



SPORTON LAB.

Certificate No: FD4D0807

CERTIFICATE OF COMPLIANCE

Authorized under Declaration of Conformity
according to

47 CFR, Part 2 and Part 15 of the FCC Rules



**EQUIPMENT
MODEL NO.
APPLICANT**

: 3.5" External HDD enclosure

: i310-SB3, GT1670-SB3, GT1660-SB3

: RAIDON TECHNOLOGY, INC.

7F-9, No.16, Lane 609, Sec. 5, Chung-Hsin Rd.,
San-Chung Dist., New Taipei City, Taiwan
(R.O.C)

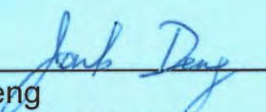


I HEREBY

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 WAS **PASSED CISPR PUB. 22**
and FCC Part 15 Subpart B. IN BOTH RADIATED AND CONDUCTED
EMISSION **CLASS B** LIMITS.

THE TEST WAS CARRIED OUT ON **Dec. 13, 2014** AT **SPORTON
INTERNATIONAL INC. LAB.**



Jack Deng
Engineering Manager



FCC TEST REPORT

Authorized under **D**eclaration **o**f **C**onformity

according to

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

Equipment : 3.5" External HDD enclosure

Model No. : i310-SB3, GT1670-SB3, GT1660-SB3

Filing Type : Declaration of Conformity

Applicant : **RAIDON TECHNOLOGY, INC.**
7F-9, No.16, Lane 609, Sec. 5, Chung-Hsin Rd.,
San-Chung Dist., New Taipei City, Taiwan (R.O.C)

- The test result refers exclusively to the test presented test model / sample.
- Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.
- **Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by TAF or any agency of U.S. government.**

SPORTON International Inc.

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

Table of Contents

History of this test report.....	ii
CERTIFICATE OF COMPLIANCE.....	1
1. General Description of Equipment under Test.....	2
1.1 Applicant.....	2
1.2 Manufacturer	2
1.3 Basic Description of Equipment under Test	2
1.4 Feature of Equipment under Test	2
2. Test Configuration of Equipment under Test.....	3
2.1 Test Manner	3
2.2 Description of Test System	4
2.3 Connection Diagram of Test System for Radiated Emission	5
3. Test Software	6
4. General Information of Test.....	7
4.1 Test Facility	7
4.2 Uncertainty of Test Site	7
4.3 Test Voltage	7
4.4 Standard for Methods of Measurement.....	7
4.5 Test in Compliance with	7
4.6 Frequency Range Investigated	7
4.7 Test Distance	7
5. Test of Conducted Powerline	8
5.1 Test Procedures.....	8
5.2 Typical Test Setup Layout of Conducted Power line	9
5.3 Test Result of AC Powerline Conducted Emission	10
5.4 Photographs of Conducted Power line Test Configuration	12
6. Test of Radiated Emission.....	14
6.1 Test Procedures.....	14
6.2 Typical Test Setup Layout of Radiated Emission.....	15
6.3 Test Result of Radiated Emission (Below 1GHz).....	16
6.4 Photographs of Radiated Emission (Below 1GHz) Test Configuration	20
6.5 Test Result of Radiated Emission (Above 1GHz)	21
6.6 Photographs of Radiated Emission (Above 1GHz) Test Configuration.....	23
7. List of Measuring Equipment Used	24
Appendix A. Photographs of EUT.....	A1 ~ A15

History of this test report

Original Report Issue Date: Dec. 24, 2014

■ No additional attachment.

□ Additional attachments were issued as following record:

Report No.	Version	Issue Date	Description
FD4D0807	Rev. 01	Dec. 24, 2014	Original Report

CERTIFICATE OF COMPLIANCE

According to

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

Equipment : 3.5" External HDD enclosure

Model No. : i310-SB3, GT1670-SB3, GT1660-SB3

Applicant : **RAIDON TECHNOLOGY, INC.**
7F-9, No.16, Lane 609, Sec. 5, Chung-Hsin Rd.,
San-Chung Dist., New Taipei City, 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 B** limits.

The product sample received on **Dec. 05, 2014** and completely tested on **Dec. 13, 2014** at **SPORTON International Inc. LAB.**



Jack Deng
Engineering Manager

SPORTON International Inc.

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

1. General Description of Equipment under Test

1.1 Applicant

RAIDON TECHNOLOGY, INC.

7F-9, No.16, Lane 609, Sec. 5, Chung-Hsin Rd., San-Chung Dist., New Taipei City, Taiwan (R.O.C)

1.2 Manufacturer

Same as 1.1

1.3 Basic Description of Equipment under Test

Equipment : 3.5" External HDD enclosure
Model No. : i310-SB3, GT1670-SB3, GT1660-SB3
Trade Name : RAIDON
USB Cable : D-Shielded, 1.0m
ESATA Cable : D-Shielded, 1.05m
Power Supply Type : Switching
AC Power Cord : Non-Shielded, 1.85m, 2pin
DC Power Cable : Non-Shielded, 1.85m

The maximum operating frequency is 6 GHz.

1.4 Feature of Equipment under Test

Type	Spec.
Adapter	Model No. : UIA324-12 Input: 100-240V 50/60Hz 0.6A Output: 12V === 2A

Please refer to user manual.

2. Test Configuration of Equipment under Test

2.1 Test Manner

- a. The EUT has been associated with 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 complete test system included PC, LCD Monitor, USB Keyboard, USB Mouse, Printer, Modem, HDD and EUT for EMI test.
- c. The following test modes were pretested for conducted test:
 - Mode 1. i310-SB3, USB 3.0 R/W
 - Mode 2. i310-SB3, E-SATA R/W
 - Mode 3. GT1670-SB3, USB 3.0 R/W
 - Mode 4. GT1660-SB3, USB 3.0 R/W

⇒ Cause "**Mode 1**" generated the worst test result; it was reported as final data.
- d. The following test modes were pretested for radiated test:
 - Mode 1. i310-SB3, USB 3.0 R/W
 - Mode 2. i310-SB3, E-SATA R/W
 - Mode 3. GT1670-SB3, USB 3.0 R/W
 - Mode 4. GT1660-SB3, USB 3.0 R/W

⇒ Cause "**Mode 1**" generated the worst test result; it was reported as final data.
- e. The following test mode was referring to radiated worst case "**Mode 1**"(1GHz / 5TH of harmonic CPU fundamental) final test:
 - Mode 1. i310-SB3, USB 3.0 R/W
- f. Frequency range investigated: Conducted 150 kHz to 30 MHz, Radiated 30 MHz to 30,000 MHz.

2.2 Description of Test System

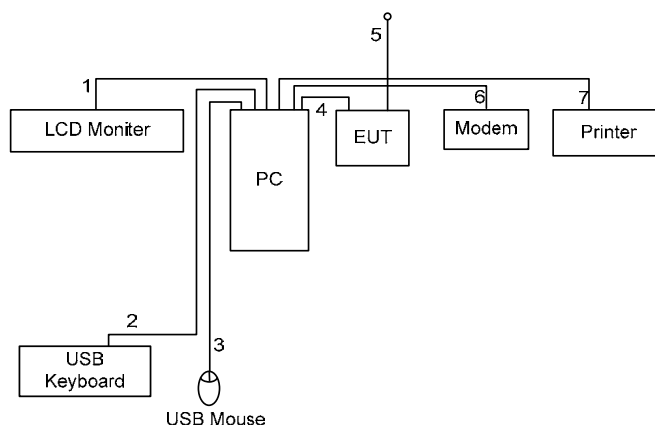
For conducted emission and radiated emission below 1GHz

No.	Description	Manufacturer	Model	FCC ID	Signal Cable Description
1	PC	Lenovo	C61	DoC	---
2	LCD Monitor	DELL	E198WFPF	DoC	D-SUB Cable, D-Shielded, 1.8m
3	USB Keyboard	Lenovo	KU-0225	DoC	USB Cable, AL-F-Shielded, 1.8m
4	USB Mouse	Lenovo	M-U0025-O	DoC	USB Cable, AL-F-Shielded, 1.8m
5	Printer	HP	C2642A	B94C2642X	LPT Cable, D-Shielded, 1.2m
6	Modem	ACEEX	DM1414	IFAXDM1414	RS-232 Cable, D-Shielded, 1.15m
7	HDD (Inserted into EUT)	Seagate	250G	DoC	---

For radiated emission above 1GHz

No.	Description	Manufacturer	Model	FCC ID	Signal Cable Description
1	PC	DELL	DCTA	DoC	---
2	LCD Monitor	DELL	U2410f	DoC	D-SUB Cable, D-Shielded, 1.8m
3	USB Keyboard	DELL	SK-8175	DoC	USB Cable, AL-F-Shielded, 1.8m
4	USB Mouse	DELL	MOC5UO	DoC	USB Cable, AL-F-Shielded, 1.8m
5	Printer	HP	C2642A	B94C2642X	LPT Cable, D-Shielded, 1.2m
6	Modem	ACEEX	DM1414	IFAXDM1414	RS-232 Cable, D-Shielded, 1.15m
7	HDD (Inserted into EUT)	Seagate	250G	DoC	---

2.3 Connection Diagram of Test System for Radiated Emission



The support unit 7 is insert into EUT.

1. The D- SUB cable is connected from support unit 1 to the support unit 2.
2. The USB cable is connected from support unit 1 to the support unit 3.
3. The USB cable is connected from support unit 1 to the support unit 4.
4. The USB cable is connected from EUT to the support unit 1.
5. The ESATA cable is floating from EUT.
6. The RS232 cable is connected from support unit 1 to the support unit 6.
7. The LPT cable is connected from support unit 1 to the support unit 5.

Note: Above support unit on behalf of the meaning, please refer to section 2.2.

3. Test Software

An executive program, "Burn In Test" under Win 7, 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 sends " H " messages to the monitor, and the monitor displays " H " patterns on the screen.
- c. The PC sends " H " messages to the printer, then the printer prints them on the paper.
- d. The PC sends " H " messages to the modem.
- e. The PC reads the test program from the keyboard and mouse and runs it.
- f. Repeat the steps from c to f.

At the same time, the following program was executed:

- Executed "EMI Program" to the printer, then the printer prints them on the paper.
- Executed "EMI program" to send signal messages via modem.
- The PC executed "WINTHRAX" to read and write the HDD of EUT via USB cable.

4. General Information of Test

4.1 Test Facility

For conducted emission

Test Site Location : No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C.
TEL : 886-2-2631-5551
FAX : 886-2-2631-9740

Test Site No. : CO01-NH

For radiated emission below 1GHz

Test Site Location : No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C.
TEL : 886-2-2631-5551
FAX : 886-2-2631-9740

Test Site No. : OS01-NH

For radiated emission above 1GHz

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 : 886-3-327-0973
03CH04-HY

4.2 Uncertainty of Test Site

Test Items	Test Site No.	Uncertainty	Remark
Conducted Emissions	CO01-NH	± 2.6 dB	Confidence levels of 95%
Radiated Emissions below 1GHz	OS01-NH	± 2.8 dB	Confidence levels of 95%
Radiated Emissions above 1GHz	03CH04-HY	± 4.7 dB	Confidence levels of 95%

4.3 Test Voltage

120V / 60Hz

4.4 Standard for Methods of Measurement

ANSI C63.4-2009

4.5 Test in Compliance with

CISPR PUB. 22 and FCC Part 15

4.6 Frequency Range Investigated

- Conducted emission test: from 150 kHz to 30 MHz
- Radiated emission test: from 30 MHz to 30,000 MHz

4.7 Test Distance

- The test distance of radiated emission from antenna to EUT is 10 M (from 30 MHz ~ 1 GHz)
- The test distance of radiated emission from antenna to EUT is 3 M (from 1 GHz ~ 9 GHz)
- The test distance of radiated emission from antenna to EUT is 1 M (from 9 GHz ~ 30 GHz)

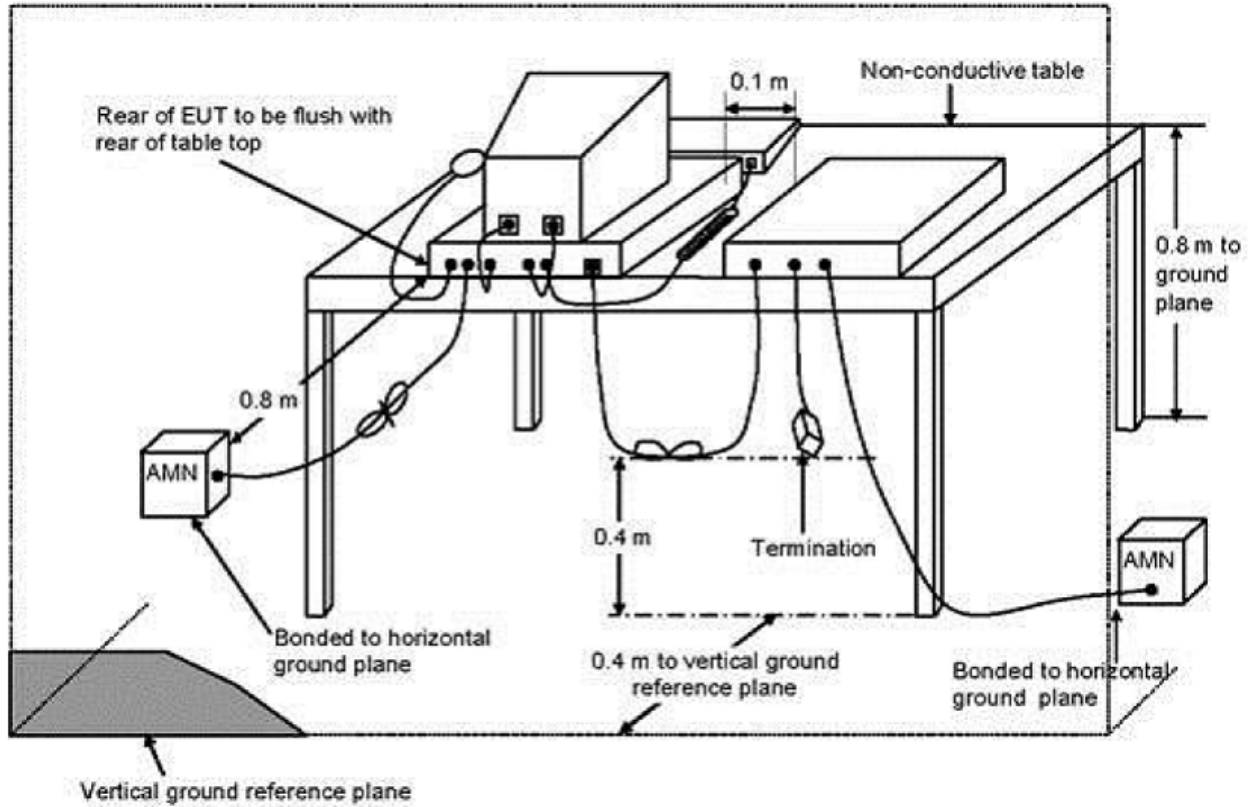
5. Test of Conducted Powerline

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, Clause 7. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 5.3. 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 connect 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 microhenry 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 Power line

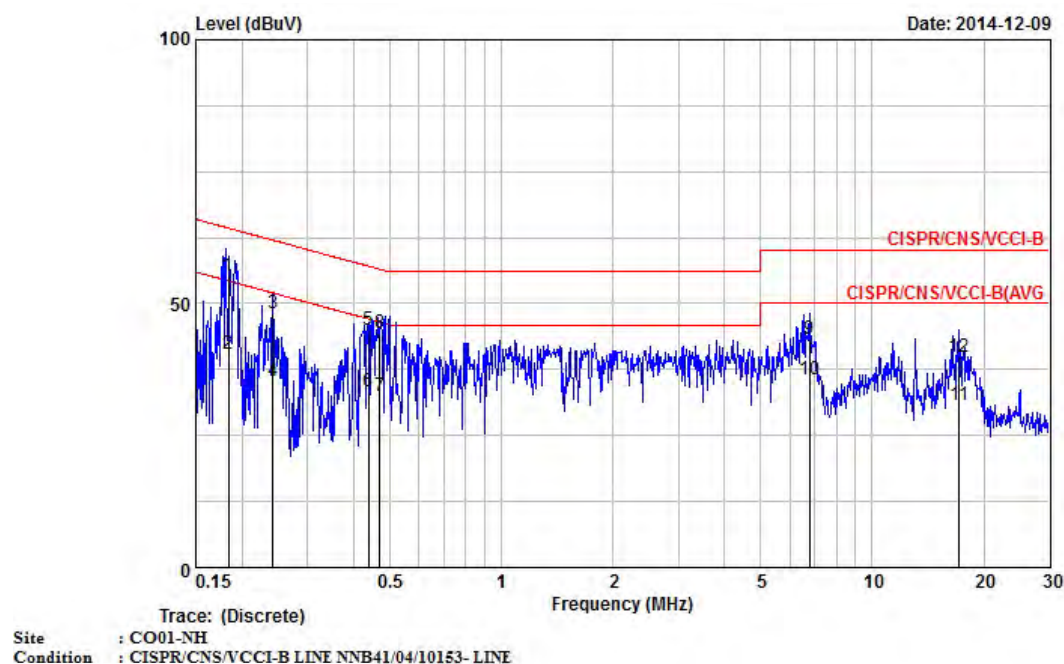


5.3 Test Result of AC Powerline Conducted Emission

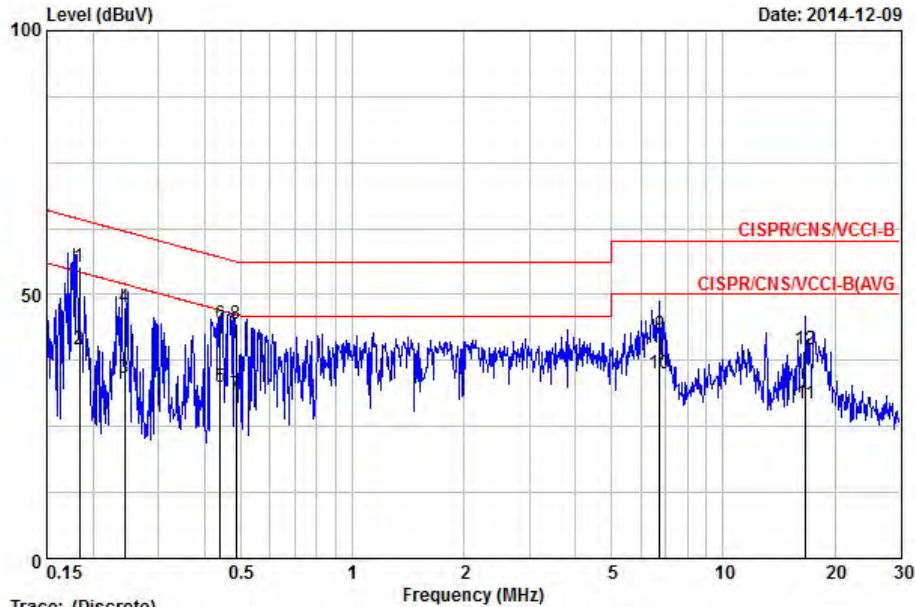
Test Mode	Mode 1	Temperature	22°C
Test Engineer	Willy Lee	Humidity	52%

Note: Corrected Reading (dBμV) = LISN Factor + Cable Loss + Read Level = Level

■ The test was passed at the minimum margin that marked by the frame in the following data



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBμV	dB	dBμV	dBμV	dB	dB	
1	0.183	55.33	-9.00	64.33	44.64	10.59	0.10	QP
2	0.183	40.52	-13.81	54.33	29.83	10.59	0.10	AVERAGE
3	0.242	48.22	-13.82	62.04	37.53	10.59	0.10	QP
4	0.242	35.36	-16.68	52.04	24.67	10.59	0.10	AVERAGE
5	0.437	45.08	-12.03	57.11	34.36	10.61	0.11	QP
6	0.437	33.33	-13.78	47.11	22.61	10.61	0.11	AVERAGE
7	0.471	32.62	-13.88	46.49	21.89	10.61	0.12	AVERAGE
8	0.471	44.37	-12.13	56.49	33.64	10.61	0.12	QP
9	6.769	43.19	-16.81	60.00	32.15	10.84	0.20	QP
10	6.769	35.60	-14.40	50.00	24.56	10.84	0.20	AVERAGE
11	17.199	30.87	-19.13	50.00	19.53	11.04	0.30	AVERAGE
12	17.199	39.75	-20.25	60.00	28.41	11.04	0.30	QP



Site : CO01-NH
Condition : CISPR/CNS/VCCI-B LINE NNB41/04/10153- NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.183	55.24	-9.09	64.33	44.56	10.58	0.10	QP
2	0.183	39.72	-14.61	54.33	29.04	10.58	0.10	AVERAGE
3	0.243	34.15	-17.85	52.00	23.48	10.56	0.10	AVERAGE
4	0.243	47.49	-14.51	62.00	36.82	10.56	0.10	QP
5	0.440	32.61	-14.46	47.07	21.94	10.56	0.11	AVERAGE
6	0.440	44.39	-12.68	57.07	33.72	10.56	0.11	QP
7	0.485	31.10	-15.15	46.25	20.42	10.56	0.12	AVERAGE
8	0.485	44.42	-11.83	56.25	33.74	10.56	0.12	QP
9	6.733	42.34	-17.66	60.00	31.27	10.87	0.20	QP
10	6.733	34.94	-15.06	50.00	23.87	10.87	0.20	AVERAGE
11	16.661	29.29	-20.71	50.00	17.87	11.12	0.30	AVERAGE
12	16.661	39.62	-20.38	60.00	28.20	11.12	0.30	QP

5.4 Photographs of Conducted Power line Test Configuration

- The photographs show the configuration that generates the maximum emission.

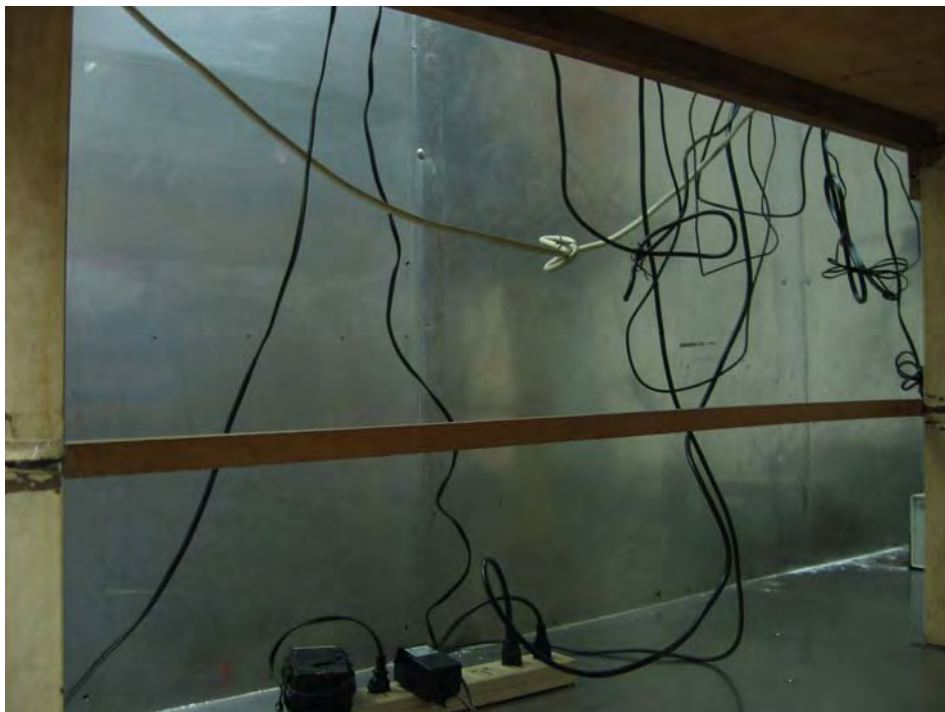
FRONT VIEW



REAR VIEW



SIDE VIEW



6. Test of Radiated Emission

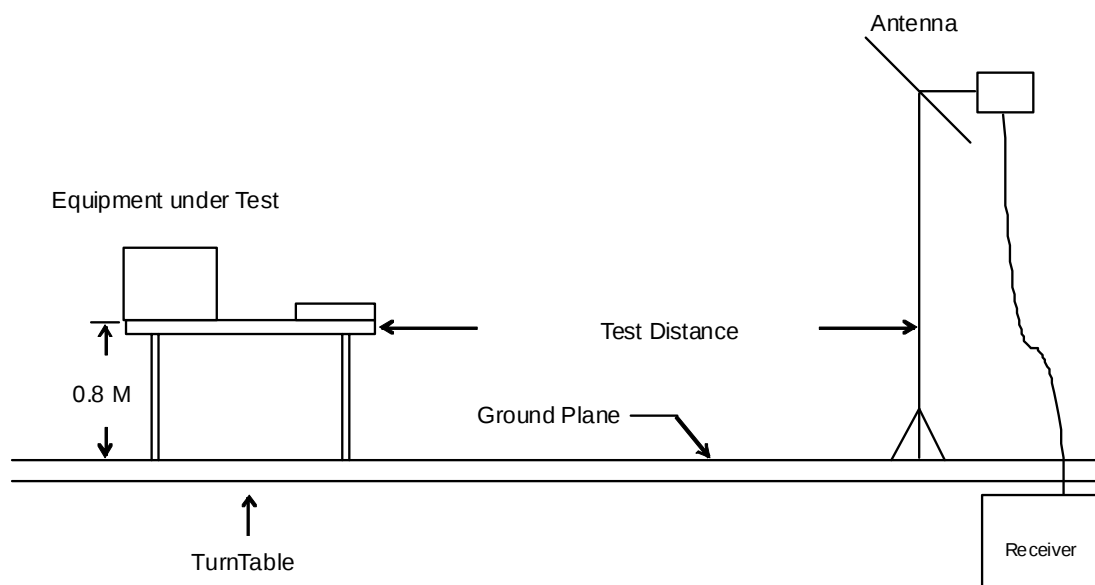
Radiated emissions below 1 GHz were measured with a bandwidth of 120 kHz for 30 MHz to 1,000 MHz and bandwidth of 1 MHz for above 1 GHz to 5th harmonic of highest frequency according to the methods defines in ANSI C63.4, Clause 8. The EUT was placed on a nonmetallic stand, 0.8 meter above the ground plane, as shown in section 6.3. 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

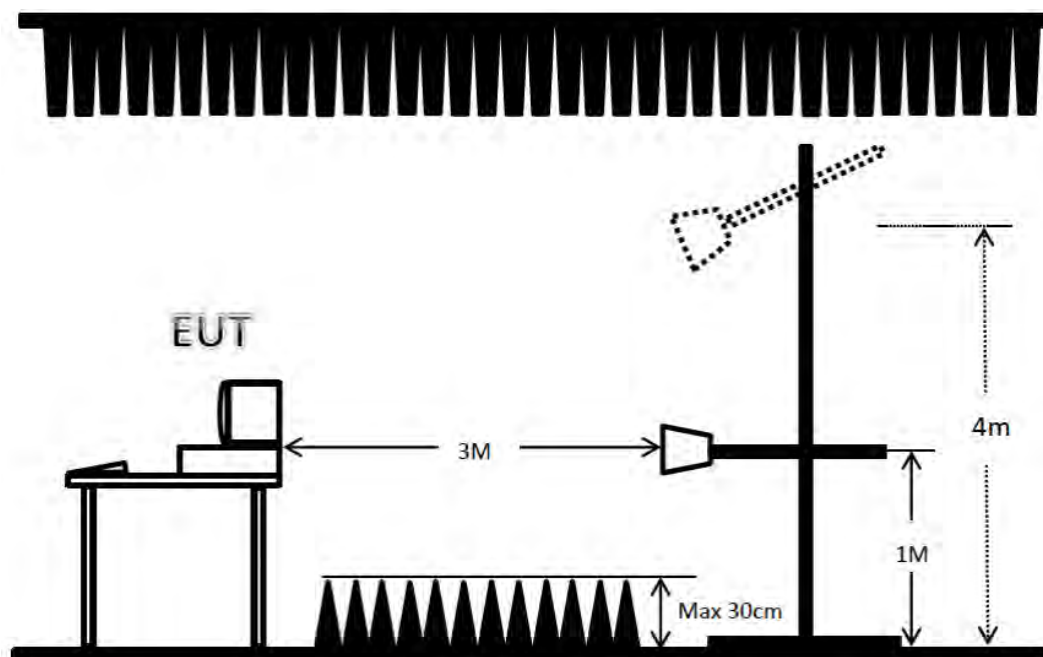
- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 10/3/1 meters from the interference-receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. The antenna is a broadband antenna 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. 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.

6.2 Typical Test Setup Layout of Radiated Emission

< Below 1GHz >



< Above 1GHz >



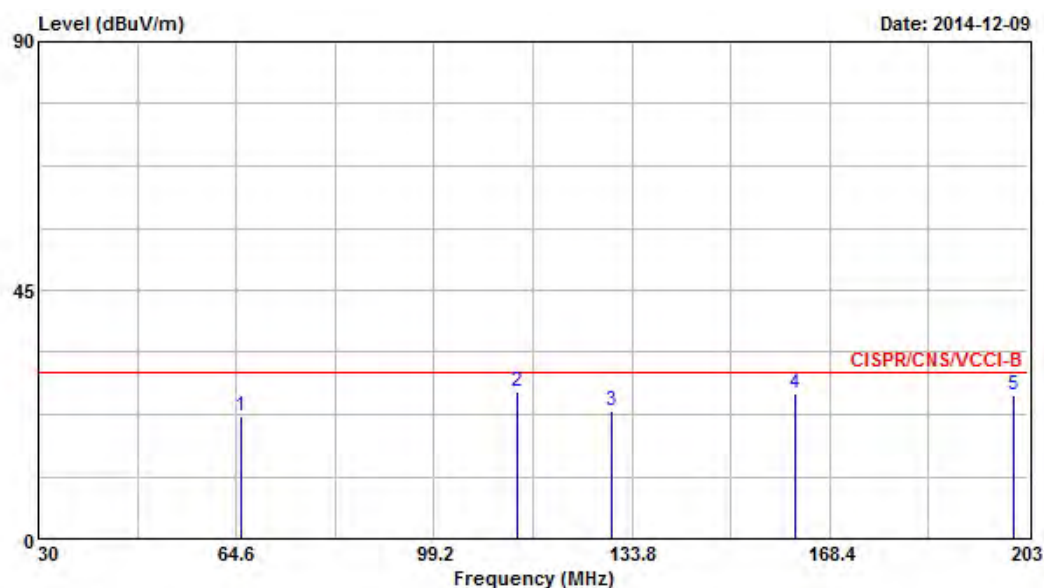
6.3 Test Result of Radiated Emission (Below 1GHz)

Frequency Range of Test	From 30 MHz to 1,000 MHz	Test Distance	10m
Test Mode	Mode 1	Temperature	21°C
Test Engineer	Louis Lin	Humidity	56%

Note: 1. Emission level (dBμV/m) = 20 log Emission level (μV/m)

2. Corrected Reading : Antenna Factor + Cable Loss + Read Level – Preamp Factor = Level

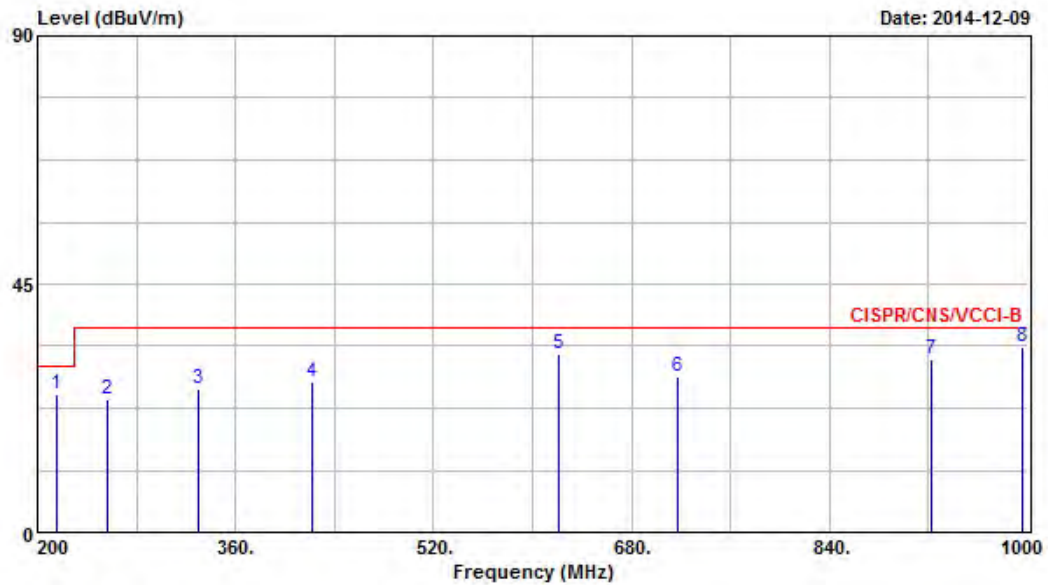
■ The test was passed at the minimum margin that marked by the frame in the following data



Site : OS01-NH

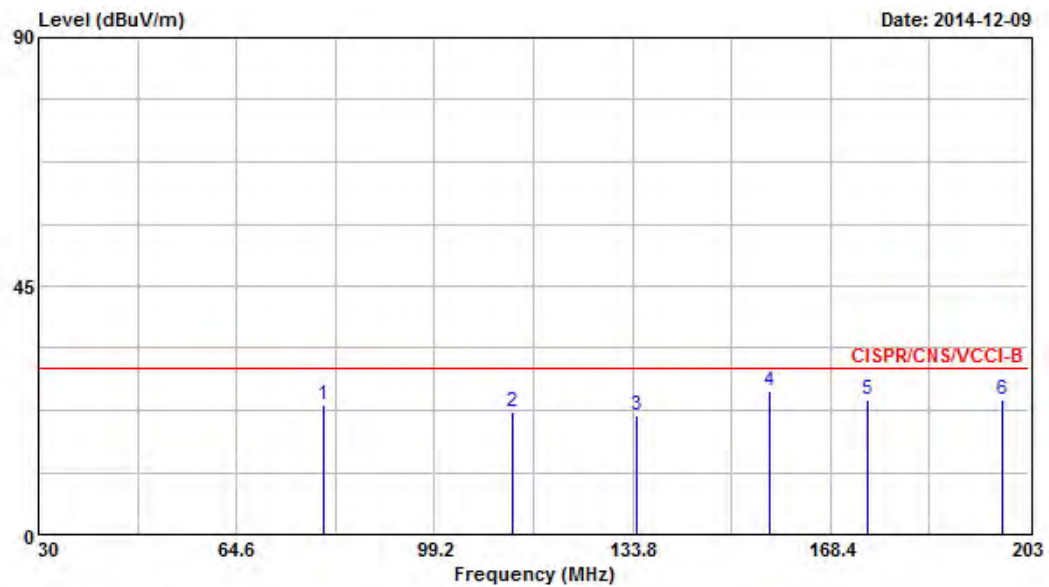
Condition : CISPR/CNS/VCCI-B 10m OS01-ANT-03-06-2014 VERTICAL

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	65.470	22.19	-7.81	30.00	41.65	6.19	1.67	27.32	Peak	---
2	113.730	26.58	-3.42	30.00	40.48	11.34	1.94	27.18	OP	100 125
3	130.340	23.23	-6.77	30.00	36.43	11.88	2.04	27.12	Peak	---
4	162.350	26.21	-3.79	30.00	40.62	10.28	2.30	26.99	Peak	---
5	200.580	25.85	-4.15	30.00	40.84	9.09	2.75	26.83	Peak	---



Site : OS01-NH
Condition : CISPR/CNS/VCCI-B 10m OS01-ANT-03-06-2014 VERTICAL

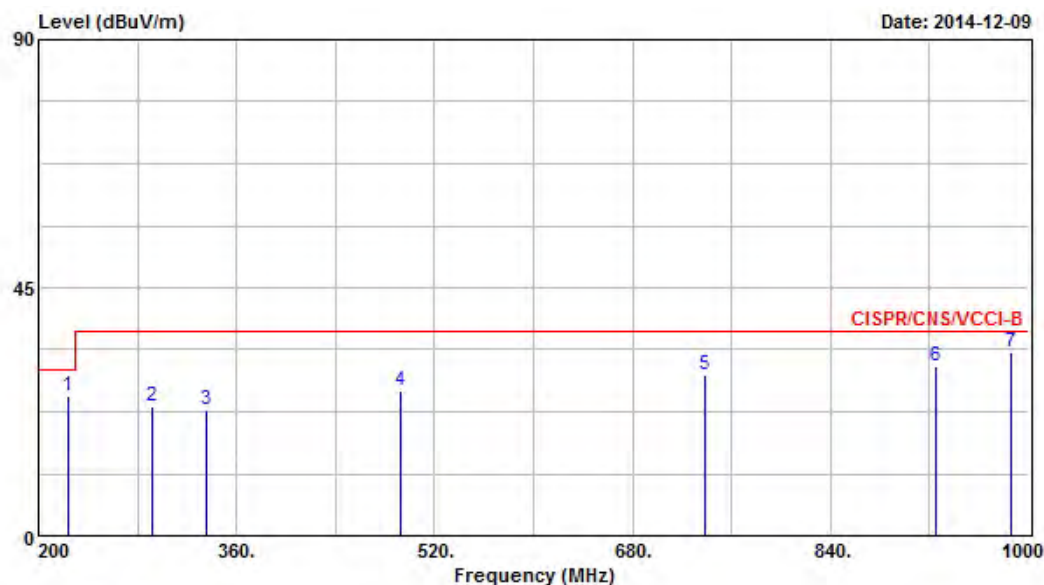
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamplifier	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	215.200	25.00	-5.00	30.00	39.93	9.12	2.74	26.79	Peak	---	---
2	256.800	24.14	-12.86	37.00	34.43	13.35	3.05	26.69	Peak	---	---
3	329.600	26.09	-10.91	37.00	35.78	13.79	3.34	26.82	Peak	---	---
4	422.400	27.14	-9.86	37.00	34.21	16.81	3.60	27.48	Peak	---	---
5	620.800	32.26	-4.74	37.00	35.86	20.33	4.15	28.08	Peak	---	---
6	717.600	28.08	-8.92	37.00	30.52	21.36	4.22	28.02	Peak	---	---
7	921.600	31.35	-5.65	37.00	30.29	23.70	4.88	27.52	Peak	---	---
8	995.200	33.47	-3.53	37.00	30.97	24.83	4.97	27.30	Peak	---	---



Site : OS01-NH

Condition : CISPR/CNS/VCCI-B 10m OS01-ANT-03-06-2014 HORIZONTAL

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	79.820	23.44	-6.56	30.00	41.65	7.31	1.77	27.29 Peak	---	---
2	112.870	22.18	-7.82	30.00	36.18	11.25	1.94	27.19 Peak	---	---
3	134.490	21.50	-8.50	30.00	34.75	11.76	2.09	27.10 Peak	---	---
4	157.850	25.98	-4.02	30.00	40.07	10.65	2.26	27.00 Peak	---	---
5	174.800	24.28	-5.72	30.00	39.56	9.25	2.40	26.93 Peak	---	---
6	198.330	24.50	-5.50	30.00	39.55	9.05	2.73	26.83 Peak	---	---



Site : OS01-NH

Condition : CISPR/CNS/VCCI-B 10m OS01-ANT-03-06-2014 HORIZONTAL

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Remark	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	224.000	25.31	-4.69	30.00	39.71	9.62	2.75	26.77 Peak	---	---
2	292.000	23.40	-13.60	37.00	33.59	13.14	3.28	26.61 Peak	---	---
3	336.000	22.86	-14.14	37.00	32.46	13.95	3.31	26.86 Peak	---	---
4	492.800	26.34	-10.66	37.00	32.71	17.92	3.59	27.88 Peak	---	---
5	739.200	29.11	-7.89	37.00	30.57	22.23	4.30	27.99 Peak	---	---
6	924.800	30.66	-6.34	37.00	29.49	23.79	4.89	27.51 Peak	---	---
7	985.600	33.25	-3.75	37.00	30.74	24.87	4.97	27.33 Peak	---	---

6.4 Photographs of Radiated Emission (Below 1GHz) Test Configuration

- The photographs show the configuration that generates the maximum emission.

FRONT VIEW



REAR VIEW



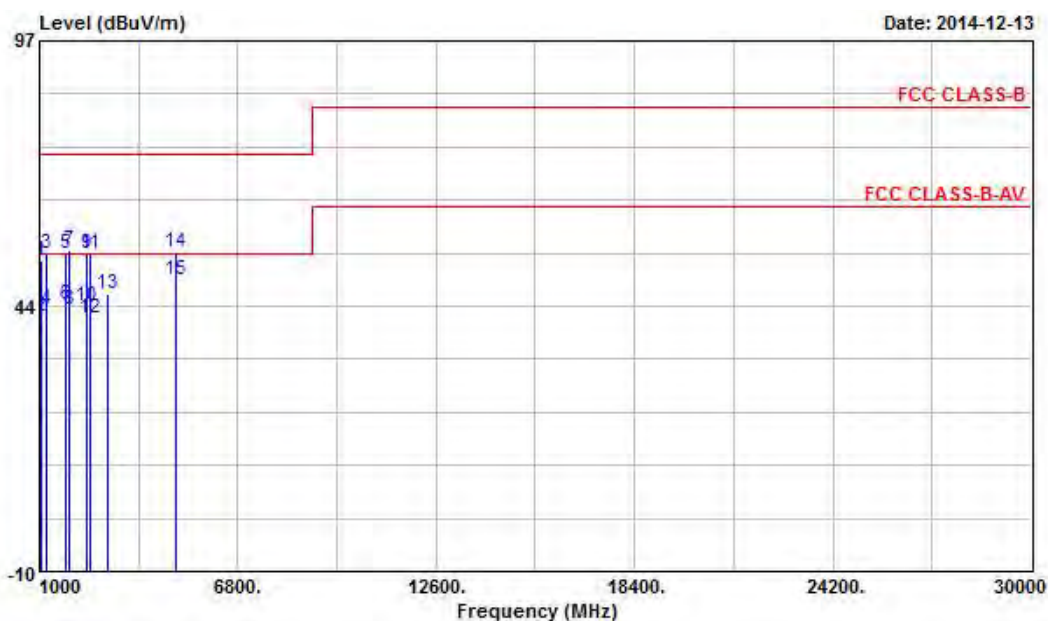
6.5 Test Result of Radiated Emission (Above 1GHz)

Frequency Range of Test	From 1,000 MHz to 30,000 MHz	Test Distance	3m / 1m
Test Mode	Mode 1	Temperature	23°C
Test Engineer	Alan Chen	Humidity	52%

Note: 1. Emission level (dBμV/m) = 20 log Emission level (μV/m)

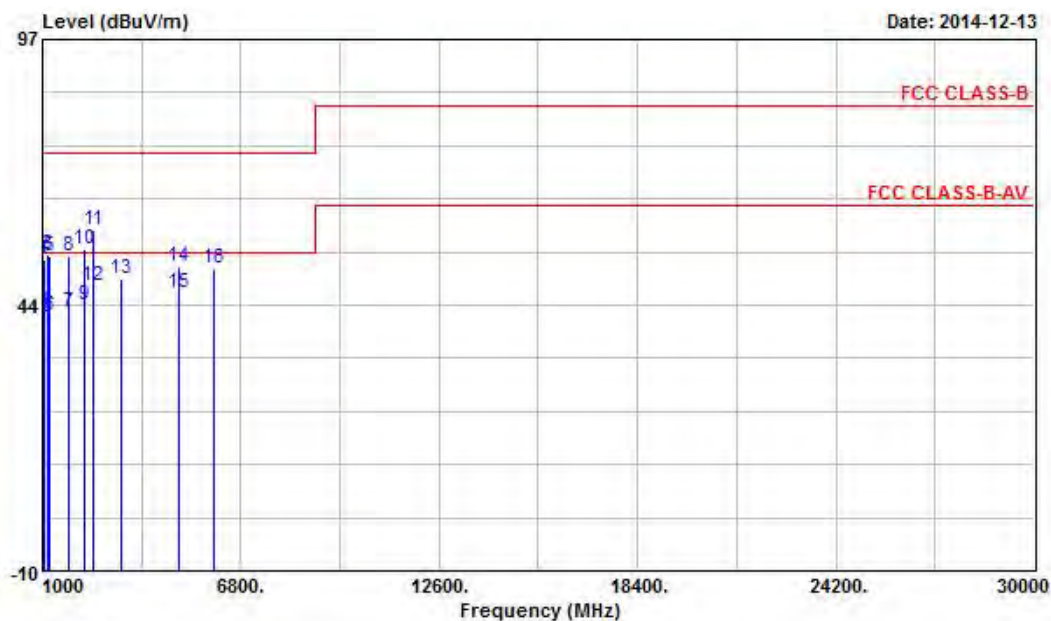
2. Corrected Reading : Antenna Factor + Cable Loss + Read Level – Preamp Factor = Level

■ The test was passed at the minimum margin that marked by the frame in the following data



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-9120D VERTICAL

	Freq	Level	Over Limit	Limit Line	ReadAntenna	Preamp	Cable	Ant	Table	
	MHz	dBuV/m	dB	dBuV/m	Level	Factor	Loss	Pos	Pos	Remark
					dBuV	dB/m	dB	cm	deg	
1	1028.000	52.74	-21.26	74.00	60.57	24.78	34.48	1.88	155	Peak
2	1028.000	41.40	-12.60	54.00	49.23	24.78	34.48	1.88	155	Average
3	1198.000	54.21	-19.79	74.00	61.27	25.16	34.21	1.99	144	Peak
4	1198.000	42.76	-11.24	54.00	49.82	25.16	34.21	1.99	144	Average
5	1772.000	54.16	-19.84	74.00	59.49	25.96	33.63	2.34	185	Peak
6	1772.000	43.70	-10.30	54.00	49.03	25.96	33.63	2.34	185	Average
7	1868.000	54.63	-19.37	74.00	59.82	26.02	33.58	2.37	140	Peak
8	1868.000	42.70	-11.30	54.00	47.89	26.02	33.58	2.37	140	Average
9	2406.000	54.10	-19.90	74.00	58.12	27.09	33.90	2.78	257	Peak
10	2406.000	43.44	-10.56	54.00	47.46	27.09	33.90	2.78	257	Average
11	2500.000	54.00	-20.00	74.00	57.84	27.30	33.99	2.85	223	Peak
12	2500.000	41.10	-12.90	54.00	44.94	27.30	33.99	2.85	223	Average
13	3000.000	45.99	-28.01	74.00	49.01	28.30	34.31	2.99	---	Peak
14	4998.000	54.35	-19.65	74.00	53.03	31.50	34.40	4.22	190	Peak
15 @	4998.000	48.80	-5.20	54.00	47.48	31.50	34.40	4.22	190	Average



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-9120D HORIZONTAL

	Freq	Level	Over	Limit	ReadAntenna	Preamp	Cable	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Factor	Factor	Loss	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	1028.000	52.74	-21.26	74.00	60.57	24.78	34.48	1.88	100	235 Peak
2	1028.000	41.11	-12.89	54.00	48.94	24.78	34.48	1.88	100	235 Average
3	1142.000	53.75	-20.25	74.00	61.07	25.00	34.29	1.97	100	159 Peak
4	1142.000	42.64	-11.36	54.00	49.96	25.00	34.29	1.97	100	159 Average
5	1212.000	53.38	-20.62	74.00	60.44	25.16	34.21	1.99	100	230 Peak
6	1212.000	41.41	-12.59	54.00	48.47	25.16	34.21	1.99	100	230 Average
7	1780.000	42.07	-11.93	54.00	47.38	25.97	33.62	2.34	100	193 Average
8	1780.000	53.37	-20.63	74.00	58.68	25.97	33.62	2.34	100	193 Peak
9	2212.000	43.58	-10.42	54.00	48.10	26.60	33.73	2.61	100	243 Average
10	2212.000	54.77	-19.23	74.00	59.29	26.60	33.73	2.61	100	243 Peak
11	2500.000	58.80	-15.20	74.00	62.64	27.30	33.99	2.85	100	200 Peak
12 @	2500.000	47.40	-6.60	54.00	51.24	27.30	33.99	2.85	100	200 Average
13	3297.000	48.62	-25.38	74.00	51.20	28.53	34.33	3.21	---	---
14	4998.000	51.38	-22.62	74.00	50.06	31.50	34.40	4.22	100	191 Peak
15	4998.000	45.94	-8.06	54.00	44.62	31.50	34.40	4.22	100	191 Average
16	5994.000	50.75	-23.25	74.00	48.30	32.40	34.47	4.52	---	---

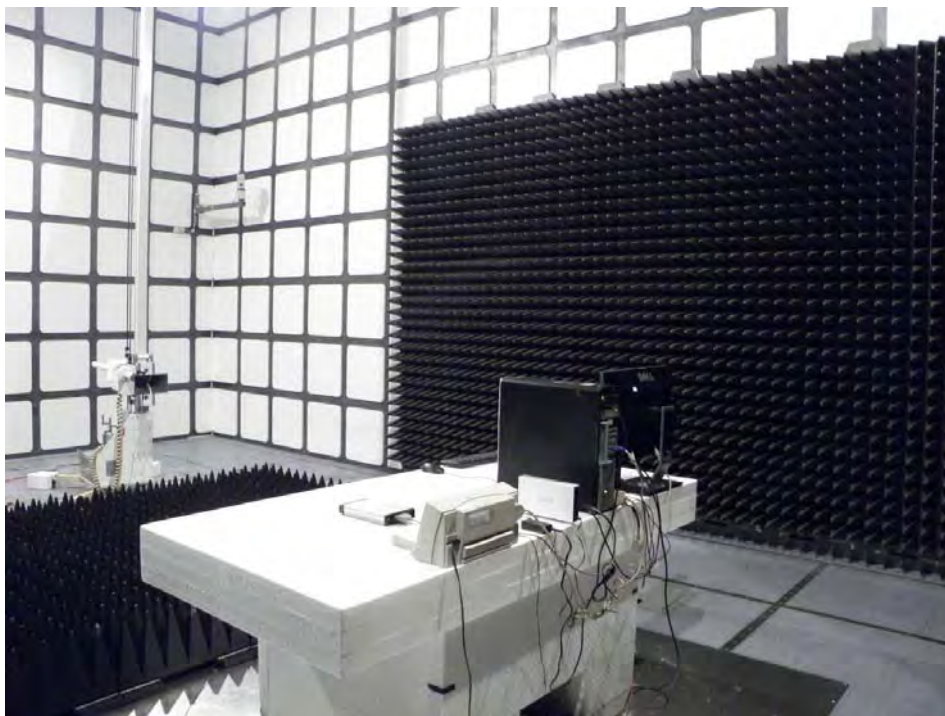
6.6 Photographs of Radiated Emission (Above 1GHz) Test Configuration

- The photographs show the configuration that generates the maximum emission.

FRONT VIEW



REAR VIEW



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	Jun. 13, 2014	Conduction (CO01-NH)
LISN	SCHAFFNER	NNB41	04/10153	9kHz - 30MHz	Mar. 18, 2014	Conduction (CO01-NH)
LISN	KYORITSU	KNW-407	8-1010-15	9kHz - 30MHz	N/A	Conduction (CO01-NH)
Power Filter	CORCOM	MR12030	N/A	30A*2	N/A	Conduction (CO01-NH)
RF Cable-CON	Suhner Switzerland	RG223/U	CB004	9kHz - 30MHz	Dec. 11, 2013	Conduction (CO01-NH)

※ Calibration Interval of instruments listed above is one year.

< Radiated Emission below 1GHz >

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Open Area Test Site	SPORTON	OATS-10	OS01-NH	30 MHz - 1 GHz 10m	Jul. 27, 2014	Radiation (OS01-NH)
Amplifier	HP	8447D	2944A06292	0.1 MHz - 1.3 GHz	Apr. 21, 2014	Radiation (OS01-NH)
Spectrum Analyzer	R&S	FSP	838858/038	9 kHz - 7 GHz	Mar. 17, 2014	Radiation (OS01-NH)
Test Receiver	R&S	ESCS 30	100167	9 kHz - 2.75 GHz	Nov. 07, 2014	Radiation (OS01-NH)
Bilog Antenna	SCHAFFNER	CBL6111C	2738	30 MHz ~ 1 GHz	Mar. 06, 2014	Radiation (OS01-NH)
Turn Table	EMCO	1060-1.211	9507-1805	0 ~ 360 degree	NCR	Radiation (OS01-NH)
Antenna Mast	EMCO	1051-1.2	9503-1876	1 m ~ 4 m	NCR	Radiation (OS01-NH)
RF Cable-R10m	BELDEN	RG8/U	CB001	30 MHz ~ 1 GHz	Nov. 05, 2014	Radiation (OS01-NH)

※ Calibration Interval of instruments listed above is one year.

< Radiated Emission above 1GHz >

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum	R&S	FSP40	100004	9kHz ~ 40GHz	Mar. 27, 2014	Radiation (03CH04-HY)
Amplifier	Agilent	8449B	3008A02326	1GHz ~ 26.5GHz	May 22, 2014	Radiation (03CH04-HY)
Horn Antenna	SCHWARZBECK	BBHA9120	BBHA9120D1130	1 GHz ~ 18 GHz	Sep.16, 2014	Radiation (03CH04-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170339	15 GHz ~ 40 GHz	Feb. 17, 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)

※ Calibration Interval of instruments listed above is one year.

※ NCR: No calibration request.

< Radiated Emission above 1GHz >

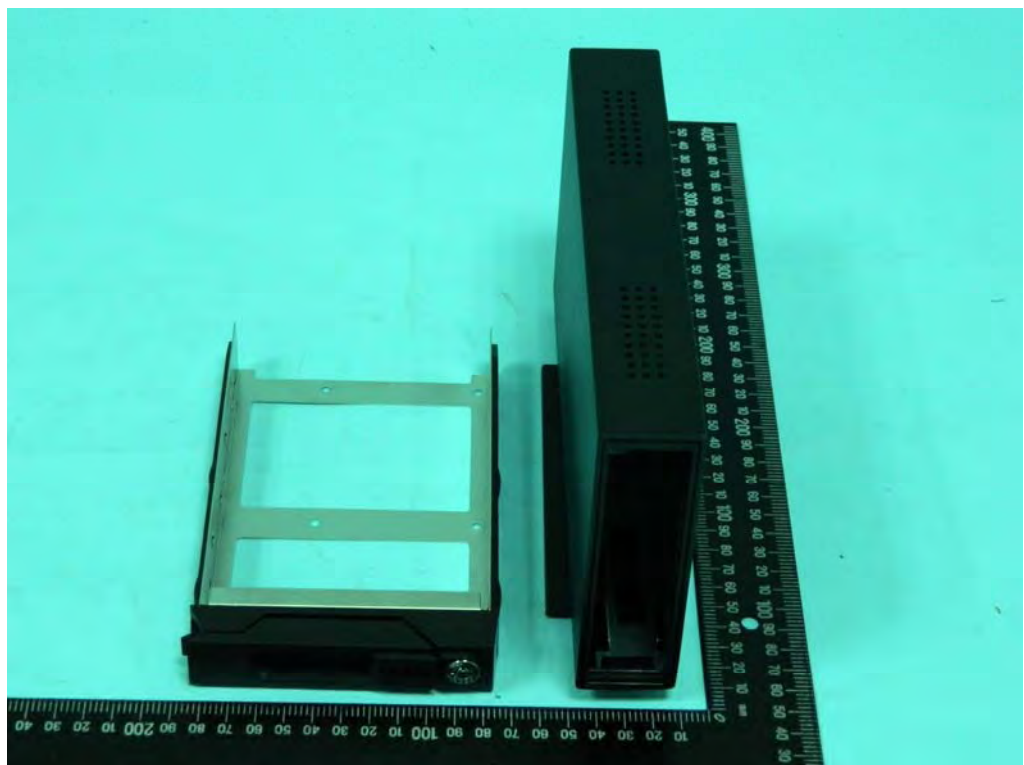
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	EM	EM18G40G	060572	18GHz ~ 40GHz	Jun. 20.2013	Radiation (03CH04-HY)

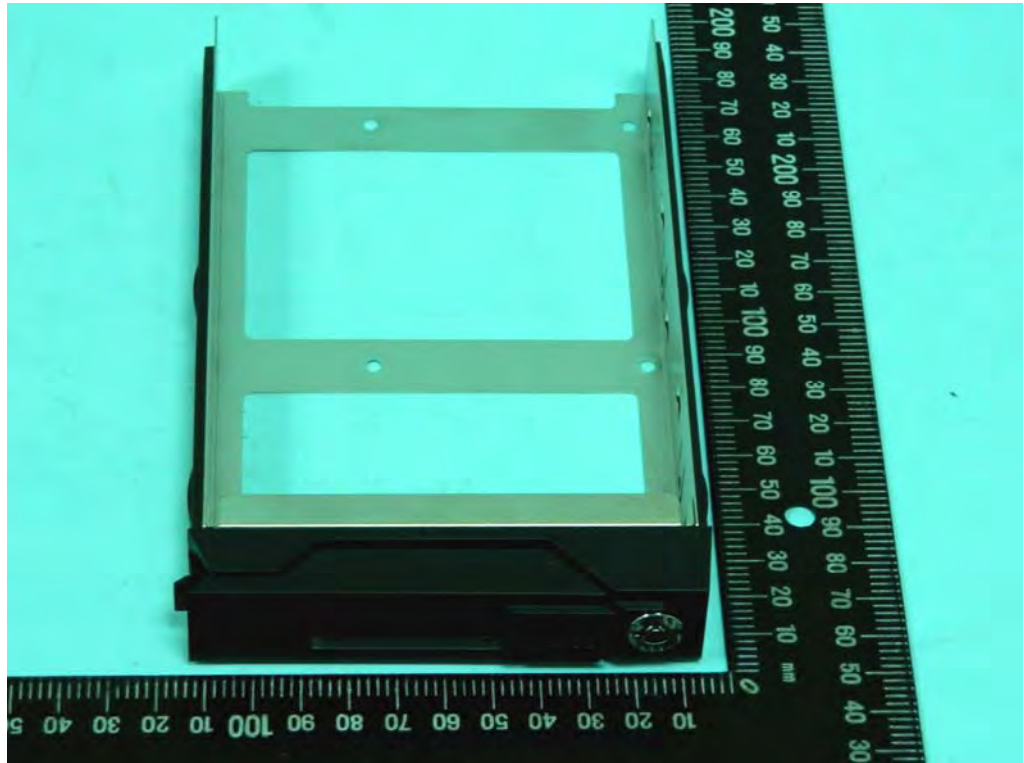
Calibration Interval of instruments listed above is two year.

APPENDIX A. Photographs of EUT

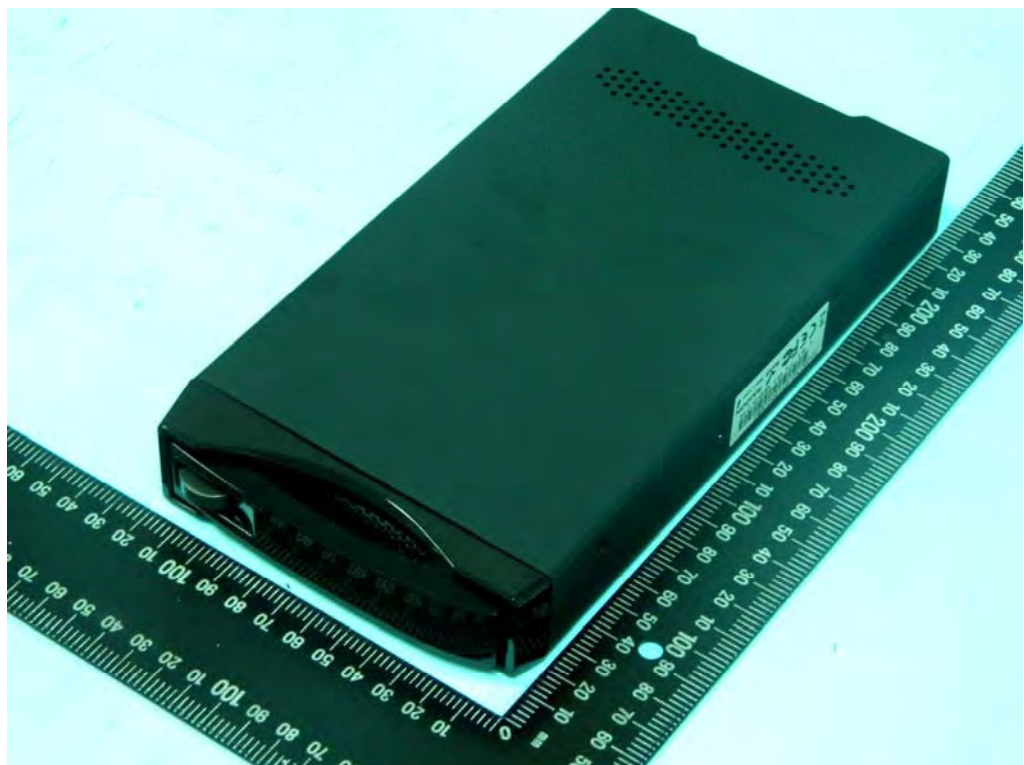
GT1670-SB3



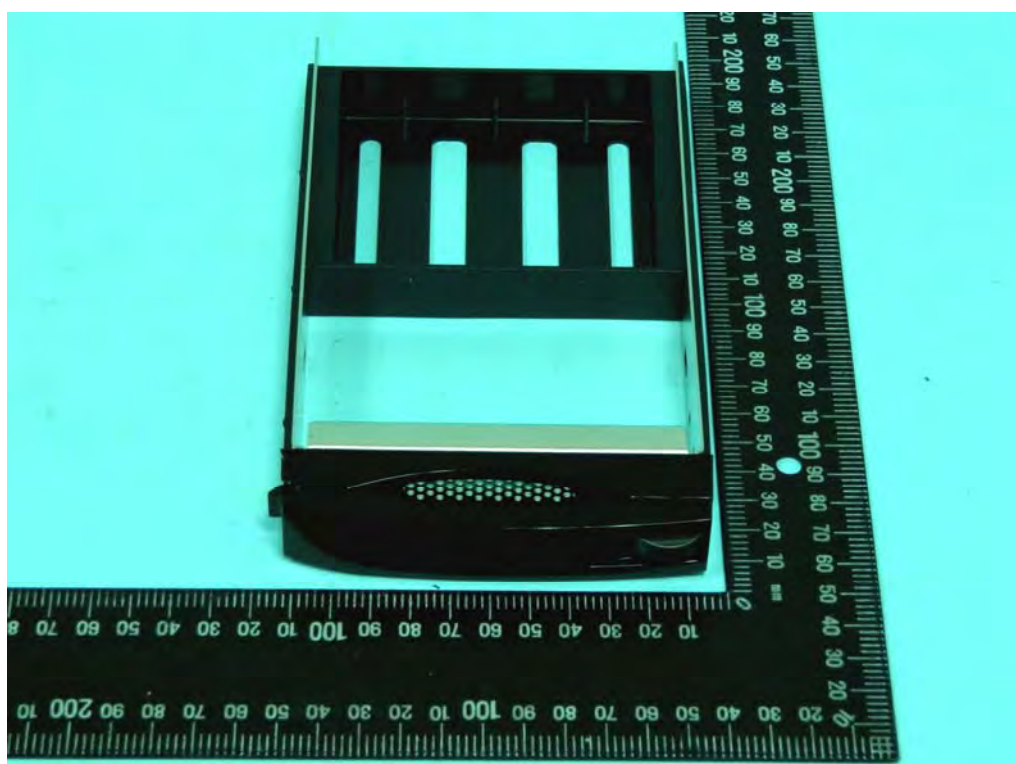
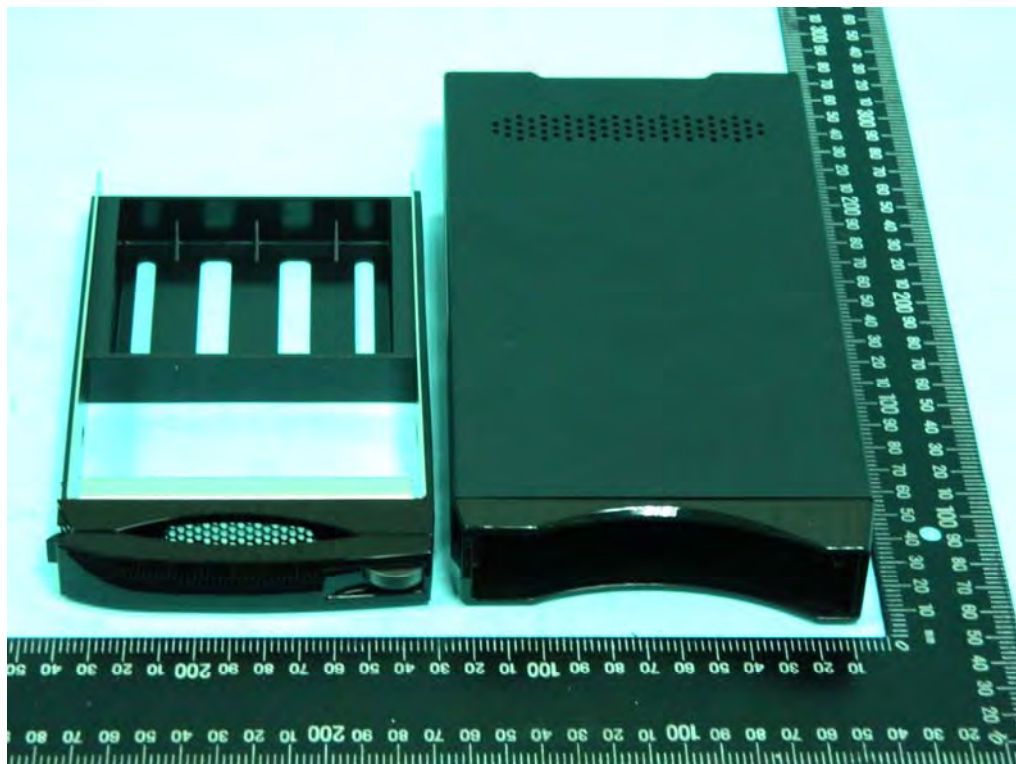




GT1660-SB3







i310-SB3



