



FCC Test Report

APPLICANT : SHARP CORPORATION
EQUIPMENT : Smart Phone
BRAND NAME : SHARP
MODEL NAME : X1
FCC ID : APYHRO00247
STANDARD : FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION : Certification

The product was received on Apr. 01, 2017 and testing was completed on May 24, 2017. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 and has been in 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: Louis Wu / Manager

Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

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



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SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	Under limit 5.80 dB at 0.774 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 3.90 dB at 77.520 MHz for Quasi-Peak



1. General Description

1.1. Applicant

SHARP CORPORATION

Takumi-Cho, Sakai-Ku, Sakai-Shi, 2, Osaka 590-852, Japan

1.2. Manufacturer

SHARP CORPORATION

Takumi-Cho, Sakai-Ku, Sakai-Shi, 2, Osaka 590-852, Japan

1.3. Product Feature of Equipment Under Test

GSM/WCDMA/LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n/ac, NFC, and GPS.

Product Specification subjective to this standard	
Sample 1	EUT with Memory 1
Sample 2	EUT with Memory 2
Antenna Type	WWAN: ILA Antenna WLAN: ILA Antenna Bluetooth: ILA Antenna GPS / Glonass : ILA Antenna NFC: Loop Antenna

1.4. Modification of EUT

No modifications are made to the EUT during all test items.



1.5. Test Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	Sporton Site No.	
	CO05-HY	03CH06-HY

1.6. Applicable 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 C63.4-2014

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



2. Test Configuration of Equipment Under Test

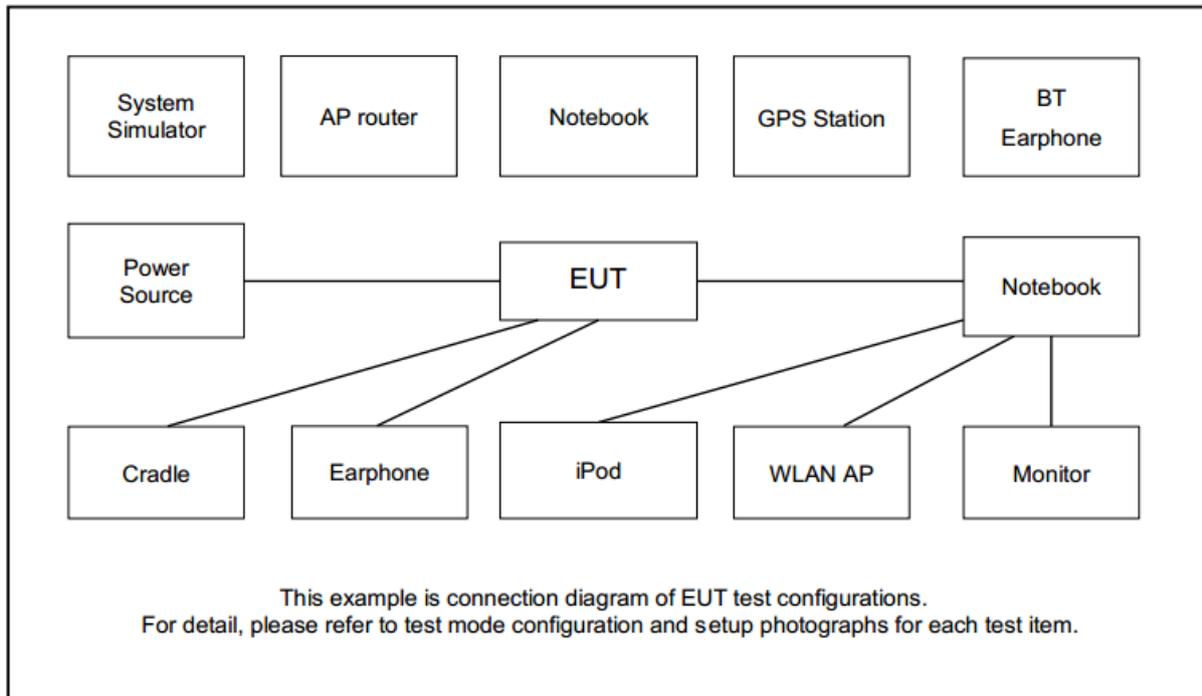
2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

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

Test Items	Function Type
AC Conducted Emission	Mode 1: GSM850 Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + NFC On + Earphone + USB Cable (Charging from Adapter) + Sample 1
	Mode 2: GSM850 Idle + Bluetooth Idle + WLAN (5GHz) Idle + MPEG4 + Earphone + USB Cable (Charging from Adapter) + Sample 1
	Mode 3: GSM850 Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + Camera (Front) + Earphone + USB Cable (Charging from Adapter) for Sample 1
	Mode 4: GSM1900 Idle + Bluetooth Idle + WLAN (5GHz) Idle + Camera (Rear) + Earphone + USB Cable (Charging from Adapter) for Sample 1
	Mode 5: GSM1900 Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + GPS Rx + Earphone + USB Cable (Charging from Adapter) for Sample 1
	Mode 6: GSM1900 Idle + Bluetooth Idle + WLAN (5GHz) Idle + Glonass Rx + Earphone + USB Cable (Data Link with Notebook) for Sample 1
	Mode 7: GSM 850 Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + NFC On + Earphone + USB Cable (Charging from Adapter) for Sample 2
Radiated Emissions	Mode 1: GSM850 Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + NFC On + Earphone + USB Cable (Charging from Adapter) for Sample 1
	Mode 2: GSM850 Idle + Bluetooth Idle + WLAN (5GHz) Idle + MPEG4 + Earphone + USB Cable (Charging from Adapter) for Sample 1
	Mode 3: GSM850 Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + Camera (Front) + Earphone + USB Cable (Charging from Adapter) for Sample 1
	Mode 4: GSM1900 Idle + Bluetooth Idle + WLAN (5GHz) Idle + Camera (Rear) + Earphone + USB Cable (Charging from Adapter) for Sample 1
	Mode 5: GSM1900 Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + GPS Rx + Earphone + USB Cable (Charging from Adapter) for Sample 1
	Mode 6: GSM1900 Idle + Bluetooth Idle + WLAN (5GHz) Idle + Glonass Rx + Earphone + USB Cable (Data Link with Notebook) for Sample 1
	Mode 7: GSM 850 Idle + Bluetooth Idle + WLAN (2.4GHz) Idle + NFC On + Earphone + USB Cable (Charging from Adapter) for Sample 2
Remark:	
1. The worst case of AC is mode 7; only the test data of this mode was reported.	
2. The worst case of RE is mode 7; only the test data of this mode was reported.	
3. Data Link with Notebook means data application transferred mode between EUT and Notebook.	

2.2. Connection Diagram of Test System



2.3. Support Unit used in test configuration and system

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.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
3.	GPS Station	T&E	GS-50	N/A	N/A	Unshielded, 1.8 m
4.	GPS Station	Pendulum	GSG-54	N/A	N/A	Unshielded, 1.8 m
5.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
6.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
7.	iPod	Apple	A1199	FCC DoC	Shielded, 1.0 m	N/A
8.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A
9.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
10.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A



2.4. EUT Operation Test Setup

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.

At the same time, the EUT was attached to the Bluetooth earphone or WLAN AP, and the following programs installed in the EUT were programmed during the test.

1. Turned on NFC function.
2. Execute "Video Player" to play MPEG4 files.
3. Data application is transferred between Laptop and EUT (SD Card) via USB cable.
4. Turn on camera to capture images.
5. Execute "GPS test" to make the EUT receive continuous signals from GPS/Glonass station.



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.

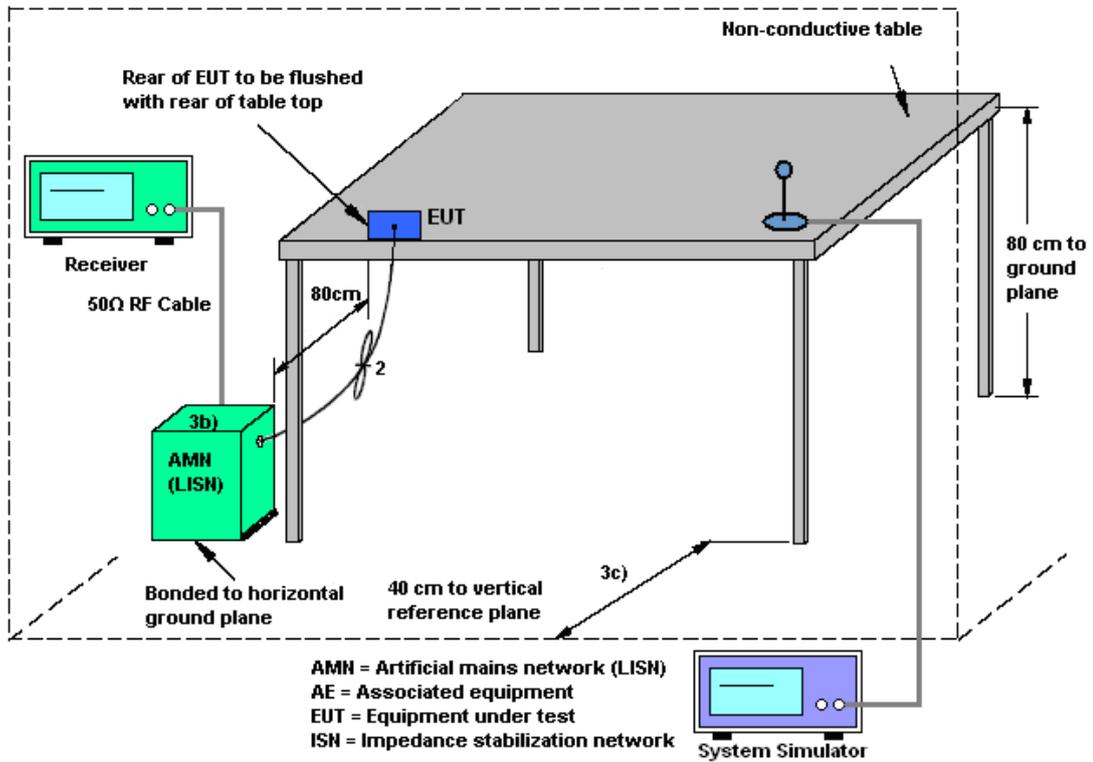
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 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 (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

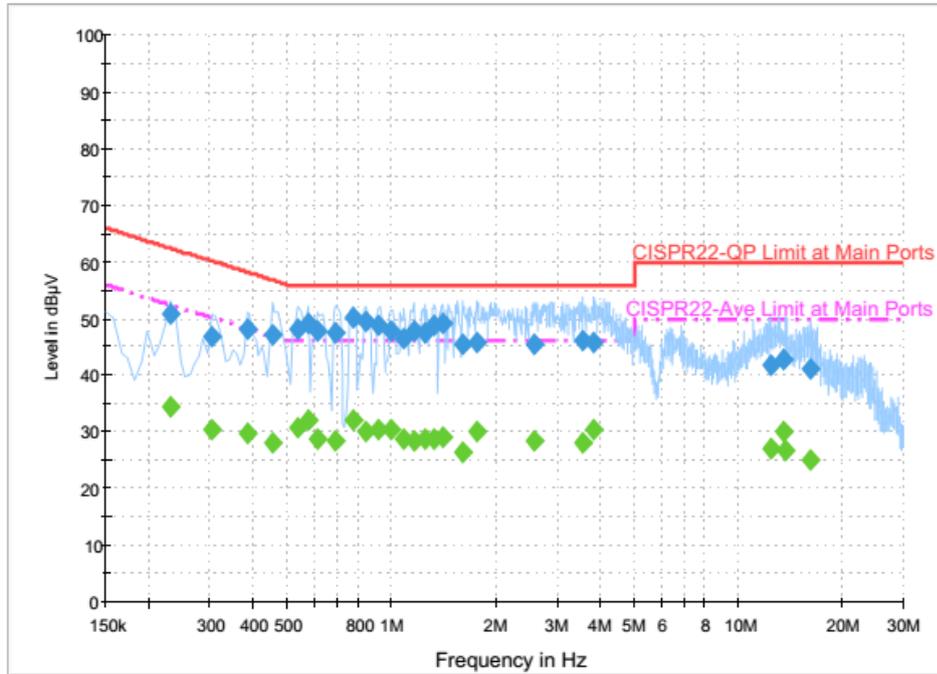
3.1.4 Test Setup





3.1.6 Test Result of AC Conducted Emission

Test Engineer :	Arthur Hsieh and Eric Jeng	Temperature :	21~25°C
		Relative Humidity :	51~53%
Test Voltage :	120Vac / 60Hz	Phase :	Line

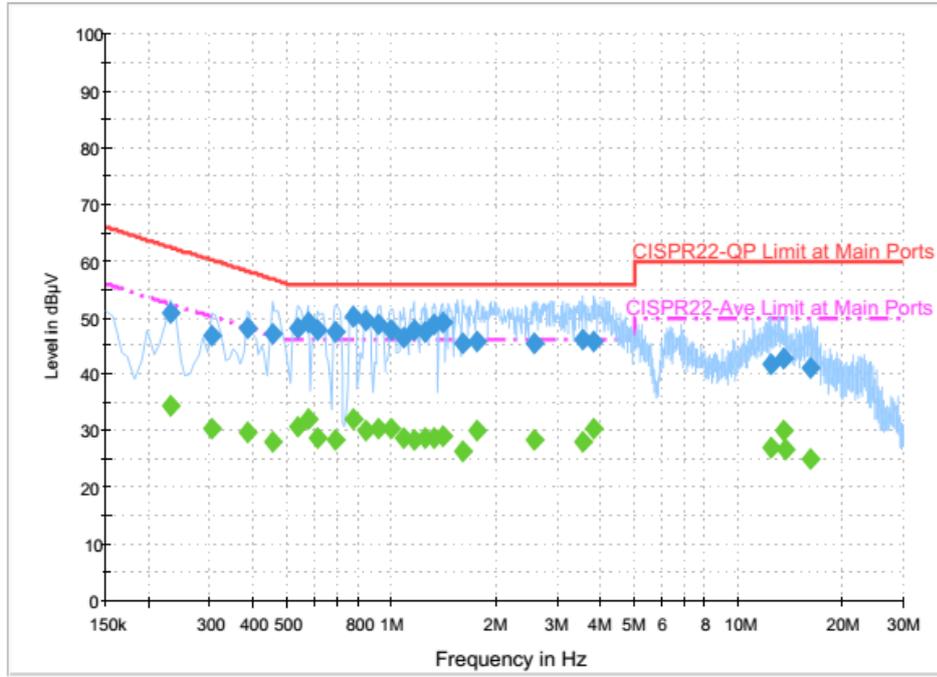


Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.230000	50.8	Off	L1	19.6	11.6	62.4
0.302000	46.8	Off	L1	19.6	13.4	60.2
0.382000	48.0	Off	L1	19.6	10.2	58.2
0.454000	47.2	Off	L1	19.6	9.6	56.8
0.534000	48.2	Off	L1	19.6	7.8	56.0
0.574000	49.0	Off	L1	19.6	7.0	56.0
0.614000	47.7	Off	L1	19.6	8.3	56.0
0.686000	47.6	Off	L1	19.6	8.4	56.0
0.774000	50.2	Off	L1	19.6	5.8	56.0
0.846000	49.4	Off	L1	19.6	6.6	56.0
0.918000	48.7	Off	L1	19.6	7.3	56.0
0.998000	47.8	Off	L1	19.6	8.2	56.0
1.086000	46.5	Off	L1	19.6	9.5	56.0
1.158000	47.8	Off	L1	19.6	8.2	56.0
1.254000	47.5	Off	L1	19.6	8.5	56.0
1.326000	48.9	Off	L1	19.6	7.1	56.0
1.406000	49.2	Off	L1	19.6	6.8	56.0
1.598000	45.6	Off	L1	19.6	10.4	56.0
1.758000	46.0	Off	L1	19.6	10.0	56.0



Test Engineer :	Arthur Hsieh and Eric Jeng	Temperature :	21~25°C
		Relative Humidity :	51~53%
Test Voltage :	120Vac / 60Hz	Phase :	Line

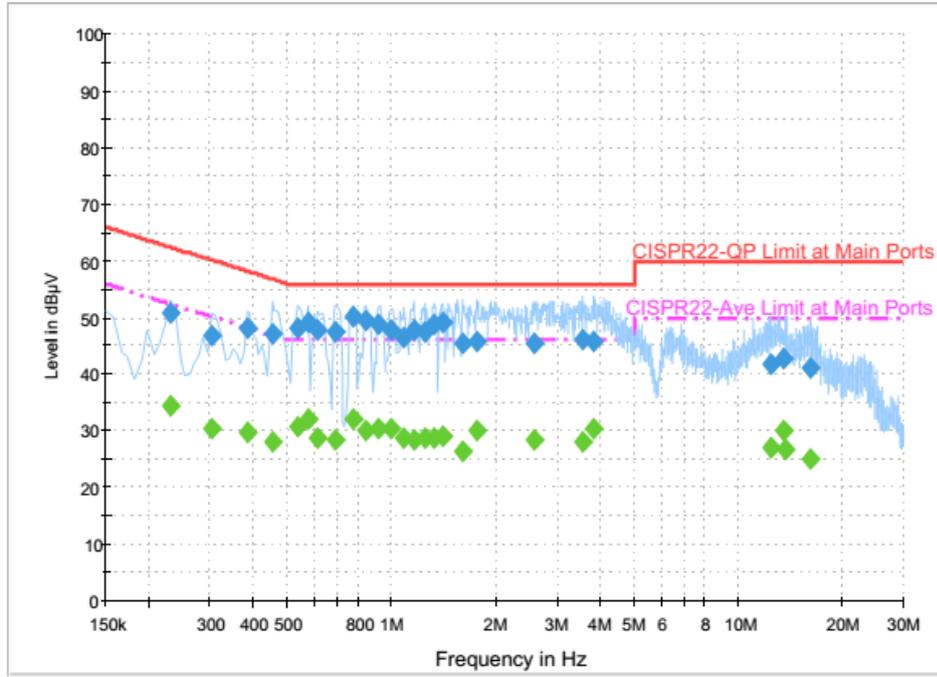


Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.582000	45.6	Off	L1	19.3	10.4	56.0
3.550000	46.3	Off	L1	19.7	9.7	56.0
3.846000	45.9	Off	L1	19.7	10.1	56.0
12.414000	41.7	Off	L1	20.2	18.3	60.0
13.558000	42.7	Off	L1	20.2	17.3	60.0
16.246000	41.3	Off	L1	20.4	18.7	60.0



Test Engineer :	Arthur Hsieh and Eric Jeng	Temperature :	21~25°C
		Relative Humidity :	51~53%
Test Voltage :	120Vac / 60Hz	Phase :	Line

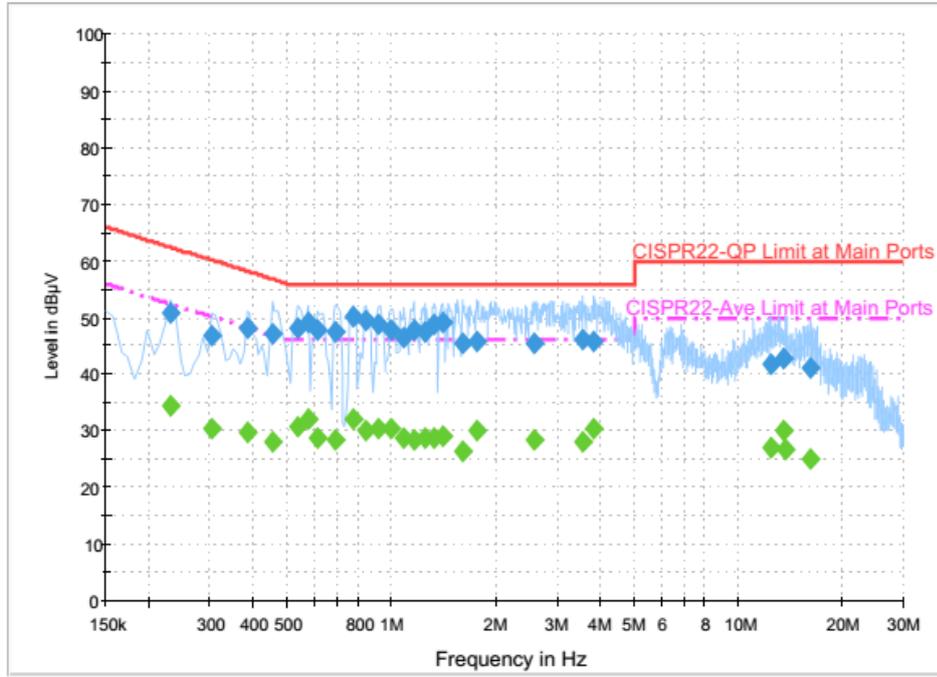


Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.230000	34.6	Off	L1	19.6	17.8	52.4
0.302000	30.4	Off	L1	19.6	19.8	50.2
0.382000	29.8	Off	L1	19.6	18.4	48.2
0.454000	28.0	Off	L1	19.6	18.8	46.8
0.534000	30.9	Off	L1	19.6	15.1	46.0
0.574000	32.2	Off	L1	19.6	13.8	46.0
0.614000	28.7	Off	L1	19.6	17.3	46.0
0.686000	28.3	Off	L1	19.6	17.7	46.0
0.774000	32.3	Off	L1	19.6	13.7	46.0
0.846000	30.2	Off	L1	19.6	15.8	46.0
0.918000	30.3	Off	L1	19.6	15.7	46.0
0.998000	30.5	Off	L1	19.6	15.5	46.0
1.086000	28.8	Off	L1	19.6	17.2	46.0
1.158000	28.5	Off	L1	19.6	17.5	46.0
1.254000	28.8	Off	L1	19.6	17.2	46.0
1.326000	28.7	Off	L1	19.6	17.3	46.0
1.406000	29.1	Off	L1	19.6	16.9	46.0
1.598000	26.3	Off	L1	19.6	19.7	46.0
1.758000	30.0	Off	L1	19.6	16.0	46.0



Test Engineer :	Arthur Hsieh and Eric Jeng	Temperature :	21~25°C
		Relative Humidity :	51~53%
Test Voltage :	120Vac / 60Hz	Phase :	Line

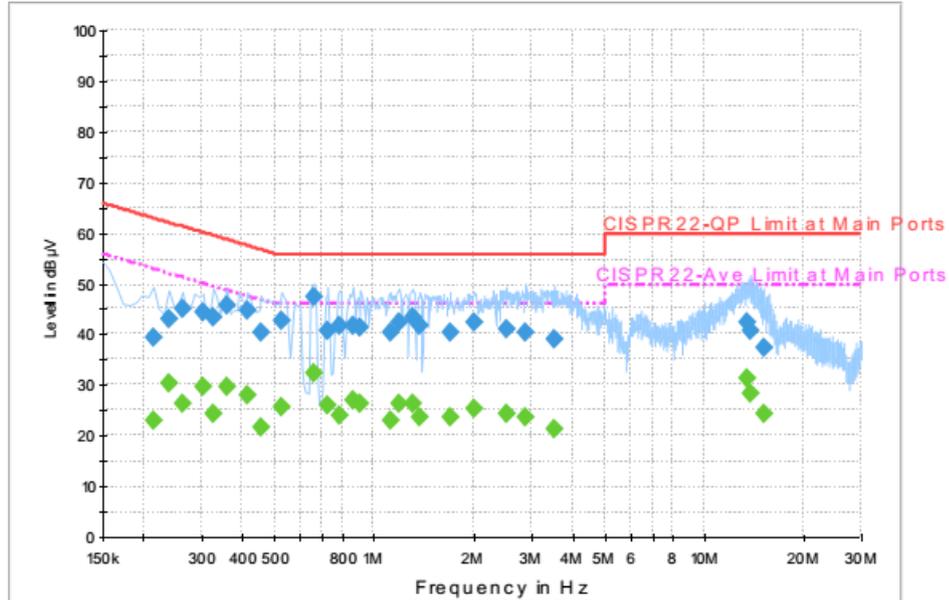


Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.582000	28.6	Off	L1	19.3	17.4	46.0
3.550000	27.9	Off	L1	19.7	18.1	46.0
3.846000	30.5	Off	L1	19.7	15.5	46.0
12.414000	27.0	Off	L1	20.2	23.0	50.0
13.558000	30.0	Off	L1	20.2	20.0	50.0
13.630000	26.8	Off	L1	20.2	23.2	50.0
16.246000	25.2	Off	L1	20.4	24.8	50.0



Test Engineer :	Arthur Hsieh and Eric Jeng	Temperature :	21~25°C
		Relative Humidity :	51~53%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral

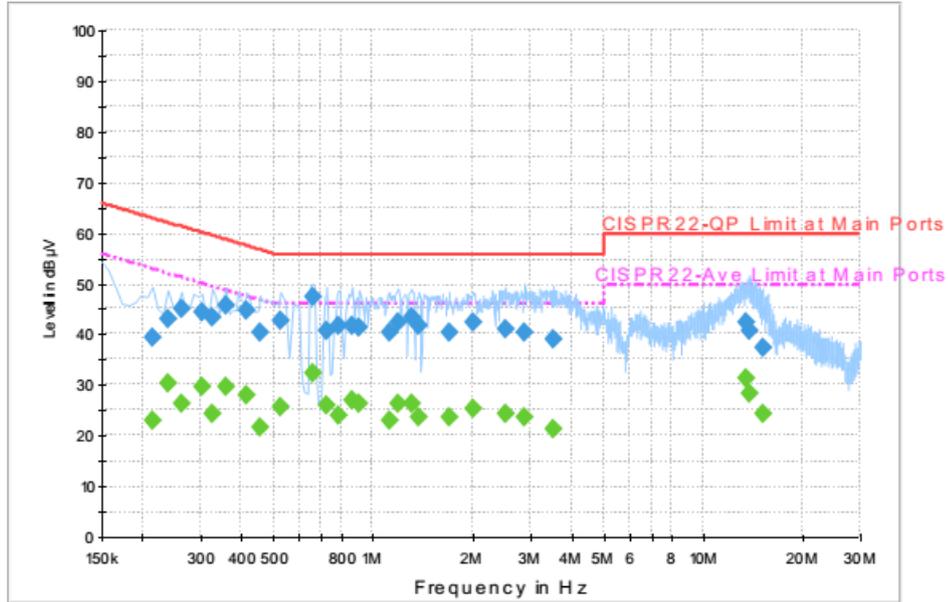


Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.214000	39.3	Off	N	19.5	23.7	63.0
0.238000	43.2	Off	N	19.5	19.0	62.2
0.262000	45.3	Off	N	19.5	16.1	61.4
0.302000	44.6	Off	N	19.5	15.6	60.2
0.326000	43.6	Off	N	19.5	16.0	59.6
0.358000	45.7	Off	N	19.5	13.1	58.8
0.414000	44.7	Off	N	19.5	12.9	57.6
0.454000	40.6	Off	N	19.5	16.2	56.8
0.526000	42.9	Off	N	19.5	13.1	56.0
0.654000	47.4	Off	N	19.6	8.6	56.0
0.726000	40.8	Off	N	19.5	15.2	56.0
0.782000	41.8	Off	N	19.5	14.2	56.0
0.862000	41.9	Off	N	19.6	14.1	56.0
0.910000	41.4	Off	N	19.5	14.6	56.0
1.118000	40.4	Off	N	19.6	15.6	56.0
1.190000	42.6	Off	N	19.6	13.4	56.0
1.302000	43.5	Off	N	19.6	12.5	56.0
1.374000	41.8	Off	N	19.6	14.2	56.0
1.702000	40.3	Off	N	19.6	15.7	56.0



Test Engineer :	Arthur Hsieh and Eric Jeng	Temperature :	21~25°C
		Relative Humidity :	51~53%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral

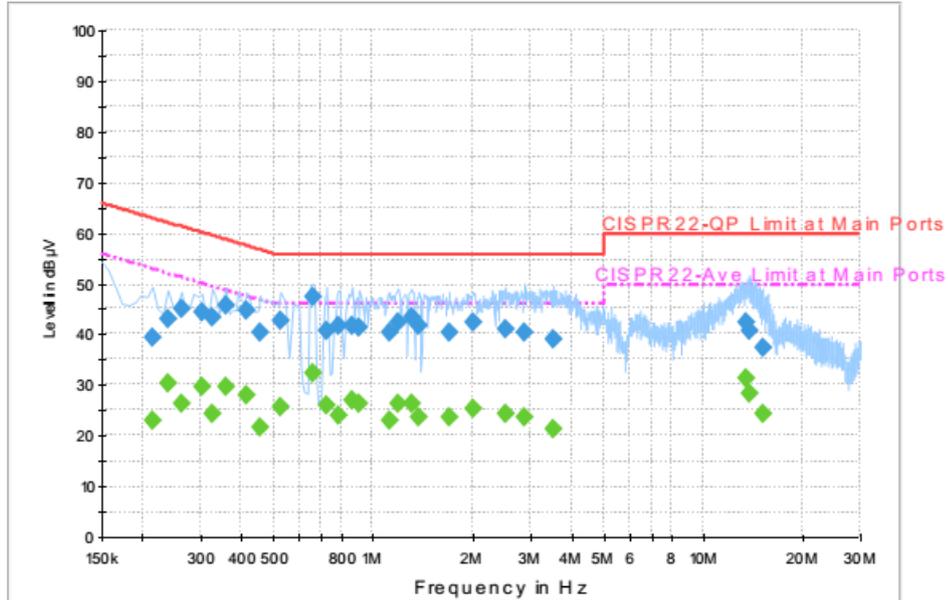


Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.014000	42.3	Off	N	19.6	13.7	56.0
2.510000	41.1	Off	N	19.2	14.9	56.0
2.886000	40.4	Off	N	19.5	15.6	56.0
3.526000	39.1	Off	N	19.6	16.9	56.0
13.558000	42.4	Off	N	20.3	17.6	60.0
13.830000	40.7	Off	N	20.3	19.3	60.0
15.150000	37.4	Off	N	20.4	22.6	60.0



Test Engineer :	Arthur Hsieh and Eric Jeng	Temperature :	21~25°C
		Relative Humidity :	51~53%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral

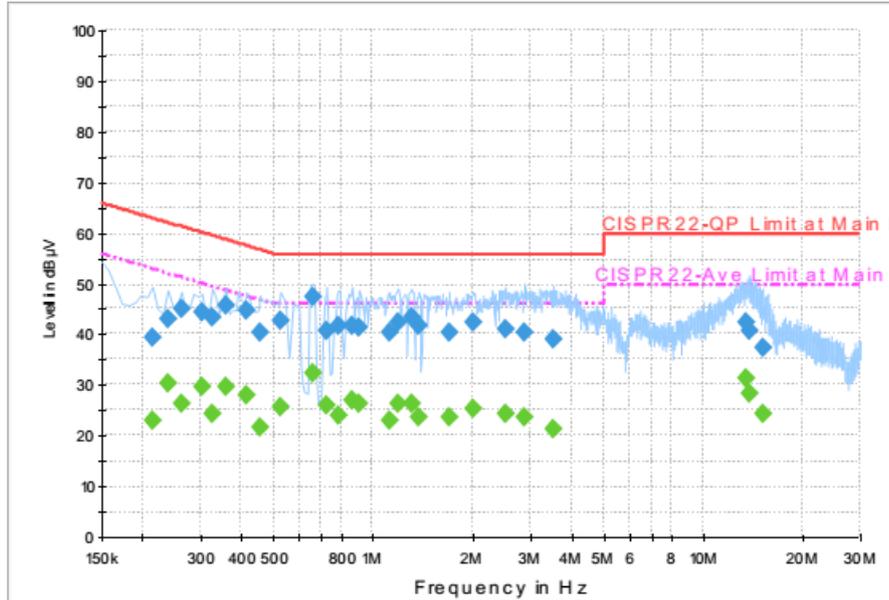


Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.214000	23.2	Off	N	19.5	29.8	53.0
0.238000	30.3	Off	N	19.5	21.9	52.2
0.262000	26.3	Off	N	19.5	25.1	51.4
0.302000	29.9	Off	N	19.5	20.3	50.2
0.326000	24.6	Off	N	19.5	25.0	49.6
0.358000	29.6	Off	N	19.5	19.2	48.8
0.414000	28.0	Off	N	19.5	19.6	47.6
0.454000	21.6	Off	N	19.5	25.2	46.8
0.526000	25.8	Off	N	19.5	20.2	46.0
0.654000	32.6	Off	N	19.6	13.4	46.0
0.726000	26.1	Off	N	19.5	19.9	46.0
0.782000	24.0	Off	N	19.5	22.0	46.0
0.862000	27.0	Off	N	19.6	19.0	46.0
0.910000	26.5	Off	N	19.5	19.5	46.0
1.118000	22.9	Off	N	19.6	23.1	46.0
1.190000	26.4	Off	N	19.6	19.6	46.0
1.302000	26.6	Off	N	19.6	19.4	46.0
1.374000	23.9	Off	N	19.6	22.1	46.0
1.702000	23.9	Off	N	19.6	22.1	46.0



Test Engineer :	Arthur Hsieh and Eric Jeng	Temperature :	21~25°C
		Relative Humidity :	51~53%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral



Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.014000	25.3	Off	N	19.6	20.7	46.0
2.510000	24.4	Off	N	19.2	21.6	46.0
2.886000	23.9	Off	N	19.5	22.1	46.0
3.526000	21.2	Off	N	19.6	24.8	46.0
13.558000	31.4	Off	N	20.3	18.6	50.0
13.830000	28.4	Off	N	20.3	21.6	50.0
15.150000	24.3	Off	N	20.4	25.7	50.0



3.2. Test of Radiated Emission Measurement

3.2.1. Limit of Radiated Emission

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

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.2.2. Measuring Instruments

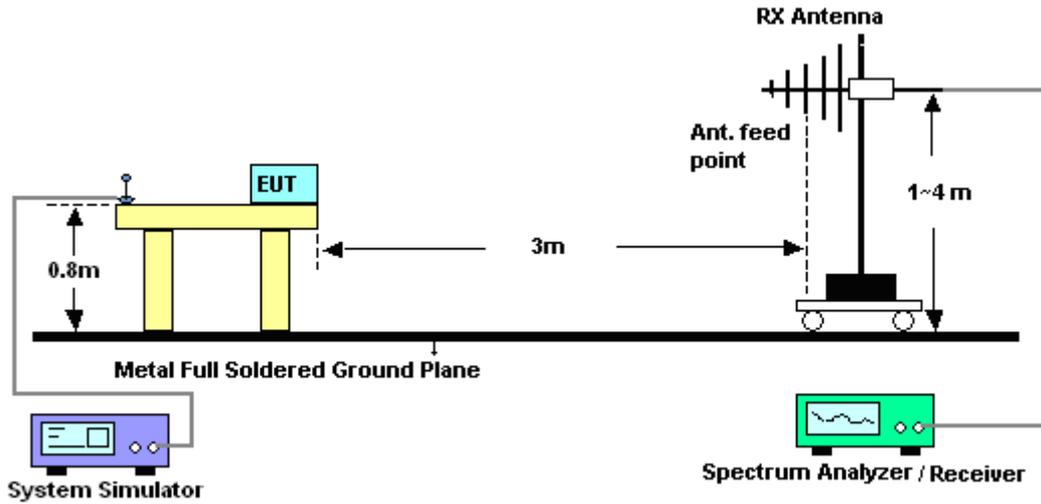
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

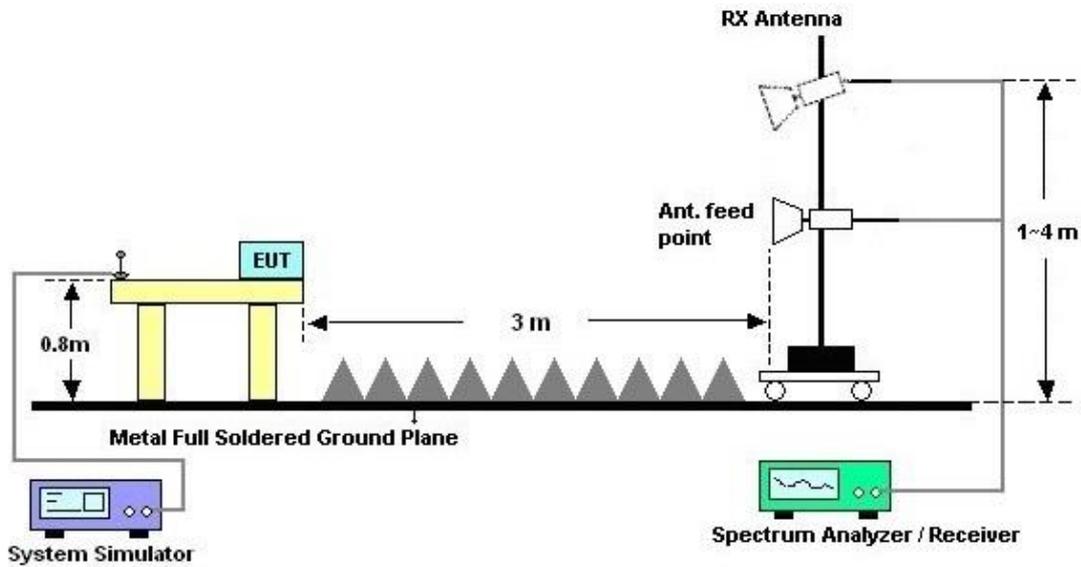
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a Bi-Log antenna and its height is adjusted between one to 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 (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
8. Emission level (dBµV/m) = 20 log Emission level (µV/m)
9. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz



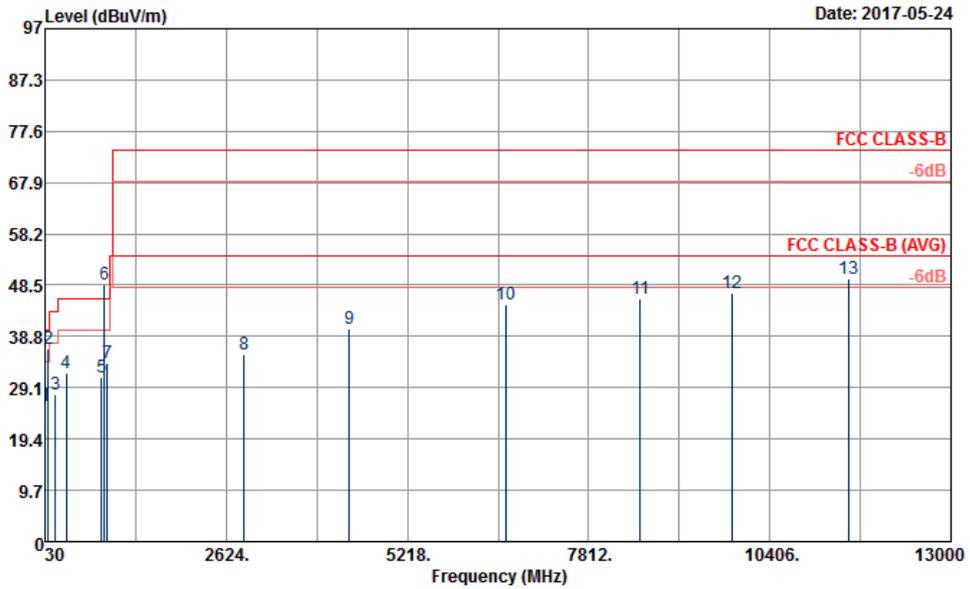
For radiated emissions above 1GHz





3.2.5. Test Result of Radiated Emission

Test Engineer :	Daniel Lee	Temperature :	20~23°C
		Relative Humidity :	50~53%
Test Distance :	3m	Polarization :	Horizontal
Remark :	#6 is system simulator signal which can be ignored.		

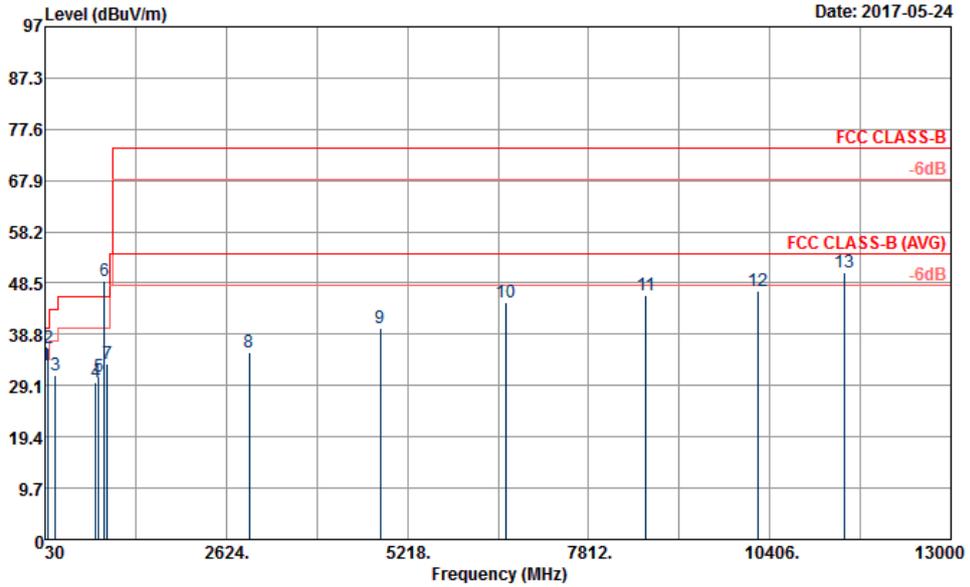


Site : 03CH06-HY
 Condition : FCC CLASS-B 3m 9120D_1156_160817 HORIZONTAL
 Project : 740122
 Power : 120Vac/60Hz
 Memo : Mode 7

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	25.65	-14.35	40.00	31.29	24.30	1.90	31.84	---	---	Peak
2	78.60	36.47	-3.53	40.00	53.14	12.98	2.17	31.82	100	20	Peak
3	183.09	27.78	-15.72	43.50	42.81	14.78	1.97	31.78	---	---	Peak
4	338.50	31.76	-14.24	46.00	41.30	19.97	2.25	31.76	---	---	Peak
5	836.20	31.15	-14.85	46.00	30.35	29.31	3.32	31.83	---	---	Peak
6 *	881.70	48.52			47.57	29.22	3.36	31.63	---	---	Peak
7	926.50	33.79	-12.21	46.00	31.53	30.37	3.21	31.32	---	---	Peak
8	2882.00	35.47	-38.53	74.00	58.60	28.63	7.59	59.35	---	---	Peak
9	4384.00	40.36	-33.64	74.00	58.46	30.88	11.01	59.99	---	---	Peak
10	6634.00	44.96	-29.04	74.00	53.51	35.79	12.40	56.74	---	---	Peak
11	8552.00	46.02	-27.98	74.00	51.72	38.46	13.94	58.10	---	---	Peak
12	9860.00	46.96	-27.04	74.00	51.61	40.78	14.28	59.71	---	---	Peak
13	11530.00	49.75	-24.25	74.00	48.58	42.42	16.02	57.27	100	0	Peak



Test Engineer :	Daniel Lee	Temperature :	20~23°C
		Relative Humidity :	50~53%
Test Distance :	3m	Polarization :	Vertical
Remark :	#6 is system simulator signal which can be ignored.		



Site : 03CH06-HY
 Condition : FCC CLASS-B 3m 9120D_1156_160817 VERTICAL
 Project : 740122
 Power : 120Vac/60Hz
 Memo : Mode 7

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	33.08	-6.92	40.00	38.72	24.30	1.90	31.84	---	---	Peak
2	77.52	36.10	-3.90	40.00	52.89	12.84	2.19	31.82	100	52	QP
3	176.88	31.04	-12.46	43.50	45.78	15.04	2.00	31.78	---	---	Peak
4	759.90	29.85	-16.15	46.00	30.20	28.29	3.39	32.03	---	---	Peak
5	796.30	30.77	-15.23	46.00	31.16	28.24	3.36	31.99	---	---	Peak
6 *	881.70	49.03			48.08	29.22	3.36	31.63	---	---	Peak
7	925.10	33.27	-12.73	46.00	31.04	30.34	3.22	31.33	---	---	Peak
8	2958.00	35.42	-38.58	74.00	58.18	28.90	7.66	59.32	---	---	Peak
9	4828.00	39.91	-34.09	74.00	56.79	31.49	11.01	59.38	---	---	Peak
10	6630.00	44.96	-29.04	74.00	53.51	35.79	12.40	56.74	---	---	Peak
11	8632.00	46.07	-27.93	74.00	51.87	38.39	14.08	58.27	---	---	Peak
12	10242.00	47.11	-26.89	74.00	51.57	41.15	13.79	59.40	---	---	Peak
13	11468.00	50.53	-23.47	74.00	49.64	42.40	15.88	57.39	100	0	Peak



4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	May 09, 2017	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2016	May 09, 2017	Aug. 29, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 29, 2016	May 09, 2017	Nov. 28, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 06, 2016	May 09, 2017	Dec. 05, 2017	Conduction (CO05-HY)
Bilog Antenna	Schaffner	CBL6111C&N-6-06	2725&AT-N0601	30MHz~1GHz	Oct. 15, 2016	May 22, 2017 ~ May 24, 2017	Oct. 14, 2017	Radiation (03CH06-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100472	20Hz~26.5GHz	Dec. 29, 2016	May 22, 2017 ~ May 24, 2017	Dec. 28, 2017	Radiation (03CH06-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1156	1GHz~18GHz	Aug. 05, 2016	May 22, 2017 ~ May 24, 2017	Aug. 04, 2017	Radiation (03CH06-HY)
Preamplifier	SONOMA	310N	186713	9kHz~1GHz	Apr. 25, 2017	May 22, 2017 ~ May 24, 2017	Apr. 24, 2018	Radiation (03CH06-HY)
Antenna Mast	MF	MF-7802	MF780208212	1m~4m	N/A	May 22, 2017 ~ May 24, 2017	N/A	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0-360 degree	N/A	May 22, 2017 ~ May 24, 2017	N/A	Radiation (03CH06-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz ~ 18GHz	Apr. 25, 2017	May 22, 2017 ~ May 24, 2017	Apr. 24, 2018	Radiation (03CH06-HY)



5. Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.7
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.9
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.7
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