

EMC TEST REPORT

For

ShenZhen ZhangQing Electronic LTD

poe detector

Model No.: POE Detector

Additional Model No: Please Refer to Page 8

| | | |
|--------------------------------|---|---|
| Prepared for | : | ShenZhen ZhangQing Electronic LTD |
| Address | : | Number 622 HuaYuan Commercial center XiXiang Road XiXiang Street Bao' An District, ShenZhen |
| Prepared by | : | Shenzhen LCS Compliance Testing Laboratory Ltd. |
| Address | : | 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China |
| Tel | : | (+86)755-82591330 |
| Fax | : | (+86)755-82591332 |
| Web | : | www.LCS-cert.com |
| Mail | : | webmaster@LCS-cert.com |
| Date of receipt of test sample | : | April 20, 2018 |
| Number of tested samples | : | 1 |
| Serial number | : | Prototype |
| Date of Test | : | April 20, 2018 ~ April 23, 2018 |
| Date of Report | : | April 27, 2018 |



EMC TEST REPORT**EN 55032: 2015**

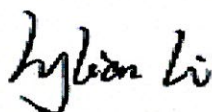
Electromagnetic compatibility of multimedia equipment - Emission requirements

EN 55024: 2010


Information technology equipment-Immunity characteristics-Limits and methods of measurement

Report Reference No.: LCS180420011AE**Date Of Issue.....: April 27, 2018****Testing Laboratory Name.....: Shenzhen LCS Compliance Testing Laboratory Ltd.****Address.....: 1/F., 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.....: ShenZhen ZhangQing Electronic LTD****Address.....: Number 622 HuaYuan Commercial center XiXiang Road
XiXiang Street Bao' An District, ShenZhen****Test Specification:****Standard: EN 55032: 2015****EN 55024: 2010****Test Report Form No.....: LCSEMC-1.0****TRF Originator.....: Shenzhen LCS Compliance Testing Laboratory Ltd.****Master TRF: Dated 2011-03****SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD. All rights reserved.**

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Test Item Description.....: poe detector**Trade Mark.....: ZhangQing****Model/ Type Reference: POE Detector****Ratings: DC 5-57V****Result: Positive****Compiled by:**


Lylia Li/ File administrators

Supervised by:


Davey Xu/ Technique principal

Approved by:

Leo Lee/ Manager

EMC -- TEST REPORT

Test Report No. : LCS180420011AEApril 27, 2018

Date of issue

Type / Model..... : POE Detector

EUT..... : poe detector

Applicant..... : ShenZhen ZhangQing Electronic LTDAddress..... : Number 622 HuaYuan Commercial center XiXiang Road
XiXiang Street Bao' An District, ShenZhen

Telephone..... : /

Fax..... : /

Manufacturer..... : ShenZhen ZhangQing Electronic LTDAddress..... : Number 622 HuaYuan Commercial center XiXiang Road
XiXiang Street Bao' An District, ShenZhen

Telephone..... : /

Fax..... : /

Factory..... : ShenZhen ZhangQing Electronic LTDAddress..... : Number 622 HuaYuan Commercial center XiXiang Road
XiXiang Street Bao' An District, ShenZhen

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

Revision History

| Revision | Issue Date | Revisions | Revised By |
|----------|----------------|---------------|------------|
| 000 | April 27, 2018 | Initial Issue | Leo Lee |
| | | | |
| | | | |

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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 (EN 55032: 2015) | | | |
|---|-----------------------------|----------------------|---------|
| Description of Test Item | Standard | Limits | Results |
| Conducted disturbance at mains terminals | EN 55032: 2015 | Class B | N/A |
| Conducted disturbance at telecommunication port | EN 55032: 2015 | Class B | N/A |
| Radiated disturbance | EN 55032: 2015 | Class B | PASS |
| Harmonic current emissions | EN 61000-3-2: 2014 | Class A | N/A |
| Voltage fluctuations & flicker | EN 61000-3-3: 2013 | ----- | N/A |
| IMMUNITY(EN 55024: 2010) | | | |
| Description of Test Item | Basic Standard | Performance Criteria | Results |
| Electrostatic discharge (ESD) | EN 61000-4-2: 2009 | B | PASS |
| Radio-frequency, Continuous radiated disturbance | EN 61000-4-3: 2006+A2: 2010 | A | PASS |
| Electrical fast transient (EFT) | EN 61000-4-4: 2012 | B | N/A |
| Surge (Input a.c. power ports) | EN 61000-4-5:2014+A1:2017 | B | N/A |
| Surge (Telecommunication ports) | | B | N/A |
| Radio-frequency, Continuous conducted disturbance | EN 61000-4-6: 2014 | A | N/A |
| Power frequency magnetic field | EN 61000-4-8: 2010 | A | PASS |
| Voltage dips, >95% reduction | EN 61000-4-11:2004+A1:2017 | B | N/A |
| Voltage dips, 30% reduction | | B | N/A |
| Voltage interruptions | | C | N/A |
| N/A is an abbreviation for Not Applicable. | | | |

1.2. Description of Performance Criteria

General Performance Criteria

Examples of functions defined by the manufacturer to be evaluated during testing include, but are not limited to, the following:

- essential operational modes and states;
- tests of all peripheral access (hard disks, floppy disks, printers, keyboard, mouse, etc.);
- quality of software execution;
- quality of data display and transmission;
- quality of speech transmission.

1.2.1. Performance criterion A

The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacture when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be deliver from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

1.2.2. Performance criterion B

After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacture, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.

During the test, degradation of performance is allowed. However, no change of operation state or stored data is allowed to persist after the test.

If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be deliver from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

1.2.3. Performance criterion C

Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacture's instructions.

Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be loss.

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

| | |
|---------------------|--|
| EUT | : poe detector |
| Trade Mark | : ZhangQing |
| Model Number | : POE Detector |
| Additional Model No | : power over ethernet detector, multi poe detector, universal poe detector, simple poe detector, ZQ poe detector, WS PoE detector, POE world POE Detector, ZQ poe Detector |
| Model Declaration | : all these models are for the same products, but just with different product names. |
| Power Supply | : DC 5-57V |
| EUT Clock Frequency | : \leq 108MHz |

2.2. Description of Test Facility

| | |
|------------------|--|
| Site Description | |
| EMC Lab. | : FCC Registration Number. is 254912. Industry Canada Registration Number. is 9642A-1. 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. NVLAP Registration Code is 600167-0. |

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 | Parameters | Expanded uncertainty (U_{lab}) | Expanded uncertainty (U_{cisp}) |
|--|---|------------------------------------|-------------------------------------|
| Conducted Emission | Level accuracy (9kHz to 150kHz) (150kHz to 30MHz) | ± 2.63 dB ± 2.35 dB | ± 4.0 dB ± 3.6 dB |
| Power disturbance | Level accuracy (30MHz to 300MHz) | ± 2.90 dB | ± 4.5 dB |
| Electromagnetic Radiated Emission (3-loop) | Level accuracy (9kHz to 30MHz) | ± 3.60 dB | ± 2.63 dB |
| Radiated Emission | Level accuracy (9kHz to 30MHz) | ± 3.68 dB | ± 2.63 dB |
| Radiated Emission | Level accuracy (30MHz to 1000MHz) | ± 3.48 dB | ± 2.63 dB |
| Radiated Emission | Level accuracy (above 1000MHz) | ± 3.90 dB | N/A |
| Mains Harmonic | Voltage | $\pm 0.510\%$ | N/A |
| Voltage Fluctuations & Flicker | Voltage | $\pm 0.510\%$ | N/A |
| EMF | | $\pm 21.59\%$ | 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 DEVICE AND TEST EQUIPMENT

3.1. 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 | 2017-06-17 |
| 2 | EMI Test Receiver | ROHDE & SCHWARZ | ESR 7 | 101181 | 2017-06-17 |
| 3 | By-Log Antenna | SCHWARZBECK | VULB9163 | 9163-470 | 2017-05-02 |
| 4 | EMI Test Software | AUDIX | E3 | N/A | 2017-06-17 |
| 5 | Positioning Controller | MF | MF-7082 | / | 2017-06-17 |

3.2. Electrostatic Discharge

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|----------------|--------------|-----------|------------|------------|
| 1 | ESD Simulator | SCHLODER | SESD 230 | 604035 | 2017-06-17 |

3.3. RF Field Strength Susceptibility

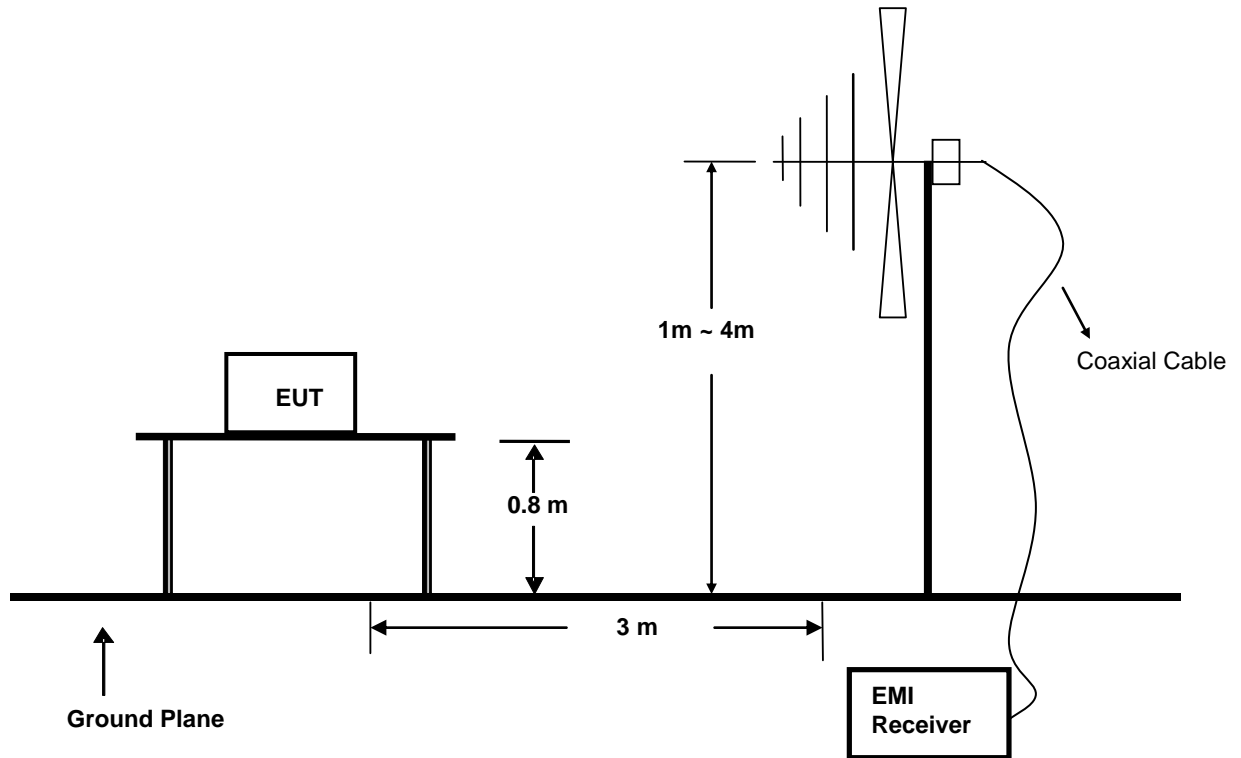
| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
|------|--|-----------------|-----------|------------|------------|
| 1 | RF POWER AMPLIFIER | OPHIR | 5225R | 1052 | 2018-03-21 |
| 2 | RF POWER AMPLIFIER | OPHIR | 5273F | 1019 | 2018-03-23 |
| 3 | Stacked Broadband Log Periodic Antenna | SCHWARZBECK | STLP 9128 | 9128ES-145 | 2017-04-27 |
| 4 | Stacked Mikrowellen Log.-Per Antenna | SCHWARZBECK | STLP 9149 | 9149-482 | 2017-04-27 |
| 5 | Signal Generator | Agilent | E4438C | MY42081396 | 2017-11-17 |
| 6 | Electric field probe | Narda S.TS./PMM | EP601 | 611WX80208 | 2018-03-26 |
| 7 | Power Meter | Agilent | E4419B | MY45104493 | 2017-06-17 |
| 8 | Power Sensor | Agilent | E9301H | MY41495234 | 2017-06-17 |
| 9 | Power Sensor | Agilent | E4412A | MY41500229 | 2017-06-17 |

3.4. 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 | 2017-06-17 |

4. RADIATED EMISSION MEASUREMENT

4.1. Block Diagram of Test Setup



4.2. Measuring Standard

EN 55032: 2015

4.3. Radiated Emission Limits

EN 55032 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 ~ 1000 | 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.

4.4.EUT Configuration on Test

The EN 55032 regulations test method must be used to find the maximum emission during radiated emission measurement.

4.5.Operating Condition of EUT

4.5.1 Turn on the power.

4.5.2 After that, let the EUT work in test mode ON and measure it.

4.6.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 a 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 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.

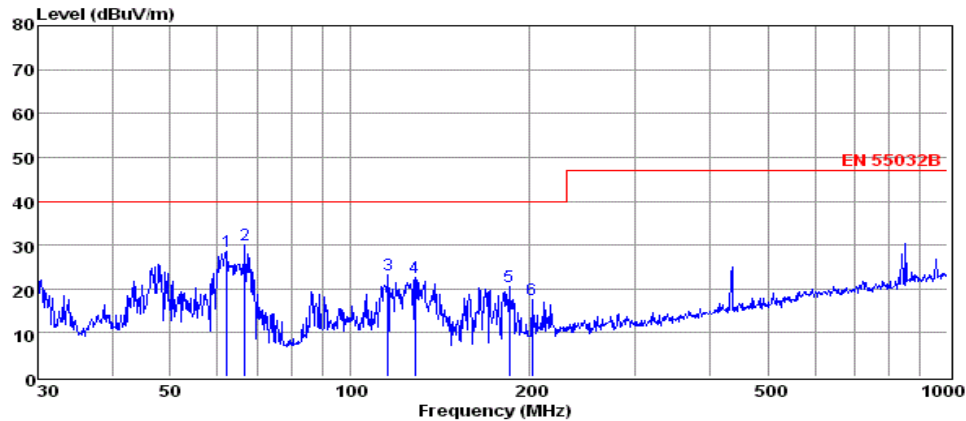
The frequency range from 30MHz to 1000MHz is investigated.

4.7.Test Results

PASS.

The test result please refer to the next page.

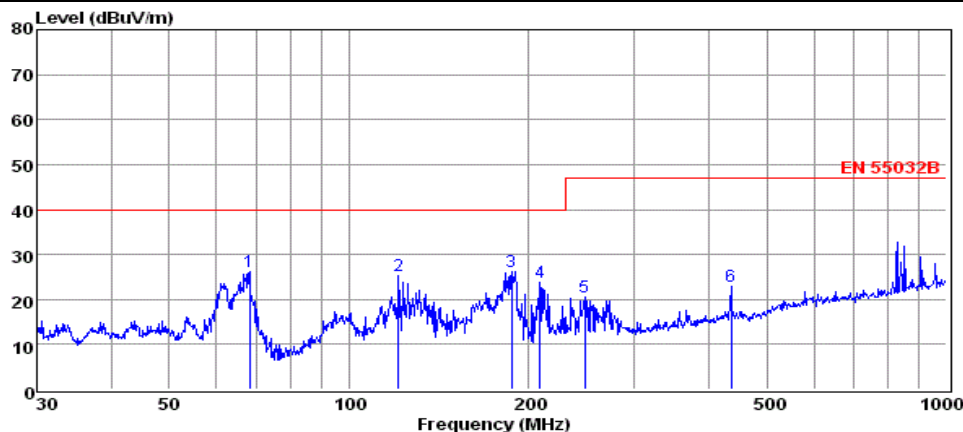
| | | | |
|---------------------------------|------------------|--------------------------|------------|
| Model No. | POE Detector | Test Mode | ON |
| Environmental Conditions | 23.5°C, 51.6% RH | Detector Function | Quasi-peak |
| Pol | Vertical | Distance | 3m |
| Test Engineer | Sunny Chen | | |



| | Freq MHz | Reading dBuV | CabLos dB | Antfac dB/m | Measured dBuV/m | Limit dBuV/m | Over dB | Remark |
|---|-------------|-----------------|--------------|----------------|--------------------|-----------------|------------|--------|
| 1 | 62.21 | 16.22 | 0.48 | 11.81 | 28.51 | 40.00 | -11.49 | QP |
| 2 | 66.73 | 19.37 | 0.52 | 10.00 | 29.89 | 40.00 | -10.11 | QP |
| 3 | 115.73 | 11.32 | 0.68 | 11.24 | 23.24 | 40.00 | -16.76 | QP |
| 4 | 128.56 | 12.78 | 0.67 | 9.15 | 22.60 | 40.00 | -17.40 | QP |
| 5 | 184.49 | 9.64 | 0.70 | 10.08 | 20.42 | 40.00 | -19.58 | QP |
| 6 | 201.39 | 6.09 | 0.82 | 10.61 | 17.52 | 40.00 | -22.48 | QP |

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

| | | | |
|---------------------------------|------------------|--------------------------|------------|
| Model No. | POE Detector | Test Mode | ON |
| Environmental Conditions | 23.5°C, 51.6% RH | Detector Function | Quasi-peak |
| Pol | Horizontal | Distance | 3m |
| Test Engineer | Sunny Chen | | |



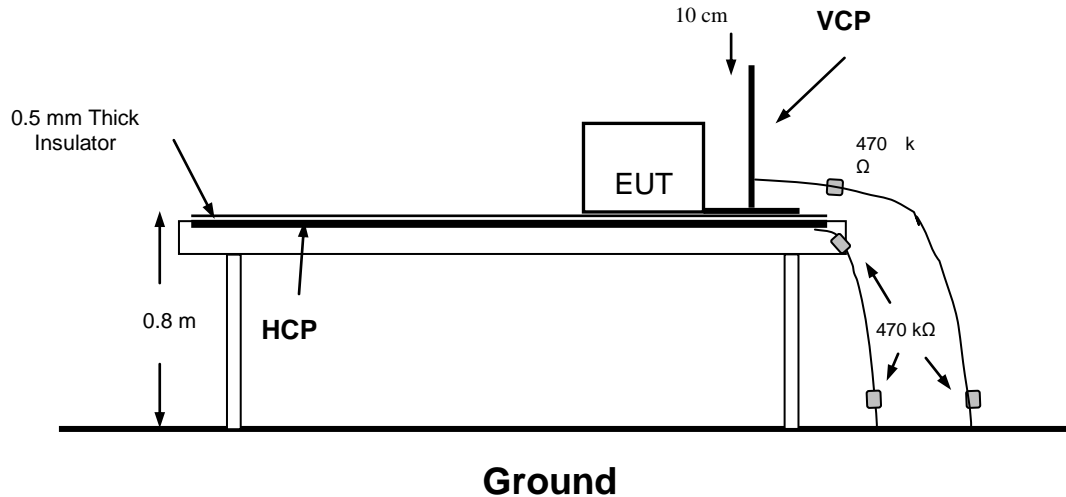
| | Freq MHz | Reading dBuV | CabLos dB | Antfac dB/m | Measured dBuV/m | Limit dBuV/m | Over dB | Remark |
|---|-------------|-----------------|--------------|----------------|--------------------|-----------------|------------|--------|
| 1 | 68.15 | 16.31 | 0.51 | 9.41 | 26.23 | 40.00 | -13.77 | QP |
| 2 | 121.12 | 14.24 | 0.70 | 10.31 | 25.25 | 40.00 | -14.75 | QP |
| 3 | 187.10 | 14.91 | 0.98 | 10.30 | 26.19 | 40.00 | -13.81 | QP |
| 4 | 208.58 | 11.99 | 0.86 | 10.84 | 23.69 | 40.00 | -16.31 | QP |
| 5 | 247.68 | 7.52 | 0.97 | 12.07 | 20.56 | 47.00 | -26.44 | QP |
| 6 | 435.59 | 6.09 | 1.41 | 15.54 | 23.04 | 47.00 | -23.96 | QP |

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

Note: Pre-Scan all mode, Thus record worse case mode result in this report.

5. ELECTROSTATIC DISCHARGE IMMUNITY TEST

5.1. Block Diagram of Test Setup



5.2. Test Standard

EN 55024: 2010,

Severity Level: 3 / Air Discharge: $\pm 8\text{KV}$, Level: 2 / Contact Discharge: $\pm 4\text{KV}$)

5.3. Severity Levels and Performance Criterion

5.3.1. Severity level

| Level | Test Voltage Contact Discharge (KV) | Test Voltage Air Discharge (KV) |
|-------|--|------------------------------------|
| 1. | ± 2 | ± 2 |
| 2. | ± 4 | ± 4 |
| 3. | ± 6 | ± 8 |
| 4. | ± 8 | ± 15 |
| X | Special | Special |

5.3.2. Performance Criterion: **B**

5.4. EUT Configuration on Test

The configuration of EUT is listed in Section 2.1.

5.5. Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 4.5. Except the test set up replaced by Section 5.1.

5.6. Test Procedure

5.6.1. Air Discharge

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT.

After each discharge, the discharge electrode shall be removed from the EUT.

The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed

5.6.2. Contact Discharge

All the procedure shall be same as Section 5.6.1. Except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

5.6.3. Indirect Discharge For Horizontal Coupling Plane

At least 10 single discharges (in the most sensitive polarity) shall be applied at the front edge of each HCP opposite the center point of each unit (if applicable) of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge.

5.6.4. Indirect Discharge For Vertical Coupling Plane

At least 10 single discharge (in the most sensitive polarity) shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT.

Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

5.7. Test Results

PASS.

Please refer to the following pages

Electrostatic Discharge Test Results

| | | | |
|------------------|---|----------------------|------------|
| Standard | <input type="checkbox"/> IEC 61000-4-2 <input checked="" type="checkbox"/> EN 61000-4-2 | | |
| Applicant | ShenZhen ZhangQing Electronic LTD | | |
| EUT | poe detector | Temperature | 23.4℃ |
| M/N | POE Detector | Humidity | 51.6% |
| Criterion | B | Pressure | 1021mbar |
| Test Mode | ON | Test Engineer | Sunny Chen |

Air Discharge

| Test Points | Test Levels | | | Results | | |
|-------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--|
| | ± 2kV | ± 4kV | ± 8kV | Passed | Fail | Performance Criterion |
| Front | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Back | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Left | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Right | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Top | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Bottom | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |

Contact Discharge

| Test Points | Test Levels | | Results | | |
|-------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--|
| | ± 2 kV | ±4 kV | Passed | Fail | Performance Criterion |
| Front | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Back | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Left | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Right | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Top | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Bottom | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |

Discharge To Horizontal Coupling Plane

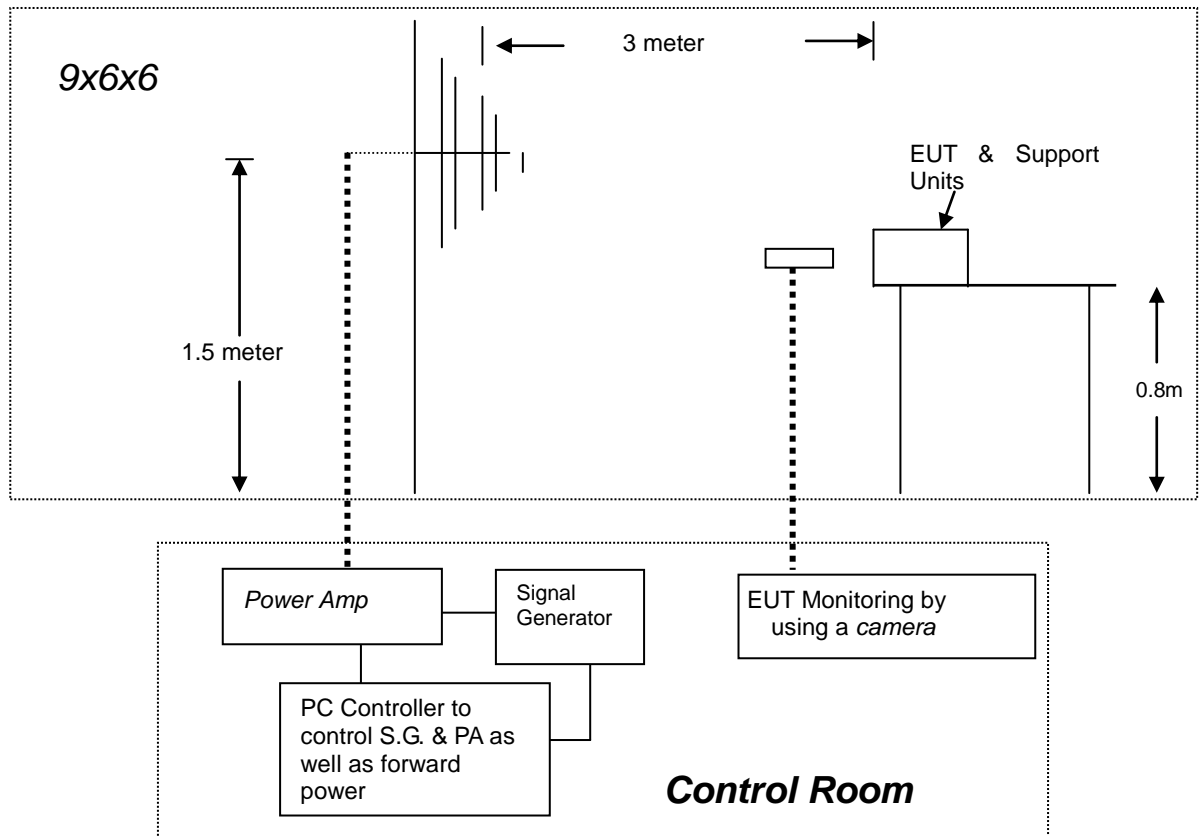
| Side of EUT | Test Levels | | Results | | |
|-------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--|
| | ± 2 kV | ± 4 kV | Passed | Fail | Performance Criterion |
| Front | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Back | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Left | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Right | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |

Discharge To Vertical Coupling Plane

| Side of EUT | Test Levels | | Results | | |
|-------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--|
| | ± 2 kV | ± 4 kV | Passed | Fail | Performance Criterion |
| Front | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Back | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Left | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| Right | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> A <input checked="" type="checkbox"/> B |

6. RF FIELD STRENGTH SUSCEPTIBILITY TEST

6.1. Block Diagram of Test



6.2. Test Standard

EN 55024: 2010,

(EN 61000-4-3: 2006+A2: 2010, Severity Level: 2, 3V / m)

6.3. Severity Levels and Performance Criterion

6.3.1. Severity Levels

| Level | Field Strength (V/m) |
|-------|----------------------|
| 1. | 1 |
| 2. | 3 |
| 3. | 10 |
| X. | Special |

6.3.2. Performance Criterion: A

6.4.EUT Configuration on Test

The configuration of the EUT is same as Section 2.1.

6.5.Operating Condition of EUT

Same as radiated emission measurement, which is listed in Section 4.5, except the test setup replaced as Section 6.1.

6.6.Test Procedure

The EUT are placed on a table, which is 0.8 meter high above the ground. The EUT is set 3 meters away from the transmitting antenna, which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna is set on test. Each of the four sides of the EUT must be faced this transmitting antenna and measured individually. In order to judge the EUT performance, a CCD Recording is used to monitor its screen. All the scanning conditions are as following:

| Condition of Test | Remark |
|---------------------------|-------------------------|
| ----- | ----- |
| 1. Fielded Strength | 3V/m (Severity Level 2) |
| 2. Radiated Signal | Unmodulated |
| 3. Scanning Frequency | 80-6000MHz |
| 4. Sweep time of radiated | 0.0015 Decade/s |
| 5. Dwell Time | 3 Sec. |

6.7.Test Results

PASS.

Please refer to the following page.

RF Field Strength Susceptibility Test Results

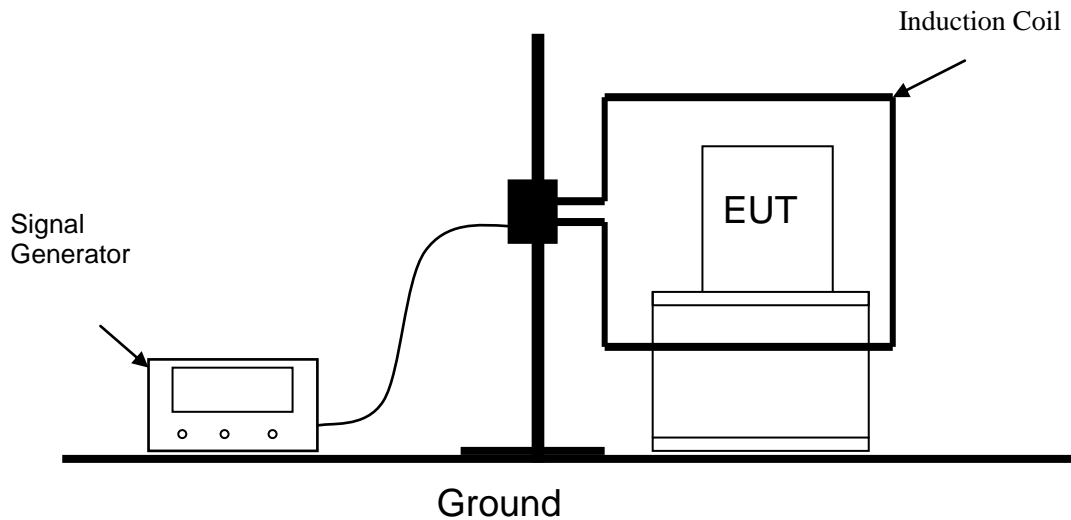
| | | | |
|------------------------|--|----------------------|------------|
| Standard | <input type="checkbox"/> IEC 61000-4-3 <input checked="" type="checkbox"/> EN 61000-4-3 | | |
| Applicant | ShenZhen ZhangQing Electronic LTD | | |
| EUT | poe detector | Temperature | 23.5℃ |
| M/N | POE Detector | Humidity | 51.6% |
| Field Strength | 3 V/m | Criterion | A |
| Test Mode | ON | Test Engineer | Sunny Chen |
| Frequency Range | 80 MHz to 6000MHz | | |
| Modulation | <input type="checkbox"/> None <input type="checkbox"/> Pulse <input checked="" type="checkbox"/> AM 1KHz 80% | | |
| Steps | 1% | | |

| | Horizontal | Vertical |
|--------------|------------|----------|
| Front | PASS | PASS |
| Right | PASS | PASS |
| Rear | PASS | PASS |
| Left | PASS | PASS |

Note:

7. MAGNETIC FIELD SUSCEPTIBILITY TEST

7.1. Block Diagram of Test Setup



7.2. Test Standard

EN 55024: 2010,

(EN 61000-4-8: 2010, Severity Level: Level 1, 1A / m)

7.3. Severity Levels and Performance Criterion

7.3.1. Severity Levels

| Level | Field Strength (A/m) |
|-------|----------------------|
| 1 | 1 |
| 2 | 3 |
| 3 | 10 |
| 4 | 30 |
| 5 | 100 |
| X | Special |

7.3.2. Performance Criterion: A

7.4. EUT Configuration on Test

The configuration of the EUT is same as Section 2.1.

7.5.Test Procedure

The EUT is placed in the middle of a induction coil (1*1m), under which is a 1*1*0.1m (high) table, this small table is also placed on a larger table, 0.8 m above the ground. Both horizontal and vertical polarization of the induction coil is set on test, so that each side of the EUT is affected by the magnetic field. Also can reach the same aim by change the position of the EUT.

7.6.Test Results

PASS.

Please refer to the following page.

Magnetic Field Immunity Test Result

| | | | |
|----------------------|---|--------------------|-------|
| Standard | <input type="checkbox"/> IEC 61000-4-8 <input checked="" type="checkbox"/> EN 61000-4-8 | | |
| Applicant | ShenZhen ZhangQing Electronic LTD | | |
| EUT | poe detector | Temperature | 24.2℃ |
| M/N | POE Detector | Humidity | 53.2% |
| Test Mode | ON | Criterion | A |
| Test Engineer | Sunny Chen | | |

| Test Level (A/M) | Testing Duration | Coil Orientation | Criterion | Result |
|---------------------|---------------------|------------------|-----------|--------|
| 1 | 5 mins | X | A | PASS |
| 1 | 5 mins | Y | A | PASS |
| 1 | 5 mins | Z | A | PASS |

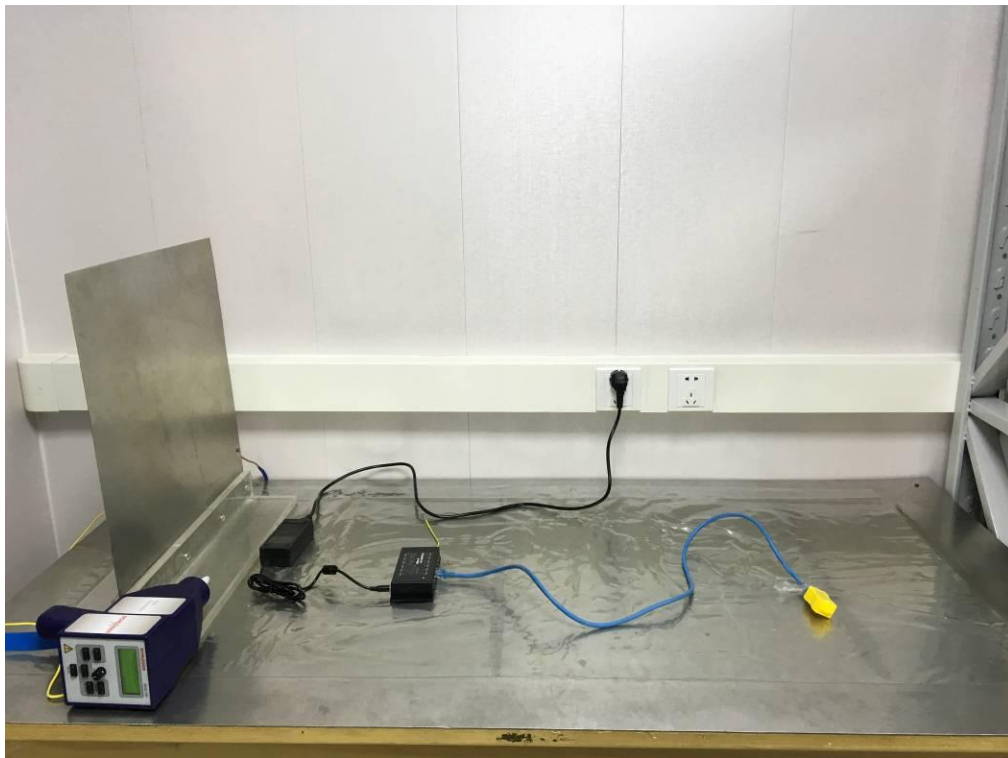
Note:

9. PHOTOGRAPH

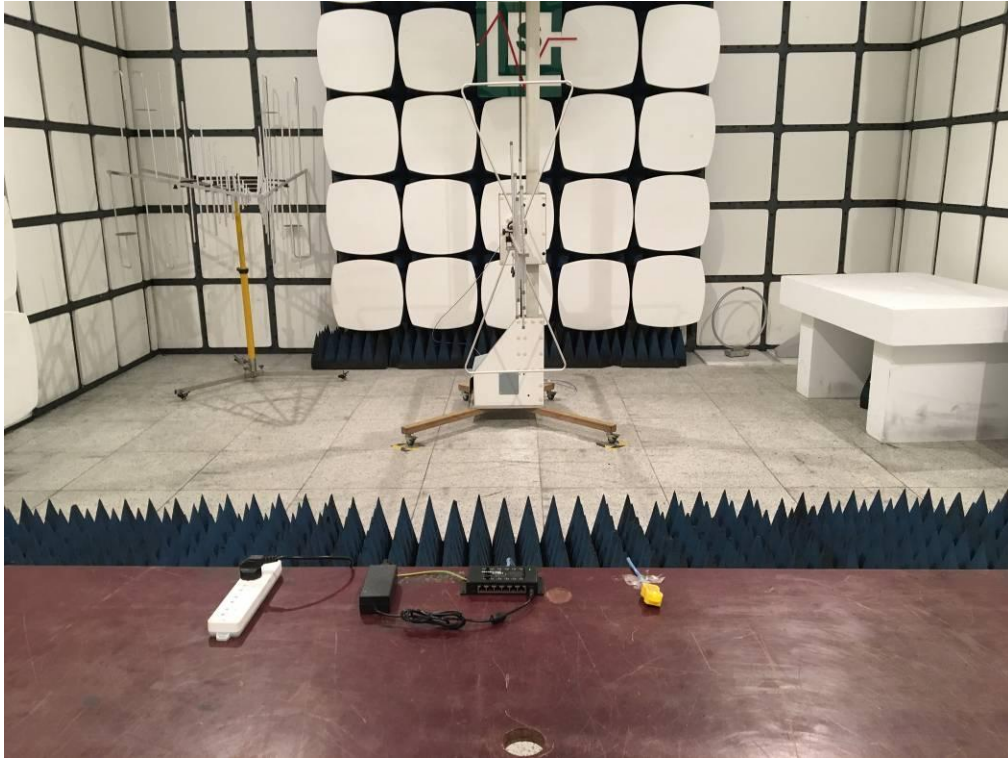
9.1.Photo of Radiated Measurement



9.2.Photo of Electrostatic Discharge Test



9.3.Photo of Radio-frequency, Continuous radiated disturbance



9.4.Photo of Magnetic Field Immunity Test



10. EXTERNAL AND INTERNAL PHOTOS OF THE EUT



Fig. 1



Fig. 2

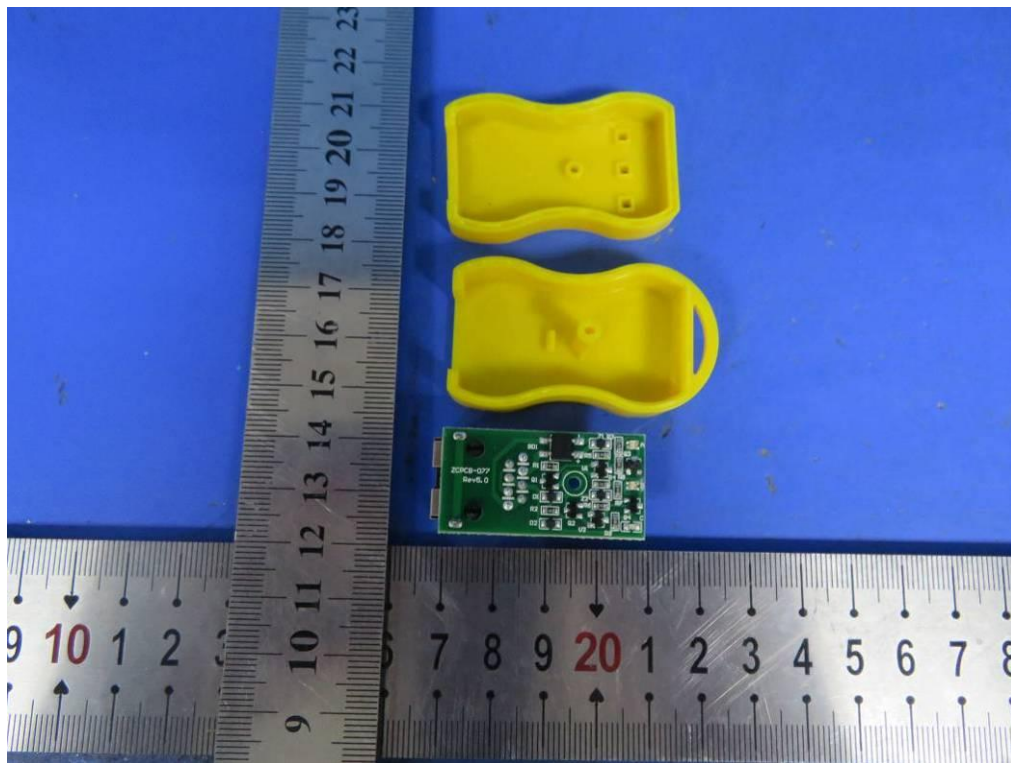


Fig. 3

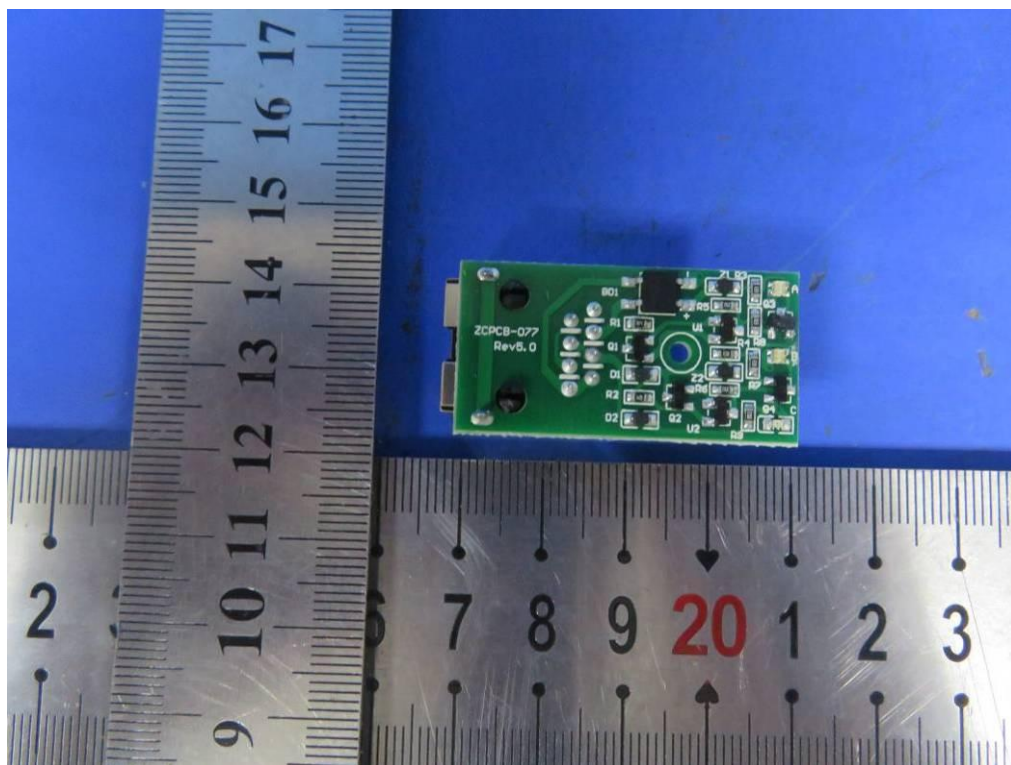


Fig. 4

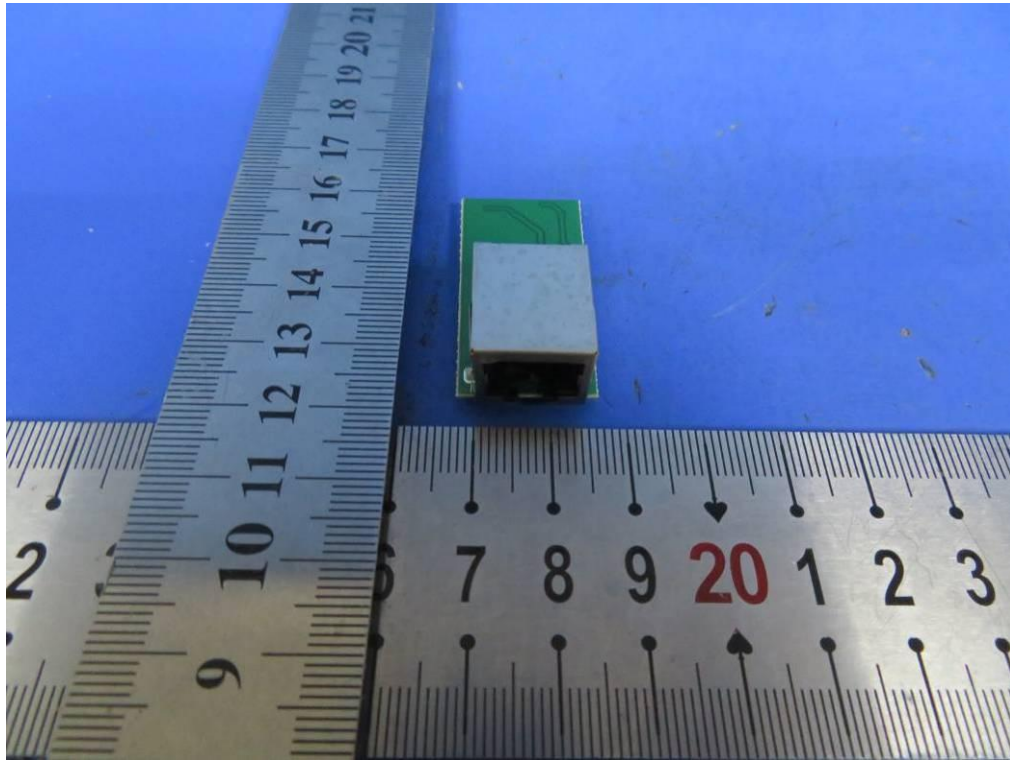


Fig. 5

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