

Partial FCC RF Test Report

APPLICANT	: Getac Technology Corporation
EQUIPMENT	: Notebook PC
BRAND NAME	: Getac
MODEL NAME	: B300
FCC ID	: QYL305
STANDARD	: FCC 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) : 1.27 W GSM850 (EDGE 8) : 0.41 W GSM1900 (GPRS 8) : 1.05 W GSM1900 (EDGE 8) : 0.58 W WCDMA Band V (RMC 12.2Kbps) : 0.25 W WCDMA Band II (RMC 12.2Kbps) : 0.37 W CDMA2000 Cellular (1xRTT) : 0.19 W CDMA2000 PCS (1xRTT) : 0.43 W

This is a partial report which is only valid combined with the Integrated WWAN Module (Brand Name: Qualcomm / Model Name: Gobi2000, FCC ID: J9CGOBI2000) Report. The product was received on Aug. 04, 2009 and completely tested on Aug. 16, 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 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



SPORTON INTERNATIONAL INC.

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



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SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
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+10log ₁₀ (P[Watts])	PASS	Under limit 10.35 dB at 3760.00 MHz



1 General Description

1.1 Applicant

Getac Technology Corporation

5F., Building A, No. 209, Sec. 1, Nangang Rd., Nangang Dist., Taipei City 11568, Taiwan, R.O.C.

1.2 Manufacturer

GeTAC Technology(Kunshan) LTD.

No. 269, 2nd Road, Export Processing Zone, Changjiang South Road, Kunshan, Jiangsu, P.R.C.



1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Notebook PC
Brand Name	Getac
Model Name	B300
FCC ID	QYL305
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) : 1.27 W (31.04 dBm) GSM850 (EDGE 8) : 0.41 W (26.15 dBm) GSM1900 (GPRS 8) : 1.05 W (30.22 dBm) GSM1900 (EDGE 8) : 0.58 W (27.63 dBm) WCDMA Band V (RMC 12.2Kbps) : 0.25 W (23.97 dBm) WCDMA Band II (RMC 12.2Kbps) : 0.37 W (25.69 dBm) CDMA2000 Cellular (1xRTT) : 0.19W (22.71 dBm) CDMA2000 PCS (1xRTT) : 0.43W (26.33 dBm)
Antenna Type	Fixed Internal Antenna
HW Version	R03
SW Version	R1.16
Type of Modulation	GSM / GPRS : GMSK EDGE : 8PSK WCDMA : QPSK HSDPA : QPSK / 16QAM HSUPA : BPSK CDMA2000 : QPSK
EUT Stage	Identical Prototype

Remark:

1. For other wireless features of this EUT, the test report will be issued separately.
2. This test report recorded only product characteristics and test results of PCS Licensed Transmitter (PCB).
3. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1 st 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.
- ♦ FCC 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:

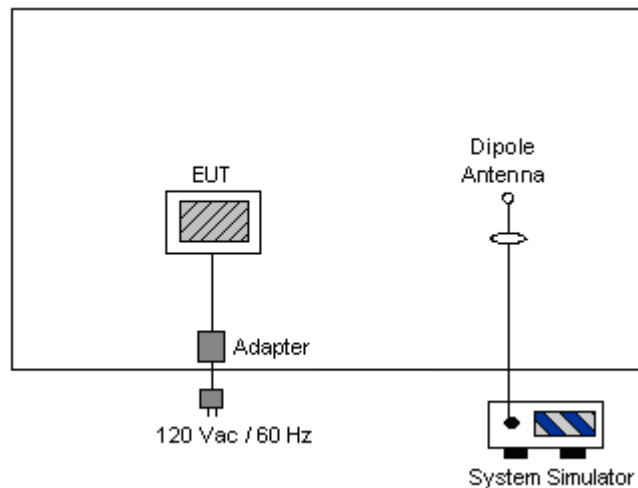
1. 30 MHz to 9000 MHz for GSM850, WCDMA Band V and CDMA2000 Cellular.
2. 30 MHz to 19000 MHz for GSM1900, WCDMA Band II and CDMA2000 PCS.

Test Modes	
Band	Radiated TCs
GSM 850	<ul style="list-style-type: none"> ■ GPRS 8 Link ■ EDGE 8 Link
GSM 1900	<ul style="list-style-type: none"> ■ GPRS 8 Link ■ EDGE 8 Link
WCDMA Band V	<ul style="list-style-type: none"> ■ RMC 12.2Kbps Link
WCDMA Band II	<ul style="list-style-type: none"> ■ RMC 12.2Kbps Link
CDMA2000 Cellular	<ul style="list-style-type: none"> ■ 1xRTT Link Mode
CDMA2000 PCS	<ul style="list-style-type: none"> ■ 1xRTT Link Mode ■ 1xRTT Link + 802.11a_BW 20MHz Tx CH165

Remark: Only the radiated emission of the WWAN module on 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 link, EDGE multi-slot class 8 mode for 8PSK link, RMC 12.2Kbps mode for WCDMA link, and 1xRTT mode for CDMA2000 link, only these modes were used for all tests.

2.2 Connection Diagram of Test System





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.

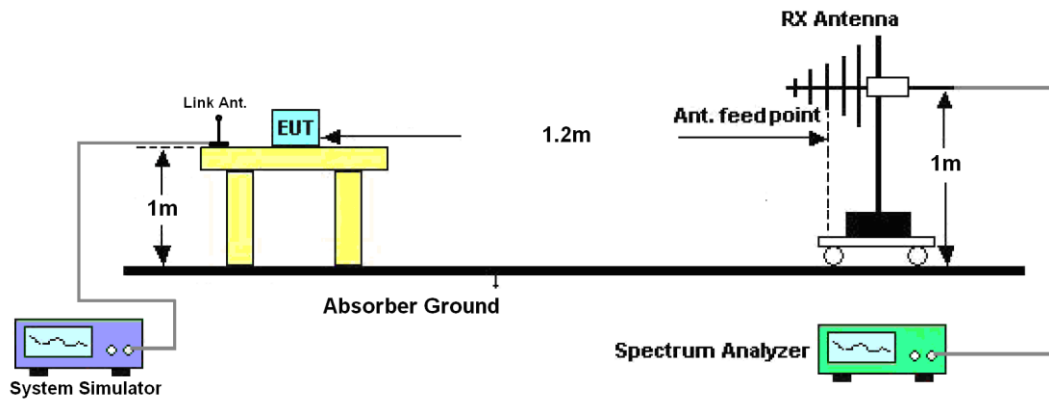
3.1.2 Measuring Instruments

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. $ERP/EIRP = P_s + E_t - E_s + G_s = P_s + R_t - R_s + G_s$
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	-16.00	-48.12	0.00	-1.08	31.04	1.27
836.40	-17.00	-48.28	0.00	-0.93	30.35	1.08
848.80	-18.36	-48.35	0.00	-0.76	29.23	0.84
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-19.59	-47.97	0.00	-1.08	27.30	0.54
836.40	-20.69	-48.01	0.00	-0.93	26.39	0.44
848.80	-21.39	-48.05	0.00	-0.76	25.90	0.39

GSM850 (EDGE 8) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-20.89	-48.12	0.00	-1.08	26.15	0.41
836.40	-22.11	-48.28	0.00	-0.93	25.24	0.33
848.80	-23.11	-48.35	0.00	-0.76	24.48	0.28
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.20	-24.92	-47.97	0.00	-1.08	21.97	0.16
836.40	-25.78	-48.01	0.00	-0.93	21.30	0.13
848.80	-26.32	-48.05	0.00	-0.76	20.97	0.13



WCDMA Band V (RMC 12.2Kbps) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
826.40	-23.07	-48.12	0.00	-1.08	23.97	0.25
836.40	-24.13	-48.28	0.00	-0.93	23.22	0.21
846.60	-25.11	-48.35	0.00	-0.76	22.48	0.18
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
826.40	-26.84	-47.97	0.00	-1.08	20.05	0.10
836.40	-27.76	-48.01	0.00	-0.93	19.32	0.09
846.60	-28.41	-48.05	0.00	-0.76	18.88	0.08

CDMA2000 Cellular (1xRTT) Radiated Power ERP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.70	-25.32	-48.12	0.00	-1.08	21.72	0.15
836.52	-24.64	-48.28	0.00	-0.93	22.71	0.19
848.31	-25.60	-48.35	0.00	-0.76	21.99	0.16
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	ERP (dBm)	ERP (W)
824.70	-28.49	-47.97	0.00	-1.08	18.40	0.07
836.52	-27.88	-48.01	0.00	-0.93	19.20	0.08
848.31	-28.82	-48.05	0.00	-0.76	18.47	0.07



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	-24.23	-51.88	0.00	1.96	29.61	0.91
1880.00	-24.77	-52.99	0.00	2.00	30.22	1.05
1909.80	-27.91	-54.28	0.00	1.98	28.35	0.68
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-27.06	-52.13	0.00	1.96	27.03	0.50
1880.00	-28.78	-53.17	0.00	2.00	26.39	0.44
1909.80	-31.03	-54.13	0.00	1.98	25.08	0.32

GSM1900 (EDGE 8) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-27.04	-51.88	0.00	1.96	26.80	0.48
1880.00	-27.36	-52.99	0.00	2.00	27.63	0.58
1909.80	-30.89	-54.28	0.00	1.98	25.37	0.34
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1850.20	-30.09	-52.13	0.00	1.96	24.00	0.25
1880.00	-31.54	-53.17	0.00	2.00	23.63	0.23
1909.80	-33.94	-54.13	0.00	1.98	22.17	0.16



WCDMA Band II (RMC 12.2Kbps) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1852.40	-29.03	-51.88	0.00	1.96	24.81	0.30
1880.00	-29.30	-52.99	0.00	2.00	25.69	0.37
1907.60	-31.42	-54.28	0.00	1.98	24.84	0.30
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1852.40	-31.66	-52.13	0.00	1.96	22.43	0.17
1880.00	-33.41	-53.17	0.00	2.00	21.76	0.15
1907.60	-34.37	-54.13	0.00	1.98	21.74	0.15

CDMA2000 PCS (1xRTT) Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1851.25	-28.69	-51.88	0.00	1.96	25.15	0.33
1880.00	-28.66	-52.99	0.00	2.00	26.33	0.43
1908.75	-30.45	-54.28	0.00	1.98	25.81	0.38
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBi)	EIRP (dBm)	EIRP (W)
1851.25	-31.70	-52.13	0.00	1.96	22.39	0.17
1880.00	-32.13	-53.17	0.00	2.00	23.04	0.20
1908.75	-33.69	-54.13	0.00	1.98	22.42	0.17



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.

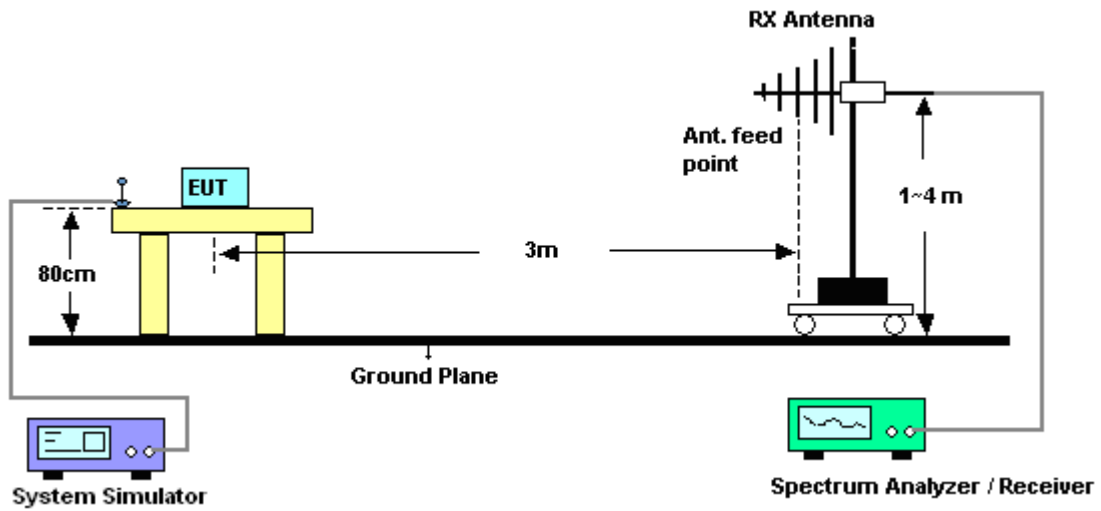
3.2.2 Measuring Instruments

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. $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
11. $ERP \text{ (dBm)} = EIRP - 2.15$

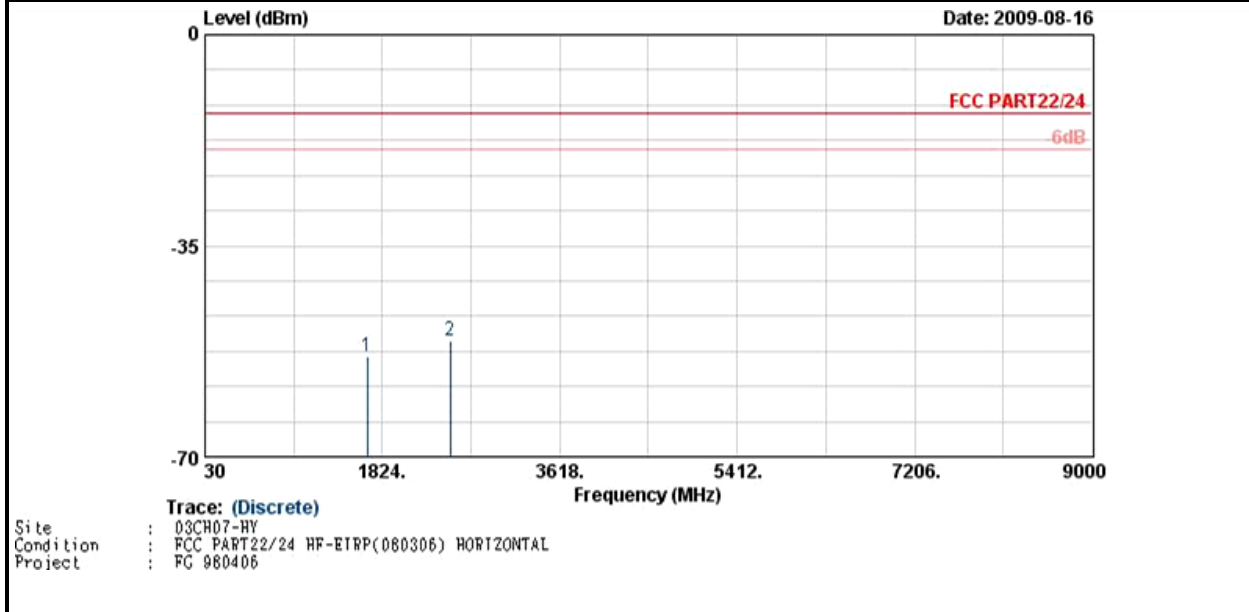
3.2.4 Test Setup





3.2.5 Test Result of Field Strength of Spurious Radiated

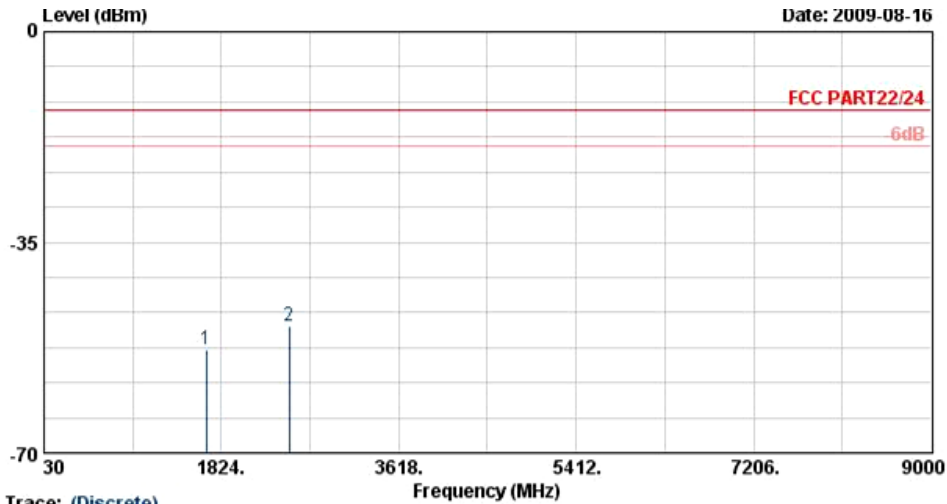
Band :	GSM850	Temperature :	25~26°C
Test Mode :	GPRS 8 Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-53.24	-13	-40.24	-59.01	-53.09	3.39	5.39	H	Pass
2509	-50.69	-13	-37.69	-60.83	-50.95	3.71	6.12	H	Pass



Band :	GSM850	Temperature :	25~26°C
Test Mode :	GPRS 8 Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

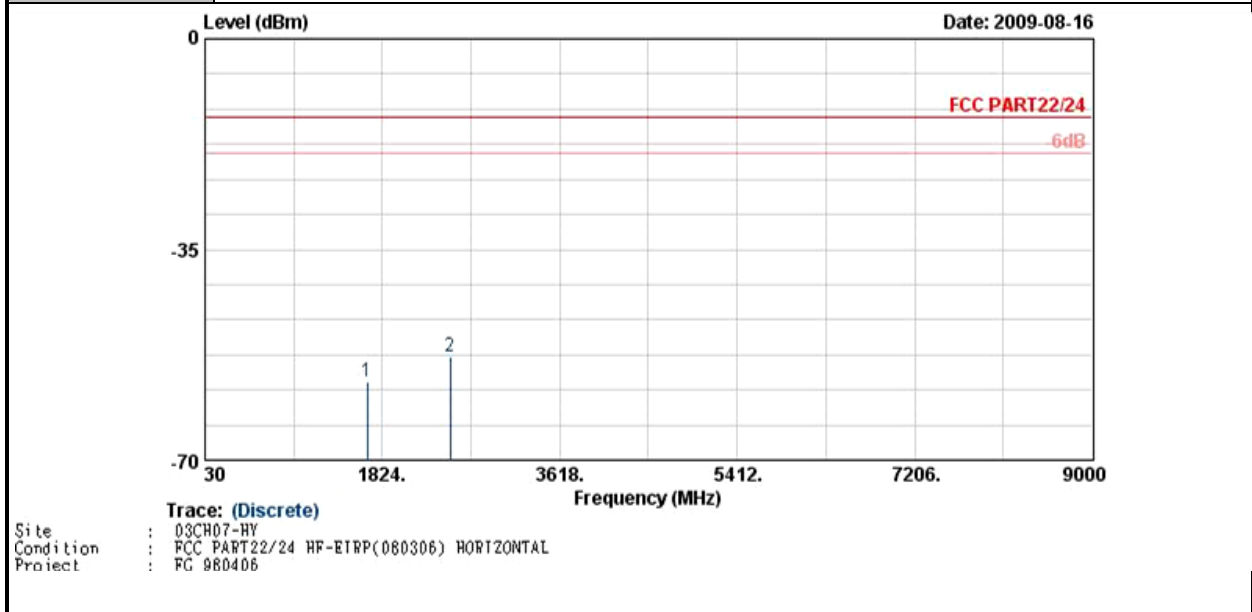


Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-ETRP(080306) VERTICAL
 Project : FG 980406

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	-52.76	-13	-39.76	-60.68	-52.61	3.39	5.39	V	Pass
2509	-48.94	-13	-35.94	-59.53	-49.20	3.71	6.12	V	Pass



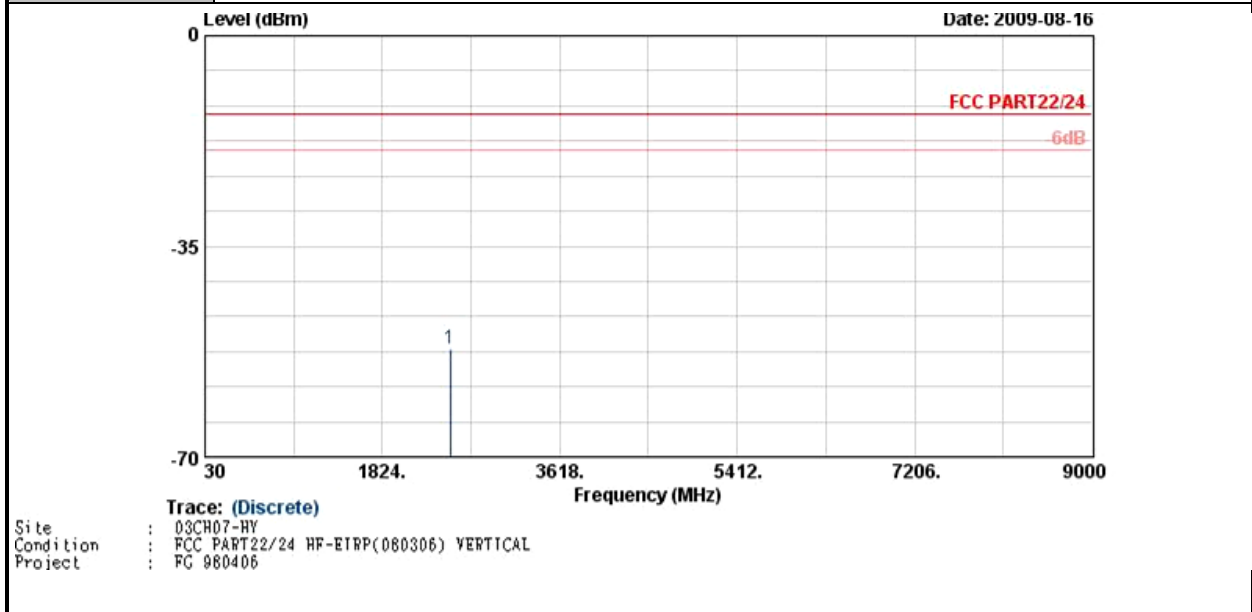
Band :	GSM850	Temperature :	25~26°C
Test Mode :	EDGE 8 Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-57.09	-13	-44.09	-61.39	-56.94	3.39	5.39	H	Pass
2509	-52.78	-13	-39.78	-62.92	-53.04	3.71	6.12	H	Pass



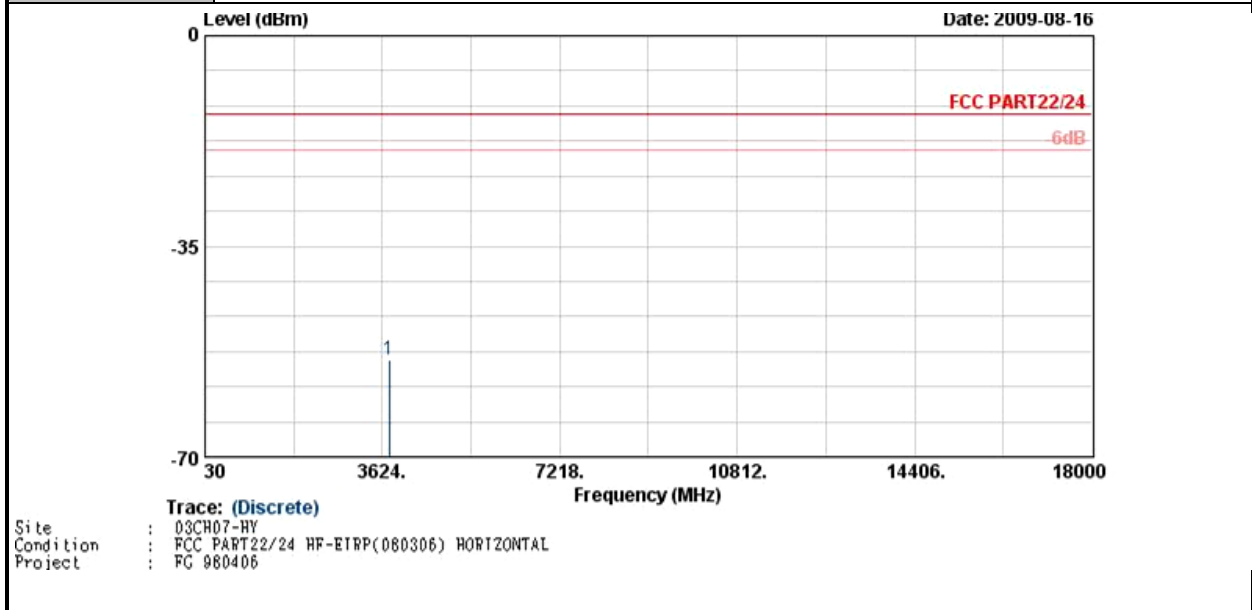
Band :	GSM850	Temperature :	25~26°C
Test Mode :	EDGE 8 Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-51.97	-13	-38.97	-62.56	-52.23	3.71	6.12	V	Pass



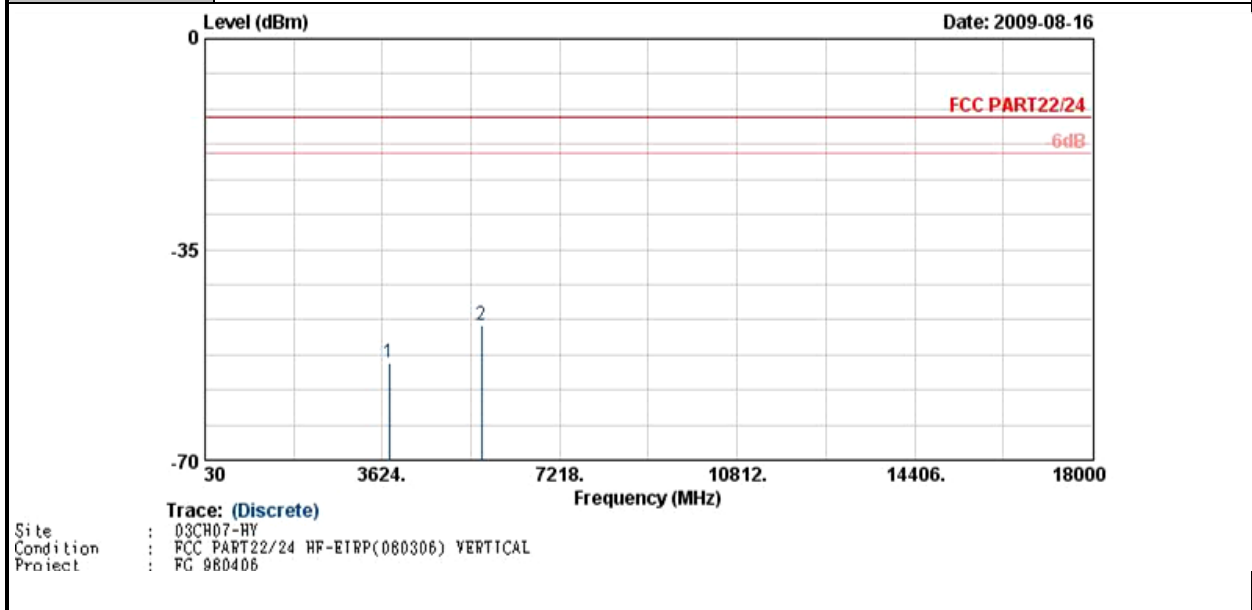
Band :	GSM1900	Temperature :	25~26°C
Test Mode :	GPRS 8 Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-53.93	-13	-40.93	-64.13	-56.45	4.88	7.40	H	Pass



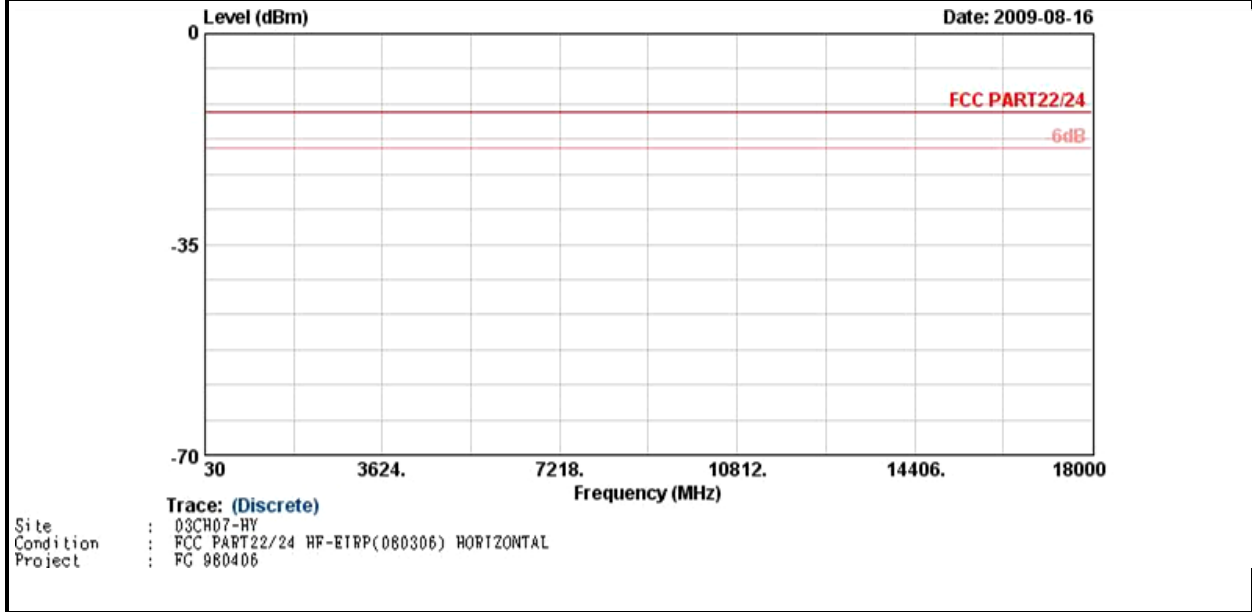
Band :	GSM1900	Temperature :	25~26°C
Test Mode :	GPRS 8 Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-53.76	-13	-40.76	-64.15	-56.79	4.88	7.91	V	Pass
5636	-47.65	-13	-34.65	-65.57	-51.87	5.55	9.77	V	Pass

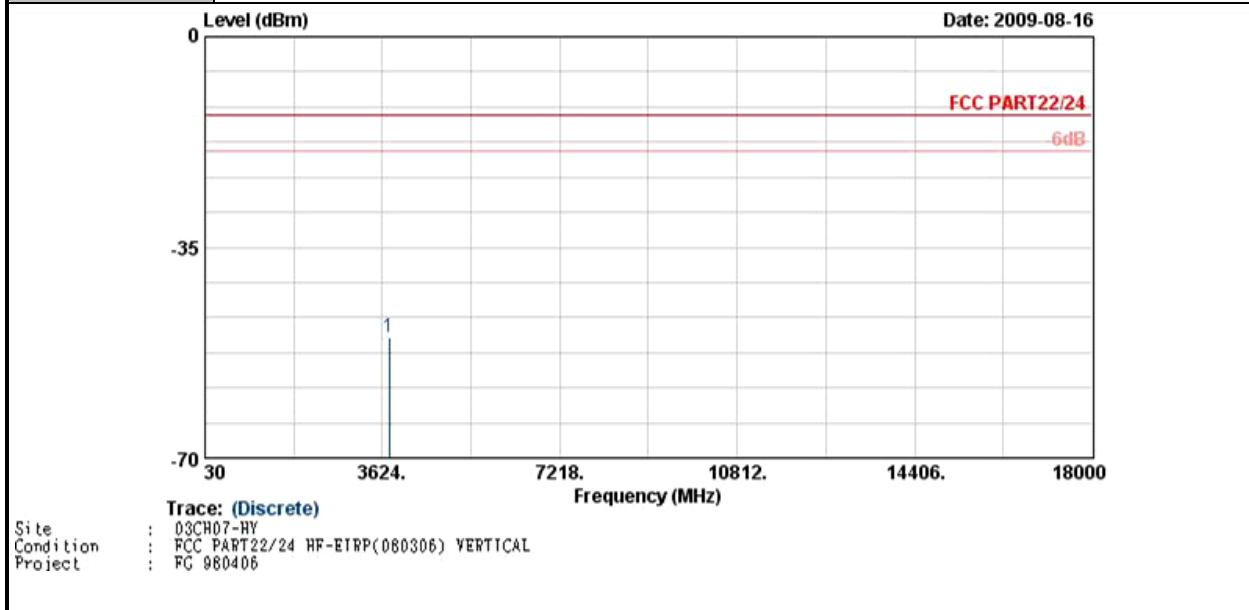


Band :	GSM1900	Temperature :	25~26°C
Test Mode :	EDGE 8 Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line. Spurious emissions within 1000MHz ~ 10th harmonic were not found any signals.		





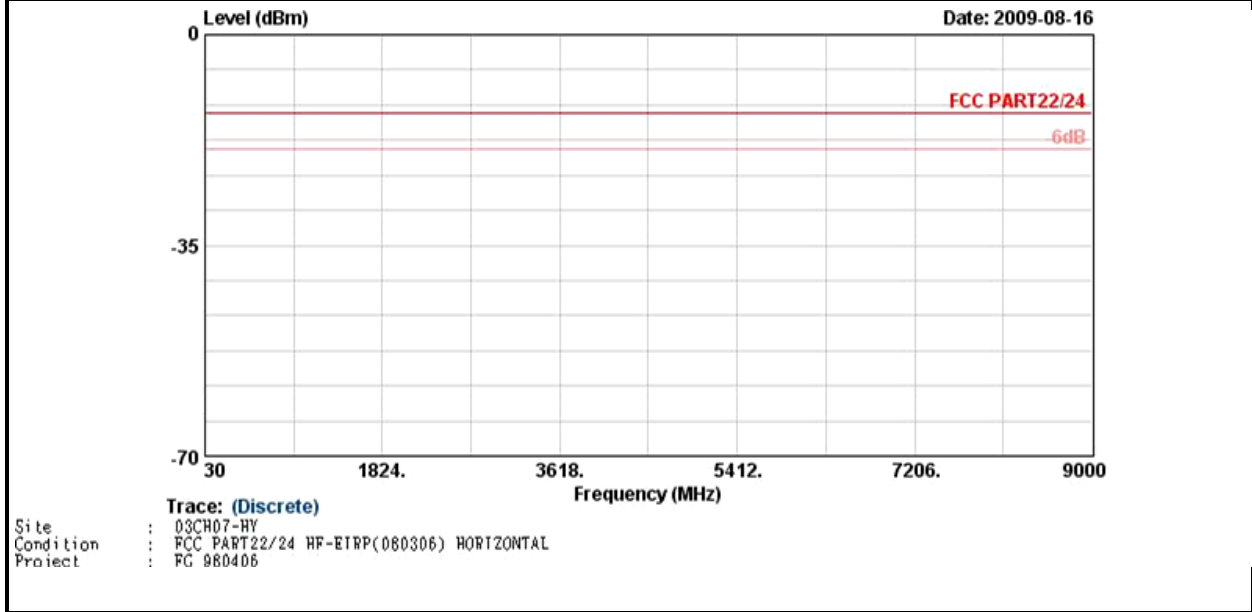
Band :	GSM1900	Temperature :	25~26°C
Test Mode :	EDGE 8 Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-49.95	-13	-36.95	-63.93	-52.98	4.88	7.91	V	Pass

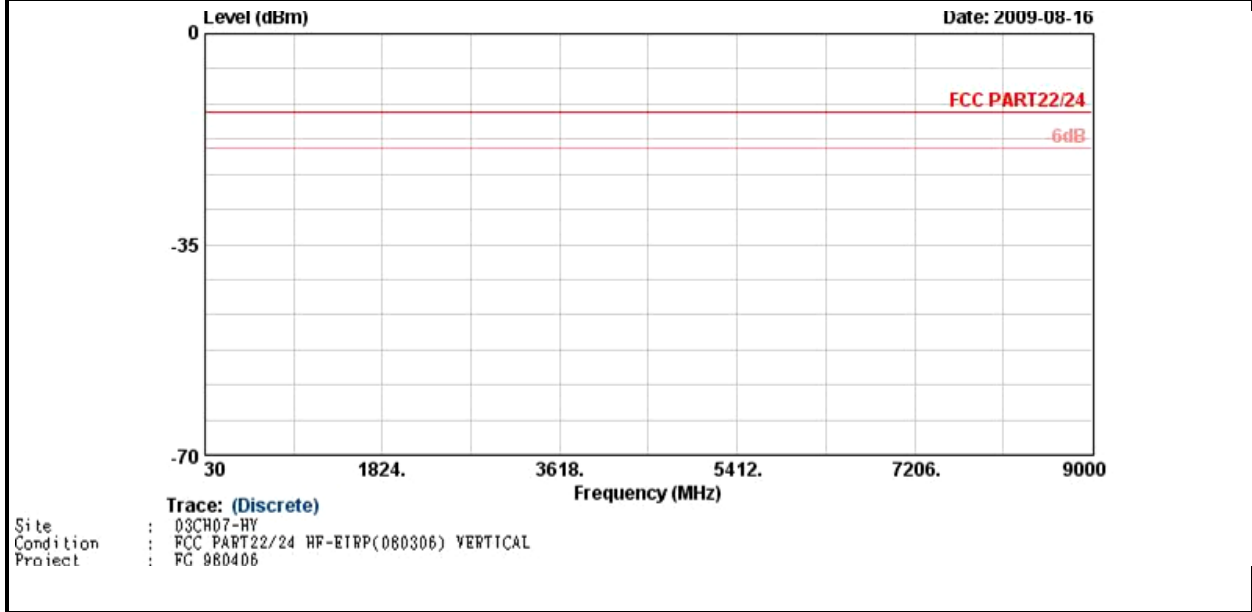


Band :	WCDMA Band V	Temperature :	25~26°C
Test Mode :	RMC 12.2Kbps Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line. Spurious emissions within 1000MHz ~ 10th harmonic were not found any signals.		



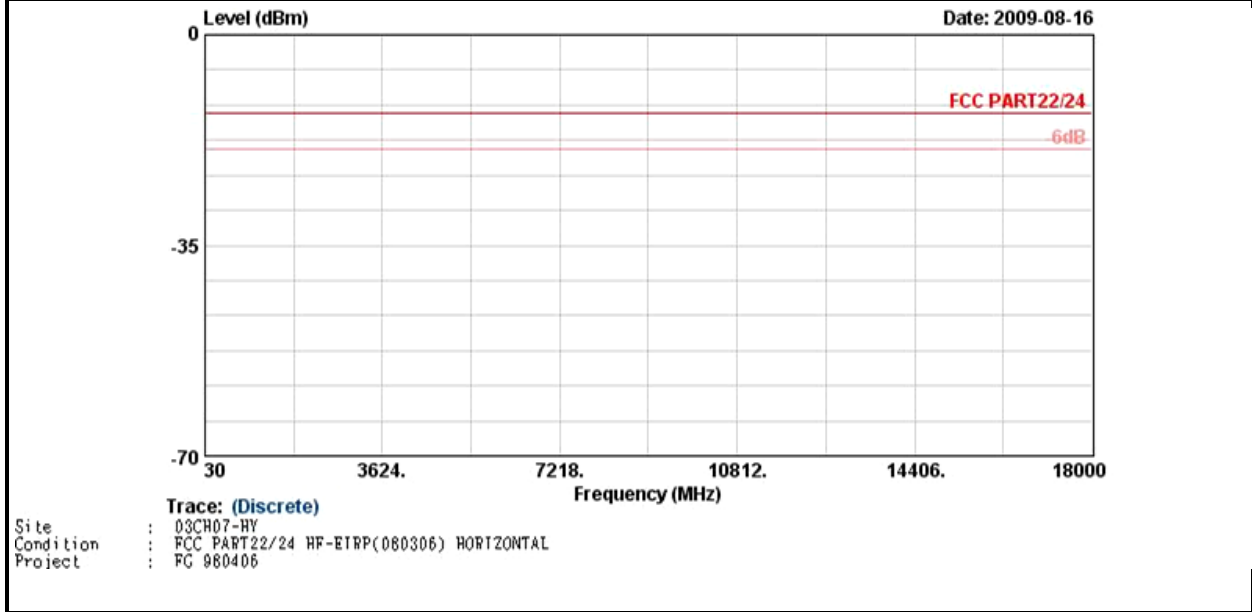


Band :	WCDMA Band V	Temperature :	25~26°C
Test Mode :	RMC 12.2Kbps Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line. Spurious emissions within 1000MHz ~ 10th harmonic were not found any signals.		



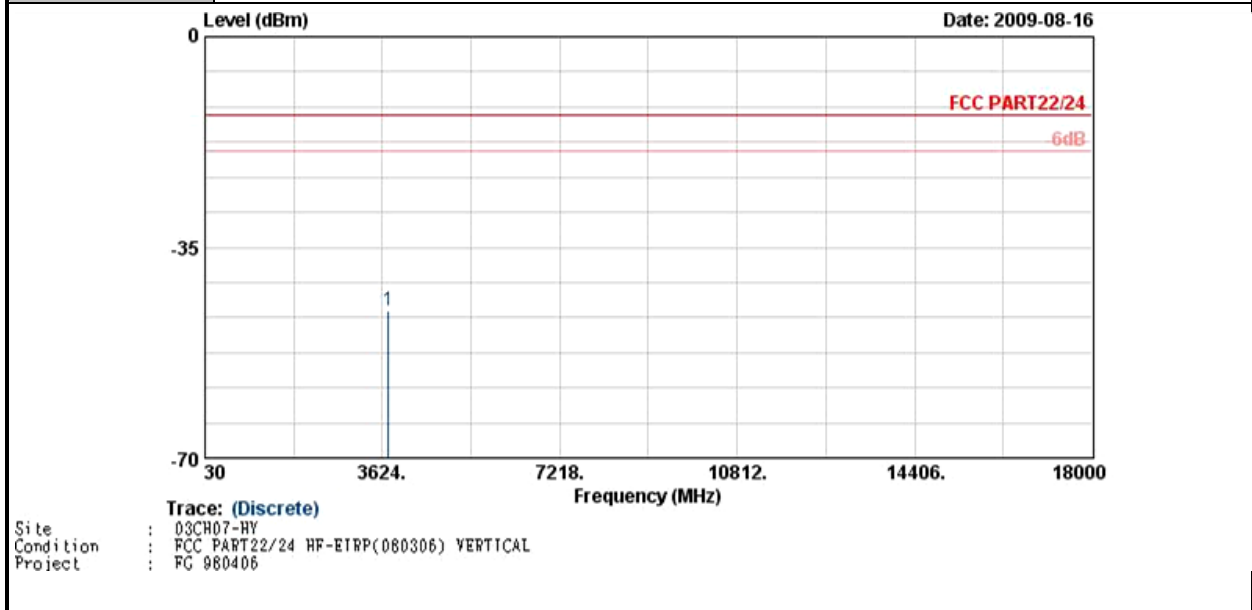


Band :	WCDMA Band II	Temperature :	25~26°C
Test Mode :	RMC 12.2Kbps Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line. Spurious emissions within 1000MHz ~ 10th harmonic were not found any signals.		





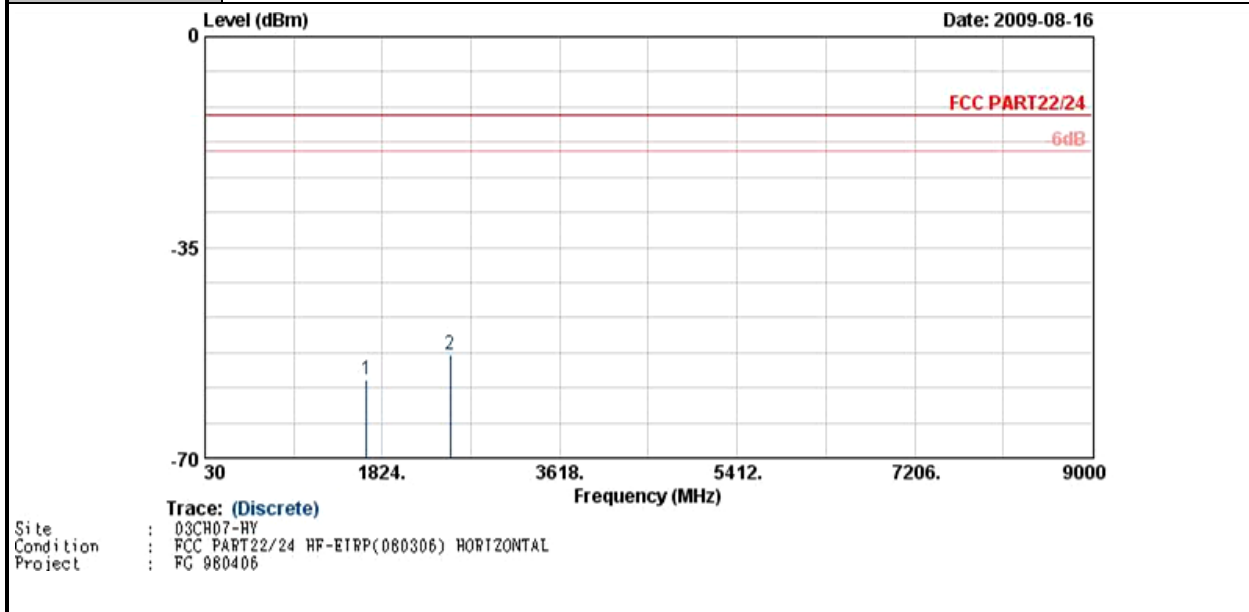
Band :	WCDMA Band II	Temperature :	25~26°C
Test Mode :	RMC 12.2Kbps Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-45.46	-13	-32.46	-60.91	-48.49	4.88	7.91	V	Pass



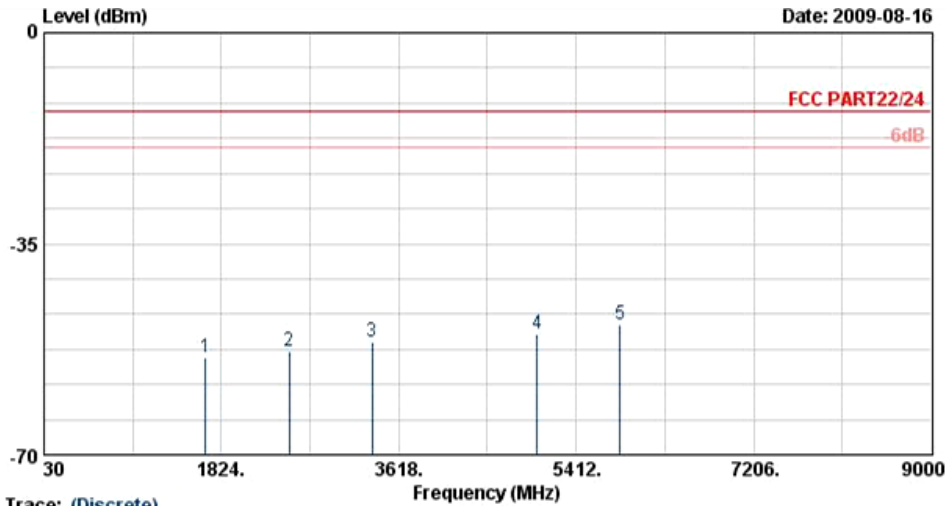
Band :	CDMA2000 Cellular	Temperature :	25~26°C
Test Mode :	1xRTT Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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
1666	-56.89	-13	-43.89	-61.19	-56.74	3.39	5.39	H	Pass
2506	-52.78	-13	-39.78	-62.92	-53.04	3.71	6.12	H	Pass



Band :	CDMA2000 Cellular	Temperature :	25~26°C
Test Mode :	1xRTT Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

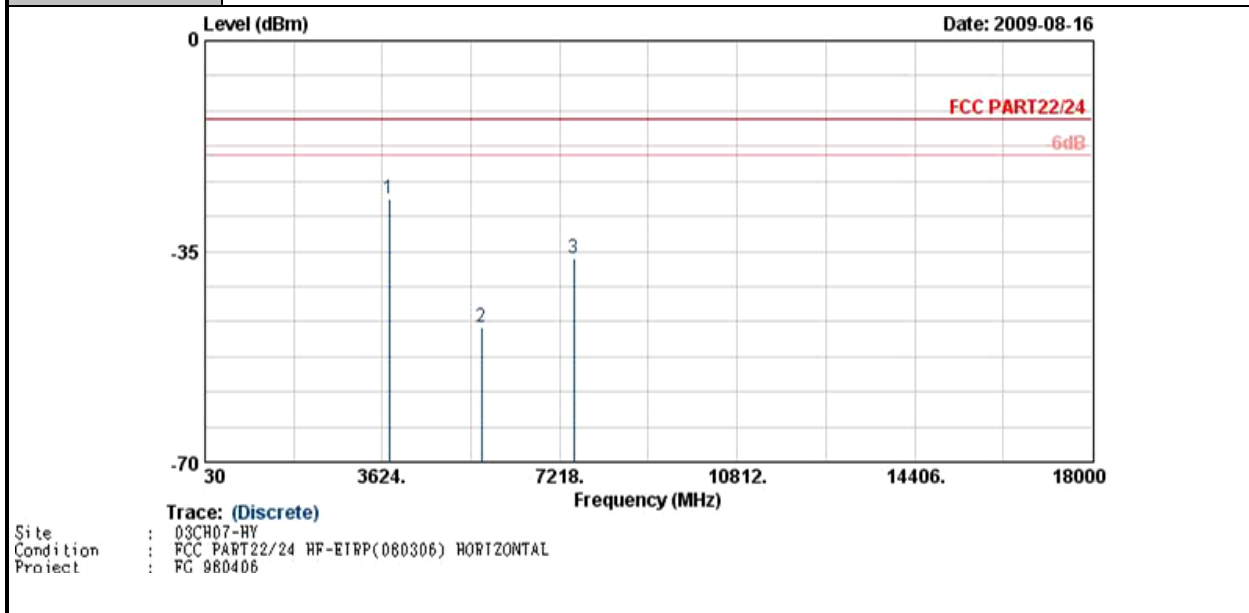


Site : D3CH07-HY
 Condition : FCC PART22/24 HF-ETRP(080306) VERTICAL
 Project : FG 980406

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
1666	-53.81	-13	-40.81	-61.73	-53.66	3.39	5.39	V	Pass
2509	-52.81	-13	-39.81	-63.40	-53.07	3.71	6.12	V	Pass
3346	-51.18	-13	-38.18	-63.62	-53.90	3.13	8.00	V	Pass
5015	-50.08	-13	-37.08	-64.99	-55.05	2.61	9.73	V	Pass
5855	-48.34	-13	-35.34	-66.51	-52.21	4.38	10.40	V	Pass



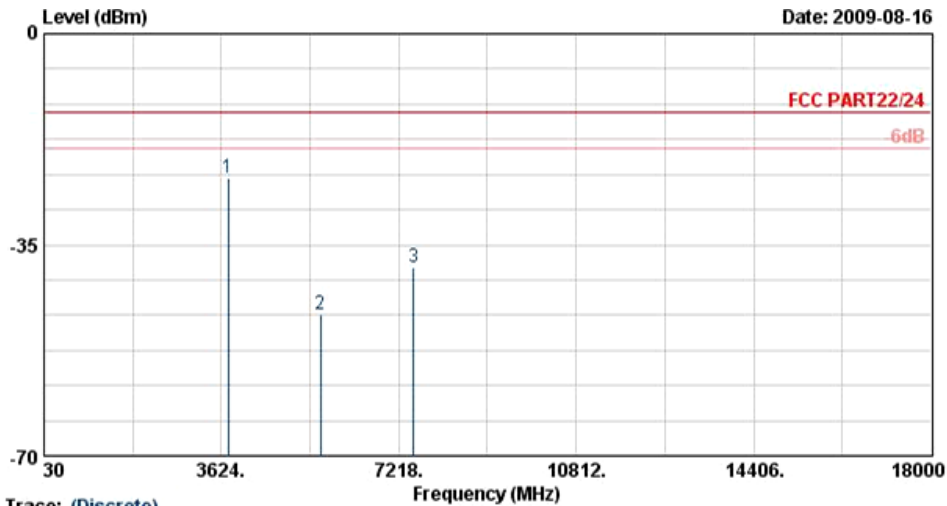
Band :	CDMA2000 PCS	Temperature :	25~26°C
Test Mode :	1xRTT Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-26.36	-13	-13.36	-41.29	-28.88	4.88	7.40	H	Pass
5636	-47.69	-13	-34.69	-65.14	-50.95	5.55	8.81	H	Pass
7520	-36.14	-13	-23.14	-62.55	-39.21	6.64	9.71	H	Pass



Band :	CDMA2000 PCS	Temperature :	25~26°C
Test Mode :	1xRTT Link	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

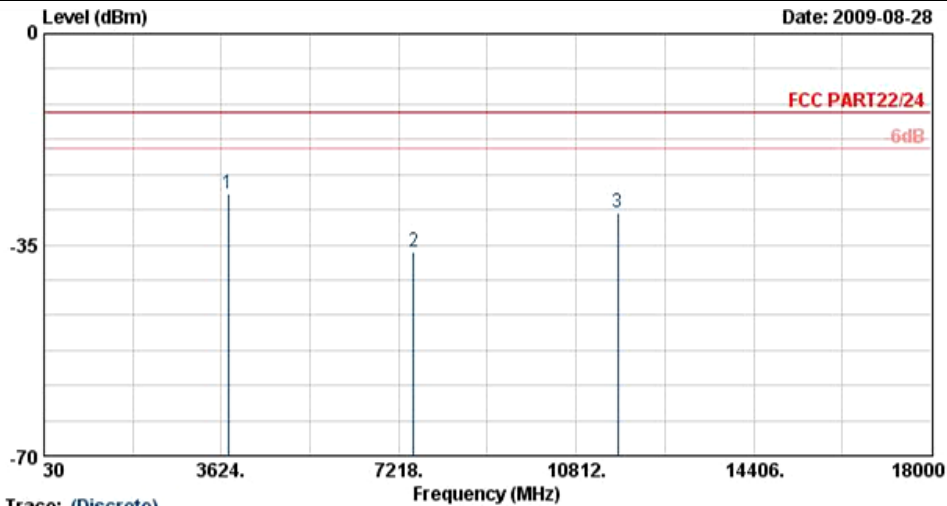


Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-ETRP(080306) VERTICAL
 Project : FG 980406

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	-24.05	-13	-11.05	-42.24	-27.08	4.88	7.91	V	Pass
5636	-46.66	-13	-33.66	-64.87	-50.88	5.55	9.77	V	Pass
7520	-38.87	-13	-25.87	-60.88	-43.04	6.64	10.81	V	Pass



Band :	GSM1900	Temperature :	25~26°C
Test Mode :	1xRTT Link + 802.11a_BW 20MHz Tx CH165	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

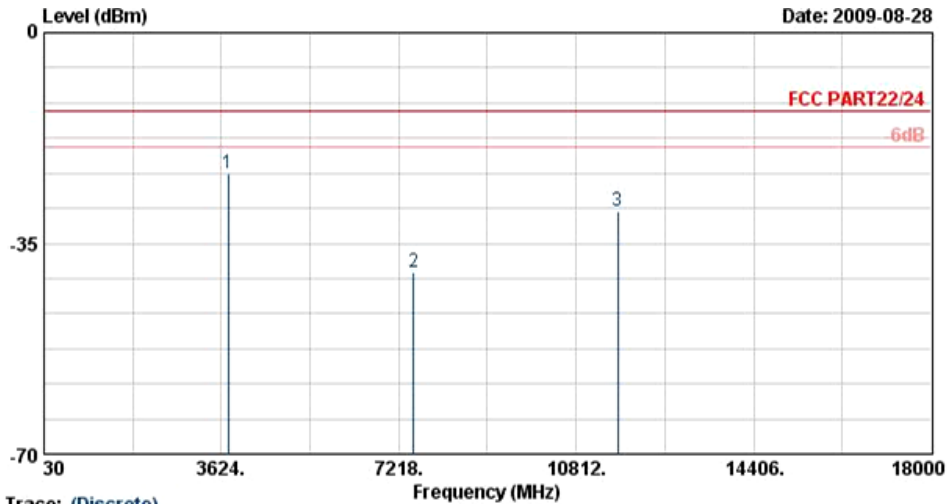


Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-ETRP(080306) HORIZONTAL
 Project : FG 980406

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	-26.65	-13	-13.65	-41.58	-29.17	4.88	7.40	H	Pass
7520	-36.17	-13	-23.17	-62.58	-39.24	6.64	9.71	H	Pass
11648	-29.54	-13	-16.54	-58.73	-29.58	11.33	11.37	H	Pass



Band :	GSM1900	Temperature :	25~26°C
Test Mode :	1xRTT Link + 802.11a_BW 20MHz Tx CH165	Relative Humidity :	41~42%
Test Engineer :	Kay Wang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART22/24 HF-ETRP(080306) VERTICAL
 Project : FG 980406

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	-23.35	-13	-10.35	-41.54	-26.38	4.88	7.91	V	Pass
7520	-39.94	-13	-26.94	-61.41	-44.11	6.64	10.81	V	Pass
11648	-29.72	-13	-16.72	-57.91	-33.85	7.23	11.36	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	00066584	1G~18GHz	Aug. 05, 2009	Aug. 04. 2010	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. 05, 2009	Aug. 04. 2010	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz~30 MHz	May 22, 2008	May 21, 2010	Radiation (03CH07-HY)
SHF-EHF Horn	SCHWARZBECK	BBHA 9170	BBHA9170251	15G~40GHz	Oct. 16, 2008	Oct. 15, 2009	Radiation (03CH07-HY)
System Simulator	R&S	CMU200	117997	N/A	May 14, 2009	May 13, 2011	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		$u(x_i)$	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 = $20 \log(1 - \Gamma_1 * \Gamma_2)$	+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. : L1190-100316

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, 2010 to January 09, 2013
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 Arrangement with Foreign Authorities


Jay-San Chen
President, Taiwan Accreditation Foundation
Date : March 16, 2010

P1, total 21 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 EP980406-03 as below.