FCC Test Report

APPLICANT	:	Nokia Corporation
EQUIPMENT	:	Internet Stick
BRAND NAME	:	Nokia
MODEL NAME	:	21M-01, 7M-01
TYPE DESIGNATION	:	RD-17, RD-22
MARKETING NAME	:	Nokia Internet Stick 21M-01, Nokia Internet Stick 7M-01
FCC ID	:	PYARD-17
STANDARD	:	FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION	:	Declaration of Conformity

The product was received on Mar. 17, 2011 and completely tested on Apr. 15, 2011. 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 the 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

Testing Laboratory 1190

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FD131744-02	Rev. 01	Initial issue of report	Jun. 17, 2011
FD131744-02	Rev. 02	Update report for revising type designation	Jun. 28, 2011

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.107	7.2.2	AC Conducted Emission	< 15.107 limits < RSS-Gen table 2 limits	PASS	Under limit 14.8 dB at 0.20 MHz
3.2	15.109	7.2.3.2	Radiated Emission	< 15.109 limits or < RSS-Gen table 1 limits (Section 6)	PASS	Under limit 6.16 dB at 280.02 MHz

Remark: The test results of PYARD-19 are re-used for certification of the PYARD-17. The table above indicates the results, which will be re-used.

1. General Description

1.1. Applicant

Nokia Corporation
Keilalahdentie 2-4, 02150 ESPOO, FINLAND

1.2. Manufacturer

Nokia Corporation
Keilalahdentie 2-4, 02150 ESPOO, FINLAND

1.3. Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Internet Stick
Brand Name	Nokia
Model Name	21M-01, 7M-01
Type Designation	RD-17, RD-22
Marketing Name	Nokia Internet Stick 21M-01, Nokia Internet Stick 7M-01
FCC ID	PYARD-17
Tx Frequency Range	GSM850 : 824 MHz ~ 849 MHz GSM1900 : 1850 MHz ~ 1910 MHz
Rx Frequency Range	GSM850 : 869 MHz ~ 894 MHz GSM1900 : 1930 MHz ~ 1990 MHz
Antenna Type	Fixed Internal Antenna
HW Version	4.0
SW Version	1.6
ME Version	2.0
Type of Modulation	GSM / GPRS : GMSK EDGE : 8PSK
EUT Stage	Production Unit

<Test Sample>

Product Feature & Specification	
Equipment	Internet Stick
Brand Name	Nokia
Model Name	Model 1 : 21M-02 Model 2 : 7M-02
Type Designation	RD-19, RD-23
Marketing Name	Model 1: Nokia Internet Stick 21M-02 Model 2: Nokia Internet Stick 7M-02
FCC ID	PYARD-19
Tx Frequency Range	GSM850 : 824 MHz ~ 849 MHz GSM1900 : 1850 MHz ~ 1910 MHz
Rx Frequency Range	GSM850 : 869 MHz ~ 894 MHz GSM1900 : 1930 MHz ~ 1990 MHz
Antenna Type	Fixed Internal Antenna
HW Version	4.0
SW Version	1.6
ME Version	2.0
Type of Modulation	GSM / GPRS : GMSK EDGE : 8PSK
EUT Stage	Production Unit

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
	HW Version	1.0
	Mechanical Version	1.0
Micro SD card	**Brand Name**	Nokia
	Model Name	MU-43 (8G)

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. Test 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.
	CO05-HY	03CH06-HY	722060/4086B-1

1.5. Applied Standards

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

- FCC 47 CFR FCC Part 15 Subpart B
- ANSI C63.4-2003

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

1.6. Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	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.	LCD Monitor	Lenovo	6135-AB1	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
4.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A

2. Test Configuration of Equipment Under Test

2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Frequency range investigated: conduction (150 kHz to 30 MHz), radiation (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

The following tables are showing the test modes as the worst cases and recorded in this report.

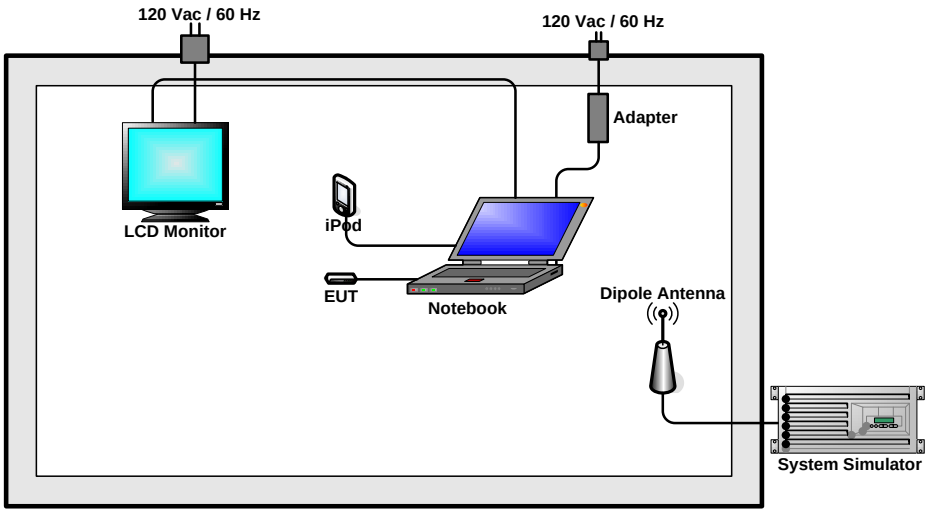
Item	EUT Configuration	Test Condition	
		EMI AC	EMI RE
1.	Charging Mode (EUT with notebook)	☒	☒

Abbreviations:

- EMI AC: AC conducted emissions
- EMI RE: EUT radiated emissions

Test Items	EUT Configure Mode	Function Type
AC Conducted Emission	1	Mode 1: GSM850 (GPRS 8) Idle + USB Cable (Link withe Notebook) + 8G SD Card Mode 2: GSM1900 (GPRS 8) Link + USB Cable (Link with Notebook) + 8G SD Card Mode 3: EDGE1900 Idle + USB Cable (Link with Notebook) + 8G SD Card Mode 4: EDGE850 Idle + USB Cable (Link with Notebook) + 8G SD Card
Radiated Emissions	1	Mode 1: GSM850 (GPRS 8) Idle + USB Cable (Link withe Notebook) + 8G SD Card Mode 2: GSM1900 (GPRS 8) Link + USB Cable (Link with Notebook) + 8G SD Card Mode 3: EDGE1900 Idle + USB Cable (Link with Notebook) + 8G SD Card Mode 4: EDGE850 Idle + USB Cable (Link with Notebook) + 8G SD Card

2.2. Connection Diagram of Test System



2.3. Test Software

The EUT was in GSM idle mode during the testing. The EUT was synchronized to the BCCH, and is in continuous receiving mode by setting system simulator's paging reorganization and Execute the program, "Winthrax", installed in notebook for active sync files transfer with EUT via USB cable.

3. Test Result

3.1. Test of AC Conducted Emission Measurement

3.1.1 Limits of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

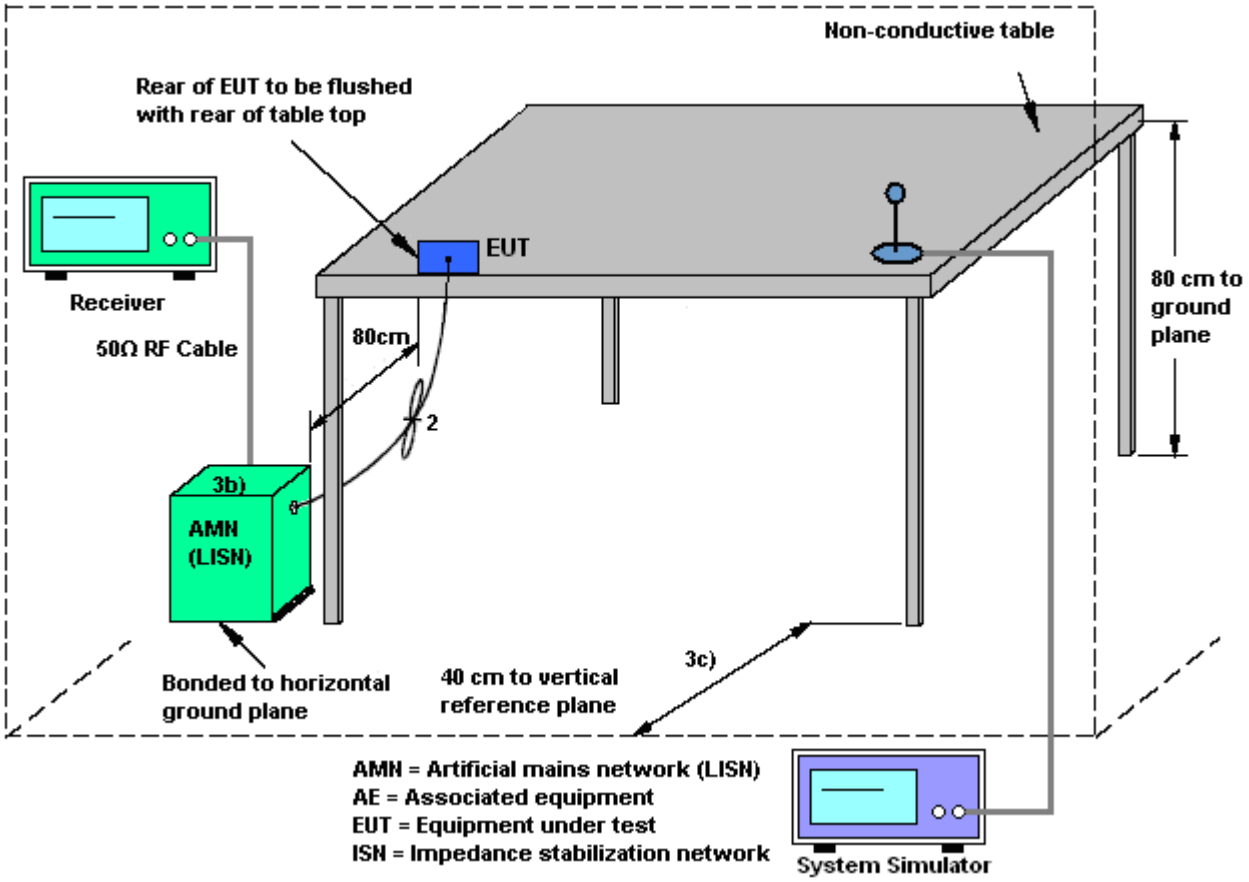
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedure

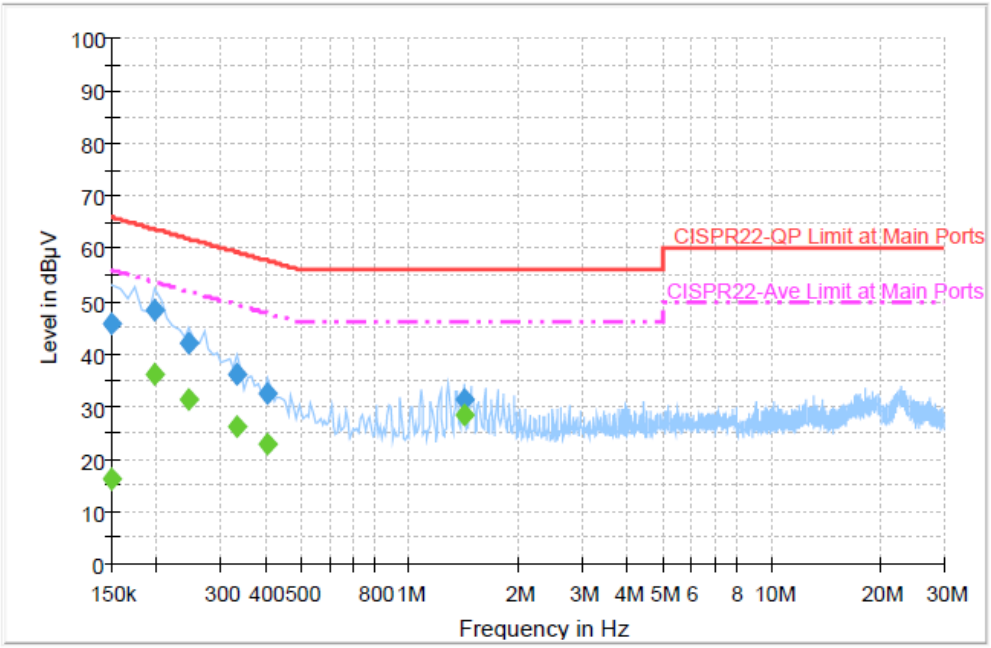
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.1.4 Test Setup



3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	**Temperature :**	20~22℃
Test Engineer :	Novic Chiang	**Relative Humidity :**	40~42%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	GSM850 (GPRS 8) Idle + USB Cable (Link withe Notebook) + 8G SD Card		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



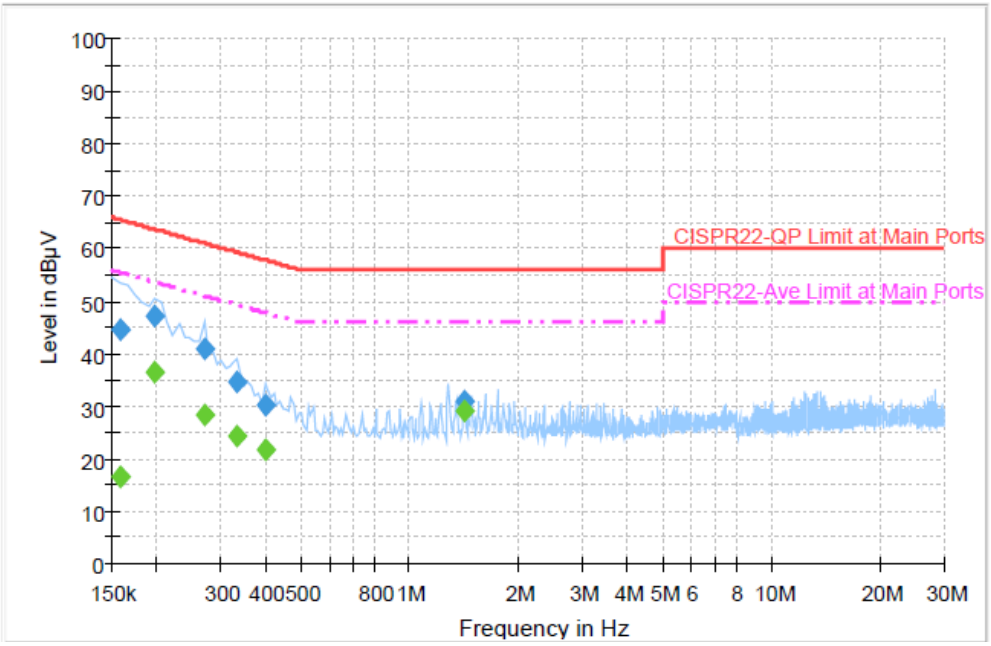
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	45.7	Off	L1	19.4	20.3	66.0
0.198000	48.2	Off	L1	19.4	15.5	63.7
0.246000	42.0	Off	L1	19.4	19.9	61.9
0.334000	36.2	Off	L1	19.4	23.2	59.4
0.406000	32.4	Off	L1	19.5	25.3	57.7
1.414000	31.3	Off	L1	19.4	24.7	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	16.1	Off	L1	19.4	39.9	56.0
0.198000	36.3	Off	L1	19.4	17.4	53.7
0.246000	31.2	Off	L1	19.4	20.7	51.9
0.334000	26.3	Off	L1	19.4	23.1	49.4
0.406000	22.9	Off	L1	19.5	24.8	47.7
1.414000	28.5	Off	L1	19.4	17.5	46.0

Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Novic Chiang	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 (GPRS 8) Idle + USB Cable (Link withe Notebook) + 8G SD Card		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



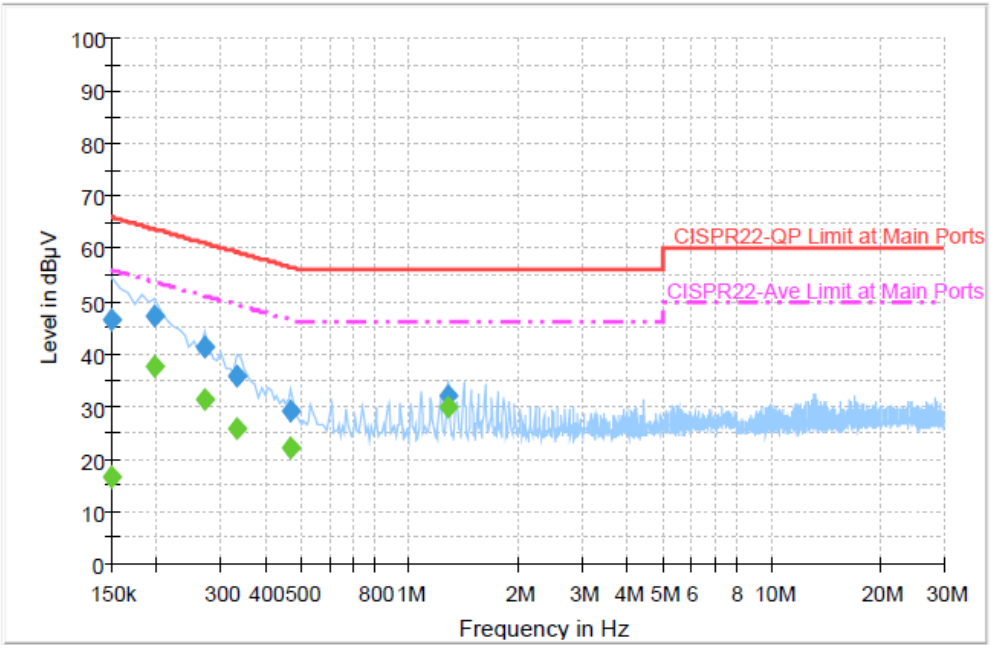
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	44.7	Off	N	19.4	21.0	65.6
0.198000	47.4	Off	N	19.4	16.3	63.7
0.270000	40.8	Off	N	19.4	20.3	61.1
0.334000	34.6	Off	N	19.4	24.8	59.4
0.398000	30.4	Off	N	19.5	27.5	57.9
1.414000	30.9	Off	N	19.5	25.1	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	16.7	Off	N	19.4	38.9	55.6
0.198000	36.6	Off	N	19.4	17.1	53.7
0.270000	28.5	Off	N	19.4	22.6	51.1
0.334000	24.3	Off	N	19.4	25.1	49.4
0.398000	21.9	Off	N	19.5	26.0	47.9
1.414000	29.0	Off	N	19.5	17.0	46.0

Test Mode :	Mode 2	**Temperature :**	20~22℃
Test Engineer :	Novic Chiang	**Relative Humidity :**	40~42%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	GSM1900 (GPRS 8) Link + USB Cable (Link with Notebook) + 8G SD Card		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



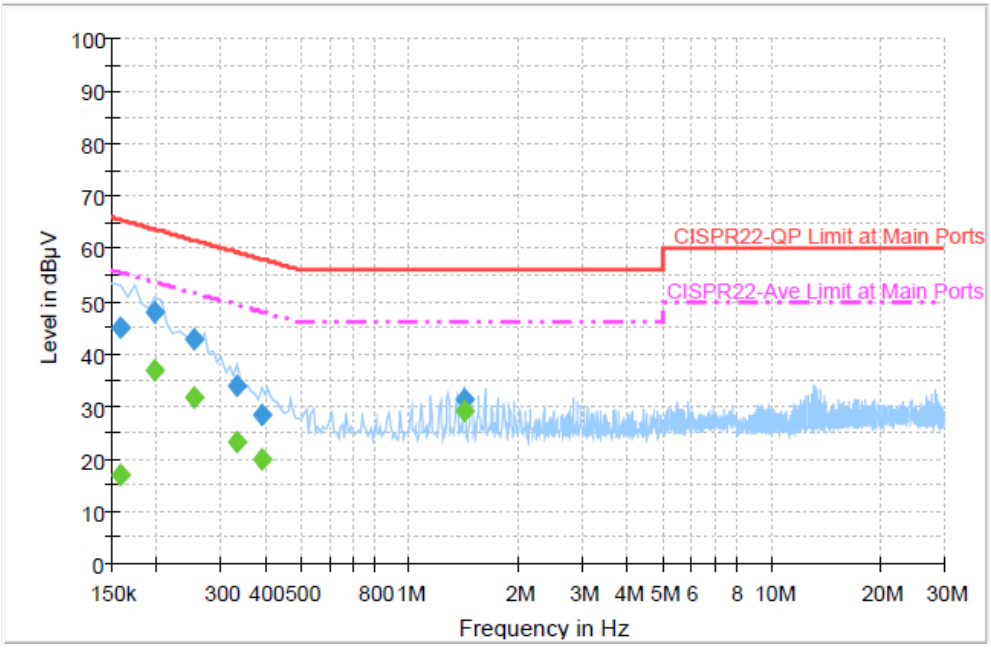
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	46.4	Off	L1	19.4	19.6	66.0
0.198000	47.3	Off	L1	19.4	16.4	63.7
0.270000	41.4	Off	L1	19.4	19.7	61.1
0.334000	35.7	Off	L1	19.4	23.7	59.4
0.470000	29.1	Off	L1	19.4	27.4	56.5
1.278000	32.0	Off	L1	19.4	24.0	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	16.7	Off	L1	19.4	39.3	56.0
0.198000	37.5	Off	L1	19.4	16.2	53.7
0.270000	31.3	Off	L1	19.4	19.8	51.1
0.334000	26.0	Off	L1	19.4	23.4	49.4
0.470000	22.1	Off	L1	19.4	24.4	46.5
1.278000	29.8	Off	L1	19.4	16.2	46.0

Test Mode :	Mode 2	Temperature :	20~22℃
Test Engineer :	Novic Chiang	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM1900 (GPRS 8) Link + USB Cable (Link with Notebook) + 8G SD Card		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



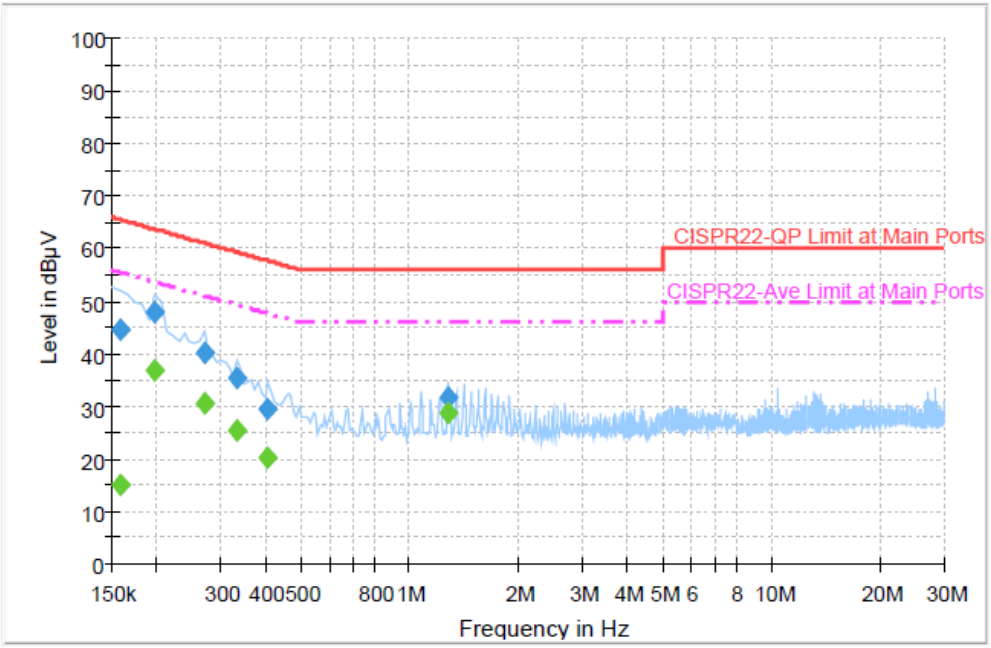
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	44.9	Off	N	19.4	20.7	65.6
0.198000	47.8	Off	N	19.4	15.9	63.7
0.254000	42.8	Off	N	19.4	18.8	61.6
0.334000	34.0	Off	N	19.4	25.4	59.4
0.390000	28.3	Off	N	19.4	29.8	58.1
1.414000	31.4	Off	N	19.5	24.6	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	16.9	Off	N	19.4	38.7	55.6
0.198000	36.9	Off	N	19.4	16.8	53.7
0.254000	31.6	Off	N	19.4	20.0	51.6
0.334000	23.4	Off	N	19.4	26.0	49.4
0.390000	19.9	Off	N	19.4	28.2	48.1
1.414000	29.0	Off	N	19.5	17.0	46.0

Test Mode :	Mode 3	Temperature :	20~22℃
Test Engineer :	Novic Chiang	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	EDGE1900 Idle + USB Cable (Link with Notebook) + 8G SD Card		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



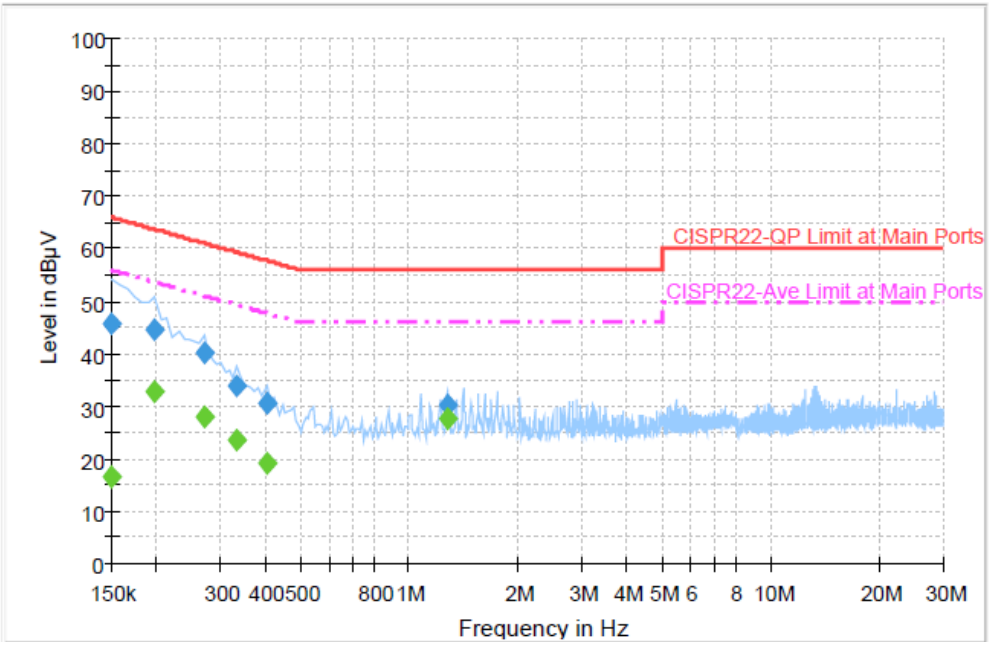
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	44.6	Off	L1	19.4	21.0	65.6
0.198000	47.9	Off	L1	19.4	15.8	63.7
0.270000	40.2	Off	L1	19.4	20.9	61.1
0.334000	35.5	Off	L1	19.4	23.9	59.4
0.406000	29.5	Off	L1	19.5	28.2	57.7
1.278000	31.9	Off	L1	19.4	24.1	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	15.2	Off	L1	19.4	40.4	55.6
0.198000	36.8	Off	L1	19.4	16.9	53.7
0.270000	30.7	Off	L1	19.4	20.4	51.1
0.334000	25.6	Off	L1	19.4	23.8	49.4
0.406000	20.2	Off	L1	19.5	27.5	47.7
1.278000	28.8	Off	L1	19.4	17.2	46.0

Test Mode :	Mode 3	**Temperature :**	20~22℃
Test Engineer :	Novic Chiang	**Relative Humidity :**	40~42%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	EDGE1900 Idle + USB Cable (Link with Notebook) + 8G SD Card		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



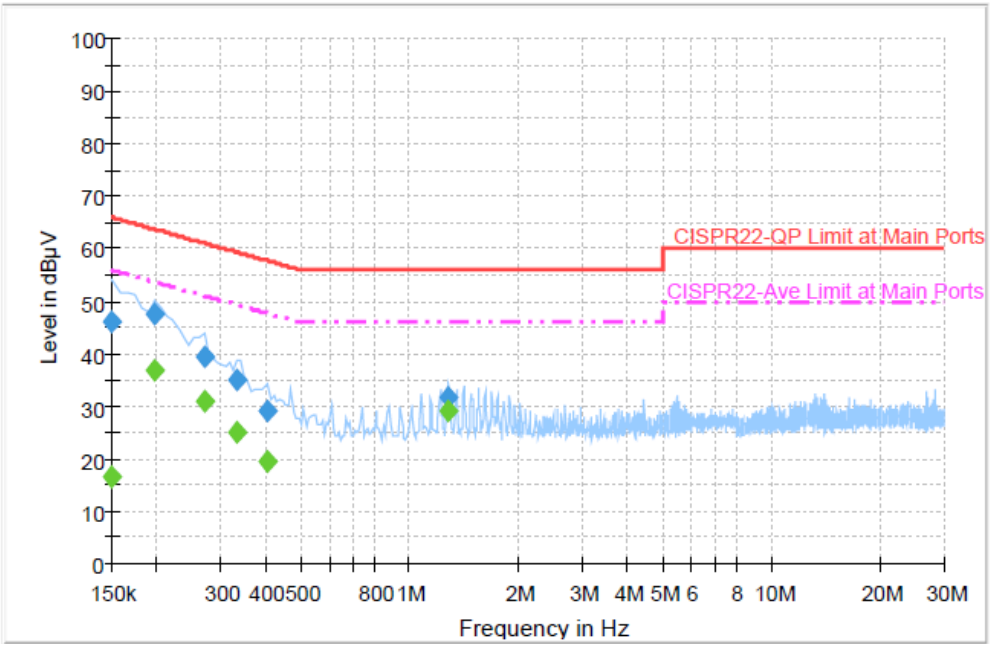
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	45.9	Off	N	19.4	20.1	66.0
0.198000	44.7	Off	N	19.4	19.0	63.7
0.270000	40.3	Off	N	19.4	20.8	61.1
0.334000	33.9	Off	N	19.4	25.5	59.4
0.406000	30.6	Off	N	19.5	27.1	57.7
1.278000	30.2	Off	N	19.5	25.8	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	16.8	Off	N	19.4	39.2	56.0
0.198000	32.8	Off	N	19.4	20.9	53.7
0.270000	27.9	Off	N	19.4	23.2	51.1
0.334000	23.5	Off	N	19.4	25.9	49.4
0.406000	19.2	Off	N	19.5	28.5	47.7
1.278000	27.6	Off	N	19.5	18.4	46.0

Test Mode :	Mode 4	**Temperature :**	20~22℃
Test Engineer :	Novic Chiang	**Relative Humidity :**	40~42%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	EDGE850 Idle + USB Cable (Link with Notebook) + 8G SD Card		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



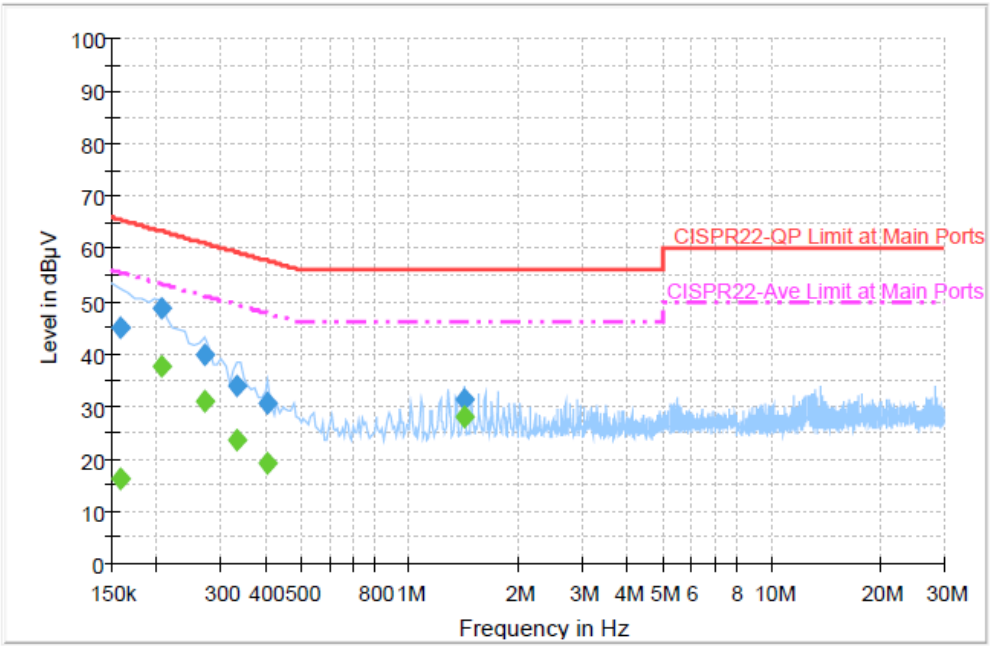
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	46.1	Off	L1	19.4	19.9	66.0
0.198000	47.5	Off	L1	19.4	16.2	63.7
0.270000	39.6	Off	L1	19.4	21.5	61.1
0.334000	35.2	Off	L1	19.4	24.2	59.4
0.406000	29.1	Off	L1	19.5	28.6	57.7
1.278000	31.7	Off	L1	19.4	24.3	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	16.7	Off	L1	19.4	39.3	56.0
0.198000	36.8	Off	L1	19.4	16.9	53.7
0.270000	30.9	Off	L1	19.4	20.2	51.1
0.334000	25.2	Off	L1	19.4	24.2	49.4
0.406000	19.5	Off	L1	19.5	28.2	47.7
1.278000	29.2	Off	L1	19.4	16.8	46.0

Test Mode :	Mode 4	**Temperature :**	20~22℃
Test Engineer :	Novic Chiang	**Relative Humidity :**	40~42%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	EDGE850 Idle + USB Cable (Link with Notebook) + 8G SD Card		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	44.9	Off	N	19.4	20.8	65.6
0.206000	48.6	Off	N	19.4	14.8	63.4
0.270000	39.7	Off	N	19.4	21.4	61.1
0.334000	34.0	Off	N	19.4	25.4	59.4
0.406000	30.6	Off	N	19.5	27.1	57.7
1.414000	31.4	Off	N	19.5	24.6	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	16.2	Off	N	19.4	39.4	55.6
0.206000	37.5	Off	N	19.4	15.9	53.4
0.270000	30.9	Off	N	19.4	20.2	51.1
0.334000	23.7	Off	N	19.4	25.7	49.4
0.406000	19.1	Off	N	19.5	28.6	47.7
1.414000	27.9	Off	N	19.5	18.1	46.0

3.2. Test of Radiated Emission Measurement

3.2.1. Limit of Radiated Emission

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

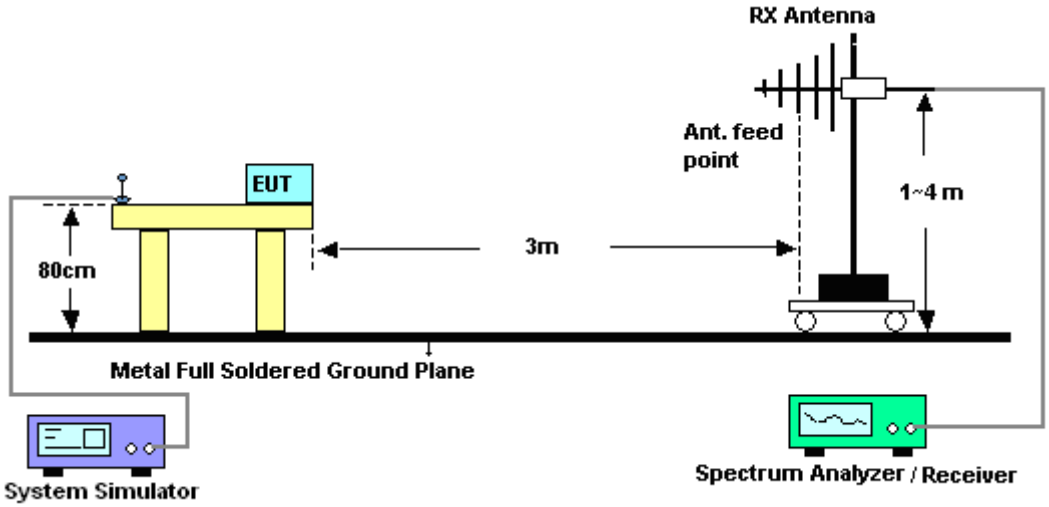
3.2.2. Measuring Instruments

See list of measuring instruments of this test report.

3.2.3. Test Procedures

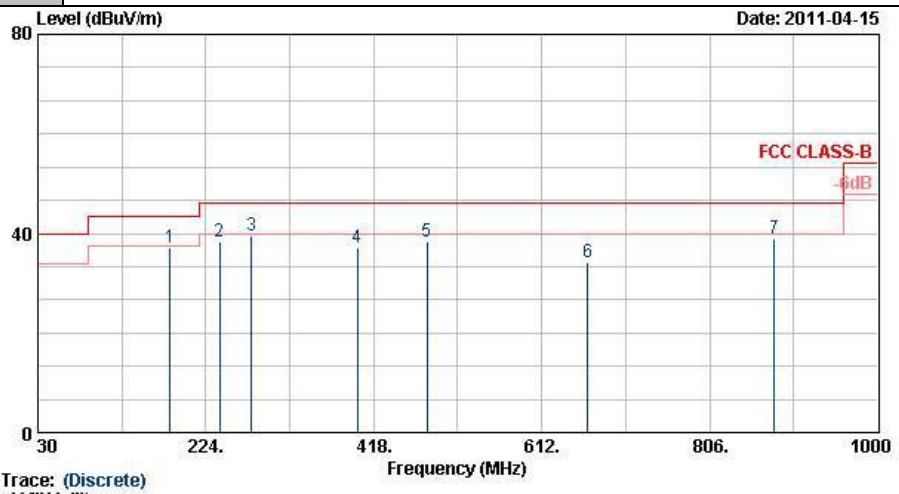
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a Bi-Log antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported
8. Emission level (dBuV/m) = 20 log Emission level (uV/m)
9. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

3.2.4. Test Setup of Radiated Emission



3.2.5. Test Result of Radiated Emission

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Hayden Wu	Relative Humidity :	51~53%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	GSM850 (GPRS 8) Idle + USB Cable (Link withe Notebook) + 8G SD Card		
Remark :	#7 is System Simulator Signal which can be ignored.		

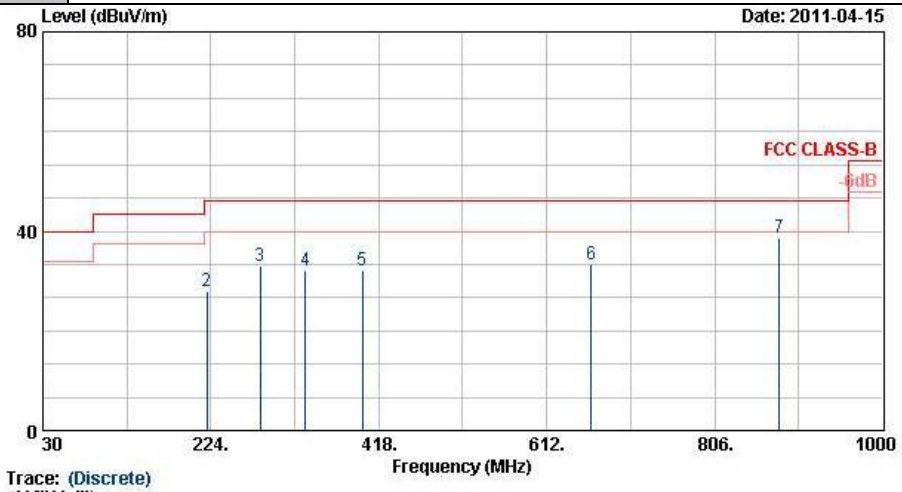


Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m BILOG_101103 HORIZONTAL
Power : FromSystem
Project : FD 131744
Memo : Mode 1

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	182.28	37.11	-6.39	43.50	57.80	9.43	1.57	31.68	---	---	Peak
2 @	239.79	38.36	-7.64	46.00	56.23	11.97	1.81	31.65	---	---	Peak
3 @	277.05	39.69	-6.31	46.00	56.34	13.10	1.97	31.72	100	317	Peak
4	399.40	37.15	-8.85	46.00	50.76	15.76	2.41	31.79	---	---	Peak
5 @	479.90	38.37	-7.63	46.00	50.12	17.41	2.60	31.77	---	---	Peak
6	665.40	34.12	-11.88	46.00	43.67	19.31	3.12	31.98	---	---	Peak
7 @	880.30	38.89			45.48	21.46	3.68	31.72	---	---	Peak

Test Mode :	Mode 1	**Temperature :**	20~22°C
Test Engineer :	Hayden Wu	**Relative Humidity :**	51~53%
Test Distance :	3m	**Polarization :**	Vertical
Function Type :	GSM850 (GPRS 8) Idle + USB Cable (Link withe Notebook) + 8G SD Card		
Remark :	#7 is System Simulator Signal which can be ignored.		

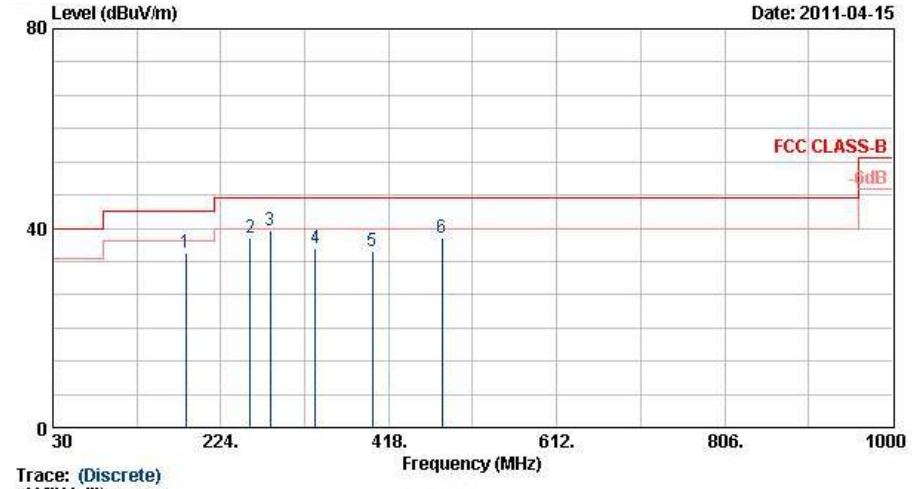


Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m BTLOG_101103 VERTICAL
Power : FromSystem
Project : FD 131744
Memo : Mode 1

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	30.00	31.75	-8.25	40.00	44.84	17.91	0.72	31.72	100	224	Peak
2	219.54	27.84	-18.16	46.00	47.16	10.63	1.73	31.68	---	---	Peak
3	280.83	33.12	-12.88	46.00	49.70	13.17	1.98	31.73	---	---	Peak
4	332.90	32.09	-13.91	46.00	47.28	14.22	2.17	31.58	---	---	Peak
5	399.40	32.22	-13.78	46.00	45.84	15.76	2.41	31.79	---	---	Peak
6	663.30	33.29	-12.71	46.00	42.85	19.31	3.11	31.98	---	---	Peak
7 @	880.30	38.69			45.28	21.46	3.68	31.72	---	---	Peak

Test Mode :	Mode 2	Temperature :	20~22°C
Test Engineer :	Hayden Wu	Relative Humidity :	51~53%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	GSM1900 (GPRS 8) Link + USB Cable (Link with Notebook) + 8G SD Card		

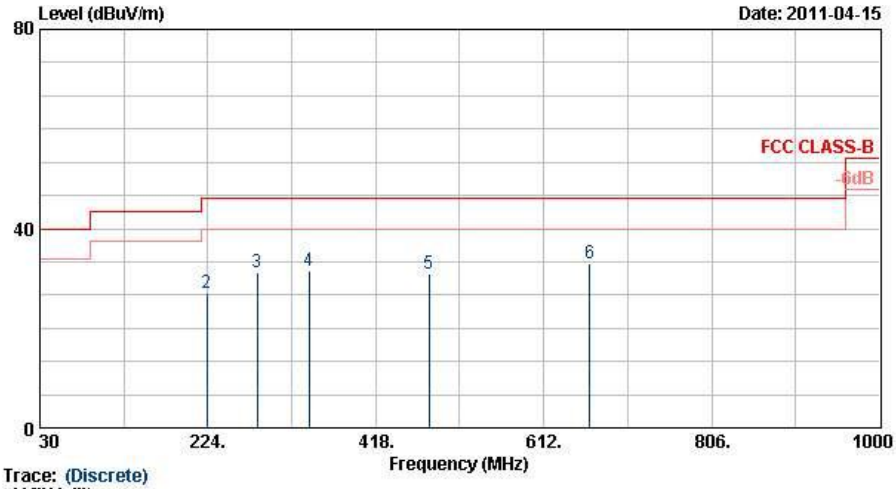


Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m BTLOG_101103 HORIZONTAL
Power : FromSystem
Project : FD 131744
Memo : Mode 2

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	183.36	34.99	-8.51	43.50	55.67	9.43	1.57	31.68	---	---	Peak
2 @	257.88	38.08	-7.92	46.00	55.10	12.79	1.88	31.71	---	---	Peak
3 @	280.83	39.54	-6.46	46.00	56.13	13.17	1.98	31.73	100	94	Peak
4	332.90	36.06	-9.94	46.00	51.25	14.22	2.17	31.58	---	---	Peak
5	399.40	35.43	-10.57	46.00	49.05	15.76	2.41	31.79	---	---	Peak
6 @	479.90	38.00	-8.00	46.00	49.76	17.41	2.60	31.77	---	---	Peak

Test Mode :	Mode 2	Temperature :	20~22°C
Test Engineer :	Hayden Wu	Relative Humidity :	51~53%
Test Distance :	3m	Polarization :	Vertical
Function Type :	GSM1900 (GPRS 8) Link + USB Cable (Link with Notebook) + 8G SD Card		

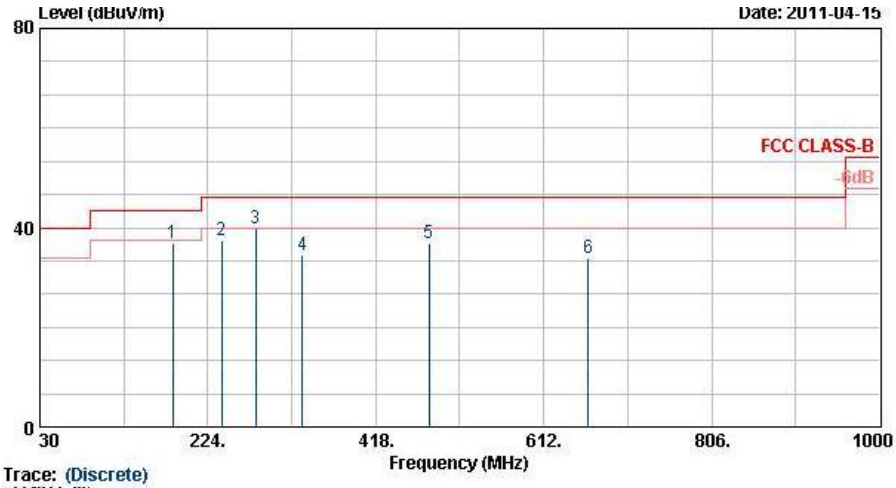


Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m BTLOG_101103 VERTICAL
Power : FromSystem
Project : FD 131744
Memo : Mode 2

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.54	27.16	-12.84	40.00	40.83	17.31	0.72	31.72	100	222	Peak
2	222.78	27.07	-18.93	46.00	46.10	10.88	1.75	31.65	---	---	Peak
3	280.83	31.31	-14.69	46.00	47.89	13.17	1.98	31.73	---	---	Peak
4	341.30	31.61	-14.39	46.00	46.56	14.42	2.20	31.57	---	---	Peak
5	479.90	30.86	-15.14	46.00	42.62	17.41	2.60	31.77	---	---	Peak
6	665.40	33.06	-12.94	46.00	42.61	19.31	3.12	31.98	---	---	Peak

Test Mode :	Mode 3	Temperature :	20~22°C
Test Engineer :	Hayden Wu	Relative Humidity :	51~53%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	EDGE1900 Idle + USB Cable (Link with Notebook) + 8G SD Card		

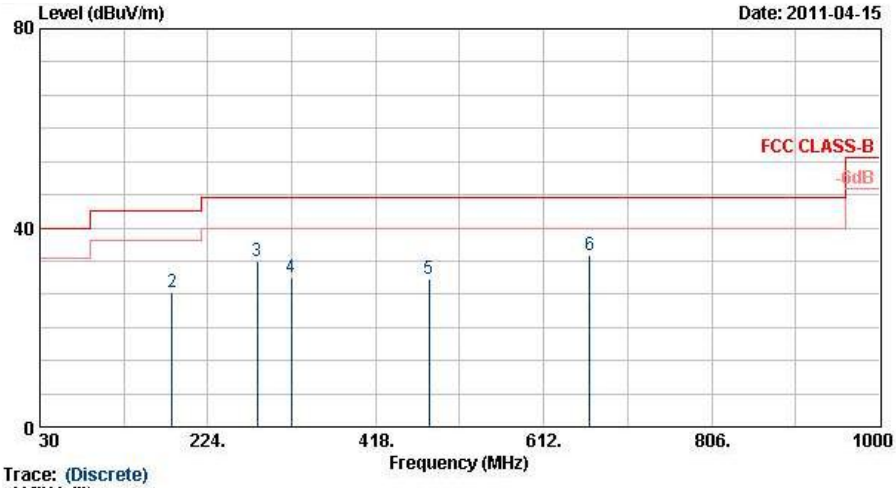


Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m BTLOG_101103 HORIZONTAL
Power : FromSystem
Project : FD 131744
Memo : Mode 3

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	183.63	36.82	-6.68	43.50	57.50	9.43	1.57	31.68	---	---	Peak
2 @	239.79	37.43	-8.57	46.00	55.31	11.97	1.81	31.65	---	---	Peak
3 @	279.48	39.76	-6.24	46.00	56.38	13.13	1.97	31.73	100	39	Peak
4	332.90	34.64	-11.36	46.00	49.83	14.22	2.17	31.58	---	---	Peak
5	479.90	36.84	-9.16	46.00	48.59	17.41	2.60	31.77	---	---	Peak
6	663.30	33.81	-12.19	46.00	43.37	19.31	3.11	31.98	---	---	Peak

Test Mode :	Mode 3	Temperature :	20~22°C
Test Engineer :	Hayden Wu	Relative Humidity :	51~53%
Test Distance :	3m	Polarization :	Vertical
Function Type :	EDGE1900 Idle + USB Cable (Link with Notebook) + 8G SD Card		

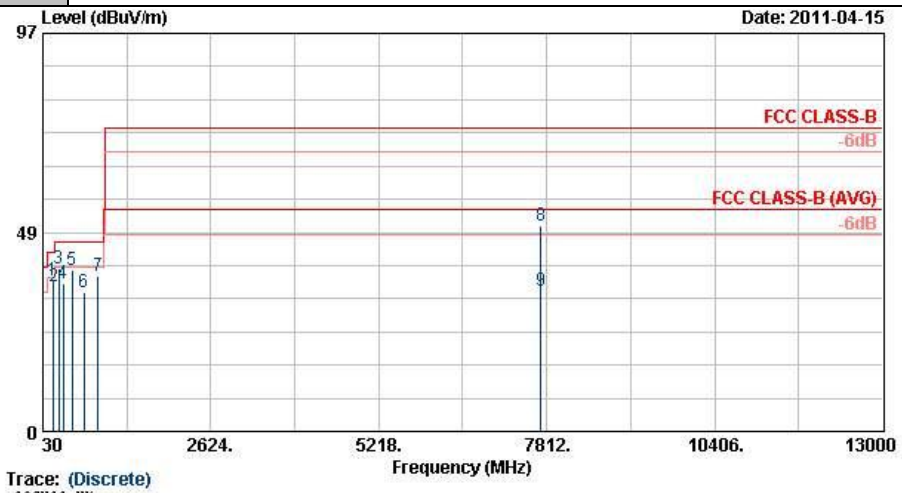


Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m BILOG_101103 VERTICAL
Power : FromSystem
Project : FD 131744
Memo : Mode 3

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	30.07	-9.93	40.00	43.16	17.91	0.72	31.72	100	264	Peak
2	183.09	26.92	-16.58	43.50	47.60	9.43	1.57	31.68	---	---	Peak
3	280.83	33.37	-12.63	46.00	49.96	13.17	1.98	31.73	---	---	Peak
4	320.30	30.04	-15.96	46.00	45.59	13.93	2.13	31.61	---	---	Peak
5	479.90	29.84	-16.16	46.00	41.59	17.41	2.60	31.77	---	---	Peak
6	665.40	34.59	-11.41	46.00	44.14	19.31	3.12	31.98	---	---	Peak

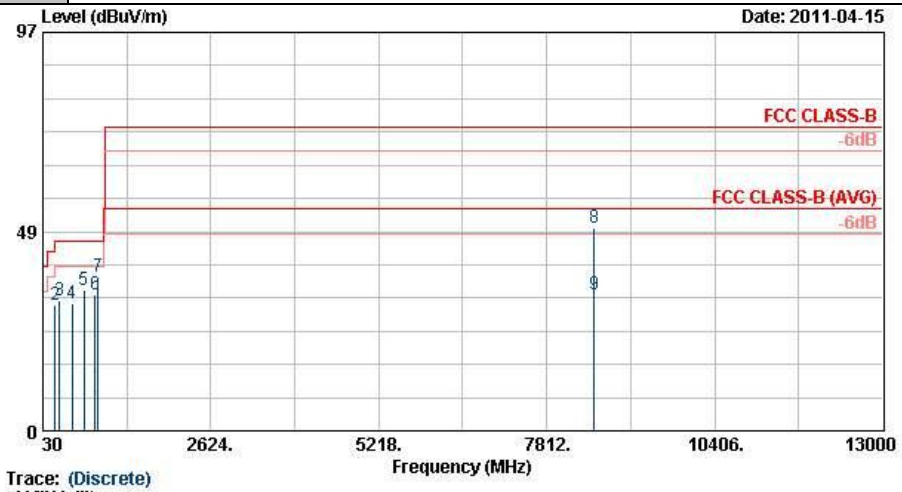
Test Mode :	Mode 4	Temperature :	20~22°C
Test Engineer :	Hayden Wu	Relative Humidity :	51~53%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	EDGE850 Idle + USB Cable (Link with Notebook) + 8G SD Card		
Remark :	#7 is System Simulator Signal which can be ignored.		



Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-ANT_090824 HORIZONTAL
Power : FromSystem
Project : FD 131744
Memo : Mode 4

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	182.28	36.85	-6.65	43.50	57.53	9.43	1.57	31.68	---	---	Peak
2 @	197.13	35.29	-8.21	43.50	55.94	9.36	1.64	31.65	---	---	Peak
3 @	280.02	39.84	-6.16	46.00	56.44	13.15	1.98	31.73	100	314	Peak
4	341.30	36.20	-9.80	46.00	51.15	14.42	2.20	31.57	---	---	Peak
5 @	479.90	39.18	-6.82	46.00	50.94	17.41	2.60	31.77	---	---	Peak
6	663.30	33.90	-12.10	46.00	43.47	19.31	3.11	31.98	---	---	Peak
7 @	880.30	37.96			44.55	21.46	3.68	31.72	---	---	Peak
8	7724.00	50.10	-23.90	74.00	59.71	36.15	11.01	56.76	100	215	Peak
9	7724.00	34.18	-19.82	54.00	43.79	36.15	11.01	56.76	100	215	Average

Test Mode :	Mode 4	Temperature :	20~22°C
Test Engineer :	Hayden Wu	Relative Humidity :	51~53%
Test Distance :	3m	Polarization :	Vertical
Function Type :	EDGE850 Idle + USB Cable (Link with Notebook) + 8G SD Card		
Remark :	#7 is System Simulator Signal which can be ignored.		



Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m HF-ANT_090824 VERTICAL
Power : FromSystem
Project : FD 131744
Memo : Mode 4

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	30.38	-9.62	40.00	43.47	17.91	0.72	31.72	100	331	Peak
2	218.73	30.66	-15.34	46.00	49.98	10.63	1.73	31.67	---	---	Peak
3	283.53	31.71	-14.29	46.00	48.22	13.20	1.99	31.70	---	---	Peak
4	479.90	30.91	-15.09	46.00	42.67	17.41	2.60	31.77	---	---	Peak
5	665.40	34.40	-11.60	46.00	43.95	19.31	3.12	31.98	---	---	Peak
6	831.30	33.30	-12.70	46.00	40.72	21.04	3.47	31.93	---	---	Peak
7 @	880.30	37.43	---	---	44.01	21.46	3.68	31.72	---	---	Peak
8	8542.00	49.51	-24.49	74.00	59.83	36.14	10.13	56.59	10	178	Peak
9	8542.00	33.18	-20.82	54.00	43.50	36.14	10.13	56.59	100	178	Average

4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMI Test Receive	R&S	ESCS 30	100356	9KHz – 2.75GHz	Aug. 16, 2010	Aug. 15, 2011	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz – 30MHz	Dec. 03, 2010	Dec. 02, 2011	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz – 30MHz	Dec. 01, 2010	Nov. 30, 2011	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
Spectrum Analyzer	R&S	FSP40	100057	9KHz-40GHz	Oct. 25, 2010	Oct. 24, 2011	Radiation (03CH06-HY)
EMI TEST RECEIVER	R&S	ESCI 7	100724	9kHz~7GHz	Aug.19, 2010	Aug.19, 2011	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Oct. 31, 2010	Oct. 31, 2011	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz~18GHz	Aug. 02, 2010	Aug. 01, 2011	Radiation (03CH06-HY)
Double Ridge Horn Antenna	Training Research	AH-0801	95119	8GHz~18GHz	Oct. 20, 2010	Oct. 19, 2011	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 18, 2010	Oct. 17, 2011	Radiation (03CH06-HY)
Pre Amplifier	Agilent	8449B	3008A01917	1GHz- 26.5GHz	Apr. 14, 2011	Apr. 13, 2012	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9KHz~1GHz	Apr. 14, 2011	Apr. 13, 2012	Radiation (03CH06-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz~30 MHz	Jul. 29, 2010	Jul. 28, 2011	Radiation (03CH06-HY)
System Simulator	R&S	CMU200	117591	N/A	Oct. 18, 2010	Oct. 17, 2011	-

5. Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.10	Normal (k=2)	0.05
Cable Loss	0.10	Normal (k=2)	0.05
AMN Insertion Loss	2.50	Rectangular	0.63
Receiver Specification	1.50	Rectangular	0.43
Site Imperfection	1.39	Rectangular	0.80
Mismatch	+0.34 / -0.35	U-Shape	0.24
Combined Standard Uncertainty Uc(y)	**1.13**		
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.26**		

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**				

Appendix A. Photographs of EUT

Please refer to Sporton report number EP131744-02 as below.