



# EMC Test Report

**Product Name:** Wireless LAN Access Point

**Product Model:** AP5010DN-AGN  
AP5010SN-GN  
AP7110DN-AGN  
AP7110SN-GN

**Report Number:** SYBH (E) 00742056EB

**Reliability Laboratory of Huawei Technologies Co., Ltd.**

Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District,  
Shenzhen, 518129, P.R.C  
Tel: +86 755 28780808 Fax: +86 755 89652518



## Notice

1. The laboratory has passed the accreditation by China National Accreditation Service for Conformity Assessment (CNAS). The accreditation number is L0310.
2. The laboratory has been listed by the US Federal Communications Commission to perform electromagnetic emission measurements. The site recognition number is 97456.
3. The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 6369A-1 and 6369A-3.
4. The laboratory has been listed by the VCCI to perform EMC measurements. The accreditation numbers of test site No.1 are R-3892, G-415, C-4361, and T-1348, and the accreditation numbers of test site No.2 are R-3760, G-485, C-4210 and T-1237.
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**Applicant:** Huawei Technologies Co., Ltd.  
**Address:** Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C  
**Product Name:** Wireless LAN Access Point  
**Product Model:** AP5010DN-AGN  
AP5010SN-GN  
AP7110DN-AGN  
AP7110SN-GN  
**Date of Receipt Sample:** 2012-10-09  
**Start Date of Test:** 2012-10-10  
**End Date of Test:** 2012-10-19  
  
**Test Result:** Pass

**Approved by Senior Engineer:** 2012-10-25 Zhang Xinghai  
Date Name Signature

Zhang Xing Hai

**Prepared by:** 2012-10-24 Wang Sumin  
Date Name Signature

Wang Sumin



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## 1 General Information

### 1.1 Applied Standard

Applied Product Standard: FCC CFR47 Part 15 Subpart B:2011  
ICES-003:2012

Test Method: ANSI C63.4:2003

### 1.2 Test Location

Test Location 1: Reliability Laboratory of Huawei Technologies Co., Ltd.  
Address: No.2222,Xin Jinqiao Road, Pudong New Area, Shanghai,  
201206, P.R.C

### 1.3 Test Environment Condition

Ambient Temperature: 20-25°C  
Relative Humidity: 45-55%  
Atmospheric Pressure: 101kPa



## 2 Summary of Test Results

Table 1 Summary of test results

| <b>EUT Classification:</b><br>Class B Digital Device                                                         |                    |         |             |           |
|--------------------------------------------------------------------------------------------------------------|--------------------|---------|-------------|-----------|
| Test Items                                                                                                   | Test Configuration | Limit   | Test Result | Location  |
| <u>Radiated Emissions</u><br>Enclosure Port                                                                  | TC1~TC4            | Class B | Pass        | Location1 |
| <u>Conducted Emissions</u><br>AC Power Port                                                                  | TC1,TC3            | Class B | Pass        | Location1 |
| Note:<br>1, Measurement taken is within the uncertainty of measurement system.<br>2, TC = Test configuration |                    |         |             |           |



### 3 Equipment Specification

#### 3.1 General Description

The AP5010DN-AGN is a standard indoor dual-band 2x2 MIMO access point (AP) that supports 2.4 GHz and 5 GHz frequency bands. It complies with IEEE 802.11a/b/g/n, supports 2.4 GHz and 5 GHz frequency bands, and has enhanced coverage performance and protection capabilities. It supports wireless bridging, complies with IEEE 802.11a/b/g/n, connects a large number of users, and works as a Fit AP.

The AP5010SN-GN is a standard indoor single-band 2x2 MIMO access point (AP) that supports 2.4 GHz frequency band. It complies with IEEE 802.11b/g/n, and works as a Fit AP.

The AP7110DN-AGN is an enhanced indoor dual-band 3x3 MIMO access point (AP) that supports 2.4 GHz and 5 GHz frequency bands. It complies with IEEE 802.11a/b/g/n, supports 2.4 GHz and 5 GHz frequency bands, and has enhanced coverage performance and protection capabilities. It supports wireless bridging, complies with IEEE 802.11a/b/g/n, connects a large number of users, and works as a Fit AP.

The AP7110SN-GN is a standard indoor single-band 3x3 MIMO access point (AP) that supports 2.4 GHz. It complies with IEEE 802.11b/g/n, and works as a Fit AP.

#### 3.2 Specification

Table 1 Main equipment specification

|                       |                                                                                                                                                                                                                                                          |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Input Voltage   | ~ 90-270 V/50-60 Hz<br>== -48V (Powered over Ethernet)                                                                                                                                                                                                   |
| Rated Power (W)       | AP5010DN-AGN: 13W<br>AP5010SN-GN: 13W<br>AP7110DN-AGN: 25W<br>AP7110SN-GN: 25W                                                                                                                                                                           |
| Dimensions(W x D x H) | AP5010DN-AGN:180 mm (W) x 180 mm (D) x 40 mm (H)<br>AP5010SN-GN:180 mm (W) x 180 mm (D) x 40 mm (H)<br>AP7110DN-AGN:200 mm (W) x 200 mm (D) x 40 mm (H)<br>AP7110SN-GN:200 mm (W) x 200 mm (D) x 40 mm (H)                                               |
| Weight (kg)           | AP5010DN-AGN: 0.4 kg<br>AP5010SN-GN: 0.4 kg<br>AP7110DN-AGN: 1 kg<br>AP7110SN-GN: 1 kg                                                                                                                                                                   |
| Transmit frequency    | AP5010DN-AGN:<br>2.4GHz~2.4835GHz(2.4G);<br>5.150GHz~5.350GHz&5.725~5.850GHz(5G)<br>AP5010SN-GN:<br>2.4GHz~2.4835GHz(2.4G)<br>AP7110DN-AGN:<br>2.4GHz~2.4835GHz(2.4G);<br>5.150GHz~5.350GHz&5.725~5.850GHz(5G)<br>AP7110SN-GN:<br>2.4GHz~2.4835GHz(2.4G) |
| Receive frequency     | AP5010DN-AGN:<br>2.4GHz~2.4835GHz(2.4G);<br>5.150GHz~5.350GHz&5.725~5.850GHz(5G)<br>AP5010SN-GN:<br>2.4GHz~2.4835GHz(2.4G)<br>AP7110DN-AGN:                                                                                                              |

|                                        |                                                                                                           |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------|
|                                        | 2.4GHz~2.4835GHz(2.4G);<br>5.150GHz~5.350GHz&5.725~5.850GHz(5G)<br>AP7110SN-GN:<br>2.4GHz~2.4835GHz(2.4G) |
| Maximum output power                   | AP5010DN-AGN: 17dBm<br>AP5010SN-GN: 17dBm<br>AP7110DN-AGN: 20dBm<br>AP7110SN-GN: 20dBm                    |
| Frequency of the Internal Source (MHz) | 25 MHz, 40 MHz                                                                                            |

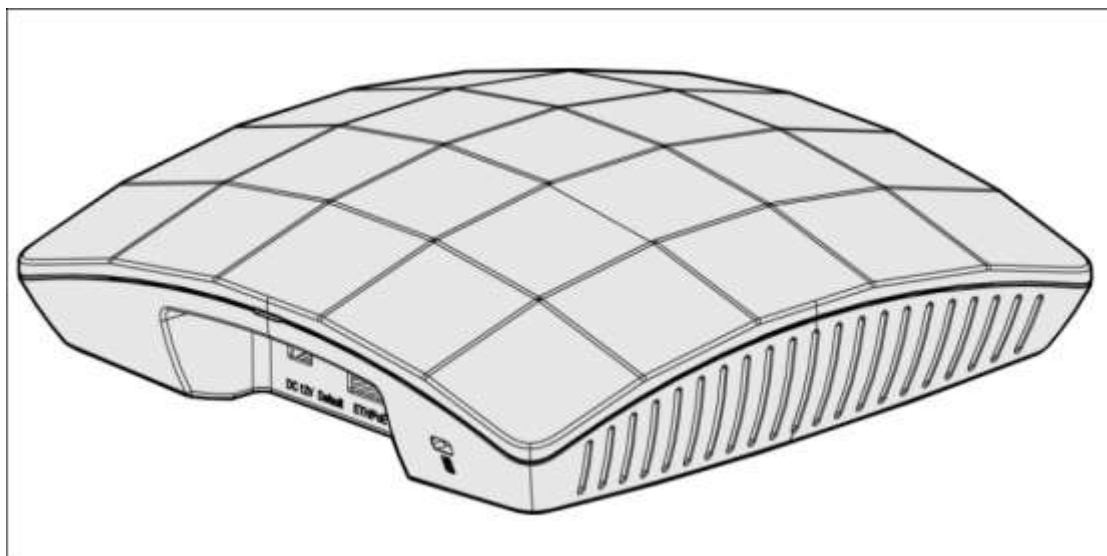


Figure 1.EUT appearance (AP5010DN-AGN& AP5010SN-GN)



Figure 2.EUT appearance (AP7110DN-AGN)





Figure 3.EUT appearance (AP7110SN-GN)



### 3.3 Board and Sub-Assembly

Table 2 Board list

| Board        |                  |                                                                                                                 |
|--------------|------------------|-----------------------------------------------------------------------------------------------------------------|
| Board Name   | Hardware Version | Description                                                                                                     |
| H85D2TD1D200 | VER.B            | Manufactured Board,H85D2TD1D200,2.4GHz and 5.8GHz 50mW WLAN AP General ,2T2R RF Control Board for AP5010DN-AGN  |
| H85D2TD1L200 | VER.B            | Manufactured Board,AP5010SN-GN,H85D2TD1L200,2.4GHz 50mW WLAN AP 2T2R RF Control Board2*1 for AP5010SN-GN        |
| H87D2TT1D200 | VER.C            | Manufactured Board,H87D2TT1D200,2.4GHz and 5.8GHz 100mW WLAN AP General ,3T3R RF Control Board for AP7110DN-AGN |
| H87D2TT1L200 | VER.C            | Manufactured Board,H87D2TT1D200,2.4GHz 100mW WLAN AP General ,3T3R RF Control Board for AP7110SN-GN             |

Table 3 Subassembly list

| Subassembly      |                 |              |                                                                                       |
|------------------|-----------------|--------------|---------------------------------------------------------------------------------------|
| Subassembly Name | Model           | Manufacturer | Description                                                                           |
| Adapter          | HW-120200C1W    | FuHua        | Input voltage: ~ 90-270 V/50-60 Hz Output voltage: --- +12 V, 2 A<br>Rate power: 24 W |
| Adapter          | HKA024120 20-1K | Huntkey      | Input voltage: ~ 90-270 V/50-60 Hz Output voltage: --- +12 V, 2 A<br>Rate power: 24 W |



## 4 System Configuration during EMC Test

The Equipment under Test (EUT) functions correctly during all tests. The EUT was installed within the test site and was configured to simulate a typical configuration.

### 4.1 Ports and Cables

Table 4 Port and cables

| Port                   | Quantity | Length (m) | Connector   | Type of Cable |
|------------------------|----------|------------|-------------|---------------|
| Power port             | 1        | 2          | NA          | Shielded      |
| Console                | 1        | 10         | NA          | Shielded      |
| GE /POE                | 1        | 10         | RJ45        | USTP-5        |
| RF port (AP7110DN-AGN) | 6        | 0.1        | N connector | Shielded      |
| RF port (AP7110SN-GN)  | 3        | 0.1        | N connector | Shielded      |
| Earth (AP7110DN-AGN)   | 1        | 2          | /           | Unshielded    |
| Earth (AP7110SN-GN)    | 1        | 2          | /           | Unshielded    |

### 4.2 Auxiliary Equipment

Table 5 Auxiliary equipment

| Name              | Model        | Manufacturer | S/N                                    | Calibration Date | Cal Interval (month) | Remark |
|-------------------|--------------|--------------|----------------------------------------|------------------|----------------------|--------|
| Access Controller | AC6605       | Huawei       | 00199320                               | N/A              | N/A                  | N/A    |
| Personal computer | ThinkPad X61 | Lenovo       | 3108065264<br>3108060574<br>3108040583 | N/A              | N/A                  | N/A    |

### 4.3 Test Configurations

For the four models, the “SN-GN” type and “DN-AGN” type have the same hardware; the difference is “DN-AGN” types have 2.4G WiFi and 5.8G WiFi function, and the “SN-GN” types have 2.4G WiFi function only, so only two models AP5010DN-AGN and AP7110DN-AGN are adapted during test.

The EUT was connected to auxiliary equipment in order to simulate normal operating conditions (with reference to the guidance given in the standard for this type of equipment).

There were four test configurations. TC1~ TC4 were shown in the following tables and figures:

Table 6 Test configuration

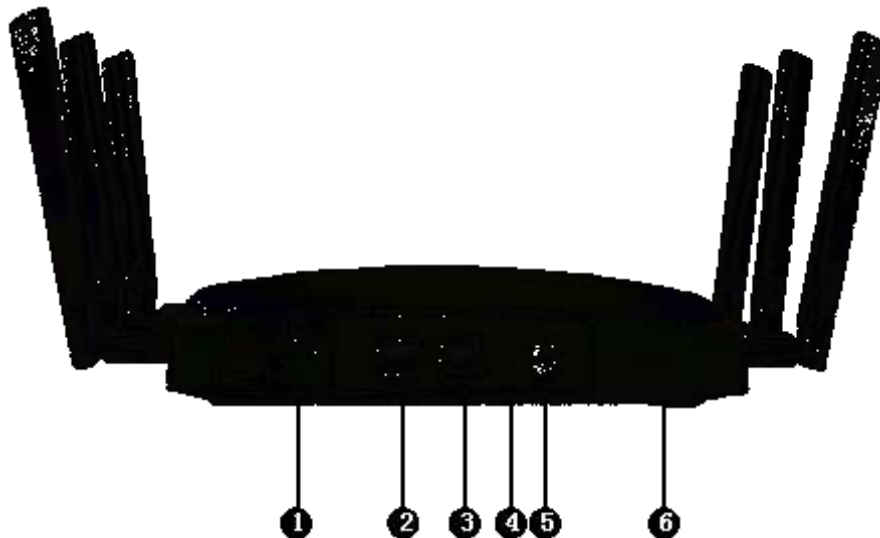
| Configuration | Configuration Description           |
|---------------|-------------------------------------|
| TC1           | AP5010DN-AGN, powered by Adapter    |
| TC2           | AP5010DN-AGN, powered over Ethernet |
| TC3           | AP7110DN-AGN, powered by Adapter    |
| TC4           | AP7110DN-AGN, powered over Ethernet |



Note:

1. Console port.
2. ETH/PoE: 10/100/1000M port, which connects to the Ethernet. The port can connect to a PoE switch or a PoE power source to receive power.
3. Default: restores factory settings.
4. Power input port: 12 V DC.
5. Lock port: protects the AP5010DN-AGN/AP5010SN-GN against theft.

**Figure 4.** Test configuration1&2 (TC1&TC2)



Note:

1. Ground port: connects to a ground cable to ground an AP.
2. Console port.
3. ETH/PoE: 10/100/1000M port, which connects to the Ethernet. The port can connect to a PoE switch or a PoE power source to provide power for APs.
4. Default: restores factory settings.
5. Power input port: 12 V DC.
6. Lock port: protects the AP7110DN-AGN against theft.

**Figure 5.** Test configuration3&4 (TC3&TC4)

## 4.4 Test Condition and Connection

### 4.4.1 Test Condition and Connection for TC1&TC3

In this connection, the AP functions as a Fit AP that provides Only data forwarding function. The Access Controller (AC) is responsible for user access, authentication, AP management, and configurations of security protocols, routing, and Qos. The sta is used as WLAN terminal user and Powered by +12VDC adapter.

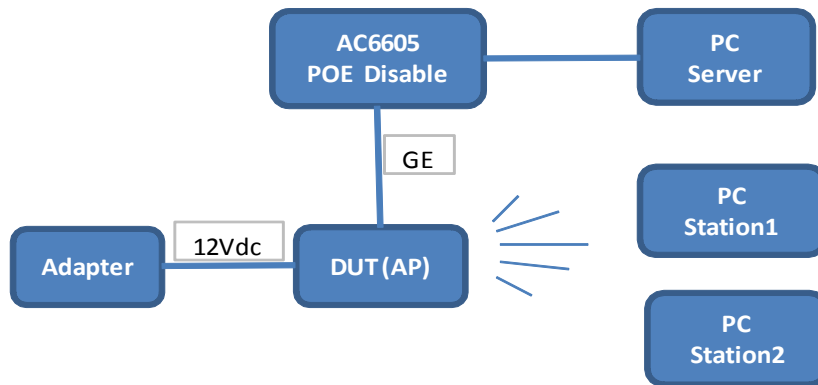


Figure 1. Test connection (TC1&TC3)

### 4.4.2 Test Condition and Connection for TC2&TC4

In this connection, the AP functions as a Fit AP that provides only data forwarding function. The Access Controller (AC) is responsible for user access, authentication, AP management, and configurations of security protocols, routing, and Qos. The sta is used as WLAN terminal user and Powered over Ethernet.

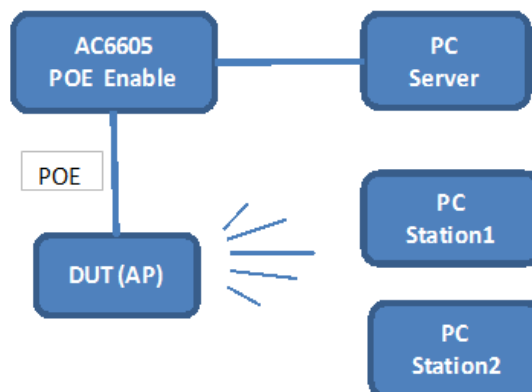


Figure 2. Test connection (TC2&TC4)

## 5 Details of Test Items

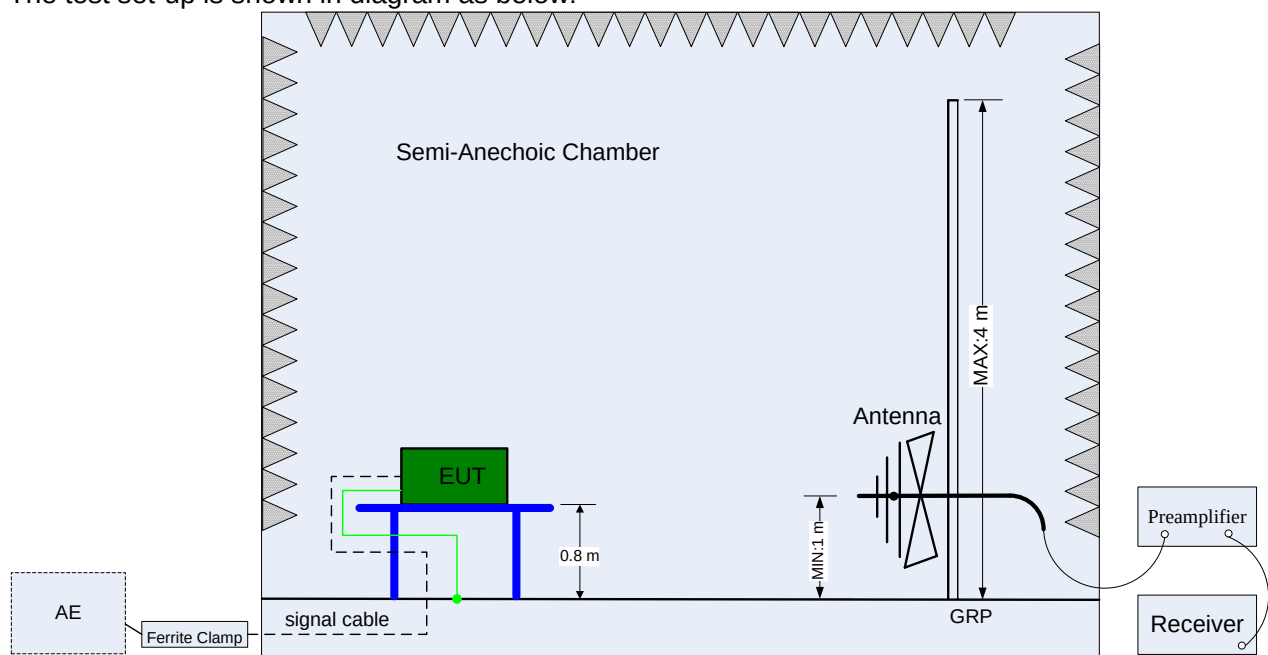
### 5.1 Radiated Emission 30 MHz to 6 GHz

#### 5.1.1 Test Procedure

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.4. The test distance was 3m. The set-up and test methods were according to ANSI C63.4.

A preliminary scan and a final scan of the emissions were made from 30 MHz to 6 GHz by using test script of software; the emissions were measured using Quasi-Peak Detector for 30 MHz to 1 GHz, Average and PK detector for above 1 GHz. The maximal emission value was acquired by adjusting the antenna height, polarisation and turntable azimuth in accordance with the software setup. Normally, the height range of antenna was 1 m to 4 m, the azimuth range of turntable was 0° to 360°, The receive antenna has two polarizations V and H.

The test set-up is shown in diagram as below:



**Figure 3.** Test set-up of radiated disturbance (30 MHz-1 GHz)

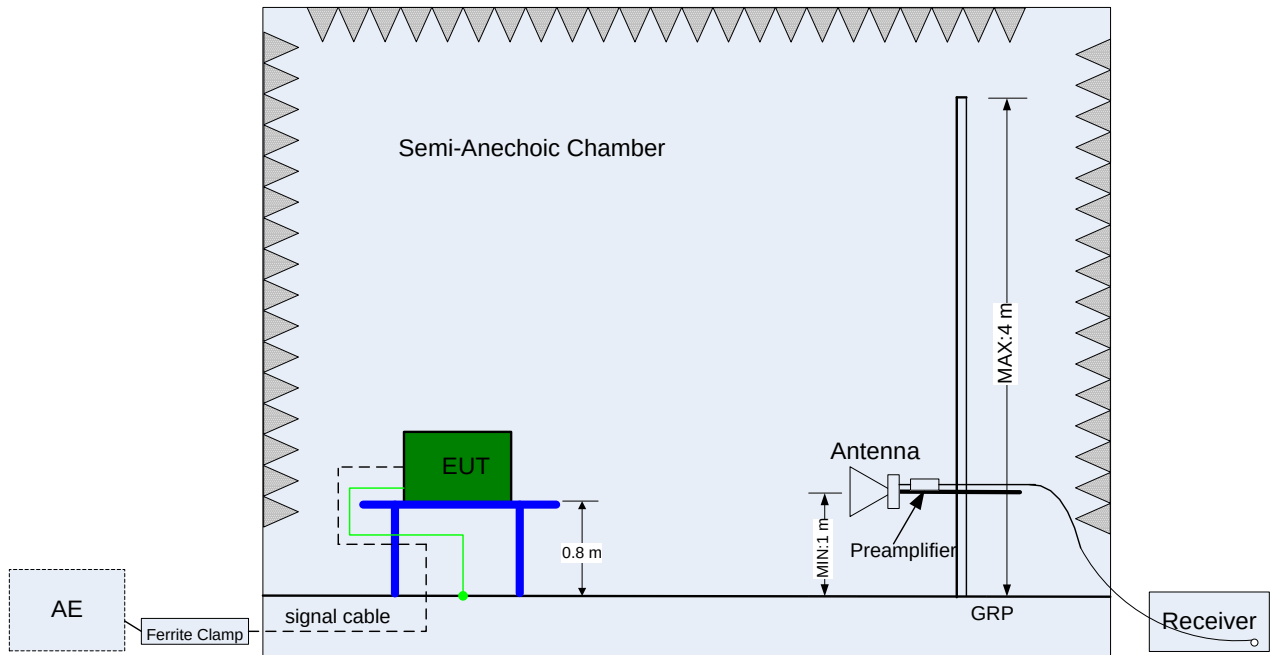


Figure 4. Test set-up of radiated disturbance (above 1 GHz)

### 5.1.2 Test Results

The EUT has met the requirements for radiated emission of enclosure port.  
For the test data, see section 8.1.

Table 7 Test limits for 30MHz to 1GHz at a measuring distance of 3m

|                    |                    |                   |
|--------------------|--------------------|-------------------|
| Frequency range    | 30 MHz to 1 GHz    |                   |
| Measuring distance | 3 m                |                   |
| Classification     | CLASS B            |                   |
| Limits(Class B)    | 30 MHz to 88 MHz   | 40.0 dB $\mu$ V/m |
|                    | 88 MHz to 216 MHz  | 43.5 dB $\mu$ V/m |
|                    | 216 MHz to 960 MHz | 46.0 dB $\mu$ V/m |
|                    | 960 MHz to 6 GHz   | 53.9 dB $\mu$ V/m |

Table 8 Test limits for above 1GHz at a measuring distance of 3m

|                    |                   |                   |
|--------------------|-------------------|-------------------|
| Frequency range    | 1 GHz to 6 GHz    |                   |
| Measuring distance | 3 m               |                   |
| Classification     | CLASS B           |                   |
| Limits(Class B)    | AV Detector       | PK Detector       |
|                    | 53.9 dB $\mu$ V/m | 73.9 dB $\mu$ V/m |

Note: The highest frequency of the internal sources of the EUT is 40 MHz, the measurement was made up to 6 GHz.

## 5.2 Conducted Disturbance 0.15 MHz to 30 MHz

### 5.2.1 Test Procedure

The EUT was configured as described in section 4. The mains cable of the EUT must be connected to LISN. The LISN shall be placed 0.8 m from the boundary of EUT and bonded to a ground reference plane for LISN mounted on top of the ground reference plane. This distance is between the closest points of the LISN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8m from the LISN.

Ground connections, where required for safety purposes, shall be connected to the reference ground point of the LISN and, where not otherwise provided or specified by the manufacturer, shall be of same length as the mains cable and run parallel to the mains connection at a separation distance of not more than 0.1 m.

The test set-up is shown in diagram as below:

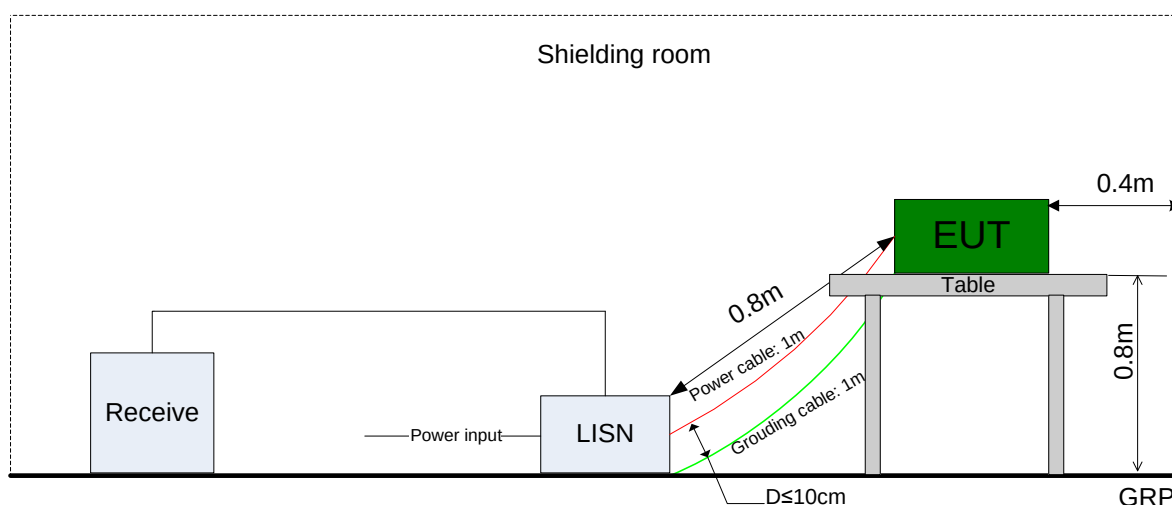


Figure 5. Test set-up of conducted disturbance for power port

### 5.2.2 Test Results

The EUT has met the requirements of FCC Part15 for Conducted Disturbance of AC Power Port  
For the test data, see section 8.2.

Table 9 Limits of AC power port

| Frequency range | 150 kHz to 30 MHz     |          |
|-----------------|-----------------------|----------|
| Classification  | CLASS B               |          |
| Limit(Class B)  | Voltage limits (dBμV) |          |
|                 | QP                    | AV       |
| 0.15 to 0.5 MHz | 66 to 56              | 56 to 46 |
| 0.5 to 5 MHz    | 56                    | 46       |
| 5 to 30 MHz     | 60                    | 50       |





## 6 Main Test Instruments

Table 10 Main test instrument

| Test item            | Test Instrument          | Model         | Manufacturer | Calibration Date | Calibration Interval (month) |
|----------------------|--------------------------|---------------|--------------|------------------|------------------------------|
| Radiated Emission    | EMI Test receiver        | ESU40         | R&S          | 2011-12-20       | 12                           |
|                      | Bilog antenna            | VULB 9163     | SCHWARZBECK  | 2012-02-11       | 12                           |
|                      | Horn antenna             | 9120D         | SCHWARZBECK  | 2012-02-11       | 12                           |
|                      | Chamber _NSA             | 3m chamber    | Albatross    | 2011-12-02       | 24                           |
|                      | Chamber _SVSWR           | 3m chamber    | Albatross    | 2011-12-02       | 24                           |
| Conducted Emission   | EMI Test receiver        | ESCI 3        | R&S          | 2012-02-27       | 12                           |
|                      | Artificial Mains Network | ENV4200       | R&S          | 2011-12-20       | 12                           |
| Software Information |                          |               |              |                  |                              |
| Test Item            |                          | Software Name | Manufacturer | Version          |                              |
| Radiated Emission    |                          | EMC32         | R&S          | V8.5.1           |                              |
| Conducted Emission   |                          | EMC32         | R&S          | V8.3             |                              |



## 7 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

Table 11 System measurement uncertainty

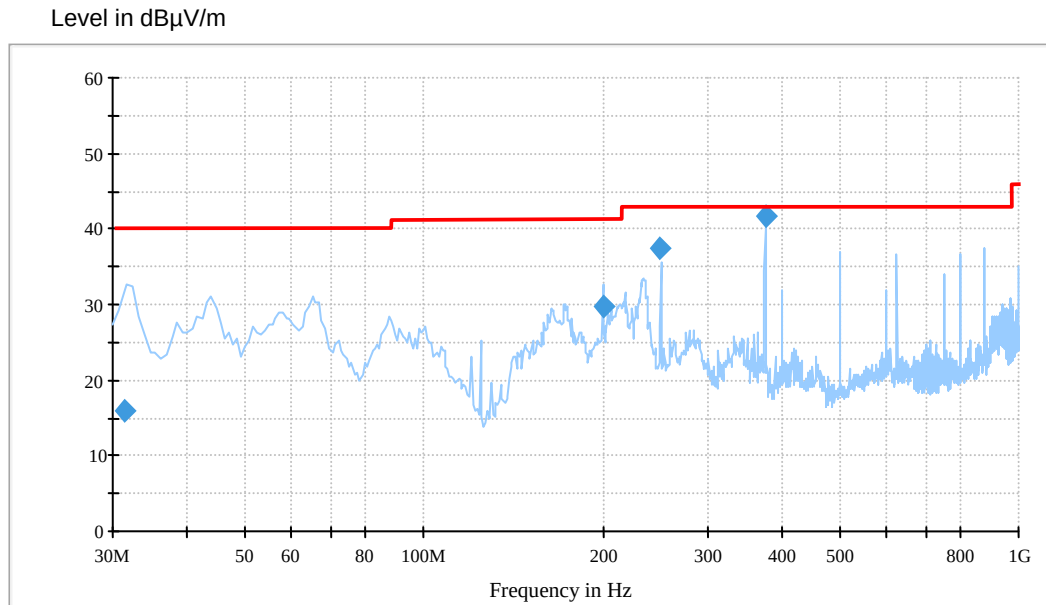
| Items                                |                                     | Extended Uncertainty          |
|--------------------------------------|-------------------------------------|-------------------------------|
| Radiated emission<br>(G2 3m chamber) | Field strength (dB $\mu$ V/m)       | U=4.15 dB; k=2 (30 MHz-1 GHz) |
|                                      |                                     | U=3.64 dB; k=2 (1 GHz-6 GHz)  |
| Conducted Emission                   | Disturbance Voltage<br>(dB $\mu$ V) | U=3.3 dB; k=2                 |

## 8 Graph and Data of Emission Test

### 8.1 Radiated Disturbance

#### 8.1.1 Radiated Disturbance of TC1

(30 MHz-1 GHz)



Measurement Result: QP Detector

| Frequency (MHz) | Level (dBμV/m) | Transd (dB) | Limit (dBμV/m) | Margin (dB) | Height (cm) | Azimuth (deg) | Polarisation |
|-----------------|----------------|-------------|----------------|-------------|-------------|---------------|--------------|
| 31.536480       | 16.0           | -29.2       | 40.0           | 24.0        | 100.0       | 146.0         | HORIZONTAL   |
| 199.984500      | 29.8           | -28.6       | 43.5           | 13.7        | 100.0       | 325.0         | VERTICAL     |
| 249.980000      | 37.5           | -26.2       | 46.0           | 8.5         | 117.0       | 106.0         | HORIZONTAL   |
| 374.987000      | 41.6           | -22.6       | 46.0           | 4.4         | 100.0       | 32.0          | HORIZONTAL   |

Note:

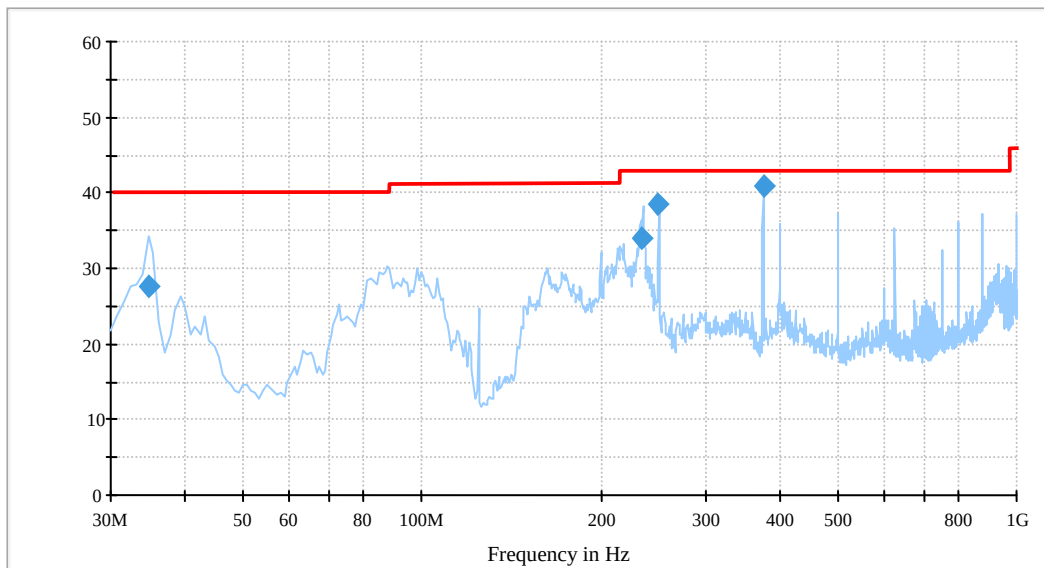
Level = Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is used to calculate by software which is not shown in the sheet.

### 8.1.1 Radiated Emission of TC2

(30 MHz-1 GHz)

Level in dB $\mu$ V/m

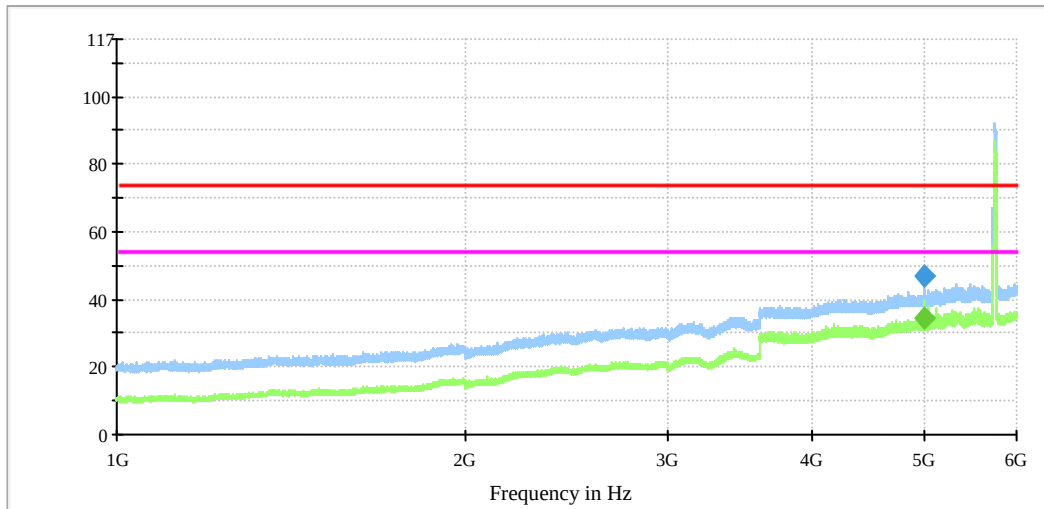


Measurement Result: QP Detector

| Frequency (MHz) | Level (dB $\mu$ V/m) | Transd (dB) | Limit (dB $\mu$ V/m) | Margin (dB) | Height (cm) | Azimuth (deg) | Polarisation |
|-----------------|----------------------|-------------|----------------------|-------------|-------------|---------------|--------------|
| 34.849440       | 27.7                 | -29.2       | 40.0                 | 12.3        | 100.0       | 29.0          | HORIZONTAL   |
| 235.083500      | 33.9                 | -26.8       | 46.0                 | 12.1        | 129.0       | 152.0         | HORIZONTAL   |
| 249.980000      | 38.5                 | -26.2       | 46.0                 | 7.5         | 100.0       | 105.0         | HORIZONTAL   |
| 374.987000      | 40.9                 | -22.6       | 46.0                 | 5.1         | 100.0       | 98.0          | HORIZONTAL   |

(above 1 GHz)

Level in dB $\mu$ V/m



MEASUREMENT RESULT: AV Detector

| Frequency MHz | Level dB $\mu$ V/m | Transd dB | Limit dB $\mu$ V/m | Margin dB | Height cm | Azimuth deg | Polarisation |
|---------------|--------------------|-----------|--------------------|-----------|-----------|-------------|--------------|
| 4999.965667   | 34.6               | 2.5       | 53.9               | 19.3      | 106.0     | 212.00      | VERTICAL     |

MEASUREMENT RESULT: PK Detector

| Frequency MHz | Level dB $\mu$ V/m | Transd dB | Limit dB $\mu$ V/m | Margin dB | Height cm | Azimuth deg | Polarisation |
|---------------|--------------------|-----------|--------------------|-----------|-----------|-------------|--------------|
| 4999.965667   | 46.8               | 2.5       | 73.9               | 27.1      | 145.0     | 211.00      | VERTICAL     |

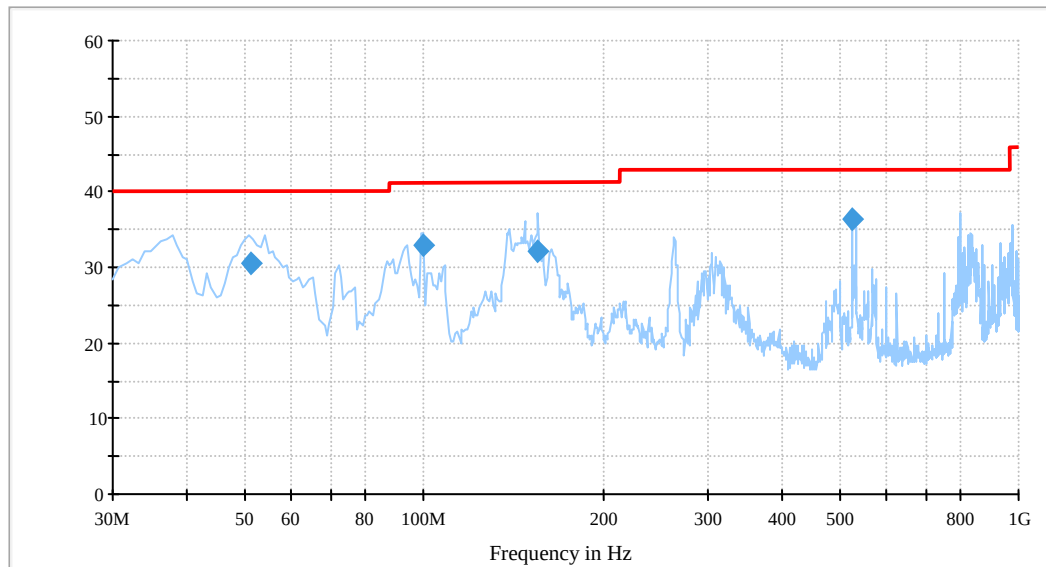
Note:

1. Level = Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)  
The reading level is used to calculate by software which is not shown in the sheet.
2. All the test configurations TC1-TC2 were tested, and the worst test result is supplied.

## 8.1.2 Radiated Emission of TC3

(30 MHz-1 GHz)

Level in dB $\mu$ V/m



Measurement Result: QP Detector

| Frequency (MHz) | Level (dB $\mu$ V/m) | Transd (dB) | Limit (dB $\mu$ V/m) | Margin (dB) | Height (cm) | Azimuth (deg) | Polarisation |
|-----------------|----------------------|-------------|----------------------|-------------|-------------|---------------|--------------|
| 51.042500       | 30.6                 | -28.1       | 40.0                 | 9.4         | 100.0       | 164.0         | HORIZONTAL   |
| 99.561500       | 33.0                 | -27.8       | 43.5                 | 10.5        | 100.0       | 235.0         | VERTICAL     |
| 155.655000      | 32.0                 | -31.4       | 43.5                 | 11.5        | 100.0       | 221.0         | HORIZONTAL   |
| 524.997000      | 36.5                 | -18.9       | 46.0                 | 9.5         | 191.0       | 237.0         | HORIZONTAL   |

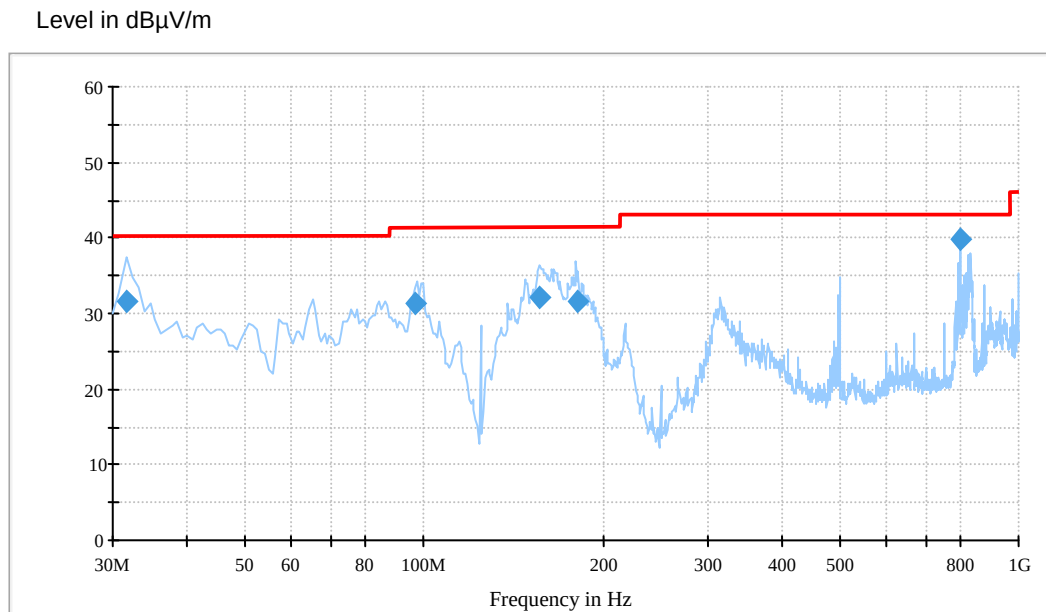
Note:

Level = Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is used to calculate by software which is not shown in the sheet.

### 8.1.1 Radiated Emission of TC4

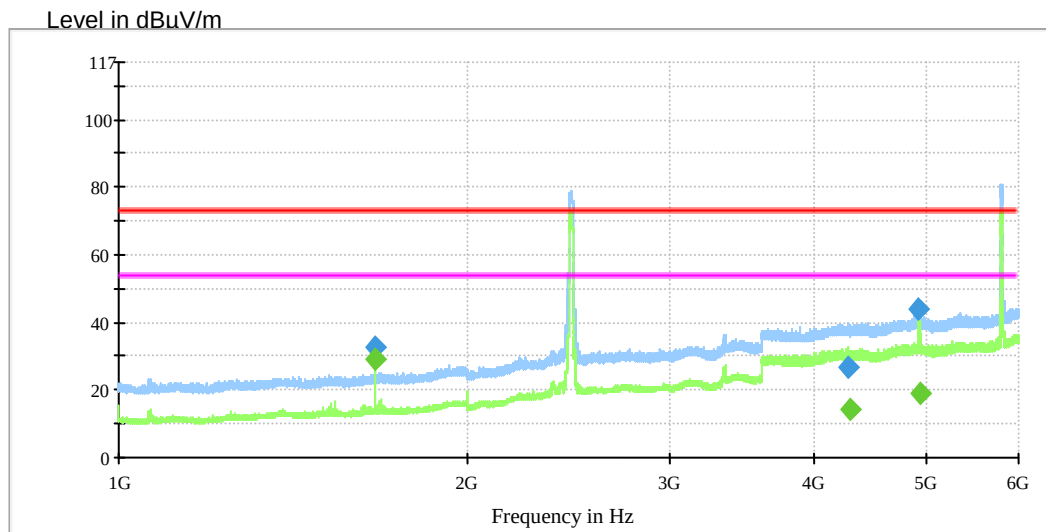
(30 MHz-1 GHz)



Measurement Result: QP Detector

| Frequency (MHz) | Level (dB $\mu$ V/m) | Transd (dB) | Limit (dB $\mu$ V/m) | Margin (dB) | Height (cm) | Azimuth (deg) | Polarisation |
|-----------------|----------------------|-------------|----------------------|-------------|-------------|---------------|--------------|
| 31.709760       | 31.5                 | -29.2       | 40.0                 | 8.5         | 100.0       | 276.0         | VERTICAL     |
| 97.084440       | 31.3                 | -27.9       | 43.5                 | 12.2        | 227.0       | 199.0         | HORIZONTAL   |
| 157.085500      | 32.2                 | -31.3       | 43.5                 | 11.3        | 100.0       | 127.0         | VERTICAL     |
| 181.141500      | 31.6                 | -29.7       | 43.5                 | 11.9        | 100.0       | 62.0          | VERTICAL     |
| 799.985000      | 39.9                 | -13.6       | 46.0                 | 6.1         | 100.0       | 296.0         | HORIZONTAL   |

(above 1 GHz)



#### MEASUREMENT RESULT: AV Detector

| Frequency MHz | Level dB $\mu$ V/m | Transd dB | Limit dB $\mu$ V/m | Margin dB | Height cm | Azimuth deg | Polarisation |
|---------------|--------------------|-----------|--------------------|-----------|-----------|-------------|--------------|
| 1666.733167   | 28.9               | -10.8     | 53.9               | 25.0      | 100.0     | 79.0        | HORIZONTAL   |
| 4291.488167   | 14.0               | 0.0       | 53.9               | 39.9      | 135.0     | 177.0       | VERTICAL     |
| 4928.980000   | 19.1               | 2.3       | 53.9               | 34.8      | 131.0     | 142.0       | VERTICAL     |

#### MEASUREMENT RESULT: PK Detector

| Frequency MHz | Level dB $\mu$ V/m | Transd dB | Limit dB $\mu$ V/m | Margin dB | Height cm | Azimuth deg | Polarisation |
|---------------|--------------------|-----------|--------------------|-----------|-----------|-------------|--------------|
| 1666.733167   | 32.4               | -10.8     | 73.9               | 41.5      | 100.0     | 76.0        | HORIZONTAL   |
| 4268.688167   | 26.9               | 0.0       | 73.9               | 47.0      | 200.0     | 200.0       | VERTICAL     |
| 4924.180000   | 43.7               | 2.3       | 73.9               | 30.2      | 114.0     | 154.0       | VERTICAL     |

#### Note:

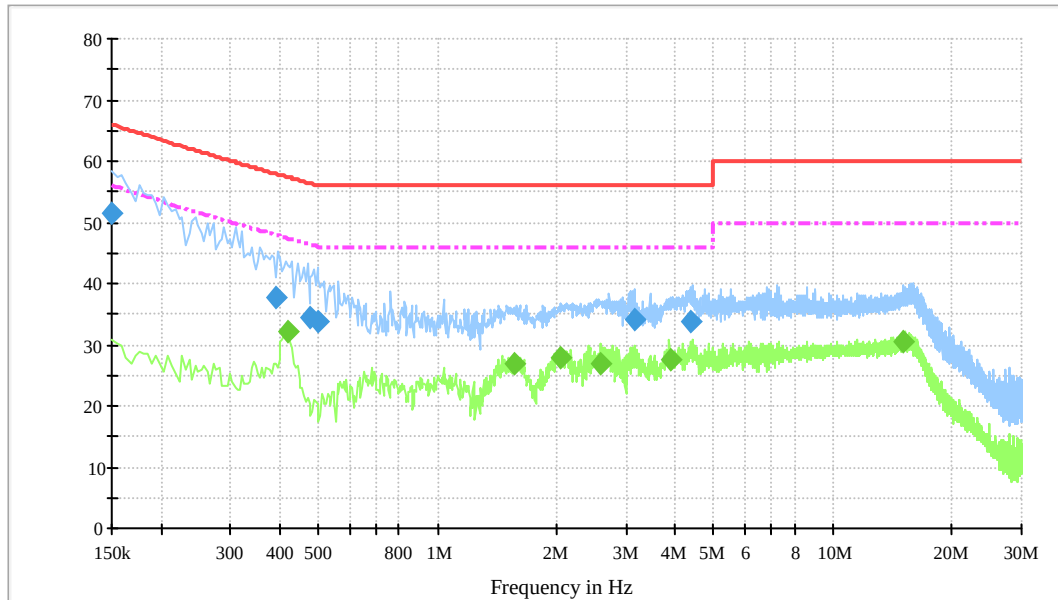
1. Level = Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)  
The reading level is used to calculate by software which is not shown in the sheet.
2. All the test configurations TC3-TC4 were tested, and the worst test result is supplied.



## 8.2 Conducted Disturbance

### 8.2.1 AC Power Port Test Data of AP5010DN-AGN and AP5010SN-GN

Level in dB $\mu$ V



Measurement Result: QP Detector

| Frequency (MHz) | Level (dB $\mu$ V) | Transd (dB) | Limit (dB $\mu$ V) | Margin (dB) | Line | PE  |
|-----------------|--------------------|-------------|--------------------|-------------|------|-----|
| 0.150000        | 51.4               | 10.6        | 66.0               | 14.6        | L2   | GND |
| 0.388500        | 37.7               | 10.4        | 58.0               | 20.3        | L2   | GND |
| 0.474000        | 34.5               | 10.4        | 56.4               | 21.9        | L2   | GND |
| 0.496499        | 33.8               | 10.4        | 56.1               | 22.3        | L2   | GND |
| 3.149288        | 34.1               | 10.4        | 56.0               | 21.9        | L1   | GND |
| 4.384965        | 33.7               | 10.4        | 56.0               | 22.3        | L2   | GND |

Measurement Result: AV Detector

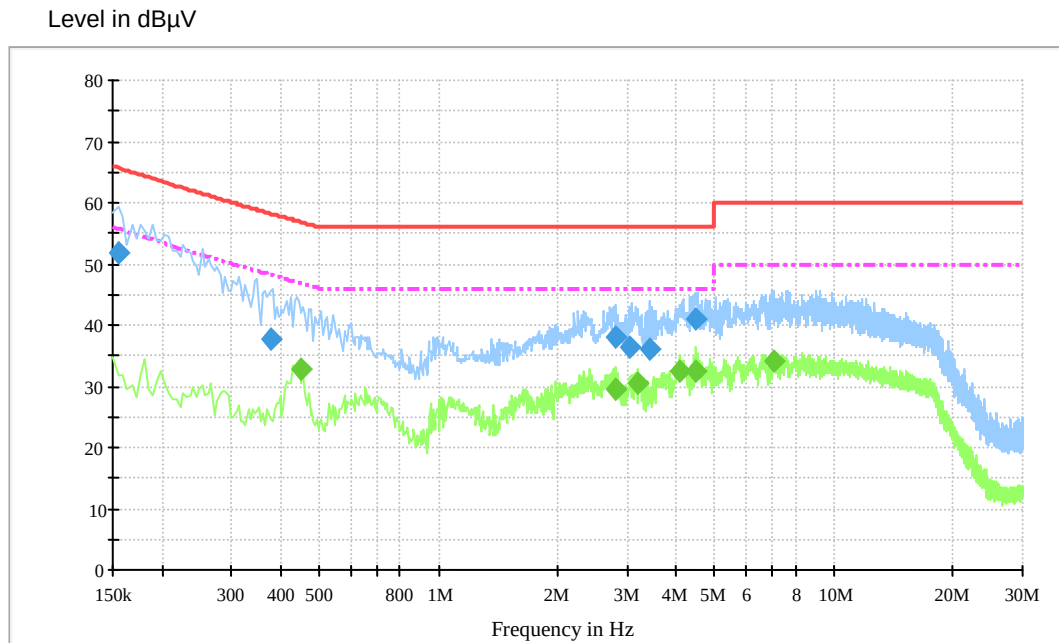
| Frequency (MHz) | Level (dB $\mu$ V) | Transd (dB) | Limit (dB $\mu$ V) | Margin (dB) | Line | PE  |
|-----------------|--------------------|-------------|--------------------|-------------|------|-----|
| 0.420000        | 32.1               | 10.4        | 47.3               | 15.2        | L2   | GND |
| 1.559662        | 26.8               | 10.4        | 46.0               | 19.2        | L2   | GND |
| 2.038778        | 27.8               | 10.4        | 46.0               | 18.2        | L1   | GND |
| 2.585055        | 26.8               | 10.4        | 46.0               | 19.2        | L2   | GND |
| 3.883665        | 27.6               | 10.4        | 46.0               | 18.4        | L1   | GND |
| 15.153555       | 30.3               | 10.3        | 50.0               | 19.7        | L1   | GND |

Note:

1. Level= Reading level+ Transd (cable loss + correction factor)

The reading level is used to calculate by software which is not shown in the sheet.

## 8.2.2 AC Power Port Test Data of AP7110DN-AGN and AP7110SN-GN



### Measurement Result: QP Detector

| Frequency (MHz) | Level (dBμV) | Transd (dB) | Limit (dBμV) | Margin (dB) | Line | PE  |
|-----------------|--------------|-------------|--------------|-------------|------|-----|
| 0.154500        | 52.0         | 10.6        | 65.7         | 13.7        | L1   | GND |
| 0.374999        | 37.8         | 10.4        | 58.2         | 20.4        | L2   | GND |
| 2.808975        | 38.0         | 10.4        | 56.0         | 18.0        | L2   | GND |
| 3.059625        | 36.4         | 10.4        | 56.0         | 19.6        | L1   | GND |
| 3.422370        | 36.1         | 10.4        | 56.0         | 19.9        | L2   | GND |
| 4.492425        | 41.0         | 10.4        | 56.0         | 15.0        | L2   | GND |

### Measurement Result: AV Detector

| Frequency (MHz) | Level (dBμV) | Transd (dB) | Limit (dBμV) | Margin (dB) | Line | PE  |
|-----------------|--------------|-------------|--------------|-------------|------|-----|
| 0.447000        | 32.9         | 13.9        | 46.8         | 13.9        | L1   | GND |
| 2.800020        | 29.6         | 16.4        | 46.0         | 16.4        | L1   | GND |
| 3.198540        | 30.5         | 15.5        | 46.0         | 15.5        | L2   | GND |
| 4.076040        | 32.4         | 13.6        | 46.0         | 13.6        | L2   | GND |
| 4.456605        | 32.5         | 13.5        | 46.0         | 13.5        | L1   | GND |
| 7.053870        | 34.2         | 15.8        | 50.0         | 15.8        | L2   | GND |

Note:

Level= Reading level+ Transd (cable loss + correction factor)

The reading level is used to calculate by software which is not shown in the sheet.