



FCC RADIO TEST REPORT

Applicant : LIFEWORKS TECHNOLOGY GROUP LLC.

Address : 1412 Broadway New York, NY 10018

Equipment : Wireless charging Car Mount

Model No. : IHBLQI3000B

Trademark : iHome

FCC ID : WWEIHQI3000

I HEREBY CERTIFY THAT :

The sample was received on Sept. 19, 2019 and the test items were conducted during Sept. 25, 2019 at CerpPASS Technology (Suzhou) Co., Ltd. The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology (Suzhou) Co., Ltd., the test report shall not be reproduced except in full.

Approved by:

Miro Chueh
EMC/RF Manager

Laboratory Accreditation:

CerpPASS Technology Corporation Test Laboratory



TAF LAB Code: 1439

CerpPASS Technology (SuZhou) Co., Ltd.



A2LA LAB Code: 4981.01



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History of this test report

■ ORIGINAL

☐ Additional attachment as following record:

| Attachment No. | Issue Date | Description |
|----------------|----------------|-------------|
| SEFU1909089 | Sept. 25, 2019 | Original |
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1. Report of Measurements and Examinations

1.1 List of Measurements and Examinations

FCC CFR Title 47 Part 15 Subpart C Section 15.209

| FCC Rule | Description of Test | Result |
|-------------|-----------------------|--------|
| § 15.203 | . Antenna Requirement | Pass |
| § 15.207(a) | . Conducted Emission | Pass |
| § 15.209(a) | . Radiated Emission | Pass |



2. Test Configuration of Equipment under Test

2.1 Feature of Equipment under Test

| | |
|-------------------|--|
| Product | Wireless charging Car Mount |
| Test Model | IHBLQI3000B |
| Model Discrepancy | N/A |
| Frequency Range | 110KHz~205KHz |
| Antenna Type | Loop antenna |
| Modulation Type | ASK |
| Power Rating | Input:5V $\overline{\text{---}}$ 2.0A Output: 5V $\overline{\text{---}}$ 1.0A |

Note: For more details, please refer to the User's manual of the EUT.

2.2 Description of the test mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

The following test mode was performed for conduction and radiation test:

Test Mode 1: TX+ Wireless Charging

2.3 Description of Test System

| No | Device | Manufacturer | Model No. | Description |
|----|---------|--------------|------------|-------------|
| 1 | LOAD | N/A | 5 Ω | N/A |
| 2 | Adapter | ChengGuo | CD122 | N/A |

Use cable

| No. | Cable | Quantity | Description |
|-----|-----------------|----------|--------------------|
| 1 | Micro usb Cable | 1 | 1.0m Non Shielding |



2.4 General Information of Test

| | | |
|-------------------------------------|-----------|--|
| <input type="checkbox"/> | Test Site | Cerpass Technology Corporation Test Laboratory Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel:+886-3-3226-888 Fax:+886-3-3226-881 |
| | FCC | TW1079, TW1061, TW1439 |
| | IC | 4934E-1, 4934E-2 |
| | VCCI | T-2205 for Telecommunication Test C-4663 for Conducted emission test R-4399, R-4218 for Radiated emission test G-10812, G-10813 for radiated disturbance above 1GHz |
| <input checked="" type="checkbox"/> | Test Site | Cerpass Technology (Suzhou) Co., Ltd Address: No.66, Tangzhuang Road, Suzhou Industrial Park, Jiangsu 215006, China Tel: +86-512-6917-5888 Fax: +86-512-6917-5666 |
| | CNAS | L5515 |
| | FCC | CN1243 |
| | A2LA | 4981.01 |
| | IC | 7290A-1, 7290A-2 |
| | VCCI | T-11945 for Telecommunication Test C-12919 for Conducted emission test R-12670 for Radiated emission test G-10227 for radiated disturbance above 1GHz |

2.5 Measurement Uncertainty

| Measurement Item | Measurement Uncertainty |
|---------------------------------|-------------------------|
| Conducted Emission | ±2.71 dB |
| Radiation test (10m) below 1GHz | Vertical : ±3.89 dB |
| | Horizontal: ±4.11 dB |
| Radiation test (3m) below 1GHz | Vertical : ±4.11 dB |
| | Horizontal: ±4.10 dB |



3. Test Equipment and Ancillaries Used for Tests

| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date. |
|--------------------------------|---------------|----------------------|------------|------------------|-------------|
| Test Receiver | R&S | ESCI | 100565 | 2019.07.13 | 2020.07.12 |
| AMN | R&S | ESH2-Z5 | 100182 | 2019.08.22 | 2020.08.21 |
| LISN | FCC | FCC-LISN-50-200-2-02 | 112087 | 2019.08.22 | 2020.08.21 |
| LISN | SCHWARZBECK | NSLK 8127 | 8127-920 | 2019.08.22 | 2020.08.21 |
| LISN | R&S | ENV216 | 100325 | 2019.08.22 | 2020.08.21 |
| Pulse Limiter | R&S | ESH3-Z2 | 100529 | 2019.03.11 | 2020.03.10 |
| Temperature/ Humidity Meter | Zhicheng | ZC1-11 | CEP-TH-004 | 2019.03.17 | 2020.03.16 |
| EZ-EMC | Fala | Ver CT3A1 | N/A | N/A | N/A |
| EMI Test Receiver | R&S | ESCI | 101183 | 2019.07.05 | 2020.07.04 |
| Preamplifier | songyi | EM330 | 60618 | 2019.03.11 | 2020.03.10 |
| Preamplifier | HP | 8447F | 3113A05582 | 2019.03.11 | 2020.03.10 |
| Bilog Antenna | Sunol Science | JB1 | A072414-1 | 2019.06.26 | 2020.06.26 |
| Loop Antenna | R&S | HFH2-Z2 | 100150 | 2019.03.11 | 2020.03.10 |
| Temperature/ Humidity Meter | Zhicheng | ZC1-11 | CEP-TH-002 | 2019.03.17 | 2020.03.16 |
| EZ-EMC | Fala | Ver CT3A1 | N/A | N/A | N/A |



4. Antenna Requirements

4.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

4.2 Antenna Construction

The antenna is Coil Antenna, and the antenna connector is de-signed with permanent attachment and on consideration of replacement. Please see the EUT photo for details.

4.3 Result

The EUT antenna is a Loop Antenna. It complies with the standard requirement.



5. Test of Conducted Emission

5.1 Test Limit

According to §15.207: For all the consumer devices which 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 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range are listed as follows:

| Frequency (MHz) | Quasi Peak (dB μ V) | Average (dB μ V) |
|-----------------|-------------------------|----------------------|
| 0.15 – 0.5 | 66-56* | 56-46* |
| 0.5 – 5.0 | 56 | 46 |
| 5.0 – 30.0 | 60 | 50 |

Remark: (1)*Decreases with the logarithm of the frequency.

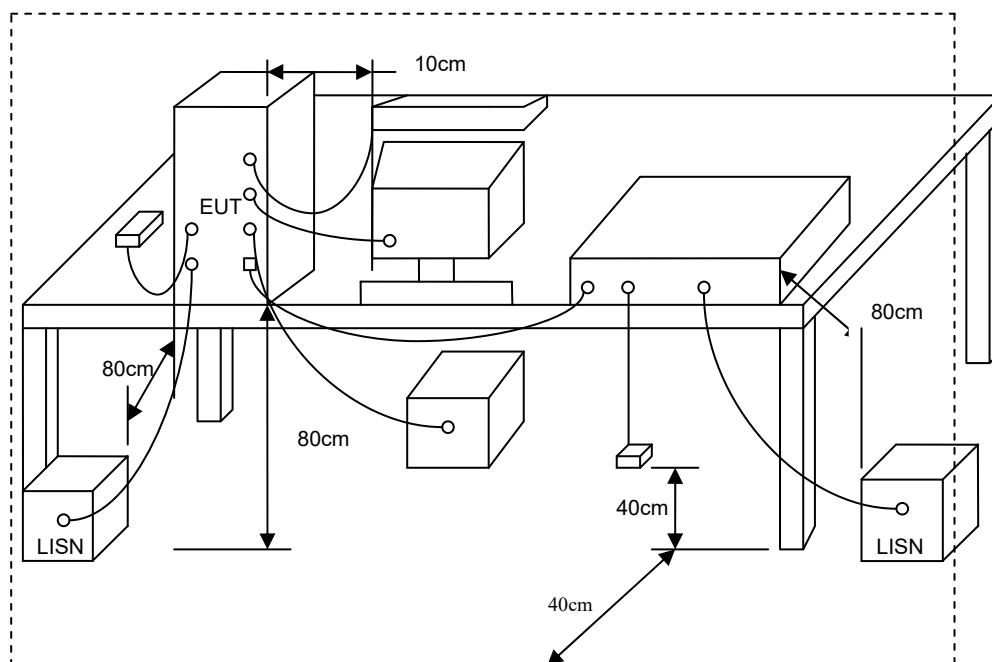
(2)The lower limit shall apply at the transition frequency.

5.2 Test Procedures

- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- Connect EUT to the power mains through a line impedance stabilization network (LISN).
- All the support units are connecting to the other LISN.
- The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.



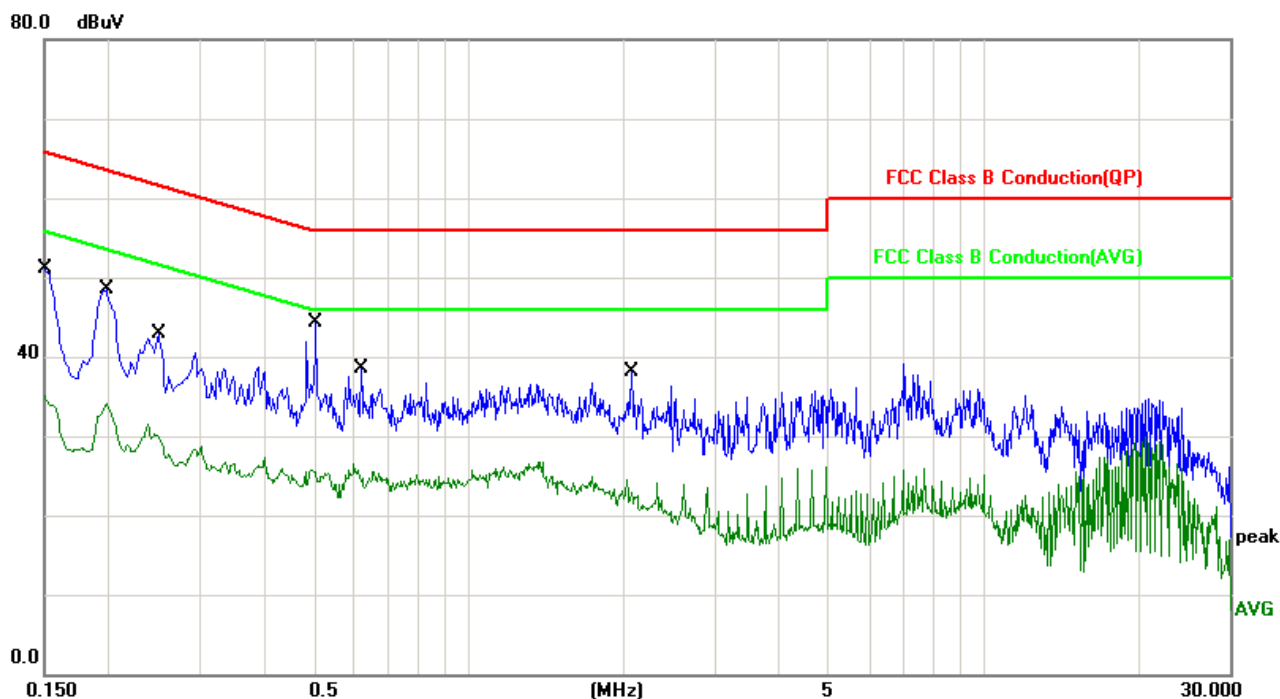
5.3 Typical Test Setup





5.4 Test Result and Data

| | | | |
|-----------------|-----------------------|-----------|----------------|
| Test Mode : | TX+ Wireless Charging | Phase : | Line |
| Temperature : | 20 °C | Humidity: | 51% |
| Pressur(mbar) : | 1002 | Date: | Sept. 23, 2019 |

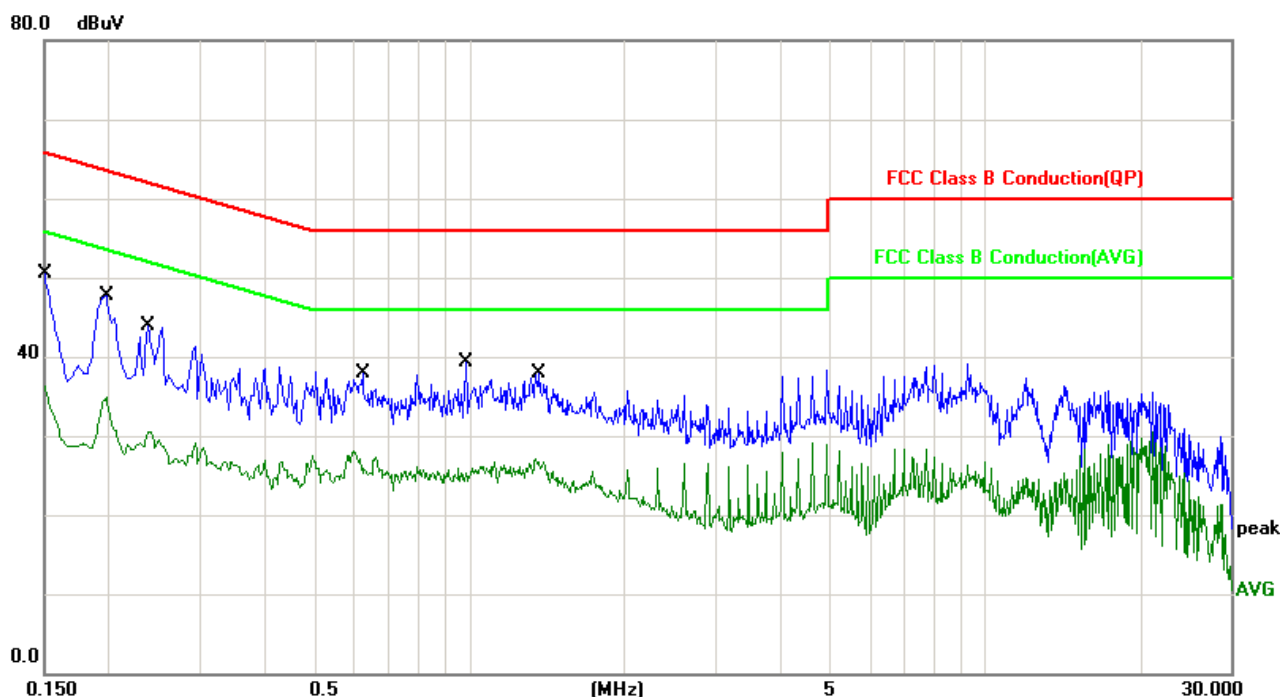


| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector |
|-----|-----------------|-------------|----------------|--------------|--------------|-------------|----------|
| 1 | 0.1500 | 10.06 | 36.50 | 46.56 | 65.99 | -19.43 | QP |
| 2 | 0.1500 | 10.06 | 25.75 | 35.81 | 55.99 | -20.18 | AVG |
| 3 | 0.1980 | 10.06 | 34.85 | 44.91 | 63.69 | -18.78 | QP |
| 4 | 0.1980 | 10.06 | 24.27 | 34.33 | 53.69 | -19.36 | AVG |
| 5 | 0.2500 | 10.03 | 27.43 | 37.46 | 61.75 | -24.29 | QP |
| 6 | 0.2500 | 10.03 | 19.15 | 29.18 | 51.75 | -22.57 | AVG |
| 7 | 0.5060 | 9.90 | 21.82 | 31.72 | 56.00 | -24.28 | QP |
| 8 | 0.5060 | 9.90 | 15.33 | 25.23 | 46.00 | -20.77 | AVG |
| 9 | 0.6180 | 10.00 | 19.92 | 29.92 | 56.00 | -26.08 | QP |
| 10 | 0.6180 | 10.00 | 14.72 | 24.72 | 46.00 | -21.28 | AVG |
| 11 | 2.0740 | 11.04 | 17.87 | 28.91 | 56.00 | -27.09 | QP |
| 12 | 2.0740 | 11.04 | 11.11 | 22.15 | 46.00 | -23.85 | AVG |

Note: Measurement Level = Reading Level + Correct Factor+ Attenuator



| | | | |
|-----------------|-----------------------|-----------|----------------|
| Test Mode : | TX+ Wireless Charging | Phase : | Neutral |
| Temperature : | 20 °C | Humidity: | 51% |
| Pressur(mbar) : | 1002 | Date: | Sept. 23, 2019 |



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector |
|-----|-----------------|-------------|----------------|--------------|--------------|-------------|----------|
| 1 | 0.1500 | 10.06 | 34.82 | 44.88 | 65.99 | -21.11 | QP |
| 2 | 0.1500 | 10.06 | 26.06 | 36.12 | 55.99 | -19.87 | AVG |
| 3 | 0.1980 | 10.06 | 34.46 | 44.52 | 63.69 | -19.17 | QP |
| 4 | 0.1980 | 10.06 | 23.80 | 33.86 | 53.69 | -19.83 | AVG |
| 5 | 0.2380 | 10.04 | 28.52 | 38.56 | 62.16 | -23.60 | QP |
| 6 | 0.2380 | 10.04 | 19.65 | 29.69 | 52.16 | -22.47 | AVG |
| 7 | 0.6220 | 10.00 | 21.30 | 31.30 | 56.00 | -24.70 | QP |
| 8 | 0.6220 | 10.00 | 15.84 | 25.84 | 46.00 | -20.16 | AVG |
| 9 | 0.9860 | 10.13 | 20.61 | 30.74 | 56.00 | -25.26 | QP |
| 10 | 0.9860 | 10.13 | 14.80 | 24.93 | 46.00 | -21.07 | AVG |
| 11 | 1.3700 | 10.14 | 22.02 | 32.16 | 56.00 | -23.84 | QP |
| 12 | 1.3700 | 10.14 | 15.94 | 26.08 | 46.00 | -19.92 | AVG |

Note: Measurement Level = Reading Level + Correct Factor+ Attenuator



6. Test of Radiated Emission

6.1 Test Limit

In any 100kHz bandwidth outside the frequency band, the radio frequency power produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205 Section 8.10 table 6 must also comply with the radiated emission limits specified as below.

Radiated Emission Limit (9KHz~1000MHz)

| FREQUENCIES(MHz) | FIELD STRENGTH(microvolts/meter) | MEASUREMENT DISTANCE(meters) |
|------------------|-------------------------------------|---------------------------------|
| 0.009~0.490 | 2400/F(kHz) | 300 |
| 0.490~1.705 | 24000/F(kHz) | 30 |
| 1.705~30.0 | 30 | 30 |
| 30~88 | 100 | 3 |
| 88~216 | 150 | 3 |
| 216~960 | 200 | 3 |
| Above 960 | 500 | 3 |

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level (dBuV/m)=20log Emission Level(uV/m)



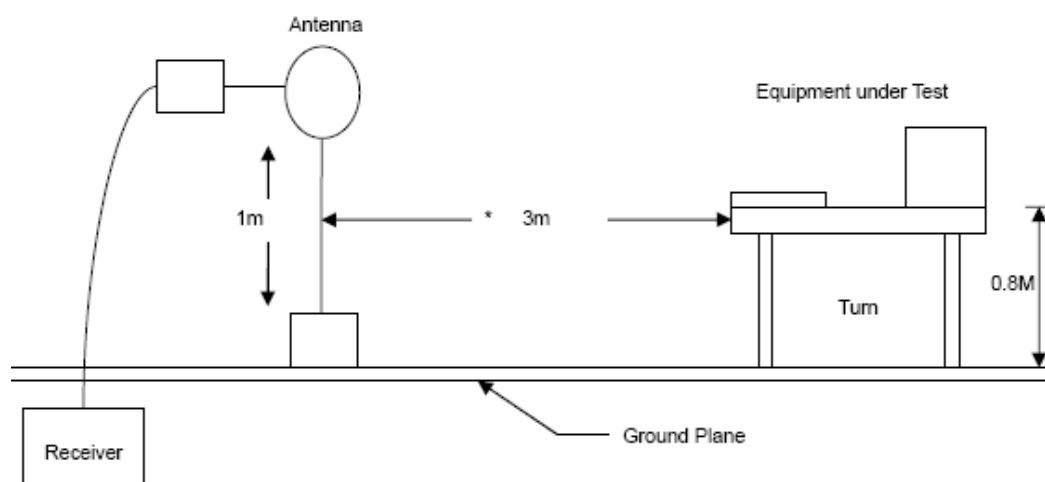
6.2 Test Procedures

- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
- h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

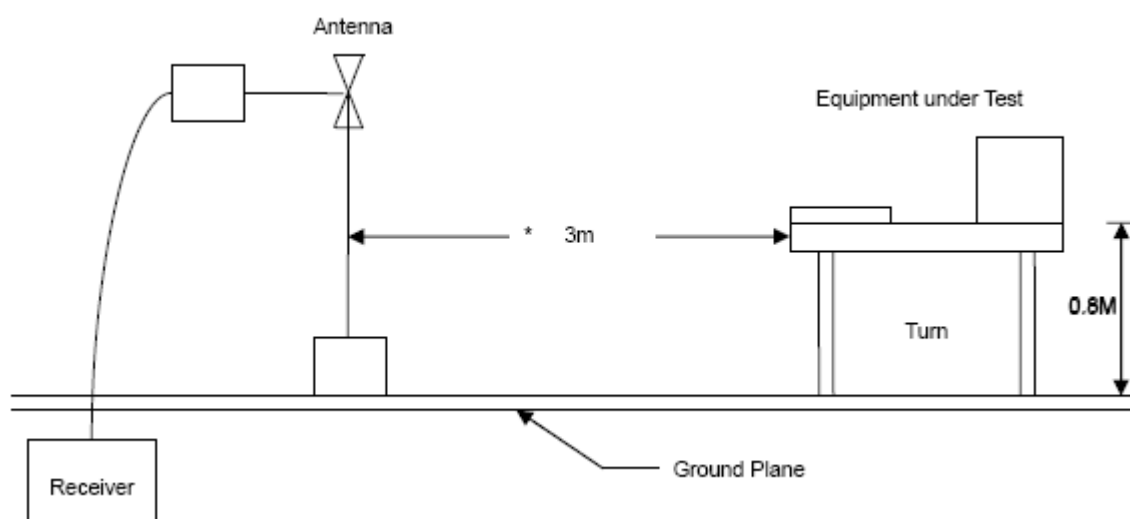


6.3 Typical Test Setup

Below 30MHz Test Setup



30M - 1GHz Test Setup

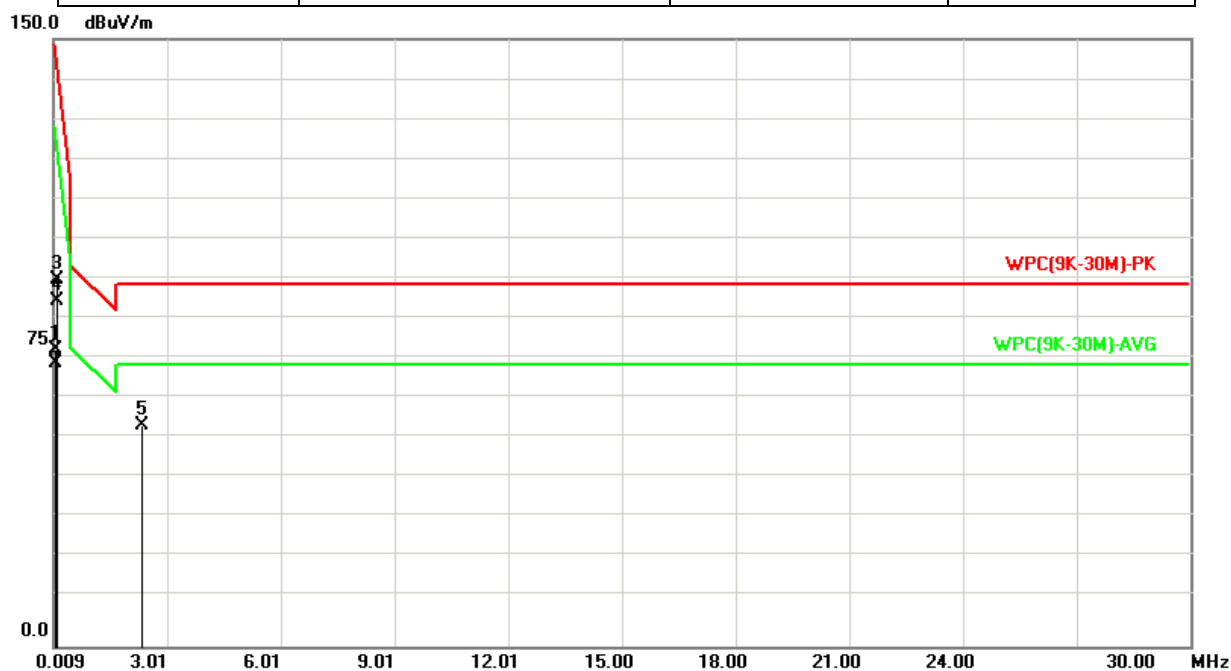




6.4 Test Result and Data

9KHz~30MHz

| | | | |
|-----------|-------------------------|--------------|--------|
| Power | : AC 120V/60Hz | Temperature | : 23°C |
| Test Mode | : TX+ Wireless Charging | Humidity | : 64 % |
| Test Date | : Sept. 23, 2019 | Polarization | : X |



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|
| 1 | 0.0583 | 20.70 | 52.72 | 73.42 | 132.29 | -58.87 | peak |
| 2 | 0.0583 | 20.70 | 49.08 | 69.78 | 112.29 | -42.51 | AVG |
| 3 | 0.1167 | 20.60 | 70.08 | 90.68 | 126.26 | -35.58 | peak |
| 4 | 0.1167 | 20.60 | 64.83 | 85.43 | 106.26 | -20.83 | AVG |
| 5 | 2.3335 | 20.87 | 33.76 | 54.63 | 89.54 | -34.91 | QP |

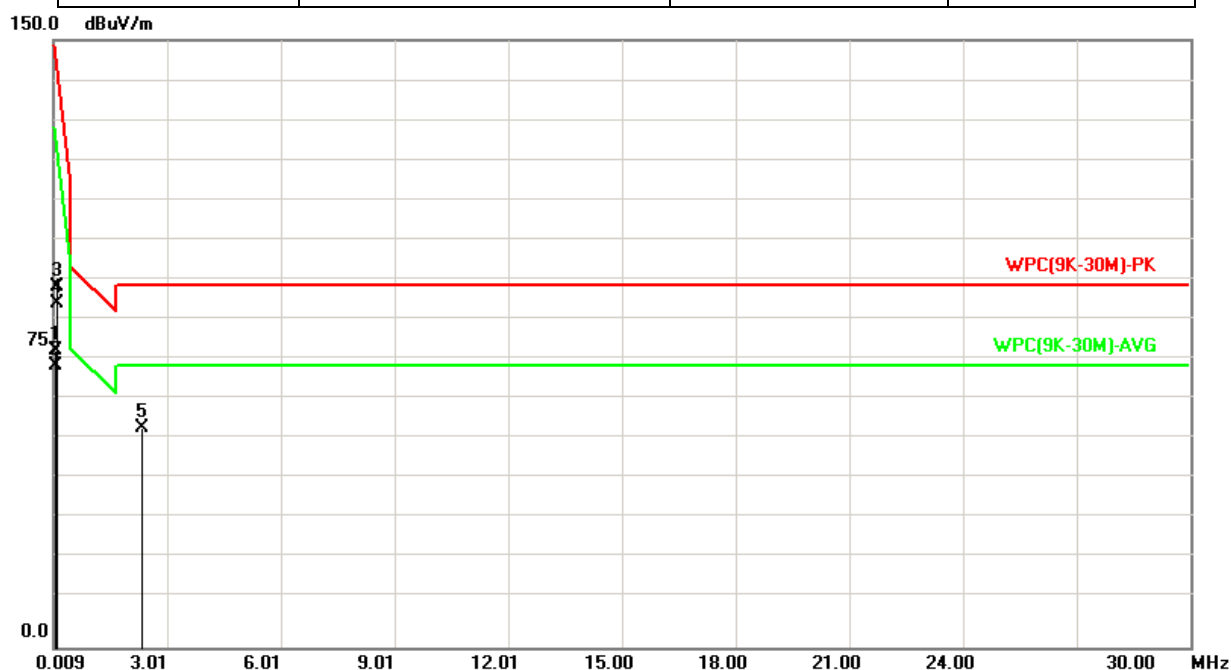
Note: Level = Reading + Factor

Margin = Level – Limit

Factor= Antenna Factor + Cable Loss - Amplifier Factor



| | | | |
|-----------|-------------------------|--------------|--------|
| Power | : AC 120V/60Hz | Temperature | : 23°C |
| Test Mode | : TX+ Wireless Charging | Humidity | : 64 % |
| Test Date | : Sept. 23, 2019 | Polarization | : Y |



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|
| 1 | 0.0586 | 20.70 | 52.55 | 73.25 | 132.25 | -59.00 | peak |
| 2 | 0.0586 | 20.70 | 49.04 | 69.74 | 112.25 | -42.51 | AVG |
| 3 | 0.1172 | 20.60 | 68.35 | 88.95 | 126.23 | -37.28 | peak |
| 4 | 0.1172 | 20.60 | 64.23 | 84.83 | 106.23 | -21.4 | AVG |
| 5 | 2.3449 | 20.86 | 33.50 | 54.36 | 89.54 | -35.18 | QP |

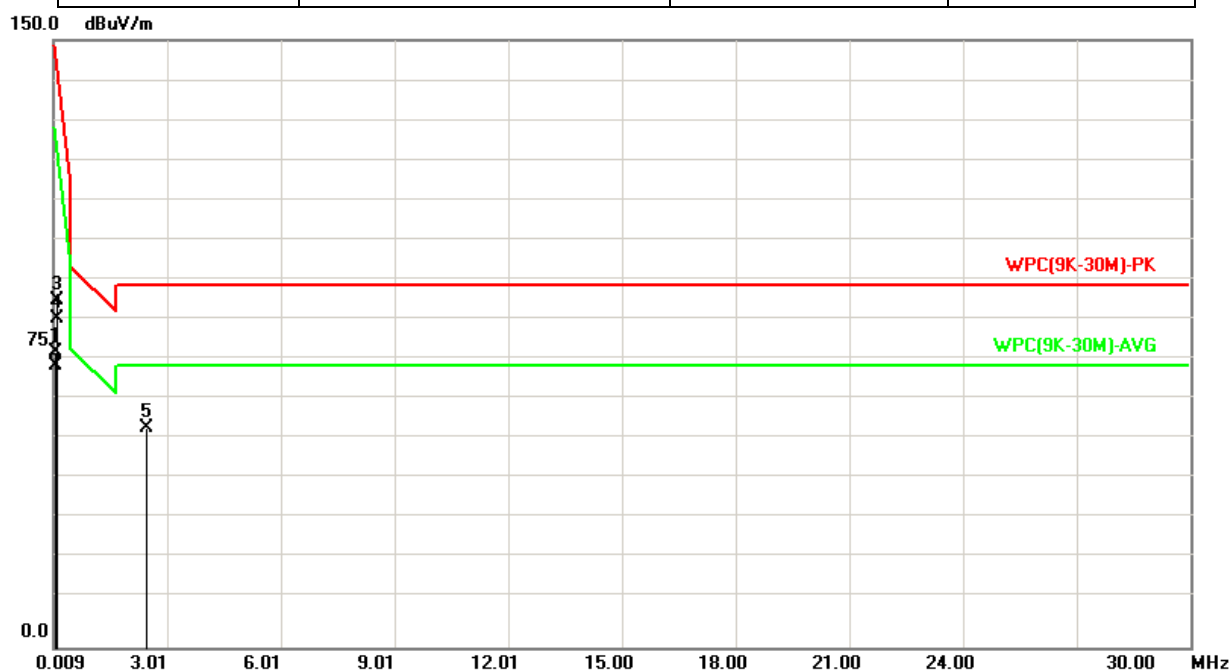
Note: Level = Reading + Factor

Margin = Level – Limit

Factor= Antenna Factor + Cable Loss - Amplifier Factor



| | | | |
|-----------|-------------------------|--------------|--------|
| Power | : AC 120V/60Hz | Temperature | : 23°C |
| Test Mode | : TX+ Wireless Charging | Humidity | : 64 % |
| Test Date | : Sept. 23, 2019 | Polarization | : Z |



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|
| 1 | 0.0617 | 20.70 | 52.40 | 73.10 | 131.8 | -58.70 | peak |
| 2 | 0.0617 | 20.70 | 48.83 | 69.53 | 111.8 | -42.27 | AVG |
| 3 | 0.1232 | 20.56 | 65.07 | 85.63 | 125.79 | -40.16 | peak |
| 4 | 0.1232 | 20.56 | 60.73 | 81.29 | 105.79 | -24.50 | AVG |
| 5 | 2.4650 | 20.81 | 33.32 | 54.13 | 89.54 | -35.41 | QP |

Note: Level = Reading + Factor

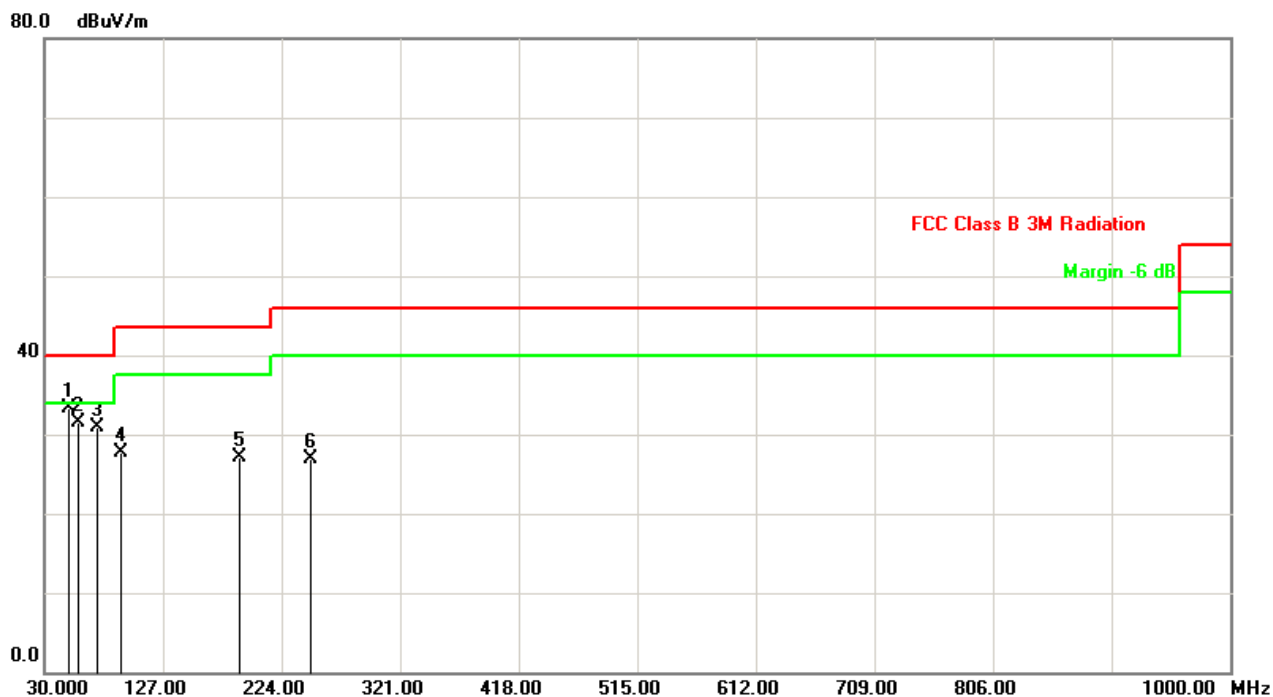
Margin = Level – Limit

Factor= Antenna Factor + Cable Loss - Amplifier Factor



30MHz~1GHz

| | | | |
|-----------|-------------------------|-------------|------------|
| Power | : AC 120V/60Hz | Pol/Phase | : VERTICAL |
| Test Mode | : TX+ Wireless Charging | Temperature | : 18 °C |
| Test Date | : Sept. 23, 2019 | Humidity | : 49 % |



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1 | 49.4000 | -15.93 | 49.20 | 33.27 | 40.00 | -6.73 | peak | 100 | 72 |
| 2 | 57.1600 | -17.98 | 49.55 | 31.57 | 40.00 | -8.43 | peak | 100 | 103 |
| 3 | 73.6500 | -16.56 | 47.46 | 30.90 | 40.00 | -9.10 | peak | 100 | 204 |
| 4 | 93.0500 | -13.00 | 40.78 | 27.78 | 43.50 | -15.72 | peak | 100 | 158 |
| 5 | 189.0800 | -10.63 | 37.81 | 27.18 | 43.50 | -16.32 | peak | 100 | 19 |
| 6 | 248.2500 | -9.28 | 36.27 | 26.99 | 46.00 | -19.01 | peak | 100 | 301 |

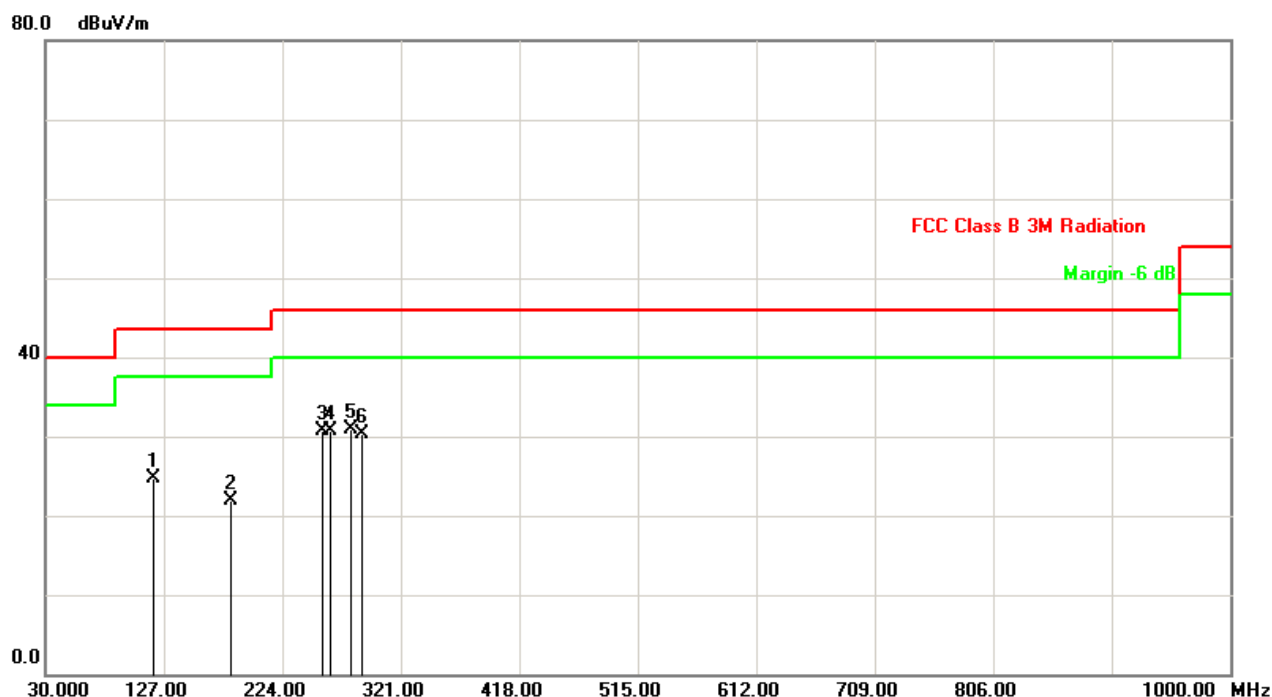
Note: Level = Reading + Factor

Margin = Level – Limit

Factor= Antenna Factor + Cable Loss - Amplifier Factor



| | | | |
|-----------|-------------------------|-------------|--------------|
| Power | : AC 120V/60Hz | Pol/Phase | : HORIZONTAL |
| Test Mode | : TX+ Wireless Charging | Temperature | : 18 °C |
| Test Date | : Sept. 23, 2019 | Humidity | : 49 % |



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1 | 118.2700 | -10.36 | 35.00 | 24.64 | 43.50 | -18.86 | peak | 100 | 201 |
| 2 | 181.3200 | -9.92 | 31.86 | 21.94 | 43.50 | -21.56 | peak | 200 | 157 |
| 3 | 256.9800 | -6.00 | 36.80 | 30.80 | 46.00 | -15.20 | peak | 100 | 13 |
| 4 | 262.8000 | -6.23 | 36.87 | 30.64 | 46.00 | -15.36 | peak | 200 | 228 |
| 5 | 280.2600 | -6.18 | 37.14 | 30.96 | 46.00 | -15.04 | peak | 300 | 26 |
| 6 | 288.9900 | -6.57 | 36.87 | 30.30 | 46.00 | -15.70 | peak | 200 | 304 |

Note: Level = Reading + Factor

Margin = Level – Limit

Factor= Antenna Factor + Cable Loss - Amplifier Factor

----- End of the report -----