

Verification Of Conformity  
On Behalf of  
Smart Team Holdings Limited

Portable Solar Charger - High Capacity & Dual Outputs  
Model No.: SZ-PSC2013

Prepared for : Smart Team Holdings Limited  
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Report Number : 201304847F  
Date of Test : Apr. 22~28, 2013  
Date of Report : May 07, 2013

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APPENDIX I (Photos of EUT) (3 Pages)

## TEST REPORT VERIFICATION

Applicant : Smart Team Holdings Limited  
Manufacturer : Shenzhen Smart Team Technology Ltd.  
EUT : Portable Solar Charger - High Capacity & Dual Outputs  
Model No. : SZ-PSC2013  
Rating : Input: DC 5V, 500mA-1000mA  
Output 1: DC 5V, 1A(MAX)  
Output 2: DC 5V, 2.1A(MAX)  
Trade Mark : ST

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart B 2011 & FCC / ANSI C63.4-2009

The device described above is tested by Anbotek Compliance Laboratory Limited To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits both radiated and conducted emissions. The measurement results are contained in this test report and Anbotek Compliance Laboratory Limited Is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Anbotek Compliance Laboratory Limited

Date of Test : Apr. 22~28, 2013

Prepared by :

Barak Ban

(Engineer/ Barak Ban)

Reviewer :

Amy Ding

(Project Manager/ Amy Ding)

Approved & Authorized Signer :

Tom. Chen

(Manager/ Tom Chen)

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

EUT : Portable Solar Charger - High Capacity & Dual Outputs

Model Number : SZ-PSC2013

Test Power Supply : DC 5V

Applicant : Smart Team Holdings Limited  
Address : FLAT A01, 5/F., Great Wall Fty Bldg., 11 Cheung Shun Street, Lai Chi Kwok, Kowloon, HK

Manufacturer : Shenzhen Smart Team Technology Ltd.  
Address : Xutai Industrial Zone, Long Wo Road, Long Tian Village, Keng Zi Town, Longgang District, Shenzhen, Guangdong, China

Date of receipt : Apr. 22, 2013

Date of Test : Apr. 22~28, 2013

## 1.2. Description of Test Facility

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

### **CNAS - LAB Code: L3503**

Anbotek Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

### **FCC-Registration No.: 752021**

Anbotek Compliance Laboratory Limited, 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 752021, August 20, 2010

### **IC-Registration No.: 8058A-1**

Anbotek Compliance Laboratory Limited., 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 8058A-1, February 22, 2013.

### **Test Location**

All Emissions tests were performed  
Anbotek Compliance Laboratory Limited. at 1/F, 1 /Build, SEC Industrial Park,  
No. 4 Qianhai Road, Nanshan District, Shenzhen, 518054, China

## 1.3. Measurement Uncertainty

Radiation Uncertainty : Ur = 4.3dB

Conduction Uncertainty : Uc = 3.4dB

## 1.4. Test Summary

For the EUT described above. The standards used were FCC Part 15 Subpart B for Emissions.

Table 1 : Tests Carried Out Under FCC Part 15 Subpart B

Standard	Test Items	Status
FCC Part 15 Subpart B	Power Line Conducted Emission Test (150KHz To 30MHz)	√
FCC Part 15 Subpart B	Radiated Emission Test (30MHz To 1000MHz)	√

√ Indicates that the test is applicable

x Indicates that the test is not applicable

## 2. POWER LINE CONDUCTED MEASUREMENT

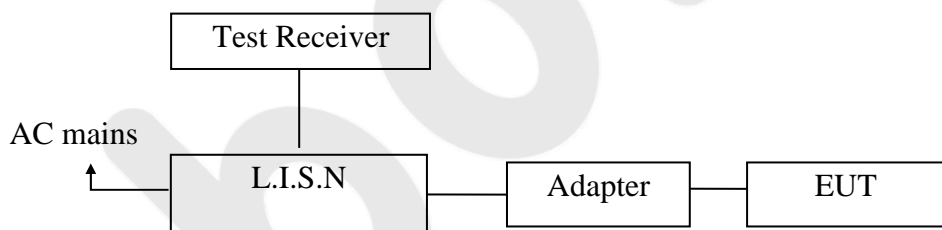
### 2.1. Test Equipment

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

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Nov. 12, 2012	1 Year
2.	LISN	SchwarzBeck	NSLK 8126	8126377	May 19, 2012	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	May 19, 2012	1 Year
4.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A

### 2.2. Block Diagram of Test Setup

#### 2.2.1. Block diagram of connection between the EUT and simulators



(EUT: Portable Solar Charger - High Capacity & Dual Outputs )

### 2.3. Power Line Conducted Emission Measurement Limits (FCC Part 15

Class B)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. \*Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

## 2.4. Configuration of EUT on Measurement

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.

EUT : Portable Solar Charger - High Capacity & Dual Outputs  
Model Number : SZ-PSC2013  
Applicant : Smart Team Holdings Limited

## 2.5. Operating Condition of EUT

- 2.5.1. Setup the EUT and simulator as shown as Section 2.2.
- 2.5.2. Turn on the power of all equipment.
- 2.5.3. Let the EUT work in test mode (Charging to adapter) and measure it.

## 2.6. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 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 C63.4-2009 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9KHz.

The frequency range from 150KHz to 30MHz is checked.

The test result are reported on Section 2.7.

## 2.7. Power Line Conducted Emission Measurement Results

**PASS.**

The frequency range from 150KHz to 30 MHz is investigated.

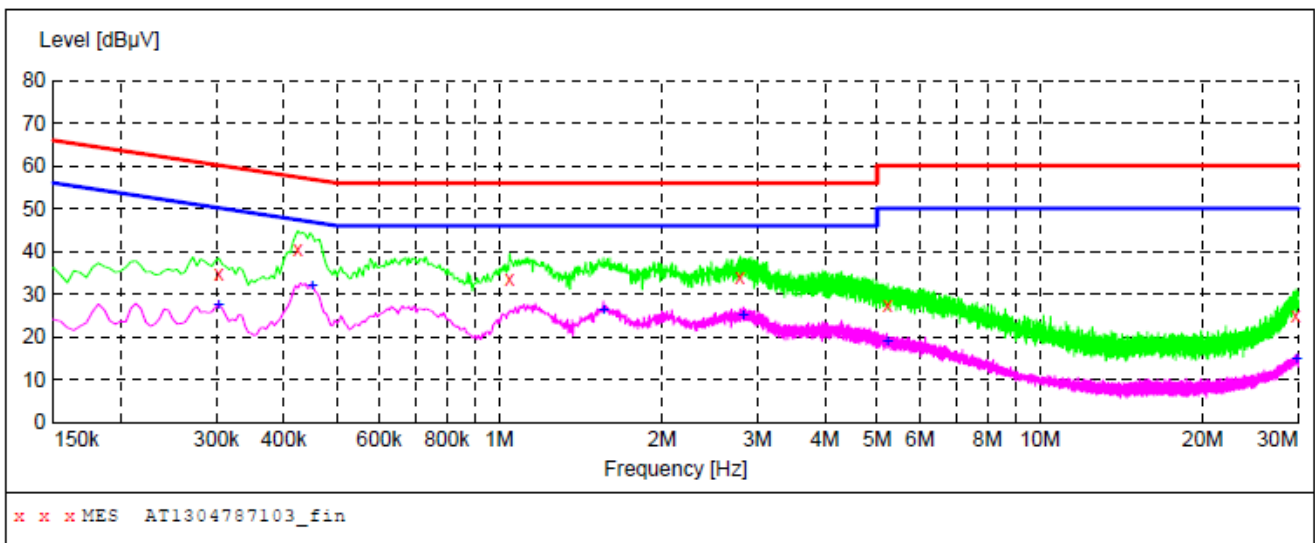
The test curves are shown in the following pages.

## CONDUCTED EMISSION TEST DATA

EUT: Portable Solar Charger - High Capacity & Dual Outputs M/N:SZ-PSC2013  
 Operating Condition: Charging to adapter  
 Test Site: 1# Shielded Room  
 Operator: Finley Li  
 Test Specification: DC 5V  
 Comment: L  
 Tem:25°C Hum:50%

### SCAN TABLE: "Voltage (150K~30M) FIN"

Short Description: 150K-30M Disturbance Voltages



### MEASUREMENT RESULT: "AT1304787103\_fin"

4/23/2013 7:41PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.303000	35.00	20.1	60	25.2	QP	L1	GND
0.424500	40.60	20.1	57	16.8	QP	L1	GND
1.045000	33.70	20.2	56	22.3	QP	L1	GND
2.786500	33.90	20.4	56	22.1	QP	L1	GND
5.225500	27.40	20.5	60	32.6	QP	L1	GND
29.746000	24.90	20.9	60	35.1	QP	L1	GND

### MEASUREMENT RESULT: "AT1304787103\_fin2"

4/23/2013 7:41PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.303000	27.50	20.1	50	22.7	AV	L1	GND
0.451500	32.00	20.1	47	14.8	AV	L1	GND
1.558000	26.20	20.3	46	19.8	AV	L1	GND
2.827000	25.10	20.4	46	20.9	AV	L1	GND
5.212000	18.70	20.5	50	31.3	AV	L1	GND
29.840500	14.70	20.9	50	35.3	AV	L1	GND

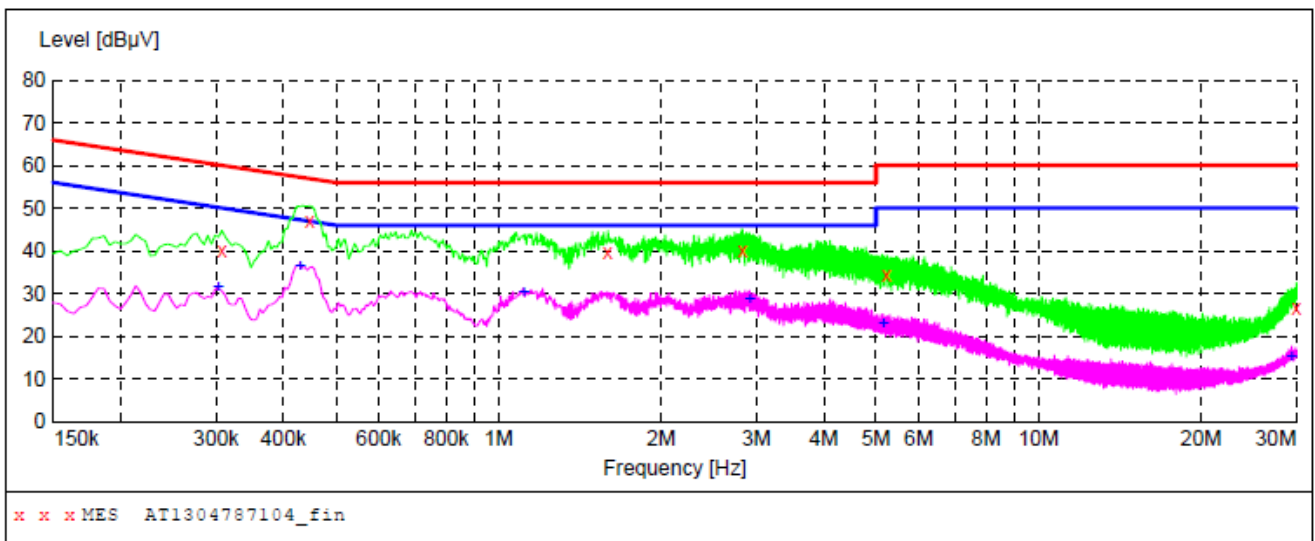


## CONDUCTED EMISSION TEST DATA

EUT: Portable Solar Charger - High Capacity & Dual Outputs M/N:SZ-PSC2013  
Operating Condition: Charging to adapter  
Test Site: 1# Shielded Room  
Operator: Finley Li  
Test Specification: DC 5V  
Comment: N  
Tem:25°C Hum:50%

### SCAN TABLE: "Voltage(150K~30M)FIN"

Short Description: 150K-30M Disturbance Voltages



### MEASUREMENT RESULT: "AT1304787104\_fin"

4/23/2013 7:44PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.307500	40.30	20.1	60	19.7	QP	N	GND
0.447000	47.20	20.1	57	9.7	QP	N	GND
1.594000	39.90	20.3	56	16.1	QP	N	GND
2.827000	40.20	20.4	56	15.8	QP	N	GND
5.230000	34.20	20.5	60	25.8	QP	N	GND
29.998000	26.60	20.9	60	33.4	QP	N	GND

### MEASUREMENT RESULT: "AT1304787104\_fin2"

4/23/2013 7:44PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.303000	31.50	20.1	50	18.7	AV	N	GND
0.429000	36.50	20.1	47	10.8	AV	N	GND
1.112500	30.20	20.2	46	15.8	AV	N	GND
2.912500	28.70	20.4	46	17.3	AV	N	GND
5.153500	22.90	20.5	50	27.1	AV	N	GND
29.386000	15.40	20.9	50	34.6	AV	N	GND

### 3.RADIATED EMISSION MEASUREMENT

#### 3.1. Test Equipment

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

##### 3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
7	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Nov. 12, 2012	1 Year
8	Trilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	May 17, 2012	1 Year
9	Pre-amplifier	Compliance Direction	PAP-0203	22008	May 19, 2012	1 Year
10	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A

#### 3.2. Block Diagram of Test Setup

##### 3.2.1. Block diagram of connection between the EUT and simulators

###### 3.2.1.1 For Charging to adapter mode



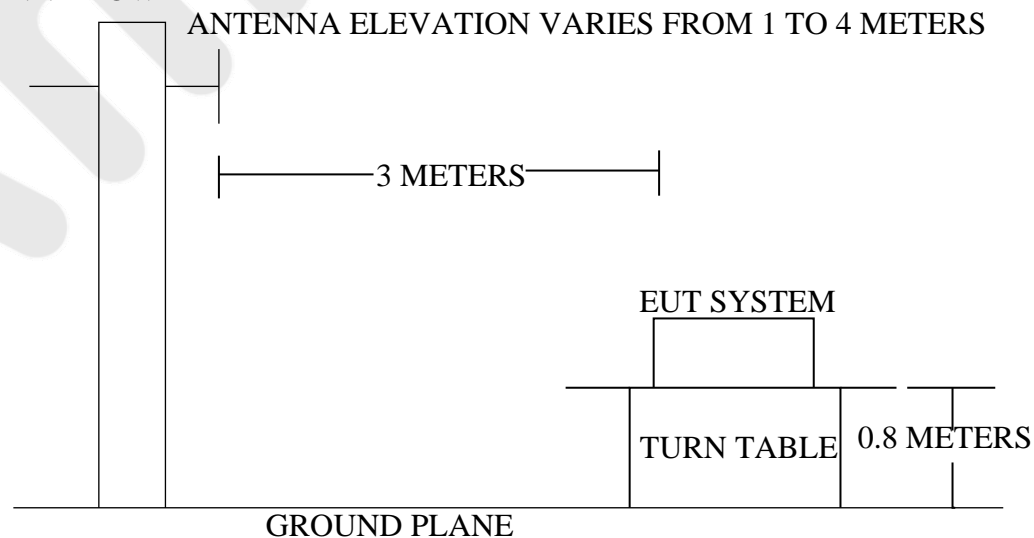
###### 3.2.1.2 For Discharging mode



(EUT: Portable Solar Charger - High Capacity & Dual Outputs )

##### 3.2.2. Anechoic Chamber Test Setup Diagram

ANTENNA TOWER



(EUT: Portable Solar Charger - High Capacity & Dual Outputs )

### 3.3. Radiated Emission Limit (Subpart B Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V/m}$	$\text{dB}(\mu\text{V})/\text{m}$
30~88	3	100	40.0
88~216	3	150	43.5
216~960	3	200	46.0
960~1000	3	500	54.0

- Remark :
- (1) Emission level  $(\text{dB})\mu\text{V} = 20 \log \text{Emission level } \mu\text{V/m}$
  - (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.

### 3.4. EUT Configuration on Measurement

The following equipments 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.

EUT : Portable Solar Charger - High Capacity & Dual Outputs  
Model Number : SZ-PSC2013  
Applicant : Smart Team Holdings Limited

### 3.5. Operating Condition of EUT

3.5.1. Setup the EUT as shown in Section 3.2.

3.5.2. Let the EUT work in test mode (Charging to adapter/Discharging) and measure it.

### 3.6. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table 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 (Trilog Broadband Antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2009 on radiated emission measurement.

The bandwidth of the EMI test receiver (ESCI) is set at 120kHz.

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

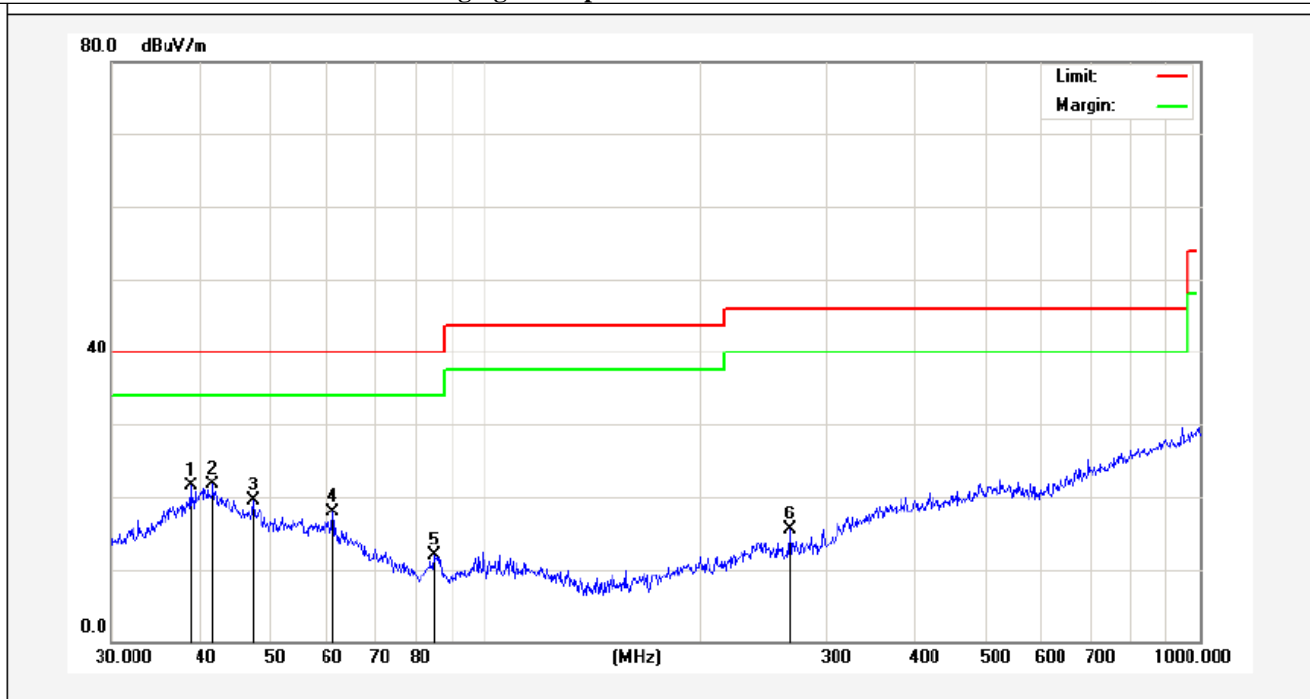
The test mode (Charging to adapter/Discharging) is tested in chamber and all the test results are listed in Section 3.7.

### 3.7. Radiated Emission Measurement Results

**PASS.**

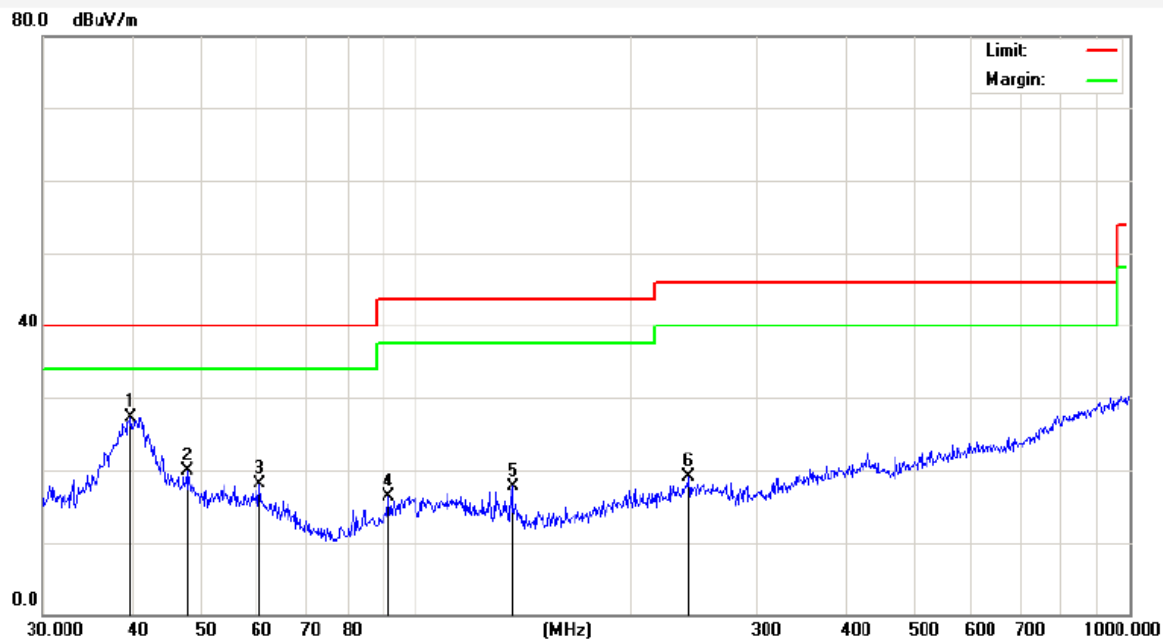
The test curves are shown in the following pages.

<b>Job No.:</b>	AT1304787F	<b>Polarization:</b>	Horizontal
<b>Standard:</b>	(RE)FCC PART15 B _3m	<b>Power Source:</b>	DC 5V
<b>Test item:</b>	Radiation Test	<b>Date:</b>	2013/04/23
<b>Temp.(C)/Hum.(%RH):</b>	24.3( C)/55%RH	<b>Time:</b>	20:52:12
<b>EUT:</b>	Portable Solar Charger - High Capacity & Dual Outputs	<b>Test By:</b>	Jimly Chen
<b>Model:</b>	SZ-PSC2013	<b>Distance:</b>	3m
<b>Note:</b>	Charging to adapter		



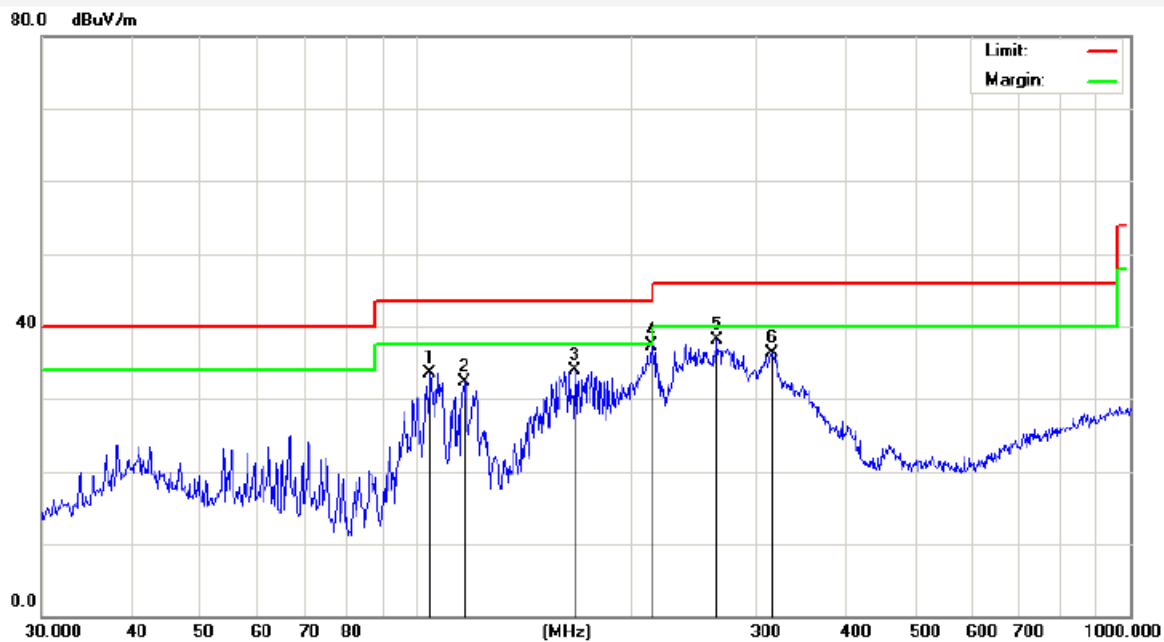
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	38.6160	32.88	-11.45	21.43	40.00	-18.57	peak			
2	41.5670	32.67	-10.99	21.68	40.00	-18.32	peak			
3	47.3255	32.80	-13.37	19.43	40.00	-20.57	peak			
4	61.1316	33.72	-15.87	17.85	40.00	-22.15	peak			
5	84.7019	32.42	-20.45	11.97	40.00	-28.03	peak			
6	266.6089	34.27	-18.74	15.53	46.00	-30.47	peak			

<b>Job No.:</b>	AT1304787F	<b>Polarization:</b>	Vertical
<b>Standard:</b>	(RE)FCC PART15 B _3m	<b>Power Source:</b>	DC 5V
<b>Test item:</b>	Radiation Test	<b>Date:</b>	2013/04/23
<b>Temp.(C)/Hum.(%RH):</b>	24.3( C)/55%RH	<b>Time:</b>	20:49:57
<b>EUT:</b>	Portable Solar Charger - High Capacity & Dual Outputs	<b>Test By:</b>	Jimly Chen
<b>Model:</b>	SZ-PSC2013	<b>Distance:</b>	3m
<b>Note:</b>	Charging to adapter		



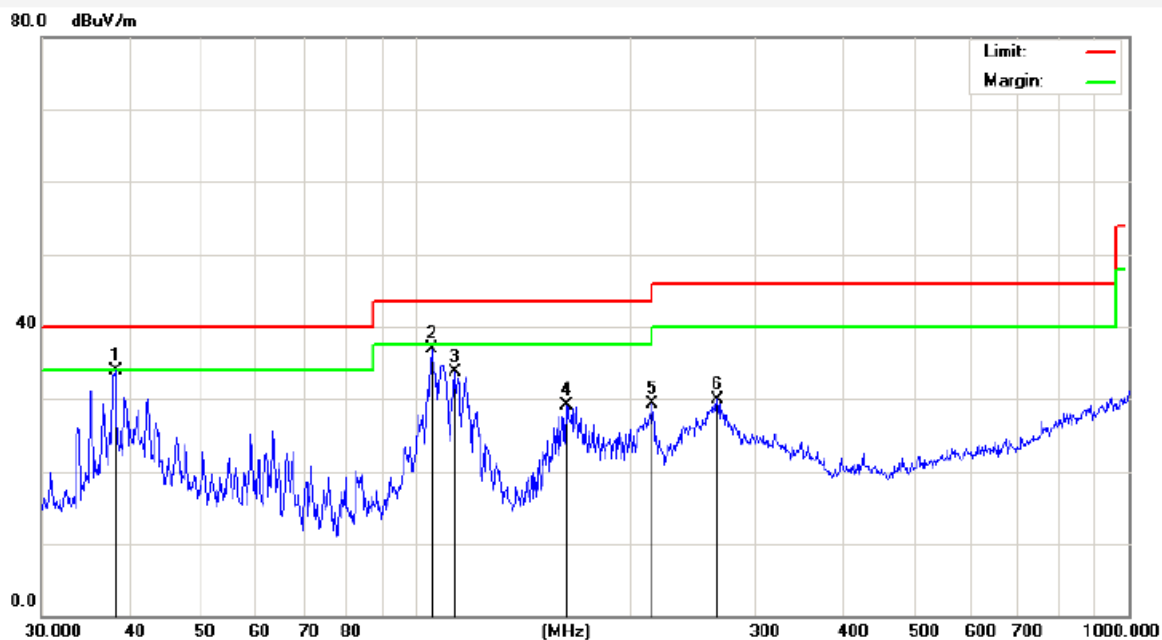
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	39.8542	37.78	-10.49	27.29	40.00	-12.71	peak			
2	47.8260	33.49	-13.60	19.89	40.00	-20.11	peak			
3	60.2801	33.65	-15.51	18.14	40.00	-21.86	peak			
4	91.4949	33.61	-17.32	16.29	43.50	-27.21	peak			
5	136.4598	35.94	-18.25	17.69	43.50	-25.81	peak			
6	240.8304	33.11	-14.09	19.02	46.00	-26.98	peak			

<b>Job No.:</b>	AT1304787F	<b>Polarization:</b>	Horizontal
<b>Standard:</b>	(RE)FCC PART15 B _3m	<b>Power Source:</b>	DC 5V
<b>Test item:</b>	Radiation Test	<b>Date:</b>	2013/04/27
<b>Temp.(C)/Hum.(%RH):</b>	24.3( C)/55%RH	<b>Time:</b>	09:25:03
<b>EUT:</b>	Portable Solar Charger - High Capacity & Dual Outputs	<b>Test By:</b>	Jimly Chen
<b>Model:</b>	SZ-PSC2013	<b>Distance:</b>	3m
<b>Note:</b>	Discharging		



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	104.9033	54.27	-20.71	33.56	43.50	-9.94	peak			
2	117.3602	53.43	-21.14	32.29	43.50	-11.21	peak			
3	167.2366	56.48	-22.64	33.84	43.50	-9.66	peak			
4	213.7633	57.71	-20.35	37.36	43.50	-6.14	peak			
5	264.7456	56.99	-18.80	38.19	46.00	-7.81	peak			
6	315.4806	52.19	-15.80	36.39	46.00	-9.61	peak			

<b>Job No.:</b>	AT1304787F	<b>Polarization:</b>	Vertical
<b>Standard:</b>	(RE)FCC PART15 B _3m	<b>Power Source:</b>	DC 5V
<b>Test item:</b>	Radiation Test	<b>Date:</b>	2013/04/27
<b>Temp.(C)/Hum.(%RH):</b>	24.3( C)/55%RH	<b>Time:</b>	09:22:23
<b>EUT:</b>	Portable Solar Charger - High Capacity & Dual Outputs	<b>Test By:</b>	Jimly Chen
<b>Model:</b>	SZ-PSC2013	<b>Distance:</b>	3m
<b>Note:</b>	Discharging		



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	38.0783	45.83	-11.88	33.95	40.00	-6.05	peak			
2	105.6414	52.59	-15.69	36.90	43.50	-6.60	peak			
3	113.7143	49.62	-15.88	33.74	43.50	-9.76	peak			
4	163.1818	46.96	-17.77	29.19	43.50	-14.31	peak			
5	215.2678	44.56	-15.29	29.27	43.50	-14.23	peak			
6	265.6757	44.23	-14.34	29.89	46.00	-16.11	peak			



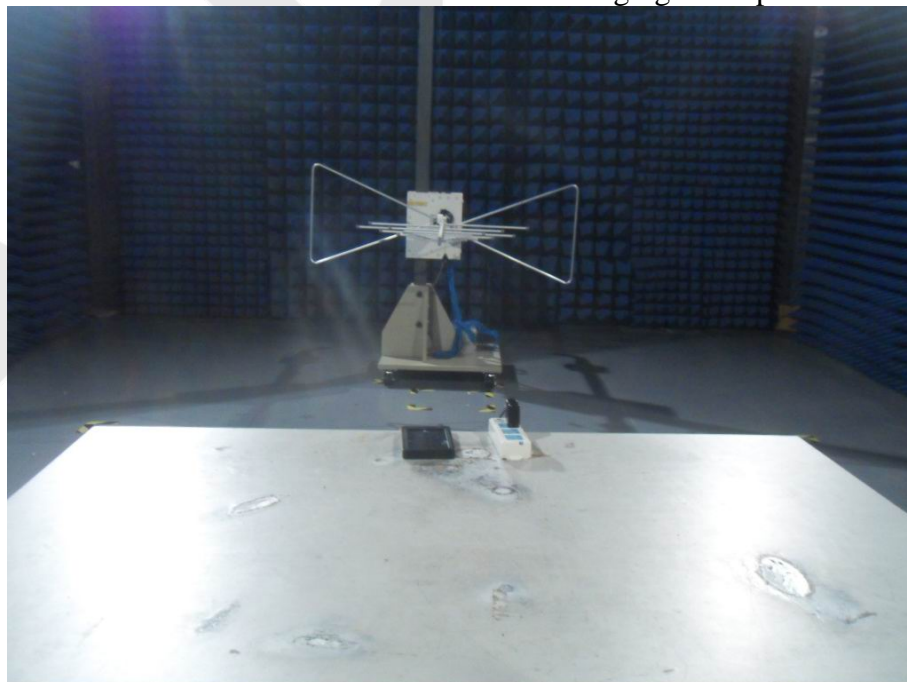
## 4. PHOTOGRAPH

### 4.1. Photo of Power Line Conducted Emission Test



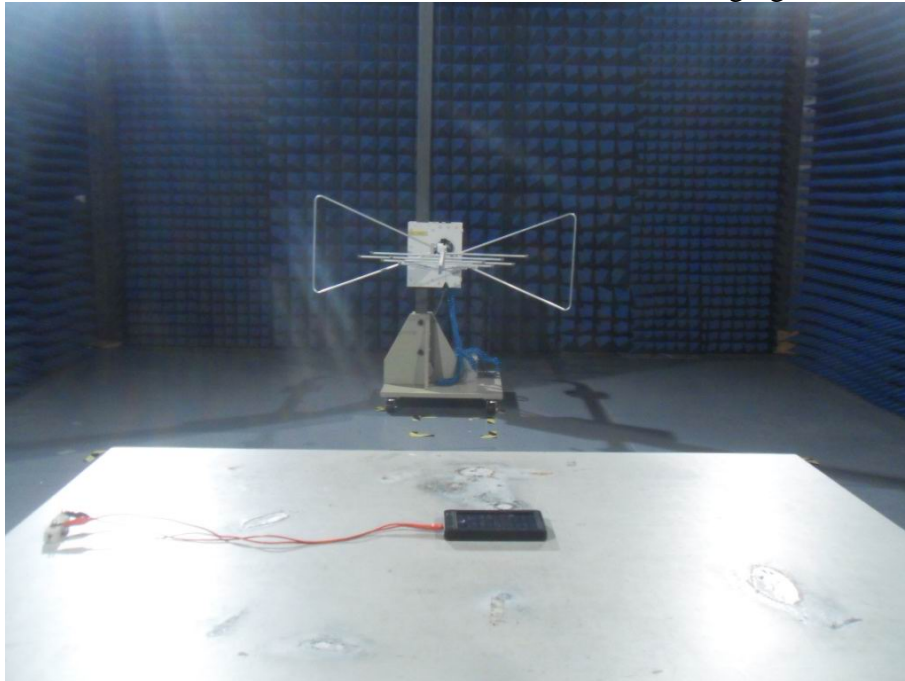
### 4.2. Photo of Radiated Emission Test

Charging to adapter mode





Discharging mode



## APPENDIX I (Photos of EUT)

Figure 1  
The EUT- Front View



Figure 2  
The EUT- Back View



Figure 3  
The EUT- Side View



Figure 4  
The EUT- Inside View





Figure 5  
PCB Of The EUT- Front View

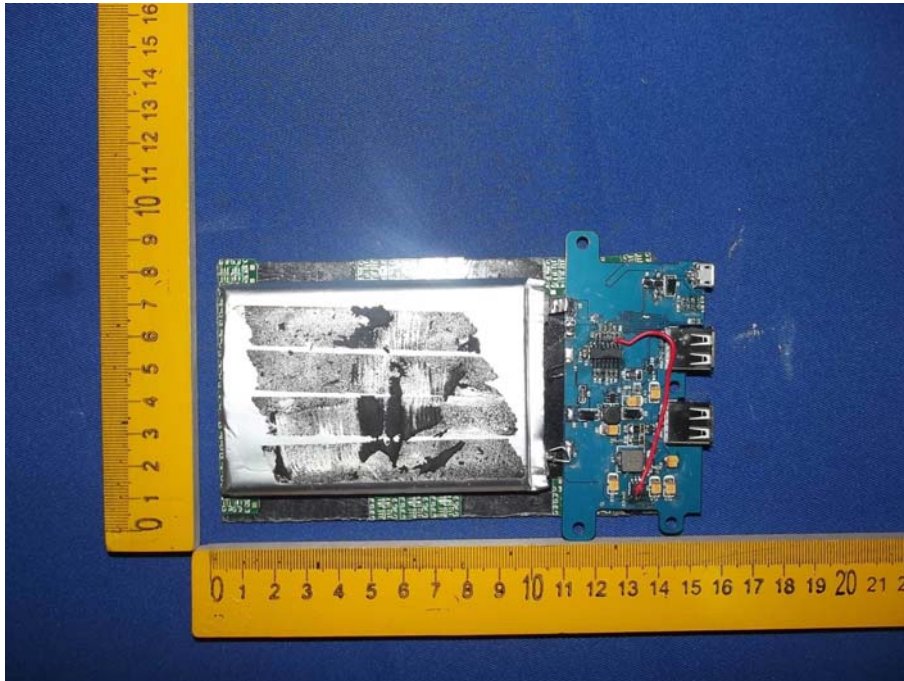


Figure 6  
PCB Of The EUT- Back View

