



SPORTON LAB.

Certificate No: FD492583

CERTIFICATE OF COMPLIANCE

Authorized under Declaration of Conformity
according to

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



● **EQUIPMENT** : External dual bay RAID system

MODEL NO. : ST2-SB3

APPLICANT : RAIDON TECHNOLOGY, INC.

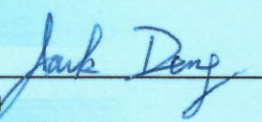
7F-9, No.16, Lane 609, Sec. 5, Chung-Hsin Rd., San-Chung
Dist., New Taipei City, Taiwan (R.O.C)



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 TEST WAS CARRIED OUT ON **Oct. 24, 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 : External dual bay RAID system

Model No. : ST2-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.

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History of this test report

Original Report Issue Date: Nov. 19, 2014

■ No additional attachment.

□ Additional attachments were issued as following record:

| Report No. | Version | Issue Date | Description |
|------------|---------|---------------|-----------------|
| FV492583 | Rev. 01 | Nov. 19, 2014 | Original Report |
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CERTIFICATE OF COMPLIANCE

According to

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

Equipment : External dual bay RAID system

Model No. : ST2-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 **Jul. 29, 2014** and completely tested on **Oct. 24, 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 : External dual bay RAID system

Model No. : ST2-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, 1.8m, 3 pin

The maximum operating frequency is 6 GHz.

1.4 Feature of Equipment under Test

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 (x2) and EUT for EMI test. (For conducted emission and radiated emission below 1GHz)
- c. The complete test system included PC, LCD Monitor, USB Keyboard, USB Mouse, Printer, USB 2.0 iPod, HDD (x2) and EUT for EMI test. (For co radiated emission above 1GHz)
- d. The following test modes were pretested for conducted test:
 - Mode 1. USB3.0,R/W
 - Mode 2. E-SATA,R/W
 - ⇒ Cause "**Mode 1**" generated the worst test result; it was reported as final data.
- e. The following test modes were pretested for radiated test:
 - Mode 1. USB3.0,R/W
 - Mode 2. E-SATA,R/W
 - ⇒ Cause "**Mode 1**" generated the worst test result; it was reported as final data.
- f. The following test mode was referring to radiated worst case "**Mode 2**"(1GHz / 5TH of harmonic CPU fundamental) final test:
 - Mode 1. E-SATA,R/W
- g. 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

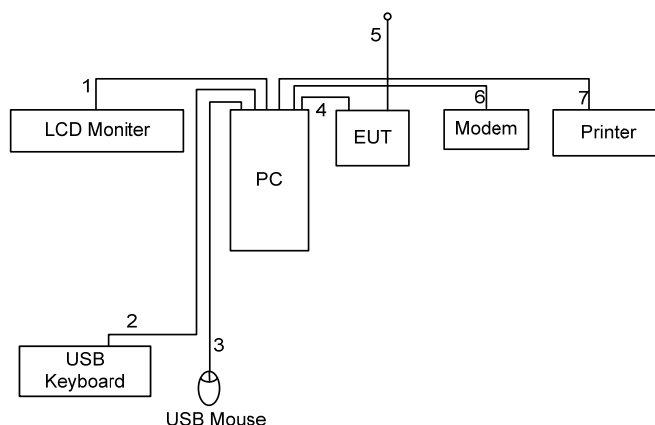
| No. | Description | Manufacturer | Model | FCC ID | Signal Cable Description |
|-----|---------------------------------|--------------|-------------|------------|------------------------------------|
| 1 | PC | Lenovo | C61 | DoC | --- |
| 2 | LCD Monitor | DELL | E198WFPF | DoC | D-SUB Cable, D-Shielded, 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 (x2) (Inserted into EUT) | SEATATE | ST3250318AS | DoC | --- |

For radiated emission above 1GHz

| No. | Description | Manufacturer | Model | FCC ID | Signal Cable Description |
|-----|---------------------------------|--------------|-------------|--------|-----------------------------------|
| 1 | PC | DELL | D10M | 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 | Logitech | M-U0026 | DoC | USB Cable, AL-F-Shielded, 1.8m |
| 5 | Printer | EPSON | C61 | --- | USB Cable, D-Shielded, 1.8m |
| 6 | USB 2.0 iPod | APPLE | A1137 | DoC | USB Cable, D-Shielded, 1.0m |
| 7 | HDD (x2) (Inserted into EUT) | SEATATE | ST3250318AS | DoC | --- |

2.3 Connection Diagram of Test System for Radiated Emission

Radiated Emission(below 1GHz)

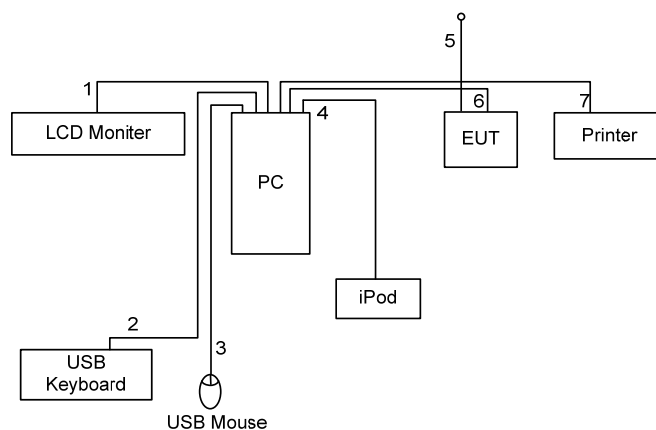


The support unit 7 is insert into EUT.

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 cables are 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.

Radiated Emission(above 1GHz)



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 support unit 1 to the support unit 6.
5. The USB cable is floating from EUT.
6. The ESATA cable is connected from EUT to the support unit 1.
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

n 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 reads the test program from the hard disk drive and runs it.
- c. The PC sends " H " messages to the monitor, and the monitor displays " H " patterns on the screen.
- d. The PC sends " H " messages to the printer, then the printer prints them on the paper.
- e. The PC sends " H " messages to the modem.
- f. The PC reads the test program from the keyboard and mouse and runs it.
- g. Repeat the steps from c to f.

At the same time, the following program was executed:

- 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. : OS02-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 | OS02-NH | ± 3.0 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)

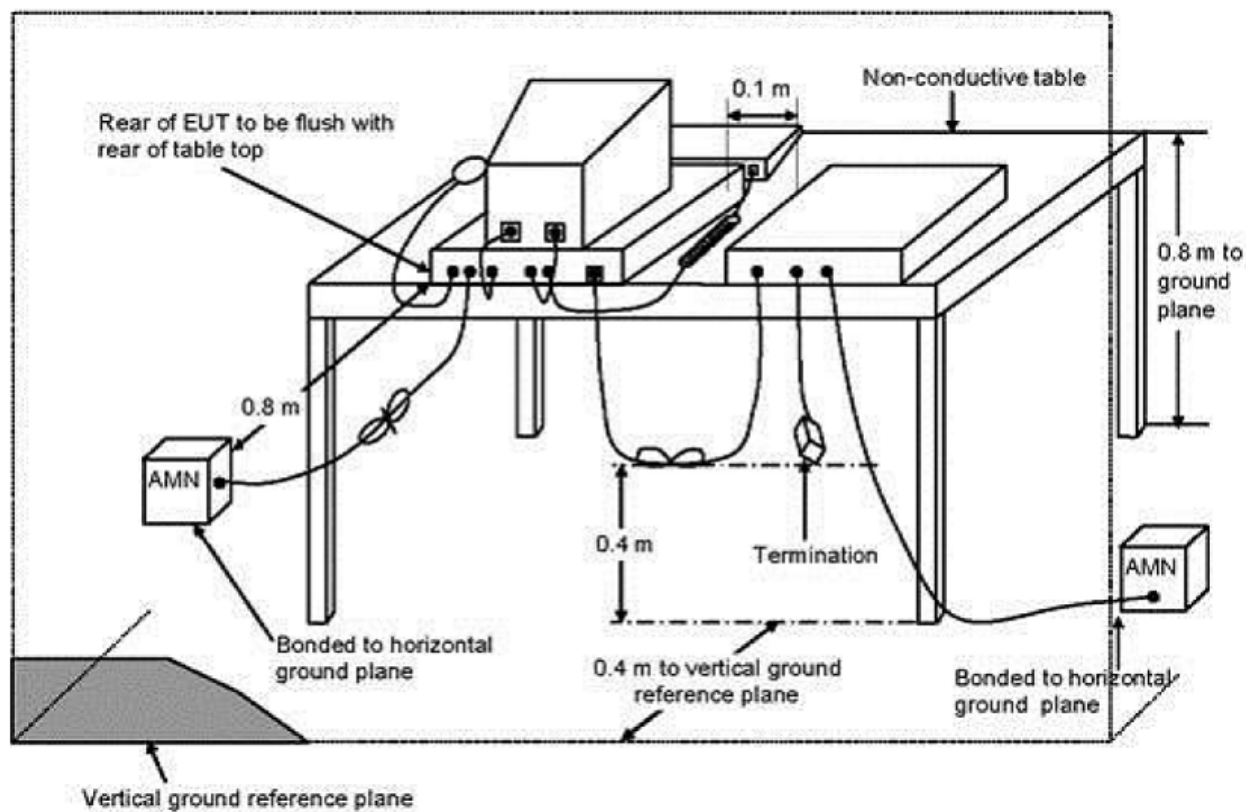
5. Test of Conducted Powerline

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

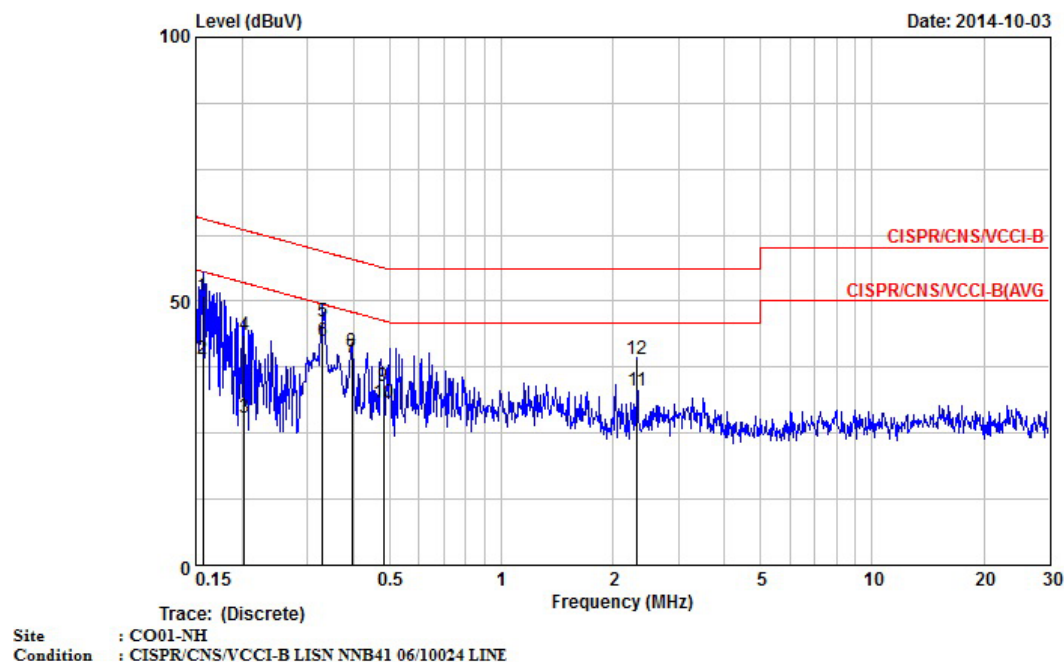


5.3 Test Result of AC Powerline Conducted Emission

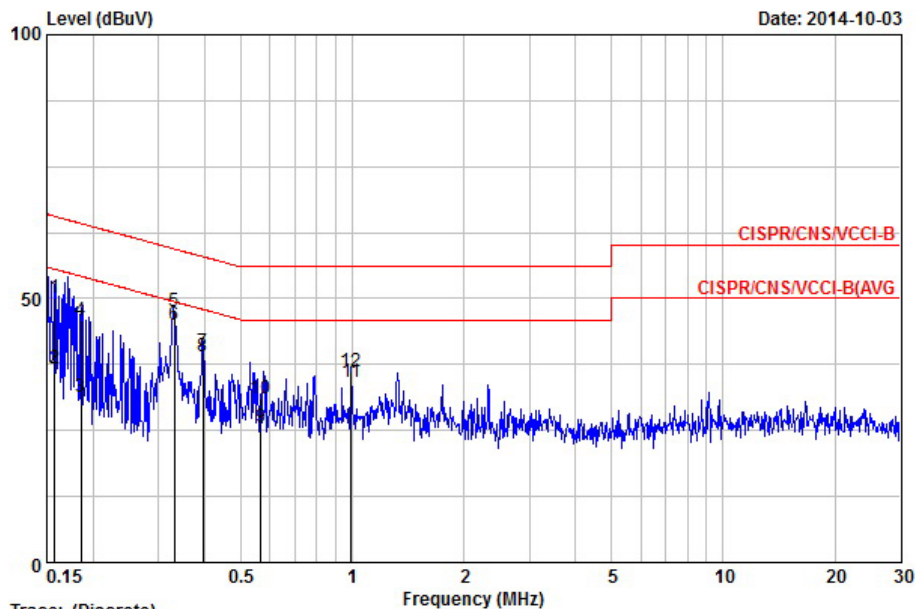
| | | | |
|---------------|-----------|-------------|------|
| Test Mode | Mode 1 | Temperature | 25°C |
| Test Engineer | Willy Lee | Humidity | 52% |

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 | Read | LISN | Cable | |
|----|-------|-------|--------|-------|-------|--------|-------|---------|
| | MHz | dBμV | Limit | Line | Level | Factor | Loss | Remark |
| | | | dB | dBμV | dBμV | dB | dB | |
| 1 | 0.156 | 50.90 | -14.75 | 65.65 | 40.22 | 10.58 | 0.10 | QP |
| 2 | 0.156 | 39.16 | -16.49 | 55.65 | 28.48 | 10.58 | 0.10 | AVERAGE |
| 3 | 0.203 | 27.94 | -25.55 | 53.49 | 17.29 | 10.56 | 0.10 | AVERAGE |
| 4 | 0.203 | 43.61 | -19.88 | 63.49 | 32.96 | 10.56 | 0.10 | QP |
| 5 | 0.330 | 46.15 | -13.29 | 59.44 | 35.54 | 10.51 | 0.10 | QP |
| 6 | 0.330 | 42.52 | -6.92 | 49.44 | 31.91 | 10.51 | 0.10 | AVERAGE |
| 7 | 0.396 | 39.41 | -8.53 | 47.95 | 28.82 | 10.49 | 0.10 | AVERAGE |
| 8 | 0.396 | 40.33 | -17.61 | 57.95 | 29.74 | 10.49 | 0.10 | QP |
| 9 | 0.480 | 34.03 | -22.30 | 56.33 | 23.44 | 10.49 | 0.10 | QP |
| 10 | 0.480 | 30.65 | -15.68 | 46.33 | 20.06 | 10.49 | 0.10 | AVERAGE |
| 11 | 2.321 | 33.15 | -12.85 | 46.00 | 22.39 | 10.56 | 0.20 | AVERAGE |
| 12 | 2.321 | 39.03 | -16.97 | 56.00 | 28.27 | 10.56 | 0.20 | QP |



Site : CO01-NH
Condition : CISPR/CNS/VCCI-B LISN NNB41 06/10024 NEUTRAL

| | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|----|-------|-------|------------|------------|------------|-------------|------------|---------|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | 0.158 | 50.27 | -15.32 | 65.59 | 40.08 | 10.09 | 0.10 | QP |
| 2 | 0.158 | 36.67 | -18.92 | 55.59 | 26.48 | 10.09 | 0.10 | AVERAGE |
| 3 | 0.185 | 31.47 | -22.77 | 54.24 | 21.28 | 10.08 | 0.10 | AVERAGE |
| 4 | 0.185 | 46.01 | -18.23 | 64.24 | 35.82 | 10.08 | 0.10 | QP |
| 5 | 0.331 | 47.49 | -11.93 | 59.42 | 37.31 | 10.08 | 0.10 | QP |
| 6 | 0.331 | 45.02 | -4.40 | 49.42 | 34.84 | 10.08 | 0.10 | AVERAGE |
| 7 | 0.395 | 39.86 | -18.10 | 57.96 | 29.68 | 10.08 | 0.10 | QP |
| 8 | 0.395 | 39.17 | -8.79 | 47.96 | 28.99 | 10.08 | 0.10 | AVERAGE |
| 9 | 0.566 | 25.53 | -20.47 | 46.00 | 15.35 | 10.08 | 0.10 | AVERAGE |
| 10 | 0.566 | 30.93 | -25.07 | 56.00 | 20.75 | 10.08 | 0.10 | QP |
| 11 | 0.993 | 34.13 | -11.87 | 46.00 | 23.94 | 10.09 | 0.10 | AVERAGE |
| 12 | 0.993 | 36.31 | -19.69 | 56.00 | 26.12 | 10.09 | 0.10 | QP |

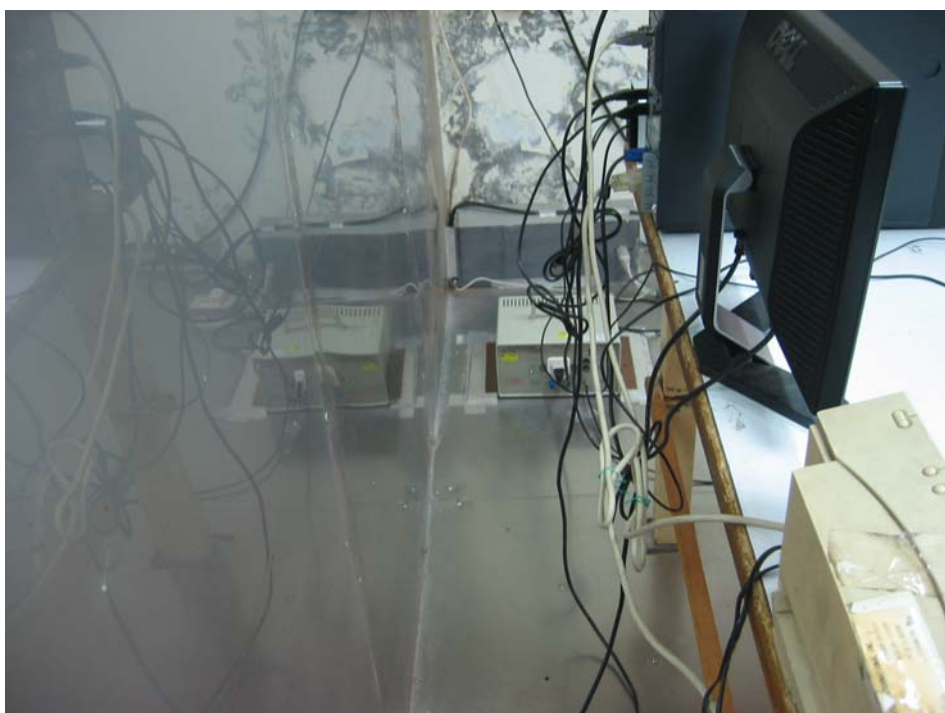
5.4 Photographs of Conducted Power line Test Configuration

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

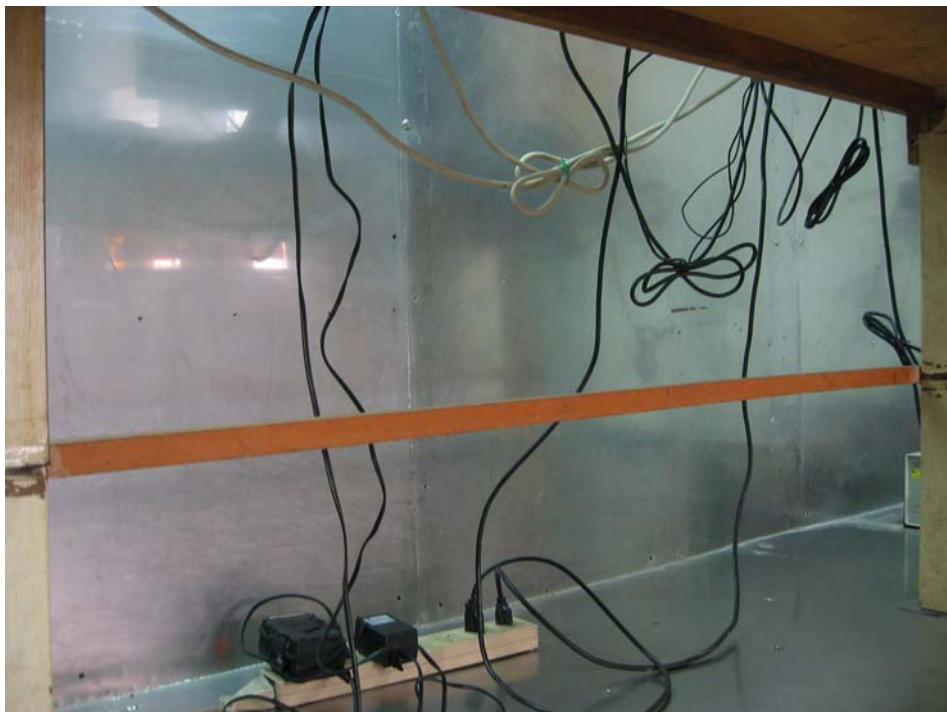
FRONT VIEW



REAR VIEW



SIDE VIEW



6. Test of Radiated Emission

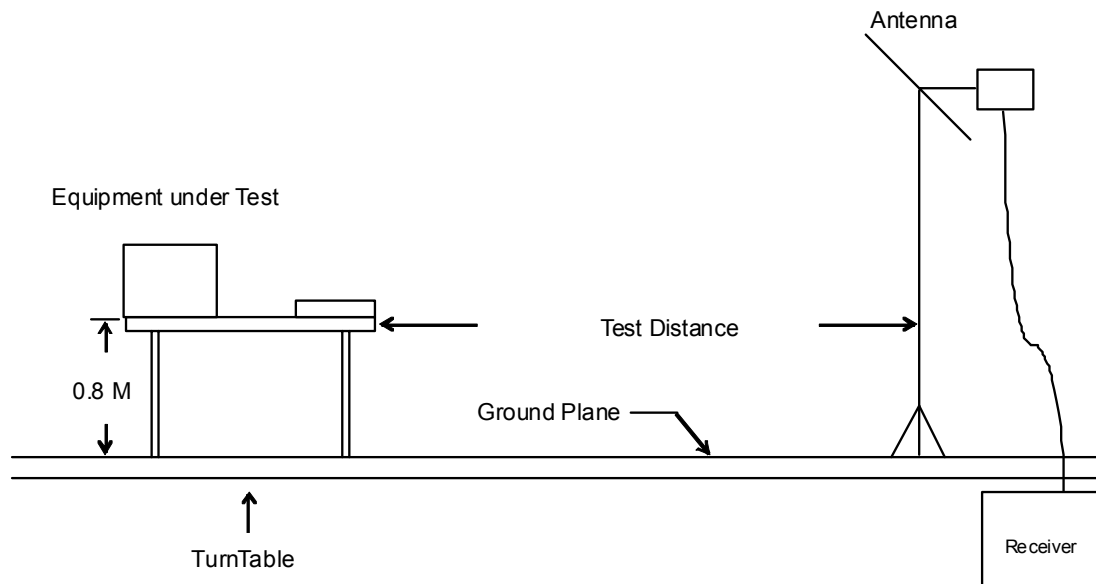
Radiated emissions below 1 GHz were measured with a bandwidth of 120 kHz for 30 MHz to 1,000 MHz and bandwidth of 1 MHz for above 1 GHz to 5th harmonic of highest frequency according to the methods defines in ANSI C63.4, Clause 8. The EUT was placed on a nonmetallic stand, 0.8 meter above the ground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

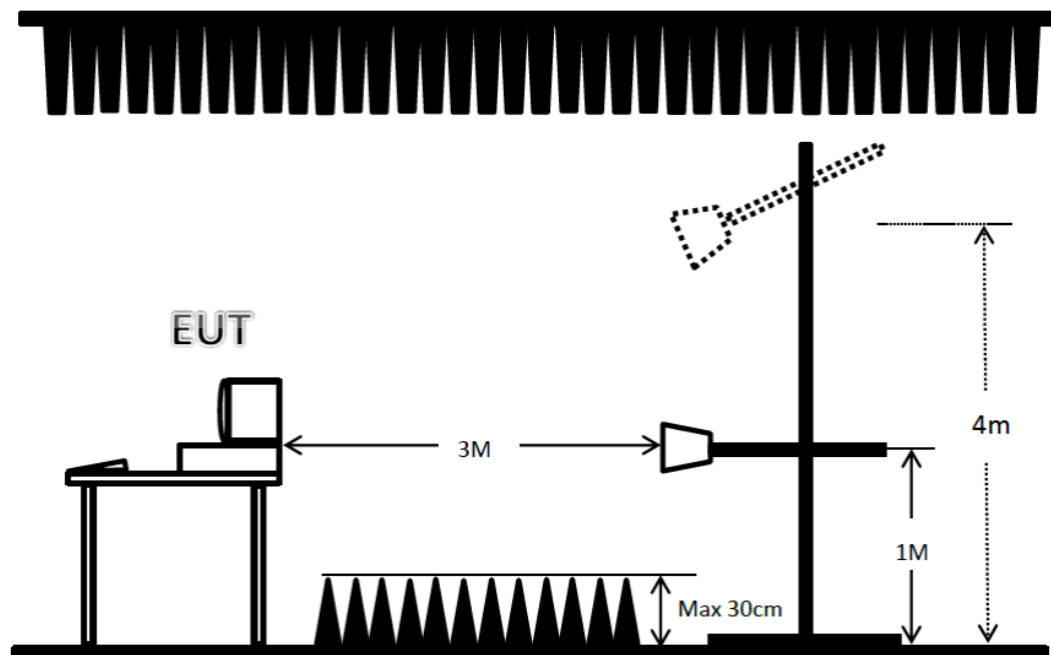
- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 10/3/1 meters from the interference-receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.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



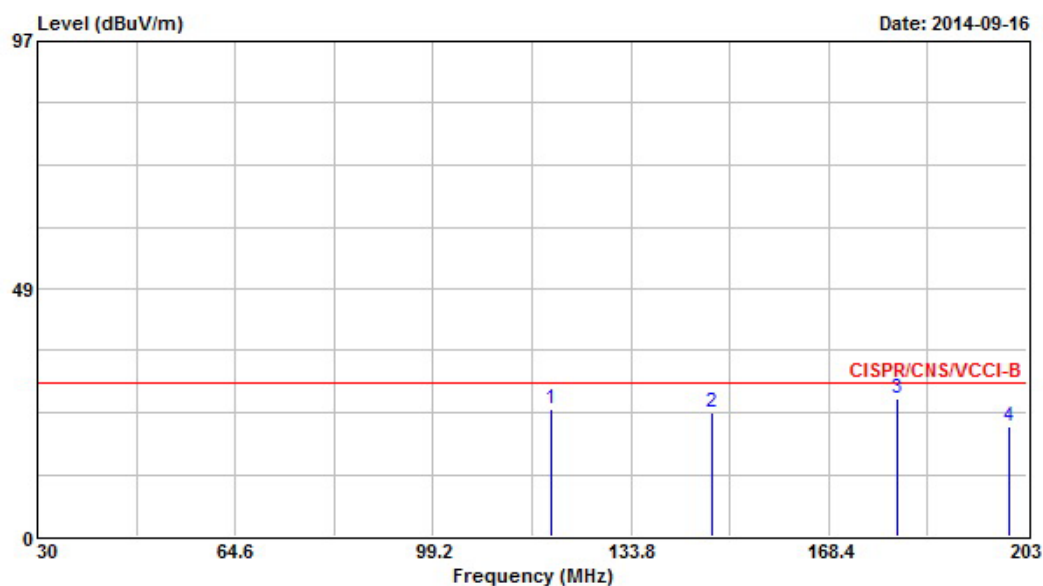
6.3 Test Result of Radiated Emission (Below 1GHz)

| | | | |
|-------------------------|--------------------------|---------------|------|
| Frequency Range of Test | From 30 MHz to 1,000 MHz | Test Distance | 10m |
| Test Mode | Mode 1 | Temperature | 32°C |
| Test Engineer | Chas Yeh | Humidity | 49% |

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

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

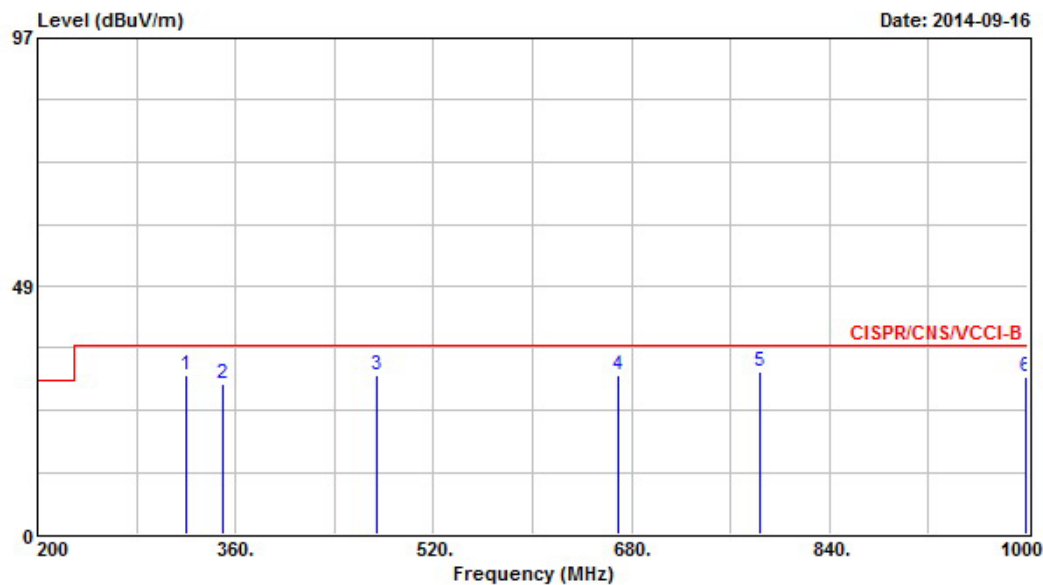
■ The test was passed at the minimum margin that marked by the frame in the following data



Site : OS02-NH

Condition : CISPR/CNS/VCCI-B 10m OS02-ANT-03-03-2014 VERTICAL

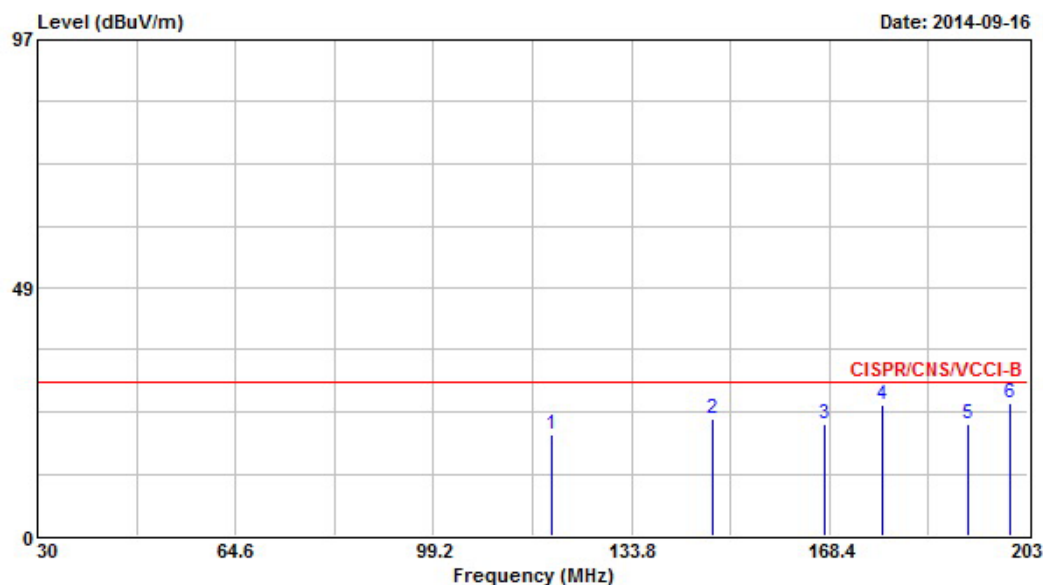
| | Freq | Level | Over | Limit | ReadAntenna | Cable | Preamp | | Ant | Table |
|---|---------|--------|-------|--------|-------------|--------|--------|--------|------|-------|
| | MHz | dBμV/m | Limit | Line | Level | Factor | Loss | Factor | Pos | Pos |
| | | | dB | dBμV/m | dBμV | dB/m | dB | dB | cm | deg |
| 1 | 119.960 | 24.86 | -5.14 | 30.00 | 42.80 | 12.21 | 1.45 | 31.60 | Peak | --- |
| 2 | 147.990 | 24.40 | -5.60 | 30.00 | 43.63 | 10.70 | 1.62 | 31.55 | Peak | --- |
| 3 | 180.340 | 26.84 | -3.16 | 30.00 | 47.22 | 9.30 | 1.80 | 31.48 | Peak | 100 |
| 4 | 200.060 | 21.67 | -8.33 | 30.00 | 41.76 | 9.42 | 1.92 | 31.43 | Peak | --- |



Site : OS02-NH

Condition : CISPR/CNS/VCCI-B 10m OS02-ANT-03-03-2014 VERTICAL

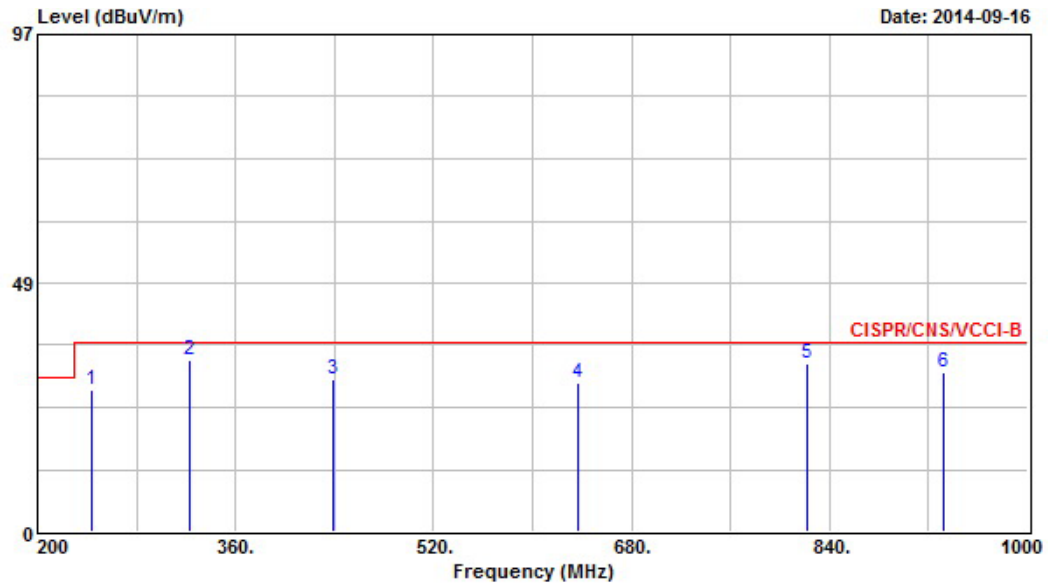
| | Freq | Level | Over | Limit | ReadAntenna | Cable | Preamp | | Ant | Table |
|---|---------|--------|-------|--------|-------------|-------|--------|------------|-----|-------|
| | MHz | dBuV/m | Limit | Line | Level | Loss | Factor | Remark | Pos | Pos |
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg |
| 1 | 320.800 | 31.23 | -5.77 | 37.00 | 46.22 | 13.81 | 2.49 | 31.29 Peak | --- | --- |
| 2 | 349.600 | 29.33 | -7.67 | 37.00 | 43.54 | 14.53 | 2.59 | 31.33 Peak | --- | --- |
| 3 | 473.600 | 31.01 | -5.99 | 37.00 | 42.09 | 17.16 | 3.11 | 31.35 Peak | --- | --- |
| 4 | 669.600 | 30.93 | -6.07 | 37.00 | 39.11 | 19.20 | 3.87 | 31.25 Peak | --- | --- |
| 5 | 784.000 | 31.83 | -5.17 | 37.00 | 38.54 | 20.25 | 4.24 | 31.20 Peak | --- | --- |
| 6 | 998.400 | 30.72 | -6.28 | 37.00 | 34.52 | 22.36 | 4.88 | 31.04 Peak | --- | --- |



Site : OS02-NH

Condition : CISPR/CNS/VCCI-B 10m OS02-ANT-03-03-2014 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 | 119.960 | 19.86 | -10.14 | 30.00 | 37.80 | 12.21 | 1.45 | 31.60 Peak | --- | --- |
| 2 | 147.990 | 22.82 | -7.18 | 30.00 | 42.05 | 10.70 | 1.62 | 31.55 Peak | --- | --- |
| 3 | 167.540 | 22.00 | -8.00 | 30.00 | 41.84 | 9.91 | 1.75 | 31.50 Peak | --- | --- |
| 4 | 177.570 | 25.51 | -4.49 | 30.00 | 45.75 | 9.45 | 1.79 | 31.48 Peak | --- | --- |
| 5 | 192.620 | 21.72 | -8.28 | 30.00 | 41.85 | 9.38 | 1.94 | 31.45 Peak | --- | --- |
| 6 | 199.890 | 25.87 | -4.13 | 30.00 | 45.96 | 9.42 | 1.92 | 31.43 Peak | --- | --- |



Site : OS02-NH
 Condition : CISPR/CNS/VCCI-B 10m OS02-ANT-03-03-2014 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 | 243.200 | 27.68 | -9.32 | 37.00 | 44.93 | 11.96 | 2.15 | 31.36 Peak | --- | --- |
| 2 | 323.200 | 33.44 | -3.56 | 37.00 | 48.37 | 13.86 | 2.50 | 31.29 Peak | --- | --- |
| 3 | 439.200 | 29.68 | -7.32 | 37.00 | 41.54 | 16.54 | 2.97 | 31.37 Peak | --- | --- |
| 4 | 636.800 | 29.04 | -7.96 | 37.00 | 37.40 | 19.13 | 3.75 | 31.24 Peak | --- | --- |
| 5 | 821.600 | 32.94 | -4.06 | 37.00 | 39.12 | 20.63 | 4.36 | 31.17 Peak | --- | --- |
| 6 | 932.000 | 31.17 | -5.83 | 37.00 | 35.89 | 21.67 | 4.70 | 31.09 Peak | --- | --- |

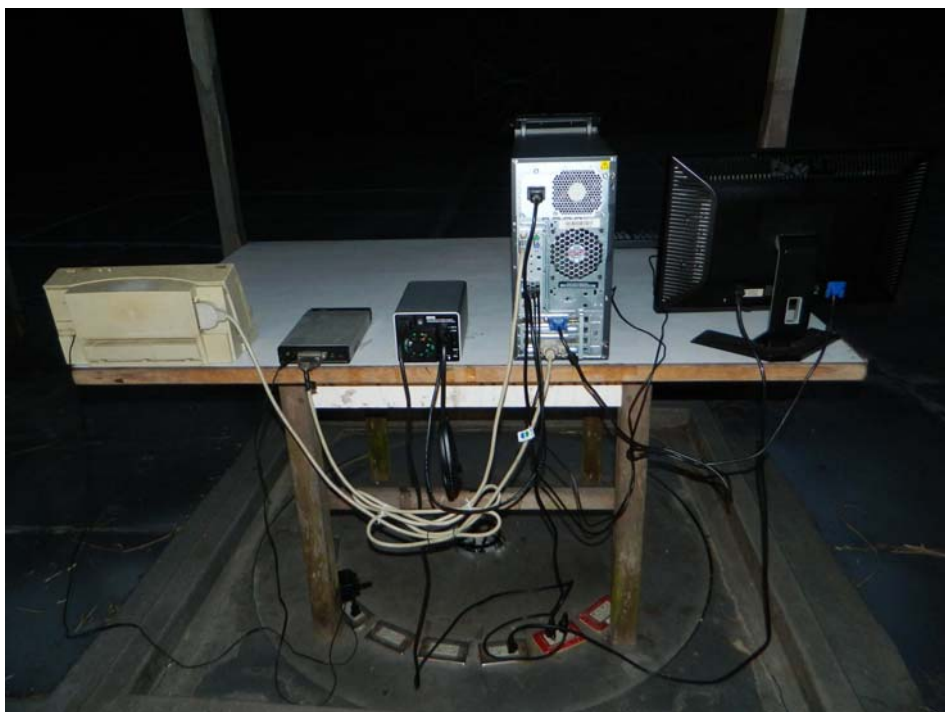
6.4 Photographs of Radiated Emission (Below 1GHz) Test Configuration

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

FRONT VIEW



REAR VIEW



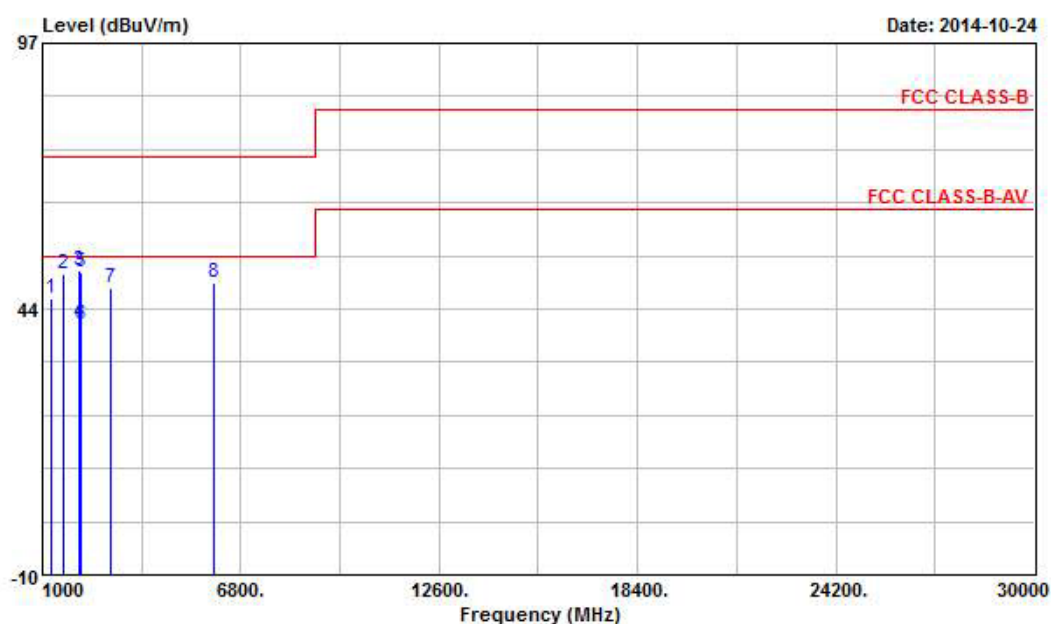
6.5 Test Result of Radiated Emission (Above 1GHz)

| | | | |
|-------------------------|------------------------------|---------------|---------|
| Frequency Range of Test | From 1,000 MHz to 30,000 MHz | Test Distance | 3m / 1m |
| Test Mode | Mode 1 | Temperature | 21°C |
| Test Engineer | Alan Chen | Humidity | 52% |

Note: 1. Emission level (dB μ V/m) = 20 log Emission level (μ V/m)

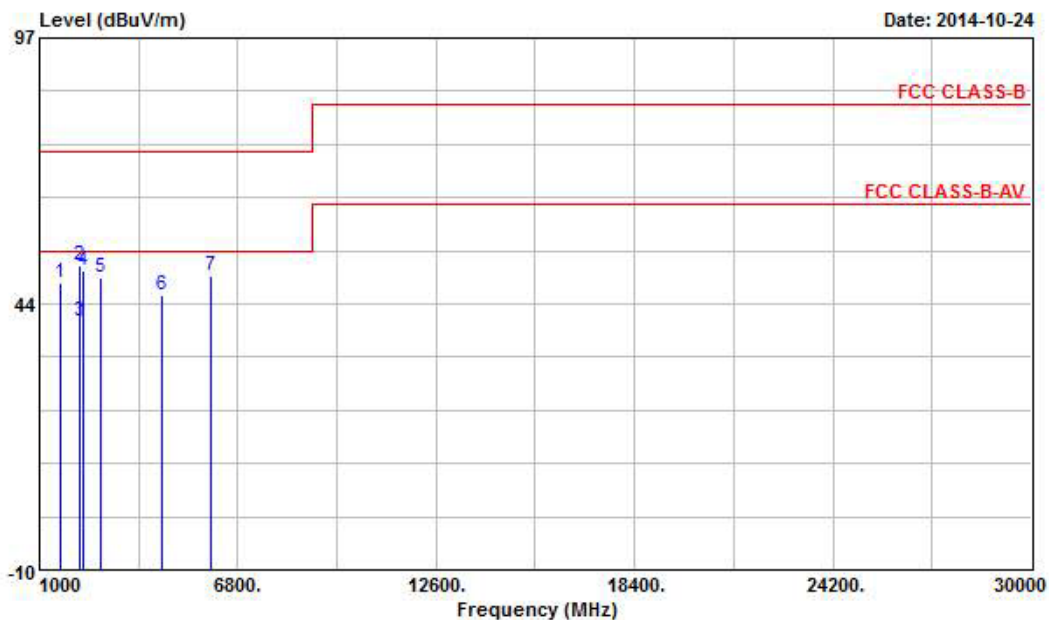
2. Corrected Reading : Antenna Factor + Cable Loss + Read Level – Preamp Factor = Level

■ 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 | Read | Antenna | Preamp | Cable | Ant | Table | |
|---|----------|--------|--------|--------|-------|---------|--------|-------|-----|-------|---------|
| | MHz | dBuV/m | Limit | Line | Level | Factor | Factor | Loss | Pos | Pos | Remark |
| | | | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg | |
| 1 | 1270.000 | 45.74 | -28.26 | 74.00 | 52.78 | 25.31 | 34.10 | 1.75 | --- | --- | Peak |
| 2 | 1628.000 | 50.53 | -23.47 | 74.00 | 56.35 | 25.88 | 33.69 | 1.99 | --- | --- | Peak |
| 3 | 2078.000 | 51.37 | -22.63 | 74.00 | 56.38 | 26.27 | 33.59 | 2.32 | 100 | 215 | Peak |
| 4 | 2078.000 | 40.66 | -13.34 | 54.00 | 45.67 | 26.27 | 33.59 | 2.32 | 100 | 215 | Average |
| 5 | 2142.000 | 51.05 | -22.95 | 74.00 | 55.94 | 26.43 | 33.66 | 2.34 | 100 | 160 | Peak |
| 6 | 2142.000 | 40.50 | -13.50 | 54.00 | 45.39 | 26.43 | 33.66 | 2.34 | 100 | 160 | Average |
| 7 | 3009.000 | 47.65 | -26.35 | 74.00 | 50.64 | 28.30 | 34.31 | 3.02 | --- | --- | Peak |
| 8 | 5994.000 | 48.68 | -25.32 | 74.00 | 46.68 | 32.40 | 34.47 | 4.07 | --- | --- | Peak |



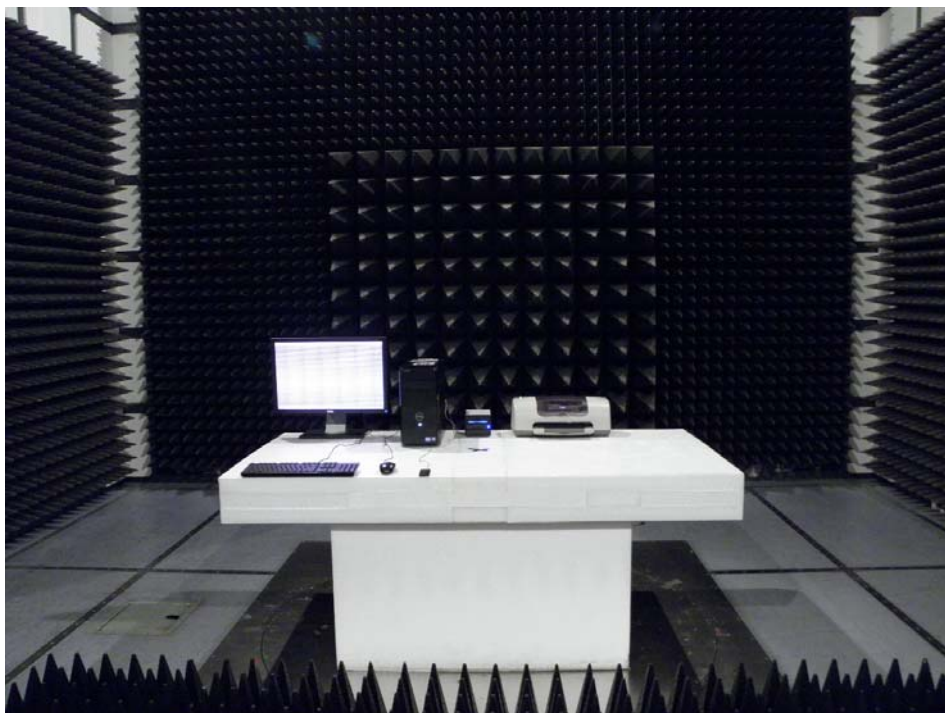
Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-9120D HORIZONTAL

| | Freq | Level | Over | Limit | ReadAntenna | Preamp | Cable | Ant | Table | |
|---|----------|--------|--------|--------|-------------|--------|--------|------|-------|-------------|
| | MHz | dBuV/m | Limit | Line | Level | Factor | Factor | Loss | Pos | Pos Remark |
| | | | dB | dBuV/m | dBuV | dB/m | dB | dB | cm | deg |
| 1 | 1638.000 | 47.79 | -26.21 | 74.00 | 53.60 | 25.89 | 33.69 | 1.99 | --- | --- Peak |
| 2 | 2166.000 | 51.31 | -22.69 | 74.00 | 56.11 | 26.51 | 33.68 | 2.37 | 100 | 226 Peak |
| 3 | 2166.000 | 40.09 | -13.91 | 54.00 | 44.89 | 26.51 | 33.68 | 2.37 | 100 | 226 Average |
| 4 | 2268.000 | 50.31 | -23.69 | 74.00 | 54.88 | 26.76 | 33.78 | 2.44 | --- | --- Peak |
| 5 | 2814.000 | 48.71 | -25.29 | 74.00 | 52.13 | 27.93 | 34.19 | 2.84 | --- | --- Peak |
| 6 | 4570.000 | 45.35 | -28.65 | 74.00 | 45.20 | 30.81 | 34.39 | 3.73 | --- | --- Peak |
| 7 | 6000.000 | 49.08 | -24.92 | 74.00 | 47.08 | 32.40 | 34.47 | 4.07 | --- | --- Peak |

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 | Nov. 05, 2013 | Conduction (CO01-NH) |
| LISN | SCHAFFNER | NNB41 | 06/10024 | 9kHz - 30MHz | Dec. 05, 2013 | 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 | OS02-NH | 30 MHz - 1 GHz 10m, 3m | Dec. 30, 2013 | Radiation (OS02-NH) |
| Amplifier | BURGEON | BPA-530 | 100203 | 0.01 MHz - 3 GHz | May 19, 2014 | Radiation (OS02-NH) |
| Receiver | R&S | ESCI | 100497 | 9 kHz - 3 GHz | Apr. 24, 2014 | Radiation (OS02-NH) |
| Bilog Antenna | CHASE | CBL6122B | 2884 | 30 MHz - 2 GHz | Feb. 28, 2014 | Radiation (OS02-NH) |
| Turn Table | EMCO | 2080 | 9508-1805 | 0 - 360 degree | N/A | Radiation (OS02-NH) |
| Antenna Mast | ETS | 2075-2 | 2385 | 1 m - 4 m | N/A | Radiation (OS02-NH) |
| RF Cable-R10m | MIYAZAKI | 5DFB | CB044 | 30 MHz - 1 GHz | Aug. 29, 2014 | Radiation (OS02-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 | CB063-HF | 1 GHz ~ 40 GHz | Nov. 20, 2013 | 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



