SPORTON LAB.

Certificate No: AI8N2609

CERTIFICATE

TAF
Testing Laboratory
1190

- **EQUIPMENT: Power Supply**
  MODEL NO. : PW816X-XXX
  APPLICANT : SMART CABLING & TRANSMISSION CORP.
  10F, No. 493, Chung-Cheng Rd.,
  Hsin Tien City, Taipei 231, Taiwan, R.O.C.

SPORTON LAB.

I HEREBY **CERTIFY THAT:**

THE MEASUREMENTS SHOWN IN THIS TEST REPORT WERE MADE IN ACCORDANCE WITH THE PROCEDURES GIVEN IN **AS/NZS CISPR 22**.
THE EQUIPMENT WAS PASSED THE TEST PERFORMED ACCORDING TO **AS/NZS CISPR 22:2006 Class B**.
THE TESTING WAS COMPLETED ON **Dec. 17, 2008** AT SPORTON INTERNATIONAL INC. LAB.

Dec. 19, 2008

Alex Chen
Manager

Testing Laboratory
1190

C-tick EMI TEST REPORT

According to

AS/NZS CISPR 22:2006 Class B

Equipment : Power Supply

Model No. : PW816X-XXX

Applicant : **SMART CABLING & TRANSMISSION CORP.**
10F, No. 493, Chung-Cheng Rd.,
Hsin Tien City, Taipei 231, Taiwan, R.O.C.

SPORTON International Inc.

6F, No. 106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

Table of Contents

History of this test report

Original Report Issue Date: Dec. 17, 2008

■ No additional attachment.

☐ Additional attachment were issued as following record:

Attachment No.	Issue Date	Description

Certificate No. : AI8N2609

CERTIFICATE OF COMPLIANCE

Testing Laboratory
1190

According to

AS/NZS CISPR 22:2006 Class B

Equipment : Power Supply

Model No. : PW816X-XXX

Applicant : **SMART CABLING & TRANSMISSION CORP.**
10F, No. 493, Chung-Cheng Rd.,
Hsin Tien City, Taipei 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 **AS/NZS CISPR 22:2006 Class B.** The energy emitted by this equipment was ***passed*** both Radiated and Conducted Emissions **Class B** limits.

The test was carried out on Dec. 17, 2008 at **SPORTON International Inc.** LAB.

Dec. 17, 2008
Alex Chen
Manager

SPORTON International Inc.

6F, No. 106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

1. General Description of Equipment under Test

1.1. Applicant

SMART CABLING & TRANSMISSION CORP.
10F, No. 493, Chung-Cheng Rd.,
Hsin Tien City, Taipei 231, Taiwan, R.O.C.

1.2. Manufacturer

Same as 1.1

1.3. Basic Description of Equipment under Test

Equipment	: Power Supply
Model No.	: PW816X-XXX
Trade Name	: SMART CABLING & TRANSMISSION CORP.
POWER Cable ×8	: Non-Shielded, 1.0 m
Power Supply Type	: Switching
AC Power Cord	: Non-Shielded, 1.8 m, 2 pin

1.4. Feature of Equipment under Test

Please refer to user manual.

2. Test Configuration of Equipment under Test

2.1. Test Manner

a. During testing, the interface cables and equipment positions were varied according to AS/NZS CISPR 22.

b. The complete test system included SMART CABLING & TRANSMISSION Dummy Load and EUT for EMI test.

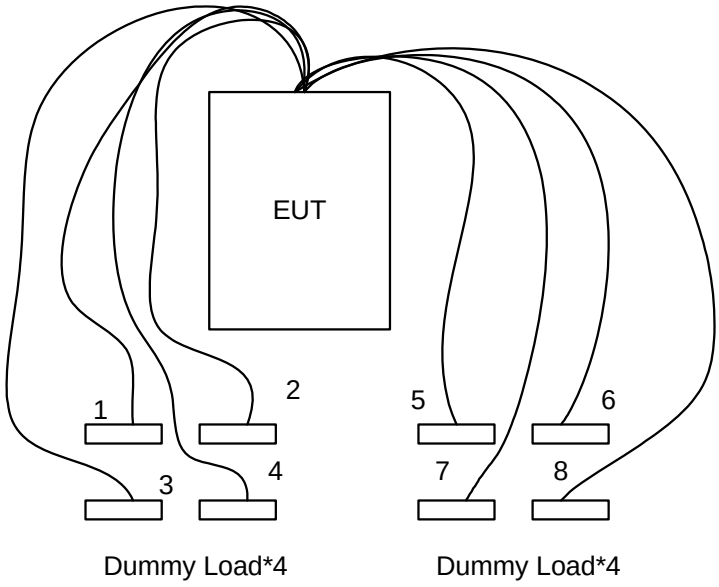
c. The following test modes were performed for EMI test:
Mode 1. 24VDC OUTPUT
Mode 2. 12VDC OUTPUT

d. Frequency range investigated: Conduction 150 KHz to 30 MHz, Radiation 30 MHz to 1,000MHz.

2.2. Description of Test System

Support Unit 1. -- Dummy Load (SMART CABLING & TRANSMISSION)
Spec. : Full Load

2.3. Connection Diagram of Test System



1. The power cable is connected from the EUT to the support unit 1.
2. The power cable is connected from the EUT to the support unit 1.
3. The power cable is connected from the EUT to the support unit 1.
4. The power cable is connected from the EUT to the support unit 1.
5. The power cable is connected from the EUT to the support unit 1.
6. The power cable is connected from the EUT to the support unit 1.
7. The power cable is connected from the EUT to the support unit 1.
8. The power cable is connected from the EUT to the support unit 1.

3. Test Software

No test software was used during testing.

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, OS02-NH

4.2. Test Voltage

120V / 60Hz

4.3. Measurement Procedure

EMI Test (conduction and radiation) : AS/NZS CISPR 22 Class B.

4.4. Test in Compliance with

EMI Test (conduction and radiation) : AS/NZS CISPR 22 Class B.

4.5. Frequency Range Investigated

a. Conducted emission test: from 150 kHz to 30 MHz
b. Radiated emission test: from 30 MHz to 1,000 MHz

4.6. Test Distance

The test distance of radiated emission test from antenna to EUT is 10 M.

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 AS/NZS CISPR 22. 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 producing maximum conducted emissions.

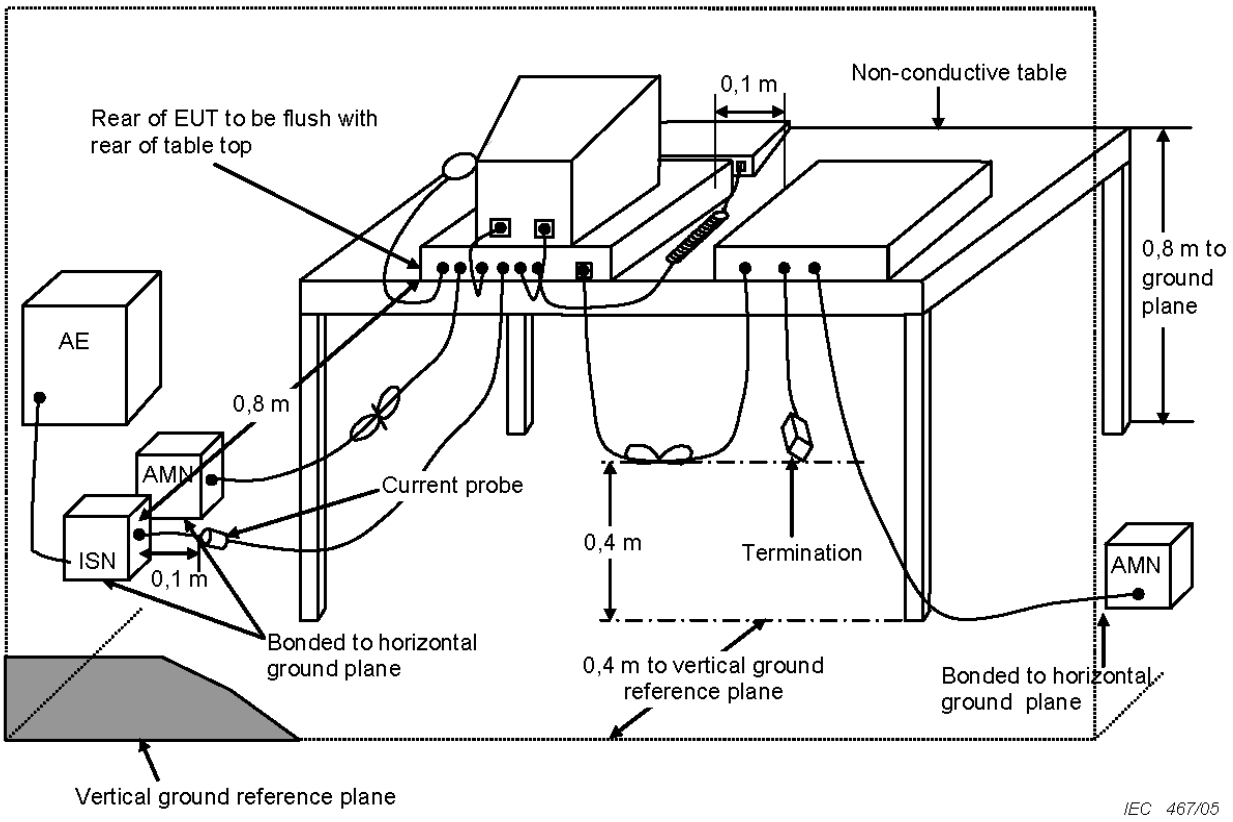
5.1. Description of Major Test Instruments

● Test Receiver	(R&S ESCS 30)
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

5.2. Test Procedures

a. 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.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connect to the other LISN.
d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
e. The CISPR states that a 50 ohm , 50 microhenry LISN should be used.
f. Both sides of AC line were checked for maximum conducted interference.
g. The frequency range from 150 kHz to 30 MHz was searched.
h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

5.3. Typical Test Setup Layout of Conducted Powerline

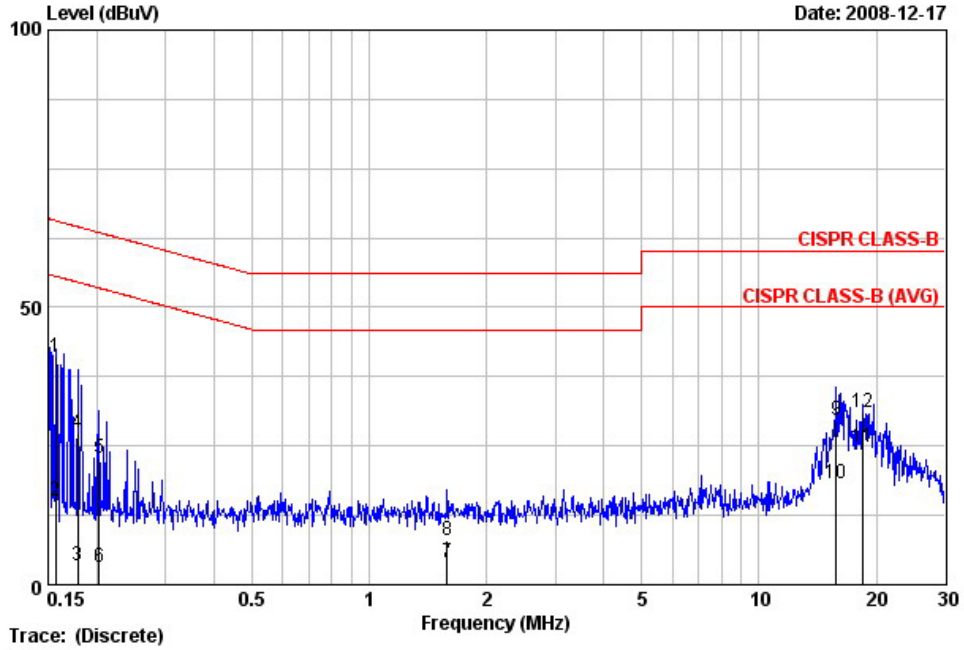


5.4. Test Result of AC Powerline Conducted Emission

5.4.1 Test Mode: Mode 1

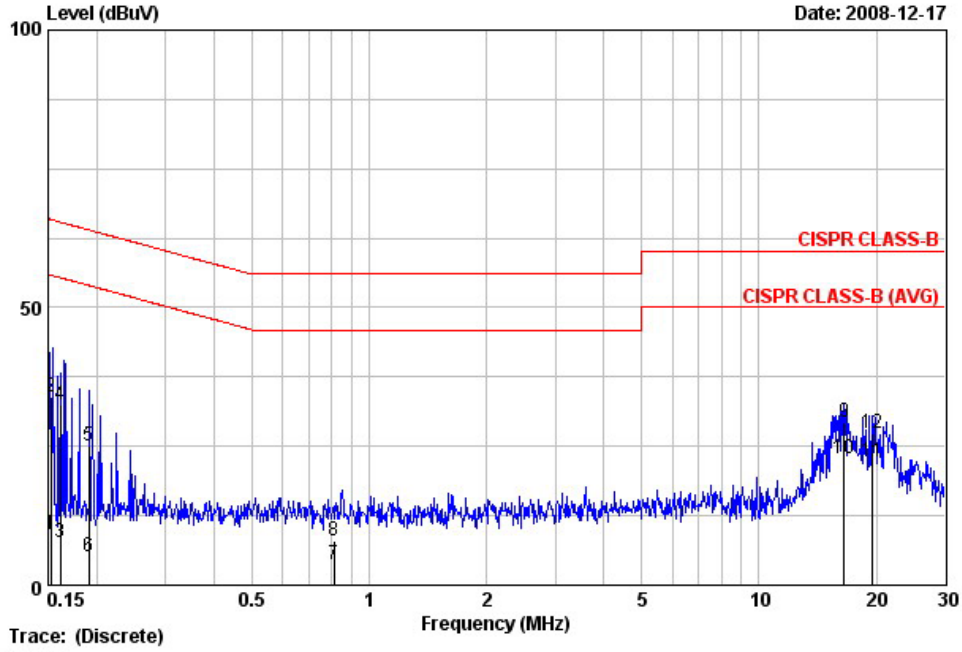
- Frequency Range of Test: from 0.15 MHz to 30 MHz
- Temperature: 20 ℃
- Relative Humidity: 51 %
- Corrected Reading (dBuV) = LISN Factor + Cable Loss + Read Level = Level
- All emissions not reported here are more than 10 dB below the prescribed limit.

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



Site : CO01-NH
Condition : CISPR CLASS-B LISN-NSLK8127-971126 LINE
eut : Power Supply
power : AC 230V
memo : DC 24V
memo :
memo :
memo :

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1 @	0.156	41.16	-24.48	65.65	41.12	0.04	0.00	QP
2	0.156	15.12	-40.52	55.65	15.08	0.04	0.00	AVERAGE
3	0.179	3.53	-51.02	54.55	3.49	0.04	0.00	AVERAGE
4	0.179	27.34	-37.21	64.55	27.30	0.04	0.00	QP
5	0.203	22.78	-40.71	63.49	22.74	0.04	0.00	QP
6	0.203	3.22	-50.27	53.49	3.18	0.04	0.00	AVERAGE
7	1.585	3.98	-42.02	46.00	3.82	0.06	0.10	AVERAGE
8	1.585	7.94	-48.06	56.00	7.78	0.06	0.10	QP
9	15.801	29.66	-30.34	60.00	29.10	0.36	0.20	QP
10	15.801	18.37	-31.63	50.00	17.81	0.36	0.20	AVERAGE
11 @	18.491	24.72	-25.28	50.00	24.10	0.42	0.20	AVERAGE
12	18.491	31.11	-28.89	60.00	30.49	0.42	0.20	QP



Trace: (Discrete)

Site : CO01-NH
Condition : CISPR CLASS-B LISN-NSLK8127-971126 NEUTRAL
eut : Power Supply
power : AC 230V
memo : DC 24V
memo :
memo :
memo :

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.152	9.05	-46.81	55.87	9.02	0.03	0.00	AVERAGE
2	0.152	33.96	-31.90	65.87	33.93	0.03	0.00	QP
3	0.162	7.77	-47.61	55.38	7.74	0.03	0.00	AVERAGE
4	0.162	32.51	-32.87	65.38	32.48	0.03	0.00	QP
5	0.190	24.96	-39.06	64.02	24.93	0.03	0.00	QP
6	0.190	5.12	-48.90	54.02	5.09	0.03	0.00	AVERAGE
7	0.813	3.73	-42.27	46.00	3.62	0.04	0.08	AVERAGE
8	0.813	8.06	-47.94	56.00	7.95	0.04	0.08	QP
9	16.573	29.33	-30.67	60.00	28.86	0.27	0.20	QP
10 @	16.573	22.75	-27.25	50.00	22.28	0.27	0.20	AVERAGE
11	19.453	22.30	-27.70	50.00	21.80	0.30	0.20	AVERAGE
12	19.453	27.36	-32.64	60.00	26.86	0.30	0.20	QP

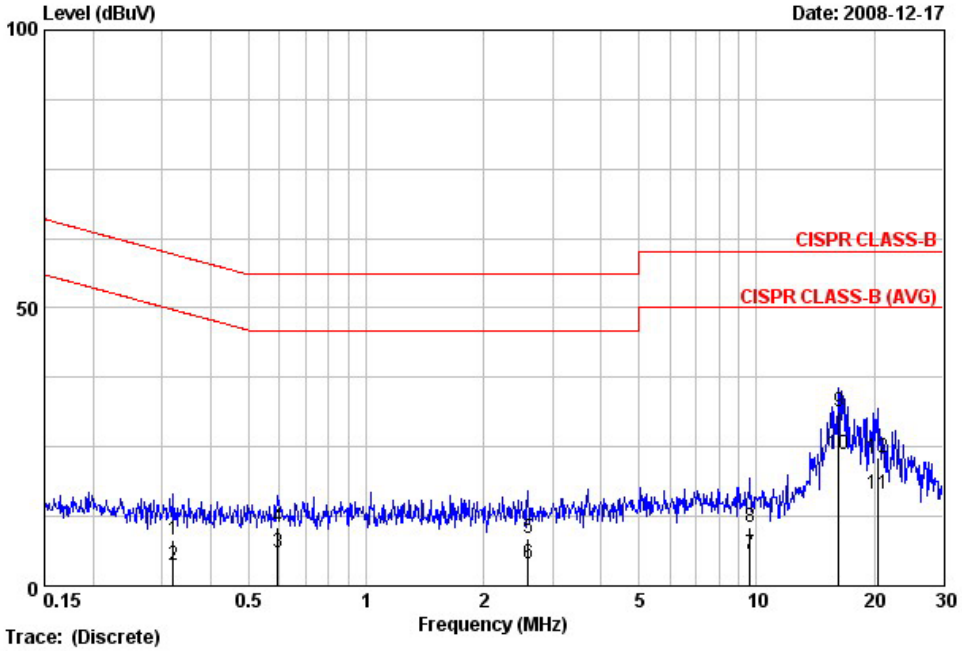
Test Engineer : Eddie

Eddie Lee

5.4.2 Test Mode: Mode 2

- Frequency Range of Test: from 0.15 MHz to 30 MHz
- Temperature: 20 ℃
- Relative Humidity: 51 %
- Corrected Reading (dBuV) = LISN Factor + Cable Loss + Read Level = Level
- All emissions not reported here are more than 10 dB below the prescribed limit.

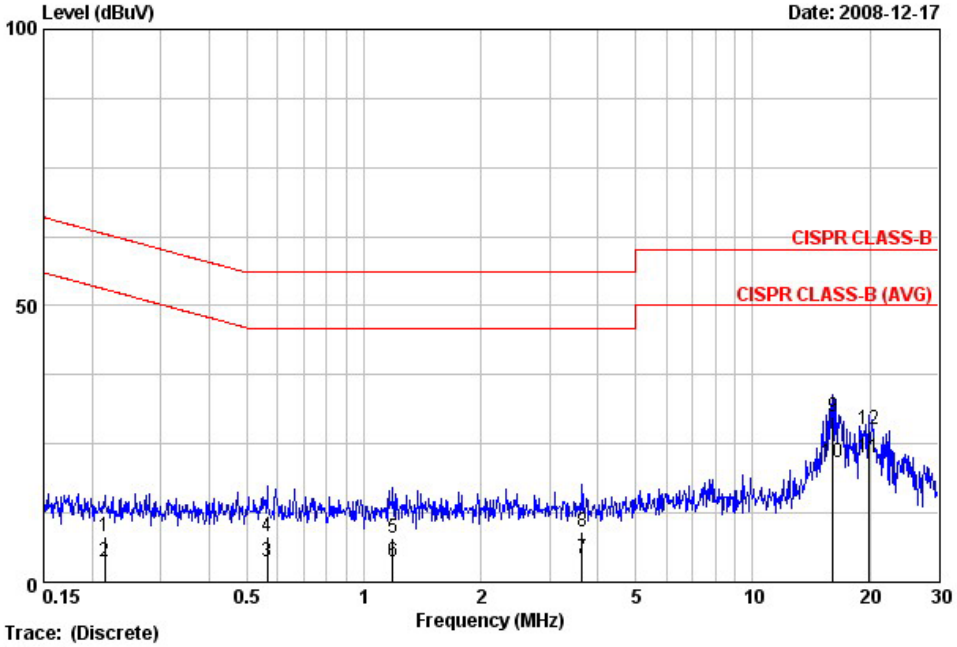
■ The test was passed at the minimum margin that marked by the frame in the following table.



Trace: (Discrete)

Site : CO01-NH
Condition : CISPR CLASS-B LISN-NSLK8127-971126 LINE
eut : Power Supply
power : AC 230V
memo : DC 12V
memo :
memo :
memo :

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.320	8.17	-51.54	59.71	8.13	0.04	0.00	QP
2	0.320	3.68	-46.03	49.71	3.64	0.04	0.00	AVERAGE
3	0.595	5.93	-40.07	46.00	5.84	0.04	0.04	AVERAGE
4	0.595	10.45	-45.55	56.00	10.36	0.04	0.04	QP
5	2.594	8.49	-47.51	56.00	8.32	0.07	0.10	QP
6	2.594	3.98	-42.02	46.00	3.81	0.07	0.10	AVERAGE
7	9.603	5.71	-44.29	50.00	5.28	0.23	0.20	AVERAGE
8	9.603	10.58	-49.42	60.00	10.15	0.23	0.20	QP
9	16.226	31.41	-28.59	60.00	30.84	0.37	0.20	QP
10 @	16.226	23.52	-26.48	50.00	22.95	0.37	0.20	AVERAGE
11	20.377	16.43	-33.57	50.00	15.76	0.47	0.21	AVERAGE
12	20.377	23.18	-36.82	60.00	22.51	0.47	0.21	QP



Trace: (Discrete)

Site : CO01-NH
Condition : CISPR CLASS-B LISN-NSLK8127-971126 NEUTRAL
eut : Power Supply
power : AC 230V
memo : DC 12V
memo :
memo :
memo :

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.215	8.32	-54.69	63.01	8.29	0.03	0.00	QP
2	0.215	3.72	-49.29	53.01	3.69	0.03	0.00	AVERAGE
3	0.564	3.71	-42.29	46.00	3.64	0.03	0.04	AVERAGE
4	0.564	8.14	-47.86	56.00	8.07	0.03	0.04	QP
5	1.184	7.96	-48.04	56.00	7.82	0.04	0.10	QP
6	1.184	3.65	-42.35	46.00	3.51	0.04	0.10	AVERAGE
7	3.642	4.33	-41.67	46.00	4.14	0.09	0.10	AVERAGE
8	3.642	9.05	-46.95	56.00	8.86	0.09	0.10	QP
9	16.055	30.00	-30.00	60.00	29.54	0.26	0.20	QP
10	16.055	21.52	-28.48	50.00	21.06	0.26	0.20	AVERAGE
11	19.845	22.42	-27.58	50.00	21.92	0.30	0.20	AVERAGE
12	19.845	27.68	-32.32	60.00	27.18	0.30	0.20	QP

Test Engineer : Eddie

Eddie Lee

5.5. Photographs of Conducted Powerline Test Configuration

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

FRONT VIEW

REAR VIEW

6. Test of Radiated Emission

Radiated emissions from 30 MHz to 1000 MHz were measured with a bandwidth of 120 kHz according to the methods defines in AS/NZS CISPR 22. 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. Major Measuring Instruments

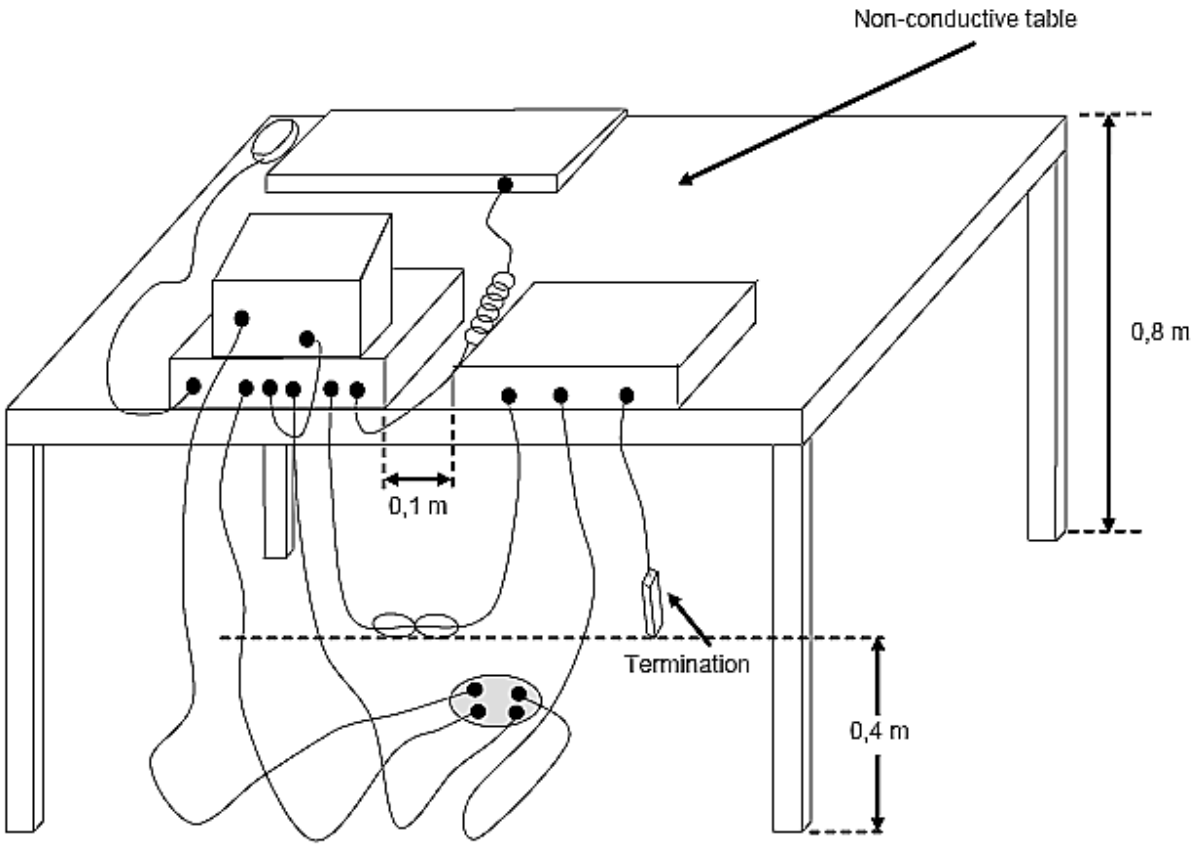
● Amplifier	(HP 8447D)
RF Gain	25 dB
Signal Input	0.1 MHz - 1.3 GHz

● Test Receiver	(R&S ESCI)
Resolution Bandwidth	120 kHz
Frequency Band	9 kHz - 3 GHz
Quasi-Peak Detector	ON for Quasi-Peak Mode
	OFF for Peak Mode

6.2. Test Procedures

a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 10 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 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.

6.3. Typical Test Setup Layout of Radiated Emission

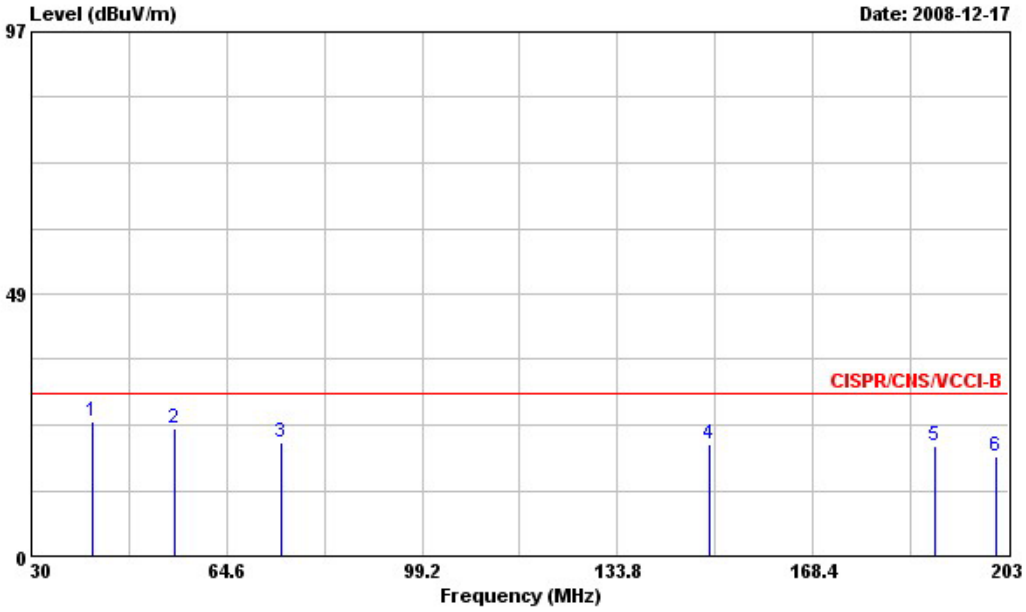


6.4. Test Result of Radiated Emission

6.4.1. Test Mode: Mode 1

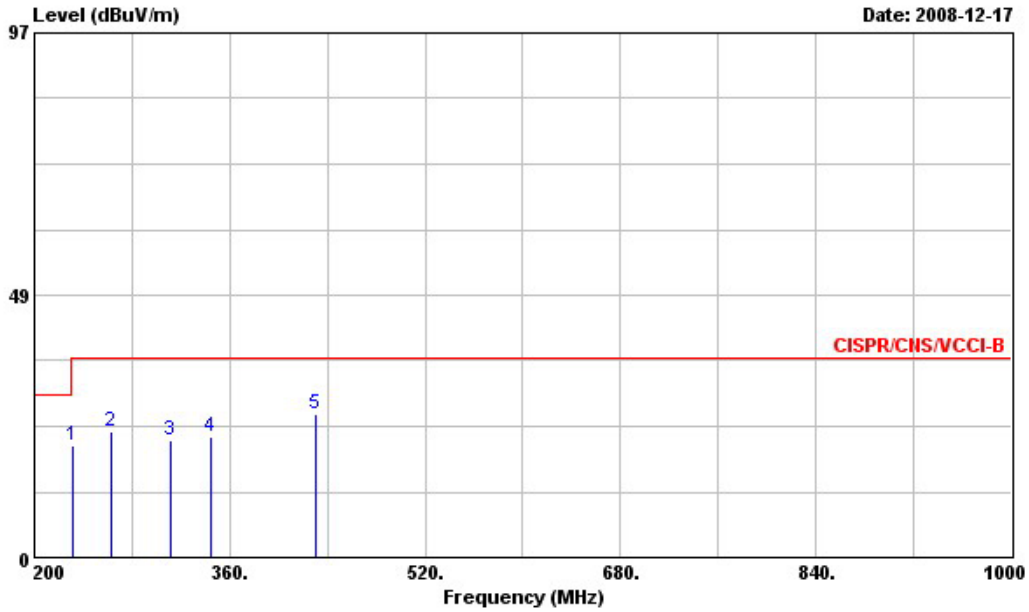
- Frequency Range of Test: from 30 MHz to 1,000 MHz
- Temperature: 20 ℃
- Relative Humidity: 50 %
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading : Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

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



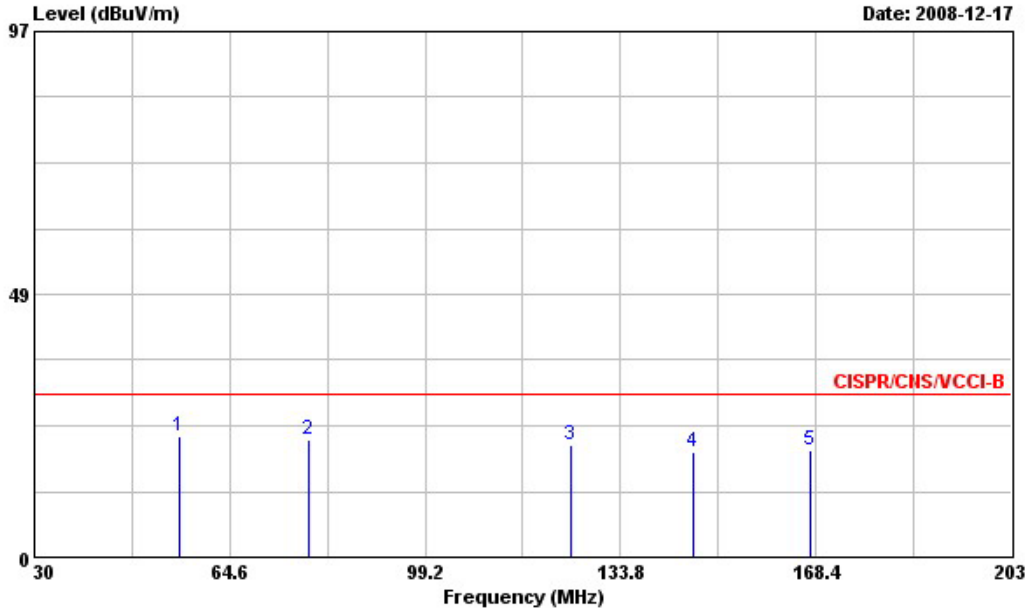
Site : OS02-NH
Condition : CISPR/CNS/VCCI-B 10m OS02-ANT-12-20-2007 VERTICAL
EUT : POWER SUPPLY
POWER : 230VAC
MEMO : 24VDC

	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 @	40.900	24.93	-5.07	30.00	41.69	13.70	0.94	31.40	Peak	100	180
2	55.430	23.70	-6.30	30.00	46.69	7.30	1.08	31.37	Peak	---	---
3	74.290	21.00	-9.00	30.00	44.43	6.63	1.24	31.30	Peak	---	---
4	150.060	20.75	-9.25	30.00	39.82	10.20	1.73	31.00	Peak	---	---
5	190.030	20.45	-9.55	30.00	40.21	9.15	1.93	30.84	Peak	---	---
6	200.750	18.37	-11.63	30.00	37.91	9.26	2.00	30.80	Peak	---	---



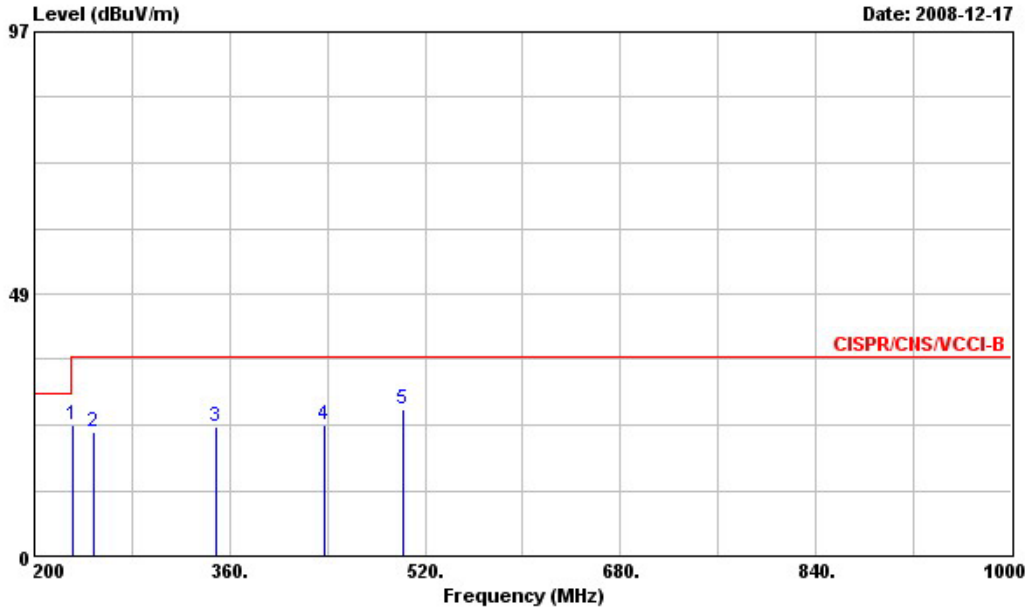
Site : OS02-NH
Condition : CISPR/CNS/VCCI-B 10m OS02-ANT-12-20-2007 VERTICAL
EUT : POWER SUPPLY
POWER : 230VAC
MEMO : 24VDC

	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	231.200	20.54	-16.46	37.00	38.07	11.06	2.15	30.74	Peak	---	---
2	263.200	23.20	-13.80	37.00	39.06	12.50	2.32	30.68	Peak	---	---
3	311.200	21.73	-15.27	37.00	36.26	13.56	2.57	30.66	Peak	---	---
4	344.800	22.45	-14.55	37.00	36.31	14.29	2.71	30.86	Peak	---	---
5	430.400	26.60	-10.40	37.00	38.73	16.10	3.06	31.29	Peak	---	---



Site : OS02-NH
Condition : CISPR/CNS/VCCI-B 10m OS02-ANT-12-20-2007 HORIZONTAL
EUT : POWER SUPPLY
POWER : 230VAC
MEMO : 24VDC

	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	55.600	22.34	-7.66	30.00	45.33	7.30	1.08	31.37	Peak	---	---
2	78.610	21.74	-8.26	30.00	44.91	6.86	1.26	31.29	Peak	---	---
3	124.980	20.69	-9.31	30.00	38.37	11.86	1.56	31.10	Peak	---	---
4	146.600	19.39	-10.61	30.00	38.14	10.55	1.71	31.01	Peak	---	---
5	167.360	19.63	-10.37	30.00	39.16	9.56	1.84	30.93	Peak	---	---



Site : OS02-NH
Condition : CISPR/CNS/VCCI-B 10m OS02-ANT-12-20-2007 HORIZONTAL
EUT : POWER SUPPLY
POWER : 230VAC
MEMO : 24VDC

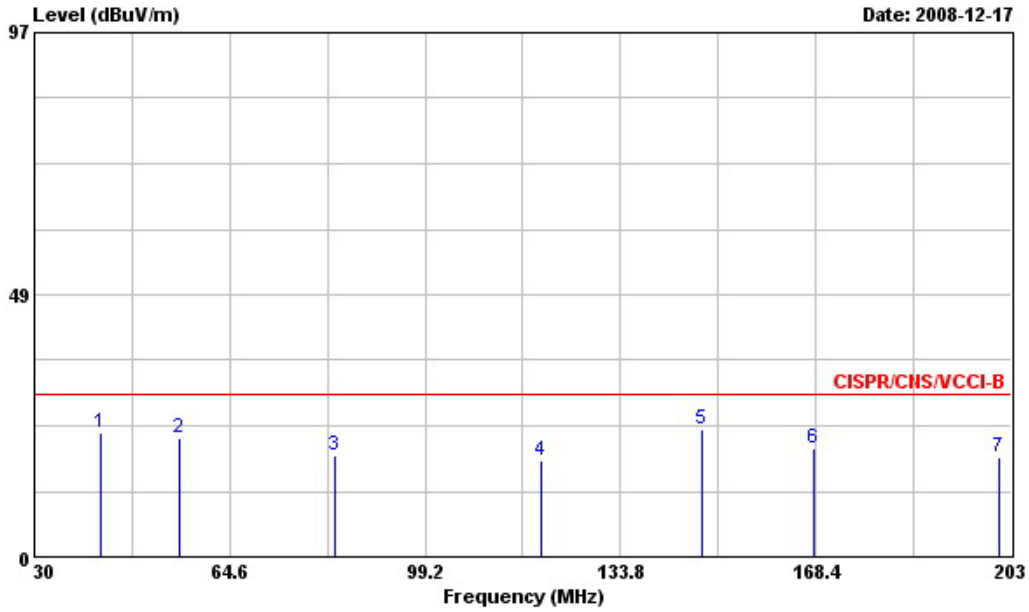
	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	231.200	24.16	-12.84	37.00	41.69	11.06	2.15	30.74	Peak	---	---
2	248.800	23.07	-13.93	37.00	39.37	12.16	2.24	30.70	Peak	---	---
3	348.800	23.77	-13.23	37.00	37.56	14.37	2.73	30.89	Peak	---	---
4	437.600	24.34	-12.66	37.00	36.32	16.24	3.09	31.31	Peak	---	---
5	501.600	27.25	-9.75	37.00	37.85	17.54	3.36	31.50	Peak	---	---

Test Engineer: Chas Yeh

6.4.2. Test Mode: Mode 2

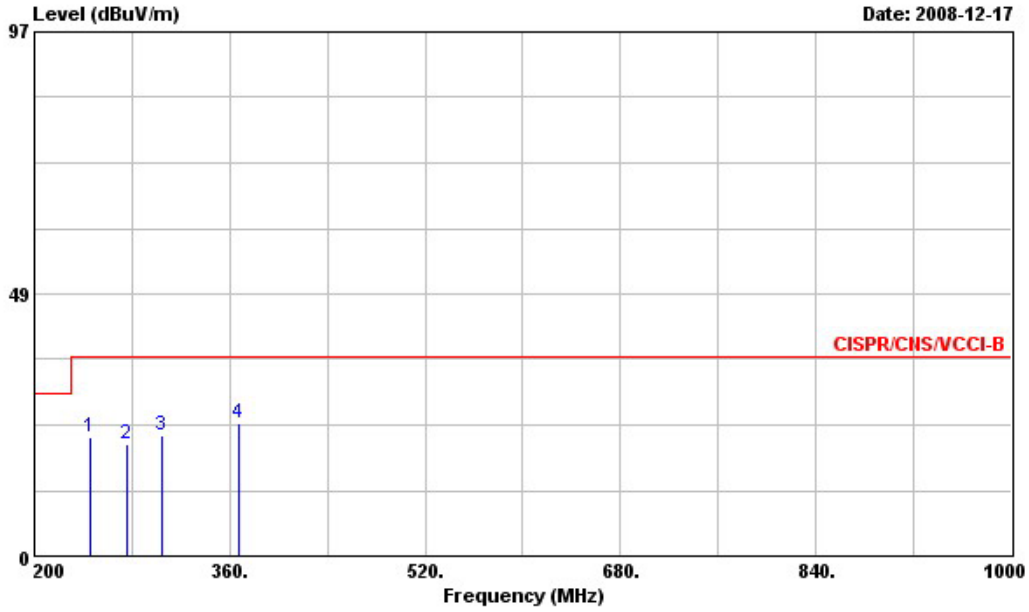
- Frequency Range of Test: from 30 MHz to 1,000 MHz
- Temperature: 20 ℃
- Relative Humidity: 50 %
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading : Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

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



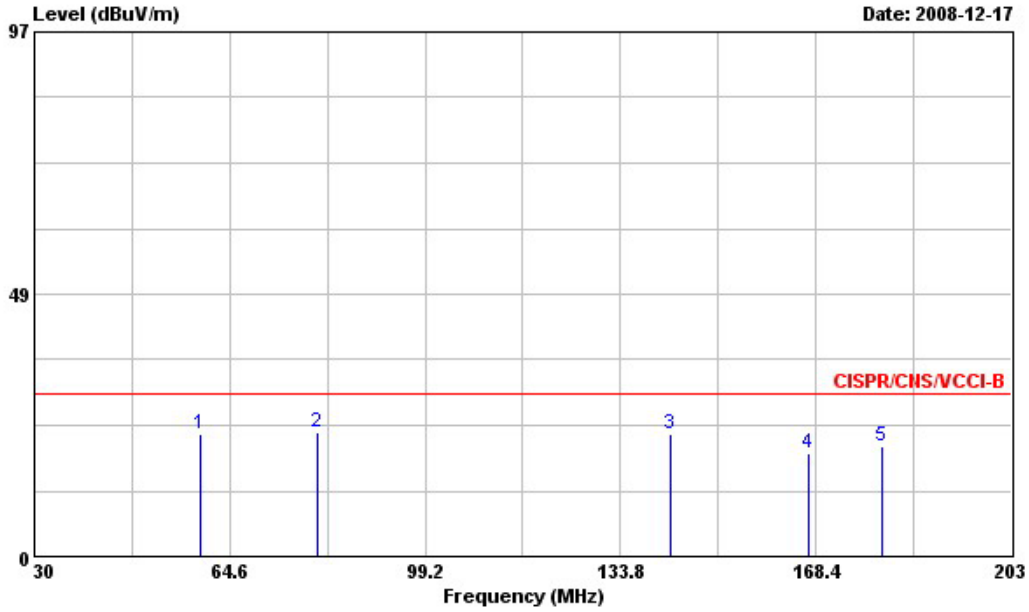
Site : OS02-NH
Condition : CISPR/CNS/VCCI-B 10m OS02-ANT-12-20-2007 VERTICAL
EUT : POWER SUPPLY
POWER : 230VAC
MEMO : 12VDC

	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	41.760	22.83	-7.17	30.00	40.09	13.19	0.95	31.40	Peak	---	---
2	55.600	22.08	-7.92	30.00	45.07	7.30	1.08	31.37	Peak	---	---
3	83.280	18.63	-11.37	30.00	41.10	7.51	1.29	31.27	Peak	---	---
4	119.790	17.63	-12.37	30.00	35.34	11.88	1.53	31.12	Peak	---	---
5	148.160	23.49	-6.51	30.00	42.41	10.37	1.72	31.01	Peak	100	180
6	168.050	19.98	-10.02	30.00	39.51	9.56	1.84	30.93	Peak	---	---
7	200.750	18.38	-11.62	30.00	37.92	9.26	2.00	30.80	Peak	---	---



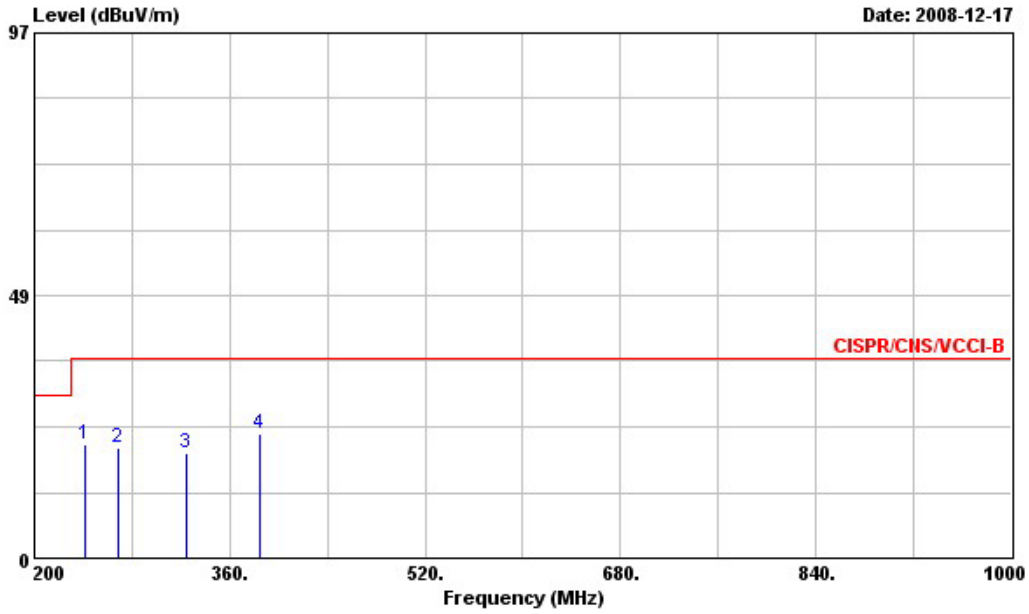
Site : OS02-NH
Condition : CISPR/CNS/VCCI-B 10m OS02-ANT-12-20-2007 VERTICAL
EUT : POWER SUPPLY
POWER : 230VAC
MEMO : 12VDC

	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	245.600	21.86	-15.14	37.00	38.42	11.93	2.22	30.71	Peak	---	---
2	276.000	20.55	-16.45	37.00	36.02	12.80	2.38	30.65	Peak	---	---
3	304.800	22.17	-14.83	37.00	36.85	13.41	2.53	30.62	Peak	---	---
4	367.200	24.55	-12.45	37.00	37.98	14.77	2.80	31.00	Peak	---	---



Site : OS02-NH
Condition : CISPR/CNS/VCCI-B 10m OS02-ANT-12-20-2007 HORIZONTAL
EUT : POWER SUPPLY
POWER : 230VAC
MEMO : 12VDC

	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	59.410	22.62	-7.38	30.00	46.24	6.64	1.10	31.36	Peak	---	---
2	80.170	23.09	-6.91	30.00	46.13	6.97	1.27	31.28	Peak	---	---
3	142.620	22.49	-7.51	30.00	40.95	10.89	1.68	31.03	Peak	---	---
4	167.020	19.16	-10.84	30.00	38.68	9.59	1.83	30.94	Peak	---	---
5	180.160	20.22	-9.78	30.00	40.12	9.09	1.89	30.88	Peak	---	---



Site : OS02-NH
Condition : CISPR/CNS/VCCI-B 10m OS02-ANT-12-20-2007 HORIZONTAL
EUT : POWER SUPPLY
POWER : 230VAC
MEMO : 12VDC

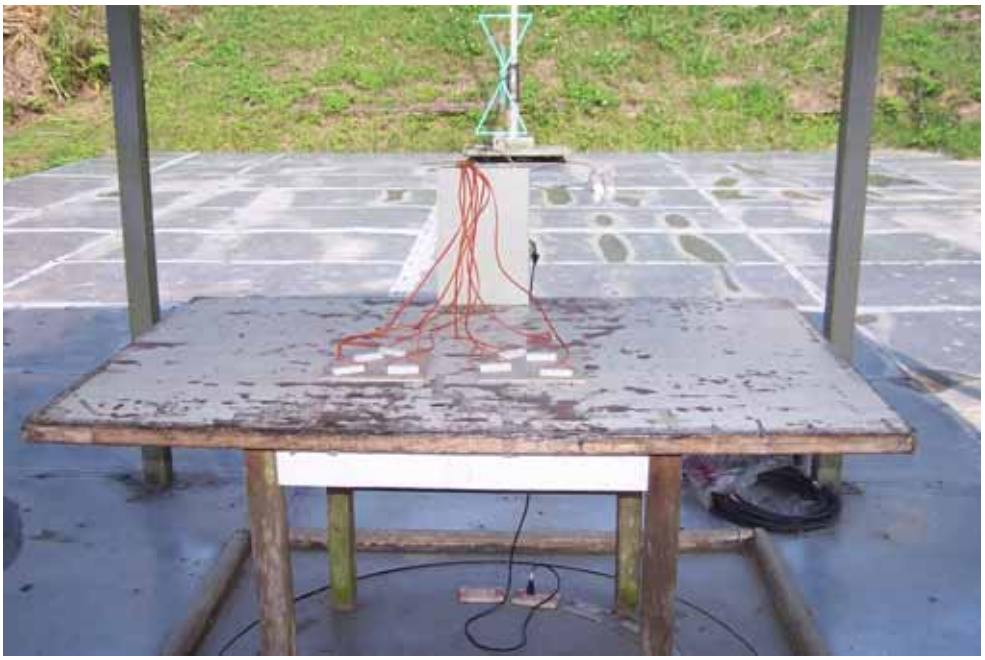
	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	241.600	21.05	-15.95	37.00	37.87	11.70	2.20	30.72	Peak	---	---
2	268.800	20.48	-16.52	37.00	36.17	12.63	2.34	30.66	Peak	---	---
3	324.800	19.53	-17.47	37.00	33.79	13.85	2.64	30.75	Peak	---	---
4	384.000	22.82	-14.18	37.00	35.92	15.13	2.87	31.10	Peak	---	---

Test Engineer: _____
Chas Yeh

6.5. Photographs of Radiated Emission Test Configuration

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

FRONT VIEW



REAR VIEW

7. List of Measuring Equipment Used

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Receiver	R&S	ESCS 30	100357	9 kHz - 2.75 GHz	Nov. 13, 2008	Conduction (CO01-NH)
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz – 30MHz	Nov. 26, 2008	Conduction (CO01-NH)
LISN	KYORITSU	KNW-407	8-1010-15	9kHz – 30MHz	Dec.20, 2007	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. 15, 2008	Conduction (CO01-NH)
Open Area Test Site	SPORTON	OATS-10	OS02-NH	30 MHz - 1 GHz 10m, 3m	Jan. 05, 2008	Radiation (OS02-NH)
Amplifier	HP	8447D	2944A07523	0.1 MHz - 1.3 GHz	Apr. 17, 2008	Radiation (OS02-NH)
Receiver	R&S	ESCI	100497	9 kHz – 3 GHz	Jan. 09, 2008	Radiation (OS02-NH)
Bilog Antenna	CHASE	CBL6122B	2884	30 MHz - 2 GHz	Dec. 20, 2007	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	CB002	30 MHz - 1 GHz	Sep. 18, 2008	Radiation (OS02-NH)

※ Calibration Interval of instruments listed above is one year.

8. Uncertainty of Test Site

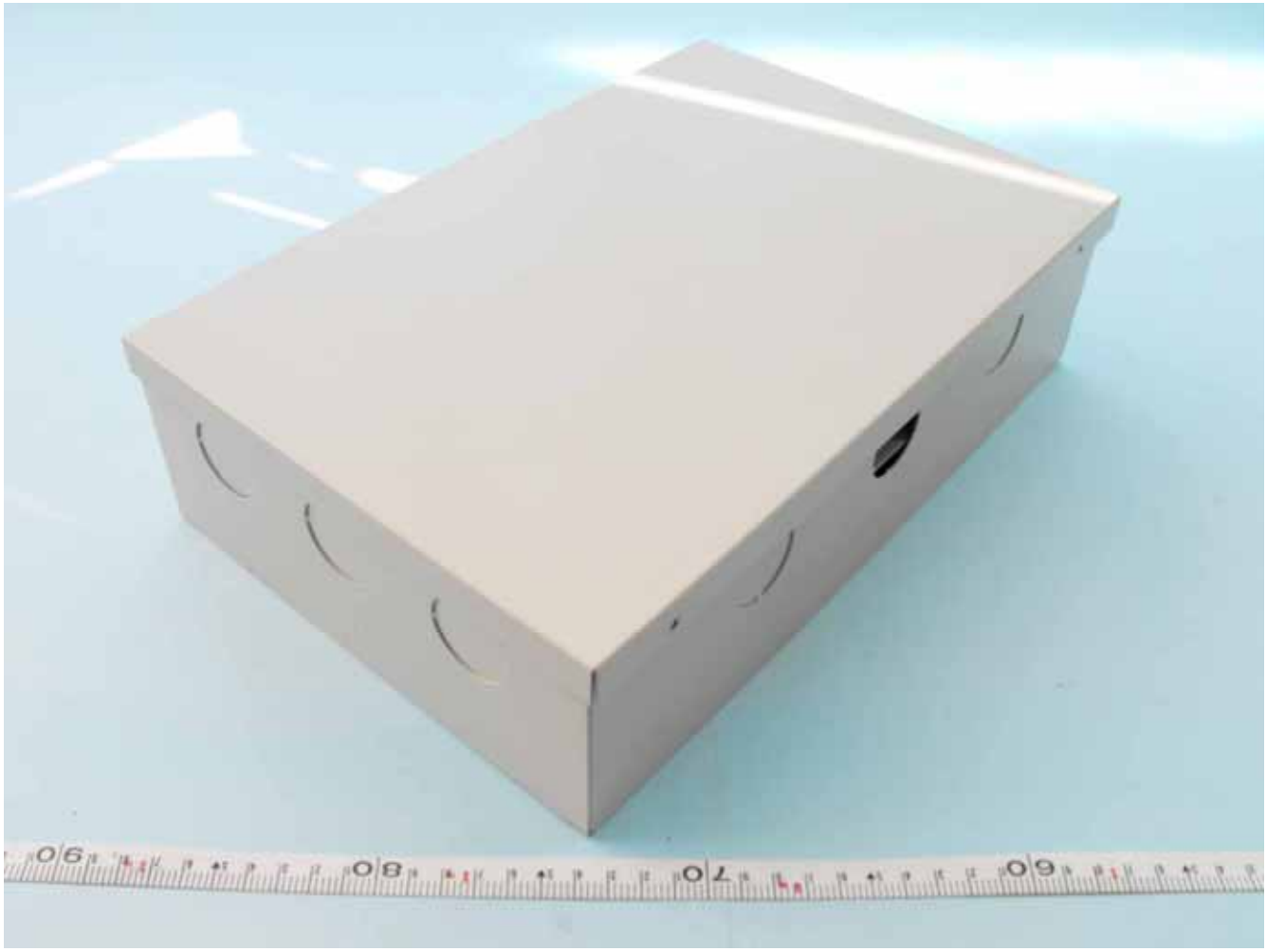
Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

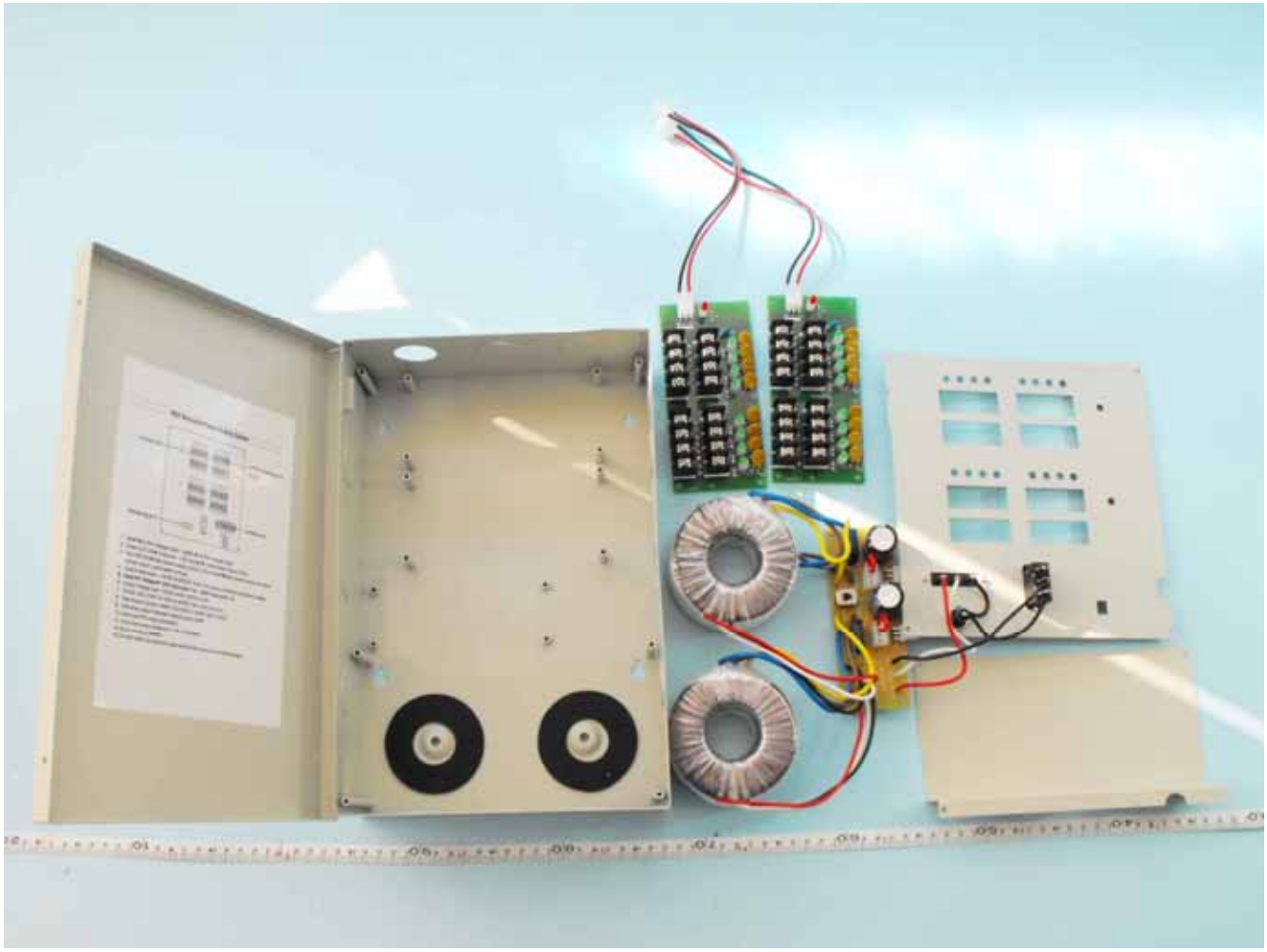
Contribution	Uncertainty of x_i		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.20	Normal(k=2)	0.10
Cable loss	0.19	Normal(k=2)	0.10
AMN insertion loss	2.50	Rectangular	0.63
Receiver Spec	1.50	Rectangular	0.43
Site imperfection	1.75	Rectangular	1.01
Mismatch	+0.44/-0.46	U-shape	0.32
combined standard uncertainty Uc(y)	**1.31**		
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	**2.62**		

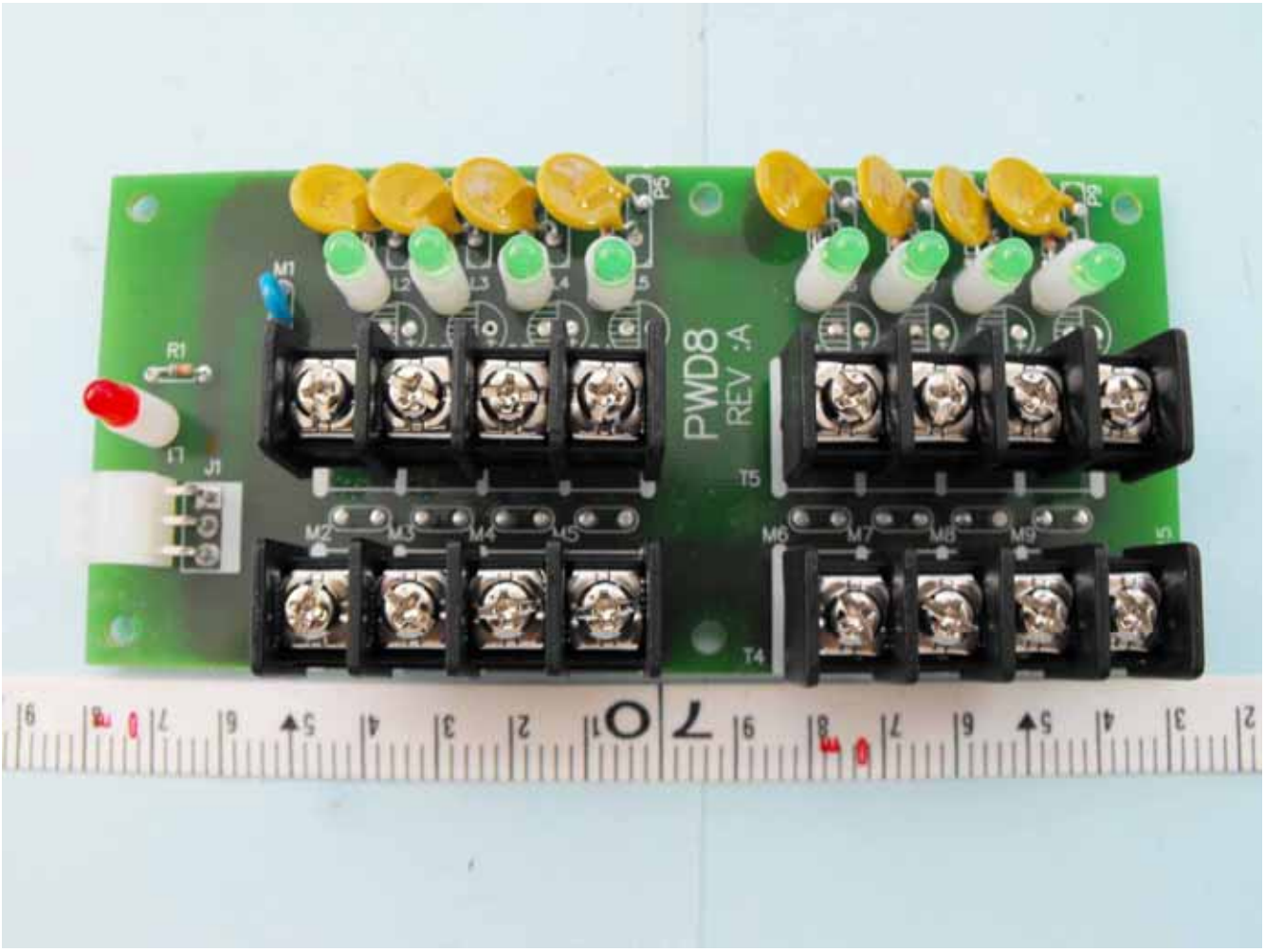
Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

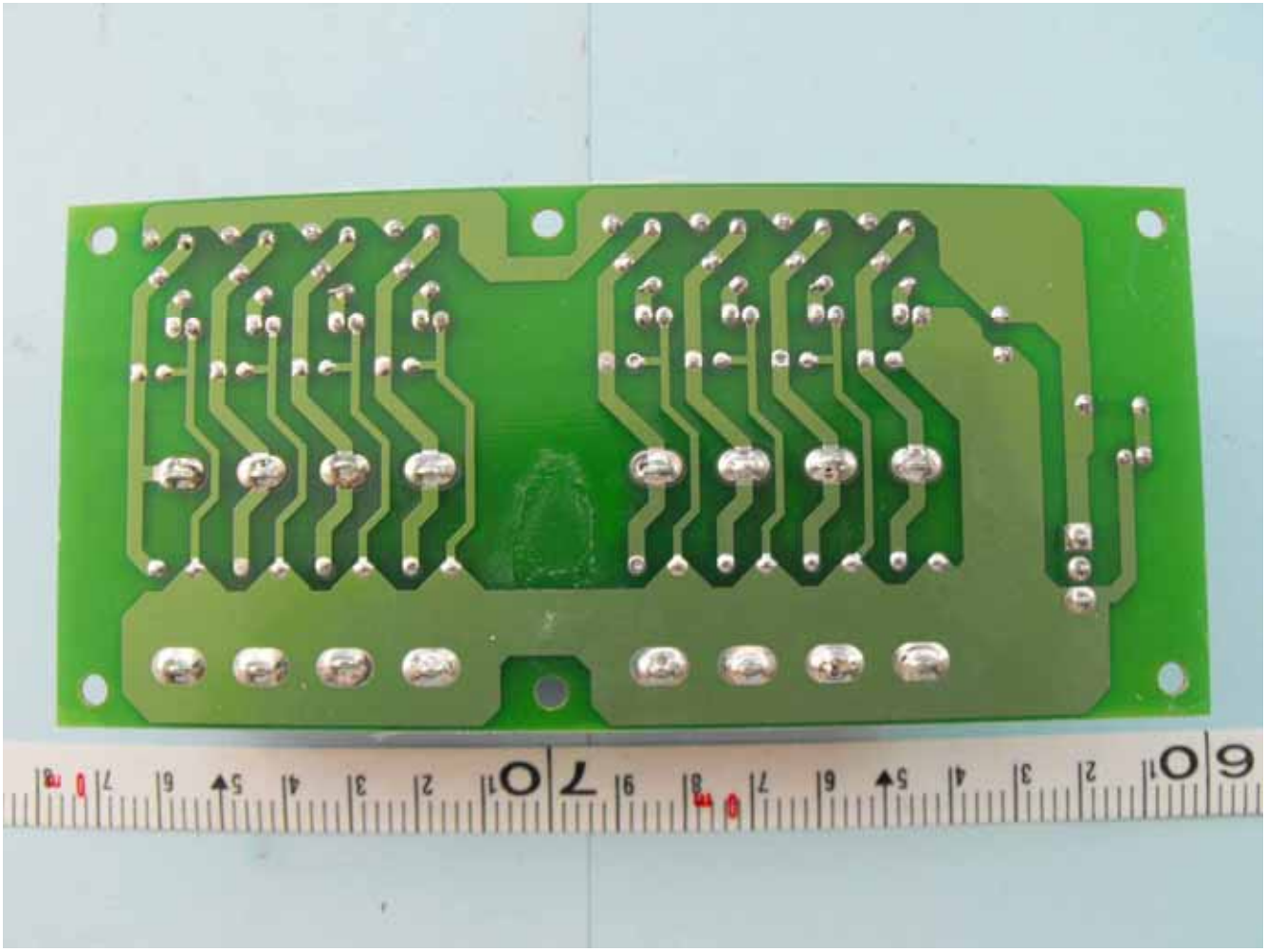
Contribution	Uncertainty of x_i		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.27	Normal(k=2)	0.14
Antenna factor calibration	0.92	Normal(k=2)	0.46
Cable loss calibration	0.16	Normal(k=2)	0.08
Pre Amplifier Gain calibration	0.17	Normal(k=2)	0.09
RCV/SPA specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site imperfection	1.99	Rectangular	1.15
Mismatch	+0.50/-0.54	U-shaped	0.37
combined standard uncertainty Uc(y)	**1.52**		
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	**3.04**		

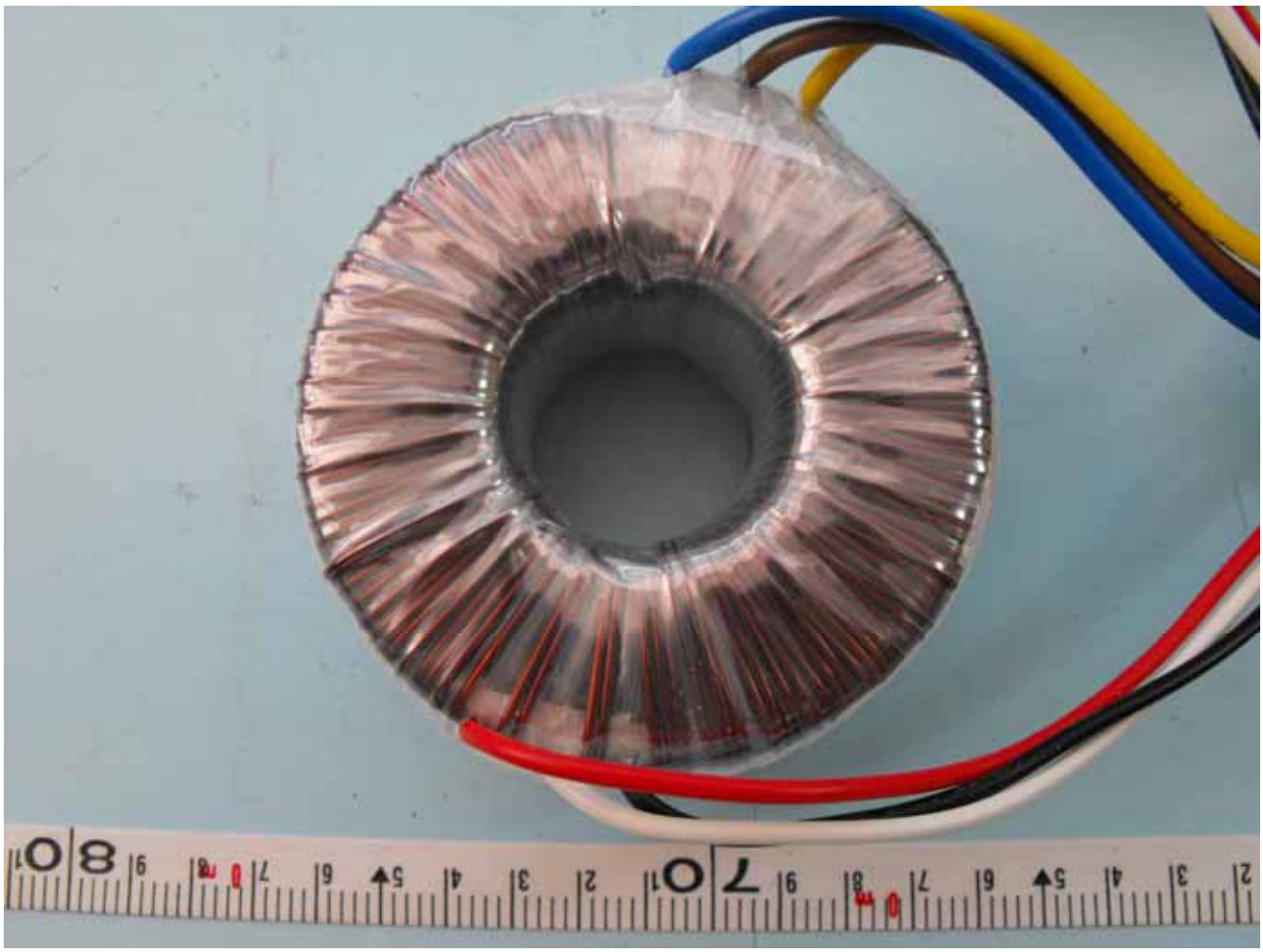
APPENDIX A. Photographs of EUT

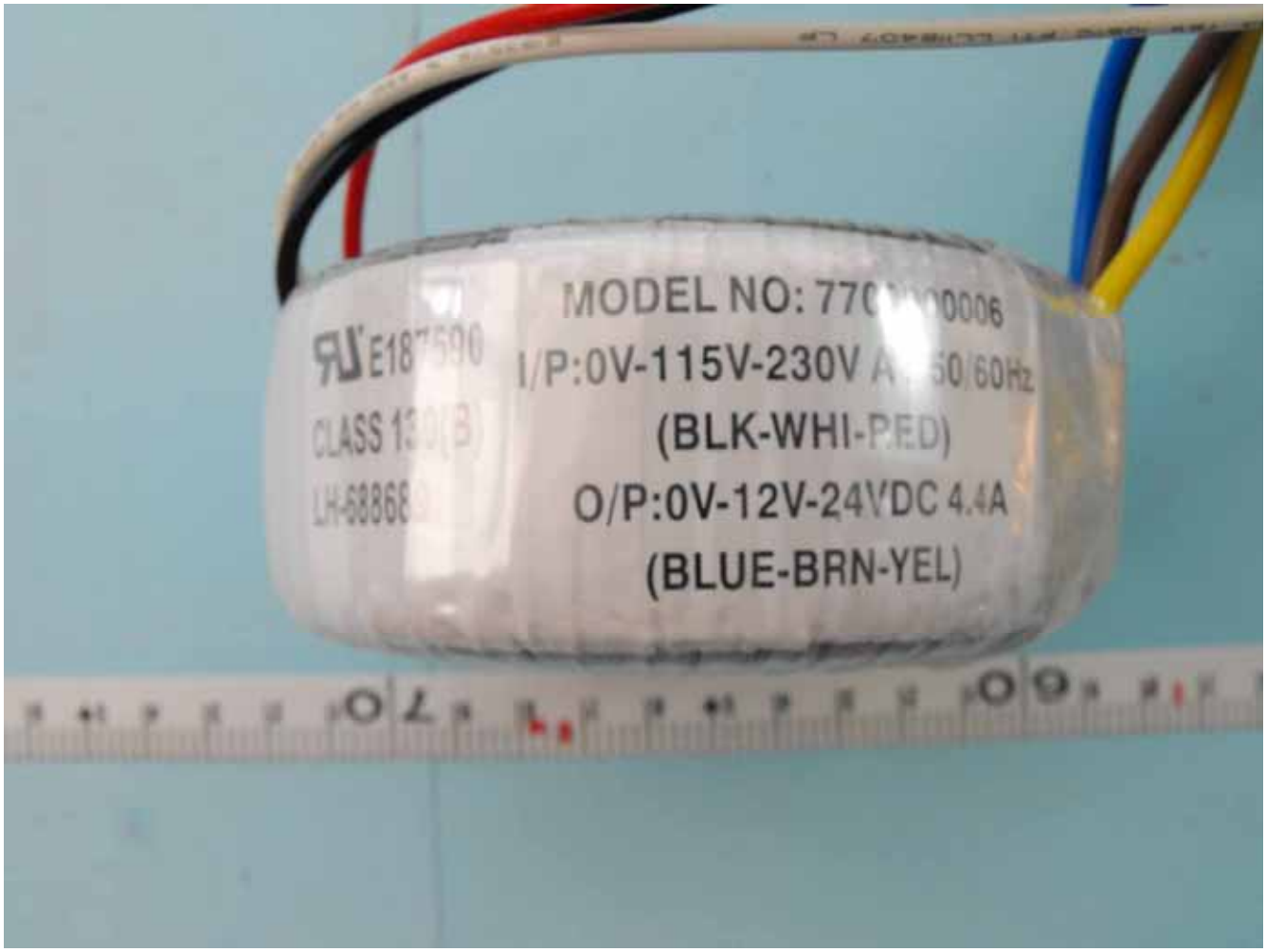





PWD8
REV :A
M1
R1
L1
J1
M2
M3
M4
M5
M6
M7
M8
M9
T4
T5






MODEL NO: 770
0006
I/P:0V-115V-230V
50/60Hz
(BLK-WHI-RED)
O/P:0V-12V-24VDC 4.4A
(BLUE-BRN-YEL)