



FCC SDoC Test Report

For

Applicant Name: DOKE COMMUNICATION (HK) LIMITED
Address: RM 1902 EASEY COMM BLDG 253-261 HENNESSY ROAD
WANCHAI HK CHINA
EUT Name: Smart phone
Brand Name: OSCAL
Model Number: C30

Issued By

Company Name: BTF Testing Lab (Shenzhen) Co., Ltd.
Address: F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park,
Tantou Community, Songgang Street, Bao'an District, Shenzhen,
China
Report Number: BTF231024R00101
Test Standards: 47 CFR Part 15, Subpart B
Test Conclusion: Pass
FCC ID: 2A7DX-C30
Test Date: 2023-10-25 to 2023-11-29
Date of Issue: 2023-11-30

Prepared By:

Aria Zhang

Date:

Aria Zhang / Project Engineer
2023-11-30

Approved By:

Ryan.CJ

Ryan.CJ / EMC Manager
2023-11-30



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Revision History		
Version	Issue Date	Revisions Content
R_V0	2023-11-30	Original
<i>Note: Once the revision has been made, then previous versions reports are invalid.</i>		

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1 Introduction

1.1 Identification of Testing Laboratory

Company Name:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Phone Number:	+86-0755-23146130
Fax Number:	+86-0755-23146130

1.2 Identification of the Responsible Testing Location

Company Name:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Phone Number:	+86-0755-23146130
Fax Number:	+86-0755-23146130
FCC Registration Number:	518915
Designation Number:	CN1330

1.3 Announcement

- (1) The test report reference to the report template version v0.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) This document may not be altered or revised in any way unless done so by BTF and all revisions are duly noted in the revisions section.
- (5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
- (6) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

2 Product Information

2.1 Application Information

Company Name:	DOKE COMMUNICATION (HK) LIMITED
Address:	RM 1902 EASEY COMM BLDG 253-261 HENNESSY ROAD WANCHAI HK CHINA

2.2 Manufacturer Information

Company Name:	Shenzhen DOKE Electronic Co., Ltd.
Address:	801, Building 3, 7th Industrial Zone, Yulv Community, Yutang Road, Guangming District, Shenzhen, China

2.3 Factory Information

Company Name:	Shenzhen DOKE Electronic Co., Ltd.
Address:	801, Building 3, 7th Industrial Zone, Yulv Community, Yutang Road, Guangming District, Shenzhen, China

2.4 General Description of Equipment under Test (EUT)

EUT Name:	Smart phone
Test Model Number:	C30
Hardware Version:	HCT-M659MB-A2
Software Version:	C30_NEU_M659_V1.0

2.5 Technical Information

Power Supply:	AC 120V 60Hz
Power Adaptor:	Model: QZ-01000AA00 Input: 100-240V~50/60Hz 0.3A Output: 5.0V= 2.0A (10.0W)

3 Summary of Test Results

3.1 Test Standards

The tests were performed according to following standards:

47 CFR Part 15, Subpart B: Unintentional Radiators

3.2 Uncertainty of Test

Item	Measurement Uncertainty
Conducted Emission (150 kHz-30 MHz)	$\pm 2.64\text{dB}$
Radiated Emissions (30M - 1GHz)	$\pm 4.12\text{dB}$
Radiated Emissions (above 1GHz)	1-6GHz: $\pm 3.94\text{dB}$ 6-18GHz: $\pm 4.16\text{dB}$

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 $k=2$.

3.3 Summary of Test Result

Item	Standard	Requirement	Result
Conducted emissions on AC mains	47 CFR Part 15, Subpart B	15.107, Class B	Pass
Radiated emissions (Below 1GHz)	47 CFR Part 15, Subpart B	15.109, Class B	Pass
Radiated emissions (Above 1GHz)	47 CFR Part 15, Subpart B	15.109, Class B	Pass

4 Test Configuration

4.1 Test Equipment List

Conducted emissions on AC mains					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Pulse Limiter	SCHWARZBECK	VTSD 9561-F	00953	/	/
Coaxial Switcher	SCHWARZBECK	CX210	CX210	/	/
V-LISN	SCHWARZBECK	NSLK 8127	01073	2023-11-16	2024-11-15
LISN	AFJ	LS16/110VAC	16010020076	2023-02-23	2024-02-22
EMI Receiver	ROHDE&SCHWARZ	ESCI3	101422	2023-11-15	2024-11-14

Radiated emissions (Below 1GHz)					
Radiated emissions (Above 1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Coaxial cable Multiflex 141	Schwarzbeck	N/SMA 0.5m	517386	2023-03-24	2024-03-23
Preamplifier	SCHWARZBECK	BBV9744	00246	/	/
RE Cable	REBES Talent	UF1-SMASMAM-10m	21101566	/	/
RE Cable	REBES Talent	UF2-NMNM-10m	21101570	/	/
RE Cable	REBES Talent	UF1-SMASMAM-1m	21101568	/	/
RE Cable	REBES Talent	UF2-NMNM-1m	21101576	/	/
RE Cable	REBES Talent	UF2-NMNM-2.5m	21101573	/	/
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Horn Antenna	SCHWARZBECK	BBHA9170	01157	2023-11-13	2024-11-12
EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI7	101032	2023-11-16	2024-11-15
SIGNAL ANALYZER	ROHDE&SCHWARZ	FSQ40	100010	2023-11-16	2024-11-15
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Broadband Preamplifier	SCHWARZBECK	BBV9718D	00008	2023-03-24	2024-03-23
Horn Antenna	SCHWARZBECK	BBHA9120D	2597	2022-05-22	2024-05-21
EZ EMC	Frad	FA-03A2 RE+	/	/	/
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Log periodic antenna	SCHWARZBECK	VULB 9168	01328	2023-11-13	2024-11-12

4.2 Test Auxiliary Equipment

The EUT was tested as an independent device.

4.3 Test Modes

No.	Test Modes	Description
TM1	Charging + Video recording	
TM2	Charging + Video play	
TM3	Date transmission	

5 Emission Test Results (EMI)

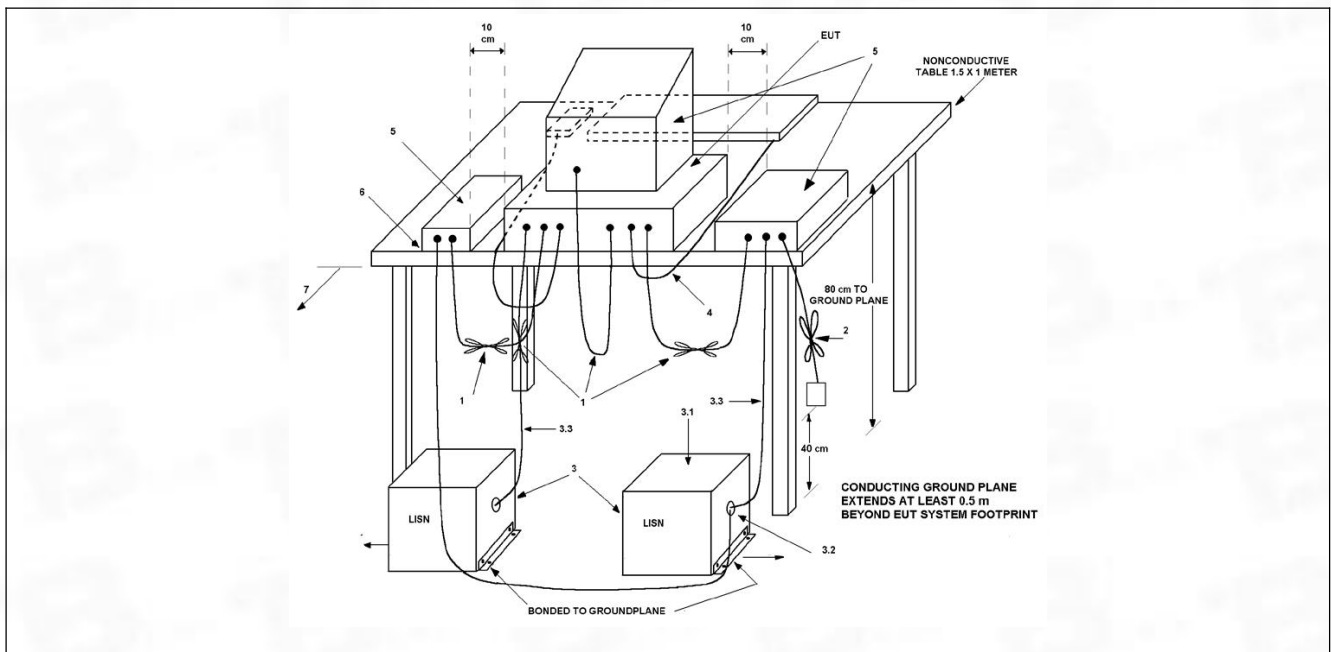
5.1 Conducted emissions on AC mains

Test Requirement:	15.107, Class B		
Test Method:	ANSI C63.4-2014		
Test Limit:	Frequency of emission (MHz)	Conducted limit (dB μ V)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
*Decreases with the logarithm of the frequency.			
Procedure:	An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected. Remark: Level= Read Level+ Cable Loss+ LISN Factor		

5.1.1 E.U.T. Operation:

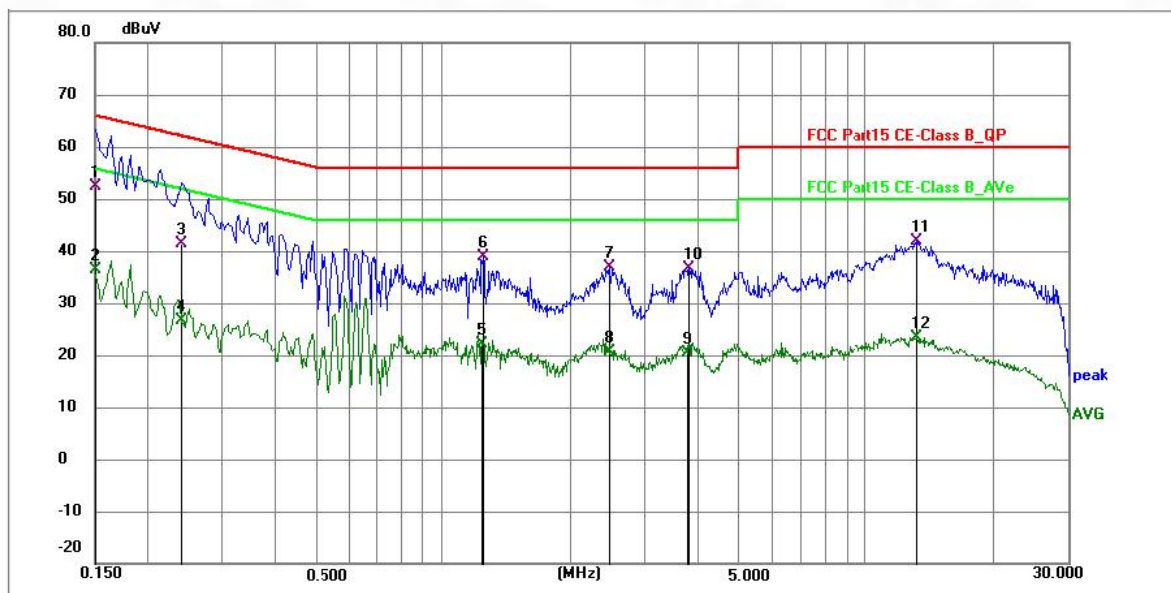
Operating Environment:	
Temperature:	25.5 °C
Humidity:	51.8 %
Atmospheric Pressure:	1010 mbar

5.1.2 Test Setup Diagram:



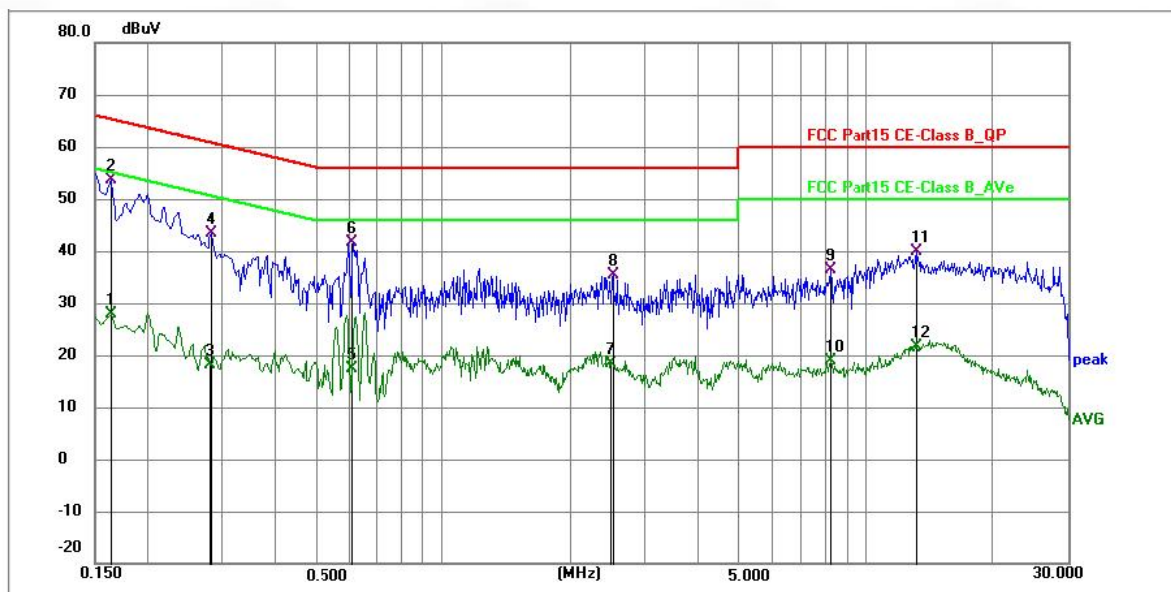
5.1.3 Test Data:

TM3 / Line: Line



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1 *	0.1500	41.86	10.54	52.40	66.00	-13.60	QP	P	
2	0.1500	25.93	10.54	36.47	56.00	-19.53	AVG	P	
3	0.2400	30.81	10.59	41.40	62.10	-20.70	QP	P	
4	0.2400	16.04	10.59	26.63	52.10	-25.47	AVG	P	
5	1.2390	11.43	10.76	22.19	46.00	-23.81	AVG	P	
6	1.2480	28.18	10.76	38.94	56.00	-17.06	QP	P	
7	2.4810	26.11	10.70	36.81	56.00	-19.19	QP	P	
8	2.4810	9.93	10.70	20.63	46.00	-25.37	AVG	P	
9	3.7950	9.66	10.73	20.39	46.00	-25.61	AVG	P	
10	3.8130	25.90	10.73	36.63	56.00	-19.37	QP	P	
11	13.2630	31.01	10.93	41.94	60.00	-18.06	QP	P	
12	13.2630	12.33	10.93	23.26	50.00	-26.74	AVG	P	

TM3 / Line: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1633	17.40	10.56	27.96	55.29	-27.33	AVG	P	
2 *	0.1635	43.13	10.56	53.69	65.28	-11.59	QP	P	
3	0.2803	7.60	10.60	18.20	50.81	-32.61	AVG	P	
4	0.2805	32.69	10.60	43.29	60.80	-17.51	QP	P	
5	0.6108	6.75	10.68	17.43	46.00	-28.57	AVG	P	
6	0.6134	31.01	10.68	41.69	56.00	-14.31	QP	P	
7	2.4900	7.69	10.70	18.39	46.00	-27.61	AVG	P	
8	2.5215	24.56	10.70	35.26	56.00	-20.74	QP	P	
9	8.2140	25.61	10.82	36.43	60.00	-23.57	QP	P	
10	8.2140	7.98	10.82	18.80	50.00	-31.20	AVG	P	
11	13.1460	28.92	10.87	39.79	60.00	-20.21	QP	P	
12	13.1460	10.66	10.87	21.53	50.00	-28.47	AVG	P	

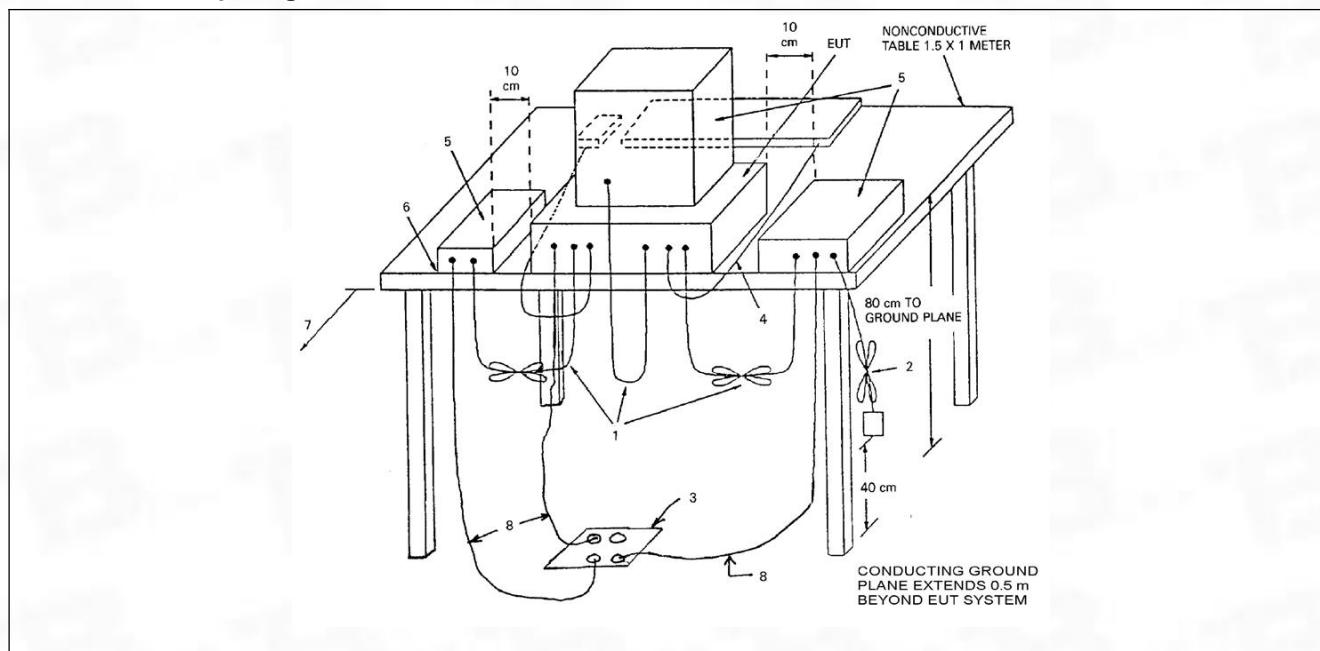
5.2 Radiated emissions (Below 1GHz)

Test Requirement:	15.109, Class B				
Test Method:	ANSI C63.4-2014				
Test Limit:	Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:				
	Frequency of emission (MHz)	Field strength @3m		Field strength @10m	
		(uV/m)	(dBuV/m)	(uV/m)	(dBuV/m)
	30 – 88	100	40	30	29.5
	88 – 216	150	43.5	45	33.1
	216 – 960	200	46	60	35.6
	Above 960	500	54	150	43.5
Procedure:	<p>An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.</p> <p>Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor</p>				

5.2.1 E.U.T. Operation:

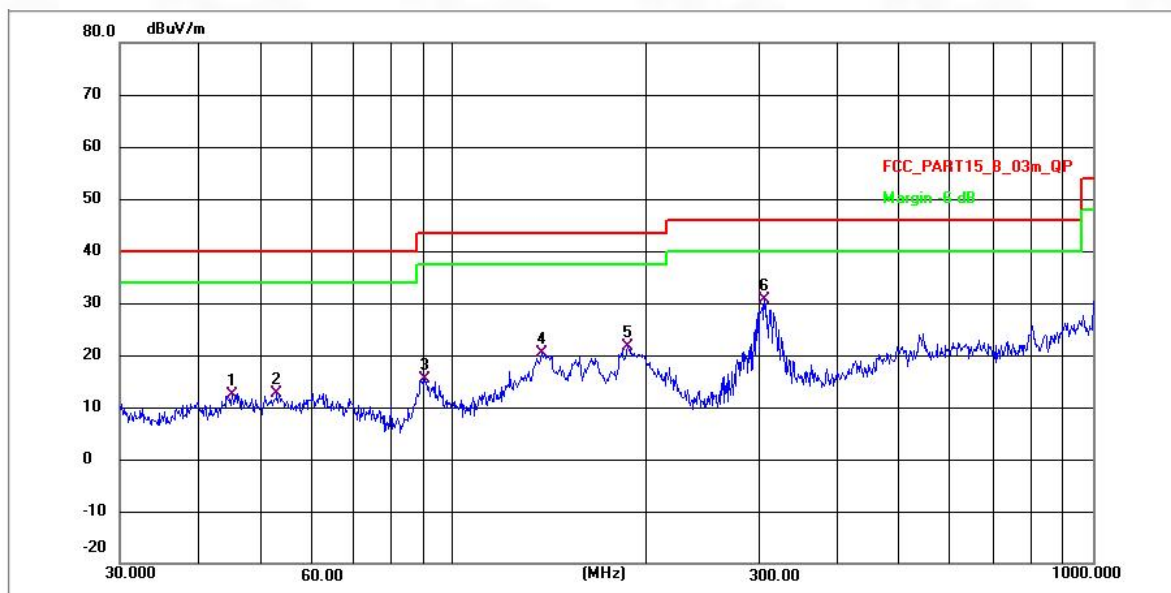
Operating Environment:	
Temperature:	25.5 °C
Humidity:	51.8 %
Atmospheric Pressure:	1010 mbar

5.2.2 Test Setup Diagram:



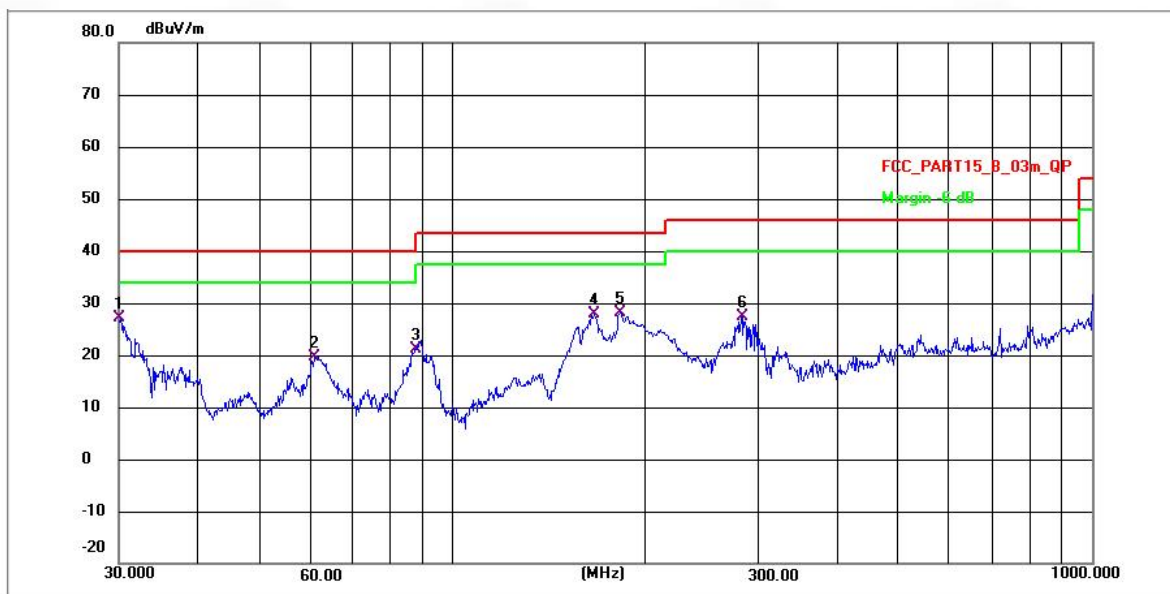
5.2.3 Test Data:

TM3 / Polarization: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	44.9794	30.83	-18.33	12.50	40.00	-27.50	QP	P
2	52.7600	30.98	-18.25	12.73	40.00	-27.27	QP	P
3	90.3788	31.34	-15.85	15.49	43.50	-28.01	QP	P
4	137.6614	34.75	-14.36	20.39	43.50	-23.11	QP	P
5	187.4241	39.33	-17.67	21.66	43.50	-21.84	QP	P
6 *	306.2164	46.62	-16.06	30.56	46.00	-15.44	QP	P

TM3 / Polarization: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1 *	30.0526	45.10	-17.89	27.21	40.00	-12.79	QP	P
2	60.5980	39.83	-20.15	19.68	40.00	-20.32	QP	P
3	87.8787	37.22	-16.04	21.18	40.00	-18.82	QP	P
4	166.9438	42.13	-14.27	27.86	43.50	-15.64	QP	P
5	183.2005	42.29	-14.06	28.23	43.50	-15.27	QP	P
6	283.4817	40.72	-13.28	27.44	46.00	-18.56	QP	P

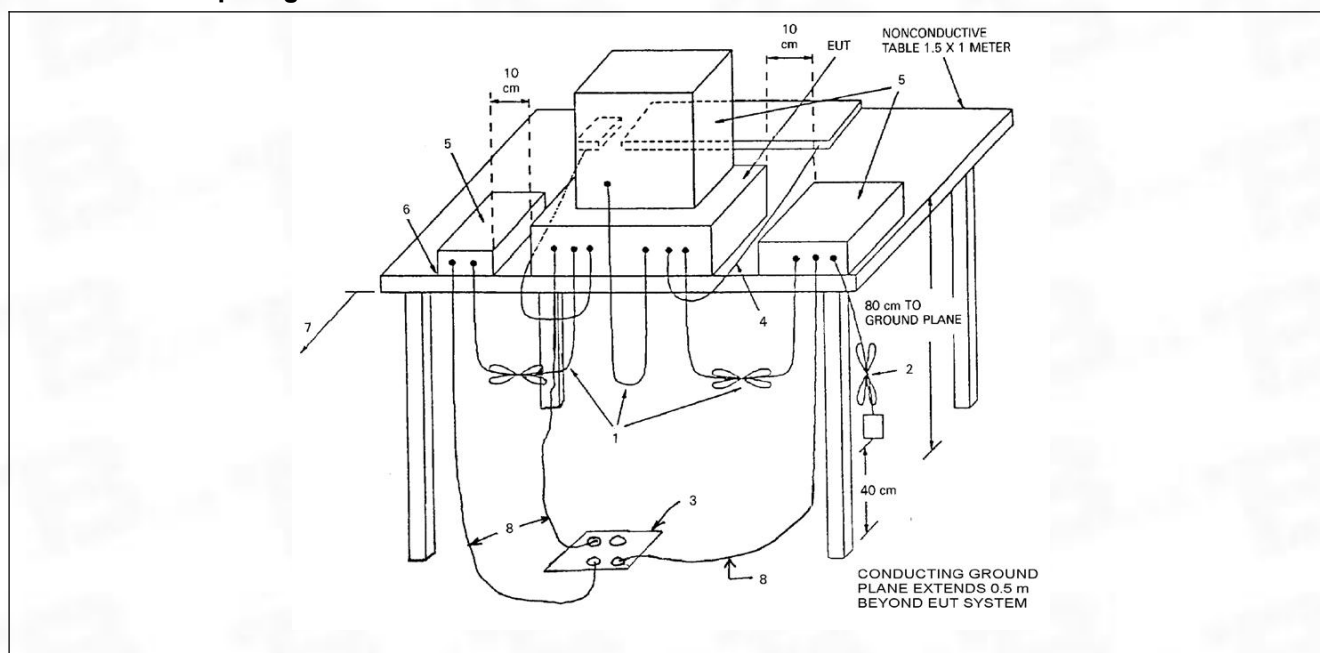
5.3 Radiated emissions (Above 1GHz)

Test Requirement:	15.109, Class B			
Test Method:	ANSI C63.4-2014			
Test Limit:	Frequency of emission (MHz)	Field strength @3m		
		Average (uV/m)	Average(d BuV/m)	Peak (dBuV/m)
	Above 1GHz	500	54	74
Procedure:	<p>An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. For below 1GHz test, Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities. For above 1GHz test, Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities.</p> <p>Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor</p>			

5.3.1 E.U.T. Operation:

Operating Environment:	
Temperature:	25.5 °C
Humidity:	51.8 %
Atmospheric Pressure:	1010 mbar

5.3.2 Test Setup Diagram:



5.3.3 Test Data:

TM3 / Polarization: Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1106.536	68.00	-29.56	38.44	74.00	-35.56	peak	P
2	1303.666	68.35	-30.63	37.72	74.00	-36.28	peak	P
3	1530.421	68.20	-31.66	36.54	74.00	-37.46	peak	P
4	2587.076	71.67	-30.22	41.45	74.00	-32.55	peak	P
5	3590.963	75.50	-29.04	46.46	74.00	-27.54	peak	P
6 *	5240.839	76.19	-27.17	49.02	74.00	-24.98	peak	P

TM3 / Polarization: Vertical

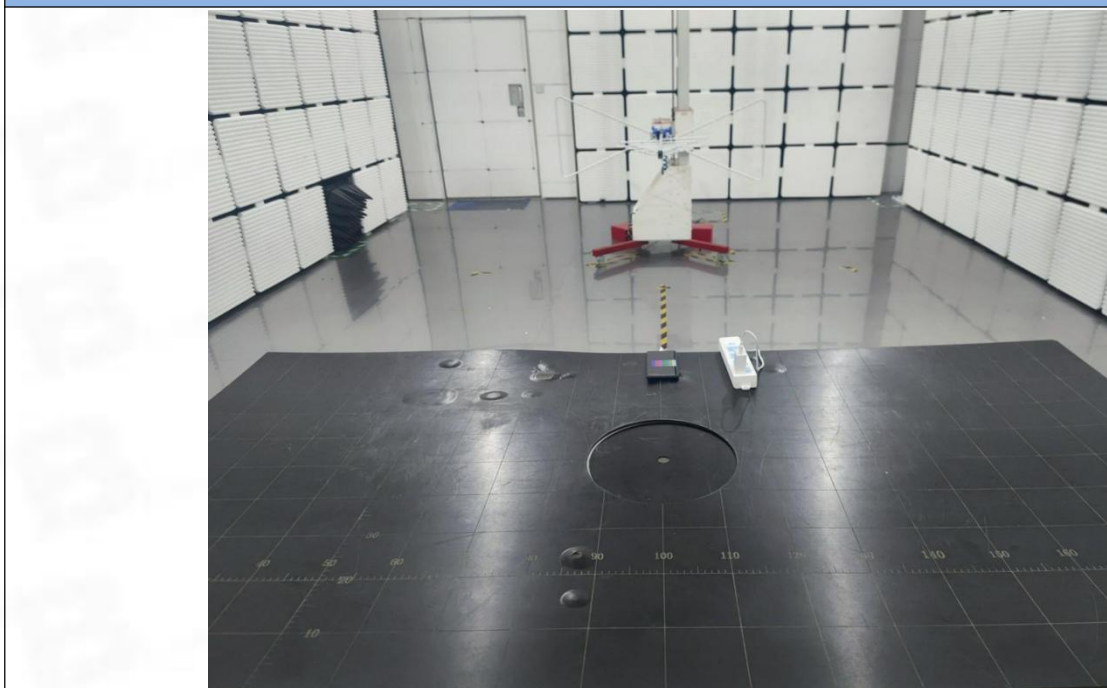
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1137.697	68.92	-29.73	39.19	74.00	-34.81	peak	P
2	1434.820	70.01	-31.35	38.66	74.00	-35.34	peak	P
3	1785.385	69.00	-31.26	37.74	74.00	-36.26	peak	P
4	2529.778	73.77	-30.32	43.45	74.00	-30.55	peak	P
5	3574.914	74.79	-29.04	45.75	74.00	-28.25	peak	P
6 *	4913.459	76.00	-27.61	48.39	74.00	-25.61	peak	P

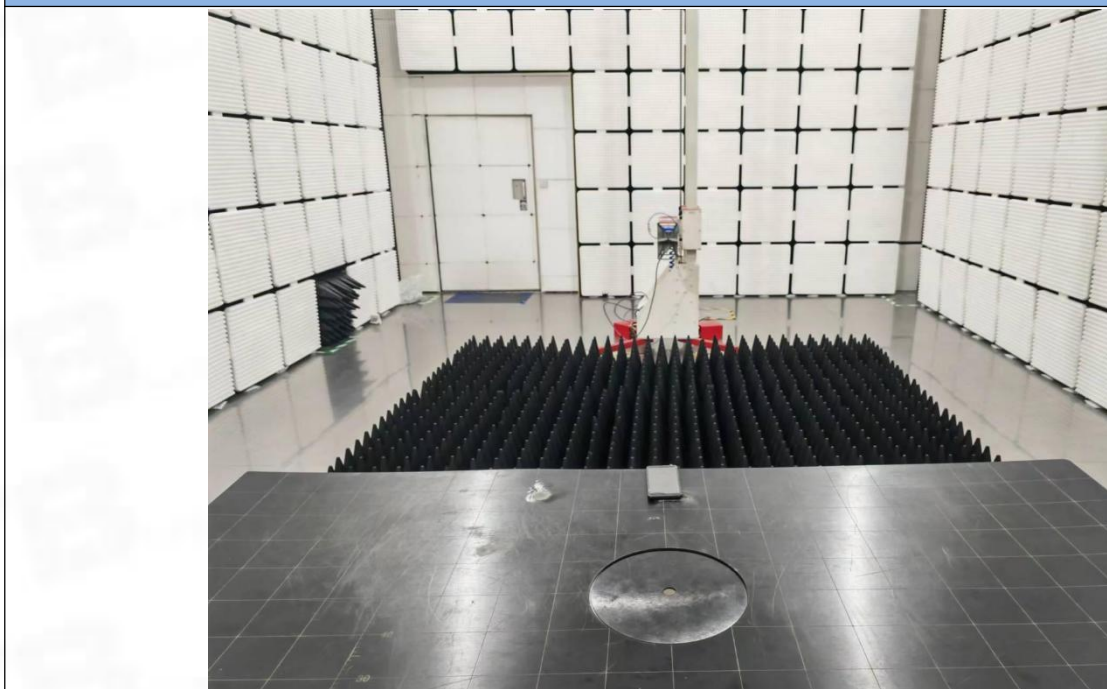
6 Test Setup Photos

Conducted emissions on AC mains



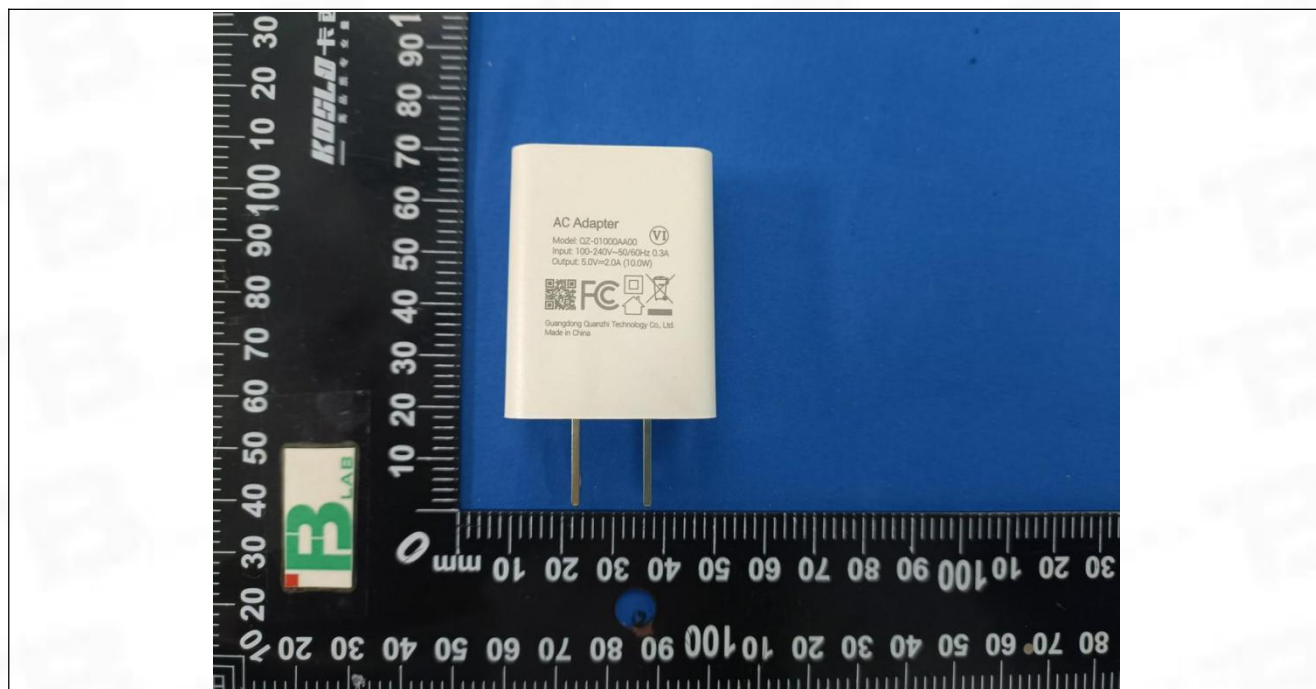
Radiated emissions (Below 1GHz)

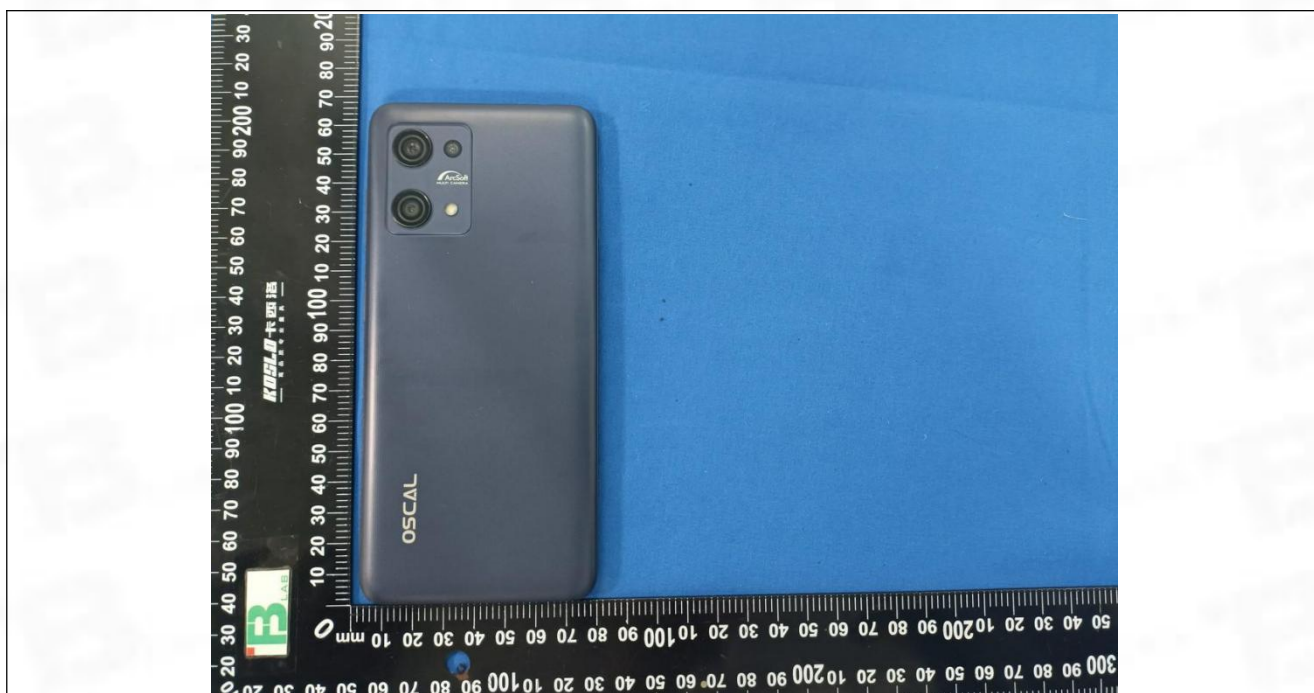


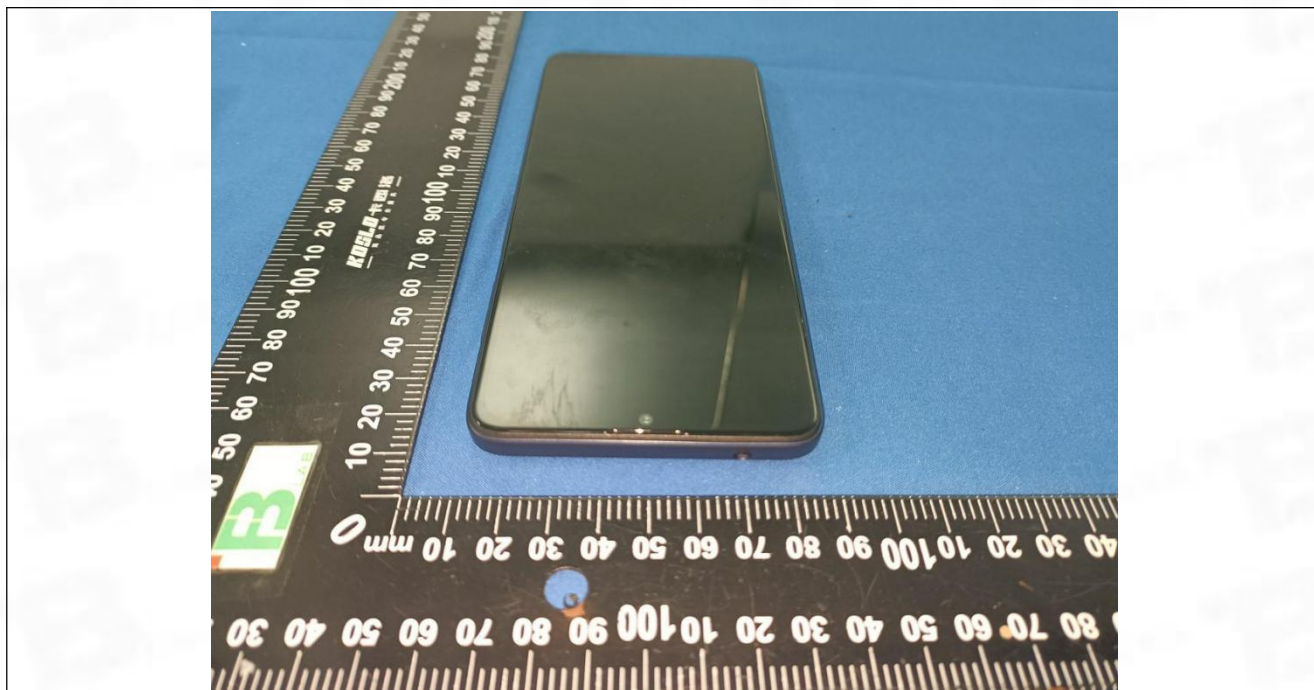
Radiated emissions (Above 1GHz)

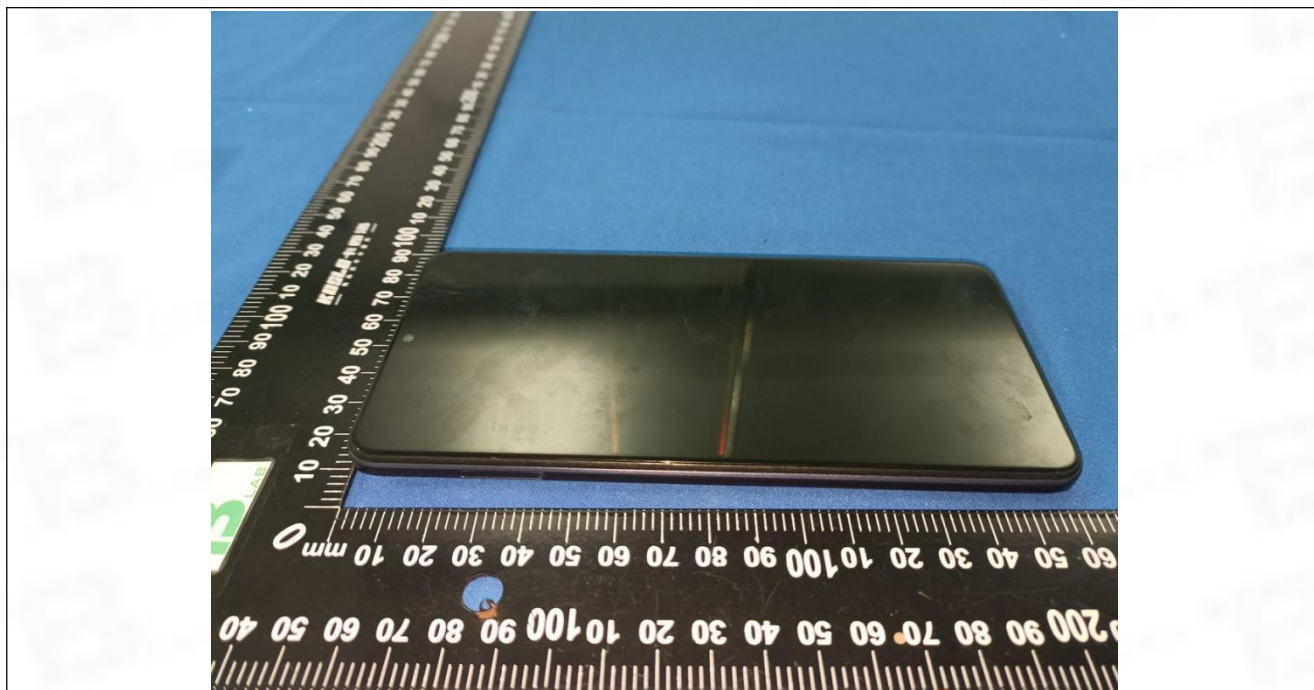
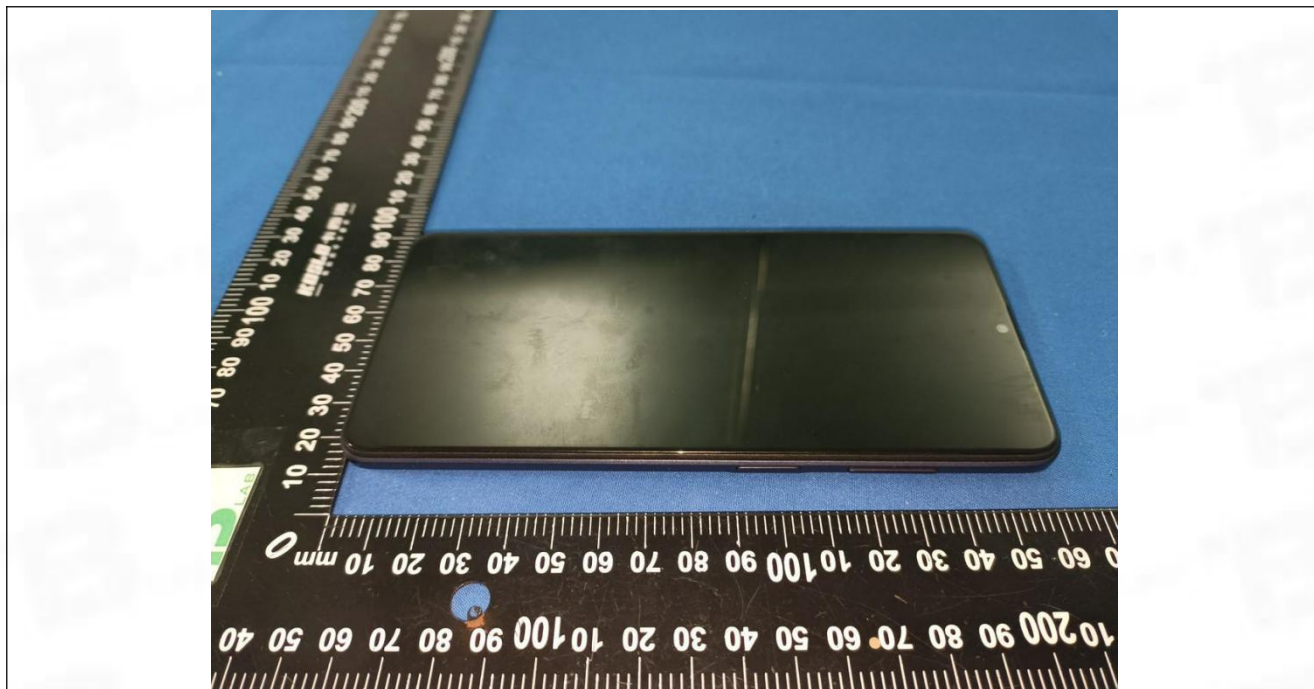
7 EUT Constructional Details (EUT Photos)

External





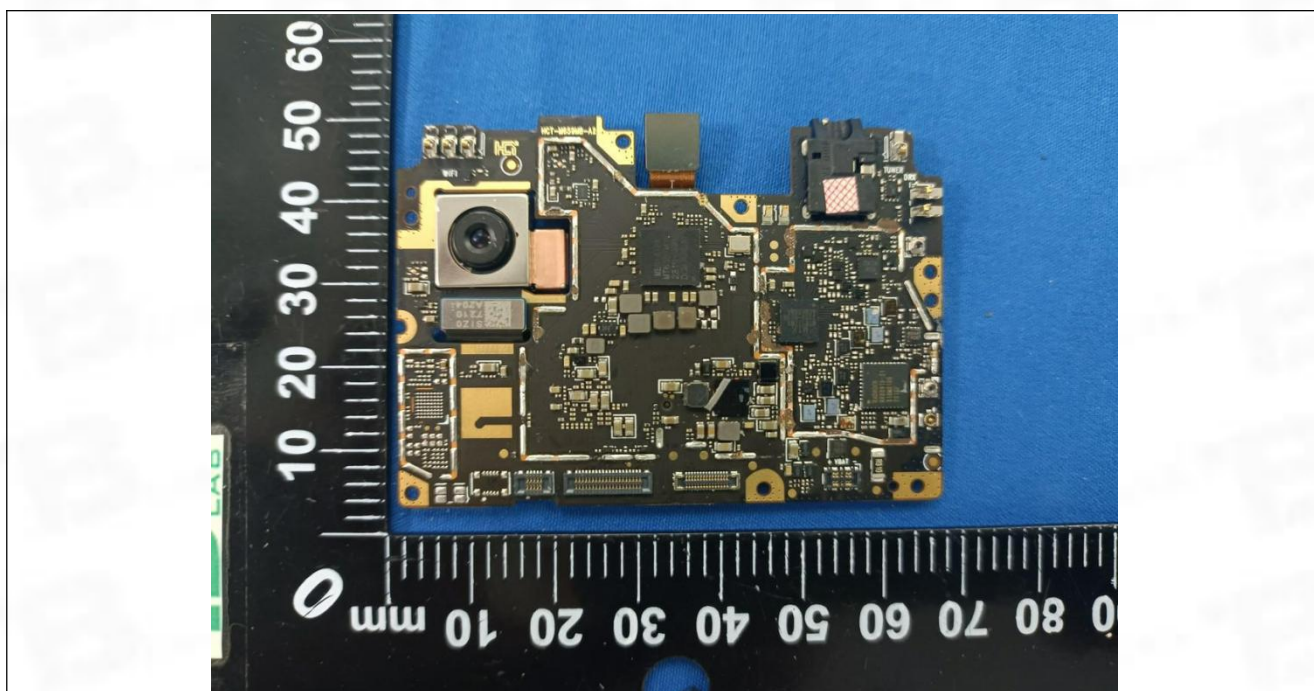
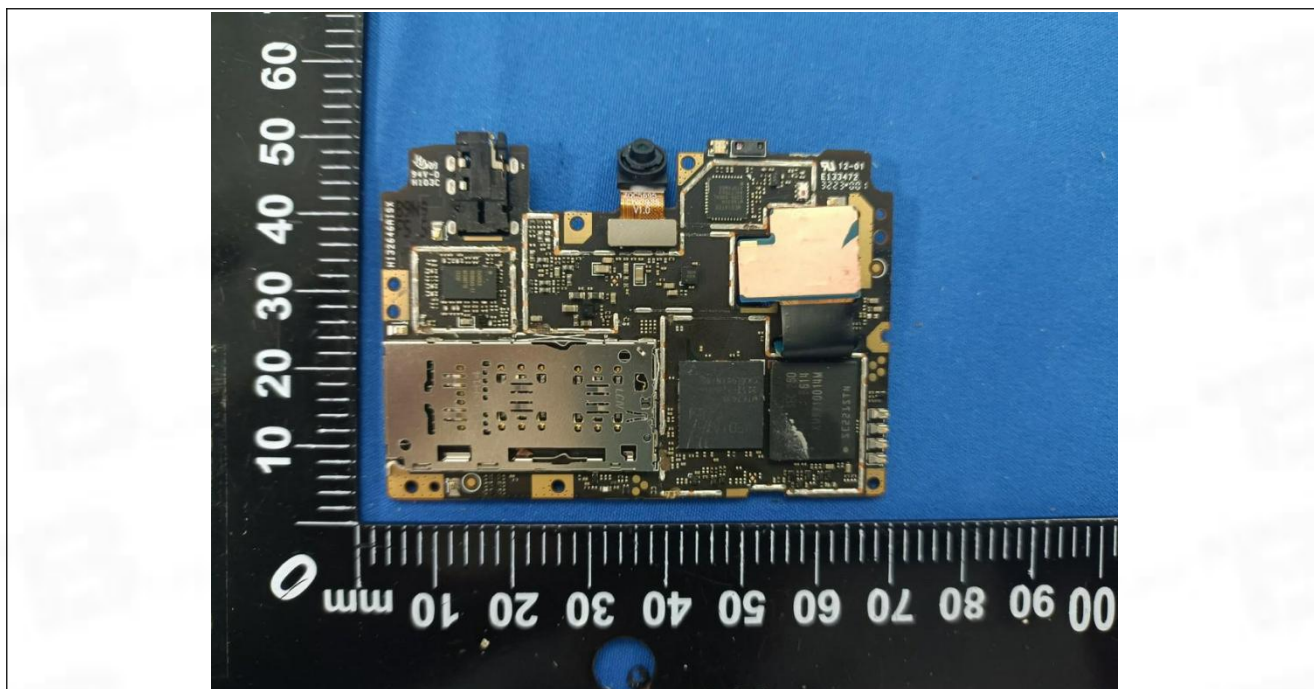


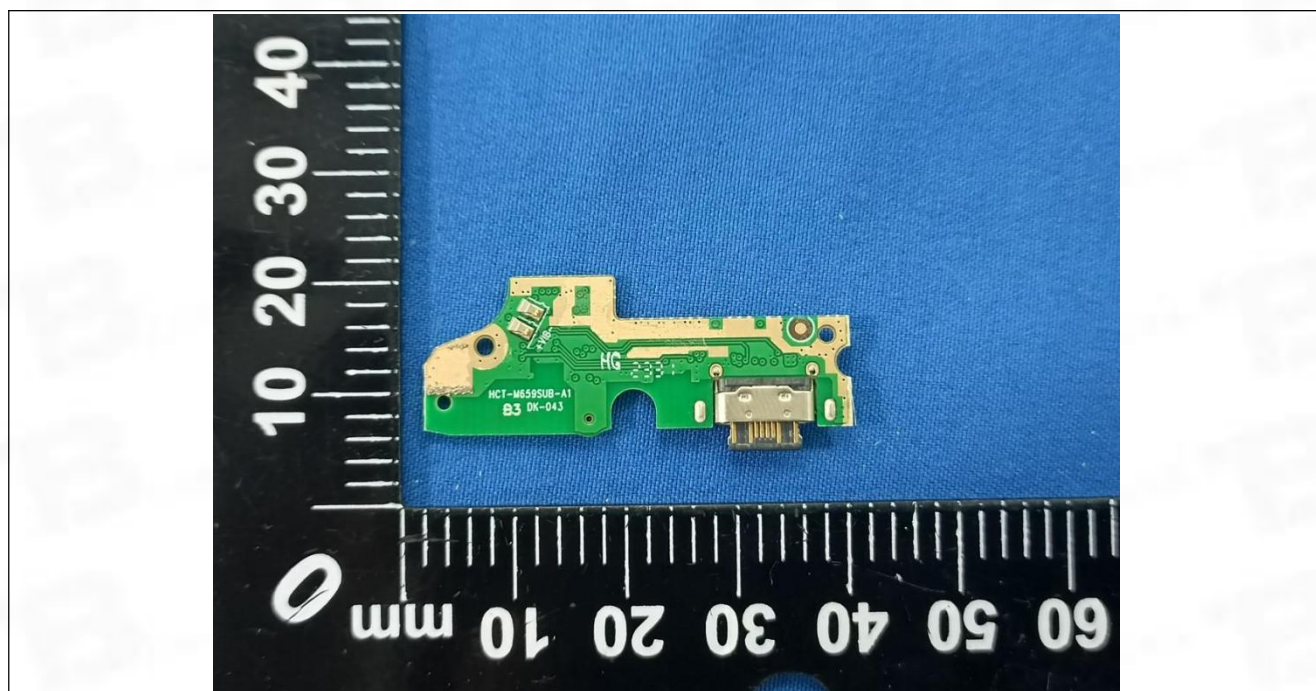
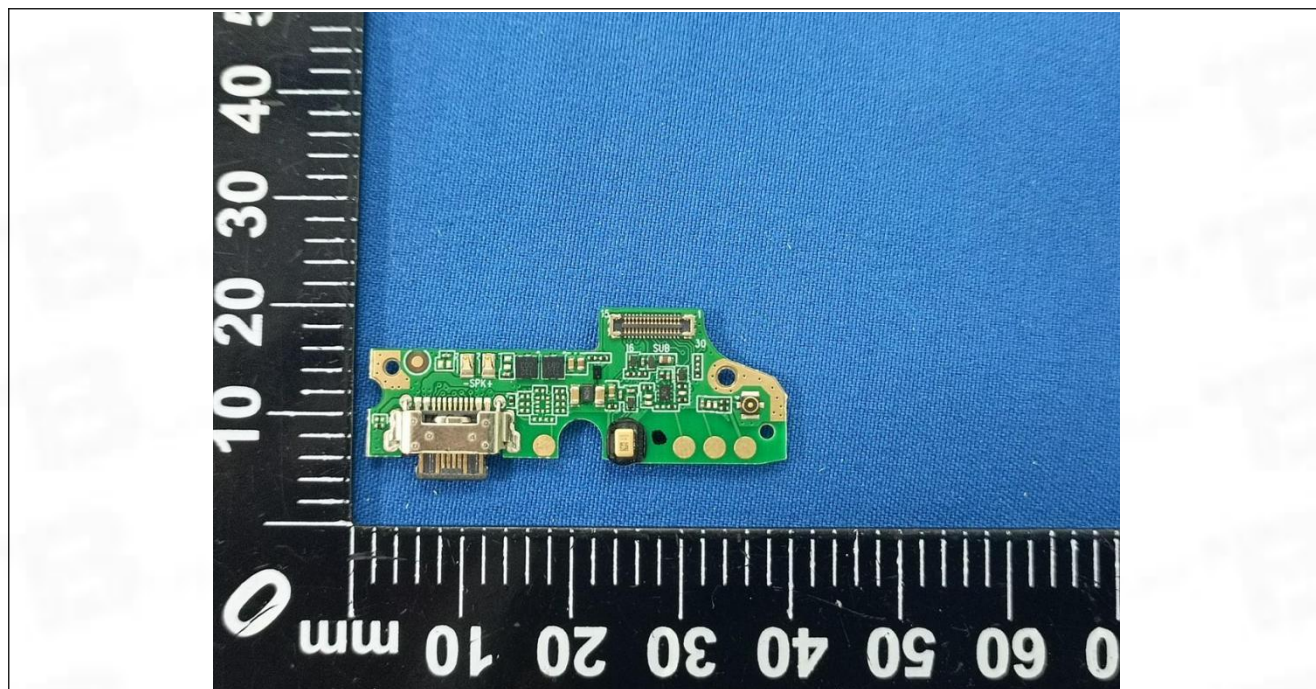


Internal











Test Report Number: BTF231024R00101



BTF Testing Lab (Shenzhen) Co., Ltd.

F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street,
Bao'an District, Shenzhen, China

www.btf-lab.com

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