FCC EMC TEST REPORT CERTIFICATE

according to

47 CFR FCC Part 15 Subpart B

Equipment : 300N Wireless LAN USB Adapter

Model No. : EW-7822GTN, GWU-H822GTn,

EW-7722UTn V2, EW-7822UAN,

GWU-H822UAn

Brand Name : EDIMAX

Filing Type : New Application

Applicant : EDIMAX TECHNOLOGY CO., LTD.

No.3, Wu Chuan 3rd Road, Wu-Ku Industrial Park, Taipei Hsien, Taiwan

FCC ID : NDD9578221026

Manufacturer : EDIMAX TECHNOLOGY CO., LTD.

No.3, Wu Chuan 3rd Road, Wu-Ku Industrial Park, Taipei Hsien, Taiwan

Received Date : Dec. 27, 2010 Final Test Date : Jan. 21, 2011

Multiple Listing: Please refer to section 2.3

Statement

Test result included is only for the equipment with Dipole Antenna of the product.

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.4-2003** and **47 CFR FCC Part 15 Subpart B**.

The test equipment used to perform the test is calibrated and traceable to NML/ROC.





SPORTON International Inc.

No. 52 Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

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Issued Date : Jan. 28, 2011

History of This Test Report

Original Issue Date: Jan. 28, 2011

Report No.: FC110510

| Report No. | Issue Date | Description |
|------------|------------|-------------|
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CERTIFICATE OF COMPLIANCE CERTIFICATE

according to

47 CFR FCC Part 15 Subpart B

Equipment : 300N Wireless LAN USB Adapter

Model No. : EW-7822GTN, GWU-H822GTn,

EW-7722UTn V2, EW-7822UAN,

GWU-H822UAn

Brand Name : EDIMAX

Applicant : EDIMAX TECHNOLOGY CO., LTD.

No.3, Wu Chuan 3rd Road, Wu-Ku Industrial Park,

Taipei Hsien, Taiwan

WE HEREBY CERTIFY THAT:

The measurements shown in this test report were made in accordance with the procedures given in ANSI C63.4-2003 and the energy emitted by this equipment were passed 47 CFR FCC Part 15 Subpart B. Testing was carried out on Dec. 27, 2010 at SPORTON International Inc. LAB.

wayne risu / vice manager

SPORTON International Inc.

No. 52 Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

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1 SUMMARY OF THE TEST RESULT

| | | Applied Standard: 47 CFR FCC Part 15 Subpart B | | | | |
|------|--------------|--|-------------|----------|--|--|
| Part | Rule Section | Result | Under Limit | | | |
| 3.1 | 15.107 | AC Power Line Conducted Emissions | Complies | 18.69 dB | | |
| 3.2 | 15.109 | Radiated Emissions | Complies | 3.52 dB | | |

| Test Items | Uncertainty | Remark |
|-----------------------------------|-------------|--------------------------|
| AC Power Line Conducted Emissions | ±2.3dB | Confidence levels of 95% |
| Radiated Emissions | +1.9dB | Confidence levels of 95% |

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2 GENERAL INFORMATION

2.1 Product Details

The RF detail of EUT is shown in this report. For more detailed features description, please refer to the manufacturer's specifications or user's manual.

2.2 **Table for Test Modes**

Investigation has been done on the entire possible Configuration for searching the worst cases. The

following table is a list of the test modes shown in this test report.

| Test Items | Mode |
|-----------------------------------|---|
| AC Power Line Conducted Emissions | Normal Mode |
| Radiated Emissions (30MHz~1GHz) | Normal Mode |
| Radiated Emissions (Above 1GHz) | CRX 802.11g CH 6 / CRX 802.11n CH 6 (20MHz) / |
| | CRX 802.11n CH 6 (40MHz) |

2.3 Table for Multiple Listing

| No. | Brand Name | Model Name |
|-----|------------|---|
| 1 | Edimax | EW-7822GTN,GWU-H822GTn,EW-7722UTn V2, EW-7822UAN,GWU-H822UAn |
| 2 | Belkin | F7D2102 |

2.4 Table for Testing Locations

| Test Site No. | Site Category | Location |
|---------------|---------------|----------|
| CO04-HY | Conduction | Hwa Ya |
| 03CH02-HY | SAC | Hwa Ya |

Semi Anechoic Chamber (SAC).

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2.5 Table for Supporting Units

| Support Unit | Brand | Model | FCC ID | Remark |
|----------------------------------|-----------|----------|--------|-----------------------|
| Notebook | DELL | E5500 | DoC | |
| Modem | ACEEX | DM1414 | DoC | Conducted |
| (USB)Mouse | Microsoft | 1004 | DoC | Emissions |
| Wireless AP (Remote workstation) | D-Link | DNS-G120 | DoC | |
| Notebook | DELL | E5500 | DoC | 5 " |
| Modem | ACEEX | DM1414 | DoC | Radiated Emissions |
| (USB)Mouse | Microsoft | 1004 | DoC | |

2.6 EUT Operation during Test

An executive program, "EMCTEST.EXE" under WIN XP, which generates a complete line of continuously repeating "H" pattern was used as the test software.

The program was executed as follows:

- a. Turn on the power of all equipment.
- b. The NB reads the test program from the hard disk drive and runs it.
- c. The NB sends "H" messages to the monitor, and the monitor displays "H" patterns on the screen.
- d. The NB sends "H" messages to the modem.
- e. The NB sends "H" messages to the internal hard disk, and the hard disk reads and writes the message.
- f. Repeat the steps from c to e.

At the same time, the following programs were executed:

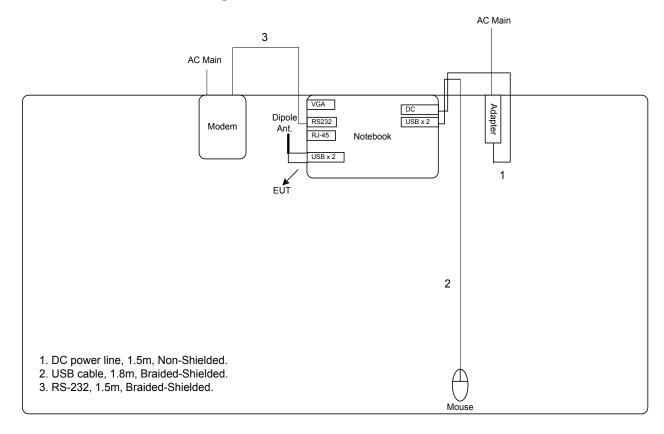
- Executed " Realtek 11n single chip 9xC USB WLAN NIC " to the internal hard disk, and the hard disk reads and writes the message.
- Executed "ping.exe" to link with the remote workstation to receive and transmit data by wireless.

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2.7 Test Configuration

Radiation Emissions Test Configuration



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3 TEST RESULT

3.1 AC Power Line Conducted Emissions Measurement

3.1.1 Limit

For this product which is designed to be connected to the AC power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed below limits table.

Class B

| Frequency (MHz) | QP Limit (dBuV) | AV Limit (dBuV) |
|-----------------|-----------------|-----------------|
| 0.15~0.5 | 66~56 | 56~46 |
| 0.5~5 | 56 | 46 |
| 5~30 | 60 | 50 |

3.1.2 Measuring Instruments and Setting

Please refer to section 4 of equipments list in this report. The following table is the setting of the receiver.

| Receiver Parameters | Setting |
|---------------------|----------|
| Attenuation | 10 dB |
| Start Frequency | 0.15 MHz |
| Stop Frequency | 30 MHz |
| IF Bandwidth | 9 KHz |

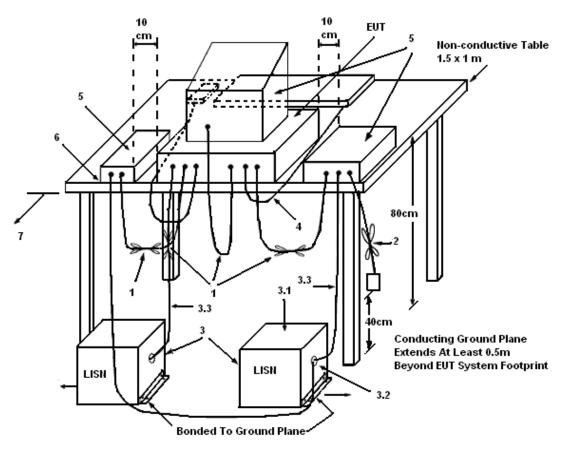
3.1.3 Test Procedures

- 1. The EUT warm up about 15 minutes then start test.
- 2. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
- 3. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
- 4. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
- 5. The frequency range from 150 KHz to 30 MHz was searched.
- 6. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- 7. The measurement has to be done between each power line and ground at the power terminal.

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3.1.4 Test Setup Layout



LEGEND:

- (1) Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- (2) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- (3) EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω . LISN can be placed on top of, or immediately beneath, reference ground plane.
- (3.1) All other equipment powered from additional LISN(s).
- (3.2) Multiple outlet strip can be used for multiple power cords of non-EUT equipment.
- (3.3) LISN at least 80 cm from nearest part of EUT chassis.
- (4) Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.
- (5) Non-EUT components of EUT system being tested.
- (6) Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.
- (7) Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

3.1.5 Test Deviation

There is no deviation with the original standard.

3.1.6 EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

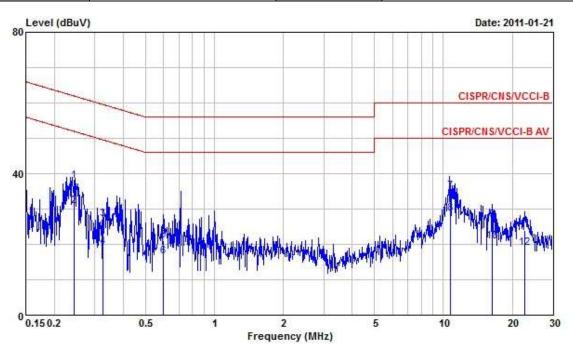
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3.1.7 Results of AC Power Line Conducted Emissions Measurement

| Final Test Date | Jan. 21, 2011 | Test Site No. | CO04-HY |
|-----------------|---------------|---------------|-------------|
| Temperature | 22.3 ℃ | Humidity | 56.6% |
| Test Engineer | Jason | Configuration | Normal Mode |

Line

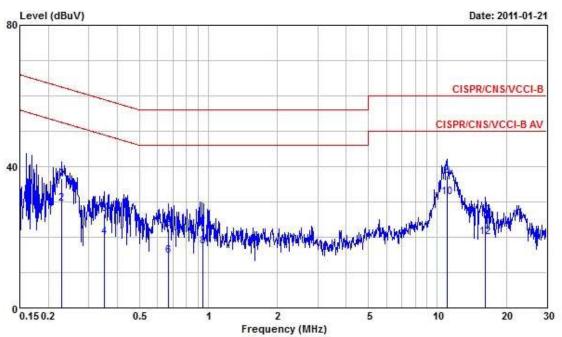


| | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|----|-----------|-------|---------------|---------------|---------------|----------------|---------------|---------|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | 0.2433010 | 37.83 | -24.15 | 61.98 | 37.68 | 0.08 | 0.07 | QP |
| 2 | 0.2433010 | 30.76 | -21.22 | 51.98 | 30.61 | 0.08 | 0.07 | Average |
| 3 | 0.3251370 | 26.99 | -32.58 | 59.57 | 26.87 | 0.09 | 0.03 | QP |
| 4 | 0.3251370 | 19.16 | -30.41 | 49.57 | 19.04 | 0.09 | 0.03 | Average |
| 5 | 0.5979430 | 20.93 | -35.07 | 56.00 | 20.79 | 0.10 | 0.04 | QP |
| 6 | 0.5979430 | 16.51 | -29.49 | 46.00 | 16.37 | 0.10 | 0.04 | Average |
| 7 | 10.780 | 34.89 | -25.11 | 60.00 | 34.47 | 0.28 | 0.14 | QP |
| 8 | 10.780 | 28.65 | -21.35 | 50.00 | 28.23 | 0.28 | 0.14 | Average |
| 9 | 16.310 | 26.96 | -33.04 | 60.00 | 26.38 | 0.34 | 0.24 | QP |
| 10 | 16.310 | 20.78 | -29.22 | 50.00 | 20.20 | 0.34 | 0.24 | Average |
| 11 | 22.660 | 24.04 | -35.96 | 60.00 | 23.39 | 0.44 | 0.21 | QP |
| 12 | 22.660 | 18.95 | -31.05 | 50.00 | 18.30 | 0.44 | 0.21 | Average |

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Neutral



| | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|----|-----------|-------|---------------|---------------|---------------|----------------|---------------|---------|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | × |
| 1 | 0.2291780 | 36.57 | -25.91 | 62.48 | 36.41 | 0.08 | 0.08 | QP |
| 2 | 0.2291780 | 29.58 | -22.90 | 52.48 | 29.42 | 0.08 | 0.08 | Average |
| 3 | 0.3520120 | 26.45 | -32.46 | 58.91 | 26.35 | 0.08 | 0.02 | QP |
| 4 | 0.3520120 | 19.97 | -28.94 | 48.91 | 19.87 | 0.08 | 0.02 | Average |
| 5 | 0.6718660 | 22.42 | -33.58 | 56.00 | 22.27 | 0.09 | 0.06 | QP |
| 6 | 0.6718660 | 14.85 | -31.15 | 46.00 | 14.70 | 0.09 | 0.06 | Average |
| 7 | 0.9476250 | 22.64 | -33.36 | 56.00 | 22.45 | 0.10 | 0.09 | QP |
| 8 | 0.9476250 | 17.47 | -28.53 | 46.00 | 17.28 | 0.10 | 0.09 | Average |
| 9 | 11.020 | 37.25 | -22.75 | 60.00 | 36.82 | 0.28 | 0.15 | QP |
| 10 | 11.020 | 31.31 | -18.69 | 50.00 | 30.88 | 0.28 | 0.15 | Average |
| 11 | 16.230 | 26.36 | -33.64 | 60.00 | 25.76 | 0.35 | 0.25 | QP |
| 12 | 16.230 | 19.98 | -30.02 | 50.00 | 19.38 | 0.35 | 0.25 | Average |

Note:

Level = Read Level + LISN Factor + Cable Loss.

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3.2 Radiated Emissions Measurement

3.2.1 Limit

Measurements shall be made with a quasi-peak measuring receiver in the frequency range 30 MHz to 5th harmonic of highest frequency. The quasi-peak measuring receiver shall be in accordance with clause 2 of CISPR 16-1. Receivers with peak detectors shall be in accordance with clause 3 of CISPR 16-1, and shall have a 6 dB bandwidth in accordance with clause 2 of CISPR 16-1.

| Frequency of Emission (MHz) | Field Strength QP Limit (dBuV/m) at 3m |
|-----------------------------|--|
| 30~88 | 40 |
| 88~216 | 43.5 |
| 216~960 | 46 |

3.2.2 Measuring Instruments and Setting

Please refer to section 4 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

| Receiver Parameter | Setting |
|------------------------|----------------------------------|
| Attenuation | Auto |
| Start ~ Stop Frequency | 30MHz~1000MHz / RB 120kHz for QP |

| Spectrum Parameter | Setting |
|--------------------|---|
| Start Frequency | 1000 MHz |
| Stop Frequency | 5th harmonic of highest frequency |
| RB / VB | 1 MHz / 1MHz for Peak; 1 MHz / 10Hz for Average |

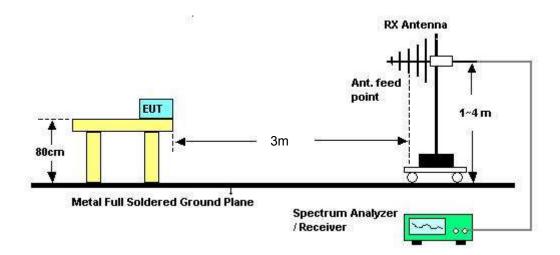
3.2.3 Test Procedures

- The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- 2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- 5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.

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3.2.4 Test Setup Layout



3.2.5 Test Deviation

There is no deviation with the original standard.

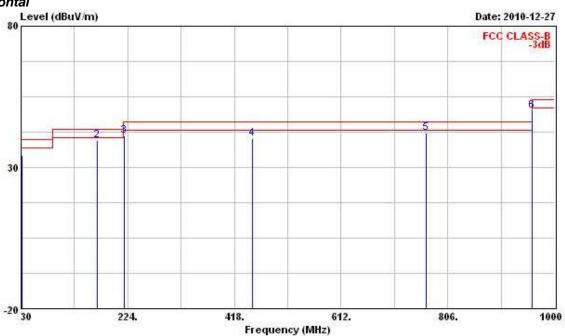
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3.2.6 Results of Radiated Emissions (30MHz~1GHz)

| Final Test Date | Dec. 27, 2010 | Test Site No. | 03CH02-HY |
|-----------------|---------------|---------------|-------------|
| Temperature | 21 ℃ | Humidity | 52% |
| Test Engineer | Chris | Configuration | Normal Mode |

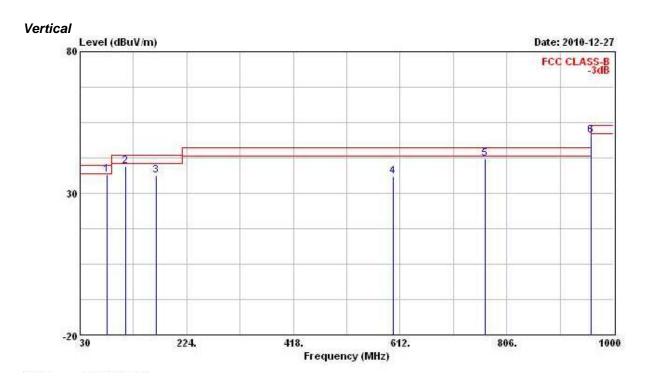
Horizontal



| | Freq | Level | Over Limit | Limit Line | | intenna Factor | | | Remark |
|---|---------|--------|---------------|---------------|-------|-------------------|------|-------|--------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | + |
| 1 | 31.940 | 34.16 | -5.84 | 40.00 | 44.42 | 17.30 | 0.75 | 28.31 | Peak |
| 2 | 167.740 | 39.66 | -3.84 | 43.50 | 55.63 | 9.81 | 2.16 | 27.94 | Peak |
| 3 | 218.180 | 41.23 | -4.77 | 46.00 | 57.57 | 9.20 | 2.51 | 28.05 | Peak |
| 4 | 450.980 | 40.17 | -5.83 | 46.00 | 47.89 | 17.13 | 3.66 | 28.52 | Peak |
| 5 | 766.230 | 42.07 | -3.93 | 46.00 | 46.23 | 20.73 | 4.96 | 29.85 | Peak |
| 6 | 960.230 | 50.02 | -3.98 | 54.00 | 52.57 | 21.24 | 5.91 | 29.70 | Peak |

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| | Freq | Level | Over Limit | | | Antenna Factor | | Preamp Factor | Remark |
|-----|---------|--------|---------------|--------|-------|-------------------|------|------------------|--------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | 1 |
| 1 @ | 78.500 | 36.48 | -3.52 | 40.00 | 55.75 | 7.03 | 1.49 | 27.80 | Peak |
| 2 | 113.420 | 39.69 | -3.81 | 43.50 | 53.06 | 12.49 | 1.82 | 27.68 | Peak |
| 3 | 167.740 | 36.40 | -7.10 | 43.50 | 52.37 | 9.81 | 2.16 | 27.94 | Peak |
| 4 | 599.390 | 35.86 | -10.14 | 46.00 | 41.89 | 19.30 | 4.59 | 29.92 | Peak |
| 5 | 766.230 | 42.20 | -3.80 | 46.00 | 46.36 | 20.73 | 4.96 | 29.85 | Peak |
| 6 | 960.230 | 50.46 | -3.54 | 54.00 | 53.01 | 21.24 | 5.91 | 29.70 | Peak |

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = $\frac{1}{20}$ log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

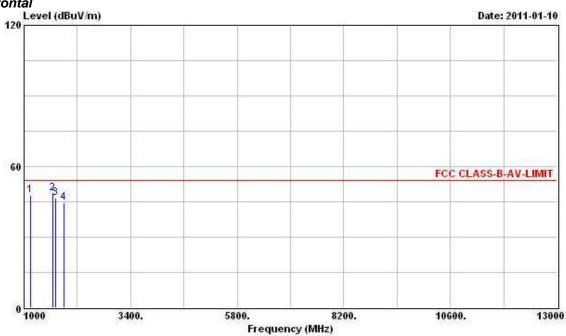
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3.2.7 Results for Radiated Emissions (1GHz~5th harmonic of highest frequency)

| Final Test Date | Jan. 10, 2011 | Test Site No. | 03CH02-HY |
|-----------------|---------------|---------------|-------------------|
| Temperature | 21℃ | Humidity | 52% |
| Test Engineer | Chris | Configuration | CRX 802.11g Ch. 6 |

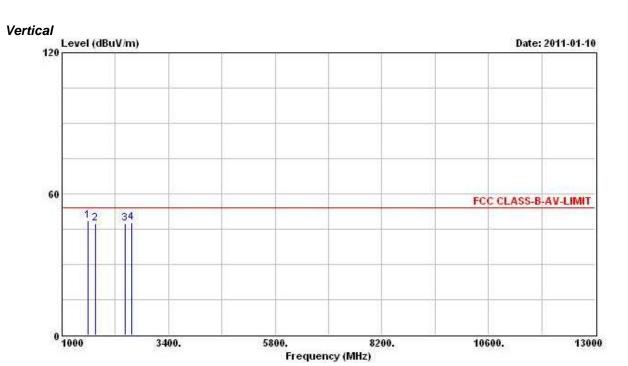
Horizontal



| | | | Over | Limit | Readi | Antenna | Cable | Preamp | |
|---|----------|--------|-------|--------|-------|---------|-------|--------|--------|
| | Freq | Level | Limit | Line | Level | Factor | Loss | Factor | Remark |
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 | 1150.000 | 47.85 | -6.15 | 54.00 | 55.15 | 24.64 | 1.84 | 33.78 | Peak |
| 2 | 1655.000 | 48.51 | -5.49 | 54.00 | 53.10 | 26.10 | 2.20 | 32.90 | Peak |
| 3 | 1715.000 | 46.54 | -7.46 | 54.00 | 50.85 | 26.31 | 2.24 | 32.86 | Peak |
| 4 | 1890.000 | 44.56 | -9.44 | 54.00 | 47.97 | 27.01 | 2.32 | 32.74 | Peak |

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| | | | Over | Limit | Readi | Antenna | Cable | Preamp | |
|---|----------|--------|-------|--------|-------|---------|-------|--------|--------|
| | Freq | Level | Limit | Line | Level | Factor | Loss | Factor | Remark |
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 | 1585.000 | 48.58 | -5.42 | 54.00 | 53.61 | 25.75 | 2.16 | 32.95 | Peak |
| 2 | 1758.000 | 47.37 | -6.63 | 54.00 | 51.42 | 26.52 | 2.26 | 32.83 | Peak |
| 3 | 2412.000 | 47.25 | -6.75 | 54.00 | 49.24 | 28.16 | 2.58 | 32.73 | Peak |
| 4 | 2561.000 | 47.58 | -6.42 | 54.00 | 49.13 | 28.54 | 2.67 | 32.76 | Peak |

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level $(dBuV/m) = 20 \log Emission level (uV/m)$.

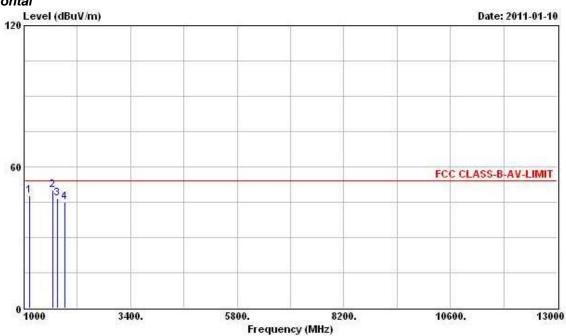
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

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| Final Test Date | Jan. 10, 2011 | Test Site No. | 03CH02-HY |
|-----------------|---------------|---------------|---------------------------|
| Temperature | 21 ℃ | Humidity | 52% |
| Test Engineer | Chris | Configuration | CRX 802.11n Ch. 6 (20MHz) |

Horizontal

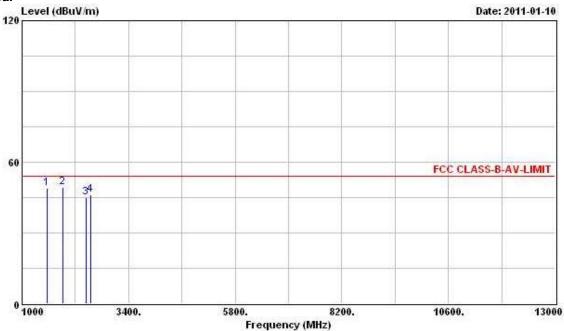


| | Freq | Level | Over Limit | Limit Line | | Antenna Factor | | | Remark |
|---|----------|--------|---------------|---------------|-------|-------------------|------|-------|--------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | + |
| 1 | 1116.000 | 47.88 | -6.12 | 54.00 | 55.35 | 24.57 | 1.81 | 33.84 | Peak |
| 2 | 1655.000 | 50.25 | -3.75 | 54.00 | 54.84 | 26.10 | 2.20 | 32.90 | Peak |
| 3 | 1745.000 | 46.55 | -7.45 | 54.00 | 50.70 | 26.45 | 2.24 | 32.84 | Peak |
| 4 | 1927.000 | 44.85 | -9.15 | 54.00 | 48.02 | 27.22 | 2.33 | 32.72 | Peak |

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| | | | 0ver | Limit | Readi | Antenna | Cable | Preamp | |
|-------------|----------|--------|-------|--------|-------|---------|-------|--------|--------|
| | Freq | Level | Limit | Line | Level | Factor | Loss | Factor | Remark |
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | - |
| 1 | 1570.000 | 49.11 | -4.89 | 54.00 | 54.16 | 25.75 | 2.16 | 32.97 | Peak |
| 1 2 3 | 1912.000 | 49.52 | -4.48 | 54.00 | 52.76 | 27.15 | 2.33 | 32.72 | Peak |
| 3 | 2442.000 | 45.11 | -8.89 | 54.00 | 47.03 | 28.22 | 2.61 | 32.74 | Peak |
| 4 | 2543.000 | 46.12 | -7.88 | 54.00 | 47.73 | 28.48 | 2.67 | 32.76 | Peak |

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level $(dBuV/m) = 20 \log Emission level (uV/m)$.

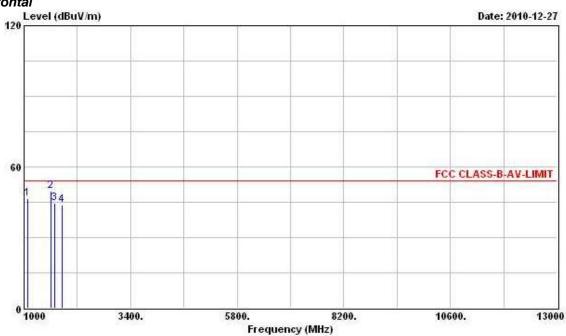
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

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 Issued Date : Jan. 28, 2011

| Final Test Date | Dec. 27, 2010 | Test Site No. | 03CH02-HY |
|-----------------|---------------|---------------|---------------------------|
| Temperature | 21 ℃ | Humidity | 52% |
| Test Engineer | Chris | Configuration | CRX 802.11n Ch. 6 (40MHz) |

Horizontal

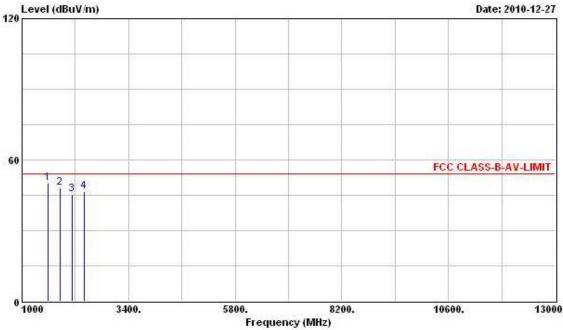


| | | | Over | Limit | Readi | Antenna | Cable | Preamp | |
|---|----------|--------|--------------|----------------|---------------|---------|-------|--------|--------|
| | Freq | Level | 1 Limit m dB | Line dBuV/m | Level dBuV | | Loss | | Remark |
| | MHz | dBuV/m | | | | | | | 1 |
| 1 | 1094.000 | 46.71 | -7.29 | 54.00 | 54.27 | 24.53 | 1.81 | 33.90 | Peak |
| 2 | 1596.000 | 49.80 | -4.20 | 54.00 | 54.74 | 25.82 | 2.18 | 32.95 | Peak |
| 3 | 1686.000 | 44.42 | -9.58 | 54.00 | 48.91 | 26.17 | 2.22 | 32.88 | Peak |
| 4 | 1862.000 | 43.84 | -10.16 | 54.00 | 47.36 | 26.94 | 2.30 | 32.76 | Peak |

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| | Freq | Level | Over Limit | | | Antenna Factor | | | |
|-----|----------|--------|---------------|--------|-------|-------------------|------|-------|------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | - |
| 1 | 1590.000 | 50.12 | -3.88 | 54.00 | 55.08 | 25.82 | 2.16 | 32.95 | Peak |
| 1 2 | 1860.000 | 48.06 | -5.94 | 54.00 | 51.58 | 26.94 | 2.30 | 32.76 | Peak |
| 3 | 2126.000 | 45.54 | -8.46 | 54.00 | 48.10 | 27.69 | 2.44 | 32.69 | Peak |
| 4 | 2398.000 | 46.75 | -7.25 | 54.00 | 48.76 | 28.13 | 2.58 | 32.73 | Peak |

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level $(dBuV/m) = 20 \log Emission level (uV/m)$.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

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4 LIST OF MEASURING EQUIPMENTS

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark |
|------------------------|--------------|--------------|------------|-----------------|---------------------|-------------------------|
| EMC Receiver | R&S | ESCS 30 | 100174 | 9kHz – 2.75GHz | Apr. 06, 2010 | Conduction (CO04-HY) |
| LISN | MessTec | NNB-2/16Z | 99041 | 9kHz – 30MHz | Mar. 23, 2010 | Conduction (CO04-HY) |
| LISN (Support Unit) | EMCO | 3810/2NM | 9703-1839 | 9kHz – 30MHz | Apr. 29, 2010 | Conduction (CO04-HY) |
| RF Cable-CON | UTIFLEX | 3102-26886-4 | CB049 | 9kHz – 30MHz | Apr. 20, 2010 | Conduction (CO04-HY) |
| EMI Filter | LINDGREN | LRE-2030 | 2651 | < 450 Hz | N/A | Conduction (CO04-HY) |

Note: Calibration Interval of instruments listed above is one year.

| Instrument | Manufacturer | Manufacturer Model No. Serial No. Characteristics | | Calibration Date | Remark | |
|-----------------------------|-------------------|---|------------|----------------------|--------------------------|--------------------------|
| Spectrum Analyzer | R&S | FSP40 | 100305/040 | 9 kHz - 40GHz | Feb. 02, 2010 | Radiation (03CH02-HY) |
| 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M | 03CH02-HY | 30 MHz - 1 GHz 3m | May 01, 2010 | Radiation (03CH02-HY) |
| Amplifier | Agilent | Agilent 8447D 2944A11146 100 kHz – 1.3 GHz Jul. 23, 201 | | Jul. 23, 2010 | Radiation (03CH02-HY) | |
| Amplifier | Agilent | 8449B | 3008A02373 | 1GHz – 26.5 GHz | Jul. 23, 2010 | Radiation (03CH02-HY) |
| Horn Antenna | ETS-LINDGREN | 3117 | 00091920 | 1GHz~18GHz | Nov. 11, 2010 | Radiation (03CH02-HY) |
| RF Cable-R03m | Jye Bao | RG142 | CB021 | 30MHz ~ 1GHz | Feb. 26, 2010 | Radiation (03CH02-HY) |
| RF Cable-HIGH | SUHNER | SUCOFLEX106 | 03CH02-HY | 1GHz~40GHz | Feb. 26, 2010 | Radiation (03CH02-HY) |
| Bilog Antenna | SCHAFFNER | CBL61128 | 2723 | 30 MHz - 2 GHz | Oct. 16, 2010 | Radiation (03CH02-HY) |
| Turn Table | HD | DS 420 | 420/649/00 | 0 - 360 degree | N/A | Radiation (03CH02-HY) |
| Antenna Mast | HD | MA 240 | 240/559/00 | 1 m - 4 m | N/A | Radiation (03CH02-HY) |

Note: Calibration Interval of instruments listed above is one year.

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark |
|--------------|--------------|-----------|------------|-----------------|---------------------|--------------------------|
| Loop Antenna | R&S | HFH2-Z2 | 860004/001 | 9 kHz - 30 MHz | Jul. 29, 2010* | Radiation (03CH02-HY) |

Note: Calibration Interval of instruments listed above is two year.

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5 TEST LOCATION

| SHIJR | ADD | : | 6FI., No. 106, Sec. 1, Shintai 5th Rd., Shijr City, Taipei, Taiwan 221, R.O.C. |
|--------|-----|---|--|
| | TEL | : | 886-2-2696-2468 |
| | FAX | : | 886-2-2696-2255 |
| HWA YA | ADD | : | No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. |
| | TEL | : | 886-3-327-3456 |
| | FAX | : | 886-3-318-0055 |
| LINKOU | ADD | : | No. 30-2, Dingfu Tsuen, Linkou Shiang, Taipei, Taiwan 244, R.O.C |
| | TEL | : | 886-2-2601-1640 |
| | FAX | : | 886-2-2601-1695 |
| DUNGHU | ADD | : | No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C. |
| | TEL | : | 886-2-2631-4739 |
| | FAX | : | 886-2-2631-9740 |
| JUNGHE | ADD | : | 7FI., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C. |
| | TEL | : | 886-2-8227-2020 |
| | FAX | : | 886-2-8227-2626 |
| NEIHU | ADD | : | 4FI., No. 339, Hsin Hu 2 nd Rd., Taipei 114, Taiwan, R.O.C. |
| | TEL | : | 886-2-2794-8886 |
| | FAX | : | 886-2-2794-9777 |
| JHUBEI | ADD | : | No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. |
| | TEL | : | 886-3-656-9065 |
| | FAX | : | 886-3-656-9085 |

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6 NVLAP CERTIFICATE OF ACCREDITATION



Certificate No.: L1190-100529

Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

Sporton International Inc.

EMC & Wireless Communications Laboratory

No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

is accredited in respect of laboratory

: ISO/IEC 17025:2005 Accreditation Criteria

: 1190 Accreditation Number

Originally Accredited : December 15, 2003

Effective Period : January 10, 2010 to January 09, 2013

Accredited Scope : Testing Field, see described in the Appendix

Specific Accreditation

Program

: Accreditation Program for Designated Testing Laboratory

for Commodities Inspection

Accreditation Program for Telecommunication Equipment

Testing Laboratory

Accreditation Program for BSMI Mutual Recognition

Arrangment with Foreign Authorities

Jay-San Chen

President, Taiwan Accreditation Foundation

- San Chen

Date : May 29, 2010

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The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix

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