







ISO/IEC17025 Accredited Lab.

Report No: FCC 1504057-02

File reference No: 2015-04-15

Applicant: SHENZHEN HARMONY TECHNOLOGY CO., LTD

Product: TABLET PC

Model No: PLT1077G

Trademark: N/A

Test Standards: FCC Part 15 Subpart B: 2012

Test result: It is herewith confirmed and found to comply with the requirements

set up by ANSI C63.4&FCC Part 15 regulations for the evaluation of

electromagnetic compatibility

Approved By

# Jack Chung

Jack Chung

Manager

Dated: April 15, 2015

Results appearing herein relate only to the sample tested The technical reports is issued errors and omissions exempt and is subject to withdrawal at

## SHENZHEN TIMEWAY TESTING LABORATORIES

Room 512-519, 5/F., East Tower, Building 4, Anhua Industrial Zone, Futian District, Shenzhen, Guangdong, China

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timewaytech.com

Report No: FCC1504057-02 Page 2 of 29

Date: 2015-04-15



## **Special Statement:**

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

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

#### **CNAS-LAB Code: L2292**

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

#### FCC-Registration No.: 899988

The 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 No.: 899988.

#### IC- Registration No.: IC5205A-02

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration IC No.: 5205A-02.

Page 3 of 29

Report No: FCC1504057-02

Date: 2015-04-15



### **Test Report Conclusion**

#### Content

1.0	General Details	4
1.1	Test Lab Details.	4
1.2	Applicant Details	4
1.3	Description of EUT	4
1.4	Test Uncertainty.	4
1.5	Submitted Sample	4
1.6	Test Duration.	4
2.0	List of Measurement Equipment.	5
2.1	Conducted Emission Test.	5
2.2	Radiated electromagnetic disturbance test.	5
2.3	Auxiliary Equipment	5
3.0	Technical Details.	6
3.1	Investigations Requested	6
3.2	Test Standards.	6
4.0	Power line Conducted Emission Test.	7
5.0	Radiated Disturbance Test.	11
6.0	FCC ID Label	18
7.0	Photo of testing	10

Date: 2015-04-15



#### 1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Room 512-519,5/F., East Tower, Building 4, Anhua Industrial Zone,

Futian District, Shenzhen, Guangdong China

Telephone: (755) 83448688 Fax: (755) 83442996

Site on File with the Federal Communications Commission – United Sates

Registration Number: 899988

For 3m & 10 m OATS

Site Listed with Industry Canada of Ottawa, Canada

Registration Number: IC: 5205A-02

For 3m & 10 m OATS

1.2 Applicant Details

Applicant: SHENZHEN HARMONY TECHNOLOGY CO., LTD

Address: Block 2, Jiayuan Industrial Zone, Heping Community high-tech Park,

No 2 Fuyuan Road, Fuyong, Bao'an, Shenzhen, China

Telephone: -Fax: --

1.3 Description of EUT

Product: TABLET PC

Manufacturer: SHENZHEN HARMONY TECHNOLOGY CO., LTD

Address: Block 2, Jiayuan Industrial Zone, Heping Community high-tech

Park, No 2 Fuyuan Road, Fuyong, Bao'an, Shenzhen, China

Brand Name: N/A

Model Number: PLT1077G

Additional Model Number: N/A

1.4 Submitted Sample: 2 Samples

1.5 Test Duration: 2015-03-06 to 2015-04-15

1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB Radiated Emissions Uncertainty =4.7dB

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Page 5 of 29

Report No: FCC1504057-02

Date: 2015-04-15



1.7 Test Engineer

The sample tested by

Temy Tang

Print Name: Terry Tong

#### 2.0 List of Measurement Equipment

#### 2.1 Conducted Emission Test

				Calibration	Calibration
Name	Model No.	Serial No.	Manufacturer	Date	Cycle
EMI Test Receiver	ESH3	860905/006	RS	2014.08.21	1Year
Spectrum Analyzer	ESA-L1500A	US37451154	HP	2014.08.21	1Year
PULSE LIMITER	ESH3-Z2	100281	RS	2014.08.22	1Year
LISN	ESH3-Z5	100294	RS	2014.08.22	1Year
LISN	ESH3-Z5	100253	RS	2014.08.22	1Year
LISN	LS16C	10010947251	AFJ	2014.08.21	1Year

#### 2.2 Radiated electromagnetic disturbance test

				Calibration	Calibration
Name	Model No.	Serial No.	Manufacturer	Date	Cycle
EMI Test Receiver	ESVD	100008	RS	2014.08.21	1Year
Coaxial Switch	MP59B	M70585	ANRITSU	N/A	N/A
Amplifier	8447D	2727A05017	HP	2014.08.22	1Year
Bilog Antenna	VULB9163	9163/340	Schwarebeck	2014.08.23	1Year
Horn Antenna	BBHA 9120D	9120D-631	Schwarebeck	2014.08.23	1Year
Horn Antenna	BBHA 9170	BBHA9170265	Schwarebeck	2014.08.23	1Year
Test Receiver	ESI26	838786/013	RS	2014.08.22	1Year

### 2.3 Auxiliary Equipment

					FCC DOC/
Name	Model No.	Serial No.	Manufacturer	Cable	ID
				Data cable of	
Monitor	P2450		SAMSUNG	1.5m length	FCC DOC
Passive Earphone					
PC	R400		IBM		FCC DOC
Mouse	M-F105		L.SEletron		FCC DOC
TF					

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Report No: FCC1504057-02 Page 6 of 29

Date: 2015-04-15



#### 3.0 Technical Details

3.1 Investigations Requested

Perform Electromagnetic Interference [EMI] tests for FCC Requirement.

3.2 Test Standards

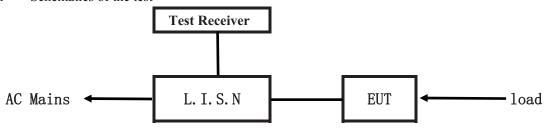
FCC Part 15 Subpart B: 2012

Date: 2015-04-15



#### 4.0 Conducted Power line Test

#### 4.1 Schematics of the test



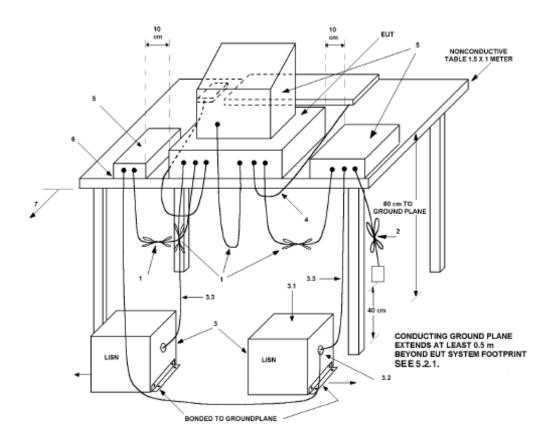
**EUT: Equipment Under Test** 

#### 4.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2009. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2009. Cables and peripherals were moved to find the maximum emission levels for each frequency.

Actual Working Voltage and Frequency: 120V~, 60Hz

Block diagram of Test setup



The report refers only to the sample tested and does not apply to the bulk.

Report No: FCC1504057-02 Page 8 of 29

Date: 2015-04-15



#### 4.3 Power line conducted Emission Limit

Eraguan ay (MHz)	Class A Li	mits dB(μV)	Class B Limits dB(µV)		
Frequency(MHz)	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level	
0.15 ~ 0.50	79.00	66.00	66.00~56.00*	56.00~46.00*	
0.50 ~ 5.00	73.00	60.00	56.00	46.00	
5.00 ~ 30.00	73.00	60.00	60.00	50.00	

Notes:

#### 4.4 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

<sup>1. \*</sup>decreasing linearly with logarithm of frequency.

<sup>2.</sup> The tighter limit shall apply at the transition frequencies

Date: 2015-04-15



#### A: Conducted Emission on Live Terminal (150kHz to 30MHz)

**EUT Operating Environment** 

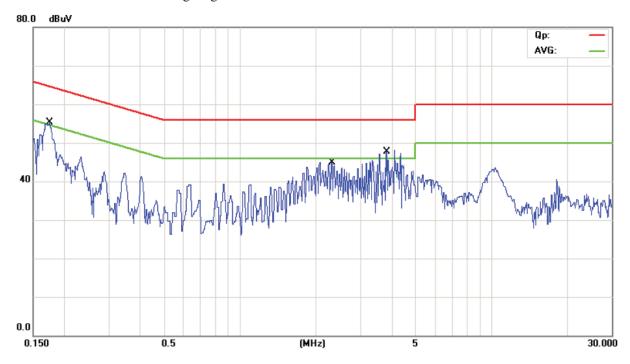
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Communication with PC** 

**Equipment Level: Class B** 

**Results: PASS** 

Please refer to following diagram for individual



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1720	43.00	11.02	54.02	64.86	-10.84	QP	
2	0.1720	33.10	11.02	44.12	54.86	-10.74	AVG	
3	3.8077	35.40	13.02	48.42	56.00	-7.58	QP	
4	3.8077	21.00	13.02	34.02	46.00	-11.98	AVG	
5	2.3055	31.20	12.42	43.62	56.00	-12.38	QP	
6 *	2.3055	28.20	12.42	40.62	46.00	-5.38	AVG	

Date: 2015-04-15



#### B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

**EUT Operating Environment** 

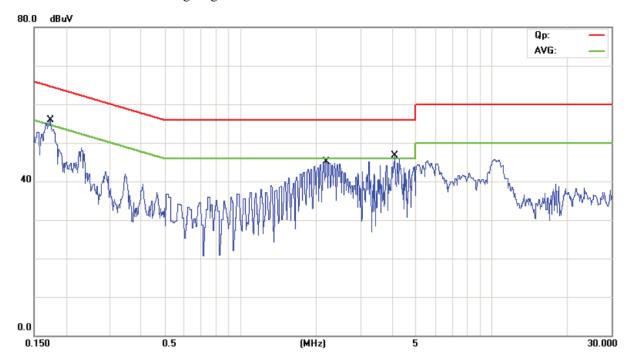
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Communication with PC** 

**Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1743	42.20	11.03	53.23	64.75	-11.52	QP	
2	0.1743	28.60	11.03	39.63	54.75	-15.12	AVG	
3	2.1904	30.20	12.38	42.58	56.00	-13.42	QP	
4 *	2.1904	29.60	12.38	41.98	46.00	-4.02	AVG	
5	4.1032	31.90	13.14	45.04	56.00	-10.96	QP	
6	4.1032	11.50	13.14	24.64	46.00	-21.36	AVG	

Page 11 of 29

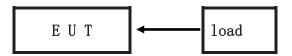
Report No: FCC1504057-02

Date: 2015-04-15



#### 5.0 Radiated Disturbance Test

#### 5.1 Schematics of the test

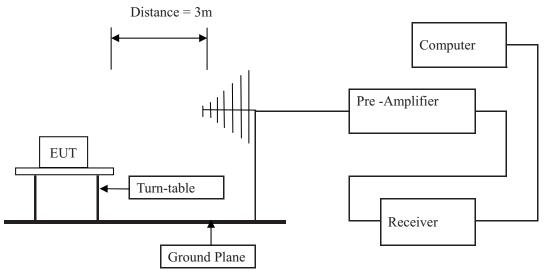


#### 5.2 Test Method and test Procedure:

The EUT was tested according to ANSI C63.4 –2009; The frequency spectrum from 30MHz to 5GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. For measurement above 1GHz, peak values with RBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK

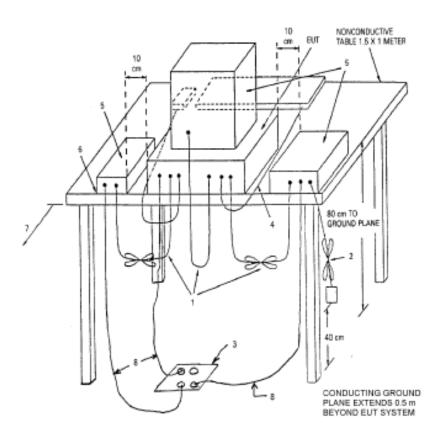
Actual Working Voltage and Frequency: 120V~, 60Hz

### **Block diagram of Test setup**



Date: 2015-04-15





#### 5.3 Radiated Emission Limit

Frequency Range (MHz)	Distance (m)	Field strength (dB $\mu$ V/m)
30-88	3	40.00
88-216	3	43.50
216-960	3	46.00
Above 960	3	54.00

Note: 1. The lower limit shall apply at the transition frequencies

2. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

#### 5.4 Test result

The frequency spectrum from 30MHz to 18GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. For measurement above 1GHz, peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK. Measurements were made at 3 meters.

Report No: FCC1504057-02 Page 13 of 29

Date: 2015-04-15



#### Test result

#### General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Horizontal/ In Vertical (30MHz----1000MHz)

**EUT set Condition:** Communication with PC

**Results:** Pass

Frequency (MHz)	Level@3m (dB \u03ba V/m)	Antenna Polarity	Limit@3m (dB \( \mu \) V/m)
293.920	31.71	Н	46.00
395.960	37.66	Н	46.00
197.880	35.69	Н	43.50
33.120	30.61	V	40.00
395.960	36.85	V	46.00
955.600	34.53	V	46.00

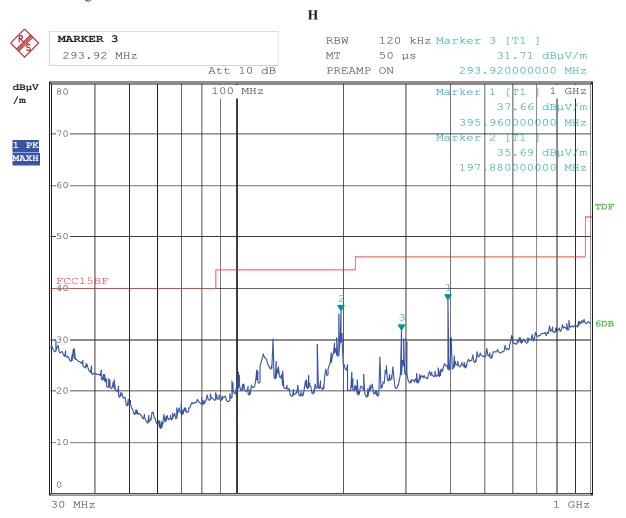
Page 14 of 29

Report No: FCC1504057-02

Date: 2015-04-15



#### Test Figure:



Date: 10.APR.2015 16:06:16

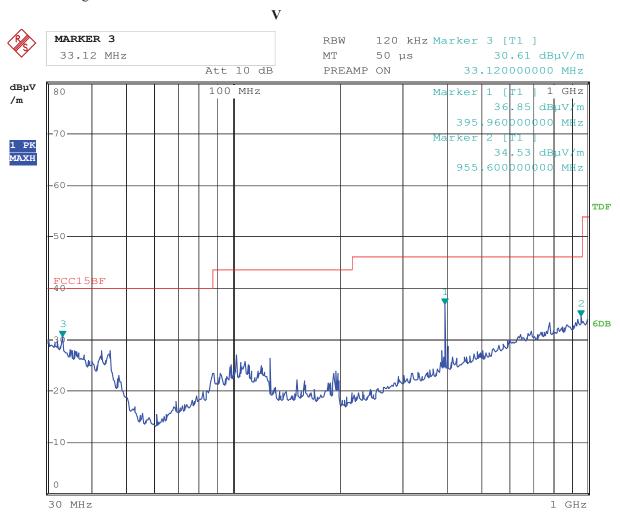
Page 15 of 29

Report No: FCC1504057-02

Date: 2015-04-15



#### Test Figure:



Date: 10.APR.2015 16:09:16

Date: 2015-04-15



#### Radiated Disturbance (1000MHz----18000MHz)

**EUT Operating Environment** 

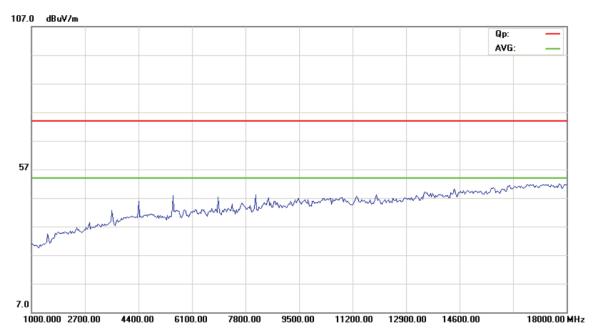
Temperature:25℃ Humidity: 75%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Connected to PC** 

**Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dBμV/m)	Antenna Polarity	Limit@3m (dBµV/m)
		Н	54(AV)

Note: Blue result curve is pk scan value, pk value is lower than AV limit.

Date: 2015-04-15



#### Radiated Disturbance (1000MHz----18000MHz)

#### **EUT Operating Environment**

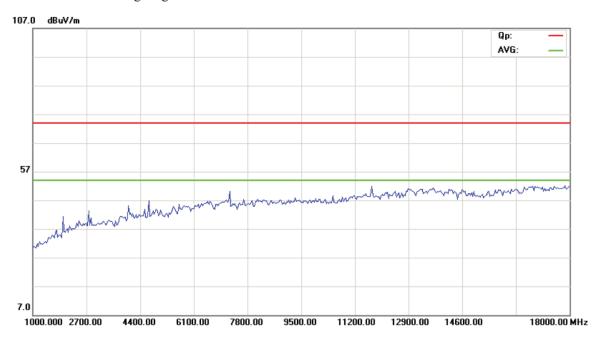
Temperature:25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Connected to PC** 

**Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dBμV/m)	Antenna Polarity	Limit@3m (dBµV/m)
		V	54(AV)

Note: Blue result curve is pk scan value, pk value is lower than AV limit.

Report No: FCC1504057-02 Page 18 of 29

Date: 2015-04-15

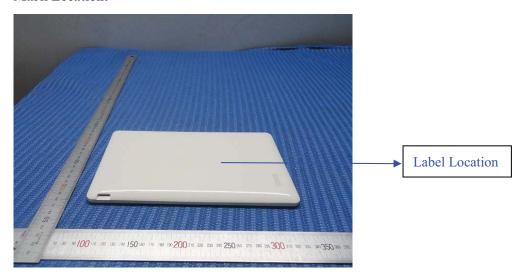


#### 6.0 FCC ID Label

#### FCC ID: 2ACJAPLT1077G

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

#### **Mark Location:**



Page 19 of 29

Report No: FCC1504057-02

Date: 2015-04-15



#### 7.0 Photo of testing

#### Conducted test View--7.1



Page 20 of 29

Report No: FCC1504057-02

Date: 2015-04-15



#### 7.2 Radiated emission test view--





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Date: 2015-04-15



### Photographs - EUT

#### Outside view





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Page 25 of 29

Report No: FCC1504057-02

Date: 2015-04-15



#### Outside view



Date: 2015-04-15



Inside view





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Inside view





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Inside view





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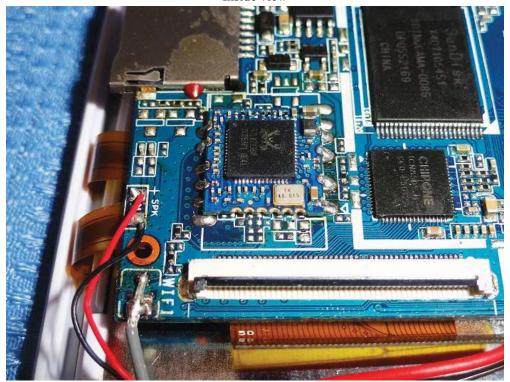
Page 29 of 29

Report No: FCC1504057-02

Date: 2015-04-15



Inside view



End of the report