FCC TEST REPORT

for

47 CFR, Part 15, Subpart B Class B

Equipment	:	RECEIVER
Model No.	:	RC-001, RC-002
FCC ID	:	PAGRC-001
Filing Type	:	Original Grant
Applicant	:	**KAB ENTERPRISE CO., LTD.** 21-1 Fl., No. 33, Sec. 1, Min Sheng Rd., Panchiao City, Taipei Hsien, Taiwan, 220 R.O.C.

SPORTON International Inc.

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

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Certificate No. : F080210

CERTIFICATE OF COMPLIANCE

for

47 CFR, Part 15, Subpart B Class B

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FCC ID : PAGRC-001

Applicant : **KAB ENTERPRISE CO., LTD.**
21-1 Fl., No. 33, Sec. 1, Min Sheng Rd., Panchiao City,
Taipei Hsien, Taiwan, 220 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 - 1992** and the energy emitted by this equipment was ***passed*** both radiated and conducted emission class **B** limits. Testing was carried out on Oct. 9, 2000 at **SPORTON International Inc.** LAB. in Lin Kou.

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Lenore Chang
President

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

KAB ENTERPRISE CO., LTD.
21-1 Fl., No. 33, Sec. 1, Min Sheng Rd., Panchiao City,
Taipei Hsien, Taiwan, 220 R.O.C.

1.2. Manufacturer

Same as 1.1.

1.3. Basic Description of Equipment under Test

Equipment	: RECEIVER
Model No.	: RC-001, RC-002
FCC ID	: PAGRC-001
Trade Name	: KAB
Power Supply Type	: From System
Power Cord	: Non Shield, 3pin for RC-001
	Wall-mount, 2pin for RC-002

1.4. Feature of Equipment under Test

Frequency• 315MHz +/- 1%
Receiver Power Input: AC 125V Electrical Outlet
Receiver Power Output: 15 Amps /125 Volts/ 1875 Watts

2. Test Configuration of Equipment under Test

2.1. Test Manner

a. The EUT has been associated with peripherals pursuant to ANSI C63.4-1992 and configuration operated in a manner which tended to maximize its emission characteristics in a typical application.
b. The Dummy Load was connected to the EUT for EMI test.
c. A signal generator, not the matching transmitter, was used to radiate an unmodulated continuous wave(CW) signal to a superregenerative receiver at its operating frequency in order to “cohere” or resolve the individual components of the characteristic broadband emissions.

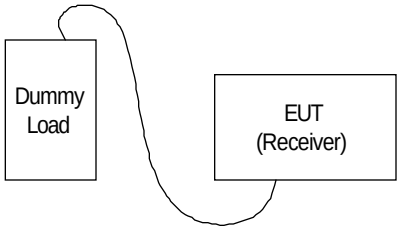
2.2. Description of Test System

Support Unit 1. -- Dummy Load(Sporton)
Model No. : Lamp

Support Unit 2. – Signal Generator(R&S)
Model No. : SMX-B1

Support Unit 3. – Transmit Antenna(EMCO)
Model No. : 3121C

2.3. Connection Diagram of Test System



3. Test Software

No test software was used during testing.

4. General Information of Test

4.1. Test Facility

This test was carried out by SPORTON International Inc.

Test Site Location : No. 30-2, Lin 6, Diing-Fwu Tsuen, Lin-Kou-Hsiang,
Taipei Hsien, Taiwan, R.O.C.
TEL : 886-2-2601-1640
FAX : 886-2-2601-1695

4.2. Standard for Methods of Measurement

ANSI C63.4-1992

4.3. Test in Compliance with

FCC Part 15, Subpart B Class B

4.4. Frequency Range Investigated

a. Conduction: from 450 kHz to 30 MHz
b. Radiation : from 30 MHz to 1,000 MHz

4.5. Test Distance

The test distance of radiated emission from antenna to EUT is 3 M.

5. Test of Conducted Powerline

Conducted Emissions were measured from 450 kHz to 30 MHz with a bandwidth of 9 KHz on the 115 VAC power and return leads of the EUT according to the methods defined in ANSI C63.4-1992 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.

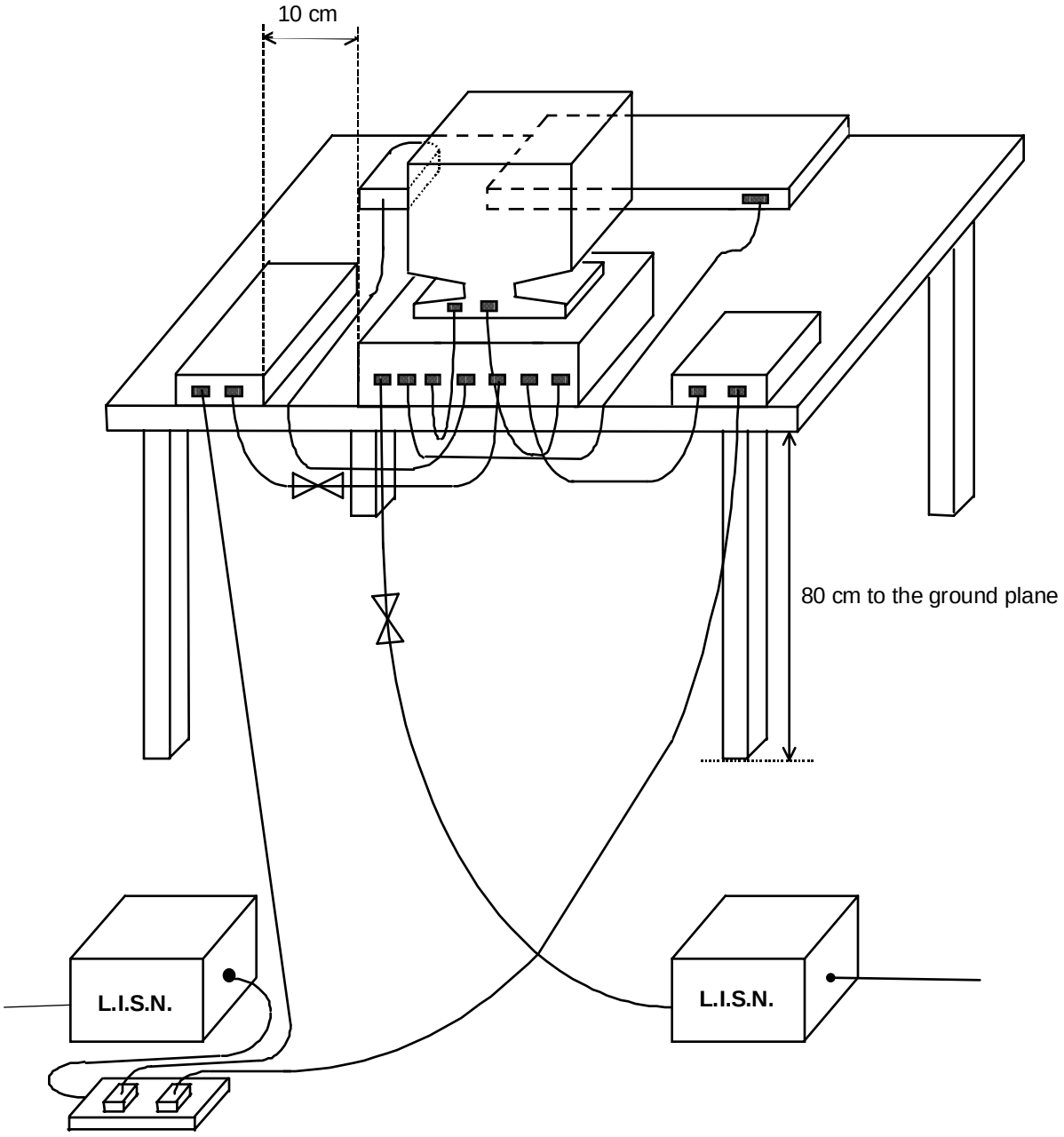
5.1. Major Measuring Instruments

Test Receiver	HP 8591EM
Attenuation	0 dB
Start Frequency	0.45 MHz
Stop Frequency	30 MHz
Step MHz	0.007 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 450 kHz to 30 MHz was searched.
h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
i. If the emission level of the EUT in peak mode was 6 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 6 dB margin will be retested one by one using the quasi-peak method and reported.

5.3. Typical Test Setup Layout of Conducted Powerline



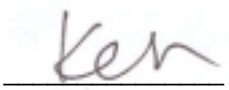
5.4. Test Result of AC Powerline Conducted Emission

- Tested Model : RC-002
- Frequency Range of Test : from 0.45 MHz to 30 MHz
- Temperature : 25°C
- Relative Humidity : 55 %
- Test Date : Oct. 9, 2000

The Conducted Emission test was passed at minimum margin

Neutral 15.62 MHz / 36.80 dBuV.

Frequency (MHz)	Line / Neutral •	Meter Reading (dBuV)	• (uV)	Limits (dBuV)	• (uV)	Margin (dB)
0.49	L	26.20	20.42	48.00	251.19	-21.80
15.03	L	36.00	63.10	48.00	251.19	-12.00
15.62	L	38.00	79.43	48.00	251.19	-10.00
0.58	N	27.20	22.91	48.00	251.19	-20.80
15.03	N	36.00	63.10	48.00	251.19	-12.00
15.62	N	39.30	92.26	48.00	251.19	-8.70

Test Engineer : 

KEN HUANG

- Tested Model : RC-001
- Frequency Range of Test : from 0.45 MHz to 30 MHz
- Temperature : 25°C
- Relative Humidity : 55 %
- Test Date : Oct. 9, 2000

The Conducted Emission test was passed at minimum margin

Neutral 15.03 MHz / 34.10 dBuV.

Frequency (MHz)	Line / Neutral •	Meter Reading (dBuV)	• (uV)	Limits (dBuV)	• (uV)	Margin (dB)
0.58	L	31.20	36.31	48.00	251.19	-16.80
0.77	L	28.20	25.70	48.00	251.19	-19.80
15.03	L	35.20	57.54	48.00	251.19	-12.80
15.62	L	31.10	35.89	48.00	251.19	-16.90
15.03	N	35.80	61.66	48.00	251.19	-12.20
15.62	N	29.50	29.85	48.00	251.19	-18.50

Test Engineer : _____
KEN HUANG

5.5. Photographs of Conducted Powerline Test Configuration

- Tested Model : RC-002
- The photographs show the configuration that generates the maximum emission.

FRONT VIEW

REAR VIEW

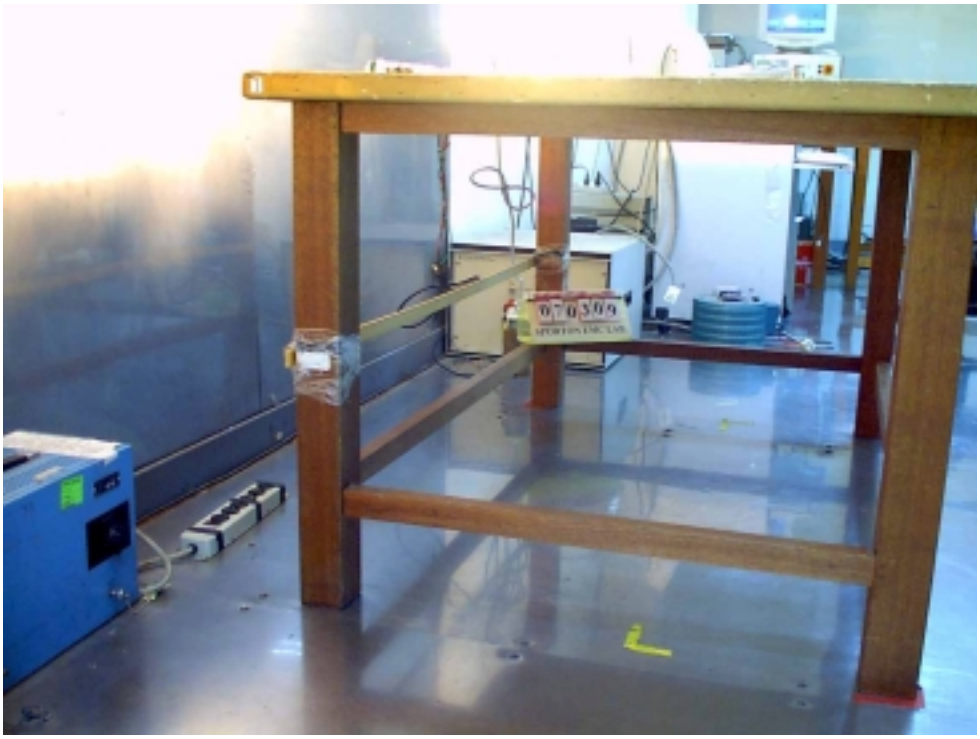
SIDE VIEW

- Tested Model : RC-001
- The photographs show the configuration that generates the maximum emission.

FRONT VIEW

REAR VIEW

SIDE VIEW



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 C63.4-1992. The EUT was placed on a nonmetallic stand in the open-field site, 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.

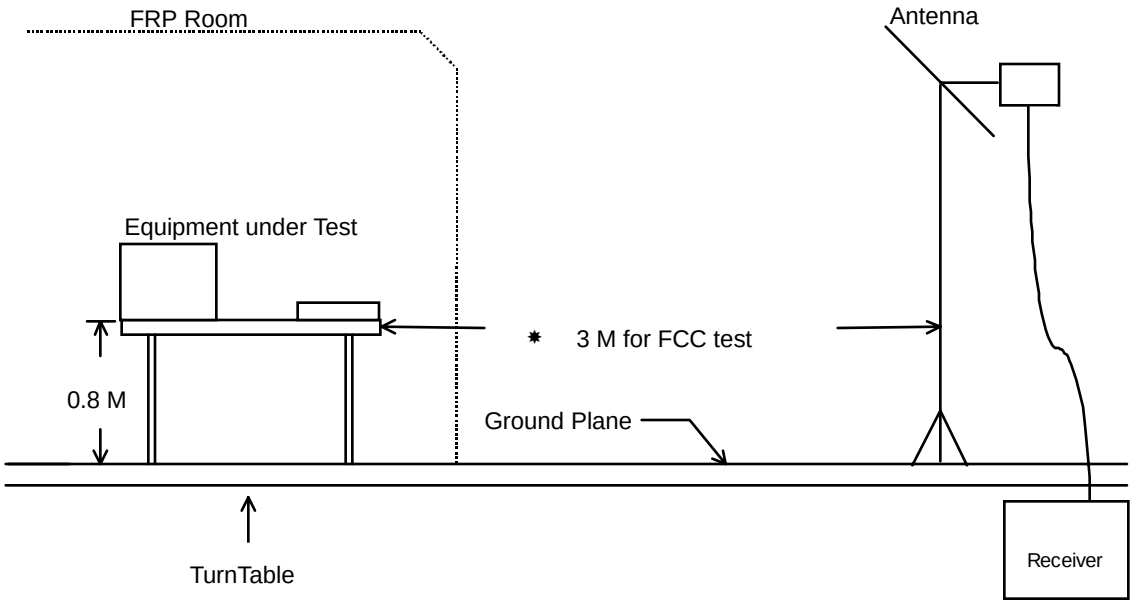
6.1. Major Measuring Instruments

Amplifier	(HP 8447D)
Attenuation	0 dB
RF Gain	25 dB
Signal Input	0.1 MHz to 1.3 GHz
Spectrum Analyzer	(ADVANTEST R3261A)
Attenuation	0 dB
Start Frequency	30 MHz
Stop Frequency	1,000 MHz
Resolution Bandwidth	1 MHz
Video Bandwidth	1 MHz
Signal Input	9 KHz to 2.6 GHz

6.2. Test Procedures

a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 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 6 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 6 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

- Tested Model : RC-002
- Test Distance : 3 M
- Temperature : 31°C
- Relative Humidity : 57 %
- Test Date : Oct. 9, 2000
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading : Antenna Factor + Cable Loss + Reading = Emission

The Radiated Emission test was passed at minimum margin

297.600 MHz / 38.86 dBuV (HORIZONTAL) Antenna Height 1.4 Meter, Turntable Degree 90 °.

Frequency (MHz)	• Polarity •	Antenna Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Limits (dBuV/m)	• (uV/m)	Emission (dBuV/m)	Level (uV/m)	Margin (dB)
297.60	H	13.78	2.16	22.92	46.00	200	38.86	87.70	-7.14
590.00	H	19.04	3.47	5.70	46.00	200	28.21	25.73	-17.79
868.00	H	20.34	4.62	2.67	46.00	200	27.63	24.07	-18.37
296.80	V	13.78	2.16	16.52	46.00	200	32.46	41.98	-13.54
584.00	V	18.97	3.44	2.00	46.00	200	24.41	16.61	-21.59
866.40	V	20.63	4.61	5.47	46.00	200	30.71	34.32	-15.29

Test Engineer : Benny

Benny Lee

- Tested Model : RC-001
- Test Distance : 3 M
- Temperature : 31°C
- Relative Humidity : 57 %
- Test Date : Oct. 9, 2000
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Corrected Reading : Antenna Factor + Cable Loss + Reading = Emission

The Radiated Emission test was passed at minimum margin

304.800 MHz / 39.11 dBuV (HORIZONTAL) Antenna Height 1.4 Meter, Turntable Degree 95 °.

Frequency (MHz)	• Polarity •	Antenna Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Limits (dBuV/m)	• (uV/m)	Emission (dBuV/m)	Level (uV/m)	Margin (dB)
304.80	H	13.96	2.22	22.93	46.00	200	39.11	90.26	-6.89
877.60	H	20.07	4.68	3.67	46.00	200	28.42	26.36	-17.58
925.60	H	20.76	4.84	4.63	46.00	200	30.23	32.47	-15.77
303.20	V	13.92	2.21	17.33	46.00	200	33.46	47.10	-12.54
590.40	V	19.04	3.47	7.40	46.00	200	29.91	31.30	-16.09
927.20	V	20.76	4.84	4.24	46.00	200	29.84	31.05	-16.16

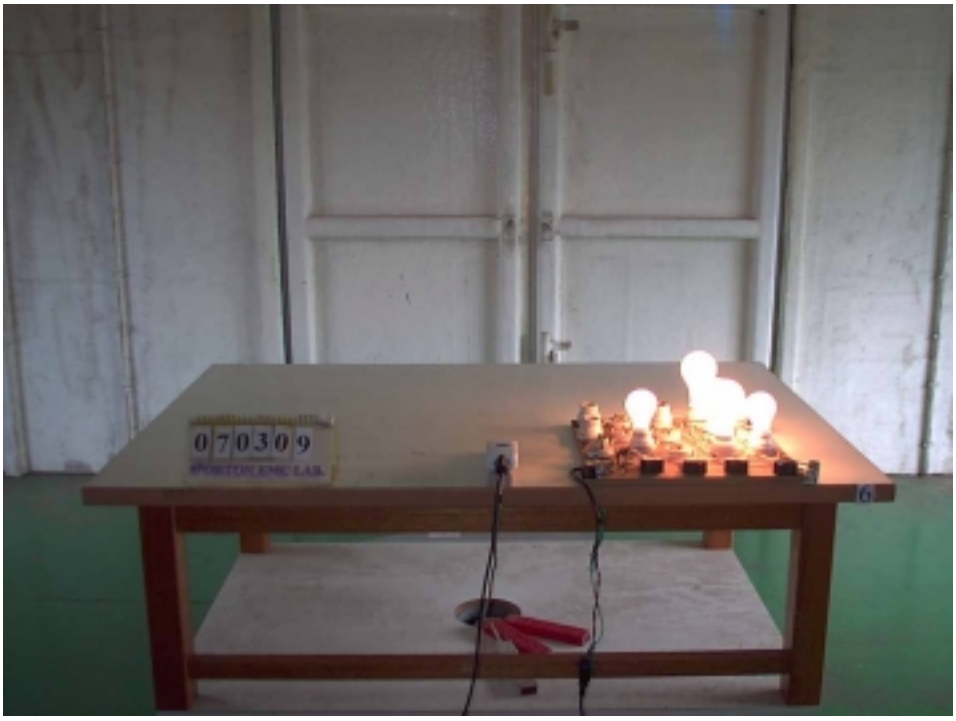
Test Engineer : Benny

Benny Lee

6.5. Photographs of Radiated Emission Test Configuration

- Tested Model : RC-002
- The photographs show the configuration that generates the maximum emission.

FRONT VIEW

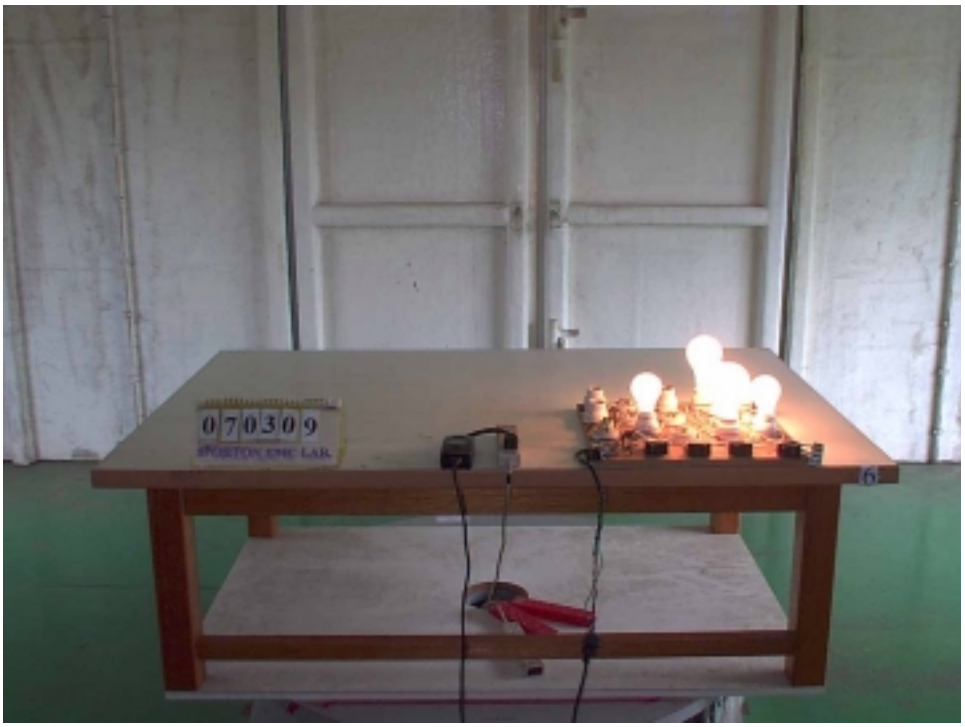


REAR VIEW

- Tested Model : RC-001
- The photographs show the configuration that generates the maximum emission.

FRONT VIEW

REAR VIEW



7. Antenna Factor & Cable Loss

Frequency (MHz)	Antenna Factor (dB)	Cable Loss (dB)
30	15.8	0.7
35	17.1	0.8
40	15.3	1.0
45	13.1	0.8
50	11.2	0.8
55	8.7	1.2
60	6.2	1.2
65	6.2	1.3
70	6.2	1.3
75	6.7	1.3
80	7.3	1.2
85	8.3	1.2
90	9.4	1.2
95	9.8	1.2
100	10.2	1.3
110	11.6	1.3
120	12.9	1.3
130	12.9	1.4
140	12.1	1.5
150	10.3	1.7
160	9.4	1.8
170	9.2	1.8
180	9.2	1.8
190	9.3	2.0
200	9.3	2.2
220	10.5	1.8
240	11.5	2.0
260	12.4	2.2
280	13.0	2.3
300	13.6	2.5
320	14.1	2.5
340	14.6	2.5
360	15.2	2.6
380	15.6	2.8
400	16.1	3.0
450	16.9	3.2
500	17.7	3.2
550	18.6	3.2
600	19.1	3.7
650	19.8	3.5
700	18.8	3.8
750	18.6	4.0
800	20.3	4.3
850	20.9	4.3
900	19.4	4.8
950	21.9	4.8
1000	20.2	4.8

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8. List of Measuring Equipments Used

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver (site 2)	HP	8591EM	3710A00187	9 KHz – 1.8 GHz	Sep. 16. 2000	Conduction
LISN (Support Unit) (site 2)	Telemeter	NNB-2/16Z	98009	50 ohm / 50 uH	Dec. 06, 1999	Conduction
LISN (EUT) (site 2)	Telemeter	NNB-2/16Z	98087	50 ohm / 50 uH	Dec. 06. 1999	Conduction
Spectrum Analyzer (Site 6)	ADVANTEST	R3261C	71720760	9KHz – 2.6GHz	Mar. 08, 2000	Radiation
Receiver (Site 6)	R&S	ESCS30	847793/003	9 K – 2.75 GHz	Dec. 16, 1999	Radiation
Amplifier (Site 6)	HP	87405A	3207A01437	100K - 3GHz	Aug. 03, 2000	Radiation
Bilog Antenna (Site 6)	CHASE	CBL6112A	2442	30MHz -2GHz	Jun. 23, 2000	Radiation
Half-wave dipole antenna (Site 6)	EMCO	3121C	9705-1285	28 M - 1GHz	May 17, 2000	Radiation
Turn Table (site 6)	EMCO	2080	9711-2021	0 ~ 360 degree	N/A	Radiation
Antenna Mast (site 6)	EMCO	2075	9711-2115	1 m- 4 m	N/A	Radiation
Transit Antenna	EMCO	3121C	9705-1285	28 M - 1GHz	May 17, 2000	Conduction& Radiation
Signal Generator	R&S	SMX-B1	837900/023	9KHz - 1GHz	Mar. 24, 2000	Conduction& Radiation