



**FCC CFR47 PART 15 SUBPART C  
CLASS II PERMISSIVE CHANGE  
TEST REPORT**

**FOR**

**MC85 MINI CARD 11b/g/a/n RADIO CARD**

**MODEL NUMBER: MC85**

**FCC ID: UAY-MMC85PG**

**REPORT NUMBER: 06U10462-1B**

**ISSUE DATE: AUGUST 14, 2006**

*Prepared for*  
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5488 MARVELL LANE  
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**NVLAP<sup>®</sup>**  
**LAB CODE:200065-0**

Revision History

| Rev. | Issue<br>Date | Revisions                                                                                                                                                            | Revised By |
|------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| --   | 7/31/2006     | Initial Issue                                                                                                                                                        | A. Ilarina |
| B    | 8/14/2006     | <ul style="list-style-type: none"><li>- Clarify Tx Low, Mid, and High channels in tables on pages 44 and 62.</li><li>- Update antenna gain in section 5.3.</li></ul> | A. Ilarina |

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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** MARVELL SEMICONDUCTOR, INC.  
5488 MARVELL LANE  
SANTA CLARA, CA, 95054, USA

**EUT DESCRIPTION:** MC85 MINI CARD 11b/g/a/n RADIO CARD

**MODEL:** MC85

**SERIAL NUMBER:** 032

**DATE TESTED:** JULY 24 – JULY 28, 2006

| APPLICABLE STANDARDS  |                         |
|-----------------------|-------------------------|
| STANDARD              | TEST RESULTS            |
| FCC PART 15 SUBPART C | NO NON-COMPLIANCE NOTED |

Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:

Tested By:



ALVIN ILARINA  
EMC SUPERVISOR  
COMPLIANCE CERTIFICATION SERVICES



THANH NGUYEN  
EMC TECHNICIAN  
COMPLIANCE CERTIFICATION SERVICES

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003, FCC CFR 47 Part 2 and FCC CFR 47 Part 15.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| PARAMETER                           | UNCERTAINTY    |
|-------------------------------------|----------------|
| Radiated Emission, 30 to 200 MHz    | +/- 3.3 dB     |
| Radiated Emission, 200 to 1000 MHz  | +4.5 / -2.9 dB |
| Radiated Emission, 1000 to 2000 MHz | +4.5 / -2.9 dB |
| Power Line Conducted Emission       | +/- 2.9 dB     |

Uncertainty figures are valid to a confidence level of 95%.

## **5. EQUIPMENT UNDER TEST**

### **5.1. DESCRIPTION OF EUT**

The EUT is an 802.11a/b/g/n transceiver.

The radio module is manufactured by Marvell Semiconductor.

### **5.2. CLASS II PERMISSIVE CHANGE DESCRIPTION**

Change #1      Use GATEWAY Laptop PIFA Antenna

### **5.3. DESCRIPTION OF AVAILABLE ANTENNAS**

The radio utilizes PIFA antenna manufactured by Well Green Technologies, Model W740 maximum gain of 2.27 dBi in the 2.4 GHz band, and 2.5 dBi in the 5.8 GHz band.

### **5.4. SOFTWARE AND FIRMWARE**

The firmware installed in the EUT during testing was PCI rev. 1.0.0.0.2, MFG 2.1.0.36

The EUT driver software installed in the Laptop during testing was Marvell Semiconductor, Inc. Labtools rev. 1.0.3.p3.

The board revision of the EUT tested is 1.8.

The test utility software used during testing was PCI.exe.

## **5.5. WORST-CASE CONFIGURATION AND MODE**

The 2x3 configuration was used for all testing in this report.

The worst- case data rates are determined to be as follows for each mode based on investigation by measuring the average power, peak power and PPSD across all data rates, bandwidths, and modulations.

The worst-case data rates for the 2GHz bands are: 11 Mbps for 802.11b; 54Mbps for 802.11g; MCS11 for 802.11n HT20; MCS15 for 802.11n HT40. These are based on baseline testing with this chipset.

The worst-case data rates for the 5GHz bands are: 9 Mbps for 802.11a 20MHz and 802.11a 40MHz; MCS0 for 802.11n HT20 and 802.11n HT40. These are based on baseline testing with this chipset.

All emissions tests were made with the worst-case data rates.

## **5.6. MODIFICATIONS**

There were no modifications made to the revision EUT during the testing.

## 5.7. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

| PERIPHERAL SUPPORT EQUIPMENT LIST |              |            |               |        |
|-----------------------------------|--------------|------------|---------------|--------|
| Description                       | Manufacturer | Model      | Serial Number | FCC ID |
| Laptop PC                         | Gateway      | W740       | NB677407602R  | DoC    |
| Power Adapter                     | Gateway      | PA-1211-06 | 640001700A    | N/A    |

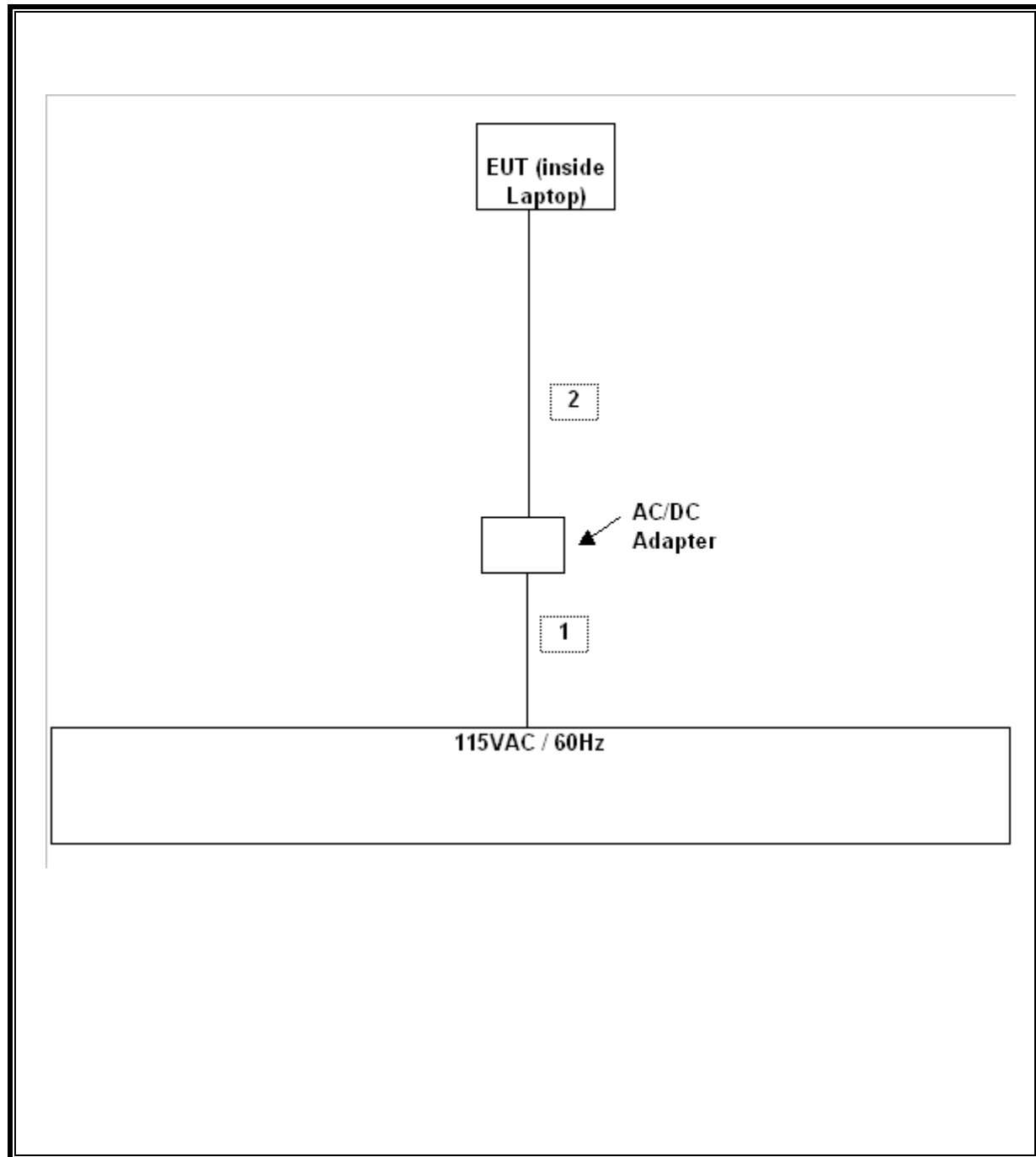
### I/O CABLES

| I/O CABLE LIST |      |                      |                |             |              |                         |
|----------------|------|----------------------|----------------|-------------|--------------|-------------------------|
| Cable No.      | Port | # of Identical Ports | Connector Type | Cable Type  | Cable Length | Remarks                 |
| 1              | AC   | 1                    | US 115V        | Un-shielded | 1.2m         | N/A                     |
| 2              | DC   | 1                    | DC Plug        | Un-shielded | 2m           | Ferrites bead at 2 ends |

### TEST SETUP

The EUT is installed inside a host laptop computer. Test software exercised the radio card.

**SETUP DIAGRAM FOR TESTS**



## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

| TEST EQUIPMENT LIST             |                |                  |               |            |
|---------------------------------|----------------|------------------|---------------|------------|
| Description                     | Manufacturer   | Model            | Serial Number | Cal Due    |
| EMI Test Receiver               | R & S          | ESHS 20          | 827129/006    | 6/3/2007   |
| LISN, 10 kHz ~ 30 MHz           | FCC            | LISN-50/250-25-2 | 2023          | 8/30/2006  |
| EMI Receiver, 9 kHz ~ 2.9 GHz   | Agilent / HP   | 8542E            | 3942A00286    | 2/4/2007   |
| RF Filter Section               | Agilent / HP   | 85420E           | 3705A00256    | 2/4/2007   |
| Antenna, Bilog 30 MHz ~ 2 GHz   | Sunol Sciences | JB1              | A121003       | 9/3/2006   |
| Peak Power Meter                | Agilent / HP   | E4416A           | GB41291160    | 12/2/2007  |
| Peak / Average Power Sensor     | Agilent        | E9327A           | US40440755    | 12/2/2007  |
| Antenna, Horn 1 ~ 18 GHz        | EMCO           | 3115             | 2238          | 4/22/2007  |
| Antenna, Horn 18 ~ 26 GHz       | ARA            | MWH-1826/B       | 1049          | 9/12/2006  |
| Preamplifier, 1 ~ 26 GHz        | Miteq          | NSP2600-SP       | 924342        | 9/2/2006   |
| Antenna, Horn 26 ~ 40 GHz       | ARA            | MWH-2640/B       | 1029          | 4/13/2007  |
| Preamplifier, 26 ~ 40 GHz       | Miteq          | NSP4000-SP2      | 924343        | 8/18/2006  |
| 5.15-5.35 GHz Reject Filter     | Micro-Tronics  | BRC13190         | 1             | CNR        |
| 5.725-5.825 GHz Reject Filter   | Micro-Tronics  | BRC13192         | 1             | CNR        |
| 4.0 High Pass Filter            | Micro Tronics  | HPM13351         | 3             | CNR        |
| Spectrum Analyzer 3 Hz ~ 44 GHz | Agilent / HP   | E4446A           | MY45300064    | 12/19/2006 |

## 7. LIMITS AND RESULTS

### 7.1.1. AVERAGE POWER 2400 TO 2483.5 MHZ BAND

#### AVERAGE POWER LIMIT

None; for reporting purposes only.

#### TEST PROCEDURE

The transmitter output is connected to a power meter.

Each chain is measured separately and the total power is calculated using:

Total Power =  $10 \log (10^{\text{(Chain 0 Power / 10)}} + 10^{\text{(Chain 2 Power / 10)}})$

## **RESULTS**

No non-compliance noted:

The cable assembly insertion loss of 10.7 dB (including 10 dB pad and 1.5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

| <b>Mode<br/>Channel</b> | <b>Frequency<br/>(MHz)</b> | <b>Average Power<br/>Chain A<br/>(dBm)</b> | <b>Average Power<br/>Chain B<br/>(dBm)</b> | <b>Average Power<br/>Total<br/>(dBm)</b> |
|-------------------------|----------------------------|--------------------------------------------|--------------------------------------------|------------------------------------------|
|-------------------------|----------------------------|--------------------------------------------|--------------------------------------------|------------------------------------------|

### 802.11b Mode

|        |      |      |      |      |
|--------|------|------|------|------|
| Low    | 2412 | 18.5 | 17.5 | 21.0 |
| Middle | 2437 | 17.5 | 18.0 | 20.8 |
| High   | 2462 | 18.5 | 18.2 | 21.4 |

### 802.11g 20MHz Mode

|        |      |      |      |      |
|--------|------|------|------|------|
| Low    | 2412 | 15.6 | 15.4 | 18.5 |
| Middle | 2437 | 17.4 | 17.5 | 20.4 |
| High   | 2462 | 16.2 | 15.1 | 18.7 |

### 802.11g 40MHz Mode

|        |      |      |      |      |
|--------|------|------|------|------|
| Low    | 2422 | 12.6 | 12.7 | 15.6 |
| Middle | 2437 | 12.5 | 12.1 | 15.3 |
| High   | 2452 | 11.7 | 10.6 | 14.2 |

### 802.11n HT20 Mode

|        |      |      |      |      |
|--------|------|------|------|------|
| Low    | 2412 | 14.8 | 14.8 | 17.8 |
| Middle | 2437 | 16.9 | 16.9 | 19.9 |
| High   | 2462 | 14.2 | 13.8 | 17.0 |

### 802.11n HT40 Mode

|        |      |      |      |      |
|--------|------|------|------|------|
| Low    | 2422 | 14.0 | 14.1 | 17.0 |
| Middle | 2437 | 12.2 | 12.7 | 15.5 |
| High   | 2452 | 12.5 | 12.2 | 15.4 |

### **7.1.2. AVERAGE POWER 5725 TO 5850 MHZ BAND**

#### **AVERAGE POWER LIMIT**

None; for reporting purposes only.

#### **TEST PROCEDURE**

The transmitter output is connected to a power meter.

Each chain is measured separately and the total power is calculated using:

Total Power =  $10 \log (10^{\text{(Chain 0 Power / 10)}} + 10^{\text{(Chain 2 Power / 10)}})$

## **RESULTS**

No non-compliance noted:

The cable assembly insertion loss of 10.6 dB (including 10 dB pad and 0.6 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

| <b>Mode<br/>Channel</b> | <b>Frequency<br/>(MHz)</b> | <b>Average Power<br/>Chain A<br/>(dBm)</b> | <b>Average Power<br/>Chain B<br/>(dBm)</b> | <b>Average Power<br/>Total<br/>(dBm)</b> |
|-------------------------|----------------------------|--------------------------------------------|--------------------------------------------|------------------------------------------|
|-------------------------|----------------------------|--------------------------------------------|--------------------------------------------|------------------------------------------|

### 802.11a 20M Mode

|        |      |      |      |      |
|--------|------|------|------|------|
| Low    | 5745 | 17.2 | 17.3 | 20.3 |
| Middle | 5785 | 17.1 | 17.1 | 20.1 |
| High   | 5825 | 17.1 | 17.0 | 20.0 |

### 802.11a 40M Mode

|      |      |      |      |      |
|------|------|------|------|------|
| Low  | 5755 | 12.8 | 12.5 | 15.6 |
| High | 5795 | 16.9 | 16.9 | 19.9 |

### 802.11n HT20 Mode

|        |      |      |      |      |
|--------|------|------|------|------|
| Low    | 5745 | 17.2 | 16.9 | 20.1 |
| Middle | 5785 | 17.2 | 17.1 | 20.2 |
| High   | 5825 | 16.9 | 17.0 | 20.0 |

### 802.11n HT40 Mode

|      |      |      |      |      |
|------|------|------|------|------|
| Low  | 5755 | 14.5 | 14.6 | 17.6 |
| High | 5795 | 17.1 | 17.0 | 20.1 |

## 7.2. RADIATED EMISSIONS

### 7.2.1. TRANSMITTER RADIATED SPURIOUS EMISSIONS

#### LIMITS

§15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

| MHz                        | MHz                   | MHz             | GHz              |
|----------------------------|-----------------------|-----------------|------------------|
| 0.090 - 0.110              | 16.42 - 16.423        | 399.9 - 410     | 4.5 - 5.15       |
| <sup>1</sup> 0.495 - 0.505 | 16.69475 - 16.69525   | 608 - 614       | 5.35 - 5.46      |
| 2.1735 - 2.1905            | 16.80425 - 16.80475   | 960 - 1240      | 7.25 - 7.75      |
| 4.125 - 4.128              | 25.5 - 25.67          | 1300 - 1427     | 8.025 - 8.5      |
| 4.17725 - 4.17775          | 37.5 - 38.25          | 1435 - 1626.5   | 9.0 - 9.2        |
| 4.20725 - 4.20775          | 73 - 74.6             | 1645.5 - 1646.5 | 9.3 - 9.5        |
| 6.215 - 6.218              | 74.8 - 75.2           | 1660 - 1710     | 10.6 - 12.7      |
| 6.26775 - 6.26825          | 108 - 121.94          | 1718.8 - 1722.2 | 13.25 - 13.4     |
| 6.31175 - 6.31225          | 123 - 138             | 2200 - 2300     | 14.47 - 14.5     |
| 8.291 - 8.294              | 149.9 - 150.05        | 2310 - 2390     | 15.35 - 16.2     |
| 8.362 - 8.366              | 156.52475 - 156.52525 | 2483.5 - 2500   | 17.7 - 21.4      |
| 8.37625 - 8.38675          | 156.7 - 156.9         | 2655 - 2900     | 22.01 - 23.12    |
| 8.41425 - 8.41475          | 162.0125 - 167.17     | 3260 - 3267     | 23.6 - 24.0      |
| 12.29 - 12.293             | 167.72 - 173.2        | 3332 - 3339     | 31.2 - 31.8      |
| 12.51975 - 12.52025        | 240 - 285             | 3345.8 - 3358   | 36.43 - 36.5     |
| 12.57675 - 12.57725        | 322 - 335.4           | 3600 - 4400     | ( <sup>2</sup> ) |
| 13.36 - 13.41              |                       |                 |                  |

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2</sup> Above 38.6

§15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

§15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

| Frequency<br>(MHz) | Field Strength<br>(microvolts/meter) | Measurement Distance<br>(meters) |
|--------------------|--------------------------------------|----------------------------------|
| 30 - 88            | 100 **                               | 3                                |
| 88 - 216           | 150 **                               | 3                                |
| 216 - 960          | 200 **                               | 3                                |
| Above 960          | 500                                  | 3                                |

\*\* Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

## **TEST PROCEDURE**

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

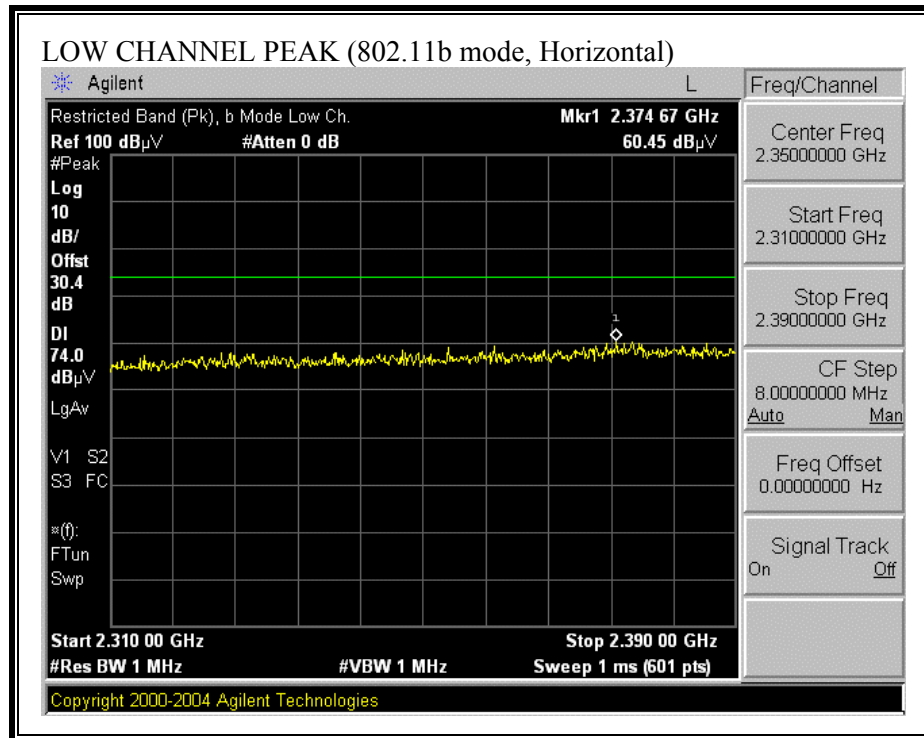
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

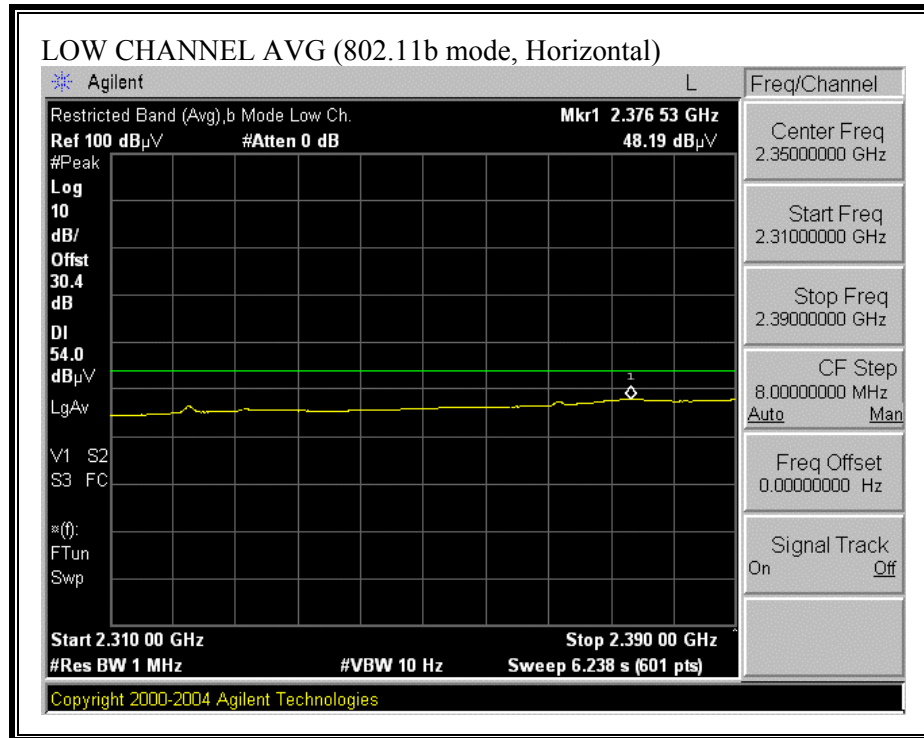
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each 5 GHz band.

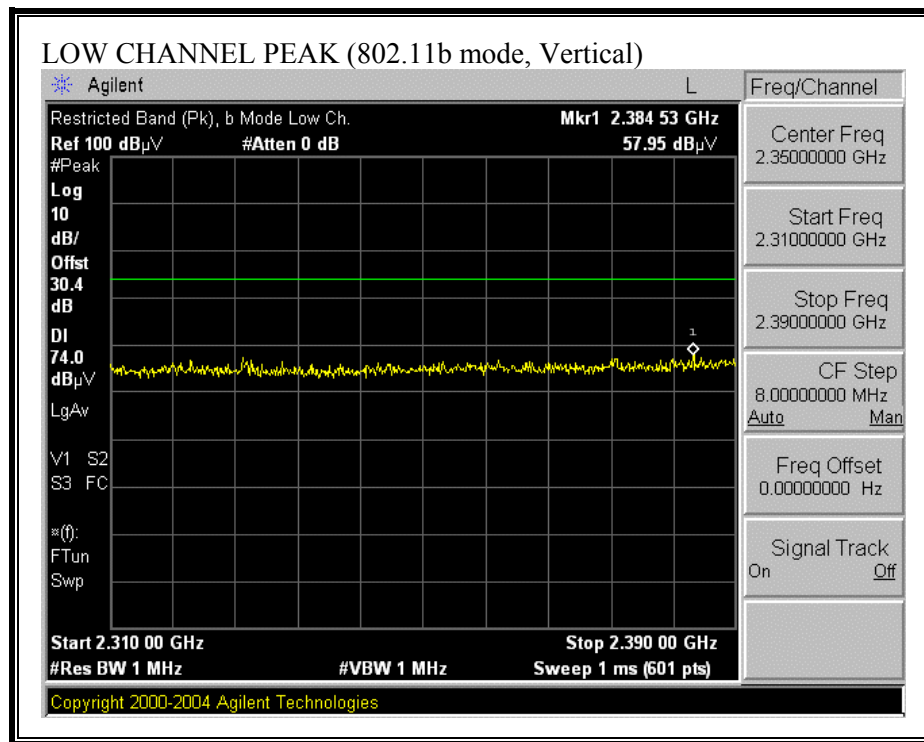
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

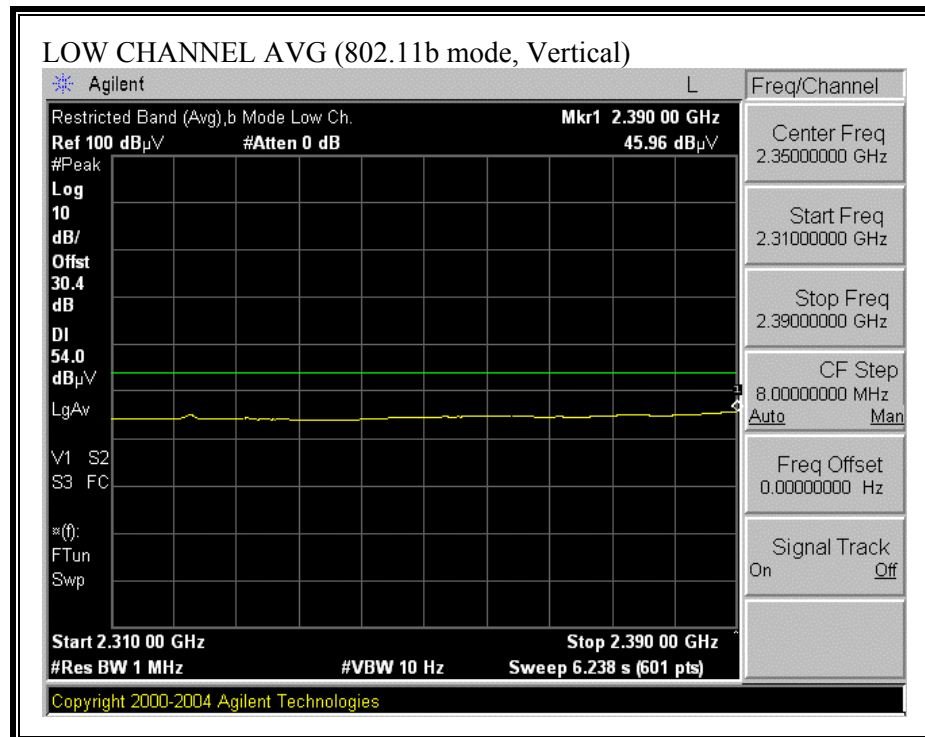
## 7.2.2. TRANSMITTER ABOVE 1 GHz FOR 2400 TO 2483.5 MHz BAND

### RESTRICTED BANDEDGE (802.11b MODE, LOW CHANNEL)

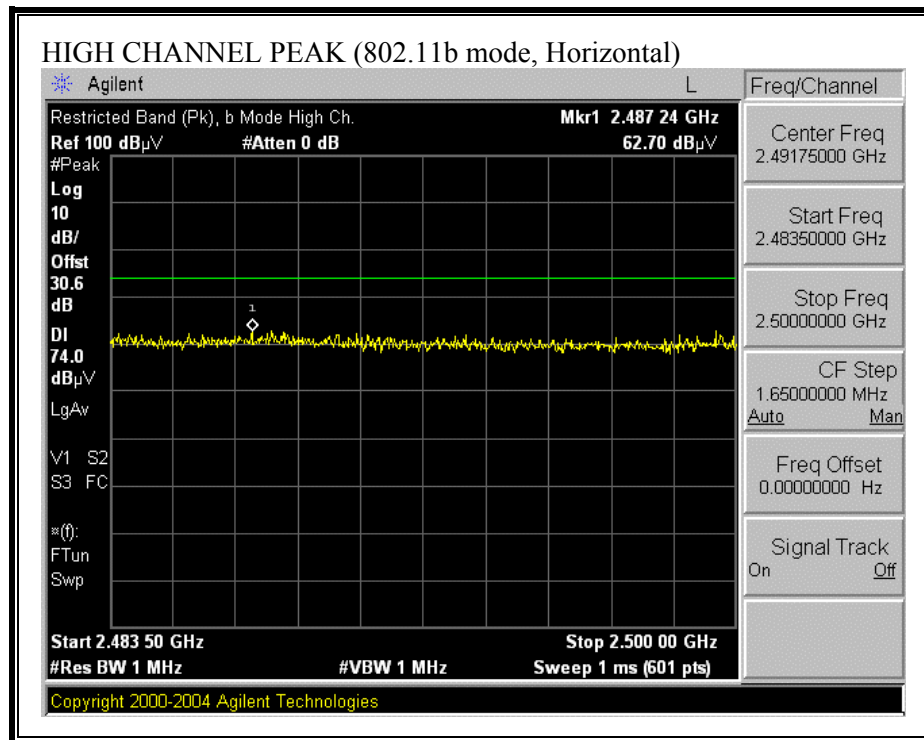


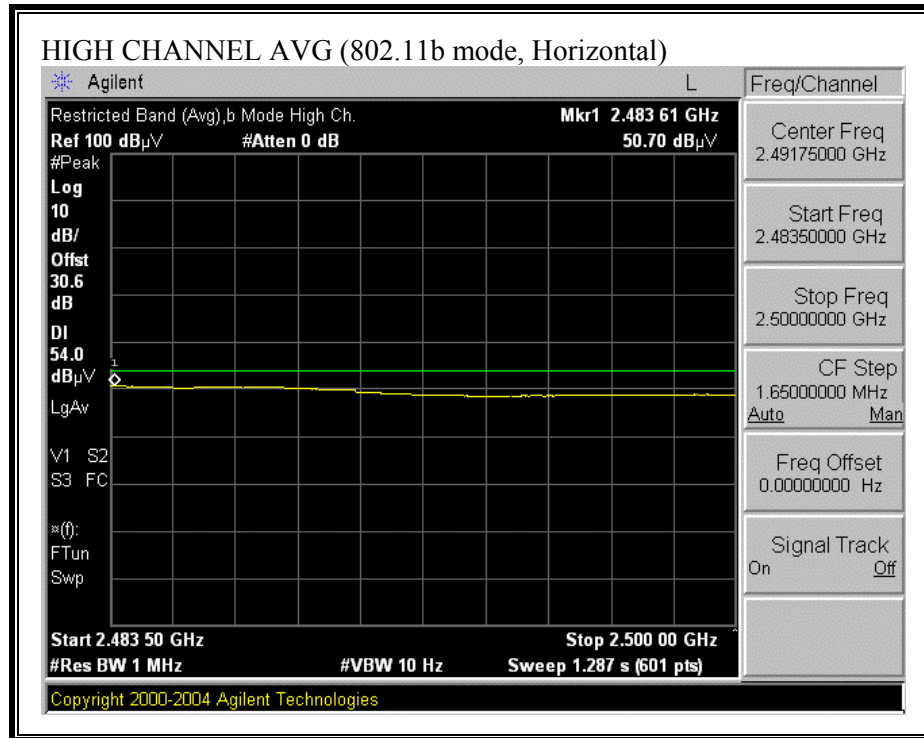


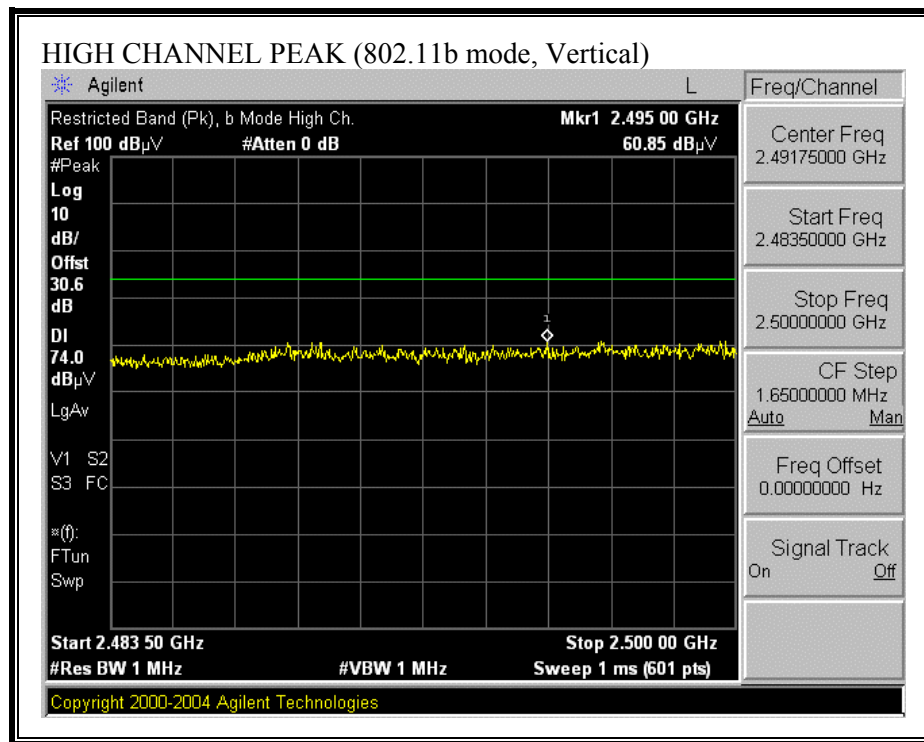


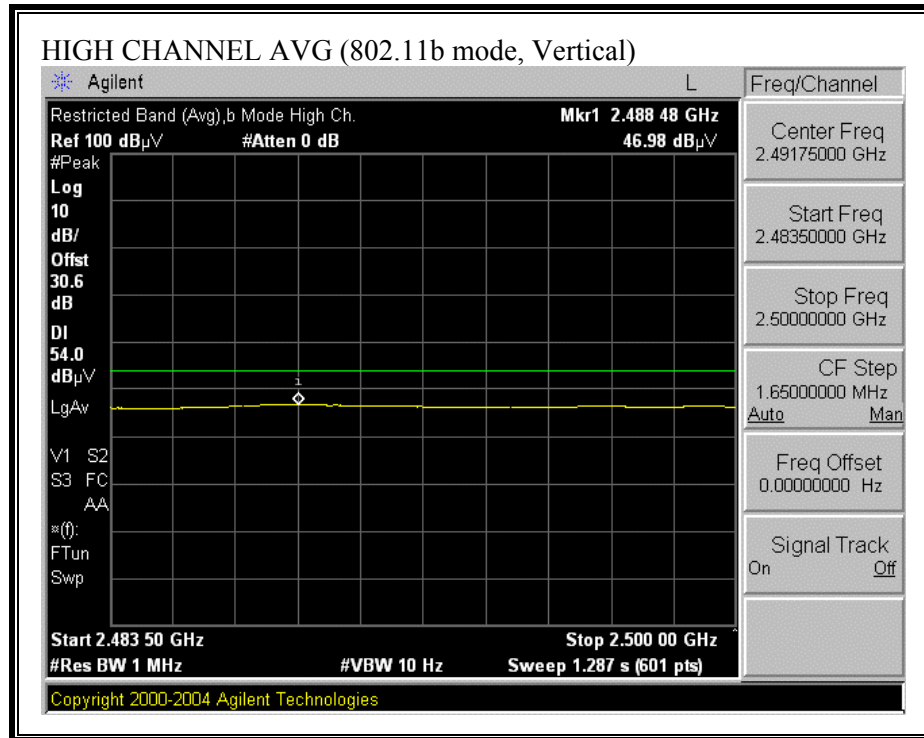


**RESTRICTED BANDEDGE (802.11b MODE, HIGH CHANNEL)**





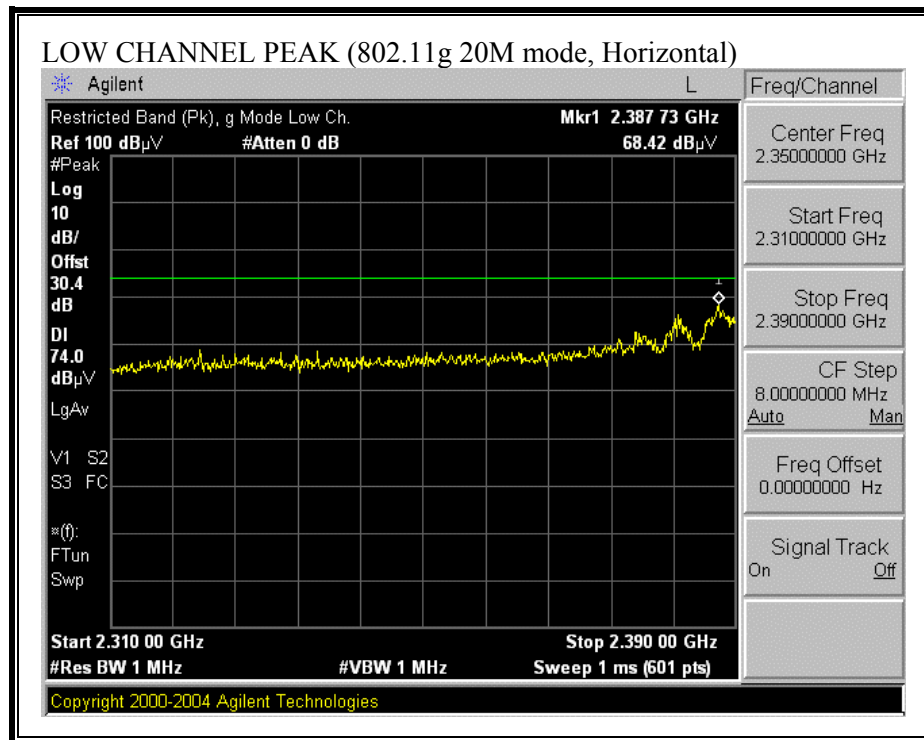


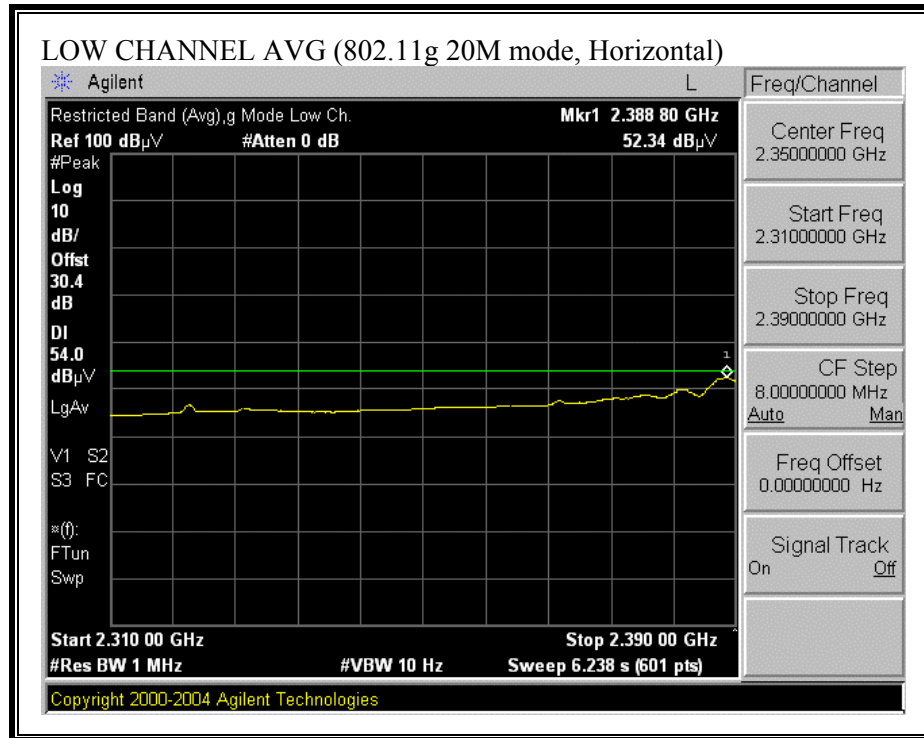


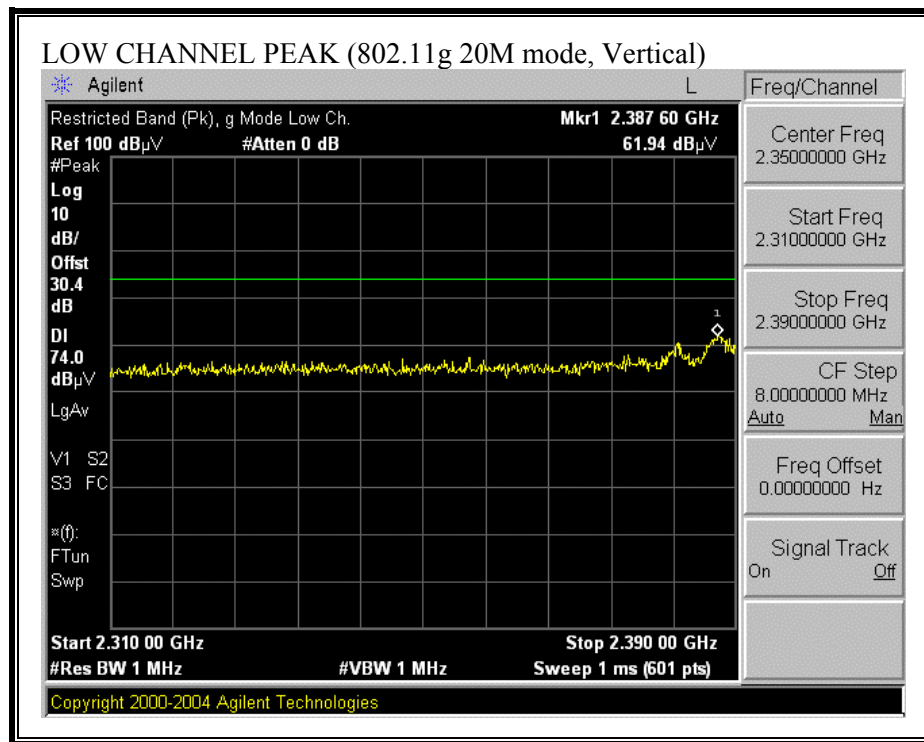
## HARMONICS AND SPURIOUS EMISSIONS (802.11b MODE)

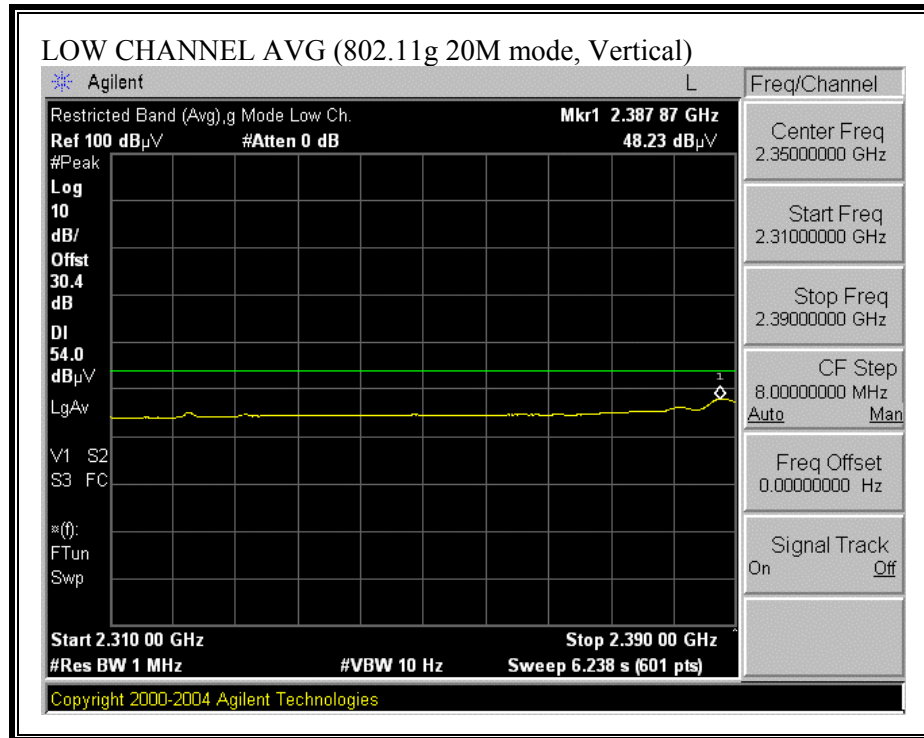
| High Frequency Measurement                                     |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
|----------------------------------------------------------------|-----------------------|-----------------------|----------------|------------------------|--------------------------------|--------------|-----------|---------------|------------------------------|---------------------------------------------------------------------------------|---------------|----------------|-----------|------------|-------------|--|
| Compliance Certification Services, Morgan Hill Open Field Site |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
| Company: MARVELL SEMICONDUCTOR INC.                            |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
| Project #: 06U10462                                            |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
| Date: 07/26/2006                                               |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
| Test Engineer: THANH NGUYEN                                    |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
| Configuration: EUT inside GATEWAY Laptop.                      |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
| Mode: Continuously Transmitting b mode.                        |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
| Test Equipment:                                                |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
| Horn 1-18GHz                                                   |                       | Pre-amplifier 1-26GHz |                | Pre-amplifier 26-40GHz |                                | Horn > 18GHz |           | Limit         |                              |                                                                                 |               |                |           |            |             |  |
| T119; S/N: 29301 @3m                                           |                       | T87 Miteq 924342      |                |                        |                                |              |           | FCC 15.209    |                              |                                                                                 |               |                |           |            |             |  |
| Hi Frequency Cables                                            |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
| 2 foot cable                                                   |                       | 3 foot cable          |                | 12 foot cable          |                                | HPF          |           | Reject Filter |                              | Peak Measurements<br>RBW=VBW=1MHz<br>Average Measurements<br>RBW=1MHz; VBW=10Hz |               |                |           |            |             |  |
| Thanh 177079008                                                |                       |                       |                | Thanh 208946003        |                                | HPF_4.0GHz   |           |               |                              |                                                                                 |               |                |           |            |             |  |
| f GHz                                                          | Dist (m)              | Read Pk dBuV          | Read Avg. dBuV | AF dB/m                | CL dB                          | Amp dB       | D Corr dB | Fltr dB       | Peak dBuV/m                  | Avg dBuV/m                                                                      | Pk Lim dBuV/m | Avg Lim dBuV/m | Pk Mar dB | Avg Mar dB | Notes (V/H) |  |
| Tx Ch 1                                                        |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
| 4.824                                                          | 3.0                   | 56.52                 | 42.85          | 33.7                   | 2.8                            | -45.3        | 0.0       | 0.6           | 48.3                         | 34.6                                                                            | 74            | 54             | -25.7     | -19.4      | V           |  |
| 7.236                                                          | 3.0                   | 51.54                 | 40.00          | 35.2                   | 3.3                            | -43.3        | 0.0       | 0.6           | 47.3                         | 35.8                                                                            | 74            | 54             | -26.7     | -18.2      | V           |  |
| 9.648                                                          | 3.0                   | 45.27                 | 35.24          | 36.2                   | 3.7                            | -39.9        | 0.0       | 0.8           | 46.2                         | 36.1                                                                            | 74            | 54             | -27.8     | -17.9      | Noise floor |  |
| 4.824                                                          | 3.0                   | 62.12                 | 50.07          | 33.7                   | 2.8                            | -45.3        | 0.0       | 0.6           | 53.9                         | 41.9                                                                            | 74            | 54             | -20.1     | -12.1      | H           |  |
| 7.236                                                          | 3.0                   | 54.95                 | 43.68          | 35.2                   | 3.3                            | -43.3        | 0.0       | 0.6           | 50.7                         | 39.4                                                                            | 74            | 54             | -23.3     | -14.6      | H           |  |
| 9.648                                                          | 3.0                   | 48.83                 | 35.65          | 36.2                   | 3.7                            | -39.9        | 0.0       | 0.8           | 49.7                         | 36.5                                                                            | 74            | 54             | -24.3     | -17.5      | Noise floor |  |
| Tx Ch 6                                                        |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
| 4.874                                                          | 3.0                   | 56.39                 | 44.69          | 33.7                   | 2.8                            | -45.3        | 0.0       | 0.6           | 48.2                         | 36.5                                                                            | 74            | 54             | -25.8     | -17.5      | V           |  |
| 7.311                                                          | 3.0                   | 52.47                 | 41.13          | 35.2                   | 3.3                            | -43.2        | 0.0       | 0.6           | 48.4                         | 37.0                                                                            | 74            | 54             | -25.6     | -17.0      | V           |  |
| 9.784                                                          | 3.0                   | 47.79                 | 35.48          | 36.4                   | 3.7                            | -39.6        | 0.0       | 0.8           | 49.2                         | 36.8                                                                            | 74            | 54             | -24.8     | -17.2      | V           |  |
| 4.874                                                          | 3.0                   | 62.37                 | 50.95          | 33.7                   | 2.8                            | -45.3        | 0.0       | 0.6           | 54.2                         | 42.8                                                                            | 74            | 54             | -19.8     | -11.2      | H           |  |
| 7.311                                                          | 3.0                   | 54.11                 | 43.06          | 35.2                   | 3.3                            | -43.2        | 0.0       | 0.6           | 50.0                         | 39.0                                                                            | 74            | 54             | -24.0     | -15.0      | H           |  |
| 9.784                                                          | 3.0                   | 48.63                 | 35.48          | 36.4                   | 3.7                            | -39.6        | 0.0       | 0.8           | 50.0                         | 36.8                                                                            | 74            | 54             | -24.0     | -17.2      | H           |  |
| Tx Ch 11                                                       |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
| 4.924                                                          | 3.0                   | 57.40                 | 43.40          | 33.8                   | 2.8                            | -45.4        | 0.0       | 0.6           | 49.2                         | 35.2                                                                            | 74            | 54             | -24.8     | -18.8      | V           |  |
| 7.386                                                          | 3.0                   | 52.63                 | 39.61          | 35.2                   | 3.3                            | -43.1        | 0.0       | 0.6           | 48.7                         | 35.7                                                                            | 74            | 54             | -25.3     | -18.3      | V           |  |
| 9.848                                                          | 3.0                   | 47.81                 | 35.41          | 36.4                   | 3.7                            | -39.4        | 0.0       | 0.8           | 49.4                         | 37.0                                                                            | 74            | 54             | -24.6     | -17.0      | Noise floor |  |
| 4.924                                                          | 3.0                   | 59.49                 | 48.32          | 33.8                   | 2.8                            | -45.4        | 0.0       | 0.6           | 51.3                         | 40.2                                                                            | 74            | 54             | -22.7     | -13.8      | H           |  |
| 7.386                                                          | 3.0                   | 53.01                 | 42.34          | 35.2                   | 3.3                            | -43.1        | 0.0       | 0.6           | 49.1                         | 38.4                                                                            | 74            | 54             | -24.9     | -15.6      | H           |  |
| 9.848                                                          | 3.0                   | 46.00                 | 34.96          | 36.4                   | 3.7                            | -39.4        | 0.0       | 0.8           | 47.6                         | 36.5                                                                            | 74            | 54             | -26.4     | -17.5      | Noise floor |  |
| No other emissions were detected above 10GHz                   |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
| Rev. 5.1.6                                                     |                       |                       |                |                        |                                |              |           |               |                              |                                                                                 |               |                |           |            |             |  |
| f                                                              | Measurement Frequency |                       |                | Amp                    | Preamp Gain                    |              |           | Avg Lim       | Average Field Strength Limit |                                                                                 |               |                |           |            |             |  |
| Dist                                                           | Distance to Antenna   |                       |                | D Corr                 | Distance Correct to 3 meters   |              |           | Pk Lim        | Peak Field Strength Limit    |                                                                                 |               |                |           |            |             |  |
| Read                                                           | Analyzer Reading      |                       |                | Avg                    | Average Field Strength @ 3 m   |              |           | Avg Mar       | Margin vs. Average Limit     |                                                                                 |               |                |           |            |             |  |
| AF                                                             | Antenna Factor        |                       |                | Peak                   | Calculated Peak Field Strength |              |           | Pk Mar        | Margin vs. Peak Limit        |                                                                                 |               |                |           |            |             |  |
| CL                                                             | Cable Loss            |                       |                | HPF                    | High Pass Filter               |              |           |               |                              |                                                                                 |               |                |           |            |             |  |

**RESTRICTED BANDEDGE (802.11g 20M MODE, LOW CHANNEL)**

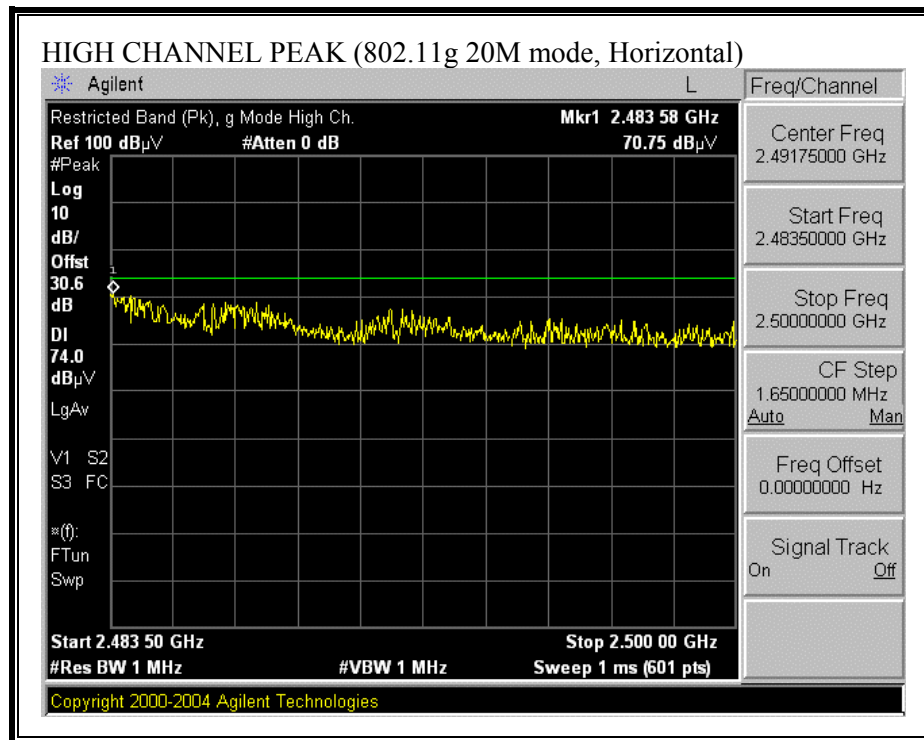


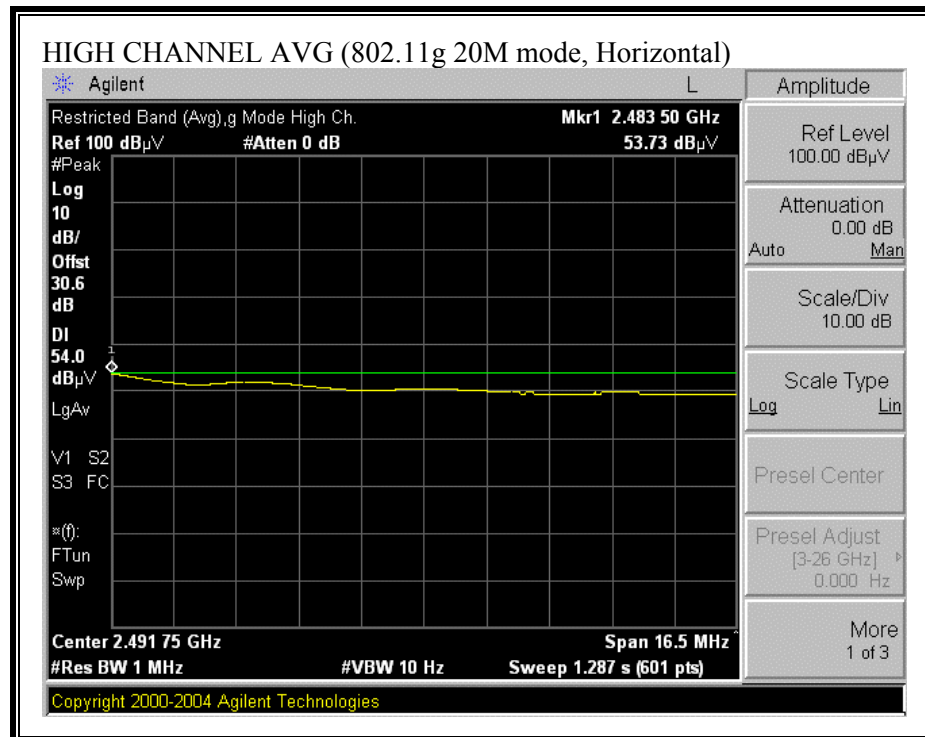


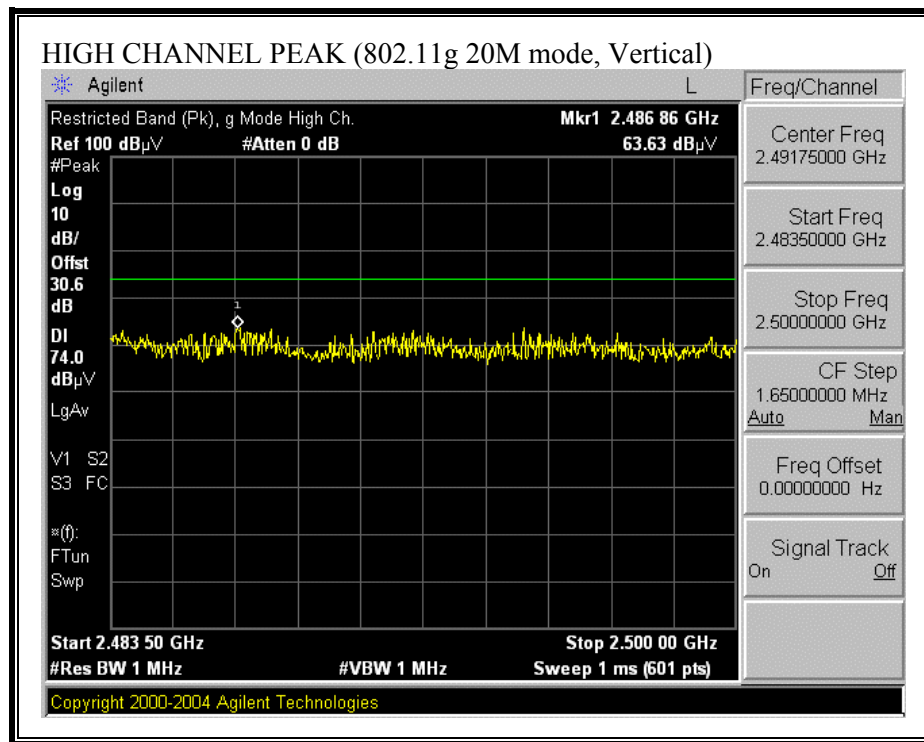


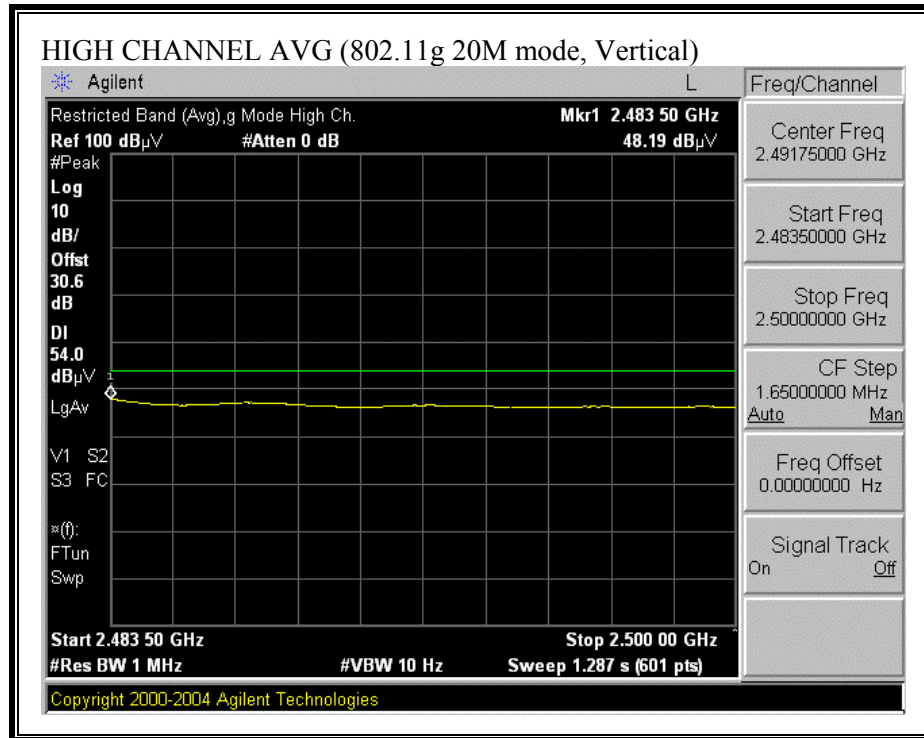


**RESTRICTED BANDEDGE (802.11g 20M MODE, HIGH CHANNEL)**





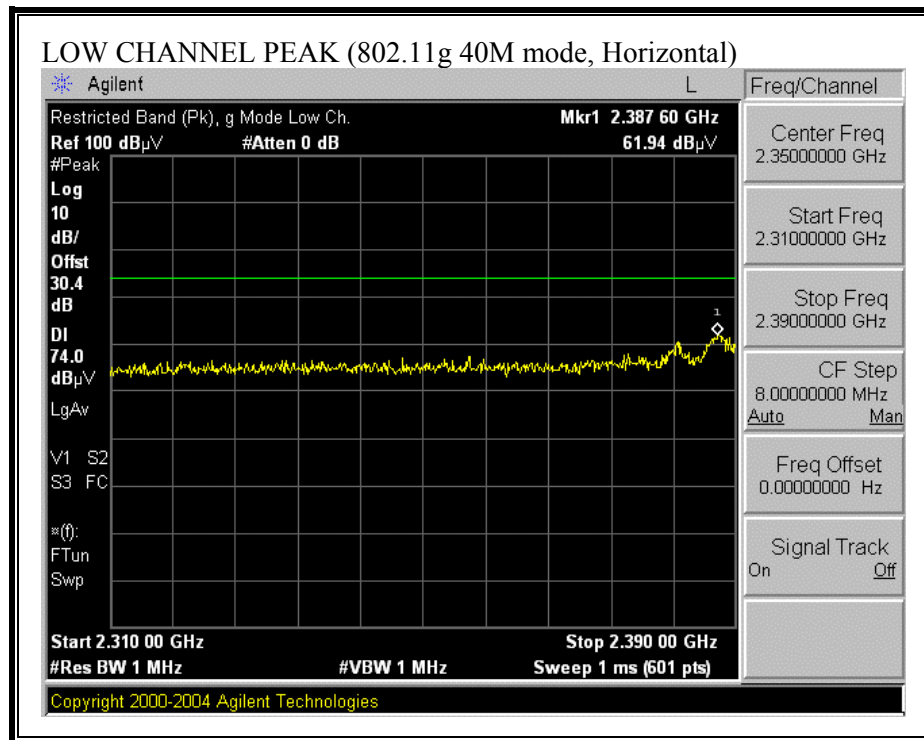


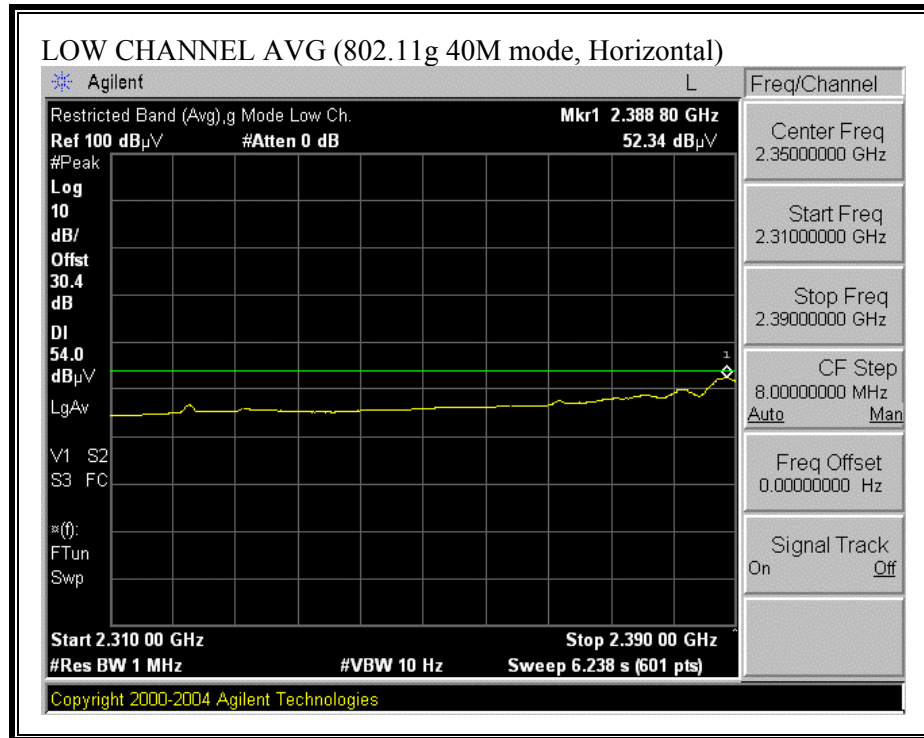


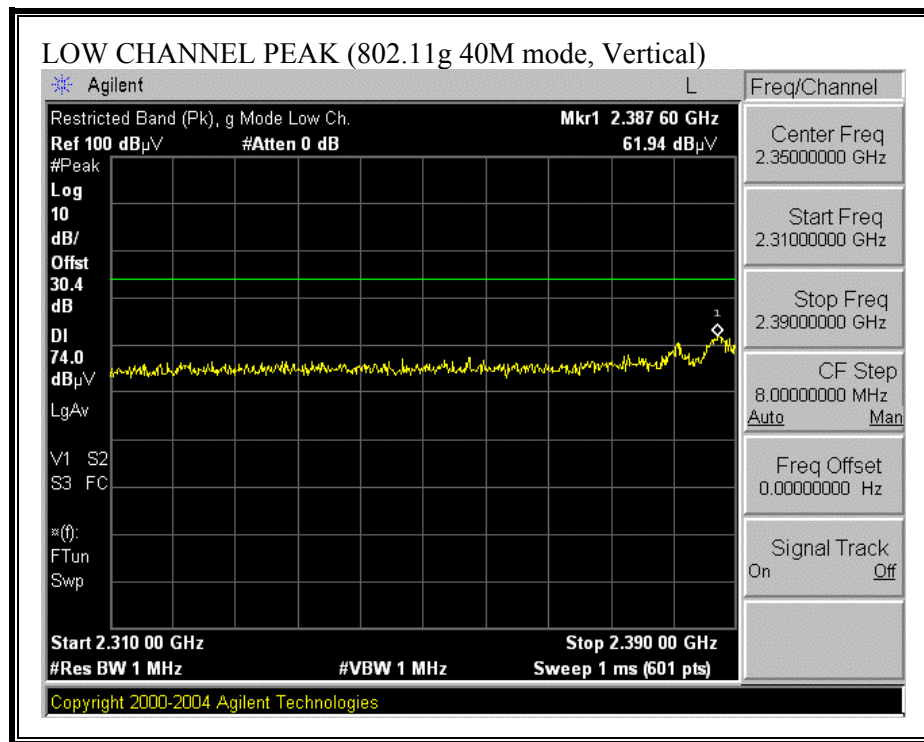
**HARMONICS AND SPURIOUS EMISSIONS (802.11g 20M MODE)**

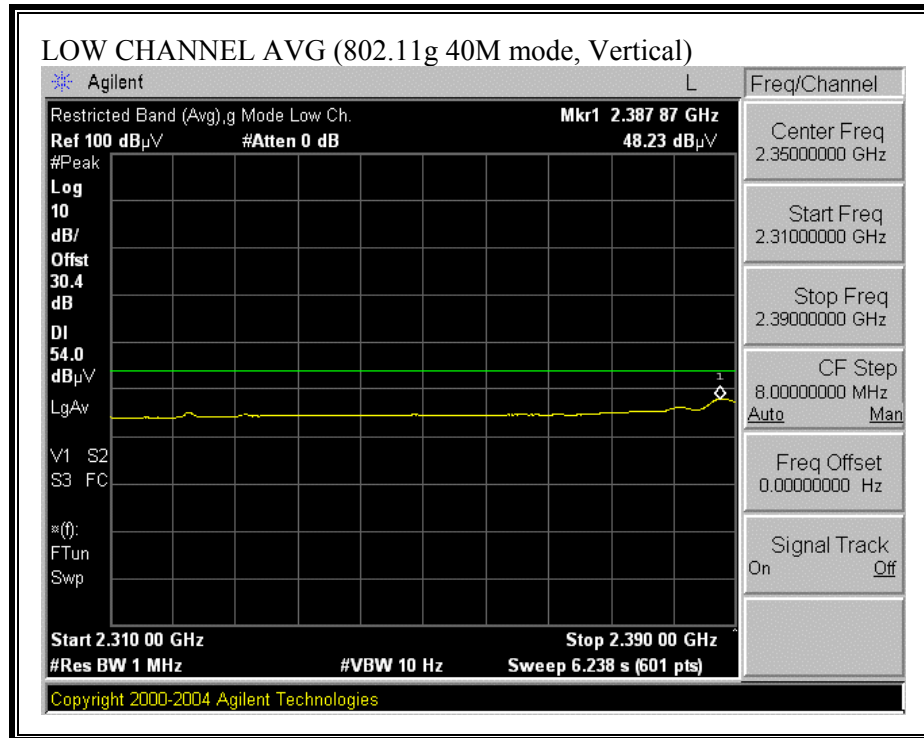
|                                                                                                                                                                                                                                                                                                           |                       |                                           |                   |                                  |                                |                   |              |                     |                              |                                                                                 |                  |                   |              |               |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------|-------------------|----------------------------------|--------------------------------|-------------------|--------------|---------------------|------------------------------|---------------------------------------------------------------------------------|------------------|-------------------|--------------|---------------|----------------|
| High Frequency Measurement<br>Compliance Certification Services, Morgan Hill Open Field Site<br><br>Company: MARVELL SEMICONDUCTOR INC.<br>Project #: 06U10462<br>Date: 07/26/2006<br>Test Engineer: THANH NGUYEN<br>Configuration: EUT inside GATEWAY Laptop.<br>Mode: Continuously Transmitting g mode. |                       |                                           |                   |                                  |                                |                   |              |                     |                              |                                                                                 |                  |                   |              |               |                |
| Test Equipment:                                                                                                                                                                                                                                                                                           |                       |                                           |                   |                                  |                                |                   |              |                     |                              |                                                                                 |                  |                   |              |               |                |
| Horn 1-18GHz<br>T119; S/N: 29301 @3m                                                                                                                                                                                                                                                                      |                       | Pre-amplifier 1-26GHz<br>T87 Miteq 924342 |                   | Pre-amplifier 26-40GHz           |                                | Horn > 18GHz      |              | Limit<br>FCC 15.209 |                              |                                                                                 |                  |                   |              |               |                |
| Hi Frequency Cables                                                                                                                                                                                                                                                                                       |                       |                                           |                   |                                  |                                |                   |              |                     |                              |                                                                                 |                  |                   |              |               |                |
| 2 foot cable<br>Thanh 177079008                                                                                                                                                                                                                                                                           |                       | 3 foot cable                              |                   | 12 foot cable<br>Thanh 208946003 |                                | HPF<br>HPF_4.0GHz |              | Reject Filter       |                              | Peak Measurements<br>RBW=VBW=1MHz<br>Average Measurements<br>RBW=1MHz, VBW=10Hz |                  |                   |              |               |                |
| f<br>GHz                                                                                                                                                                                                                                                                                                  | Dist<br>(m)           | Read Pk<br>dBuV                           | Read Avg.<br>dBuV | AF<br>dB/m                       | CL<br>dB                       | Amp<br>dB         | D Corr<br>dB | Filt<br>dB          | Peak<br>dBuV/m               | Avg<br>dBuV/m                                                                   | Pk Lim<br>dBuV/m | Avg Lim<br>dBuV/m | Pk Mar<br>dB | Avg Mar<br>dB | Notes<br>(V/H) |
| Tx Ch 1                                                                                                                                                                                                                                                                                                   |                       |                                           |                   |                                  |                                |                   |              |                     |                              |                                                                                 |                  |                   |              |               |                |
| 4.824                                                                                                                                                                                                                                                                                                     | 3.0                   | 56.26                                     | 42.13             | 33.7                             | 2.8                            | -45.3             | 0.0          | 0.6                 | 48.0                         | 33.9                                                                            | 74               | 54                | -26.0        | -20.1         | V              |
| 7.236                                                                                                                                                                                                                                                                                                     | 3.0                   | 51.61                                     | 39.32             | 35.2                             | 3.3                            | -43.3             | 0.0          | 0.6                 | 47.4                         | 35.1                                                                            | 74               | 54                | -26.6        | -18.9         | V              |
| 9.648                                                                                                                                                                                                                                                                                                     | 3.0                   | 46.65                                     | 35.64             | 36.2                             | 3.7                            | -39.9             | 0.0          | 0.8                 | 47.5                         | 36.5                                                                            | 74               | 54                | -26.5        | -17.5         | Noise floor    |
| 4.924                                                                                                                                                                                                                                                                                                     | 3.0                   | 61.80                                     | 48.90             | 33.8                             | 2.8                            | -45.4             | 0.0          | 0.6                 | 53.6                         | 40.7                                                                            | 74               | 54                | -20.4        | -13.3         | H              |
| 7.236                                                                                                                                                                                                                                                                                                     | 3.0                   | 54.86                                     | 39.90             | 35.2                             | 3.3                            | -43.3             | 0.0          | 0.6                 | 50.6                         | 35.7                                                                            | 74               | 54                | -23.4        | -18.3         | H              |
| 9.648                                                                                                                                                                                                                                                                                                     | 3.0                   | 48.69                                     | 35.69             | 36.2                             | 3.7                            | -39.9             | 0.0          | 0.8                 | 49.6                         | 36.6                                                                            | 74               | 54                | -24.4        | -17.4         | Noise floor    |
| Tx Ch 6                                                                                                                                                                                                                                                                                                   |                       |                                           |                   |                                  |                                |                   |              |                     |                              |                                                                                 |                  |                   |              |               |                |
| 4.874                                                                                                                                                                                                                                                                                                     | 3.0                   | 51.55                                     | 38.93             | 33.7                             | 2.8                            | -45.3             | 0.0          | 0.6                 | 43.4                         | 30.7                                                                            | 74               | 54                | -30.6        | -23.3         | V              |
| 7.311                                                                                                                                                                                                                                                                                                     | 3.0                   | 50.97                                     | 38.78             | 35.2                             | 3.3                            | -43.2             | 0.0          | 0.6                 | 46.9                         | 34.7                                                                            | 74               | 54                | -27.1        | -19.3         | V              |
| 9.784                                                                                                                                                                                                                                                                                                     | 3.0                   | 47.63                                     | 35.55             | 36.4                             | 3.7                            | -39.6             | 0.0          | 0.8                 | 49.0                         | 36.9                                                                            | 74               | 54                | -25.0        | -17.1         | Noise floor    |
| 4.874                                                                                                                                                                                                                                                                                                     | 3.0                   | 57.68                                     | 45.90             | 33.7                             | 2.8                            | -45.3             | 0.0          | 0.6                 | 49.5                         | 37.7                                                                            | 74               | 54                | -24.5        | -16.3         | H              |
| 7.311                                                                                                                                                                                                                                                                                                     | 3.0                   | 52.57                                     | 38.06             | 35.2                             | 3.3                            | -43.2             | 0.0          | 0.6                 | 48.5                         | 34.0                                                                            | 74               | 54                | -25.5        | -20.0         | H              |
| 9.784                                                                                                                                                                                                                                                                                                     | 3.0                   | 46.54                                     | 35.25             | 36.4                             | 3.7                            | -39.6             | 0.0          | 0.8                 | 47.9                         | 36.6                                                                            | 74               | 54                | -26.1        | -17.4         | Noise floor    |
| Tx Ch11                                                                                                                                                                                                                                                                                                   |                       |                                           |                   |                                  |                                |                   |              |                     |                              |                                                                                 |                  |                   |              |               |                |
| 4.924                                                                                                                                                                                                                                                                                                     | 3.0                   | 52.83                                     | 41.19             | 33.8                             | 2.8                            | -45.4             | 0.0          | 0.6                 | 44.7                         | 33.0                                                                            | 74               | 54                | -29.3        | -21.0         | V              |
| 7.386                                                                                                                                                                                                                                                                                                     | 3.0                   | 50.81                                     | 39.22             | 35.2                             | 3.3                            | -43.1             | 0.0          | 0.6                 | 46.9                         | 35.3                                                                            | 74               | 54                | -27.1        | -18.7         | V              |
| 9.848                                                                                                                                                                                                                                                                                                     | 3.0                   | 47.82                                     | 35.46             | 36.4                             | 3.7                            | -39.4             | 0.0          | 0.8                 | 49.4                         | 37.0                                                                            | 74               | 54                | -24.6        | -17.0         | Noise floor    |
| 4.924                                                                                                                                                                                                                                                                                                     | 3.0                   | 56.85                                     | 45.89             | 33.8                             | 2.8                            | -45.4             | 0.0          | 0.6                 | 48.7                         | 37.7                                                                            | 74               | 54                | -25.3        | -16.3         | H              |
| 7.386                                                                                                                                                                                                                                                                                                     | 3.0                   | 53.69                                     | 40.66             | 35.2                             | 3.3                            | -43.1             | 0.0          | 0.6                 | 49.7                         | 36.7                                                                            | 74               | 54                | -24.3        | -17.3         | H              |
| 9.848                                                                                                                                                                                                                                                                                                     | 3.0                   | 47.12                                     | 35.41             | 36.4                             | 3.7                            | -39.4             | 0.0          | 0.8                 | 48.7                         | 37.0                                                                            | 74               | 54                | -25.3        | -17.0         | Noise floor    |
| No other emissions were detected above 10GHz                                                                                                                                                                                                                                                              |                       |                                           |                   |                                  |                                |                   |              |                     |                              |                                                                                 |                  |                   |              |               |                |
| Rev. 5.1.6                                                                                                                                                                                                                                                                                                |                       |                                           |                   |                                  |                                |                   |              |                     |                              |                                                                                 |                  |                   |              |               |                |
| f                                                                                                                                                                                                                                                                                                         | Measurement Frequency |                                           |                   | Amp                              | Preamp Gain                    |                   |              | Avg Lim             | Average Field Strength Limit |                                                                                 |                  |                   |              |               |                |
| Dist                                                                                                                                                                                                                                                                                                      | Distance to Antenna   |                                           |                   | D Corr                           | Distance Correct to 3 meters   |                   |              | Pk Lim              | Peak Field Strength Limit    |                                                                                 |                  |                   |              |               |                |
| Read                                                                                                                                                                                                                                                                                                      | Analyzer Reading      |                                           |                   | Avg                              | Average Field Strength @ 3 m   |                   |              | Avg Mar             | Margin vs. Average Limit     |                                                                                 |                  |                   |              |               |                |
| AF                                                                                                                                                                                                                                                                                                        | Antenna Factor        |                                           |                   | Peak                             | Calculated Peak Field Strength |                   |              | Pk Mar              | Margin vs. Peak Limit        |                                                                                 |                  |                   |              |               |                |
| CL                                                                                                                                                                                                                                                                                                        | Cable Loss            |                                           |                   | HPF                              | High Pass Filter               |                   |              |                     |                              |                                                                                 |                  |                   |              |               |                |

**RESTRICTED BANDEDGE (802.11g 40M MODE, LOW CHANNEL)**

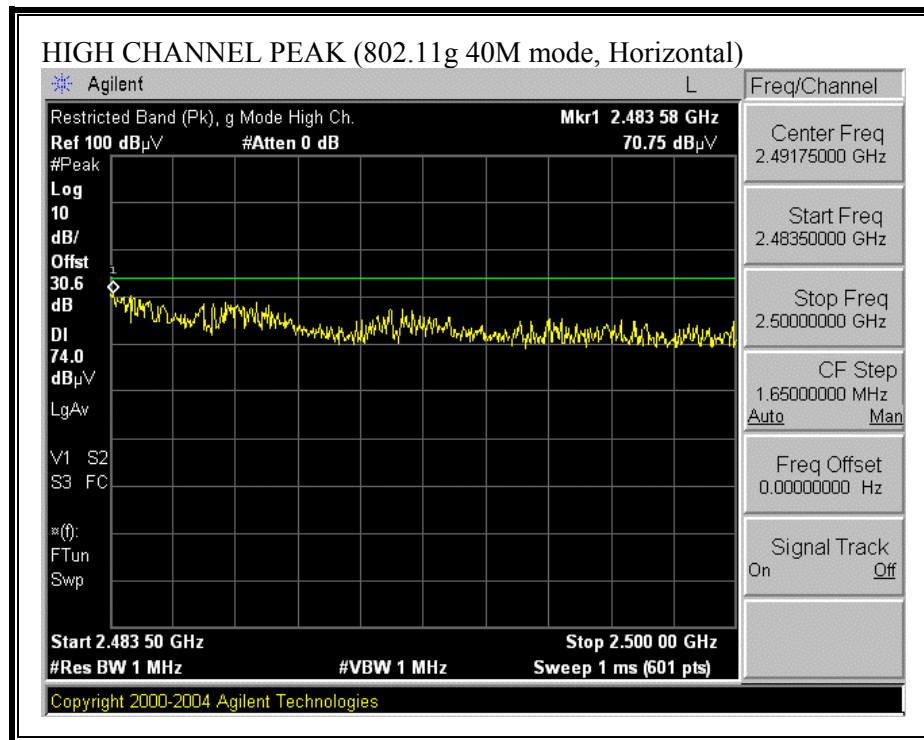


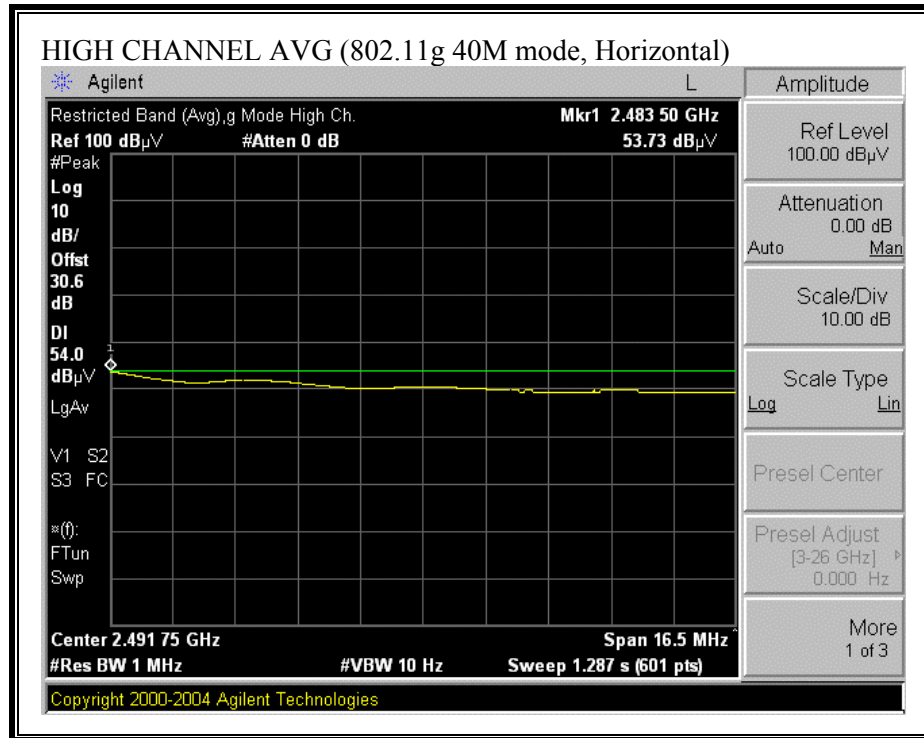


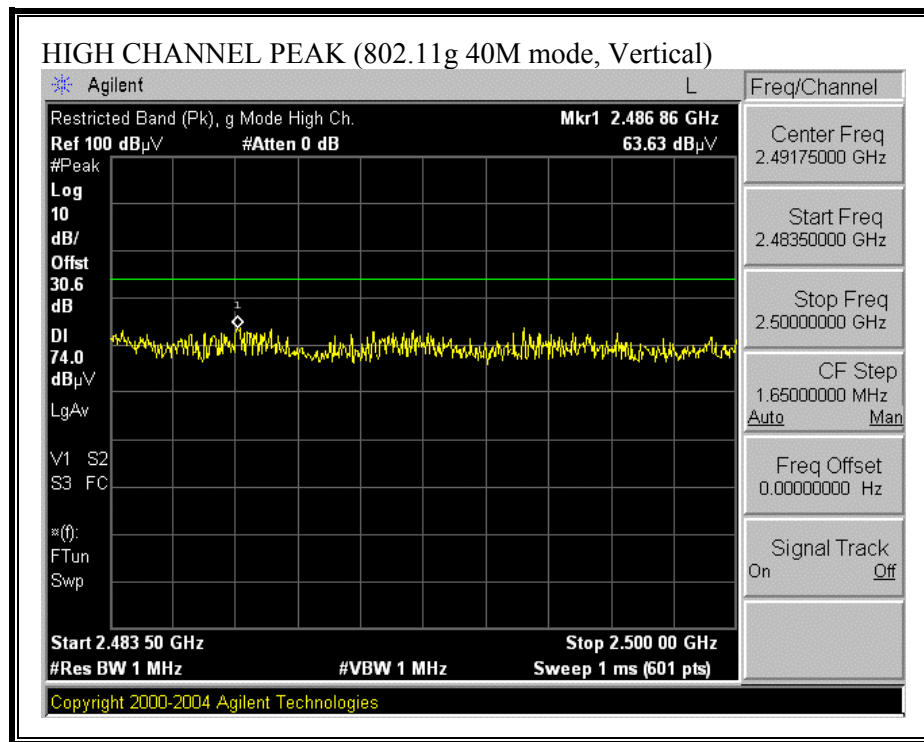


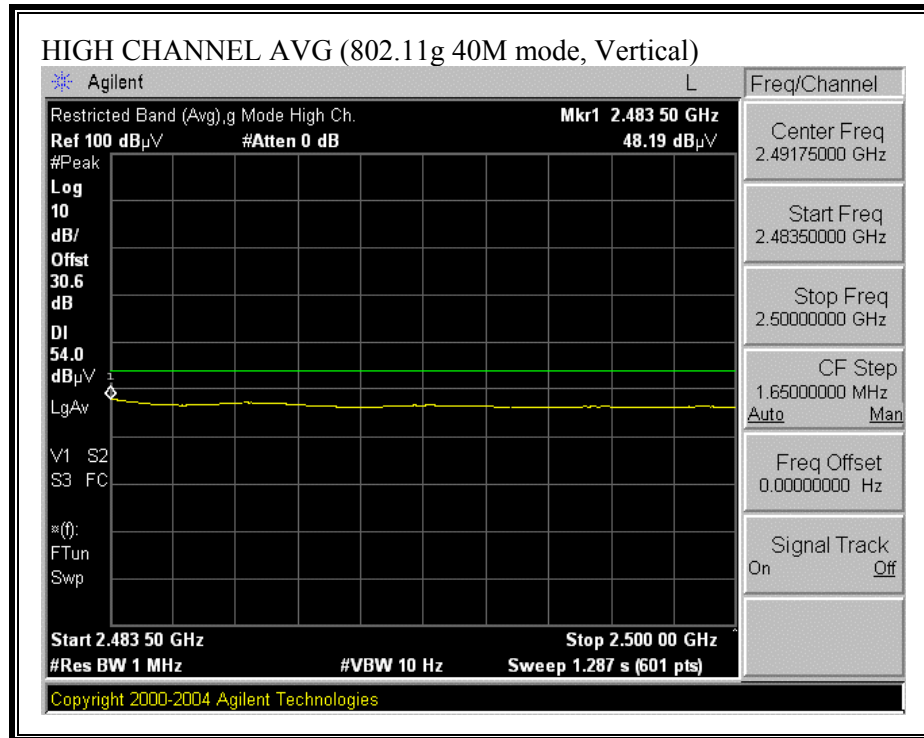


**RESTRICTED BANDEDGE (802.11g 40M MODE, HIGH CHANNEL)**





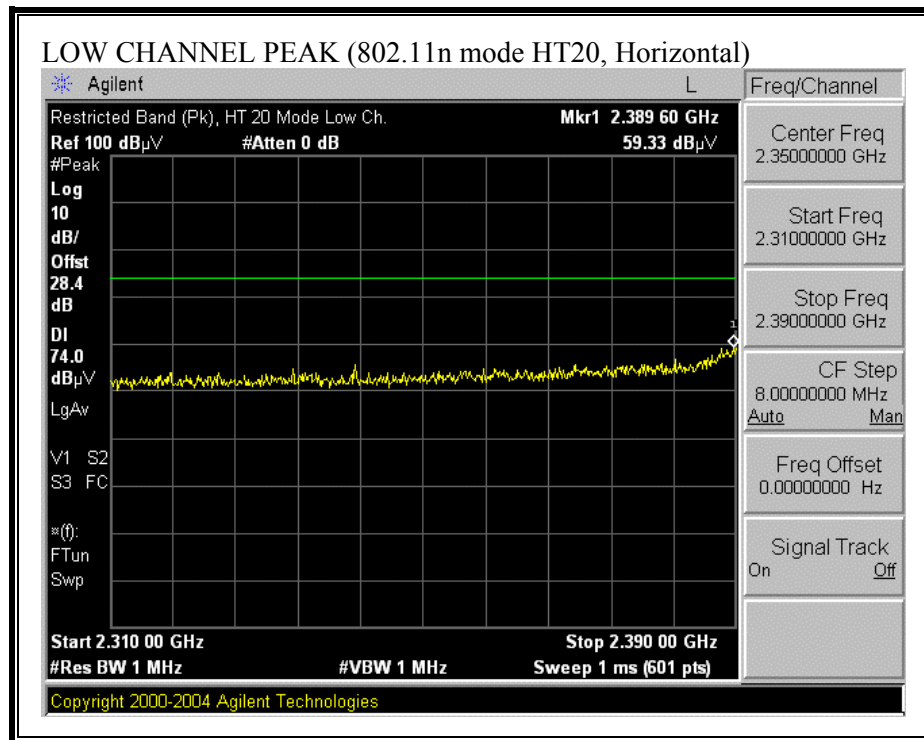


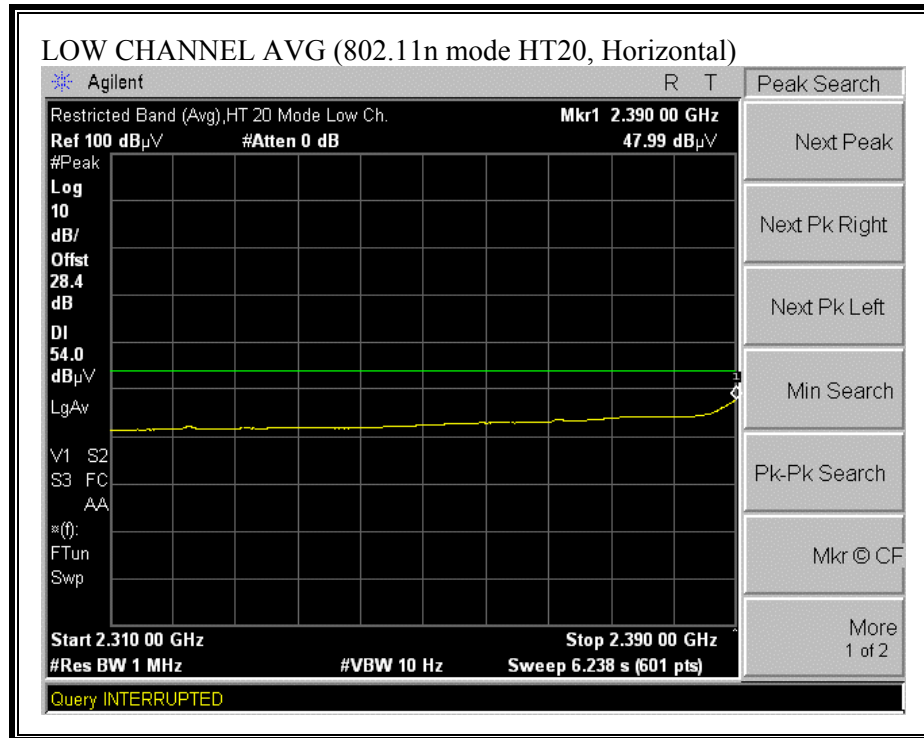


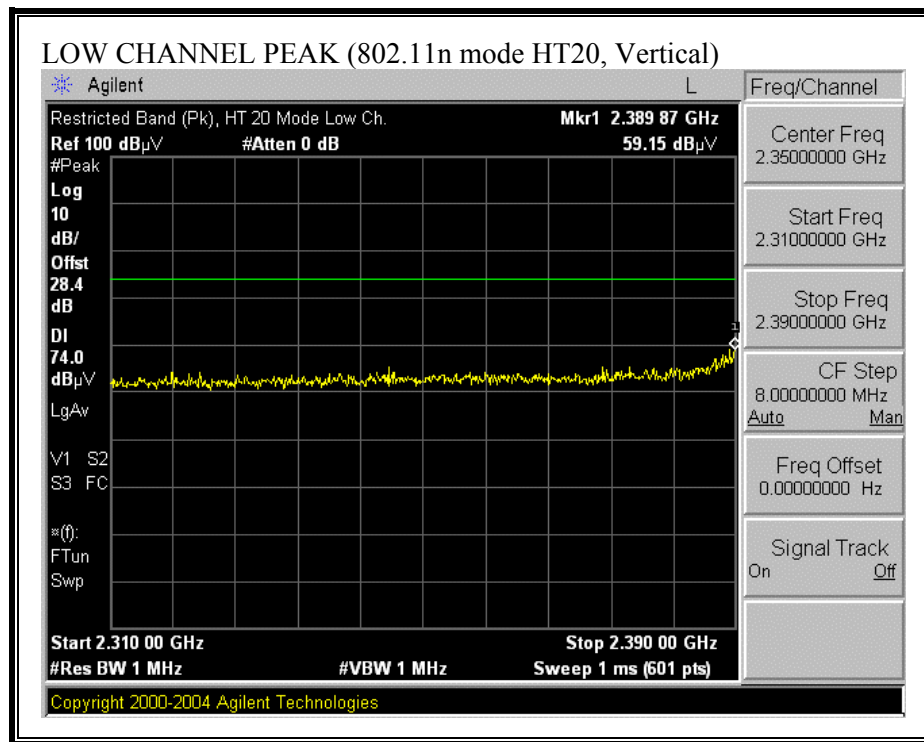
**HARMONICS AND SPURIOUS EMISSIONS (802.11g 40M MODE)**

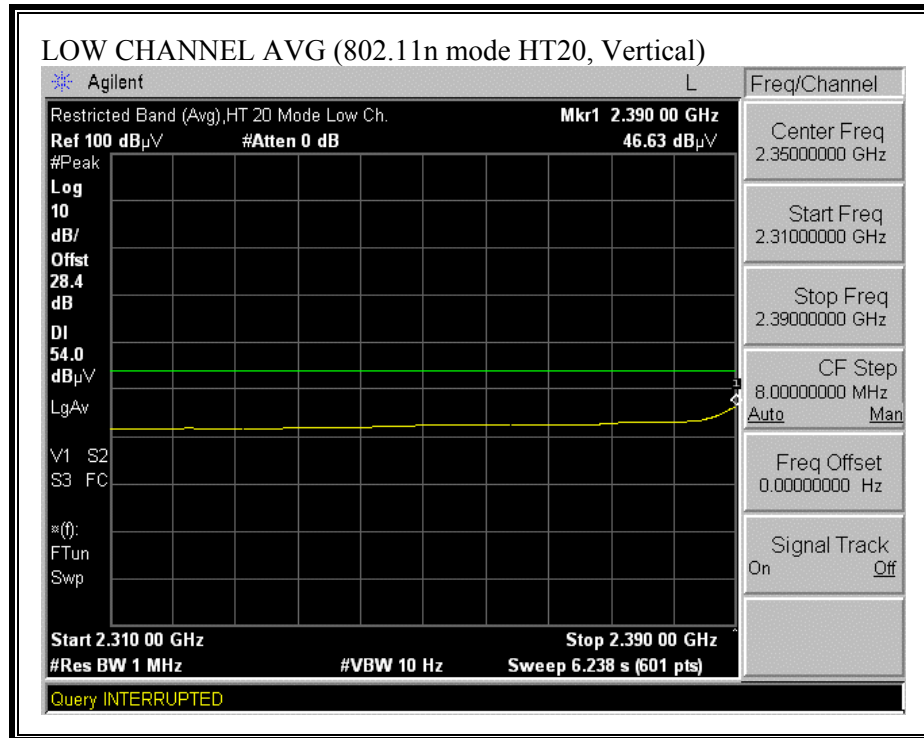
| High Frequency Measurement                                                       |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
|----------------------------------------------------------------------------------|-----------------------|--------------|----------------|-----------------------|-------|--------|--------------------------------|------------------------|-------------|------------|---------------|----------------|------------------------------|------------|-------------|---------------|--|--|--|
| Compliance Certification Services, Morgan Hill Open Field Site                   |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| Company: MARVELL SEMICONDUCTOR INC.                                              |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| Project #: 06U10462                                                              |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| Date: 07/26/2006                                                                 |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| Test Engineer: THANH NGUYEN                                                      |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| Configuration: EUT inside GATEWAY Laptop.                                        |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| Mode: Continuously Transmitting g 40 MHz mode.                                   |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| Test Equipment:                                                                  |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| Horn 1-18GHz                                                                     |                       |              |                | Pre-amplifier 1-26GHz |       |        |                                | Pre-amplifier 26-40GHz |             |            |               | Horn > 18GHz   |                              |            |             |               |  |  |  |
| T73; S/N: 6717 @3m                                                               |                       |              |                | T87 Miteq 924342      |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| Hi Frequency Cables                                                              |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| 2 foot cable                                                                     |                       |              |                | 3 foot cable          |       |        |                                | 12 foot cable          |             |            |               | HPF            |                              |            |             | Reject Filter |  |  |  |
| Thanh 177079008                                                                  |                       |              |                |                       |       |        |                                | Thanh 208946003        |             |            |               | HPF_4.0GHz     |                              |            |             |               |  |  |  |
| Peak Measurements<br>RBW=VBW=1MHz<br>Average Measurements<br>RBW=1MHz ; VBW=10Hz |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| f GHz                                                                            | Dist (m)              | Read Pk dBuV | Read Avg. dBuV | AF dB/m               | CL dB | Amp dB | D Corr dB                      | Filtr dB               | Peak dBuV/m | Avg dBuV/m | Pk Lim dBuV/m | Avg Lim dBuV/m | Pk Mar dB                    | Avg Mar dB | Notes (V/H) |               |  |  |  |
| Tx Low                                                                           |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| 4.844                                                                            | 3.0                   | 52.67        | 39.66          | 33.3                  | 2.8   | -45.3  | 0.0                            | 0.6                    | 44.1        | 31.1       | 74            | 54             | -29.9                        | -22.9      | V           |               |  |  |  |
| 7.266                                                                            | 3.0                   | 49.04        | 36.40          | 35.0                  | 3.3   | -43.3  | 0.0                            | 0.6                    | 44.7        | 32.0       | 74            | 54             | -29.3                        | -22.0      | V           |               |  |  |  |
| 9.688                                                                            | 3.0                   | 50.01        | 36.23          | 36.7                  | 3.7   | -39.8  | 0.0                            | 0.8                    | 51.5        | 37.7       | 74            | 54             | -22.5                        | -16.3      | Noise floor |               |  |  |  |
| 4.844                                                                            | 3.0                   | 57.88        | 45.88          | 33.3                  | 2.8   | -45.3  | 0.0                            | 0.6                    | 49.3        | 37.3       | 74            | 54             | -24.7                        | -16.7      | H           |               |  |  |  |
| 7.266                                                                            | 3.0                   | 53.88        | 40.12          | 35.0                  | 3.3   | -43.3  | 0.0                            | 0.6                    | 49.5        | 35.7       | 74            | 54             | -24.5                        | -18.3      | H           |               |  |  |  |
| 9.642                                                                            | 3.0                   | 48.92        | 36.75          | 36.7                  | 3.7   | -39.9  | 0.0                            | 0.8                    | 50.3        | 38.1       | 74            | 54             | -23.7                        | -15.9      | Noise floor |               |  |  |  |
| Tx Mid                                                                           |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| 4.874                                                                            | 3.0                   | 51.40        | 39.25          | 33.4                  | 2.8   | -45.3  | 0.0                            | 0.6                    | 42.8        | 30.7       | 74            | 54             | -31.2                        | -23.3      | V           |               |  |  |  |
| 7.311                                                                            | 3.0                   | 51.52        | 38.42          | 35.0                  | 3.3   | -43.2  | 0.0                            | 0.6                    | 47.2        | 34.1       | 74            | 54             | -26.8                        | -19.9      | V           |               |  |  |  |
| 9.784                                                                            | 3.0                   | 46.88        | 35.50          | 36.8                  | 3.7   | -39.6  | 0.0                            | 0.8                    | 48.7        | 37.3       | 74            | 54             | -25.3                        | -16.7      | Noise floor |               |  |  |  |
| 4.874                                                                            | 3.0                   | 54.50        | 43.30          | 33.4                  | 2.8   | -45.3  | 0.0                            | 0.6                    | 45.9        | 34.7       | 74            | 54             | -28.1                        | -19.3      | H           |               |  |  |  |
| 7.311                                                                            | 3.0                   | 50.73        | 38.41          | 35.0                  | 3.3   | -43.2  | 0.0                            | 0.6                    | 46.5        | 34.1       | 74            | 54             | -27.5                        | -19.9      | H           |               |  |  |  |
| 9.784                                                                            | 3.0                   | 47.01        | 35.49          | 36.8                  | 3.7   | -39.6  | 0.0                            | 0.8                    | 48.8        | 37.3       | 74            | 54             | -25.2                        | -16.7      | Noise floor |               |  |  |  |
| Tx High                                                                          |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| 4.904                                                                            | 3.0                   | 52.07        | 39.89          | 33.4                  | 2.8   | -45.3  | 0.0                            | 0.6                    | 43.5        | 31.4       | 74            | 54             | -30.5                        | -22.6      | V           |               |  |  |  |
| 7.356                                                                            | 3.0                   | 52.49        | 38.75          | 35.0                  | 3.3   | -43.1  | 0.0                            | 0.6                    | 48.3        | 34.6       | 74            | 54             | -25.7                        | -19.4      | V           |               |  |  |  |
| 9.808                                                                            | 3.0                   | 47.78        | 35.37          | 36.8                  | 3.7   | -39.5  | 0.0                            | 0.8                    | 49.6        | 37.2       | 74            | 54             | -24.4                        | -16.8      | Noise floor |               |  |  |  |
| 4.904                                                                            | 3.0                   | 51.56        | 40.41          | 33.4                  | 2.8   | -45.3  | 0.0                            | 0.6                    | 43.0        | 31.9       | 74            | 54             | -31.0                        | -22.1      | H           |               |  |  |  |
| 7.356                                                                            | 3.0                   | 50.85        | 38.60          | 35.0                  | 3.3   | -43.1  | 0.0                            | 0.6                    | 46.7        | 34.4       | 74            | 54             | -27.3                        | -19.6      | H           |               |  |  |  |
| 9.808                                                                            | 3.0                   | 47.47        | 35.65          | 36.8                  | 3.7   | -39.5  | 0.0                            | 0.8                    | 49.3        | 37.5       | 74            | 54             | -24.7                        | -16.5      | Noise floor |               |  |  |  |
| No other emissions were detected above 10GHz                                     |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| Rev. 5.1.6                                                                       |                       |              |                |                       |       |        |                                |                        |             |            |               |                |                              |            |             |               |  |  |  |
| f                                                                                | Measurement Frequency |              |                |                       |       | Amp    | Preamp Gain                    |                        |             |            |               | Avg Lim        | Average Field Strength Limit |            |             |               |  |  |  |
| Dist                                                                             | Distance to Antenna   |              |                |                       |       | D Corr | Distance Correct to 3 meters   |                        |             |            |               | Pk Lim         | Peak Field Strength Limit    |            |             |               |  |  |  |
| Read                                                                             | Analyzer Reading      |              |                |                       |       | Avg    | Average Field Strength @ 3 m   |                        |             |            |               | Avg Mar        | Margin vs. Average Limit     |            |             |               |  |  |  |
| AF                                                                               | Antenna Factor        |              |                |                       |       | Peak   | Calculated Peak Field Strength |                        |             |            |               | Pk Mar         | Margin vs. Peak Limit        |            |             |               |  |  |  |
| CL                                                                               | Cable Loss            |              |                |                       |       | HPF    | High Pass Filter               |                        |             |            |               |                |                              |            |             |               |  |  |  |

**RESTRICTED BANDEDGE (802.11n MODE HT20, LOW CHANNEL)**

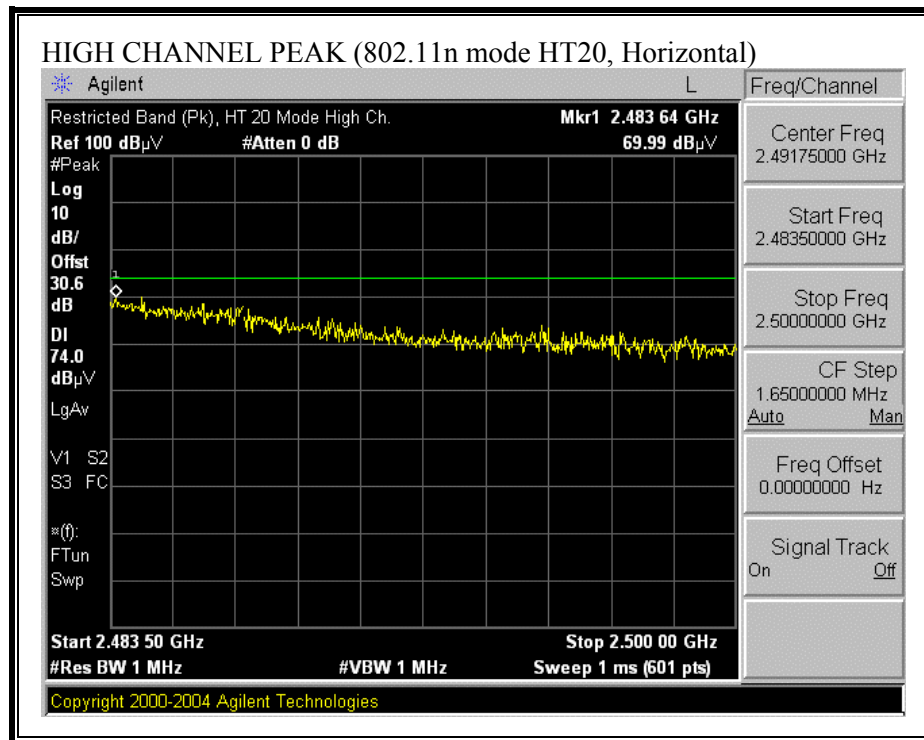


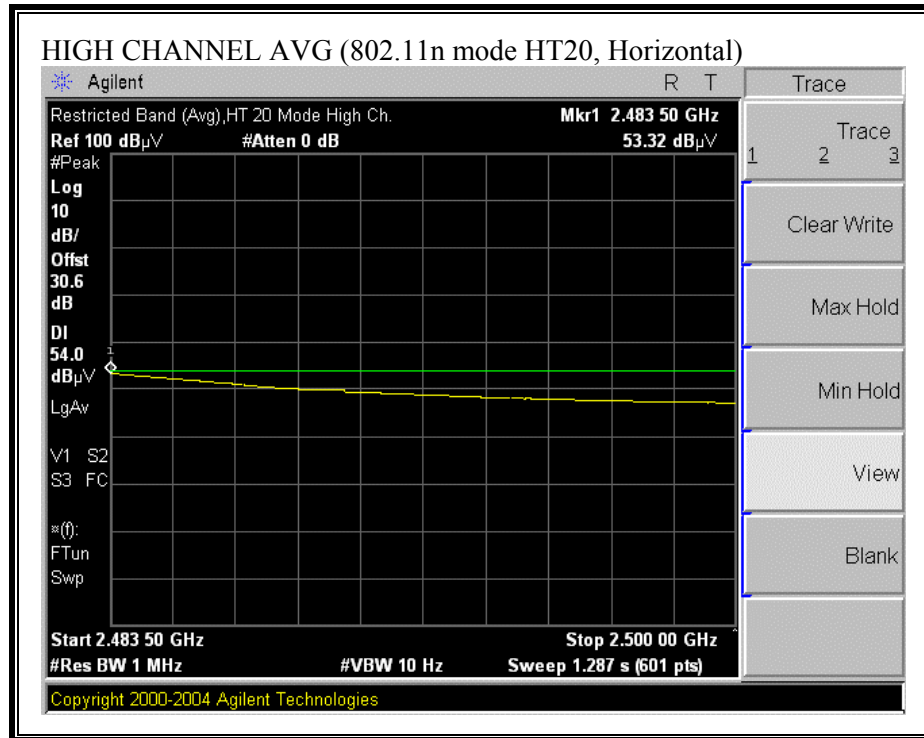


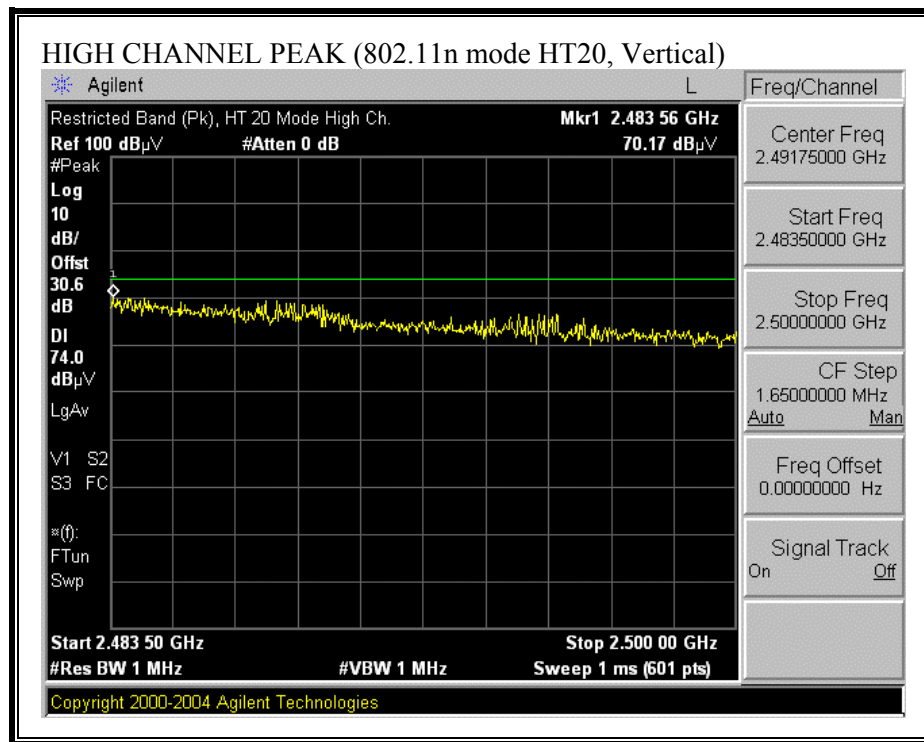


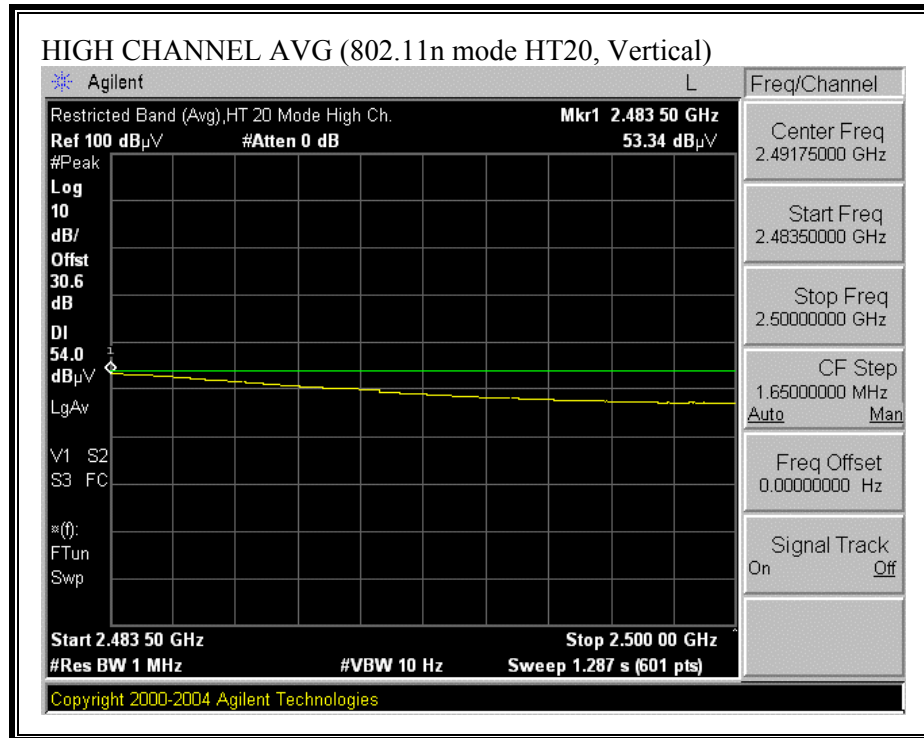


**RESTRICTED BANDEDGE (802.11n MODE HT20, HIGH CHANNEL)**





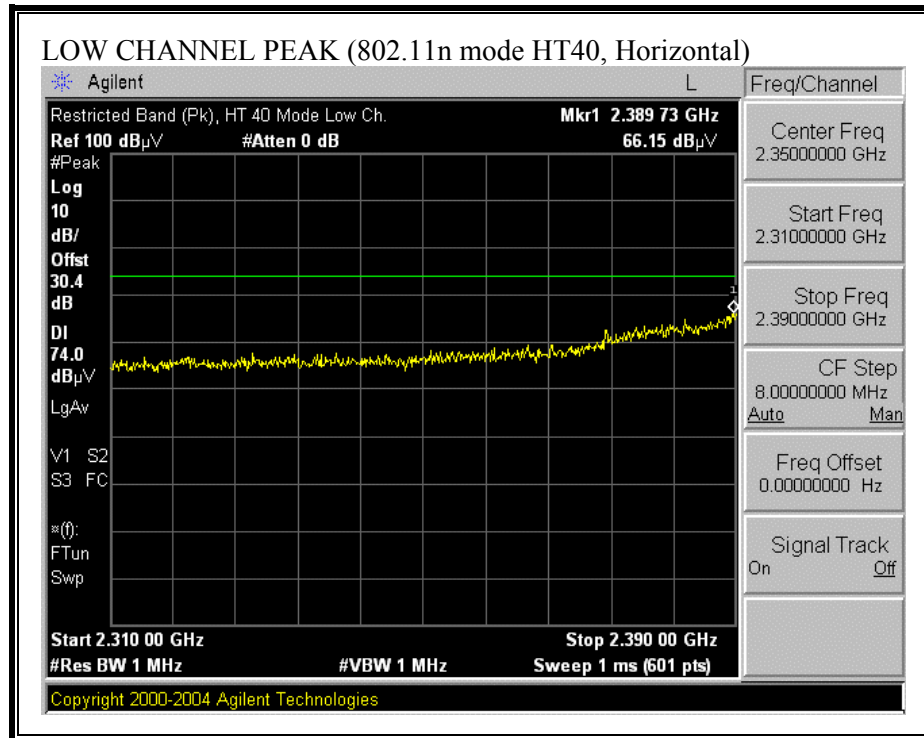


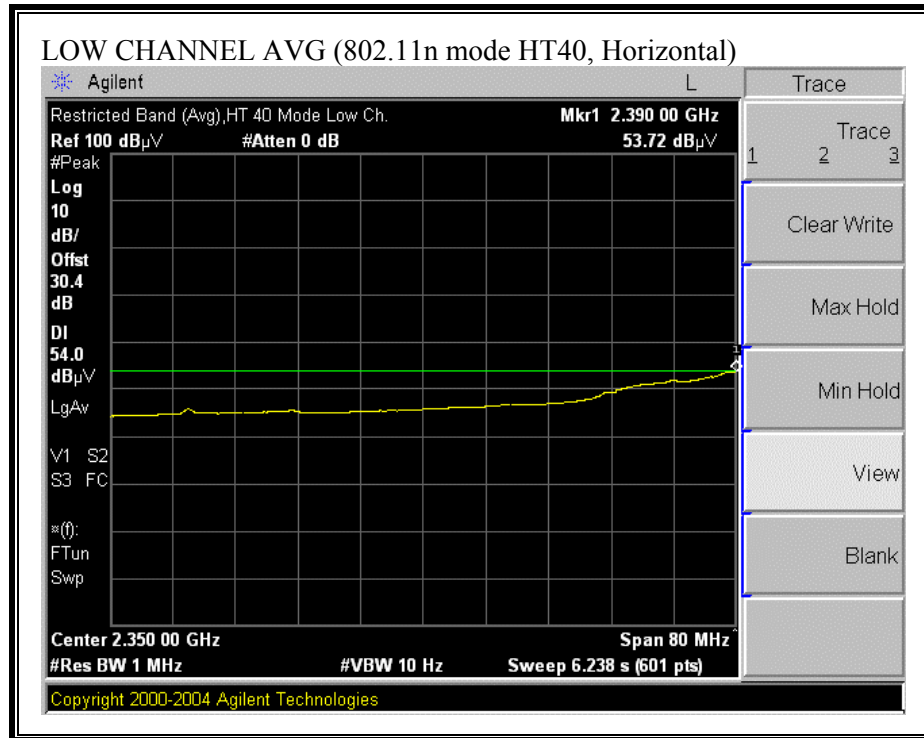


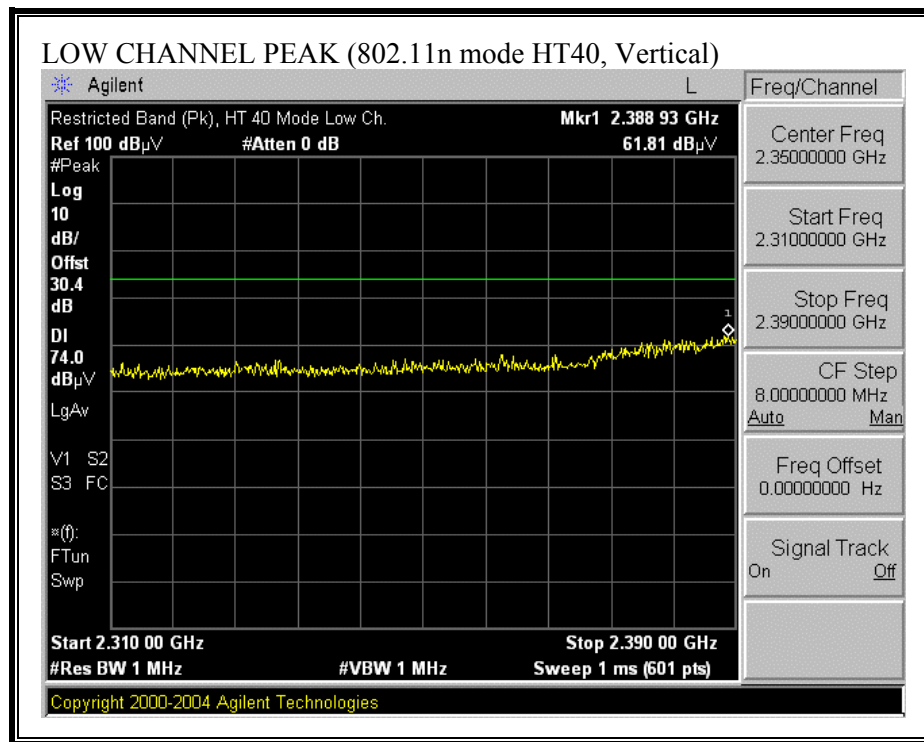
**HARMONICS AND SPURIOUS EMISSIONS (802.11n MODE HT20)**

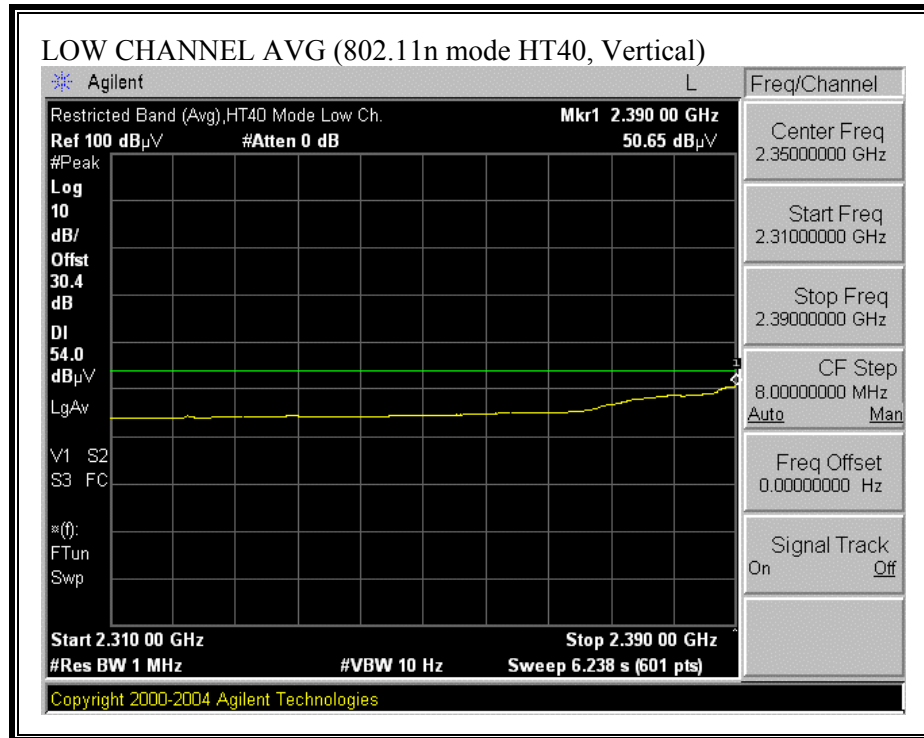
| High Frequency Measurement                                     |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
|----------------------------------------------------------------|-----------------------|-----------------|-----------------------|------------|--------------------------------|------------------------|--------------|------------|------------------------------|---------------|------------------|-------------------|--------------|---------------|--------------------------------------------|--|
| Compliance Certification Services, Morgan Hill Open Field Site |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
| Company: MARVELL SEMICONDUCTOR INC.                            |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
| Project #: 06U10462                                            |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
| Date: 07/26/2006                                               |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
| Test Engineer: THANH NGUYEN                                    |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
| Configuration: EUT inside GATEWAY Laptop.                      |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
| Mode: Continuously Transmitting MCS11.                         |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
| Test Equipment:                                                |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
| Horn 1-18GHz                                                   |                       |                 | Pre-amplifier 1-26GHz |            |                                | Pre-amplifier 26-40GHz |              |            | Horn > 18GHz                 |               |                  | Limit             |              |               |                                            |  |
| T119; S/N: 29301 @3m                                           |                       |                 | T87 Miteq 924342      |            |                                |                        |              |            |                              |               |                  | FCC 15.209        |              |               |                                            |  |
| Hi Frequency Cables                                            |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
| 2 foot cable                                                   |                       |                 | 3 foot cable          |            |                                | 12 foot cable          |              |            | HPF                          |               |                  | Reject Filter     |              |               | Peak Measurements<br>RBW=VBW=1MHz          |  |
| Thanh 177079008                                                |                       |                 |                       |            |                                | Thanh 208946003        |              |            | HPF_4.0GHz                   |               |                  |                   |              |               | Average Measurements<br>RBW=1MHz; VBW=10Hz |  |
| f<br>GHz                                                       | Dist<br>(m)           | Read Pk<br>dBuV | Read Avg<br>dBuV      | AF<br>dB/m | CL<br>dB                       | Amp<br>dB              | D Corr<br>dB | Filt<br>dB | Peak<br>dBuV/m               | Avg<br>dBuV/m | Pk Lim<br>dBuV/m | Avg Lim<br>dBuV/m | Pk Mar<br>dB | Avg Mar<br>dB | Notes<br>(V/H)                             |  |
| Tx Ch 1                                                        |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
| 4.824                                                          | 3.0                   | 51.49           | 39.38                 | 33.7       | 2.8                            | -45.3                  | 0.0          | 0.6        | 43.3                         | 31.2          | 74               | 54                | -30.7        | -22.8         | V                                          |  |
| 7.236                                                          | 3.0                   | 50.53           | 38.26                 | 35.2       | 3.3                            | -43.3                  | 0.0          | 0.6        | 46.3                         | 34.0          | 74               | 54                | -27.7        | -20.0         | V                                          |  |
| 9.648                                                          | 3.0                   | 47.96           | 35.36                 | 36.2       | 3.7                            | -39.9                  | 0.0          | 0.8        | 48.8                         | 36.2          | 74               | 54                | -25.2        | -17.8         | Noise floor                                |  |
| 4.824                                                          | 3.0                   | 55.71           | 43.68                 | 33.7       | 2.8                            | -45.3                  | 0.0          | 0.6        | 47.5                         | 35.5          | 74               | 54                | -26.5        | -18.5         | H                                          |  |
| 7.236                                                          | 3.0                   | 50.94           | 38.27                 | 35.2       | 3.3                            | -43.3                  | 0.0          | 0.6        | 46.7                         | 34.0          | 74               | 54                | -27.3        | -20.0         | H                                          |  |
| 9.648                                                          | 3.0                   | 47.17           | 35.39                 | 36.2       | 3.7                            | -39.9                  | 0.0          | 0.8        | 48.1                         | 36.3          | 74               | 54                | -25.9        | -17.7         | Noise floor                                |  |
| Tx Ch 6                                                        |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
| 4.874                                                          | 3.0                   | 53.87           | 40.82                 | 33.7       | 2.8                            | -45.3                  | 0.0          | 0.6        | 45.7                         | 32.6          | 74               | 54                | -28.3        | -21.4         | V                                          |  |
| 7.311                                                          | 3.0                   | 52.50           | 40.84                 | 35.2       | 3.3                            | -43.2                  | 0.0          | 0.6        | 48.4                         | 36.7          | 74               | 54                | -25.6        | -17.3         | V                                          |  |
| 9.784                                                          | 3.0                   | 47.99           | 32.25                 | 36.4       | 3.7                            | -39.6                  | 0.0          | 0.8        | 49.4                         | 33.6          | 74               | 54                | -24.6        | -20.4         | Noise floor                                |  |
| 4.874                                                          | 3.0                   | 57.76           | 44.47                 | 33.7       | 2.8                            | -45.3                  | 0.0          | 0.6        | 49.6                         | 36.3          | 74               | 54                | -24.4        | -17.7         | H                                          |  |
| 7.311                                                          | 3.0                   | 53.63           | 40.94                 | 35.2       | 3.3                            | -43.2                  | 0.0          | 0.6        | 49.5                         | 36.8          | 74               | 54                | -24.5        | -17.2         | H                                          |  |
| 9.784                                                          | 3.0                   | 47.35           | 35.20                 | 36.4       | 3.7                            | -39.6                  | 0.0          | 0.8        | 48.7                         | 36.6          | 74               | 54                | -25.3        | -17.4         | Noise floor                                |  |
| Tx Ch 11                                                       |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
| 4.924                                                          | 3.0                   | 58.16           | 46.21                 | 33.8       | 2.8                            | -45.4                  | 0.0          | 0.6        | 50.0                         | 38.1          | 74               | 54                | -24.0        | -15.9         | V                                          |  |
| 7.386                                                          | 3.0                   | 54.76           | 43.08                 | 35.2       | 3.3                            | -43.1                  | 0.0          | 0.6        | 50.8                         | 39.1          | 74               | 54                | -23.2        | -14.9         | V                                          |  |
| 9.848                                                          | 3.0                   | 47.27           | 36.07                 | 36.4       | 3.7                            | -39.4                  | 0.0          | 0.8        | 48.9                         | 37.7          | 74               | 54                | -25.1        | -16.3         | Noise floor                                |  |
| 4.924                                                          | 3.0                   | 62.14           | 50.06                 | 33.8       | 2.8                            | -45.4                  | 0.0          | 0.6        | 54.0                         | 41.9          | 74               | 54                | -20.0        | -12.1         | H                                          |  |
| 7.386                                                          | 3.0                   | 56.39           | 44.15                 | 35.2       | 3.3                            | -43.1                  | 0.0          | 0.6        | 52.4                         | 40.2          | 74               | 54                | -21.6        | -13.8         | H                                          |  |
| 9.848                                                          | 3.0                   | 47.39           | 35.23                 | 36.4       | 3.7                            | -39.4                  | 0.0          | 0.8        | 49.0                         | 36.8          | 74               | 54                | -25.0        | -17.2         | Noise floor                                |  |
| No other emissions were detected above 10GHz                   |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
| Rev. 5.1.6                                                     |                       |                 |                       |            |                                |                        |              |            |                              |               |                  |                   |              |               |                                            |  |
| f                                                              | Measurement Frequency |                 |                       | Amp        | Preamp Gain                    |                        |              | Avg Lim    | Average Field Strength Limit |               |                  |                   |              |               |                                            |  |
| Dist                                                           | Distance to Antenna   |                 |                       | D Corr     | Distance Correct to 3 meters   |                        |              | Pk Lim     | Peak Field Strength Limit    |               |                  |                   |              |               |                                            |  |
| Read                                                           | Analyzer Reading      |                 |                       | Avg        | Average Field Strength @ 3 m   |                        |              | Avg Mar    | Margin vs. Average Limit     |               |                  |                   |              |               |                                            |  |
| AF                                                             | Antenna Factor        |                 |                       | Peak       | Calculated Peak Field Strength |                        |              | Pk Mar     | Margin vs. Peak Limit        |               |                  |                   |              |               |                                            |  |
| CL                                                             | Cable Loss            |                 |                       | HPF        | High Pass Filter               |                        |              |            |                              |               |                  |                   |              |               |                                            |  |

**RESTRICTED BANDEDGE (802.11n MODE HT40, LOW CHANNEL)**

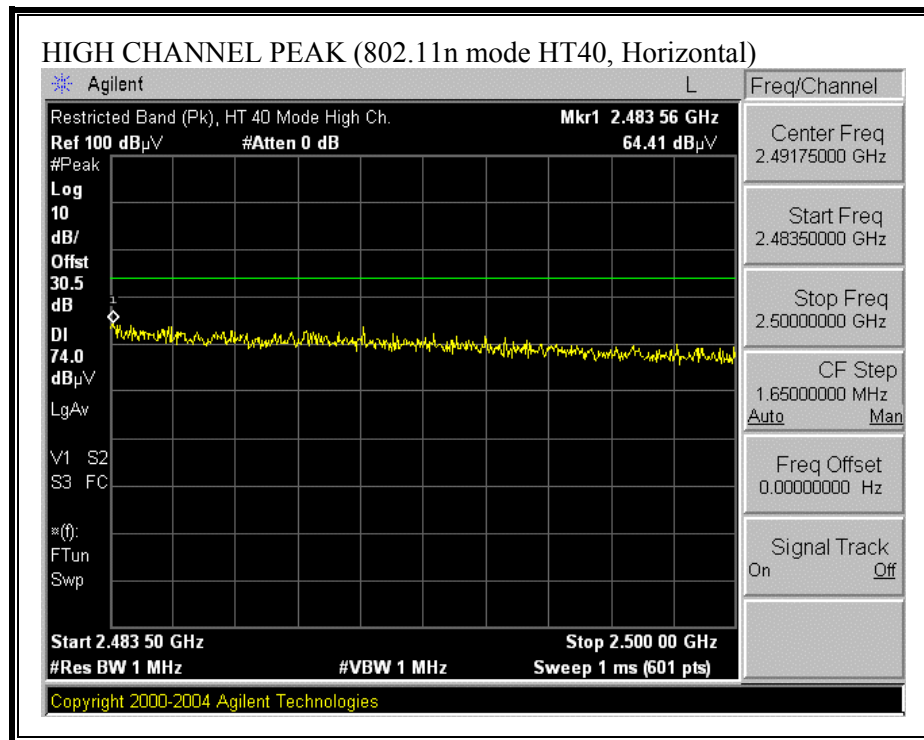


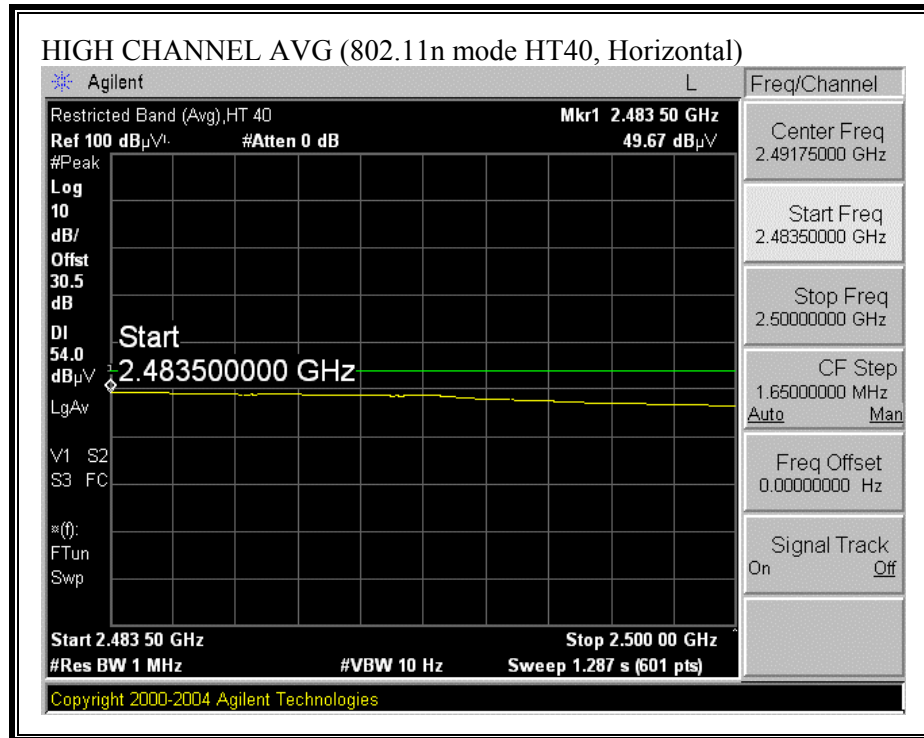


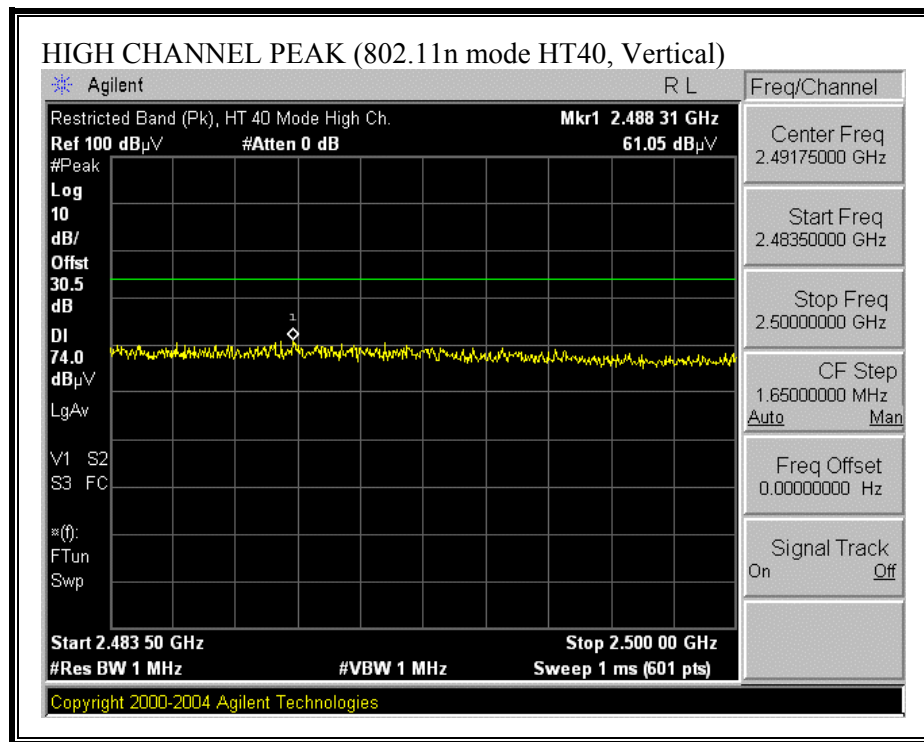


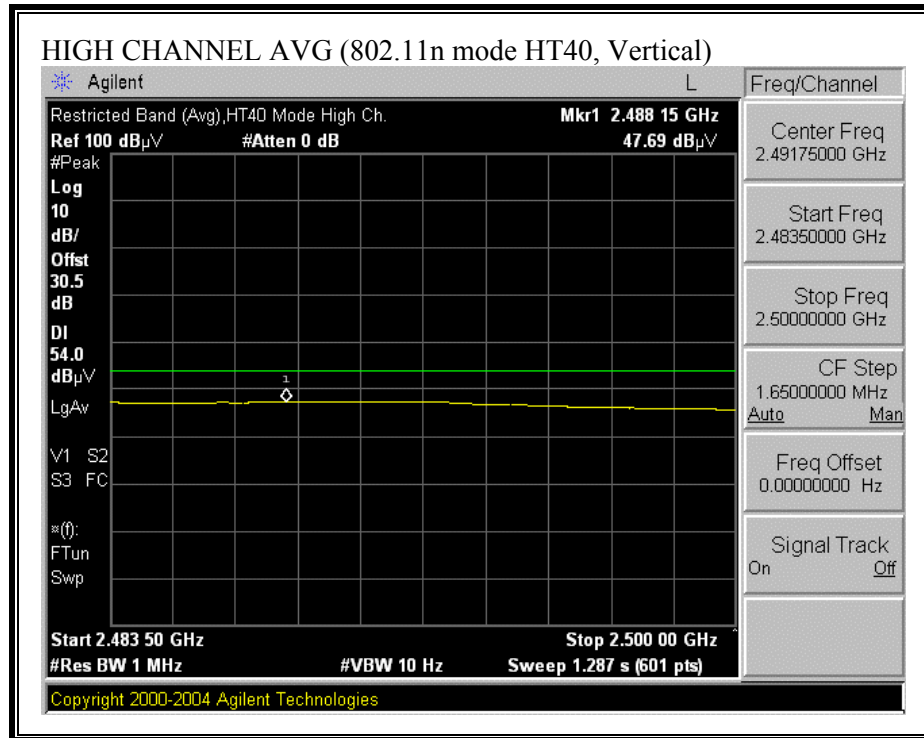


**RESTRICTED BANDEDGE (802.11n MODE HT40, HIGH CHANNEL)**









**HARMONICS AND SPURIOUS EMISSIONS (802.11n MODE HT40)**

| High Frequency Measurement                                     |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
|----------------------------------------------------------------|-----------------------|-----------------------|----------------|------------------------|-----|--------------|--------------------------------|---------------|-------------|----------------------------------------------------------------------------------|---------------|----------------|------------------------------|------------|-------------|--|
| Compliance Certification Services, Morgan Hill Open Field Site |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| Company: MARVELL SEMICONDUCTOR INC.                            |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| Project #: 06U10462                                            |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| Date: 07/26/2006                                               |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| Test Engineer: THANH NGUYEN                                    |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| Configuration: EUT inside GATEWAY Laptop.                      |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| Mode: Continuously Transmitting MCS15 mode                     |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| Test Equipment:                                                |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| Horn 1-18GHz                                                   |                       | Pre-amplifier 1-26GHz |                | Pre-amplifier 26-40GHz |     | Horn > 18GHz |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| T73; S/N: 6717 @3m                                             |                       | T87 Miteq 924342      |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| Hi Frequency Cables                                            |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| 2 foot cable                                                   |                       | 3 foot cable          |                | 12 foot cable          |     | HPF          |                                | Reject Filter |             | Peak Measurements<br>RBW=VBW=1MHz<br>Average Measurements<br>RBW=1MHz ; VBW=10Hz |               |                |                              |            |             |  |
| Thanh 177079008                                                |                       |                       |                | Thanh 208946003        |     | HPF_4.0GHz   |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| f GHz                                                          | Dist (m)              | Read Pk dBuV          | Read Avg. dBuV | AF dB/m                | CL  | Amp dB       | D Corr dB                      | Filtr dB      | Peak dBuV/m | Avg dBuV/m                                                                       | Pk Lim dBuV/m | Avg Lim dBuV/m | Pk Mar dB                    | Avg Mar dB | Notes (V/H) |  |
| Tx Low                                                         |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| 4.844                                                          | 3.0                   | 55.33                 | 42.66          | 33.3                   | 2.8 | -45.3        | 0.0                            | 0.6           | 46.7        | 34.1                                                                             | 74            | 54             | -27.3                        | -19.9      | V           |  |
| 7.266                                                          | 3.0                   | 51.81                 | 40.24          | 35.0                   | 3.3 | -43.3        | 0.0                            | 0.6           | 47.4        | 35.9                                                                             | 74            | 54             | -26.6                        | -18.1      | V           |  |
| 9.688                                                          | 3.0                   | 47.39                 | 35.44          | 36.7                   | 3.7 | -39.8        | 0.0                            | 0.8           | 48.9        | 36.9                                                                             | 74            | 54             | -25.1                        | -17.1      | Noise floor |  |
| 4.844                                                          | 3.0                   | 62.34                 | 49.02          | 33.3                   | 2.8 | -45.3        | 0.0                            | 0.6           | 53.7        | 40.4                                                                             | 74            | 54             | -20.3                        | -13.6      | H           |  |
| 7.266                                                          | 3.0                   | 53.57                 | 40.63          | 35.0                   | 3.3 | -43.3        | 0.0                            | 0.6           | 49.2        | 36.2                                                                             | 74            | 54             | -24.8                        | -17.8      | H           |  |
| 9.688                                                          | 3.0                   | 47.21                 | 35.38          | 36.7                   | 3.7 | -39.8        | 0.0                            | 0.8           | 48.7        | 36.9                                                                             | 74            | 54             | -25.3                        | -17.1      | Noise floor |  |
| Tx Mid                                                         |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| 4.874                                                          | 3.0                   | 51.60                 | 38.20          | 33.4                   | 2.8 | -45.3        | 0.0                            | 0.6           | 43.0        | 29.6                                                                             | 74            | 54             | -31.0                        | -24.4      | V           |  |
| 7.311                                                          | 3.0                   | 51.09                 | 38.21          | 35.0                   | 3.3 | -43.2        | 0.0                            | 0.6           | 46.8        | 33.9                                                                             | 74            | 54             | -27.2                        | -20.1      | V           |  |
| 9.784                                                          | 3.0                   | 48.18                 | 35.33          | 36.8                   | 3.7 | -39.6        | 0.0                            | 0.8           | 50.0        | 37.1                                                                             | 74            | 54             | -24.0                        | -16.9      | Noise floor |  |
| 4.874                                                          | 3.0                   | 52.13                 | 40.77          | 33.4                   | 2.8 | -45.3        | 0.0                            | 0.6           | 43.6        | 32.2                                                                             | 74            | 54             | -30.4                        | -21.8      | H           |  |
| 7.311                                                          | 3.0                   | 51.06                 | 38.19          | 35.0                   | 3.3 | -43.2        | 0.0                            | 0.6           | 46.8        | 33.9                                                                             | 74            | 54             | -27.2                        | -20.1      | H           |  |
| 9.784                                                          | 3.0                   | 46.49                 | 35.29          | 36.8                   | 3.7 | -39.6        | 0.0                            | 0.8           | 48.3        | 37.1                                                                             | 74            | 54             | -25.7                        | -16.9      | Noise floor |  |
| Tx High                                                        |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| 4.904                                                          | 3.0                   | 51.34                 | 38.33          | 33.4                   | 2.8 | -45.3        | 0.0                            | 0.6           | 42.8        | 29.8                                                                             | 74            | 54             | -31.2                        | -24.2      | V           |  |
| 7.356                                                          | 3.0                   | 49.91                 | 37.96          | 35.0                   | 3.3 | -43.1        | 0.0                            | 0.6           | 45.7        | 33.8                                                                             | 74            | 54             | -28.3                        | -20.2      | V           |  |
| 9.808                                                          | 3.0                   | 46.59                 | 35.37          | 36.8                   | 3.7 | -39.5        | 0.0                            | 0.8           | 48.4        | 37.2                                                                             | 74            | 54             | -25.6                        | -16.8      | Noise floor |  |
| 4.904                                                          | 3.0                   | 54.26                 | 41.20          | 33.4                   | 2.8 | -45.3        | 0.0                            | 0.6           | 45.7        | 32.7                                                                             | 74            | 54             | -28.3                        | -21.3      | H           |  |
| 7.356                                                          | 3.0                   | 51.29                 | 38.28          | 35.0                   | 3.3 | -43.1        | 0.0                            | 0.6           | 47.1        | 34.1                                                                             | 74            | 54             | -26.9                        | -19.9      | H           |  |
| 9.808                                                          | 3.0                   | 47.35                 | 35.44          | 36.8                   | 3.7 | -39.5        | 0.0                            | 0.8           | 49.2        | 37.3                                                                             | 74            | 54             | -24.8                        | -16.7      | Noise floor |  |
| No other emissions were detected above 10GHz                   |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
|                                                                |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
|                                                                |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
|                                                                |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| Rev. 5.1.6                                                     |                       |                       |                |                        |     |              |                                |               |             |                                                                                  |               |                |                              |            |             |  |
| f                                                              | Measurement Frequency |                       |                |                        |     | Amp          | Preamp Gain                    |               |             |                                                                                  |               | Avg Lim        | Average Field Strength Limit |            |             |  |
| Dist                                                           | Distance to Antenna   |                       |                |                        |     | D Corr       | Distance Correct to 3 meters   |               |             |                                                                                  |               | Pk Lim         | Peak Field Strength Limit    |            |             |  |
| Read                                                           | Analyzer Reading      |                       |                |                        |     | Avg          | Average Field Strength @ 3 m   |               |             |                                                                                  |               | Avg Mar        | Margin vs. Average Limit     |            |             |  |
| AF                                                             | Antenna Factor        |                       |                |                        |     | Peak         | Calculated Peak Field Strength |               |             |                                                                                  |               | Pk Mar         | Margin vs. Peak Limit        |            |             |  |
| CL                                                             | Cable Loss            |                       |                |                        |     | HPF          | High Pass Filter               |               |             |                                                                                  |               |                |                              |            |             |  |

### 7.2.3. TRANSMITTER ABOVE 1 GHz FOR 5725 TO 5850 MHz BAND

#### HARMONICS AND SPURIOUS EMISSIONS (802.11a 20M MODE)

| High Frequency Measurement                                     |                       |                              |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
|----------------------------------------------------------------|-----------------------|------------------------------|-------------------|------------------------|----------|-----------------------------|--------------------------------|---------------|----------------|----------------------------------------------------------------------------------|------------------|-------------------|------------------------------|---------------|-------------------|
| Compliance Certification Services, Morgan Hill Open Field Site |                       |                              |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
| Company:                                                       |                       | Marvell                      |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
| Project #:                                                     |                       | 06U10462                     |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
| Date:                                                          |                       | 07/27/06                     |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
| Test Engineer:                                                 |                       | Thanh Nguyen                 |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
| Configuration:                                                 |                       | EUT inside GATEWAY Laptop    |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
| S/N:                                                           |                       | 032                          |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
| Mode:                                                          |                       | TX ON in 11a mode, 20 MHz BW |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
| Test Equipment:                                                |                       |                              |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
| Horn 1-18GHz                                                   |                       | Pre-amplifier 1-26GHz        |                   | Pre-amplifier 26-40GHz |          | Horn > 18GHz                |                                | Limit         |                |                                                                                  |                  |                   |                              |               |                   |
| T119; S/N: 29301 @3m                                           |                       | T87 Miteq 924342             |                   |                        |          | T89; ARA 18-26GHz; S/N:1049 |                                | FCC 15.205    |                |                                                                                  |                  |                   |                              |               |                   |
| Hi Frequency Cables                                            |                       |                              |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
| 2 foot cable                                                   |                       | 3 foot cable                 |                   | 12 foot cable          |          | HPF                         |                                | Reject Filter |                | Peak Measurements<br>REW=VBW=1MHz<br>Average Measurements<br>REW=1MHz ; VBW=10Hz |                  |                   |                              |               |                   |
| Thanh 177079008                                                |                       |                              |                   | Thanh 208946003        |          | HPF_7.6GHz                  |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
| f<br>GHz                                                       | Dist<br>(m)           | Read Pk<br>dBuV              | Read Avg.<br>dBuV | AF<br>dB/m             | CL<br>dB | Amp<br>dB                   | D Corr<br>dB                   | Filtr<br>dB   | Peak<br>dBuV/m | Avg<br>dBuV/m                                                                    | Pk Lim<br>dBuV/m | Avg Lim<br>dBuV/m | Pk Mar<br>dB                 | Avg Mar<br>dB | Notes<br>(V/H)    |
| Low Channel (5745 MHz)                                         |                       |                              |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
| 11.490                                                         | 3.0                   | 58.67                        | 45.75             | 37.2                   | 4.2      | -39.8                       | 0.0                            | 0.7           | 61.0           | 48.0                                                                             | 74               | 54                | -13.0                        | -6.0          | V, Settings 69 6D |
| 11.490                                                         | 3.0                   | 53.47                        | 42.28             | 37.2                   | 4.2      | -39.8                       | 0.0                            | 0.7           | 55.8           | 44.6                                                                             | 74               | 54                | -18.2                        | -9.4          | H, Settings 69 6D |
| Middle Channel (5785 MHz)                                      |                       |                              |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
| 11.570                                                         | 3.0                   | 55.46                        | 43.68             | 37.2                   | 4.2      | -39.8                       | 0.0                            | 0.7           | 57.8           | 46.0                                                                             | 74               | 54                | -16.2                        | -8.0          | V, Settings 6A 6D |
| 11.570                                                         | 3.0                   | 55.34                        | 43.16             | 37.2                   | 4.2      | -39.8                       | 0.0                            | 0.7           | 57.6           | 45.5                                                                             | 74               | 54                | -16.4                        | -8.5          | H, Settings 6A 6D |
| High Channel (5825 MHz)                                        |                       |                              |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |
| 11.650                                                         | 3.0                   | 54.27                        | 42.47             | 37.2                   | 4.2      | -39.8                       | 0.0                            | 0.7           | 56.6           | 44.8                                                                             | 74               | 54                | -17.4                        | -9.2          | V, Settings 6A 6F |
| 11.650                                                         | 3.0                   | 52.26                        | 39.46             | 37.2                   | 4.2      | -39.8                       | 0.0                            | 0.7           | 54.6           | 41.8                                                                             | 74               | 54                | -19.4                        | -12.2         | H, Settings 6A 6F |
| f                                                              | Measurement Frequency |                              |                   |                        |          | Amp                         | Preamp Gain                    |               |                |                                                                                  |                  | Avg Lim           | Average Field Strength Limit |               |                   |
| Dist                                                           | Distance to Antenna   |                              |                   |                        |          | D Corr                      | Distance Correct to 3 meters   |               |                |                                                                                  |                  | Pk Lim            | Peak Field Strength Limit    |               |                   |
| Read                                                           | Analyzer Reading      |                              |                   |                        |          | Avg                         | Average Field Strength @ 3 m   |               |                |                                                                                  |                  | Avg Mar           | Margin vs. Average Limit     |               |                   |
| AF                                                             | Antenna Factor        |                              |                   |                        |          | Peak                        | Calculated Peak Field Strength |               |                |                                                                                  |                  | Pk Mar            | Margin vs. Peak Limit        |               |                   |
| CL                                                             | Cable Loss            |                              |                   |                        |          | HPF                         | High Pass Filter               |               |                |                                                                                  |                  |                   |                              |               |                   |

**HARMONICS AND SPURIOUS EMISSIONS (802.11a 40M MODE)**

| High Frequency Measurement                                     |                       |                                |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
|----------------------------------------------------------------|-----------------------|--------------------------------|-----------------------|------|-----|------------------------|--------------------------------|-----|-----------------------------|--------|--------|---------------|------------------------------|---------|--------------------|--|
| Compliance Certification Services, Morgan Hill Open Field Site |                       |                                |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
| Company:                                                       |                       | Marvell                        |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
| Project #:                                                     |                       | 06U10462                       |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
| Date:                                                          |                       | 07/27/06                       |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
| Test Engineer:                                                 |                       | Thanh Nguyen                   |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
| Configuration:                                                 |                       | EUT Inside the Gateway Laptop. |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
| S/N:                                                           |                       | 032                            |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
| Mode:                                                          |                       | TX ON in 11a mode, 40 MHz BW   |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
| Test Equipment:                                                |                       |                                |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
| Horn 1-18GHz                                                   |                       |                                | Pre-amplifier 1-26GHz |      |     | Pre-amplifier 26-40GHz |                                |     | Horn > 18GHz                |        |        | Limit         |                              |         |                    |  |
| T119; S/N: 29301 @3m                                           |                       |                                | T87 Miteq 924342      |      |     |                        |                                |     | T89; ARA 18-26GHz; S/N:1049 |        |        | FCC 15.205    |                              |         |                    |  |
| Hi Frequency Cables                                            |                       |                                |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
| 2 foot cable                                                   |                       |                                | 3 foot cable          |      |     | 12 foot cable          |                                |     | HPF                         |        |        | Reject Filter |                              |         | Peak Measurements  |  |
| Thanh 177079008                                                |                       |                                |                       |      |     | Thanh 208946003        |                                |     | HPF_7.6GHz                  |        |        |               |                              |         | RBW=VBW=1MHz       |  |
| Average Measurements                                           |                       |                                |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
| RBW=1MHz ; VBW=10Hz                                            |                       |                                |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
| f                                                              | Dist                  | Read Pk                        | Read Avg              | AF   | CL  | Amp                    | D Corr                         | Ftr | Peak                        | Avg    | Pk Lim | Avg Lim       | Pk Mar                       | Avg Mar | Notes              |  |
| GHz                                                            | (m)                   | dBuV                           | dBuV                  | dB/m | dB  | dB                     | dB                             | dB  | dBuV/m                      | dBuV/m | dBuV/m | dBuV/m        | dB                           | dB      | (V/H)              |  |
| Low Channel (5755 MHz)                                         |                       |                                |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
| 11.510                                                         | 3.0                   | 52.36                          | 41.87                 | 37.2 | 4.2 | -39.8                  | 0.0                            | 0.7 | 54.7                        | 44.2   | 74     | 54            | -19.3                        | -9.8    | V, Settings 60 63  |  |
| 11.510                                                         | 3.0                   | 53.26                          | 42.55                 | 37.2 | 4.2 | -39.8                  | 0.0                            | 0.7 | 55.6                        | 44.8   | 74     | 54            | -18.4                        | -9.2    | H, Settings 60 63  |  |
| High Channel (5795 MHz)                                        |                       |                                |                       |      |     |                        |                                |     |                             |        |        |               |                              |         |                    |  |
| 11.590                                                         | 3.0                   | 56.26                          | 43.27                 | 37.2 | 4.2 | -39.8                  | 0.0                            | 0.7 | 58.6                        | 45.6   | 74     | 54            | -15.4                        | -8.4    | V, Settings 6 C 71 |  |
| 11.590                                                         | 3.0                   | 54.28                          | 43.45                 | 37.2 | 4.2 | -39.8                  | 0.0                            | 0.7 | 56.6                        | 45.8   | 74     | 54            | -17.4                        | -8.2    | H, Settings 6 C 71 |  |
| f                                                              | Measurement Frequency |                                |                       |      |     | Amp                    | Preamp Gain                    |     |                             |        |        | Avg Lim       | Average Field Strength Limit |         |                    |  |
| Dist                                                           | Distance to Antenna   |                                |                       |      |     | D Corr                 | Distance Correct to 3 meters   |     |                             |        |        | Pk Lim        | Peak Field Strength Limit    |         |                    |  |
| Read                                                           | Analyzer Reading      |                                |                       |      |     | Avg                    | Average Field Strength @ 3 m   |     |                             |        |        | Avg Mar       | Margin vs. Average Limit     |         |                    |  |
| AF                                                             | Antenna Factor        |                                |                       |      |     | Peak                   | Calculated Peak Field Strength |     |                             |        |        | Pk Mar        | Margin vs. Peak Limit        |         |                    |  |
| CL                                                             | Cable Loss            |                                |                       |      |     | HPF                    | High Pass Filter               |     |                             |        |        |               |                              |         |                    |  |

**HARMONICS AND SPURIOUS EMISSIONS (802.11n MODE HT20)**

| High Frequency Measurement                                     |                       |                               |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
|----------------------------------------------------------------|-----------------------|-------------------------------|-------------------|------------------------|----------|-----------------------------|--------------------------------|---------------|----------------|----------------------------------------------------------------------------------|------------------|-------------------|------------------------------|---------------|-------------------|--|
| Compliance Certification Services, Morgan Hill Open Field Site |                       |                               |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
| Company:                                                       |                       | Marvell                       |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
| Project #:                                                     |                       | 06U10462                      |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
| Date:                                                          |                       | 07/27/06                      |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
| Test Engineer:                                                 |                       | Thanh Nguyen                  |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
| Configuration:                                                 |                       | EUT inside GATEWAY Laptop     |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
| S/N:                                                           |                       | 032                           |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
| Mode:                                                          |                       | TX ON in HT20 mode, 20 MHz BW |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
| Test Equipment:                                                |                       |                               |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
| Horn 1-18GHz                                                   |                       | Pre-amplifier 1-26GHz         |                   | Pre-amplifier 26-40GHz |          | Horn > 18GHz                |                                | Limit         |                |                                                                                  |                  |                   |                              |               |                   |  |
| T119; S/N: 29301 @3m                                           |                       | T87 Miteq 924342              |                   |                        |          | T89; ARA 18-26GHz; S/N:1049 |                                | FCC 15.205    |                |                                                                                  |                  |                   |                              |               |                   |  |
| Hi Frequency Cables                                            |                       |                               |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
| 2 foot cable                                                   |                       | 3 foot cable                  |                   | 12 foot cable          |          | HPF                         |                                | Reject Filter |                | Peak Measurements<br>RBW=VBW=1MHz<br>Average Measurements<br>RBW=1MHz ; VBW=10Hz |                  |                   |                              |               |                   |  |
| Thanh 177079008                                                |                       |                               |                   | Thanh 208946003        |          | HPF_7.6GHz                  |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
| f<br>GHz                                                       | Dist<br>(m)           | Read Pk<br>dBuV               | Read Avg.<br>dBuV | AF<br>dB/m             | CL<br>dB | Amp<br>dB                   | D Corr<br>dB                   | Fitr<br>dB    | Peak<br>dBuV/m | Avg<br>dBuV/m                                                                    | Pk Lim<br>dBuV/m | Avg Lim<br>dBuV/m | Pk Mar<br>dB                 | Avg Mar<br>dB | Notes<br>(V/H)    |  |
| Low Channel (5745 MHz)                                         |                       |                               |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
| 11.490                                                         | 3.0                   | 52.26                         | 41.75             | 37.2                   | 4.2      | -39.8                       | 0.0                            | 0.7           | 54.6           | 44.0                                                                             | 74               | 54                | -19.4                        | -10.0         | V, Settings 67 6C |  |
| 11.490                                                         | 3.0                   | 53.57                         | 42.75             | 37.2                   | 4.2      | -39.8                       | 0.0                            | 0.7           | 55.9           | 45.0                                                                             | 74               | 54                | -18.1                        | -9.0          | H, Settings 67 6C |  |
| Middle Channel (5785 MHz)                                      |                       |                               |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
| 11.570                                                         | 3.0                   | 55.37                         | 43.60             | 37.2                   | 4.2      | -39.8                       | 0.0                            | 0.7           | 57.7           | 45.9                                                                             | 74               | 54                | -16.3                        | -8.1          | V, Settings 69 6D |  |
| 11.570                                                         | 3.0                   | 53.27                         | 41.28             | 37.2                   | 4.2      | -39.8                       | 0.0                            | 0.7           | 55.6           | 43.6                                                                             | 74               | 54                | -18.4                        | -10.4         | H, Settings 69 6D |  |
| High Channel (5825 MHz)                                        |                       |                               |                   |                        |          |                             |                                |               |                |                                                                                  |                  |                   |                              |               |                   |  |
| 11.650                                                         | 3.0                   | 54.27                         | 42.35             | 37.2                   | 4.2      | -39.8                       | 0.0                            | 0.7           | 56.6           | 44.7                                                                             | 74               | 54                | -17.4                        | -9.3          | V, Settings 6A 6E |  |
| 11.650                                                         | 3.0                   | 52.37                         | 31.35             | 37.2                   | 4.2      | -39.8                       | 0.0                            | 0.7           | 54.7           | 33.7                                                                             | 74               | 54                | -19.3                        | -20.3         | H, Settings 6A 6E |  |
| f                                                              | Measurement Frequency |                               |                   |                        |          | Amp                         | Preamp Gain                    |               |                |                                                                                  |                  | Avg Lim           | Average Field Strength Limit |               |                   |  |
| Dist                                                           | Distance to Antenna   |                               |                   |                        |          | D Corr                      | Distance Correct to 3 meters   |               |                |                                                                                  |                  | Pk Lim            | Peak Field Strength Limit    |               |                   |  |
| Read                                                           | Analyzer Reading      |                               |                   |                        |          | Avg                         | Average Field Strength @ 3 m   |               |                |                                                                                  |                  | Avg Mar           | Margin vs. Average Limit     |               |                   |  |
| AF                                                             | Antenna Factor        |                               |                   |                        |          | Peak                        | Calculated Peak Field Strength |               |                |                                                                                  |                  | Pk Mar            | Margin vs. Peak Limit        |               |                   |  |
| CL                                                             | Cable Loss            |                               |                   |                        |          | HPF                         | High Pass Filter               |               |                |                                                                                  |                  |                   |                              |               |                   |  |

**HARMONICS AND SPURIOUS EMISSIONS (802.11n MODE HT40)**

| High Frequency Measurement                                     |                       |                           |                       |            |          |                        |                                |           |                             |               |                  |                   |                                                                                  |               |                   |  |
|----------------------------------------------------------------|-----------------------|---------------------------|-----------------------|------------|----------|------------------------|--------------------------------|-----------|-----------------------------|---------------|------------------|-------------------|----------------------------------------------------------------------------------|---------------|-------------------|--|
| Compliance Certification Services, Morgan Hill Open Field Site |                       |                           |                       |            |          |                        |                                |           |                             |               |                  |                   |                                                                                  |               |                   |  |
| Company:                                                       |                       | Marvell                   |                       |            |          |                        |                                |           |                             |               |                  |                   |                                                                                  |               |                   |  |
| Project #:                                                     |                       | 06U10462                  |                       |            |          |                        |                                |           |                             |               |                  |                   |                                                                                  |               |                   |  |
| Date:                                                          |                       | 07/27/06                  |                       |            |          |                        |                                |           |                             |               |                  |                   |                                                                                  |               |                   |  |
| Test Engineer:                                                 |                       | Thanh Nguyen              |                       |            |          |                        |                                |           |                             |               |                  |                   |                                                                                  |               |                   |  |
| Configuration:                                                 |                       | EUT inside GATEWAY Laptop |                       |            |          |                        |                                |           |                             |               |                  |                   |                                                                                  |               |                   |  |
| S/N:                                                           |                       | 032                       |                       |            |          |                        |                                |           |                             |               |                  |                   |                                                                                  |               |                   |  |
| Mode:                                                          |                       | TX ON in HT 40 mode       |                       |            |          |                        |                                |           |                             |               |                  |                   |                                                                                  |               |                   |  |
| Test Equipment:                                                |                       |                           |                       |            |          |                        |                                |           |                             |               |                  |                   |                                                                                  |               |                   |  |
| Horn 1-18GHz                                                   |                       |                           | Pre-amplifier 1-26GHz |            |          | Pre-amplifier 26-40GHz |                                |           | Horn > 18GHz                |               |                  | Limit             |                                                                                  |               |                   |  |
| T119; S/N: 29301 @3m                                           |                       |                           | T87 Miteq 924342      |            |          |                        |                                |           | T89; ARA 18-26GHz; S/N:1049 |               |                  | FCC 15.205        |                                                                                  |               |                   |  |
| Hi Frequency Cables                                            |                       |                           |                       |            |          |                        |                                |           |                             |               |                  |                   |                                                                                  |               |                   |  |
| 2 foot cable                                                   |                       |                           | 3 foot cable          |            |          | 12 foot cable          |                                |           | HPF                         |               | Reject Filter    |                   | Peak Measurements<br>RBW=VBW=1MHz<br>Average Measurements<br>RBW=1MHz ; VBW=10Hz |               |                   |  |
| Thanh 177079008                                                |                       |                           |                       |            |          | Thanh 208946003        |                                |           | HPF_7.6GHz                  |               |                  |                   |                                                                                  |               |                   |  |
| f<br>GHz                                                       | Dist<br>(m)           | Read Pk<br>dBuV           | Read Avg<br>dBuV      | AF<br>dB/m | CL<br>dB | Amp<br>dB              | D Corr<br>dB                   | Ftr<br>dB | Peak<br>dBuV/m              | Avg<br>dBuV/m | Pk Lim<br>dBuV/m | Avg Lim<br>dBuV/m | Pk Mar<br>dB                                                                     | Avg Mar<br>dB | Notes<br>(V/H)    |  |
| Low Channel (5755 MHz)                                         |                       |                           |                       |            |          |                        |                                |           |                             |               |                  |                   |                                                                                  |               |                   |  |
| 11.510                                                         | 3.0                   | 49.5                      | 38.3                  | 37.2       | 4.2      | -39.8                  | 0.0                            | 0.7       | 51.8                        | 40.6          | 74               | 54                | -22.2                                                                            | -13.4         | V, Settings 63 66 |  |
| 11.510                                                         | 3.0                   | 48.4                      | 37.6                  | 37.2       | 4.2      | -39.8                  | 0.0                            | 0.7       | 50.6                        | 39.9          | 74               | 54                | -23.4                                                                            | -14.1         | H, Settings 63 66 |  |
| High Channel (5795 MHz)                                        |                       |                           |                       |            |          |                        |                                |           |                             |               |                  |                   |                                                                                  |               |                   |  |
| 11.590                                                         | 3.0                   | 48.7                      | 38.3                  | 37.2       | 4.2      | -39.8                  | 0.0                            | 0.7       | 51.0                        | 40.6          | 74               | 54                | -23.0                                                                            | -13.4         | V, Settings 6A 6E |  |
| 11.590                                                         | 3.0                   | 50.3                      | 37.5                  | 37.2       | 4.2      | -39.8                  | 0.0                            | 0.7       | 52.6                        | 39.8          | 74               | 54                | -21.4                                                                            | -14.2         | H, Settings 6A 6E |  |
| f                                                              | Measurement Frequency |                           |                       |            |          | Amp                    | Preamp Gain                    |           |                             |               |                  | Avg Lim           | Average Field Strength Limit                                                     |               |                   |  |
| Dist                                                           | Distance to Antenna   |                           |                       |            |          | D Corr                 | Distance Correct to 3 meters   |           |                             |               |                  | Pk Lim            | Peak Field Strength Limit                                                        |               |                   |  |
| Read                                                           | Analyzer Reading      |                           |                       |            |          | Avg                    | Average Field Strength @ 3 m   |           |                             |               |                  | Avg Mar           | Margin vs. Average Limit                                                         |               |                   |  |
| AF                                                             | Antenna Factor        |                           |                       |            |          | Peak                   | Calculated Peak Field Strength |           |                             |               |                  | Pk Mar            | Margin vs. Peak Limit                                                            |               |                   |  |
| CL                                                             | Cable Loss            |                           |                       |            |          | HPF                    | High Pass Filter               |           |                             |               |                  |                   |                                                                                  |               |                   |  |

## 7.2.4. WORST-CASE RADIATED EMISSIONS BELOW 1 GHz

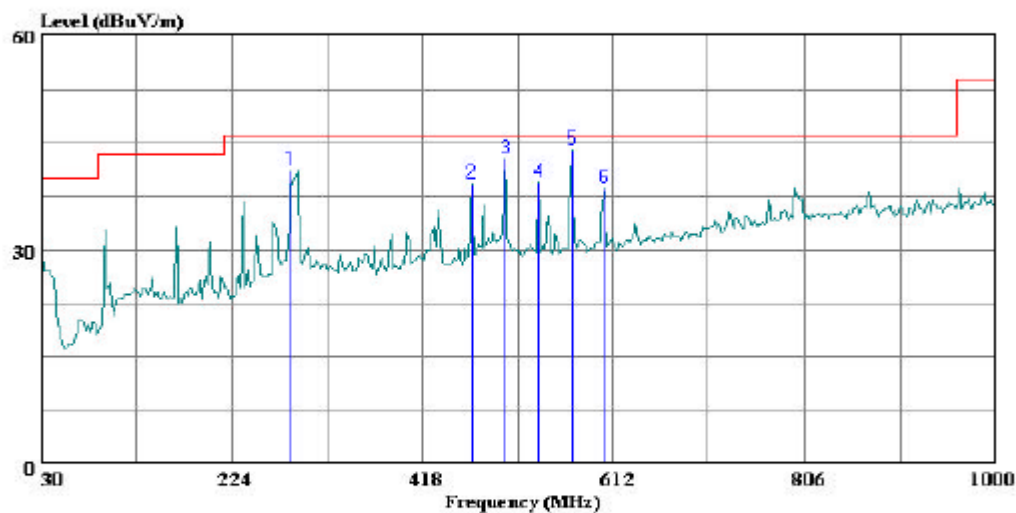
### SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

#### HORIZONTAL PLOT



561F Monterey Road  
Morgan Hill, CA 95037  
Tel: (408) 463-0888  
Fax: (408) 463-0885

Data#: 8 File#: below 1GHz.EMI Date: 07-25-2006 Time: 20:33:18



(Auxiliary ATC)

Trace: 7

Ref Trace:

Condition: FCC CLASS-B HORIZONTAL  
Test Operator: : Thanh Nguyen  
Company: : MARVELL  
Project #: : 06U10462  
Configuration: : EUT inside GATEWAY laptop  
Mode of Operation: Tx worst case

HORIZONTAL DATA

|   |         | Read  |        |        | Limit  | Over  |        |
|---|---------|-------|--------|--------|--------|-------|--------|
|   | Freq    | Level | Factor | Level  | Line   | Limit | Remark |
|   | MHz     | dBuV  | dB     | dBuV/m | dBuV/m | dB    |        |
| 1 | 284.140 | 25.94 | 15.08  | 41.02  | 46.00  | -4.98 | Peak   |
| 2 | 468.440 | 19.74 | 19.61  | 39.35  | 46.00  | -6.65 | Peak   |
| 3 | 502.390 | 22.44 | 20.24  | 42.68  | 46.00  | -3.32 | Peak   |
| 4 | 536.340 | 18.65 | 20.73  | 39.38  | 46.00  | -6.62 | Peak   |
| 5 | 570.290 | 22.87 | 21.14  | 44.01  | 46.00  | -1.99 | Peak   |
| 6 | 604.240 | 16.96 | 21.58  | 38.54  | 46.00  | -7.46 | Peak   |

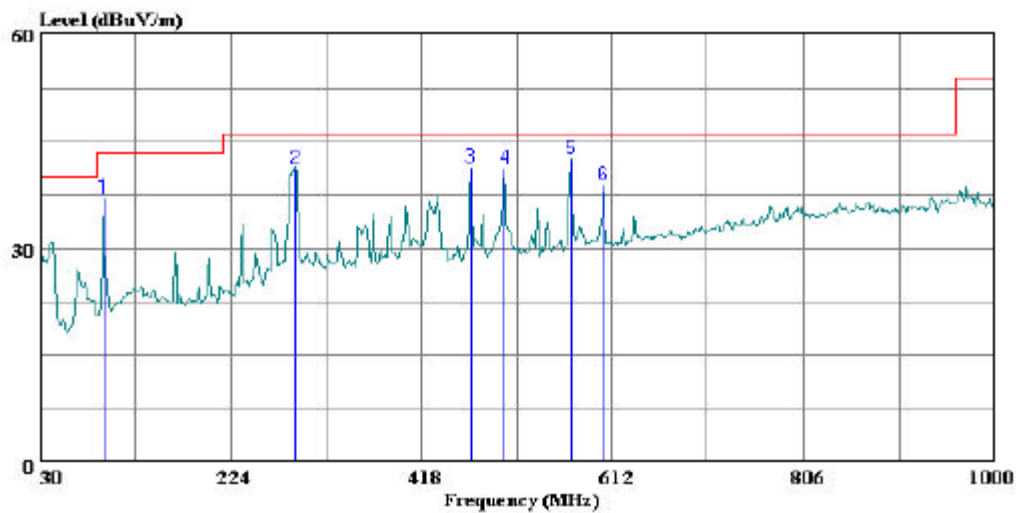
**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)**

VERTICAL PLOT



561F Monterey Road  
Morgan Hill, CA 95037  
Tel: (408) 463-0888  
Fax: (408) 463-0885

Data#: 6 File#: below 1GHz.EMI Date: 07-25-2006 Time: 20:29:55



(Auxiliary ATC)

Trace: 5

Ref Trace:

Condition: FCC CLASS-B VERTICAL  
Test Operator: : Thanh Nguyen  
Company: : MARVELL  
Project #: : 06U10462  
Configuration: : EUT inside GATEWAY laptop  
Mode of Operation: Tx worst case

VERTICAL DATA

|   | Freq    | Read<br>Level | Factor | Level  | Limit<br>Line | Over<br>Limit | Remark |
|---|---------|---------------|--------|--------|---------------|---------------|--------|
|   | MHz     | dBuV          | dB     | dBuV/m | dBuV/m        | dB            |        |
| 1 | 94.990  | 26.75         | 10.12  | 36.87  | 43.50         | -6.63         | Peak   |
| 2 | 289.960 | 25.85         | 15.29  | 41.14  | 46.00         | -4.86         | Peak   |
| 3 | 468.440 | 21.80         | 19.61  | 41.41  | 46.00         | -4.59         | Peak   |
| 4 | 502.390 | 20.93         | 20.24  | 41.17  | 46.00         | -4.83         | Peak   |
| 5 | 570.290 | 21.50         | 21.14  | 42.64  | 46.00         | -3.36         | Peak   |
| 6 | 604.240 | 17.15         | 21.58  | 38.73  | 46.00         | -7.27         | Peak   |

### 7.3. POWERLINE CONDUCTED EMISSIONS

#### LIMIT

§15.207 (a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (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 the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

The lower limit applies at the boundary between the frequency ranges.

| Frequency of Emission (MHz) | Conducted Limit (dBuV) |            |
|-----------------------------|------------------------|------------|
|                             | Quasi-peak             | Average    |
| 0.15-0.5                    | 66 to 56 *             | 56 to 46 * |
| 0.5-5                       | 56                     | 46         |
| 5-30                        | 60                     | 50         |

\* Decreases with the logarithm of the frequency.

#### TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

The resolution bandwidth is set to 9 kHz for both peak detection and quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

Line conducted data is recorded for both NEUTRAL and HOT lines.

#### RESULTS

No non-compliance noted:

# **6 WORST EMISSIONS**

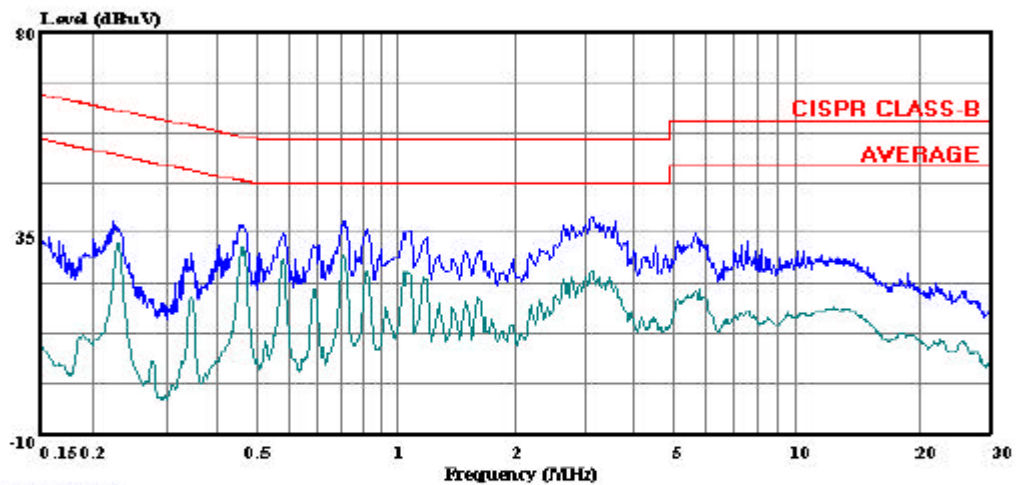
| CONDUCTED EMISSIONS DATA (115VAC 60Hz) |           |           |           |       |       |       |         |         |         |
|----------------------------------------|-----------|-----------|-----------|-------|-------|-------|---------|---------|---------|
| Freq.                                  | Reading   |           |           | Closs | Limit | EN_B  | Margin  |         | Remark  |
| (MHz)                                  | PK (dBuV) | QP (dBuV) | AV (dBuV) | (dB)  | QP    | AV    | QP (dB) | AV (dB) | L1 / L2 |
| 0.22                                   | 37.54     | --        | --        | 0.00  | 62.67 | 52.67 | -25.13  | -15.13  | L1      |
| 0.81                                   | 37.60     | --        | --        | 0.00  | 56.00 | 46.00 | -18.40  | -8.40   | L1      |
| 3.22                                   | 38.63     | --        | --        | 0.00  | 56.00 | 46.00 | -17.37  | -7.37   | L1      |
| 0.46                                   | 38.80     | --        | --        | 0.00  | 56.77 | 46.77 | -17.97  | -7.97   | L2      |
| 1.14                                   | 38.50     | --        | --        | 0.00  | 56.00 | 46.00 | -17.50  | -7.50   | L2      |
| 3.17                                   | 39.26     | --        | --        | 0.00  | 56.00 | 46.00 | -16.74  | -6.74   | L2      |
| 6 Worst Data                           |           |           |           |       |       |       |         |         |         |

## LINE 1 RESULTS



Compliance Certification Services  
561F Monterey Road  
Morgan Hill, CA 95037  
Tel: (408) 463-0885  
Fax: (408) 463-0888

Data#: 7 File#: 10462.EMI Date: 07-26-2006 Time: 19:36:33



(Auxiliary ATC)

Trace: 5

Ref Trace:

Condition: CISPR CLASS-B  
Test Operator : Thanh Nguyen  
Project # : 06U10462  
Company : MARVELL  
EUT configuration: EUT inside GATEway Laptop.  
Mode of operation: Tx continuous worst case  
Power Source : 115VAC, 60 Hz  
: Line 1: Peak (Blue), Average (Green)

## LINE 2 RESULTS

