
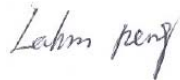



**EN 55022: 2006+A1: 2007**  
**EN 61000-3-2: 2006+A2: 2009**  
**EN 61000-3-3: 2008**  
**Measurement and Test Report**

**For**

**Smart Zone Technology Limited**

**8/F., Tower 1, Tern Centre, 237 Queen`s Road, Central.HK**

|  |   |
|--|---|
| <b>Report Concerns:</b><br>Original Report | <b>Equipment Type:</b><br>AC/DC ADAPTOP   |
| <b>Model:</b>                              | <u>SZ-ACDC</u>  |
| <b>Report No.:</b>                         | <u>STR11078225E-1</u>   |
| <b>Test Date:</b>                          | <u>2011-08-01 to 2011-08-03</u>   |
| <b>Issue Date:</b>                         | <u>2011-08-03</u>   |
| <b>Tested By:</b>                          | <u>Jason Jiang / Engineer</u>    |
| <b>Reviewed By:</b>                        | <u>Lahm Peng / EMC Manager</u>   |
| <b>Approved &amp; Authorized By:</b>       | <u>Jandy so / PSQ Manager</u>    |
| <b>Prepared By:</b>                        | <b>SEM.Test Compliance Service Co., Ltd</b><br>3/F, Jinbao Commerce Building, Xin'an Fanshen Road,<br>Bao'an District, Shenzhen, P.R.C. (518101)<br>Tel.: +86-755-33663308 Fax.: +86-755-33663309 Website: www.semtest.com.cn |

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by SEM.Test Compliance Service Co., Ltd.

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## 1.GENERAL INFORMATION

### 1.1 Product Description for Equipment Under Test (EUT)

#### Client Information

Applicant: Smart Zone Technology Limited  
Address of applicant: 8/F., Tower 1, Tern Centre, 237 Queen`s Road, Central.HK

Manufacturer: Shenzhen Smart Team Technology Limited  
Address of manufacturer: 3<sup>RD</sup> Floor, Xutai Industrial, Longwo Road, Longtian Village, Keng Zi Residential, Ping Shan.

#### General Description of E.U.T

| Items   | Description           |
|---|-----------------------|
| EUT Description:  | AC/DC ADAPTOP         |
| Trade Name:   | Smartzone, Dailypower |
| Model No.:  | SZ-ACDC               |
| Rated Voltage:  | AC 230V/50Hz          |
| Rated Current:  | 0.8A                  |
| For more information refer to the circuit diagram form and the user`s manual. |                       |

*The test data is gathered from a production sample, provided by the manufacturer.*

### 1.2 Test Standards

The following report is prepared on behalf of the Smart Zone Technology Limited in accordance with EN55022, Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement, And EN61000-3-2: 2006+A2: 2009, Electromagnetic compatibility (EMC) -- Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase). EN61000-3-3: 2008, Electromagnetic compatibility (EMC) -- Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current  $\leq 16$  A per phase and not subject to conditional connection.

The objective of the manufacturer is to demonstrate compliance with EN55022 Class B limits for Information Technology Equipment.

**Maintenance of compliance** is the responsibility of the manufacturer. Any modification of the product maybe which result in lowering the emission/immunity should be checked to ensure compliance has been maintained.

### 1.3 Test Methodology

All measurements contained in this report were conducted with EN 55022, Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.

The equipment under test (EUT) was configured to measure its highest possible emission/immunity level. The test setup was adapted accordingly in reference to the Operating Instructions.

## 1.4 Test Facility

- **FCC – Registration No.: 994117**

SEM.Test Compliance Services Co., Ltd. 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 and the Registration is 994117.

- **Industry Canada (IC) Registration No.: 7673A**

The 3m Semi-anechoic chamber of SEM.Test Compliance Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 7673A.

- **CNAS Registration No.: L4062**

Shenzhen SEM.Test Electronics Service Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 3/F, Jinbao Commerce Building, Xin'an Fanshen Road, Bao'an District, Shenzhen, P.R.C (518101)

## 1.5 EUT Exercise Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the system components. The test software is started while the EUT is on to simulate the normal work.

## 1.6 Accessories Equipment List and Details

| Description | Manufacturer | Model | Serial Number |
|-------------|--------------|-------|---------------|
| /           | /            | /     | /             |

## 1.7 EUT Cable List and Details

| Cable Description | Length (M) | Shielded/Unshielded | With Core/Without Core |
|-------------------|------------|---------------------|------------------------|
| /                 | /          | /                   | /                      |

## 2. SUMMARY OF TEST RESULTS

| Description of Test                         | Result    |
|---|-----------|
| §5.1 Conducted Emission                     | Compliant |
| §6 Radiated Emission                        | Compliant |
| EN61000-3-2 Harmonic Current Emission       | Compliant |
| EN61000-3-3 Voltage Fluctuation And Flicker | Compliant |

SEM. Test Compliance

### 3. CONDUCTED EMISSIONS

#### 3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is  $\pm 2.88$  dB.

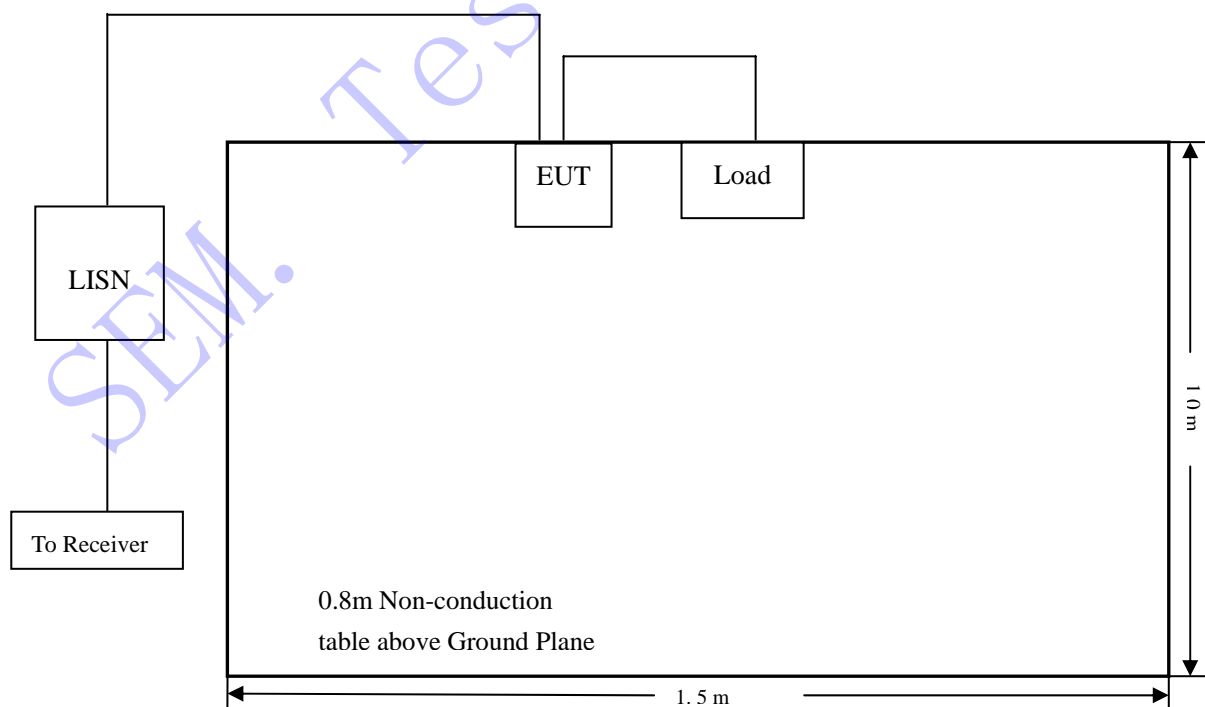
#### 3.2 Test Equipment List and Details

| Description       | Manufacturer    | Model    | Serial Number | Cal. Date  | Due. Date  |
|-------------------|-----------------|----------|---------------|------------|------------|
| EMI Test Receiver | Rohde & Schwarz | ESPI     | 101611        | 2010-12-20 | 2011-12-19 |
| L.I.S.N           | Schwarz beck    | NSLK8126 | 8126-224      | 2010-12-20 | 2011-12-19 |
| Pulse Limiter     | Rohde & Schwarz | ESH3-Z2  | 100911        | 2010-12-20 | 2011-12-19 |
| AMN               | EMCO            | 3825/2   | 11967C        | 2010-12-20 | 2011-12-19 |
| Power Divider     | Weinschel       | 1506A    | PM204         | 2010-12-20 | 2011-12-19 |
| Current Probe     | FCC             | F-33-4   | 091684        | 2010-12-20 | 2011-12-19 |

#### 3.3 Test Procedure

Test is conducting under the description of EN 55022 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.

#### 3.4 Basic Test Setup Block Diagram



### 3.5 Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 22 ° C    |
| Relative Humidity: | 55 %      |
| ATM Pressure:      | 1015 mbar |

### 3.6 Summary of Test Results/Plots

According to the data in section 3.7, the EUT complied with the EN55022 Conducted margin for a Class B device, with the *worst* margin reading of:

**-2.64 dB $\mu$ V at 0.246 MHz in the Nature mode, Average detector, 0.15-30MHz**

### 3.7 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

Conducted Disturbance

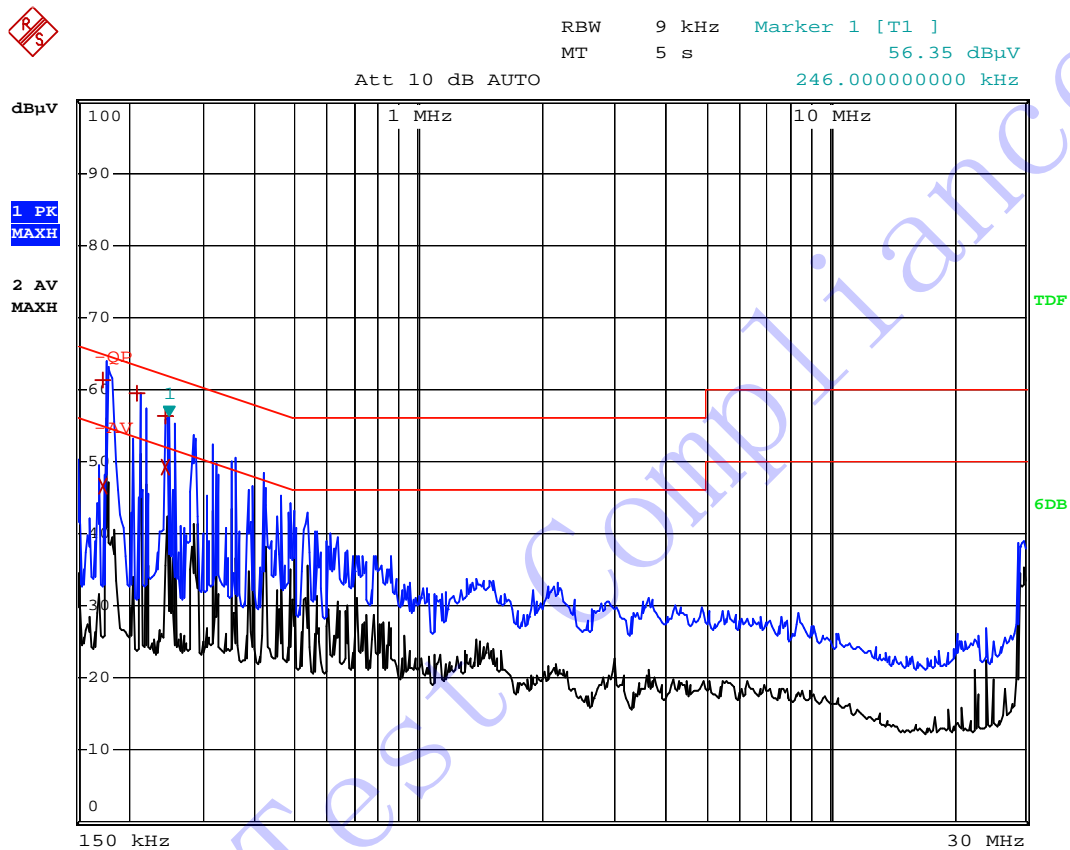
EUT: AC/DC ADAPTOP

M/N: SZ-ACDC

Operating Condition: Full Load

Test Specification: N

Comment:

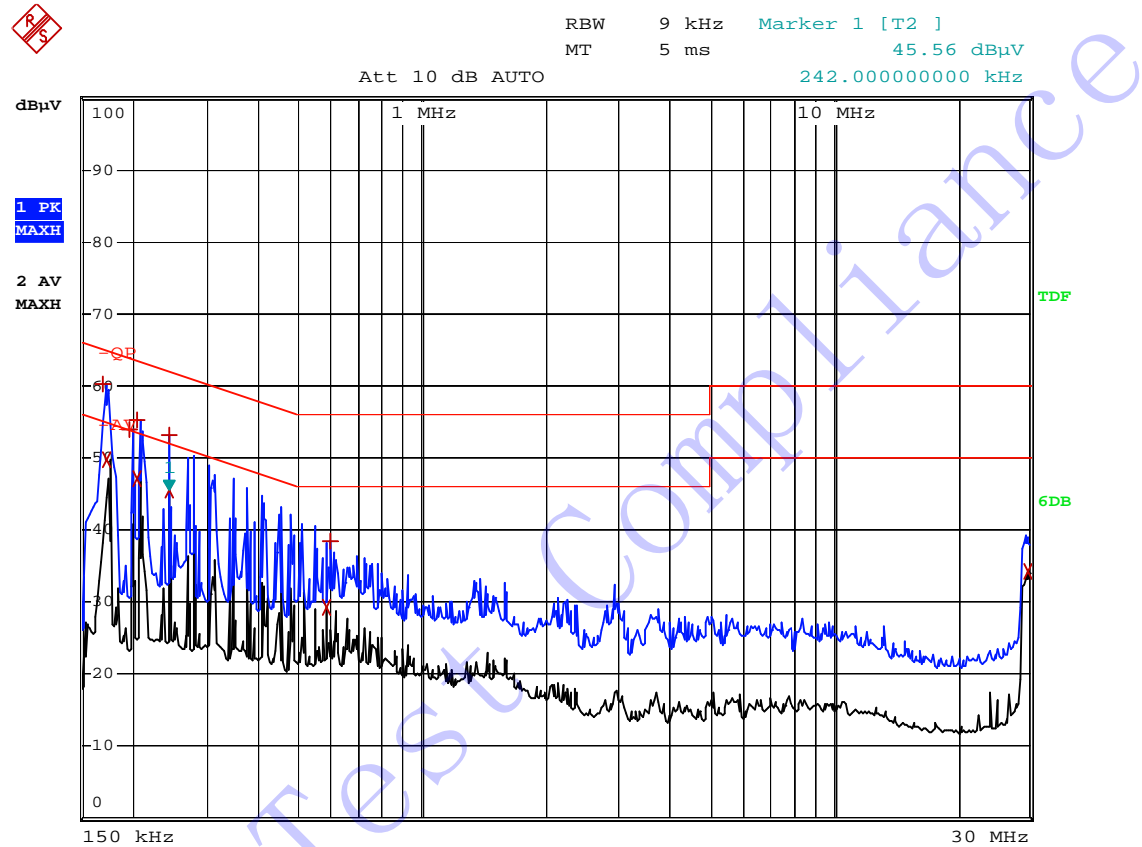


| EDIT PEAK LIST (Final Measurement Results) |           |            |                |
|--|-----------|------------|----------------|
| Trace1:                                    | -QP       |            |                |
| Trace2:                                    | -AV       |            |                |
| Trace3:                                    | ---       |            |                |
| TRACE                                      | FREQUENCY | LEVEL dBµV | DELTA LIMIT dB |
| 1 Quasi Peak                               | 174 kHz   | 61.25      | -3.50          |
| 2 Average                                  | 174 kHz   | 46.55      | -8.21          |
| 1 Max Peak                                 | 210 kHz   | 59.37      | -3.83          |
| 1 Max Peak                                 | 246 kHz   | 56.34      | -5.54          |
| 2 Average                                  | 246 kHz   | 49.24      | -2.64          |



Plot of Conducted Emissions Test Data

Conducted Disturbance  
EUT: AC/DC ADAPTOP  
M/N: SZ-ACDC  
Operating Condition: Operating  
Test Specification: L  
Comment: Full load



| EDIT PEAK LIST (Prescan Results) |           |            |                |  |
|----------------------------------|-----------|------------|----------------|--|
| Trace1:                          | -QP       |            |                |  |
| Trace2:                          | -AV       |            |                |  |
| Trace3:                          | ---       |            |                |  |
| TRACE                            | FREQUENCY | LEVEL dBμV | DELTA LIMIT dB |  |
| 1 Max Peak                       | 170 kHz   | 60.13      | -4.82          |  |
| 2 Average                        | 174 kHz   | 49.66      | -5.09          |  |
| 1 Max Peak                       | 198 kHz   | 53.90      | -9.78          |  |
| 2 Average                        | 206 kHz   | 47.08      | -6.28          |  |
| 1 Max Peak                       | 206 kHz   | 55.30      | -8.05          |  |
| 2 Average                        | 242 kHz   | 45.56      | -6.46          |  |
| 1 Max Peak                       | 242 kHz   | 53.25      | -8.77          |  |
| 2 Average                        | 582 kHz   | 29.26      | -16.73         |  |
| 1 Max Peak                       | 594 kHz   | 38.36      | -17.63         |  |
| 2 Average                        | 29.61 MHz | 34.34      | -15.65         |  |

## 4. RADIATED EMISSION

### 4.1 Measurement Uncertainty

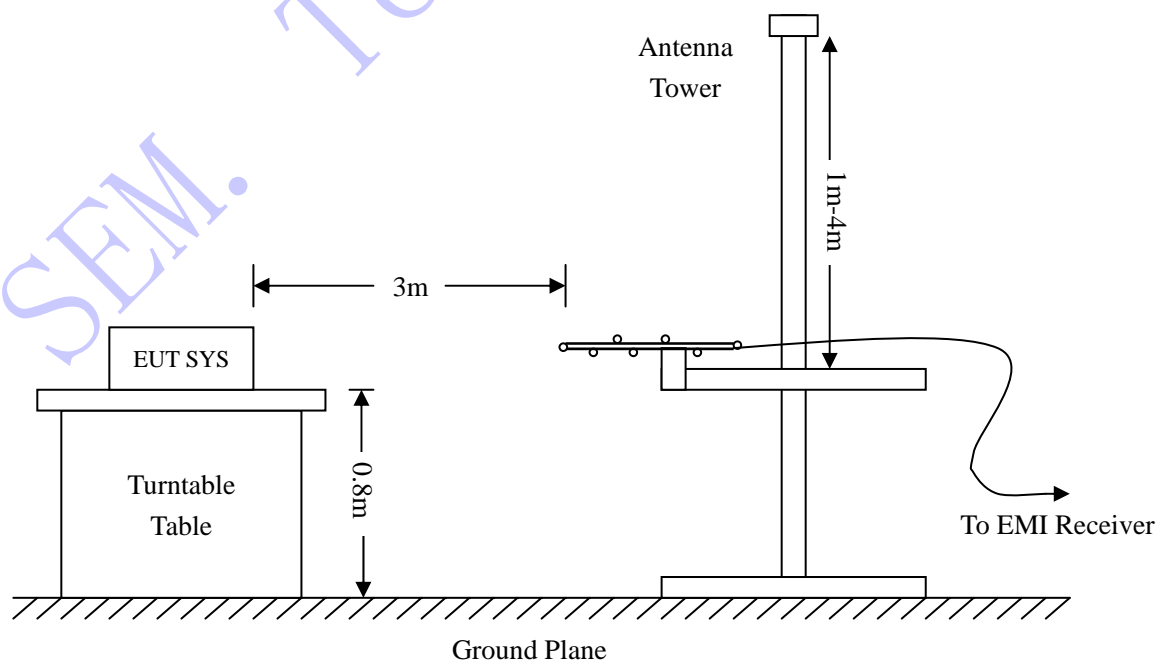
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is  $\pm 5.10$  dB.

### 4.2 Test Equipment List and Details

| Description              | Manufacturer         | Model    | Serial Number | Cal. Date  | Due. Date  |
|--------------------------|----------------------|----------|---------------|------------|------------|
| Spectrum Analyzer        | R&S                  | FSP      | 836079/035    | 2010-12-20 | 2011-12-19 |
| EMI Test Receiver        | R&S                  | ESVB     | 825471/005    | 2010-12-20 | 2011-12-19 |
| Positioning Controller   | C&C                  | CC-C-1F  | N/A           | 2010-12-20 | 2011-12-19 |
| RF Switch                | EM                   | EMSW18   | SW060023      | 2010-12-20 | 2011-12-19 |
| Pre-amplifier            | Agilent              | 8447F    | 3113A06717    | 2010-12-20 | 2011-12-19 |
| Pre-amplifier            | Compliance Direction | PAP-0118 | 24002         | 2010-12-20 | 2011-12-19 |
| Trilog Broadband Antenna | SCHWARZBECK          | VULB9163 | 9163-333      | 2011-01-09 | 2012-01-08 |
| Horn Antenna             | ETS                  | 3117     | 00086197      | 2011-01-09 | 2012-01-08 |

### 4.3 Test Procedure

Test is conducting under the description of EN 55022 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.



#### 4.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB $\mu$ V means the emission is 6dB $\mu$ V below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{EN55022 Class B Limit}$$

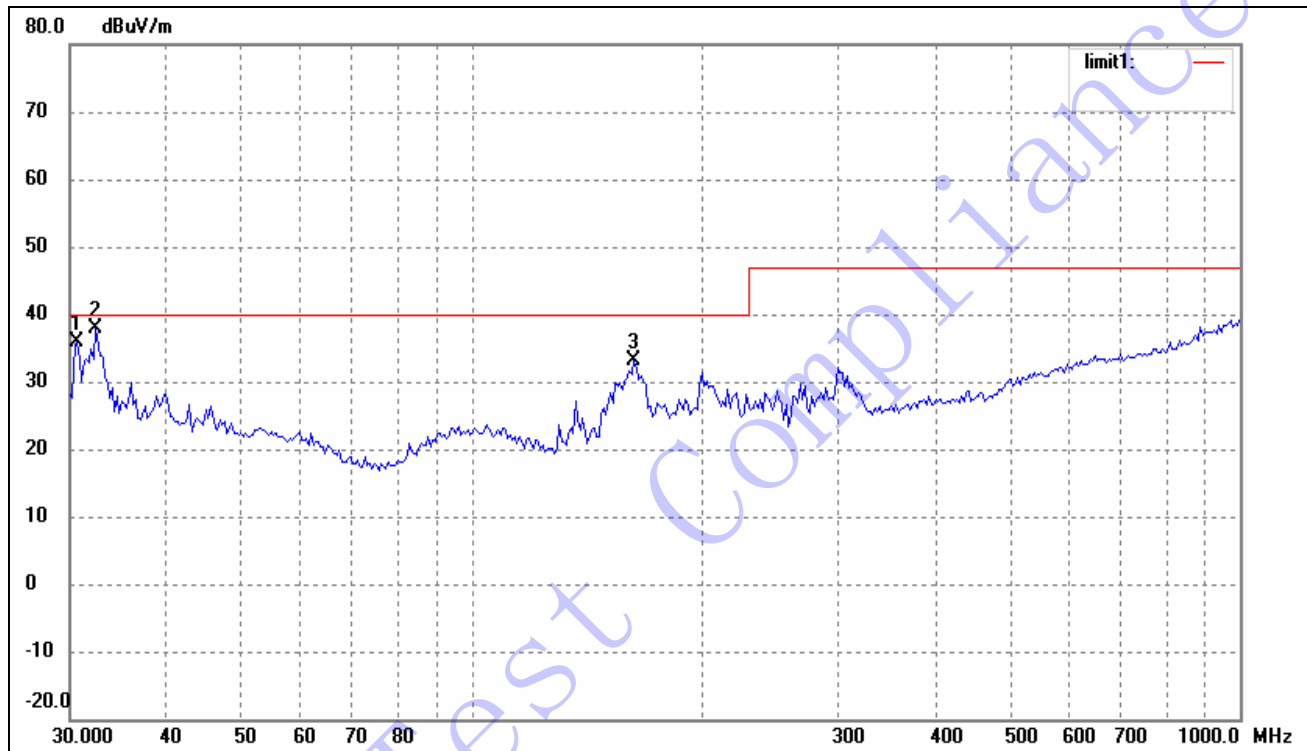
#### 4.5 Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 23° C     |
| Relative Humidity: | 53%       |
| ATM Pressure:      | 1011 mbar |

#### 4.6 Summary of Test Results/Plots

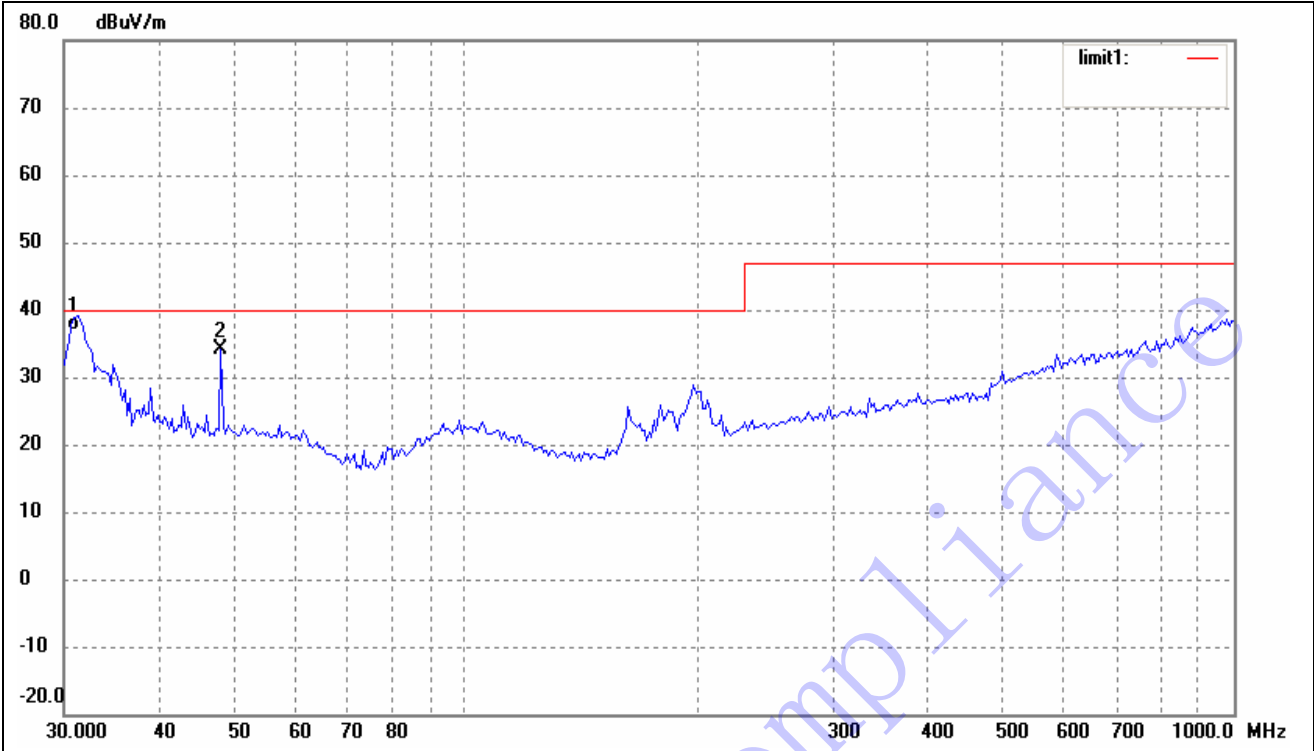
According to the data in section 4.6, the EUT complied with the EN55022 Class B standards, and had the worst margin is:

**-2.19 dB $\mu$ V at 32.4059 MHz in the, Horizontal polarization 30 MHz to 6 GHz, 3Meters**

**Plot of Radiation Emissions Test Data***Radiated Emission**EUT: AC/DC ADAPTOP**M/N: SZ-ACDC**Operating Condition: Full Load**Test Specification: Horizontal & Vertical**Comment:**Horizontal*

| No. | Frequency<br>(MHz) | Reading<br>(dBuV/m) | Correct<br>Factor(dB) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Degree<br>( ° ) | Height<br>(cm) | Remark |
|-----|--------------------|---------------------|-----------------------|--------------------|-------------------|----------------|-----------------|----------------|--------|
| 1   | 30.6379            | 29.13               | 6.77                  | 35.90              | 40.00             | -4.10          | 360             | 200            | peak   |
| 2   | 32.4059            | 31.04               | 6.77                  | 37.81              | 40.00             | -2.19          | 0               | 100            | peak   |
| 3   | 162.6106           | 28.52               | 4.63                  | 33.15              | 40.00             | -6.85          | 0               | 100            | peak   |

Vertical:



| No. | Frequency<br>(MHz) | Reading<br>(dBuV/m) | Correct<br>Factor(dB) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Degree<br>( ° ) | Height<br>(cm) | Remark |
|-----|--------------------|---------------------|-----------------------|--------------------|-------------------|----------------|-----------------|----------------|--------|
| 1   | 30.8893            | 30.20               | 6.77                  | 36.97              | 40.00             | -3.03          | 205             | 112            | QP     |
| 2   | 47.9940            | 26.00               | 8.07                  | 34.07              | 40.00             | -5.93          | 221             | 105            | peak   |

Note: emissions are only the base noise in frequency 1GHz~6GHz.

## 5. EN 61000-3-2 HARMONIC CURRENT EMISSIONS

### 5.1 Test Equipment List and Details

| Description            | Manufacturer           | Model   | Serial Number | Cal. Date  | Due. Date  |
|------------------------|------------------------|---------|---------------|------------|------------|
| Digital Power Analyzer | Em Test AG/Switzerland | DPA 500 | V0745103095   | 2010-12-20 | 2011-12-19 |
| Source                 | Em Test AG/Switzerland | ACS 500 | V0745103096   | 2010-12-20 | 2011-12-19 |

### 5.2 Test Procedure

Test is conducting under the description of EN61000-3-2: 2006+A2: 2009

### 5.3 Test Standards

EN61000-3-2: 2006+A2: 2009

Limit: Clause 7

### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 22 °C     |
| Relative Humidity: | 48%       |
| ATM Pressure:      | 1022 mbar |

### 5.4 EN 61000-3-2: Harmonic Current Emissions Test Data

According to Clause 7 of EN 61000-3-2:2006+A2: 2009, the EUT (rated power is 5W) is less than 75W, belong to 'equipment with a rated power of 75W or less', therefore 'limits are not specified in this edition of the standards'. It is deem to full fit the requirements of the standards.

Test Result: Pass

## 6. EN 61000-3-3 VOLTAGE FLUCTUATION AND FLICKER

### 6.1 Test Equipment List and Details

| Description            | Manufacturer           | Model   | Serial Number | Cal. Date  | Due. Date  |
|------------------------|------------------------|---------|---------------|------------|------------|
| Digital Power Analyzer | Em Test AG/Switzerland | DPA 500 | V0745103095   | 2010-12-20 | 2011-12-19 |
| Source                 | Em Test AG/Switzerland | ACS 500 | V0745103096   | 2010-12-20 | 2011-12-19 |

### 6.2 Test Procedure

Test is conducting under the description of EN61000-3-3: 2008

### 6.3 Test Standards

EN61000-3-3: 2008

Limit: Clause 5

### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 22 °C     |
| Relative Humidity: | 48%       |
| ATM Pressure:      | 1022 mbar |

### 6.4 EN 61000-3-3: Voltage Fluctuation and Flicker Test Data

#### Flicker Test Summary per EN/IEC61000-3-3 (Run time)

EUT: AC/DC ADAPTOP

Tested by: Jason Jiang

Test category: All parameters (European limits)

Test Margin: 100

Test date: 2011-9-2

Start time: 09:51:50 AM

End time: 10:02:12 AM

Test duration (min): 10

Data file name: F-000184.cts\_data

Comment: Full load

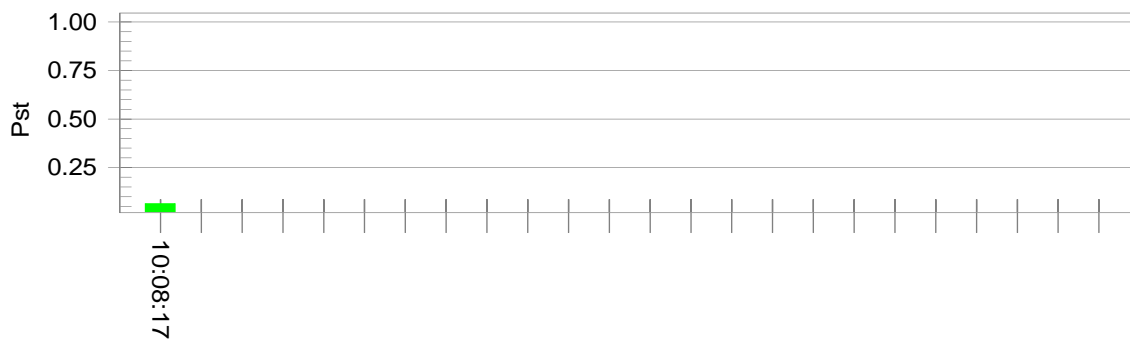
Customer: Smart Zone

Test Result: Pass

Status: Test Completed

Pst<sub>i</sub> and limit line

European Limits



#### Plt and limit line



#### Parameter values recorded during the test:

Vrms at the end of test (Volt): 230.17

|                               |       |                  |       |      |
|-------------------------------|-------|------------------|-------|------|
| Highest dt (%):               | 0.00  | Test limit (%):  | 3.30  | Pass |
| Time(mS) > dt:                | 0.0   | Test limit (mS): | 500.0 | Pass |
| Highest dc (%):               | 0.00  | Test limit (%):  | 3.30  | Pass |
| Highest dmax (%):             | 0.00  | Test limit (%):  | 4.00  | Pass |
| Highest Pst (10 min. period): | 0.064 | Test limit:      | 1.000 | Pass |
| Highest Plt (2 hr. period):   | 0.028 | Test limit:      | 0.650 | Pass |

Test Result: Pass



## EXHIBIT 1- PRODUCT LABELING

### Proposed CE Label Format



Specifications: Text is Black in color and is justified. Labels are printed in indelible ink on permanent adhesive backing or silk-screened onto the EUT or shall be affixed at a conspicuous location on the EUT.

### Proposed Label Location on EUT

CE Label Location



## EXHIBIT 2 - EUT PHOTOGRAPHS

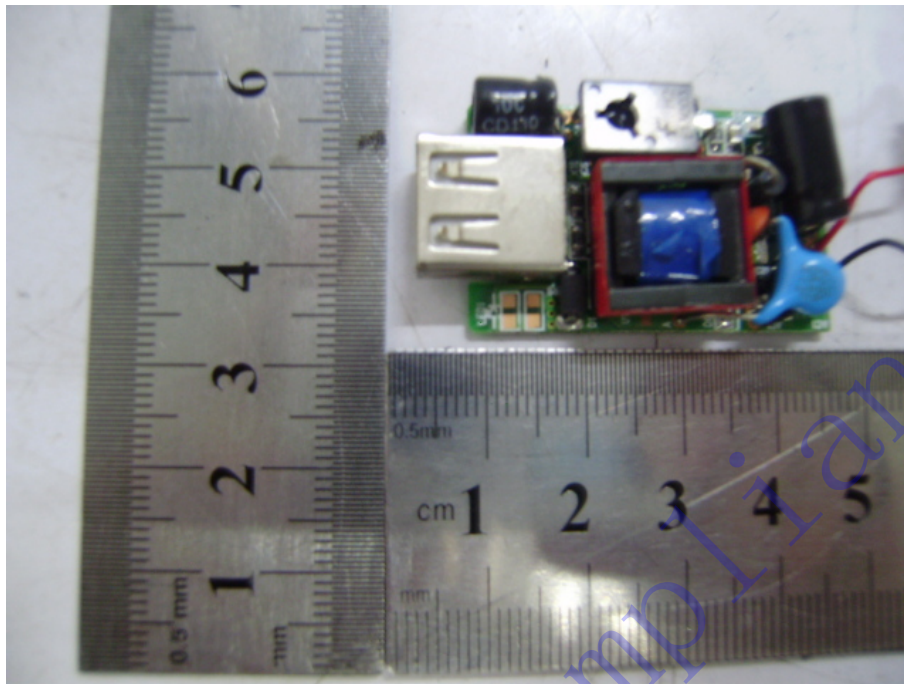
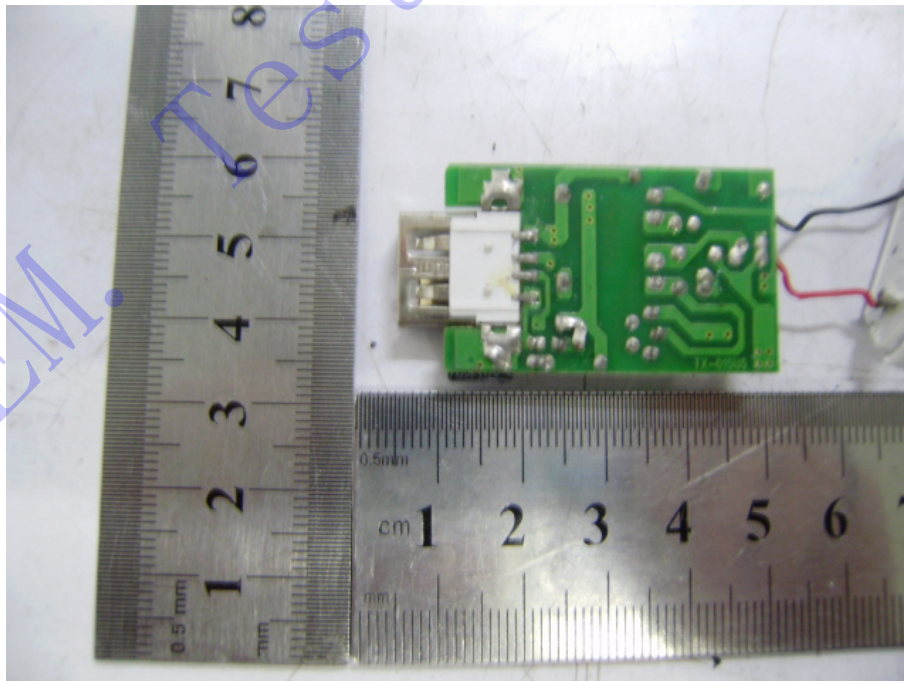
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EUT View 1



EUT View 2



**Solder Board-Component View 1****Solder Board-Component View 2**



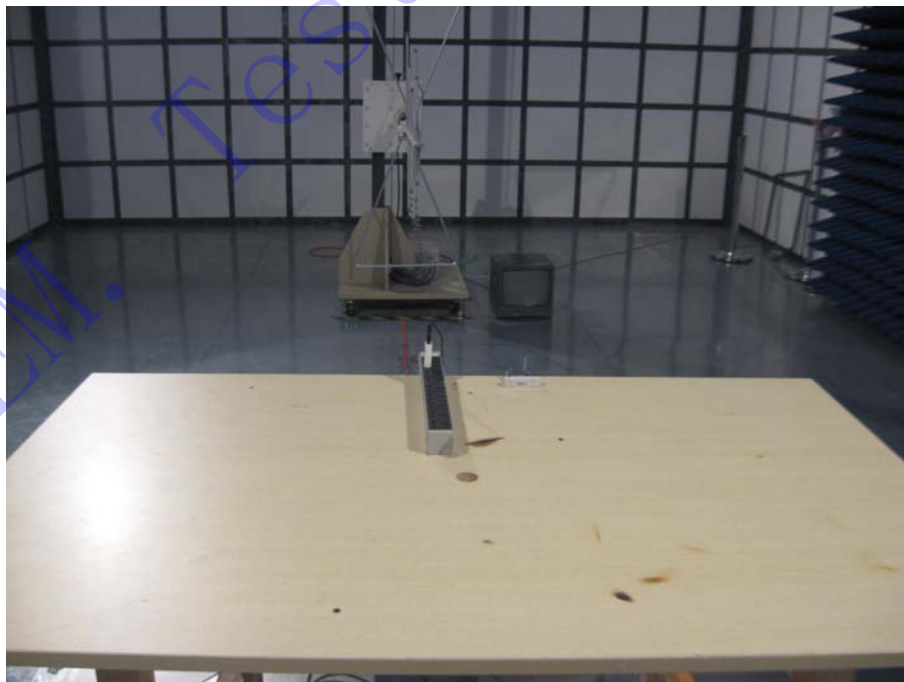
## EXHIBIT 3 - TEST SETUP PHOTOGRAPHS

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### Conduction Emission Test View



### Radiation Emission Test View



**IEC61000-3-3 Test View**



**EXHIBIT 4 - SCHEMATICS**

---

**EXHIBIT 5 - USERS MANUAL**

---

**\*\*\*\*\* END OF REPORT \*\*\*\*\***