FCC TEST REPORT

CATEGORY	:	Portable
PRODUCT NAME	:	PS2 Basic Wireless Controller
FCC ID.	:	RNIP731607-D
FILING TYPE	:	Certification
BRAND NAME	:	Hip Interactive
MODEL NAME	:	LM607
APPLICANT	:	**Esel International Co. Ltd** Rm 15-17, 5/F, Cardinal Ind, Bldg, No. 17 On Lok Mun St., Fanling, N.T., Hong Kong
MANUFACTURER	:	**Eastern Sources Electronics Manufacturer** Daji Industrial Zone, Hengshan District, Shipai Town, Dongguan City, Guangdong, China
ISSUED BY	:	**SPORTON INTERNATIONAL INC.** 6F, No. 106, Sec. 1, Hsin Tai Wu Rd., His Chih, Taipei Hsien, Taiwan, R.O.C.

Statements:

The test result in this report refers exclusively to the presented test model / sample.
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Certificate or Test Report could not be used by the applicant to claim the product endorsement by CNLA, NVLAP or any agency of U.S. government.

The test equipment used to perform the test are calibrated and traceable to NML/ROC or NIST/USA.

Dr. Alan Lane
Vice General Manager
Sporton International Inc.

Lab Code: 200079-0

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History of this test report

Original Report Issue Date: Nov. 12, 2004

Report No.: FR492802

■ No additional attachment.

☐ Additional attachment were issued as following record:

Attachment No.	Issue Date	Description

CERTIFICATE OF COMPLIANCE

with

47 CFR FCC Part 15 Subpart C (Section 15.249)

PRODUCT NAME	:	PS2 Basic Wireless Controller
BRAND NAME	:	Hip Interactive
MODEL NAME	:	LM607
APPLICANT	:	**Esel International Co. Ltd** Rm 15-17, 5/F, Cardinal Ind, Bldg, No. 17 On Lok Mun St., Fanling, N.T., Hong Kong
MANUFACTURER	:	**Eastern Sources Electronics Manufacturer** Daji Industrial Zone, Hengshan District, Shipai Town, Dongguan City, Guangdong, China

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 all test are performed according to 47 CFR FCC Part 15. Testing was carried out on Nov. 11, 2004 at SPORTON International Inc. LAB.

Dr. Alan Lane
Vice General Manager
Sporton International Inc.

1. General Description of Equipment under Test

1.1. Applicant

Esel International Co. Ltd
Rm 15-17, 5/F, Cardinal Ind, Bldg, No. 17 On Lok Mun St., Fanling, N.T., Hong Kong

1.2. Manufacturer

Eastern Sources Electronics Manufacturer
Daji Industrial Zone, Hengshan District, Shipai Town, Dongguan City, Guangdong, China

1.3. Basic Description of Equipment under Test

This product is set of wireless controller. There are two parts for the EUT, the joystick (controller) and the receiver which is powered by PS2. Both of them are transceiver. And this report is only for the controller. The technical data has been listed on section " Features of Equipment under Test ".

1.4. Features of Equipment under Test

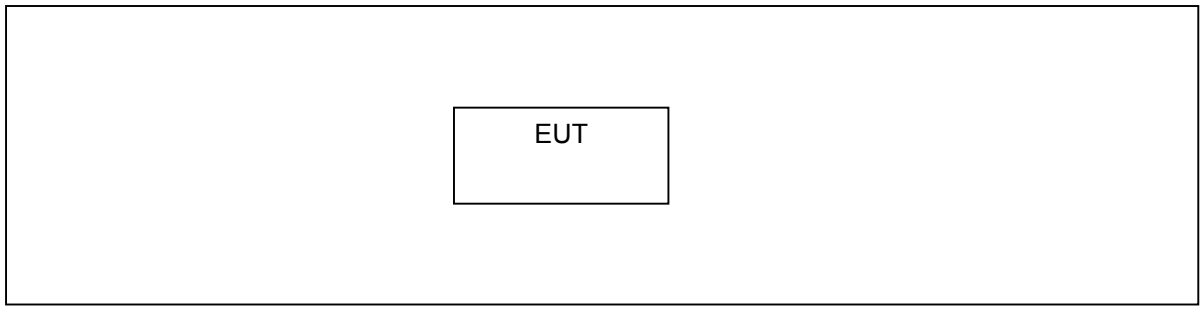
Items		Description
Type of Modulation	:	FSK
Number of Channels	:	80
Frequency Band	:	2400MHz ~ 2483.5MHz
Carrier Frequency	:	See section 1.5 for details
Channel Bandwidth	:	1 MHz
Antenna Type	:	Printed Antenna
Testing Duty Cycle	:	100.00%
Power Rating (DC/AC, Voltage)	:	3.0 VDC(battery powered)
Test Power Source	:	NA
Temperature Range (Operating)	:	0 ~ 55 ℃

1.5. Table for Carrier Frequencies

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	20	2422 MHz	40	2442 MHz	60	2462 MHz
01	2403 MHz	21	2423 MHz	41	2443 MHz	61	2463 MHz
02	2404 MHz	22	2424 MHz	42	2444 MHz	62	2464 MHz
03	2405 MHz	23	2425 MHz	43	2445 MHz	63	2465 MHz
04	2406 MHz	24	2426 MHz	44	2446 MHz	64	2466 MHz
05	2407 MHz	25	2427 MHz	45	2447 MHz	65	2467 MHz
06	2408 MHz	26	2428 MHz	46	2448 MHz	66	2468 MHz
07	2409 MHz	27	2429 MHz	47	2449 MHz	67	2469 MHz
08	2410 MHz	28	2430 MHz	48	2450 MHz	68	2470 MHz
09	2411 MHz	29	2431 MHz	49	2451 MHz	69	2471 MHz
10	2412 MHz	30	2432 MHz	50	2452 MHz	70	2472 MHz
11	2413 MHz	31	2433 MHz	51	2453 MHz	71	2473 MHz
12	2414 MHz	32	2434 MHz	52	2454 MHz	72	2474 MHz
13	2415 MHz	33	2435 MHz	53	2455 MHz	73	2475 MHz
14	2416 MHz	34	2436 MHz	54	2456 MHz	74	2476 MHz
15	2417 MHz	35	2437 MHz	55	2457 MHz	75	2477 MHz
16	2418 MHz	36	2438 MHz	56	2458 MHz	76	2478 MHz
17	2419 MHz	37	2439 MHz	57	2459 MHz	77	2479 MHz
18	2420 MHz	38	2440 MHz	58	2460 MHz	78	2480 MHz
19	2421 MHz	39	2441 MHz	59	2461 MHz	79	2481 MHz

2. Test Configuration of the Equipment under Test

2.1. Connection Diagram of Test System



2.2. The Test Mode Description

Spurious emission below 1GHz is independent of channel selection, so only channel 79 was tested.
AC conduction emission is independent of channel selection, so only channel 79 was tested.

2.3. Description of Test Supporting Units

Support unit	Brand	Model No.	Serial No.	FCC ID	Data cable (m)
PS2	SONY	-	-	DoC	-

3. General Information of Test

3.1. Test Facility

Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiag, Tao Yuan Hsien, Taiwan, R.O.C.

: TEL 886-3-327-3456

: FAX 886-3-318-0055

Test Site No : 03CH03-HY / CO04-HY

3.2. Test Conditions

Normal Voltage	: 3VDC
Extreme Voltages	: NA
Normal Temperature	: 20℃
Extreme Temperature	: 0 ℃ and 55 ℃

3.3. Standards for Methods of Measurement

Here is the list of the standards followed in this test report.

ANSI C63.4-2003

47 CFR Part 15 Subpart C (Section 15.249)

3.4. DoC Statement

This EUT is also classified as a device of computer peripheral Class B which DoC has to be followed. It has been verified according to the rule of 47 CFR part 15 Subpart B, and found that all the requirements has been fulfilled.

3.5. Frequency Range Investigated

Radiated emission test: from 30 MHz to 10th carrier harmonic

3.6. Test Distance

The test distance of radiated emission (30MHz~1GHz) test from antenna to EUT is 3 M.
The test distance of radiated emission (1GHz~10th carrier harmonic) test from antenna to EUT is 1 M.

3.7. Test Software

There is no special test software, the channel can be switched via the hardware key.

4. List of Measurements

4.1. Summary of the Test Results

Applied Standard: 47 CFR Part 15 and Part 2

Paragraph	FCC Rule	Description of Test	Result
5.1	15.249	Maximum Carrier Field Strength	Pass
5.2	15.249	Band Edges Emission	Pass
5.3	15.207	AC Power Line Conducted Emission	Pass
5.4	15.209/15.249	Spurious Radiated Emission	Pass
5.5	15.203	Antenna Requirement	Pass

5. Test Result

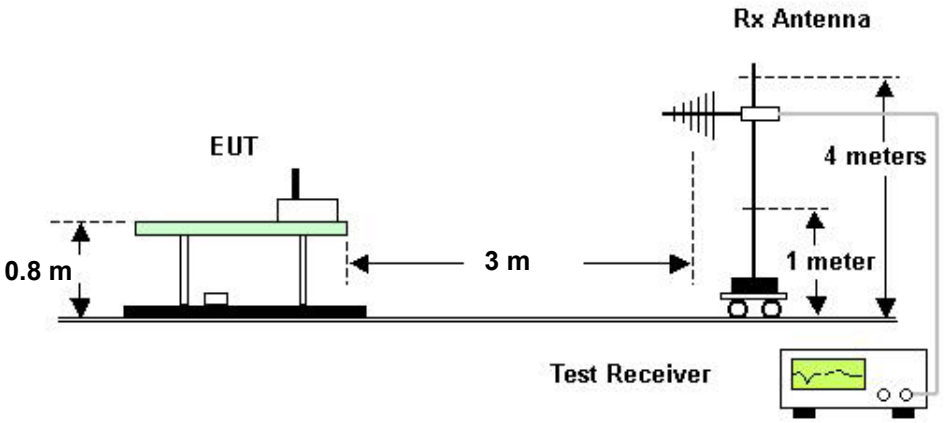
5.1. Test of Maximum Carrier Field Strength

5.1.1. Measuring Instruments

Item 6~17 of the table is on section 6.

5.1.2. Test Procedures

1. Configure the EUT according to ANSI C63.4.
2. The turn table was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.
4. For carrier field strength emission, the antenna tower was scan (from 1 M to 4 M) and then the turn table was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. For carrier field strength emission, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
6. Test Setup Layout



5.1.3. Test Result:

- Temperature: 26°C
- Relative Humidity: 64%
- Duty Cycle of the Equipment During the Test: 100.00%
- Test Engineer: Ted Chou

Channel	Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV/m)	Detector
00	2402 MHz	69.47	-24.53	94.00	39.44	Average
00	2402 MHz	74.16	-39.84	114.00	44.13	Peak
39	2441 MHz	70.84	-23.16	94.00	40.70	Average
39	2441 MHz	76.15	-37.85	114.00	46.01	Peak
79	2481 MHz	69.42	-24.58	94.00	39.15	Average
79	2481 MHz	74.77	-39.23	114.00	44.50	Peak

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

5.2. Test of Band Edges Emission

5.2.1. Measuring Instruments

Item 6~17 of the table is on section 6.

5.2.2. Test Procedures

1. The transmitter is set to the lowest and highest channel.
2. Configure the EUT according to ANSI C63.4.
3. The turn table was rotated by 360 degrees to determine the position of the highest radiation.
4. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.
5. For band edge emission, the antenna tower was scan (from 1 M to 4 M) and then the turn table was rotated (from 0 degree to 360 degrees) to find the maximum reading.
6. For band edge emission, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.

5.2.3. Test Result:

Temperature: 26°C
Relative Humidity: 64%
Duty Cycle of the Equipment During the Test: 100.00%
Test Engineer: Ted Chou

Test Channel	Freq. (MHz)	Level* (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Read (dBuV/m)	Trace (PK/AV)
00	2337.540	55.80	-18.20	74	25.93	PK
00	2337.540	40.81	-13.19	54	10.94	AV
79	2483.670	57.44	-16.56	74	27.16	PK
79	2483.670	50.43	-3.57	54	20.15	AV

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level*.
Level* : The max field strength in the restricted bands.

5.3. Test of AC Power Line Conducted Emission

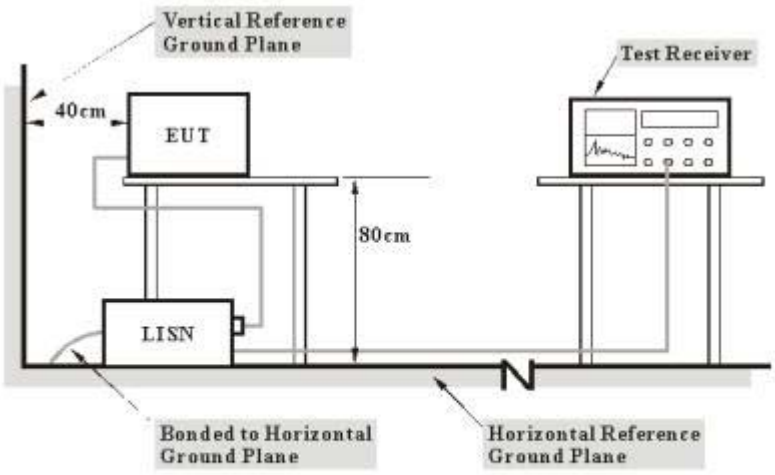
5.3.1. Measuring Instruments

Please reference item 1~5 in chapter 6 for the instruments used for testing.

5.3.2. Test Procedures

1. Configure the EUT according to ANSI C63.4.
2. The EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN)
4. All the support units are connected to the other LISNs. The LISN should provides 50uH/50ohms coupling impedance.
5. The frequency range from 150 KHz to 30 MHz was searched.
6. Use the Channel & Power Controlling software to make the EUT working on selected channel and expected output power, then use the “H” Patter Generator software to make the supporting equipments stay on working condition.
7. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
8. The measurement has to be done between each power line and ground at the power terminal for each RF channel. Only one RF channel has to be investigated since this test is independent with the RF channel selection.

5.3.3. Test Setup Layout



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

5.3.4. Test Result of Conducted Emission

- Temperature: 26°C
- Relative Humidity: 64%
- Test Engineer: Hikaru Chan

Line to Ground

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1500000	54.13	-11.87	66.00	54.02	0.10	0.01	QP
2	0.1500000	50.44	-5.56	56.00	50.33	0.10	0.01	Average
3	0.2986930	26.84	-33.44	60.28	26.72	0.10	0.02	QP
4	0.2986930	18.26	-32.02	50.28	18.14	0.10	0.02	Average
5	0.4567480	21.80	-34.95	56.75	21.68	0.10	0.02	QP
6	0.4567480	14.36	-32.39	46.75	14.24	0.10	0.02	Average
7	2.470	23.24	-32.76	56.00	23.07	0.13	0.04	QP
8	2.470	16.01	-29.99	46.00	15.84	0.13	0.04	Average
9	13.821	24.06	-35.94	60.00	23.71	0.20	0.15	QP
10	13.821	20.06	-29.94	50.00	19.71	0.20	0.15	Average
11	27.130	29.01	-30.99	60.00	28.39	0.39	0.23	QP
12	27.130	23.71	-26.29	50.00	23.09	0.39	0.23	Average

Neutral to Ground

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1507970	53.55	-12.41	65.96	53.44	0.10	0.01	QP
2	0.1507970	49.51	-6.45	55.96	49.40	0.10	0.01	Average
3	0.3055370	31.96	-28.13	60.09	31.84	0.10	0.02	QP
4	0.3055370	25.32	-24.77	50.09	25.20	0.10	0.02	Average
5	0.4550430	27.70	-29.08	56.78	27.58	0.10	0.02	QP
6	0.4550430	19.84	-26.94	46.78	19.72	0.10	0.02	Average
7	0.7522970	25.87	-30.13	56.00	25.74	0.10	0.03	QP
8	0.7522970	17.05	-28.95	46.00	16.92	0.10	0.03	Average
9	2.500	25.53	-30.47	56.00	25.39	0.10	0.04	QP
10	2.500	18.68	-27.32	46.00	18.54	0.10	0.04	Average
11	13.060	21.71	-38.29	60.00	21.37	0.20	0.14	QP
12	13.060	16.69	-33.31	50.00	16.35	0.20	0.14	Average

5.3.5. Photographs of Conducted Emission Test Configuration

FRONT VIEW

REAR VIEW

5.4. Test of Spurious Radiated Emission

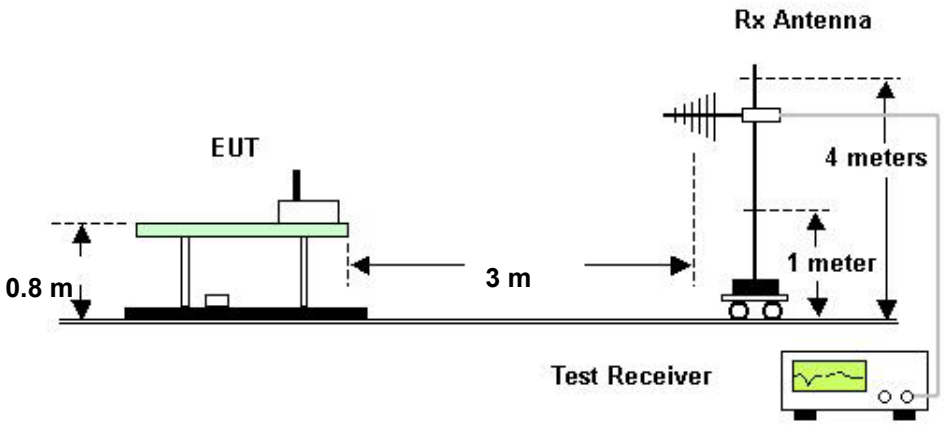
5.4.1. Measuring Instruments

Please reference item 6~17 in chapter 6 for the instruments used for testing.

5.4.2. Test Procedures

1. Configure the EUT according to ANSI C63.4.
2. The EUT was placed on the top of the turn table 0.8 meter above ground.
3. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turn table.
4. Power on the EUT and all the supporting units.
5. The turn table was rotated by 360 degrees to determine the position of the highest radiation.
6. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.
7. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turn table was rotated (from 0 degree to 360 degrees) to find the maximum reading.
8. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
9. For emission above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
10. If the emission level of the EUT in peak mode was 3 dB lower than the average 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 for below 1GHz and average method for above the 1GHz. the reported.
11. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB higher 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.

5.4.3. Test Setup Layout



5.4.4. Test Results for CH 79 / 2481 MHz (for emission below 1GHz)

- Temperature: 26°C
- Relative Humidity: 64%
- Duty Cycle of the Equipment During the Test: 100.00%
- Test Engineer: Ted Chou

(A) Polarization: Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	54.990	16.48	-23.52	40.00	31.82	10.96	1.26	27.56	Peak	---	---
2	66.380	17.79	-22.21	40.00	33.83	10.06	1.37	27.47	Peak	---	---
3	120.780	14.51	-28.99	43.50	27.77	11.94	1.96	27.16	Peak	111	43
1	624.800	23.43	-22.57	46.00	26.79	20.47	4.50	28.33	Peak	---	---
2	778.400	26.95	-19.05	46.00	28.16	21.64	4.94	27.79	Peak	---	---
3	880.800	26.17	-19.83	46.00	26.44	21.74	5.28	27.29	Peak	---	---

(B) Polarization: Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	66.380	19.93	-20.07	40.00	35.97	10.06	1.37	27.47	Peak	---	---
2	72.670	15.92	-24.08	40.00	32.18	9.72	1.44	27.42	Peak	---	---
3	111.260	18.65	-24.85	43.50	33.32	10.63	1.88	27.18	Peak	---	---
1	537.600	20.58	-25.42	46.00	27.01	17.66	4.12	28.21	Peak	---	---
2	710.400	24.40	-21.60	46.00	26.92	20.83	4.71	28.06	Peak	---	---
3	822.400	27.37	-18.63	46.00	27.96	21.86	5.14	27.59	Peak	---	---

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

5.4.5. Test Results for CH 00 / 2402 MHz (for emission above 1GHz)

- Temperature: 26°C
- Relative Humidity: 64%
- Duty Cycle of the Equipment During the Test: 100.00%
- Test Engineer: Ted Chou

(A) Polarization: Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1072.000	48.38	-25.62	74.00	62.10	24.32	1.19	39.23	Peak	---	---
2	4838.000	44.51	-29.49	74.00	49.08	33.02	2.55	40.14	Peak	---	---
3	6712.000	47.21	-26.79	74.00	49.23	34.63	2.98	39.63	Peak	---	---

(B) Polarization: Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1920.000	49.08	-24.92	74.00	60.07	27.02	1.56	39.57	Peak	---	---
2	13716.000	56.87	-17.13	74.00	49.04	40.72	5.57	38.46	Peak	---	---
3	13716.000	46.84	-7.16	54.00	39.01	40.72	5.57	38.46	Average	---	---
4	14160.000	58.33	-15.67	74.00	48.90	41.62	6.25	38.44	Peak	---	---
5	14160.000	48.22	-5.78	54.00	38.79	41.62	6.25	38.44	Average	---	---

Note:
Emission level (dBuV/m) = 20 log Emission level (uV/m)
Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

5.4.6. Test Results for CH 39 / 2441 MHz (for emission above 1GHz)

- Temperature: 26°C
- Relative Humidity: 64%
- Duty Cycle of the Equipment During the Test: 100.00%
- Test Engineer: Ted Chou

(A) Polarization: Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	4919.600	43.25	-30.75	74.00	47.75	33.18	2.47	40.15	Peak	---	---
2	7313.200	48.40	-25.60	74.00	48.52	36.03	3.30	39.45	Peak	---	---
3	9799.000	50.11	-23.89	74.00	46.70	38.56	3.55	38.70	Peak	---	---

(B) Polarization: Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	2688.000	39.11	-34.89	74.00	47.57	29.09	1.97	39.52	Peak	---	---
2	4572.000	44.76	-29.24	74.00	50.03	32.52	2.33	40.12	Peak	---	---
3	9502.000	49.80	-24.20	74.00	46.53	38.00	4.06	38.79	Peak	---	---

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

5.4.7. Test Results for CH 79 / 2481 MHz (for emission above 1GHz)

- Temperature: 26°C
- Relative Humidity: 64%
- Duty Cycle of the Equipment During the Test: 100.00%
- Test Engineer: Ted Chou

(A) Polarization: Horizontal

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	5310.000	44.43	-29.57	74.00	48.12	33.74	2.63	40.06	Peak	---	---
2	6596.000	47.33	-26.67	74.00	49.40	34.44	3.16	39.67	Peak	---	---
3	8580.000	49.27	-24.73	74.00	46.92	38.10	3.32	39.07	Peak	---	---

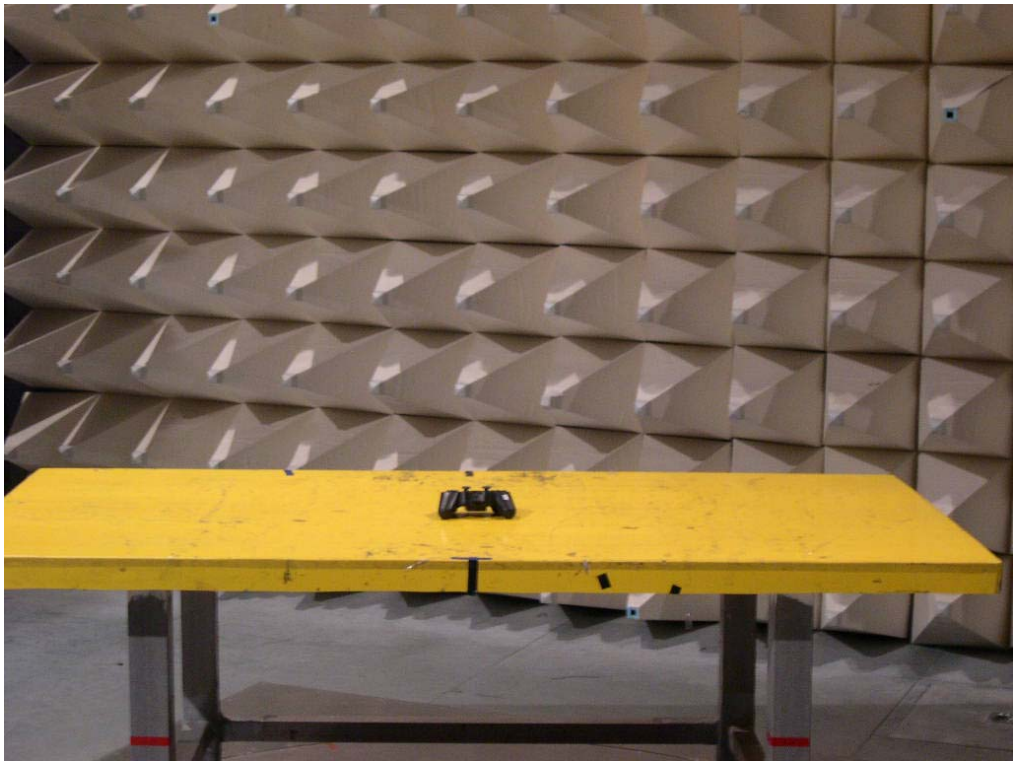
(B) Polarization: Vertical

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	4962.000	45.27	-28.73	74.00	49.74	33.24	2.44	40.15	Peak	---	---
2	5760.000	45.92	-28.08	74.00	49.21	34.05	2.58	39.92	Peak	---	---
3	5884.000	46.07	-27.93	74.00	49.08	34.08	2.80	39.89	Peak	---	---

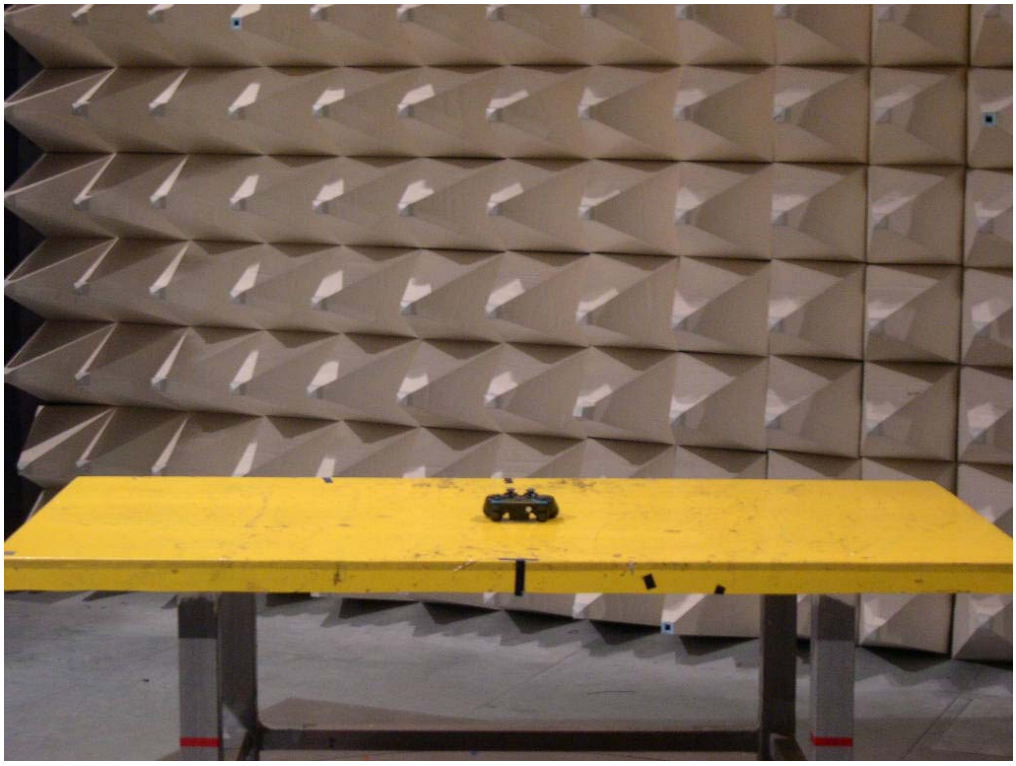
Note:
Emission level (dBuV/m) = 20 log Emission level (uV/m)
Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

5.4.8. Photographs of Radiated Emission Test Configuration

FRONT VIEW



REAR VIEW



5.5. Antenna Requirements

5.5.1. Standard Applicable

47 CFR Part15 Section 15.203:
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

5.5.2. Antenna Connected Construction

There is no antenna connector for printed antenna.

6. List of Measuring Equipments Used

Items	Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
1	EMC Receiver	R&S	ESCS 30	100174	9 KHz – 2.75 GHz	Feb. 16, 2004	Conduction (CO04-HY)
2	LISN	MessTec	NNB-2/16Z	2001/004	9 KHz – 30 MHz	Jun. 09, 2004	Conduction (CO04-HY)
3	LISN (Support Unit)	MessTec	NNB-2/16Z	99041	9 KHz – 30 MHz	Apr. 27, 2004	Conduction (CO04-HY)
4	EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)
5	RF Cable-CON	UTIFLEX	3102-26886-4	CB044	9KHz~30MHz	Apr. 21, 2004	Conduction (CO04-HY)
6	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz~1GHz 3m	Jun. 21, 2004	Radiation (03CH03-HY)
7	Spectrum analyzer	R&S	FSP40	100004	9KHZ~40GHz	Aug. 22, 2004	Radiation (03CH03-HY)
8	Amplifier	HP	8447D	2944A09072	100KHz – 1.3GHz	Nov. 04, 2004	Radiation (03CH03-HY)
9	Biconical Antenna	SCHWARZBECK	VHBB 9124	301	30MHz –200MHz	Jul. 28, 2004	Radiation (03CH03-HY)
10	Log Antenna	SCHWARZBECK	VUSLP 9111	221	200MHz -1GHz	Jul. 28, 2004	Radiation (03CH03-HY)
11	RF Cable-R03m	Jye Bao	RG142	CB021	30MHz~1GHz	Dec. 03, 2003	Radiation (03CH03-HY)
12	Amplifier	MITEQ	AFS44	849984	100MHz~26.5GHz	Mar. 26, 2004	Radiation (03CH03-HY)
13	Horn Antenna	EMCO	3115	6821	1GHz – 18GHz	Sep. 11, 2004	Radiation (03CH03-HY)
14	Turn Table	HD	DS 420	420/650/00	0 ~ 360 degree	N/A	Radiation (03CH03-HY)
15	Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	Radiation (03CH03-HY)
16	Horn Antenna	Schwarzbeck	BBHA9170	154	15GHz~40GHz	Jun. 09, 2004	Radiation (03CH03-HY)
17	RF Cable-HIGH	Jye Bao	RG142	CB030-HIGH	1GHz~29.5GHz	Dec. 05, 2003	Radiation (03CH03-HY)

※ Calibration Interval of instruments listed above is one year.