EMC TEST REPORT

Product Name: Smart Phone

Model Name: K16

FCC ID: R38YLCPK16

Issued For	:	Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd Floor 21, Block A, Coolpad Building, Nanshan District, Shenzhen, China
Issued By	:	Shenzhen LGT Test Service Co., Ltd. Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China

Report Number:	LGT25A059EM01
Sample Received Date:	Jan. 14, 2025
Date of Test:	Jan. 14, 2025 ~ Mar. 06, 2025
Date of Issue:	Mar. 06, 2025

TEST REPORT CERTIFICATION

Applicant:	Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Address:	Floor 21, Block A, Coolpad Building, Nanshan District, Shenzhen, China
Manufacturer:	Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Address:	Floor 21, Block A, Coolpad Building, Nanshan District, Shenzhen, China
Product Name:	Smart Phone
Trademark:	coolpad
Model Name:	K16
Series Model:	N/A
Sample Status:	Normal

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC 47 CFR Part 15 Subpart B ANSI C63.4-2014	**PASS**

Prepared by:

Terry Zhao
Engineer

Approved by:

Vita Li
Technical Director

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Revision History

Rev.	Issue Date	Revisions
00	Mar. 06, 2025	Initial Issue

1. TEST SUMMARY

EMC Emission				
Standard	Test Item	Limit	Judgement	Remark
FCC 47 CFR Part 15 Subpart B ANSI C63.4-2014	Conducted Emissions	Class B	PASS	
	Radiated Emissions Below 1GHz	Class B	PASS	
	Radiated Emissions Above 1GHz	Class B	PASS	Note 2

Note:

1 “N/A” denotes test is not applicable in this Test Report

2 If the highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz. If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz. If the highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz, measurement shall only be made up to 5 GHz. If the highest frequency of the internal sources of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 40 GHz, whichever is less.

1.1 TEST LABORATORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China
Accreditation Certificate:	A2LA Certificate No.: 6727.01
	FCC Registration No.: 746540
	CAB ID: CN0136

1.2 MEASUREMENT UNCERTAINTY

Test Item	Measurement Frequency Range MHz	Uncertainty dB
Conducted Emissions at AC mains power port	0.009 ~ 30	2.80
Radiated Emissions	0.009 ~ 30	2.16
Radiated Emissions	30 ~ 1000	4.40
Radiated Emissions	1000 ~ 18000	5.49
Note: 1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2. 2. The measurement uncertainty is not included in the test result.		

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name:	Smart Phone
Trademark:	coolpad
Model Name:	K16
Series Model:	N/A
Model Difference:	N/A
Adapter:	Input: 100-240V 50/60Hz 0.5A Output: 5V 3A, 9V 2A, 12V 1.5A
Battery:	Capacity: 4900mAh Rated Voltage: 3.85V
Test Voltage:	AC 120V/60Hz Battery: 3.85V
Hardware Version:	V1.0
Software Version:	K16.241226.OS.LAM
Connecting I/O Port(s):	Please refer to the Note 1.

Note: For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.2 DESCRIPTION OF THE TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possibly have effect on EMI emission level. Each of these EUT operating mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test Mode	Description
Mode 1	Charging+GSM link+BT+Wi-Fi+GPS+NFC+Camera recording+Earphone
Mode 2	Charging+WCDMA link+BT+Wi-Fi+GPS+NFC+Camera recording+Earphone
Mode 3	Charging+LTE link+BT+Wi-Fi+GPS+NFC+Camera recording+Earphone
Mode 4	USB Data Transmission

Note: Only the data of worst-case was recorded in this report.

2.3 DESCRIPTION OF THE SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Accessories Equipment

Description	Manufacturer	Model	S/N	Rating
Adapter	Huizhou Wangzhisheng New Energy Technology Co., Ltd	WS ~ D052	N/A	Input: 100-240V 50/60Hz 0.5A Output: 5V 3A, 9V 2A, 12V 1.5A
USB-A to USB-C Cable	N/A	N/A	N/A	1m

Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
Laptop	Lenovo	HKF-16	N/A	N/A
Earphone	VESAFE	39630078	N/A	N/A

Note:

(1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

2.4 MEASUREMENT INSTRUMENTS LIST

Conducted Emission					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
EMI Test Receiver	R&S	ESU8	100372	2024.03.09	2025.03.08
LISN	COM-POWER	LI-115	02032	2024.03.09	2025.03.08
LISN	SCHWARZBECK	NNLK 8122	00160	2024.03.09	2025.03.08
Transient Limiter	CYBERTEK	EM5010A	E2250100049	2024.03.09	2025.03.08
Temperature & Humidity	KTJ	TA218B	N.A	2024.03.09	2025.03.08
Testing Software	EMC-I_V1.4.0.3_SKET				
Radiated Emission					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Until**
EMI Test Receiver	R&S	ESU8	100372	2024.03.09	2025.03.08
Spectrum Analyzer	Keysight	N9020A	MY50530994	2024.03.09	2025.03.08
Spectrum Analyzer	Keysight	N9010B	MY60242508	2024.08.05	2025.08.04
Active loop Antenna	ETS	6502	00049544	2023.10.13	2025.10.12
Bilog Antenna	SCHWARZBECK	VULB 9168	01447	2022.12.12	2025.12.11
Horn Antenna	SCHWARZBECK	3115	10SL0060	2022.06.02	2025.06.01
Pre-amplifier (9kHz-1GHz)	EMtrace	RP01A	02017	2024.03.09	2025.03.08
Pre-amplifier (1-26.5G)	Agilent	8449B	3008A4722	2024.03.09	2025.03.08
Antenna Tower	SAEMC	BK-4AT-BS-D	SK2021093008	N.A	N.A
Temperature & Humidity	JINGCHUANG	BT-3	N.A	2024.03.11	2025.03.10
Testing Software	EMC-I_V1.4.0.3_SKET				

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 LIMITS

FREQUENCY (MHz)	Conducted Emission Limits (dBuV)			
	Class A		Class B	
	Quasi-peak	Average	Quasi-peak	Average
0.15 ~ 0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.5 ~ 5	73.00	60.00	56.00	46.00
5 ~ 30	73.00	60.00	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

(3) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor
Margin Level = Measurement Value - Limit Value

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.2 TEST PROCEDURE

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

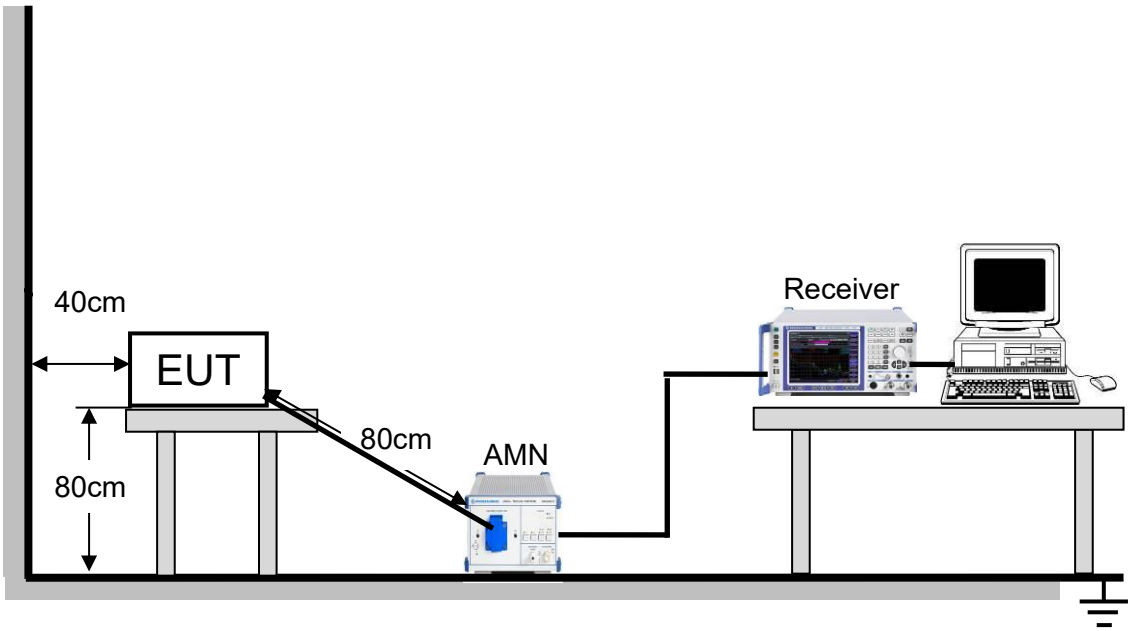
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

d. LISN at least 80 cm from nearest part of EUT chassis.

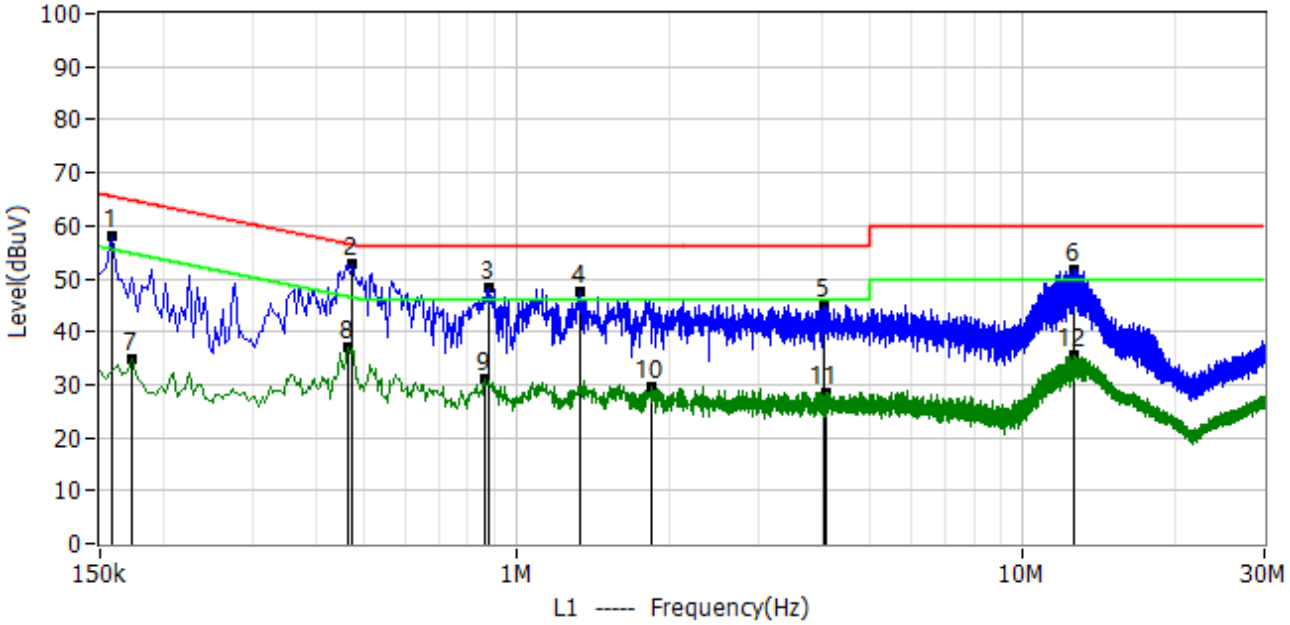
e. For the actual test configuration, please refer to the related Item - EUT Test Photos.

3.1.3 TEST SETUP



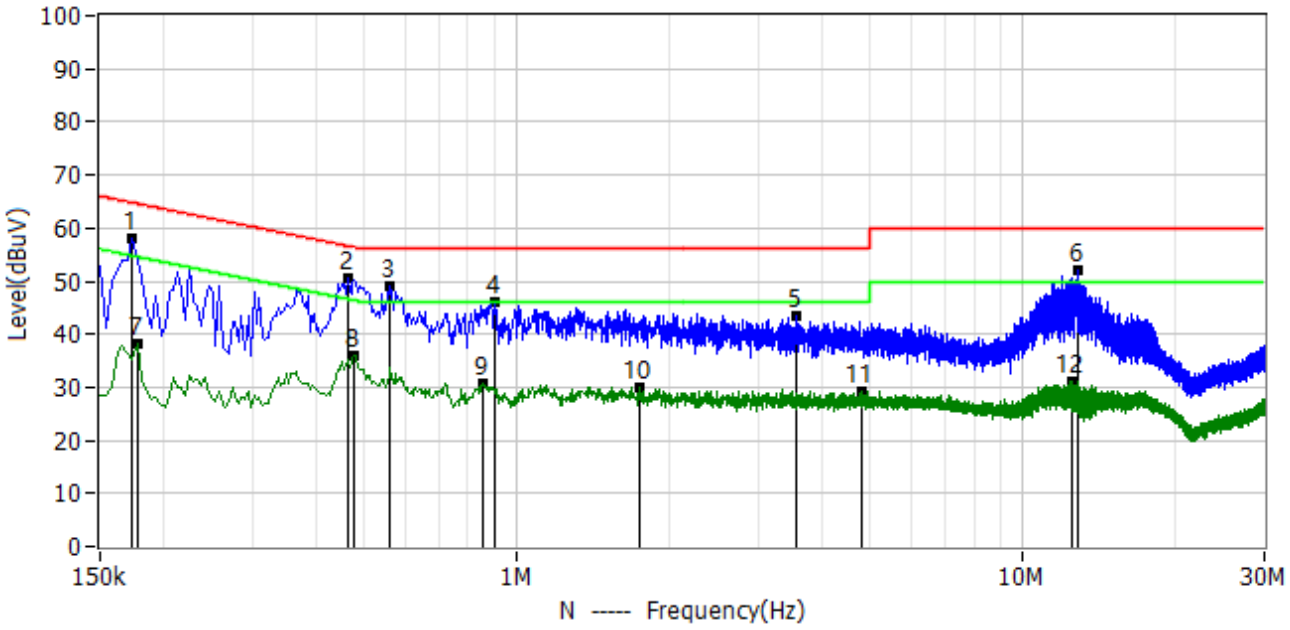
3.1.4 TEST RESULTS

Project: LGT25A059	Test Engineer: LiuH
EUT: Smart Phone	Temperature: 23℃
M/N: K16	Humidity: 40%RH
Test Voltage: AC 120V/60Hz	Test Data: 2025-01-15
Test Mode: Charging+GSM link+BT+Wi-Fi+GPS+NFC+Camera recording+Earphone	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Margin dB	Detector	Polar
1*	0.158	47.50	10.58	58.08	65.57	-7.49	QP	L1
2*	0.474	42.26	10.57	52.83	56.44	-3.61	QP	L1
3*	0.882	37.72	10.64	48.36	56.00	-7.64	QP	L1
4*	1.330	36.79	10.79	47.58	56.00	-8.42	QP	L1
5*	4.062	33.78	11.13	44.91	56.00	-11.09	QP	L1
6*	12.658	40.58	11.22	51.80	60.00	-8.20	QP	L1
7*	0.174	24.22	10.60	34.82	54.77	-19.95	AV	L1
8*	0.462	26.63	10.57	37.20	46.66	-9.46	AV	L1
9*	0.862	20.60	10.63	31.23	46.00	-14.77	AV	L1
10*	1.850	18.66	10.94	29.60	46.00	-16.40	AV	L1
11*	4.078	17.47	11.13	28.60	46.00	-17.40	AV	L1
12*	12.658	24.27	11.22	35.49	50.00	-14.51	AV	L1

Project: LGT25A059	Test Engineer: LiuH
EUT: Smart Phone	Temperature: 23℃
M/N: K16	Humidity: 40%RH
Test Voltage: AC 120V/60Hz	Test Data: 2025-01-15
Test Mode: Charging+GSM link+BT+Wi-Fi+GPS+NFC+Camera recording+Earphone	
Note:	



No.	Frequency MHz	Reading dBuV	Factor dB	Level dBuV	Limit dBuV	Margin dB	Detector	Polar
1*	0.174	47.48	10.56	58.04	64.77	-6.72	QP	N
2*	0.462	39.82	10.56	50.38	56.66	-6.27	QP	N
3*	0.562	38.65	10.55	49.20	56.00	-6.80	QP	N
4*	0.902	35.49	10.55	46.04	56.00	-9.96	QP	N
5*	3.578	32.48	10.80	43.28	56.00	-12.72	QP	N
6*	12.838	40.68	11.21	51.89	60.00	-8.11	QP	N
7*	0.178	27.58	10.56	38.14	54.58	-16.44	AV	N
8*	0.478	25.56	10.55	36.11	46.37	-10.26	AV	N
9*	0.854	20.03	10.55	30.58	46.00	-15.42	AV	N
10*	1.746	19.28	10.70	29.98	46.00	-16.02	AV	N
11*	4.822	18.24	10.83	29.07	46.00	-16.93	AV	N
12*	12.546	20.06	11.18	31.24	50.00	-18.76	AV	N

3.2 RADIATED EMISSION MEASUREMENT

3.2.1 LIMITS

Below 1 GHz

Frequency (MHz)	Class A	Class B
	Field strength (dBuV/m) (at 3m)	Field strength (dBuV/m) (at 3m)
30 - 88	49.5	40
88 - 216	53.9	43.5
216 - 960	56.9	46
Above 960	60	54

Above 1 GHz

Frequency (MHz)	Class A		Class B	
	Field strength (dBuV/m) (at 3m)		Field strength (dBuV/m) (at 3m)	
	Peak	Average	Peak	Average
Above 1000	80	60	74	54

Frequency Range of Radiated Disturbance Measurement

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	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

Note:

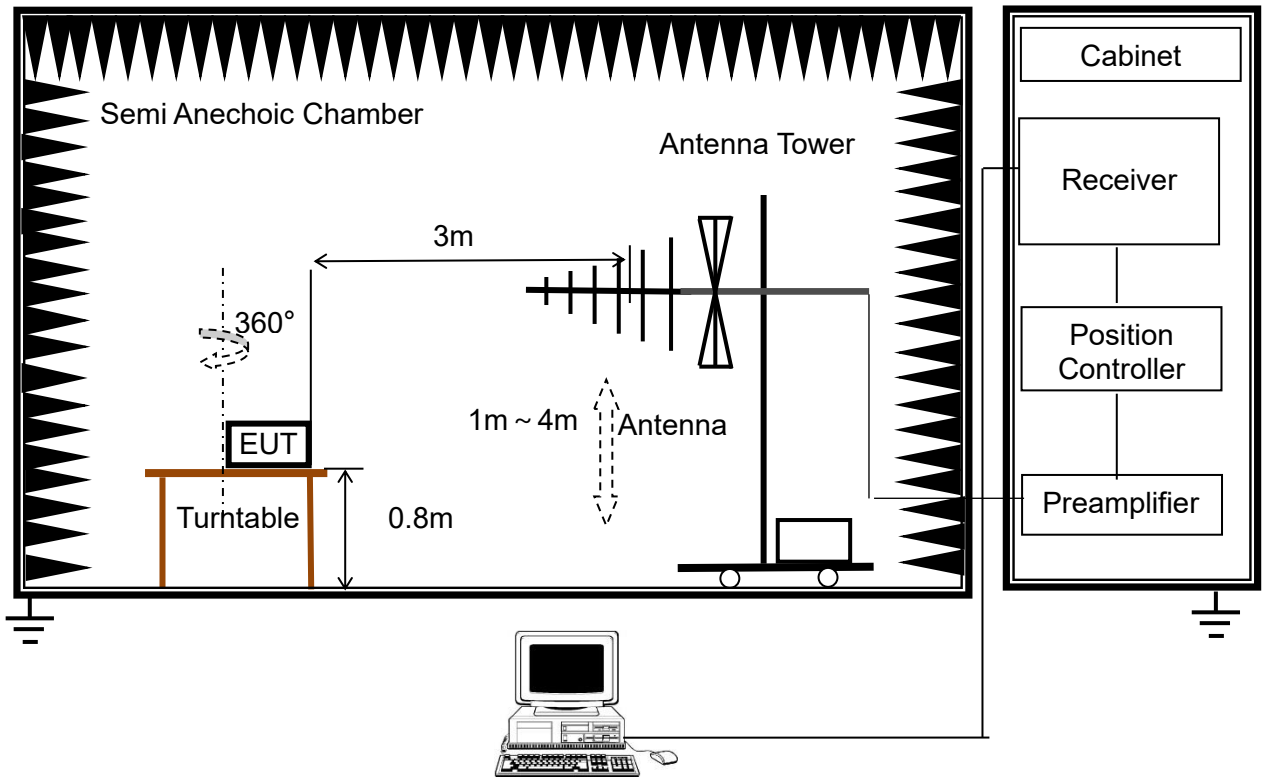
(1) The limit for radiated test was performed according to FCC Part 15, Subpart B;
(2) The tighter limit applies at the band edges;
(3) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor,
Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use),
Margin Level = Measurement Value - Limit Value.

3.2.2 TEST PROCEDURE

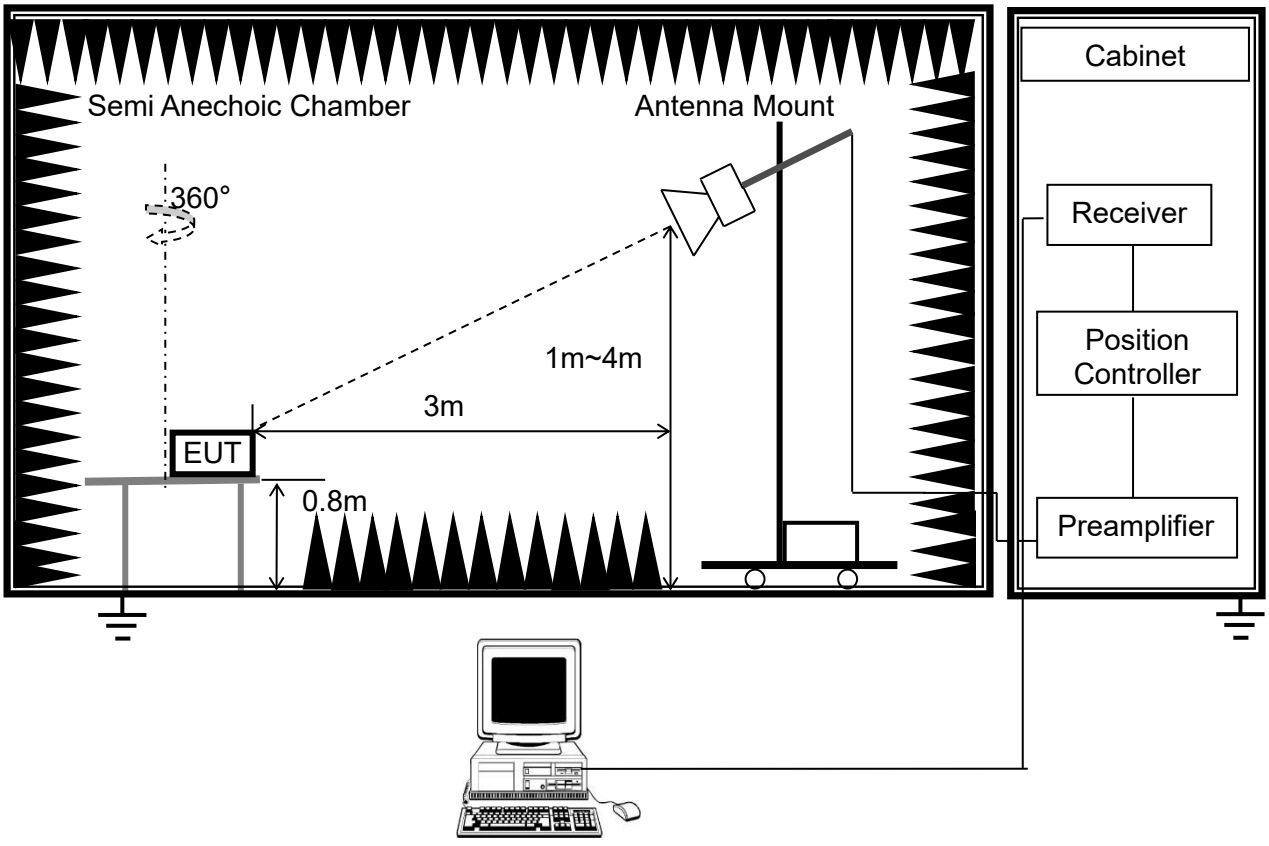
a. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
b. EUT as the center to the edge of the auxiliary device, the distance from the maximum edge to the center of the antenna is 3 meter.
c. The height of antenna is varied from 1 meter to 4 meter above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meter and the rotatable table was turned from 0 degrees to 360 degree to find the maximum reading.
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1GHz.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.2.3 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



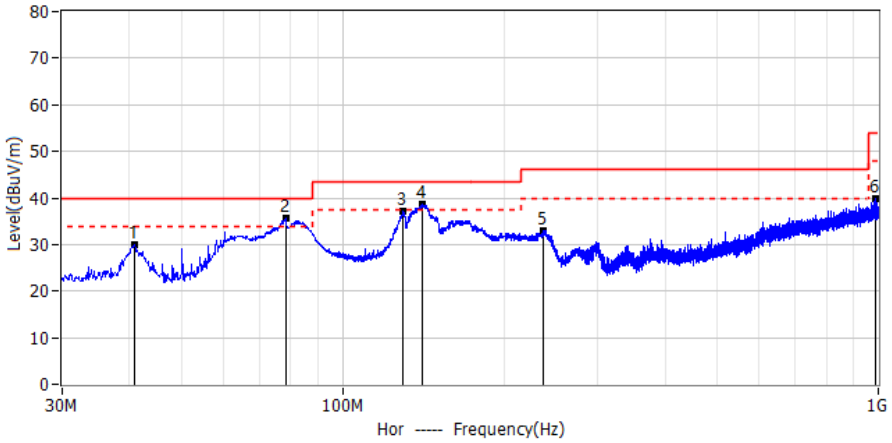
(B) Radiated Emission Test Set-Up Frequency Above 1GHz



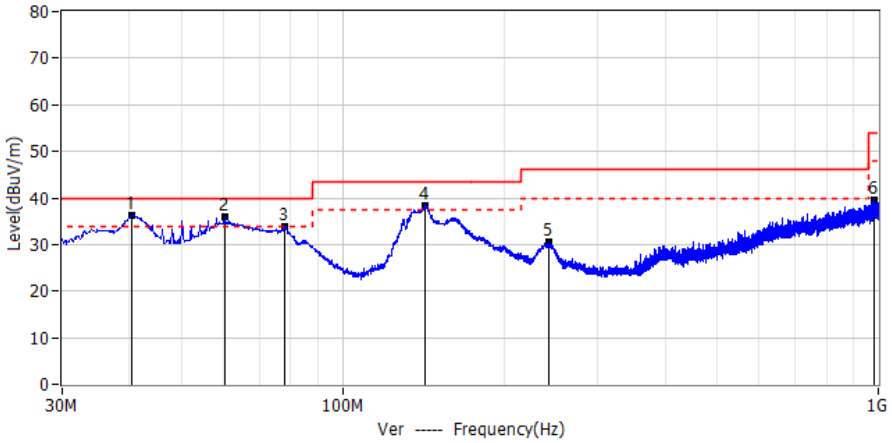
3.2.4 TEST RESULTS

BELOW 1GHZ

Project: LGT25A059	Test Engineer: LiuH
EUT: Smart Phone	Temperature: 24℃
M/N: K16	Humidity: 47%RH
Test Voltage: AC 120V/60Hz	Test Data: 2025-03-05
Test Mode: Charging+GSM link+BT+Wi-Fi+GPS+NFC+Camera recording+Earphone	
Note:	

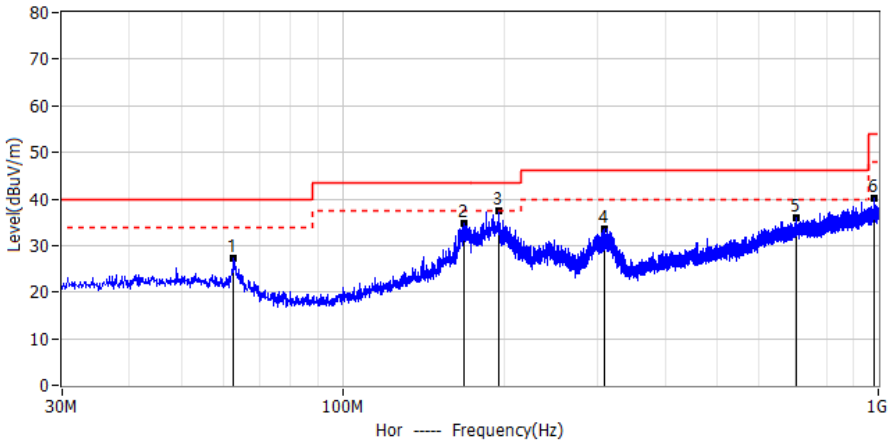


No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	40.913	9.64	20.35	29.99	40.00	-10.01	QP	Hor
2*	78.258	19.00	16.56	35.56	40.00	-4.44	QP	Hor
3*	129.546	16.89	20.32	37.21	43.50	-6.29	QP	Hor
4*	140.823	17.45	21.21	38.66	43.50	-4.84	QP	Hor
5*	237.580	14.13	18.74	32.87	46.00	-13.13	QP	Hor
6*	987.996	5.98	33.96	39.94	54.00	-14.06	QP	Hor

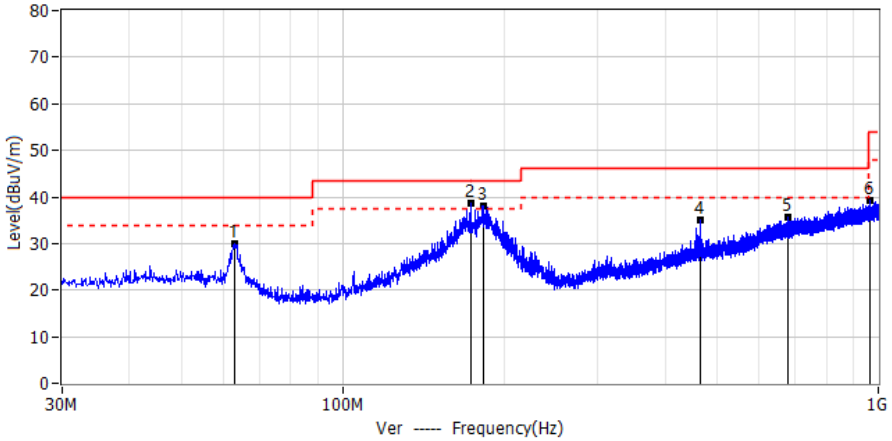


No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	40.428	16.03	20.15	36.18	40.00	-3.82	QP	Ver
2*	60.313	16.60	19.37	35.97	40.00	-4.03	QP	Ver
3*	78.136	17.33	16.57	33.90	40.00	-6.10	QP	Ver
4*	142.520	17.07	21.17	38.24	43.50	-5.26	QP	Ver
5*	243.036	11.30	19.29	30.59	46.00	-15.41	QP	Ver
6*	980.964	5.76	33.94	39.70	54.00	-14.30	QP	Ver

Project: LGT25A059	Test Engineer: LiuH
EUT: Smart Phone	Temperature: 24℃
M/N: K16	Humidity: 47%RH
Test Voltage: Battery	Test Data: 2025-01-16
Test Mode: USB Data Transmission	
Note:	



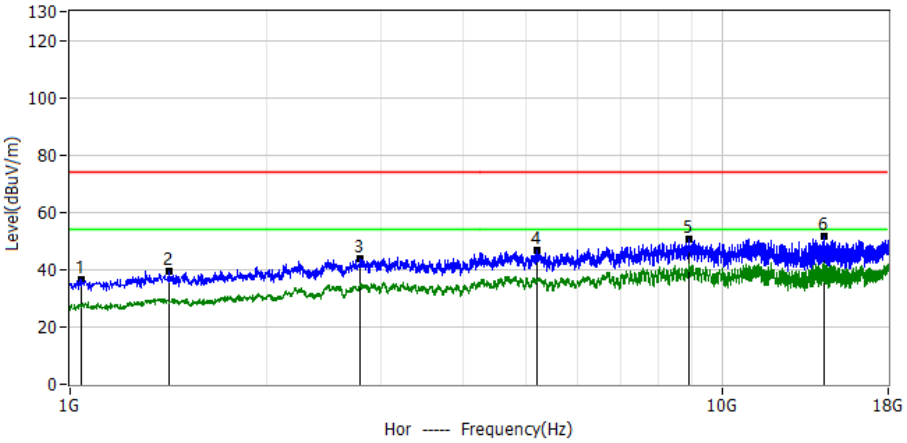
No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	62.616	8.43	18.78	27.21	40.00	-12.79	QP	Hor
2*	169.074	13.99	20.87	34.86	43.50	-8.64	QP	Hor
3*	195.991	19.44	18.10	37.54	43.50	-5.96	QP	Hor
4*	308.875	12.14	21.54	33.68	46.00	-12.32	QP	Hor
5*	704.150	5.27	30.76	36.03	46.00	-9.97	QP	Hor
6*	984.359	5.86	34.21	40.07	54.00	-13.93	QP	Hor



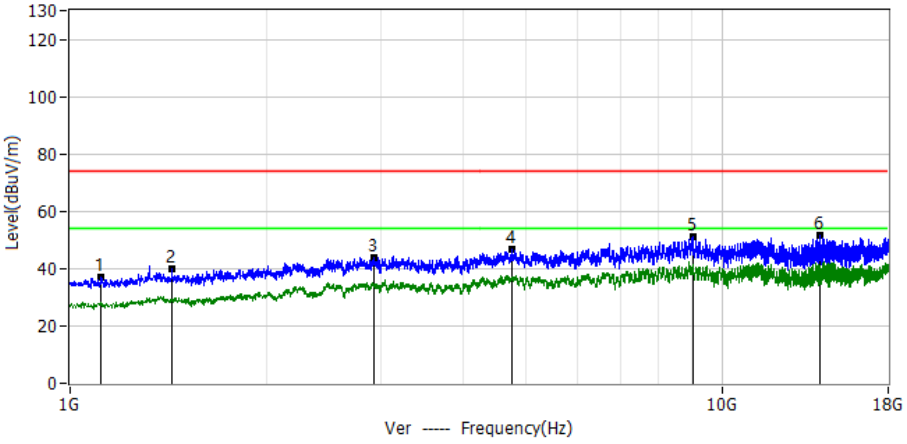
No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	62.980	11.24	18.67	29.91	40.00	-10.09	QP	Ver
2*	173.681	18.72	19.96	38.68	43.50	-4.82	QP	Ver
3*	183.018	19.16	18.94	38.10	43.50	-5.40	QP	Ver
4*	466.258	9.05	25.95	35.00	46.00	-11.00	QP	Ver
5*	680.143	5.86	29.83	35.69	46.00	-10.31	QP	Ver
6*	965.444	5.70	33.60	39.30	54.00	-14.70	QP	Ver

ABOVE 1GHZ

Project: LGT25A059	Test Engineer: LiuH
EUT: Smart Phone	Temperature: 24℃
M/N: K16	Humidity: 47%RH
Test Voltage: AC 120V/60Hz	Test Data: 2025-03-05
Test Mode: Charging+GSM link+BT+Wi-Fi+GPS+NFC+Camera recording+Earphone	
Note:	



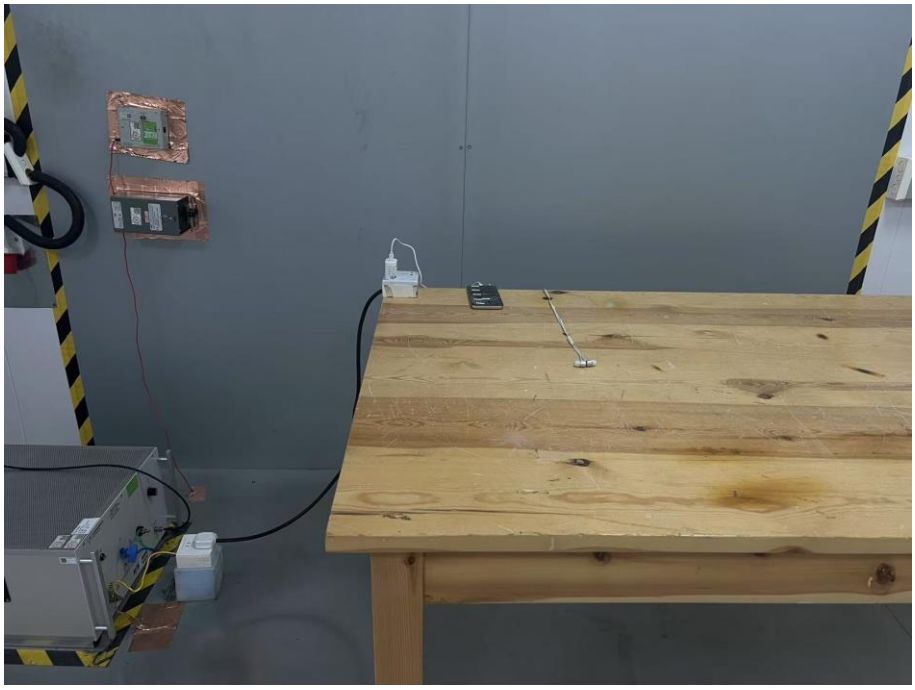
No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	1038.2000	61.13	-24.42	36.71	74.00	-37.29	PK	Hor
2*	1420.7000	60.70	-21.36	39.34	74.00	-34.66	PK	Hor
3*	2789.2000	53.61	-9.84	43.77	74.00	-30.23	PK	Hor
4*	5196.9000	54.45	-7.67	46.78	74.00	-27.22	PK	Hor
5*	8919.9000	54.68	-3.82	50.86	74.00	-23.14	PK	Hor
6*	14372.6000	50.71	0.72	51.43	74.00	-22.57	PK	Hor



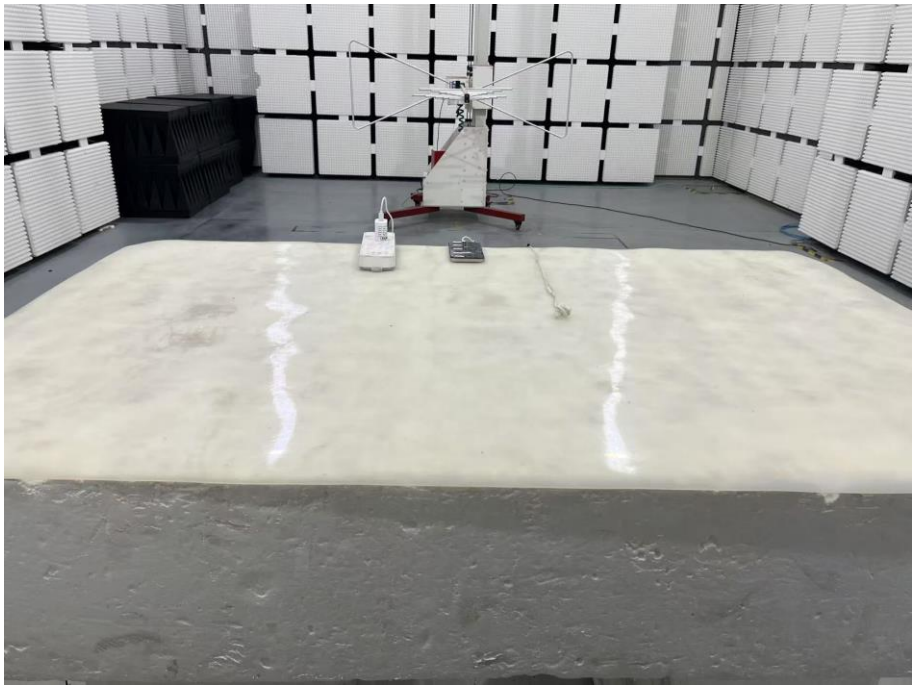
No.	Frequency MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Detector	Polar
1*	1114.7000	60.83	-23.75	37.08	74.00	-36.92	PK	Ver
2*	1431.4000	61.20	-21.30	39.90	74.00	-34.10	PK	Ver
3*	2927.4000	53.08	-9.14	43.94	74.00	-30.06	PK	Ver
4*	4769.7000	53.68	-6.77	46.91	74.00	-27.09	PK	Ver
5*	9032.5000	54.81	-3.69	51.12	74.00	-22.88	PK	Ver
6*	14149.5000	50.57	0.81	51.38	74.00	-22.62	PK	Ver

APPENDIX I - TEST SETUP

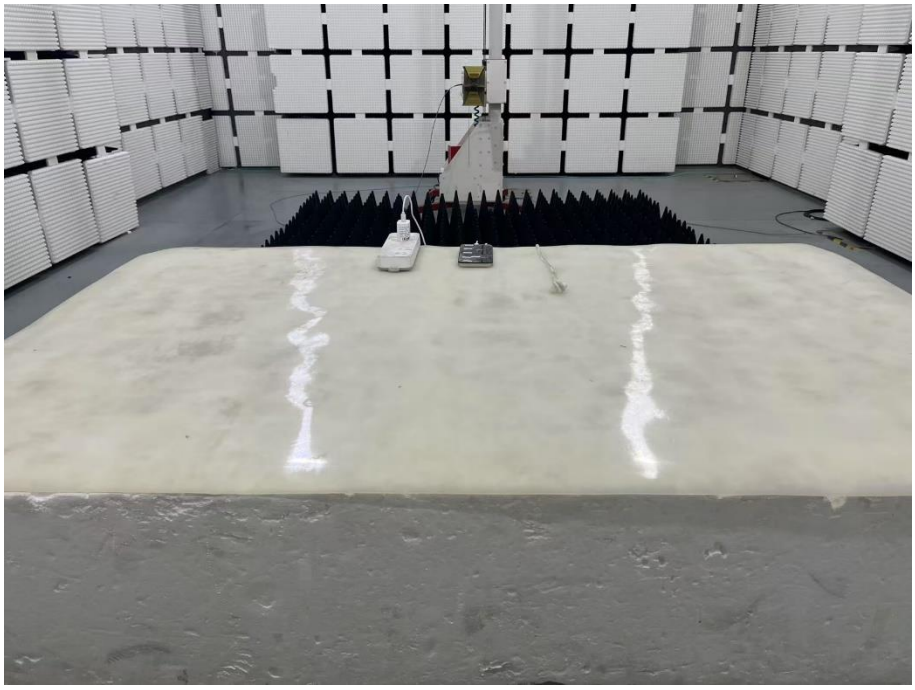
Set-up for Conducted Emission on AC Mains (CE)



Set-up for Radiated Emission (RE), Below 1GHz



Set-up for Radiated Emission (RE), Above 1GHz



APPENDIX II - PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS

Photo 1

Photo 2

Photo 3

Photo 4

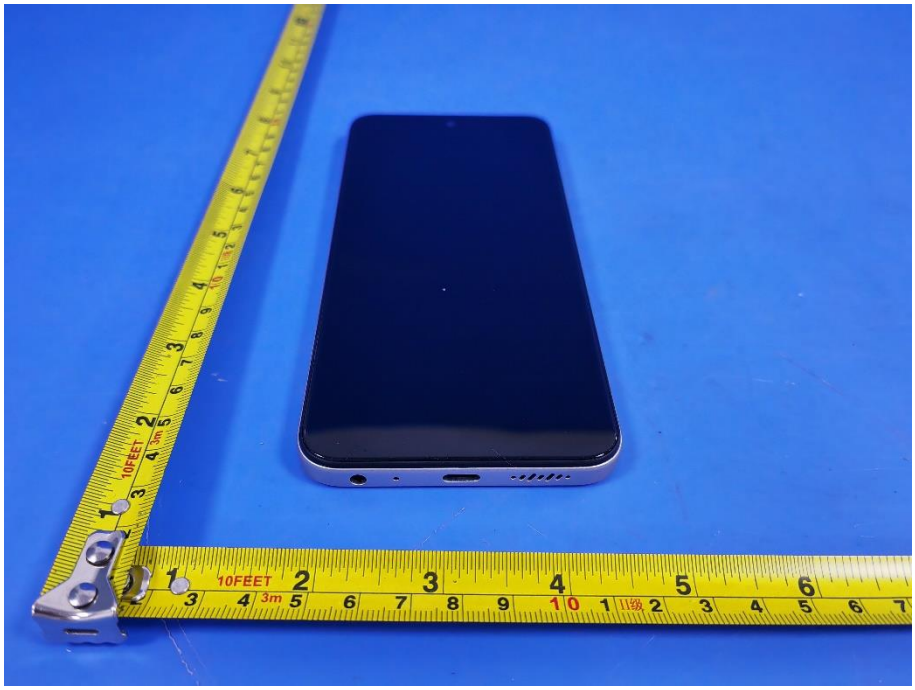


Photo 5

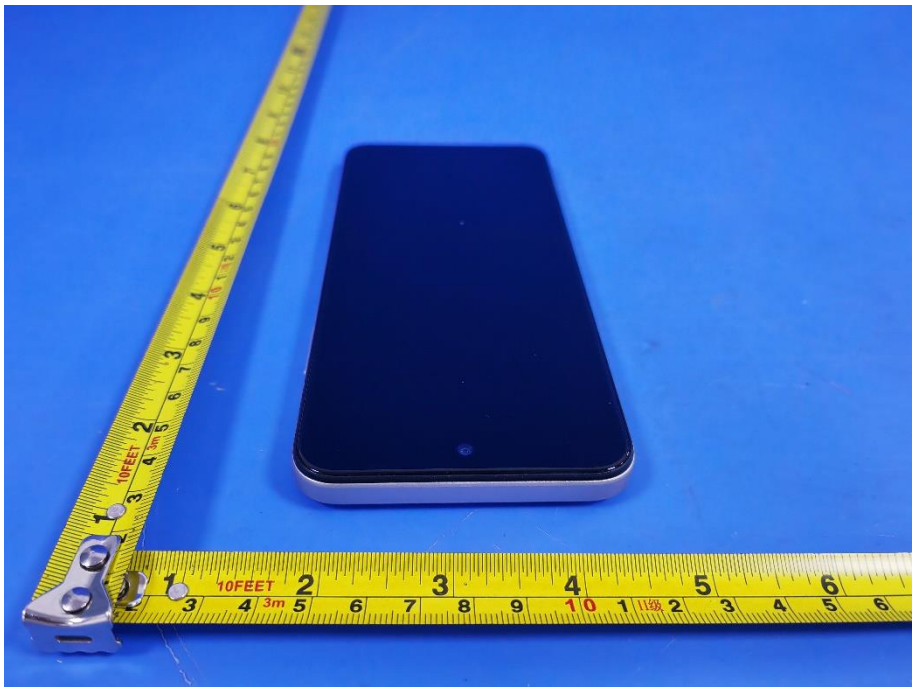


Photo 6

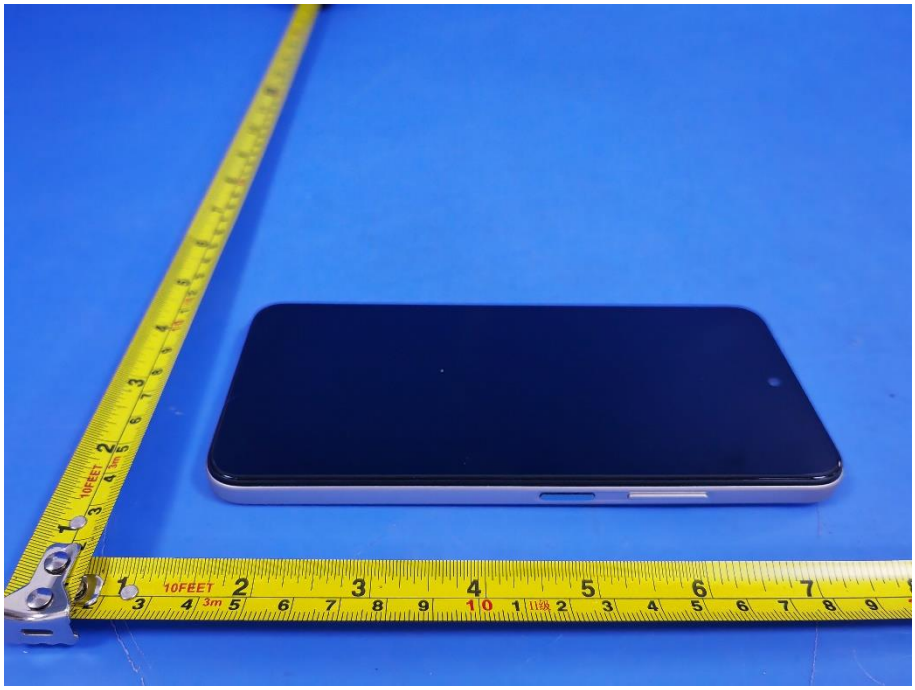


Photo 7

Photo 8

Photo 9

Photo 10

Photo 11

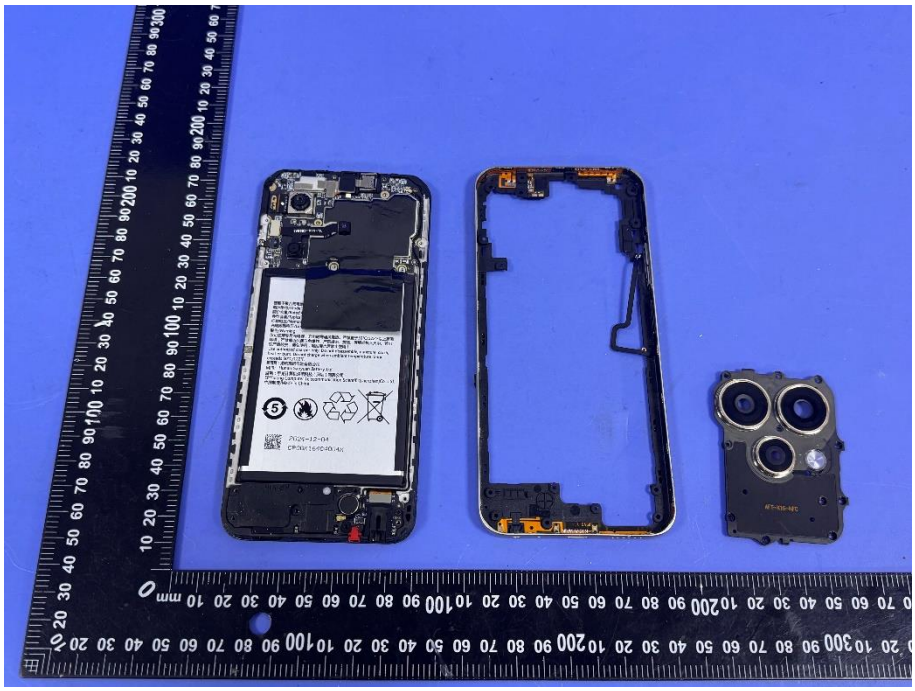


Photo 12

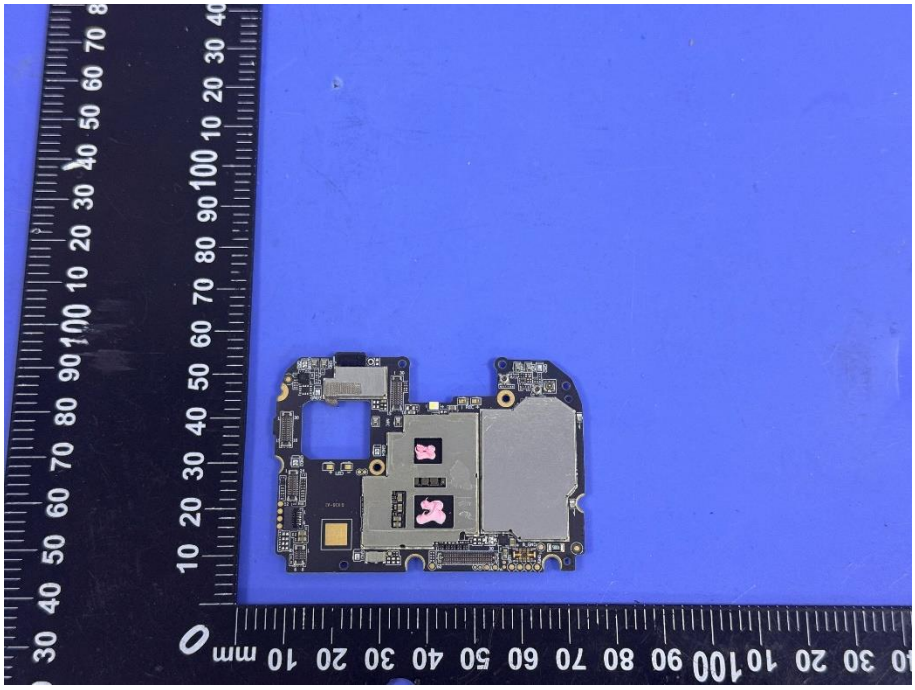
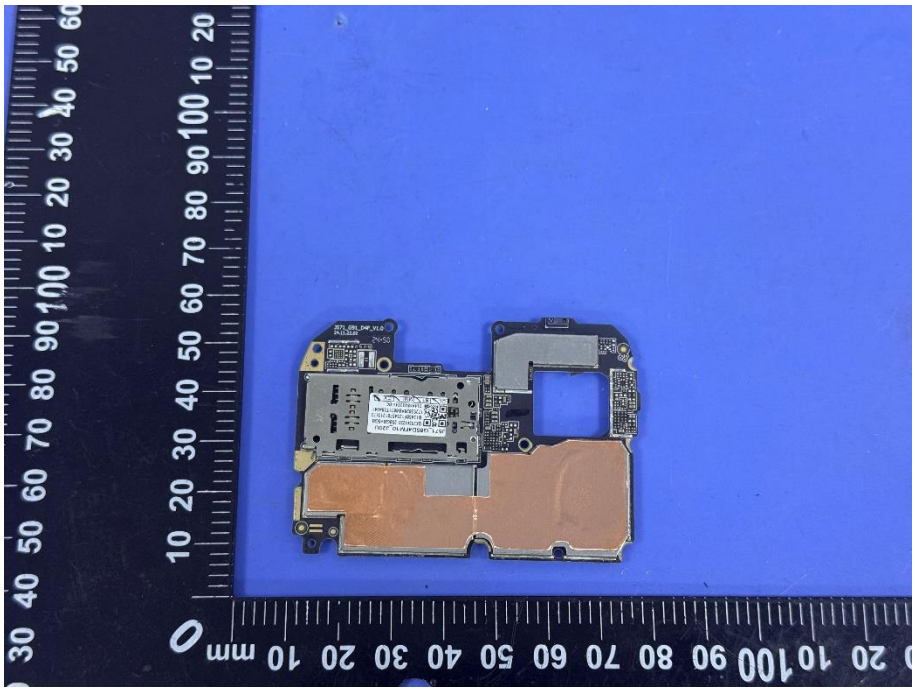


Photo 13



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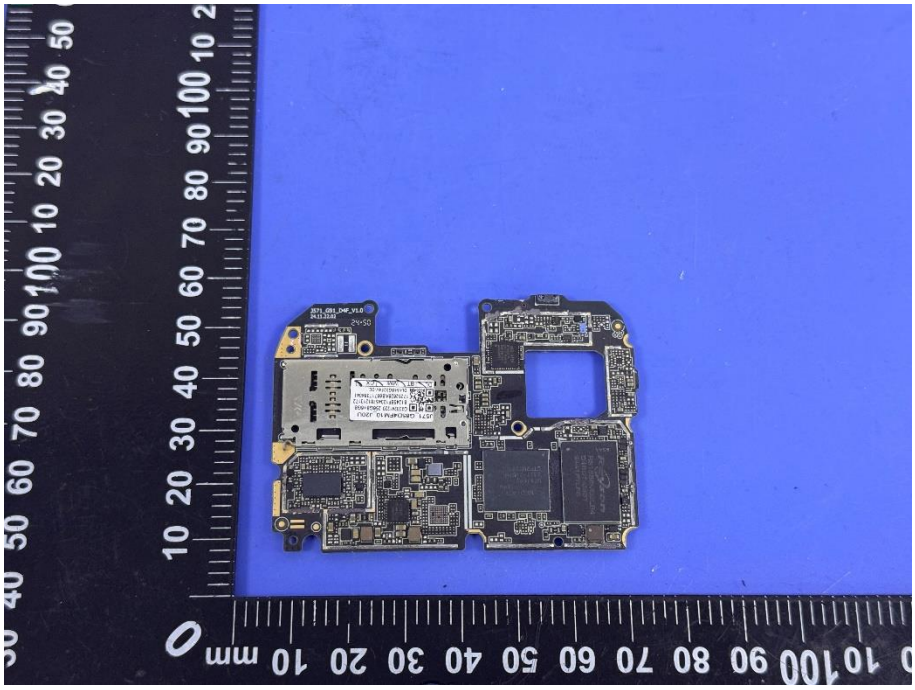

Photo 15

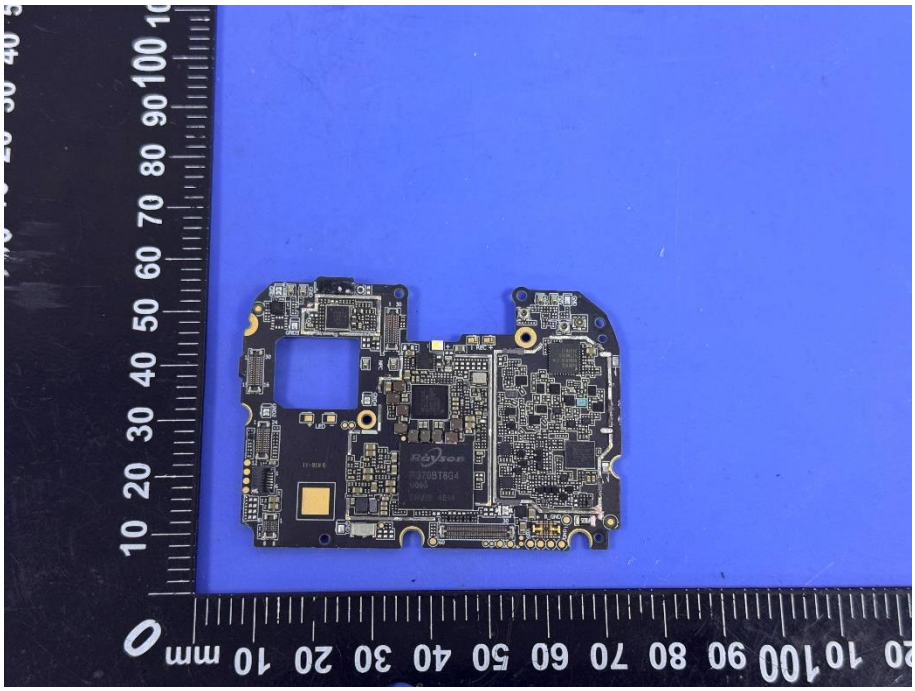

Photo 16

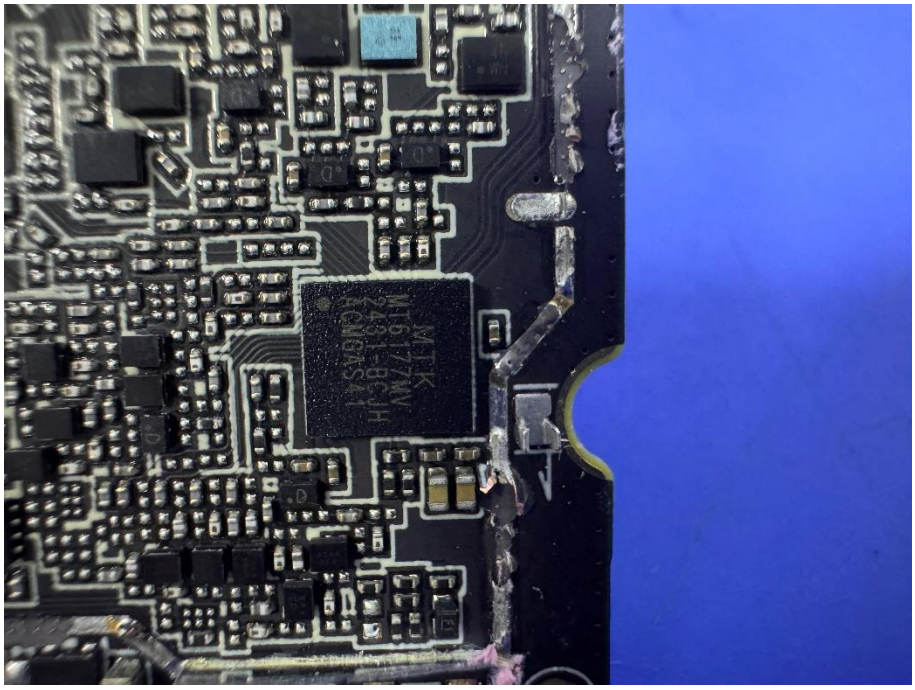

Photo 17

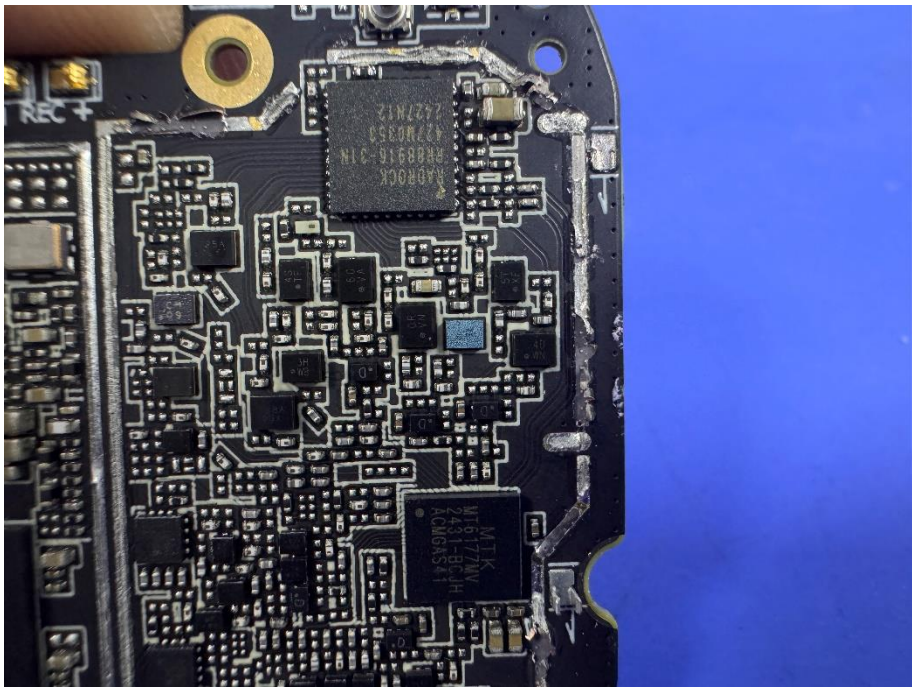

Photo 18

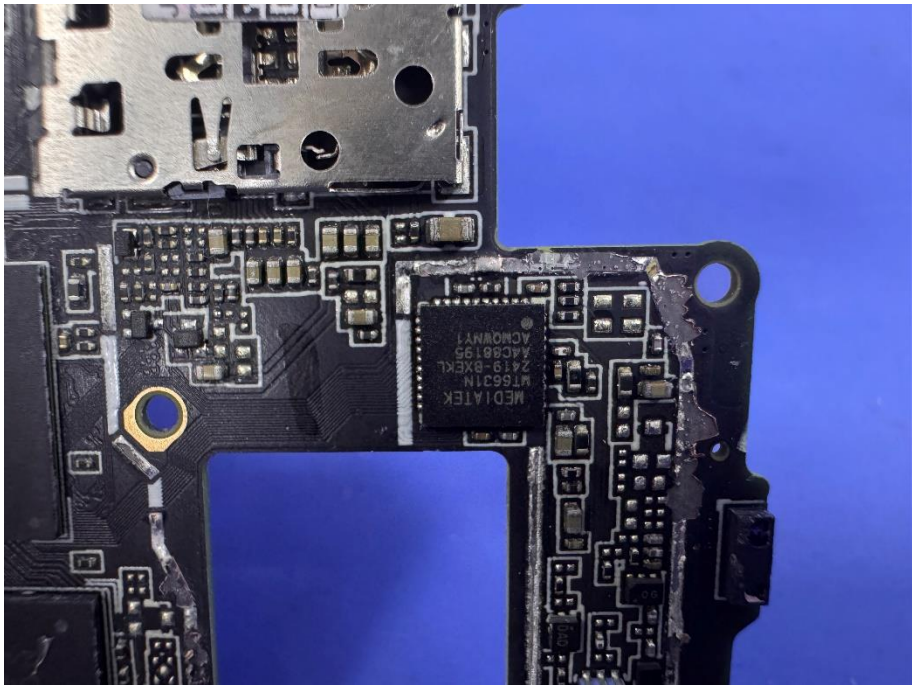

Photo 19

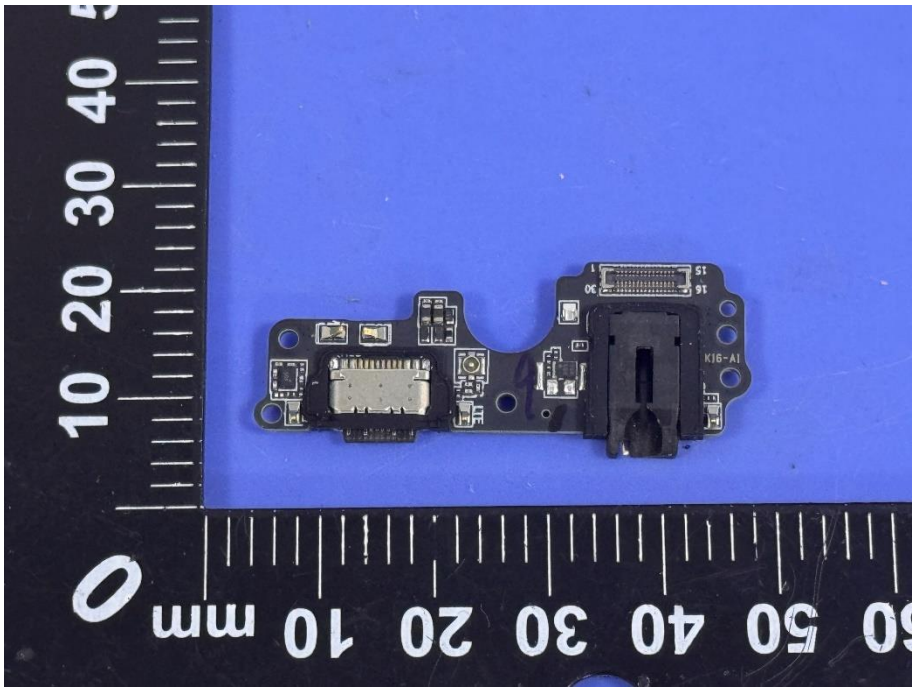

Photo 20

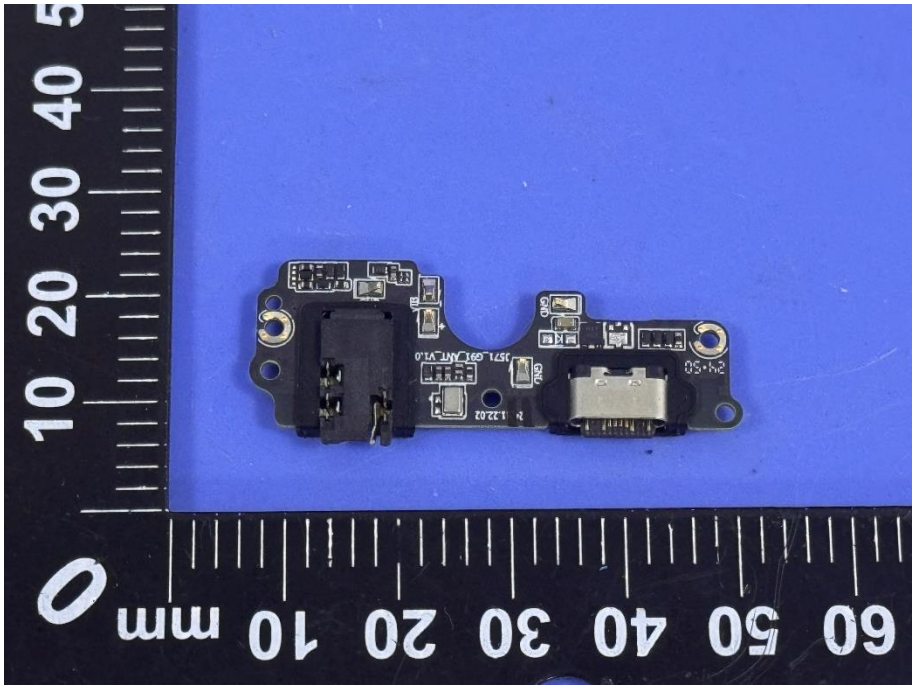

Photo 21

Photo 22

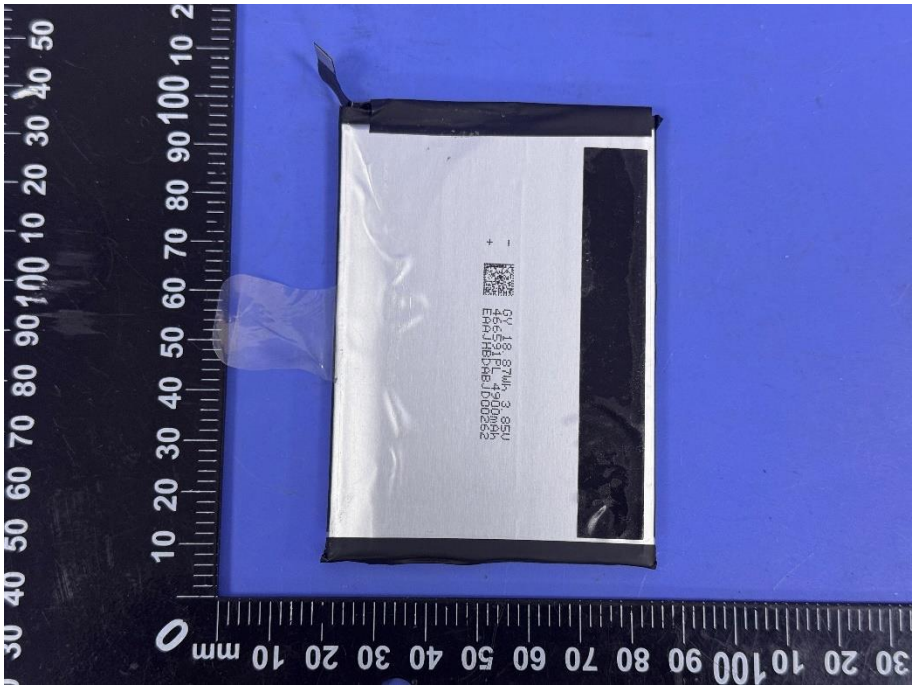

Photo 23

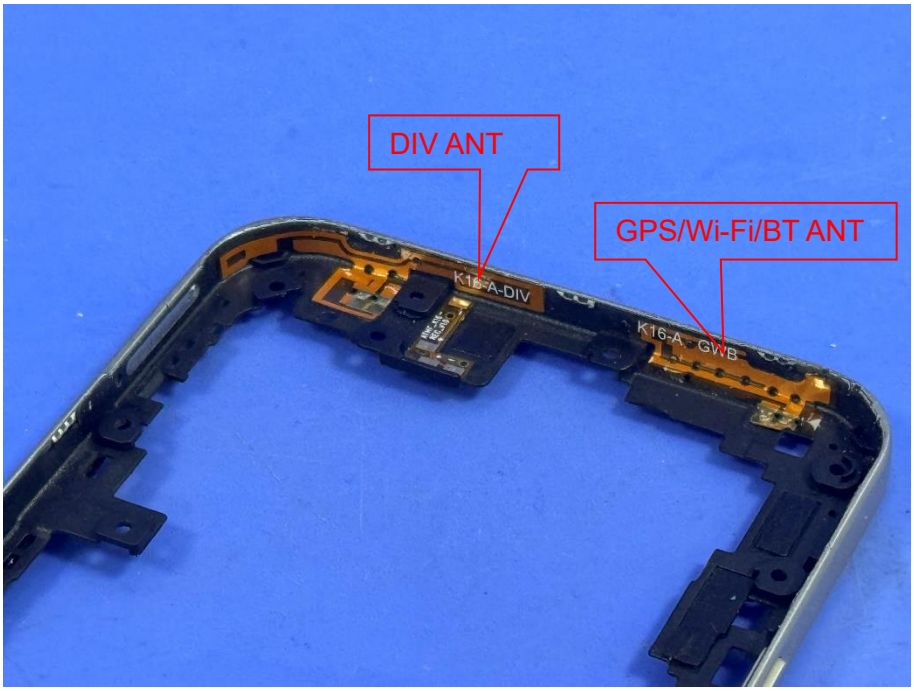

Photo 24

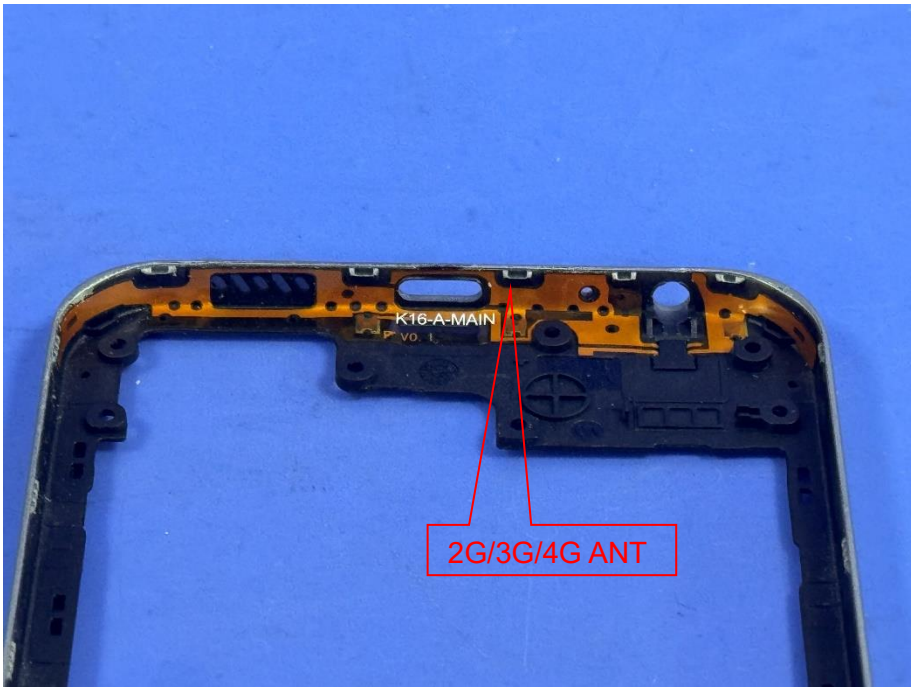

Photo 25

※※※※※END OF THE REPORT※※※※※