

Date: 2003-03-28

TEST REPORT

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No.: HM110021

FCC PART 15 SUBPART C CERTIFICATION REPORT

FOR LOW POWER TRANSMITTER

TEST REPORT No.: HM110021

Equipment Under Test [EUT]:
Model Number:
Applicant:
FCC ID :

RF Wireless Game Pad
LPR-232
Powersonic Co., Ltd.
Q3TLP232

Date: 2003-03-28

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Appendix A

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CONCLUSION

The submitted product was deemed to have **COMPLIED** with the requirements of Federal Communications Commission [FCC] Rules and Regulations Part 15. The tests were performed in accordance with the standards described above and on Section 2.2 in this Test Report.

Verified by

Patrick Wong
for Chief Executive

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1.0 General Details

1.1 Test Laboratory

The Hong Kong Standards and Testing Centre Ltd.
EMC Laboratory
10 Dai Wang Street, Taipo Industrial Estate
New Territories, Hong Kong

1.2 Applicant Details **Applicant**

POWERSONIC CO., LTD.
50 Bu Yong Ind. Road, Sha Jing Town, Shenzhen, China

HKSTC Code Number for Applicant

POC006

Manufacturer

POWERSONIC CO., LTD.
50 Bu Yong Ind. Road, Sha Jing Town, Shenzhen, China

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1.3 Equipment Under Test [EUT]

Description of Sample

Product: RF Wireless Game Pad
Manufacturer: Powersonic Co., Ltd.
Brand Name: N/A
Model Number: LPR-232
Input Voltage: 4.5Vd.c. ("AAA" size battery x 3) with DC jack
The AC/DC Adapter used for the tests was provided by the applicant with the following details: Model: 0450300DF, Input: 110Va.c. 60Hz 5.6W, Output: 4.5Vd.c. 300mA

1.3.1 Description of EUT Operation

The Equipment Under Test (EUT) is an Powersonic Co., Ltd., RF Wireless Game Pad. The transmitter is a 2 button transmitter. The EUT continues to transmit while button is being pressed, Modulation by IC. and tape is pulse modulation.

1.4 Date of Order

2003-03-14

1.5 Submitted Sample(s):

1 Sample per model

1.6 Test Duration

2003-03-21 to 2003-03-25

1.7 Country of Origin

China

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1.8 Additional Information of EUT

	Submitted	Not Available
User Manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Part List	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Circuit Diagram	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Printed Circuit Board [PCB] Layout	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Block diagram	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FCC ID Label	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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2.0 Technical Details

2.1 Investigations Requested

Perform ElectroMagnetic Interference measurement in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15 and ANSI C63.4:2000 for FCC Certification.

2.2 Test Standards and Results Summary Tables

EMISSION Results Summary						
Test Condition	Test Requirement	Test Method	Class / Severity	Test Result		
				Pass	Failed	N/A
Field Strength of Fundamental Emissions & Spurious Emissions	FCC 47CFR 15.249	ANSI C63.4:2000	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radiated Emissions, 30MHz to 1GHz	FCC 47CFR 15.109	ANSI C63.4:2000	Class B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conducted Emissions on AC, 0.15MHz to 30MHz	FCC 47CFR 15.207	ANSI C63.4:2000	Class B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: N/A - Not Applicable

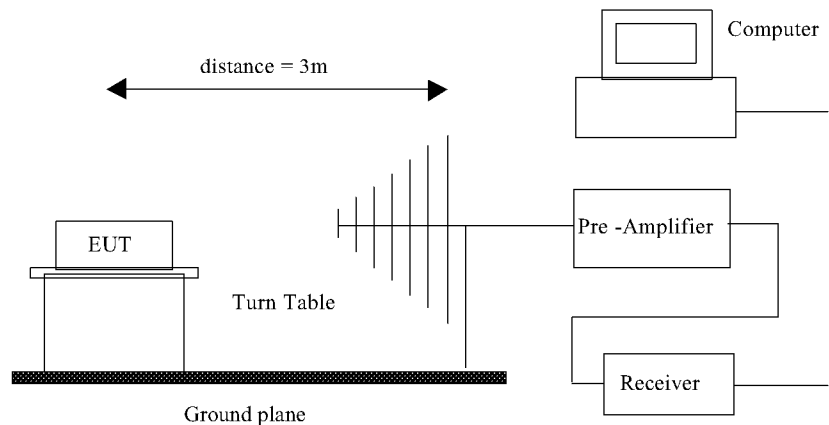
3.0 Test Results**3.1 Emission****3.1.1 Radiated Emissions**

Test Requirement:	FCC 47CFR 15.249
Test Method:	ANSI C63.4:2000
Test Date:	2003-03-25
Mode of Operation:	On mode

Test Method:

The sample was placed 0.8m above the ground plane on the OATS *. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigate all operating modes, rotated about all 3 axis (X, Y & Z) to obtain worst position, manipulating interconnecting cables, rotating turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

*: OATS [Open Area Test Site] located at HKSTC with a metal ground plane on filed with the FCC pursuant to section 2.948 of the FCC rules, with Registration Number: 90657.

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Limits for Field Strength of Fundamental Emissions [FCC 47CFR 15.249]:

Frequency Range of Fundamental [MHz]	Field Strength of Fundamental Emission [Millivolts/meter]	Field Strength of Fundamental Emission [microvolts/meter]
902-928	50	500
2400-2483.5	50	500
5725-5875	50	500
24000-22500	250	2500

** Linear interpolations

Results: DIP Switch 0000

Field Strength of Fundamental Emissions Quasi-Peak						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	Antenna Polarity
903.00	58.1	29.8	87.9	24831.3	50,000	Horizontal
1806.00	17.3	31.3	48.6	269.2	500	Horizontal
2709.00	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3612.00					50,000	Vertical
4515.00					50,000	Vertical
5418.00					50,000	Vertical
6321.00					50,000	Vertical
7224.00					50,000	Vertical
8127.00					50,000	Vertical
9030.00					50,000	Vertical

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Results: DIP Switch 0001

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	Antenna Polarity
906.00	57.8	29.8	87.6	23988.3	50,000	Horizontal
1812.00	17.2	31.3	48.5	266.1	500	Horizontal
2718.00	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3624.00					50,000	Vertical
4530.00					50,000	Vertical
5436.00					50,000	Vertical
6342.00					50,000	Vertical
7248.00					50,000	Vertical
8154.00					50,000	Vertical
9060.00					50,000	Vertical

Results: DIP Switch 0010

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	Antenna Polarity
923.50	55.8	29.8	85.6	19054.6	50,000	Horizontal
1847.00	14.2	31.3	45.5	188.4	500	Horizontal
2770.50	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3694.00					50,000	Vertical
4617.50					50,000	Vertical
5541.00					50,000	Vertical
6464.50					50,000	Vertical
7388.00					50,000	Vertical
8311.50					50,000	Vertical
9235.00					50,000	Vertical

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Results: DIP Switch 0011

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	Antenna Polarity
926.00	55.2	29.8	85.0	17782.8	50,000	Horizontal
1852.00	14.1	31.3	45.4	186.2	500	Horizontal
2778.00	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3704.00					50,000	Vertical
4630.00					50,000	Vertical
5556.00					50,000	Vertical
6482.00					50,000	Vertical
7408.00					50,000	Vertical
8334.00					50,000	Vertical
9260.00					50,000	Vertical

Results: DIP Switch 0100

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	Antenna Polarity
916.60	56.2	29.8	86.0	19952.6	50,000	Horizontal
1833.20	15.8	31.3	47.1	226.5	500	Horizontal
2749.80	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3666.40					50,000	Vertical
4583.00					50,000	Vertical
5499.60					50,000	Vertical
6416.20					50,000	Vertical
7332.80					50,000	Vertical
8249.40					50,000	Vertical
9166.00					50,000	Vertical

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Results: DIP Switch 0101

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dB μ V/m	Correction Factor dB μ V/m	Field Strength dB μ V/m	Field Strength μ V/m	Limit @3m μ V/m	Antenna Polarity
920.00	56.4	29.8	86.2	20417.4	50,000	Horizontal
1840.00	16.1	31.3	47.4	234.4	500	Horizontal
2760.00	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3680.00					50,000	Vertical
4600.00					50,000	Vertical
5520.00					50,000	Vertical
6440.00					50,000	Vertical
7360.00					50,000	Vertical
8280.00					50,000	Vertical
9200.00					50,000	Vertical

Results: DIP Switch 0110

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dB μ V/m	Correction Factor dB μ V/m	Field Strength dB μ V/m	Field Strength μ V/m	Limit @3m μ V/m	Antenna Polarity
923.50	55.4	29.8	85.2	18197.0	50,000	Horizontal
1847.00	13.8	31.3	45.1	179.9	500	Horizontal
2770.50	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3694.00					50,000	Vertical
4617.50					50,000	Vertical
5541.00					50,000	Vertical
6464.50					50,000	Vertical
7388.00					50,000	Vertical
8311.50					50,000	Vertical
9235.00					50,000	Vertical

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Results: DIP Switch 0111

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dB μ V/m	Correction Factor dB μ V/m	Field Strength dB μ V/m	Field Strength μ V/m	Limit @3m μ V/m	Antenna Polarity
926.60	54.9	29.8	84.7	17179.1	50,000	Horizontal
1853.20	13.3	31.3	44.6	169.8	500	Horizontal
2779.80	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3706.40					50,000	Vertical
4633.00					50,000	Vertical
5559.60					50,000	Vertical
6486.20					50,000	Vertical
7412.80					50,000	Vertical
8339.40					50,000	Vertical
9266.00					50,000	Vertical

Results: DIP Switch 1000

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dB μ V/m	Correction Factor dB μ V/m	Field Strength dB μ V/m	Field Strength μ V/m	Limit @3m μ V/m	Antenna Polarity
909.00	56.9	29.8	86.7	21627.2	50,000	Horizontal
1818.00	15.7	31.3	47.0	223.9	500	Horizontal
2727.00	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3636.00					50,000	Vertical
4545.00					50,000	Vertical
5454.00					50,000	Vertical
6363.00					50,000	Vertical
7272.00					50,000	Vertical
8181.00					50,000	Vertical
9090.00					50,000	Vertical

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Results: DIP Switch 1001

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	Antenna Polarity
913.00	55.5	29.8	85.3	18407.7	50,000	Horizontal
1826.00	13.9	31.3	45.2	182.0	500	Horizontal
2739.00	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3652.00					50,000	Vertical
4565.00					50,000	Vertical
5478.00					50,000	Vertical
6391.00					50,000	Vertical
7304.00					50,000	Vertical
8217.00					50,000	Vertical
9130.00					50,000	Vertical

Results: DIP Switch 1010

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dBμV/m	Correction Factor dBμV/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	Antenna Polarity
923.50	54.8	29.8	84.6	16982.4	50,000	Horizontal
1847.00	12.6	31.3	43.9	156.7	500	Horizontal
2770.50	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3694.00					50,000	Vertical
4617.50					50,000	Vertical
5541.00					50,000	Vertical
6464.50					50,000	Vertical
7388.00					50,000	Vertical
8311.50					50,000	Vertical
9235.00					50,000	Vertical

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Results: DIP Switch 1011

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dB μ V/m	Correction Factor dB μ V/m	Field Strength dB μ V/m	Field Strength μ V/m	Limit @3m μ V/m	Antenna Polarity
926.60	54.4	29.8	84.2	16218.1	50,000	Horizontal
1853.20	12.7	31.3	44.0	158.5	500	Horizontal
2779.80	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3706.40					50,000	Vertical
4633.00					50,000	Vertical
5559.60					50,000	Vertical
6486.20					50,000	Vertical
7412.80					50,000	Vertical
8339.40					50,000	Vertical
9266.00					50,000	Vertical

Results: DIP Switch 1100

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dB μ V/m	Correction Factor dB μ V/m	Field Strength dB μ V/m	Field Strength μ V/m	Limit @3m μ V/m	Antenna Polarity
916.60	55.2	29.8	85.0	17782.8	50,000	Horizontal
1833.20	13.0	31.3	44.3	164.1	500	Horizontal
2749.80	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3666.40					50,000	Vertical
4583.00					50,000	Vertical
5499.60					50,000	Vertical
6416.20					50,000	Vertical
7332.80					50,000	Vertical
8249.40					50,000	Vertical
9166.00					50,000	Vertical

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Results: DIP Switch 1101

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dB μ V/m	Correction Factor dB μ V/m	Field Strength dB μ V/m	Field Strength μ V/m	Limit @3m μ V/m	Antenna Polarity
920.00	56.3	29.8	86.1	20183.7	50,000	Horizontal
1840.00	15.5	31.3	46.8	218.8	500	Horizontal
2760.00	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3680.00					50,000	Vertical
4600.00					50,000	Vertical
5520.00					50,000	Vertical
6440.00					50,000	Vertical
7360.00					50,000	Vertical
8280.00					50,000	Vertical
9200.00					50,000	Vertical

Results: DIP Switch 1110

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dB μ V/m	Correction Factor dB μ V/m	Field Strength dB μ V/m	Field Strength μ V/m	Limit @3m μ V/m	Antenna Polarity
923.50	55.6	29.8	85.4	18620.9	50,000	Horizontal
1847.00	12.9	31.3	44.2	162.2	500	Horizontal
2770.50	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3694.00					50,000	Vertical
4617.50					50,000	Vertical
5541.00					50,000	Vertical
6464.50					50,000	Vertical
7388.00					50,000	Vertical
8311.50					50,000	Vertical
9235.00					50,000	Vertical

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Results: DIP Switch 1111

Field Strength of Fundamental Emissions						
Quasi-Peak						
Frequency MHz	Measured Level @3m dB μ V/m	Correction Factor dB μ V/m	Field Strength dB μ V/m	Field Strength μ V/m	Limit @3m μ V/m	Antenna Polarity
926.60	55.1	29.8	84.9	17579.2	50,000	Horizontal
1853.20	12.6	31.3	43.9	156.7	500	Horizontal
2779.80	No Emission Detected Within 20dB of the FCC Limit				50,000	Vertical
3706.40					50,000	Vertical
4633.00					50,000	Vertical
5559.60					50,000	Vertical
6486.20					50,000	Vertical
7412.80					50,000	Vertical
8339.40					50,000	Vertical
9266.00					50,000	Vertical

Remarks:

*: Linear interpolations

Correction Factor included Antenna Factor and Cable Attenuation.

Calculated measurement uncertainty = 30MHz to 300MHz ± 3.7 dB
300MHz to 1GHz $+3.0$ dB / -2.7 dB

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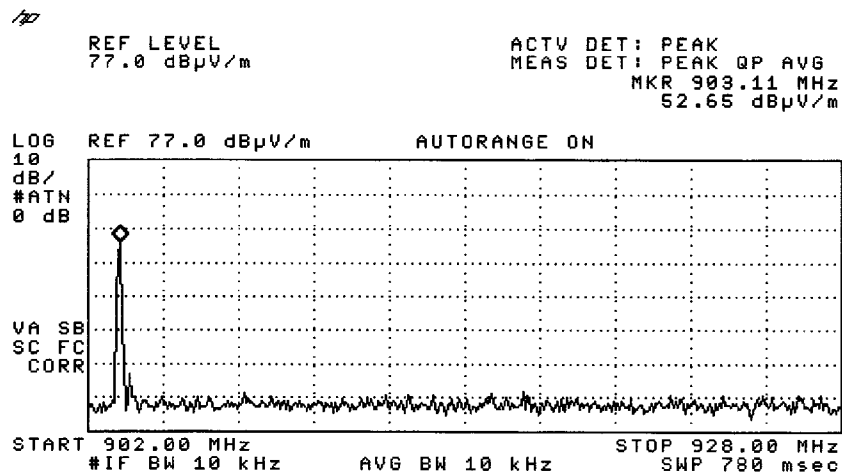
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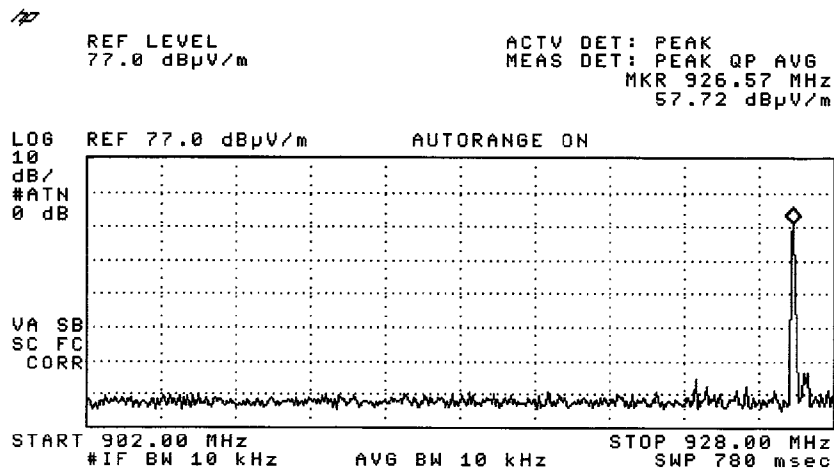
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Band Edge Measurement (Section 15.249(d))

Lowest Frequency:



Highest Frequency:



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Limited for Radiated Emissions [FCC 47 CFR 15.109 Class B]:

Frequency Range [MHz]	Quasi-Peak Limits [μV/m]
30-88	100
88-216	150
216-960	200
Above960	500

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

Results:

Radiated Emissions Quasi-Peak					
Emission Frequency MHz	Antenna Polarity	Level @3m dBμV/m	Limit @3m dBμV/m	Level @3m @3m μV/m	Limit @3m μV/m
30.313	Horizontal	17.4	43.5	7.4	150
584.813	Horizontal	21.0	46.0	11.2	200
690.313	Horizontal	22.2	46.0	12.9	200
868.563	Horizontal	22.6	46.0	13.5	200

Calculated measurement uncertainty = 30MHz to 300MHz ±3.7dB
300MHz to 1GHz +3.0dB / -2.7dB

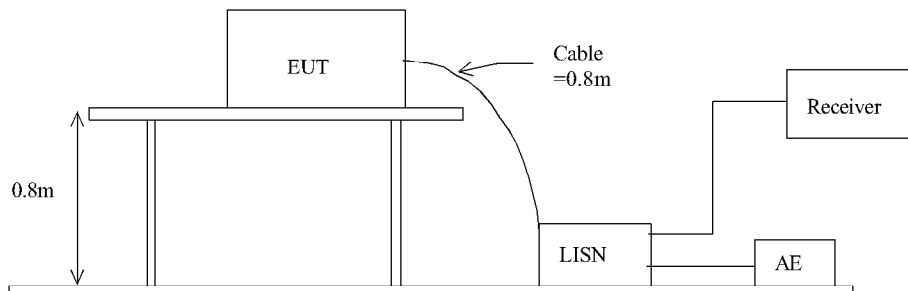
3.1.1 Conducted Emissions (0.15MHz to 30MHz)

Test Requirement:	FCC 47CFR 15.207
Test Method:	ANSI C63.4:2000
Test Date:	2003-03-21
Mode of Operation:	On mode

Test Method:

The test was performed in accordance with ANSI C63.4:2000, with the following: an initial measurement was performed in peak and average detection mode on the live line. Any emissions recorded within 30dB of the relevant limit line were re-measured using quasi-peak and average detection on the live and neutral lines with the worst case recorded in the table of results.

Test Setup:

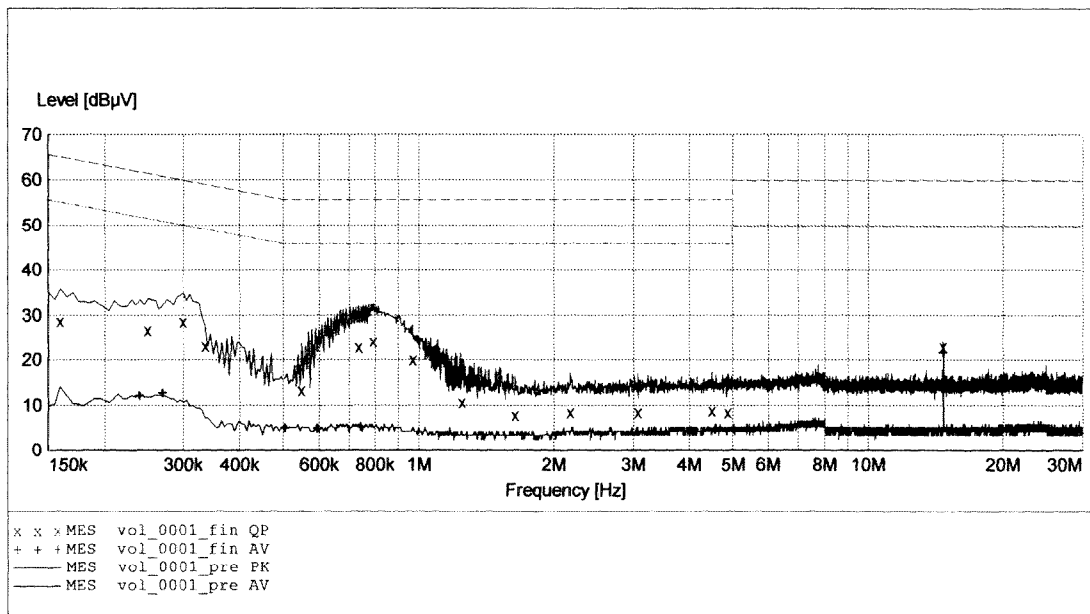


Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dB μ V]	Average [dB μ V]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram labelled as (QP and AV).

Results: Charge Mode

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Results: Charge Mode

Conductor Live or Neutral	Frequency MHz	Quasi-peak		Average	
		Level dB μ V	Limit dB μ V	Level dB μ V	Limit dB μ V
Live	0.240	-*-	-*-	12.2	52.0
Live	0.550	13.4	56.0	-*-	-*-
Live	0.505	-*-	-*-	5.1	46.0
Live	0.595	-*-	-*-	5.0	46.0
Live	0.745	-*-	-*-	5.3	46.0
Live	1.640	8.0	56.0	-*-	-*-
Live	4.495	9.0	56.0	-*-	-*-
Live	4.880	8.5	56.0	-*-	-*-
Live	14.745	23.1	60.0	21.8	50.0
Neutral	0.160	28.8	66.0	-*-	-*-
Neutral	0.250	26.8	62.0	-*-	-*-
Neutral	0.270	-*-	-*-	12.8	51.0
Neutral	0.300	28.7	60.0	-*-	-*-
Neutral	0.335	23.2	59.0	-*-	-*-
Neutral	0.735	23.0	56.0	-*-	-*-
Neutral	0.795	24.3	56.0	-*-	-*-
Neutral	0.970	20.3	56.0	-*-	-*-
Neutral	1.250	10.9	56.0	-*-	-*-
Neutral	2.180	8.5	56.0	-*-	-*-
Neutral	3.080	8.5	56.0	-*-	-*-
Neutral	4.575	-*-	-*-	4.7	46.0

Remarks:

Calculated measurement uncertainty = ± 2.3 dB

-*- Emission greater than 30dB below limit line.

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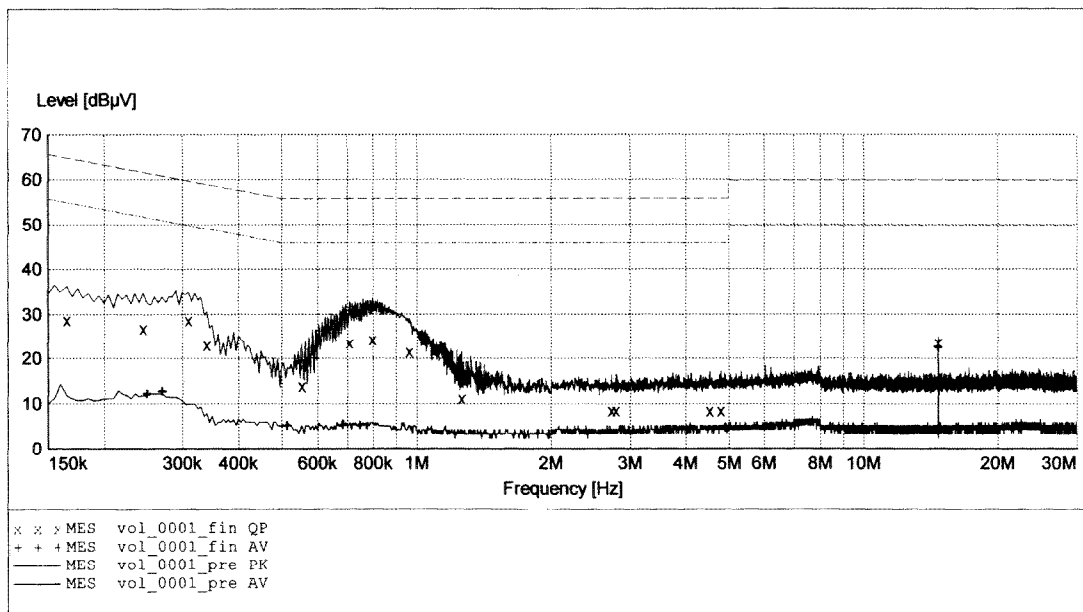
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dB μ V]	Average [dB μ V]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram labelled as (QP and AV).

Results: On Mode



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Results: On Mode

Conductor Live or Neutral	Frequency MHz	Quasi-peak		Average	
		Level dB μ V	Limit dB μ V	Level dB μ V	Limit dB μ V
Live	0.515	-*-	-*-	5.2	46.0
Live	0.555	14.0	56.0	-*-	-*-
Live	0.710	23.8	56.0	-*-	-*-
Live	2.735	8.5	56.0	-*-	-*-
Live	4.530	8.5	56.0	-*-	-*-
Live	4.805	8.5	56.0	-*-	-*-
Live	4.095	-*-	-*-	4.5	46.0
Live	14.745	23.7	60.0	22.7	50.0
Neutral	0.165	29.0	65.0	-*-	-*-
Neutral	0.245	27.0	62.0	-*-	-*-
Neutral	0.250	-*-	-*-	12.3	52.0
Neutral	0.270	-*-	-*-	12.8	51.0
Neutral	0.310	28.8	60.0	-*-	-*-
Neutral	0.340	23.2	59.0	-*-	-*-
Neutral	0.685	-*-	-*-	5.3	46.0
Neutral	0.750	-*-	-*-	5.3	46.0
Neutral	0.800	24.5	56.0	-*-	-*-
Neutral	0.965	21.8	56.0	-*-	-*-
Neutral	1.265	11.3	56.0	-*-	-*-
Neutral	2.805	8.5	56.0	-*-	-*-
Neutral	4.925	-*-	-*-	4.8	46.0

Remarks:

Calculated measurement uncertainty = ± 2.3 dB

-*- Emission greater than 30dB below limit line.

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Appendix A

Test Equipment Audit

Radiated Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EM007	SPECTRUM ANALYZER	HEWLETT PACKARD	HP85660B	3144A21192	14/03/03
EM008	SPECTRUM ANALYZER DISPLAY	HEWLETT PACKARD	HP85662A	3144A20514	14/03/03
EM009	QUASI PEAK ADAPTOR	HEWLETT PACKARD	HP85650A	3303A01702	14/03/03
EM010	RF PRESELECTOR	HEWLETT PACKARD	HP85685A	3221A01410	14/03/03
EM011	ATTENUATOR/SWITCH	HEWLETT PACKARD	HP11713A	2508A10595	14/03/03
EM012	PRE-AMPLIFIER	HEWLETT PACKARD	HP8449B	3008A00262	14/03/03
EM013	CONTROLLER (COMPUTER), COLOR MONITOR, KEYBOARD & MOUSE FLOPPY DRIVE	HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD	HP9000 HP A1097C HP9133L	6226A60314 3151J39517 2623A02468	CM
EM020	HORN ANTENNA	EMCO	3115	4032	19/07/00
EM022	LOOP ANTENNA	EMCO	6502	1189-2424	04/08/00
EM072	SIGNAL GENERATOR	HEWLETT PACKARD	8640B	1948A11892	N/A
EM083	HKSTC OPEN AREA TEST SITE	HKSTC	N/A	N/A	21/03/02
EM131	PORTABLE SPECTRUM ANALYSER	HEWLETT PACKARD	8595EM	3710A00155	18/12/01
EM145	EMI TEST RECEIVER	R & S	ESCS 30	830245/021	22/07/02
EM194	BICONILOG ANTENNA	EMCO	3142B	1795	14/05/02
EM195	ANTENNA POSITIONING MAST	EMCO	2075	2368	N/A
EM196	MULTI-DEVICE CONTROLLER	EMCO	2090	1662	N/A

Conducted Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EM078	VARIAC	SHANGHAI VOLTAGE	TDGC-3/0.5	N/A	CM
EM081	SMALL SCREENED ROOM	MIKO INST HK	N/A	N/A	18/10/02
EM119	LISN	R & S	ESH3-Z5	0831.5518.52	01/10/02
EM127	ISOLATION TRANSFORMER 220 TO 300	WING SUN	N/A	N/A	CM
EM142	PULSES LIMITER	R & S	ESH3Z2	357.8810.52	03/07/02
EM181	EMI TEST RECEIVER	R & S	ESIB7	100072	28/11/01
EM154	SHIELDING ROOM	SIEMENA MATSUSHITA COMPONENTS	N/A	803-740-057- 99A	18/10/02
EM197	LISN	EMCO	4825/2	1193	28/03/02

Remarks:

CM Corrective Maintenance
N/A Not Applicable or Not Available
TBD To Be Determined



香港標準及檢定中心
Hong Kong Standards and Testing Centre

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Appendix B

Photographs of EUT

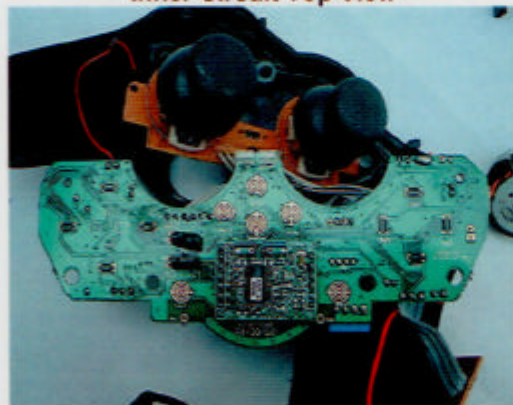
Front View of the product



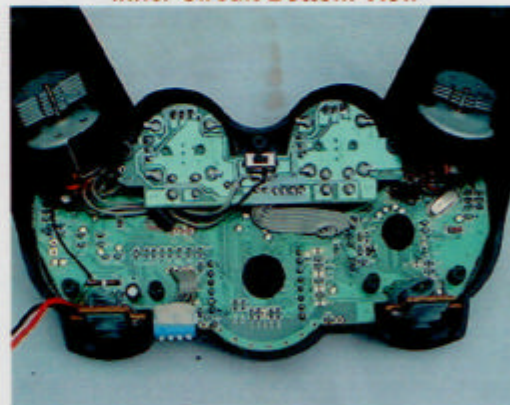
Rear View of the product



Inner Circuit Top View



Inner Circuit Bottom View



Conditions of Issuance of Test Reports

1. All samples and goods are accepted by The Hong Kong Standards & Testing Centre Ltd (the "Company") solely for testing and report in accordance with the following terms and conditions. The Company provides its services on the basis that such terms and conditions constitute an express agreement between the Company and any person. 2. Any report issued by the Company as a result of this application for testing services (the "Report") shall be issued in accordance with the Company's Report and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to his customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless requested by the relevant governmental authorities, court or court order. 3. The Company shall not be liable for failure to give evidence in a court of law without its prior written consent, unless requested by the relevant governmental authorities, court or court order. Reports issued by the Company to any independent body shall not bind the Company to support or prosecute the Company from opposing the Clients submitting the samples, unless the names of supplier and buyer are disclosed prior to the issuance of the Report. The Company reserves the right to take part in any legal action against the Clients. 4. The Report refers only to the samples tested and does not apply to the bulk, unless the sampling has been carried out by the Company and is stated as such in the Report. 5. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other actions remedies which may be appropriate. 6. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company. 7. The Company will not be liable for or accept responsibility for any loss or damage (howsoever arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations). 8. Applicants wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing. 9. The Company will take reasonable care of samples submitted for testing whilst in the Company's possession. However, no liability is accepted for loss or damage (howsoever caused) to goods and/or samples whilst in the possession of or under the control of the Company. Mutation of samples submitted for the purpose of testing is inevitable. The Company will return, on the Client's written request, only what remains of the samples after testing. The Clients agree that any samples, if retained by the Company may be destroyed after one month, unless the Company has specifically instructed otherwise. 10. Samples which are in the Company's reasonable control too small to afford an adequate examination or test to be made, may nevertheless, subject to the Company's prior decision, be submitted for test but the relevant report may be accordingly qualified.

香港新界大埔工業邨大宏街10號
10 Dai Wang Street,
Taipo Industrial Estate,
N. T., Hong Kong
Tel : (852) 2666 1888
Fax : (852) 2664 4353
Homepage: www.hkstc.org
E-mail: hkstc@hkstc.com



香港標準及檢定中心
Hong Kong Standards and Testing Centre

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Photographs of EUT

Measurement of Radiated Emission Test Set Up



Measurement of Conducted Emission Test Set Up



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香港新界大埔工業邨大宏街10號
10 Dai Wang Street,
Taipo Industrial Estate,
N. T., Hong Kong
Tel : (852) 2666 1888
Fax : (852) 2664 4353
Homepage: www.hkstc.org
E-mail: hkstc@hkstc.com