

TEST REPORT

Applicant: Honor Device Co., Ltd.
Suite 3401, Unit A, Building 6, Shum Yip Sky Park,
Address: No. 8089, Hongli West Road, Xiangmihu Street,
Futian District, Shenzhen, Guangdong 518040,
People's Republic of China
Equipment Type: Charging Case
Model Name: THO-B10
Brand Name: HONOR
FCC ID: 2AYGCTHO-B10
Test Standard: 47 CFR Part 15 Subpart B
ANSI C63.4-2014
Sample Arrival Date: Nov. 30, 2022
Test Date: Nov. 30, 2022 – Dec. 01, 2022
Date of Issue: Feb. 21, 2023

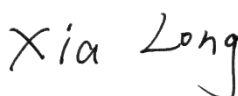
ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Xiong Chong

Checked by: Xia Long

Approved by: Liao Jianming
(Technical Director)



| Revision History | | |
|-------------------------|----------------------|----------------------|
| Version | Issue Date | Revisions |
| <u>Rev. 01</u> | <u>Feb. 21, 2023</u> | <u>Initial Issue</u> |

TABLE OF CONTENTS

| | | |
|---------|---|----|
| 1 | GENERAL INFORMATION..... | 4 |
| 1.1 | Test Laboratory | 4 |
| 1.2 | Test Location | 4 |
| 2 | PRODUCT INFORMATION | 5 |
| 2.1 | Applicant Information | 5 |
| 2.2 | Manufacturer Information..... | 5 |
| 2.3 | Factory Information..... | 5 |
| 2.4 | General Description for Equipment under Test (EUT)..... | 5 |
| 2.5 | Ancillary Equipment..... | 6 |
| 2.6 | Technical Information | 6 |
| 3 | SUMMARY OF TEST RESULTS | 7 |
| 3.1 | Test Standards | 7 |
| 3.2 | Verdict | 7 |
| 3.3 | Test Uncertainty | 7 |
| 4 | GENERAL TEST CONFIGURATIONS | 8 |
| 4.1 | Test Environments, Test Date and Test Engineer..... | 8 |
| 4.2 | Test Equipment List..... | 8 |
| 4.3 | Test Enclosure list | 9 |
| 4.4 | Test Configurations | 9 |
| 4.5 | Test Setups | 10 |
| 4.6 | Test Conditions..... | 12 |
| 5 | TEST ITEMS | 13 |
| 5.1 | Emission Tests | 13 |
| ANNEX A | TEST RESULTS..... | 17 |

| | | |
|---------|--------------------------|----|
| A.1 | Radiated Emission..... | 17 |
| A.2 | Conducted Emission..... | 19 |
| ANNEX B | TEST SETUP PHOTOS | 21 |
| ANNEX C | EUT EXTERNAL PHOTOS..... | 21 |
| ANNEX D | EUT INTERNAL PHOTOS..... | 21 |

1 GENERAL INFORMATION

1.1 Test Laboratory

| | |
|--------------|--|
| Name | Shenzhen BALUN Technology Co., Ltd. |
| Address | Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China |
| Phone Number | +86 755 6685 0100 |

1.2 Test Location

| | |
|---------------------------|---|
| Name | Shenzhen BALUN Technology Co., Ltd. |
| Location | <input checked="" type="checkbox"/> Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China |
| | <input type="checkbox"/> 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China |
| Accreditation Certificate | The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196. |

2 PRODUCT INFORMATION

2.1 Applicant Information

| | |
|-----------|--|
| Applicant | Honor Device Co., Ltd. |
| Address | Suite 3401, Unit A, Building 6, Shum Yip Sky Park, No. 8089, Hongli West Road, Xiangmihu Street, Futian District, Shenzhen, Guangdong 518040, People's Republic of China |

2.2 Manufacturer Information

| | |
|--------------|--|
| Manufacturer | Honor Device Co., Ltd. |
| Address | Suite 3401, Unit A, Building 6, Shum Yip Sky Park, No. 8089, Hongli West Road, Xiangmihu Street, Futian District, Shenzhen, Guangdong 518040, People's Republic of China |

2.3 Factory Information

| | |
|---------|-----|
| Factory | N/A |
| Address | N/A |

2.4 General Description for Equipment under Test (EUT)

| | |
|---|---------------|
| EUT Name | Charging Case |
| Model Name Under Test | THO-B10 |
| Series Model Name | N/A |
| Description of Model name differentiation | N/A |
| Hardware Version | N/A |
| Software Version | N/A |
| Dimensions (Approx.) | N/A |
| Weight (Approx.) | N/A |

2.5 Ancillary Equipment

| | | |
|-----------------------|----------------------|-------------|
| Ancillary Equipment 1 | Battery | |
| | Brand Name | N/A |
| | Model No. | HB681636ECW |
| | Serial No. | N/A |
| | Capacity | 410 mAh |
| | Rated Voltage | 3.82 V |
| | Limit Charge Voltage | 4.4 V |

2.6 Technical Information

| | |
|-----------------------------------|-----|
| Network and Wireless connectivity | N/A |
|-----------------------------------|-----|

The requirement for the following technical information of the EUT was tested in this report:

| | |
|--------------------------------|-----|
| The Highest Speed of Processor | N/A |
|--------------------------------|-----|

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

| No. | Identity | Document Title |
|-----|--------------------------|---|
| 1 | 47 CFR Part 15 Subpart B | Unintentional Radiators |
| 2 | ANSI C63.4-2014 | American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz |

3.2 Verdict

| No. | Description | FCC Rule | Test Verdict | Result |
|-----|------------------------------|----------|--------------|------------|
| 1 | Radiated Emission | 15.109 | Pass | Annex A .1 |
| 2 | Conducted Emission, AC Ports | 15.107 | Pass | Annex A .2 |

3.3 Test Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

| Measurement | Value |
|---------------------------------------|---------|
| Conducted emissions (9 kHz-30 MHz) | 3.22 dB |
| Radiated emissions (30 MHz-1 GHz)-10m | 4.80 dB |

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments, Test Date and Test Engineer

| Test items | Voltage | Temperature | Relative Humidity | Ambient Pressure | Test Date | Test Engineer |
|--------------------|---------|-------------|-------------------|------------------|---------------|----------------|
| Radiated Emission | USB 5V | 24.9℃ | 47% | 101kPa | Dec. 01, 2022 | Lin Yupeng |
| Conducted Emission | USB 5V | 21.9 | 59% | 101kPa | Nov. 30, 2022 | Liang Yongming |

4.2 Test Equipment List

| Radiated Emission Test For Frequency Below 1 GHz (10 m) | | | | | | |
|---|-------------------------|-----------------------|-------------|------------|------------|-------------------------------------|
| Description | Manufacturer | Model | Serial No. | Cal. Date | Cal. Due | Use |
| EMI Receiver | ROHDE&SCHWARZ RZ | ESRP | 101036 | 2022.09.09 | 2023.09.08 | <input checked="" type="checkbox"/> |
| Amplifier (30-1GHz) | COM-MV | ZT30-1000M | B2018054558 | 2022.09.09 | 2023.09.08 | <input checked="" type="checkbox"/> |
| Test Antenna- Bi-Log | SCHWARZBECK | VULB 9168 | 9168-01162 | 2022.08.12 | 2023.08.11 | <input checked="" type="checkbox"/> |
| Anechoic Chamber | EMC Electronic Co., Ltd | 20.10*11.60* 7.35m | 130 | 2021.08.15 | 2024.08.14 | <input checked="" type="checkbox"/> |
| Description | Manufacturer | Name | | Version | | Use |
| Test Software | BALUN | BL410-E | | V22.930 | | <input checked="" type="checkbox"/> |

| Conducted disturbance Test | | | | | | |
|----------------------------|----------------------------|--------------------|------------|------------|------------|-------------------------------------|
| Description | Manufacturer | Model | Serial No. | Cal. Date | Cal. Due | Use |
| EMI Receiver | KEYSIGHT | N9010B | MY57110309 | 2022.09.09 | 2023.09.08 | <input checked="" type="checkbox"/> |
| LISN | SCHWARZBECK | NSLK 8127 | 8127-687 | 2022.06.01 | 2023.05.31 | <input checked="" type="checkbox"/> |
| Shielded Room | YiHeng Electronic Co., Ltd | 3.5m*3.1m*2. 8m | 112 | 2022.02.19 | 2025.02.18 | <input checked="" type="checkbox"/> |
| Description | Manufacturer | Name | | Version | | Use |
| Test Software | BALUN | BL410-E | | V22.930 | | <input checked="" type="checkbox"/> |

4.3 Test Enclosure list

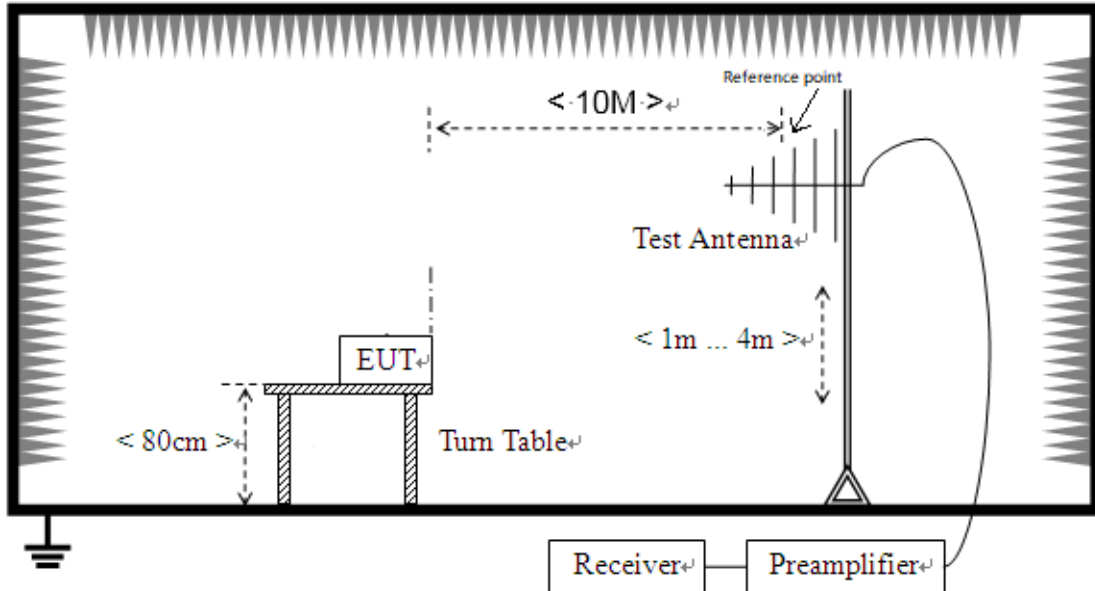
| Description | Manufacturer | Model | Serial No. | Length | Description | Use |
|--------------|--------------|-----------|------------|--------|-------------|-------------------------------------|
| Type-C Cable | N/A | N/A | N/A | 1.0m | N/A | <input checked="" type="checkbox"/> |
| Adapter | Xiaomi | MDY-08-EV | N/A | N/A | N/A | <input checked="" type="checkbox"/> |
| Earphone | HONOR | THO-T10 | N/A | N/A | N/A | <input checked="" type="checkbox"/> |

4.4 Test Configurations

| Test Configurations (TC) No. | Description |
|------------------------------|--|
| TC01 | <u>The Charging Test Mode</u> EUT + Battery + Earphone + Type-C Cable + Adapter |

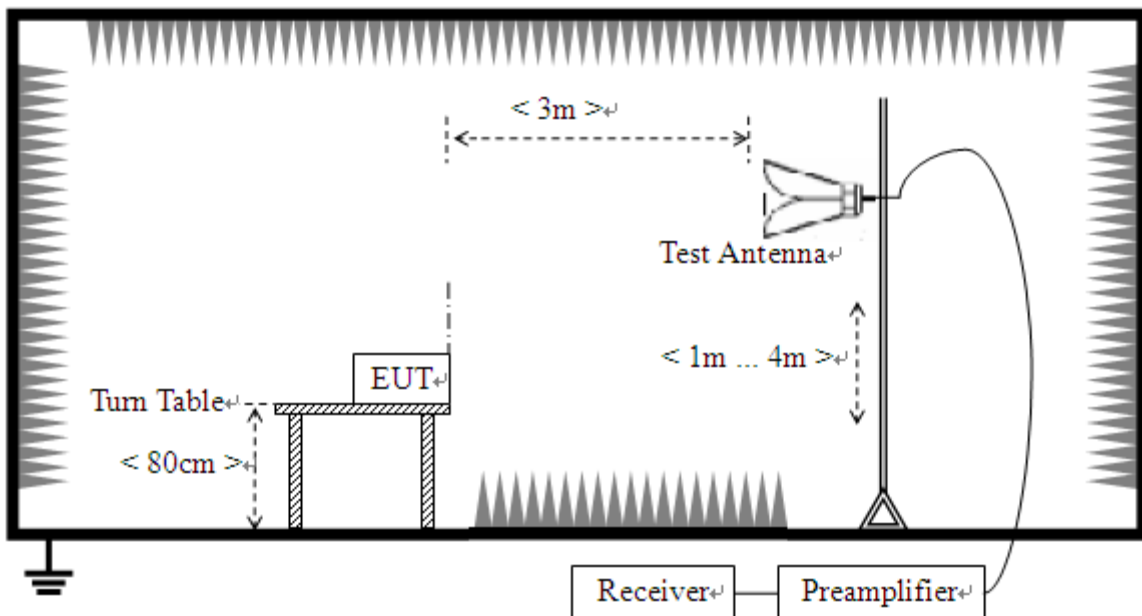
4.5 Test Setups

Test Setup 1



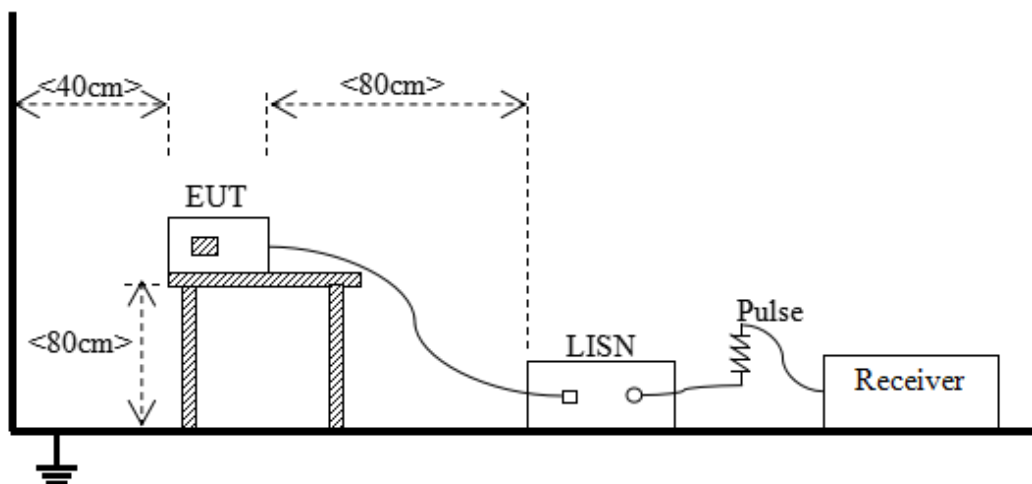
(For Radiated Emission Test (30 MHz-1 GHz))

Test Setup 2



(For Radiated Emission Test (above 1 GHz))

Test Setup 3



(For Conducted Emission, AC Ports Test)

4.6 Test Conditions

| Test Case | Test Conditions | |
|---------------------------------|--------------------|----------------------|
| Radiated Emission | Test Setup | Test Setup 1&2 |
| | Test Configuration | TC01 ^{Note} |
| Conducted Emission, AC Ports | Test Setup | Test Setup 3 |
| | Test Configuration | TC01 ^{Note} |

Note: Based on client request, all normal using modes of the normal function were tested but only the worst test data of the worst mode is reported by this report. The Charging Test Mode is the worst mode in this report.

5 TEST ITEMS

5.1 Emission Tests

5.1.1 Radiated Emission

5.1.1.1 Limit

| Frequency range (MHz) | Class B (at 3 m) | | Class B (at 10 m) | Class A (at 10 m) | |
|-----------------------|------------------------------------|---|---|------------------------------------|---|
| | Field Strength ($\mu\text{V/m}$) | Field Strength ($\text{dB}\mu\text{V/m}$) | Field Strength ($\text{dB}\mu\text{V/m}$) | Field Strength ($\mu\text{V/m}$) | Field Strength ($\text{dB}\mu\text{V/m}$) |
| 30 - 88 | 100 | 40 | 30 | 90 | 39 |
| 88 - 216 | 150 | 43.5 | 33.5 | 150 | 43.5 |
| 216 - 960 | 200 | 46 | 36 | 210 | 46.4 |
| Above 960 | 500 | 54 | 44 | 300 | 49.5 |

NOTE:

- 1) Field Strength ($\text{dB}\mu\text{V/m}$) = $20 \cdot \log$ [Field Strength ($\mu\text{V/m}$)].
- 2) In the emission tables above, the tighter limit applies at the band edges.

5.1.1.2 Test Setup

Refer to 4.5 section (test setup 1 to test setup 2) for radiated emission test, the photo of test setup please refer to ANNEX B.

5.1.1.3 Test Procedure

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

An initial pre-scan was performed in the chamber using the EMI Receiver in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by Bi-Log antenna with 2 orthogonal polarities.

The measurement frequency range is from 30 MHz to the 5th harmonic of the maximum frequency of the EUT internal source. The Turn Table is actuated to turn from 0° to 360° , and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW \geq RBW

Sweep = auto

Detector function = peak for $f < 1$ GHz, peak & RMS Average for $f \geq 1$ GHz

Trace = max hold

5.1.1.4 Test Result

Please refer to ANNEX A.1.

NOTE:

1. Results (dB μ V/m) = Reading (dB μ V/m) + Factor (dB/m)

The reading level is calculated by software which is not shown in the sheet

2. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Amplifier Gain (dB)

3. Over limit = Results – Limit.

5.1.2 Conducted Emission

5.1.2.1 Test Limit

| Frequency range (MHz) | Class A | |
|-----------------------|----------------------------|-------------------------|
| | Quasi-peak (dB μ V) | Average (dB μ V) |
| 0.15 - 0.50 | 79 | 66 |
| 0.50 - 30 | 73 | 60 |

| Frequency range (MHz) | Class B | |
|-----------------------|----------------------------|-------------------------|
| | Quasi-peak (dB μ V) | Average (dB μ V) |
| 0.15 - 0.50 | 66 to 56 | 56 to 46 |
| 0.50 - 5 | 56 | 46 |
| 5 - 30 | 60 | 50 |

NOTE:

- 1) The lower limit shall apply at the band edges.
- 2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50 MHz.

5.1.2.2 Test Setup

Refer to 4.5 section test (test setup 3) for conducted emission, the photo of test setup please refer to ANNEX B.

5.1.2.3 Test Procedure

The EUT is connected to the power mains through a LISN which provides 50 Ω /50 μ H of coupling impedance for the measuring instrument. The test frequency range is from 150 kHz to 30 MHz. The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels that are more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed.

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

Use the following spectrum analyzer settings:

RBW = 9 kHz

VBW \geq RBW

Sweep = 10ms

Detector function = peak & Average

Trace = max hold

5.1.2.4 Test Result

Please refer to ANNEX A.2.

NOTE:

1. Results (dB μ V) = Reading (dB μ V) + Factor (dB)

The reading level is calculated by software which is not shown in the sheet

2. Factor = Insertion loss + Cable loss

3. Over limit = Results – Limit.

ANNEX A TEST RESULTS

A.1 Radiated Emission

Note 1: The symbol of "--" in the table which means not application.

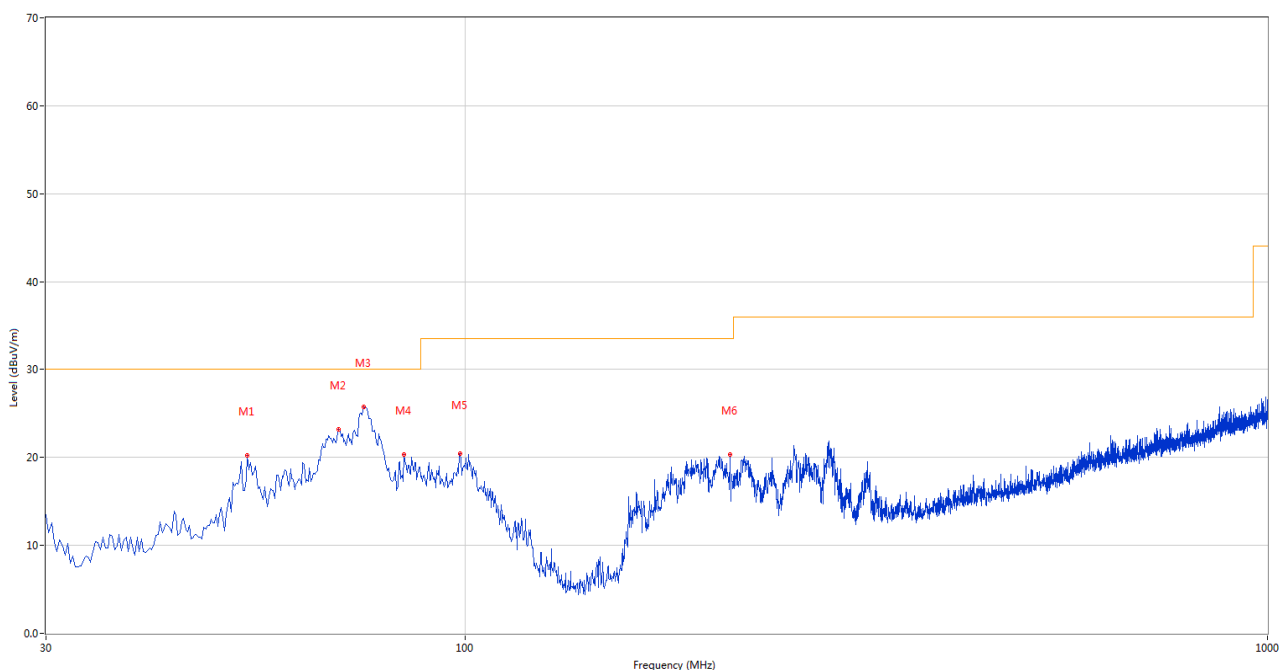
Note 2: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note 3: All the configurations were pre tested, only the worst configuration has been reported in this report.

Test Data and Plots

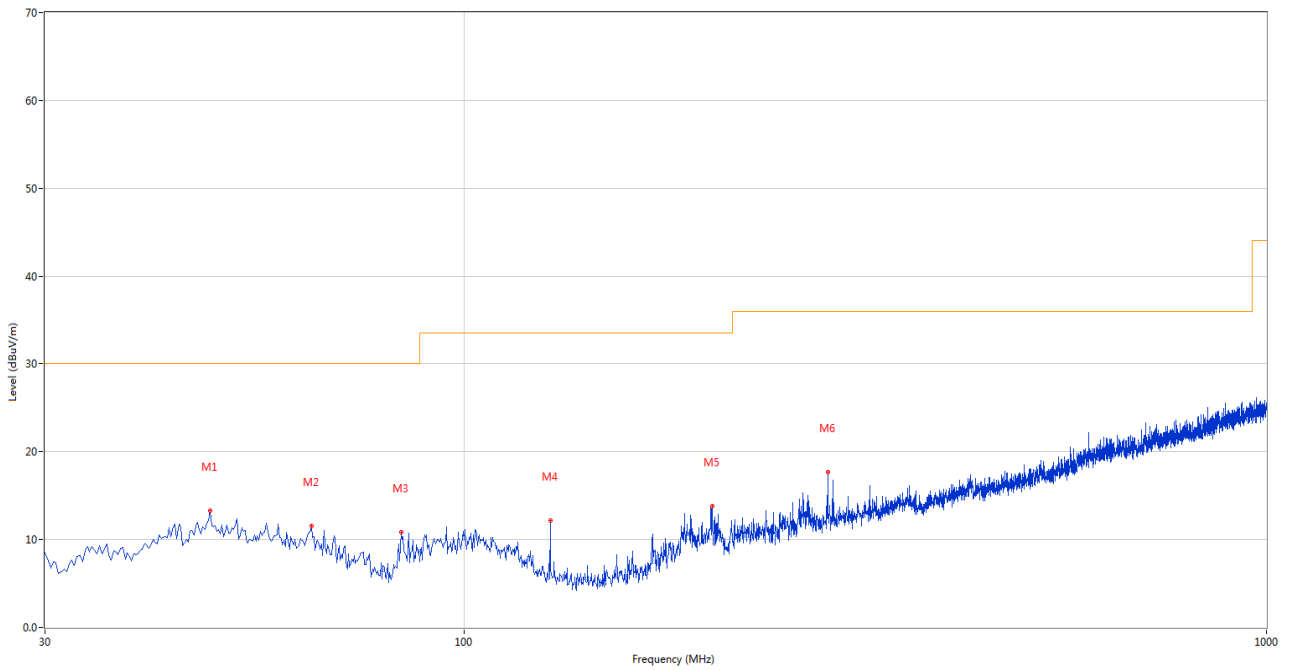
The Charging Test Mode

A.1.1 Test Antenna Vertical, 30 MHz – 1 GHz



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|----------|---------|
| 1 | 53.517 | 20.20 | -26.46 | 30.0 | 9.80 | Peak | 103.00 | 100 | Vertical | Pass |
| 2 | 69.518 | 23.24 | -30.15 | 30.0 | 6.76 | Peak | 127.00 | 100 | Vertical | Pass |
| 3 | 74.609 | 25.74 | -31.64 | 30.0 | 4.26 | Peak | 124.00 | 200 | Vertical | Pass |
| 4 | 83.822 | 20.34 | -31.20 | 30.0 | 9.66 | Peak | 118.00 | 100 | Vertical | Pass |
| 5 | 98.610 | 20.49 | -28.13 | 33.5 | 13.01 | Peak | 69.00 | 200 | Vertical | Pass |
| 6 | 213.769 | 20.31 | -27.89 | 33.5 | 13.19 | Peak | 230.00 | 100 | Vertical | Pass |

A.1.2 Test Antenna Horizontal, 30 MHz – 1 GHz



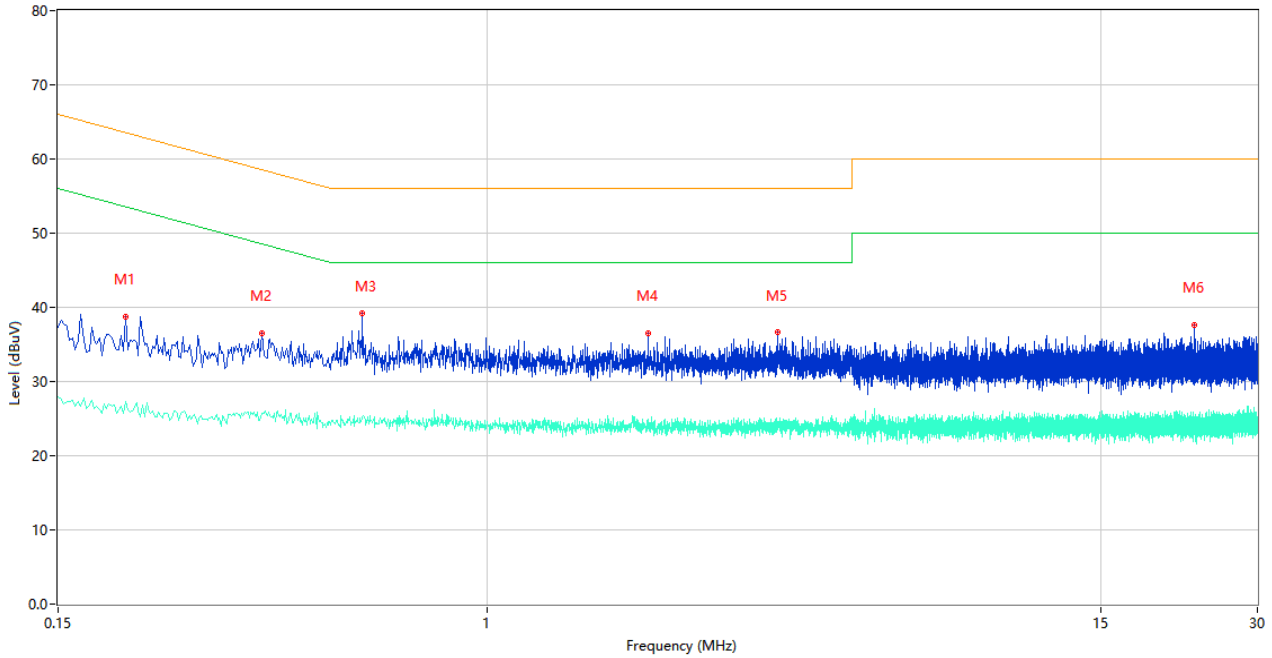
| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1 | 48.183 | 13.26 | -26.36 | 30.0 | 16.74 | Peak | 180.00 | 200 | Horizontal | Pass |
| 2 | 64.426 | 11.57 | -28.21 | 30.0 | 18.43 | Peak | 288.00 | 200 | Horizontal | Pass |
| 3 | 83.337 | 10.84 | -31.24 | 30.0 | 19.16 | Peak | 161.00 | 200 | Horizontal | Pass |
| 4 | 127.946 | 12.20 | -31.06 | 33.5 | 21.30 | Peak | 360.00 | 200 | Horizontal | Pass |
| 5 | 203.587 | 13.80 | -27.81 | 33.5 | 19.70 | Peak | 130.00 | 200 | Horizontal | Pass |
| 6 | 283.834 | 17.65 | -25.57 | 36.0 | 18.35 | Peak | 319.00 | 200 | Horizontal | Pass |

A.2 Conducted Emission

Test Data and Plots

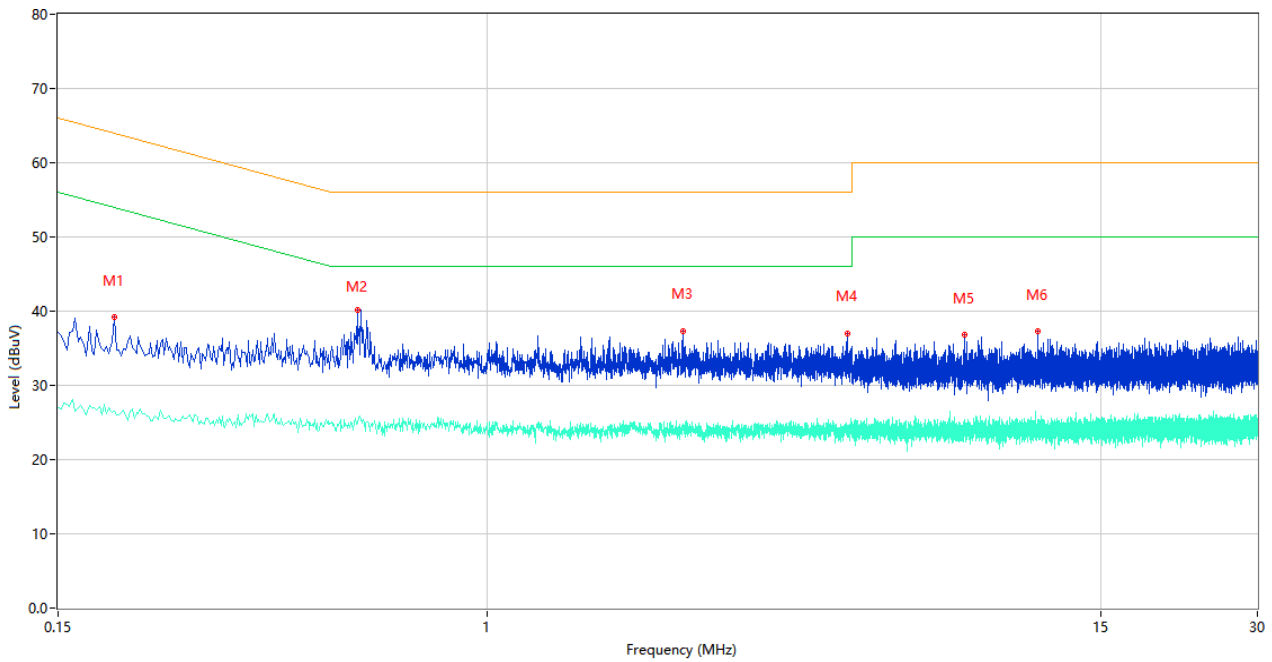
The Charging Test Mode

A.2.1 L Phase



| No. | Frequency (MHz) | Results (dBuV) | Factor (dB) | Limit (dBuV) | Margin (dB) | Detector | Line | Verdict |
|-----|-----------------|----------------|-------------|--------------|-------------|----------|------|---------|
| 1 | 0.202 | 38.72 | 10.05 | 63.53 | 24.81 | Peak | L | Pass |
| 1** | 0.202 | 27.34 | 10.05 | 53.53 | 26.19 | AV | L | Pass |
| 2 | 0.370 | 36.54 | 10.89 | 58.50 | 21.96 | Peak | L | Pass |
| 2** | 0.370 | 25.71 | 10.89 | 48.50 | 22.79 | AV | L | Pass |
| 3 | 0.576 | 39.18 | 10.28 | 56.00 | 16.82 | Peak | L | Pass |
| 3** | 0.576 | 25.06 | 10.28 | 46.00 | 20.94 | AV | L | Pass |
| 4 | 2.032 | 36.55 | 10.50 | 56.00 | 19.45 | Peak | L | Pass |
| 4** | 2.032 | 24.29 | 10.50 | 46.00 | 21.71 | AV | L | Pass |
| 5 | 3.604 | 36.67 | 10.43 | 56.00 | 19.33 | Peak | L | Pass |
| 5** | 3.604 | 24.63 | 10.43 | 46.00 | 21.37 | AV | L | Pass |
| 6 | 22.676 | 37.66 | 10.48 | 60.00 | 22.34 | Peak | L | Pass |
| 6** | 22.676 | 25.08 | 10.48 | 50.00 | 24.92 | AV | L | Pass |

A.2.2 N Phase



| No. | Frequency (MHz) | Results (dBuV) | Factor (dB) | Limit (dBuV) | Margin (dB) | Detector | Line | Verdict |
|-----|-----------------|----------------|-------------|--------------|-------------|----------|------|---------|
| 1 | 0.192 | 39.17 | 10.06 | 63.95 | 24.78 | Peak | N | Pass |
| 1** | 0.192 | 26.53 | 10.06 | 53.95 | 27.42 | AV | N | Pass |
| 2 | 0.562 | 40.21 | 10.24 | 56.00 | 15.79 | Peak | N | Pass |
| 2** | 0.562 | 25.26 | 10.24 | 46.00 | 20.74 | AV | N | Pass |
| 3 | 2.378 | 37.30 | 10.27 | 56.00 | 18.70 | Peak | N | Pass |
| 3** | 2.378 | 24.69 | 10.27 | 46.00 | 21.31 | AV | N | Pass |
| 4 | 4.914 | 37.00 | 10.24 | 56.00 | 19.00 | Peak | N | Pass |
| 4** | 4.914 | 24.15 | 10.24 | 46.00 | 21.85 | AV | N | Pass |
| 5 | 8.242 | 36.75 | 10.48 | 60.00 | 23.25 | Peak | N | Pass |
| 5** | 8.242 | 23.83 | 10.48 | 50.00 | 26.17 | AV | N | Pass |
| 6 | 11.360 | 37.29 | 10.27 | 60.00 | 22.71 | Peak | N | Pass |
| 6** | 11.360 | 23.57 | 10.27 | 50.00 | 26.43 | AV | N | Pass |

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-EC2320029-AE.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-EC2320029-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-EC2320029-AI.PDF”.

Statement

1. The laboratory guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.
2. The report without China inspection body and laboratory Mandatory Approval (CMA) mark has no effect of proving to the society.
3. For the report with CNAS mark or A2LA mark, the items marked with "☆" are not within the accredited scope.
4. This report is invalid if it is altered, without the signature of the testing and approval personnel, or without the "inspection and testing dedicated stamp" or test report stamp.
5. The test data and results are only valid for the tested samples provided by the customer.
6. This report shall not be partially reproduced without the written permission of the laboratory.
7. Any objection shall be raised to the laboratory within 30 days after receiving the report.

--END OF REPORT--