CERTIFICATE OF EMC

CERTIFICATE NO.: SET2015-01564

Product:	Landing call and display interface board
Model:	BL2000-HXJ-V* (*=9-9.99, indicate the different customer or/and Software function number)
Applicant:	

EMC TEST REPORT

Report No.	SET2015-01564
Product	Landing call and display interface board
Model No	BL2000-HXJ-V* (*=9-9.99, indicat the different custom or/and Software function number)
Applicant	ShenYang Bluelight Automatic Technology Co., Ltd.
Address	No. 37 Shiji Road, Hunnan New District, Shenyang, China

Issued by

CCIC-Southern Electronic Product Testing (Shenzhen) CO

dong, China Tel 755 26627338 F

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Report

Product. .....:	Landing call and display interface board
Model No. ……..:	BL2000-HXJ-V* (*=9-9.99, indicate the different customer or/and Software function number)
Brand Name……..:	/
Applicant……..:	ShenYang Bluelight Automatic Technology Co., Ltd.
Applicant Address……..:	No. 37 Shiji Road, Hunnan New District, Shenyang, China
Manufacturer……..:	ShenYang Bluelight Automatic Technology Co., Ltd.
Manufacturer Address……...:	No. 37 Shiji Road, Hunnan New District, Shenyang, China
Test Standards……..:	EN61000-6-4:2007+A1:2011 Electromagnetic compatibility (EMC) -- Part 6-4: Generic standards - Emission standard for industrial environments EN61000-6-2:2005 Electromagnetic compatibility (EMC) -- Part 6-2: Generic standards - Immunity for industrial environments
Test Result……..:	Pass
Tested by ……..:	Feb. 06. 2015 Signature, Date
Reviewed by……..:	Feb. 06. 2015 Signature, Date
Approved by……..:	Feb. 06. 2015 Signature, Date

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1 General Information

1.1 Description of EUT

Product:	Landing call and display interface board
Model No.:	BL2000-HXJ-V9
Brand Name:	/
Serial No.:	/
Rating:	Input: 24V DC
Accessories:	/

NOTE:

1. For more detailed features description about the EUT, please refer to User's Manual.
2. Application model is BL2000-HXJ-V* (*=9-9.99, indicate the different customer or/and Software function number). Models differences do not affect the performance of EMC. All tests were performed on Model BL2000-HXJ-V9 and results represented other models.
3. The highest frequency of the internal source of the 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: 15-35ºC
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 kPa

2.2 Measurement Uncertainty

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

- Uncertainty of Radiated Emission, Uc = ±4.7dB

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(dBμV/m), at 10m measurement distance
30 – 230	40
230 - 1000	47

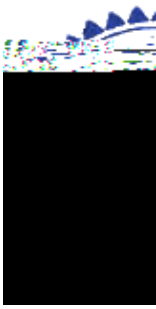
Notes:

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

(2) Additional provisions may be required for cases where interference occurs.

3.2.2Test Setup





1. Electromagnetic radiation disturbances, max peak 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

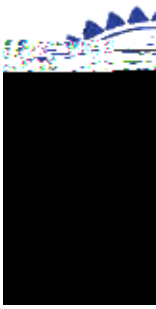
Criterion A	The apparatus shall continue to operate as intended. No degradation of performance function is allowed below a performance level specified by the manufacturer, when apparatus is used as intended.
Criterion B	The apparatus shall continue to operate as intended after the test. No degradation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

4.3 Electrostatic Discharge Immunity Test

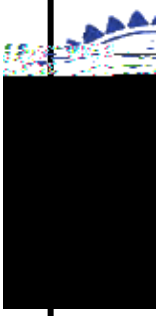
4.3.1 Test Specification

Basic Standard:	IEC 61000-4-2
Discharge Impedance	330¡ / 150 pF
Discharge Voltage:	Air Discharge: 8 kV Contact Discharge: 4kV
Polarity:	Positive / Negative
Number of Discharge:	Minimum 20 times at each test point
Discharge Mode:	Single discharge
Discharge Period:	1-second minimum
Criterion:	B





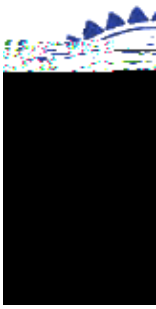




4.4.3 Test Result

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

4.8 Power Frequency Magnetic Field Immunity Test

4.8.1 Test Specification

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

Appendix I ÖPhotographs of the EUT

Appendix II ÖPhotographs 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

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Address: Building 28/29, Shigudong, Xili Industrial Area, Xili Street, Nanshan District, Shenzhen, Guangdong, China P.C.Ö518055

TEL Ö0755-26628093Ã26627338 FAXÖ0755-26627238

InternetÖhttp://www.ccic-set.com E-MailÖmanager@ccic-set.com