FCC EMC Test Report

according to

47 CFR FCC Rules and Regulations Part 15 Subpart B,
Class A Digital Device

Equipment	:	EPIC Board
Model No.	:	xEPIC-BDU7x (x - Where x may be any combination of alphanumeric characters or "-" or blank for marketing purpose)
Filing Type	:	Verification
Applicant	:	AAEON Technology Inc. 5F, No. 135, Lane 235, Pao Chiao Rd., Hsin - Tien Dist, New Taipei City, 231 Taiwan, R.O.C.

SPORTON International Inc.

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

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History of this test report

Report No.	Version	Description	Issued Date
FV561771	Rev. 01	Initial issue of report	Jun. 30, 2015

Verification No. : FV561771

VERIFICATION OF COMPLIANCE

according to

47 CFR FCC Rules and Regulations Part 15 Subpart B, Class A Digital Device

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Applicant	:	AAEON Technology Inc. 5F, No. 135, Lane 235, Pao Chiao Rd., Hsin - Tien Dist, New Taipei City, 231 Taiwan, R.O.C.

I **HEREBY** CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 - 2009** and the energy emitted by this equipment were **passed CISPR PUB. 22 and FCC Part 15 Subpart B** in both radiated and conducted emission **Class A** limits.

The product sample received on Jun. 22, 2015 and completely tested on ***Jun. 24, 2015*** **at SPORTON International Inc.** LAB

Kero Kuo / Assistant Manager

SPORTON International Inc.

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

1. General Description of Equipment under Test

1.1 Applicant

AAEON Technology Inc.

5F, No. 135, Lane 235, Pao Chiao Rd., Hsin - Tien Dist,

New Taipei City, 231 Taiwan, R.O.C.

1.2 Manufacturer

Same as 1.1

1.3 Basic Description of Equipment under Test

Equipment	:	EPIC Board
Model No.	:	xEPIC-BDU7x (x - Where x may be any combination of alphanumeric characters or "-" or blank for marketing purpose)
Trade Name	:	AAEON
Y Cable	:	AL-F-Shielded, 0.2 m
Data Cable Type	:	Please see section 2.2 of this test report for details
Power Supply Type	:	From Switching Power Supply
AC Power Cord	:	Non-Shielded, 1.8 m, 3 pin

The maximum operating frequency : 2.2 GHz

1.4 Feature of Equipment under Test

Please refer to user manual.

1.5 Modification of EUT

None.

2. Test Configuration of Equipment under Test

2.1 Test Manner

a. The EUT has been associated with supporting units and peripherals pursuant to ANSI C63.4-2009 and configuration operated in a manner which tended to maximize its emission characteristics in a typical application.

b. The equipment under test were performed the following test modes:

Test Items	Description of test modes
AC Conducted Emission	Mode 1. R/W, D-SUB+Display: 1920*1080 60Hz, LAN 1Gbps*2
Radiated Emissions	Mode 1. R/W, D-SUB+Display: 1920*1080 60Hz, LAN 1Gbps*2 Mode 1. R/W, D-SUB+Display: 1920*1080 60Hz, LAN 1Gbps*2, Open Case

c. Frequency range investigated: Conducted 150 kHz to 30 MHz, Radiated 30 MHz to 11,000 MHz.

2.2 Description of Test System

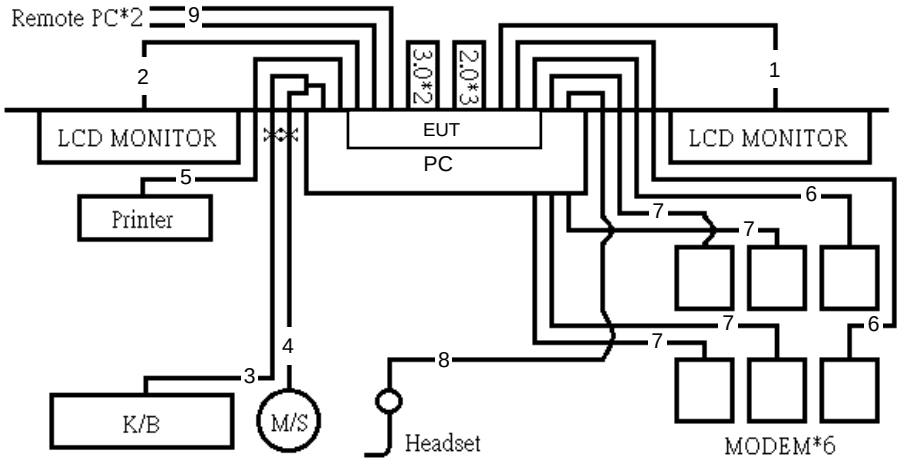
< For conducted emission and radiated emission below 1GHz >

No.	Peripheral	Manufacturer	Model Number	FCC ID	Cable / Spec. Description
For Local					
1	LCD Monitor	DELL	2408WFPB	DoC	D-SUB Cable, D-Shielded, 1.8m
2	LCD Monitor	DELL	U2410f	DoC	Display Cable, D-Shielded, 1.5m
3	Keyboard	HP	KB-0133	DoC	PS2 Cable, AL-F-Shielded, 1.85m
4	Mouse	HP	M-S69	JNZ211443	PS2 Cable, AL-F-Shielded, 1.8m
5	Printer (DJ400)	HP	C2642A	B94C2642X	LPT Cable, D-Shielded, 1.2m
6	Modem*6	ACEEX	DM1414	IFAXDM1414	RS-232 Cable, D-Shielded, 1.15m
7	USB 2.0 Flash Disk*3	TRANSCEND	JetFlash V85	DoC	-
8	USB 3.0 Flash Disk*2	PQI	U273V	DoC	-
9	Headset	i-Acon	HOH-323-BK	-	Audio Cable, Non-Shielded, 2.0m
10	CPU	INTEL	i7-5650U/2.2G	-	-
11	RAM	TRANSCEND	4G	-	-
12	HDD	TOSHIBA	160G	-	-
13	Power	FSP	FSP300-701UJ/300W	-	-
For Remote					
-	Personal Computer*2	Lenovo	C61	DoC	RJ45 Cable, Non-Shielded, 20.0m
-	LCD Monitor*2	DELL	E198WFPF	DoC	D-SUB Cable, D-Shielded, 1.8m
-	Keyboard*2	Lenovo	KU-0225	DoC	USB Cable, AL-F-Shielded, 1.8m
-	Mouse*2	Lenovo	M-U0025-O	DoC	USB Cable, AL-F-Shielded, 1.8m

< For radiated emission above 1GHz >

No.	Peripheral	Manufacturer	Model Number	FCC ID	Cable / Spec. Description
For Local					
1	LCD Monitor	DELL	2408WFPB	DoC	D-SUB Cable, D-Shielded, 1.8m
2	LCD Monitor	DELL	U2410f	DoC	Display Cable, D-Shielded, 1.5m
3	Keyboard	HP	KB-0133	DoC	PS2 Cable, AL-F-Shielded, 1.85m
4	Mouse	HP	M-S69	JNZ211443	PS2 Cable, AL-F-Shielded, 1.8m
5	Printer (DJ400)	HP	C2642A	B94C2642X	LPT Cable, D-Shielded, 1.2m
6	Modem*6	ACEEX	DM1414	IFAXDM1414	RS-232 Cable, D-Shielded, 1.15m
7	USB 3.0 Flash Disk*5	PQI	U821V	DoC	-
8	Headset	i-Acon	HOH-323-BK	-	Audio Cable, Non-Shielded, 2.0m
9	CPU	INTEL	i7-5650U/2.2G	-	-
10	RAM	TRANSCEND	4G	-	-
11	HDD	TOSHIBA	160G	-	-
12	Power	FSP	FSP300-701UJ/300W	-	-
For Remote					
-	Personal Computer*2	Lenovo	C61	DoC	RJ45 Cable, Non-Shielded, 20.0m
-	LCD Monitor*2	DELL	E198WFPF	DoC	D-SUB Cable, D-Shielded, 1.8m
-	Keyboard*2	Lenovo	KU-0225	DoC	USB Cable, AL-F-Shielded, 1.8m
-	Mouse*2	Lenovo	M-U0025-O	DoC	USB Cable, AL-F-Shielded, 1.8m

2.3 Connection Diagram of Test System for Radiation Emission



1. The D-SUB cable is connected from EUT to the support unit 1.
2. The Display cable is connected from EUT to the support unit 2.
3. The Y cable to USB cable is connected from PC to the support unit 3.
4. The Y cable to USB cable is connected from PC to the support unit 4.
5. The LPT cable is connected from PC to the support unit 5.
6. This RS-232 cables are connected from EUT to the support unit 6.
7. This RS-232 cables are connected from PC to the support unit 6.
8. The Audio cable is connected from PC to the support unit 9.
9. This RJ45 cables are connected from EUT to the remote workstation.

3. Test Software

An executive program, EMIprogram under WIN 8, which generates a complete line of continuously repeating "H" pattern was used as the test software.

The program was executed as follows:

a. Turn on the power of all equipment.
b. The PC reads the test program from the hard disk drive and runs it.
c. The PC sends "H" messages to the printer, and then the printer prints them on the paper.
d. The PC sends signal messages to the modem.
e. The PC sends signal messages to the internal Hard Disk, and the Hard Disk reads and writes the message.
f. Repeat the steps from c to e.

At the same time, the following were executed:

- Executed "BurnInTest" to display continuously repeating "H" patterns.
- Executed "WINTHRAX" to read and write data from USB 2.0 Flash Disk & USB 3.0 Flash Disk.
- Executed "Media player" to play audio via headset.
- Executed "Sound Recorder" to record the audio signal via microphone.
- Executed "PING" to link with the remote workstation to maintain the connection via RJ45 cable.

4. General Information of Test

4.1 Test Facility

Test Site Location : No. 3, Lane 238, Kang Lo Street, Nei Hwu District, Taipei 11424, Taiwan, R.O.C.
TEL : 886-2-2631-4739
FAX : 886-2-2631-9740
Test Site No. : CO01-NH, OS03-NH
Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.
TEL : 886-3-327-3456
FAX : 886-3-318-0055
Test Site No. : 03CH04-HY

4.2 Uncertainty of Test Site

Test Items	Test Site No.	Uncertainty	Remark
Conducted Emissions	CO01-NH	± 2.6dB	Confidence levels of 95%
Radiated Emissions below 1GHz	OS03-NH	± 2.9dB	Confidence levels of 95%
Radiated Emissions above 1GHz	03CH04-HY	± 4.7dB	Confidence levels of 95%

4.3 Test Voltage

120VAC / 60Hz

4.4 Standard for Methods of Measurement

ANSI C63.4-2009

4.5 Test in Compliance with

CISPR PUB. 22 and FCC Rules and Regulations Part 15 Subpart B

4.6 Frequency Range Investigated

a. Conducted emission test: from 150 kHz to 30 MHz
b. Radiated emission test: from 30 MHz to 11,000 MHz
   - The test distance of radiated emission from antenna to EUT is 10 M (from 30MHz ~ 1GHz)
   - The test distance of radiated emission from antenna to EUT is 3 M (from 1GHz ~ 11GHz)

5. Test of Conducted Powerline

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 kHz and return leads of the EUT according to the methods defined in ANSI C63.4-2009 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meter above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

5.1 Test Procedures

a. The EUT was warmed up for 15 minutes before testing started.
b. The EUT was placed on a desk 0.8 meters height from the metal ground plane and 0.4 meter from the conducting wall of the shielding room and it was kept at least 0.8 meters from any other grounded conducting surface.
c. Connect EUT to the power mains through a line impedance stabilization network (LISN).
d. All the support units are connected to the other LISN.
e. The LISN provides 50 ohm coupling impedance for the measuring instrument.
f. The CISPR states that a 50 ohm, 50 micro henry LISN should be used.
g. Both sides of AC line were checked for maximum conducted interference.
h. The frequency range from 150 kHz to 30 MHz was searched.
i. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

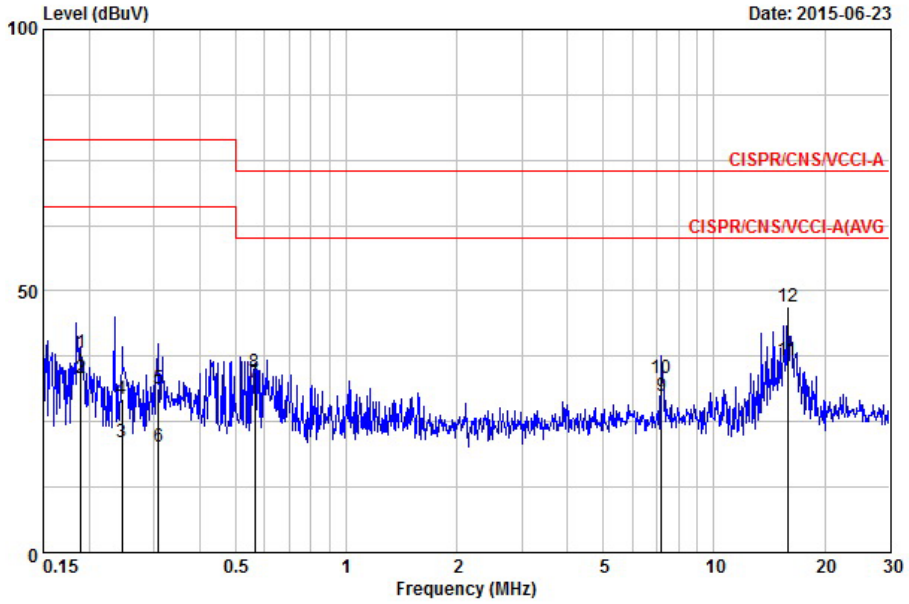
5.2 Typical Test Setup Layout of Conducted Powerline

a. AMN is 80 cm from the EUT and at least 80 cm from other units and other metal planes.
b. EUT is connected to one artificial mains network (AMN).
c. All other units of a system are powered from a second AMN. A multiple outlet strip can be used for multiple mains cords.
d. Rear of EUT to be flushed with rear of table top.
e. Peripherals shall be placed at a distance of 10 cm from each other and from the controller, except for the monitor which, if this is an acceptable installation practice, shall be placed directly on the top of the controller.
f. If cables, which hang closer than 40 cm to the horizontal metal ground plane, cannot be shortened to appropriate length, the excess shall be folded back and forth forming a bundle 30 cm to 40 cm long.
g. Mains cords and signal cables shall be positioned for their entire lengths, as far as possible, at 40 cm from the vertical reference plane.
h. Cables of hand operated devices, such as keyboards, mice, etc. shall be placed as for normal usage.

5.3 Test Result of AC Powerline Conducted Emission

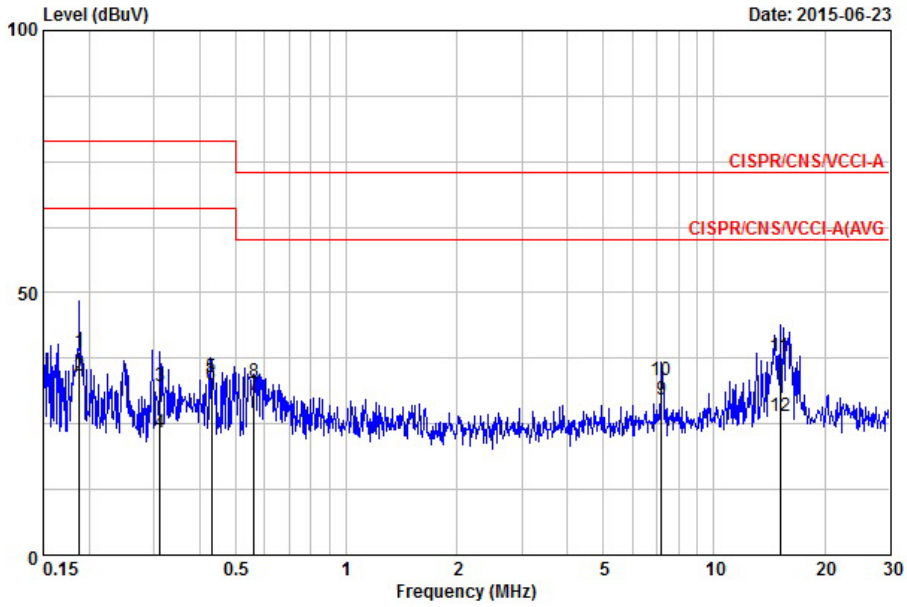
Test Mode	Mode 1	Test Site No.	CO01-NH
Test Frequency	0.15 MHz ~ 30 MHz	Test Engineer	Willy
Temperature	26 ℃	Relative Humidity	52 %
Note: 1. Corrected Reading (dBμV) = LISN Factor + Cable Loss + Read Level = Level			
2. All emissions not reported here are more than 10 dB below the prescribed limit.			
■The test was passed at the minimum margin that marked by the frame in the following data			

Line



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.190	38.07	-40.93	79.00	27.50	10.47	0.10	QP
2	0.190	33.31	-32.69	66.00	22.74	10.47	0.10	AVERAGE
3	0.246	21.20	-44.80	66.00	10.63	10.47	0.10	AVERAGE
4	0.246	29.32	-49.68	79.00	18.75	10.47	0.10	QP
5	0.308	31.23	-47.77	79.00	20.65	10.48	0.10	QP
6	0.308	20.29	-45.71	66.00	9.71	10.48	0.10	AVERAGE
7	0.564	32.50	-27.50	60.00	21.88	10.48	0.14	AVERAGE
8	0.564	34.60	-38.40	73.00	23.98	10.48	0.14	QP
9	7.213	29.83	-30.17	60.00	18.93	10.59	0.30	AVERAGE
10	7.213	33.35	-39.65	73.00	22.45	10.59	0.30	QP
11	15.872	36.72	-23.28	60.00	25.66	10.74	0.32	AVERAGE
12	15.872	46.97	-26.03	73.00	35.91	10.74	0.32	QP

Neutral



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.188	38.76	-40.24	79.00	28.53	10.13	0.10	QP
2	0.188	34.17	-31.83	66.00	23.94	10.13	0.10	AVERAGE
3	0.312	32.12	-46.88	79.00	21.89	10.12	0.10	QP
4	0.312	23.45	-42.55	66.00	13.22	10.12	0.10	AVERAGE
5	0.431	33.77	-45.23	79.00	23.54	10.12	0.11	QP
6	0.431	32.42	-33.58	66.00	22.19	10.12	0.11	AVERAGE
7	0.562	30.45	-29.55	60.00	20.19	10.12	0.14	AVERAGE
8	0.562	33.13	-39.87	73.00	22.87	10.12	0.14	QP
9	7.213	29.70	-30.30	60.00	19.16	10.24	0.30	AVERAGE
10	7.213	33.25	-39.75	73.00	22.71	10.24	0.30	QP
11	15.146	37.79	-35.21	73.00	27.07	10.41	0.30	QP
12	15.146	26.51	-33.49	60.00	15.79	10.41	0.30	AVERAGE

6. Test of Radiated Emission

Radiated emissions from 30 MHz to 11,000 MHz were measured with a bandwidth of 120 kHz for 30 MHz to 1000 MHz and 1 MHz for above 1GHz according to the methods defines in ANSI C63.4-2009. The EUT was placed on a nonmetallic stand, 0.8 meter above the ground plane. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

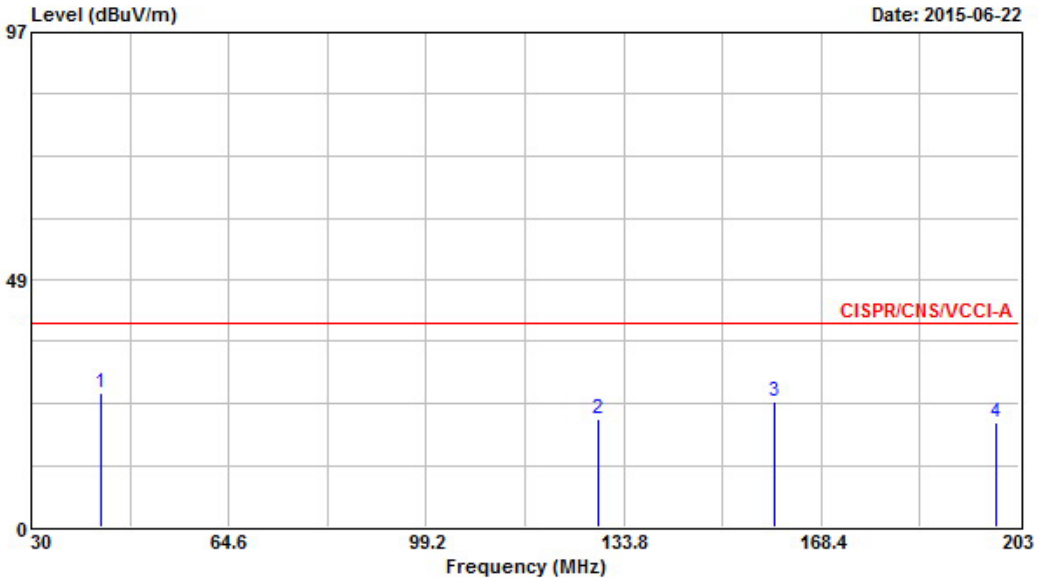
6.1 Test Procedures

a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set at 3m(above 1GHz) and 10m(below 1GHz) from the interference-receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna is a half wave dipole and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
e. 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 turn table (from 0 degree to 360 degrees) to find the maximum reading.
f. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. 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 which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
h. The FCC Part 15.109 (g) permit parties seeking to authorize a digital device to choose to demonstrate that the device complies with either the Part 15 standards or the international standards found in Publication 22 of the International Special Committee on Radio Interference (CISPR)
i. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
j. The main board was tested in accordance with section 15.32 of the FCC rules. Testing for radiated emissions was first performed with the main board installed in a typical enclosure but with the enclosure's cover removed so that the internal circuitry is exposed at the top and on at least two sides. And then the EUT was tested with enclosure's cover unless it pass the required limits at first condition.

6.2 Test Result of Radiated Emission (Below 1GHz)

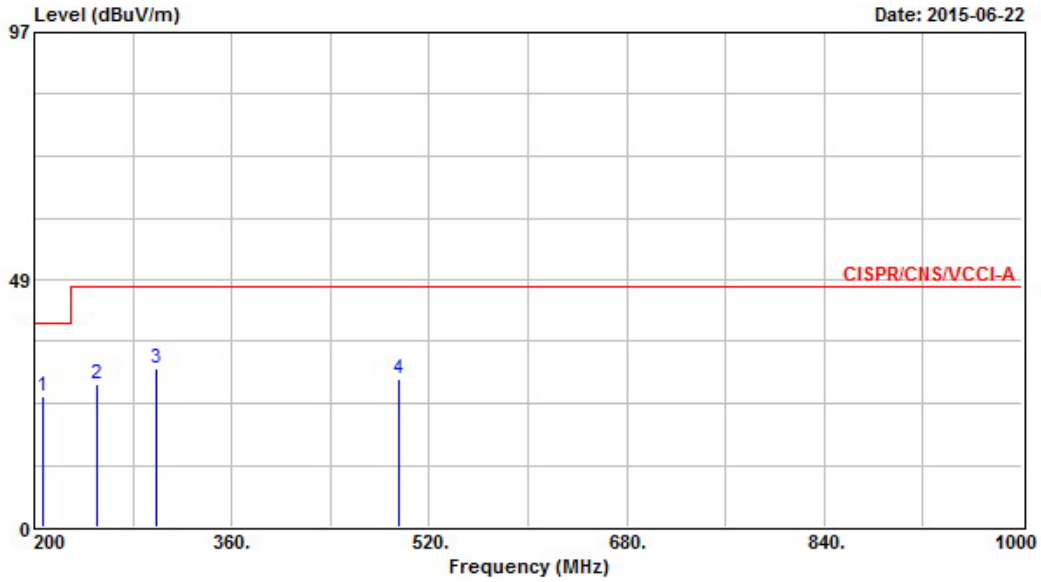
Test mode	Mode 1	Test Site No.	OS03-NH
Test frequency	30 MHz ~ 1000 MHz	Test Engineer	Alan
Temperature	26 ℃	Relative Humidity	51 %
Note: 1. Emission level (dBμV/m) = 20 log Emission level (μV/m)			
2. Corrected Reading : Probe Factor + Cable Loss + Read Level – Preamp Factor = Level			
■The test was passed at the minimum margin that marked by the frame in the following data			

Vertical



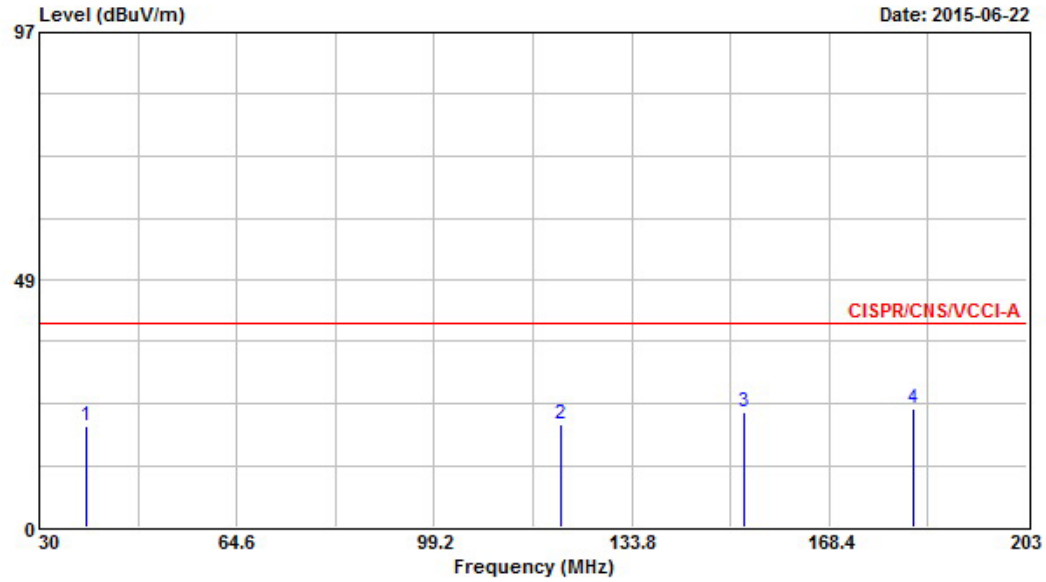
	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	42.280	26.40	-13.60	40.00	42.60	11.15	1.08	28.43	QP	100	39
2	129.300	21.18	-18.82	40.00	35.15	12.28	1.94	28.19	Peak	---	---
3	160.270	24.58	-15.42	40.00	40.39	10.08	2.18	28.07	Peak	---	---
4	199.020	20.57	-19.43	40.00	36.61	9.43	2.46	27.93	Peak	---	---

Vertical



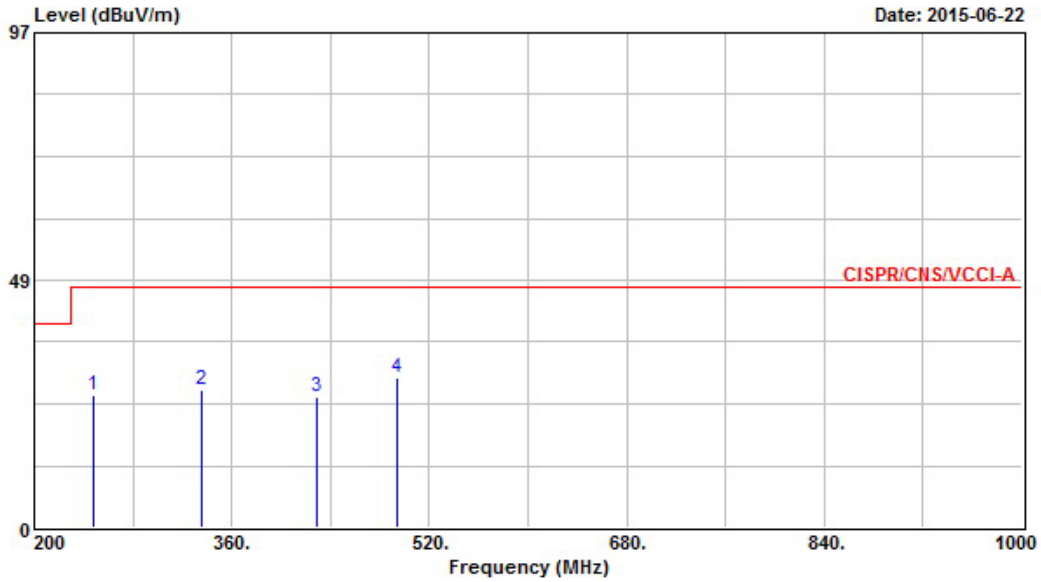
	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	206.400	25.61	-14.39	40.00	41.19	9.84	2.50	27.92	Peak	---	---
2	251.200	28.17	-18.83	47.00	40.79	12.47	2.76	27.85	Peak	---	---
3	298.400	30.98	-16.02	47.00	42.40	13.26	3.09	27.77	Peak	---	---
4	495.200	28.96	-18.04	47.00	36.50	17.40	4.07	29.01	Peak	---	---

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	38.130	19.95	-20.05	40.00	33.55	13.81	1.02	28.43	Peak	---	---
2	121.340	20.14	-19.86	40.00	33.79	12.70	1.86	28.21	Peak	---	---
3	153.520	22.63	-17.37	40.00	38.17	10.44	2.12	28.10	Peak	---	---
4	183.110	23.38	-16.62	40.00	39.61	9.43	2.33	27.99	Peak	---	---

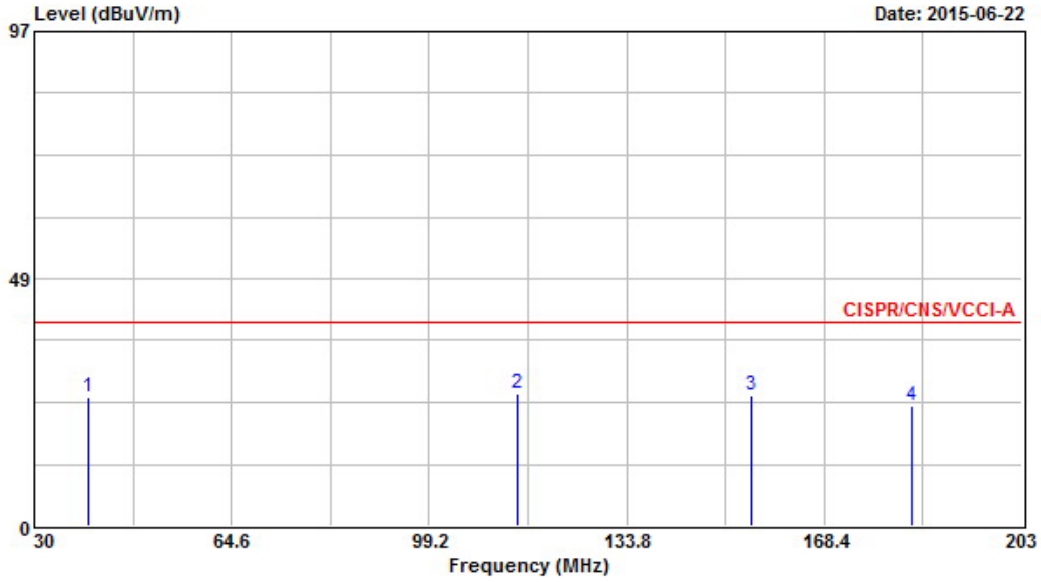
Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	248.000	26.02	-20.98	47.00	38.81	12.33	2.73	27.85	Peak	---	---
2	336.000	27.03	-19.97	47.00	37.61	14.16	3.29	28.03	Peak	---	---
3	428.800	25.71	-21.29	47.00	34.40	16.23	3.74	28.66	Peak	---	---
4	493.600	29.43	-17.57	47.00	37.00	17.37	4.06	29.00	Peak	---	---

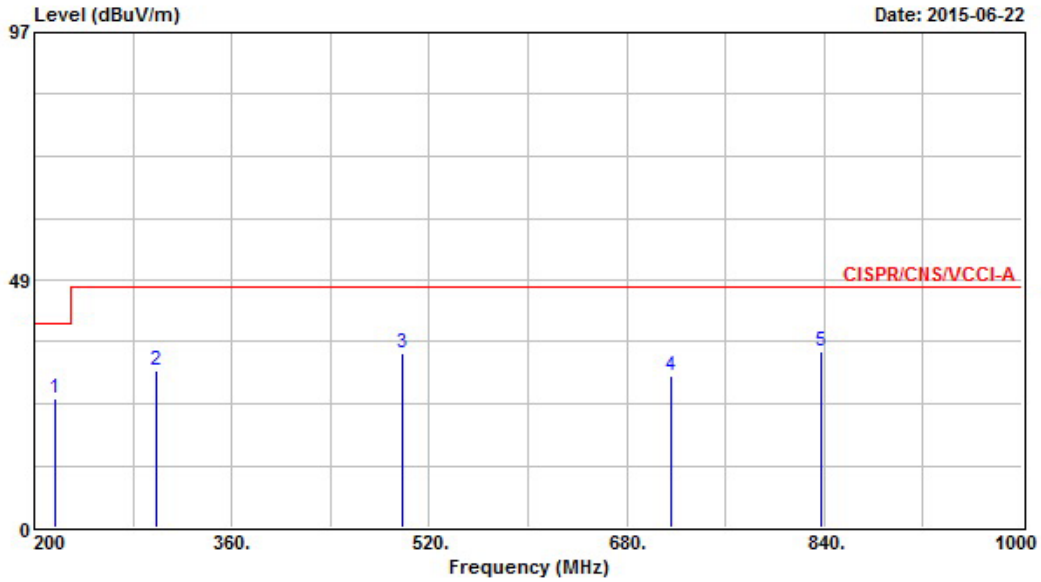
Test mode	Mode 2	Test Site No.	OS03-NH
Test frequency	30 MHz ~ 1000 MHz	Test Engineer	Alan
Temperature	26 ℃	Relative Humidity	51 %
Note: 1. Emission level (dBμV/m) = 20 log Emission level (μV/m)			
2. Corrected Reading : Probe Factor + Cable Loss + Read Level – Preamp Factor = Level			
■The test was passed at the minimum margin that marked by the frame in the following data			

Vertical



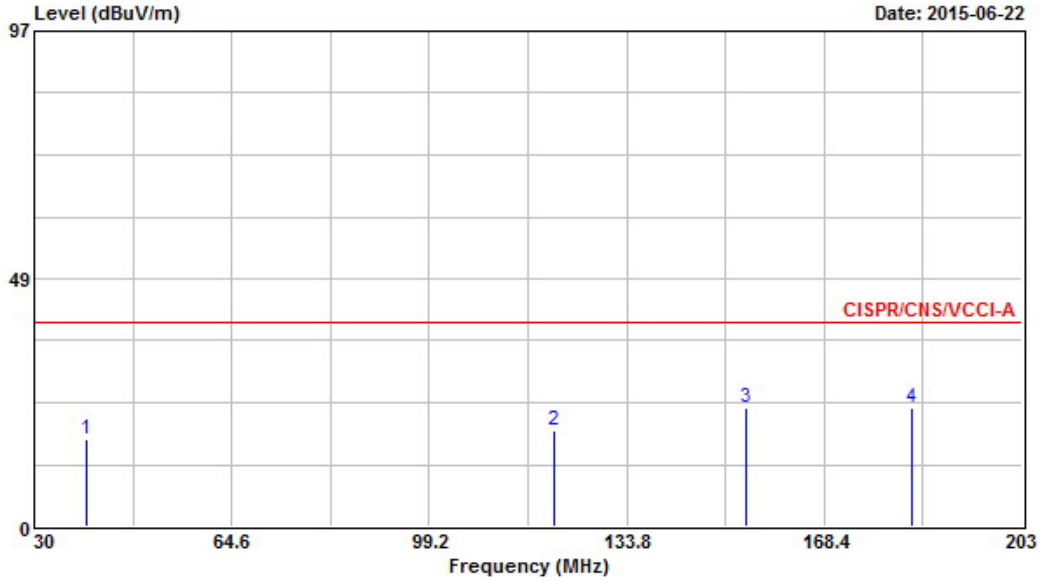
	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	39.600	25.44	-14.56	40.00	40.16	12.66	1.05	28.43	Peak	---	---
2 @	114.600	25.83	-14.17	40.00	39.95	12.30	1.82	28.24	Peak	---	---
3 @	155.600	25.55	-14.45	40.00	41.16	10.34	2.14	28.09	Peak	---	---
4 @	183.620	23.58	-16.42	40.00	39.81	9.43	2.33	27.99	Peak	---	---

Vertical



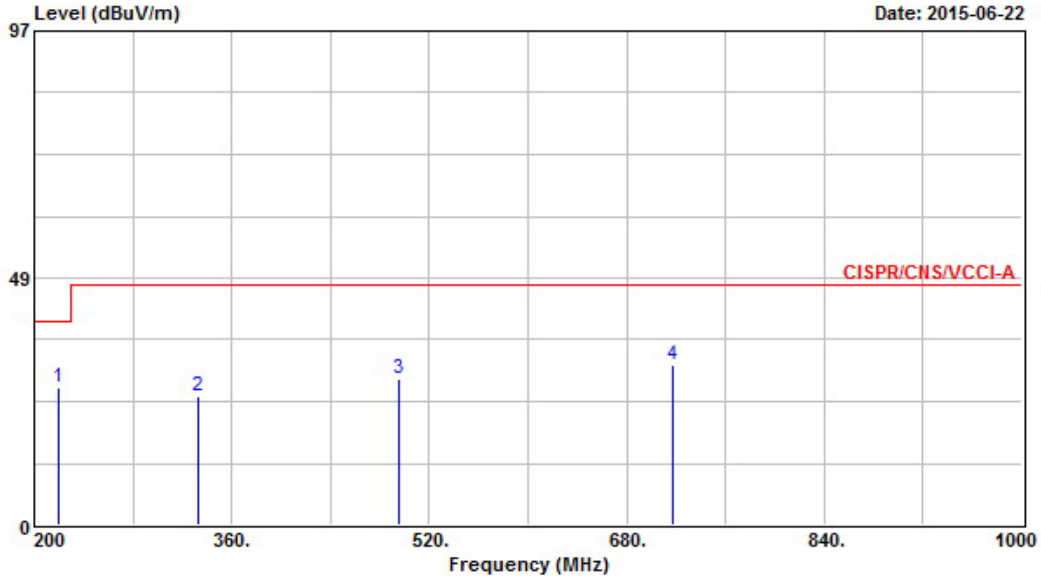
	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	216.800	25.31	-14.69	40.00	40.19	10.48	2.54	27.90	Peak	---	---
2 @	298.400	30.58	-16.42	47.00	42.00	13.26	3.09	27.77	Peak	---	---
3 @	498.400	34.32	-12.68	47.00	41.80	17.46	4.09	29.03	Peak	---	---
4	716.000	29.82	-17.18	47.00	34.80	19.06	5.05	29.09	Peak	---	---
5 @	837.600	34.49	-12.51	47.00	37.80	20.05	5.51	28.87	QP	200	84

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	39.170	17.24	-22.76	40.00	31.41	13.23	1.03	28.43	Peak	---	---
2	121.170	18.74	-21.26	40.00	32.39	12.70	1.86	28.21	Peak	---	---
3 @	154.730	23.38	-16.62	40.00	38.99	10.34	2.14	28.09	Peak	---	---
4 @	183.620	23.38	-16.62	40.00	39.61	9.43	2.33	27.99	Peak	---	---

Horizontal

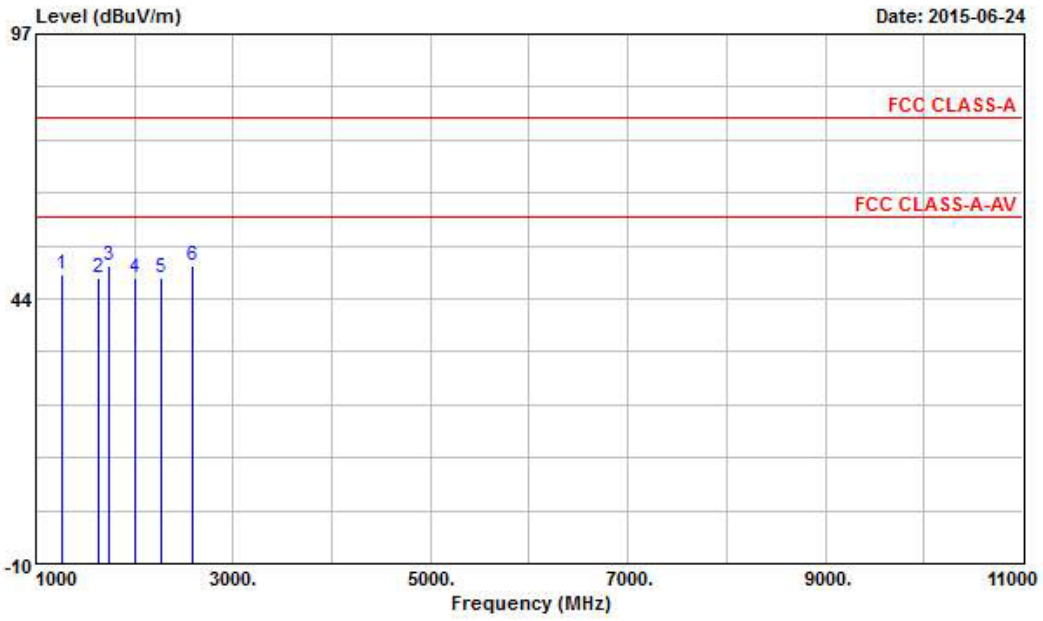


	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	220.000	26.90	-13.10	40.00	41.60	10.65	2.55	27.90	Peak	---	---
2	332.800	25.36	-21.64	47.00	36.00	14.09	3.28	28.01	Peak	---	---
3	495.200	28.86	-18.14	47.00	36.40	17.40	4.07	29.01	Peak	---	---
4 @	717.600	31.44	-15.56	47.00	36.40	19.08	5.05	29.09	Peak	---	---

6.3 Test Result of Radiated Emission (Above 1GHz)

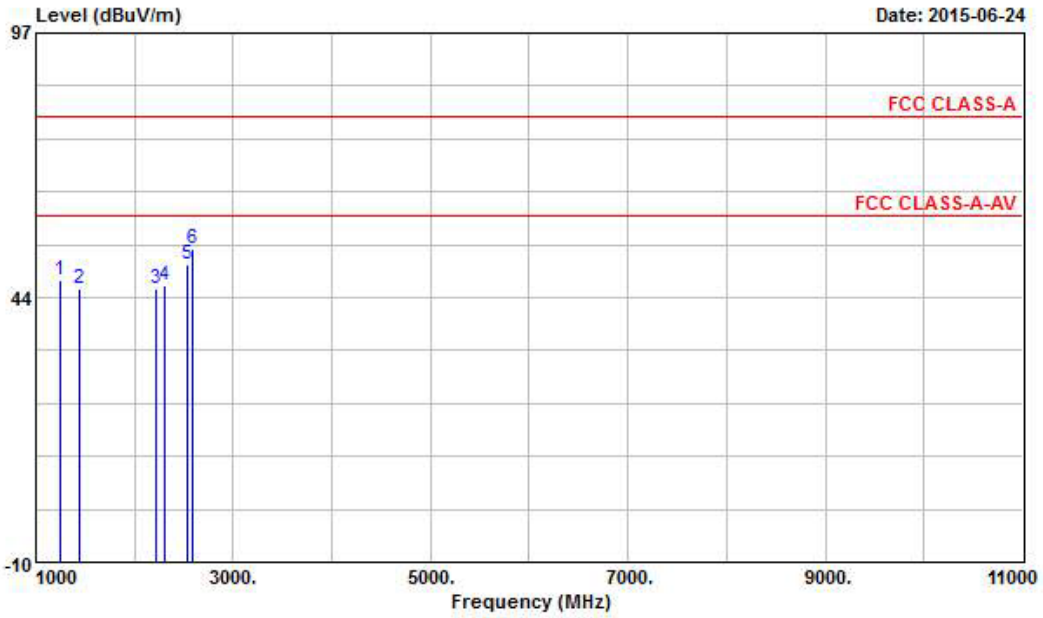
Test mode	Mode 1	Test Site No.	03CH04-HY
Test frequency	1 GHz ~ 11 GHz	Test Engineer	Yen-Liang
Temperature	26 ℃	Relative Humidity	51 %
Note: 1. Emission level (dBμV/m) = 20 log Emission level (μV/m)			
2. Corrected Reading : Antenna Factor + Cable Loss + Read Level – Preamp Factor = Level			
■ The test was passed at the minimum margin that marked by the frame in the following data			

Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	1262.000	48.32	-31.68	80.00	54.79	25.22	33.75	2.05	---	---	Peak
2	1628.000	47.62	-32.38	80.00	52.68	26.03	33.36	2.27	---	---	Peak
3	1734.000	50.17	-29.83	80.00	55.06	26.13	33.35	2.32	---	---	Peak
4	2012.000	47.76	-32.24	80.00	52.21	26.44	33.33	2.44	---	---	Peak
5	2262.000	47.79	-32.21	80.00	51.60	26.97	33.43	2.65	---	---	Peak
6 @	2580.000	50.29	-29.71	80.00	53.28	27.70	33.57	2.88	---	---	Peak

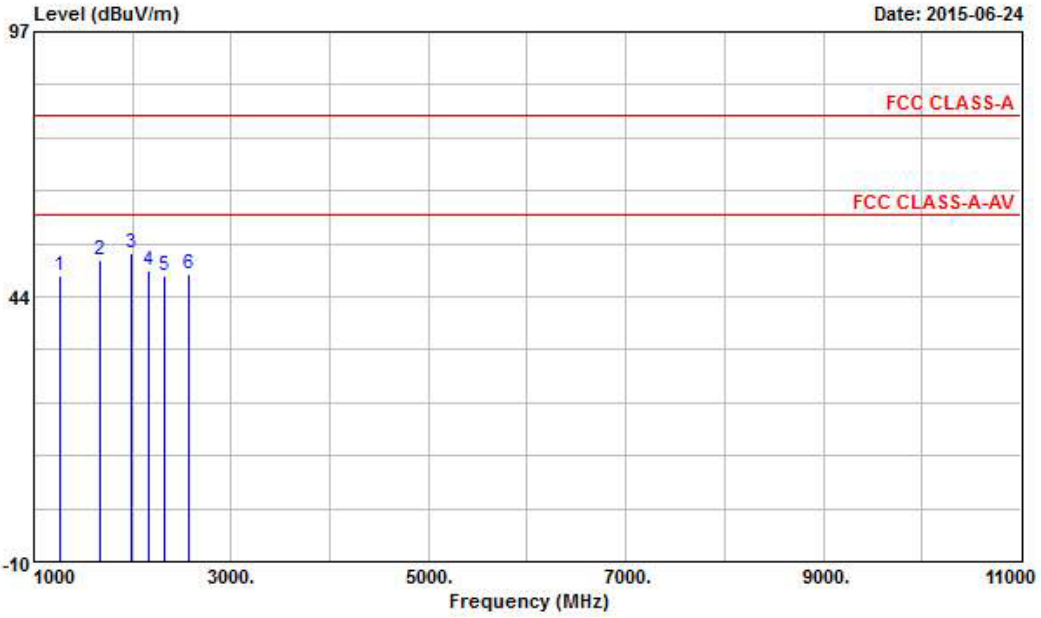
Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	1252.000	46.88	-33.12	80.00	53.38	25.22	33.75	2.02	---	---	Peak
2	1444.000	45.23	-34.77	80.00	50.80	25.76	33.49	2.17	---	---	Peak
3	2220.000	45.14	-34.86	80.00	49.05	26.89	33.41	2.61	---	---	Peak
4	2302.000	46.08	-33.92	80.00	49.76	27.08	33.45	2.68	---	---	Peak
5	2526.000	50.02	-29.98	80.00	53.12	27.58	33.54	2.86	---	---	Peak
6 @	2596.000	53.38	-26.62	80.00	56.35	27.74	33.59	2.88	100	156	Peak

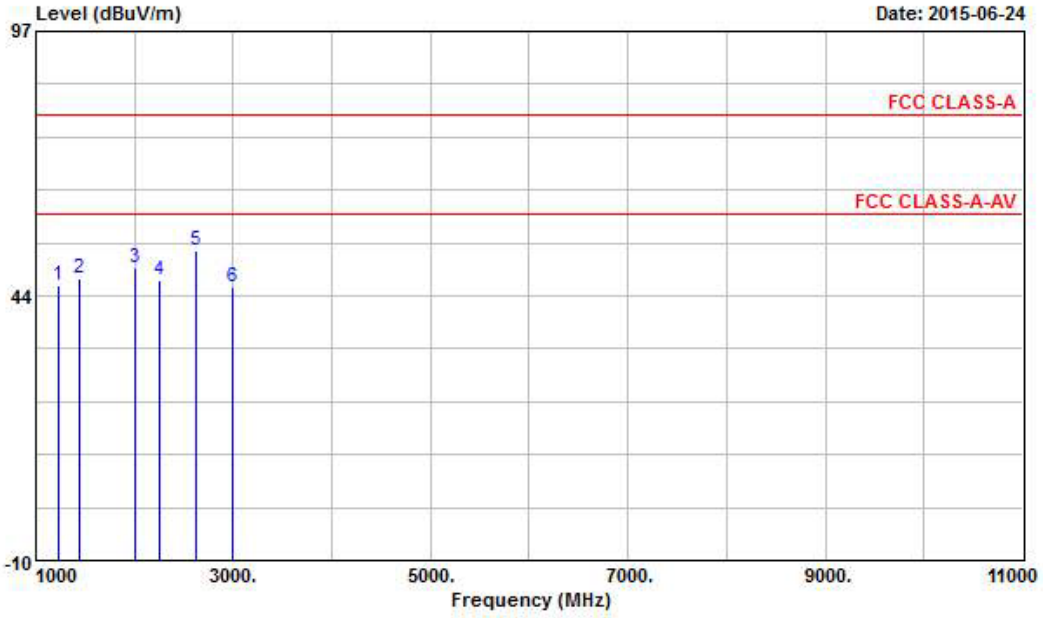
Test mode	Mode 2	Test Site No.	03CH04-HY
Test frequency	1 GHz ~ 11 GHz	Test Engineer	Yen-Liang
Temperature	26 ℃	Relative Humidity	51 %
Note: 1. Emission level (dBμV/m) = 20 log Emission level (μV/m)			
2. Corrected Reading : Antenna Factor + Cable Loss + Read Level – Preamp Factor = Level			
■ The test was passed at the minimum margin that marked by the frame in the following data			

Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	1268.000	47.57	-32.43	80.00	53.95	25.27	33.71	2.05	---	---	Peak
2	1678.000	50.94	-29.06	80.00	55.92	26.08	33.36	2.29	---	---	Peak
3 @	1996.000	52.36	-27.64	80.00	56.84	26.40	33.32	2.44	---	---	Peak
4	2156.000	48.73	-31.27	80.00	52.79	26.74	33.38	2.58	---	---	Peak
5	2316.000	47.74	-32.26	80.00	51.40	27.08	33.46	2.71	---	---	Peak
6	2566.000	48.09	-31.91	80.00	51.12	27.66	33.56	2.87	---	---	Peak

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	1230.000	45.52	-34.48	80.00	52.10	25.18	33.78	2.02	---	---	Peak
2	1446.000	46.90	-33.10	80.00	52.47	25.76	33.49	2.17	---	---	Peak
3	1998.000	49.05	-30.95	80.00	53.53	26.40	33.32	2.44	---	---	Peak
4	2252.000	46.81	-33.19	80.00	50.62	26.97	33.43	2.65	---	---	Peak
5 @	2614.000	52.48	-27.52	80.00	55.41	27.78	33.59	2.88	100	158	Peak
6	2996.000	45.43	-34.57	80.00	47.59	28.66	33.81	2.99	---	---	Peak

7. List of Measuring Equipment Used

< Conducted Emission >

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Receiver	R&S	ESCS 30	100357	9 kHz ~ 2.75 GHz	Jan. 21, 2015	Conduction (CO01-NH)
LISN	SCHAFFNER	NNB41	06/10024	9 kHz ~ 30 MHz	Dec. 04, 2014	Conduction (CO01-NH)
LISN	KYORITSU	KNW-407	8-1010-15	9 kHz ~ 30 MHz	NCR	Conduction (CO01-NH)
Power Filter	CORCOM	MR12030	N/A	30A*2	NCR	Conduction (CO01-NH)
RF Cable-CON	Suhner Switzerland	RG223/U	CB004	9 kHz ~ 30 MHz	Dec. 10, 2014	Conduction (CO01-NH)

Note: Calibration Interval of instruments listed above is one year. NCR: NO CALIBRATION REQUEST.

< Radiated Emission below 1GHz >

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Open Area Test Site	SPORTON	OATS-10	OS03-NH	30 MHz ~ 1 GHz 10m, 3m	Nov. 09, 2014	Radiation (OS03-NH)
Amplifier	HP	8447D	2944A08292	0.1 MHz ~ 1.3 GHz	May 11, 2015	Radiation (OS03-NH)
Spectrum Analyzer	Advantest	R3261C	81720147	9 kHz ~ 2.6 GHz	Nov. 26, 2014	Radiation (OS03-NH)
Receiver	R&S	ESCS 30	838251/002	9 kHz ~ 2.75 GHz	Nov. 07, 2014	Radiation (OS03-NH)
Bilog Antenna	CHASE	CBL6112D	25234	30 MHz ~ 2 GHz	Feb. 28, 2015	Radiation (OS03-NH)
Turn Table	EMCO	2080	9805-2065	0 ~ 360 degree	NCR	Radiation (OS03-NH)
Antenna Mast	EMCO	2075	9804-2151	1 m ~ 4 m	NCR	Radiation (OS03-NH)
RF Cable-R10m	HSCN	RG213U	2X11N	30 MHz ~ 1 GHz	Aug. 06, 2014	Radiation (OS03-NH)

Note: Calibration Interval of instruments listed above is one year. NCR: NO CALIBRATION REQUEST.

< Radiated Emission above 1GHz >

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSP40	100593	9 kHz ~ 40 GHz	Oct. 02, 2014	Radiation (03CH04-HY)
Amplifier	Agilent	8449B	3008A02326	1 GHz ~ 26.5 GHz	May 08, 2015	Radiation (03CH04-HY)
Horn Antenna	SCHWARZBECK	BBHA9120	BBHA9120D1130	1 GHz ~ 18 GHz	Sep. 16, 2014	Radiation (03CH04-HY)
Turn Table	Chaintek	3000	MF7802056	0 ~ 360 degree	NCR	Radiation (03CH04-HY)
Antenna Mast	MF	MF-7802	MF780208163	1 m ~ 4 m	NCR	Radiation (03CH04-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	CB065-HF	1 GHz ~ 40 GHz	Nov. 12, 2014	Radiation (03CH04-HY)

Note: Calibration Interval of instruments listed above is one year. NCR: NO CALIBRATION REQUEST.

8. Notice for Class A Product

This Notice is for class A product only. If the Equipment under Test is a class B product, this notice should be disregarded.

Class A ITE is a category of all other ITE which satisfies the class A ITE limits but not the class B ITE limits. Such equipment should not be restricted in its sale but the following warning shall be included in the instructions for use:

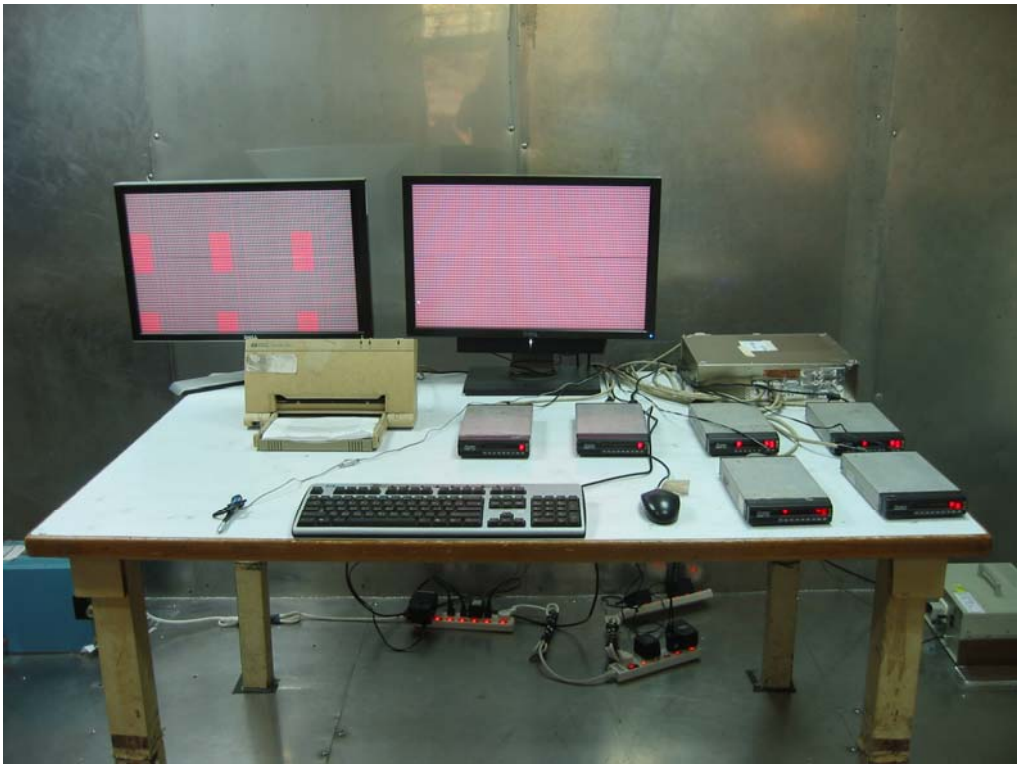
Warning

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

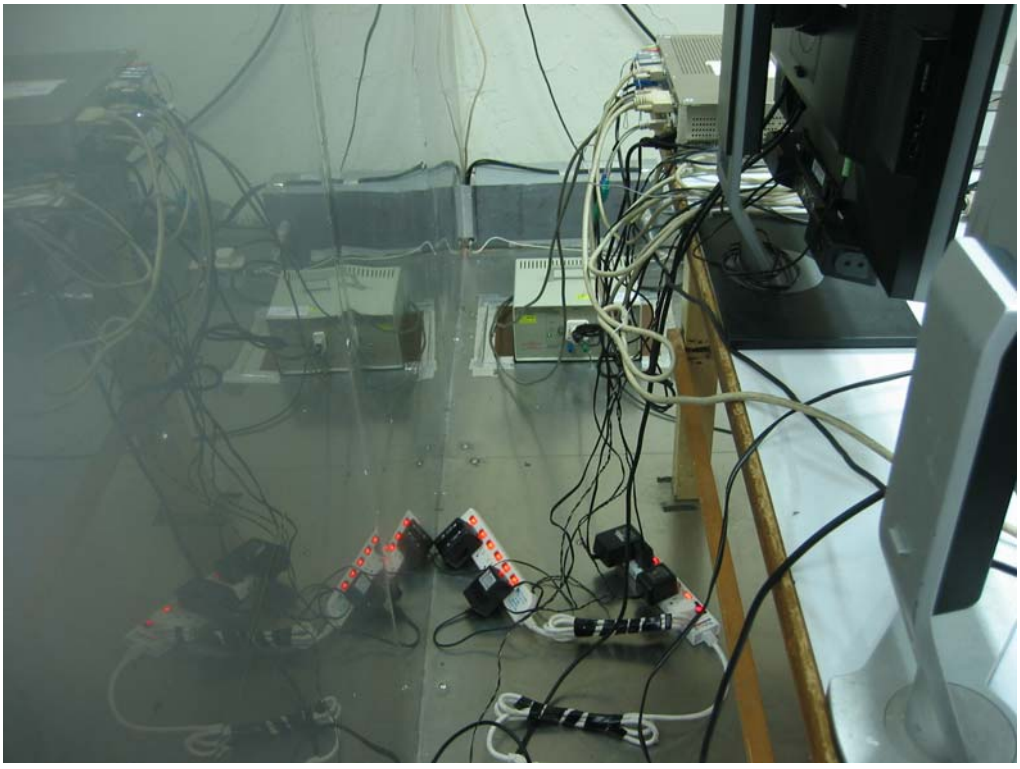
Appendix A. Test Photos

1. Photographs of Conducted Emissions Test Configuration

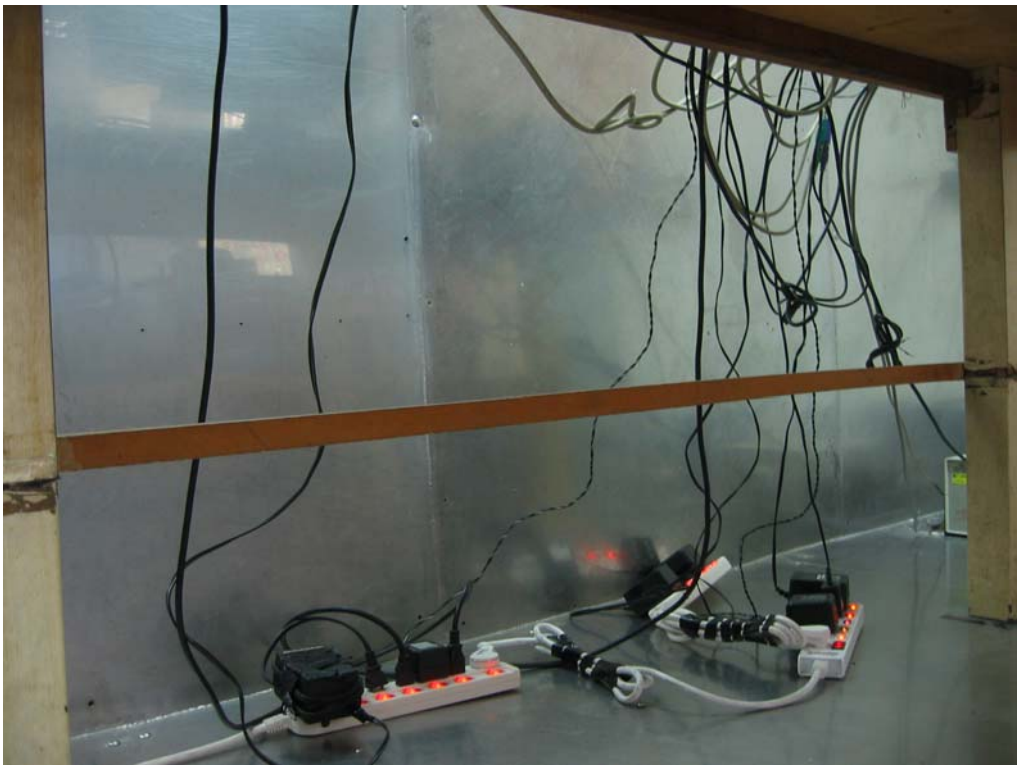
Front view



Rear view



Side view



2. Photographs of Radiated Emissions Test Configuration

For radiated emissions below 1GHz
Mode 1

Front view

Rear view

Mode 2

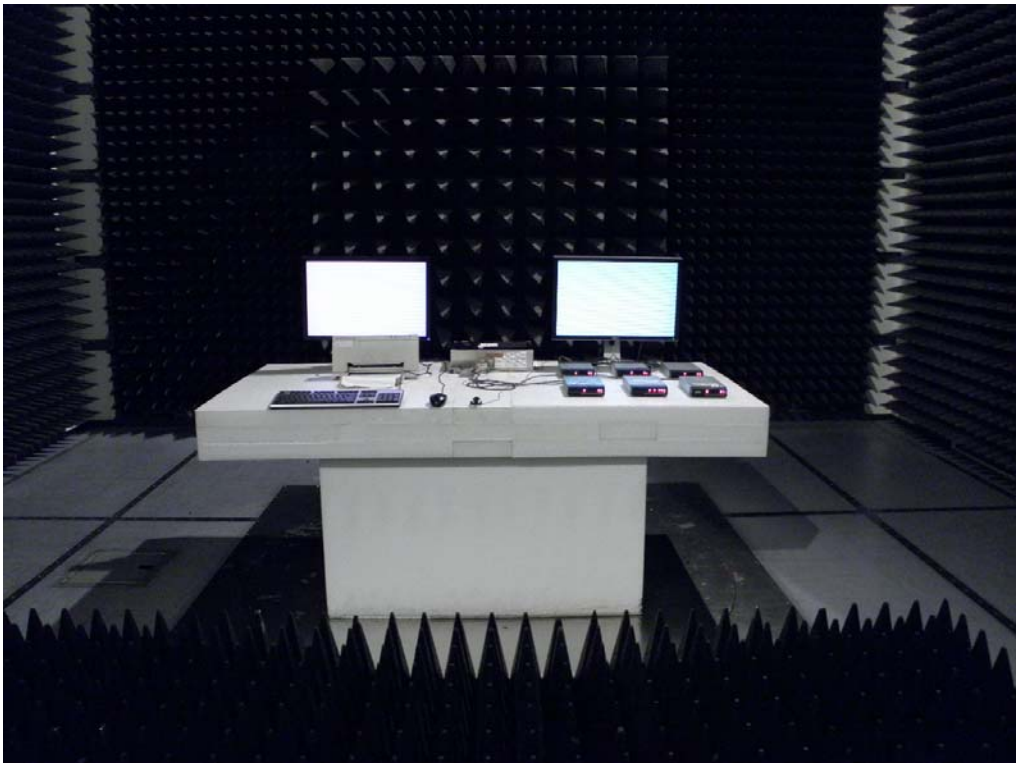
Front view

Rear view

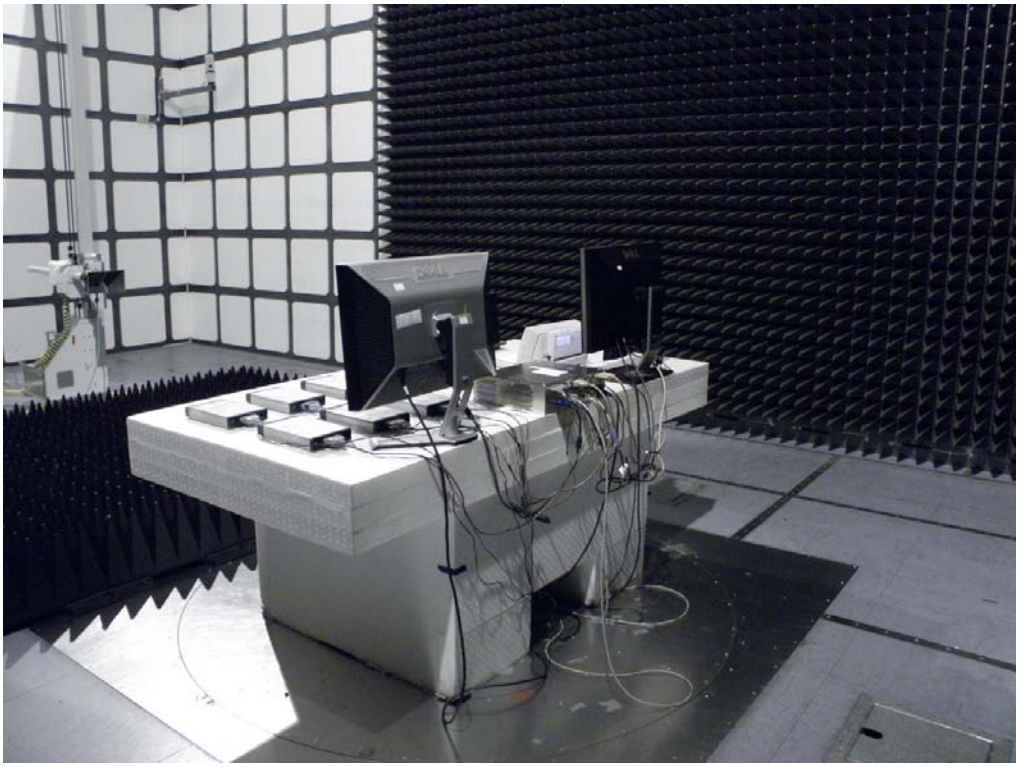
For radiated emissions above 1GHz

Mode 1

Front view

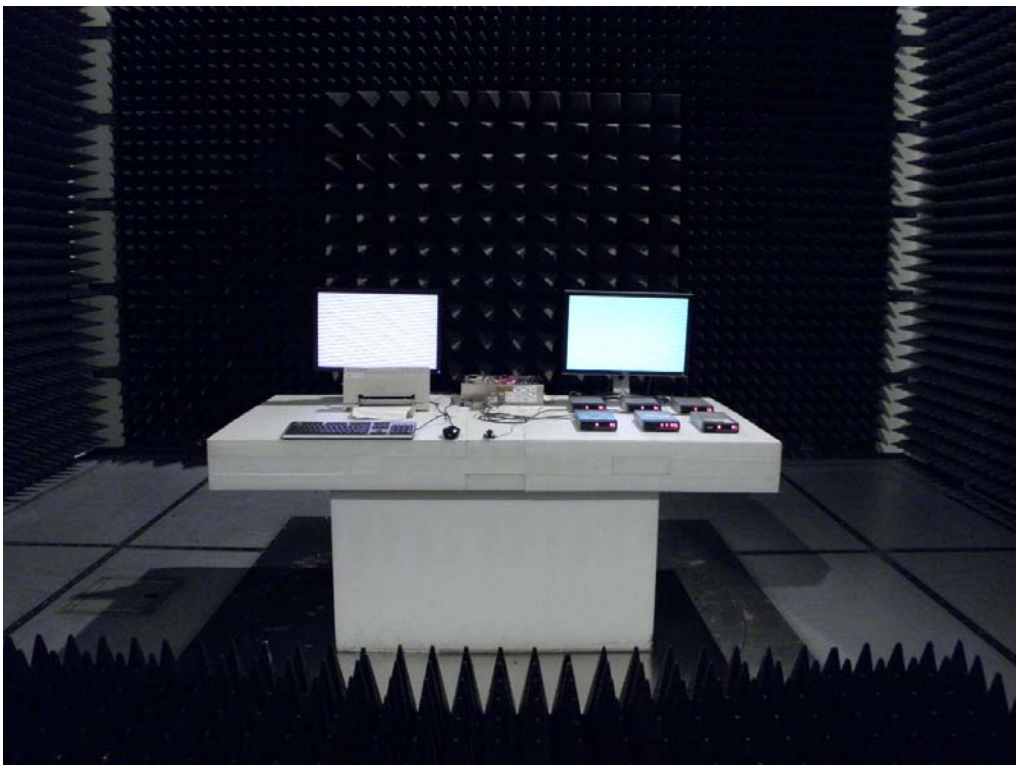


Rear view

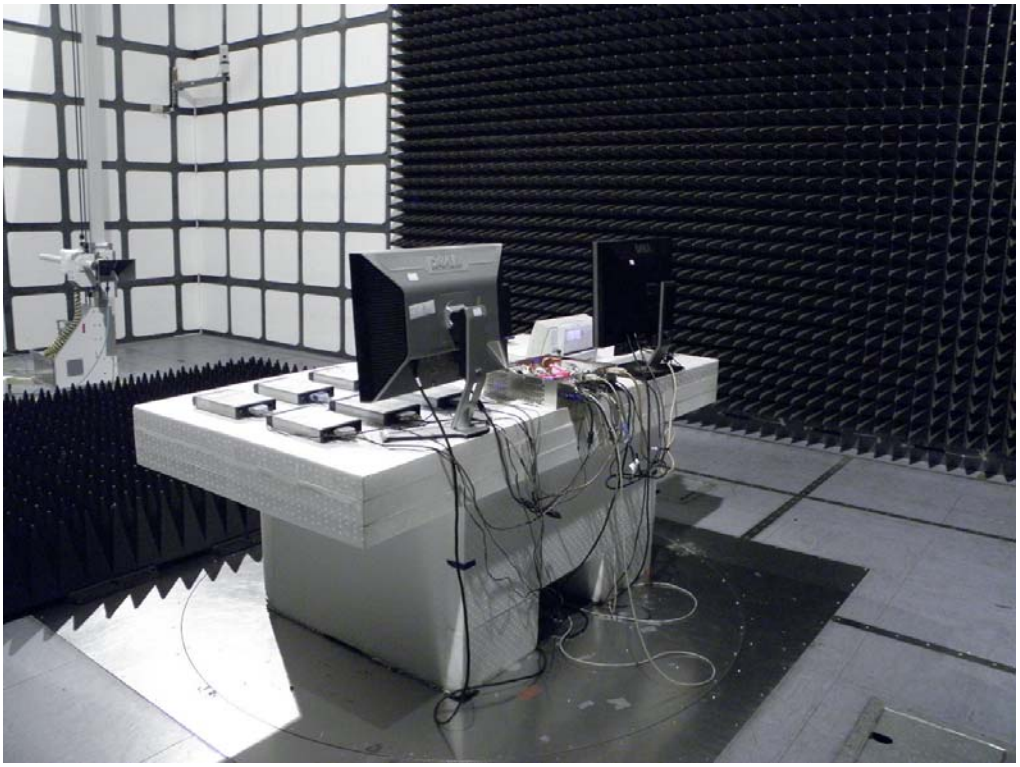


Mode 2

Front view



Rear view



APPENDIX B. Photographs of EUT