

# **FCC TEST REPORT**

Test report
On Behalf of
YOUNGSTAR ELECTRONIC CO., LIMITED
For

Wireless charging Bluetooth Speaker Model No.: YS-BS0416, 39277, AAL-WCSPK, YS-BS0475 FCC ID: 2AWHS-BS0416

Prepared For: YOUNGSTAR ELECTRONIC CO., LIMITED

7th Floor, HuaYi Building B block, Ping Ji Ave, Nanwan street, Longgang

District, Shenzhen, 518114 China

Prepared By: Shenzhen HUAK Testing Technology Co., Ltd.

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Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Date of Test: Apr. 08, 2024 ~ Apr. 16, 2024

Date of Report: Apr. 16, 2024

Report Number: HK2404031565-2E

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TEST RESULT CERTIFICATION

| Applicant's name: | YOUNGSTAR ELECTRONIC CO. | ., LIMITED |
|-------------------|--------------------------|------------|
|-------------------|--------------------------|------------|

7th Floor, HuaYi Building B block, Ping Ji Ave, Nanwan street,

Longgang District, Shenzhen, 518114 China

Report No.: HK2404031565-2E

Manufacture's Name.....: YOUNGSTAR ELECTRONIC CO., LIMITED

7th Floor, HuaYi Building B block, Ping Ji Ave, Nanwan street,

Longgang District, Shenzhen, 518114 China

**Product description** 

Trade Mark: N/A

Product name......: Wireless charging Bluetooth Speaker

Model and/or type reference: YS-BS0416, 39277, AAL-WCSPK, YS-BS0475

FCC Rules and Regulations Part 15 Subpart C (Section 15.209),

ANSI C63.10: 2013

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Date of Test .....

Date (s) of performance of tests ...... Apr. 08, 2024 ~ Apr. 16, 2024

Date of Issue...... Apr. 16, 2024

Test Result..... Pass

Testing Engineer :

(Len Liao)

Technical Manager:

Sliver Ulan

(Sliver Wan)

Authorized

Signatory

Jason Hou

(Jason Zhou)

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\*\* Modified History \*\*

| Revision     | Description                 | Issued Data    | Remark     |  |  |
|--------------|-----------------------------|----------------|------------|--|--|
| Revision 1.0 | Initial Test Report Release | Apr. 16, 2024  | Jason Zhou |  |  |
| TESTING      | ESTING                      | ESTING TESTING | TESTING    |  |  |
| UAR          | HUAN                        | HUAN HUAN      | HUAR HUAR  |  |  |

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# 1. Test Summary

# 1.1. Test Procedures And Results

| DESCRIPTION OF TEST      | SECTION NUMBER | RESULT    |
|--------------------------|----------------|-----------|
| CONDUCTED EMISSIONS TEST | 15.207         | COMPLIANT |
| RADIATED EMISSION TEST   | 15.209         | COMPLIANT |
| ANTENNA REQUIREMENT      | 15.203         | COMPLIANT |

#### Note:

- 1. PASS: Test item meets the requirement.
- 2. Fail: Test item does not meet the requirement.
- 3. N/A: Test case does not apply to the test object.
- 4. The test result judgment is decided by the limit of test standard.

## 1.2. Information of the Test Laboratory

Shenzhen HUAK Testing Technology Co., Ltd.

Add.: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

## Testing Laboratory Authorization:

A2LA Accreditation Code is 4781.01.

FCC Designation Number is CN1229.

Canada IC CAB identifier is CN0045.

CNAS Registration Number is L9589.

#### 1.3. Measurement Uncertainty

#### Measurement Uncertainty

Conducted Emission Expanded Uncertainty = 2.71dB, k=2 Radiated emission expanded uncertainty(9kHz-30MHz) = 3.90dB, k=2 Radiated emission expanded uncertainty(30MHz-1000MHz) = 3.90dB, k=2 Radiated emission expanded uncertainty(Above 1GHz) = 4.28dB, k=2

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# 2. General Information

# 2.1. General Description of EUT

| 75<br>re and electric circuit a<br>st sample model: YS-E | HO.                     |
|--|-------------------------|
| re and electric circuit a                                | HO.                     |
|  | HO.                     |
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2.2. Carrier Frequency of Channels

| Operation I | Frequency each of channel | MAKTESTING | - WAY TESTING | MAKTESTIN    | - WAKTESTI |
|-------------|---------------------------|------------|---------------|--------------|------------|
| Channel     | Frequency                 | <b>9</b> " | (iii)         | <b>0</b> 100 | 0          |
| 1           | 138KHz                    |            |               |              |            |

2.3. Operation of EUT during Testing

| Test Item                 | Test   | Description                        |
|---------------------------|--------|------------------------------------|
|                           | mode   |                                    |
| Radiated & Conducted test | Mode 1 | AC Adapter+ EUT + Load (Full Load) |
| cases                     | Mode 2 | AC Adapter+ EUT + Load (Half Load) |
|                           | Mode 3 | AC Adapter+ EUT + Load (Null Load) |

#### Note:

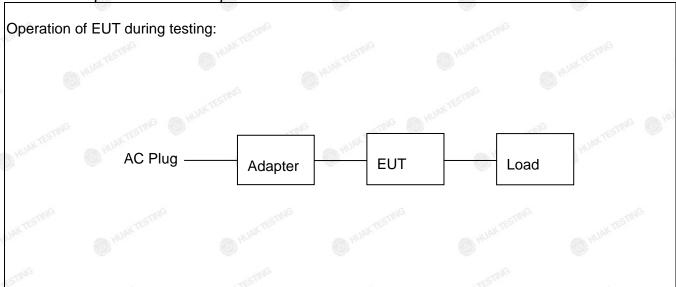
- 1. All modes and configurations above have been tested.
- 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
- 3. The wireless load replaces the Mobile Phone by Lab.
- 4. According to the manufacturer's design principle, the wireless charging power will reach its maximum when the client device's battery level is between 1% and 10%.

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# 2.4. Operation of EUT during testing Operating Mode The mode is used: Transmitting mode

2.5. Description of Test Setup



The sample was placed (0.8m (30MHz~1GHz), 0.8m (9KHz~30MHz)) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. The worst case is X position.

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# 2.6. Description of support units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| 5      |         | Equipment                              | Trade Mark | Model/Type No. | Specification  | Note         |
|--------|---------|--|------------|----------------|--|--------------|
|        | 1       | Wireless charging<br>Bluetooth Speaker | N/A        | YS-BS0416      | N/A  | EUT          |
| D. Pil | JAK.    | O HUM                                  | <b>O</b> * | O HOME         | Input: AC100-240V,<br>50/60Hz, 2A  | HUM          |
| pk     | TESTINE | WAY TESTING                            | MILAN      |                | USB-C1 Output: DC5V-3A,<br>9V-3A, 12V-3A, 15V-3A,<br>20V-5A, 28V-5A, 140W Max                        | HUAN TESTING |
| 5(11   | 2       | Adapter                                | N/A        | CD289          | USB-C2 Output: DC5V-3A,<br>9V-3A, 12V-3A, 15V-3A,<br>20V-5A, 100W Max                                | Peripheral   |
| D SH   | JAK TES | ING HUAKTESTING                        | MILAN W    |                | USB-A Output: DC5V-4.5A,<br>4.5V-5A, 5V-3A, 9V-2A,<br>12V-1.5A, 22.5W Max<br>USB-A Output: DC5V/2.4A | MANATES TIME |
| pk     | 3       | Load                                   | YBZ        | N/A            | 10W Max  | Peripheral   |
|        |         | 9                                      |            | 9              | 9  |              |

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2.7. Measurement Instruments List

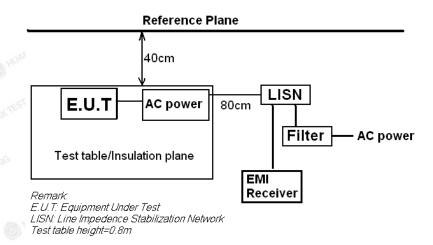
| Item                       | Equipment                               | Manufacturer             | Model No.           | Serial No. | Last Cal.     | Cal.<br>Interva |  |
|----------------------------|---|--------------------------|---------------------|------------|---------------|-----------------|--|
| 1.                         | L.I.S.N.<br>Artificial Mains<br>Network | Mains R&S ENV216 HKE-002 |                     | HKE-002    | Feb. 20, 2024 | 1 Year          |  |
| 2.                         | Receiver                                | R&S                      | ESCI 7              | HKE-010    | Feb. 20, 2024 | 1 Year          |  |
| 3.                         | RF automatic control unit               | Tonscend                 | JS0806-2            | HKE-060    | Feb. 20, 2024 | 1 Year          |  |
| 4.                         | Spectrum analyzer                       | R&S                      | FSP40               | HKE-025    | Feb. 20, 2024 | 1 Year          |  |
| 5.                         | Spectrum analyzer                       | Agilent                  | N9020A              | HKE-048    | Feb. 20, 2024 | 1 Year          |  |
| 6.                         | Preamplifier                            | Schwarzbeck              | BBV 9743            | HKE-006    | Feb. 20, 2024 | 1 Year          |  |
| 7.                         | EMI Test Receiver                       | Rohde & Schwarz          | ESCI 7              | HKE-010    | Feb. 20, 2024 | 1 Year          |  |
| 8. Bilog Broadband Antenna |   | Schwarzbeck              | VULB9163            | HKE-012    | Feb. 21, 2024 | 2 Year          |  |
| 9.                         | Loop Antenna                            | Schwarzbeck              | FMZB 1519<br>B      | HKE-014    | Feb. 21, 2024 | 2 Year          |  |
| 10.                        | Horn Antenna                            | Schewarzbeck             | 9120D               | HKE-013    | STING         | STING           |  |
| 11.                        | Pre-amplifier                           | EMCI                     | EMC051845<br>SE     | HKE-015    | Feb. 20, 2024 | 1 Year          |  |
| 12.                        | 2. Pre-amplifier Agilent                |                          | 83051A              | HKE-016    | Feb. 20, 2024 | 1 Year          |  |
| 13.                        | EMI Test Software<br>EZ-EMC             | Tonscend                 | JS1120-B<br>Version | HKE-083    | N/A           | N/A             |  |
| 14.                        | Power Sensor                            | Agilent                  | E9300A              | HKE-086    | Feb. 20, 2024 | 1 Year          |  |
| 15.                        | Spectrum analyzer                       | Agilent                  | N9020A              | HKE-048    | Feb. 20, 2024 | 1 Year          |  |
| 16.                        | Signal generator                        | Agilent                  | N5182A              | HKE-029    | Feb. 20, 2024 | 1 Year          |  |
| 17.                        | Signal Generator                        | Agilent                  | 83630A              | HKE-028    | Feb. 20, 2024 | 1 Year          |  |
| 18. Shielded room          |   | Shiel Hong               | 4*3*3               | HKE-039    | Dec. 09, 2021 | 3 Year          |  |
| 19.                        | 10dB Attenuator                         | Schwarzbeck              | VTSD9561F           | HKE-153    | Feb. 20, 2024 | 1 Year          |  |

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#### Conducted Emission Test

#### 3.1. Block Diagram of Test Setup



#### 3.2. Conducted Power Line Emission Limit

# According to FCC Part 15.207(a)

| Wes                |                                |      |         | -dl/A- |  |  |  |
|--------------------|--------------------------------|------|---------|--------|--|--|--|
| F                  | Maximum RF Line Voltage (dBμV) |      |         |        |  |  |  |
| Frequency<br>(MHz) | CLAS                           | SS A | CLASS B |        |  |  |  |
| (11112)            | Q.P.                           | Ave. | Q.P.    | Ave.   |  |  |  |
| 0.15 - 0.50        | 79                             | 66   | 66-56*  | 56-46* |  |  |  |
| 0.50 - 5.00        | 73                             | 60   | 56      | 46     |  |  |  |
| 5.00 - 30.0        | 73                             | 60   | 60      | 50     |  |  |  |

<sup>\*</sup> Decreasing linearly with the logarithm of the frequency

For intentional device, according to §15.207 Line Conducted Emission Limit is same as above table.

#### 3.3. Test Procedure

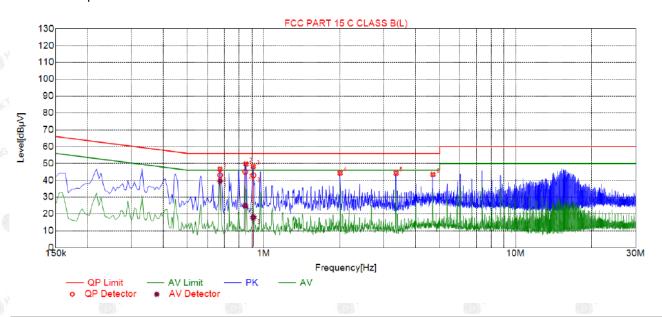
- 1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
- 2. Support equipment, if needed, was placed as per ANSI C63.10.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4. If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5. All support equipments received AC power from a second LISN, if any.
- 6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes

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## 3.4. Test Result

#### **PASS**

All the test modes completed for test. Only the worst result of Full Load was reported as below: Test Specification: Line



| Suspected List |     |                |                 |                |                 |                |                   |          |      |
|----------------|-----|----------------|-----------------|----------------|-----------------|----------------|-------------------|----------|------|
| 3              | NO. | Freq.<br>[MHz] | Level<br>[dBµV] | Factor<br>[dB] | Limit<br>[dBµV] | Margin<br>[dB] | Reading<br>[dBµV] | Detector | Туре |
|                | 1   | 0.6720         | 46.57           | 20.05          | 56.00           | 9.43           | 26.52             | PK       | L    |
| Section 2      | 2   | 0.8520         | 49.67           | 20.06          | 56.00           | 6.33           | 29.61             | PK       | L    |
|                | 3   | 0.9105         | 48.22           | 20.06          | 56.00           | 7.78           | 28.16             | PK       | L    |
|                | 4   | 2.0130         | 44.33           | 20.15          | 56.00           | 11.67          | 24.18             | PK       | L    |
| Š              | 5   | 3.3585         | 44.28           | 20.24          | 56.00           | 11.72          | 24.04             | PK       | L    |
| <              | 6   | 4.6995         | 43.43           | 20.26          | 56.00           | 12.57          | 23.17             | PK       | L    |

| Final Data List |                |                       |                       |                       |                      |                         |                       |                       |                      |                         |      |
|-----------------|----------------|-----------------------|-----------------------|-----------------------|----------------------|-------------------------|-----------------------|-----------------------|----------------------|-------------------------|------|
| NO.             | Freq.<br>[MHz] | Correction factor[dB] | QP<br>Value<br>[dBµV] | QP<br>Limit<br>[dΒμV] | QP<br>Margin<br>[dB] | QP<br>Reading<br>[dBμV] | AV<br>Value<br>[dBµV] | AV<br>Limit<br>[dBµV] | AV<br>Margin<br>[dB] | ΑV<br>Reading<br>[dBμV] | Туре |
| 1               | 0.6728         | 20.05                 | 43.10                 | 56.00                 | 12.90                | 23.05                   | 39.57                 | 46.00                 | 6.43                 | 19.52                   | L    |
| 2               | 0.8460         | 20.06                 | 45.07                 | 56.00                 | 10.93                | 25.01                   | 24.89                 | 46.00                 | 21.11                | 4.83                    | L    |
| 3               | 0.9114         | 20.06                 | 43.00                 | 56.00                 | 13.00                | 22.94                   | 18.01                 | 46.00                 | 27.99                | -2.05                   | L    |

Remark: Margin = Limit - Level

Correction factor = Cable lose + LISN insertion loss

Level=Test receiver reading + correction factor

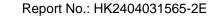
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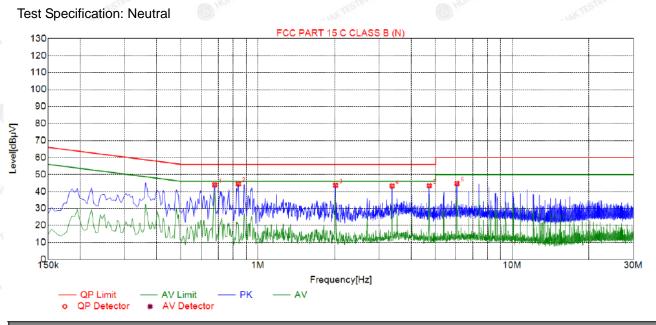
TEL: +86-755 2302 9901 FAX: +86-755 2302 9901 E-mail: service@cer-mark.com

4









| Sus | Suspected List |                 |                |                 |                |                   |          |      |  |  |
|-----|----------------|-----------------|----------------|-----------------|----------------|-------------------|----------|------|--|--|
| NO. | Freq.<br>[MHz] | Level<br>[dBµV] | Factor<br>[dB] | Limit<br>[dBµV] | Margin<br>[dB] | Reading<br>[dBµV] | Detector | Туре |  |  |
| 1   | 0.6765         | 43.91           | 20.05          | 56.00           | 12.09          | 23.86             | PK       | N    |  |  |
| 2   | 0.8385         | 44.49           | 20.06          | 56.00           | 11.51          | 24.43             | PK       | N    |  |  |
| 3   | 2.0220         | 43.65           | 20.15          | 56.00           | 12.35          | 23.50             | PK       | N    |  |  |
| 4   | 3.3720         | 43.26           | 20.24          | 56.00           | 12.74          | 23.02             | PK       | N    |  |  |
| 5   | 4.7220         | 43.38           | 20.26          | 56.00           | 12.62          | 23.12             | PK       | N    |  |  |
| 6   | 6.0720         | 44.72           | 20.23          | 60.00           | 15.28          | 24.49             | PK       | N    |  |  |

Remark: Margin = Limit - Level

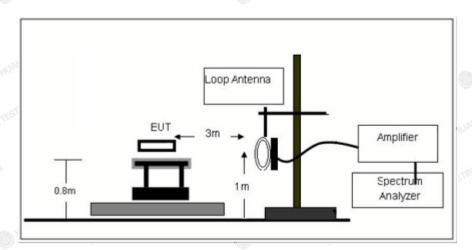
Correction factor = Cable lose + LISN insertion loss

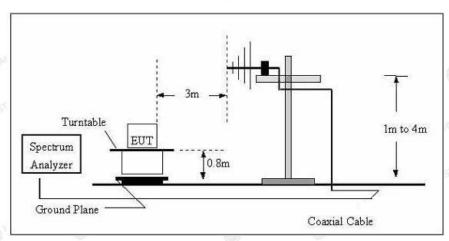
Level=Test receiver reading + correction factor

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- 4. Radiated Emissions
- 4.1. Block Diagram of Test Setup





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#### 4.2. Rules and specifications

CFR 47 Part 15, section 15.205

Only spurious emissions are permitted in any of the frequency bands listed the tables in these sections.

Report No.: HK2404031565-2E

| MHz               | MHz                 | MHz           | GHz         |
|-------------------|---------------------|---------------|-------------|
| 0.090-0.110       | 16.42-16.423        | 399.9-410     | 4.5-5.15    |
| \1\ 0.495-0.505   | 16.69475-16.69525   | 608-614       | 5.35-5.46   |
| 2.1735-2.1905     | 16.80425-16.80475   | 960-1240      | 7.25-7.75   |
| 4.125-4.128       | 25.5-25.67          | 1300-1427     | 8.025-8.5   |
| 4.17725-4.17775   | 37.5-38.25          | 1435-1626.5   | 9.0-9.2     |
| 4.20725-4.20775   | 73-74.6             | 1645.5-1646.5 | 9.3-9.5     |
| 6.215-6.218       | 74.8-75.2           | 1660-1710     | 10.6-12.7   |
| 6.26775-6.26825   | 108-121.94          | 1718.8-1722.2 | 13.25-13.4  |
| 6.31175-6.31225   | 123-138             | 2200-2300     | 14.47-14.5  |
| 8.291-8.294       | 149.9-150.05        | 2310-2390     | 15.35-16.2  |
| 8.362-8.366       | 156.52475-156.52525 | 2483.5-2500   | 17.7-21.4   |
| 8.37625-8.38675   | 156.7-156.9         | 2690-2900     | 22.01-23.12 |
| 8.41425-8.41475   | 162.0125-167.17     | 3260-3267     | 23.6-24.0   |
| 12.29-12.293.     | 167.72-173.2        | 3332-3339     | 31.2-31.8   |
| 12.51975-12.52025 | 240-285             | 3345.8-3358   | 36.43-36.5  |
| 12.57675-12.57725 | 322-335.4           | 3600-4400     | (\2\)       |
| 13.36-13.41       |                     |               |             |
|                   |                     |               |             |

#### CFR 47 Part 15, section 15.209

The emissions from an intentional radiator shall not exceed the limits in the tables in these sections using an average detector.

| Frequency<br>(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                             |

Limit calculation and transfer to 3m distance as showed in the following table:

| Frequency   | Limit                           | Distance |
|-------------|---------------------------------|----------|
| (MHz)       | (dBuV/m)                        | (m)      |
| 0.009-0.490 | 20log(2400/F(KHz))+40log(300/3) | 3        |
| 0.490-1.705 | 20log(24000/F(KHz))+40log(30/3) | 3        |
| 1.705-30.0  | 69.5                            | 3        |
| 30-88       | 40.0                            | 3        |
| 88-216      | 43.5                            | 3        |
| 216-960     | 46.0                            | 3        |
| Above 960   | 54.0                            | 3        |

#### CFR 47 Part 15, section 15.35

When average radiated emission measurements are specified, the limit on the peak level of the radio Frequency emission is 20dB above the maximum permitted average emission limit.

|   | 200      |            |              |  |  |  |  |  |
|---|----------|------------|--------------|--|--|--|--|--|
| Transmitter Spurious Emissions 9KHz-30MHz |          |            |              |  |  |  |  |  |
| TESTING WAY TESTING                       | 9-150KHz | 150-490KHz | 490KHz-30MHz |  |  |  |  |  |
| Resolution Bandwidth                      | 200Hz    | 9KHz       | 9KHz         |  |  |  |  |  |
| Video Bandwidth                           | 600Hz    | 30KHz      | 30KHz        |  |  |  |  |  |
| Detector                                  | Peak     | Peak       | Peak         |  |  |  |  |  |
| Trace Mode                                | Max Hold | Max Hold   | Max Hold     |  |  |  |  |  |
| Sweep Time                                | Auto     | Auto       | Auto         |  |  |  |  |  |

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#### 4.3. Test Procedure

Measurement distance 3m

For the measurement range up to 30MHz in the following plots the field strength result from 3m Distance measurement are extrapolated to 300m and 30m distance respectively, by 40dB/decade, According to part 15.31(f)(2), per antenna factor scaling.

Measurements below 1000MHz are performed with a peak detector and compared to average limits, Measurements with an average detector are not required.

Note:

For battery operated equipment, the equipment tests shall be performed using a new battery.

## 4.4. Test Result

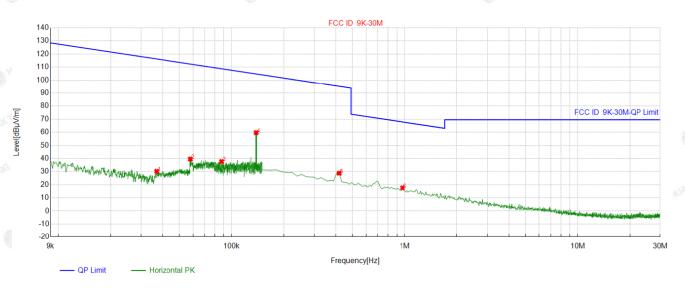
**PASS** 

Note: this EUT was tested for all models and the worst case model (10W) data was reported.

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For 9KHz - 30MHz Coaxial:



QP Detector

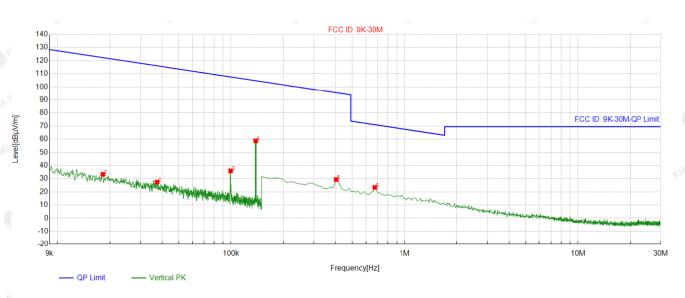
# **Suspected List**

| NO  | Freq.    | Factor | Reading  | Level    | Limit    | Margin |
|-----|----------|--------|----------|----------|----------|--------|
| NO. | [MHz]    | [dB]   | [dBµV/m] | [dBµ√/m] | [dBµV/m] | [dB]   |
| 1   | 0.036861 | -10.49 | 40.72    | 30.23    | 116.26   | 86.03  |
| 2   | 0.057881 | -10.54 | 50.13    | 39.59    | 112.34   | 72.75  |
| 3   | 0.087576 | -10.06 | 47.77    | 37.71    | 108.75   | 71.04  |
| 4   | 0.138503 | -10.58 | 70.14    | 59.56    | 104.77   | 45.21  |
| 5   | 0.418784 | -11.12 | 39.93    | 28.81    | 95.16    | 66.35  |
| 6   | 0.971286 | -10.65 | 28.26    | 17.61    | 67.87    | 50.26  |

Remark: Factor = Cable loss + Antenna factor – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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# Coplanar:



#### QP Detector

# Suspected List

| N | 2   | Freq.    | Factor | Reading Level |          | Limit    | Margin |
|---|-----|----------|--------|---------------|----------|----------|--------|
|   | NO. | [MHz]    | [dB]   | [dBµV/m]      | [dBµV/m] | [dBµV/m] | [dB]   |
|   | 1   | 0.01824  | -10.78 | 44.10         | 33.32    | 122.37   | 89.05  |
|   | 2   | 0.037355 | -10.47 | 37.89         | 27.42    | 116.14   | 88.72  |
|   | 3   | 0.099426 | -10.50 | 46.45         | 35.95    | 107.65   | 71.70  |
| 5 | 4   | 0.138503 | -10.58 | 69.22         | 58.64    | 104.77   | 46.13  |
|   | 5   | 0.403852 | -11.16 | 40.50         | 29.34    | 95.48    | 66.14  |
| ( | 6   | 0.672636 | -10.95 | 34.28         | 23.33    | 71.06    | 47.73  |

Remark: Factor = Cable loss + Antenna factor - Preamplifier; Level = Reading + Factor; Margin = Limit - Level

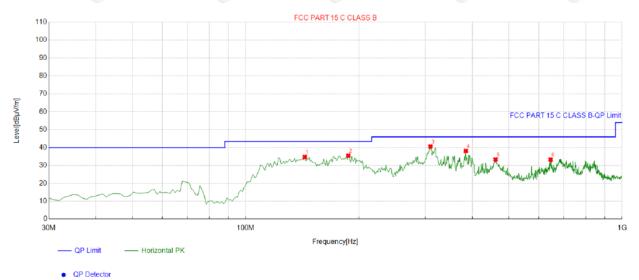
ATION

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# For 30MHz-1GHz

# Antenna polarity: H



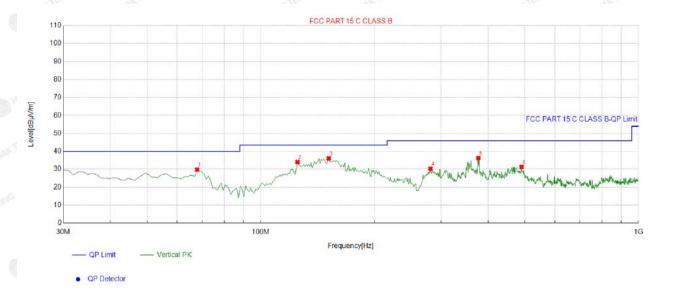
|   | Suspected List |           |        |          |          |          |        |        |       |            |
|---|----------------|-----------|--------|----------|----------|----------|--------|--------|-------|------------|
|   | NO.            | Freq.     | Factor | Reading  | Level    | Limit    | Margin | Height | Angle | Polarity   |
| 6 | NO.            | [MHz]     | [dB]   | [dBµV/m] | [dBµV/m] | [dBµV/m] | [dB]   | [cm]   | [°]   | Folanty    |
| Q | 1              | 143.60360 | -18.35 | 53.19    | 34.84    | 43.50    | 8.66   | 100    | 102   | Horizontal |
|   | 2              | 187.29729 | -15.84 | 51.42    | 35.58    | 43.50    | 7.92   | 100    | 233   | Horizontal |
|   | 3              | 309.63964 | -11.84 | 52.51    | 40.67    | 46.00    | 5.33   | 100    | 244   | Horizontal |
|   | 4              | 384.40440 | -9.06  | 47.30    | 38.24    | 46.00    | 7.76   | 100    | 348   | Horizontal |
| Y | 5              | 461.11111 | -8.91  | 42.29    | 33.38    | 46.00    | 12.62  | 100    | 307   | Horizontal |
|   | 6              | 645.59559 | -4.87  | 38.16    | 33.29    | 46.00    | 12.71  | 100    | 348   | Horizontal |

Remark: Factor = Cable loss + Antenna factor - Preamplifier; Level = Reading + Factor; Margin = Limit - Level

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# Antenna polarity: V



| Suspe | Suspected List |        |          |          |          |        |        |       |          |  |
|-------|----------------|--------|----------|----------|----------|--------|--------|-------|----------|--|
|       | Freq.          | Factor | Reading  | Level    | Limit    | Margin | Height | Angle |          |  |
| NO.   | [MHz]          | [dB]   | [dBµV/m] | [dBµV/m] | [dBµV/m] | [dB]   | [cm]   | [°]   | Polarity |  |
| 1     | 67.867868      | -16.02 | 45.73    | 29.71    | 40.00    | 10.29  | 100    | 71    | Vertical |  |
| 2     | 125.15515      | -16.61 | 50.60    | 33.99    | 43.50    | 9.51   | 100    | 316   | Vertical |  |
| 3     | 151.37137      | -18.06 | 54.05    | 35.99    | 43.50    | 7.51   | 100    | 98    | Vertical |  |
| 4     | 281.48148      | -12.59 | 42.84    | 30.25    | 46.00    | 15.75  | 100    | 359   | Vertical |  |
| 5     | 376.63663      | -9.69  | 45.91    | 36.22    | 46.00    | 9.78   | 100    | 274   | Vertical |  |
| 6     | 490.24024      | -7.89  | 39.09    | 31.20    | 46.00    | 14.80  | 100    | 90    | Vertical |  |

Remark: Factor = Cable loss + Antenna factor - Preamplifier; Level = Reading + Factor; Margin = Limit - Level

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#### 5. Antenna Requirement

#### **Standard Applicable**

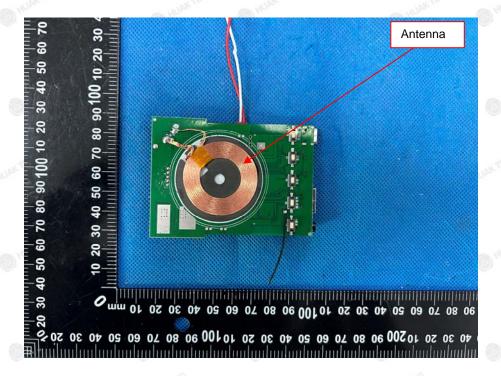
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

#### Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

#### **Antenna Connected Construction**

The antenna used in this product is a Coil Antenna, which permanently attached. It conforms to the standard requirements. The directional gains of antenna used for transmitting is 0dBi.

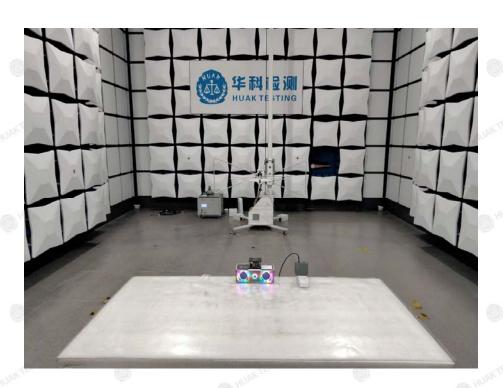


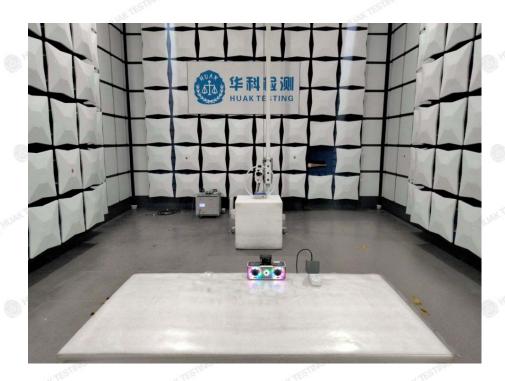
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# 6. Photograph of Test

# Radiated Emission





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# **Conducted Emissions**



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7. Photos of The EUT

Reference to the report: ANNEX A of external photos and ANNEX B of internal photos.

-----End of test report-----

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