



World Standardization Certification & Testing CO.,LTD  
World Standardization Safety and EMC Testing Centre

## FCC ID TEST REPORT

for

Wireless doorbell

Trade Mark: N/A

Model: C-136;C-138;C-139;S-136;S-138;S-139;K-136;K-138;K-139;2S-136;  
2S-138; 2S-139;S136-2;S138-2;S-139-2;2C-136;2C-138; 2C-139;C136-2;  
C-138-2; C139-2; C-126; C-128; C-129; S-126;S-128;S-129;D-290; E-291;  
A-299; B298; S-289; T-288

Test Report Number: WSCT09080316E-R

Issued Date: September 4, 2009

Issued for

**SHENZHEN YIROKA ELECTRONIC CO.,LTD**

**2/F,5/B, Sanli industry park, Huangtian, Xixiang, Bao'an district, Shenzhen,  
China**

Issued by:

**WORLD STANDARDIZATION CERTIFICATION & TESTING CO., LTD.**

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Revision History

Rev.	Issue No.	Revisions	Effect Page	Revised By
00	WSCT09080316E-R	Initial Issue	ALL	Kallen Wang



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# 1 TEST RESULT CERTIFICATION

**Product:** Wireless doorbell

**Model:** C-136; C-138;C-139;S-136;S-138;S-139;K-136;K-138;K-139;2S-136;  
 2S-138;2S-139;S136-2;S138-2;S-139-2;2C-136;2C-138;2C-139;C136-2;  
 C-138-2;C139-2;C-126;C-128;C-129;S-126;S-128;S-129;D-290;E-291; A-299;  
 B298; S-289; T-288

**Trade Mark:** N/A

**Applicant:** SHENZHEN YIROKA ELECTRONIC CO.,LTD  
 2/F,5/B,Sanli industry park, Huangtian, Xixiang, Bao'an district, Shenzhen, China

**Factory:** SHENZHEN YIROKA ELECTRONIC CO.,LTD  
 2/F,5/B,Sanli industry park, Huangtian, Xixiang, Bao'an district, Shenzhen, China

**Tested Date:** August 17~ 31, 2009

**Test Voltage:** AC120V/60Hz

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC PART 15B	No non-compliance noted
ANSI C63.4: 2003	No non-compliance noted

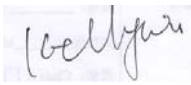
Note: 1. The test result judgment is decided by the limit of measurement standard  
 2. The information of measurement uncertainty is available upon the customer's request.

Deviation from Applicable Standard
None

The above equipment has been tested by World Standardization Certification & Testing Co., Ltd and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

**Tested By:** Alan Geng  
 (Alan Geng)

**Date:** 2009-09-04

**Check By:**   
 (Kelly Wu)

**Date:** 2009-09-04

**Approved By:**   
 (Kallen Wang)

**Date:** 2009-09-04



## 2 TEST RESULT SUMMARY

Test Item	Result
Conduct Emission	Pass
Radiation Emission	Pass

- Note:**
1. The test result judgment is decided by the limit of test standard
  2. The information of measurement uncertainty is available upon the customer's request.
  3. N/A means to no applicable.



### 3 EUT DESCRIPTION

<b>Product</b>	Wireless doorbell
<b>Brand Name</b>	n.a.
<b>Model</b>	S-138
<b>Applicant</b>	SHENZHEN YIROKA ELECTRONIC CO.,LTD
<b>Housing material</b>	Plastic
<b>EUT Type</b>	<input checked="" type="checkbox"/> Engineering Sample. <input type="checkbox"/> Product Sample, <input type="checkbox"/> Mass Product Sample.
<b>Serial Number</b>	n.a.
<b>Antenna Type</b>	Integral Antenna
<b>EUT Power Rating</b>	Receiver: AC 120V/60Hz
<b>Temperature Range(Operating)</b>	+15 ~+ 35°C
<b>Type of the Equipment</b>	Combined Equipment
<b>Operating Frequency</b>	433.92MHz
<b>Number of Channels</b>	1 Channels
<b>Channel Separation</b>	n.a.
<b>Modulation type</b>	ASK

n.a. mean to no applicable

#### Models Difference

<b>Different Model</b>	C-136;C-138;C-139;S-136; S-139;K-136;K-138;K-139;2S-136; 2S-138;2S-139;S136-2;S138-2;S-139-2;2C-136;2C-138;2C-139; C136-2;C-138-2;C139-2;C-126;C-128;C-129;S-126;S-128;S-129; D-290;E-291; A-299; B298; S-289; T-288
<b>Different description</b>	All models are identical except for the model name



## **4 TEST METHODOLOGY**

### **4.1 DECISION OF FINAL TEST MODE**

The EUT was tested together with the below additional components, and configuration, which produced the worst emission levels, was selected and recorded in this report.

The measurement was performed at 3 axis for lie orientation, side orientation and stand orientation. The lie orientation is the worst mode, so only the worst mode test data was reported.

the following test mode was recorder in this report.

<b>Test Item</b>	<b>Mode</b>
Conduct Emission	Receive mode
Radiation Emission	Receive mode

### **4.2 EUT SYSTEM OPERATION**

1. Set up EUT with the relative support equipments.
2. Make sure the EUT worked normally during the test.



## 5 SETUP OF EQUIPMENT UNDER TEST

### 5.1 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

**Note:**

- 1) All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- 2) Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

### 5.2 CONFIGURATION OF SYSTEM UNDER TEST



(EUT:Wireless doorbell)





## 6 FACILITIES AND ACCREDITATIONS

### 6.1 FACILITIES

All measurement facilities used to collect the measurement data are located at **1-2/F, DaChong Science&Technology Building, No.28 of Tonggu Road,Nanshan District, ShenZhen.PRC**

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 15. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

### 6.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

<b>USA</b>	<b>FCC</b> (The certificate registration number is 276008)
	<b>TIMCO</b> (The certificate registration number is Q2001)
<b>Japan</b>	<b>VCCI</b> (The certificate registration number is C-2912, R-2662)
<b>Canada</b>	<b>INDUSTRY CANADA</b> (The certificated registration number is 46405-7700)
<b>Germany</b>	<b>TUV</b> (The certificate registration number is UA50138086-0001,UA50138086-0002)
	<b>EMCC</b> (The certificated registration number is 080380)
<b>China</b>	<b>CNAS</b> (The certificated registration number is L3732)

Copies of granted accreditation certificates are available for downloading from our web site, <http://www.wsct.org.cn>

### 6.3 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Uncertainty	
Conducted emissions	450kHz~30MHz	+/- 3.59dB	
Radiated emissions	Horizontal	30MHz ~ 200MHz	+/- 4.77dB
		200MHz ~1000MHz	+/- 4.93dB
	Vertical	30MHz ~ 200MHz	+/- 5.04dB
		200MHz ~1000MHz	+/- 4.93dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



## 7 CONDUCTED EMISSION MEASUREMENT

### 7.1 LIMITS

FREQUENCY (MHz)	Class B (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

**NOTE:**

- (1) The lower limit shall apply at the transition frequencies.
- (2) The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
- (3) All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

### 7.2 TEST INSTRUMENTS

Conducted Emission Test Site G				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESCI	100005	06/23/2009
LISN	AFJ	LS16	16010222119	04/02/2009
LISN(EUT)	Meestec	AN3016	04/10040	04/02/2009

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).  
 2. N.C.R = No Calibration Request.

### 7.3 TEST PROCEDURES

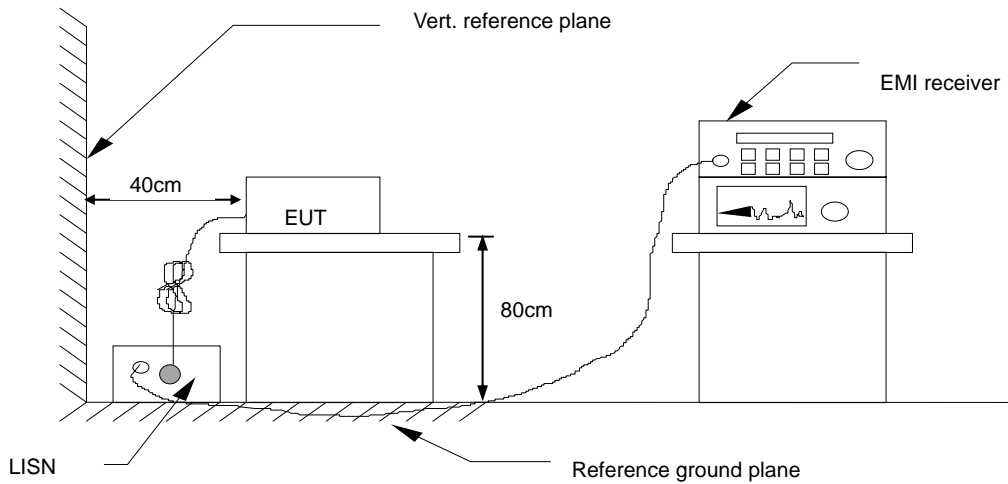
The EUT was put on a wooden table which was 0.8metre high above the ground and connected to the AC mains through a Artificial Mains Network (A.M.N). The mains lead in excess of 1 m separating the EUT from the AMN was folded back and forth parallel to the lead so as to form a bundle with a length of 0.3m to 0.4m. The EUT was kept 0.4m from any other earthed conducting surface. Both sides of AC line were checked to find out the maximum conducted emission levels according to the test procedure during conducted emission test.

The bandwidth of the test receiver (ESCI) was set at 9KHz.

The frequency range from 150 KHz to 30 MHz was investigated.

The test data of the worst-case condition(s) was recorded.

### 7.4 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

### 7.5. TEST RESULTS

<b>Model No.</b>	S-138	<b>6dB Bandwidth</b>	10 KHz
<b>Environmental Conditions</b>	28°C, 56% RH	<b>Test Mode</b>	receive mode
<b>Detector Function</b>	Peak / Quasi-peak/AV	<b>Test Result</b>	Pass
<b>Test By</b>	Alan Geng		

NOTE: 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).

2. “---” denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.

Freq. = Emission frequency in MHz

Reading level (dBuV) = Receiver reading

Corr. Factor (dB) = Antenna factor + Cable loss

Level (dBuV) = Reading level (dBuV) + Corr. Factor (dB)

Limit (dBuV) = Limit stated in standard

Margin (dB) = Level (dBuV) – Limits (dBuV)

Q.P.=Quasi-Peak



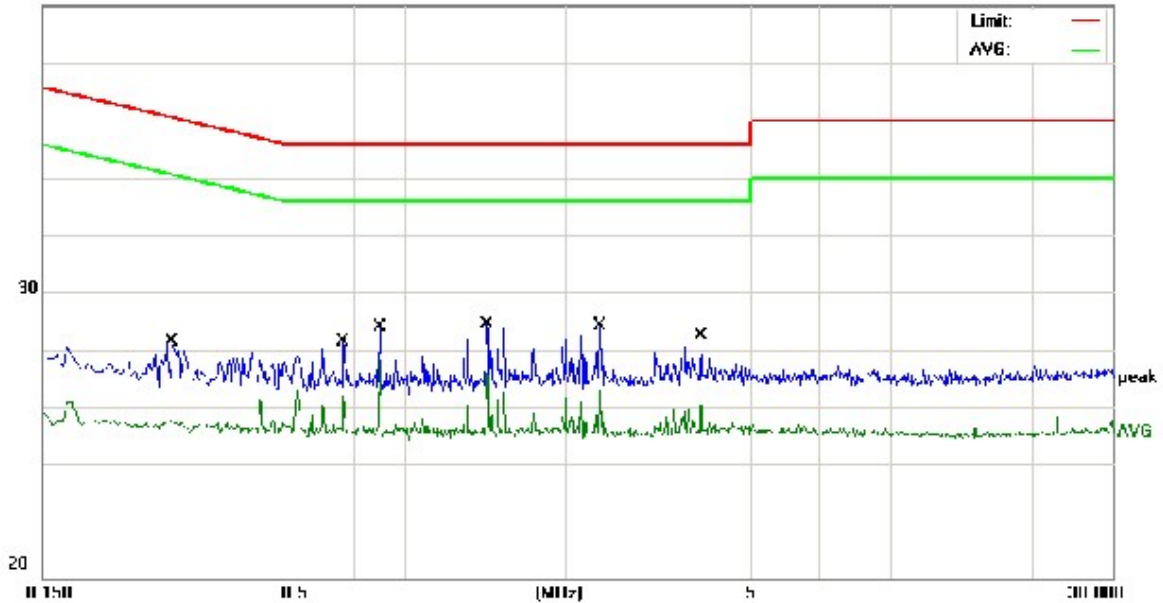
**Conducted Emission Measurement**

File : YIROKA  
 80.0 dBuV

Data : #4

Date: 2009/09/03

Time: 16:39:54



Site site #1

Phase: **L1**

Temperature: 26

Limit: FCC Part 15 B(QP)

Power: AC 120V/60Hz

Humidity: 60 %

EUT: wireless doorbell

M/N: S-138

Mode: receive mode

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.2860	10.46	10.85	21.31	60.64	-39.33	QP	
2		0.6660	10.83	10.45	21.28	56.00	-34.72	QP	
3		0.7980	13.38	10.37	23.75	56.00	-32.25	QP	
4	*	1.3540	14.05	10.26	24.31	56.00	-31.69	QP	
5		2.3700	13.86	10.31	24.17	56.00	-31.83	QP	
6		3.9140	12.09	10.37	22.46	56.00	-33.54	QP	



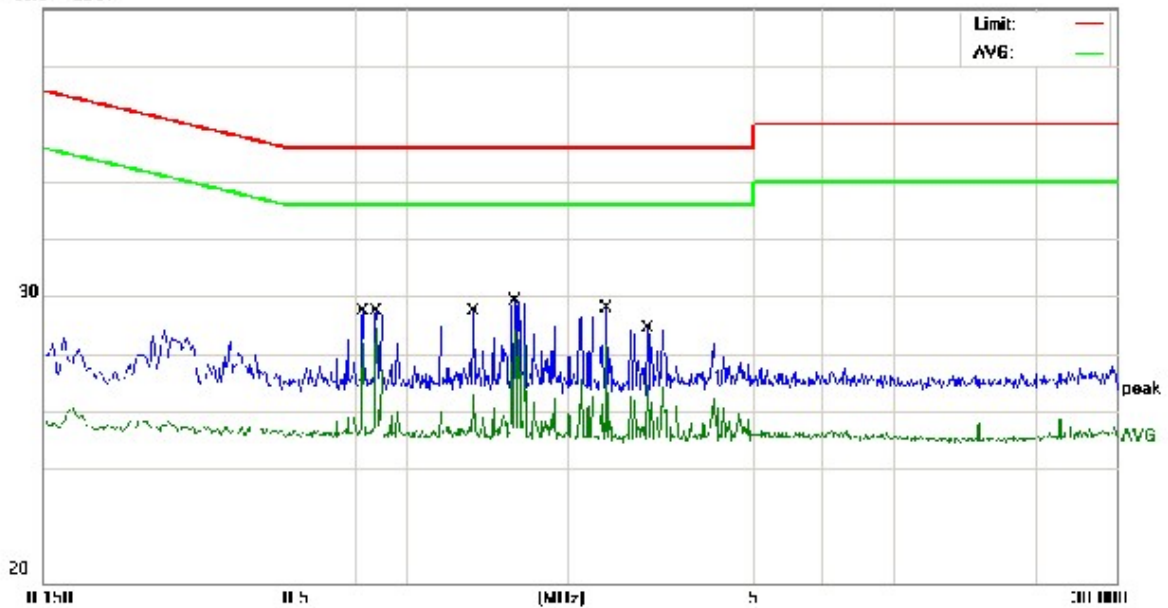
**Conducted Emission Measurement**

File : YIROKA  
 80.0 dBuV

Data : #3

Date: 2009/09/03

Time: 16:37:53



Site site #1 Phase: **N** Temperature: 26  
 Limit: FCC Part 15 B(QP) Power: AC 120V/60Hz Humidity: 60 %  
 EUT: wireless doorbell  
 M/N: S-138  
 Mode: receive mode  
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.7300	16.98	10.41	27.39	56.00	-28.61	QP	
2		0.7780	17.06	10.38	27.44	56.00	-28.56	QP	
3		1.2620	17.02	10.26	27.28	56.00	-28.72	QP	
4	*	1.5420	18.93	10.27	29.20	56.00	-26.80	QP	
5		2.4300	17.62	10.31	27.93	56.00	-28.07	QP	
6		2.9700	14.11	10.35	24.46	56.00	-31.54	QP	



## 8 RADIATED EMISSION MEASUREMENT

### 8.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Frequencies (MHz)	Limit dBuV/meter	Measurement distance (meters)
30-88	40	3
88-216	43.5	3
216-960	46	3
Above 960	54	3

### 8.2 TEST INSTRUMENTS

Radiated Emission Test Site 966				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	100005	06/23/2010
Spectrum Analyser	ROHDE&SCHWARZ	FSU	100114	06/23/2010
Preamplifier	H.P.	HP8447E	2945A02715	06/15/2010
Bilog Antenna	SUNOL Sciences	JB3	A021907	06/10/2010
Preamplifier	Compliance Direction	PAM0118	1360976	06/15/2010
Horn Antenna	Compliance Engineer	CE18000	001	06/10/2010
Cable	TIME MICROWAVE	LMR-400	N-TYPE04	06/09/2010
System-Controller	CCS	N/A	N/A	N.C.R
Turn Table	CCS	N/A	N/A	N.C.R
Antenna Tower	CCS	N/A	N/A	N.C.R

**NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to International system of unit (SI).  
 2. N.C.R = No Calibration Request.

### 8.3 TEST PROCEDURES

The EUT was placed on a turn table which was 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower. At the frequency of 30 MHz~1000MHz ,the measuring antenna moved up and down to find out the maximum emission level. It moved from 1 to 4 m for horizontal and vertical polarizations. The broadband antenna was used as a receiving antenna. At the frequency of 1 GHz -5GHz ,the measuring antenna stands 1 m for horizontal and vertical polarizations. The horn antenna was used as a receiving antenna.

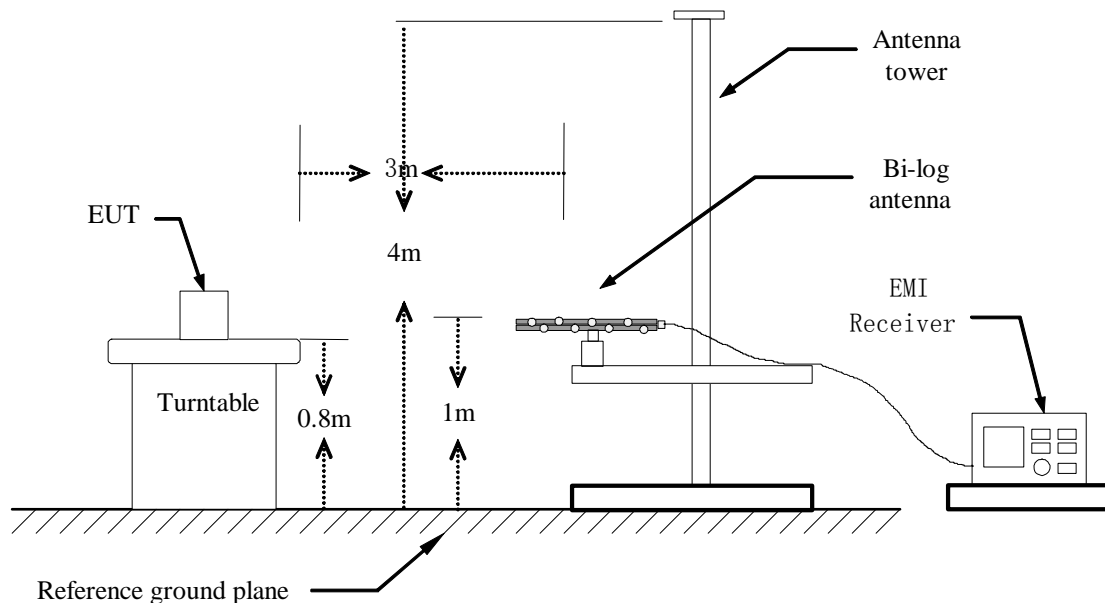
The bandwidth setting on the test receiver was 120 KHz(30 MHz~1000MHz).

The bandwidth setting on the test receiver was 1MHz(1 GHz~5GHz).

The test data of the worst-case condition(s) was recorded.

### 8.4 TEST SETUP

Below 1G



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.



**8.5 TEST RESULTS**

<b>Model No.</b>	S-138	<b>Test Mode</b>	Receive mode
<b>Environmental Conditions</b>	25°C, 55% RH	<b>Test Result</b>	Pass

Frequency(MHz)	Orientation	Level(dBuV)	Limit(dBuV)	Margin	Detector	Result
433.92	H	42.50	46.00	-3.50	QP	<b>Pass</b>
53.818	H	32.80	40.00	-7.20	QP	<b>Pass</b>
118.20	H	34.80	43.50	-8.70	QP	<b>Pass</b>
223.00	H	30.15	46.00	-15.75	QP	<b>Pass</b>
245.00	H	29.16	46.00	-16.84	QP	<b>Pass</b>
868.93	H	34.04	46.00	-7.28	QP	<b>Pass</b>
433.92	V	43.60	46.00	-2.40	QP	<b>Pass</b>
38.30	V	28.60	40.00	-11.40	QP	<b>Pass</b>
56.45	V	30.20	40.00	-9.80	QP	<b>Pass</b>
150.36	V	35.60	43.50	-7.90	QP	<b>Pass</b>
425.00	V	40.05	46.00	-5.95	QP	<b>Pass</b>
868.93	V	28.57	46.00	-10.65	QP	<b>Pass</b>

Note: 1. Level (dBuV) = Receiver reading level (dBuV) + Corr. Factor (dB)