

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:	
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<i>Aaron Long</i>	<i>Stone Tang</i>	<i>Joky Wang</i>	

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

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)

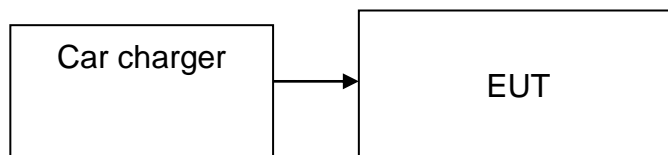
Accessories : Car Charger
 Manufacturer : Honglishida technology Co.,Ltd
 Model : FLH-TXD
 Ratings : Input: DC 12V-24V
 Output: 5V=1A

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-966-20220911	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-NMNM-7.0M	/	2025/01/05	2026/01/04
Conducted Emission					
EMI Receiver	Rohde&Schwarz	ESR7	1316.3003K07-102611-mk	2024/12/24	2025/12/23
LISN	Rohde&Schwarz	ENV216	3560.655.12-102915-Bp	2024/12/24	2025/12/23
ISN	Schwarzbeck	ENY81	1309.8510.03	2024/03/08	2025/03/07
ISN	Schwarzbeck	ENY81-CAT6	1309.8526.03-101976-kh	2024/03/08	2025/03/07
RF Cable	\	SFT2050PUR-NMNM-2.0M	\	2025/01/05	2026/01/04

2.4. Test Facility

Company:	Beijing TIRT Technology Service Co.,Ltd Shenzhen
Address:	104 Building C, Xinmingsheng 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

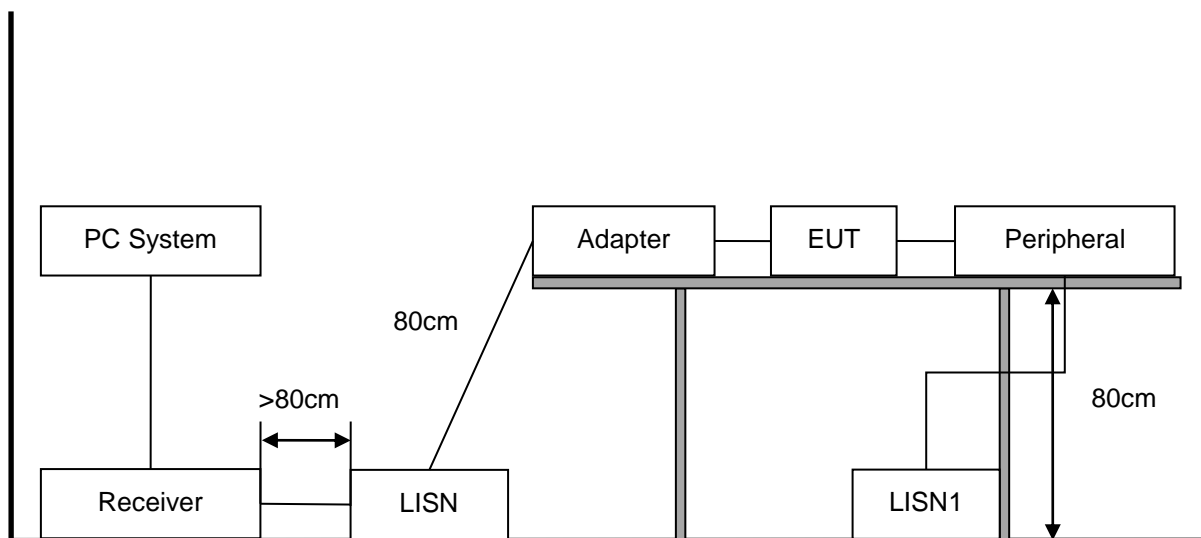
3. Power Line Conducted Emission Test

3.1. Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μ V)	Average Level dB(μ V)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

- Notes:
1. Emission level=Read level + LISN factor-Preamplifier 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

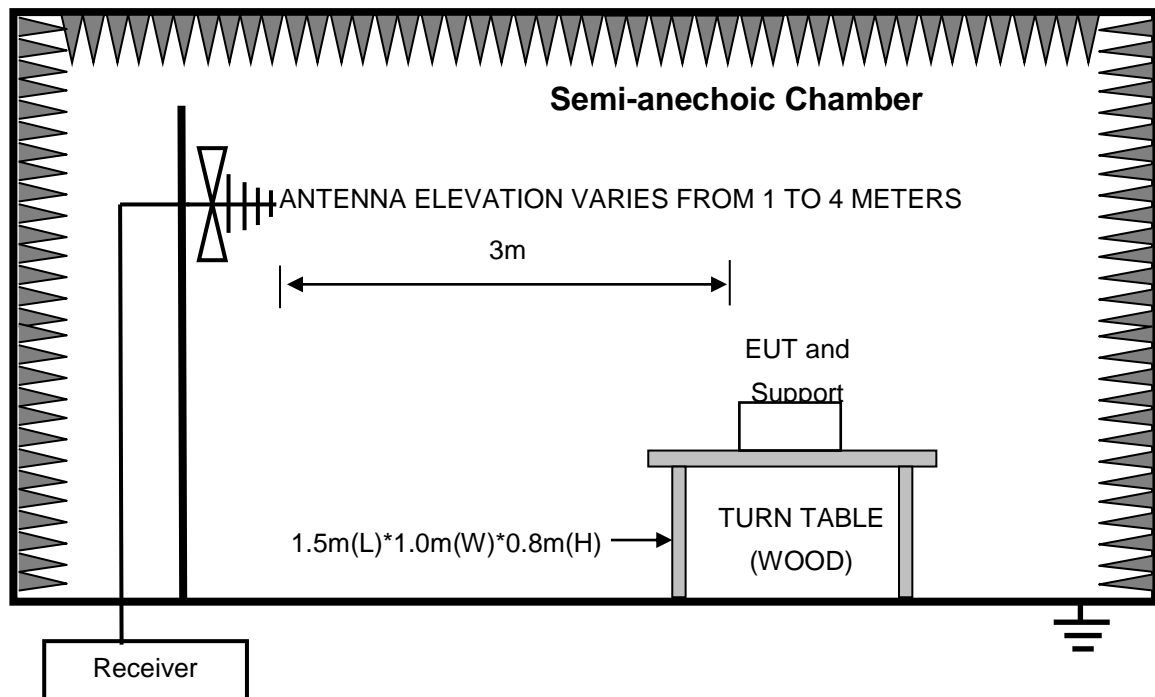
Frequency MHz			Distance (Meters)	Field Strengths Limits dB(μV)/m
30	~	88	3	40.0
88	~	216	3	43.5
216	~	960	3	46.0
960	~	1000	3	54.0
Above 1GHz			3	74(Peak) 54(Average)

- 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:

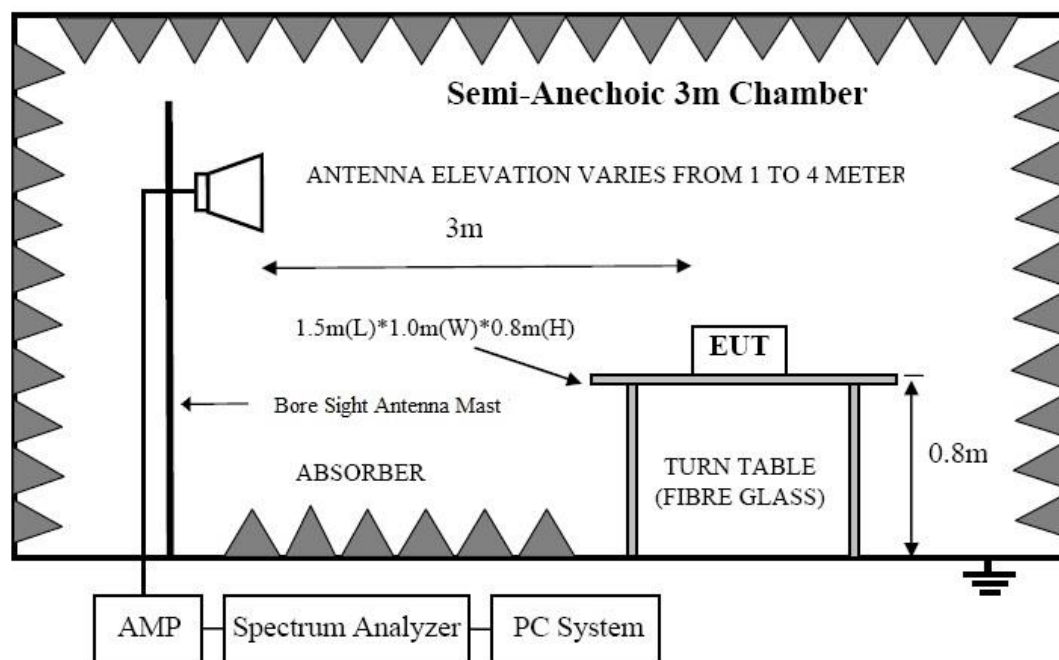
Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705-108	1000
108-500	2000
500-1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower.

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.

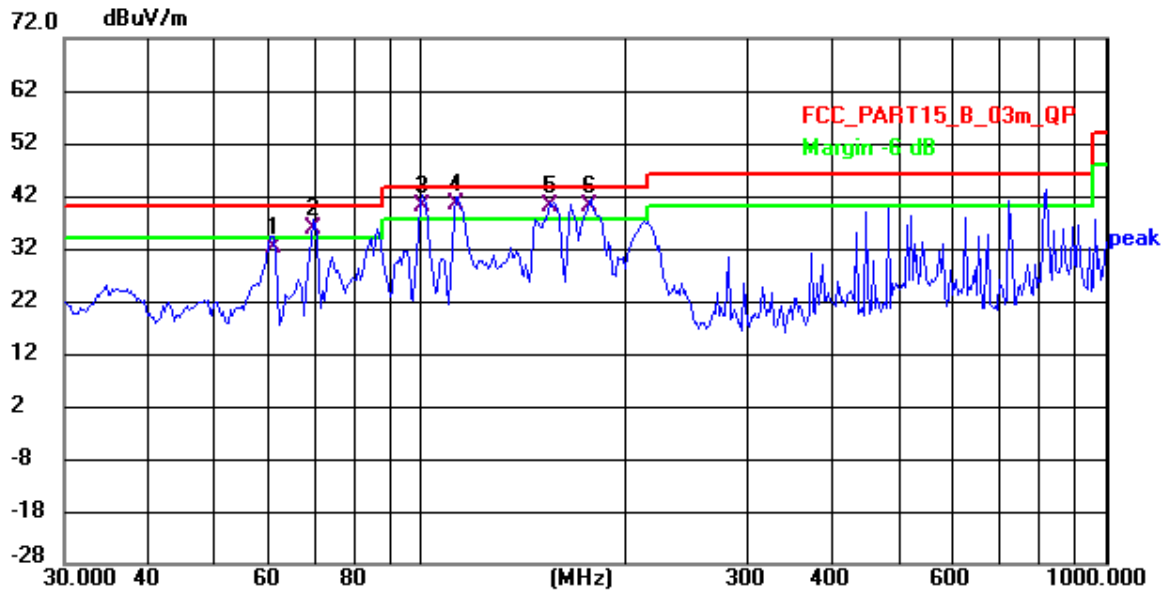
4.5. Test Procedure

- (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

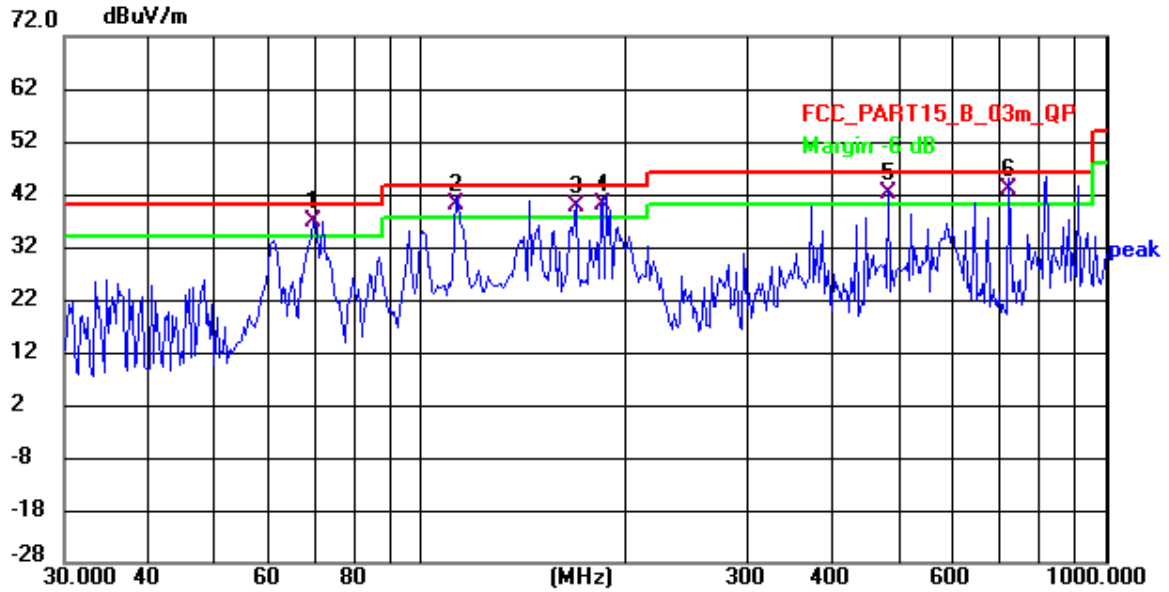
For below 1GHz radiated disturbance test result:			
EUT	Dash camera	Test Date	2025.02.07
M/N	HDE-1005	Temperature	23.5℃
Test Engineer	Aaron Long	Humidity	46%
Test Voltage	DC 12V	Pressure	101.6kPa
Test Mode	Mode 2		
Test Results	PASS		
Note: 1. The test results are listed in next pages. 2. If the limits 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

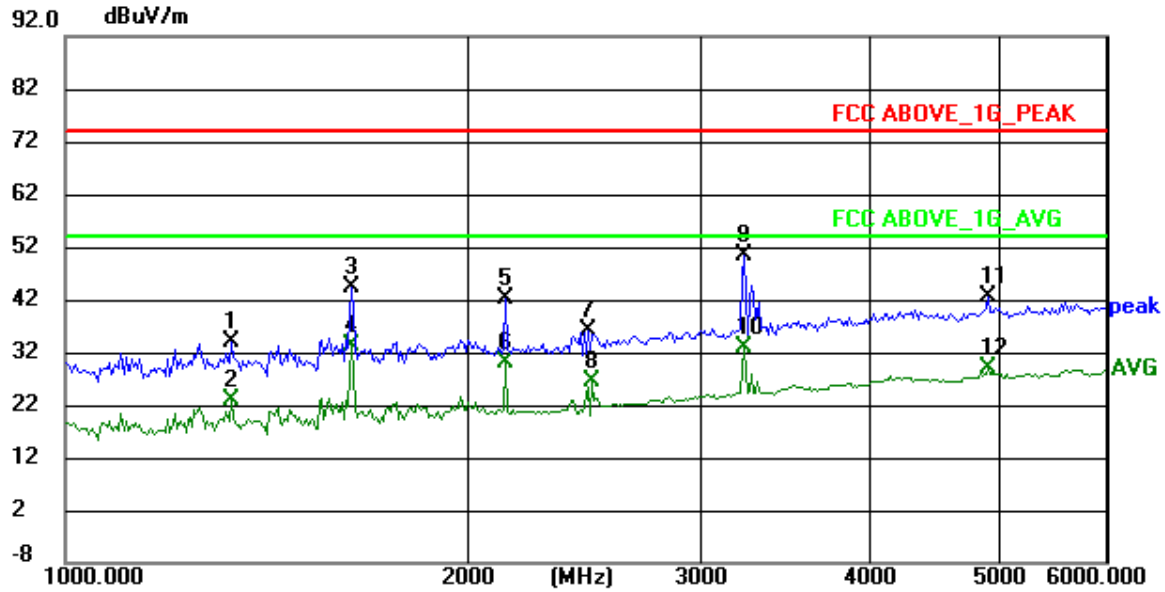
Antenna Polarity: Horizontal



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	

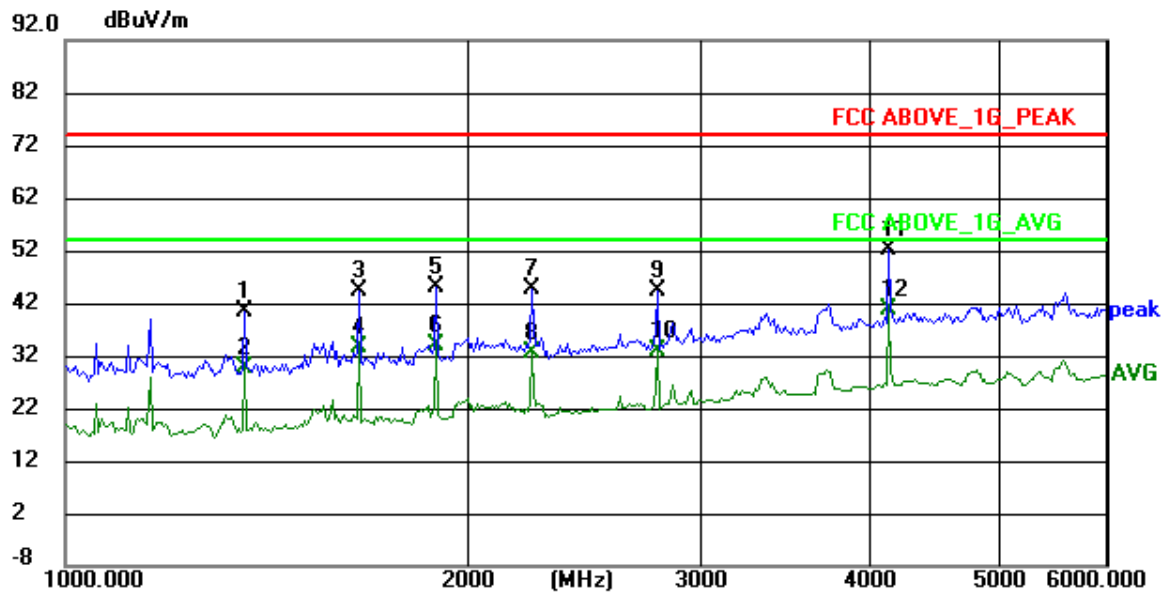
For above 1GHz radiated disturbance test result:			
EUT	Dash camera	Test Date	2025.02.07
M/N	HDE-1005	Temperature	23.5℃
Test Engineer	Aaron Long	Humidity	46%
Test Voltage	DC 12V	Pressure	101.6kPa
Test Mode	Mode 2		
Test Results	PASS		
Note: 1. The test results are listed in next pages. 2. If the limits 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

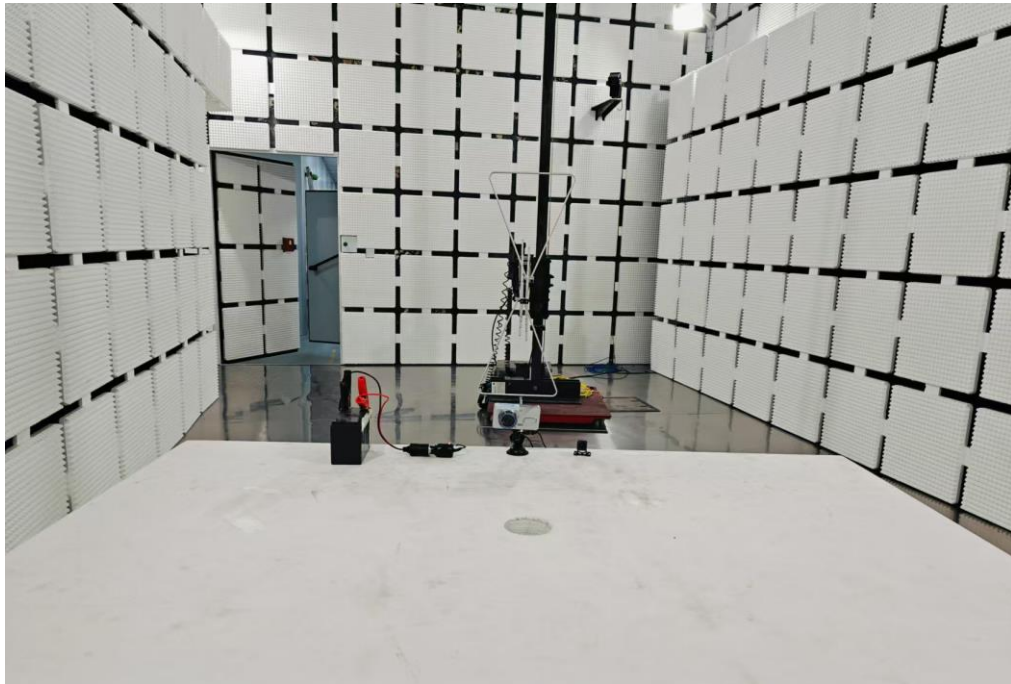


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1361.790	43.43	-2.87	40.56	74.00	-33.44	peak	200	180	P	
2	1361.790	32.60	-2.87	29.73	54.00	-24.27	AVG	150	90	P	
3	1659.122	45.18	-0.78	44.40	74.00	-29.60	peak	200	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	

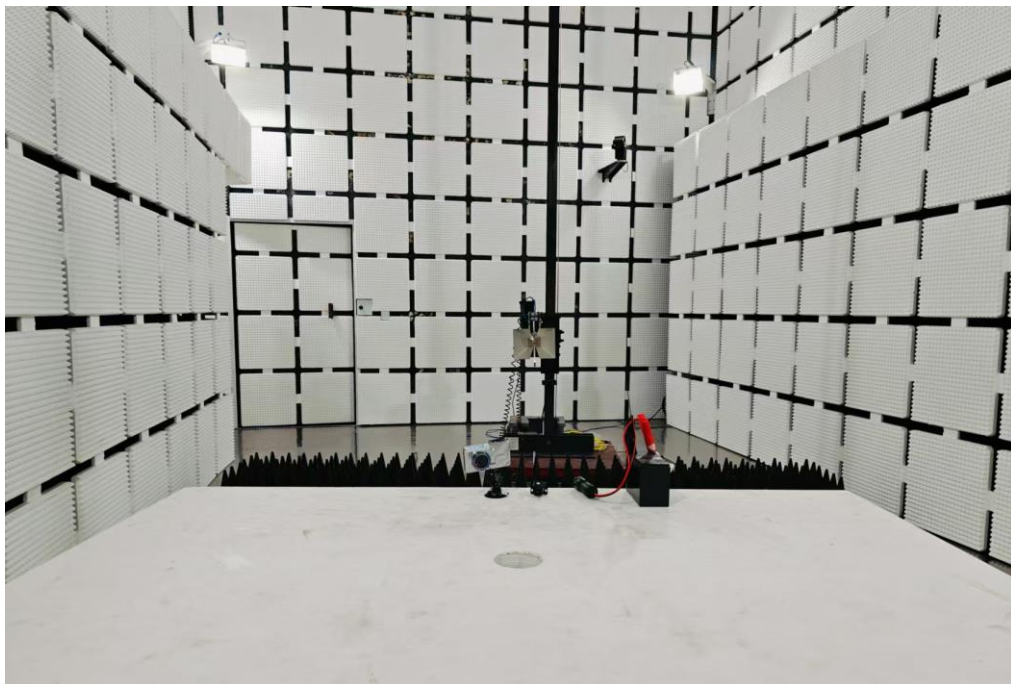
5. Test Setup Photo

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

30-1000MHz



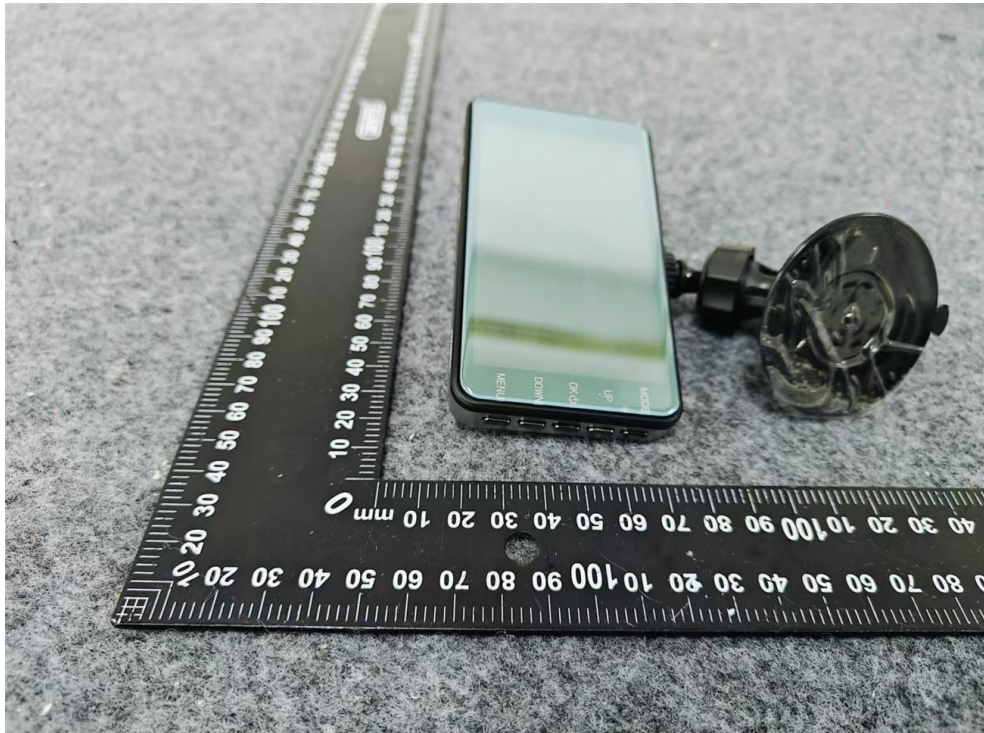
Above 1GHz

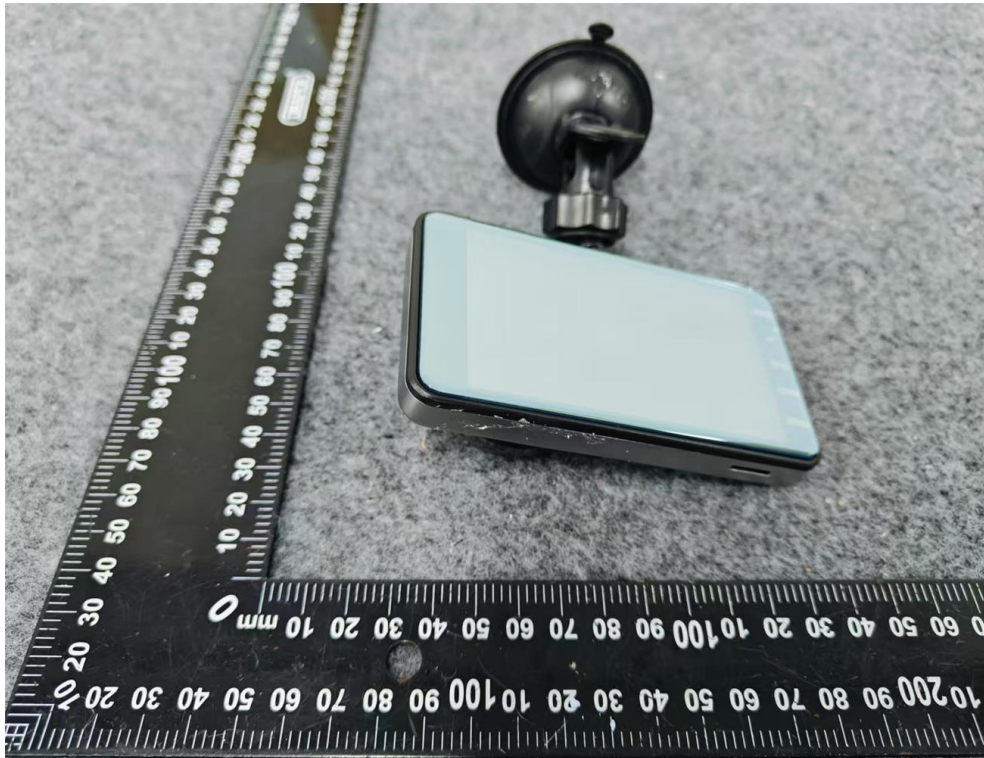


6. Photos Of The EUT

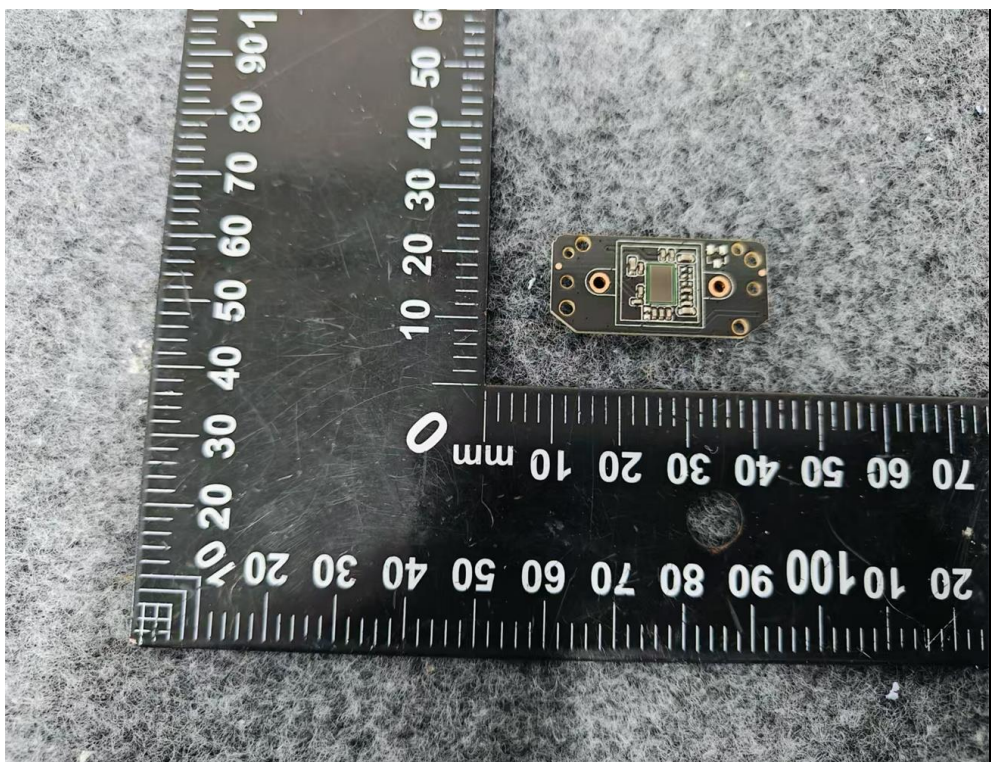
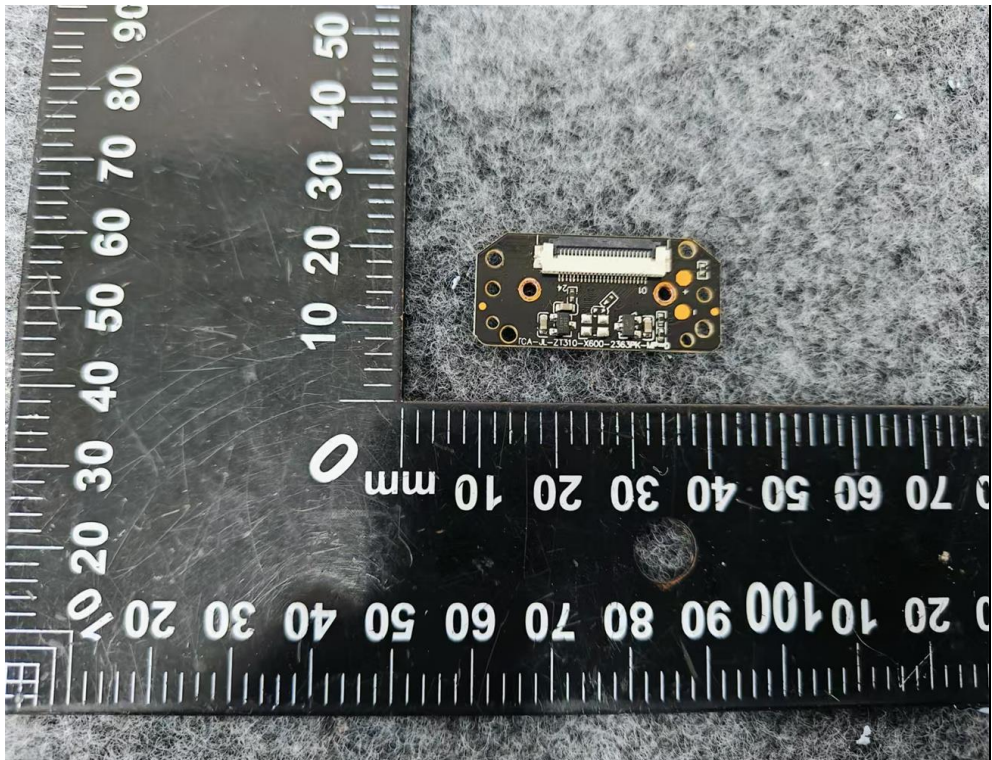


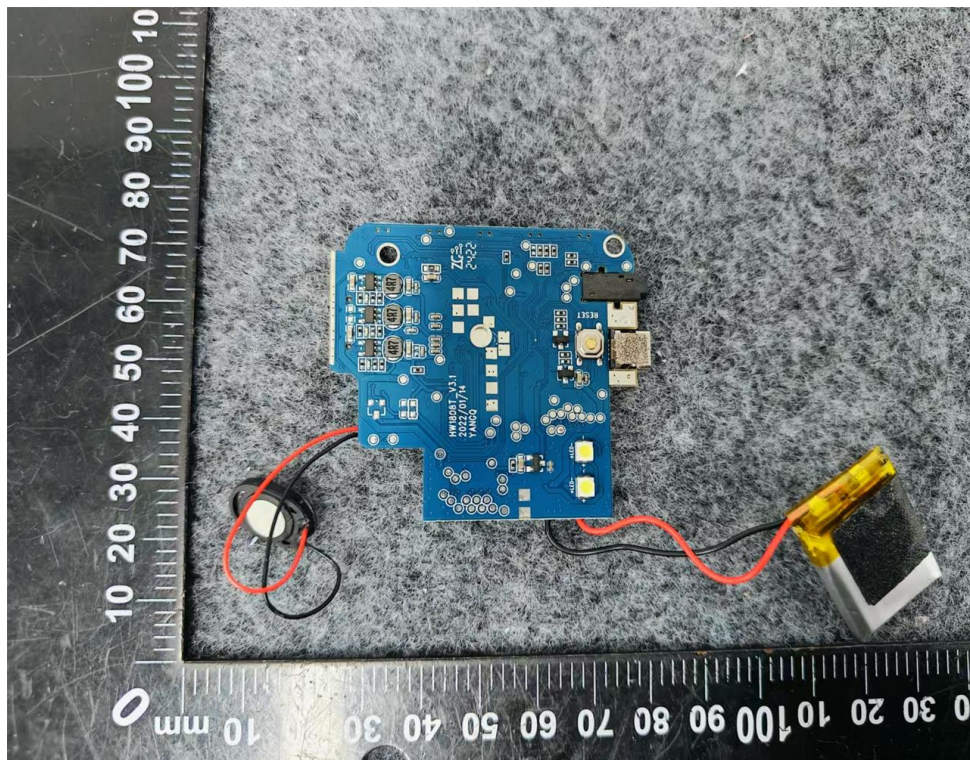


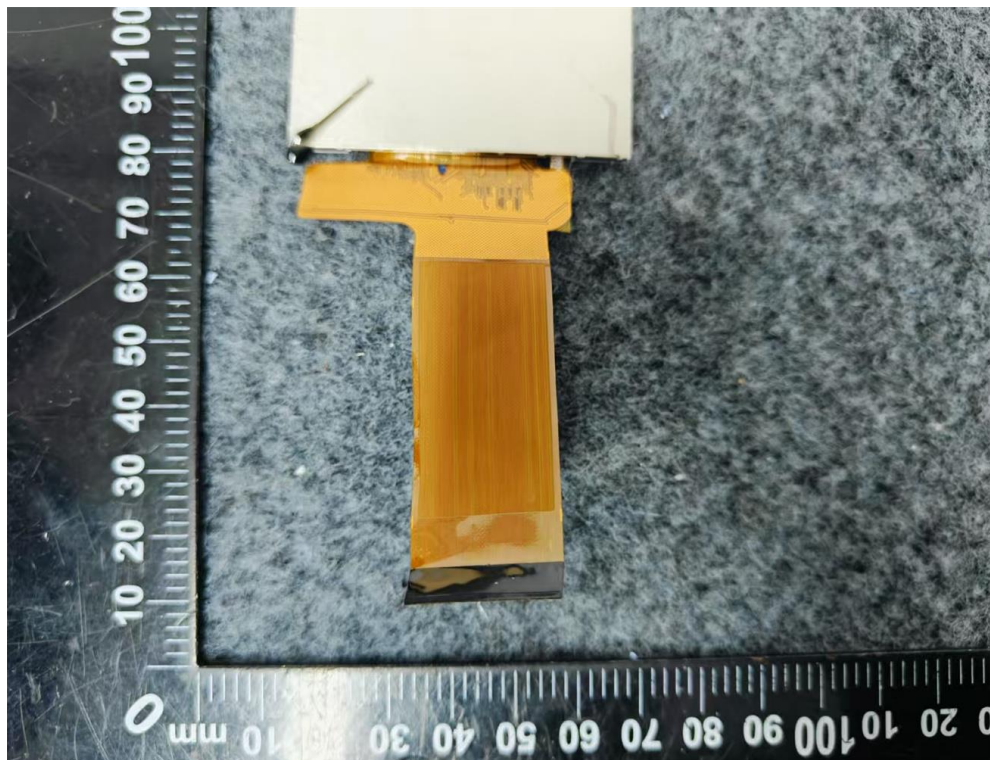
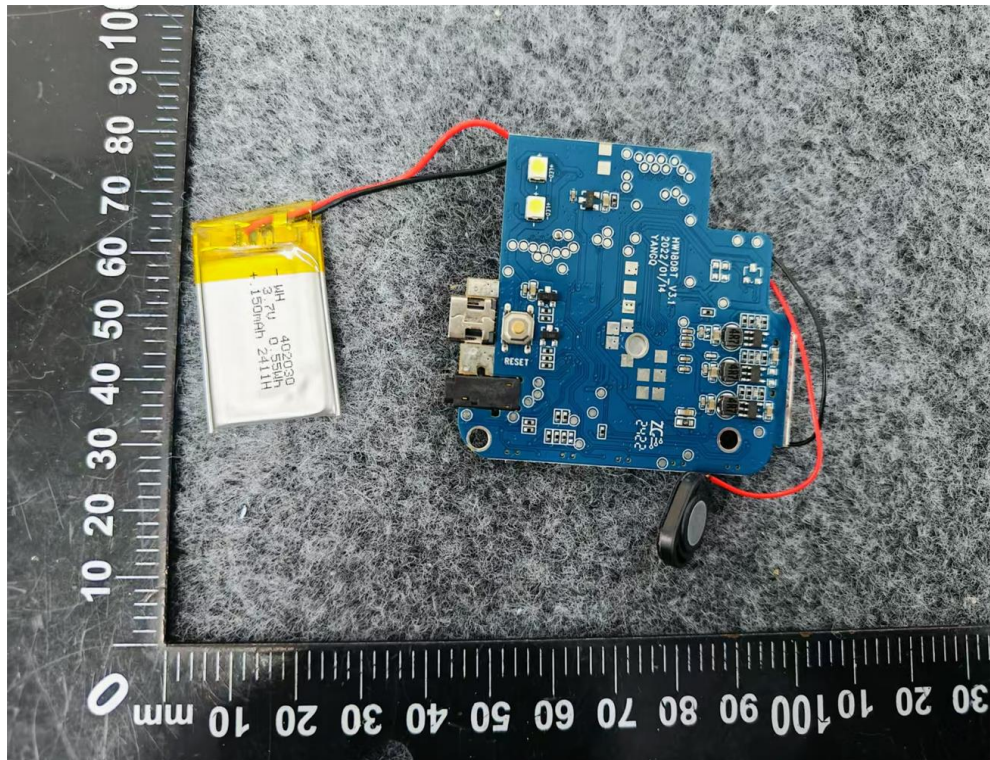


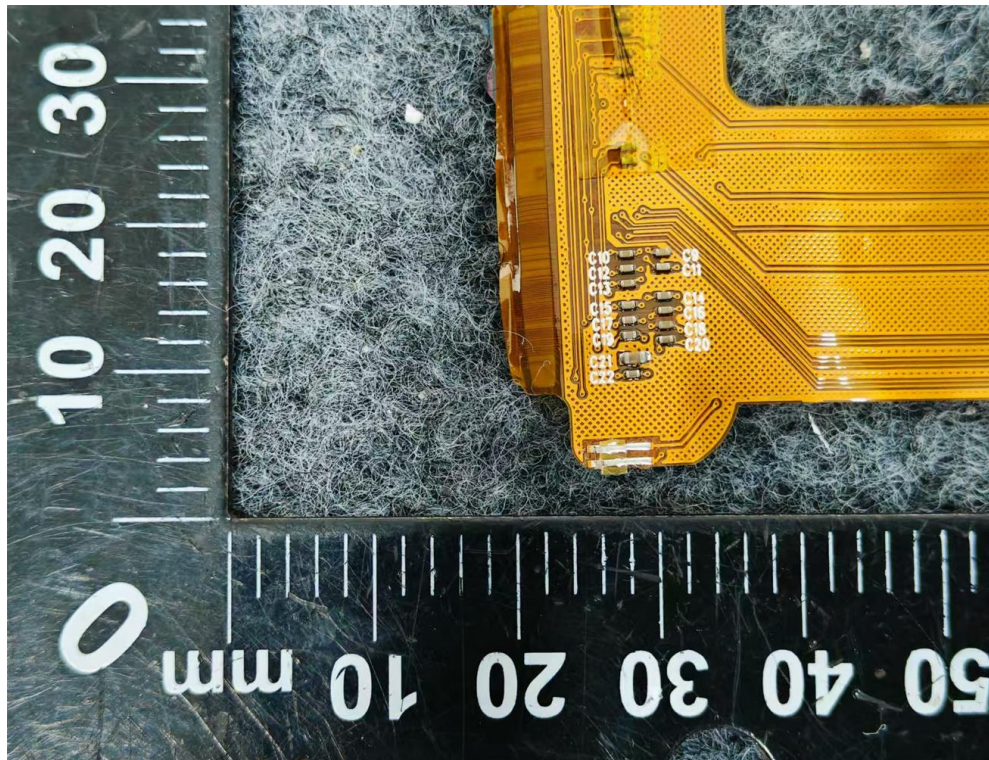












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