**SPORTON International Inc.**
**No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, TaoYuan Hsien, Taiwan, R.O.C.**
**Ph: 886-3-327-3456 / FAX: 886-3-327-0973 / www.sporton.com.tw**

# FCC RADIO TEST REPORT

| | | |
|---|---|---|
| **Applicant's company** | : | **SYMBOL Technologies, INC.** |
| **Applicant Address** | : | One Symbol Plaza Holtsville, New York, 11742-1300 U.S.A |
| **FCC ID** | : | **H9PWT4090** |
| **Manufacturer's company** | : | **Universal Scientific Industrial CO., LTD.** |
| **Manufacturer Address** | : | 141, Lane 351, Taiping Road, Sec. 1, Tsao Tuen, Nan-Tou, Taiwan |
| **Product Name** | : | **Mobile computer** |
| **Brand Name** | : | **Symbol** |
| **Model Name** | : | **WT4090** |
| **Test Rule Part(s)** | : | **47 CFR Part 15.407** |
| **Test Freq. Range** | : | **5250 ~ 5350MHz** |
| **Receive Date** | : | **Jul. 24, 2006** |
| **Final Test Date** | : | **Oct. 24, 2006** |
| **File Type** | : | **Class II Change** |
| **Report No.** | : | **FR691116-02** |
| **Issue Date** | : | **Jun. 13, 2007** |
| **Attachment Info.** | : | **Please refer to section 2.1** |

## Statement

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

# Table of Contents

# 1. CERTIFICATE OF COMPLIANCE

| | | |
|---|---|---|
| **Product Name** | : | **Mobile computer** |
| **Brand Name** | : | **Symbol** |
| **Model Name** | : | **WT4090** |
| **Applicant** | : | **SYMBOL Technologies, INC.** |
| **Test Rule Part(s)** | : | **47 CFR Part 15.407** |

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Jul. 24, 2006 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

Wayne Hsu

# 2. GENERAL INFORMATION

## 2.1. Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR691116.

Below is the table for the change of the product with respect to the original one.

| Modifications | Description | Performance Checking |
|---|---|---|
| Add Band 2 | 5250~5350 MHz | Radiated Emissions<br>99% Occupied Bandwidth<br>Maximum Conducted Output Power<br>Power Spectral Density<br>Peak Excursion |

## 2.2. Product Details

| Items | Description |
|---|---|
| Power Type | 12V DC from adapter; 3.7V DC from battery |
| Modulation | OFDM for IEEE 802.11a |
| Data Modulation | OFDM (BPSK / QPSK / 16QAM / 64QAM) |
| Data Rate (Mbps) | OFDM (6/9/12/18/24/36/48/54) |
| Frequency Band | 5250 ~ 5350MHz (tested in this report) |
| Channel Number | 4 for 5250 ~ 5350MHz |
| Channel Band Width (99%) | Band 2: 16.80 MHz Band 3: 17.12 MHz |
| Conducted Output Power | Band 2: 13.23 dBm Band 3: 14.96 dBm |

## 2.3. Accessories

| Power | Brand | Model | Rating |
|---|---|---|---|
| Adapter | HIPRO | HP-O2040D43 | INPUT: 100~240V AC<br>OUTPUT: 12V DC |
| Battery | Symbol | - | 3.7V DC |
| Others | | | |
| Cradle, scanner RS-409, scanner RS-309, Headset (MIC+Earphone) | | | |

## 2.4. Table for Filed Antenna

| Ant. | Antenna Type | Brand | Model | Connector | Gain (dBi) | Remark |
|---|---|---|---|---|---|---|
| 1 | PIFA Antenna | Laird | NG Wearable | UFL | 4.42 | WLAN |

## 2.5. Table for Carrier Frequencies

| Frequency Band | Channel No. | Frequency |
|---|---|---|
| 5250~5350 MHz (USA/Canada/Taiwan) Band 2 | 52 | 5260 MHz |
| | 56 | 5280 MHz |
| | 60 | 5300 MHz |
| | 64 | 5320 MHz |

# 3. TEST RESULT

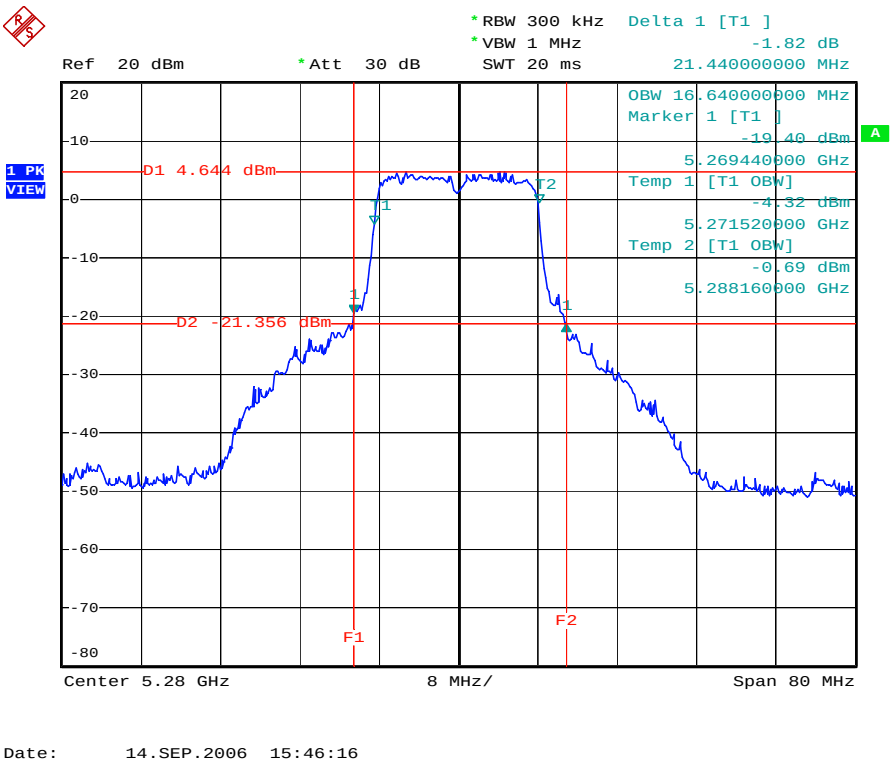
## 3.1. 99% Occupied Bandwidth Measurement

### 3.1.1. Test Result of 99% Occupied Bandwidth

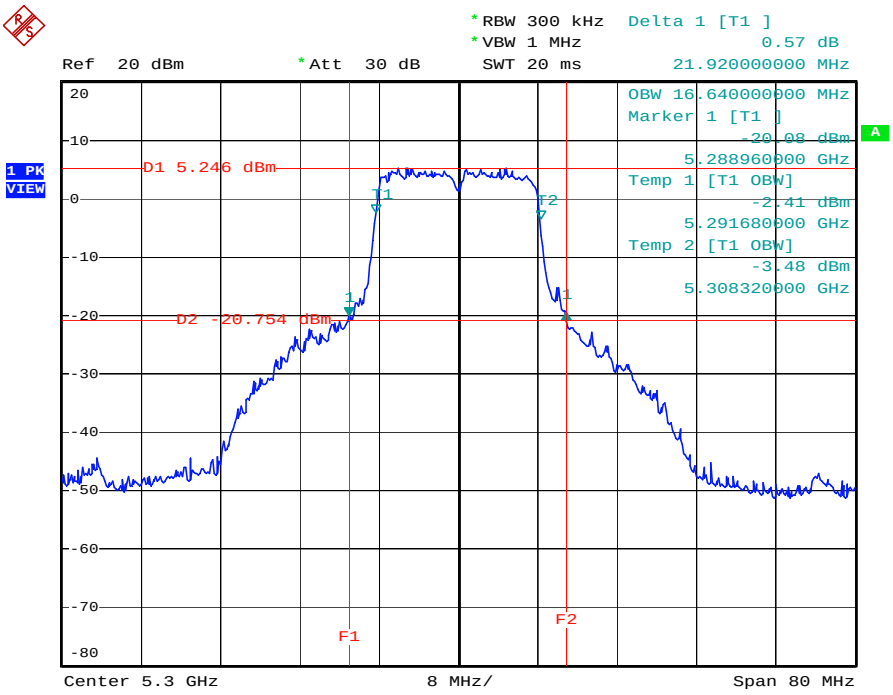
| Temperature | 20℃ | Humidity | 70% |
|---|---|---|---|
| Test Engineer | Sam Lee | Configurations | 802.11a |

| Channel | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|---|---|---|---|
| 56 | 5280 MHz | 21.44 | 16.64 |
| 52 | 5300 MHz | 21.92 | 16.64 |
| 64 | 5320 MHz | 23.04 | 16.80 |

**26 dB Bandwidth Plot on Configuration IEEE 802.11a / 5280 MHz**

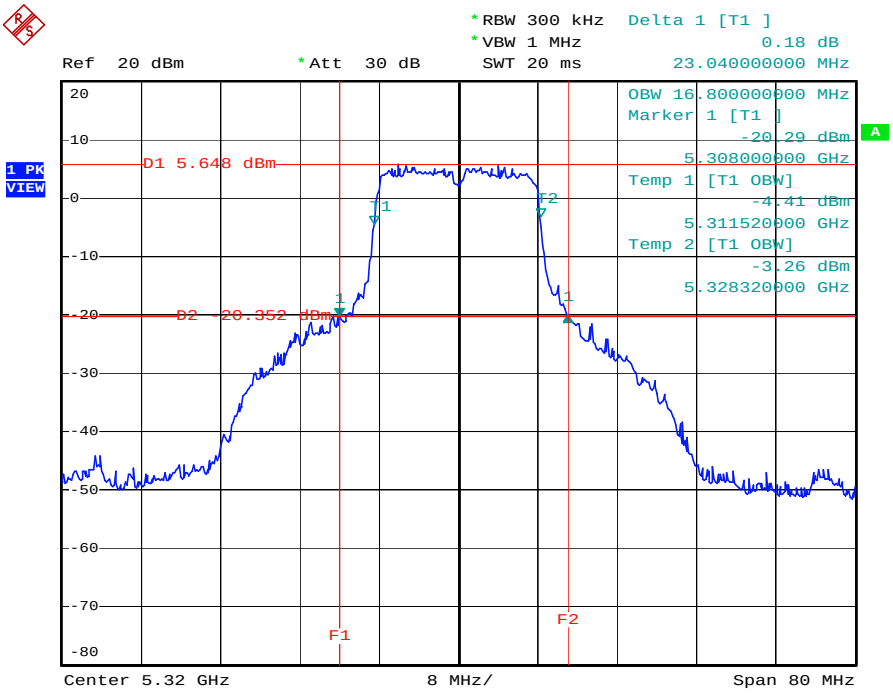


## 26 dB Bandwidth Plot on Configuration IEEE 802.11a / 5300 MHz




Date: 14.SEP.2006 15:47:12

## 26 dB Bandwidth Plot on Configuration IEEE 802.11a / 5320 MHz




Date: 14.SEP.2006 15:48:06

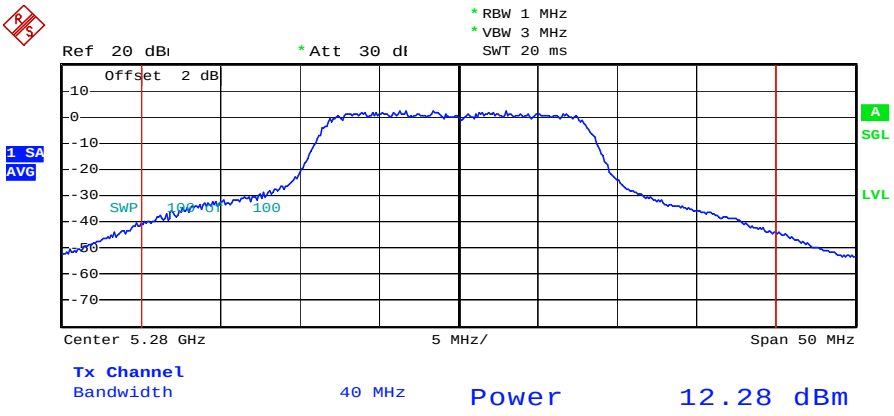
## 3.2. Maximum Conducted Output Power Measurement

### 3.2.1. Test Result of Maximum Conducted Output Power

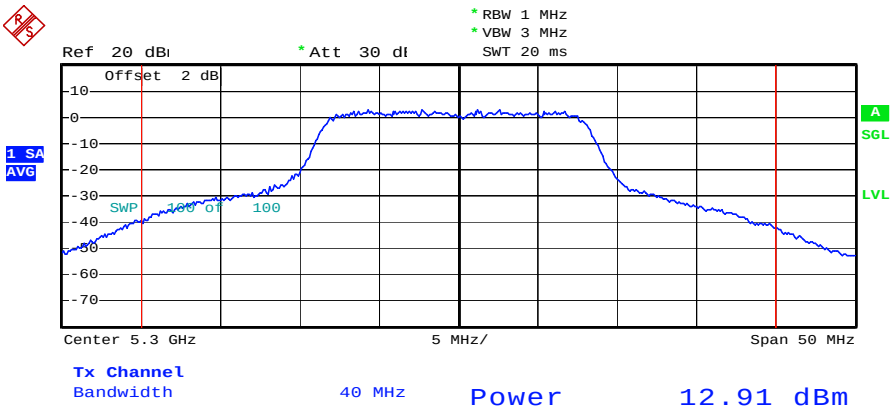
| Temperature | 20℃ | Humidity | 70% |
|---|---|---|---|
| Test Engineer | Sam Lee | Configurations | 802.11a |

| Channel | Frequency | Conducted Power (dBm) | Max. Limit (dBm) | Result |
|---|---|---|---|---|
| 56 | 5280 MHz | 12.28 | 17.00 | **Complies** |
| 52 | 5300 MHz | 12.91 | 17.00 | **Complies** |
| 64 | 5320 MHz | 13.23 | 17.00 | **Complies** |

**Channel Output Power Plot on Configuration IEEE 802.11a / 5280 MHz**

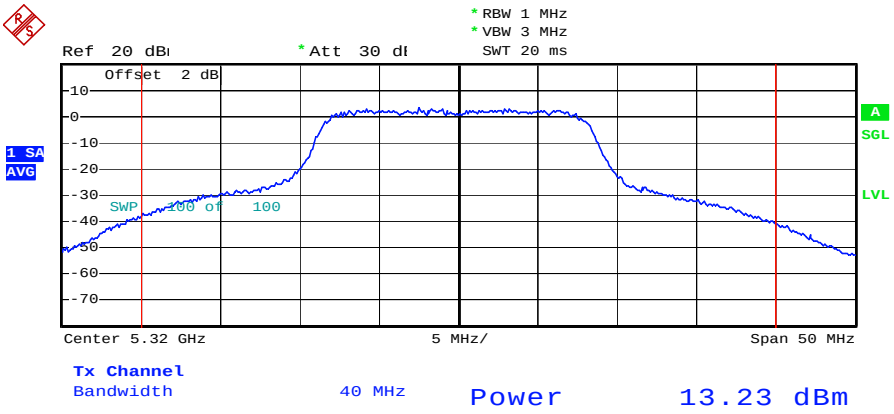


## Channel Output Power Plot on Configuration IEEE 802.11a / 5300 MHz




Date: 14.SEP.2006 15:47:30

## Channel Output Power Plot on Configuration IEEE 802.11a / 5320 MHz




Date: 14.SEP.2006 15:48:24

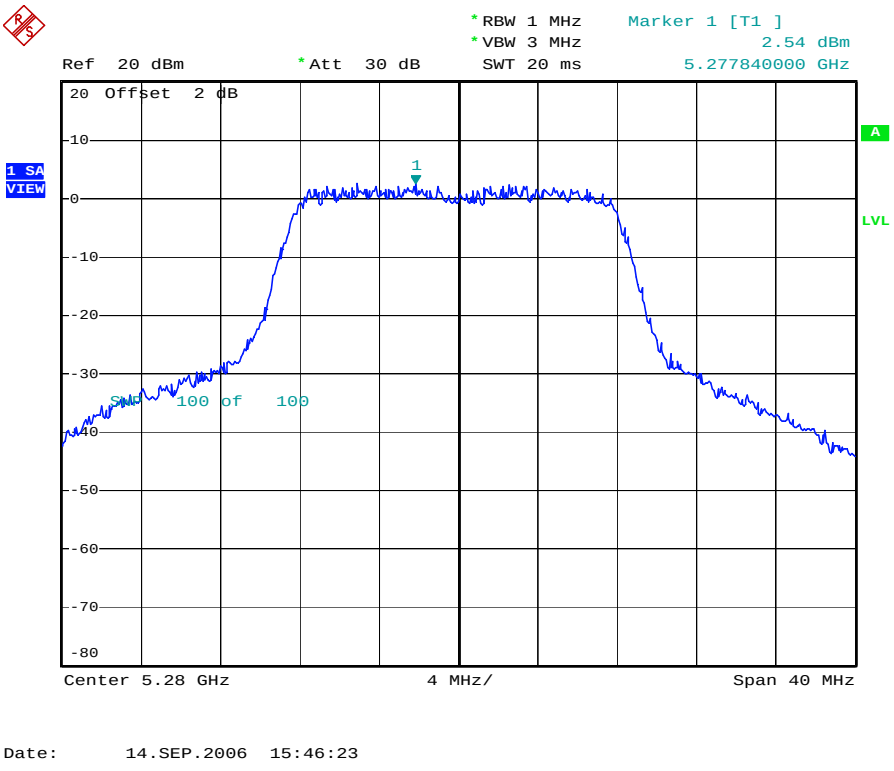
## 3.3. Power Spectral Density Measurement

### 3.3.1. Test Result of Power Spectral Density

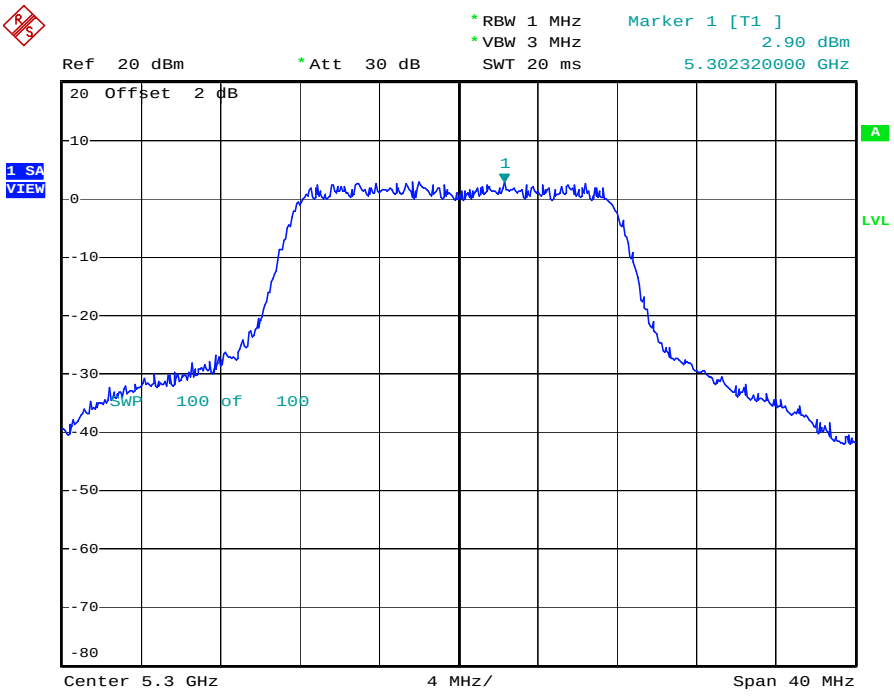
| Temperature | 20℃ | Humidity | 70% |
|---|---|---|---|
| Test Engineer | Sam Lee | Configurations | 802.11a |

| Frequency | Power Density (dBm) | Max. Limit (dBm) | Result |
|---|---|---|---|
| 5280 MHz | 2.54 | 4.00 | **Complies** |
| 5300 MHz | 2.90 | 4.00 | **Complies** |
| 5320 MHz | 3.38 | 4.00 | **Complies** |

**Power Density Plot on Configuration IEEE 802.11a / 5280 MHz**

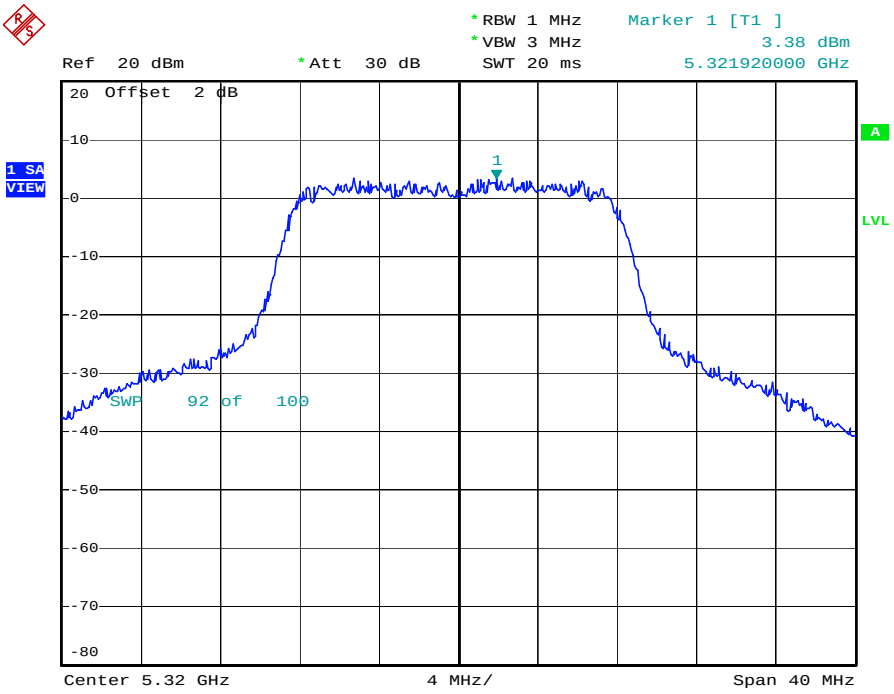


## Power Density Plot on Configuration IEEE 802.11a / 5300 MHz




Date: 14.SEP.2006 15:47:19

## Power Density Plot on Configuration IEEE 802.11a / 5320 MHz




Date: 14.SEP.2006 15:48:13

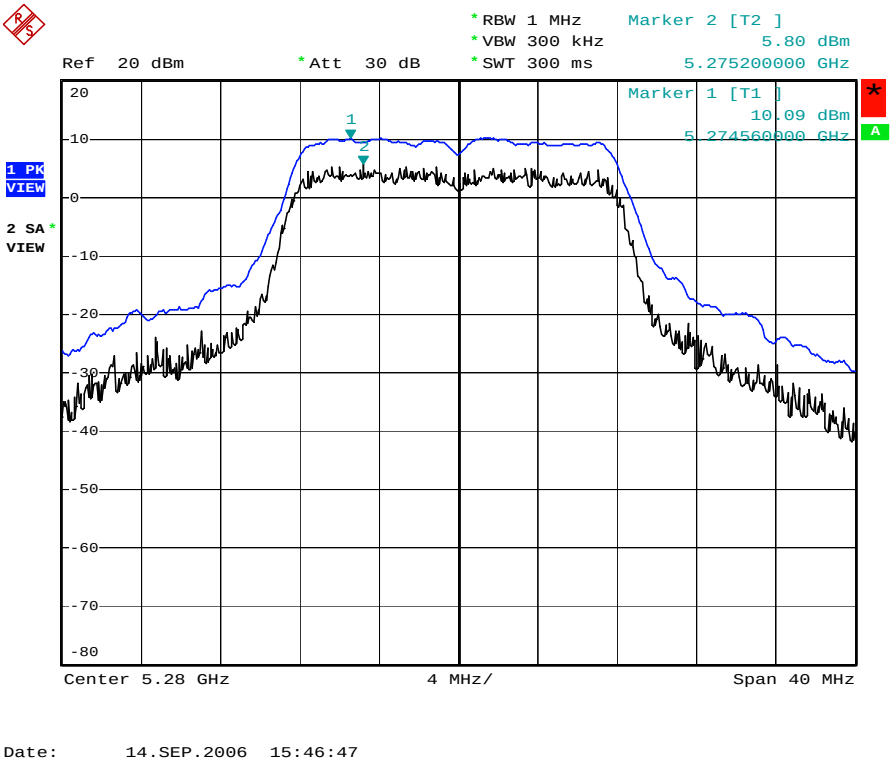
## 3.4. Peak Excursion Measurement

### 3.4.1. Test Result of Peak Excursion

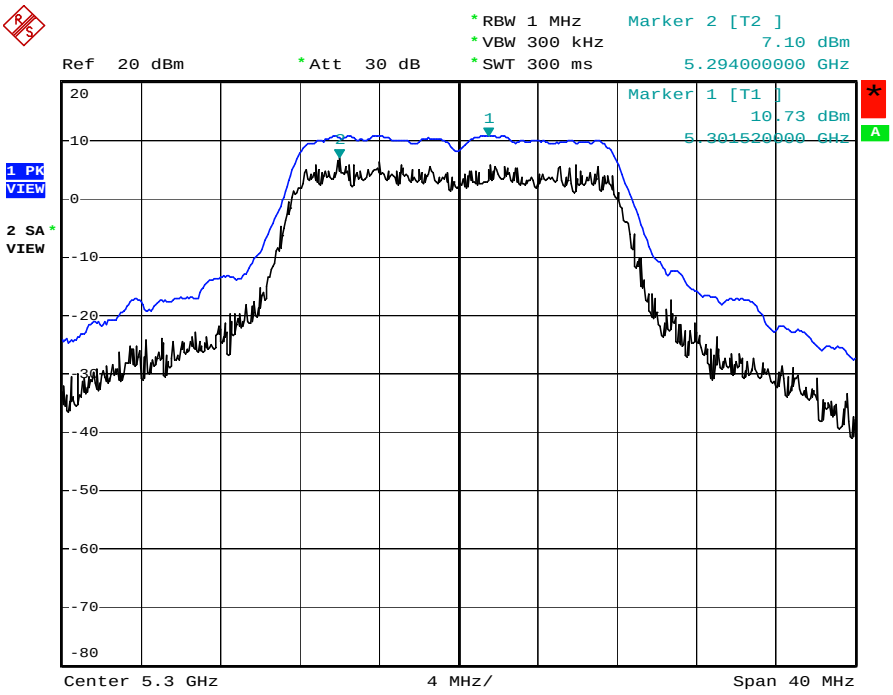
| Temperature | 20℃ | Humidity | 70% |
|---|---|---|---|
| Test Engineer | Sam Lee | Configurations | 802.11a |

| Frequency | Peak Excursion (dB) | Max. Limit (dB) | Result |
|---|---|---|---|
| 5280 MHz | 4.29 | 13 | **Complies** |
| 5300 MHz | 3.63 | 13 | **Complies** |
| 5320 MHz | 4.49 | 13 | **Complies** |

**Peak Excursion Plot on Configuration IEEE 802.11a / 5280 MHz**

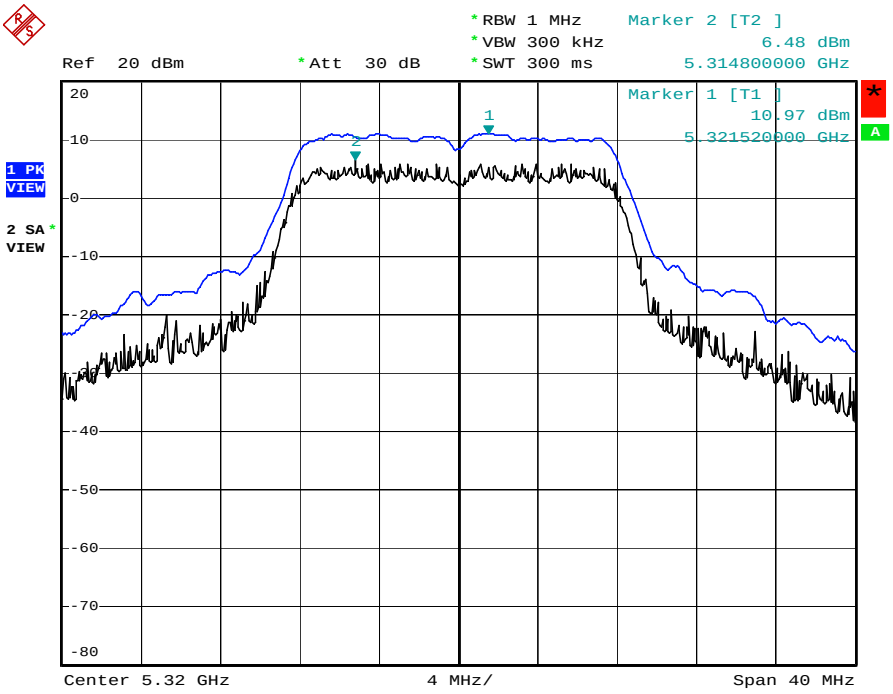


## Peak Excursion Plot on Configuration IEEE 802.11a / 5300 MHz




Date: 14.SEP.2006 15:47:42

## Peak Excursion Plot on Configuration IEEE 802.11a / 5320 MHz




Date: 14.SEP.2006 15:48:37

## 3.5. Radiated Emissions Measurement

### 3.5.1. Results of Radiated Emissions (9kHz~30MHz)

| Temperature | 20℃ | Humidity | 70% |
|---|---|---|---|
| Test Engineer | Ted Chiu | | |

| Freq. (MHz) | Level (dBuV) | Over Limit (dB) | Limit Line (dBuV) | Remark |
|---|---|---|---|---|
| - | - | - | - | See Note |

Note:

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

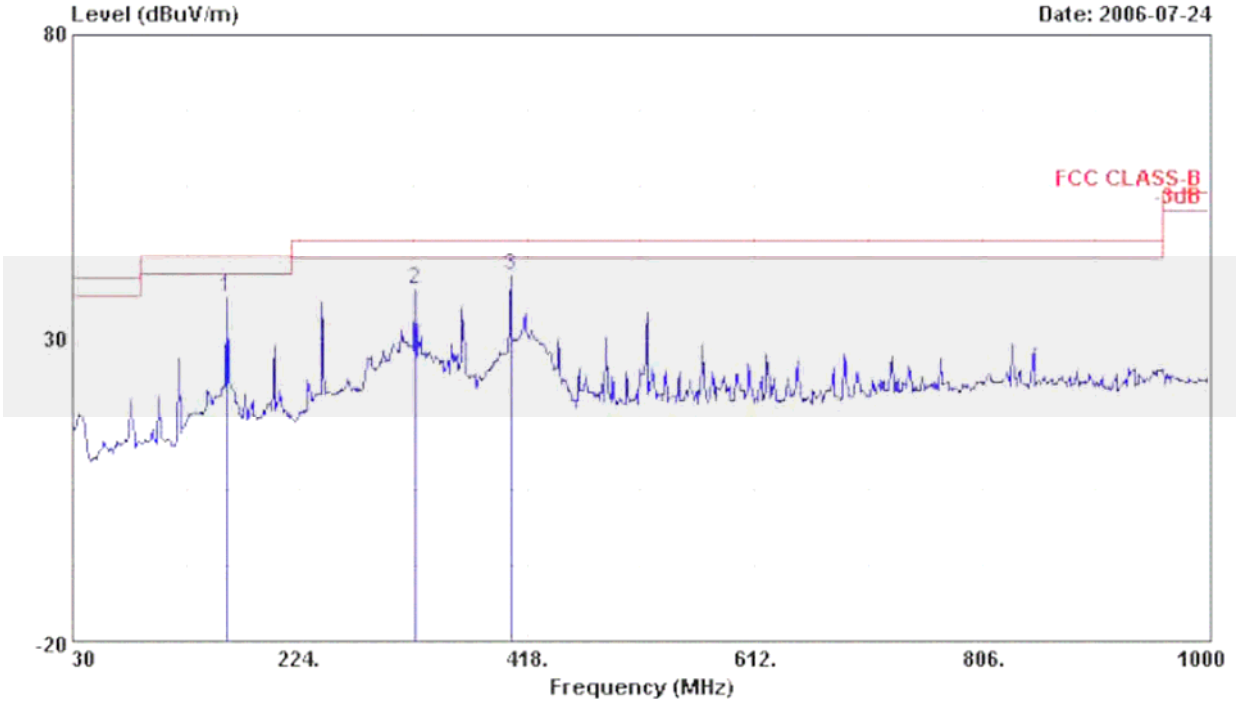
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

### 3.5.2. Results of Radiated Emissions (30MHz~1GHz)

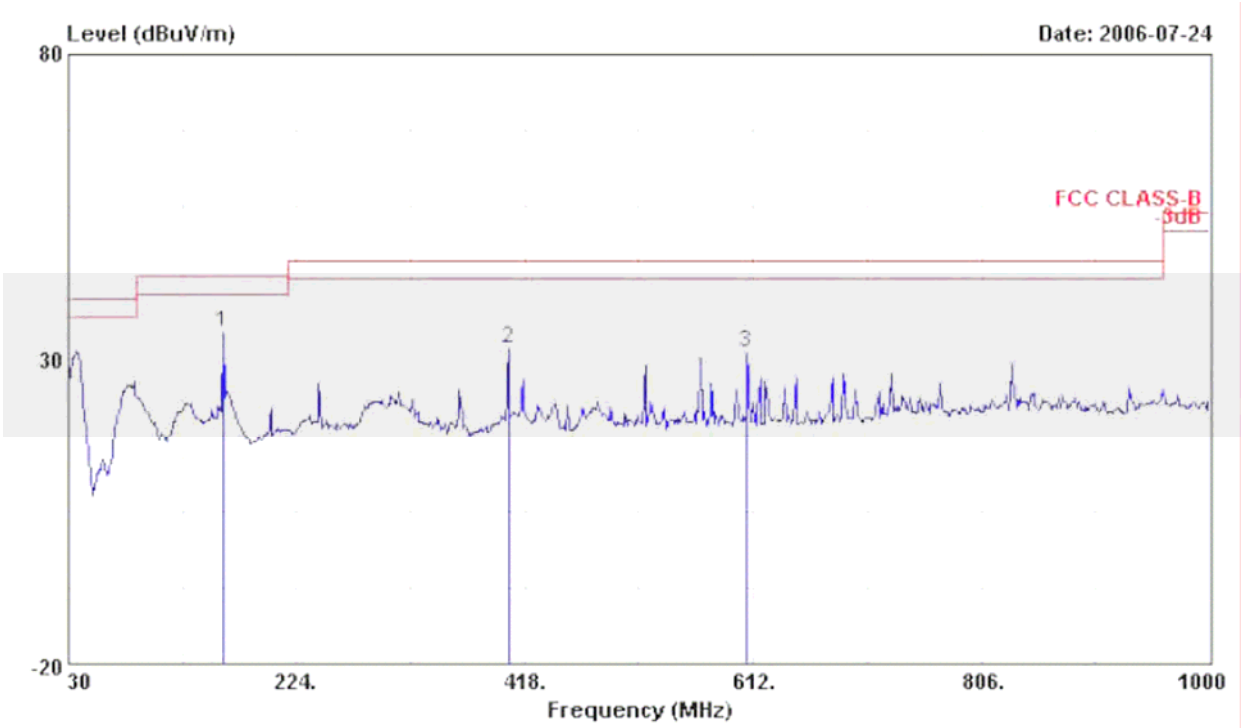
| Temperature | 29 ℃ | Humidity | 62 % |
|---|---|---|---|
| Test Engineer | Vic Hsiao | Configurations | 802.11a channel 64 |

***Horizontal***




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 | 160.950 | 36.69 | -6.81 | 43.50 | 53.02 | 9.98 | 1.76 | 28.08 | Peak |
| 2 | 322.940 | 37.95 | -8.05 | 46.00 | 49.14 | 14.39 | 3.11 | 28.69 | Peak |
| 3 | 404.420 | 40.34 | -5.66 | 46.00 | 49.11 | 16.94 | 3.40 | 29.11 | Peak |

***Vertical***




| Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark |
|---|---|---|---|---|---|---|---|---|
| MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 160.950 | 34.39 | -9.11 | 43.50 | 50.72 | 9.98 | 1.76 | 28.08 | Peak |
| 404.420 | 31.65 | -14.35 | 46.00 | 40.42 | 16.94 | 3.40 | 29.11 | Peak |
| 607.150 | 31.14 | -14.86 | 46.00 | 36.96 | 19.54 | 4.38 | 29.73 | Peak |

Note:

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

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

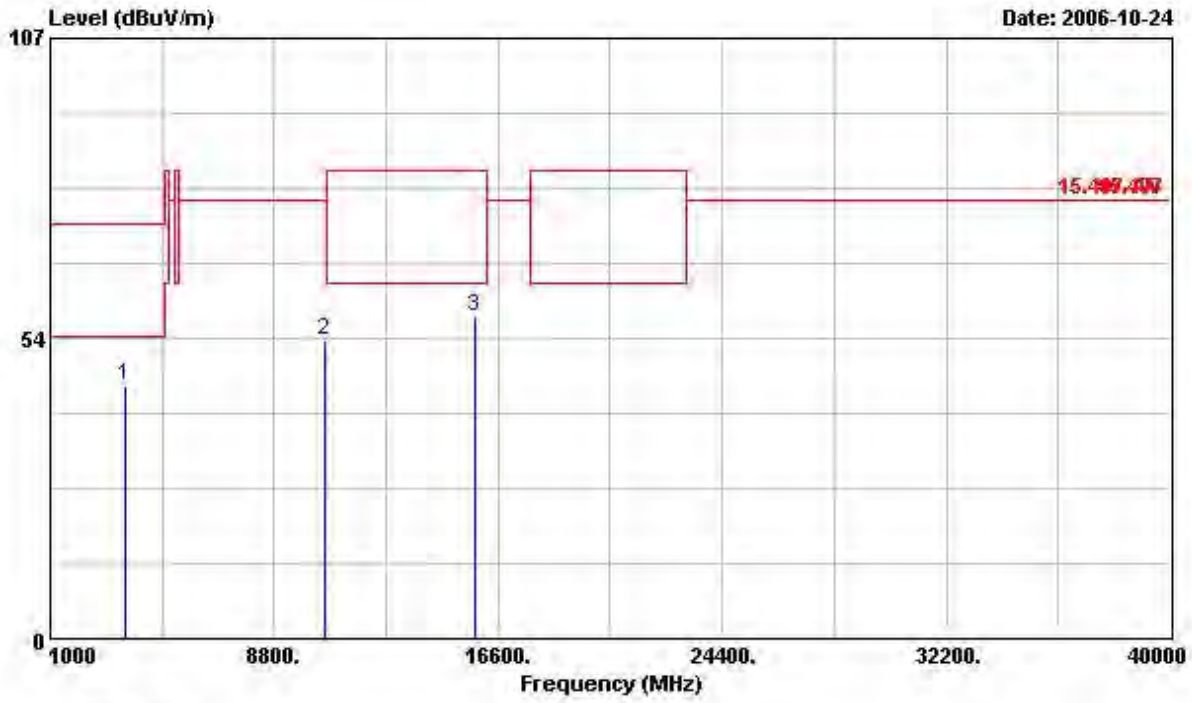
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Pol. : V is Vertical Polarization ; H is Horizontal Polarization.

### 3.5.3. Results for Radiated Emissions (1GHz~40GHz)

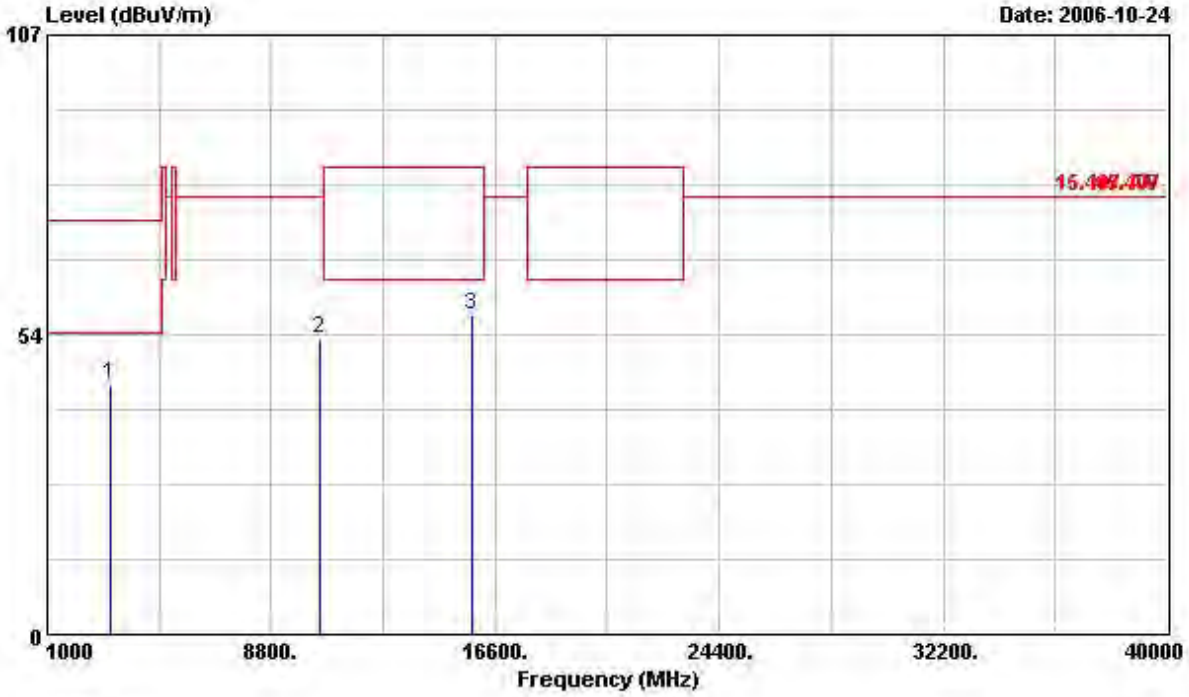
| Temperature | 29 ℃ | Humidity | 62 % |
|---|---|---|---|
| Test Engineer | Vic Hsiao | Configurations | 802.11a channel 52 |

***Horizontal***




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 | 3609.000 | 44.97 | -29.03 | 74.00 | 43.47 | 31.49 | 2.67 | 32.66 | PEAK |
| 2 | 10528.000 | 53.06 | -25.24 | 78.30 | 42.17 | 38.68 | 4.52 | 32.31 | PEAK |
| 3 | 15780.000 | 57.34 | -26.16 | 83.50 | 46.17 | 37.41 | 6.43 | 32.67 | PEAK |

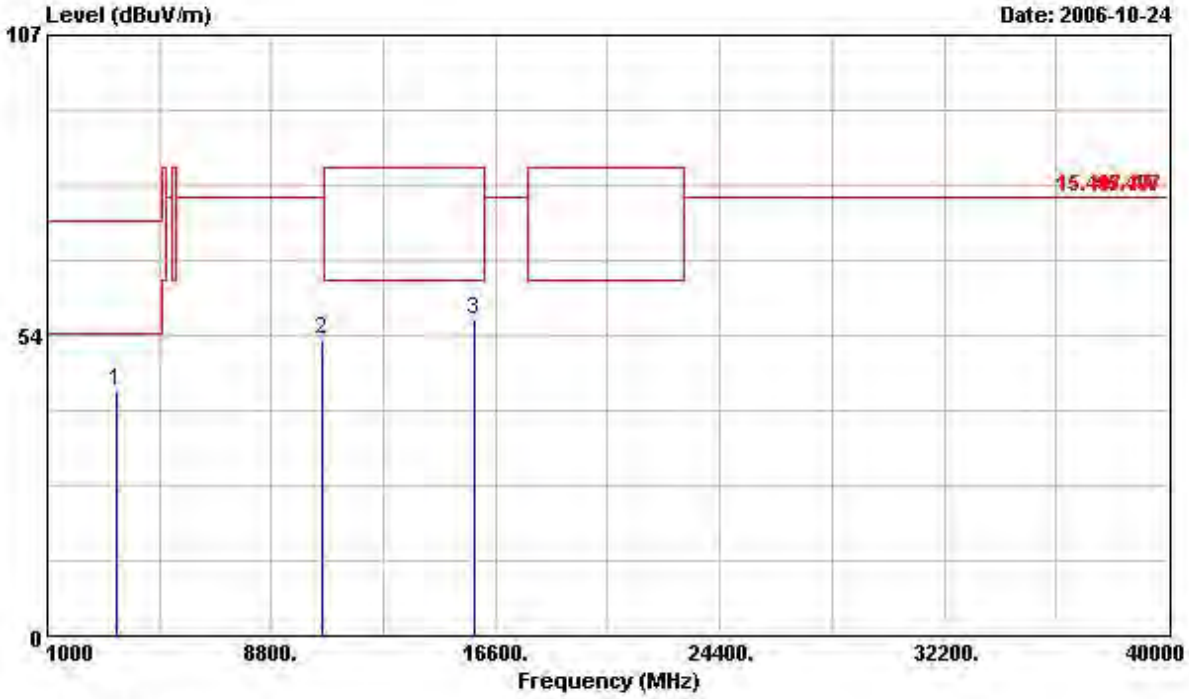
***Vertical***




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 | 3192.000 | 44.76 | -29.24 | 74.00 | 44.61 | 30.46 | 2.41 | 32.71 | PEAK |
| 2 | 10516.000 | 52.75 | -25.55 | 78.30 | 41.89 | 38.68 | 4.52 | 32.34 | PEAK |
| 3 | 15776.000 | 57.11 | -26.39 | 83.50 | 45.93 | 37.41 | 6.43 | 32.67 | PEAK |

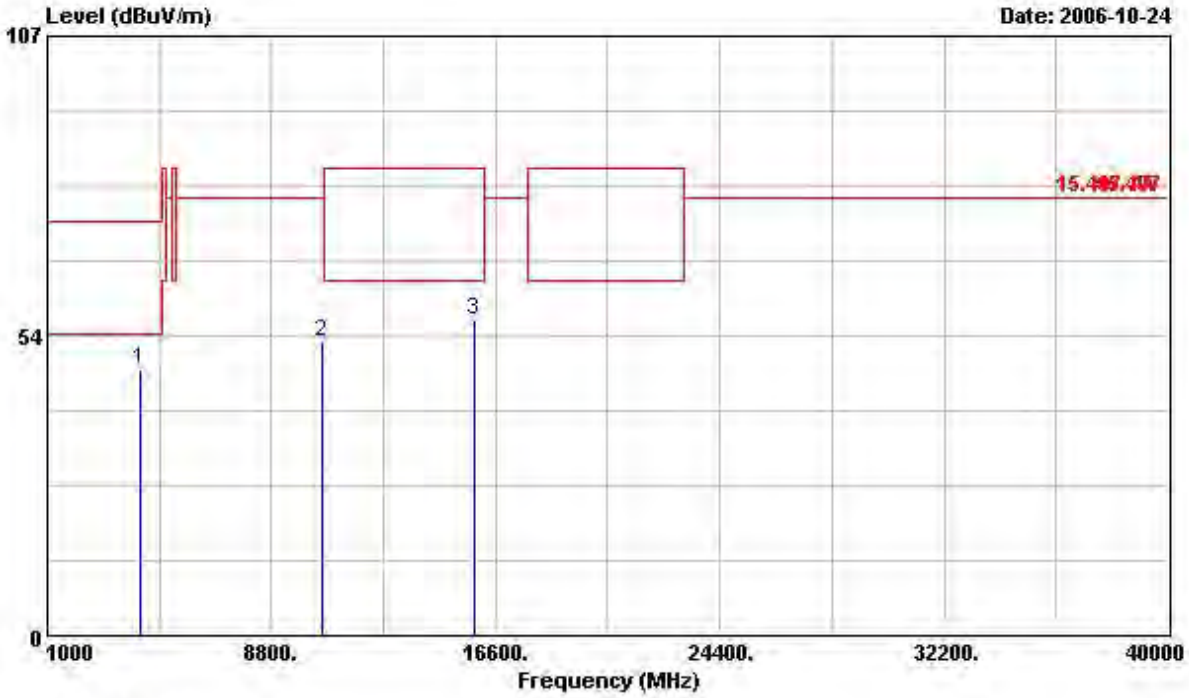
| Temperature | 29 ℃ | Humidity | 62 % |
|---|---|---|---|
| Test Engineer | Vic Hsiao | Configurations | 802.11a channel 56 |

***Horizontal***




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 | 3390.000 | 43.50 | -30.50 | 74.00 | 42.72 | 30.95 | 2.52 | 32.70 | PEAK |
| 2 | 10560.000 | 52.79 | -25.51 | 78.30 | 41.92 | 38.64 | 4.52 | 32.29 | PEAK |
| 3 | 15836.000 | 56.39 | -27.11 | 83.50 | 45.31 | 37.32 | 6.45 | 32.69 | PEAK |

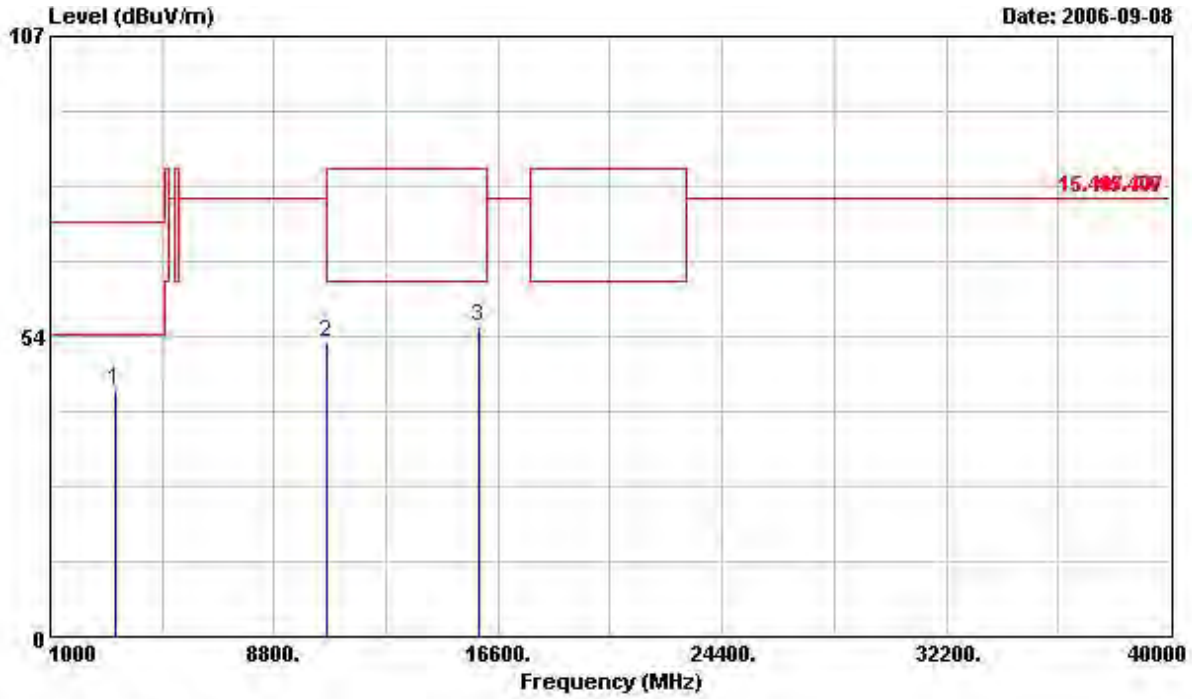
***Vertical***




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 | 4236.000 | 47.36 | -26.64 | 74.00 | 44.35 | 32.55 | 2.97 | 32.51 | PEAK |
| 2 | 10564.000 | 52.38 | -25.92 | 78.30 | 41.54 | 38.62 | 4.52 | 32.29 | PEAK |
| 3 | 15840.000 | 56.20 | -27.30 | 83.50 | 45.10 | 37.32 | 6.47 | 32.69 | PEAK |

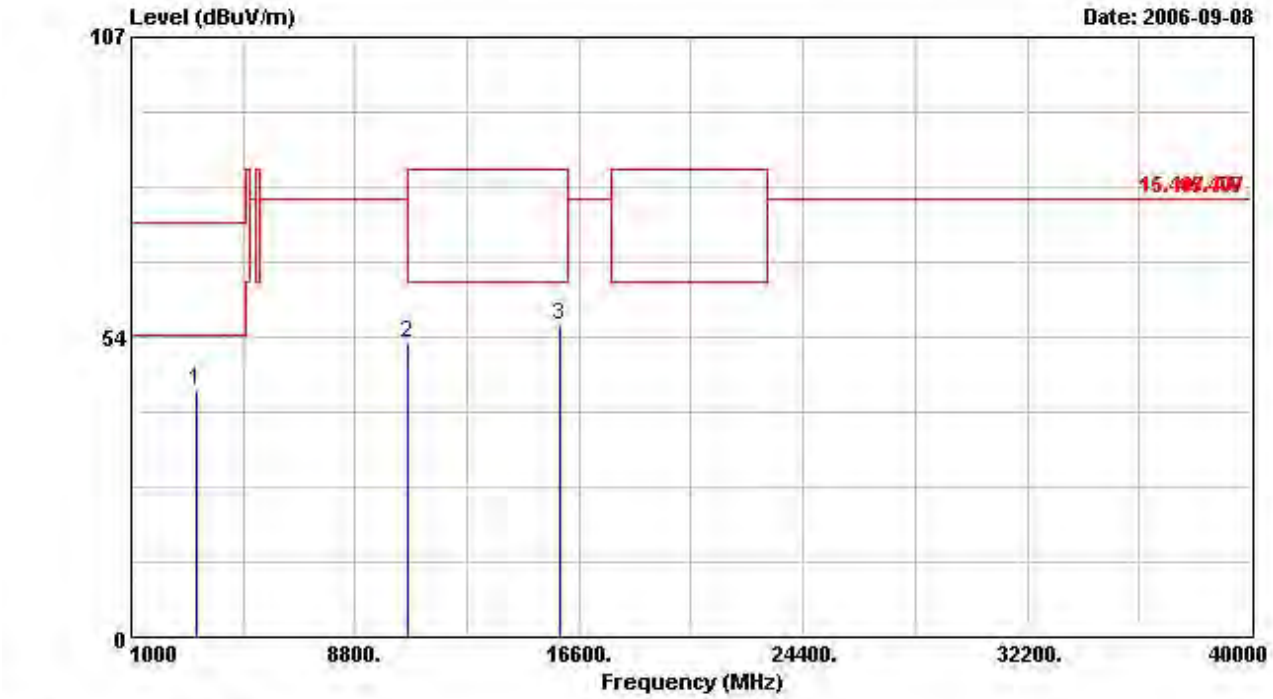
| Temperature | 29 ℃ | Humidity | 62 % |
|---|---|---|---|
| Test Engineer | Vic Hsiao | Configurations | 802.11a channel 64 |

***Horizontal***




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 | 3258.000 | 43.96 | -30.04 | 74.00 | 43.59 | 30.62 | 2.45 | 32.70 | PEAK |
| 2 | 10640.000 | 52.58 | -30.92 | 83.50 | 41.74 | 38.53 | 4.51 | 32.21 | PEAK |
| 3 | 15960.000 | 55.41 | -28.09 | 83.50 | 44.46 | 37.15 | 6.52 | 32.71 | PEAK |

***Vertical***




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 | 3270.000 | 44.02 | -29.98 | 74.00 | 43.60 | 30.66 | 2.45 | 32.70 | PEAK |
| 2 | 10640.000 | 52.39 | -31.11 | 83.50 | 41.55 | 38.53 | 4.51 | 32.21 | PEAK |
| 3 | 15960.000 | 55.78 | -27.72 | 83.50 | 44.82 | 37.15 | 6.52 | 32.71 | PEAK |

Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB 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.

The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1m.

Distance extrapolation factor = 20 log (specific distanc [3m] / test distance [1m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [9.54 dB].

## 3.6. Band Edge Emissions Measurement

### 3.6.1. Test Result of Band Edge Emissions

**For Emission in Restricted Band**

| | | | |
|---|---|---|---|
| **Temperature** | 20℃ | **Humidity** | 70% |
| **Test Engineer** | Ted Chiu | **Configurations** | 802.11a channel 52, 64 |

***Channel 52***

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 | 5149.800 | 70.19 | -13.31 | 83.50 | 33.22 | 33.64 | 3.33 | 0.00 | Peak |
| 2 # | 5254.600 | 117.50 | | | | 33.80 | 3.45 | 0.00 | Peak |
| 1 | 5149.800 | 56.55 | -6.95 | 63.50 | 19.58 | 33.64 | 3.33 | 0.00 | Average |
| 2 # | 5254.600 | 107.80 | | | | 33.80 | 3.45 | 0.00 | Average |

***Channel 64***

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 @ | 5322.200 | 119.02 | | | | 33.91 | 3.53 | 0.00 | Peak |
| 2 | 5356.200 | 69.30 | -14.20 | 83.50 | 31.77 | 33.96 | 3.57 | 0.00 | Peak |
| 1 # | 5322.200 | 109.27 | | | | 33.91 | 3.53 | 0.00 | Average |
| 2 | 5356.200 | 57.83 | -5.67 | 63.50 | 20.30 | 33.96 | 3.57 | 0.00 | Average |

Item 1 is Band Edge.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

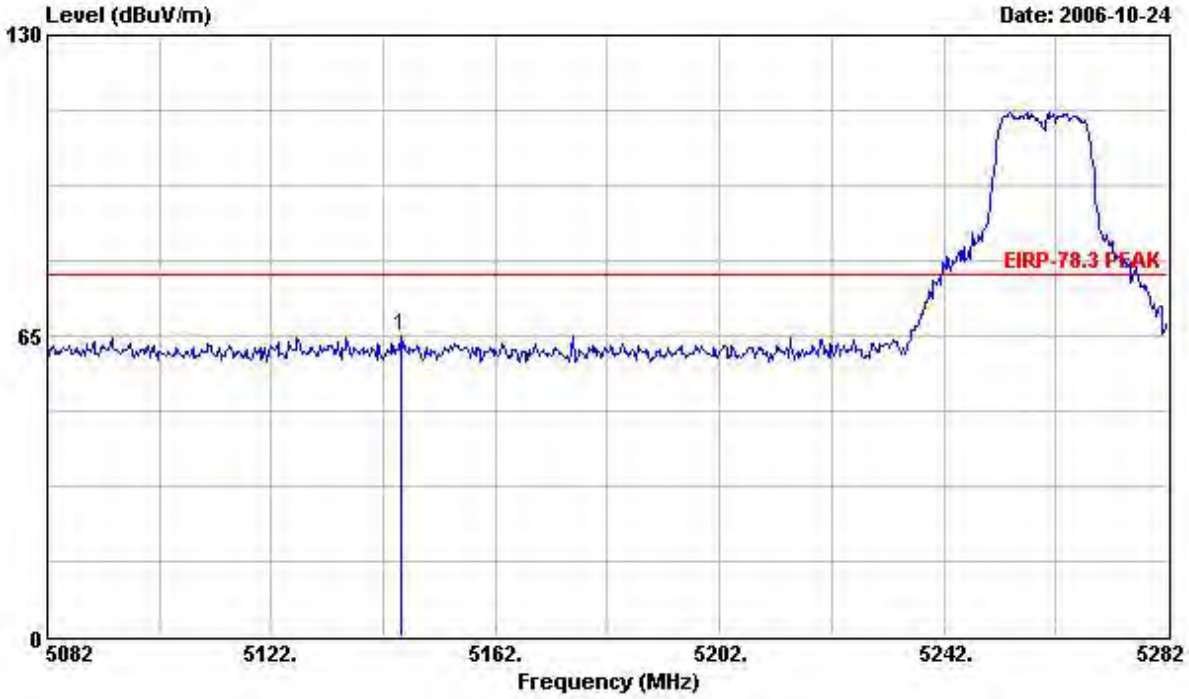
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1m.

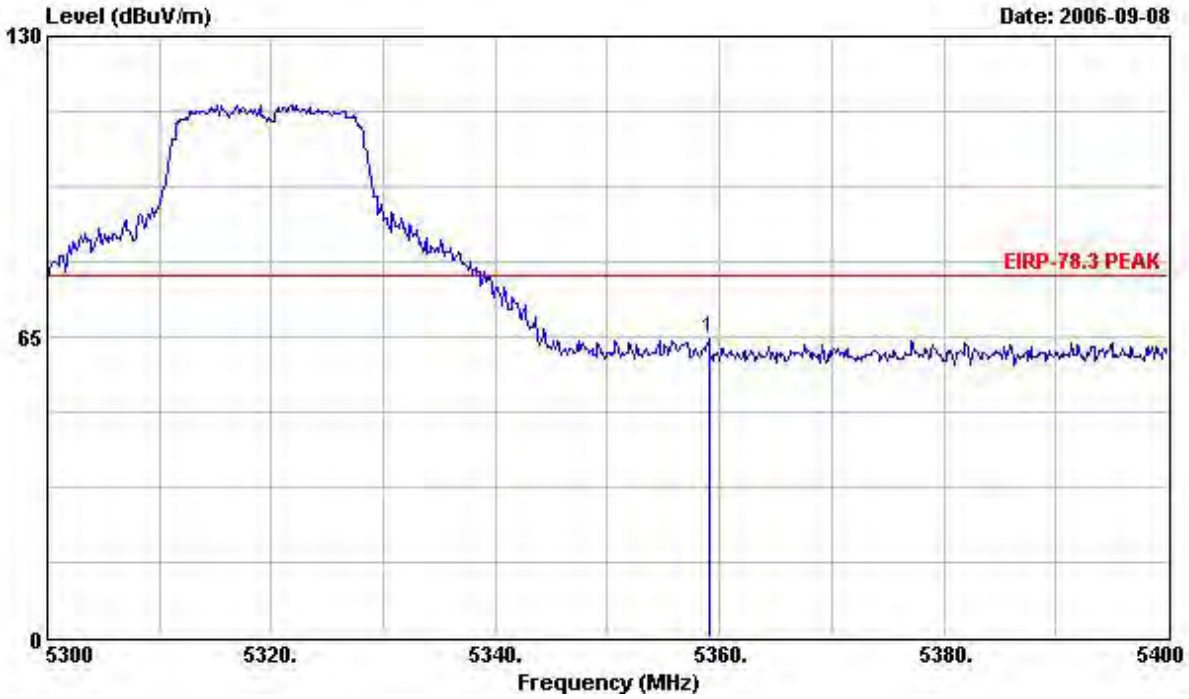
Distance extrapolation factor = 20 log (specific distanc [3m] / test distance [1m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [9.54 dB].

**For EIRP Emission in Band ( IEEE 802.11A / 5260MHz)**




**For EIRP Emission in Band ( IEEE 802.11A / 5320MHz)**



## 3.7. Frequency Stability Measurement

### 3.7.1. Test Result of Frequency Stability

**Voltage vs. Frequency Stability**

| Voltage | Measurement Frequency (MHz) |
|---|---|
| (V) | **5280** |
| 126.50 | 5279.9548 |
| 110.00 | 5279.9528 |
| 93.50 | 5279.9537 |
| Max. Deviation (MHz) | **0.0472** |
| Max. Deviation (ppm) | **8.9394** |

**Temperature vs. Frequency Stability**

| Temperature | Measurement Frequency (MHz) |
|---|---|
| (℃) | **5280** |
| -30 | 5279.9579 |
| -20 | 5279.9571 |
| -10 | 5279.9569 |
| 0 | 5279.9566 |
| 10 | 5279.9532 |
| 20 | 5279.9528 |
| 30 | 5279.9521 |
| 40 | 5279.9514 |
| 50 | 5279.9498 |
| Max. Deviation (MHz) | **0.0502** |
| Max. Deviation (ppm) | **9.5076** |

# 4. MEASURING INSTRUMENTS

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark |
|---|---|---|---|---|---|---|
| Spectrum Analyzer | R&S | FSP30 | 100023 | 9kHz ~ 30GHz | Nov. 26, 2005 | Conducted (TH01-HY) |
| Power Meter | R&S | NRVS | 100764 | DC ~ 40GHz | Jul, 20, 2006 | Conducted (TH01-HY) |
| Power Sensor | R&S | NRV-Z51 | 100666 | DC ~ 40GHz | Jul. 19, 2006 | Conducted (TH01-HY) |
| Power Sensor | R&S | NRV-Z32 | 100057 | 30MHz ~ 6GHz | Jun, 10, 2006 | Conducted (TH01-HY) |
| DC Power Source | G.W. | GPC-6030D | C671845 | DC 1V ~ 60V | Dec. 28, 2005 | Conducted (TH01-HY) |
| Temp. and Humidity Chamber | KSON | THS-C3L | 612 | N/A | Oct. 02, 2006 | Conducted (TH01-HY) |
| RF CABLE-1m | Jye Bao | RG142 | CB034-1m | 20MHz ~ 7GHz | Dec. 30, 2005 | Conducted (TH01-HY) |
| RF CABLE-2m | Jye Bao | RG142 | CB035-2m | 20MHz ~ 1GHz | Dec. 30, 2005 | Conducted (TH01-HY) |
| Oscilloscope | Tektronix | TDS1012 | CO38515 | 100MHz / 1GS/s | Jun. 20, 2006 | Conducted (TH01-HY) |
| Signal Generator | R&S | SMR40 | 100116 | 10MHz ~ 40GHz | Dec. 30, 2005 | Conducted (TH01-HY) |
| Data Generator | Tektronix | DG2030 | 063-2920-50 | 0.1Hz~400MHz | Jun. 16, 2006 | Conducted (TH01-HY) |
| 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M | 03CH03-HY | 30 MHz - 1 GHz 3m | Jun. 16, 2006 | Radiation (03CH03-HY) |
| Amplifier | SCHAFFNER | CPA9231A | 1886 | 9 kHz - 2 GHz | Jan. 18, 2006 | Radiation (03CH03-HY) |
| Amplifier | Agilent | 8449B | 3008A02120 | 1 GHz - 26.5 GHz | May 29, 2006 | Radiation (03CH03-HY) |
| Spectrum Analyzer | R&S | FSP40 | 100004/040 | 9 kHz - 40 GHz | Sep. 30, 2006 | Radiation (03CH03-HY) |
| Bilog Antenna | SCHAFFNER | CBL 6112D | 22237 | 30 MHz – 1 GHz | Jul. 24, 2006 | Radiation (03CH03-HY) |
| Horn Antenna | EMCO | 3115 | 6903 | 1GHz ~ 18GHz | Mar. 15, 2006 | Radiation (03CH03-HY) |
| Horn Antenna | SCHWARZBECK | BBHA9170 | BBHA9170154 | 15 GHz - 40 GHz | NCR | Radiation (03CH03-HY) |
| RF Cable-R03m | Jye Bao | RG142 | CB021 | 30 MHz - 1 GHz | Dec.02, 2005 | Radiation (03CH03-HY) |
| RF Cable-HIGH | SUHNER | SUCOFLEX 106 | 03CH03-HY | 1 GHz - 40 GHz | Dec.02, 2005 | Radiation (03CH03-HY) |
| Turn Table | HD | DS 420 | 420/650/00 | 0 – 360 degree | N/A | Radiation (03CH03-HY) |
| Antenna Mast | HD | MA 240 | 240/560/00 | 1 m - 4 m | N/A | Radiation (03CH03-HY) |

Note: Calibration Interval of instruments listed above is one year. NCR: Non-Calibration required.

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark |
|---|---|---|---|---|---|---|
| AC Power Source | HPC | HPA-500W | HPA-9100024 | AC 0 ~ 300V | Apr. 21, 2005* | Conducted (TH01-HY) |
| Amplifier | MITEQ | AMF-6F-260400 | 923364 | 26.5 GHz - 40 GHz | Jan. 24, 2006* | Radiation (03CH03-HY) |
| Loop Antenna | R&S | HFH2-Z2 | 860004/001 | 9 kHz - 30 MHz | May 23, 2006* | Radiation (03CH03-HY) |

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

# 5. TEST LOCATION

| | | | |
|---|---|---|---|
| SHIJR | ADD | : | 6Fl., 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 | : | 7Fl., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C. |
| | TEL | : | 886-2-8227-2020 |
| | FAX | : | 886-2-8227-2626 |
| NEIHU | ADD | : | 4Fl., No. 339, Hsin Hu 2nd 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 |

# 6. NVLAP CERTIFICATE OF ACCREDITATION

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

## Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200079-0

**Sporton International, Inc. Hwa Ya EMC Laboratory**
Tao Yuan Hsien 333
TAIWAN

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:*

**ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated 18 June 2005).*

2007-01-01 through 2007-12-31
*Effective dates*

DEPARTMENT OF COMMERCE * UNITED STATES OF AMERICA *

Sally S. Bruce
*For the National Institute of Standards and Technology*

NVLAP-01C (REV. 2006-09-13)