FCC TEST REPORT

On Behalf of

Gztod. Co., Ltd.

Smart USB Charger

Model No.: YA50WS3-8U

Prepared for	:	Gztod. Co., Ltd.
Address	:	2-5/F, Building A4, Huimingsheng Industrial Park, Tongfuyu Dingfeng High-Tech District, Fuyong Street, Bao'an District, Shenzhen City, Guangdong Province, P.R.China

Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	:	1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
Tel	:	(+86)755-82591330
Fax	:	(+86)755-82591332
Web	:	www.LCS-cert.com
Mail	:	webmaster@LCS-cert.com

Date of receipt of test sample	:	May 21, 2015
Number of tested samples	:	1
Serial number	:	Prototype
Date of Test	:	May 21, 2015 - June 06, 2015
Date of Report	:	June 06, 2015

FCC TEST REPORT
FCC CFR 47 PART 15 Subpart B: 2014

Report Reference No.	**:**	**LCS1505221212E**
Date Of Issue	:	June 06, 2015
Testing Laboratory Name.....	**:**	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address	:	1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China
Testing Location/ Procedure.....	:	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name	**:**	**Gztod. Co., Ltd.**
Address	:	2-5/F, Building A4, Huimingsheng Industrial Park, Tongfuyu Dingfeng High-Tech District, Fuyong Street, Bao'an District, Shenzhen City, Guangdong Province, P.R.China
Test Specification		
Standard	:	FCC CFR 47 PART 15 Subpart B: 2014, ANSI C63.4-2014
Test Report Form No.	:	LCSEMC-1.0
TRF Originator	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF	:	Dated 2011-03

Test Item Description.	**:**	**Smart USB Charger**
Model/ Type Reference	:	YA50WS3-8U
Trade Mark	:	Gztod bototek
Ratings	:	Input: AC 100-240V~, 50/60Hz, 1.2A; Output: 5V⎓2.4A*4 , 5V⎓1A *4 Max.10A
Result	**:**	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
Happy Lv/ File administrator	Glin Lu/ Technique principal	Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No. : LCS1505221212E	June 06, 2015 Date of issue

Type / Model.....	: YA50WS3-8U
EUT.....	: Smart USB Charger
Applicant.....	**: Gztod. Co., Ltd.**
Address.....	: 2-5/F, Building A4, Huimingsheng Industrial Park, Tongfuyu Dingfeng High-Tech District, Fuyong Street, Bao'an District, Shenzhen City, Guangdong Province, P.R.China
Telephone.....	: /
Fax.....	: /
Manufacturer.....	**: Gztod. Co., Ltd.**
Address.....	: 2-5/F, Building A4, Huimingsheng Industrial Park, Tongfuyu Dingfeng High-Tech District, Fuyong Street, Bao'an District, Shenzhen City, Guangdong Province, P.R.China
Telephone.....	: /
Fax.....	: /
Factory.....	: **Gztod. Co., Ltd.**
Address.....	: 2-5/F, Building A4, Huimingsheng Industrial Park, Tongfuyu Dingfeng High-Tech District, Fuyong Street, Bao'an District, Shenzhen City, Guangdong Province, P.R.China
Telephone.....	: /
Fax.....	: /

Test Result according to the standards on page 5: **Positive**

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.

TABLE OF CONTENTS

Test Report Description Page

1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION			
Description of Test Item	**Standard**	**Limits**	**Results**
Conducted disturbance at mains terminals	FCC CFR 47 PART 15 Subpart B: 2014	Class B	PASS
Radiated disturbance	FCC CFR 47 PART 15 Subpart B: 2014	Class B	PASS
Conducted disturbance at Antenna terminals	FCC CFR 47 PART 15 Subpart B: 2014	---------	N/A
N/A is an abbreviation for Not Applicable.			

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT : Smart USB Charger

Model Number : YA50WS3-8U

Power Supply : Input: AC 100-240V~, 50/60Hz, 1.2A;
Output: 5V⎓2.4A*4 , 5V⎓1A *4
Max.10A

2.2. Description of Test Facility

Site Description
EMC Lab. : CNAS Registration Number. is L4595.

FCC Registration Number. is 899208.

Industry Canada Registration Number. is 9642A-1.

VCCI Registration Number. is C-4260 and R-3804.

ESMD Registration Number. is ARCB0108.

UL Registration Number. is 100571-492.

TUV SUD Registration Number. is SCN1081.

TUV RH Registration Number. is UA 50296516-001

2.3. 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 LCS 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.

2.4. Measurement Uncertainty

Test Item	Frequency Range	Expanded uncertainty (Ulab)	Expanded uncertainty (Ucispr)
Conducted Emission	(9kHz to 150kHz)	2.63 dB	4.0 dB
	(150kHz to 30MHz)	2.35 dB	3.6 dB
Power disturbance	(30MHz to 300MHz)	2.90dB	4.5 dB
Electromagnetic Radiated Emission (3-loop)	(9kHz to 30MHz)	3.60 dB	N/A
Radiated Emission	(9kHz to 30MHz)	3.68 dB	N/A
Radiated Emission	(30MHz to 1000MHz)	3.48 dB	5.2 dB
Radiated Emission	(above 1000MHz)	3.90 dB	N/A
Mains Harmonic	Voltage	0.510%	N/A
Voltage Fluctuations & Flicker	Voltage	0.510%	N/A

(1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.

(2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

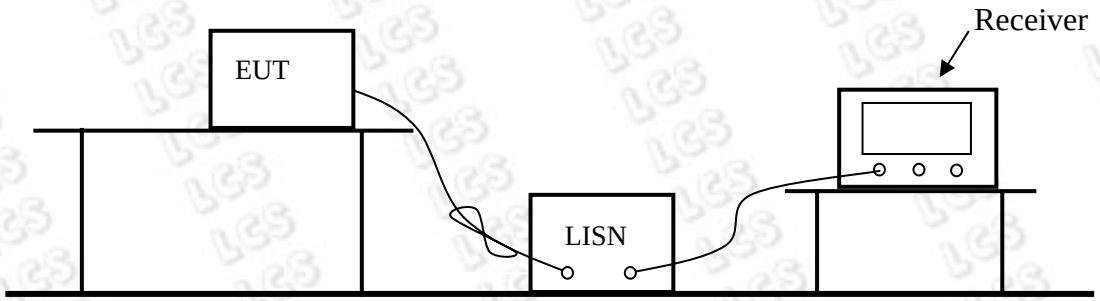
3. POWER LINE CONDUCTED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	101142	2014/06/18
2	10dB Attenuator	SCHWARZBECK	OSPAM236	9729	2014/06/18
3	Artificial Mains	ROHDE & SCHWARZ	ENV216	101288	2014/06/18
4	EMI Test Software	AUDIX	E3	N/A	2014/06/18

3.2.Block Diagram of Test Setup



Ground

3.3.Test Standard

Power Line Conducted Emission Limits (Class B)

Frequency (MHz)			Limit (dBμV)	
			Quasi-peak Level	Average Level
0.15	~	0.50	66.0 ~ 56.0 *	56.0 ~ 46.0 *
0.50	~	5.00	56.0	46.0
5.00	~	30.00	60.0	50.0
NOTE1-The lower limit shall apply at the transition frequencies. NOTE2-The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.				

3.4.EUT Configuration on Test

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

3.5.Operating Condition of EUT

3.4.1.Setup the EUT as shown on Section 3.2

3.4.2.Turn on the power of all equipments.

3.4.3.Let the EUT work in measuring mode (ON) and measure it.

3.6.Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC/ANSI C63.4-2014 on Conducted Emission Measurement.

The bandwidth of the test receiver is set at 9kHz.

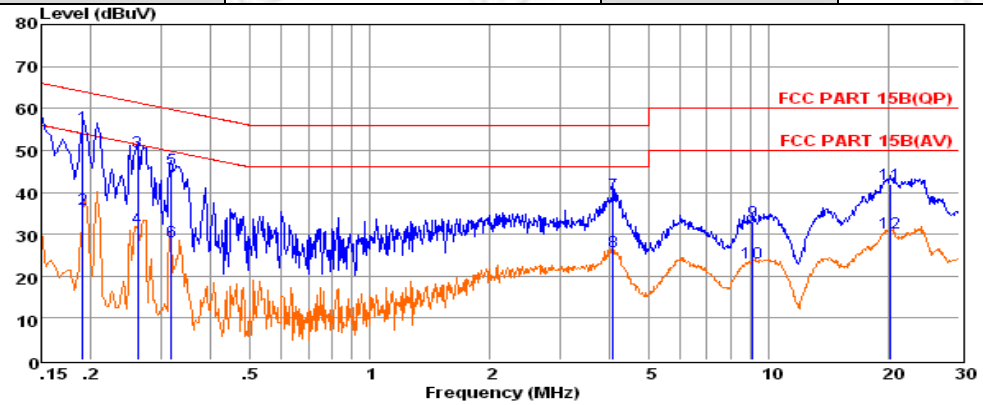
The frequency range from 150kHz to 30MHz is investigated

3.7.Test Results

PASS.

The test result please refer to the next page.

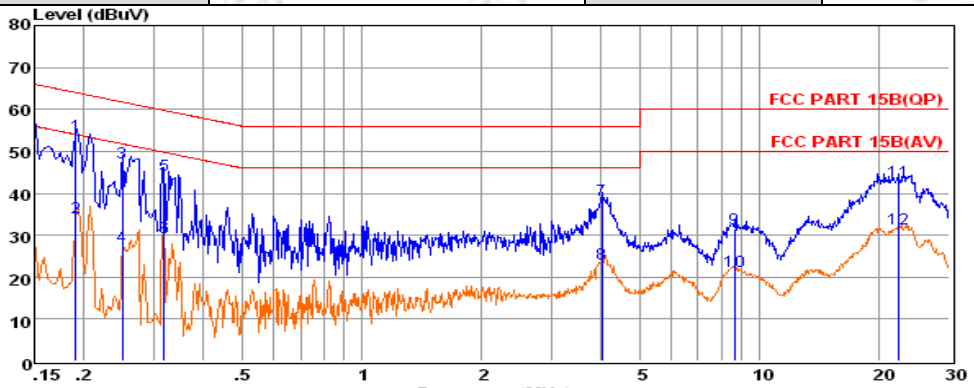
Model No.	YA50WS3-8U	Test Mode	ON
Environmental Conditions	24℃, 56% RH	Test Engineer	Cherry Chen
Pol	Line		



	Freq MHz	Reading dBuV	LisnFac dB	CabLos dB	Atten_Fac dB	Measured dBuV	Limit dBuV	Over dB	Remark
1	0.19039	36.00	9.62	0.02	10.00	55.64	64.02	-8.38	QP
2	0.19049	16.32	9.62	0.02	10.00	35.96	54.02	-18.06	Average
3	0.26164	29.94	9.63	0.03	10.00	49.60	61.38	-11.78	QP
4	0.26174	11.76	9.63	0.03	10.00	31.42	51.38	-19.96	Average
5	0.31830	25.82	9.62	0.03	10.00	45.47	59.75	-14.28	QP
6	0.31840	8.53	9.62	0.03	10.00	28.18	49.75	-21.57	Average
7	4.07036	19.78	9.65	0.06	10.00	39.49	56.00	-16.51	QP
8	4.07136	6.23	9.65	0.06	10.00	25.94	46.00	-20.06	Average
9	9.10730	13.36	9.69	0.08	10.00	33.13	60.00	-26.87	QP
10	9.10830	3.47	9.69	0.08	10.00	23.24	50.00	-26.76	Average
11	20.05594	21.99	9.76	0.12	10.00	41.87	60.00	-18.13	QP
12	20.05694	10.54	9.76	0.12	10.00	30.42	50.00	-19.58	Average

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.

Model No.	YA50WS3-8U	Test Mode	ON
Environmental Conditions	24℃, 56% RH	Test Engineer	Cherry Chen
Pol	Neutral		



	Freq MHz	Reading dBuV	LisnFac dB	CabLos dB	Atten_Fac dB	Measured dBuV	Limit dBuV	Over dB	Remark
1	0.19039	34.16	9.61	0.02	10.00	53.79	64.02	-10.23	QP
2	0.19049	14.72	9.61	0.02	10.00	34.35	54.02	-19.67	Average
3	0.24945	27.56	9.60	0.03	10.00	47.19	61.78	-14.59	QP
4	0.24955	7.79	9.60	0.03	10.00	27.42	51.77	-24.35	Average
5	0.31830	24.56	9.61	0.03	10.00	44.20	59.75	-15.55	QP
6	0.31840	9.93	9.61	0.03	10.00	29.57	49.75	-20.18	Average
7	4.00618	18.54	9.65	0.06	10.00	38.25	56.00	-17.75	QP
8	4.00718	3.53	9.65	0.06	10.00	23.24	46.00	-22.76	Average
9	8.63732	11.75	9.71	0.08	10.00	31.54	60.00	-28.46	QP
10	8.63832	1.51	9.71	0.08	10.00	21.30	50.00	-28.70	Average
11	22.29788	22.80	9.81	0.12	10.00	42.73	60.00	-17.27	QP
12	22.29888	11.60	9.81	0.12	10.00	31.53	50.00	-18.47	Average

Remarks: 1. Measured = Reading + Lisn Factor +Cable Loss+Atten_Fac.
2. The emission levels that are 20dB below the official limit are not reported.

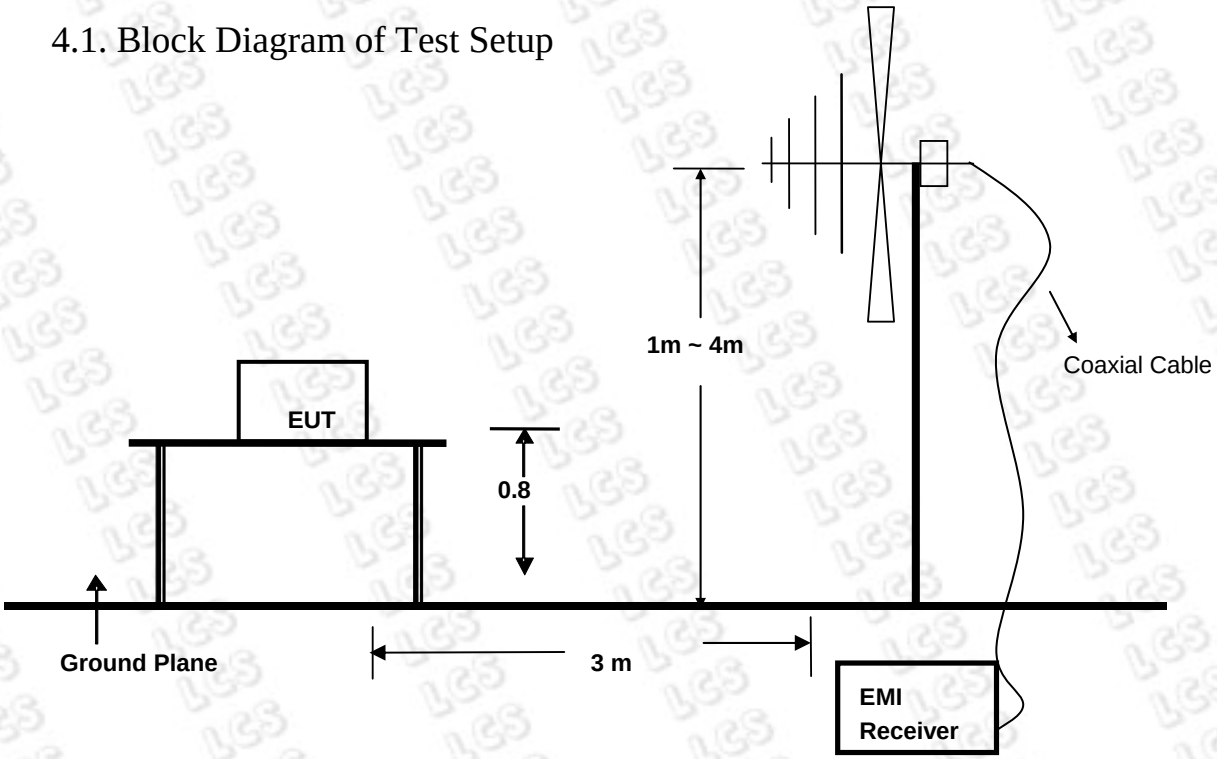
4. RADIATED EMISSION MEASUREMENT

4.1. Test Equipment

The following test equipments are used during the radiated emission measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2015/02/04
2	EMI Test Receiver	ROHDE & SCHWARZ	ESPI	101840	2014/06/18
3	Log per Antenna	SCHWARZBECK	VULB9163	9163-470	2014/06/18
4	EMI Test Software	AUDIX	E3	N/A	2014/06/18
5	Positioning Controller	MF	MF-7082	/	2014/06/18

4.1. Block Diagram of Test Setup



4.2. Radiated Emission Limit (Class B)

Limits for radiated disturbance Blow 1GHz

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
30 ~ 88	3	100	40
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46
960 ~ 1000	3	500	54

Remark：(1) Emission level (dB)μV = 20 log Emission level μV/m
(2) The smaller limit shall apply at the cross point between two frequency bands.
(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

4.3. EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.4. Operating Condition of EUT

4.5.1.Setup the EUT as shown in Section 4.2.
4.5.2.Let the EUT work in test mode (on) and measure it.

4.5. Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated by-log antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated emission measurement.

The bandwidth of the EMI test receiver is set at 120kHz, 1000kHz.

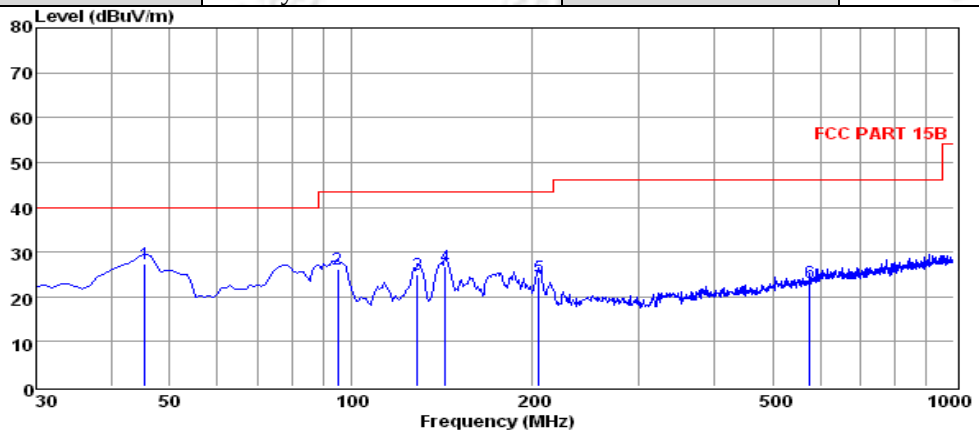
The frequency range from 30MHz to 1000MHz is checked.

4.6. Radiated Emission Noise Measurement Result

PASS.

The scanning waveforms please refer to the next page.

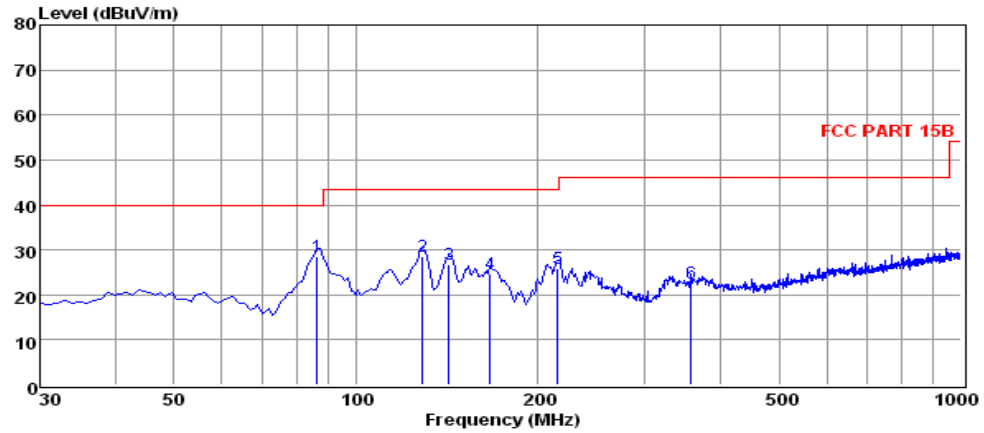
Model No.	YA50WS3-8U	Test Mode	ON
Environmental Conditions	24℃, 56% RH	Detector Function	Quasi-peak
Pol	Vertical	Distance	3m
Test Engineer	Cherry Chen		



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	45.52	13.57	0.41	13.52	27.50	40.00	-12.50	QP
2	94.99	12.73	0.58	12.84	26.15	43.50	-17.35	QP
3	128.94	15.36	0.67	9.09	25.12	43.50	-18.38	QP
4	143.49	17.84	0.71	8.21	26.76	43.50	-16.74	QP
5	204.60	12.75	0.99	10.71	24.45	43.50	-19.05	QP
6	577.08	3.67	1.49	18.02	23.18	46.00	-22.82	QP

Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that ate 20db blow the offficial limit are not reported

Model No.	YA50WS3-8U	Test Mode	ON
Environmental Conditions	24℃, 56% RH	Detector Function	Quasi-peak
Pol	Horizontal	Distance	3m
Test Engineer	Cherry Chen		

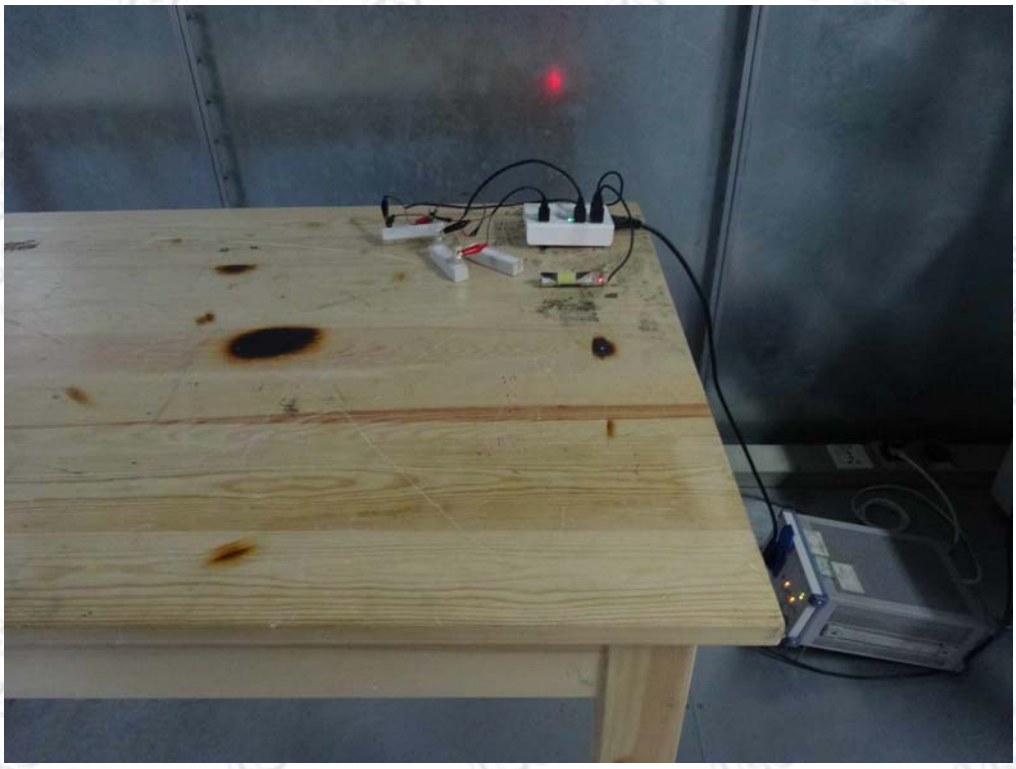


	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	86.26	17.24	0.47	10.71	28.42	40.00	-11.58	QP
2	128.94	18.75	0.67	9.09	28.51	43.50	-14.99	QP
3	142.52	17.79	0.71	8.21	26.71	43.50	-16.79	QP
4	166.77	14.97	0.77	8.87	24.61	43.50	-18.89	QP
5	215.27	13.77	0.95	11.05	25.77	43.50	-17.73	QP
6	357.86	6.99	1.18	14.40	22.57	46.00	-23.43	QP

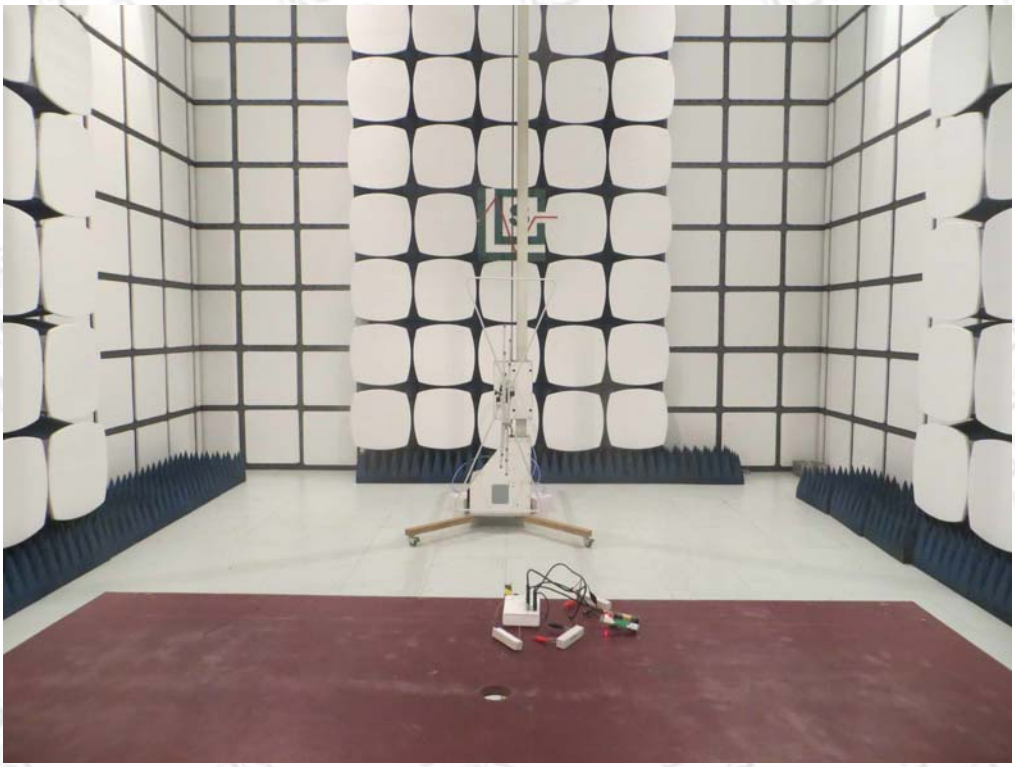
Note: 1. All readings are Quasi-peak values.
2. Measured= Reading + Antenna Factor + Cable Loss
3. The emission that ate 20db blow the offficial limit are not reported

5. PHOTOGRAPH

5.1.Photo of Power Line Conducted Measurement



5.2. Photo of Radiated Measurement



6. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

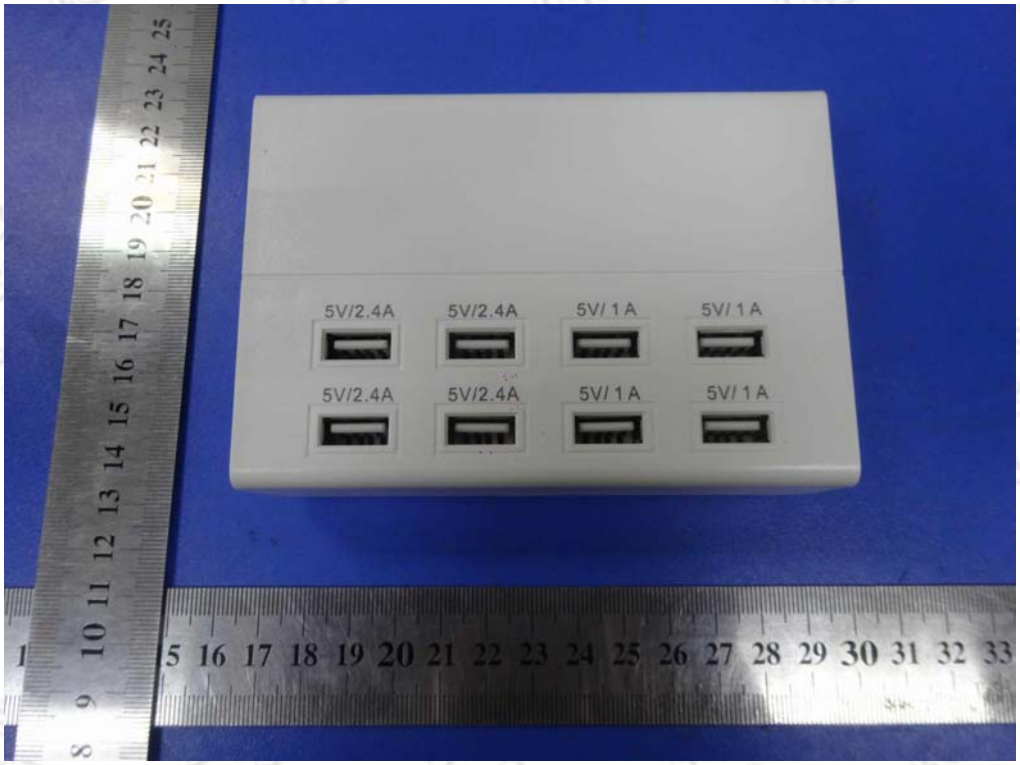


Fig. 1

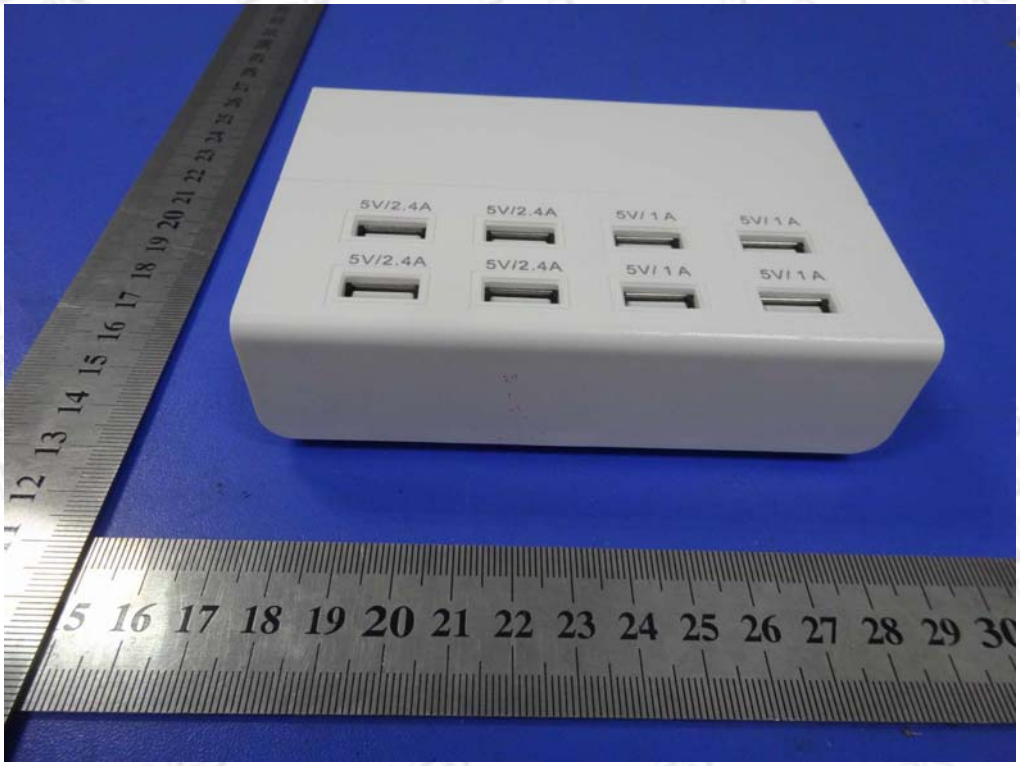


Fig. 2

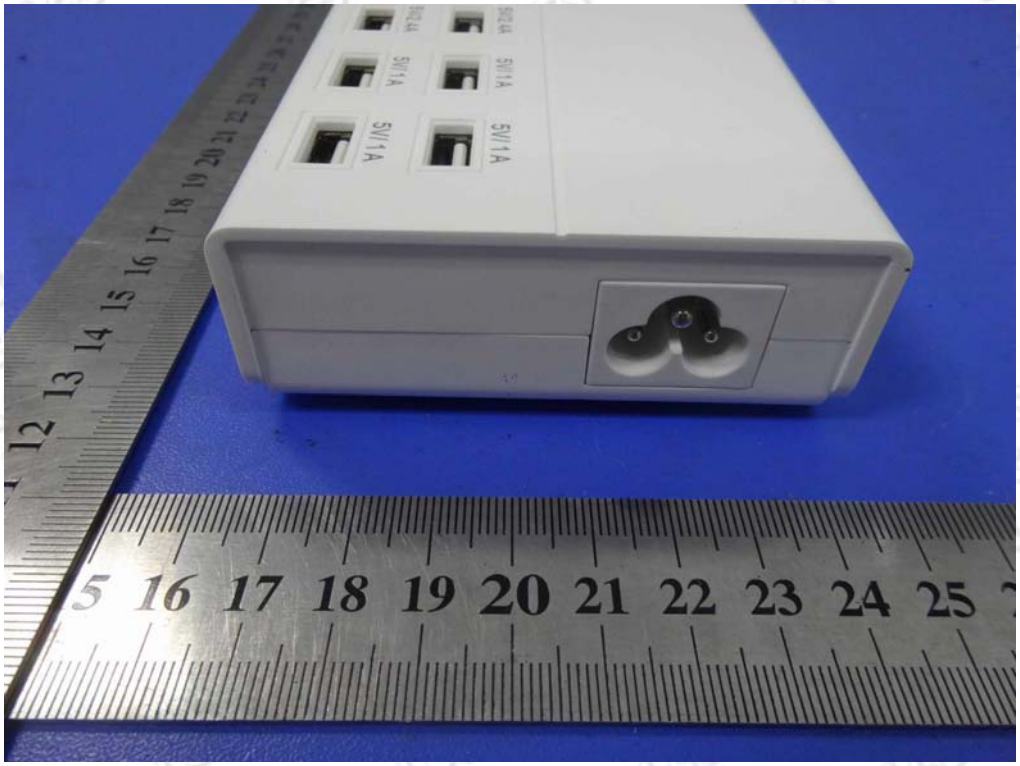


Fig. 3

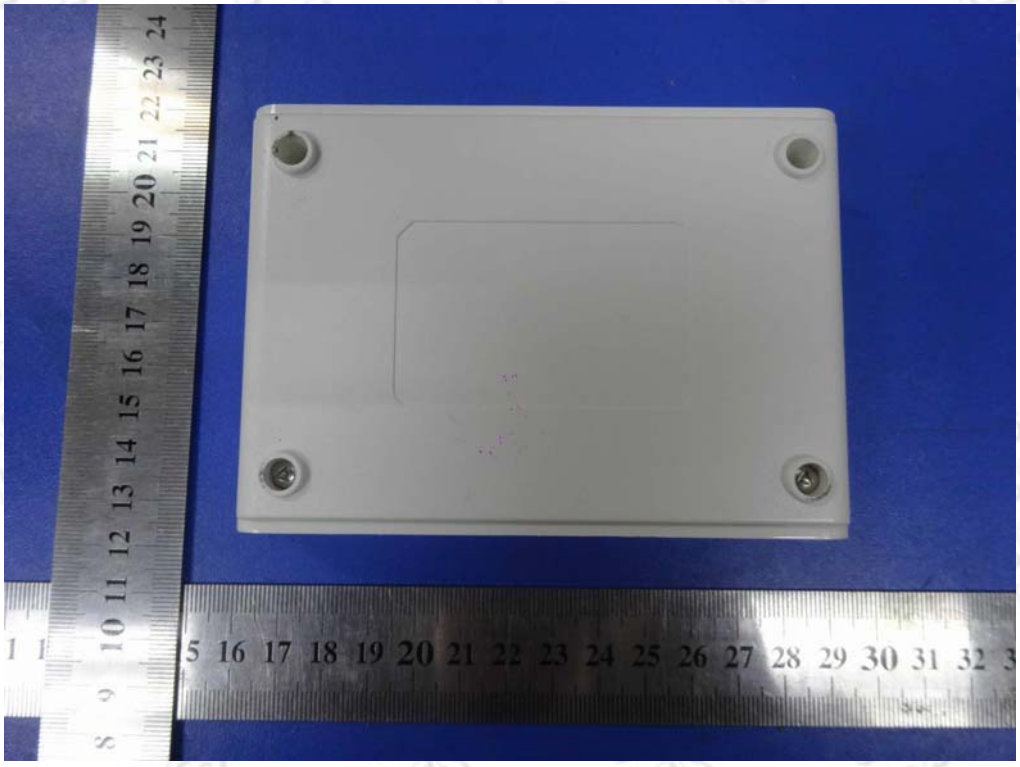


Fig. 4

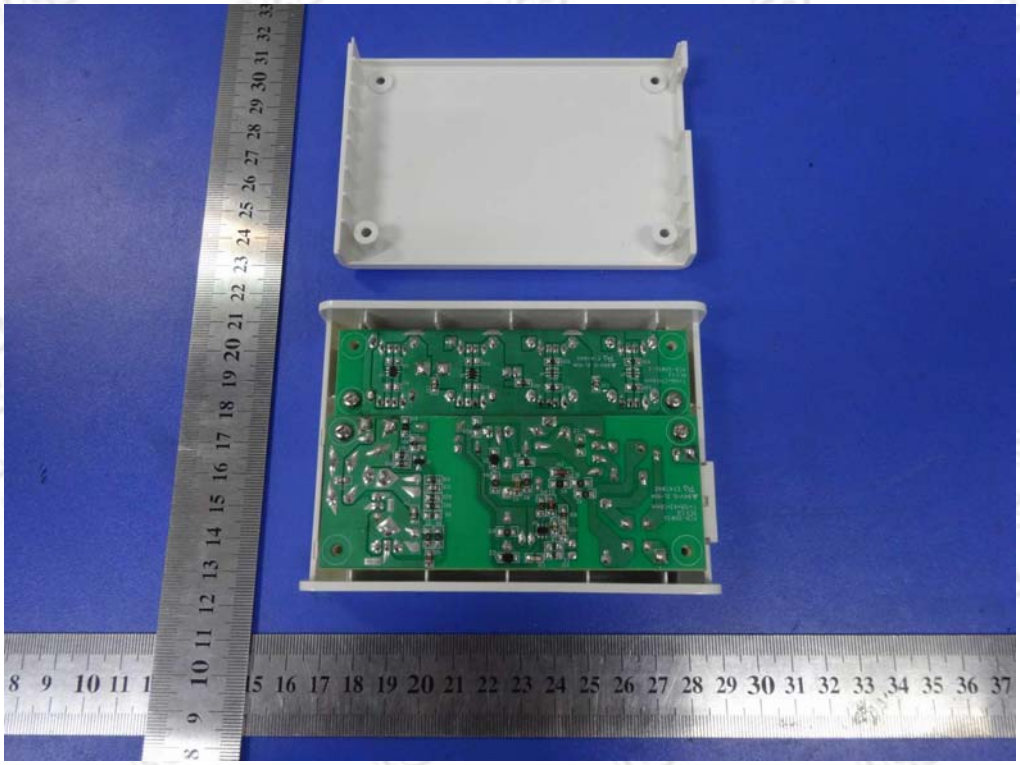


Fig. 5

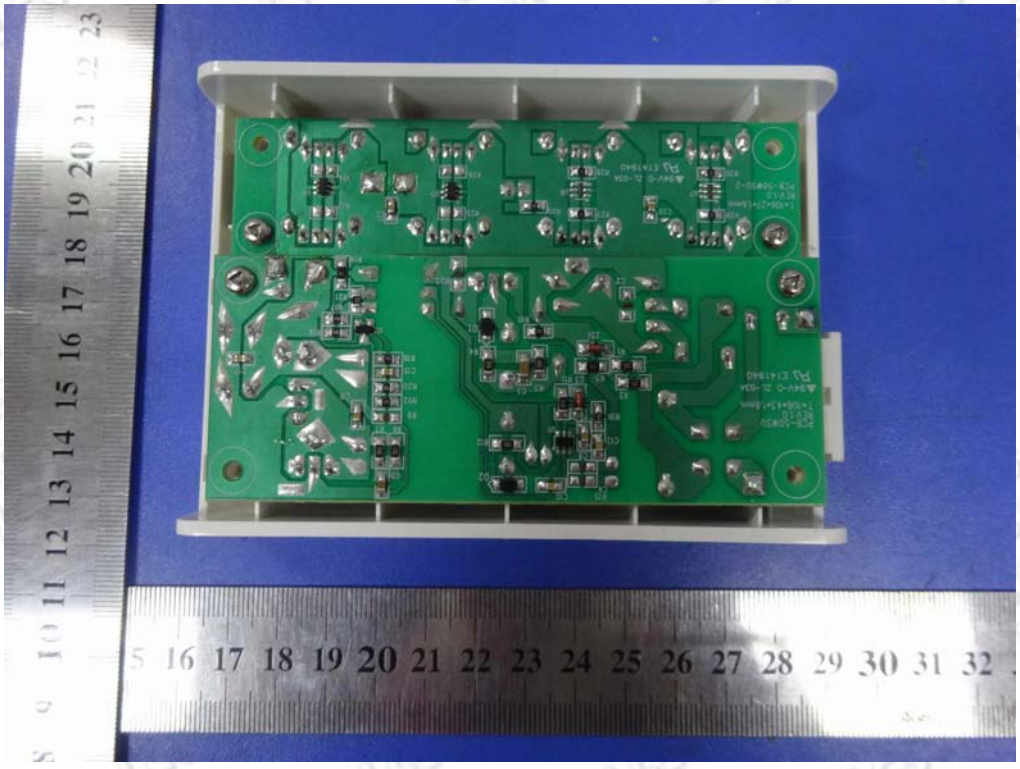


Fig. 6

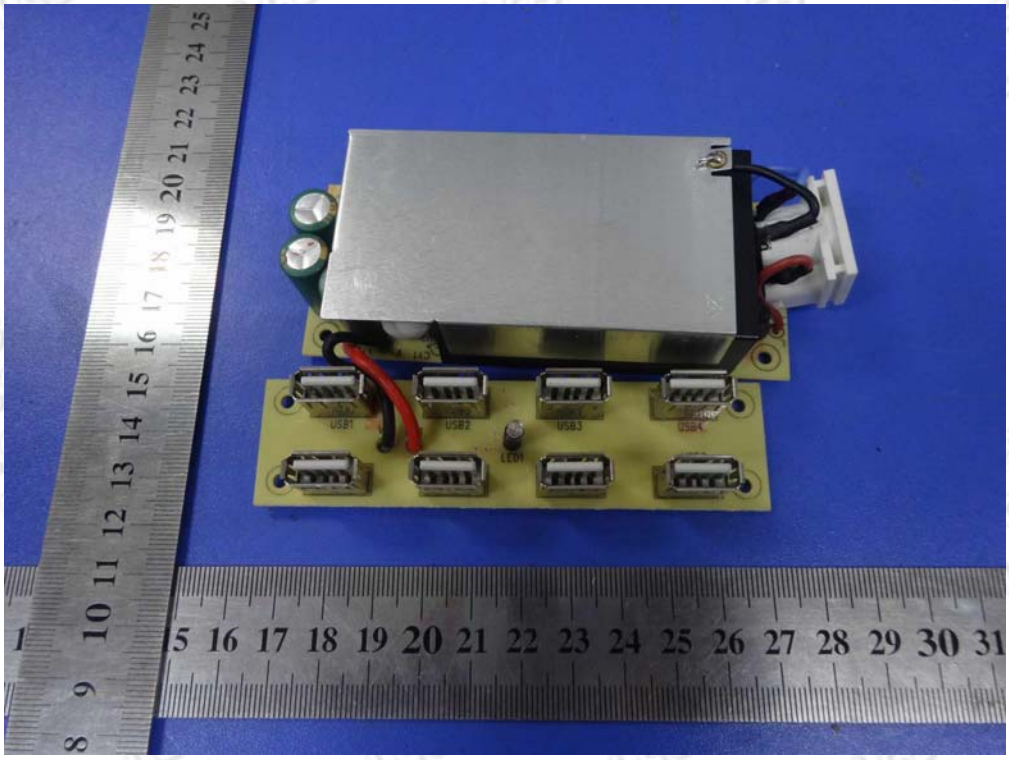


Fig. 7

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