# CE/EMC TEST REPORT

For

changzhou wujin hongguang radio co., ltd

POWER SUPPLY


Prepared for : changzhou wujin hongguang radio co., ltd
Address : No. 1 Guiyang Road and Qingyang Road Changzhou Jiangsu China

Prepared by : EST Technology Co., Ltd.
Address : Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China

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Report No. : ESTE-E1505009
Date of Report : May 09, 2015

# TABLE OF CONTENTS

# EST Technology Co., Ltd.

| | | | |
|---|---|---|---|
| **Applicant:**<br>**Address:** | changzhou wujin hongguang radio co., ltd<br>No. 1 Guiyang Road and Qingyang Road Changzhou Jiangsu China | | |
| **Manufacturer:**<br>**Address:** | changzhou wujin hongguang radio co., ltd<br>No. 1 Guiyang Road and Qingyang Road Changzhou Jiangsu China | | |
| **E.U.T:** | POWER SUPPLY | | |
| **Model Number:** | LV5MK-5, LV5MK-9, LV5MK-12, LV5MK-15, LV5MK-24 | | |
| **Trade Name:** | ------ | **Serial No:** | ------ |
| **Date of Receipt:** | Mar. 09, 2015 | **Date of Test:** | Mar. 09, - May 09, 2015 |
| **Test Specification:** | EN 55022:2010<br>EN 61000-3-2:2014<br>EN 61000-3-3:2013<br>EN 55024:2010 | | |
| **Test Result:** | The equipment under test was found to be compliance with the requirements of the standards applied.<br><br>**Issue Date: May 09, 2015** | | |

| Prepared by: | Tested by: | Approved by: |
|---|---|---|
| Amy / Assistant | Leo / Engineer | Iceman Hu / Manager |

**Other Aspects:**

None.

*Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested*

# 1. GENERAL PRODUCT INFORMATION

## 1.1. Product Function

Refer to Technical Construction Form and User Manual.

## 1.2. Description of Device (EUT)

| | | |
|---|---|---|
| Description | : | POWER SUPPLY |
| Model No. | : | LV5MK-5, LV5MK-9, LV5MK-12, LV5MK-15, LV5MK-24 |
| System Input Voltage | : | AC 100-240V, 50/60Hz, 0.15A |
| Output | : | DC 5V/0.8A, DC 9V/0.5A, DC 12V/0.4A<br>DC 15V/0.32A, DC 24V/0.21A |
| DC Line | : | Unshielded, Detachable 0.5m |

## 1.3. Difference between Model Numbers

***Note:*** *The products are different only for the output current and voltage. But the PCB boards inside are identical.*

## 1.4. Independent Operation Modes

The basic operation modes are:

1.4.1. Full Load

1.4.2. Half Load

1.4.3. No Load

# 2. TEST STANDARDS AND SITES

## 2.1.Description of Standards and Results

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

| EMISSION(EN 55022:2010) | | | | |
|---|---|---|---|---|
| **Description of Test Item** | **Standard** | **Limits** | | **Results** |
| Conducted disturbance at mains terminals | EN 55022:2010 | Class B | | PASS |
| | | Minimum passing margin is 3.04dB at 0.38MHz | | |
| Radiated disturbance | EN 55022:2010 | Class B | | PASS |
| | | Minimum passing margin is 8.40dB at 37.76MHz | | |
| Harmonic current emissions | EN 61000-3-2:2014 | Class A | | N/A |
| Voltage fluctuations & flicker | EN 61000-3-3:2013 | Section 4.4 | | PASS |
| **IMMUNITY (EN 55024:2010)** | | | | |
| **Description of Test Item** | **Basic Standard** | **Performance Criteria** | **Observation Criteria** | **Results** |
| Electrostatic discharge (ESD) | EN 61000-4-2:2009 | B | A | PASS |
| Radio-frequency, Continuous radiated disturbance | EN 61000-4-3:2006+ A1:2008+A2:2010 | A | A | PASS |
| Electrical fast transient (EFT) | EN 61000-4-4:2012 | B | A | PASS |
| Surge (Input a.c. power port) | EN 61000-4-5:2006 | B | A | PASS |
| Radio-frequency,Continuous conducted disturbance | EN 61000-4-6:2009 | A | A | PASS |
| Power frequency magnetic field | EN 61000-4-8:2010 | A | A | PASS |
| Voltage dips, >95% reduction | EN 61000-4-11:2004 | B | A | PASS |
| Voltage dips, 30% reduction | | C | B | PASS |
| Voltage interruptions | | C | B | PASS |
| N/A is an abbreviation for Not Applicable. | | | | |

## 2.2. Test Facilities

EMC Lab : Certificated by CNAS, CHINA
Registration No.: L5288
Date of registration: November 13, 2014

Certificated by FCC, USA
Registration No.: 989591
Date of registration: November 20, 2013

Certificated by Industry Canada
Registration No.: 9405A
Date of registration: January 03, 2013

Certificated by VCCI, Japan
Registration No.: R-3663 & C-4103
Date of registration: July 25, 2014

Certificated by TUV Rheinland, Germany
Registration No.: UA 50195514 0001
Date of registration: January 07, 2011

Certificated by TUV/PS, Shenzhen
Registration No.: SCN1017
Date of registration: January 27, 2011

Certificated by Intertek ETL SEMKO
Registration No.: 2011-RTL-L1-18
Date of registration: April 28, 2011

Certificated by Nemko, Hong Kong
Registration No.: 175193
Date of registration: May 4, 2011

Name of Firm : EST Technology Co., Ltd.

Site Location : Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China

## 2.3.List of Test and Measurement Instruments

2.3.1. For conducted emission at the mains terminals test

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|
| EMI Test Receiver | Rohde & Schwarz | ESHS30 | 832354 | June 28,14 | 1 Year |
| Artificial Mains Networ | Rohde & Schwarz | ENV216 | 101260 | June 28,14 | 1 Year |
| Pulse Limiter | Rohde & Schwarz | ESH3-Z2 | 101100 | June 28,14 | 1 Year |

2.3.2. For radiated emission test

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|
| EMI Test Receiver | Rohde & Schwarz | ESVS10 | 100004 | June 28,14 | 1 Year |
| Spectrum Analyzer | Agilent | E4411B | MY50140697 | June 28,14 | 1 Year |
| Bilog Antenna | Teseq | CBL 6111D | 25872 | June 28,14 | 1.5 Year |
| Signal Amplifier | Agilent | 310N | 187037 | June 28,14 | 1 Year |

2.3.3. For harmonic current emissions and voltage fluctuations/flicker test

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|
| Power Analyzer | Chroma | 6630 | 663000002099 | June 28,14 | 1 Year |
| Voltage Source | Chroma | 6530 | 653000007115 | N/A | N/A |

2.3.4. For electrostatic discharge immunity test

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|
| ESD Generator | HAEFELY | ONYX16 | 174153 | June 28,14 | 1 Year |

2.3.5. Radio Frequency Electromagnetic Field Immunity (R/S) Test

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|
| Signal Generator | HP | 8648A | 3426A01263 | June 28,14 | 1 Year |
| Amplifier | A&R | 500A100 | 17034 | June 28,14 | 1 Year |
| Amplifier | A&R | 100W | 17028 | June 28,14 | 1 Year |
| Isotropic Field Monitor | A&R | FM2000 | 16829 | June 28,14 | 1 Year |
| Isotropic Field Probe | A&R | FP2000 | 16755 | June 28,14 | 1 Year |
| Biconic Antenna | EMCO | 3108 | 9507-2534 | June 28,14 | 1 Year |
| Log-periodic Antenna | A&R | AT1080 | 16812 | June 28,14 | 1 Year |

2.3.6. For electrical fast transient/burst immunity test

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|
| EFT Generator | HAEFELY | ECOMPACT 4 | 173659 | June 28,14 | 1 Year |

2.3.7. For surge immunity test

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|
| Surge Controller | HAEFELY | PSURGE8000 | 174034 | June 28,14 | 1 Year |
| Surge Impulse Module | HAEFELY | PIM100 | 174125 | June 28,14 | 1 Year |
| Surge Coupling Module | HAEFELY | PCD100 | 174134 | June 28,14 | 1 Year |

2.3.8. For injected currents susceptibility test

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|
| CS Test System | FRANKONIA | CIT-10 | 126A1163 | June 28,14 | 1 Year |
| CDN | FRANKONIA | CDN-M2+M3 | A2210150 | June 28,14 | 1 Year |

2.3.9.For power frequency magnetic field immunity test

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|
| Magnetic Field Tester | HEAFELY | MFS 100 | ------ | June 28,14 | 1 Year |

2.3.10.For voltage dips and short interruptions immunity test

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|---|---|---|---|---|---|
| DIPS Tester | HAEFELY | ECOMPACT 4 | 173659 | June 28,14 | 1 Year |

# 3. TEST SET-UP AND OPERATION MODES

## 3.1. Principle of Configuration Selection

**Emission:** The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the Operating Instructions.

**Immunity:** The equipment under test (EUT) was configured to the representative operating mode and conditions.

## 3.2. Block Diagram of Test Set-up

System Diagram of Connections Between EUT and Simulators

EMI


EMS


*(EUT: POWER SUPPLY)*

## 3.3. Test Operation Mode and Test Software

Refer to Test Setup in clause 4 & 5.

## 3.4. Special Accessories and Auxiliary Equipment

None.

## 3.5. Countermeasures to Achieve EMC Compliance

None.

# 4. EMISSION TEST RESULTS

## 4.1. Conducted Emission at The Mains Terminals Test

| | | |
|---|---|---|
| **RESULT** | **:** | **Pass** |
| Test procedure | : | EN 55022:2010 |
| Frequency range | : | 0.15～30MHz |
| Test Site | : | Shielded Room |
| Limits | : | EN 55022:2010 Class B |

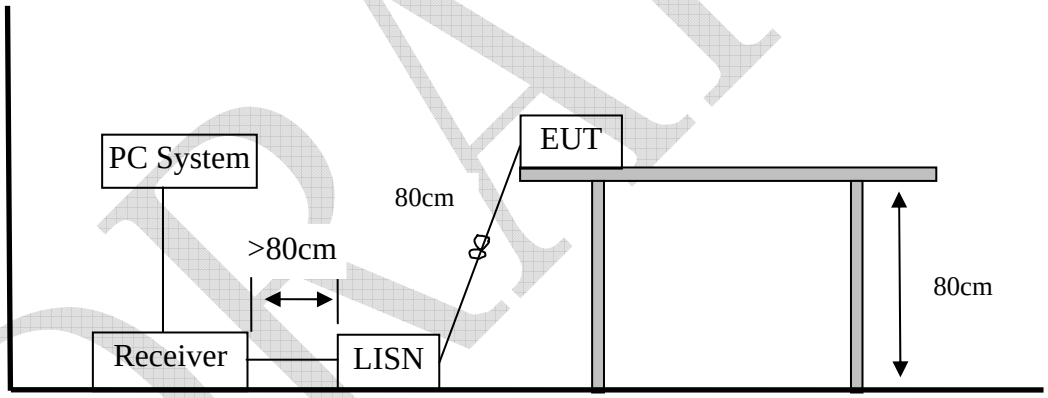
**Test Setup**

| | | |
|---|---|---|
| Date of test | : | Apr. 27, 2015 |
| Model No. | : | LV5MK-5, LV5MK-9, LV5MK-12, LV5MK-15, LV5MK-24 |
| Input Voltage | : | AC 230V/50Hz |
| Operation Mode | : | Full/ Half/ No Load |

The frequency range from 150 kHz to 30 MHz was investigated.

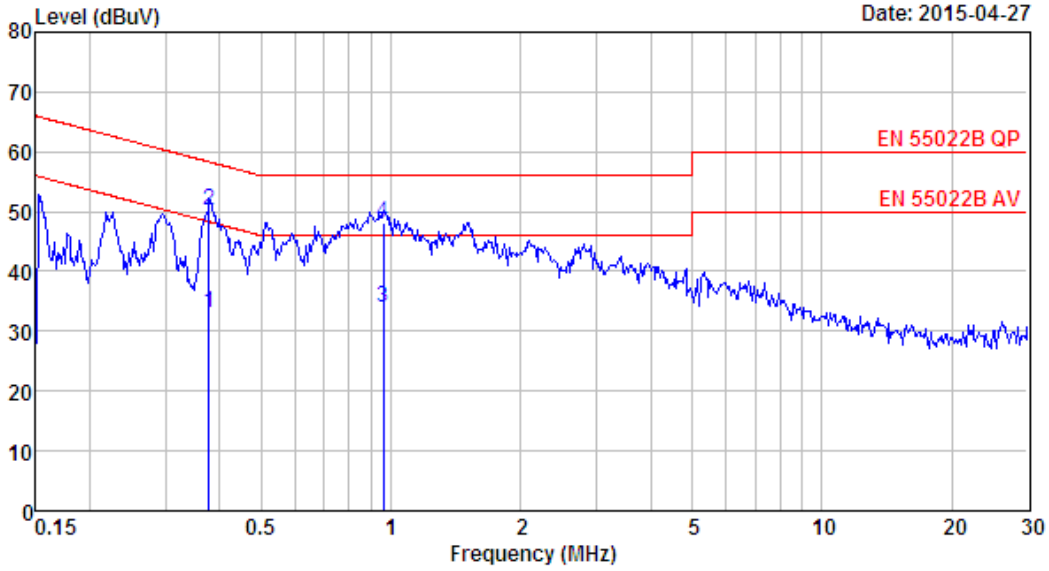
The bandwidth of the test receiver was set at 9 kHz.

The test data of the worst case condition(s) was reported on the following page.



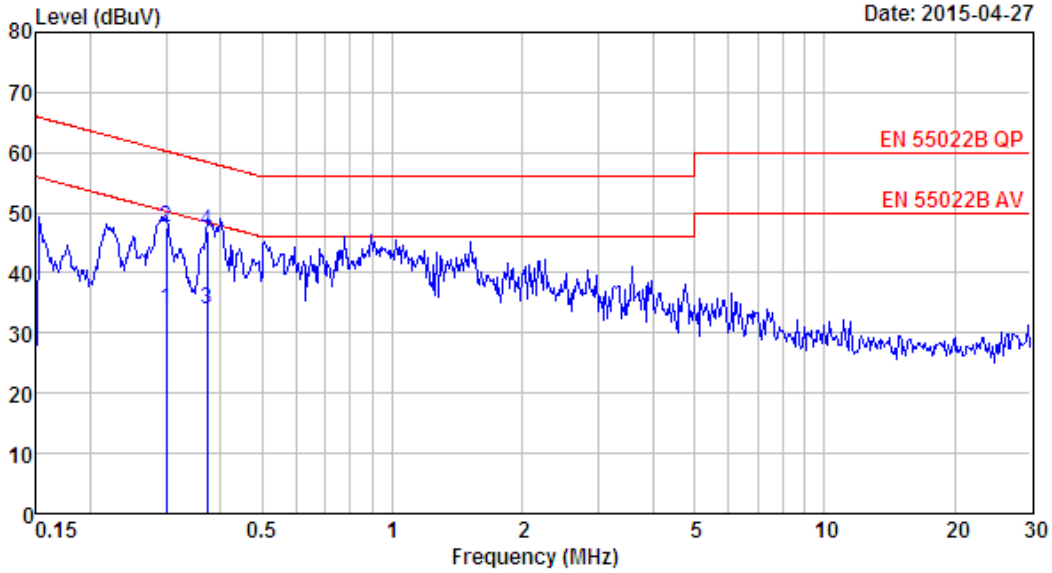

**Note: Test uncertainty: ±2.54dB at a level of confidence of 95%.**

# Test Data



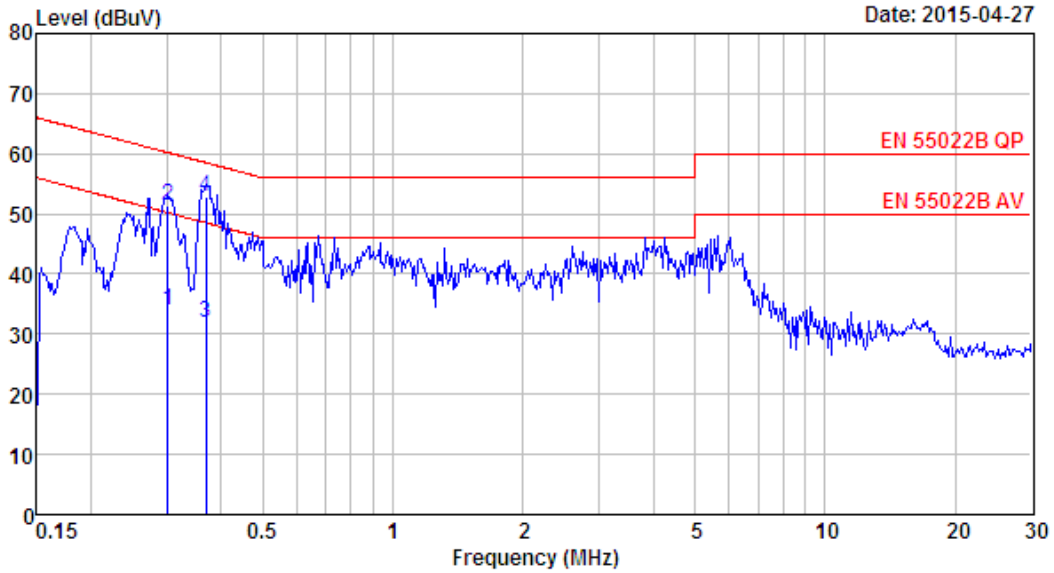

```
Site no      : 844 Shield Room
Env. / Ins.  : Temp:24.3'C Humi:58% Press:101.50kPa
Limit        : EN 55022B QP          LINE Phase:LINE
Engineer     : Leo
EUT          : POWER SUPPLY
Power        : AC 230V/50Hz
M/N          : LV5MK-9
Test Mode    : Full Load(Output:9V/0.5A)
```

| | Freq. (MHz) | LISN Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuv/m) | Limits (dBuv/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.38 | 9.61 | 9.82 | 13.57 | 33.00 | 48.31 | 15.31 | Average |
| 2 | 0.38 | 9.61 | 9.82 | 30.70 | 50.13 | 58.31 | 8.18 | QP |
| 3 | 0.96 | 9.63 | 9.82 | 14.55 | 34.00 | 46.00 | 12.00 | Average |
| 4 | 0.96 | 9.63 | 9.82 | 28.75 | 48.20 | 56.00 | 7.80 | QP |



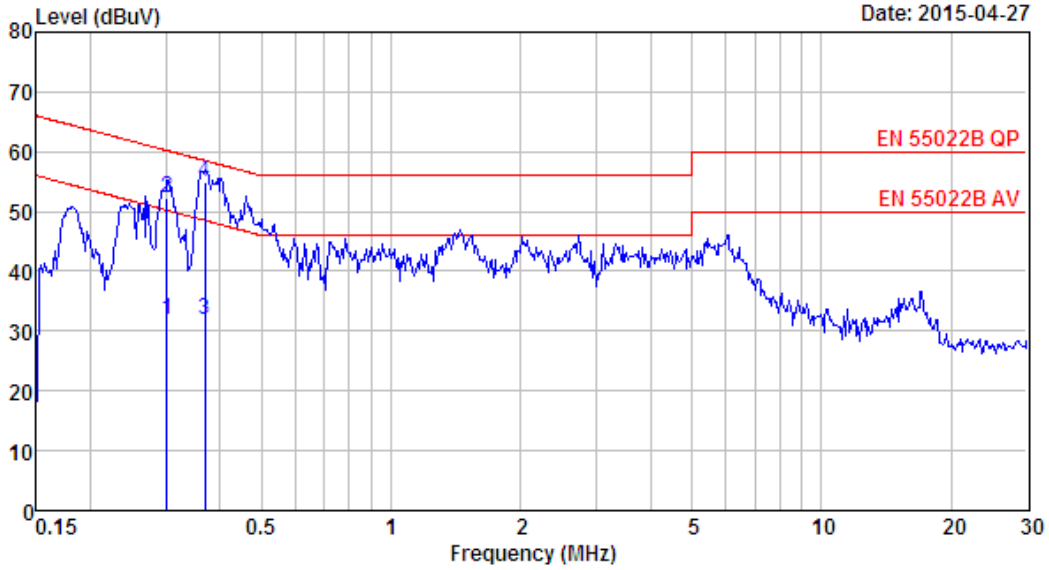

Site no : 844 Shield Room
Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa
Limit : EN 55022B QP LINE Phase:NEUTRAL
Engineer : Leo
EUT : POWER SUPPLY
Power : AC 230V/50Hz
M/N : LV5MK-9
Test Mode : Full Load(Output:9V/0.5A)

| | Freq. (MHz) | LISN Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuv/m) | Limits (dBuv/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.30 | 9.60 | 9.83 | 14.57 | 34.00 | 50.26 | 16.26 | Average |
| 2 | 0.30 | 9.60 | 9.83 | 28.00 | 47.43 | 60.26 | 12.83 | QP |
| 3 | 0.37 | 9.59 | 9.82 | 14.59 | 34.00 | 48.44 | 14.44 | Average |
| 4 | 0.37 | 9.59 | 9.82 | 27.57 | 46.98 | 58.44 | 11.46 | QP |



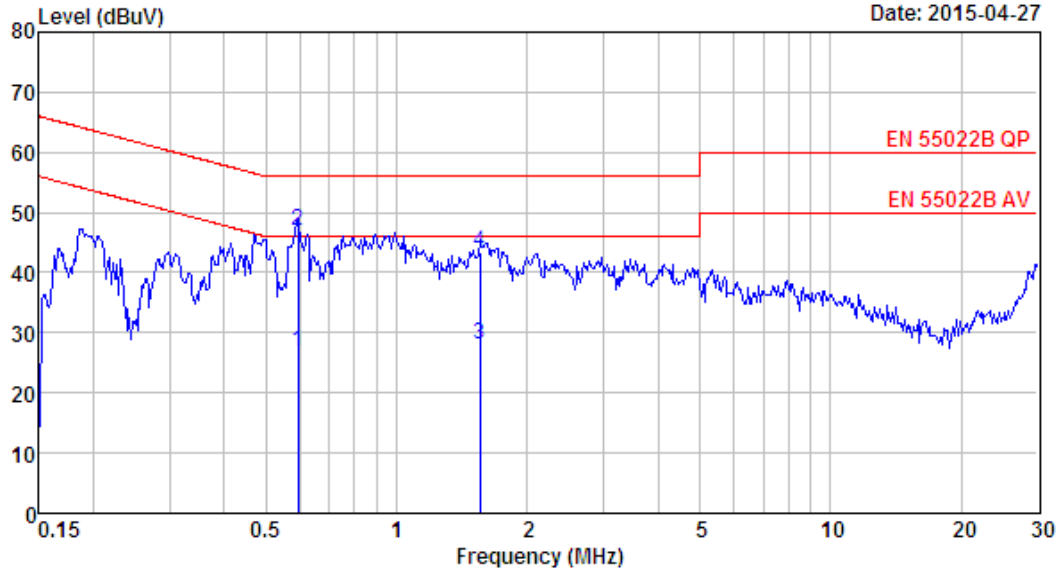

```
Site no      : 844 Shield Room
Env. / Ins.  : Temp:24.3'C Humi:58% Press:101.50kPa
Limit        : EN 55022B QP          LINE Phase:LINE
Engineer     : Leo
EUT          : POWER SUPPLY
Power        : AC 230V/50Hz
M/N          : LV5MK-24
Test Mode    : Full Load(Output:24V/0.21A)
```

| | Freq. (MHz) | LISN Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuv/m) | Limits (dBuv/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.30 | 9.61 | 9.83 | 14.56 | 34.00 | 50.19 | 16.19 | Average |
| 2 | 0.30 | 9.61 | 9.83 | 31.78 | 51.22 | 60.19 | 8.97 | QP |
| 3 | 0.37 | 9.61 | 9.82 | 12.57 | 32.00 | 48.51 | 16.51 | Average |
| 4 | 0.37 | 9.61 | 9.82 | 33.54 | 52.97 | 58.51 | 5.54 | QP |



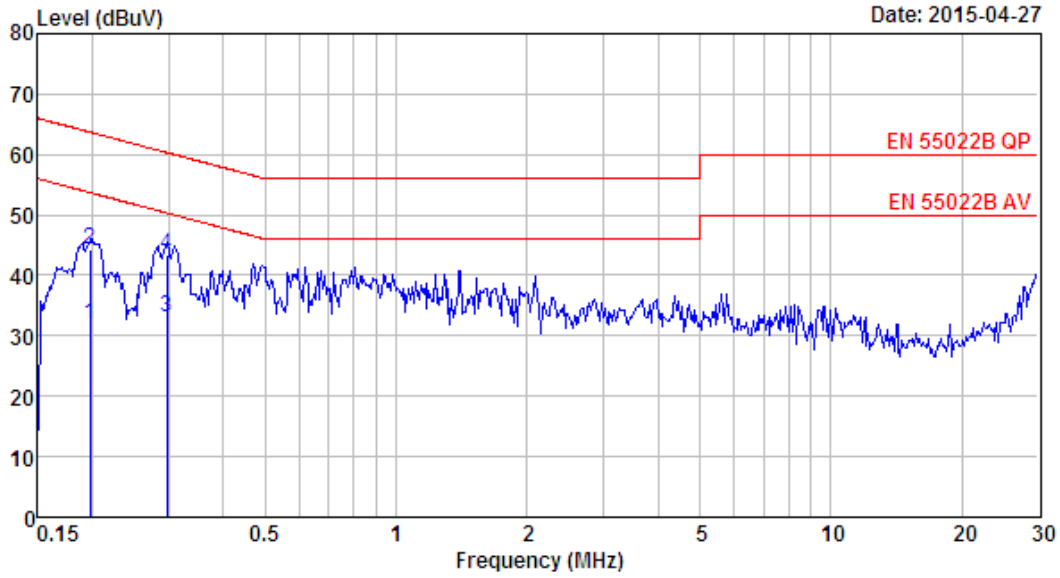

```
Site no      : 844 Shield Room
Env. / Ins.  : Temp:24.3'C Humi:58% Press:101.50kPa
Limit        : EN 55022B QP          LINE Phase:NEUTRAL
Engineer     : Leo
EUT          : POWER SUPPLY
Power        : AC 230V/50Hz
M/N          : LV5MK-24
Test Mode    : Full Load(Output:24V/0.21A)
```

| | Freq. (MHz) | LISN Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuv/m) | Limits (dBuv/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.30 | 9.60 | 9.83 | 12.57 | 32.00 | 50.19 | 18.19 | Average |
| 2 | 0.30 | 9.60 | 9.83 | 32.81 | 52.24 | 60.19 | 7.95 | QP |
| 3 | 0.37 | 9.59 | 9.82 | 12.59 | 32.00 | 48.51 | 16.51 | Average |
| 4 | 0.37 | 9.59 | 9.82 | 35.64 | 55.05 | 58.51 | 3.46 | QP |



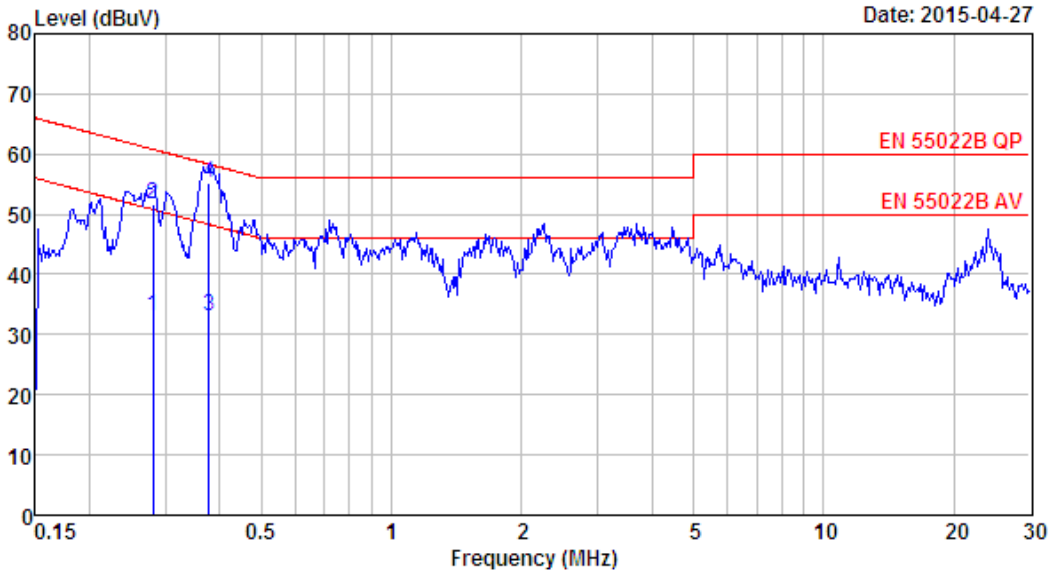

Site no : 844 Shield Room
Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa
Limit : EN 55022B QP LINE Phase:LINE
Engineer : Leo
EUT : POWER SUPPLY
Power : AC 230V/50Hz
M/N : LV5MK-5
Test Mode : Full Load(Output:5V/0.8A)

| | Freq. (MHz) | LISN Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuv/m) | Limits (dBuv/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.59 | 9.60 | 9.82 | 7.58 | 27.00 | 46.00 | 19.00 | Average |
| 2 | 0.59 | 9.60 | 9.82 | 27.62 | 47.04 | 56.00 | 8.96 | QP |
| 3 | 1.55 | 9.62 | 9.83 | 8.55 | 28.00 | 46.00 | 18.00 | Average |
| 4 | 1.55 | 9.62 | 9.83 | 24.03 | 43.48 | 56.00 | 12.52 | QP |



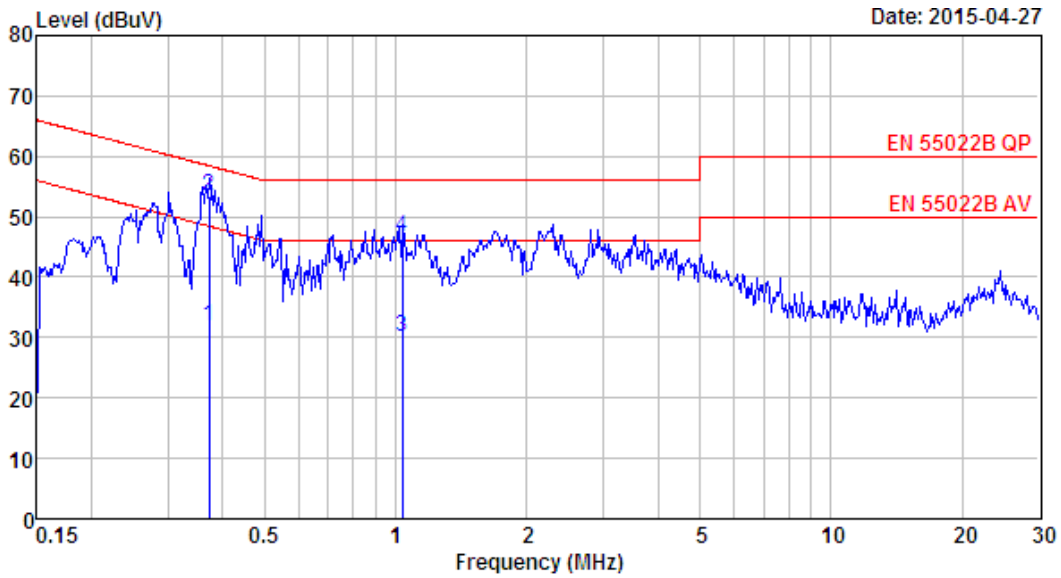

Site no : 844 Shield Room
Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa
Limit : EN 55022B QP LINE Phase:NEUTRAL
Engineer : Leo
EUT : POWER SUPPLY
Power : AC 230V/50Hz
M/N : LV5MK-5
Test Mode : Full Load(Output:5V/0.8A)

| | Freq. (MHz) | LISN Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuv/m) | Limits (dBuv/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.20 | 9.60 | 9.80 | 12.60 | 32.00 | 53.70 | 21.70 | Average |
| 2 | 0.20 | 9.60 | 9.80 | 24.75 | 44.15 | 63.70 | 19.55 | QP |
| 3 | 0.30 | 9.60 | 9.83 | 13.57 | 33.00 | 50.33 | 17.33 | Average |
| 4 | 0.30 | 9.60 | 9.83 | 24.08 | 43.51 | 60.33 | 16.82 | QP |



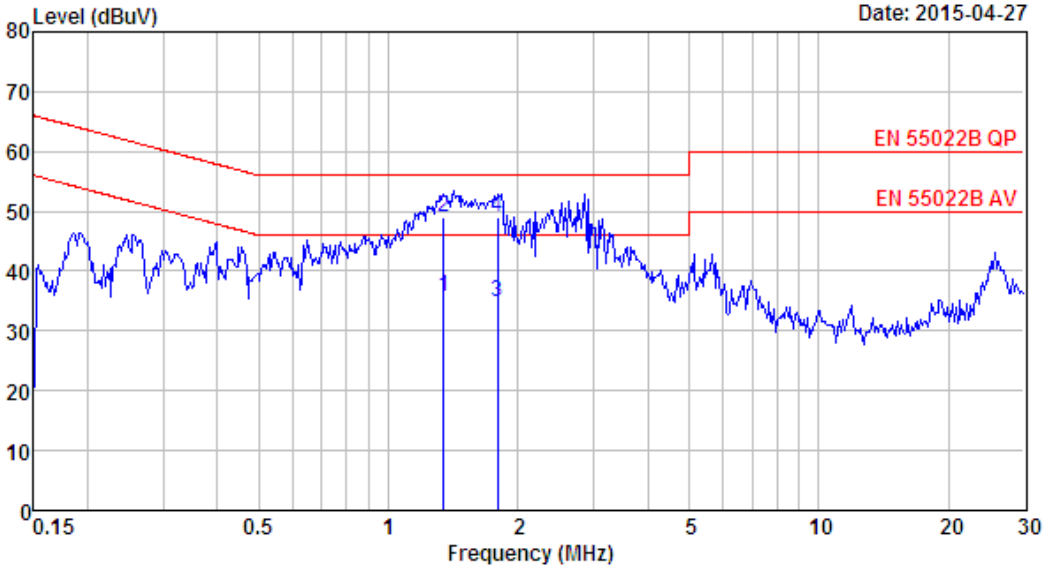

Site no : 844 Shield Room
Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa
Limit : EN 55022B QP LINE Phase:LINE
Engineer : Leo
EUT : POWER SUPPLY
Power : AC 230V/50Hz
M/N : LV5MK-15
Test Mode : Full Load(Output:15V/0.32A)

| | Freq. (MHz) | LISN Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuv/m) | Limits (dBuv/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.28 | 9.61 | 9.83 | 13.56 | 33.00 | 50.80 | 17.80 | Average |
| 2 | 0.28 | 9.61 | 9.83 | 32.23 | 51.67 | 60.80 | 9.13 | QP |
| 3 | 0.38 | 9.61 | 9.82 | 13.57 | 33.00 | 48.31 | 15.31 | Average |
| 4 | 0.38 | 9.61 | 9.82 | 35.84 | 55.27 | 58.31 | 3.04 | QP |



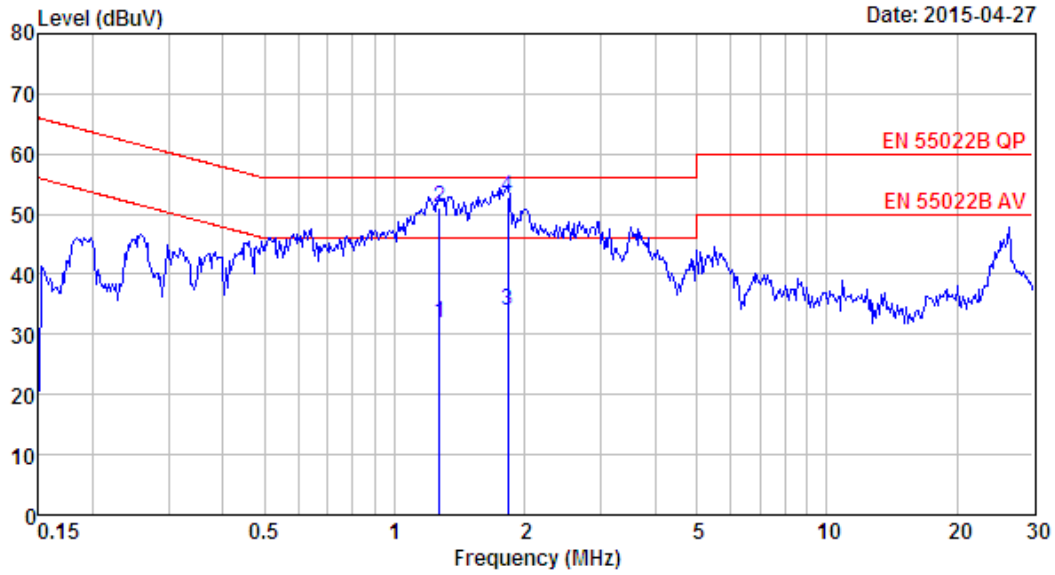

```
Site no      : 844 Shield Room
Env. / Ins.  : Temp:24.3'C Humi:58% Press:101.50kPa
Limit        : EN 55022B QP          LINE Phase:NEUTRAL
Engineer     : Leo
EUT          : POWER SUPPLY
Power        : AC 230V/50Hz
M/N          : LV5MK-15
Test Mode    : Full Load(Output:15V/0.32A)
```

| | Freq. (MHz) | LISN Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuv/m) | Limits (dBuv/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.37 | 9.59 | 9.82 | 12.59 | 32.00 | 48.44 | 16.44 | Average |
| 2 | 0.37 | 9.59 | 9.82 | 33.90 | 53.31 | 58.44 | 5.13 | QP |
| 3 | 1.04 | 9.61 | 9.85 | 10.54 | 30.00 | 46.00 | 16.00 | Average |
| 4 | 1.04 | 9.61 | 9.85 | 27.13 | 46.59 | 56.00 | 9.41 | QP |



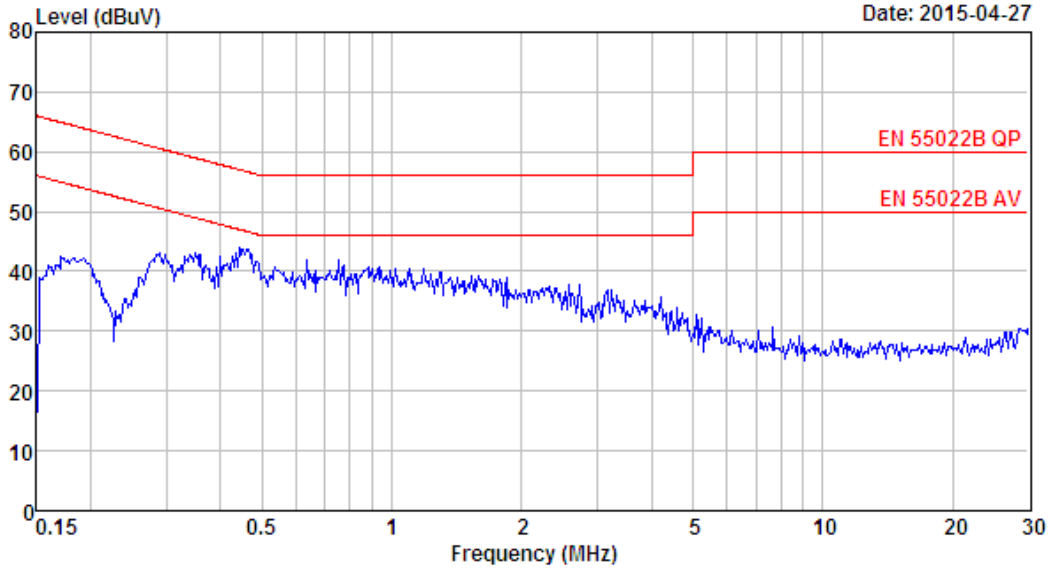

```
Site no      : 844 Shield Room
Env. / Ins.  : Temp:24.3'C Humi:58% Press:101.50kPa
Limit        : EN 55022B QP          LINE Phase:NEUTRAL
Engineer     : Leo
EUT          : POWER SUPPLY
Power        : AC 230V/50Hz
M/N          : LV5MK-12
Test Mode    : Full Load(Output:12V/0.4A)
```

| | Freq. (MHz) | LISN Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuv/m) | Limits (dBuv/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 1.34 | 9.61 | 9.81 | 16.32 | 35.74 | 46.00 | 10.26 | Average |
| 2 | 1.34 | 9.61 | 9.81 | 29.58 | 49.00 | 56.00 | 7.00 | QP |
| 3 | 1.80 | 9.62 | 9.82 | 15.50 | 34.94 | 46.00 | 11.06 | Average |
| 4 | 1.80 | 9.62 | 9.82 | 29.56 | 49.00 | 56.00 | 7.00 | QP |

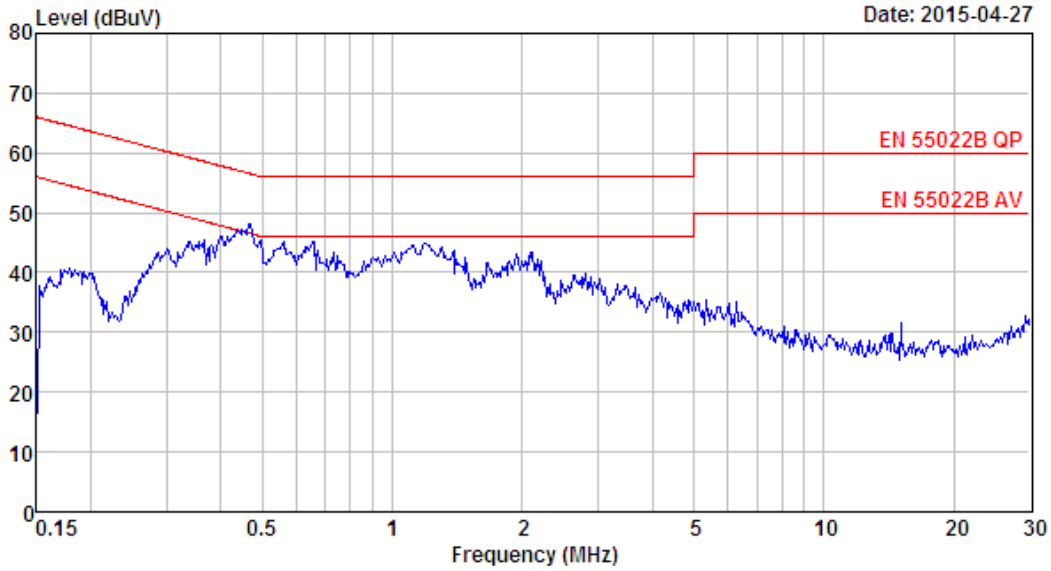



```
Site no      : 844 Shield Room
Env. / Ins.  : Temp:24.3'C Humi:58% Press:101.50kPa
Limit        : EN 55022B QP          LINE Phase:LINE
Engineer     : Leo
EUT          : POWER SUPPLY
Power        : AC 230V/50Hz
M/N          : LV5MK-12
Test Mode    : Full Load(Output:12V/0.4A)
```

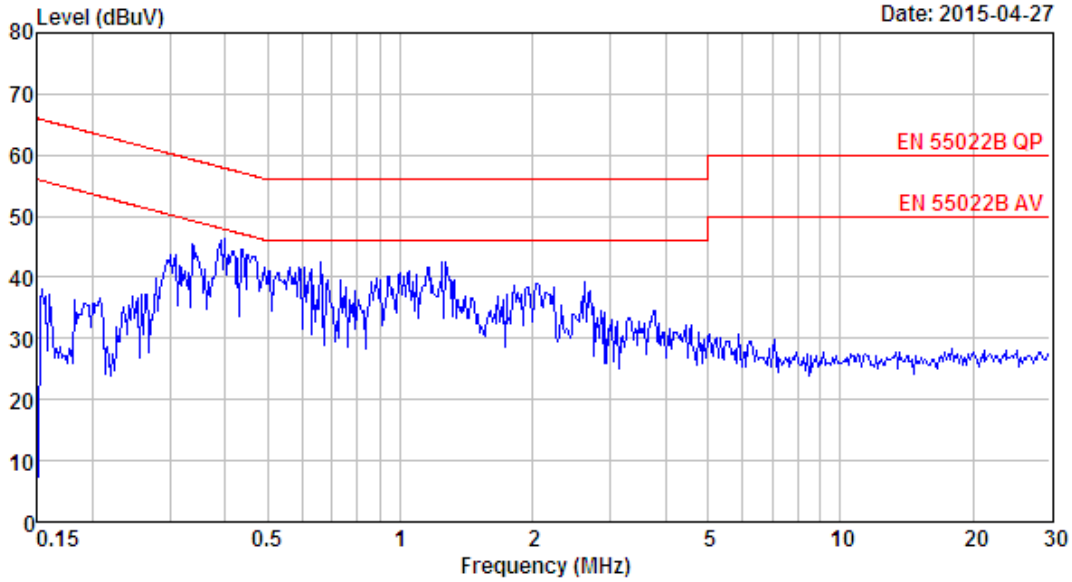
| | Freq. (MHz) | LISN Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuv/m) | Limits (dBuv/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 1.27 | 9.63 | 9.83 | 12.54 | 32.00 | 46.00 | 14.00 | Average |
| 2 | 1.27 | 9.63 | 9.83 | 31.69 | 51.15 | 56.00 | 4.85 | QP |
| 3 | 1.83 | 9.61 | 9.83 | 14.56 | 34.00 | 46.00 | 12.00 | Average |
| 4 | 1.83 | 9.61 | 9.83 | 33.38 | 52.82 | 56.00 | 3.18 | QP |



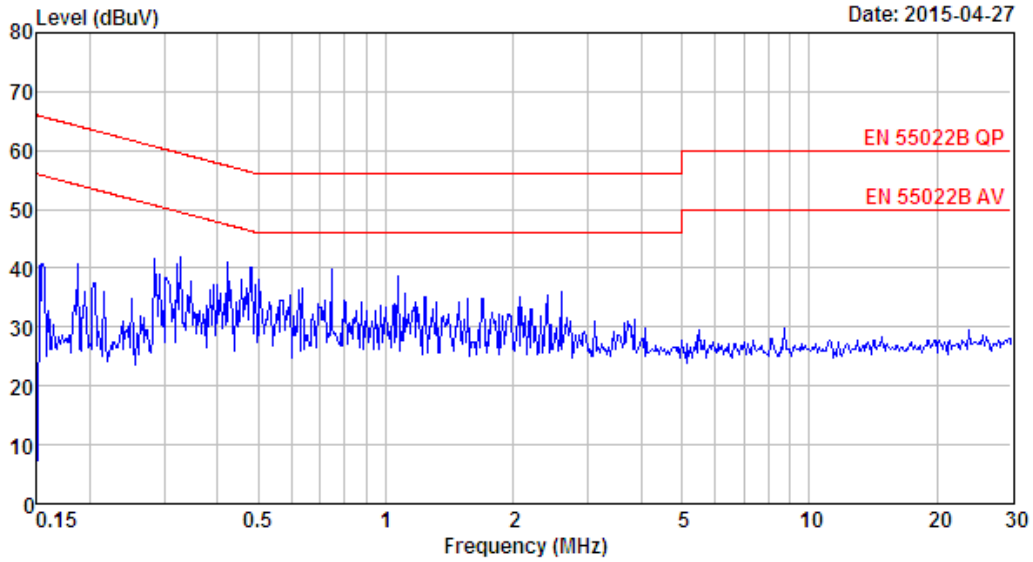

```
Site no      : 844 Shield Room
Env. / Ins.  : Temp:24.3'C Humi:58% Press:101.50kPa
Limit        : EN 55022B QP          LINE Phase:NEUTRAL
Engineer     : Leo
EUT          : POWER SUPPLY
Power        : AC 230V/50Hz
M/N          : LV5MK-9
Test Mode    : Half Load(Output:9V/0.25A)
```




```
Site no      : 844 Shield Room
Env. / Ins.  : Temp:24.3'C Humi:58% Press:101.50kPa
Limit        : EN 55022B QP          LINE Phase:LINE
Engineer     : Leo
EUT          : POWER SUPPLY
Power        : AC 230V/50Hz
M/N          : LV5MK-9
Test Mode    : Half Load(Output:9V/0.25A)
```




```
Site no      : 844 Shield Room
Env. / Ins.  : Temp:24.3'C Humi:58% Press:101.50kPa
Limit        : EN 55022B QP          LINE Phase:LINE
Engineer     : Leo
EUT          : POWER SUPPLY
Power        : AC 230V/50Hz
M/N          : LV5MK-9
Test Mode    : No Load
```




```
Site no      : 844 Shield Room
Env. / Ins.  : Temp:24.3'C Humi:58% Press:101.50kPa
Limit        : EN 55022B QP          LINE Phase:NEUTRAL
Engineer     : Leo
EUT          : POWER SUPPLY
Power        : AC 230V/50Hz
M/N          : LV5MK-9
Test Mode    : No Load
```

## 4.2. Radiated Emission Test

| | | |
|---|---|---|
| **RESULT** | **:** | **Pass** |
| Test procedure | : | EN 55022:2010 |
| Frequency range | : | 30～1000MHz |
| Test Site | : | 966 Chamber |
| Limits | : | EN 55022:2010 Class B |

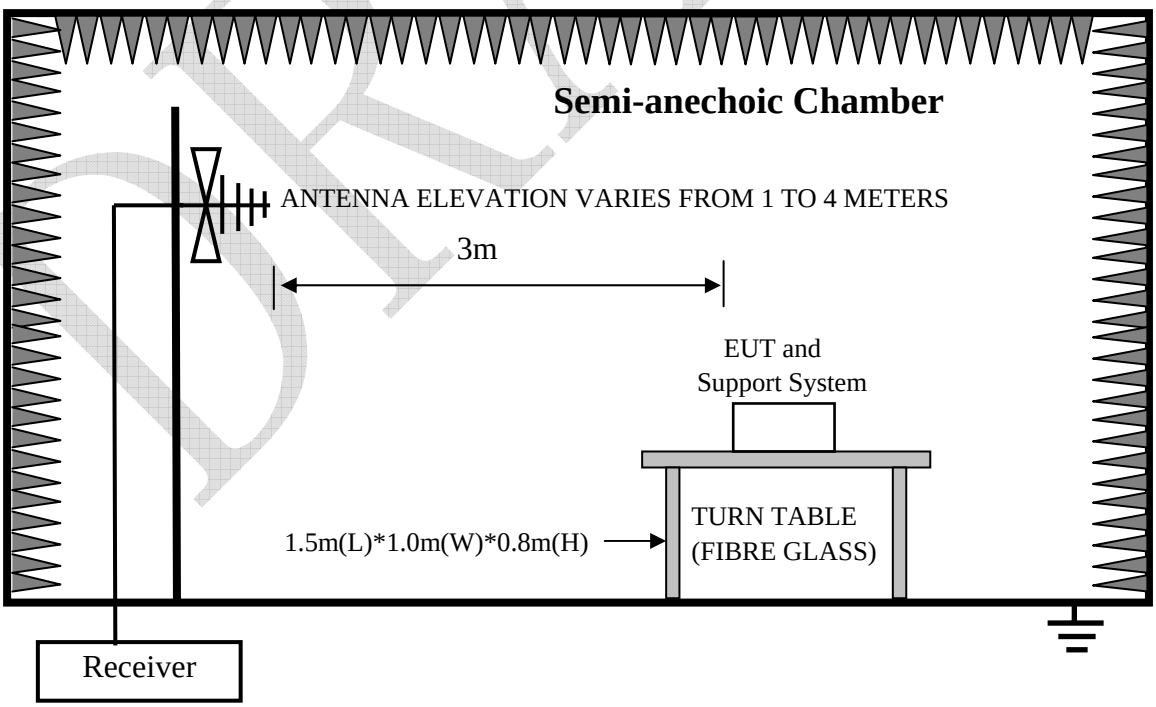
**Test Setup**

| | | |
|---|---|---|
| Date of test | : | Apr. 27, 2015 |
| Model No. | : | LV5MK-5, LV5MK-9, LV5MK-12, LV5MK-15, LV5MK-24 |
| Input Voltage | : | AC 230V/50Hz |
| Operation Mode | : | Full/ Half/ No Load |

The EUT was placed on a turn table which was 0.8 m above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 m distance from the receiving antenna which was mounted on an antenna tower. The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 m to 4 m for both horizontal and vertical polarizations.

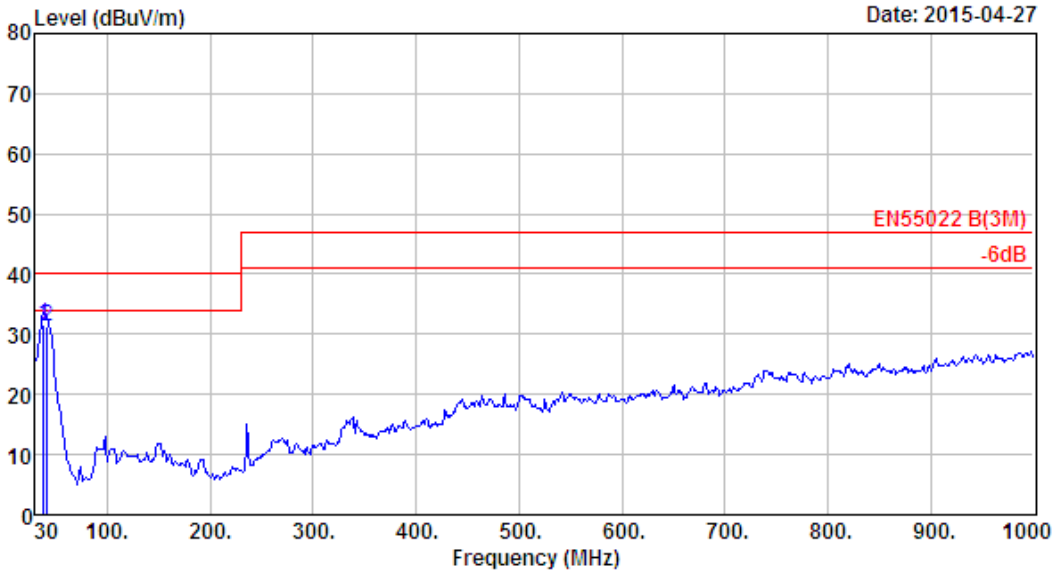
The EUT was tested in the Chamber Site. It was pre-scanned with a Peak detector from the spectrum, and all the final readings from the test receiver were measured with the Quasi-Peak detector.

The bandwidth setting on the test receiver was 120 kHz.



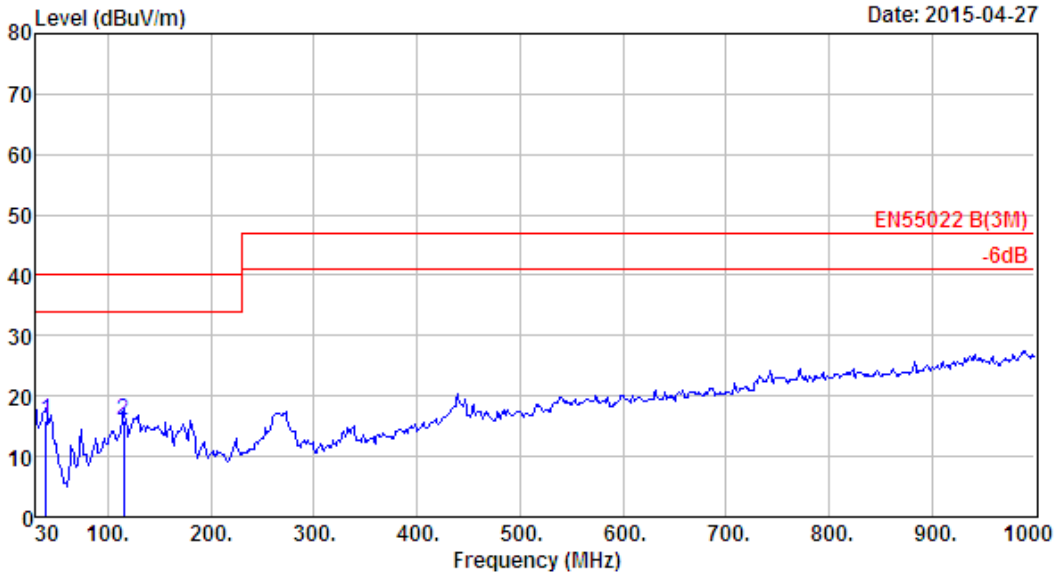

**Note:Test uncertainty: ±3.62dB at a level of confidence of 95%**

# Test Data



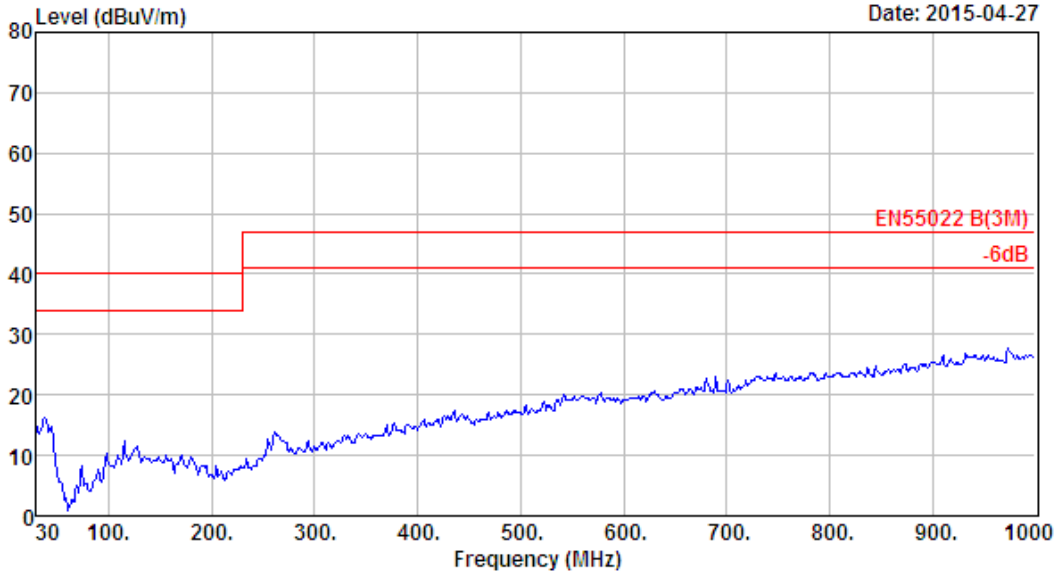

Site no. : 1# 966 chamber Data no. : 11
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : EN55022 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Leo
EUT : POWER SUPPLY
Power : AC 230V/50Hz
M/N : LV5MK-9
Test Mode : Full Load(Output:9V/0.5A)

| | Freq. (MHz) | ANT Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 37.76 | 14.05 | 0.79 | 16.76 | 31.60 | 40.00 | 8.40 | QP |
| 2 | 41.64 | 11.75 | 0.85 | 18.56 | 31.16 | 40.00 | 8.84 | QP |

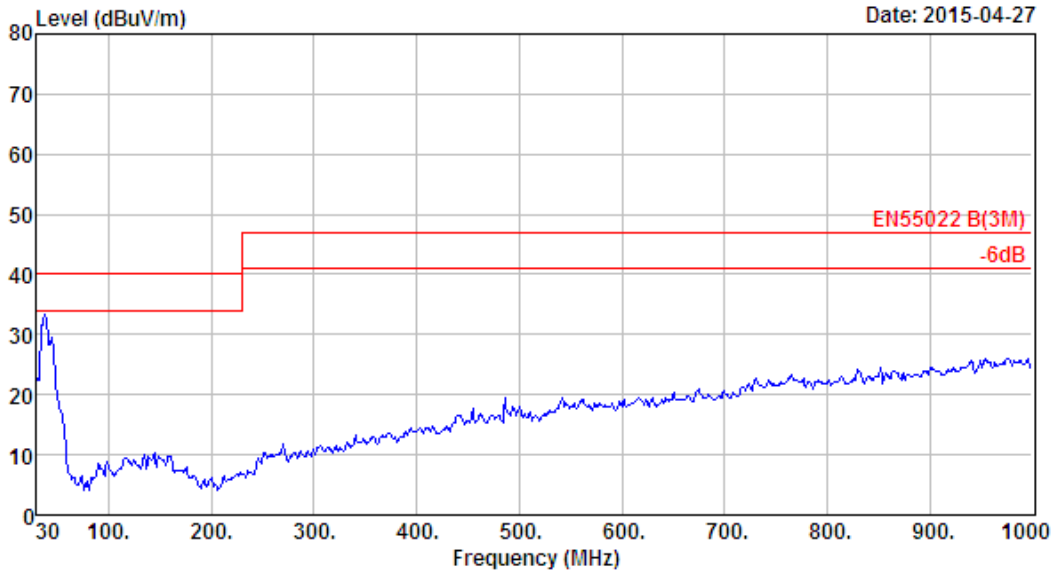



Site no. : 1# 966 chamber Data no. : 12
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : EN55022 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Leo
EUT : POWER SUPPLY
Power : AC 230V/50Hz
M/N : LV5MK-9
Test Mode : Full Load(Output:9V/0.5A)

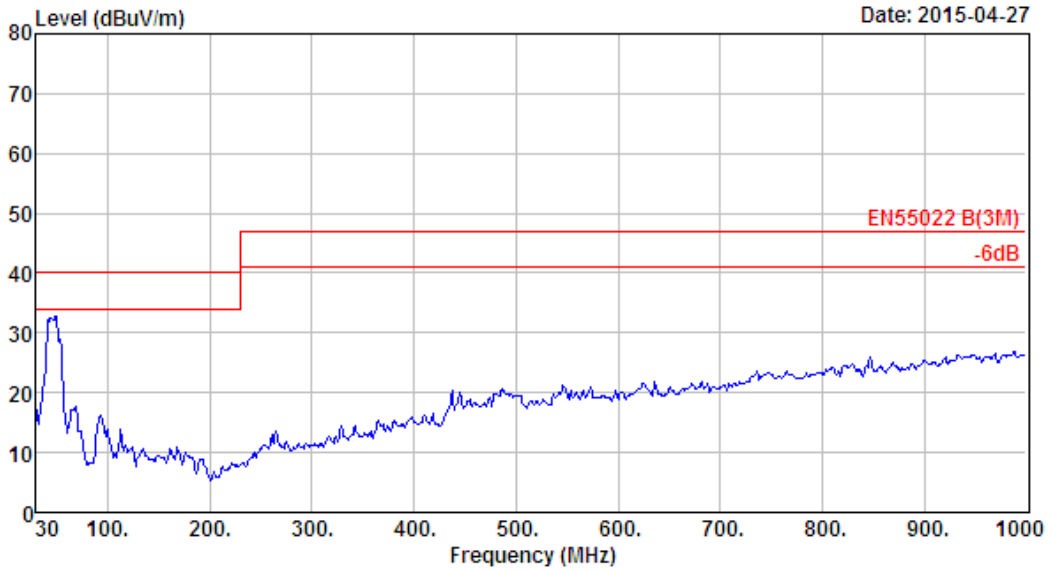
| | Freq. (MHz) | ANT Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 39.70 | 12.90 | 0.81 | 2.34 | 16.05 | 40.00 | 23.95 | QP |
| 2 | 115.36 | 10.93 | 1.46 | 3.59 | 15.98 | 40.00 | 24.02 | QP |



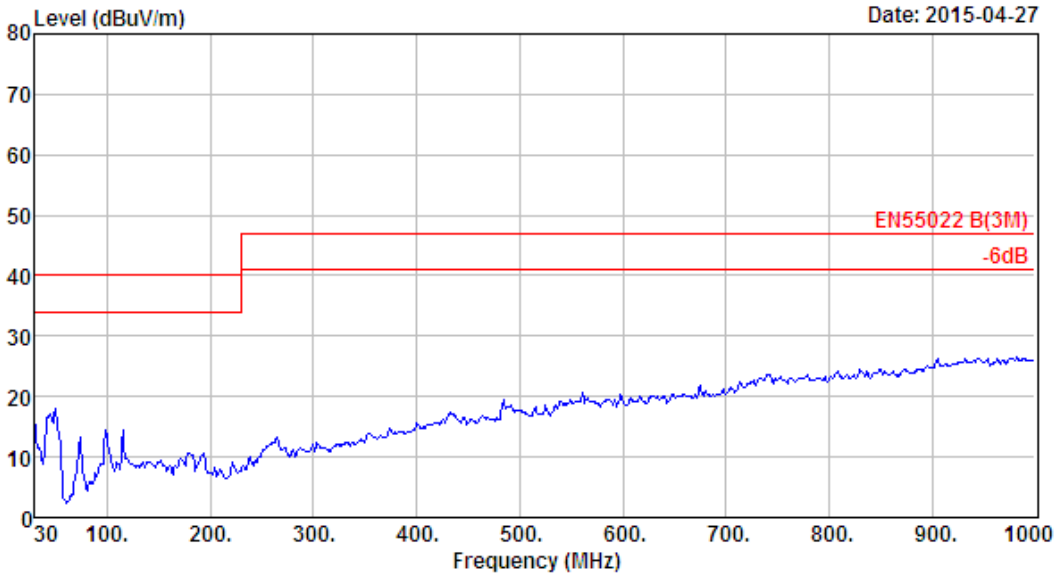

```
Site no.       : 1# 966 chamber              Data no.  : 13
Dis. / Ant.    : 3m   27137                  Ant. pol. : VERTICAL
Limit          : EN55022 B(3M)
Env. / Ins.    : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer       : Leo
EUT            : POWER SUPPLY
Power          : AC 230V/50Hz
M/N            : LV5MK-5
Test Mode      : Full Load(Output:5V/0.8A)
```



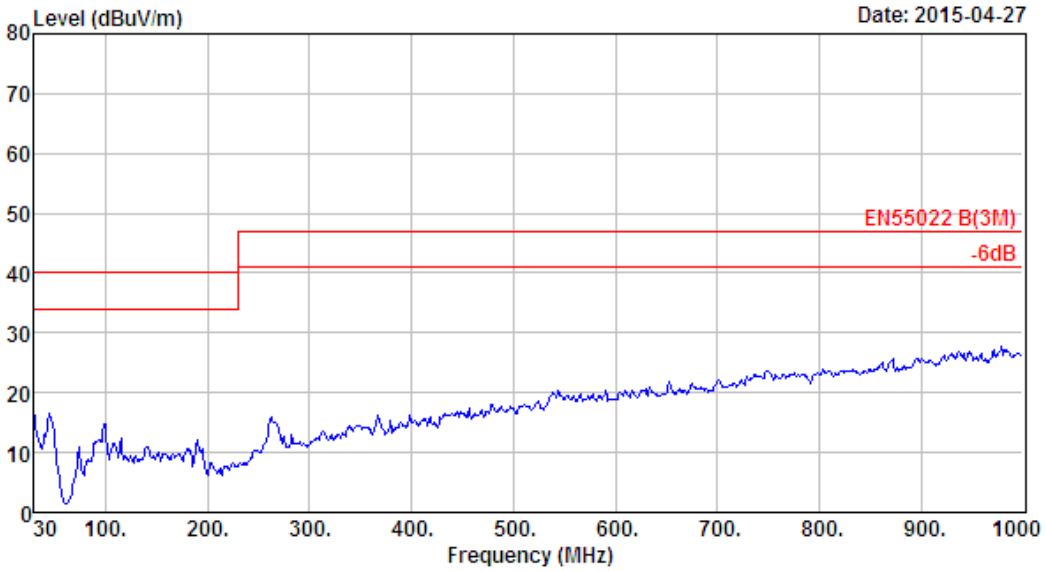

```
Site no.      : 1# 966 chamber              Data no.  : 14
Dis. / Ant.   : 3m   27137                  Ant. pol. : HORIZONTAL
Limit         : EN55022 B(3M)
Env. / Ins.   : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer      : Leo
EUT           : POWER SUPPLY
Power         : AC 230V/50Hz
M/N           : LV5MK-5
Test Mode     : Full Load(Output:5V/0.8A)
```



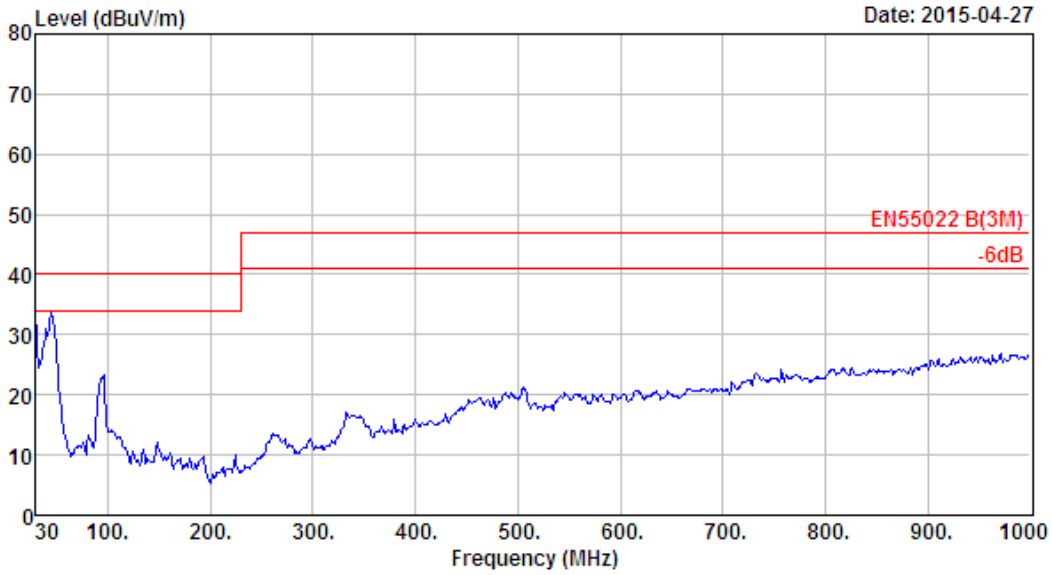

```
Site no.      : 1# 966 chamber              Data no.  : 15
Dis. / Ant.   : 3m   27137                  Ant. pol. : VERTICAL
Limit         : EN55022 B(3M)
Env. / Ins.   : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer      : Leo
EUT           : POWER SUPPLY
Power         : AC 230V/50Hz
M/N           : LV5MK-24
Test Mode     : Full Load(Output:24V/0.21A)
```



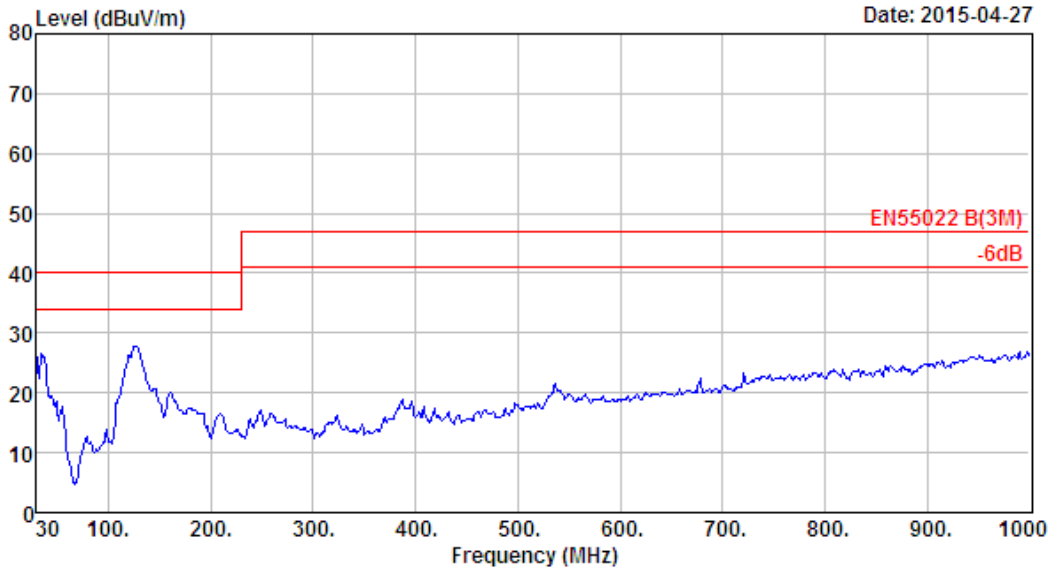

```
Site no.       : 1# 966 chamber              Data no.   : 16
Dis. / Ant.    : 3m   27137                  Ant. pol.  : HORIZONTAL
Limit          : EN55022 B(3M)
Env. / Ins.    : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer       : Leo
EUT            : POWER SUPPLY
Power          : AC 230V/50Hz
M/N            : LV5MK-24
Test Mode      : Full Load(Output:24V/0.21A)
```



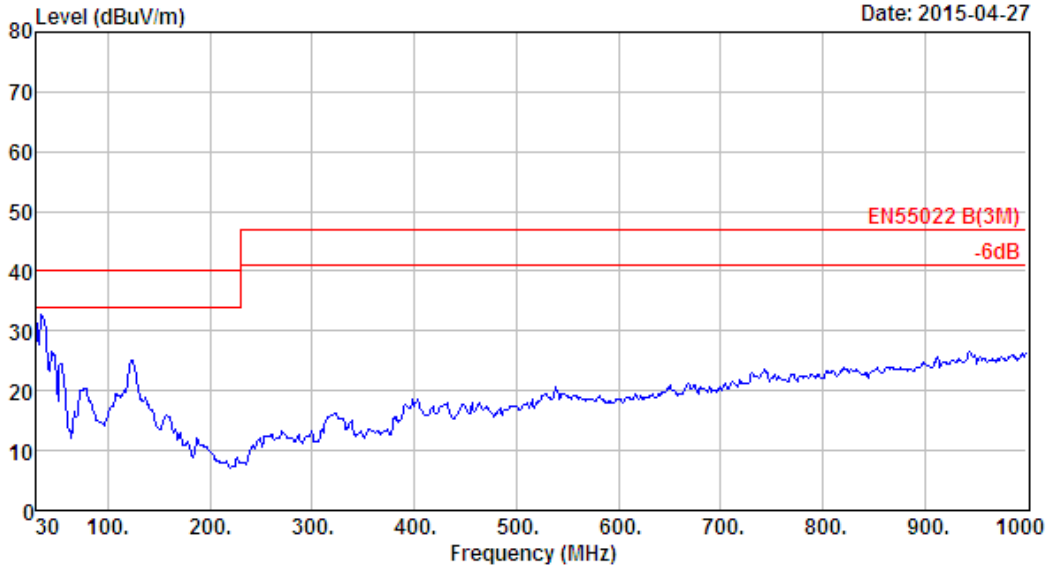

Site no. : 1# 966 chamber Data no. : 17
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL
Limit : EN55022 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Leo
EUT : POWER SUPPLY
Power : AC 230V/50Hz
M/N : LV5MK-15
Test Mode : Full Load(Output:15V/0.32A)



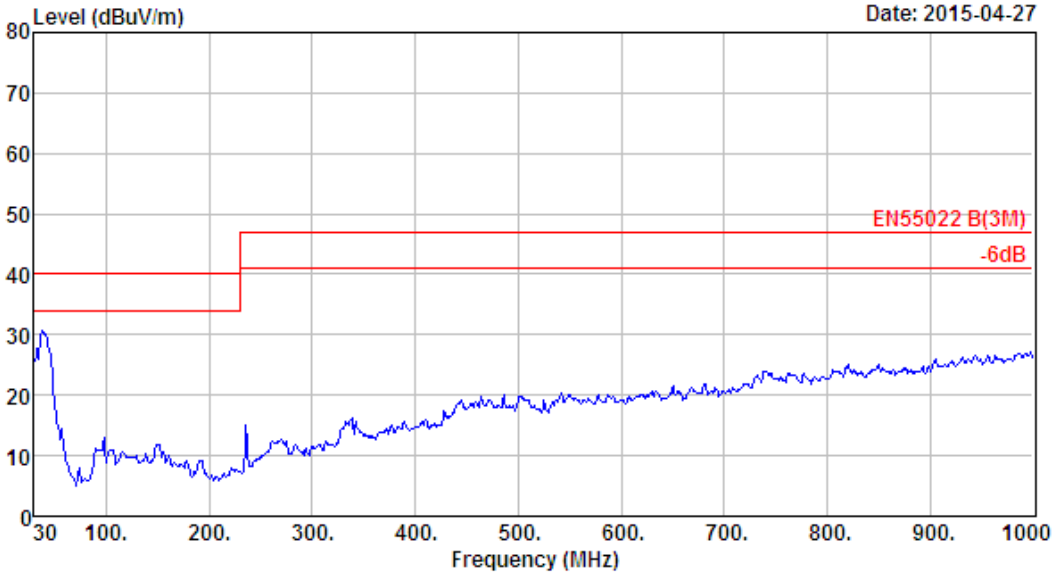

```
Site no.      : 1# 966 chamber              Data no.  : 18
Dis. / Ant.   : 3m   27137                  Ant. pol. : VERTICAL
Limit         : EN55022 B(3M)
Env. / Ins.   : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer      : Leo
EUT           : POWER SUPPLY
Power         : AC 230V/50Hz
M/N           : LV5MK-15
Test Mode     : Full Load(Output:15V/0.32A)
```



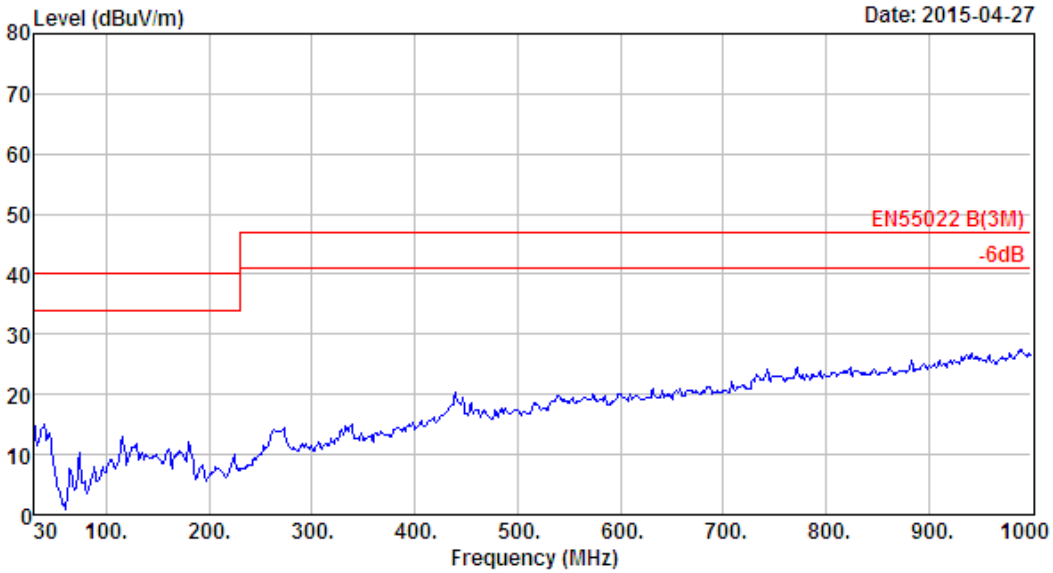

```
Site no.      : 1# 966 chamber              Data no.  : 19
Dis. / Ant.   : 3m   27137                  Ant. pol. : HORIZONTAL
Limit         : EN55022 B(3M)
Env. / Ins.   : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer      : Leo
EUT           : POWER SUPPLY
Power         : AC 230V/50Hz
M/N           : LV5MK-12
Test Mode     : Full Load(Output:12V/0.4A)
```



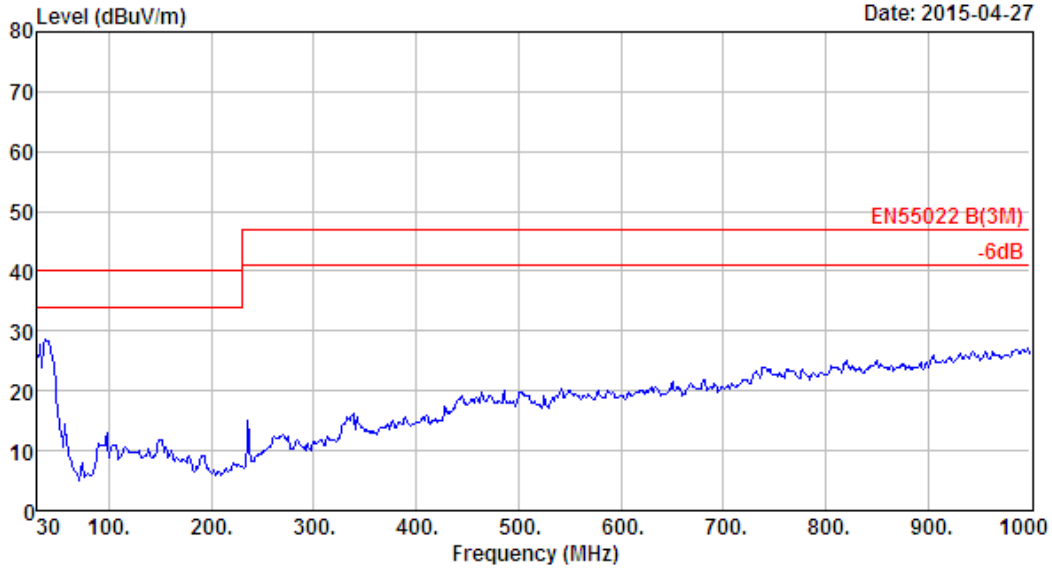

```
Site no.      : site                          Data no.   : 20
Dis. / Ant.   : 3m   27137                    Ant. pol.  : VERTICAL
Limit         : EN55022 B(3M)
Env. / Ins.   : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer      : Leo
EUT           : POWER SUPPLY
Power         : AC 230V/50Hz
M/N           : LV5MK-12
Test Mode     : Full Load(Output:12V/0.4A)
```



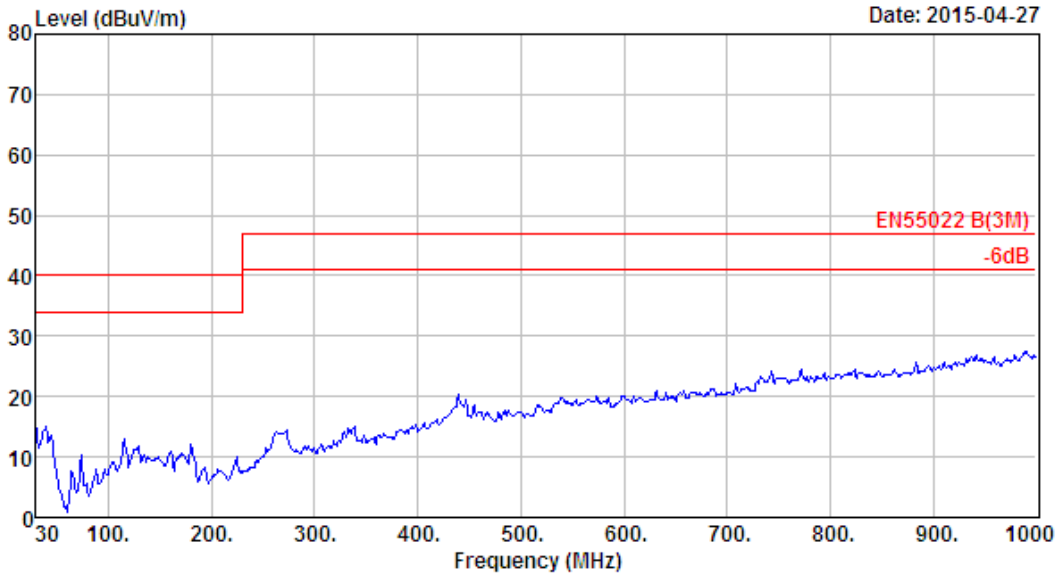

Site no. : 1# 966 chamber Data no. : 21
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL
Limit : EN55022 B(3M)
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer : Leo
EUT : POWER SUPPLY
Power : AC 230V/50Hz
M/N : LV5MK-9
Test Mode : Half Load(Output:9V/0.25A)




```
Site no.       : 1# 966 chamber              Data no.   : 22
Dis. / Ant.    : 3m   27137                  Ant. pol.  : HORIZONTAL
Limit          : EN55022 B(3M)
Env. / Ins.    : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer       : Leo
EUT            : POWER SUPPLY
Power          : AC 230V/50Hz
M/N            : LV5MK-9
Test Mode      : Half Load(Output:9V/0.25A)
```



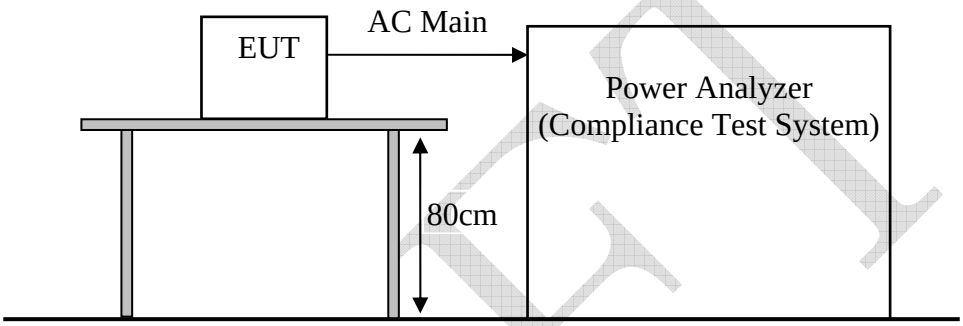

```
Site no.      : 1# 966 chamber              Data no.  : 23
Dis. / Ant.   : 3m   27137                  Ant. pol. : VERTICAL
Limit         : EN55022 B(3M)
Env. / Ins.   : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer      : Leo
EUT           : POWER SUPPLY
Power         : AC 230V/50Hz
M/N           : LV5MK-9
Test Mode     : No Load
```




```
Site no.      : 1# 966 chamber              Data no.   : 24
Dis. / Ant.   : 3m   27137                  Ant. pol.  : HORIZONTAL
Limit         : EN55022 B(3M)
Env. / Ins.   : Temp:23.6';Humi:56%;Press:101.52kPa
Engineer      : Leo
EUT           : POWER SUPPLY
Power         : AC 230V/50Hz
M/N           : LV5MK-9
Test Mode     : No Load
```

## 4.3. Harmonic Current Emissions on AC Mains Test

| | | |
|---|---|---|
| **RESULT** | **:** | **Pass** |
| Test procedure | : | EN 61000-3-2:2014 |
| Measured harmonics | : | 1～40th |
| Limits | : | EN 61000-3-2:2014 |




There is no need for Harmonics test to be performed on this product (rated power is less than 75W) in accordance with EN 61000-3-2:2014

For further details, please refer to Clause 7 of EN 61000-3-2:2014 which states:

"For the following categories of equipment, limits are not specified in this edition of the standard:

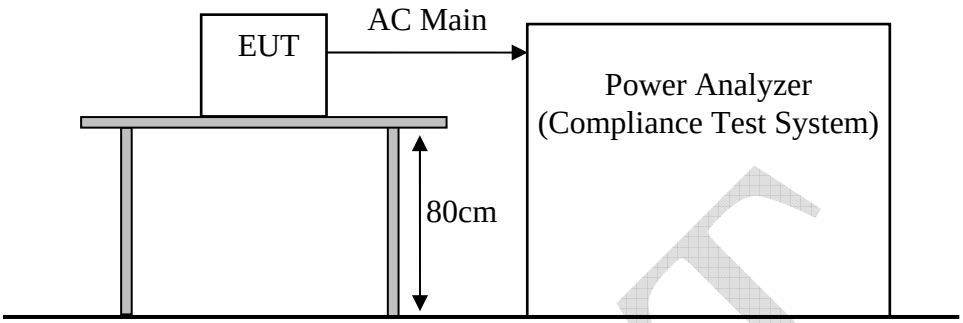
- equipment with a rated power of 75W or less, other than lighting equipment."

## 4.4. Voltage Fluctuations and Flicker on AC Mains Test

**RESULT** : **Pass(**Please refer to the following page**)**

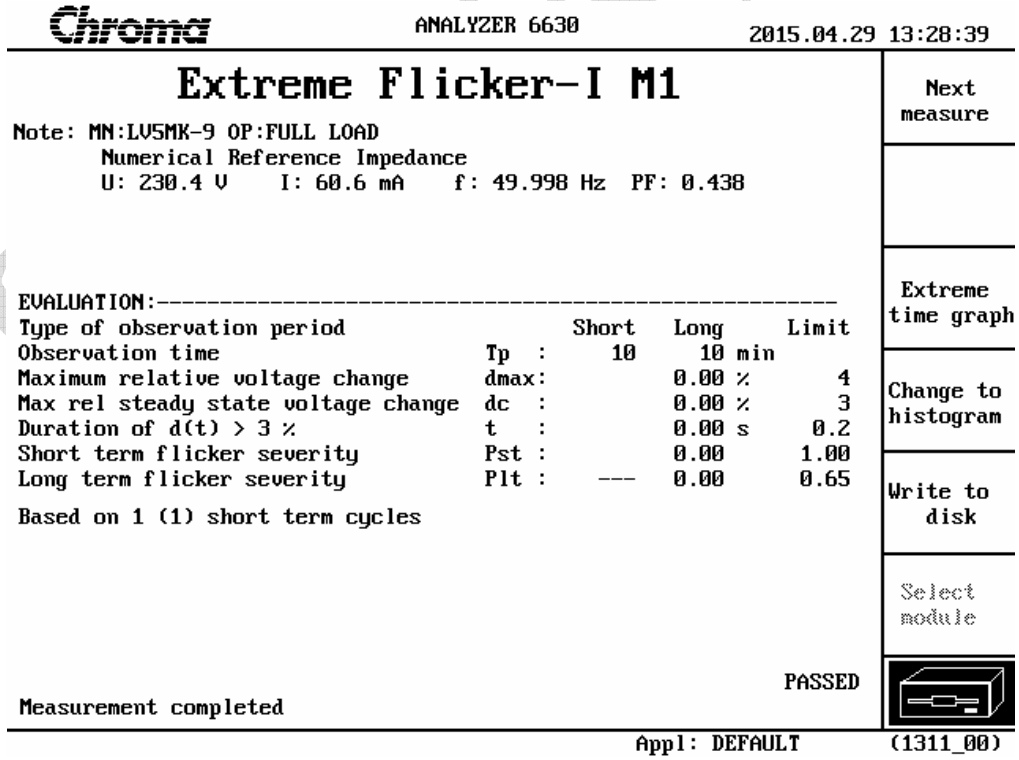
Test procedure : EN 61000-3-3:2013

Limits : EN 61000-3-3:2013




**Test Conditions**

| | | | |
|---|---|---|---|
| EUT: | POWER SUPPLY | Temperature: | 25℃ |
| Model No. : | LV5MK-9 | Humidity: | 55% |
| Test Mode : | Full Load | Pressure: | 101.35kPa |
| Date of test: | Apr. 29, 2015 | Test Engineer: | Leo |
| Operation Mode: | Full Load | Input Voltage: | AC 230V/50Hz |



# 5. IMMUNITY TEST RESULT

## 5.1. Description of Performance Criteria:

### Performance criteria A

During and after the test the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a minimum performance level specified by the manufacturer when the EUT 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 derived from the product description and documentation, and by what the user may reasonably expect from the EUT if used as intended.

### Performance criteria B

After the test, the EUT 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 manufacturer, when the EUT is used as intended. The performance level may be replaces by a permissible loss of performance.

During the test, degradation of performance is allowed. However, no change of operating 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 derived from the product description and documentation, and by what the user may reasonably except from the equipment if used as intended.

### Performance criteria C

During and after testing, a temporary loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls or cycling of the power to the EUT by the user in accordance with the manufacturer's instructions. Functions, and/or information stored in non-volatile memory, or protected by a backup, shall not be lost.

## 5.2. Electrostatic Discharge Immunity Test

| | | |
|---|---|---|
| **RESULT** | **:** | **Pass** |
| Test procedure | : | EN 55024:2010 |
| Basic standard | : | EN 61000-4-2:2009 |
| Test specification | : | +/-2.0kV ;+/-4.0kV(Contact discharge)<br>+/-2.0kV ; +/-4.0kV ; +/-6.0kV ;+/-8.0kV(Air discharge) |
| Number of discharges | : | ≥10(Air discharge for single polarity discharge)<br>≥25 (Contact discharge for single polarity discharge) |
| Polarity | : | Positive/Negative |
| Performance criterion | : | B |

**Test Setup**

| | | |
|---|---|---|
| Date of test | : | May 09, 2015 |
| Model No. | : | LV5MK-5, LV5MK-9, LV5MK-12, LV5MK-15, LV5MK-24 |
| Input Voltage | : | AC 230V/50Hz |
| Operation Mode | : | Full Load; Half Load; No Load |
| Temperature | : | 24.8℃ |
| Humidity | : | 56% |
| Pressure | : | 101.50kPa |

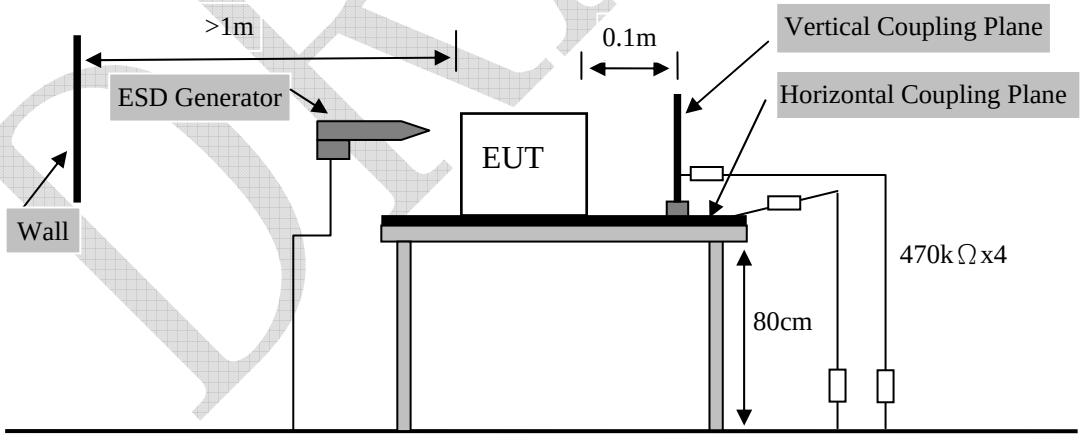


Table 1: Electrostatic Discharge Immunity Test Result

| **Discharge Location** | | **Type of Discharge** | **Result** |
|---|---|---|---|
| HCP | 4 points | Contact | Pass |
| VCP | 4 points | Contact | Pass |
| DC Port | 1 point | Contact | Pass |
| Slot | 2 points | Air | Pass |

## 5.3. Radio Frequency Electromagnetic Field Immunity Test

| | | |
|---|---|---|
| **RESULT** | **:** | **Pass** |
| Test procedure | : | EN 55024:2010 |
| Basic standard | : | EN 61000-4-3:2006+A1;2008+A2:2010 |
| Performance criterion | : | A |
| Test site | : | ITS |

**Test Setup**

| | | |
|---|---|---|
| Date of test | : | May 09, 2015 |
| Model No. | : | LV5MK-5, LV5MK-9, LV5MK-12, LV5MK-15, LV5MK-24 |
| Input Voltage | : | AC 230V/50Hz |
| Operation Mode | : | Full Load; Half Load; No Load |
| Temperature | : | 24.8℃ |
| Humidity | : | 56% |
| Pressure | : | 103.50kPa |

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The EUT was set 3 m away from the transmitting antenna which was mounted on an antenna tower. Both horizontal and vertical polarization of the antenna were set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually.

In order to judge the EUT performance, a CCD camera was used to monitor EUT screen.

All the scanning conditions were as follows**:**

| Condition of Test | Remarks |
|---|---|
| 1. Field Strength | 3 V/m (Severity Level 2) |
| 2. Radiated Signal | Modulated |
| 3. Scanning Frequency | 80 - 1000 MHz |
| 4. Sweeping time of radiated | 0.0015 decade/s |
| 5. Dwell Time | 3 Sec. |

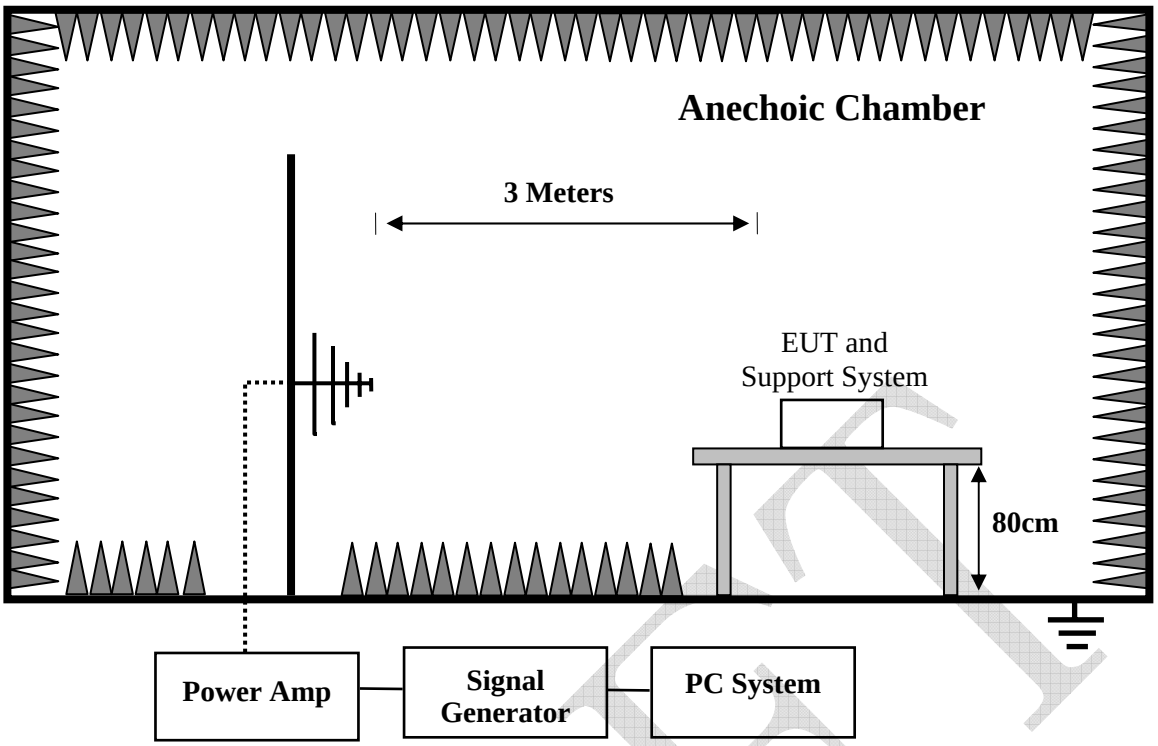



Table 2: Radio Frequency Electromagnetic Field Immunity Test Result

| Position | Modulated signal | Test level | Step | Result |
|---|---|---|---|---|
| Front | AM 80% 1kHz | 3 V/m | 1% | Pass |
| Right | | | | Pass |
| Rear | | | | Pass |
| Left | | | | Pass |

*Remark: There was no change compared with initial operation during the test.*

## 5.4. Electrical Fast Transient/Burst Immunity Test

| | | |
|---|---|---|
| **RESULT** | **:** | **Pass** |
| Test procedure | : | EN 55024:2010 |
| Basic standard | : | EN 61000-4-4:2012 |
| Pulseform | : | Tr/Th＝5/50ns |
| Repetition Frequency | : | 5kHz |
| Test Duration | : | 120s |
| Performance criterion | : | B |

**Test Setup**

| | | |
|---|---|---|
| Date of test | : | May 09, 2015 |
| Model No. | : | LV5MK-5, LV5MK-9, LV5MK-12, LV5MK-15, LV5MK-24 |
| Input Voltage | : | AC 230V/50Hz |
| Operation Mode | : | Full Load; Half Load; No Load |
| Temperature | : | 24.8℃ |
| Humidity | : | 55% |
| Pressure | : | 101.50kPa |

The EUT and its simulators were placed 0.1m high above the ground reference plane which was a min. 2m*2m metallic sheet with 0.65mm minimum thickness. This reference ground plane shall project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m.

1. For input and AC power ports:
   The EUT was connected to the power mains by using a coupling device which coupled the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test can't less than 2 mains.

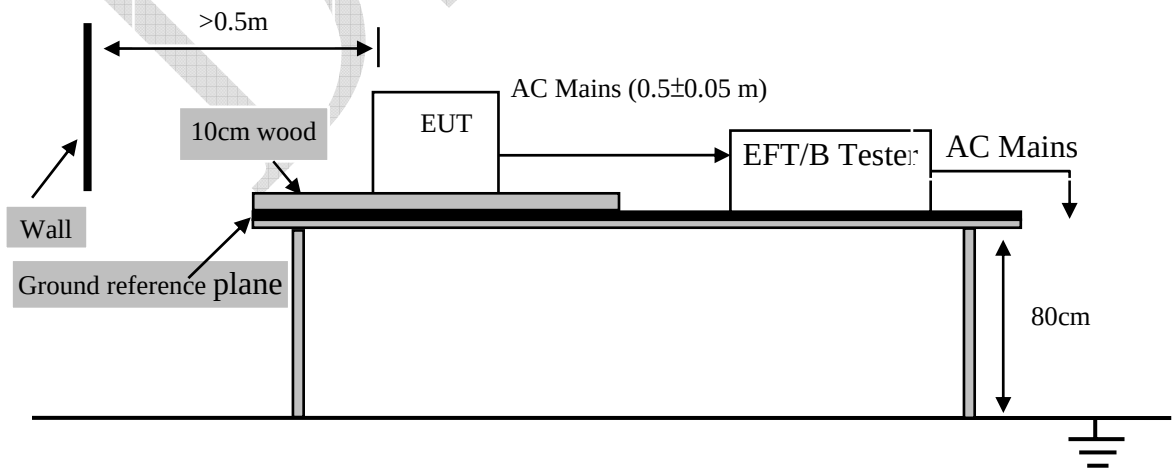


Table 3: Electrical Fast Transient/Burst Immunity Test Result

| Coupling Ports | | Coupling Voltage | Inject Method | Result |
|---|---|---|---|---|
| AC Power Ports | L-N | +/-1kV | Direct | Pass |

*Remark: There was no change compared with initial operation during the test.*

## 5.5. Surge Immunity Test

| | | |
|---|---|---|
| **RESULT** | **:** | **Pass** |
| Test procedure | : | EN 55024:2010 |
| Basic standard | : | EN 61000-4-5:2006 |
| Pulseform | : | Tr/Td＝1.2/50us |
| Test Duration | : | 60s |
| Performance criterion | : | B |

**Test Setup**

| | | |
|---|---|---|
| Date of test | : | May 09, 2015 |
| Model No. | : | LV5MK-5, LV5MK-9, LV5MK-12, LV5MK-15, LV5MK-24 |
| Input Voltage | : | AC 230V/50Hz |
| Operation Mode | : | Full Load; Half Load; No Load |
| Temperature | : | 24.8℃ |
| Humidity | : | 56% |
| Pressure | : | 101.50kPa |

2Ω effective output impedance of the generator was used for L-N test.12Ω effective output impedance of the generator was used for L-PE,N-PE test.

5 positive and 5 negative (polarity) tests were applied successively synchronized to the voltage phase 0°, 90°, 180°, 270° to L-N respectively. The repetition rate was 1 per minute during test.

1. For input and AC power ports:
   The EUT was connected to the power mains by using a coupling device which coupled the surge interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration was 1 minute.
2. For signal lines and control lines ports:
   None.
3. For DC input and DC output power ports:
   None.

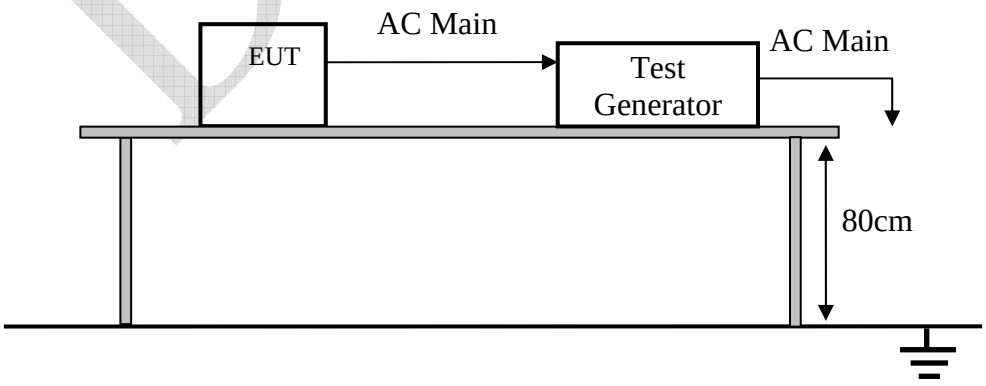


Table 4: Surge Immunity Test Result

| Coupling Ports | | Coupling Voltage | Coupling Phase / Result | | | |
|---|---|---|---|---|---|---|
| | | | 0° | 90° | 180° | 270° |
| AC power ports | L-N | +/-1kV Direct | Pass | Pass | Pass | Pass |

*Remark: There was no change compared with initial operation during the test*

## 5.6. Injected Currents Susceptibility Test

| | | |
|---|---|---|
| **RESULT** | **:** | **Pass** |
| Test procedure | : | EN 55024:2010 |
| Basic standard | : | EN 61000-4-6:2009 |
| Test specification | : | 3V(r.m.s) unmodulated,1kHz sinusoidal signal, AM 80%, 0.15MHz ~ 80MHz |
| Performance criterion | : | A |

**Test Setup**

| | | |
|---|---|---|
| Date of test | : | May 09, 2015 |
| Model No. | : | LV5MK-5, LV5MK-9, LV5MK-12, LV5MK-15, LV5MK-24 |
| Input Voltage | : | AC 230V/50Hz |
| Operation Mode | : | Full Load; Half Load; No Load |
| Temperature | : | 24.8℃ |
| Humidity | : | 546% |
| Pressure | : | 101.50kPa |

The EUT were placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) was placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT were as short as possible, and their height above the ground reference plane were between 30 and 50 mm (where possible).

The frequency range was swept from 150KHz to 80MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1KHz sine wave.

The rate of sweep shall not exceed $1.5*10^{-3}$decades/s.Where the frequency was swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.

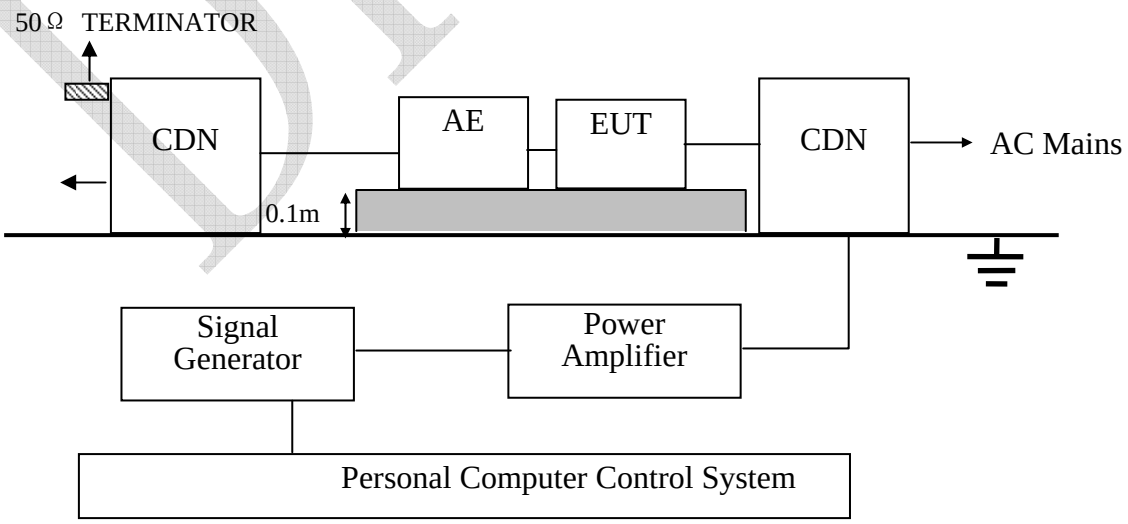


Table 5: Injected Currents Susceptibility Test Result

| Coupling ports | Voltage (r.m.s) | Modulation | Freq. step | Dwell time | Coupling method | Result |
|---|---|---|---|---|---|---|
| AC power ports | 3V | 1kHz AM 80% | 1% | 1.5s | CDN | Pass |
| DC power ports | / | | / | / | EM Clamp | / |
| Signal/control | / | | / | / | EM Clamp | / |

*Remark: There was no change compared with initial operation during the test*

## 5.7. Power Frequency Magnetic Field Immunity Test

| | | |
|---|---|---|
| **RESULT** | **:** | **Pass** |
| Test procedure | : | EN 55024:2010 |
| Basic standard | : | EN 61000-4-8:2010 |
| Test specification | : | 1 A/m |
| Performance criterion | : | A |

**Test Setup**

| | | |
|---|---|---|
| Date of test | : | May 09, 2015 |
| Model No. | : | LV5MK-5, LV5MK-9, LV5MK-12, LV5MK-15, LV5MK-24 |
| Input Voltage | : | AC 230V/50Hz |
| Operation Mode | : | Full Load; Half Load; No Load |
| Temperature | : | 24.8℃ |
| Humidity | : | 56% |
| Pressure | : | 101.50kPa |

The EUT was subjected to the test magnetic field by using the induction coil of standard dimensions (1m*1m). The induction coil then was rotated by 90° in order to expose the EUT to the test field with different orientations.

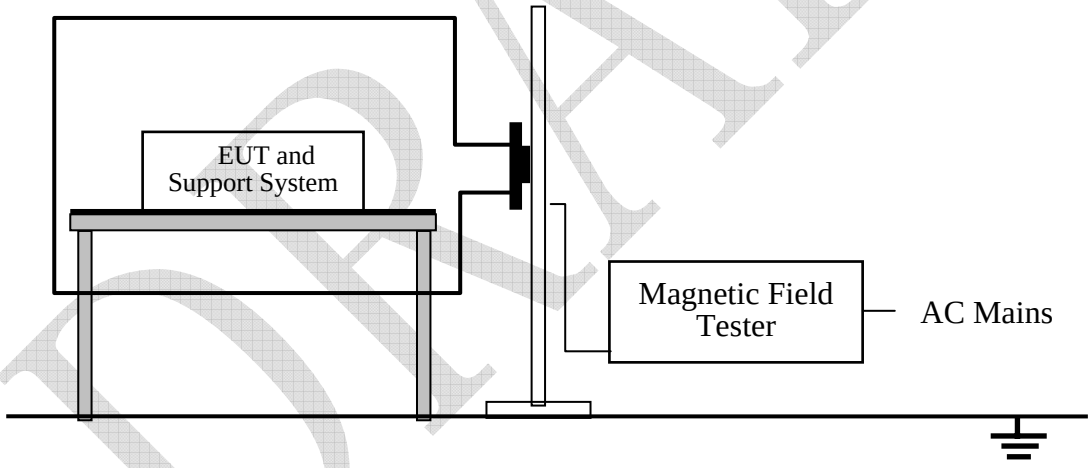



Table 6: Power Frequency Magnetic Field Immunity Test Result

| Test Level | Testing Duration | Coil Orientation | Criterion | Result |
|---|---|---|---|---|
| 1A/m | 5 mins | X | A | Pass |
| 1A/m | 5 mins | Y | A | Pass |
| 1A/m | 5 mins | Z | A | Pass |

*Remark: There was no change compared with initial operation during the test*

## 5.8. Voltage Dips and Short Interruptions Immunity Test

| | | |
|---|---|---|
| **RESULT** | **:** | **Pass** |
| Test procedure | : | EN 55024:2010 |
| Basic standard | : | EN 61000-4-11:2004 |
| Test specification | : | 0%$U_T$ / 0.5P, Criterion: B<br>70%$U_T$ / 25P, Criterion: C<br>0%$U_T$ / 250P, Criterion: C |

**Test Setup**

| | | |
|---|---|---|
| Date of test | : | May 09, 2015 |
| Model No. | : | LV5MK-5, LV5MK-9, LV5MK-12, LV5MK-15, LV5MK-24 |
| Input Voltage | : | AC 230V/50Hz |
| Operation Mode | : | Full Load; Half Load; No Load |
| Temperature | : | 24.8℃ |
| Humidity | : | 56% |
| Pressure | : | 101.50kPa |

The interruptions was introduced at selected phase angles with specified duration. Recorded any degradation of performance.

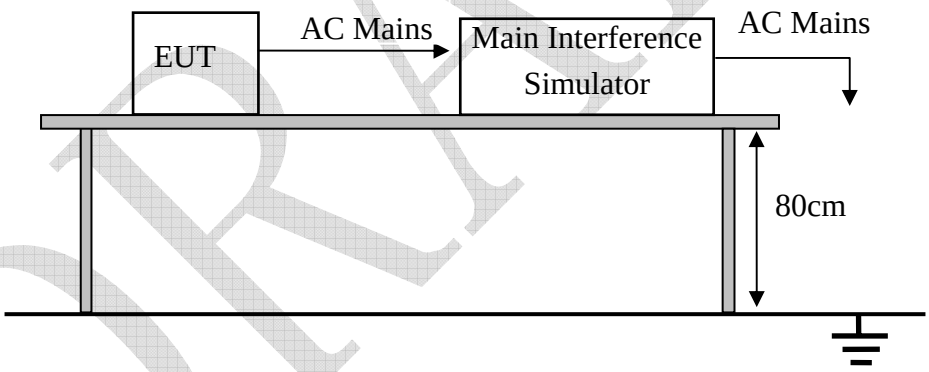



Table 7: Voltage Dips and Short Interruptions Immunity Test Result

| Test Level % UT | Voltage Dips & Short Interruptions % UT | Duration (in period) | Criterion | Result |
|---|---|---|---|---|
| 0 | 100 | 0.5P | B | PASS |
| 70 | 30 | 25P | C | PASS |
| 0 | 100 | 250P | C | PASS |

*Remark: The EUT was Stopped during the test, but self-recoverable after the test..*

# 6. PHOTOGRAPHS OF THE EUT

**Figure 1**
**General Appearance of the EUT**
**M/N: LV5MK-5**

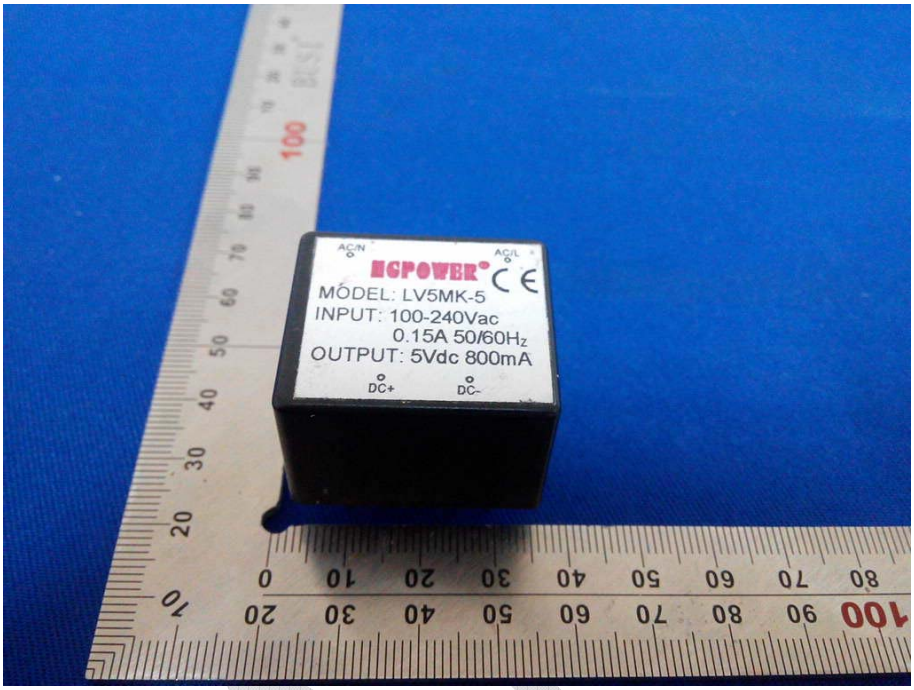



**Figure 2**
**General Appearance of the EUT**
**M/N: LV5MK-5**

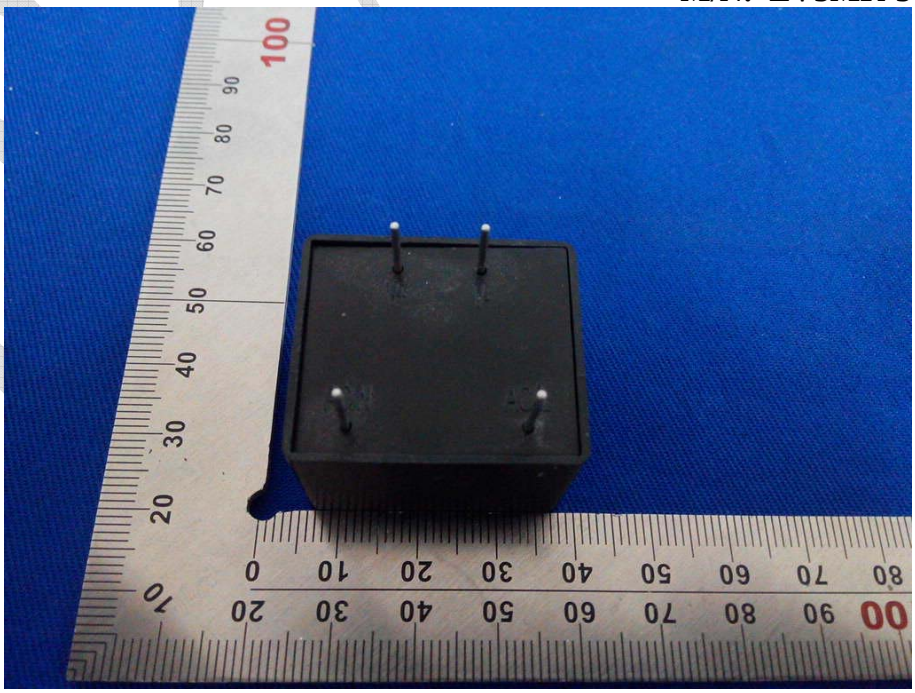


**Figure 3**
**Inside View of the EUT**
**M/N: LV5MK-5**

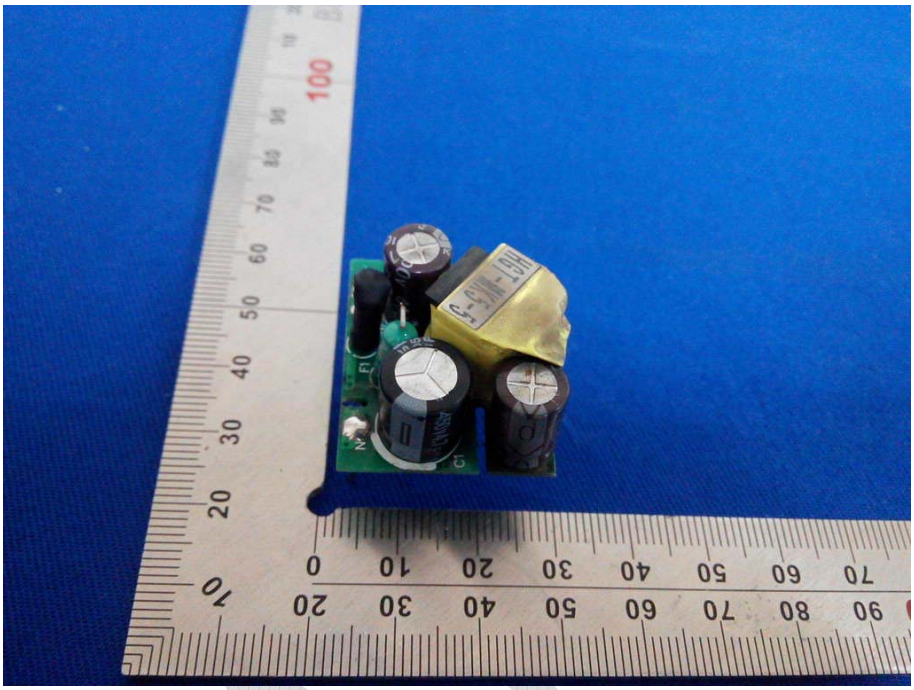


**Figure 4**
**Inside View of the EUT**
**M/N: LV5MK-5**

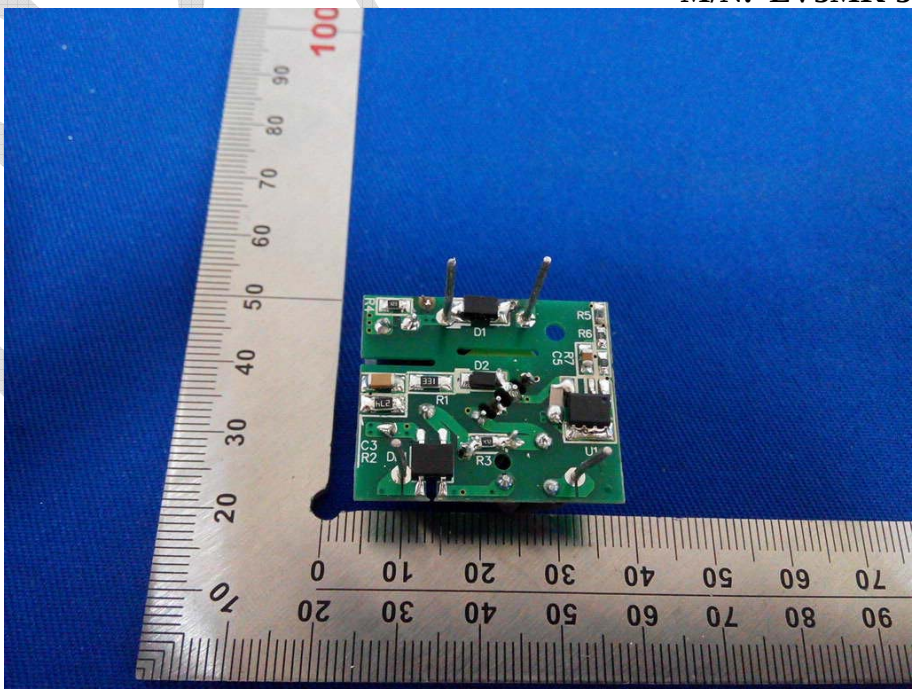


**Figure 5**
**General Appearance of the EUT**
**M/N: LV5MK-9**


**Figure 6**
**General Appearance of the EUT**
**M/N: LV5MK-9**

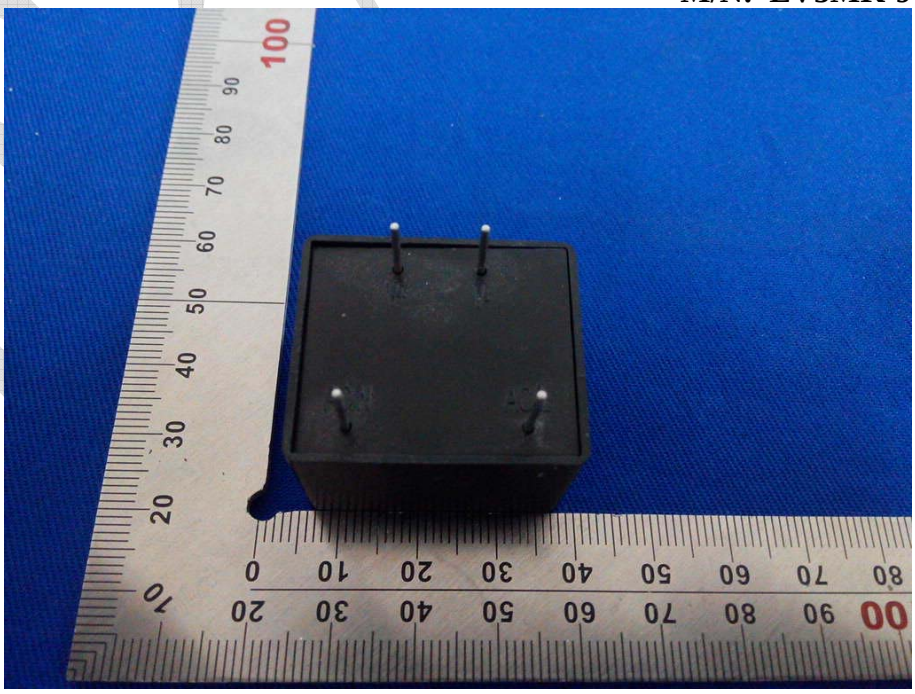


**Figure 7**
**Inside View of the EUT**
**M/N: LV5MK-9**

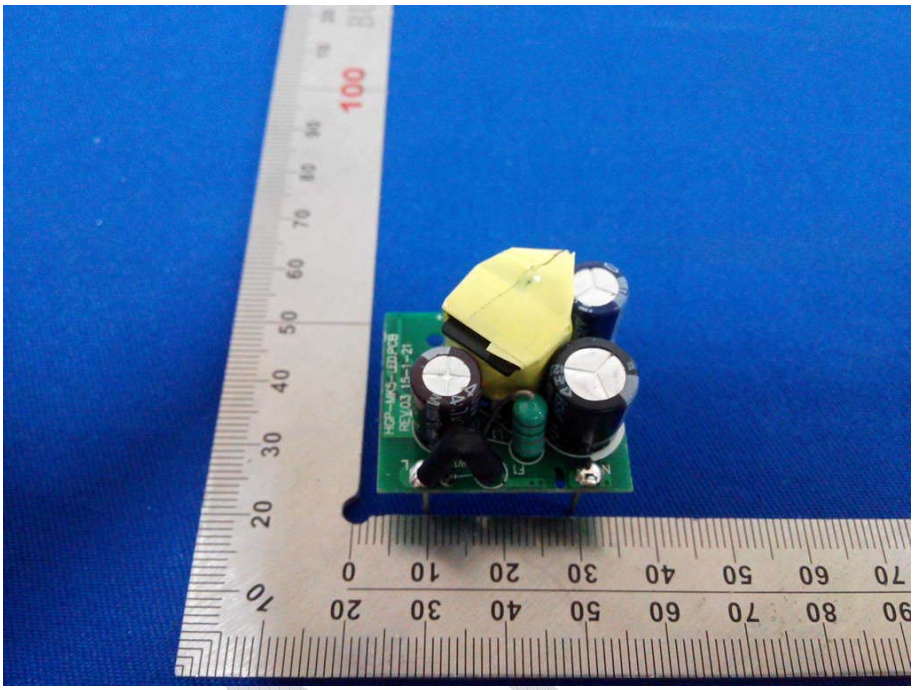


**Figure 8**
**Inside View of the EUT**
**M/N: LV5MK-9**

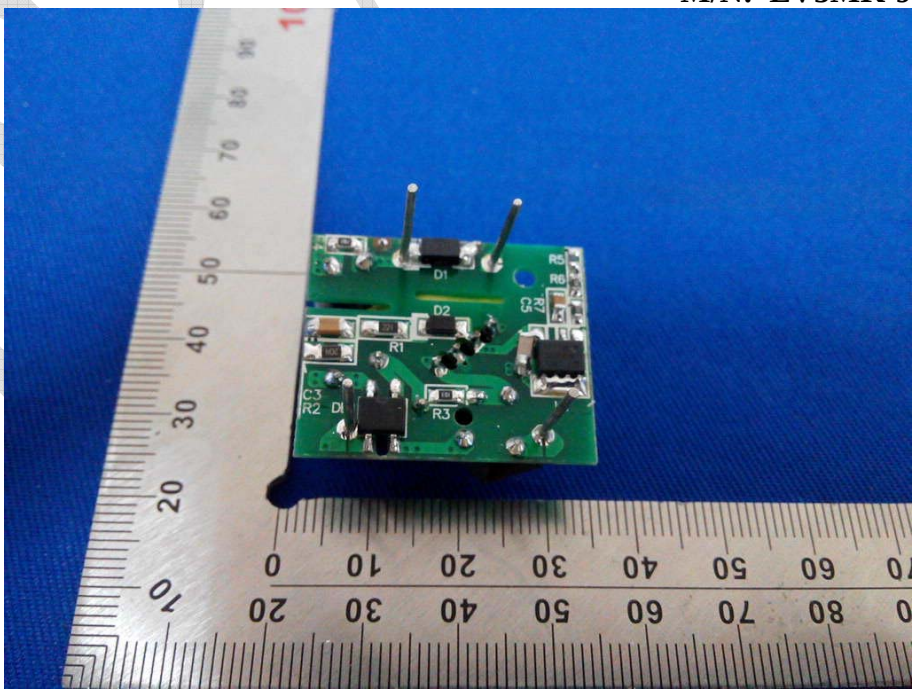


**Figure 9**
**General Appearance of the EUT**
**M/N: LV5MK-12**

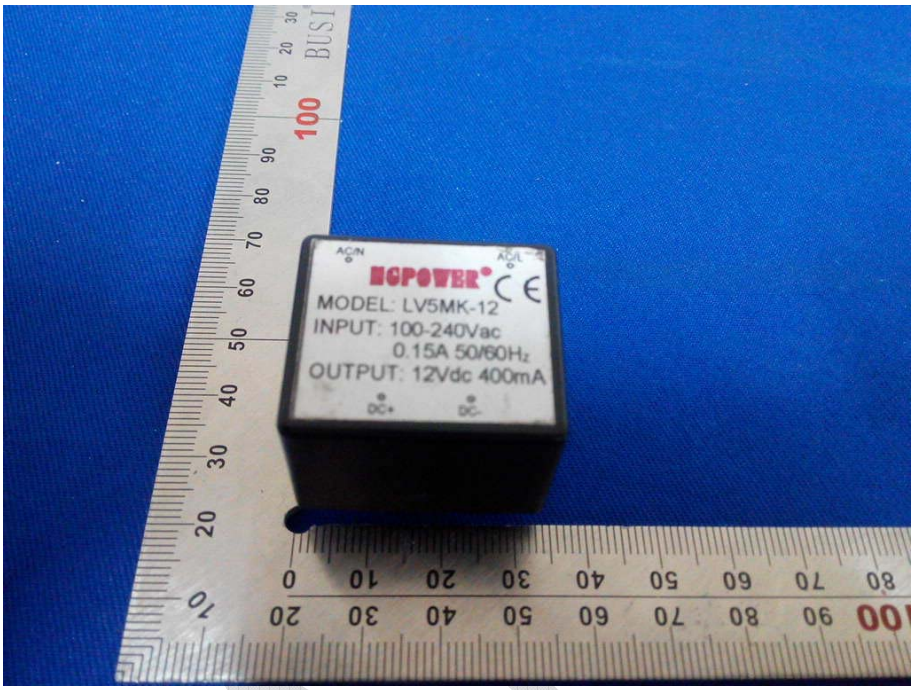



**Figure 10**
**General Appearance of the EUT**
**M/N: LV5MK-12**

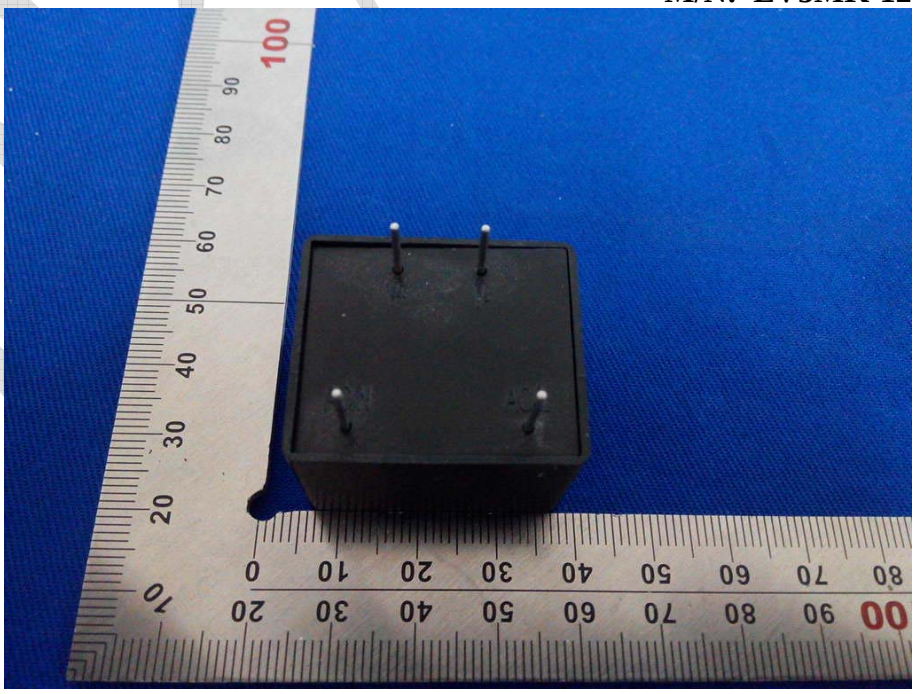


**Figure 11**
**Inside View of the EUT**
**M/N: LV5MK-12**

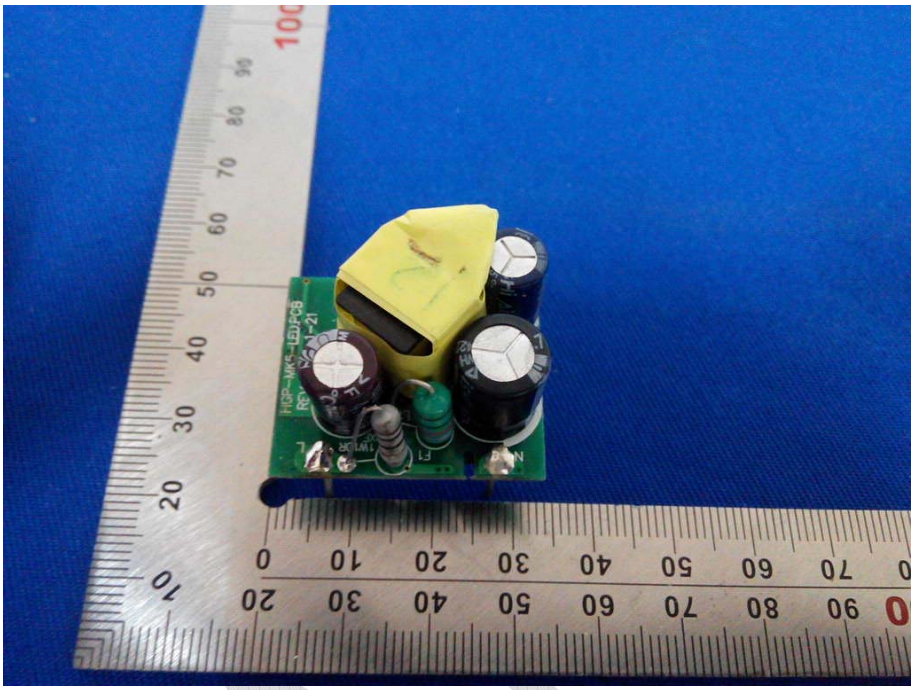


**Figure 12**
**Inside View of the EUT**
**M/N: LV5MK-12**

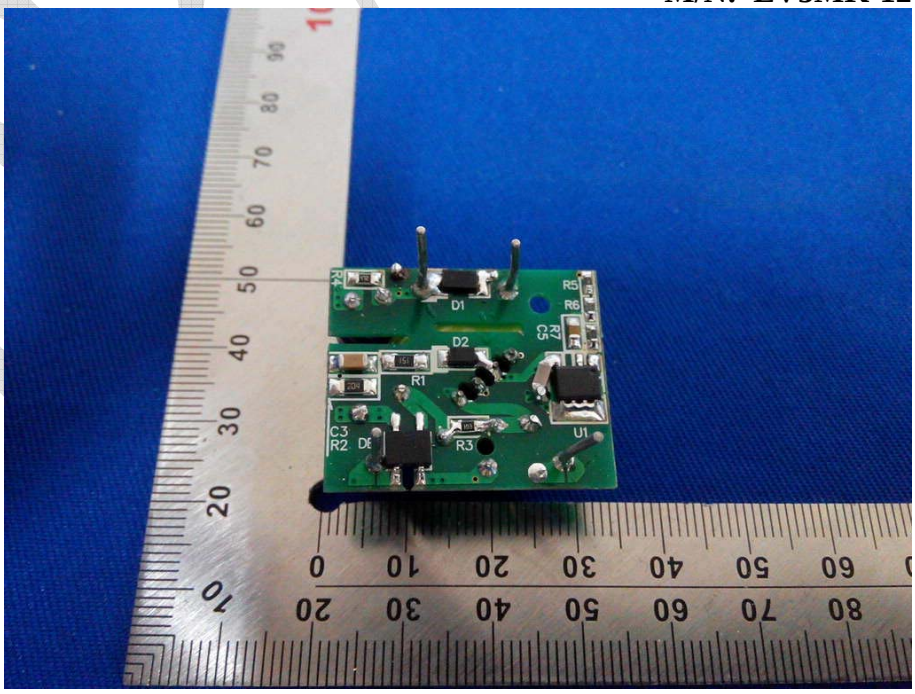


**Figure 13**
**General Appearance of the EUT**
**M/N: LV5MK-15**

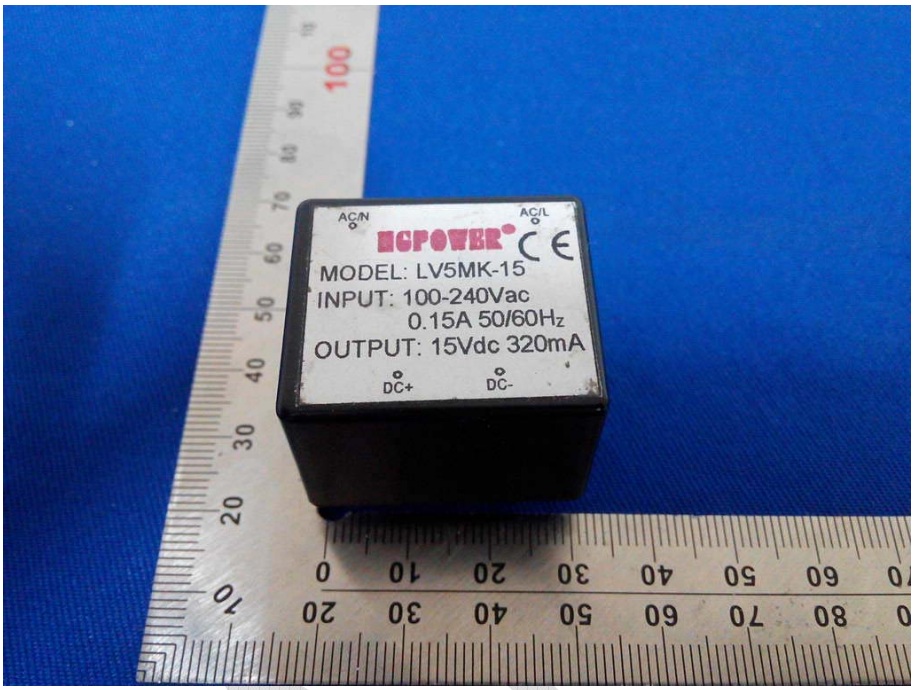



**Figure 14**
**General Appearance of the EUT**
**M/N: LV5MK-15**

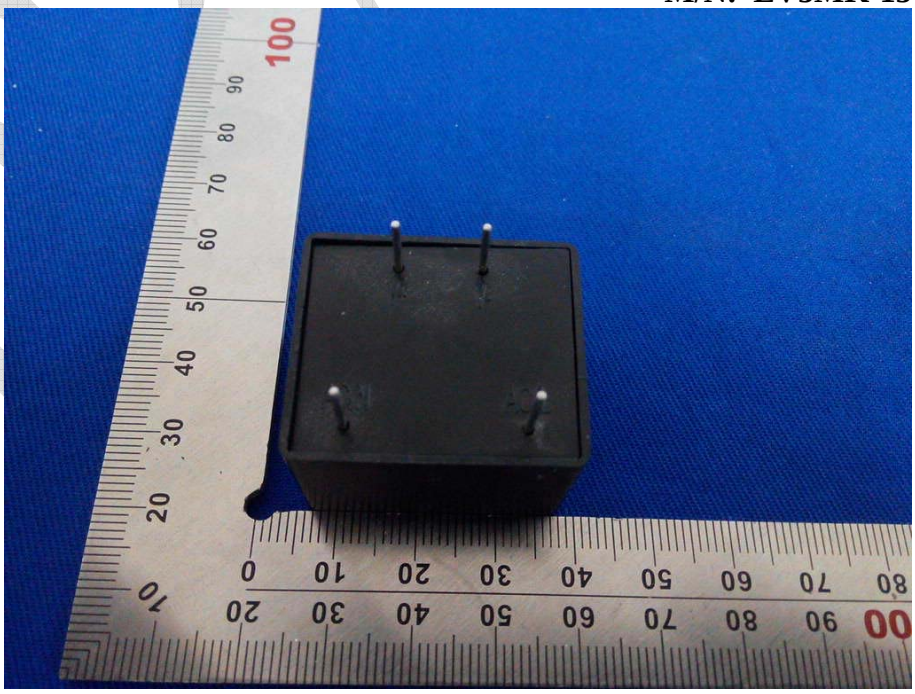


**Figure 15**
**Inside View of the EUT**
**M/N: LV5MK-15**

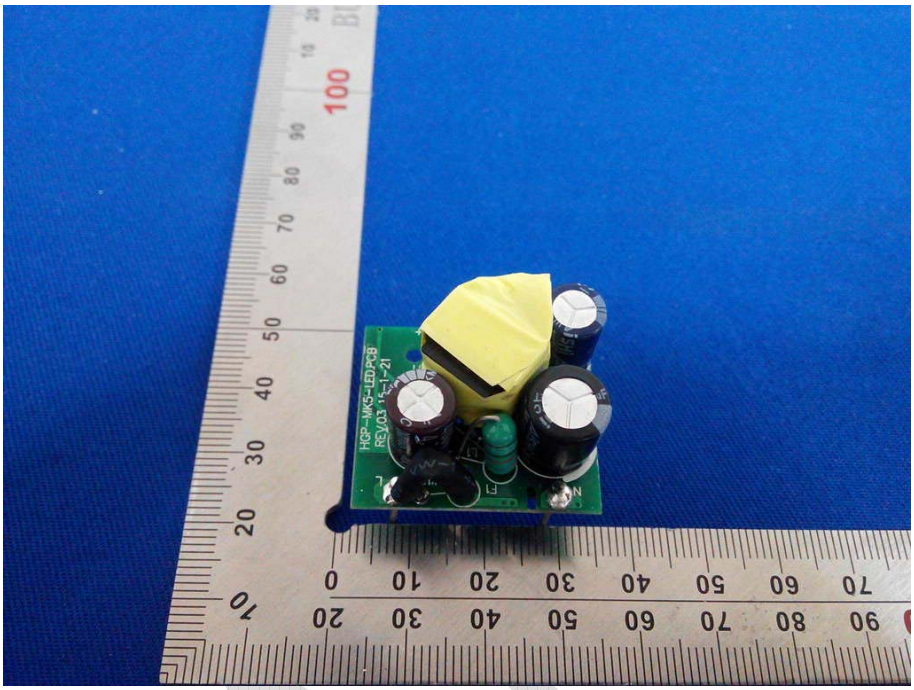


**Figure 16**
**Inside View of the EUT**
**M/N: LV5MK-15**

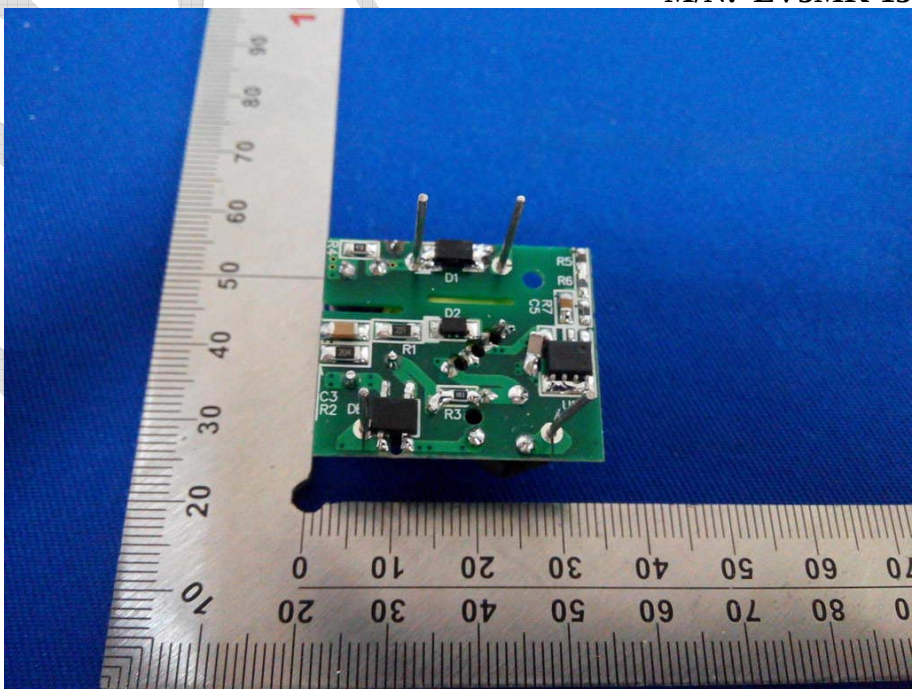


**Figure 17**
**General Appearance of the EUT**
**M/N: LV5MK-24**

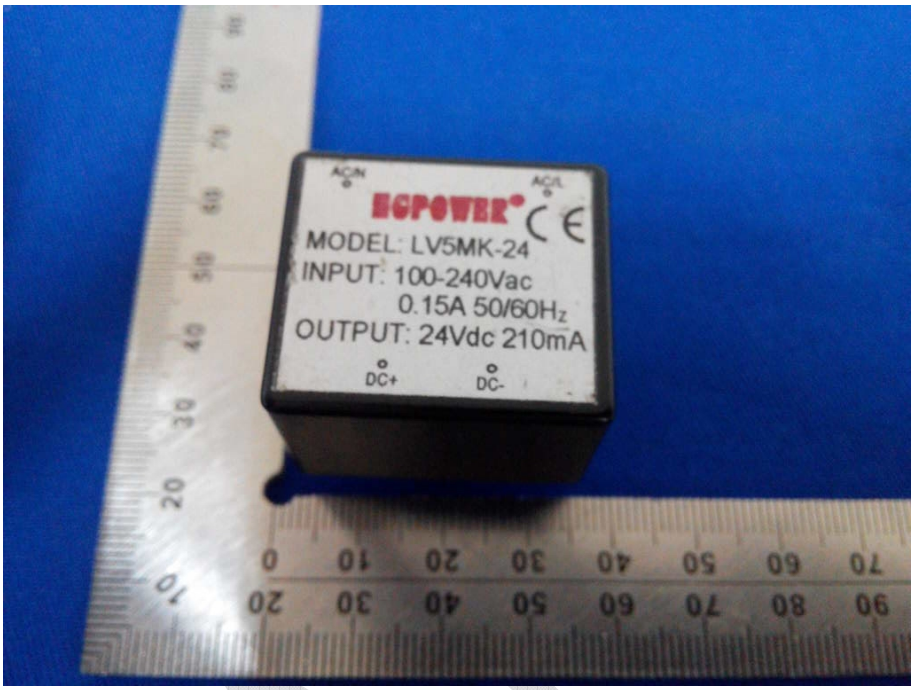



**Figure 18**
**General Appearance of the EUT**
**M/N: LV5MK-24**

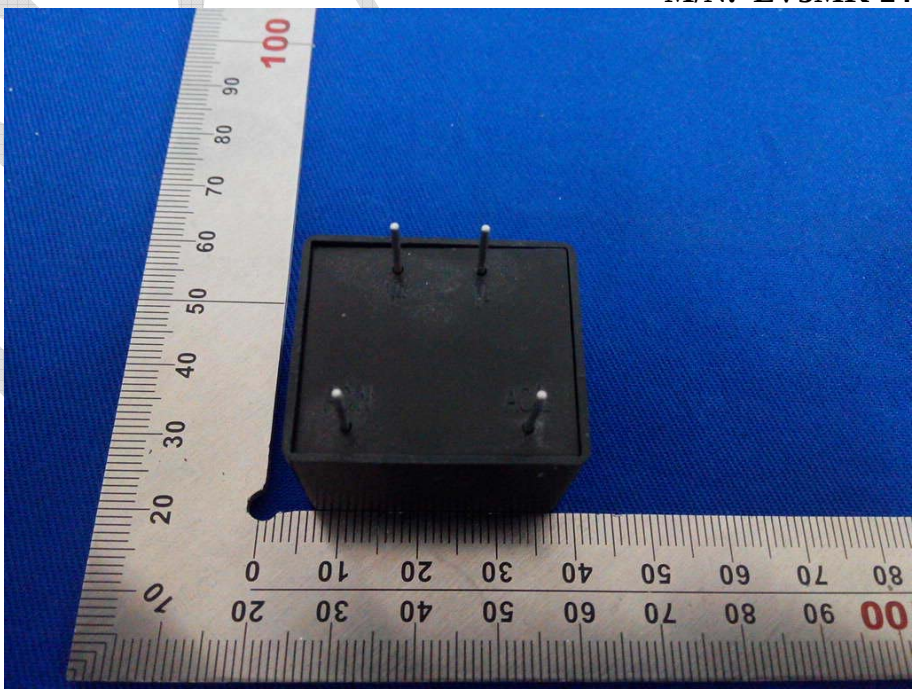


**Figure 19**
**Inside View of the EUT**
**M/N: LV5MK-24**

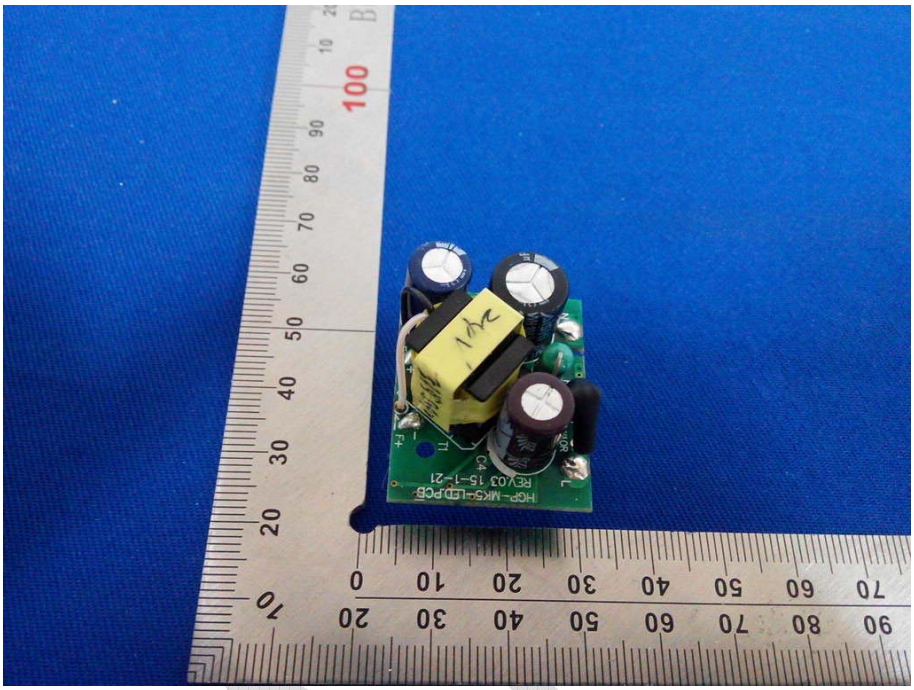


**Figure 20**
**Inside View of the EUT**
**M/N: LV5MK-24**