TECHNICAL REPORT

卓時檢測 TIMEWAY TESTING LABORATORY

ISO/IEC17025 Accredited Lab.

Report No: FCC 0812218
File reference No: 2009-01-23

Applicant: Xiamen Huacheng Lighting Technology Co.,Ltd

Product: Energy Saving Lanp

Brand Name: MINNENG

Model No: MNSP0915 MNSP0918 MNSP0920 MN3U0915 MN3U0918 MN3U0920

Test Standards: FCC Part 18.307

Test result: It is herewith confirmed and found to comply with the requirements set up by ANSI C63.4&FCC Part 15 regulations for the evaluation of electromagnetic compatibility

Approved By

Jack Chung

Jack Chung

Manager

Dated: Jan 23, 2009

**Results appearing herein relate only to the sample tested**
**The technical reports is issued errors and omissions exempt and is subject to withdrawal at**

**SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD**

East 5/Block 4, Anhua Industrial Zone, No.8, Tairan Rd. Chegongmiao, FuTian District, Shenzhen, CHINA.

Tel (755) 83448688 Fax (755) 83442996

## Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

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

**CNAS-LAB Code: L2292**

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

**FCC-Registration No.: 899988**

The 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.: 899988.

**IC- Registration No.: IC5205A-01**

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration IC No.: 5205A-01.

Test Report Conclusion

Content

## 1.0 General Details

1.1 Test Lab Details

Name : SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD
Address: East 5/Block 4, Anhua Industrial Zone, No.8,Tairan Rd. CheGongMiao, FuTian District, Shenzhen, CHINA.
Telephone: (755) 83448688
Fax: (755) 83442996

1.2 Applicant Details

Applicant: Xiamen Huacheng Lighting Technology Co.,Ltd
Address: No.75,Huandong Coastal Meixi Road,Xiamen,China
Telephone: +86-592-5826568
Fax: +86-592-5826568

1.3 Description of EUT

Product: Energy Saving Lamp
Manufacturer: Fujian Minneng Lighting Technology Co., Ltd.
Address: Inside Government Yard,Wenfeng Town, Zhangzhou,Fujian, China
Brand Name: MINNENG
Model Number: MNSP0915 MNSP0918 MNSP0920 MN3U0915 MN3U0918 MN3U0920
Additional Model Number:
Rating: Input: 120V~, 60Hz, ≤25

Remark: --

1.4 Submitted Sample: 6 Sample

1.5 Test Duration

2008-12-31 to 2009-01-23

1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB
Radiated Emissions Uncertainty =4.7dB

1.7 Test Engineer

The sample tested by Terry Tong

Print Name: Terry Tong

## 2.0 List of Measurement Equipment

2.1 Conducted Emission Test

| Name | Model No. | Serial No. | Manufacturer | Calibration Date | Calibration Cycle |
|---|---|---|---|---|---|
| EMI Test Receiver | ESCS30 | 830245/009 | RS | 2008.2.23 | 1Year |
| Coaxial Switch | MP59B | M70585 | ANRITSU | N/A | N/A |
| LISN | NTFM8132 | 8132137 | SCHWARZBECK | 2008.2.24 | 1Year |
| LISN | NTFM8134 | 8134109 | SCHWARZBECK | 2008.2.24 | 1Year |
| LISN | NTFM8136 | 8136102 | SCHWARZBECK | 2008.2.24 | 1Year |

## 3.0 Technical Details

3.1 Investigations Requested

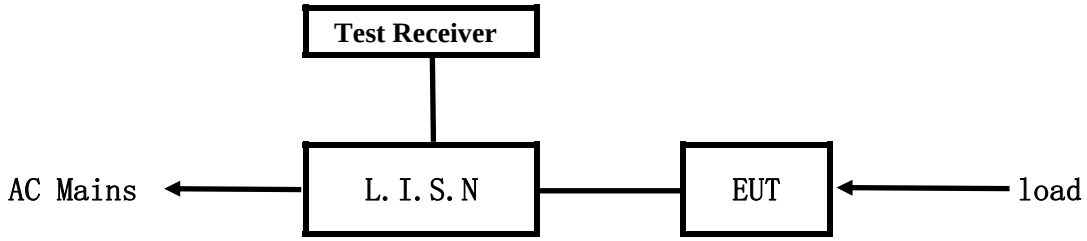
Perform Electromagnetic Interference [EMI] tests for FCC Requirement.

3.2 Test Standards

**FCC Part 18 Subpart C**

## 4.0 Conducted Power line Test

4.1 Schematics of the test

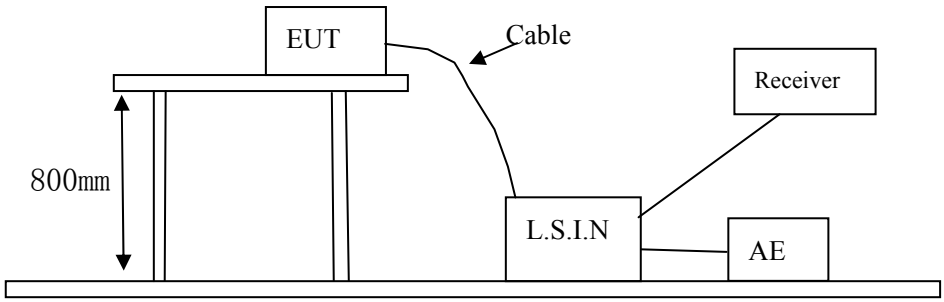



EUT: Equipment Under Test

4.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2003.The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2003.Cables and peripherals were moved to find the maximum emission levels for each frequency.

Block diagram of Test setup




4.3 Power line conducted Emission Limit

| Frequency(MHz) | Maximum RF line voltage measured with a 50 uH/50 ohm LISN (uV) |
|---|---|
| Non-consumer equipment | |
| 0.45-1.6 | 1000 |
| 1.6-30 | 3000 |
| Consumer equipment | |
| 0.45-2.51 | 250 |
| 2.51-3.0 | 3000 |
| 3.0-30 | 250 |

Notes: 1. *decreasing linearly with logarithm of frequency.

2. The tighter limit shall apply at the transition frequencies

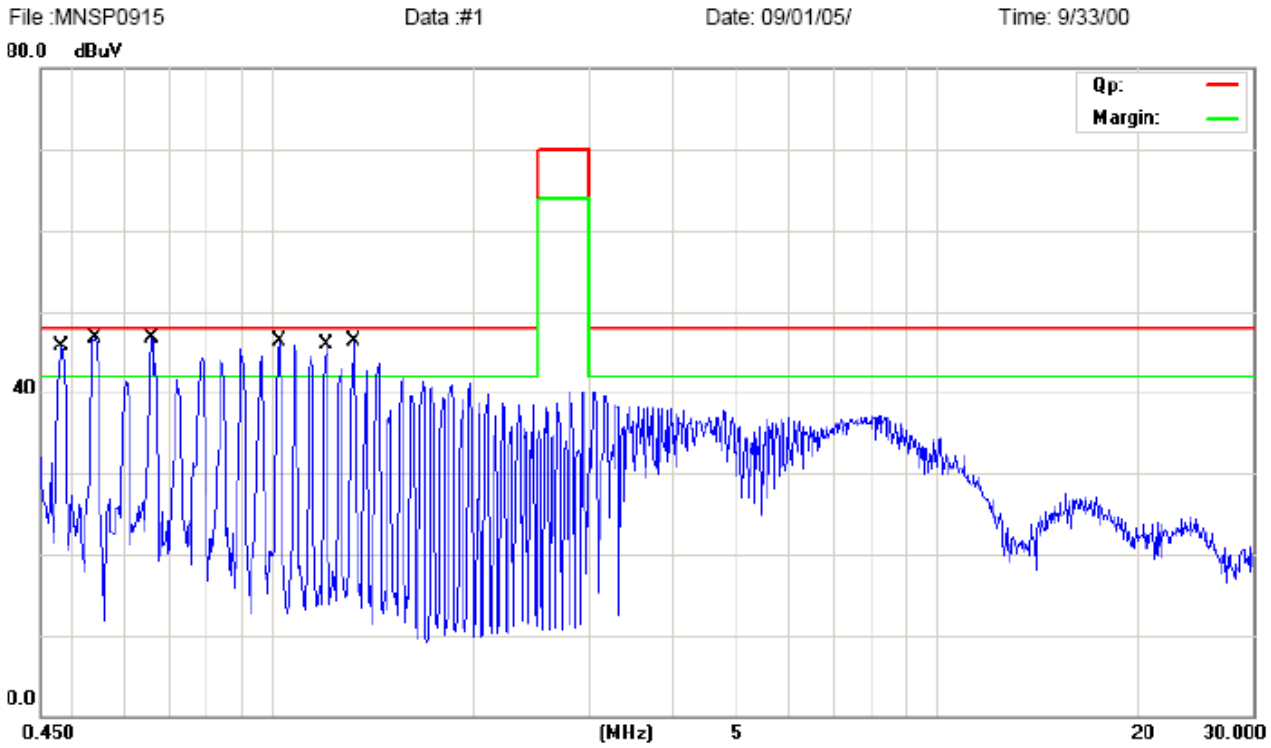
3. RF Voltage (dBuV) = 20 log RF Voltage (uV)

4.4 Test Results

The frequency spectrum from 0.415MHz to 30MHz was investigated. All reading are peak values with a resolution bandwidth of 9kHz.

**A: Conducted Emission on Live Terminal of the power line (450kHz to 30MHz)**

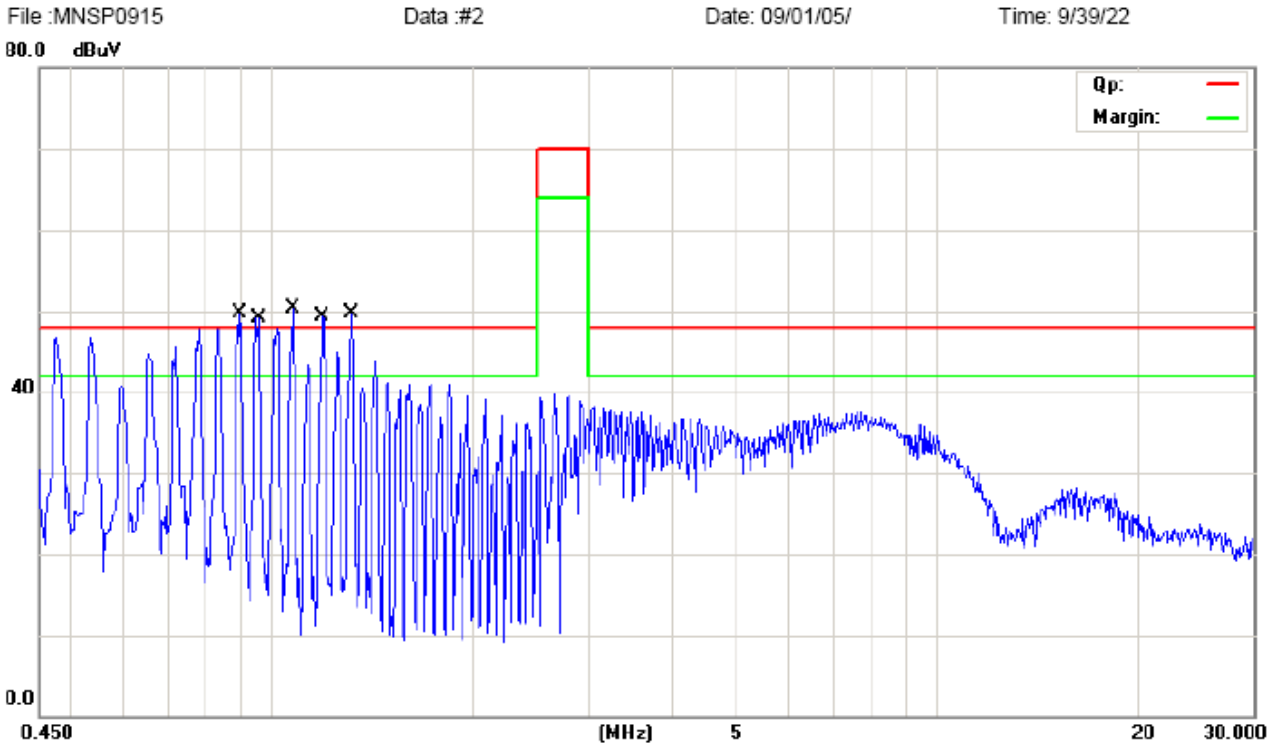
EUT set Condition: Normal operation mode
**Level** **Class B**
**Results:** **Pass**
**Model:** **MNSP0915**
Please refer to following diagram for individual




| Frequency (MHz) | Reading(dBμV) | | Limit |
|---|---|---|---|
| | Live | Neutral | (dBμV) |
| | AV | AV | AV |
| 0.481 | 38.75 | - | 48 |
| 0.539 | 40.61 | - | 48 |
| 0.662 | 39.54 | - | 48 |
| 1.021 | 37.11 | - | 48 |
| 1.202 | 37.88 | - | 48 |
| 1.323 | 38.43 | | 48 |

**B: Conducted Emission on Neutral Terminal of the power line (450kHz to 30MHz)**

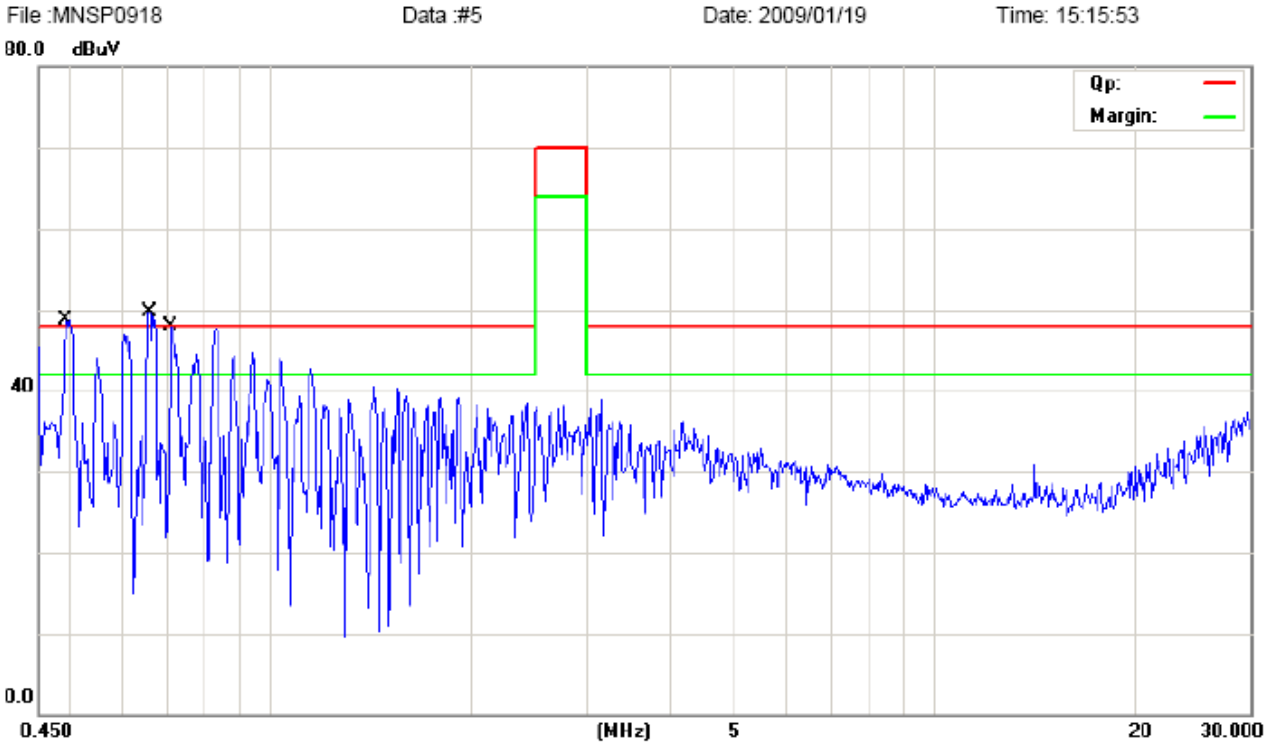
EUT set Condition: Normal operation mode
**Level** **Class B**
**Results:** **Pass**
**Model:** **MNSP0915**
Please refer to following diagram for individual




| Frequency (MHz) | Reading(dBμV) | | Limit |
|---|---|---|---|
| | Live | Neutral | (dBμV) |
| | AV | AV | AV |
| 0.901 | - | 40.20 | 48 |
| 0.953 | - | 40.85 | 48 |
| 1.080 | - | 41.83 | 48 |
| 1.197 | - | 39.88 | 48 |
| 1.317 | - | 40.33 | 48 |

**C: Conducted Emission on Live Terminal of the power line (450kHz to 30MHz)**

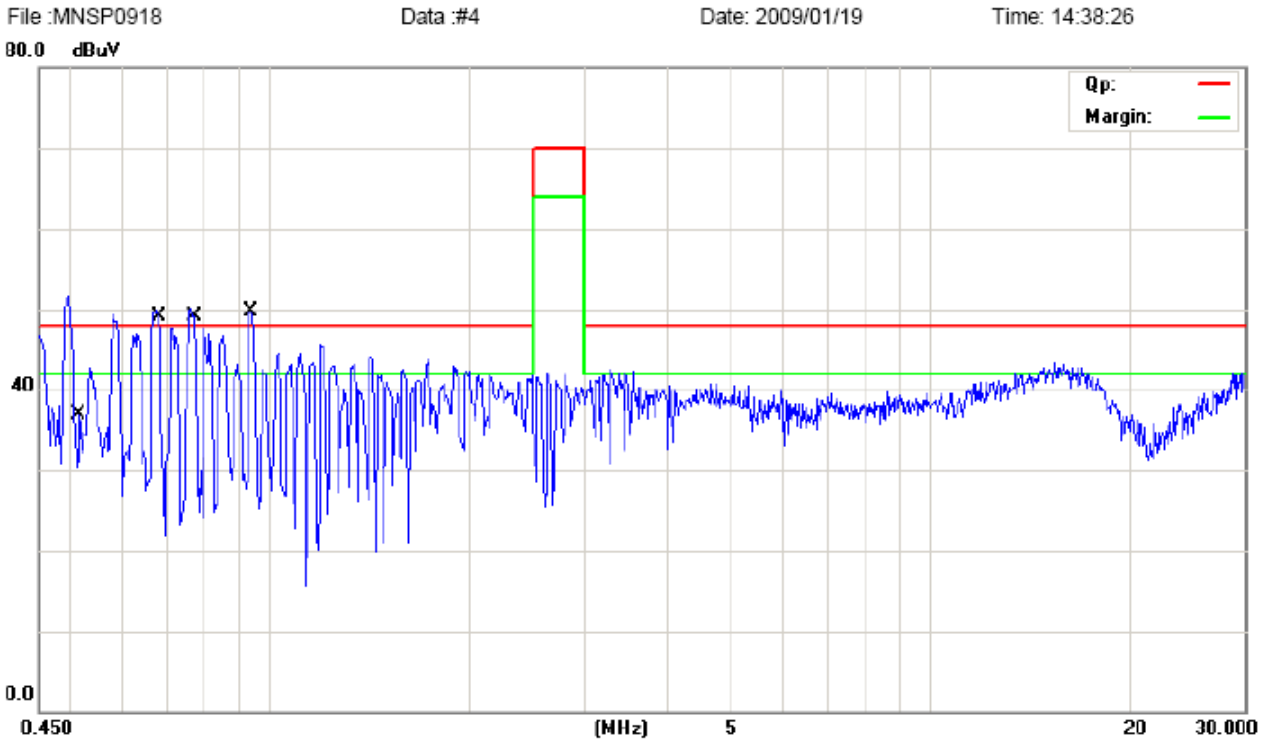
EUT set Condition: Normal operation mode
**Level** **Class B**
**Results:** **Pass**
**Model:** **MNSP0918**
Please refer to following diagram for individual




| Frequency (MHz) | Reading(dBμV) | | Limit |
|---|---|---|---|
| | Live | Neutral | (dBμV) |
| | AV | AV | AV |
| 0.495 | 42.87 | - | 48 |
| 0.659 | 38.74 | - | 48 |
| 0.715 | 36.50 | - | 48 |

**D: Conducted Emission on Neutral Terminal of the power line (450kHz to 30MHz)**

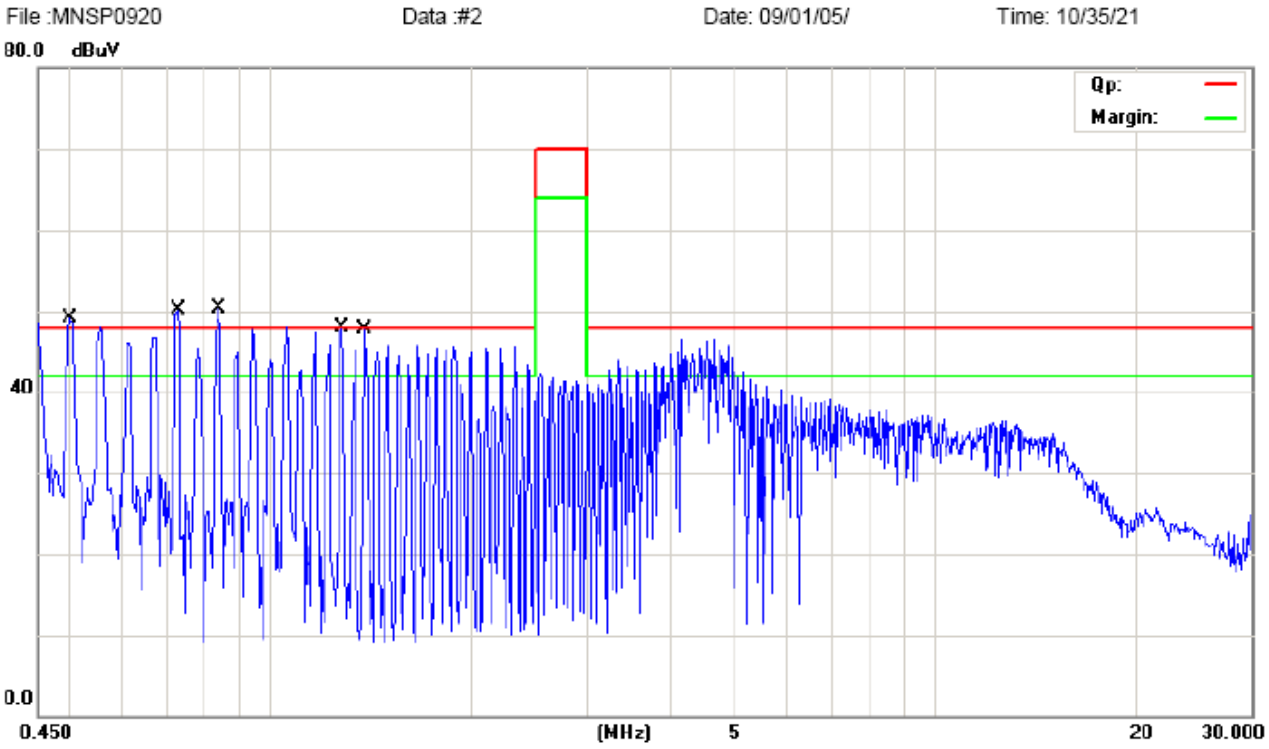
EUT set Condition: Normal operation mode
**Level** **Class B**
**Results:** **Pass**
**Model:** **MNSP0918**
Please refer to following diagram for individual




| Frequency (MHz) | Reading(dBμV) | | Limit |
|---|---|---|---|
| | Live | Neutral | (dBμV) |
| | AV | AV | AV |
| 0.516 | - | 39.29 | 48 |
| 0.685 | - | 41.27 | 48 |
| 0.774 | - | 40.26 | 48 |
| 0.944 | - | 36.84 | 48 |

**E: Conducted Emission on Live Terminal of the power line (450kHz to 30MHz)**

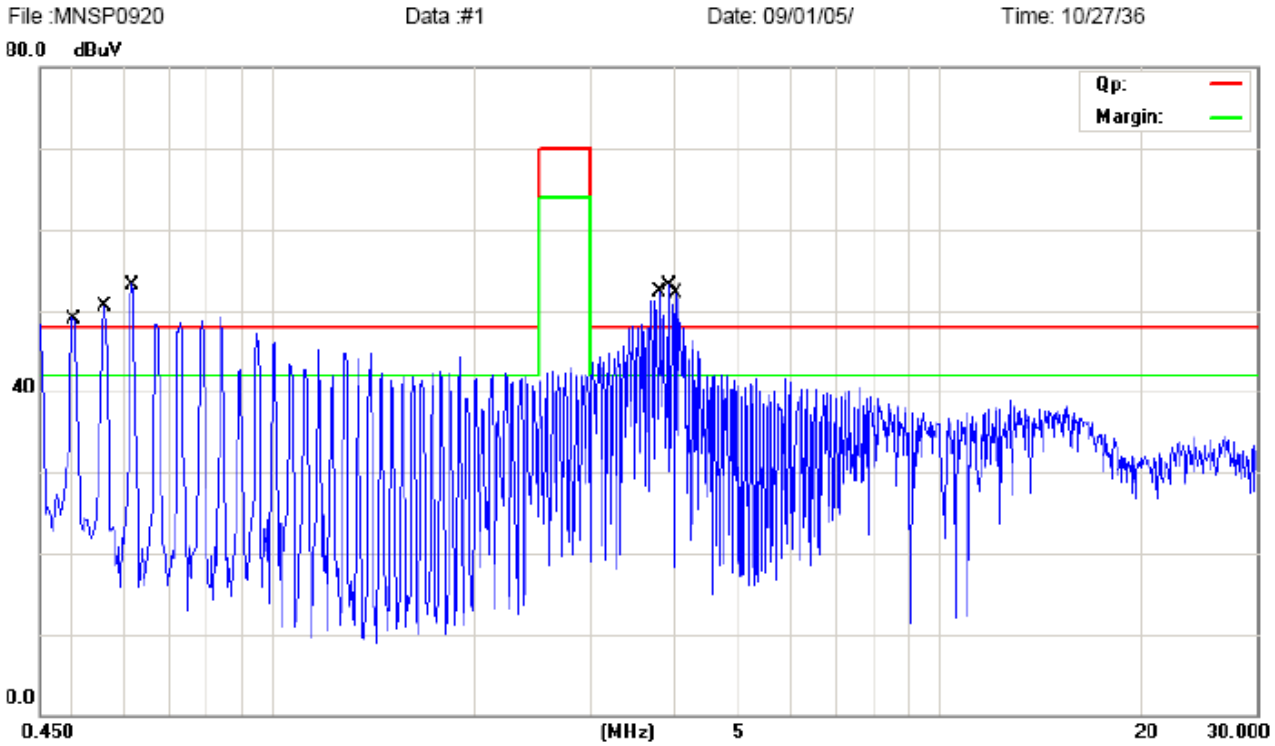
EUT set Condition: Normal operation mode
**Level** **Class B**
**Results:** **Pass**
**Model:** **MNSP0920**
Please refer to following diagram for individual




| Frequency (MHz) | Reading(dBμV) | | Limit |
|---|---|---|---|
| | Live | Neutral | (dBμV) |
| | AV | AV | AV |
| 0.502 | 41.97 | - | 48 |
| 0.724 | 42.51 | - | 48 |
| 0.839 | 41.03 | - | 48 |
| 1.281 | 39.91 | - | 48 |
| 1.392 | 37.86 | - | 48 |

**F: Conducted Emission on Neutral Terminal of the power line (450kHz to 30MHz)**

EUT set Condition: Normal operation mode
**Level** **Class B**
**Results:** **Pass**
**Model:** **MNSP0920**
Please refer to following diagram for individual




| Frequency (MHz) | Reading(dBμV) | | Limit |
|---|---|---|---|
| | Live | Neutral | (dBμV) |
| | AV | AV | AV |
| 0.506 | - | 43.58 | 48 |
| 0.561 | - | 43.84 | 48 |
| 0.616 | - | 44.29 | 48 |
| 3.932 | - | 36.37 | 48 |
| 3.828 | - | 36.43 | 48 |
| 4.040 | - | 36.72 | 48 |

**G: Conducted Emission on Live Terminal of the power line (450kHz to 30MHz)**

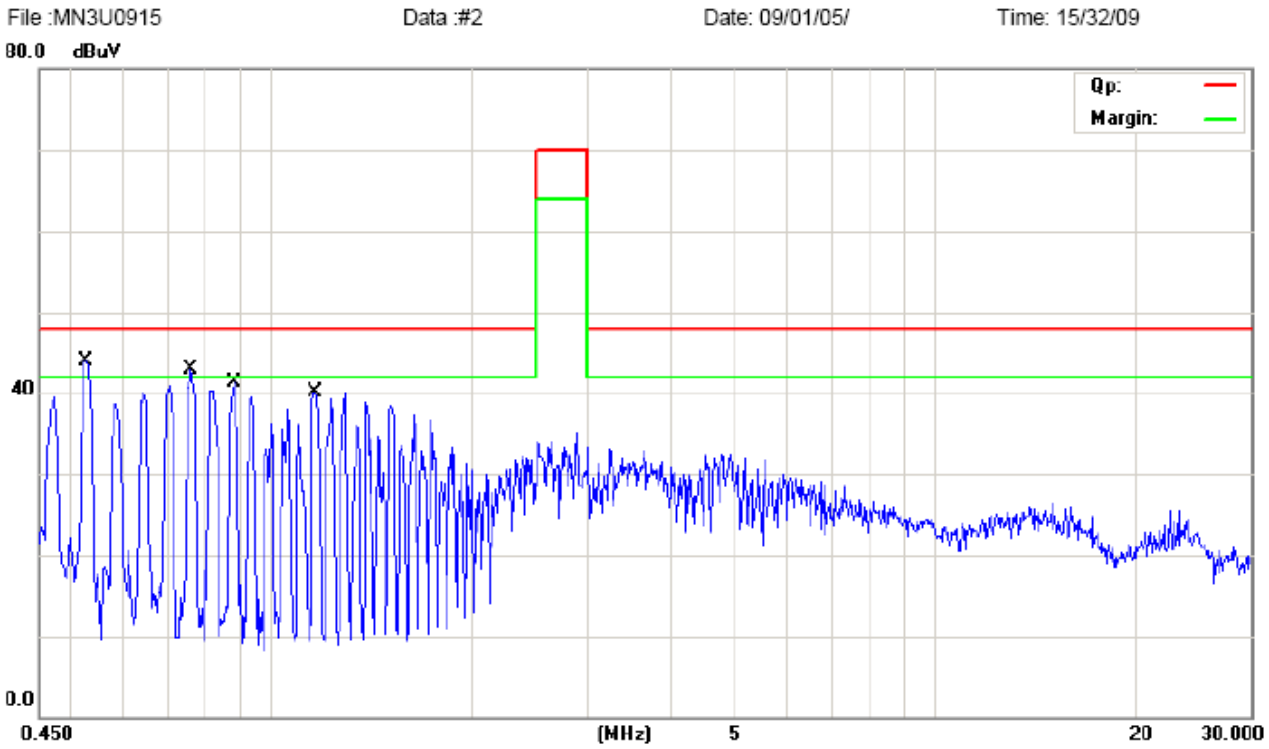
EUT set Condition: Normal operation mode

**Level** **Class B**

**Results:** **Pass**

**Model:** **MN3U0915**

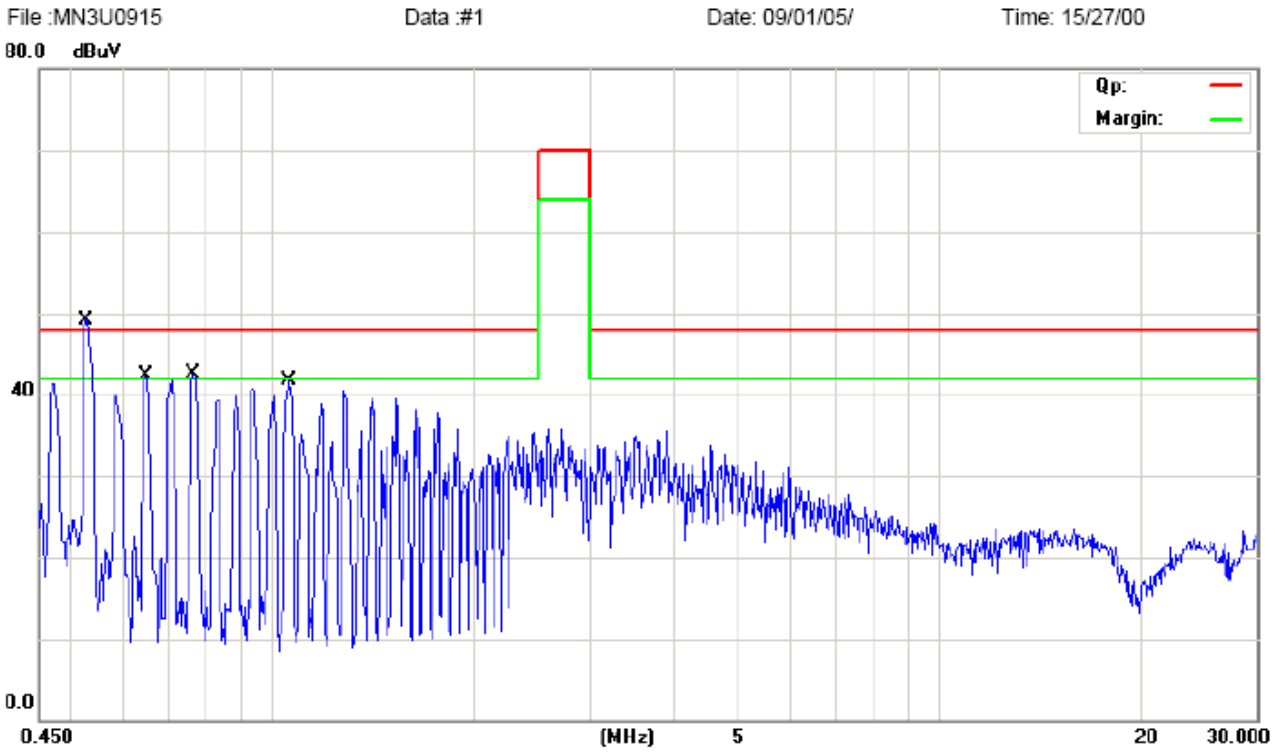
Please refer to following diagram for individual




| Frequency (MHz) | Reading(dBμV) | | Limit |
|---|---|---|---|
| | Live | Neutral | (dBμV) |
| | AV | AV | AV |
| 0.527 | 37.10 | - | 48 |
| 0.763 | 34.65 | - | 48 |
| 0.881 | 31.47 | - | 48 |
| 1.174 | 30.87 | - | 48 |

**H: Conducted Emission on Neutral Terminal of the power line (450kHz to 30MHz)**

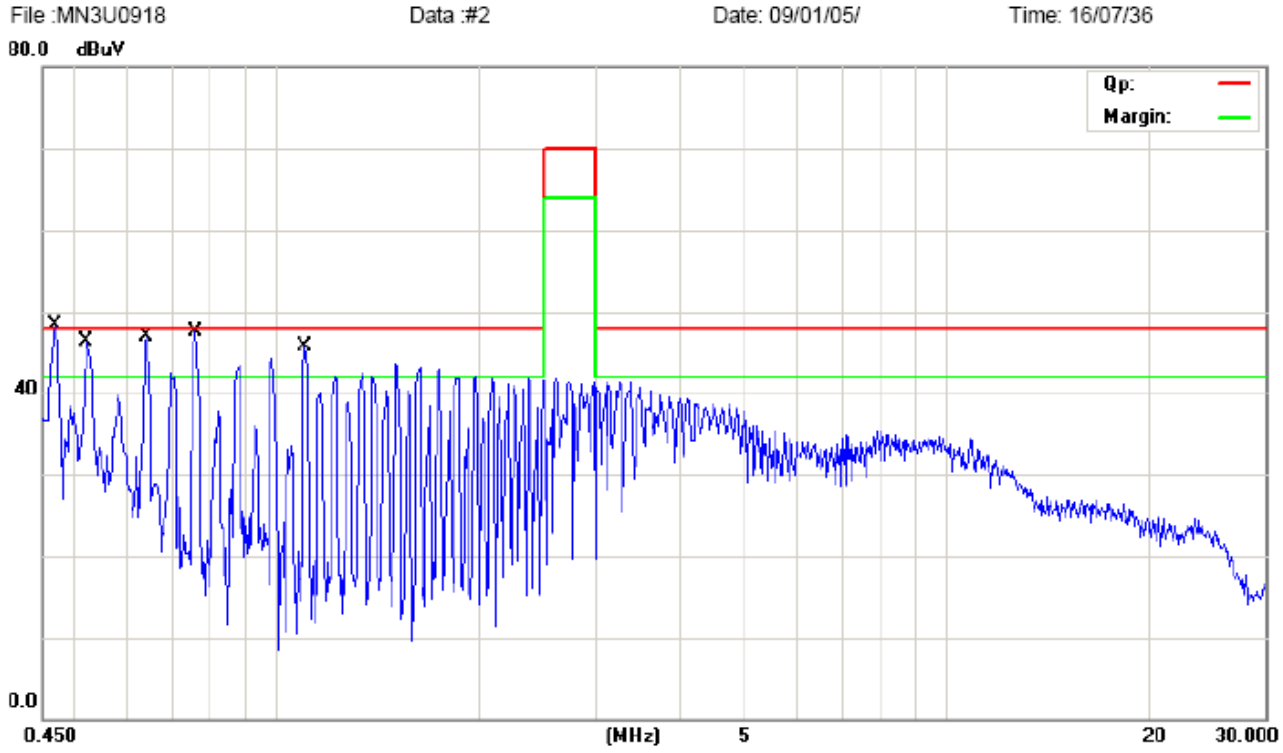
EUT set Condition: Normal operation mode
**Level** **Class B**
**Results:** **Pass**
**Model:** **MN3U0915**
Please refer to following diagram for individual




| Frequency (MHz) | Reading(dBμV) | | Limit |
|---|---|---|---|
| | Live | Neutral | (dBμV) |
| | AV | AV | AV |
| 0.529 | - | 41.30 | 48 |
| 0.646 | - | 33.23 | 48 |
| 0.765 | - | 32.55 | 48 |
| 1.063 | - | 33.73 | 48 |

**I: Conducted Emission on Live Terminal of the power line (450kHz to 30MHz)**

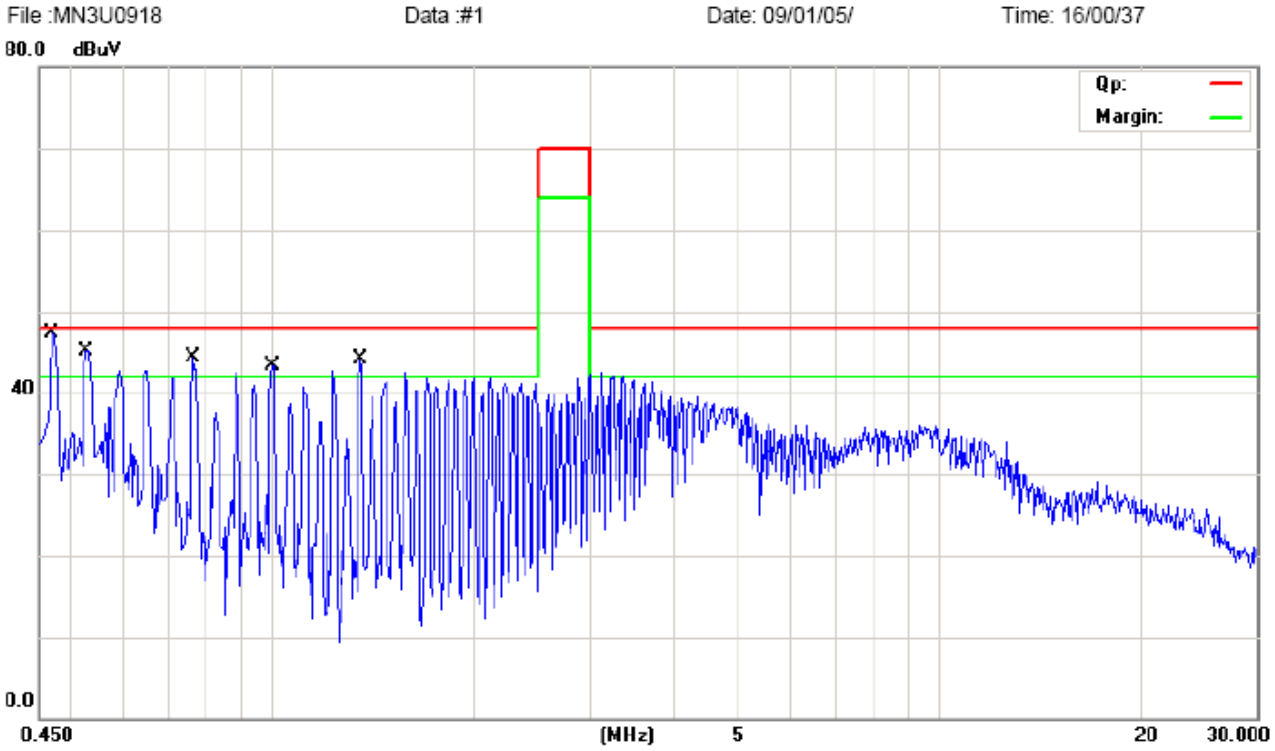
EUT set Condition: Normal operation mode
**Level** **Class B**
**Results:** **Pass**
**Model:** **MN3U0918**
Please refer to following diagram for individual




| Frequency (MHz) | Reading(dBμV) | | Limit |
|---|---|---|---|
| | Live | Neutral | (dBμV) |
| | AV | AV | AV |
| 0.467 | 40.54 | - | 48 |
| 0.524 | 40.60 | - | 48 |
| 0.639 | 39.12 | - | 48 |
| 0.756 | 39.54 | - | 48 |
| 1.108 | 37.54 | - | 48 |

**J: Conducted Emission on Neutral Terminal of the power line (450kHz to 30MHz)**

EUT set Condition: Normal operation mode
**Level** **Class B**
**Results:** **Pass**
**Model:** **MN3U0918**
Please refer to following diagram for individual




| Frequency (MHz) | Reading(dBμV) | | Limit |
|---|---|---|---|
| | Live | Neutral | (dBμV) |
| | AV | AV | AV |
| 0.471 | - | 41.54 | 48 |
| 0.528 | - | 41.60 | 48 |
| 0.763 | - | 37.15 | 48 |
| 0.997 | - | 37.60 | 48 |
| 1.349 | - | 36.14 | 48 |

**K: Conducted Emission on Live Terminal of the power line (450kHz to 30MHz)**

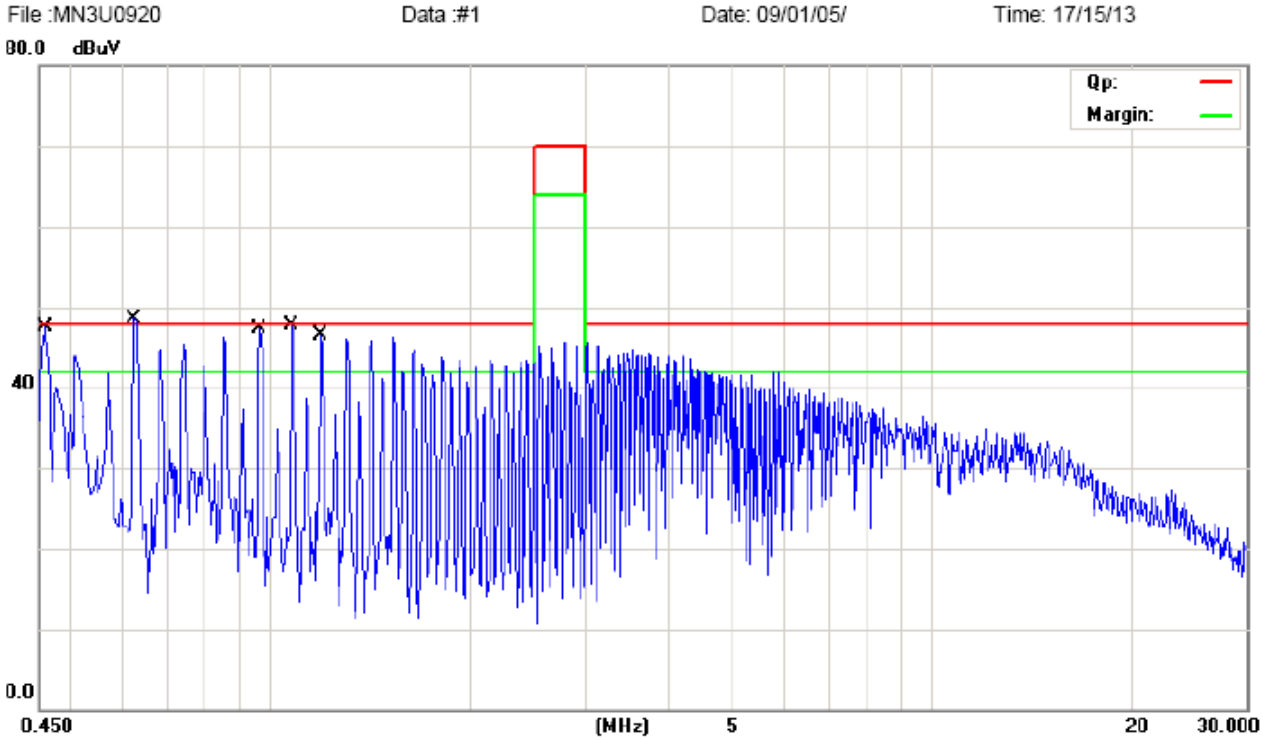
EUT set Condition: Normal operation mode

**Level** **Class B**

**Results:** **Pass**

**Model:** **MN3U0920**

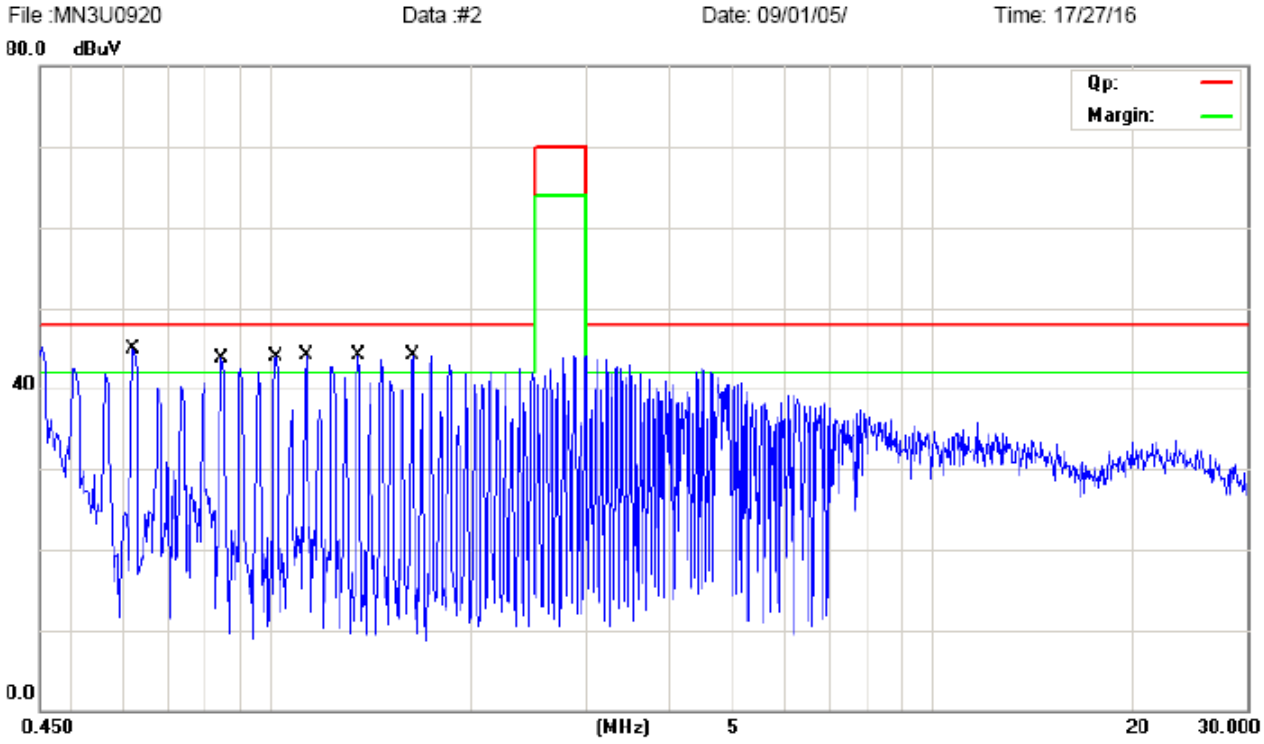
Please refer to following diagram for individual




| Frequency (MHz) | Reading(dBμV) | | Limit |
|---|---|---|---|
| | Live | Neutral | (dBμV) |
| | AV | AV | AV |
| 0.457 | 36.92 | - | 48 |
| 0.623 | 42.20 | - | 48 |
| 0.967 | 39.47 | - | 48 |
| 1.079 | 38.13 | - | 48 |
| 1.195 | 36.48 | - | 48 |

**L: Conducted Emission on Neutral Terminal of the power line (450kHz to 30MHz)**

EUT set Condition: Normal operation mode
**Level** **Class B**
**Results:** **Pass**
**Model:** **MN3U0920**
Please refer to following diagram for individual




| Frequency (MHz) | Reading(dBμV) | | Limit |
|---|---|---|---|
| | Live | Neutral | (dBμV) |
| | AV | AV | AV |
| 0.624 | - | 40.50 | 48 |
| 0.849 | - | 40.64 | 48 |
| 1.021 | - | 41.21 | 48 |
| 1.132 | - | 40.75 | 48 |
| 1.360 | - | 42.04 | 48 |
| 1.642 | - | 39.26 | 48 |

## 5.0 FCC Label

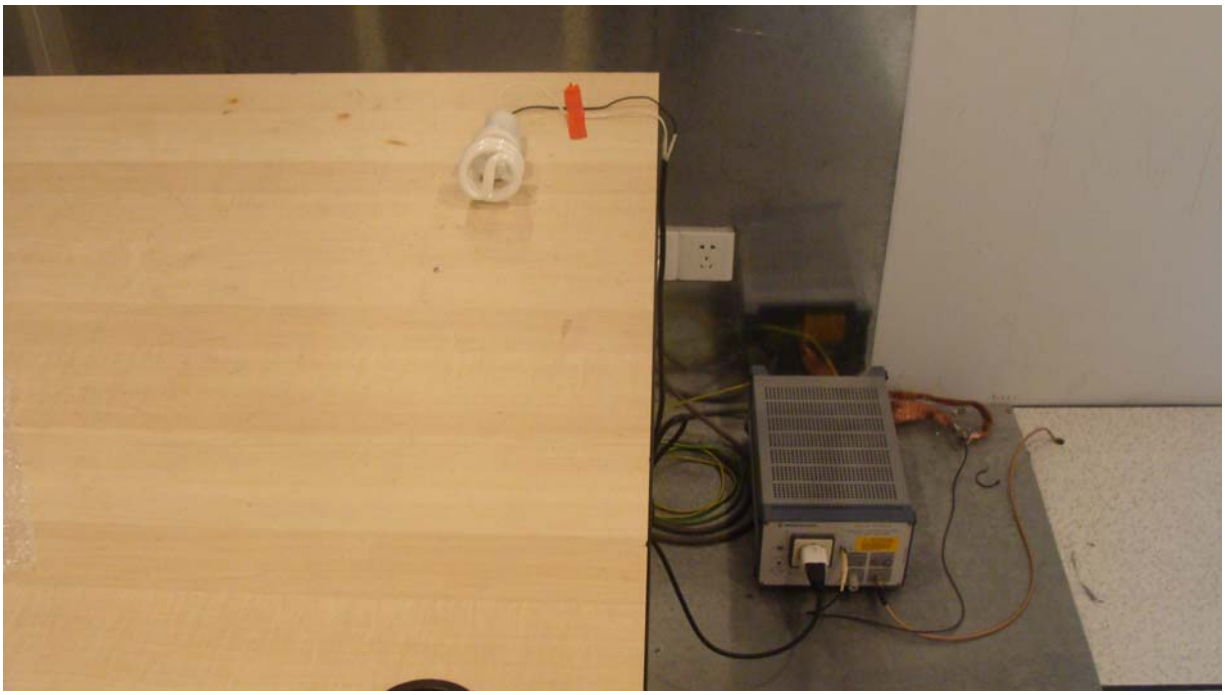
**This device complies with part 18 of FCC Rules.**

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

**Mark Location:**

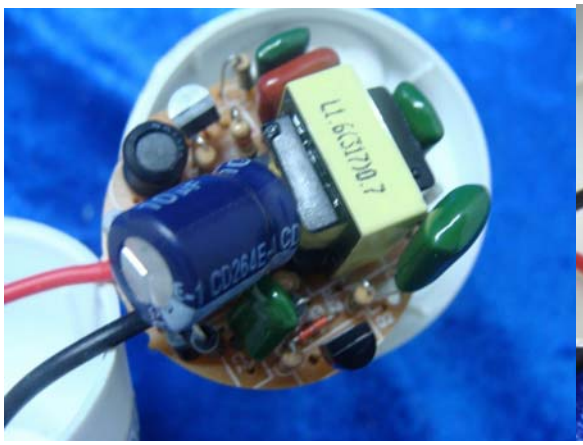
6.0 Photo of testing

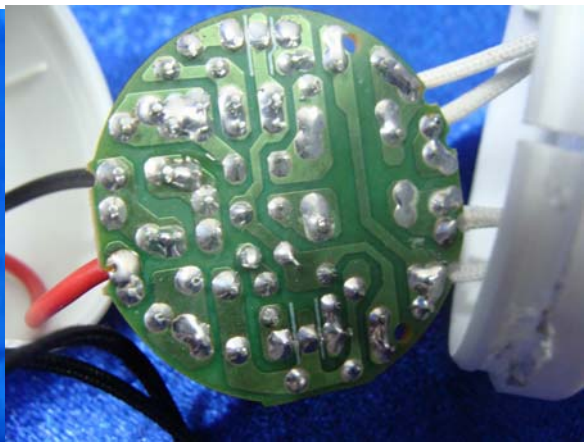
6.1 Conducted test View--



6.3 Photo for the EUT

Model: MNSP0915



Model: MNSP0918

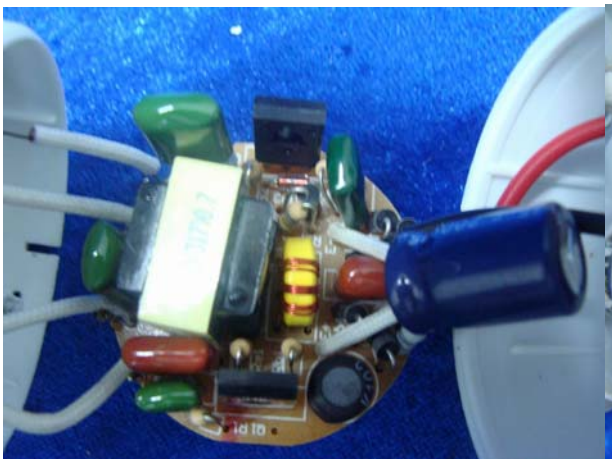
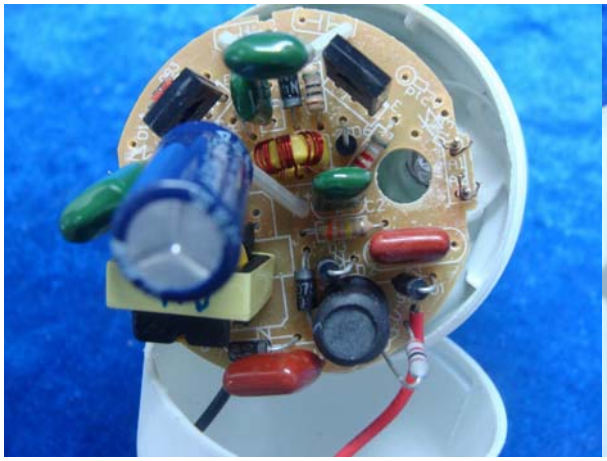



Photo for the EUT

Model: MNSP0920

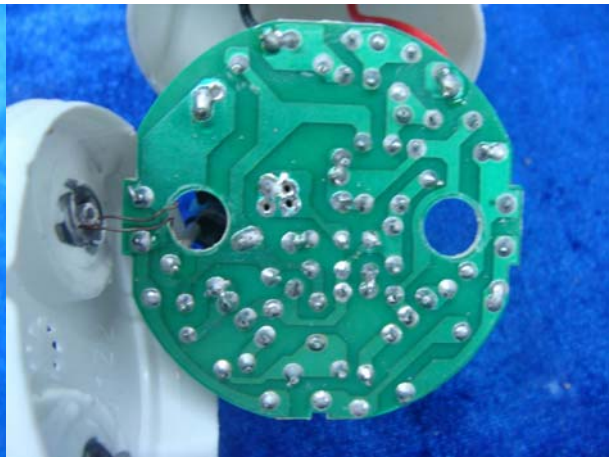
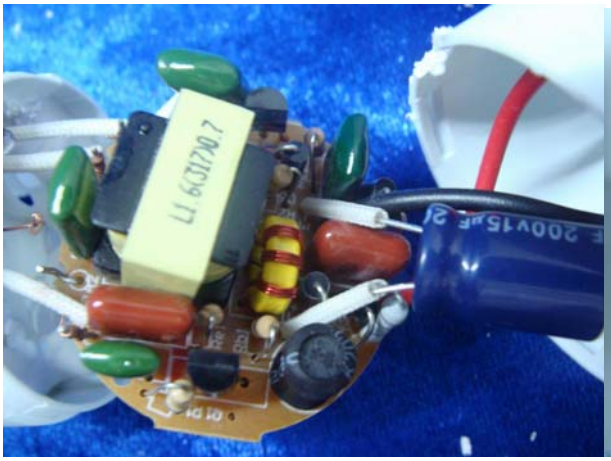


Photo for the EUT

Model: MN3U0915

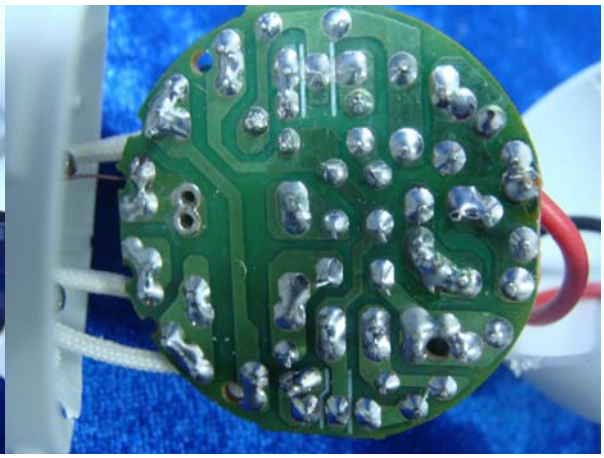
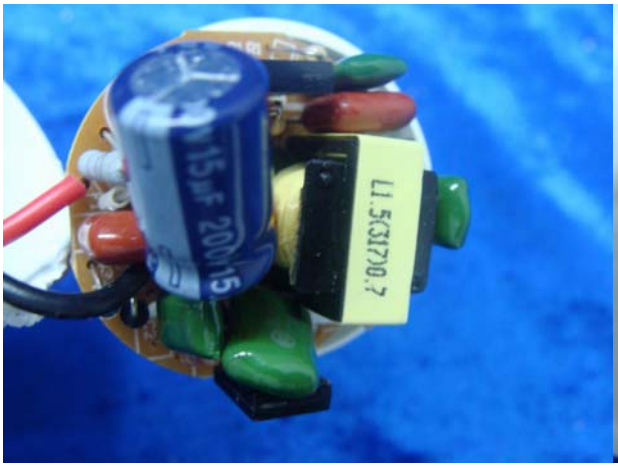


Photo for the EUT

Model: MN3U0918

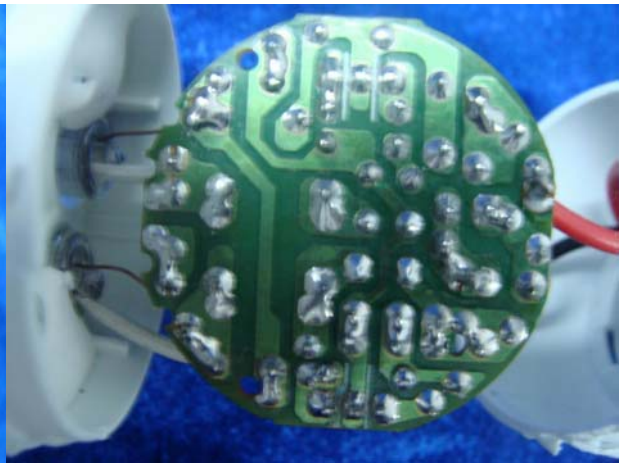
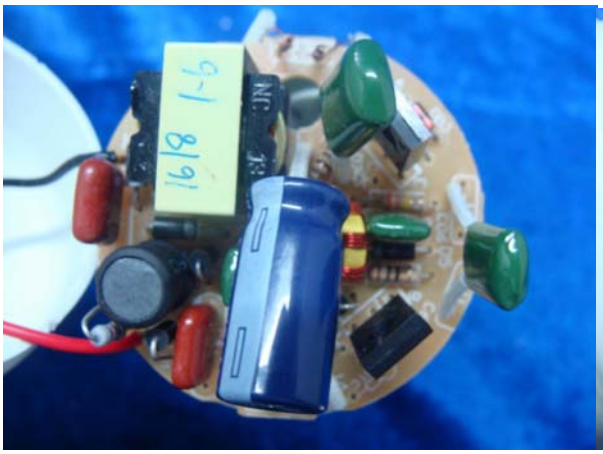
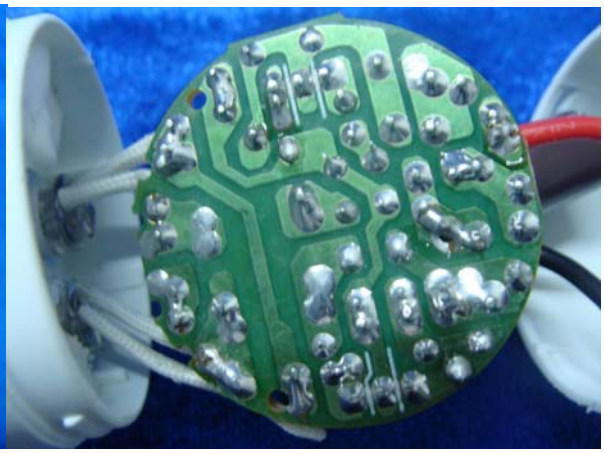


Photo for the EUT

Model: MN3U0920



**-End of the report-**