FCC Part 15, Subpart B, Class B

TEST REPORT

COLOMBIANA DE COMERCIO S.A.

Smart Phone

Test Model: BLACK PRO

Prepared for	:	COLOMBIANA DE COMERCIO S.A.
Address	:	Car. 43E No 8-71 Medellin, Colombia

Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	:	Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
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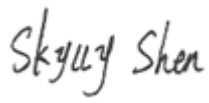
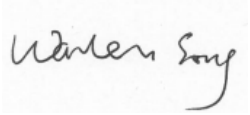
Web	:	www.LCS-cert.com
Mail	:	webmaster@LCS-cert.com

Date of receipt of test sample	:	December 21, 2018
Number of tested samples	:	1
Serial number	:	Prototype
Date of Test	:	December 21, 2018~ December 27, 2018
Date of Report	:	January 28, 2019

FCC TEST REPORT
FCC Part 15, Subpart B, Class B

Report Reference No.	**:**	**LCS181220055AE**
Date Of Issue	:	January 28, 2019
Testing Laboratory Name.....	**:**	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address	:	Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
Testing Location/ Procedure.....	:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name.....	**:**	**COLOMBIANA DE COMERCIO S.A.**
Address	:	Car. 43E No 8-71 Medellin, Colombia
Test Specification		
Standard	:	FCC Part 15, Subpart B, Class B, ANSI C63.4 -2014
Test Report Form No.	:	LCSEMC-1.0
TRF Originator	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF	:	Dated 2011-03

Test Item Description.	**:**	**Smart Phone**
Test Model	:	BLACK PRO
Trade Mark	:	Kalley
Ratings	:	DC 3.85V by Rechargeable Li-Polymer Battery(4000mAh) Recharged by DC 5V Adapter
**Result ..... **	**:**	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
		
Skylly Shen/ File administrators	Warlen Song/ Technique principal	Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No. : LCS181220055AE	January 28, 2019 Date of issue

Test Model	: BLACK PRO
EUT.....	: Smart Phone
Applicant.....	**: COLOMBIANA DE COMERCIO S.A.**
Address.....	: Car. 43E No 8-71 Medellin, Colombia
Telephone.....	: /
Fax.....	: /
Manufacturer.....	**: COLOMBIANA DE COMERCIO S.A.**
Address.....	: Car. 43E No 8-71 Medellin, Colombia
Telephone.....	: /
Fax.....	: /
Factory.....	: **KONKA SMART TECHNOLOGY CO., LTD.**
Address.....	: 1#-327 Enterprise Service Centre, No.17 Third Section of North Changjiang Road, Lingang Economic Development Zone of Yibin, Sichuan Province. P.R.China
Telephone.....	: /
Fax.....	: /

Test Result according to the standards on page 6: **Positive**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

Revision	Issue Date	Revisions	Revised By
000	January 28, 2019	Initial Issue	Gavin Liang

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1. SUMMARY OF STANDARDS AND RESULTS

1.1. 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**
Conducted disturbance at mains terminals	FCC Part 15, Subpart B, Class B, ANSI C63.4 -2014	Class B	PASS
Radiated disturbance	FCC Part 15, Subpart B, Class B, ANSI C63.4 -2014	Class B	PASS
N/A is an abbreviation for Not Applicable.			

Test mode:		
Mode 1	Camera+Charging	Record
Mode 2	WiFi+Charging	Pre-scan
Mode 3	BT+Charging	Pre-scan
Mode 4	MP4+Charging	Pre-scan
Mode 5	Data transmission	Pre-scan
Mode 6	Camera+battery	Pre-scan
Mode 7	WiFi+battery	Pre-scan
Mode 8	BT+battery	Pre-scan
Mode 9	MP4+battery	Pre-scan
***Note: All test modes were tested, but we only recorded the worst case in this report.		

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT : Smart Phone

Trade Mark : Kalley

Test Model : BLACK PRO

Power Supply : DC 3.85V by Rechargeable Li-Polymer Battery(4000mAh)
Recharged by DC 5V Adapter

EUT Clock Frequency : >108MHz

2.2. Support Equipment List

Manufacturer	Description	Model	Serial Number	Certificate
Earphone	/	5834005529	/	SDOC
Data Cable	/	5834005510	/	SDOC
Adapter	Kalley	Asanzo S5	5834005196	SDOC

2.3. Description of Test Facility

Site Description

EMC Lab. : FCC Registration Number. is 254912.
Industry Canada Registration Number. is 9642A-1.
ESMD Registration Number. is ARCB0108.
UL Registration Number. is 100571-492.
TUV SUD Registration Number. is SCN1081.
TUV RH Registration Number. is UA 50296516-001.
NVLAP Registration Code is 600167-0.

2.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

2.5. Measurement Uncertainty

Test	Parameters	Expanded uncertainty (Ulab)	Expanded uncertainty (Ucispr)
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 2.63 dB ± 2.35 dB	± 3.8 dB ± 3.4 dB
Power disturbance	Level accuracy (30MHz to 300MHz)	± 2.90dB	± 4.5 dB
Electromagnetic Radiated Emission (3-loop)	Level accuracy (9kHz to 30MHz)	± 3.60 dB	± 3.3 dB
Radiated Emission	Level accuracy (9kHz to 30MHz)	± 3.68 dB	N/A
Radiated Emission	Level accuracy (30MHz to 1000MHz)	± 3.48 dB	± 5.3 dB
Radiated Emission	Level accuracy (above 1000MHz)	± 3.90 dB	± 5.2 dB
Mains Harmonic	Voltage	± 0.510%	N/A
Voltage Fluctuations & Flicker	Voltage	± 0.510%	N/A
EMF		± 21.59%	N/A

(1)Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.

(2)The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

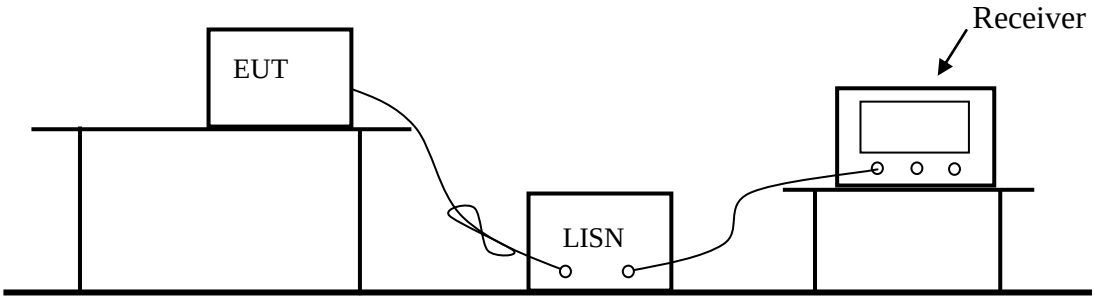
3. POWER LINE CONDUCTED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Software	AUDIX	E3	/	2018-06-16
2	EMI Test Receiver	R&S	ESPI	101840	2018-06-16
3	Artificial Mains	R&S	ENV216	101288	2018-06-16
4	10dB Attenuator	SCHWARZBECK	MTS-IMP-136	261115-001-0032	2018-06-16

3.2.Block Diagram of Test Setup



Ground

3.3.Test Standard

Power Line Conducted Emission Limits (Class B)

Frequency (MHz)			Limit (dBμV)	
			Quasi-peak Level	Average Level
0.15	~	0.50	66.0 ~ 56.0 *	56.0 ~ 46.0 *
0.50	~	5.00	56.0	46.0
5.00	~	30.00	60.0	50.0
NOTE1-The lower limit shall apply at the transition frequencies. NOTE2-The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.				

3.4.EUT Configuration on Test

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

3.5.Operating Condition of EUT

3.5.1.Setup the EUT as shown on Section 3.2

3.5.2.Turn on the power of all equipments.

3.5.3.Let the EUT work in measuring mode (1) and measure it.

3.6.Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC/ANSI C63.4-2014 on Conducted Emission Measurement.

The bandwidth of the test receiver is set at 9kHz.

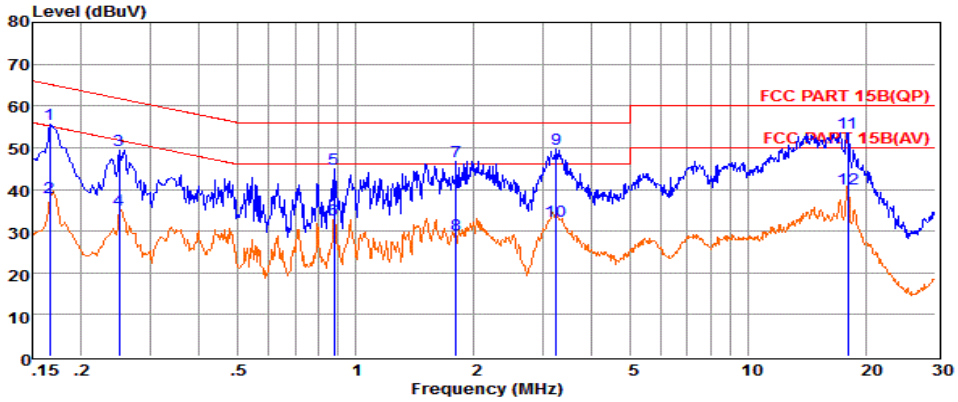
The frequency range from 150kHz to 30MHz is investigated

3.7.Test Results

PASS.

The test result please refer to the next page.

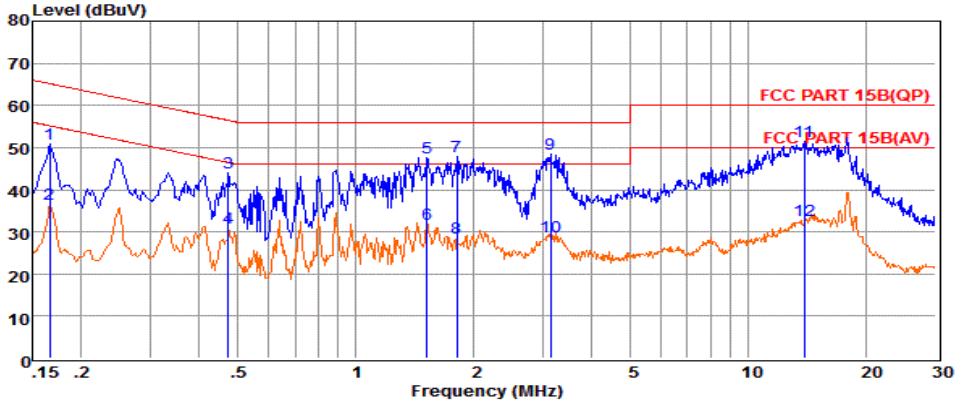
Test Model	BLACK PRO	Test Mode	Mode 1
Environmental Conditions	23.6℃, 53.1% RH	Test Engineer	Jay Li
Pol	Line	Test Voltage	AC 120V/60Hz



	Freq	Reading	LISNFac	CabLos	Aux2Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.17	35.87	9.59	0.02	10.00	55.48	65.16	-9.68	QP
2	0.17	18.46	9.59	0.02	10.00	38.07	55.16	-17.09	Average
3	0.25	29.77	9.63	0.03	10.00	49.43	61.78	-12.35	QP
4	0.25	15.34	9.63	0.03	10.00	35.00	51.77	-16.77	Average
5	0.88	25.10	9.63	0.04	10.00	44.77	56.00	-11.23	QP
6	0.88	12.98	9.63	0.04	10.00	32.65	46.00	-13.35	Average
7	1.80	27.03	9.64	0.05	10.00	46.72	56.00	-9.28	QP
8	1.80	9.42	9.64	0.05	10.00	29.11	46.00	-16.89	Average
9	3.24	30.07	9.65	0.06	10.00	49.78	56.00	-6.22	QP
10	3.24	12.63	9.65	0.06	10.00	32.34	46.00	-13.66	Average
11	17.94	33.63	9.74	0.11	10.00	53.48	60.00	-6.52	QP
12	17.95	20.21	9.74	0.11	10.00	40.06	50.00	-9.94	Average

Remarks: 1. Measured = Reading + LISNFac + Cable Loss + Aux2 Fac.
2. The emission levels that are 20dB below the official limit are not reported.

Test Model	BLACK PRO	Test Mode	Mode 1
Environmental Conditions	23.6℃, 53.1% RH	Test Engineer	Jay Li
Pol	Neutral	Test Voltage	AC 120V/60Hz



	Freq	Reading	LISNFac	CabLos	Aux2Fac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.17	31.10	9.66	0.02	10.00	50.78	65.16	-14.38	QP
2	0.17	17.03	9.66	0.02	10.00	36.71	55.16	-18.45	Average
3	0.47	24.40	9.62	0.04	10.00	44.06	56.45	-12.39	QP
4	0.47	11.29	9.62	0.04	10.00	30.95	46.45	-15.50	Average
5	1.52	27.98	9.63	0.05	10.00	47.66	56.00	-8.34	QP
6	1.52	12.28	9.63	0.05	10.00	31.96	46.00	-14.04	Average
7	1.81	28.18	9.63	0.05	10.00	47.86	56.00	-8.14	QP
8	1.81	8.99	9.63	0.05	10.00	28.67	46.00	-17.33	Average
9	3.14	28.81	9.64	0.06	10.00	48.51	56.00	-7.49	QP
10	3.14	9.05	9.64	0.06	10.00	28.75	46.00	-17.25	Average
11	13.91	31.66	9.74	0.10	10.00	51.50	60.00	-8.50	QP
12	13.92	12.85	9.74	0.10	10.00	32.69	50.00	-17.31	Average

Remarks: 1. Measured = Reading + LISNFac + Cable Loss + Aux2 Fac.
2. The emission levels that are 20dB below the official limit are not reported.

Note: Pre-Scan all mode, Thus record worse case mode result in this report.

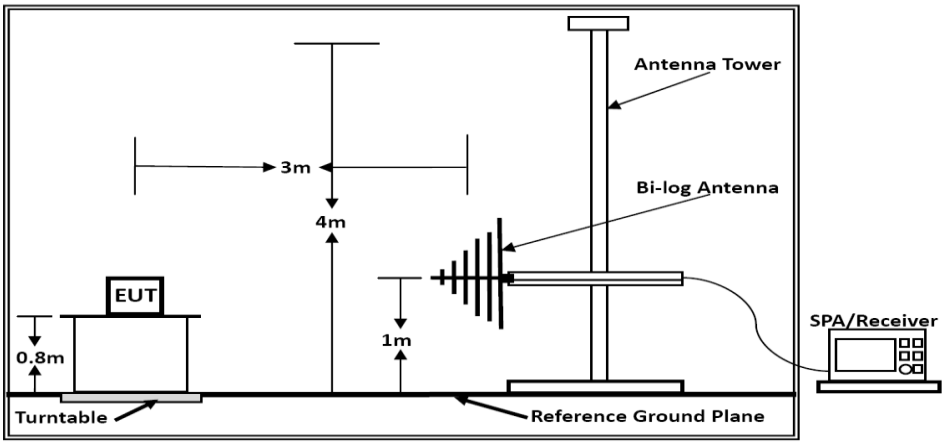
4. RADIATED EMISSION MEASUREMENT

4.1. Test Equipment

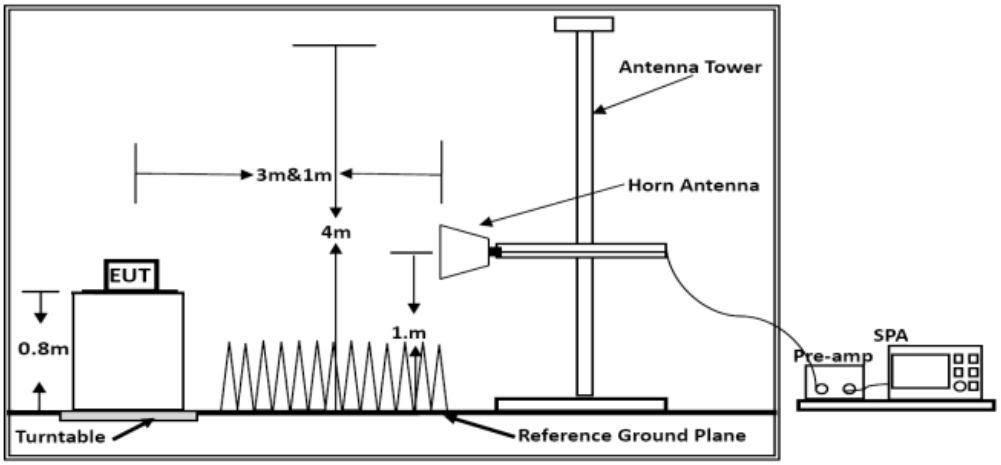
The following test equipments are used during the radiated emission measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Software	AUDIX	E3	/	2018-06-16
2	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2018-06-16
3	Positioning Controller	MF	MF-7082	/	2018-06-16
4	By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2018-07-26
5	Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1925	2018-07-02
6	EMI Test Receiver	R&S	ESR 7	101181	2018-06-16
7	RS SPECTRUM ANALYZER	R&S	FSP40	100503	2018-11-15
8	AMPLIFIER	QuieTek	QTK	CHM/0809065	2018-11-15
9	RF Cable-R03m	Jye Bao	RG142	CB021	2018-06-16
10	RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	2018-06-16

4.2. Block Diagram of Test Setup



Below 1GHz



Above 1GHz

4.3. Radiated Emission Limit (Class B)

Limits for radiated disturbance Blow 1GHz

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
30 ~ 88	3	100	40
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46
960 ~ 1000	3	500	54
Remark: (1) Emission level (dB)μV = 20 log Emission level μV/m (2) The smaller limit shall apply at the cross point between two frequency bands. (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.			

Limits for radiated disturbance Above 1GHz

Frequency (MHz)	Distance (Meters)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)
Above 1000MHz	3	54	74

4.4. EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.5. Operating Condition of EUT

4.5.1.Setup the EUT as shown in Section 4.2.
4.5.2.Let the EUT work in test mode (1) and measure it.

4.6. Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated by-log antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated emission measurement.

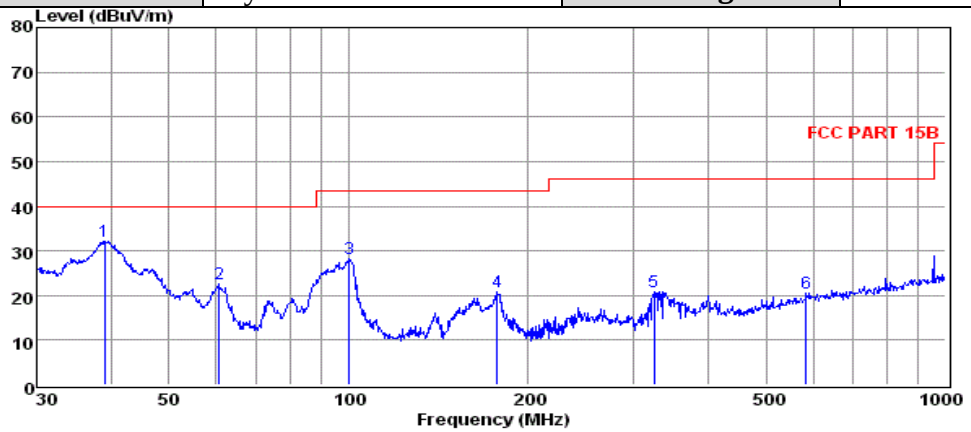
The bandwidth of the EMI test receiver is set at 120kHz, 1000kHz.
The frequency range from 30MHz to 1000MHz is checked.
The bandwidth of the Spectrum analyzer is set at RBW/VBW=1MHz/3MHz.
The frequency range from 1GHz to the frequency which about 5th carrier harmonic or 6GHz is checked.

4.7. Radiated Emission Noise Measurement Result

PASS.

The scanning waveforms please refer to the next page.

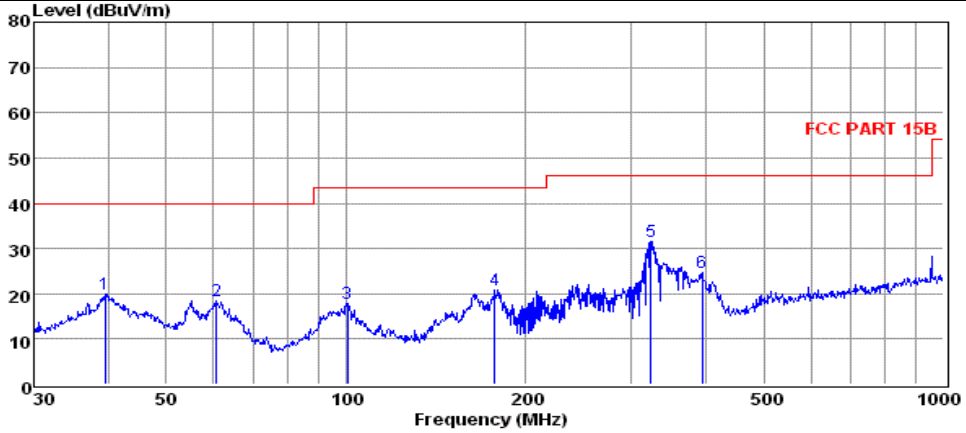
Test Model	BLACK PRO	Test Mode	Mode 1
Environmental Conditions	23.6℃, 53.1% RH	Detector Function	Quasi-peak
Pol	Vertical	Distance	3m
Test Engineer	Jay Li	Test Voltage	AC 120V/60Hz



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	39.02	18.47	0.38	13.33	32.18	40.00	-7.82	QP
2	60.70	9.85	0.49	12.41	22.75	40.00	-17.25	QP
3	100.23	14.57	0.60	13.14	28.31	43.50	-15.19	QP
4	177.51	10.43	0.89	9.50	20.82	43.50	-22.68	QP
5	324.46	6.30	1.10	13.51	20.91	46.00	-25.09	QP
6	584.79	0.74	1.50	18.17	20.41	46.00	-25.59	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

Test Model	BLACK PRO	Test Mode	Mode 1
Environmental Conditions	23.6℃, 53.1% RH	Detector Function	Quasi-peak
Pol	Horizontal	Distance	3m
Test Engineer	Jay Li	Test Voltage	AC 120V/60Hz

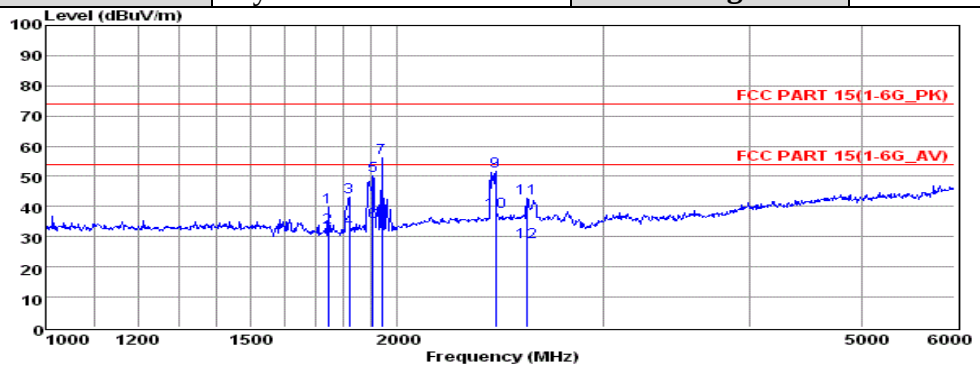


	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	39.44	6.21	0.38	13.44	20.03	40.00	-19.97	QP
2	60.70	5.61	0.49	12.41	18.51	40.00	-21.49	QP
3	100.58	4.07	0.60	13.11	17.78	43.50	-25.72	QP
4	177.51	10.38	0.89	9.50	20.77	43.50	-22.73	QP
5	323.32	17.02	1.10	13.46	31.58	46.00	-14.42	QP
6	394.85	8.46	1.30	14.94	24.70	46.00	-21.30	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

Note: Pre-Scan all mode, Thus record worse case mode result in this report.

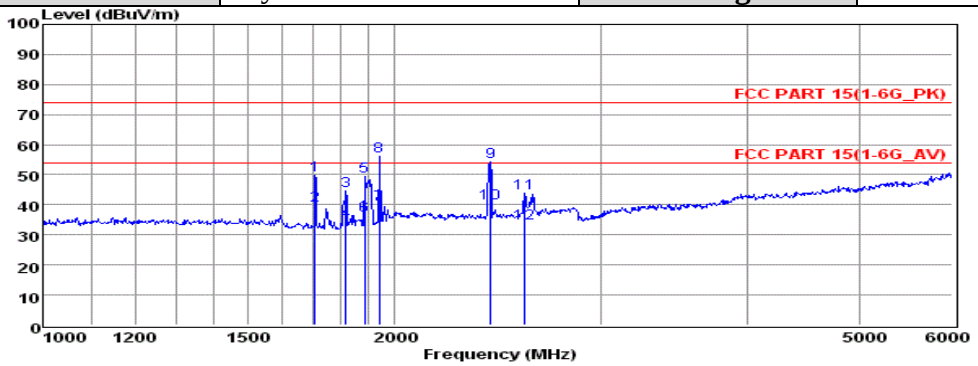
Test Model	BLACK PRO	Test Mode	Mode 1
Environmental Conditions	23.6℃, 53.1% RH	Detector Function	Peak+Average
Pol	Vertical	Distance	3m
Test Engineer	Jay Li	Test Voltage	AC 120V/60Hz



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	1745.84	47.57	4.45	24.82	39.83	74.00	-34.17	Peak
2	1745.84	40.93	4.45	24.82	33.19	54.00	-20.81	Average
3	1819.29	50.47	4.46	25.04	42.95	74.00	-31.05	Peak
4	1819.29	40.13	4.46	25.04	32.61	54.00	-21.39	Average
5	1906.05	57.33	4.48	25.38	50.15	74.00	-23.85	Peak
6	1906.05	41.97	4.48	25.38	34.79	54.00	-19.21	Average
7	1940.51	63.13	4.49	25.57	56.14	74.00	-17.86	Peak
8	1940.51	42.57	4.49	25.57	35.58	54.00	-18.42	Average
9	2427.64	56.18	5.10	27.61	51.79	74.00	-22.21	Peak
10	2427.64	42.56	5.10	27.61	38.17	54.00	-15.83	Average
11	2584.76	46.96	5.32	27.72	42.89	74.00	-31.11	Peak
12	2584.76	32.15	5.32	27.72	28.08	54.00	-25.92	Average

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

Test Model	BLACK PRO	Test Mode	Mode 1
Environmental Conditions	23.6℃, 53.1% RH	Detector Function	Peak+Average
Pol	Horizontal	Distance	3m
Test Engineer	Jay Li	Test Voltage	AC 120V/60Hz



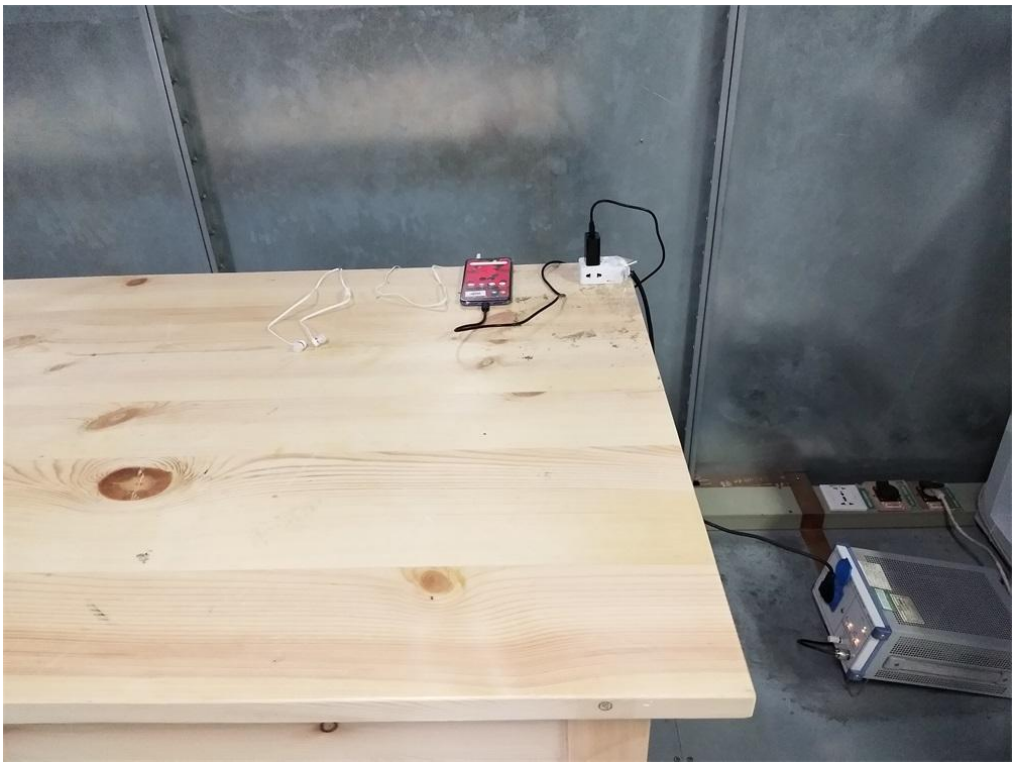
	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	1708.71	55.78	4.44	26.42	49.64	74.00	-24.36	Peak
2	1708.71	45.86	4.44	26.42	39.72	54.00	-14.28	Average
3	1816.04	50.59	4.46	26.46	44.49	74.00	-29.51	Peak
4	1816.04	40.79	4.46	26.46	34.69	54.00	-19.31	Average
5	1885.67	55.46	4.48	26.49	49.39	74.00	-24.61	Peak
6	1885.67	42.56	4.48	26.49	36.49	54.00	-17.51	Average
7	1940.51	45.06	4.49	27.57	40.07	54.00	-13.93	Average
8	1940.51	60.99	4.49	27.57	56.00	74.00	-18.00	Peak
9	2414.63	58.56	5.08	27.83	54.37	74.00	-19.63	Peak
10	2414.63	44.61	5.08	27.83	40.42	54.00	-13.58	Average
11	2584.76	47.55	5.32	27.95	43.71	74.00	-30.29	Peak
12	2584.76	37.51	5.32	27.95	33.67	54.00	-20.33	Average

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that are 20db below the official limit are not reported

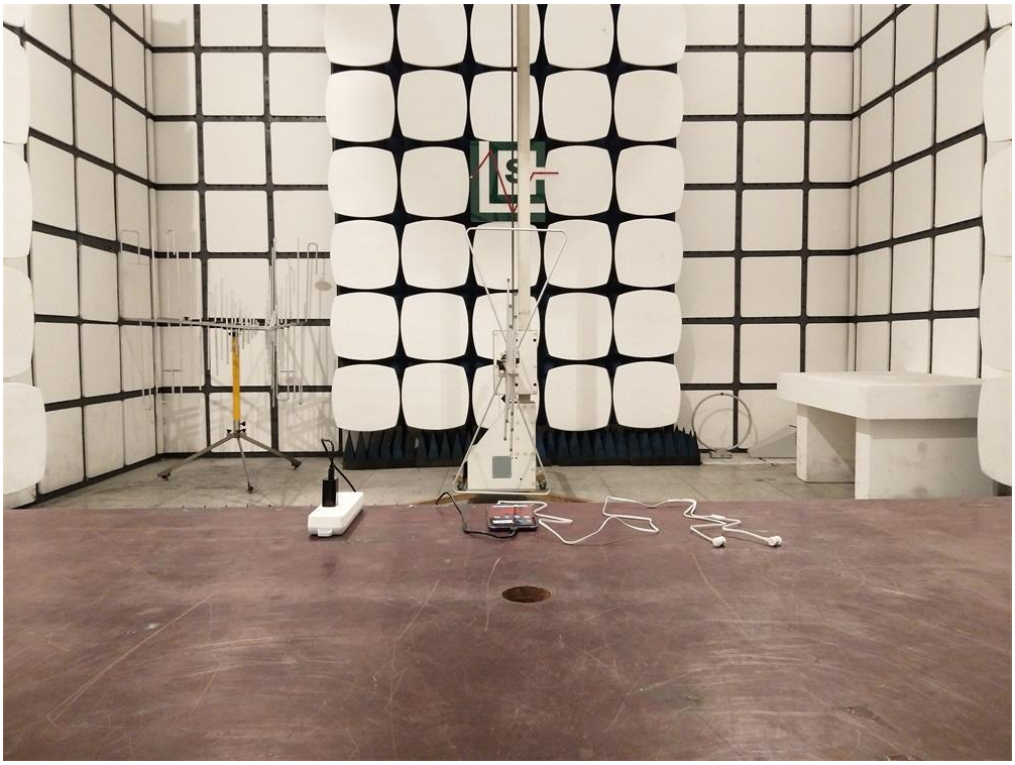
Note: Pre-Scan all mode, Thus record worse case mode result in this report.

5. PHOTOGRAPH

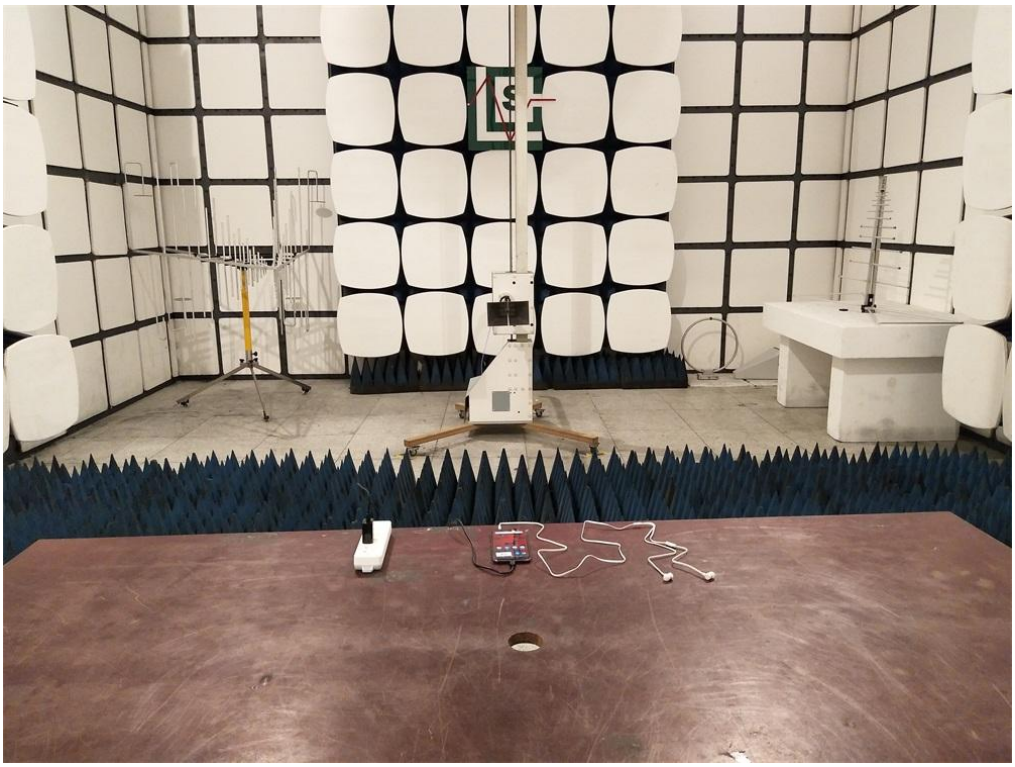
5.1.Photo of Power Line Conducted Measurement



5.2. Photo of Radiated Measurement(Below 1GHz)



5.3 Photo of Radiated Measurement (Above 1GHz)



6. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

Fig. 1

Fig. 2

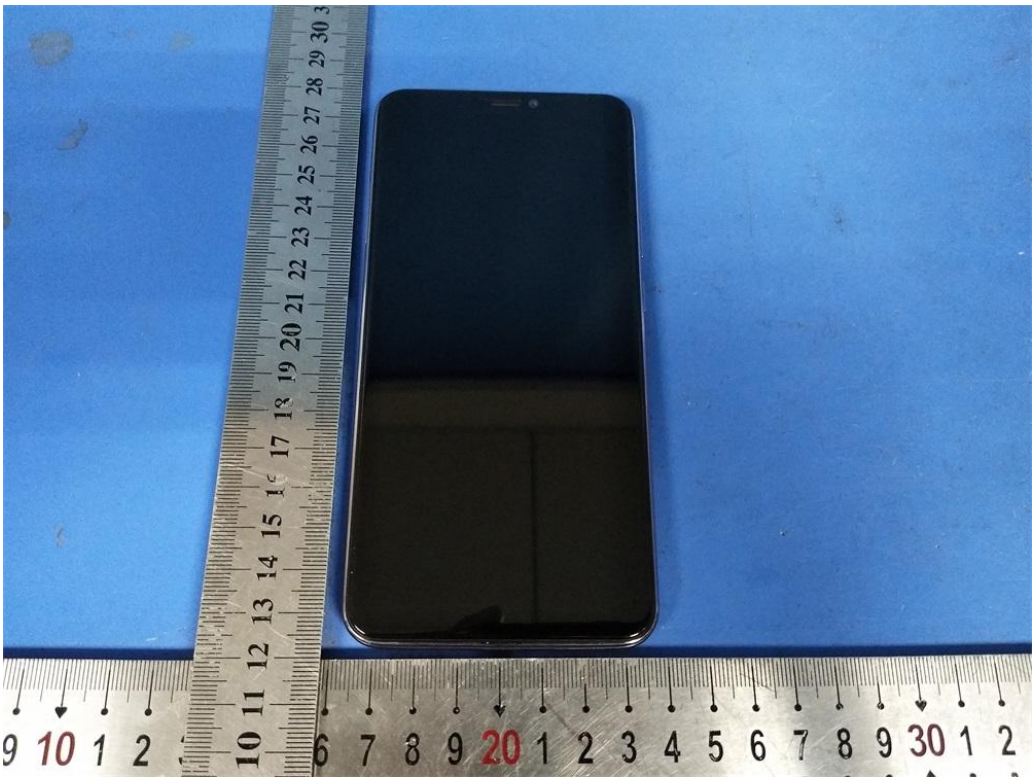


Fig. 3

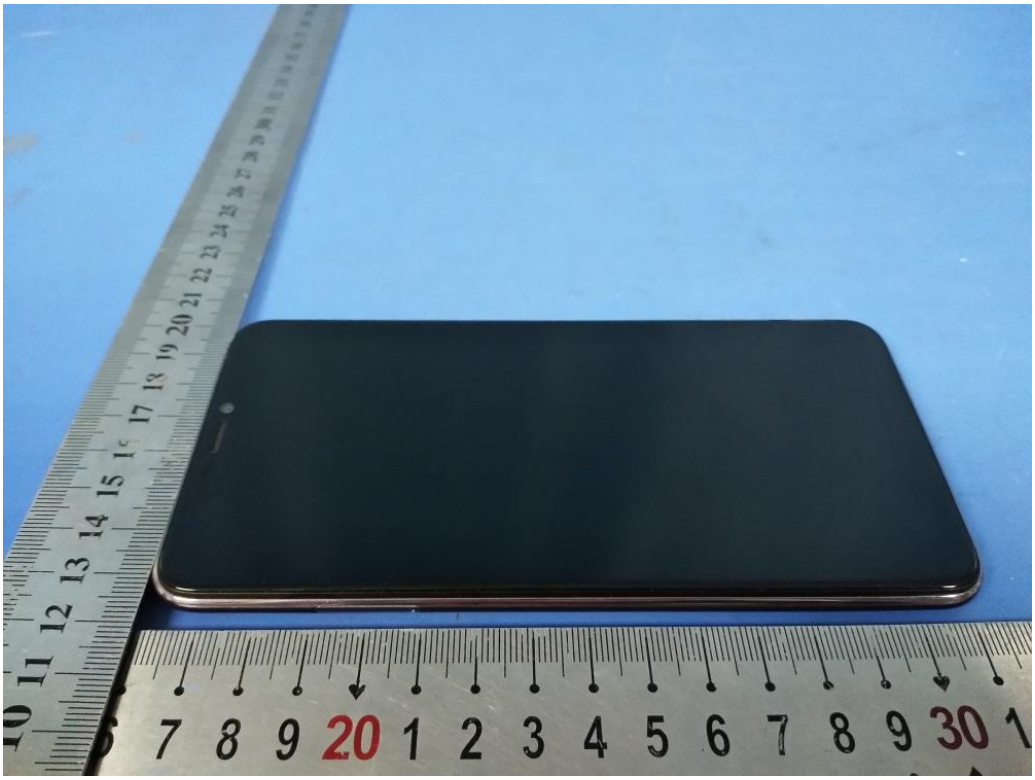


Fig. 4

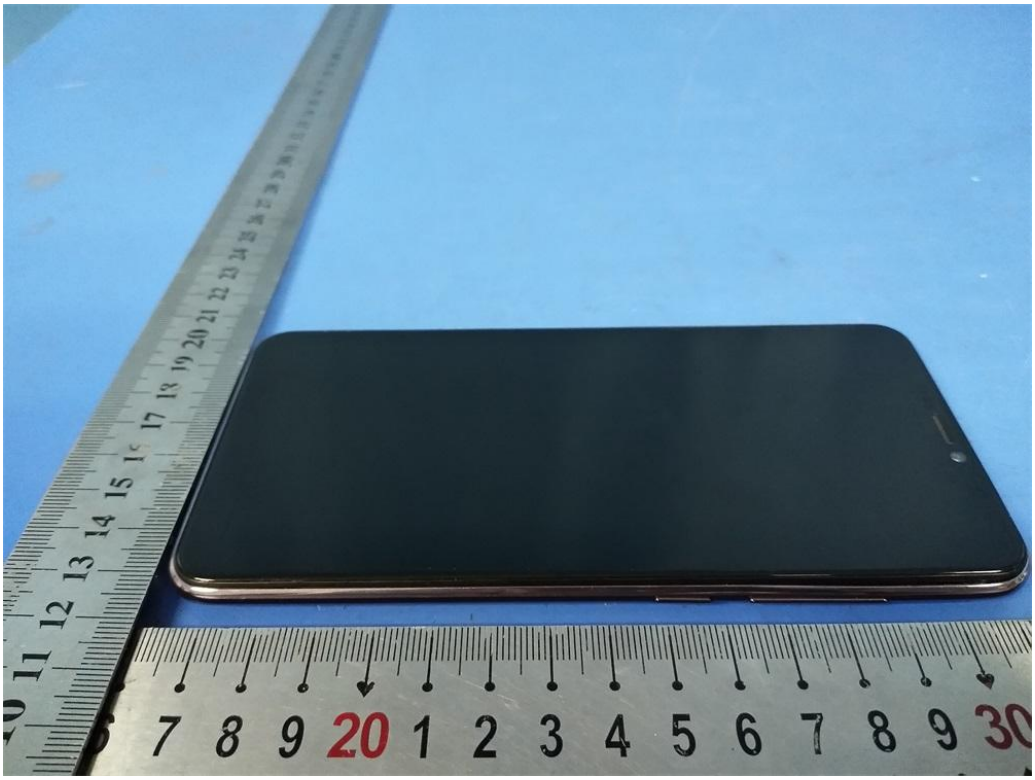


Fig. 5

Fig. 6

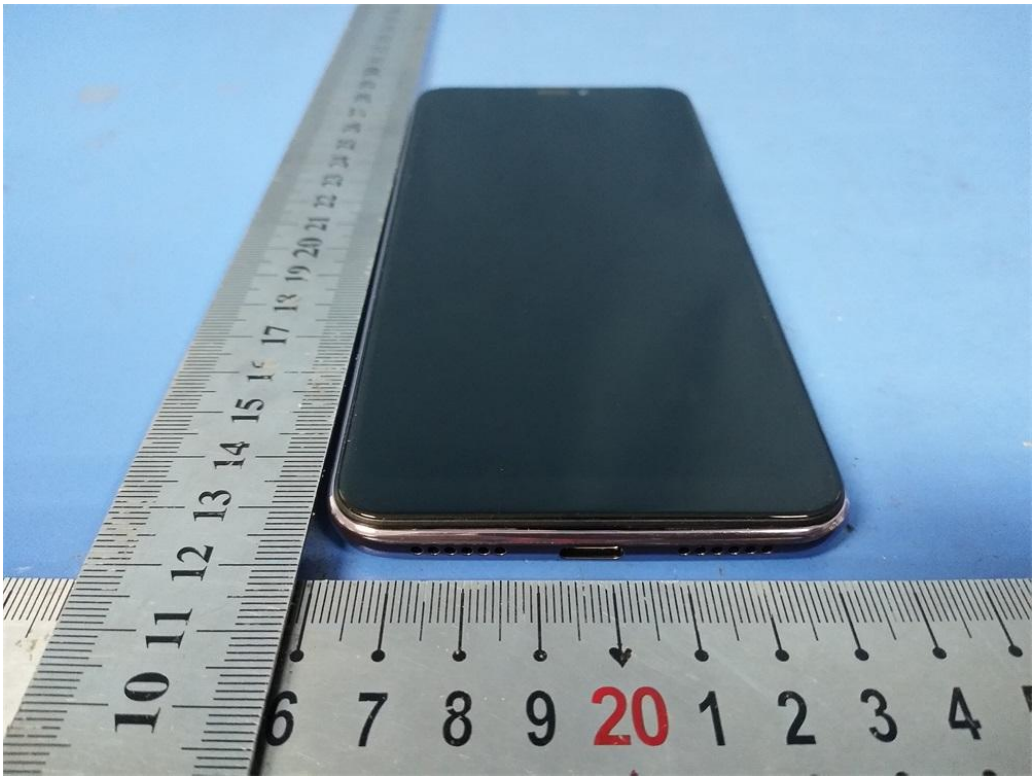


Fig. 7

Fig. 8

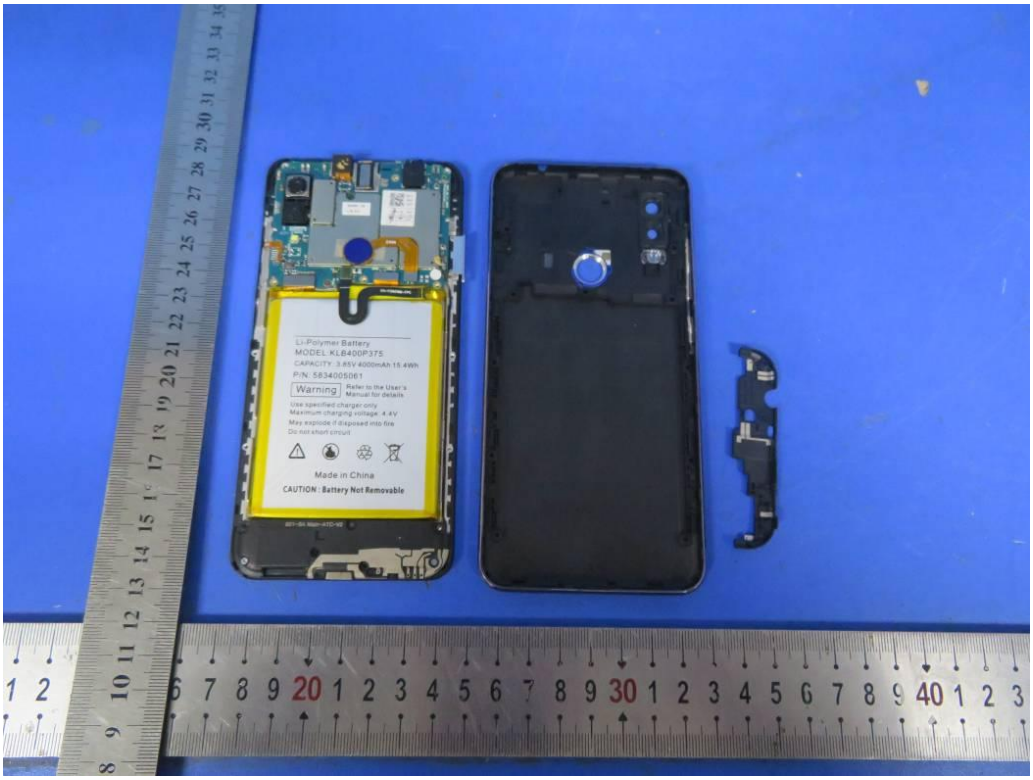


Fig. 9

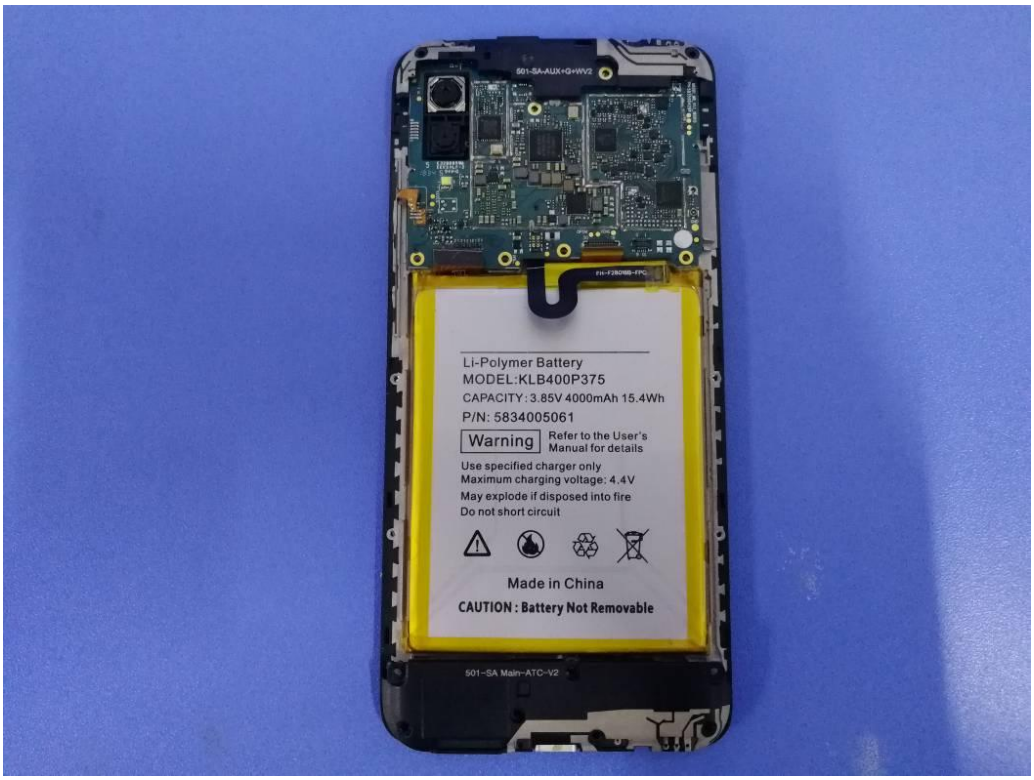


Fig. 10

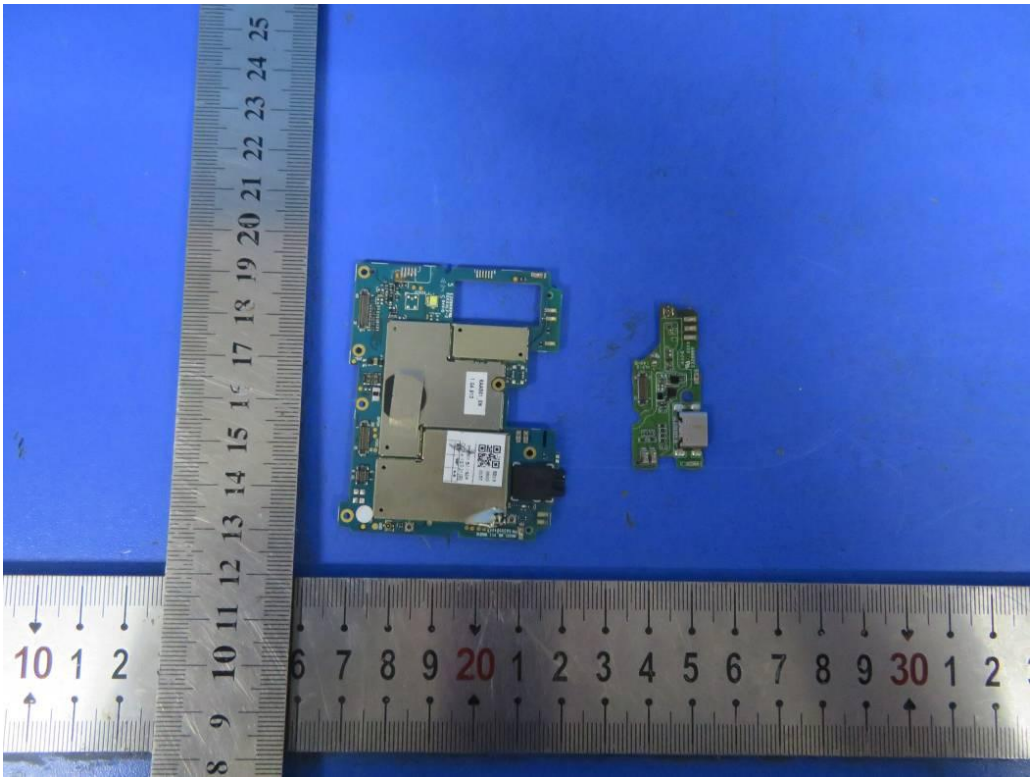


Fig. 11

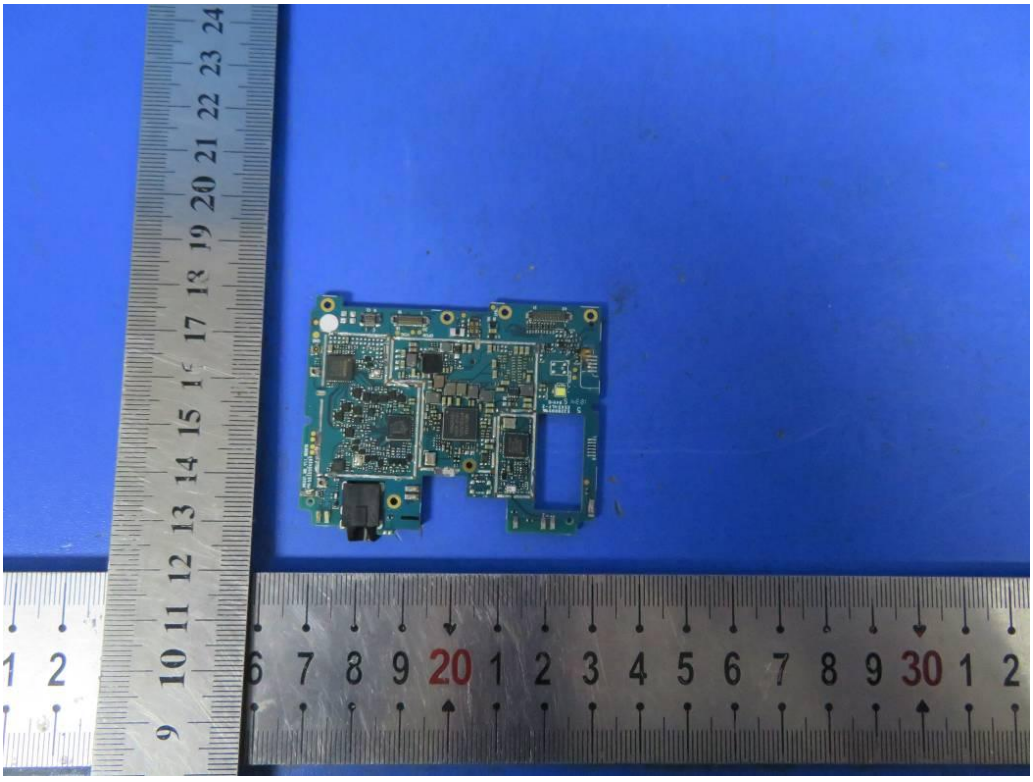


Fig. 12

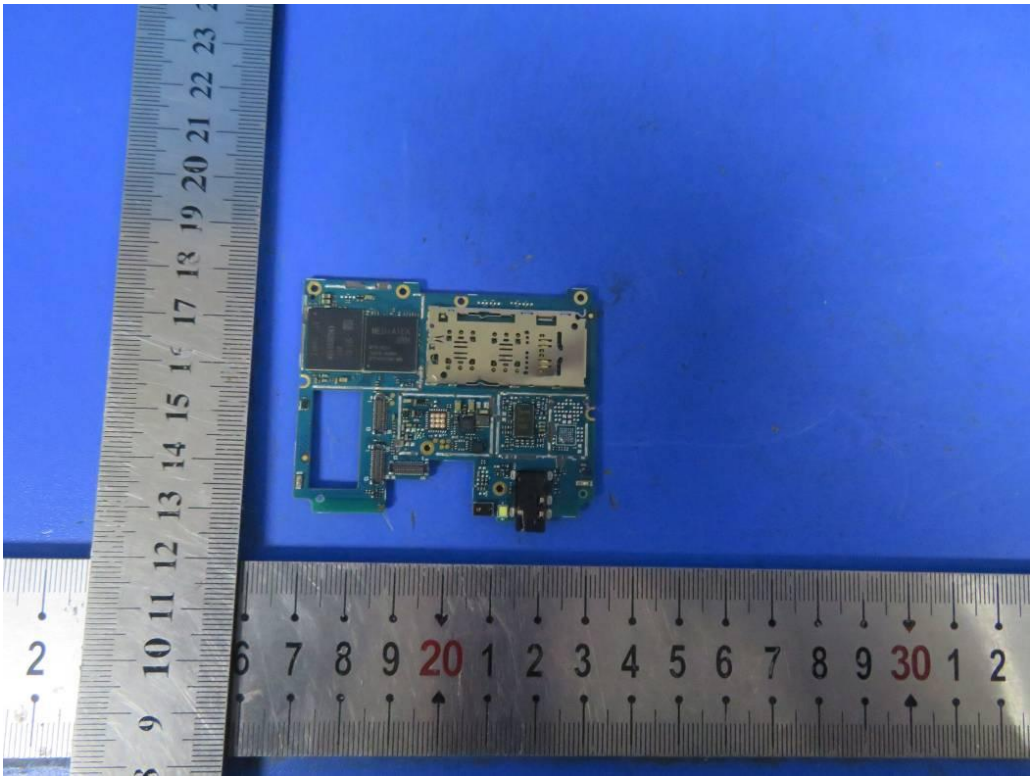


Fig. 13

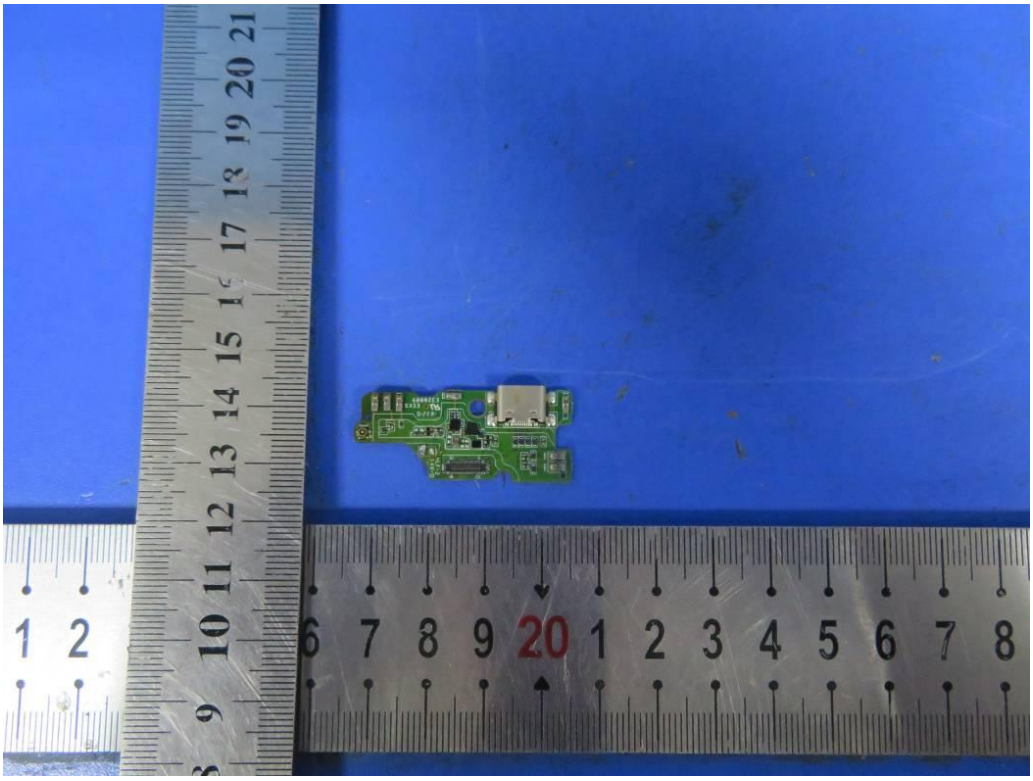


Fig. 14

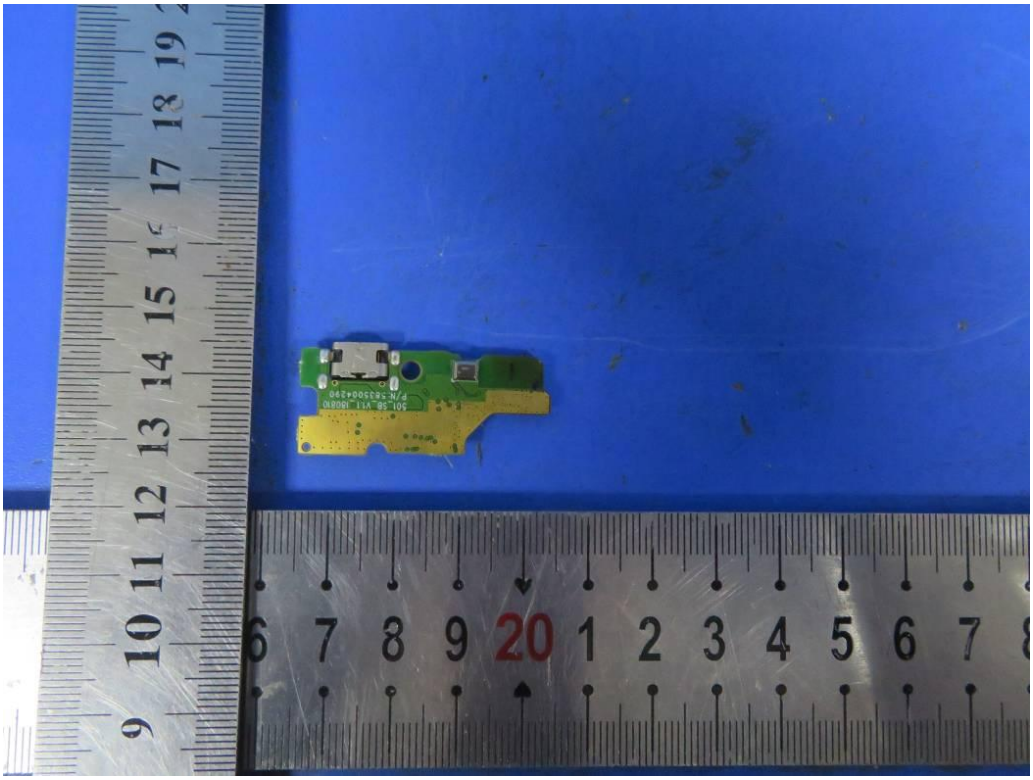


Fig. 15

Fig. 16

----------THE END OF TEST REPORT----------