

AUSTRALIA TEST REPORT

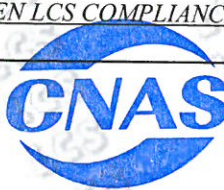
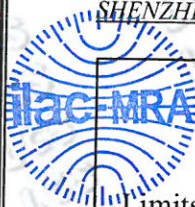
For

Berdis Lighting (Zhong Shan) Co., LTD.

LED Panel Light

Model No.: B0401

| | | |
|--------------------------------|---|--|
| Prepared for | : | Berdis Lighting (Zhong Shan) Co., LTD. |
| Address | : | 6F, No.1, South 2nd Lane, HuaTai East Road, Caosan Industrial Park, Guzhen Town, Zhongshan City, Guangdong Province, China |
| Prepared by | : | Shenzhen LCS Compliance Testing Laboratory Ltd. |
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| Web | : | www.LCS-cert.com |
| Mail | : | webmaster@LCS-cert.com |
| Date of receipt of test sample | : | January 22, 2016 |
| Number of tested samples | : | 1 |
| Serial number | : | Prototype |
| Date of Test | : | January 22, 2016 - February 01, 2016 |
| Date of Report | : | February 01, 2016 |



中国认可
国际互认
检测
TESTING
CNAS L4595

AUSTRALIA TEST REPORT

AS/NZS CISPR 15: 2011

Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment

Report Reference No.: LCS1601221768E

Date Of Issue: February 01, 2016

Testing Laboratory Name.....: Shenzhen LCS Compliance Testing Laboratory Ltd.

Address: 1F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China

Testing Location/ Procedure: Full application of Harmonised standards ☒
Partial application of Harmonised standards ☐
Other standard testing method ☐

Applicant's Name: Berdis Lighting (Zhong Shan) Co., LTD.

Address: 6F, No.1, South 2nd Lane, HuaTai East Road, Caosan Industrial Park, Guzhen Town, Zhongshan City, Guangdong Province, China

Test Specification:

Standard: AS/NZS CISPR 15: 2011

Test Report Form No.....: Lcsemc-1.0

TRF Originator: Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF: Dated 2011-03

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Test Item Description.....: LED Panel Light

Trade Mark: BERDIS

Model/ Type Reference: B0401

Ratings: AC 220V~240V, 50/60Hz, 40W

Result: Positive

Compiled by:

Happy Lv

Supervised by:

Glin Lu

Approved by:

Gavin Liang

Happy Lv/ File administrators

Glin Lu/ Technique principal

Gavin Liang/ Manager

AUSTRALIA -- TEST REPORT**Test Report No. : LCS1601221768E**February 01, 2016

Date of issue

Type / Model..... : B0401

EUT..... : LED Panel Light

Applicant..... : Berdis Lighting (Zhong Shan) Co., LTD.Address..... : 6F, No.1, South 2nd Lane, HuaTai East Road, Caosan
Industrial Park, Guzhen Town, Zhongshan City, Guangdong
Province, China

Telephone..... : /

Fax..... : /

Manufacturer..... : Berdis Lighting (Zhong Shan) Co., LTD.Address..... : 6F, No.1, South 2nd Lane, HuaTai East Road, Caosan
Industrial Park, Guzhen Town, Zhongshan City, Guangdong
Province, China

Telephone..... : /

Fax..... : /

Factory..... : Berdis Lighting (Zhong Shan) Co., LTD.Address..... : 6F, No.1, South 2nd Lane, HuaTai East Road, Caosan
Industrial Park, Guzhen Town, Zhongshan City, Guangdong
Province, China

Telephone..... : /

Fax..... : /

Test Result according to the standards on page 6:**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. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

| EMISSION | | | |
|--|-----------------------|--------|---------|
| Description of Test Item | Standard | Limits | Results |
| Conducted disturbance at mains terminals | AS/NZS CISPR 15: 2011 | ----- | PASS |
| Magnetic field emission | AS/NZS CISPR 15: 2011 | ----- | PASS |
| Radiated disturbance | AS/NZS CISPR 15: 2011 | ----- | PASS |
| N/A is an abbreviation for Not Applicable. | | | |

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT : LED Panel Light
Model Number : B0401
Power Supply : AC 220V~240V, 50/60Hz, 40W

2.2. Description of Test Facility

Site Description
EMC Lab. : CNAS Registration Number. is L4595.
FCC Registration Number. is 899208.
Industry Canada Registration Number. is 9642A-1.
VCCI Registration Number. is C-4260 and R-3804.
ESMD Registration Number. is ARCB0108.
UL Registration Number. is 100571-492.
TUV SUD Registration Number. is SCN1081.
TUV RH Registration Number. is UA 50296516-001

2.3. 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 LCS 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.

2.4.Measurement Uncertainty

| Test Item | Frequency Range | Expanded uncertainty (U _{lab}) | Expanded uncertainty (U _{cispr}) |
|--|--------------------|--|--|
| Conducted Emission | (9kHz to 150kHz) | 2.63 dB | 4.0 dB |
| | (150kHz to 30MHz) | 2.35 dB | 3.6 dB |
| Power disturbance | (30MHz to 300MHz) | 2.90dB | 4.5 dB |
| Electromagnetic Radiated Emission (3-loop) | (9kHz to 30MHz) | 3.60 dB | N/A |
| Radiated Emission | (9kHz to 30MHz) | 3.68 dB | N/A |
| Radiated Emission | (30MHz to 1000MHz) | 3.48 dB | 5.2 dB |
| Radiated Emission | (above 1000MHz) | 3.90 dB | N/A |
| Mains Harmonic | Voltage | 0.510% | N/A |
| Voltage Fluctuations & Flicker | Voltage | 0.510% | N/A |

- (1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.
- (2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

3. MEASURING DEVICES AND TEST EQUIPMENT

3.1. Conducted Disturbance

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|-------------------|-----------------|-----------|------------|------------|
| 1 | EMI Test Receiver | ROHDE & SCHWARZ | ESCI | 101142 | 2015/06/18 |
| 2 | 10dB Attenuator | SCHWARZBECK | OSPAM236 | 9729 | 2015/06/18 |
| 3 | Artificial Mains | ROHDE & SCHWARZ | ENV216 | 101288 | 2015/06/18 |
| 4 | EMI Test Software | AUDIX | E3 | N/A | 2015/06/18 |

3.2. Disturbance Power

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|-------------------|-----------------|-----------|------------|------------|
| 1 | EMI Test Receiver | ROHDE & SCHWARZ | ESCI | 101142 | 2015/06/18 |
| 2 | Absorbing clamp | ROHDE & SCHWARZ | MDS 21 | 4033 | 2014/10/28 |
| 3 | EMI Test Software | AUDIX | E3 | N/A | 2015/06/18 |

3.3. Radiated Electromagnetic Disturbance

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|---------------------|-----------------|-----------|------------|------------|
| 1 | EMI Test Receiver | ROHDE & SCHWARZ | ESCI | 1011423 | 2015/06/18 |
| 2 | Triple-loop Antenna | EVERFINE | LLA-2 | 11050003 | 2015/06/18 |
| 3 | EMI Test Receiver | ROHDE & SCHWARZ | ESPI | 101840 | 2015/06/18 |
| 4 | EMI Test Software | AUDIX | E3 | N/A | 2015/06/18 |

3.4. Radiated Disturbance (Electric Field)

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|--------------------------|-----------------|-----------|------------|------------|
| 1 | 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M | 03CH03-HY | 2015/02/04 |
| 2 | EMI Test Receiver | ROHDE & SCHWARZ | ESPI | 101840 | 2015/06/18 |
| 3 | Log per Antenna | SCHWARZBECK | VULB9163 | 9163-470 | 2015/06/18 |
| 4 | EMI Test Software | AUDIX | E3 | N/A | 2015/06/18 |
| 5 | Positioning Controller | MF | MF-7082 | / | 2015/06/18 |

3.5. Harmonic Current

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|----------------------------|--------------|-----------|-------------|------------|
| 1 | Power Analyzer Test System | Voltech | PM6000 | 20000670053 | 2015/06/18 |

3.6. Voltage fluctuation and Flicker

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|----------------------------|--------------|-----------|-------------|------------|
| 1 | Power Analyzer Test System | Voltech | PM6000 | 20000670053 | 2015/06/18 |

3.7. Electrostatic Discharge

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|----------------|--------------|-----------|------------|------------|
| 1 | ESD Simulator | KIKUSUI | KC001311 | KES4021 | 2015/09/02 |

3.8.RF Field Strength Susceptibility

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|-------------------------|-----------------|-------------|------------|------------|
| 1 | SIGNAL GENERATOR | HP | 8648A | 625U00573 | 2015/06/18 |
| 2 | Amplifier | AR | 500A100 | 17034 | 2015/06/18 |
| 3 | Amplifier | AR | 100W/1000M1 | 17028 | 2015/06/18 |
| 4 | Isotropic Field Monitor | AR | FM2000 | 16829 | 2015/06/18 |
| 5 | Isotropic Field Probe | AR | FP2000 | 16755 | 2015/06/18 |
| 6 | Bi-conic Antenna | EMCO | 3108 | 9507-2534 | 2015/06/18 |
| 7 | By-log-periodic Antenna | AR | AT1080 | 16812 | 2015/06/18 |
| 8 | EMS Test Software | ROHDE & SCHWARZ | ESK1 | N/A | 2015/06/18 |

3.9.Electrical Fast Transient/Burst

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|---|--------------|-----------|------------|------------|
| 1 | Electrical fast transient(EFT)generator | 3CTEST | EFT-4021 | EC0461044 | 2016/01/20 |
| 2 | Coupling Clamp | 3CTEST | EFTC | EC0441098 | 2015/06/18 |

3.10.Surge

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|-----------------------------|--------------|-----------|------------|------------|
| 1 | Surge test system | 3CTEST | SG5006G | EC5581070 | 2015/06/18 |
| 2 | Coupling/decoupling network | 3CTEST | SGN-5010G | CS5591033 | 2015/06/18 |

3.11.Conducted Susceptibility

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|----------------|--------------|-----------|-------------|------------|
| 1 | Simulator | EMTEST | CWS500C | 0900-12 | 2015/06/18 |
| 2 | CDN | EMTEST | CDN-M2 | 5100100100 | 2015/06/18 |
| 3 | CDN | EMTEST | CDN-M3 | 0900-11 | 2015/06/18 |
| 4 | CDN | EMTEST | CDN-M | 0900-12 | 2015/06/18 |
| 5 | Attenuator | EMTEST | ATT6 | 0010222A | 2015/06/18 |
| 6 | Infuse tongs | EMTEST | EM-Clamp | 0513A031201 | 2015/06/18 |

3.12.Power Frequency Magnetic Field Susceptibility

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|--|--------------|-------------|------------|------------|
| 1 | Power frequency mag-field generator System | EVERFINE | EMS61000-8K | 906003 | 2015/06/18 |

3.13.Voltage Dips

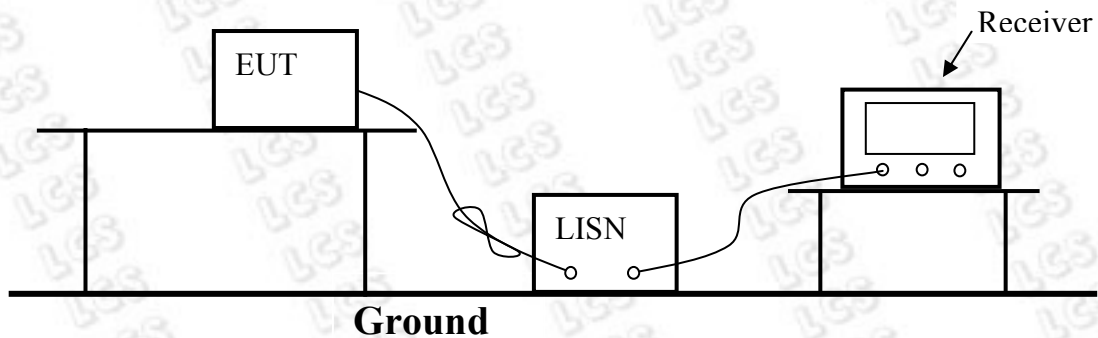
| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|-------------------------------|--------------|-----------|------------|------------|
| 1 | Voltage dips and up generator | 3CTEST | VDG-1105G | EC0171014 | 2015/06/18 |

3.14.Voltage Short Interruptions

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|-------------------------------|--------------|-----------|------------|------------|
| 1 | Voltage dips and up generator | 3CTEST | VDG-1105G | EC0171014 | 2015/06/18 |

4. POWER LINE CONDUCTED MEASUREMENT

4.1. Block Diagram of Test Setup



4.2. Conducted Power Line Emission Measurement Standard and Limits

4.2.1. Standard:

AS/NZS CISPR 15: 2011

4.2.2. Limits

| Frequency | At mains terminals (dB μ V) | |
|-----------------|---------------------------------|---------------|
| | Quasi-peak Level | Average Level |
| 9kHz ~ 50kHz | 110 | -- |
| 50kHz ~ 150kHz | 90 ~ 80* | -- |
| 150kHz ~ 0.5MHz | 66 ~ 56* | 56 ~ 46* |
| 0.5MHz ~ 5MHz | 56 | 46 |
| 5.0MHz ~ 30MHz | 60 | 50 |

1. At the transition frequency the lower limit applies.
2. * decreasing linearly with logarithm of the frequency.

4.3. EUT Configuration on Test

The configuration of the EUT is same as Section 2.1.

4.4. Operating Condition of EUT

- 4.4.1. Setup the EUT as shown in Section 4.1.
- 4.4.2. Turn on the power of all equipments.
- 4.4.3. Let the EUT work in test mode (On) and measure it.

4.5. Test Procedure

The EUT is put on the table which is 0.8 meter high above the ground and connected to the AC mains through a Line Impedance Stabilization Network (L.I.S.N.). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission according to the CISPR 15 regulations during conducted emission measurement. And the voltage probe had been used for the load terminals measurement according to the CISPR 15 standard.

The bandwidth of the test receiver is set at 200Hz in 9k~150kHz range and 9kHz in 150k~30MHz range.

The frequency range from 9kHz to 30MHz is checked.

All the test results are listed in Section 4.6.

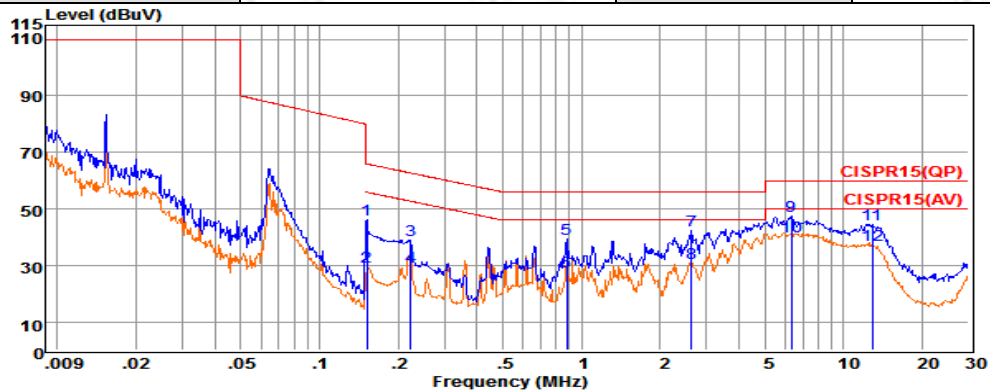
The frequency range from 9kHz to 30MHz is investigated.

4.6. Test Results

PASS.

All the scanning waveform is in next page.

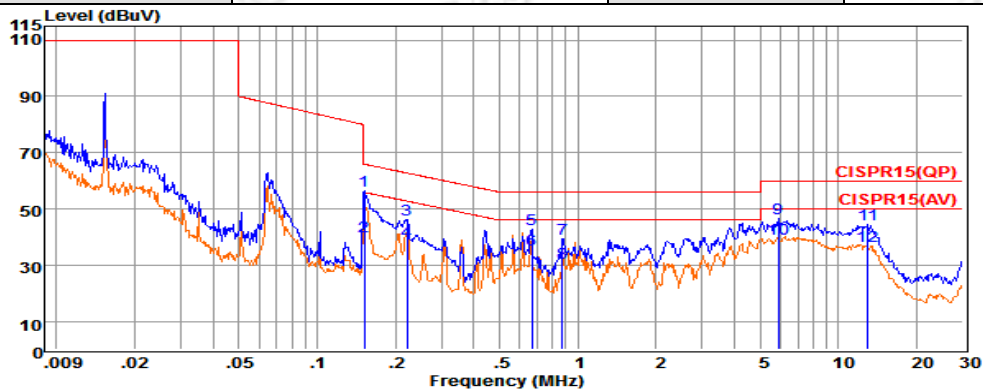
| | | | |
|--------------------------|--------------|---------------|----------|
| Model No. | B0401 | Test Mode | ON |
| Environmental Conditions | 24°C, 56% RH | Test Engineer | Davey Xu |
| Pol | Line | | |



| | Freq | Reading | LisnFac | CabLos | Atten_Fac | Measured | Limit | Over | Remark |
|----|------------|---------|---------|--------|-----------|----------|-------|--------|---------|
| | MHz | dBuV | dB | dB | dB | dBuV | dBuV | dB | |
| 1 | 0.15143 | 26.70 | 9.57 | 0.02 | 10.00 | 46.29 | 65.92 | -19.63 | QP |
| 2 | 0.15153 | 9.94 | 9.57 | 0.02 | 10.00 | 29.53 | 55.92 | -26.39 | Average |
| 3 | 0.22351 | 19.08 | 9.63 | 0.03 | 10.00 | 38.74 | 62.69 | -23.95 | QP |
| 4 | 0.22361 | 9.77 | 9.63 | 0.03 | 10.00 | 29.43 | 52.68 | -23.25 | Average |
| 5 | 0.88038 | 19.67 | 9.63 | 0.04 | 10.00 | 39.34 | 56.00 | -16.66 | QP |
| 6 | 0.88048 | 8.25 | 9.63 | 0.04 | 10.00 | 27.92 | 46.00 | -18.08 | Average |
| 7 | 2.63183 | 22.46 | 9.64 | 0.05 | 10.00 | 42.15 | 56.00 | -13.85 | QP |
| 8 | 2.63283 | 11.16 | 9.64 | 0.05 | 10.00 | 30.85 | 46.00 | -15.15 | Average |
| 9 | 6.32017 | 27.57 | 9.67 | 0.07 | 10.00 | 47.31 | 60.00 | -12.69 | QP |
| 10 | 6.32117 | 20.62 | 9.67 | 0.07 | 10.00 | 40.36 | 50.00 | -9.64 | Average |
| 11 | 112.90452 | 24.85 | 9.70 | 0.09 | 10.00 | 44.64 | 60.00 | -15.36 | QP |
| 12 | 1212.90552 | 17.32 | 9.70 | 0.09 | 10.00 | 37.11 | 50.00 | -12.89 | Average |

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.

| | | | |
|--------------------------|--------------|---------------|----------|
| Model No. | B0401 | Test Mode | ON |
| Environmental Conditions | 24°C, 56% RH | Test Engineer | Davey Xu |
| Pol | Neutral | | |

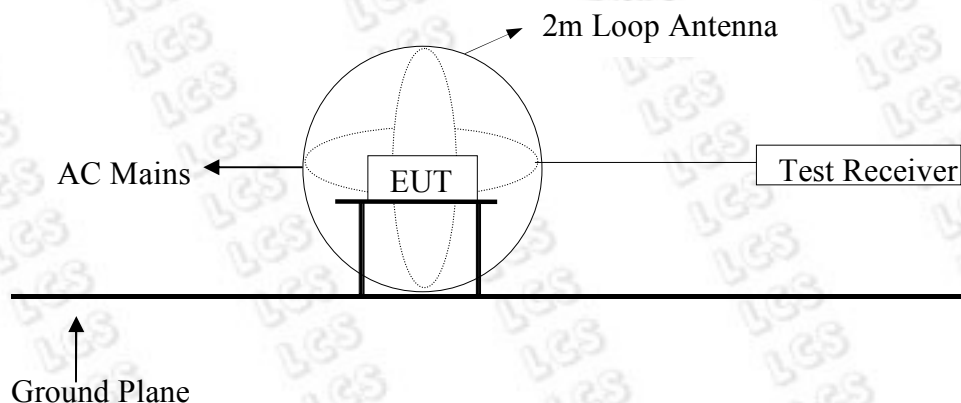


| | Freq | Reading | LisnFac | CabLos | Atten_Fac | Measured | Limit | Over | Remark |
|----|------------|---------|---------|--------|-----------|----------|-------|--------|---------|
| | MHz | dBuV | dB | dB | dB | dBuV | dBuV | dB | |
| 1 | 0.15143 | 36.85 | 9.70 | 0.02 | 10.00 | 56.57 | 65.92 | -9.35 | QP |
| 2 | 0.15153 | 20.64 | 9.70 | 0.02 | 10.00 | 40.36 | 55.92 | -15.56 | Average |
| 3 | 0.22171 | 26.46 | 9.59 | 0.03 | 10.00 | 46.08 | 62.75 | -16.67 | QP |
| 4 | 0.22181 | 18.81 | 9.59 | 0.03 | 10.00 | 38.43 | 52.75 | -14.32 | Average |
| 5 | 0.66818 | 23.13 | 9.63 | 0.04 | 10.00 | 42.80 | 56.00 | -13.20 | QP |
| 6 | 0.66828 | 15.96 | 9.63 | 0.04 | 10.00 | 35.63 | 46.00 | -10.37 | Average |
| 7 | 0.87327 | 19.67 | 9.63 | 0.04 | 10.00 | 39.34 | 56.00 | -16.66 | QP |
| 8 | 0.87337 | 11.23 | 9.63 | 0.04 | 10.00 | 30.90 | 46.00 | -15.10 | Average |
| 9 | 5.87520 | 26.84 | 9.67 | 0.06 | 10.00 | 46.57 | 60.00 | -13.43 | QP |
| 10 | 5.87620 | 19.75 | 9.67 | 0.06 | 10.00 | 39.48 | 50.00 | -10.52 | Average |
| 11 | 1113.00962 | 24.44 | 9.73 | 0.09 | 10.00 | 44.26 | 60.00 | -15.74 | QP |
| 12 | 1213.01062 | 16.76 | 9.73 | 0.09 | 10.00 | 36.58 | 50.00 | -13.42 | Average |

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.

5. MAGNETIC FIELD EMISSION MEASUREMENT

5.1. Block Diagram of Test Setup



5.2. Magnetic Field Emission Measurement Standard and Limits

5.2.1. Test Standard

AS/NZS CISPR 15: 2011

5.2.2. Test Limits

| Frequency | Limits for loop diameter (dB μ A) |
|-----------------|---------------------------------------|
| | 2m |
| 9kHz ~ 70kHz | 88 |
| 70kHz ~ 150kHz | 88 ~ 58* |
| 150kHz ~ 3.0MHz | 58 ~ 22* |
| 3.0MHz ~ 30MHz | 22 |

1. At the transition frequency the lower limit applies.

2. * decreasing linearly with logarithm of the frequency.

5.3. EUT Configuration on Test

The configuration of the EUT is same as Section 2.1.

5.4. Operating Condition of EUT

Same as conducted measurement which is listed in Section 4.4, except the test set up replaced by Section 5.1.

5.5. Test Procedure

The EUT is placed on a wood table in the center of a loop antenna. The induced current in the loop antenna is measured by means of a current probe and the test receiver. Three field components are checked by means of a coaxial switch.

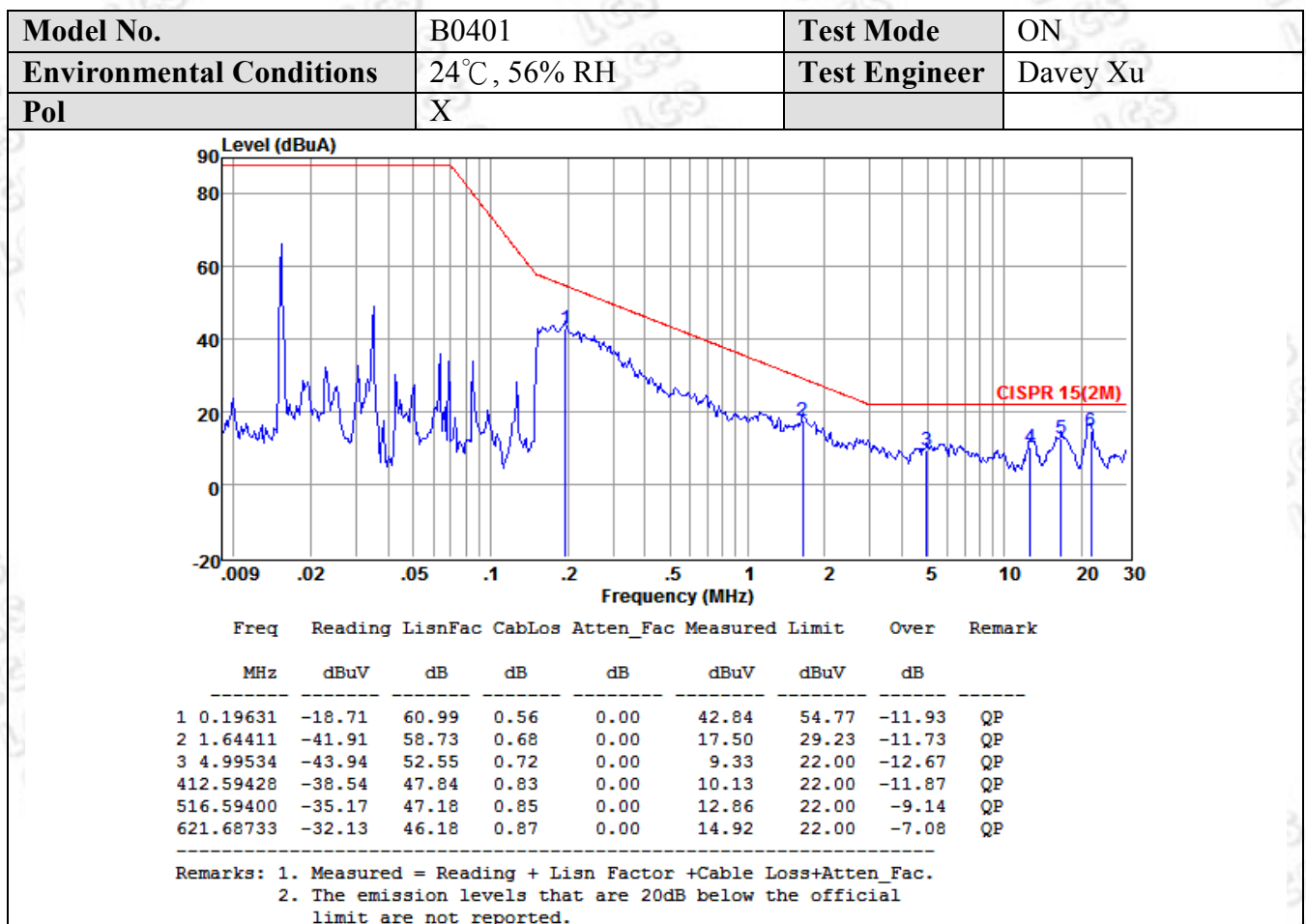
The frequency range from 9kHz to 30MHz is investigated. The receiver is measured with the quasi-peak detector. For frequency band 9kHz to 150kHz, the bandwidth of the field strength meter is set at 200Hz. For frequency band 150kHz to 30MHz, the bandwidth is set at 9kHz.

All the test results are listed in Section 5.6.

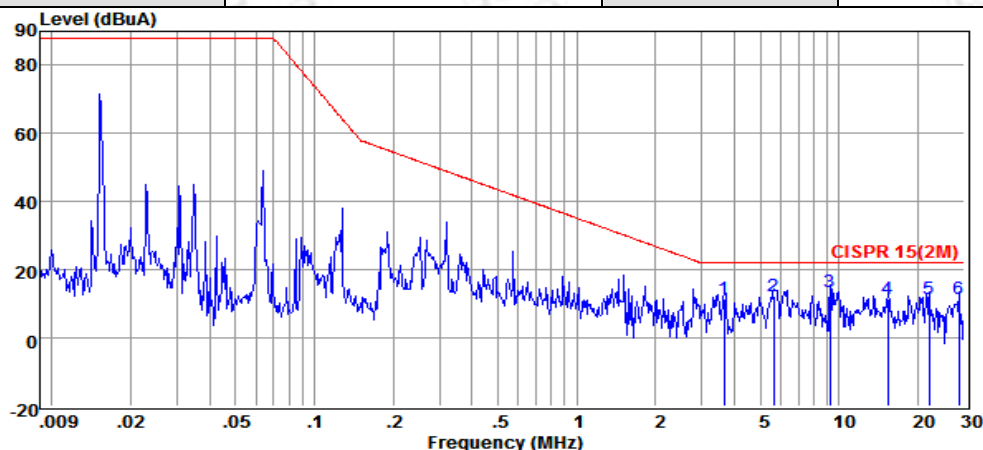
5.6. Test Results

PASS.

The frequency range from 9kHz to 30MHz is investigated.



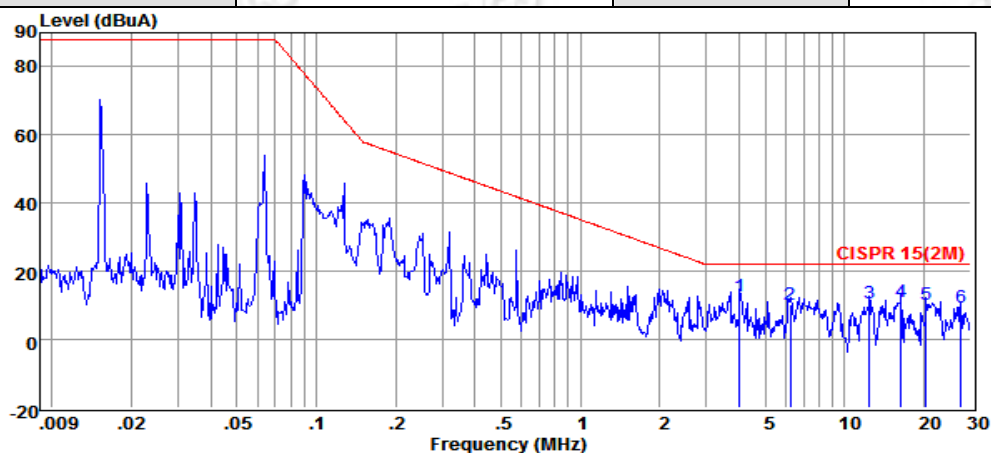
| | | | |
|---------------------------------|--------------|----------------------|----------|
| Model No. | B0401 | Test Mode | ON |
| Environmental Conditions | 24°C, 56% RH | Test Engineer | Davey Xu |
| Pol | Y | | |



| Freq | Reading | LisnFac | CabLos | Atten_Fac | Measured | Limit | Over | Remark |
|-----------|---------|---------|--------|-----------|----------|-------|--------|--------|
| MHz | dBuV | dB | dB | dB | dBuV | dBuV | dB | |
| 1 3.64060 | -44.71 | 55.65 | 0.71 | 0.00 | 11.65 | 22.00 | -10.35 | QP |
| 2 5.64168 | -40.71 | 52.28 | 0.74 | 0.00 | 12.31 | 22.00 | -9.69 | QP |
| 3 9.25345 | -36.60 | 49.44 | 0.80 | 0.00 | 13.64 | 22.00 | -8.36 | QP |
| 415.30109 | -37.45 | 47.93 | 0.84 | 0.00 | 11.32 | 22.00 | -10.68 | QP |
| 522.04204 | -36.45 | 47.01 | 0.87 | 0.00 | 11.43 | 22.00 | -10.57 | QP |
| 628.57485 | -35.98 | 46.55 | 0.90 | 0.00 | 11.47 | 22.00 | -10.53 | QP |

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.

| | | | |
|---------------------------------|--------------|----------------------|----------|
| Model No. | B0401 | Test Mode | ON |
| Environmental Conditions | 24°C, 56% RH | Test Engineer | Davey Xu |
| Pol | Z | | |

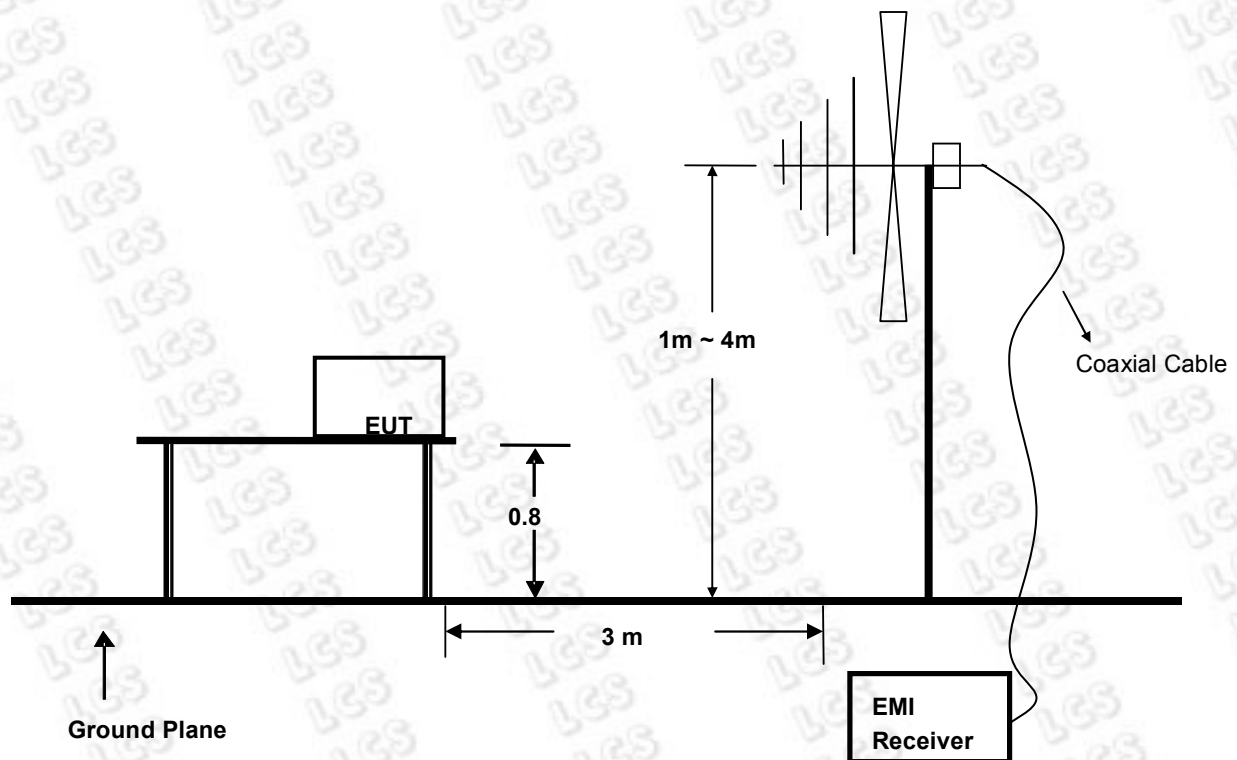


| Freq | Reading | LisnFac | CabLos | Atten_Fac | Measured | Limit | Over | Remark |
|-----------|---------|---------|--------|-----------|----------|-------|--------|--------|
| MHz | dBuV | dB | dB | dB | dBuV | dBuV | dB | |
| 1 4.01280 | -44.75 | 56.76 | 0.71 | 0.00 | 12.72 | 22.00 | -9.28 | QP |
| 2 6.21846 | -42.87 | 52.45 | 0.75 | 0.00 | 10.33 | 22.00 | -11.67 | QP |
| 312.39160 | -39.72 | 49.47 | 0.83 | 0.00 | 10.58 | 22.00 | -11.42 | QP |
| 416.32696 | -37.73 | 48.14 | 0.85 | 0.00 | 11.26 | 22.00 | -10.74 | QP |
| 520.32465 | -38.21 | 47.66 | 0.87 | 0.00 | 10.32 | 22.00 | -11.68 | QP |
| 627.66257 | -38.57 | 46.93 | 0.89 | 0.00 | 9.25 | 22.00 | -12.75 | QP |

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.

6. RADIATED EMISSION MEASUREMENT

6.1. Block Diagram of Test Setup



6.2. Test Standard

AS/NZS CISPR 15: 2011

6.3. Radiated Emission Limits

All emanations from a class B device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

| FREQUENCY (MHz) | DISTANCE (Meters) | FIELD STRENGTHS LIMIT (dB μ V/m) |
|--------------------|----------------------|---|
| 30 ~ 230 | 3 | 40 |
| 230 ~ 300 | 3 | 47 |

- Note: (1) The smaller limit shall apply at the combination point between two frequency bands.
- (2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

6.4.EUT Configuration on Test

The CISPR 15 regulations test method must be used to find the maximum emission during radiated emission measurement.

6.5.Operating Condition of EUT

6.5.1 Turn on the power.

6.5.2 After that, let the EUT work in test mode (ON) and measure it.

6.6.Test Procedure

The EUT is placed on a turntable, which is 0.8 meter high above the ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. By-log antenna (calibrated by Dipole Antenna) is used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

The bandwidth of the Receiver is set at 120kHz.

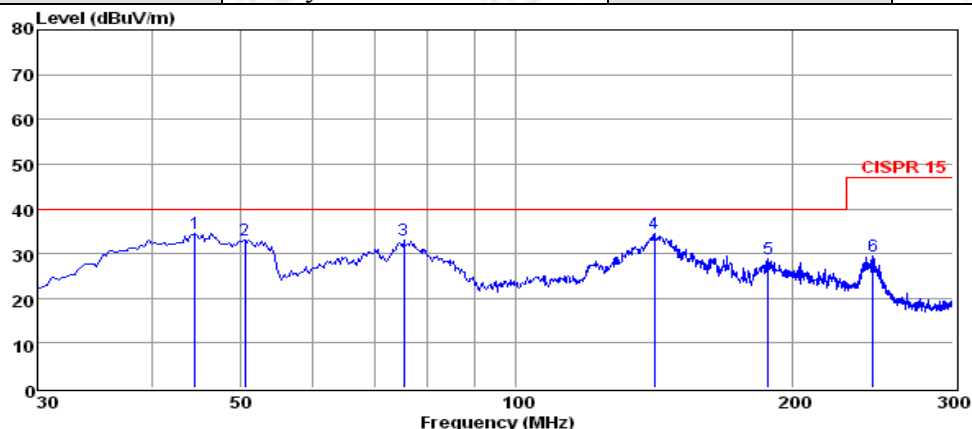
The frequency range from 30MHz to 300MHz is investigated.

6.7.Test Results

PASS.

All the scanning waveform is in next page.

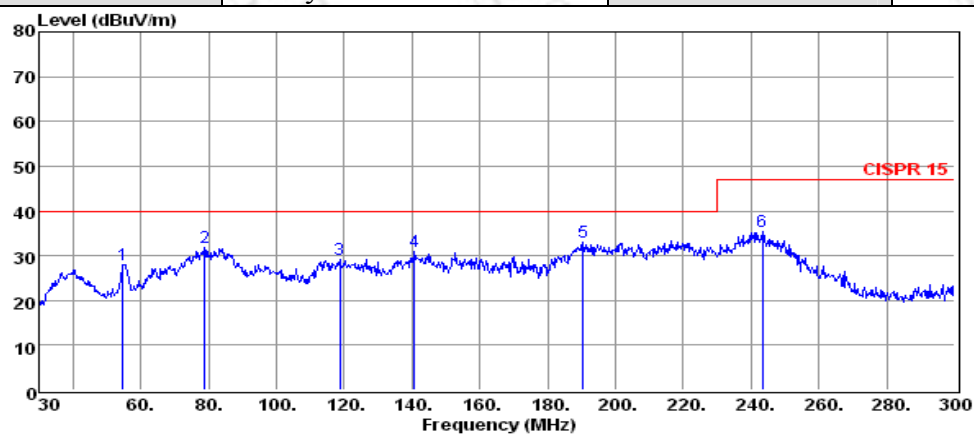
| | | | |
|---------------------------------|--------------|--------------------------|------------|
| Model No. | B0401 | Test Mode | ON |
| Environmental Conditions | 24°C, 56% RH | Detector Function | Quasi-peak |
| Pol | Vertical | Distance | 3m |
| Test Engineer | Davey Xu | | |



| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 44.58 | 20.64 | 0.41 | 13.55 | 34.60 | 40.00 | -5.40 | QP |
| 2 | 50.52 | 19.37 | 0.54 | 13.23 | 33.14 | 40.00 | -6.86 | QP |
| 3 | 75.36 | 24.69 | 0.54 | 7.85 | 33.08 | 40.00 | -6.92 | QP |
| 4 | 141.51 | 25.58 | 0.71 | 8.20 | 34.49 | 40.00 | -5.51 | QP |
| 5 | 188.49 | 17.53 | 0.98 | 10.43 | 28.94 | 40.00 | -11.06 | QP |
| 6 | 245.19 | 16.53 | 0.90 | 12.08 | 29.51 | 47.00 | -17.49 | QP |

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20dB below the official limit are not reported

| | | | |
|---------------------------------|--------------|--------------------------|------------|
| Model No. | B0401 | Test Mode | ON |
| Environmental Conditions | 24°C, 56% RH | Detector Function | Quasi-peak |
| Pol | Horizontal | Distance | 3m |
| Test Engineer | Davey Xu | | |



| | Freq | Reading | CabLos | Antfac | Measured | Limit | Over | Remark |
|---|--------|---------|--------|--------|----------|--------|--------|--------|
| | MHz | dBuV | dB | dB/m | dBuV/m | dBuV/m | dB | |
| 1 | 54.84 | 14.38 | 0.46 | 13.03 | 27.87 | 40.00 | -12.13 | QP |
| 2 | 78.87 | 22.88 | 0.47 | 8.37 | 31.72 | 40.00 | -8.28 | QP |
| 3 | 118.83 | 17.87 | 0.64 | 10.69 | 29.20 | 40.00 | -10.80 | QP |
| 4 | 140.70 | 21.91 | 0.75 | 8.19 | 30.85 | 40.00 | -9.15 | QP |
| 5 | 190.38 | 21.52 | 0.86 | 10.56 | 32.94 | 40.00 | -7.06 | QP |
| 6 | 243.30 | 22.42 | 0.90 | 12.08 | 35.40 | 47.00 | -11.60 | QP |

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20dB below the official limit are not reported

7. PHOTOGRAPH

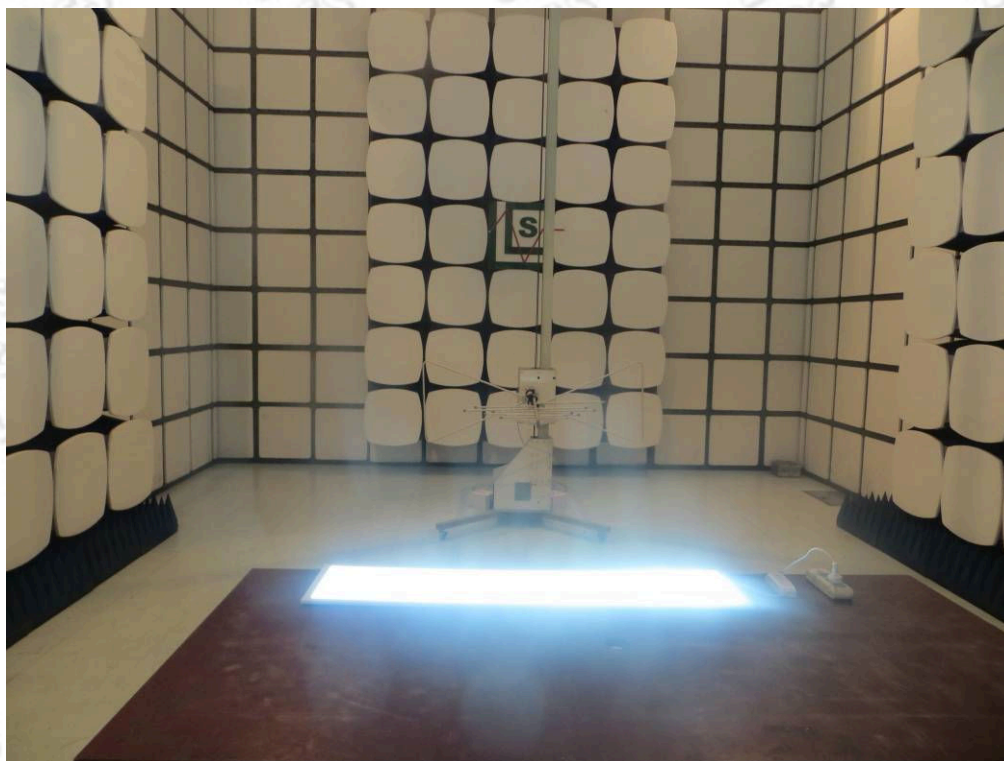
7.1. Photo of Power Line Conducted Measurement



7.2. Photo of Radiated Electromagnetic Disturbance Measurement



7.3. Photo of Radiated Measurement



8. EXTERNAL AND INTERNAL PHOTOS OF THE EUT



Fig. 1



Fig. 2

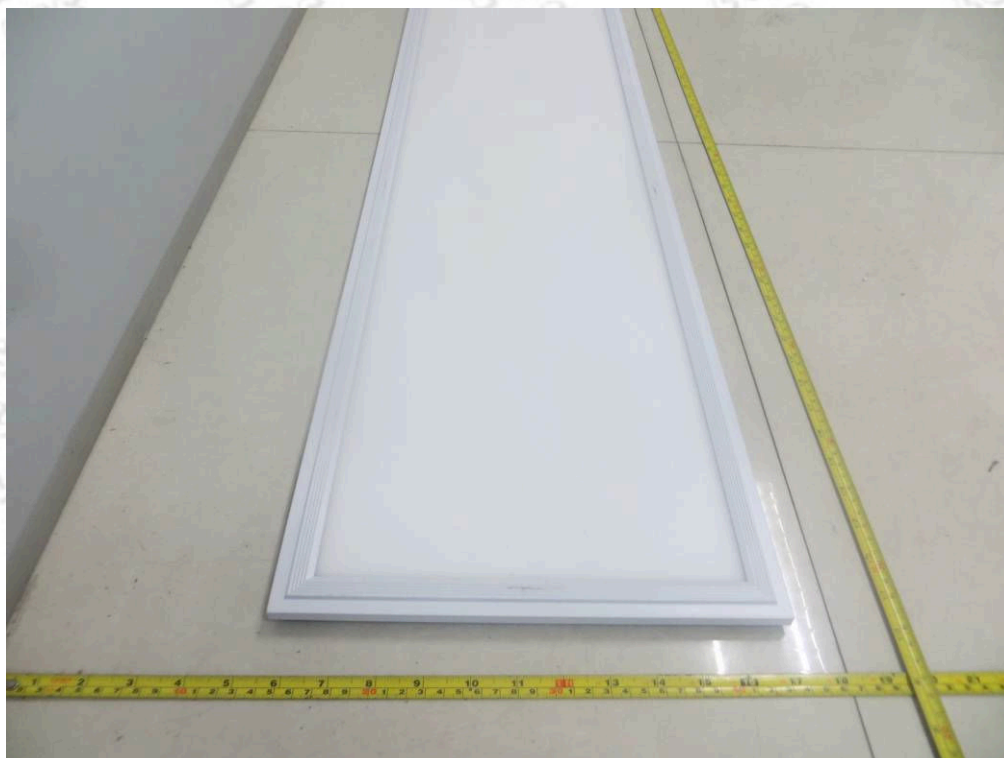


Fig. 3

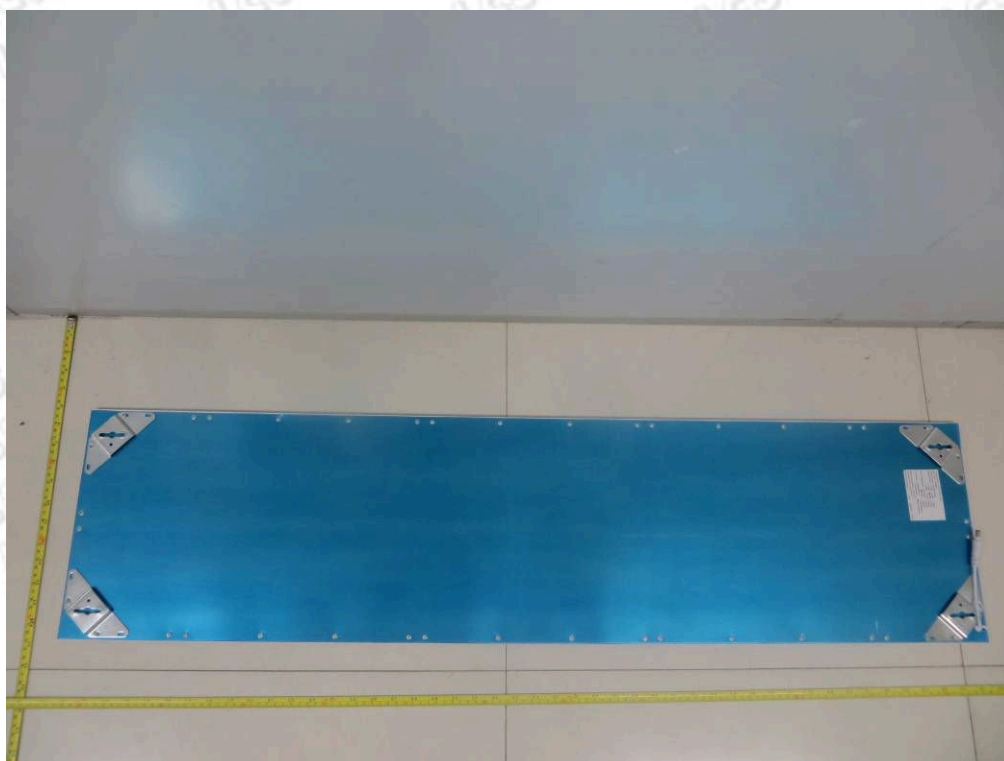


Fig. 4



Fig. 5



Fig. 6

----- THE END OF TEST REPORT -----