



TEST REPORT No.: (5212)153-1455

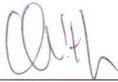
## TEST REPORT

To:	<b>EVOLVE GUEST CONTROLS, INC.</b>		
Attn:	David Korcz		
Address:	85 Denton Ave. New Hyde Park, NY 11040		
Fax:	--		
E-mail:	--		
Folder No.:	MEW-12MY430ETHS-B-A		
Factory name:	--		
Location:	--		
Product:	Wireless Ceiling Mount PIR detector Model No.: PIR-100		
		Sample No:	HK120528/013
		Test Date(s):	July 18, 2012
		Test Requested:	FCC Part 15 – 2011
		Test Method:	ANSI C63.4 – 2009
		FCC ID:	Y3K-PIR-100

**The results given in this report are related to the tested specimen of the described electrical apparatus.**

**CONCLUSION: The submitted sample was found to COMPLY with requirement of FCC Part 15 Subpart C.**

Authorized Signature:



Reviewed by: Keith Yeung  
Date: July 31, 2012

Approved by: Steven Tsang  
Date: July 31, 2012

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## Test Result Summary

<b>EMISSION TEST</b>			
<b>Test requirement: FCC Part 15 - 2011</b>			
Test Condition	Test Method	Test Result	
		Pass	Failed
Radiated Emission Test, 9kHz to 40GHz	ANSI C63.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Report Revision & Sample Re-submit History:

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## **Test Laboratory & Test Instruments List**

Radiated and Conducted emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2009. An Open Area Test Site and Full Anechoic Chamber (FCC Listed Site, Registration No. 642151) are set up for investigation and located at :

### **BUREAU VERITAS HONG KONG LIMITED, EMC CENTRE**

No. 2106-2107, 21/F., Westin Centre,  
26 Hung To Road,  
Kwun Tong, Kowloon,  
Hong Kong

## **Test Instrument List**

### **Radiated Emission**

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DUE
EMI TEST RECEIVER	R&S	ESCI	100379	18-OCT-2012
LOOP ANTENNA	ETS-LINDGREN	6502	00102266	07-AUG-2012
BILOG ANTENNA	SCHAFFNER	CBL6112D	25229	16-SEP-2012
HORN ANTENNA	SCHWARZBECK	BBHA9120D	9120D-692	16-SEP-2012
PREAMPLIFIER	SCHWARZBECK	BBV9718	9718-152	16-SEP-2012
OPEN AREA TEST SITE	BVCPS	N/A	N/A	10-JUL-2013
ANECHOIC CHAMBER	ALBATROSS	M-CDC	80374004499B	01-DEC-2012
COAXIAL CABLE	SUHNER	N/A	N/A	06-OCT-2012

### **Remarks: -**

N/A: Not Applicable or Not Available

The measurement instrumentation uncertainty would be taking into consideration on each of the test result

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**TEST REPORT No.: (5212)153-1455**

## **Equipment Under Test [EUT]**

### **Description of Sample:**

Product: Wireless Ceiling Mount PIR detector  
Model No.: PIR-100  
Power Supply: 3Vdc. ("CR123A" size battery x 1)

### **Description of EUT Operation:**

The Equipment Under Test (EUT) is a EVOLVE GUEST CONTROLS, INC. of Remote Control Transmitter. It is a 1 micro-switch transmitter and operating at 908MHz. The EUT continues to transmit while cover is being close and the micro-switch is being pressed, Modulation by IC, and type is FSK modulation.

### **Antenna Requirement (Section 15.203)**

The EUT is use of a permanently antenna. It is soldered on the PCB. The antenna is not replaceable or user serviceable. There are no deviations or exceptions to the specifications.

**Photo of Antenna**



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## TEST REPORT No.: (5212)153-1455

### Radiated Emissions (Fundamental)

Test Requirement: FCC Part 15 Section 15.249  
Test Method: ANSI C63.4  
Test Date(s): 2012-07-18  
Temperature: 30.0 °C  
Humidity: 65.0 %  
Atmospheric Pressure: 100.2 kPa  
Mode of Operation: On mode  
Tested Voltage: 3Vd.c. ("CR123A" size battery x 1)

### Test Procedure:

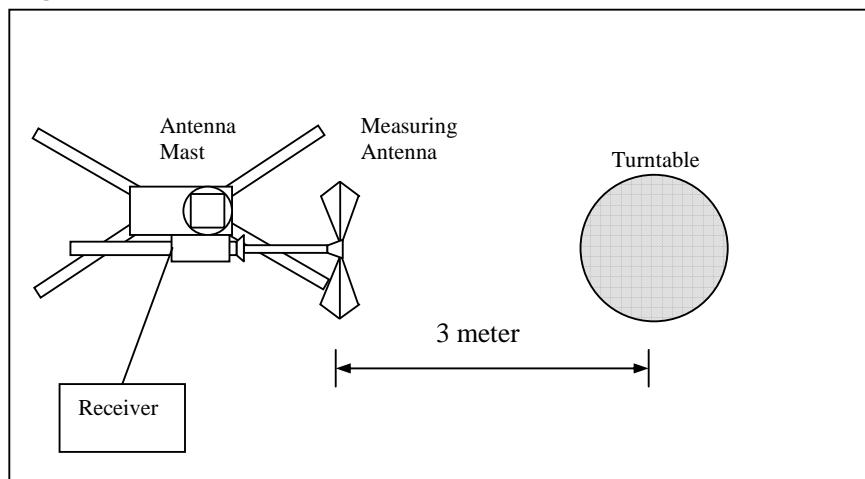
Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2009.

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 1m and 0.8m high above the ground. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables. For battery operated equipment, the equipment tests shall be performed using new battery. The turntable was rotated to maximize the emission level. The antenna was then moved along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

For below 30MHz, a loop antenna with its vertical plane is placed 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1m above the ground.

Location: The Roof, Westin Centre, 26 Hung To Road, Kwun Tong, Kowloon, Hong Kong

### Test Setup: Open Area Test Site



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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 (Quasi-Peak) [mV/m]	Field Strength of Harmonics Emission (Average) [μV/m]
902-928	50	500

### Measurement Data

#### Test Result of (Transmission mode): PASS

#### Detection mode: Quasi-Peak

Frequency (MHz)	Polarity (H/V) and degree	EUT Orientation	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
908.39	H	Front side	22.4	82.3	94.0	-11.7
908.39	V	Front side	22.4	77.1	94.0	-16.9

Note: EUT Orientation is shown as Set up photo.  
Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 100KHz  
VBW = 300KHz

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## TEST REPORT No.: (5212)153-1455

### Radiated Emissions (Spurious Emission)

Test Requirement: FCC Part 15 Section 15.249  
Test Method: ANSI C63.4  
Test Date(s): 2012-07-18  
Temperature: 30.0 °C  
Humidity: 65.0 %  
Atmospheric Pressure: 100.2 kPa  
Mode of Operation: Transmission mode  
Tested Voltage: 3Vd.c. ("CR123A" size battery x 1)

### Measurement Data

#### Test Result of (Transmission mode): PASS

#### Detection mode: Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
1816.78	H	-8.1	35.4	74.0	-38.6
2725.17	H	-1.2	40.4	74.0	-33.6
3633.56	H	2.9	43.5	74.0	-30.5
4541.95	H	4.7	45.7	74.0	-28.3
5450.34	H	5.1	44.4	74.0	-29.6
6358.73	H	7.0	45.9	74.0	-28.1
7267.12	H	13.0	54.6	74.0	-19.4
8175.51	H	20.1	61.4	74.0	-12.6
9083.90	H	19.9	61.5	74.0	-12.5
9992.29	H	12.5	53.1	74.0	-20.9

Note: Field Strength includes Antenna Factor and Cable Loss.



## TEST REPORT No.: (5212)153-1455

### Measurement Data

**Test Result of (Transmission mode): PASS**

**Detection mode: Peak**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
1816.78	V	-8.1	32.8	74.0	-41.2
2725.17	V	-1.2	40.5	74.0	-33.5
3633.56	V	2.9	43.8	74.0	-30.2
4541.95	V	4.7	44.1	74.0	-29.9
5450.34	V	5.1	44.8	74.0	-29.2
6358.73	V	7.0	46.9	74.0	-27.1
7267.12	V	13.0	54.6	74.0	-19.4
8175.51	V	20.1	61.6	74.0	-12.4
9083.90	V	19.9	61.6	74.0	-12.4
9992.29	V	12.5	52.1	74.0	-21.9

Note: Field Strength includes Antenna Factor and Cable Loss.

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## TEST REPORT No.: (5212)153-1455

**Test Result of (Transmission mode): PASS**

**Detection mode: Average**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
1816.78	H	-8.1	27.9	54.0	-26.1
2725.17	H	1.2	30.2	54.0	-23.8
3633.56	H	2.9	34.6	54.0	-19.4
4541.95	H	4.7	34.8	54.0	-19.2
5450.34	H	5.1	34.6	54.0	-19.4
6358.73	H	7.0	36.9	54.0	-17.1
7267.12	H	13.0	44.5	54.0	-9.5
8175.51	H	20.1	47.8	54.0	-6.2
9083.90	H	19.9	47.2	54.0	-6.8
9992.29	H	12.5	42.7	54.0	-11.3

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
1816.78	V	-8.1	23.5	54.0	-30.5
2725.17	V	1.2	30.1	54.0	-23.9
3633.56	V	2.9	34.1	54.0	-19.9
4541.95	V	4.7	34.8	54.0	-19.2
5450.34	V	5.1	34.6	54.0	-19.4
6358.73	V	7.0	36.9	54.0	-17.1
7267.12	V	13.0	44.5	54.0	-9.5
8175.51	V	20.1	47.8	54.0	-6.2
9083.90	V	19.9	47.2	54.0	-6.8
9992.29	V	12.5	42.8	54.0	-11.2

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz  
VBW = 1MHz

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## TEST REPORT No.: (5212)153-1455

### Radiated Emissions (9kHz – 1GHz)

Test Requirement: FCC Part 15 Section 15.209  
Test Method: ANSI C63.4  
Test Date(s): 2012-07-18  
Temperature: 30.0 °C  
Humidity: 65.0 %  
Atmospheric Pressure: 100.2 kPa  
Mode of Operation: On mode / Receiver mode  
Tested Voltage: 3Vd.c. ("CR123A" size battery x 1)

### Limits for Radiated Emissions [FCC 47 CFR 15.209]:

Frequency Range [MHz]	Quasi-Peak Limits [ $\mu$ V/m]
1.705-30	300
30-88	100
88-216	150
216-960	200
Above 960	500

### Measurement Data

#### Test Result of (Receiver mode): PASS

#### Detection mode: Quasi-Peak

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
910.36	H	34.1	46.0	-11.9
910.36	V	34.6	46.0	-11.4

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz  
VBW = 120KHz

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## TEST REPORT No.: (5212)153-1455

### Measurement Data

**Test Result of (Receiver mode): PASS**

#### **Detection mode: Peak**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
1820.72	H	-8.1	31.8	74.0	-42.2
2731.08	H	-1.2	39.6	74.0	-34.4
3641.44	H	2.9	43.9	74.0	-30.1
4551.80	H	4.7	44.7	74.0	-29.3

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
1820.72	V	-8.1	31.0	74.0	-43.0
2731.08	V	-1.2	42.0	74.0	-32.0
3641.44	V	2.9	44.8	74.0	-29.2
4551.80	V	4.7	44.4	74.0	-29.6

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz  
VBW = 1MHz

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## TEST REPORT No.: (5212)153-1455

**Test Result of (Receiver mode): PASS**

**Detection mode: Average**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
1820.72	H	-8.1	21.0	54.0	-33.0
2731.08	H	-1.2	30.0	54.0	-24.0
3641.44	H	2.9	34.0	54.0	-20.0
4551.80	H	4.7	34.7	54.0	-19.3

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
1820.72	V	-8.1	21.1	54.0	-32.9
2731.08	V	-1.2	30.1	54.0	-23.9
3641.44	V	2.9	34.1	54.0	-19.9
4551.80	V	4.7	34.8	54.0	-19.2

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 1MHz  
VBW = 1MHz

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### Measurement Data

**Test Result of (On mode): PASS**

**Detection mode: Quasi-Peak**

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
44.12	H	9.3	27.5	40.0	-12.5
78.88	H	5.9	23.4	40.0	-16.6
214.64	H	8.6	20.6	43.5	-22.9
324.64	H	15.0	24.1	46.0	-21.9
442.68	H	17.0	27.8	46.0	-18.2
574.88	H	19.0	30.2	46.0	-15.8

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
44.12	V	9.3	27.3	40.0	-12.7
78.88	V	5.9	23.7	40.0	-16.3
214.64	V	8.6	21.2	43.5	-22.3
324.64	V	15.0	23.6	46.0	-22.4
442.68	V	17.0	27.1	46.0	-18.9
574.88	V	19.0	30.7	46.0	-15.3

Note: Field Strength includes Antenna Factor and Cable Loss

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## TEST REPORT No.: (5212)153-1455

### Frequency range of Fundamental Emission

Test Requirement: FCC 47 CFR 15.249  
Test Method: ANSI C63.4  
Test Date(s): 2012-07-18  
Temperature: 30.0 °C  
Humidity: 65.0 %  
Atmospheric Pressure: 100.2 kPa  
Mode of Operation: Transmission mode / Receiver mode  
Tested Voltage: 3Vd.c. ("CR123A" size battery x 1)

#### Test Method:

The bandwidth is measured at an amplitude level reduced from the reference level by a specified ratio. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

#### Limits for Frequency range of Fundamental Emission:

Frequency [MHz]	FCC Limits [MHz]
908.390	902-928

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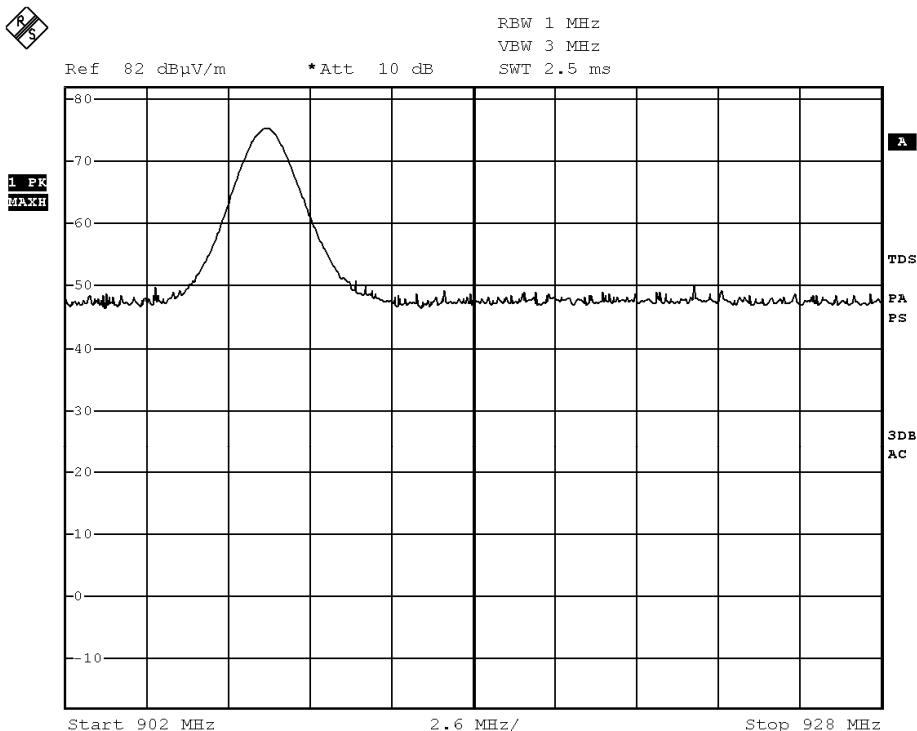
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## TEST REPORT No.: (5212)153-1455

### Measurement Data:

#### Test Result of Frequency Range of Fundamental Emission: PASS



Date: 18.JUL.2012 14:03:46

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## TEST REPORT No.: (5212)153-1455

### Photographs of EUT

Front View of the product



Rear View of the product



Inner Circuit Top View



Inner Circuit Bottom View



Inner Circuit Top View



Inner Circuit Bottom View



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**TEST REPORT No.: (5212)153-1455**

**Measurement of Radiated Emission Test Set Up**



**\*\*\*\*\* End of Report \*\*\*\*\***

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