Partial FCC RF Test Report

APPLICANT	:	Nokia Corporation
EQUIPMENT	:	Internet Stick
BRAND NAME	:	Nokia
MODEL NAME	:	CS-12
TYPE DESIGNATION	:	RD-12
MARKETING NAME	:	Nokia Internet Stick CS-12
FCC ID	:	PYARD-12
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

This is a partial report which only contains conducted power and radiated emission test results. The product was received on Dec. 25, 2009 and completely tested on Mar. 12, 2010. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI / TIA / EIA-603-C-2004 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

Testing Laboratory 1190

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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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG9D2521	Rev. 01	Initial issue of report	Jan. 21, 2010
FG9D2521	Rev. 02	Add ERP/EIRP and RSE test data and update SW Version	Jan. 27, 2010
FG9D2521	Rev. 03	Add IMEI code	Feb. 02, 2010
FG9D2521	Rev. 04	Revise Model Name/Marketing Name and add Type Designation	Feb. 11, 2010
FG9D2521	Rev. 05	Remove EPR/EIRP test data	Feb. 12, 2010
FG9D2521	Rev. 06	Update RSE test data	Mar. 12, 2010

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	§2.1046	N/A	Conducted Output Power	N/A	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	Under limit 19.62 dB at 12951.40 MHz

1 General Description

1.1 Applicant

Nokia Corporation
Joensuunkatu 7 E
FIN-24100 SALO
FINLAND

1.2 Manufacturer

Nokia Corporation
Joensuunkatu 7 E
FIN-24100 SALO
FINLAND

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Internet Stick
Brand Name	Nokia
Model Name	CS-12
Type Designation	RD-12
Marketing Name	Nokia Internet Stick CS-12
FCC ID	PYARD-12
IMEI Code	004401109969598
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
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
Maximum Output Power to Antenna	GSM850 : 28.32 dBm GSM1900 : 24.80 dBm WCDMA Band V : 20.20 dBm WCDMA Band II : 20.39 dBm
Antenna Type	Fixed Internal Antenna
HW Version	1.7
SW Version	2.10
ME Version	3.0
Type of Modulation	GSM / GPRS : GMSK EDGE : 8PSK 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).

List of Accessory:

Specification of Accessory		
USB Cable	**Brand Name**	Nokia
	Model Name	CA-175D
	Signal Line Type	0.22 meter shielded cable without ferrite core

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. For accessories equipped with this EUT, please refer to the appendix of the external photo.

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.**
	TH02-HY	03CH07-HY	TW1022/4086B-1

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958
Test Site No.	**Sporton Site No. :** 03CH01-KS

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 / 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.	Notebook	DELL	Vostro 1510	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Notebook	DELL	MS2177	QDS-BRCM1016	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.

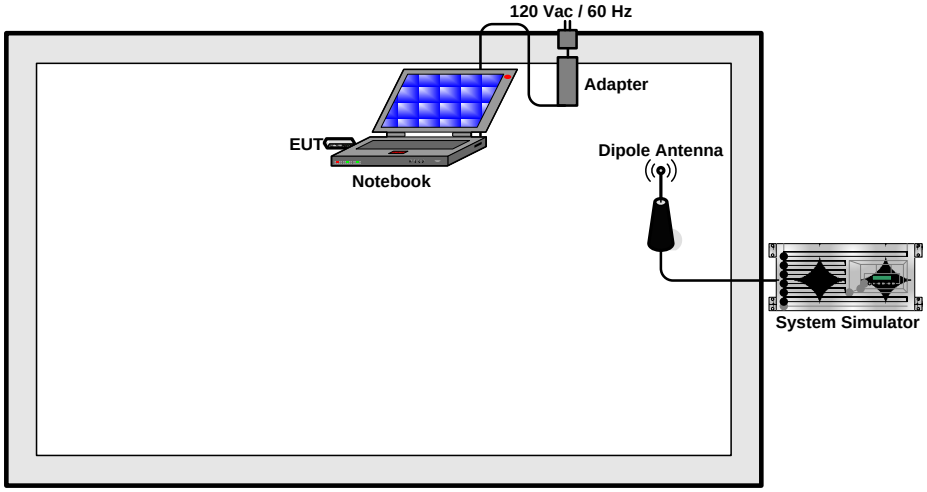
Frequency range investigated for radiated emission is as follows:

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

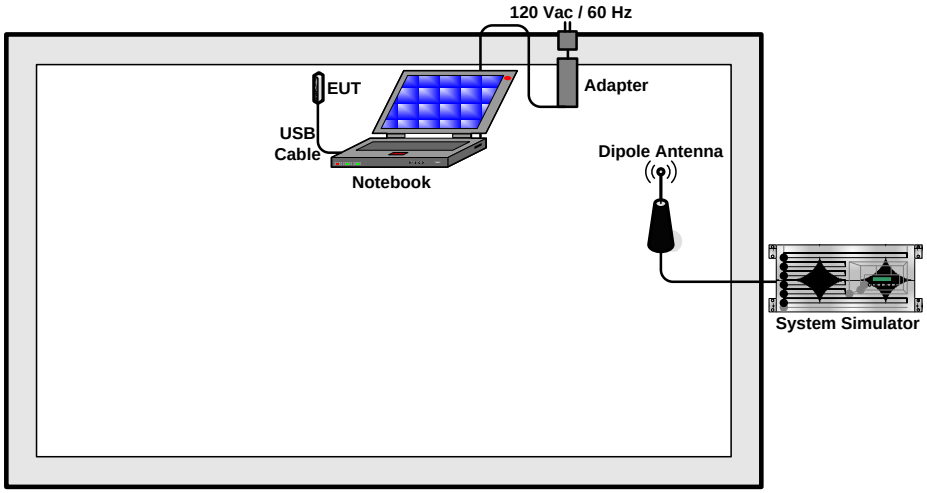
Test Modes	
Band	**Radiated TCs**
GSM 850	■ GPRS 8 Link with USB Cable ■ EDGE 8 Link with USB Cable ■ EDGE 8 Link without USB Cable
GSM 1900	■ GPRS 8 Link with USB Cable ■ EDGE 8 Link with USB Cable ■ GPRS 8 Link without USB Cable
WCDMA Band V	■ RMC 12.2Kbps Link with USB Cable
WCDMA Band II	■ RMC 12.2Kbps Link with USB Cable

2.2 Connection Diagram of Test System

<EUT without USB Cable (Link with Notebook) Mode>



<EUT with USB Cable (Link with Notebook) Mode>



3 Test Result

3.1 Conducted Output Power Measurement

3.1.1 Description of the Conducted Output Power Measurement

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals shall be reported.

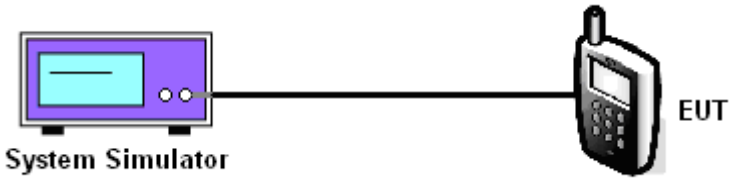
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The transmitter output port was connected to base station.
2. Set EUT at maximum power through base station.
3. Select lowest, middle, and highest channels for each band and different modulation.

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

Cellular Band				
Modes	**Channel**	**Frequency (MHz)**	**Conducted Power (dBm)**	**Conducted Power (Watts)**
GSM850 (GPRS 8)	128 (Low)	824.2	28.77	0.753
	189 (Mid)	836.4	28.83	0.764
	251 (High)	848.8	28.89	0.774
GSM850 (GPRS 10)	128 (Low)	824.2	25.88	0.387
	189 (Mid)	836.4	25.88	0.387
	251 (High)	848.8	25.95	0.394
GSM850 (GPRS 12)	128 (Low)	824.2	22.87	0.194
	189 (Mid)	836.4	23.04	0.201
	251 (High)	848.8	22.97	0.198
GSM850 (EDGE 8)	128 (Low)	824.2	25.97	0.395
	189 (Mid)	836.4	25.93	0.392
	251 (High)	848.8	25.86	0.385
GSM850 (EDGE 10)	128 (Low)	824.2	23.89	0.245
	189 (Mid)	836.4	23.81	0.240
	251 (High)	848.8	23.75	0.237
GSM850 (EDGE 12)	128 (Low)	824.2	20.94	0.124
	189 (Mid)	836.4	20.92	0.124
	251 (High)	848.8	20.88	0.122

Cellular Band				
Modes	**Channel**	**Frequency (MHz)**	**Conducted Power (dBm)**	**Conducted Power (Watts)**
WCDMA Band V (RMC 12.2K)	4132 (Low)	826.4	19.89	0.097
	4182 (Mid)	836.4	19.93	0.098
	4233 (High)	846.6	20.02	0.100
WCDMA Band V (HSDPA Subtest-1)	4132 (Low)	826.4	19.85	0.097
	4182 (Mid)	836.4	19.97	0.099
	4233 (High)	846.6	20.00	0.100
WCDMA Band V (HSDPA Subtest-2)	4132 (Low)	826.4	20.00	0.100
	4182 (Mid)	836.4	20.22	0.105
	4233 (High)	846.6	20.37	0.109
WCDMA Band V (HSDPA Subtest-3)	4132 (Low)	826.4	19.73	0.094
	4182 (Mid)	836.4	19.51	0.089
	4233 (High)	846.6	19.66	0.092
WCDMA Band V (HSDPA Subtest-4)	4132 (Low)	826.4	19.84	0.096
	4182 (Mid)	836.4	19.70	0.093
	4233 (High)	846.6	19.90	0.098
WCDMA Band V (HSUPA Subtest-1)	4132 (Low)	826.4	18.20	0.066
	4182 (Mid)	836.4	18.13	0.065
	4233 (High)	846.6	18.22	0.066
WCDMA Band V (HSUPA Subtest-2)	4132 (Low)	826.4	17.77	0.060
	4182 (Mid)	836.4	17.54	0.057
	4233 (High)	846.6	17.53	0.057
WCDMA Band V (HSUPA Subtest-3)	4132 (Low)	826.4	18.92	0.078
	4182 (Mid)	836.4	18.64	0.073
	4233 (High)	846.6	18.63	0.073
WCDMA Band V (HSUPA Subtest-4)	4132 (Low)	826.4	17.91	0.062
	4182 (Mid)	836.4	18.12	0.065
	4233 (High)	846.6	18.18	0.066
WCDMA Band V (HSUPA Subtest-5)	4132 (Low)	826.4	18.89	0.077
	4182 (Mid)	836.4	18.65	0.073
	4233 (High)	846.6	18.70	0.074

PCS Band				
Modes	**Channel**	**Frequency (MHz)**	**Conducted Power (dBm)**	**Conducted Power (Watts)**
GSM1900 (GPRS 8)	512 (Low)	1850.2	25.24	0.334
	661 (Mid)	1880.0	25.04	0.319
	810 (High)	1909.8	25.25	0.335
GSM1900 (GPRS 10)	512 (Low)	1850.2	22.44	0.175
	661 (Mid)	1880.0	22.51	0.178
	810 (High)	1909.8	22.80	0.191
GSM1900 (GPRS 12)	512 (Low)	1850.2	19.53	0.090
	661 (Mid)	1880.0	19.66	0.092
	810 (High)	1909.8	19.84	0.096
GSM1900 (EDGE 8)	512 (Low)	1850.2	24.79	0.301
	661 (Mid)	1880.0	24.79	0.301
	810 (High)	1909.8	24.70	0.295
GSM1900 (EDGE 10)	512 (Low)	1850.2	22.61	0.182
	661 (Mid)	1880.0	22.35	0.172
	810 (High)	1909.8	22.09	0.162
GSM1900 (EDGE 12)	512 (Low)	1850.2	19.24	0.084
	661 (Mid)	1880.0	19.16	0.082
	810 (High)	1909.8	18.72	0.074

PCS Band				
Modes	**Channel**	**Frequency (MHz)**	**Conducted Power (dBm)**	**Conducted Power (Watts)**
WCDMA Band II (RMC 12.2K)	9262 (Low)	1852.4	19.62	0.092
	9400 (Mid)	1880.0	19.81	0.096
	9538 (High)	1907.6	20.41	0.110
WCDMA Band II (HSDPA Subtest-1)	9262 (Low)	1852.4	19.52	0.090
	9400 (Mid)	1880.0	19.73	0.094
	9538 (High)	1907.6	20.43	0.110
WCDMA Band II (HSDPA Subtest-2)	9262 (Low)	1852.4	19.86	0.097
	9400 (Mid)	1880.0	19.80	0.095
	9538 (High)	1907.6	20.10	0.102
WCDMA Band II (HSDPA Subtest-3)	9262 (Low)	1852.4	19.24	0.084
	9400 (Mid)	1880.0	19.19	0.083
	9538 (High)	1907.6	19.51	0.089
WCDMA Band II (HSDPA Subtest-4)	9262 (Low)	1852.4	19.62	0.092
	9400 (Mid)	1880.0	19.20	0.083
	9538 (High)	1907.6	19.44	0.088
WCDMA Band II (HSUPA Subtest-1)	9262 (Low)	1852.4	18.24	0.067
	9400 (Mid)	1880.0	17.68	0.059
	9538 (High)	1907.6	17.86	0.061
WCDMA Band II (HSUPA Subtest-2)	9262 (Low)	1852.4	17.44	0.055
	9400 (Mid)	1880.0	17.34	0.054
	9538 (High)	1907.6	17.70	0.059
WCDMA Band II (HSUPA Subtest-3)	9262 (Low)	1852.4	18.59	0.072
	9400 (Mid)	1880.0	18.53	0.071
	9538 (High)	1907.6	18.18	0.066
WCDMA Band II (HSUPA Subtest-4)	9262 (Low)	1852.4	17.74	0.059
	9400 (Mid)	1880.0	17.74	0.059
	9538 (High)	1907.6	17.69	0.059
WCDMA Band II (HSUPA Subtest-5)	9262 (Low)	1852.4	18.64	0.073
	9400 (Mid)	1880.0	18.55	0.072
	9538 (High)	1907.6	18.40	0.069

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.

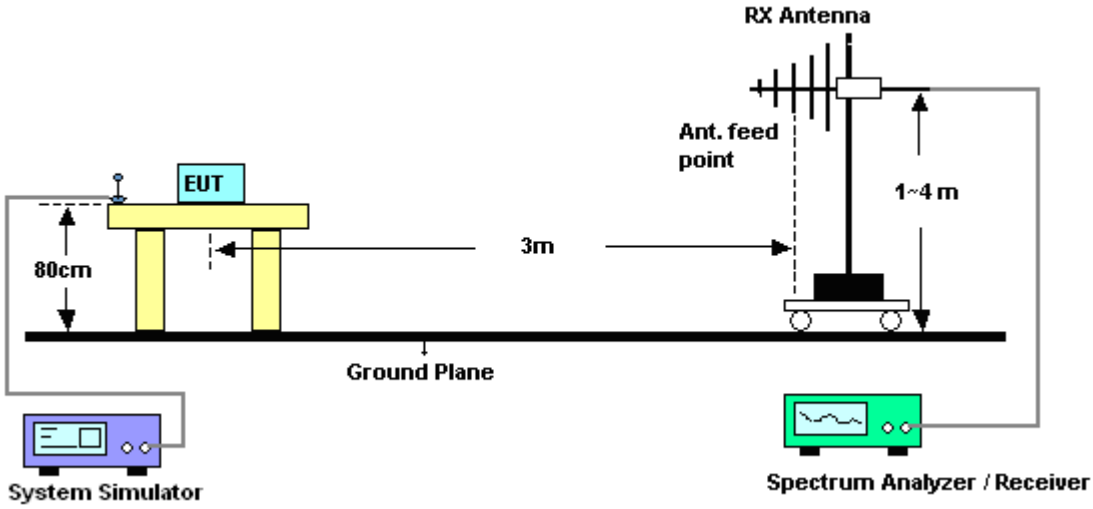
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

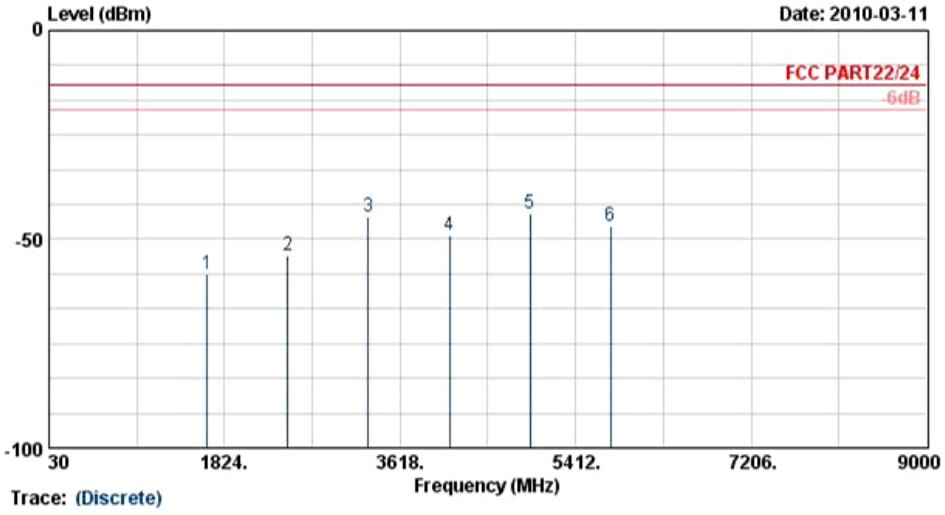
1. The EUT was placed on a rotatable wooden table with 0.8 meter about ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, Sweep = 500ms, 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 (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15

3.2.4 Test Setup



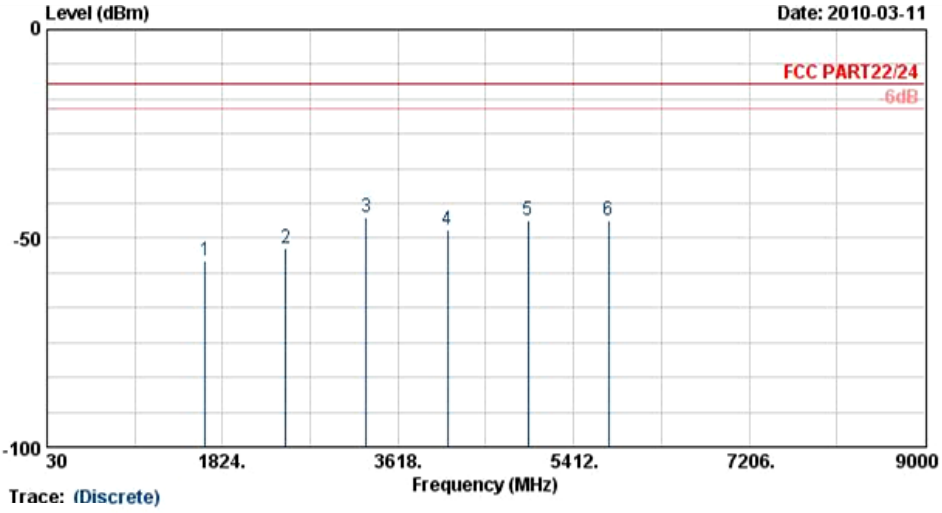
3.2.5 Test Result of Field Strength of Spurious Radiated

Band :	GSM850	**Temperature :**	22~24°C
Test Mode :	GPRS 8 Link_Channel 128 (With USB Cable)	**Relative Humidity :**	48~50%
Test Engineer :	Cona Huang	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



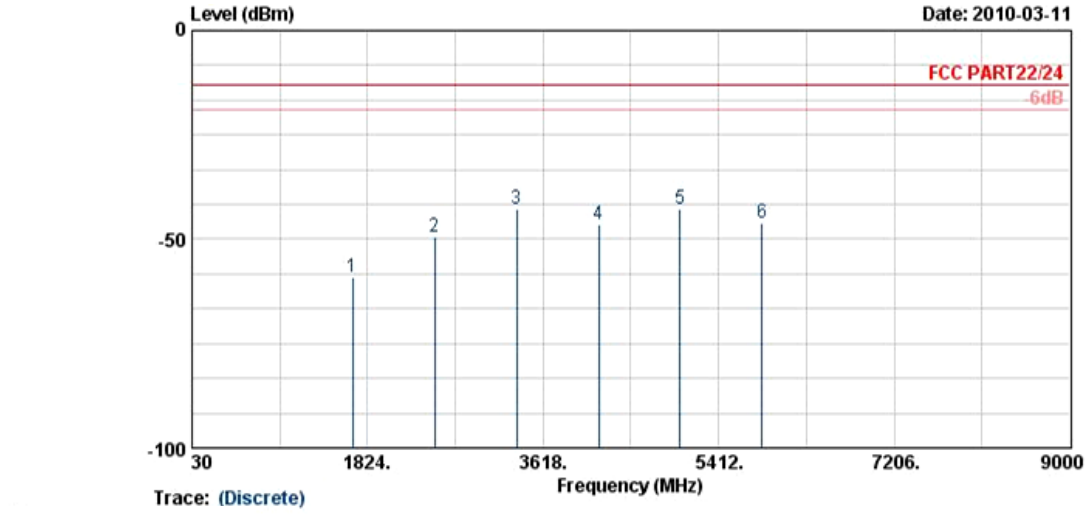
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1648.4	-58.19	-13	-45.19	-42.38	-58.37	3.1	5.43	H	Pass
2472.6	-53.88	-13	-40.88	-58.66	-53.87	3.89	6.03	H	Pass
3296.8	-44.44	-13	-31.44	-59.79	-46.00	4.16	7.87	H	Pass
4121	-48.95	-13	-35.95	-60.07	-50.92	4.88	9.00	H	Pass
4945.2	-43.70	-13	-30.70	-60.37	-46.09	5.09	9.63	H	Pass
5769.4	-46.91	-13	-33.91	-61.73	-49.62	5.54	10.40	H	Pass

Band :	GSM850	Temperature :	22~24°C
Test Mode :	GPRS 8 Link_Channel 128 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



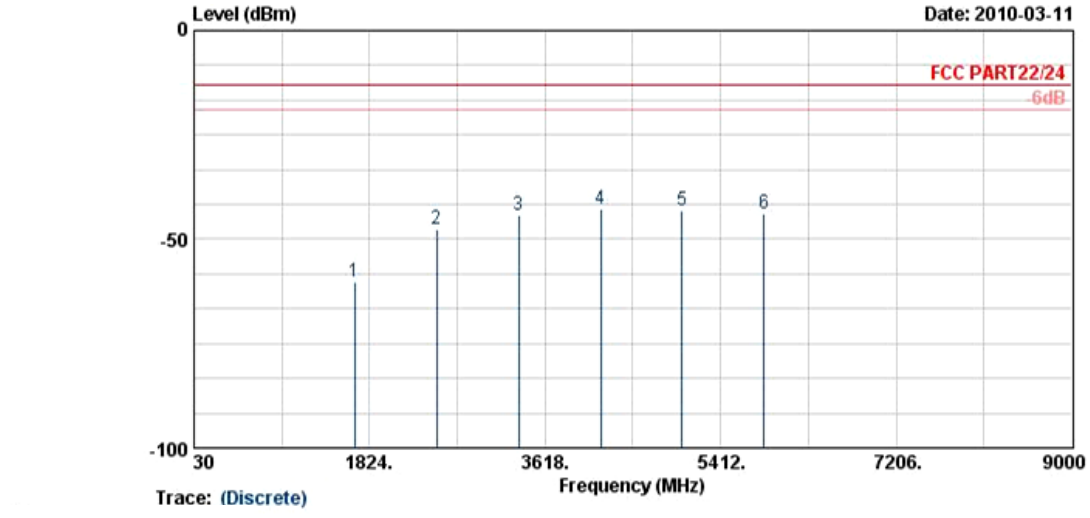
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1648.4	-55.53	-13	-42.53	-39.72	-55.71	3.1	5.43	V	Pass
2474	-52.35	-13	-39.35	-57.13	-52.34	3.89	6.03	V	Pass
3296.8	-44.82	-13	-31.82	-60.04	-46.38	4.16	7.87	V	Pass
4121	-48.02	-13	-35.02	-60.61	-49.99	4.88	9.00	V	Pass
4945.2	-45.85	-13	-32.85	-61.48	-48.24	5.09	9.63	V	Pass
5769.4	-45.67	-13	-32.67	-61.03	-48.38	5.54	10.40	V	Pass

Band :	GSM850	Temperature :	22~24°C
Test Mode :	GPRS 8 Link_Channel 189 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



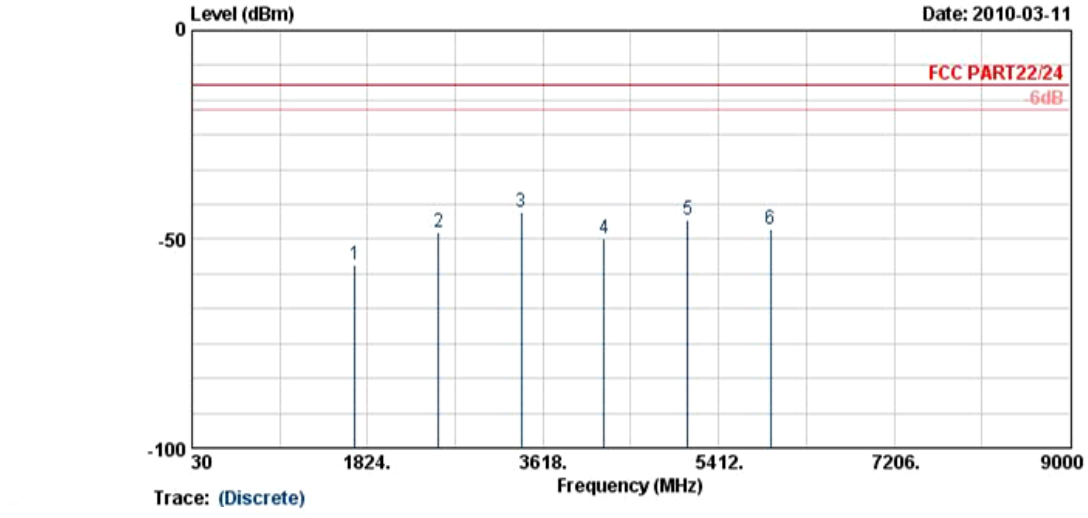
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1674	-59.14	-13	-46.14	-54.07	-58.99	3.39	5.39	H	Pass
2509.2	-49.37	-13	-36.37	-57.79	-49.63	3.71	6.12	H	Pass
3345.6	-42.81	-13	-29.81	-59.32	-45.53	3.13	8.00	H	Pass
4184	-46.47	-13	-33.47	-59.46	-50.31	3.01	9.00	H	Pass
5018.4	-42.89	-13	-29.89	-61.62	-47.86	2.61	9.73	H	Pass
5854.8	-46.07	-13	-33.07	-62.05	-49.94	4.38	10.40	H	Pass

Band :	GSM850	Temperature :	22~24°C
Test Mode :	GPRS 8 Link_Channel 189 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



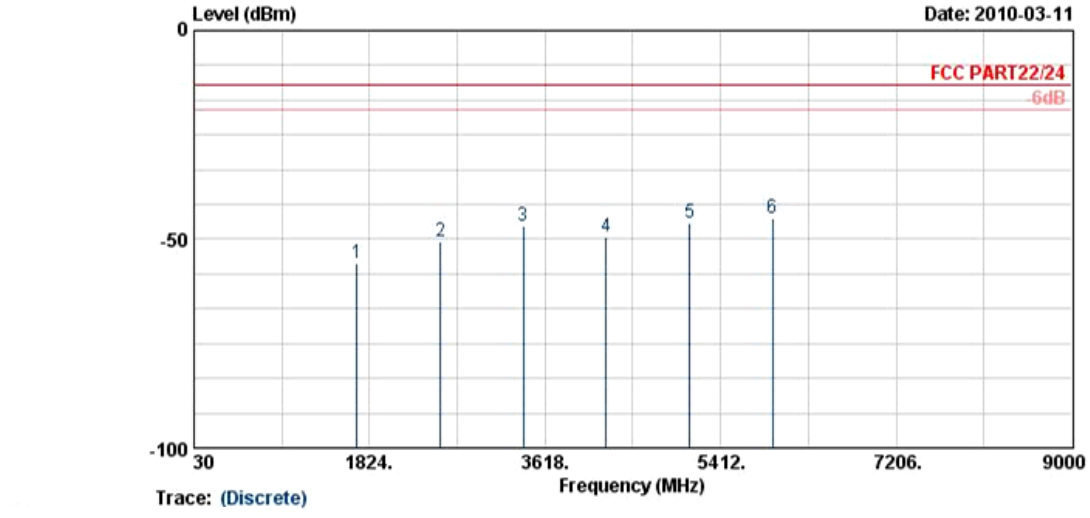
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1674	-60.37	-13	-47.37	-55.32	-60.22	3.39	5.39	V	Pass
2509.2	-47.76	-13	-34.76	-56.28	-48.02	3.71	6.12	V	Pass
3345.6	-44.22	-13	-31.22	-59.6	-46.94	3.13	8.00	V	Pass
4184	-42.88	-13	-29.88	-60.48	-46.72	3.01	9.00	V	Pass
5018.4	-43.15	-13	-30.15	-61.36	-48.12	2.61	9.73	V	Pass
5854.8	-43.72	-13	-30.72	-61.24	-47.59	4.38	10.40	V	Pass

Band :	GSM850	Temperature :	22~24°C
Test Mode :	GPRS 8 Link_Channel 251 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



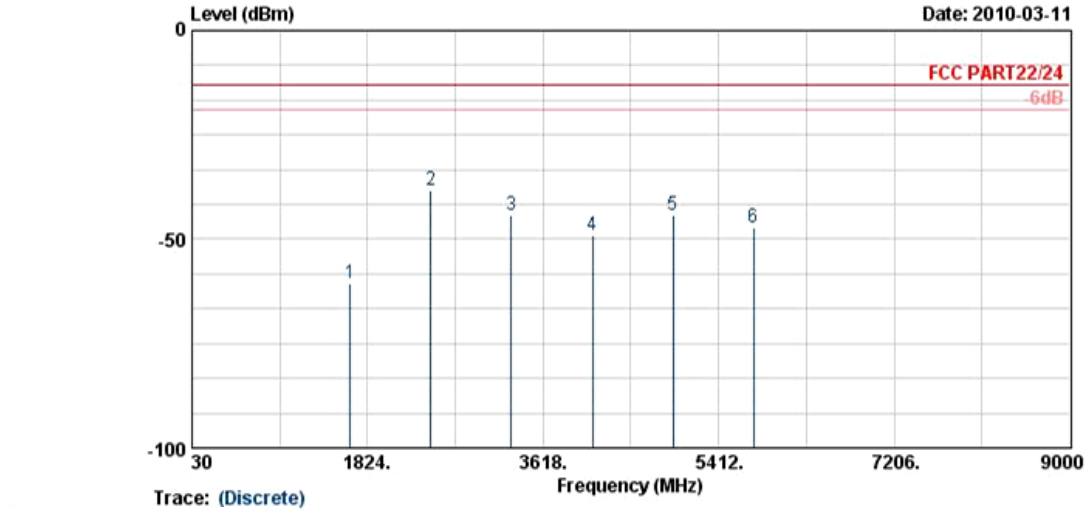
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1697.6	-56.04	-13	-43.04	-56.16	-56.22	3.02	5.35	H	Pass
2546.4	-48.24	-13	-35.24	-56.36	-48.55	3.73	6.19	H	Pass
3395.2	-43.31	-13	-30.31	-59.09	-45.3	3.98	8.12	H	Pass
4244	-49.69	-13	-36.69	-60.85	-51.7	4.84	9.00	H	Pass
5092.8	-45.29	-13	-32.29	-61.88	-47.6	5.36	9.82	H	Pass
5941.6	-47.48	-13	-34.48	-62.01	-49.9	5.83	10.40	H	Pass

Band :	GSM850	Temperature :	22~24°C
Test Mode :	GPRS 8 Link_Channel 251 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



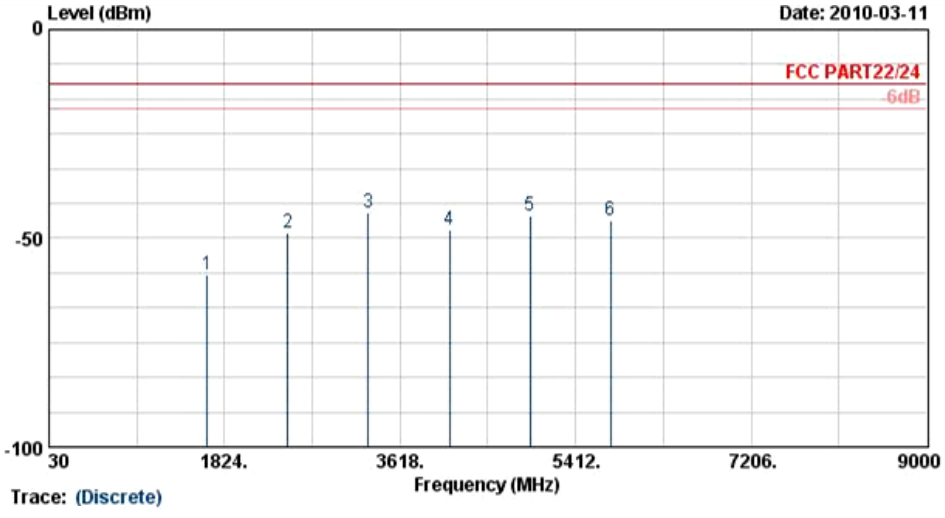
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1697.6	-55.65	-13	-42.65	-55.77	-55.83	3.02	5.35	V	Pass
2546.4	-50.62	-13	-37.62	-53.26	-50.93	3.73	6.19	V	Pass
3395.2	-46.71	-13	-33.71	-56.36	-48.7	3.98	8.12	V	Pass
4244	-49.49	-13	-36.49	-60.12	-51.5	4.84	9.00	V	Pass
5092.8	-46.19	-13	-33.19	-61.74	-48.5	5.36	9.82	V	Pass
5941.6	-44.88	-13	-31.88	-60.95	-47.3	5.83	10.40	V	Pass

Band :	GSM850	Temperature :	22~24°C
Test Mode :	EDGE 8 Link_Channel 128 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



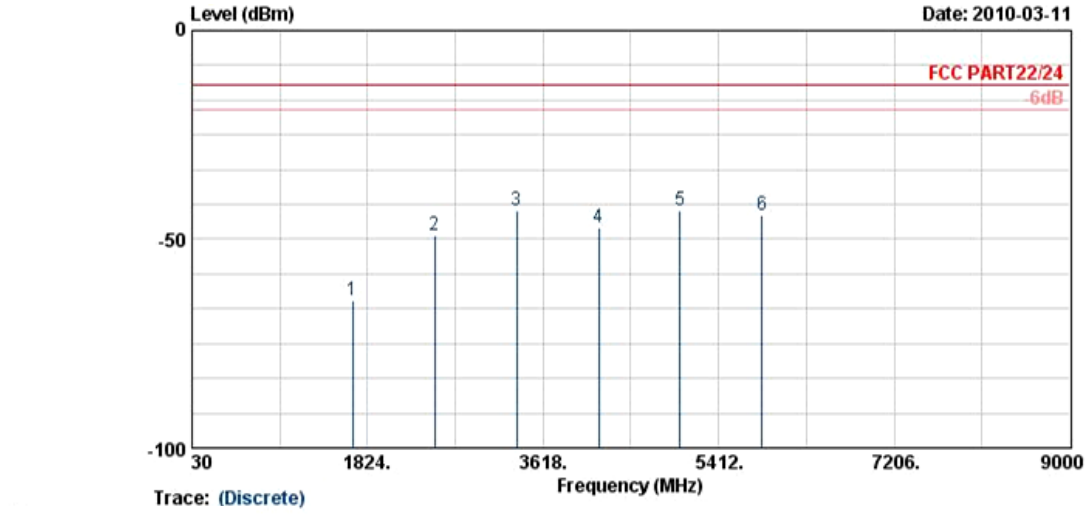
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1648.4	-60.64	-13	-47.64	-52.46	-60.82	3.1	5.43	H	Pass
2474	-38.40	-13	-25.40	-46.82	-38.39	3.89	6.03	H	Pass
3296.8	-44.31	-13	-31.31	-59.66	-45.87	4.16	7.87	H	Pass
4121	-48.93	-13	-35.93	-60.05	-50.9	4.88	9.00	H	Pass
4945.2	-44.12	-13	-31.12	-60.79	-46.51	5.09	9.63	H	Pass
5769.4	-47.08	-13	-34.08	-61.9	-49.79	5.54	10.40	H	Pass

Band :	GSM850	**Temperature :**	22~24°C
Test Mode :	EDGE 8 Link_Channel 128 (With USB Cable)	**Relative Humidity :**	48~50%
Test Engineer :	Cona Huang	**Polarization :**	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



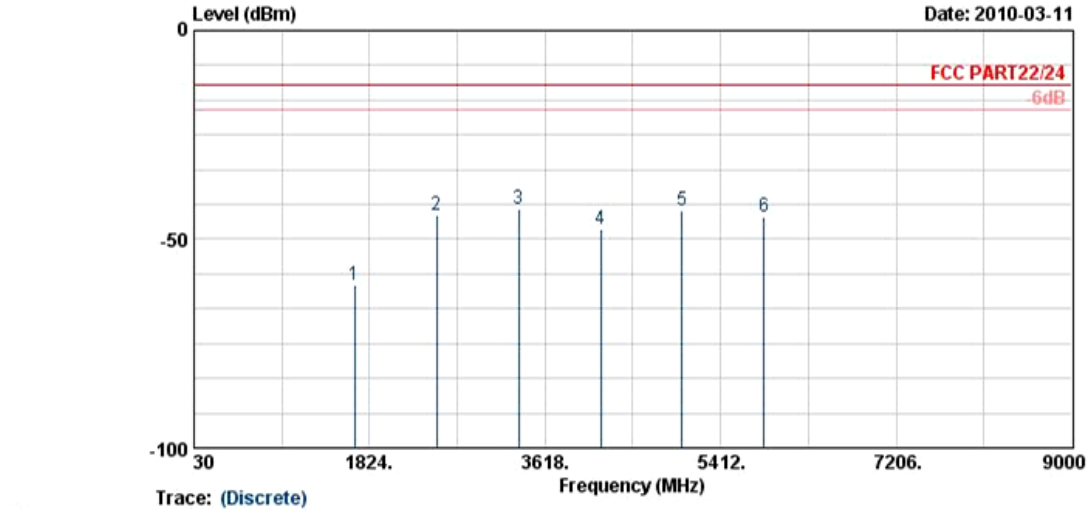
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1648.4	-58.78	-13	-45.78	-55.87	-58.96	3.1	5.43	V	Pass
2474	-48.56	-13	-35.56	-48.64	-48.55	3.89	6.03	V	Pass
3296.8	-43.69	-13	-30.69	-58.91	-45.25	4.16	7.87	V	Pass
4121	-47.88	-13	-34.88	-60.2	-49.85	4.88	9.00	V	Pass
4945.2	-44.60	-13	-31.60	-60.23	-46.99	5.09	9.63	V	Pass
5769.4	-45.89	-13	-32.89	-61.25	-48.6	5.54	10.40	V	Pass

Band :	GSM850	Temperature :	22~24°C
Test Mode :	EDGE 8 Link_Channel 189 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



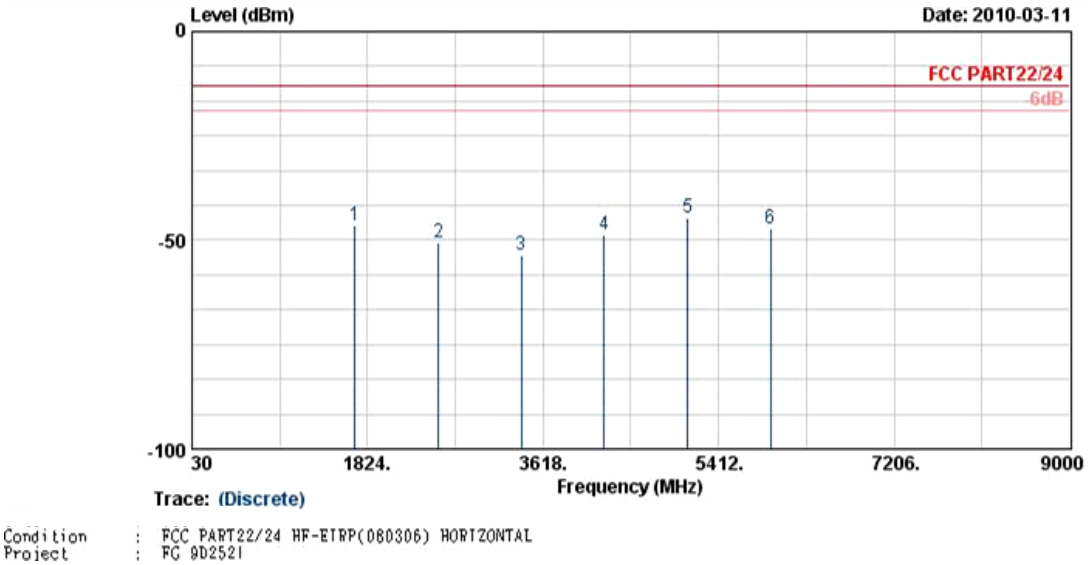
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1674	-64.76	-13	-51.76	-59.19	-64.61	3.39	5.39	H	Pass
2509.2	-48.97	-13	-35.97	-53.34	-49.23	3.71	6.12	H	Pass
3345.6	-43.10	-13	-30.10	-59.61	-45.82	3.13	8.00	H	Pass
4184	-47.22	-13	-34.22	-60.21	-51.06	3.01	9.00	H	Pass
5018.4	-43.10	-13	-30.10	-61.41	-48.07	2.61	9.73	H	Pass
5854.8	-44.22	-13	-31.22	-60.2	-48.09	4.38	10.40	H	Pass

Band :	GSM850	Temperature :	22~24°C
Test Mode :	EDGE 8 Link_Channel 189 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



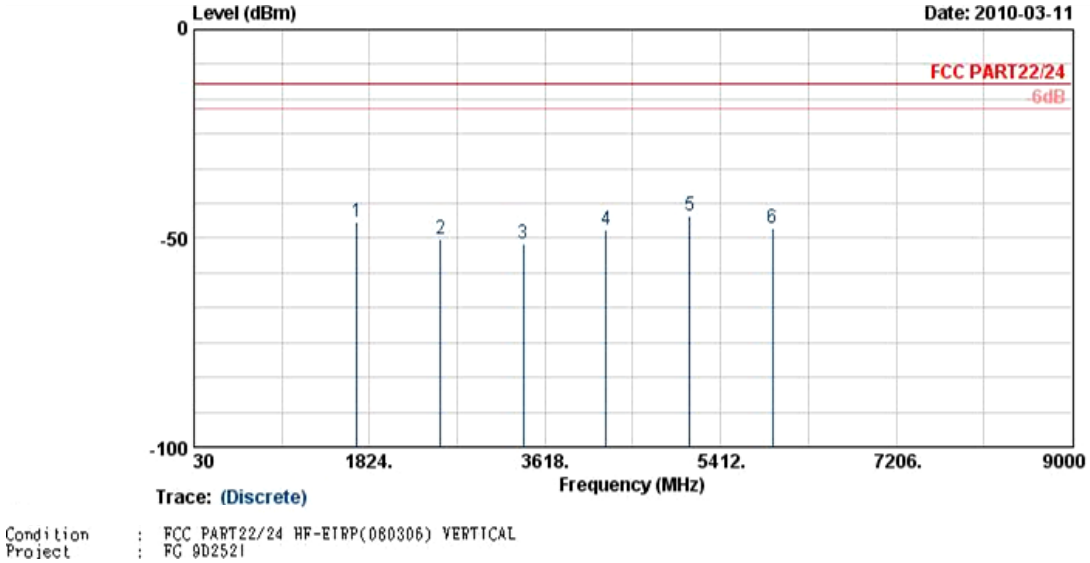
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1674	-61.03	-13	-48.03	-55.46	-60.88	3.39	5.39	V	Pass
2509.2	-44.32	-13	-31.32	-48.69	-44.58	3.71	6.12	V	Pass
3345.6	-42.77	-13	-29.77	-59.15	-45.49	3.13	8.00	V	Pass
4184	-47.53	-13	-34.53	-60.13	-51.37	3.01	9.00	V	Pass
5018.4	-43.30	-13	-30.30	-61.51	-48.27	2.61	9.73	V	Pass
5854.8	-44.62	-13	-31.62	-61.14	-48.49	4.38	10.40	V	Pass

Band :	GSM850	**Temperature :**	22~24°C
Test Mode :	EDGE 8 Link_Channel 251 (With USB Cable)	**Relative Humidity :**	48~50%
Test Engineer :	Cona Huang	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



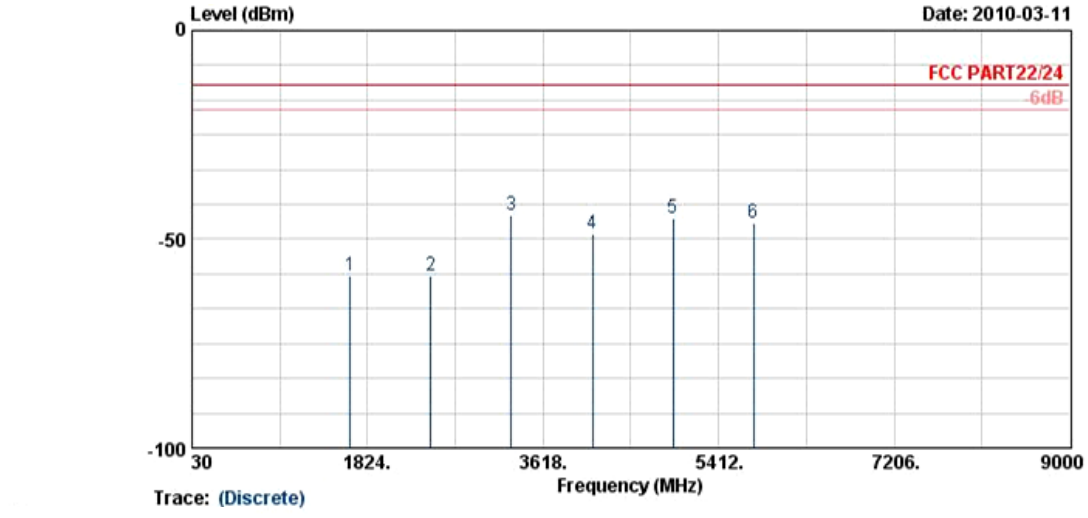
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1697.6	-46.34	-13	-33.34	-58.48	-46.52	3.02	5.35	H	Pass
2546.4	-50.70	-13	-37.70	-59.17	-51.01	3.73	6.19	H	Pass
3395.2	-53.67	-13	-40.67	-58.61	-55.66	3.98	8.12	H	Pass
4244	-48.84	-13	-35.84	-60	-50.85	4.84	9.00	H	Pass
5092.8	-44.58	-13	-31.58	-61.17	-46.89	5.36	9.82	H	Pass
5941.6	-47.03	-13	-34.03	-61.56	-49.45	5.83	10.40	H	Pass

Band :	GSM850	Temperature :	22~24°C
Test Mode :	EDGE 8 Link_Channel 251 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



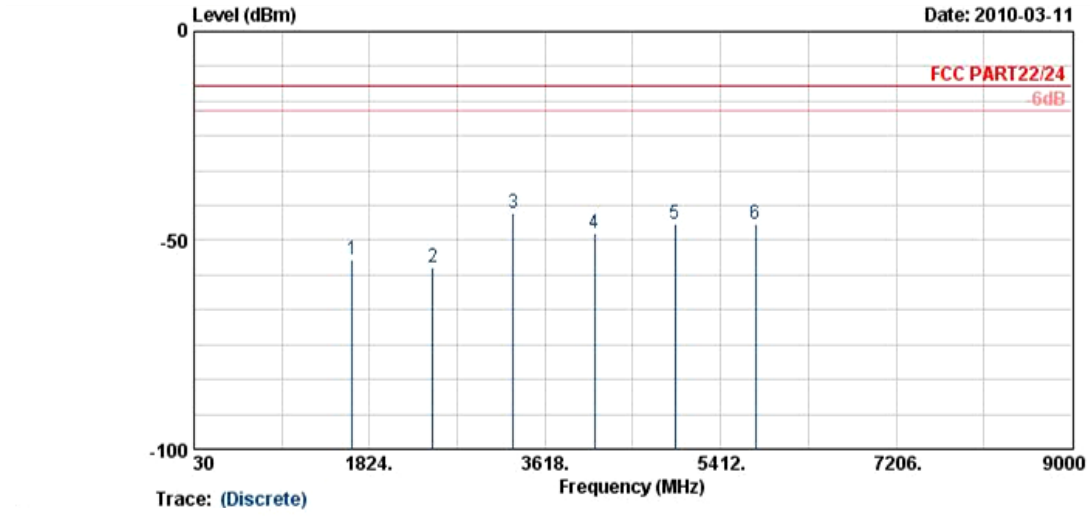
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1697.6	-46.11	-13	-33.11	-58.25	-46.29	3.02	5.35	V	Pass
2546.4	-50.34	-13	-37.34	-58.81	-50.65	3.73	6.19	V	Pass
3395.2	-51.13	-13	-38.13	-56.07	-53.12	3.98	8.12	V	Pass
4244	-48.05	-13	-35.05	-60.68	-50.06	4.84	9.00	V	Pass
5092.8	-44.77	-13	-31.77	-61.32	-47.08	5.36	9.82	V	Pass
5941.6	-47.75	-13	-34.75	-61.82	-50.17	5.83	10.40	V	Pass

Band :	GSM850	Temperature :	22~24°C
Test Mode :	EDGE 8 Link_Channel 128 (Without USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



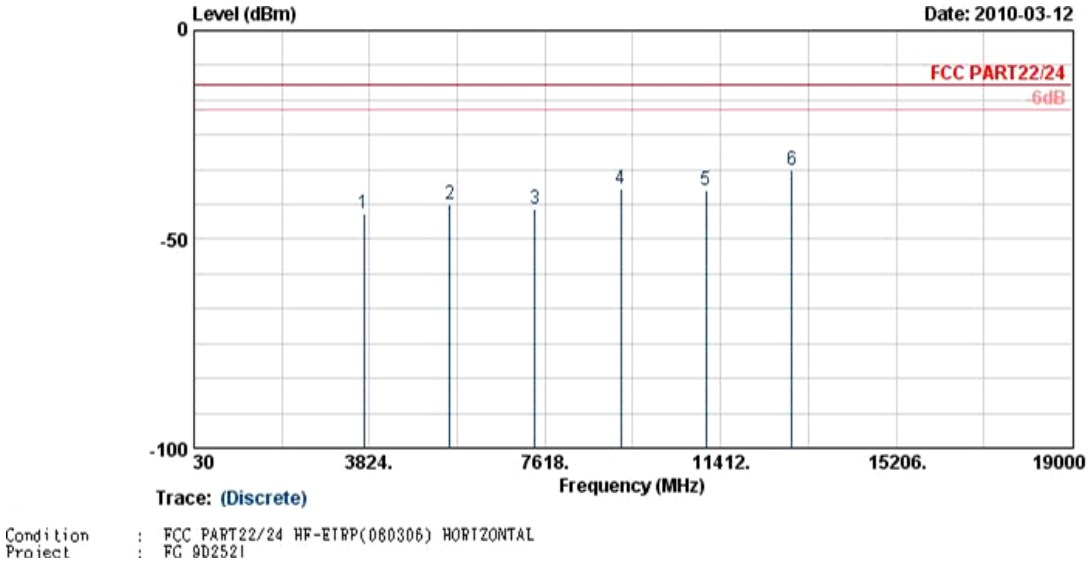
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1648.4	-58.90	-13	-45.90	-52.41	-59.08	3.1	5.43	H	Pass
2474	-58.88	-13	-45.88	-57.74	-58.87	3.89	6.03	H	Pass
3296.8	-44.39	-13	-31.39	-59.74	-45.95	4.16	7.87	H	Pass
4121	-48.68	-13	-35.68	-60.3	-50.65	4.88	9.00	H	Pass
4945.2	-44.93	-13	-31.93	-61.6	-47.32	5.09	9.63	H	Pass
5769.4	-46.10	-13	-33.10	-60.92	-48.81	5.54	10.40	H	Pass

Band :	GSM850	Temperature :	22~24°C
Test Mode :	EDGE 8 Link_Channel 128 (Without USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



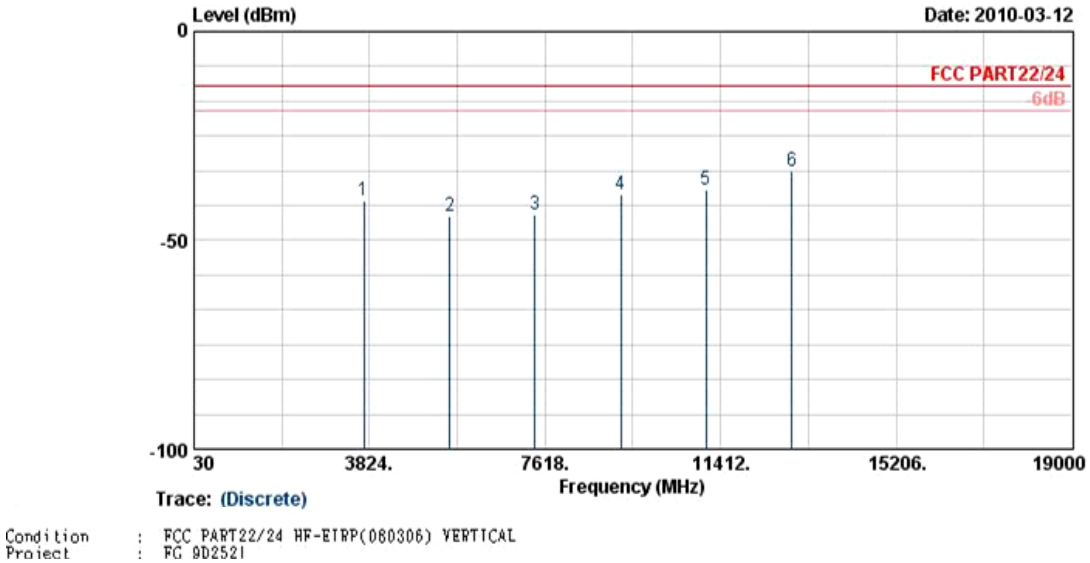
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1648.4	-54.63	-13	-41.63	-55.82	-54.81	3.1	5.43	V	Pass
2474	-56.50	-13	-43.50	-55.36	-56.49	3.89	6.03	V	Pass
3296.8	-43.38	-13	-30.38	-59.6	-44.94	4.16	7.87	V	Pass
4121	-48.19	-13	-35.19	-60.51	-50.16	4.88	9.00	V	Pass
4945.2	-46.09	-13	-33.09	-61.72	-48.48	5.09	9.63	V	Pass
5769.4	-46.14	-13	-33.14	-61.5	-48.85	5.54	10.40	V	Pass

Band :	GSM1900	Temperature :	22~24°C
Test Mode :	GPRS 8 Link_Channel 512 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



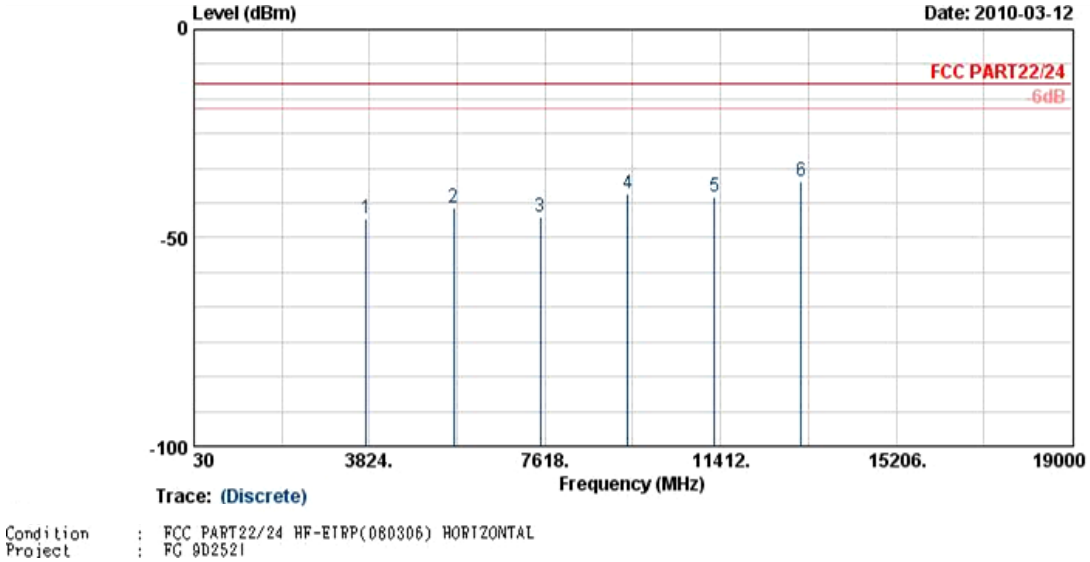
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700.4	-44.02	-13	-31.02	-59.83	-48.14	4.52	8.64	H	Pass
5550.6	-41.60	-13	-28.60	-60.82	-46.8	5.2	10.40	H	Pass
7400.8	-42.67	-13	-29.67	-61.62	-48.7	6.02	12.05	H	Pass
9251	-37.77	-13	-24.77	-60.27	-43.46	7.46	13.15	H	Pass
11101.2	-38.11	-13	-25.11	-60.82	-42.62	8.85	13.36	H	Pass
12951.4	-33.35	-13	-20.35	-60.92	-38.16	8.36	13.17	H	Pass

Band :	GSM1900	Temperature :	22~24°C
Test Mode :	GPRS 8 Link_Channel 512 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



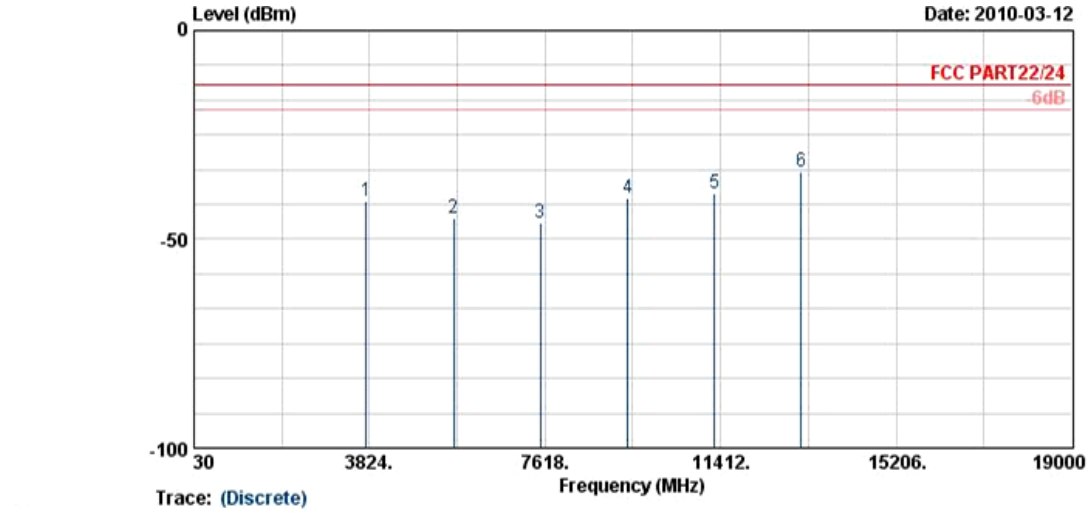
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700.4	-40.57	-13	-27.57	-59.05	-44.69	4.52	8.64	V	Pass
5550.6	-44.32	-13	-31.32	-61.31	-49.52	5.2	10.40	V	Pass
7400.8	-44.01	-13	-31.01	-61.37	-50.04	6.02	12.05	V	Pass
9251	-38.96	-13	-25.96	-60.94	-44.65	7.46	13.15	V	Pass
11101.2	-38.01	-13	-25.01	-60.82	-42.52	8.85	13.36	V	Pass
12951.4	-33.43	-13	-20.43	-61	-38.24	8.36	13.17	V	Pass

Band :	GSM1900	**Temperature :**	22~24°C
Test Mode :	GPRS 8 Link_Channel 661 (With USB Cable)	**Relative Humidity :**	48~50%
Test Engineer :	Cona Huang	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



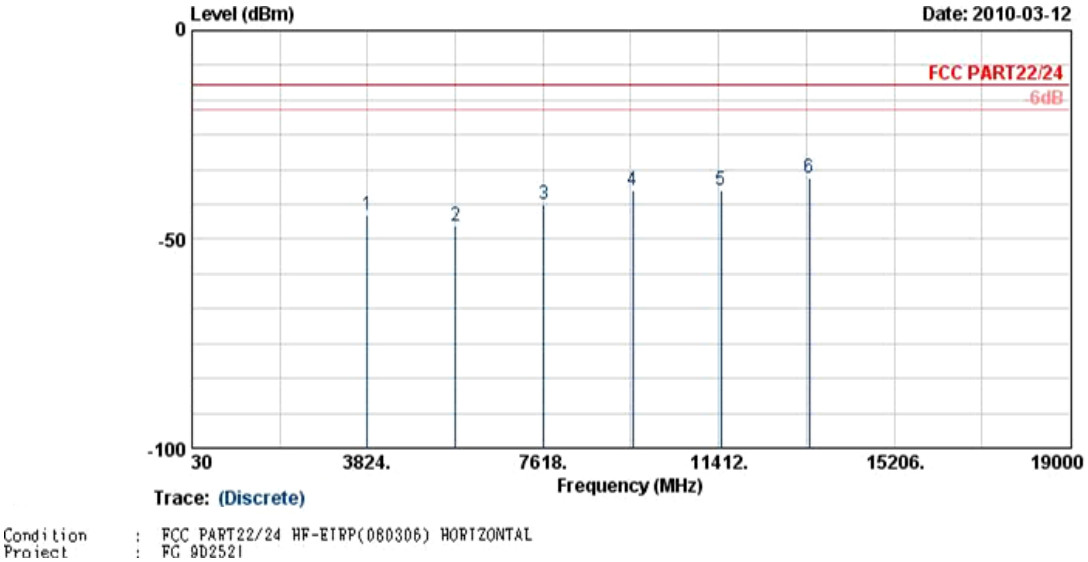
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-45.40	-13	-32.40	-59.59	-47.92	4.88	7.40	H	Pass
5640	-42.90	-13	-29.90	-60.18	-46.16	5.55	8.81	H	Pass
7520	-45.15	-13	-32.15	-61.14	-48.22	6.64	9.71	H	Pass
9400	-39.57	-13	-26.57	-60.01	-43.38	6.91	10.72	H	Pass
11280	-40.12	-13	-27.12	-61.85	-43.65	7.23	10.76	H	Pass
13160	-36.51	-13	-23.51	-61.5	-38.74	8.8	11.03	H	Pass

Band :	GSM1900	Temperature :	22~24°C
Test Mode :	GPRS 8 Link_Channel 661 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



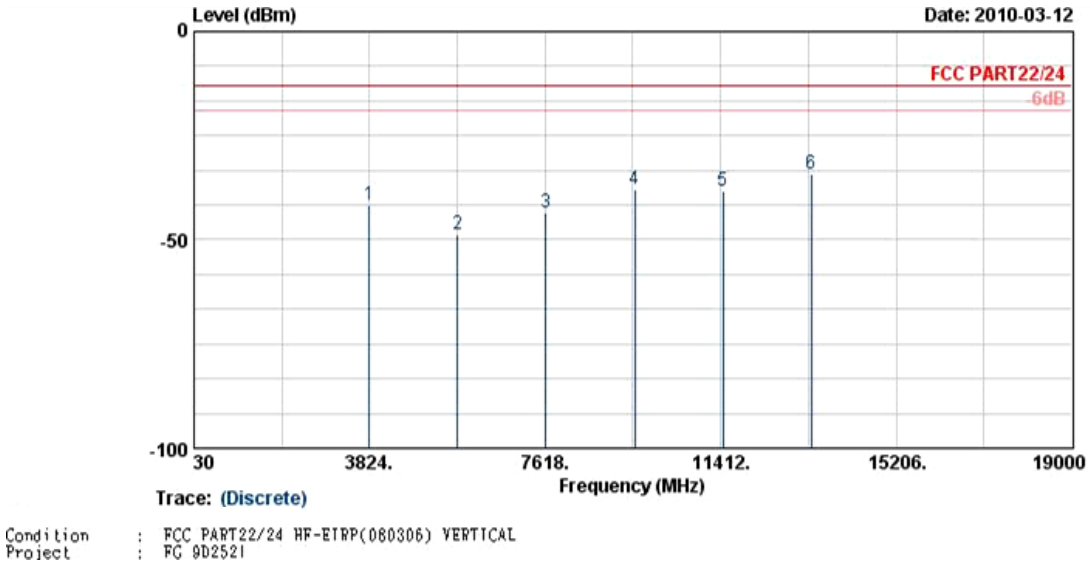
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-40.93	-13	-27.93	-58.32	-43.96	4.88	7.91	V	Pass
5640	-45.10	-13	-32.10	-61.11	-49.32	5.55	9.77	V	Pass
7520	-46.09	-13	-33.09	-61.59	-50.26	6.64	10.81	V	Pass
9400	-40.13	-13	-27.13	-61.03	-44.74	6.91	11.52	V	Pass
11280	-39.11	-13	-26.11	-61.54	-43.24	7.23	11.36	V	Pass
13160	-33.86	-13	-20.86	-61.07	-37.22	8.8	12.16	V	Pass

Band :	GSM1900	Temperature :	22~24°C
Test Mode :	GPRS 8 Link_Channel 810 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



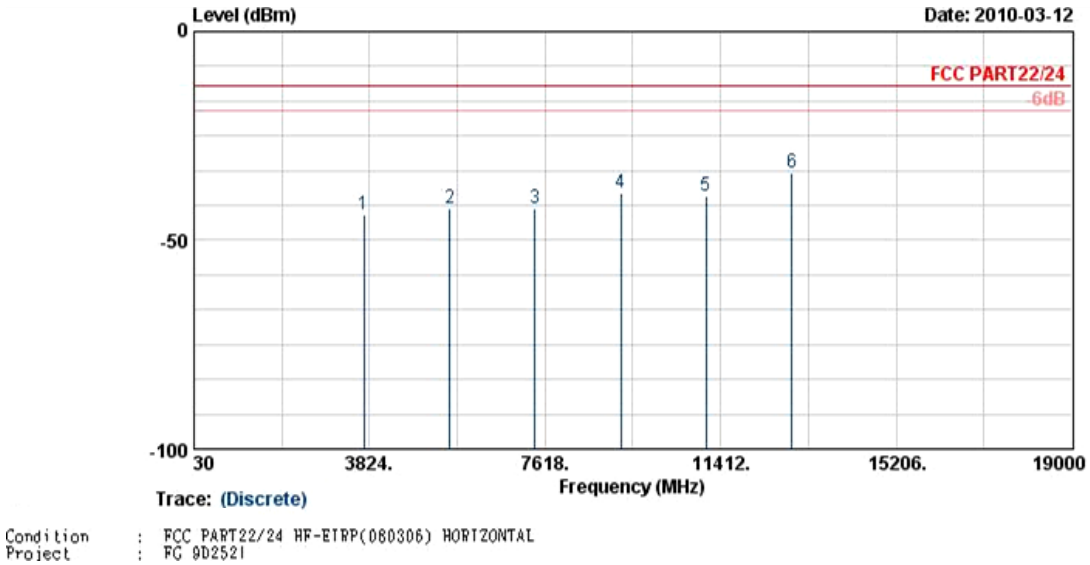
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3819.6	-44.20	-13	-31.20	-59.89	-48.2	4.78	8.78	H	Pass
5726	-46.92	-13	-33.92	-58.69	-51.66	5.66	10.40	H	Pass
7639.2	-41.47	-13	-28.47	-60.42	-47.5	6.28	12.31	H	Pass
9549	-38.31	-13	-25.31	-60.93	-44.3	7.2	13.19	H	Pass
11458.8	-38.17	-13	-25.17	-61	-42.8	8.59	13.22	H	Pass
13368.6	-35.25	-13	-22.25	-62.32	-39.56	9.4	13.71	H	Pass

Band :	GSM1900	Temperature :	22~24°C
Test Mode :	GPRS 8 Link_Channel 810 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



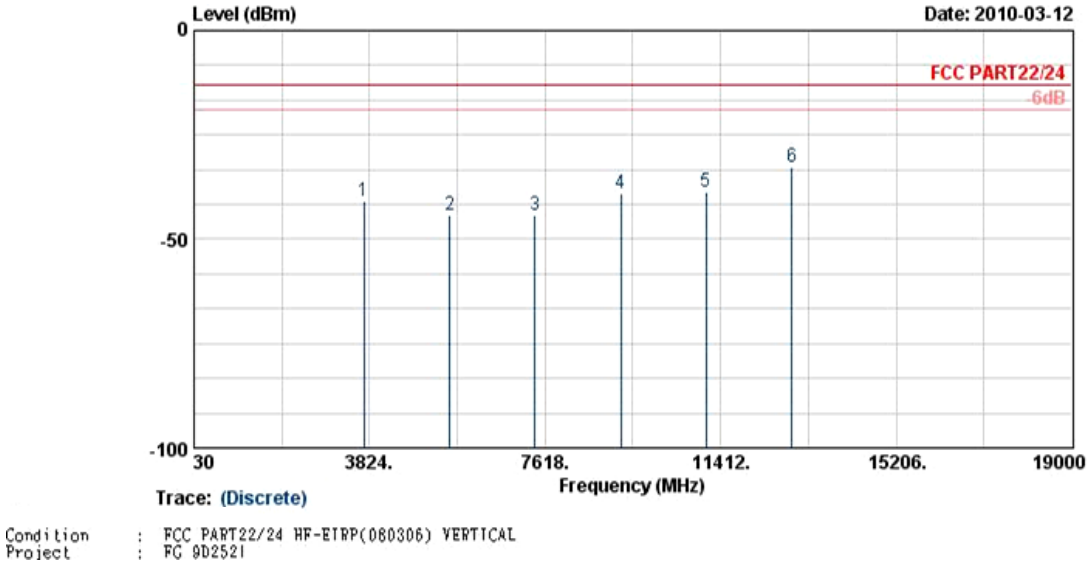
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3819.6	-41.50	-13	-28.50	-59.86	-45.5	4.78	8.78	V	Pass
5726	-48.82	-13	-35.82	-60.59	-53.56	5.66	10.40	V	Pass
7639.2	-43.67	-13	-30.67	-61.03	-49.7	6.28	12.31	V	Pass
9549	-37.81	-13	-24.81	-60.09	-43.8	7.2	13.19	V	Pass
11458.8	-38.25	-13	-25.25	-61.18	-42.88	8.59	13.22	V	Pass
13368.6	-34.24	-13	-21.24	-62.4	-38.55	9.4	13.71	V	Pass

Band :	GSM1900	**Temperature :**	22~24°C
Test Mode :	EDGE 8 Link_Channel 512 (With USB Cable)	**Relative Humidity :**	48~50%
Test Engineer :	Cona Huang	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



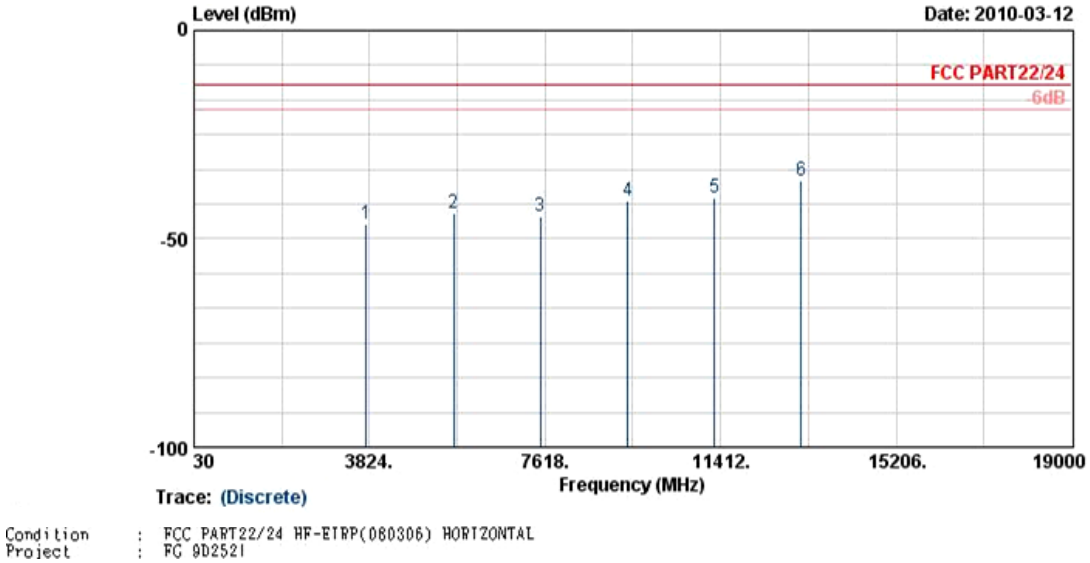
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700.4	-43.69	-13	-30.69	-59.5	-47.81	4.52	8.64	H	Pass
5550.6	-42.45	-13	-29.45	-61.67	-47.65	5.2	10.40	H	Pass
7400.8	-42.41	-13	-29.41	-61.36	-48.44	6.02	12.05	H	Pass
9251	-38.70	-13	-25.70	-61.2	-44.39	7.46	13.15	H	Pass
11101.2	-39.42	-13	-26.42	-62.13	-43.93	8.85	13.36	H	Pass
12951.4	-33.67	-13	-20.67	-61.24	-38.48	8.36	13.17	H	Pass

Band :	GSM1900	Temperature :	22~24°C
Test Mode :	EDGE 8 Link_Channel 512 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



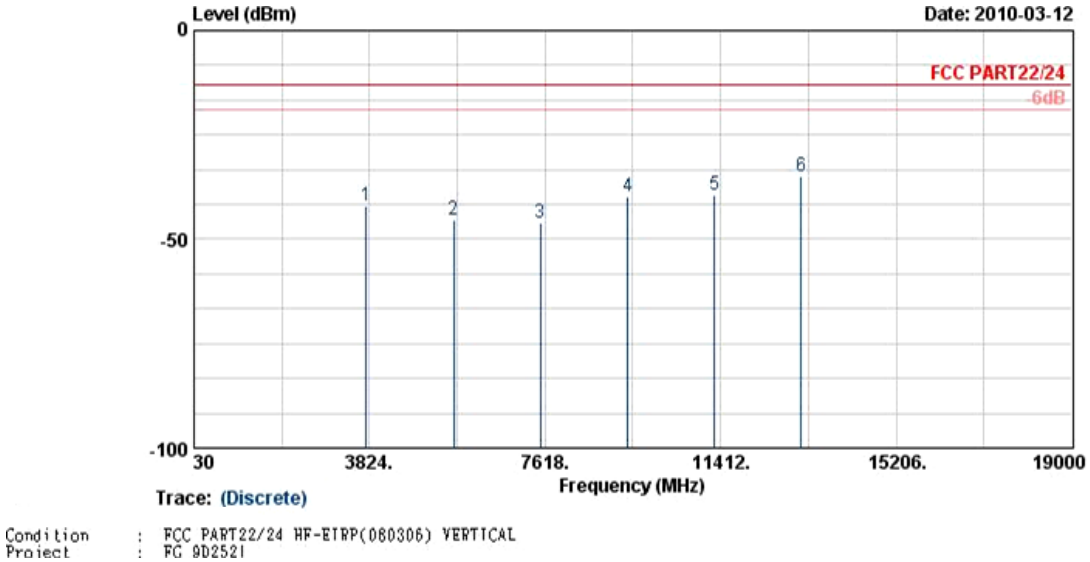
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700.4	-40.82	-13	-27.82	-59.3	-44.94	4.52	8.64	V	Pass
5550.6	-44.26	-13	-31.26	-61.25	-49.46	5.2	10.40	V	Pass
7400.8	-44.33	-13	-31.33	-61.69	-50.36	6.02	12.05	V	Pass
9251	-38.96	-13	-25.96	-60.97	-44.65	7.46	13.15	V	Pass
11101.2	-38.54	-13	-25.54	-61.35	-43.05	8.85	13.36	V	Pass
12951.4	-32.62	-13	-19.62	-60.19	-37.43	8.36	13.17	V	Pass

Band :	GSM1900	Temperature :	22~24°C
Test Mode :	EDGE 8 Link_Channel 661 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



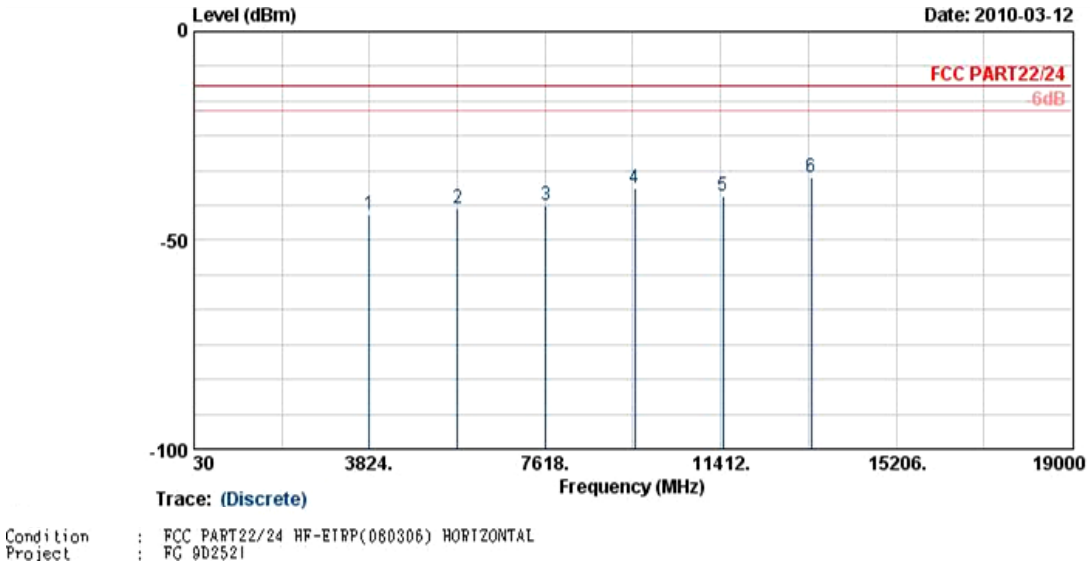
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-46.33	-13	-33.33	-60.52	-48.85	4.88	7.40	H	Pass
5640	-43.95	-13	-30.95	-61.23	-47.21	5.55	8.81	H	Pass
7520	-44.72	-13	-31.72	-60.71	-47.79	6.64	9.71	H	Pass
9400	-40.74	-13	-27.74	-61.18	-44.55	6.91	10.72	H	Pass
11280	-40.26	-13	-27.26	-61.99	-43.79	7.23	10.76	H	Pass
13160	-36.19	-13	-23.19	-61.18	-38.42	8.8	11.03	H	Pass

Band :	GSM1900	Temperature :	22~24°C
Test Mode :	EDGE 8 Link_Channel 661 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



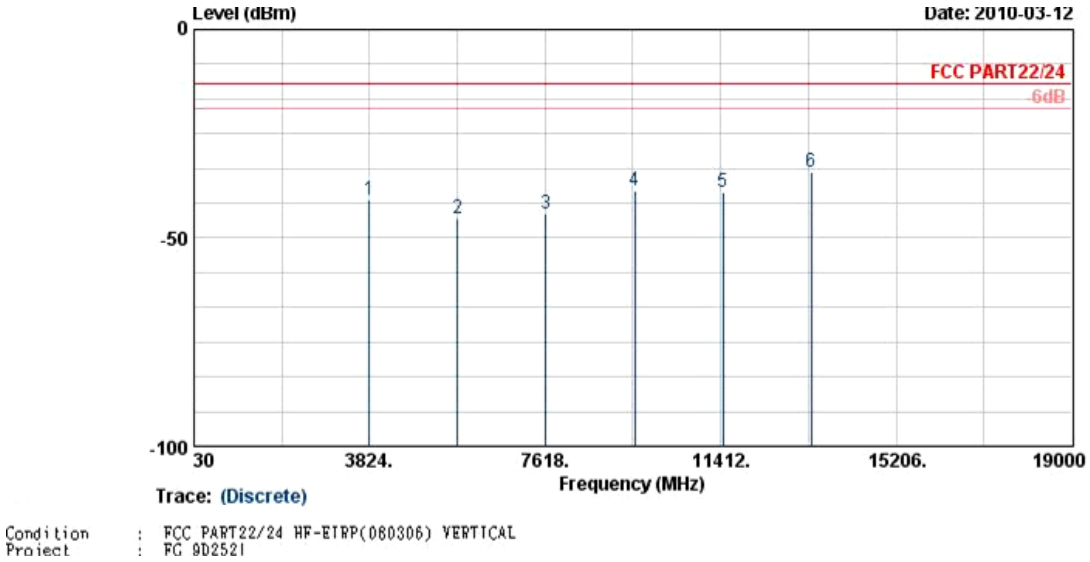
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-41.96	-13	-28.96	-59.35	-44.99	4.88	7.91	V	Pass
5640	-45.17	-13	-32.17	-61.18	-49.39	5.55	9.77	V	Pass
7520	-45.93	-13	-32.93	-61.43	-50.1	6.64	10.81	V	Pass
9400	-39.96	-13	-26.96	-60.86	-44.57	6.91	11.52	V	Pass
11280	-39.30	-13	-26.30	-61.73	-43.43	7.23	11.36	V	Pass
13160	-34.82	-13	-21.82	-62.03	-38.18	8.8	12.16	V	Pass

Band :	GSM1900	Temperature :	22~24°C
Test Mode :	EDGE 8 Link_Channel 810 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



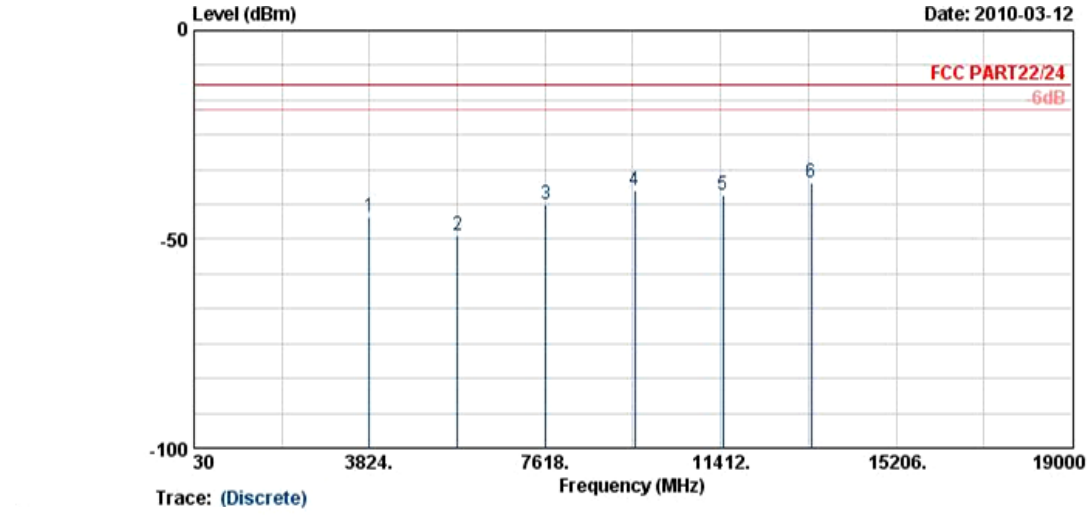
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3819.6	-43.72	-13	-30.72	-59.41	-47.72	4.78	8.78	H	Pass
5726	-42.38	-13	-29.38	-61.14	-47.12	5.66	10.40	H	Pass
7639.2	-41.70	-13	-28.70	-60.65	-47.73	6.28	12.31	H	Pass
9549	-37.70	-13	-24.70	-60.34	-43.69	7.2	13.19	H	Pass
11458.8	-39.34	-13	-26.34	-62.17	-43.97	8.59	13.22	H	Pass
13368.6	-35.04	-13	-22.04	-62.11	-39.35	9.4	13.71	H	Pass

Band :	GSM1900	Temperature :	22~24°C
Test Mode :	EDGE 8 Link_Channel 810 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



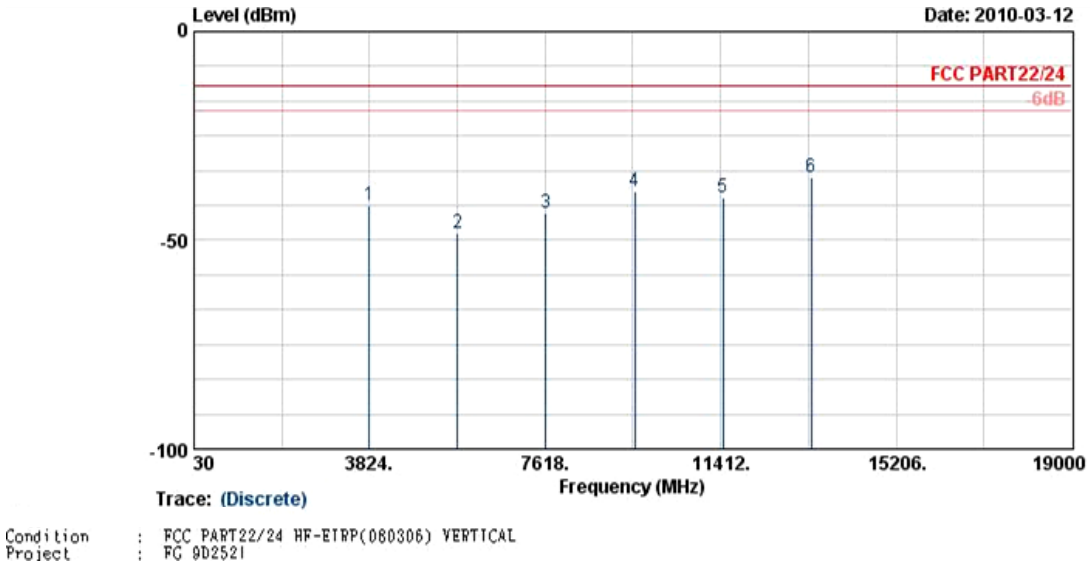
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3819.6	-40.79	-13	-27.79	-59.15	-44.79	4.78	8.78	V	Pass
5726	-45.45	-13	-32.45	-61.98	-50.19	5.66	10.40	V	Pass
7639.2	-44.06	-13	-31.06	-61.48	-50.09	6.28	12.31	V	Pass
9549	-38.73	-13	-25.73	-61.01	-44.72	7.2	13.19	V	Pass
11458.8	-38.92	-13	-25.92	-61.85	-43.55	8.59	13.22	V	Pass
13368.6	-34.10	-13	-21.10	-62.26	-38.41	9.4	13.71	V	Pass

Band :	GSM1900	**Temperature :**	22~24°C
Test Mode :	GPRS 8 Link_Channel 810 (Without USB Cable)	**Relative Humidity :**	48~50%
Test Engineer :	Cona Huang	**Polarization :**	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



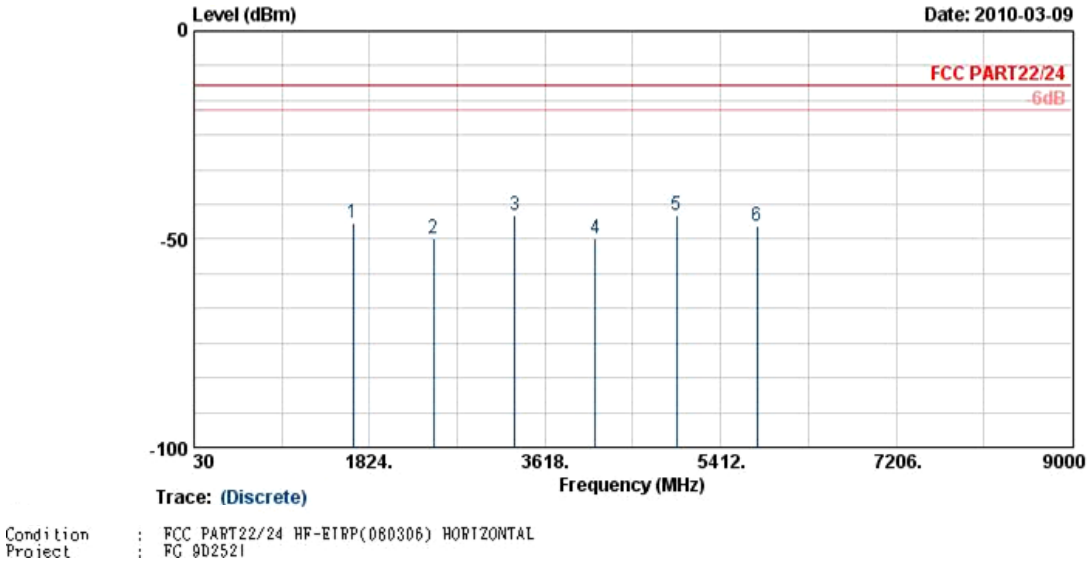
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3819.6	-44.62	-13	-31.62	-60.31	-48.62	4.78	8.78	H	Pass
5726	-48.95	-13	-35.95	-57.49	-53.69	5.66	10.40	H	Pass
7639.2	-41.49	-13	-28.49	-60.44	-47.52	6.28	12.31	H	Pass
9549	-38.29	-13	-25.29	-60.91	-44.28	7.2	13.19	H	Pass
11458.8	-39.41	-13	-26.41	-62.24	-44.04	8.59	13.22	H	Pass
13368.6	-36.33	-13	-23.33	-63.4	-40.64	9.4	13.71	H	Pass

Band :	GSM1900	Temperature :	22~24°C
Test Mode :	GPRS 8 Link_Channel 810 (Without USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



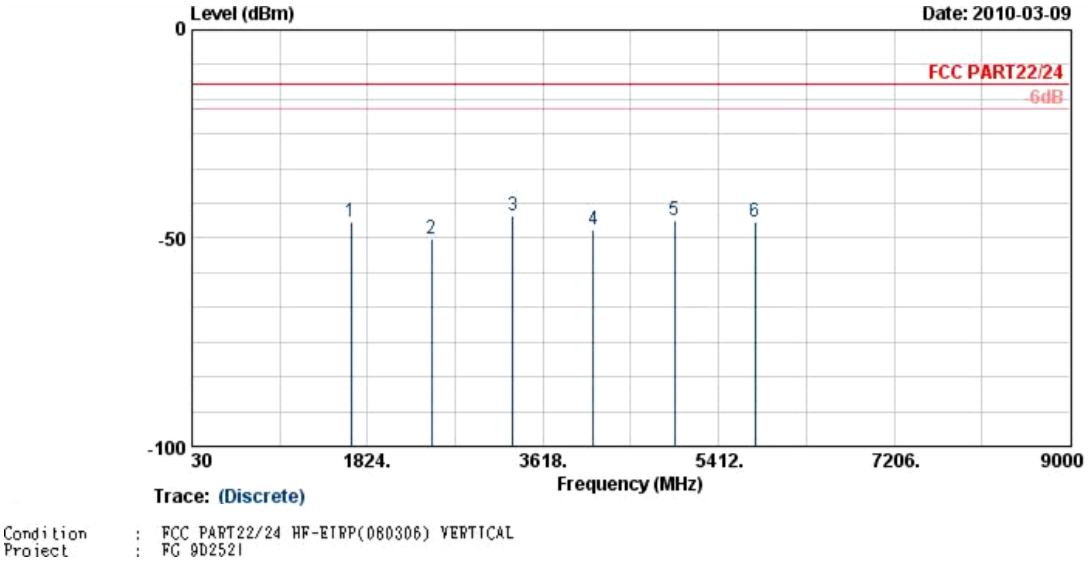
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3819.6	-41.66	-13	-28.66	-60.02	-45.66	4.78	8.78	V	Pass
5726	-48.29	-13	-35.29	-56.83	-53.03	5.66	10.40	V	Pass
7639.2	-43.46	-13	-30.46	-60.82	-49.49	6.28	12.31	V	Pass
9549	-38.23	-13	-25.23	-60.51	-44.22	7.2	13.19	V	Pass
11458.8	-39.82	-13	-26.82	-62.75	-44.45	8.59	13.22	V	Pass
13368.6	-34.96	-13	-21.96	-63.12	-39.27	9.4	13.71	V	Pass

Band :	WCDMA Band V	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link_Channel 4132 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



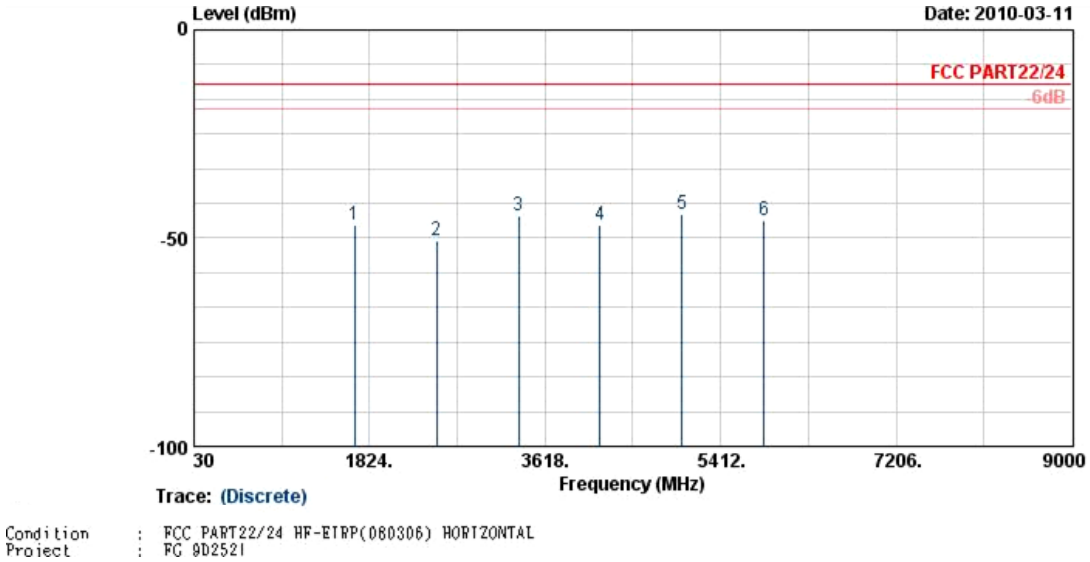
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1652.8	-46.15	-13	-33.15	-58.29	-46.33	3.1	5.43	H	Pass
2479.2	-49.80	-13	-36.80	-58.22	-49.79	3.89	6.03	H	Pass
3305.6	-44.21	-13	-31.21	-59.56	-45.77	4.16	7.87	H	Pass
4132	-49.96	-13	-36.96	-61.08	-51.93	4.88	9.00	H	Pass
4958.4	-44.34	-13	-31.34	-61.01	-46.73	5.09	9.63	H	Pass
5784.8	-46.71	-13	-33.71	-61.53	-49.42	5.54	10.40	H	Pass

Band :	WCDMA Band V	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link_Channel 4132 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



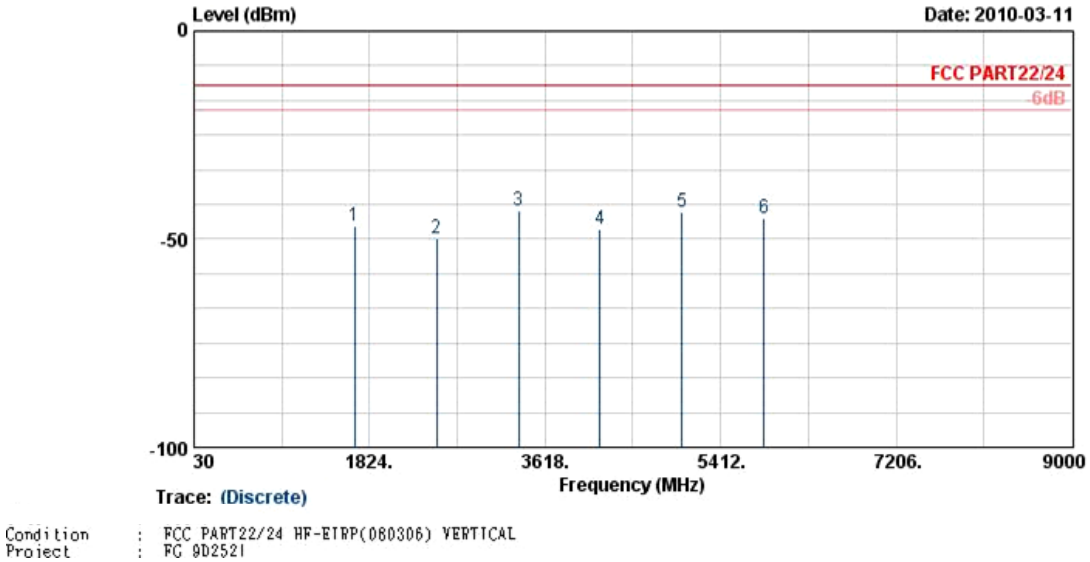
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1652.8	-46.05	-13	-33.05	-58.19	-46.23	3.1	5.43	V	Pass
2479.2	-50.33	-13	-37.33	-58.48	-50.32	3.89	6.03	V	Pass
3305.6	-44.50	-13	-31.50	-59.72	-46.06	4.16	7.87	V	Pass
4132	-48.09	-13	-35.09	-60.41	-50.06	4.88	9.00	V	Pass
4958.4	-45.69	-13	-32.69	-61.32	-48.08	5.09	9.63	V	Pass
5784.8	-46.23	-13	-33.23	-61.59	-48.94	5.54	10.40	V	Pass

Band :	WCDMA Band V	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link_Channel 4182 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



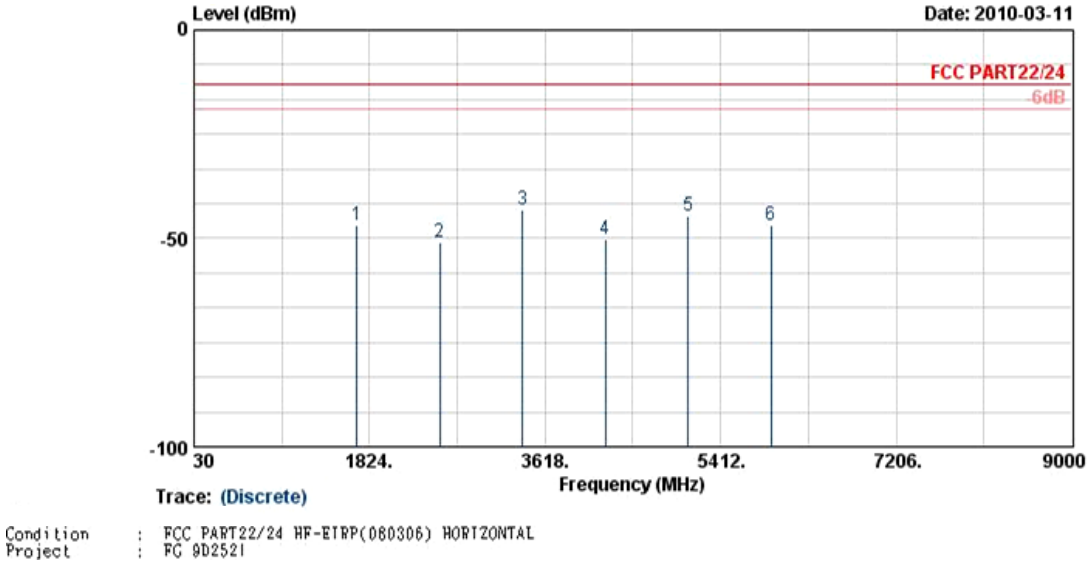
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672.8	-46.93	-13	-33.93	-58.74	-46.78	3.39	5.39	H	Pass
2509.2	-50.50	-13	-37.50	-58.89	-50.76	3.71	6.12	H	Pass
3345.6	-44.60	-13	-31.60	-61.11	-47.32	3.13	8.00	H	Pass
4182	-46.94	-13	-33.94	-60.02	-50.78	3.01	9.00	H	Pass
5018.4	-44.21	-13	-31.21	-62.52	-49.18	2.61	9.73	H	Pass
5854.8	-45.90	-13	-32.90	-61.88	-49.77	4.38	10.40	H	Pass

Band :	WCDMA Band V	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link_Channel 4182 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



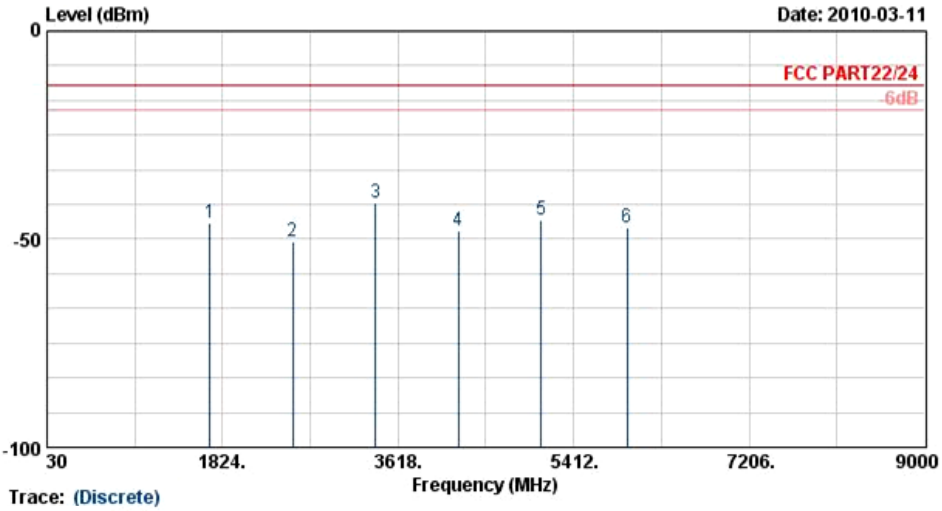
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672.8	-47.01	-13	-34.01	-58.57	-46.86	3.39	5.39	V	Pass
2509.2	-49.98	-13	-36.98	-58.5	-50.24	3.71	6.12	V	Pass
3345.6	-43.27	-13	-30.27	-59.65	-45.99	3.13	8.00	V	Pass
4182	-47.76	-13	-34.76	-60.36	-51.6	3.01	9.00	V	Pass
5018.4	-43.56	-13	-30.56	-61.77	-48.53	2.61	9.73	V	Pass
5854.8	-45.12	-13	-32.12	-61.64	-48.99	4.38	10.40	V	Pass

Band :	WCDMA Band V	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link_Channel 4233 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



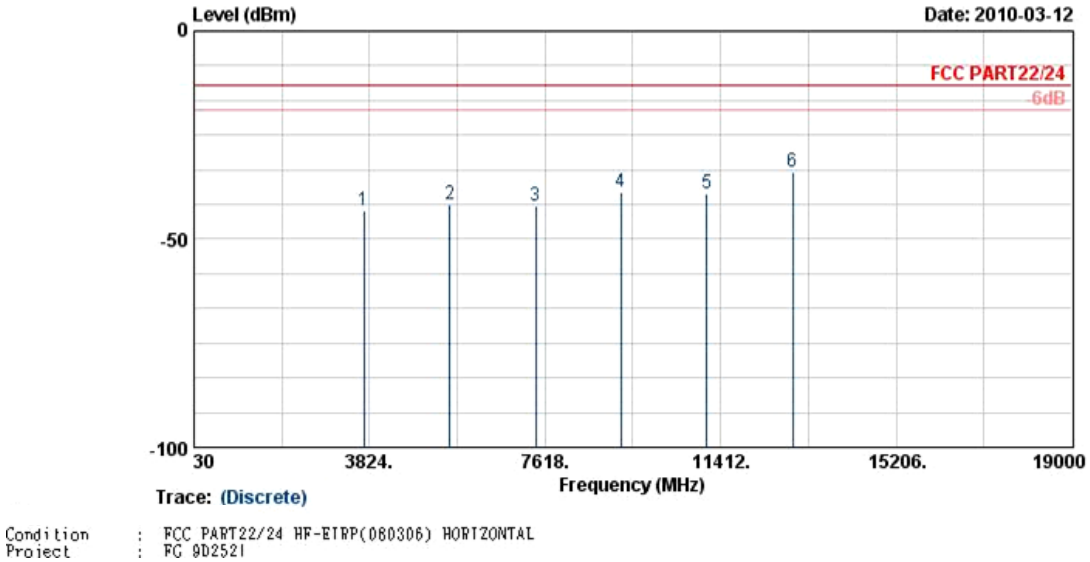
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1693.2	-46.83	-13	-33.83	-57.99	-47.01	3.02	5.35	H	Pass
2539.8	-50.80	-13	-37.80	-59.07	-51.11	3.73	6.19	H	Pass
3386.4	-43.25	-13	-30.25	-59.03	-45.24	3.98	8.12	H	Pass
4233	-50.08	-13	-37.08	-61.24	-52.09	4.84	9.00	H	Pass
5079.6	-44.66	-13	-31.66	-61.25	-46.97	5.36	9.82	H	Pass
5926.6	-46.84	-13	-33.84	-61.37	-49.26	5.83	10.40	H	Pass

Band :	WCDMA Band V	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link_Channel 4233 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



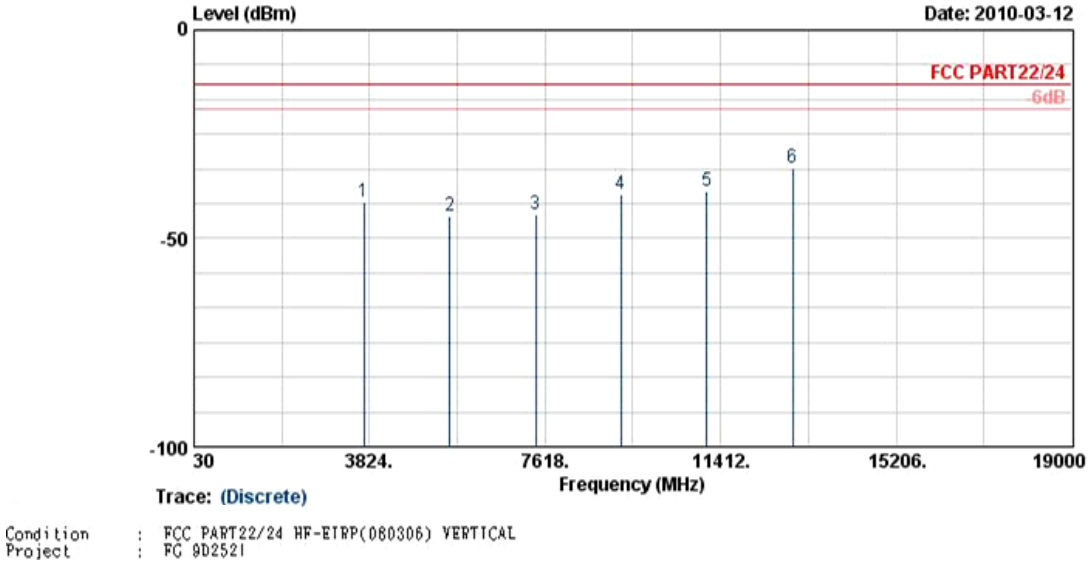
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1693.2	-46.12	-13	-33.12	-58.26	-46.3	3.02	5.35	V	Pass
2539.8	-50.64	-13	-37.64	-59.11	-50.95	3.73	6.19	V	Pass
3386.4	-41.15	-13	-28.15	-57.1	-43.14	3.98	8.12	V	Pass
4233	-48.00	-13	-35.00	-60.63	-50.01	4.84	9.00	V	Pass
5079.6	-45.18	-13	-32.18	-61.73	-47.49	5.36	9.82	V	Pass
5926.6	-47.32	-13	-34.32	-61.39	-49.74	5.83	10.40	V	Pass

Band :	WCDMA Band II	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link_Channel 9262 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



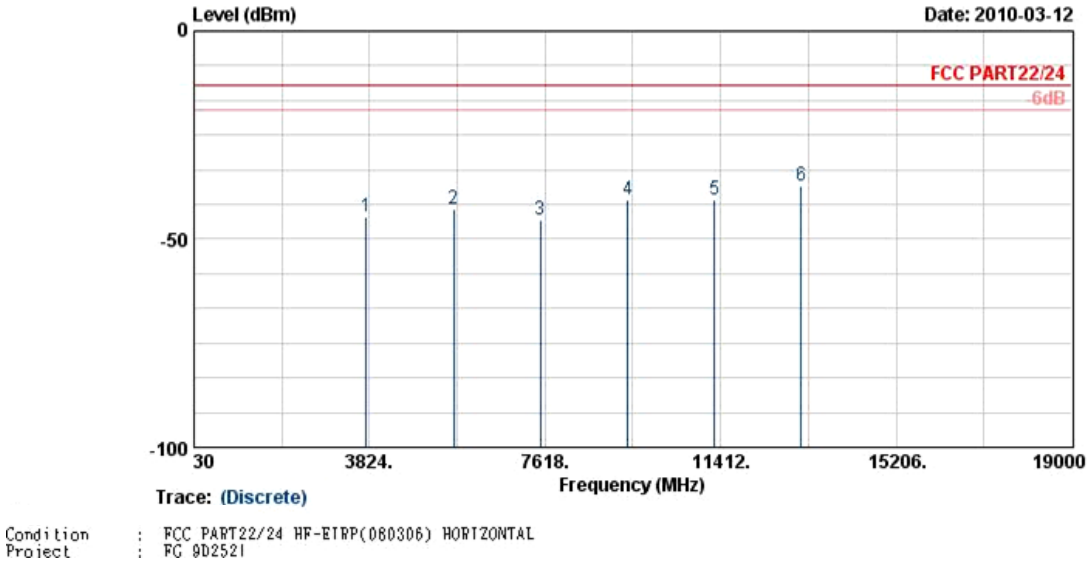
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3704.8	-43.12	-13	-30.12	-58.93	-47.24	4.52	8.64	H	Pass
5557.2	-41.49	-13	-28.49	-60.71	-46.69	5.2	10.40	H	Pass
7409.6	-42.11	-13	-29.11	-61.06	-48.14	6.02	12.05	H	Pass
9262	-38.74	-13	-25.74	-61.24	-44.43	7.46	13.15	H	Pass
11114.4	-38.89	-13	-25.89	-61.6	-43.4	8.85	13.36	H	Pass
12966.8	-33.73	-13	-20.73	-61.3	-38.54	8.36	13.17	H	Pass

Band :	WCDMA Band II	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link_Channel 9262 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



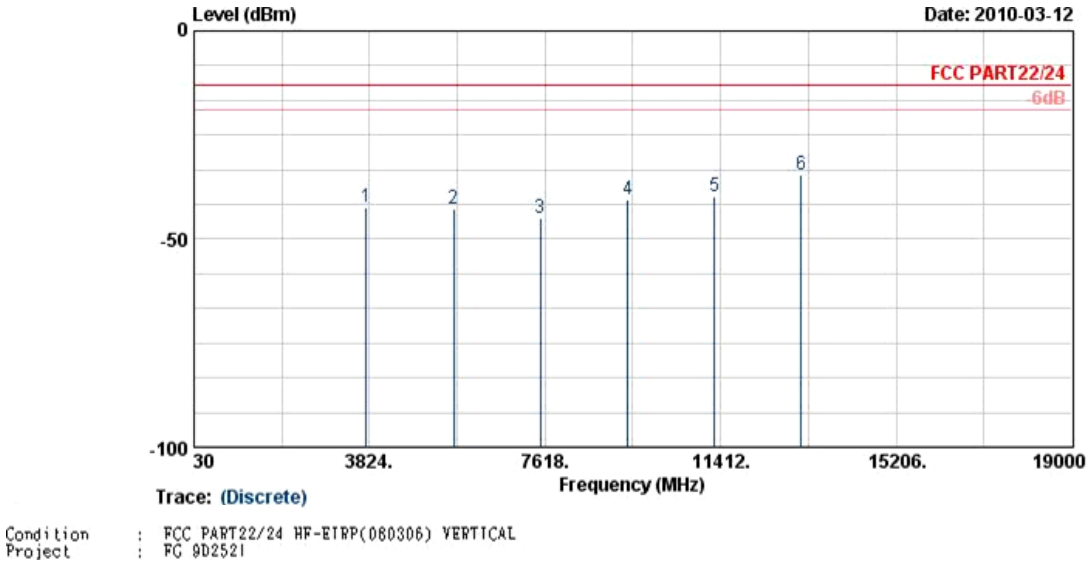
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3704.8	-41.28	-13	-28.28	-59.76	-45.4	4.52	8.64	V	Pass
5557.2	-44.64	-13	-31.64	-61.63	-49.84	5.2	10.40	V	Pass
7409.6	-44.25	-13	-31.25	-61.61	-50.28	6.02	12.05	V	Pass
9262	-39.45	-13	-26.45	-61.46	-45.14	7.46	13.15	V	Pass
11114.4	-38.58	-13	-25.58	-61.59	-43.09	8.85	13.36	V	Pass
12966.8	-33.27	-13	-20.27	-60.84	-38.08	8.36	13.17	V	Pass

Band :	WCDMA Band II	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link_Channel 9400 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



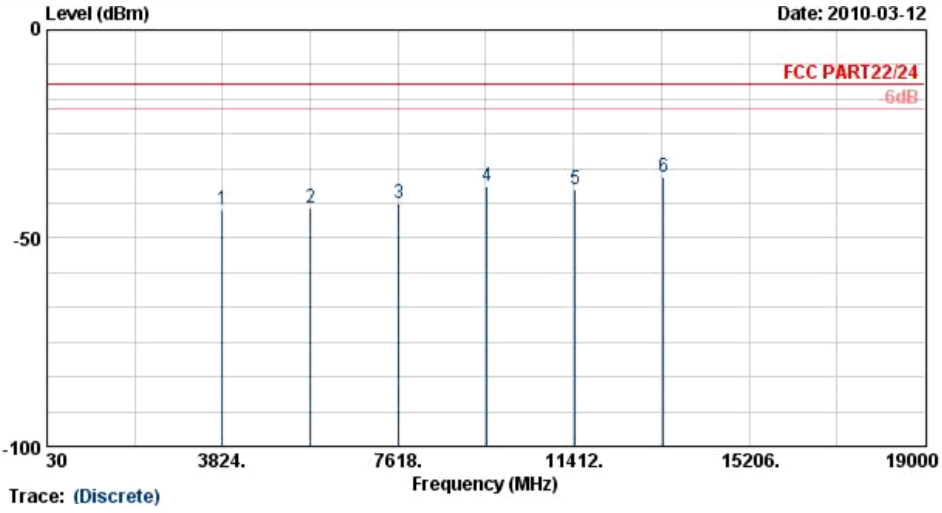
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-44.57	-13	-31.57	-58.76	-47.09	4.88	7.40	H	Pass
5640	-42.79	-13	-29.79	-60.07	-46.05	5.55	8.81	H	Pass
7520	-45.38	-13	-32.38	-61.37	-48.45	6.64	9.71	H	Pass
9400	-40.70	-13	-27.70	-61.14	-44.51	6.91	10.72	H	Pass
11280	-40.41	-13	-27.41	-62.14	-43.94	7.23	10.76	H	Pass
13160	-37.18	-13	-24.18	-62.17	-39.41	8.8	11.03	H	Pass

Band :	WCDMA Band II	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link_Channel 9400 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



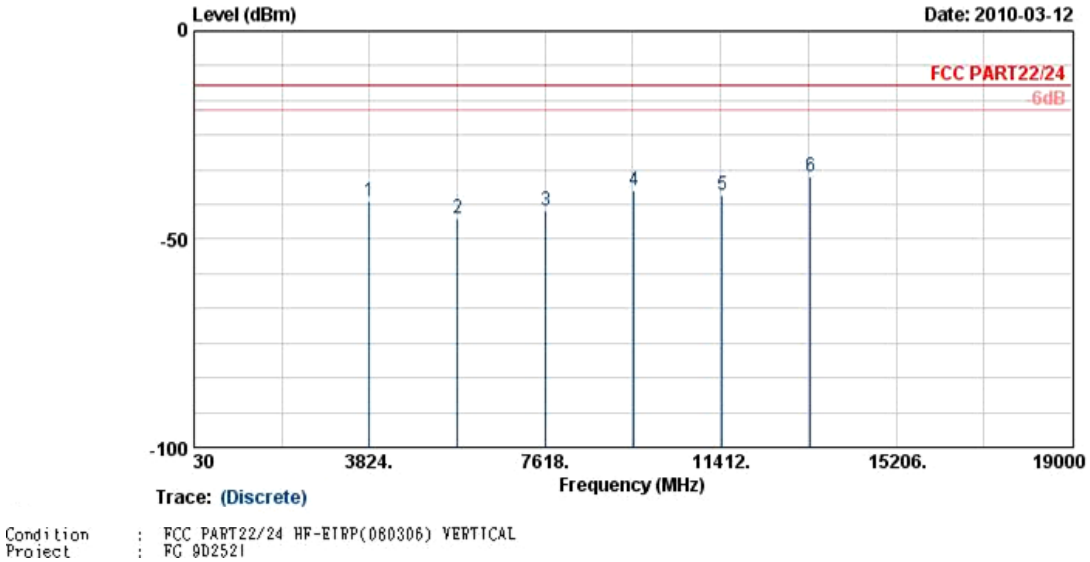
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-42.35	-13	-29.35	-59.74	-45.38	4.88	7.91	V	Pass
5640	-42.62	-13	-29.62	-58.63	-46.84	5.55	9.77	V	Pass
7520	-44.91	-13	-31.91	-60.41	-49.08	6.64	10.81	V	Pass
9400	-40.36	-13	-27.36	-61.26	-44.97	6.91	11.52	V	Pass
11280	-39.75	-13	-26.75	-62.18	-43.88	7.23	11.36	V	Pass
13160	-34.62	-13	-21.62	-61.83	-37.98	8.8	12.16	V	Pass

Band :	WCDMA Band II	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link_Channel 9538 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	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
3815.2	-43.18	-13	-30.18	-58.87	-47.18	4.78	8.78	H	Pass
5722.8	-42.85	-13	-29.85	-61.61	-47.59	5.66	10.40	H	Pass
7630.4	-41.69	-13	-28.69	-60.34	-47.72	6.28	12.31	H	Pass
9538	-37.55	-13	-24.55	-60.19	-43.54	7.2	13.19	H	Pass
11445.6	-38.43	-13	-25.43	-61.26	-43.06	8.59	13.22	H	Pass
13353.2	-35.21	-13	-22.21	-62.28	-39.52	9.4	13.71	H	Pass

Band :	WCDMA Band II	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link_Channel 9538 (With USB Cable)	Relative Humidity :	48~50%
Test Engineer :	Cona Huang	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
3815.2	-40.81	-13	-27.81	-59.17	-44.81	4.78	8.78	V	Pass
5722.8	-45.00	-13	-32.00	-61.53	-49.74	5.66	10.40	V	Pass
7630.4	-43.03	-13	-30.03	-60.45	-49.06	6.28	12.31	V	Pass
9538	-38.20	-13	-25.20	-60.48	-44.19	7.2	13.19	V	Pass
11445.6	-39.35	-13	-26.35	-62.28	-43.98	8.59	13.22	V	Pass
13353.2	-34.84	-13	-21.84	-63	-39.15	9.4	13.71	V	Pass

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
System Simulator	R&S	CMU200	116456	N/A	Jun. 05, 2008	Jun. 04, 2010	Conducted (TH02-HY)
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 23, 2009	Jun. 22, 2010	Conducted (TH02-HY)
Thermal Chamber	TEN BILLION	TTH-D35P	TBN-930701	N/A	Jul. 29, 2009	Jul. 28, 2010	Conducted (TH02-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 31, 2009	Oct. 30, 2010	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP	101067	9KHz ~ 30GHz	Dec. 04, 2009	Dec. 03, 2010	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 20, 2009	Aug. 19, 2010	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 14, 2009	Oct. 13, 2010	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Dec.09,2009	Dec. 08, 2010	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32dB. GAIN	Mar. 27, 2009	Mar. 26, 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)
System Simulator	R&S	CMU200	117997	N/A	May 14, 2009	May 13, 2011	Radiation (03CH07-HY)
EMI Test Receiver	R&S	ESCI	100724	9kHz – 2.75GHz	Mar. 04, 2009	Mar. 03, 2010	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Jan. 18, 2010	Jan. 17, 2011	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Jan. 18, 2010	Jan. 17, 2011	Radiation (03CH01-KS)
Double Ridge Horn Antenna	EMCO	3117	75959	1GHz~18GHz	Jan. 18, 2010	Jan. 17, 2011	Radiation (03CH01-KS)
Amplifier	Wireless	FPA6592G	60004	30MHz~2GHz	Dec. 17, 2009	Dec. 16, 2010	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Jan. 18, 2010	Jan. 17, 2011	Radiation (03CH01-KS)
actice hore antenna	com-power	AHA-118	701023	1G-18GHz	Nov. 18, 2009	Nov. 17, 2010	Radiation (03CH01-KS)
Signal Generator	R&S	SMR40	100455	10MHz~40GHz	Jan. 18, 2010	Jan. 17, 2011	Radiation (03CH01-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15-40GHz	Oct. 22, 2009	Oct. 21, 2010	Radiation (03CH01-KS)
System Simulator	R&S	CMU200	837587/066	Full-Band	Jan. 08, 2009	Jan. 07, 2011	Radiation (03CH01-KS)

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-Shape	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=2)	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-Shape	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. : L1190-100107

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 Arrangment with Foreign Authorities

Jay-San Chen
President, Taiwan Accreditation Foundation
Date : January 07, 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 EP9D2521 as below.