

# EMC TEST REPORT

**REPORT NO. :** RM941208L11B

**MODEL NO. :** SDC-CF10G

**RECEIVED :** Jul. 18, 2006

**TESTED :** Jul. 27 ~ Jul. 31, 2006

**ISSUED :** Aug. 01, 2006

**APPLICANT:** Summit Data Communications, Inc.

**ADDRESS:** 526 South Main Street Suite 411, Akron, Ohio,  
44311 United States

**ISSUED BY:** Advance Data Technology Corporation

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**TEST LOCATION:** No. 19, Hwa Ya 2<sup>nd</sup> Rd, Wen Hwa Tsuen, Kwei Shan  
Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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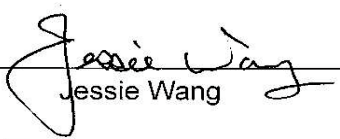
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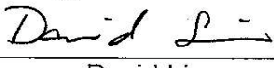


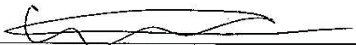
# 1 CERTIFICATION

**PRODUCT:** SDC-CF10G 802.11g Compact Flash Module with Antenna Connectors  
**MODEL:** SDC-CF10G  
**BRAND:** Summit  
**TESTED:** Jul. 27 ~ Jul. 31, 2006  
**APPLICANT:** Summit Data Communications, Inc.  
**TEST SAMPLE:** ENGINEERING SAMPLE  
**STANDARDS:** EN 301 489-1 V1.5.1 (2004-11)  
 EN 301 489-17 V1.2.1 (2002-08)  
 EN 55022:1998+A1:2000+A2:2003, Class B  
 EN 61000-4-2:1995+A1:1998+A2:2001  
 EN 61000-4-3:2002+A1:2002

The above equipment have been tested by **Advance Data Technology Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**PREPARED BY :**  , **DATE :** Aug. 01, 2006  
 Jessie Wang

**TECHNICAL ACCEPTANCE :**  , **DATE :** Aug. 01, 2006  
 Responsible for EMC David Liu

**APPROVED BY :**  , **DATE :** Aug. 01, 2006  
 Clark Lin / Deputy Manager

## 2 SUMMARY OF TEST RESULTS

After estimating all the combination of every test mode, the result shown as below is the worst case.

The EUT has been tested according to the following specifications:

| EMISSION                                   |                |        |  |
|--|----------------|--------|--|
| Standard                                   | Test Type      | Result | Remarks  |
| EN 55022:1998+A1:<br>2000+A2:2003, Class B | Conducted Test | PASS   | Meets Class B Limit<br>Minimum passing margin is<br>-13.82dB at 0.207MHz |
|  | Radiated Test  | NA     | Not Applicable   |

**NOTE:** The information of measurement uncertainty is available upon the customer's request.

| IMMUNITY (EN 301 489-1 V1.5.1, EN 301 489-17 V1.2.1) |  |        |  |
|--|--|--------|--|
| Standard   | Test Type  | Result | Remarks  |
| EN 61000-4-2:1995<br>+A1:1998+A2:2001                | Electrostatic discharge<br>immunity test                             | PASS   | Meets the requirements of<br>Performance Criterion A |
| EN 61000-4-3:2002<br>+A1:2002                        | Radiated, radio-frequency,<br>electromagnetic field immunity<br>test | PASS   | Meets the requirements of<br>Performance Criterion A |

**NOTE:** Please refer to Item 3.3 for more detailed description.

### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

|                              |   |
|------------------------------|---|
| <b>PRODUCT</b>               | SDC-CF10G 802.11g Compact Flash Module with Antenna Connectors  |
| <b>MODEL NO.</b>             | SDC-CF10G   |
| <b>POWER SUPPLY</b>          | 3.3Vdc from host equipment                                      |
| <b>MODULATION TYPE</b>       | CCK, DQPSK, DBPSK for DSSS<br>64QAM, 16QAM, QPSK, BPSK for OFDM |
| <b>MODULATION TECHNOLOGY</b> | DSSS, OFDM  |
| <b>TRANSFER RATE</b>         | 802.11b:11/5.5/2/1Mbps<br>802.11g: 54/48/36/24/18/12/9/6Mbps    |
| <b>NUMBER OF CHANNEL</b>     | 13  |
| <b>OPERATING FREQUENCY</b>   | 2400 ~ 2483.5MHz  |
| <b>ANTENNA TYPE</b>          | Dipole antenna with 2.2dBi gain                                 |
| <b>I/O PORTS</b>             | NA  |
| <b>DATA CABLE</b>            | NA  |

**NOTE:**

1. This report is issued as a supplementary report of the original report (ADT report No.: RM941208L11). The main difference is changing the antenna.
2. The EUT will be installed in the platform: (1) Mobile Data Terminals (MDTs), (2) Vehicle Mounted Devices (VMDs).
3. The EUT, operates in the 2.4GHz frequency range, lets you connect IEEE 802.11g or IEEE 802.11b devices to the network. With its high-speed data transmissions of up to 54Mbps.
4. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

### 3.2 DESCRIPTION OF TEST MODE

The EUT was tested under following conditions:

| CONDITION | CONFIGURATION |
|-----------|---------------|
| 1         | Transmission  |
| 2         | Standby       |

### 3.3 GENERAL DESCRIPTION OF APPLIED STANDARD

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**EN 301 489-1 V1.5.1 (2004-11), EN 301 489-17 V1.2.1 (2002-08)**

EN 55022:1998+A1:2000+A2:2003, Class B (Conducted Emission Test)

EN 61000-4-2:1995+A1: 1998+A2:2001

EN 61000-4-3:2002+A1:2002

According to clause 7.1 (table 2) and clause 7.2 (table 3) of **EN 301 489-1 V1.5.1 (2004-11)**, all test items have been performed and recorded as per the above standards.

### 3.4 DESCRIPTION OF SUPPORT UNIT

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

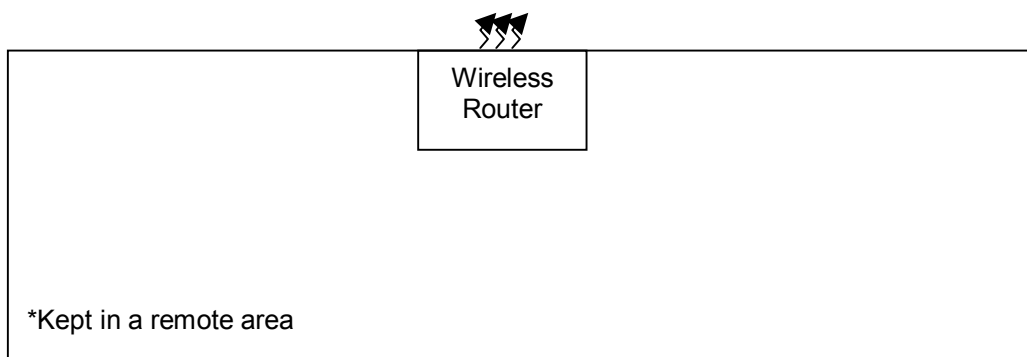
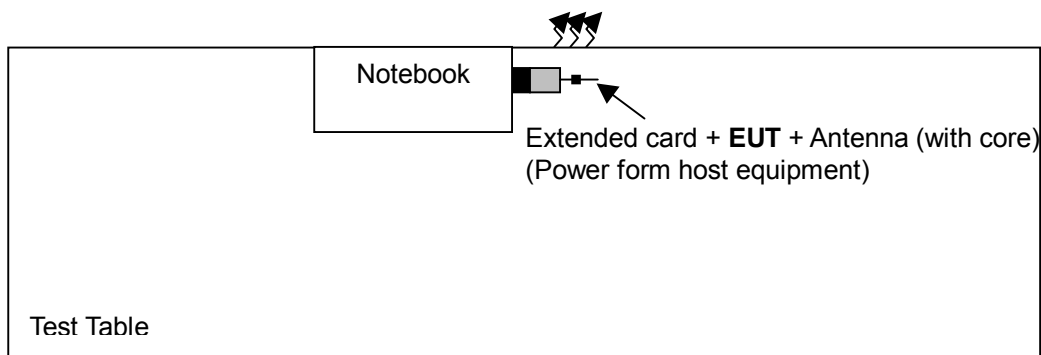
| NO. | PRODUCT                   | BRAND   | MODEL NO. | SERIAL NO.     | FCC ID           |
|-----|---------------------------|---------|-----------|----------------|------------------|
| 1   | NOTEBOOK                  | Compaq  | N800C     | 470048-515     | FCC DoC Approved |
| 2   | WIRELESS BROADBAND ROUTER | BUFFALO | WBR-G54   | 14070444314455 | FCC DoC Approved |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|-----|---|
| 1   | NA  |
| 2   | NA  |

**NOTE:**

1. All power cords of the above support units are non shielded (1.8m).
2. Item 2 acted as communication partners to transfer data.

### 3.5 CONFIGURATION OF SYSTEM UNDER TEST



## 4 EMISSION TEST

### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

| FREQUENCY (MHz) | Class A (dBuV) |         | Class B (dBuV) |         |
|-----------------|----------------|---------|----------------|---------|
|                 | Quasi-peak     | Average | Quasi-peak     | Average |
| 0.15 - 0.5      | 79             | 66      | 66 - 56        | 56 - 46 |
| 0.50 - 5.0      | 73             | 60      | 56             | 46      |
| 5.0 - 30.0      | 73             | 60      | 60             | 50      |

- NOTE:**
- (1) The lower limit shall apply at the transition frequencies.
  - (2) The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
  - (3) All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

#### 4.1.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER       | MODEL NO.   | SERIAL NO.     | CALIBRATED UNTIL |
|----------------------------------|-------------|----------------|------------------|
| Test Receiver<br>ROHDE & SCHWARZ | ESCS30      | 100291         | Nov. 11, 2006    |
| RF signal cable<br>Woken         | 5D-FB       | Cable-HYC01-01 | Jan. 06, 2007    |
| LISN<br>ROHDE & SCHWARZ          | ESH3-Z5     | 100312         | Feb. 15, 2007    |
| LISN<br>ROHDE & SCHWARZ          | ESH2-Z5     | 100104         | Feb. 07, 2007    |
| Software<br>ADT                  | ADT_Cond_V3 | NA             | NA               |

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  2. The test was performed in HwaYa Shielded Room 1.
  3. The VCCI Site Registration No. is C-2040.



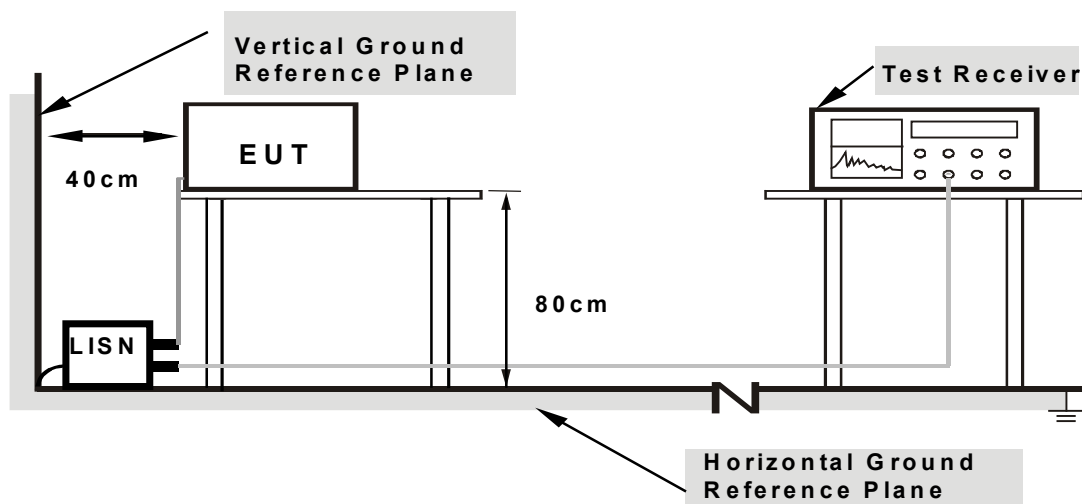
#### 4.1.3 TEST PROCEDURE

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under Limit - 20dB was not recorded.

#### 4.1.4 DEVIATION FROM TEST STANDARD

No deviation.

#### 4.1.5 TEST SETUP



- Note:**
- 1.Support units were connected to second LISN.
  - 2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

FOR THE ACTUAL TEST CONFIGURATION, PLEASE REFER TO THE RELATED ITEM – PHOTOGRAPHS OF THE TEST CONFIGURATION.

#### 4.1.6 EUT OPERATING CONDITIONS

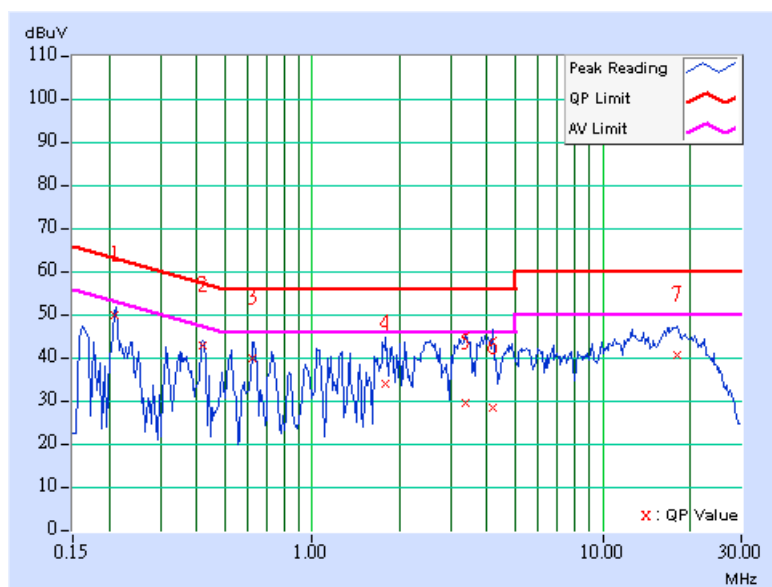
- a. Plugged EUT in notebook system and placed on the testing table.
- b. Prepared the wireless broadband router and placed it outside of testing area to act as communication partner for EUT.
- c. The communication partner sent data to EUT by command "PING".

#### 4.1.7 TEST RESULTS

|                                 |                          |                      |        |
|---------------------------------|--------------------------|----------------------|--------|
| <b>INPUT POWER (SYSTEM)</b>     | 230Vac, 50 Hz            | <b>6dB BANDWIDTH</b> | 9 kHz  |
| <b>ENVIRONMENTAL CONDITIONS</b> | 23deg. C, 66% RH, 991hPa | <b>PHASE</b>         | Line 1 |
| <b>TESTED BY</b>                | Dark Su                  |                      |        |

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] |       | Emission Level [dB (uV)] |       | Limit [dB (uV)] |       | Margin (dB) |       |
|----|-------------|-------------------|-------------------------|-------|--------------------------|-------|-----------------|-------|-------------|-------|
|    |             |                   | Q.P.                    | AV.   | Q.P.                     | AV.   | Q.P.            | AV.   | Q.P.        | AV.   |
|    |             |                   | 1                       | 0.207 | 0.10                     | 49.39 | -               | 49.49 | -           | 63.31 |
| 2  | 0.420       | 0.10              | 42.17                   | -     | 42.27                    | -     | 57.46           | 47.46 | -15.18      | -     |
| 3  | 0.623       | 0.14              | 39.19                   | -     | 39.33                    | -     | 56.00           | 46.00 | -16.67      | -     |
| 4  | 1.789       | 0.20              | 33.37                   | -     | 33.57                    | -     | 56.00           | 46.00 | -22.43      | -     |
| 5  | 3.355       | 0.38              | 28.76                   | -     | 29.14                    | -     | 56.00           | 46.00 | -26.86      | -     |
| 6  | 4.188       | 0.47              | 27.68                   | -     | 28.15                    | -     | 56.00           | 46.00 | -27.85      | -     |
| 7  | 17.965      | 0.75              | 40.09                   | -     | 40.84                    | -     | 60.00           | 50.00 | -19.16      | -     |

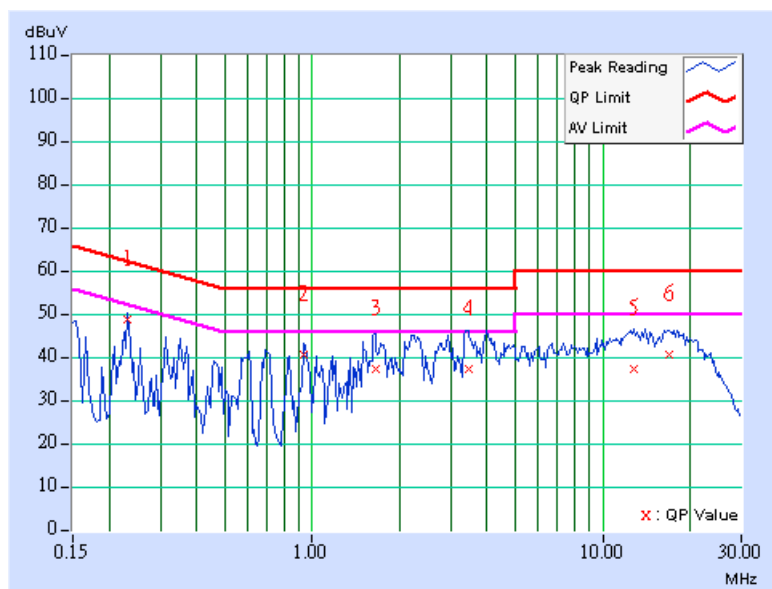
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.



|                                 |                          |                      |        |
|---------------------------------|--------------------------|----------------------|--------|
| <b>INPUT POWER (SYSTEM)</b>     | 230Vac, 50 Hz            | <b>6dB BANDWIDTH</b> | 9 kHz  |
| <b>ENVIRONMENTAL CONDITIONS</b> | 23deg. C, 66% RH, 991hPa | <b>PHASE</b>         | Line 2 |
| <b>TESTED BY</b>                | Dark Su                  |                      |        |

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] |       | Emission Level [dB (uV)] |       | Limit [dB (uV)] |       | Margin (dB) |       |
|----|-------------|-------------------|-------------------------|-------|--------------------------|-------|-----------------|-------|-------------|-------|
|    |             |                   | Q.P.                    | AV.   | Q.P.                     | AV.   | Q.P.            | AV.   | Q.P.        | AV.   |
|    |             |                   | 1                       | 0.232 | 0.10                     | 48.20 | -               | 48.30 | -           | 62.38 |
| 2  | 0.939       | 0.10              | 40.23                   | -     | 40.33                    | -     | 56.00           | 46.00 | -15.67      | -     |
| 3  | 1.648       | 0.16              | 36.83                   | -     | 36.99                    | -     | 56.00           | 46.00 | -19.01      | -     |
| 4  | 3.453       | 0.32              | 36.71                   | -     | 37.03                    | -     | 56.00           | 46.00 | -18.97      | -     |
| 5  | 12.801      | 0.50              | 36.87                   | -     | 37.37                    | -     | 60.00           | 50.00 | -22.63      | -     |
| 6  | 16.863      | 0.57              | 40.22                   | -     | 40.79                    | -     | 60.00           | 50.00 | -19.21      | -     |

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.



## 5 IMMUNITY TEST

### 5.1 GENERAL DESCRIPTION

|  |   |   |
|--|---|---|
| <b>Product Standard</b>  | <b>EN 301 489-1 V1.5.1 (2004-11), EN 301 489-17 V1.2.1(2002-08)</b> |   |
| <b>Basic Standard, Specification, and Performance Criterion required</b> | EN 61000-4-2  | Electrostatic Discharge – ESD:<br>8kV air discharge, 4kV Contact discharge,<br>Performance Criterion B  |
|  | EN 61000-4-3  | Radio-Frequency Electromagnetic Field<br>Susceptibility Test – RS:<br>80 ~ 1000 MHz, 1400 ~ 2000 MHz, 3V/m, 80%<br>AM (1kHz), Performance Criterion A |

### 5.2 GENERAL PERFORMANCE CRITERIA DESCRIPTION

| The Requirement of Performance Criteria |  |   |
|---|--|---|
| 1                                       | Performance criteria for continuous phenomena applied to transmitters (CT) | Criterion A of the applicable class shall apply |
| 2                                       | Performance criteria for transient phenomena applied to transmitters (TT)  | Criterion B of the applicable class shall apply |
| 3                                       | Performance criteria for continuous phenomena applied to receivers (CR)    | Criterion A of the applicable class shall apply |
| 4                                       | Performance criteria for transient phenomena applied to receivers (TR)     | Criterion B of the applicable class shall apply |

The phenomena allowed during and after test in each criterion are clearly stated in the following table.

| Performance criteria |   |  |
|----------------------|---|--|
| Criteria             | During test   | After test   |
| A                    | Shall operate as intended.<br>May show degradation of performance (see note1).<br>Shall be no loss of function.<br>Shall be no unintentional transmissions. | Shall operate as intended.<br>Shall be no degradation of performance (see note 2).<br>Shall be no loss of function.<br>Shall be no loss of stored data or user programmable functions.                         |
| B                    | May show loss of function (one or more).<br>May show degradation of performance (see note 1).<br>No unintentional transmissions.                            | Functions shall be self-recoverable.<br>Shall operate as intended after recovering.<br>Shall be no degradation of performance (see note 2).<br>Shall be no loss of stored data or user programmable functions. |
| C                    | May be loss of function (one or more).  | Functions shall be recoverable by the operator.<br>Shall operate as intended after recovering.<br>Shall be no degradation of performance (see note 2).   |

**NOTE 1:** Degradation of performance during the test is understood as a degradation to a level not below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance.

If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.

**NOTE 2:** No degradation of performance after the test is understood as no degradation below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. After the test no change of actual operating data or user retrievable data is allowed.

If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.

### 5.3 EUT OPERATING CONDITION

Same as 4.1.6

## 5.4 ELECTROSTATIC DISCHARGE IMMUNITY TEST (ESD)

### 5.4.1 TEST SPECIFICATION

|                             |  |
|-----------------------------|--|
| <b>Basic Standard:</b>      | EN 61000-4-2   |
| <b>Discharge Impedance:</b> | 330 ohm / 150 pF   |
| <b>Discharge Voltage:</b>   | Air Discharge : 2; 4; 8 kV (Direct)<br>Contact Discharge : 2; 4 kV (Direct/Indirect) |
| <b>Polarity:</b>            | Positive & Negative  |
| <b>Number of Discharge:</b> | Minimum 20 times at each test point  |
| <b>Discharge Mode:</b>      | Single Discharge   |
| <b>Discharge Period:</b>    | 1 second minimum   |

### 5.4.2 TEST INSTRUMENT

| DESCRIPTION & MANUFACTURER                 | MODEL NO. | SERIAL NO. | CALIBRATED UNTIL |
|--|-----------|------------|------------------|
| Thermo ESD Simulator                       | MZ-15/EC  | 0310225    | Sep. 29, 2006    |
| ELECTROSTATIC DISCHARGE                    | ESD 30C   | 1003-18    | Jan. 08, 2007    |
| NOISEKEN ELECTRONIC<br>DISCHARGE SIMULATOR | ESS-2000  | ESS0382041 | Jan. 10, 2007    |

- NOTE:** 1. The test was performed in Hwa Ya ESD Room No. 1.  
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 5.4.3 TEST PROCEDURE

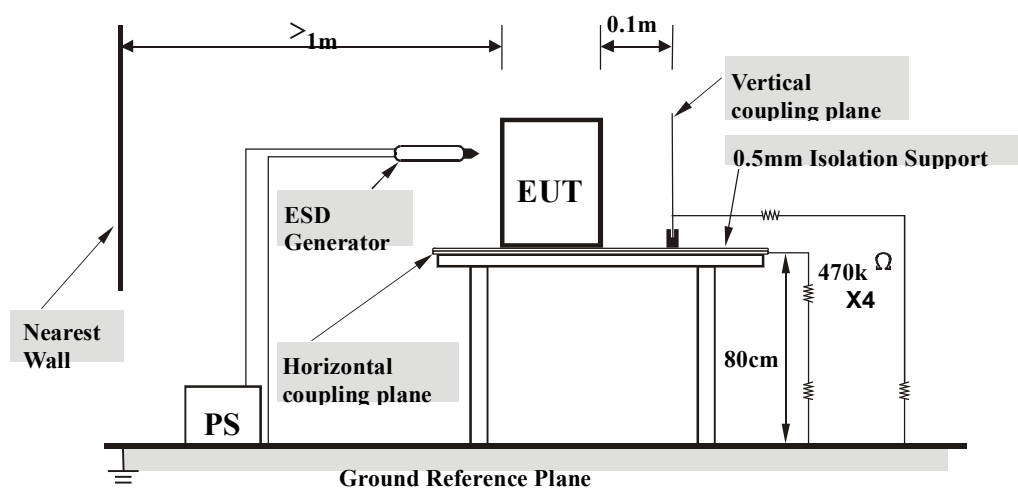
- a. Electrostatic discharges were applied only to those points and surfaces of the EUT that are accessible to users during normal operation.
- b. The test was performed with at least ten single discharges on the pre-selected points in the most sensitive polarity.
- c. The time interval between two successive single discharges was at least 1 second.
- d. The ESD generator was held perpendicularly to the surface to which the discharge was applied and the return cable was at least 0.2 meters from the EUT.
- e. Contact discharges were applied to the non-insulating coating, with the pointed tip of the generator penetrating the coating and contacting the conducting substrate.
- f. Air discharges were applied with the round discharge tip of the discharge electrode approaching the EUT as fast as possible (without causing mechanical damage) to touch the EUT. After each discharge, the ESD generator was removed from the EUT and re-triggered for a new single discharge. The test was repeated until all discharges were complete.
- g. At least ten single discharges (in the most sensitive polarity) were applied to the **Horizontal Coupling Plane** at points on each side of the EUT. The ESD generator was positioned vertically at a distance of 0.1 meters from the EUT with the discharge electrode touching the **HCP**.
- h. At least ten single discharges (in the most sensitive polarity) were applied to the center of one vertical edge of the **Vertical Coupling Plane** in sufficiently different positions that the four faces of the EUT were completely illuminated. The **VCP** (dimensions 0.5m x 0.5m) was placed vertically to and 0.1 meters from the EUT.

### 5.4.4 DEVIATION FROM TEST STANDARD

No deviation.



## 5.4.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

### NOTE:

#### TABLE-TOP EQUIPMENT

The configuration consisted of a wooden table 0.8 meters high standing on the **Ground Reference Plane**. The **GRP** consisted of a sheet of aluminum at least 0.25mm thick, and 2.5 meters square connected to the protective grounding system. A **Horizontal Coupling Plane** (1.6m x 0.8m) was placed on the table and attached to the **GRP** by means of a cable with 940kΩ total impedance. The equipment under test, was installed in a representative system as described in section 7 of EN 61000-4-2 and its cables were placed on the **HCP** and isolated by an insulating support of 0.5mm thickness. A distance of 1-meter minimum was provided between the EUT and the walls of the laboratory and any other metallic structure.



### 5.4.6 TEST RESULTS

|                                 |                            |                             |               |
|---------------------------------|----------------------------|-----------------------------|---------------|
| <b>ENVIRONMENTAL CONDITIONS</b> | 27deg.C, 53% RH,<br>980hPa | <b>INPUT POWER (SYSTEM)</b> | 230Vac, 50 Hz |
| <b>TESTED BY</b>                | JN Chen                    |                             |               |

| TEST RESULTS OF DIRECT APPLICATION |          |            |                   |               |             |
|------------------------------------|----------|------------|-------------------|---------------|-------------|
| Discharge Level (kV)               | Polarity | Test Point | Contact Discharge | Air Discharge | Test Result |
| 2 ; 4 ; 8                          | +/-      | 2          | NA                | NOTE          | PASS        |
| 2 ; 4                              | +/-      | 1          | NOTE              | NA            | PASS        |

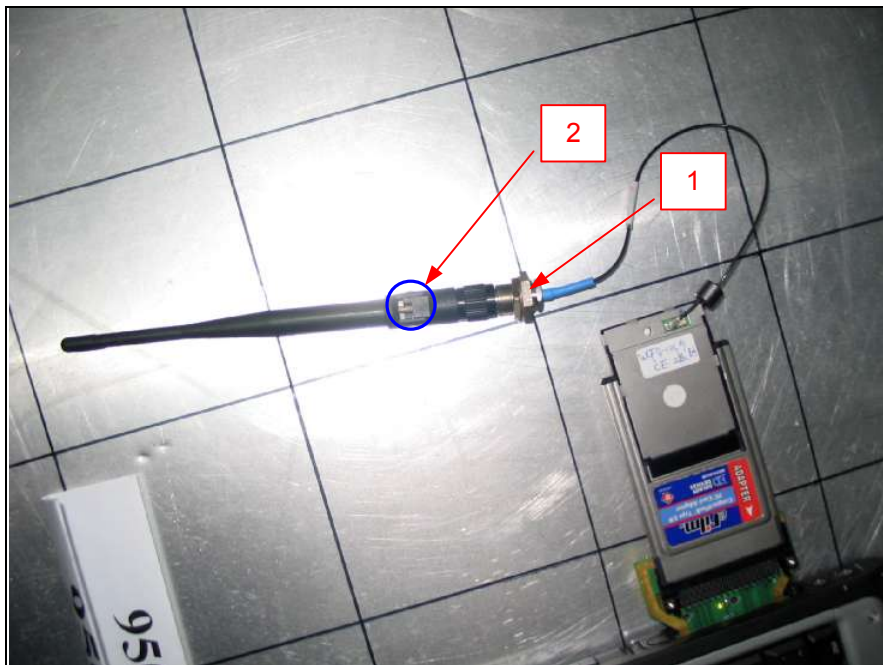
**Description of test point:** Please refers to following pages for representative mark only.

| TEST RESULTS OF INDIRECT APPLICATION |          |            |                           |                         |             |
|--------------------------------------|----------|------------|---------------------------|-------------------------|-------------|
| Discharge Level (kV)                 | Polarity | Test Point | Horizontal Coupling Plane | Vertical Coupling Plane | Test Result |
| 2; 4                                 | +/-      | 4 sides    | NOTE                      | NOTE                    | PASS        |

**Description of test point:**

1. Front side                      2. Rear side                      3. Right side                      4. Left side

**NOTE:** There was no change compared with initial operation during and after the test. No unintentional response was found during the test.



## 5.5 RADIATED, RADIO-FREQUENCY, ELECTROMAGNETIC FIELD IMMUNITY TEST (RS)

### 5.5.1 TEST SPECIFICATION

|                             |  |
|-----------------------------|--|
| <b>Basic Standard:</b>      | EN 61000-4-3                             |
| <b>Frequency Range:</b>     | 80 MHz ~ 1000 MHz<br>1400 MHz ~ 2000 MHz |
| <b>Field Strength:</b>      | 3 V/m                                    |
| <b>Modulation:</b>          | 1 kHz Sine Wave, 80%, AM Modulation      |
| <b>Frequency Step:</b>      | 1 % of preceding frequency value         |
| <b>Polarity of Antenna:</b> | Horizontal and Vertical                  |
| <b>Test Distance:</b>       | 3 m                                      |
| <b>Antenna Height:</b>      | 1.5 m                                    |
| <b>Dwell Time:</b>          | at least 3 seconds                       |

### 5.5.2 TEST INSTRUMENT

| DESCRIPTION & MANUFACTURER | MODEL NO.   | SERIAL NO. | CALIBRATED UNTIL |
|----------------------------|-------------|------------|------------------|
| Boonton RF Power Meter     | 4232A-01-02 | 107402     | Nov. 20, 2006    |
| R&S Signal Generator       | SML03       | 101499     | Nov. 20, 2006    |
| AR ELECTRIC FIELD SENSOR   | FP 6001     | 307198     | Mar. 19, 2007    |
| Software                   | ADT_RS_V450 | NA         | NA               |

- NOTE:**
1. The test was performed in Hwa Ya RS Room.
  2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 5.5.3 TEST PROCEDURE

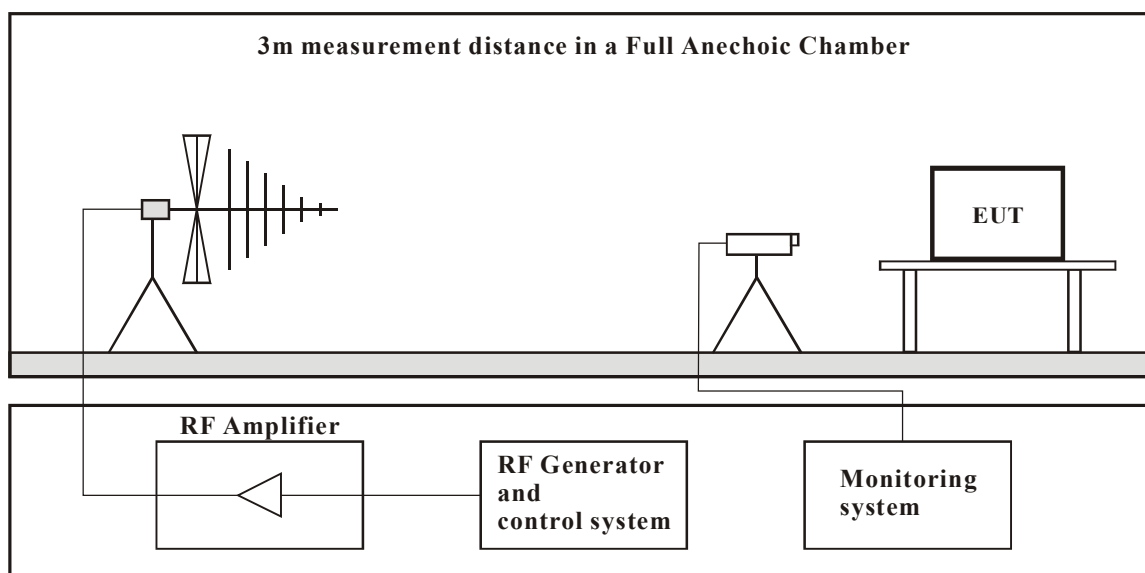
The test procedure was in accordance with EN 61000-4-3

- a. The testing was performed in a fully-anechoic chamber. The transmit antenna was located at a distance of 3 meters from the EUT.
- b. The frequency range is swept from 80 MHz to 1000 MHz, 1400 MHz to 2000 MHz with the signal 80% amplitude modulated with a 1kHz sinewave. The rate of sweep did not exceed  $1.5 \times 10^{-3}$  decade/s. Where the frequency range is swept incrementally, the step size was 1 % of preceding frequency value.
- c. The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.
- d. The field strength level was 3V/m.
- e. The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.

### 5.5.4 DEVIATION FROM TEST STANDARD

No deviation.

### 5.5.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

**NOTE:**

**TABLETOP EQUIPMENT**

The EUT installed in a representative system as described in section 7 of EN 61000-4-3 was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

### 5.5.6 TEST RESULTS

|                                 |                             |                             |               |
|---------------------------------|-----------------------------|-----------------------------|---------------|
| <b>ENVIRONMENTAL CONDITIONS</b> | 26deg. C, 52% RH,<br>994hPa | <b>INPUT POWER (SYSTEM)</b> | 230Vac, 50 Hz |
| <b>TESTED BY</b>                | JN Chen                     |                             |               |

| Frequency (MHz) | Polarity | Azimuth | Field Strength (V/m) | Observation | Test Result |
|-----------------|----------|---------|----------------------|-------------|-------------|
| 80 ~ 1000       | V&H      | 0       | 3                    | NOTE        | PASS        |
| 80 ~ 1000       | V&H      | 90      | 3                    | NOTE        | PASS        |
| 80 ~ 1000       | V&H      | 180     | 3                    | NOTE        | PASS        |
| 80 ~ 1000       | V&H      | 270     | 3                    | NOTE        | PASS        |
| 1400 ~ 2000     | V&H      | 0       | 3                    | NOTE        | PASS        |
| 1400 ~ 2000     | V&H      | 90      | 3                    | NOTE        | PASS        |
| 1400 ~ 2000     | V&H      | 180     | 3                    | NOTE        | PASS        |
| 1400 ~ 2000     | V&H      | 270     | 3                    | NOTE        | PASS        |

**NOTE:** There was no change compared with the initial operation during the test. No unintentional response was found during the test.

## 6 PHOTOGRAPHS OF THE TEST CONFIGURATION

### Conducted Emission Test





### ESD Test



### RS Test





## 7 INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025:

|                    |                       |
|--------------------|-----------------------|
| <b>USA</b>         | FCC, UL, A2LA         |
| <b>Germany</b>     | TUV Rheinland         |
| <b>Japan</b>       | VCCI                  |
| <b>Norway</b>      | NEMKO                 |
| <b>Canada</b>      | INDUSTRY CANADA , CSA |
| <b>R.O.C.</b>      | CNLA, BSMI, DGT       |
| <b>Netherlands</b> | Telefication          |
| <b>Singapore</b>   | PSB , GOST-ASIA(MOU)  |
| <b>Russia</b>      | CERTIS(MOU)           |

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: [www.adt.com.tw/index.5/phtml](http://www.adt.com.tw/index.5/phtml). If you have any comments, please feel free to contact us at the following:

### **Linko EMC/RF Lab**

Tel: 886-2-26052180  
Fax: 886-2-26051924

### **Hsin Chu EMC/RF Lab**

Tel: 886-3-5935343  
Fax: 886-3-5935342

### **Hwa Ya EMC/RF/Safety/Telecom Lab**

Tel: 886-3-3183232  
Fax: 886-3-3185050

**Web Site:** [www.adt.com.tw](http://www.adt.com.tw)

The address and road map of all our labs can be found in our web site also.