

# **FCC TEST REPORT**

for

47 CFR, Part 15, Subpart B

Equipment : Broadband Booster  
Model No. : HBB1  
FCC ID : SOY-HBB1  
Filing Type : Certification  
Applicant : **Hawking Technologies, Inc**  
15281A Barranca parkway, Irvine, CA 92618 USA

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***SPORTON International Inc.***

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

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### **History of this test report**

Original Report Issue Date: Aug. 03, 2005

No additional attachment.

Additional attachment were issued as following record:

Attachment No.	Issue Date	Description

# **CERTIFICATE OF COMPLIANCE**

for

47 CFR, Part 15, Subpart B

Equipment : Broadband Booster  
Model No. : HBB1  
FCC ID : SOY-HBB1  
Applicant : **Hawking Technologies, Inc**  
15281A Barranca parkway, Irvine, CA 92618 USA

**I HEREBY** CERTIFY THAT:

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 - 2003** and the energy emitted by this equipment was **passed FCC Part 15** in both radiated and conducted emission class B limits. Testing was carried out on **Jul. 29, 2005** at **SPORTON International Inc.** LAB.

  
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**

Hawking Technologies, Inc  
15281A Barranca parkway, Irvine, CA 92618 USA

### **1.2. Manufacturer**

Same as 1.1

### **1.3. Basic Description of Equipment under Test**

Equipment : Broadband Booster  
Model No. : HBB1  
FCC ID : SOY-HBB1  
Trade Name : Hawking  
TP Cable : Non-Shielded, 20.0m  
TP Cable : Non-Shielded, 1.0m  
Power Supply Type : Linear  
AC Power Input : Wall-mount, 2pin  
DC Power Cable : Non-Shielded, 1.8m

### **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 personal computer and peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner which tended to maximize its emission characteristics in a typical application.
- b. The complete test system included remote workstation, hp compaq PC, DELL Monitor, HP PS/2Mouse, HP PS/2 Keyboard, HP Printer, ACEEX Modem and EUT for EMI test. The remote workstation included hp compaq PC, DELL Monitor, HP PS/2Mouse and HP PS/2 Keyboard.
- c. The following test modes were performed for test:  
 Mode 1. Adapter: AD-051A5  
 Mode 2. Adapter: UL110-0515
- d. Frequency range investigated: conduction 150 kHz to 30 MHz, radiation 30 MHz to 1,000 MHz.

### **2.2. Description of Test System**

Support Unit 1. -- Personal Computer (hp compaq) – for local & remote workstation

FCC ID	: N/A
Model No.	: D330uT
Power Supply Type	: Switching
Power Cord	: Non-Shielded
Serial No.	: SP0012
Remark	: This support device was tested to comply with FCC standards and authorized under a declaration of conformity.

Support Unit 2. -- Monitor (DELL) – for local & remote workstation

FCC ID	: N/A
Model No.	: E770s
Power Supply Type	: Switching
Power Cord	: Non-Shielded
Serial No.	: SP0029
Data Cable	: Shielded, 1.8m
Remark	: This support device was tested to comply with FCC standards and authorized under a declaration of conformity.

Support Unit 3. -- PS/2 Mouse (HP) – for local & remote workstation

FCC ID	: JNZ211443
Model No.	: M-S69
Serial No.	: SP0031
Data Cable	: Non-Shielded, 1.85m

## Support Unit 4. -- PS/2 Keyboard (HP) – for local &amp; remote workstation

FCC ID : N/A  
Model No. : KB-0133  
Serial No. : SP0046  
Data Cable : Shielded, 360 degree via metal backshells, 1.9m  
Remark : This support device was tested to comply with FCC standards and authorized under a declaration of conformity.

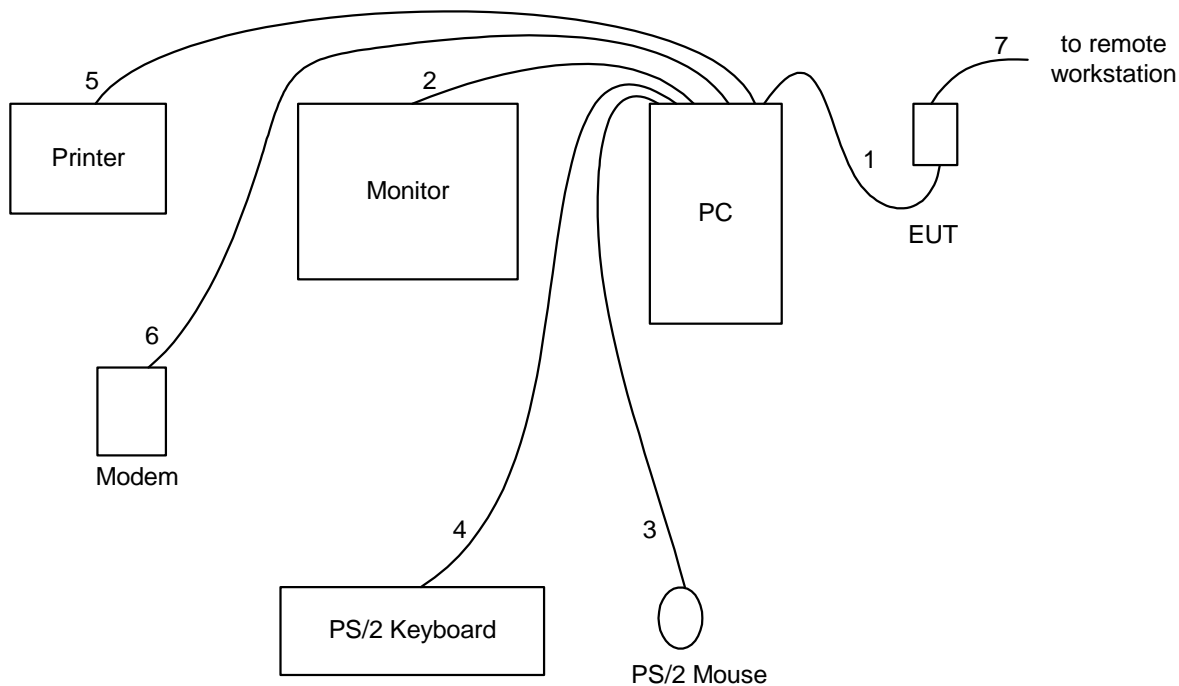
## Support Unit 5. -- Printer (HP) – for local workstation

FCC ID : B94C2642X  
Model No. : C2642X  
Power Supply Type : Linear  
Power Cord : Non-Shielded  
Serial No. : SP0058  
Data Cable : Shielded, 1.2m

## Support Unit 6. -- Modem (ACEEX) – for local workstation

FCC ID : IFAXDM1414  
Model No. : DM1414  
Power Supply Type : Linear  
Power Cord : Non-Shielded  
Serial No. : SP0055  
Data Cable : Shielded, 360 degree via metal backshells, 1.15m

2.3. Connection Diagram of Test System



1. The TP cable is connected from the PC to the EUT.
2. The I/O cable is connected from the PC to the support unit 2.
3. The I/O cable is connected from the PC to the support unit 3
4. The I/O cable is connected from the PC to the support unit 4.
5. The I/O cable is connected from the PC to the support unit 5.
6. The I/O cable is connected from the PC to the support unit 6.
7. The TP cable is connected from the EUT to the remote workstation.



### **3. Test Software**

An executive program, EMCTEST.EXE under WIN XP, 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 sends " H " messages to the internal Hard Disk, and the Hard Disk reads and writes the message.
- g. Repeat the steps from c to f.

At the same time, "Ping " was executed to link with the remote workstation to receive and transmit data by TP 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

### **4.2. Test Voltage**

110V/60Hz

### **4.3. Standard for Methods of Measurement**

ANSI C63.4-2003

### **4.4. Test in Compliance with**

FCC Part 15, Subpart B

### **4.5. Frequency Range Investigated**

- a. Conduction: from 150 kHz to 30 MHz
- b. Radiation: from 30 MHz to 1,000 MHz

### **4.6. Test Distance**

The test distance of radiated emission 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 ANSI C63.4-2003 Section 3.1. 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.

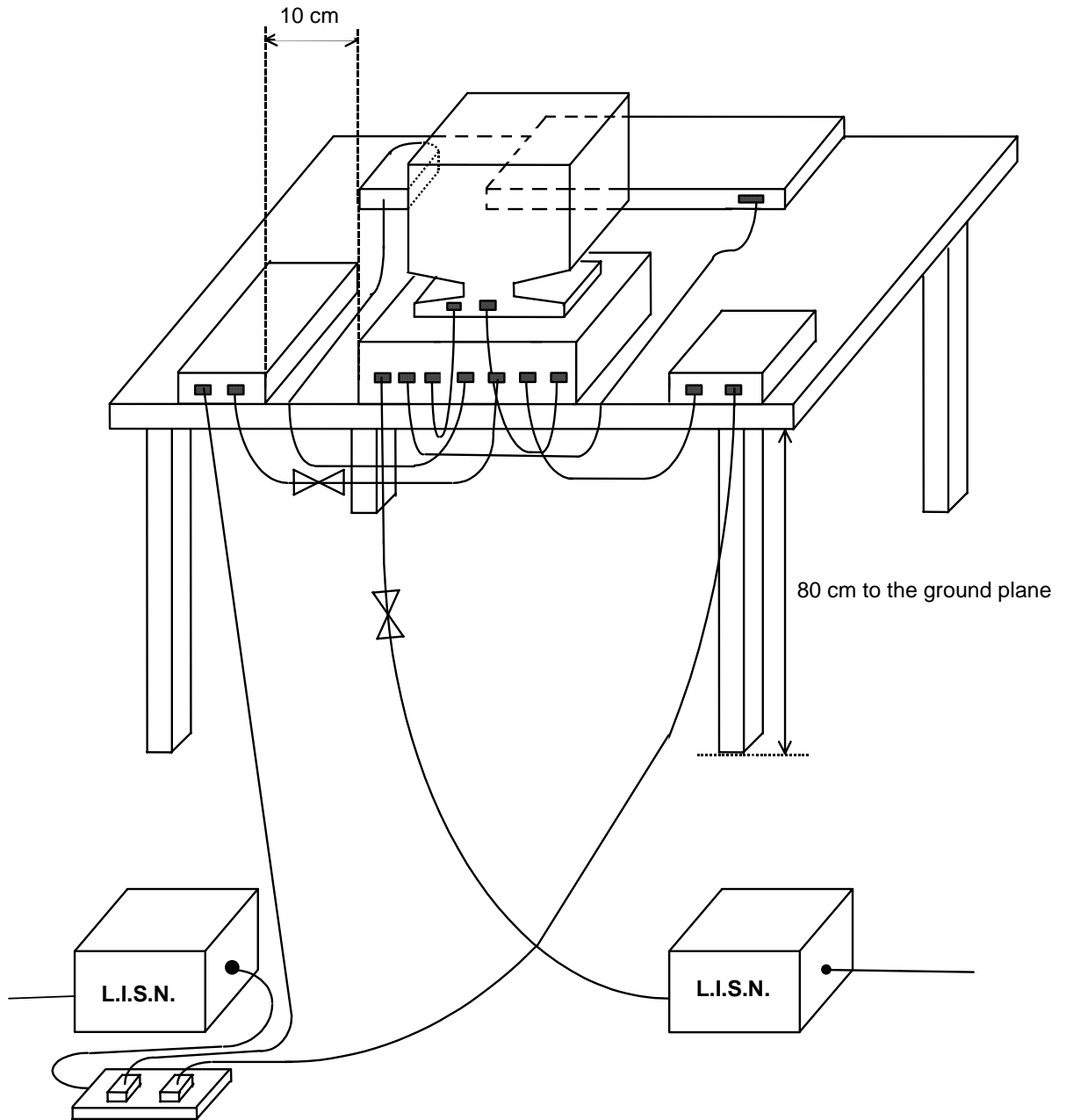
### **5.1. Major Measuring Instruments**

- Test Receiver ( R&S ESH3 )
  - 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 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters 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 FCC 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: 30 °C
- Relative Humidity: 49 %
- Test Date: Jul. 13, 2005
- Corrected Reading (dBuV) = Insertion 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 under gray area in the following table**

**LINE**

Frequency (MHz)	Level (dBμV)	Over Limit(dB)	Limit Line(dBuV)	Read Level (dBμV)	Insertion Loss (dB)	Cable Loss (dB)	Detect Mode (QP or AV)
0.166	34.20	-30.96	65.16	34.10	0.10	0.00	<b>QP</b>
0.166	13.50	-41.66	55.16	13.40	0.10	0.00	<b>AV</b>
0.191	32.80	-31.19	63.99	32.70	0.10	0.00	<b>QP</b>
0.191	12.70	-41.29	53.99	12.60	0.10	0.00	<b>AV</b>
0.277	28.60	-32.31	60.91	28.50	0.10	0.00	<b>QP</b>
0.277	16.40	-34.51	50.91	16.30	0.10	0.00	<b>AV</b>
0.391	23.40	-34.64	58.04	23.30	0.10	0.00	<b>QP</b>
0.391	15.70	-32.34	48.04	15.60	0.10	0.00	<b>AV</b>
2.596	20.74	-35.26	56.00	20.50	0.17	0.07	<b>QP</b>
2.596	10.94	-35.06	46.00	10.70	0.17	0.07	<b>AV</b>
13.611	39.70	-20.30	60.00	39.20	0.30	0.20	<b>QP</b>
13.611	36.70	-13.30	50.00	36.20	0.30	0.20	<b>AV</b>

## NEUTRAL

Frequency (MHz)	Level (dB $\mu$ V)	Over Limit(dB)	Limit Line(dBuV)	Read Level (dB $\mu$ V)	Insertion Loss (dB)	Cable Loss (dB)	Detect Mode (QP or AV)
0.168	34.20	-30.86	65.06	34.10	0.10	0.00	QP
0.168	14.90	-40.16	55.06	14.80	0.10	0.00	AV
0.191	32.70	-31.29	63.99	32.60	0.10	0.00	QP
0.191	12.40	-41.59	53.99	12.30	0.10	0.00	AV
0.277	28.90	-32.01	60.91	28.80	0.10	0.00	QP
0.277	16.90	-34.01	50.91	16.80	0.10	0.00	AV
0.391	24.90	-33.14	58.04	24.80	0.10	0.00	QP
0.391	11.70	-36.34	48.04	11.60	0.10	0.00	AV
2.569	19.87	-36.13	56.00	19.70	0.10	0.07	QP
2.569	10.57	-35.43	46.00	10.40	0.10	0.07	AV
13.610	36.65	-23.35	60.00	36.20	0.25	0.20	QP
13.610	32.65	-17.35	50.00	32.20	0.25	0.20	AV

Test Engineer :



Cash Chu

5.4.2. Test Mode: Mode 2

- Frequency Range of Test: from 0.15 MHz to 30 MHz
- Temperature: 28 °C
- Relative Humidity: 42 %
- Test Date: Jul. 29, 2005
- Corrected Reading (dBuV) = Insertion 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 under gray area in the following table**


**LINE**

Frequency (MHz)	Level (dBμV)	Over Limit(dB)	Limit Line(dBuV)	Read Level (dBμV)	Insertion Loss (dB)	Cable Loss (dB)	Detect Mode (QP or AV)
0.233	49.89	-12.45	62.34	51.10	-1.25	0.04	<b>QP</b>
0.233	46.39	-5.95	52.34	47.60	-1.25	0.04	<b>AV</b>
0.467	41.87	-14.70	56.57	42.60	-0.80	0.07	<b>QP</b>
0.467	41.67	-4.90	46.57	42.40	-0.80	0.07	<b>AV</b>
0.701	37.35	-18.65	56.00	37.80	-0.53	0.08	<b>QP</b>
0.701	35.95	-10.05	46.00	36.40	-0.53	0.08	<b>AV</b>
1.171	37.31	-18.69	56.00	37.50	-0.29	0.10	<b>QP</b>
1.171	34.11	-11.89	46.00	34.30	-0.29	0.10	<b>AV</b>
1.637	41.24	-14.76	56.00	41.40	-0.26	0.10	<b>QP</b>
1.637	35.74	-10.26	46.00	35.90	-0.26	0.10	<b>AV</b>
1.871	46.95	-9.05	56.00	47.10	-0.25	0.10	<b>QP</b>
1.871	41.55	-4.45	46.00	41.70	-0.25	0.10	<b>AV</b>



**NEUTRAL**

Frequency (MHz)	Level (dBμV)	Over Limit(dB)	Limit Line(dBuV)	Read Level (dBμV)	Insertion Loss (dB)	Cable Loss (dB)	Detect Mode (QP or AV)
0.233	50.99	-11.35	62.34	52.20	-1.25	0.04	<b>QP</b>
0.233	47.39	-4.95	52.34	48.60	-1.25	0.04	<b>AV</b>
0.468	37.17	-19.38	56.55	37.90	-0.79	0.07	<b>QP</b>
0.468	35.47	-11.08	46.55	36.20	-0.79	0.07	<b>AV</b>
0.701	33.85	-22.15	56.00	34.30	-0.53	0.08	<b>QP</b>
0.701	31.35	-14.65	46.00	31.80	-0.53	0.08	<b>AV</b>
1.401	37.42	-18.58	56.00	37.60	-0.28	0.10	<b>QP</b>
1.401	32.02	-13.98	46.00	32.20	-0.28	0.10	<b>AV</b>
1.637	38.44	-17.56	56.00	38.60	-0.26	0.10	<b>QP</b>
1.637	32.94	-13.06	46.00	33.10	-0.26	0.10	<b>AV</b>
1.871	40.95	-15.05	56.00	41.10	-0.25	0.10	<b>QP</b>
1.871	34.25	-11.75	46.00	34.40	-0.25	0.10	<b>AV</b>

Test Engineer :   
 Cash Chu

## 6. Test of Radiated Emission

Radiated emissions from 30 MHz to 1,000 MHz were measured with a bandwidth of 120 kHz according to the methods defines in ANSI C63.4-2003. 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.

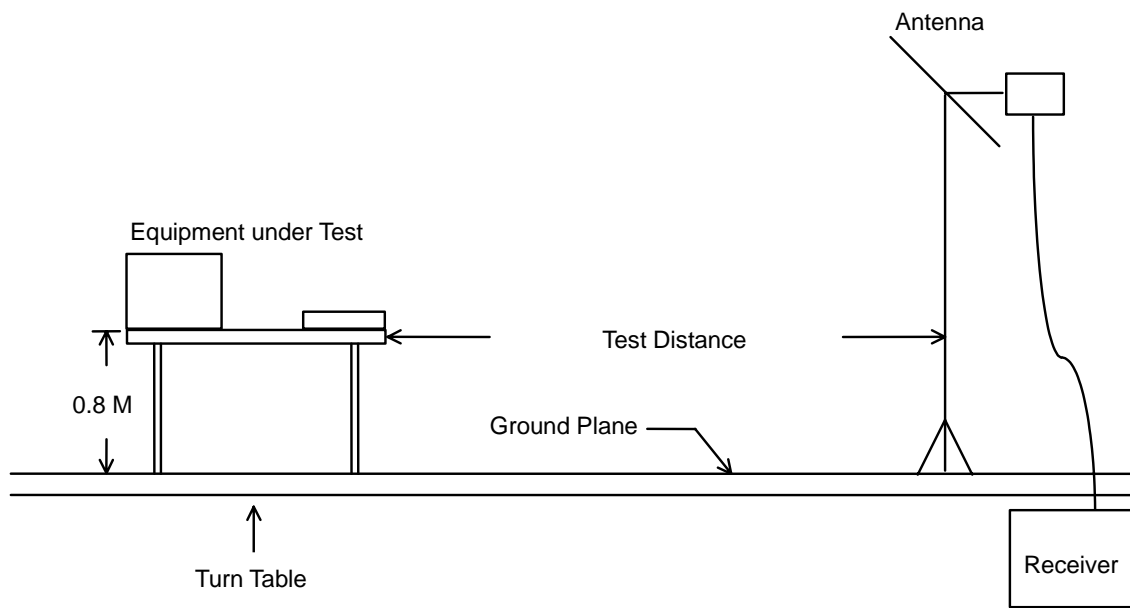
### 6.1. Major Measuring Instruments

- Amplifier ( HP 8447D )
  - RF Gain 25 dB
  - Signal Input 0.1 MHz – 1.3 GHz
  
- Spectrum Analyzer ( ADVANTEST R3261C )
  - Attenuation 10 dB
  - Start Frequency 30 MHz
  - Stop Frequency 1000 MHz
  - Resolution Bandwidth 120 kHz
  - Signal Input 9 kHz – 2.6 GHz
  
- Test Receiver ( R&S ESCS 30 )
  - Resolution Bandwidth 120 kHz
  - Frequency Band 9 kHz – 2.75 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

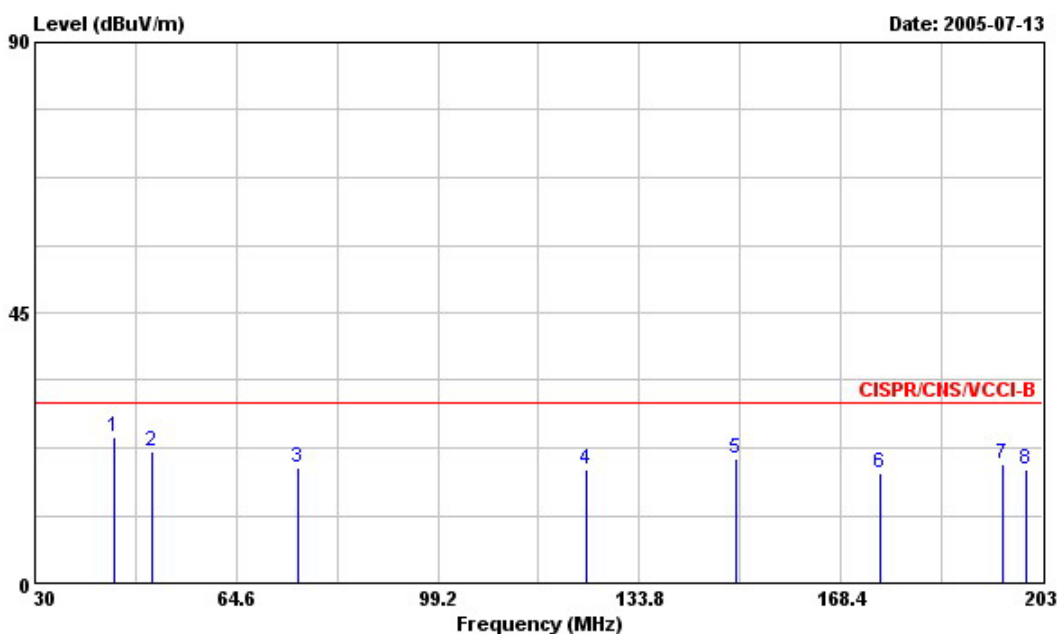


### 6.4. Test Result of Radiated Emission

#### 6.4.1. Test Mode: Mode 1

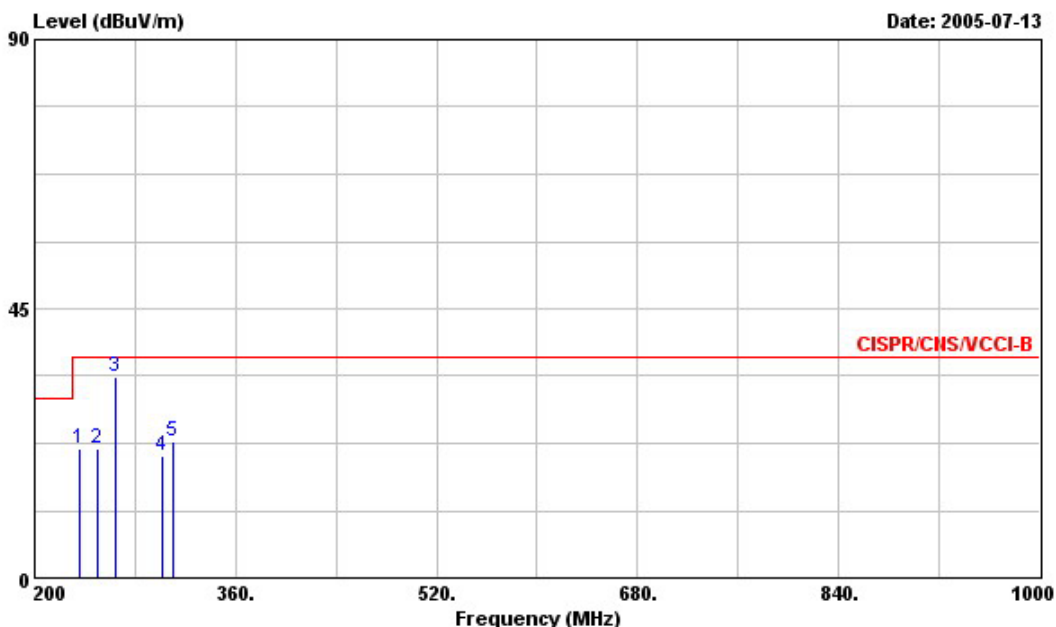
- Frequency Range of Test: from 30 MHz to 1,000 MHz
- Temperature: 29 °C
- Relative Humidity: 45 %
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

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



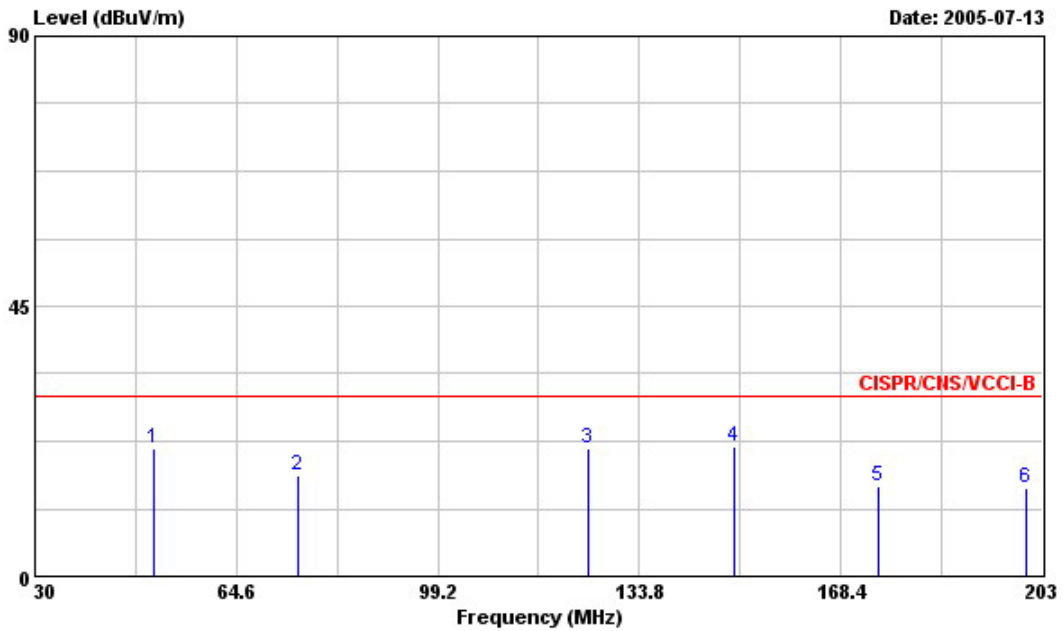
Site : OS03-NH  
 Condition : CISPR/CNS/VCCI-B 10m OS03-ANT-06-18-2005 HORIZONTAL  
 EUT : TRAFFIC ACCELERATOR  
 POWER : 110VAC AD-051A5  
 MEMO :

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	43.670	24.43	-5.57	30.00	37.16	15.09	0.68	28.50 Peak	---	---
2	50.070	21.91	-8.09	30.00	39.74	9.90	0.77	28.50 Peak	---	---
3	75.150	19.25	-10.75	30.00	39.60	7.14	0.96	28.45 Peak	---	---
4	124.800	18.87	-11.13	30.00	33.39	12.56	1.22	28.30 Peak	---	---
5	150.240	20.59	-9.41	30.00	36.49	10.81	1.49	28.20 Peak	---	---
6	175.150	18.16	-11.84	30.00	35.61	9.07	1.58	28.10 Peak	---	---
7	196.080	19.78	-10.22	30.00	36.80	9.31	1.69	28.02 Peak	---	---
8	200.060	18.84	-11.16	30.00	35.84	9.31	1.69	28.00 Peak	---	---



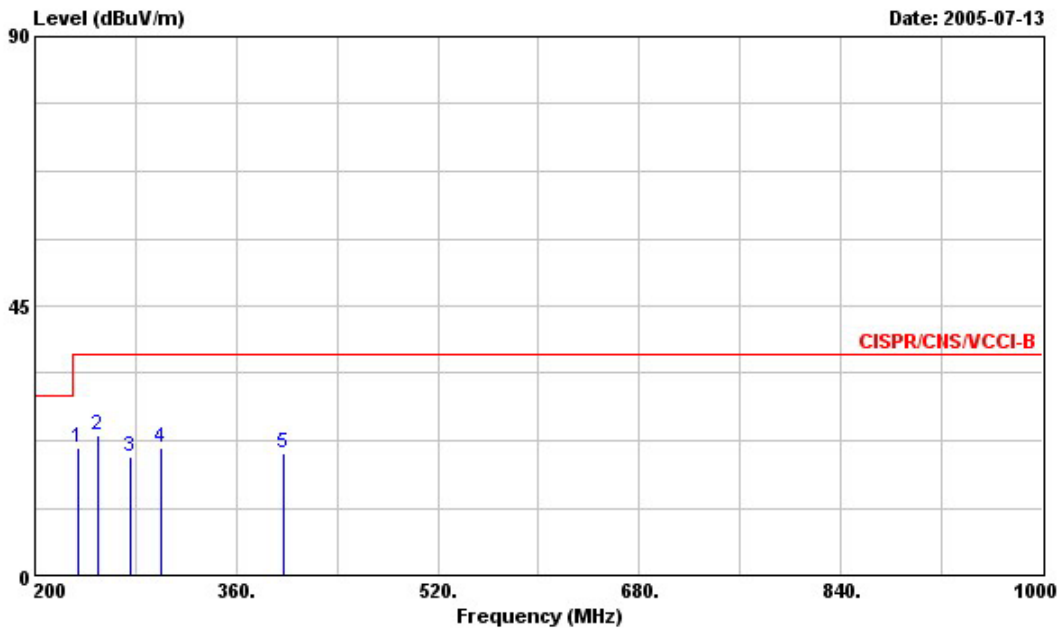
Site : OS03-NH  
 Condition : CISPR/CNS/VCCI-B 10m OS03-ANT-06-18-2005 HORIZONTAL  
 EUT : TRAFFIC ACCELERATOR  
 POWER : 110VAC AD-051A5  
 MEMO :

	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	236.000	21.66	-15.34	37.00	36.62	11.20	1.80	27.96	Peak	---	---
2	250.400	21.60	-15.40	37.00	35.80	11.96	1.79	27.95	Peak	---	---
3	264.800	33.69	-3.31	37.00	47.39	12.41	1.82	27.93	QP	330	180
4	301.600	20.38	-16.62	37.00	32.40	13.52	2.37	27.91	Peak	---	---
5	310.400	22.68	-14.32	37.00	34.60	13.70	2.35	27.97	Peak	---	---



Site : OS03-NH  
 Condition : CISPR/CNS/VCCI-B 10m OS03-ANT-06-18-2005 VERTICAL  
 EUT : TRAFFIC ACCELERATOR  
 POWER : 110VAC AD-051A5  
 MEMO :

	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	50.410	21.40	-8.60	30.00	39.23	9.90	0.77	28.50	Peak	---	---
2	75.150	16.85	-13.15	30.00	37.20	7.14	0.96	28.45	Peak	---	---
3	124.980	21.45	-8.55	30.00	35.97	12.56	1.22	28.30	Peak	---	---
4	150.060	21.70	-8.30	30.00	37.60	10.81	1.49	28.20	Peak	---	---
5	174.970	14.95	-15.05	30.00	32.44	9.03	1.58	28.10	Peak	---	---
6	200.060	14.64	-15.36	30.00	31.64	9.31	1.69	28.00	Peak	---	---



Site : OS03-NH  
 Condition : CISPR/CNS/VCCI-B 10m OS03-ANT-06-18-2005 VERTICAL  
 EUT : TRAFFIC ACCELERATOR  
 POWER : 110VAC AD-051A5  
 MEMO :

	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	234.400	21.18	-15.82	37.00	36.21	11.14	1.80	27.97	Peak	---	---
2	250.400	23.40	-13.60	37.00	37.60	11.96	1.79	27.95	Peak	---	---
3	275.200	19.73	-17.27	37.00	33.00	12.73	1.92	27.92	Peak	---	---
4	300.000	21.17	-15.83	37.00	33.21	13.48	2.38	27.90	Peak	---	---
5	397.600	20.38	-16.62	37.00	31.01	15.51	2.45	28.59	Peak	---	---

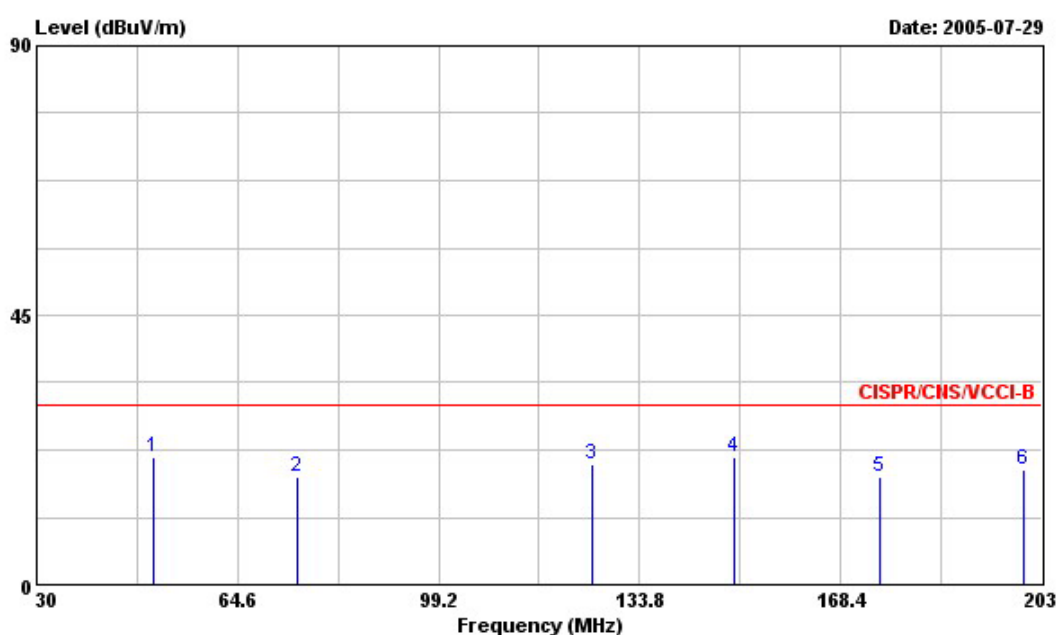
Test Engineer : Samuel  
 Samuel Chang



6.4.2. Test Mode: Mode 2

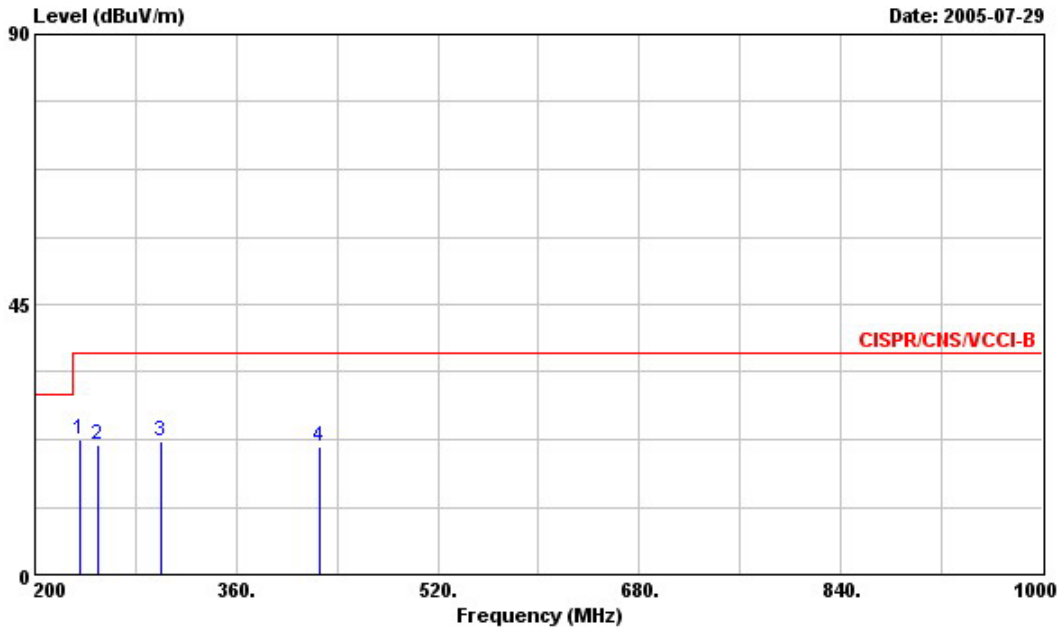
- Frequency Range of Test: from 30 MHz to 1,000 MHz
- Temperature: 29 °C
- Relative Humidity: 45 %
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

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



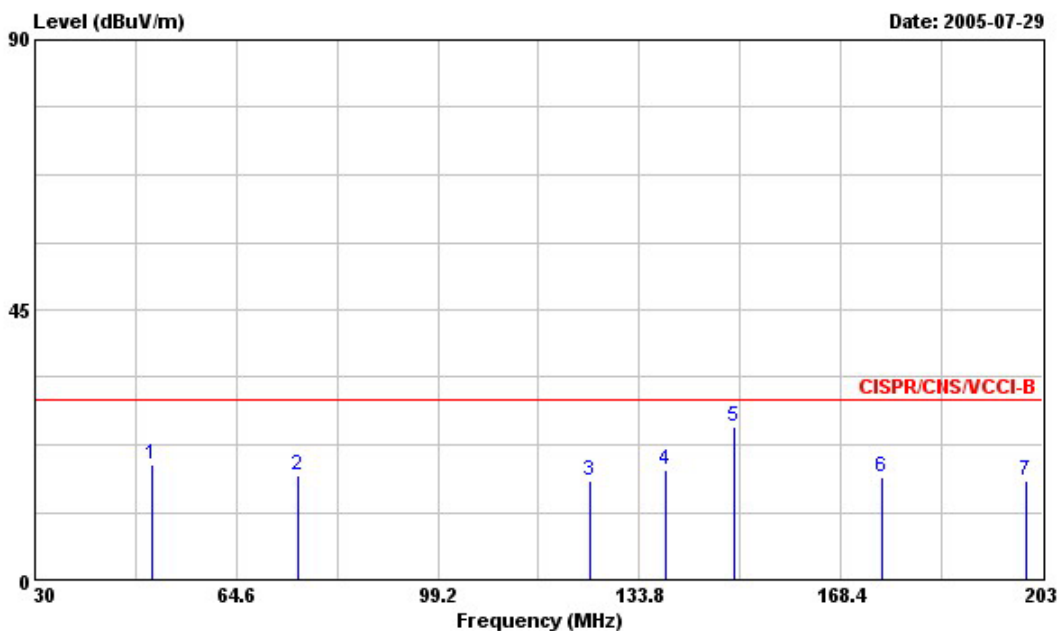
Site : OS03-NH  
 Condition : CISPR/CNS/VCCI-B 10m OS03-ANT-06-18-2005 HORIZONTAL  
 EUT : TRAFFIC ACCELERATOR  
 POWER : 110VAC UL110-0515  
 MEMO :

	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	50.070	21.39	-8.61	30.00	38.74	9.90	1.25	28.50	Peak	---	---
2	74.810	18.06	-11.94	30.00	38.08	7.01	1.42	28.45	Peak	---	---
3	125.670	20.25	-9.75	30.00	33.80	12.49	2.26	28.30	Peak	---	---
4	150.060	21.19	-8.81	30.00	36.20	10.81	2.38	28.20	Peak	---	---
5	175.150	18.12	-11.88	30.00	34.61	9.07	2.54	28.10	Peak	---	---
6	199.890	19.24	-10.76	30.00	34.33	9.31	3.60	28.00	Peak	---	---



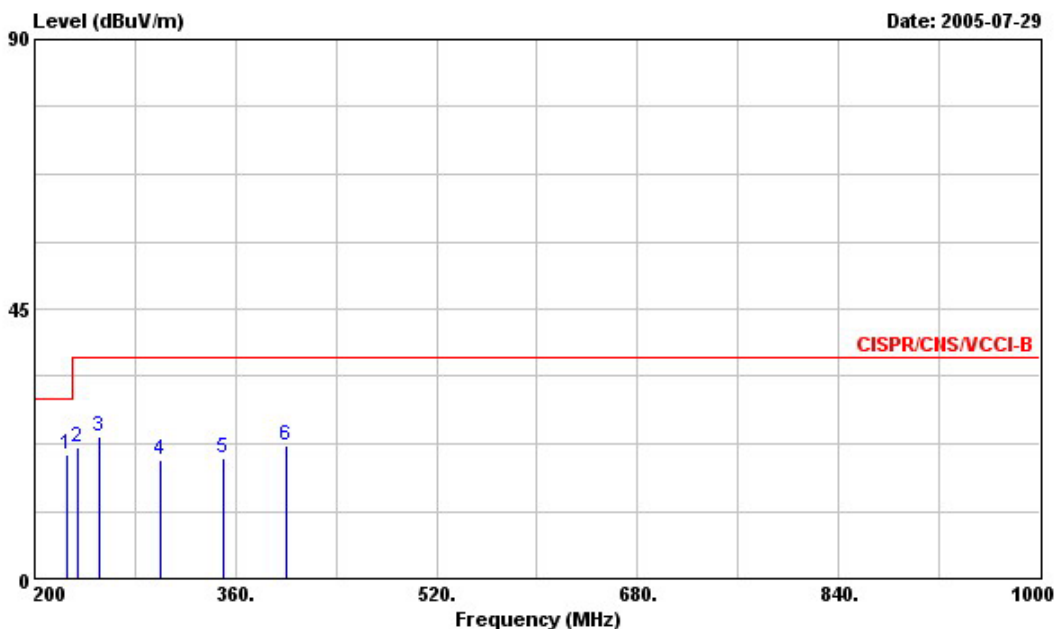
Site : OS03-NH  
 Condition : CISPR/CNS/VCCI-B 10m OS03-ANT-06-18-2005 HORIZONTAL  
 EUT : TRAFFIC ACCELERATOR  
 POWER : 110VAC UL110-0515  
 MEMO :

	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	236.000	22.49	-14.51	37.00	36.63	11.20	2.62	27.96	Peak	0	0
2	250.400	21.51	-15.49	37.00	34.80	11.96	2.70	27.95	Peak	0	0
3	300.000	22.09	-14.91	37.00	32.41	13.48	4.10	27.90	Peak	0	0
4	425.600	21.24	-15.76	37.00	29.99	15.83	4.12	28.70	Peak	0	0




Site : OS03-NH  
 Condition : CISPR/CNS/VCCI-B 10m OS03-ANT-06-18-2005 VERTICAL  
 EUT : TRAFFIC ACCELERATOR  
 POWER : 110VAC UL110-0515  
 MEMO :

	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	50.070	19.19	-10.81	30.00	36.54	9.90	1.25	28.50	Peak	---	---
2	75.150	17.32	-12.68	30.00	37.20	7.14	1.43	28.45	Peak	---	---
3	125.320	16.64	-13.36	30.00	30.14	12.56	2.24	28.30	Peak	---	---
4	138.300	18.36	-11.64	30.00	32.61	11.51	2.48	28.24	Peak	---	---
5	150.060	25.59	-4.41	30.00	40.60	10.81	2.38	28.20	QP	100	180
6	175.490	17.14	-12.86	30.00	33.63	9.07	2.54	28.10	Peak	---	---
7	200.060	16.55	-13.45	30.00	31.64	9.31	3.60	28.00	Peak	---	---



Site : OS03-NH  
 Condition : CISPR/CNS/VCCI-B 10m OS03-ANT-06-18-2005 VERTICAL  
 EUT : TRAFFIC ACCELERATOR  
 POWER : 110VAC UL110-0515  
 MEMO :

	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	225.600	20.78	-9.22	30.00	35.20	10.69	2.86	27.97	Peak	---	---
2	234.400	22.03	-14.97	37.00	36.21	11.14	2.65	27.97	Peak	---	---
3	251.200	23.75	-13.25	37.00	37.00	11.99	2.71	27.95	Peak	---	---
4	300.000	19.89	-17.11	37.00	30.21	13.48	4.10	27.90	Peak	---	---
5	350.400	20.10	-16.90	37.00	29.79	14.53	4.03	28.25	Peak	---	---
6	400.000	22.18	-14.82	37.00	30.61	15.55	4.62	28.60	Peak	---	---

Test Engineer :   
 Samuel Chang

## 7. List of Measuring Equipment Used

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Monitor	R&S	EZM	894987/011	9kHz – 1.3GHz	Aug. 13, 2004	Conduction (CO01-NH)
Test Receiver	R&S	ESH3	893495/013	9kHz – 30MHz	Aug. 10, 2004	Conduction (CO01-NH)
LISN	FCC	FCC-LISN-50-3 2-2-01	05002	9kHz – 30MHz	Apr. 04, 2005	Conduction (CO01-NH)
LISN	KYORITSU	KNW-407	8-1010-15	9kHz – 30MHz	Dec. 02, 2004	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. 17, 2004	Conduction (CO01-NH)
Open Area Test Site	SPORTON	OATS-10	OS03-NH	30MHz – 1GHz 10m, 3m	Mar. 19, 2005	Radiation (OS03-NH)
Amplifier	HP	8447D	2944A08292	0.1MHz – 1.3GHz	Dec. 28, 2004	Radiation (OS03-NH)
Spectrum	Advantest	RS3261C	81720147	9kHz – 2.6GHz	Jun. 23, 2005	Radiation (OS03-NH)
Receiver	R&S	ESCS 30	838251/002	9kHz – 2.75GHz	Jan. 06, 2005	Radiation (OS03-NH)
Bilog Antenna	CHASE	CBL6112B	2444	30MHz – 2GHz	Jun. 18, 2005	Radiation (OS03-NH)
Turn Table	EMCO	2080	9805-2065	0 – 360 degree	N/A	Radiation (OS03-NH)
Antenna Mast	EMCO	2075	9804-2151	1 m – 4 m	N/A	Radiation (OS03-NH)
RF Cable-R10m	MIYAZAKI	5DFB	CB003	30MHz – 1GHz	Oct. 11, 2004	Radiation (OS03-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
<b>combined standard uncertainty Uc(y)</b>	<b>1.31</b>		
<b>Measuring uncertainty for a level of confidence of 95% U=2Uc(y)</b>	<b>2.62</b>		

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

Contribution	Uncertainty of $x_i$		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.08	Normal(k=2)	0.04
Antenna factor calibration	0.96	Normal(k=2)	0.48
Cable loss calibration	0.17	Normal(k=2)	0.09
Pre Amplifier Gain calibration	0.21	Normal(k=2)	0.11
RCV/SPA specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site imperfection	1.95	Rectangular	1.13
Mismatch	+0.39/-0.41	U-shaped	0.28
<b>combined standard uncertainty Uc(y)</b>	<b>1.48</b>		
<b>Measuring uncertainty for a level of confidence of 95% U=2Uc(y)</b>	<b>2.96</b>		