



FCC TEST REPORT

47 CFR FCC Part 15 Subpart B

FCC ID.....: **T37PL9672-A5**

Report Reference No......: **TRE10080018**

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Wenliang Li

Date of issue.....: Jan 13, 2012

Testing Laboratory Name: **Shenzhen Huatongwei International Inspection Co., Ltd**

Address: Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China

Applicant's name.....: **ASOKA USA Corporation**

Address: 2620 Augustine Drive Suite 230, Santa Clara City, CA 95054

Test specification:

Standard.....: **47 CFR FCC Part 15 Subpart B - Unintentional Radiators**
ANSI C63.4: 2009

TRF Originator.....: Shenzhen Huatongwei International Inspection CO., Ltd

Master TRF.....: Dated 2006-06

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Test item description: PlugLink 500 MIMO ETH

Trade Mark: /

Model/Type reference.....: PL9672-A5

Listed Models: /

Result.....: **Positive**

TEST REPORT

| | | |
|--------------------------|--------------------|---------------|
| Test Report No. : | TRE10080018 | Jan 13, 2012 |
| | | Date of issue |

Equipment under Test : PlugLink 500 MIMO ETH

Model /Type : PL9672-A5

Listed Models : /

Applicant : ASOKA USA Corporation

Address : 2620 Augustine Drive Suite 230,Santa Clara City,CA
95054

Manufacturer : Asoka USA Corporation

Address : 2620 Augustine Drive Suite 230,Santa Clara City,CA
95054

| | |
|--|-----------------|
| Test Result according to the standards on page 4: | Positive |
|--|-----------------|

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1. TEST STANDARDS

The tests were performed according to following standards:

[47 CFR FCC Part 15 Subpart B](#) - Unintentional Radiators

[ANSI C63.4: 2009](#) – American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40GHz

2. SUMMARY

2.1. General Remarks

| | | |
|--------------------------------|---|--------------|
| Date of receipt of test sample | : | Aug 24, 2011 |
| | | |
| Testing commenced on | : | Aug 24, 2011 |
| | | |
| Testing concluded on | : | Jan 13, 2012 |

2.2. Equipment Under Test

Power supply system utilised

| | | | |
|----------------------|---|--|-----------------------------------|
| Power supply voltage | : | <input checked="" type="radio"/> 120V / 60 Hz | <input type="radio"/> 115V / 60Hz |
| | | <input type="radio"/> 12 V DC | <input type="radio"/> 24 V DC |
| | | <input type="radio"/> Other (specified in blank below) | |

/

2.3. Short description of the Equipment under Test (EUT)

The EUT PlugLink 500 MIMO ETH is an In-House BPL device.

For more details, refer to the user's manual of the EUT.

Sample Type: Prototype

2.4. EUT operation mode

The EUT has been tested under typical operating condition.

2.5. Related Submittal(s) / Grant (s)

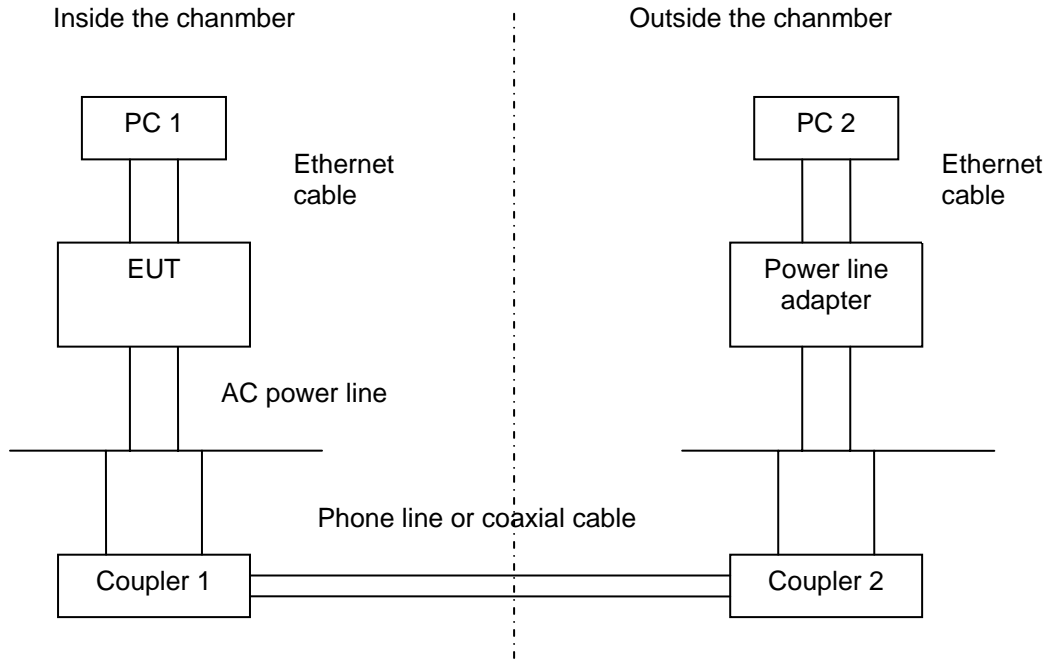
This submittal(s) (test report) is intended for FCC ID: **T37PL9672-A5** filing to comply with the FCC Part 15, Subpart B Rules.

2.6. Modifications

No modifications were implemented to meet testing criteria.

2.7. Configuration of Tested System

Configuration of Tested System



Equipment Used in Tested System

| No. | Equipment | Manufacturer | Model No. | Serial No. | Notes |
|-----|-----------------------------------|--------------|------------|--------------------------|-------|
| 1 | Notebook PC | DELL | D610 | CN-0D4571-48643-51S-0236 | (1) |
| 2 | Notebook PC | DELL | D600 | CN-0X2034-48643-428-1379 | (1) |
| 3 | PlugLink AV 9560 Wireless Adapter | ASOKA | PL9560-WAP | / | (2) |
| 4 | Coupler | ASOKA | / | / | (2) |

Note: (1) - supplied by test lab.
 (2) - supplied by manufacturer.

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Shenzhen Huatongwei International Inspection Co., Ltd
Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China
Phone: 86-755-26715686 Fax: 86-755-26748089

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 (2003) and CISPR Publication 22.

3.2. Test Facility

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

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories, Date of Registration: Mar 30, 2009. Valid time is until Mar 29, 2012.

A2LA-Lab Cert. No. 2243.01

Shenzhen Huatongwei International Inspection Co., Ltd, EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing. Valid time is until Sept 30, 2011.

FCC-Registration No.: 662850

Shenzhen Huatongwei International Inspection 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. Registration 662850, Renewal date Jun 01, 2009.

IC-Registration No.: 5377

The 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377 on Jan 25, 2011. Valid time is until Jan 24, 2014

ACA

Shenzhen Huatongwei International Inspection Co., Ltd, EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

NEMKO-Aut. No.: ELA125

Shenzhen Huatongwei International Inspection Co., Ltd has been assessed the quality assurance system, the testing facilities, qualifications and testing practices of the relevant parts of the organization. The quality assurance system of the Laboratory has been validated against ISO/IEC 17025:2005 or equivalent. The laboratory also fulfils the conditions described in Nemko Document NLA-10, the Authorization is valid through July 07, 2014.

VCCI

The 3m Semi-anechoic chamber (12.2m×7.95m×6.7m) and Shielded Room (8m×4m×3m) of Shenzhen Huatongwei International Inspection Co., Ltd has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2484. Date of Registration: December 20, 2006. Valid time is until December 20, 2012.

Main Ports Conducted Interference Measurement of Shenzhen Huatongwei International Inspection Co., Ltd has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: C-2726. Date of Registration: December 20, 2006. Valid time is until December 19, 2012.

DNV

Shenzhen Huatongwei International Inspection Co Ltd has been found to comply with the requirements of DNV towards subcontractor of EMC and safety testing services in conjunction with the EMC and Low voltage Directives and in the voluntary field. The acceptance is based on a formal quality Audit and follow-ups according to relevant parts of ISO/IEC Guide 17025(2005), in accordance with the requirements of the DNV Laboratory Quality Manual towards subcontractors. Valid time is until Aug 24, 2013.

3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

| | |
|-----------------------|---------------------|
| Temperature: | <u>15-35 ° C</u> |
| Humidity: | <u>30-60 %</u> |
| Atmospheric pressure: | <u>950-1050mbar</u> |

3.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

| Test | Range | Measurement Uncertainty | Notes |
|-----------------------|------------|-------------------------|-------|
| Radiated Emission | 30~1000MHz | 4.24 dB | (1) |
| Radiated Emission | 1~18GHz | 5.16 dB | (1) |
| Radiated Emission | 18-40GHz | 5.54 dB | (1) |
| Conducted Disturbance | 0.15~30MHz | 3.39 dB | (1) |

- (1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.5. Equipments Used during the Test

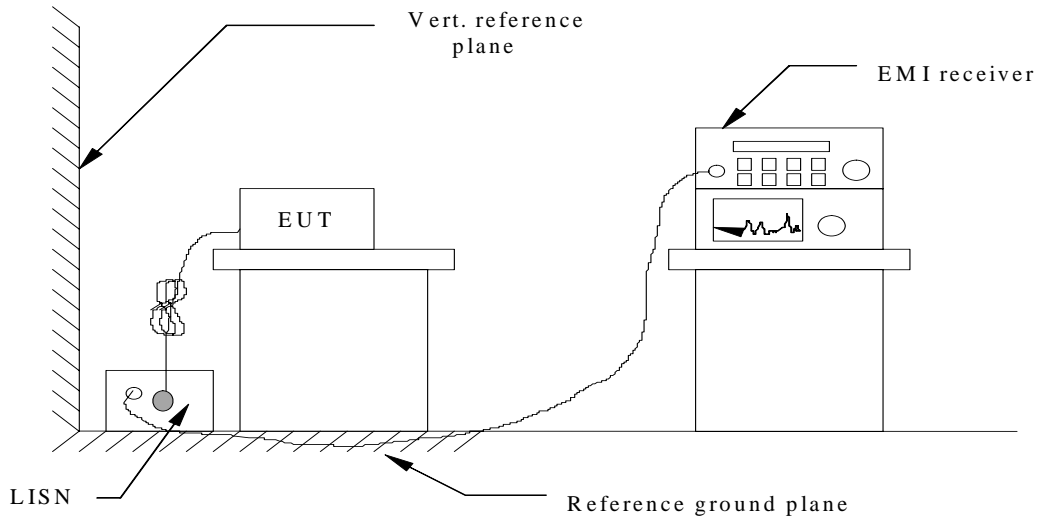
| Conducted Emission | | | | | |
|--------------------|--------------------|-----------------|-----------|------------|------------|
| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
| 1 | EMI TEST RECEIVER | ROHDE & SCHWARZ | ESCI | 100106 | 2011/10/24 |
| 2 | ARTIFICIAL MAINS | ROHDE & SCHWARZ | ESH2-Z5 | 100028 | 2011/10/24 |
| 3 | PULSE LIMITER | ROHDE & SCHWARZ | ESHSZ2 | 100044 | 2011/10/24 |
| 4 | EMI TEST SOFTWARE | ROHDE & SCHWARZ | ES-K1 | N/A | 2011/10/24 |
| 5 | TWO-LINE V-NETWORK | ROHDE & SCHWARZ | ESH3-Z5 | 100049 | 2011/10/24 |

| Radiated Emission | | | | | |
|-------------------|-------------------------|------------------------------|--------------------|--------------|------------|
| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal. |
| 1 | ULTRA-BROADBAND ANTENNA | ROHDE & SCHWARZ | HL562 | 100015 | 2011/05/30 |
| 2 | EMI TEST RECEIVER | ROHDE & SCHWARZ | ESI 26 | 100009 | 2011/10/24 |
| 3 | RF TEST PANEL | ROHDE & SCHWARZ | TS / RSP | 335015/ 0017 | 2011/10/24 |
| 4 | TURNTABLE | ETS | 2088 | 2149 | 2011/10/24 |
| 5 | ANTENNA MAST | ETS | 2075 | 2346 | 2011/10/24 |
| 6 | EMI TEST SOFTWARE | ROHDE & SCHWARZ | ESK1 | N/A | 2011/10/24 |
| 7 | HORN ANTENNA | ROHDE & SCHWARZ | HF906 | 100039 | 2011/11/01 |
| 8 | Amplifer | Sonoma | 310N | E009-13 | 2011/10/24 |
| 9 | JS amplifer | ROHDE & SCHWARZ | JS4-00101800-28-5A | F201504 | 2011/10/24 |
| 10 | High pass filter | Compliance Direction systems | BSU-6 | 34202 | 2011/03/28 |

4. TEST CONDITIONS AND RESULTS

4.1. Conducted Emissions Test

TEST CONFIGURATION



TEST PROCEDURE

- 1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4-2009.
- 2 Support equipment, if needed, was placed as per ANSI C63.4-2009.
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4-2009.
- 4 The EUT received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5 All support equipments received AC power from a second LISN, if any.
- 6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
- 8 During the above scans, the emissions were maximized by cable manipulation.

CONDUCTED POWER LINE EMISSION LIMIT

For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following :

| Frequency (MHz) | Maximum RF Line Voltage (dBµV) | | | |
|-----------------|--------------------------------|------|---------|--------|
| | CLASS A | | CLASS B | |
| | Q.P. | Ave. | Q.P. | Ave. |
| 0.15 - 0.50 | 79 | 66 | 66-56* | 56-46* |
| 0.50 - 5.00 | 73 | 60 | 56 | 46 |
| 5.00 - 30.0 | 73 | 60 | 60 | 50 |

TEST CONDITION

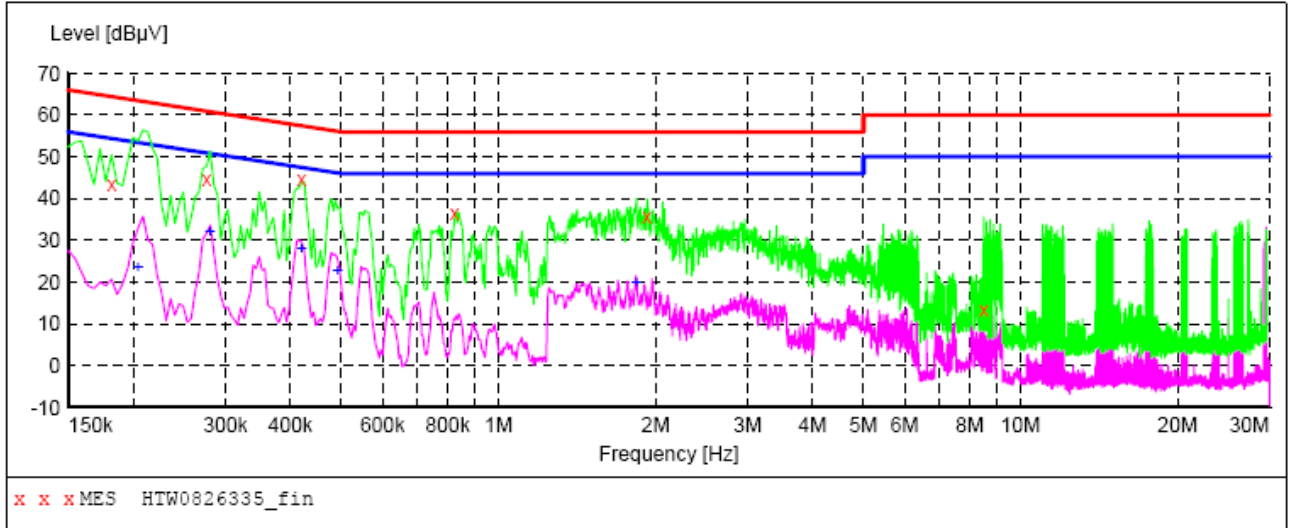
The data rate was set at the maximum rate used by the EUT

TEST RESULTS

Operating frequency above 30MHz

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "HTW0826335_fin"

8/26/2011 4:36PM

| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.181500 | 43.50 | 10.1 | 64 | 20.9 | QP | N | GND |
| 0.276000 | 44.50 | 10.1 | 61 | 16.4 | QP | N | GND |
| 0.420000 | 44.60 | 10.1 | 57 | 12.8 | QP | N | GND |
| 0.825000 | 36.30 | 10.1 | 56 | 19.7 | QP | N | GND |
| 1.927500 | 35.80 | 10.2 | 56 | 20.2 | QP | N | GND |
| 8.511000 | 13.20 | 10.4 | 60 | 46.8 | QP | N | GND |

MEASUREMENT RESULT: "HTW0826335_fin2"

8/26/2011 4:36PM

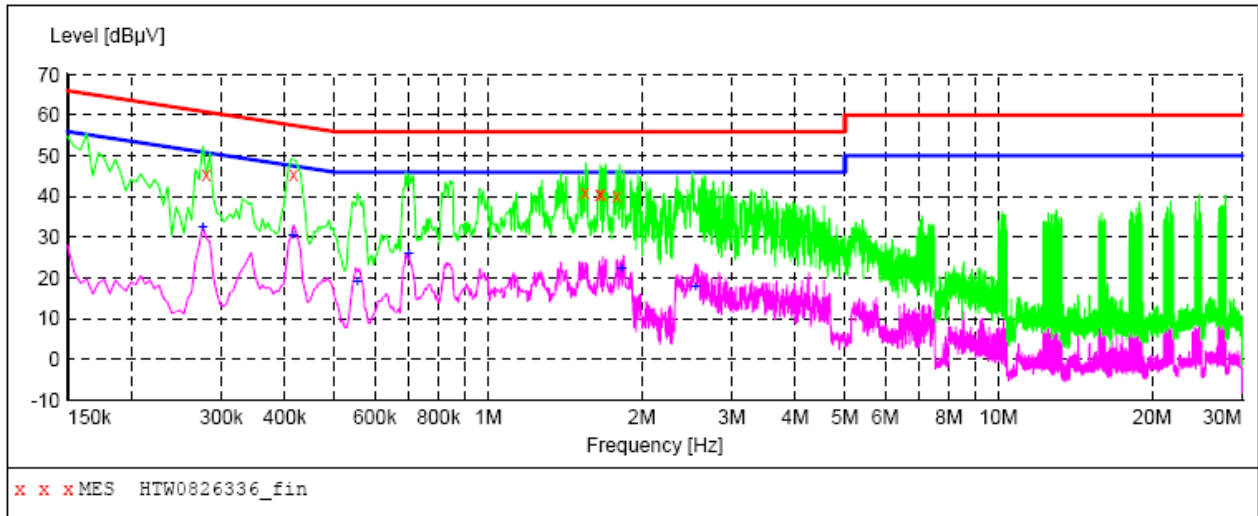
| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.204000 | 23.60 | 10.1 | 53 | 29.8 | AV | N | GND |
| 0.280500 | 32.20 | 10.1 | 51 | 18.6 | AV | N | GND |
| 0.420000 | 28.00 | 10.1 | 47 | 19.4 | AV | N | GND |
| 0.492000 | 22.90 | 10.1 | 46 | 23.2 | AV | N | GND |
| 1.837500 | 19.90 | 10.2 | 46 | 26.1 | AV | N | GND |

Remark:

- (1) Measuring frequencies from 0.15 MHz to the 30 MHz.
- (2) Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The IF bandwidth of EMI Test Receiver was 9KHz for measuring from 0.15 MHz to 30MHz

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "HTW0826336_fin"

8/26/2011 4:39PM

| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.280500 | 45.30 | 10.1 | 61 | 15.5 | QP | L1 | GND |
| 0.415500 | 45.60 | 10.1 | 58 | 11.9 | QP | L1 | GND |
| 1.549500 | 41.00 | 10.2 | 56 | 15.0 | QP | L1 | GND |
| 1.653000 | 40.60 | 10.2 | 56 | 15.4 | QP | L1 | GND |
| 1.666500 | 40.60 | 10.2 | 56 | 15.4 | QP | L1 | GND |
| 1.788000 | 40.30 | 10.2 | 56 | 15.7 | QP | L1 | GND |

MEASUREMENT RESULT: "HTW0826336_fin2"

8/26/2011 4:39PM

| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.276000 | 32.30 | 10.1 | 51 | 18.6 | AV | L1 | GND |
| 0.415500 | 30.30 | 10.1 | 48 | 17.2 | AV | L1 | GND |
| 0.555000 | 19.20 | 10.1 | 46 | 26.8 | AV | L1 | GND |
| 0.699000 | 25.80 | 10.1 | 46 | 20.2 | AV | L1 | GND |
| 1.828500 | 22.30 | 10.2 | 46 | 23.7 | AV | L1 | GND |
| 2.553000 | 17.80 | 10.2 | 46 | 28.2 | AV | L1 | GND |

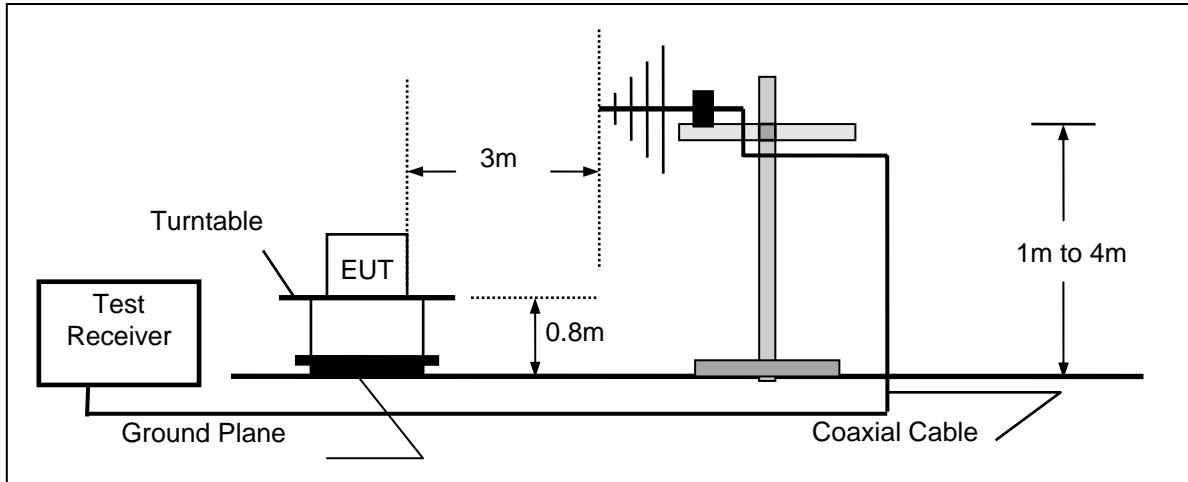
Remark:

- (1) Measuring frequencies from 0.15 MHz to the 30 MHz.
- (2) Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The IF bandwidth of EMI Test Receiver was 9KHz for measuring from 0.15 MHz to 30MHz

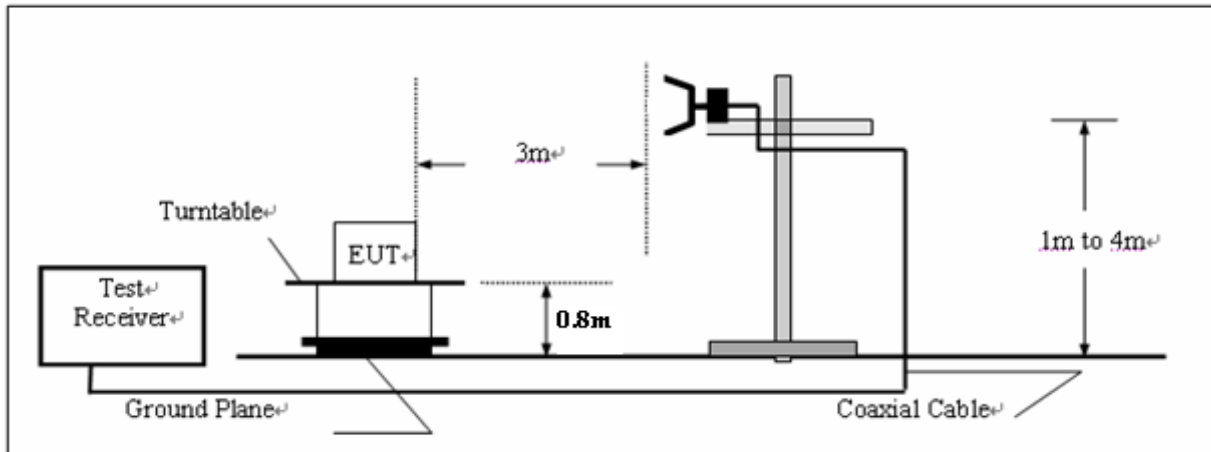
4.2. Radiated Emission Test

TEST CONFIGURATION

- a) Radiated Emission Test Set-Up, Frequency below 1000MHz



- b) Radiated Emission Test Set-Up, Frequency above 1000MHz



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.

FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

| | |
|---------------------------|--|
| Where FS = Field Strength | CL = Cable Attenuation Factor (Cable Loss) |
| RA = Reading Amplitude | AG = Amplifier Gain |
| AF = Antenna Factor | |

For example

| Frequency (MHz) | FS (dBµV/m) | RA (dBµV/m) | AF (dB) | CL (dB) | AG (dB) | Transd (dB) |
|-----------------|-------------|-------------|---------|---------|---------|-------------|
| 300.00 | 40 | 58.1 | 12.2 | 1.6 | 31.90 | -18.1 |

$$Transd=AF +CL-AG$$

RADIATION LIMIT

For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

| Frequency (MHz) | Distance (Meters) | Radiated (dBµV/m) | Radiated (µV/m) |
|-----------------|-------------------|-------------------|-----------------|
| 30-88 | 3 | 40.0 | 100 |
| 88-216 | 3 | 43.5 | 150 |
| 216-960 | 3 | 46.0 | 200 |
| Above 960 | 3 | 54.0 | 500 |

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

TEST CONDITION

The data rate was set at the maximum rate used by the EUT.

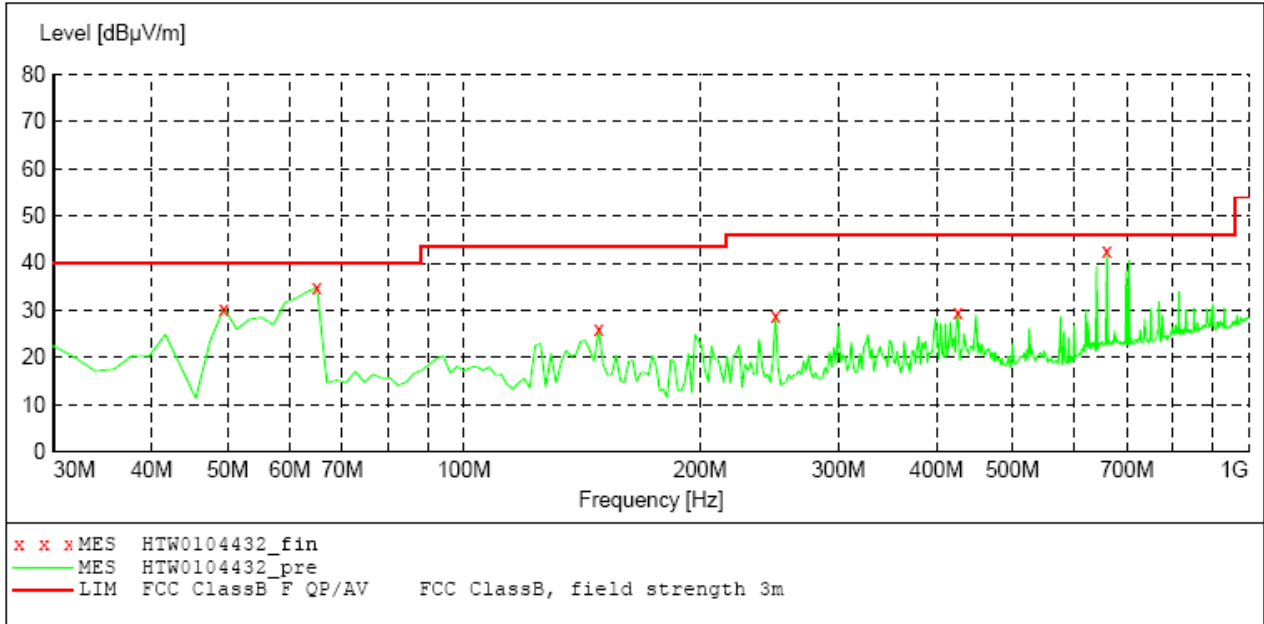
The highest fundamental frequency of the EUT is 166MHz, according to § 15.33(a), the radiated emission test was performed within the frequency band 30 – 2000MHz.

TEST RESULTS

Operation Mode: Maximum data rate Temperature: 20 °C Humidity: 70 % RH Polarity: Ver. / Hor.

SCAN TABLE: "test Field(30M-1G)QP"

| Short Description: | | | Field Strength(30M-1G) | | | |
|--------------------|-----------|----------|------------------------|------------|-----------|------------|
| Start | Stop | Step | Detector | Meas. Time | IF Bandw. | Transducer |
| Frequency | Frequency | Width | | | | |
| 30.0 MHz | 1.0 GHz | 60.0 kHz | QuasiPeak | 1.0 s | 120 kHz | HL562 |



MEASUREMENT RESULT: "HTW0104432_fin"

1/4/2012 4:29PM

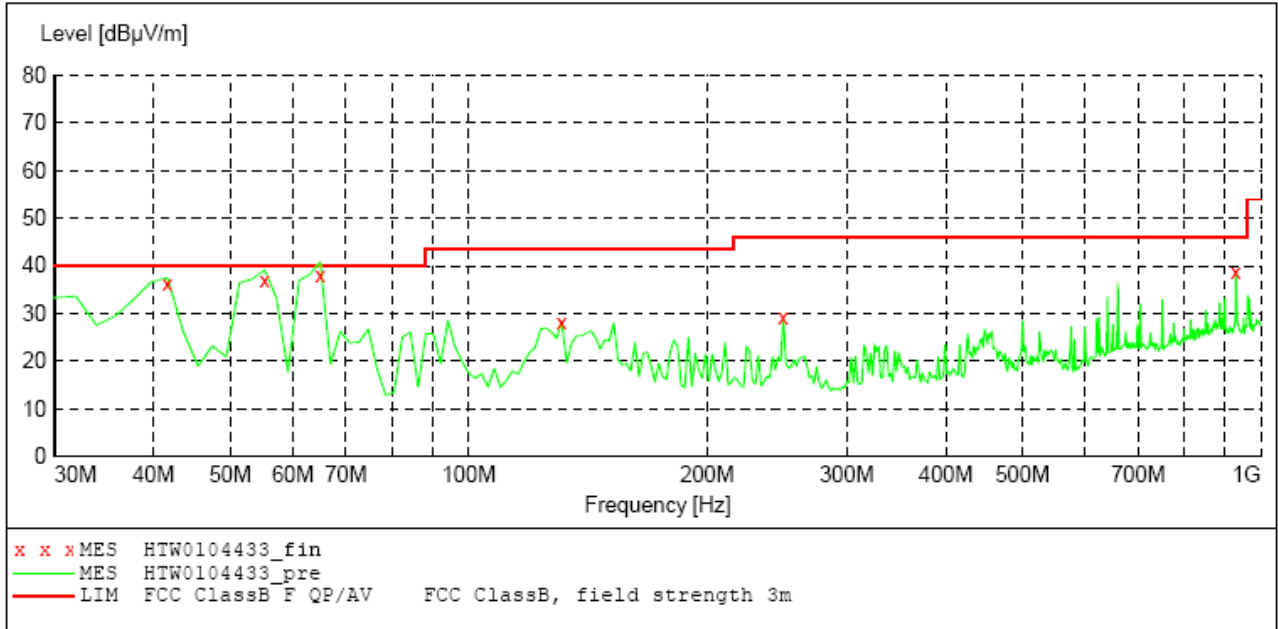
| Frequency MHz | Level dBµV/m | Transd dB | Limit dBµV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| 49.438878 | 30.50 | -22.2 | 40.0 | 9.5 | QP | 300.0 | 209.00 | HORIZONTAL |
| 64.989980 | 34.90 | -23.8 | 40.0 | 5.1 | QP | 300.0 | 153.00 | HORIZONTAL |
| 148.577154 | 25.90 | -22.5 | 43.5 | 17.6 | QP | 300.0 | 31.00 | HORIZONTAL |
| 249.659319 | 28.80 | -18.5 | 46.0 | 17.2 | QP | 100.0 | 172.00 | HORIZONTAL |
| 426.553106 | 29.60 | -15.5 | 46.0 | 16.4 | QP | 100.0 | 80.00 | HORIZONTAL |
| 659.819639 | 42.60 | -9.8 | 46.0 | 3.4 | QP | 100.0 | 218.00 | HORIZONTAL |

Remark:

- (1) Measuring frequencies from 30 MHz to the 1 GHz.
- (2) Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The IF bandwidth of EMI Test Receiver was 120KHz for measuring from 30 MHz to 1 GHz and 1 MHz for measuring above 1 GHz

SCAN TABLE: "test Field(30M-1G)QP"

| Short Description: | | Field Strength(30M-1G) | | | | | |
|--------------------|-----------|------------------------|-----------|-------|---------|------------|--|
| Start | Stop | Step | Detector | Meas. | IF | Transducer | |
| Frequency | Frequency | Width | | Time | Bandw. | | |
| 30.0 MHz | 1.0 GHz | 60.0 kHz | QuasiPeak | 1.0 s | 120 kHz | HL562 | |



MEASUREMENT RESULT: "HTW0104433_fin"

1/4/2012 4:31PM

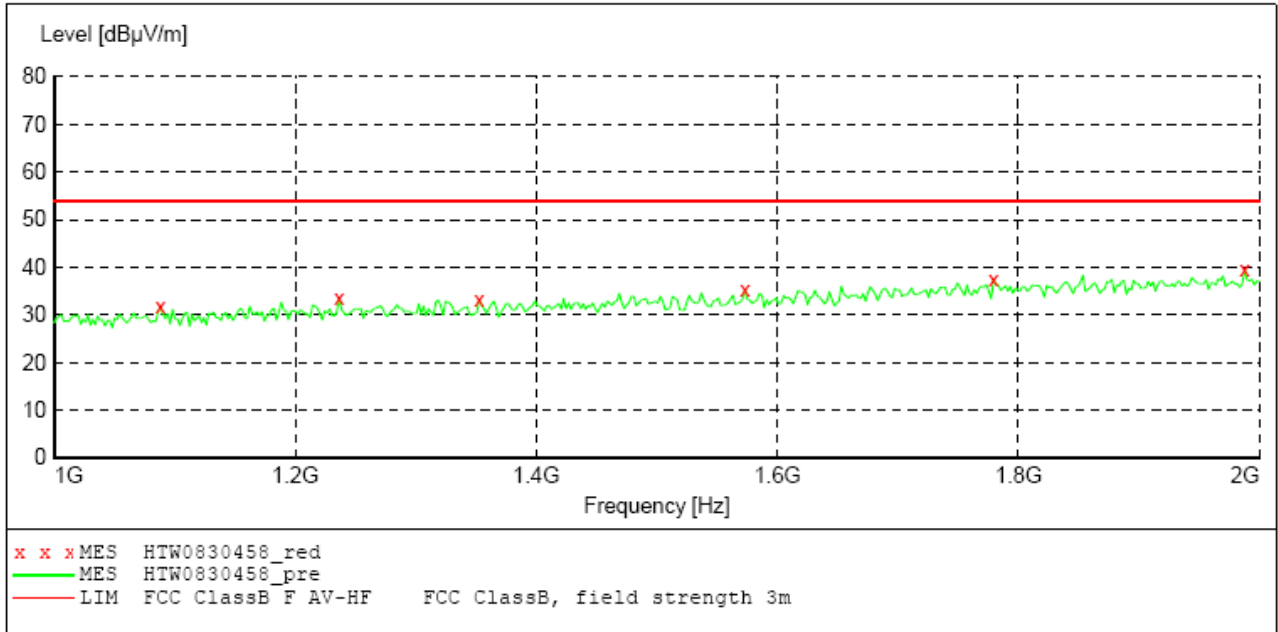
| Frequency MHz | Level dBµV/m | Transd dB | Limit dBµV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| 41.663327 | 37.00 | -17.6 | 40.0 | 3.0 | QP | 100.0 | 349.00 | VERTICAL |
| 55.270541 | 36.20 | -23.9 | 40.0 | 3.8 | QP | 100.0 | 113.00 | VERTICAL |
| 64.989980 | 37.80 | -23.8 | 40.0 | 2.2 | QP | 100.0 | 39.00 | VERTICAL |
| 131.082164 | 28.30 | -20.5 | 43.5 | 15.2 | QP | 100.0 | 305.00 | VERTICAL |
| 249.659319 | 29.30 | -18.5 | 46.0 | 16.7 | QP | 100.0 | 157.00 | VERTICAL |
| 930.020040 | 38.80 | -7.1 | 46.0 | 7.2 | QP | 100.0 | 45.00 | VERTICAL |

Remark:

- (1) Measuring frequencies from 30 MHz to the 1 GHz.
- (2) Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The IF bandwidth of EMI Test Receiver was 120KHz for measuring from 30 MHz to 1 GHz and 1 MHz for measuring above 1 GHz

SWEEP TABLE: "test (1G-18G) P"

Short Description: Field Strength(above 1G)
 Start Stop Detector Meas. IF Transducer
 Frequency Frequency Time Bandw.
 1.0 GHz 18.0 GHz MaxPeak Coupled 1 MHz HF906



MEASUREMENT RESULT: "HTW0830458_red"

8/30/2011 1:13PM

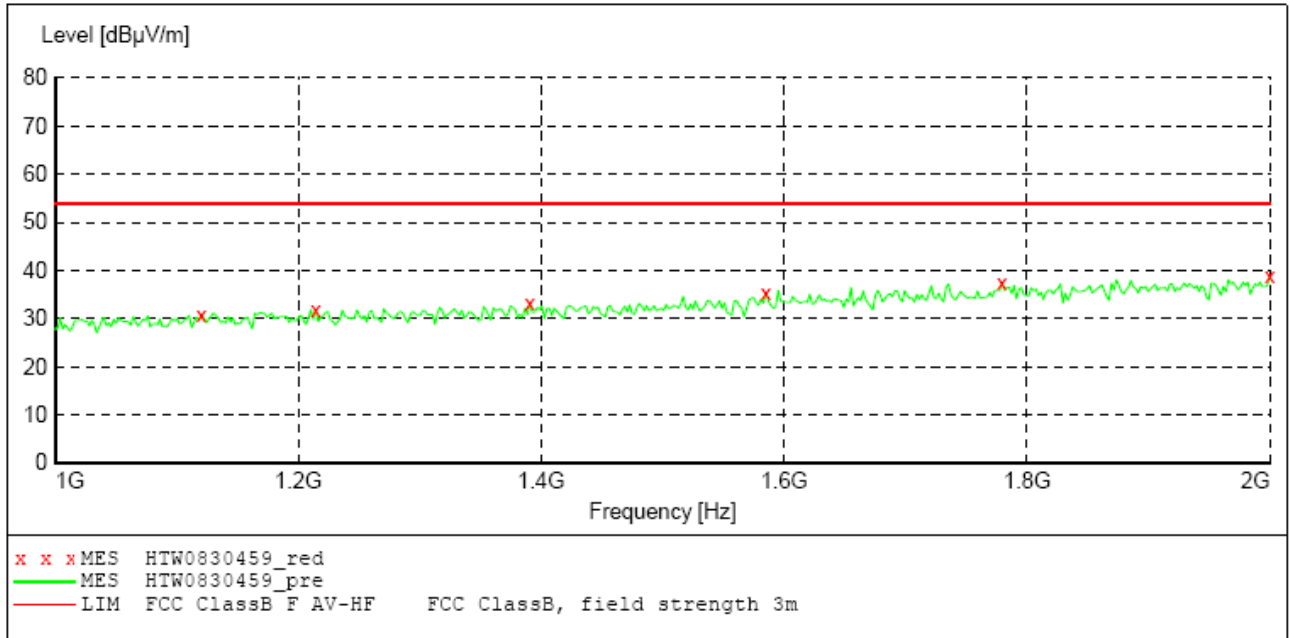
| Frequency MHz | Level dBµV/m | Transd dB | Limit dBµV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| 1088.176353 | 31.80 | -9.0 | 54.0 | 22.2 | PK | 100.0 | 129.00 | HORIZONTAL |
| 1236.472946 | 33.50 | -7.8 | 54.0 | 20.5 | PK | 100.0 | 31.00 | HORIZONTAL |
| 1352.705411 | 33.20 | -6.9 | 54.0 | 20.8 | PK | 100.0 | 0.00 | HORIZONTAL |
| 1573.146293 | 35.20 | -5.2 | 54.0 | 18.8 | PK | 100.0 | 125.00 | HORIZONTAL |
| 1779.559118 | 37.30 | -3.2 | 54.0 | 16.7 | PK | 100.0 | 68.00 | HORIZONTAL |
| 1987.975952 | 39.60 | -1.5 | 54.0 | 14.4 | PK | 100.0 | 152.00 | HORIZONTAL |

Remark:

- (1) Measuring frequencies from 1 GHz to the 2 GHz.
- (2) Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The RBW of EMI Test Receiver was 1MHz and the VBW was 3MHz for measuring from 1 GHz to 2 GHz.
- (4) The average measurement was not performed when the peak measured data under the limit of average detection.

SWEEP TABLE: "test (1G-18G) P"

Short Description: Field Strength(above 1G)
 Start Stop Detector Meas. IF Transducer
 Frequency Frequency Time Bandw.
 1.0 GHz 18.0 GHz MaxPeak Coupled 1 MHz HF906



MEASUREMENT RESULT: "HTW0830459_red"

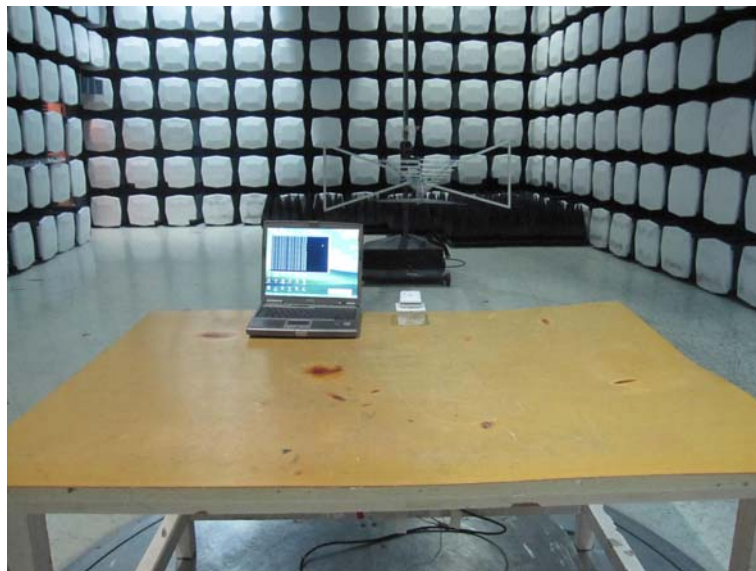
8/30/2011 1:14PM

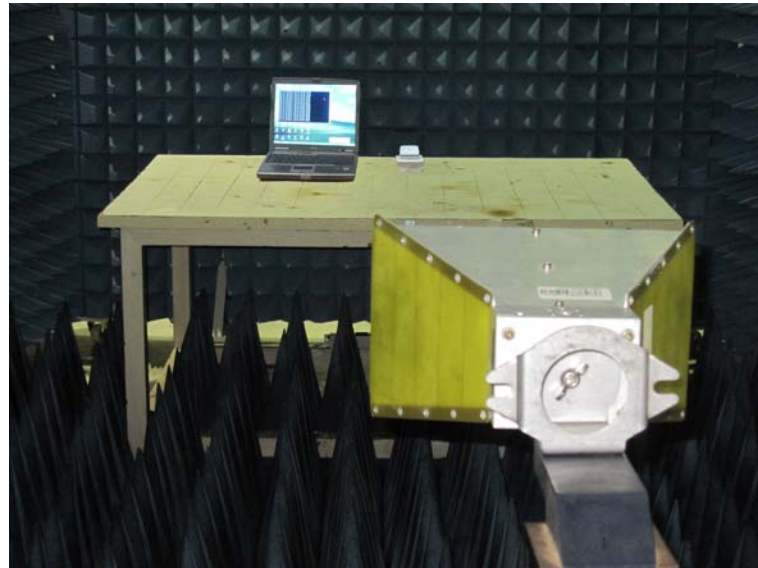
| Frequency MHz | Level dBµV/m | Transd dB | Limit dBµV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|---------------|--------------|-----------|--------------|-----------|------|-----------|-------------|--------------|
| 1120.240481 | 30.70 | -8.7 | 54.0 | 23.3 | PK | 100.0 | 51.00 | VERTICAL |
| 1214.428858 | 31.90 | -8.0 | 54.0 | 22.1 | PK | 100.0 | 172.00 | VERTICAL |
| 1390.781563 | 33.10 | -6.7 | 54.0 | 20.9 | PK | 100.0 | 114.00 | VERTICAL |
| 1585.170341 | 35.40 | -5.1 | 54.0 | 18.6 | PK | 100.0 | 7.00 | VERTICAL |
| 1779.559118 | 37.30 | -3.2 | 54.0 | 16.7 | PK | 100.0 | 142.00 | VERTICAL |
| 2000.000000 | 38.70 | -1.4 | 54.0 | 15.3 | PK | 100.0 | 157.00 | VERTICAL |

Remark:

- (1) Measuring frequencies from 1 GHz to the 2 GHz.
- (2) Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The RBW of EMI Test Receiver was 1MHz and the VBW was 3MHz for measuring from 1 GHz to 2 GHz.
- (4) The average measurement was not performed when the peak measured data under the limit of average detection.

5. Test Setup Photos of the EUT



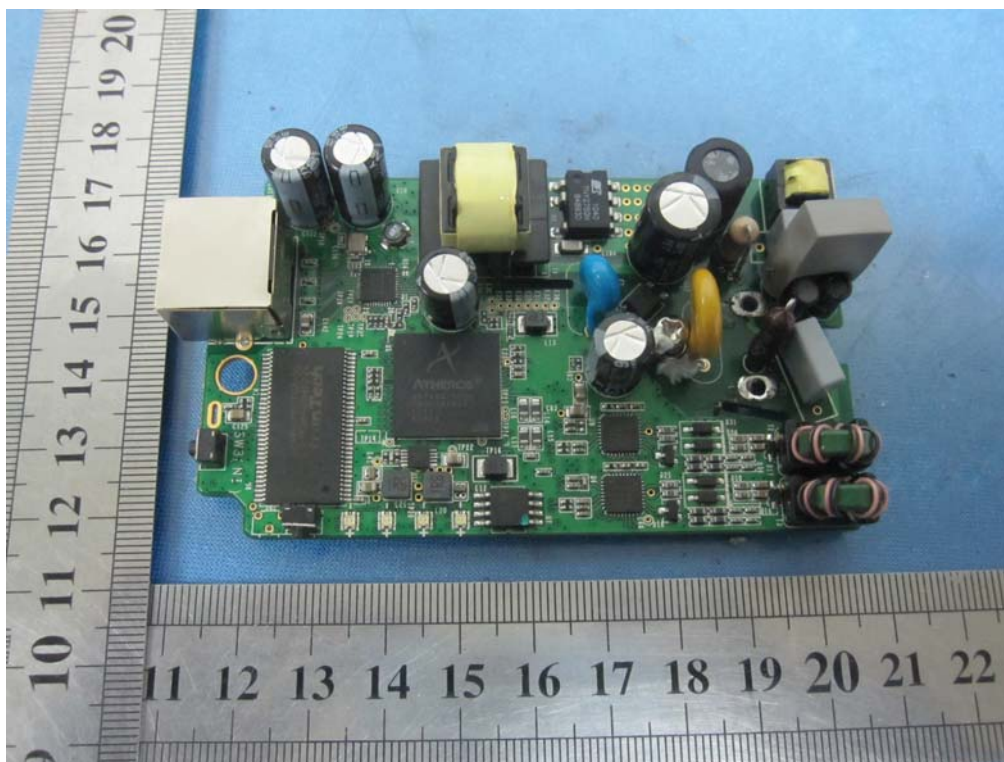


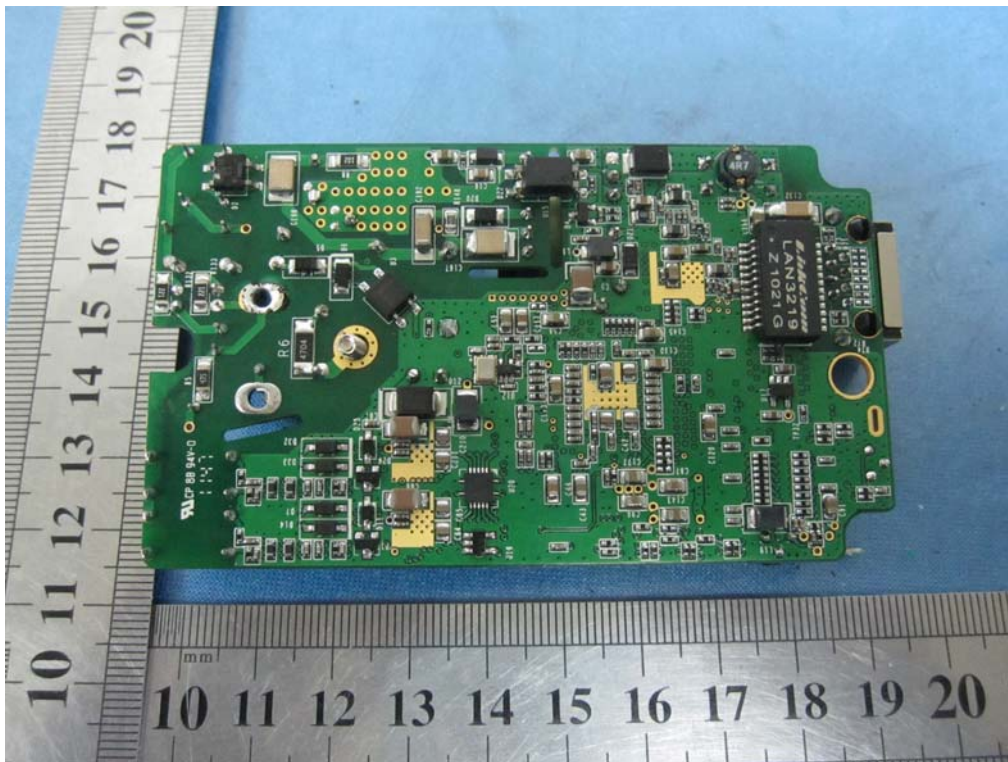
6. External and Internal Photos of the EUT





Internal Photos





.....End of Report.....