







ISO/IEC17025 Accredited Lab.

Report No: FCC 0903015 File reference No: 2009-03-12

Applicant: Wireless Environment LLC

Product: RF Remote Switch

Brand Name: Mr. Beams

Model No: MB370

Test Standards: FCC Part 15 Subpart B: 2008

Test result:

It is herewith confirmed and found to comply with the requirements

set up by ANSI C63.4&FCC Part 15 regulations for the evaluation of

electromagnetic compatibility

Approved By

Jack Chung

Jack Chung

Manager

Dated: March 12, 2009

Results appearing herein relate only to the sample tested

The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD

East 5/Block 4, Anhua Industrial Zone, No.8, Tairan Rd. Chegongmiao, FuTian District, Shenzhen, CHINA.

Tel (755) 83448688 Fax (755) 83442996

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Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

CNAS-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

FCC-Registration No.: 899988

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 899988.

IC- Registration No.: IC5205A-01

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration IC No.: 5205A-01.

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1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD

Address: East 5/Block 4, Anhua Industrial Zone, No.8, Tairan Rd. CheGongMiao, FuTian District,

Shenzhen, CHINA.

Telephone: (755) 83448688 Fax: (755) 83442996

1.2 Applicant Details

Applicant: Wireless Environment LLC

Address: 151 Innovation Drive, Elyria, Ohio 44035, United States

Telephone: 877 298 9082/240 401 8224

Fax: --

1.3 Description of EUT

Product: RF Remote Switch

Manufacturer: 3P Sources Company Limited

Address: Flat 3, 8/F, Harry Industrial Building, 49~51 Au Pui Wan Street, Fo Tan, Shatin, N.

T. H.K.

Brand Name: Mr. Beams
Model Number: MB370
Additional Model Number: --

Remark: --

Rating: Input: DC 4.5V

1.4 Submitted Sample(s): 2 Samples

1.5 Test Duration: 2009-03-03 to 2009-03-12

1.6 Test Uncertainty

Conducted Emissions Uncertainty = 3.6dB Radiated Emissions Uncertainty = 4.7dB

1.7 Test Engineer

Teny Tang

The sample tested by

Print Name: Terry Tang

The report refers only to the sample tested and does not apply to the bulk.

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2.0 List of Measurement Equipment

2.1 Conducted Emission Test

				Calibration	Calibration
Name	Model No.	Serial No.	Manufacturer	Date	Cycle
EMI Test Receiver	ESCS30	830245/009	RS	2009.2.23	1Year
Coaxial Switch	MP59B	M70585	ANRITSU	N/A	N/A
LISN	NTFM8132	8132137	SCHWARZBECK	2009.2.24	1Year
LISN	NTFM8134	8134109	SCHWARZBECK	2009.2.24	1Year
LISN	NTFM8136	8136102	SCHWARZBECK	2009.2.24	1Year

2.2 Radiated electromagnetic disturbance test

				Calibration	Calibration
Name	Model No.	Serial No.	Manufacturer	Date	Cycle
EMI Test Receiver	ESCS30	830245/009	RS	2009.2.23	1Year
Coaxial Switch	MP59B	M70585	ANRITSU	N/A	N/A
Spectrum Analyzer(with					
Tracking Generator)	MS2661C	MT72089	ANRITSU	2009.2.23	1Year
Amplifier	MH648A	M20494	ANRITSU	2009.2.24	1Year
Bilog Antenna	CBL6101C	2576	CHASE	2009.2.23	1Year

2.3 Auxiliary Equipment

Name	Model No.	Serial No.	Manufacturer	Cable	FCC ID/DOC
1	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A

3.0 Technical Details

3.1 Investigations Requested

Perform Electromagnetic Interference [EMI] tests for FCC Requirement.

3.2 Test Standards

FCC Part 15 Subpart B: 2008

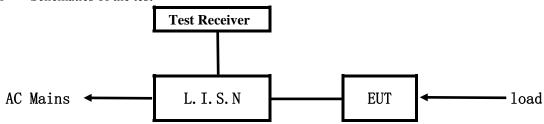
The report refers only to the sample tested and does not apply to the bulk.

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4.0 Conducted Power line Test

4.1 Schematics of the test

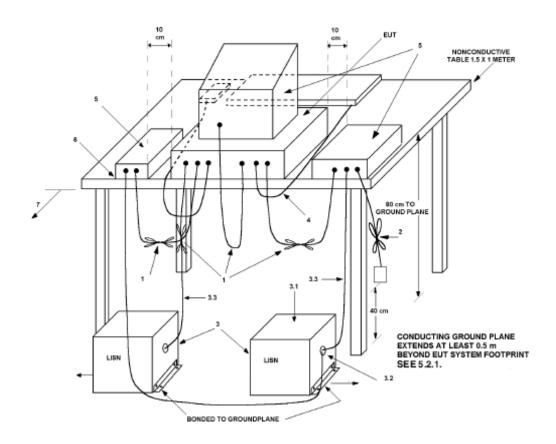


EUT: Equipment Under Test

4.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2003. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2003. Cables and peripherals were moved to find the maximum emission levels for each frequency.

Block diagram of Test setup



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4.3 Power line conducted Emission Limit

Engagen av (MHz)	Class A Limits dB(μV)		Class B Limits dB(µV)	
Frequency(MHz)	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
0.15 ~ 0.50	79.00	66.00	66.00~56.00*	56.00~46.00*
$0.50 \sim 5.00$	73.00	60.00	56.00	46.00
5.00 ~ 30.00	73.00	60.00	60.00	50.00

Notes:

- 1. *decreasing linearly with logarithm of frequency.
- 2. The tighter limit shall apply at the transition frequencies

4.4 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

Note: Due to DC operation, this test item not applicable

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A: Conducted Emission on Live Terminal of the power line (150kHz to 30MHz)

EUT Operating Environment

Temperature: 23°C Humidity:70%RH Atmospheric Pressure: 101 KPa

EUT set Condition:

Level: Class B
Results: N/A

Please refer to following diagram for individual

Frequency	Lina	Reading(dBμV)		Limit(dBµV)	
(MHz)	Line	Quasi-peak	Average	Quasi-peak	Average
	Live				

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B: Conducted Emission on Neutral Terminal of the power line (150kHz to 30MHz)

EUT Operating Environment

Temperature: 23°C Humidity:70%RH Atmospheric Pressure: 101 KPa

EUT set Condition:

Level: Class B
Results: N/A

Please refer to following diagram for individual

Frequency	Line	Reading(dBµV)		Limit(dBµV)	
(MHz)	Line	Quasi-peak	Average	Quasi-peak	Average
	Neutral				

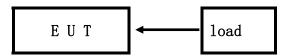
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5.0 Radiated Disturbance Test

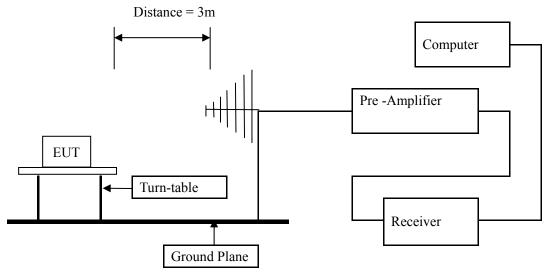
5.1 Schematics of the test



5.2 Test Method and test Procedure:

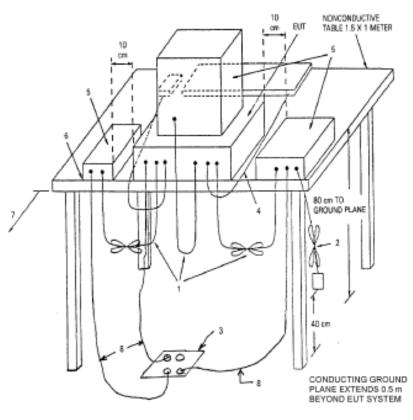
The EUT was tested according to ANSI C63.4 –2003, The frequency spectrum from 30MHz to 1GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak 0values with a resolution bandwidth of 120KHz. All readings are above 1GHz, peak values with a resolution bandwidth of 1MHz. Measurements were made at 3 meters.

Block diagram of Test setup



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5.3 Radiated Emission Limit

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
30-88	3	40.00
88-216	3	43.50
216-960	3	46.00
Above 960	3	54.00

Note: The lower limit shall apply at the transition frequencies

5.4 Test result

The frequency spectrum from 30MHz to 1GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120KHz. All readings are above 1GHz, peak values with a resolution bandwidth of 1MHz. Measurements were made at 3 meters.

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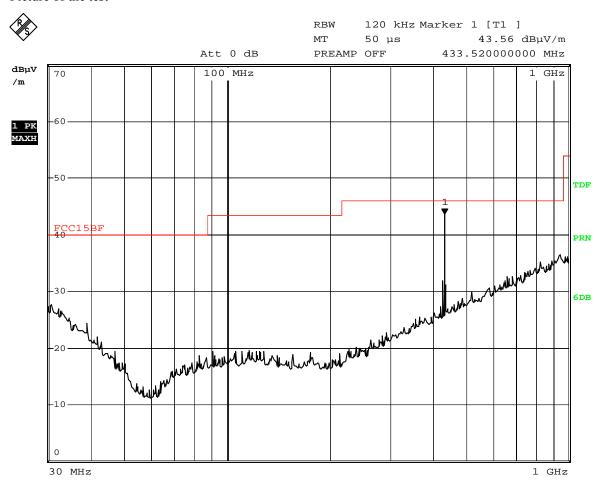
A: Radiated Disturbance In Horizontal (30MHz----1000MHz)

EUT set Condition: Normal operation model

Level: Class B
Results: PASS

Please refer to following diagram for individual

Picture of the test



Comment: 12v 7AH -V charging
Date: 5.MAR.2009 10:19:58

Frequency (MHz)	Level@3m (dBµV/m)	Antenna Polarity	Limit@3m (dBµV/m)
433.52	42.18	Н	46.00

The report refers only to the sample tested and does not apply to the bulk.

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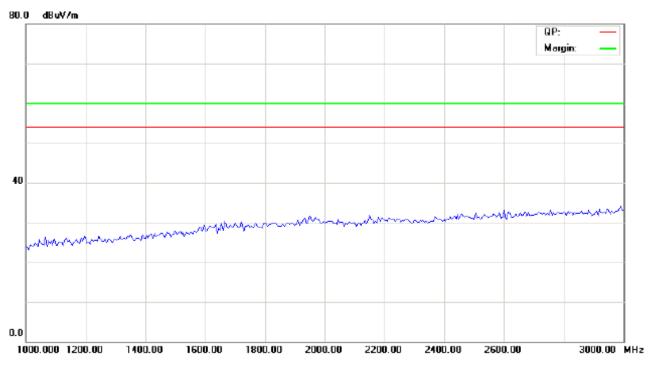


EUT set Condition: Normal operation model

Level: Class B
Results: PASS

Please refer to following diagram for individual

Picture of the test



Frequency (MHz)	Level@3m (dBµV/m)	Antenna Polarity	Limit@3m (dBµV/m)
		Н	54 (AV) /74 (PK)
		Н	54 (AV) /74 (PK)

Note: From 1GHz to 2GHz, the emission level was below 10dB under the Limit at least.

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1 GHz

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B: Radiated Disturbance In Vertical (30MHz---1000MHz)

EUT set Condition: Normal operation model

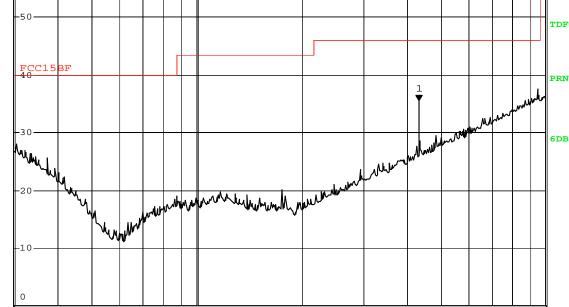
Level: Class B **PASS Results:**

Please refer to following diagram for individual

Picture of the test



RBW 120 kHz Marker 1 [T1] МТ 35.58 dBuV/m 50 µs Att 0 dB PREAMP OFF 433.520000000 MHz dΒμV 100 MHz 1 GHz 70 /m -50



Comment: 12v 7AH -V charging Date: 5.MAR.2009 10:18:34

30 MHz

Frequency (MHz)	Level@3m ($dB\mu V/m$)	Antenna Polarity	Limit@3m ($dB\mu V/m$)
433.52	34.78	V	46.00

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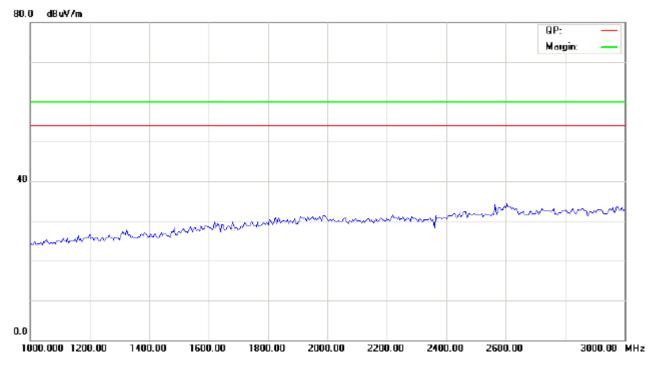
B1: Radiated Disturbance In Vertical (1000MHz----2000MHz)

EUT set Condition: Normal operation model

Level: Class B
Results: PASS

Please refer to following diagram for individual

Picture of the test



Frequency (MHz)	Level@3m (dBμV/m)	Antenna Polarity	Limit@3m (dBµV/m)
	-	V	54 (AV) /74 (PK)
	1	V	54 (AV) /74 (PK)

Note: for the emission test, A 433.92 MHz CW signal was injected (radiated) from a nearby signal generator using a rod antenna

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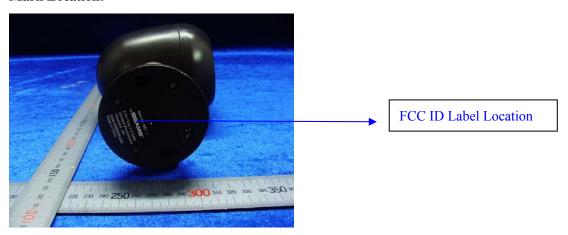
6.0 FCC ID Label

FCC ID: W7DMB370

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location:



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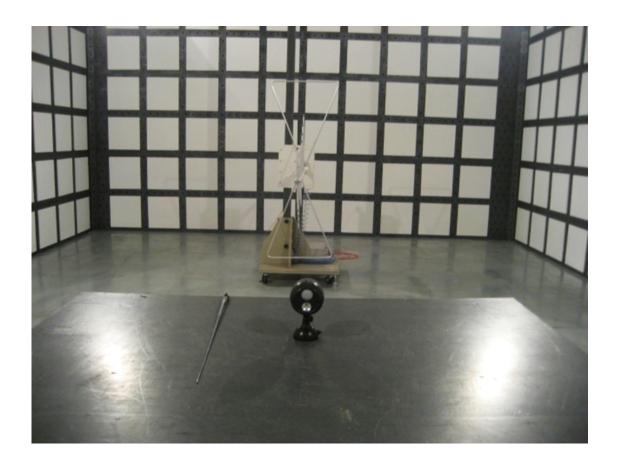


7.0 **Photo of testing**

7.1 Conducted test View—

N/A

7.2 Radiated emission test view--



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7.3 Photo for the EUT



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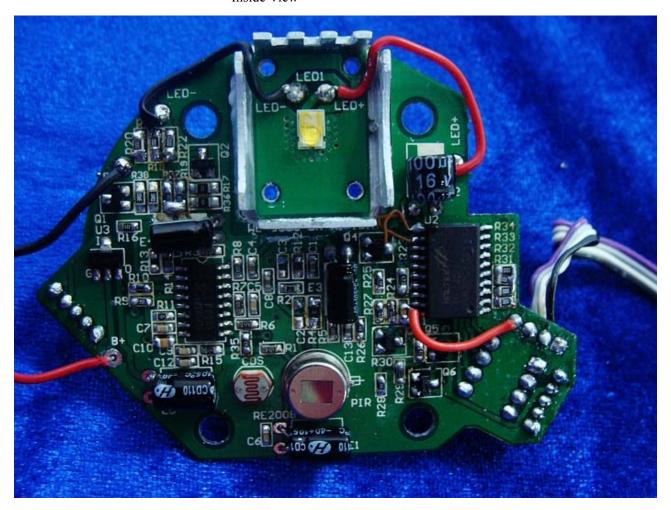




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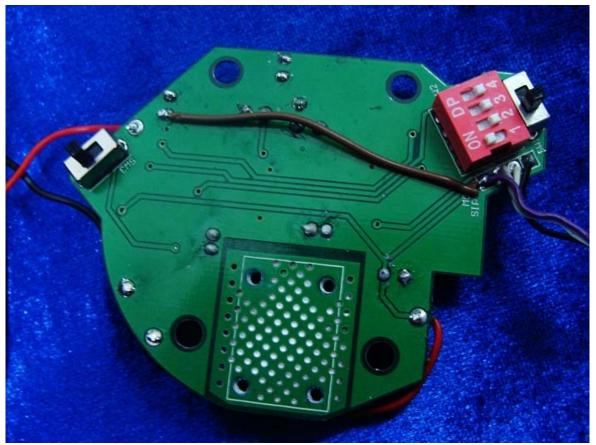


Inside View



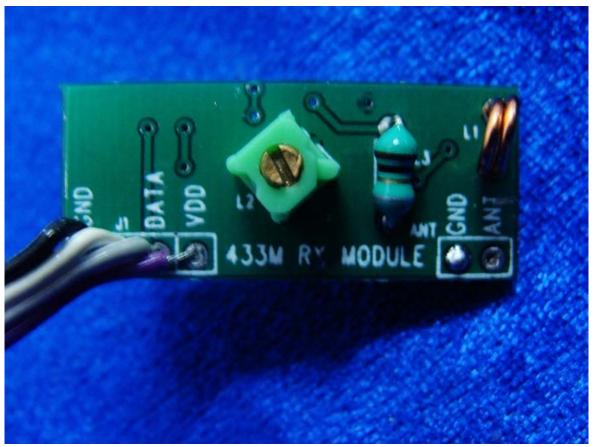
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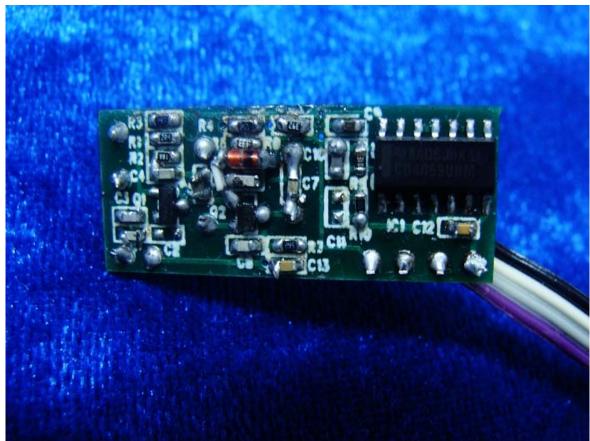
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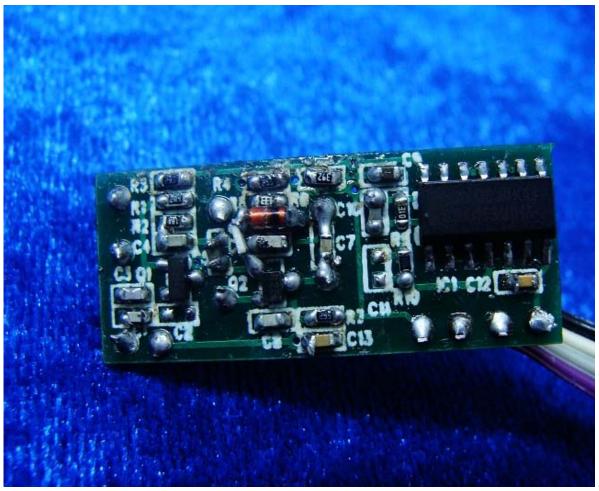




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-End of the report-