

# EMC TEST REPORT

## Radio Frequency Devices - Unintentional Radiators

Test Report No. ....:	TCT230327E009
Date of issue ....:	Apr. 24, 2023
Testing laboratory.....:	SHENZHEN TONGCE TESTING LAB
Testing location/ address.....:	2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China
Applicant's name .....	Shenzhen Huafului Technology Co., Ltd
Address.....:	Unit 1401 & 1402, 14/F, Jinqi Zhigu Mansion (No. 4 Building of Chongwen Garden), Crossing of the Liuxian Street and Tangling Road, Taoyuan Street, Nanshan District, Shenzhen, P.R. China
Manufacturer's name .....	Shenzhen Huafului Technology Co., Ltd
Address.....:	Unit 1401 & 1402, 14/F, Jinqi Zhigu Mansion (No. 4 Building of Chongwen Garden), Crossing of the Liuxian Street and Tangling Road, Taoyuan Street, Nanshan District, Shenzhen, P.R. China
Standard(s) .....	FCC 47 CFR Part 15 Subpart B
Test item description.....:	Tablet
Trade Mark.....:	CUBOT
Model/Type reference .....	TAB KINGKONG
Rating(s) .....	Adapter Information: Model: HJ-FC018K7-US Input: AC 100 - 240 V, 50/60 Hz, 0.6 A Output: DC 5.0 V, 2.0 A/ 7.0 V, 2.0 V/ 9.0 V, 2.0 A, 18.0 W Battery: DC 3.8 V, 10000 mAh, 38 Wh
Date of receipt of test item.....:	Mar. 27, 2023
Date (s) of performance of test:	Mar. 27, 2023 - Apr. 24, 2023
Tested by (+signature).....:	Mark ZHANG
Check by (+signature) .....	Howie LYU
Approved by (+signature) .....	Tomsin

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## 1. General Product Information

### 1.1. EUT description

Test item description .....	Tablet
Model/Type reference .....	TAB KINGKONG
Rating(s) .....	Adapter Information: Model: HJ-FC018K7-US Input: AC 100 - 240 V, 50/60 Hz, 0.6 A Output: DC 5.0 V, 2.0 A/ 7.0 V, 2.0 V/ 9.0 V, 2.0 A, 18.0 W Battery: DC 3.8 V, 10000 mAh, 38 Wh
Highest internal frequency $F_x$ .....	<input type="checkbox"/> $F_x \leq 108$ MHz <input type="checkbox"/> $108 \text{ MHz} < F_x \leq 500$ MHz <input type="checkbox"/> $500 \text{ MHz} < F_x \leq 1$ GHz <input checked="" type="checkbox"/> $F_x > 1$ GHz
USB-C Line .....	<input type="checkbox"/> Shielded <input checked="" type="checkbox"/> Unshielded <input checked="" type="checkbox"/> Detachable <input type="checkbox"/> Un-detachable <input type="checkbox"/> No applicable <input checked="" type="checkbox"/> Length: 0.95 m
Earphone Line .....	<input type="checkbox"/> Shielded <input checked="" type="checkbox"/> Unshielded <input checked="" type="checkbox"/> Detachable <input type="checkbox"/> Un-detachable <input type="checkbox"/> No applicable <input checked="" type="checkbox"/> Length: 0.8 m

### 1.2. Model(s) list

None.

## 2. Test Information

### 2.1. EUT operation mode(s)

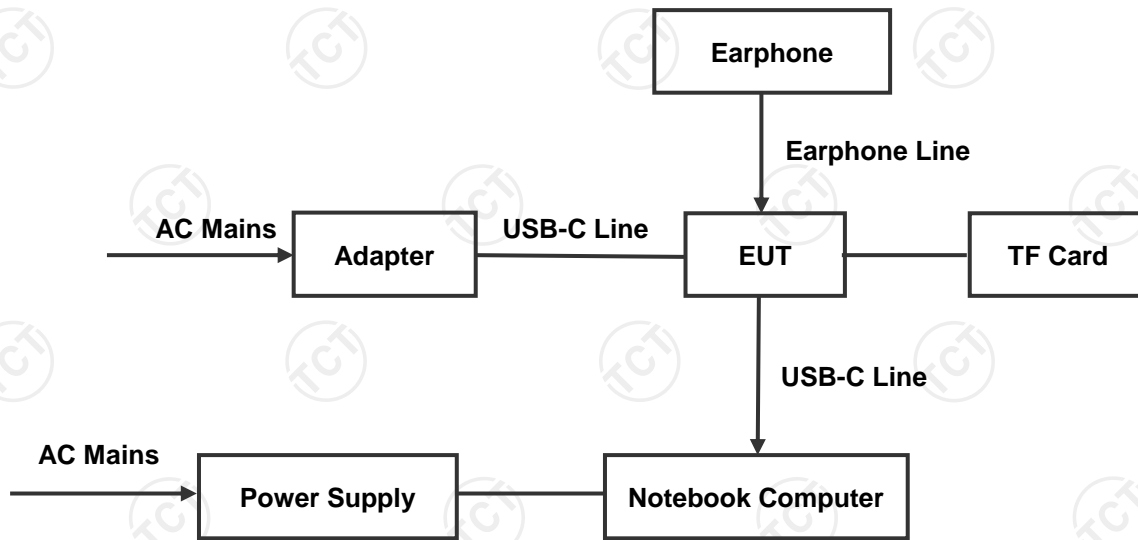
Mode #	Operating mode description	Test voltage
1	Charging+ Memory Playing	AC 120 V/ 60 Hz
2	Charging+ SD Card Playing	AC 120 V/ 60 Hz
3	Charging+ Camera Shooting	AC 120 V/ 60 Hz
4	Data Transmitting	DC 5 V(Notebook Computer Input AC 120 V/ 60 Hz)

Test worst operating mode	
Disturbance voltage at mains terminals	Mode 1
Radiated emission (30 MHz to 1 GHz)	Mode 4
Radiated emission (1 GHz to 6 GHz)	Mode 3
Remark: The worst measurement data and graphical presentation show in this report.	

### 2.2. Special accessories and auxiliary equipment

Product Type	Manufacturer	Model No.	Serial No.
Notebook Computer	DELL	G3 3500	00342-36088-99832-AAOEM
Power Supply	DELL	HA130PM190	CN-0CY0JM-CH200-0B6-7405-A01
Adapter	DELL	HA130PM190	CN-0CY0JM-CH200-0B6-7405-A01
SD Card	Kingston	SDCS2/32GB	2210B814822

## 2.3. Configuration of system under test



(EUT: Tablet)

## 2.4. General test conditions

### Environmental reference conditions

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment.

The climatic conditions during the tests were within the following limits:

Temperature	Humidity	Atmospheric pressure
15 °C – 35 °C	30 % - 60 %	86 kPa – 106 kPa

If explicitly required in the basic standard or applied product standard the climatic values are recorded and documented separately in this test report.

### Measurement uncertainties

Test Item	Uncertainty
Uncertainty for Disturbance voltage at the mains terminals	3.10 dB
Uncertainty for Radiated emission (30 MHz to 1 GHz)	4.56 dB
Uncertainty for Radiated emission (above 1 GHz)	4.22 dB

The overall measurement uncertainty of a measurement is defined as the range of which can be supposed that it contains the true value with a specified probability.

This probability is 95 % for the generally specified measurement uncertainty (so-called expanded measurement uncertainty).

The limits for emission measurements and the Test levels for immunity tests in the applied standards were defined taking into consideration the accuracy limits for measurement and testing equipment required by the Basic standards.

All measurement and test results of the EMC laboratory of SHENZHEN TONGCE TESTING LAB fulfil the requirements for measurement uncertainties according to the standards applied.

Decision rule for statement(s) of conformity is based on accuracy method specified in Clause 4.4.3 in IEC Guide 115:2021.

### 3. Test Result Summary

FCC 47 CFR Part 15 Subpart B	
Requirement – Test case	Verdict
Classification Class ( <input type="checkbox"/> A <input checked="" type="checkbox"/> B)	—
Disturbance voltage at the mains terminals	Pass
Radiated emission	Pass
Remark:---	

Test case verdicts	
- Test case does not apply to the test object .....	N/A
- Test object does meet the requirement.....	P (Pass)
- Test object does not meet the requirement .....	F (Fail)

#### 4. List of Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal. Due
<b>Disturbance voltage at mains terminals</b>				
EMI Test Receiver	R&S	ESCI3	100898	2023/07/03
Line Impedance Stabilisation Newtork(LISN)	Schwarzbeck	NSLK 8126	8126453	2024/02/20
Attenuator	N/A	10dB	164080	2023/07/03
844 Shielded room	SKET	8m*4m*4m	CR4	2024/03/02
Test software	EZ EMC	EMEC-3A1	/	/
<b>Radiated emission (30 MHz to 1 GHz)</b>				
Broadband Antenna	Schwarzbeck	VULB 9168	01197	2024/02/24
EMI Test Receiver	R&S	ESCI7	100529	2024/02/20
Test software	EZ EMC	FA-03A2 RE+	/	/
3m Anechoic Chamber	SKET	9m*6m*6m	SA01	2024/01/25
<b>Radiated emission (above 1 GHz)</b>				
Horn Antenna	Schwarzbeck	BBHA 9120 D	02372	2024/02/24
Horn Antenna	Schwarzbeck	BBHA 9170	00956	2024/02/24
Signal Analyzer	R&S	FSQ40	200061	2023/07/03
Pre-amplifier	SKET	LNPA_0118G-45	SK2021012102	2024/02/20
Pre-amplifier	SKET	LNPA_1840G-50	SK202109203500	2024/02/20
3m Anechoic Chamber	SKET	9m*6m*6m	SA03	2024/01/25
Test software	EZ EMC	FA-03A2 RE+	/	/

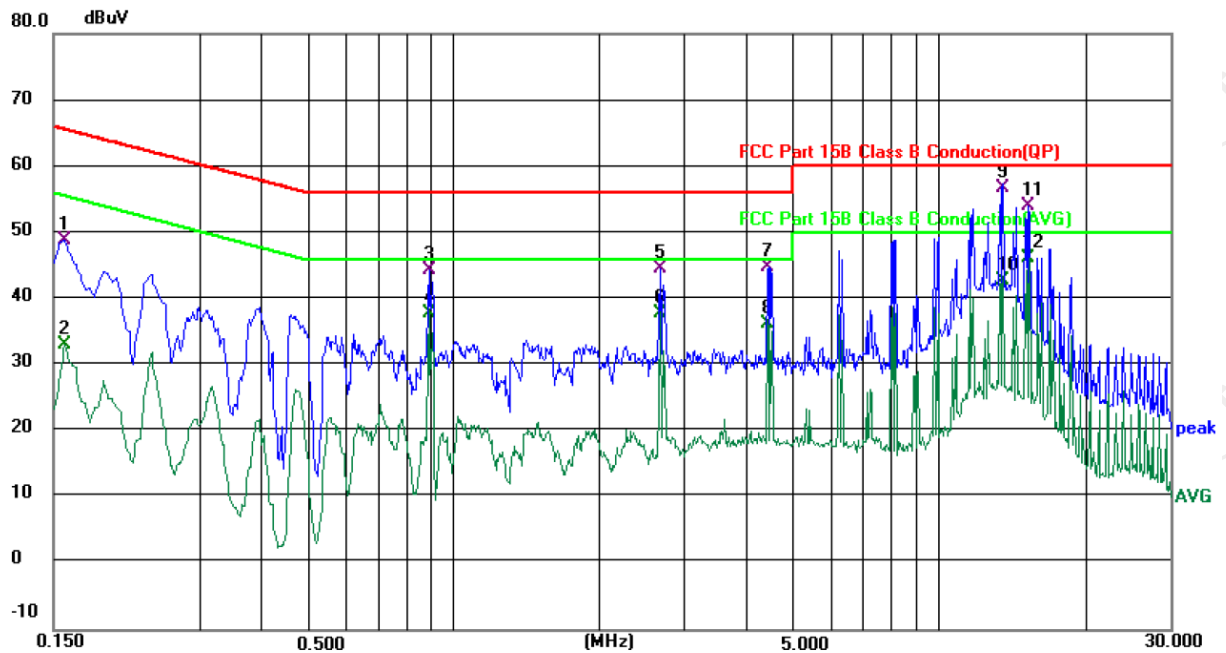


## 5. Test Conditions and Results

### 5.1. Disturbance voltage at mains terminals

Test requirement .....	FCC 47 CFR Part 15 Subpart B		
Basic standard .....	ANSI C63.4: 2014+A1:2017		
Test frequency range..	150 kHz to 30 MHz		
Limits.....	Limits for Class A		
	Frequency (MHz)	dB $\mu$ V Quasi-peak	dB $\mu$ V Average
	0.15 to 0.5	79	66
	0.5 to 30	73	60
	Limits for Class B		
	Frequency (MHz)	dB $\mu$ V Quasi-peak	dB $\mu$ V Average
	0.15 to 0.5	66 to 56	56 to 46
	0.5 to 5	56	46
	5 to 30	60	50
Test method .....	The AMN placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane. This distance was between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment were at least 0.8 m from the AMN. All power was connected to the system through Artificial Mains Network (AMN).		
Ambient temperature..	23.5 °C		
Relative humidity .....	52 %		
Test location .....	2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China		
Test model(s) .....	TAB KINGKONG		
EUT operation mode..	Mode 1		
Test results .....	Pass		
Remark.....	/		

## Measurement data and Graphical presentation of the result



Site 844 Shielding Room

Phase: L1

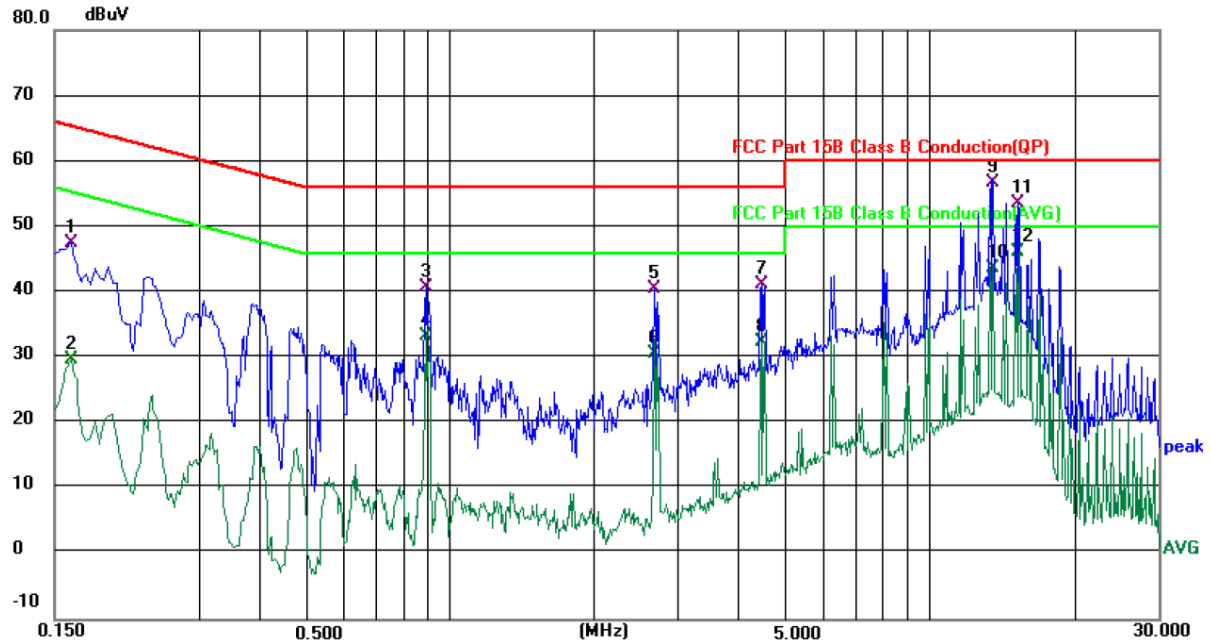
Temperature: 23.5 (°C)

Humidity: 52 %

Limit: FCC Part 15B Class B Conduction(QP)

Power: AC 120 V/60 Hz

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1580	38.79	10.12	48.91	65.57	-16.66	QP	
2		0.1580	22.96	10.12	33.08	55.57	-22.49	AVG	
3		0.8900	35.27	9.09	44.36	56.00	-11.64	QP	
4		0.8900	28.77	9.09	37.86	46.00	-8.14	AVG	
5		2.6739	34.49	10.02	44.51	56.00	-11.49	QP	
6		2.6739	27.84	10.02	37.86	46.00	-8.14	AVG	
7		4.4537	34.72	10.07	44.79	56.00	-11.21	QP	
8		4.4537	26.24	10.07	36.31	46.00	-9.69	AVG	
9	*	13.5980	46.64	10.16	56.80	60.00	-3.20	QP	
10		13.5980	32.53	10.16	42.69	50.00	-7.31	AVG	
11		15.3620	43.88	10.17	54.05	60.00	-5.95	QP	
12		15.3620	35.99	10.17	46.16	50.00	-3.84	AVG	



Site 844 Shielding Room

Phase: **N**

Temperature: 23.5 (°C)

Humidity: 52 %

Limit: FCC Part 15B Class B Conduction(QP)

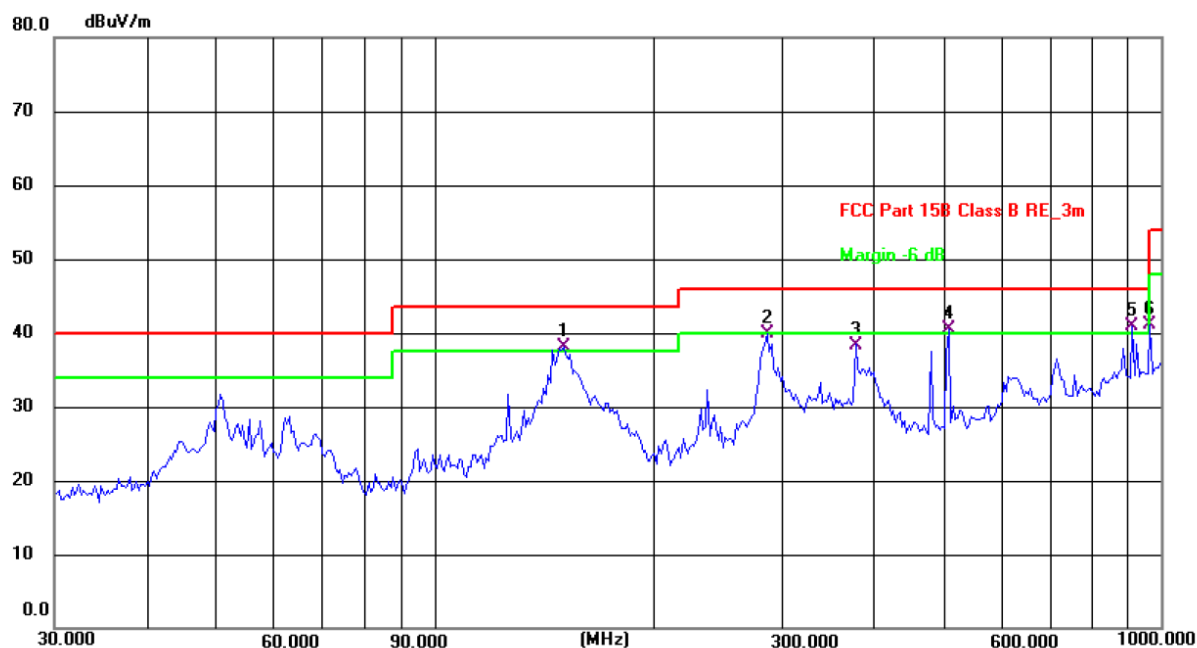
Power: AC 120 V/60 Hz

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1620	37.43	10.10	47.53	65.36	-17.83	QP	
2		0.1620	19.56	10.10	29.66	55.36	-25.70	AVG	
3		0.8940	31.54	9.10	40.64	56.00	-15.36	QP	
4		0.8940	24.25	9.10	33.35	46.00	-12.65	AVG	
5		2.6739	30.47	10.03	40.50	56.00	-15.50	QP	
6		2.6739	20.54	10.03	30.57	46.00	-15.43	AVG	
7		4.4580	31.04	10.09	41.13	56.00	-14.87	QP	
8		4.4580	22.29	10.09	32.38	46.00	-13.62	AVG	
9	*	13.5860	46.45	10.23	56.68	60.00	-3.32	QP	
10		13.5860	33.49	10.23	43.72	50.00	-6.28	AVG	
11		15.3620	43.29	10.26	53.55	60.00	-6.45	QP	
12		15.3620	35.79	10.26	46.05	50.00	-3.95	AVG	

## 5.2. Radiated emission

Test requirement .....	FCC 47 CFR Part 15 Subpart B			
Basic standard .....	ANSI C63.4: 2014+A1:2017			
Test frequency range..	30 MHz to 40 GHz			
Limits.....	Frequency (MHz)	3 m measurement distance		
		Quasi-peak (dB $\mu$ V/m)		
		Class A		Class B
	30 to 88	49		40
	88 to 216	53.5		43.5
	216 to 960	56.4		46
	960 to 1000	59.5		54
	Frequency (MHz)	3 m measurement distance		
		Class A		Class B
		Peak (dB $\mu$ V/m)	Average (dB $\mu$ V/m)	Peak (dB $\mu$ V/m)
				Average (dB $\mu$ V/m)
	Above 1000	79.5	59.5	74
Test method.....	Measurements were made in a 3-meter semi-anechoic chamber that complies to CISPR 16. Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3 meters with the receive antenna located at 1 to 4-meter height in both horizontal and vertical polarities. Final measurements (quasi-peak) were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1 to 4-meters. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable.			
Ambient temperature..	24 - 26.5 °C			
Relative humidity .....	52 - 53 %			
Test location .....	2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China			
Test model(s) .....	TAB KINGKONG			
EUT operation mode..	Refer to Section 2.1			
Test results .....	Pass			
Remark.....	/			

## Measurement data and Graphical presentation of the result



Site: #1 3m Anechoic Chamber

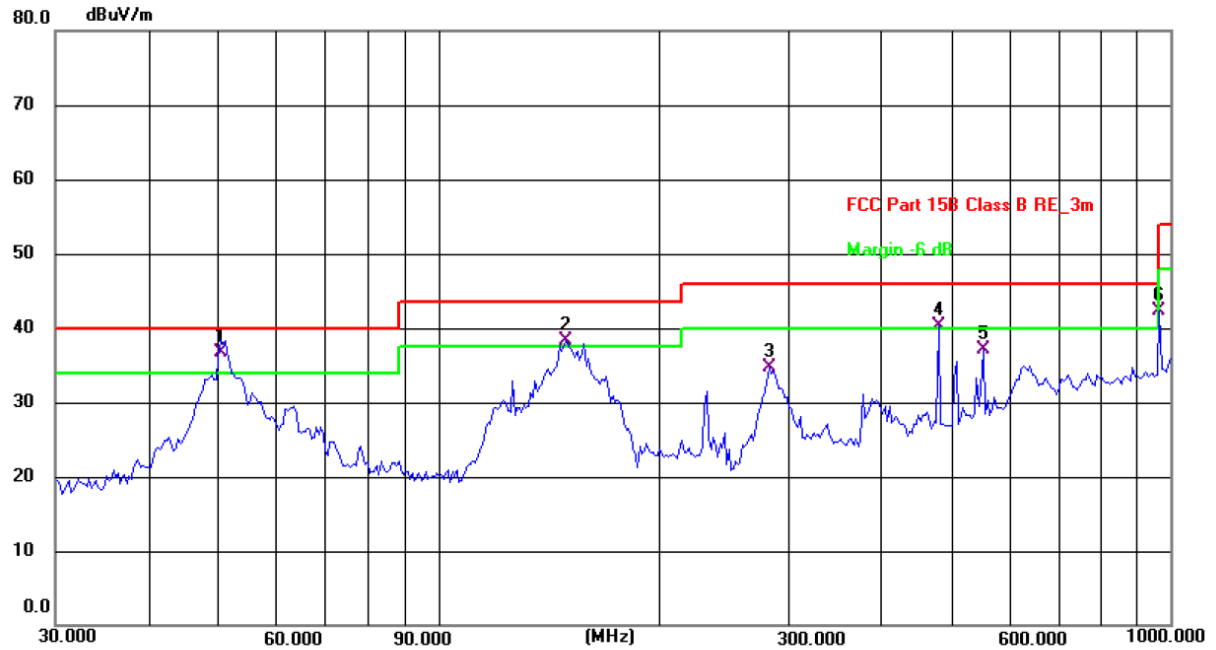
Polarization: **Horizontal**

Temperature: 26.5(C) Humidity: 53 %

Limit: FCC Part 15B Class B RE\_3m

Power: DC 5 V(Notebook Computer Input AC 120 V/60 Hz)

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 !	150.5377	23.61	14.47	38.08	43.50	-5.42	QP	P	
2	286.9823	26.37	13.57	39.94	46.00	-6.06	QP	P	
3	379.9141	22.58	15.82	38.40	46.00	-7.60	QP	P	
4 !	510.0434	21.98	18.51	40.49	46.00	-5.51	QP	P	
5 *	912.8618	16.38	24.60	40.98	46.00	-5.02	QP	P	
6	965.5420	16.09	24.99	41.08	54.00	-12.92	QP	P	



Site: #1 3m Anechoic Chamber

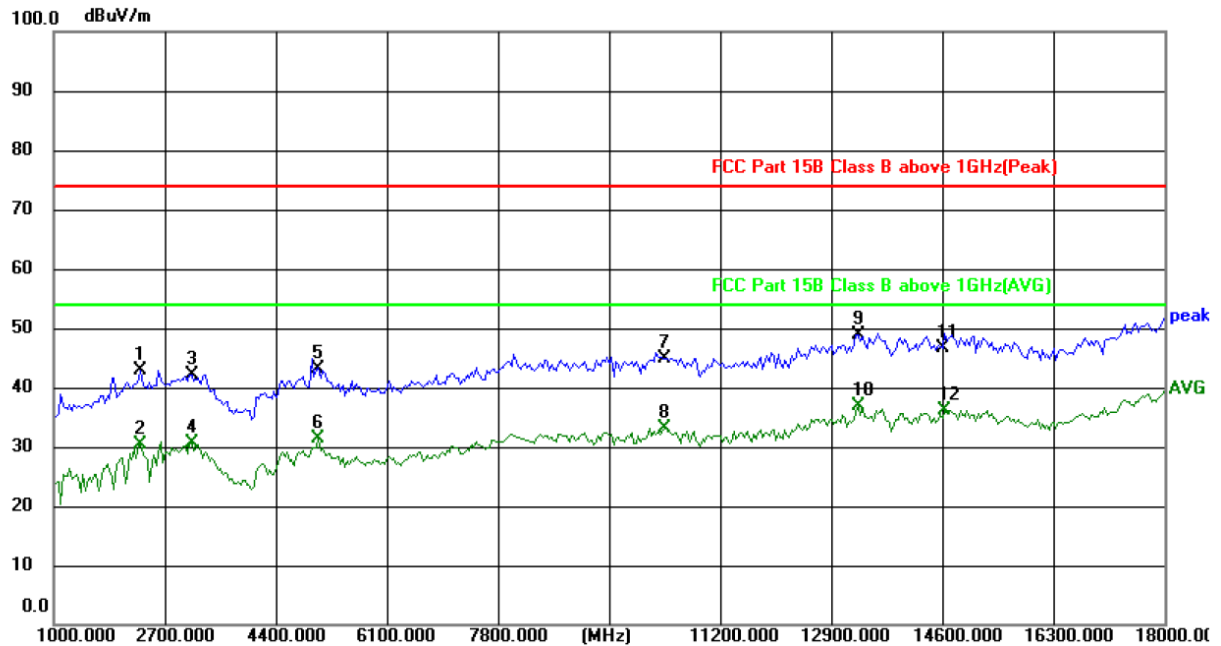
Polarization: **Vertical**

Temperature: 26.5(C) Humidity: 53 %

Limit: FCC Part 15B Class B RE\_3m

Power: DC 5 V(Notebook Computer Input AC 120 V/60 Hz)

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	50.4089	23.16	13.62	36.78	40.00	-3.22	QP	P	
2 !	149.4857	23.88	14.46	38.34	43.50	-5.16	QP	P	
3	282.9849	21.26	13.40	34.66	46.00	-11.34	QP	P	
4 !	482.2155	22.03	18.21	40.24	46.00	-5.76	QP	P	
5	554.8251	17.57	19.46	37.03	46.00	-8.97	QP	P	
6	965.5420	17.22	24.99	42.21	54.00	-11.79	QP	P	



Site: #1 3m Anechoic Chamber

Polarization: **Horizontal**

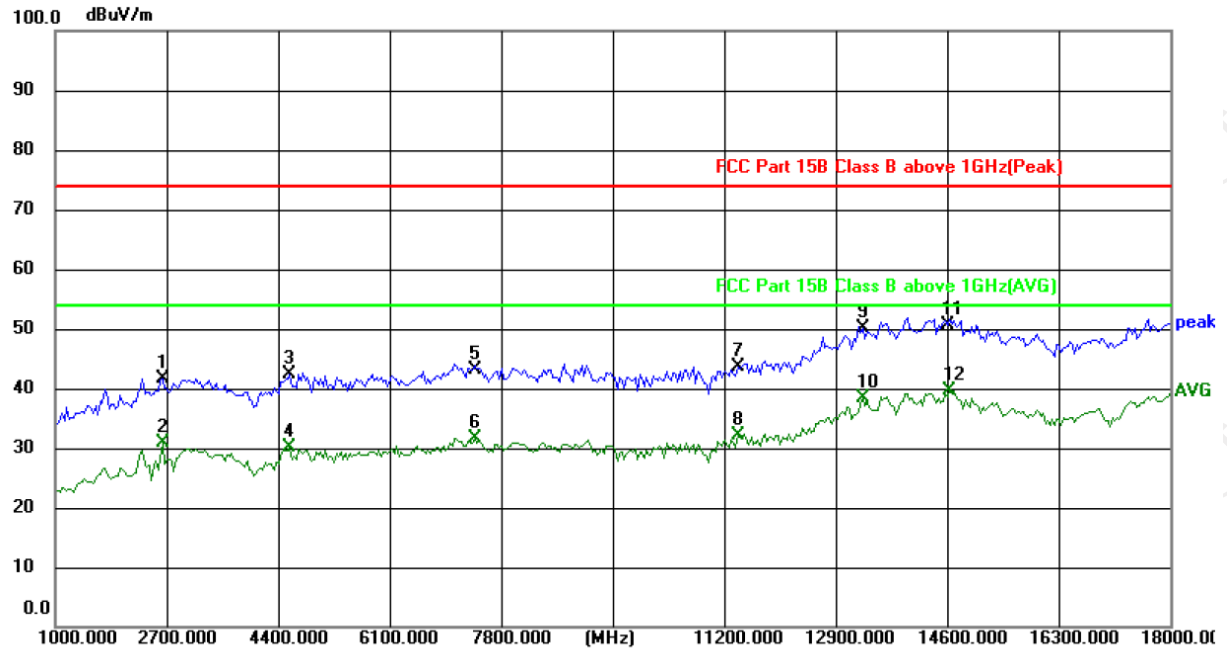
Temperature: 24(C)

Humidity: 52 %

Limit: FCC Part 15B Class B above 1GHz(Peak)

Power: AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	2326.000	58.92	-16.00	42.92	74.00	-31.08	peak	P	
2	2326.000	46.44	-16.00	30.44	54.00	-23.56	AVG	P	
3	3108.000	55.71	-13.66	42.05	74.00	-31.95	peak	P	
4	3108.000	44.28	-13.66	30.62	54.00	-23.38	AVG	P	
5	5046.000	51.59	-8.52	43.07	74.00	-30.93	peak	P	
6	5046.000	39.82	-8.52	31.30	54.00	-22.70	AVG	P	
7	10350.000	46.15	-1.24	44.91	74.00	-29.09	peak	P	
8	10350.000	34.43	-1.24	33.19	54.00	-20.81	AVG	P	
9	13308.000	46.27	2.61	48.88	74.00	-25.12	peak	P	
10 *	13308.000	34.29	2.61	36.90	54.00	-17.10	AVG	P	
11	14634.000	43.61	3.08	46.69	74.00	-27.31	peak	P	
12	14634.000	33.11	3.07	36.18	54.00	-17.82	AVG	P	



Site: #1 3m Anechoic Chamber

Polarization: **Vertical**

Temperature: 24(C)

Humidity: 52 %

Limit: FCC Part 15B Class B above 1GHz(Peak)

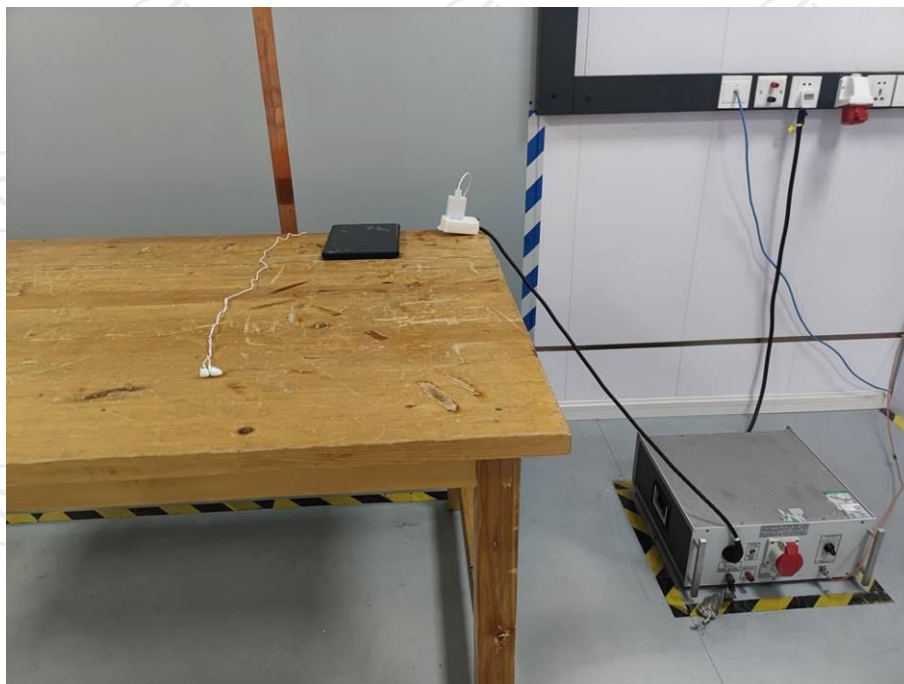
Power: AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	2632.000	56.58	-14.86	41.72	74.00	-32.28	peak	P	
2	2632.000	45.76	-14.86	30.90	54.00	-23.10	AVG	P	
3	4570.000	54.16	-11.76	42.40	74.00	-31.60	peak	P	
4	4570.000	41.84	-11.76	30.08	54.00	-23.92	AVG	P	
5	7392.000	46.79	-3.63	43.16	74.00	-30.84	peak	P	
6	7392.000	35.38	-3.63	31.75	54.00	-22.25	AVG	P	
7	11404.000	44.05	-0.40	43.65	74.00	-30.35	peak	P	
8	11404.000	32.46	-0.40	32.06	54.00	-21.94	AVG	P	
9	13308.000	47.43	2.61	50.04	74.00	-23.96	peak	P	
10	13308.000	35.83	2.61	38.44	54.00	-15.56	AVG	P	
11	14600.000	47.55	3.08	50.63	74.00	-23.37	peak	P	
12 *	14600.000	36.64	3.07	39.71	54.00	-14.29	AVG	P	

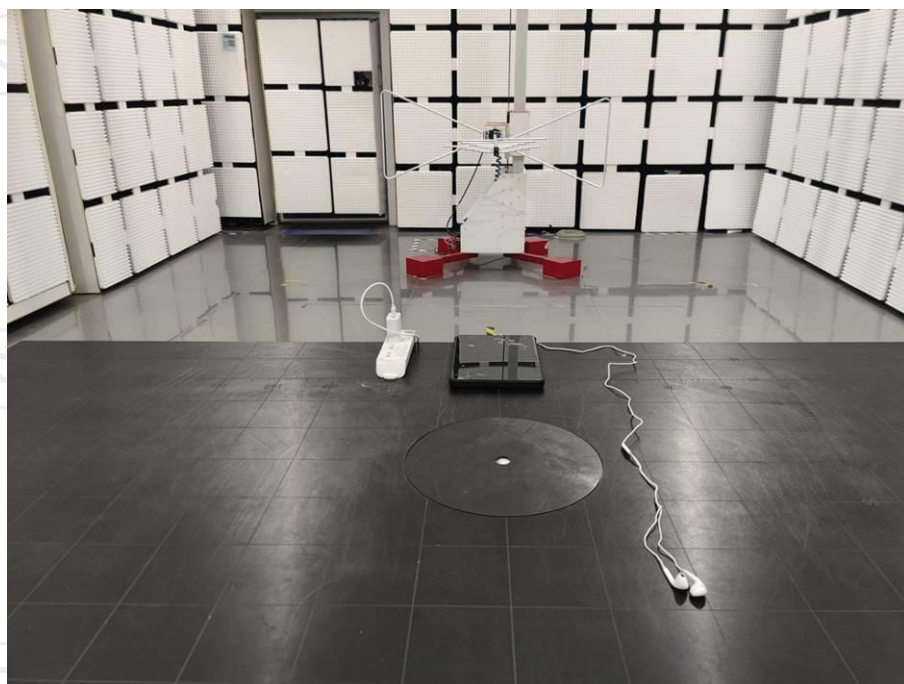


## 6. Test set-up photo

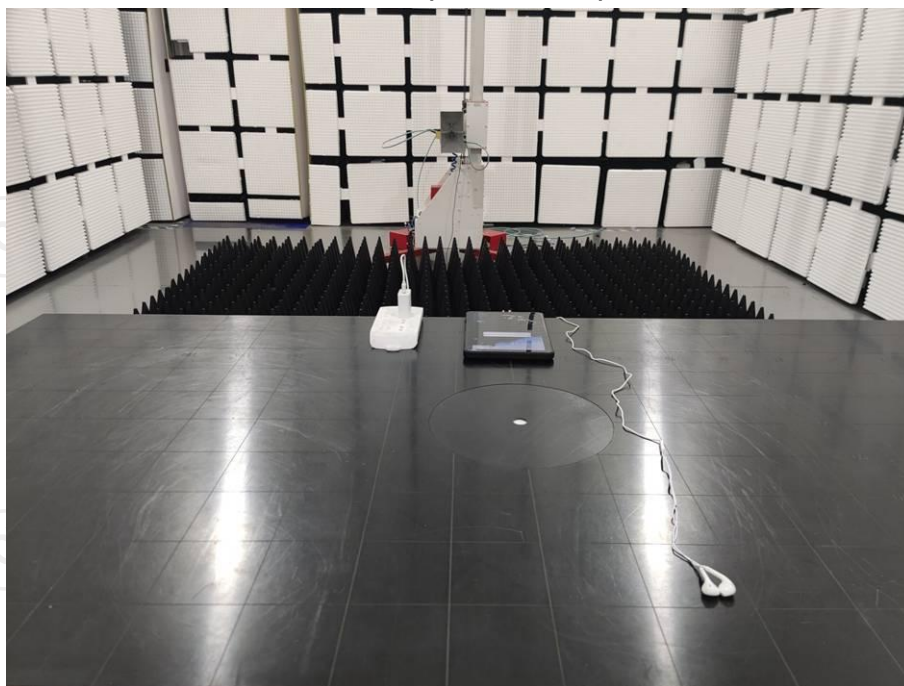
Disturbance voltage at the mains terminals Test View



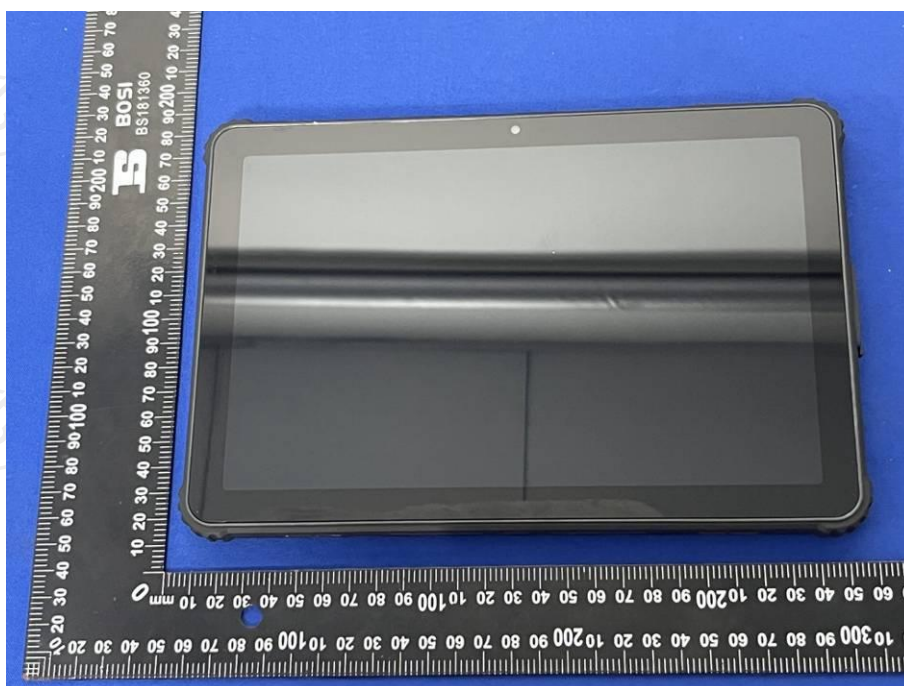
Radiated emission (30 MHz to 1 GHz) Test View



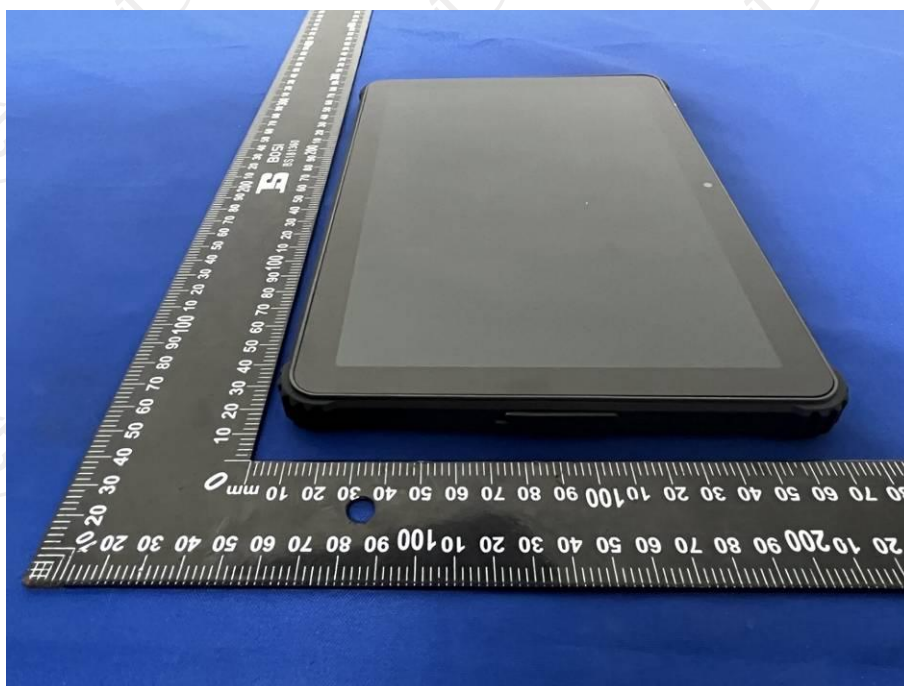
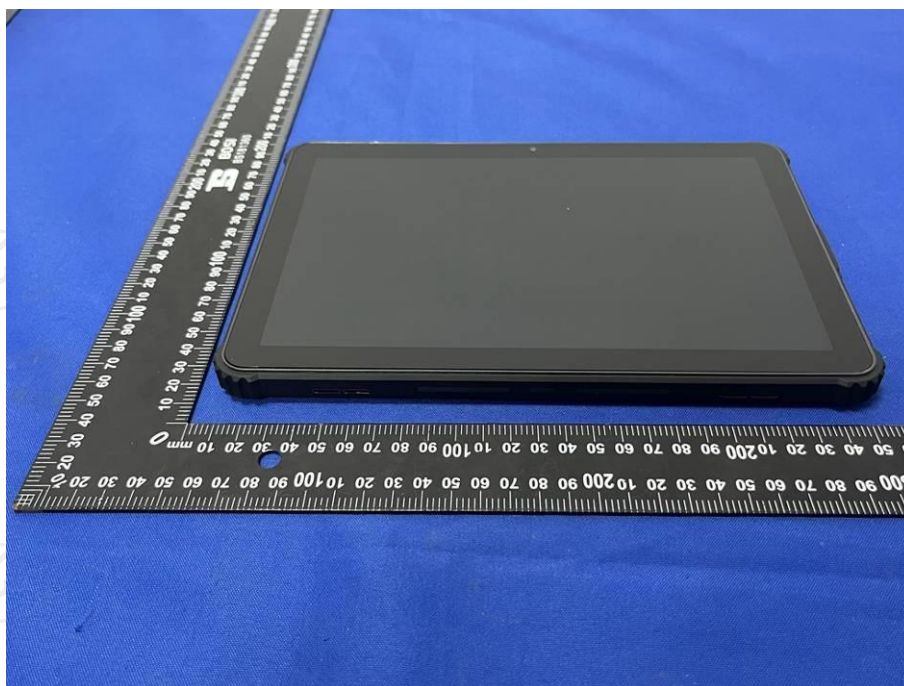
**Radiated emission (Above 1 GHz) Test View**

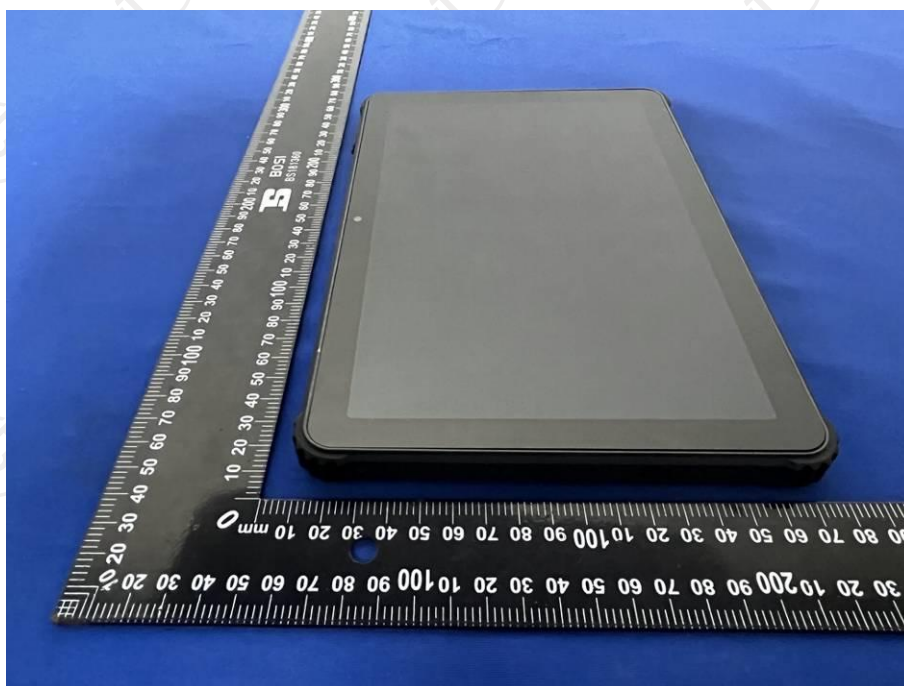
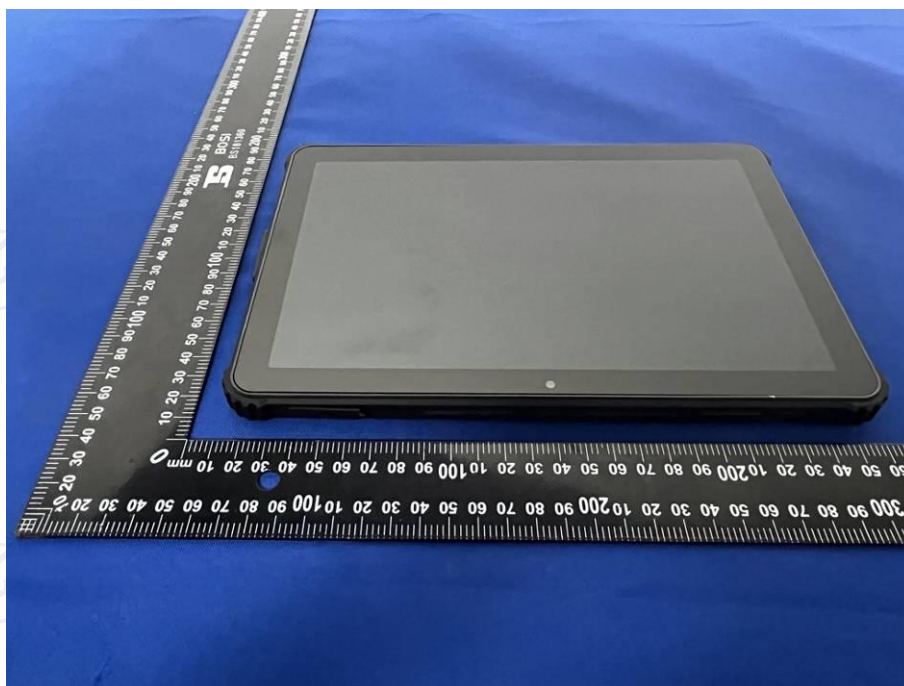


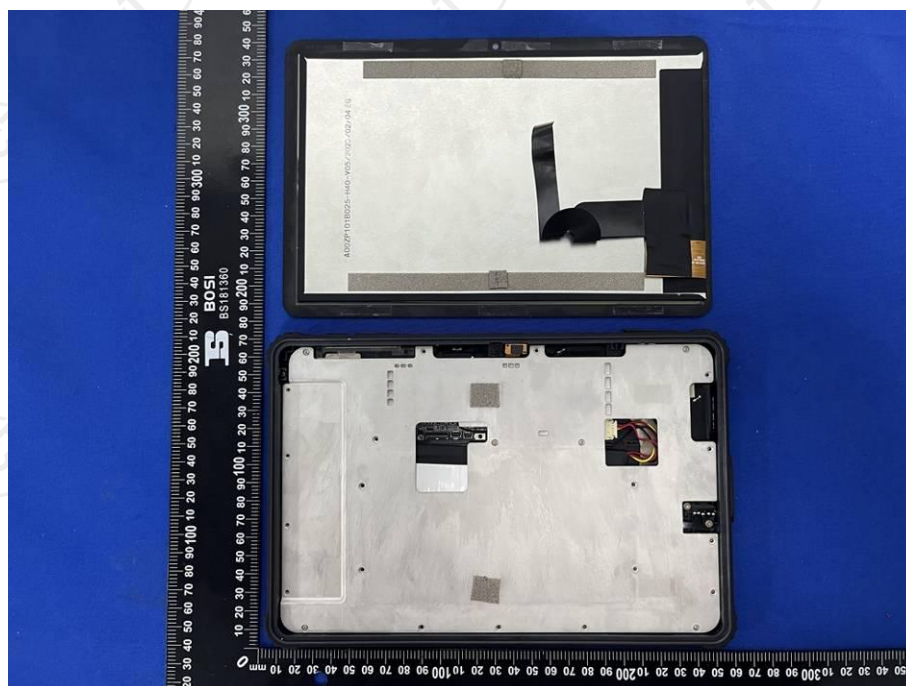
## 7. Photo of the EUT



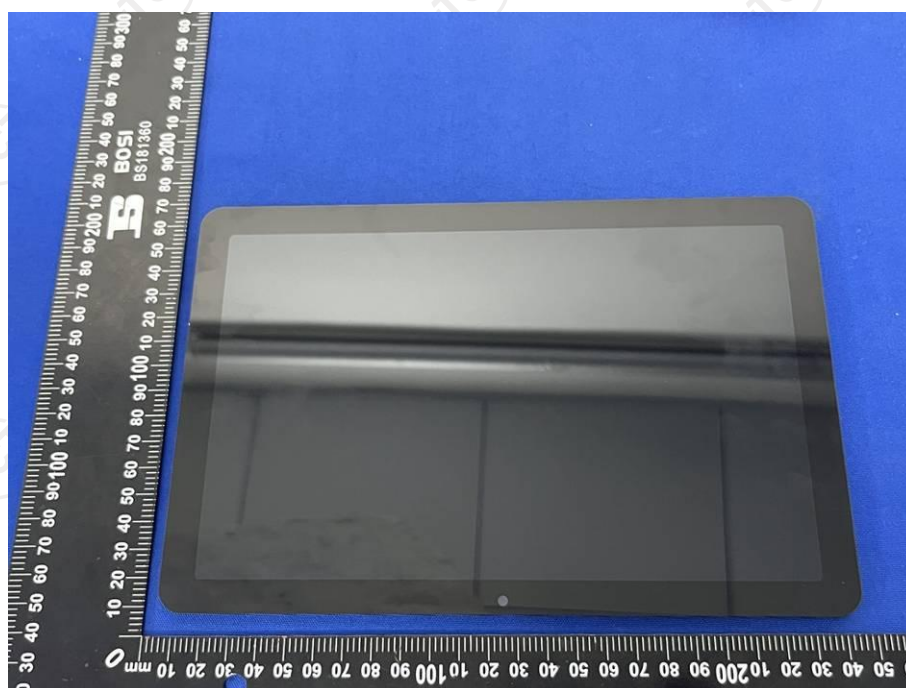
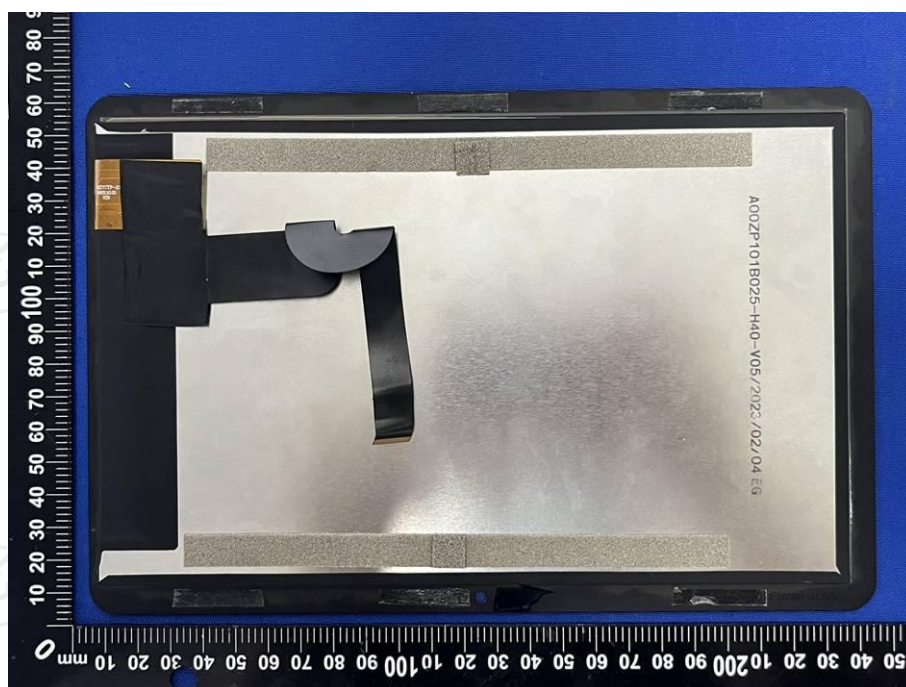


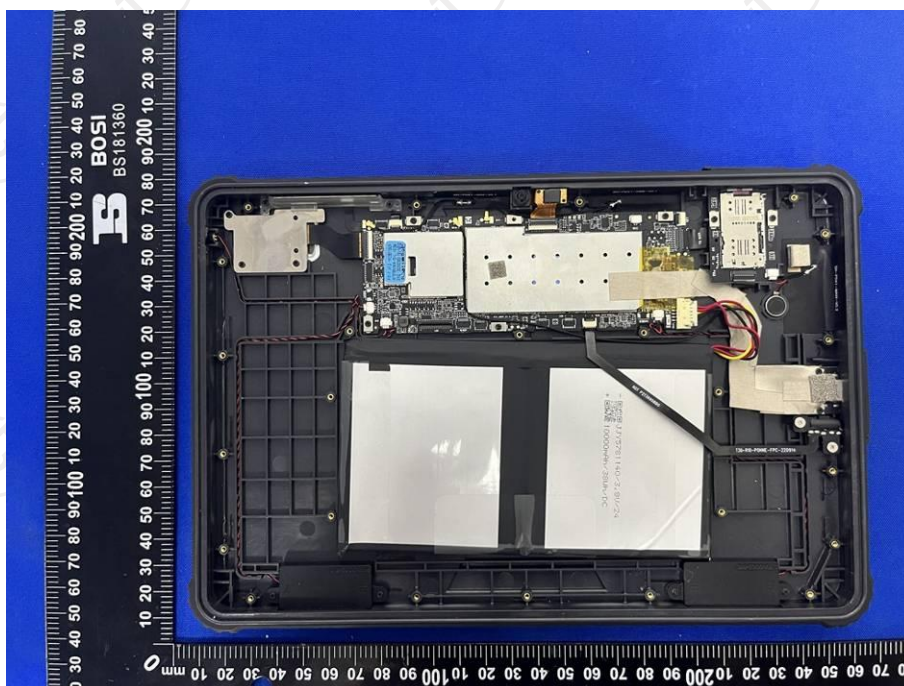
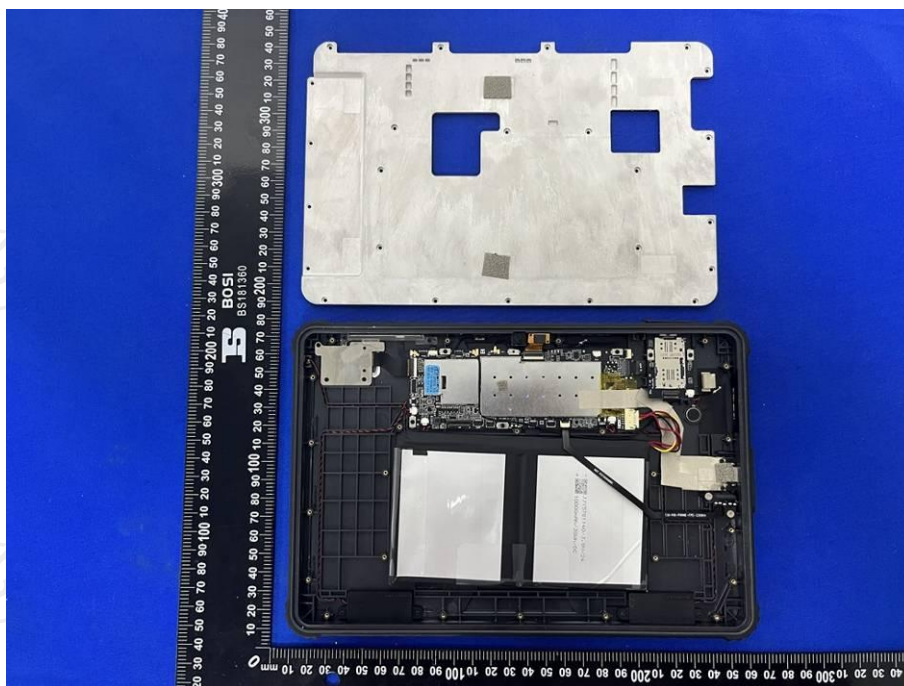




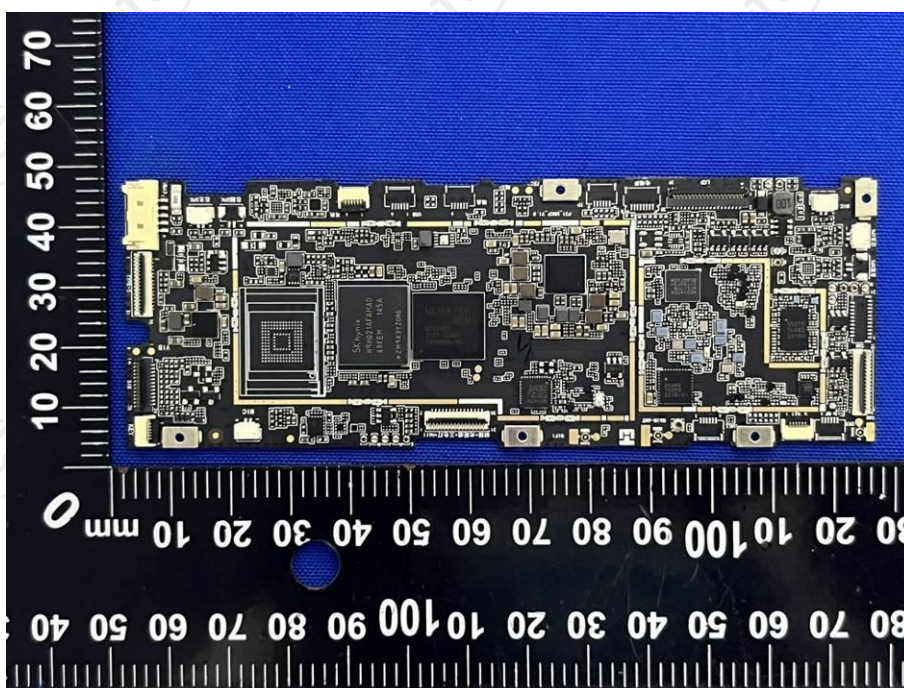
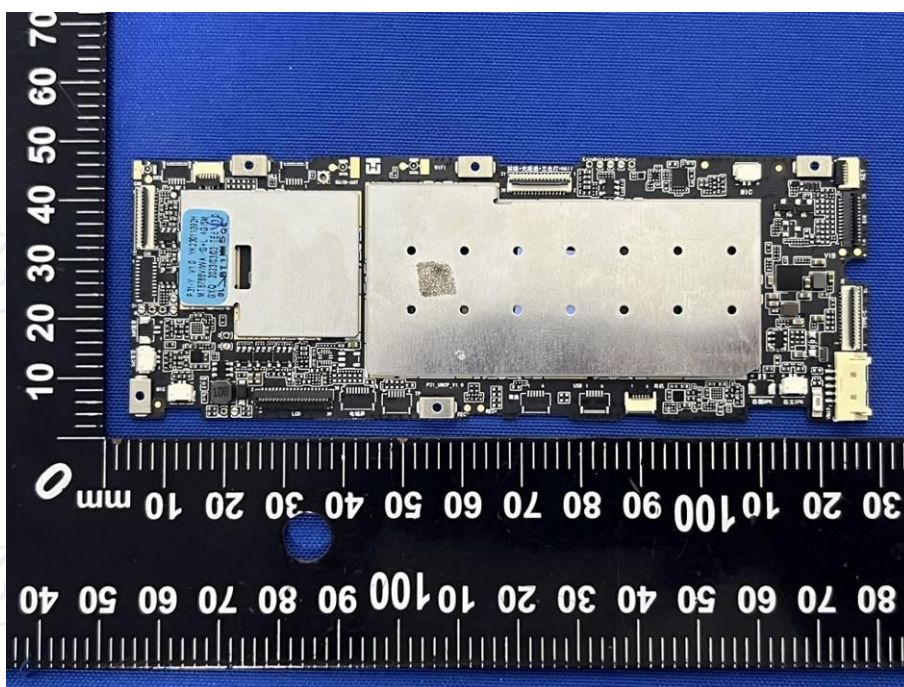


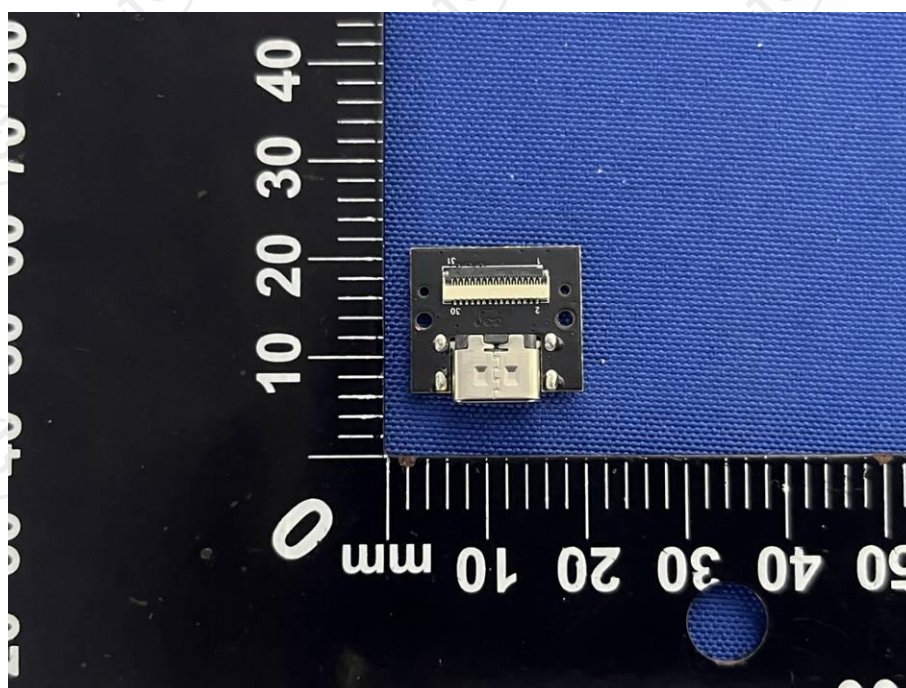
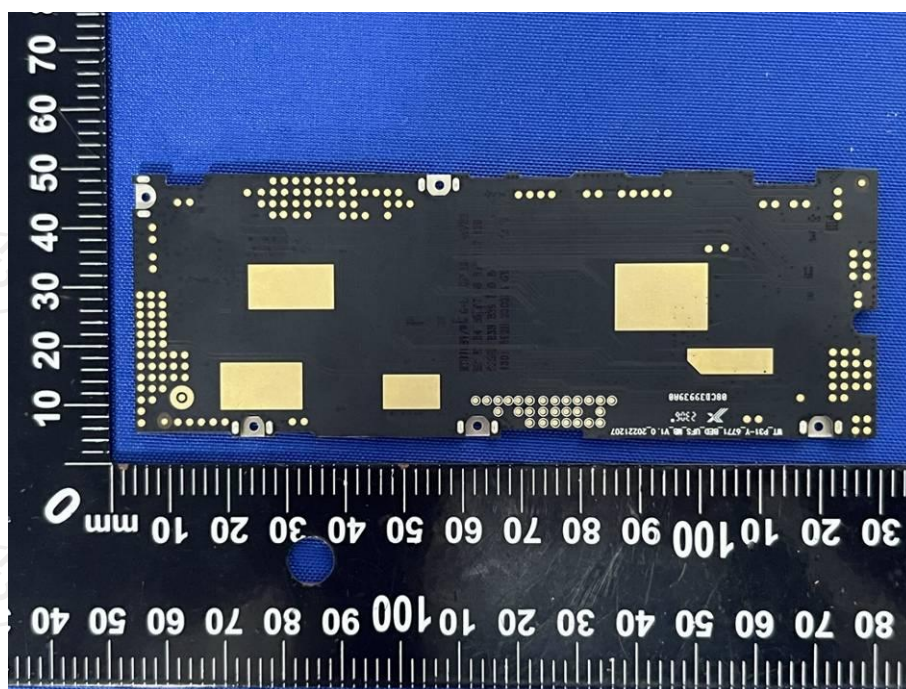




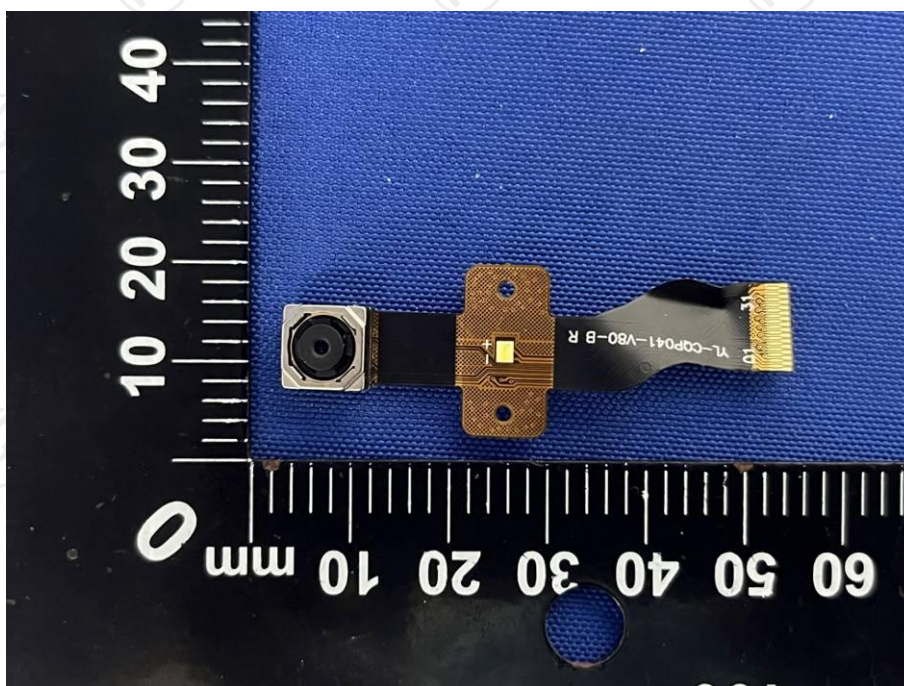
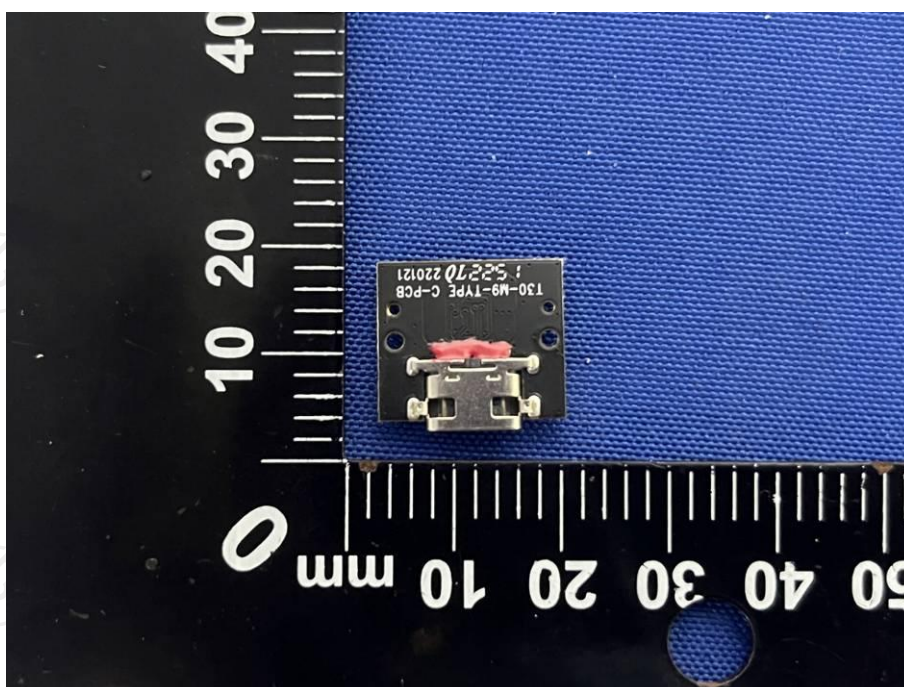


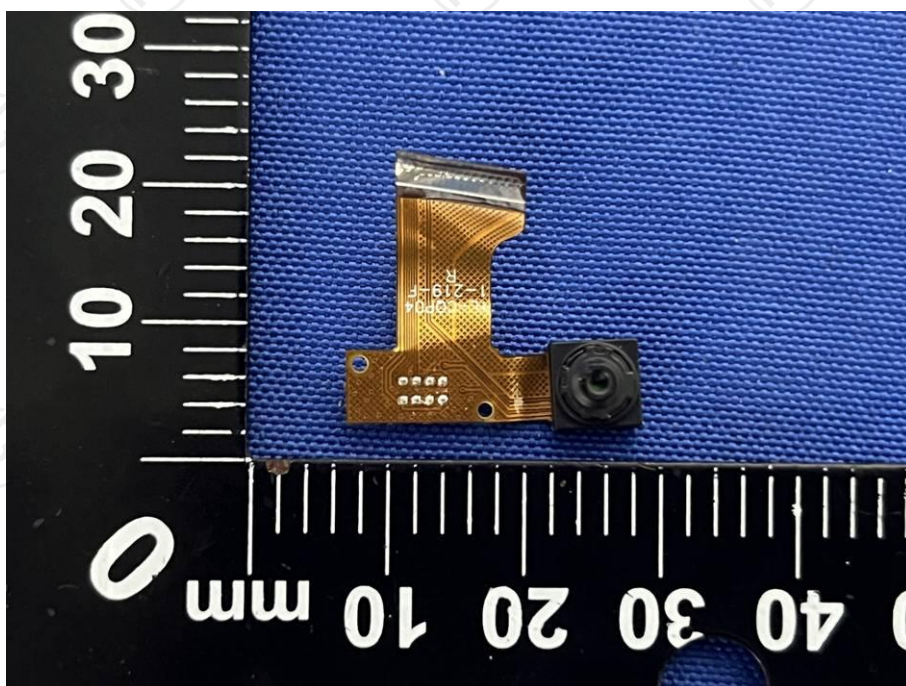
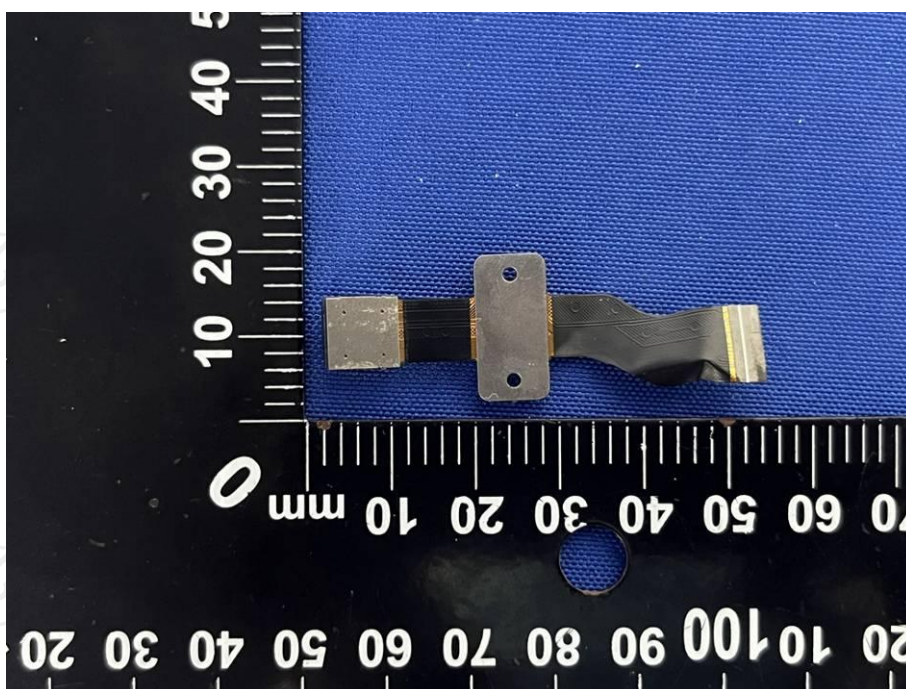




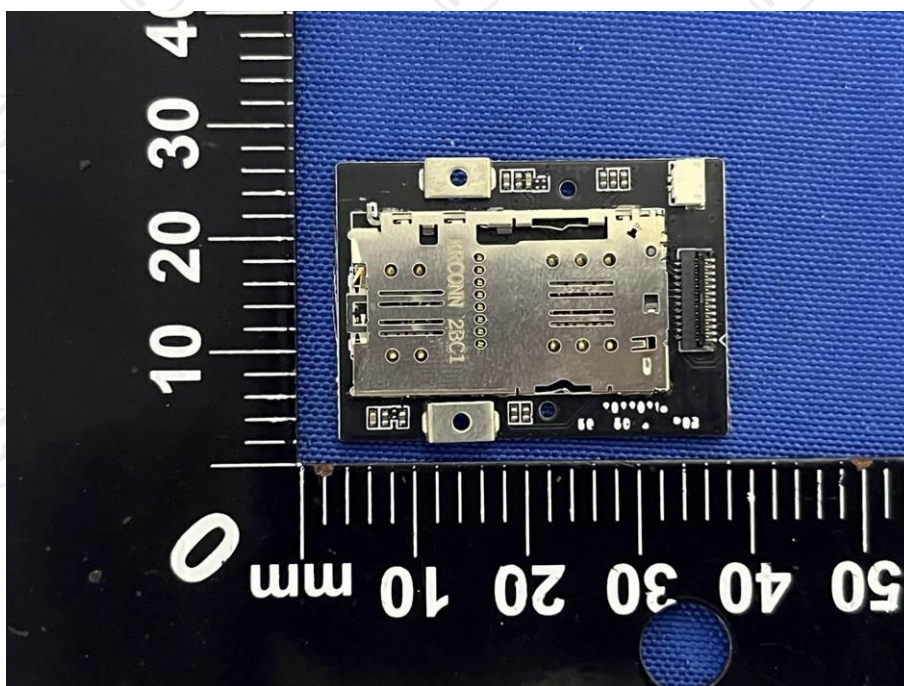
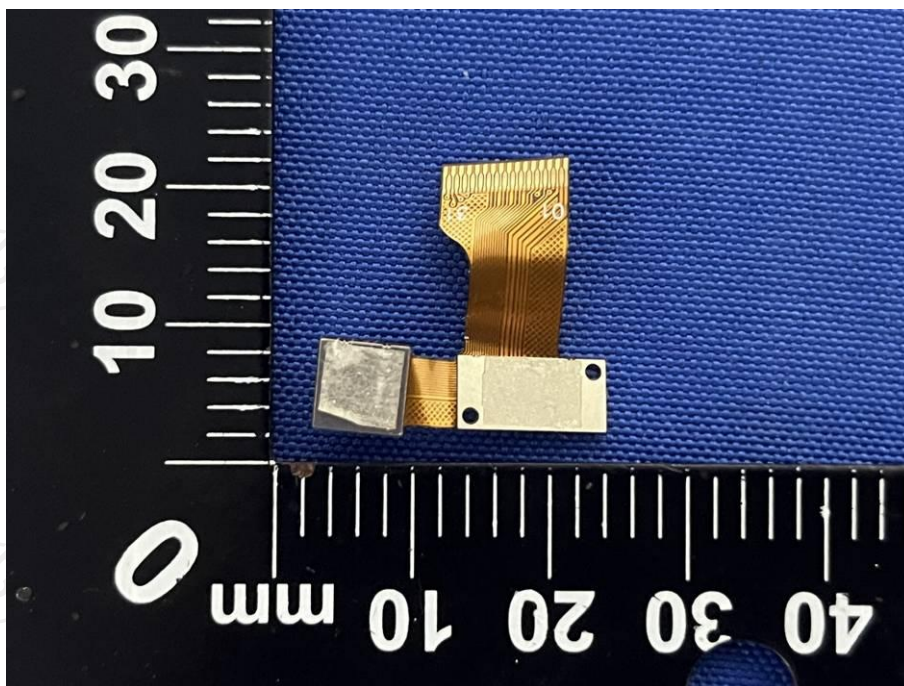


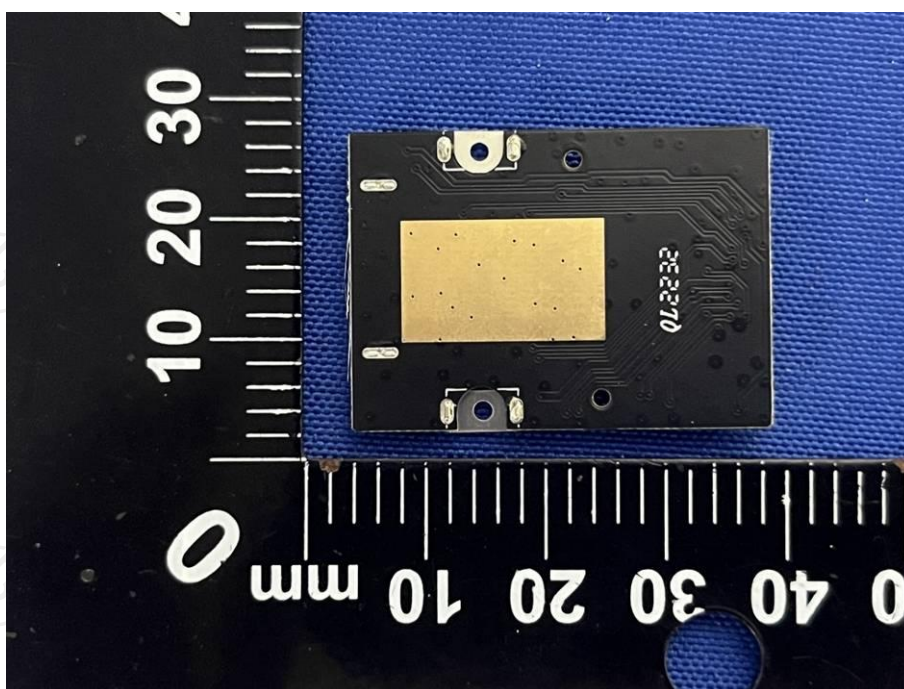




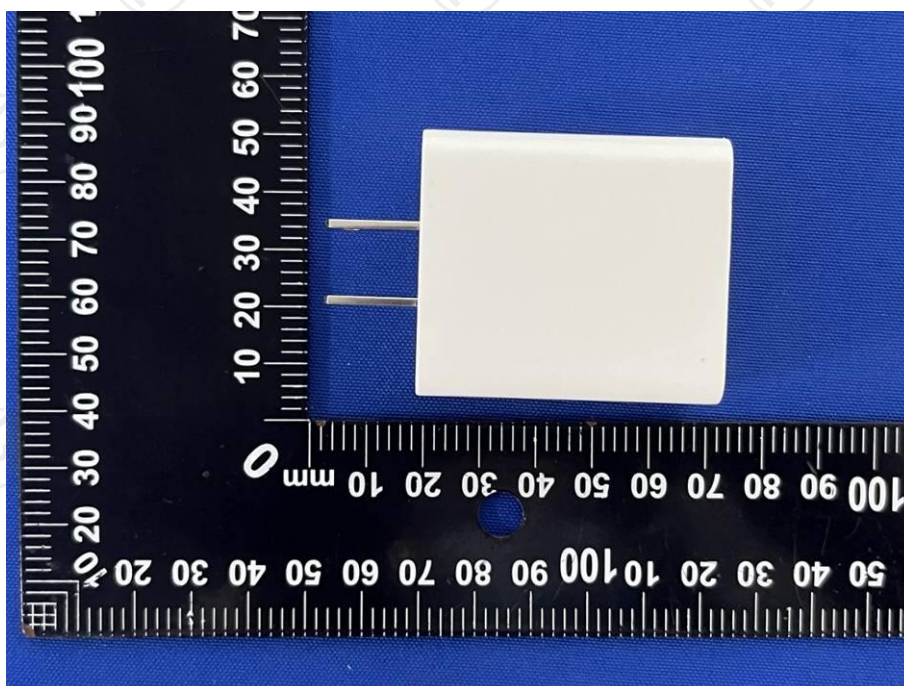
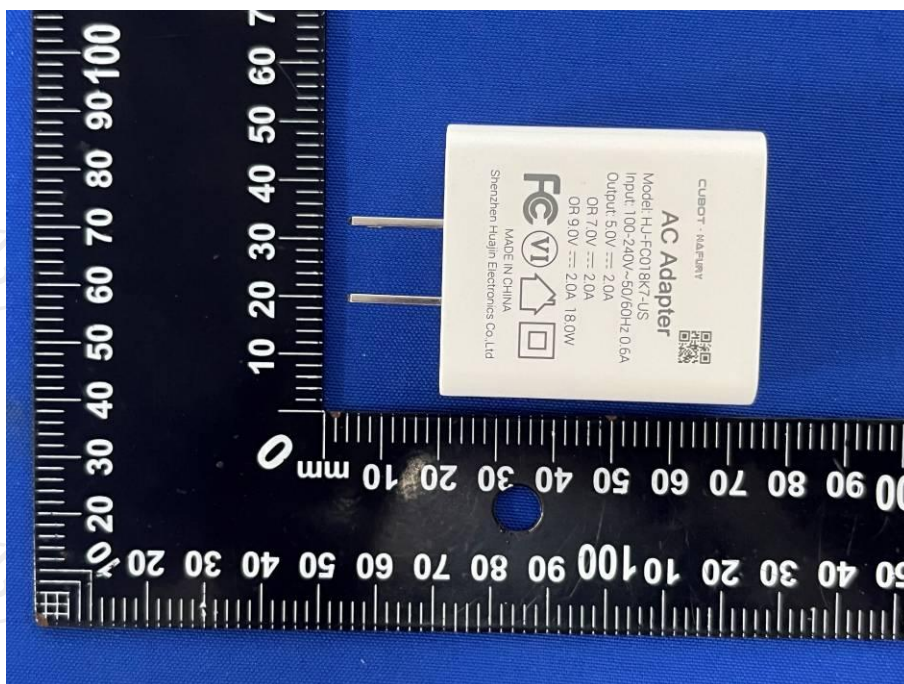


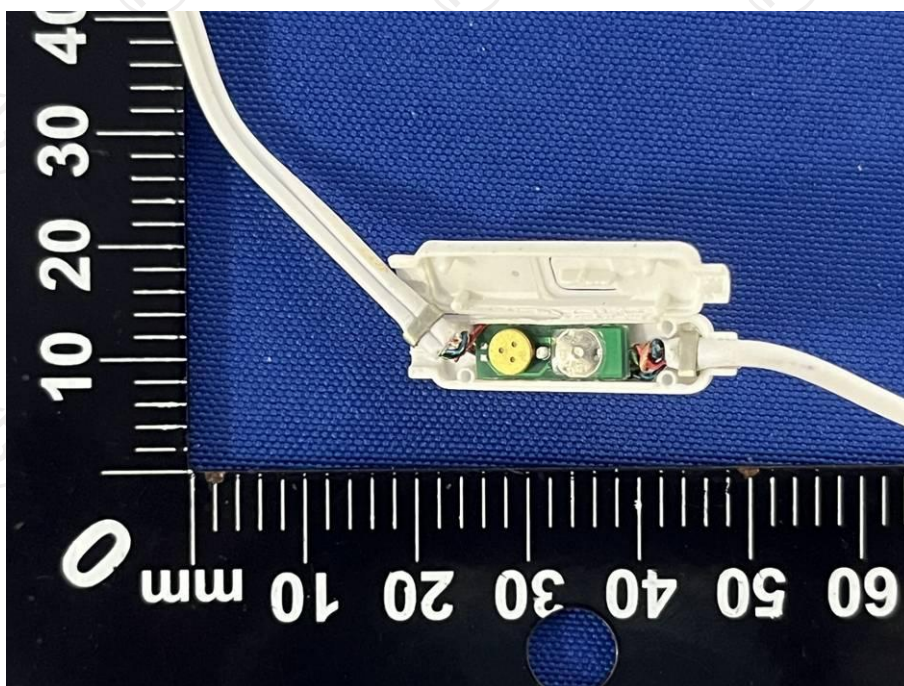
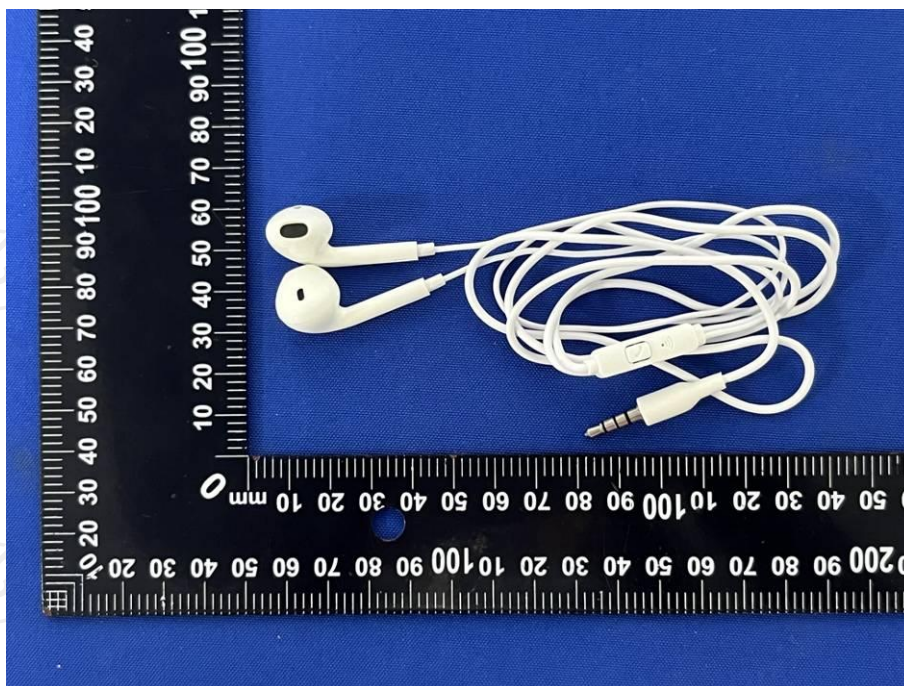




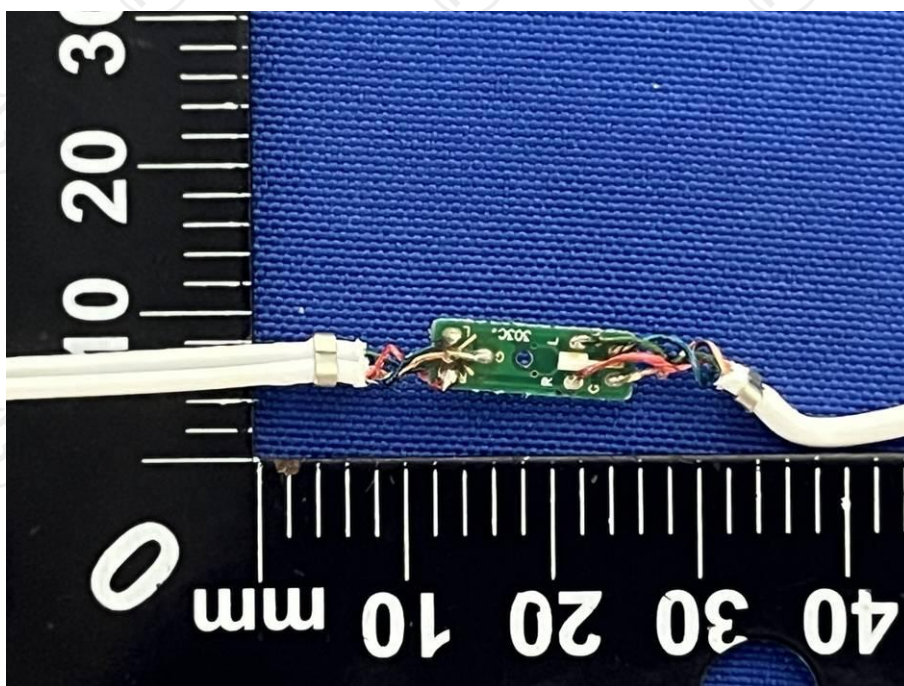
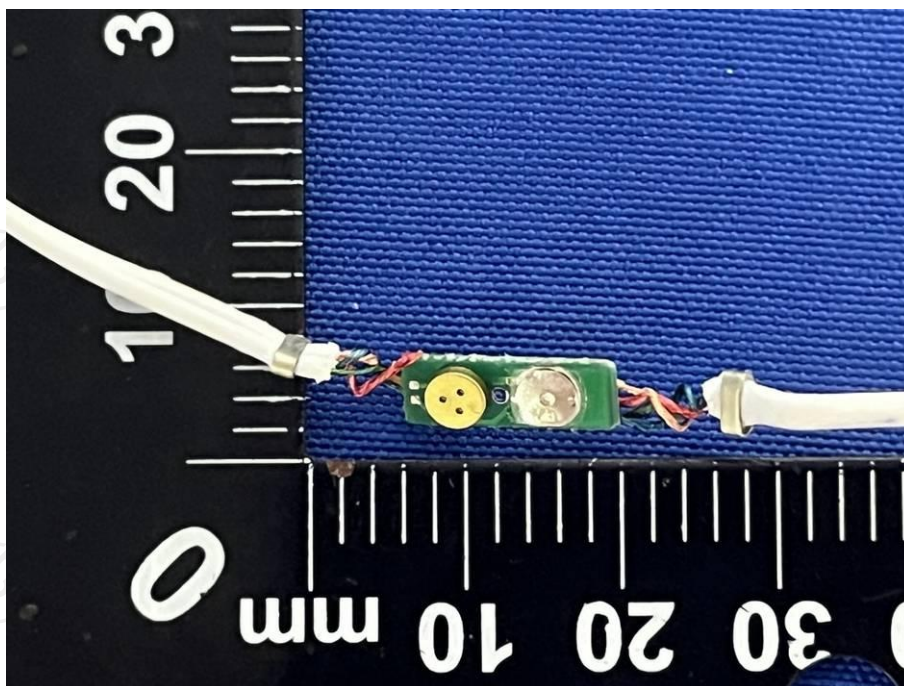












**\*\*\*\*\*End of report\*\*\*\*\***