FCC Test Report

For

Shenzhen Chenxiang Intelligent Technology Co., Ltd.

EUT Name: Rugged Tablet

Model No: A10ST

Series Model No: Please refer to page 7 for detail.

Brand Name: CENAVA

Prepared By:

Dongguan Yaxu (AiT) Technology Limited

Date of Receipt: Sep. 24, 2024

Date of Test: Sep. 24, 2024~Oct. 17, 2024

Date of Issue: Oct. 18, 2024

Dongguan Yaxu (AiT) Technology Limited
No.22, Jinqianling Third Street, Jitigang,
Huangjiang,Dongguan, Guangdong, China.

Client Information:

Applicant:	Shenzhen Chenxiang Intelligent Technology Co., Ltd.
Applicant add.:	207, building a, No. 168, cenxia Road, Fenghuang community, Fuyong street, Bao'an District, Shenzhen, China

EUT Information:

EUT Name:	Rugged Tablet
Model No:	A10ST
Series Model No:	Please refer to page 7 for detail.
Brand Name:	CENAVA

Test standard used: FCC Part 15 Subpart B

This device described above has been tested by Dongguan Yaxu (AiT) Technology Limited and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Reviewed by: Emiya Lin
Test director

Approved by: Simba Huang
Technical director

1 CONTENTS

2 TEST SUMMARY

Test	Test Requirement	Test Method	Criterion	Result
Mains Terminals Disturbance Voltage, 150kHz to 30MHz	FCC Part 15 Subpart B	FCC Part 15 Subpart B ANSI C63.4: 2014	Limits	PASS
Radiated Emissions 30MHz to 1GHz 1GHz to 18GHz	FCC Part 15 Subpart B	FCC Part 15 Subpart B ANSI C63.4: 2014	Limits	PASS
Note: N/A				

2.1 MEASUREMENT UNCERTAINTY

The report uncertainty of measurement **y ± U**, where expended uncertainty **U** is based on a standard uncertainty Multiplied by a coverage factor of **k=2** , providing a level of confidence of approximately 95% .

No.	Item	Frequency Range	U , Value
1	Power Line Conducted Emission	150KHz~30MHz	1.20 dB
2	Disturbance Power Emission	30MHz~300MHz	2.96 dB
3	Radiated Emission Test	30MHz~1GHz	3.75 dB
4	Radiated Emission Test	1GHz~18GHz	3.88 dB

3 TEST FACILITY

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

CNAS- Registration No: L6177

Dongguan Yaxu (AiT) technology Limited is accredited to ISO/IEC 17025:2017 general Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the competence of testing and calibration laboratories) on April 18, 2022

FCC-Registration No.: 703111 Designation Number: CN1313

Dongguan Yaxu (AiT) technology Limited has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

IC —Registration No.: 6819A CAB identifier: CN0122

The 3m Semi-anechoic chamber of Dongguan Yaxu (AiT) technology Limited has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 6819A

A2LA-Lab Cert. No.: 6317.01

Dongguan Yaxu (AiT) technology Limited has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

3.1 DEVIATION FROM STANDARD

None

3.2 ABNORMALITIES FROM STANDARD CONDITIONS

None

4 GENERAL INFORMATION

4.1 GENERAL DESCRIPTION OF EUT

Manufacturer:	Shenzhen Chenxiang Intelligent Technology Co., Ltd.
Manufacturer Address:	207, building a, No. 168, cenxia Road, Fenghuang community, Fuyong street, Bao'an District, Shenzhen, China
EUT Name:	Rugged Tablet
Model No:	A10ST
Series Model No:	A51T, A52T, A60T, A635GT, A65GT, W62H, A55GT, A71T, W65N, W65G, A80ST, W80Y, W80J, W80N, W10Y, W10N, W10J, A88ST, A18ST, W18Y, W18N, W18J, A80R, A10R, A20ST, W109U, W20N, W30U, A30ST, A30R, A18Z, CX10A, CX80A, W10NPRO, W80PRO, W18NPRO, A865GT, P41T, P40T-S, P50T-A, P40AT, P50AT, A865GT, A10STX, A80STX, W80NX, W10NX, W10YX, W80YX, A80RX, A10RX, S10Pro, S10A, A10ST, A115G, A16G, W10U, CXE10C, CXS10C, CX10A, CXS10-F, CXS10S, A195T, W10J, W20J, W20U, A22G, A225G, W33U, CXS56, CXS560, P3T, H7A, H7S, H7, H7F, H89A, H89, H10A, H116, H8F, H9F, H10PRO, H10F, H14F, W10, W11, W12, P10A, W16J, W14U-T, W15U-T, W14U-S, W14U-F, H10PRO, GK10M, GK15M, GK21M, CZ10J, CXD14-F, CXD14-N, CXD156-T, CXT156-L3, CXD156-F-L2, CXD156-F, CXD156-N-L2, CXD156-N, CXT173
Brand Name:	CENAVA
Power Range:	DC 3.8V from battery or DC 5.0V from adapter
Test Supply:	AC120V 60Hz
Model difference:	PCB board, structure and internal of these model(s) are the same, So no additional models were tested.

4.2 EUT TEST MODE

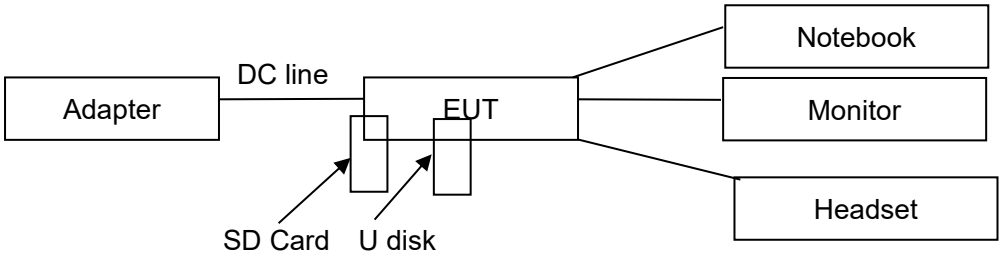
Mode 1	Test EUT in WORK mode.

4.3 DESCRIPTION OF TEST SETUP

EUT was tested in normal Configuration (Please See following Block diagrams)

1. Block diagram of EUT Configuration-EMI

Mode 1:



4.4 TEST PERIPHERAL LIST

No.	Equipment	Manufacturer	EMC Compliance	Model No.	Serial No.	Power cord	signal cable
1	Headset	HUAWEI	CE	AM115	N/A	N/A	N/A
2	Monitor	Sony	CE	KDL-20S4000	N/A	N/A	N/A
3	U disk	Kingston	CE	DT 101G2	N/A	N/A	N/A
4	SD Card	Sony	CE	32GB	N/A	N/A	N/A

4.5 EUT PERIPHERAL LIST

No.	Equipment	Manufacturer	EMC Compliance	Model No.	Serial No.	Power cord	signal cable
1	Adapter	XING YUAN ELECTRONICS CO.,LED	N/A	XY24SR-050300VQ-UW	N/A	N/A	N/A

5 Equipments List for All Test Items

☒ Radiation Test Equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	EMI Measuring Receiver	R&S	ESR	101660	2024.09.23	2025.09.22
2	Low Noise Pre Amplifier	HP	HP8447E	1205323	2024.09.23	2025.09.22
3	TRILOG Super Broadband test Antenna	SCHWARZBECK	VULB9160	9160-3206	2024.08.29	2026.08.28
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2024.09.23	2025.09.22
5	Spectrum Analyzer	R&S	FSV40	101160	2024.09.23	2025.09.22
6	Low Noise Pre Amplifier	Tsj	MLA-0120-A02-34	2648A04738	2024.09.23	2025.09.22
7	Broadband Horn Antenna	Schwarzbeck	BBHA 9120D	452	2024.08.29	2026.08.28
8	RE Software	EZ	EZ-EMC_ RE	Ver.AIT-03A	N/A	N/A

☒ Conduction Test equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	EMI Test Receiver	R&S	ESCI	100124	2024.09.23	2025.09.22
2	LISN	Kyoritsu	KNW-242	8-837-4	2024.09.23	2025.09.22
3	LISN	R&S	ESH3-Z5	892785/016	2024.09.23	2025.09.22
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2024.09.23	2025.09.22
5	Pulse Limiter	R&S	ESH3-Z2	03578810.54	2024.09.23	2025.09.22
6	CE Software	EZ	EZ-EMC_ CE	Ver.AIT-03A	N/A	N/A

Note:

1. ☐ is not applicable in this Test Report. ☒ is applicable in this Test Report.

6 EMISSION TEST RESULTS

6.1 MAINS TERMINALS DISTURBANCE VOLTAGE MEASUREMENT

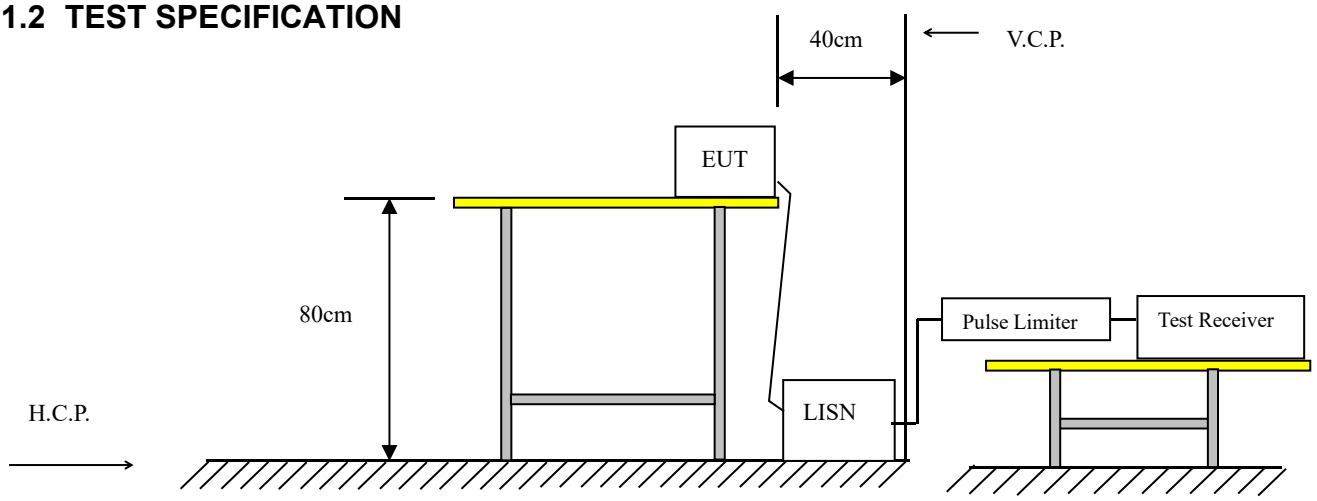
Frequency (MHz)	☐ Class A (dBμV)		☒ Class B (dBμV)	
	Q.P. (Quasi-Peak)	A.V. (Average)	Q.P. (Quasi-Peak)	A.V. (Average)
0.15 ~ 0.50	79	66	66 to 56	56 to 46
0.50 ~ 5.0	73	60	56	46
5.0 ~ 30	73	60	60	50

Detector:	Peak for pre-scan (9kHz Resolution Bandwidth) Quasi-Peak & Average if maximized peak within 6dB of Average Limit

6.1.1 E.U.T. OPERATION

Temperature:	26	Humidity:	50	Atmospheric Pressure:	1006	Kpa
Test Mode:	All Mode		The worst mode		Mode 1	

6.1.2 TEST SPECIFICATION



EUT was placed upon a wooden test table 0.8m above the horizontal metal reference plane and 0.4m from the vertical ground plane, and it was connected to an AMN. The closest distance between the boundary of the EUT and the surface of the AMN is 0.8m. All peripherals were connected to another AMN, and placed at a distance of 10cm from each other. A spectrum and receiver was connected to the RF output port of the AMN. Both average and quasi-peak value were detected.

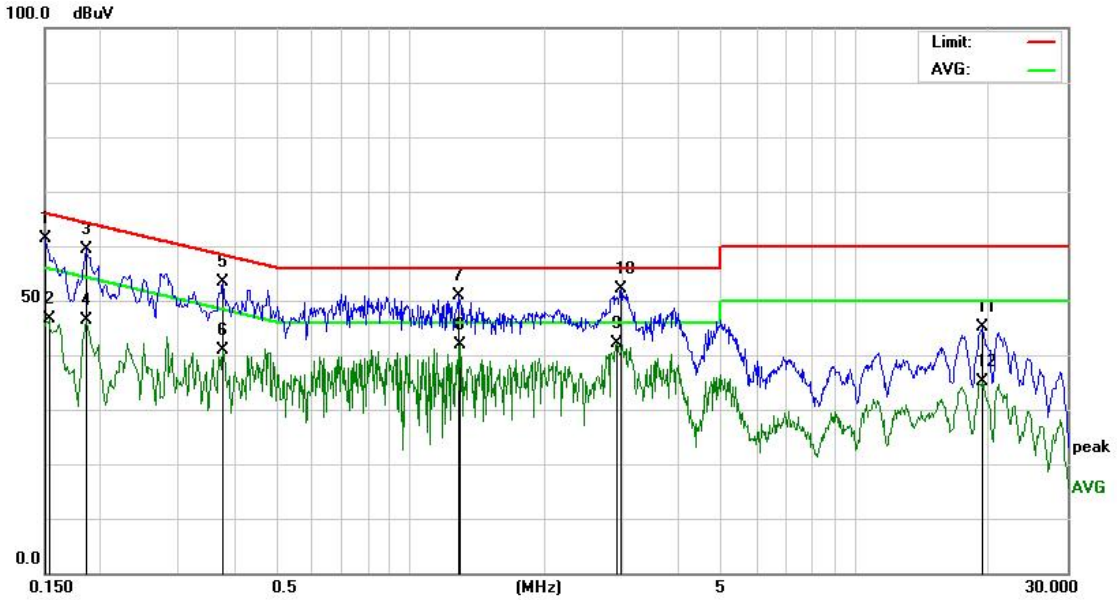
6.1.3 MEASUREMENT DATA

An initial pre-scan was performed on the live and neutral lines.

Quasi-peak or average measurements were performed at the frequency which maximum peak emissions were detected.

Please refer to the attached quasi-peak & average measurement data.

Model:	A10ST	Test Date :	2024-10-11
Test Mode:	Mode 1	Phase :	Line
Test Voltage:	AC 120V/60Hz	Test Result:	☒ Pass ☐ Fail



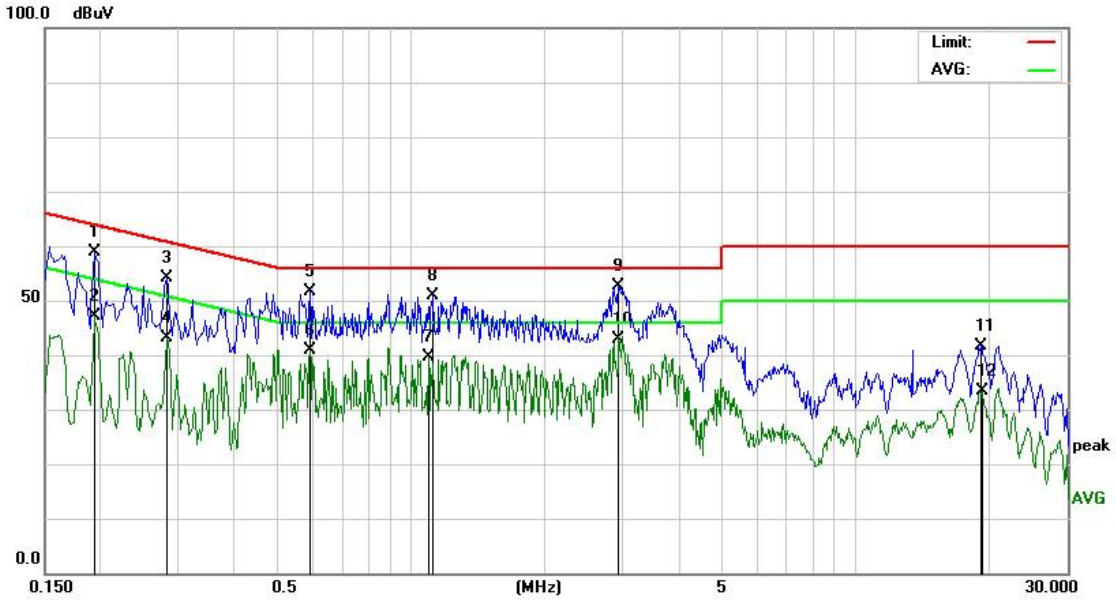
Remark: Correct Factor = LISN factor + Cable Loss + Pulse limiter factor.

Measurement Result=Reading Level +Correct Factor;

Over Limit= Measurement Result- Limit;

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1500	49.42	11.94	61.36	65.99	-4.63	QP
2		0.1539	34.81	11.84	46.65	55.78	-9.13	AVG
3		0.1859	48.00	11.31	59.31	64.21	-4.90	QP
4		0.1859	35.10	11.31	46.41	54.21	-7.80	AVG
5		0.3780	43.36	10.11	53.47	58.32	-4.85	QP
6		0.3780	30.70	10.11	40.81	48.32	-7.51	AVG
7		1.2780	40.94	9.92	50.86	56.00	-5.14	QP
8		1.2900	31.91	9.92	41.83	46.00	-4.17	AVG
9		2.9100	32.10	9.98	42.08	46.00	-3.92	AVG
10	*	2.9660	42.25	9.98	52.23	56.00	-3.77	QP
11		19.2658	34.54	10.66	45.20	60.00	-14.80	QP
12		19.3298	24.44	10.66	35.10	50.00	-14.90	AVG

Model:	A10ST	Test Date :	2024-10-11
Test Mode:	Mode 1	Phase :	Neutral
Test Voltage:	AC 120V/60Hz	Test Result:	☒ Pass ☐ Fail



Remark: Correct Factor = LISN factor + Cable Loss + Pulse limiter factor.

Measurement Result=Reading Level +Correct Factor;

Over Limit= Measurement Result- Limit;

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1940	47.70	11.21	58.91	63.86	-4.95	QP
2		0.1940	35.84	11.21	47.05	53.86	-6.81	AVG
3		0.2819	43.36	10.73	54.09	60.76	-6.67	QP
4		0.2819	32.39	10.73	43.12	50.76	-7.64	AVG
5		0.5940	41.74	9.96	51.70	56.00	-4.30	QP
6		0.5940	30.91	9.96	40.87	46.00	-5.13	AVG
7		1.0980	29.65	9.90	39.55	46.00	-6.45	AVG
8		1.1220	41.03	9.90	50.93	56.00	-5.07	QP
9		2.9260	42.56	9.98	52.54	56.00	-3.46	QP
10	*	2.9380	33.00	9.98	42.98	46.00	-3.02	AVG
11		19.1818	31.08	10.65	41.73	60.00	-18.27	QP
12		19.3059	22.73	10.66	33.39	50.00	-16.61	AVG

6.1.4 TEST SETUP PHOTOGRAPH

6.2 RADIATED EMISSION MEASUREMENT

Limits of Radiated Emission Measurement

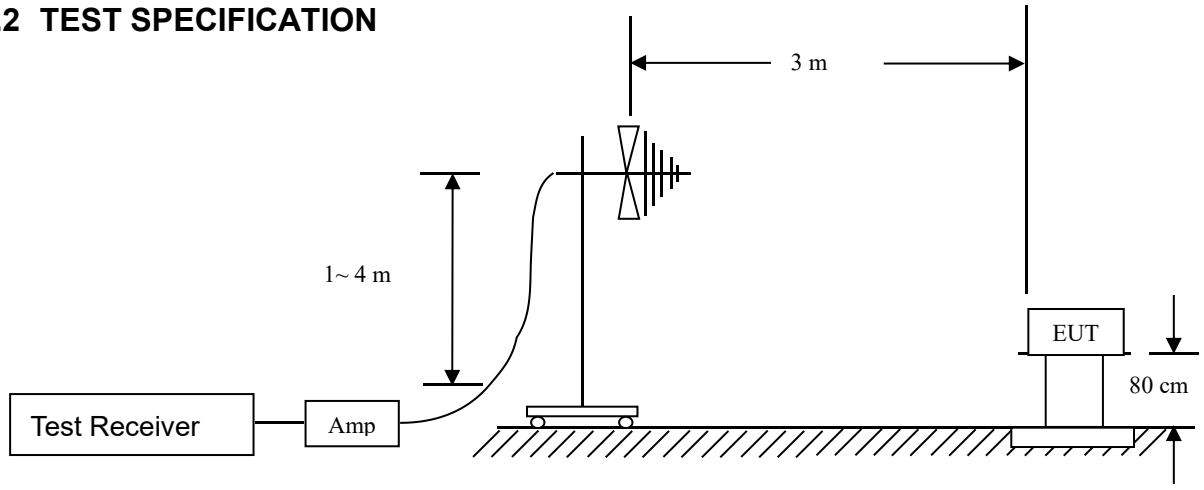
Frequency (MHz)	☐ ICES-003 Class B (3m)	☒ FCC Part 15 Class B (3m)
	Quasi-Peak dB(μV/m)	Quasi-Peak dB(μV/m)
30 ~ 88	40.0	40.0
88 ~ 216	43.5	43.5
216 ~230	46.0	46.0
230 ~960	47.0	46.0
Above 960	54.0	54.0

Detector:	Peak for pre-scan (120kHz resolution bandwidth) Quasi-Peak if maximum peak within 6dB of limit

6.2.1 E.U.T. OPERATION

Temperature:	25°C	Humidity:	50% RH	Atmospheric Pressure:	1006	Kpa
Test Mode:	All Mode		The worst mode		Mode 1	

6.2.2 TEST SPECIFICATION



EUT was placed upon a wooden test table which was placed on the turn table 0.8m above the horizontal metal ground plane, and operating in the mode as mentioned above. A receiving antenna was placed 3m away from the EUT. During testing, turn around the turn table and move the antenna from 1m to 4m to find the maximum field-strength reading. All peripherals were placed at a distance of 10cm between each other. Both horizontal and vertical antenna polarities were tested.

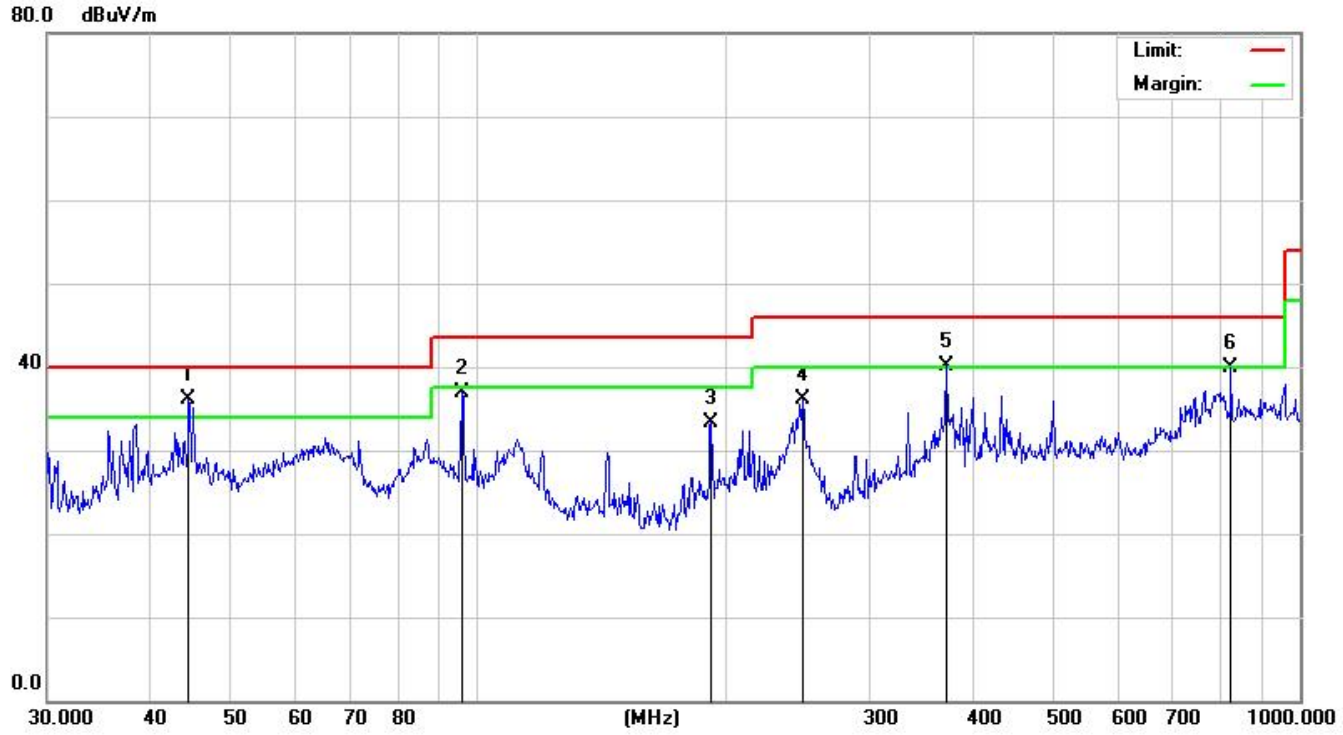
6.2.3 MEASUREMENT DATA

An initial pre-scan was performed in the 3m chamber using the spectrum analyzers in peak detection mode. The EUT was measured by Biology antenna with 2 orthogonal polarities and peak emissions from the EUT were detected within 6dB of the class B limit line.

The following quasi-peak measurements were performed on the EUT.

Between 30 MHz - 1000 MHz

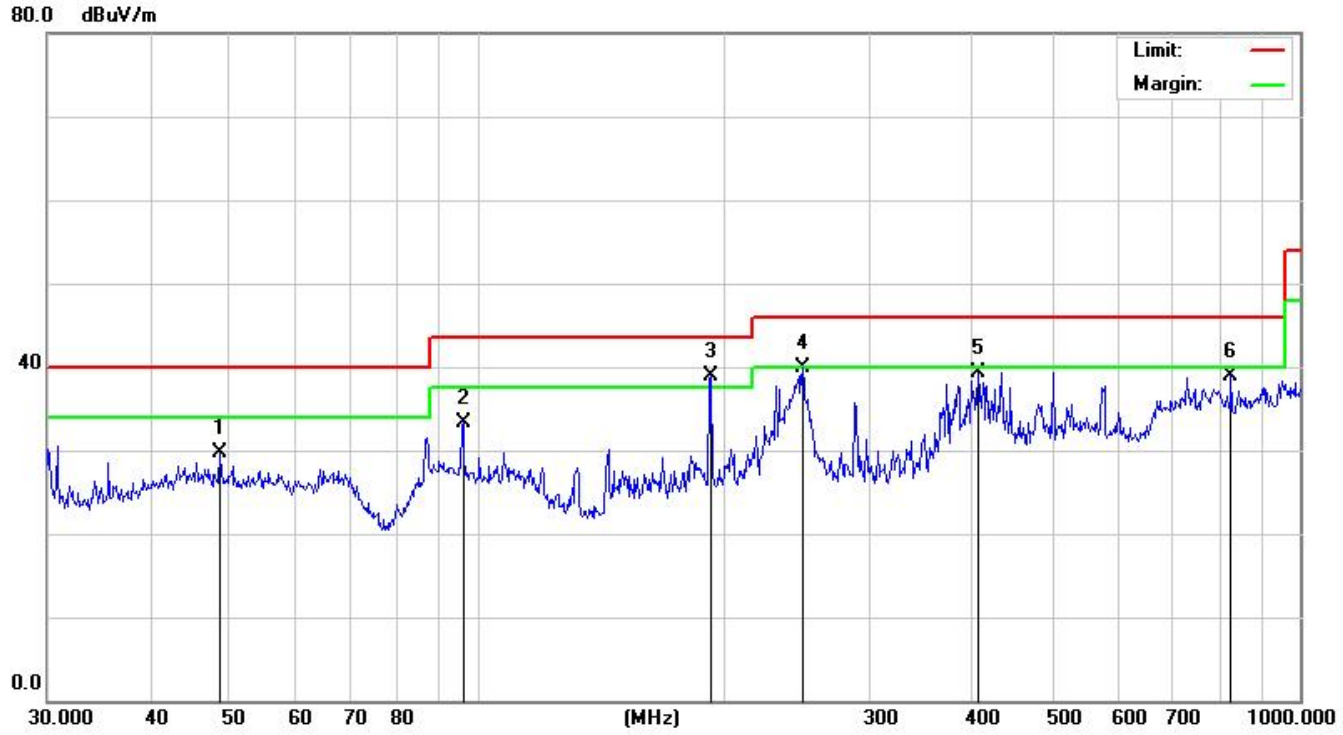
Test Mode:	Mode 1	Polarization:	Vertical
Model:	A10ST	Date:	2024-10-11



Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	*	44.5868	34.72	1.36	36.08	40.00	-3.92	QP
2		95.7622	40.55	-3.66	36.89	43.50	-6.61	QP
3		192.4186	34.98	-1.73	33.25	43.50	-10.25	QP
4		248.5519	36.45	-0.41	36.04	46.00	-9.96	QP
5	!	372.0045	34.87	5.31	40.18	46.00	-5.82	QP
6		824.5968	28.80	11.18	39.98	46.00	-6.02	QP

Test Mode:	Mode 1	Polarization:	Horizontal
Model:	A10ST	Date:	2024-10-11



Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		48.6719	26.88	2.75	29.63	40.00	-10.37	QP
2		96.0986	35.78	-2.40	33.38	43.50	-10.12	QP
3	*	192.4186	40.52	-1.56	38.96	43.50	-4.54	QP
4		248.5519	40.30	-0.41	39.89	46.00	-6.11	QP
5		406.0880	32.70	6.66	39.36	46.00	-6.64	QP
6		824.5968	26.91	12.09	39.00	46.00	-7.00	QP

Above 1GHz

Test Mode:	Mode 1	Polarization:	Vertical
Model:	A10ST	Date:	2024-10-11

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

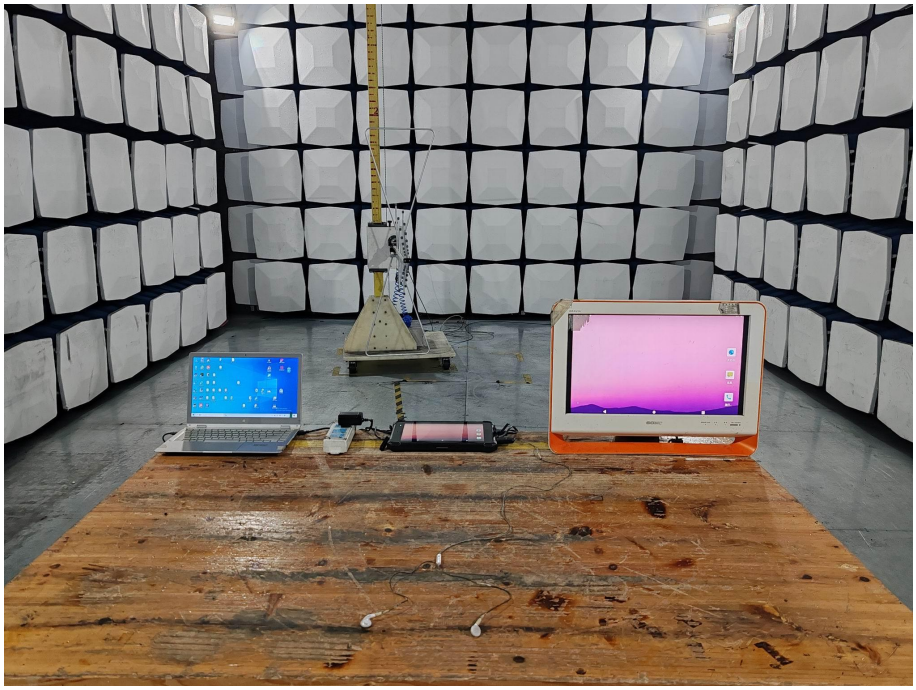
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		1803.066	41.05	-9.35	31.70	74.00	-42.30	peak
2		2561.707	42.82	-4.43	38.39	74.00	-35.61	peak
3		3193.317	42.56	-1.22	41.34	74.00	-32.66	peak
4		3861.233	42.98	2.82	45.80	74.00	-28.20	peak
5		4668.851	44.38	5.07	49.45	74.00	-24.55	peak
6	*	5051.830	45.11	5.09	50.20	74.00	-23.80	peak

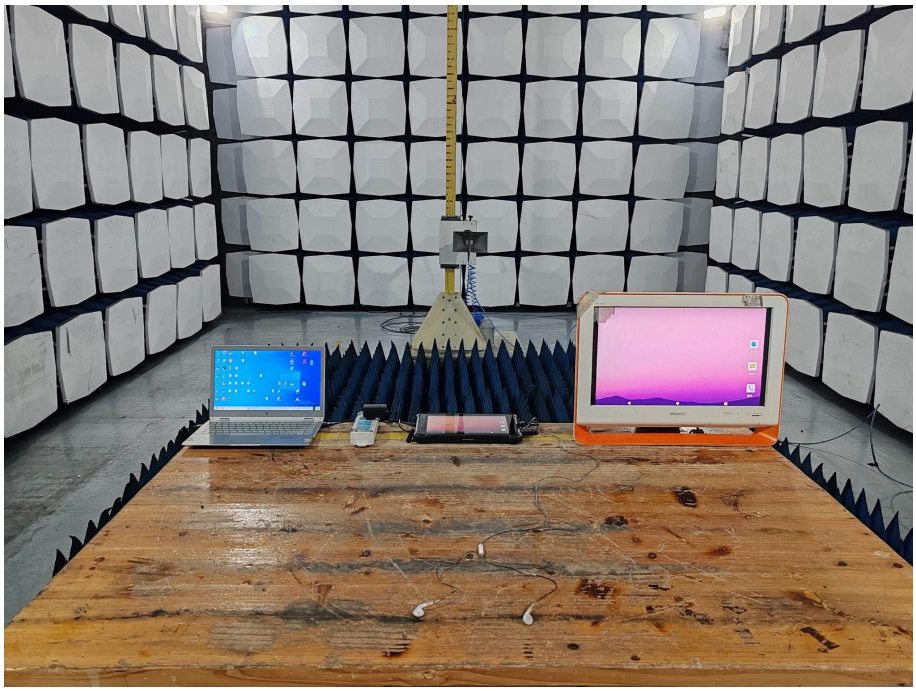
Test Mode:	Mode 1	Polarization:	Horizontal
Model:	A10ST	Date:	2024-10-11

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		1838.956	41.12	-9.42	31.70	74.00	-42.30	peak
2		2547.974	40.82	-4.52	36.30	74.00	-37.70	peak
3		3530.356	44.01	-0.21	43.80	74.00	-30.20	peak
4		4030.897	44.82	3.88	48.70	74.00	-25.30	peak
5		4276.423	44.11	4.29	48.40	74.00	-25.60	peak
6	*	4944.369	43.62	5.21	48.83	74.00	-25.17	peak

6.2.4 TEST SETUP PHOTOGRAPH





7 APPENDIX-Photographs of EUT Constructional Details

Photo 1

Photo 2

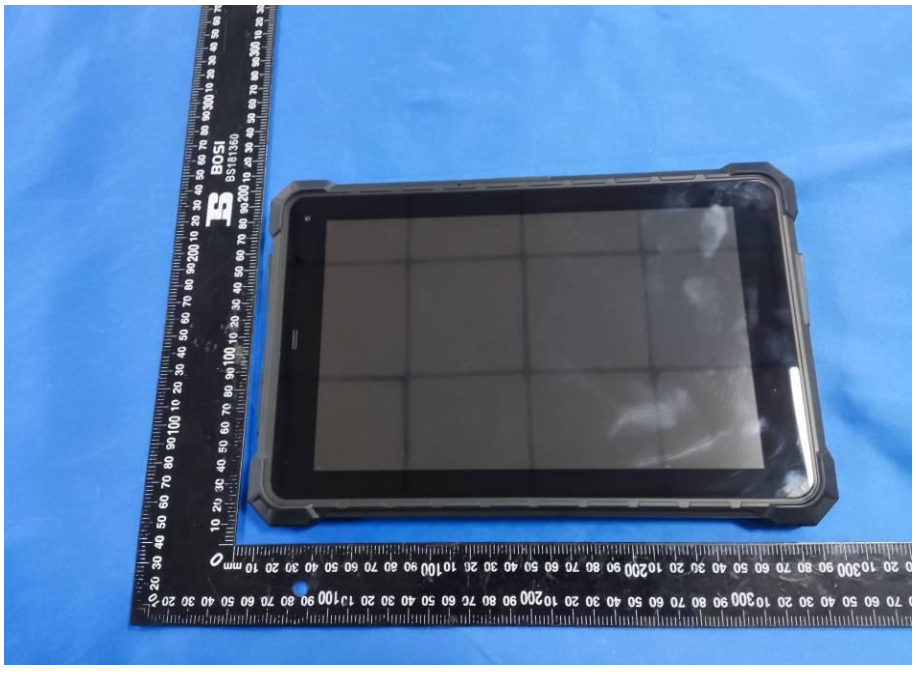


Photo 3

Photo 4

Photo 5

Photo 6

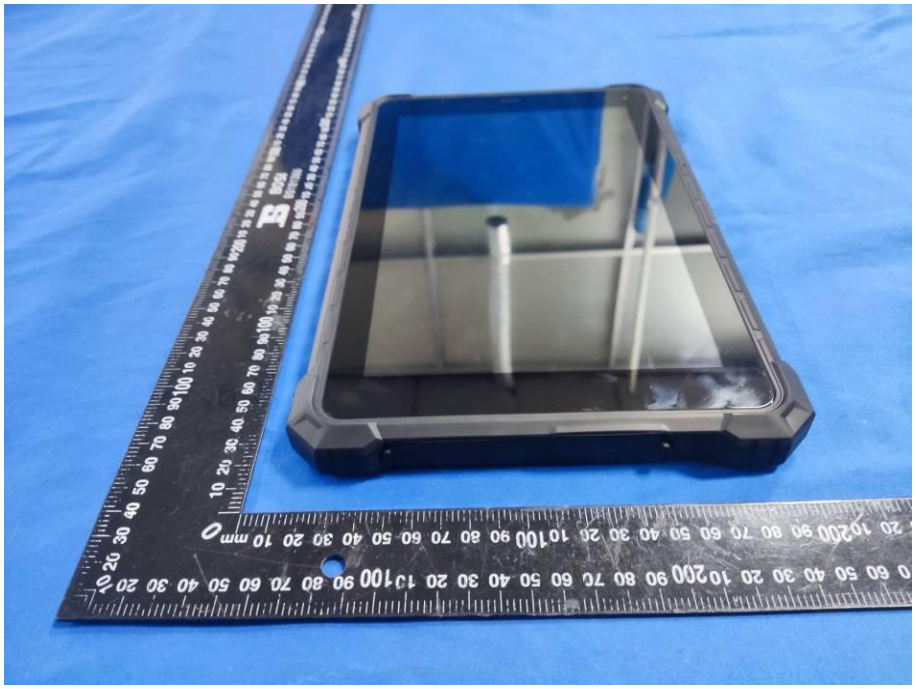


Photo 7

Photo 8

Photo 9

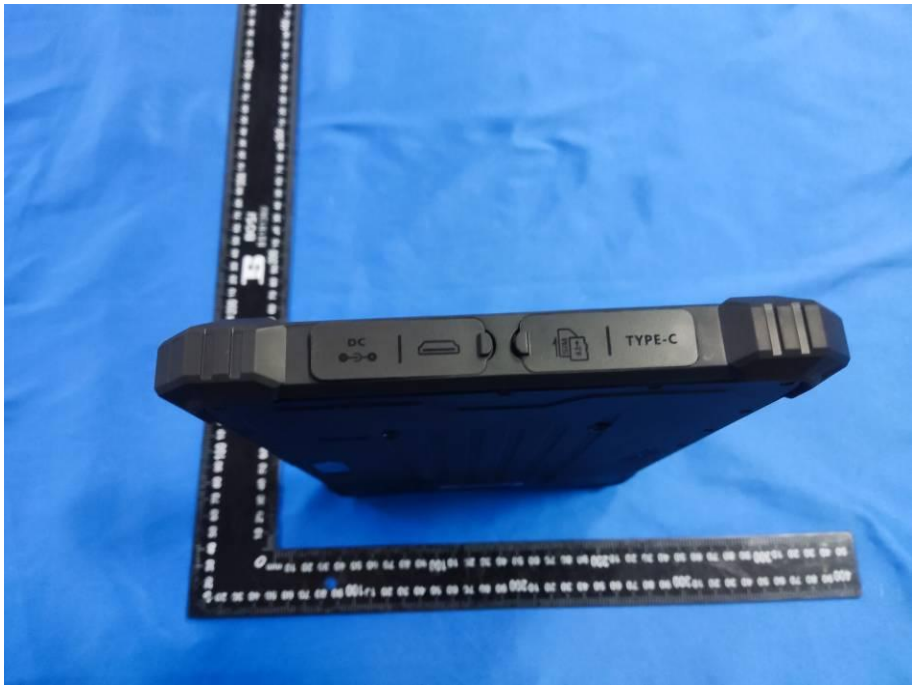


Photo 10

Photo 11

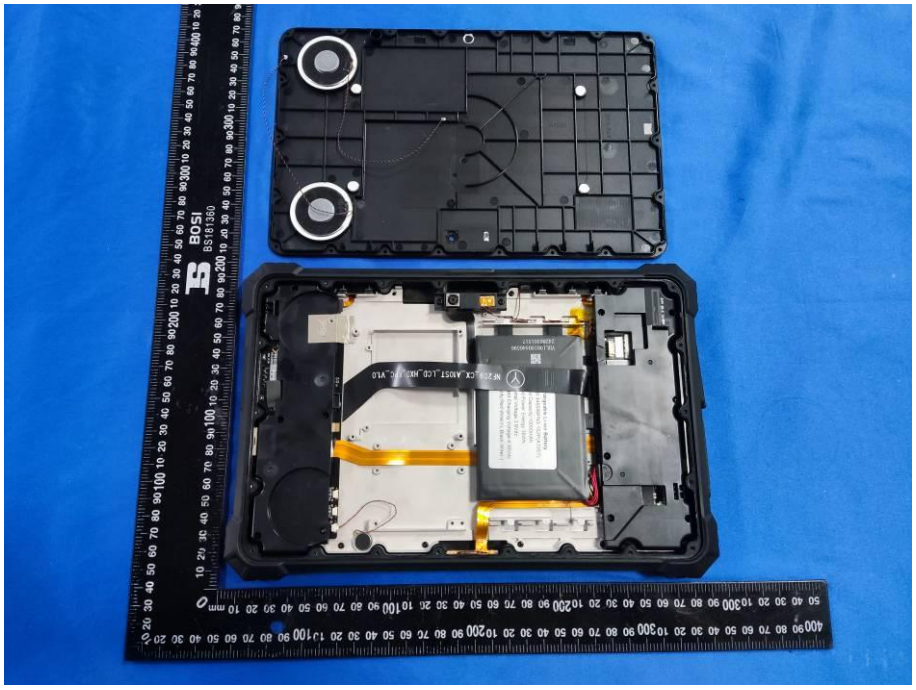


Photo 12

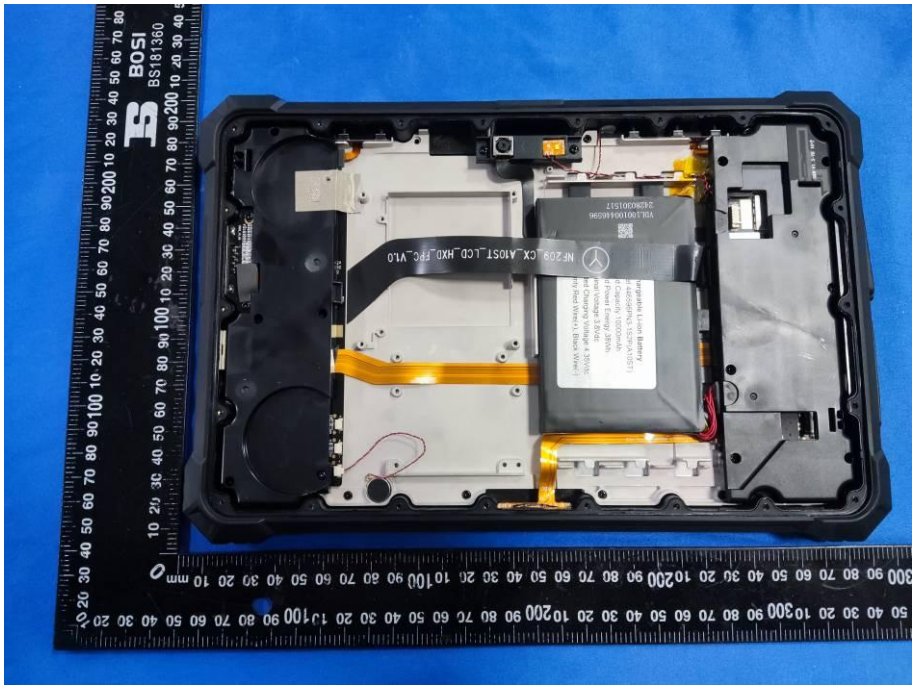


Photo 13

Photo 14

Photo 15

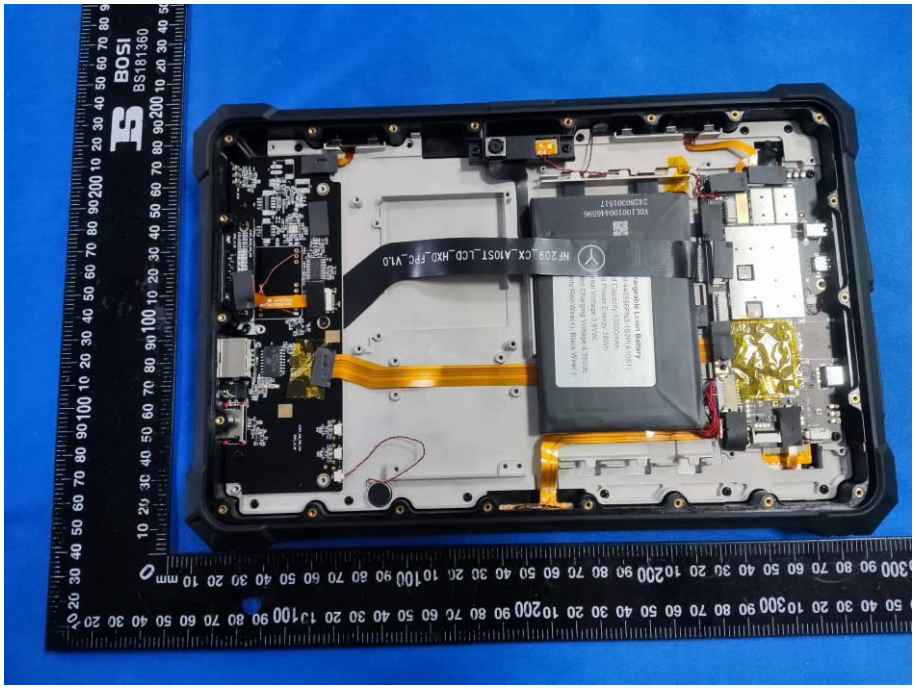


Photo 16

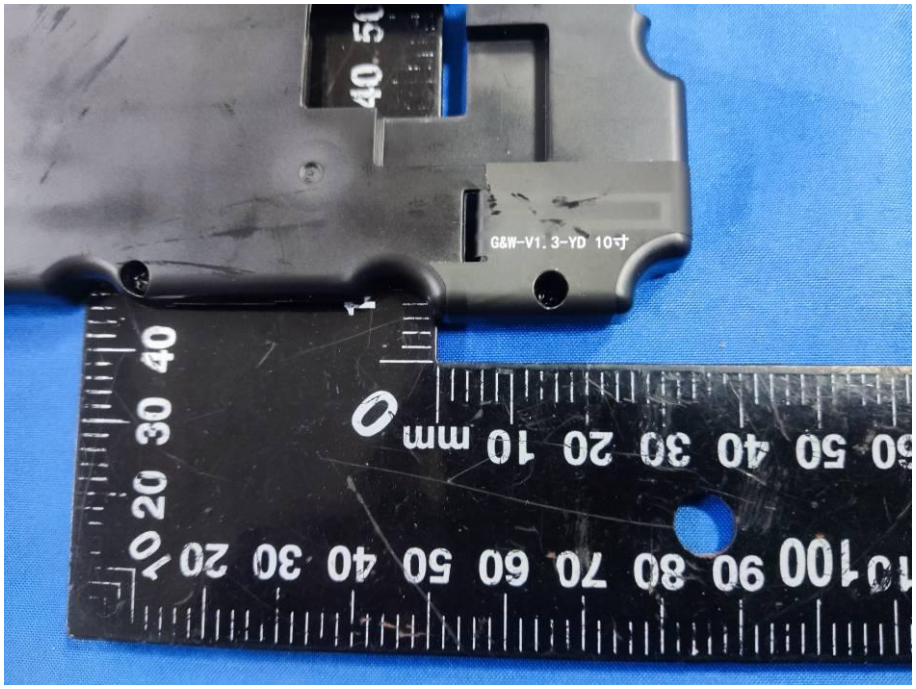


Photo 17

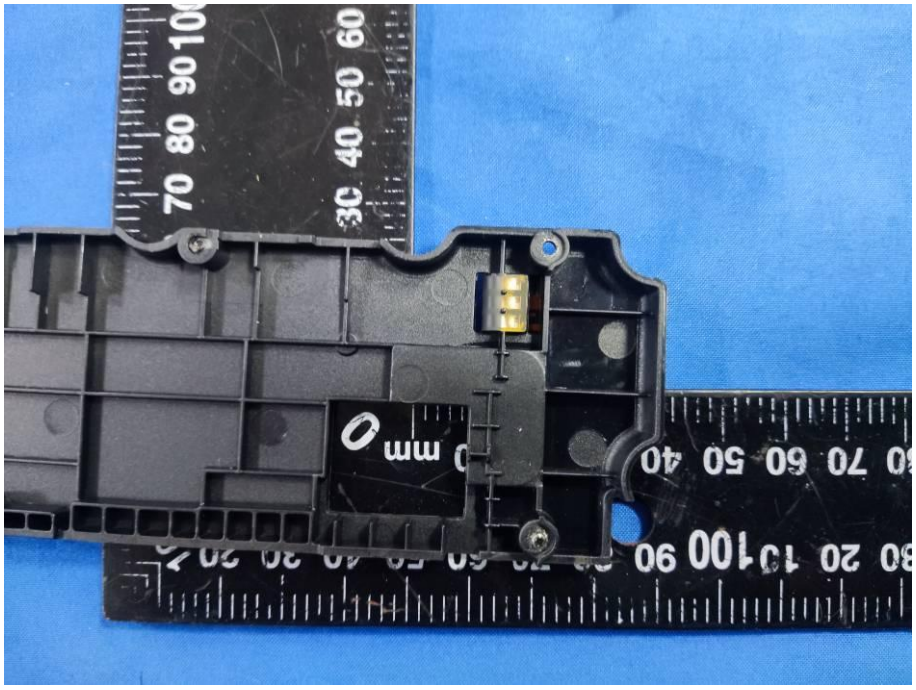


Photo 18

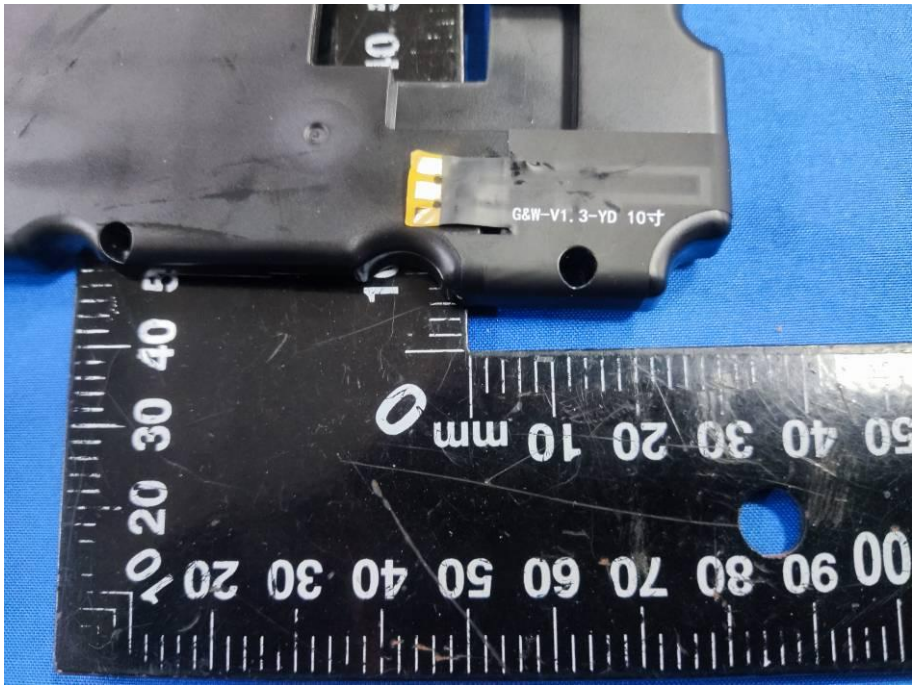


Photo 19

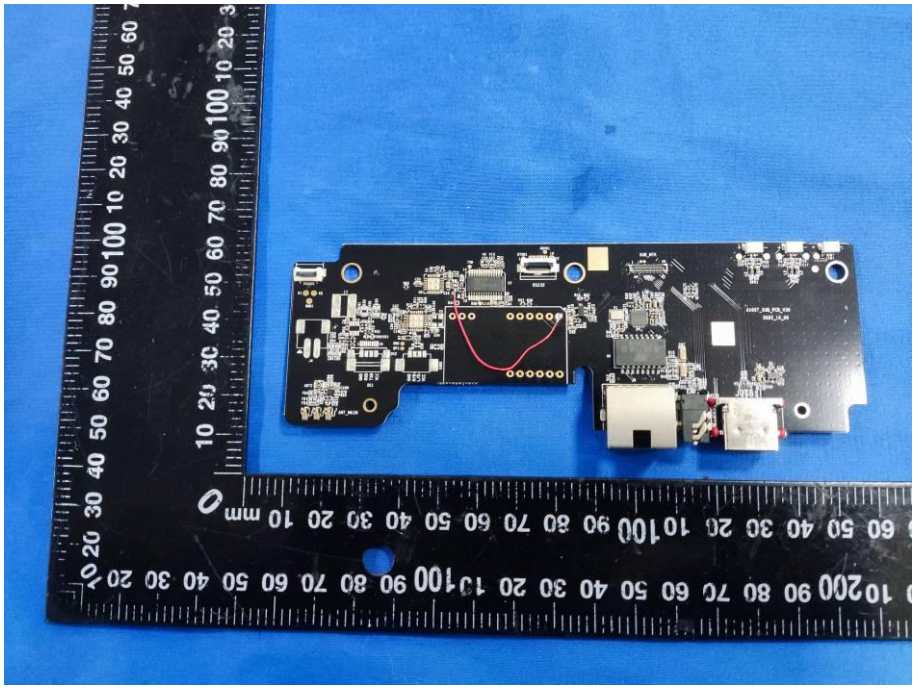


Photo 20

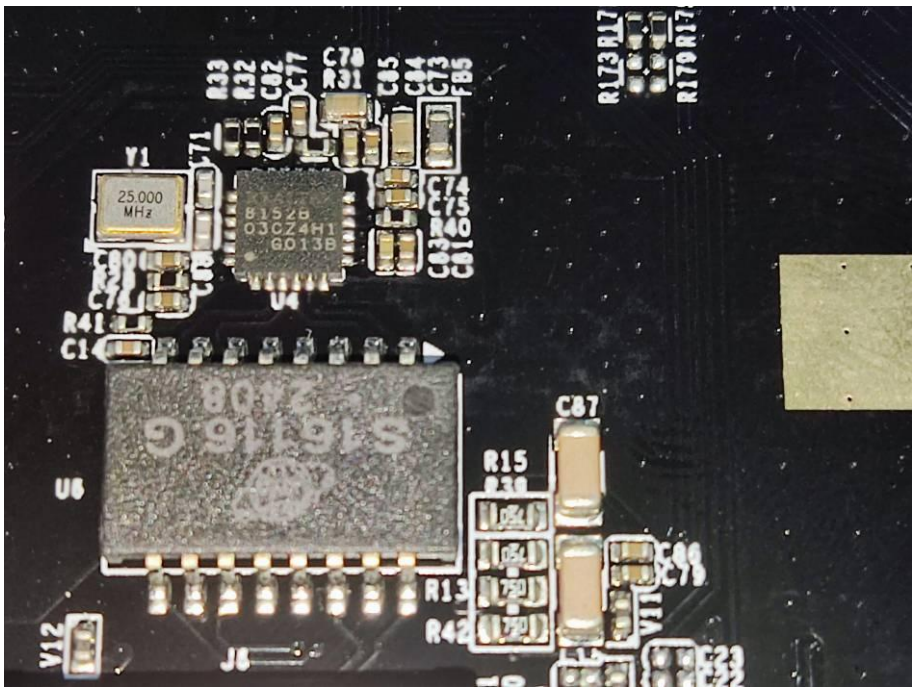


Photo 21

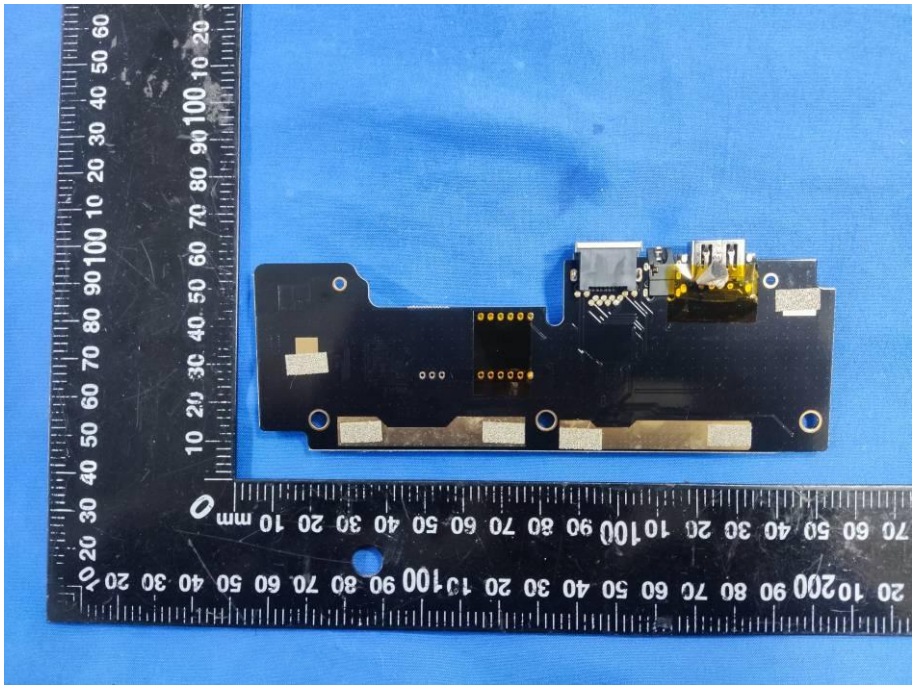


Photo 22

Photo 23

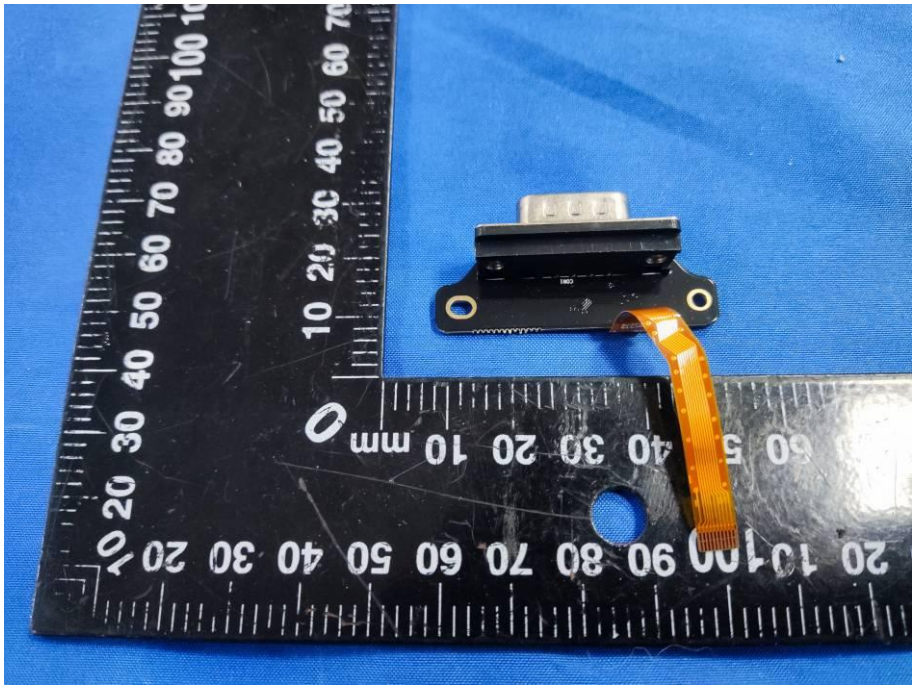


Photo 24

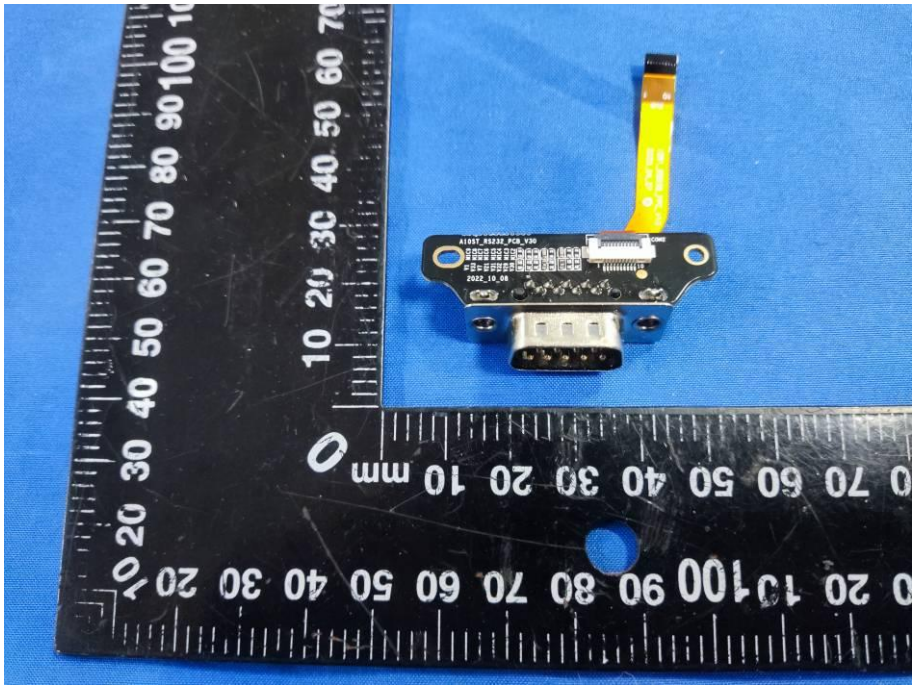


Photo 25

Photo 26

Photo 27

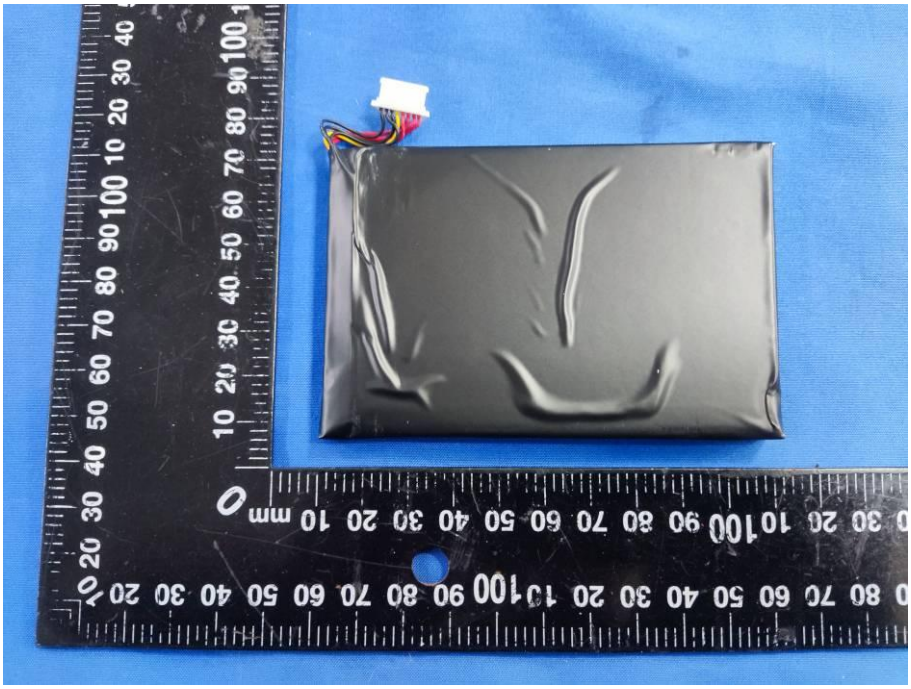
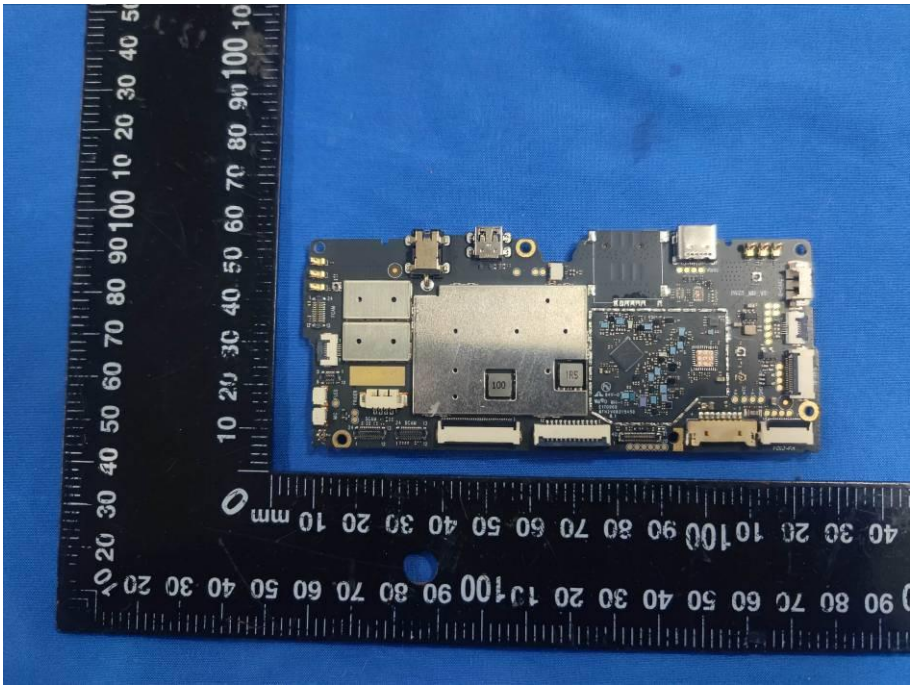


Photo 28

Photo 29



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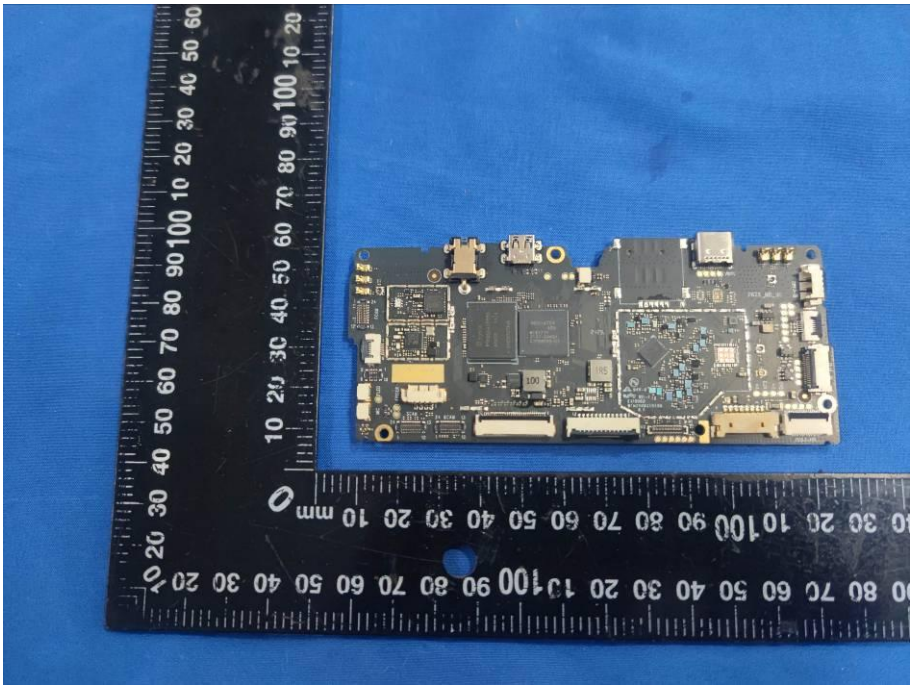

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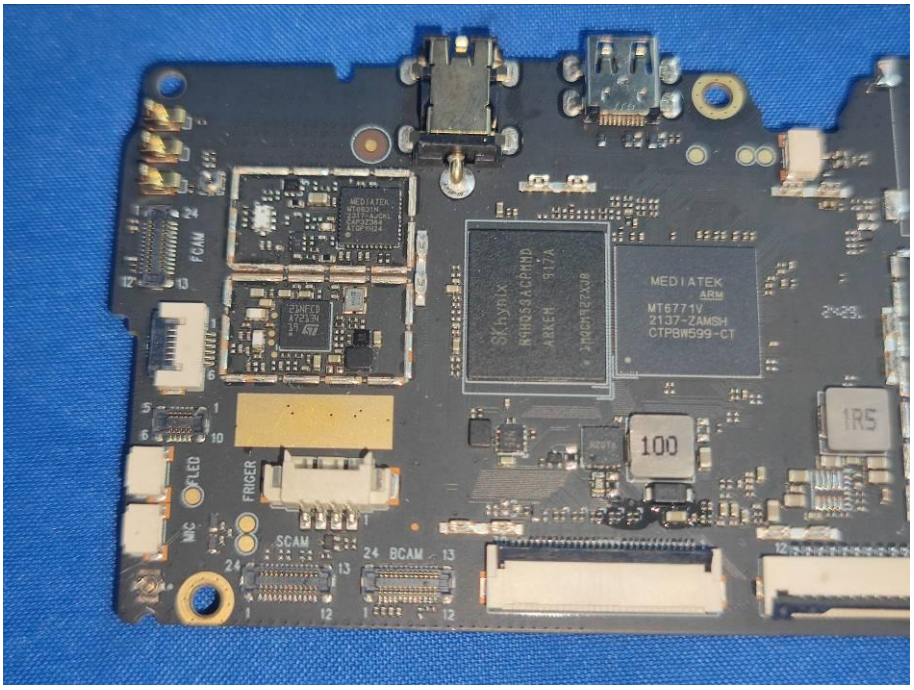

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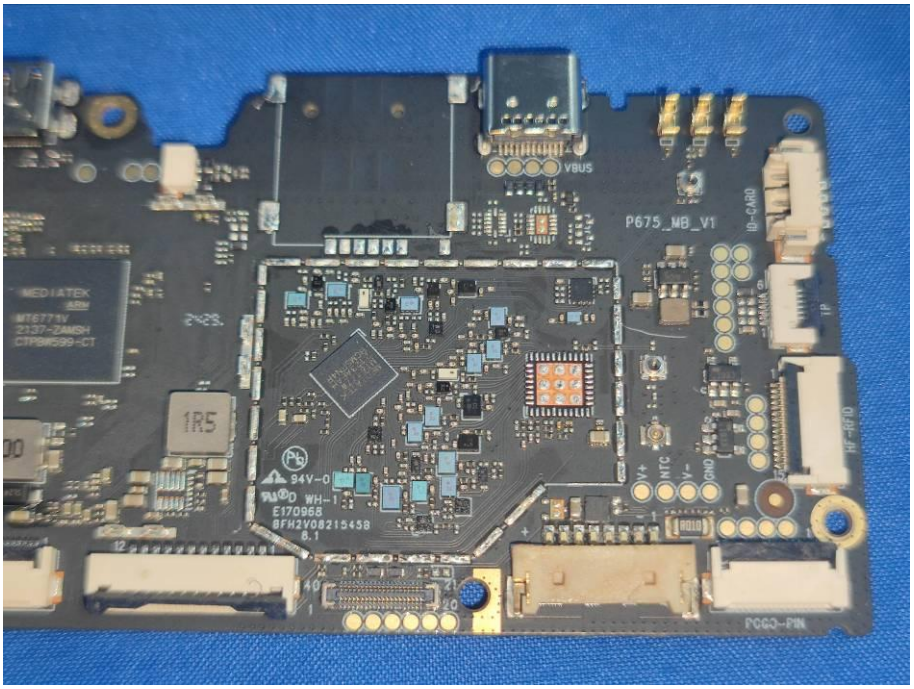

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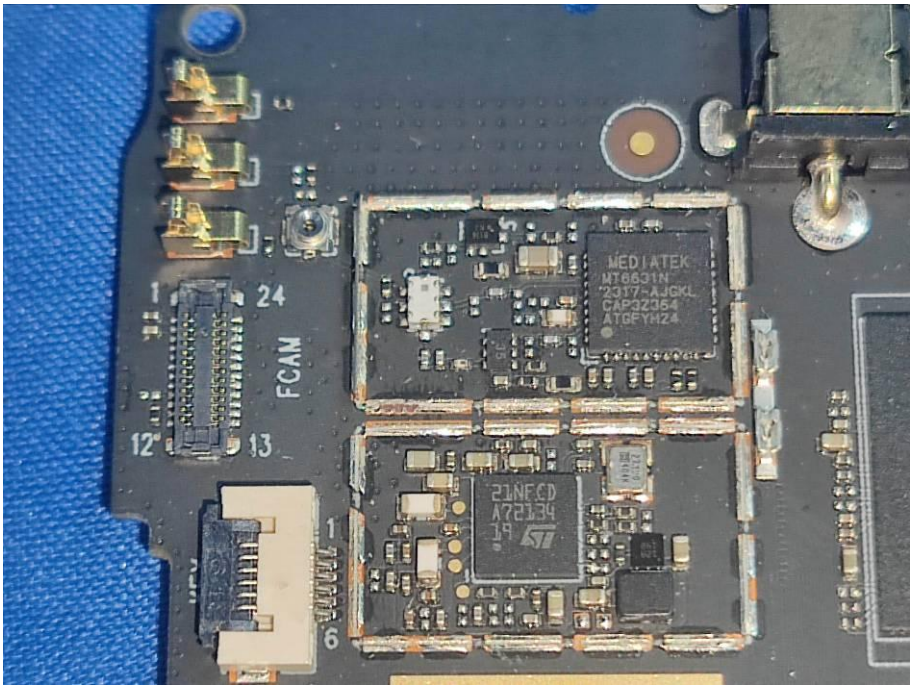

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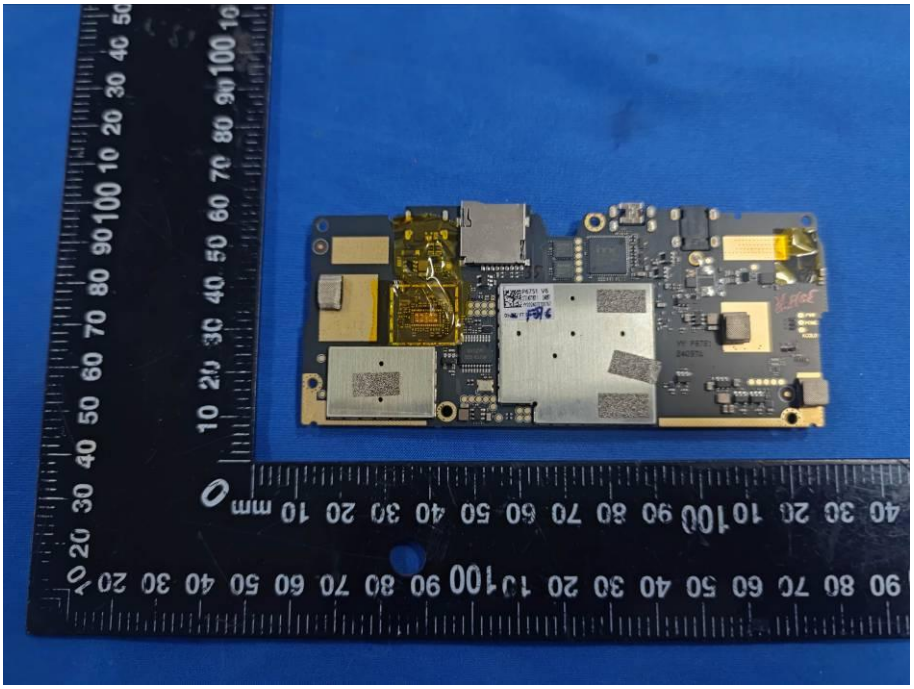

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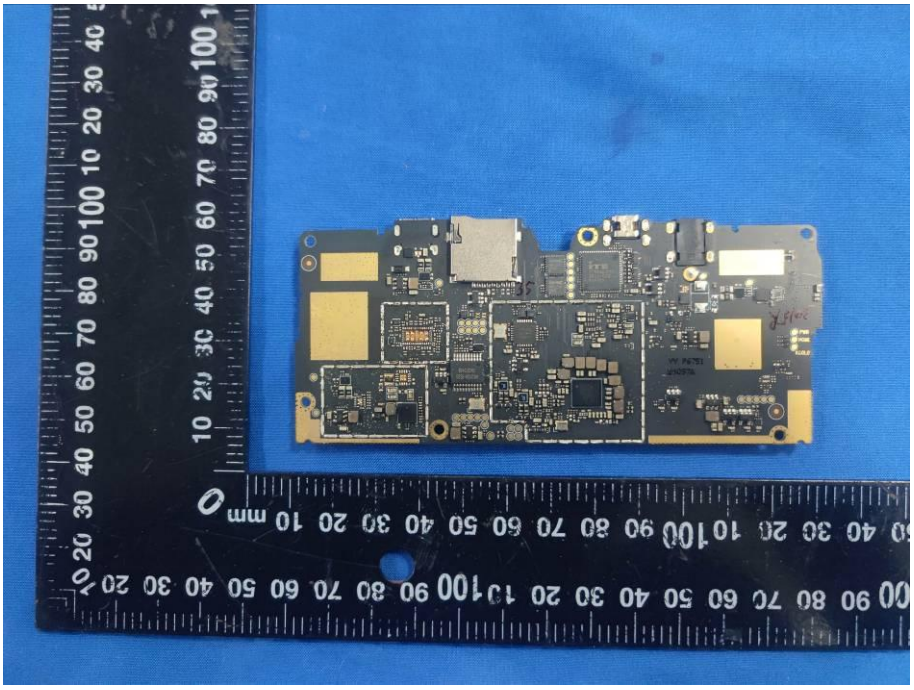

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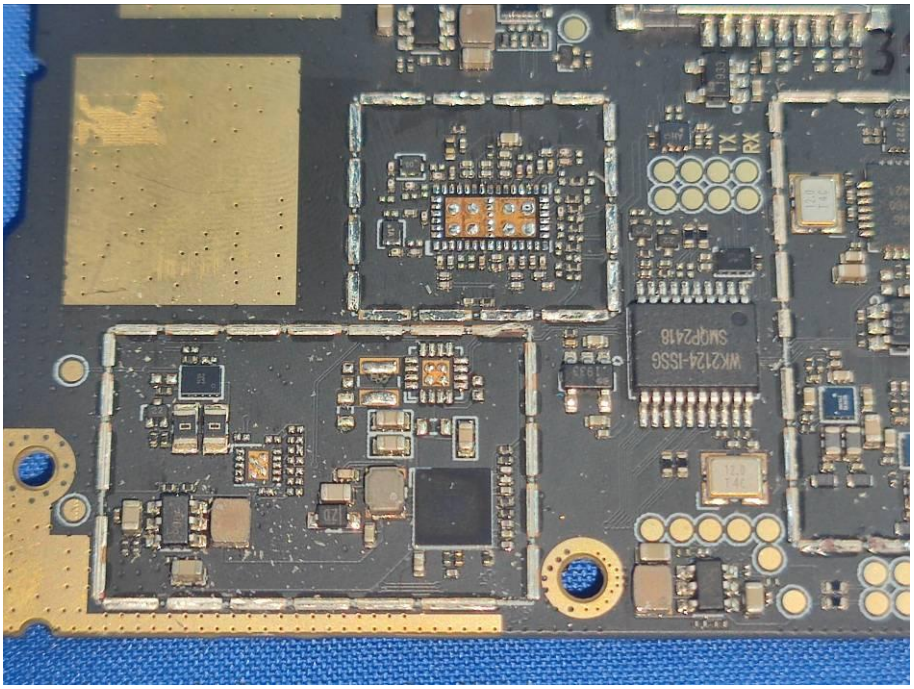

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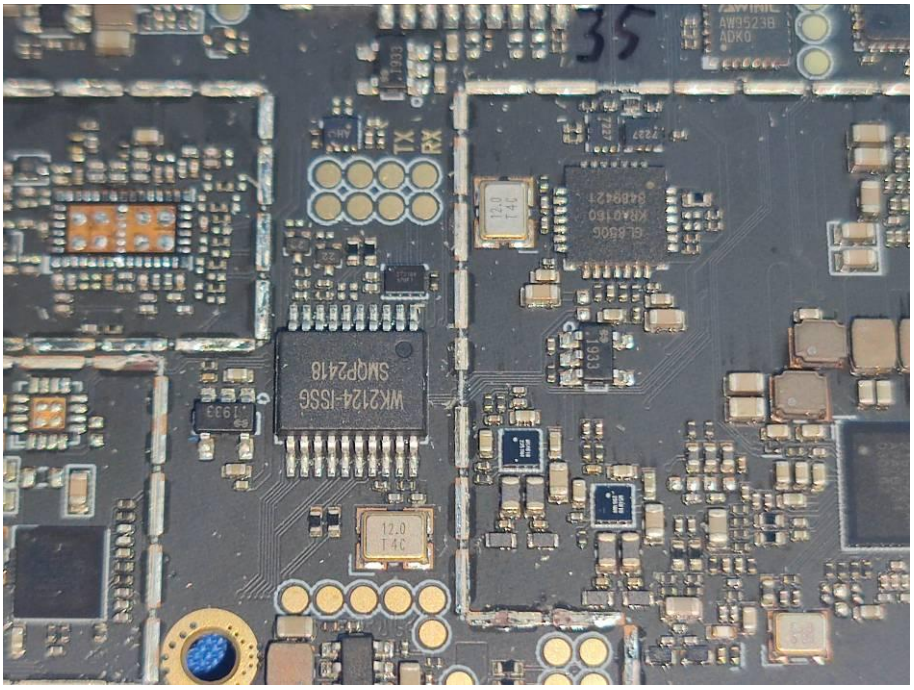

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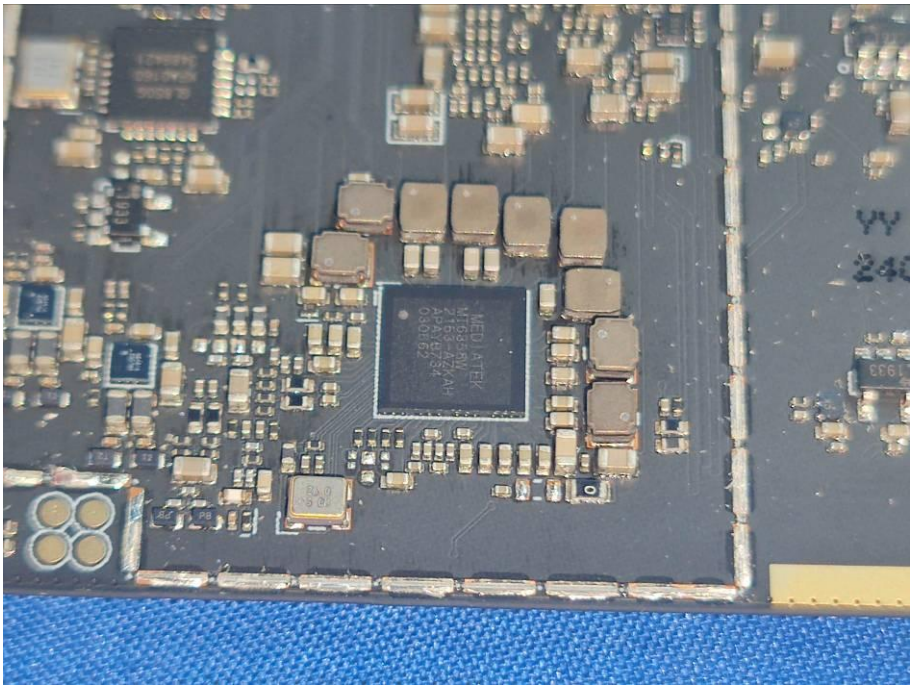


Photo 39

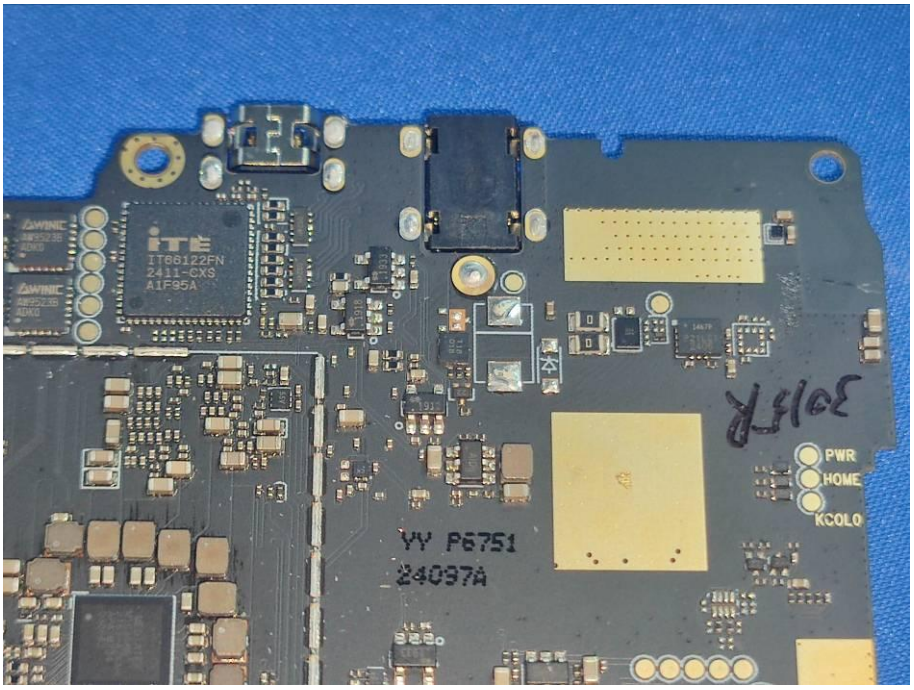
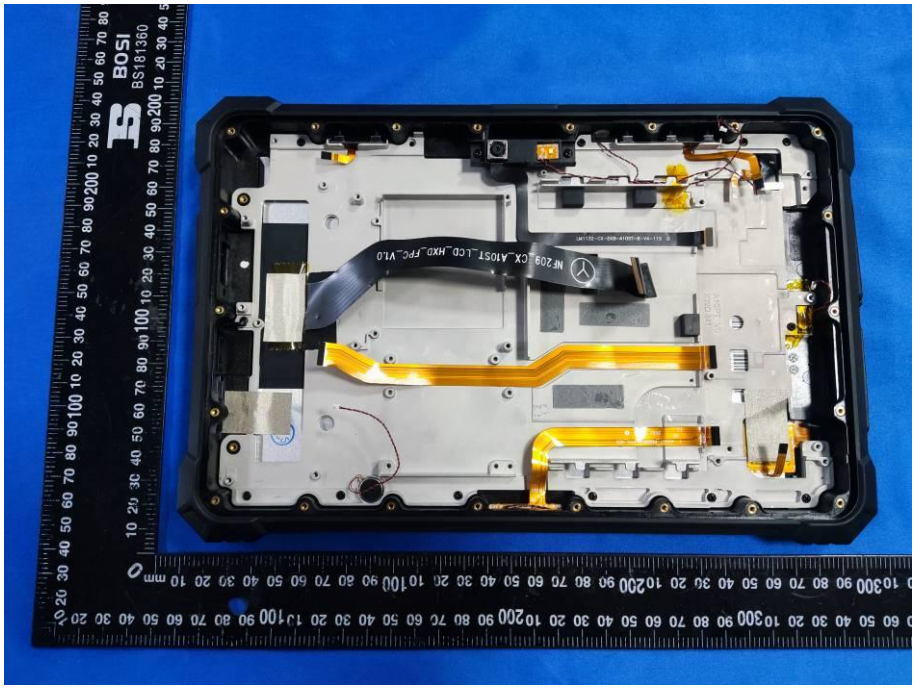


Photo 40



**** End of report ****