FCC Test Report

Report No.: STS1502008E01

FCC ID	:	BRCPC7088
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	tablet pc
BRAND NAME	:	Kinwei, Titan
MODEL NAME	:	PC7088, PC7088ME, PC7088B, PC70XX(XX represents00~99), PC70XXME(XX represents00~99), PC70XXB(XX represents00~99), KW-PC7088J, KW-PC7088, KW-PC70XXJ(XX represents00~99), KW-PC70XX(XX represents00~99).
CLIENT	:	Kintech Co., Ltd.
DATE OF ISSUE	:	Jan.31, 2015
STANDARD(S)	:	FCC Part 15 Rules
REPORT VERSION	:	V1.0

Shenzhen STS Test Services Co., Ltd.

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Jan.31, 2015	Valid	Original Report

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1. VERIFICATION OF CONFORMITY

Applicant	Kintech Co., Ltd.
Address	1F-5F, Bldg 22, Chen Tian Industral Zone, Xi Xiang Bao An District, Shenzhen, Guang Dong, China
Manufacturer	Kintech Co., Ltd.
Address	1F-5F, Bldg 22, Chen Tian Industral Zone, Xi Xiang Bao An District, Shenzhen, Guang Dong, China
Product Designation	tablet pc
Brand Name	Kinwei, Titan
Test Model	PC7088
Series Model	PC7088ME, PC7088B, PC70XX(XX represents00~99), PC70XXME(XX represents00~99), PC70XXB(XX represents00~99), KW-PC7088J, KW-PC7088, KW-PC70XXJ(XX represents00~99), KW-PC70XX(XX represents00~99).
Difference description	All the same except for the brand name and model name.
Measurement Procedure	ANSI C63.4: 2003
Date of test	Dec.11,2014 to Jan.31,2015
Deviation	None
Condition of Test Sample	Normal
Report Template	AGCRT-US-IT/AC

The above equipment was tested by Shenzhen STS Test Services Co., Ltd. for compliance with the requirements set forth in the FCC Rules and Regulations Part 15, the measurement procedure according to ANSI C63.4:2003. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

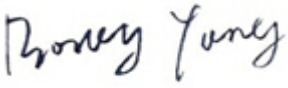
The test results of this report relate only to the tested sample identified in this report.

Prepared By 

Tony Liu Jan.31, 2015

Checked By 

Vita Li Jan.31, 2015

Authorized By 

Bovey Yang Jan.31, 2015

2. SYSTEM DESCRIPTION

EUT test procedure:

1. Connect EUT and peripheral devices (PC) through USB port.
2. Power on the EUT, use the software to transfer data between EUT and PC.
3. Make sure the EUT operates normally during the test.

Test Mode

TEST MODE DESCRIPTION		
NO.	**TEST MODE DESCRIPTION**	**WORST**
1	USB (connection for data transferring)	V
Note: 1.V means EMI worst mode 2 .Other modes have been verified through VOC mode.		

3. MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in Measurement” (GUM) published by ISO.

Conducted measurement: +/- 2.75dB

Radiated measurement: +/- 3.2Db

Summary Of Test Results

FCC Rules	Description Of Test	Result
§15.107	Conduction Emission	Compliant
§15.109	Radiated Emission	Compliant

4. PRODUCT INFORMATION

Housing Type	Plastic
EUT Input Rating	DC 3.7V by battery
Adapter Input	100-240V 50/60Hz ,0.3A
Adapter Output	DC 5V, 2A

I/O Port Information (☒Applicable ☐Not Applicable)

I/O Port of EUT			
I/O Port Type	**Q'TY**	**Cable**	**Tested with**
USB Port	1	1.0 m, unshielded	1
Earphone Port	1	1.0 m, unshielded	1

5. SUPPORT EQUIPMENT

Device Type	Manufacturer	Model Name	Serial No.	Data Cable	Power Cable
MacBook	Apple	A1465	--	1	1.5m unshielded

Note: All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

6. TEST FACILITY

Site	Shenzhen STS Test Services Co., Ltd.
Location	1/F, Building 2, Zhuoke Science Park, Chongqing Road, Fuyong, Baoan District, Shenzhen, China
Description	The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2003.
Site Filing	FCC Registration No.: 842334
Instrument Tolerance	All measuring equipment is in accord with ANSI C63.4 requirements that meet industry regulatory agency and accreditation agency requirement.

ALL TEST EQUIPMENT LIST

Name of Equipment	Manufacturer	Model	Calibration Date	Calibration Due.
SPECTRUM ANALYZER	AGILENT	E4407B	2014.10.25	2015.10.24
TEST RECEIVER	R&S	ESCI	2014.10.25	2015.10.24
TEST RECEIVER	R&S	ESCI	2014.10.25	2015.10.24
LISN	R&S	ENV216	2014.10.25	2015.10.24
LISN	EMCO	3810/2NM	2014.10.25	2015.10.24
Loop Antenna	Daze	ZN30900N	2014.10.27	2015.10.26
Bilog Antenna	TESEQ	CBL6111D	2014.10.27	2015.10.26
Horn Antenna	R&S	9120D	2014.10.27	2015.10.26
Test Cable	N/A	R-01	2014.10.25	2015.10.24
Test Cable	N/A	R-02	2014.10.25	2015.10.24
Conduction Cable	EM	N/A	2014.10.25	2015.10.24

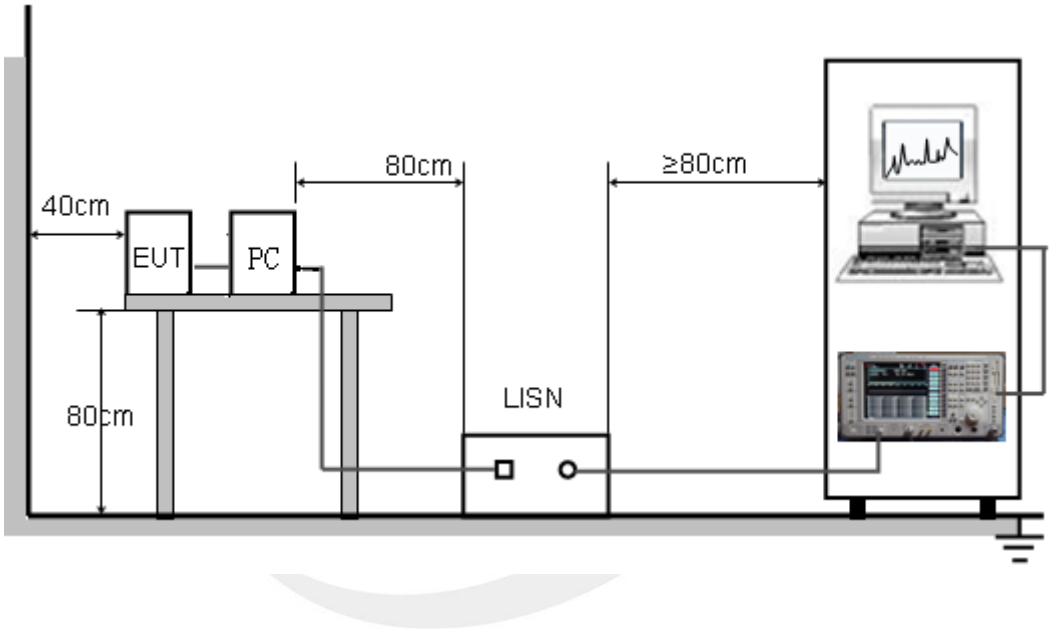
7. FCCLINE CONDUCTED EMISSION TEST

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 0.50MHz.

7.2. BLOCK DIAGRAM OF TEST SETUP



7.3. 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) The EUT received DC5V power from PC with receive AC120V/60Hz power from a LISN.

(5) 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.

(6) Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.

(7) During the above scans, the emissions were maximized by cable manipulation.

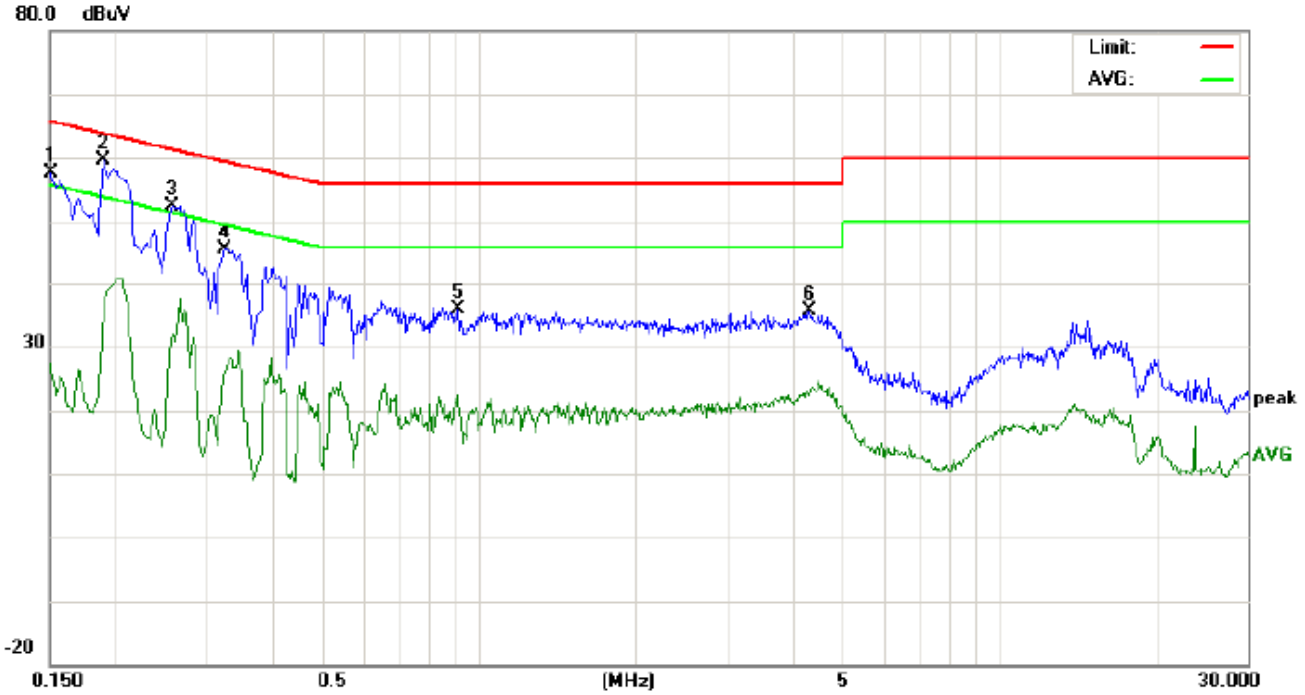
(8) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions.

(9) 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.

The test data of the worst case condition (mode 1) was reported on the Summary Data page.

7.4. TEST RESULT OF LINE CONDUCTED EMISSION TEST

LINE CONDUCTED EMISSION TEST-L



Site: Conduction
Limit: FCC Class B Conduction(QP)
EUT: tablet pc
M/N: PC7088
Mode: USB
Note:

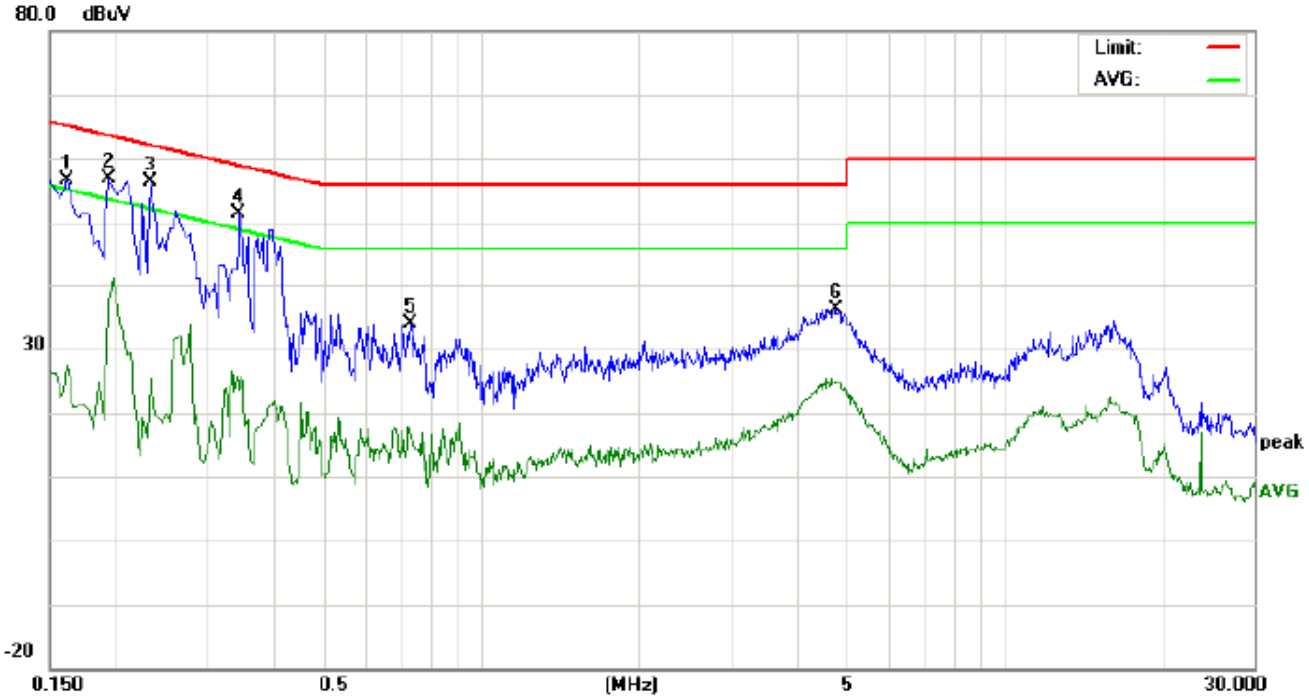
Phase: *L1*
Power: AC 120V/60Hz

Temperature: 26
Humidity: 60 %

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	0.1500	47.38		17.30	10.16	57.54		27.46	65.99	55.99	-8.45	-28.53	P	
2	0.1900	49.43		26.73	10.20	59.63		36.93	64.03	54.03	-4.40	-17.10	P	
3	0.2580	42.11		21.89	10.27	52.38		32.16	61.49	51.49	-9.11	-19.33	P	
4	0.3260	35.38		15.60	10.30	45.68		25.90	59.55	49.55	-13.87	-23.65	P	
5	0.9140	25.53		11.07	10.40	35.93		21.47	56.00	46.00	-20.07	-24.53	P	
6	4.3260	25.39		12.08	10.29	35.68		22.37	56.00	46.00	-20.32	-23.63	P	

RESULT: PASS

LINE CONDUCTED EMISSION TEST-N



Site: Conduction
Limit: FCC Class B Conduction(QP)
EUT: tablet pc
M/N: PC7088
Mode: USB
Note:

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

Temperature: 26
Humidity: 60 %

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	0.1620	46.49		17.09	10.17	56.66		27.26	65.36	55.36	-8.70	-28.10	P	
2	0.1940	46.60		26.68	10.21	56.81		36.89	63.86	53.86	-7.05	-16.97	P	
3	0.2340	46.17		15.21	10.25	56.42		25.46	62.30	52.30	-5.88	-26.84	P	
4	0.3460	41.16		13.35	10.31	51.47		23.66	59.06	49.06	-7.59	-25.40	P	
5	0.7340	23.46		5.68	10.33	33.79		16.01	56.00	46.00	-22.21	-29.99	P	
6	4.7660	26.00		14.30	10.23	36.23		24.53	56.00	46.00	-19.77	-21.47	P	

RESULT: PASS

8. FCC RADIATED EMISSION TEST

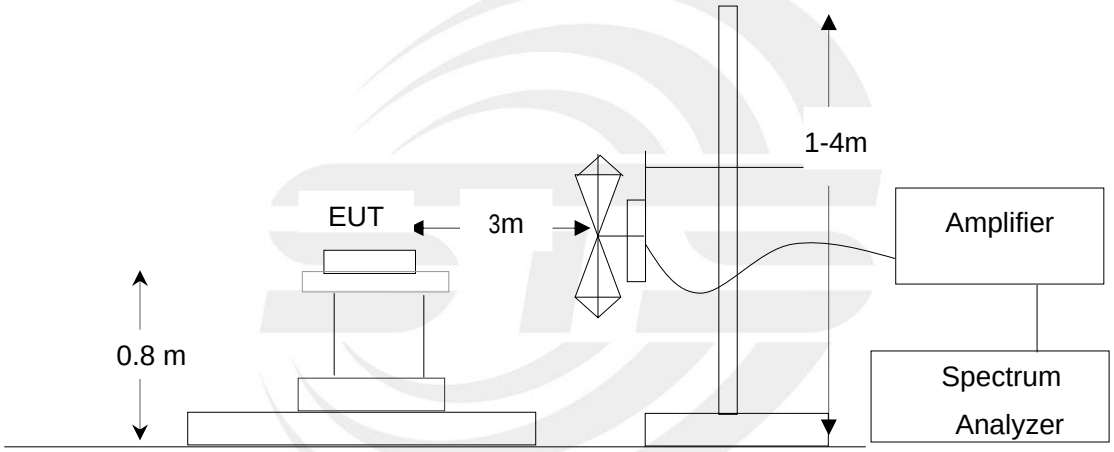
8.1. LIMITS OF RADIATED EMISSION TEST

Frequency (MHz)	Distance (m)	Maximum Field Strength Limit (dBuV/m/ Q.P.)
30~88	3	40.0
88~216	3	43.5
216~960	3	46.0
Above 960	3	54.0

Note: The lower limit shall apply at the transition frequency.

8.2. BLOCK DIAGRAM OF TEST SETUP

System Diagram of Connections between EUT and Simulators



8.3. PROCEDURE OF RADIATED 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 turntable with a height of 0.8 meters is used which 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 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) The EUT received DC 5V power from PC with receive AC120V/60Hz power from socket under the turntable through a LISN.

(5) The antenna was placed at 3 meter away from the EUT as stated in FCC Part 15. The antenna connected to the Analyzer via a cable and at times a pre-amplifier would be used.

(6) The Analyzer / Receiver quickly scanned from 30MHz to 1000MHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.

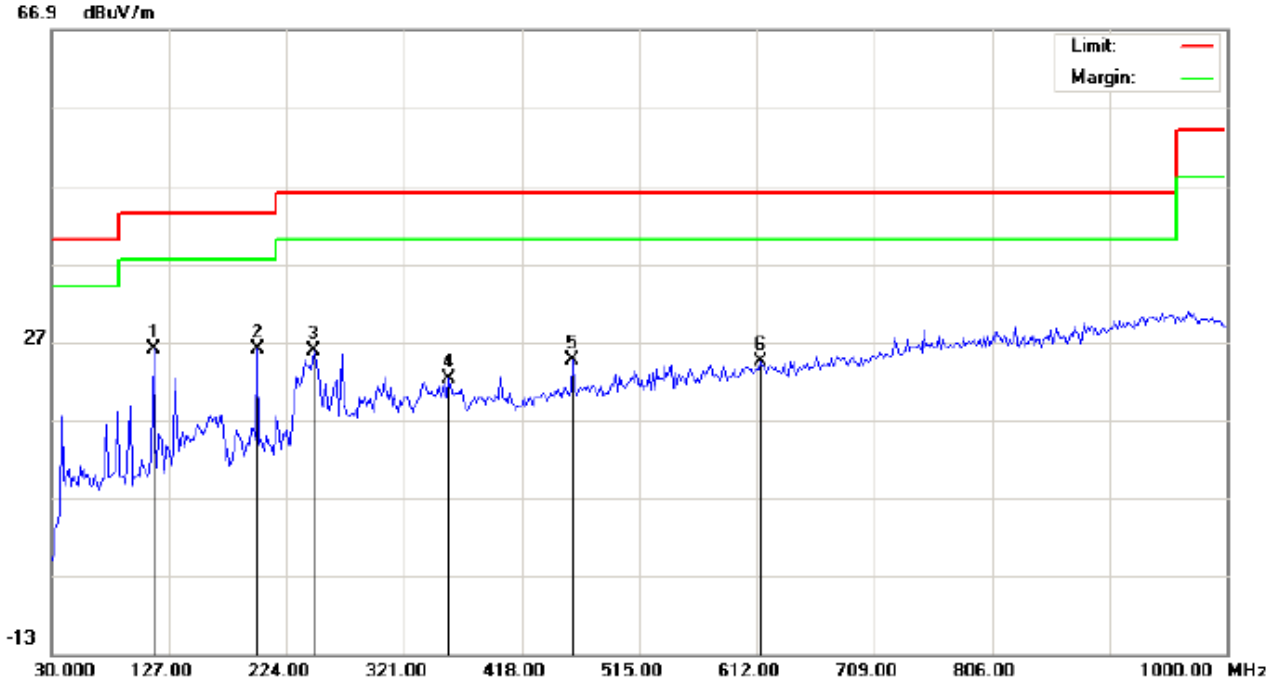
(7) The test mode(s) were scanned during the test:

(8) Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position,polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and Q.P./Peak reading is presented.

The test data of the worst case condition (mode 1) was reported on the Summary Data page.

8.4. TEST RESULT OF RADIATED EMISSION TEST

Radiated Emission Test at 3m Distance-Horizontal



Site: site #1
Limit: FCC Class B 3M Radiation
EUT: tablet pc
M/N: PC7088
Mode: USB
Note:

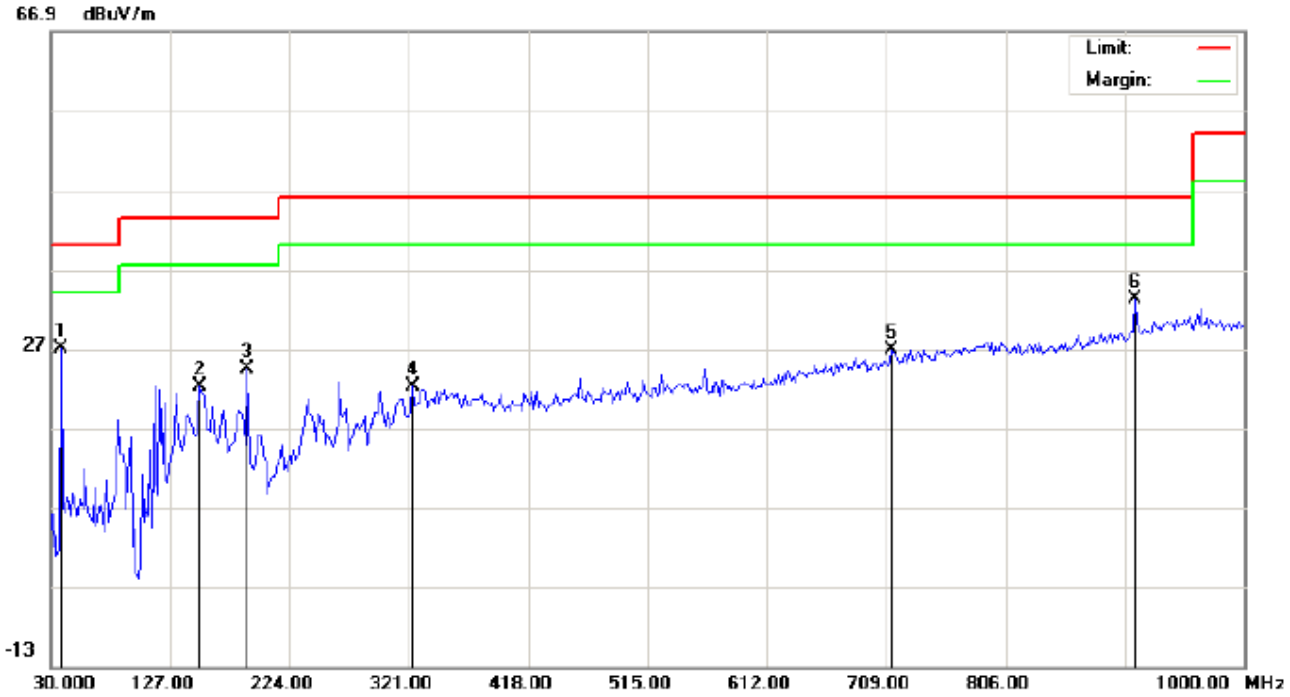
Polarization: *Horizontal*
Power: AC 120V/60Hz
Distance: 3m

Temperature: 26
Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		114.0667	14.47	11.45	25.92	43.50	-17.58	peak			
2	*	199.7500	14.00	11.99	25.99	43.50	-17.51	peak			
3		246.6333	11.95	13.77	25.72	46.00	-20.28	peak			
4		358.1833	3.51	18.79	22.30	46.00	-23.70	peak			
5		460.0333	3.94	20.70	24.64	46.00	-21.36	peak			
6		615.2333	0.58	23.77	24.35	46.00	-21.65	peak			

RESULT: PASS

Radiated Emission Test at 3m Distance-Vertical



Site: site #1
Limit: FCC Class B 3M Radiation
EUT: tablet pc
M/N: PC7088
Mode: USB
Note:

Polarization: *Vertical*
Power: AC 120V/60Hz
Distance: 3m

Temperature: 26
Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		38.0833	20.66	6.39	27.05	40.00	-12.95	peak			
2		151.2500	6.91	15.27	22.18	43.50	-21.32	peak			
3		190.0500	12.84	11.52	24.36	43.50	-19.14	peak			
4		324.2333	5.10	17.02	22.12	46.00	-23.88	peak			
5		713.8500	1.29	25.59	26.88	46.00	-19.12	peak			
6	*	911.0833	4.23	28.92	33.15	46.00	-12.85	peak			

RESULT: PASS

Note: All Other modes above 1GHz~6GHz have more than 20db margin, no recording in the report

Measurement = Reading + Factor, Over = Measurement – Limit.

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC LINE CONDUCTED EMISSION TEST SETUP

FCC RADIATED EMISSION TEST SETUP

APPENDIX B: PHOTOGRAPHS OF EUT

TOTAL VIEW OF EUT

TOP VIEW OF EUT

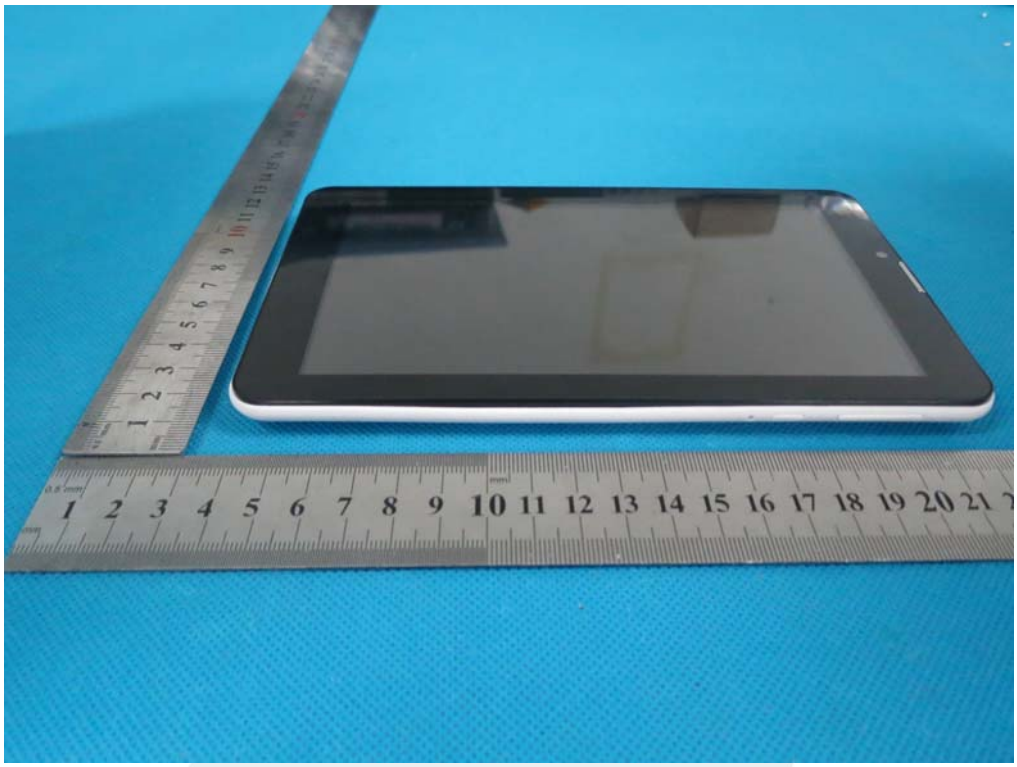
BOTTOM VIEW OF EUT

FRONT VIEW OF EUT

BACK VIEW OF EUT

LEFT VIEW OF EUT

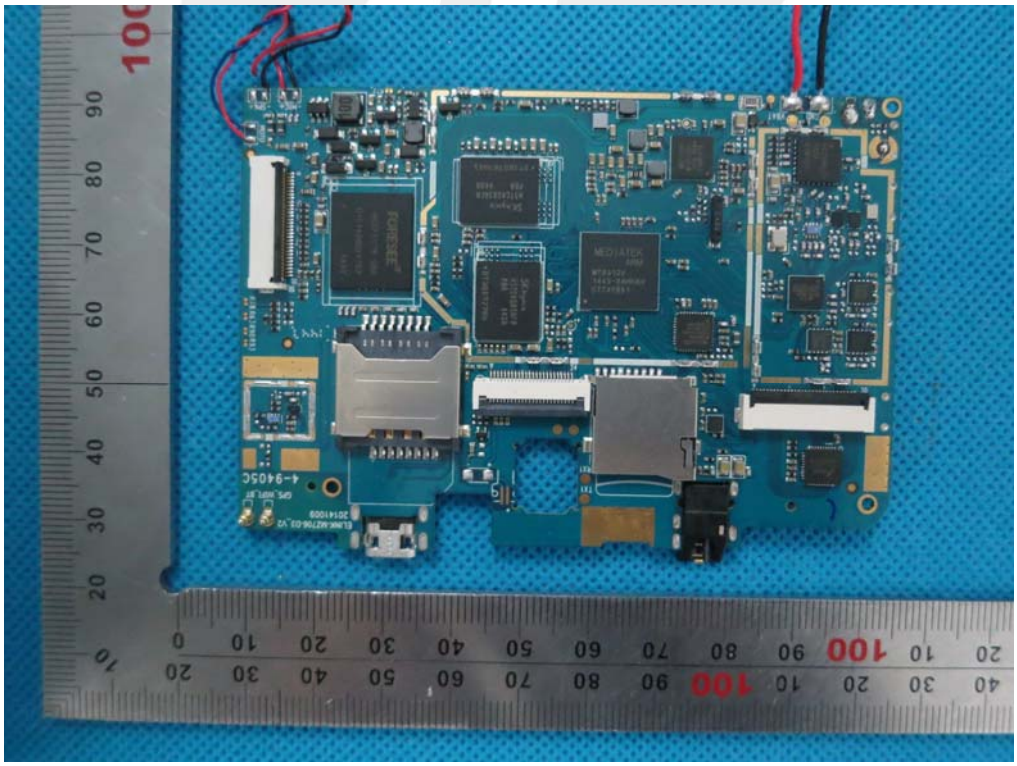
RIGHT VIEW OF EUT



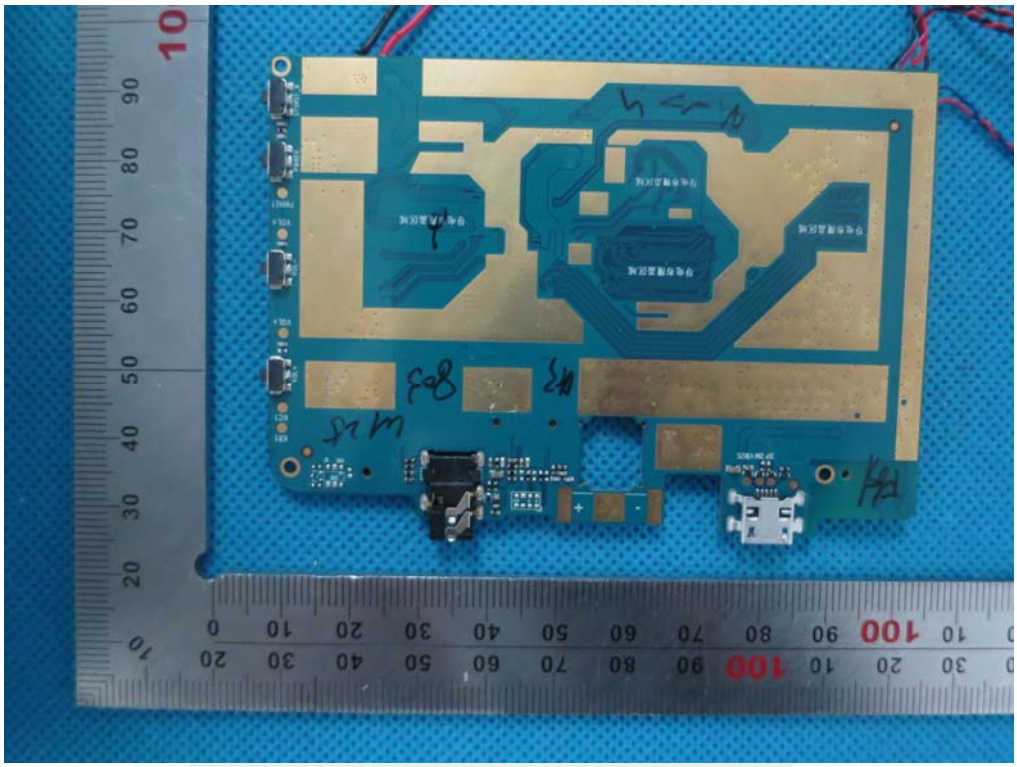
OPEN VIEW OF EUT-1

OPEN VIEW OF EUT-2

INTERNAL VIEW OF EUT-1



INTERNAL VIEW OF EUT-2



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