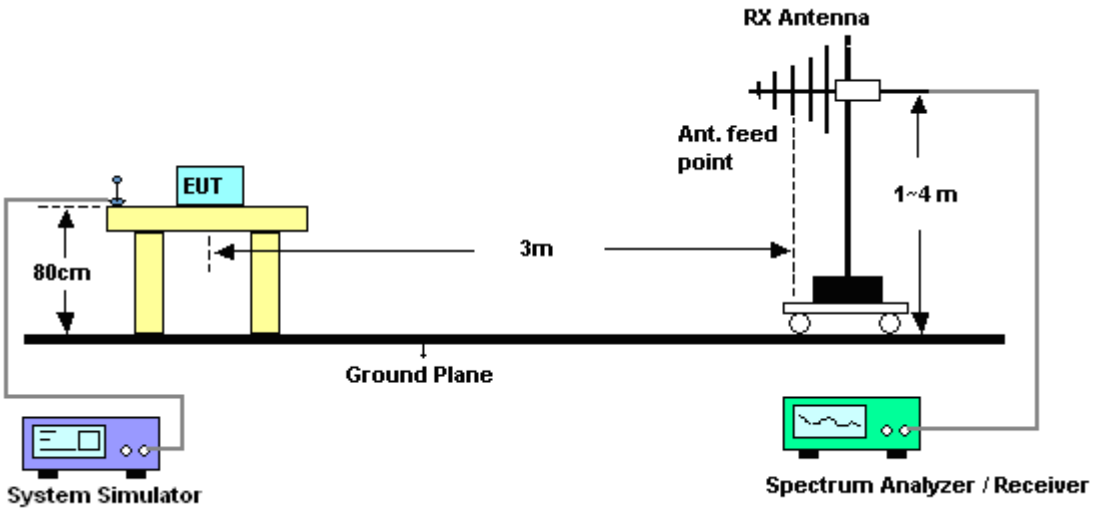
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

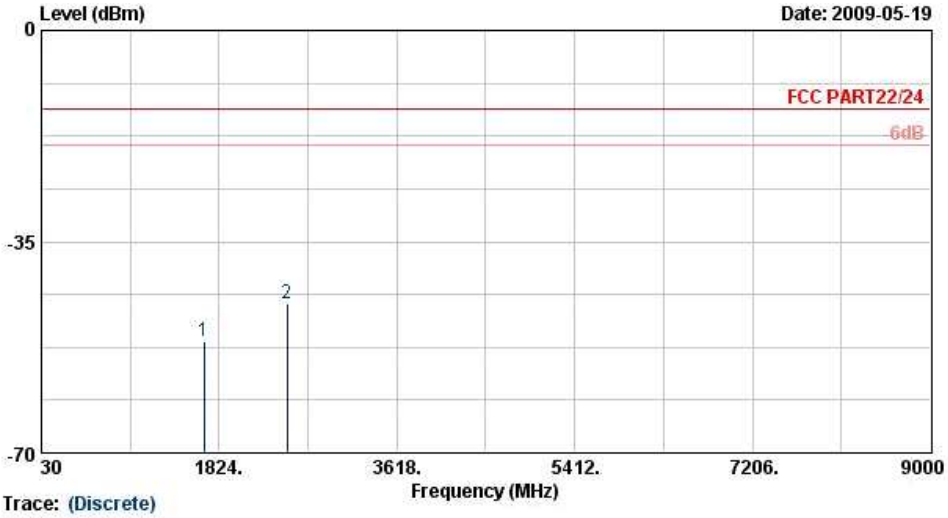
1. The EUT was placed on a rotatable wooden table with 0.8 meter about ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. Emission level (dBm) = output power + substitution Gain.

3.2.4 Test Setup



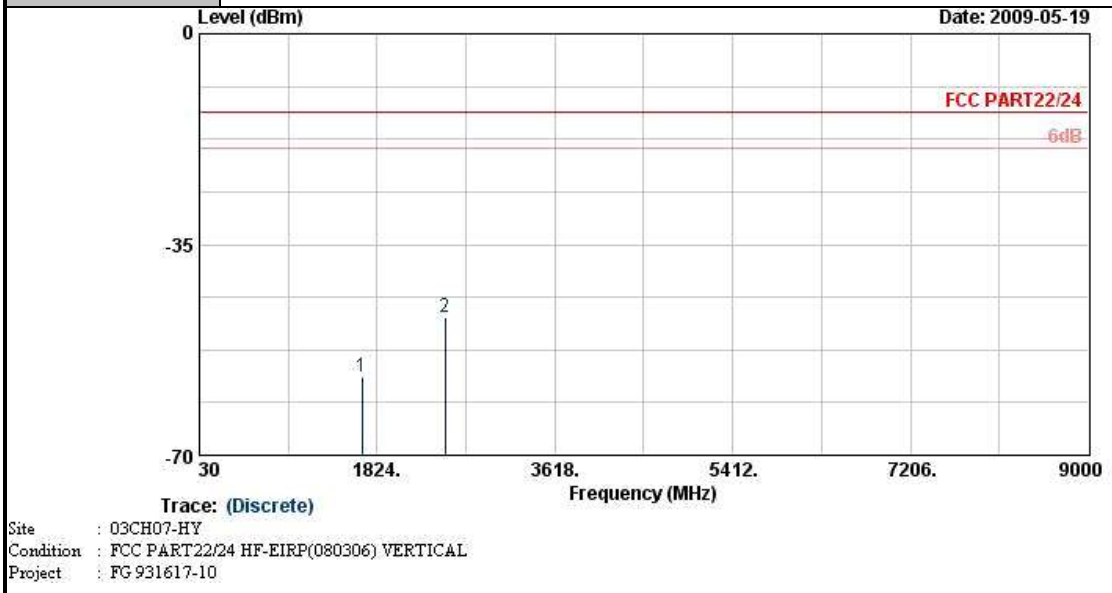
3.2.5 Test Result of Field Strength of Spurious Radiated

Band :	GSM850	**Temperature :**	26.1~27°C
Test Mode :	GPRS 8 Link	**Relative Humidity :**	47~49%
Test Engineer :	Nadir Wang	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



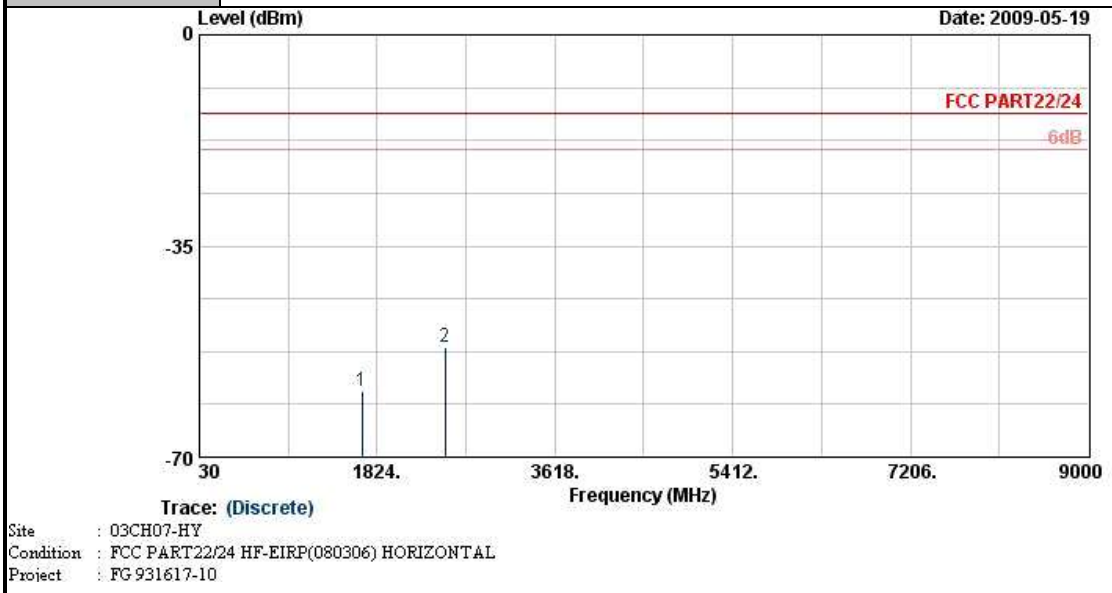
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1669	-51.46	-13	-38.46	-57.82	-51.31	3.39	5.39	H	Pass
2509	-45.30	-13	-32.30	-53.00	-45.56	3.71	6.12	H	Pass

Band :	GSM850	Temperature :	26.1~27°C
Test Mode :	GPRS 8 Link	Relative Humidity :	47~49%
Test Engineer :	Nadir Wang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



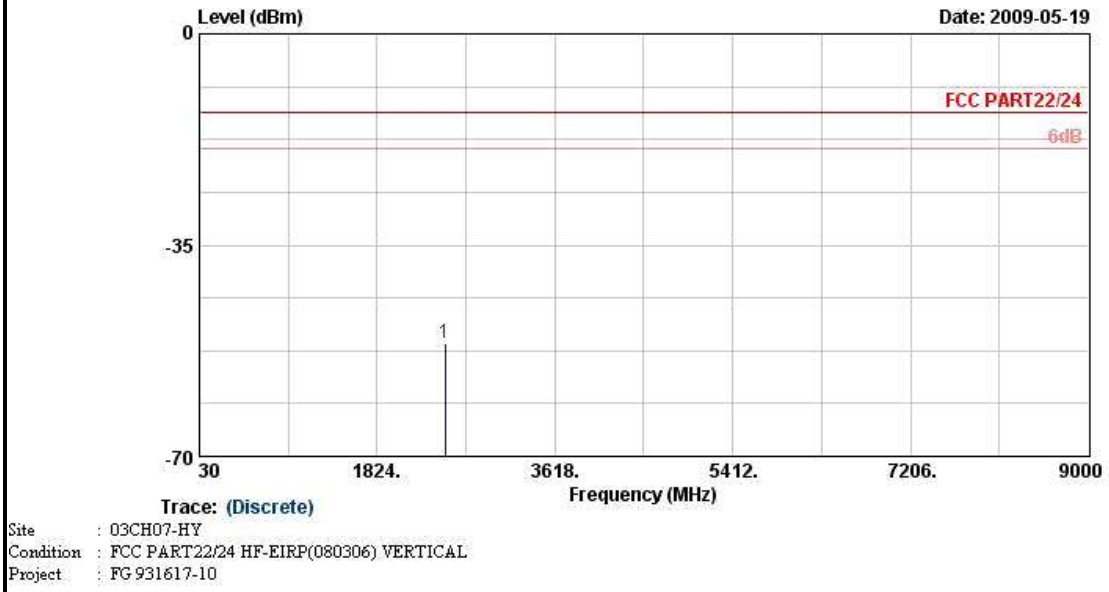
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1669	-56.97	-13	-43.97	-60.3	-56.82	3.39	5.39	V	Pass
2509	-47.20	-13	-34.20	-57.3	-47.46	3.71	6.12	V	Pass

Band :	GSM850	Temperature :	26.1~27°C
Test Mode :	EDGE 8 Link	Relative Humidity :	47~49%
Test Engineer :	Nadir Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



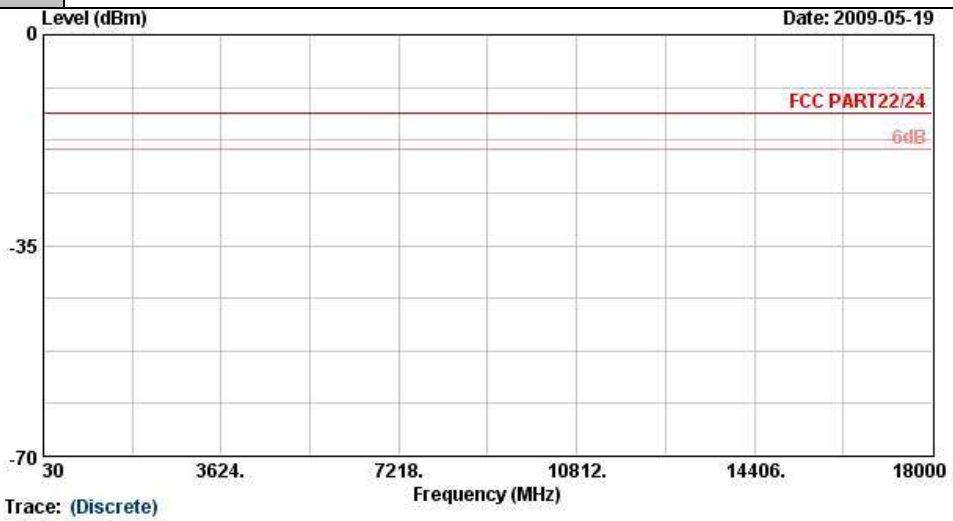
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1669	-58.96	-13	-45.96	-62.37	-58.81	3.39	5.39	H	Pass
2509	-51.80	-13	-38.80	-58.62	-52.06	3.71	6.12	H	Pass

Band :	GSM850	**Temperature :**	26.1~27°C
Test Mode :	EDGE 8 Link	**Relative Humidity :**	47~49%
Test Engineer :	Nadir Wang	**Polarization :**	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

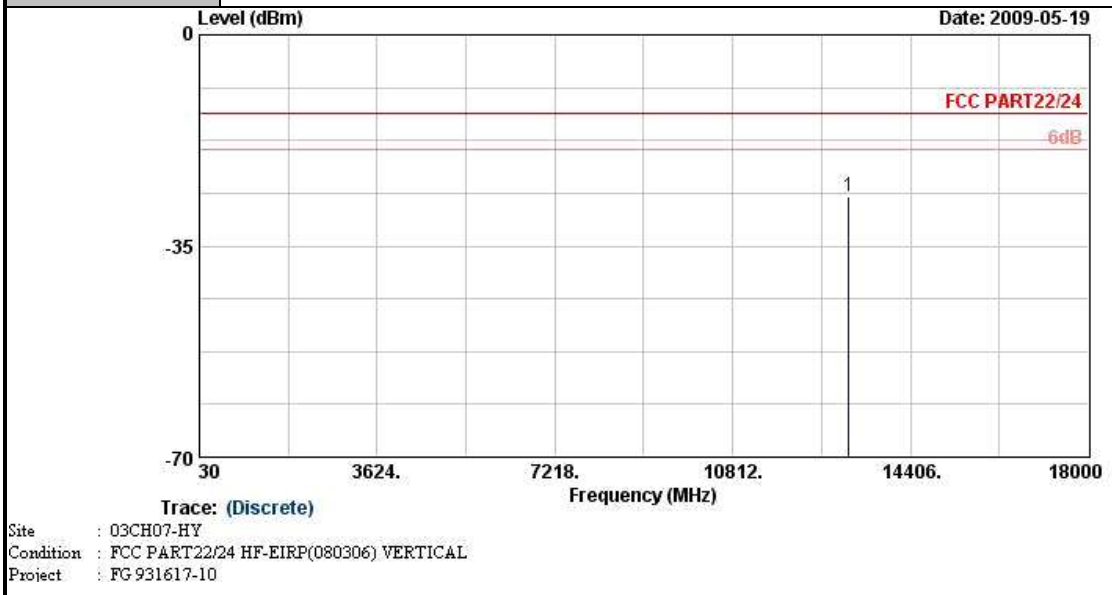


Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
2509	-51.26	-13	-38.26	-60.5	-51.52	3.71	6.12	V	Pass

Band :	GSM1900	**Temperature :**	26.1~27°C
Test Mode :	GPRS 8 Link	**Relative Humidity :**	47~49%
Test Engineer :	Nadir Wang	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line and within 1000-18000MHz were not found any signals.		

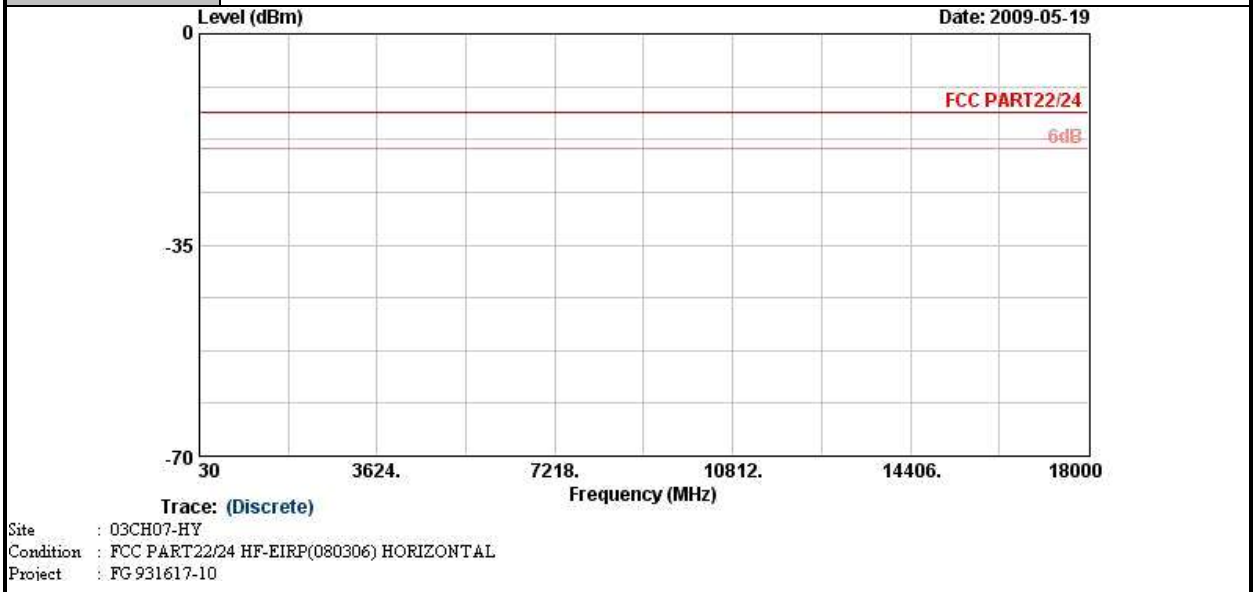


Band :	GSM1900	Temperature :	26.1~27°C
Test Mode :	GPRS 8 Link	Relative Humidity :	47~49%
Test Engineer :	Nadir Wang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

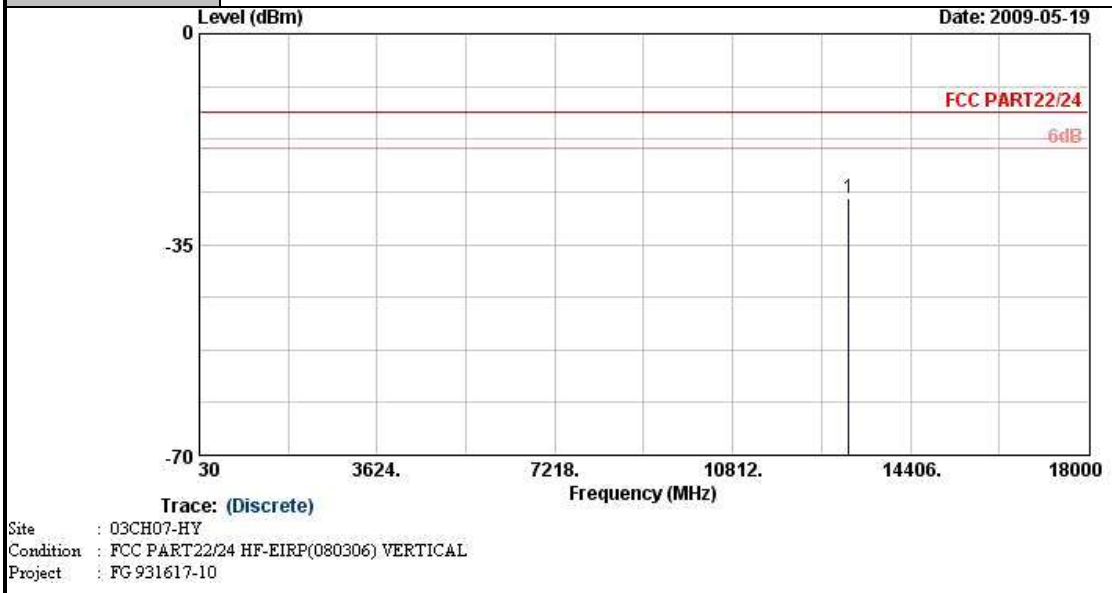


Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
13156	-26.88	-13	-13.88	-67.91	-32.17	8.13	13.42	V	Pass

Band :	GSM1900	**Temperature :**	26.1~27°C
Test Mode :	EDGE 8 Link	**Relative Humidity :**	47~49%
Test Engineer :	Nadir Wang	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line and within 1000-18000MHz were not found any signals.		

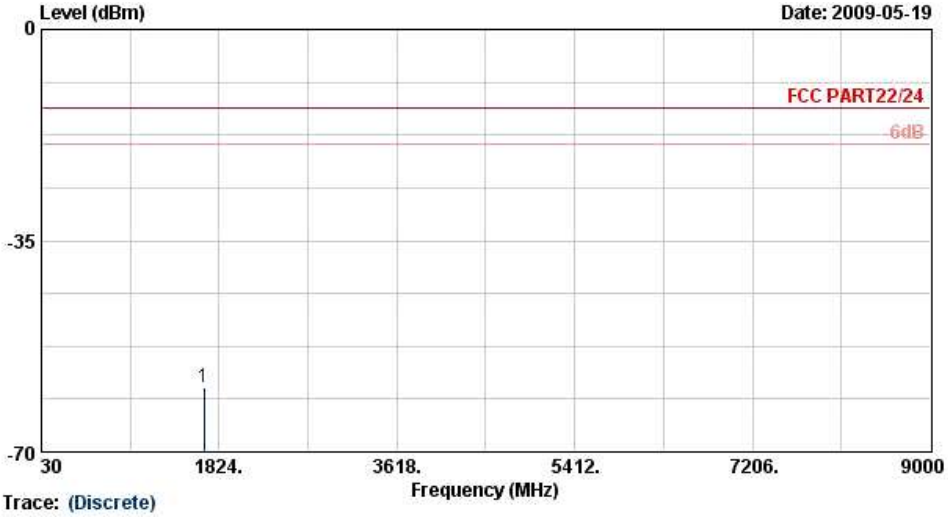


Band :	GSM1900	**Temperature :**	26.1~27°C
Test Mode :	EDGE 8 Link	**Relative Humidity :**	47~49%
Test Engineer :	Nadir Wang	**Polarization :**	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



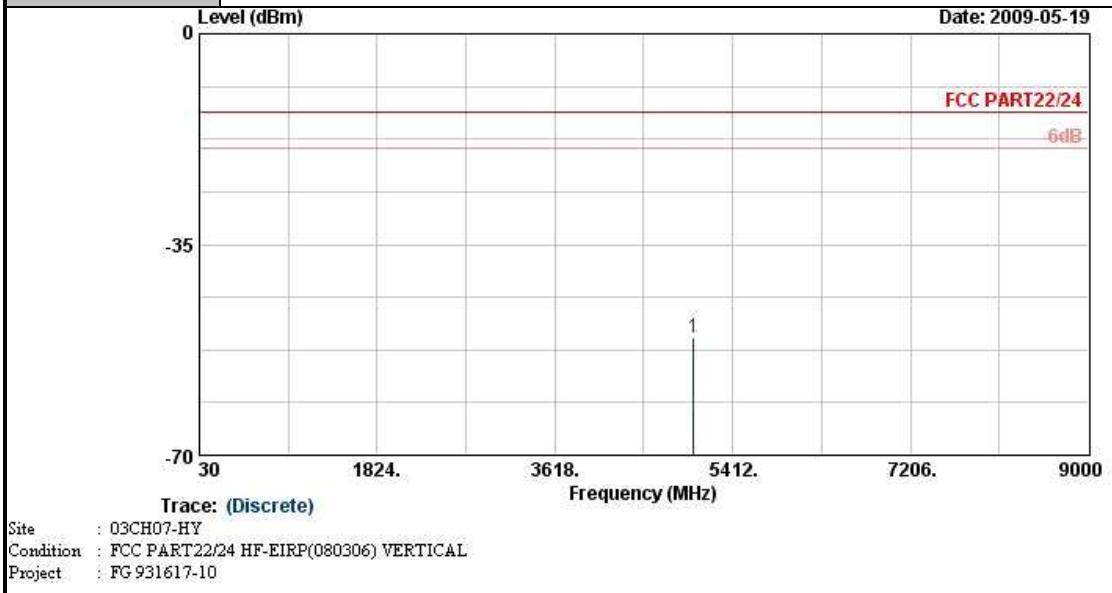
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
13156	-27.28	-13	-14.28	-68.31	-32.57	8.13	13.42	V	Pass

Band :	WCDMA Band V	Temperature :	26.1~27°C
Test Mode :	WCDMA Link	Relative Humidity :	47~49%
Test Engineer :	Nadir Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



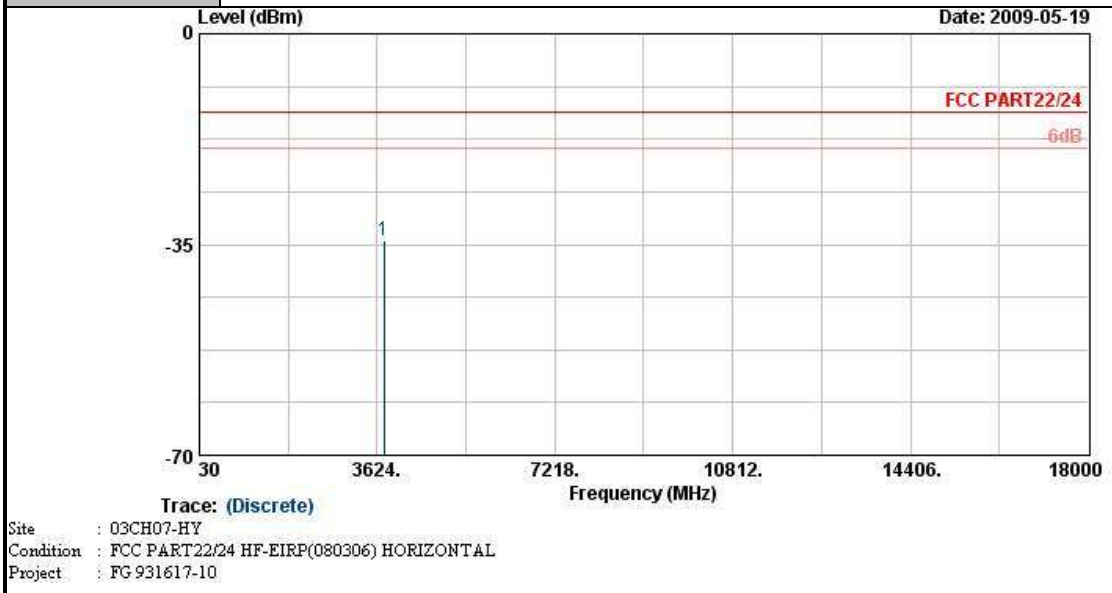
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1669	-59.46	-13	-46.46	-62.89	-59.31	3.39	5.39	H	Pass

Band :	WCDMA Band V	**Temperature :**	26.1~27°C
Test Mode :	WCDMA Link	**Relative Humidity :**	47~49%
Test Engineer :	Nadir Wang	**Polarization :**	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



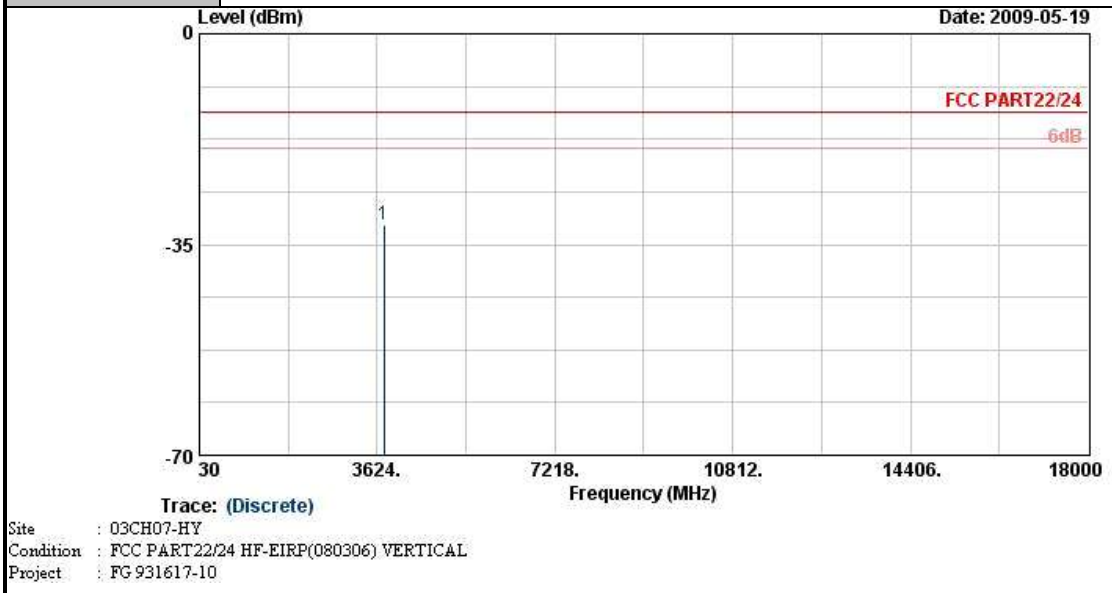
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5015	-50.36	-13	-37.36	-64.36	-55.33	2.61	9.73	V	Pass

Band :	WCDMA Band II	Temperature :	26.1~27°C
Test Mode :	WCDMA Link	Relative Humidity :	47~49%
Test Engineer :	Nadir Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



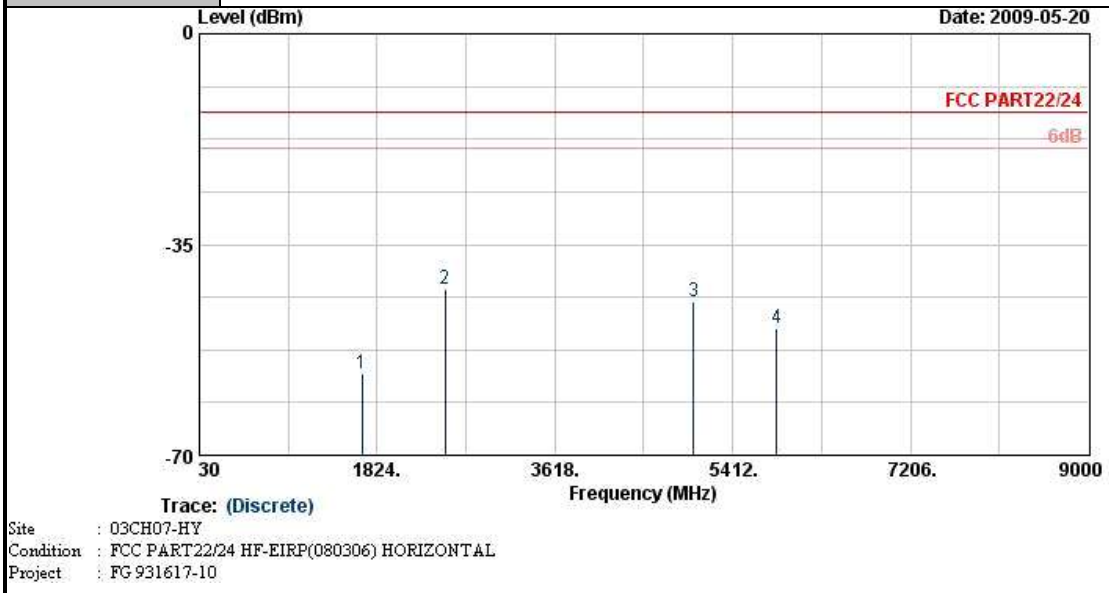
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-34.39	-13	-21.39	-51.12	-39.07	4.03	8.71	H	Pass

Band :	WCDMA Band II	**Temperature :**	26.1~27°C
Test Mode :	WCDMA Link	**Relative Humidity :**	47~49%
Test Engineer :	Nadir Wang	**Polarization :**	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



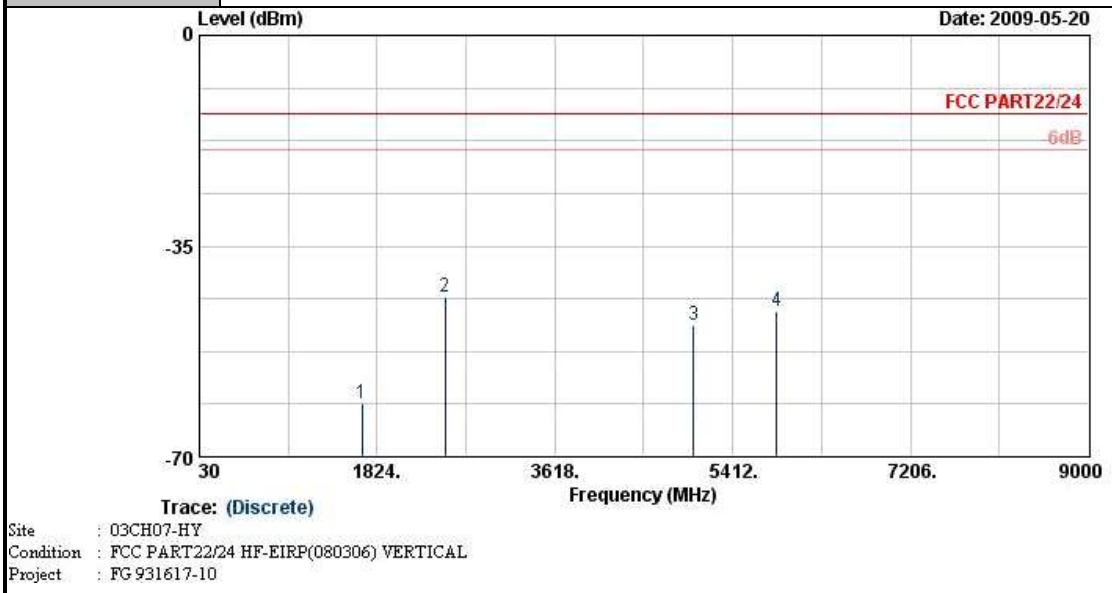
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-31.80	-13	-18.80	-51.08	-36.48	4.03	8.71	V	Pass

Band :	CDMA2000 Cellular	Temperature :	26.1~27°C
Test Mode :	1xRTT_FCH+SCH_RC3 Link	Relative Humidity :	47~49%
Test Engineer :	Nadir Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



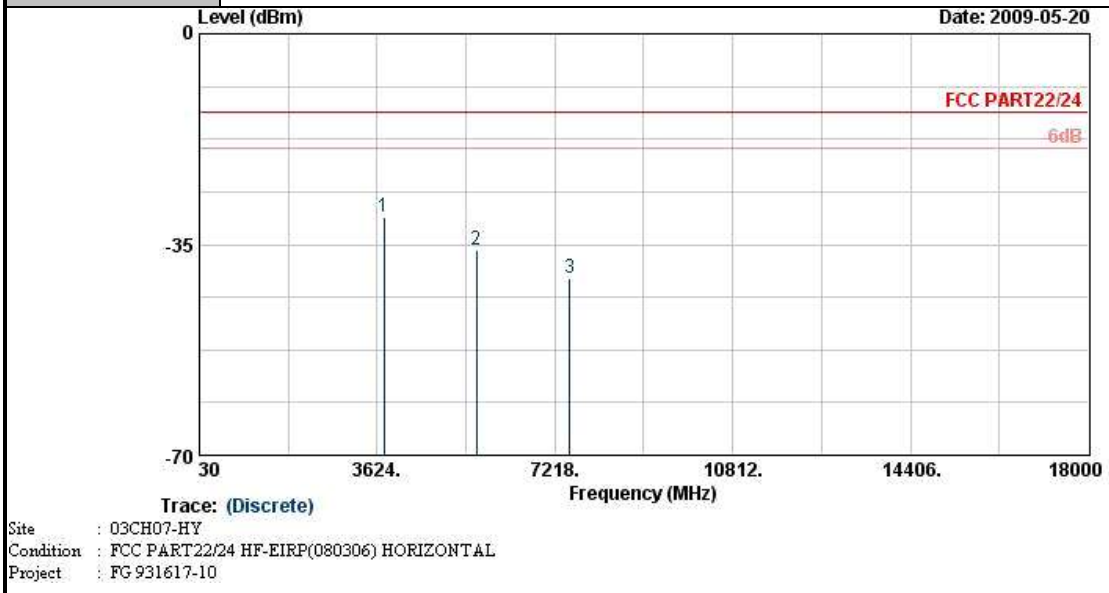
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1669	-56.57	-13	-43.57	-60.52	-56.42	3.39	5.39	H	Pass
2509	-42.38	-13	-29.38	-50.52	-42.64	3.71	6.12	H	Pass
5015	-44.51	-13	-31.51	-62.24	-49.48	2.61	9.73	H	Pass
5855	-49.03	-13	-36.03	-61.89	-52.9	4.38	10.40	H	Pass

Band :	CDMA2000 Cellular	Temperature :	26.1~27°C
Test Mode :	1xRTT_FCH+SCH_RC3 Link	Relative Humidity :	47~49%
Test Engineer :	Nadir Wang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



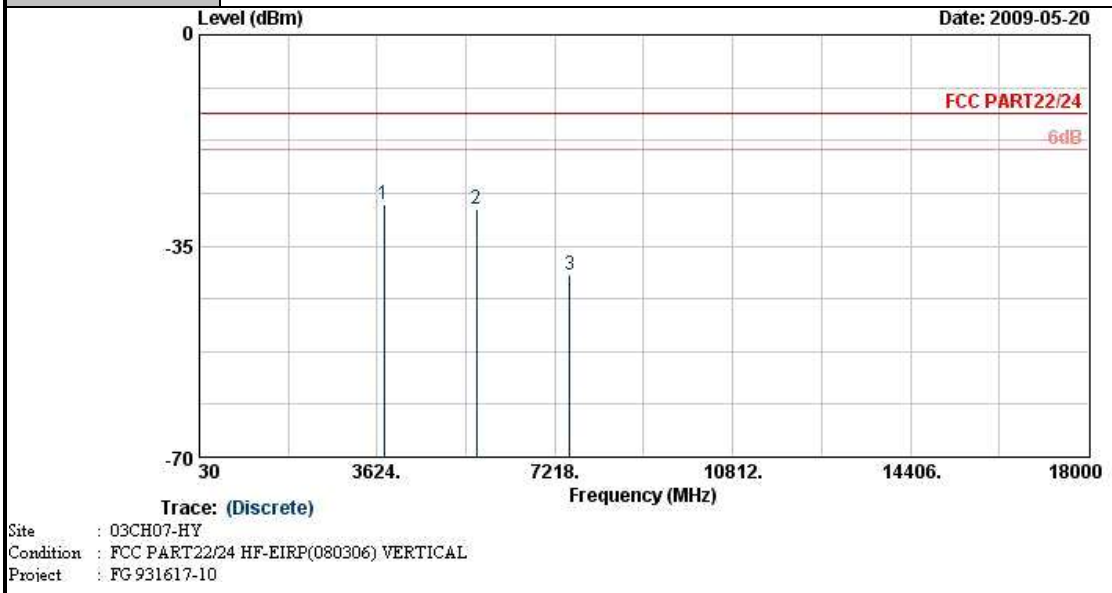
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1669	-61.20	-13	-48.20	-63.62	-61.05	3.39	5.39	V	Pass
2509	-43.49	-13	-30.49	-46.39	-43.75	3.71	6.12	V	Pass
5015	-48.22	-13	-35.22	-62.22	-53.19	2.61	9.73	V	Pass
5855	-45.86	-13	-32.86	-60.38	-49.73	4.38	10.40	V	Pass

Band :	CDMA2000 PCS	Temperature :	26.1~27°C
Test Mode :	1xRTT_FCH+SCH_RC3 Link	Relative Humidity :	47~49%
Test Engineer :	Nadir Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



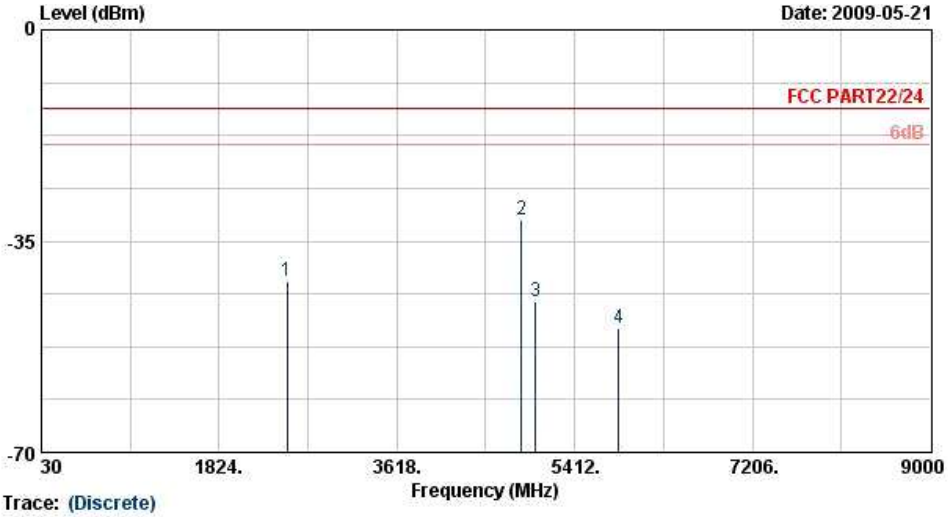
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-30.39	-13	-17.39	-47.47	-35.07	4.03	8.71	H	Pass
5636	-35.93	-13	-22.93	-58.92	-42.46	3.87	10.40	H	Pass
7520	-40.48	-13	-27.48	-64.4	-46.87	5.83	12.22	H	Pass

Band :	CDMA2000 PCS	Temperature :	26.1~27°C
Test Mode :	1xRTT_FCH+SCH_RC3 Link	Relative Humidity :	47~49%
Test Engineer :	Nadir Wang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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
3760	-28.15	-13	-15.15	-47.59	-32.83	4.03	8.71	V	Pass
5636	-28.89	-13	-15.89	-52.78	-35.42	3.87	10.40	V	Pass
7520	-39.89	-13	-26.89	-63.93	-46.28	5.83	12.22	V	Pass

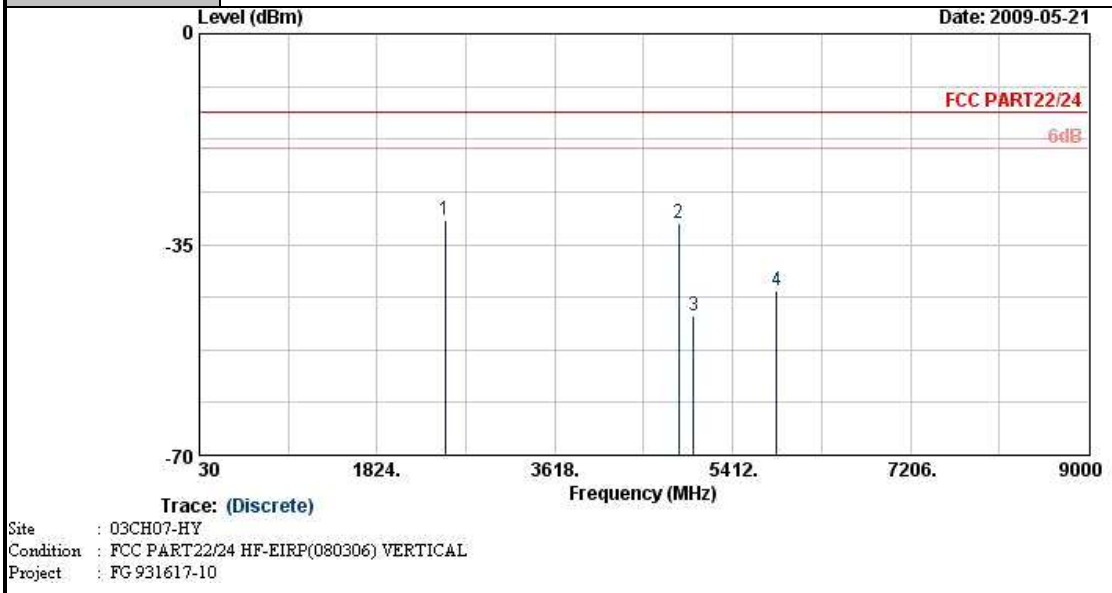
Band :	CDMA2000 Cellular	Temperature :	26.1~27°C
Test Mode :	1xRTT_FCH+SCH_RC3 Link + WLAN Link	Relative Humidity :	47~49%
Test Engineer :	Nadir Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH07-HY
Condition : FCC PART22/24 HF-EIRP(080306) HORIZONTAL
Project : FG931617-10

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	-41.59	-13	-28.59	-49.44	-41.85	3.71	6.12	H	Pass
4875	-31.43	-13	-18.43	-45.27	-36.21	2.68	9.61	H	Pass
5015	-45.06	-13	-32.06	-62.87	-50.03	2.61	9.73	H	Pass
5855	-49.54	-13	-36.54	-62.75	-53.41	4.38	10.40	H	Pass

Band :	CDMA2000 Cellular	Temperature :	26.1~27°C
Test Mode :	1xRTT_FCH+SCH_RC3 Link + WLAN Link	Relative Humidity :	47~49%
Test Engineer :	Nadir Wang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-30.89	-13	-17.89	-42.87	-31.15	3.71	6.12	V	Pass
4870	-31.44	-13	-18.44	-46.24	-36.21	2.68	9.60	V	Pass
5015	-46.97	-13	-33.97	-61.04	-51.94	2.61	9.73	V	Pass
5855	-42.78	-13	-29.78	-57.97	-46.65	4.38	10.40	V	Pass

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz~1GHz	Nov. 20, 2008	Nov. 19, 2009	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP	101067	9kHz~30GHz	Dec. 02, 2008	Dec. 01, 2009	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1G~18GHz	Aug. 18, 2008	Aug. 17, 2009	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1G~26.5GHz	Dec. 17, 2008	Dec. 16, 2009	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10~1000MHz. 32dB.GAIN	Mar. 27, 2009	Mar. 26, 2010	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00066584	1G~18GHz	Aug. 06, 2008	Aug. 05. 2009	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz~30 MHz	May 22, 2008	May 21, 2010	Radiation (03CH07-HY)
System Simulator	R&S	CMU200	117591	N/A	Oct. 23, 2008	Oct. 22, 2010	Radiation (03CH07-HY)

5 Uncertainty of Evaluation

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

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 (1 GHz ~ 40 GHz)

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)	+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**				

6 Certification of TAF Accreditation

Certificate No. : L1190-090417

財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

Sporton International Inc.
EMC & Wireless Communications Laboratory
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria	:	ISO/IEC 17025:2005
Accreditation Number	:	1190
Originally Accredited	:	December 15, 2003
Effective Period	:	January 10, 2007 to January 09, 2010
Accredited Scope	:	Testing Field, see described in the Appendix
Specific Accreditation Program	:	Accreditation Program for Designated Testing Laboratory for Commodities Inspection Accreditation Program for Telecommunication Equipment Testing Laboratory Accreditation Program for BSMI Mutual Recognition Arrangment with Foreign Authorities

Jay-San Chen
President, Taiwan Accreditation Foundation
Date : April 17, 2009

P1, total 20 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix

Appendix A. Photographs of EUT

Please refer to Sporton report number EP931617-10 as below.