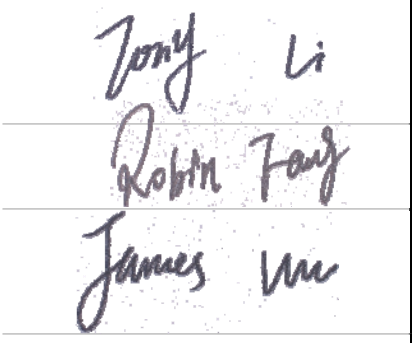
FCC TEST REPORT

47 CFR FCC Part 15 Subpart B

Report Reference No......:	**A150A166219-JBP**
FCC ID..... :	**2ACWO-MA7**
Compiled by (position+printed name+signature)..:	File administrators Tony Li
Supervised by (position+printed name+signature)..:	Technique principal Robin Fang
Approved by (position+printed name+signature)..:	Manager James Wu
Date of issue.....:	Apr 25, 2015



Representative Laboratory Name ....:	Shenzhen CTL Electron Technology Co., Ltd.
Address .....:	A0402, Block 1, Kefa Industrial District, Huanguan Nan Rd, Xintian community, Guanlan, Baoan, Shenzhen, China
Testing Laboratory Name.....:	Dongguan Dongdian Testing Service Co.,Ltd
Address .....:	No.17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China
Applicant's name.....:	**AURA TECHNOLOGY LIMTED**
Address .....:	FLAT/RM810, Star House, 3 Salisbury Road, Tsimshatsui, Hong Kong
Test specification .....**:**	
Standard .....:	**47 CFR FCC Part 15 Subpart B - Unintentional Radiators** **ANSI C63.4: 2014**
TRF Originator.....:	Shenzhen CTL Electron Technology Co., Ltd.
Master TRF.....:	Dated 2012-06

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Test item description .....:	Telpad
Trade Mark .....:	/
Model/Type reference.....:	MA7
Listed Models .....:	/
Manufacturer .....:	**SHENZHEN KWANG SUNG ELECTRONICS CO.,LTD**
Rating .....:	DC 3.70V
Result.....:	**PASS**

T E S T R E P O R T

Test Report No. :	A150A166219-JBP	Apr,25 2015 Date of issue

Equipment under Test	:	Telpad
Model /Type	:	MA7
Listed Models	:	/
Applicant	:	**AURA TECHNOLOGY LIMTED**
Address	:	FLAT/RM810, Star House, 3 Salisbury Road, Tsimshatsui, Hong Kong
Manufacturer		**SHENZHEN KWANG SUNG ELECTRONICS CO.,LTD**
Address	:	Shitoushan Industrial Zone, Shi Yan Town, Baoan District, Shenzhen, PRC

Test Result	PASS

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.

Contents

1. TEST STANDARDS

The tests were performed according to following standards:

47 CFR FCC Part 15 Subpart B - Unintentional Radiators

ANSI C63.4: 2014 – American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the
Range of 9 kHz to 40GHz

2 . SUMMARY

2.1. General Remarks

Date of receipt of test sample	:	Apr 07, 2015
Testing commenced on	:	Apr 07, 2015
Testing concluded on	:	Apr 09, 2015

2.2. Product Description

The **AURA TECHNOLOGY LIMTED**'s Model: MA7 or the "EUT" as referred to in this report; more general information as follows, for more details, refer to the user's manual of the EUT.

Name of EUT	Telpad
Model Number	MA7
FCC ID	2ACWO-MA7
WLAN	Supported 802.11b/802.11g/802.11n
Bluetooth	Supported BT 4.0+EDR
Antenna Type	Internal
WLAN FCC Operation frequency	IEEE 802.11b: 2412MHz—2462MHz IEEE 802.11g: 2412MHz—2462MHz IEEE 802.11n HT20: 2412MHz—2462MHz IEEE 802.11n HT40: 2422MHz—2452MHz
Bluetooth FCC Operation frequency	2402MHz-2480MHz
WLAN Modulation	IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK)
Bluetooth Modulation	EDR(GFSK,8DPSK,π/4DQPSK)/BLE(GFSK)
Android Version	Android 4.2.2

2.3. Equipment Under Test

Power supply system utilised

Power supply voltage	:	○	120V / 60 Hz	○	115V / 60Hz
		○	12 V DC	○	24 V DC
		●	Other (specified in blank below)		

DC 3.70V/DC 5V From Adapter AC 120V/60Hz

2.4. EUT operation mode

The EUT has been tested under typical operating condition.

2.5. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID: 2ACWO-MA7** filing to comply with Subpart B of the FCC Part 15, Subpart B Rules.

2.6. Modifications

No modifications were implemented to meet testing criteria.

2.7. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

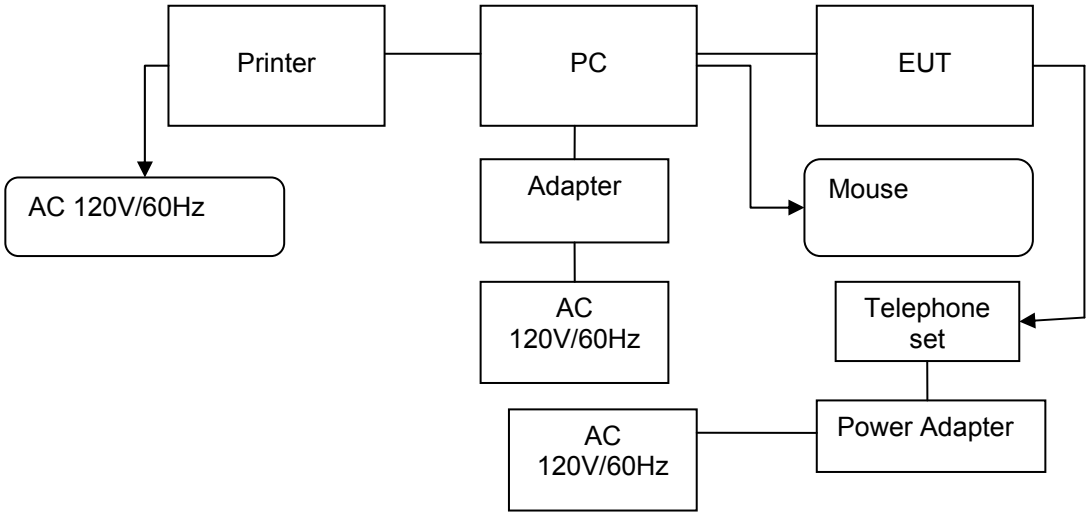
● - supplied by the manufacturer

○ - supplied by the lab

○	Power Cable	Length (m) :	/
		Shield :	/
		Detachable :	/
○	Multimeter	Manufacturer :	/
		Model No. :	/

2.8. Configuration of Tested System

Configuration of Tested System



Equipment Used in Tested System

No.	Equipment	Manufacturer	Model No.	Serial No.	Length	shielded/ unshielded	Notes
1	PC	DELL	PP26L	CNG8390Q6X	/	/	DOC
2	Printer	ESPOn	C3990	C3990A	/	/	DOC
3	Mouse	DELL	MO56UOA	G0E02SY7	1.00m	unshielded	DOC
4	Adapter	HIPRO	HP-A0904A3	F1120709016S404	1.50m	unshielded	DOC
5	Power line	/	/	N/A	1.00m	unshielded	N/A

2.9. NOTE

1. The EUT is a Telpad with WLAN and Bluetooth function,The functions of the EUT listed as below:

	Test Standards	Reference Report
WLAN	FCC Part 15 Subpart C	A150A166219-WLAN
Bluetooth-EDR	FCC Part 15 Subpart C	A150A166219-EDR
Bluetooth-BLE	FCC Part 15 Subpart C	A150A166219-BLE
JBP	FCC Part 15 Subpart B	A150A166219-JBP
SAR	FCC Per 47 CFR 2.1093(d)	A150A166219-SAR

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Dongguan Dongdian Testing Service Co., Ltd

No.17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 (2003) and CISPR Publication 22.

3.2. Test Facility

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

IC Registration No.: 10288A-1

The 3m alternate test site of Dongguan Dongdian Testing Service Co.,Ltd EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration No.: 10288A-1 on Mar, 2015.

FCC-Registration No.: 270092

Dongguan Dongdian Testing Service Co.,Ltd EMC Laboratory 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. Registration 270092, Mar 06, 2012.

3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

3.4. 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 Dongguan Dongdian Testing Service Co.,Ltd 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.

Hereafter the best measurement capability for Dongguan Dongdian Testing Service Co.,Ltd laboratory is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	3.16 dB	(1)
Radiated Emission	1~18GHz	2.56 dB	(1)
Radiated Emission	18-40GHz	2.56 dB	(1)
Conducted Disturbance	0.15~30MHz	2.44 dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.5. Equipments Used during the Test

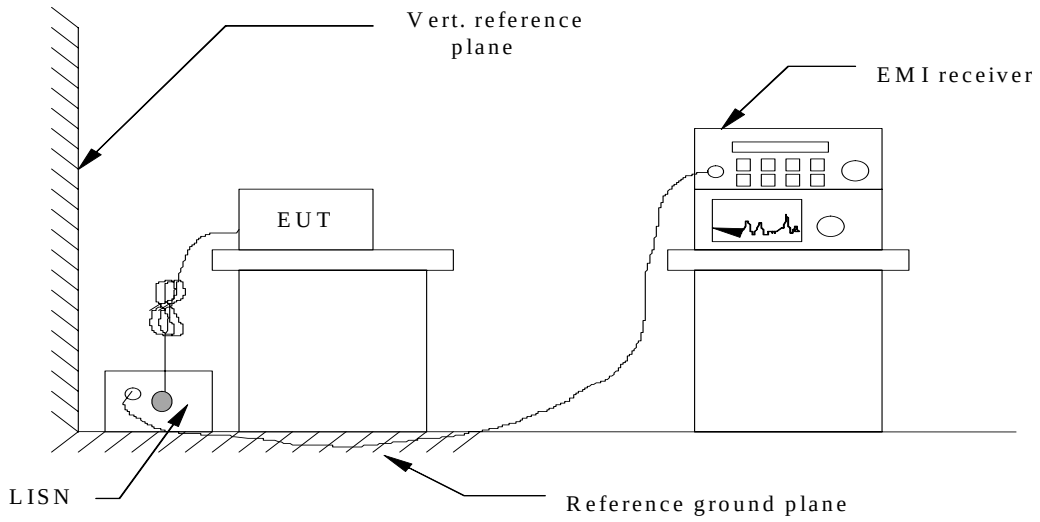
Radiated Emission						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Ultra-Broadband Antenna	ShwarzBeck	VULB9163	462	2014/04/12	3 years
2	EMI TEST Receiver	Rohde&Schwarz	ESU8	100316	2014/10/25	1 years
3	EMI TEST Software	Audix	E3	6.111111	N/A	N/A
4	Horn Anternna	EMCO	3116	00060095	2014/04/12	3 years
5	Pre-Amplifer	Rohde&Schwarz	SCU-01	10049	2014/10/25	1 years
6	Pre-Amplifer	A.H.	PAM0-0118	360	2014/10/25	1 years
7	Pre-Amplifer	A.H.	PAM-1840VH	562	2014/10/25	1 years
8	Double Ridged Horn Antenna	Rohde&Schwarz	HF907	100265	2014/04/12	3 years
9	Active Loop Antenna	Schwarz beck	FMZB1519	0.38	2014/04/12	3 years
11	TURNTABLE	MATURO	TT2.0	----	N/A	N/A
12	ANTENNA MAST	MATURO	TAM-4.0-P	----	N/A	N/A
13	Spectrum Analyzer	R&S	FSU26	1166.1660.26	2014/10/25	1 years

AC Power Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Artificial Mains	Rohde&Schwarz	ENV216	101109	2014/10/25	1 years
2	Artificial Mains	Rohde&Schwarz	ESH3-Z5	100309	2014/10/25	1 years
3	EMI Test Receiver	Rohde&Schwarz	ESU8	100316	2014/10/25	1 years
4	Pulse Limiter	Rohde&Schwarz	ESH3-Z2	101242	2014/10/25	1 years

4. TEST CONDITIONS AND RESULTS

4.1. Conducted Emissions Test

TEST CONFIGURATION



TEST PROCEDURE

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. 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 C63.4-2009.
2. Support equipment, if needed, was placed as per ANSI C63.4-2009.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4-2009.
4. The EUT received DC 5.0 from USB powered from AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT 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.

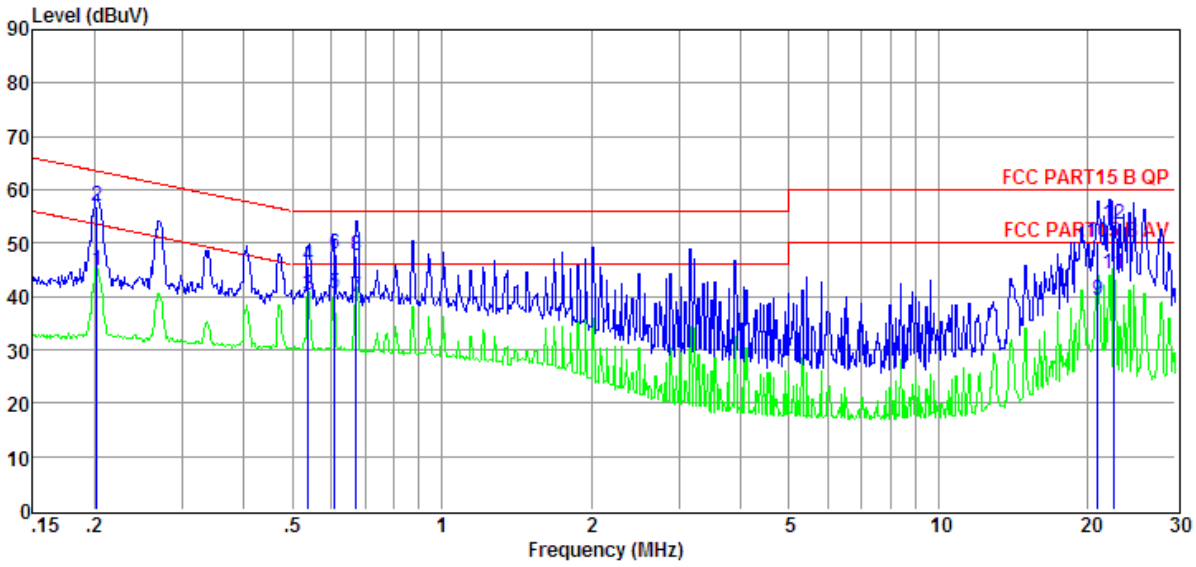
CONDUCTED POWER LINE EMISSION LIMIT

For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following：

Frequency (MHz)	Maximum RF Line Voltage (dBμV)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56*	56-46*
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

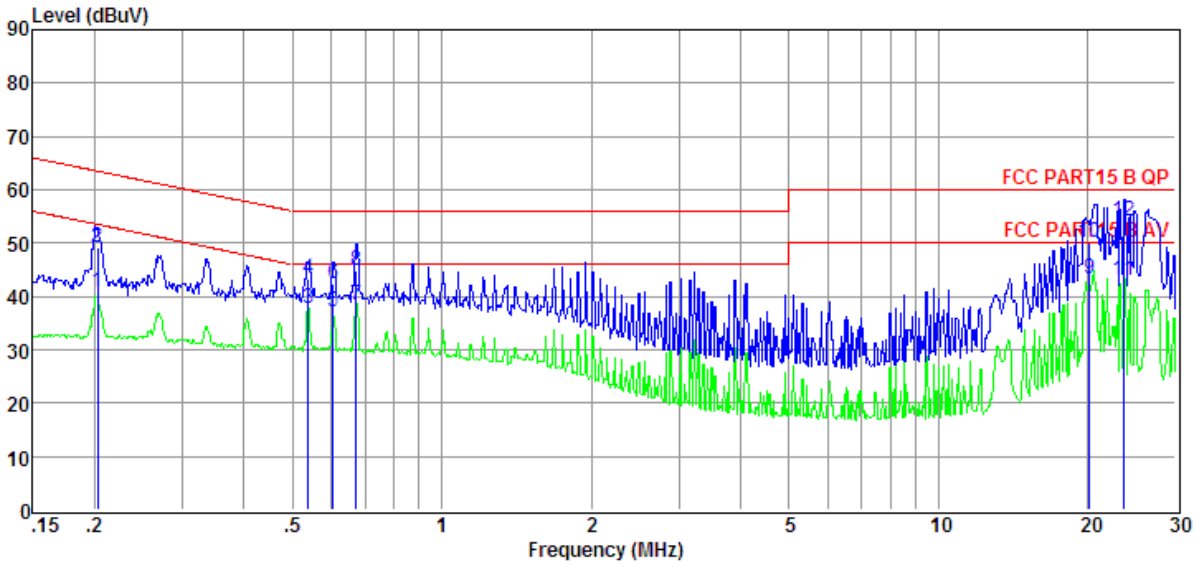
* Decreasing linearly with the logarithm of the frequency

TEST RESULTS



Item	Freq	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector	Phase
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)		
1	0.20	25.49	9.59	0.02	9.85	44.95	53.54	-8.59	Average	NEUTRAL
2	0.20	37.46	9.59	0.02	9.85	56.92	63.54	-6.62	QP	NEUTRAL
3	0.54	20.60	9.61	0.04	9.87	40.12	46.00	-5.88	Average	NEUTRAL
4	0.54	26.12	9.61	0.04	9.87	45.64	56.00	-10.36	QP	NEUTRAL
5	0.61	20.99	9.62	0.05	9.86	40.52	46.00	-5.48	Average	NEUTRAL
6	0.61	28.42	9.62	0.05	9.86	47.95	56.00	-8.05	QP	NEUTRAL
7	0.67	20.36	9.62	0.06	9.85	39.89	46.00	-6.11	Average	NEUTRAL
8	0.67	28.09	9.62	0.06	9.85	47.62	56.00	-8.38	QP	NEUTRAL
9	20.92	18.89	10.24	0.16	9.94	39.23	50.00	-10.77	Average	NEUTRAL
10	20.92	29.79	10.24	0.16	9.94	50.13	60.00	-9.87	QP	NEUTRAL
11	22.54	24.09	10.14	0.17	9.95	44.35	50.00	-5.65	Average	NEUTRAL
12	22.54	33.39	10.14	0.17	9.95	53.65	60.00	-6.35	QP	NEUTRAL

Note: 1. Result Level = Read Level +LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz), Step size: 4 kHz, Scan time: auto.



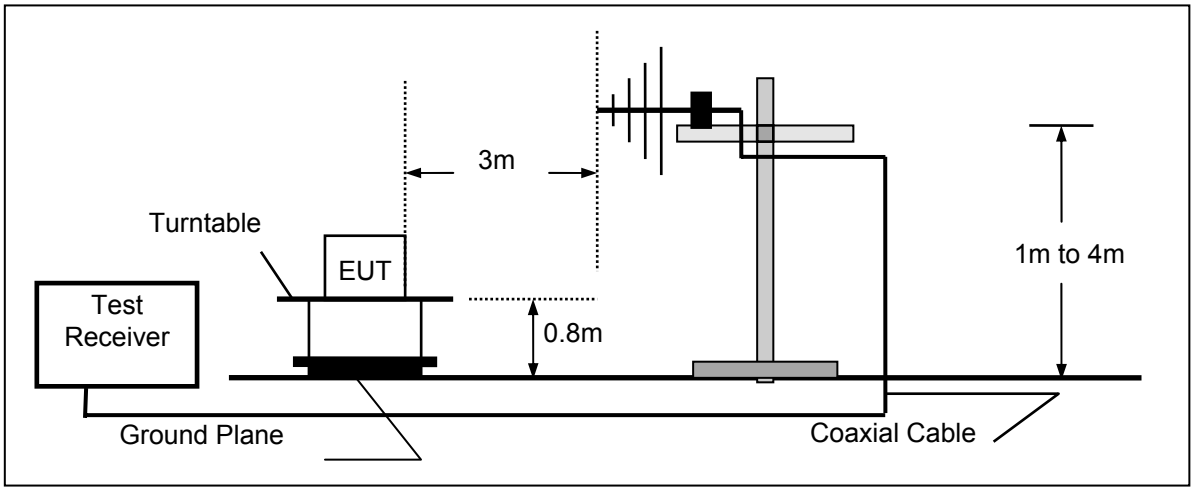
Item	Freq	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector	Phase
(Mark)	(MHz)	(dBµV)	(dB)	(dB)	(dB)	(dBµV)	(dBµV)	(dB)		
1	0.20	21.21	9.62	0.02	9.85	40.70	53.49	-12.79	Average	LINE
2	0.20	29.56	9.62	0.02	9.85	49.05	63.49	-14.44	QP	LINE
3	0.54	18.23	9.63	0.04	9.87	37.77	46.00	-8.23	Average	LINE
4	0.54	23.65	9.63	0.04	9.87	43.19	56.00	-12.81	QP	LINE
5	0.60	17.44	9.62	0.05	9.86	36.97	46.00	-9.03	Average	LINE
6	0.60	22.86	9.62	0.05	9.86	42.39	56.00	-13.61	QP	LINE
7	0.67	18.89	9.62	0.06	9.85	38.42	46.00	-7.58	Average	LINE
8	0.67	25.24	9.62	0.06	9.85	44.77	56.00	-11.23	QP	LINE
9	20.16	23.07	10.26	0.16	9.93	43.42	50.00	-6.58	Average	LINE
10	20.16	29.80	10.26	0.16	9.93	50.15	60.00	-9.85	QP	LINE
11	23.64	22.88	10.04	0.17	9.95	43.04	50.00	-6.96	Average	LINE
12	23.64	33.89	10.04	0.17	9.95	54.05	60.00	-5.95	QP	LINE

Note: 1. Result Level = Read Level +LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz), Step size: 4 kHz, Scan time: auto.

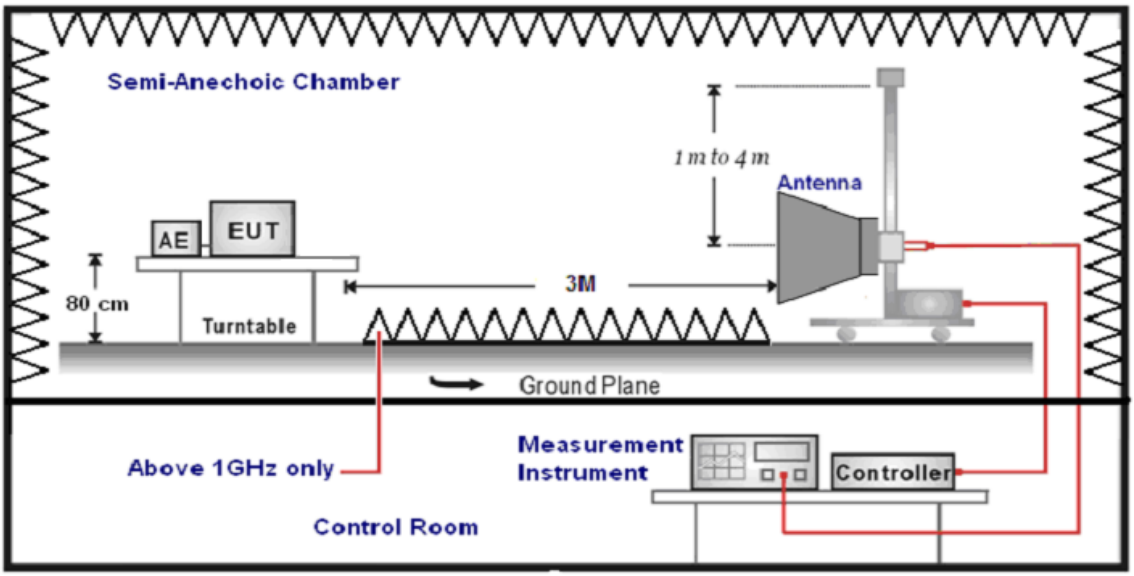
4.2. Radiated Emission Test

TEST CONFIGURATION

a) Radiated Emission Test Set-Up, Frequency below 1000MHz



b) Radiated Emission Test Set-Up, Frequency above 1000MHz



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The maximum operation frequency was 512MHz, the radiated emission test frequency from 30MHz to 6GHz.

FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

For example

Frequency (MHz)	FS (dBµV/m)	RA (dBµV/m)	AF (dB)	CL (dB)	AG (dB)	Transd (dB)
300.00	40	58.1	12.2	1.6	31.90	-18.1

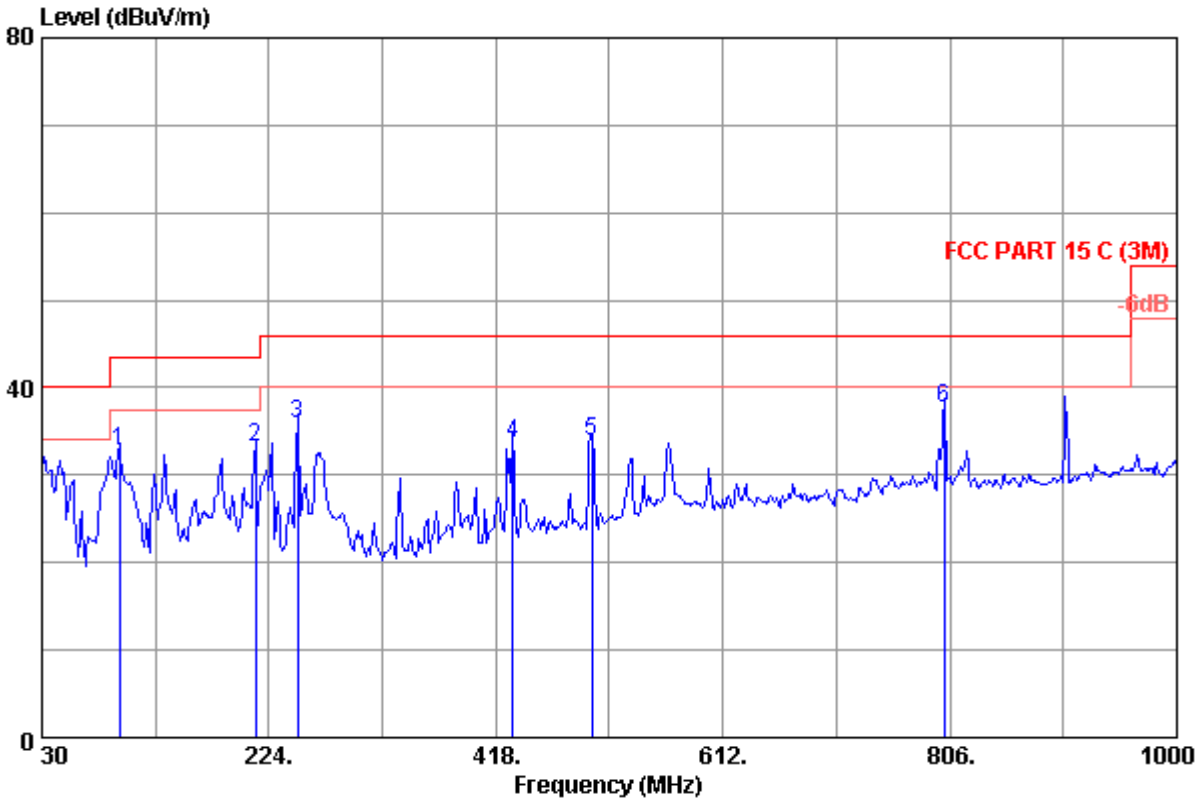
Transd=AF +CL-AG

RADIATION LIMIT

For unintentional device, according to § 15.109(a), 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:

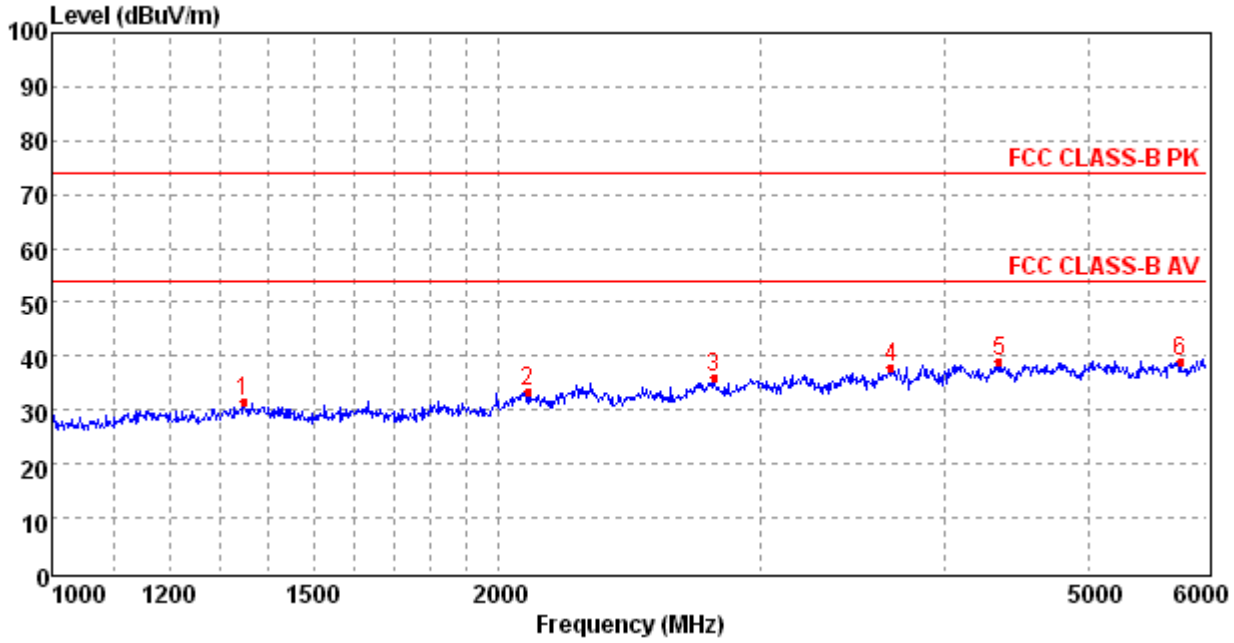
Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

TEST RESULTS



Item (Mark)	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable Loss (dB)	Results Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector (dB)	Polarization
1	95.960	21.45	7.81	1.26	30.52	43.50	-12.98	QP	Vertical
2	212.360	21.79	13.25	2.39	37.43	43.50	-6.07	QP	Vertical
3	248.250	21.87	13.40	2.78	38.05	46.00	-7.95	QP	Horizontal
4	432.156	14.36	15.56	3.34	33.26	46.00	-12.74	QP	Horizontal
5	500.245	13.92	17.10	3.69	34.71	46.00	-11.29	QP	Horizontal
6	801.100	12.98	20.61	4.65	38.24	46.00	-7.76	QP	Horizontal

Note:
1. Result Level = Read Level + Antenna Factor + Cable loss.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.



Item (Mark)	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	PRM Factor (dB)	Cable Loss (dB)	Results Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector (dB)	Polarization
1	1346.40	39.25	25.95	43.29	6.42	28.33	74.00	-45.67	Peak	Horizontal
2	2092.18	39.12	27.16	43.29	8.01	31.00	74.00	-43.00	Peak	Horizontal
3	2791.11	40.19	30.34	43.82	8.84	35.55	74.00	-38.45	Peak	Horizontal
4	3679.85	38.97	32.69	43.91	10.06	37.81	74.00	-36.19	Peak	Horizontal
5	4349.41	39.81	35.16	44.44	11.35	41.88	74.00	-32.12	Peak	Horizontal
6	5757.89	35.46	36.87	44.82	12.26	39.77	74.00	-34.23	Peak	Horizontal

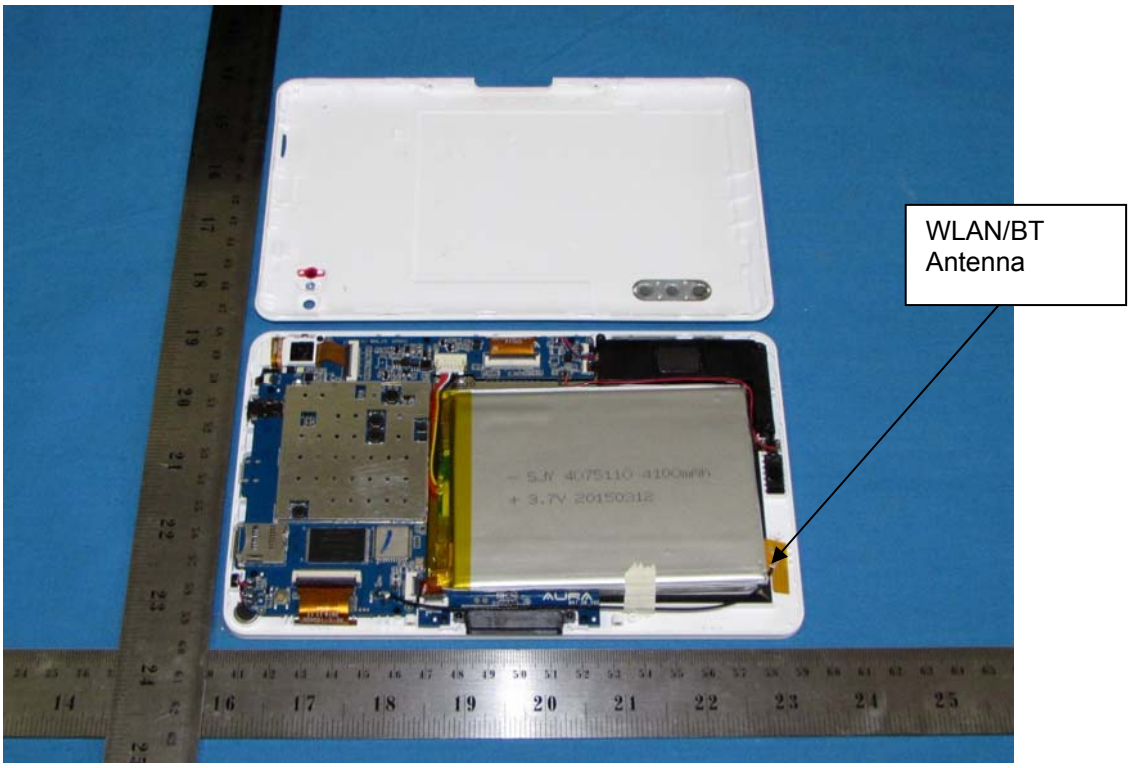
Note:
1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Detector: Peak Sweep time: auto for Peak vales
4. Test setup: RBW: 1 MHz, VBW: 10 Hz, Detector: Peak Sweep time: auto for Average vales

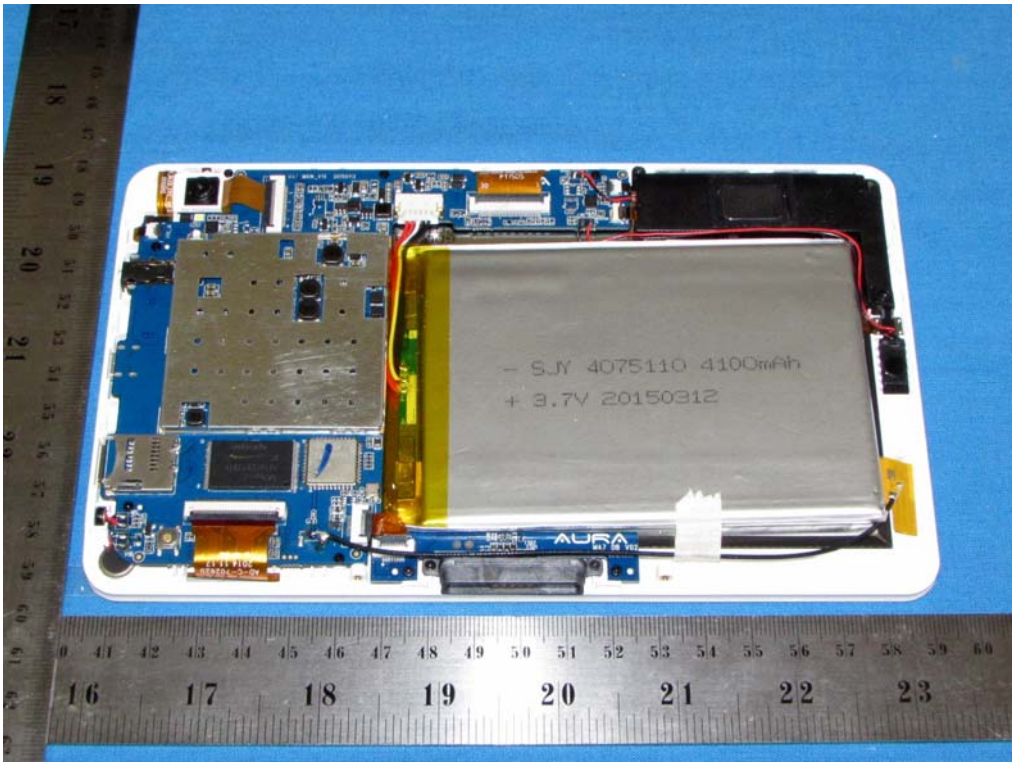
5. Test Setup Photos of the EUT

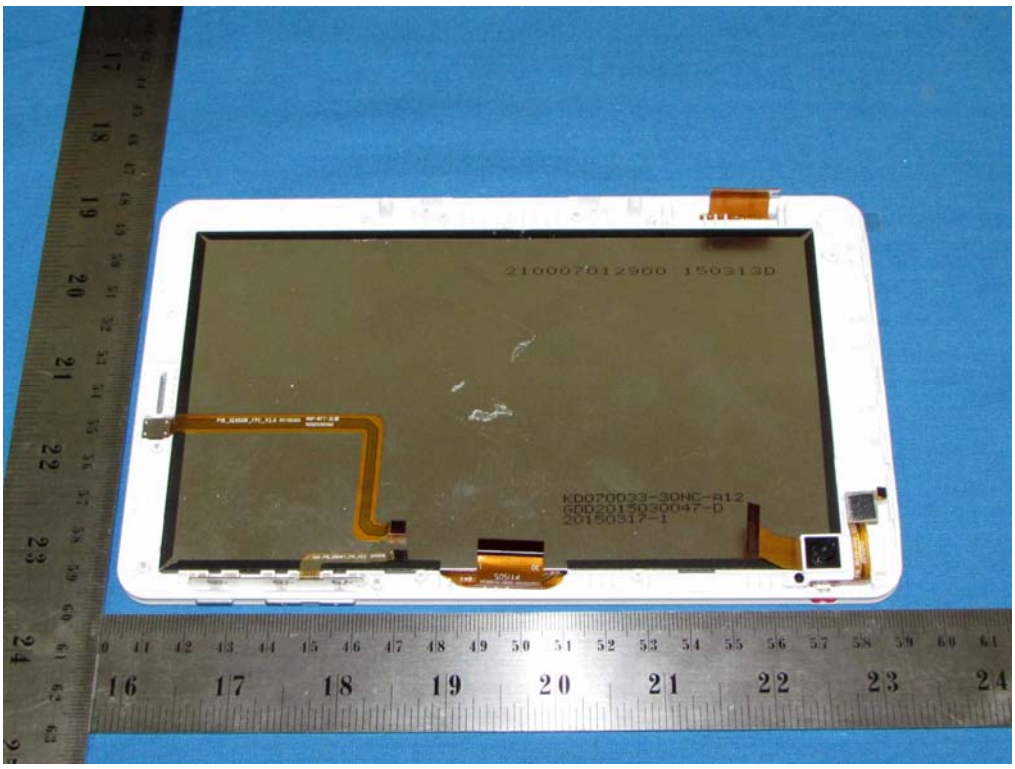
6. External and Internal Photos of the EUT

External Photos

Internal Photos



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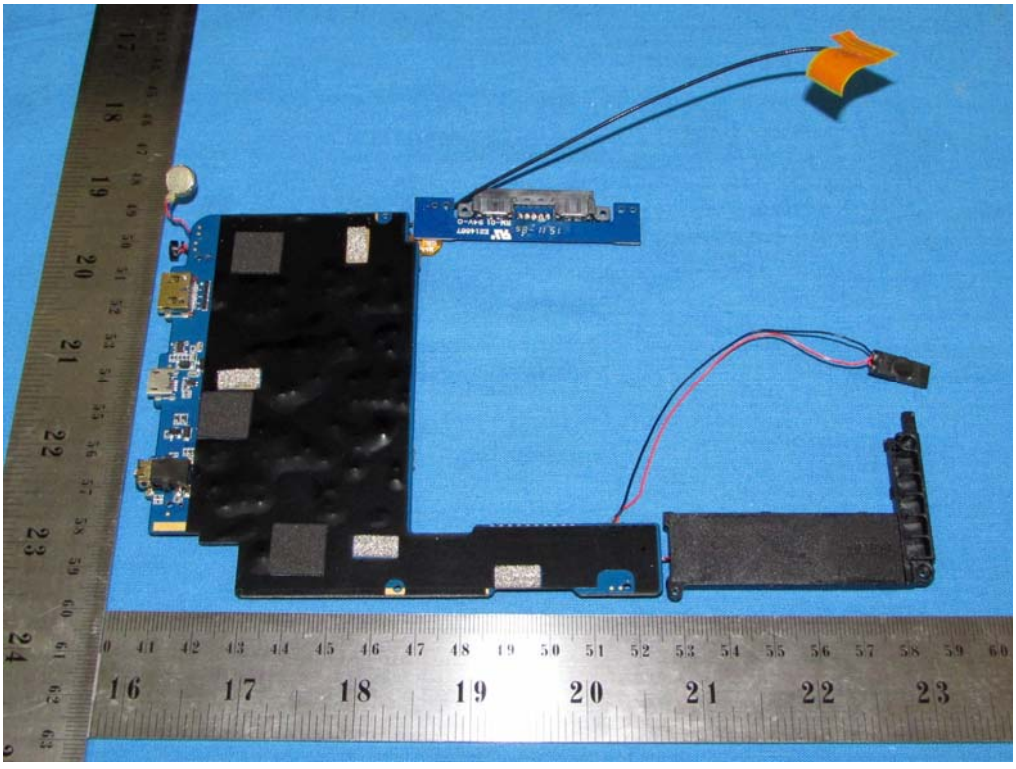

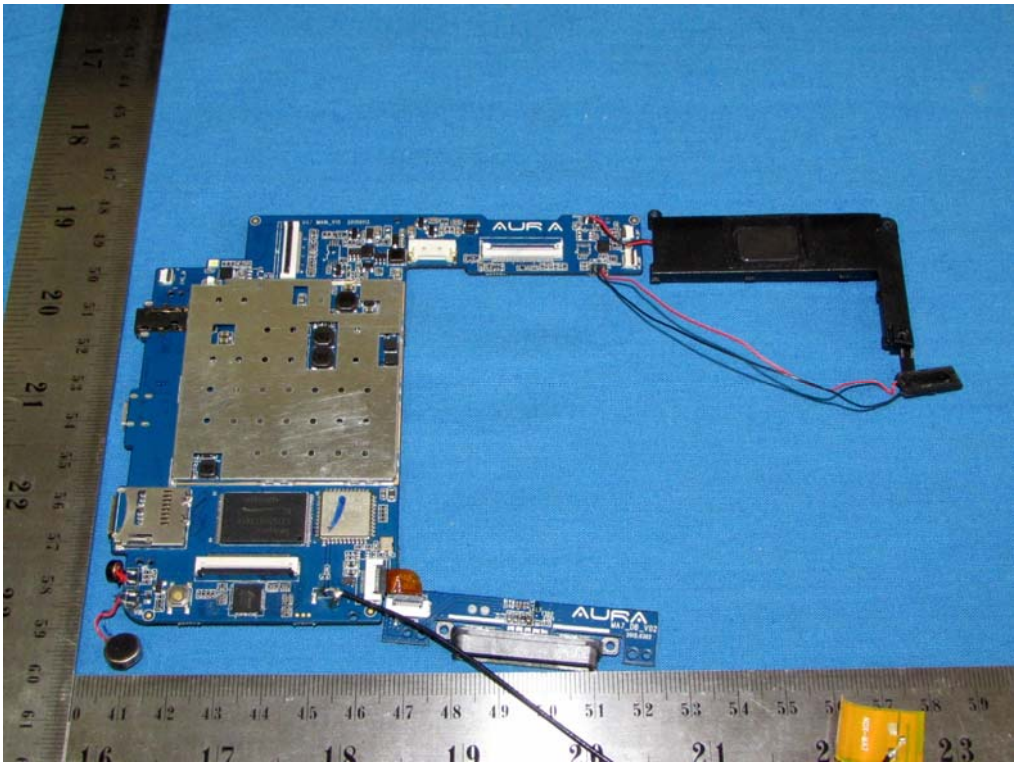
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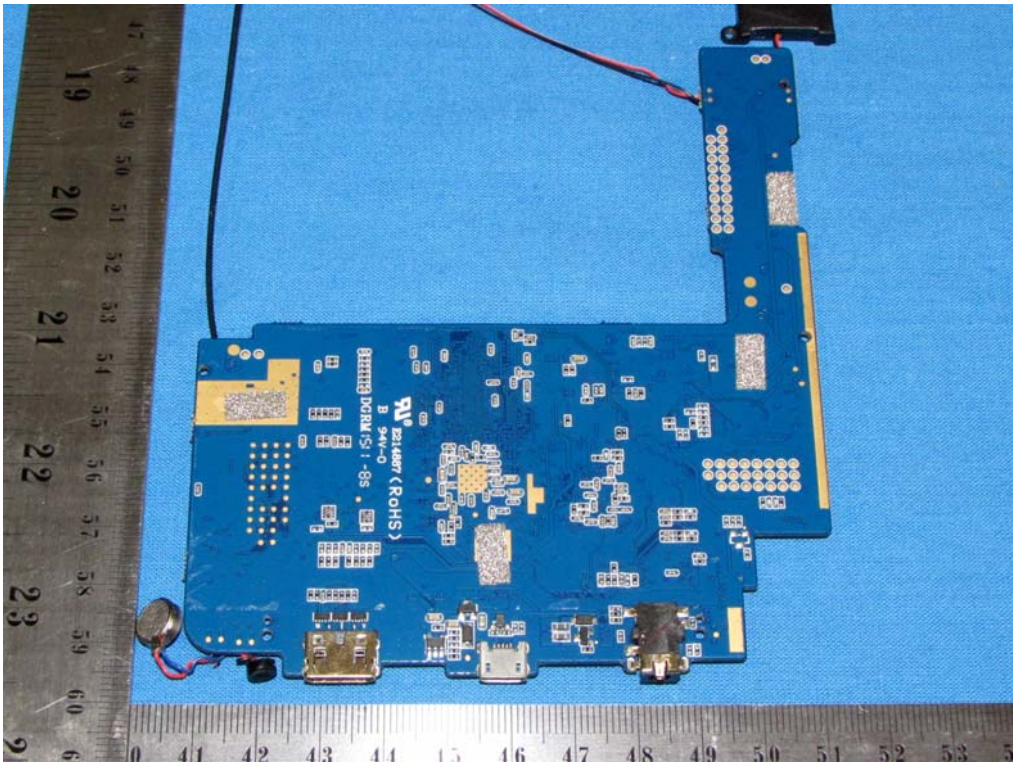
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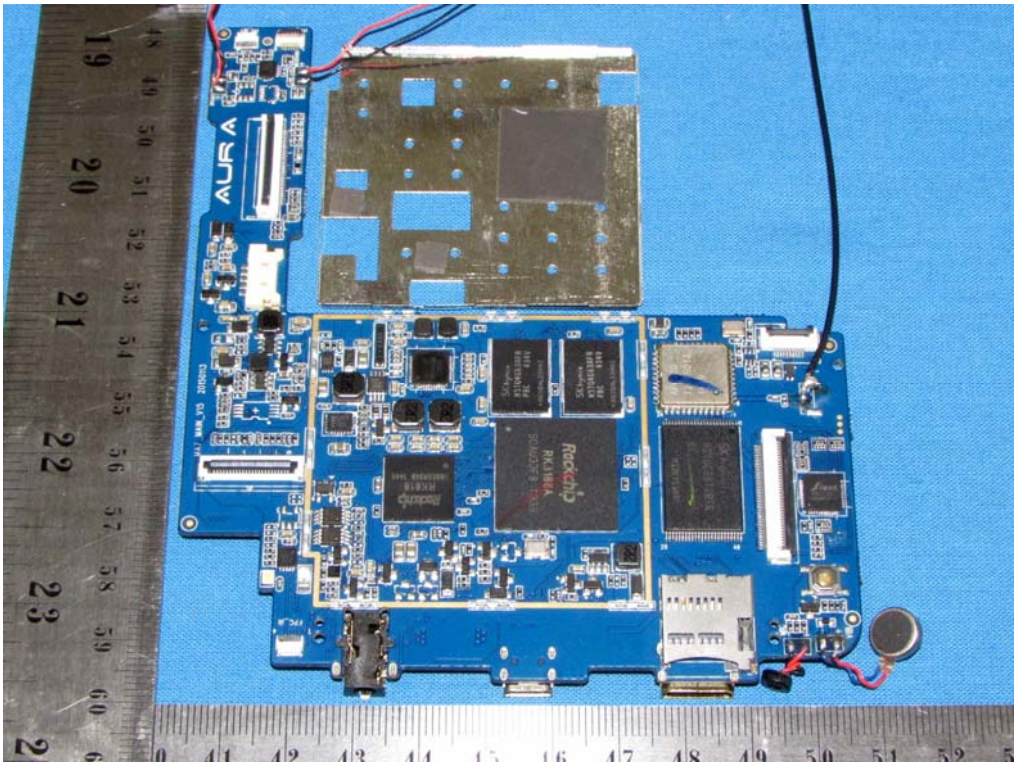
DDR3 SDRAM



.....End of Report.....