



**CENTRE OF TESTING SERVICE  
INTERNATIONAL**

**OPERATE ACCORDING TO ISO/IEC 17025**

# **FCC ID TEST REPORT**

**TEST REPORT NUMBER : CNB3100514-01878-E**



**CENTRE OF TESTING SERVICE CO., LTD.**

Building F, Dachuang industrial park, No.379, Zhongshan Dadao,  
Guangzhou, China.



<b>TEST REPORT FOR FCC ID</b> <b>47 CFR PART 18 C</b> Industrial, Scientific, and Medical Equipment	
<b>Report Reference No.</b> .....	CNB3100514-01878-E
<b>Date of issue</b> .....	03 June 2010
<b>Testing Laboratory Name</b> .....	<b>CENTRE OF TESTING SERVICE CO., LTD.</b>
<b>Address</b> .....	Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China.
<b>Testing location/ procedure</b> .....	Full application of Harmonised standards <input checked="" type="checkbox"/> Partial application of Harmonised standards <input type="checkbox"/> Other standard testing method <input type="checkbox"/>
<b>Applicant's name</b> .....	NINGBO JIALI OPTOELECTRONIC CO.,LTD.
<b>Address</b> .....	36.SHUNKE ROAD, YUYAO, ZHEJIANG, CHINA
<b>Test specification:</b>	
<b>Standard</b> .....	<b>47 CFR PART 18 C</b>
<b>Test Report Form No.</b> .....	CTSEMC-1.0
<b>TRF Originator</b> .....	CENTRE OF TESTING SERVICE CO., LTD
<b>Master TRF</b> .....	Dated 2009-01
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<b>Test item description</b> .....	Magnifier Lamp
<b>Trade Mark</b> .....	BOURYA
<b>Manufacturer</b> .....	NINGBO JIALI OPTOELECTRONIC CO.,LTD.
<b>Model/Type reference</b> .....	8093B
<b>Ratings</b> .....	AC 110-120V, 50/60Hz, 12W
<b>Result</b> .....	<b>Positive</b>

**Compiled by:**

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**Supervised by:**

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## FCC ID -- TEST REPORT

**Test Report No. : CNB3100514-01878-E**
**03 June 2010**  
 Date of issue

Type / Model.....	8093B
EUT.....	Magnifier Lamp
<b>Applicant.....</b>	NINGBO JIALI OPTOELECTRONIC CO.,LTD.
Address.....	36.SHUNKE ROAD, YUYAO, ZHEJIANG, CHINA
Telephone.....	+86-574-62501688
Fax.....	+86-574-62501685
Contact.....	MR.FU BAI NIAN
<b>Manufacturer.....</b>	NINGBO JIALI OPTOELECTRONIC CO.,LTD.
Address.....	36.SHUNKE ROAD, YUYAO, ZHEJIANG, CHINA
Telephone.....	+86-574-62501688
Fax.....	+86-574-62501685
Contact.....	MR.FU BAI NIAN
<b>Test report holder.....</b>	NINGBO JIALI OPTOELECTRONIC CO.,LTD.
Address.....	36.SHUNKE ROAD, YUYAO, ZHEJIANG, CHINA
Telephone.....	+86-574-62501688
Fax.....	+86-574-62501685
Contact.....	MR.FU BAI NIAN

**Test Result** according to the standards on page 3: **Positive**

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.



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## 1 TEST STANDARDS

The tests were performed according to following standards:

47 CFR PART 18 Industrial, Scientific, and Medical Equipment

## 2 SUMMARY

### 2.1 GENERAL REMARKS

Date of receipt of test sample	17 May 2010
Testing commenced on	18 May 2010
Testing concluded on	31 May 2010

### 2.2 FINAL ASSESSMENT

The FCC requirements pertaining to the technical standards and tested operation modes are

- ☒ - fulfilled.
- ☐ - **not** fulfilled.

The equipment under test

- ☒ - fulfils the FCC requirements cited on page 3.
- ☐ - **does not** fulfil the FCC requirements cited on page 3.



### 3 EQUIPMENT UNDER TEST

#### 3.1 Power supply system utilised

Power supply voltage: ☒ AC 110-120V, 50/60Hz, 12W  
☐ 12 V DC ☐ 24 V DC

#### 3.2 Short description of the Equipment under Test (EUT)

Number of tested samples: 1  
Serial number: Prototype

#### 3.3 EUT operation mode

The equipment under test was operated during the measurement under the following conditions:

- ☐ - Standby
- ☐ - Test programme (H - Pattern)
- ☐ - Test programme (colour bar)
- ☐ - Operating mode 2500 U/min. (1 cylinder)
- ☐ - Operating mode 1500 U/min. (> 1 cylinder)
- ☐ - Ignition on , Motor off
- ☐ - Speed 50 km/h
- ☒ - Test program (customer specific)

**Operating Mode:** \_\_\_\_\_

Emissions tests: According to 47 CFR PART 18 searching for the highest disturbance.

#### 3.4 EUT configuration

(The CDF filled by the applicant can be viewed at the test laboratory.)

The following peripheral devices and interface cables were connected during the measurement:

Name:	/
M/N:	/
S/N:	/
Manufacturer:	/
Power Cord:	/
Certificate:	/



## 4 TEST ENVIRONMENT

### 4.1 Address of the test laboratory

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China

Tel: +86-20-85543113 (32 lines)

Fax: +86-20-38780406

### 4.2 Test facility

The test facility is recognized, certified, or accredited by the following organizations:

#### **CNAS-Lab Code: L3394**

CENTRE OF TESTING SERVICE CO., LTD. has been assessed and proved to be in compliance with CNAS-CL01: 2006 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

#### **IC-Registration No.: 8374**

The 3m Alternate Test Site of CENTRE OF TESTING SERVICE CO., LTD. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 8374 on June 24, 2009 .

#### **FCC-Registration No.: 971995**

CENTRE OF TESTING SERVICE CO., LTD., EMC Laboratory 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 No.971995, July 21, 2009.

### 4.3 Environmental conditions

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

Temperature:	15~35 ° C
Humidity:	25~75 %
Atmospheric pressure:	86~106 kPa

### 4.4 Definitions of symbols used in this test report

- - The black square indicates that the listed condition, standard or equipment is applicable for this report.
- - The empty square indicates that the listed condition, standard or equipment is **not** applicable for this report.

### 4.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the CTS quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

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## 4.6 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conduction disturbance	150kHz~30MHz	$\pm 1.22\text{dB}$	(1)
Power disturbance	30MHz~300MHz	$\pm 1.38\text{dB}$	(1)
Radiation emission (3m)	30MHz~300MHz	$\pm 3.14\text{dB}$	(1)
	300MHz~1000MHz	$\pm 3.18\text{dB}$	(1)

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

## 4.7 Test Description

### 4.7.1 Description of Standards and Results

EMISSION		
Description of Test Item	Standard	Results
Conducted Emission Test	47 CFR Part 18 C ANSI C63.4: 2009	PASSED
Radiated Emission Test	47 CFR Part 18 C ANSI C63.4: 2009	PASSED

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## 5 TEST CONDITIONS AND RESULTS

### 5.1 Conducted disturbance

For test instruments and accessories used see section 7 part 7.2.

#### 5.1.1 Description of the test location

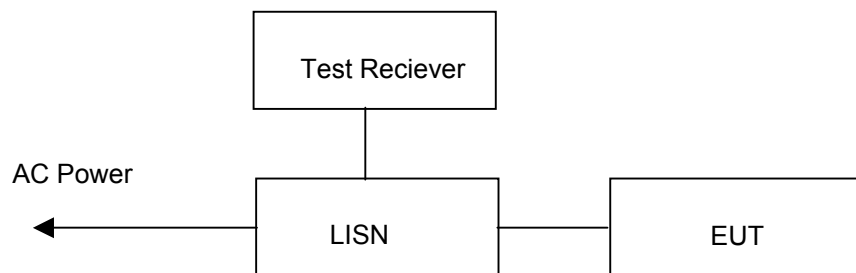
Test location: Shielded room

#### 5.1.2 Description of the test set-up

##### 5.1.2.1 Operating Condition

The EUT is engraving during the test, and the results of the maximum emanation are recorded

##### 5.1.2.2 Block Diagram of Test Setup



#### 5.1.3 Limits disturbance( FCC Class C)

Frequency	Maximum RF Line Voltage (dB $\mu$ V)	
	Quasi-peak Level	
450 k Hz ~ 2.51 M Hz	48	
2.51 M Hz ~ 3 M Hz	69.5	
3 M Hz ~ 30MHz	48	

Note: (1) The tighter limit shall apply at the edge between two frequency bands.

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### 5.1.4 Test result

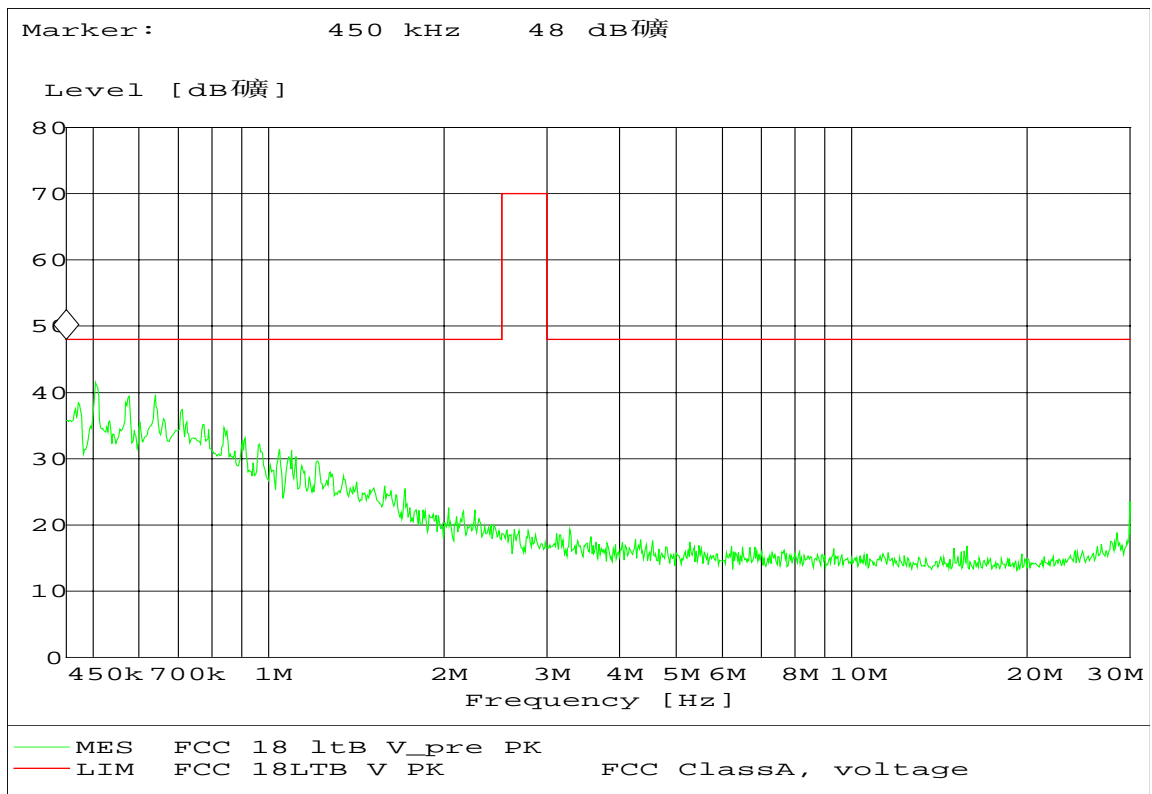
The requirements are	<b>Fulfilled</b>
Band width	9kHz
Frequency range	0.45 MHz - 30 MHz
Min. limit margin	>10.0 dB at 0.45 - 30 MHz

**Remarks:** The limits are kept. For detailed results, please see the following page(s).

### 5.1.5 Test protocol

Test point	Va	Result:	<input checked="" type="checkbox"/> - passed
Operation mode			<input type="checkbox"/> - not passed
Remarks:			

EUT	Magnifier Lamp
MODEL NO.	8093B
Operating Condition	AC 120V/60Hz
Test Condition	Ambient Temperature: 24°C Humidity: 56%
Operator	<b>Raymond</b>



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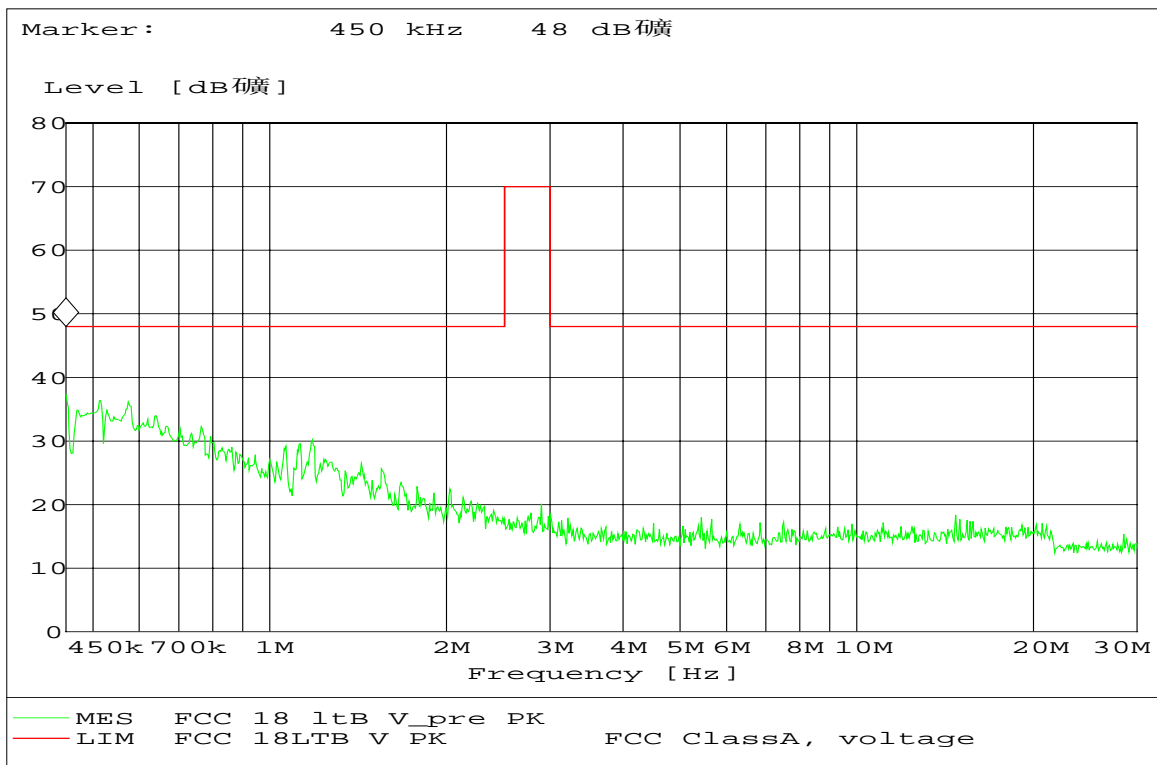
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**MEASUREMENT RESULT: "FCC 18 ltB V\_fin QP"**

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.481599	34.20	10.1	48	13.8	Va	GND
1.720830	30.00	10.1	48	18.0	Va	GND
2.494448	20.00	10.1	48	28.0	Va	GND
3.405683	17.60	10.1	48	31.4	Va	GND
3.674048	16.00	10.1	48	32.0	Va	GND
5.677010	15.90	10.1	48	33.0	Va	GND

Test point	Vb	Result:	■ - passed
Operation mode			□ - not passed
Remarks:			

**MEASUREMENT RESULT: "FCC 18 ltB V\_fin QP"**

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.481599	34.20	10.1	48	13.8	Va	GND
1.720830	29.00	10.1	48	19.0	Va	GND
2.494448	20.60	10.1	48	27.4	Va	GND
3.405683	16.60	10.1	48	31.4	Va	GND
3.674048	19.00	10.1	48	29.0	Va	GND
5.677010	20.90	10.1	48	27.1	Va	GND

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## 5.2 Radiated disturbance (Electric field)

For test instruments and accessories used see section 7 part 7.1.

### 5.2.1 Description of the test location

Test location : Semi-Anechoic chamber

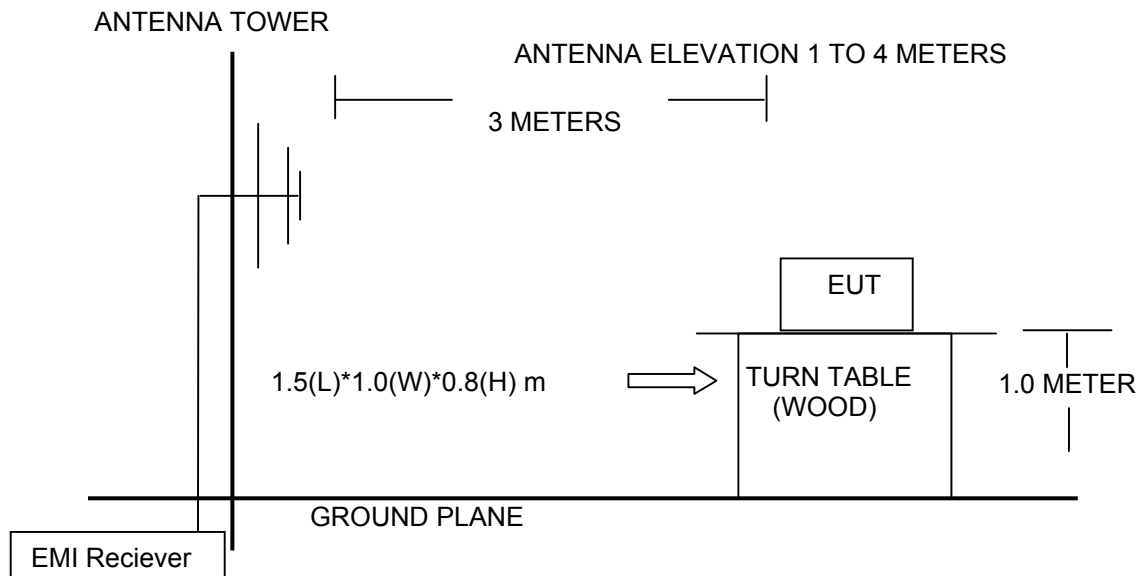
Test disturbance: 3 Meter

### 5.2.2 Description of the test set-up

#### 5.2.2.1 Operating Condition

The EUT is engraving during the test, and the results of the maximum emanation are recorded

#### 5.2.2.2 Block Diagram of Test Setup



### 5.2.3 Limits of disturbance (FCC Class B)

Frequency (MHz)	Distance (Meters)	Field Strengths Limits (dB $\mu$ V/m)
30 ~ 88	3	40
88 ~ 216	3	43.5
216 ~ 1000	3	46

Note: (1) The tighter limit shall apply at the edge between two frequency bands.

(2) Distance refers to the distance in meters between the test instrument antenna and the closest point of any part of the E.U.T.

**5.2.4 Test result**

The requirements are	<b>Fulfilled</b>
Band width	120kHz
Frequency range	30 MHz – 1000MHz
Min. limit margin	>10dB at 30MHz – 10000 MHz

**Remarks:** The limits are kept. For detailed results, please see the following page(s).

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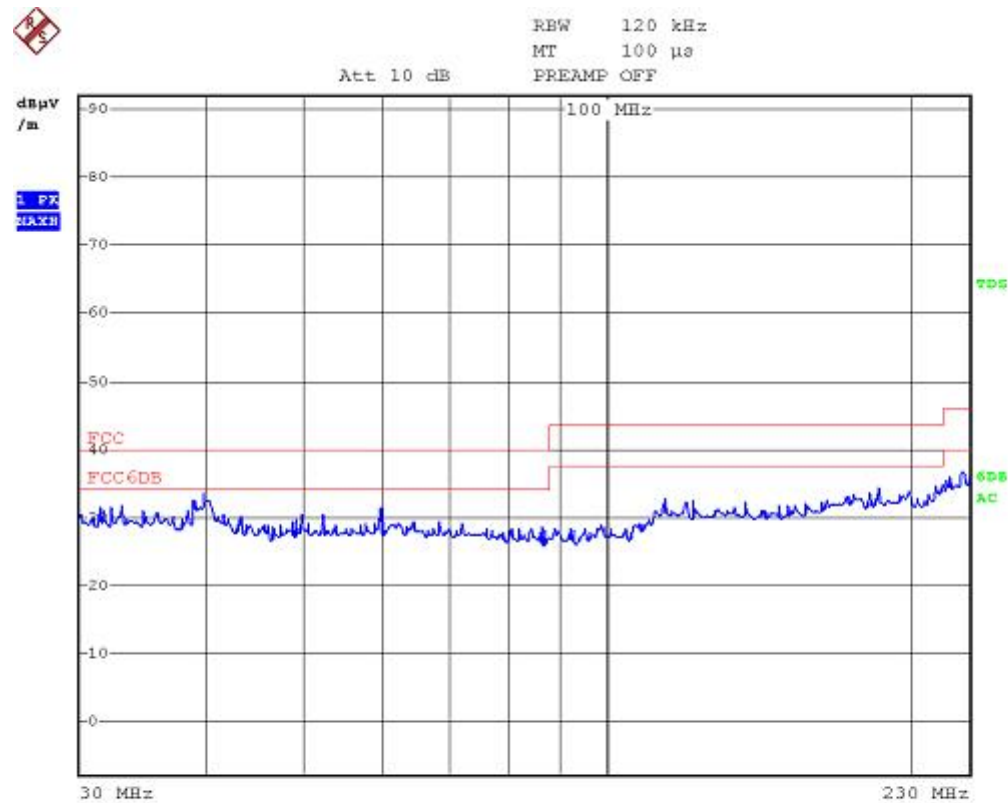
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## 5.2.5 Test protocol

Test point	Horizontal	Result:	<input checked="" type="checkbox"/> - passed
Operation mode			<input type="checkbox"/> - not passed
Remarks:			

EUT	Magnifier Lamp
MODEL NO.	8093B
Operating Condition	AC 120V/60Hz
Test Condition	Ambient Temperature: 24°C Humidity: 56%
Operator	Raymond



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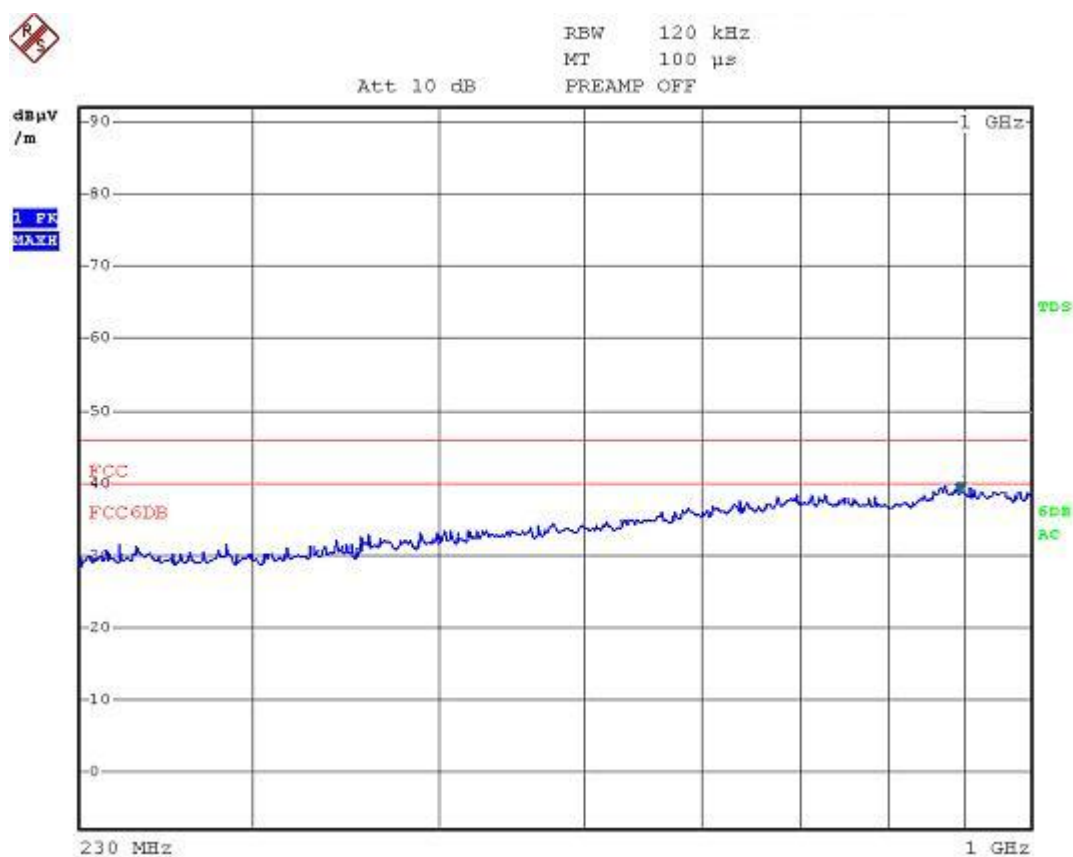
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Frequency [MHz]	Result [dBμV/m]		Limit [dBμV/m]		Dlimit [dBμV/m]	
	Average	QP	Average	QP	Average	QP
33.24	---	28.0	---	40.0	---	12.0
78.61	---	28.4	---	43.5	---	15.1
138.56	---	27.8	---	43.5	---	15.7
196.56	---	31.5	---	43.5	---	12.0
310.67	---	31.4	---	43.5	---	12.1
789.56		28.0		46.0		18.0

Note: 1. Emission level = Read level + Factor.  
2. Factor = Antenna factor + Cable loss.

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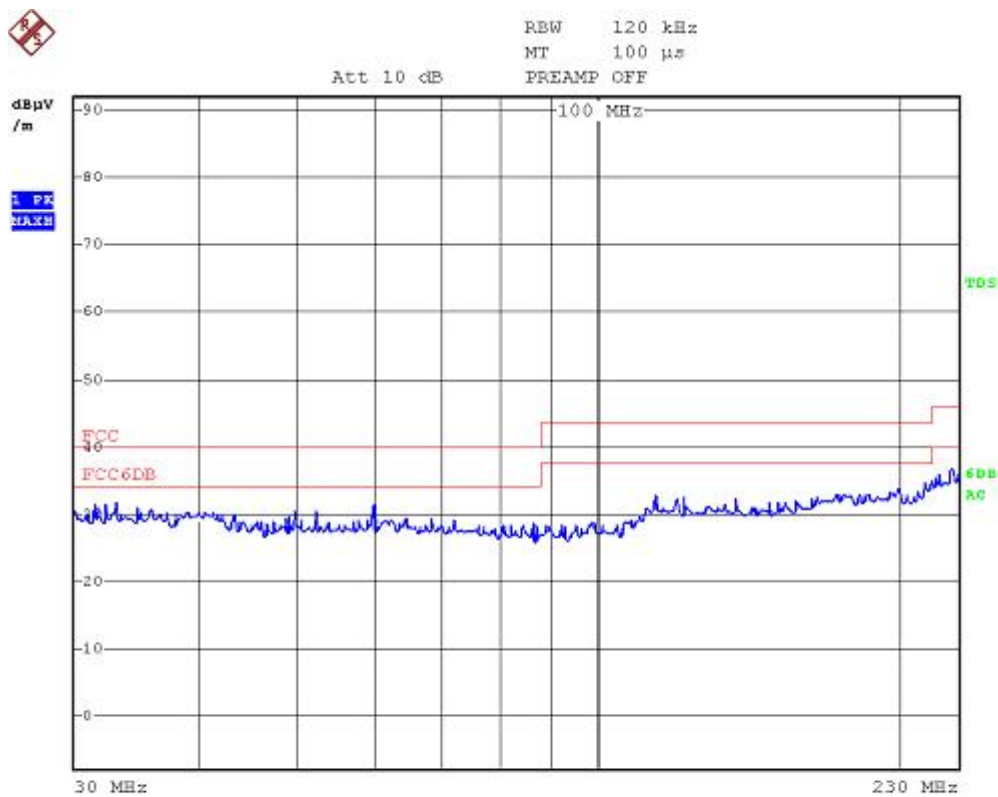
E-mail: [cts@cts-lab.com.cn](mailto:cts@cts-lab.com.cn)

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est point	Vertical	Result:	<input checked="" type="checkbox"/> - passed
Operation mode			<input type="checkbox"/> - not passed
Remarks:			

EUT	Magnifier Lamp
MODEL NO.	8093B
Operating Condition	AC 120V/60Hz
Test Condition	Ambient Temperature: 24°C Humidity: 56%
Operator	Raymond



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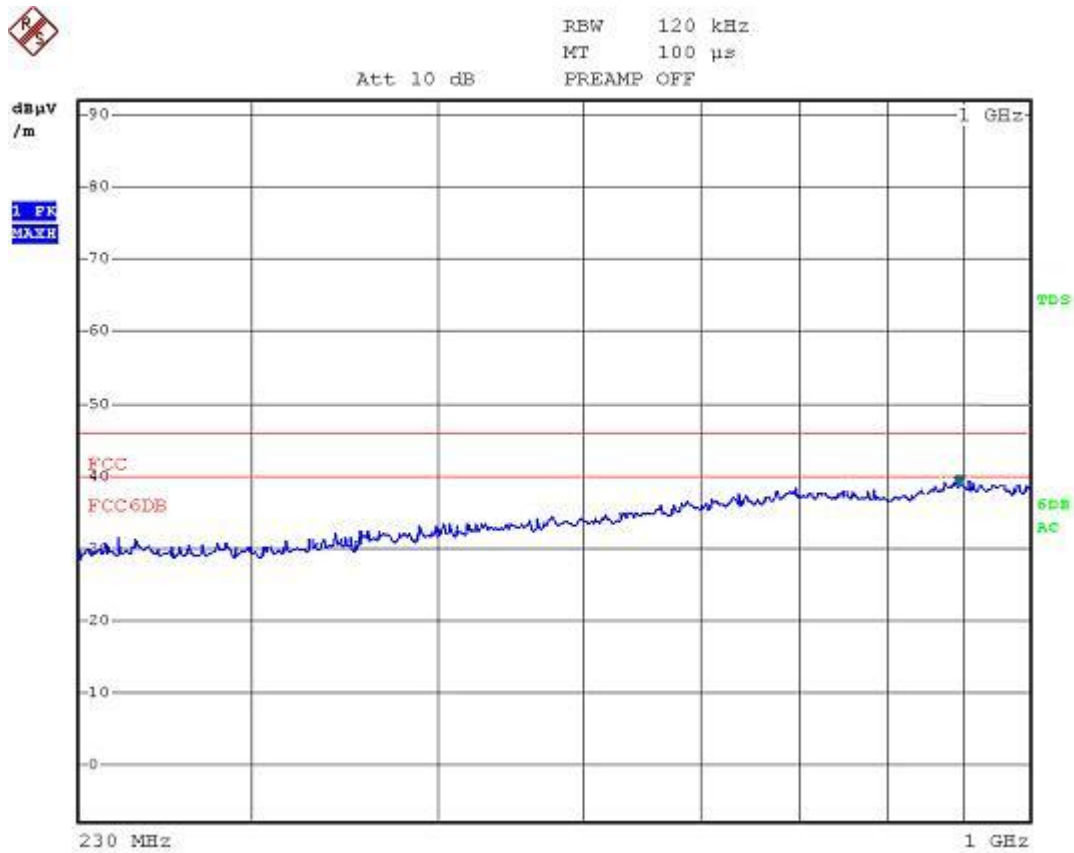
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Frequency [MHz]	Result [dBμV/m]		Limit [dBμV/m]		Dlimit [dBμV/m]	
	Average	QP	Average	QP	Average	QP
31.21	---	29.0	---	40.0	---	11.0
78.61	---	28.4	---	43.5	---	15.1
138.56	---	27.8	---	43.5	---	15.7
191.56	---	30.5	---	43.5	---	13.0
310.67	---	32.4	---	43.5	---	11.1
786.56	---	28.0	---	46.0	---	18.0

Note: 1. Emission level = Read level + Factor.  
2. Factor = Antenna factor + Cable loss.

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## 6 DEVIATION TO TEST SPECIFICATIONS

[ NONE]

### Normative references

**1. 47 CFR Part 18 C**

Industrial, Scientific, and Medical Equipment

**2. ANSI C63.4 : 2009**

American National Standard for Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

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## 7 USED TEST EQUIPMENT

### 7.1

Radiated disturbance (Electric field)					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	100868	2009/12
2	Biconical Antenna	ROHDE & SCHWARZ	HK116	100221	2009/12
3	Log per Antenna	ROHDE & SCHWARZ	HL223	100226	2009/12

### 7.2

Conducted Disturbance					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESHS10	842884/012	2009/12
2	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	832479/025	2009/12
3	Pulse Limiter	ROHDE & SCHWARZ	ESHSZ2	100301	2009/12
4	EMI Test Software	ROHDE & SCHWARZ	ESK1	N/A	2009/12

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## 8 Manufacturer/ Approval holder Declaration

The following identical model(s):

N/A

Belong to the tested device:

Magnifier Lamp : **Magnifier Lamp**  
Model name: **8093B**