

12B, West Tower, Aidi Building, No.5003, Binhe Road, Futian District, Shenzhen, Guangdong, China

# TEST REPORT

FCC ID: YCR-AR-1002R Report No.: WT11062793EEF

Applicant: China Industries Ltd. t/a Wow! Stuff.

Address: Creative Industries Centre, Wolverhampton Science Park,

Wolverhampton, WV10 9TG, UK

The following samples were submitted and identified by/on behalf of the client as:

Sample Description: Shark & Clown Fish

Style/model No.: AR-1001 & AR-1002

Operation Frequency: 49.860MHz(Receiver)

FCC ID: YCR-AR-1002R

Sample Receiving Date: June 13, 2011

Test Period: June 14, 2011 to June 15, 2011

Test Requested:	In accordance with the FCC Part 15 Subpart B, Section 15.109:2008
Test Method:	ANSI C63.4: 2003
Test Conclusion:	Based on the performed tests on the submitted samples, the results comply with the FCC Part 15 Subpart B requirements.

\*\*\*\*\*\*\*\* For Further Details, Please Refer to the Following Page(s) \*\*\*\*\*\*\*

Signed for and on behalf of Waltek Services (Shenzhen) Co., Ltd

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Philo zhong

**EMC Laboratory Manager** 

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# Test Summary

Test Item	Section in CFR 47	Result
Radiated Emission (30MHz to 1GHz)	Section 15.109:2008	Passed

Remark: Passed: The EUT complies with the essential requirements in the standard. Failed: The EUT does not comply with the essential requirements in the standard.



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# **General Information**

### 4.1 Client Information

Applicant: China Industries Ltd. t/a Wow! Stuff.		
Address of Applicant:	Creative Industries Centre, Wolverhampton Science Park,	
	Wolverhampton, WV10 9TG, UK	
Manufacturer:	EDU-SCIENCE(HK) LTD	
Address of Manufacturer:	Suite 701, Wing on plaza, 62 Mody Road, Tsim Sha Tsui	
	East, Kowloon, Hong Kong	

# 4.2 General Description of E.U.T.

Product Name:	Shark & Clown Fish
Trade Name:	N/A
Style/model No.:	AR-1001 & AR-1002
Operation Frequency:	49.860MHz(Receiver)
Labeled Age Grading:	14+
Power Supply:	DC 1.5V
Power Cord:	N/A
Remark:	The EUT may have difference colours.

### 4.3 E.U.T. Environment and test modes

Operating Environment:	
Temperature:	25.5 °C
Humidity:	51 % RH
Atmospheric Pressure:	1016 mbar
Test mode:	Normal working mode
Transmitting mode:	Keep the EUT in transmitting mode

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#### 4.4 Test Location

All Emission tests were performed at:

Waltek Services(Shenzhen) Co., Ltd. at 1/F, Fukangtai Building, West Baima Rd., Songgang Street, Baoan District, Shenzhen 518105, China.

### 4.5 Other Information Requested by the Customer

None.

### 4.6 Test Facility

The test facility has a test site registered with the following organizations:

#### IC – Registration No.: IC7760A

Waltek Services(Shenzhen) Co., Ltd. has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration No.:IC7760A, August 3,2010.

### FCC – Registration No.: 880581

Waltek Services(Shenzhen) Co., Ltd. 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 880581, May 26, 2011.



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# **Equipment Used during Test**

Equipment Name	Manufacturer Model	Equipment No.	Internal No	Specification	Cal. Date	Due Date	Cert. No.	Uncertainty
EMC Analyzer	Agilent/ E7405A	MY45114943	W2008001	9k-26.5GHz	Aug.03, 2010	Aug.02, 2011	WWS20 081596	±1dB
Trilog Broadband Antenne	SCHWARZBE CK MESS-ELEKT ROM/ VULB9163	336	W2008002	30-3000 MHz	Aug.03, 2010	Aug.02, 2011	-	±1dB
Broad-band Horn Antenna	SCHWARZBE CK MESS-ELEKT ROM/ BBHA9120D	667	W2008003	1-18GHz	Aug.03, 2010	Aug.02, 2011	ı	f < 10 GHz: ±1dB 10GHz < f < 18 GHz: ±1.5dB
Broadband Preamplifier	SCHWARZBE CK MESS-ELEKT ROM/ BBV 9718	9718-148	W2008004	0.5-18GHz	Aug.03, 2010	Aug.02, 2011	ı	±1.2dB
10m Coaxial Cable with N-male Connectors	SCHWARZBE CK MESS-ELEKT ROM/ AK 9515 H	-	-	-	Aug.03, 2010	Aug.02, 2011	-	-
10m 50 Ohm Coaxial Cable with N-plug, individual length	SCHWARZBE CK MESS-ELEKT ROM/ AK 9513	-	-	-	Aug.03, 2010	Aug.02, 2011	-	-
Positioning Controller	C&C LAB/ CC-C-IF	-	-	-	N/A	N/A	-	-
Color Monitor	SUNSPO/ SP-14C	-	-	-	N/A	N/A	-	-



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6 Test Result & Mea	asurement Data		
6.1 Radiated Emission			
Test Requirement: FCC Part15 B Section 15.109			
Test Method:	ANSI C63.4: 2003		
Measurement Distance:	3m (Semi-Anechoic Chamber)		
	40.0 dBuV/m between 30MHz & 88MHz		
	43.5 dBuV/m between 88MHz & 216MHz		
	46.0 dBuV/m between 216MHz & 960MHz		
	54.0 dBuV/m between 960MHz & 1000MHz		
Detectors	30MHz to 1000MHz RBW=100KHz VBW=300KHz		
Detector:	Above 1000MHz RBW=1MHz VBW=3MHz		
	<ol> <li>The EUT is placed on a turntable, which is 0.8m above ground plane.</li> <li>The turntable shall be rotated for 360 degrees to determine the position</li> </ol>		
	of maximum emission level.  3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.		
Test Procedure:	4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.		
	5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.		
	6. Repeat above procedures until the measurements for all frequencies are complete.		
	7. The radiation measurements are performed in X, Y, Z axis positioning.		
	Only the worst case is shown in the report.		
Test Result:	The unit does meet the FCC Part 15 B Section 15.109 requirements.		

### 49.860MHz Receiver Mode

Test Procedure: For testing performed with the logperiodic antenna, testing was performed in accordance to ANSI C63.4: 2003. The center of the antenna was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the logperiodic antenna was rotated about its vertical axis for maximum response at each azimuth and also investigated with the logperiodic antenna positioned in the horizontal plane.

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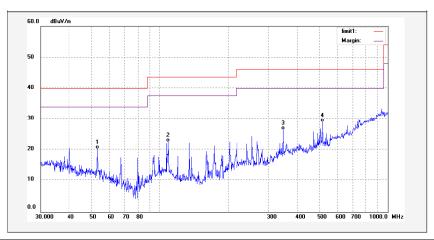


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### 6.1.1 Unintentional emission

#### Vertical



Frequency (MHz)	Peak (dBuV/m)	Polarity (H/V)	Limit (dBuV/m)	Margin (dB)
53.1921	20.28	Н	40.00	-19.72
108.9275	22.56	Н	43.50	-20.94
348.5144	26.41	Н	46.00	-19.59
518.3832	29.01	Н	46.00	-16.99

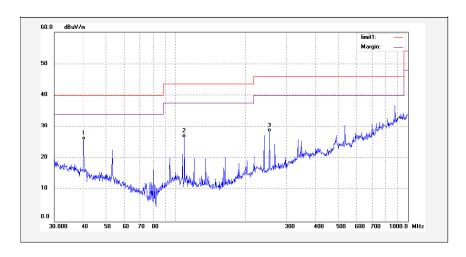


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#### Horizental



Frequency (MHz)	Peak (dBuV/m)	Polarity (H/V)	Limit (dBuV/m)	Margin (dB)
40.1580	25.69	V	40.00	-14.31
108.9275	26.44	V	43.50	-17.06
254.0312	28.27	V	46.00	-17.73

### Remark:

- (1). when the margin more than 10dB, the data would not show in the test report.
- (2). According to 15.109 When QP detector radiated emission measurements are specified in the regulations, including emission measurements below 1000 MHz, there is also a limit on the unintentional emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted QP limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules, e.g., see Section 15.109.

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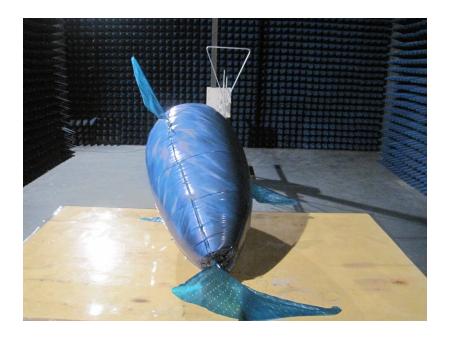
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# **Photographs - Test Setup**





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# **Photographs - EUT**

### 8.1 EUT-Front View



### 8.2 EUT-Back View



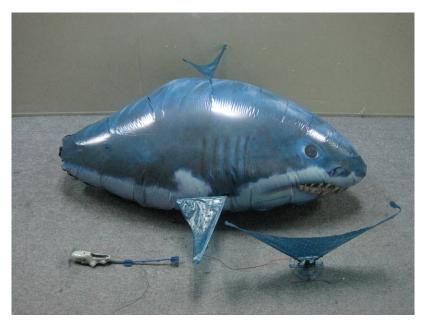
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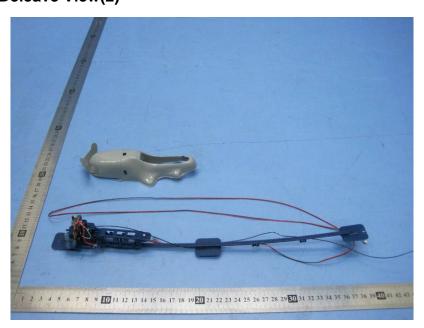
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# 8.3 EUT- Deleave View(1)



# 8.4 EUT- Deleave View(2)



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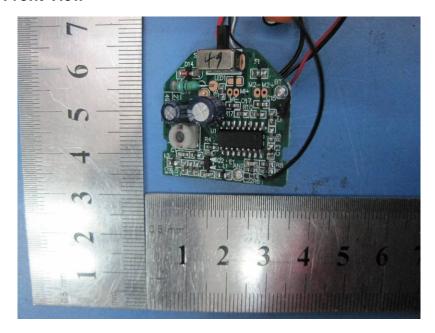


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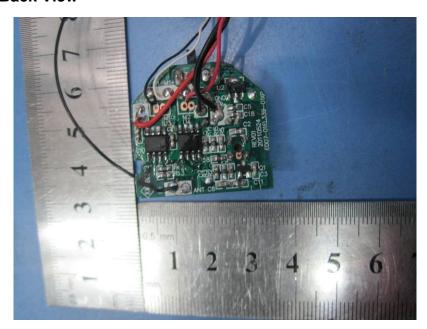
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### 8.5 PCB-Front View



### 8.6 PCB-Back View



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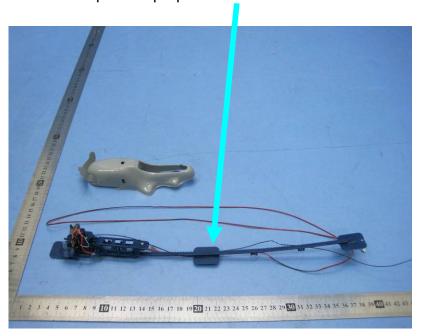
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### 9 FCC ID Label

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. 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.

Proposed Label Location on EUT
EUT Top View/ proposed FCC ID Label Location



=== End of Test Report ===

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