

Verification Of Conformity  
On Behalf of  
Smart Team Holdings Limited

1W LED Charger Flashlight - High Capacity  
Model No.: SZ-PP26650C

Prepared for : Smart Team Holdings Limited  
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Report Number : 201305723F  
Date of Test : May 09~15, 2013  
Date of Report : May 17, 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 : 1W LED Charger Flashlight - High Capacity  
Model No. : SZ-PP26650C  
Rating : Input: DC 5V, 900mA  
Output: DC 5V, 1.0A  
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 : May 09~15, 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 : 1W LED Charger Flashlight - High Capacity

Model Number : SZ-PP26650C

Test Power Supply : DC 5V via USB Port/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 : May 09, 2013

Date of Test : May 09~15, 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

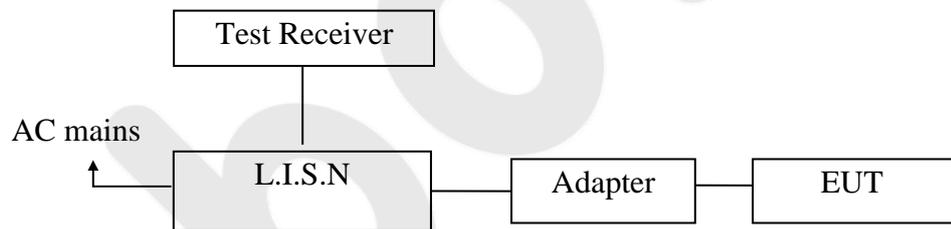
### 2.1. Test Equipment

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: 1W LED Charger Flashlight - High Capacity )

### 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 : 1W LED Charger Flashlight - High Capacity  
Model Number : SZ-PP26650C  
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.**

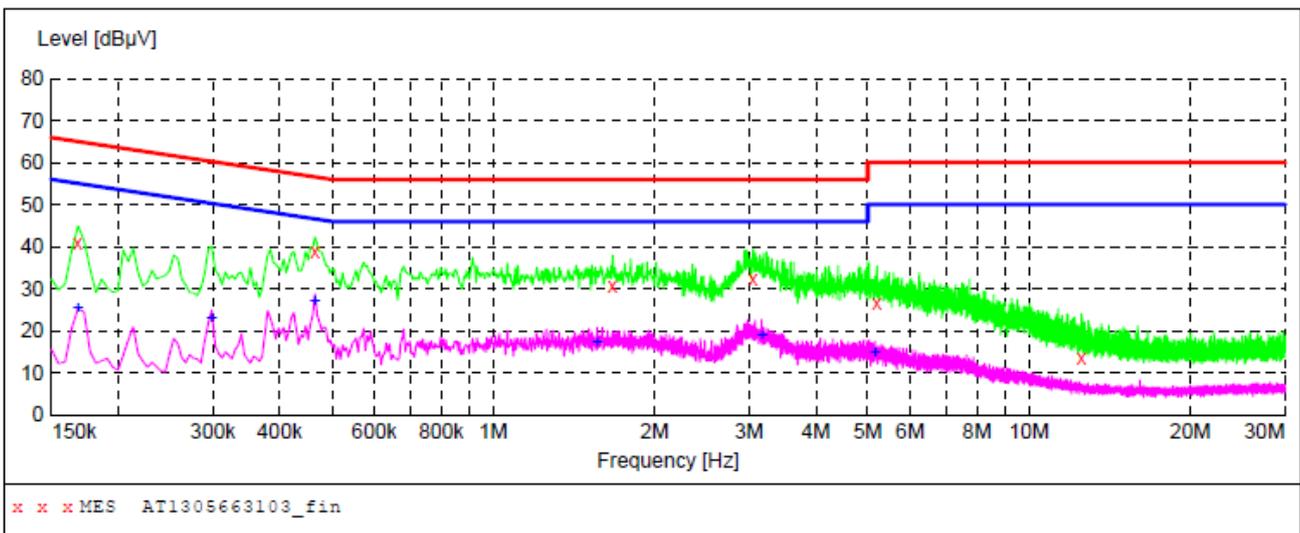
The frequency range from 150KHz to 30 MHz is investigated.

The test curves are shown in the following pages.

**CONDUCTED EMISSION TEST DATA**

EUT: 1W LED Charger Flashlight - High Capacity  
M/N:SZ-PP26650C  
Operating Condition: Charging to adapter  
Test Site: 1# Shielded Room  
Operator: Finley Li  
Test Specification: DC 5V via USB Port  
Comment: L  
Tem:25°C Hum:50%

**SCAN TABLE: "Voltage (150K~30M) FIN"**  
Short Description: 150K-30M Disturbance Voltages



**MEASUREMENT RESULT: "AT1305663103\_fin"**

5/13/2013 9:48PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.168000	41.10	20.1	65	24.0	QP	L1	GND
0.465000	38.90	20.1	57	17.7	QP	L1	GND
1.670500	30.50	20.3	56	25.5	QP	L1	GND
3.056500	32.30	20.4	56	23.7	QP	L1	GND
5.198500	26.60	20.5	60	33.4	QP	L1	GND
12.511000	13.60	20.7	60	46.4	QP	L1	GND

**MEASUREMENT RESULT: "AT1305663103\_fin2"**

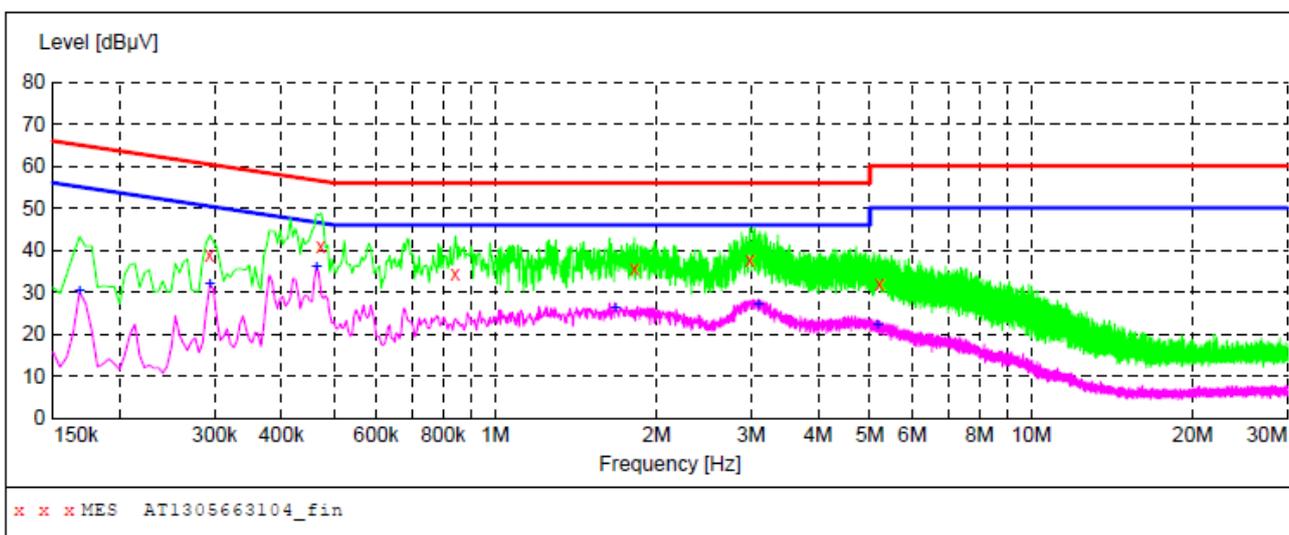
5/13/2013 9:48PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.168000	25.40	20.1	55	29.7	AV	L1	GND
0.298500	23.10	20.1	50	27.2	AV	L1	GND
0.465000	27.20	20.1	47	19.4	AV	L1	GND
1.562500	17.10	20.3	46	28.9	AV	L1	GND
3.169000	18.80	20.4	46	27.2	AV	L1	GND
5.149000	14.70	20.5	50	35.3	AV	L1	GND

**CONDUCTED EMISSION TEST DATA**

EUT: 1W LED Charger Flashlight - High Capacity  
M/N:SZ-PP26650C  
Operating Condition: Charging to adapter  
Test Site: 1# Shielded Room  
Operator: Finley Li  
Test Specification: DC 5V via USB Port  
Comment: N  
Tem:25°C Hum:50%

**SCAN TABLE: "Voltage(150K~30M) FIN"**  
Short Description: 150K-30M Disturbance Voltages



**MEASUREMENT RESULT: "AT1305663104\_fin"**

5/13/2013 9:50PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.294000	39.00	20.1	60	21.4	QP	N	GND
0.474000	41.00	20.1	56	15.4	QP	N	GND
0.843000	34.20	20.1	56	21.8	QP	N	GND
1.819000	35.60	20.3	56	20.4	QP	N	GND
2.984500	37.70	20.4	56	18.3	QP	N	GND
5.216500	32.10	20.5	60	27.9	QP	N	GND

**MEASUREMENT RESULT: "AT1305663104\_fin2"**

5/13/2013 9:50PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.168000	30.20	20.1	55	24.9	AV	N	GND
0.294000	31.90	20.1	50	18.5	AV	N	GND
0.465000	35.90	20.1	47	10.7	AV	N	GND
1.675000	26.30	20.3	46	19.7	AV	N	GND
3.097000	27.00	20.4	46	19.0	AV	N	GND
5.167000	22.10	20.5	50	27.9	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

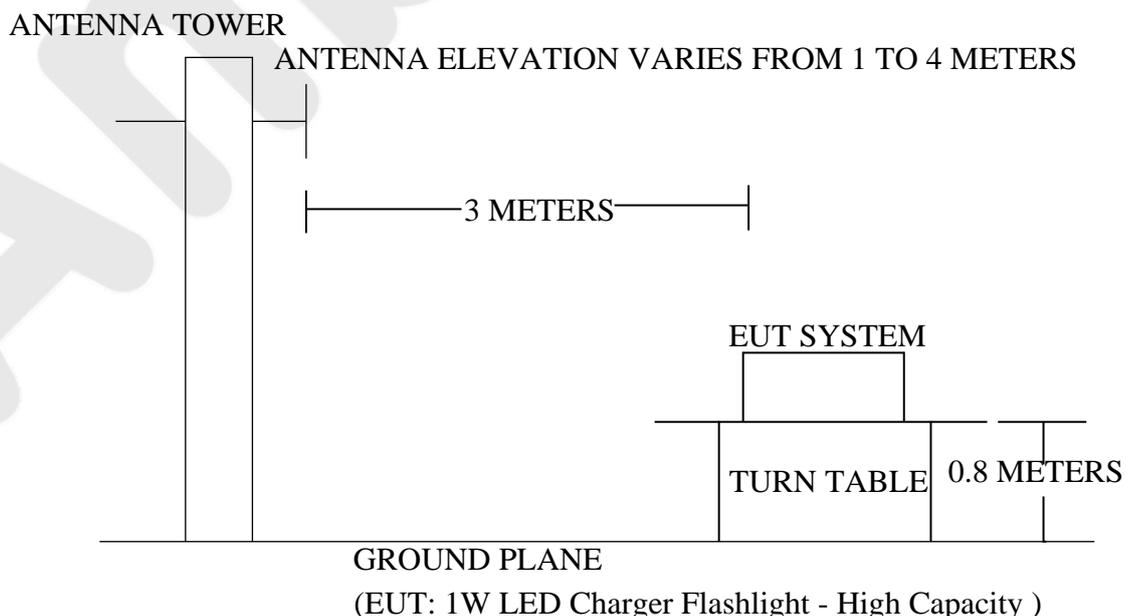


###### 3.2.1.2 For Discharging mode



(EUT: 1W LED Charger Flashlight - High Capacity )

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



### 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  $(\text{dB})\mu\text{V} = 20 \log$  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 : 1W LED Charger Flashlight - High Capacity  
 Model Number : SZ-PP26650C  
 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.

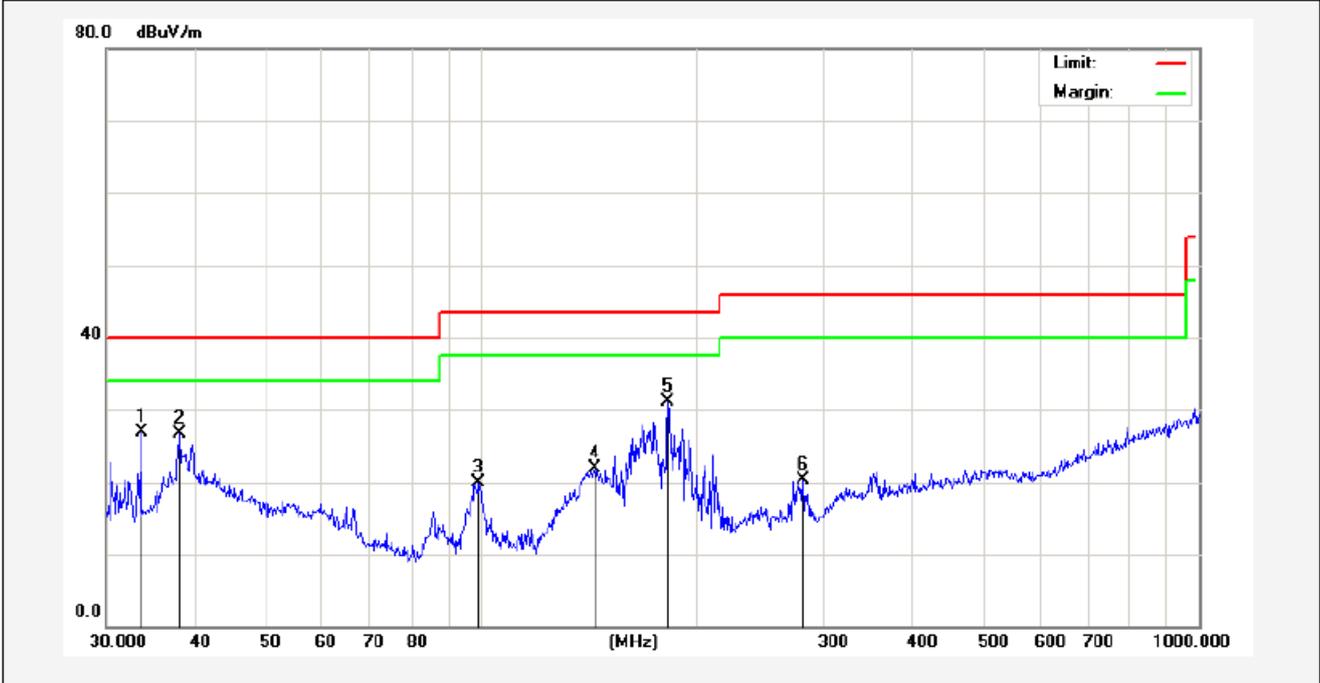
The test mode (Charging to adapter/Discharging) is tested in chamber and all the test results are listed in Section 3.7.

### 3.7. Radiated Emission Measurement Results

**PASS.**

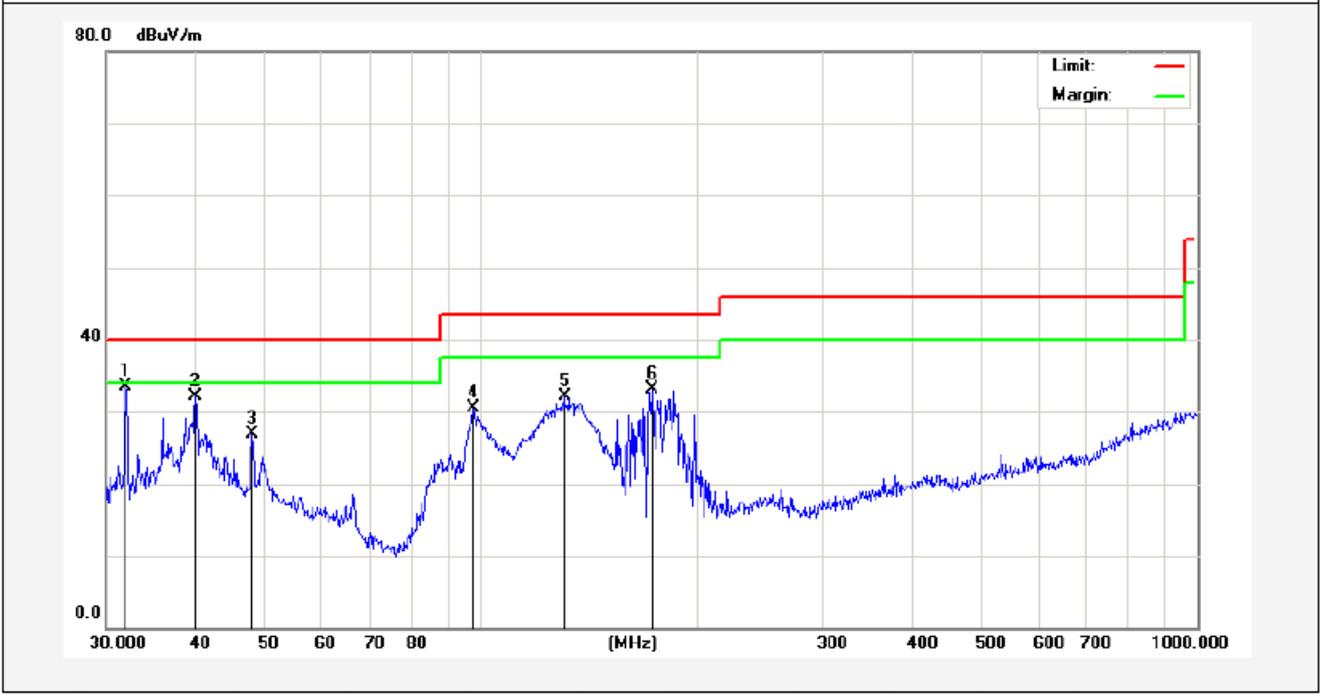
The test curves are shown in the following pages.

<b>Job No.:</b>	AT1305663F	<b>Polarization:</b>	Horizontal
<b>Standard:</b>	(RE)FCC PART15 B _3m	<b>Power Source:</b>	DC 5V via USB Port
<b>Test item:</b>	Radiation Test	<b>Date:</b>	2013/05/13
<b>Temp.(C)/Hum.(%RH):</b>	24.3( C)/55%RH	<b>Time:</b>	20:15:56
<b>EUT:</b>	1W LED Charger Flashlight - High Capacity	<b>Test By:</b>	Jimly Chen
<b>Model:</b>	SZ-PP26650C	<b>Distance:</b>	3m
<b>Note:</b>	Charging to adapter		



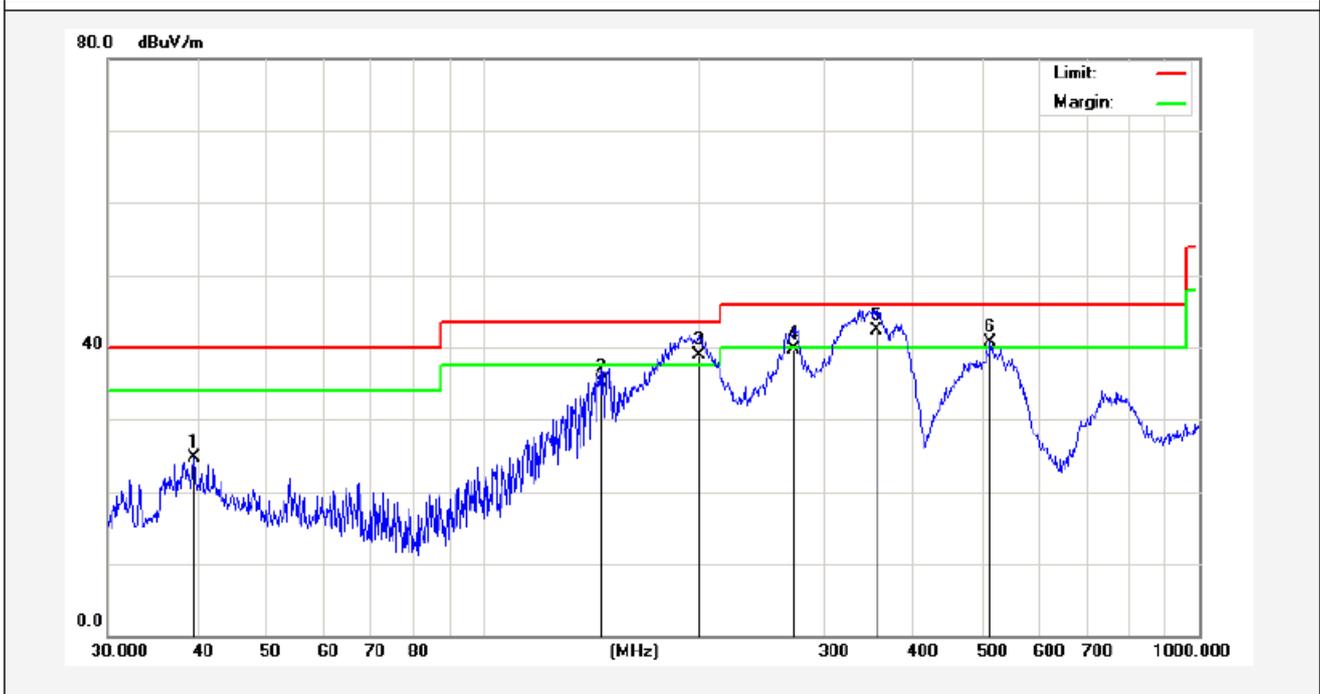
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	33.5624	41.92	-15.06	26.86	40.00	-13.14	peak			
2	37.9450	38.68	-11.99	26.69	40.00	-13.31	peak			
3	99.1797	40.62	-20.80	19.82	43.50	-23.68	peak			
4	143.8295	45.38	-23.43	21.95	43.50	-21.55	peak			
5	181.9202	52.85	-21.67	31.18	43.50	-12.32	peak			
6	281.0075	38.45	-18.20	20.25	46.00	-25.75	peak			

<b>Job No.:</b>	AT1305663F	<b>Polarization:</b>	Vertical
<b>Standard:</b>	(RE)FCC PART15 B _3m	<b>Power Source:</b>	DC 5V via USB Port
<b>Test item:</b>	Radiation Test	<b>Date:</b>	2013/05/13
<b>Temp.(C)/Hum.(%RH):</b>	24.3( C)/55%RH	<b>Time:</b>	20:18:13
<b>EUT:</b>	1W LED Charger Flashlight - High Capacity	<b>Test By:</b>	Jimly Chen
<b>Model:</b>	SZ-PP26650C	<b>Distance:</b>	3m
<b>Note:</b>	Charging to adapter		



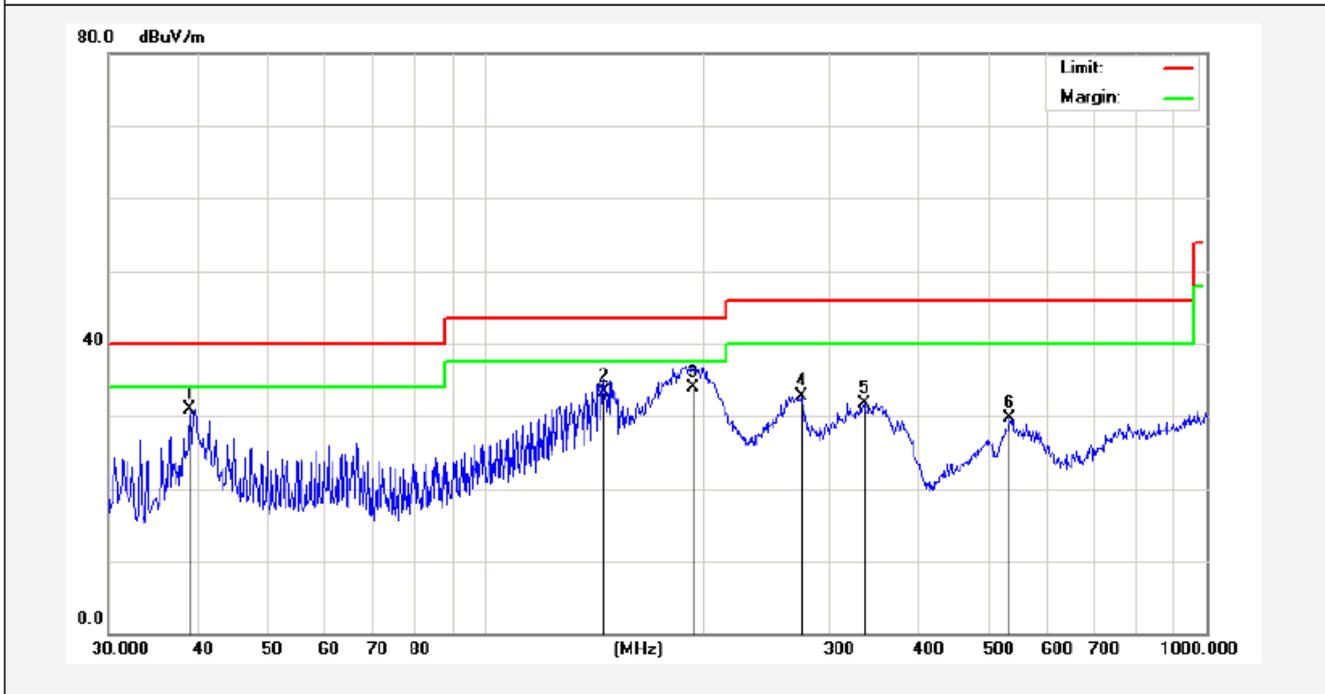
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	31.9546	49.37	-15.90	33.47	40.00	-6.53	peak			
2	39.9942	42.50	-10.37	32.13	40.00	-7.87	peak			
3	47.9940	40.64	-13.67	26.97	40.00	-13.03	peak			
4	97.7983	46.47	-15.88	30.59	43.50	-12.91	peak			
5	130.8369	50.04	-17.86	32.18	43.50	-11.32	peak			
6	173.2051	50.37	-17.33	33.04	43.50	-10.46	peak			

<b>Job No.:</b>	AT1305663F	<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>	2013/05/13
<b>Temp.(C)/Hum.(%RH):</b>	24.3( C)/55%RH	<b>Time:</b>	20:22:23
<b>EUT:</b>	1W LED Charger Flashlight - High Capacity	<b>Test By:</b>	Jimly Chen
<b>Model:</b>	SZ-PP26650C	<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	39.5757	35.45	-10.70	24.75	40.00	-15.25	peak			
2	146.8877	58.58	-23.38	35.20	43.50	-8.30	QP	100	360	
3	200.6881	59.82	-20.85	38.97	43.50	-4.53	QP	100	0	
4	272.2776	58.30	-18.52	39.78	46.00	-6.22	QP	100	0	
5	354.1831	56.23	-13.85	42.38	46.00	-3.62	QP	100	360	
6	511.8352	51.71	-10.99	40.72	46.00	-5.28	peak			

<b>Job No.:</b>	AT1305663F	<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>	2013/05/13
<b>Temp.(C)/Hum.(%RH):</b>	24.3( C)/55%RH	<b>Time:</b>	20:26:05
<b>EUT:</b>	1W LED Charger Flashlight - High Capacity	<b>Test By:</b>	Jimly Chen
<b>Model:</b>	SZ-PP26650C	<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	38.8878	42.17	-11.24	30.93	40.00	-9.07	peak			
2	145.8611	51.65	-18.40	33.25	43.50	-10.25	QP	100	360	
3	193.7728	49.76	-15.90	33.86	43.50	-9.64	QP	100	0	
4	274.1939	47.59	-14.87	32.72	46.00	-13.28	peak			
5	334.8589	45.22	-13.54	31.68	46.00	-14.32	peak			
6	531.9635	40.15	-10.40	29.75	46.00	-16.25	peak			

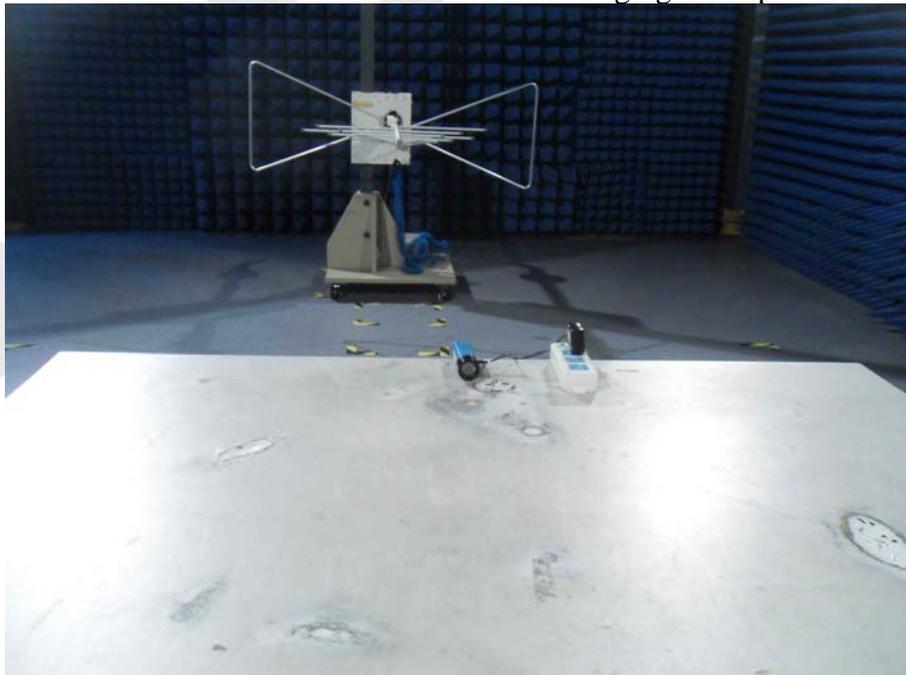
## 4. PHOTOGRAPH

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

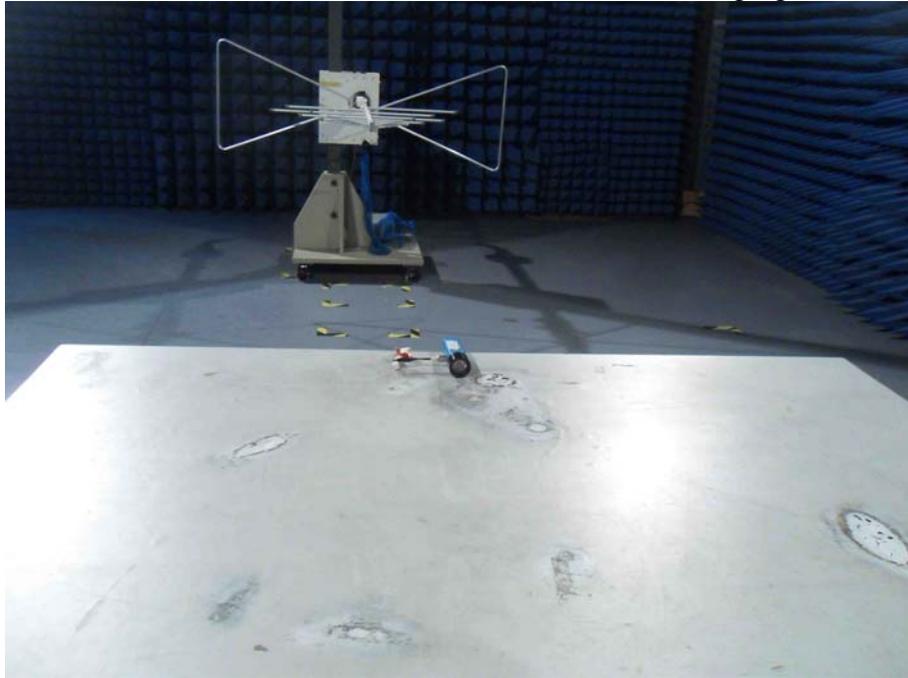


### 4.2. Photo of Radiated Emission Test

Charging to adapter mode



Discharging mode



**APPENDIX I**  
**(Photos of EUT)**

Anbotek

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

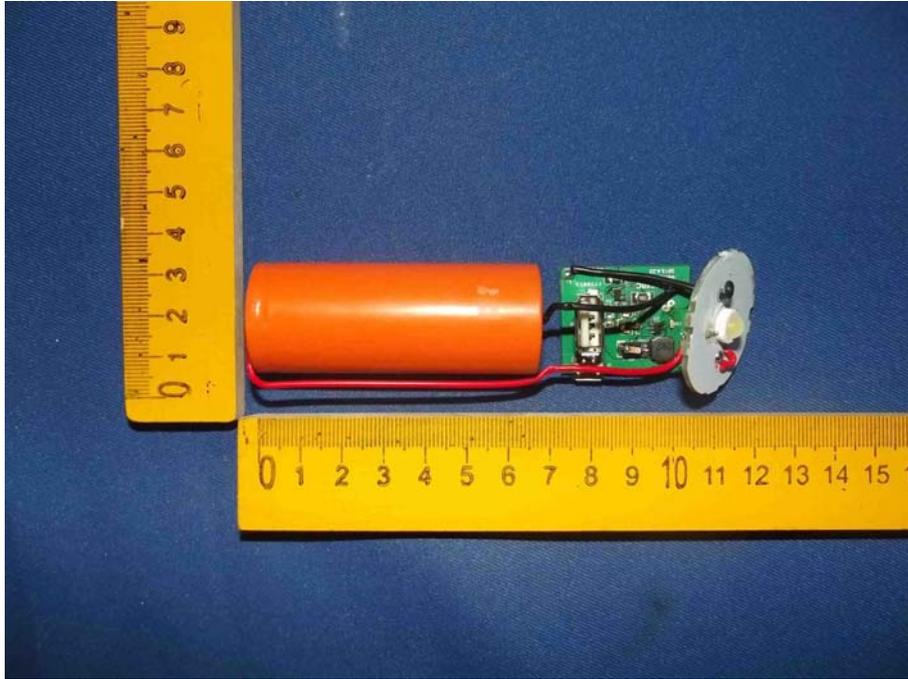


Figure 6  
PCB Of The EUT- Back View

