FCC PART 15B, CLASS B

MEASUREMENT AND TEST REPORT

For

Shenzhen YIDONG Technology Co., Ltd.

Floor 1-5, Building B, Area B, Yuanfen Industrial Zone,
Dalang, Bao'an District, Shenzhen, China

FCC ID: LU7-RCT6691W3

Report Type:	**Product Type:**
Original Report	Tablet PC

Test Engineer:	Gardon Zhang
Report Number:	RSZ130816001-00A
Report Date:	2013-09-03
Reviewed By:	Alvin Huang RF Leader
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

Note: This test report is prepared for the customer shown above and for the equipment described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp.

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Shenzhen YIDONG Technology Co., Ltd.'s* product, model number: *RCT6691W3 (FCC ID: LU7-RCT6691W3)* or the "EUT" as referred to in this report was a *Tablet PC,* which was measured approximately: 24.0 cm (L) x 14.8 cm (W) x 1.2 cm (H), rated input voltage: DC 3.7V rechargeable Li-ion battery and DC 5V charging from adapter. The highest opterating frequency is 1.2 GHz.

Adapter information: Switching power adapter
Model: WRP2U-050200C
Input: 100-240Vac~50/60Hz 0.4A max
Output: DC 5V, 2A

Note: The product Tablet PC, model RCT6691W3 and EMR3194, they are electrically identical and the difference between them are only the model number and printing & shell color. Model RCT6691W3 was selected for fully testing, which was explained in the attached product similarity declaration letter.

** All measurement and test data in this report was gathered from production sample serial number: 1308065 (Assigned by the BACL, Shenzhen). The EUT supplied by the applicant was received on 2013-08-16.*

Objective

This report is prepared on behalf of *Shenzhen YIDONG Technology Co., Ltd.* in accordance with Part 2-Subpart J, Part 15- Subparts A and B of the Federal Communication Commissions rules.

The objective of the manufacturer is to determine the compliance of EUT with FCC Part 15B, Class B.

Related Submittal(s)/Grant(s)

FCC Part 15.247 DTS (Wi-Fi) submissions with FCC ID: LU7-RCT6691W3.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp.(Shenzhen) to collect test data is located on the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in a typical mode which is provided by manufacture.

EUT operation mode: Downloading

EUT Exercise Software

“winthrax” exercise software was used for downloading mode testing.

Equipment Modifications

No modification was made to the EUT tested.

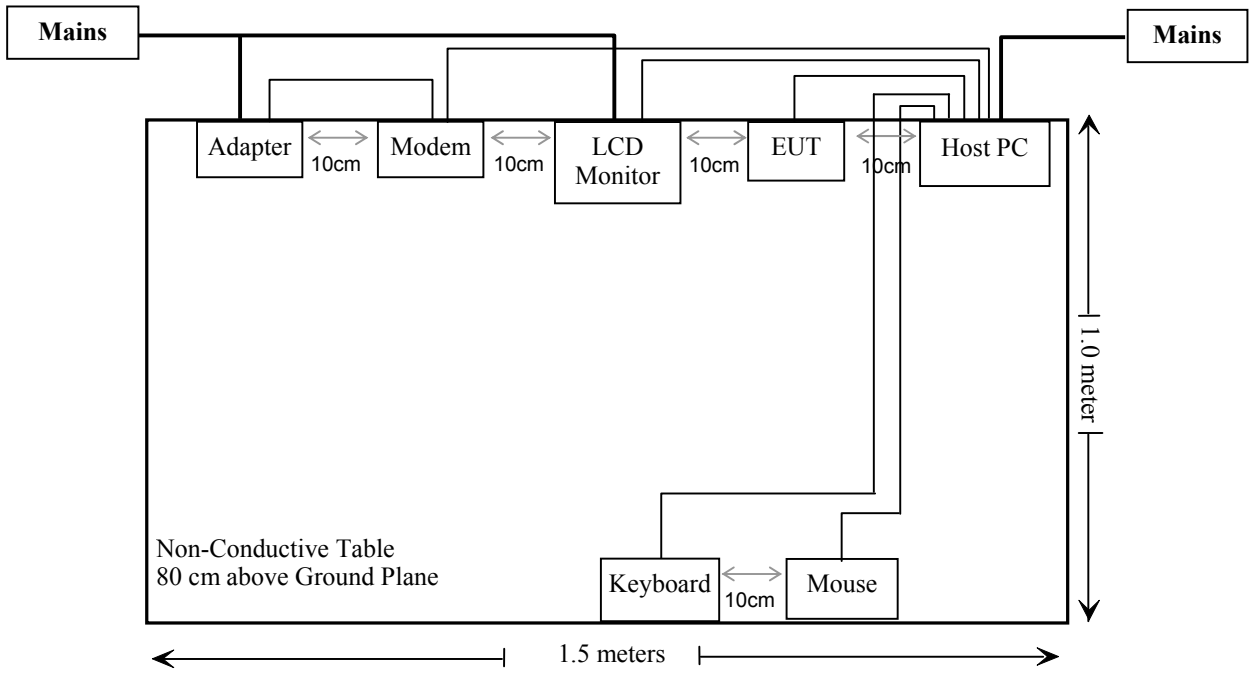
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
DELL	PC	VOSTRO 220S	127BP2X
DELL	Keyboard	L100	CNORH656658907BL05DC
DELL	Mouse	MOC5UO	G1900NKD
DELL	LCD Monitor	E178WFPC	CN-OWY564-64180-7C4-2SQH
SAST	Modem	AEM-2100	0293

External I/O Cable

Cable Description	Length (m)	From/Port	To
Shielding Detachable USB Cable	1.5	Host PC	Mouse
Shielding Detachable Serial Cable	1.2	Host PC	Modem
Shielding Detachable K/B Cable	1.5	Host PC	Keyboard
Shielding Detachable VGA Cable	1.5	Host PC	LCD Monitor
Shielding Detachable USB Cable	1.0	EUT	Host PC
Unshielding Undetachable Power Cable	1.0	EUT	Adapter

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§15.107	AC Line Conducted Emissions	Compliance
§15.109	Radiated Emissions	Compliance

FCC §15.107 – AC LINE CONDUCTED EMISSIONS

Applicable Standard

According to FCC §15.107

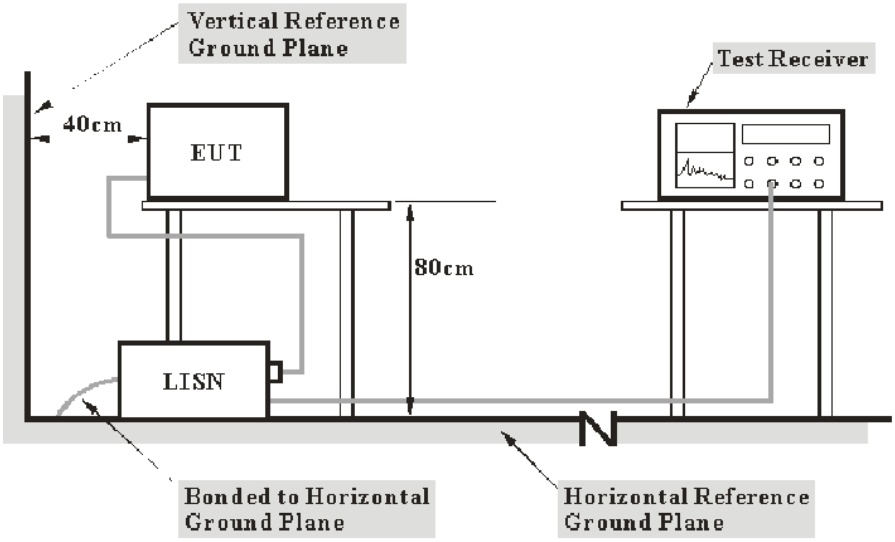
Measurement Uncertainty

Input quantities to be considered for conducted disturbance measurements maybe receiver reading, attenuation of the connection between AMN/ISN and receiver, AMN/ISN voltage division factor, AMN/ISN VDF frequency interpolation and receiver related input quantities, etc.

Based on CISPR 16-4-2:2011, the expended combined standard uncertainty of conducted disturbance test at Bay Area Compliance Laboratories Corp. (Shenzhen) is shown as below. And the uncertainty will not be taken into consideration for the test data recorded in the report

Port	Measurement uncertainty
AC Mains	3.26 dB (k=2, 95% level of confidence)
CAT 3	3.70 dB (k=2, 95% level of confidence)
CAT 5	3.86 dB (k=2, 95% level of confidence)
CAT 6	4.64 dB (k=2, 95% level of confidence)

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The measurement procedure of EUT setup is according with ANSI C63.4-2009. The related limit was specified in FCC Part 15.107 Class B.

The spacing between the peripherals was 10 cm.

The host PC was connected to an AC 120V/60 Hz power source

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emissions, the host PC was connected to the first LISN, the the other relevant equipments were connected to the second LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	100176	2013-06-17	2014-06-17
Rohde & Schwarz	LISN	ESH2-Z5	892107/021	2013-08-22	2014-08-22
Rohde & Schwarz	Transient limitor	ESH3Z2	DE25985	2013-08-09	2014-08-09

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Corrected Factor & Margin Calculation

The Corrected factor is calculated by adding LISN/ISN VDF (Voltage Division Factor), Cable Loss and Pulse Limiter Attenuation. The basic equation is as follows:

Correction Factor = LISN VDF + Cable Loss + Pulse Limiter Attenuation

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the recorded data in following table, with the worst margin reading of:

9.1 dB at **9.510000 MHz** in the **Neutral** conducted mode

Refer to CISPR16-4-2:2011 and CISPR 16-4-1:2009, the measured level is in compliance with the limit if

$$L_m + U_{(Lm)} \leq L_{lim} + U_{cispr}$$

in our lab., $U_{(Lm)}$ is less than U_{cispr}, if L_m is less than L_{lim}, it implies that the EUT complies with the limit.

Test Data

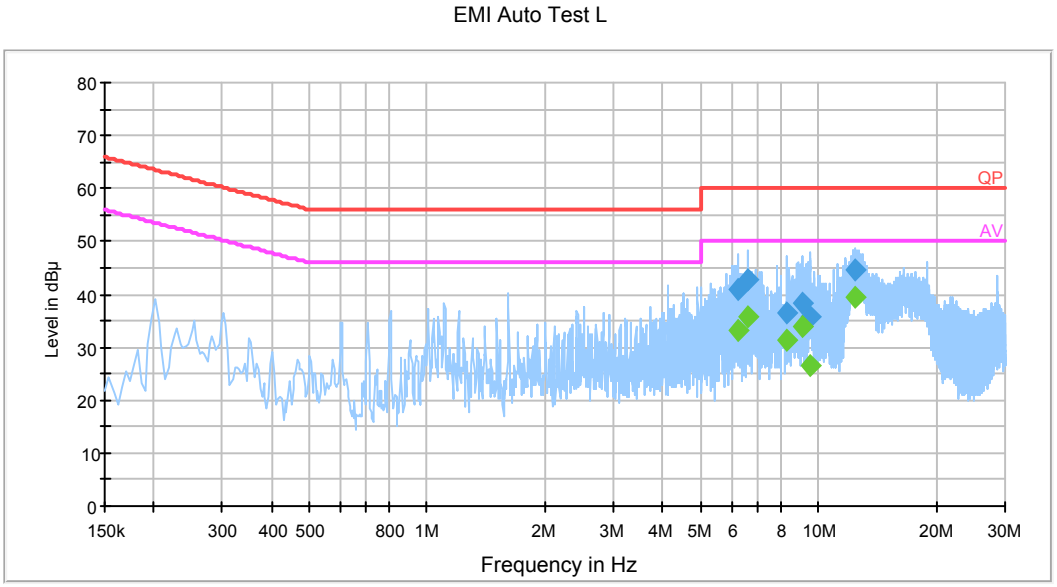
Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	100.1 kPa

The testing was performed by Gardon Zhang on 2013-08-30.

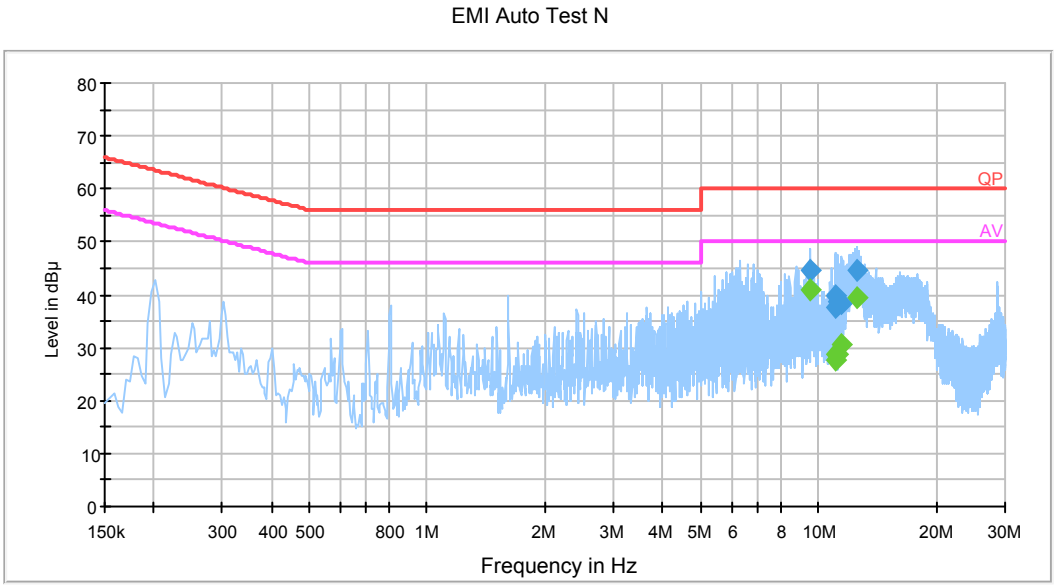
EUT operation mode: Downloading

AC 120V/60 Hz, Line



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/QP/Ave.)
6.230000	40.8	19.7	60.0	19.2	QP
6.230000	33.1	19.7	50.0	16.9	Ave.
6.634000	42.8	19.7	60.0	17.2	QP
6.634000	35.7	19.7	50.0	14.3	Ave.
8.342000	36.3	19.7	60.0	23.7	QP
8.342000	31.3	19.7	50.0	18.7	Ave.
9.146000	38.5	19.7	60.0	21.5	QP
9.146000	33.8	19.7	50.0	16.2	Ave.
9.494000	35.9	19.7	60.0	24.1	QP
9.494000	26.6	19.7	50.0	23.4	Ave.
12.406000	44.6	19.9	60.0	15.4	QP
12.406000	39.4	19.9	50.0	10.6	Ave.

AC 120V/60 Hz, Neutral



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/ QP/Ave.)
9.510000	44.7	19.8	60.0	15.3	QP
9.510000	40.9	19.8	50.0	9.1	Ave.
11.026000	37.5	19.9	60.0	22.5	QP
11.026000	27.7	19.9	50.0	22.3	Ave.
11.086000	39.8	19.9	60.0	20.2	QP
11.086000	28.8	19.9	50.0	21.2	Ave.
11.198000	38.9	19.9	60.0	21.1	QP
11.198000	28.7	19.9	50.0	21.3	Ave.
11.426000	38.5	19.9	60.0	21.5	QP
11.426000	30.4	19.9	50.0	19.6	Ave.
12.570000	44.7	20.0	60.0	15.3	QP
12.570000	39.6	20.0	50.0	10.4	Ave.

FCC §15.109 - RADIATED EMISSIONS

Applicable Standard

According to FCC §15.109

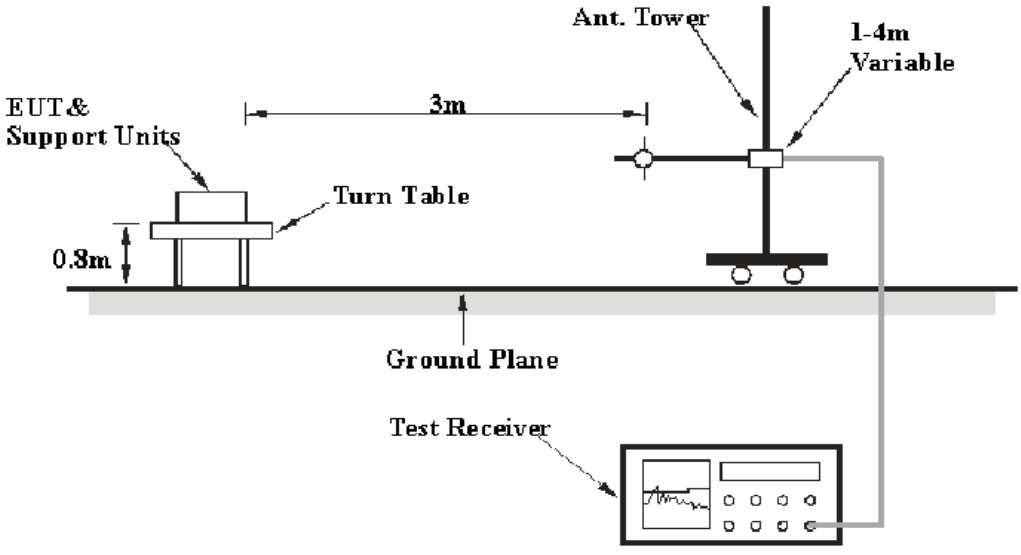
Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on CISPR 16-4-2:2011, the expended combined standard uncertainty of radiation emissions at Bay Area Compliance Laboratories Corp. (Shenzhen) is shown in below table. And the uncertainty will not be taken into consideration for the test data recorded in the report

Frequency	Polarity	Measurement uncertainty
30MHz~200MHz	Horizontal	4.62 dB (k=2, 95% level of confidence)
	Vertical	4.54 dB (k=2, 95% level of confidence)
200MHz~1GHz	Horizontal	4.84 dB (k=2, 95% level of confidence)
	Vertical	5.91 dB (k=2, 95% level of confidence)
1 GHz~6 GHz	Horizontal/Vertical	4.68 dB (k=2, 95% level of confidence)
Above 6 GHz	Horizontal/Vertical	4.92 dB (k=2, 95% level of confidence)

EUT Setup



The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.4-2009. The specification used was the FCC Part 15.109 Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The host PC was connected to an AC 120V/60 Hz power source.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 6 GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	Ave.

Test Procedure

During the radiated emissions, the host PC, monitor and modem were connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in the Quasi-peak detection mode from 30 MHz to 1 GHz, Peak and average detection mode above 1 GHz.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	8447E	1937A01046	2013-08-09	2014-08-09
Rohde & Schwarz	EMI Test Receiver	ESCI	101122	2013-05-09	2014-05-09
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2011-11-28	2014-11-27
Mini-Circuits	Amplifier	ZVA-213+	N/A	2012-11-24	2013-11-23
Sunol Sciences	Horn Antenna	DRH-118	A052304	2011-12-01	2014-11-30
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2012-11-24	2013-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Correction Factor = Antenna Loss + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the data in the following table, with the worst margin reading of:

10.7 dB at **239.996300 MHz** in the **Horizontal** polarization

Refer to CISPR16-4-2:2011 and CISPR 16-4-1:2009, the measured level is in compliance with the limit if

$$L_m + U_{(Lm)} \leq L_{lim} + U_{cispr}$$

in our lab., $U_{(Lm)}$ is less than U_{cispr}, if L_m is less than L_{lim}, it implies that the EUT complies with the limit.

Test Data

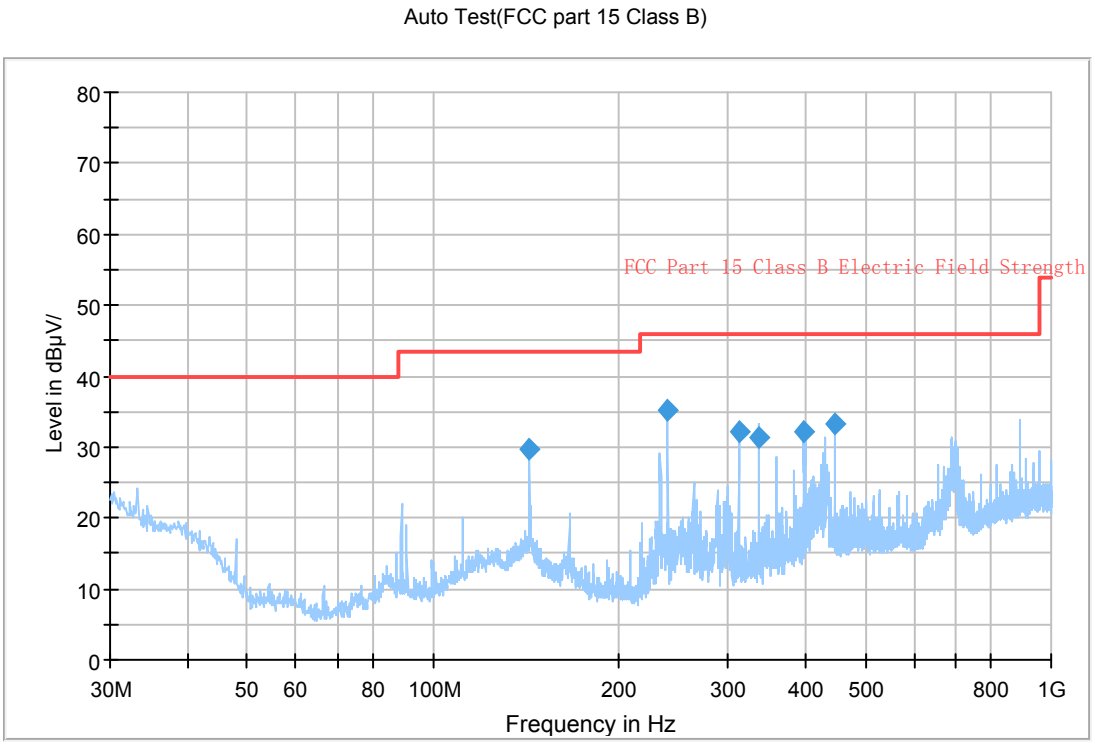
Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	100.1 kPa

The testing was performed by Gardon Zhang on 2013-08-19.

EUT operation mode: Downloading

1) 30 MHz ~ 1 GHz



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna height (cm)	Antenna Polarity	Turntable position (deg)	Correction Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
239.996300	35.3	121.0	H	81.0	-15.9	46.0	10.7
446.007850	33.3	175.0	H	86.0	-11.3	46.0	12.7
398.100000	32.3	162.0	V	162.0	-11.9	46.0	13.7
312.027500	32.1	137.0	V	135.0	-13.8	46.0	13.9
143.368750	29.6	146.0	H	98.0	-14.5	43.5	13.9
336.000950	31.5	114.0	H	93.0	-13.5	46.0	14.5

2) 1 GHz ~ 6 GHz

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.109	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
2263.4	28.32	Ave.	69	1.7	H	4.99	33.31	54	20.69
1402.3	32.15	Ave.	208	1.6	H	0.68	32.83	54	21.17
2263.4	25.43	Ave.	103	1.3	V	4.99	30.42	54	23.58
1402.3	28.94	Ave.	142	1.2	V	0.68	29.62	54	24.38
2263.4	42.16	PK	69	1.7	H	4.99	47.15	74	26.85
1402.3	45.23	PK	208	1.6	H	0.68	45.91	74	28.09
2263.4	40.08	PK	103	1.3	V	4.99	45.07	74	28.93
1402.3	42.68	PK	142	1.2	V	0.68	43.36	74	30.64

PRODUCT SIMILARITY DECLARATION LETTER

Shenzhen YIDONG Technology Co., Ltd.
Floor 1-5,Building B, Area B, Yuanfen Industrial Zone, Dalang, Bao'an District, Shenzhen, China
Tel: 0755-82507136 Fax: 0755-82507126

Declaration Letter of Product Similarity

To whom it may concern:

We, **Shenzhen YIDONG Technology Co., Ltd.** declared that our product Tablet PC have two models:**RCT6691W3** and **EMR3194**, FCC ID.: **LU7-RCT6691W3,**they were identical inside, since the electrical circuit design, layout, components used and internal wiring were identical for the above items, with only difference being the **printing&shell color.**

RCT6691W3 was tested by BACL.

Sincerely yours

Signature: Li. Guoquan

Guoquan Li
Project Manager
2013-8-28

*******END OF REPORT*******