



CCIC Southern Electronic Product Testing (Shenzhen) Co., Ltd.

# CERTIFICATE OF EMC

CERTIFICATE NO.: SET2015-01561

**Product:** Landing call and 5.6 Inches LCD display board  
**Model:** BL2000-HEH-M\* (\*=2-2.99, indicate the different customer or/and Software function number)  
**Applicant:** ShenYang Bluelight Automatic Technology Co., Ltd.  
**Address:** No. 37 Shiji Road, Hunnan New District, Shenyang, China

This is to certify that, on the basis of the tests undertaken as per Report No. **SET2015-01561**, the submitted sample of the above item complies with:

EN61000-6-4:2007+A1:2011  
EN61000-6-2:2005

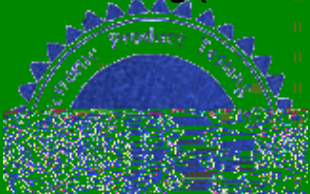
and fulfils testing requirement of the EMC directive 2004/108/EC

Signed for and on behalf of  
**CCIC Southern Electronic Product Testing (Shenzhen) Co., Ltd.**



A handwritten signature in black ink, appearing to read 'Wu Li An'.

Wu Li An, Vice Director

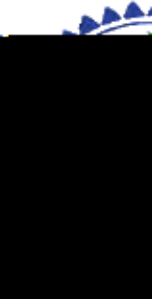


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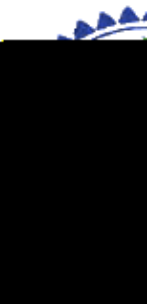


Report No. 2015-01561



查询码: 6PA7ZR5b

Report No.



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## 1 General Information

### 1.1 Description of EUT

Product: Landing call and 5.6 Inches LCD display board  
 Model No.: BL2000-HEH-M2.1  
 Brand Name: /  
 Serial No.: /  
 Rating: Input: 24V DC  
 Accessories: /

#### NOTE:

1. For more detailed features description about EUT, please refer to User's Manual.
2. Application model is BL2000-HEH-M\* (\*=2-2.99 indicate the different customer or Software function number). Models differences do not affect the performance of EMC. All tests were performed on Model BL2000-HEH-M2.1 and results represented other models.
3. The highest frequency of the internal source of EUT is below 108 MHz, so the radiated emission measurement shall be made up to 1GHz.

### 1.2 Objective

Perform ElectroMagnetic Interference (EMI) and ElectroMagnetic Susceptibility (EMS) tests for CE Marking.

## 2 Test Facilities and Configuration

### 2.1 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 15-35°C
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 kPa

### 2.2 Measurement Uncertainty

The uncertainty is calculated using the method suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

- Uncertainty of Radiated Emission,  $U_c = \pm 4.7\text{dB}$

## 2.3 Test Standards and Results

The EUT has been tested according to the following specifications:

EMISSION		
Standard	Test Type	Result
EN61000-6-4:2007+A1:2011	Radiated disturbance	PASS
IMMUNITY (EN61000-6-2:2005)		
Basic Standard	Test Type	Result
IEC 61000-4-2	Electrostatic discharge immunity	PASS
IEC 61000-4-3	Radiated, radio frequency electromagnetic field immunity	PASS
IEC 61000-4-4	Electrical fast transient/burst immunity	PASS
IEC 61000-4-5	Surge immunity	PASS
IEC 61000-4-6	Immunity to conducted disturbances induced by RF fields	PASS
IEC 61000-4-8	Power frequency magnetic field immunity	PASS

## 2.4 List of Equipments Used

Description	Manufacturer	Model No.	Calibration Date	Serial No.
Test Receiver	ROHDE&SCHWARZ	ESCI	Jun.10, 2015	A0902601
Broadband Ant. Anechoic Broadba5	ROHDE&SCHWARZ	VULB 09160	Jun.10, 2015	A0805560

### 3 Emission Test

#### 3.1 EUT Setup and Operating Conditions

The EUT was powered by 24V DC mains. The EUT was continuously operated during the test.

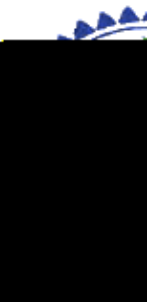
#### 3.2 Radiated Disturbance Measurement

##### 3.2.1 Limits of Radiated Disturbance

Frequency range (MHz)	Quasi peak limits(dB $\mu$ V/m), at 10m measurement distance
30 – 230	40
230 - 1000	47

Notes:

- (1) The lower limit shall apply at the transition frequency.
- (2)



1. Electromagnetic radiation disturbances, max detector, antenna polarization: Vertical

2. Electromagnetic radiation disturbances, max peak detector, antenna polarization: Horizontal

## 4 Immunity Test

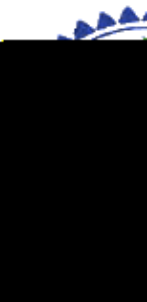
### 4.1 EUT Setup and Operating Conditions

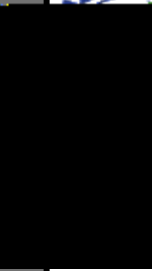
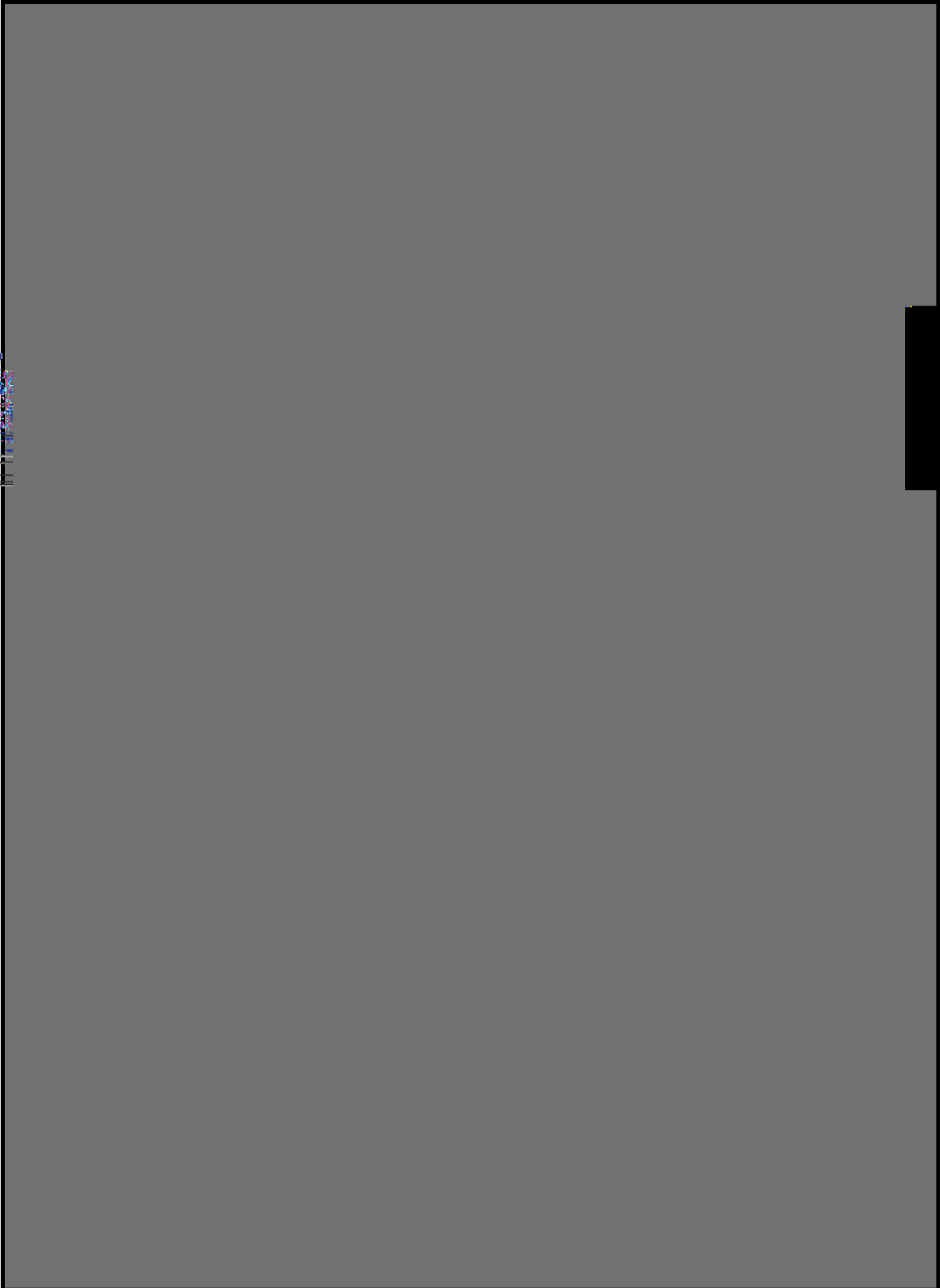
Same as 3.1.

### 4.2 Performance Criteria

<p>Criterion A</p>	<p>The apparatus shall continue to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.</p>
<p>Criterion B</p>	<p>The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.</p>
<p>Criterion C</p>	<p>Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.</p>

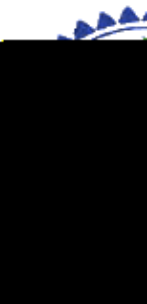
### 4.3 Electra





## 4.4.3 Test Result

Frequency	Polarity	Azimuth	Field Strength (V/m)	Observation	Comply with Criterion
80-1000 MHz	V&H	0,90, 80, 270	10	Note(1)	A
1.4-2.0GHz	V&H	0,90, 80, 270	3	Note(1)	A
2.0-2.7GHz	V&H	0,90, 80, 270	1	Note(1)	A



## 4.7 Immunity to Conducted Disturbances Induced by RF Fields

### 4.7.1 Test Specification

Basic Standard:	IEC 61000-4-6
Frequency Range:	0.15 MHz – 80 MHz
Field Strength:	10V
Modulation:	1 kHz Sine Wave, 80%, AM Modulation

# Power Frequency Magnetic Field Immunity Test

## Test Specification

Standard:	IEC 61000-4-8
Frequency Range:	50Hz

## Appendix I Photographs of the EUT



## Appendix II Photographs of EMC Test Configuration

### 1. Radiated Field Strength Measurement

### 2. Electrostatic Discharge Immunity Test

3. Radiated, Radio Frequency Electromagnetic Field Immunity Test (below 1GHz)

4. Radiated, Radio Frequency Electromagnetic Field Immunity Test (above 1GHz)

5. Electrical Fast Transient/Burst Immunity Test

6. Surge Immunity Test

7. Immunity to Conducted Disturbances Induced by RF Fields

8. Power Frequency magnetic Field Immunity

# STATEMENT

This test laboratory is accredited by CNAS, Accreditation Certificate No. L1659.

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