

### Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

## FCC PART 15 SUBPART C TEST REPORT

Compiled by

( position+printed name+signature) .: File administrators Joan Wu

Supervised by

( position+printed name+signature) .: Project Engineer Zoey Cao

Approved by

( position+printed name+signature) .: RF Manager Eric Wang

Date of issue ...... Mar. 26, 2025

Testing Laboratory Name...... Shenzhen CTA Testing Technology Co., Ltd.

Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name...... SHENZHENSHI SHANCHENG TECHNOLOGY CO., LTD.

Address ...... Longgangqu pinghujiedao hehuashequ pingjidadaobei

159haohengluEshidaidasha1721D8,shenzhen,guangdong,China

Test specification .....:

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

ANSI C63.10: 2013

### Shenzhen CTA Testing Technology Co., Ltd. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purpses as long as the Shenzhen CTA Testing Technology Co., Ltd. is acknowledged as copyright owner and source of the material. Shenzhen CTA Testing Technology Co., Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

Test item description ...... Magnetic Wireless Power Bank

Trade Mark ..... BBD

Manufacturer ...... SHENZHENSHI SHANCHENG TECHNOLOGY CO., LTD.

Model/Type reference ...... KR-W0026

Listed Models ...... KR-W0027,KR-W0028,KR-W0029,KR-W0030

Modulation Type ...... ASK

Operation Frequency...... From 110KHz~205KHz

DC 3.85V From battery

Rating ...... Type-C Input: DC 5V 3A, 9V 2.22A, 12V 1.67A

Type-C Output: DC 5V 3A, 9V 2.22A, 12V 1.67A

Wireless Output: 5W/7.5W/10W/15W

Result .....: PASS

CTATES

Report No.: CTA25031800701 Page 2 of 26

## TEST REPORT

Equipment under Test Magnetic Wireless Power Bank

KR-W0026 Model /Type

Listed Models KR-W0027,KR-W0028,KR-W0029,KR-W0030

Model difference The PCB board, circuit, structure and internal of these models are the

same, Only model number and colour is different for these model.

SHENZHENSHI SHANCHENG TECHNOLOGY CO., LTD. **Applicant** 

Longganggu pinghujiedao hehuashegu pingjidadaobei Address

159haohengluEshidaidasha1721D8,shenzhen,guangdong,China

SHENZHENSHI SHANCHENG TECHNOLOGY CO., LTD. Manufacturer

Address Longgangqu pinghujiedao hehuashequ pingjidadaobei

159haohengluEshidaidasha1721D8,shenzhen,guangdong,China

| Township of the state of the st |      |
|--|------|
| Test Result:   | PASS |
|  |      |

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test CTATES laboratory.

## **Contents**

|          |          | ATESI                             | Contents    |               |
|----------|----------|-----------------------------------|-------------|---------------|
| 1        |          | TEST STANDARDS                    | ESTING      | 4             |
|          |          | CIA                               | ING         |               |
| 2        |          | SUMMARY                           | E51"        | 5             |
|          |          |                                   | C(A)        | <del></del>   |
| 2.1      | 1        | General Remarks                   |             | 5             |
| 2.2      |          | Product Description               |             | 5             |
| 2.3      |          | Description of the test mode      |             | 5 6           |
| 2.4      |          | Special Accessories               |             | 6             |
| 2.5      |          | Modifications                     |             | 6             |
| (A \ Z.  | <b>J</b> | Wodifications                     |             | U             |
|          |          | TES!"                             |             |               |
| <u>3</u> |          | TEST ENVIRONMENT                  |             | <u> 7</u>     |
|          |          |                                   | CTATESTING  |               |
| 3.1      | 1        | Address of the test laboratory    | CTATE       | 7.G           |
| 3.2      | 2        | Test Facility                     |             | -657          |
| 3.3      | 3        | Environmental conditions          |             | 7             |
| 3.4      | 4        | Summary of measurement results    | rtainty     | 8             |
| 3.5      | 5        | Statement of the measurement unce | rtainty     | 8             |
| 3.6      | 6        | Equipments Used during the Test   |             | 8             |
|          |          | a)G                               |             |               |
| <u>4</u> |          | TEST CONDITIONS AND RE            | SULTS       | 10            |
| 111      |          | P. C.                             | - ING       |               |
| 4.1      | W.       | AC Dawer Canducted Emission       |             | 10            |
|          |          | AC Power Conducted Emission       |             | 10            |
| 4.2      |          | Radiated Emission                 | STINE       | 13            |
| 4.3      |          | The 20dB bandwidth                | TATE        | 17            |
| 4.4      | 4        | Antenna Requirement               | CTA TESTING | 18            |
|          |          |                                   |             |               |
| <u>5</u> |          | TEST SETUP PHOTOS OF 1            | THE EUT     | <u>19</u>     |
|          |          |                                   |             |               |
| 6        |          | PHOTOS OF THE EUT                 |             | 20            |
| ATE 6    |          | PHOTOS OF THE EUT                 |             | <u> – v</u> . |
|          |          |                                   |             |               |
|          |          | TATES                             |             |               |
|          |          | CV                                |             |               |
|          |          |                                   | CTATESTING  |               |
|          |          |                                   | CI          |               |

Report No.: CTA25031800701 Page 4 of 26

#### TEST STANDARDS 1

The tests were performed according to following standards:

FCC Rules and Regulations Part 15 Subpart C (Section 15.207): Conducted limits.

FCC Rules and Regulations Part 15 Subpart C (Section 15.200): Description 15.200 Part 15 Subpart C (Section 15.200): Description 15.200 Part 15 Subpart C (Section 15.200): Description 15.200 Part 15.20 FCC Rules and Regulations Part 15 Subpart C (Section 15.209): Radiated emission limits; general requirements.

ANSI C63.10: 2013: American National Standard for Testing Unlicensed Wireless Devices

Page 5 of 26 Report No.: CTA25031800701

# SUMMARY

## General Remarks

| 2.1 General Remarks            | TATESTING       |
|--------------------------------|-----------------|
| Date of receipt of test sample | : Mar. 18, 2025 |
|                                |                 |
| Testing commenced on           | : Mar. 18, 2025 |
|                                |                 |
| Testing concluded on           | : Mar. 26, 2025 |

## 2.2 Product Description

| Product Name:         | Magnetic Wireless Power Bank   |                |
|-----------------------|--|----------------|
| Model/Type reference: | KR-W0026   |                |
| Hardware version:     | V1.0   |                |
| Software version:     | V1.0   | _GT            |
| Test samples ID:      | CTA250318007-1# (Engineer sar<br>CTA250318007-2# (Normal samp  |                |
| Power supply:         | DC 3.85V From battery Type-C Input: DC 5V 3A, 9V 2.22 Type-C Output: DC 5V 3A, 9V 2.2 Wireless Output: 5W/7.5W/10W/1 | 22A, 12V 1.67A |
| Operation frequency:  | 110KHz - 205KHz  |                |
| Modulation type:      | ASK  | STING          |
| Antenna type:         | Loop coil antenna  | CTATES         |
| ANT Gain:             | 0dBi   |                |

Report No.: CTA25031800701 Page 6 of 26

## Description of the test mode

Equipment under test was operated during the measurement under the following conditions:

Charging and communication mode

| Test Modes: |   |                             |            |  |
|-------------|---|-----------------------------|------------|--|
| Mode 1      | Wireless Charging                               | CTA                         | Recorded   |  |
| Mode 2      | Standby   |                             | Pre-tested |  |
| Note: All   | test modes were pre-tested, but we only recorde | d the worst case in this re | port.      |  |

#### 2.4 **Special Accessories**

Follow auxiliary equipment(s) test with EUT that provided by the laboratory is listed as follow:

| Description | Manufacturer | Model     | Technical Parameters | Certificate | Provided by |
|-------------|--------------|-----------|----------------------|-------------|-------------|
| PHONE       | 23.04        | iPhone 14 | CTA                  | /           | TING        |
| /           | /            | /         | (50)                 | 1           | TE7         |
| /           | /            | /         | /                    | CKC         | /           |

#### **Modifications** 2.5

No modifications were implemented to meet testing criteria. CTA TESTING

Page 7 of 26 Report No.: CTA25031800701

## TEST ENVIRONMENT

## Address of the test laboratory

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

## 3.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 517856 Designation Number: CN1318

Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA-Lab Cert. No.: 6534.01

Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

## 3.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Radiated Emission:

| Temperature:          | 24 ° C       |
|-----------------------|--------------|
|                       | -TA 1        |
| Humidity:             | 45 %         |
|                       |              |
| Atmospheric pressure: | 950-1050mbar |

#### AC Power Conducted Emission:

| Temperature:          | 25 ° C       |
|-----------------------|--------------|
| IN                    |              |
| Humidity:             | 46 %         |
| TIN                   | 3            |
| Atmospheric pressure: | 950-1050mbar |

|   | Atmospheric pressure: | 950-1050mbar |        |
|---|-----------------------|--------------|--------|
| С | conducted testing:    |              | ESTING |
|   | Temperature:          | 25 ° C       |        |
|   | Humidity:             | 44 %         |        |
|   |                       | To me        |        |
|   | Atmospheric pressure: | 950-1050mbar |        |

Page 8 of 26 Report No.: CTA25031800701

## Summary of measurement results

| Description of test            | Result    |
|--------------------------------|-----------|
| Conducted emissions test       | Compliant |
| Radiated emission test         | Compliant |
| The 20dB bandwidth measurement | Compliant |
| Antenna requirement            | Compliant |

## Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen CTA Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen CTA Testing Technology Co., Ltd.:

| Test                                     | Range       | Measurement<br>Uncertainty | Notes |
|--|-------------|----------------------------|-------|
| Radiated Emission                        | 9KHz~30MHz  | 3.02 dB                    | (1)   |
| Radiated Emission                        | 30~1000MHz  | 4.06 dB                    | (1)   |
| Radiated Emission                        | 1~18GHz     | 5.14 dB                    | (1)   |
| Radiated Emission                        | 18-40GHz    | 5.38 dB                    | (1)   |
| Conducted Disturbance                    | 0.15~30MHz  | 2.14 dB                    | (1)   |
| Output Peak power                        | 30MHz~18GHz | 0.55 dB                    | (1)   |
| Power spectral density                   | /           | 0.57 dB                    | (1)   |
| Spectrum bandwidth                       | /           | 1.1%                       | (1)   |
| Radiated spurious emission (30MHz-1GHz)  | 30~1000MHz  | 4.10 dB                    | (1)   |
| Radiated spurious emission (1GHz-18GHz)  | 1~18GHz     | 4.32 dB                    | (1)   |
| Radiated spurious emission (18GHz-40GHz) | 18-40GHz    | 5.54 dB                    | (1)   |

<sup>(1)</sup> This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

## **Equipments Used during the Test**

| Test Equipment               | Manufacturer  | Model No. | Equipment No.        | Calibration<br>Date | Calibration<br>Due Date |
|------------------------------|---|-----------|----------------------|---------------------|-------------------------|
| LISN                         | R&S   | ENV216    | CTA-308              | 2024/08/03          | 2025/08/02              |
| LISN                         | R&S   | ENV216    | CTA-314              | 2024/08/03          | 2025/08/02              |
| EMI Test Receiver            | R&S   | ESPI      | CTA-307              | 2024/08/03          | 2025/08/02              |
| EMI Test Receiver            | R&S   | ESCI      | CTA-306              | 2024/08/03          | 2025/08/02              |
| Spectrum Analyzer            | Agilent   | N9020A    | CTA-301              | 2024/08/03          | 2025/08/02              |
| Spectrum Analyzer            | R&S   | FSU       | CTA-337              | 2024/08/03          | 2025/08/02              |
| Vector Signal generator      | Agilent   | N5182A    | CTA-305              | 2024/08/03          | 2025/08/02              |
| Analog Signal<br>Generator   | R&S   | SML03     | CTA-304              | 2024/08/03          | 2025/08/02              |
| WIDEBAND RADIO COMMUNICATION | CMW500  | R&S       | CTA-302              | 2024/08/03          | 2025/08/02              |
|                              | Shenzhe<br>ng 1, Yibaolai Industria<br>86-755 2322 5875 E |           | unity, Fuhai Street, |                     | nenzhen, Chin           |

|       | TESTER                         | G              |                 |         |            |            |
|-------|--------------------------------|----------------|-----------------|---------|------------|------------|
|       | Temperature and humidity meter | Chigo          | ZG-7020         | CTA-326 | 2024/08/03 | 2025/08/02 |
|       | Ultra-Broadband<br>Antenna     | Schwarzbeck    | VULB9163        | CTA-310 | 2023/10/17 | 2026/10/16 |
|       | Horn Antenna                   | Schwarzbeck    | BBHA 9120D      | CTA-309 | 2023/10/13 | 2026/10/12 |
|       | Loop Antenna                   | Zhinan         | ZN30900C        | CTA-311 | 2023/10/17 | 2026/10/16 |
|       | Broadband Horn<br>Antenna      | A-INFOMW       | LB-180500H-2.4F | CTA-336 | 2023/09/13 | 2026/09/12 |
|       | Amplifier                      | Schwarzbeck    | BBV 9745        | CTA-312 | 2024/08/03 | 2025/08/02 |
|       | Amplifier                      | Taiwan chengyi | EMC051845B      | CTA-313 | 2024/08/03 | 2025/08/02 |
| TE    | Directional coupler            | NARDA          | 4226-10         | CTA-303 | 2024/08/03 | 2025/08/02 |
| CTATE | High-Pass Filter               | XingBo         | XBLBQ-GTA18     | CTA-402 | 2024/08/03 | 2025/08/02 |
| 1     | High-Pass Filter               | XingBo         | XBLBQ-GTA27     | CTA-403 | 2024/08/03 | 2025/08/02 |
|       | Automated filter bank          | Tonscend       | JS0806-F        | CTA-404 | 2024/08/03 | 2025/08/02 |
|       | Power Sensor                   | Agilent        | U2021XA         | CTA-405 | 2024/08/03 | 2025/08/02 |
|       | Amplifier                      | Schwarzbeck    | BBV9719         | CTA-406 | 2024/08/03 | 2025/08/02 |

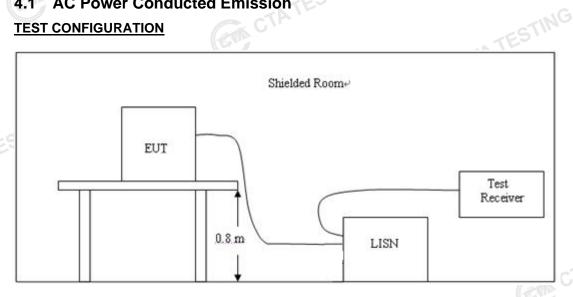
| Test Equipment    | Equipment Manufacturer Model No. |             | Version number | Calibration<br>Date | Calibration<br>Due Date |
|-------------------|----------------------------------|-------------|----------------|---------------------|-------------------------|
| EMI Test Software | Tonscend                         | TS®JS32-RE  | 5.0.0.2        | N/A                 | N/A                     |
| EMI Test Software | Tonscend                         | TS®JS32-CE  | 5.0.0.1        | N/A                 | N/A                     |
| RF Test Software  | Tonscend                         | TS®JS1120-3 | 3.1.65         | N/A                 | N/A                     |
| RF Test Software  | Tonscend                         | TS®JS1120   | 3.1.46         | N/A                 | N/A                     |
|                   | (Em)                             | , \         | CTP CTP        | TESTING             |                         |

Page 10 of 26 Report No.: CTA25031800701

## TEST CONDITIONS AND RESULTS

## 4.1 AC Power Conducted Emission

### **TEST CONFIGURATION**



### **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 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.

## **AC Power Conducted Emission Limit**

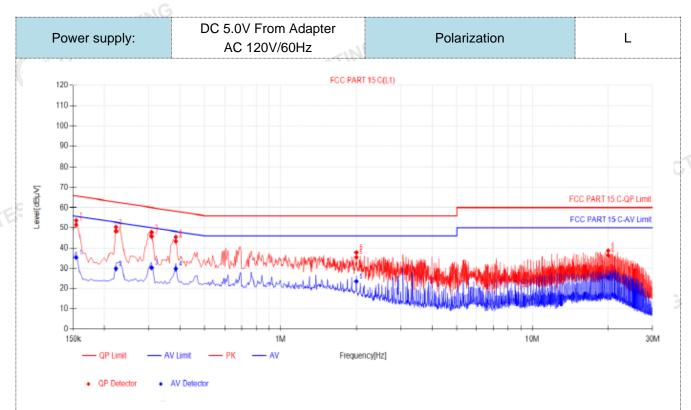
For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following:

| Frequency range (MHz)                       | Limit      | (dBuV)    |
|---|------------|-----------|
| Frequency range (MHz)                       | Quasi-peak | Average   |
| 0.15-0.5                                    | 66 to 56*  | 56 to 46* |
| 0.5-5                                       | 56         | 46        |
| 5-30  | 60         | 50        |
| * Decreases with the logarithm of the frequ | iency.     |           |

## **TEST RESULTS**

Both 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz power supply have been tested, only the worst result of 120 VAC, 60 Hz was reported as below:

Page 11 of 26 Report No.: CTA25031800701

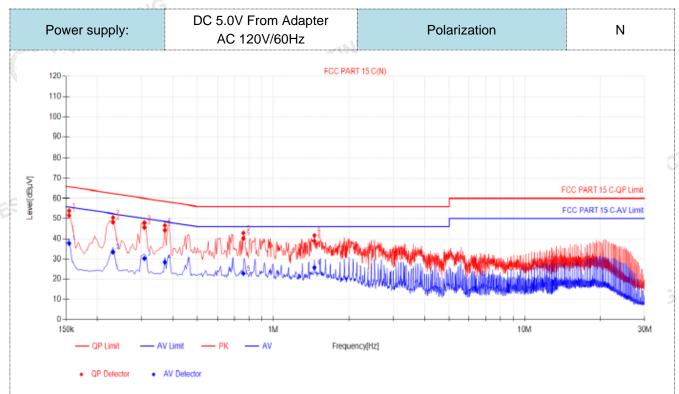


| Final Data List |                |                |                         |                       |                       |                      |                         |                       |                       |                      |         |
|-----------------|----------------|----------------|-------------------------|-----------------------|-----------------------|----------------------|-------------------------|-----------------------|-----------------------|----------------------|---------|
| NO.             | Freq.<br>[MHz] | Factor<br>[dB] | QP<br>Reading[dB<br>µV] | QP<br>Value<br>[dBµV] | QP<br>Limit<br>[dBµV] | QP<br>Margin<br>[dB] | AV<br>Reading<br>[dBµV] | AV<br>Value<br>[dBµV] | AV<br>Limit<br>[dΒμV] | AV<br>Margin<br>[dB] | Verdict |
| 1               | 0.1545         | 9.89           | 41.68                   | 51.57                 | 65.75                 | 14.18                | 25.45                   | 35.34                 | 55.75                 | 20.41                | PASS    |
| 2               | 0.222          | 10.03          | 38.31                   | 48.34                 | 62.74                 | 14.40                | 19.76                   | 29.79                 | 52.74                 | 22.95                | PASS    |
| 3               | 0.3075         | 9.94           | 35.80                   | 45.74                 | 60.04                 | 14.30                | 20.29                   | 30.23                 | 50.04                 | 19.81                | PASS    |
| 4               | 0.384          | 9.87           | 33.47                   | 43.34                 | 58.19                 | 14.85                | 19.84                   | 29.71                 | 48.19                 | 18.48                | PASS    |
| 5               | 1.9995         | 9.92           | 25.51                   | 35.43                 | 56.00                 | 20.57                | 13.62                   | 23.54                 | 46.00                 | 22.46                | PASS    |
| 6               | 19.995         | 10.43          | 25.99                   | 36.42                 | 60.00                 | 23.58                | 15.08                   | 25.51                 | 50.00                 | 24.49                | PASS    |

Note:1).QP Value ( $dB\mu V$ )= QP Reading ( $dB\mu V$ )+ Factor (dB)

- 2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)
- 3). QPMargin(dB) = QP Limit (dB $\mu$ V) QP Value (dB $\mu$ V)
- 4).  $AVMargin(dB) = AV Limit (dB\mu V) AV Value (dB\mu V)$ CTATESTIN

Page 12 of 26 Report No.: CTA25031800701



| NO. | Freq.<br>[MHz] | Factor<br>[dB] | QP<br>Reading[dB<br>μV] | QP<br>Value<br>[dBµV] | QP<br>Limit<br>[dBµV] | QP<br>Margin<br>[dB] | ΑV<br>Reading<br>[dBμV] | AV<br>Value<br>[dBµV] | AV<br>Limit<br>[dΒμV] | AV<br>Margin<br>[dB] | Verdict      |
|-----|----------------|----------------|-------------------------|-----------------------|-----------------------|----------------------|-------------------------|-----------------------|-----------------------|----------------------|--------------|
| 1   | 0.1545         | 10.00          | 41.53                   | 51.53                 | 65.75                 | 14.22                | 27.69                   | 37.69                 | 55.75                 | 18.06                | PASS         |
| 2   | 0.231          | 9.99           | 38.18                   | 48.17                 | 62.41                 | 14.24                | 23.42                   | 33.41                 | 52.41                 | 19.00                | PASS         |
| 3   | 0.3075         | 9.86           | 35.69                   | 45.55                 | 60.04                 | 14.49                | 20.30                   | 30.16                 | 50.04                 | 19.88                | PASS         |
| 4   | 0.3705         | 9.89           | 34.34                   | 44.23                 | 58.49                 | 14.26                | 18.49                   | 28.38                 | 48.49                 | 20.11                | PASS         |
| 5   | 0.762          | 10.11          | 30.10                   | 40.21                 | 56.00                 | 15.79                | 12.62                   | 22.73                 | 46.00                 | 23.27                | PASS<br>PASS |
| 6   | 1.4595         | 10.14          | 28.79                   | 38.93                 | 56.00                 | 17.07                | 15.56                   | 25.70                 | 46.00                 | 20.30                | PASS         |

- 2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)
- 3).  $QPMargin(dB) = QP Limit (dB\mu V) QP Value (dB\mu V)$
- CTATESTING 4).  $AVMargin(dB) = AV Limit (dB\mu V) - AV Value (dB\mu V)$

Page 13 of 26 Report No.: CTA25031800701

#### **Radiated Emission**

### Limit

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission out of authorized band shall not exceed the following table at a 3 meters measurement distance.

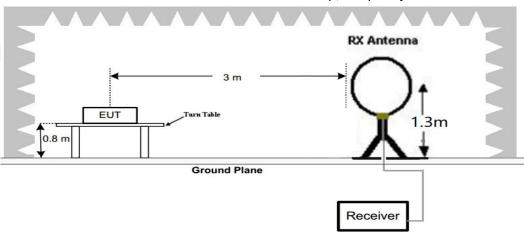
In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a)

| D 11 / 1 |            | 1        |
|----------|------------|----------|
| Radiated | emission   | limite   |
| Naulaicu | CITIOSIOII | IIIIIIII |

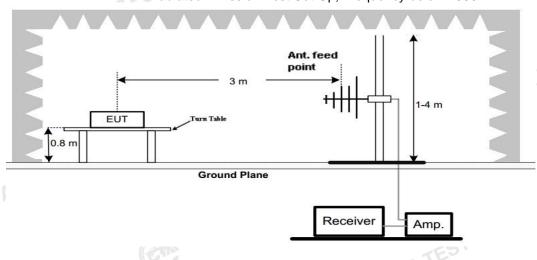
|       | Frequency (MHz) | Distance (Meters) | Radiated (dBµV/m)                | Radiated (µV/m) |
|-------|-----------------|-------------------|----------------------------------|-----------------|
|       | 0.009-0.49      | 3                 | 20log(2400/F(KHz))+40log(300/3)  | 2400/F(KHz)     |
| CTATE | 0.49-1.705      | 3                 | 20log(24000/F(KHz))+ 40log(30/3) | 24000/F(KHz)    |
| C     | 1.705-30        | 3                 | 20log(30)+ 40log(30/3)           | 30              |
| 1     | 30-88           | 3                 | 40.0                             | 100             |
|       | 88-216          | 3                 | 43.5                             | 150             |
|       | 216-960         | 3                 | 46.0                             | 200             |
|       | Above 960       | 3                 | 54.0                             | 500             |

## **TEST CONFIGURATION**

Radiated Emission Test Set-Up, Frequency Below 30MHz



Radiated Emission Test Set-Up, Frequency below 1000MHz



Report No.: CTA25031800701 Page 14 of 26

- 1. Below 1GHz measurement the EUT is placed on a turntable which is 0.8m above ground plane.
- Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0°C to 360°C to acquire the highest emissions from EUT
- 3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 4. Repeat above procedures until all frequency measurements have been completed.
- Radiated emission test frequency band from 9KHz to 1000MHz. 5.
- The distance between test antenna and EUT as following table states:

| Test Frequency range | Test Antenna Type   | Test Distance |  |
|----------------------|---------------------|---------------|--|
| 9KHz-30MHz           | Active Loop Antenna | 3             |  |
| 30MHz-1GHz           | Bilog Antenna       | 3             |  |

Setting test receiver/spectrum as following table states:

| Test Frequency range | Test Receiver/Spectrum Setting         | Detector |
|----------------------|--|----------|
| 9KHz-150KHz          | RBW=200Hz/VBW=3KHz,Sweep time=Auto     | QP       |
| 150KHz-30MHz         | RBW=9KHz/VBW=100KHz,Sweep time=Auto    | QP       |
| 30MHz-1GHz           | RBW=120KHz/VBW=1000KHz,Sweep time=Auto | QP       |

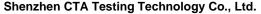
#### **TEST RESULTS**

#### For 9 KHz-30MHz

| <u> </u>     | The same of the sa |       |                   | on Ho         | CTATE              |              |        | resting          |
|--------------|--|-------|-------------------|---------------|--------------------|--------------|--------|------------------|
| TEST RESUL   | .TS  |       |                   |               | 0.                 |              |        | EST III          |
| For 9 KHz-30 | MHz  |       |                   |               |                    |              | CTA    |                  |
|              |  | WORST | -CASE RAI         | DIATED E      | MISSION B          | ELOW 30 MHz  |        |                  |
| Frequency    | Reading  | Polar | Antenna<br>Factor | Cable<br>Loss | Emission<br>Levels | Limits at 3m | Margin | Detector<br>Mode |
| (MHz)        | (dBµV/m)   | Loop  | (dB/m)            | (dB)          | (dBµV/m)           | (dBµV/m)     | (dB)   |                  |
| 0.1266000(F) | 76.14  | Loop  | 23.63             | 0.02          | 99.79              | 105.56       | 5.77   | PK               |
| 0.1266000(F) | 55.30  | Loop  | 23.63             | 0.02          | 78.95              | 85.56        | 6.61   | AV               |
| 0.110        | 55.72  | Loop  | 23.51             | 0.02          | 79.25              | 106.78       | 27.53  | PK               |
| 0.110        | 46.95  | Loop  | 23.51             | 0.02          | 70.48              | 86.78        | 16.30  | AV               |
| 0.288        | 46.05  | Loop  | 23.82             | -0.17         | 69.70              | 98.42        | 28.72  | QP               |
| 0.471        | 42.58  | Loop  | 24.21             | -0.28         | 66.51              | 94.14        | 27.63  | QP               |
| 0.549        | 36.11  | Loop  | 24.32             | -0.3          | 60.13              | 72.81        | 12.68  | QP               |
|              |  |       |                   |               | \                  |              |        |                  |

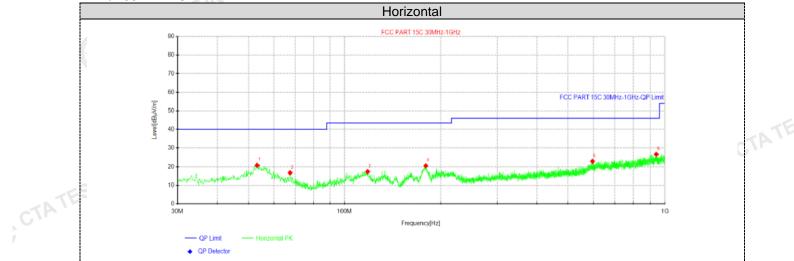
#### Remark:

- Data of measurement within this frequency range shown "-- in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits and not recorded.
- 2. The test limit distance is 3m limit.
- PK means Peak Value, QP means Quasi Peak Value, AV means Average Value. 3.
- F means Fundamental Frequency.
- Emission level (dBuV/m) = Reading + Antenna Factor + Cable Loss.
- Margin value = Limit value- Emission level.



Page 15 of 26 Report No.: CTA25031800701

## For 30MHz-1GHz



| Susp | ected Data | List    |          |        |          |        |        |       |            |
|------|------------|---------|----------|--------|----------|--------|--------|-------|------------|
| NO.  | Freq.      | Reading | Level    | Factor | Limit    | Margin | Height | Angle | Polarity   |
| NO.  | [MHz]      | [dBµV]  | [dBµV/m] | [dB/m] | [dBµV/m] | [dB]   | [cm]   | [°]   | Polarity   |
| 1    | 53.28      | 32.20   | 20.79    | -11.41 | 40.00    | 19.21  | 200    | 220   | Horizontal |
| 2    | 67.5875    | 31.09   | 16.75    | -14.34 | 40.00    | 23.25  | 100    | 110   | Horizontal |
| 3    | 118.027    | 31.11   | 17.34    | -13.77 | 43.50    | 26.16  | 100    | 50    | Horizontal |
| 4    | 179.38     | 35.15   | 20.56    | -14.59 | 43.50    | 22.94  | 200    | 230   | Horizontal |
| 5    | 596.48     | 28.90   | 22.84    | -6.06  | 46.00    | 23.16  | 100    | 170   | Horizontal |
| 6    | 939.738    | 29.13   | 26.74    | -2.39  | 46.00    | 19.26  | 100    | 250   | Horizontal |

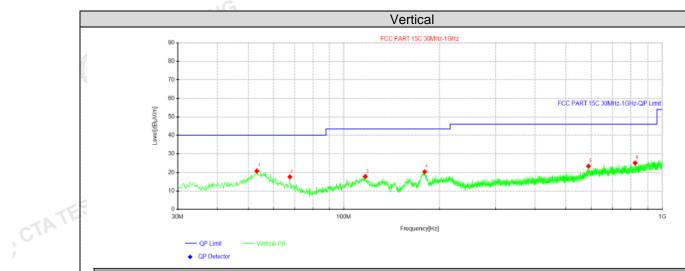
CTATE

Note:1).Level ( $dB\mu V/m$ )= Reading ( $dB\mu V$ )+ Factor (dB/m)

- 2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) Pre Amplifier gain (dB)
- 3). Margin(dB) = Limit (dB $\mu$ V/m) Level (dB $\mu$ V/m)

CTATE

CTATE



| Suspected Data List |         |         |          |        |          |        |        |       |          |  |
|---------------------|---------|---------|----------|--------|----------|--------|--------|-------|----------|--|
| NO.                 | Freq.   | Reading | Level    | Factor | Limit    | Margin | Height | Angle | Polarity |  |
|                     | [MHz]   | [dBµV]  | [dBµV/m] | [dB/m] | [dBµV/m] | [dB]   | [cm]   | [°]   |          |  |
| 1                   | 53.28   | 32.20   | 20.79    | -11.41 | 40.00    | 19.21  | 200    | 260   | Vertical |  |
| 2                   | 67.7088 | 31.89   | 17.53    | -14.36 | 40.00    | 22.47  | 100    | 250   | Vertical |  |
| 3                   | 116.815 | 31.49   | 17.77    | -13.72 | 43.50    | 25.73  | 100    | 90    | Vertical |  |
| 4                   | 179.501 | 34.97   | 20.39    | -14.58 | 43.50    | 23.11  | 200    | 0     | Vertical |  |
| 5                   | 588.113 | 29.77   | 23.30    | -6.47  | 46.00    | 22.70  | 100    | 150   | Vertical |  |
| 6                   | 824.915 | 29.40   | 25.11    | -4.29  | 46.00    | 20.89  | 100    | 0     | Vertical |  |

Note:1).Level  $(dB\mu V/m)$ = Reading  $(dB\mu V)$ + Factor (dB/m)

- 2). Factor(dB/m)=Antenna Factor (dB/m) + Cable loss (dB) Pre Amplifier gain (dB)
- 3). Margin(dB) = Limit (dB $\mu$ V/m) Level (dB $\mu$ V/m)

Page 17 of 26 Report No.: CTA25031800701

#### The 20dB bandwidth

#### **TEST CONFIGURATION**



#### **TEST PROCEDURE**

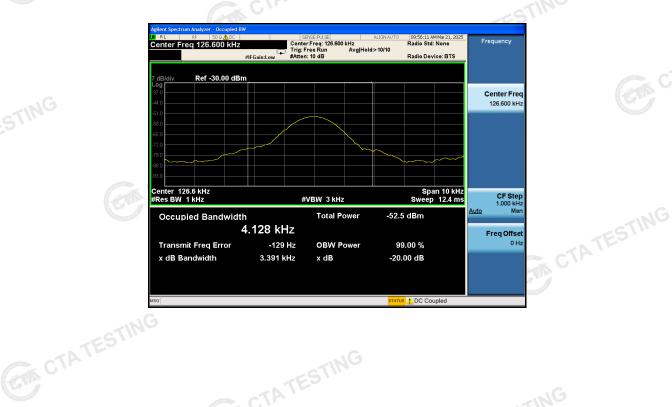
Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in subpart E of this part, must be designed to ensure that 20dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equip compliance with the 20dB attenuation specification may base on measurement at the intentional radiator's antenna output terminal unless the intentional radiator uses a permanently attached antenna, in which case compliance shall be deomonstrated by measuring the radiated emissions.

### **LIMIT**

The 20dB bandwidth shall be less than 80% of the permitted frequency band.

### **TEST RESULTS**

| Mode    | Freq (KHz) | 20dB Bandwidth<br>(KHz) | Conclusion |
|---------|------------|-------------------------|------------|
| Tx Mode | 126.600    | 3.391                   | PASS       |



Page 18 of 26 Report No.: CTA25031800701

## **Antenna Requirement**

### Standard Applicable

#### Standard Applicable

CTA TESTING 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.

#### **Antenna Information**

The antenna used in this product is a Coil Antenna, The directional gains of antenna used for transmitting is 0.dBi.

Page 19 of 26 Report No.: CTA25031800701

# Test Setup Photos of the EUT







Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China Tel:+86-755 2322 5875 E-mail:cta@cta-test.cn Web:http://www.cta-test.cn

Report No.: CTA25031800701 Page 20 of 26

# PHOTOS OF THE EUT



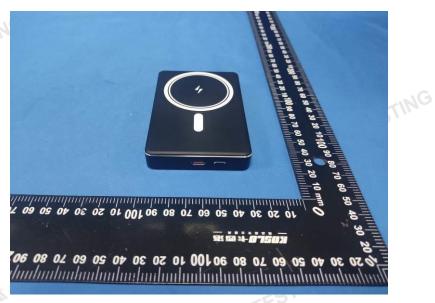


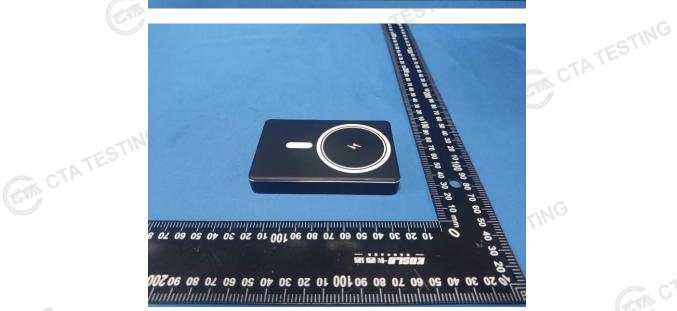


Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China
Tel:+86-755 2322 5875 E-mail:cta@cta-test.cn Web:http://www.cta-test.cn

Report No.: CTA25031800701 Page 21 of 26







Report No.: CTA25031800701 Page 22 of 26







Report No.: CTA25031800701 Page 23 of 26





TING

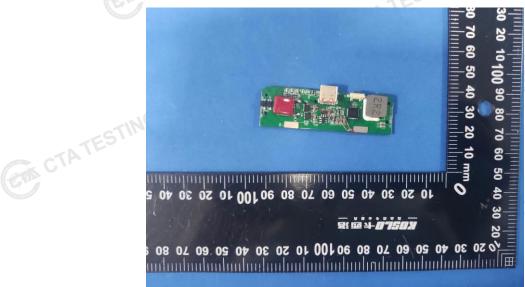


Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China
Tel:+86-755 2322 5875 E-mail:cta@cta-test.cn Web:http://www.cta-test.cn

Report No.: CTA25031800701



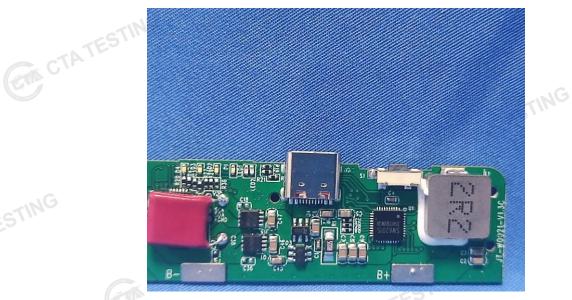


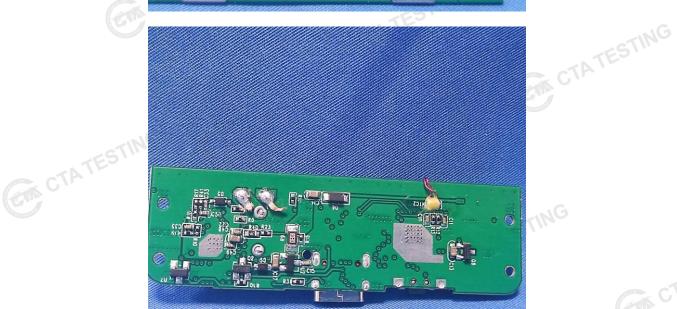


Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China
Tel:+86-755 2322 5875 E-mail:cta@cta-test.cn Web:http://www.cta-test.cn

Page 25 of 26 Report No.: CTA25031800701







Report No.: CTA25031800701



\* End of Report \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China Tel:+86-755 2322 5875 E-mail:cta@cta-test.cn Web:http://www.cta-test.cn