

EMC TEST REPORT
for
Smart Team Holdings Limited

ULTRA THIN SOLAR FLASHLIGHT
Model No.: ST-TSF2013

Prepared for : Smart Team Holdings Limited
Address : FLAT A01, 5F., Great Wall Fty Bldg., 11 Cheung Shun Street,
Lai Chi Kwok, Kowloon, HK
Tel: 0755-84115784
Fax: 0755-89995954

Prepared by : Shenzhen Anbotek Compliance Laboratory Limited
Address : 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road,
Nanshan District, Shenzhen, Guangdong, China
Tel: (86) 755-26066544
Fax: (86) 755-26014772

Report Number : 201308750E
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Anbotek

TEST REPORT VERIFICATION

Applicant : Smart Team Holdings Limited
Manufacturer : Shenzhen Smart Team Technology Ltd.
EUT : ULTRA THIN SOLAR FLASHLIGHT
Model No. : ST-TSF2013
Rating : Input: DC 5V, 900mA
Output: DC 5V, 1A(MAX)
Trade Mark : N.A.

Measurement Procedure Used:

EN 55022: 2010;

EN 55024: 2010;

(IEC 61000-4-2: 2008; IEC 61000-4-3: 2006+A1 :2007+A2: 2010)

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the EN 55022 and EN 55024 requirements. The Project in IEC 61000-4-3 was tested in Shenzhen EMTEK Co., Ltd.

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

Date of Test : Aug. 09~15, 2013

Prepared by :



Barak Ban

(Engineer/ Barak Ban)

Reviewer :

Nancy Huang

(Project Manager/ Nancy Huang)

Approved & Authorized Signer :

Tom Chen

(Manager/ Tom Chen)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT : ULTRA THIN SOLAR FLASHLIGHT
Model Number : ST-TSF2013

Test Power Supply : DC 5V via adapter AC 230V, 50Hz/DC 5V

Applicant : Smart Team Holdings Limited
Address : FLAT A01, 5F., 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 : Aug. 09, 2013
Date of Test : Aug. 09~15, 2013

1.2. Description of Test Facility

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

FCC-Registration No.: 752021

Shenzhen 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, July 10, 2013.

IC-Registration No.: 8058A-1

Shenzhen 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.

CNAS - LAB Code: L3503

Shenzhen 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.

Test Location

All Emissions tests were performed
Shenzhen Anbotek Compliance Laboratory Limited. at 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, 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 EN 55022 for Emissions & EN 55024 for Immunity.

Table 1 : Tests Carried Out Under EN 55022: 2010

| Standard | Test Items | Status |
|----------------|--|--------|
| EN 55022: 2010 | Power Line Conducted Emission Test (150KHz To 30MHz) | √ |
| EN 55022: 2010 | Radiated Emission Test (30MHz To 1000MHz) | √ |

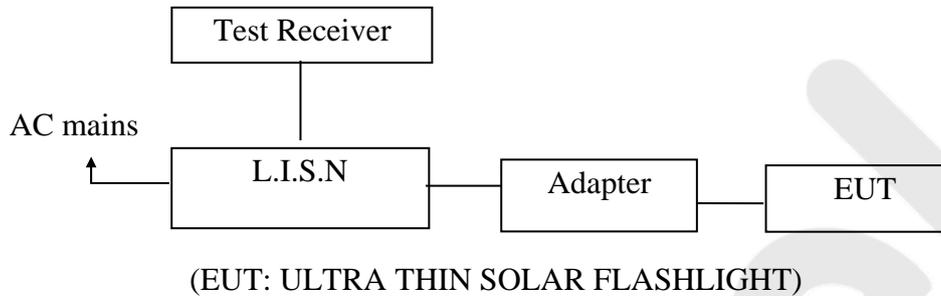
Table 2 : Tests Carried Out Under EN 55024: 2010

| Standard | Test Items | Status |
|----------------|---|--------|
| EN 55024: 2010 | Electrostatic Discharge immunity Test | √ |
| EN 55024: 2010 | RF Field Strength susceptibility Test | √ |
| EN 55024: 2010 | Electrical Fast Transient/Burst Immunity Test | x |
| EN 55024: 2010 | Surge Immunity Test | x |
| EN 55024: 2010 | Injected Currents Susceptibility Test | x |
| EN 55024: 2010 | Magnetic Field Susceptibility Test | x |
| EN 55024: 2010 | Voltage Dips and Interruptions Test | x |

- √ Indicates that the test is applicable
 x Indicates that the test is not applicable

2. POWER LINE CONDUCTED EMISSION TEST

2.1. Block Diagram of Test Setup



2.2. Measuring Standard

EN 55022: 2010

2.3. Power Line Conducted Emission Limits

| Frequency (MHz) | Limit (dB μ V) | |
|--------------------|--------------------|---------------|
| | 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.

2.4. EUT Configuration on Measurement

The following equipments are installed on Conducted Emission Measurement to meet EN 55022 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

2.4.1. ULTRA THIN SOLAR FLASHLIGHT

Model Number : ST-TSF2013
Serial Number : N/A
Applicant : Smart Team Holdings Limited

2.5. Operating Condition of EUT

2.5.1. Setup the EUT as shown on Section 2.1.

2.5.2. Turn on the power of all equipments.

2.5.3. Let the EUT work in measuring mode (Charging to adapter) and measure it.

2.6. Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and connected to the AC mains through Line Impedance Stability Network (L.I.S.N). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are investigated to find out the maximum conducted emission according to the EN 55022 regulations during conducted emission measurement.

The bandwidth of the test receiver (ESCI) is set at 9KHz in 150KHz~30MHz.

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

The test results are listed in Section 2.8.

2.7. 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. | Two-Line V-network | Rohde & Schwarz | ENV216 | 10055 | Apr. 23, 2013 | 1 Year |
| 2. | EMI Test Receiver | Rohde & Schwarz | ESCI | 100627 | Apr. 23, 2013 | 1 Year |
| 3. | RF Switching Unit | Compliance Direction | RSU-M2 | 38303 | Apr. 23, 2013 | 1 Year |

2.8. Measuring Results

PASS.

The frequency range 150KHz to 30MHz is investigated

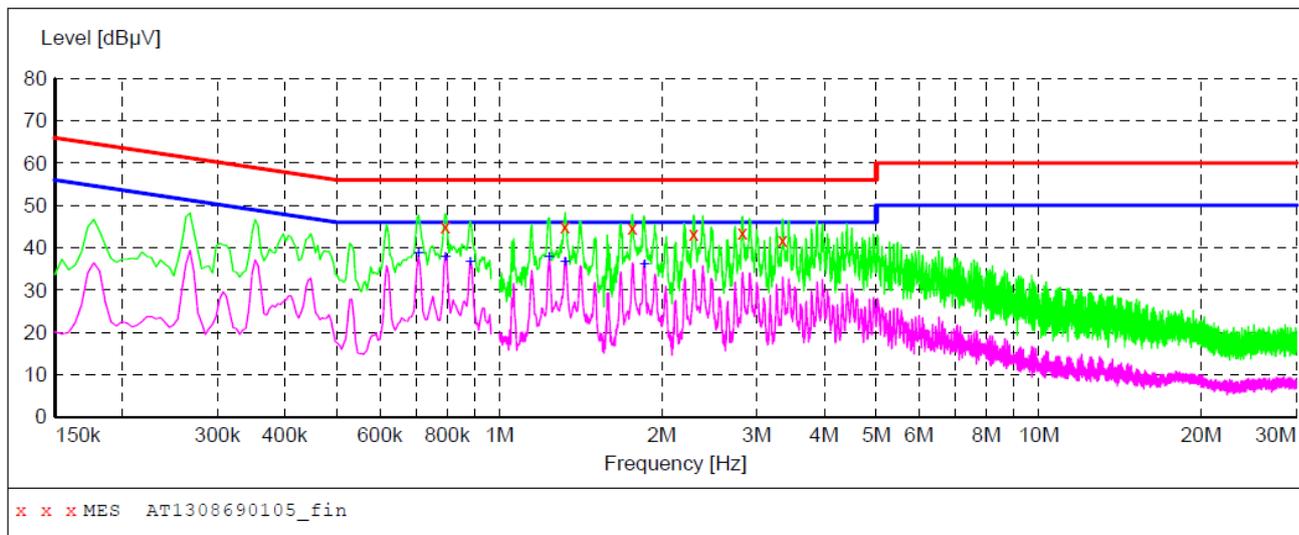
The test curves are shown in the following pages.

CONDUCTED EMISSION TEST DATA

EUT: ULTRA THIN SOLAR FLASHLIGHT M/N: ST-TSF2013
 Operating Condition: Charging to adapter
 Test Site: 1# Shielded Room
 Operator: Finley Li
 Test Specification: DC 5V via adapter AC 230V, 50Hz
 Comment: N
 Tem: 22.2°C Hum: 60%

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

Short Description: 150K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1308690105_fin"

8/10/2013 11:01AM

| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.793500 | 45.10 | 20.1 | 56 | 10.9 | QP | N | GND |
| 1.324000 | 45.20 | 20.2 | 56 | 10.8 | QP | N | GND |
| 1.765000 | 44.80 | 20.3 | 56 | 11.2 | QP | N | GND |
| 2.291500 | 43.40 | 20.3 | 56 | 12.6 | QP | N | GND |
| 2.822500 | 43.50 | 20.4 | 56 | 12.5 | QP | N | GND |
| 3.349000 | 41.90 | 20.4 | 56 | 14.1 | QP | N | GND |

MEASUREMENT RESULT: "AT1308690105_fin2"

8/10/2013 11:01AM

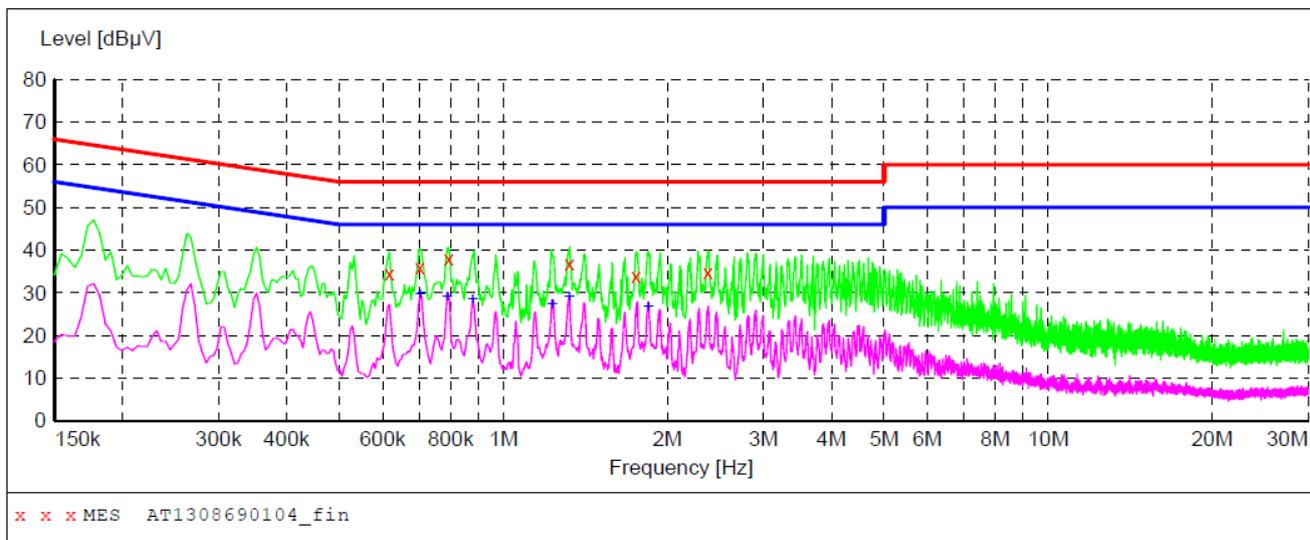
| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.708000 | 38.50 | 20.1 | 46 | 7.5 | AV | N | GND |
| 0.793500 | 37.80 | 20.1 | 46 | 8.2 | AV | N | GND |
| 0.883500 | 36.50 | 20.1 | 46 | 9.5 | AV | N | GND |
| 1.238500 | 37.90 | 20.2 | 46 | 8.1 | AV | N | GND |
| 1.324000 | 36.60 | 20.2 | 46 | 9.4 | AV | N | GND |
| 1.855000 | 36.10 | 20.3 | 46 | 9.9 | AV | N | GND |

CONDUCTED EMISSION TEST DATA

EUT: ULTRA THIN SOLAR FLASHLIGHT M/N: ST-TSF2013
 Operating Condition: Charging to adapter
 Test Site: 1# Shielded Room
 Operator: Finley Li
 Test Specification: DC 5V via adapter AC 230V, 50Hz
 Comment: L
 Tem: 22.2°C Hum: 60%

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

Short Description: 150K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1308690104_fin"

8/10/2013 10:56AM

| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.618000 | 34.60 | 20.1 | 56 | 21.4 | QP | L1 | GND |
| 0.703500 | 36.10 | 20.1 | 56 | 19.9 | QP | L1 | GND |
| 0.793500 | 38.00 | 20.1 | 56 | 18.0 | QP | L1 | GND |
| 1.324000 | 37.00 | 20.2 | 56 | 19.0 | QP | L1 | GND |
| 1.751500 | 34.00 | 20.3 | 56 | 22.0 | QP | L1 | GND |
| 2.377000 | 34.80 | 20.3 | 56 | 21.2 | QP | L1 | GND |

MEASUREMENT RESULT: "AT1308690104_fin2"

8/10/2013 10:56AM

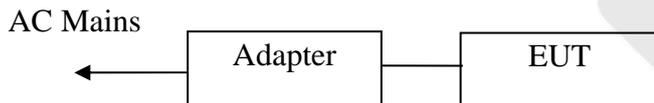
| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.703500 | 29.60 | 20.1 | 46 | 16.4 | AV | L1 | GND |
| 0.789000 | 28.90 | 20.1 | 46 | 17.1 | AV | L1 | GND |
| 0.879000 | 28.30 | 20.1 | 46 | 17.7 | AV | L1 | GND |
| 1.229500 | 27.30 | 20.2 | 46 | 18.7 | AV | L1 | GND |
| 1.319500 | 28.90 | 20.2 | 46 | 17.1 | AV | L1 | GND |
| 1.846000 | 26.80 | 20.3 | 46 | 19.2 | AV | L1 | GND |

3. RADIATED EMISSION TEST

3.1. Block Diagram of Test

3.1.1. Block diagram of connection between the EUT and simulators

3.1.1.1. For Charging to adapter mode

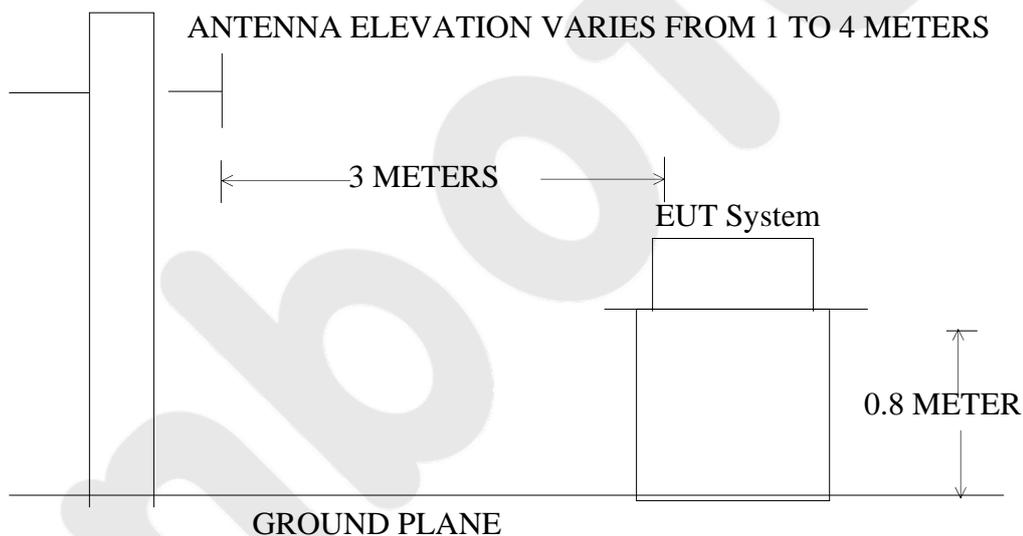


3.1.1.1.1. For Discharging mode



(EUT: ULTRA THIN SOLAR FLASHLIGHT)

3.1.2. Block diagram of test setup (In chamber)



(EUT: ULTRA THIN SOLAR FLASHLIGHT)

3.2. Measuring Standard

EN 55022: 2010

3.3. Radiated Emission Limits

3.3.1. EN 55022: 2010

Radiated Emission Limits

All emanations from an EN 55022 device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

| FREQUENCY (MHz) | DISTANCE (Meters) | FIELD STRENGTHS LIMIT (dB μ V/m) |
|--------------------|----------------------|---|
| 30 ~ 230 | 3 | 40 |

| | | |
|------------|---|----|
| 230 ~ 1000 | 3 | 47 |
|------------|---|----|

- Note: (1) The smaller limit shall apply at the combination point between two frequency bands.
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

3.4. EUT Configuration on Test

The EN 55022 regulations test method must be used to find the maximum emission during radiated emission measurement.

3.5. Operating Condition of EUT

3.5.1. Turn on the power.

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

3.6. Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Bilog antenna is used as a receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

The bandwidth of the Receiver (ESCI) is set at 120kHz.

The EUT is tested in 9*6*6 Chamber.

The test results are listed in Section 3.8.

3.7. Test Equipment

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

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|------|-------------------------|-----------------|-----------|---------------|---------------|---------------|
| 1. | Bilog Broadband Antenna | Schwarzbeck | VULB9163 | VULB 9163-289 | Apr. 23, 2013 | 3 Year |
| 2. | EMI Test Receiver | Rohde & Schwarz | ESPI | 101604 | Apr. 23, 2013 | 1 Year |
| 3. | Pre-amplifier | SONOMA | 310N | 186860 | Apr. 23, 2013 | 1 Year |

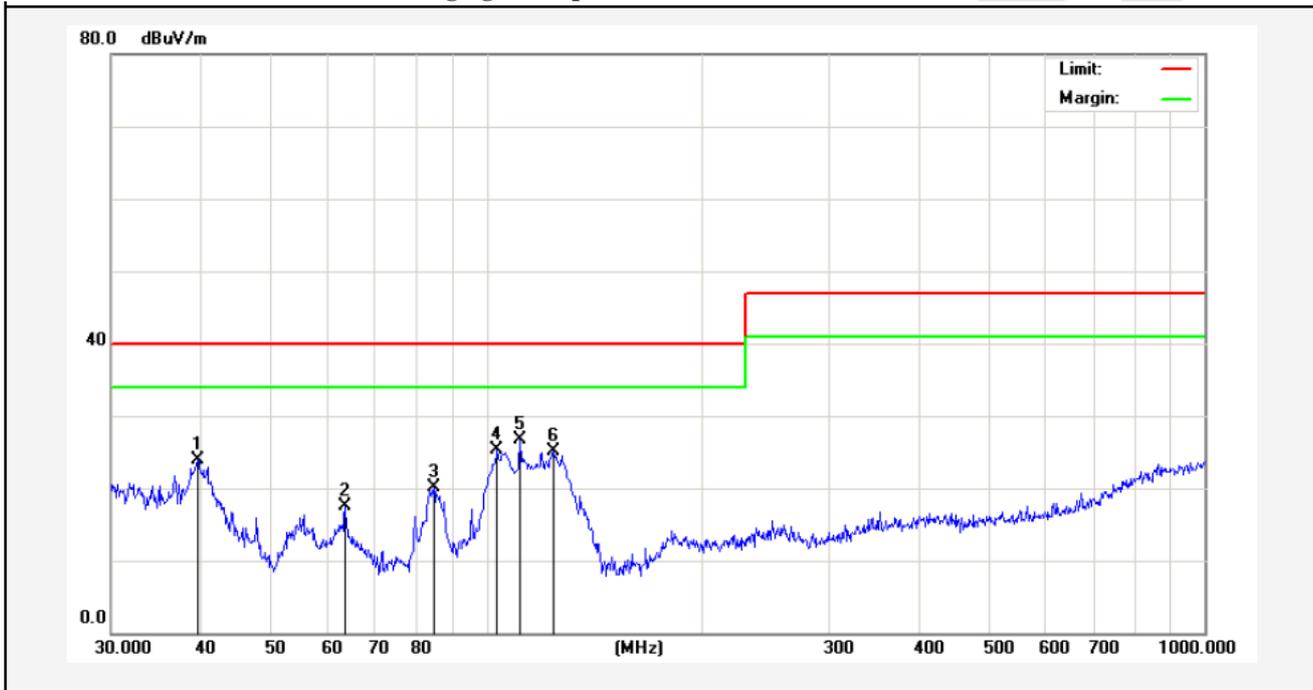
3.8. Measuring Results

PASS.

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

The test curves are shown in the following pages.

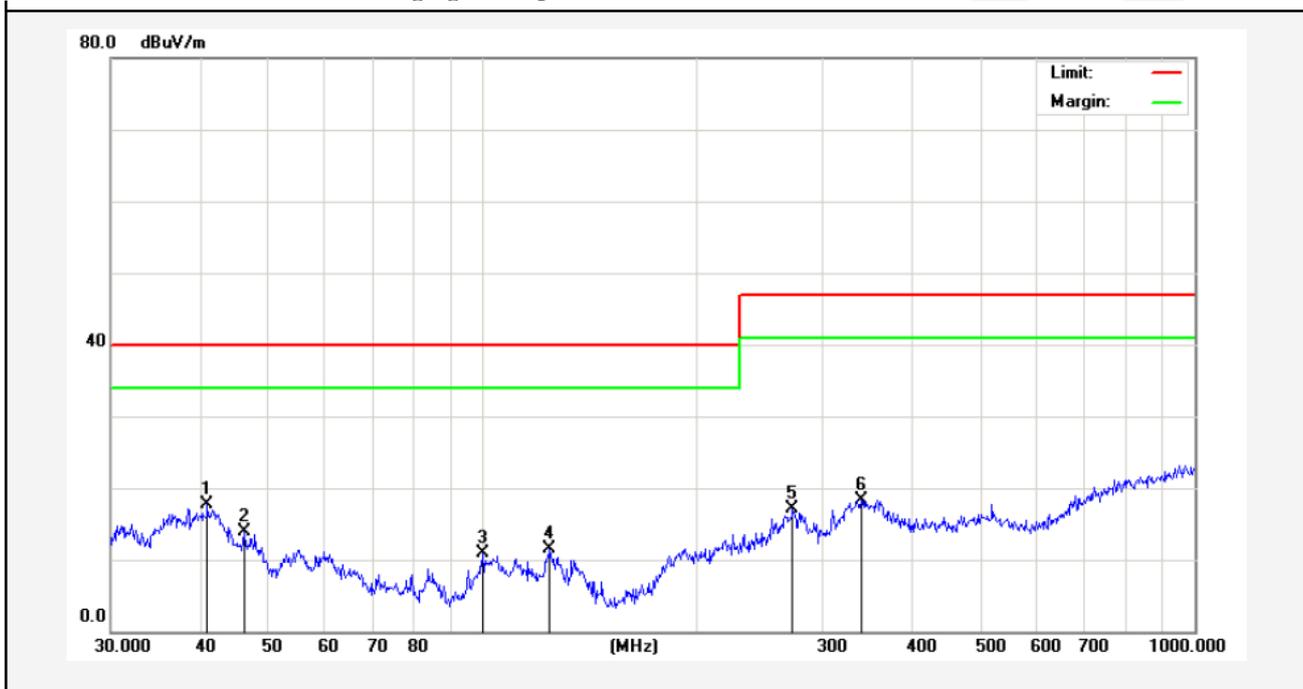
| | | | |
|----------------------------|--------------------------------|----------------------|------------------------------------|
| Job No.: | AT1308690E | Polarization: | Vertical |
| Standard: | (RE)EN 55022_class B_3m | Power Source: | DC 5V via adapter AC 230V, 50Hz |
| Test item: | Radiation Test | Date: | 2013/08/09 |
| Temp.(C)/Hum.(%RH): | 24.3(C)/55%RH | Time: | 20:11:49 |
| EUT: | ULTRA THIN SOLAR FLASHLIGHT | Test By: | Jimly Chen |
| Model: | ST-TSF2013 | Distance: | 3m |
| Note: | 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 | 39.5757 | 44.58 | -20.71 | 23.87 | 40.00 | -16.13 | peak | | | |
| 2 | 63.5356 | 46.93 | -29.38 | 17.55 | 40.00 | -22.45 | peak | | | |
| 3 | 84.4054 | 50.28 | -30.13 | 20.15 | 40.00 | -19.85 | peak | | | |
| 4 | 103.4421 | 51.97 | -26.60 | 25.37 | 40.00 | -14.63 | peak | | | |
| 5 | 111.3468 | 53.28 | -26.56 | 26.72 | 40.00 | -13.28 | peak | | | |
| 6 | 123.6985 | 52.81 | -27.65 | 25.16 | 40.00 | -14.84 | peak | | | |

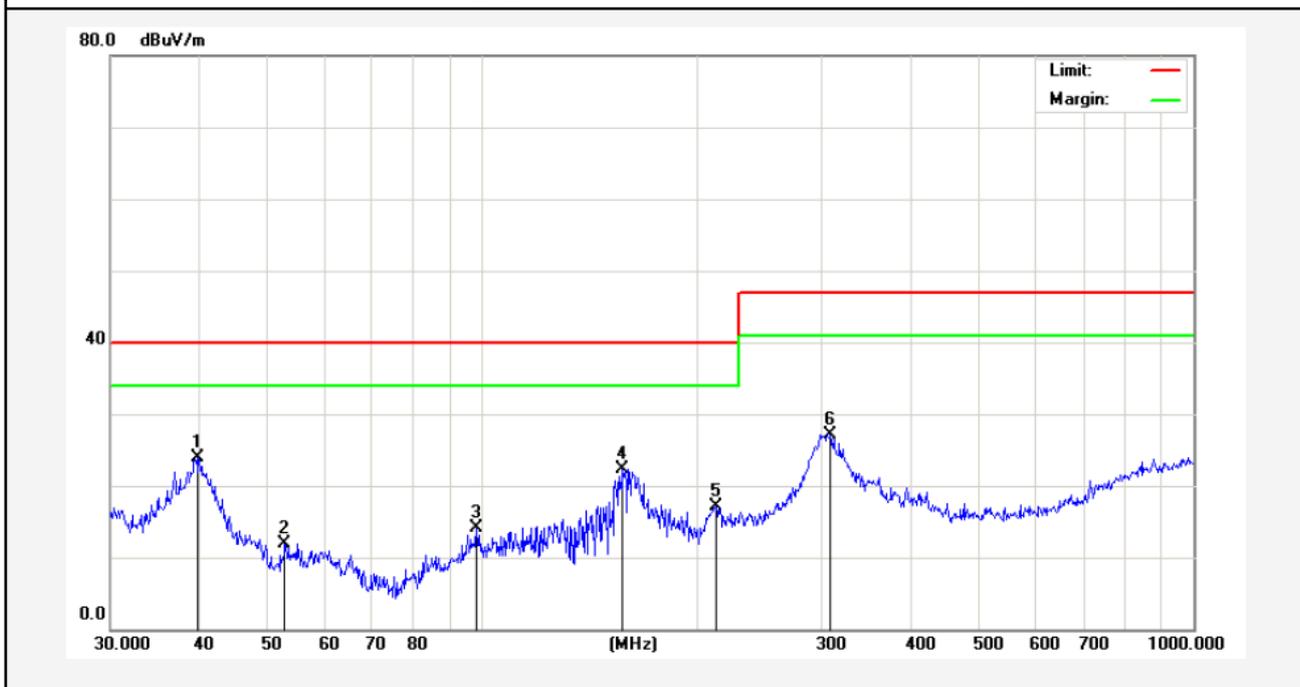
| | | | |
|----------------------------|-----------------------------|----------------------|------------------------------------|
| Job No.: | AT1308690E | Polarization: | Horizontal |
| Standard: | (RE)EN 55022_class B_3m | Power Source: | DC 5V via adapter AC 230V, 50Hz |
| Test item: | Radiation Test | Date: | 2013/08/09 |
| Temp.(C)/Hum.(%RH): | 24.3(C)/55%RH | Time: | 20:14:11 |
| EUT: | ULTRA THIN SOLAR FLASHLIGHT | Test By: | Jimly Chen |
| Model: | ST-TSF2013 | Distance: | 3m |

Note: 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 | 40.9881 | 38.85 | -21.18 | 17.67 | 40.00 | -22.33 | peak | | | |
| 2 | 46.1779 | 38.79 | -24.84 | 13.95 | 40.00 | -26.05 | peak | | | |
| 3 | 99.8777 | 42.51 | -31.68 | 10.83 | 40.00 | -29.17 | peak | | | |
| 4 | 124.1330 | 44.23 | -32.72 | 11.51 | 40.00 | -28.49 | peak | | | |
| 5 | 272.2776 | 45.55 | -28.51 | 17.04 | 47.00 | -29.96 | peak | | | |
| 6 | 340.7817 | 42.57 | -24.27 | 18.30 | 47.00 | -28.70 | peak | | | |

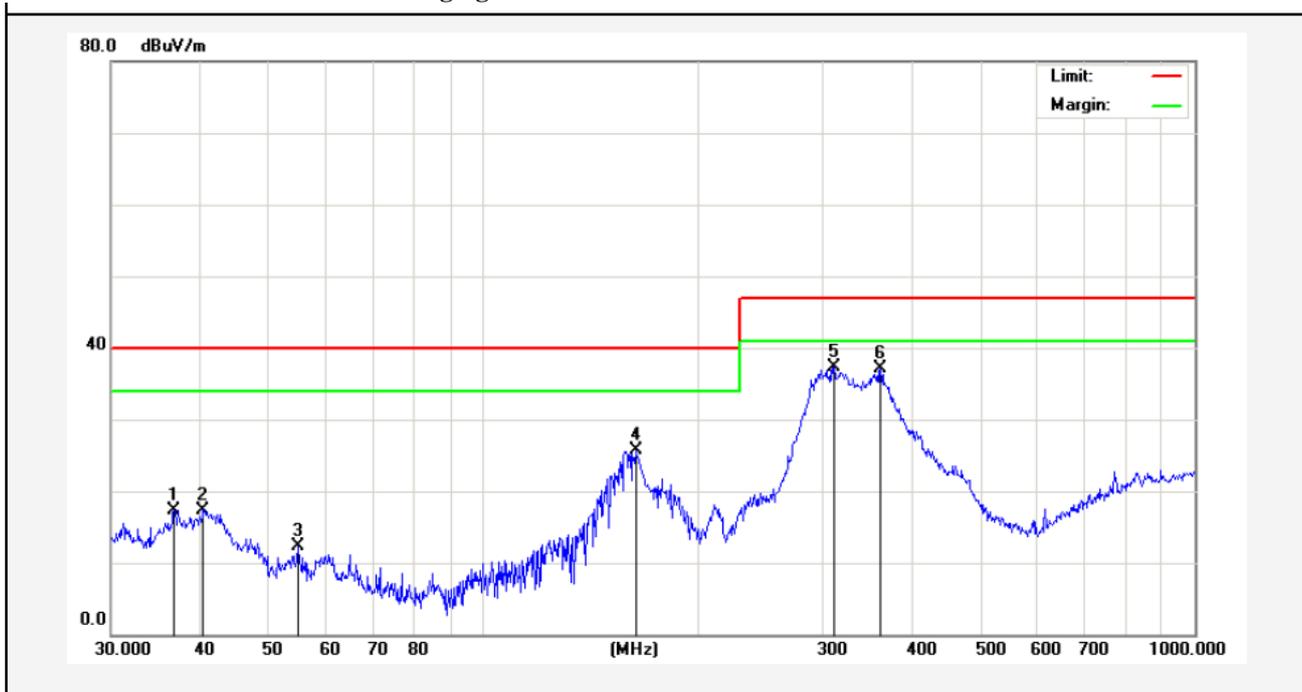
| | | | |
|----------------------------|--------------------------------|----------------------|------------|
| Job No.: | AT1308690E | Polarization: | Vertical |
| Standard: | (RE)EN 55022_class B_3m | Power Source: | DC 5V |
| Test item: | Radiation Test | Date: | 2013/08/09 |
| Temp.(C)/Hum.(%RH): | 24.3(C)/55%RH | Time: | 20:24:32 |
| EUT: | ULTRA THIN SOLAR FLASHLIGHT | Test By: | Jimly Chen |
| Model: | ST-TSF2013 | Distance: | 3m |
| Note: | 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 | 39.7146 | 44.59 | -20.63 | 23.96 | 40.00 | -16.04 | peak | | | |
| 2 | 52.7600 | 39.63 | -27.77 | 11.86 | 40.00 | -28.14 | peak | | | |
| 3 | 98.1419 | 40.99 | -26.84 | 14.15 | 40.00 | -25.85 | peak | | | |
| 4 | 157.5588 | 50.85 | -28.58 | 22.27 | 40.00 | -17.73 | peak | | | |
| 5 | 213.0151 | 42.83 | -25.67 | 17.16 | 40.00 | -22.84 | peak | | | |
| 6 | 308.9126 | 51.55 | -24.37 | 27.18 | 47.00 | -19.82 | peak | | | |

| | | | |
|----------------------------|-----------------------------|----------------------|------------|
| Job No.: | AT1308690E | Polarization: | Horizontal |
| Standard: | (RE)EN 55022_class B_3m | Power Source: | DC 5V |
| Test item: | Radiation Test | Date: | 2013/08/09 |
| Temp.(C)/Hum.(%RH): | 24.3(C)/55%RH | Time: | 20:20:16 |
| EUT: | ULTRA THIN SOLAR FLASHLIGHT | Test By: | Jimly Chen |
| Model: | ST-TSF2013 | Distance: | 3m |

Note: Discharging

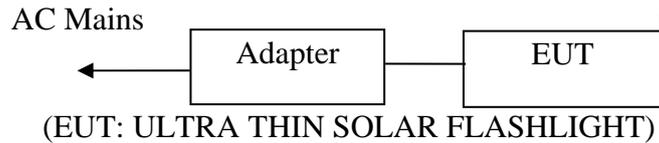


| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/) | Over Limit (dB) | Detector | Height (cm) | degree (deg) | Remark |
|-----|-------------|------------------|---------------|-----------------|---------------|-----------------|----------|-------------|--------------|--------|
| 1 | 36.7662 | 39.50 | -22.16 | 17.34 | 40.00 | -22.66 | peak | | | |
| 2 | 40.4172 | 38.17 | -20.77 | 17.40 | 40.00 | -22.60 | peak | | | |
| 3 | 54.8348 | 40.05 | -27.83 | 12.22 | 40.00 | -27.78 | peak | | | |
| 4 | 163.7550 | 59.09 | -33.31 | 25.78 | 40.00 | -14.22 | peak | | | |
| 5 | 311.0867 | 63.51 | -26.22 | 37.29 | 47.00 | -9.71 | peak | | | |
| 6 | 361.7139 | 60.85 | -23.72 | 37.13 | 47.00 | -9.87 | peak | | | |

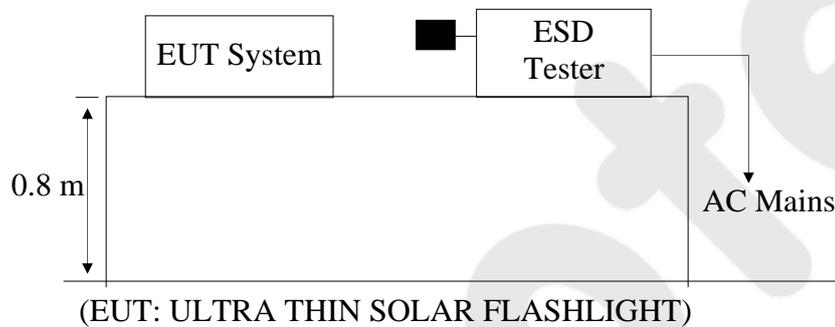
4. ELECTROSTATIC DISCHARGE IMMUNITY TEST

4.1. Block Diagram of Test Setup

4.1.1. Block diagram of connection between the EUT and simulators



4.1.2. Block diagram of test setup



4.2. Measuring Standard

EN 55024: 2010

IEC 61000-4-2: 2008

Severity Level: 3 / Air Discharge: ± 8 kV Level: 2 / Contact Discharge: ± 4 kV

4.3. Severity Levels and Performance Criterion

4.3.1. Severity level

| Level | Test Voltage Contact Discharge (kV) | Test Voltage Air Discharge (kV) |
|-------|--|------------------------------------|
| 1. | ± 2 | ± 2 |
| 2. | ± 4 | ± 4 |
| 3. | ± 6 | ± 8 |
| 4. | ± 8 | ± 15 |
| X | Special | Special |

4.3.2. Performance criterion: **B**

4.4. EUT Configuration

The configuration of EUT are listed in Section 2.4.

4.5. Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 2.5 except the test set up replaced by Section 4.1.

4.6. Test Procedure

4.6.1. Air Discharge:

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 100 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed

4.6.2. Contact Discharge:

All the procedure shall be same as Section 4.6.1. except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

4.6.3. Indirect discharge for horizontal coupling plane

At least 50 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

4.6.4. Indirect discharge for vertical coupling plane

At least 50 single discharge shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

4.7. Test Equipment

The following test equipments are used during the electrostatic discharge immunity measurement:

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|------|----------------|--------------|-----------|------------|---------------|---------------|
| 1. | ESD Simulators | KIKUSUI | KES4021 | LJ003477 | Apr. 25, 2013 | 1 Year |

4.8. Measuring Results

PASS

Please refer to the following page

Electrostatic Discharge Test Results

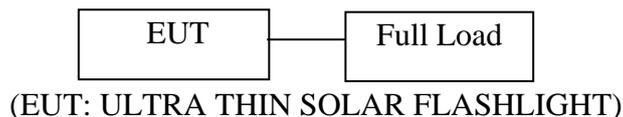
Shenzhen Anbotek Compliance Laboratory Limited

| Applicant : Smart Team Holdings Limited | Test Date : Aug. 12, 2013 | |
|---|--|--------|
| EUT : ULTRA THIN SOLAR FLASHLIGHT | Temperature : 24°C | |
| M/N : ST-TSF2013 | Humidity : 50% | |
| Air discharge : ±8.0kV | Criterion : B | |
| Contact discharge: ±4.0kV | Test Engineer: Jimmy Zhou | |
| Test Mode : Charging to adapter | | |
| Location | Kind A-Air Discharge C-Contact Discharge | Result |
| Slot 6 points | A | PASS |
| Others 6 points | A | PASS |
| HCP 4 points | C | PASS |
| VCP of front 4 points | C | PASS |
| VCP of rear 4 points | C | PASS |
| VCP of left 4 points | C | PASS |
| VCP of right 4 points | C | PASS |
| Note: | | |

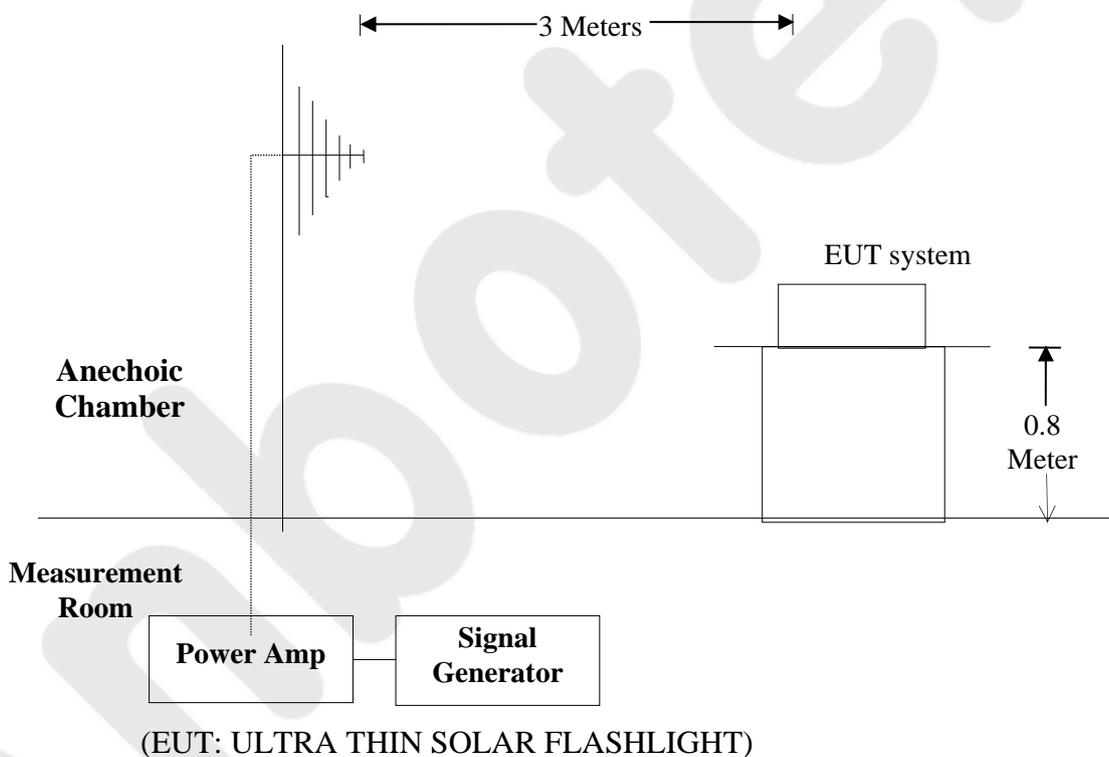
5. RF FIELD STRENGTH SUSCEPTIBILITY TEST

5.1. Block Diagram of Test

5.1.1. Block diagram of connection between the EUT and simulators



5.1.2. Block diagram of RS test setup



5.2. Measuring Standard

EN 55024: 2010
IEC 61000-4-3: 2006+A1 :2007+A2: 2010
Severity Level: 2, 3V / m

5.3. Severity Levels and Performance Criterion

5.3.1. Severity Levels

| Level | Field Strength V/m |
|-------|--------------------|
| 1. | 1 |

| | |
|----|---------|
| 2. | 3 |
| 3. | 10 |
| X | Special |

5.3.2. Performance Criterion: A

5.4. EUT Configuration on Test

The configuration of the EUT is same as Section 2.4.

5.5. Operating Condition of EUT

Same as conducted emission measurement which is listed in Section 2.5. except the test setup replaced as Section 5.1.

5.6. Test Procedure

The EUT are placed on a table which is 0.8 meter high above the ground. The EUT is set 3 meters away from the transmitting antenna which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna are set on test. Each of the four sides of the EUT must be faced this transmitting antenna and measured individually.

In order to judge the EUT performance, a CCD camera is used to monitor its screen.

All the scanning conditions are as following:

| Condition of Test | Remark |
|---------------------------|-------------------------|
| 1. Fielded Strength | 3V/m (Severity Level 2) |
| 2. Radiated Signal | Unmodulated |
| 3. Scanning Frequency | 80-1000MHz |
| 4. Sweep time of radiated | 0.0015 Decade/s |
| 2. Dwell Time | 1 Sec. |

5.7. Test Equipment

The following test equipments are used during the RF Field Strength susceptibility measurement:

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|------|---------------------------------|--------------|-----------------|-----------------|--------------|---------------|
| 1. | RF Power Meter. Dual Channel | BOONTON | 4232A | 10539 | May 29, 2013 | 1 year |
| 2. | 50ohm Diode Power Sensor | BOONTON | 51011EMC | 34236/342 38 | May 29, 2013 | 1 year |
| 3. | Broad-Band Horn Antenna | SCHWARZBECK | BBHA9120 L3F | 332 | May 29, 2013 | 1 year |
| 4. | Power Amplifier | PRANA | AP32MT215 | N/A | May 29, 2013 | 1 year |

| | | | | | | |
|----|-------------------------|-------------|------------|-----|--------------|--------|
| 5. | Power Amplifier | MILMEGA | AS0102-55 | N/A | May 29, 2013 | 1 year |
| 6. | Signal Generator | AEROFLEX | 2023B | N/A | May 29, 2013 | 1 year |
| 7. | Field Strength Meter | HOLADAY | HI-6005 | N/A | May 29, 2013 | 1 year |
| 8. | RS232 Fiber Optic Modem | HOLADAY | HI-4413P | N/A | May 29, 2013 | 1 year |
| 9. | Log.-Per. Antenna | SCHWARZBECK | VULP 9118E | N/A | May 29, 2013 | 1 year |

5.8. Measuring Results

PASS.

Please refer to the following page.

6. PHOTOGRAPHS

6.1. Photo of Power Line Conducted Emission Test



6.2. Photo of Radiated Emission Test

Charging to adapter



Discharging



6.3. Photo of Electrostatic Discharge Test



6.4. Photo of RF Field Strength susceptibility Test



APPENDIX I
(Photos of EUT)

Figure 1
The EUT- Front View

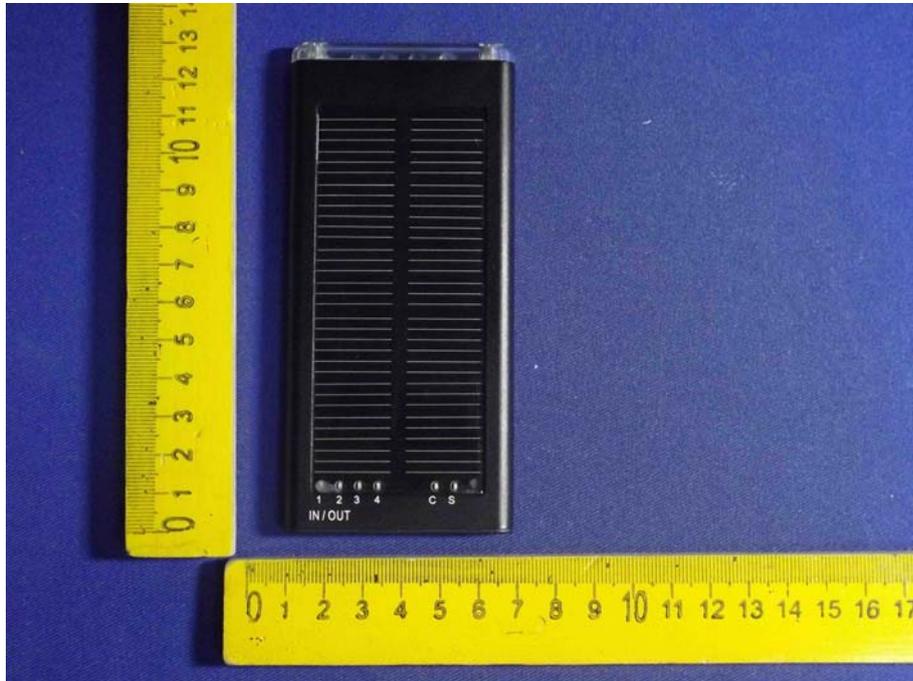


Figure 2
The EUT- Back View



Figure 3
The EUT- Side View



Figure 4
The EUT- Inside View

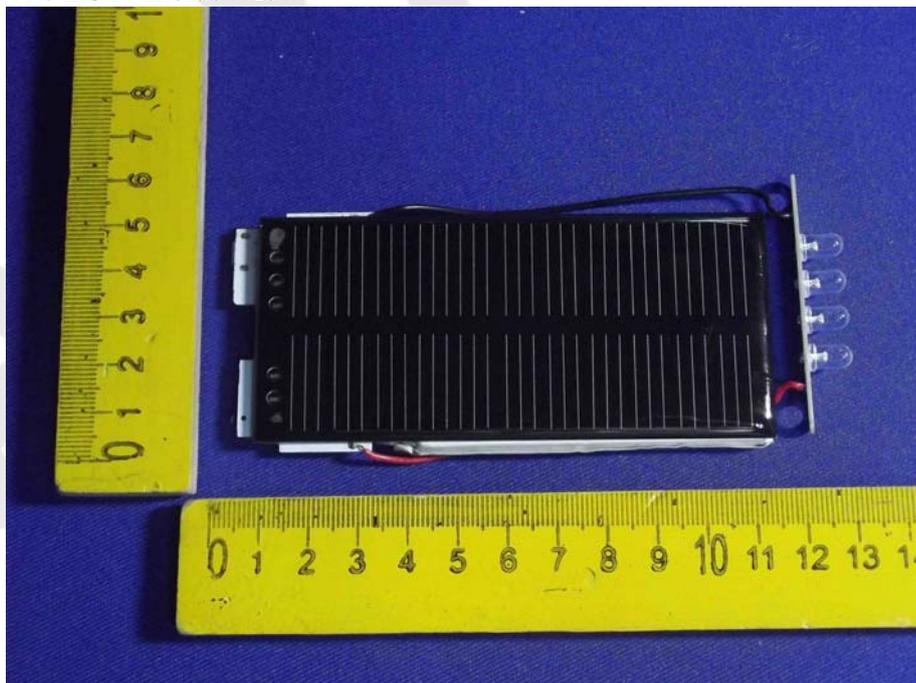


Figure 5
PCB Of The EUT- Front View

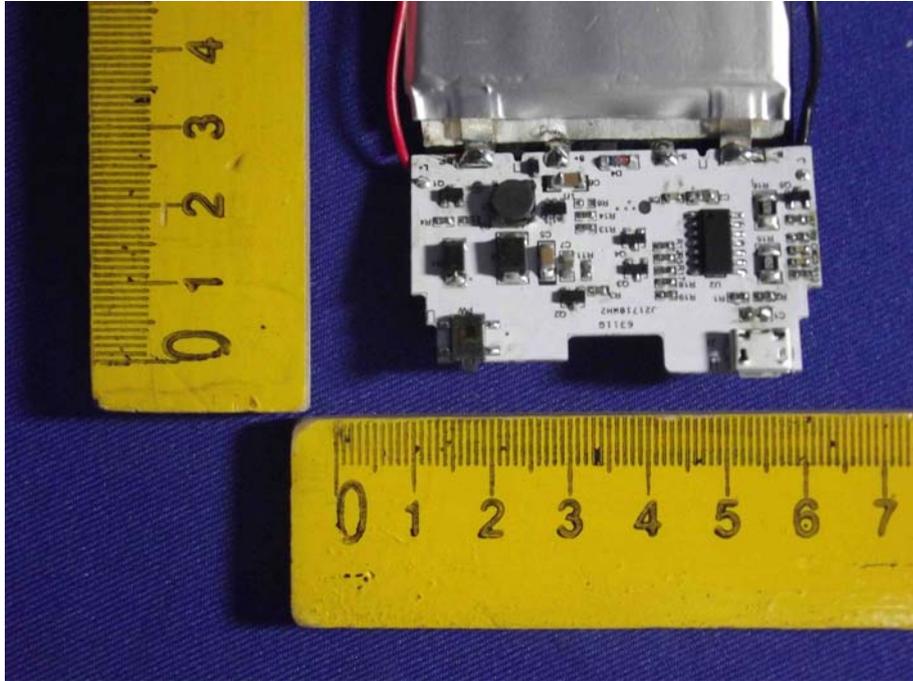
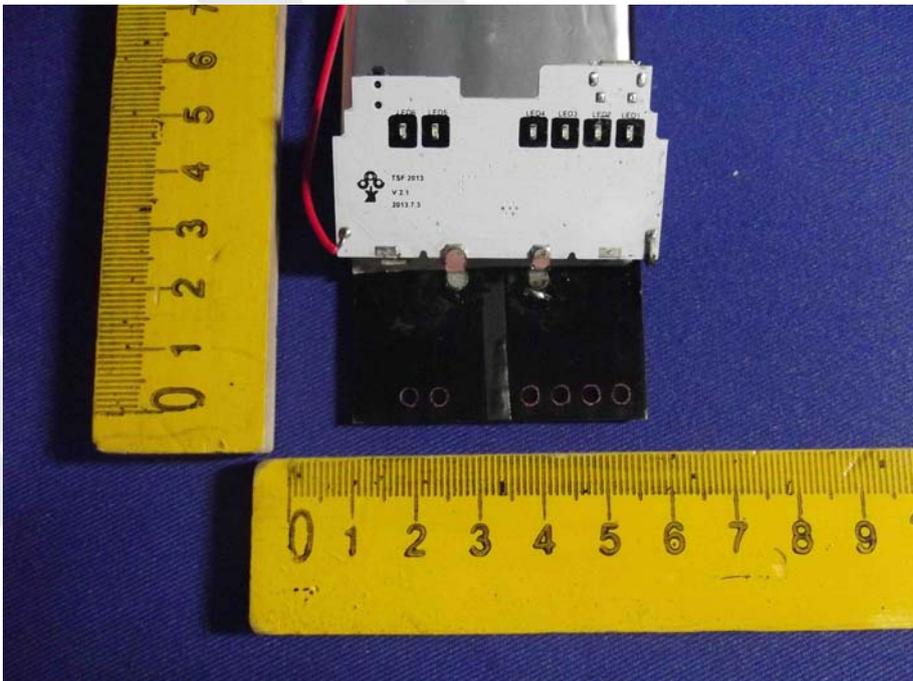


Figure 6
PCB Of The EUT- Back View



APPENDIX II
(CE Label)

CE Label

1. The CE conformity marking must consist of the initials 'CE' taking the following form:
If the CE marking is reduced or enlarged, the proportions given in the above graduated drawing must be respected.
2. The CE marking must have a height of at least 5 mm except where this is not possible on account of the nature of the apparatus.
3. The CE marking must be affixed to the product or to its data plate. Additionally it must be affixed to the packaging, if any, and to the accompanying documents.
4. The CE marking must be affixed visibly, legibly and indelibly.
It must have the same height as the initials 'CE'

Proposed Label Location on EUT
EUT Back View/proposed CE Mark Location

