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|-----------------------------------|-------------------------------|
| Product Name: Dash camera | Report No.:ITEZA2-202500005E |
| Product Model: HDE-1040, HDE-1005 | Security Classification: Open |
| Version: A0 | Total Page: 30 |

TIRT Testing Report

| Prepared By: | Checked By: | Approved By: |  |
|---|---|--|---|
| Aaron Long | Stone Tang | Joky Wang | |
|  |  |  | |

FCC EMC TEST REPORT

FCC ID: 2BNBZ-HDE-1040

| | |
|---------------|--|
| Applicant: | Honistar technology Co., Ltd |
| Address: | Unit 1507B 15/f eastcore 398 kwun tong road kwun tong kL |
| Manufacturer: | Honistar technology Co., Ltd |
| Address: | Unit 1507B 15/f eastcore 398 kwun tong road kwun tong kL |
| Factory: | Honglishida technology Co.,Ltd |
| Address: | 3F, Block B, Jianxinda science and technology park, NO.3, 3rd Road, Yang Yong industrial zone, Song Gang town, BaoAn District, ShenZhen, China |
| Sample No: | 1000053365 |

| | |
|------------------|-----------------------|
| Date of Receipt: | 2025/01/07 |
| Date of Test: | 2025/01/07~2025/02/08 |
| Issued Date: | 2025/02/18 |
| Testing Lab: | TIRT |

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History of the test report

Original Report Issue Date: 2025.02.18

- No additional attachment
- Additional attachments were issued following record

| Attachment No. | Issue Date | Description |
|----------------|------------|-------------|
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1. General Information

1.1. Description of Device (EUT)

Product Name : Dash camera

Model Number : HDE-1040, HDE-1005

Diff : HDE-1040 means no extra camera
HDE-1005 means add a separate extra camera
We tested the worst modes of HDE-1005

Test Voltage : DC 3.7V from battery or DC 5V Car charger

Highest Frequency : More than 108MHz

Software version : V1.0

Hardware version : V1.0

1.2. Accessories of Device (EUT)

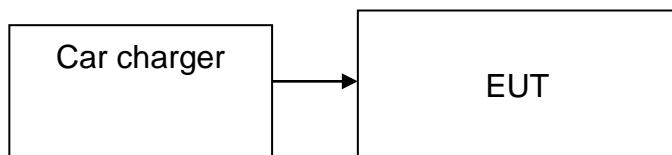
Accessories : Car Charger
Manufacturer : Honglishida technology Co.,Ltd
Model : FLH-TXD
Ratings : Input: DC 12V-24V
Output: 5V=1A

1.3. Tested Supporting System Details.

| No. | Description | Manufacturer | Model | Serial Number | Certification or DOC |
|-----|-------------|--------------|-------|---------------|----------------------|
| 1 | N/A | N/A | N/A | N/A | N/A |

1.4. Block Diagram of connection between EUT and simulators

For tests



Signal Cable Description of the above Support Units

| No. | Port Name | Cable | Length | Shielded (Yes or No) | Detachable (Yes or No) |
|-----|-----------|-------|--------|-------------------------|---------------------------|
| / | / | / | / | / | / |

2. Summary Of Standards And Results

2.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

| EMISSION | | | |
|------------------------------------|--------------------------------|---------|---------|
| Description of Test Item | Standard | Limits | Results |
| Power Line Conducted Emission Test | FCC Part 15 ANSI C63.4:2014 | Class B | N/A |
| Radiated Emission Test | FCC Part 15 ANSI C63.4:2014 | Class B | P |

Note: 1. P is an abbreviation for Pass.
2. F is an abbreviation for Fail.
3. N/A is an abbreviation for Not Applicable. No need to test the car charging power supply
4. The conclusion of this test report is judged by actual test data without considering measurement uncertainty.

2.2. Test Mode Description

| Mode No. | Test Mode | Test Voltage |
|----------|-----------------|---|
| Mode 1 | Standby | DC 3.7V from battery or DC 5V Car charger |
| Mode 2 | Video recording | DC 3.7V from battery or DC 5V Car charger |
| Mode 3 | Video playing | DC 3.7V from battery or DC 5V Car charger |

Note: 1, Mode 2 is worst case mode tests for Radiated Emission Test.
2, This report only reflected the worst mode in this part.

2.3. Test Equipment List

| Name of Equipment | Manufacturer | Model Number | Serial Number | Last Calibration | Due Calibration |
|---------------------------|---------------|--------------------------|------------------------------|------------------|-----------------|
| Radiated Emission | | | | | |
| EMI Receiver | Rohde&Schwarz | ESIB 40 | YH-TIRT-SAC-9 66-20220911 | 2025/01/05 | 2026/01/04 |
| Integral Antenna | Schwarzbeck | VULB 9168 | 01314 | 2024/12/11 | 2025/12/10 |
| Integral Antenna | Rohde&Schwarz | HF907 | RSM2991424 | 2024/12/11 | 2025/12/10 |
| Preamplifier | Emtrace | RP01A | '02017 | 2025/01/05 | 2026/01/04 |
| Preamplifier | Schwarzbeck | BBV9744 | 00143 | 2025/01/05 | 2026/01/04 |
| RF Cable | / | LMR400UF-NMNM -7.0M | / | 2025/01/05 | 2026/01/04 |
| RF Cable | / | SFT2050PUR-NMN M-7.0M | / | 2025/01/05 | 2026/01/04 |
| Conducted Emission | | | | | |
| EMI Receiver | Rohde&Schwarz | ESR7 | 1316.3003K07-1 02611-mk | 2024/12/24 | 2025/12/23 |
| LISN | Rohde&Schwarz | ENV216 | 3560.655.12-102 915-Bp | 2024/12/24 | 2025/12/23 |
| ISN | Schwarzbeck | ENY81 | 1309.8510.03 | 2024/03/08 | 2025/03/07 |
| ISN | Schwarzbeck | ENY81-CAT6 | 1309.8526.03-10 1976-kh | 2024/03/08 | 2025/03/07 |
| RF Cable | \ | SFT2050PUR-NMN M-2.0M | \ | 2025/01/05 | 2026/01/04 |

2.4. Test Facility

| | |
|--------------------------------|---|
| Company: | Beijing TIRT Technology Service Co.,Ltd Shenzhen |
| Address: | 104 Building C, Xinxingsheng Industrial Park No.132, Zhangge Old Village East Zone, Zhangge Community, Fucheng Street, Longhua District, Shenzhen, Guangdong, P. R. China |
| CNAS Registration Number: | CNAS L14158 |
| A2LA Registration Number: | 6049.01 |
| FCC Designation Number: | CN1366 |
| Test Firm Registration Number: | 820690 |
| Telephone: | +86-0755-27087573 |

2.5. Measurement Uncertainty

Where relevant, 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 uncertainty levels of TIRT Lab | | |
|--|-----------------------------|-------|
| Measurement | Measurement Frequency Range | U(dB) |
| Radiated Emission | 30MHz~1GHz | 4.6 |
| Radiated Emission | 1GHz ~ 18GHz | 4.9 |
| Radiated Emission | 18GHz ~ 40GHz | 4.9 |
| Conduction Emissions | 150kHz~30MHz | 3.1 |

3. Power Line Conducted Emission Test

3.1. Test Limits

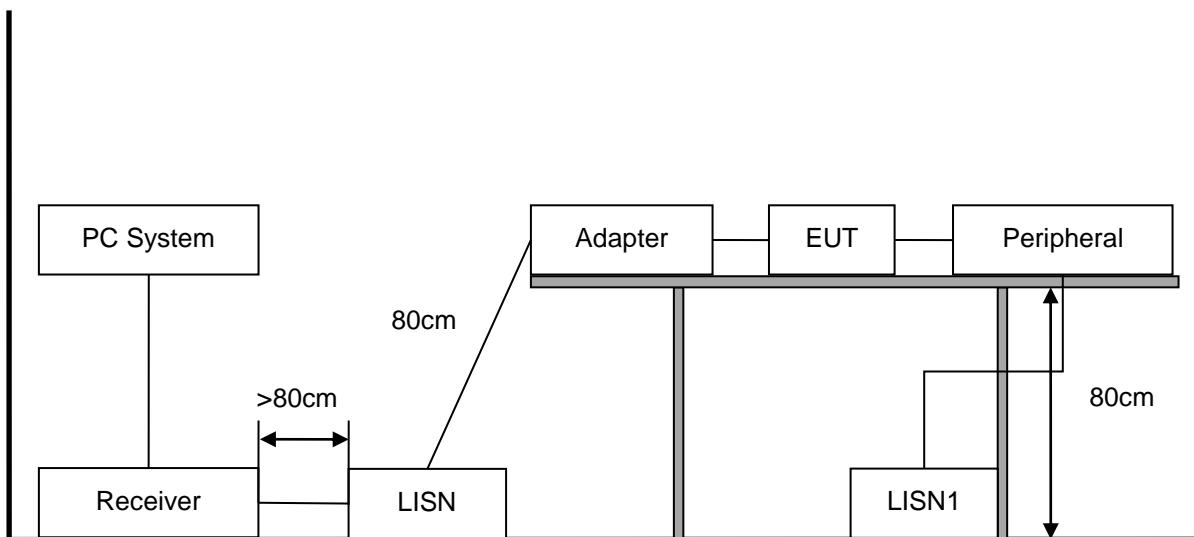
| Frequency | | Maximum RF Line Voltage | |
|-----------|---|----------------------------------|-------------------------------|
| | | Quasi-Peak Level dB(μ V) | Average Level dB(μ V) |
| 150kHz | ~ | 500kHz | 66 ~ 56* |
| 500kHz | ~ | 5MHz | 56 |
| 5MHz | ~ | 30MHz | 60 |

Notes: 1. Emission level=Read level + LISN factor+Preamp factor + Cable loss

2. Decreasing linearly with logarithm of frequency.

3. The lower limit shall apply at the transition frequencies.

3.2. Block Diagram of Test Setup



3.3. Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

3.4. Operating Condition of EUT

- (1) Setup the EUT as shown as Section 3.2.
- (2) Turn on the power of all equipment.
- (3) Let the EUT work in test mode and 15 minutes before taking the test.

3.5. Test Procedure

- (1) The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#2). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4:2014 on conducted Emission test.
- (2) The frequency range from 150kHz to 30MHz is checked, the bandwidth of test receiver (R&S TEST RECEIVER ESCI) is set at 9kHz.

3.6. Test Results

| | | | |
|---------------|---|-------------|---|
| EUT | Dash camera | Test Date | / |
| M/N | HDE-1005 | Temperature | / |
| Test Engineer | / | Humidity | / |
| Test Voltage | / | Pressure | / |
| Test Mode | / | | |
| Test Results | / | | |
| Note | No need to test the car charging power supply | | |

4. Radiated Emission Test

4.1. Test Limit

| Frequency MHz | | | Distance (Meters) | Field Strengths Limits dB(μV)/m |
|------------------|---|------|----------------------|------------------------------------|
| 30 | ~ | 88 | 3 | 40.0 |
| 88 | ~ | 216 | 3 | 43.5 |
| 216 | ~ | 960 | 3 | 46.0 |
| 960 | ~ | 1000 | 3 | 54.0 |
| Above 1GHz | | | 3 | 74(Peak) 54(Average) |

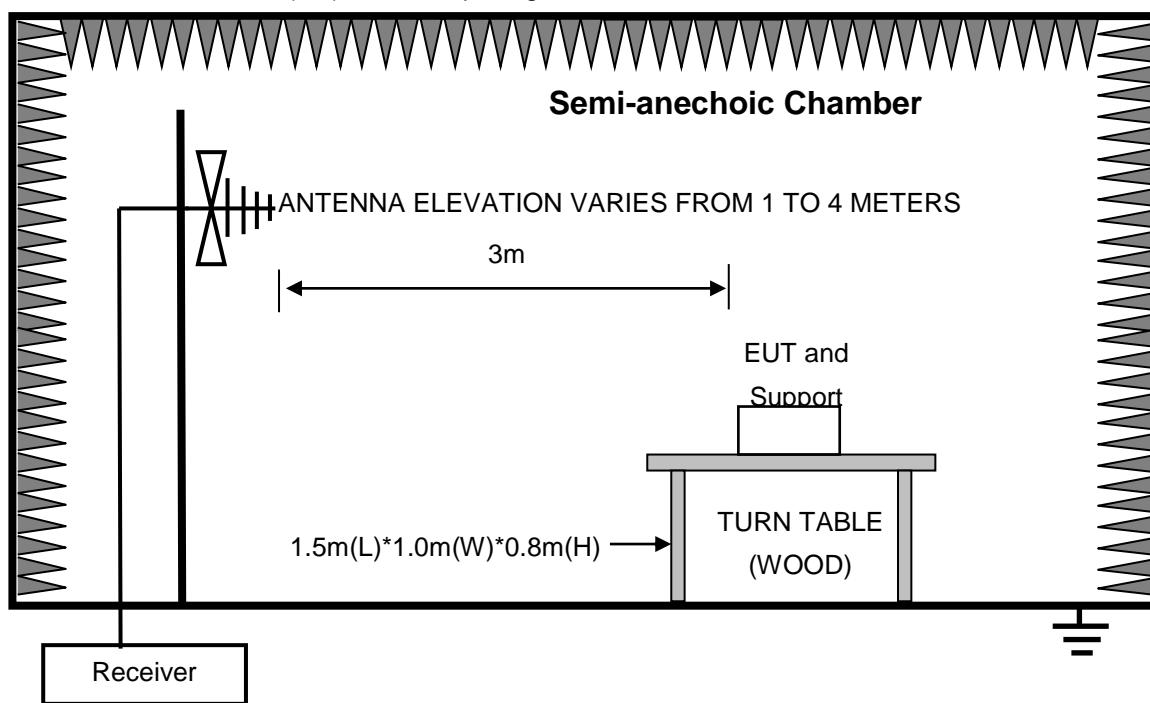
Notes:

1. The smaller limit shall apply at the cross point between two frequency bands.
2. Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.
3. Frequency range of radiated measurements:

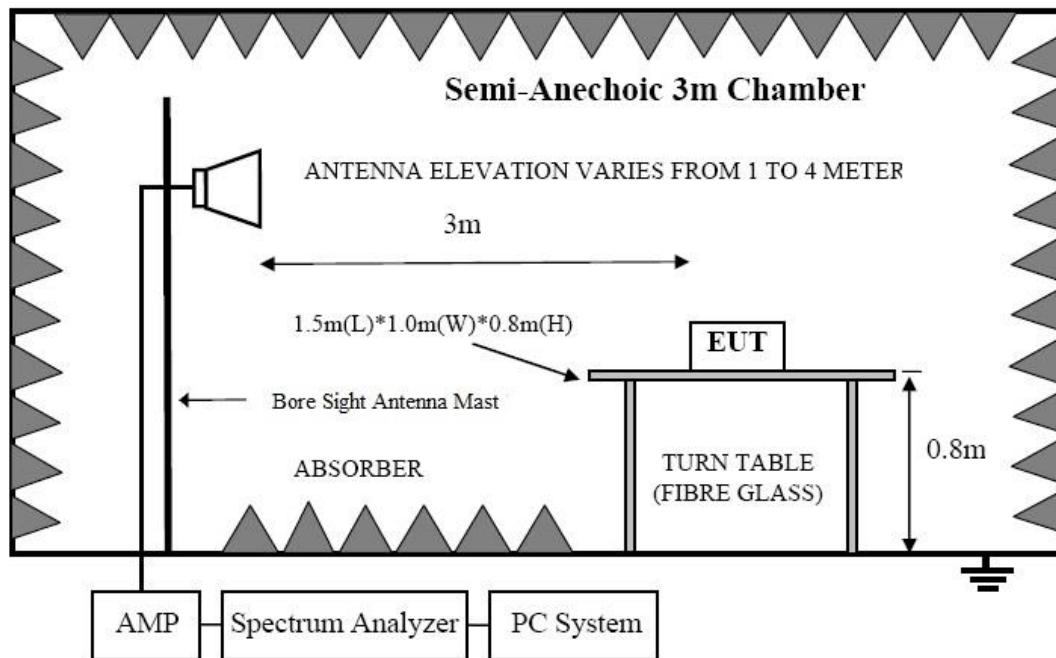
| Highest frequency generated or used in the device or on which the device operates or tunes (MHz) | Upper frequency of measurement range (MHz) |
|--|--|
| Below 1.705 | 30 |
| 1.705-108 | 1000 |
| 108-500 | 2000 |
| 500-1000 | 5000 |
| Above 1000 | 5th harmonic of the highest frequency or 40 GHz, whichever is lower. |

4.2. Block Diagram of Test Setup

In Semi Anechoic Chamber (3m) Test Setup Diagram for 30MHz~1000MHz



In Semi Anechoic Chamber (3m) Test Setup Diagram for Above 1GHz



4.3. Configuration of EUT on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner that tends to maximize its emission characteristics in normal application.

4.4. Operating Condition of EUT

- (1) Setup the EUT as shown as Section 4.2.
- (2) Turn on the power of all equipment.
- (3) Let the EUT work in test mode and 15 minutes before taking the test.

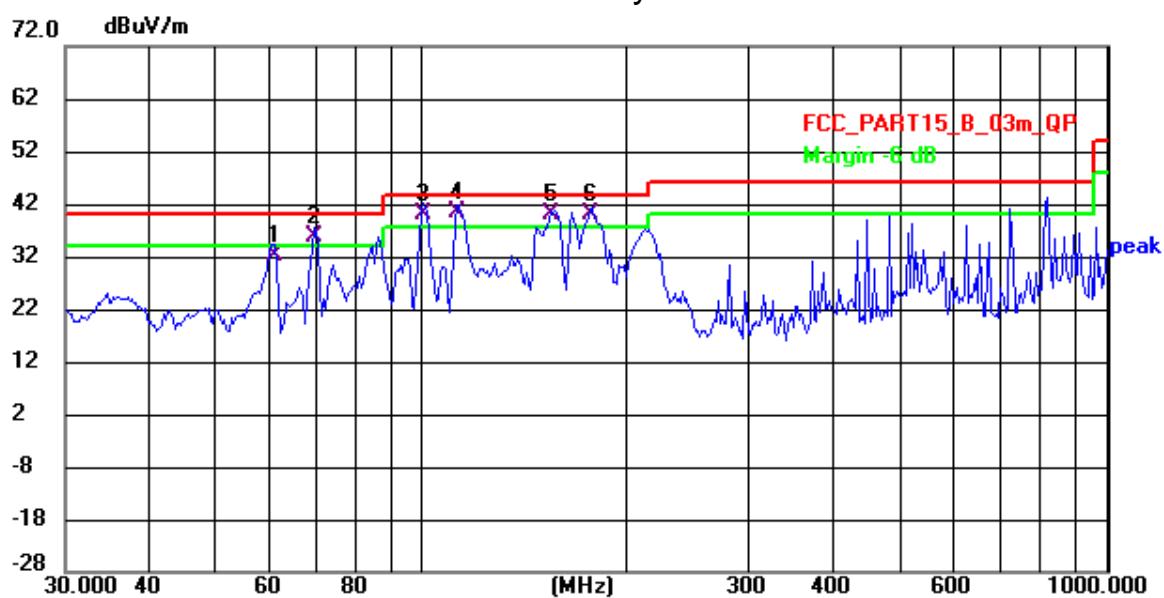
4.5. Test Procedure

- (1) The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber. An antenna was located 3m from the EUT on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4:2014 on Radiated Emission test.
- (2) For the radiated emission test above 1GHz:
Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- (3) The frequency range from 30MHz to 1000MHz is checked, the bandwidth of test receiver (R&S TEST RECEIVER ESR) is set at 120kHz.
- (4) The frequency range from above 1GHz is checked, the bandwidth of spectrum analyzer (Spectrum Analyzer FSV40-N) is set at 1MHz.
- (5) The frequency range from 30MHz to 1000MHz was pre-scanned with a peak detector and all final readings of measurement from Test Receiver are Quasi-Peak values, the frequency range from 1GHz to 6GHz was pre-scanned with a peak detector and all final readings of measurement from Spectrum Analyzer are peak and average values checked, all measurement distance is 3m in 3m semi anechoic chamber.
- (6) The test results are reported on Section 4.7.

4.6. Test Results

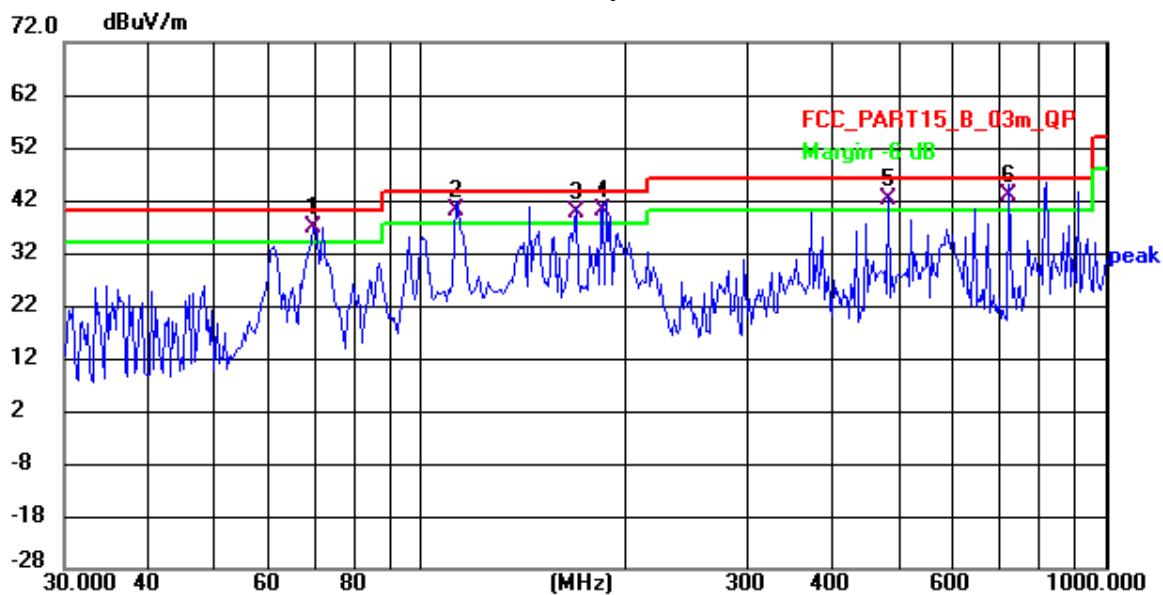
| For below 1GHz radiated disturbance test result: | | | |
|---|-------------|-------------|------------|
| EUT | Dash camera | Test Date | 2025.02.07 |
| M/N | HDE-1005 | Temperature | 23.5 °C |
| Test Engineer | Aaron Long | Humidity | 46% |
| Test Voltage | DC 12V | Pressure | 101.6kPa |
| Test Mode | Mode 2 | | |
| Test Results | PASS | | |
| Note: 1. The test results are listed in next pages. 2. If the limits for the measurement with the quasi-peak detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet limits and the measurement with the quasi-peak detector need not be carried out. | | | |

Antenna Polarity: Vertical



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg.) | P/F | Remark |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|-------------|----------------|-----|--------|
| 1 | 60.577 | 54.63 | -22.62 | 32.01 | 40.00 | -7.99 | QP | 100 | 251 | P | m |
| 2 ! | 69.230 | 59.57 | -23.92 | 35.65 | 40.00 | -4.35 | QP | 100 | 237 | P | m |
| 3 ! | 100.471 | 64.85 | -24.80 | 40.05 | 43.50 | -3.45 | QP | 100 | 237 | P | m |
| 4 * | 112.427 | 63.87 | -23.58 | 40.29 | 43.50 | -3.21 | QP | 100 | 209 | P | m |
| 5 ! | 154.243 | 60.69 | -20.75 | 39.94 | 43.50 | -3.56 | QP | 100 | 294 | P | m |
| 6 ! | 176.275 | 62.11 | -21.96 | 40.15 | 43.50 | -3.35 | QP | 100 | 1 | P | m |

Antenna Polarity: Horizontal

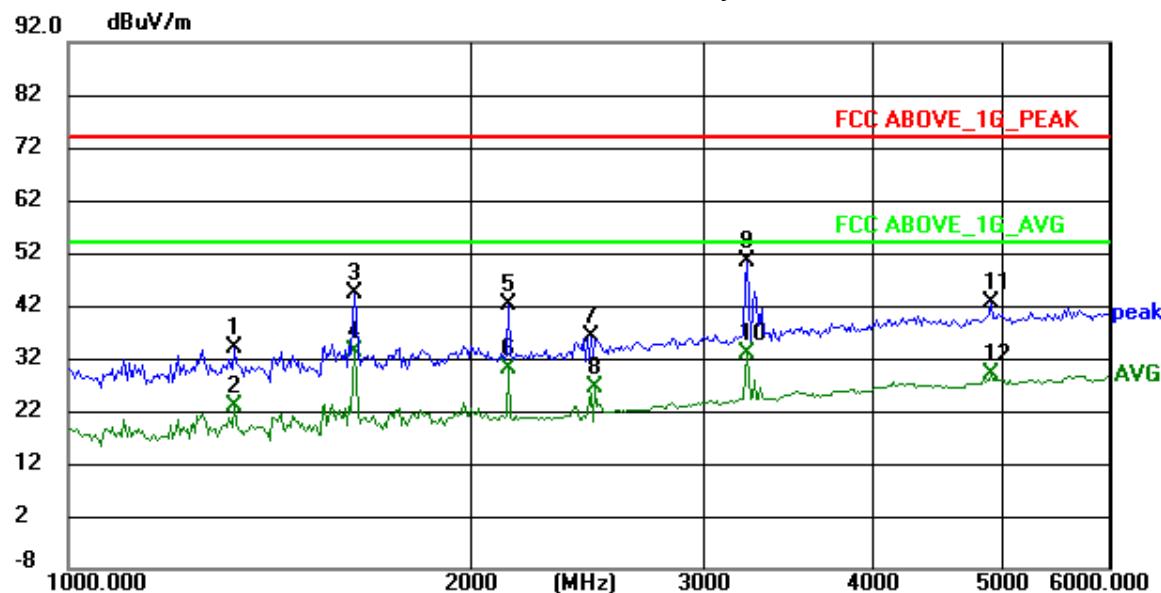


| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg.) | P/F | Remark |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|-------------|----------------|-----|--------|
| 1 ! | 69.230 | 60.68 | -23.92 | 36.76 | 40.00 | -3.24 | QP | 200 | 191 | P | |
| 2 ! | 112.427 | 63.62 | -23.58 | 40.04 | 43.50 | -3.46 | QP | 200 | 316 | P | |
| 3 ! | 167.814 | 60.57 | -20.93 | 39.64 | 43.50 | -3.86 | QP | 100 | 9 | P | |
| 4 ! | 183.866 | 63.17 | -23.09 | 40.08 | 43.50 | -3.42 | QP | 100 | 154 | P | |
| 5 ! | 481.511 | 59.21 | -17.14 | 42.07 | 46.00 | -3.93 | QP | 100 | 0 | P | |
| 6 * | 723.793 | 54.42 | -11.41 | 43.01 | 46.00 | -2.99 | QP | 200 | 360 | P | |

| For above 1GHz radiated disturbance test result: | | | |
|--|-------------|-------------|------------|
| EUT | Dash camera | Test Date | 2025.02.07 |
| M/N | HDE-1005 | Temperature | 23.5°C |
| Test Engineer | Aaron Long | Humidity | 46% |
| Test Voltage | DC 12V | Pressure | 101.6kPa |
| Test Mode | Mode 2 | | |
| Test Results | PASS | | |

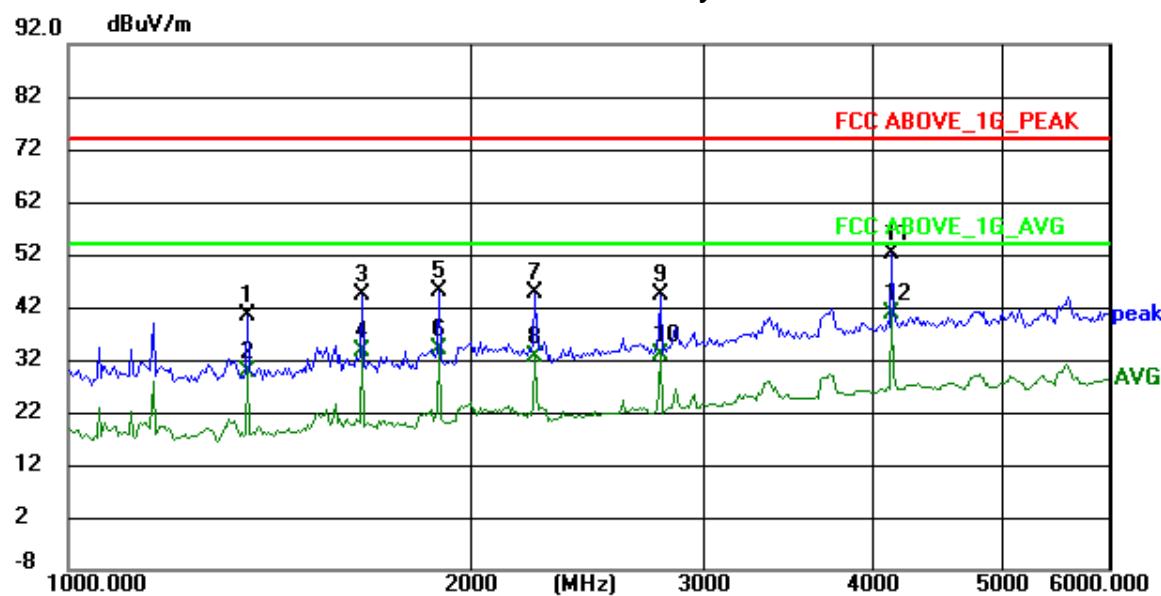
Note: 1. The test results are listed in next pages.
2. If the limits for the measurement with the quasi-peak detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet limits and the measurement with the quasi-peak detector need not be carried out.

Antenna Polarity: Vertical



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg.) | P/F | Remark |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|-------------|----------------|-----|--------|
| 1 | 1332.765 | 36.89 | -3.07 | 33.82 | 74.00 | -40.18 | peak | 100 | 60 | P | |
| 2 | 1332.765 | 25.96 | -3.07 | 22.89 | 54.00 | -31.11 | AVG | 100 | 180 | P | |
| 3 | 1635.463 | 45.10 | -0.79 | 44.31 | 74.00 | -29.69 | peak | 200 | 186 | P | |
| 4 * | 1635.463 | 33.92 | -0.79 | 33.13 | 54.00 | -20.87 | AVG | 200 | 186 | P | |
| 5 | 2133.231 | 40.50 | 1.64 | 42.14 | 74.00 | -31.86 | peak | 100 | 299 | P | |
| 6 | 2133.231 | 28.35 | 1.64 | 29.99 | 54.00 | -24.01 | AVG | 100 | 299 | P | |
| 7 | 2462.718 | 33.28 | 2.70 | 35.98 | 74.00 | -38.02 | peak | 100 | 90 | P | |
| 8 | 2480.468 | 23.56 | 2.77 | 26.33 | 54.00 | -27.67 | AVG | 100 | 176 | P | |
| 9 | 3223.824 | 44.96 | 5.57 | 50.53 | 74.00 | -23.47 | peak | 100 | 34 | P | |
| 10 | 3223.824 | 27.39 | 5.57 | 32.96 | 54.00 | -21.04 | AVG | 100 | 34 | P | |
| 11 | 4907.086 | 35.16 | 7.48 | 42.64 | 74.00 | -31.36 | peak | 100 | 90 | P | |
| 12 | 4907.086 | 21.50 | 7.48 | 28.98 | 54.00 | -25.02 | AVG | 100 | 170 | P | |

Antenna Polarity: Horizontal

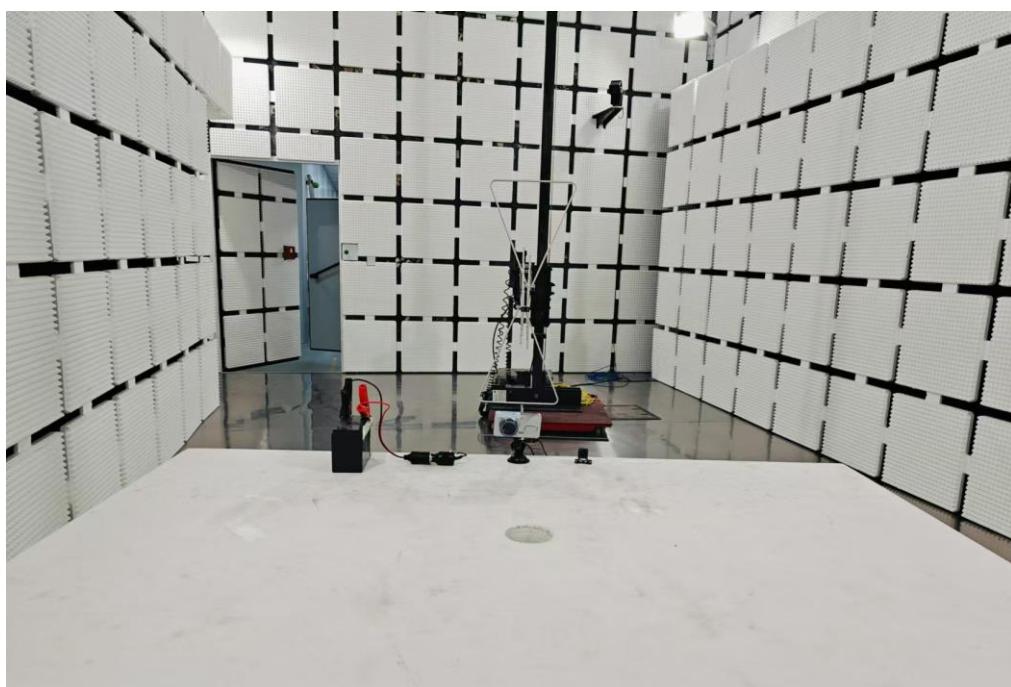


| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg.) | P/F | Remark |
|------|-----------------|----------------|---------------|----------------|----------------|-------------|----------|-------------|----------------|-----|--------|
| 1 | 1361.790 | 43.43 | -2.87 | 40.56 | 74.00 | -33.44 | peak | 200 | 180 | P | |
| 2 | 1361.790 | 32.60 | -2.87 | 29.73 | 54.00 | -24.27 | AVG | 150 | 90 | P | |
| 3 | 1659.122 | 45.18 | -0.78 | 44.40 | 74.00 | -29.60 | peak | 200 | 100 | P | |
| 4 | 1659.122 | 34.24 | -0.78 | 33.46 | 54.00 | -20.54 | AVG | 200 | 90 | P | |
| 5 | 1894.859 | 44.66 | 0.53 | 45.19 | 74.00 | -28.81 | peak | 200 | 176 | P | |
| 6 | 1894.859 | 33.59 | 0.53 | 34.12 | 54.00 | -19.88 | AVG | 200 | 176 | P | |
| 7 | 2235.169 | 42.77 | 1.81 | 44.58 | 74.00 | -29.42 | peak | 100 | 61 | P | |
| 8 | 2235.169 | 30.71 | 1.81 | 32.52 | 54.00 | -21.48 | AVG | 100 | 61 | P | |
| 9 | 2772.526 | 40.80 | 3.37 | 44.17 | 74.00 | -29.83 | peak | 200 | 0 | P | |
| 10 | 2772.526 | 29.45 | 3.37 | 32.82 | 54.00 | -21.18 | AVG | 150 | 180 | P | |
| 11 | 4130.203 | 45.32 | 7.02 | 52.34 | 74.00 | -21.66 | peak | 200 | 98 | P | |
| 12 * | 4130.203 | 33.79 | 7.02 | 40.81 | 54.00 | -13.19 | AVG | 200 | 98 | P | |

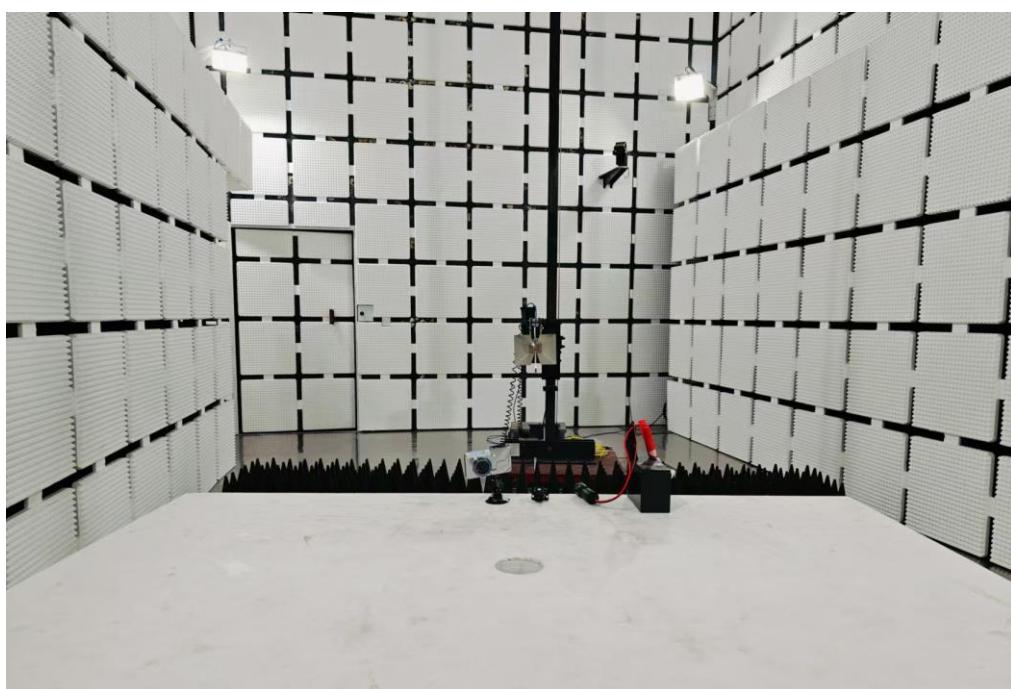
5. Test Setup Photo

5.1. Photo of Radiated Emission Test (In Semi Anechoic Chamber)

30-1000MHz



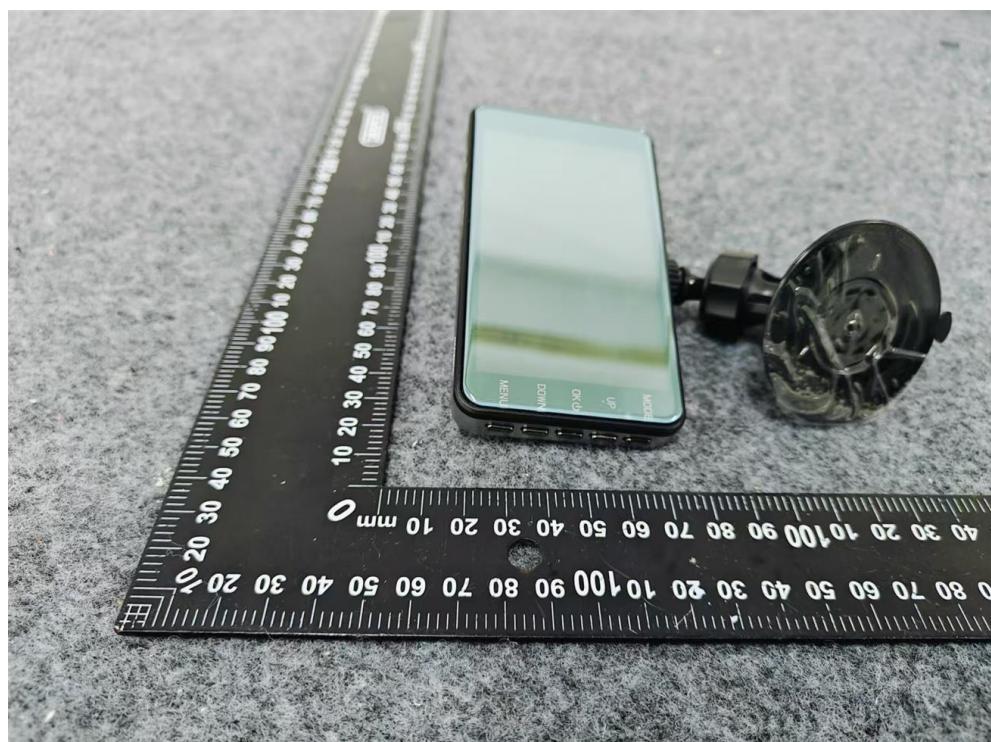
Above 1GHz

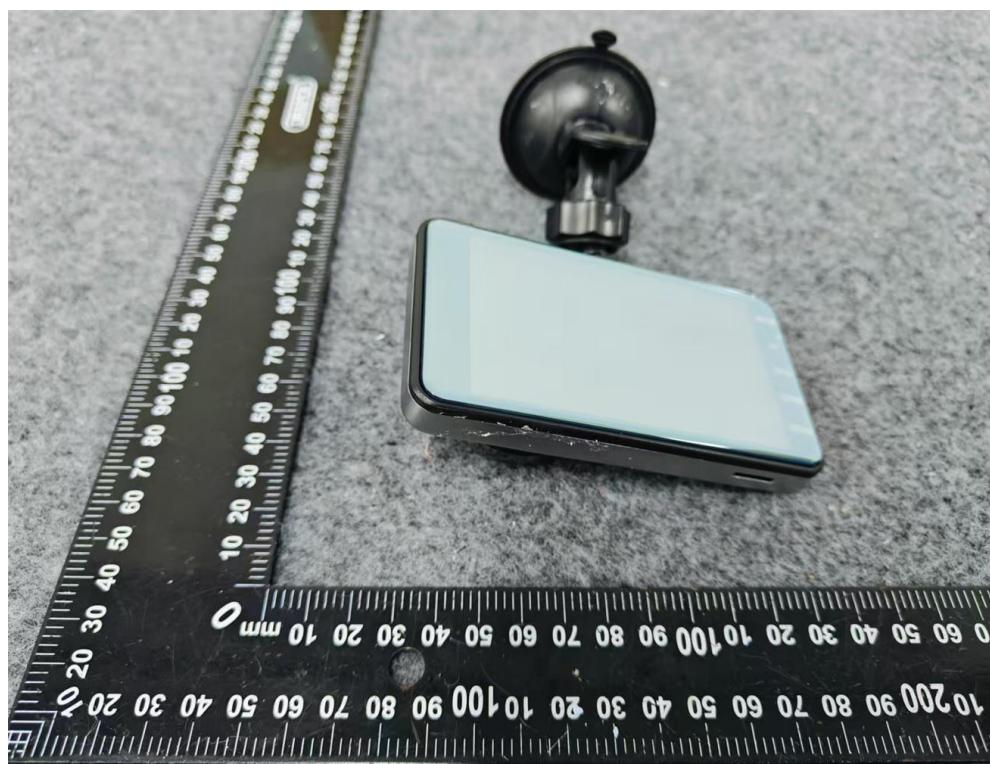


6. Photos Of The EUT

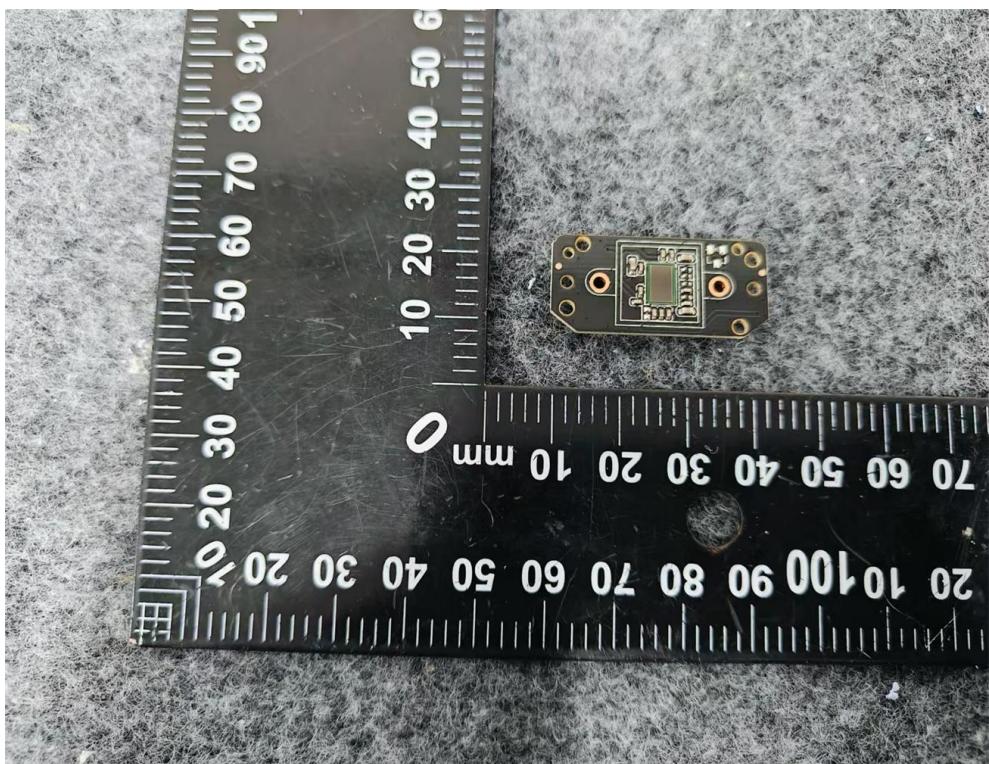
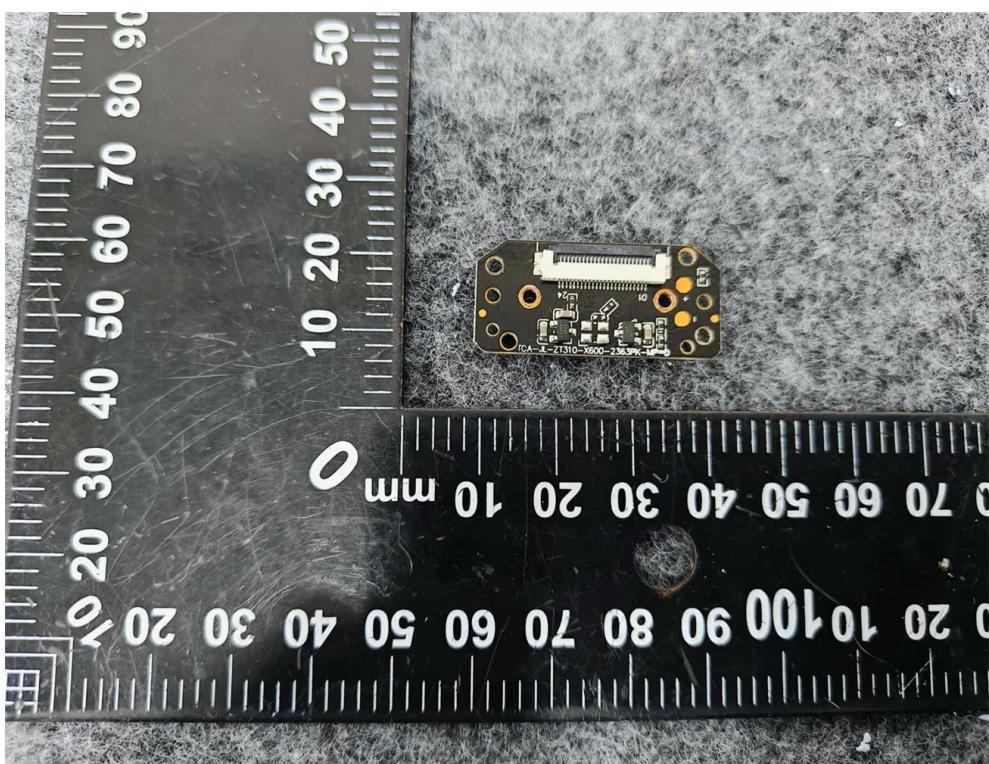


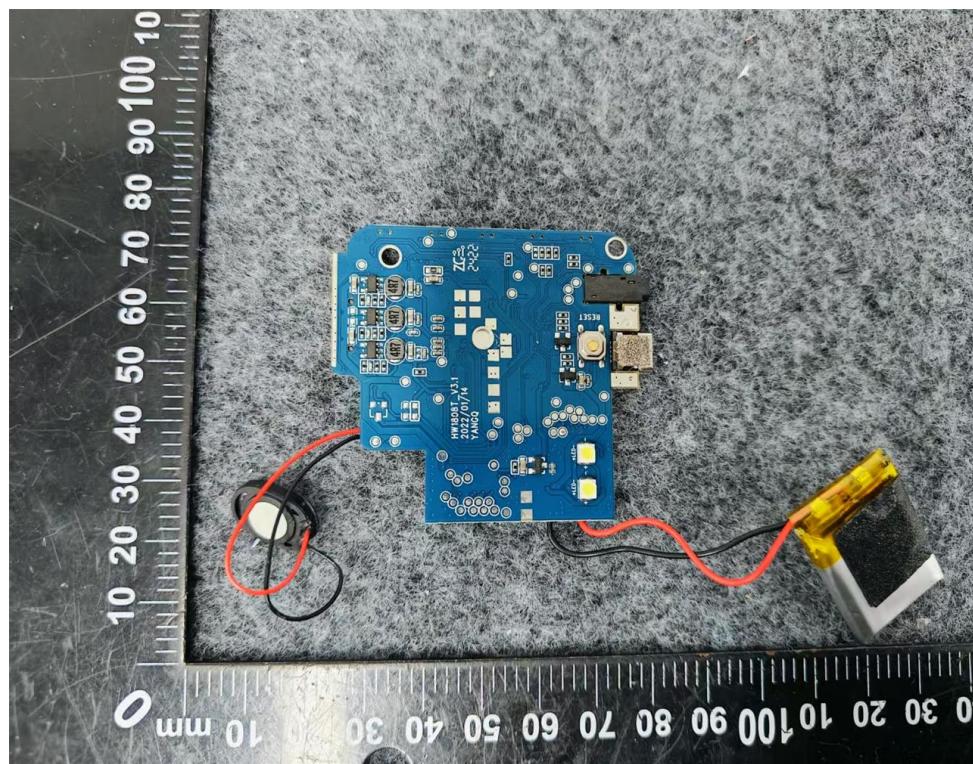
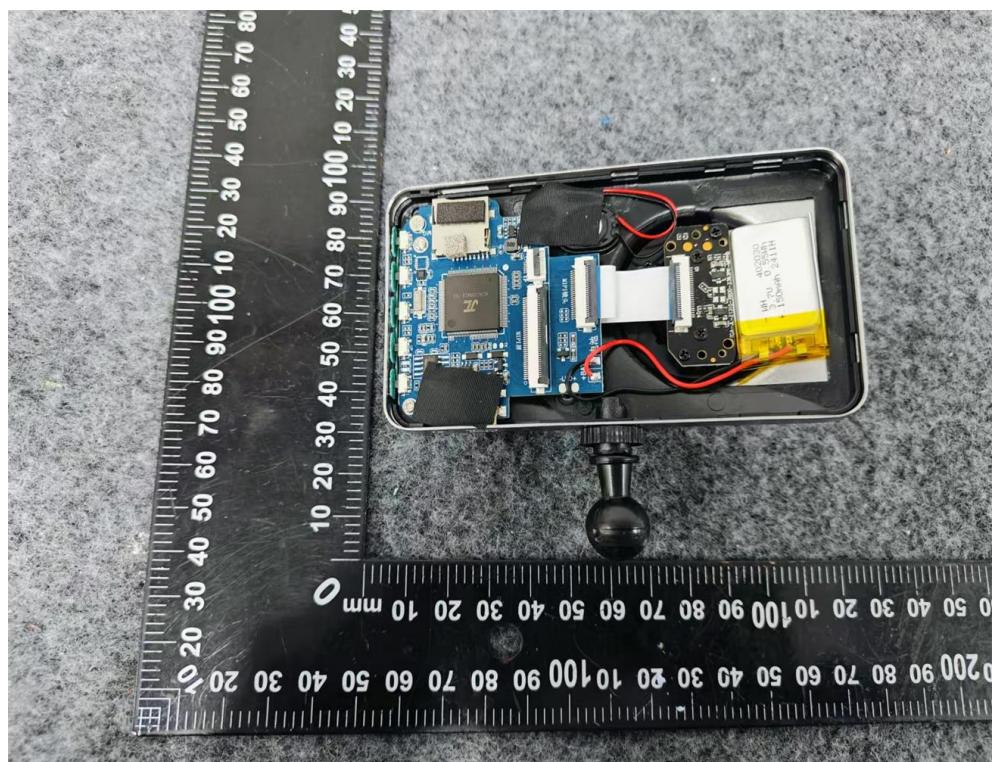


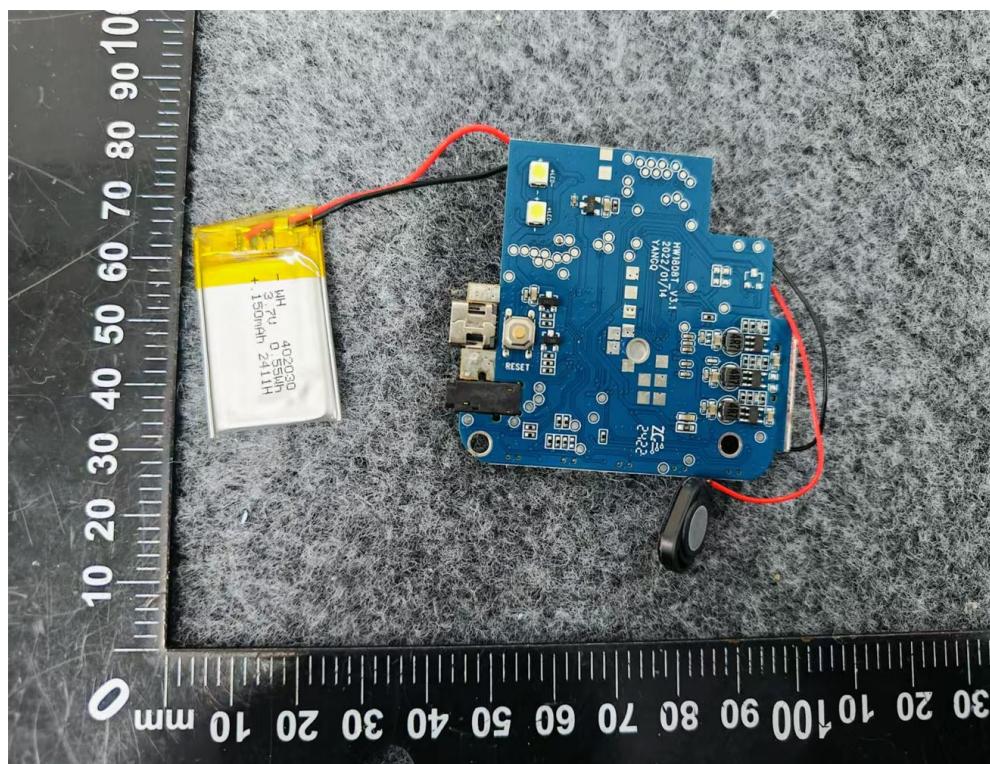


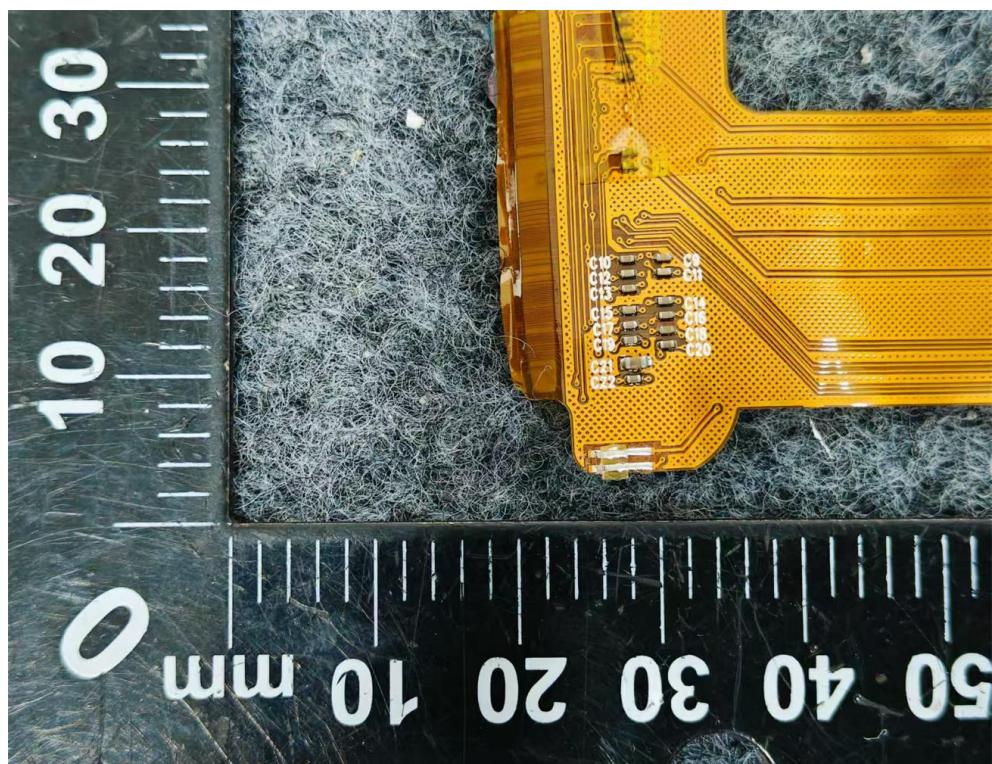












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