# TEST REPORT
# FCC Part 15C

| | |
|---|---|
| **Equipment under test** | Fast Wireless Charger |
| **Model name** | PWC-1 |
| **FCC ID** | 2AOJFPWC2 |
| **Applicant** | PNTELECOM CO.,LTD |
| **Manufacturer** | WEIHAI PNTELECOM CO.,LTD |
| | PNTELECOM CO.,LTD |
| **Date of test(s)** | 2018.04.23 ~ 2018.05.12 |
| **Date of issue** | 2018.05.14 |

**Issued to**

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| **Test and report completed by :** | **Report approval by :** |
|---|---|
| | |
| Young-Jin Lee<br>Test engineer | Hyeon-Su Jang<br>Technical manager |

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# Revision history

| Revision | Date of issue | Test report No. | Description |
|---|---|---|---|
| - | 2018.05.03 | KES-RF-18T0052 | Initial |
| R1 | 2018.05.14 | KES-RF-18T0052-R1 | Retest 20dB Bandwidth |

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## 1. General information

| | |
|---|---|
| Applicant | PNTELECOM CO.,LTD |
| Applicant address | 130 Anyangcheondong-ro, Dongan-gu, Anyang-si, Gyeonggi-do, Korea |
| Test site | KES Co., Ltd. |
| Test site address | 3701, 40, Simin-daero 365beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea<br>473-21, Gayeo-ro, Yeoju-si, Gyeonggi-do, Korea |
| Test Facility | FCC Accreditation Designation No.: KR0100, Registration No.: 444148 |
| FCC rule part(s): | Part 15C |
| FCC ID: | 2AOJFPWC2 |
| Test device serial No. | ☒ Production ☐ Pre-production ☐ Engineering |

### 1.1. EUT description

| | |
|---|---|
| Equipment under test | Fast Wireless Charger |
| Frequency | 0.121 ㎒ ~ 0.205 ㎒ |
| Modulation type | ASK |
| Model: | PWC-1 |
| Antenna specification | Internal type(Coil antenna) |
| Power source | DC 5.0 V / DC 9.0V |

### 1.2. Test configuration

The **PNTELECOM CO.,LTD Fast Wireless Charger FCC ID: 2AOJFPWC2** was tested according to the specification of EUT, the EUT must comply with following standards and KDB documents.

FCC Part 15C
ANSI C63.10-2013

### 1.3. Test frequency

| | | Frequency Range |
|---|---|---|
| **Power source** | DC 5.0 V / 9.0 V | 0.121 ㎒ ~ 0.205 ㎒ |

### 1.4. Test mode

| Mode | Charging current | Description |
|---|---|---|
| Charging mode With load | 90% | Using Max load |
| | 50% | Using Mid load |
| | 10% | Using Min load |

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## 1.5. Information about derivative model

N/A

## 1.6. Device modifications

N/A

## 1.7. Accessory information

| Equipment | Manufacturer | Model | Serial No. | Power source |
|---|---|---|---|---|
| - | - | - | - | - |

## 1.8. Measurement Uncertainty

| Test Item | | Uncertainty |
|---|---|---|
| Uncertainty for Conduction emission test | | 2.62 dB |
| Uncertainty for Radiation emission test (include Fundamental emission) | 9kHz - 30MHz | 4.54 dB |
| | 30MHz - 1GHz | 4.36 dB |
| | Above 1GHz | 5.00 dB |
| Note. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2. | | |

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## 2. Summary of tests

| FCC Part Sections | Parameter | Test results |
|---|---|---|
| 15.209 | Radiated spurious emission | Pass |
| - | 20dB bandwidth | Pass |
| 15.207 | AC conducted emissions | Pass |

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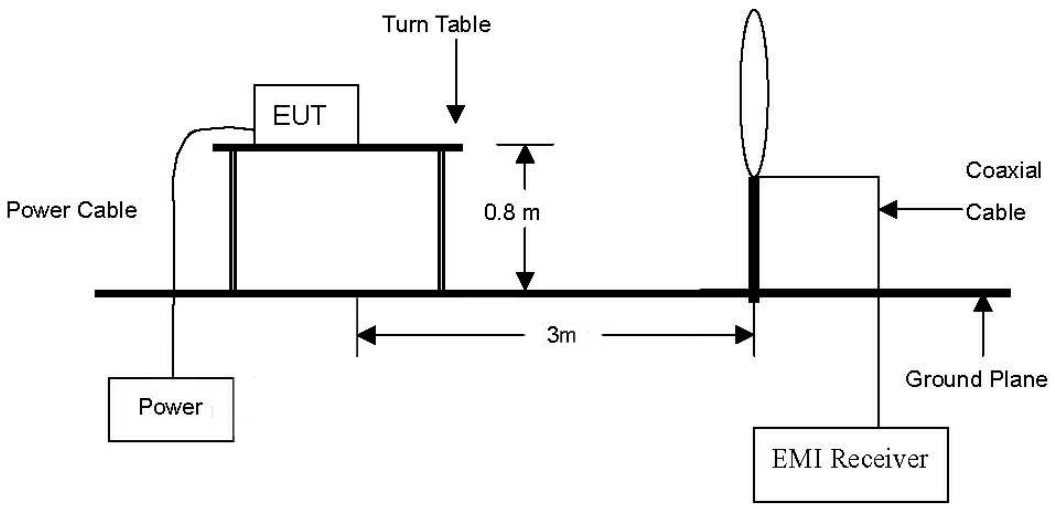
# 3. Test results

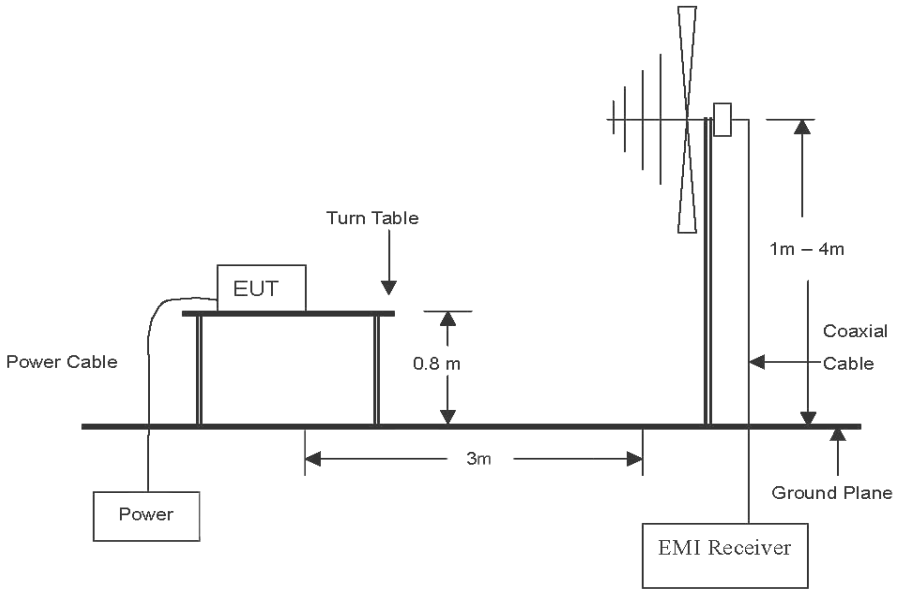
## 3.1. Radiated spurious emission

**Test setup**

The diagram below shows the test setup that is utilized to make the measurements for emission from 9 ㎑ to 30 ㎒ Emissions.




The diagram below shows the test setup that is utilized to make the measurements for emission from 30 ㎒ to 1 ㎓ emissions.

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**Test procedure**

[9 ㎑ to 30 ㎒]

The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation. Then antenna is a loop antenna is fixed at one meter above the ground to determine the maximum value of the field strength. Both parallel and perpendicular of the antenna are set to make the measurement. For each suspected emission, the EUT was arranged to its worst case and then the table was turned from 0 degrees to 360 degrees to find the maximum reading. The test-receiver system was set to Quasi-peak function and specified bandwidth with maximum hold mode.

The spectrum analyzer is set to:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer 200 ㎐ / 300 ㎐ for peak detection (PK) at frequency below 9 ㎑~ 150 ㎑.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer 9 ㎑ / 10 ㎑ for peak detection (PK) at frequency below 150 ㎑~ 30 ㎒.
3. For the frequency bands 9~ 90 ㎑, 110~490 ㎑ the radiated emission limits are based on measurements employing an average detector.

[30 ㎒ to 1 ㎓]

The height of the measuring antenna was varied between 1 to 4 m and the table was rotated a full revolution in order to obtain maximum values of the electric field intensity.
The measurement was made in both the vertical and horizontal polarization, and the maximum value is presented in the report.

The spectrum analyzer is set to:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer 120 ㎑ for Peak detection (PK) or Quasi-peak detection (QP) at frequency below 1 ㎓.

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**Note:**

1. According to exploratory test no any obvious emission were detected from 9 ㎑ to 30 ㎒. Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.
2. Measurement distance : 3 m.
3. Field strength = Level + Correction factor + $F_d$
4. $F_d = 40\log(D_m / D_s)$
   Where:
   $F_d$ = Distance factor in ㏈
   $D_m$ = Measurement distance in meters
   $D_s$ = Specification distance in meters
   For 300m: 40log(300/3) = 80 dB for frequency band 0.009 ㎒ to 0.490 ㎒
   For 30m: 40log(30/3) = 40 dB for frequency band 0.490 ㎒ to 30 ㎒
5. No significant emissions were found in the 90 - 110㎑ restricted band.

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**Limit**

According to 15.209(a), for an intentional radiator devices, the general required of field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values：

| Frequency (㎒) | Distance (Meters) | Radiated (㎶/m) |
|---|---|---|
| 0.009 ~ 0.490 | 300 | 2400 / F(㎑) |
| 0.490 ~ 1.705 | 30 | 24000 / F(㎑) |
| 1.705 ~ 30.0 | 30 | 30 |
| 30 ~ 88 | 3 | 100** |
| 88 ~ 216 | 3 | 150** |
| 216 ~ 960 | 3 | 200** |
| Above 960 | 3 | 500 |

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54 ~ 72 ㎒, 76 ~ 88 ㎒, 174 ~ 216 ㎒ or 470 ~ 806 ㎒. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

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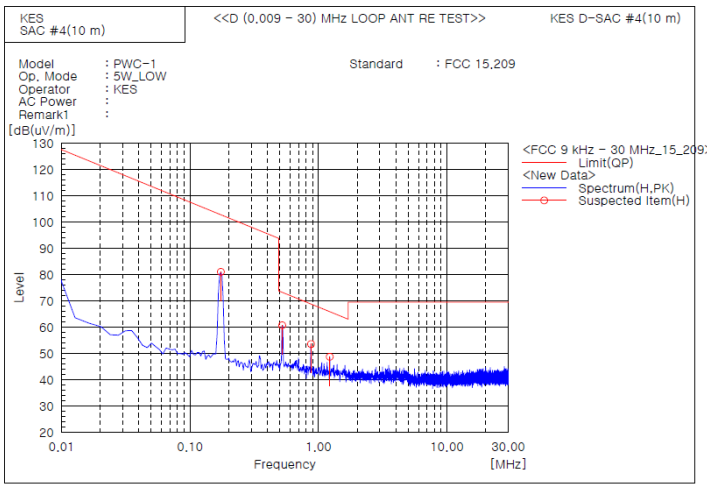
**Test results (Below 30 ㎒)**

Mode: 5W // 10 % charger

Distance of measurement: 3 meter

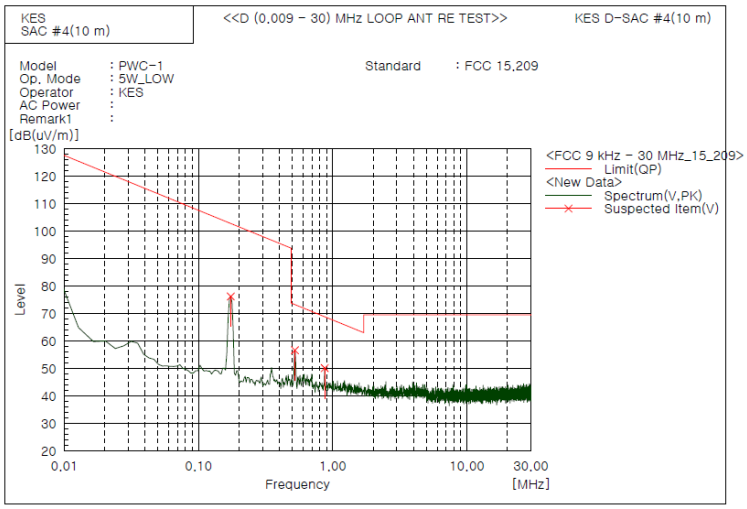
## Horizontal




Spectrum Selection

| No. | Frequency [MHz] | (P) | Reading [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.174 | H | 61.2 | 19.8 | 81.0 | 102.8 | 21.8 | |
| 2 | 0.523 | H | 40.1 | 20.6 | 60.7 | 73.2 | 12.5 | |
| 3 | 0.875 | H | 32.5 | 21.0 | 53.5 | 68.8 | 15.3 | |
| 4 | 1.224 | H | 27.9 | 20.8 | 48.7 | 65.9 | 17.2 | |

## Vertical




Spectrum Selection

| No. | Frequency [MHz] | (P) | Reading [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.174 | V | 56.4 | 19.8 | 76.2 | 102.8 | 26.6 | |
| 2 | 0.523 | V | 36.0 | 20.6 | 56.6 | 73.2 | 16.6 | |
| 3 | 0.871 | V | 29.1 | 21.0 | 50.1 | 68.8 | 18.7 | |

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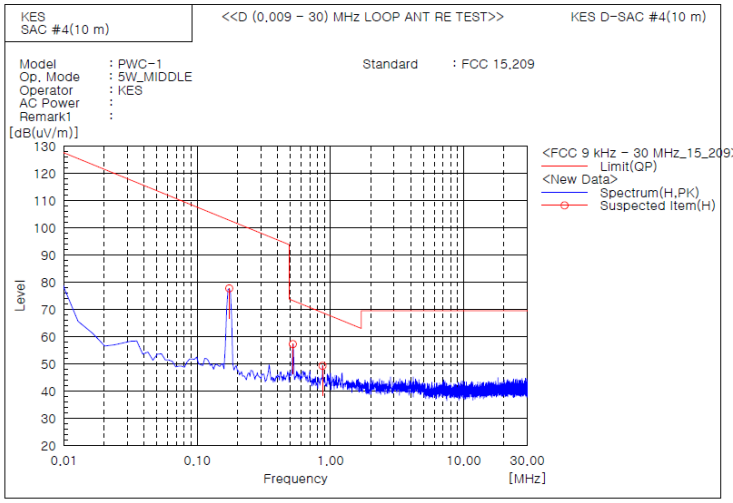
Mode: 5W // 50 % charge

Distance of measurement: 3 meter

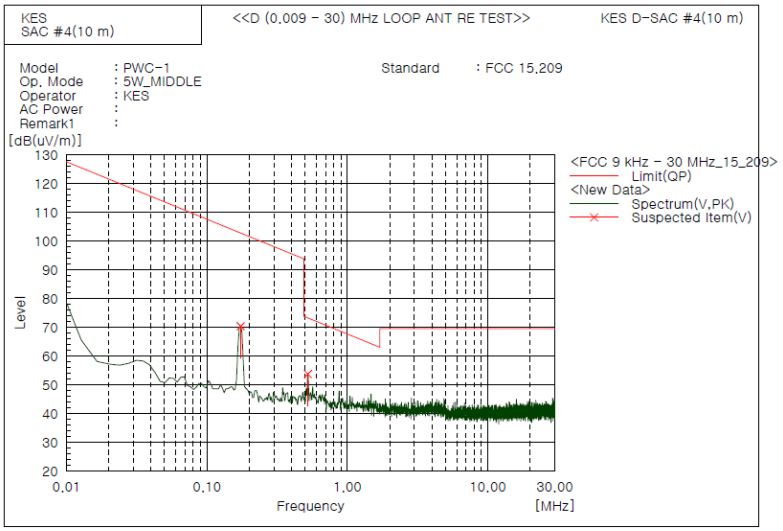
## Horizontal




Spectrum Selection

| No. | Frequency [MHz] | (P) | Reading [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.174 | H | 57.9 | 19.8 | 77.7 | 102.8 | 25.1 | |
| 2 | 0.523 | H | 36.6 | 20.6 | 57.2 | 73.2 | 16.0 | |
| 3 | 0.871 | H | 28.2 | 21.0 | 49.2 | 68.8 | 19.6 | |

## Vertical




Spectrum Selection

| No. | Frequency [MHz] | (P) | Reading [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.174 | V | 50.5 | 19.8 | 70.3 | 102.8 | 32.5 | |
| 2 | 0.523 | V | 33.1 | 20.6 | 53.7 | 73.2 | 19.5 | |

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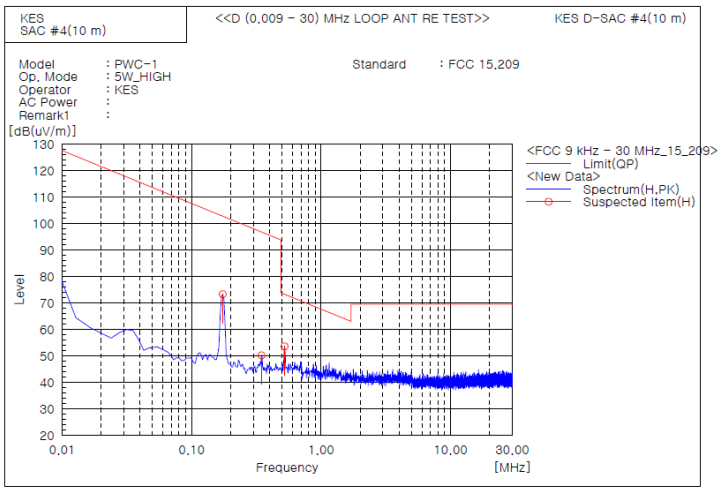
Mode: 5W // 90 % charge

Distance of measurement: 3 meter

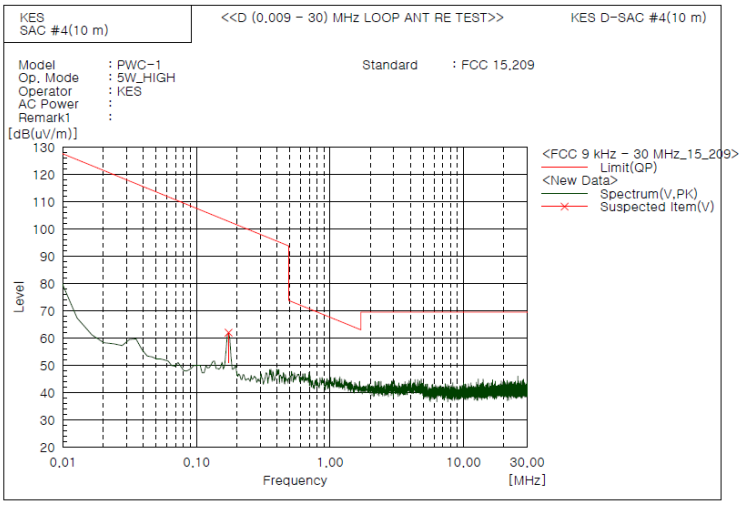
## Horizontal




Spectrum Selection

| No. | Frequency [MHz] | (P) | Reading [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.174 | H | 53.5 | 19.8 | 73.3 | 102.8 | 29.5 | |
| 2 | 0.346 | H | 30.0 | 20.2 | 50.2 | 96.8 | 46.6 | |
| 3 | 0.523 | H | 32.9 | 20.6 | 53.5 | 73.2 | 19.7 | |

## Vertical



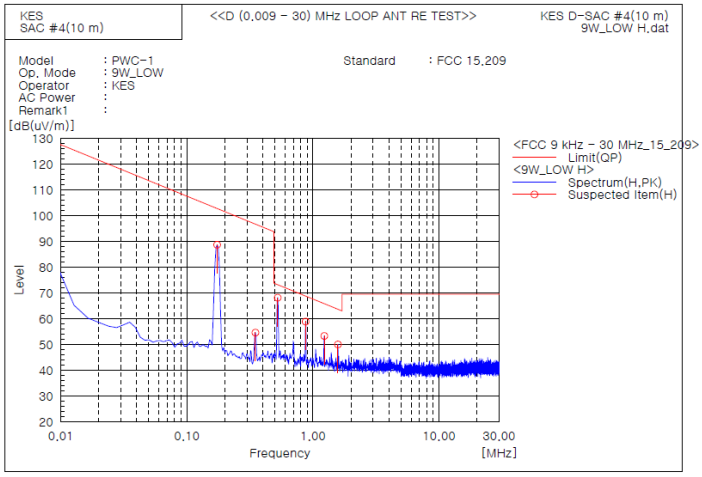

Spectrum Selection

| No. | Frequency [MHz] | (P) | Reading [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.174 | V | 42.2 | 19.8 | 62.0 | 102.8 | 40.8 | |

Mode: 9W // 10 % charger

Distance of measurement: 3 meter

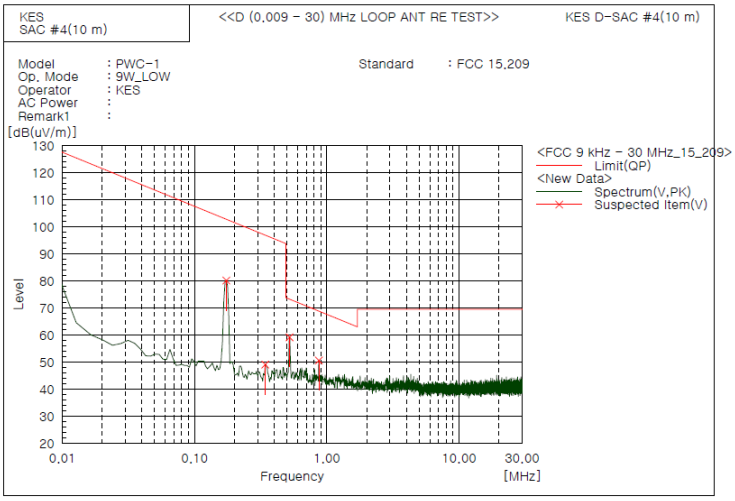
## Horizontal




Spectrum Selection

| No. | Frequency [MHz] | (P) | Reading [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Result QP [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.174 | H | 68.9 | 19.8 | 88.7 | | 102.8 | 14.1 | |
| 2 | 0.350 | H | 34.4 | 20.2 | 54.6 | | 96.7 | 42.1 | |
| 3 | 0.526 | H | 47.5 | 20.6 | 68.1 | | 73.2 | 5.1 | |
| 4 | 0.875 | H | 37.9 | 21.0 | 58.9 | | 68.8 | 9.9 | |
| 5 | 1.231 | H | 32.5 | 20.8 | 53.3 | | 65.8 | 12.5 | |
| 6 | 1.580 | H | 29.9 | 20.1 | 50.0 | | 63.7 | 13.7 | |

## Vertical




Spectrum Selection

| No. | Frequency [MHz] | (P) | Reading [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Result QP [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.174 | V | 60.4 | 19.8 | 80.2 | | 102.8 | 22.6 | |
| 2 | 0.343 | V | 28.9 | 20.2 | 49.1 | | 96.9 | 47.8 | |
| 3 | 0.523 | V | 38.6 | 20.6 | 59.2 | | 73.2 | 14.0 | |
| 4 | 0.871 | V | 29.6 | 21.0 | 50.6 | | 68.8 | 18.2 | |

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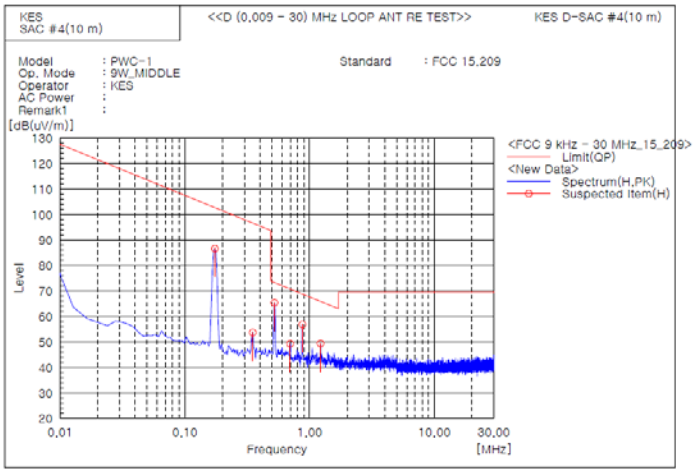
Mode: 9W // 50 % charge

Distance of measurement: 3 meter

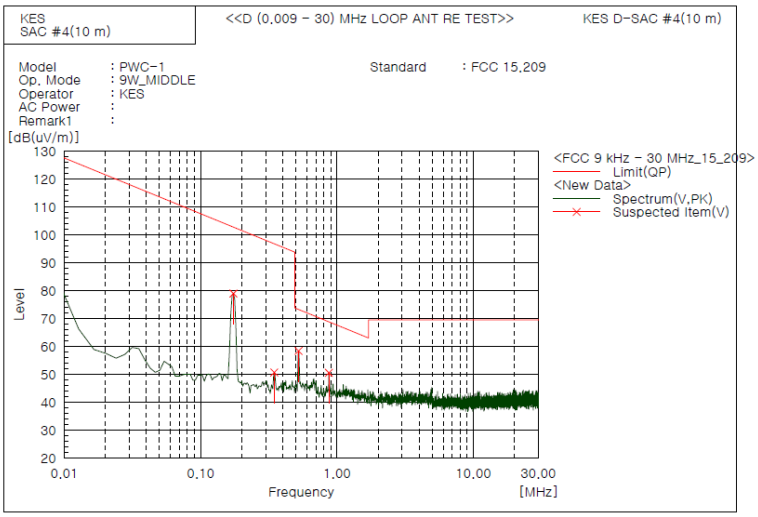
## Horizontal




Spectrum Selection

| No. | Frequency [MHz] | (P) | Reading [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.174 | H | 66.8 | 19.8 | 86.6 | 102.8 | 16.2 | |
| 2 | 0.350 | H | 33.5 | 20.2 | 53.7 | 96.7 | 43.0 | |
| 3 | 0.523 | H | 44.7 | 20.6 | 65.3 | 73.2 | 7.9 | |
| 4 | 0.699 | H | 28.4 | 20.9 | 49.3 | 70.7 | 21.4 | |
| 5 | 0.875 | H | 35.8 | 21.0 | 56.8 | 68.8 | 12.0 | |
| 6 | 1.224 | H | 28.6 | 20.8 | 49.4 | 65.9 | 16.5 | |

## Vertical




Spectrum Selection

| No. | Frequency [MHz] | (P) | Reading [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.174 | V | 59.2 | 19.8 | 79.0 | 102.8 | 23.8 | |
| 2 | 0.346 | V | 30.4 | 20.2 | 50.6 | 96.8 | 46.2 | |
| 3 | 0.523 | V | 37.8 | 20.6 | 58.4 | 73.2 | 14.8 | |
| 4 | 0.871 | V | 29.5 | 21.0 | 50.5 | 68.8 | 18.3 | |

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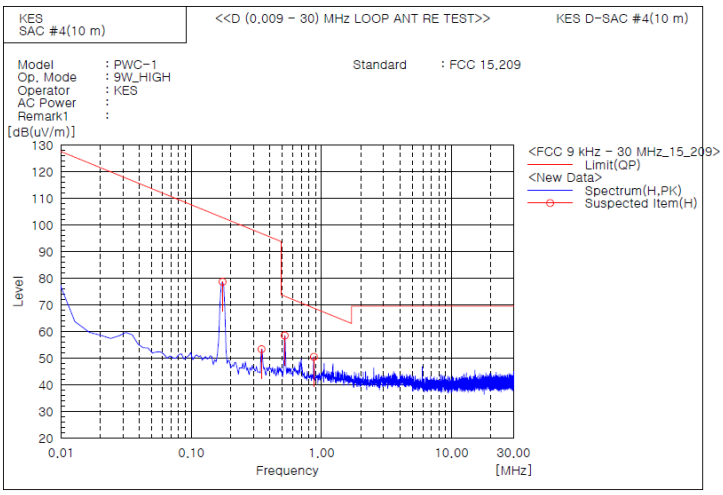
Mode: 9W // 90 % charge

Distance of measurement: 3 meter

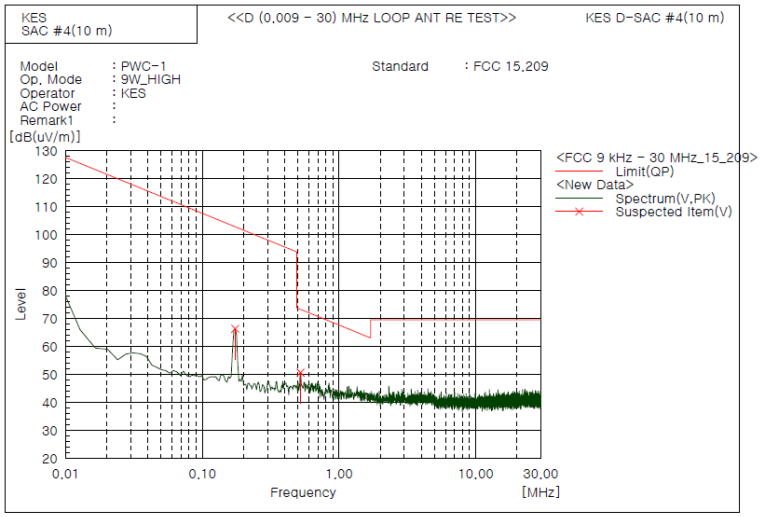
## Horizontal




Spectrum Selection

| No. | Frequency [MHz] | (P) | Reading [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.174 | H | 58.9 | 19.8 | 78.7 | 102.8 | 24.1 | |
| 2 | 0.346 | H | 33.2 | 20.2 | 53.4 | 96.8 | 43.4 | |
| 3 | 0.523 | H | 37.9 | 20.6 | 58.5 | 73.2 | 14.7 | |
| 4 | 0.875 | H | 29.5 | 21.0 | 50.5 | 68.8 | 18.3 | |

## Vertical




Spectrum Selection

| No. | Frequency [MHz] | (P) | Reading [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.174 | V | 46.5 | 19.8 | 66.3 | 102.8 | 36.5 | |
| 2 | 0.523 | V | 30.0 | 20.6 | 50.6 | 73.2 | 22.6 | |

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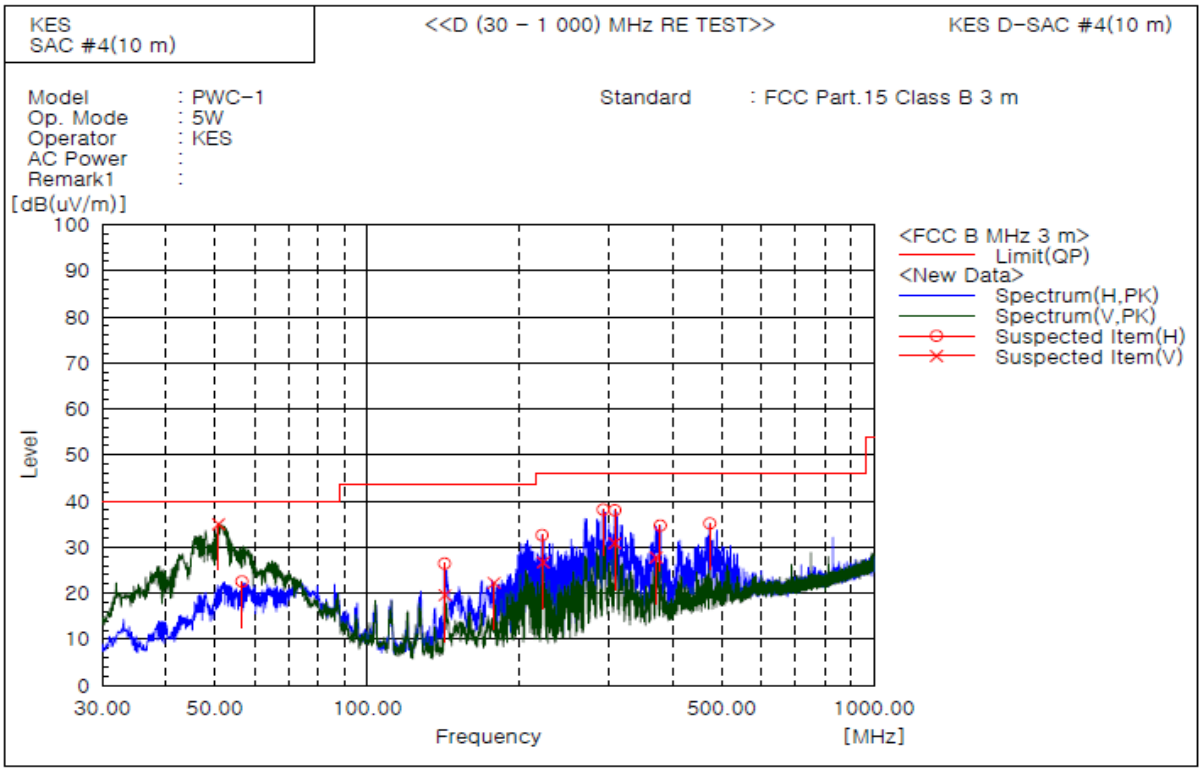
**Test results (Below 1 000 ㎒)**

Mode: 5W // 10 % charge (Worst case)

Distance of measurement: 3 meter

**Horizontal // Vertical**




Spectrum Selection

| No. | Frequency [MHz] | (P) | Reading [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 56.554 | H | 51.5 | -28.9 | 22.6 | 40.0 | 17.4 | |
| 2 | 142.035 | H | 59.7 | -33.3 | 26.4 | 43.5 | 17.1 | |
| 3 | 221.211 | H | 60.8 | -28.2 | 32.6 | 46.0 | 13.4 | |
| 4 | 291.900 | H | 63.9 | -25.7 | 38.2 | 46.0 | 7.8 | |
| 5 | 307.784 | H | 63.3 | -25.3 | 38.0 | 46.0 | 8.0 | |
| 6 | 378.351 | H | 57.6 | -22.9 | 34.7 | 46.0 | 11.3 | |
| 7 | 473.654 | H | 55.2 | -20.1 | 35.1 | 46.0 | 10.9 | |
| 8 | 50.855 | V | 63.3 | -28.3 | 35.0 | 40.0 | 5.0 | |
| 9 | 142.156 | V | 52.9 | -33.3 | 19.6 | 43.5 | 23.9 | |
| 10 | 177.804 | V | 53.6 | -31.4 | 22.2 | 43.5 | 21.3 | |
| 11 | 222.303 | V | 54.9 | -28.2 | 26.7 | 46.0 | 19.3 | |
| 12 | 307.905 | V | 56.2 | -25.3 | 30.9 | 46.0 | 15.1 | |
| 13 | 371.198 | V | 51.0 | -23.2 | 27.8 | 46.0 | 18.2 | |

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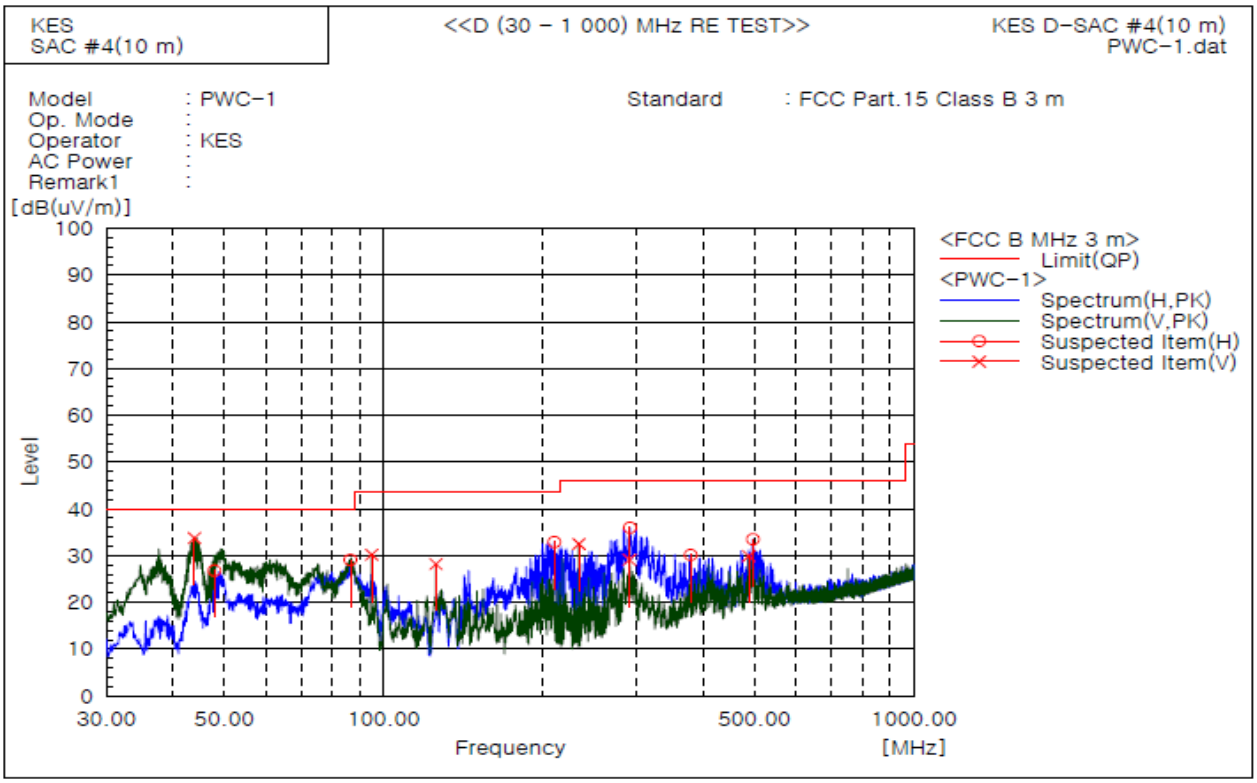
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

Mode: 9W // 10 % charge (Worst case)

Distance of measurement: 3 meter

**Horizontal // Vertical**




Spectrum Selection

| No. | Frequency [MHz] | (P) | Reading [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | 47.945 | H | 55.3 | -28.5 | 26.8 | 40.0 | 13.2 | |
| 2 | 86.503 | H | 61.4 | -32.3 | 29.1 | 40.0 | 10.9 | |
| 3 | 209.814 | H | 61.4 | -28.5 | 32.9 | 43.5 | 10.6 | |
| 4 | 291.294 | H | 61.8 | -25.8 | 36.0 | 46.0 | 10.0 | |
| 5 | 379.079 | H | 53.0 | -22.9 | 30.1 | 46.0 | 15.9 | |
| 6 | 496.934 | H | 52.9 | -19.4 | 33.5 | 46.0 | 12.5 | |
| 7 | 43.944 | V | 62.6 | -28.9 | 33.7 | 40.0 | 6.3 | |
| 8 | 94.869 | V | 60.8 | -30.6 | 30.2 | 43.5 | 13.3 | |
| 9 | 125.424 | V | 61.3 | -33.1 | 28.2 | 43.5 | 15.3 | |
| 10 | 233.336 | V | 60.3 | -27.8 | 32.5 | 46.0 | 13.5 | |
| 11 | 290.566 | V | 54.9 | -25.8 | 29.1 | 46.0 | 16.9 | |
| 12 | 488.083 | V | 49.6 | -19.7 | 29.9 | 46.0 | 16.1 | |

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## 3.2. 20dB Bandwidth

**Test setup**

| EUT | — | Attenuator | — | Spectrum analyzer |
|---|---|---|---|---|

**Test procedures**

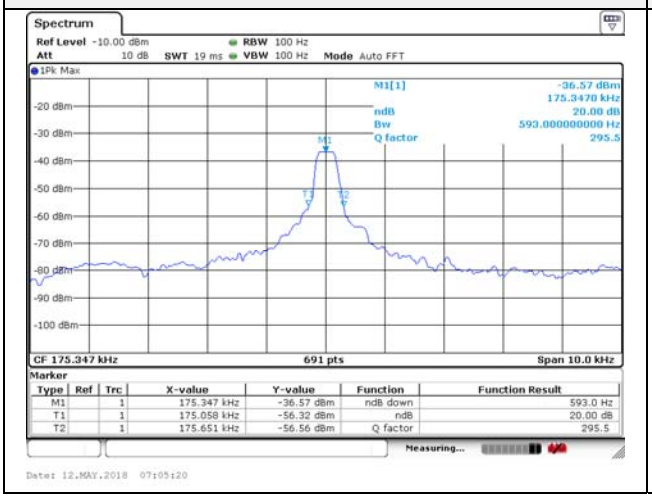
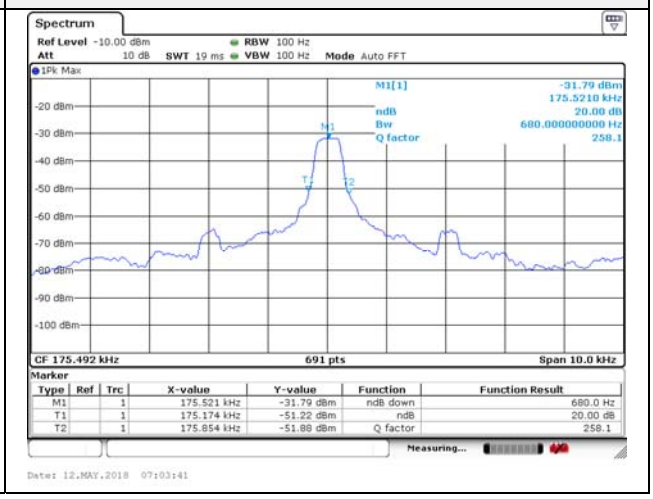
The transmitter output is connected to a spectrum analyzer. The RBW is set to ≥ 1% of the emission bandwidth. The VBW is set to ≥RBW. The sweep time is coupled.

**Limit**

None; for reporting purposes only.

**Test results**

| Power source(W) | Frequency(㎒) | Measured bandwidth(㎑) |
|---|---|---|
| 5.0 | 0.175 | 0.593 |
| 9.0 | 0.175 | 0.680 |

| 5W // Middle channel | 9W // Middle channel |
|---|---|
|  |  |





**Note.**

Because the measured signal is CW/CW-like, adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.

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## 3.3. AC conducted emissions

**Limit**

According to 15.207(a), for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 ㎑ to 30 ㎒, shall not exceed the limits in the following table, as measured using a 50uH/50 ohm line impedance stabilization network (LISN). Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequencies ranges.

| Frequency of Emission (㎒) | Conducted limit (dBμV/m) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15 – 0.50 | 66 - 56* | 56 - 46* |
| 0.50 – 5.00 | 56 | 46 |
| 5.00 – 30.0 | 60 | 50 |

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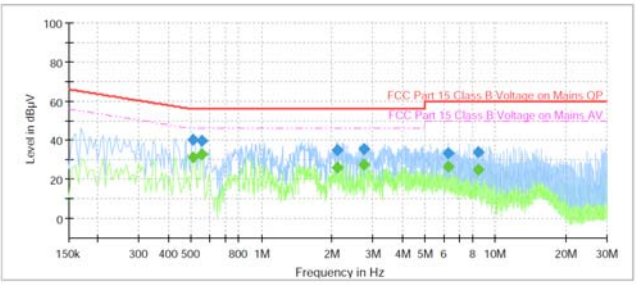
**Test results**

Mode: 5W // 10 % charge (Worst case)

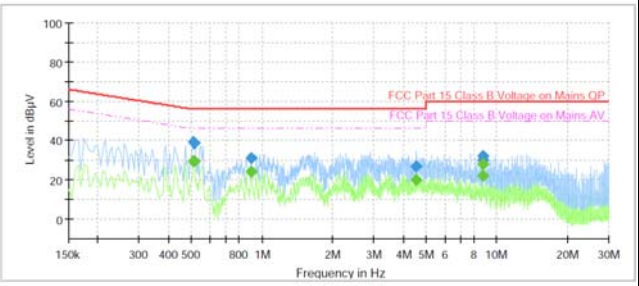
**Hot Line**




**Final_Result**

| Frequency (MHz) | QuasiPeak (dBµV) | CAverage (dBµV) | Limit (dBµV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|
| 0.510000 | --- | 31.12 | 46.00 | 14.88 | 1000.0 | 9.000 | L1 | 9.8 |
| 0.510000 | 40.02 | --- | 56.00 | 15.98 | 1000.0 | 9.000 | L1 | 9.8 |
| 0.555000 | --- | 32.84 | 46.00 | 13.16 | 1000.0 | 9.000 | L1 | 9.8 |
| 0.555000 | 39.96 | --- | 56.00 | 16.04 | 1000.0 | 9.000 | L1 | 9.8 |
| 2.120000 | --- | 25.86 | 46.00 | 20.14 | 1000.0 | 9.000 | L1 | 10.1 |
| 2.120000 | 35.16 | --- | 56.00 | 20.84 | 1000.0 | 9.000 | L1 | 10.1 |
| 2.755000 | --- | 27.64 | 46.00 | 18.36 | 1000.0 | 9.000 | L1 | 10.2 |
| 2.755000 | 35.54 | --- | 56.00 | 20.46 | 1000.0 | 9.000 | L1 | 10.2 |
| 6.320000 | --- | 26.30 | 50.00 | 23.70 | 1000.0 | 9.000 | L1 | 9.9 |
| 6.320000 | 33.58 | --- | 60.00 | 26.42 | 1000.0 | 9.000 | L1 | 9.9 |
| 8.425000 | --- | 24.93 | 50.00 | 25.07 | 1000.0 | 9.000 | L1 | 9.8 |
| 8.425000 | 33.99 | --- | 60.00 | 26.01 | 1000.0 | 9.000 | L1 | 9.8 |

**Neutral Line**




**Final_Result**

| Frequency (MHz) | QuasiPeak (dBµV) | CAverage (dBµV) | Limit (dBµV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|
| 0.510000 | --- | 29.75 | 46.00 | 16.25 | 1000.0 | 9.000 | N | 9.8 |
| 0.510000 | 39.01 | --- | 56.00 | 16.99 | 1000.0 | 9.000 | N | 9.8 |
| 0.515000 | --- | 29.70 | 46.00 | 16.30 | 1000.0 | 9.000 | N | 9.8 |
| 0.515000 | 38.79 | --- | 56.00 | 17.21 | 1000.0 | 9.000 | N | 9.8 |
| 0.900000 | --- | 24.60 | 46.00 | 21.40 | 1000.0 | 9.000 | N | 9.9 |
| 0.900000 | 31.45 | --- | 56.00 | 24.55 | 1000.0 | 9.000 | N | 9.9 |
| 4.555000 | --- | 20.07 | 46.00 | 25.93 | 1000.0 | 9.000 | N | 10.1 |
| 4.555000 | 27.02 | --- | 56.00 | 28.98 | 1000.0 | 9.000 | N | 10.1 |
| 8.760000 | --- | 22.47 | 50.00 | 27.53 | 1000.0 | 9.000 | N | 9.8 |
| 8.760000 | 30.03 | --- | 60.00 | 29.97 | 1000.0 | 9.000 | N | 9.8 |
| 8.770000 | --- | 28.06 | 50.00 | 21.94 | 1000.0 | 9.000 | N | 9.8 |
| 8.770000 | 32.48 | --- | 60.00 | 27.52 | 1000.0 | 9.000 | N | 9.8 |

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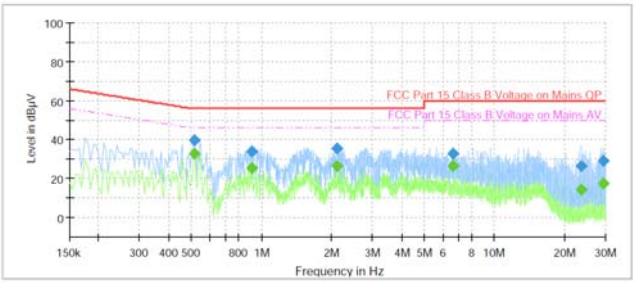
Mode: 9W // 10 % charge (Worst case)

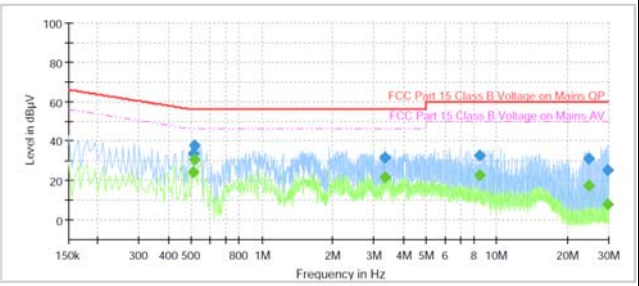
## Hot Line




**Final_Result**

| Frequency (MHz) | QuasiPeak (dBµV) | CAverage (dBµV) | Limit (dBµV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|
| 0.515000 | 39.59 | --- | 56.00 | 16.41 | 1000.0 | 9.000 | L1 | 9.8 |
| 0.515000 | --- | 32.78 | 46.00 | 13.22 | 1000.0 | 9.000 | L1 | 9.8 |
| 0.910000 | --- | 25.38 | 46.00 | 20.62 | 1000.0 | 9.000 | L1 | 10.0 |
| 0.910000 | 34.07 | --- | 56.00 | 21.93 | 1000.0 | 9.000 | L1 | 10.0 |
| 2.105000 | --- | 26.31 | 46.00 | 19.69 | 1000.0 | 9.000 | L1 | 10.1 |
| 2.105000 | 35.45 | --- | 56.00 | 20.55 | 1000.0 | 9.000 | L1 | 10.1 |
| 6.670000 | 32.99 | --- | 60.00 | 27.01 | 1000.0 | 9.000 | L1 | 9.9 |
| 6.670000 | --- | 26.38 | 50.00 | 23.62 | 1000.0 | 9.000 | L1 | 9.9 |
| 23.705000 | --- | 14.10 | 50.00 | 35.90 | 1000.0 | 9.000 | L1 | 10.3 |
| 23.705000 | 26.41 | --- | 60.00 | 33.59 | 1000.0 | 9.000 | L1 | 10.3 |
| 29.330000 | --- | 17.36 | 50.00 | 32.64 | 1000.0 | 9.000 | L1 | 10.3 |
| 29.330000 | 28.99 | --- | 60.00 | 31.01 | 1000.0 | 9.000 | L1 | 10.3 |

## Neutral Line




**Final_Result**

| Frequency (MHz) | QuasiPeak (dBµV) | CAverage (dBµV) | Limit (dBµV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|
| 0.510000 | 33.87 | --- | 56.00 | 22.13 | 1000.0 | 9.000 | N | 9.8 |
| 0.510000 | --- | 24.43 | 46.00 | 21.57 | 1000.0 | 9.000 | N | 9.8 |
| 0.515000 | 37.67 | --- | 56.00 | 18.33 | 1000.0 | 9.000 | N | 9.8 |
| 0.515000 | --- | 30.94 | 46.00 | 15.06 | 1000.0 | 9.000 | N | 9.8 |
| 3.340000 | 31.93 | --- | 56.00 | 24.07 | 1000.0 | 9.000 | N | 10.2 |
| 3.340000 | --- | 21.81 | 46.00 | 24.19 | 1000.0 | 9.000 | N | 10.2 |
| 8.430000 | 32.90 | --- | 60.00 | 27.10 | 1000.0 | 9.000 | N | 9.8 |
| 8.430000 | --- | 22.72 | 50.00 | 27.28 | 1000.0 | 9.000 | N | 9.8 |
| 24.575000 | 30.99 | --- | 60.00 | 29.01 | 1000.0 | 9.000 | N | 10.2 |
| 24.575000 | --- | 17.76 | 50.00 | 32.24 | 1000.0 | 9.000 | N | 10.2 |
| 29.620000 | --- | 7.79 | 50.00 | 42.21 | 1000.0 | 9.000 | N | 10.3 |
| 29.620000 | 25.35 | --- | 60.00 | 34.65 | 1000.0 | 9.000 | N | 10.3 |

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## Appendix A. Measurement equipment

| Equipment | Manufacturer | Model | Serial No. | Calibration interval | Calibration due. |
|---|---|---|---|---|---|
| Spectrum Analyzer | R&S | FSV40 | 101002 | 1 year | 2018.07.04 |
| Loop Antenna | Schwarzbeck | FMZB1513 | 225 | 2 years | 2019.05.10 |
| Trilog-broadband antenna | SCHWARZBECK | VULB 9163 | 9168-714 | 2 years | 2018.11.28 |
| Preamplifier | AGILENT | 8449B | 3008A01729 | 1 year | 2018.05.31 |
| EMI Test Receiver | R&S | ESU26 | 100551 | 1 year | 2019.04.11 |
| Pulse Limiter | R&S | ESH3-Z2 | 101915 | 1 year | 2018.11.27 |
| LISN | R&S | ENV216 | 101787 | 1 year | 2019.01.31 |

## Peripheral device

| Device | Manufacturer | Model No. | S/N | Note |
|---|---|---|---|---|
| AC/DC Adapter | WEIHAI PNTELECOM | MCS-H06KP | PB7Y0000322 | Output Power : 9.0V / 5.0 V |
| 10/50/90% Load | PNTELECOM CO.,LTD | N/A | N/A | N/A |

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