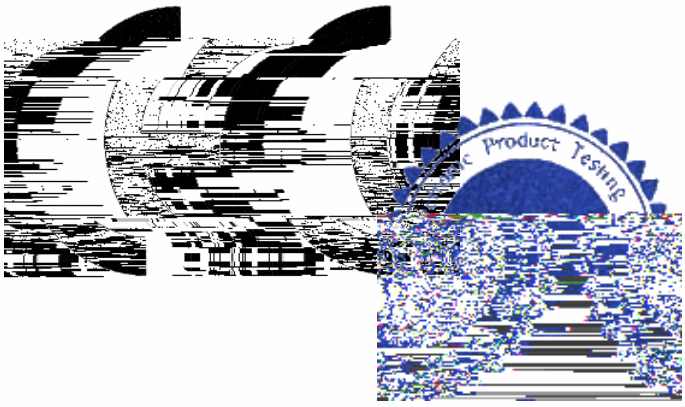
CERTIFICATE OF EMC

[redacted]

EMC TEST REPORT

Report No.:	SET2015-01568
Product:	Instruction board
Model No:	BL2000-ZLB-V* (*=1-1.99, 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
Issued by:	CCIC Southern Electronic Product Testing (Shenzhen)CO., Ltd.
Lab location:	Building 28/29, Shigudong, Xili Industrial Area, Xili Street, Nanshan District, Shenzhen, Guangdong, China
Tel:	86 755 26627338 Fax 86 755 26627238



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查询码：6PA7ZR5b

Report

Product.....:	Instruction board
Model No. .....:	BL2000-ZLB-V* (*=1-1.99, indicate the different customer or/and Software function number)
Brand Name.....:	/
Applicant.....:	ShenYang Bluelight Automatic Technology Co., Ltd.

Chen Weichang

Zhu Qi

Wu Lian

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1 General Information

1.1 Description of EUT

Product: Instruction board
Model No.: BL2000-ZLB-V1.2
Brand Name: /
Serial No.: /
Rating: Input: 24V DC
Accessories: /

NOTE:

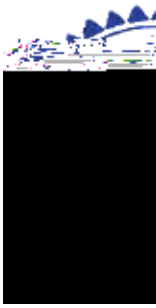
1. For more detailed features description about the EUT, please refer to User's Manual.
2. Application model is BL2000-ZLB-V* (*=1-1.99, indicate the different customer or/an Software function number). Models differences do not affect the performance of EMC. All test were performed on Model BL2000-ZLB-V1.2 and results represented other models.
3.

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





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

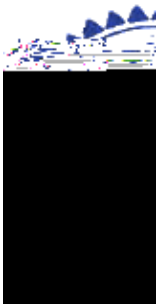
Frequency range (MHz)	Quasi peak limits(dB V/m), at 10m measurement distance
30 – 230	40
230 - 1000	47

Notes:

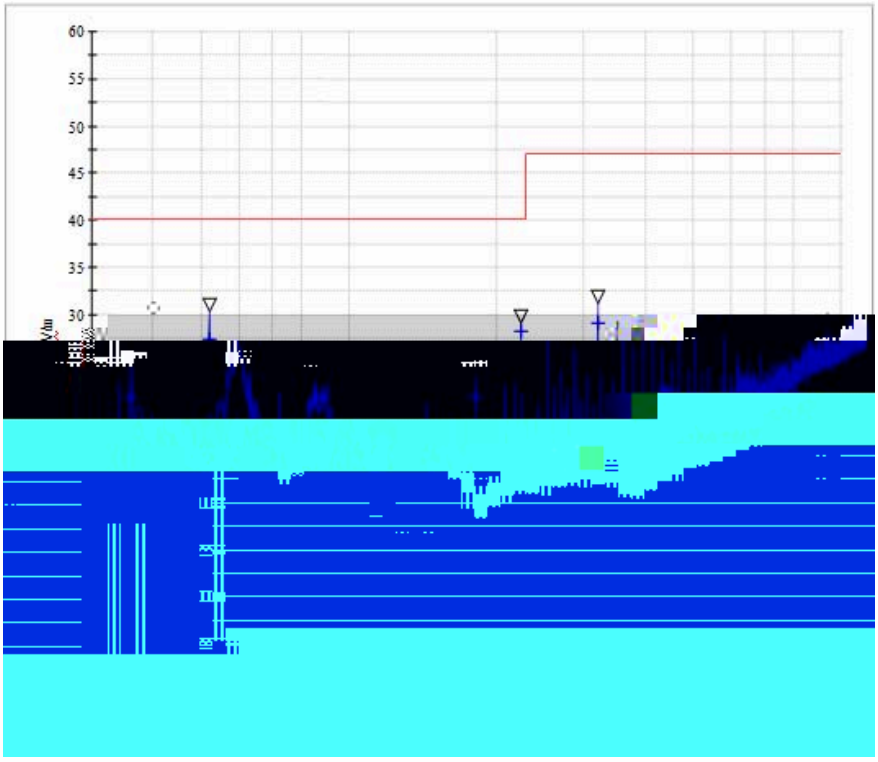
(1) The lower limit shall apply at the transition frequency.

(2)

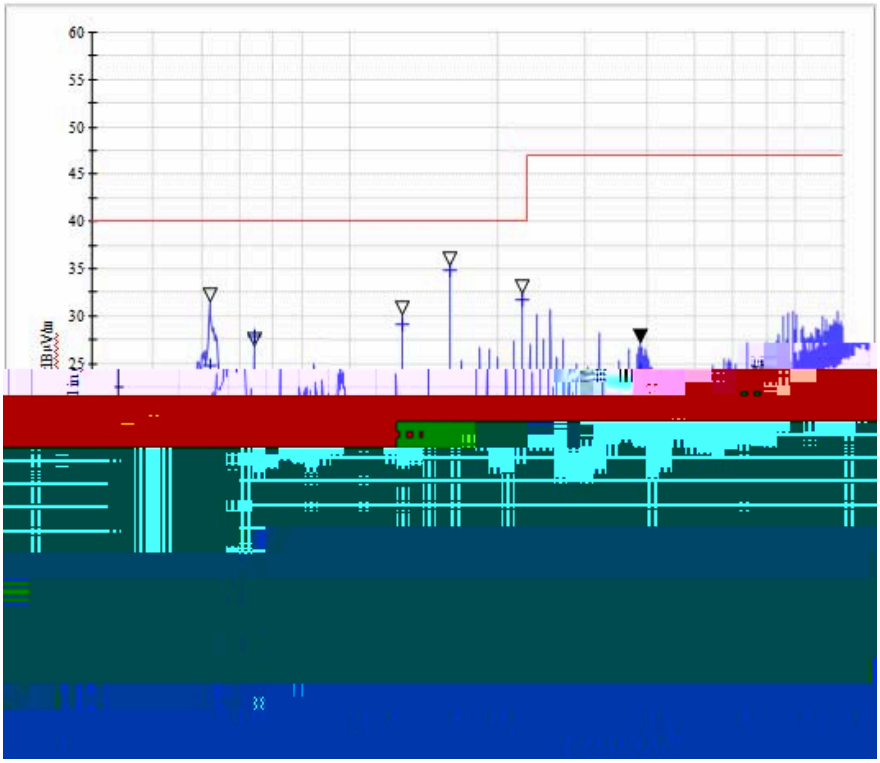




1. Electromagnetic radiation disturbances, max peak detector, antenna polarization: Vertical



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

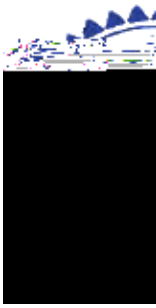
Criterion A	The apparatus shall continue to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.
Criterion B	The apparatus shall continue to operate as intended after the test. 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	330Ω / 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

NOTE:

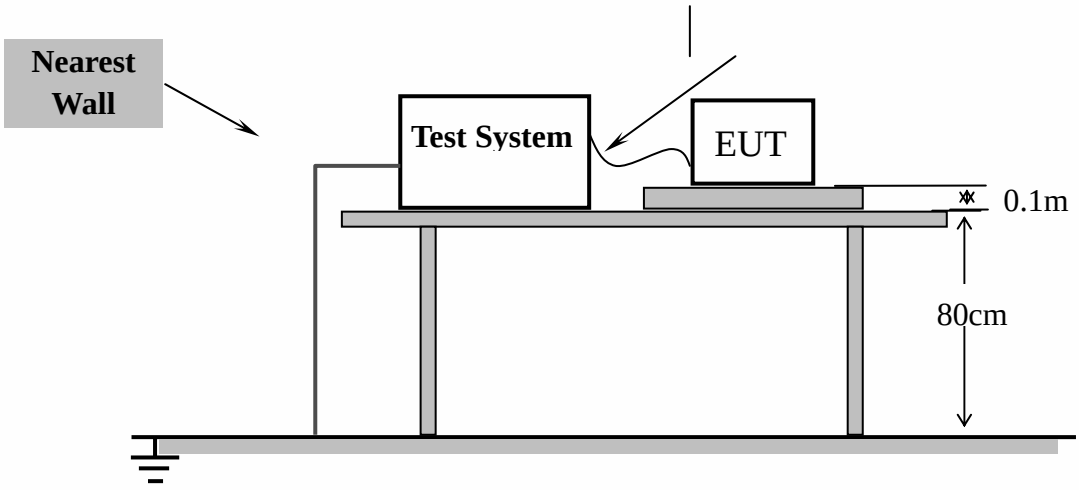
(1). The EUT continued to operate as intended. No degradation of performance was observed.

4.5 Electrical Fast Transient/Burst Immunity Test

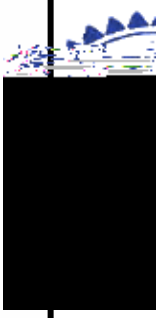
4.5.1 Test Specification

Basic Standard:	IEC 61000-4-4
Test Voltage:	DC. Power port: 2 kV
Polarity:	Positive/Negative
Impulse Frequency:	5kHz
Impulse wave shape:	5/50ns
Burst Duration:	15ms
Burst Period:	300ms
Test Duration:	Not less than 1 min.
Criterion:	B

4.5.2 Test Setup







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
Frequency Step:	1% of fundamental
Coupled Cable:	DC. power line
Coupling Device:	Capacitive clamp
Criterion:	A

4.7.2 Test Setup

4.7.3 Test Result

Test Point	Frequency	Field Strength (Vrms)	Observation	Comply with criterion
DC Power Line	0.15 – 80 MHz	10	Note(1)	A

NOTE:

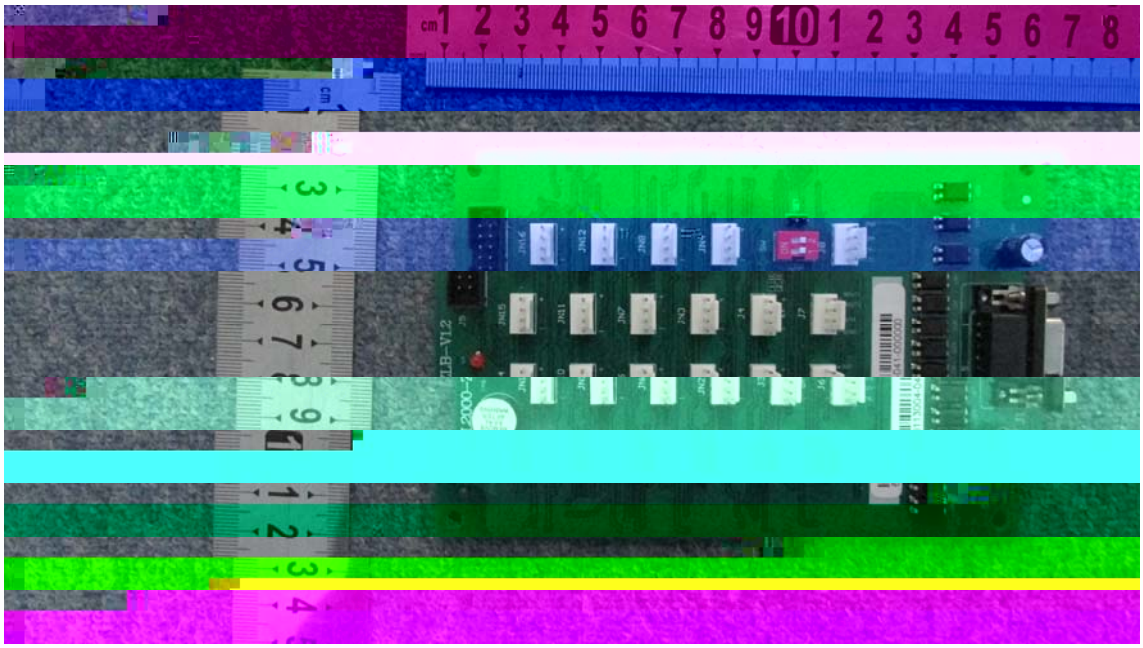
DNo degradatonmance was oservaed.

4.8 Power Frequency Magnetic Field Immunity Test

4.8.1 Test Specification

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

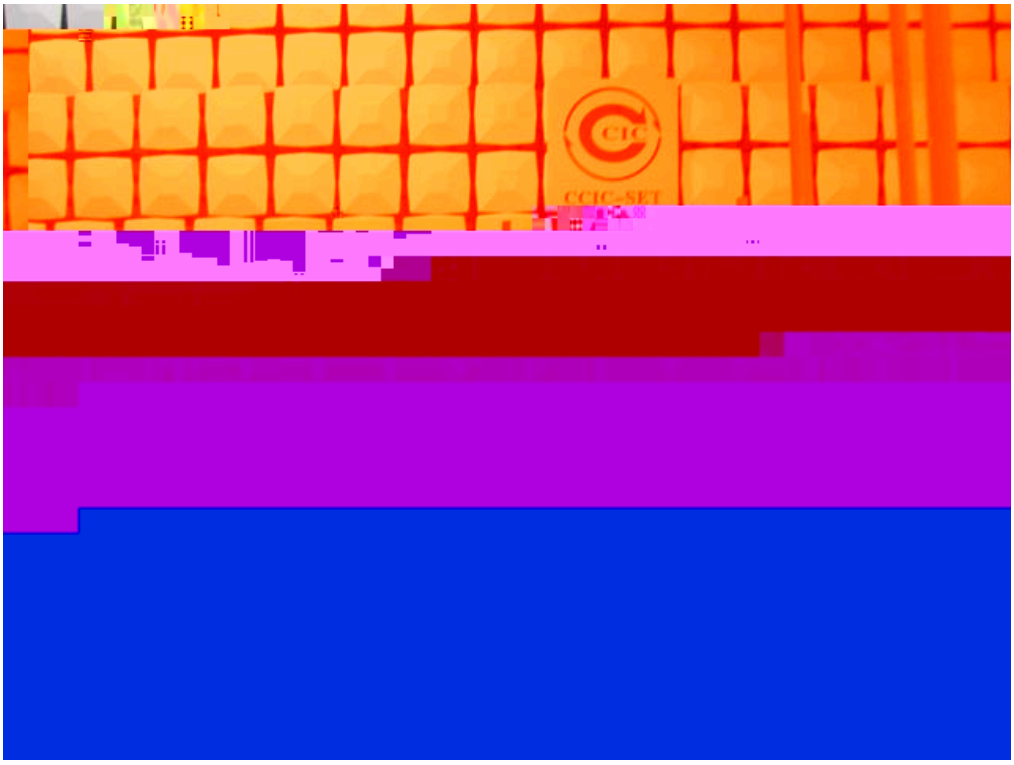
Appendix I Photographs of the EUT



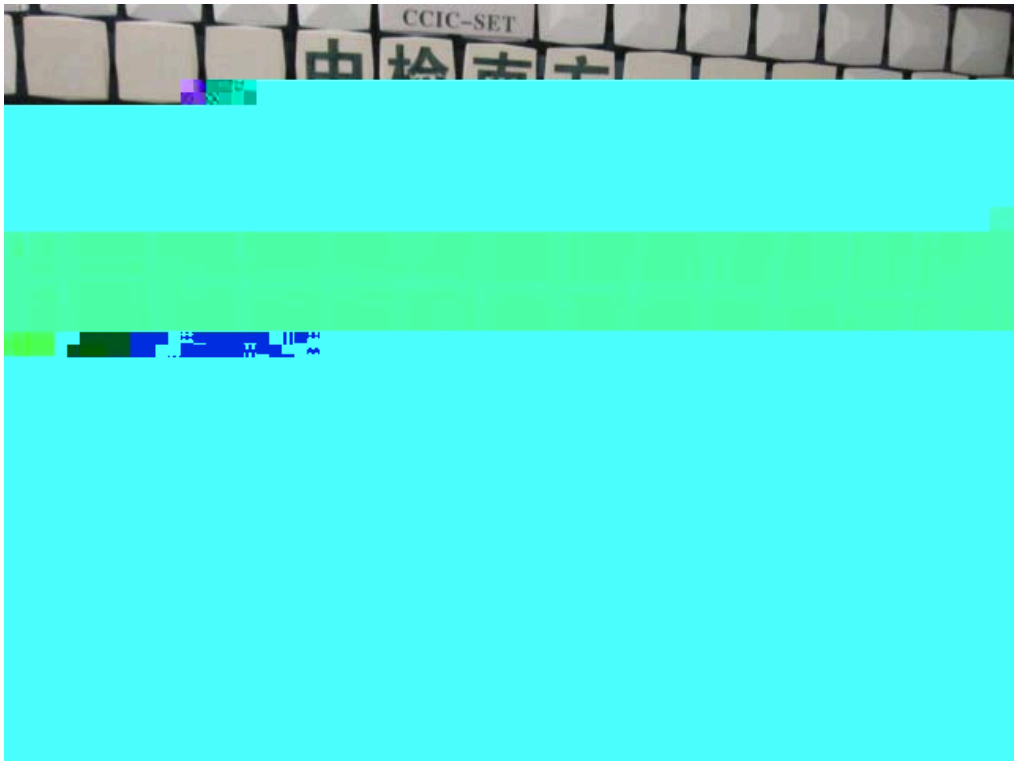


Appendix II Photographs of EMC Test Configuration

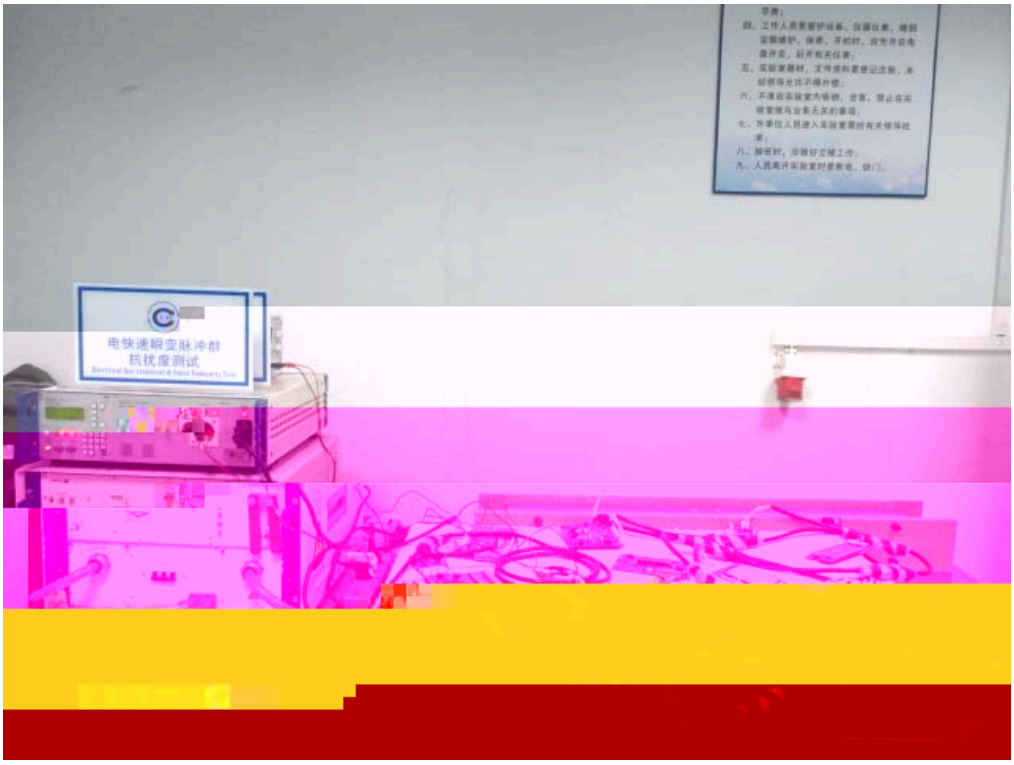
3. Radiated, Radio Frequency Electromagnetic Field Immunity Test (below 1GHz)



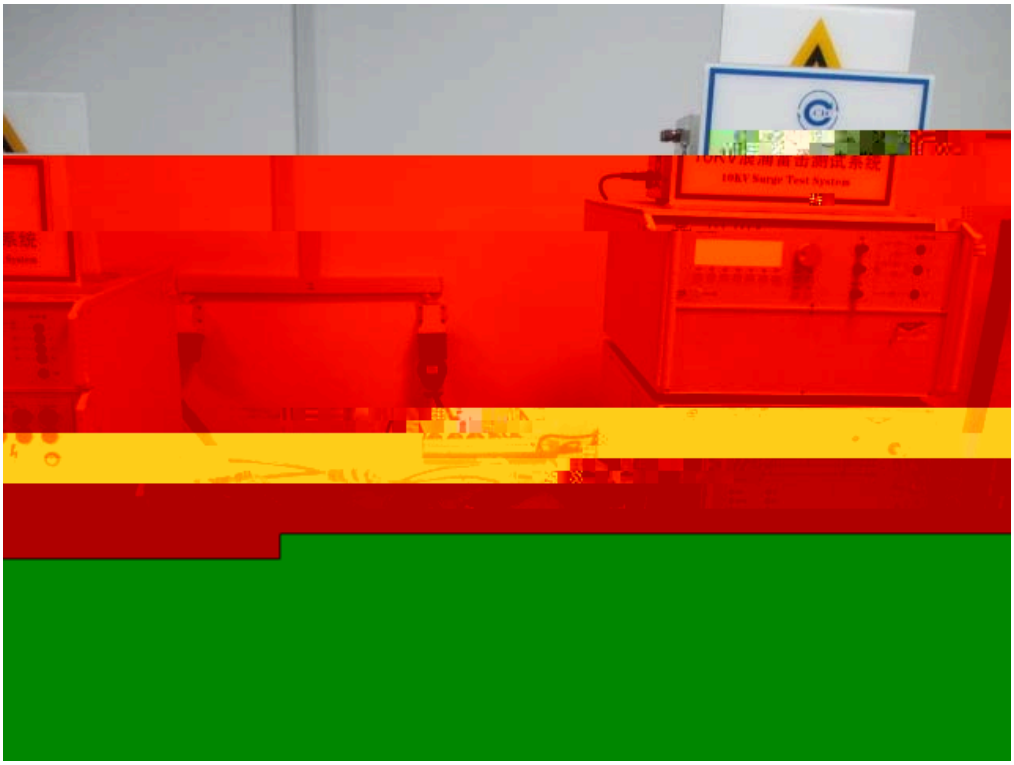
4. Radiated, Radio Frequency Electromagnetic Field Immunity Test (above 1GHz)



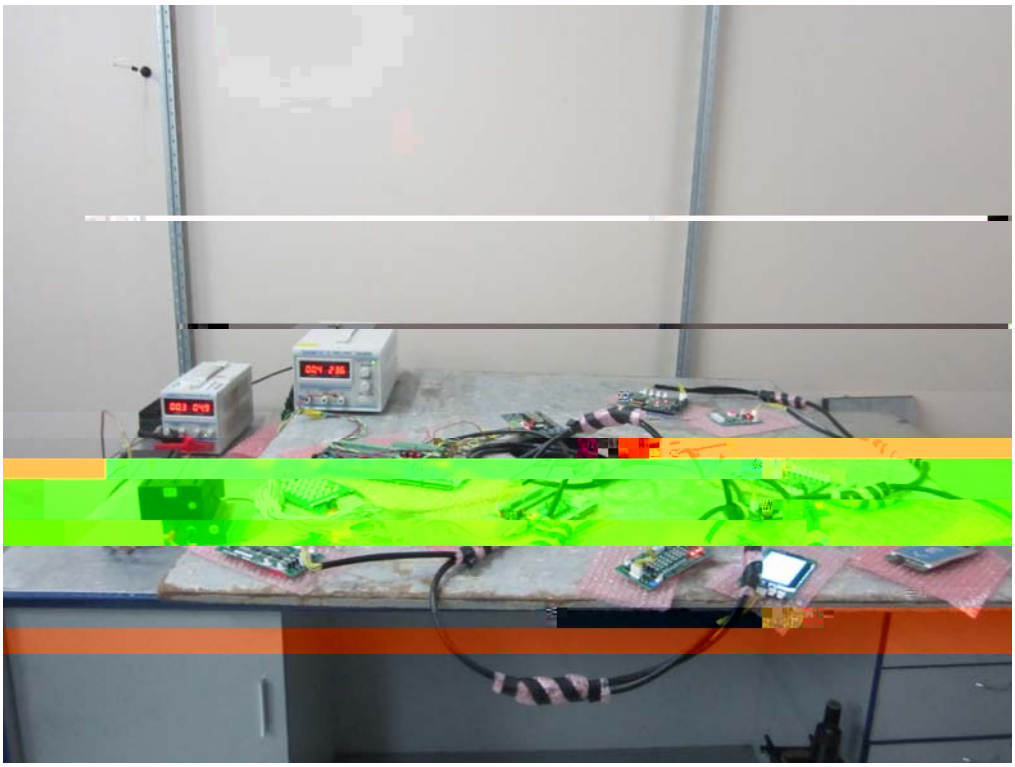
5. Electrical Fast Transient/Burst Immunity Test



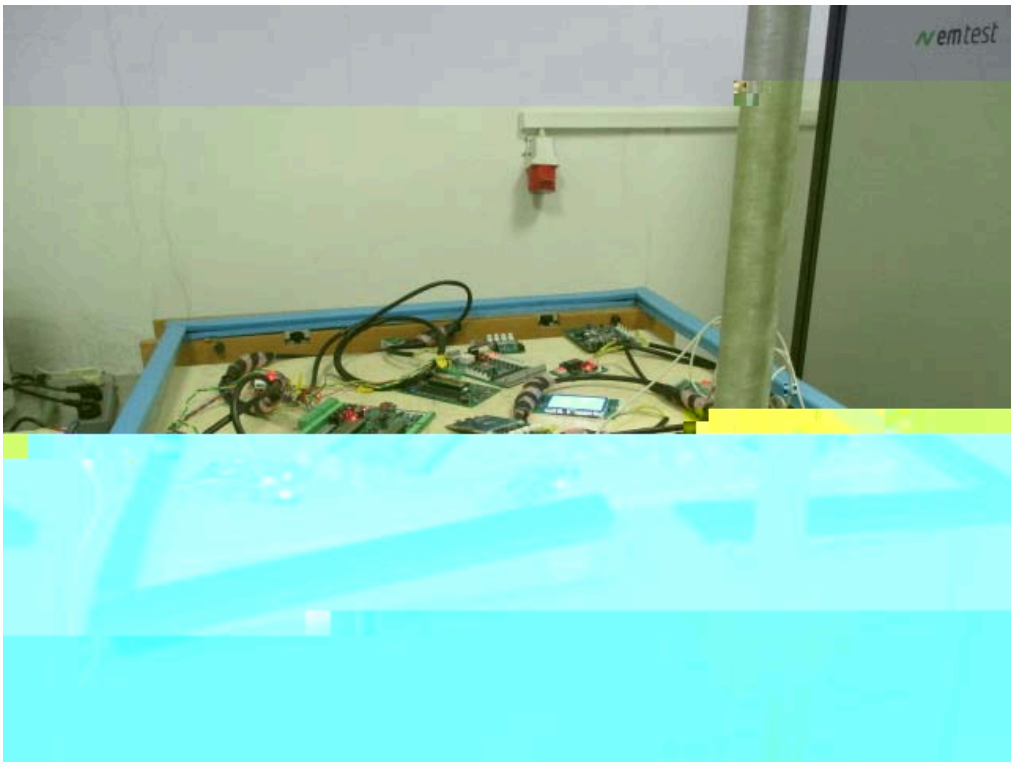
6. Surge Immunity Test



7. Immunity to Conducted Disturbances Induced by RF Fields



8. Power Frequency magnetic Field Immunity



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