FCC Test Report

Report No.: AGC01272160102FE04

FCC ID	:	2ACDFC5
APPLICATION PURPOSE	:	Class II Permissive Change
PRODUCT DESIGNATION	:	Mobile Phone
BRAND NAME	:	Superinworld
MODEL NAME	:	C5
CLIENT	:	SUPERDIGITAL TECHNOLOGY CO., LIMITED
DATE OF ISSUE	:	Mar.17, 2016
STANDARD(S)	:	FCC Part 15 Rules
REPORT VERSION	:	V1.0

*A*ttestation of *G*lobal *C*ompliance (Shenzhen) Co., Ltd

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Mar.17, 2016	Valid	Class II Permissive Change
Note: The report was based-on the project - AGC02225140802FE04, which was named (C5), has replaced a new one adapter; In the test results, the conducted emission test results were different from the original.				

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1. VERIFICATION OF CONFORMITY

Applicant	SUPERDIGITAL TECHNOLOGY CO., LIMITED
Address	F19, Block B, Nanxian Building, Longhua New District, Shenzhen 518000, P.R.China
Manufacturer	SUPERDIGITAL TECHNOLOGY CO., LIMITED
Address	F19, Block B, Nanxian Building, Longhua New District, Shenzhen 518000, P.R.China
Product Designation	Mobile Phone
Brand Name	Superinworld
Test Model	C5
Date of test	Mar.01, 2016 to Mar.11, 2016
Deviation	None
Condition of Test Sample	Normal
Report Template	AGCRT-US-IT/AC

We hereby certify that:
The above equipment was tested by Dongguan Precise Testing Service Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with requirement of FCC Part 15 Rules requirement.

Tested By	Dota Zhang	
	Dota Zhang(Zhang Jianfeng)	Mar.17, 2016
Reviewed By	Bart Xie	
	Bart Xie(Xie Xiaobin)	Mar.17, 2016
Approved By	Solger Zhang	
	Solger Zhang(Zhang Hongyi) Authorized Officer	Mar.17, 2016

2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as “Mobile Phone”. It is designed by way of utilizing the DSSS and OFDM technology to achieve the system operation.

2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency
2400~2483.5MHZ	1	2412 MHZ
	2	2417 MHZ
	3	2422 MHZ
	4	2427 MHZ
	5	2432 MHZ
	6	2437 MHZ
	7	2442 MHZ
	8	2447 MHZ
	9	2452 MHZ
	10	2457 MHZ
	11	2462 MHZ

Note: For 20MHZ bandwidth system use Channel 1 to Channel 11
For 40MHZ bandwidth system use Channel 3 to Channel 9

2.3. IEEE 802.11N MODULATION SCHEME

MCS Index	Nss	Modulation	R	NBPSC	NCBPS		NDBPS		Data rate(Mbps)	
									800nsGI	
					20MHz	40MHz	20MHz	40MHz	20MHz	40MHz
0	1	BPSK	1/2	1	52	108	26	54	6.5	13.5
1	1	QPSK	1/2	2	104	216	52	108	13.0	27.0
2	1	QPSK	3/4	2	104	216	78	162	19.5	40.5
3	1	16-QAM	1/2	4	208	432	104	216	26.0	54.0
4	1	16-QAM	3/4	4	208	432	156	324	39.0	81.0
5	1	64-QAM	2/3	6	312	648	208	432	52.0	108.0
6	1	64-QAM	3/4	6	312	648	234	489	58.5	121.5
7	1	64-QAM	5/6	6	312	648	260	540	65.0	135.0

Symbol	Explanation
NSS	Number of spatial streams
R	Code rate
NBPSC	Number of coded bits per single carrier
NCBPS	Number of coded bits per symbol
NDBPS	Number of data bits per symbol
GI	Guard interval

2.4. RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2ACDFC5** filing to comply with the FCC Part 15 requirements.

2.5. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4 (2003).
Radiated testing was performed at an antenna to EUT distance 3 meters.
Others testing (listed at item 5.3) was performed according to the procedures in FCC Part 15.247 rules KDB 558074 D01 DTS Meas Guidance v03r02.

2.6. SPECIAL ACCESSORIES

Refer to section 5.2.

2.7. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

3. MEASUREMENT UNCERTAINTY

Conducted measurement: +/- 2.75dB

4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Normal operating(TX + Charging)
Note: Transmit by 802.11b with Date rate (1/2/5.5/11) Transmit by 802.11g with Date rate (6/9/12/18/24/36/48/54) Transmit by 802.11n (20MHz) with Date rate (6.5/13/19.5/26/39/52/58.5/65) Transmit by 802.11n (40MHz) with Date rate (13.5/27/40.5/54/81/108/121.5/135)	

Note:

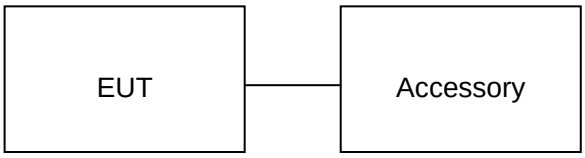
1.The EUT is operating at its maximum duty cycle>or equal 98%

2. All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.

5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM

Configure:



5.2. EQUIPMENT USED IN EUT SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	Mobile Phone	C5	FCC ID:2ACDFC5	EUT
2	Adapter	TEKA006-0501000UK	DC5V / 1A	Accessory
3	Battery	C5	DC3.7V / 1150 mAh	Accessory
4	Earphone	C5	N/A	Accessory
5	USB Cable	C5	N/A	Accessory

Note: All the accessories have been used during the test in conduction emission test.

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.207	Line Conduction Emission	Compliant

Note: The EUT received power from DC3.7V lithium battery.

6. TEST FACILITY

Site	Dongguan Precise Testing Service Co., Ltd.
Location	Building D, Baoding Technology Park, Guangming Road2,Dongcheng District, Dongguan, Guangdong, China,
FCC Registration No.	371540
Description	The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2009.

ALL TEST EQUIPMENT LIST

Conducted Emission Test Site					
Name of Equipment	**Manufacturer**	**Model Number**	**Serial Number**	**Last Calibration**	**Due Calibration**
EMI Test Receiver	Rohde & Schwarz	ESCI	101417	July 4, 2015	July 3, 2016
Artificial Mains Network	Narda	L2-16B	000WX31025	July 8, 2015	July 7, 2016
Artificial Mains Network (AUX)	Narda	L2-16B	000WX31026	July 8, 2015	July 7, 2016
RF Cable	SCHWARZBECK	AK9515E	96222	July 4, 2015	July 3, 2016
Shielded Room	CHENGYU	843	PTS-002	June 6,2015	June 5,2016

7. FCC LINE CONDUCTED EMISSION TEST

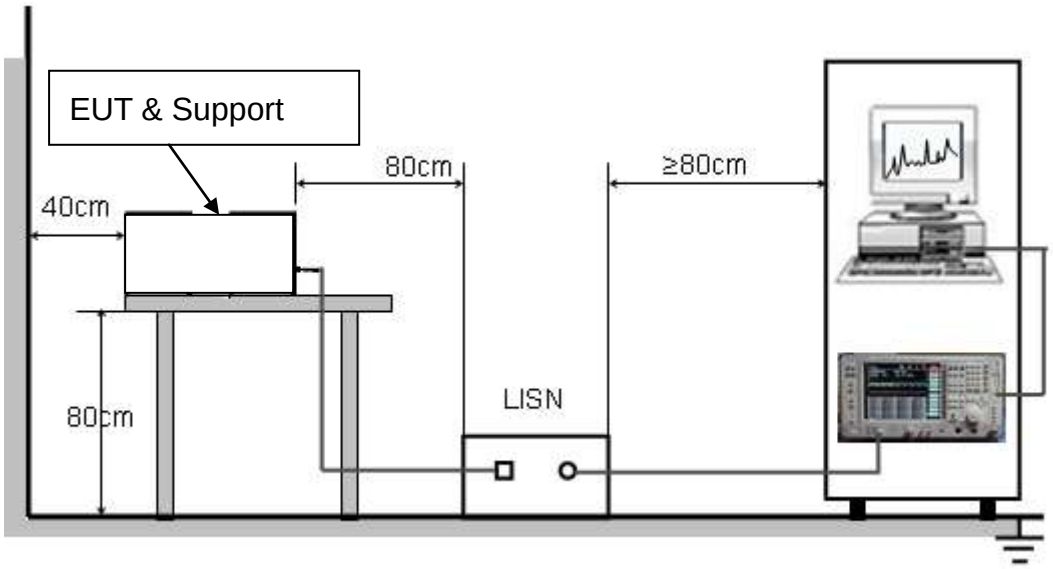
7.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

Note:

1. The lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

7.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



7.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

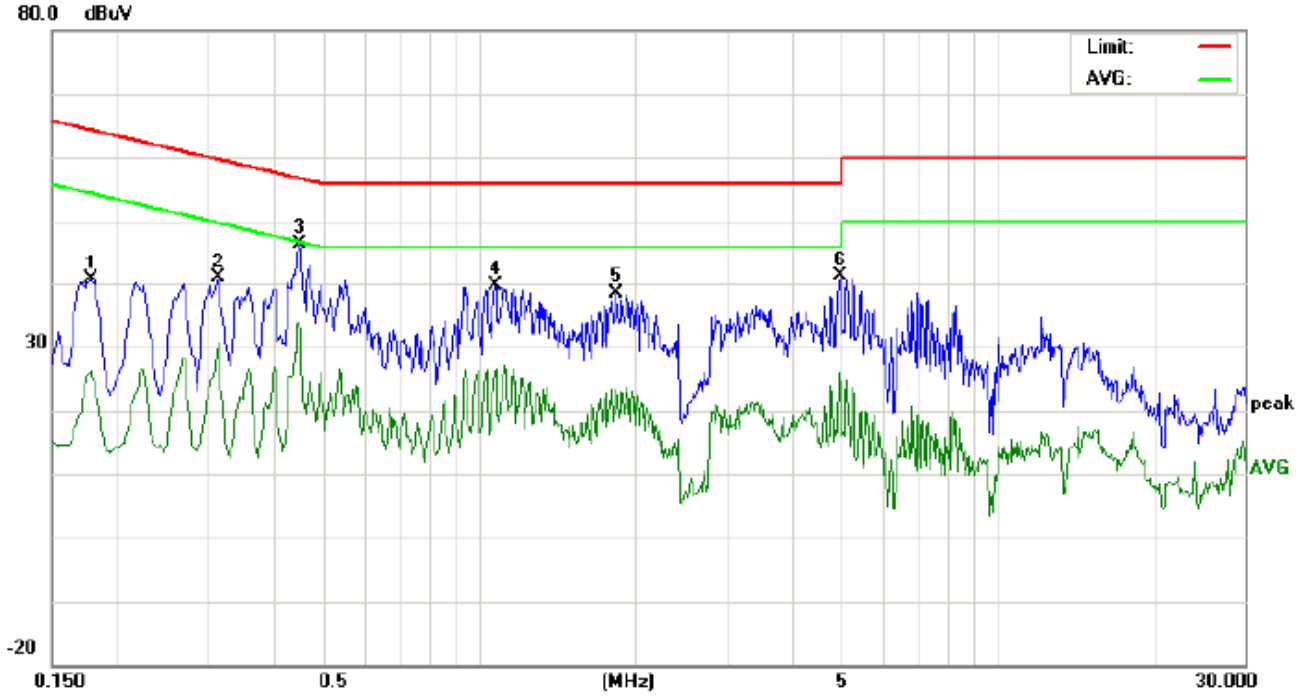
1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2. Support equipment, if needed, was placed as per ANSI C63.4.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
4. All support equipments received AC120V/60Hz power from a LISN, if any.
5. The EUT received charging voltage by adapter which received 120V/60Hzpower by a LISN..
6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.
9. The test mode(s) were scanned during the preliminary test.
10. Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

7.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
3. The test data of the worst case condition(s) was reported on the Summary Data page.

7.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

LINE CONDUCTED EMISSION TEST LINE 1-L



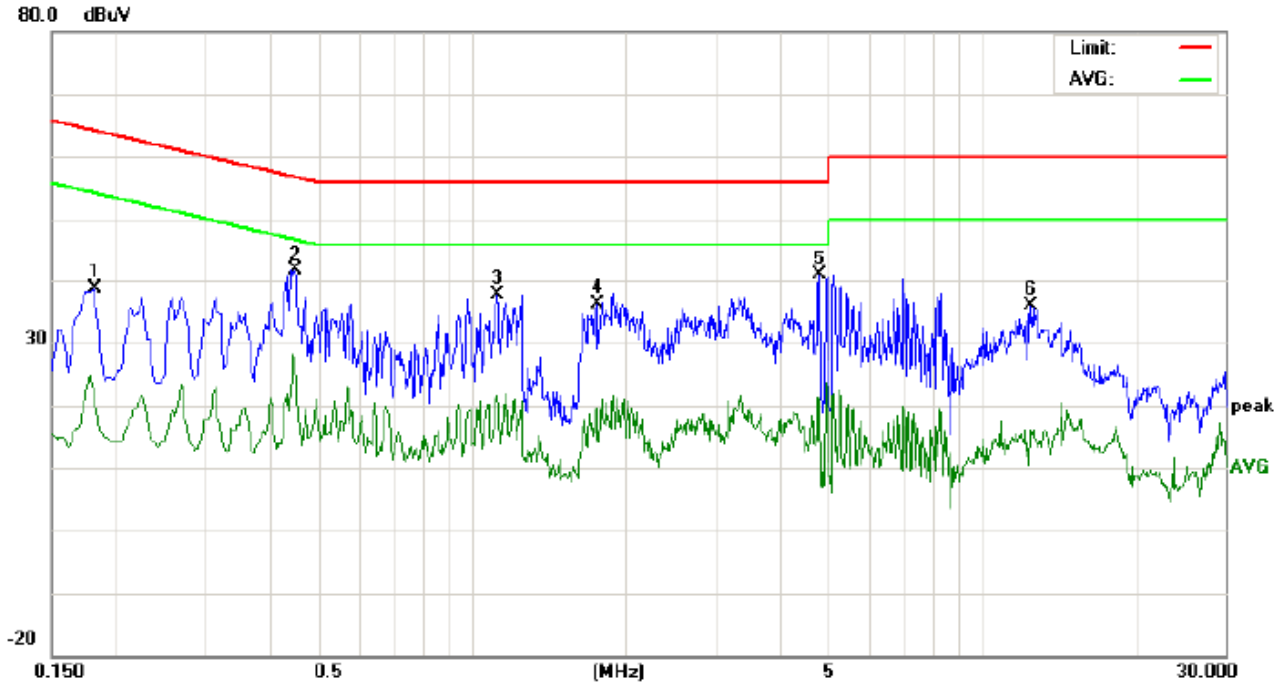
Site: Conduction
Limit: FCC Class B Conduction(QP)
EUT: Mobile phone
M/N: C5
Mode: WLAN TX + charging
Note:

Phase: *L1*
Power: AC 120V/60Hz

Temperature: 23.6
Humidity: 53.6 %

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.1780	30.50		15.98	10.19	40.69		26.17	64.57	54.57	-23.88	-28.40	P	
2	0.3140	30.67		20.37	10.30	40.97		30.67	59.86	49.86	-18.89	-19.19	P	
3	0.4500	36.09		23.39	10.37	46.46		33.76	56.87	46.87	-10.41	-13.11	P	
4	1.0740	29.33		15.57	10.37	39.70		25.94	56.00	46.00	-16.30	-20.06	P	
5	1.8380	28.10		12.32	10.27	38.37		22.59	56.00	46.00	-17.63	-23.41	P	
6	4.9699	30.91		13.73	10.24	41.15		23.97	56.00	46.00	-14.85	-22.03	P	

Line Conducted Emission Test Line 2-N



Site: Conduction
Limit: FCC Class B Conduction(QP)
EUT: Mobile phone
M/N: C5
Mode: WLAN TX + charging
Note:

Phase: N
Power: AC 120V/60Hz

Temperature: 23.6
Humidity: 53.6 %

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.1819	28.36		10.87	10.20	38.56		21.07	64.39	54.39	-25.83	-33.32	P	
2	0.4500	31.29		15.29	10.37	41.66		25.66	56.87	46.87	-15.21	-21.21	P	
3	1.1180	27.14		11.20	10.37	37.51		21.57	56.00	46.00	-18.49	-24.43	P	
4	1.7580	25.86		9.42	10.30	36.16		19.72	56.00	46.00	-19.84	-26.28	P	
5	4.7980	30.75		11.02	10.23	40.98		21.25	56.00	46.00	-15.02	-24.75	P	
6	12.4940	25.65		6.04	10.14	35.79		16.18	60.00	50.00	-24.21	-33.82	P	

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC LINE CONDUCTED EMISSION TEST SETUP

APPENDIX B: PHOTOGRAPHS OF EUT

TOTAL VIEW OF EUT

TOP VIEW OF EUT

BOTTOM VIEW OF EUT

FRONT VIEW OF EUT

BACK VIEW OF EUT

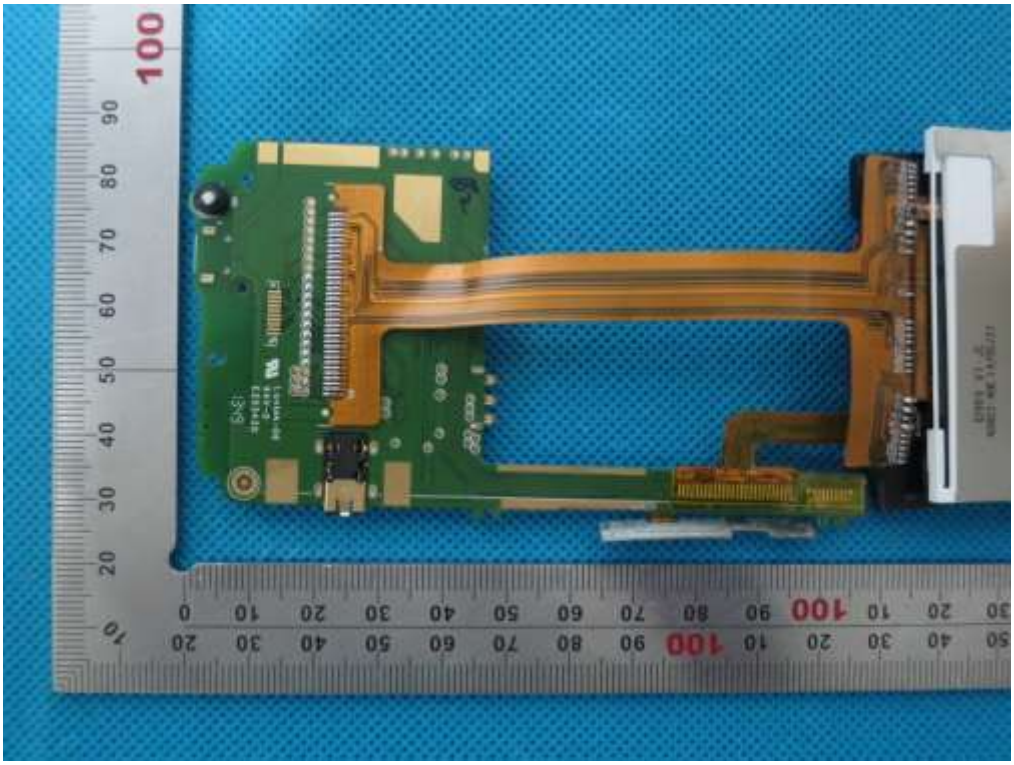
LEFT VIEW OF EUT

RIGHT VIEW OF EUT

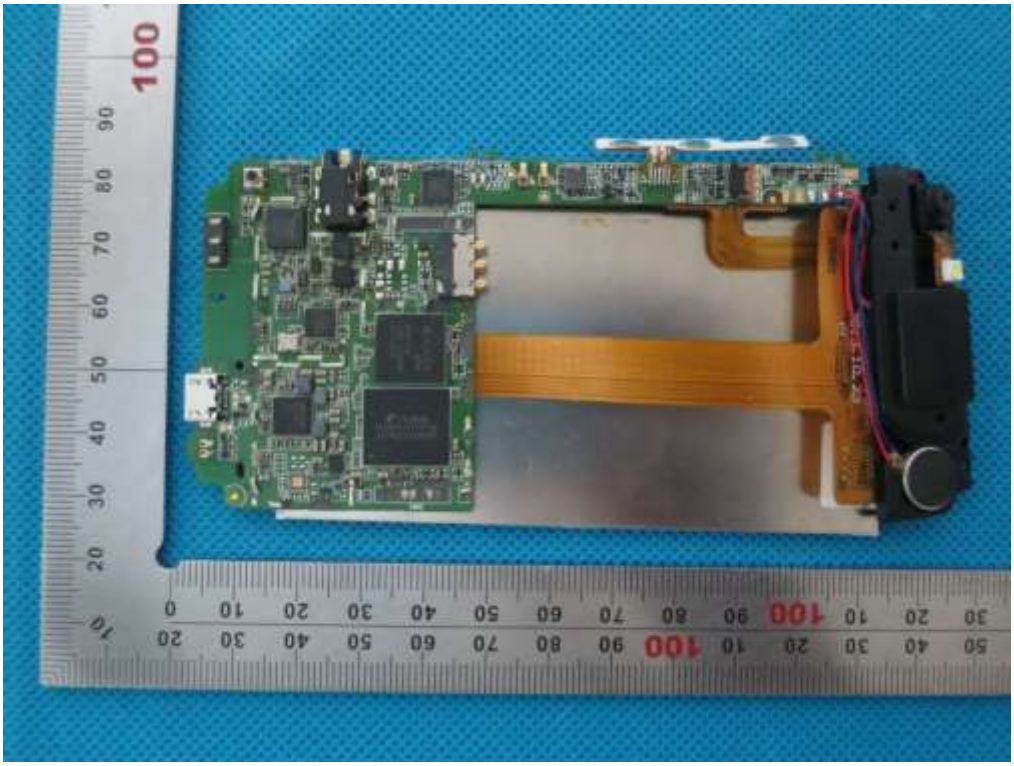
OPEN VIEW OF EUT-1

OPEN VIEW OF EUT-2

INTERNAL VIEW OF EUT-1



INTERNAL VIEW OF EUT-2



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