



FCC RF Test Report

APPLICANT : Acer Incorporated
EQUIPMENT : HSPA+ Module
BRAND NAME : *acer*
MODEL NAME : MU733
FCC ID : HLZMU733
STANDARD : FCC 47 CFR Part 2, 22(H), 24(E)
CLASSIFICATION : PCS Licensed Transmitter (PCB)

The product was installed into Wireless Tablet PC (Brand Name:*acer* , Model Name: W511, W510P, WT3 , FCC ID: HLZW510) during test.

The product was received on Sep. 11, 2012 and completely tested on Oct. 15, 2012. 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:

Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

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SPORTON INTERNATIONAL INC.

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FCC ID : HLZMU733

Page Number : 1 of 34

Report Issued Date : Oct. 17, 2012

Report Version : Rev. 01



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG282240-03	Rev. 01	Initial issue of report	Oct. 17, 2012



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	-
3.1	§22.913(a)(2)	RSS-132(4.4) SRSP-503(5.1.3)	Effective Radiated Power	< 7 Watts	PASS	-
3.1	§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	$< 43+10\log_{10}(P[\text{Watts}])$	PASS	Under limit 11.30 dB at 2509.000 MHz



1 General Description

1.1 Applicant

Acer Incorporated

8F., No. 88, Sec. 1, Hsin Tai Wu Rd., Xizhi, New Taipei City 221, Taiwan, R.O.C.

1.2 Manufacturer

1. AMBIT MICROSYSTEMS (SHANGHAI) LTD.
No. 1925, Nanle Road, Songjiang Export Process Zone, Shanghai, China
2. Hon Fu Jin Precision Industry (Shenzhen) Co., Ltd.
Communication Network Solution Business Group; No. 2, 2nd Donghuan Road, 10th Yousong Industrial District, Longhua Town, Baoan District, Shenzhen, Guangdong 518109 China
3. Hong Fu Jin Precision Electrons (YanTai) Co., Ltd.
CNSBG-CPE1; A11 Building, Export Processing Zone, Economic & Technologic, Development Area, YanTai, Shandong, 264006, China
4. Hong Fu Jin Precision Electronics (Chongqing) Co., Ltd.
Building D02, No. 1, East Zone 1st Road, Shapingba District, Chongqing, 401332, China
5. Foxconn CMMSG Industrial Electronics Ltd.
N800, Marginal Rodovia dos Bandeirantes avenue, Engordadouro district, Jundiai City, Sao Paulo, Brazil, ZIP Code: 13213-008
6. Fenix Industrial Electronics Ltd.
N236, Jose de Palma Renno street, Centro district, Santa Rita do Sapucaí City , Minas Gerais, Brazil , ZIP Code: 37540-000
7. Foxconn MOEBG Industria De Eletronicos Ltd.
No. 1580a Acai Street, Industrial district, Manaus Amazonas, Brazil, ZIP Code: 69075-020
8. Nanning Fu Tai Hong Precision Electronic Co., Ltd.
HWV Product Division No. 13 Road, Keyuan East; High Technical Industrial, Development Zone, Nanning, Guangzi, 530007, China
9. Nanning Fu Tai Hong Precision Electronics Co., Ltd.
The Forth Building, China-ASEAN Advanced Business Part Phase Three, No. 18, Zongbu Road, High Technical Industrial Development Zone, Nanninb, Guangxi, 530007, China
10. Nanning Fu Gui Precision Electronics Co., Ltd.
China-ASEAN Advanced Business Park Phase Three, No. 18, Zongbu Road, Hgh Technical Industrial Development Zone, Nanning , Guangxi , 530007, China
11. FUNING Precision Component (Bac Ninh) Co., Ltd.
Que Vo industrial park, Van Duong commune, Bac Ninh city, BacNinh province, Vietnam
12. Fuhong Precision Component (Bac Giang) Limited
Dinh Tram Industrial Park, Viet Yen District Bac Giang Province 236100, Vietnam

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	HSPA+ Module
Brand Name	<i>acer</i>
Model Name	MU733
FCC ID	HLZMU733
Host Tablet PC	Brand Name : <i>acer</i> Model Name : W511, W510P, WT3 Marketing Name : ICONIA W51xxx ("*" = 0-9, a-z, A-Z, "(", ")", "-", "/", "\\", "_" or blank) FCC ID : HLZW510
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA WLAN 11abgn / Bluetooth / NFC
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

Product Specification subjective to this standard	
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz
Rx Frequency	GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz
Maximum Output Power to Antenna	GSM850 : 32.36 dBm GSM1900 : 29.18 dBm WCDMA Band V : 23.41 dBm WCDMA Band II : 22.95 dBm
Antenna Type	PIFA Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: 8PSK WCDMA: QPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink)

1.4 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

FCC Rule	System	Type of Modulation	Maximum ERP/EIRP (W)
Part 22	GSM850 GPRS 8	GMSK	0.422
Part 22	GSM850 EDGE 8	GMSK / 8PSK	0.121
Part 22	WCDMA Band V RMC 12.2Kbps	QPSK	0.054
Part 24	GSM1900 GPRS 8	GMSK	0.400
Part 24	GSM1900 EDGE 8	GMSK / 8PSK	0.170
Part 24	WCDMA Band II RMC 12.2Kbps	QPSK	0.095

1.5 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.
	TH02-HY	03CH05-HY	722060/4086B-1

1.6 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)
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01
- ♦ 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, recorded in a separate test report.



1.7 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 and WCDMA Band V.
2. 30 MHz to 19000 MHz for GSM1900 and WCDMA Band II.

Test Modes		
Band	Radiated TCs	Conducted TCs
GSM 850	<ul style="list-style-type: none"> ■ GPRS 8 Link ■ EDGE 8 Link ■ GPRS 8 Link + Docking 	<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 ■ GPRS 8 Link + Docking 	<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 	<ul style="list-style-type: none"> ■ RMC 12.2Kbps Link
WCDMA Band II	<ul style="list-style-type: none"> ■ RMC 12.2Kbps Link 	<ul style="list-style-type: none"> ■ RMC 12.2Kbps Link

Note:

1. 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 band V, and RMC 12.2Kbps mode for WCDMA band II, only these modes were used for all tests.
2. Because there are individual antennas for each WWAN, WLAN, and Bluetooth, the co-location test modes are not required.

The conducted power tables are as follows:

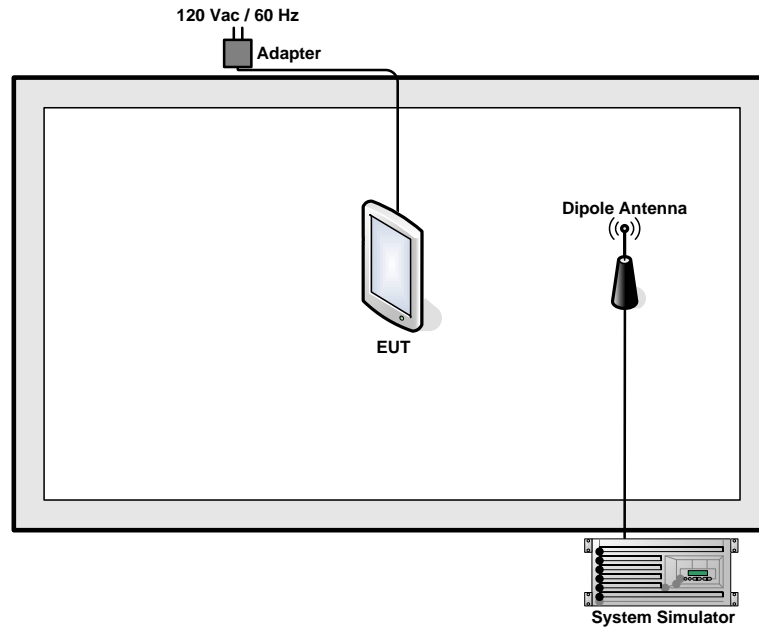
Conducted Power (*Unit: dBm)						
Band	GSM850			GSM1900		
Channel	128	189	251	512	661	810
Frequency	824.2	836.4	848.8	1850.2	1880.0	1909.8
GPRS 8	32.23	32.36	32.30	29.08	29.18	29.00
GPRS 10	29.83	29.93	29.87	26.53	26.62	26.45
GPRS 12	26.99	27.12	27.06	23.64	23.73	23.54
EGPRS 8	26.82	26.94	26.88	25.40	25.47	25.27
EGPRS 10	24.44	24.57	24.50	23.00	23.07	22.85
EGPRS 12	21.49	21.63	21.58	20.01	20.08	19.86



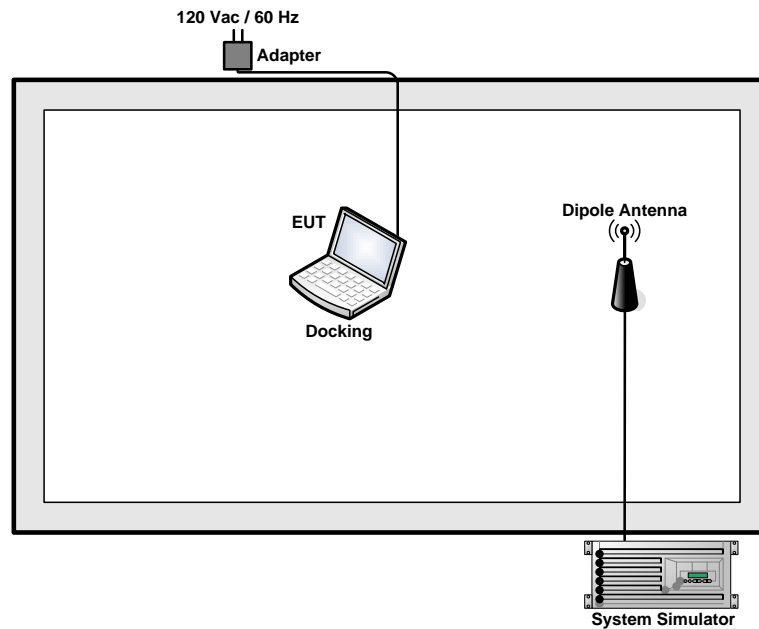
Conducted Power (*Unit: dBm)						
Band	WCDMA Band V			WCDMA Band II		
Channel	4132	4182	4233	9262	9400	9538
Frequency	826.4	836.4	846.6	1852.4	1880.0	1907.6
RMC 12.2K	23.41	23.29	23.24	22.95	22.87	22.90
HSDPA Subtest-1	23.40	23.28	23.23	22.94	22.85	22.83
HSDPA Subtest-2	22.88	22.74	22.73	22.42	22.34	22.31
HSDPA Subtest-3	22.38	22.21	22.22	21.96	21.86	21.89
HSDPA Subtest-4	22.13	21.98	21.97	21.68	21.64	21.56
HSUPA Subtest-1	22.35	22.25	22.23	22.09	22.01	22.18
HSUPA Subtest-2	20.67	20.64	20.57	20.42	20.38	20.50
HSUPA Subtest-3	21.47	21.37	21.34	21.24	21.27	21.25
HSUPA Subtest-4	20.91	20.95	20.81	20.60	20.80	20.74
HSUPA Subtest-5	22.82	22.72	22.72	22.60	22.50	22.47

2.2 Connection Diagram of Test System

<EUT with Adapter Mode>



<EUT with Docking Mode>



3 Test Result

3.1 Conducted Output Power and ERP/EIRP Measurement

3.1.1 Description of the Conducted Output Power and ERP/EIRP 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.

The ERP of mobile transmitters must not exceed 7 Watts and the EIRP of mobile transmitters are limited to 2 Watts. According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

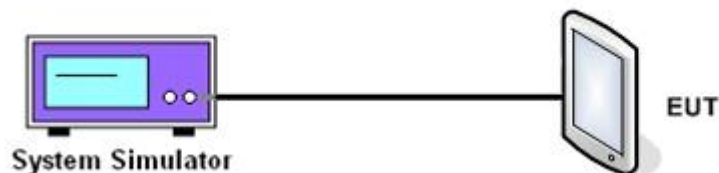
3.1.2 Measuring Instruments

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.
4. Measure the maximum burst average power for GSM and maximum average power for other modulation signal.

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

Cellular Band ($G_T - L_C = -3.96\text{dB}$)									
Modes	GSM850 (GPRS 8)			GSM850 (EDGE 8)			WCDMA Band V (RMC 12.2Kbps)		
Channel	128 (Low)	189 (Mid)	251 (High)	128 (Low)	189 (Mid)	251 (High)	4132 (Low)	4182 (Mid)	4233 (High)
Frequency (MHz)	824.2	836.4	848.8	824.2	836.4	848.8	826.4	836.4	846.6
Conducted Power (dBm)	32.23	32.36	32.30	26.82	26.94	26.88	23.41	23.29	23.24
Conducted Power (Watts)	1.67	1.72	1.70	0.48	0.49	0.49	0.22	0.21	0.21
ERP(dBm)	26.12	26.25	26.19	20.71	20.83	20.77	17.30	17.18	17.13
ERP(Watts)	0.409	0.422	0.416	0.118	0.121	0.119	0.054	0.052	0.052

PCS Band ($G_T - L_C = -3.16\text{dB}$)									
Modes	GSM1900 (GPRS 8)			GSM1900 (EDGE 8)			WCDMA Band II (RMC 12.2Kbps)		
Channel	512 (Low)	661 (Mid)	810 (High)	512 (Low)	661 (Mid)	810 (High)	9262 (Low)	9400 (Mid)	9538 (High)
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8	1852.4	1880	1907.6
Conducted Power (dBm)	29.08	29.18	29.00	25.40	25.47	25.27	22.95	22.87	22.90
Conducted Power (Watts)	0.81	0.83	0.79	0.35	0.35	0.34	0.20	0.19	0.19
EIRP(dBm)	25.92	26.02	25.84	22.24	22.31	22.11	19.79	19.71	19.74
EIRP(Watts)	0.391	0.400	0.384	0.167	0.170	0.163	0.095	0.094	0.094

Note: maximum burst average power for GSM, and maximum average power for WCDMA.

$EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB



3.2 Field Strength of Spurious Radiation Measurement

3.2.1 Description of Field Strength of Spurious Radiated Measurement

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

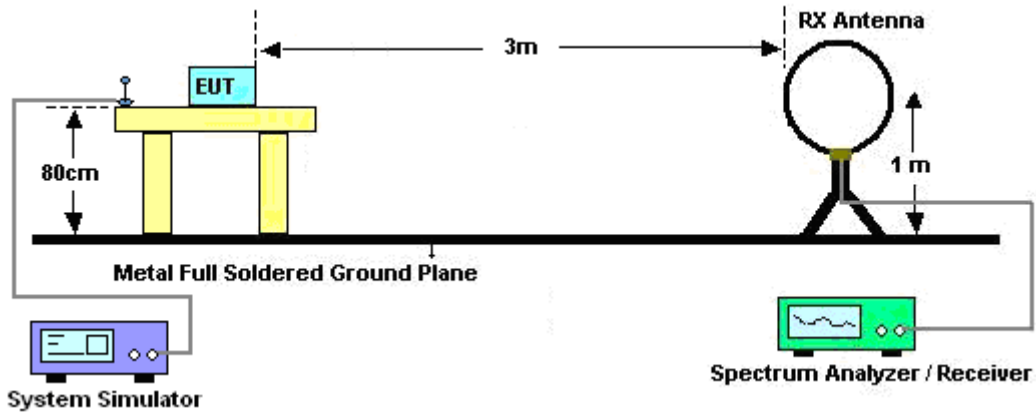
See list of measuring instruments of this test report.

3.2.3 Test Procedures

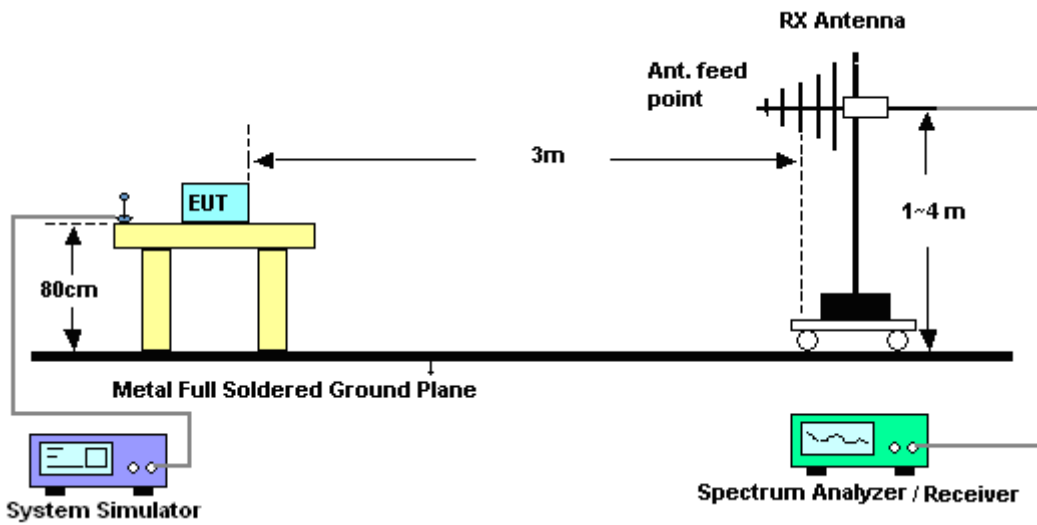
1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving 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, 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

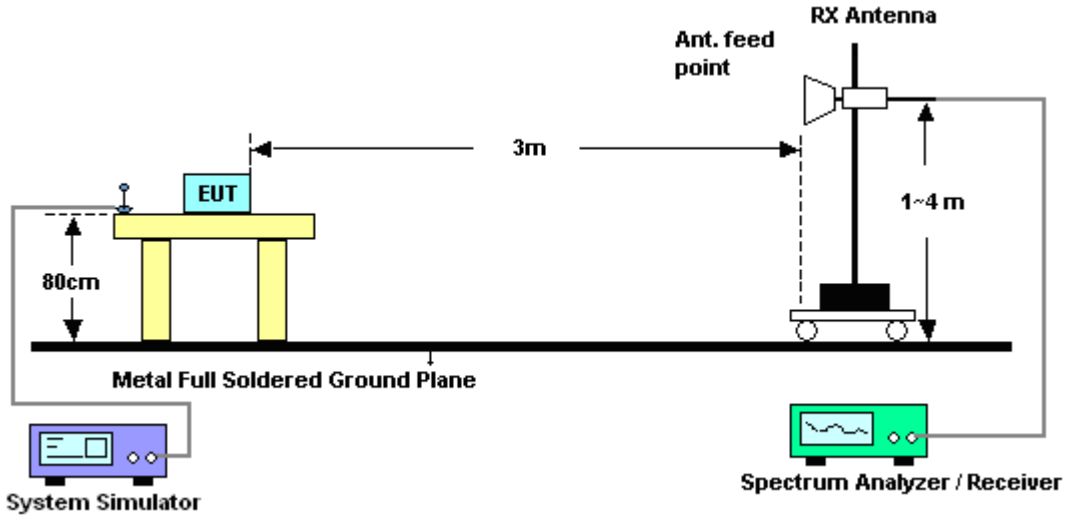
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



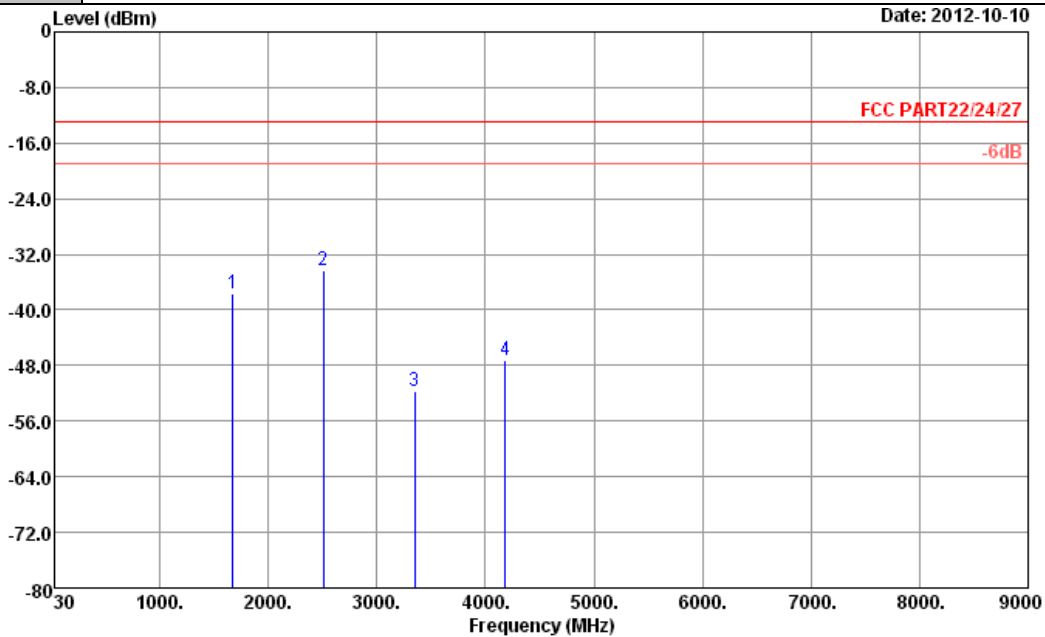
3.2.5 Test Results of Radiated Emissions (9 KHz ~ 30 MHz)

The low frequency, which started from 9 KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.



3.2.6 Test Result of Field Strength of Spurious Radiated

Band :	GSM850	Temperature :	23~25°C
Test Mode :	GPRS 8 Link	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

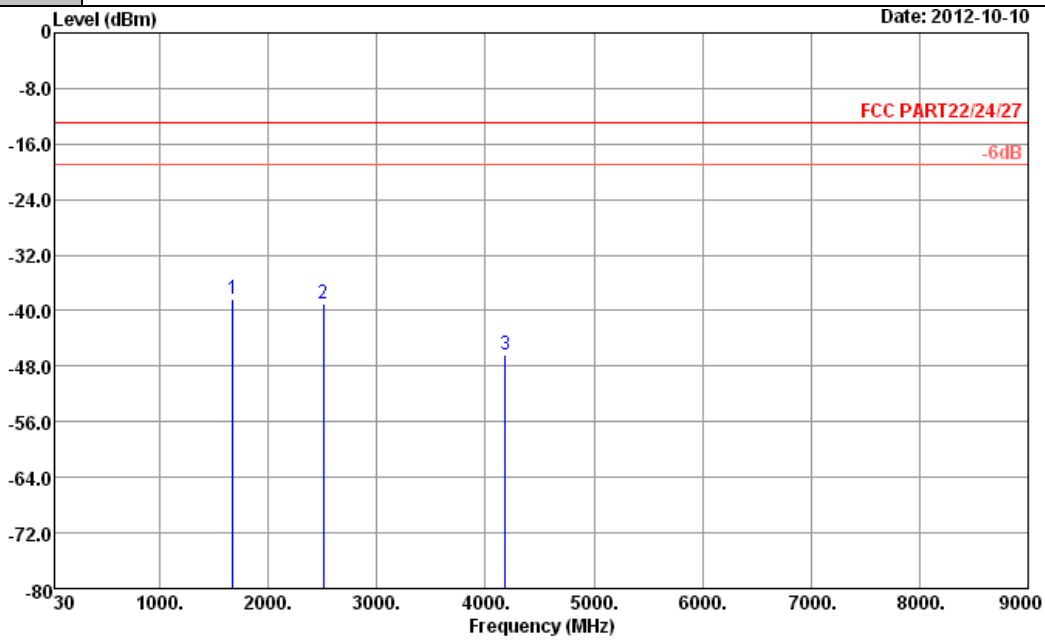


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 HORIZONTAL
 Project : FG 282240-03

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
1672	-37.59	-13	-24.59	-44.4	-39.35	1.35	5.25	H	Pass
2509	-34.36	-13	-21.36	-44.69	-36.74	1.58	6.11	H	Pass
3346	-51.76	-13	-38.76	-63.94	-55.61	1.94	7.94	H	Pass
4180	-47.29	-13	-34.29	-62.38	-52.33	1.96	9.15	H	Pass



Band :	GSM850	Temperature :	23~25°C
Test Mode :	GPRS 8 Link	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

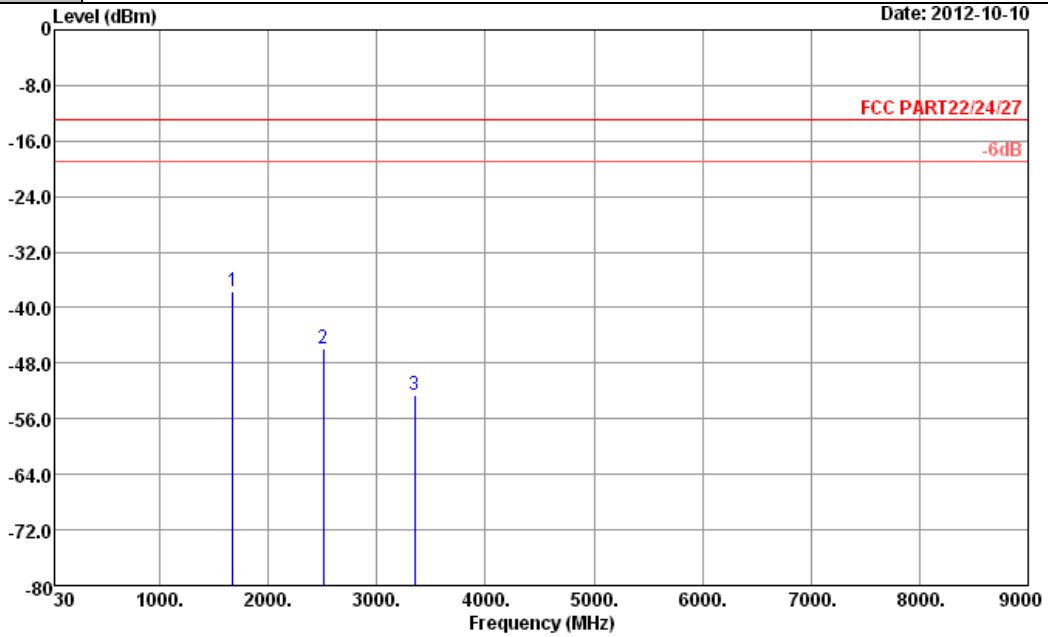


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 VERTICAL
 Project : FG 282240-03

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
1672	-38.37	-13	-25.37	-45.41	-40.13	1.35	5.25	V	Pass
2509	-38.89	-13	-25.89	-48.54	-41.27	1.58	6.11	V	Pass
4180	-46.34	-13	-33.34	-61.33	-51.38	1.96	9.15	V	Pass



Band :	GSM850	Temperature :	23~25°C
Test Mode :	EDGE 8 Link	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

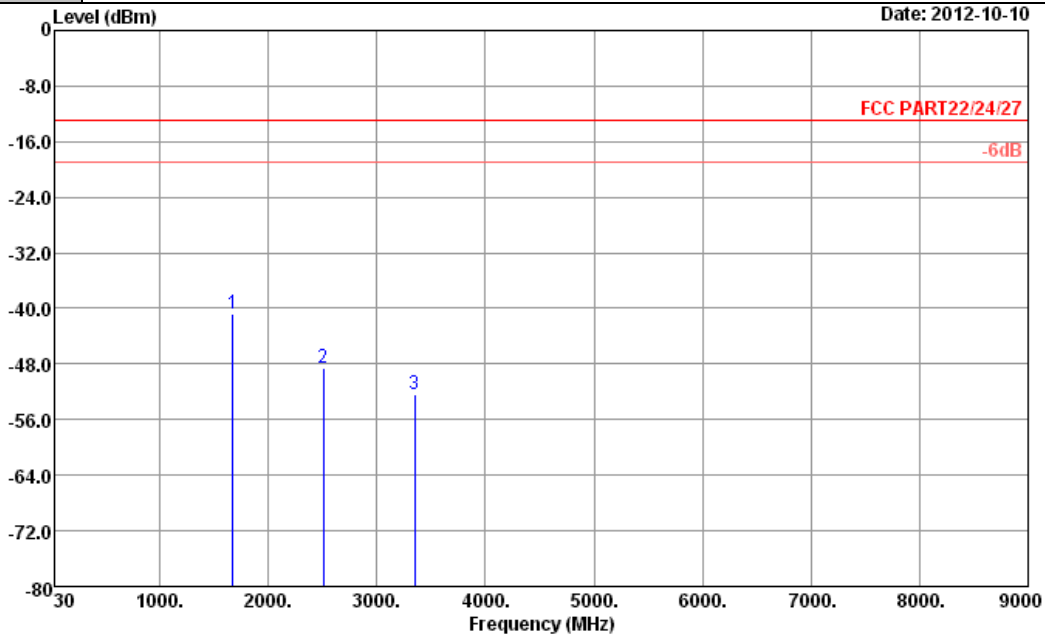


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 HORIZONTAL
 Project : FG 282240-03

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
1672	-37.65	-13	-24.65	-43.98	-39.41	1.35	5.25	H	Pass
2509	-45.95	-13	-32.95	-55.43	-48.33	1.58	6.11	H	Pass
3346	-52.63	-13	-39.63	-64.56	-56.48	1.94	7.94	H	Pass



Band :	GSM850	Temperature :	23~25°C
Test Mode :	EDGE 8 Link	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

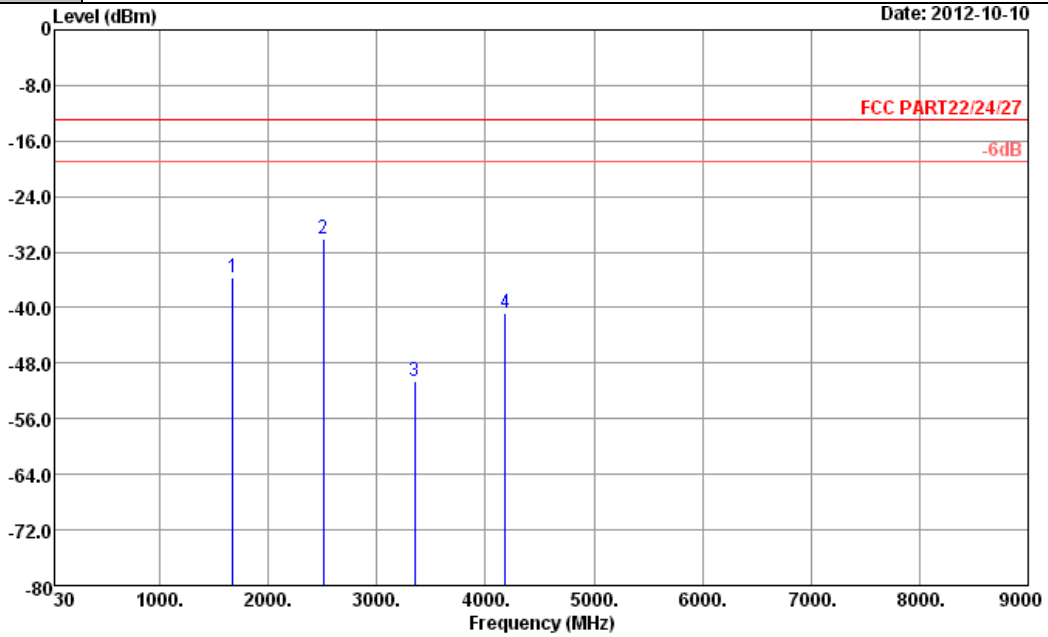


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 VERTICAL
 Project : FG 282240-03

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
1672	-40.80	-13	-27.80	-47.3	-42.56	1.35	5.25	V	Pass
2509	-48.49	-13	-35.49	-58.6	-50.87	1.58	6.11	V	Pass
3346	-52.28	-13	-39.28	-64.78	-56.13	1.94	7.94	V	Pass



Band :	GSM850	Temperature :	23~25°C
Test Mode :	GPRS 8 Link + Docking	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

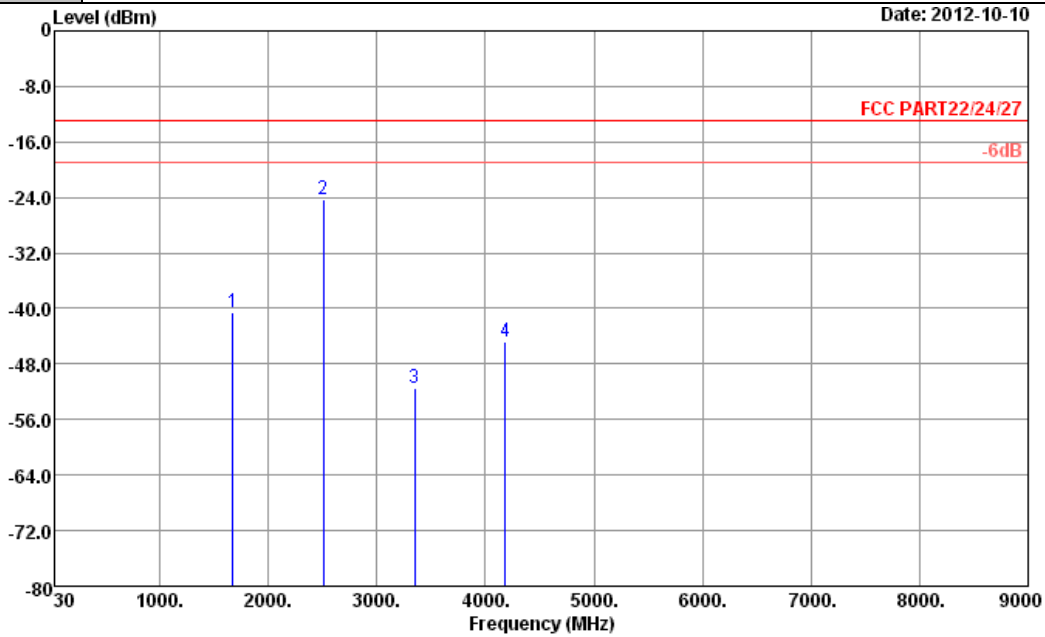


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 HORIZONTAL
 Project : FG 282240-03

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
1672	-35.76	-13	-22.76	-41.75	-37.52	1.35	5.25	H	Pass
2509	-30.11	-13	-17.11	-39.93	-32.49	1.58	6.11	H	Pass
3346	-50.53	-13	-37.53	-63.06	-54.38	1.94	7.94	H	Pass
4180	-40.69	-13	-27.69	-55.49	-45.73	1.96	9.15	H	Pass



Band :	GSM850	Temperature :	23~25°C
Test Mode :	GPRS 8 Link + Docking	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

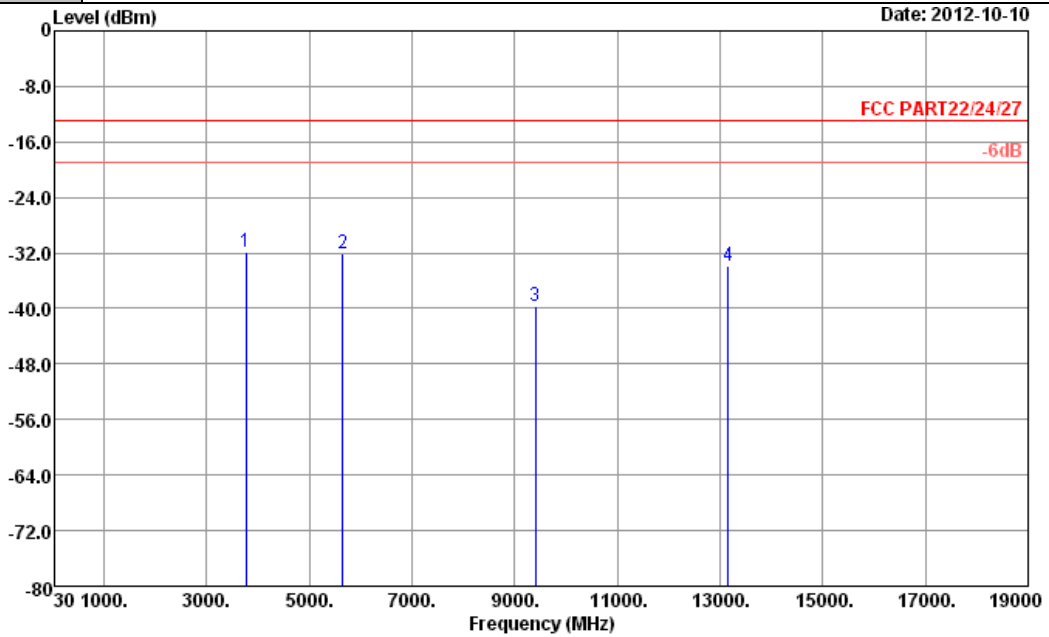


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 VERTICAL
 Project : FG 282240-03

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
1672	-40.51	-13	-27.51	-46.96	-42.27	1.35	5.25	V	Pass
2509	-24.30	-13	-11.30	-33.93	-26.68	1.58	6.11	V	Pass
3346	-51.54	-13	-38.54	-63.77	-55.39	1.94	7.94	V	Pass
4180	-44.81	-13	-31.81	-60.25	-49.85	1.96	9.15	V	Pass



Band :	GSM1900	Temperature :	23~25°C
Test Mode :	GPRS 8 Link	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

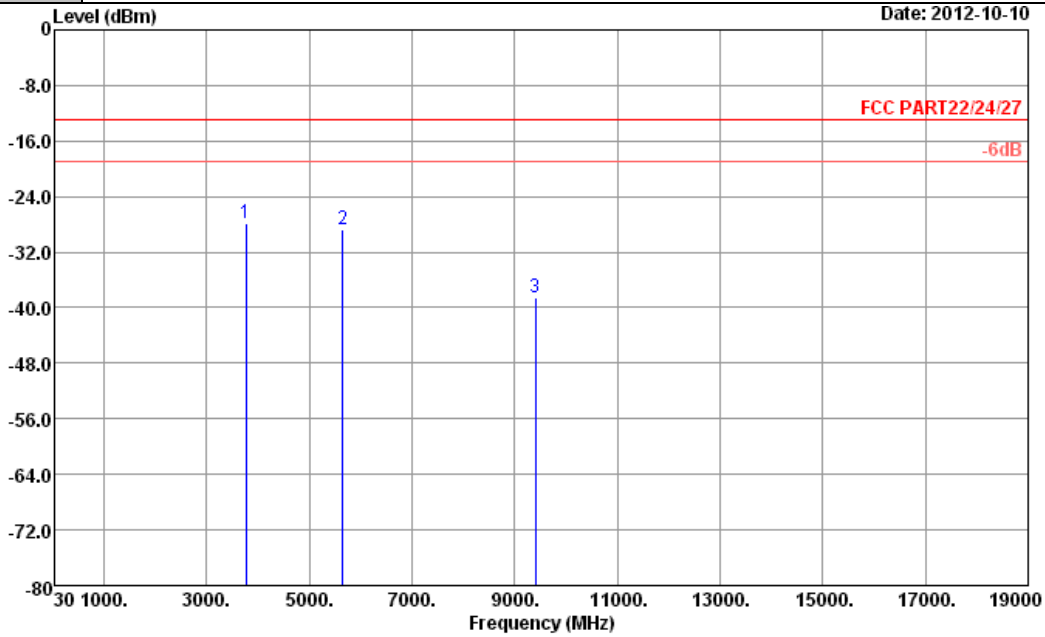


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 HORIZONTAL
 Project : FG 282240-03

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	-31.84	-13	-18.84	-45.35	-38.55	2.00	8.71	H	Pass
5640	-32.10	-13	-19.10	-51.57	-40.74	2.13	10.77	H	Pass
9400	-39.70	-13	-26.70	-64.13	-50.21	2.87	13.38	H	Pass
13160	-33.86	-13	-20.86	-64.63	-44.69	2.86	13.69	H	Pass



Band :	GSM1900	Temperature :	23~25°C
Test Mode :	GPRS 8 Link	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

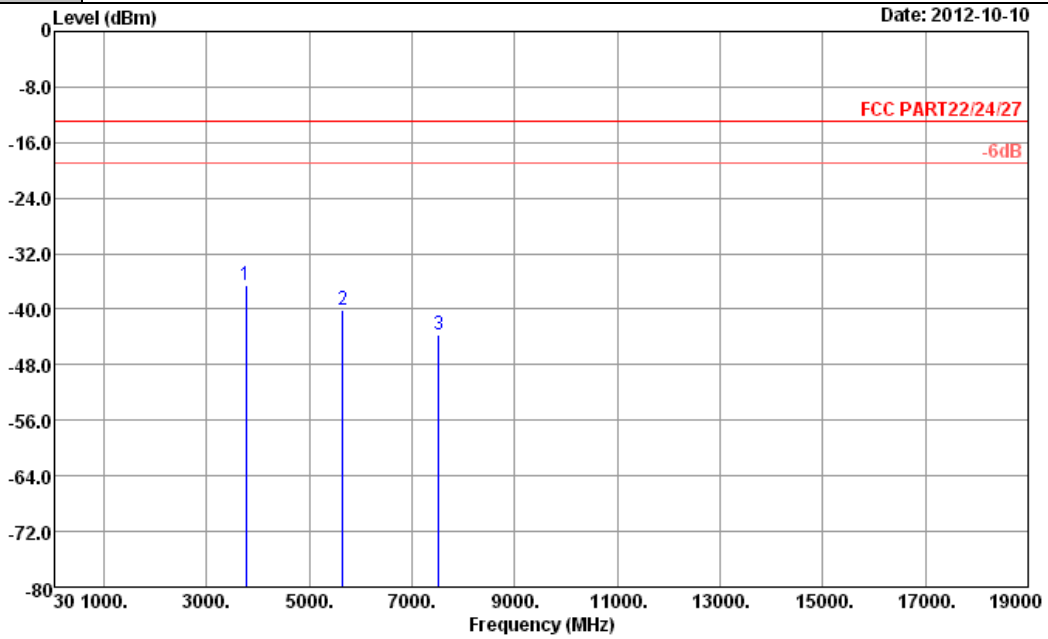


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 VERTICAL
 Project : FG 282240-03

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	-27.85	-13	-14.85	-41.71	-34.56	2.00	8.71	V	Pass
5640	-28.69	-13	-15.69	-48.48	-37.33	2.13	10.77	V	Pass
9400	-38.65	-13	-25.65	-63.37	-49.16	2.87	13.38	V	Pass



Band :	GSM1900	Temperature :	23~25°C
Test Mode :	EDGE 8 Link	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

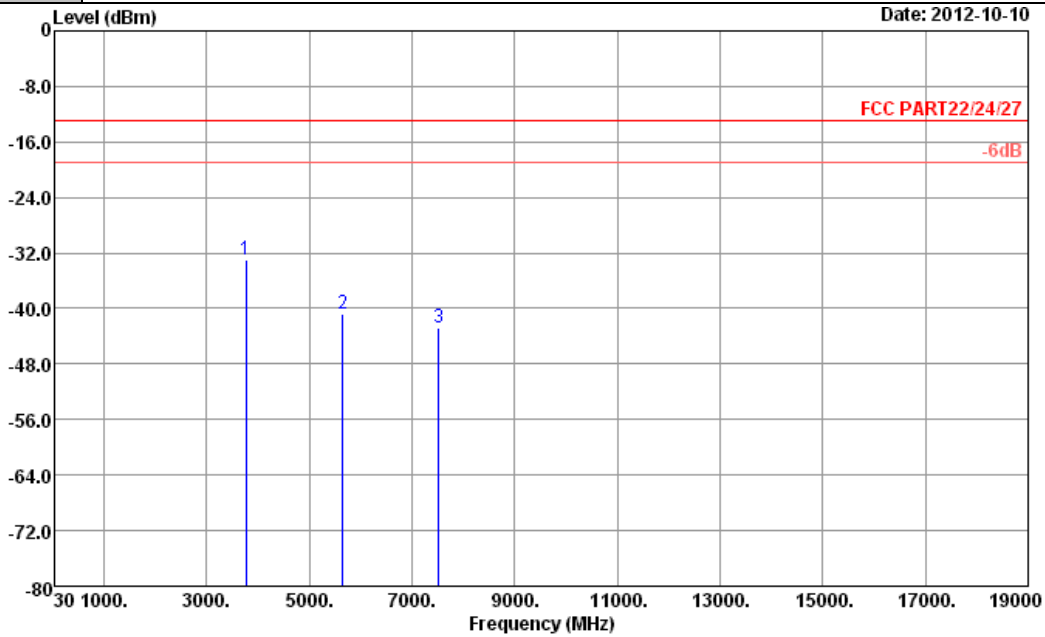


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 HORIZONTAL
 Project : FG 282240-03

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	-36.65	-13	-23.65	-50.95	-43.36	2.00	8.71	H	Pass
5640	-40.15	-13	-27.15	-59.24	-48.79	2.13	10.77	H	Pass
7520	-43.73	-13	-30.73	-66.12	-53.27	2.68	12.22	H	Pass



Band :	GSM1900	Temperature :	23~25°C
Test Mode :	EDGE 8 Link	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

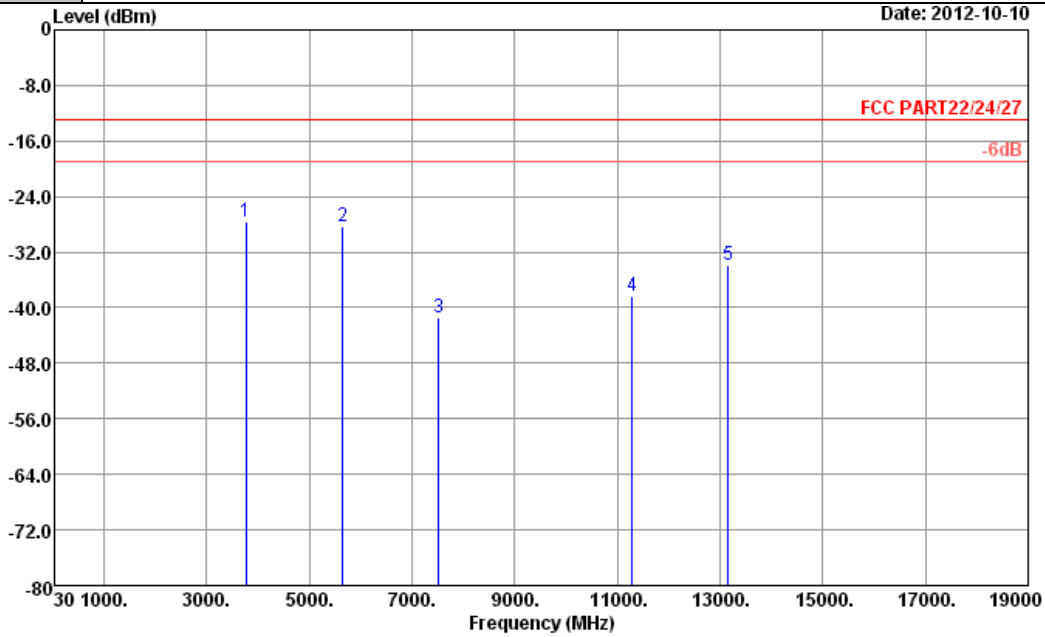


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 VERTICAL
 Project : FG 282240-03

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	-32.97	-13	-19.97	-47.27	-39.68	2.00	8.71	V	Pass
5640	-40.87	-13	-27.87	-59.91	-49.51	2.13	10.77	V	Pass
7520	-42.75	-13	-29.75	-65.28	-52.29	2.68	12.22	V	Pass



Band :	GSM1900	Temperature :	23~25°C
Test Mode :	GPRS 8 Link + Docking	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

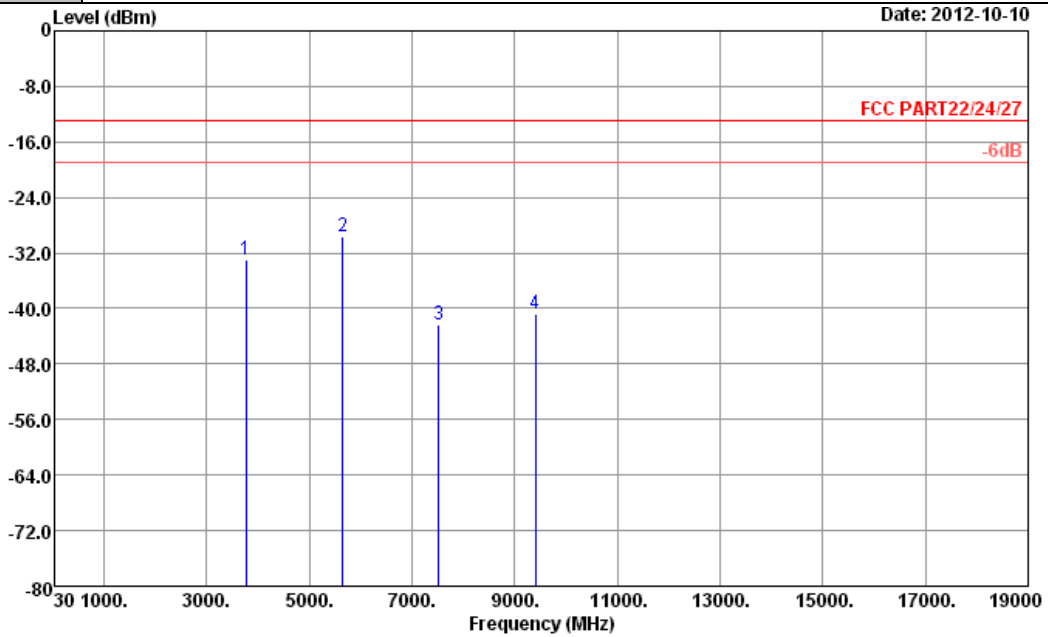


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 HORIZONTAL
 Project : FG 282240-03

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	-27.60	-13	-14.60	-41.86	-34.31	2.00	8.71	H	Pass
5640	-28.20	-13	-15.20	-48.05	-36.84	2.13	10.77	H	Pass
7520	-41.39	-13	-28.39	-64.38	-50.93	2.68	12.22	H	Pass
11280	-38.43	-13	-25.43	-66.37	-49.15	2.64	13.36	H	Pass
13160	-33.84	-13	-20.84	-65.41	-44.67	2.86	13.69	H	Pass



Band :	GSM1900	Temperature :	23~25°C
Test Mode :	GPRS 8 Link + Docking	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

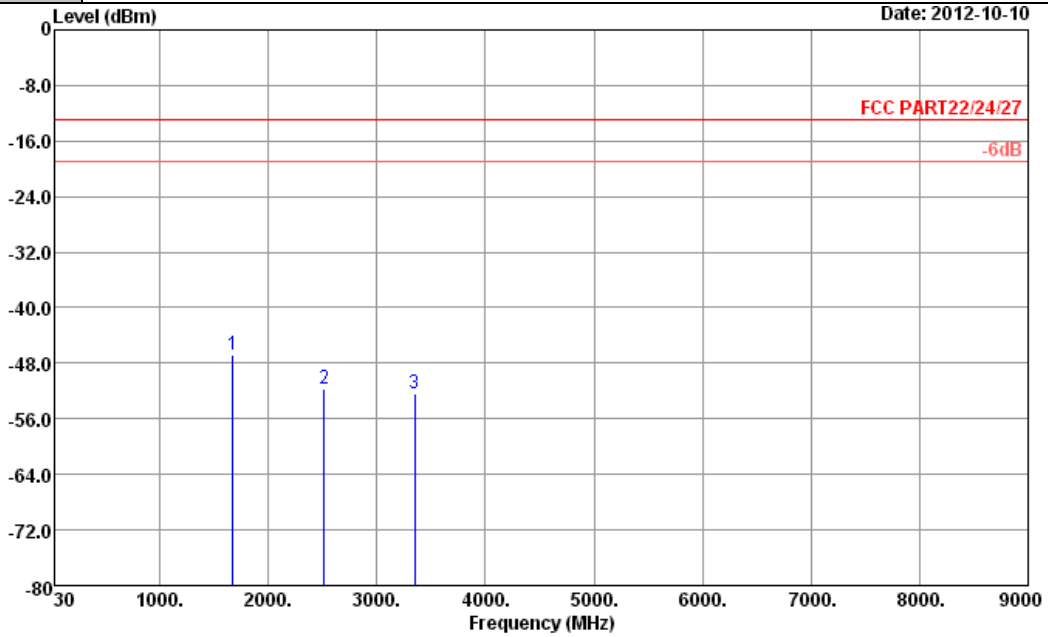


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 VERTICAL
 Project : FG 282240-03

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	-33.06	-13	-20.06	-47.65	-39.77	2.00	8.71	V	Pass
5640	-29.62	-13	-16.62	-49.09	-38.26	2.13	10.77	V	Pass
7520	-42.30	-13	-29.30	-64.9	-51.84	2.68	12.22	V	Pass
9400	-40.71	-13	-27.71	-64.94	-51.22	2.87	13.38	V	Pass



Band :	WCDMA Band V	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

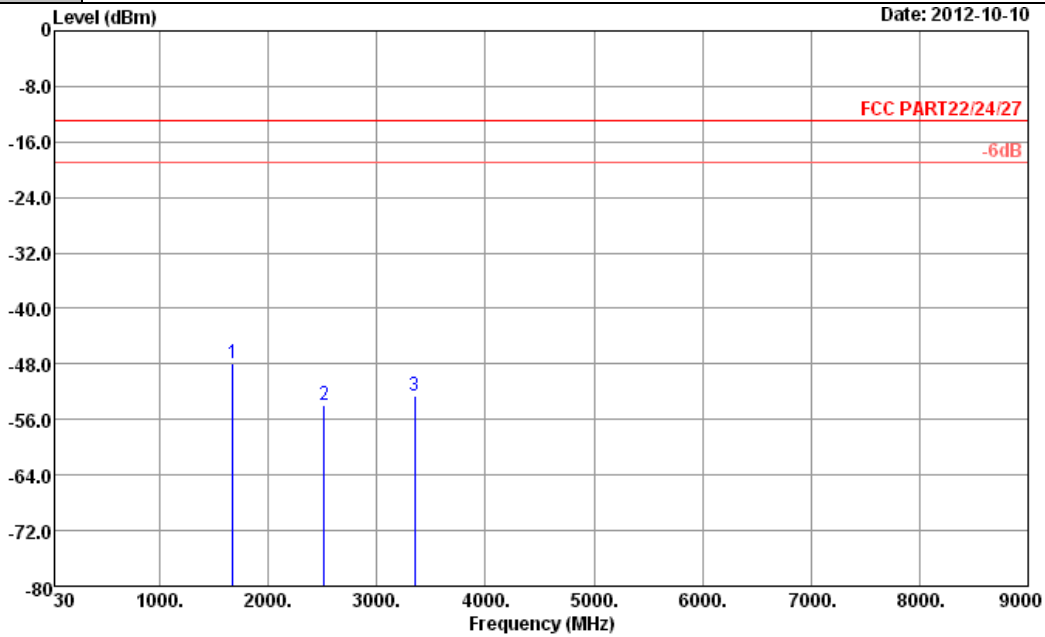


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 HORIZONTAL
 Project : FG 282240-03

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
1675	-46.70	-13	-33.70	-53.13	-48.46	1.35	5.25	H	Pass
2512	-51.79	-13	-38.79	-62.15	-54.17	1.58	6.11	H	Pass
3349	-52.40	-13	-39.40	-64.56	-56.25	1.94	7.94	H	Pass



Band :	WCDMA Band V	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

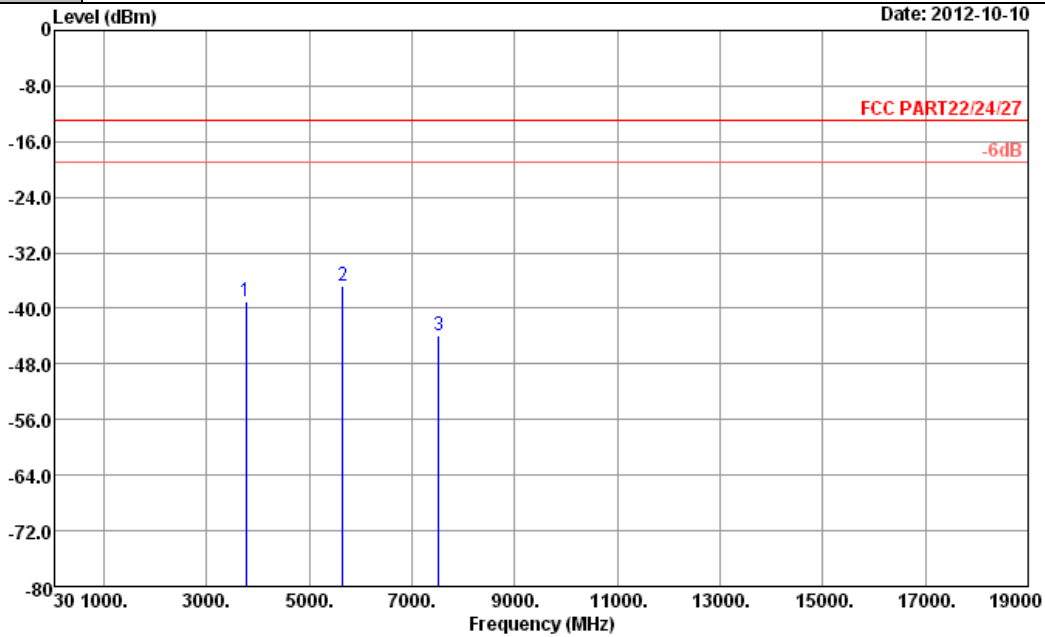


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 VERTICAL
 Project : FG 282240-03

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
1675	-48.01	-13	-35.01	-55.2	-49.77	1.35	5.25	V	Pass
2512	-53.94	-13	-40.94	-64.04	-56.32	1.58	6.11	V	Pass
3349	-52.56	-13	-39.56	-64.56	-56.41	1.94	7.94	V	Pass



Band :	WCDMA Band II	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

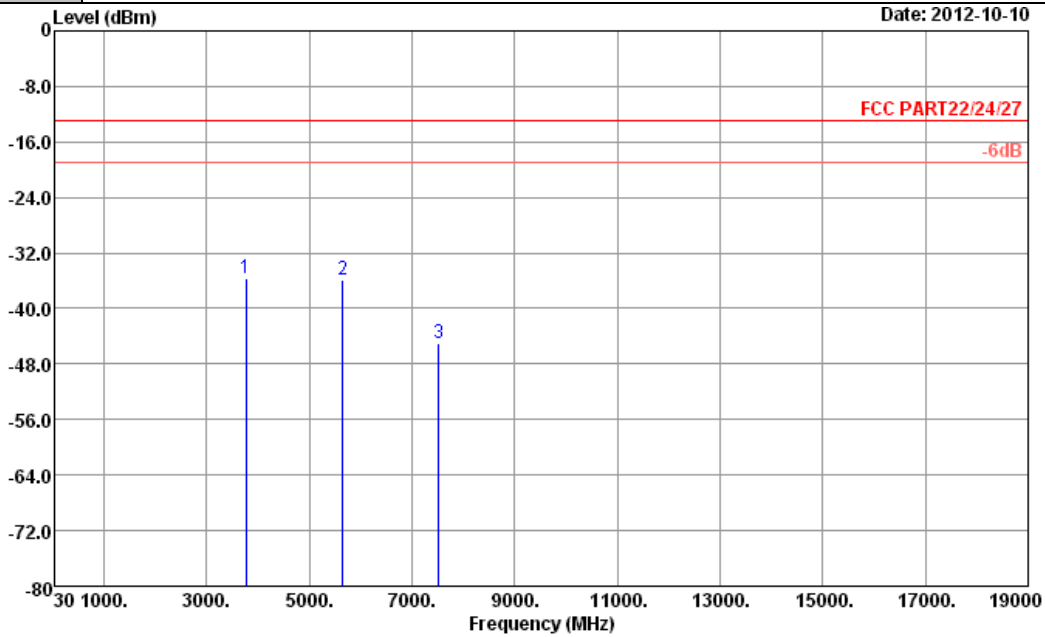


Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 HORIZONTAL
 Project : FG 282240-03

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
3756	-39.03	-13	-26.03	-54.27	-45.74	2.00	8.71	H	Pass
5644	-36.67	-13	-23.67	-56.12	-45.31	2.13	10.77	H	Pass
7524	-43.94	-13	-30.94	-66.57	-53.48	2.68	12.22	H	Pass



Band :	WCDMA Band II	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link	Relative Humidity :	50~52%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH05-HY
 Condition : FCC PART22/24/27 HF_EIRP_101221 VERTICAL
 Project : FG 282240-03

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	-35.62	-13	-22.62	-50.26	-42.33	2.00	8.71	V	Pass
5644	-35.83	-13	-22.83	-54.93	-44.47	2.13	10.77	V	Pass
7520	-45.02	-13	-32.02	-67.08	-54.56	2.68	12.22	V	Pass



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
System Simulator	R&S	CMU200	117995	N/A	Jul. 30, 2012	Oct. 15, 2012	Jul. 29, 2013	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Sep. 08, 2012	Oct. 15, 2012	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Sep. 08, 2012	Oct. 15, 2012	Sep. 07, 2013	Conducted (TH02-HY)
Spectrum Analyzer	R&S	ESU26	100390	20Hz ~ 26.5GHz	Dec. 22, 2011	Oct. 10, 2012	Dec. 21, 2012	Radiation (03CH05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2725	30MHz ~ 2GHz	Oct. 22, 2011	Oct. 10, 2012	Oct. 21, 2012	Radiation (03CH05-HY)
Turn Table	HD	Deis HD 2000	420/611	0 ~ 360 degree	N/A	Oct. 10, 2012	N/A	Radiation (03CH05-HY)
Antenna Mast	HD	MA 240	240/666	1 m ~ 4 m	N/A	Oct. 10, 2012	N/A	Radiation (03CH05-HY)
Horn Antenna	ESCO	3117	66584	1GHz~18GHz	Aug. 10, 2012	Oct. 10, 2012	Aug. 09, 2013	Radiation (03CH05-HY)
Pre Amplifier	Agilent	8449B	3008A02665	1GHz~26.5GHz	Aug. 28, 2012	Oct. 10, 2012	Aug. 27, 2013	Radiation (03CH05-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA917025 1	15GHz ~ 40GHz	Oct. 21, 2011	Oct. 10, 2012	Oct. 20, 2012	Radiation (03CH05-HY)
Pre Amplifier	COM-POWER	PA-103	161075	10-1000MHz.32dB. GAIN	Feb. 27, 2012	Oct. 10, 2012	Feb. 26, 2013	Radiation (03CH05-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9KHz ~ 30MHz	Jul. 03, 2012	Oct. 10, 2012	Jul. 02, 2014	Radiation (03CH05-HY)
System Simulator	R&S	CMU200	117995	N/A	Jul. 28, 2011	Oct. 10, 2012	Jul. 27, 2013	Radiation (03CH05-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.54
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.72
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Appendix A. Photographs of EUT

Please refer to Sporton report number EP282240-03 as below.