# FCC 47 CFR PART 15 SUBPART C AND ANSI C63.4 : 2003

# TEST REPORT

**For**

**D-Link AirPremier N Dual Band PoE Access Point**

**Model : DAP-2553**

**Trade Name : D-Link**

**Issued for**

**D-Link Corporation**

**No. 289, Sinhu 3rd Rd., Neihu District,**
**Taipei City 114, Taiwan, R.O.C**

**Issued by**

**Compliance Certification Services Inc.**
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# Revision History

| Rev. | Issue Date | Revisions | Effect Page | Revised By |
|---|---|---|---|---|
| 00 | 06/13/2008 | Initial Issue | All Page 311 | Jason Chang |
| 01 | 07/29/2008 | Update Description Of EUT & Power | Page 5 | Jason Chang |
| | | | | |
| | | | | |
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# 1. TEST REPORT CERTIFICATION

| | |
|---|---|
| **Applicant** | ：D-Link Corporation |
| **Address** | ：No. 289, Sinhu 3rd Rd., Neihu District, Taipei City 114, Taiwan, R.O.C. |
| **Equipment Under Test** | ：D-Link AirPremier N Dual Band PoE Access Point |
| **Model** | ：DAP-2553 |
| **Trade Name** | ：D-Link |
| **Tested Date** | ：February 29 ~ June 12, 2008 |

| **APPLICABLE STANDARD** | |
|---|---|
| **STANDARD** | **TEST RESULT** |
| FCC Part 15 Subpart C:2007 AND ANSI C63.4:2003 | No non-compliance noted |

***Approved by:*** ***Reviewed by:***

**Jason Chang**
Team Leader of Hsinchu Laboratory
Compliance Certification Services Inc.

**Alan Fan**
Team Leader of Hsinchu Laboratory
Compliance Certification Services Inc.

WE HEREBY CERTIFY THAT: The measurements shown in the attachment were made in accordance with the procedures indicated, and the energy emitted by the equipment was found to be within the limits applicable. We assume full responsibility for the accuracy and completeness of these measurements and vouch for the qualifications of all persons taking them.

# 2. EUT DESCRIPTION

## 2.1 DESCRIPTION OF EUT & POWER

| | |
|---|---|
| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point |
| **Model Number** | DAP-2553 |
| **Frequency Range** | IEEE 802.11a, IEEE 802.11n HT20 : 5745MHz ~ 5825MHz<br>IEEE 802.11n HT40 : 5755MHz ~ 5795MHz<br>IEEE 802.11b/g, IEEE 802.11n HT20 : 2412MHz～2462MHz<br>IEEE 802.11n HT40 : 2422MHz～2452MHz |
| **Transmit Power** | IEEE 802.11a : 26.01dBm<br>IEEE 802.11n HT20 : 28.43dBm<br>IEEE 802.11n HT40 : 26.79dBm<br>IEEE 802.11b : 24.87dBm<br>IEEE 802.11g : 28.05dBm<br>IEEE 802.11n HT20 : 27.47dBm<br>IEEE 802.11n HT40 : 27.68dBm |
| **Channel Spacing** | IEEE 802.11a, IEEE 802.11n 20MHz / HT40 : 40MHz<br>IEEE 802.11b/g, IEEE 802.11n HT20 / HT40 : 5MHz |
| **Channel Number** | IEEE 802.11a, IEEE 802.11n HT20 : 5 Channels<br>IEEE 802.11n HT40 : 2 Channels<br>IEEE 802.11b/g, IEEE 802.11n HT20 : 11 Channels<br>IEEE 802.11n HT40 : 7 Channels |
| **Transmit Data Rate** | IEEE 802.11a : 54, 48, 36, 24, 18, 12, 9, 6 Mbps<br>IEEE 802.11b : 11, 5.5, 2, 1 Mbps<br>IEEE 802.11g : 54, 48, 36, 24, 18, 12, 9, 6 Mbps<br>IEEE 802.11n HT20 : 144.44, 130, 117, 115.556, 104, 86.667, 78, 72.2, 65, 58.5, 57.8, 57.778, 52, 43.333, 43.3, 39, 28.9, 28.889, 26, 21.7, 19.5, 14.444, 14.4, 13, 7.2, 6.5 Mbps<br>IEEE 802.11n HT40 : 300, 270, 243, 240, 216, 180, 162, 150, 135, 121.5, 120, 108, 90, 81, 60, 54, 45, 40.5, 30, 27, 15, 13.5Mbps |

| | |
|---|---|
| **Type of Modulation** | IEEE 802.11a : OFDM (64QAM, 16QAM, QPSK, BPSK)<br>IEEE 802.11b : DSSS (CCK, DQPSK, DBPSK)<br>IEEE 802.11g : OFDM (64QAM, 16AQM, QPSK, BPSK)<br>IEEE 802.11n HT20/40 : OFDM (64QAM, 16QAM, QPSK, BPSK) |
| **Frequency Selection** | by software / firmware |
| **Antenna Type** | Dipole Antenna × 3<br>2.4GHz ~ 2.5GHz Antenna Gain : 3dBi<br>4.9GHz ~ 5.825GHz Antenna Gain : 5dBi |
| **Power Source** | 5.0VDC (From Power Adapter) |
| **Note** | Atheros Communications Inc. RF Module Model : MB82 |

**Power Adapter :**

| No. | Manufacturer | Model No. | Power Input | Power Output |
|---|---|---|---|---|
| 1 | D-Link | AF1805-A | 100-120VAC, 50/60Hz, 0.4A | 5VDC, 2.5A |
| 2 | D-Link | AF1805-B | 100-120VAC, 50/60Hz, 0.4A | 5VDC, 2.5A |

***Remark:***

*1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.*

*2. This submittal(s) (test report) is intended for FCC ID: KA2AP2553A1 filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.*

*3. For more details, please refer to the User's manual of the EUT.*

# 3. DESCRIPTION OF TEST MODES

The EUT is an 802.11n MIMO transceiver in Access Point form factor. It has three transmitter chains and three receive chains (3 × 3 configurations). The 3 × 3 configuration is implemented with three outside chains (Chain 0, 1, 2).

The RF chipset is manufactured by Atheros Communications Inc.

**IEEE 802.11a mode, IEEE 802.11n HT20 mode**

The EUT had been tested under operating condition.

There are three channels have been tested as following :

| Channel | Frequency (MHz) |
|---|---|
| Low | 5745 |
| Middle | 5785 |
| High | 5825 |

IEEE 802.11a mode : 6Mbps data rate (worst case) were chosen for full testing.

IEEE 802.11n HT20 mode : 6.5Mbps data rate (worst case) were chosen for full testing.

**IEEE 802.11n HT40 mode**

The EUT had been tested under operating condition.

There are two channels have been tested as following :

| Channel | Frequency (MHz) |
|---|---|
| Low | 5755 |
| High | 5795 |

IEEE 802.11n HT40 mode : 13.5Mbps data rate (worst case) were chosen for full testing.

**IEEE 802.11b mode, IEEE 802.11g mode, IEEE 802.11n HT20 mode**

The EUT had been tested under operating condition.

There are three channels have been tested as following :

| Channel | Frequency (MHz) |
|---|---|
| Low | 2412 |
| Middle | 2437 |
| High | 2462 |

IEEE 802.11b mode : 1Mbps data rate (worst case) were chosen for full testing.

IEEE 802.11g mode : 6Mbps data rate (worst case) were chosen for full testing.

IEEE 802.11n HT20 mode : 6.5Mbps data rate (worst case) were chosen for full testing.

**IEEE 802.11n HT40 mode**

The EUT had been tested under operating condition.

There are three channels have been tested as following :

| Channel | Frequency (MHz) |
|---|---|
| Low | 2422 |
| Middle | 2437 |
| High | 2452 |

IEEE 802.11n HT40 mode : 13.5Mbps data rate (worst case) were chosen for full testing.

The worst-case data rates are determined according to the description above, based on the investigations by measuring the PSD and average power across all the data rates, bandwidths, modulations and spatial stream modes.

# 4. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4 and FCC CRF 47 2.1046, 2046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.207, 15.209 and 15.247.

# 5. FACILITIES AND ACCREDITATIONS

## 5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at Rm.258, Bldg.17, NO.195 , Sec. 4, Chung Hsing Rd., Chu-Tung Chen. Hsin-Chu, Taiwan 310 R.O.C.
The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

## 5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements.
Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.
Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.
All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

## 5.3 LABORATORY ACCREDITATIONS LISTINGS

The test facilities used to perform radiated and conducted emissions tests are accredited by National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code: 200118-0 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by TAF or any agency of the Government. In addition, the test facilities are listed with Federal Communications Commission (registration no: 90585 and 90584).

## 5.4 TABLE OF ACCREDITATIONS AND LISTINGS

| Country | Agency | Scope of Accreditation | Logo |
|---|---|---|---|
| USA | FCC | 3/10 meter Open Area Test Sites to perform FCC Part 15/18 measurements | 90585, 90584 |
| Japan | VCCI | 3/10 meter Open Area Test Sites to perform conducted/radiated measurements | R-1229/1189<br>C-1250/1294 |
| Taiwan | TAF | FCC Method-47 CFR Part 15 Subpart C,D,E CISPR 11, FCC METHOD-47 CFR Part 18, EN 55011, CNS 13803, CISPR 13, CNS 13439, FCC Method-47 CFR Part 15 Subpart B, CISPR 14-1, EN 55014-1, CNS 13783-1, EN 55015, CNS 14115, CISPR 22, EN 55022, VCCI CNS 13438, EN 61000-4-2/3/4/5/6/8/11 | Testing Laboratory<br>0240 |
| Taiwan | BSMI | CNS 13803, CNS 13438, CNS 13439, CNS 13783-1, CNS 14115 | SL2-IS-E-0002<br>SL2-IN-E-0002<br>SL2-A1-E-0002<br>SL2-R1-E-0002<br>SL2-R2-E-0002<br>SL2-L1-E-0002 |
| Canada | Industry Canada | RSS-GEN Issue 2 | IC 4417-1, IC-4417-2 |

** No part of this report may be used to claim or imply product endorsement by TAF or any agency of the US Government.*

# 6. CALIBRATION AND UNCERTAINTY

## 6.1 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.

## 6.2 MEASUREMENT UNCERTAINTY

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

| PARAMETER | UNCERTAINTY |
|---|---|
| Radiated Emission, 30 to 1000 MHz | +/- 3.2 dB |
| Radiated Emission, 1 to 26.5 GHz | +/- 3.2 dB |
| Power Line Conducted Emission | +/- 2.1 dB |

Uncertainty figures are valid to a confidence level of 95%

# 7. SETUP OF EQUIPMENT UNDER TEST

## SUPPORT EQUIPMENT

| No. | Product | Manufacturer | Model No. | Serial No. | FCC ID |
|---|---|---|---|---|---|
| 1 | Notebook PC | DELL | Latitude D610 | CN-0C4708-48643-625-5565 | E2K24BNHM |
| 2 | Notebook PC | HP | nx6130 | CNU543274R | CNTWM3B2200BGA |

## SETUP DIAGRAM FOR TESTS

EUT & peripherals setup diagram is shown in appendix setup photos.

## EUT OPERATING CONDITION

All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test. Grounding was established in accordance with the manufacturer’s requirements and conditions for the intended use.

# 8. APPLICABLE LIMITS AND TEST RESULTS

## 8.1 6dB BANDWIDTH

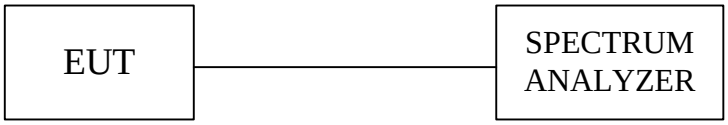
**LIMIT**

§ 15.207(a) (2) For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

**TEST EQUIPMENT**

| Description & Manufacturer | Model No. | Serial No. | Date of Calibration |
|---|---|---|---|
| ROHDE & SCHWARZ SPECTRUM ANALYZER | FSEK30 | 835253/002 | October 25, 2007 |
| AGILENT SPECTRUM ANALYZER | E4446A | MY433601.32 | June 24, 2008 |

**TEST SETUP**




**TEST PROCEDURE**

The transmitter output was connected to a spectrum analyzer. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 KHz RBW and 300 KHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

**TEST RESULTS**

No non-compliance noted

**IEEE 802.11a mode**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | | | Minimum Limit (kHz) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| Low | 5745 | 16.50 | 16.50 | 16.50 | 500 | PASS |
| Middle | 5785 | 16.42 | 16.25 | 16.25 | 500 | PASS |
| High | 5825 | 16.50 | 16.25 | 16.50 | 500 | PASS |

**IEEE 802.11n HT20 mode**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | | | Minimum Limit (kHz) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| Low | 5745 | 17.67 | 14.92 | 16.50 | 500 | PASS |
| Middle | 5785 | 17.58 | 16.75 | 17.67 | 500 | PASS |
| High | 5825 | 17.67 | 17.50 | 17.42 | 500 | PASS |

**IEEE 802.11n HT40 mode**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | | | Minimum Limit (kHz) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| Low | 5755 | 35.50 | 36.08 | 35.17 | 500 | PASS |
| High | 5795 | 36.42 | 36.33 | 36.42 | 500 | PASS |

**IEEE 802.11b mode**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | | | Minimum Limit (kHz) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| Low | 2412 | 9.75 | 11.00 | 10.25 | 500 | PASS |
| Middle | 2437 | 10.17 | 10.17 | 10.08 | 500 | PASS |
| High | 2462 | 11.08 | 12.50 | 10.17 | 500 | PASS |

**IEEE 802.11g mode**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | | | Minimum Limit (kHz) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| Low | 2412 | 16.58 | 16.50 | 16.33 | 500 | PASS |
| Middle | 2437 | 16.50 | 16.33 | 16.50 | 500 | PASS |
| High | 2462 | 16.50 | 16.33 | 16.50 | 500 | PASS |

**IEEE 802.11n HT20 mode**

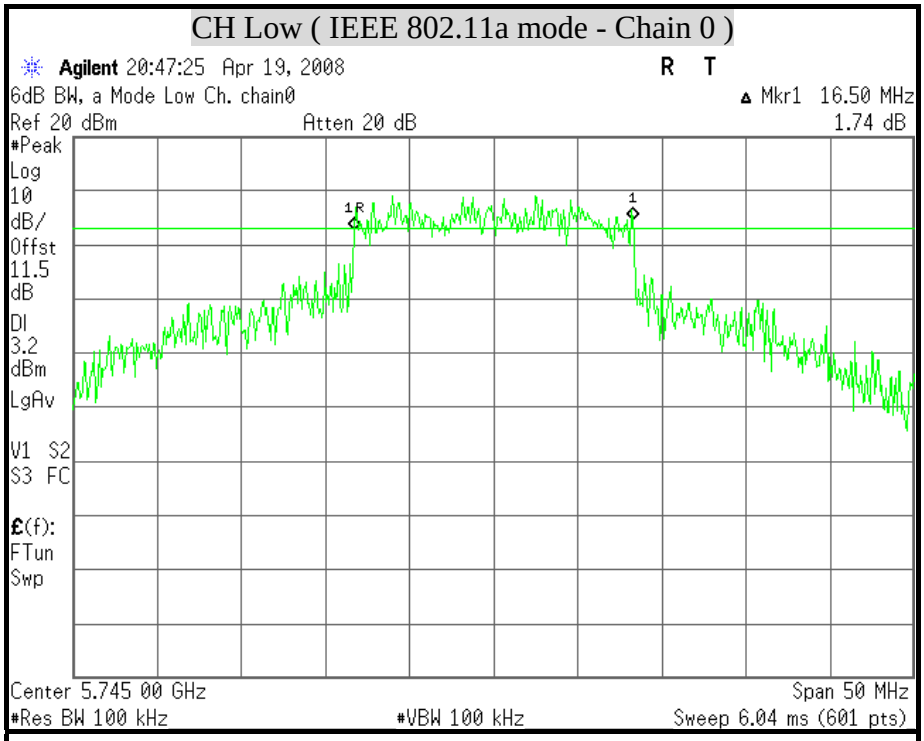
| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | | | Minimum Limit (kHz) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| Low | 2412 | 17.50 | 17.50 | 17.58 | 500 | PASS |
| Middle | 2437 | 17.08 | 16.75 | 17.50 | 500 | PASS |
| High | 2462 | 17.67 | 16.58 | 17.58 | 500 | PASS |

**IEEE 802.11n HT40 mode**

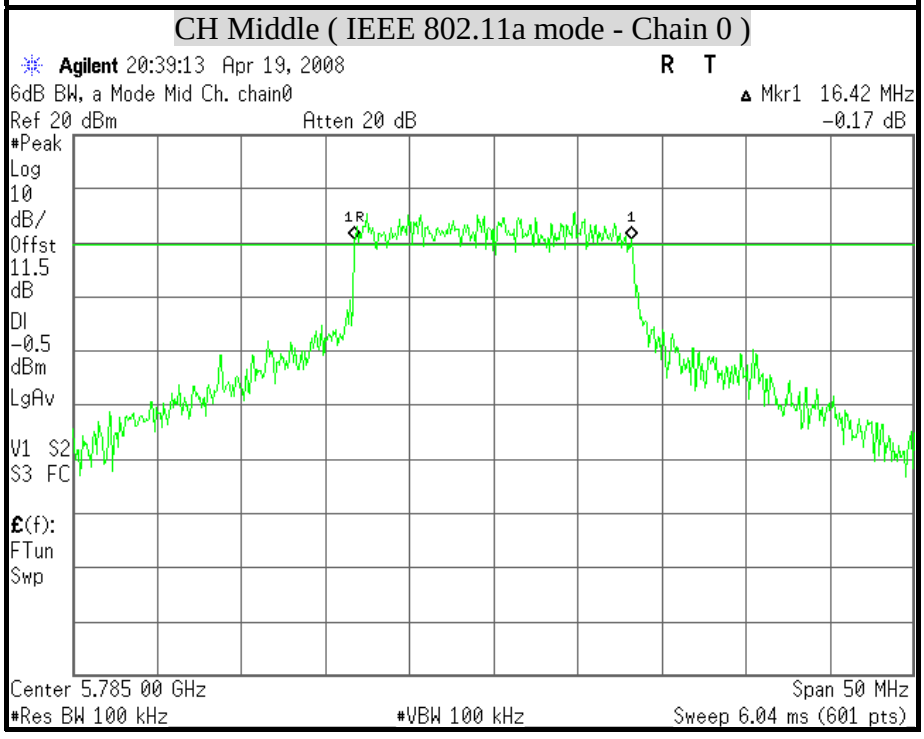
| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | | | Minimum Limit (kHz) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| Low | 2422 | 35.92 | 36.42 | 36.42 | 500 | PASS |
| Middle | 2437 | 36.33 | 36.42 | 36.33 | 500 | PASS |
| High | 2452 | 36.42 | 36.33 | 36.42 | 500 | PASS |

## 6dB BANDWIDTH ( IEEE 802.11a mode )

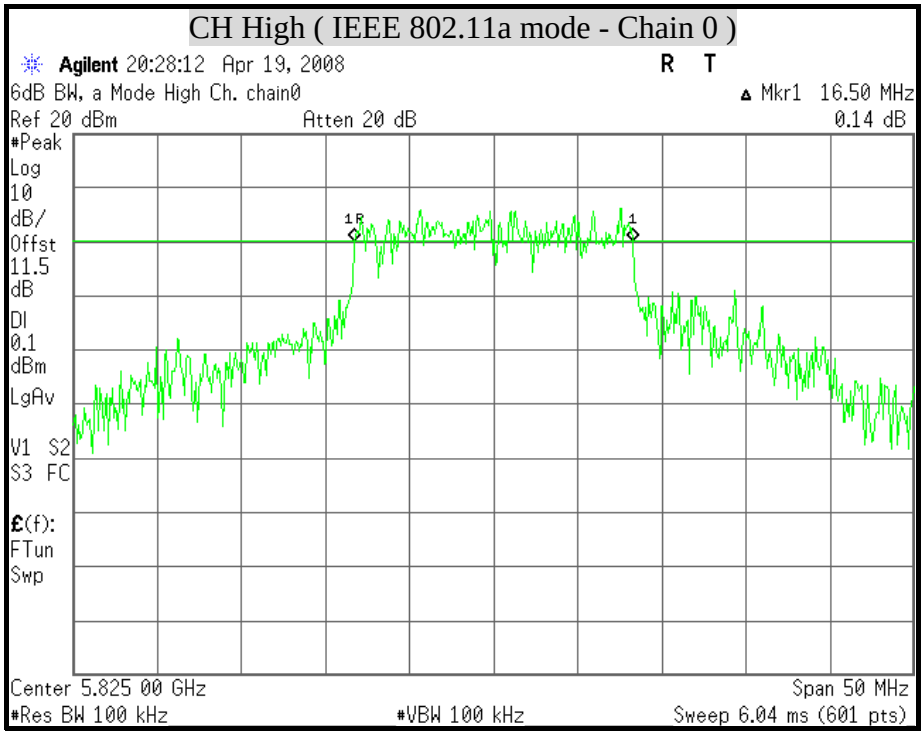
CH Low ( IEEE 802.11a mode - Chain 0 )



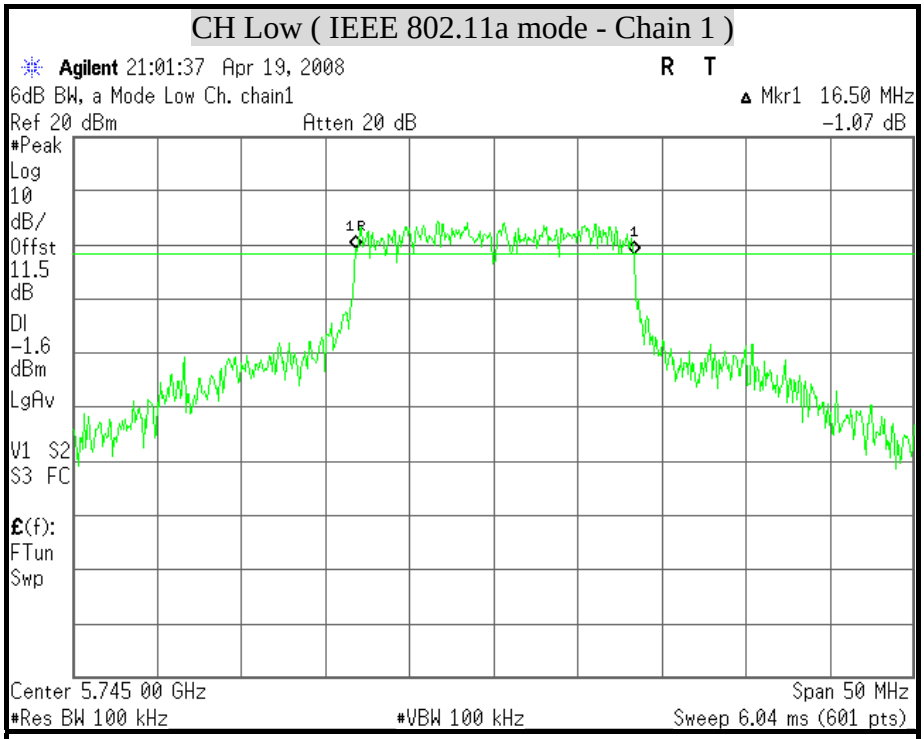

CH Middle ( IEEE 802.11a mode - Chain 0 )



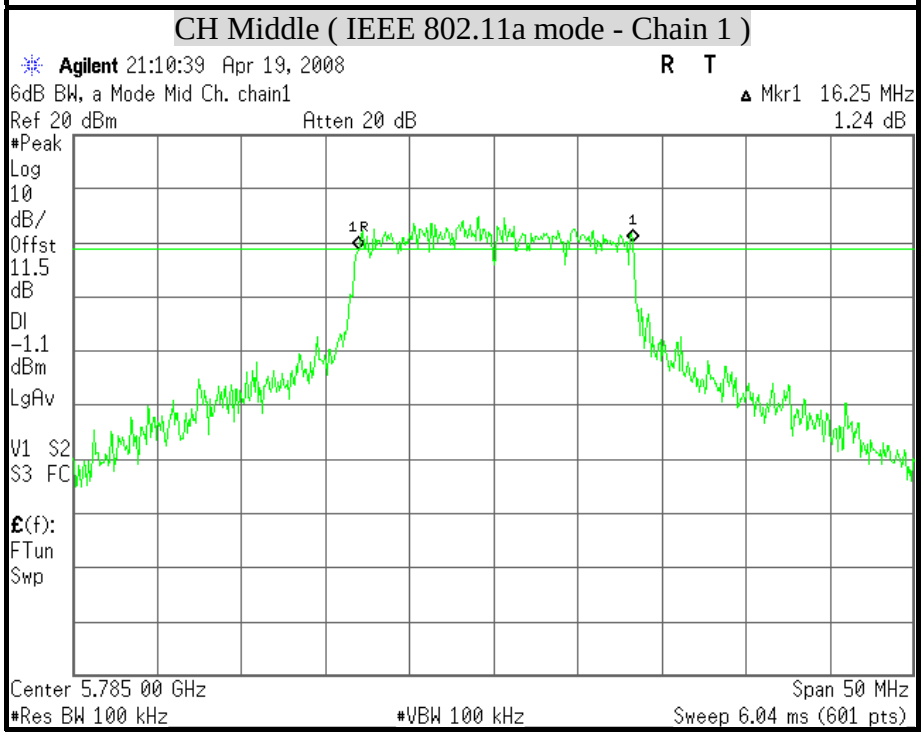
CH High ( IEEE 802.11a mode - Chain 0 )



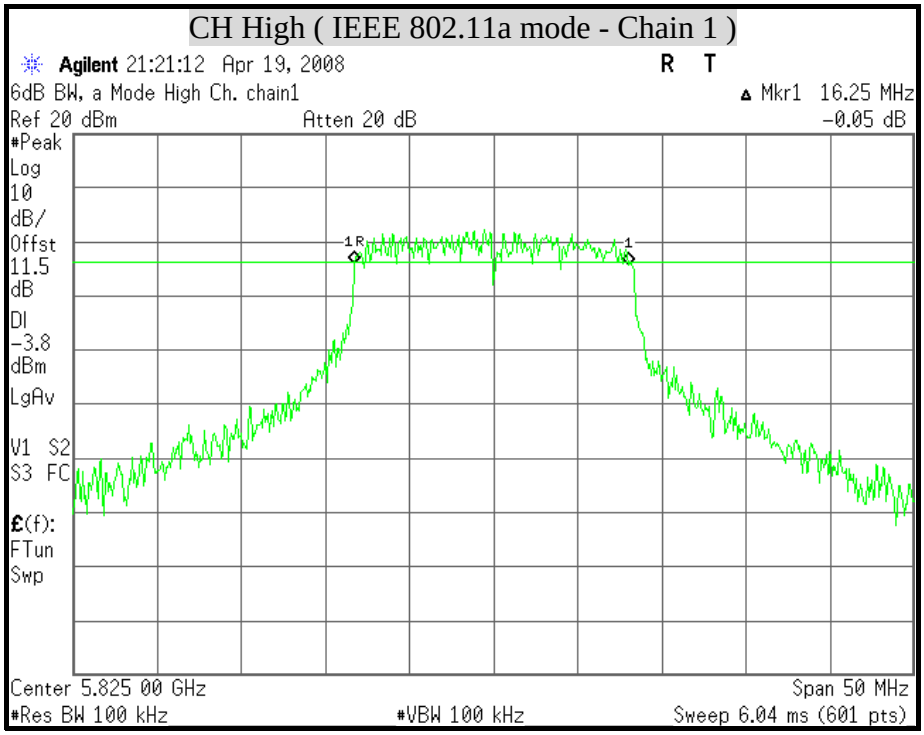
CH Low ( IEEE 802.11a mode - Chain 1 )



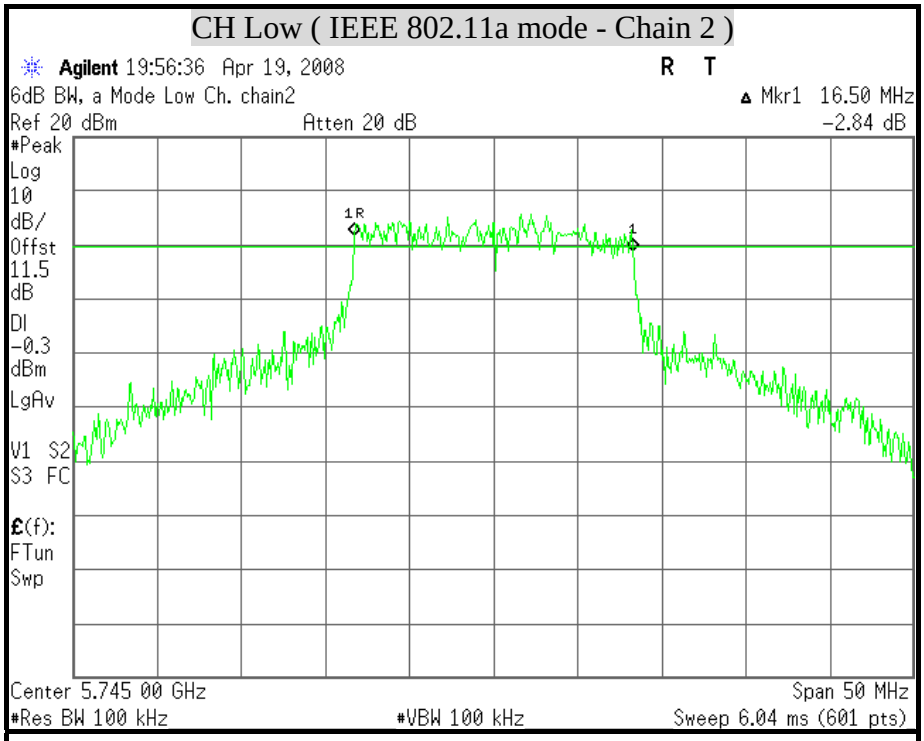

CH Middle ( IEEE 802.11a mode - Chain 1 )



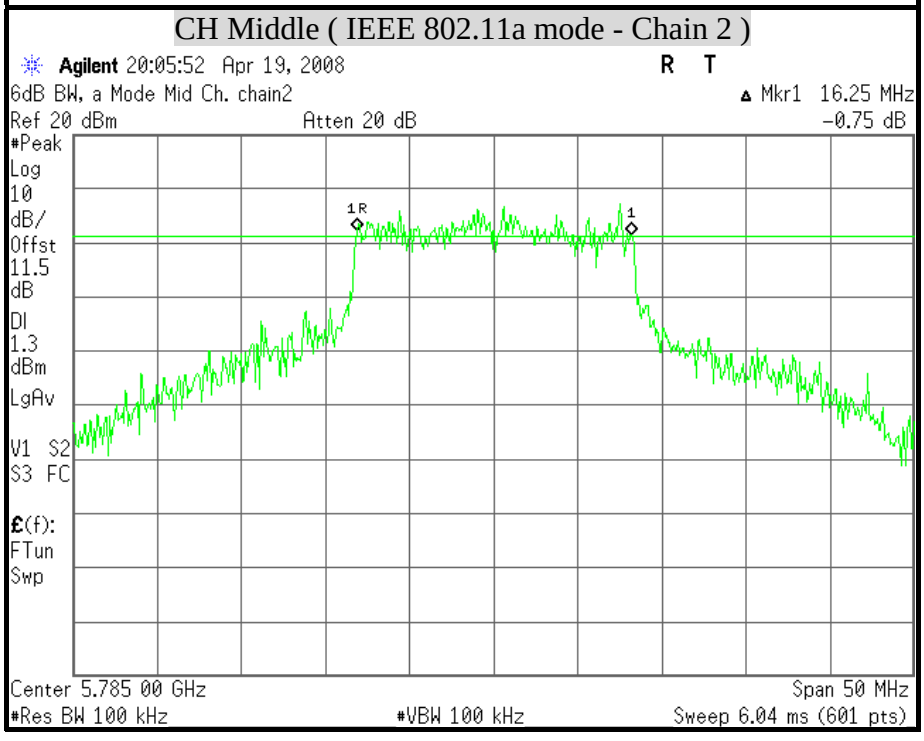
CH High ( IEEE 802.11a mode - Chain 1 )



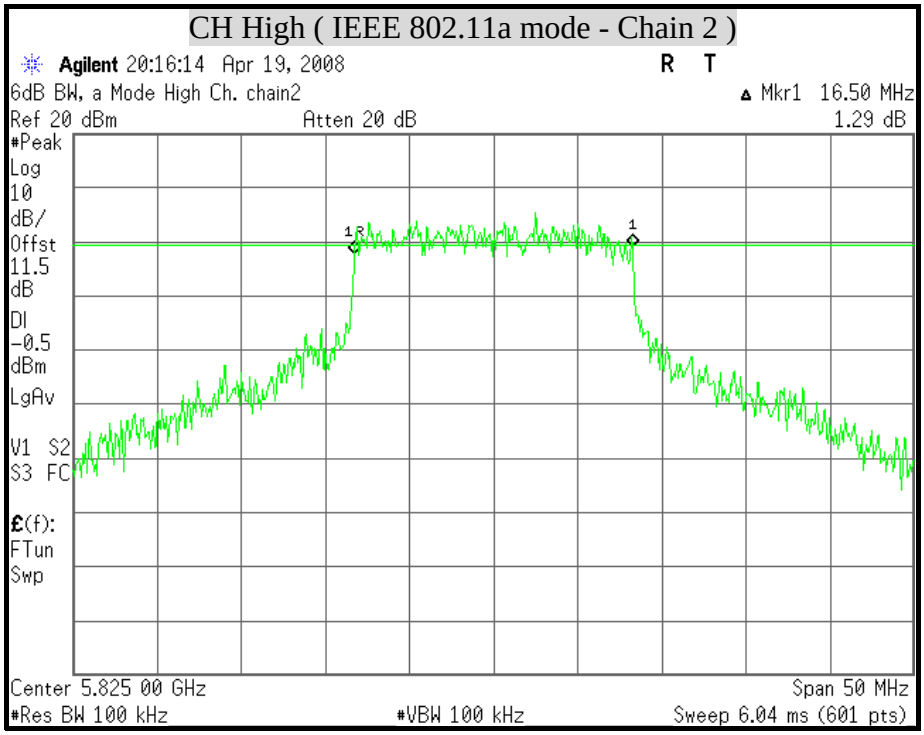
CH Low ( IEEE 802.11a mode - Chain 2 )




CH Middle ( IEEE 802.11a mode - Chain 2 )

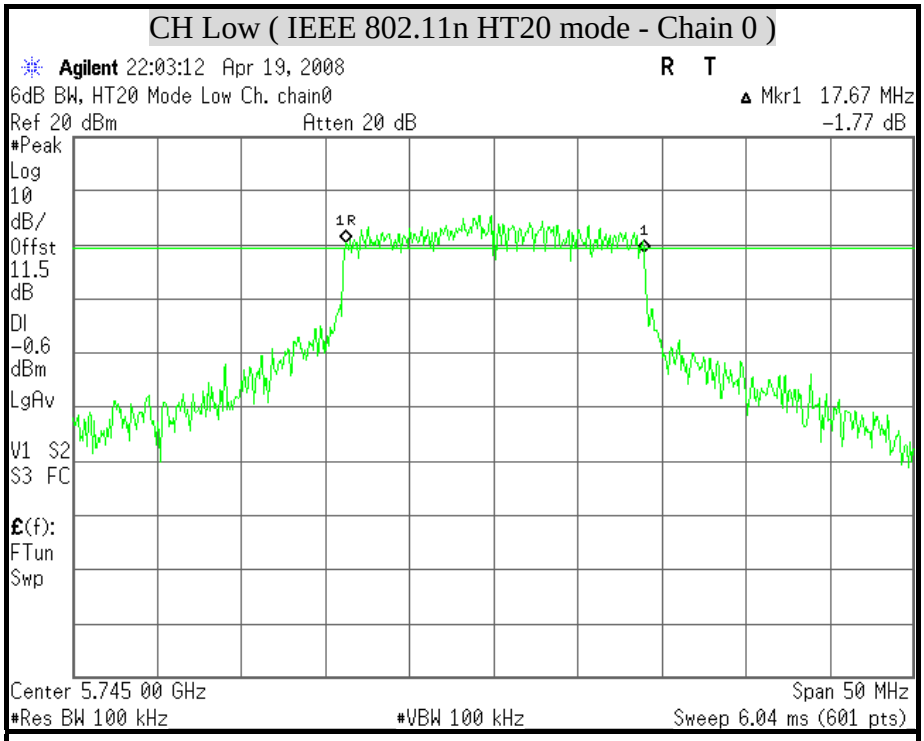


CH High ( IEEE 802.11a mode - Chain 2 )

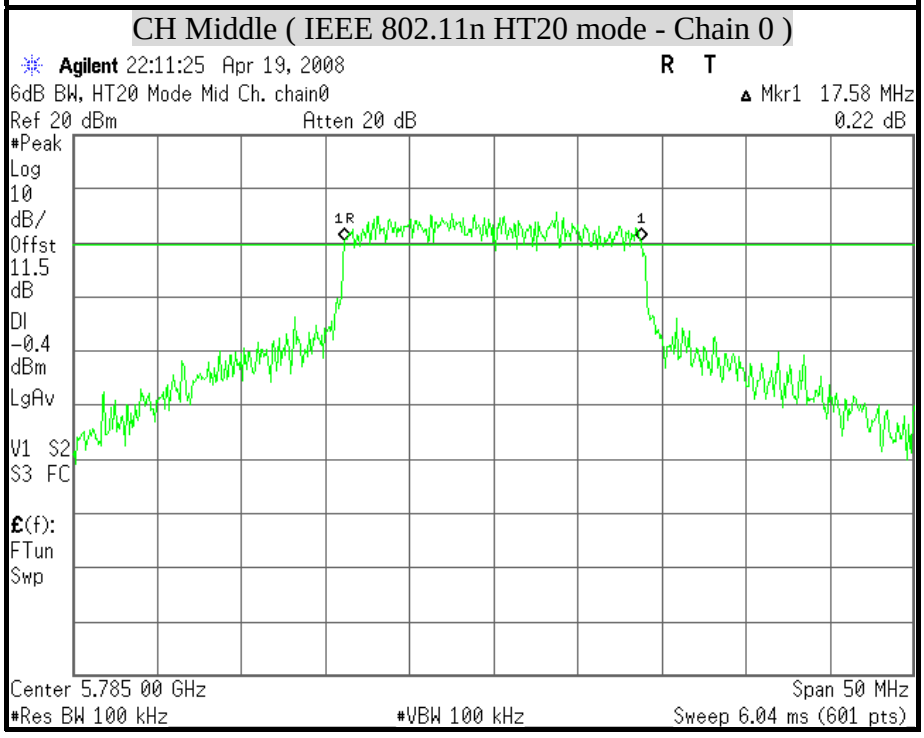


## 6dB BANDWIDTH ( IEEE 802.11n HT20 mode )

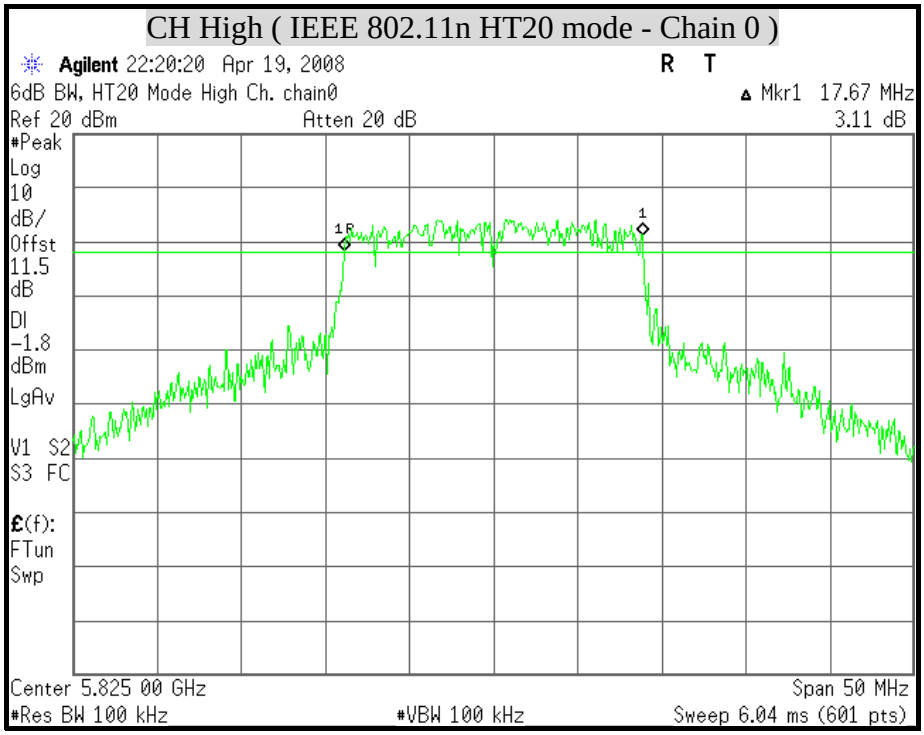
CH Low ( IEEE 802.11n HT20 mode - Chain 0 )



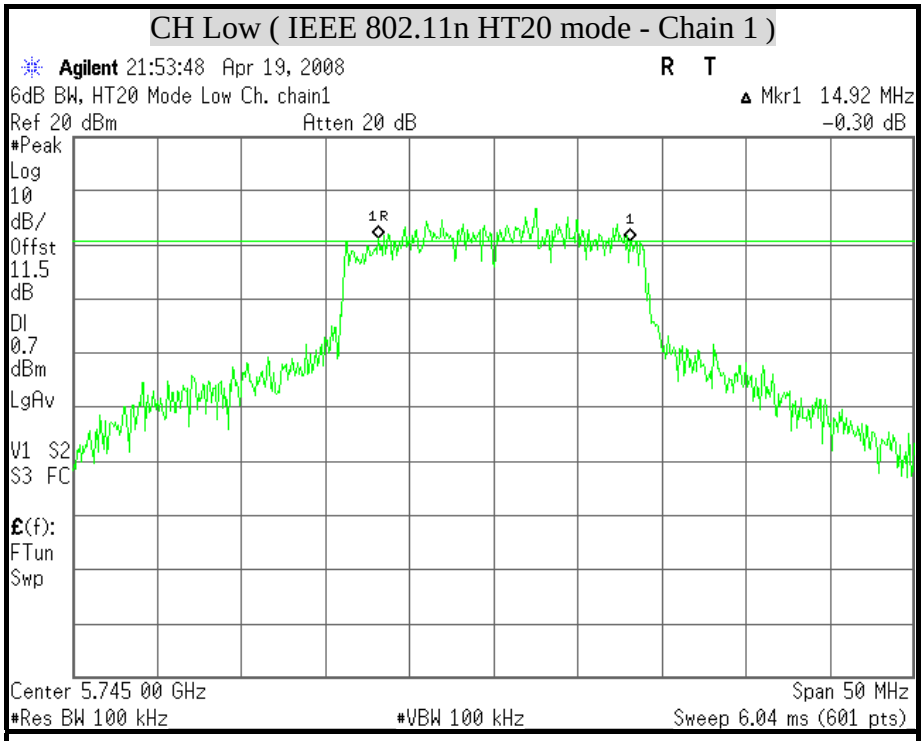

CH Middle ( IEEE 802.11n HT20 mode - Chain 0 )



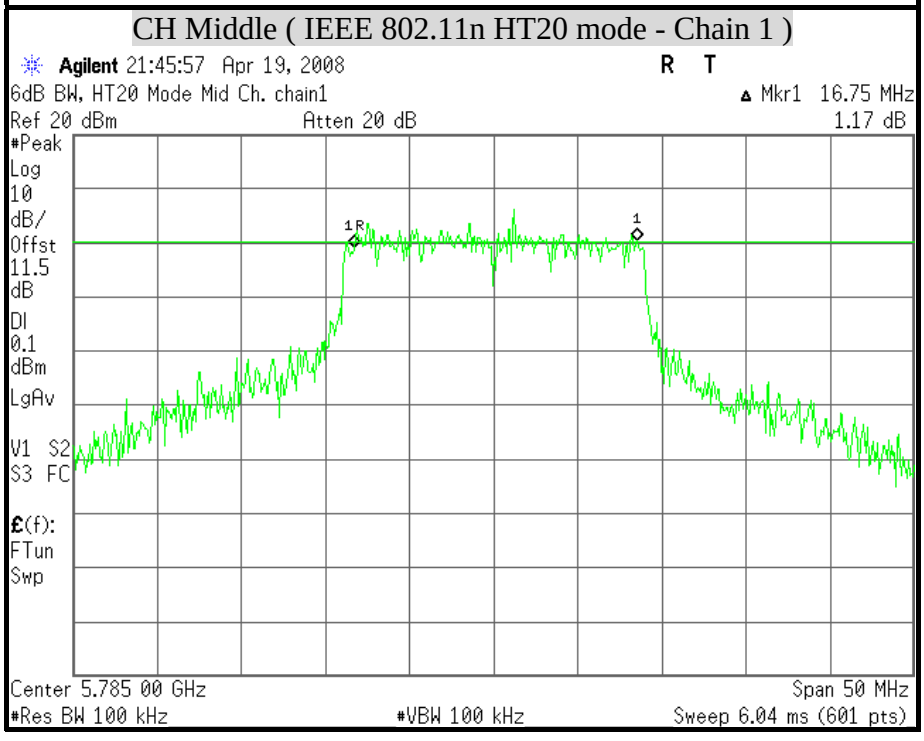
CH High ( IEEE 802.11n HT20 mode - Chain 0 )



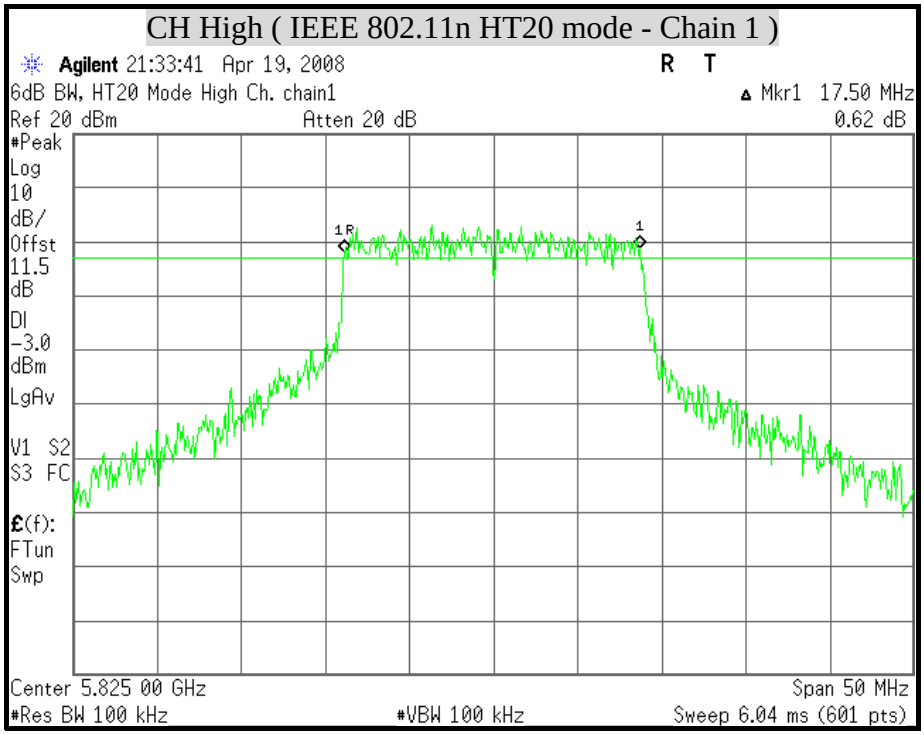
CH Low ( IEEE 802.11n HT20 mode - Chain 1 )



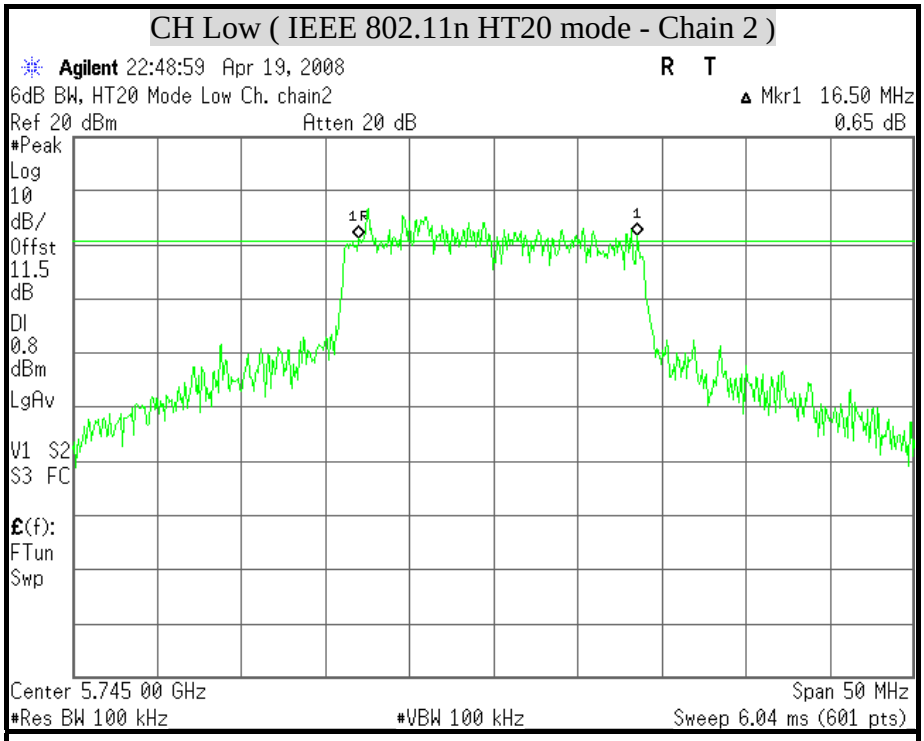

CH Middle ( IEEE 802.11n HT20 mode - Chain 1 )



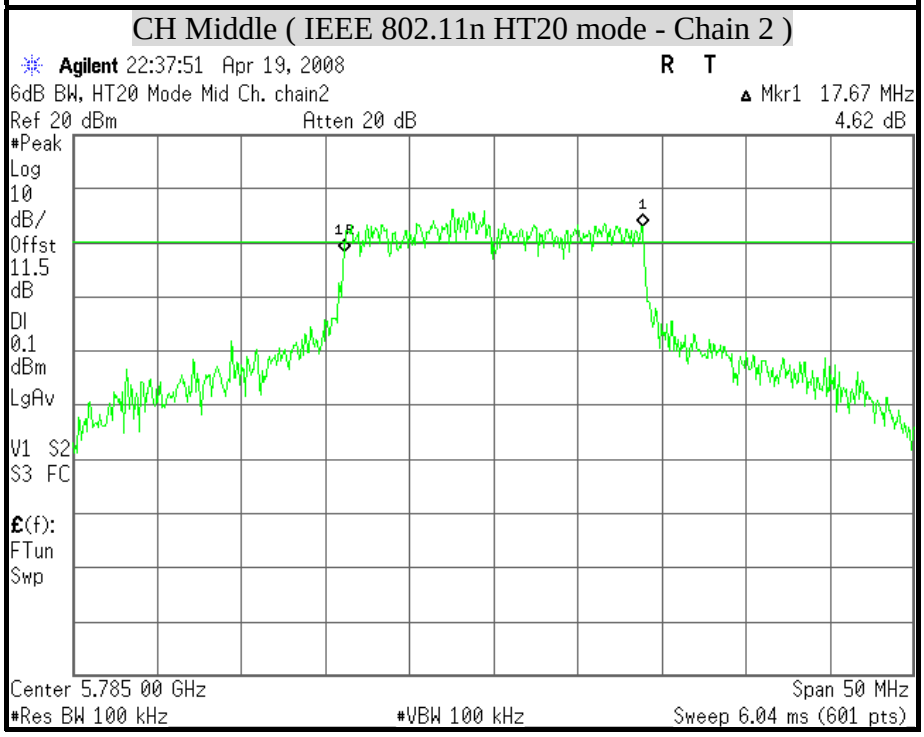
CH High ( IEEE 802.11n HT20 mode - Chain 1 )



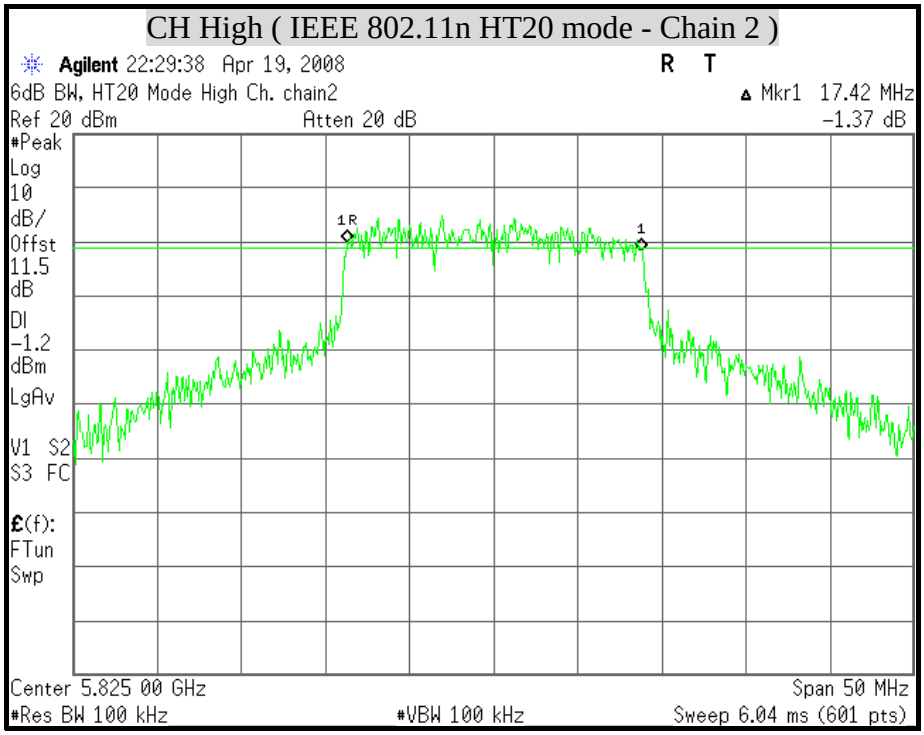
CH Low ( IEEE 802.11n HT20 mode - Chain 2 )




CH Middle ( IEEE 802.11n HT20 mode - Chain 2 )

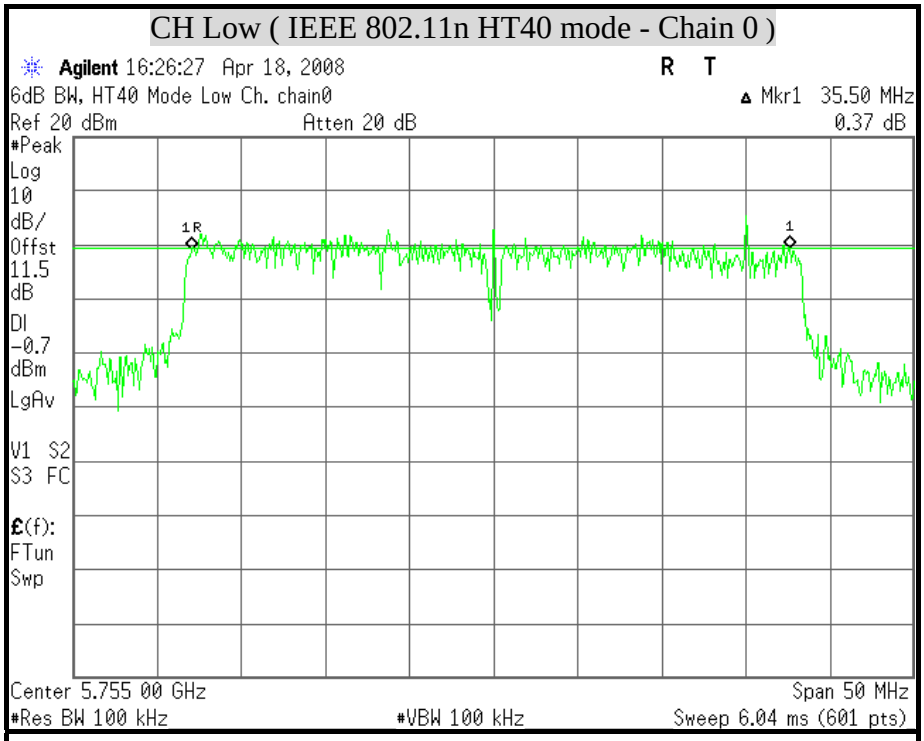


CH High ( IEEE 802.11n HT20 mode - Chain 2 )

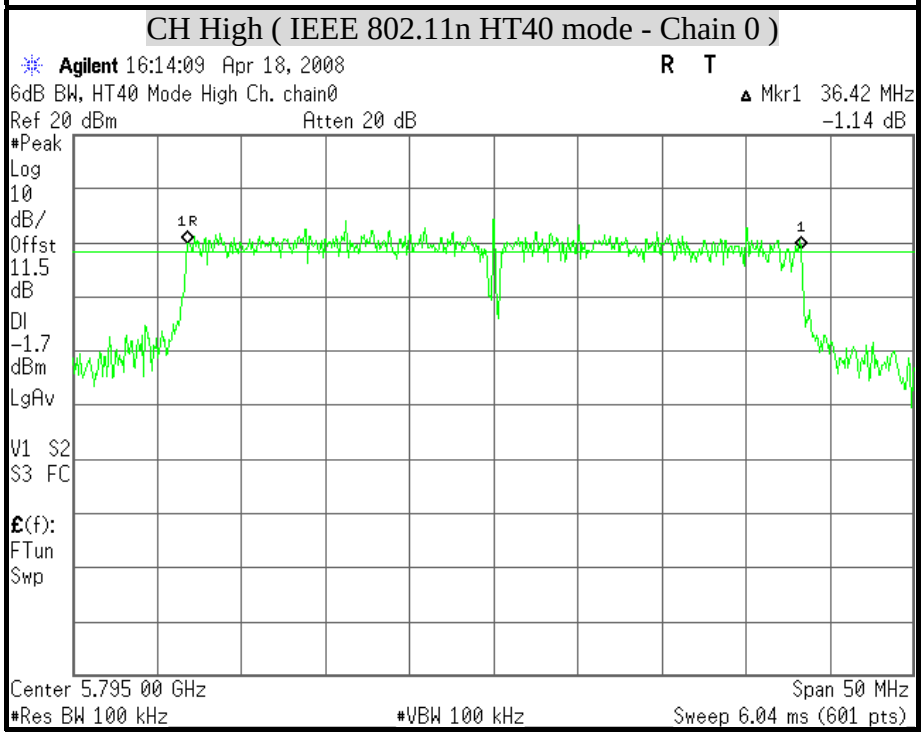


## 6dB BANDWIDTH ( IEEE 802.11n HT40 mode )

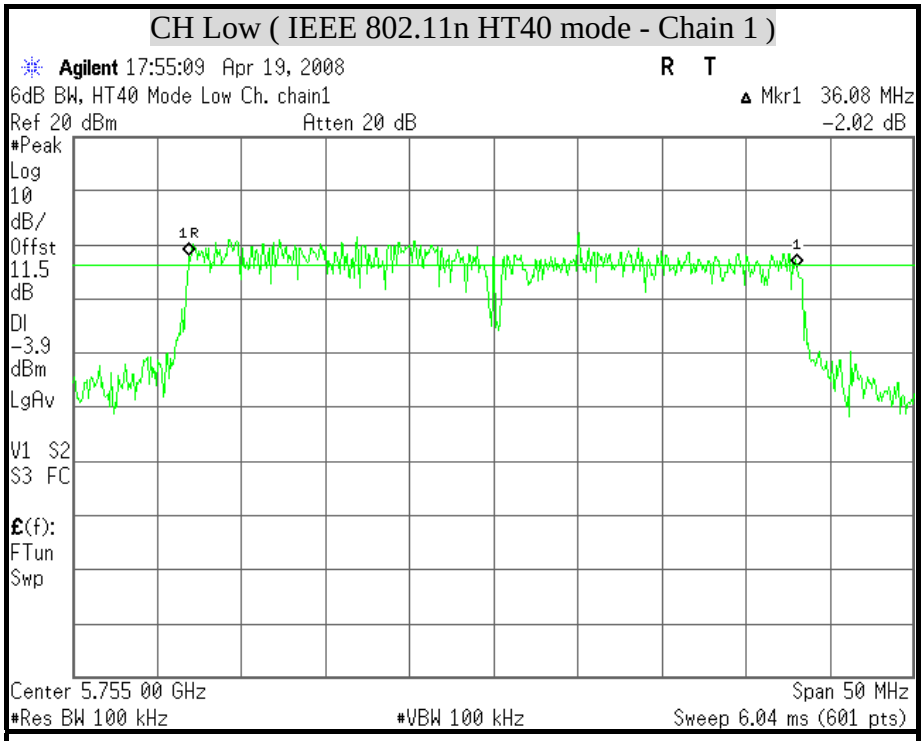
CH Low ( IEEE 802.11n HT40 mode - Chain 0 )



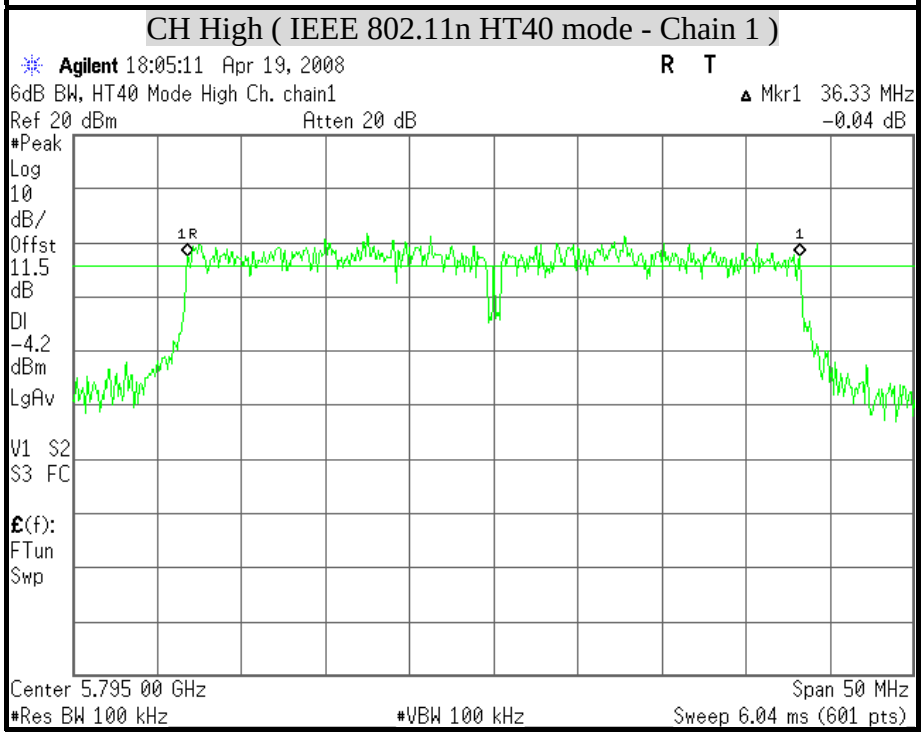

CH High ( IEEE 802.11n HT40 mode - Chain 0 )



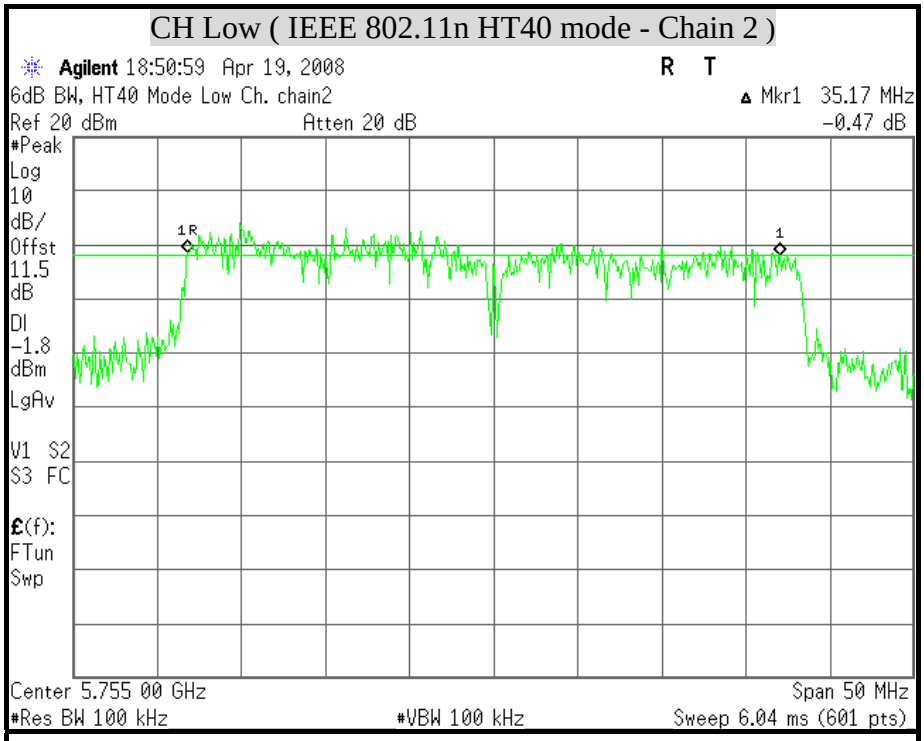
CH Low ( IEEE 802.11n HT40 mode - Chain 1 )



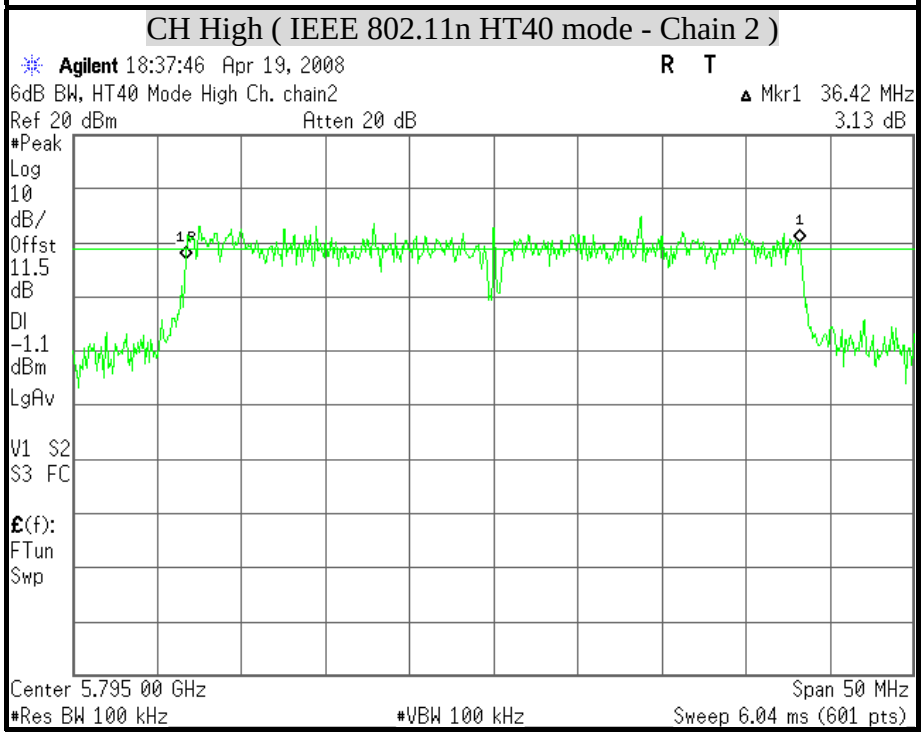

CH High ( IEEE 802.11n HT40 mode - Chain 1 )



CH Low ( IEEE 802.11n HT40 mode - Chain 2 )

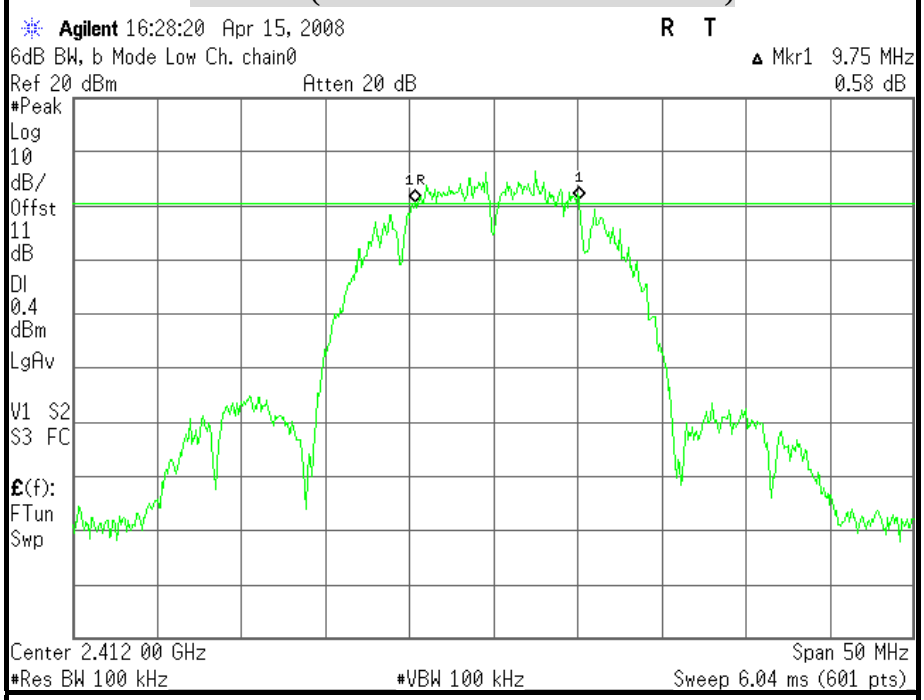



CH High ( IEEE 802.11n HT40 mode - Chain 2 )

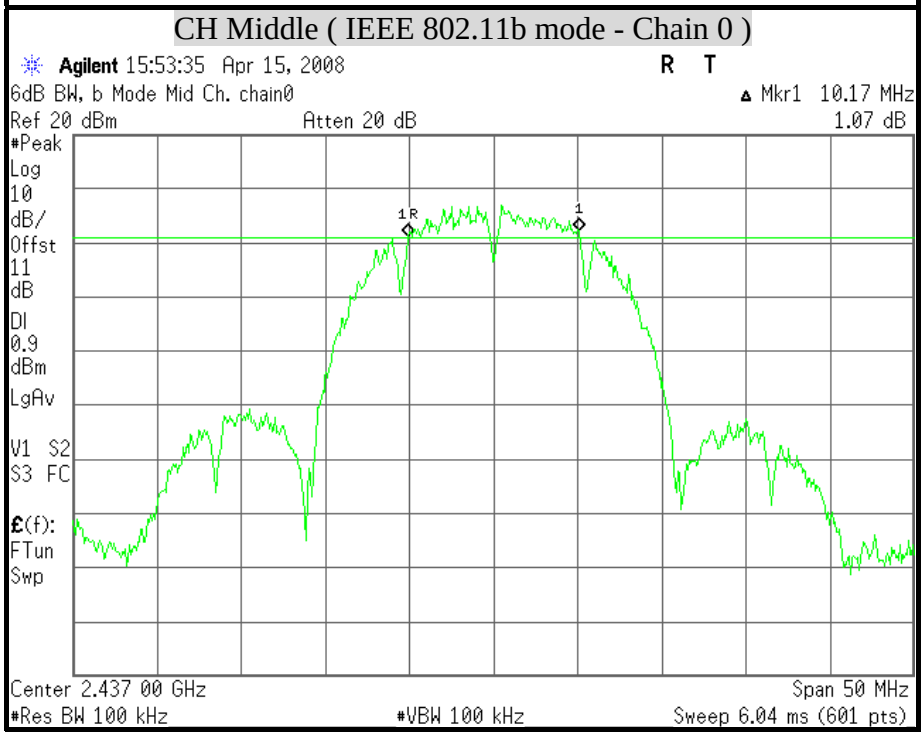


## 6dB BANDWIDTH ( IEEE 802.11b mode )

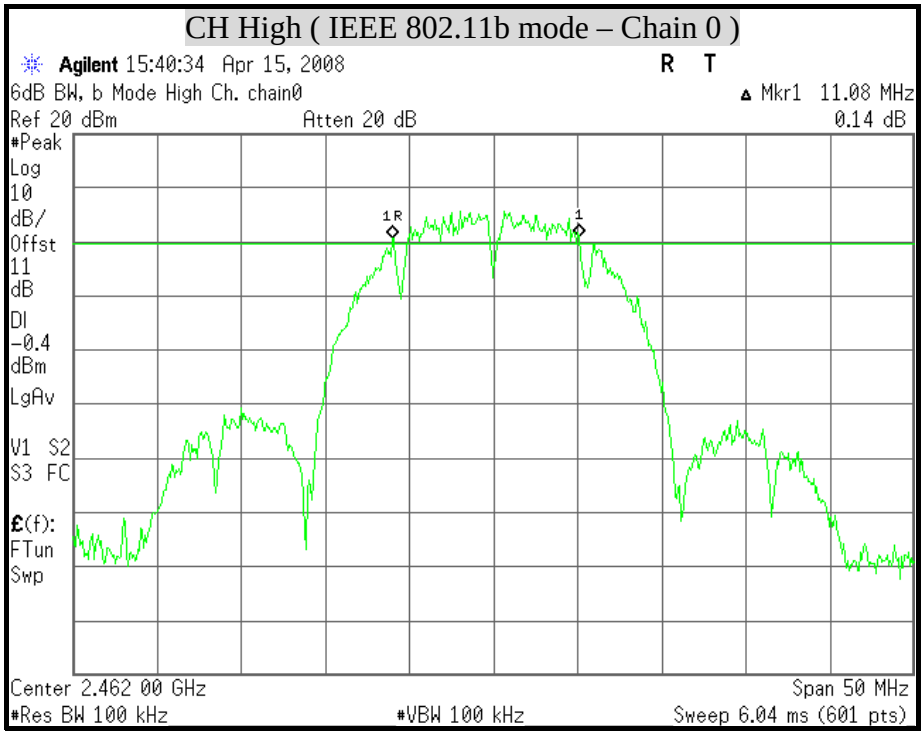
CH Low ( IEEE 802.11b mode - Chain 0 )



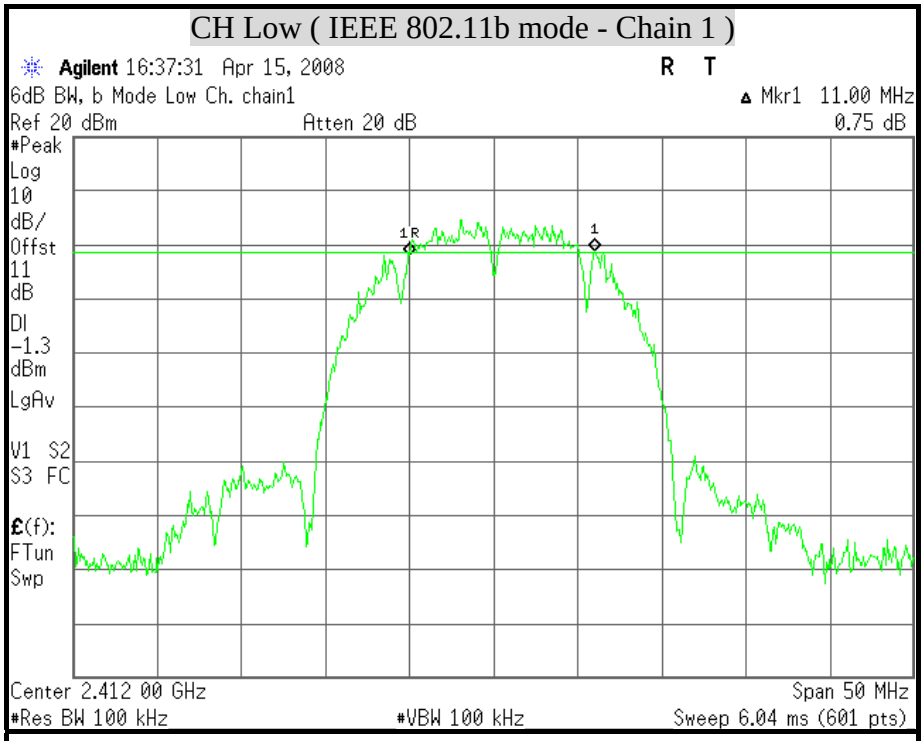

CH Middle ( IEEE 802.11b mode - Chain 0 )



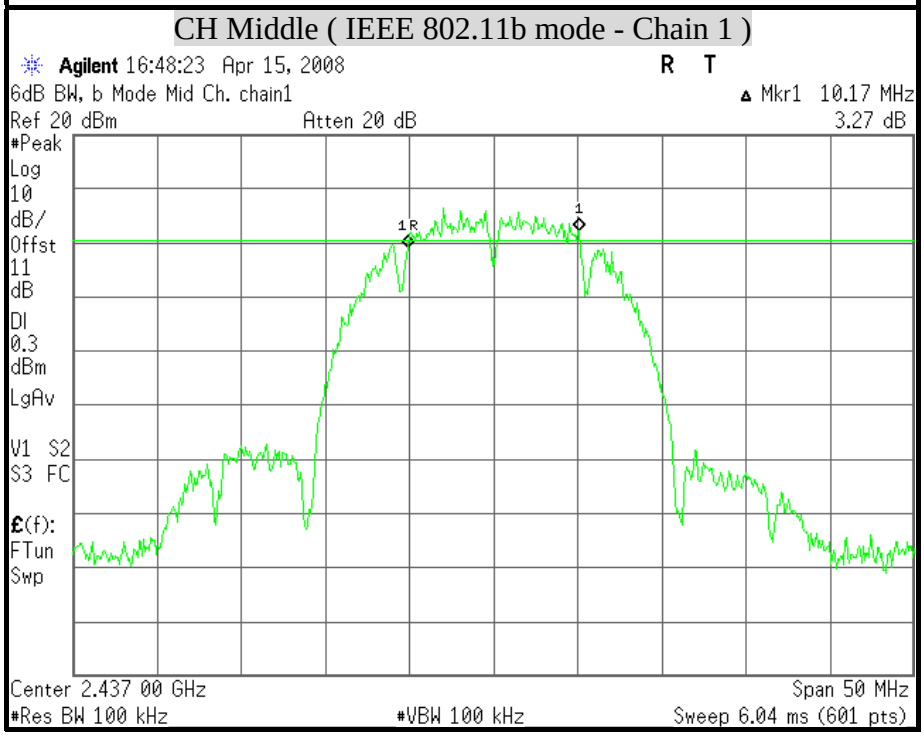
CH High ( IEEE 802.11b mode – Chain 0 )



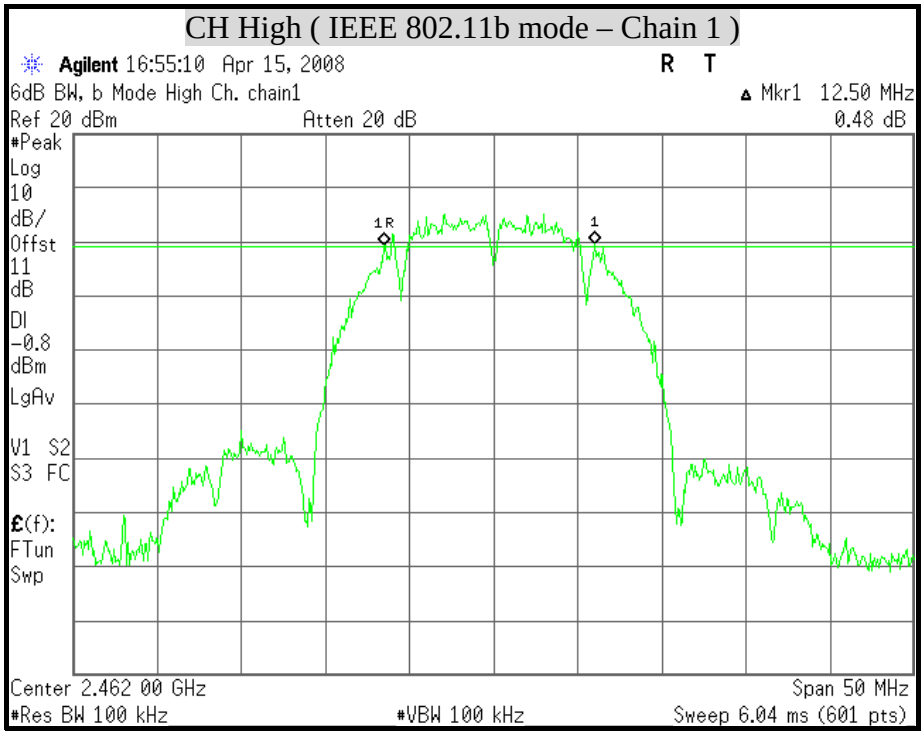
CH Low ( IEEE 802.11b mode - Chain 1 )



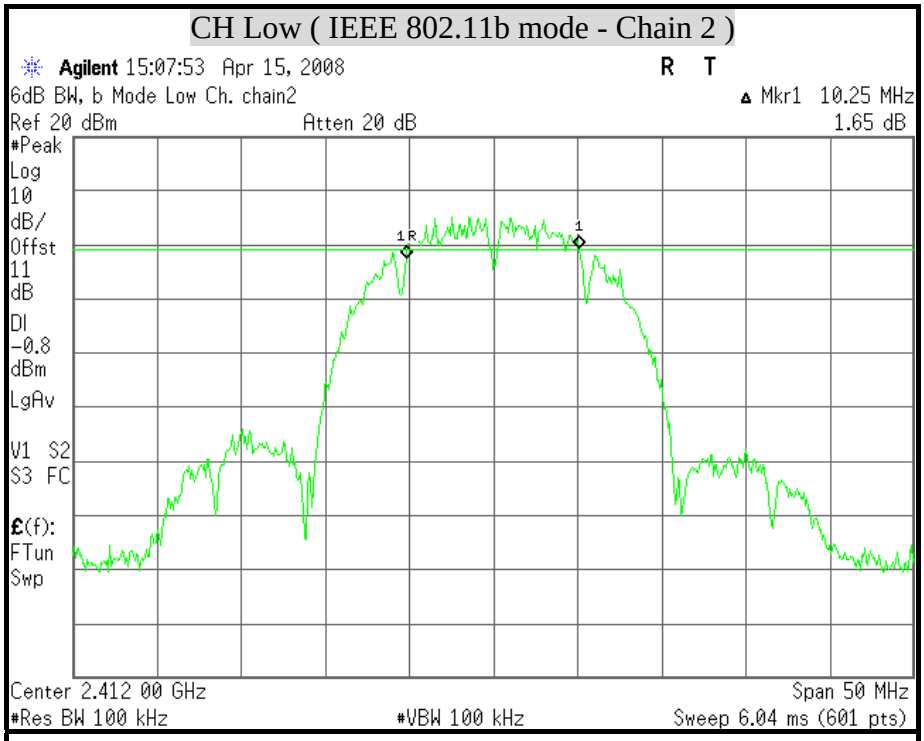

CH Middle ( IEEE 802.11b mode - Chain 1 )



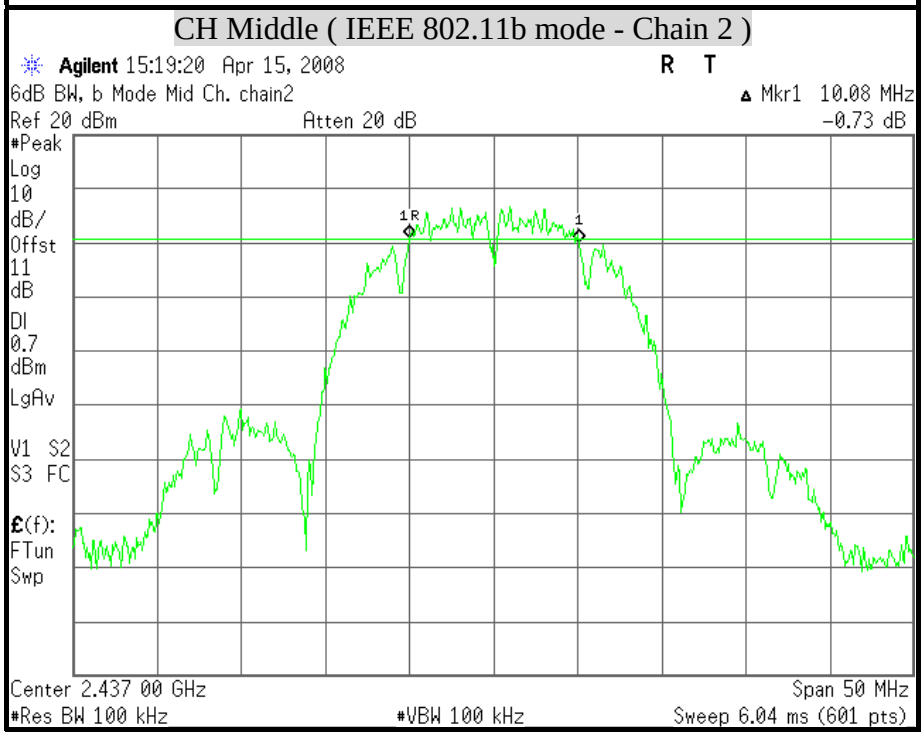
CH High ( IEEE 802.11b mode – Chain 1 )



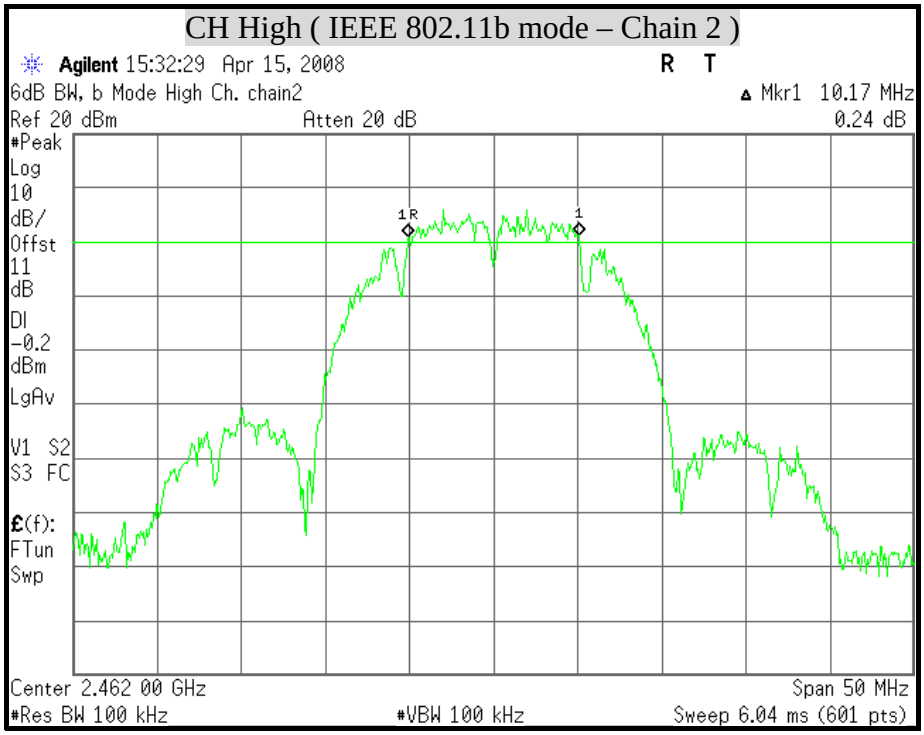
CH Low ( IEEE 802.11b mode - Chain 2 )




CH Middle ( IEEE 802.11b mode - Chain 2 )

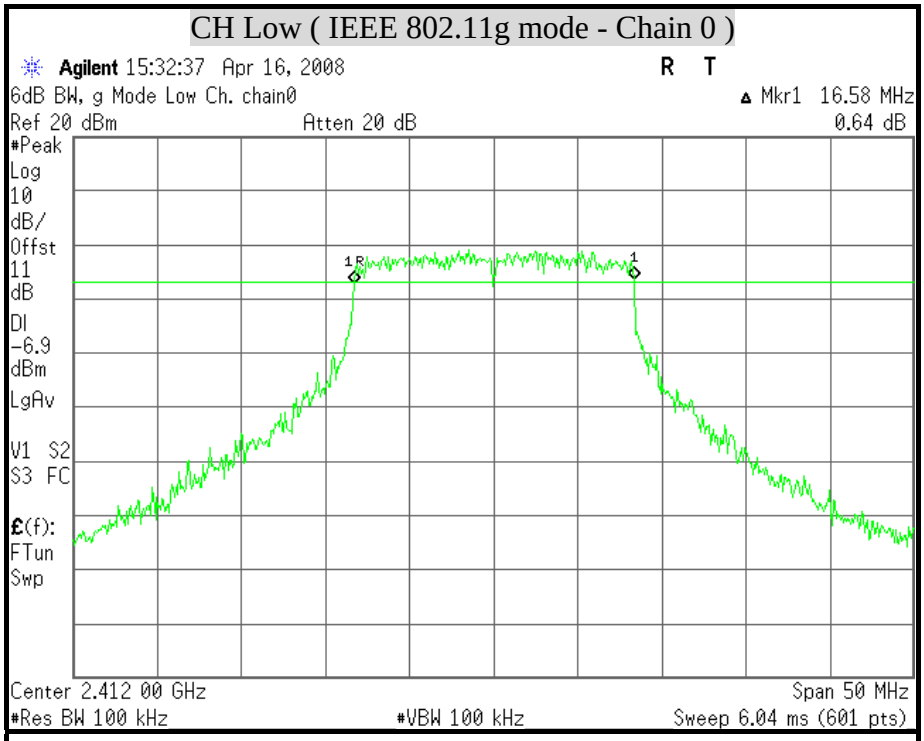


CH High ( IEEE 802.11b mode – Chain 2 )

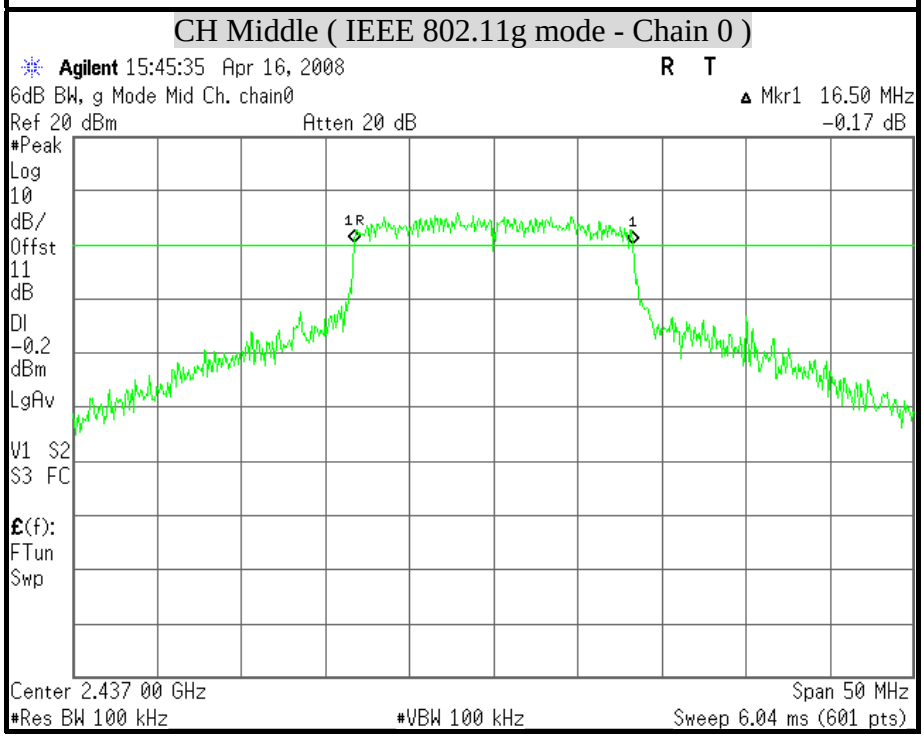


## 6dB BANDWIDTH ( IEEE 802.11g mode )

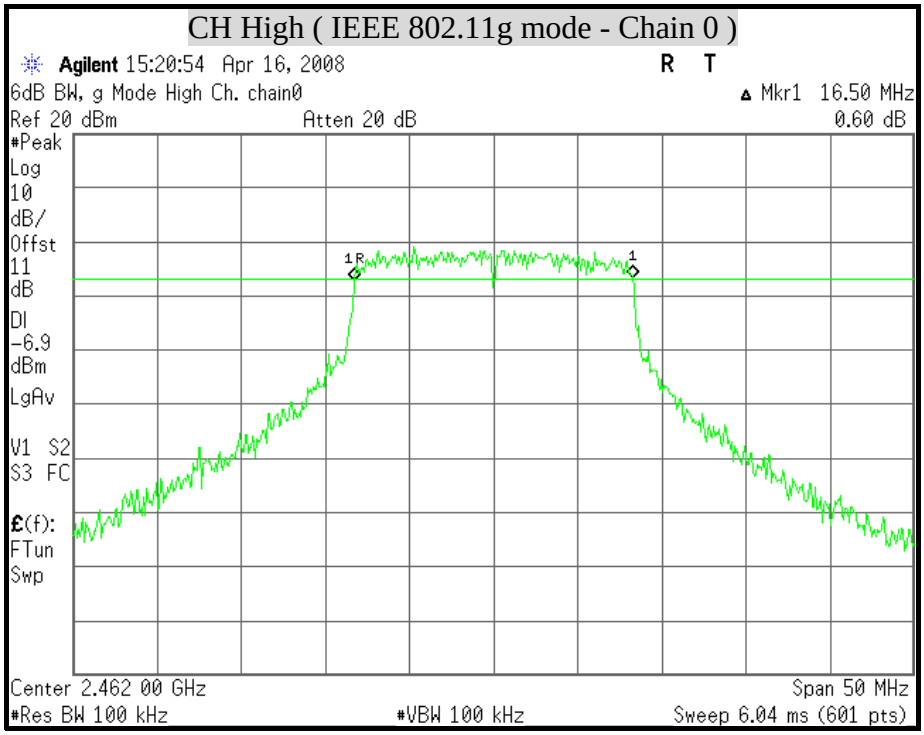
CH Low ( IEEE 802.11g mode - Chain 0 )



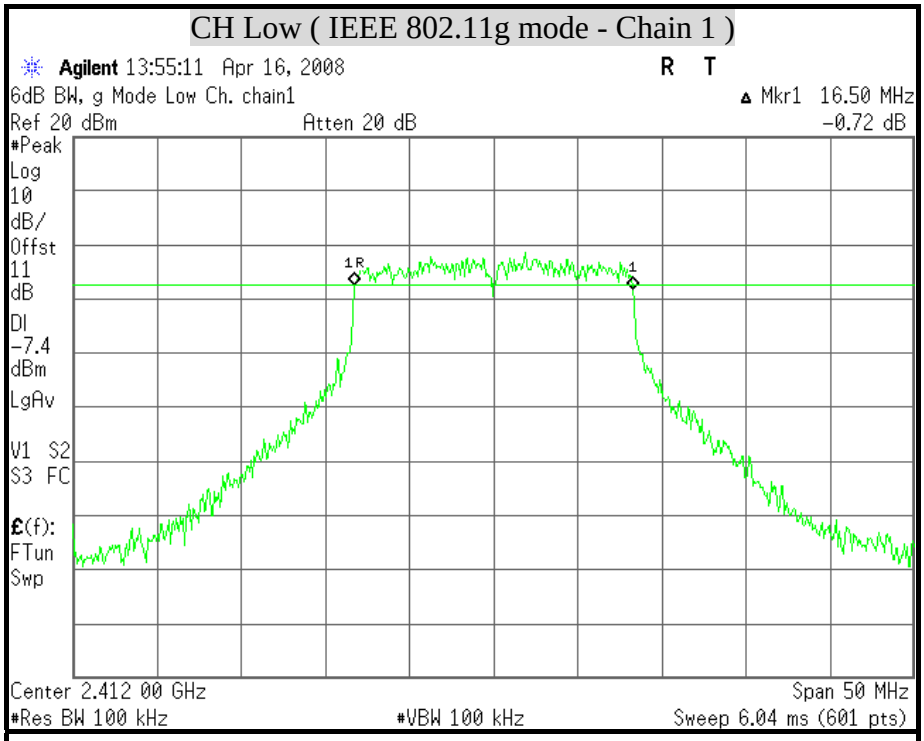

CH Middle ( IEEE 802.11g mode - Chain 0 )



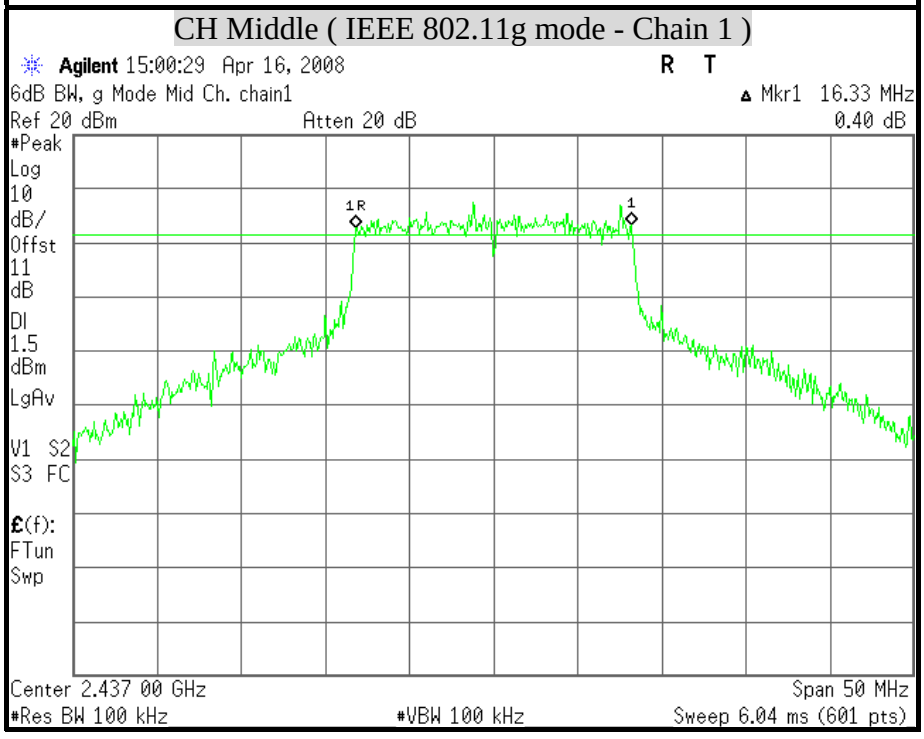
CH High ( IEEE 802.11g mode - Chain 0 )



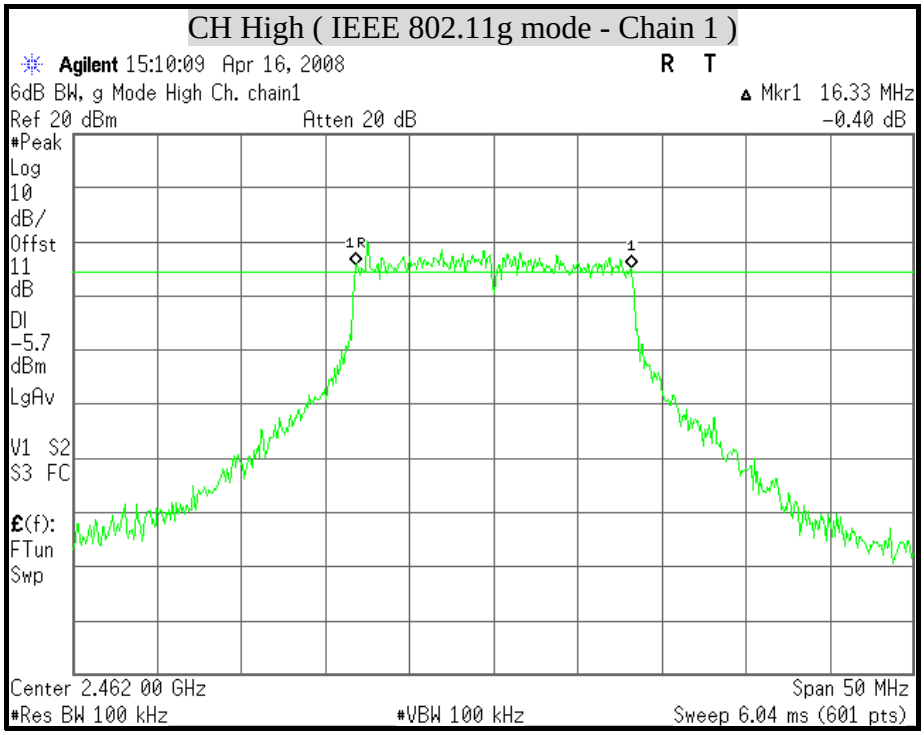
CH Low ( IEEE 802.11g mode - Chain 1 )



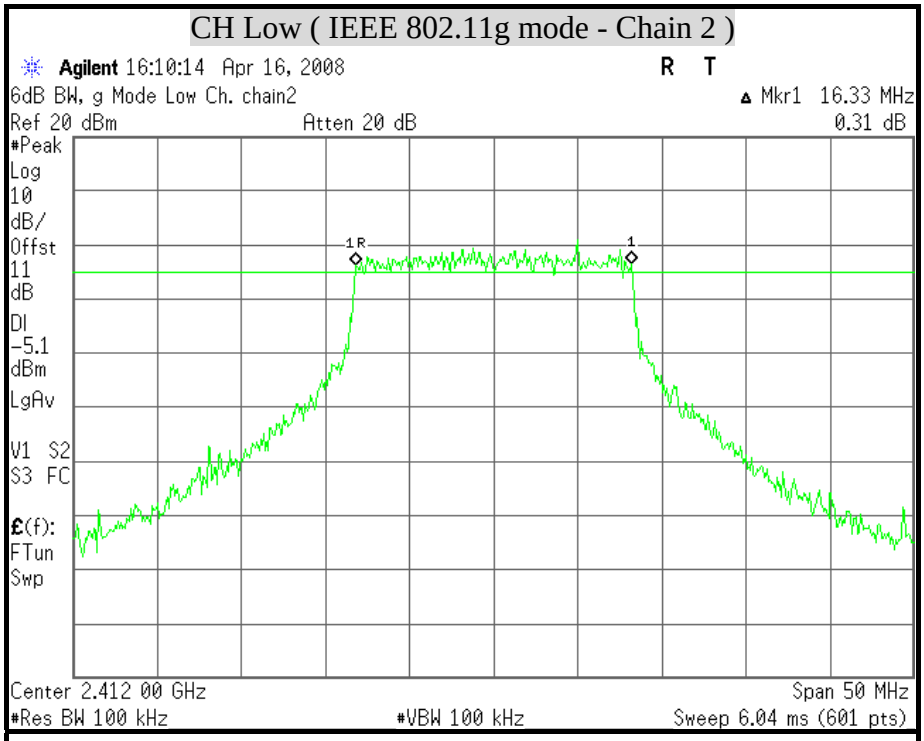

CH Middle ( IEEE 802.11g mode - Chain 1 )



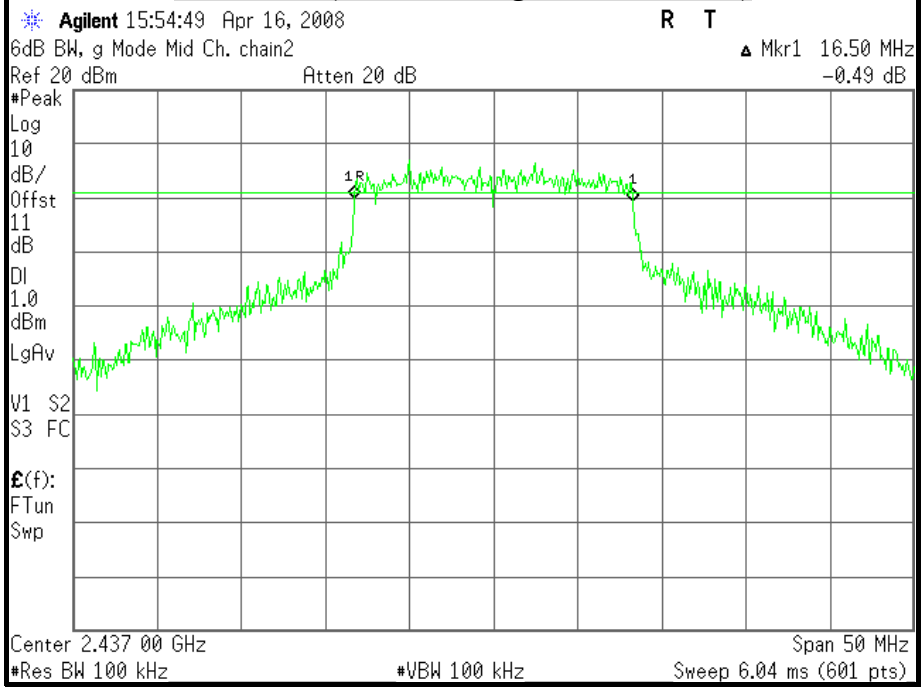
CH High ( IEEE 802.11g mode - Chain 1 )



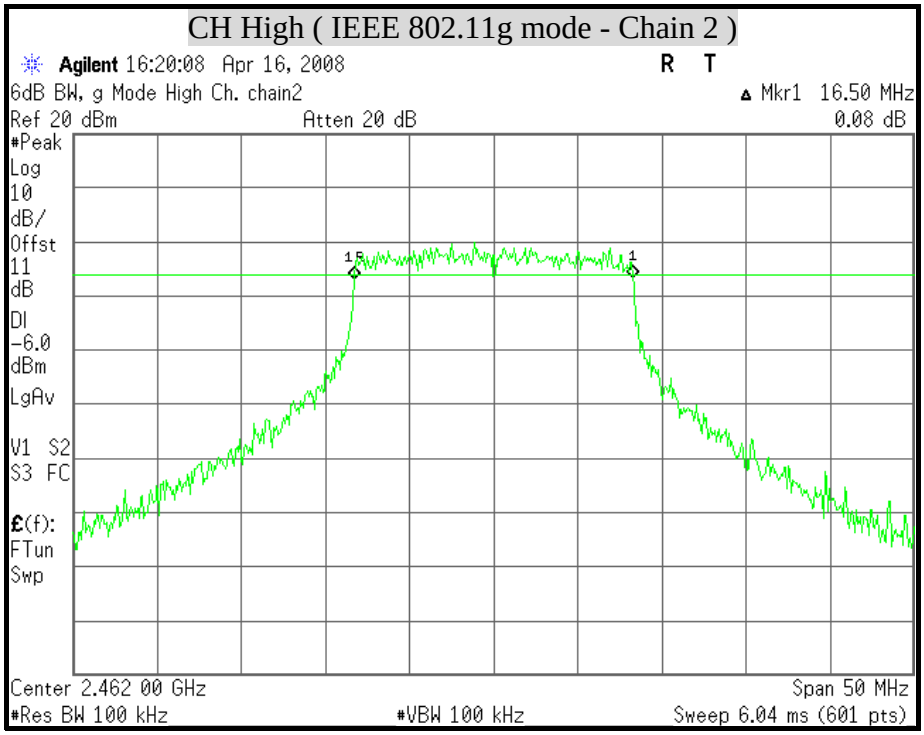
CH Low ( IEEE 802.11g mode - Chain 2 )




CH Middle ( IEEE 802.11g mode - Chain 2 )

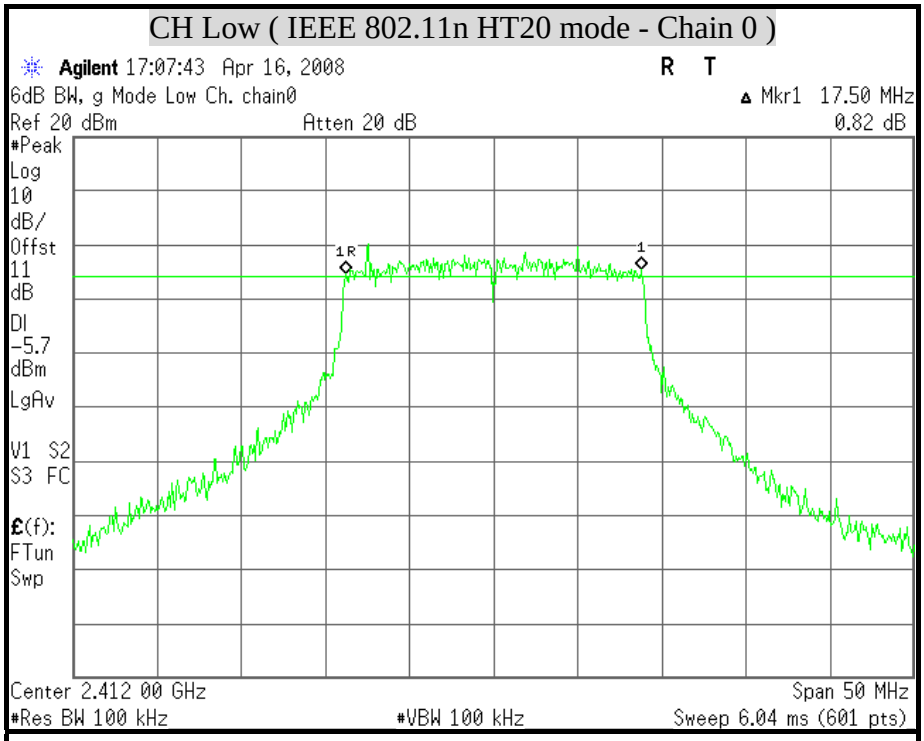


CH High ( IEEE 802.11g mode - Chain 2 )

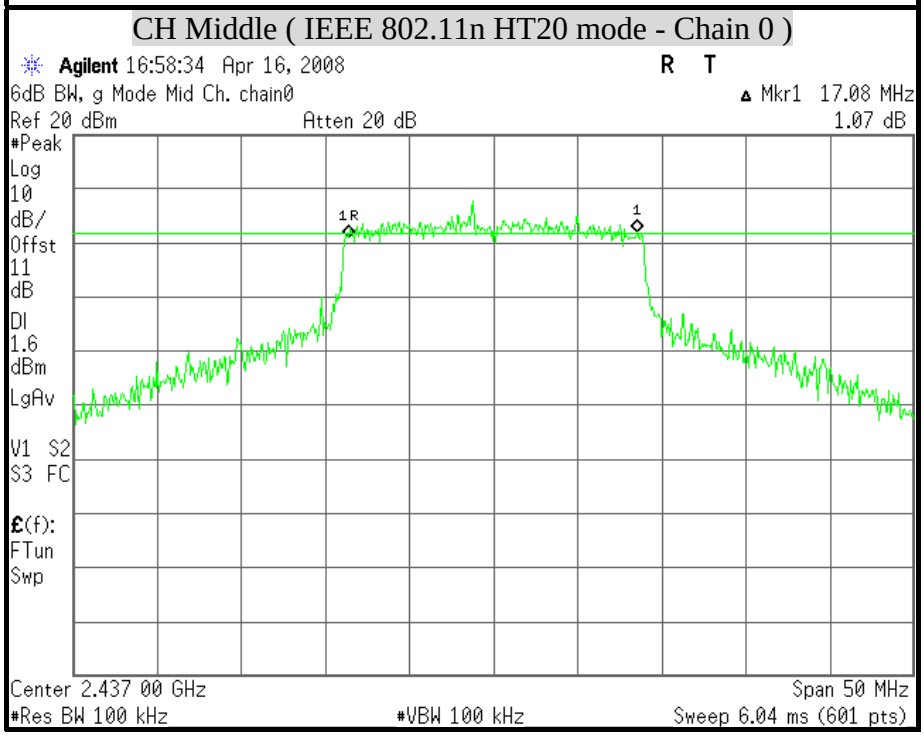


## 6dB BANDWIDTH ( IEEE 802.11n HT20 mode )

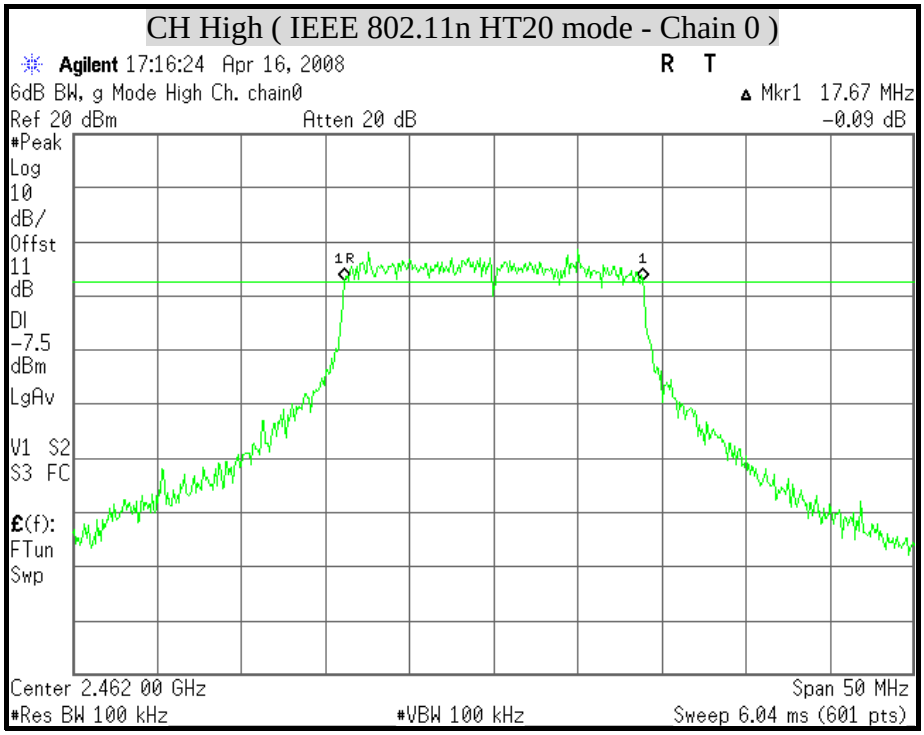
CH Low ( IEEE 802.11n HT20 mode - Chain 0 )



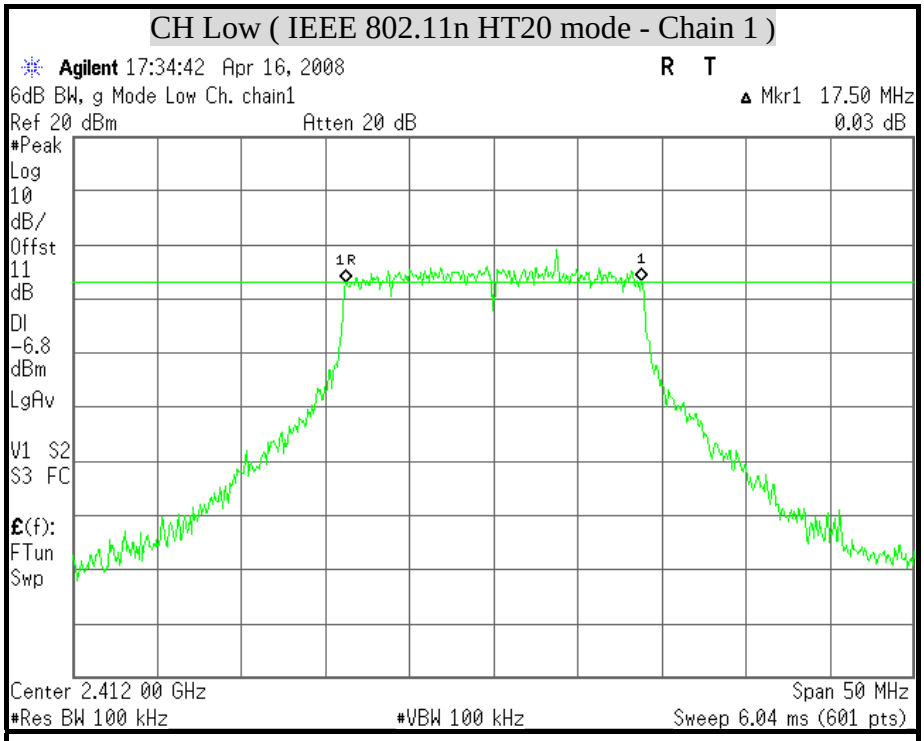

CH Middle ( IEEE 802.11n HT20 mode - Chain 0 )



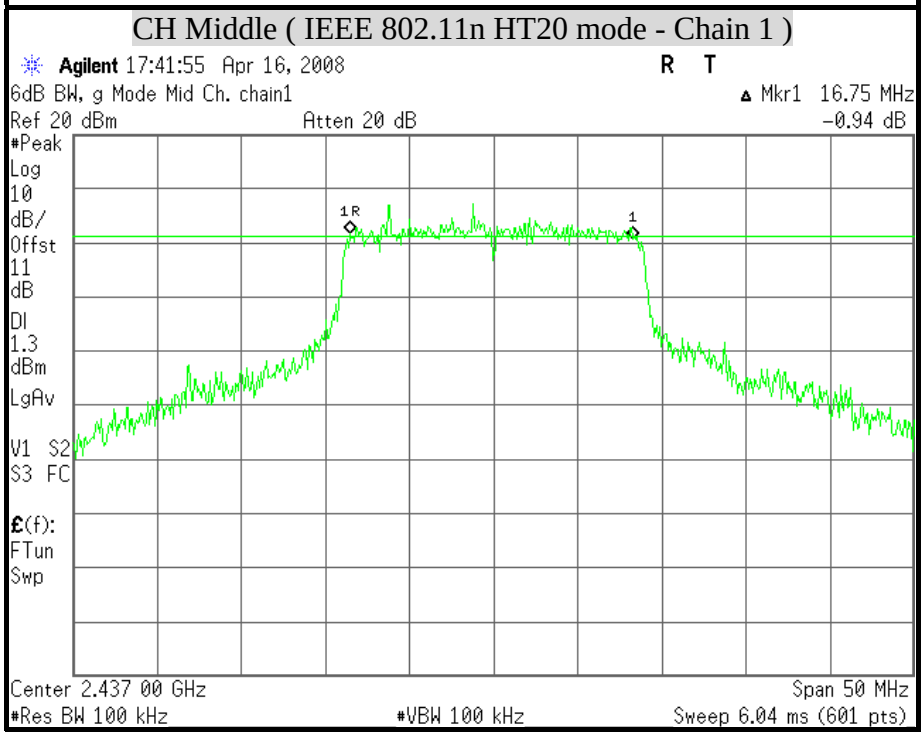
CH High ( IEEE 802.11n HT20 mode - Chain 0 )



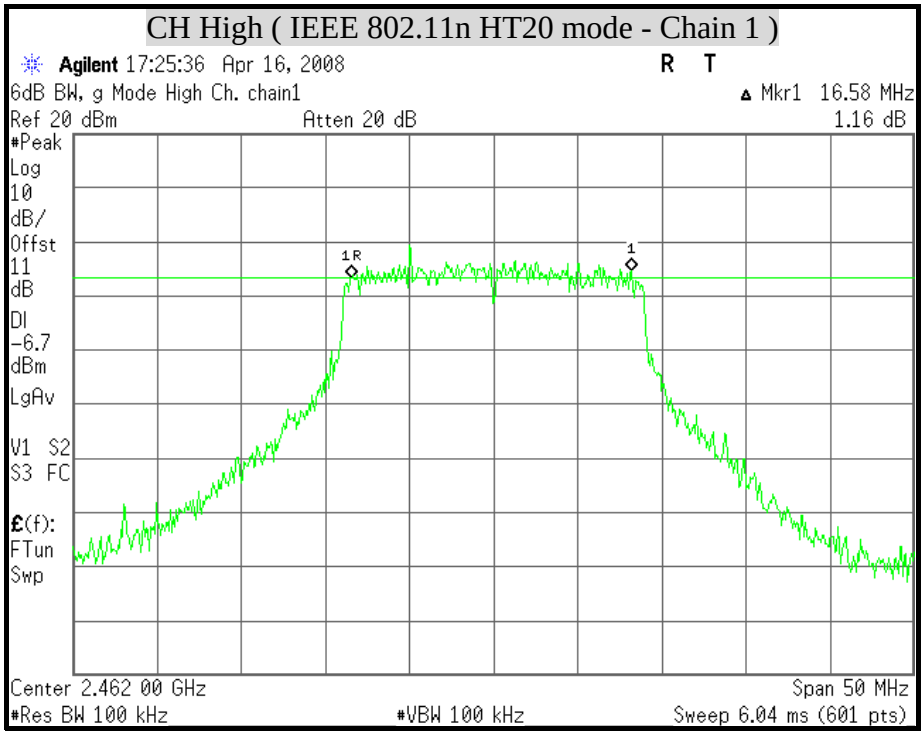
CH Low ( IEEE 802.11n HT20 mode - Chain 1 )



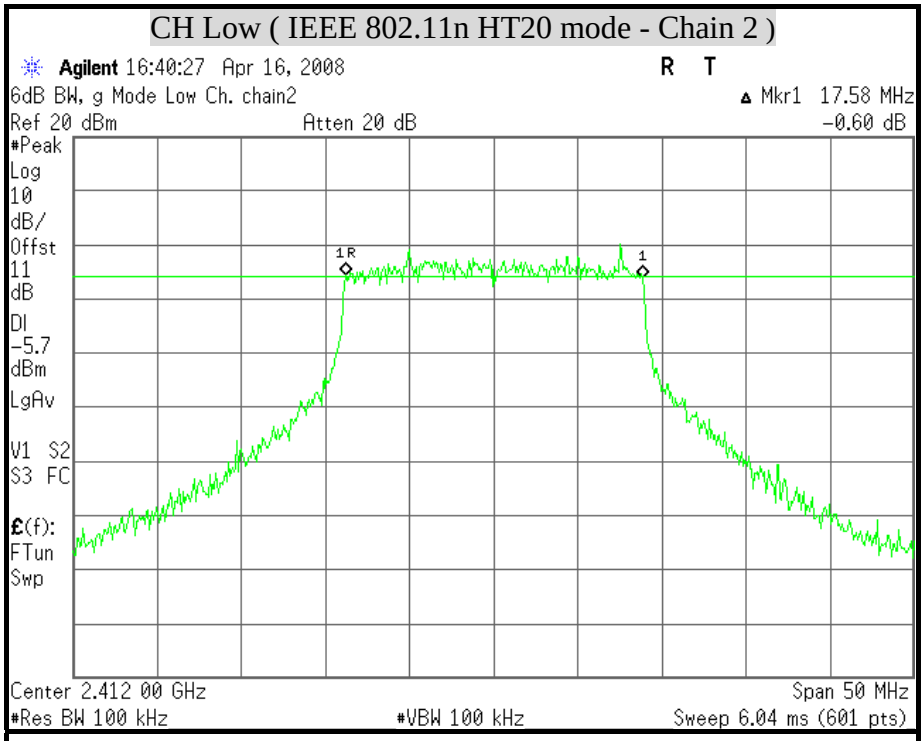

CH Middle ( IEEE 802.11n HT20 mode - Chain 1 )



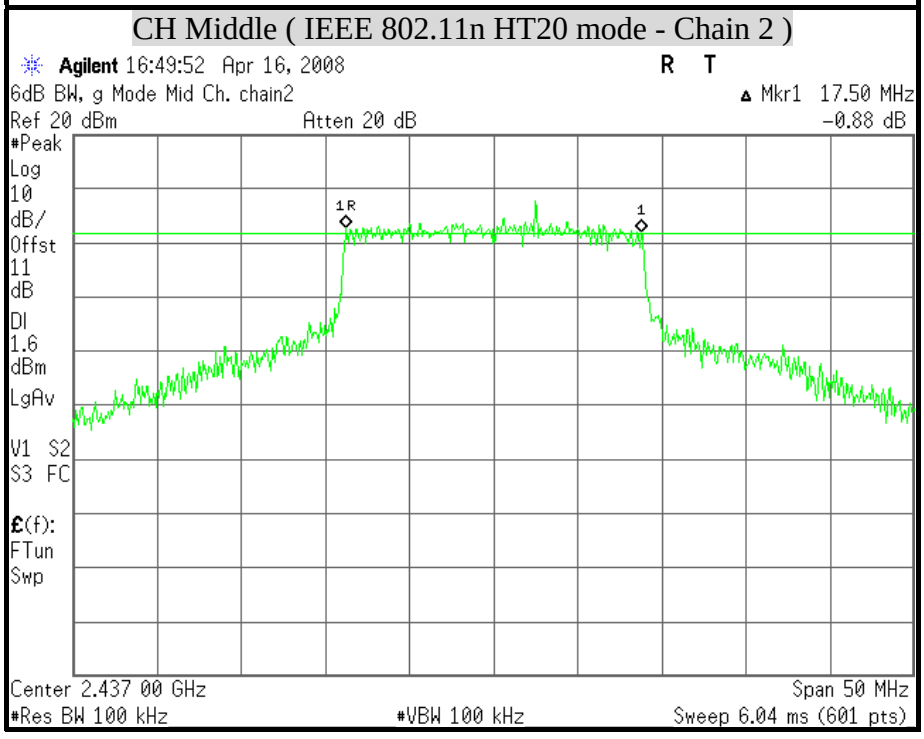
CH High ( IEEE 802.11n HT20 mode - Chain 1 )



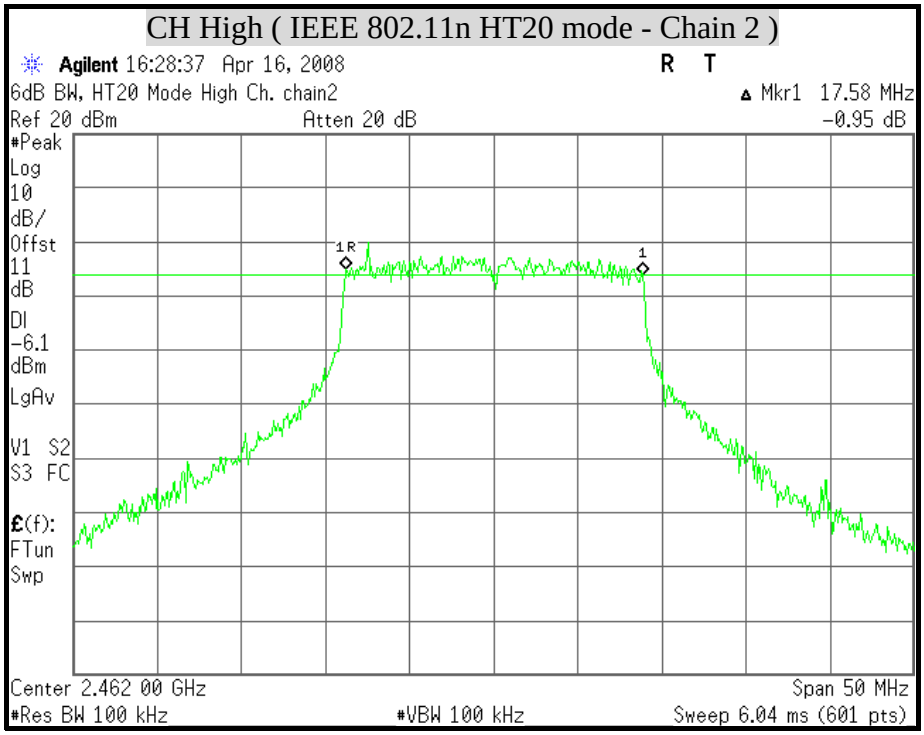
CH Low ( IEEE 802.11n HT20 mode - Chain 2 )




CH Middle ( IEEE 802.11n HT20 mode - Chain 2 )

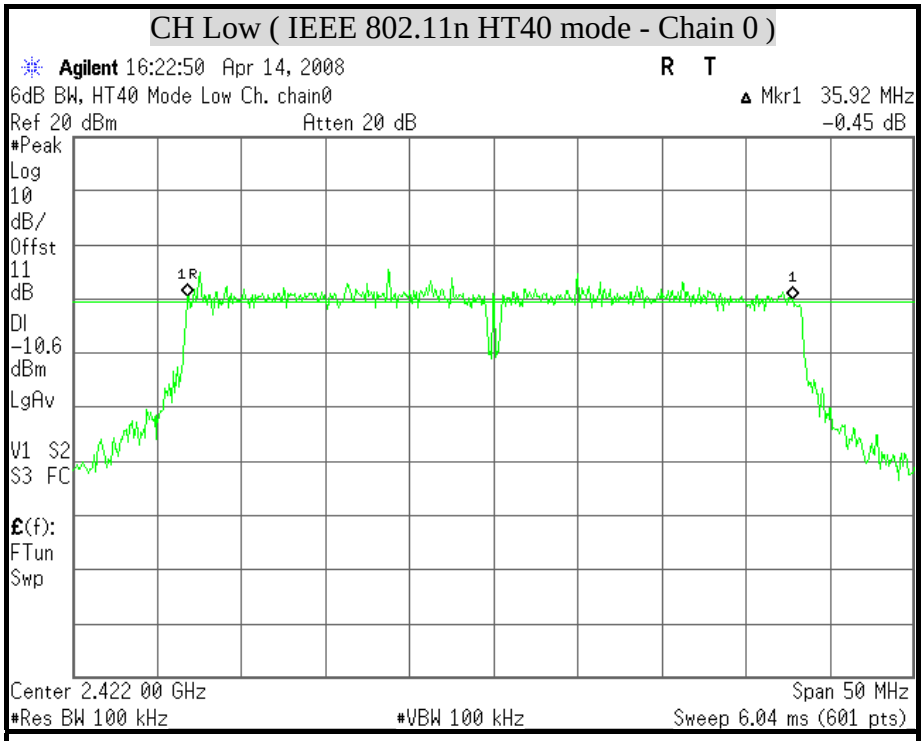


CH High ( IEEE 802.11n HT20 mode - Chain 2 )

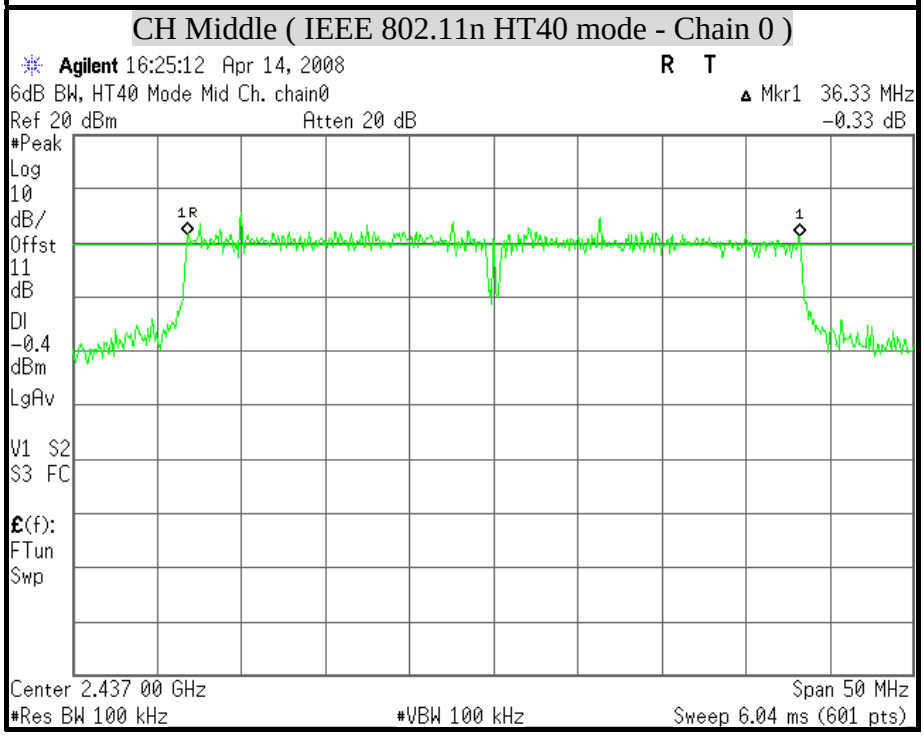


## 6dB BANDWIDTH ( IEEE 802.11n HT40 mode )

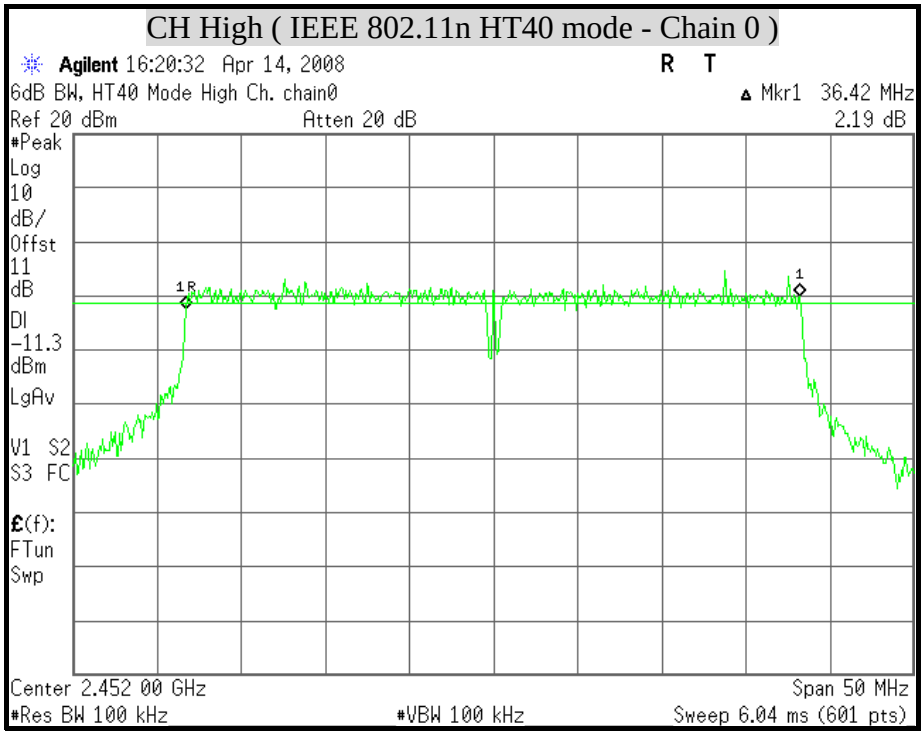
CH Low ( IEEE 802.11n HT40 mode - Chain 0 )



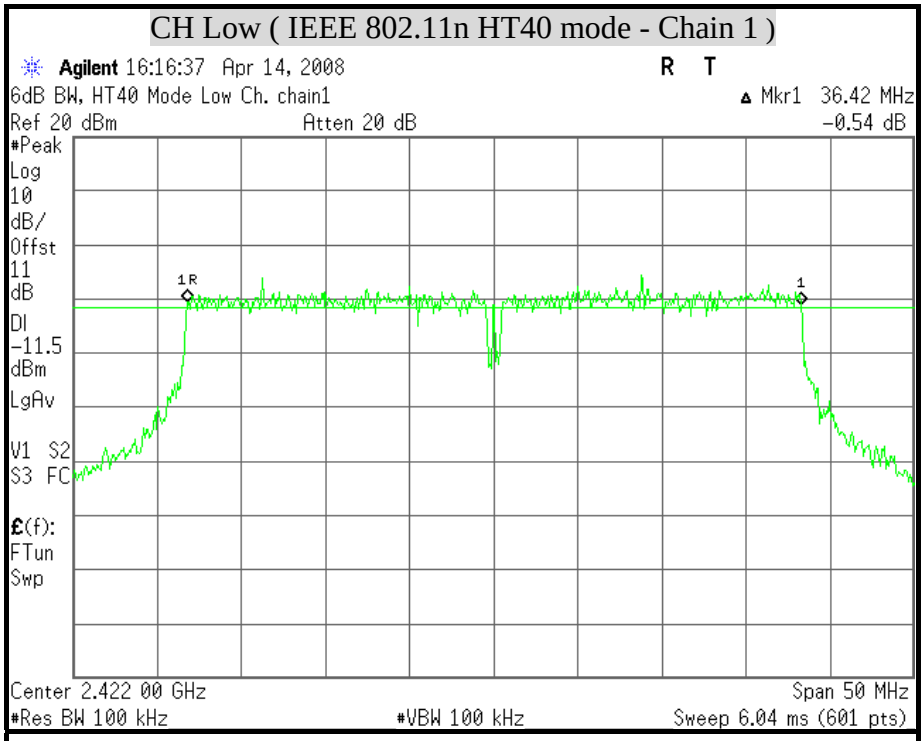

CH Middle ( IEEE 802.11n HT40 mode - Chain 0 )



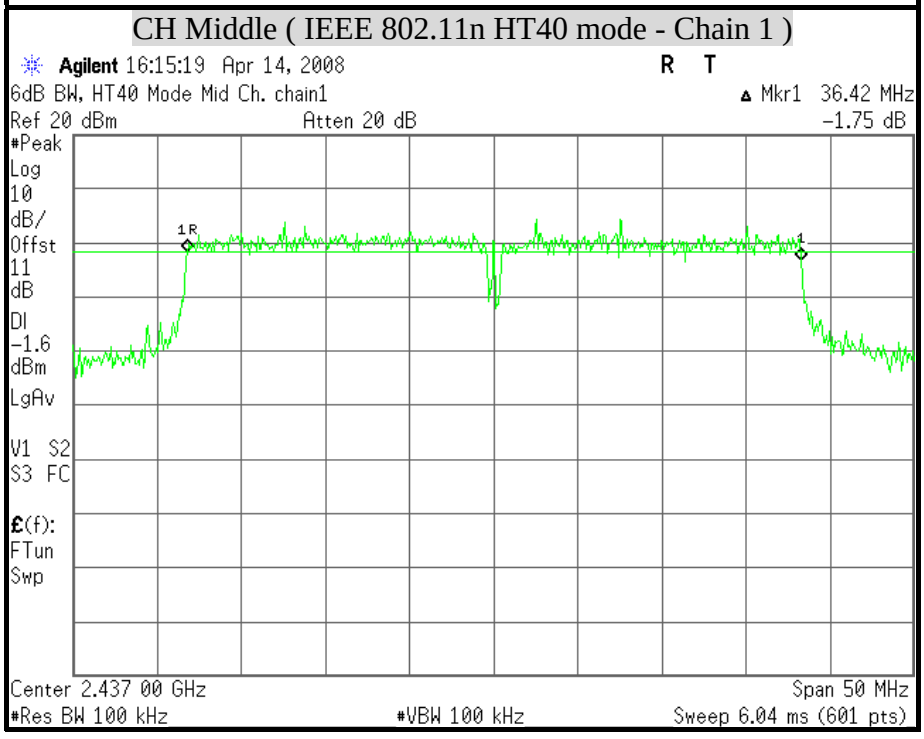
CH High ( IEEE 802.11n HT40 mode - Chain 0 )



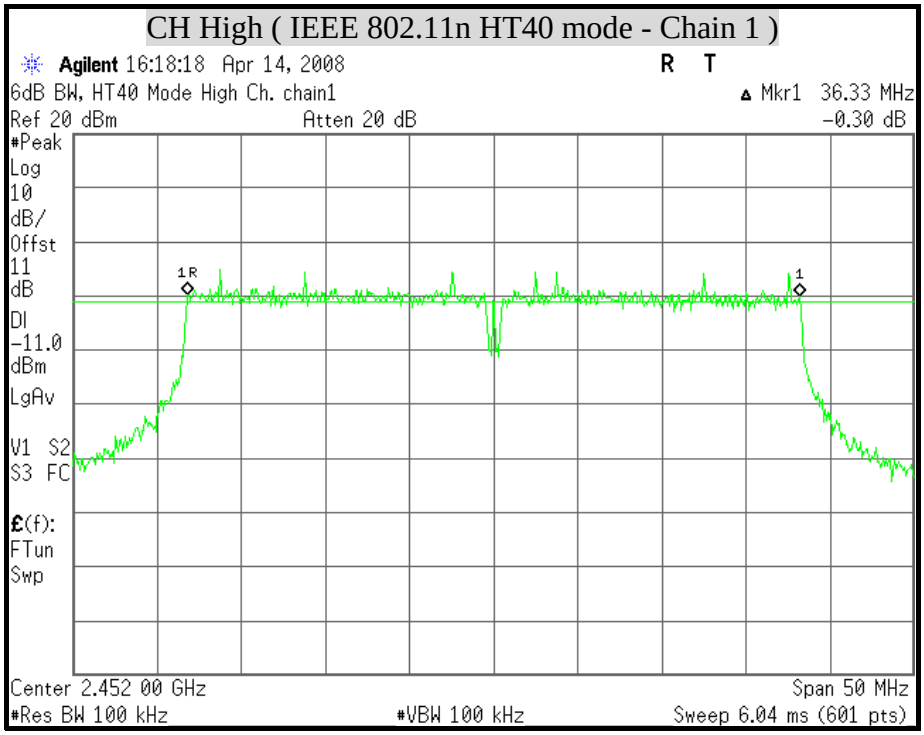
CH Low ( IEEE 802.11n HT40 mode - Chain 1 )



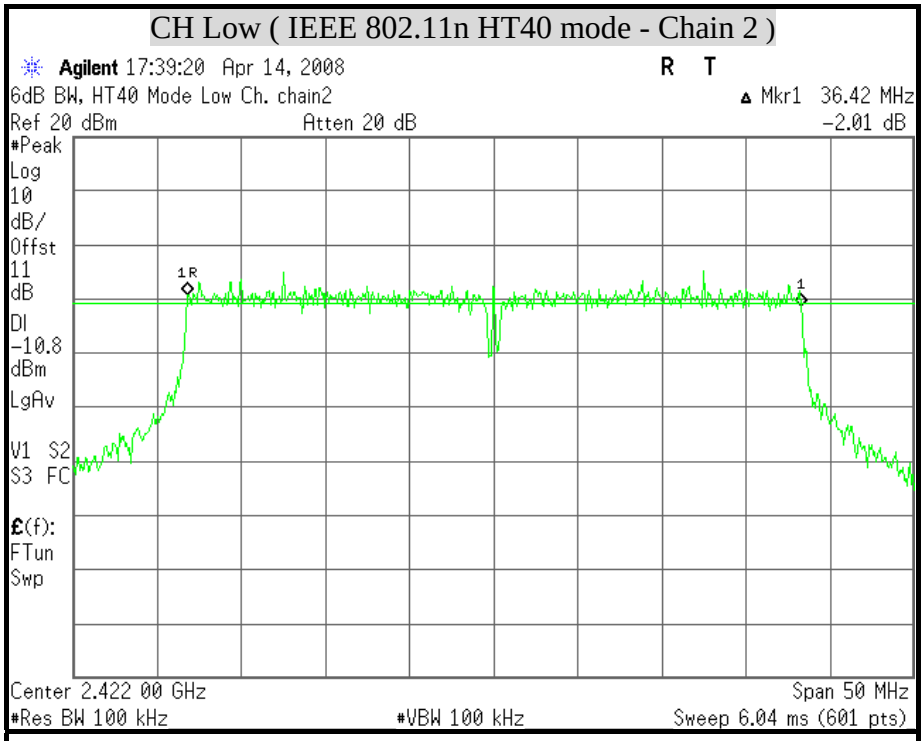

CH Middle ( IEEE 802.11n HT40 mode - Chain 1 )



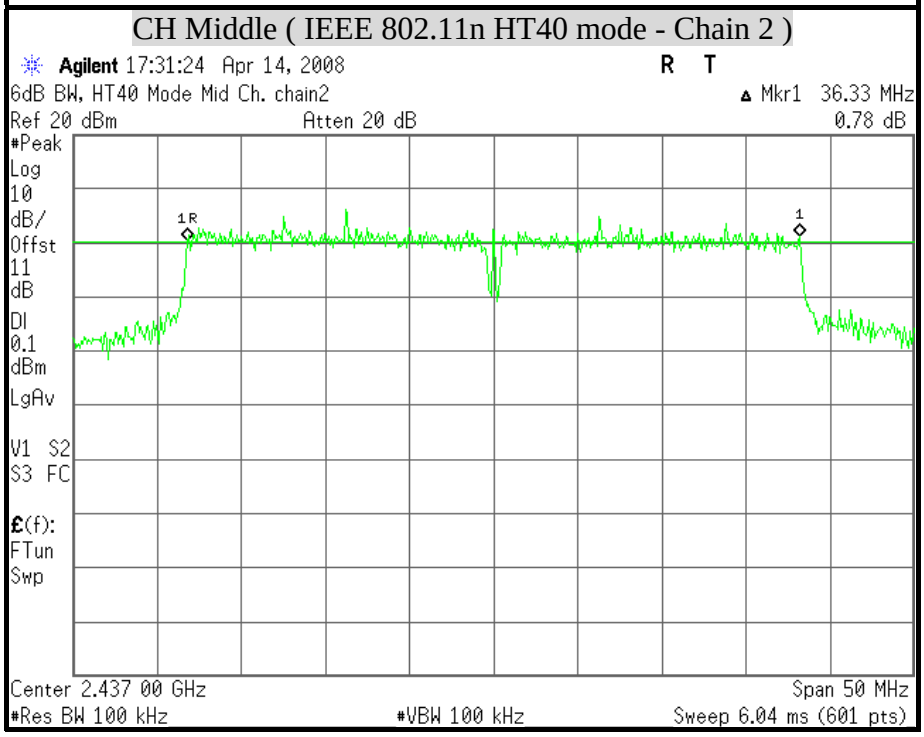
CH High ( IEEE 802.11n HT40 mode - Chain 1 )



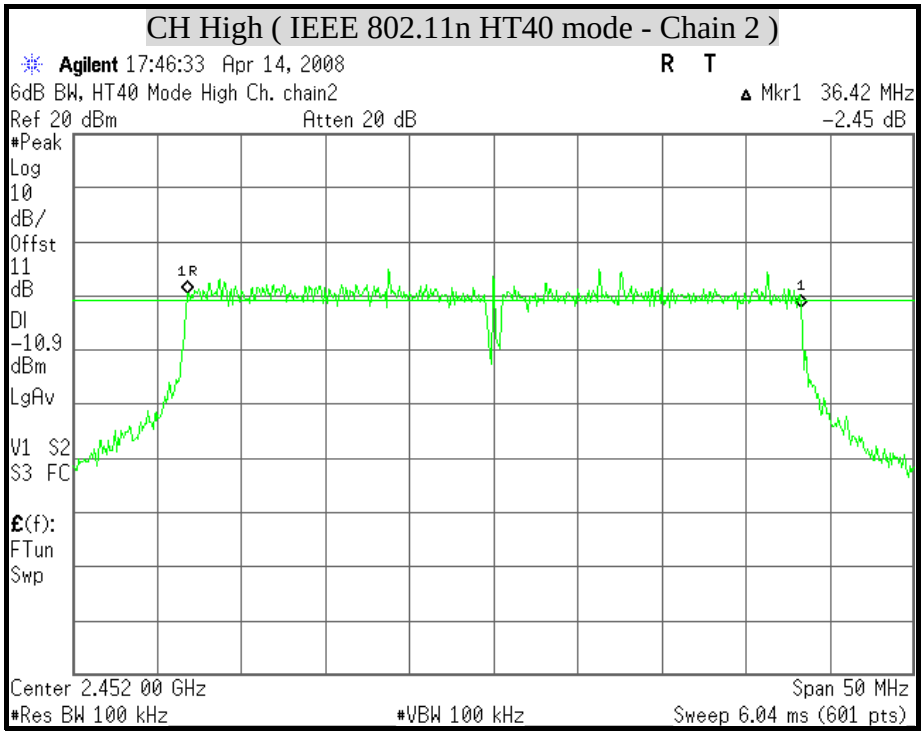
CH Low ( IEEE 802.11n HT40 mode - Chain 2 )




CH Middle ( IEEE 802.11n HT40 mode - Chain 2 )



CH High ( IEEE 802.11n HT40 mode - Chain 2 )



## 8.2 99% BANDWIDTH

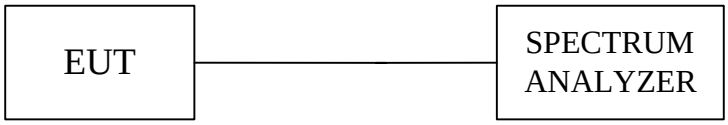
**LIMIT**

None; for reporting purposes only.

**TEST EQUIPMENT**

| Description & Manufacturer | Model No. | Serial No. | Date of Calibration |
|---|---|---|---|
| ROHDE & SCHWARZ SPECTRUM ANALYZER | FSEK30 | 835253/002 | October 25, 2007 |
| AGILENT SPECTRUM ANALYZER | E4446A | MY433601.32 | June 24, 2008 |

**TEST SETUP**




**TEST PROCEDURE**

1. The spectrum shall be set as follows :
   Span : The minimum span to fully display the emission and approximately 20dB below peak level.
   RBW : The set to 1% to 3% of the approximate emission width.
2. Compute the combined power of all signal responses contained in the trace by covering all the data points.
3. For 99% occupied BW, place the markers at the frequency at which 0.5% of the power lies to the right of the right marker and 0.5% of the power lies to the left of the left marker.
4. The 99% BW is the bandwidth between the right and left markers.

**TEST RESULTS**

No non-compliance noted

**IEEE 802.11a mode**

| Channel | Channel Frequency (MHz) | 99% Occupied power bandwidth (MHz) | | |
|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 |
| Low | 5745 | 16.374 | 16.421 | 16.458 |
| Middle | 5785 | 16.355 | 16.500 | 16.424 |
| High | 5825 | 16.416 | 16.503 | 16.392 |

**IEEE 802.11n HT20 mode**

| Channel | Channel Frequency (MHz) | 99% Occupied power bandwidth (MHz) | | |
|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 |
| Low | 5745 | 17.753 | 17.712 | 17.935 |
| Middle | 5785 | 17.837 | 17.698 | 17.799 |
| High | 5825 | 17.765 | 17.648 | 17.836 |

**IEEE 802.11n HT40 mode**

| Channel | Channel Frequency (MHz) | 99% Occupied power bandwidth (MHz) | | |
|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 |
| Low | 5755 | 36.148 | 36.428 | 35.918 |
| High | 5795 | 36.251 | 36.150 | 36.326 |

**IEEE 802.11b mode**

| Channel | Channel Frequency (MHz) | 99% Occupied power bandwidth (MHz) | | |
|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 |
| Low | 2412 | 15.365 | 14.961 | 15.263 |
| Middle | 2437 | 15.738 | 15.188 | 15.576 |
| High | 2462 | 15.585 | 15.309 | 15.250 |

**IEEE 802.11g mode**

| Channel | Channel Frequency (MHz) | 99% Occupied power bandwidth (MHz) | | |
|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 |
| Low | 2412 | 16.364 | 16.494 | 16.569 |
| Middle | 2437 | 17.578 | 16.520 | 17.572 |
| High | 2462 | 16.400 | 16.414 | 16.369 |

**IEEE 802.11n HT20 mode**

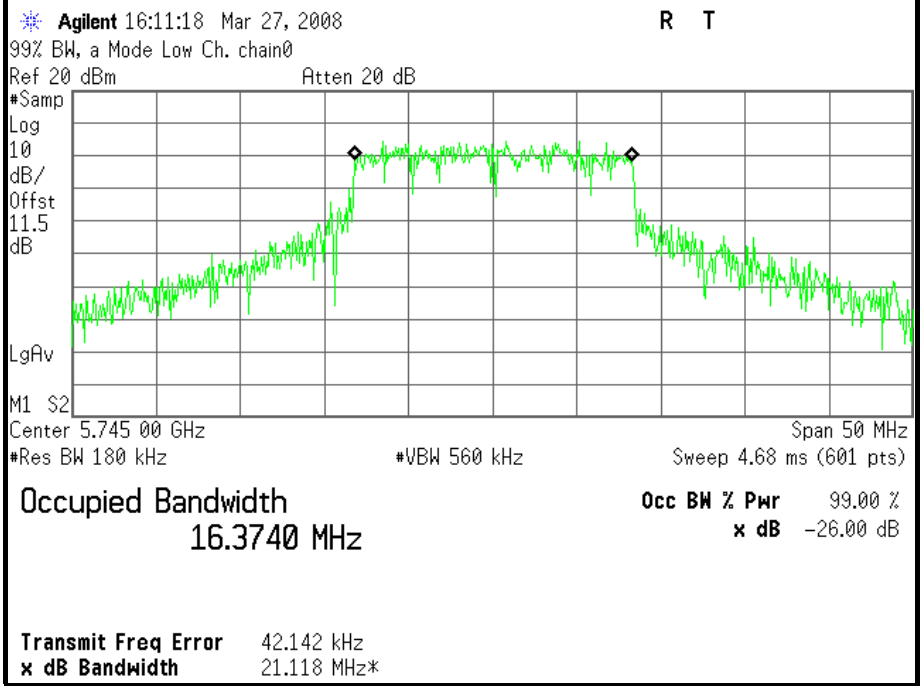
| Channel | Channel Frequency (MHz) | 99% Occupied power bandwidth (MHz) | | |
|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 |
| Low | 2412 | 17.530 | 17.613 | 17.596 |
| Middle | 2437 | 17.801 | 17.693 | 17.865 |
| High | 2462 | 17.571 | 17.680 | 17.657 |

**IEEE 802.11n HT40 mode**

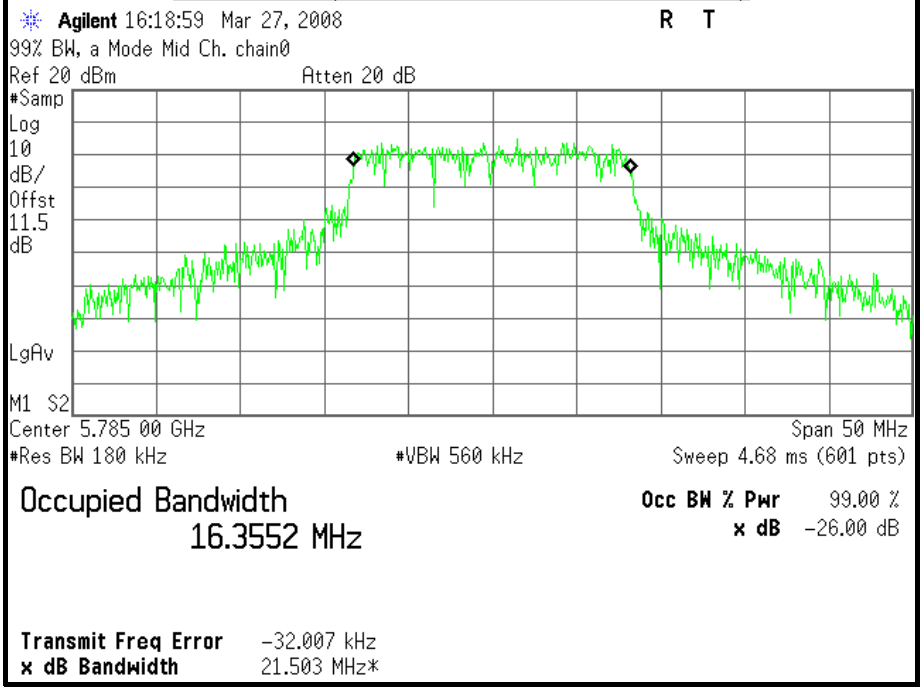
| Channel | Channel Frequency (MHz) | 99% Occupied power bandwidth (MHz) | | |
|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 |
| Low | 2422 | 36.194 | 36.220 | 36.235 |
| Middle | 2437 | 36.247 | 36.337 | 36.343 |
| High | 2452 | 36.300 | 36.159 | 36.214 |

## 99% BANDWIDTH ( IEEE 802.11a mode )

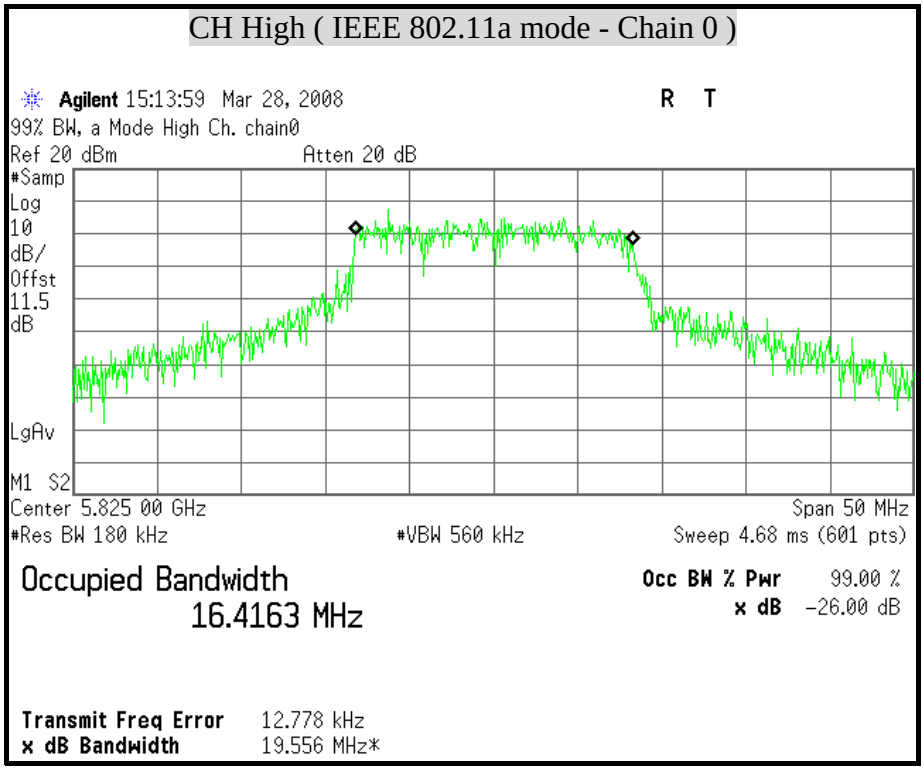
CH Low ( IEEE 802.11a mode - Chain 0 )



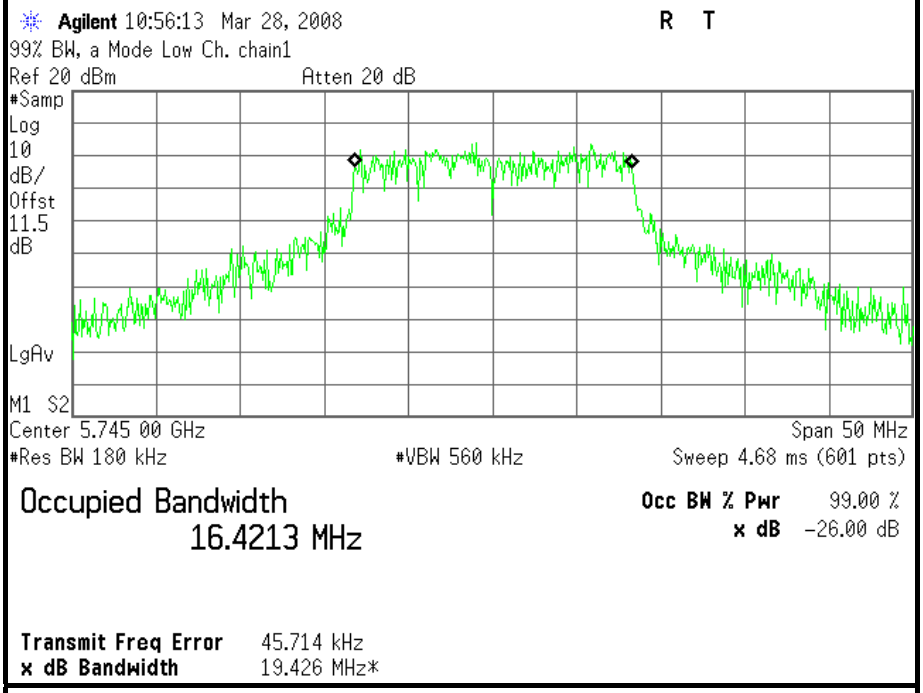

CH Middle ( IEEE 802.11a mode - Chain 0 )



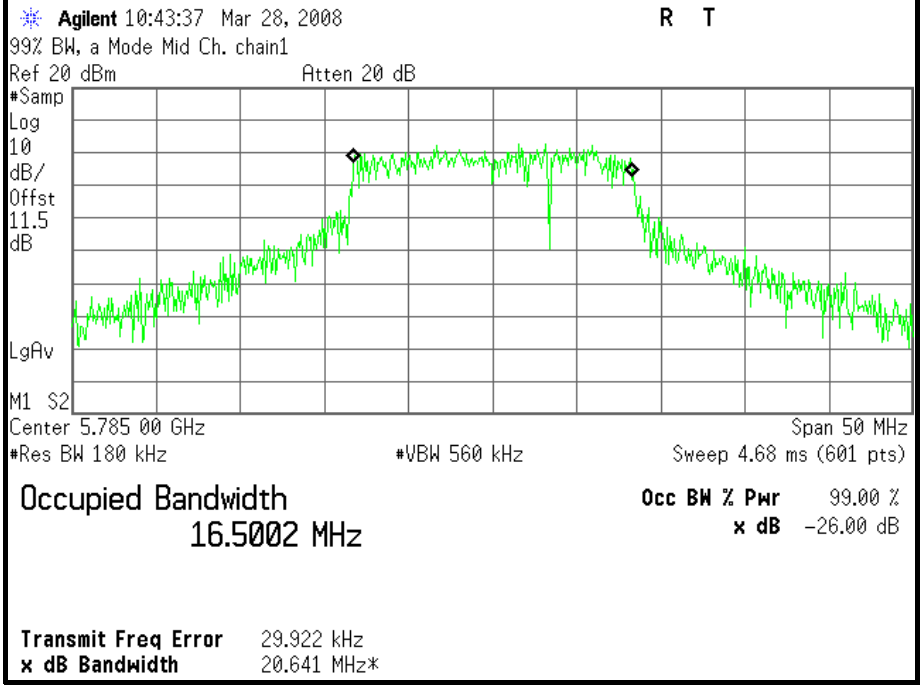
CH High ( IEEE 802.11a mode - Chain 0 )



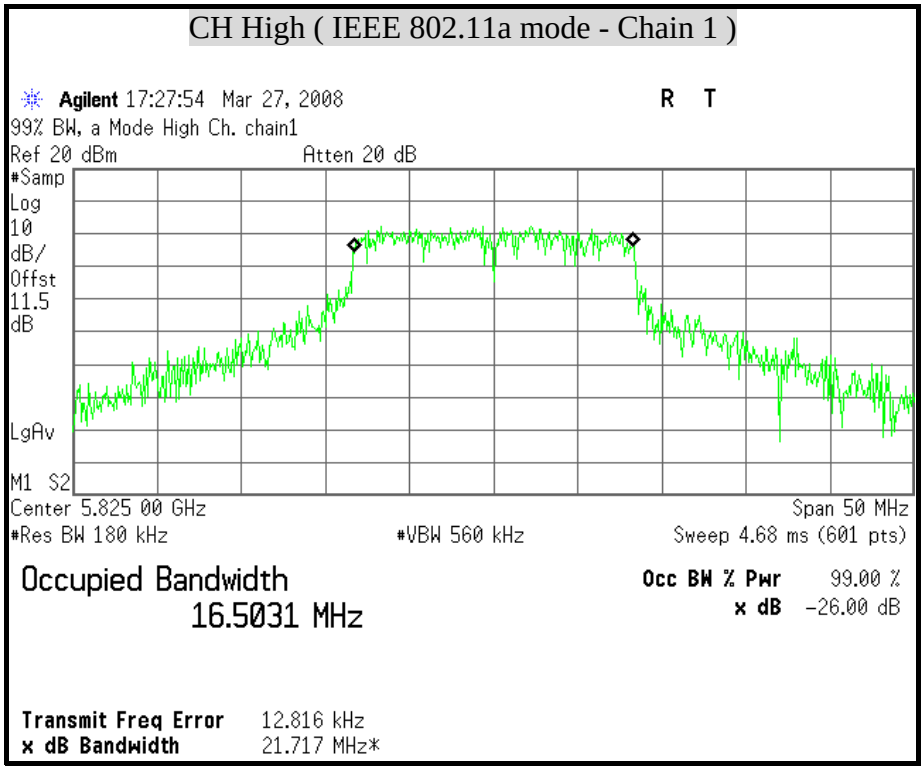
CH Low ( IEEE 802.11a mode - Chain 1 )



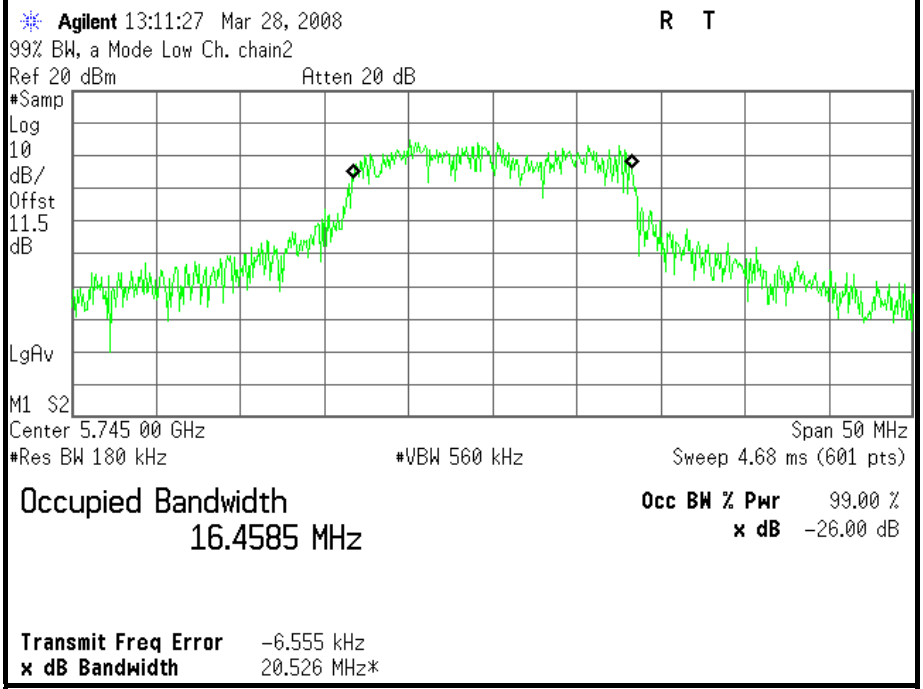

CH Middle ( IEEE 802.11a mode - Chain 1 )



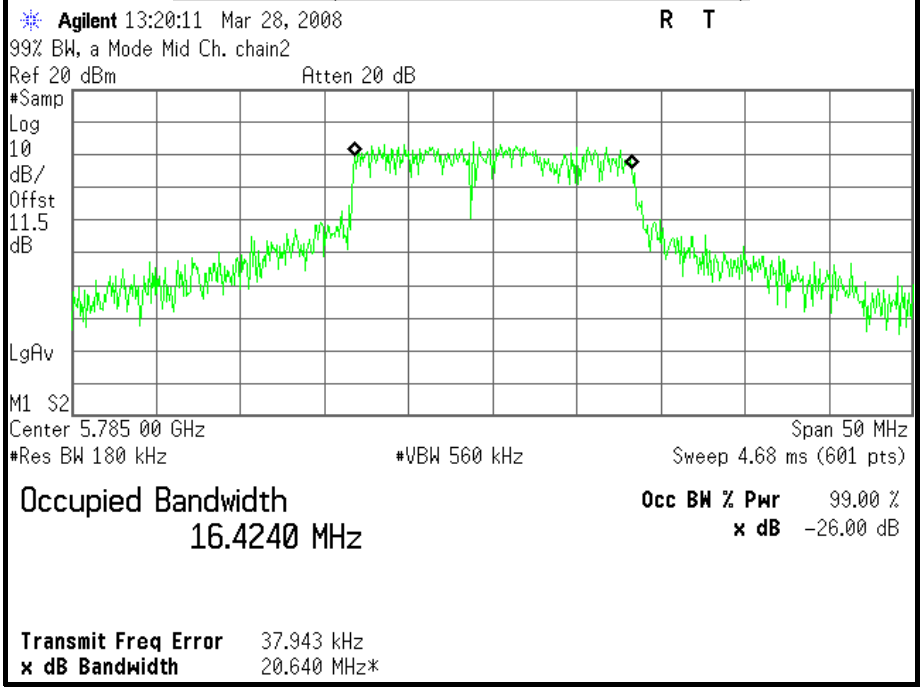
CH High ( IEEE 802.11a mode - Chain 1 )



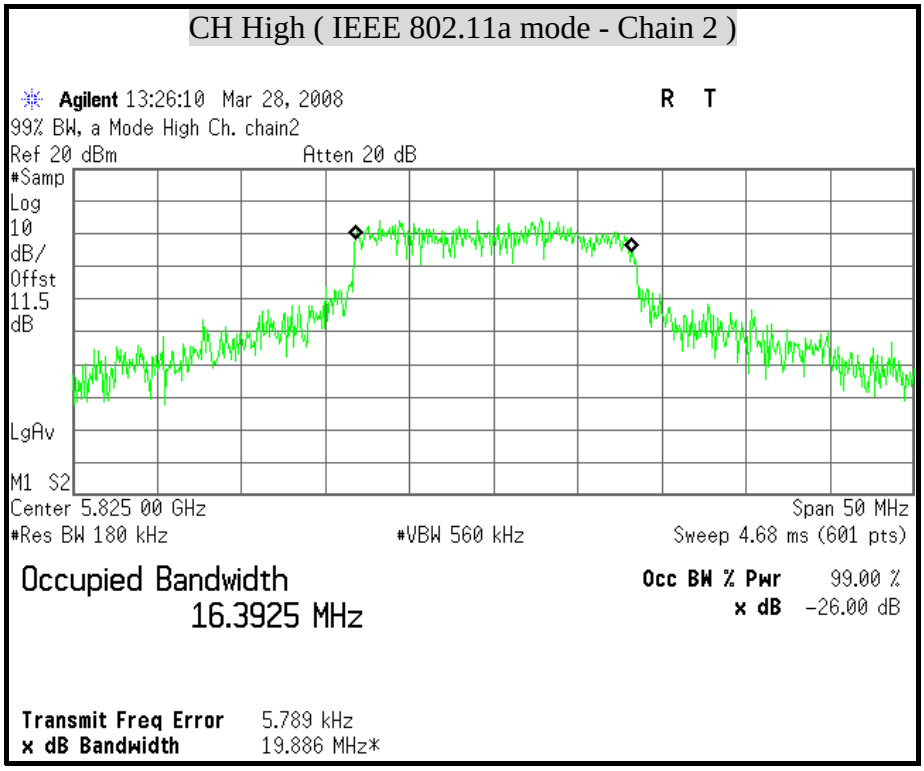
CH Low ( IEEE 802.11a mode - Chain 2 )




CH Middle ( IEEE 802.11a mode - Chain 2 )

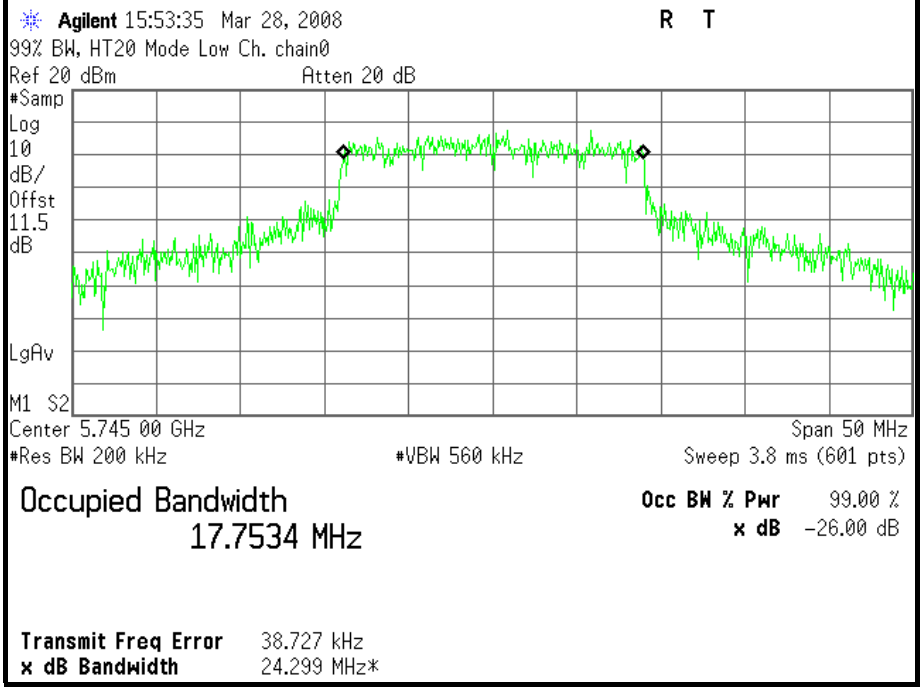


CH High ( IEEE 802.11a mode - Chain 2 )

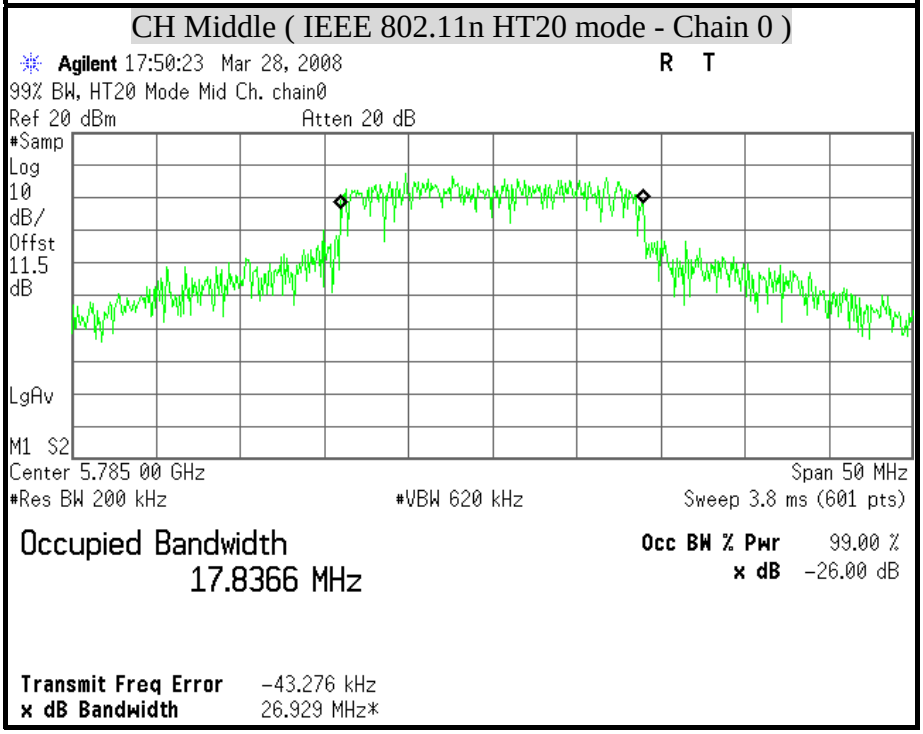


## 99% BANDWIDTH ( IEEE 802.11n HT20 mode )

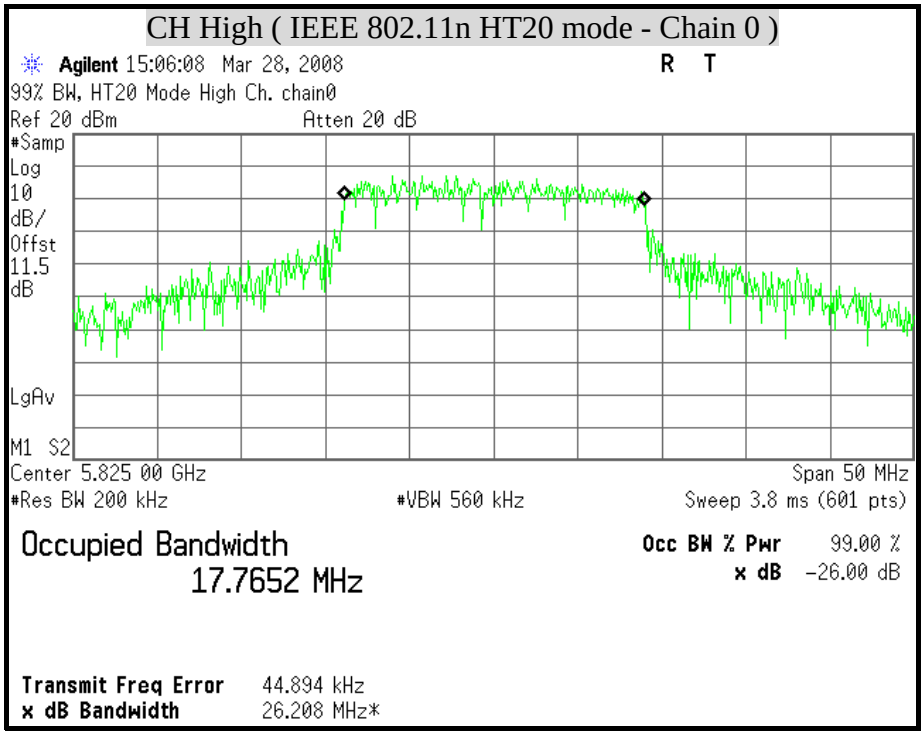
CH Low ( IEEE 802.11n HT20 mode - Chain 0 )



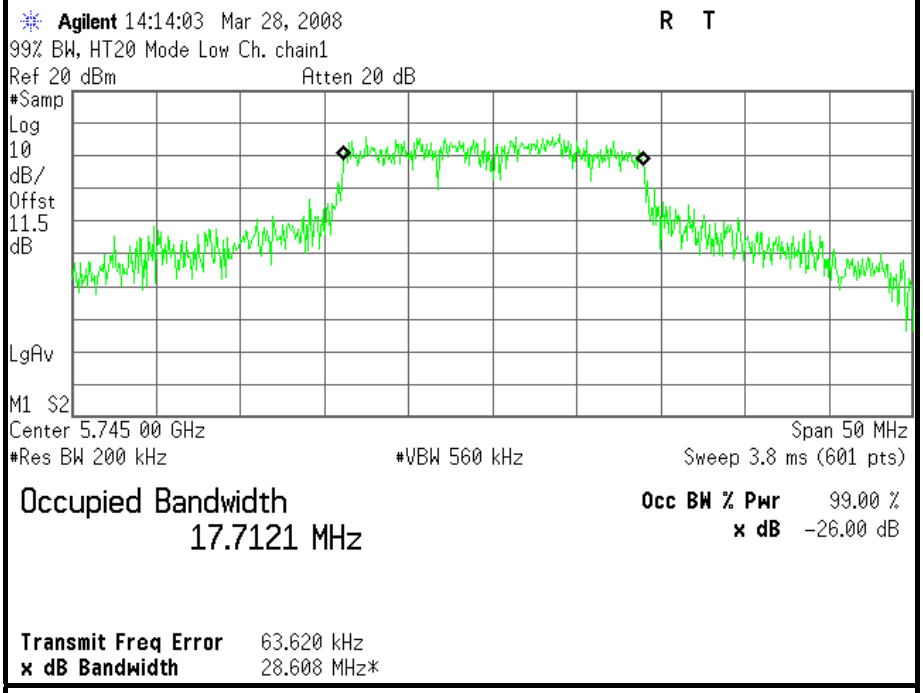

CH Middle ( IEEE 802.11n HT20 mode - Chain 0 )



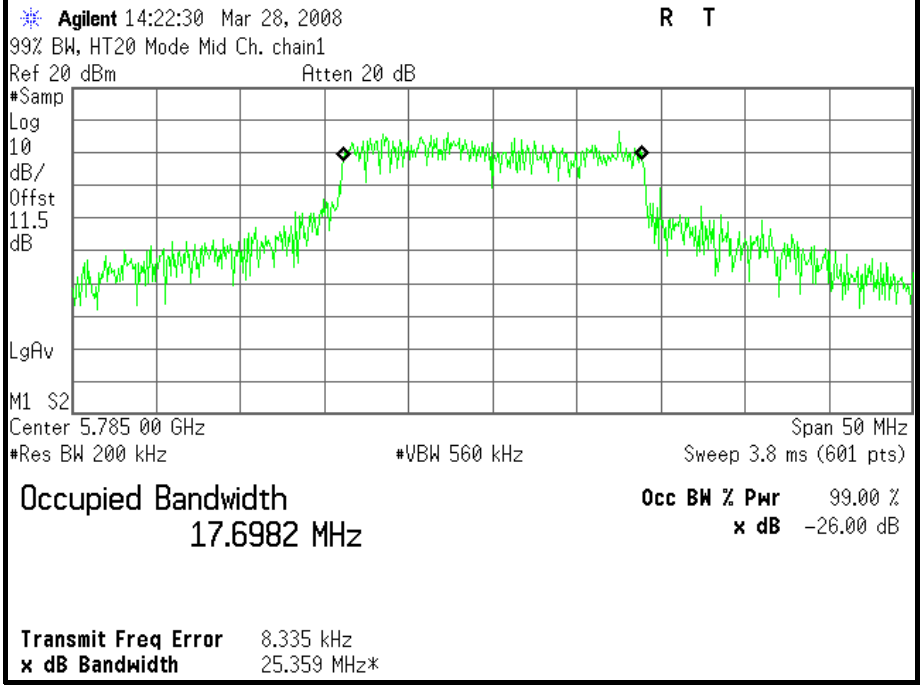
CH High ( IEEE 802.11n HT20 mode - Chain 0 )



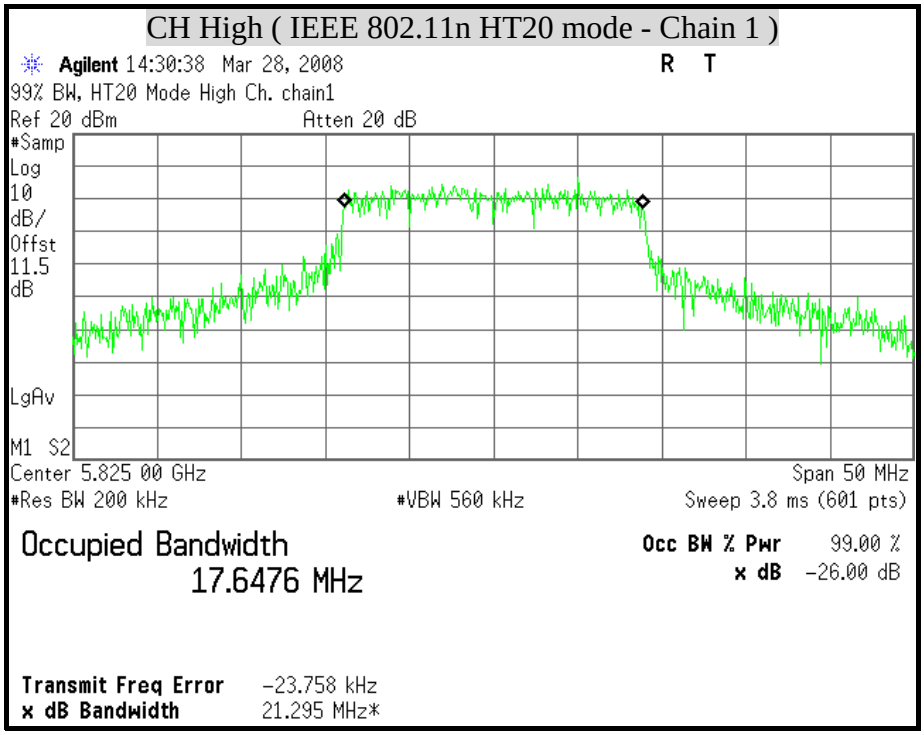
CH Low ( IEEE 802.11n HT20 mode - Chain 1 )



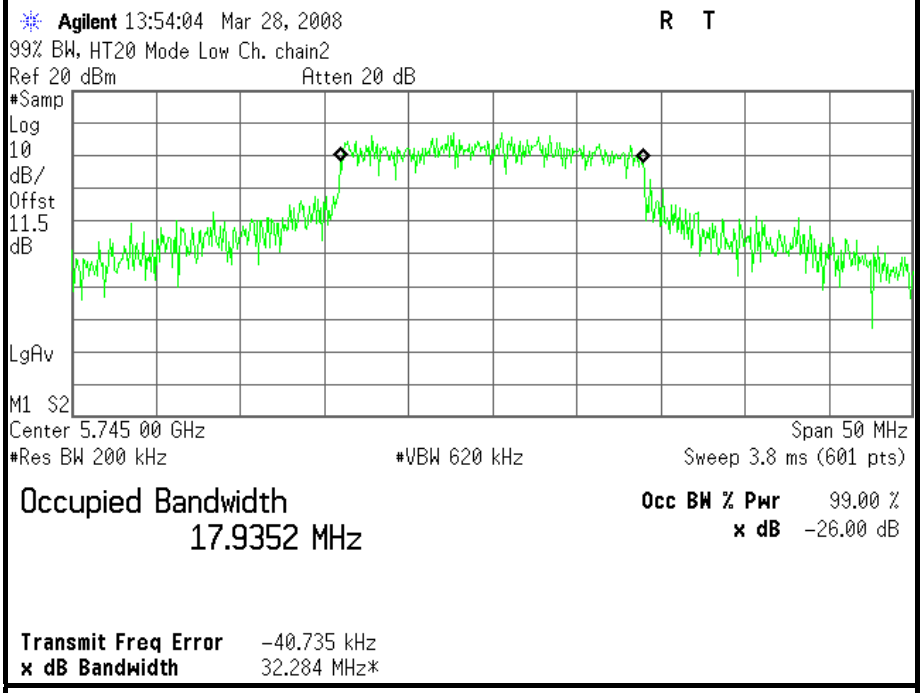

CH Middle ( IEEE 802.11n HT20 mode - Chain 1 )



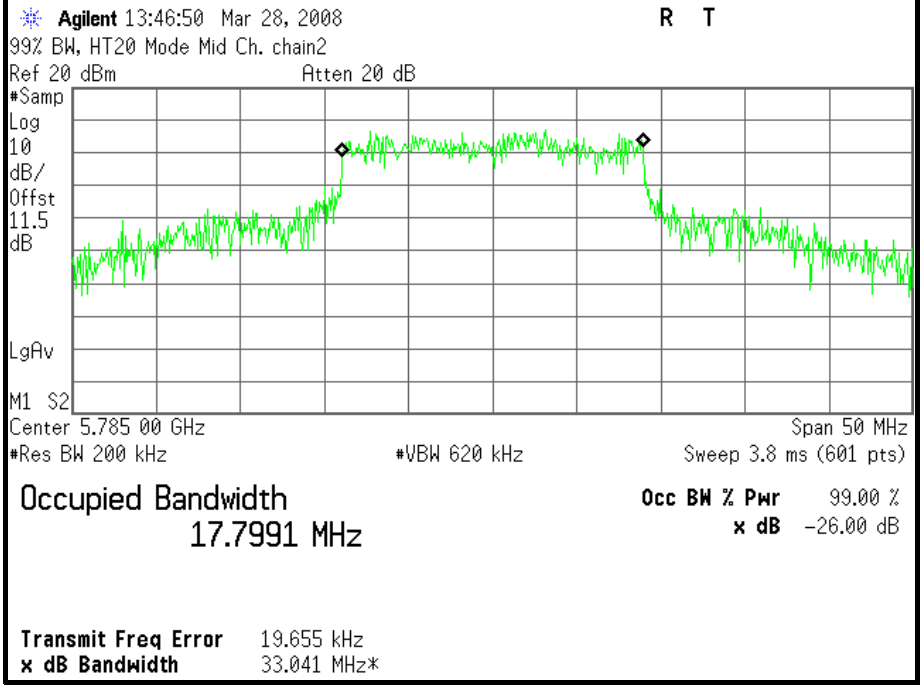
CH High ( IEEE 802.11n HT20 mode - Chain 1 )



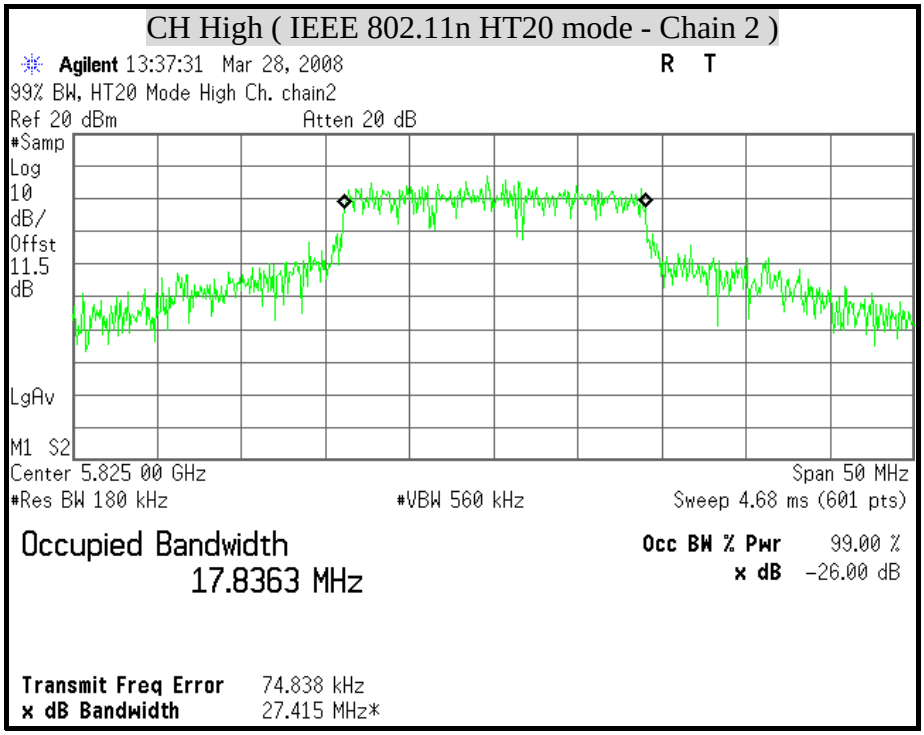
CH Low ( IEEE 802.11n HT20 mode - Chain 2 )




CH Middle ( IEEE 802.11n HT20 mode - Chain 2 )

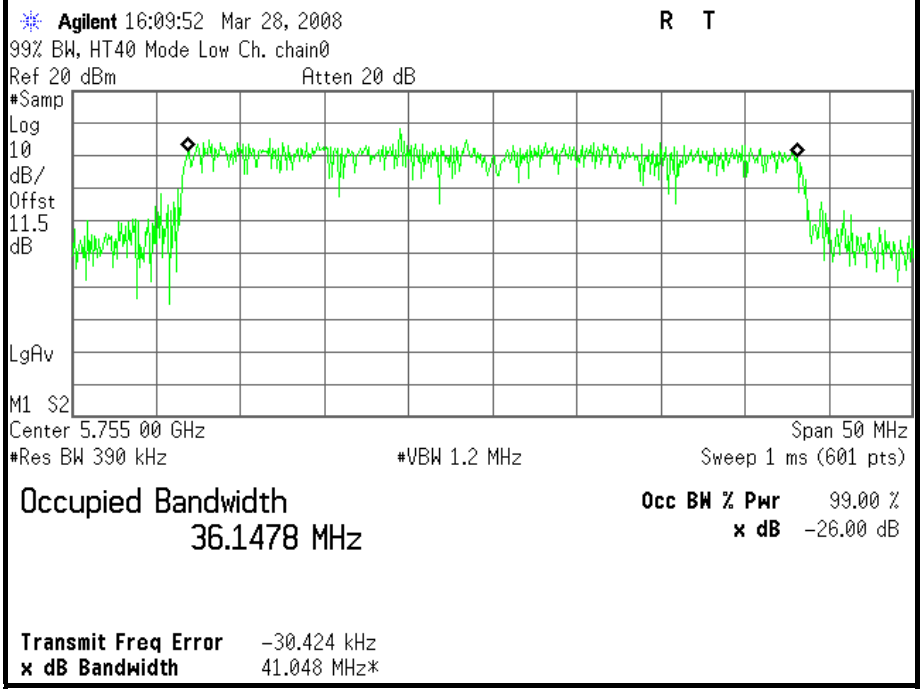


CH High ( IEEE 802.11n HT20 mode - Chain 2 )

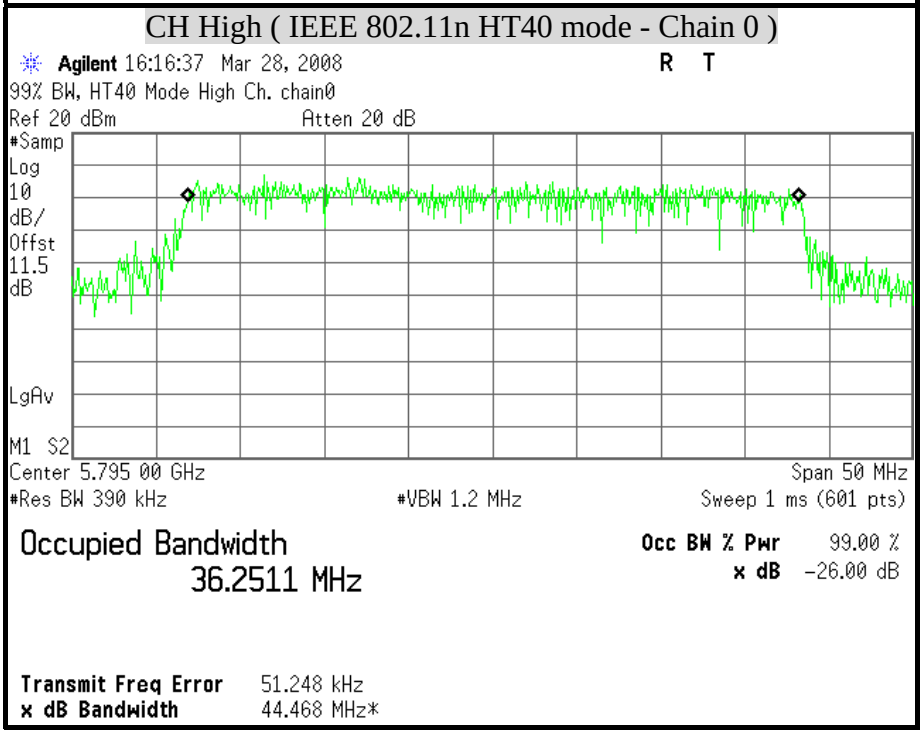


## 99% BANDWIDTH ( IEEE 802.11n HT40 mode )

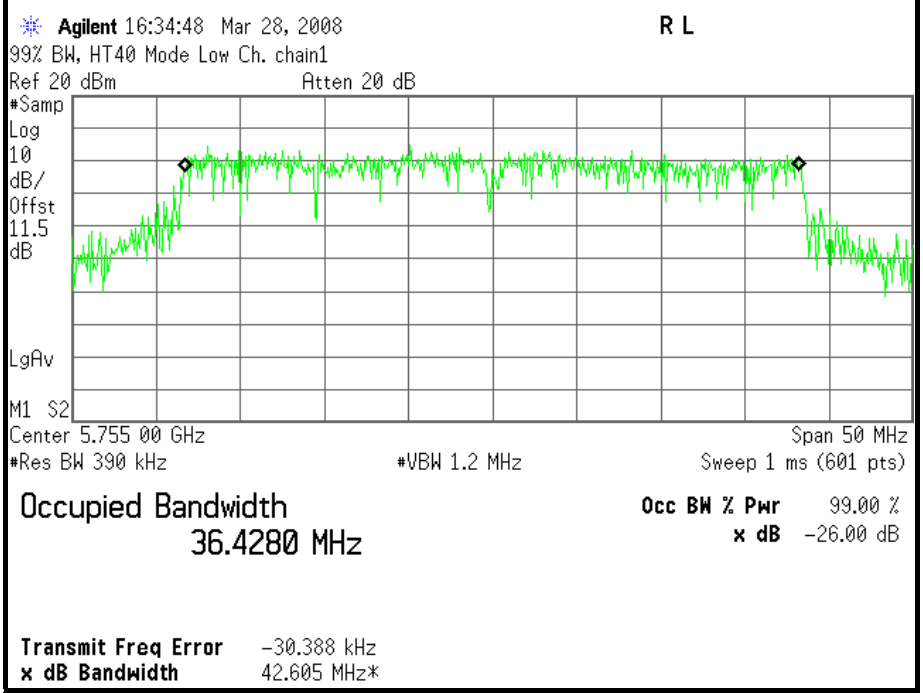
CH Low ( IEEE 802.11n HT40 mode - Chain 0 )



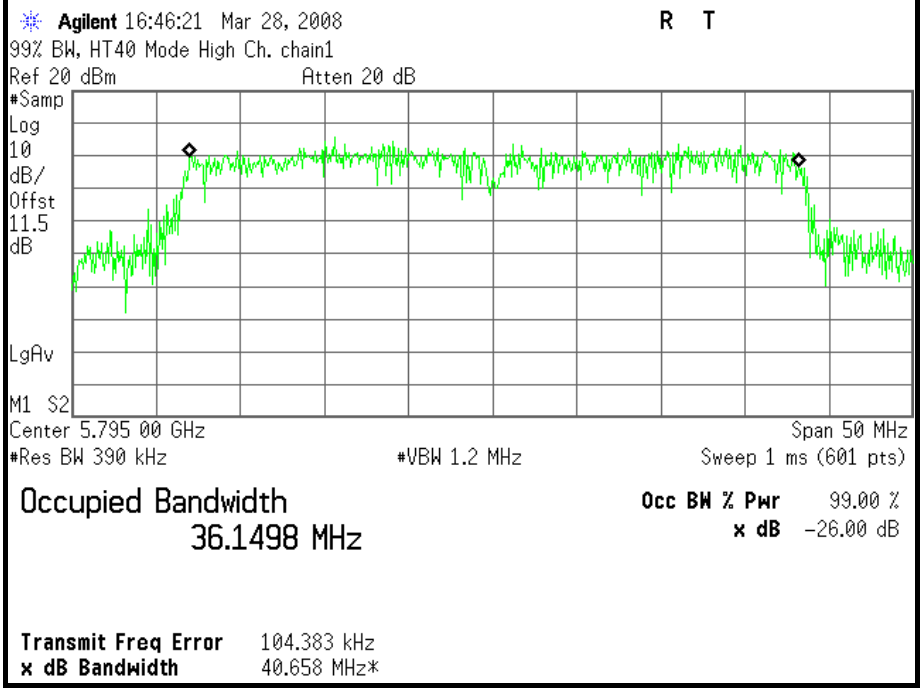

CH High ( IEEE 802.11n HT40 mode - Chain 0 )



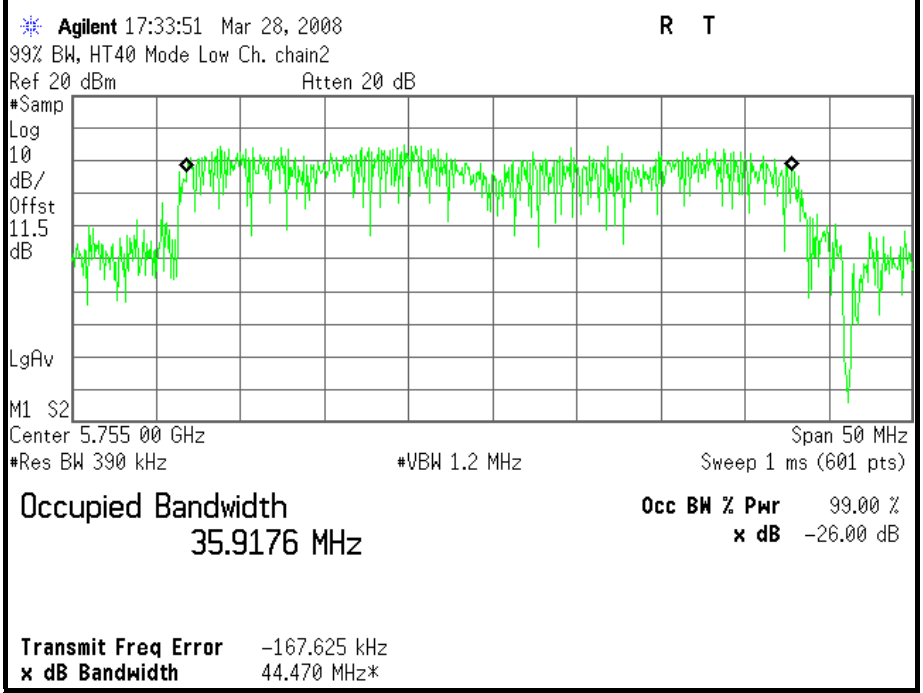
CH Low ( IEEE 802.11n HT40 mode - Chain 1 )



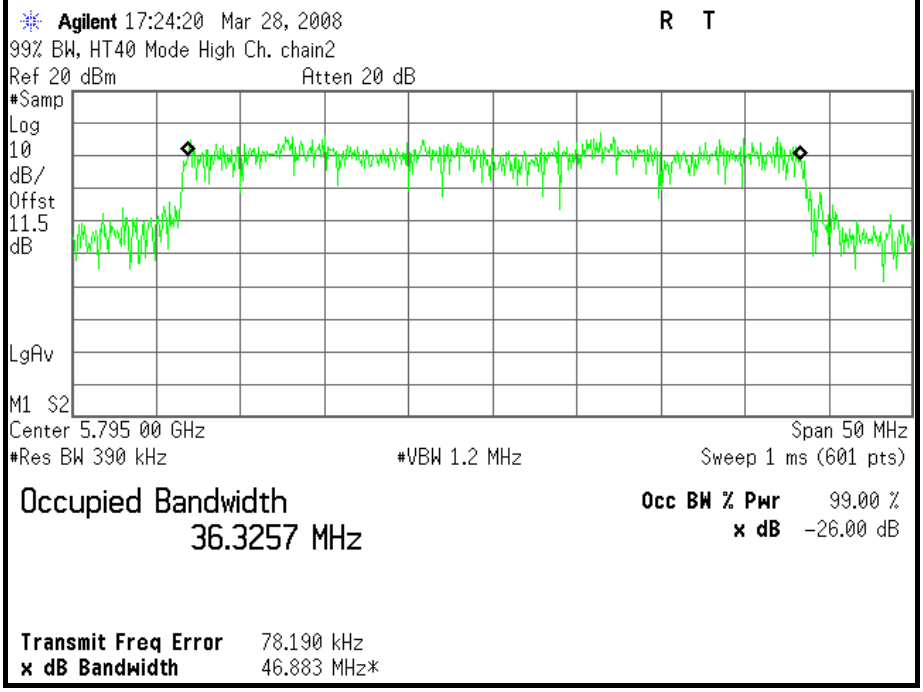

CH High ( IEEE 802.11n HT40 mode - Chain 1 )



CH Low ( IEEE 802.11n HT40 mode - Chain 1 )

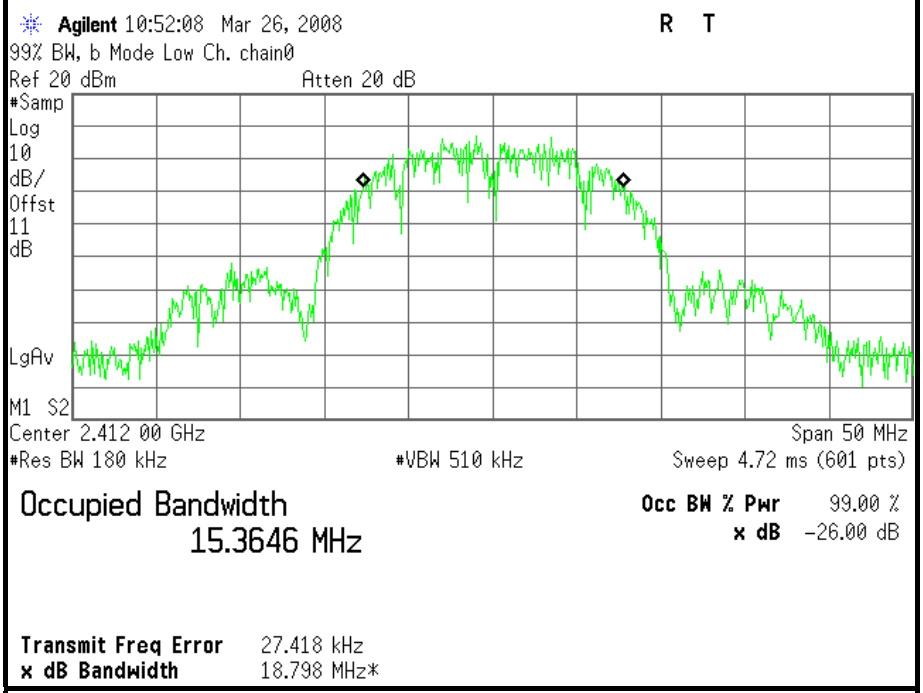



CH High ( IEEE 802.11n HT40 mode - Chain 1 )

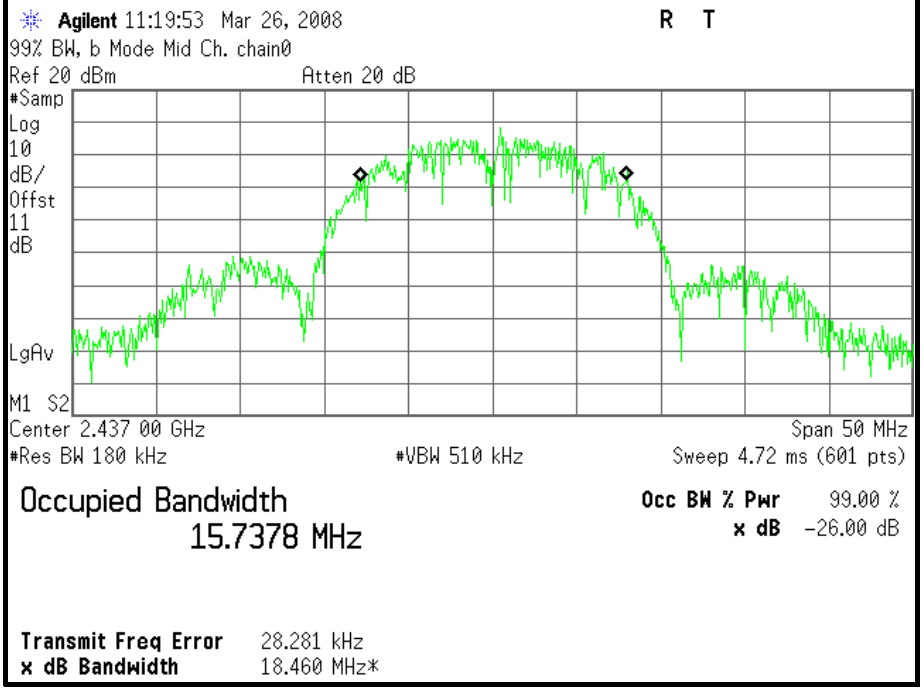


## 99% BANDWIDTH ( IEEE 802.11b mode)

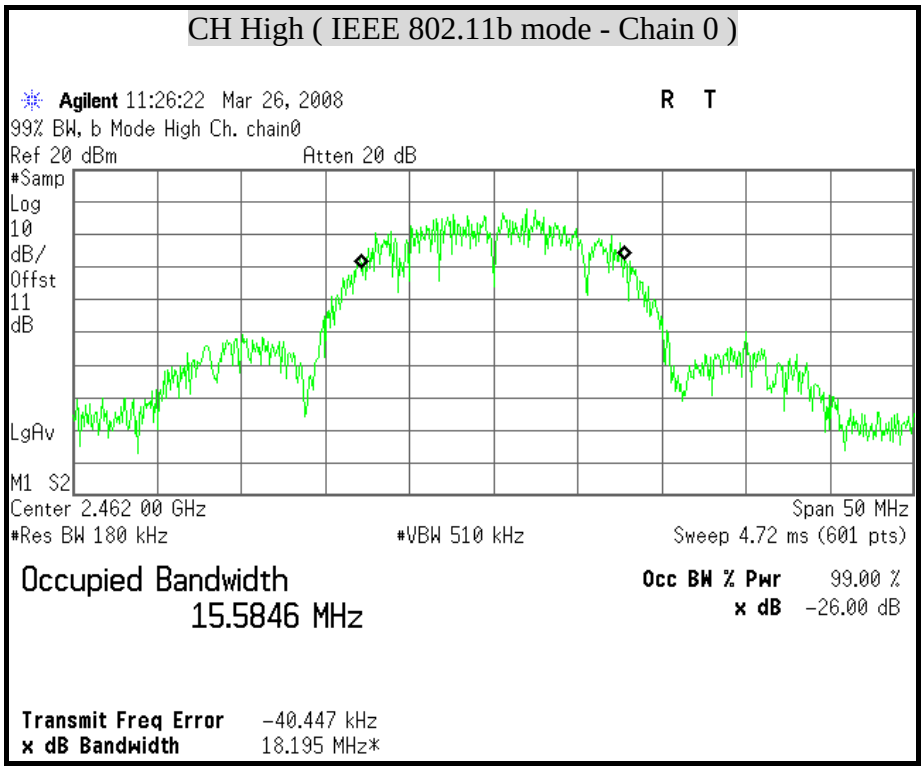
CH Low ( IEEE 802.11b mode - Chain 0 )



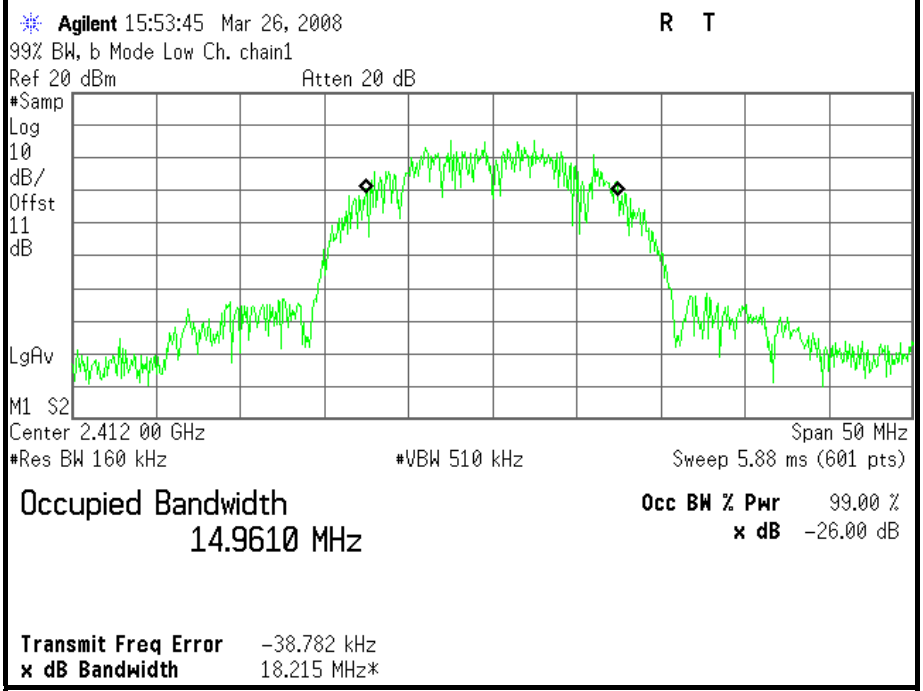

CH Middle ( IEEE 802.11b mode - Chain 0 )



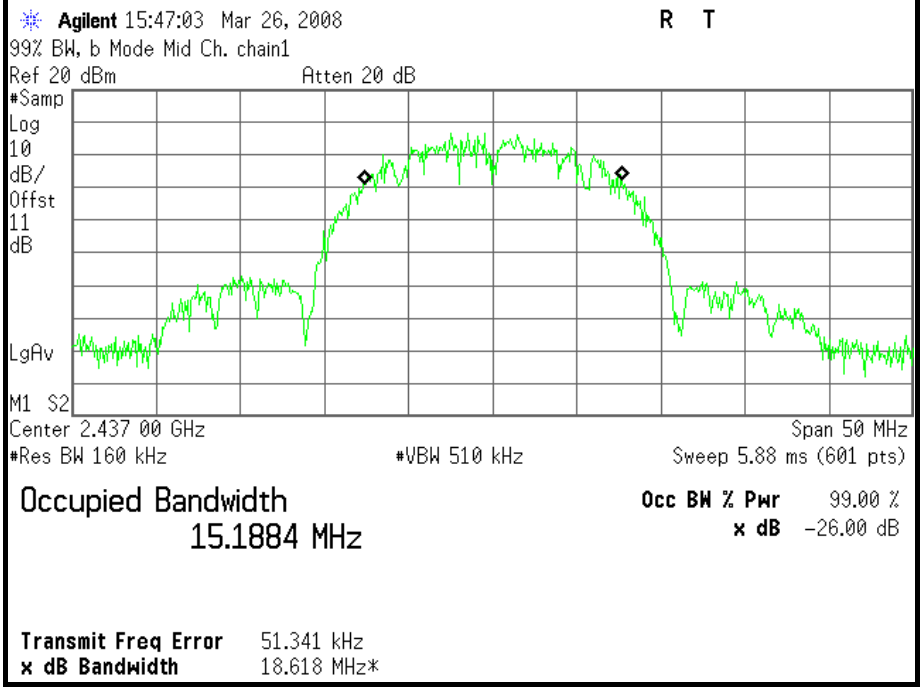
CH High ( IEEE 802.11b mode - Chain 0 )



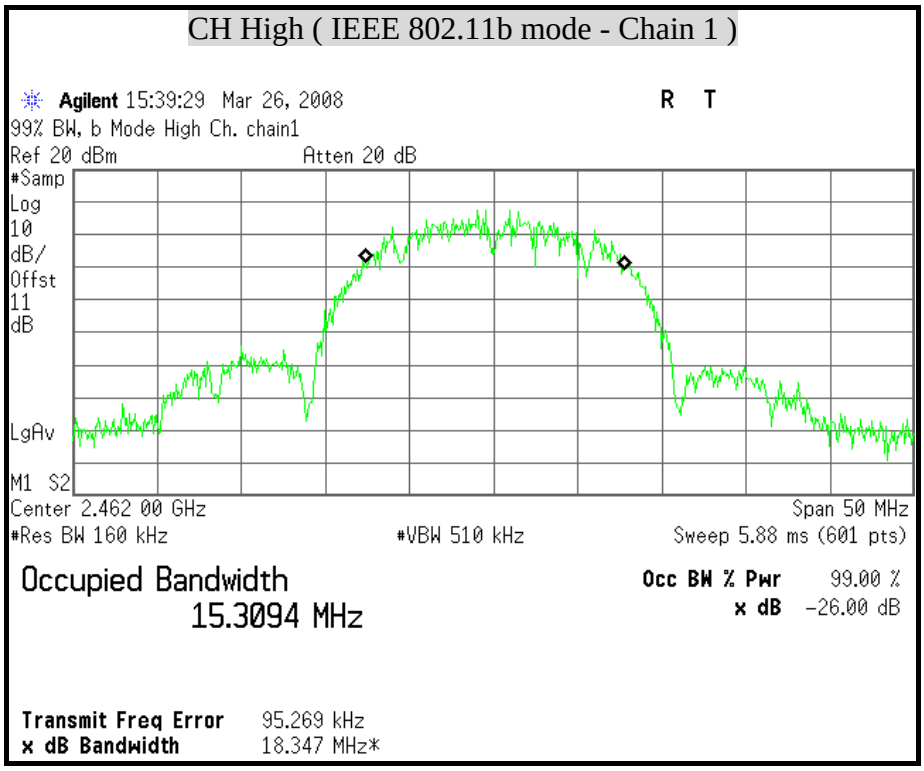
CH Low ( IEEE 802.11b mode - Chain 1 )



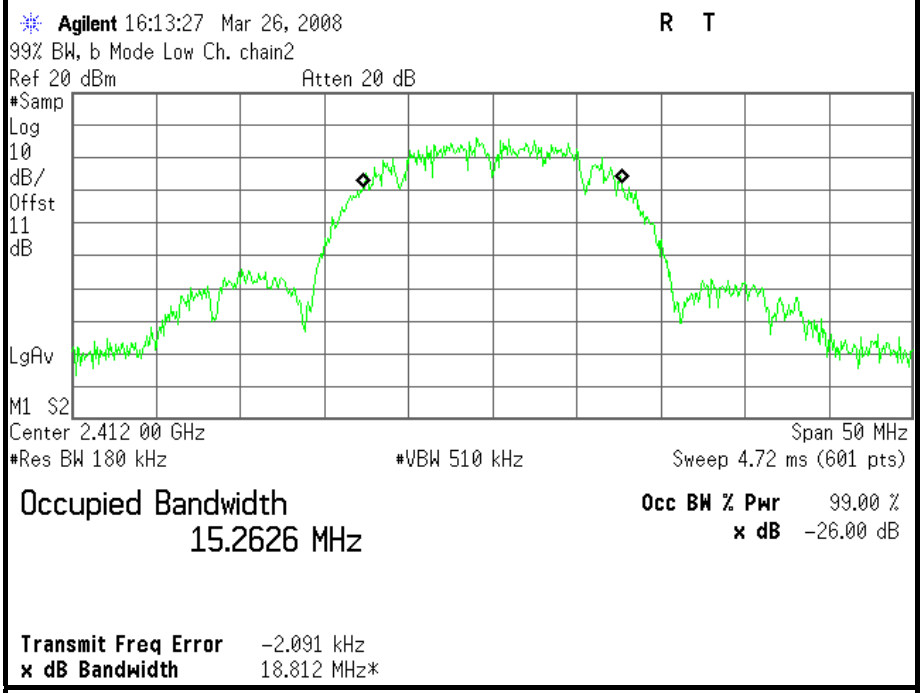

CH Middle ( IEEE 802.11b mode - Chain 1 )



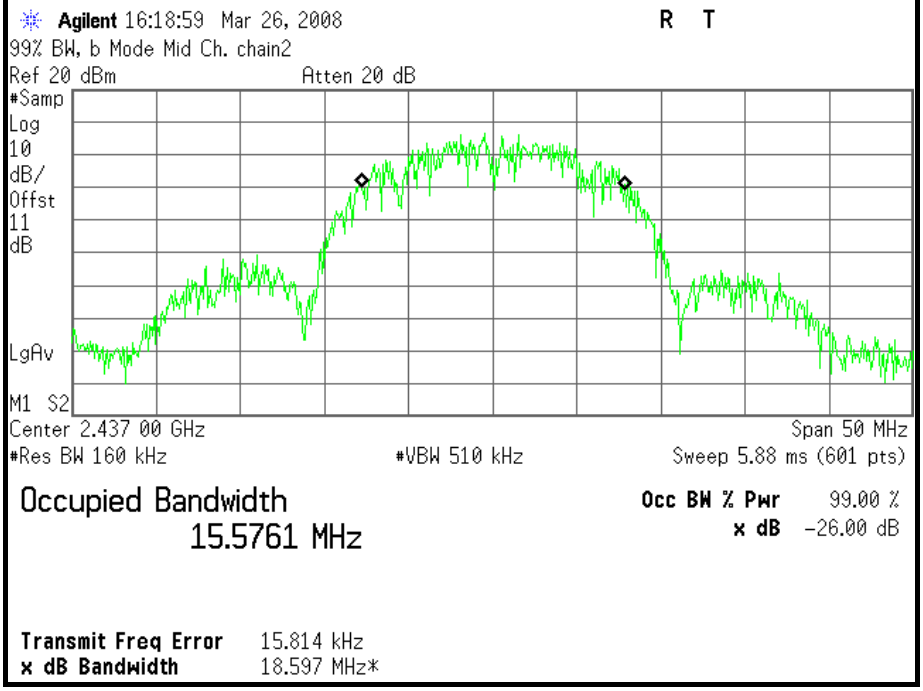
CH High ( IEEE 802.11b mode - Chain 1 )



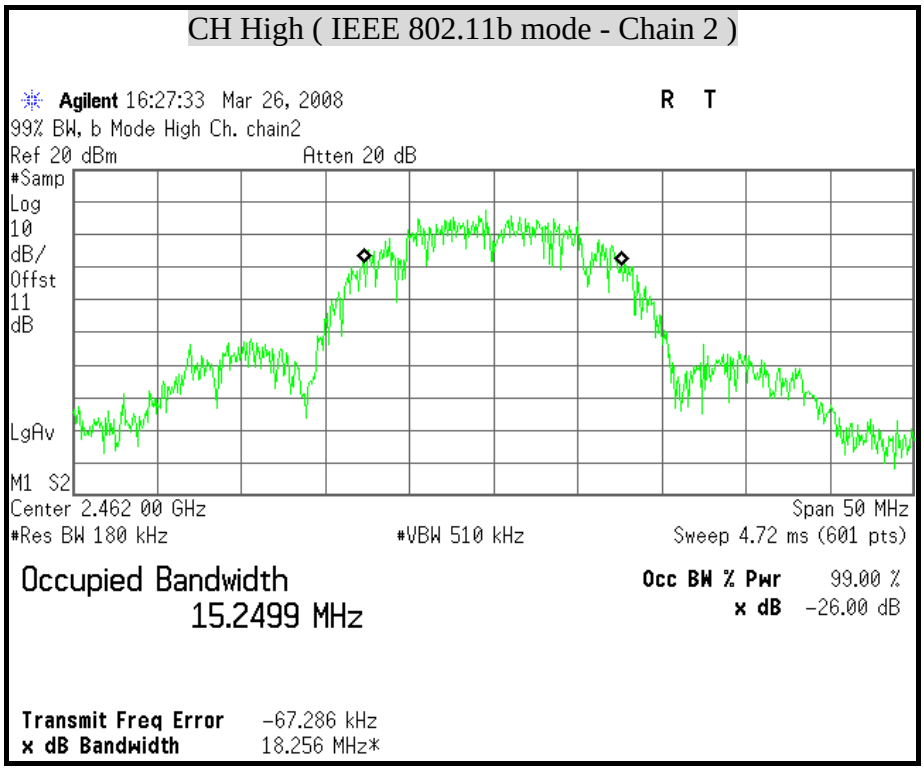
CH Low ( IEEE 802.11b mode - Chain 2 )




CH Middle ( IEEE 802.11b mode - Chain 2 )

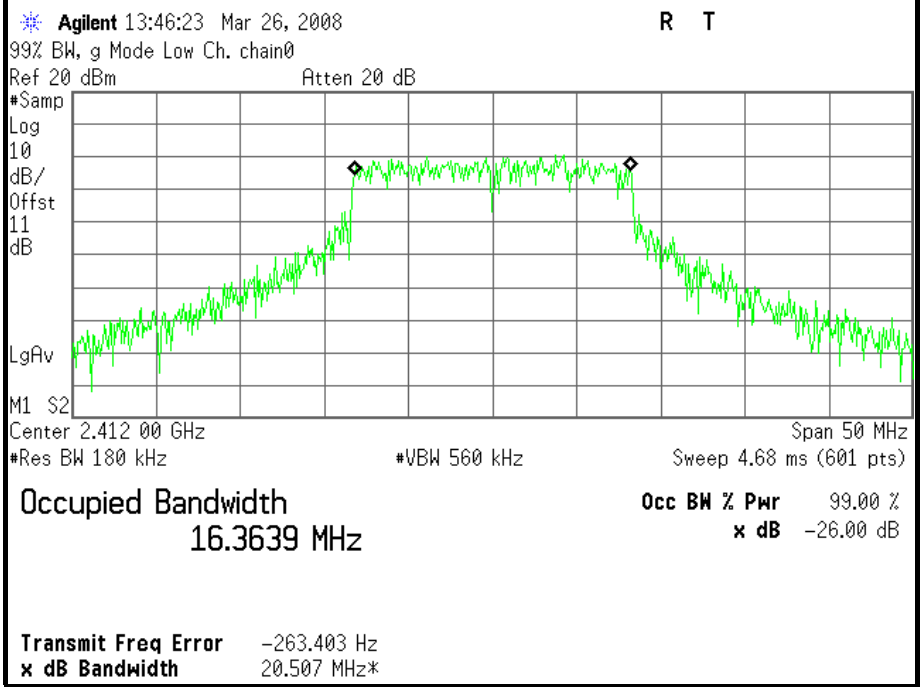


CH High ( IEEE 802.11b mode - Chain 2 )

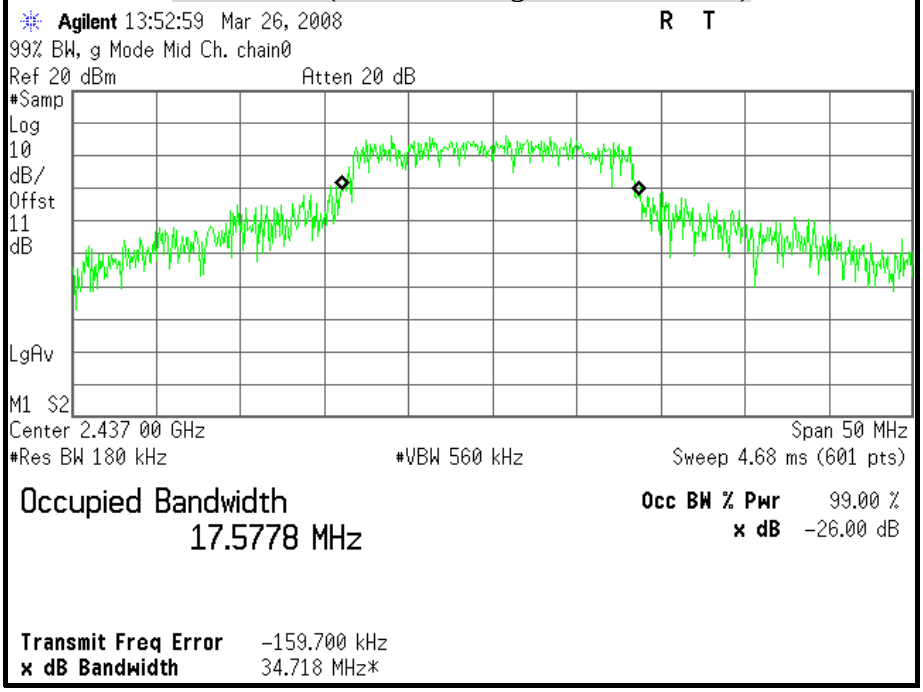


## 99% BANDWIDTH ( IEEE 802.11g mode)

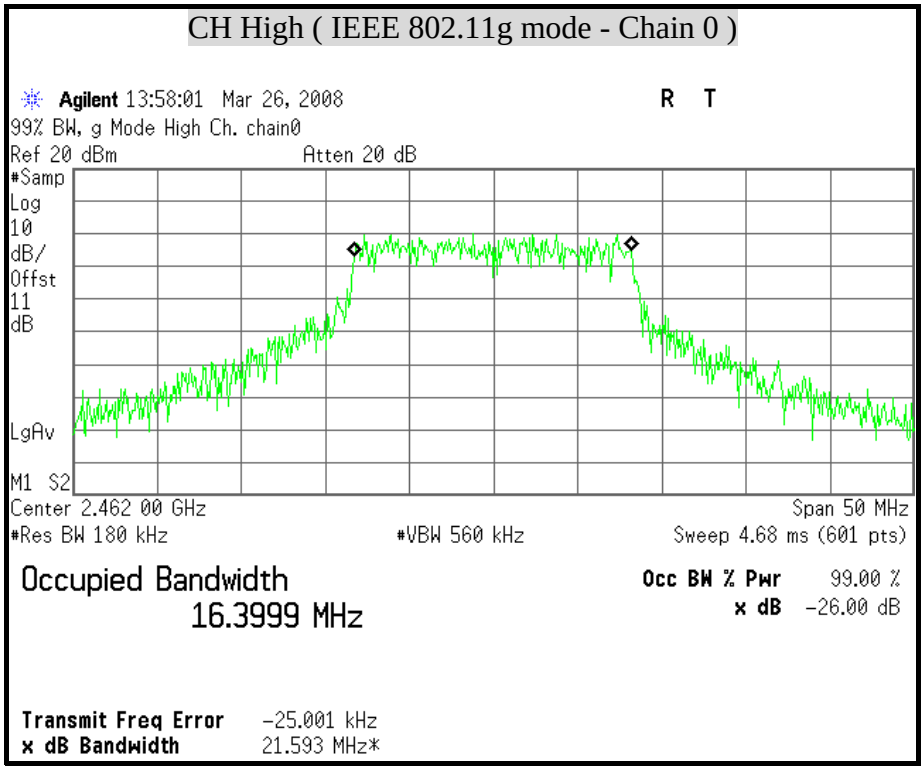
CH Low ( IEEE 802.11g mode - Chain 0 )



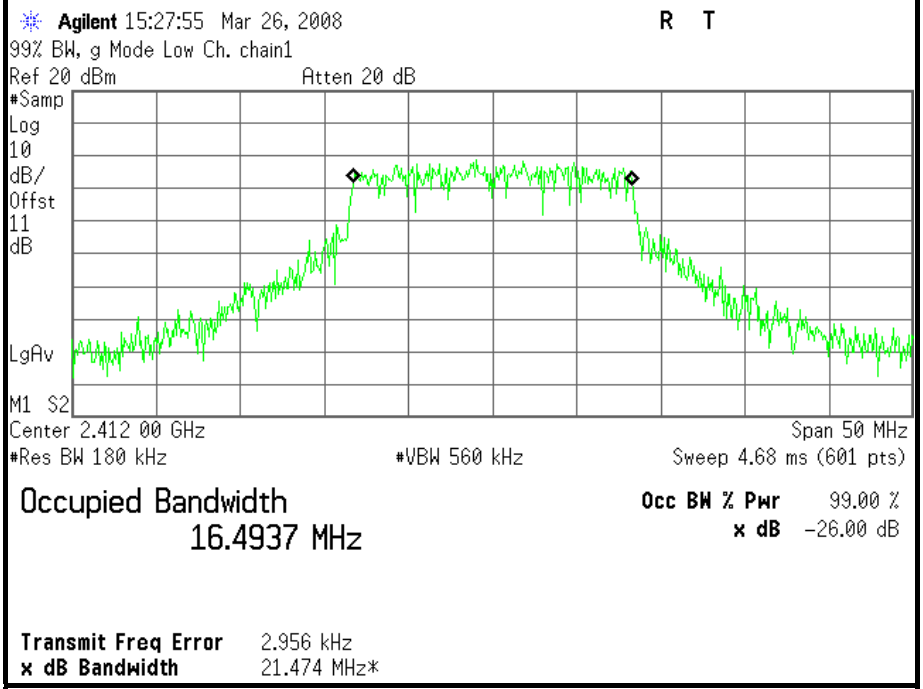

CH Middle ( IEEE 802.11g mode - Chain 0 )



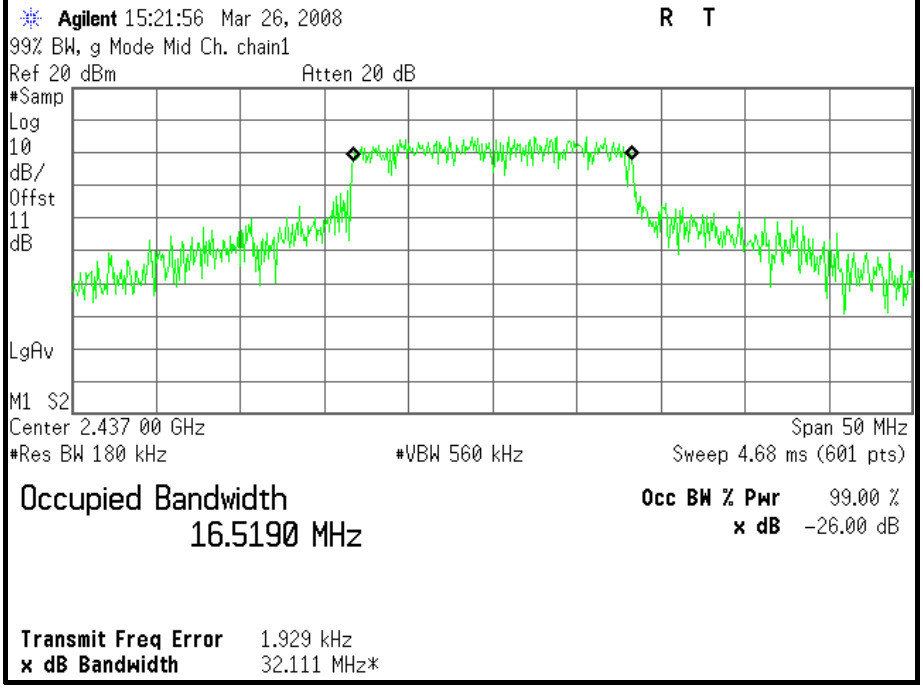
CH High ( IEEE 802.11g mode - Chain 0 )



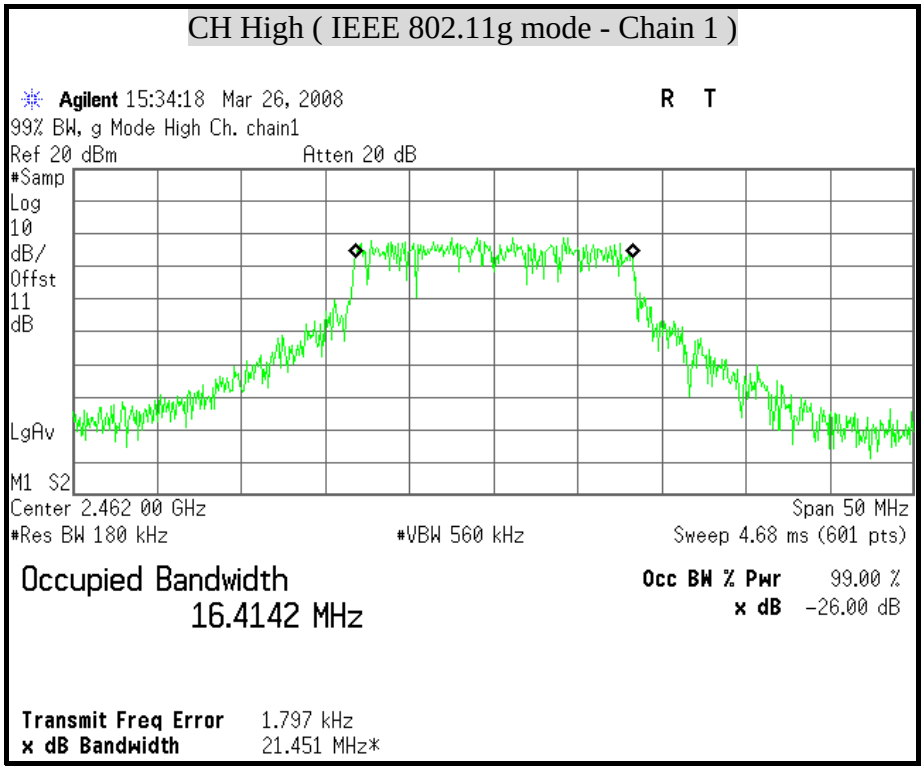
CH Low ( IEEE 802.11g mode - Chain 1 )



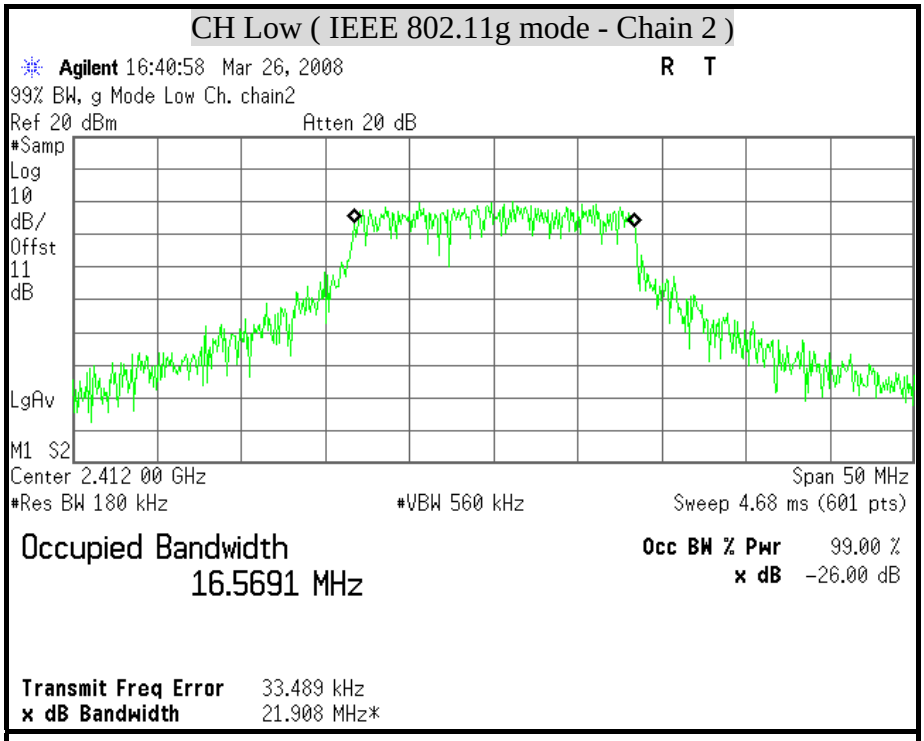

CH Middle ( IEEE 802.11g mode - Chain 1 )



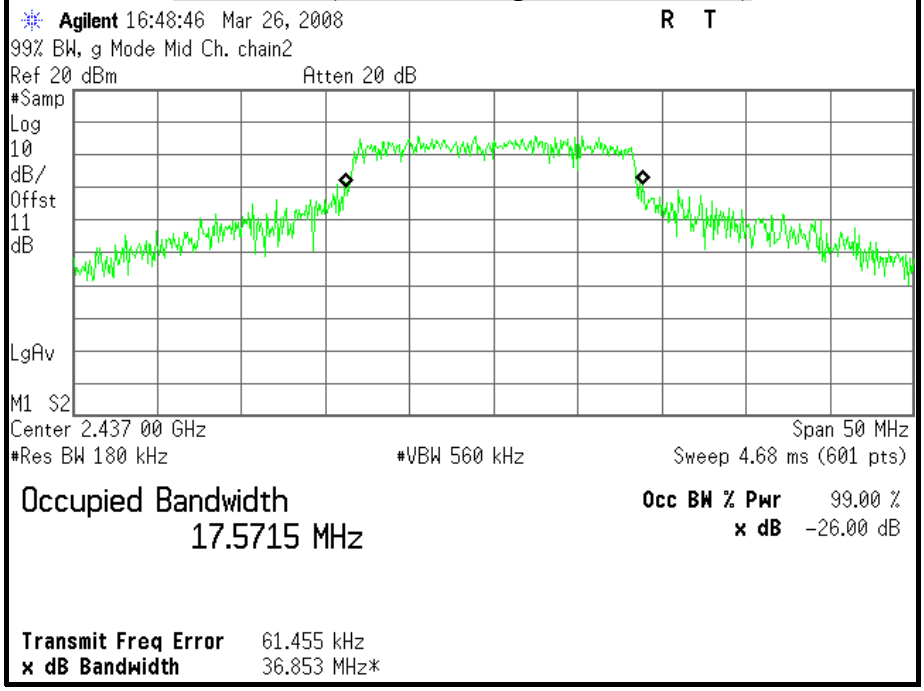
CH High ( IEEE 802.11g mode - Chain 1 )



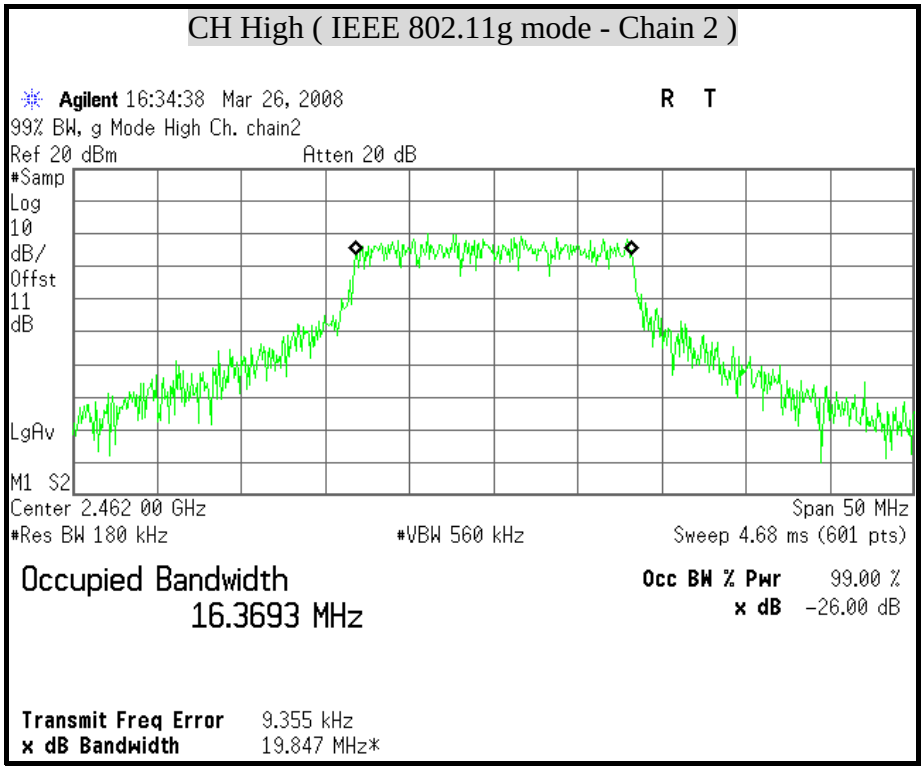
CH Low ( IEEE 802.11g mode - Chain 2 )




CH Middle ( IEEE 802.11g mode - Chain 2 )

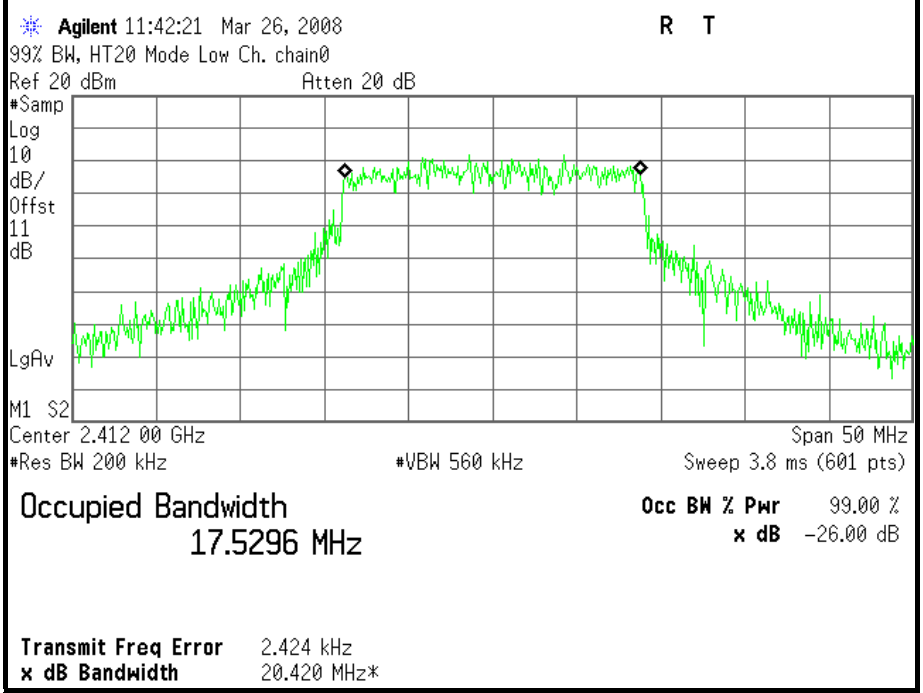


CH High ( IEEE 802.11g mode - Chain 2 )

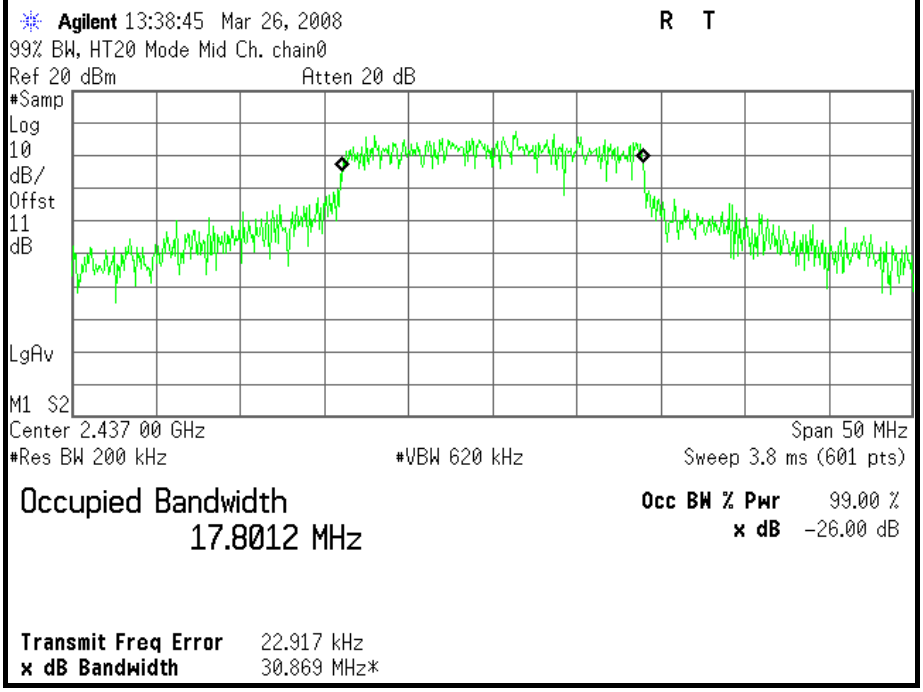


## 99% BANDWIDTH ( IEEE 802.11n HT20 mode )

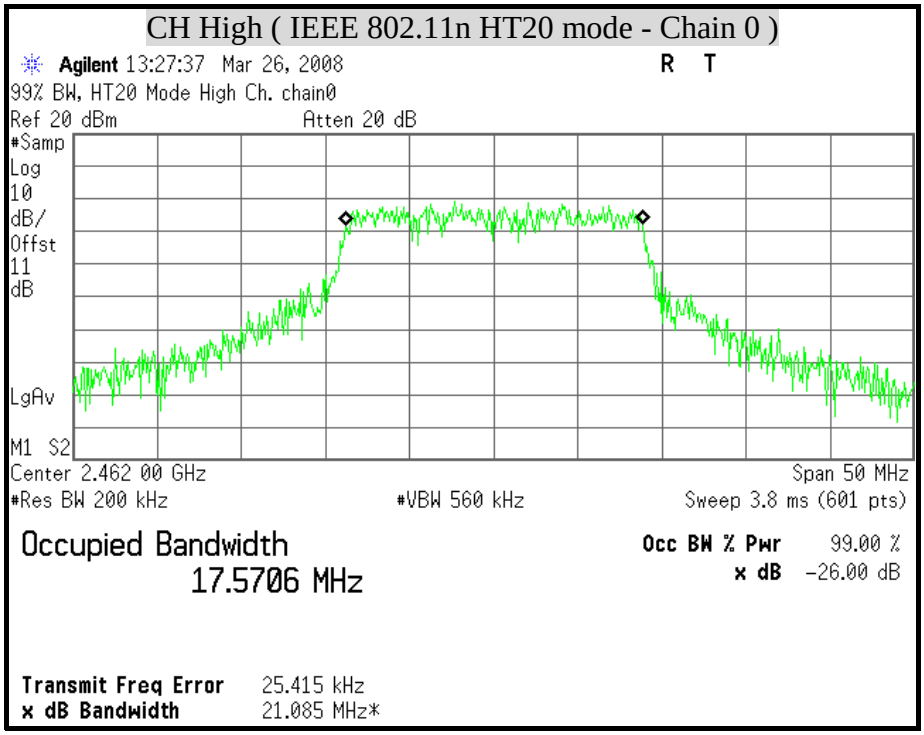
CH Low ( IEEE 802.11n HT20 mode - Chain 0 )



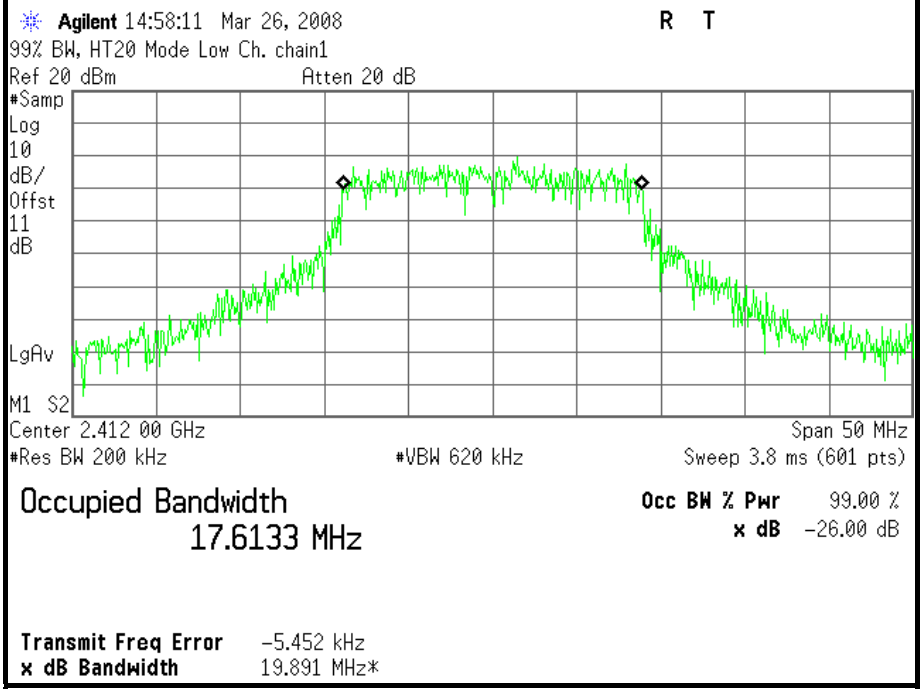

CH Middle ( IEEE 802.11n HT20 mode - Chain 0 )



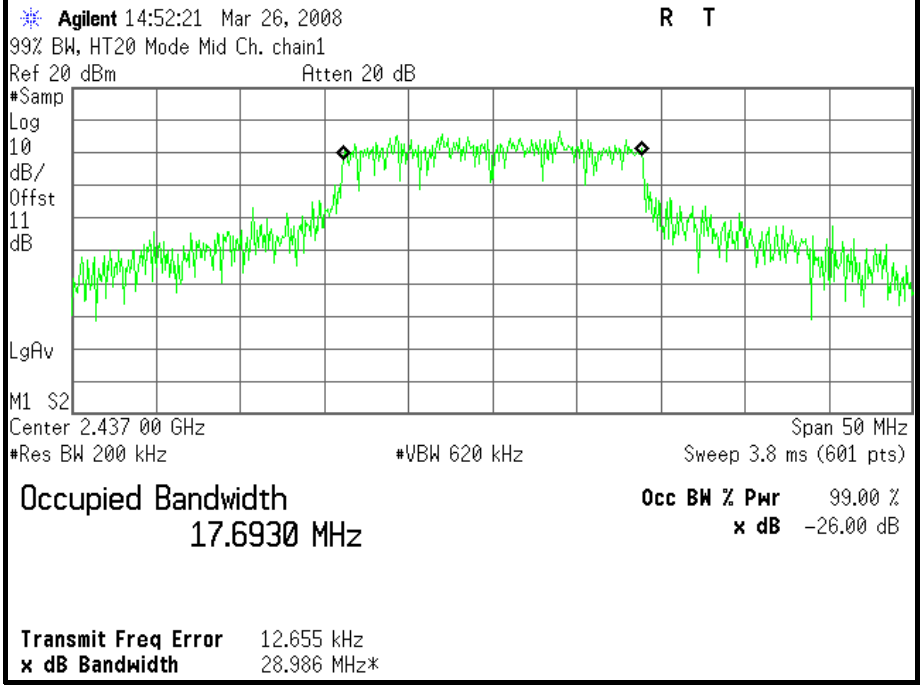
CH High ( IEEE 802.11n HT20 mode - Chain 0 )



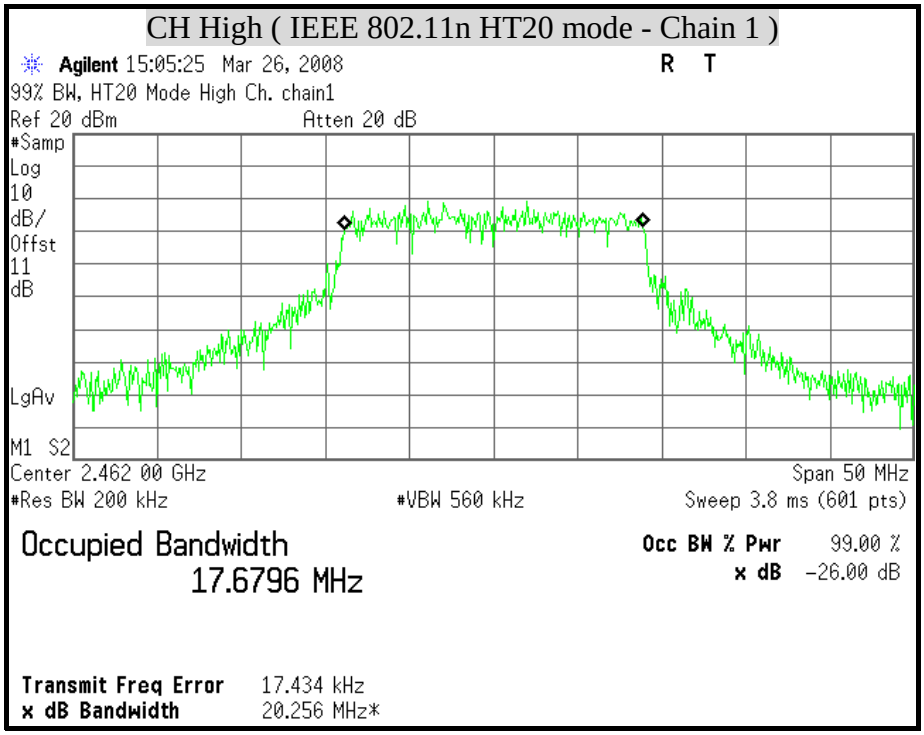
CH Low ( IEEE 802.11n HT20 mode - Chain 1 )



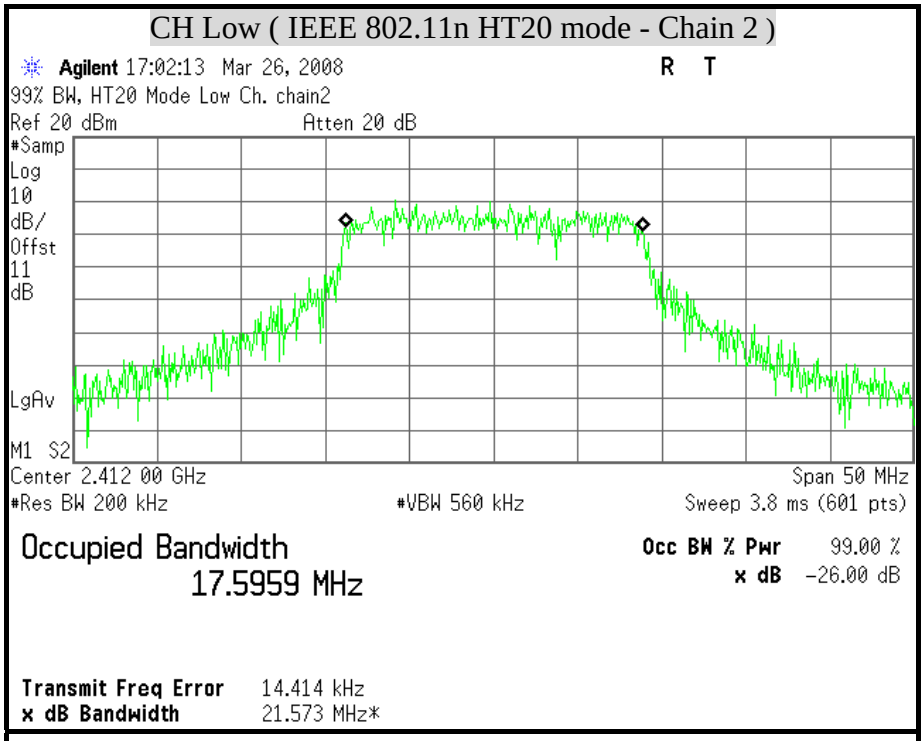

CH Middle ( IEEE 802.11n HT20 mode - Chain 1 )



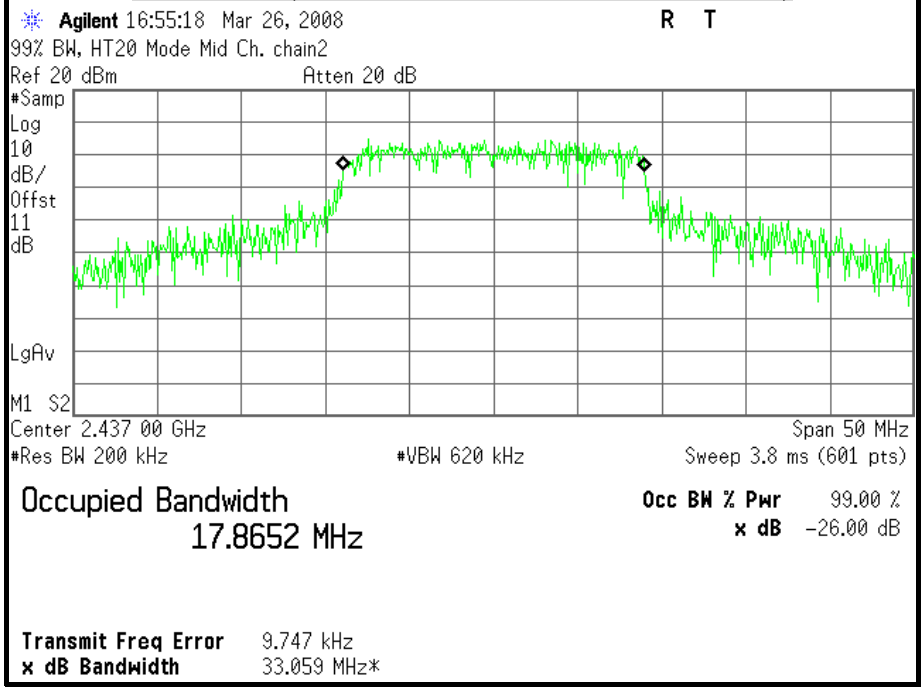
CH High ( IEEE 802.11n HT20 mode - Chain 1 )



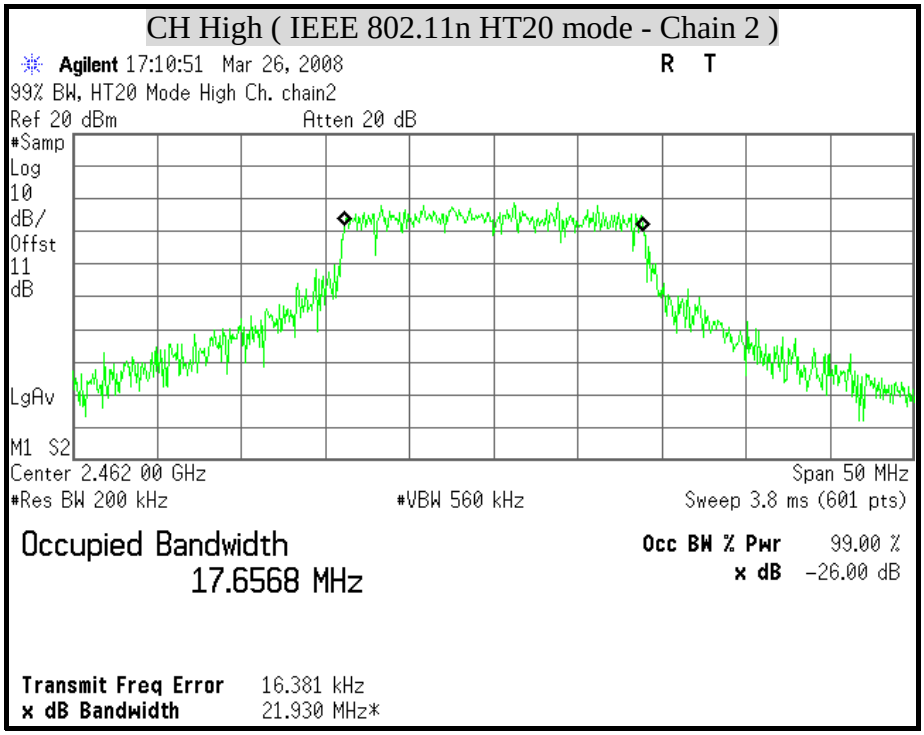
CH Low ( IEEE 802.11n HT20 mode - Chain 2 )




CH Middle ( IEEE 802.11n HT20 mode - Chain 2 )

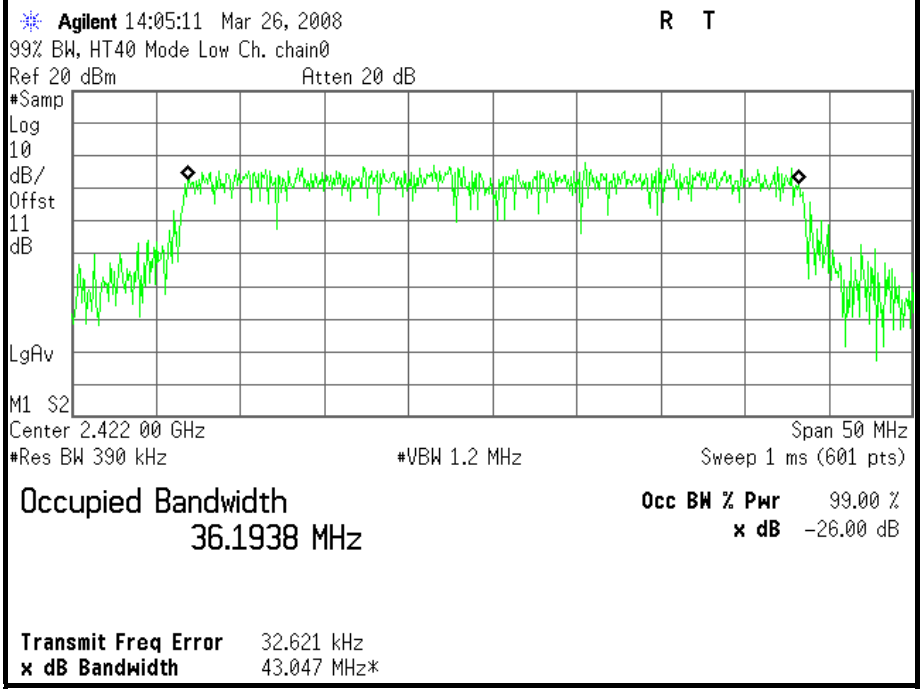


CH High ( IEEE 802.11n HT20 mode - Chain 2 )

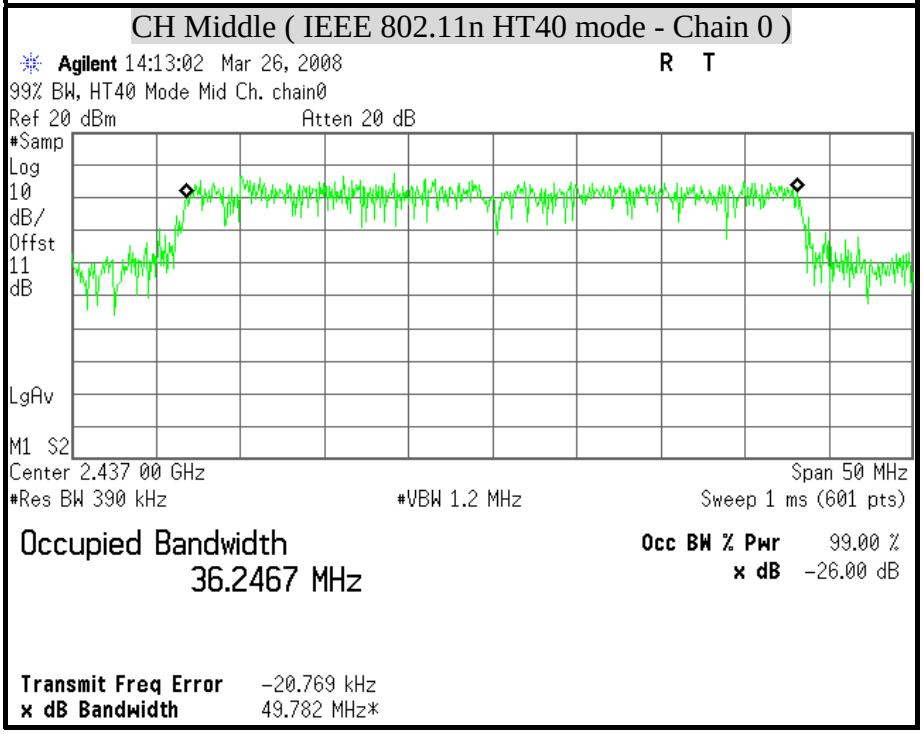


## 99% BANDWIDTH (IEEE 802.11n HT40 mode)

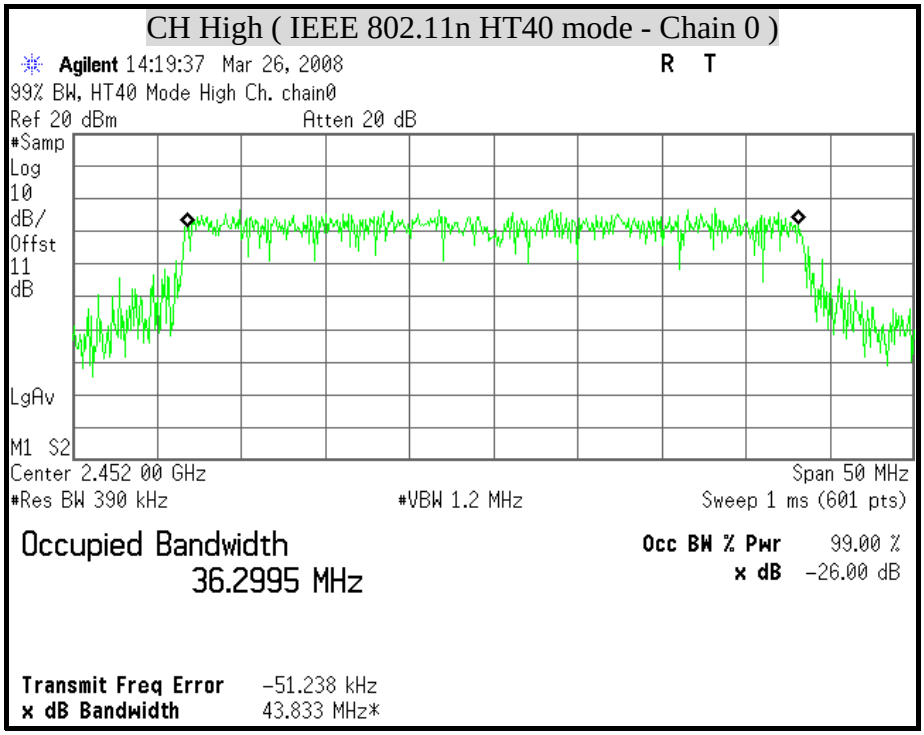
CH Low ( IEEE 802.11n HT40 mode - Chain 0 )



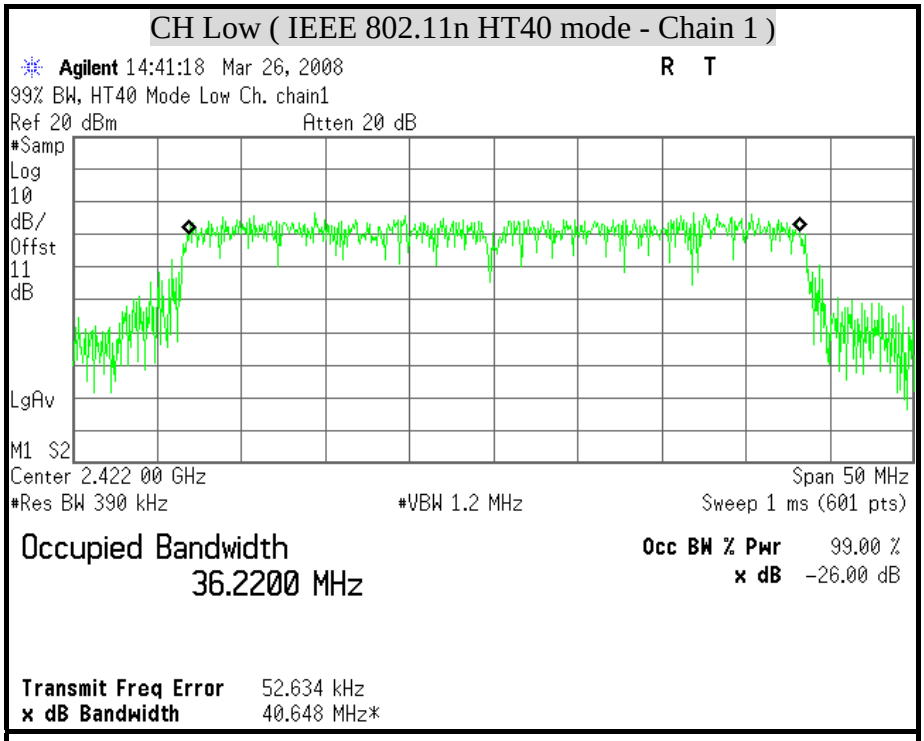

CH Middle ( IEEE 802.11n HT40 mode - Chain 0 )



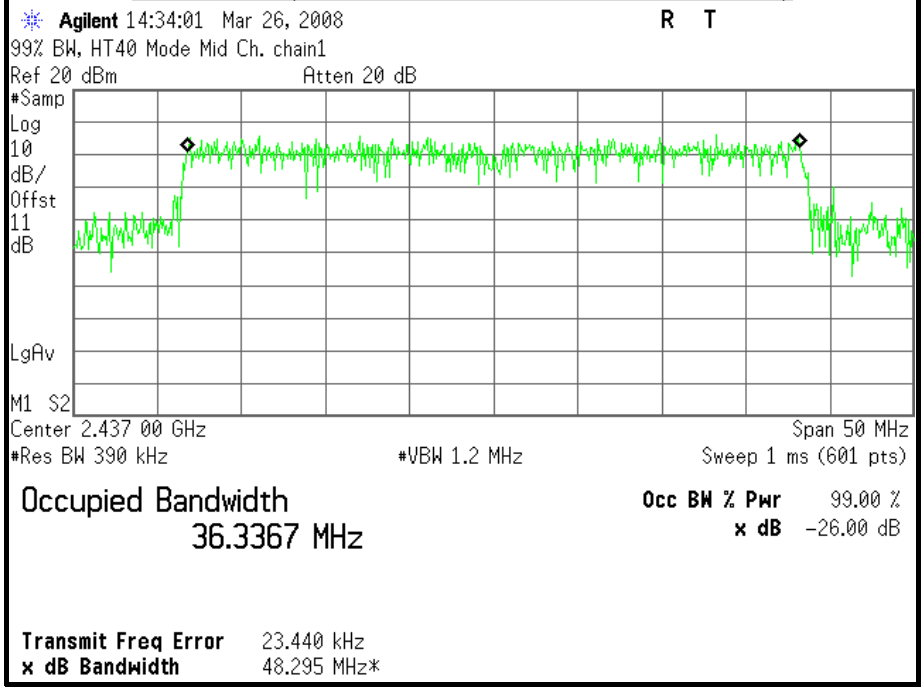
CH High ( IEEE 802.11n HT40 mode - Chain 0 )



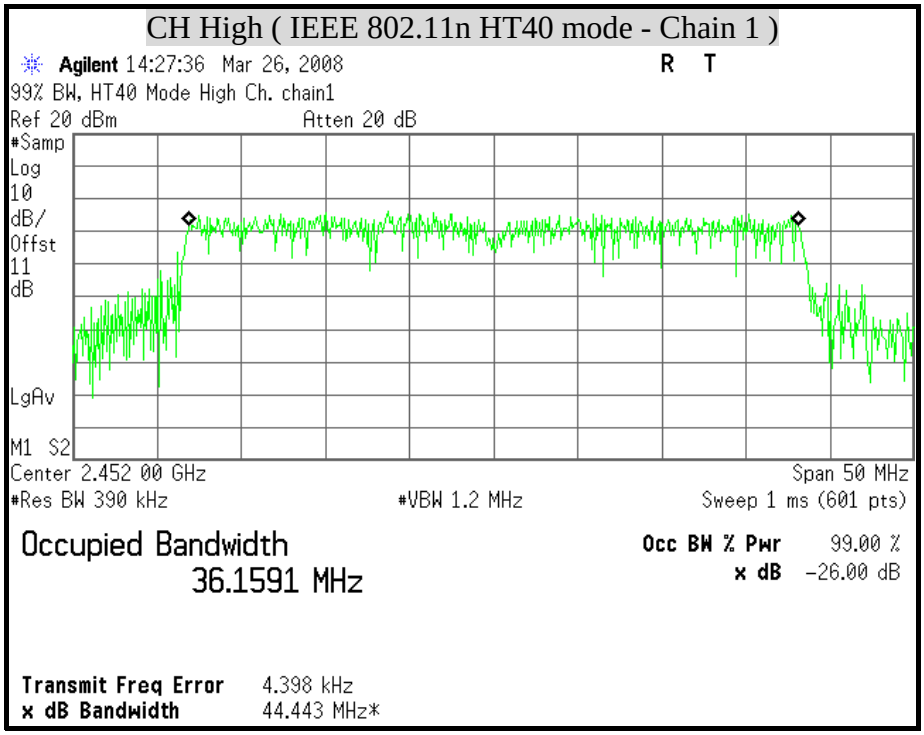
CH Low ( IEEE 802.11n HT40 mode - Chain 1 )



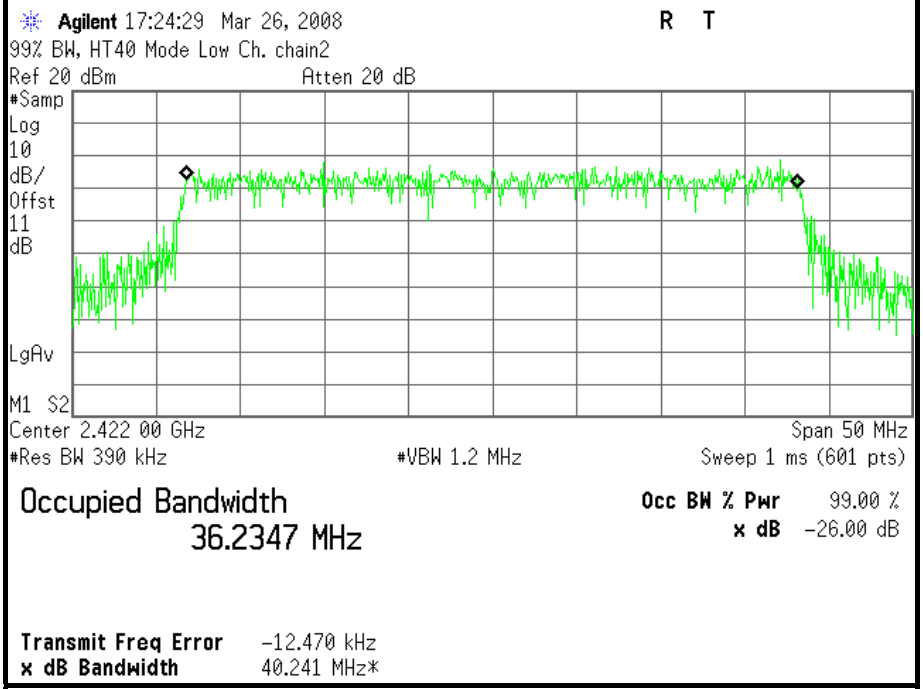

CH Middle ( IEEE 802.11n HT40 mode - Chain 1 )



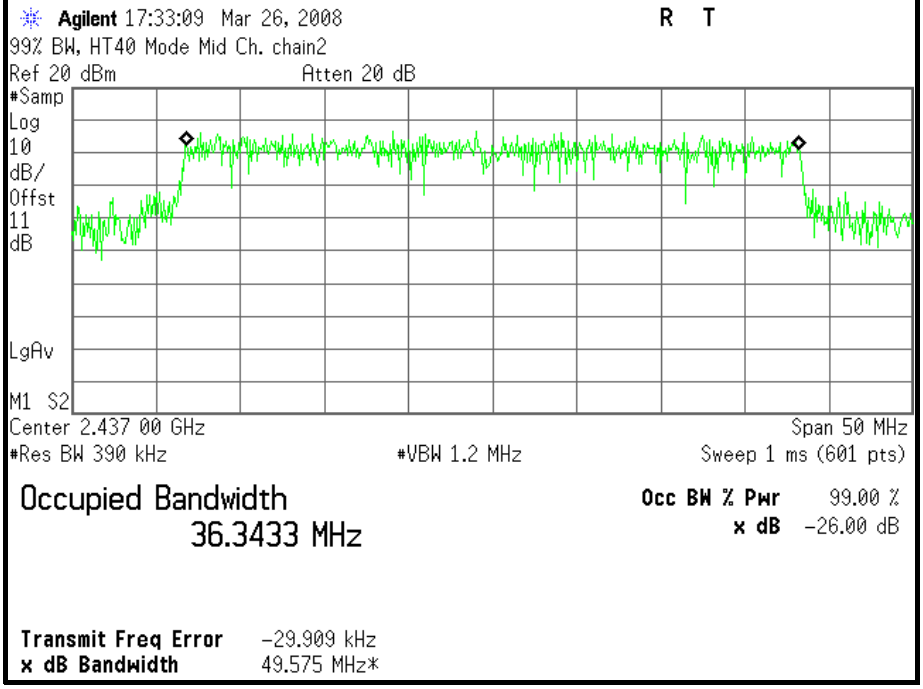
CH High ( IEEE 802.11n HT40 mode - Chain 1 )



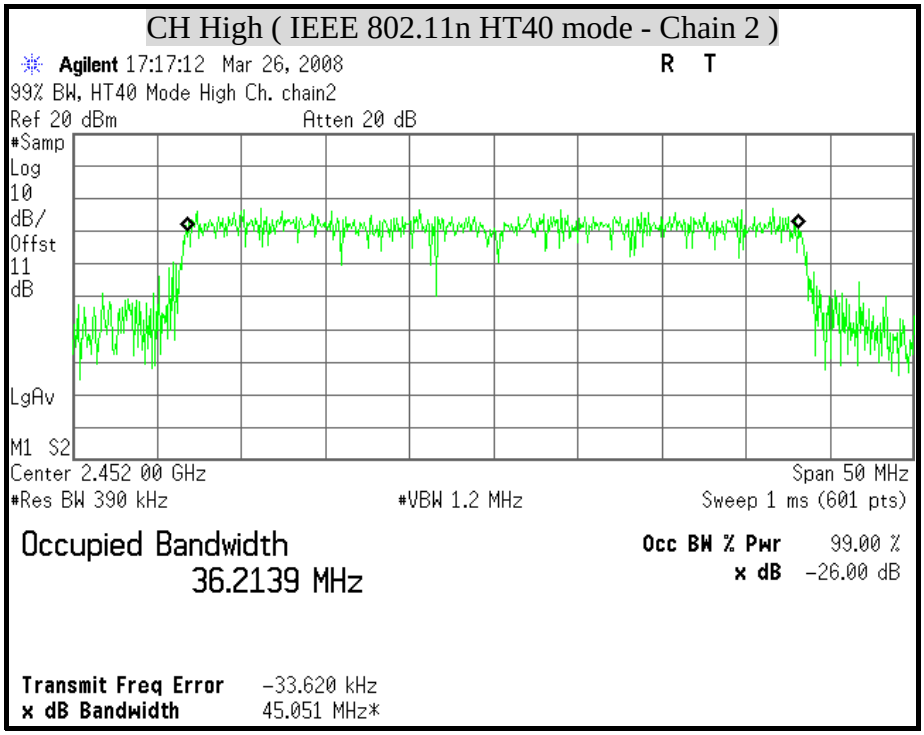
CH Low ( IEEE 802.11n HT40 mode - Chain 2 )




CH Middle ( IEEE 802.11n HT40 mode - Chain 2 )



CH High ( IEEE 802.11n HT40 mode - Chain 2 )



## 8.3 MAXIMUM PEAK OUTPUT POWER

**LIMIT**

§ 15.247(b) The maximum peak output power of the intentional radiator shall not exceed the following :

§ 15.247(b) (3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands : 1 watt.

§ 15.247(b) (4) Except as shown in paragraphs (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2), and (b)(3) of this section , as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**TEST EQUIPMENT**

| Description & Manufacturer | Model No. | Serial No. | Date of Calibration |
|---|---|---|---|
| ROHDE & SCHWARZ SPECTRUM ANALYZER | FSEK30 | 835253/002 | October 25, 2007 |
| AGILENT SPECTRUM ANALYZER | E4446A | MY433601.32 | June 24, 2008 |

**TEST SETUP**




**TEST PROCEDURE**

1. The spectrum shall be set as follows :
   Span : 1.5 times channel integration bandwidth.
   RBW : 1MHz
   VBW : 3MHz
   Detector : Peak
   Sweep : Single trace
2. Compute the combined power of all signal responses contained in the trace by covering all the data points.
3. For 99% occupied BW, place the markers at the frequency at which 0.5% of the power lies to the right of the right marker and 0.5% of the power lies to the left of the left marker.
4. The peak output power is the channel power integrated over 99% bandwidth.

**TEST RESULTS**

No non-compliance noted

Total peak power calculation formula:
10 log (10^ (Chain 0 Power / 10) + 10^ (Chain1 Power / 10) + 10^ (Chain2 Power / 10)).

For 5GHz : The maximum antenna gain is 5 dBi, therefore the limit is 30 dBm.
In the legacy mode, the effective antenna gain is 5 + 10 × Log (3) = 9.77 dBi.

For 2.4GHz : The maximum antenna gain is 3 dBi, therefore the limit is 30 dBm.
In the legacy mode, the effective antenna gain is 3 + 10 × Log (3) = 7.77 dBi.

**IEEE 802.11a mode**

| Channel | Channel Frequency (MHz) | Peak Power (dBm) | | | Peak Power Total (dBm) | Peak Power Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | | |
| Low | 5745 | 20.57 | 20.40 | 20.81 | 25.37 | 26.23 | PASS |
| Middle | 5785 | 21.02 | 20.20 | 20.60 | 25.39 | 26.23 | PASS |
| High | 5825 | 21.43 | 20.70 | 21.53 | 26.01 | 26.23 | PASS |

***Remark:***

1. *At finial test to get the worst-case emission at 6 Mbps.*
2. *The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT20 mode**

| Channel | Channel Frequency (MHz) | Peak Power (dBm) | | | Peak Power Total (dBm) | Peak Power Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | | |
| Low | 5745 | 23.57 | 23.75 | 23.66 | 28.43 | 30 | PASS |
| Middle | 5785 | 23.77 | 22.77 | 23.26 | 28.06 | 30 | PASS |
| High | 5825 | 23.92 | 21.99 | 23.08 | 27.84 | 30 | PASS |

***Remark:***

1. *At finial test to get the worst-case emission at 6.5 Mbps.*
2. *The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT40 mode**

| Channel | Channel Frequency (MHz) | Peak Power (dBm) | | | Peak Power Total (dBm) | Peak Power Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | | |
| Low | 5755 | 22.10 | 21.63 | 22.11 | 26.72 | 30 | PASS |
| High | 5795 | 22.54 | 21.20 | 22.22 | 26.79 | 30 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 13.5 Mbps.*
*2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11b mode**

| Channel | Channel Frequency (MHz) | Peak Power (dBm) | | | Peak Power Total (dBm) | Peak Power Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | | |
| Low | 2412 | 19.45 | 18.41 | 19.15 | 23.80 | 28.23 | PASS |
| Middle | 2437 | 20.55 | 19.88 | 19.82 | 24.87 | 28.23 | PASS |
| High | 2462 | 19.97 | 19.55 | 19.84 | 24.56 | 28.23 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 1 Mbps.*
*2. The cable assembly insertion loss of 11.0 dB (including 10 dB pad and 1.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11g mode**

| Channel | Channel Frequency (MHz) | Peak Power (dBm) | | | Peak Power Total (dBm) | Peak Power Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | | |
| Low | 2412 | 16.69 | 16.22 | 17.08 | 21.45 | 28.23 | PASS |
| Middle | 2437 | 23.70 | 23.01 | 23.10 | 28.05 | 28.23 | PASS |
| High | 2462 | 16.63 | 16.03 | 16.32 | 21.10 | 28.23 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 6 Mbps.*
*2. The cable assembly insertion loss of 11.0 dB (including 10 dB pad and 1.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT20 mode**

| Channel | Channel Frequency (MHz) | Peak Power (dBm) | | | Peak Power Total (dBm) | Peak Power Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | | |
| Low | 2412 | 17.05 | 15.13 | 15.62 | 20.78 | 30 | PASS |
| Middle | 2437 | 23.28 | 22.33 | 22.42 | 27.47 | 30 | PASS |
| High | 2462 | 15.15 | 14.95 | 15.48 | 19.97 | 30 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 6.5Mbps.*
*2. The cable assembly insertion loss of 11.0 dB (including 10 dB pad and 1.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT40 mode**

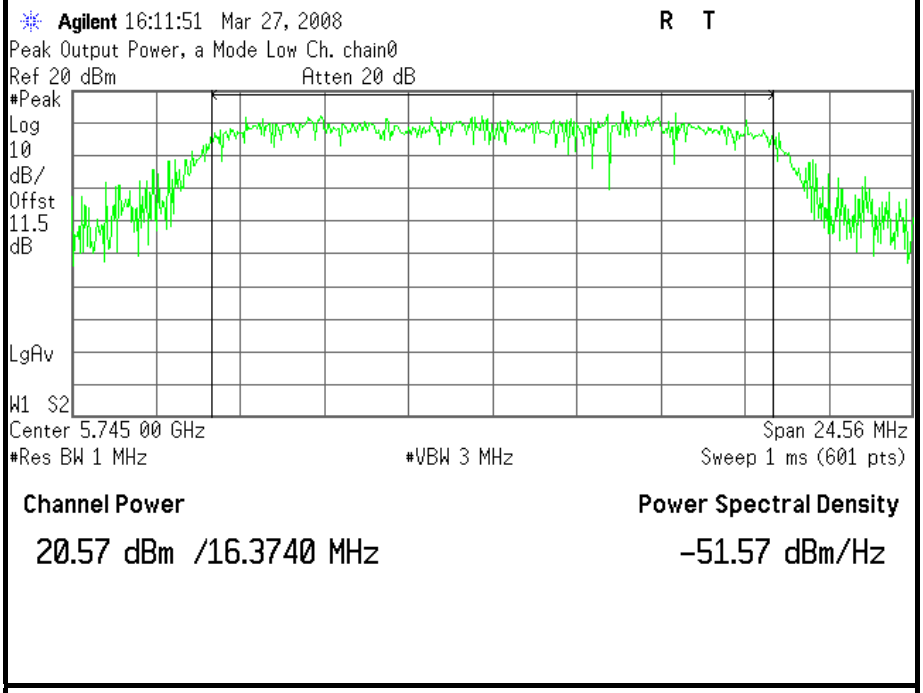
| Channel | Channel Frequency (MHz) | Peak Power (dBm) | | | Peak Power Total (dBm) | Peak Power Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | | |
| Low | 2422 | 14.29 | 13.26 | 14.08 | 18.67 | 30 | PASS |
| Middle | 2437 | 23.26 | 22.61 | 22.82 | 27.68 | 30 | PASS |
| High | 2452 | 13.53 | 13.11 | 13.75 | 18.24 | 30 | PASS |

***Remark:***

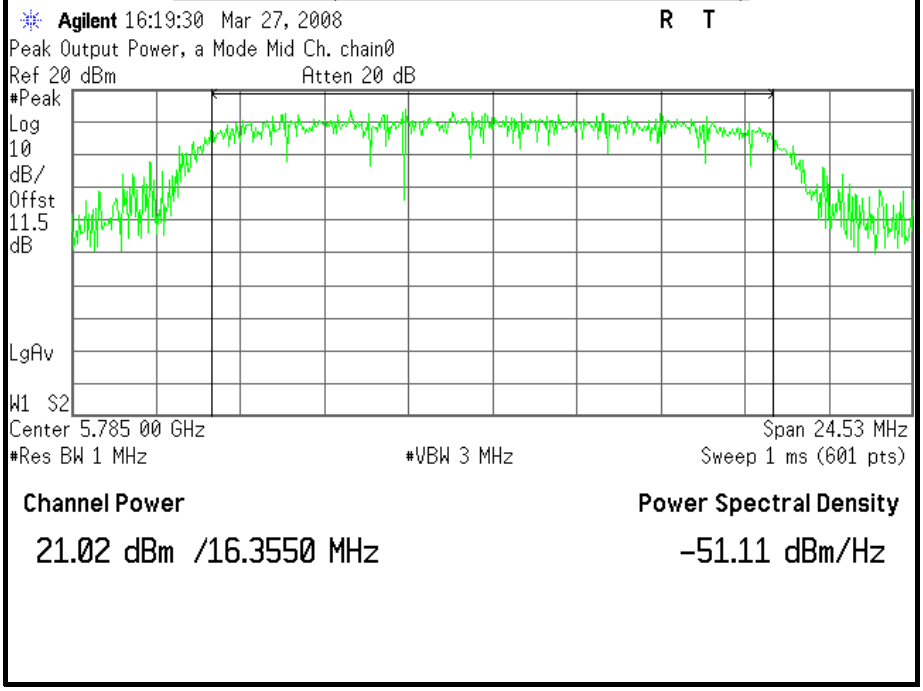
*1. At finial test to get the worst-case emission at 13.5 Mbps.*
*2. The cable assembly insertion loss of 11.0 dB (including 10 dB pad and 1.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

## MAXIMUM PEAK OUTPUT POWER ( IEEE 802.11a mode )

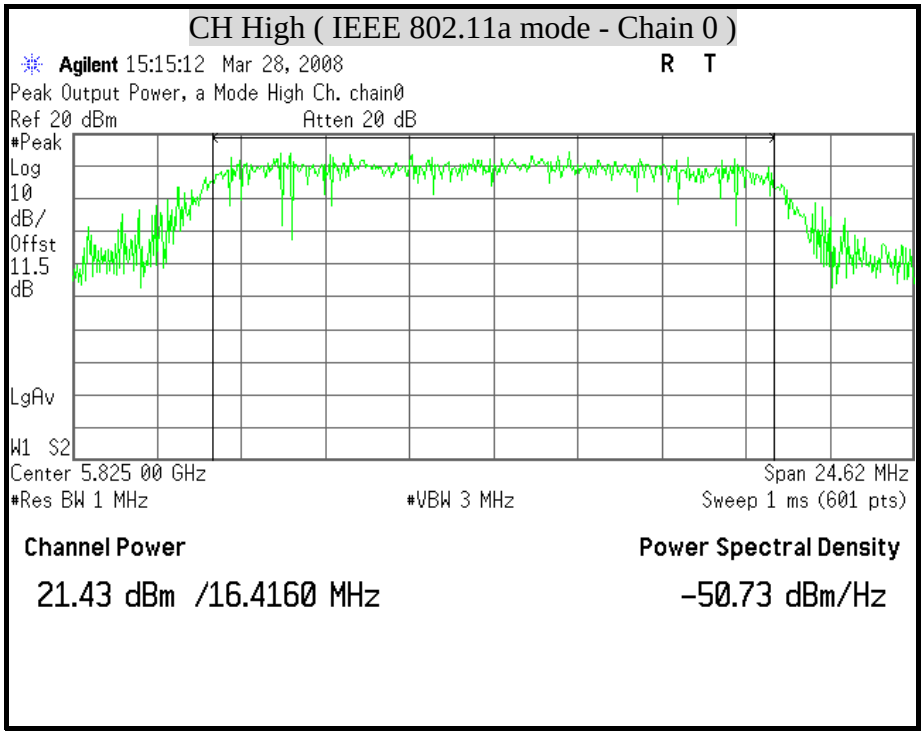
CH Low ( IEEE 802.11a mode - Chain 0 )



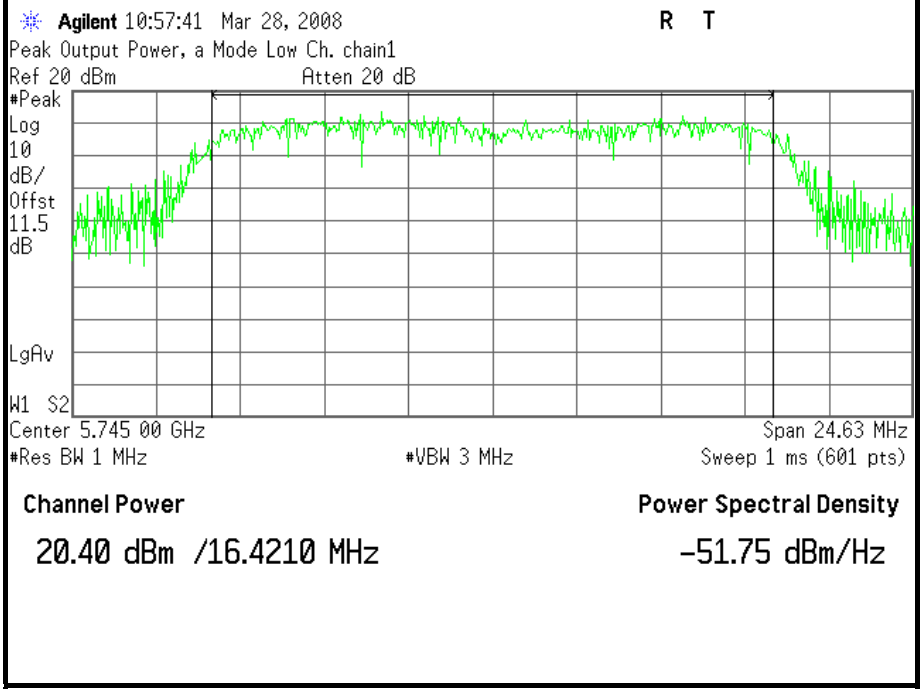

CH Middle ( IEEE 802.11a mode - Chain 0 )



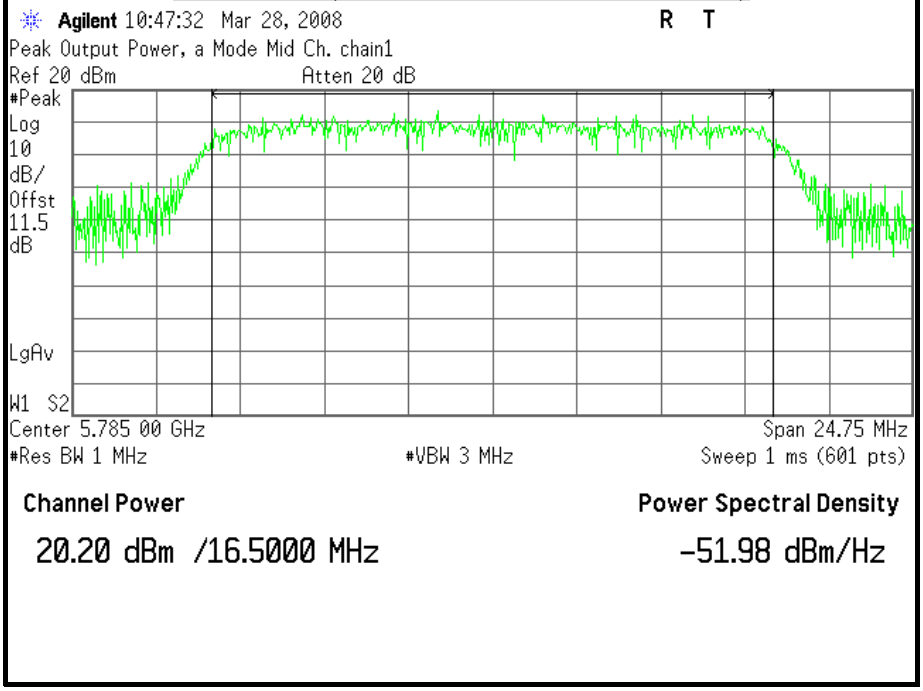
CH High ( IEEE 802.11a mode - Chain 0 )



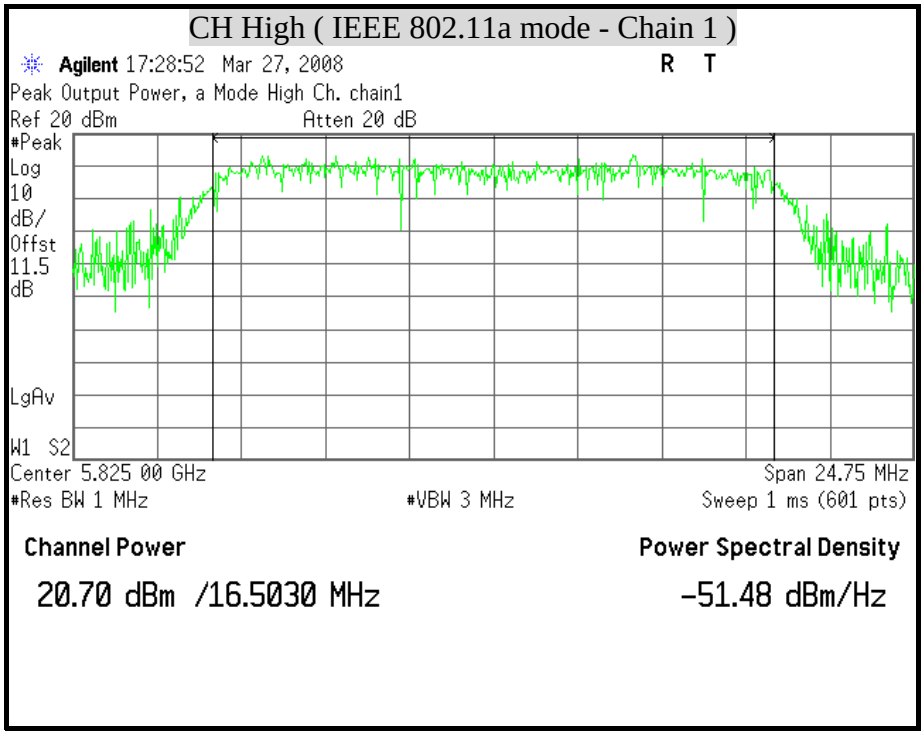
CH Low ( IEEE 802.11a mode - Chain 1 )



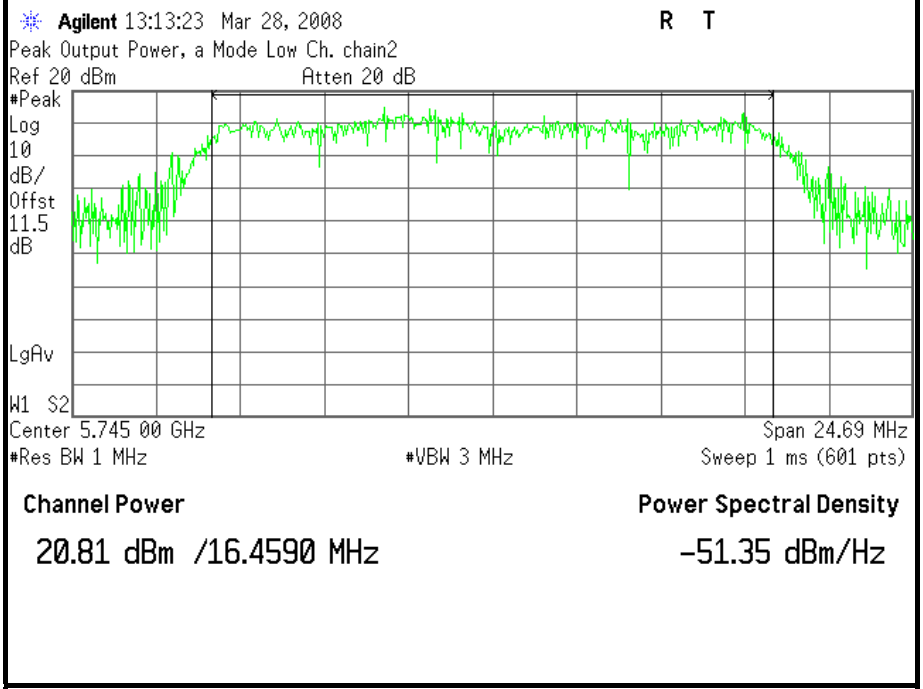

CH Middle ( IEEE 802.11a mode - Chain 1 )



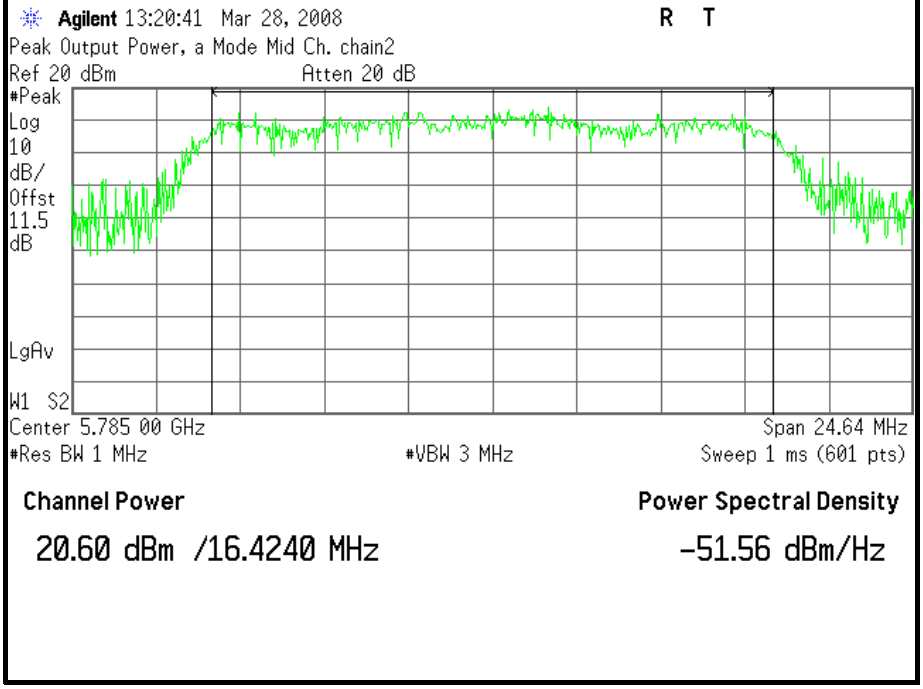
CH High ( IEEE 802.11a mode - Chain 1 )



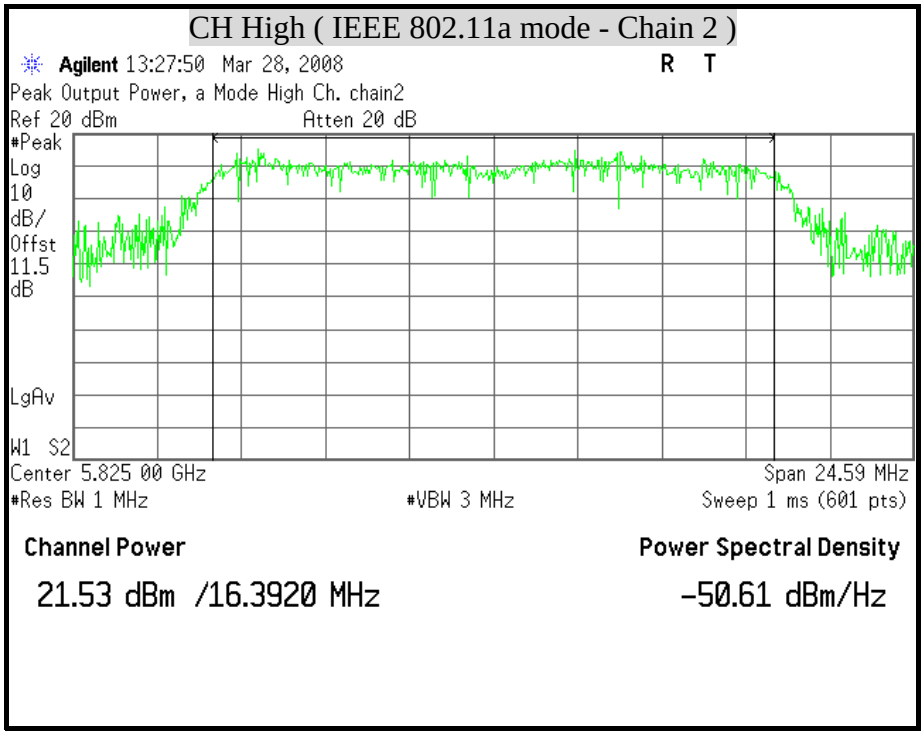
CH Low ( IEEE 802.11a mode - Chain 2 )




CH Middle ( IEEE 802.11a mode - Chain 2 )

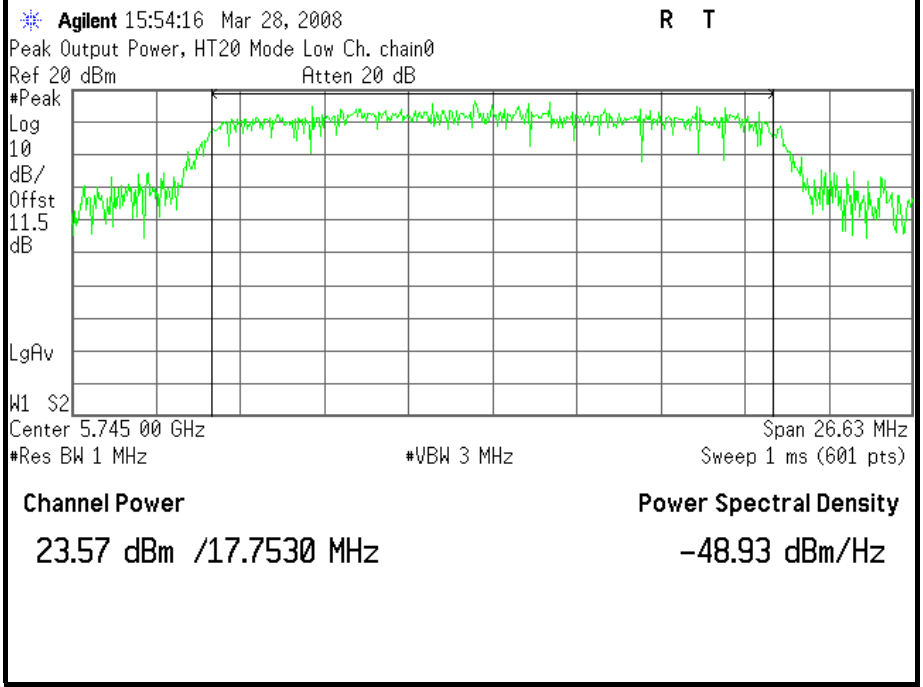


CH High ( IEEE 802.11a mode - Chain 2 )

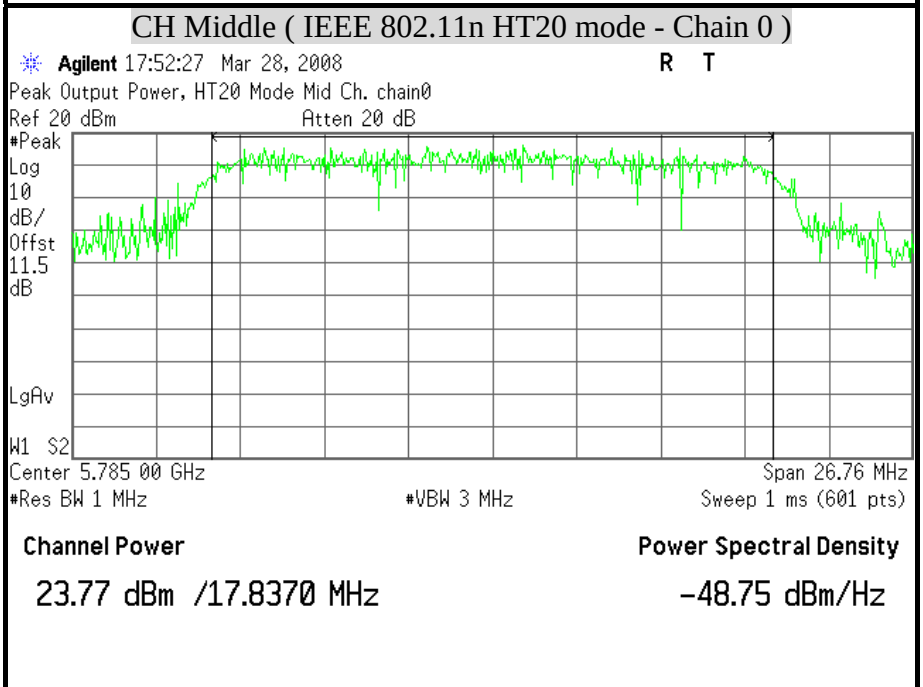


## MAXIMUM PEAK OUTPUT POWER ( IEEE 802.11n HT20 mode )

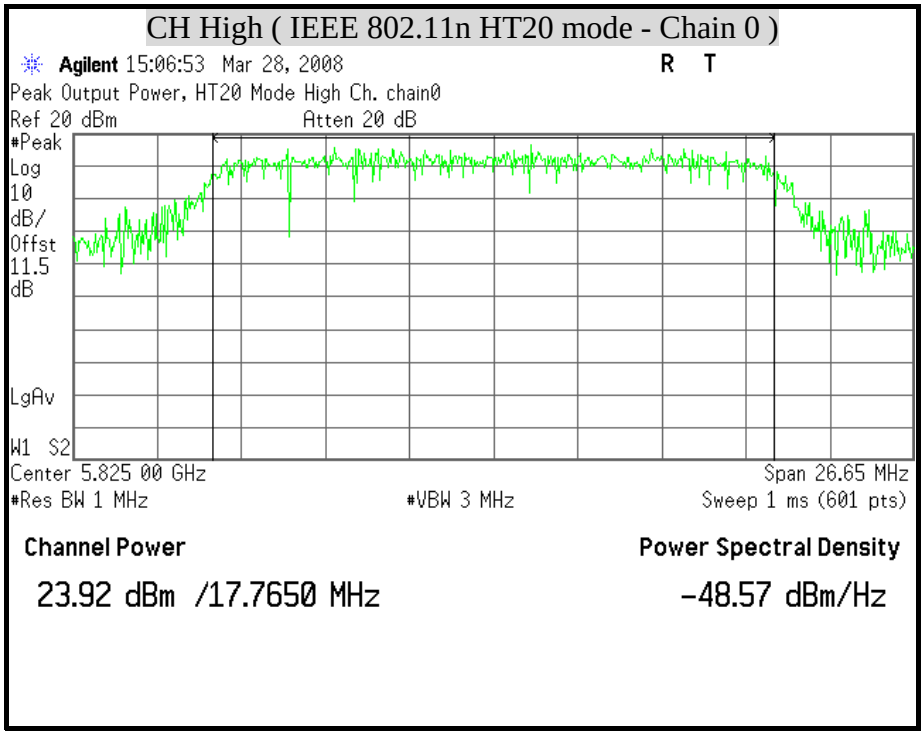
CH Low ( IEEE 802.11n HT20 mode - Chain 0 )



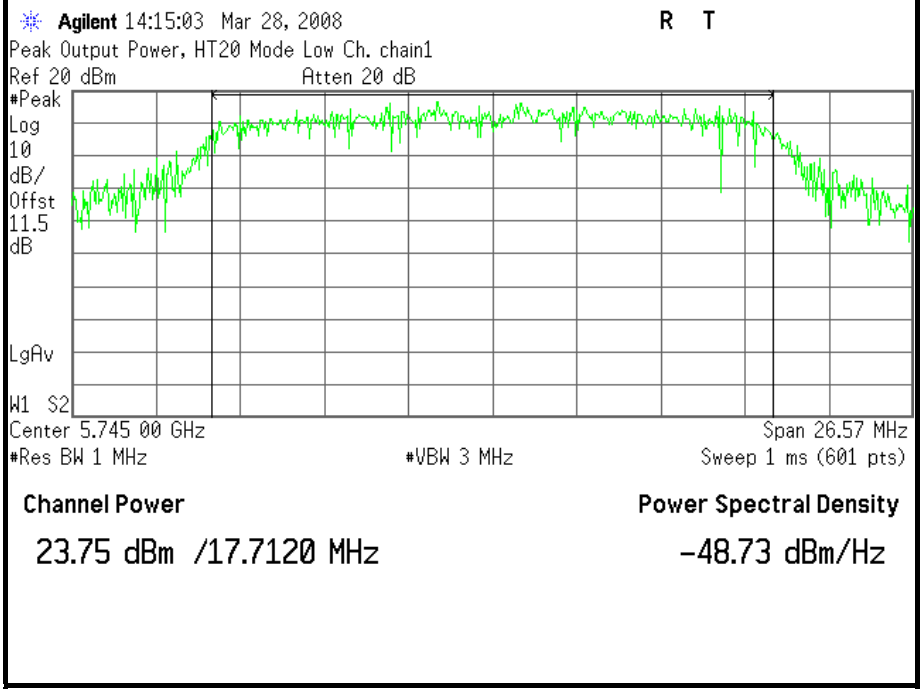

CH Middle ( IEEE 802.11n HT20 mode - Chain 0 )



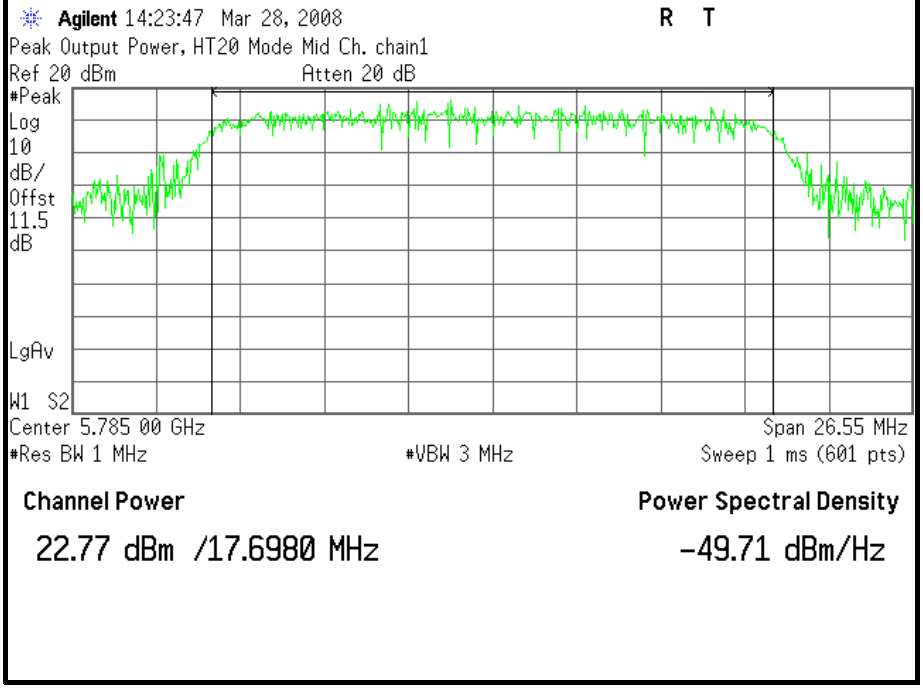
CH High ( IEEE 802.11n HT20 mode - Chain 0 )



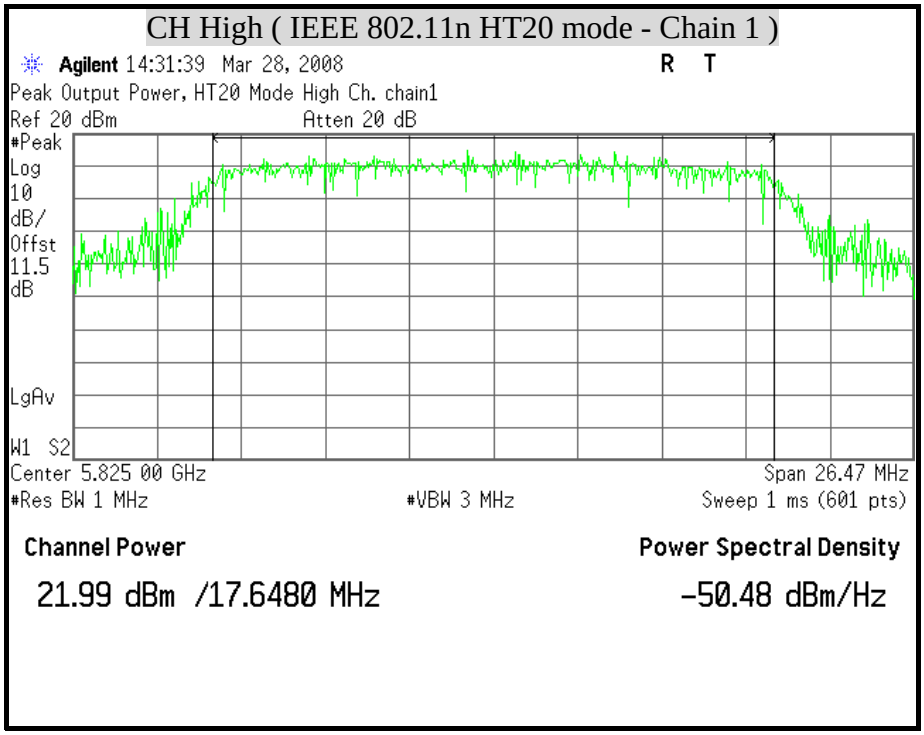
CH Low ( IEEE 802.11n HT20 mode - Chain 1 )



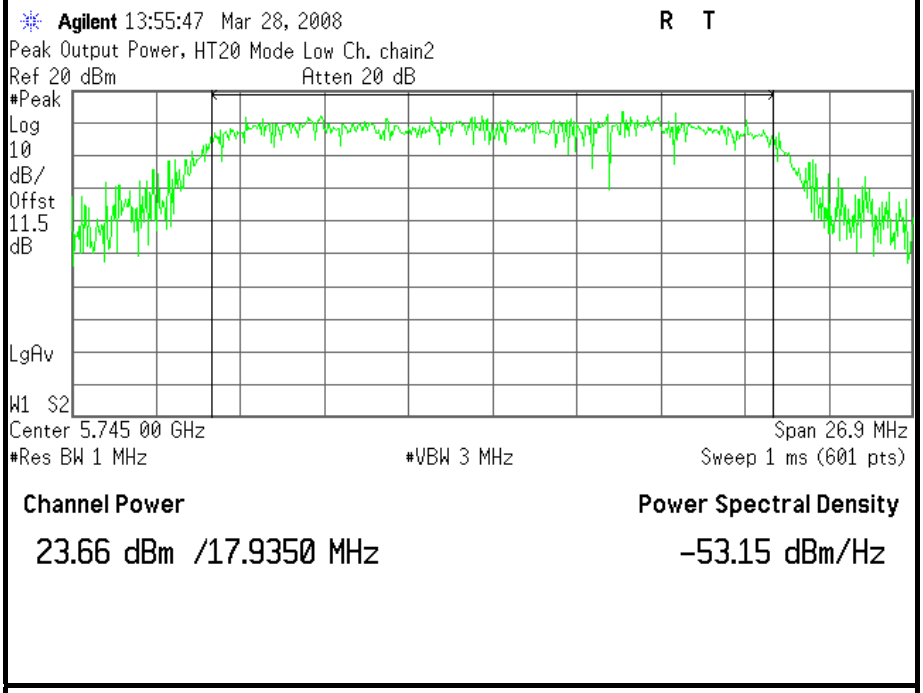

CH Middle ( IEEE 802.11n HT20 mode - Chain 1 )



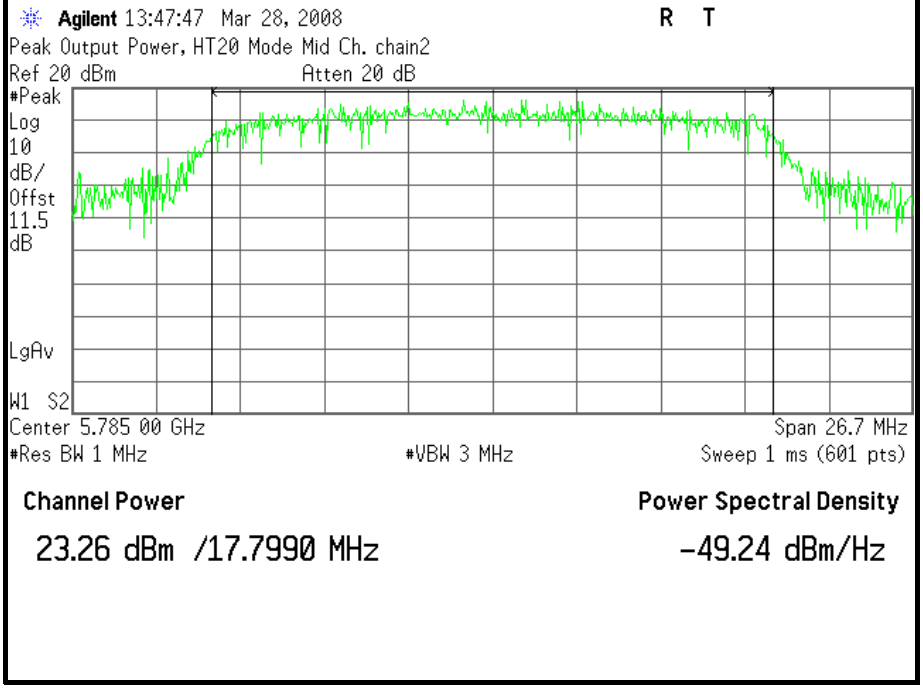
CH High ( IEEE 802.11n HT20 mode - Chain 1 )



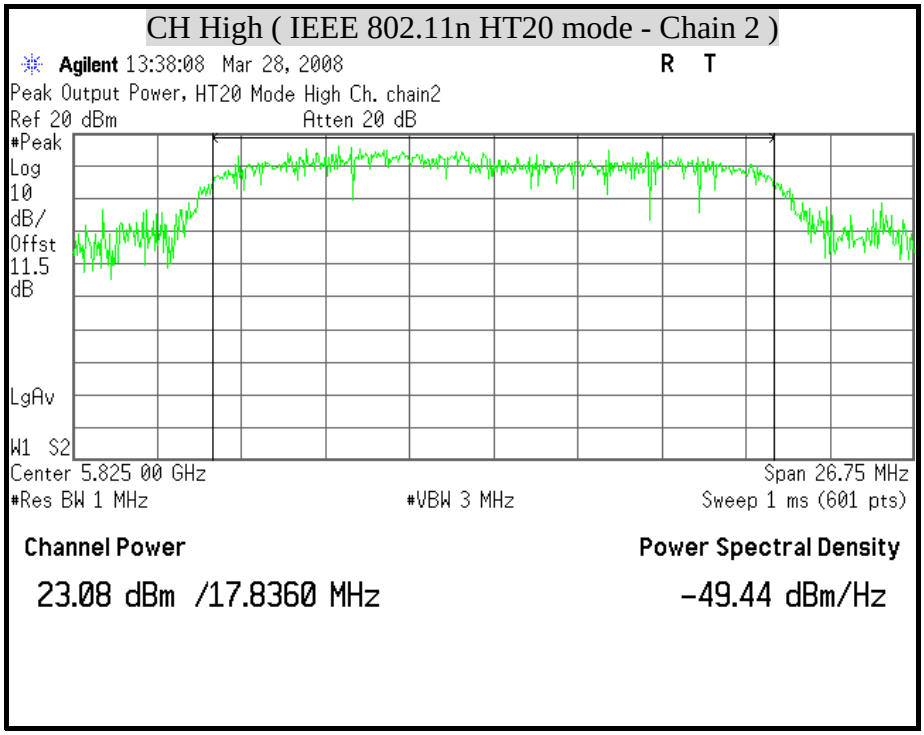
CH Low ( IEEE 802.11n HT20 mode - Chain 2 )




CH Middle ( IEEE 802.11n HT20 mode - Chain 2 )

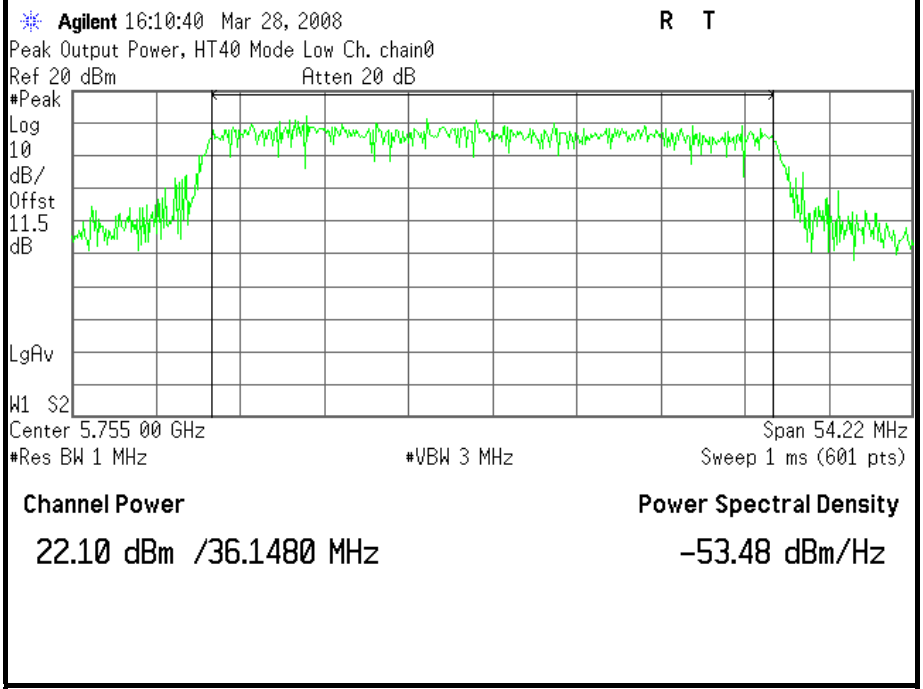


CH High ( IEEE 802.11n HT20 mode - Chain 2 )

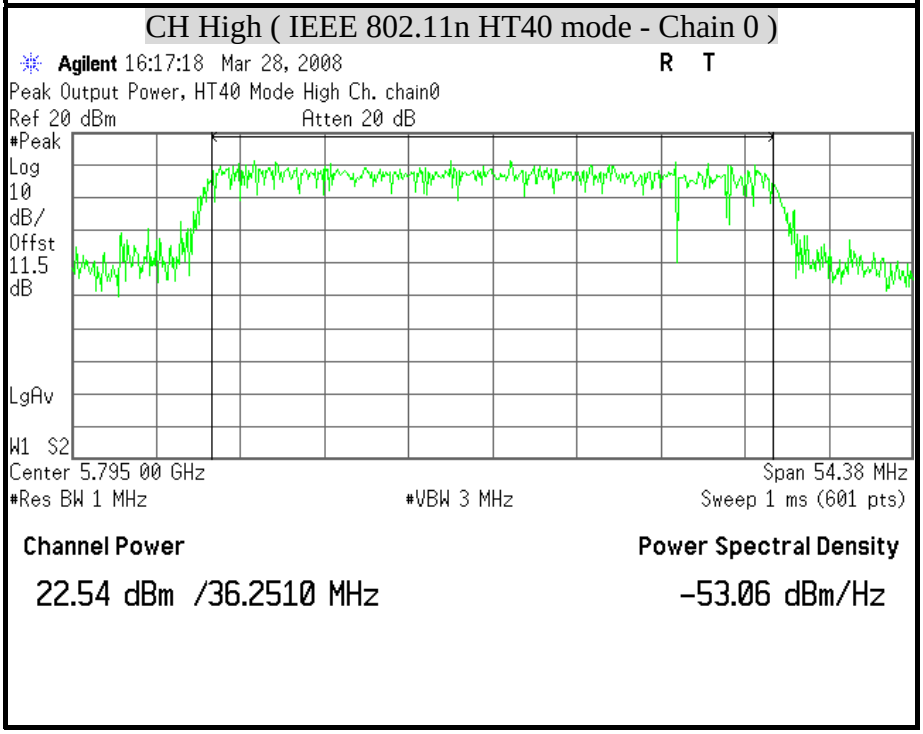


## MAXIMUM PEAK OUTPUT POWER ( IEEE 802.11n HT40 mode )

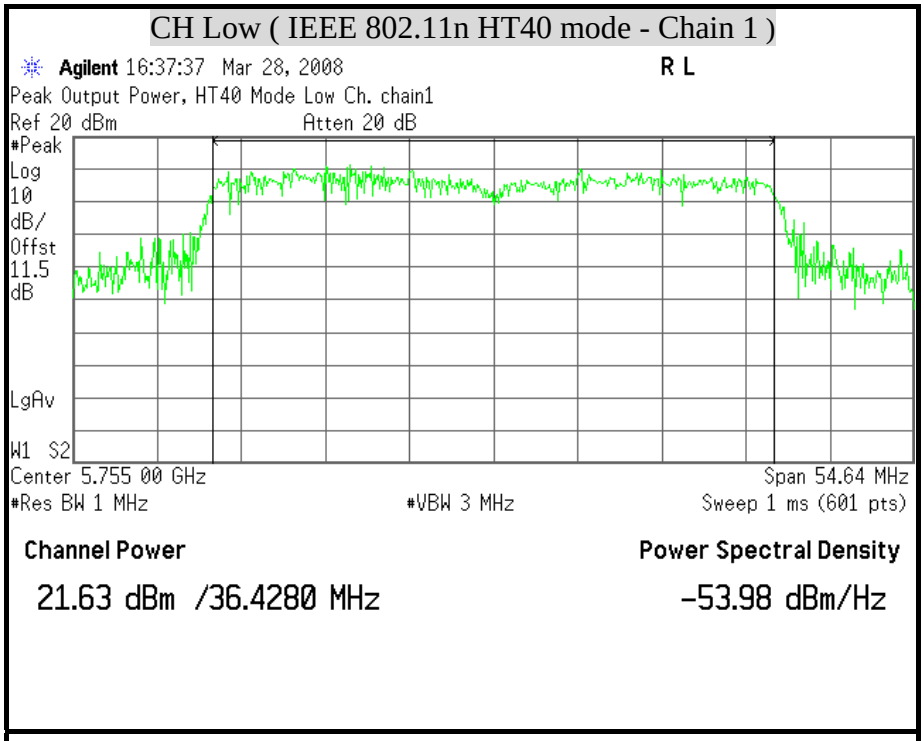
CH Low ( IEEE 802.11n HT40 mode - Chain 0 )



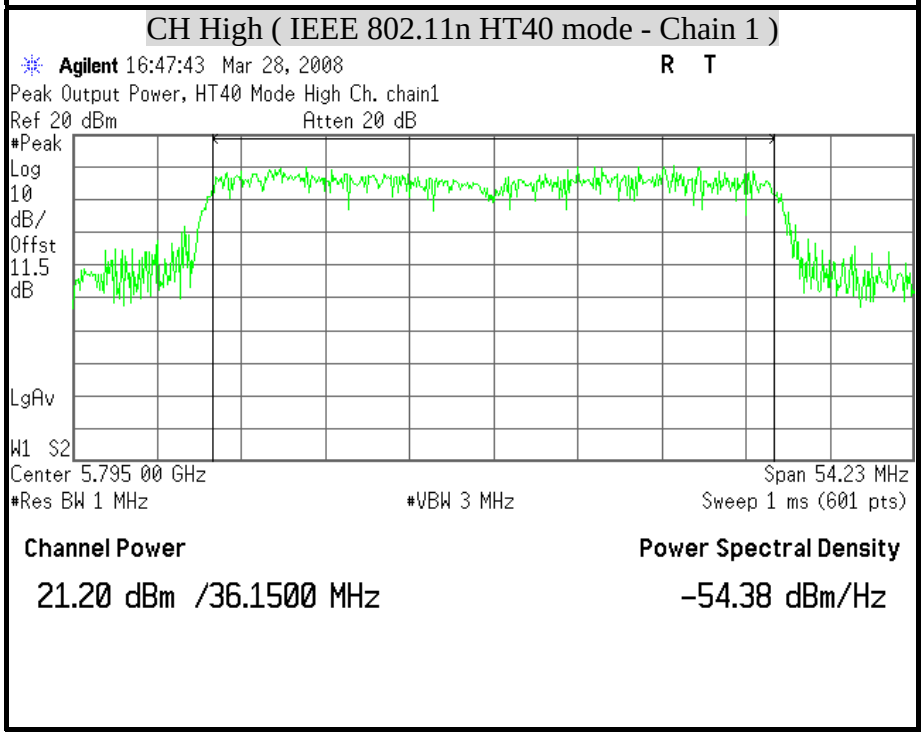

CH High ( IEEE 802.11n HT40 mode - Chain 0 )



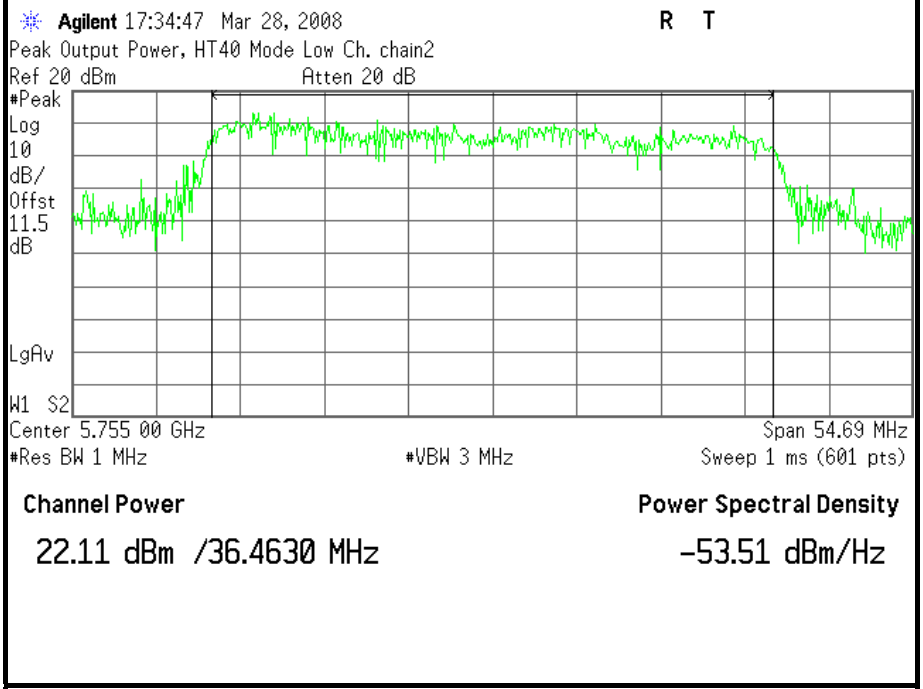
CH Low ( IEEE 802.11n HT40 mode - Chain 1 )



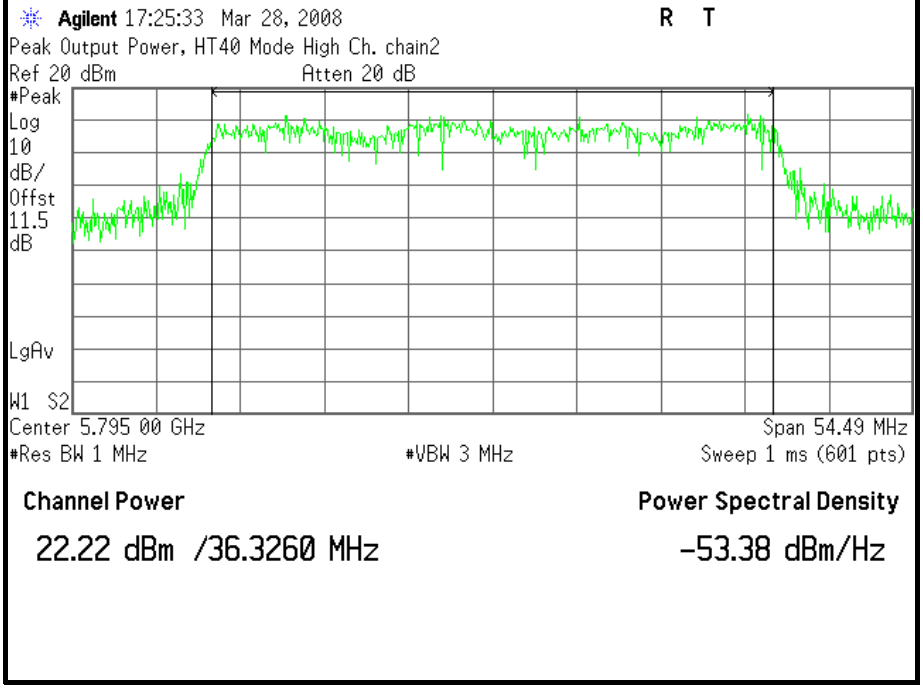

CH High ( IEEE 802.11n HT40 mode - Chain 1 )



CH Low ( IEEE 802.11n HT40 mode - Chain 2 )

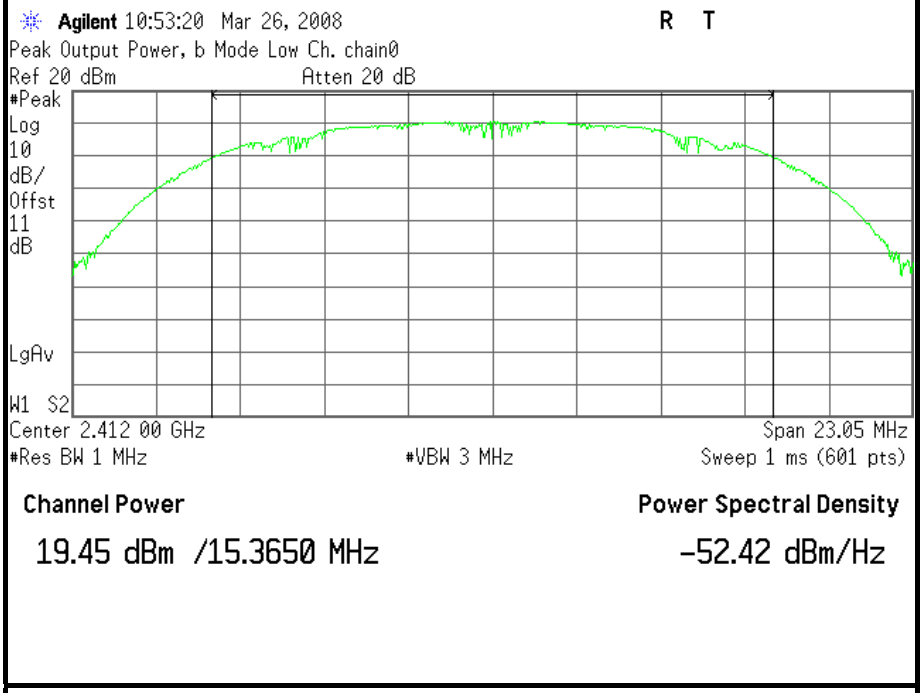



CH High ( IEEE 802.11n HT40 mode - Chain 2 )

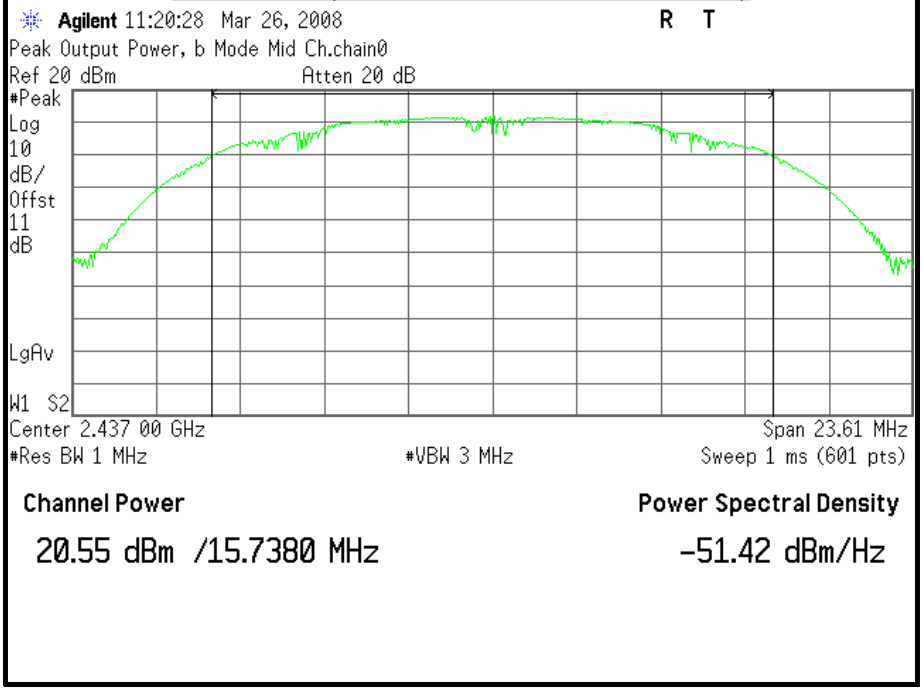


## MAXIMUM PEAK OUTPUT POWER ( IEEE 802.11b mode)

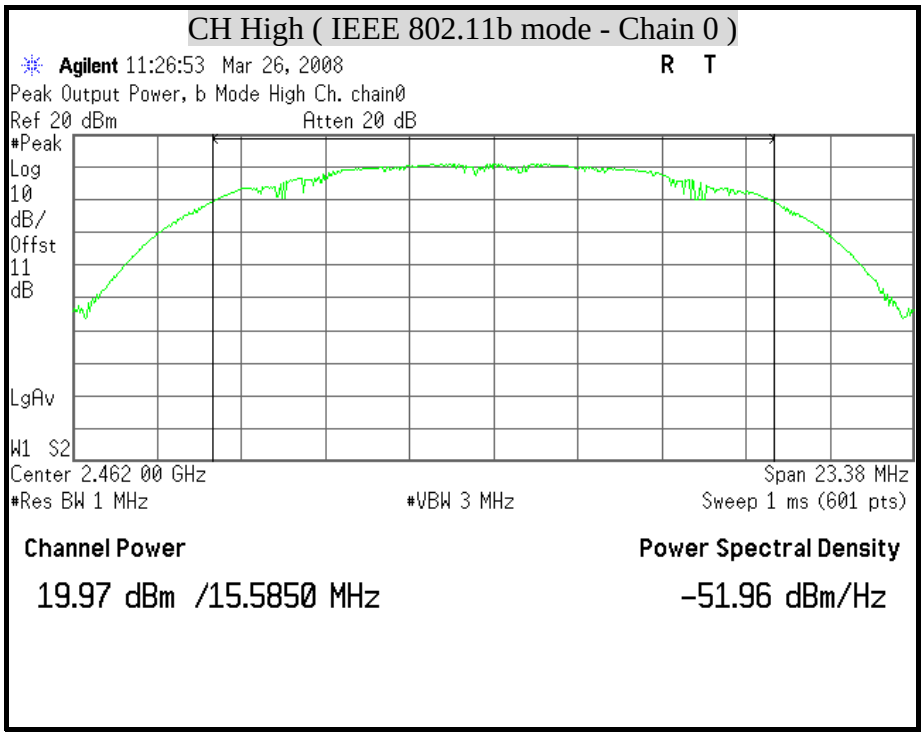
CH Low ( IEEE 802.11b mode - Chain 0 )



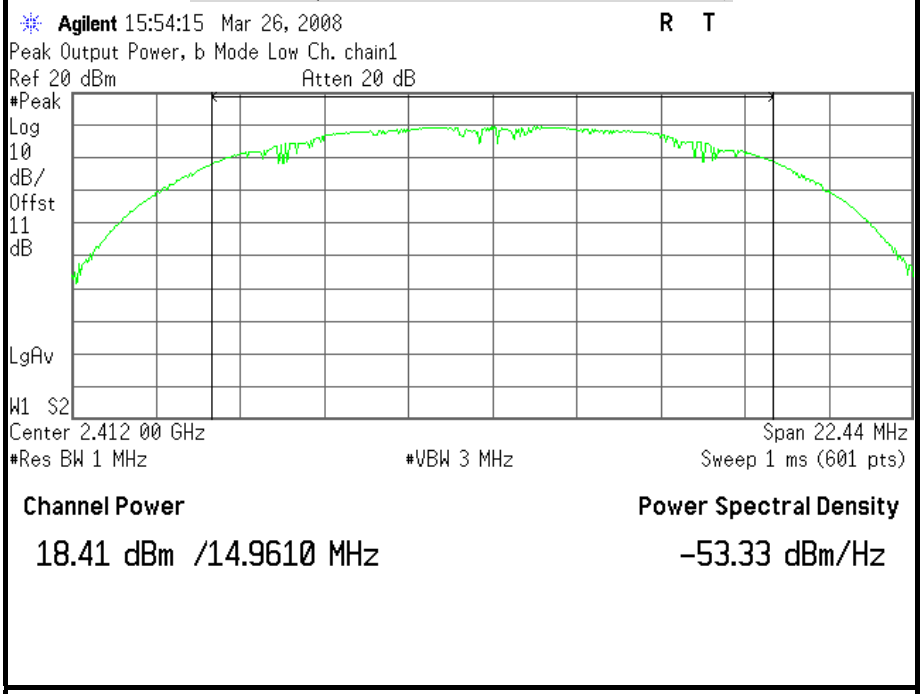

CH Middle ( IEEE 802.11b mode - Chain 0 )



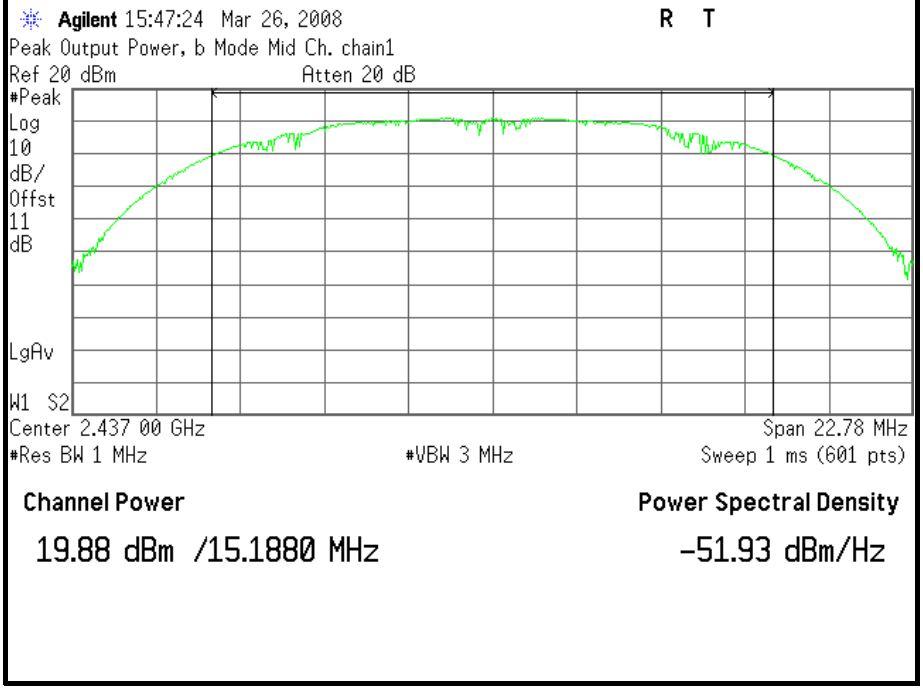
CH High ( IEEE 802.11b mode - Chain 0 )



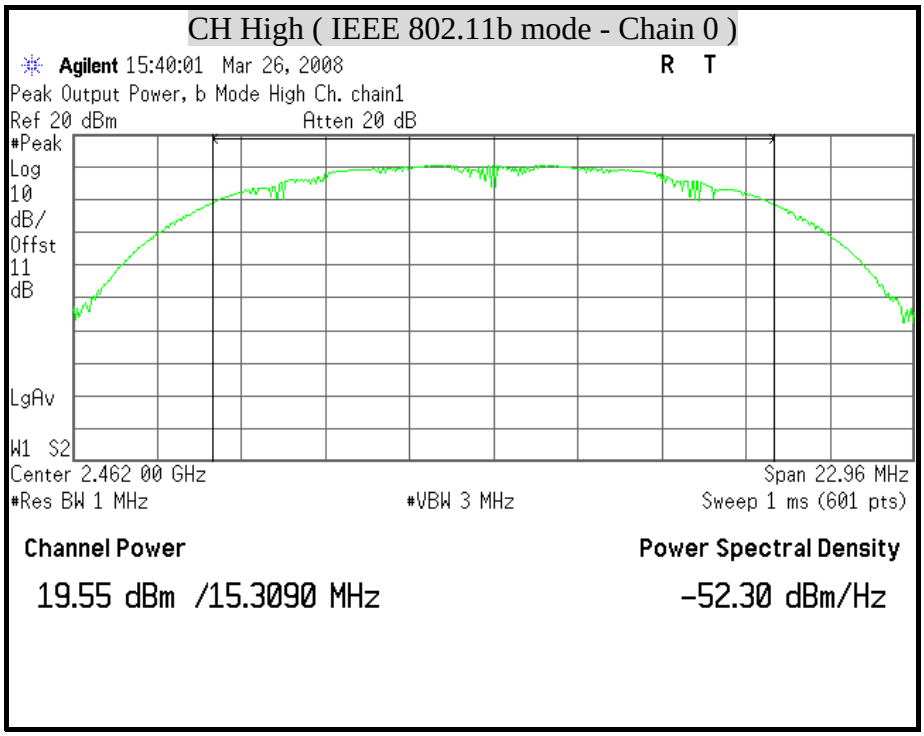
CH Low ( IEEE 802.11b mode - Chain 1 )



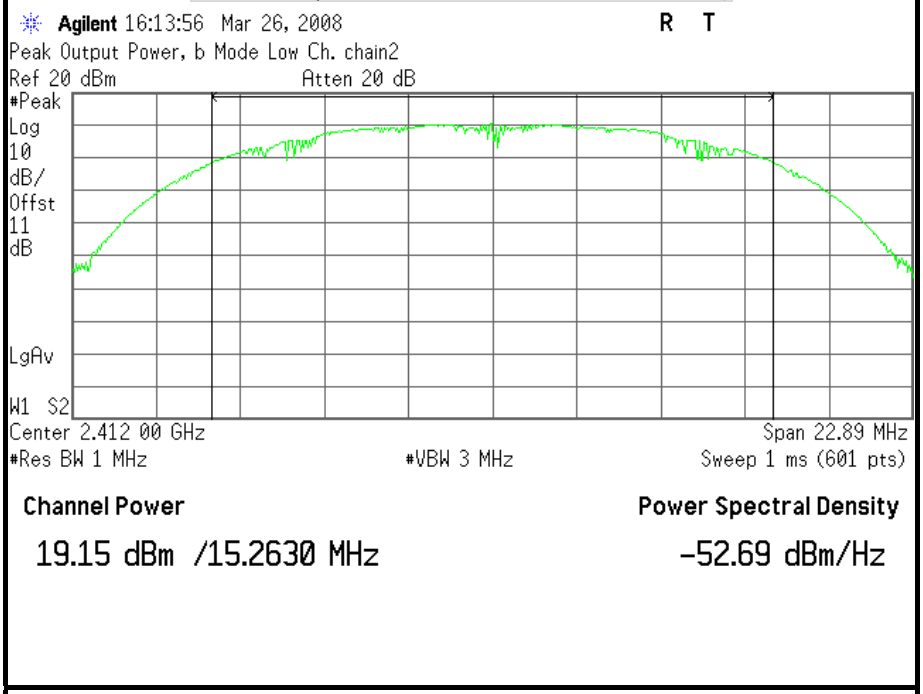

CH Middle ( IEEE 802.11b mode - Chain 1 )



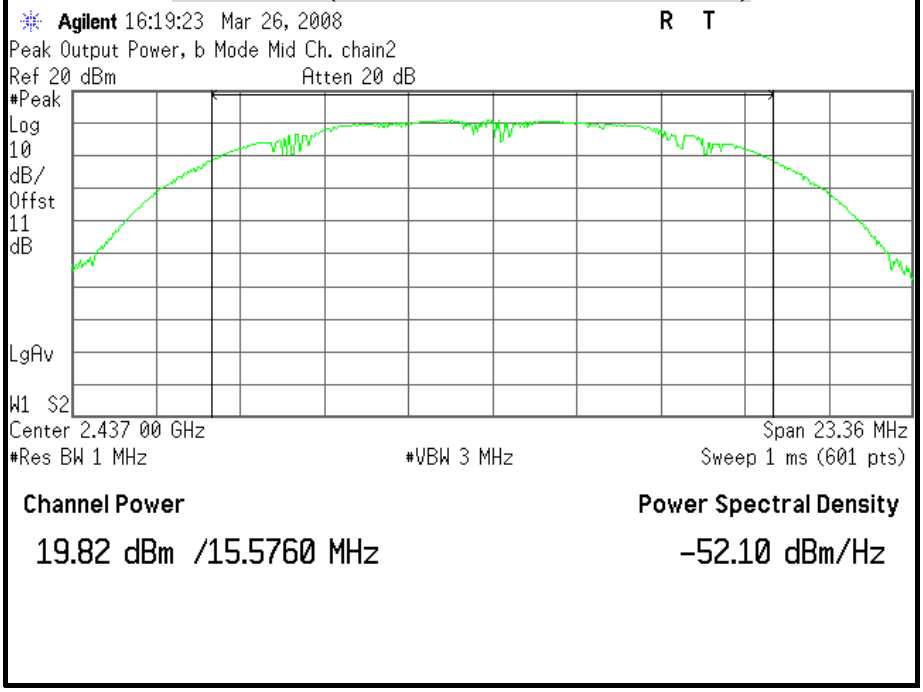
CH High ( IEEE 802.11b mode - Chain 0 )



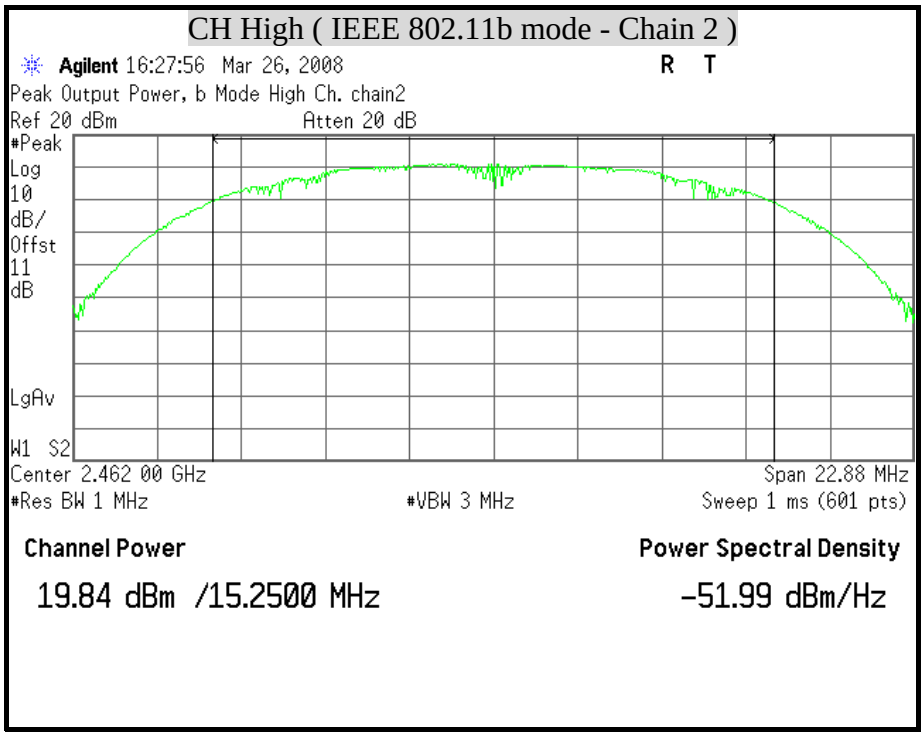
CH Low ( IEEE 802.11b mode - Chain 2 )




CH Middle ( IEEE 802.11b mode - Chain 2 )

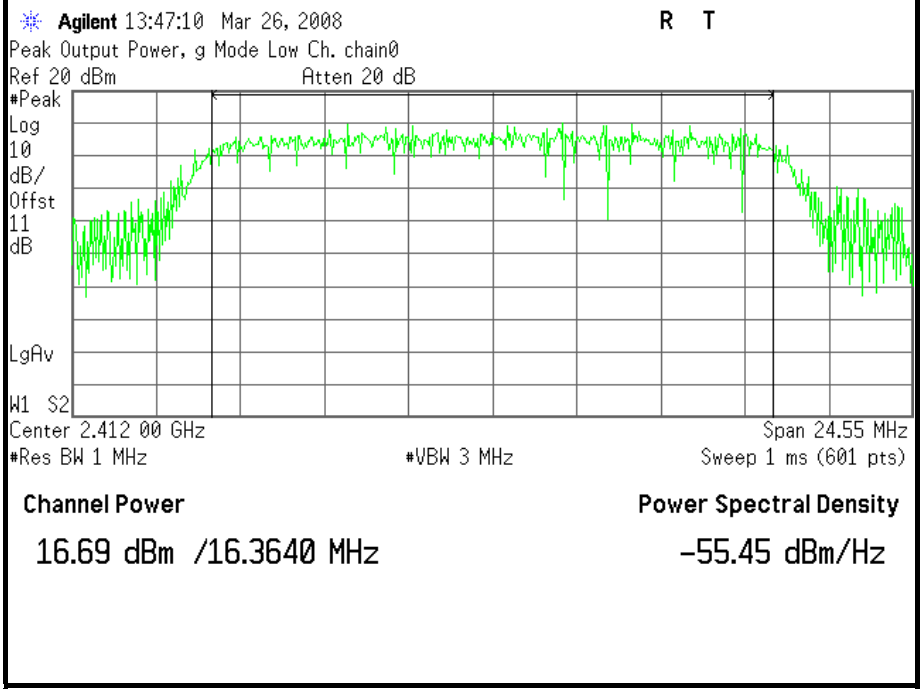


CH High ( IEEE 802.11b mode - Chain 2 )

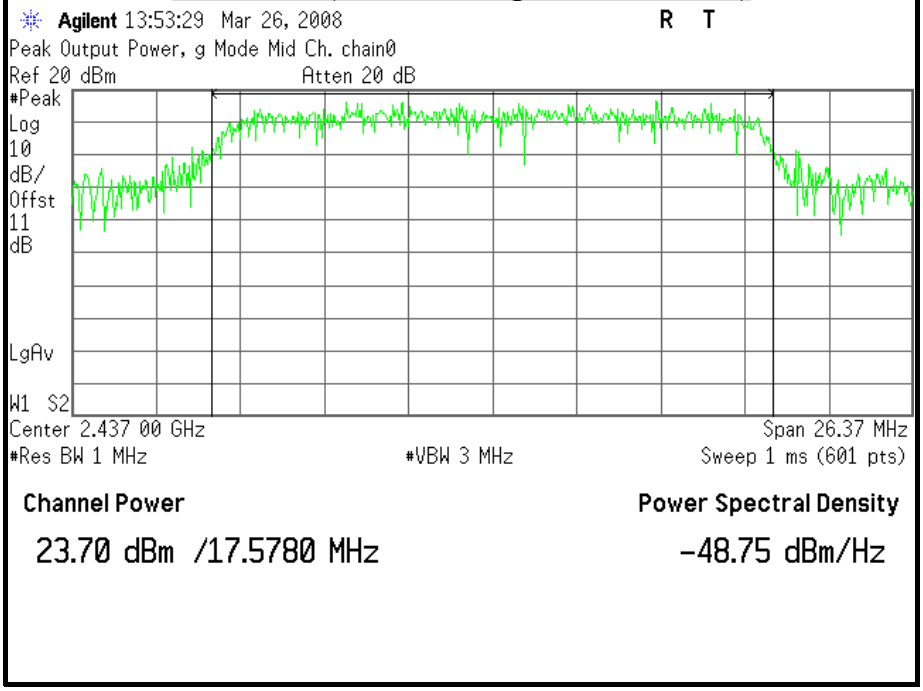


## MAXIMUM PEAK OUTPUT POWER ( IEEE 802.11g mode)

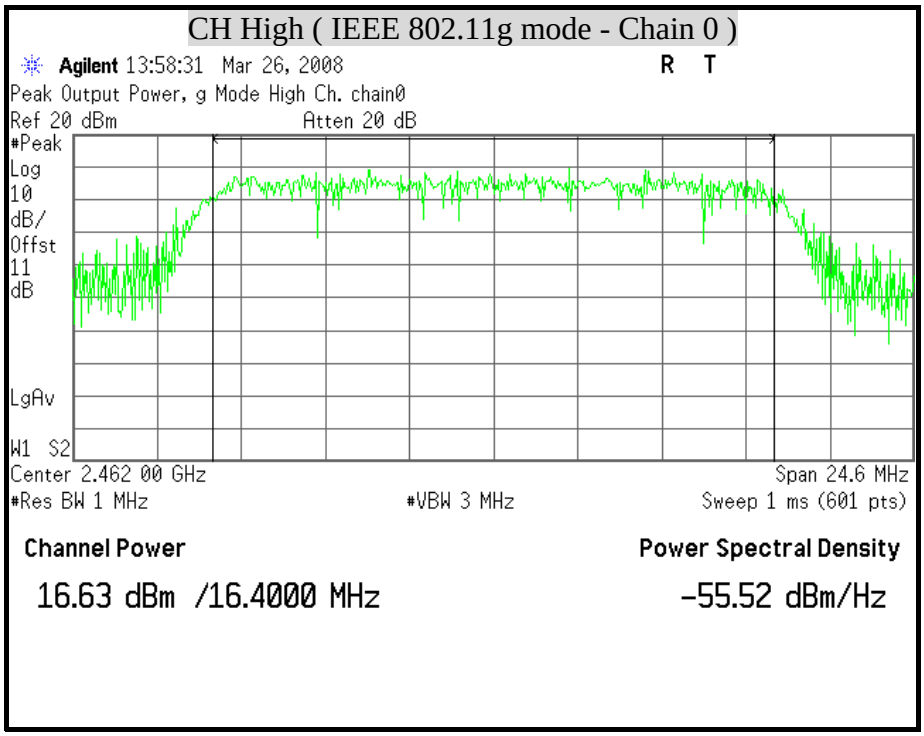
CH Low ( IEEE 802.11g mode - Chain 0 )



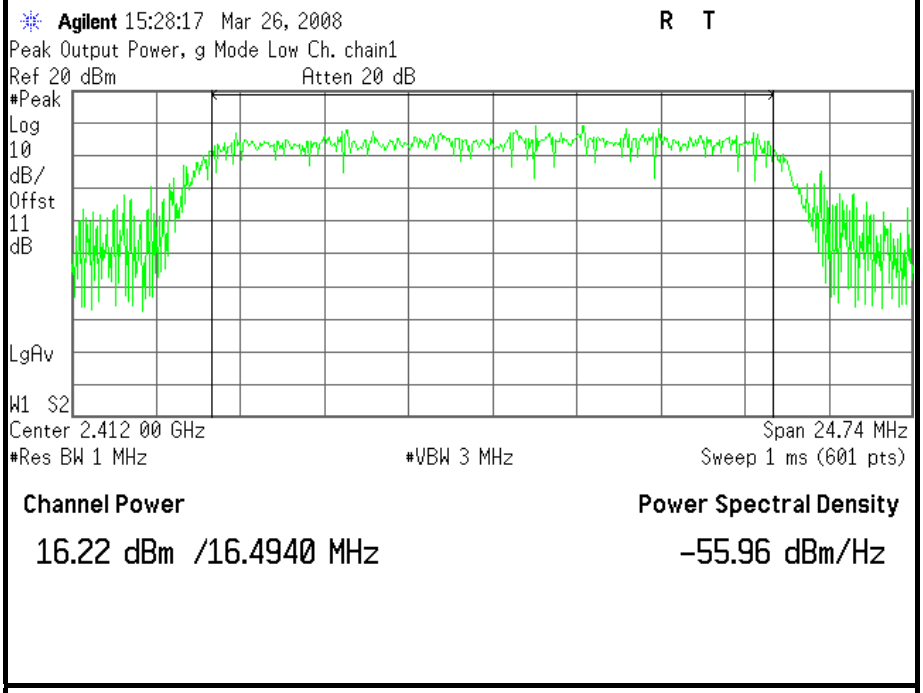

CH Middle ( IEEE 802.11g mode - Chain 0 )



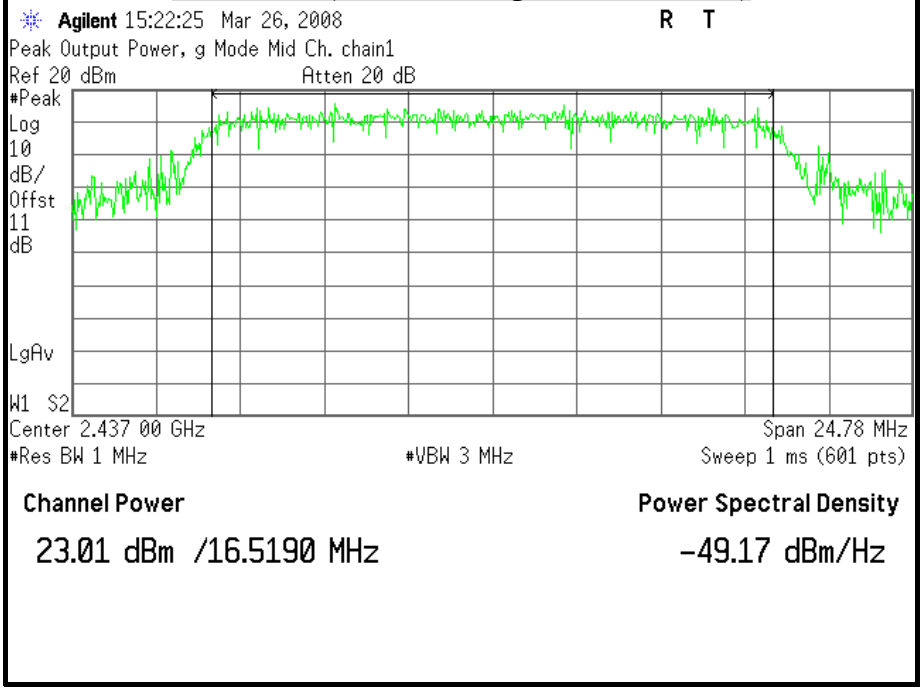
CH High ( IEEE 802.11g mode - Chain 0 )



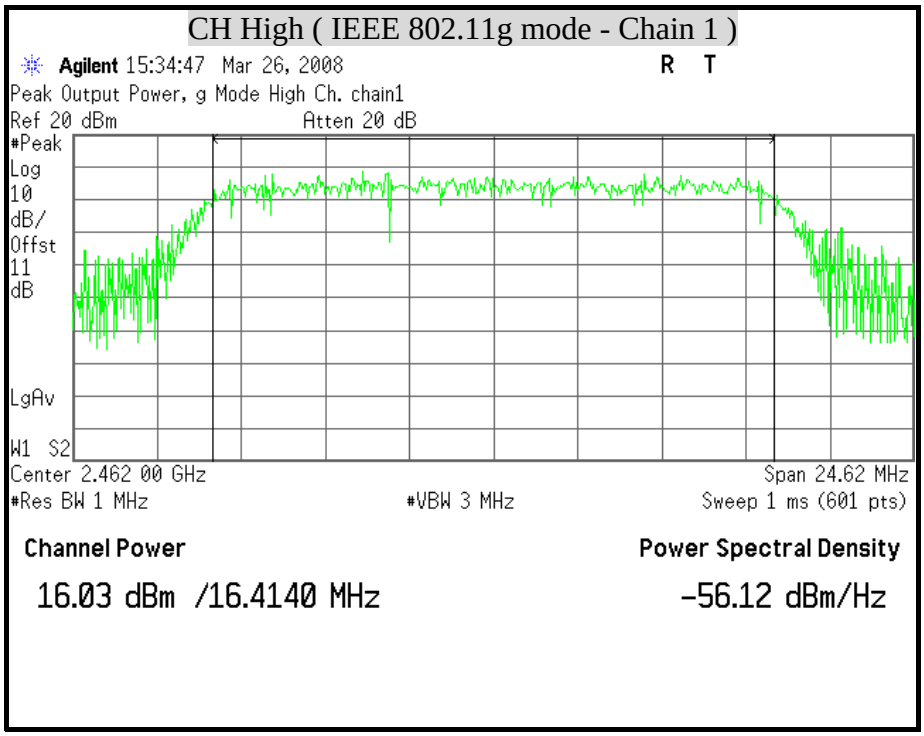
CH Low ( IEEE 802.11g mode - Chain 1 )



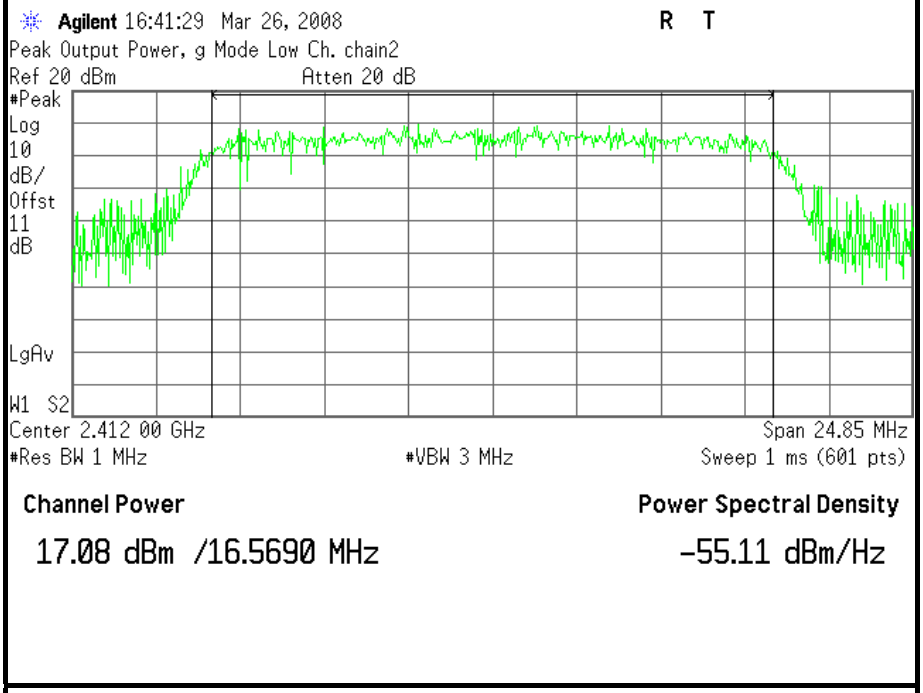

CH Middle ( IEEE 802.11g mode - Chain 1 )



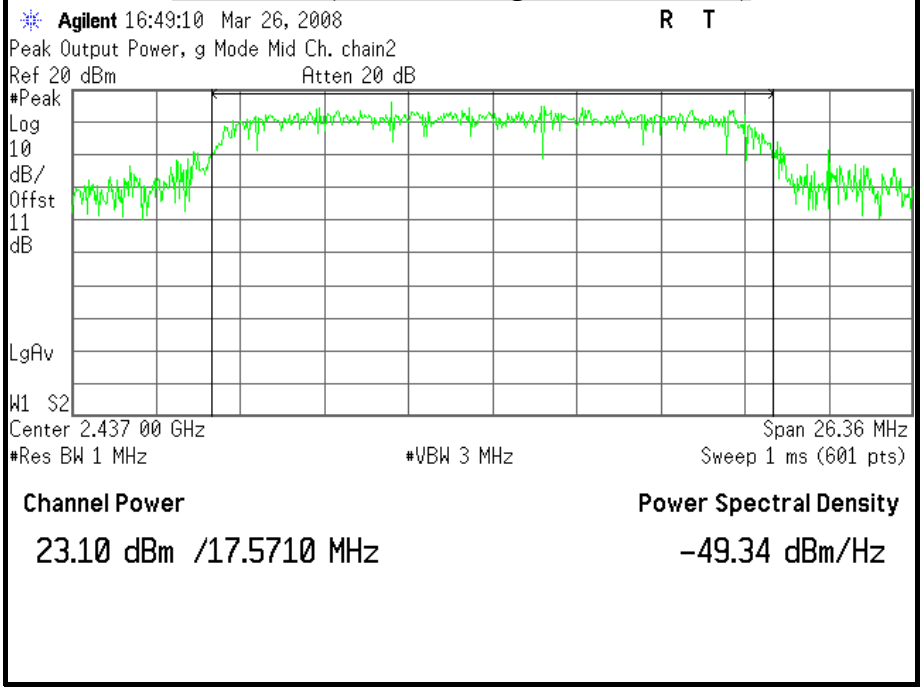
CH High ( IEEE 802.11g mode - Chain 1 )



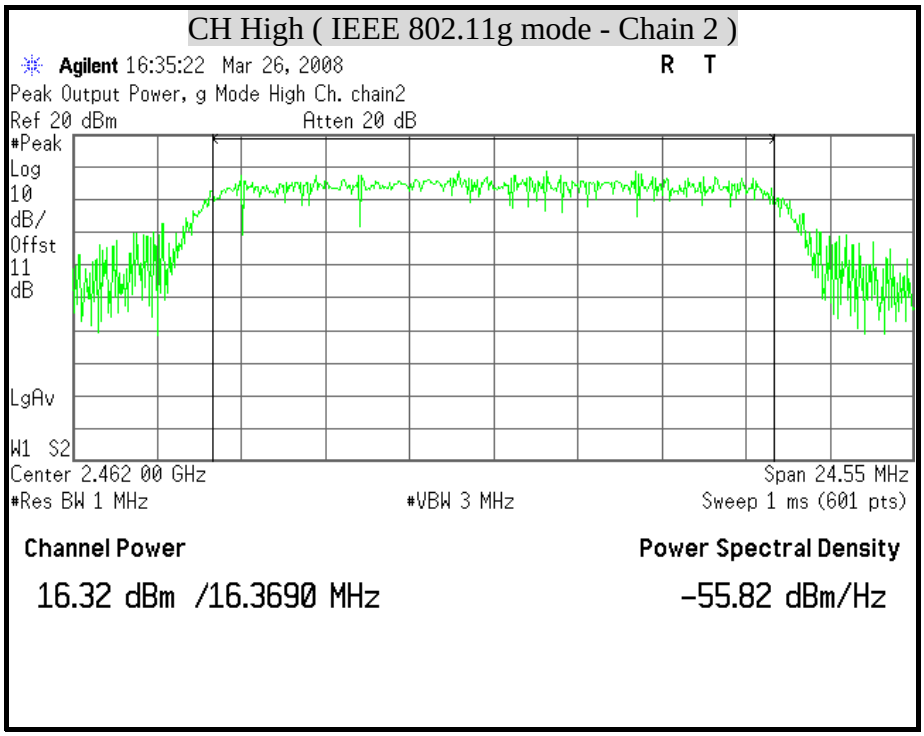
CH Low ( IEEE 802.11g mode - Chain 2 )




CH Middle ( IEEE 802.11g mode - Chain 2 )

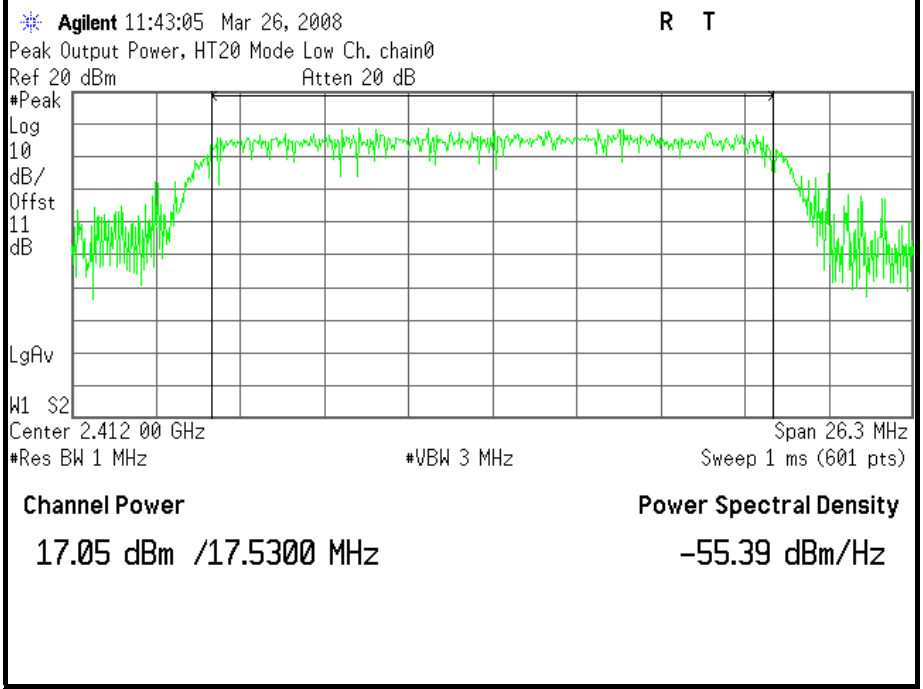


CH High ( IEEE 802.11g mode - Chain 2 )

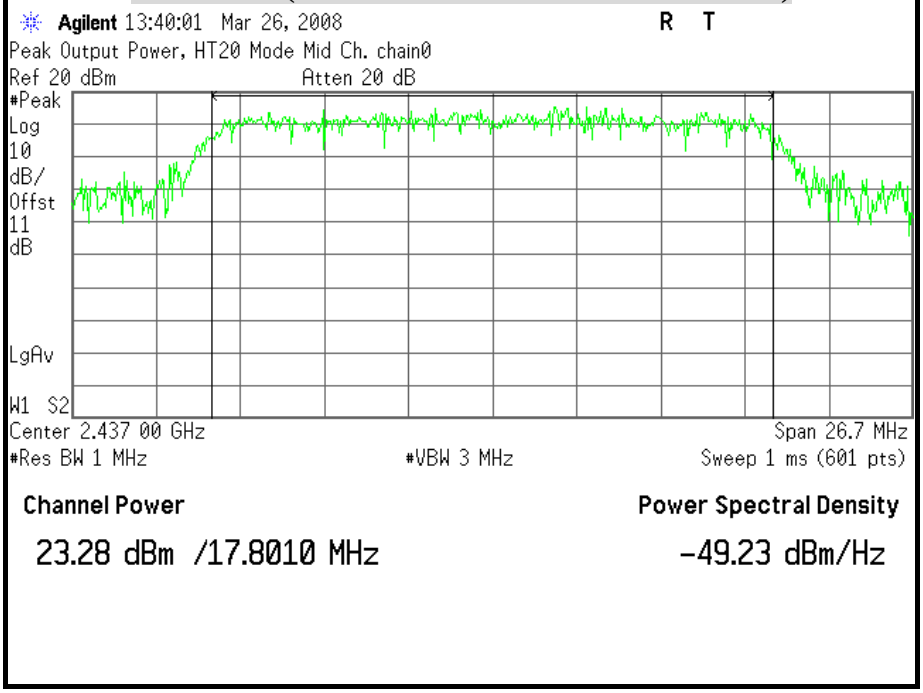


## MAXIMUM PEAK OUTPUT POWER ( IEEE 802.11n HT20 mode )

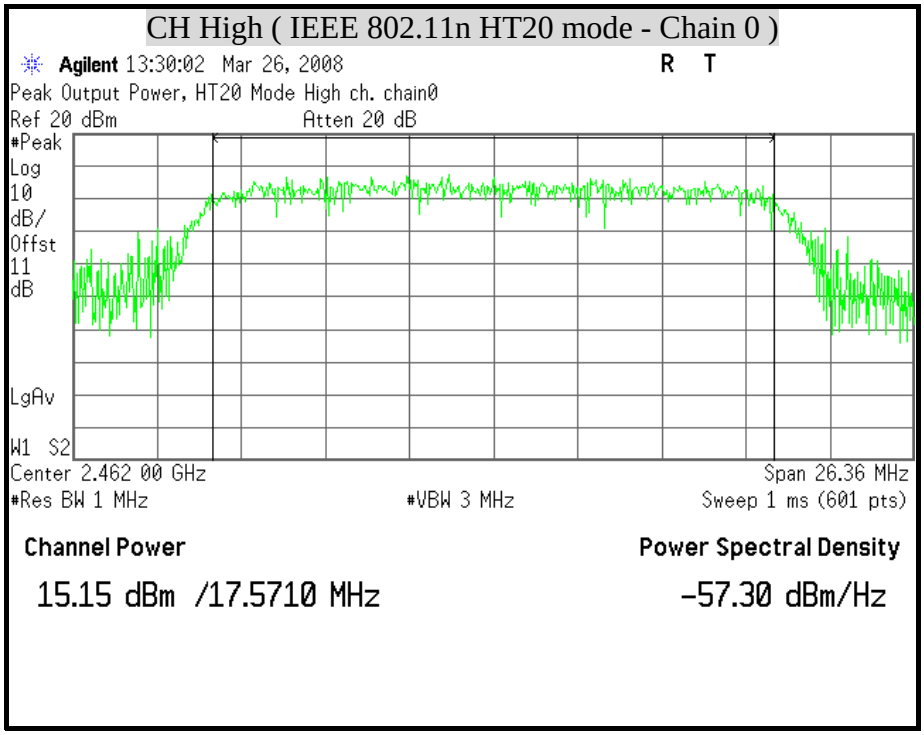
CH Low ( IEEE 802.11n HT20 mode - Chain 0 )



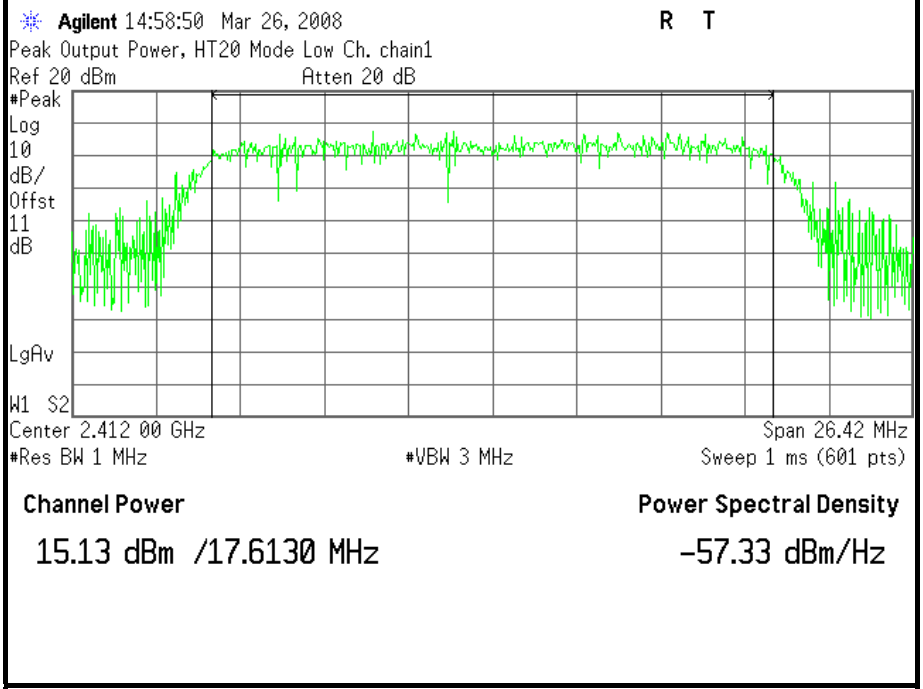

CH Middle ( IEEE 802.11n HT20 mode - Chain 0 )



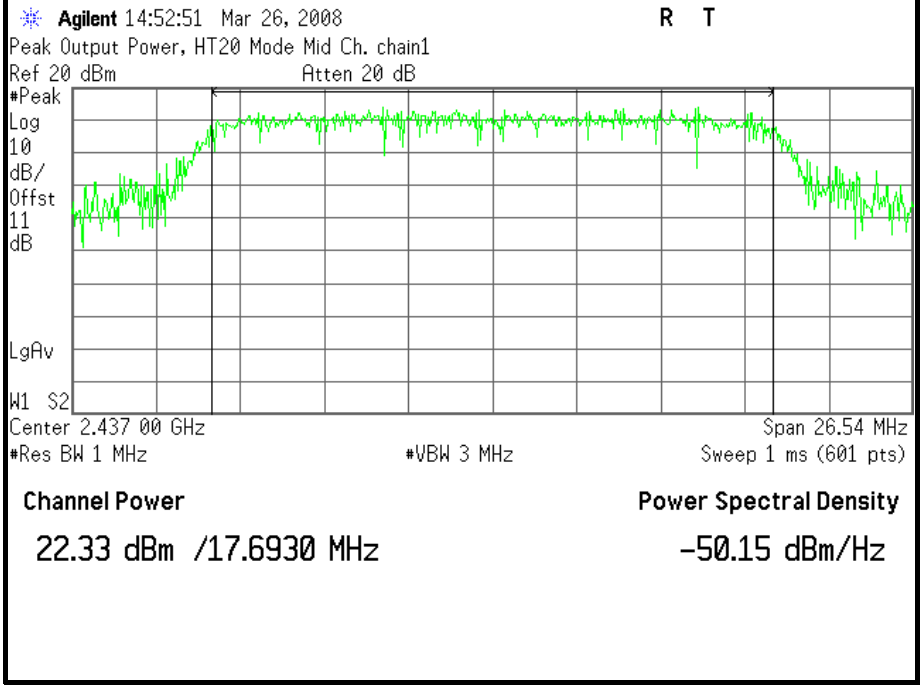
CH High ( IEEE 802.11n HT20 mode - Chain 0 )



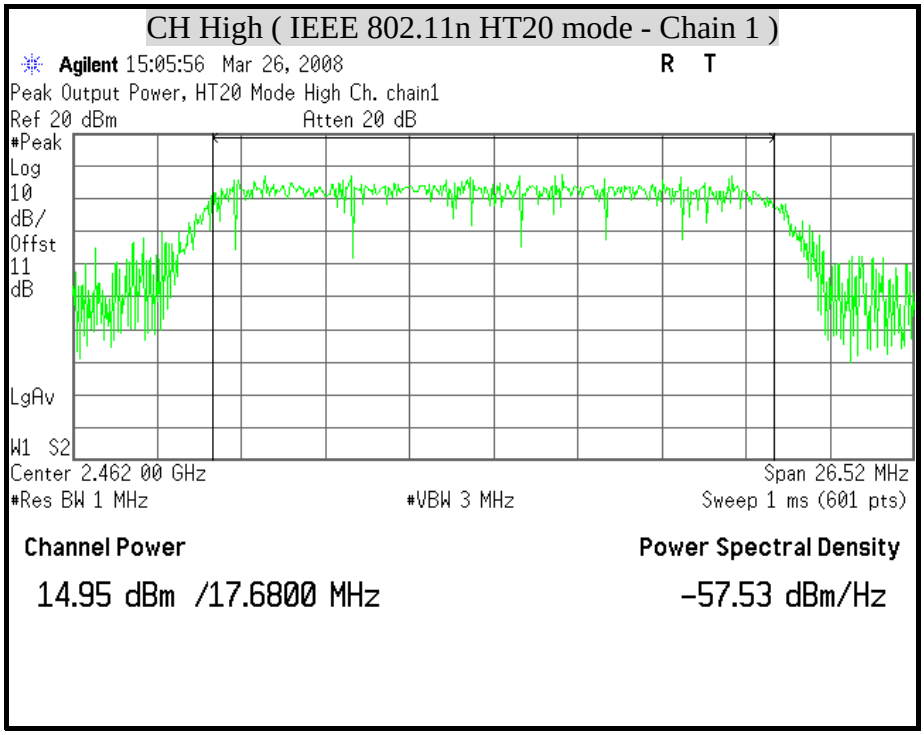
CH Low ( IEEE 802.11n HT20 mode - Chain 1 )



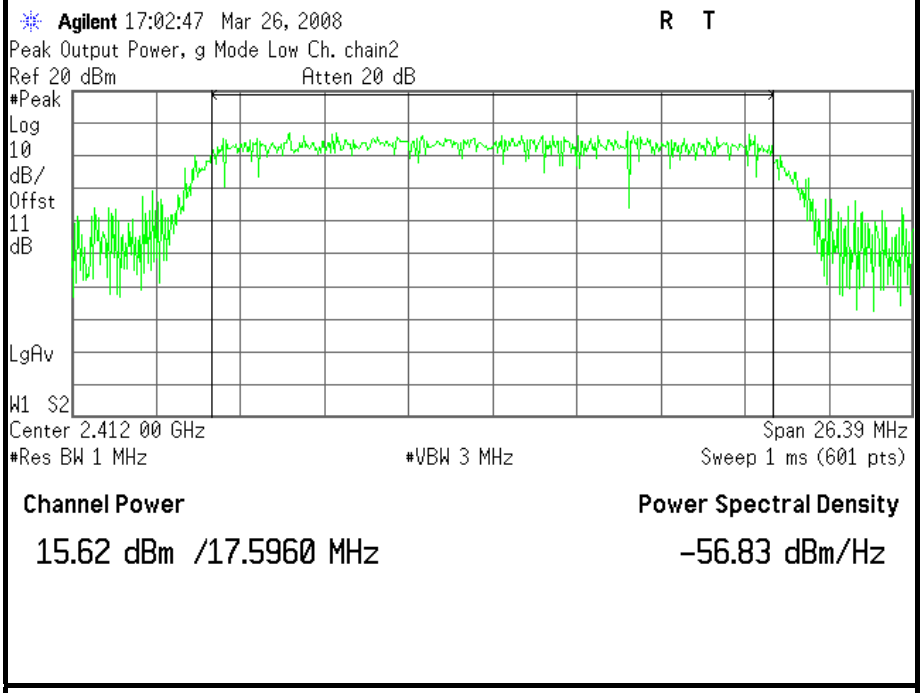

CH Middle ( IEEE 802.11n HT20 mode - Chain 1 )



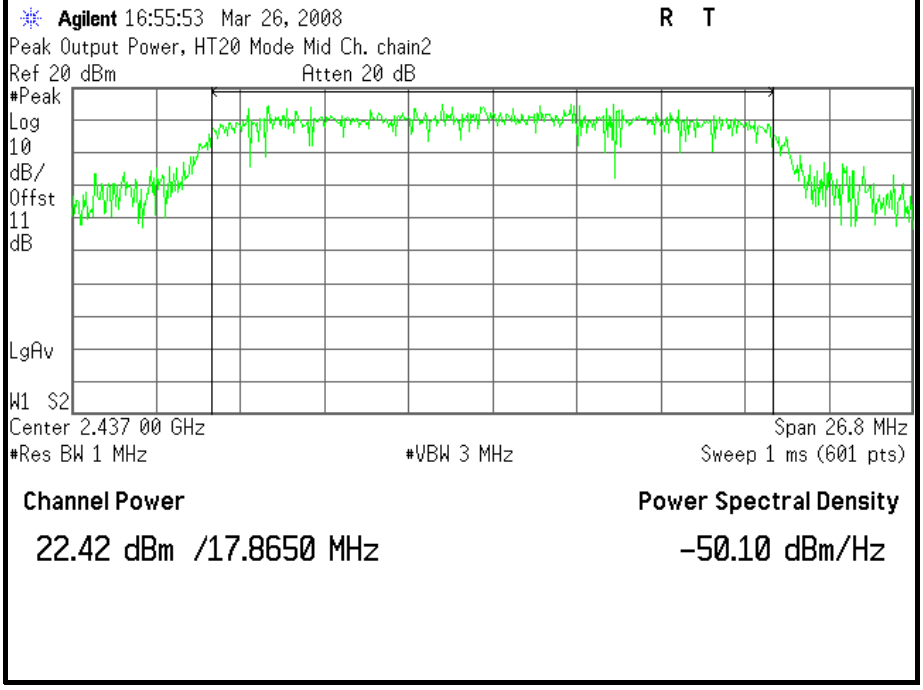
CH High ( IEEE 802.11n HT20 mode - Chain 1 )



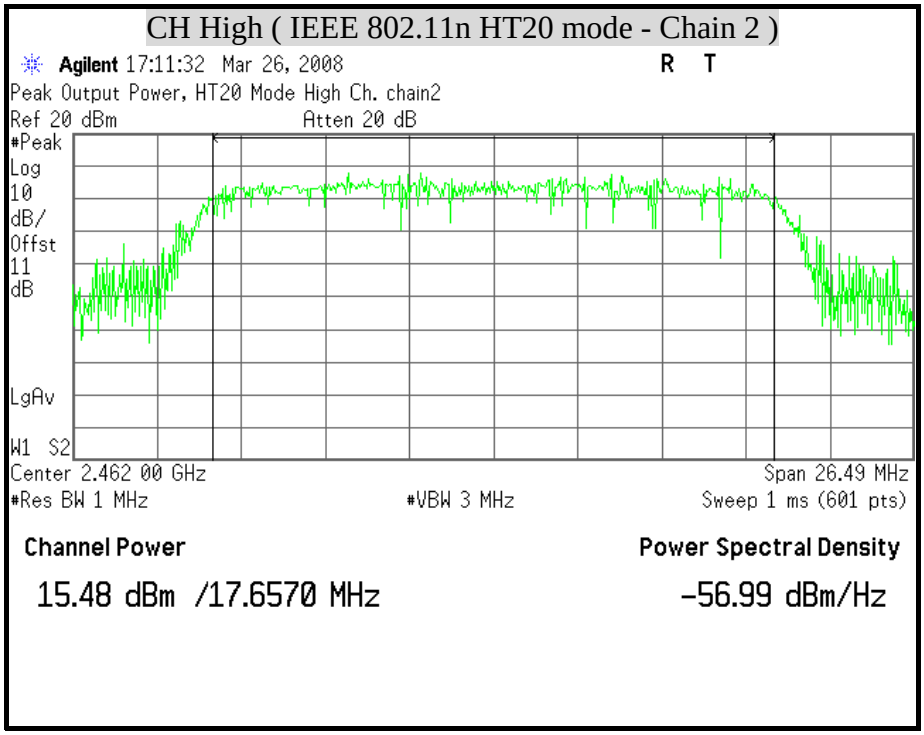
CH Low ( IEEE 802.11n HT20 mode - Chain 2 )




CH Middle ( IEEE 802.11n HT20 mode - Chain 2 )

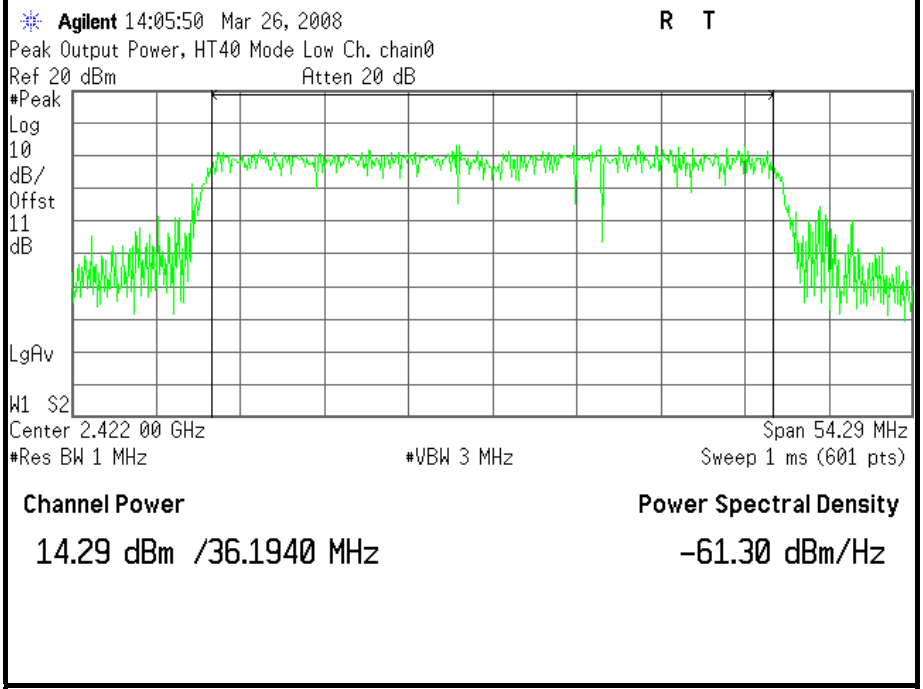


CH High ( IEEE 802.11n HT20 mode - Chain 2 )

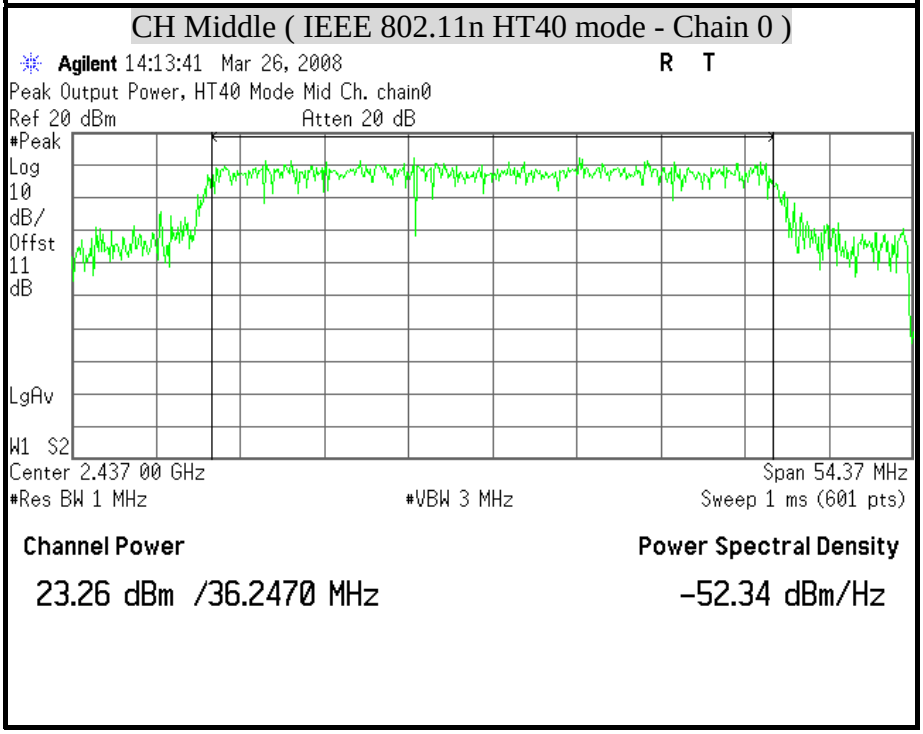


## MAXIMUM PEAK OUTPUT POWER ( IEEE 802.11n HT40 mode )

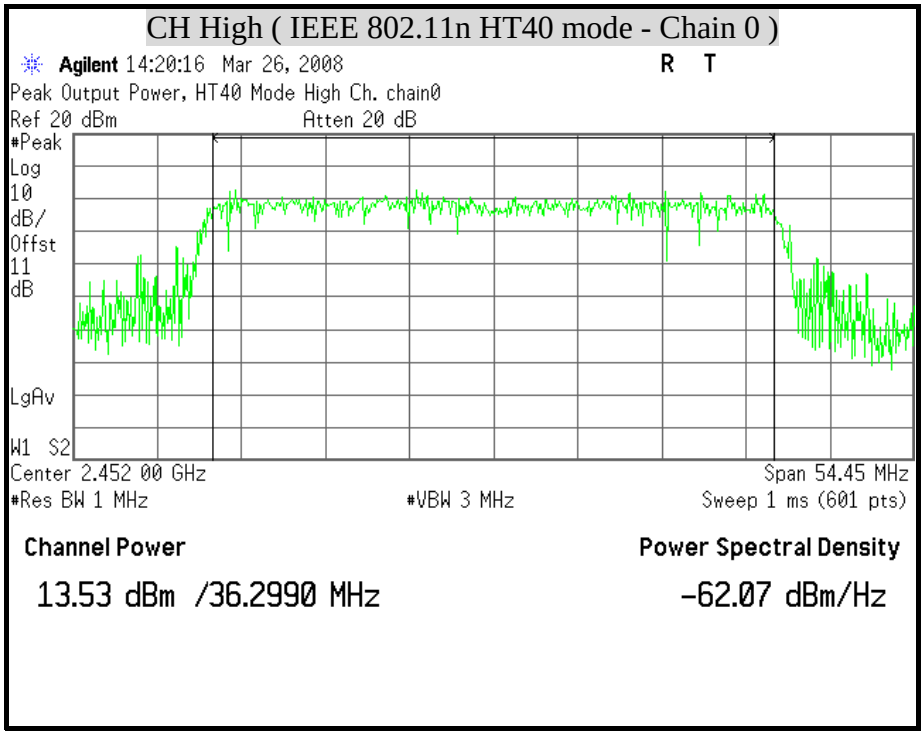
CH Low ( IEEE 802.11n HT40 mode - Chain 0 )



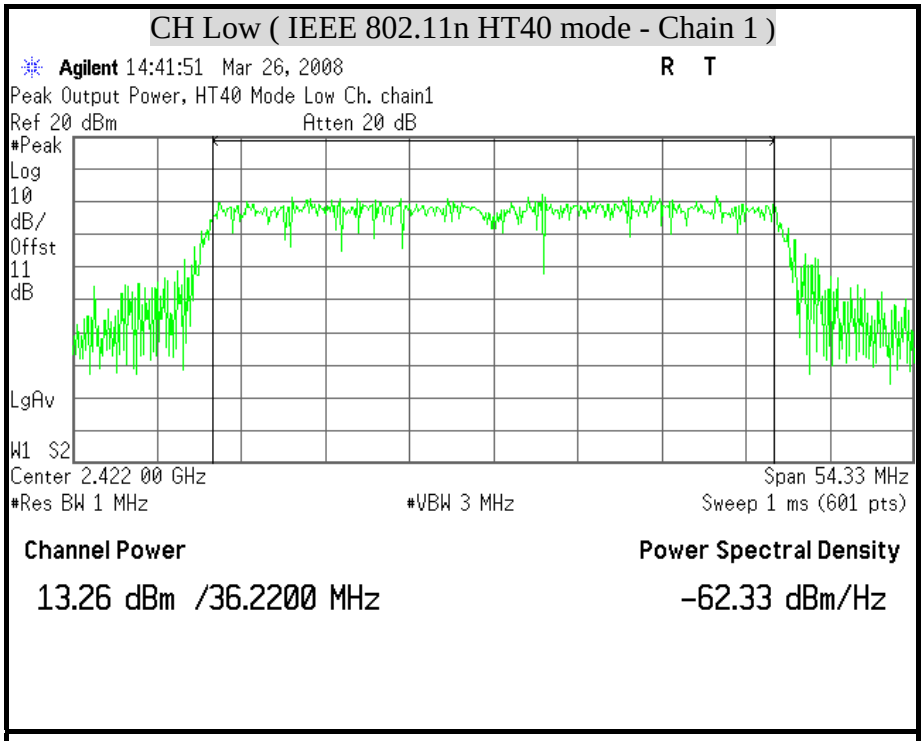

CH Middle ( IEEE 802.11n HT40 mode - Chain 0 )



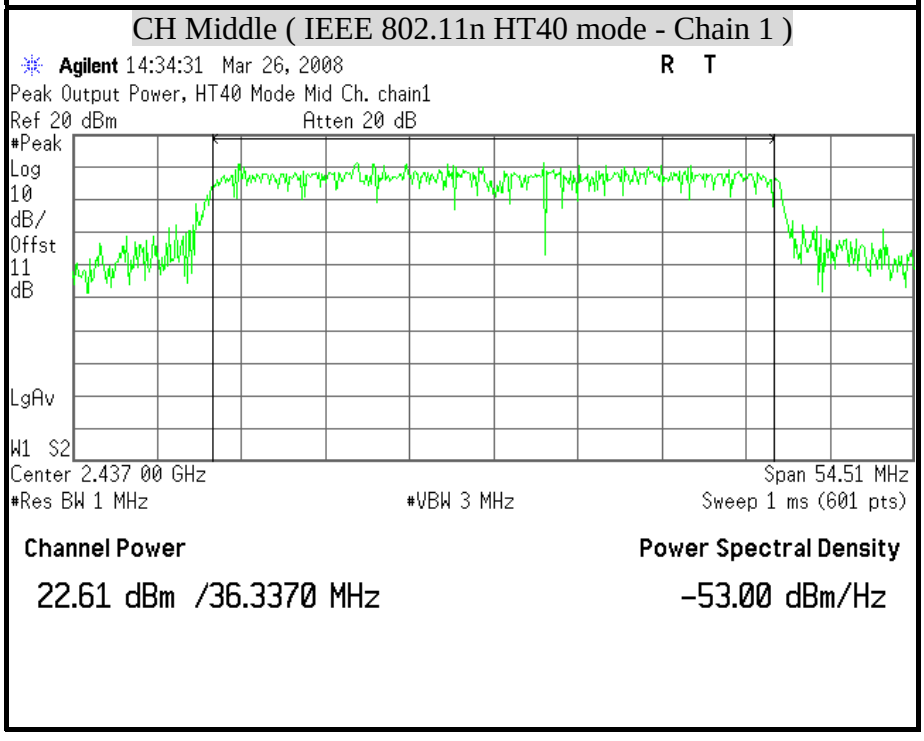
CH High ( IEEE 802.11n HT40 mode - Chain 0 )



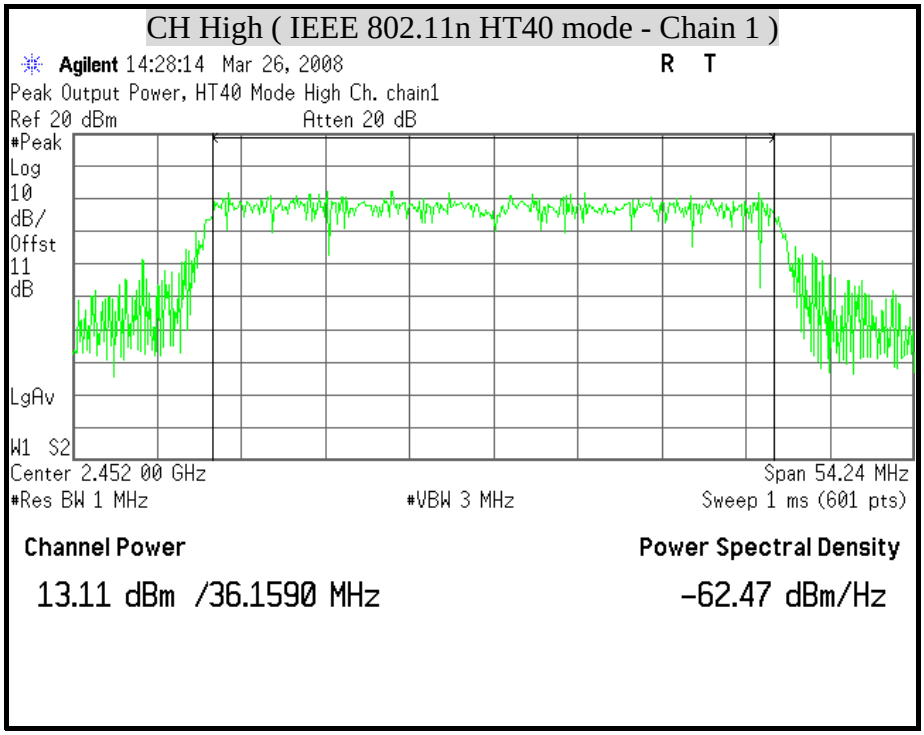
CH Low ( IEEE 802.11n HT40 mode - Chain 1 )



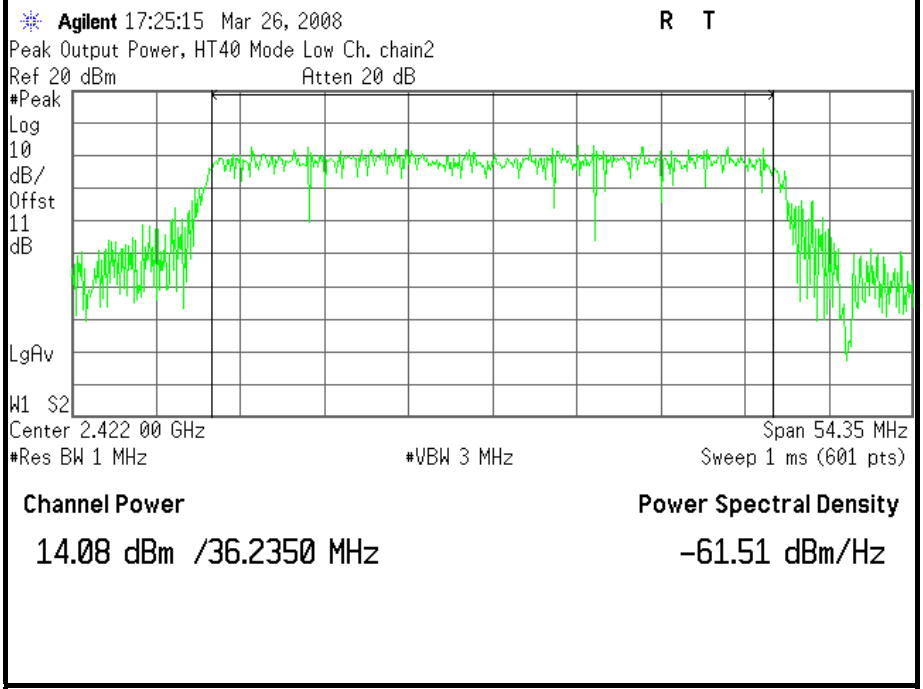

CH Middle ( IEEE 802.11n HT40 mode - Chain 1 )



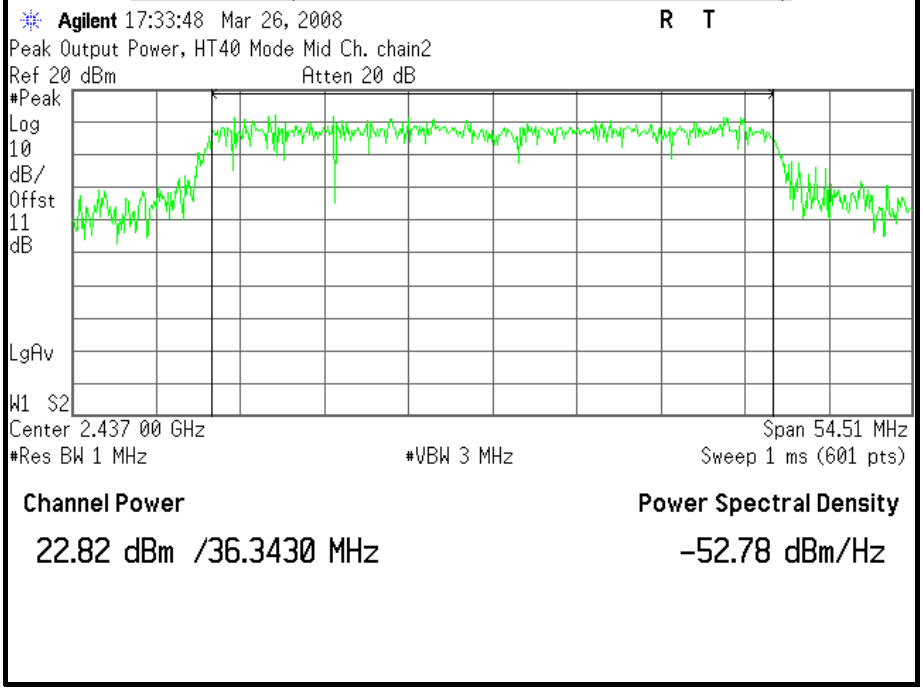
CH High ( IEEE 802.11n HT40 mode - Chain 1 )



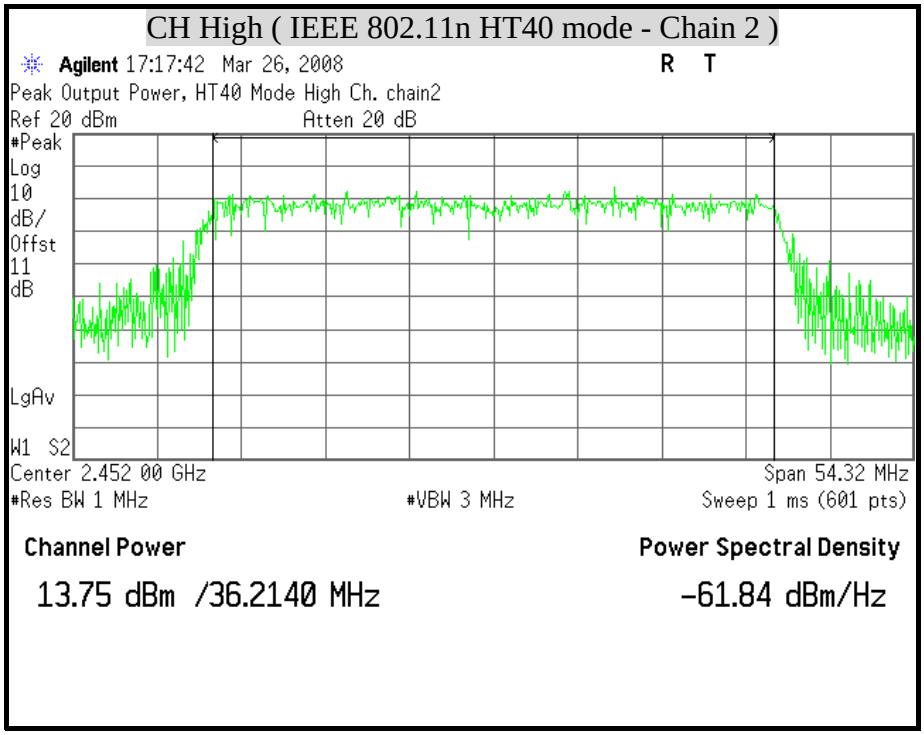
CH Low ( IEEE 802.11n HT40 mode - Chain 2)




CH Middle ( IEEE 802.11n HT40 mode - Chain 2 )



CH High ( IEEE 802.11n HT40 mode - Chain 2 )



## 8.4 MAXIMUM PERMISSIBLE EXPOSURE

According to FCC 1.1310 : The criteria listed in the following table shall be used to evaluate theenvironment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density ($mW/cm^2$) | Average Time |
|---|---|---|---|---|
| (A) Limits for Occupational / Control Exposures | | | | |
| 300-1,500 | -- | -- | F/300 | 6 |
| 1,500-100,000 | -- | -- | 5 | 6 |
| (B) Limits for General Population / Uncontrol Exposures | | | | |
| 300-1,500 | -- | -- | F/1500 | 6 |
| 1,500-100,000 | -- | -- | 1 | 30 |

**CALCULATIONS**

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{3770}$

*Where* $E$ = *Field strength in Volts / meter*

$P$ = *Power in Watts*

$G$ = *Numeric antenna gain*

$d$ = *Distance in meters*

$S$ = *Power density in milliwatts / square centimeter*

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770 d^2}$$

Changing to units of mW and cm, using:

*P (mW) = P (W) / 1000 and*

*d (cm) = d(m) / 100*

Yields

$$S = \frac{30 \times (P/1000) \times G}{3770 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2}$$

*Where* $d$ = *Distance in cm*

$P$ = *Power in mW*

$G$ = *Numeric antenna gain*

$S$ = *Power density in* $mW / cm^2$

**LIMIT**

Power Density Limit, S=1.0mW/cm$^2$

**TEST RESULTS**

No non-compliance noted

| Mode | Minimum separation distance (cm) | Output Power (dBm) | Antenna Gain (dBi) | Power Density Limit (mW/cm$^2$) | Power Density at 20cm (mW/cm$^2$) |
|---|---|---|---|---|---|
| IEEE 802.11a | 20 | 21.53 | 5 | 1.00 | 0.089479 |
| IEEE 802.11n HT20 | 20 | 23.92 | 5 | 1.00 | 0.155139 |
| IEEE802.11n HT40 | 20 | 22.54 | 5 | 1.00 | 0.112907 |
| IEEE 802.11b | 20 | 20.55 | 3 | 1.00 | 0.071404 |
| IEEE 802.11g | 20 | 23.70 | 3 | 1.00 | 0.147476 |
| IEEE 802.11n HT20 | 20 | 23.28 | 3 | 1.00 | 0.133881 |
| IEEE 802.11n HT40 | 20 | 23.26 | 3 | 1.00 | 0.133266 |

***Remark:*** *For mobile or fixed location transmitters, the maximum power density is 1.0 mW/cm$^2$ even if the calculation indicates that the power density would be larger.*

## 8.5 AVERAGE POWER

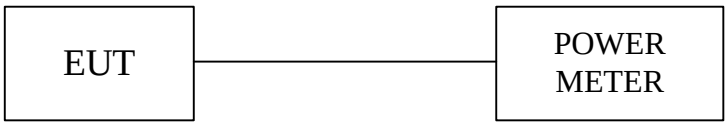
**LIMIT**

None; for reporting purposes only.

**TEST EQUIPMENT**

| Description & Manufacturer | Model No. | Serial No. | Date of Calibration |
|---|---|---|---|
| ANRITSU<br>POWER METER | ML2487A<br>MAL2491A | 6K00001783<br>030982 | May 03, 2008 |

**TEST SETUP**




**TEST PROCEDURE**

The transmitter output is connected to a power meter.

## TEST RESULTS

No non-compliance noted

Total avg power calculation formula:
10 log (10^ (Chain 0 Power / 10) + 10^ (Chain1 Power / 10) + 10^ (Chain2 Power / 10)).

**IEEE 802.11a mode**

| Channel | Channel Frequency (MHz) | AVG Power (dBm) | | | AVG Power Total (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| Low | 5745 | 17.02 | 16.84 | 17.59 | 21.93 | N/A |
| Middle | 5785 | 17.33 | 16.25 | 17.31 | 21.76 | N/A |
| High | 5825 | 18.39 | 16.83 | 17.50 | 22.39 | N/A |

***Remark:***

1. *At finial test to get the worst-case emission at 6 Mbps.*
2. *The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT20 mode**

| Channel | Channel Frequency (MHz) | AVG Power (dBm) | | | AVG Power Total (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| Low | 5745 | 20.28 | 20.07 | 19.39 | 24.70 | N/A |
| Middle | 5785 | 20.36 | 19.57 | 19.31 | 24.54 | N/A |
| High | 5825 | 20.50 | 18.53 | 19.21 | 24.26 | N/A |

***Remark:***

1. *At finial test to get the worst-case emission at 6.5 Mbps.*
2. *The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT40 mode**

| Channel | Channel Frequency (MHz) | AVG Power (dBm) | | | AVG Power Total (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| Low | 5755 | 18.65 | 18.03 | 18.35 | 23.12 | N/A |
| High | 5795 | 18.82 | 18.01 | 18.58 | 23.25 | N/A |

***Remark:***

*1. At finial test to get the worst-case emission at 13.5 Mbps.*
*2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11b mode**

| Channel | Channel Frequency (MHz) | AVG Power (dBm) | | | AVG Power Total (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| Low | 2412 | 17.40 | 15.99 | 16.70 | 21.51 | N/A |
| Middle | 2437 | 18.03 | 17.35 | 17.95 | 22.56 | N/A |
| High | 2462 | 17.90 | 17.12 | 17.43 | 22.27 | N/A |

***Remark:***

*1. At finial test to get the worst-case emission at 1 Mbps.*
*2. The cable assembly insertion loss of 11.0 dB (including 10 dB pad and 1.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11g mode**

| Channel | Channel Frequency (MHz) | AVG Power (dBm) | | | AVG Power Total (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| Low | 2412 | 14.33 | 12.89 | 14.02 | 18.56 | N/A |
| Middle | 2437 | 20.25 | 19.67 | 19.96 | 24.74 | N/A |
| High | 2462 | 13.78 | 12.66 | 13.56 | 18.13 | N/A |

***Remark:***

*1. At finial test to get the worst-case emission at 6 Mbps.*
*2. The cable assembly insertion loss of 11.0 dB (including 10 dB pad and 1.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT20 mode**

| Channel | Channel Frequency (MHz) | AVG Power (dBm) | | | AVG Power Total (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| Low | 2412 | 13.57 | 11.79 | 13.03 | 17.63 | N/A |
| Middle | 2437 | 19.82 | 19.15 | 19.45 | 24.25 | N/A |
| High | 2462 | 12.36 | 11.63 | 12.58 | 16.98 | N/A |

***Remark:***

*1. At finial test to get the worst-case emission at 6.5Mbps.*
*2. The cable assembly insertion loss of 11.0 dB (including 10 dB pad and 1.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT40 mode**

| Channel | Channel Frequency (MHz) | AVG Power (dBm) | | | AVG Power Total (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| Low | 2422 | 10.82 | 9.94 | 11.07 | 15.41 | N/A |
| Middle | 2437 | 19.66 | 19.12 | 19.29 | 24.13 | N/A |
| High | 2452 | 10.29 | 9.66 | 10.26 | 14.85 | N/A |

***Remark:***

*1. At finial test to get the worst-case emission at 13.5 Mbps.*
*2. The cable assembly insertion loss of 11.0 dB (including 10 dB pad and 1.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

## 8.6 POWER SPECTRAL DENSITY

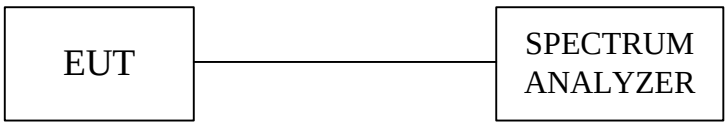
### LIMIT

§ 15.247(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

### TEST EQUIPMENT

| Description & Manufacturer | Model No. | Serial No. | Date of Calibration |
|---|---|---|---|
| ROHDE & SCHWARZ SPECTRUM ANALYZER | FSEK30 | 835253/002 | October 25, 2007 |
| AGILENT SPECTRUM ANALYZER | E4446A | MY433601.32 | June 24, 2008 |

### TEST SETUP




Combined mode




### TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using RBW＝3KHz and VBW≧RBW, set sweep time＝span / 3KHz.

The power spectral density was measured and recorded.

The sweep time is allowed to be longer than span / 3KHz for a full response of the mixer in the spectrum analyzer.

**TEST RESULTS**

No non-compliance noted

Total power spectral density calculation formula:
10 log (10^ (Chain 0 PPSD / 10) + 10^ (Chain1 PPSD / 10) + 10^ (Chain2 PPSD / 10)).

**IEEE 802.11a mode**

| Channel | Channel Frequency (MHz) | Final RF Power Level in 3KHz BW (dBm) | | | PPSD Total (dBm) | Maxmum Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | | |
| Low | 5745 | -0.31 | -7.37 | -3.77 | 1.86 | 8 | PASS |
| Middle | 5785 | -2.23 | -7.97 | -3.55 | 0.79 | 8 | PASS |
| High | 5825 | -2.20 | -7.16 | -2.85 | 1.19 | 8 | PASS |

***Remark:***

1. *At finial test to get the worst-case emission at 6 Mbps.*
2. *The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11a Combined mode**

| Channel | Channel Frequency (MHz) | Final RF Power Level in 3KHz BW (dBm) | Maxmum Limit (dBm) | Pass / Fail |
|---|---|---|---|---|
| Low | 5745 | 3.44 | 8 | PASS |
| Middle | 5785 | 6.74 | 8 | PASS |
| High | 5825 | 6.02 | 8 | PASS |

***Remark:***

1. *At finial test to get the worst-case emission at 6Mbps.*
2. *The cable assembly insertion loss of 19.0 dB (including 10 dB pad and 9.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT20 mode**

| Channel | Channel Frequency (MHz) | Final RF Power Level in 3KHz BW (dBm) | | | PPSD Total (dBm) | Maxmum Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | | |
| Low | 5745 | 0.96 | -4.97 | -0.82 | 3.79 | 8 | PASS |
| Middle | 5785 | 2.35 | -3.87 | -0.13 | 4.91 | 8 | PASS |
| High | 5825 | 1.84 | -6.54 | -0.01 | 4.39 | 8 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 6.5 Mbps.*
*2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT20 Combined mode**

| Channel | Channel Frequency (MHz) | Final RF Power Level in 3KHz BW (dBm) | Maxmum Limit (dBm) | Pass / Fail |
|---|---|---|---|---|
| Low | 5745 | 4.83 | 8 | PASS |
| Middle | 5785 | 6.39 | 8 | PASS |
| High | 5825 | 6.17 | 8 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 6.5 Mbps.*
*2. The cable assembly insertion loss of 19.0 dB (including 10 dB pad and 9.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT40 mode**

| Channel | Channel Frequency (MHz) | Final RF Power Level in 3KHz BW (dBm) | | | PPSD Total (dBm) | Maxmum Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | | |
| Low | 5755 | 0.31 | -6.04 | 0.44 | 3.86 | 8 | PASS |
| High | 5795 | 2.91 | -5.74 | -0.54 | 4.92 | 8 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 13.5 Mbps.*
*2. The cable assembly insertion loss of 11.5 dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT40 Combined mode**

| Channel | Channel Frequency (MHz) | Final RF Power Level in 3KHz BW (dBm) | Maxmum Limit (dBm) | Pass / Fail |
|---|---|---|---|---|
| Low | 5755 | 7.03 | 8 | PASS |
| High | 5795 | 6.49 | 8 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 13.5 Mbps.*
*2. The cable assembly insertion loss of 19.0 dB (including 10 dB pad and 9.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11b mode**

| Channel | Channel Frequency (MHz) | Final RF Power Level in 3KHz BW (dBm) | | | PPSD Total (dBm) | Maxmum Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | | |
| Low | 2412 | -5.88 | -8.04 | -7.26 | -2.20 | 8 | PASS |
| Middle | 2437 | -4.77 | -5.50 | -4.99 | -0.30 | 8 | PASS |
| High | 2462 | -4.05 | -5.98 | -6.63 | -0.64 | 8 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 1 Mbps.*
*2. The cable assembly insertion loss of 11.0 dB (including 10 dB pad and 1.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11b Combined mode**

| Channel | Channel Frequency (MHz) | Final RF Power Level in 3KHz BW (dBm) | Maxmum Limit (dBm) | Pass / Fail |
|---|---|---|---|---|
| Low | 2412 | 1.07 | 8 | PASS |
| Middle | 2437 | 2.91 | 8 | PASS |
| High | 2462 | 3.23 | 8 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 1 Mbps.*
*2. The cable assembly insertion loss of 16.5 dB (including 10 dB pad and 6.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11g mode**

| Channel | Channel Frequency (MHz) | Final RF Power Level in 3KHz BW (dBm) | | | PPSD Total (dBm) | Maxmum Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | | |
| Low | 2412 | -8.14 | -11.37 | -4.67 | -2.46 | 8 | PASS |
| Middle | 2437 | -0.90 | -4.86 | 0.44 | 3.51 | 8 | PASS |
| High | 2462 | -8.75 | -12.00 | -5.09 | -2.96 | 8 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 6 Mbps.*
*2. The cable assembly insertion loss of 11.0 dB (including 10 dB pad and 1.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11g Combined mode**

| Channel | Channel Frequency (MHz) | Final RF Power Level in 3KHz BW (dBm) | Maxmum Limit (dBm) | Pass / Fail |
|---|---|---|---|---|
| Low | 2412 | -1.14 | 8 | PASS |
| Middle | 2437 | 5.52 | 8 | PASS |
| High | 2462 | -0.23 | 8 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 6 Mbps.*
*2. The cable assembly insertion loss of 16.5 dB (including 10 dB pad and 6.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT20 mode**

| Channel | Channel Frequency (MHz) | Final RF Power Level in 3KHz BW (dBm) | | | PPSD Total (dBm) | Maxmum Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | | |
| Low | 2412 | -8.52 | -12.71 | -5.31 | -3.11 | 8 | PASS |
| Middle | 2437 | -2.02 | -4.99 | -1.32 | 2.26 | 8 | PASS |
| High | 2462 | -10.48 | -12.93 | -8.09 | -5.29 | 8 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 6.5 Mbps.*
*2. The cable assembly insertion loss of 11.0 dB (including 10 dB pad and 1.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT20 Combined mode**

| Channel | Channel Frequency (MHz) | Final RF Power Level in 3KHz BW (dBm) | Maxmum Limit (dBm) | Pass / Fail |
|---|---|---|---|---|
| Low | 2412 | -0.98 | 8 | PASS |
| Middle | 2437 | 5.32 | 8 | PASS |
| High | 2462 | -1.63 | 8 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 6.5 Mbps.*
*2. The cable assembly insertion loss of 16.5 dB (including 10 dB pad and 6.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT40 mode**

| Channel | Channel Frequency (MHz) | Final RF Power Level in 3KHz BW (dBm) | | | PPSD Total (dBm) | Maxmum Limit (dBm) | Pass / Fail |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | | |
| Low | 2422 | -10.85 | -13.77 | -5.06 | -3.60 | 8 | PASS |
| Middle | 2437 | 1.01 | -3.63 | 1.54 | 4.94 | 8 | PASS |
| High | 2452 | -11.28 | -13.54 | -8.13 | -5.64 | 8 | PASS |

***Remark:***

*1. At finial test to get the worst-case emission at 13.5 Mbps.*
*2. The cable assembly insertion loss of 11.0 dB (including 10 dB pad and 1.0 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

**IEEE 802.11n HT40 Combined mode**

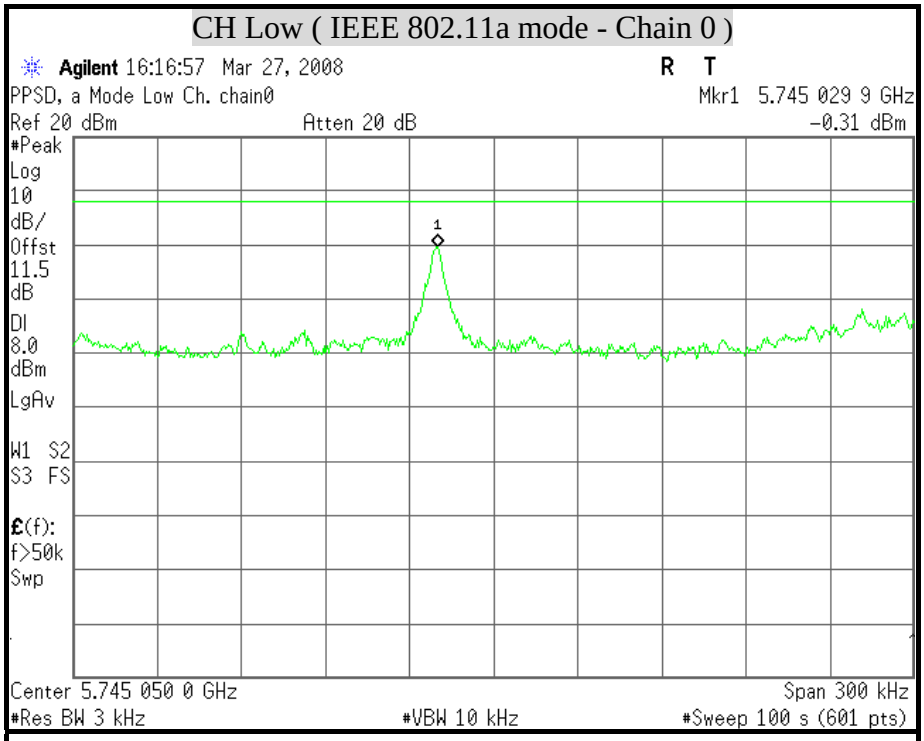
| Channel | Channel Frequency (MHz) | Final RF Power Level in 3KHz BW (dBm) | Maxmum Limit (dBm) | Pass / Fail |
|---|---|---|---|---|
| Low | 2422 | -1.83 | 8 | PASS |
| Middle | 2437 | 7.03 | 8 | PASS |
| High | 2452 | -2.32 | 8 | PASS |

***Remark:***

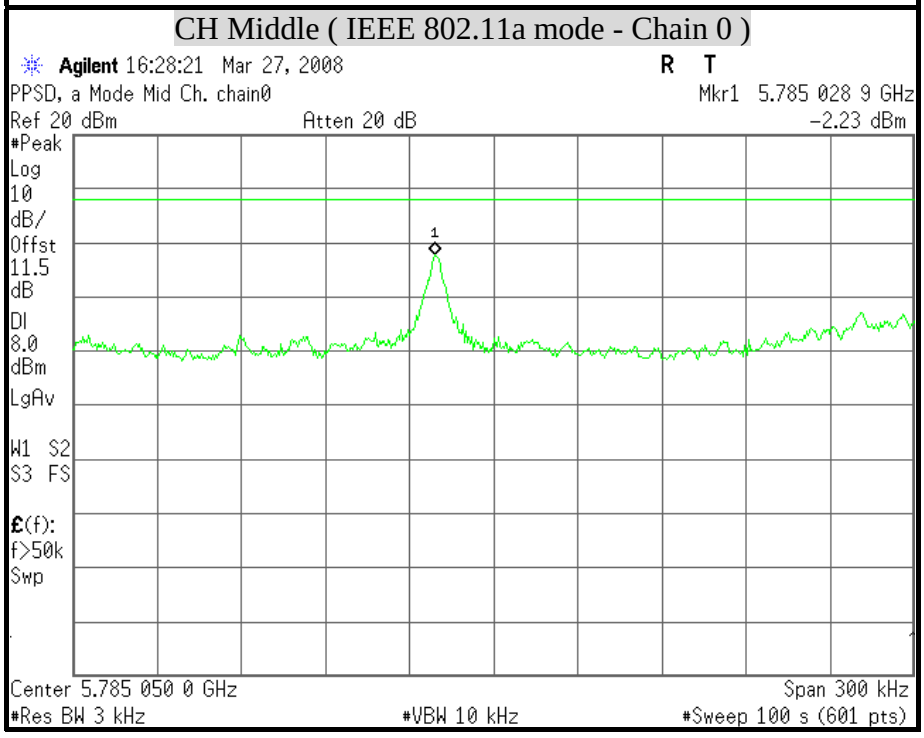
*1. At finial test to get the worst-case emission at 13.5 Mbps.*
*2. The cable assembly insertion loss of 16.5 dB (including 10 dB pad and 6.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.*

## POWER SPECTRAL DENSITY ( IEEE 802.11a mode)

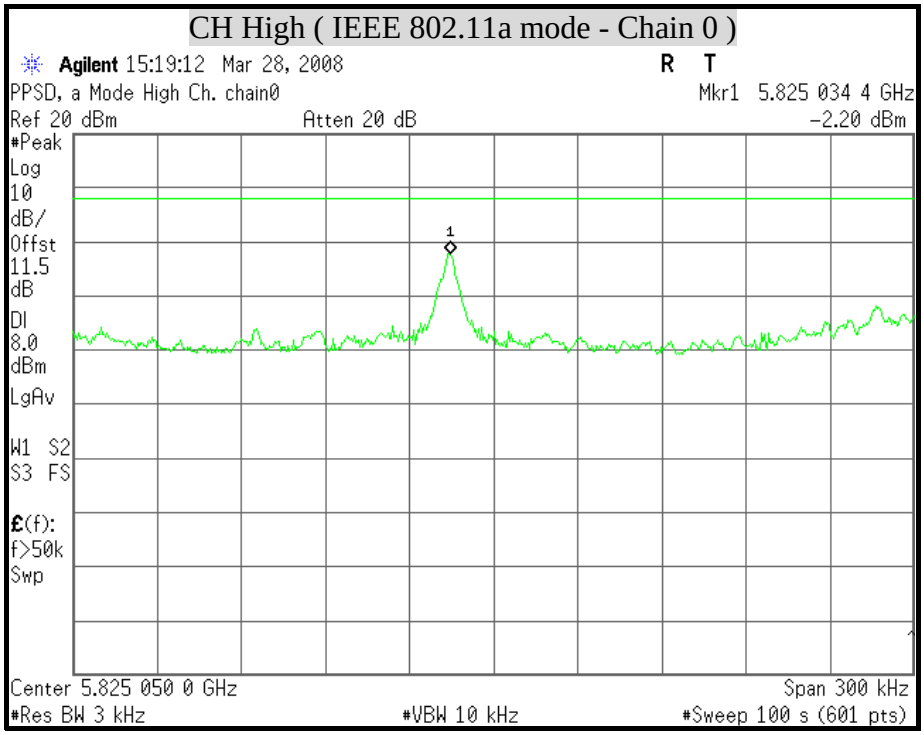
CH Low ( IEEE 802.11a mode - Chain 0 )



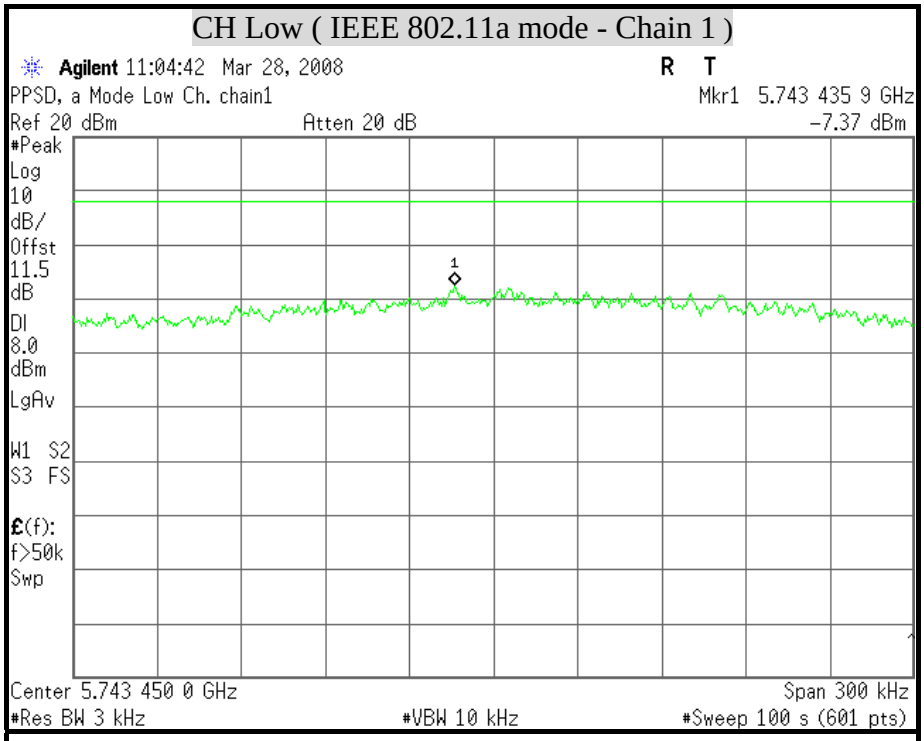

CH Middle ( IEEE 802.11a mode - Chain 0 )



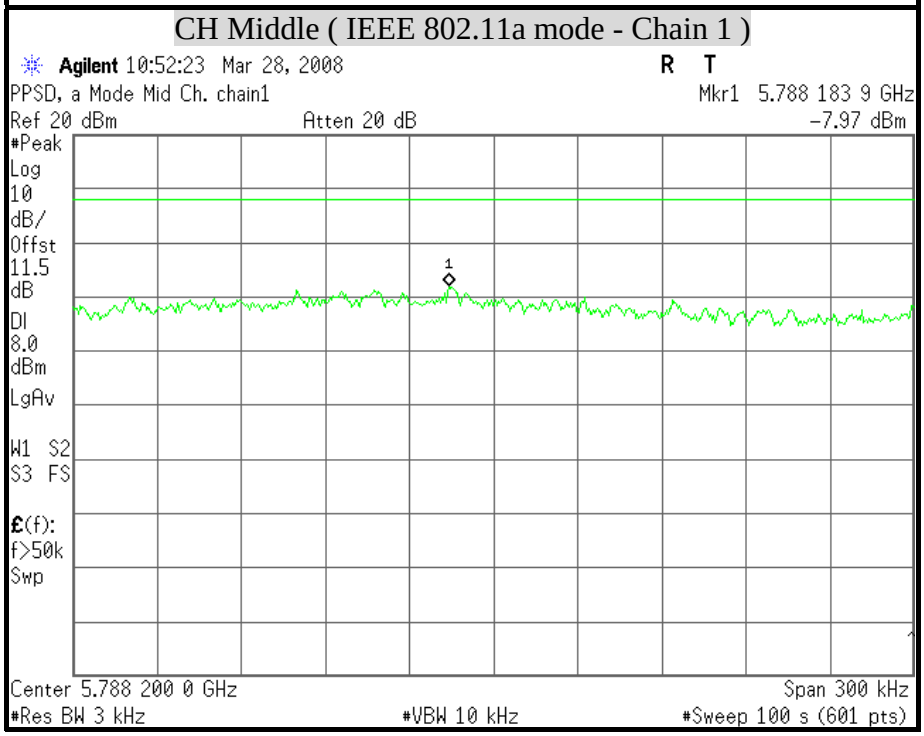
CH High ( IEEE 802.11a mode - Chain 0 )



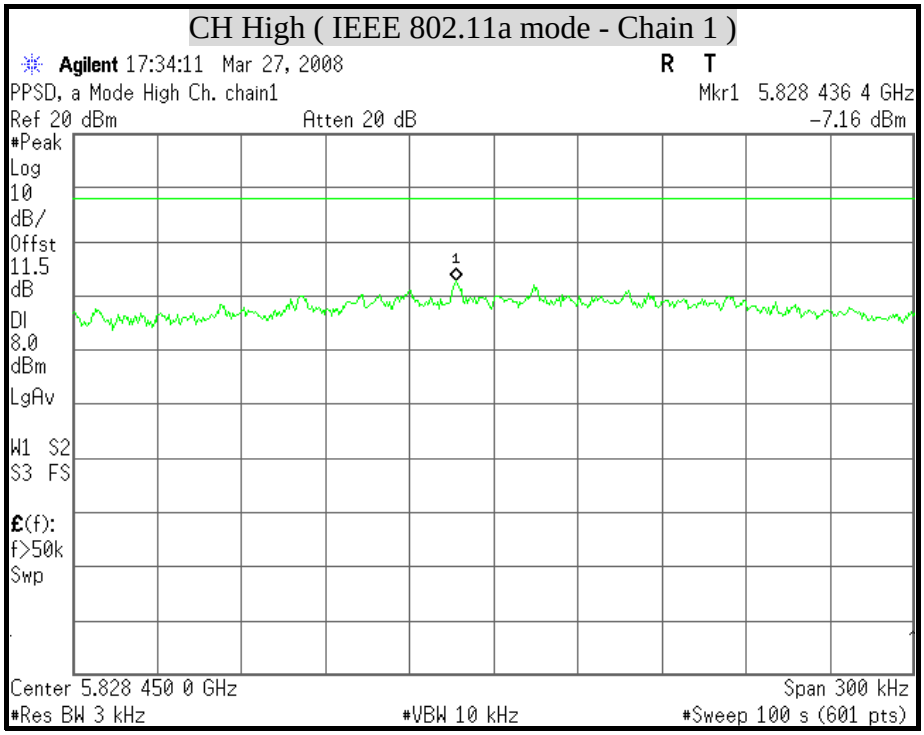
CH Low ( IEEE 802.11a mode - Chain 1 )



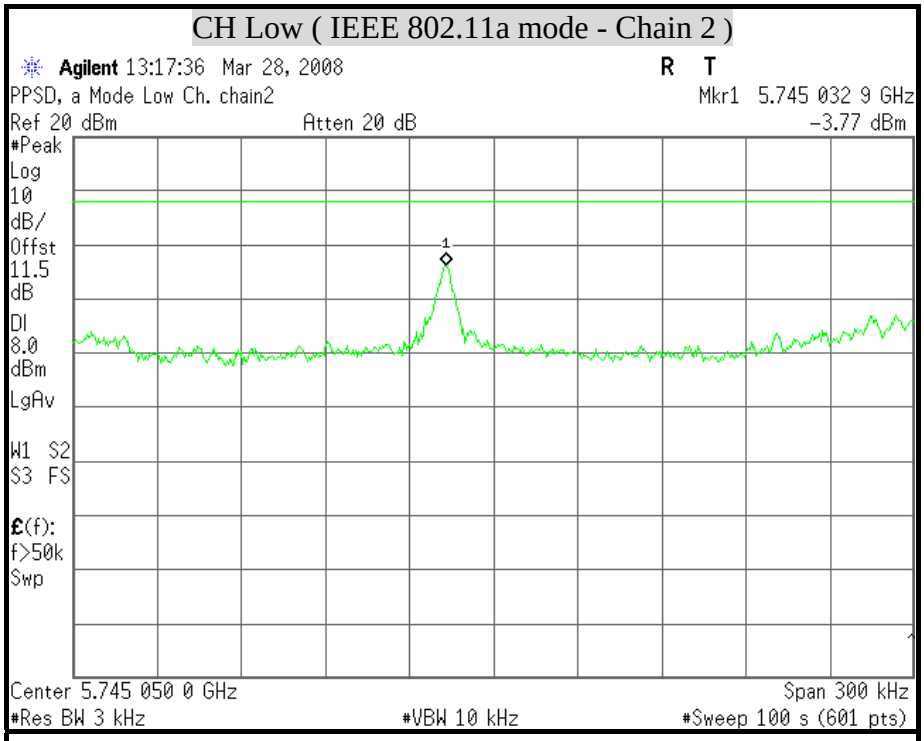

CH Middle ( IEEE 802.11a mode - Chain 1 )



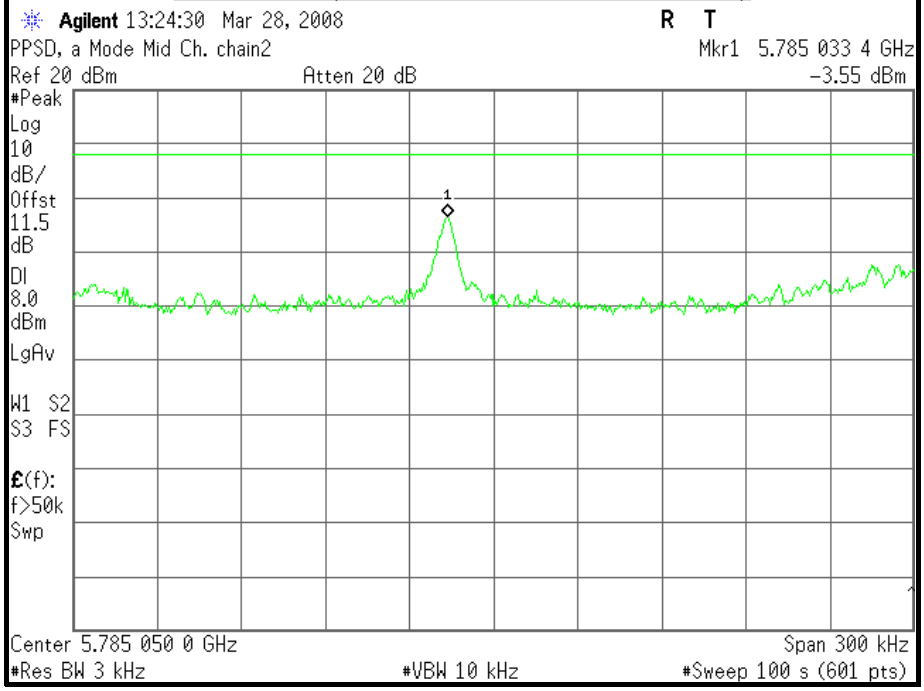
CH High ( IEEE 802.11a mode - Chain 1 )



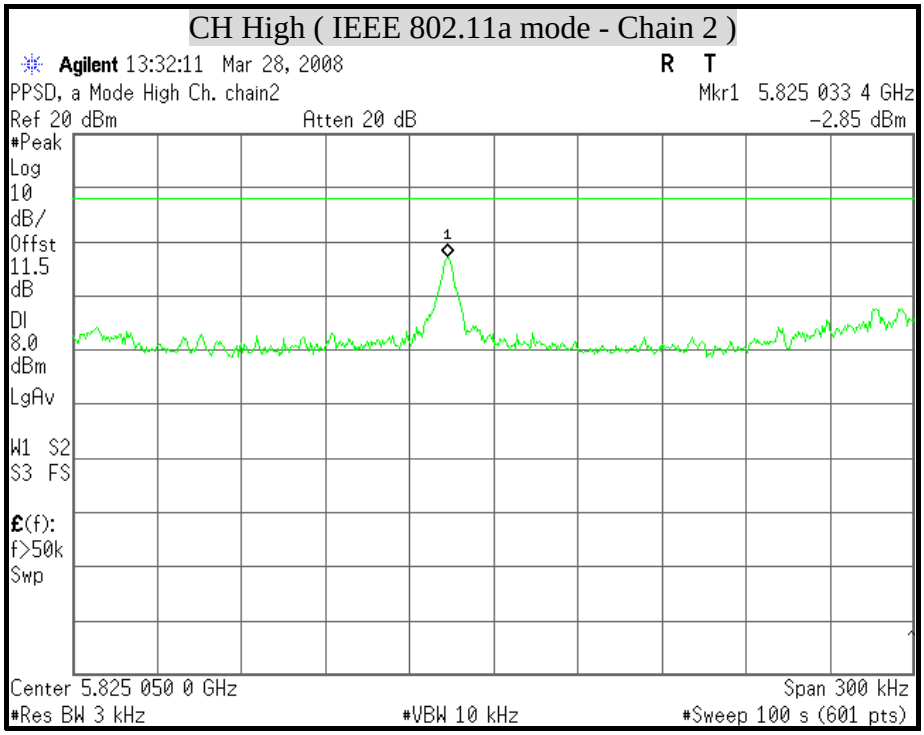
CH Low ( IEEE 802.11a mode - Chain 2 )




CH Middle ( IEEE 802.11a mode - Chain 2 )

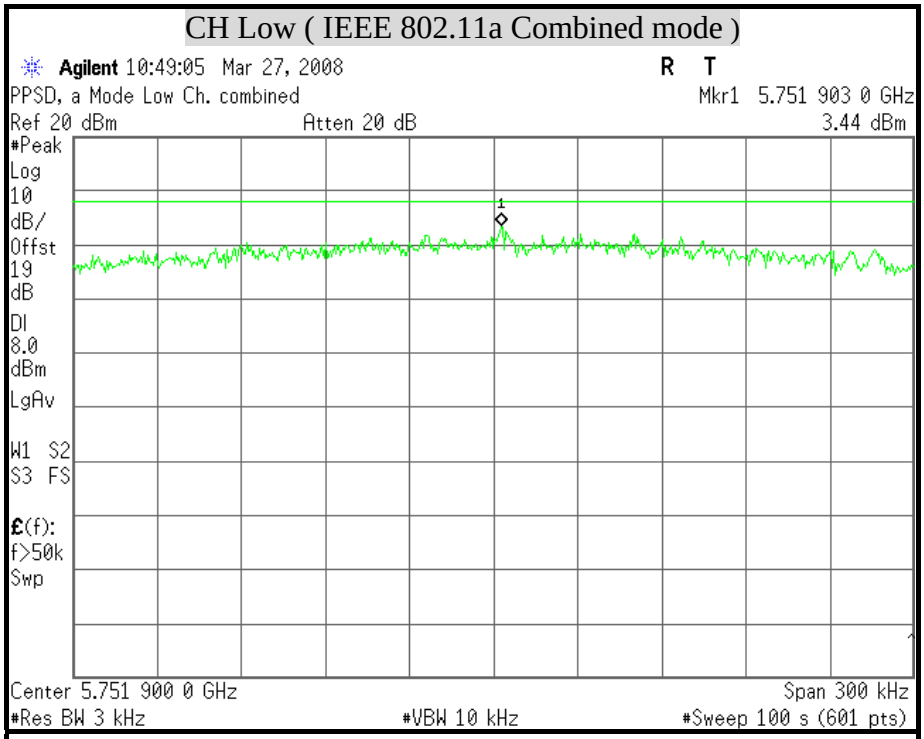


CH High ( IEEE 802.11a mode - Chain 2 )

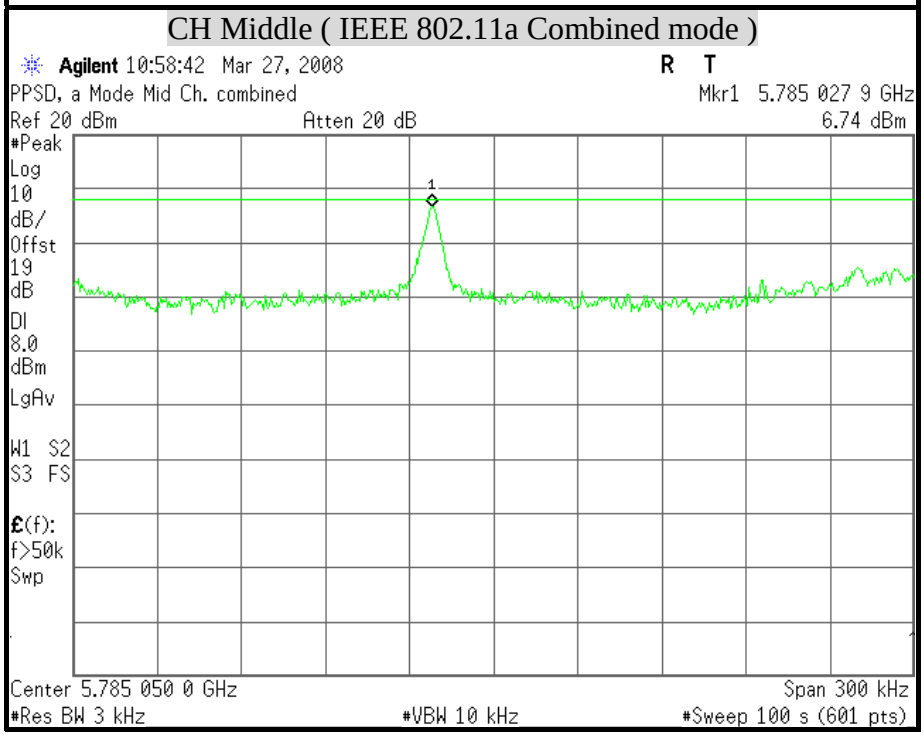


## POWER SPECTRAL DENSITY ( IEEE 802.11a Combined mode )

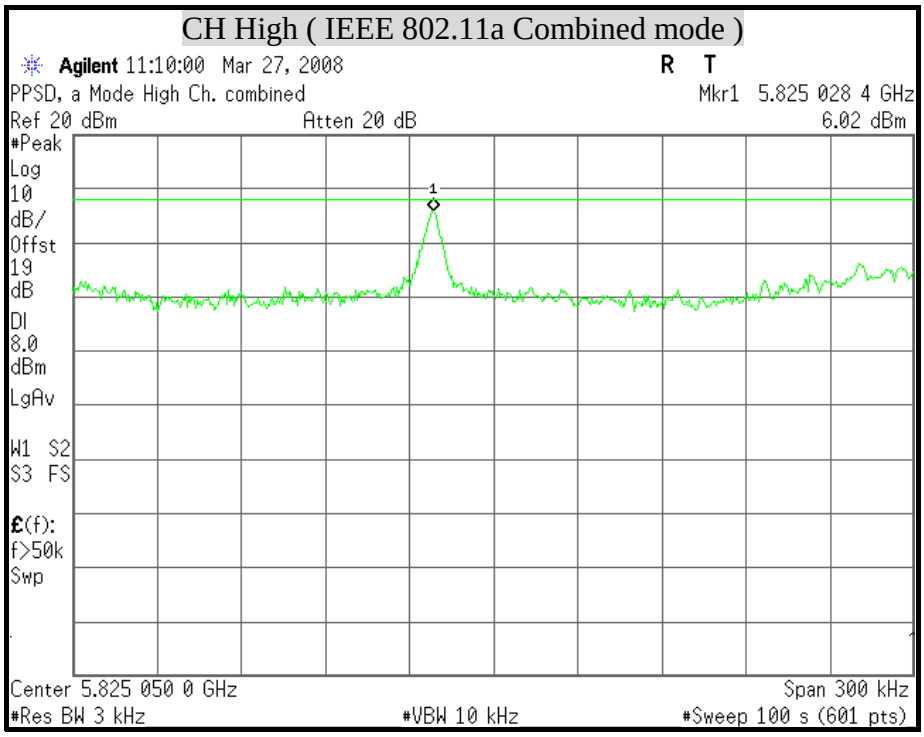
CH Low ( IEEE 802.11a Combined mode )




CH Middle ( IEEE 802.11a Combined mode )

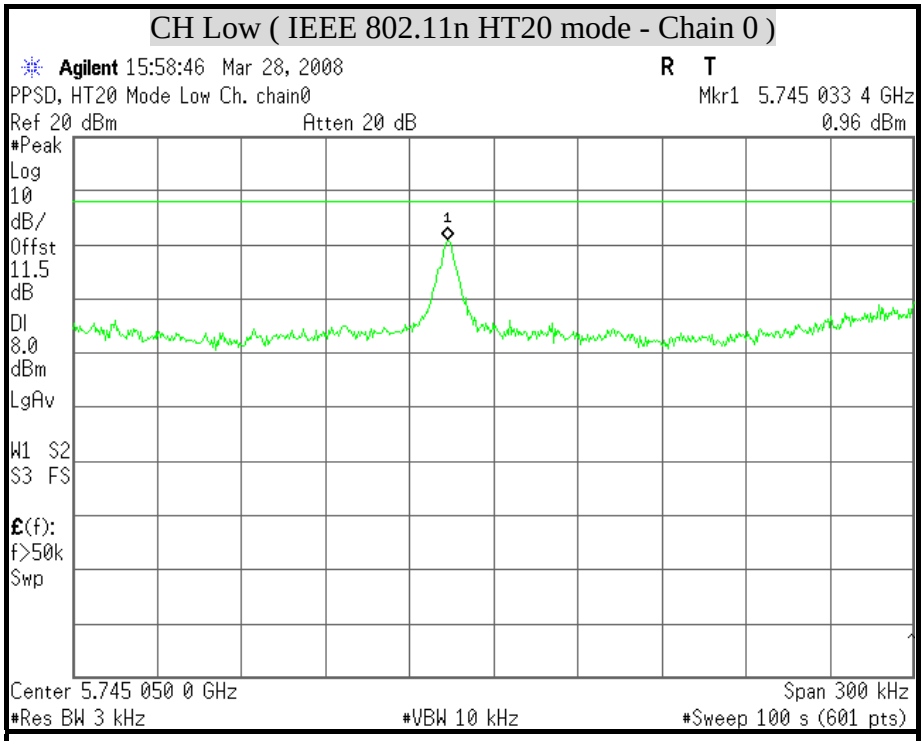


CH High ( IEEE 802.11a Combined mode )

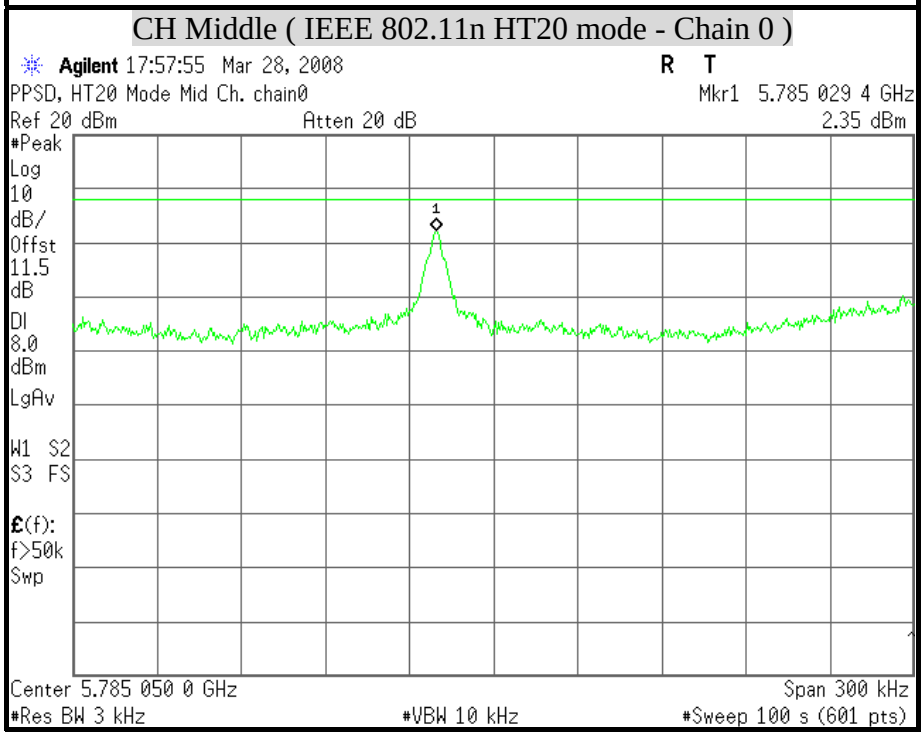


## POWER SPECTRAL DENSITY ( IEEE 802.11n HT20 mode )

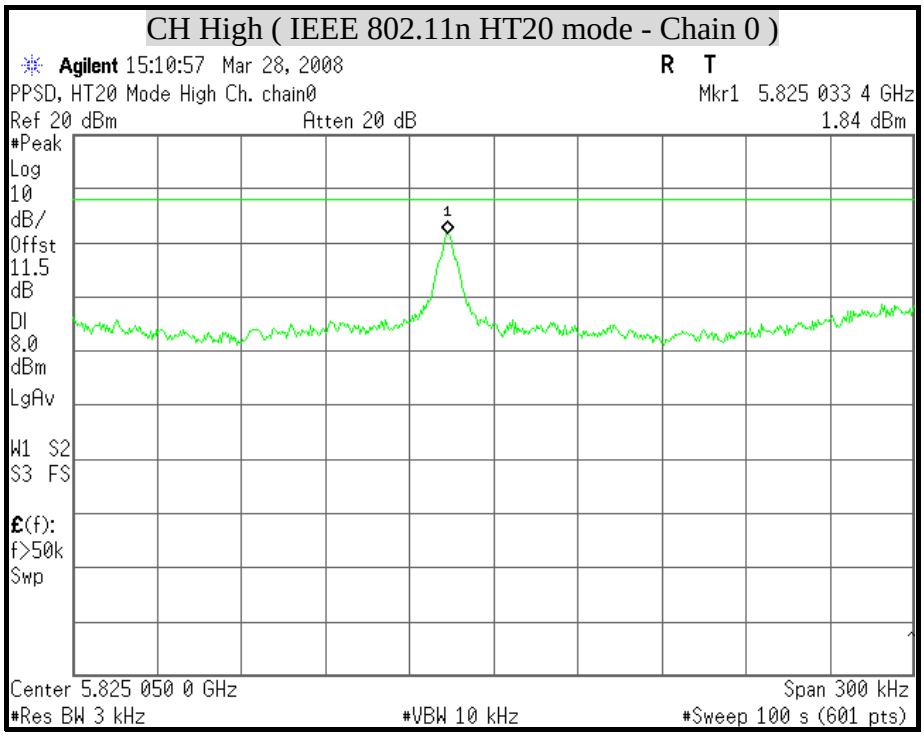
CH Low ( IEEE 802.11n HT20 mode - Chain 0 )



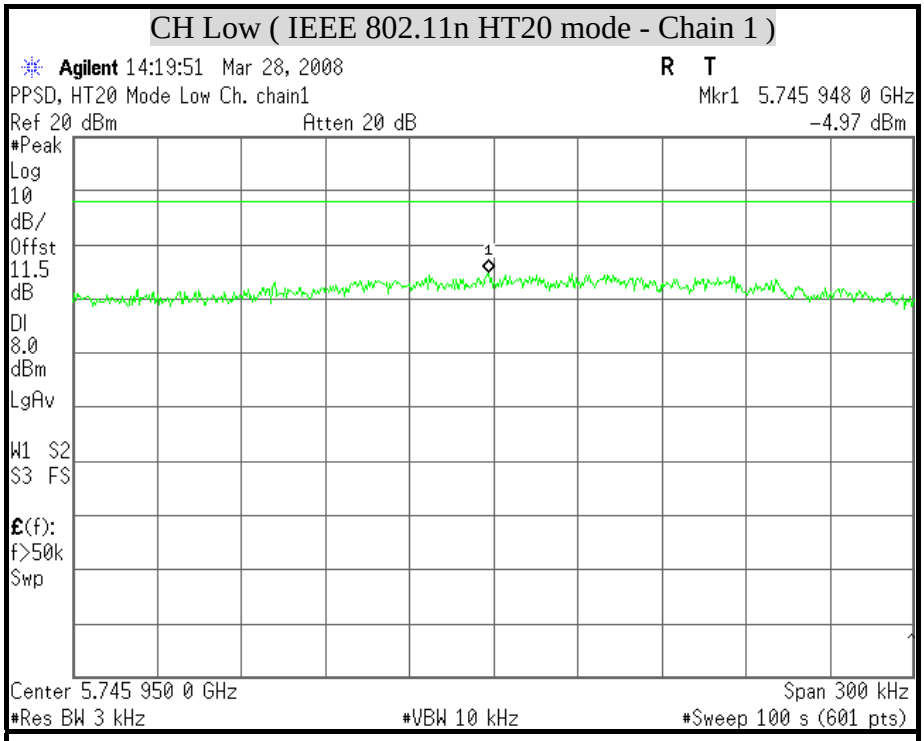

CH Middle ( IEEE 802.11n HT20 mode - Chain 0 )



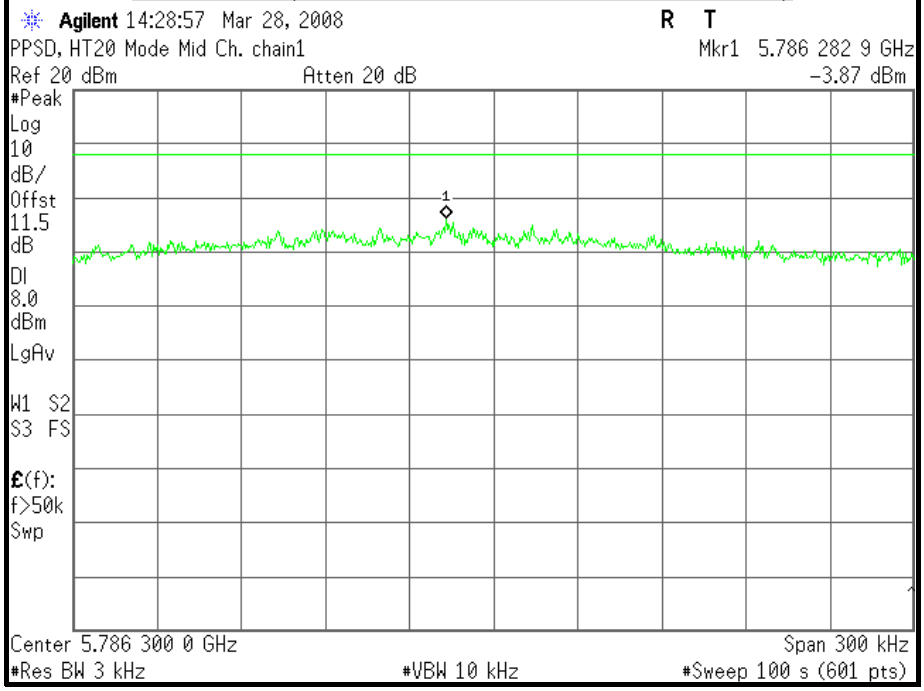
CH High ( IEEE 802.11n HT20 mode - Chain 0 )



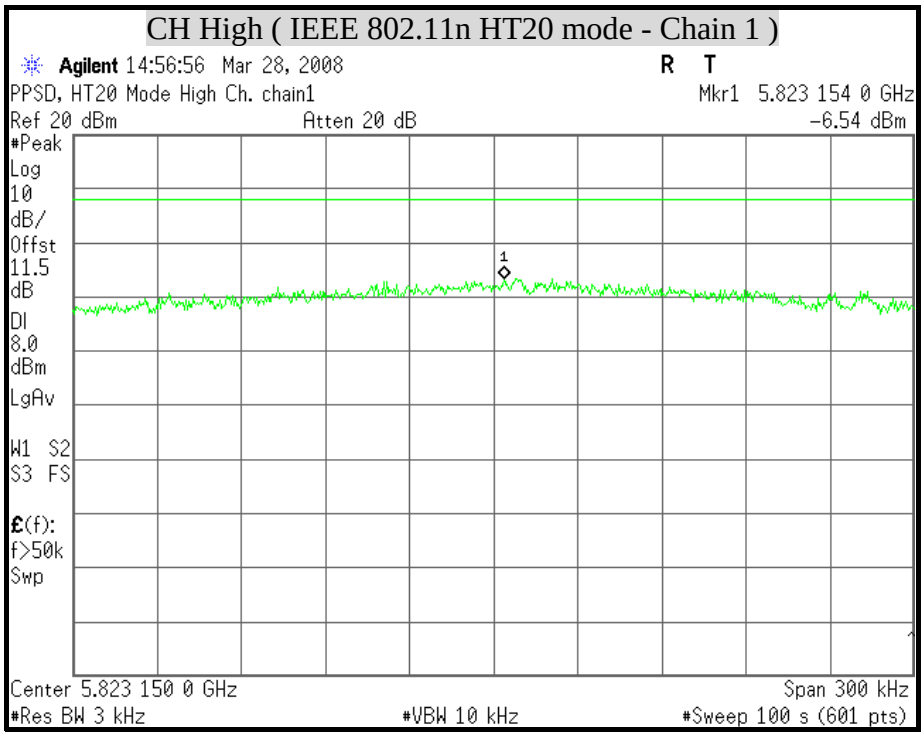
CH Low ( IEEE 802.11n HT20 mode - Chain 1 )



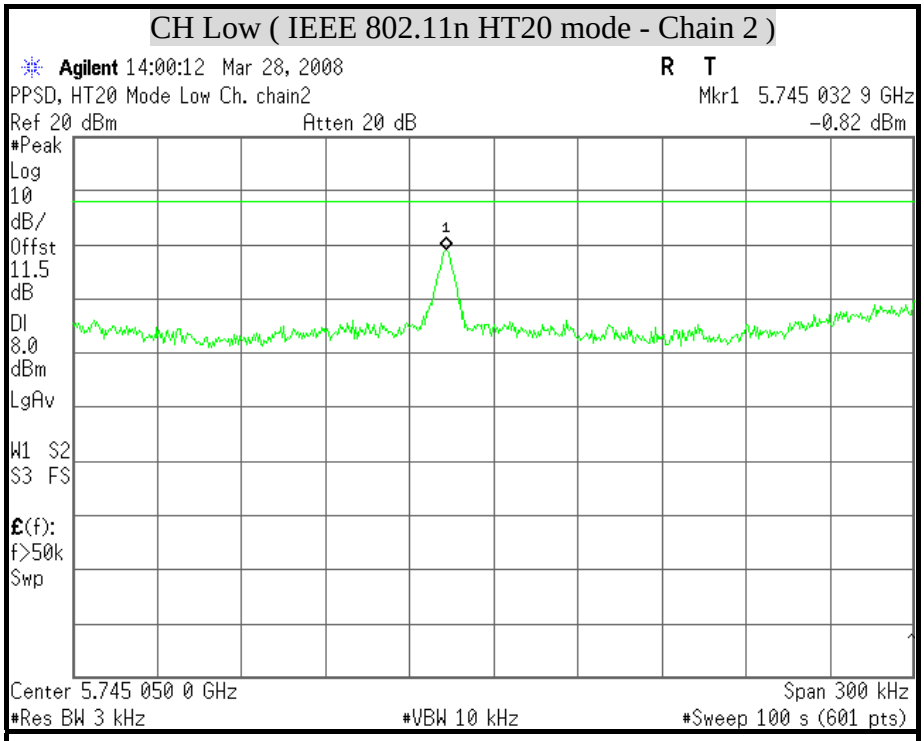

CH Middle ( IEEE 802.11n HT20 mode - Chain 1 )



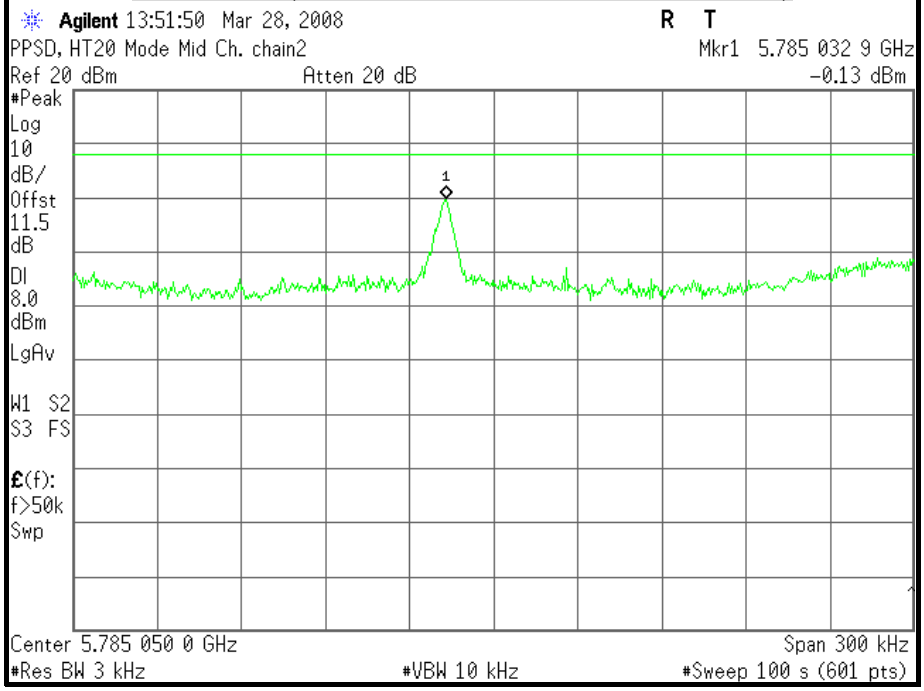
CH High ( IEEE 802.11n HT20 mode - Chain 1 )



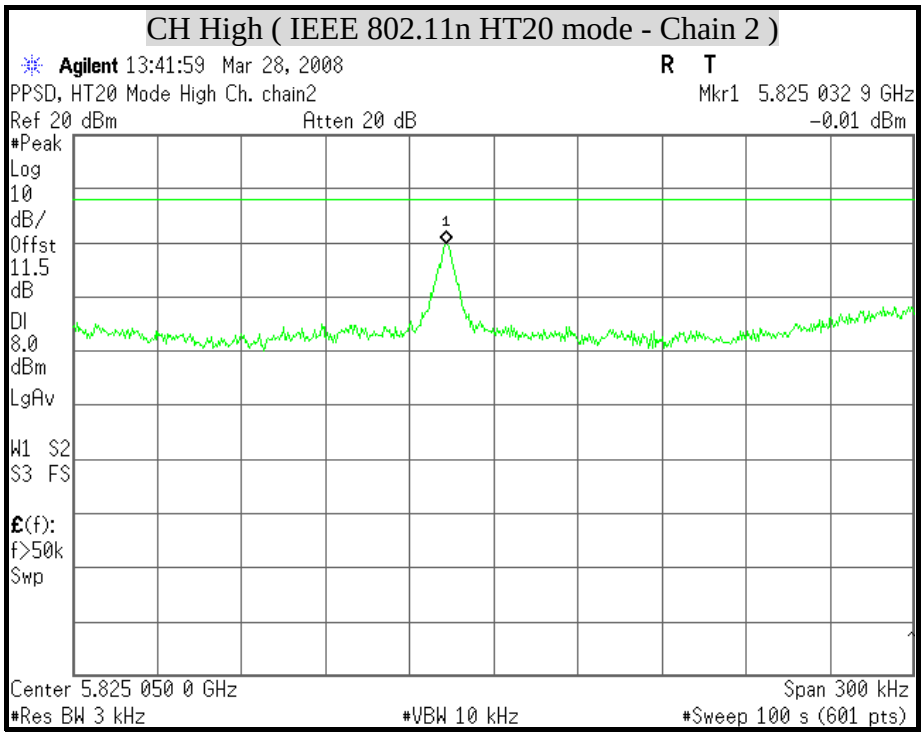
CH Low ( IEEE 802.11n HT20 mode - Chain 2 )




CH Middle ( IEEE 802.11n HT20 mode - Chain 2 )

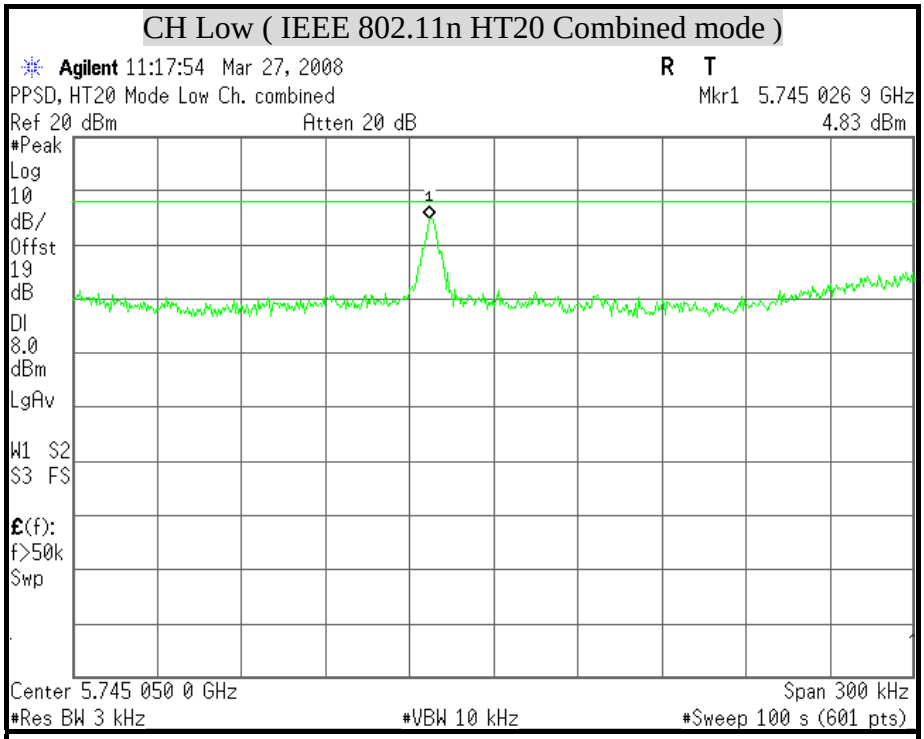


CH High ( IEEE 802.11n HT20 mode - Chain 2 )

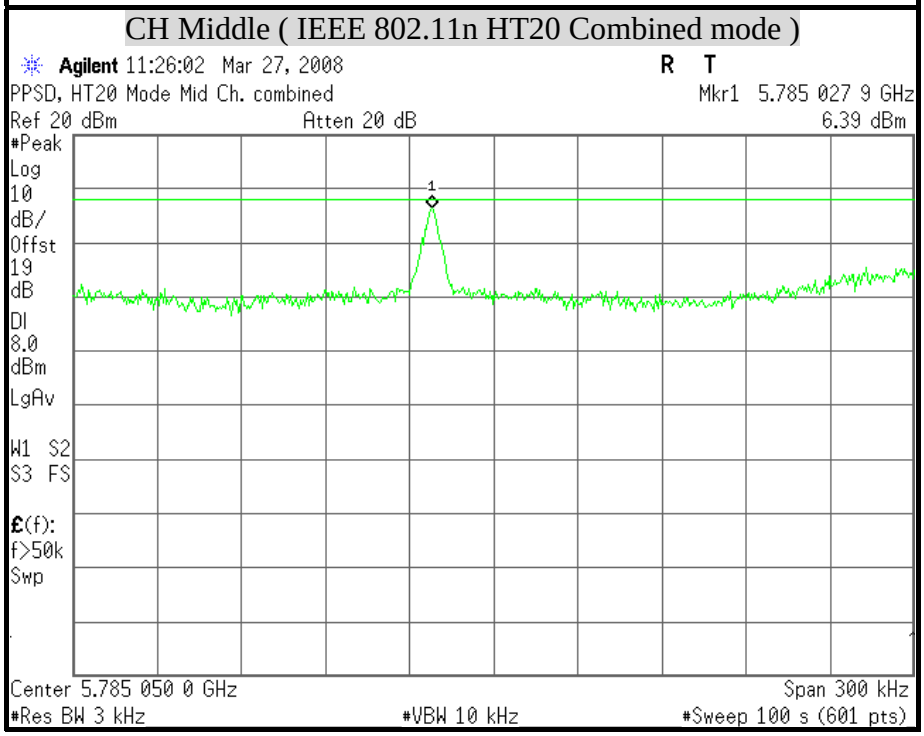


## POWER SPECTRAL DENSITY ( IEEE 802.11n HT20 Combined mode )

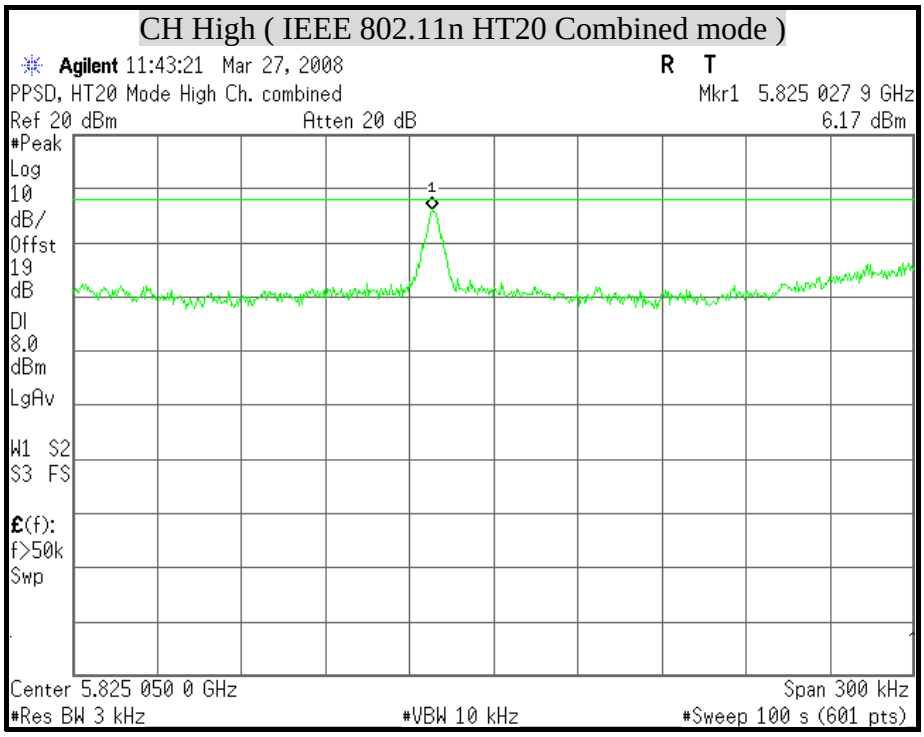
CH Low ( IEEE 802.11n HT20 Combined mode )




CH Middle ( IEEE 802.11n HT20 Combined mode )

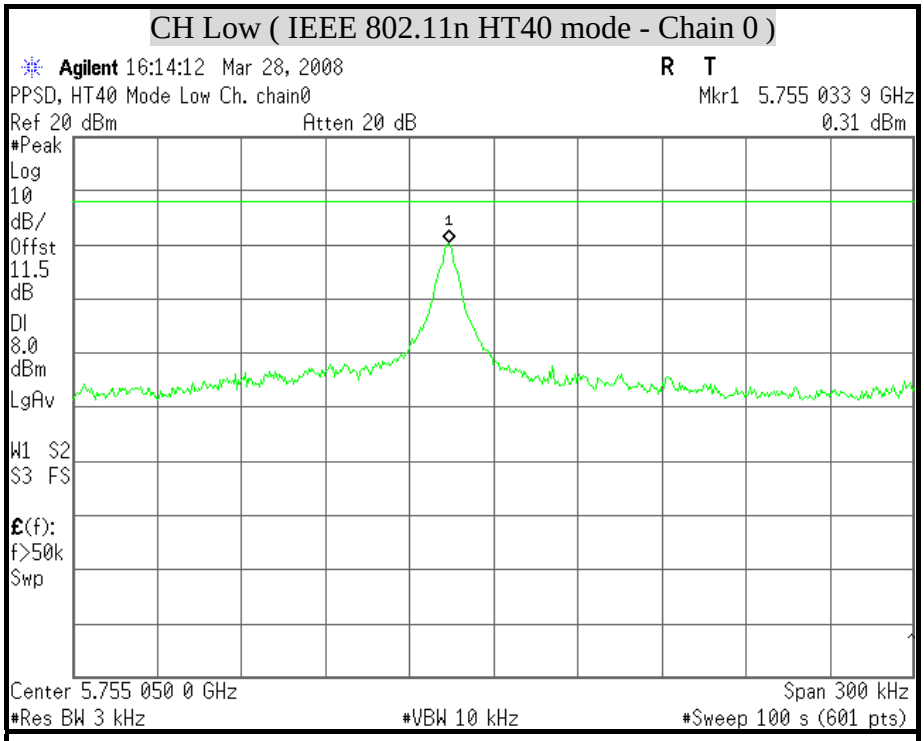


CH High ( IEEE 802.11n HT20 Combined mode )

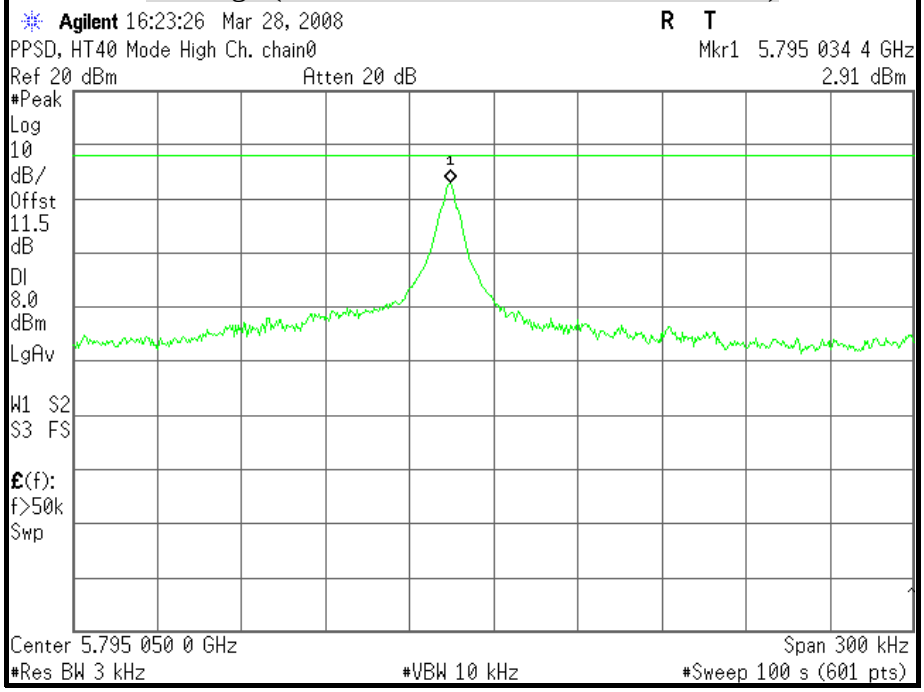


## POWER SPECTRAL DENSITY ( IEEE 802.11n HT40 mode )

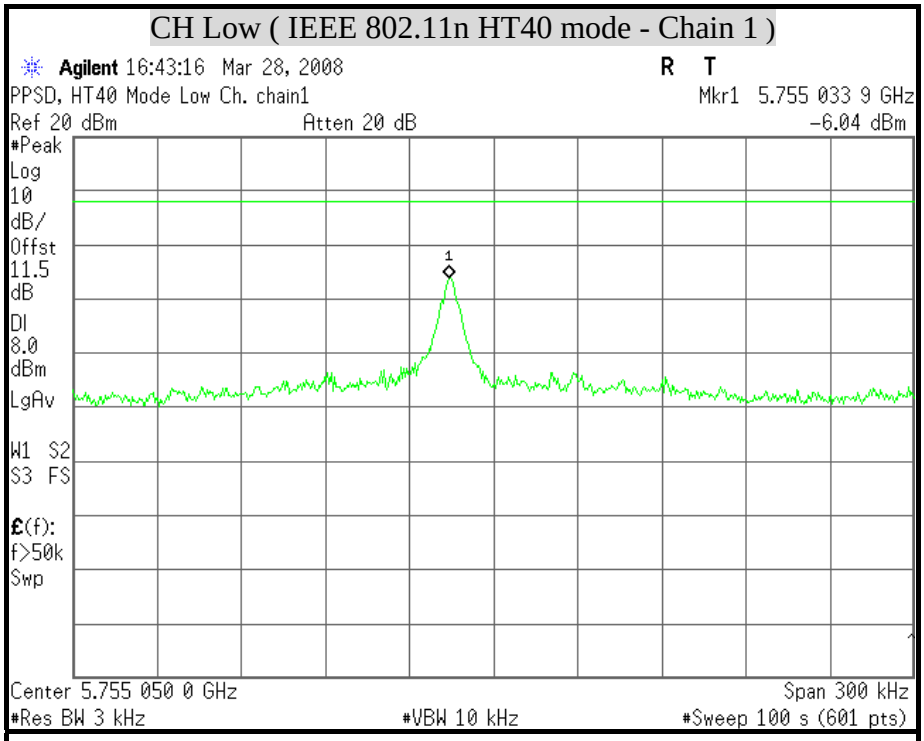
CH Low ( IEEE 802.11n HT40 mode - Chain 0 )



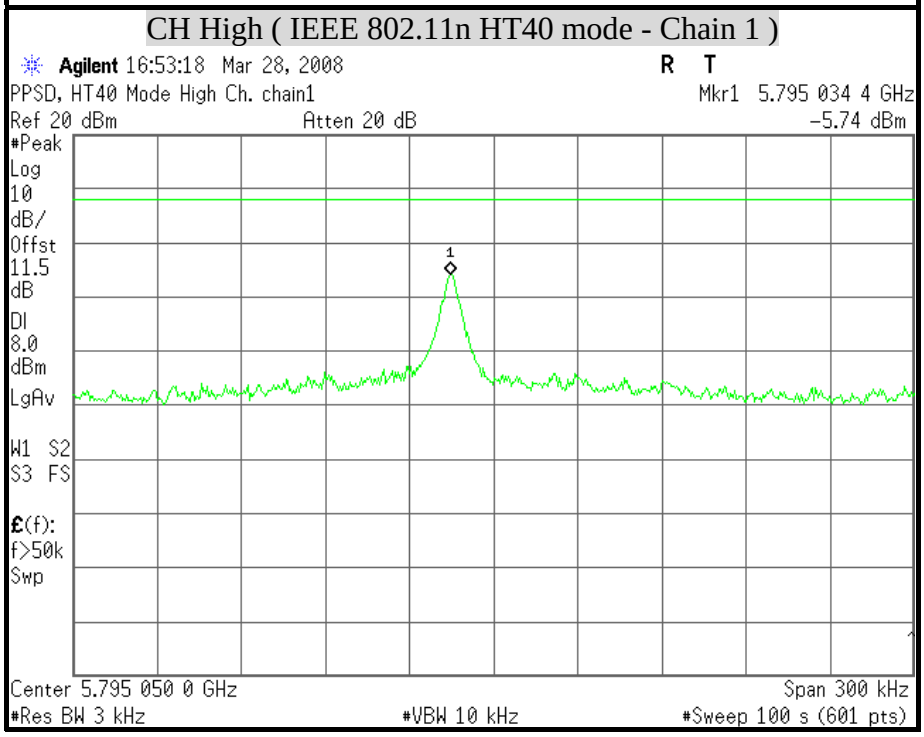

CH High ( IEEE 802.11n HT40 mode - Chain 0 )



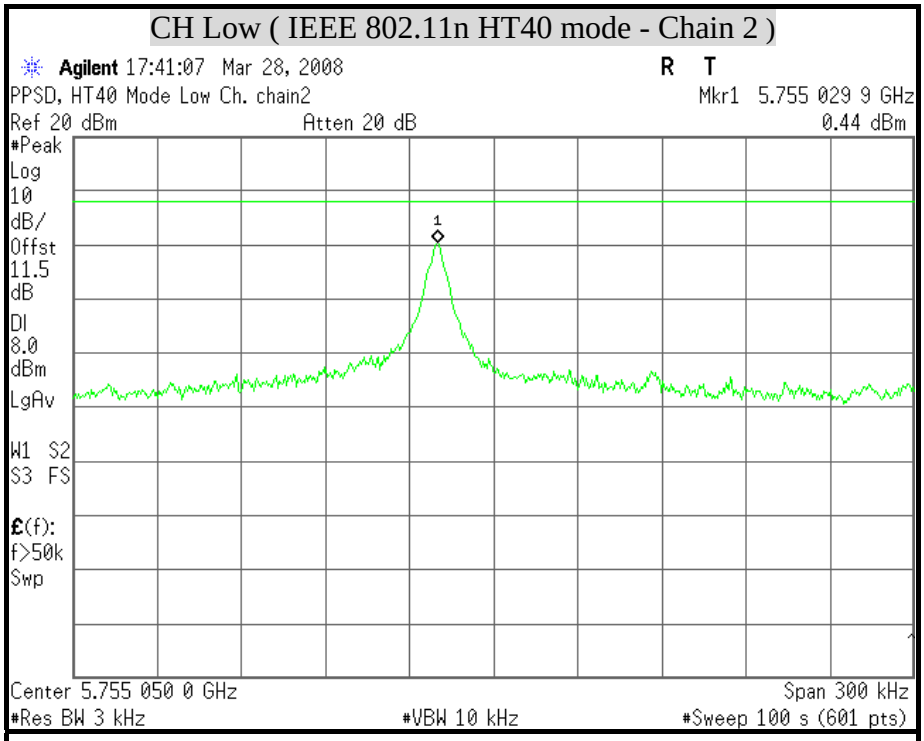
CH Low ( IEEE 802.11n HT40 mode - Chain 1 )



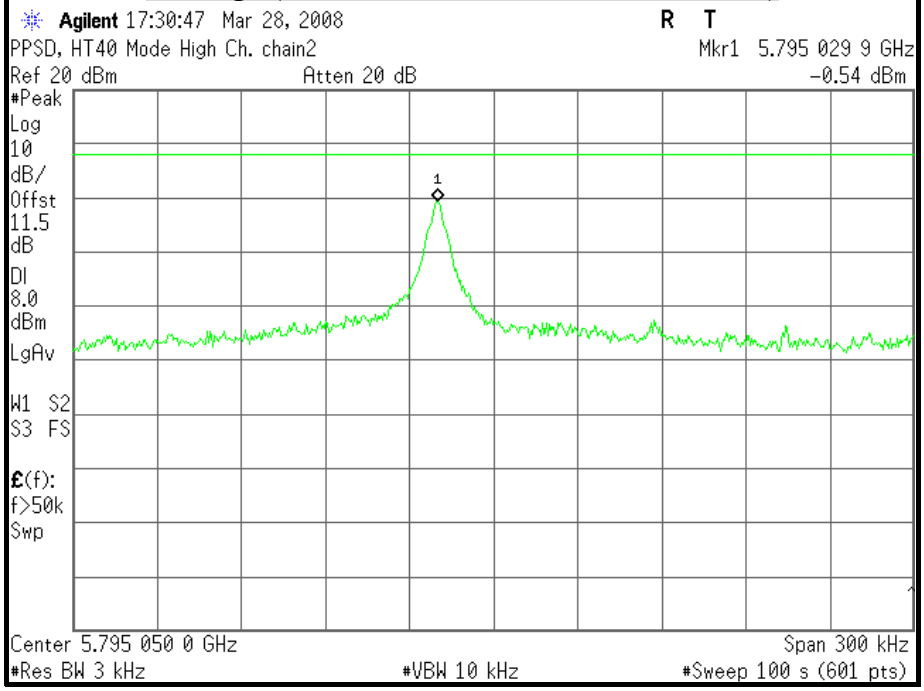

CH High ( IEEE 802.11n HT40 mode - Chain 1 )



CH Low ( IEEE 802.11n HT40 mode - Chain 2 )

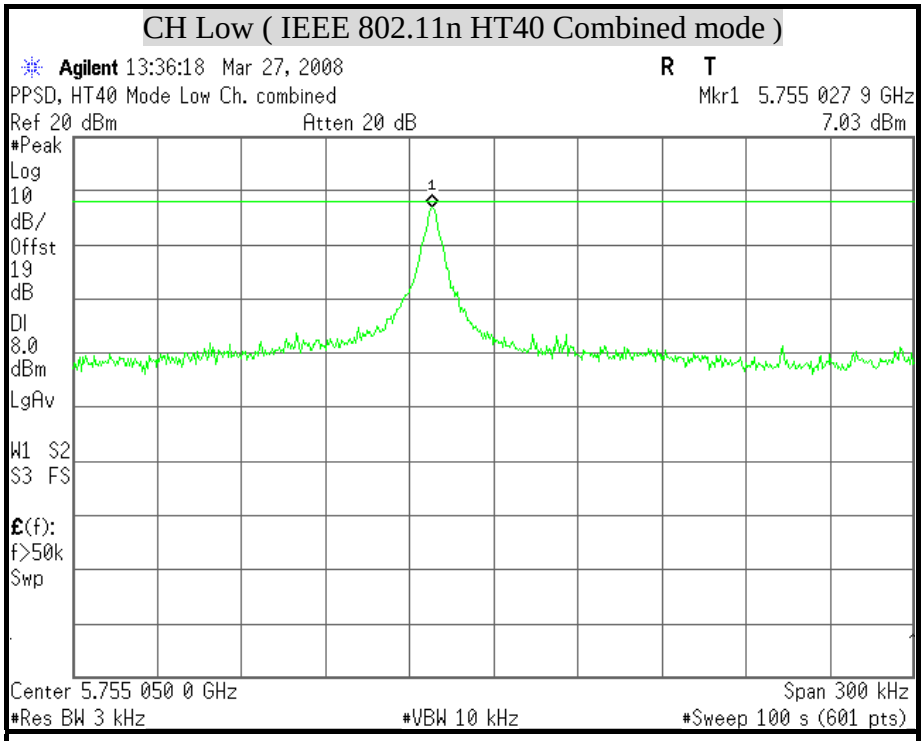



CH High ( IEEE 802.11n HT40 mode - Chain 2 )

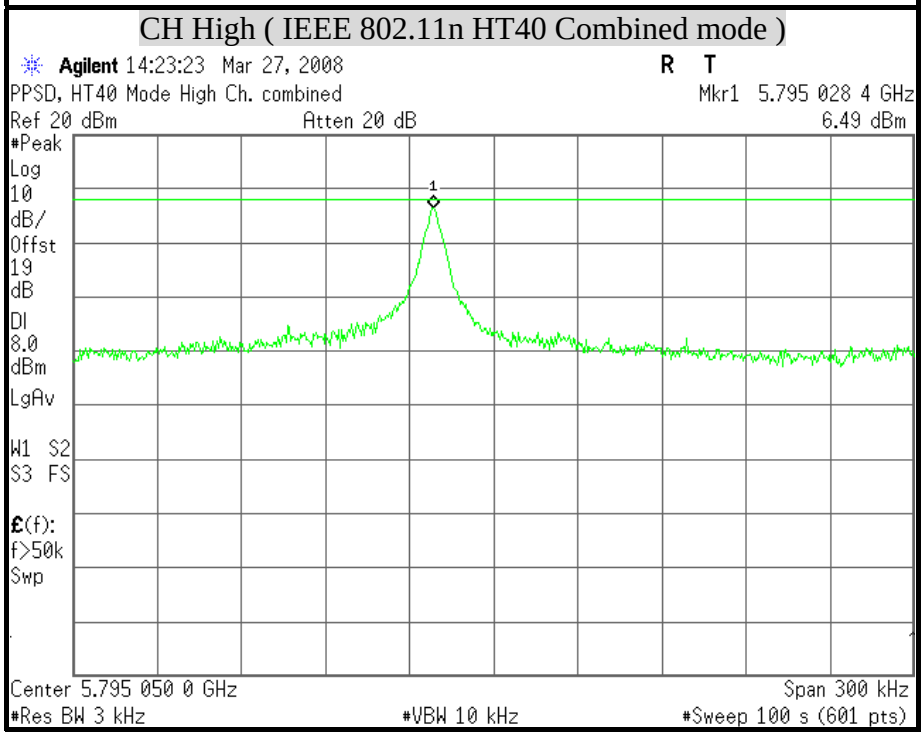


## POWER SPECTRAL DENSITY ( IEEE 802.11n HT40 Combined mode )

CH Low ( IEEE 802.11n HT40 Combined mode )

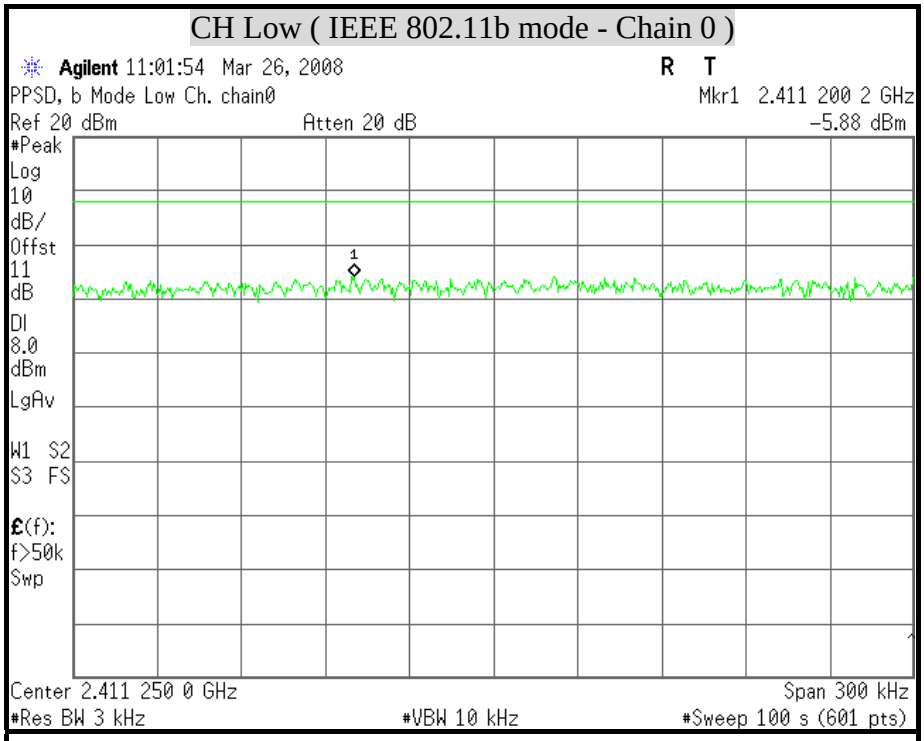



CH High ( IEEE 802.11n HT40 Combined mode )

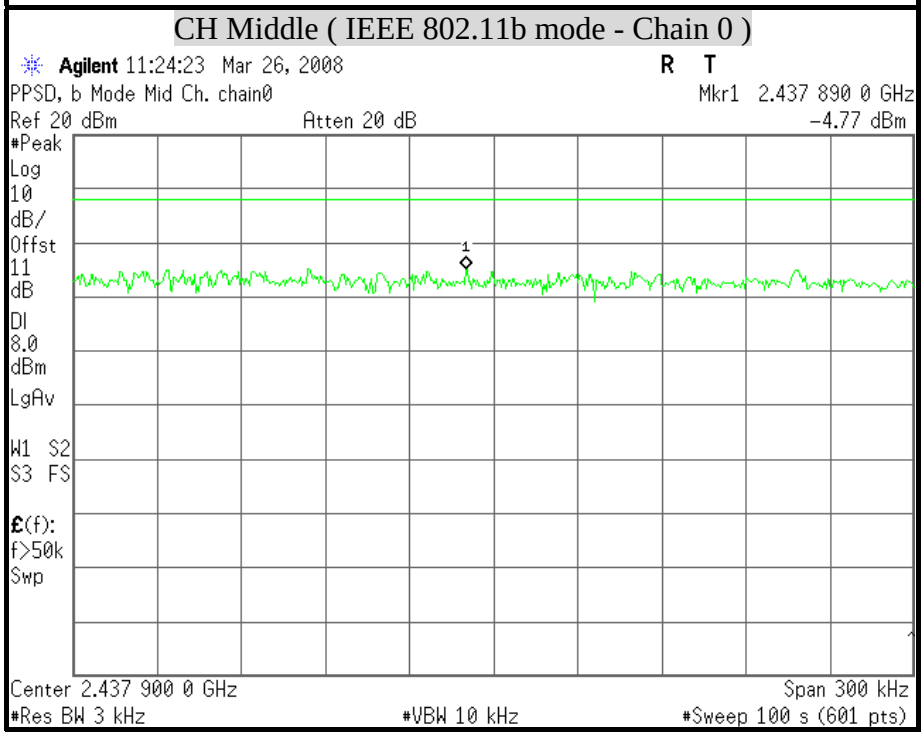


## POWER SPECTRAL DENSITY ( IEEE 802.11b mode)

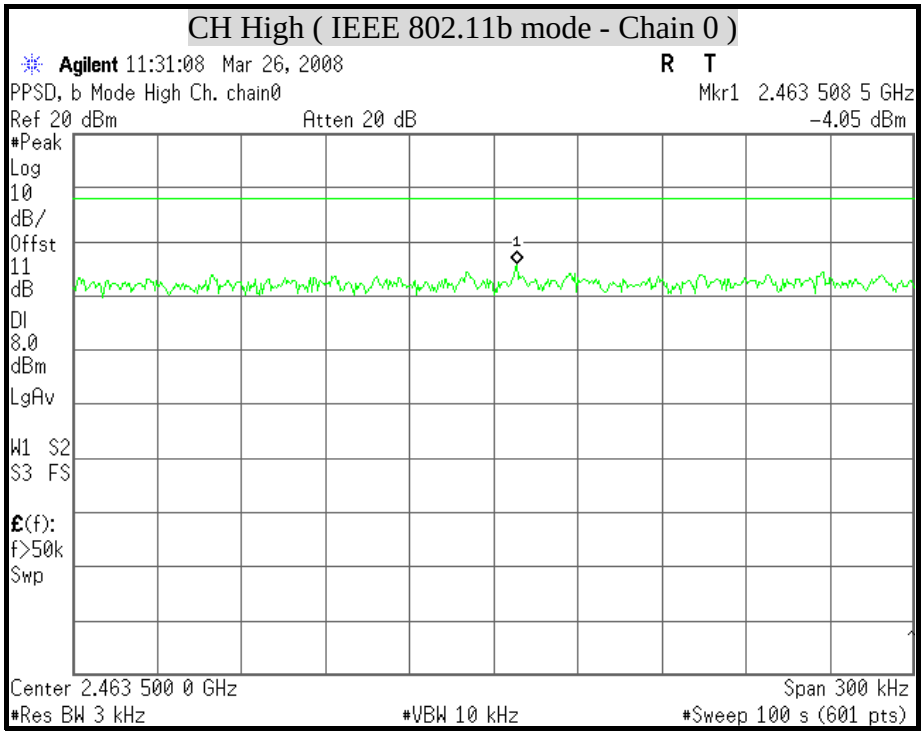
CH Low ( IEEE 802.11b mode - Chain 0 )



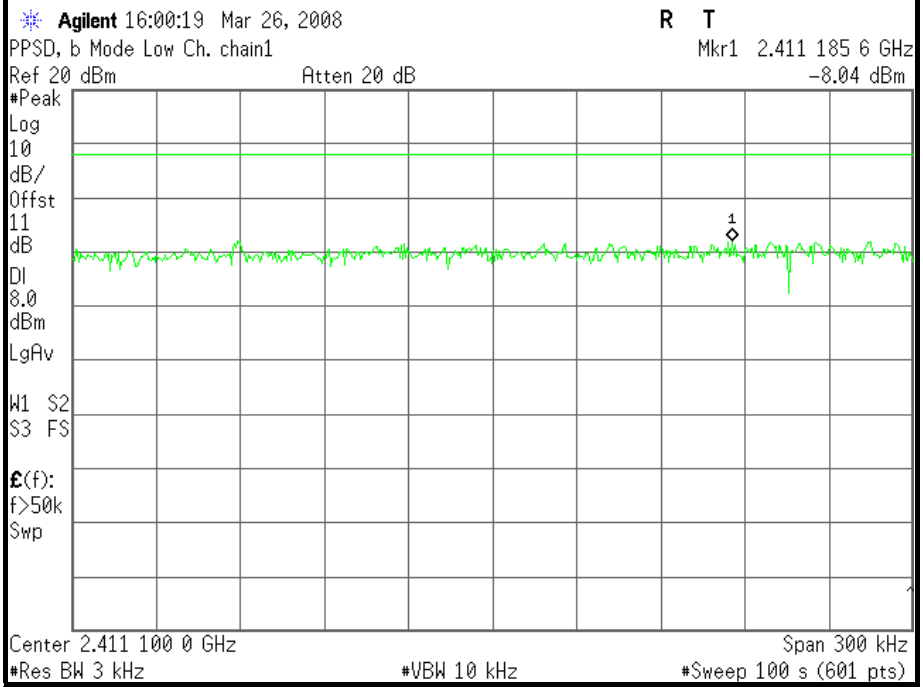

CH Middle ( IEEE 802.11b mode - Chain 0 )



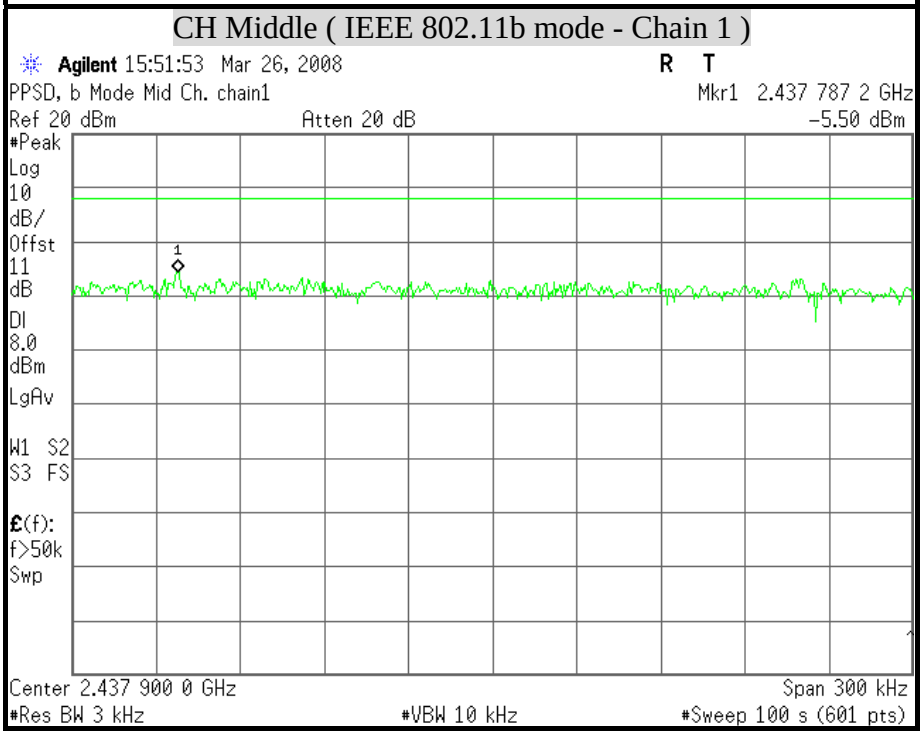
CH High ( IEEE 802.11b mode - Chain 0 )



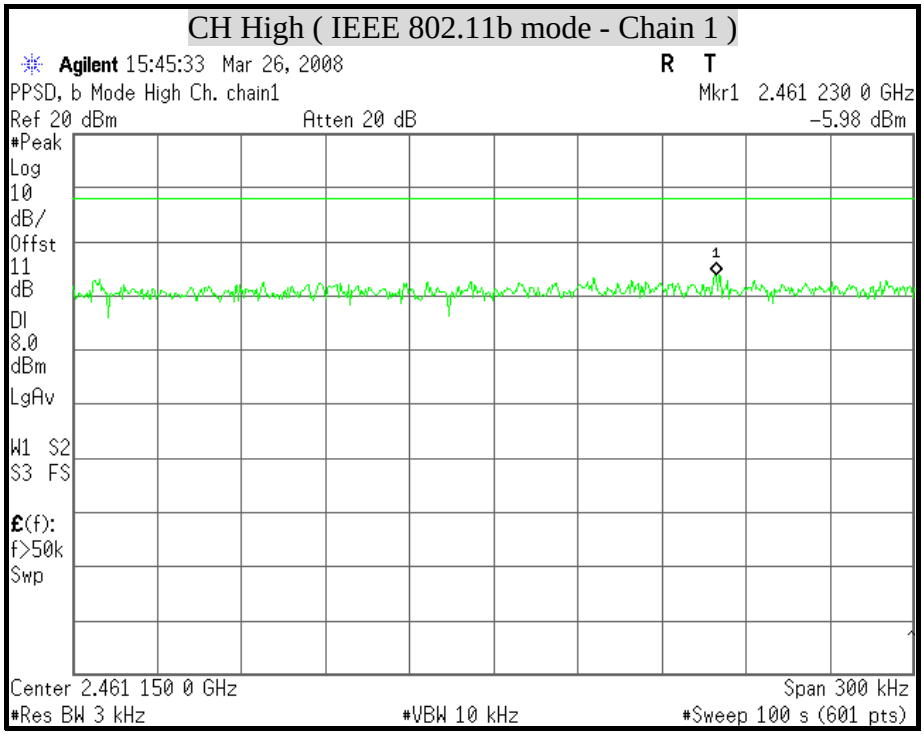
CH Low ( IEEE 802.11b mode - Chain 1 )



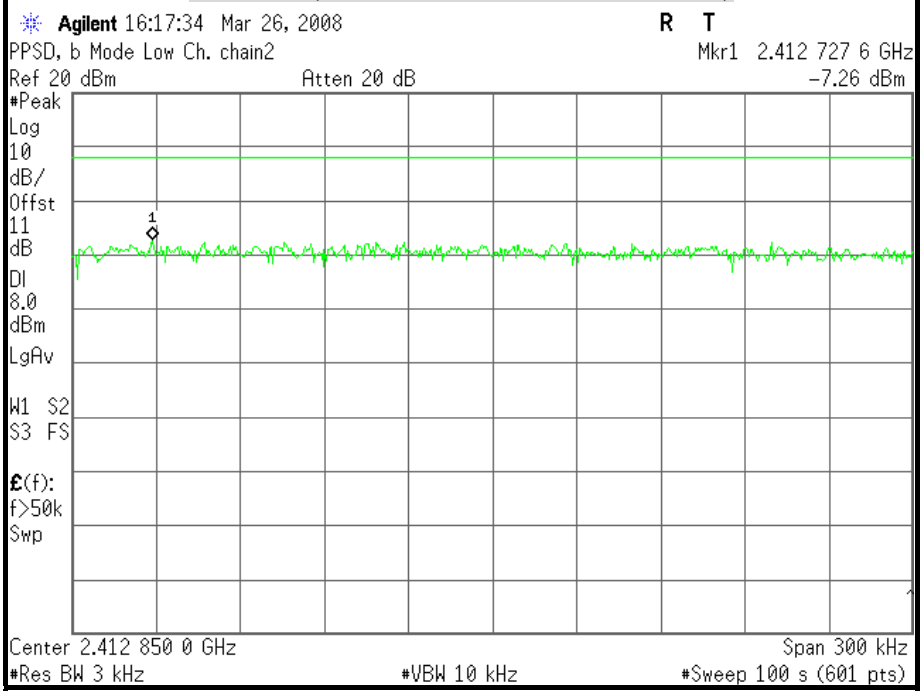

CH Middle ( IEEE 802.11b mode - Chain 1 )



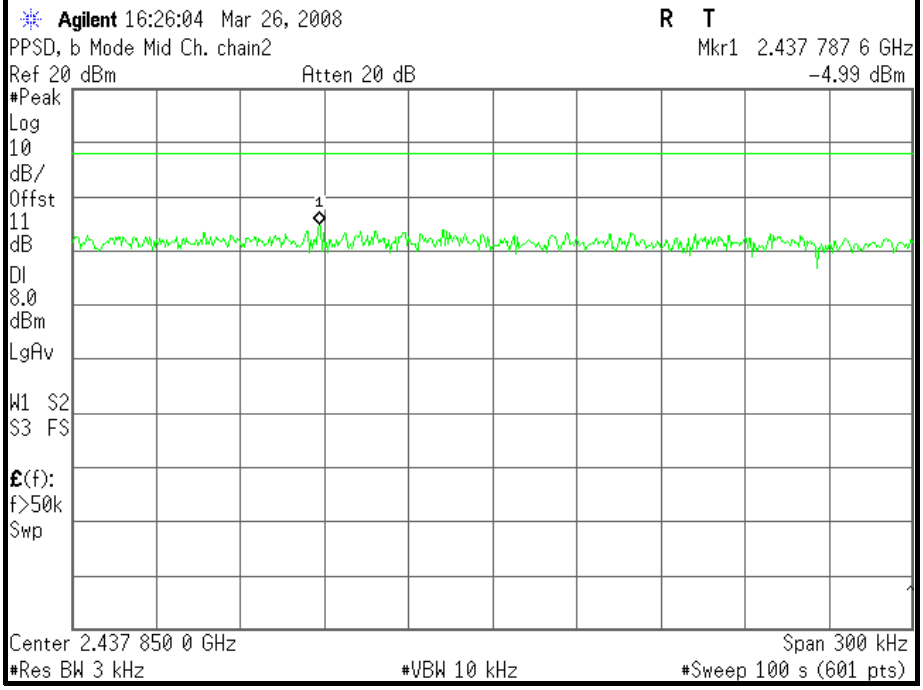
CH High ( IEEE 802.11b mode - Chain 1 )



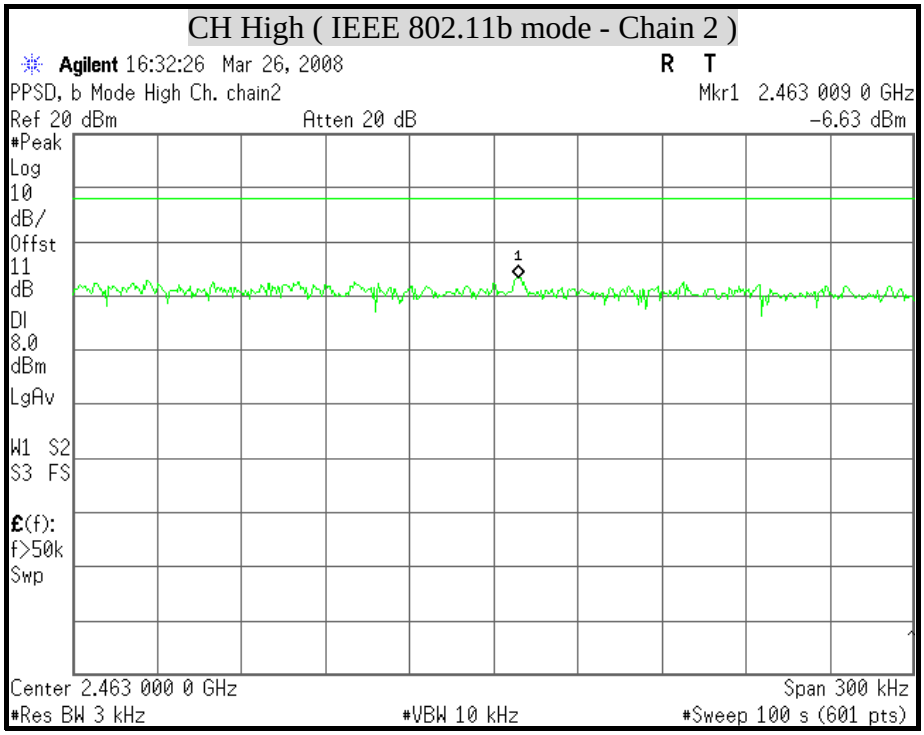
CH Low ( IEEE 802.11b mode - Chain 2 )




CH Middle ( IEEE 802.11b mode - Chain 2 )

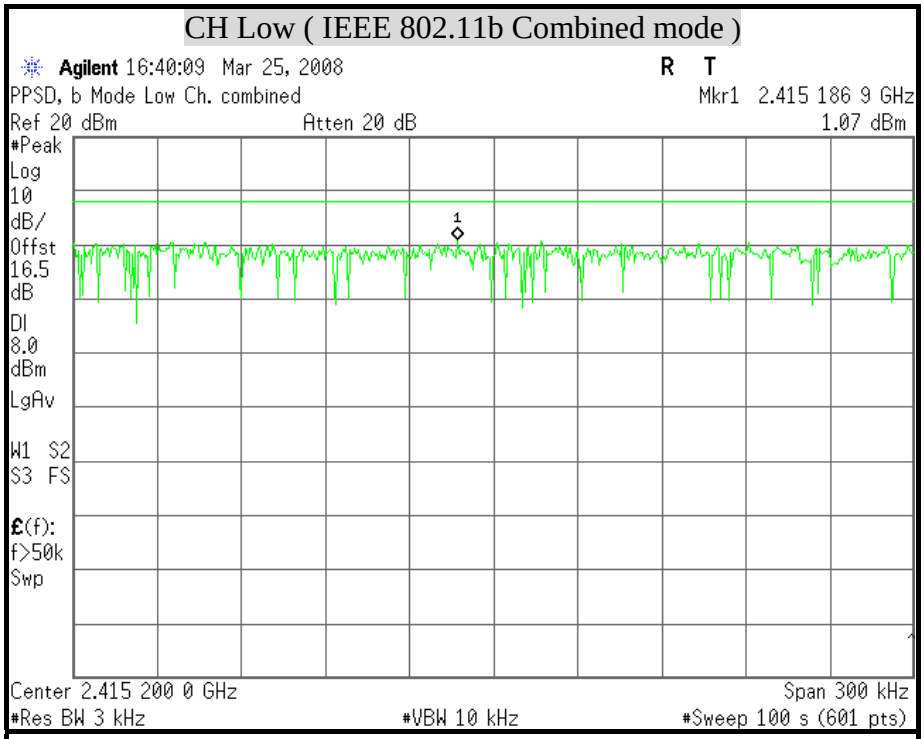


CH High ( IEEE 802.11b mode - Chain 2 )

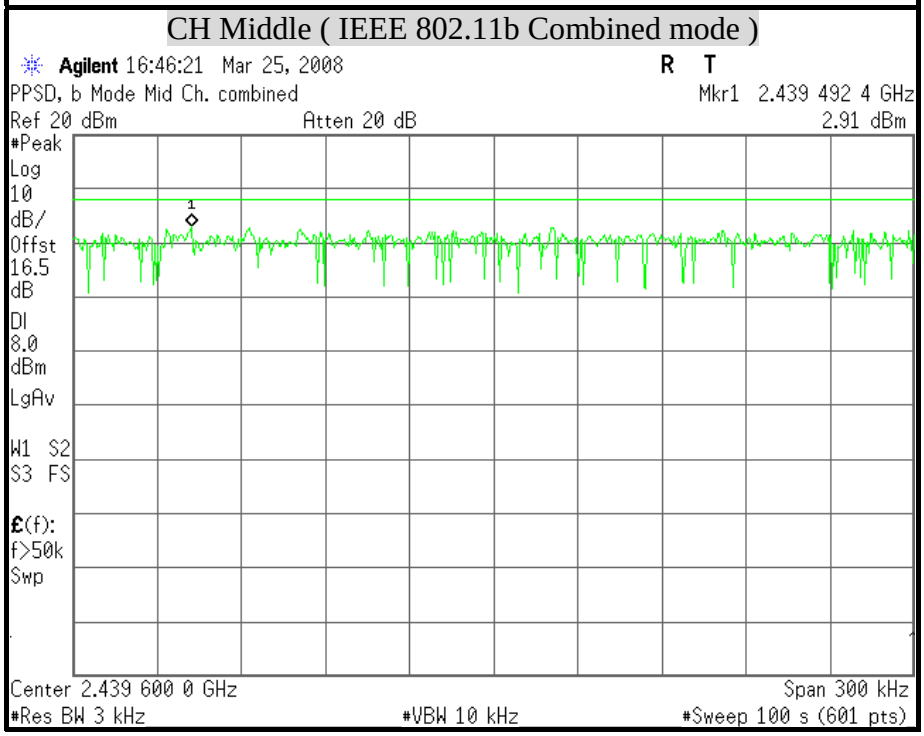


## POWER SPECTRAL DENSITY ( IEEE 802.11b Combined mode )

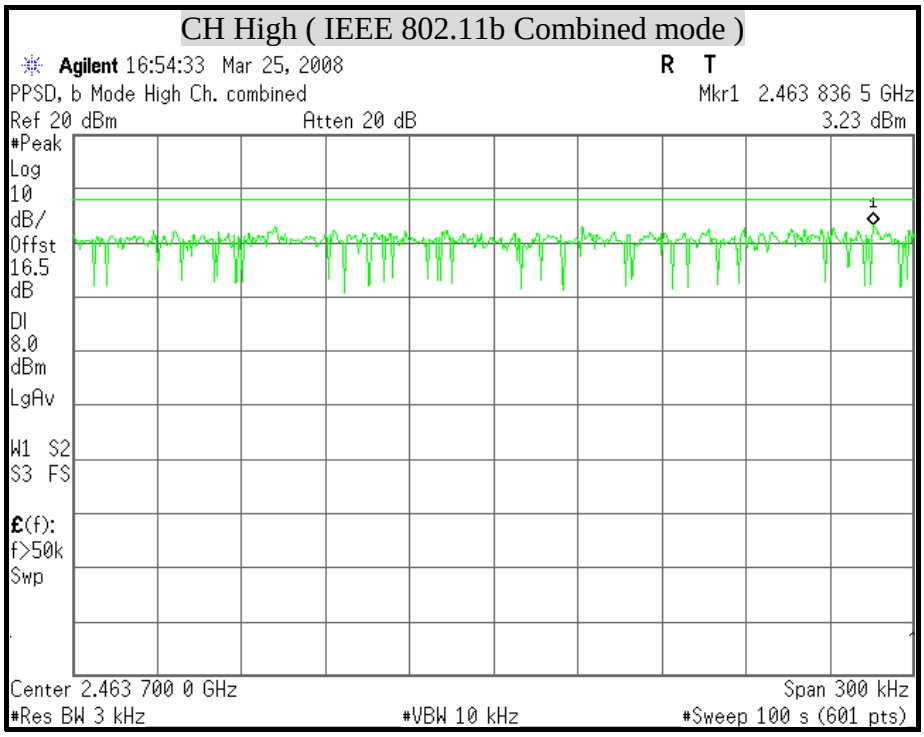
CH Low ( IEEE 802.11b Combined mode )




CH Middle ( IEEE 802.11b Combined mode )

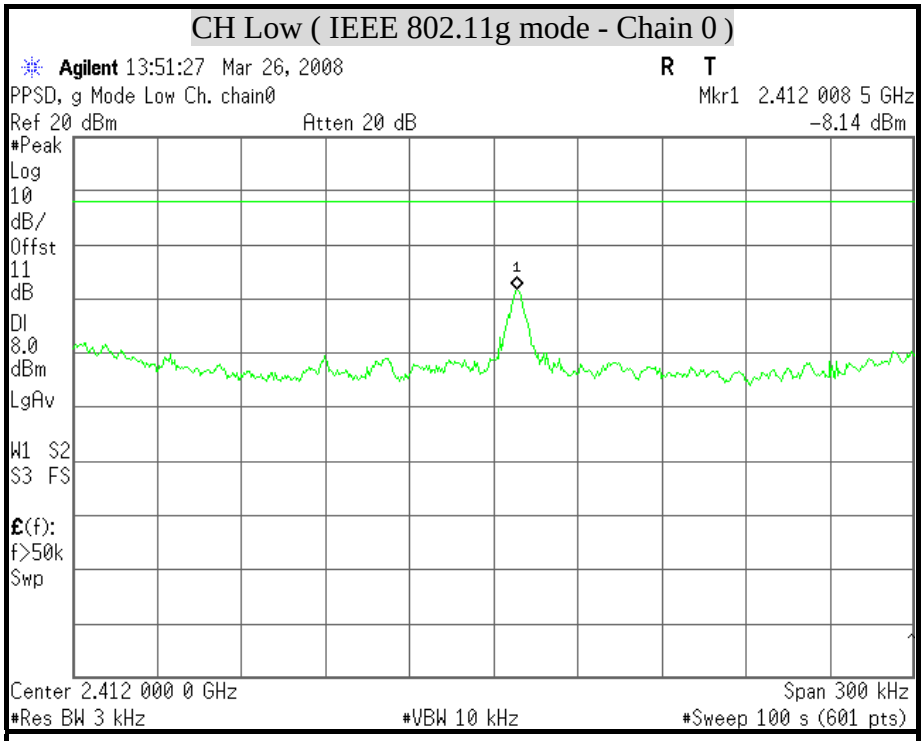


CH High ( IEEE 802.11b Combined mode )

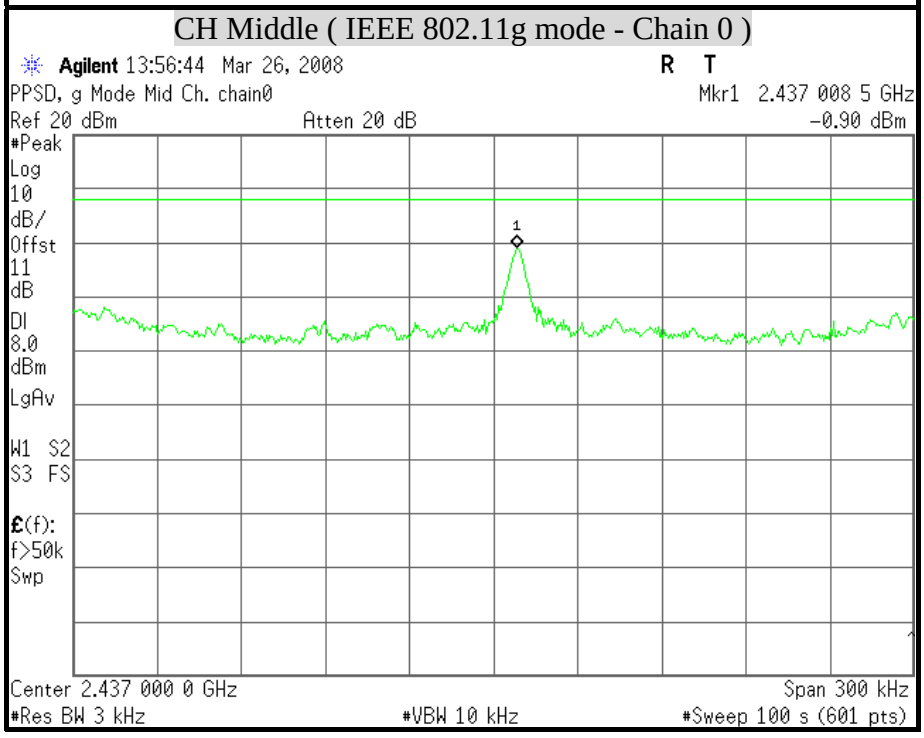


## POWER SPECTRAL DENSITY ( IEEE 802.11g mode)

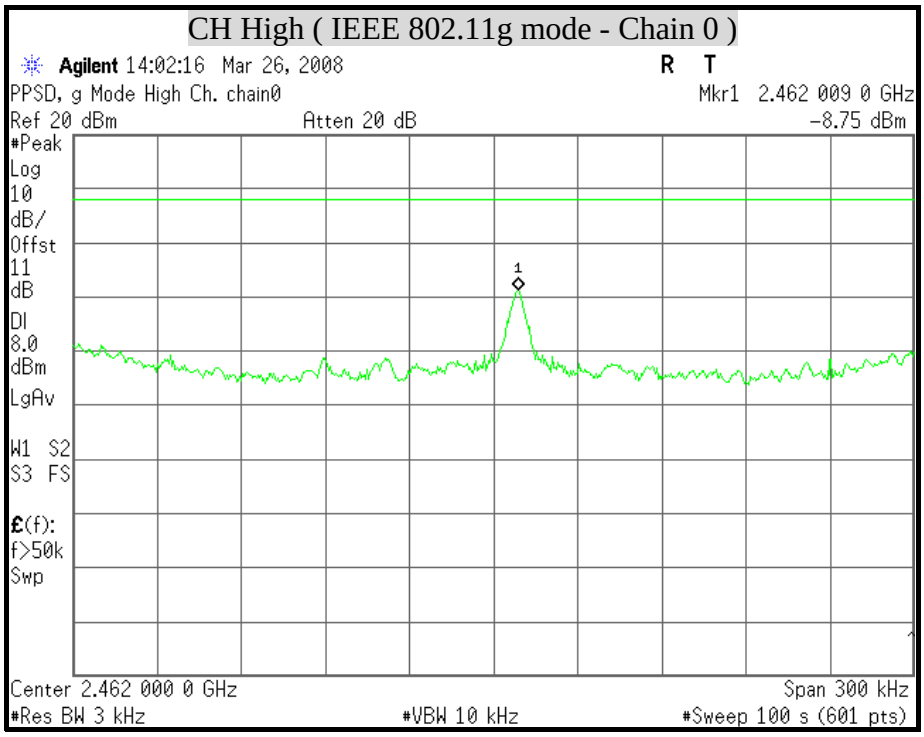
CH Low ( IEEE 802.11g mode - Chain 0 )



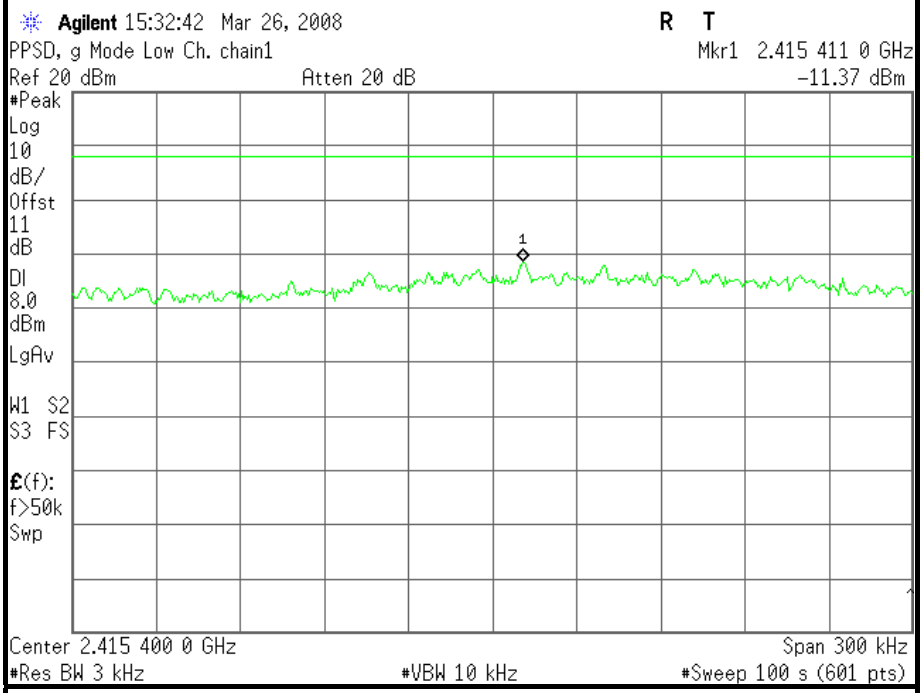

CH Middle ( IEEE 802.11g mode - Chain 0 )



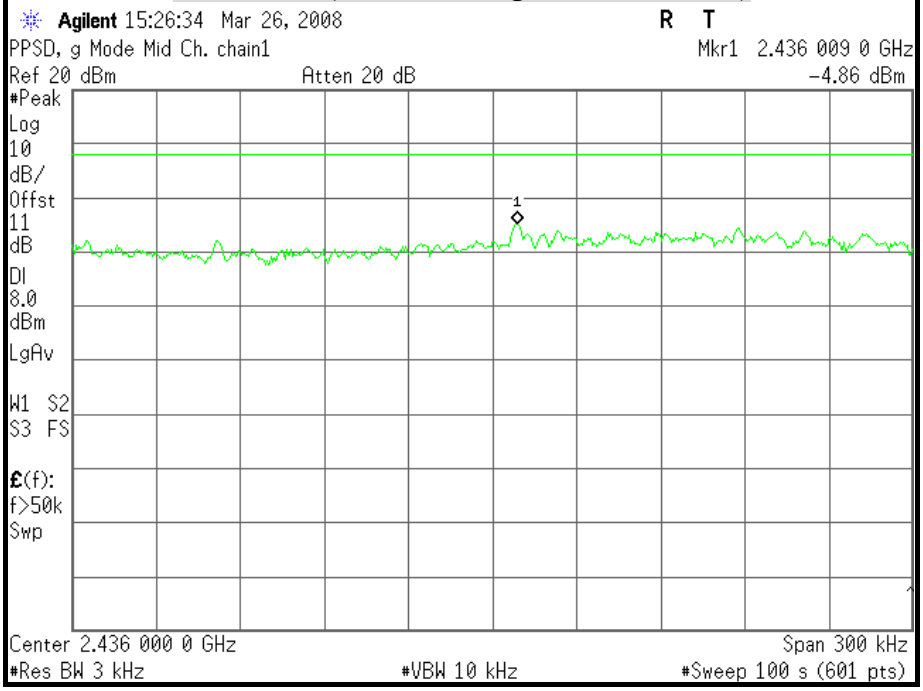
CH High ( IEEE 802.11g mode - Chain 0 )



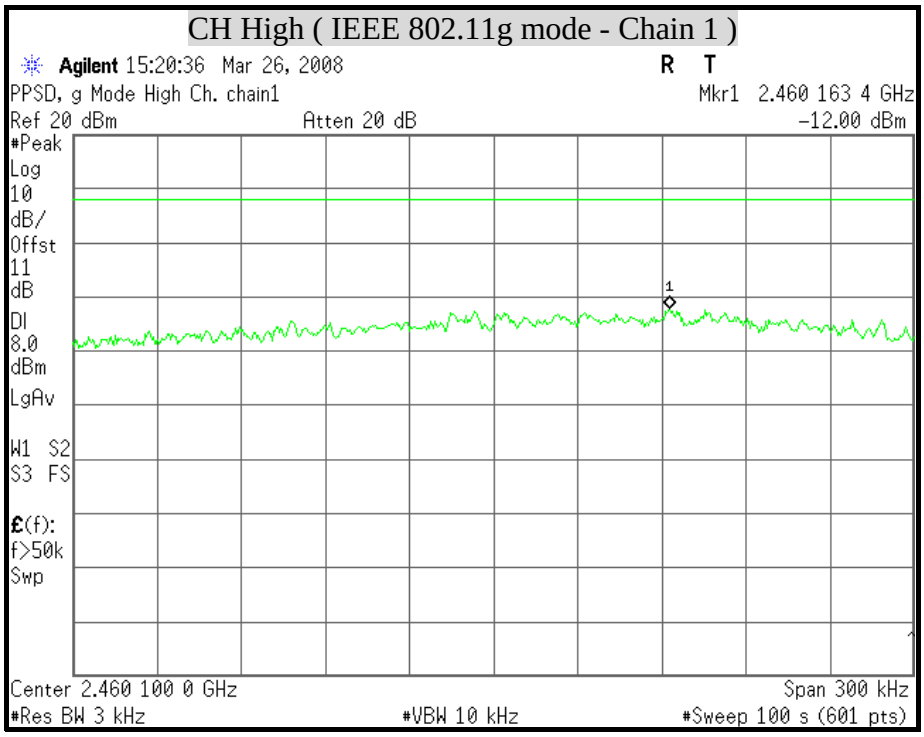
CH Low ( IEEE 802.11g mode - Chain 1 )



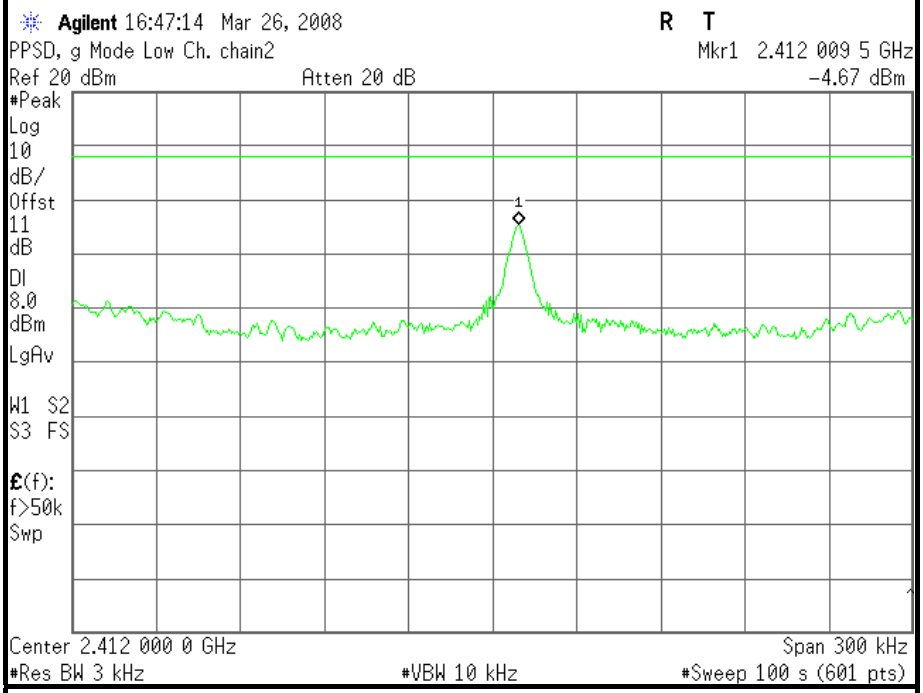

CH Middle ( IEEE 802.11g mode - Chain 1 )



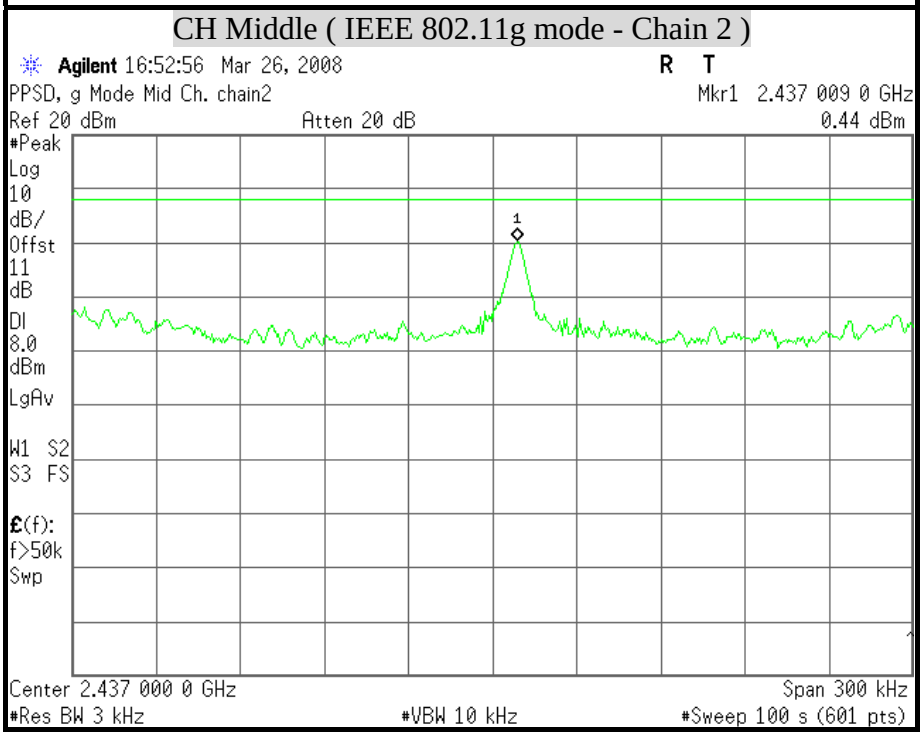
CH High ( IEEE 802.11g mode - Chain 1 )



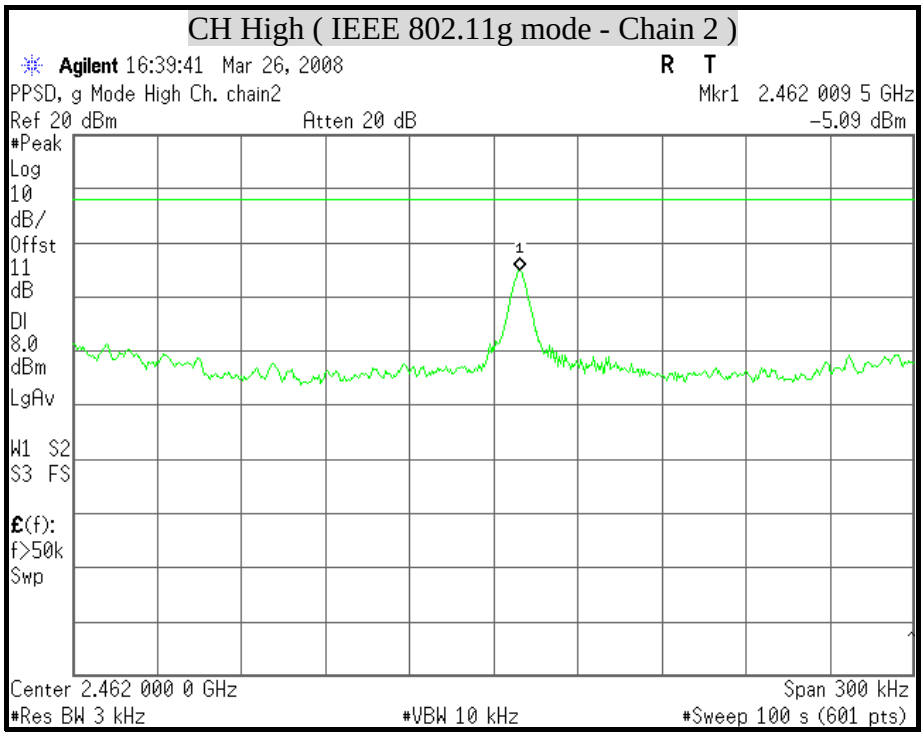
CH Low ( IEEE 802.11g mode - Chain 2 )




CH Middle ( IEEE 802.11g mode - Chain 2 )

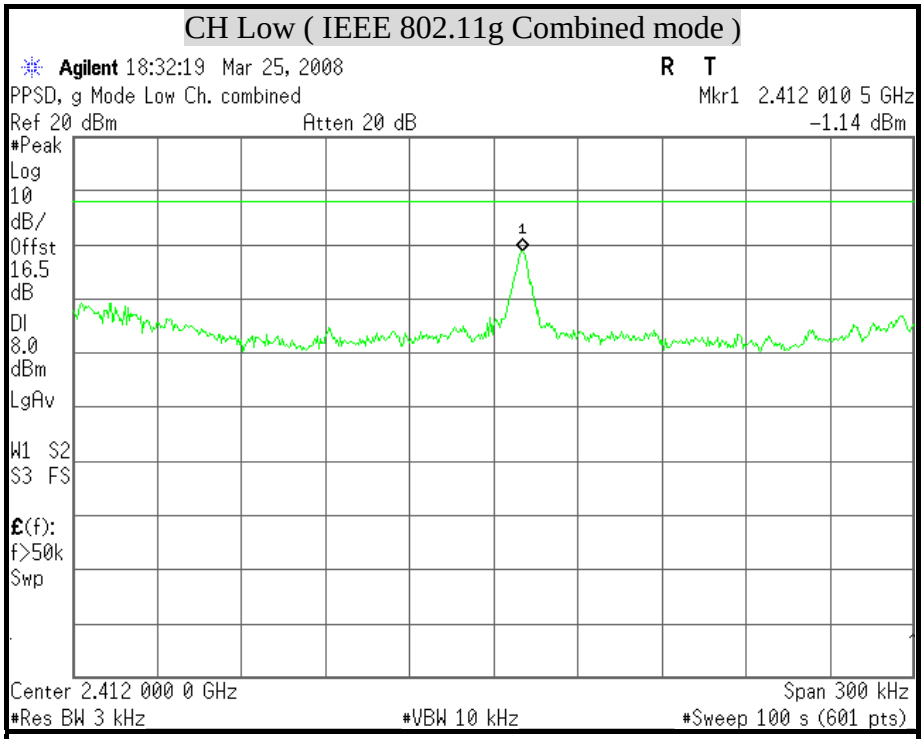


CH High ( IEEE 802.11g mode - Chain 2 )

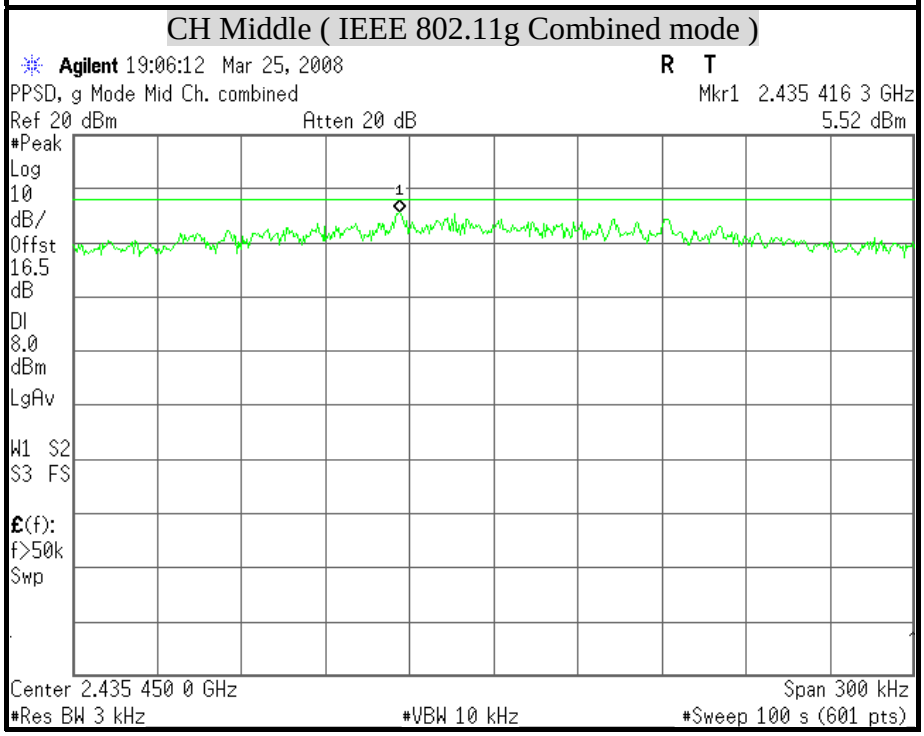


## POWER SPECTRAL DENSITY ( IEEE 802.11g Combined mode )

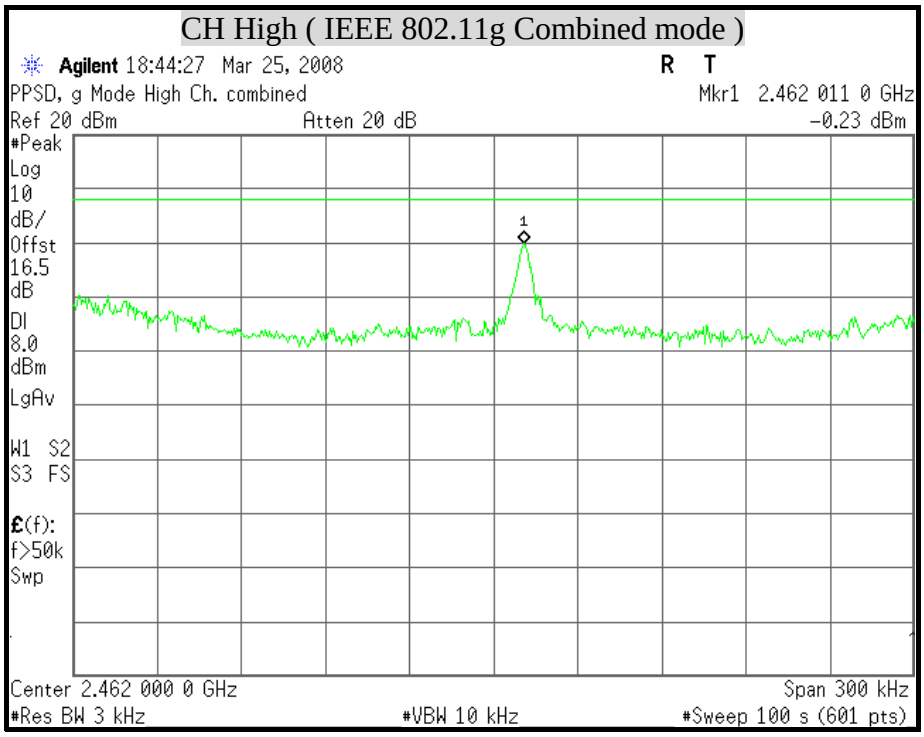
CH Low ( IEEE 802.11g Combined mode )




CH Middle ( IEEE 802.11g Combined mode )

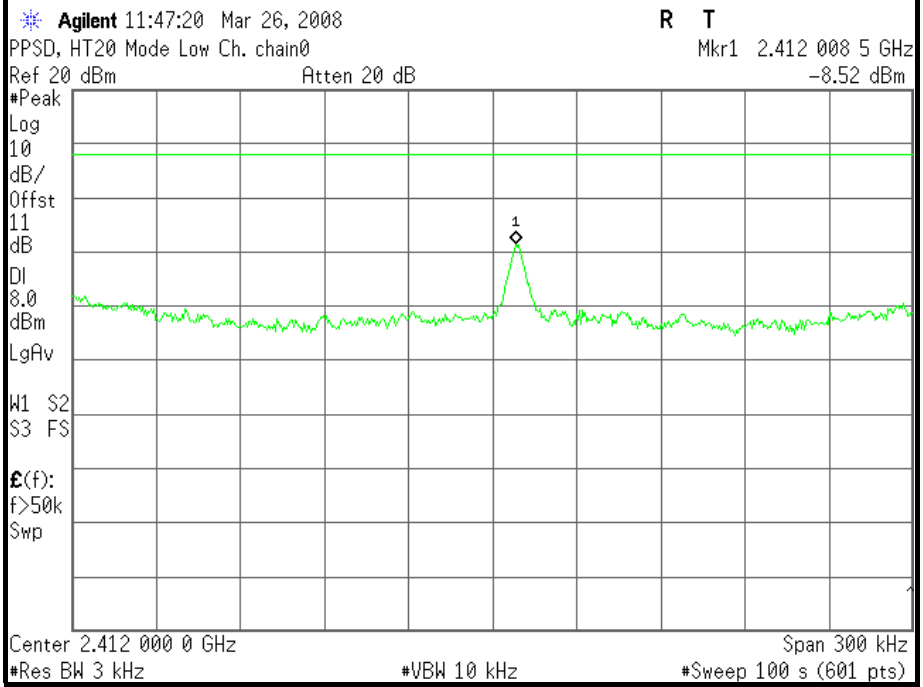


CH High ( IEEE 802.11g Combined mode )

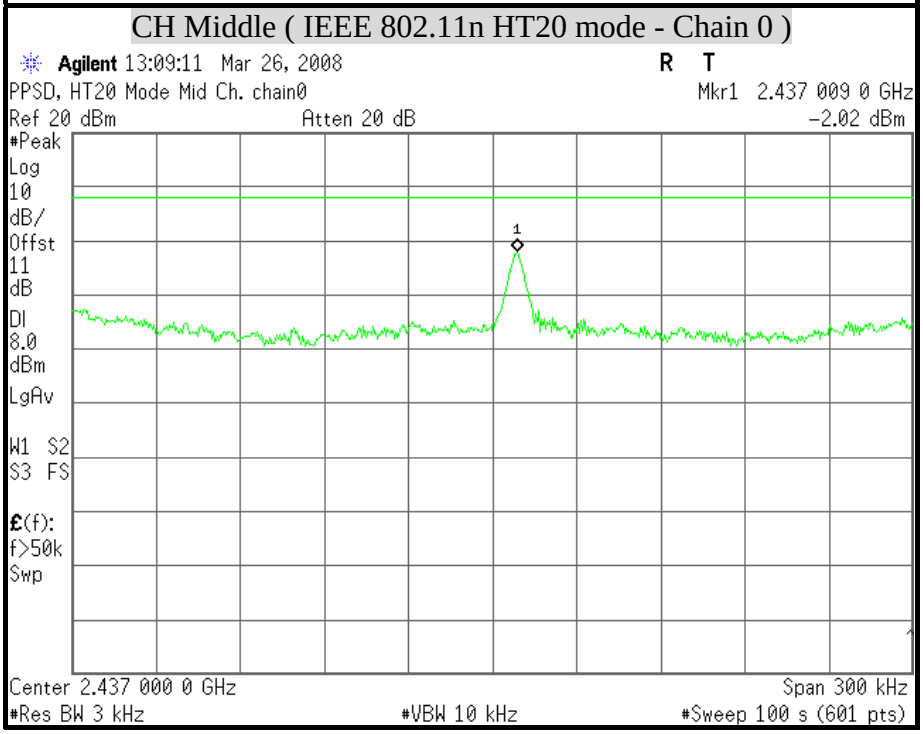


## POWER SPECTRAL DENSITY ( IEEE 802.11n HT20 mode )

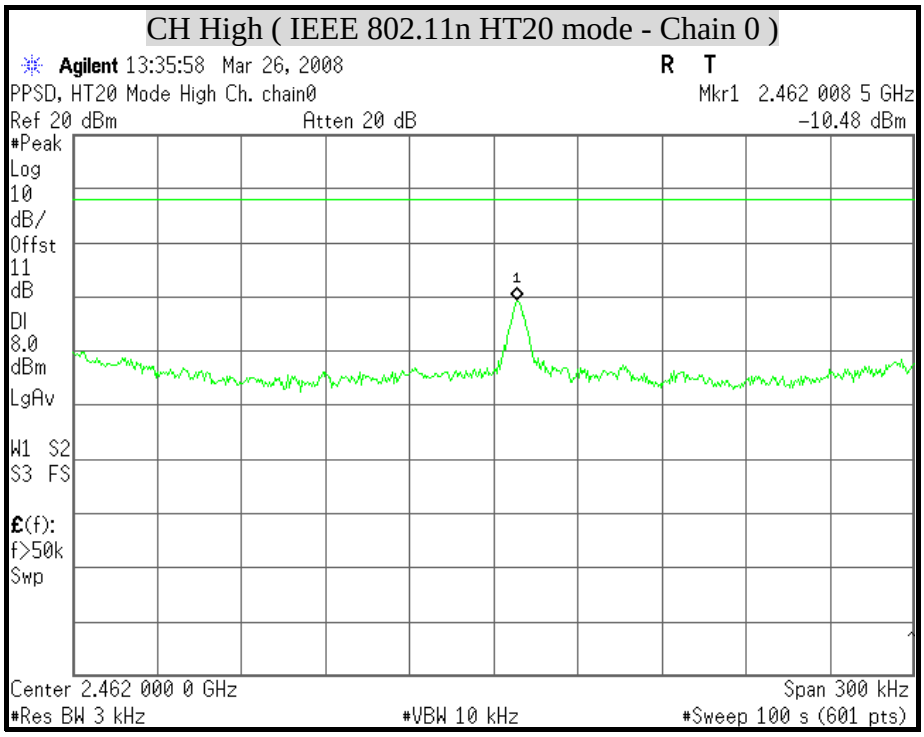
CH Low ( IEEE 802.11n HT20 mode - Chain 0 )



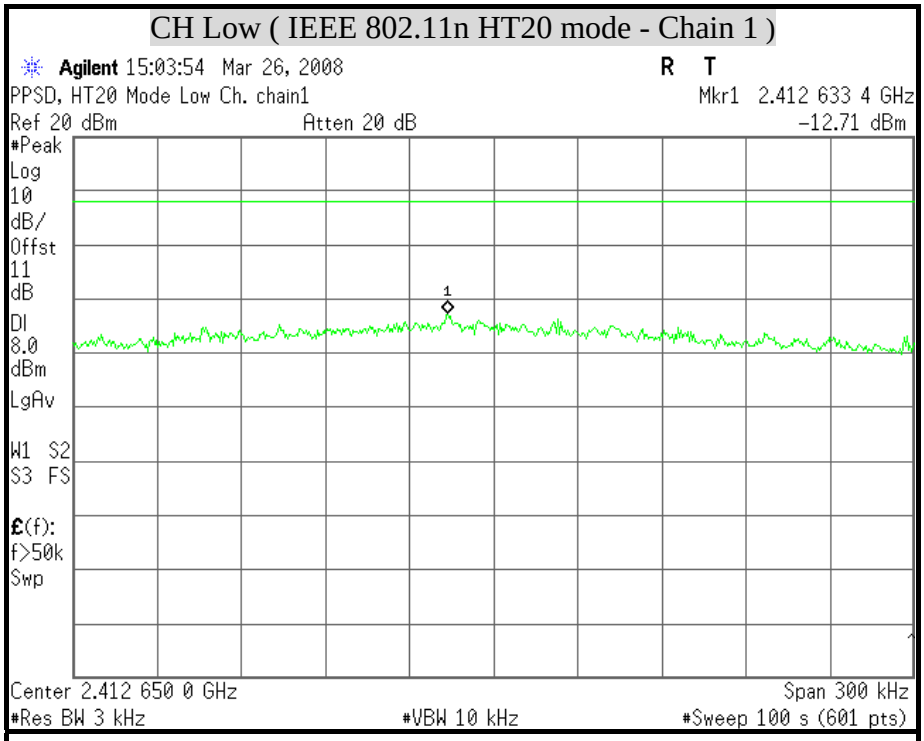

CH Middle ( IEEE 802.11n HT20 mode - Chain 0 )



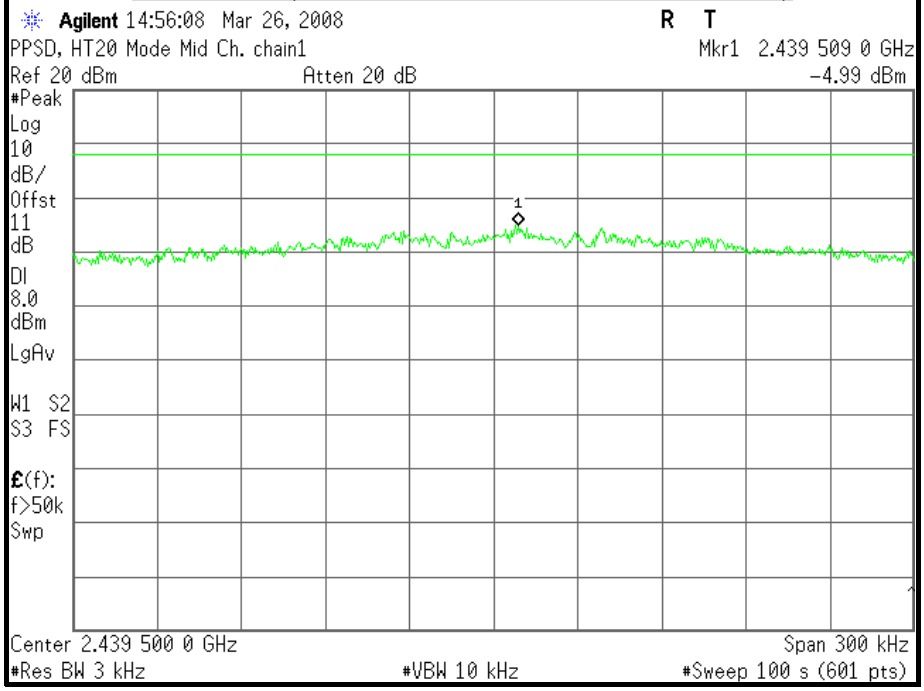
CH High ( IEEE 802.11n HT20 mode - Chain 0 )



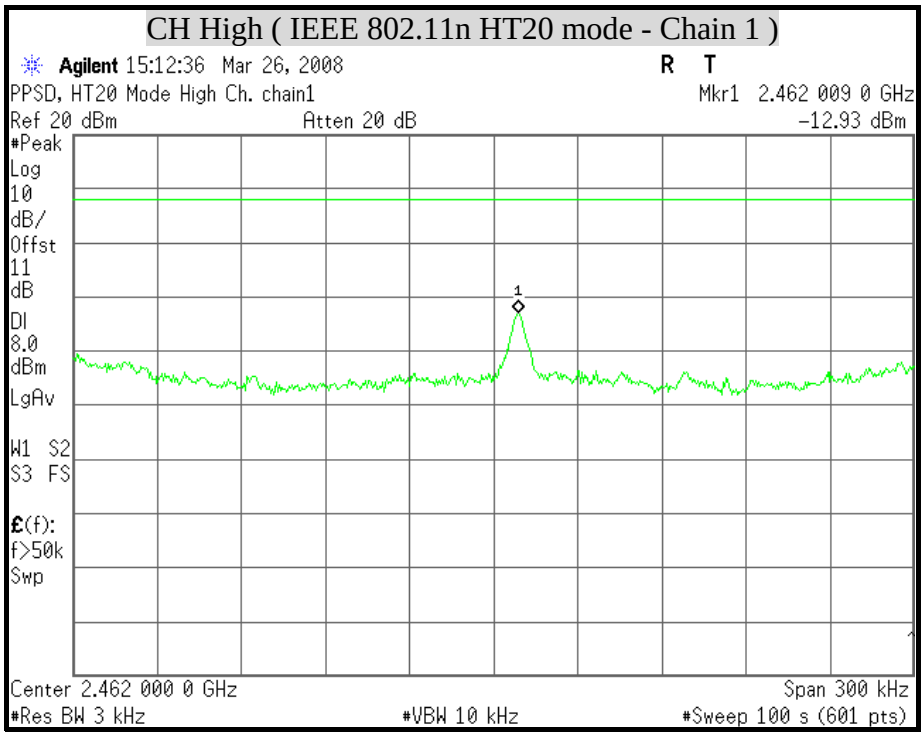
CH Low ( IEEE 802.11n HT20 mode - Chain 1 )



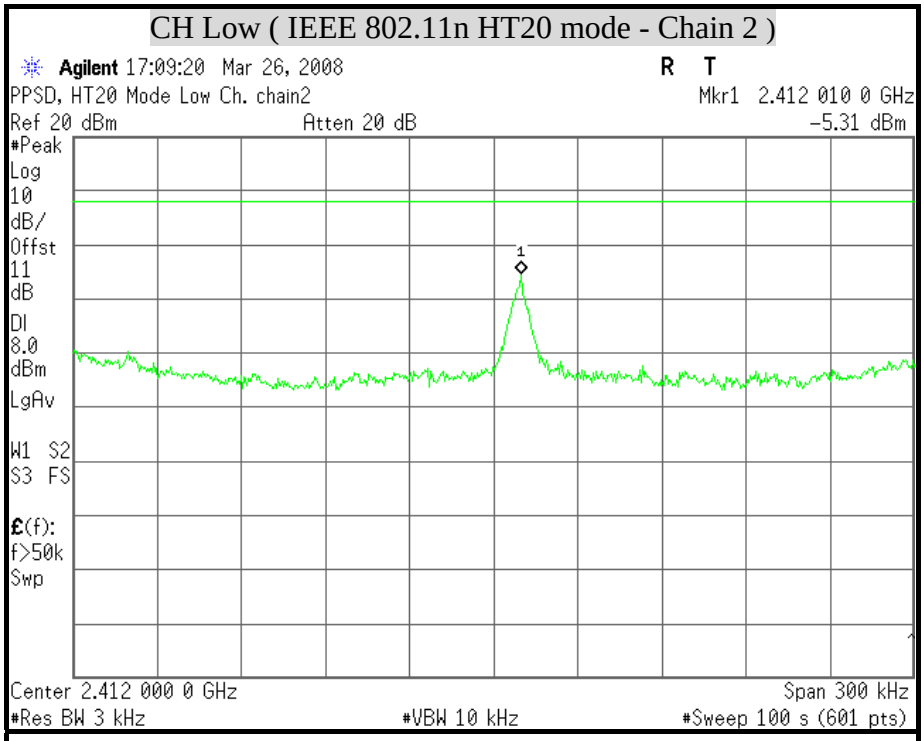

CH Middle ( IEEE 802.11n HT20 mode - Chain 1 )



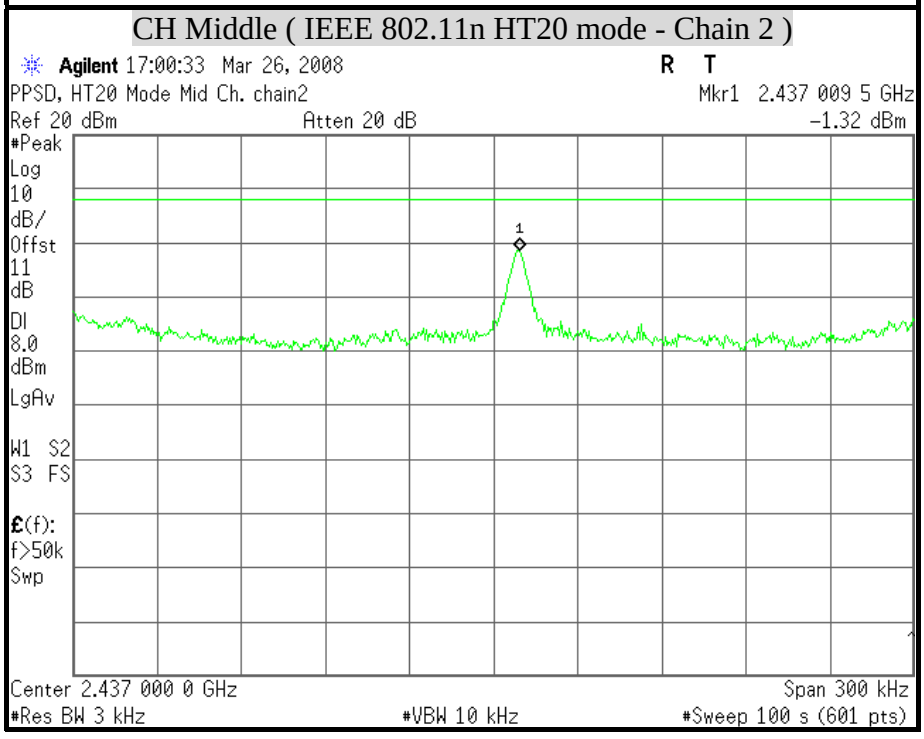
CH High ( IEEE 802.11n HT20 mode - Chain 1 )



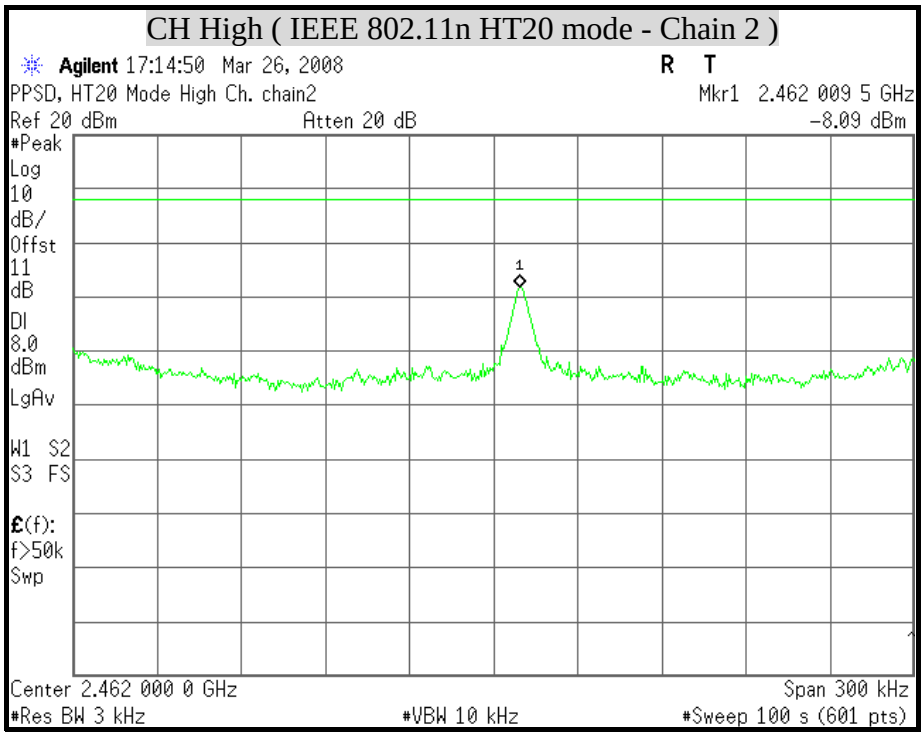
CH Low ( IEEE 802.11n HT20 mode - Chain 2 )




CH Middle ( IEEE 802.11n HT20 mode - Chain 2 )

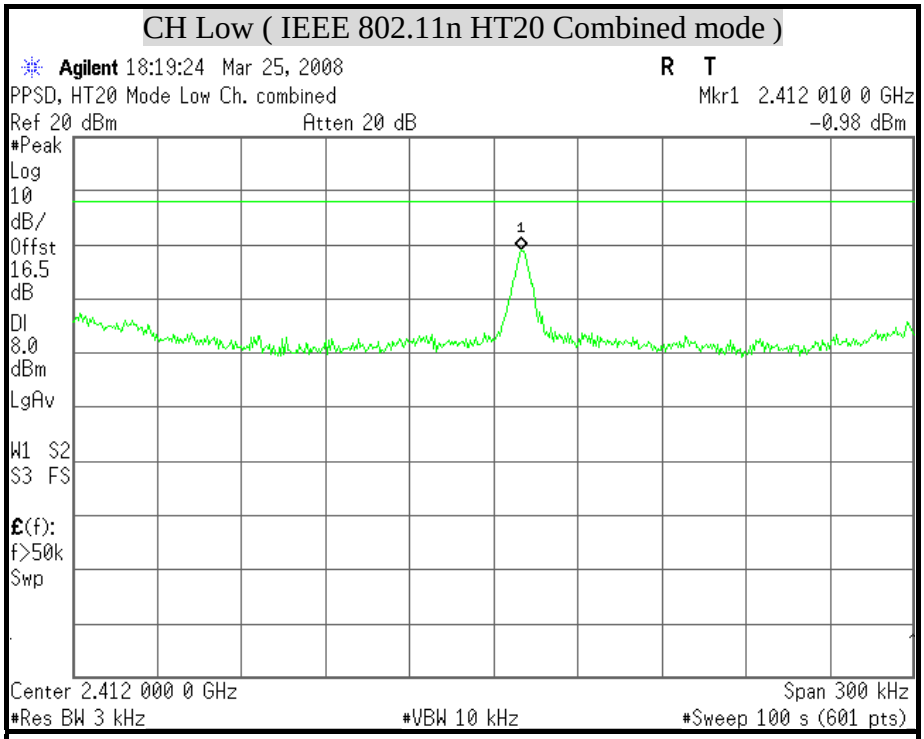


CH High ( IEEE 802.11n HT20 mode - Chain 2 )

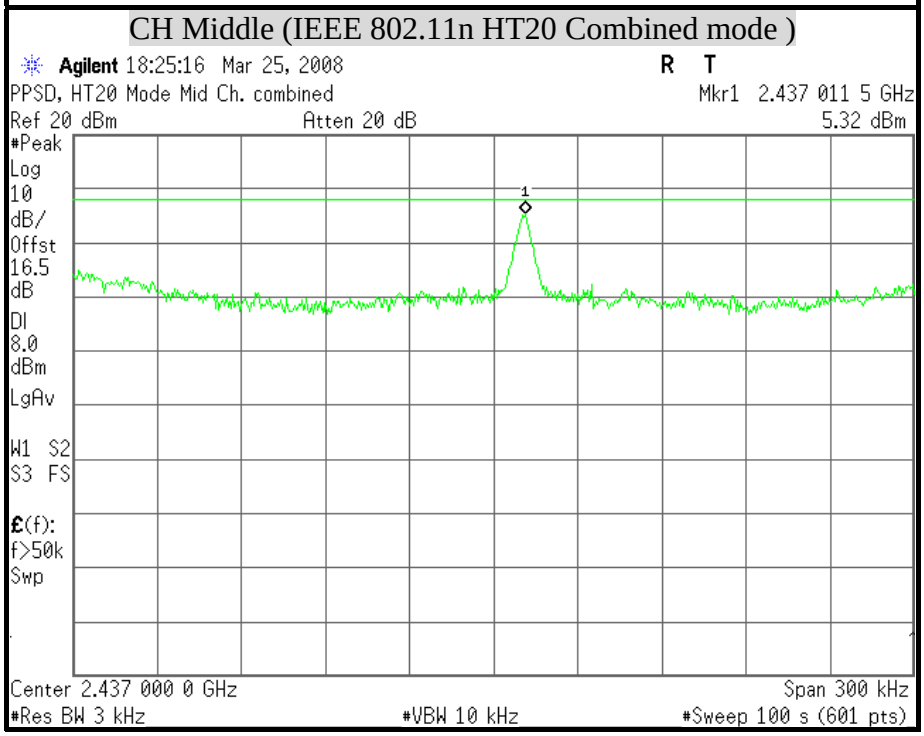


## POWER SPECTRAL DENSITY ( IEEE 802.11n HT20 Combined mode )

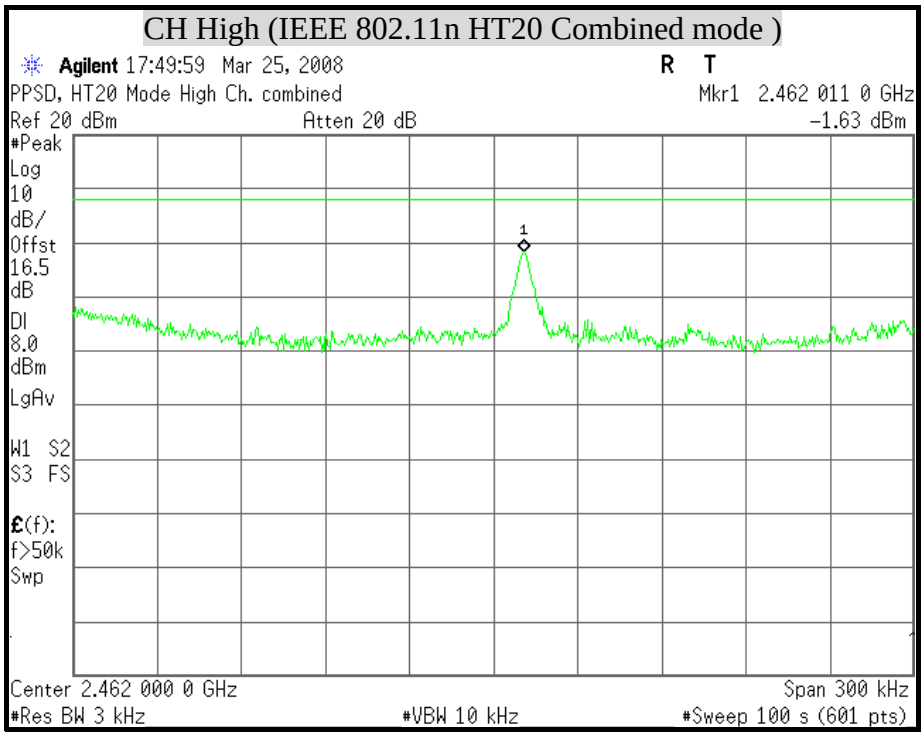
CH Low ( IEEE 802.11n HT20 Combined mode )




CH Middle (IEEE 802.11n HT20 Combined mode )

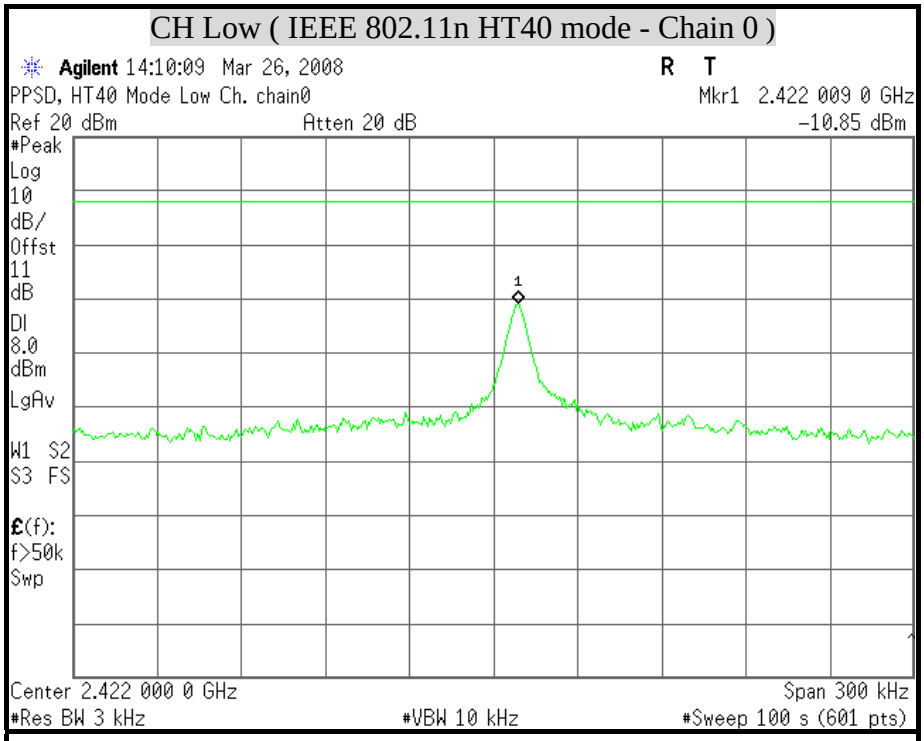


CH High (IEEE 802.11n HT20 Combined mode )

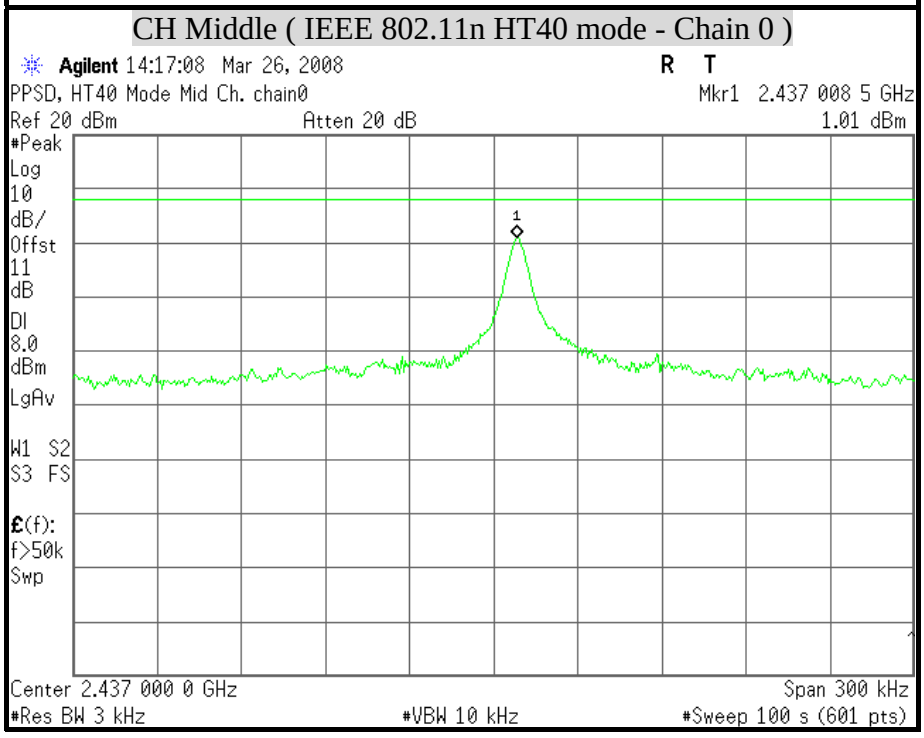


## POWER SPECTRAL DENSITY ( IEEE 802.11n HT40 mode )

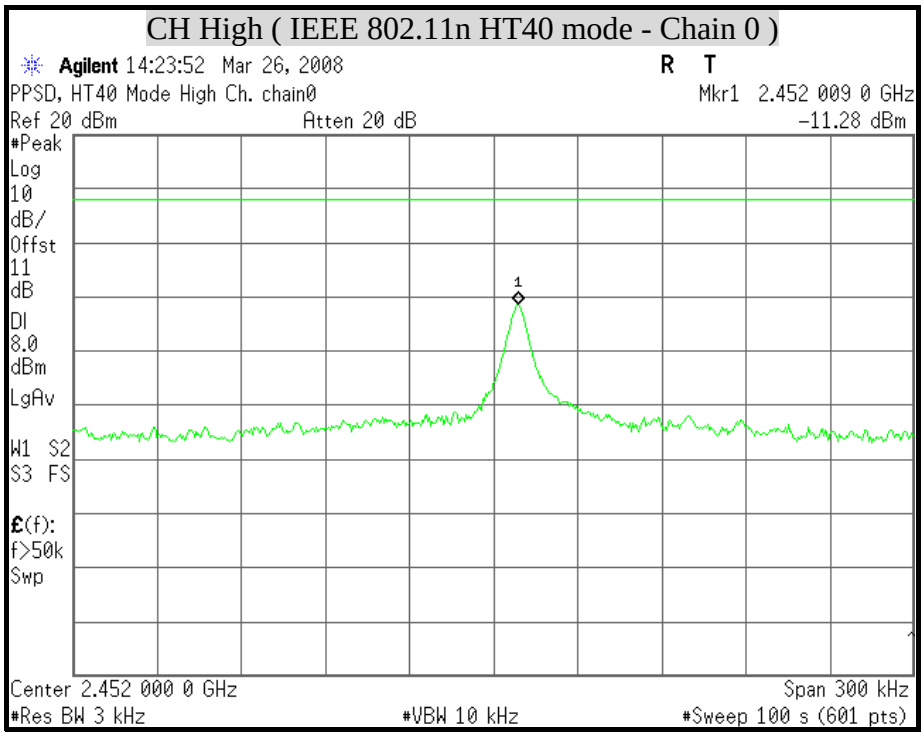
CH Low ( IEEE 802.11n HT40 mode - Chain 0 )



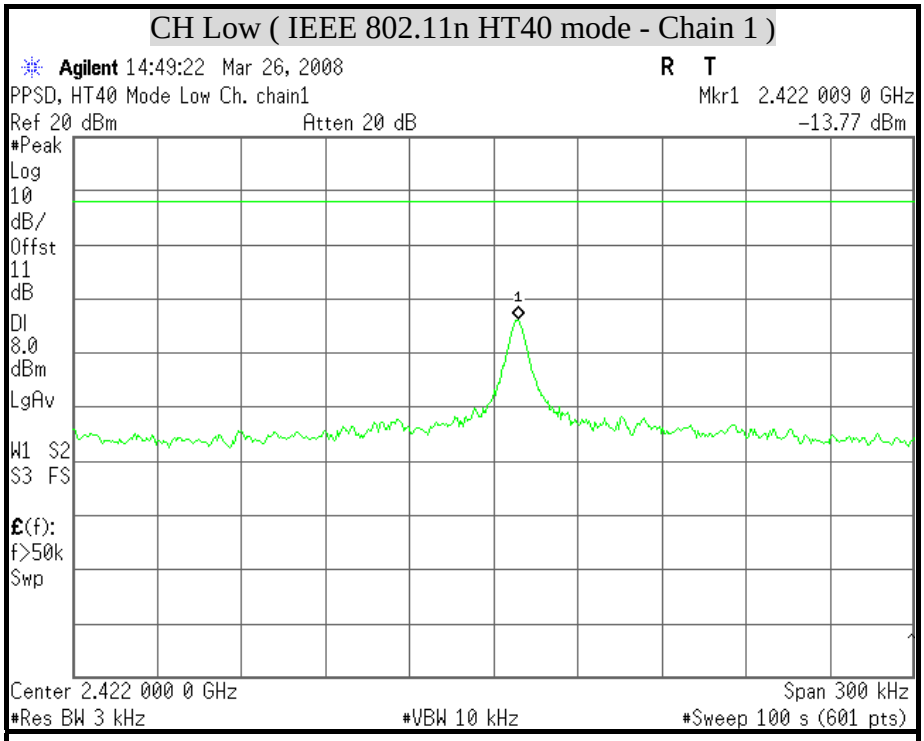

CH Middle ( IEEE 802.11n HT40 mode - Chain 0 )



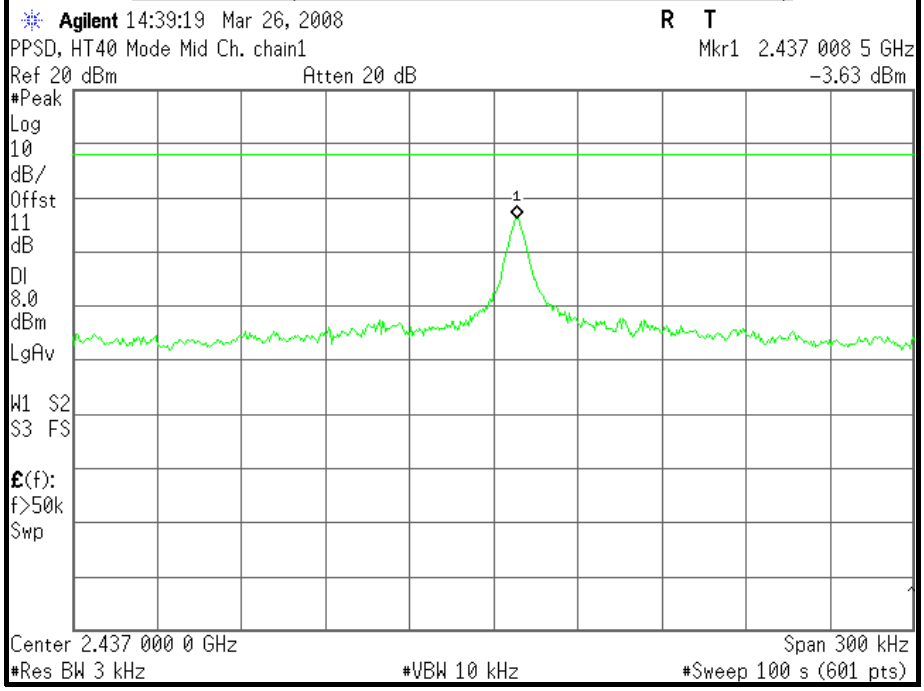
CH High ( IEEE 802.11n HT40 mode - Chain 0 )



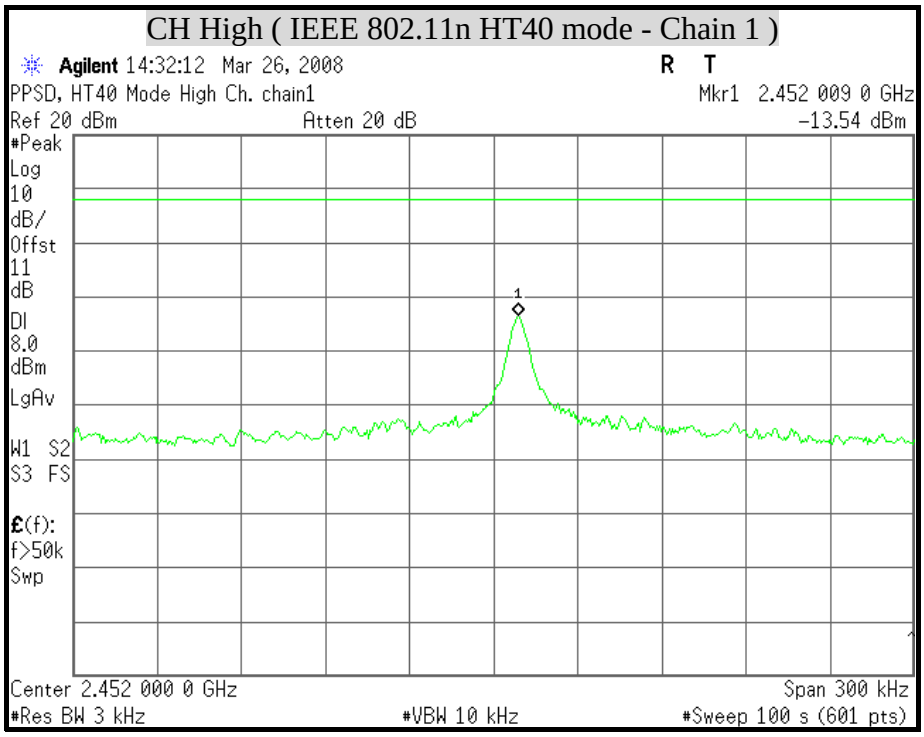
CH Low ( IEEE 802.11n HT40 mode - Chain 1 )



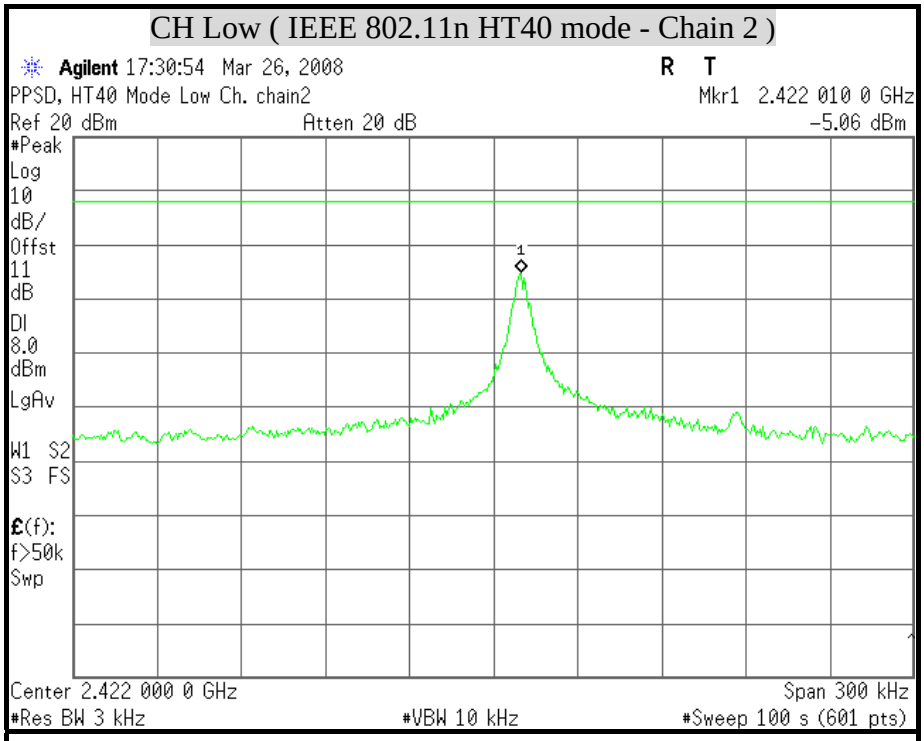

CH Middle ( IEEE 802.11n HT40 mode - Chain 1 )



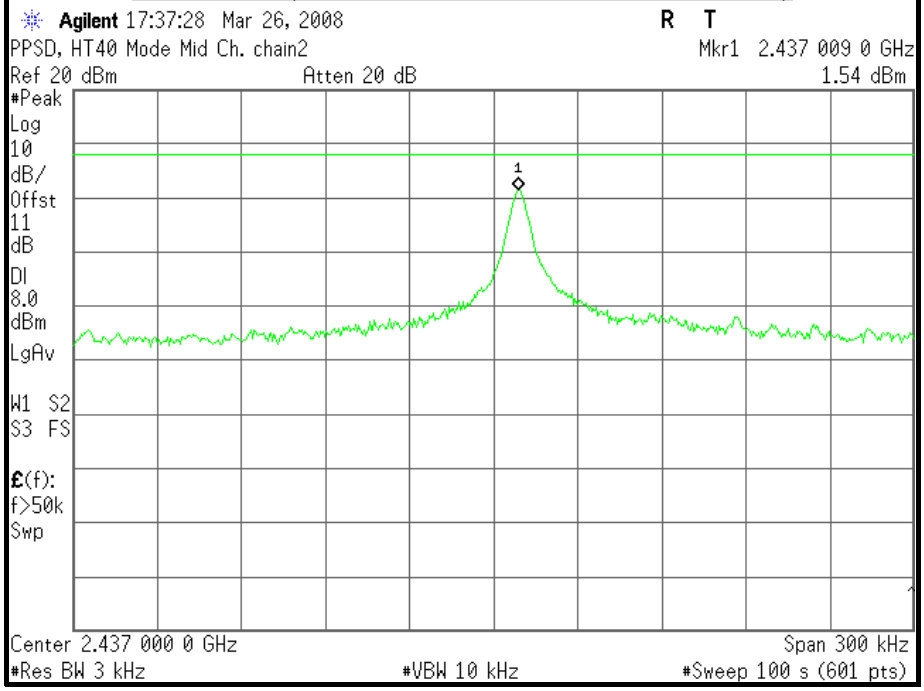
CH High ( IEEE 802.11n HT40 mode - Chain 1 )



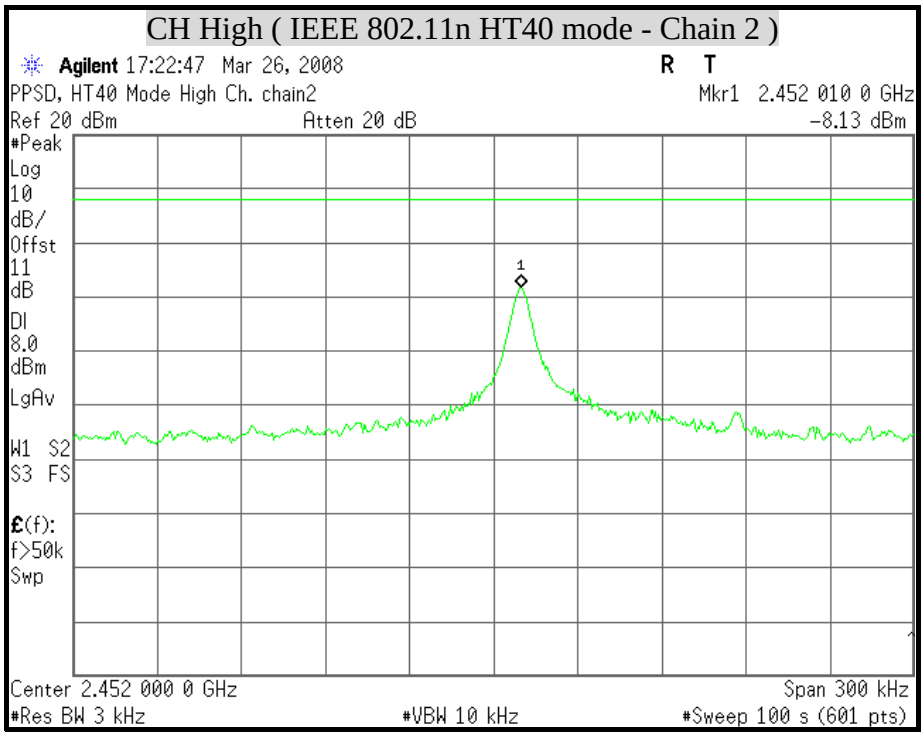
CH Low ( IEEE 802.11n HT40 mode - Chain 2 )




CH Middle ( IEEE 802.11n HT40 mode - Chain 2 )

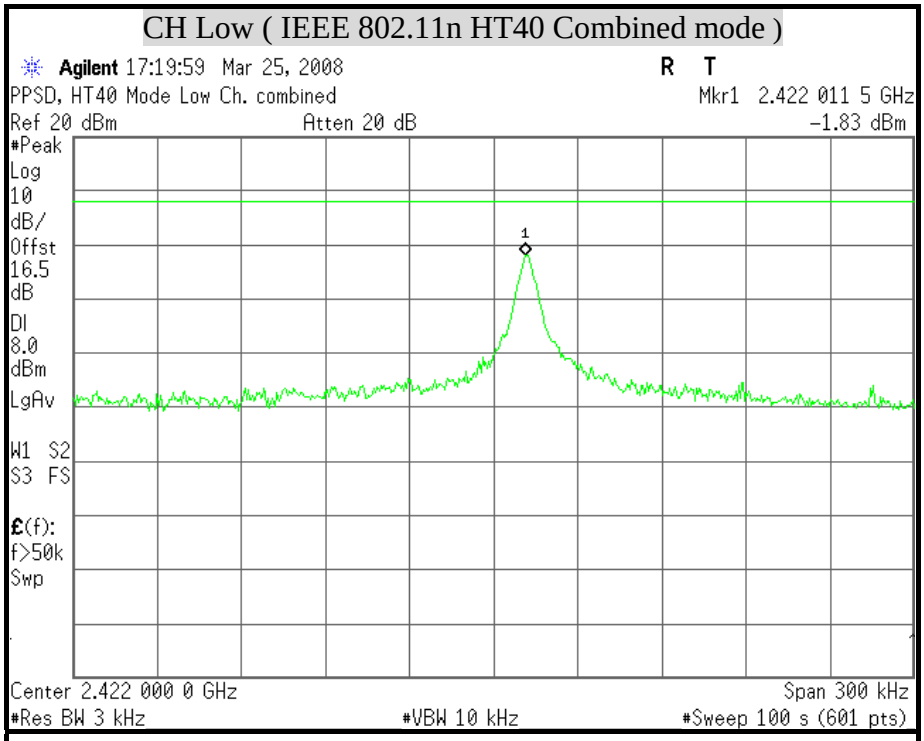


CH High ( IEEE 802.11n HT40 mode - Chain 2 )

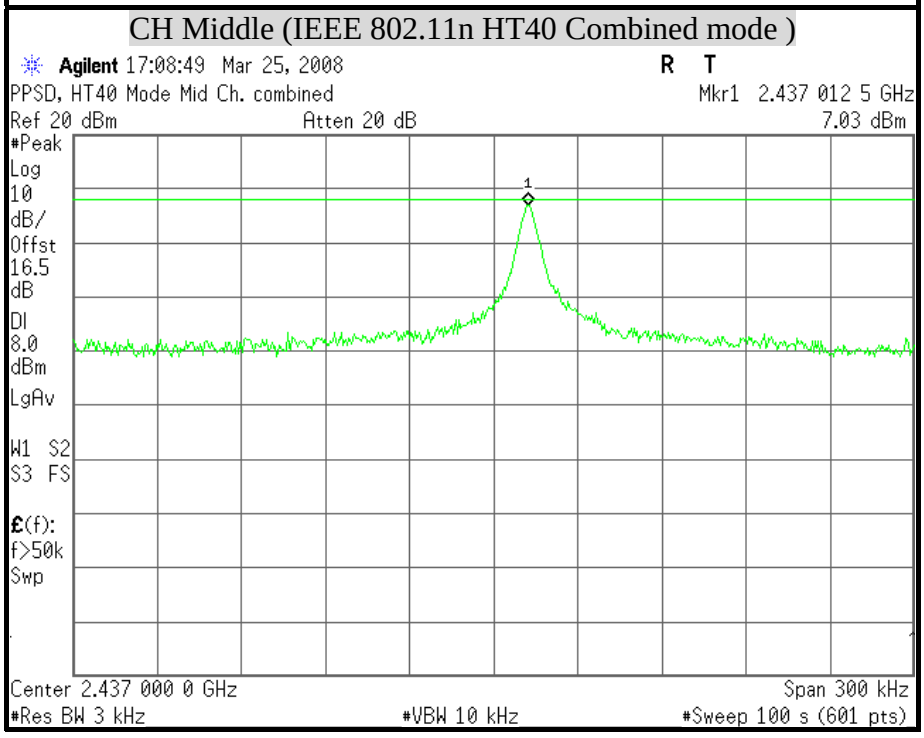


## POWER SPECTRAL DENSITY ( IEEE 802.11n HT40 Combined mode )

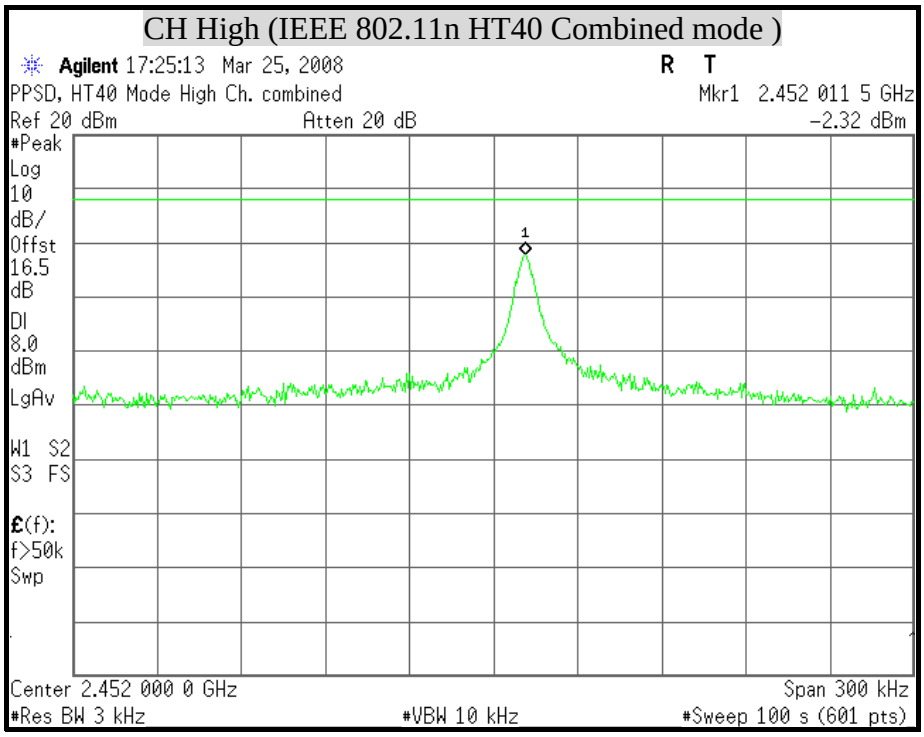
CH Low ( IEEE 802.11n HT40 Combined mode )




CH Middle (IEEE 802.11n HT40 Combined mode )



CH High (IEEE 802.11n HT40 Combined mode )



## 8.7 CONDUCTED SPURIOUS EMISSION

**LIMITS**

§ 15.247(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the and that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

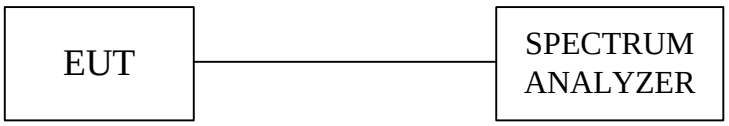
**TEST PROCEDURE**

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

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 the 5.0 GHz band.

**TEST SETUP**




Combined mode



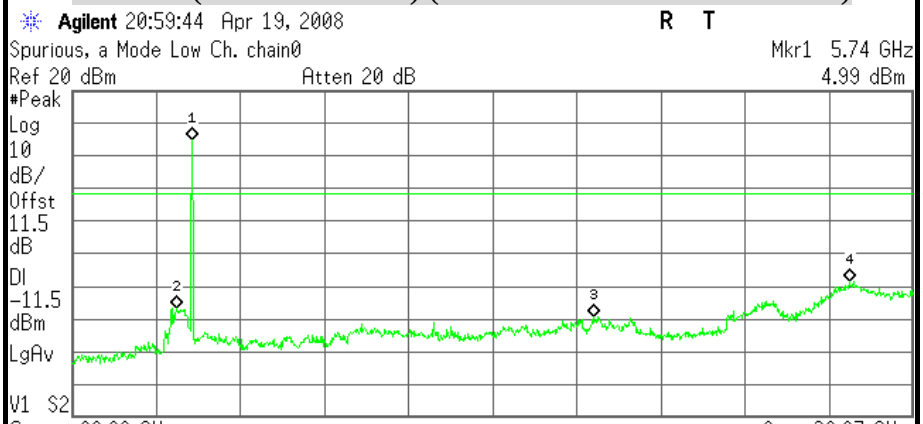

**TEST RESULTS**

No non-compliance noted

## OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

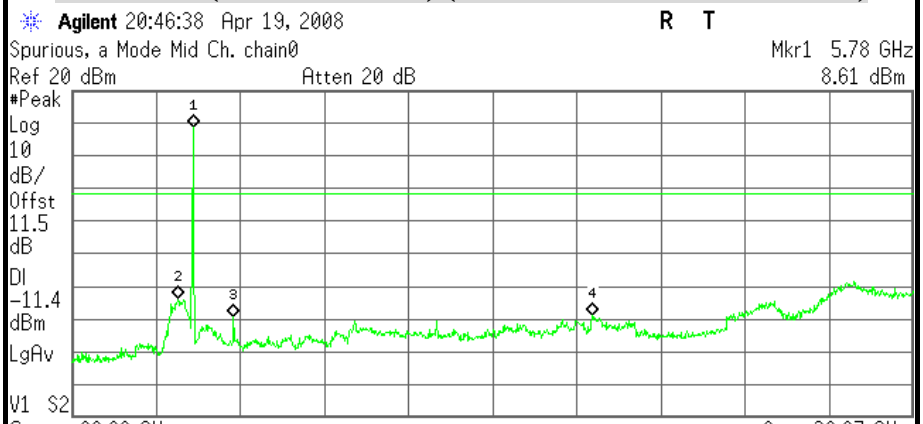
## ( IEEE 802.11a mode)

CH Low (30MHz~40GHz) ( IEEE 802.11a mode - Chain 0 )



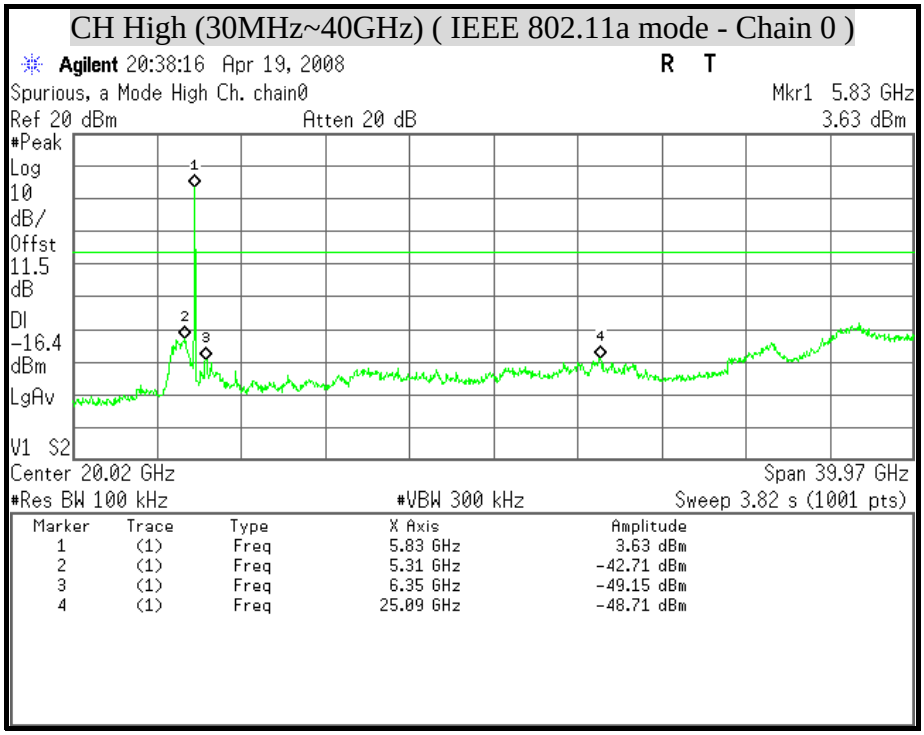

| Marker | Trace | Type | X Axis | Amplitude |
|---|---|---|---|---|
| 1 | (1) | Freq | 5.74 GHz | 4.99 dBm |
| 2 | (1) | Freq | 5.03 GHz | -46.48 dBm |
| 3 | (1) | Freq | 24.81 GHz | -49.10 dBm |
| 4 | (1) | Freq | 36.96 GHz | -38.44 dBm |

CH Middle (30MHz~40GHz) ( IEEE 802.11a mode - Chain 0 )

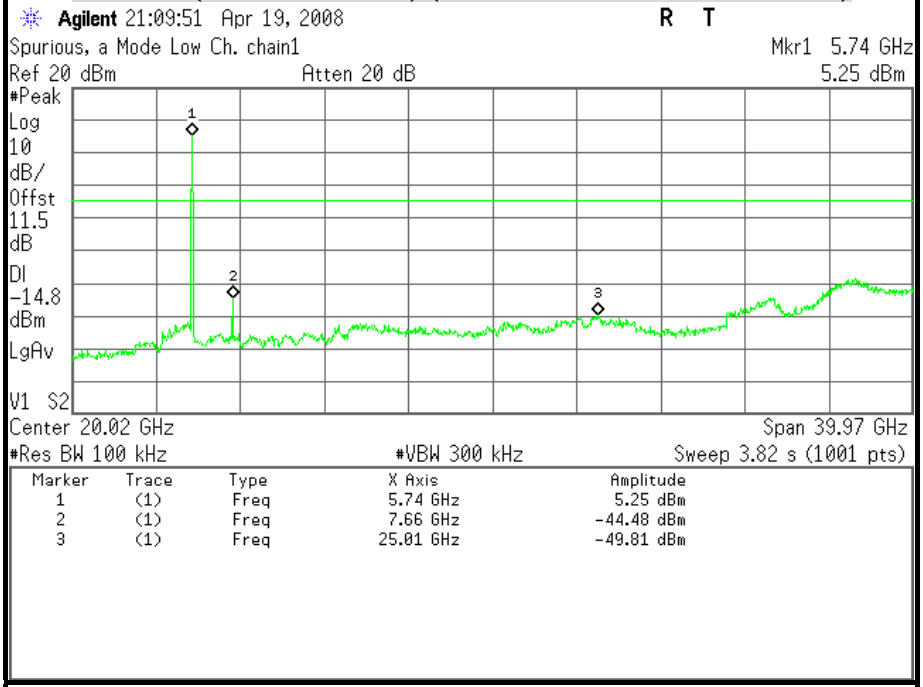



| Marker | Trace | Type | X Axis | Amplitude |
|---|---|---|---|---|
| 1 | (1) | Freq | 5.78 GHz | 8.61 dBm |
| 2 | (1) | Freq | 5.07 GHz | -43.85 dBm |
| 3 | (1) | Freq | 7.70 GHz | -49.07 dBm |
| 4 | (1) | Freq | 24.73 GHz | -48.63 dBm |

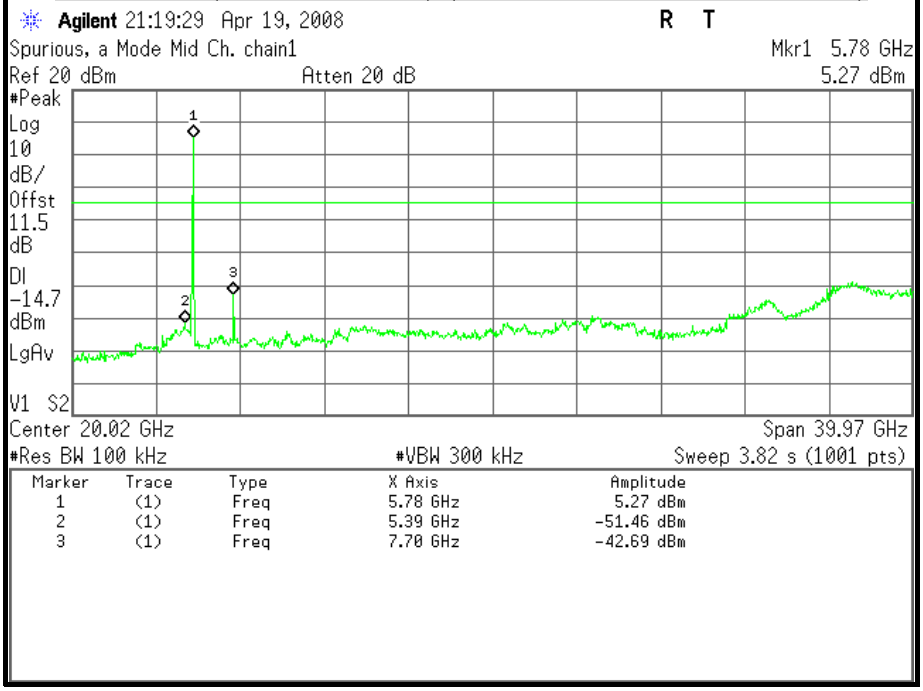
CH High (30MHz~40GHz) ( IEEE 802.11a mode - Chain 0 )



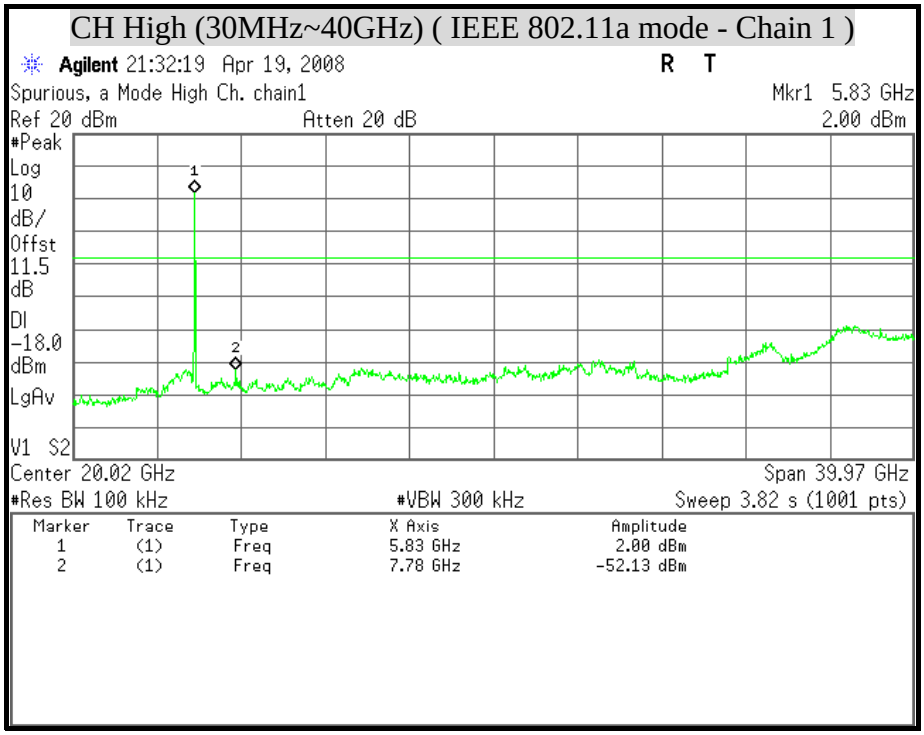
CH Low (30MHz~40GHz) ( IEEE 802.11a mode - Chain 1 )



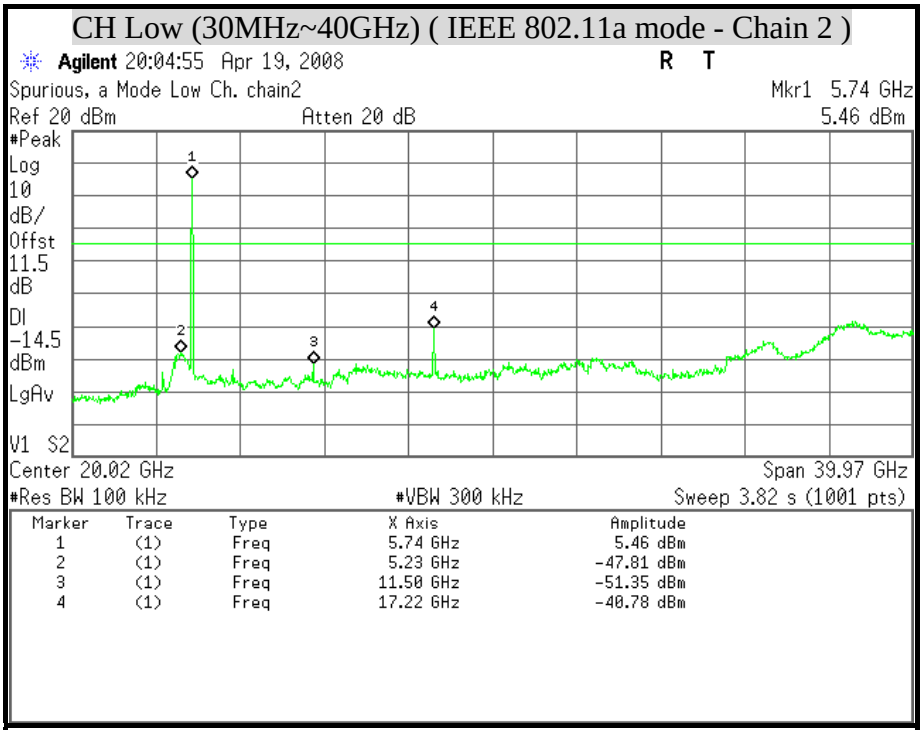

CH Middle (30MHz~40GHz) ( IEEE 802.11a mode - Chain 1 )



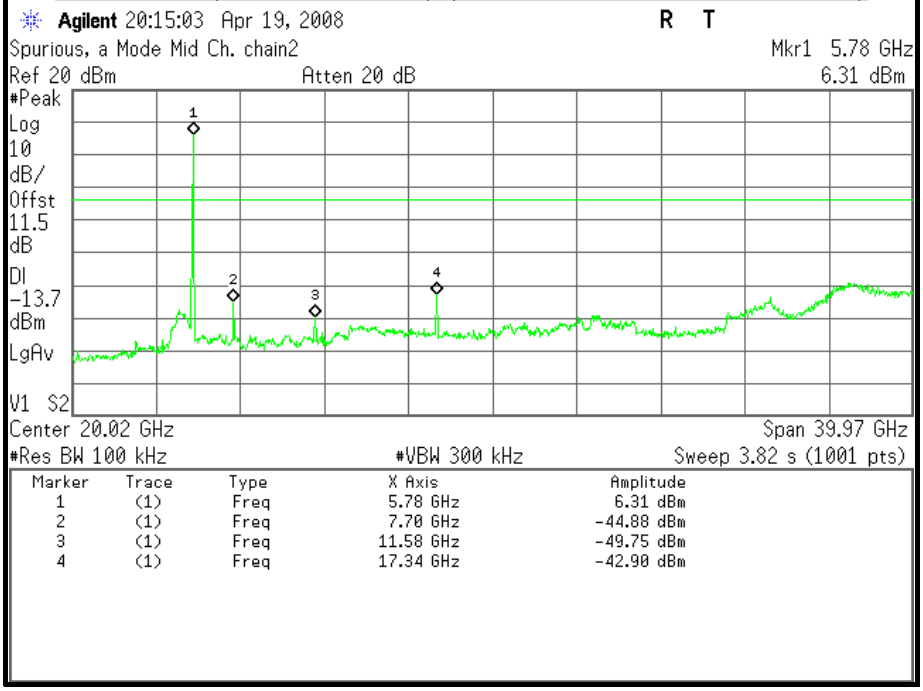
CH High (30MHz~40GHz) ( IEEE 802.11a mode - Chain 1 )



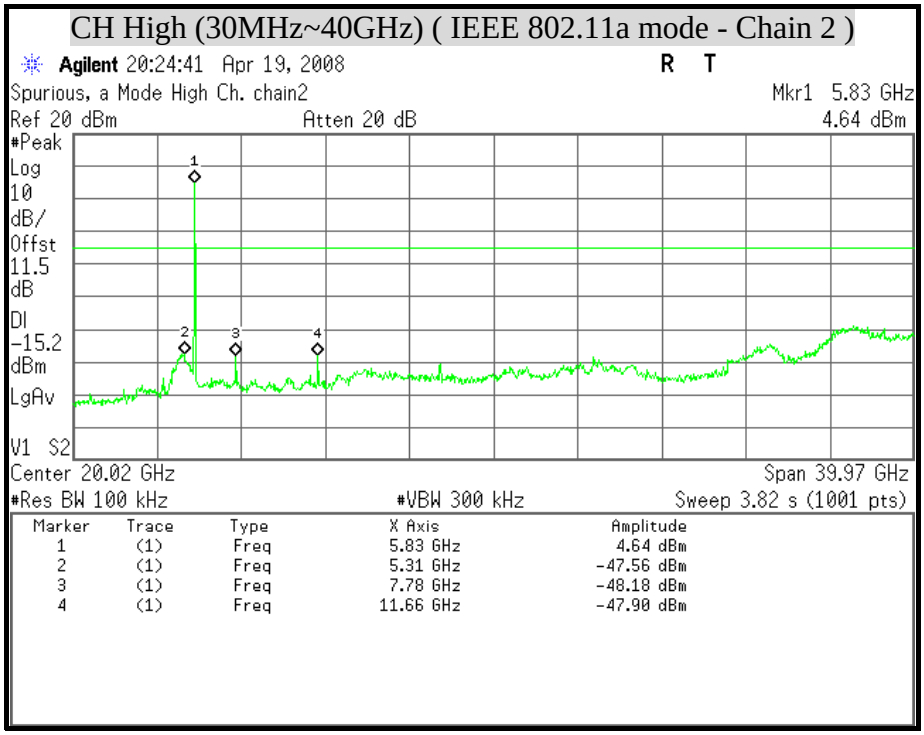
CH Low (30MHz~40GHz) ( IEEE 802.11a mode - Chain 2 )




CH Middle (30MHz~40GHz) ( IEEE 802.11a mode - Chain 2 )



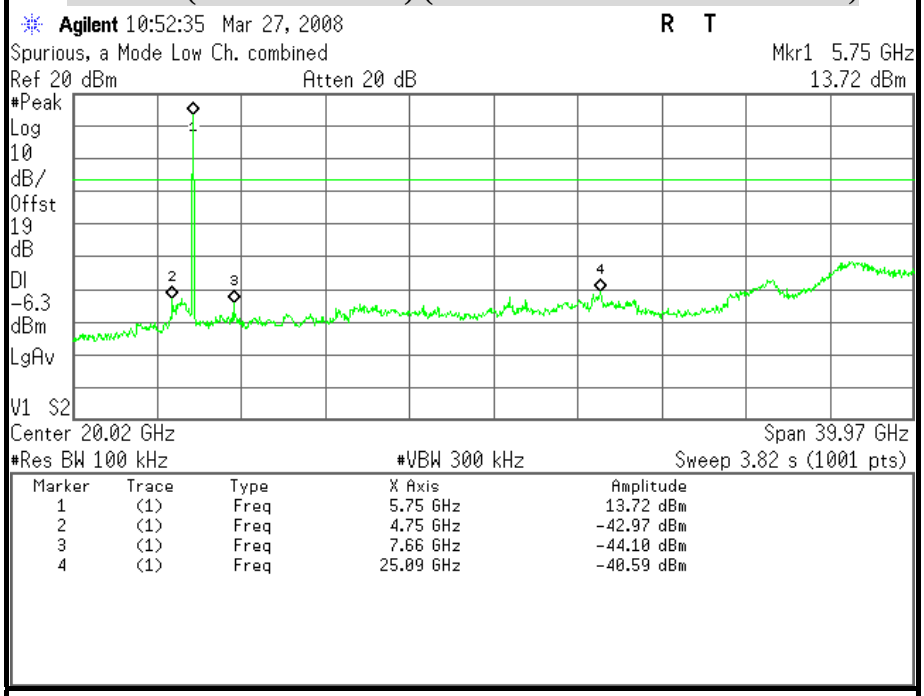
CH High (30MHz~40GHz) ( IEEE 802.11a mode - Chain 2 )



## OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

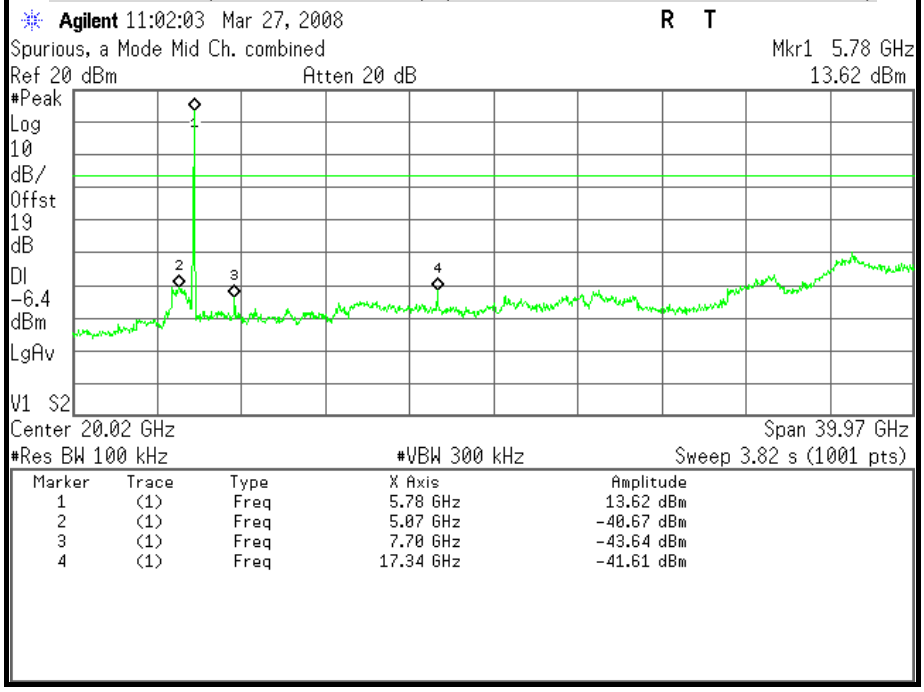
### ( IEEE 802.11a Combined mode )

CH Low (30MHz~40GHz) ( IEEE 802.11a Combined mode )



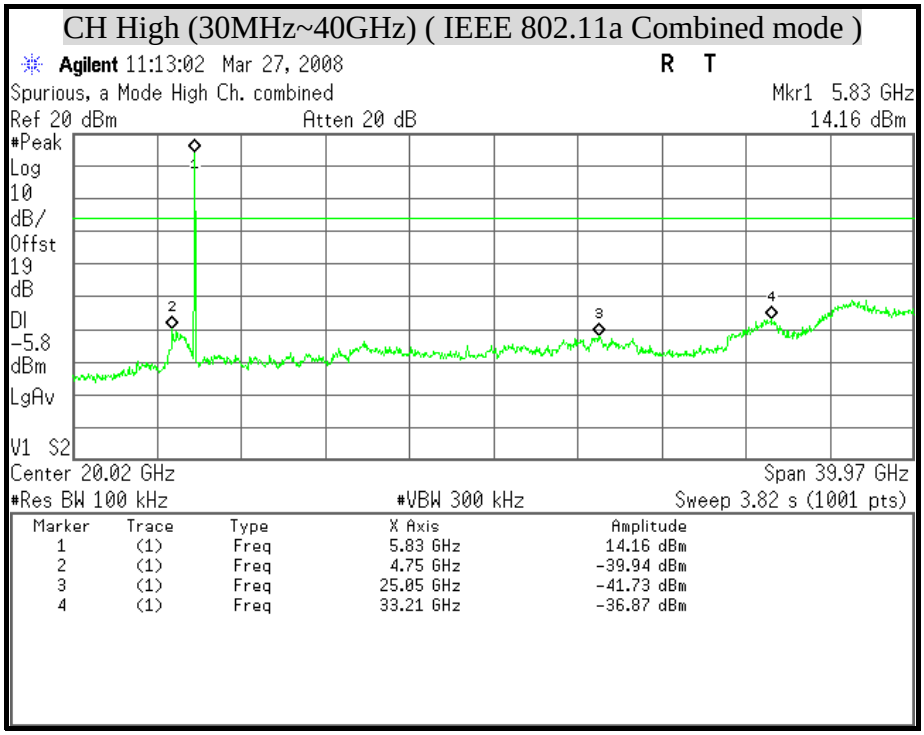

| Marker | Trace | Type | X Axis | Amplitude |
|---|---|---|---|---|
| 1 | (1) | Freq | 5.75 GHz | 13.72 dBm |
| 2 | (1) | Freq | 4.75 GHz | -42.97 dBm |
| 3 | (1) | Freq | 7.66 GHz | -44.10 dBm |
| 4 | (1) | Freq | 25.09 GHz | -40.59 dBm |

CH Middle (30MHz~40GHz) ( IEEE 802.11a Combined mode )




| Marker | Trace | Type | X Axis | Amplitude |
|---|---|---|---|---|
| 1 | (1) | Freq | 5.78 GHz | 13.62 dBm |
| 2 | (1) | Freq | 5.07 GHz | -40.67 dBm |
| 3 | (1) | Freq | 7.70 GHz | -43.64 dBm |
| 4 | (1) | Freq | 17.34 GHz | -41.61 dBm |

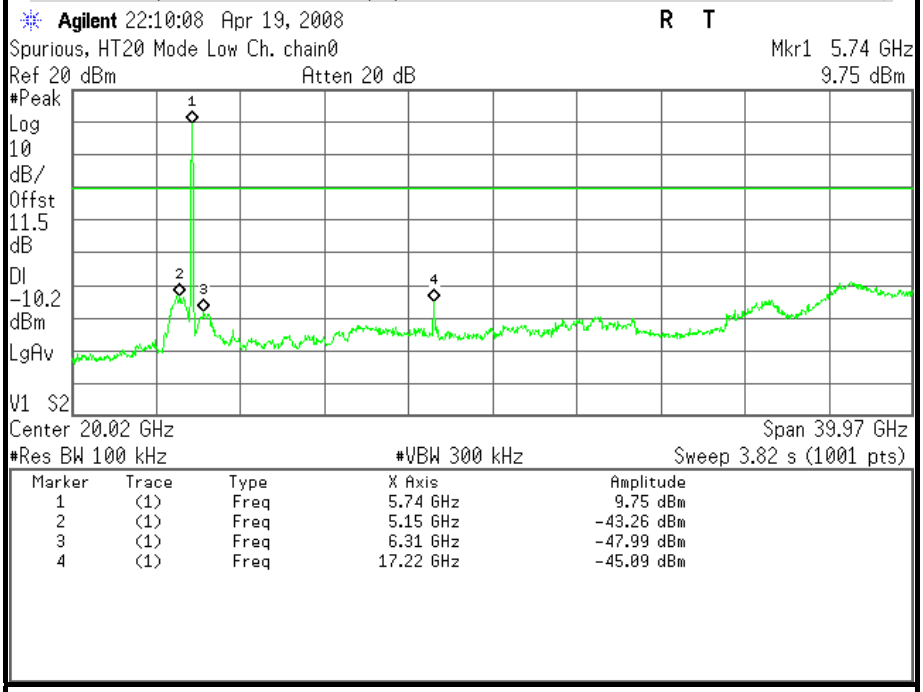
CH High (30MHz~40GHz) ( IEEE 802.11a Combined mode )



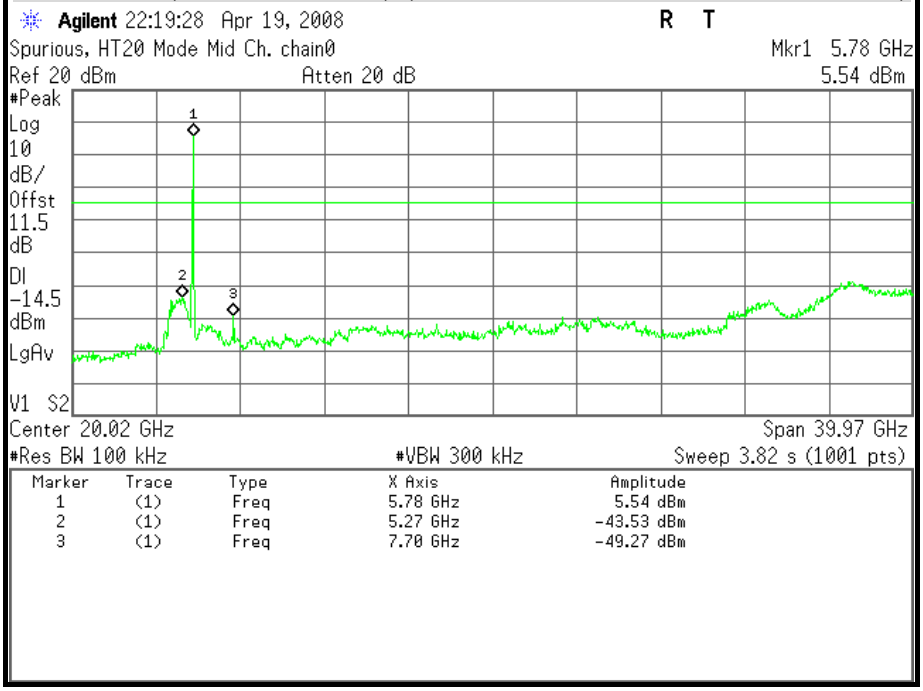
## OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

## ( IEEE 802.11n HT20 mode )

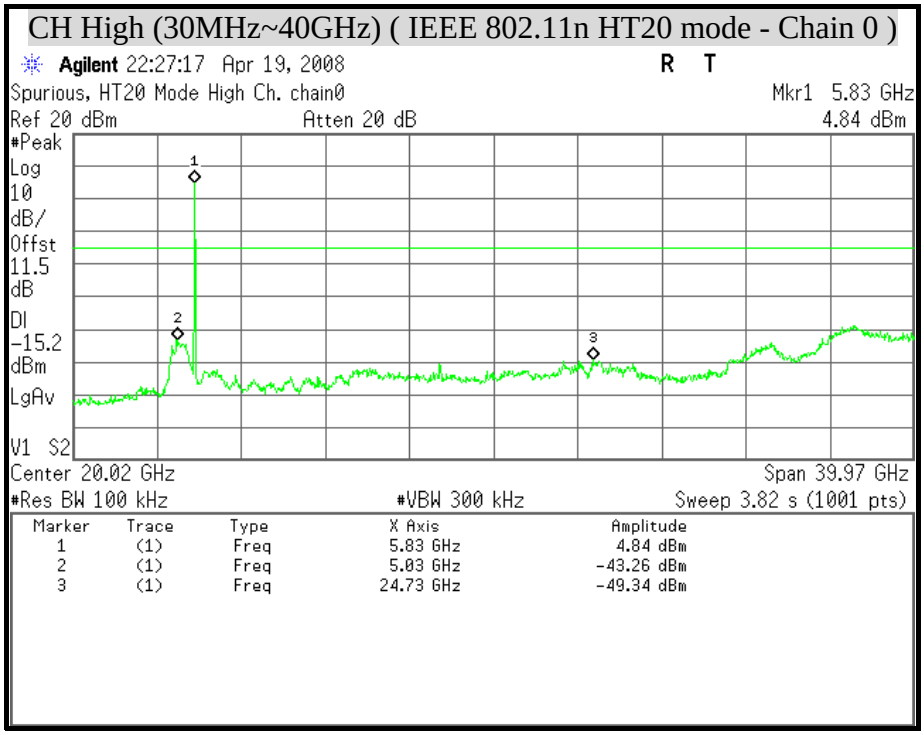
CH Low (30MHz~40GHz) ( IEEE 802.11n HT20 mode - Chain 0 )



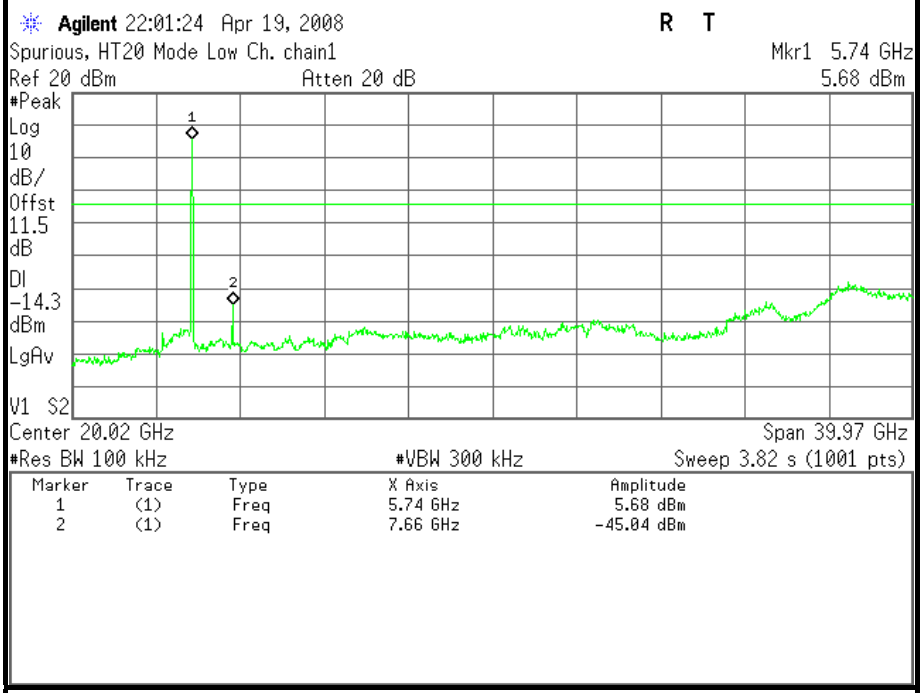

CH Middle (30MHz~26GHz) ( IEEE 802.11n HT20 mode - Chain 0 )



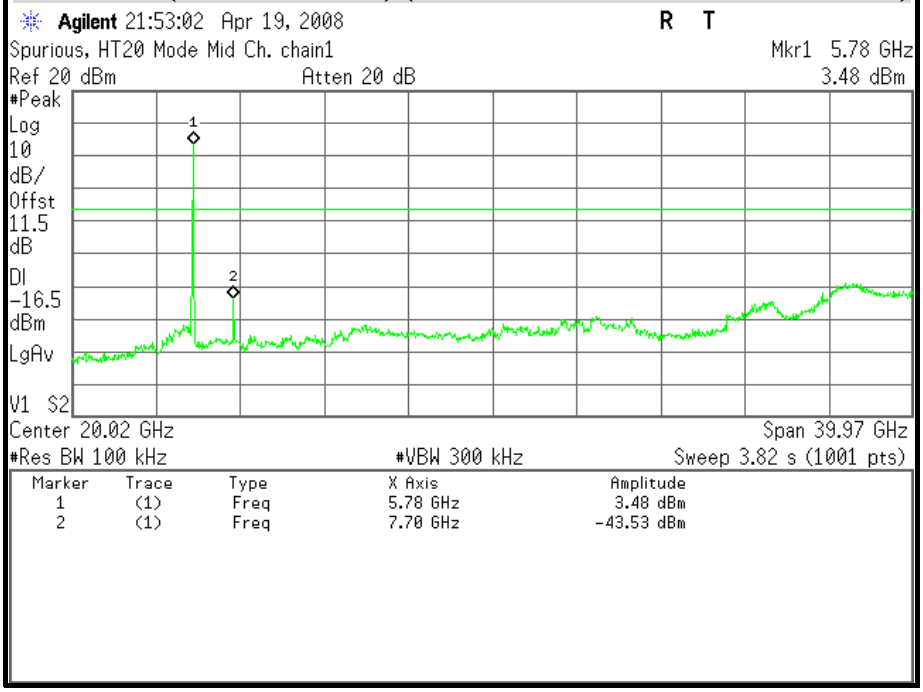
CH High (30MHz~40GHz) ( IEEE 802.11n HT20 mode - Chain 0 )



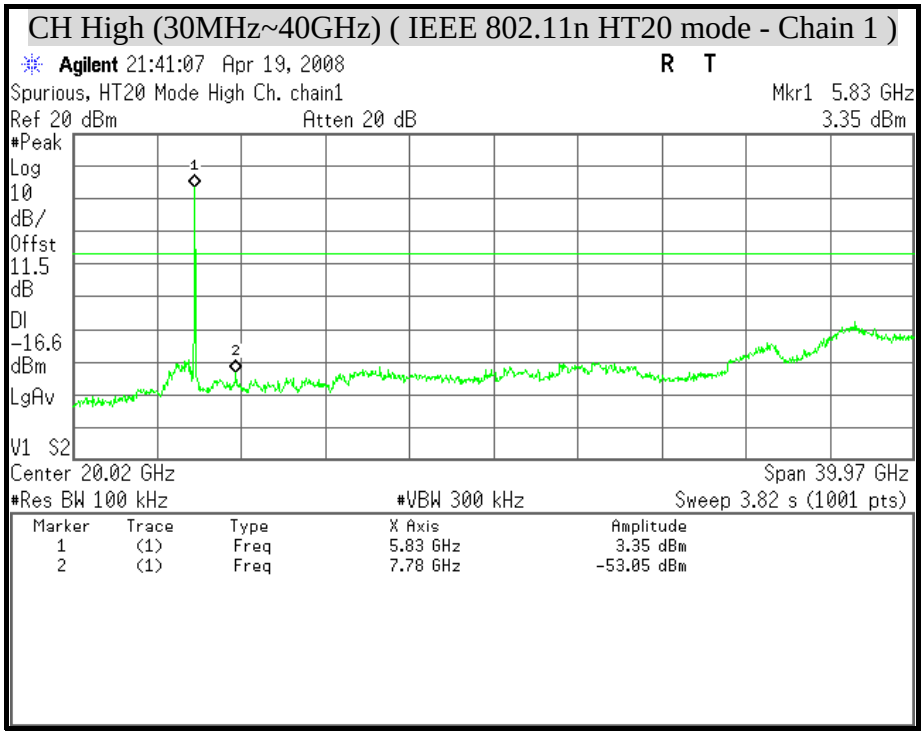
CH Low (30MHz~40GHz) ( IEEE 802.11n HT20 mode - Chain 1 )



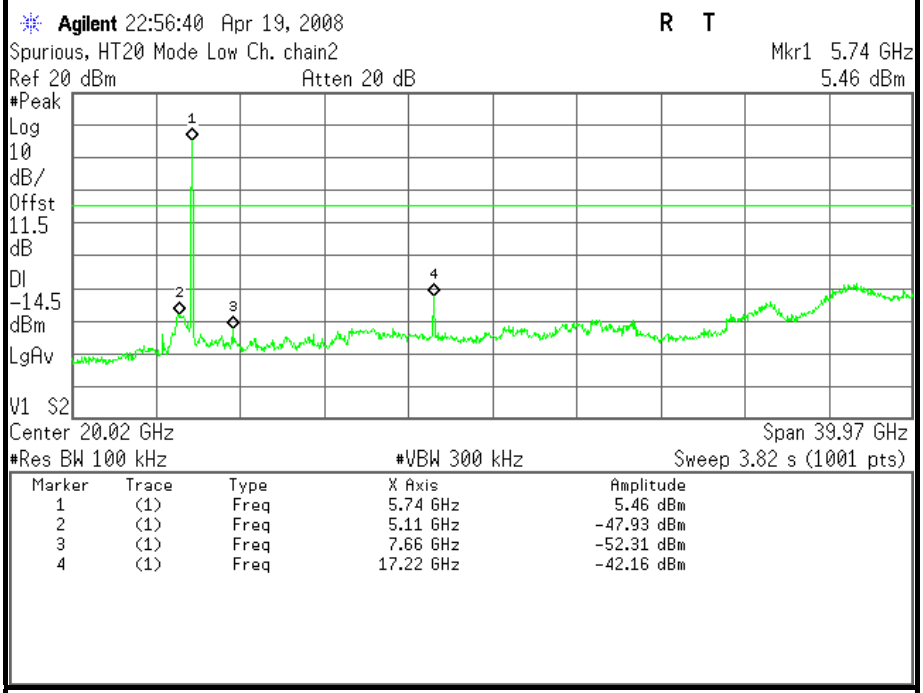

CH Middle (30MHz~40GHz) ( IEEE 802.11n HT20 mode - Chain 1 )



CH High (30MHz~40GHz) ( IEEE 802.11n HT20 mode - Chain 1 )

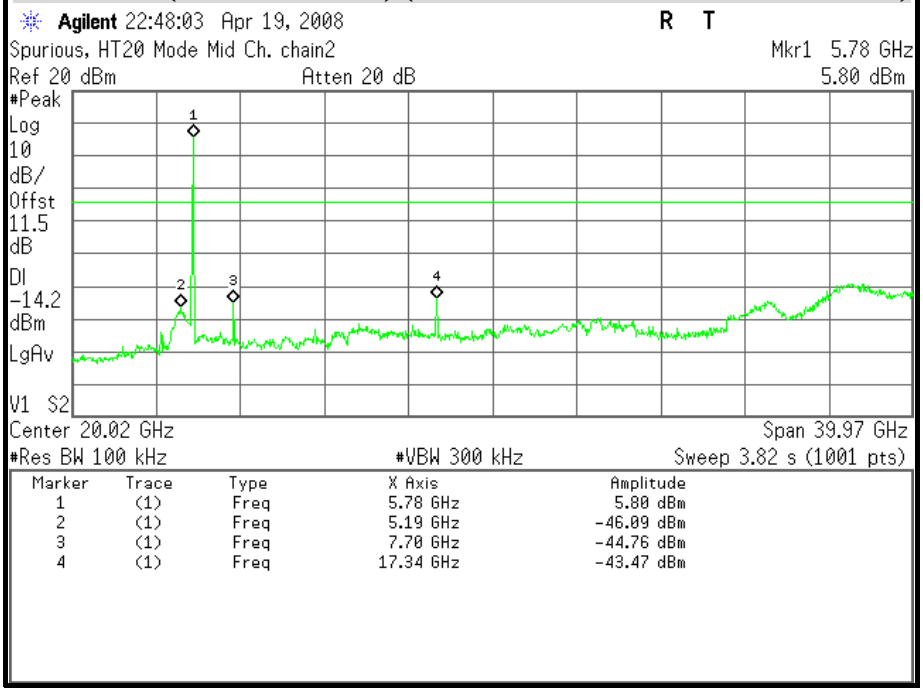


CH Low (30MHz~40GHz) ( IEEE 802.11n HT20 mode - Chain 2 )



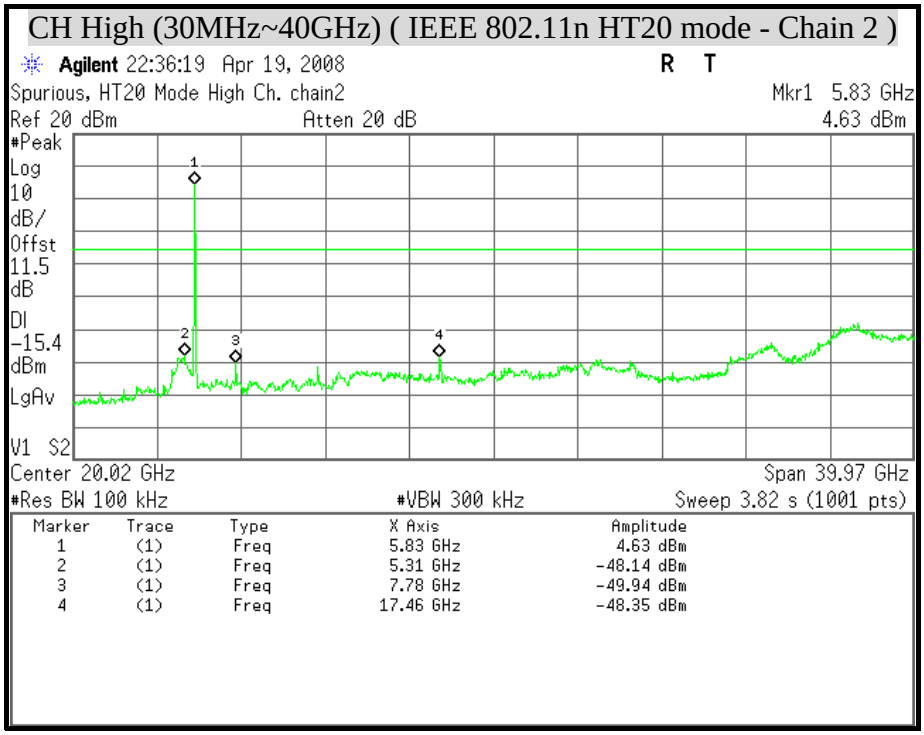

| Marker | Trace | Type | X Axis | Amplitude |
|---|---|---|---|---|
| 1 | (1) | Freq | 5.74 GHz | 5.46 dBm |
| 2 | (1) | Freq | 5.11 GHz | -47.93 dBm |
| 3 | (1) | Freq | 7.66 GHz | -52.31 dBm |
| 4 | (1) | Freq | 17.22 GHz | -42.16 dBm |

CH Middle (30MHz~40GHz) ( IEEE 802.11n HT20 mode - Chain 2 )




| Marker | Trace | Type | X Axis | Amplitude |
|---|---|---|---|---|
| 1 | (1) | Freq | 5.78 GHz | 5.80 dBm |
| 2 | (1) | Freq | 5.19 GHz | -46.09 dBm |
| 3 | (1) | Freq | 7.70 GHz | -44.76 dBm |
| 4 | (1) | Freq | 17.34 GHz | -43.47 dBm |

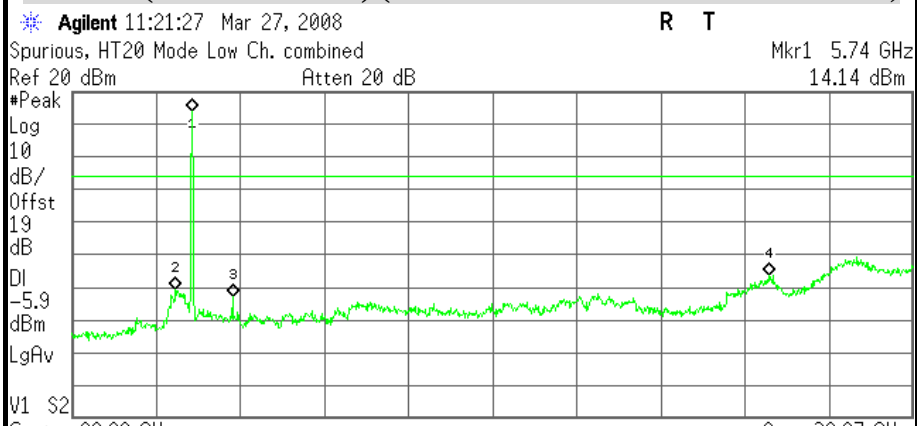
CH High (30MHz~40GHz) ( IEEE 802.11n HT20 mode - Chain 2 )



## OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

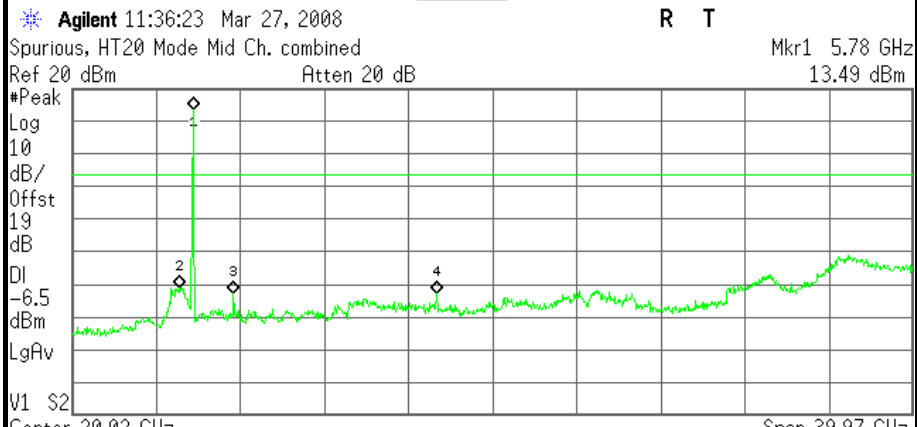
## ( IEEE 802.11n HT20 Combined mode )

CH Low (30MHz~40GHz) ( IEEE 802.11n HT20 Combined mode )



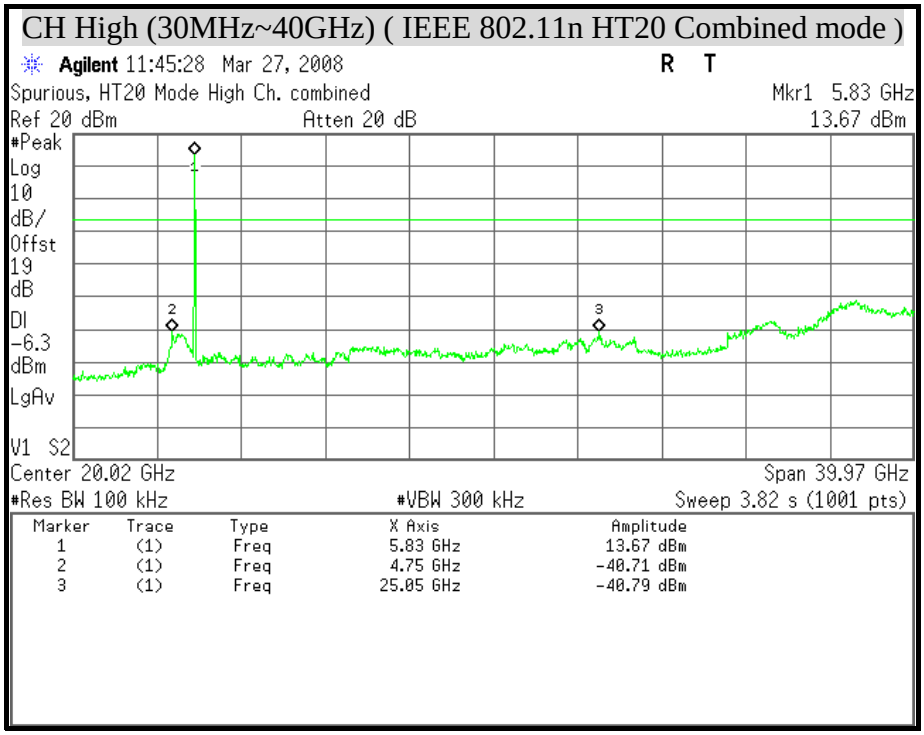

| Marker | Trace | Type | X Axis | Amplitude |
|---|---|---|---|---|
| 1 | (1) | Freq | 5.74 GHz | 14.14 dBm |
| 2 | (1) | Freq | 4.95 GHz | -40.81 dBm |
| 3 | (1) | Freq | 7.66 GHz | -42.61 dBm |
| 4 | (1) | Freq | 33.13 GHz | -36.14 dBm |

CH Middle (30MHz~40GHz) ( IEEE 802.11n HT20 Combined mode )




| Marker | Trace | Type | X Axis | Amplitude |
|---|---|---|---|---|
| 1 | (1) | Freq | 5.78 GHz | 13.49 dBm |
| 2 | (1) | Freq | 5.11 GHz | -41.01 dBm |
| 3 | (1) | Freq | 7.70 GHz | -42.95 dBm |
| 4 | (1) | Freq | 17.34 GHz | -42.77 dBm |

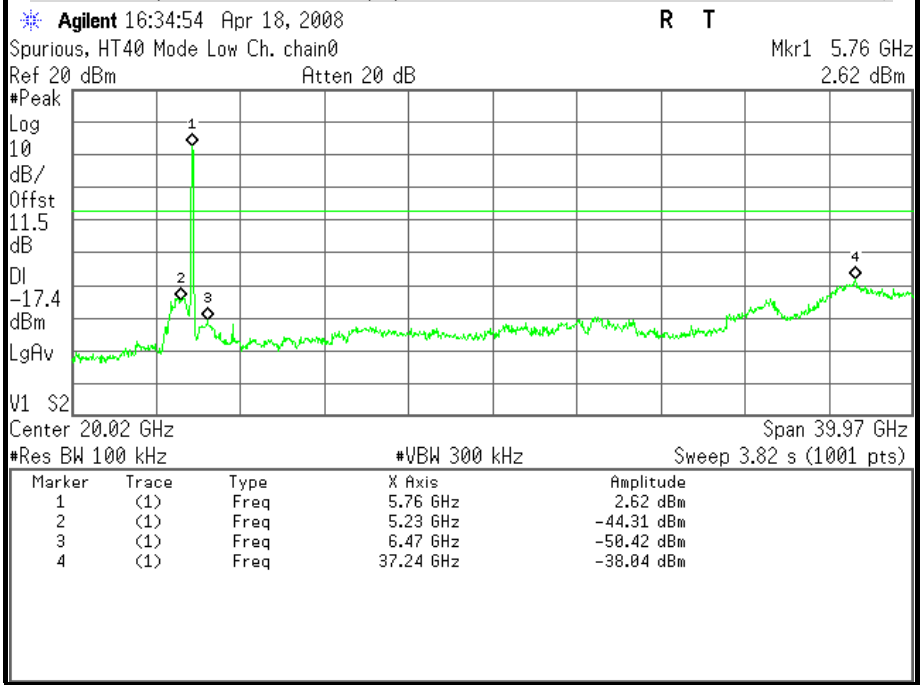
CH High (30MHz~40GHz) ( IEEE 802.11n HT20 Combined mode )



## OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

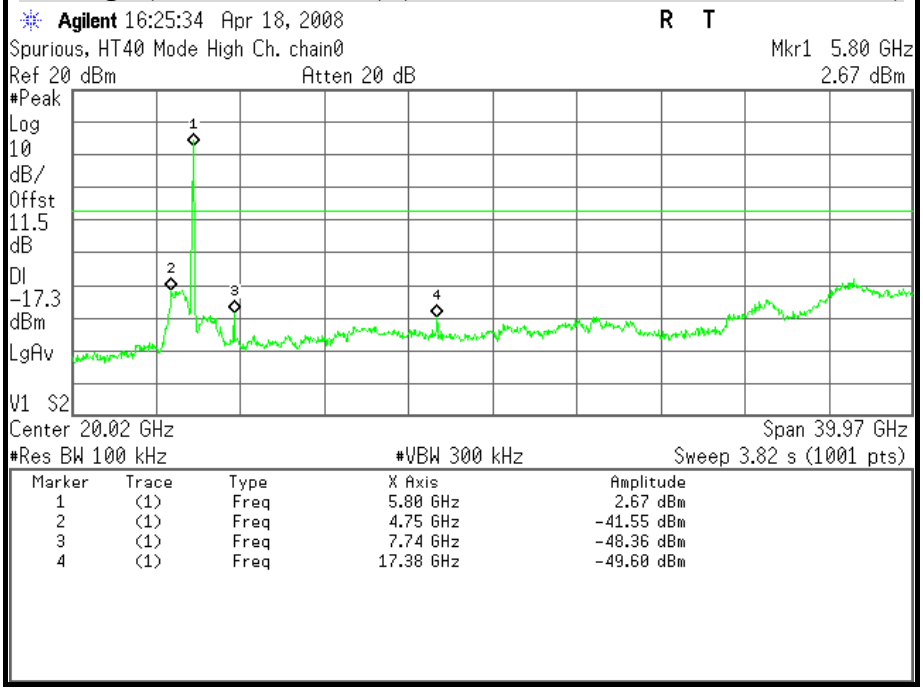
## ( IEEE 802.11n HT40 mode )

CH Low (30MHz~40GHz) ( IEEE 802.11n HT40 mode - Chain 0 )



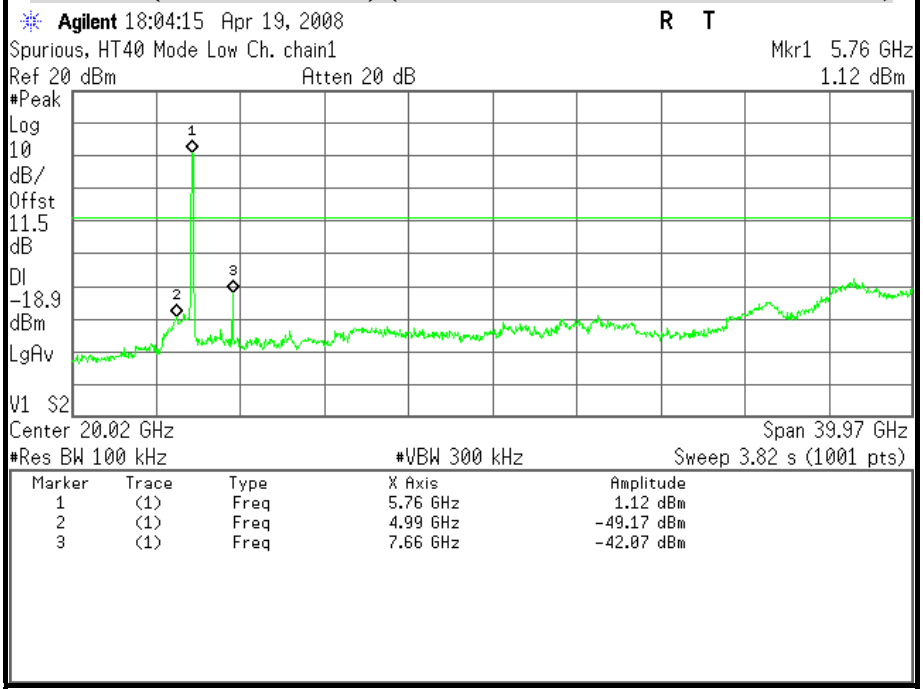

| Marker | Trace | Type | X Axis | Amplitude |
|---|---|---|---|---|
| 1 | (1) | Freq | 5.76 GHz | 2.62 dBm |
| 2 | (1) | Freq | 5.23 GHz | -44.31 dBm |
| 3 | (1) | Freq | 6.47 GHz | -50.42 dBm |
| 4 | (1) | Freq | 37.24 GHz | -38.04 dBm |

CH High (30MHz~406GHz) ( IEEE 802.11n HT40 mode - Chain 0 )

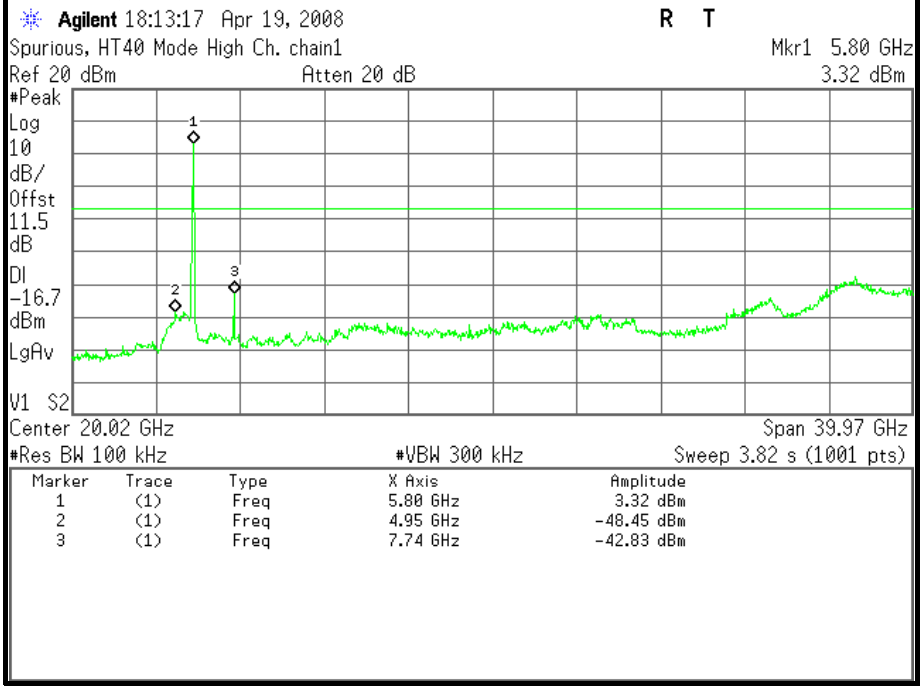



| Marker | Trace | Type | X Axis | Amplitude |
|---|---|---|---|---|
| 1 | (1) | Freq | 5.80 GHz | 2.67 dBm |
| 2 | (1) | Freq | 4.75 GHz | -41.55 dBm |
| 3 | (1) | Freq | 7.74 GHz | -48.36 dBm |
| 4 | (1) | Freq | 17.38 GHz | -49.60 dBm |

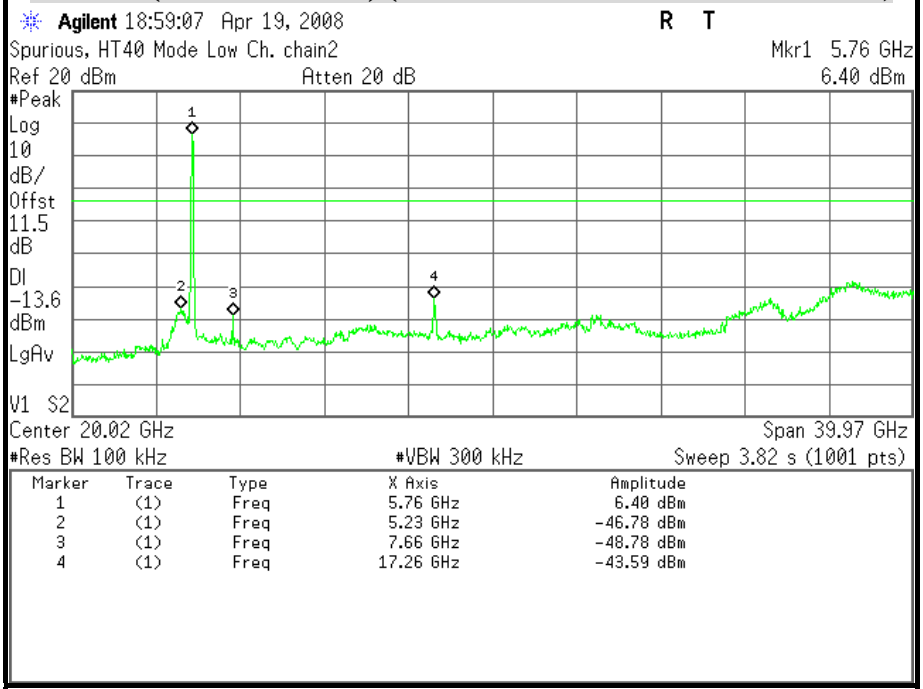
CH Low (30MHz~40GHz) ( IEEE 802.11n HT40 mode - Chain 1 )



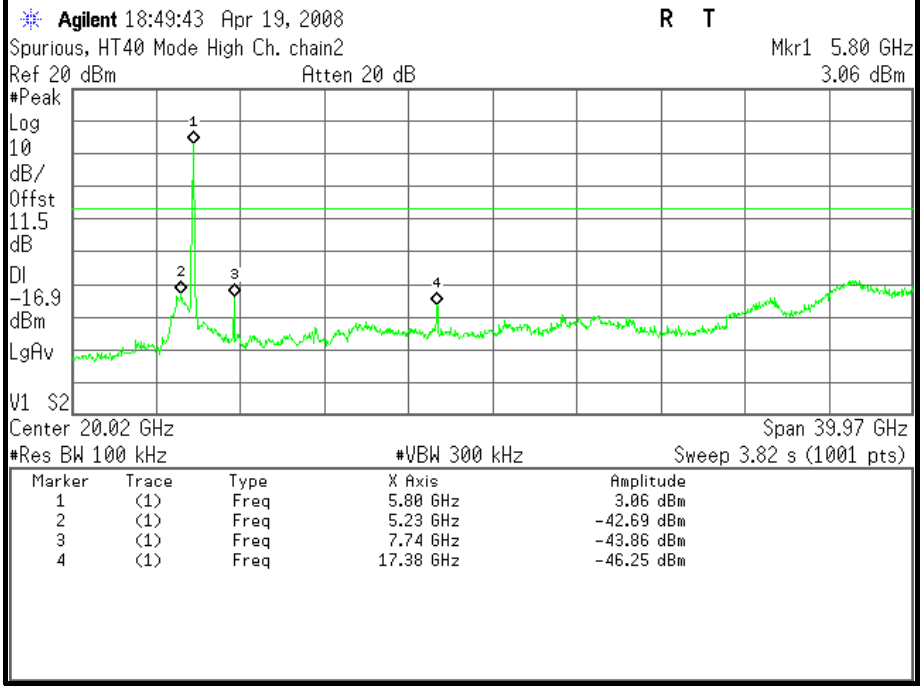

CH High (30MHz~40GHz) ( IEEE 802.11n HT40 mode - Chain 1 )



CH Low (30MHz~40GHz) ( IEEE 802.11n HT40 mode - Chain 2 )



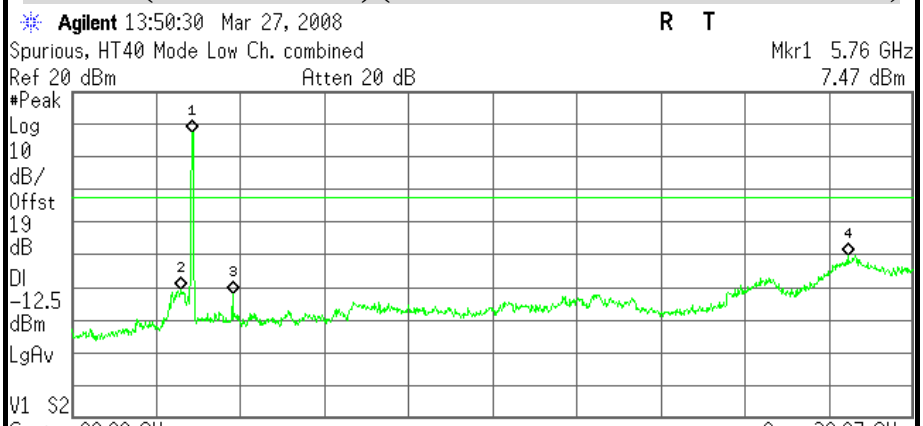

CH High (30MHz~40GHz) ( IEEE 802.11n HT40 mode - Chain 2 )



## OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

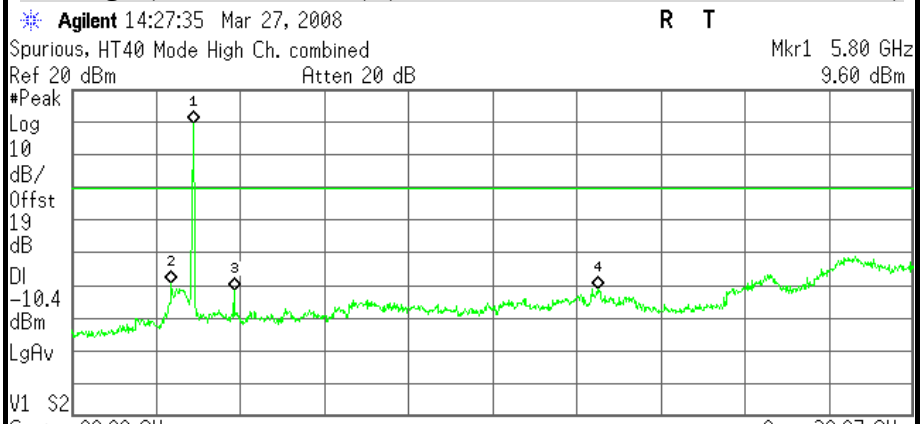
## ( IEEE 802.11n HT40 Combined mode )

CH Low (30MHz~40GHz) ( IEEE 802.11n HT40 Combined mode )




| Marker | Trace | Type | X Axis | Amplitude |
|---|---|---|---|---|
| 1 | (1) | Freq | 5.76 GHz | 7.47 dBm |
| 2 | (1) | Freq | 5.23 GHz | -40.70 dBm |
| 3 | (1) | Freq | 7.66 GHz | -41.72 dBm |
| 4 | (1) | Freq | 36.88 GHz | -30.08 dBm |

CH High (30MHz~40GHz) ( IEEE 802.11n HT40 Combined mode )

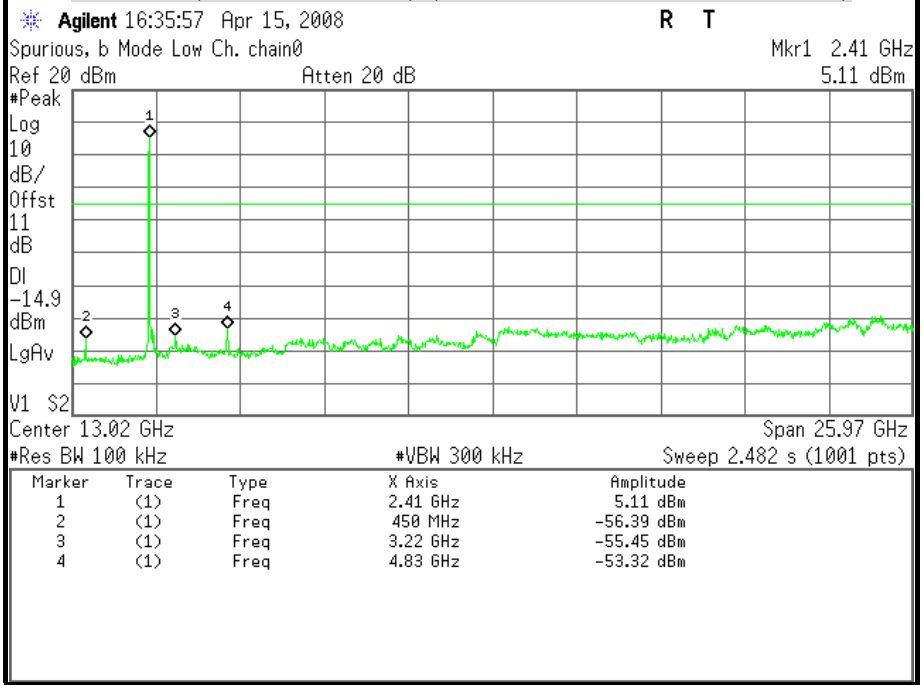



| Marker | Trace | Type | X Axis | Amplitude |
|---|---|---|---|---|
| 1 | (1) | Freq | 5.80 GHz | 9.60 dBm |
| 2 | (1) | Freq | 4.75 GHz | -39.43 dBm |
| 3 | (1) | Freq | 7.74 GHz | -41.55 dBm |
| 4 | (1) | Freq | 25.01 GHz | -40.83 dBm |

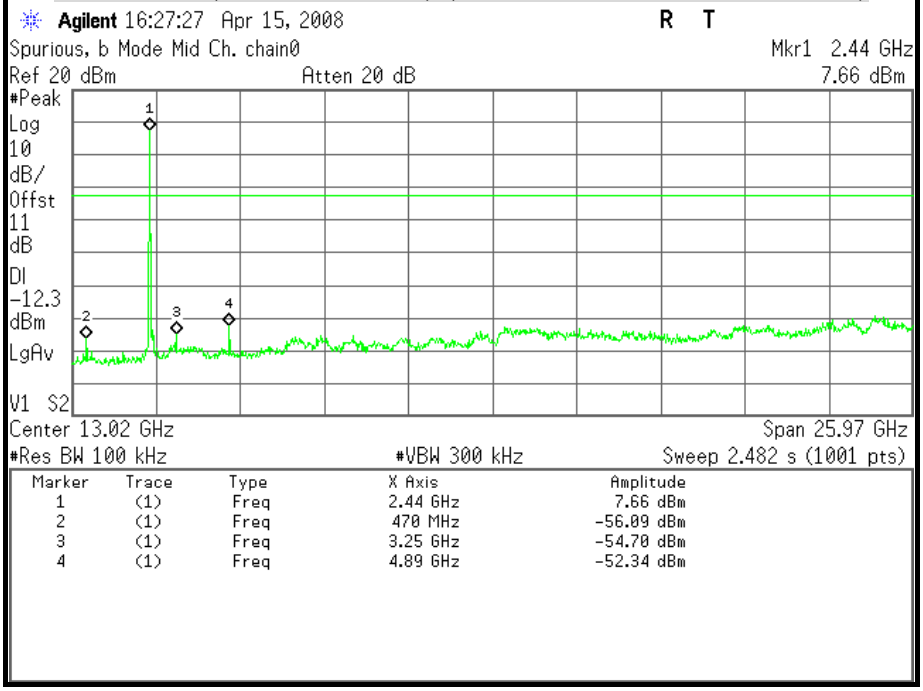
## OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

## ( IEEE 802.11b mode)

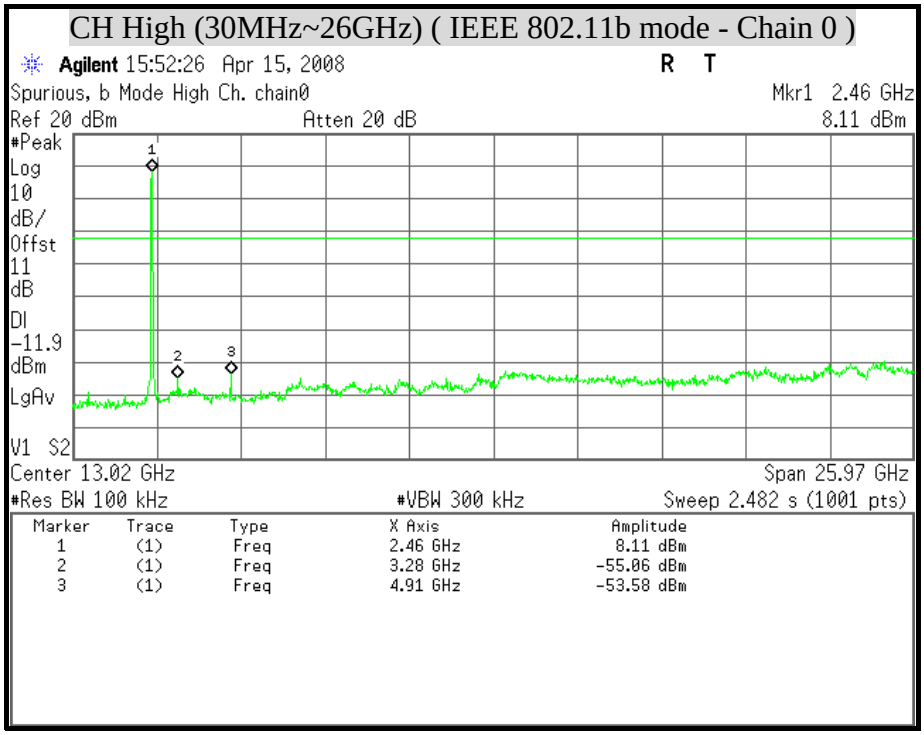
CH Low (30MHz~26GHz) ( IEEE 802.11b mode - Chain 0 )



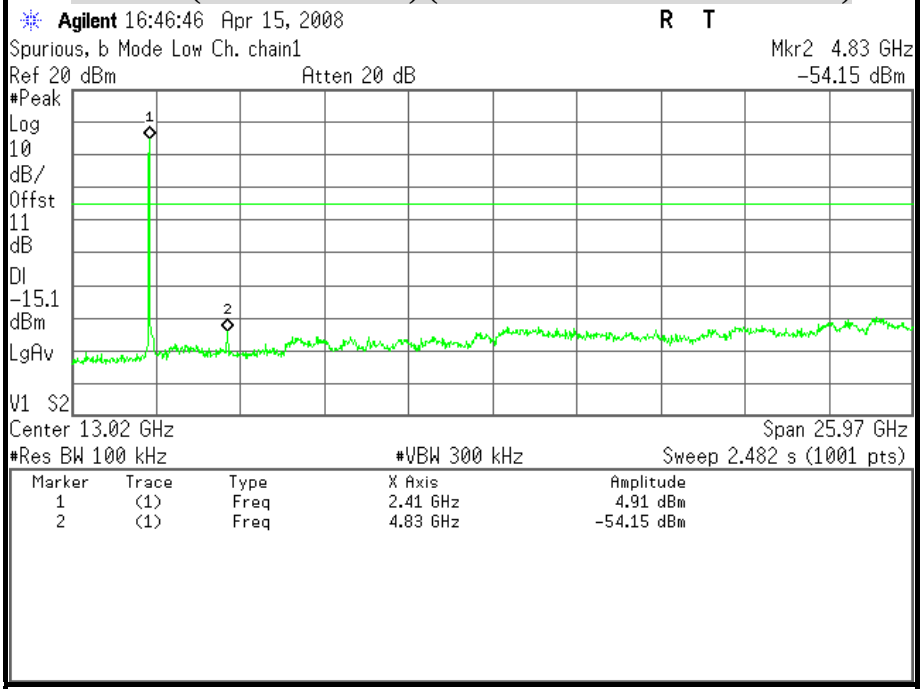

CH Middle (30MHz~26GHz) ( IEEE 802.11b mode - Chain 0 )



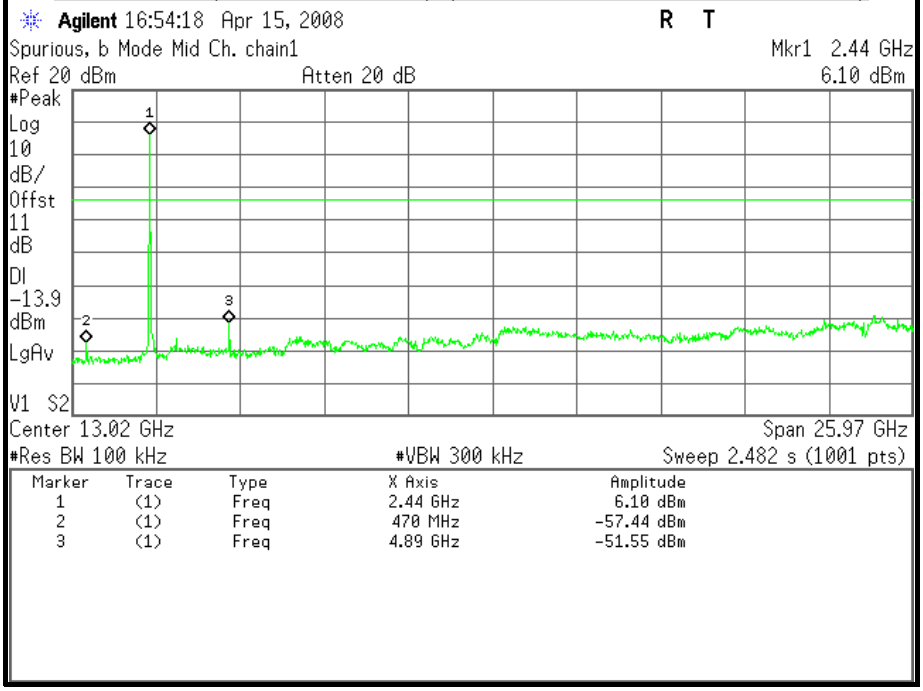
CH High (30MHz~26GHz) ( IEEE 802.11b mode - Chain 0 )



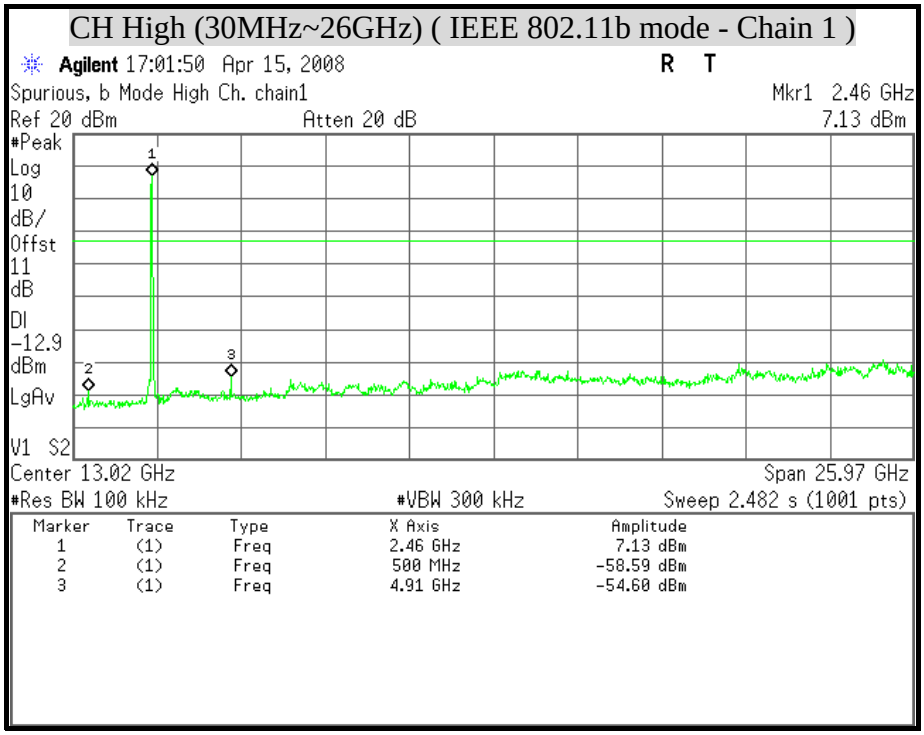
CH Low (30MHz~26GHz) ( IEEE 802.11b mode - Chain 1 )



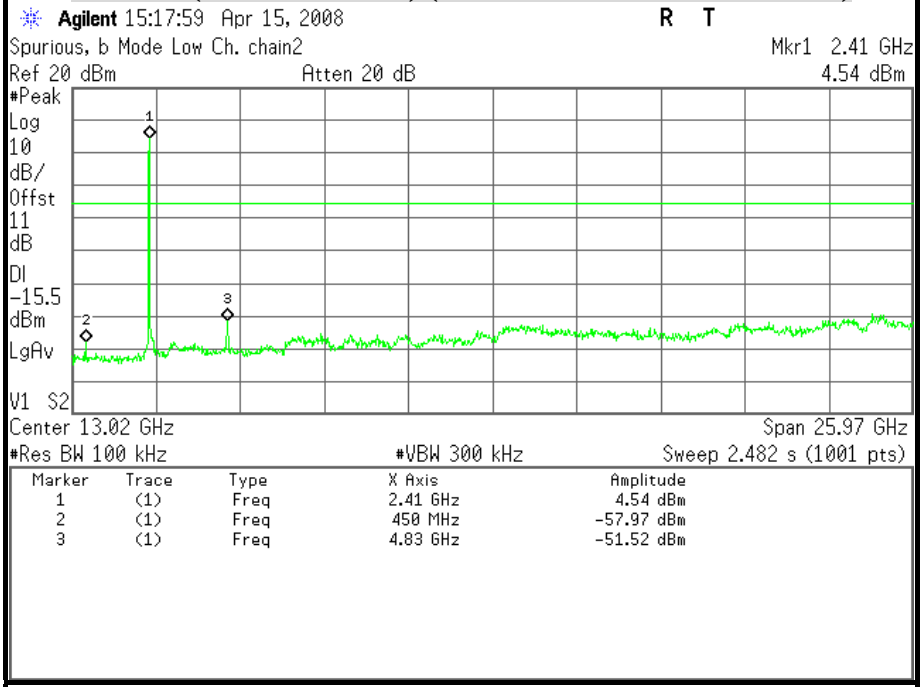

CH Middle (30MHz~26GHz) ( IEEE 802.11b mode - Chain 1 )



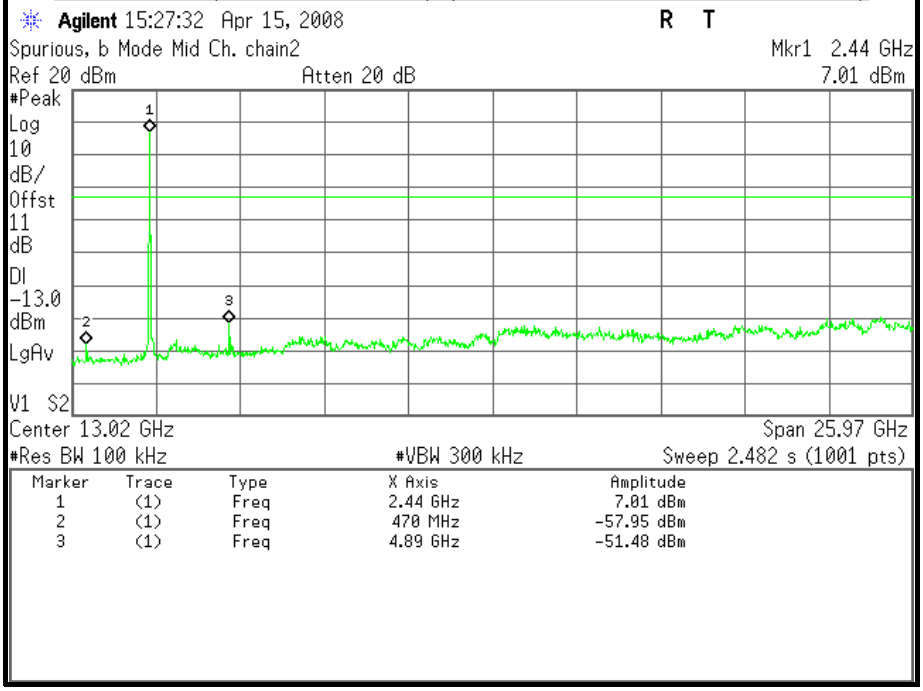
CH High (30MHz~26GHz) ( IEEE 802.11b mode - Chain 1 )



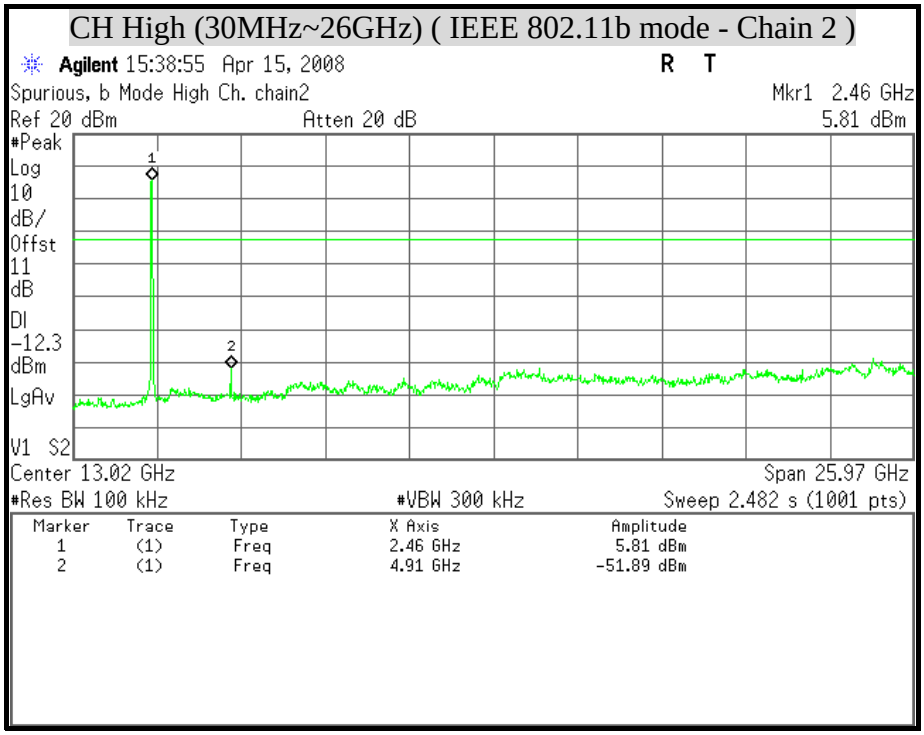
CH Low (30MHz~26GHz) ( IEEE 802.11b mode - Chain 2 )




CH Middle (30MHz~26GHz) ( IEEE 802.11b mode - Chain 2 )



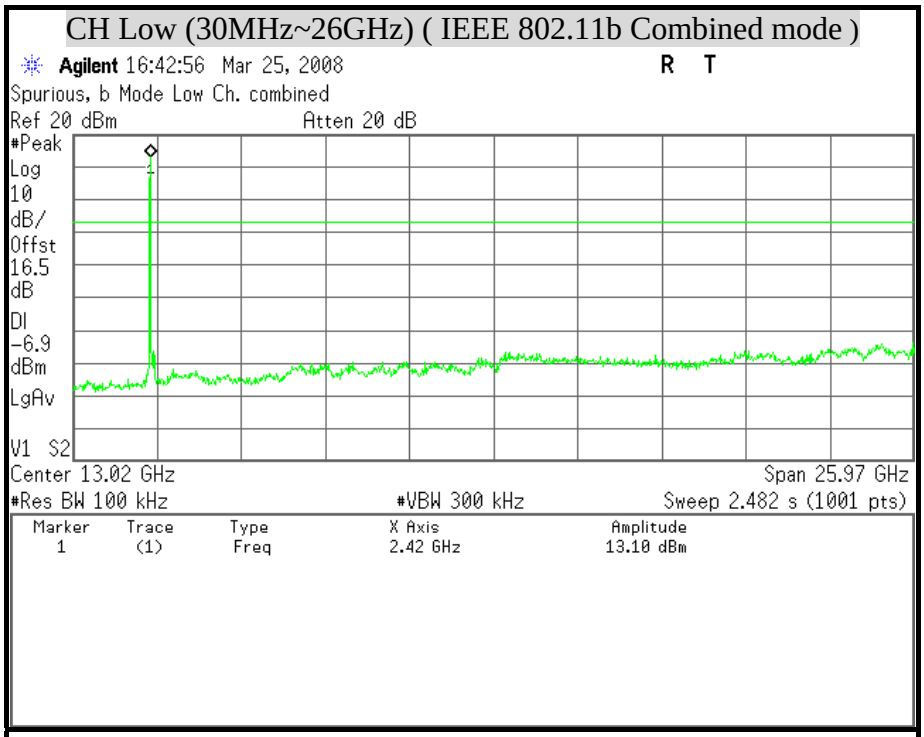
CH High (30MHz~26GHz) ( IEEE 802.11b mode - Chain 2 )



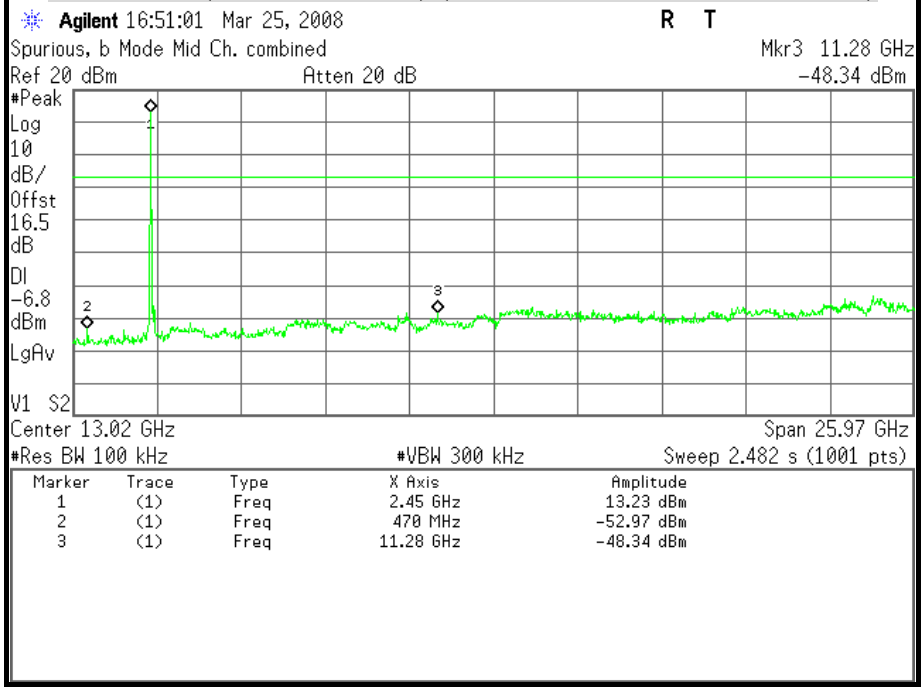
## OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

### ( IEEE 802.11b Combined mode )

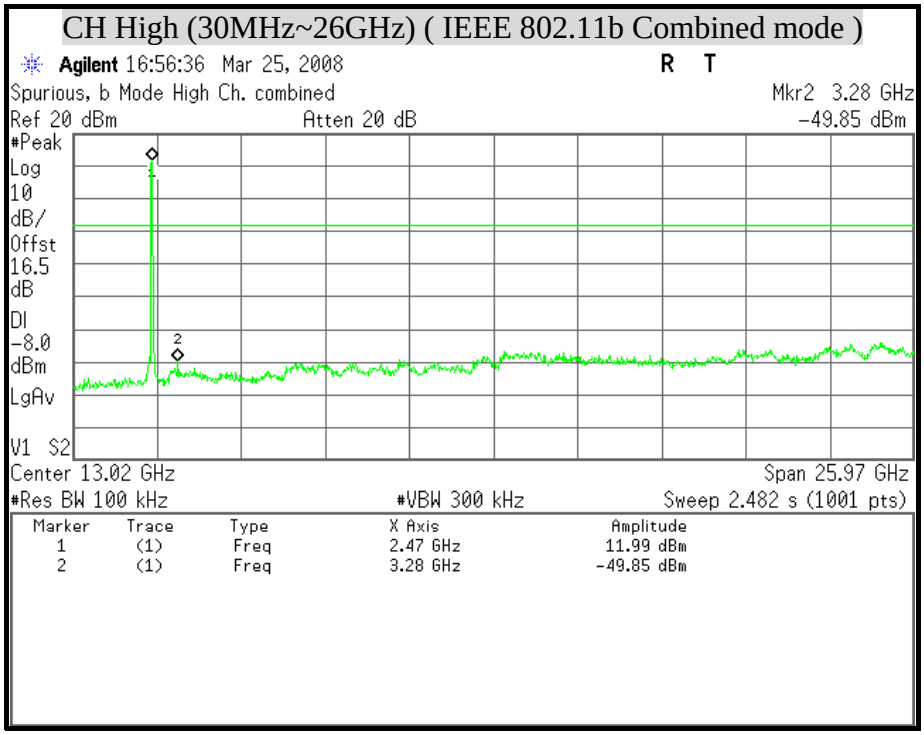
CH Low (30MHz~26GHz) ( IEEE 802.11b Combined mode )




CH Middle (30MHz~26GHz) ( IEEE 802.11b Combined mode )



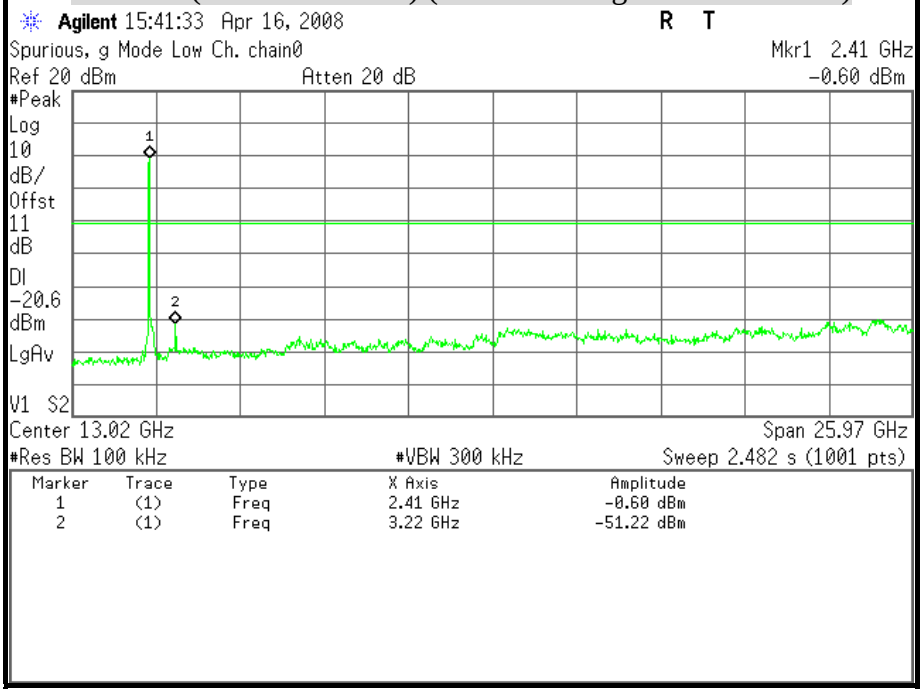
CH High (30MHz~26GHz) ( IEEE 802.11b Combined mode )



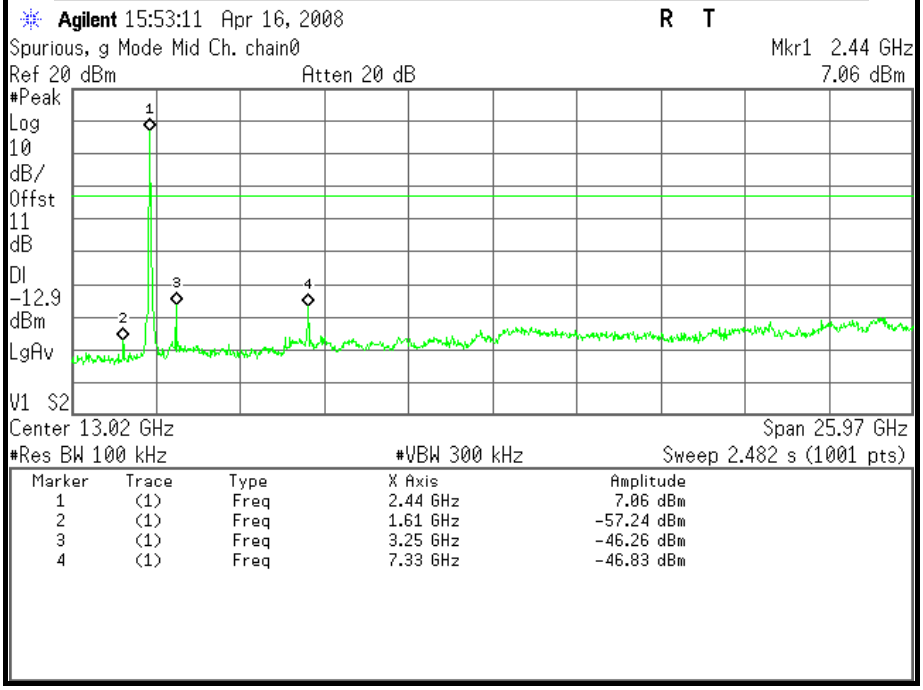
## OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

## ( IEEE 802.11g mode)

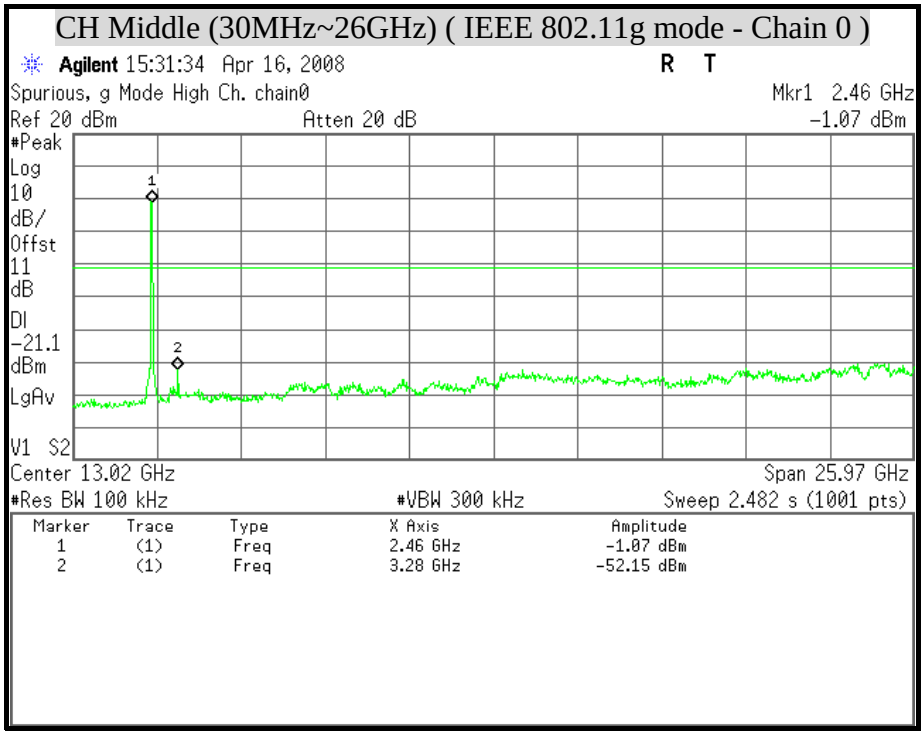
CH Low (30MHz~26GHz) ( IEEE 802.11g mode - Chain 0 )



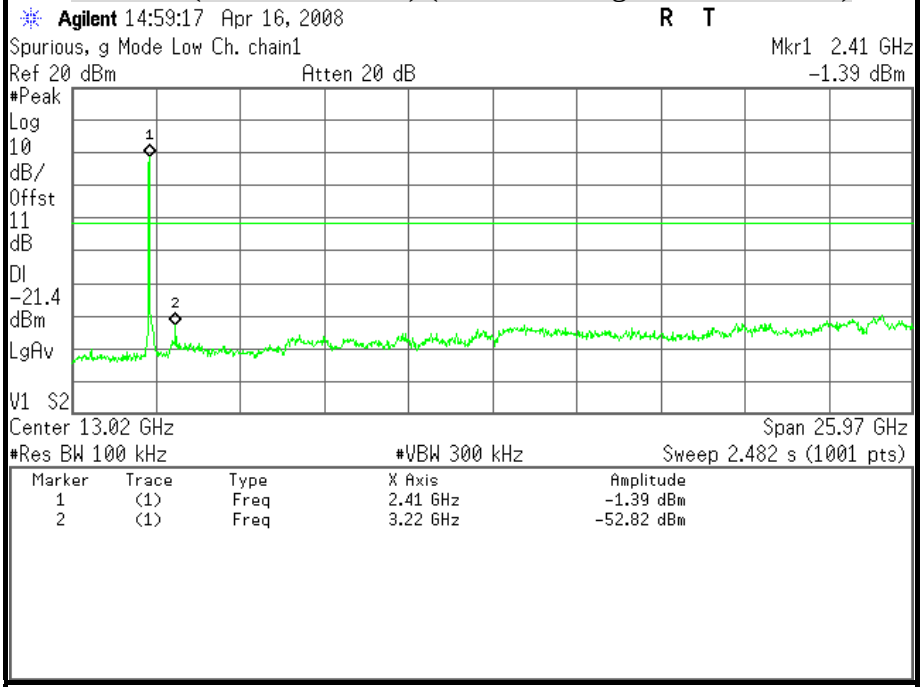

CH Middle (30MHz~26GHz) ( IEEE 802.11g mode - Chain 0 )



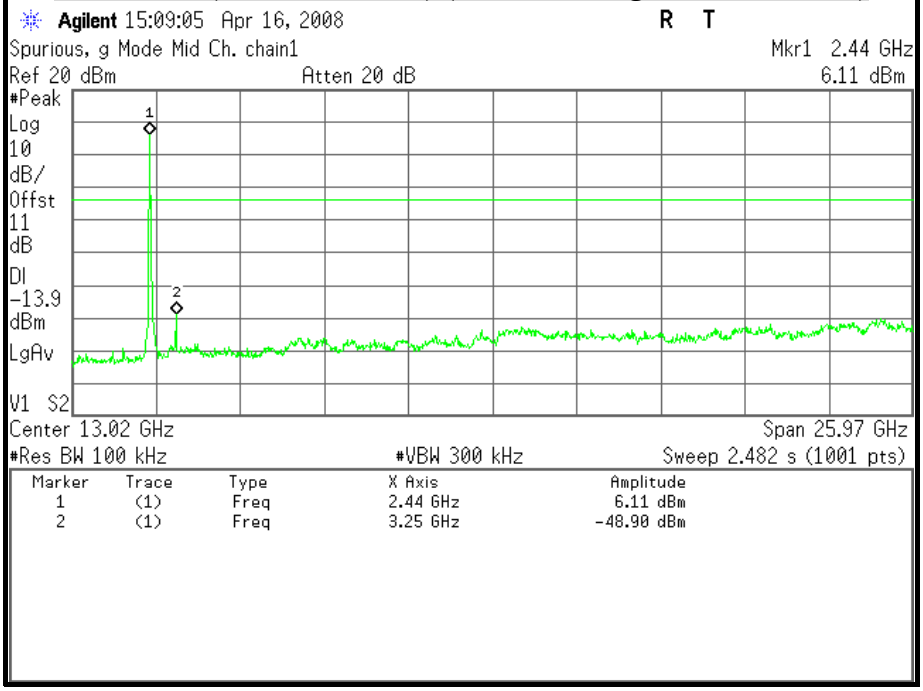
CH Middle (30MHz~26GHz) ( IEEE 802.11g mode - Chain 0 )



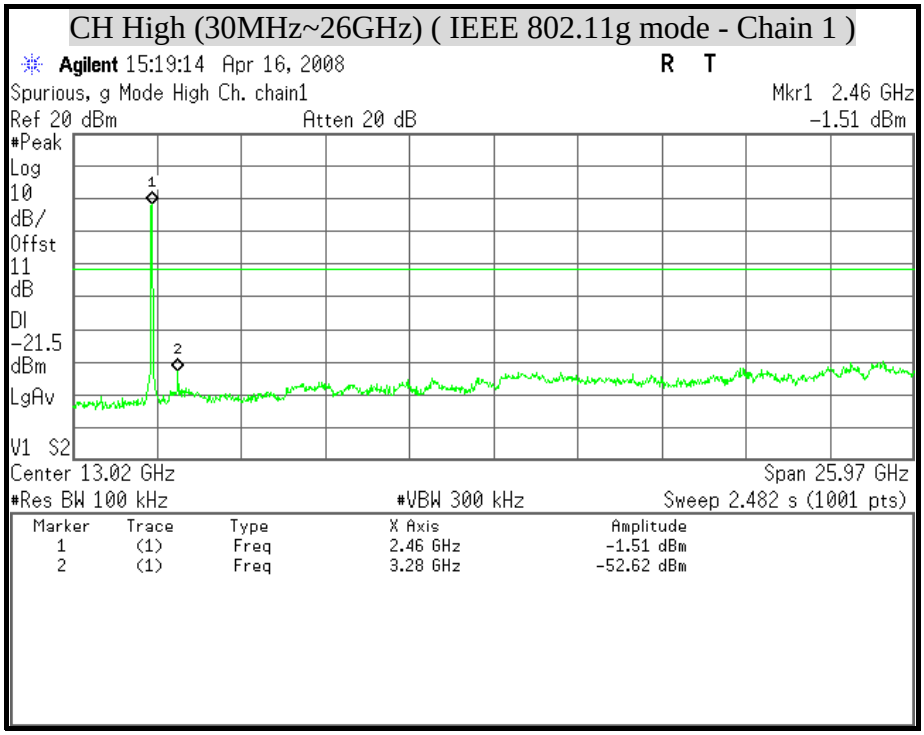
CH Low (30MHz~26GHz) ( IEEE 802.11g mode - Chain 1 )



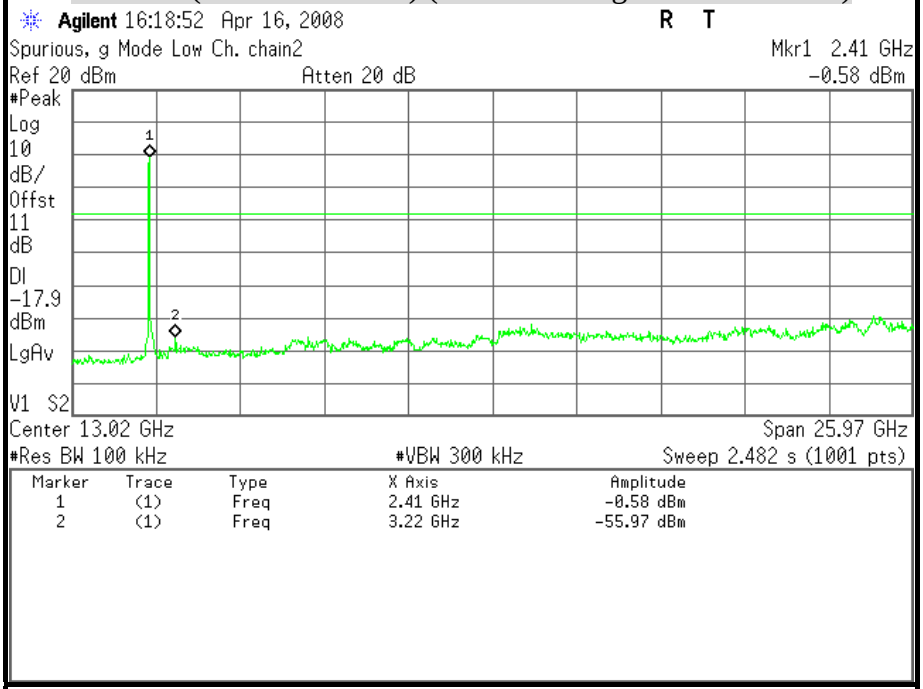

CH Middle (30MHz~26GHz) ( IEEE 802.11g mode - Chain 1 )



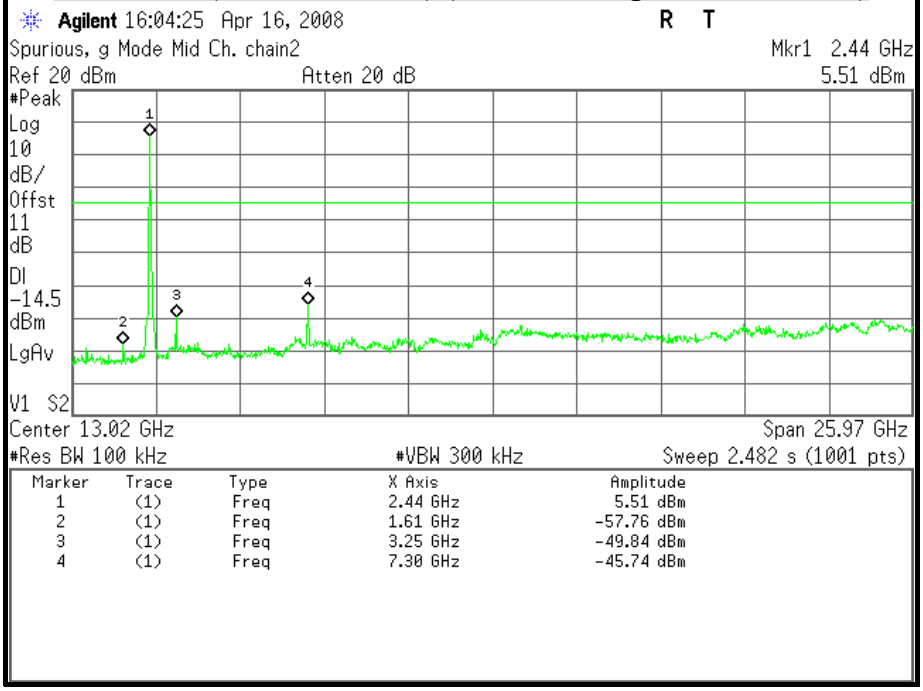
CH High (30MHz~26GHz) ( IEEE 802.11g mode - Chain 1 )



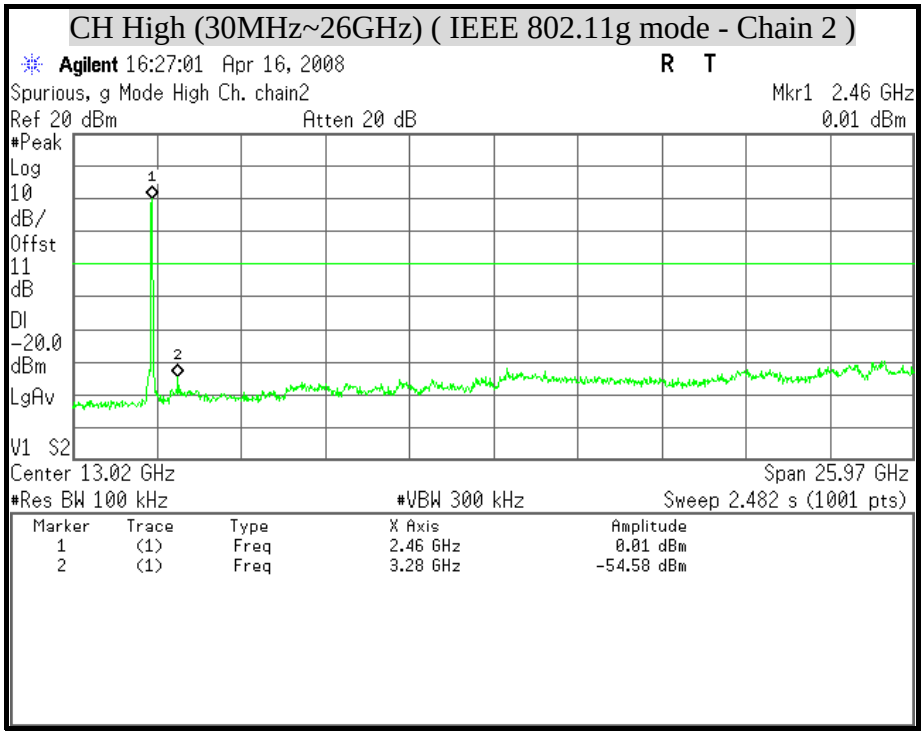
CH Low (30MHz~26GHz) ( IEEE 802.11g mode - Chain 2 )




CH Middle (30MHz~26GHz) ( IEEE 802.11g mode - Chain 2 )



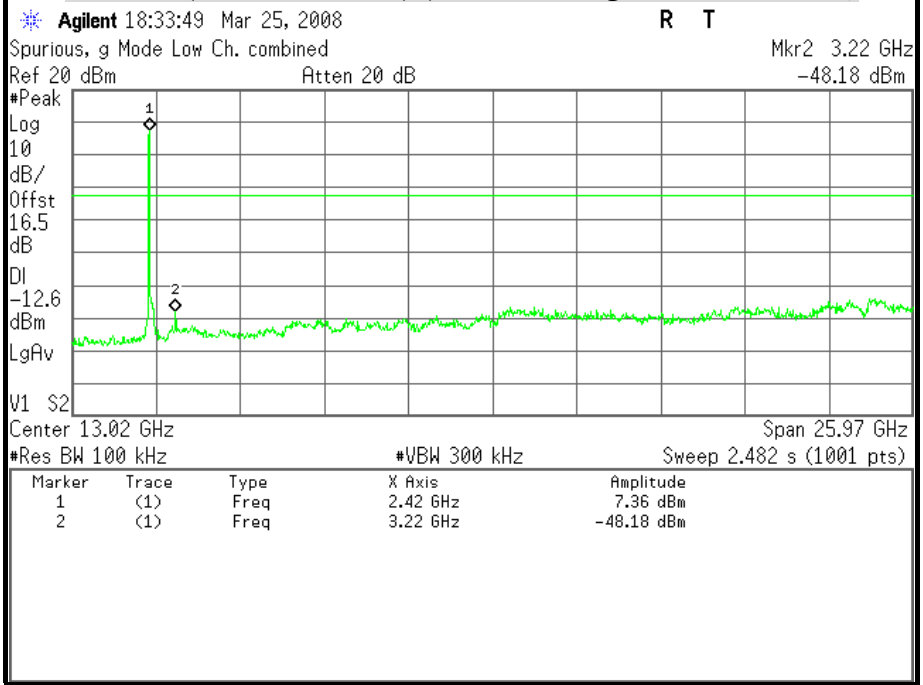
CH High (30MHz~26GHz) ( IEEE 802.11g mode - Chain 2 )



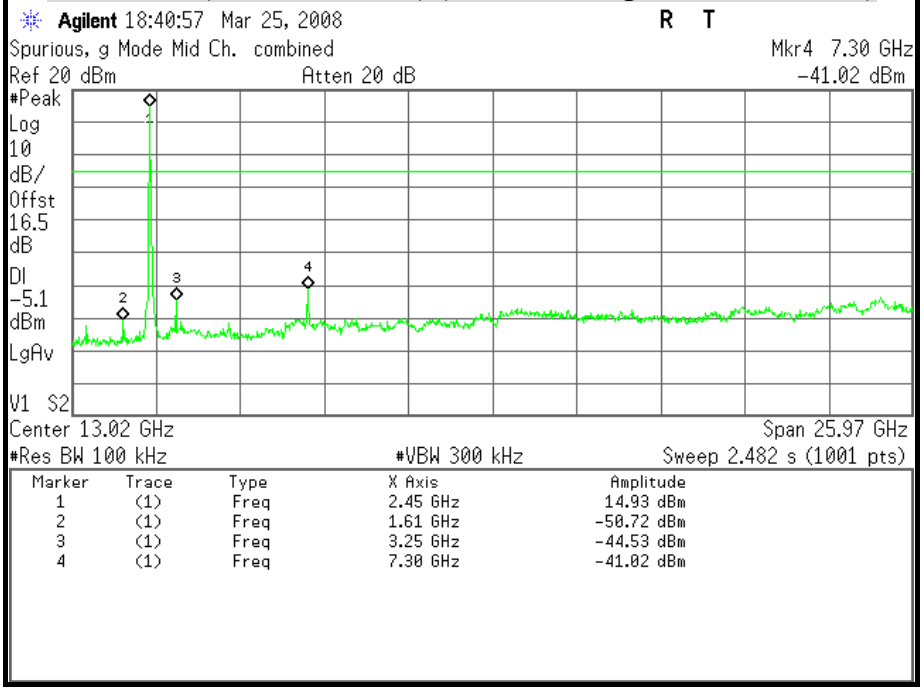
## OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

## ( IEEE 802.11g Combined mode )

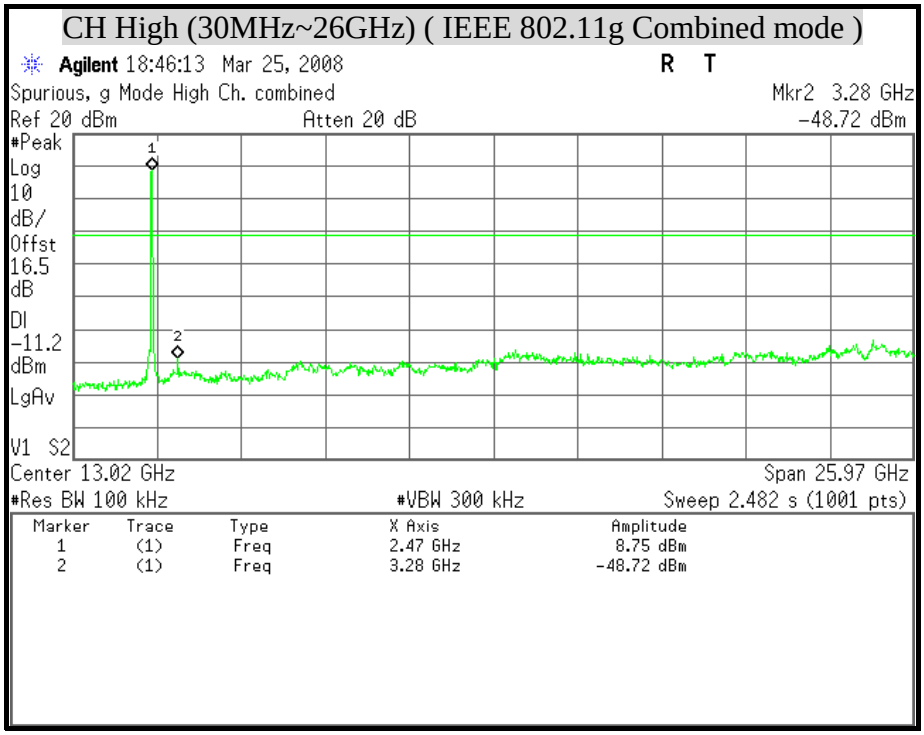
CH Low (30MHz~26GHz) ( IEEE 802.11g Combined mode )




CH Middle (30MHz~26GHz) ( IEEE 802.11g Combined mode )



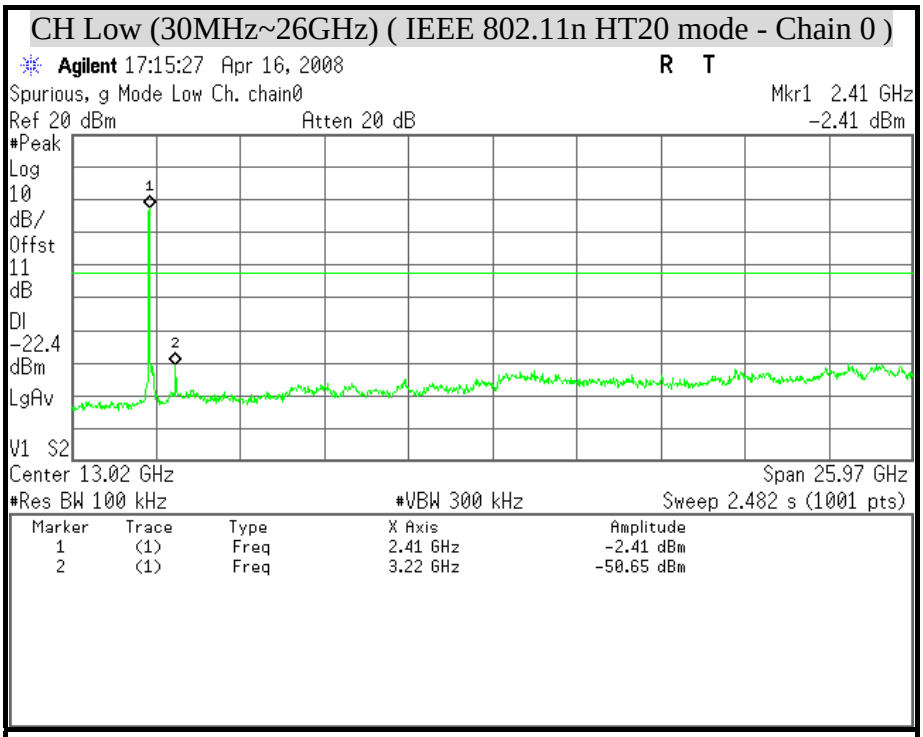
CH High (30MHz~26GHz) ( IEEE 802.11g Combined mode )



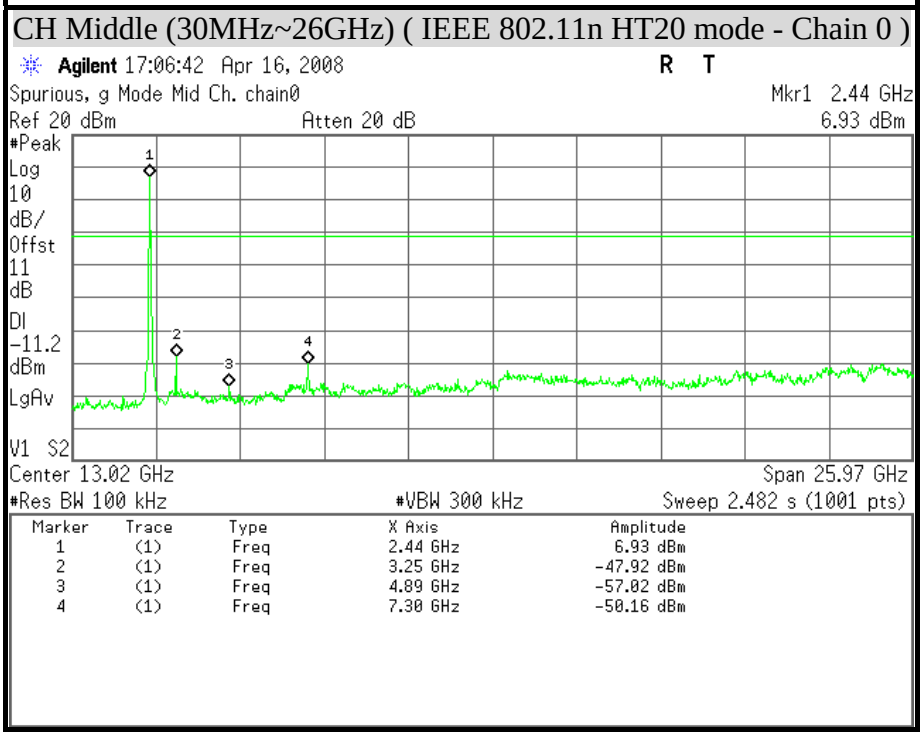
## OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

## ( IEEE 802.11n HT20 mode )

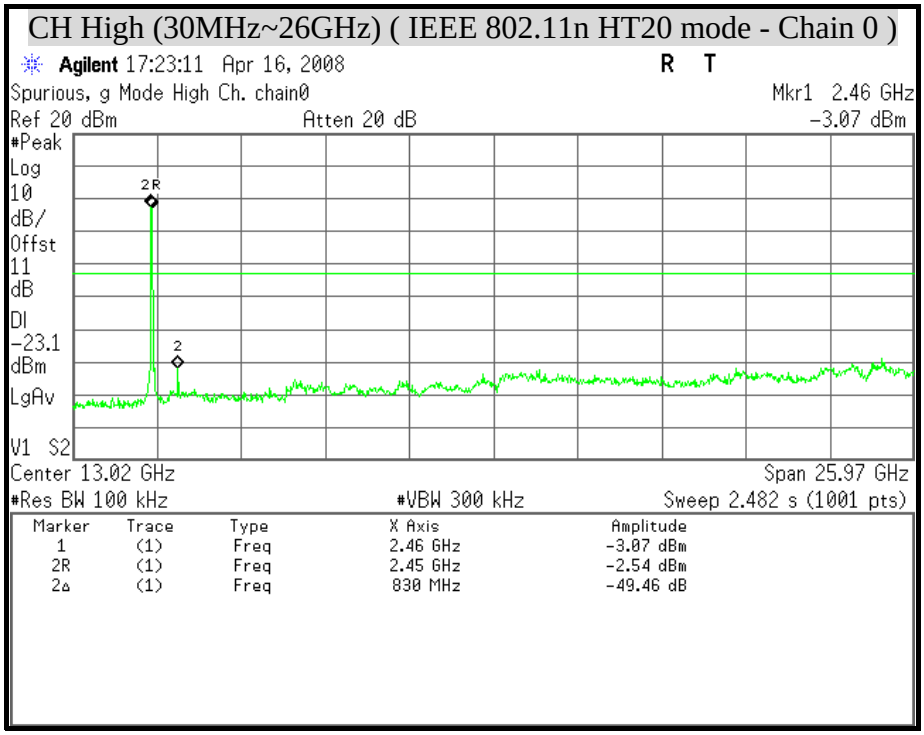
CH Low (30MHz~26GHz) ( IEEE 802.11n HT20 mode - Chain 0 )



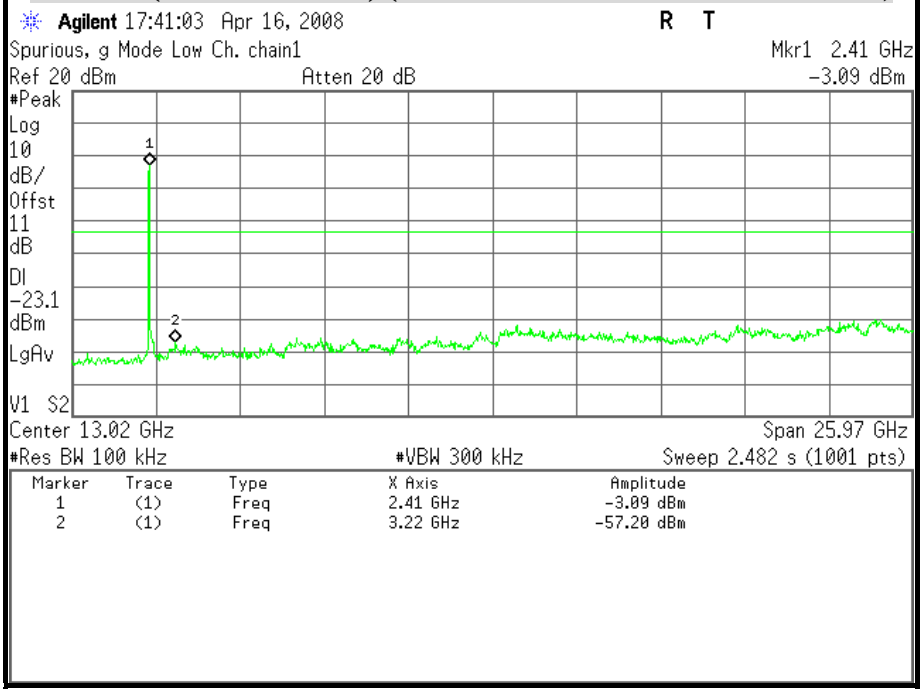

CH Middle (30MHz~26GHz) ( IEEE 802.11n HT20 mode - Chain 0 )



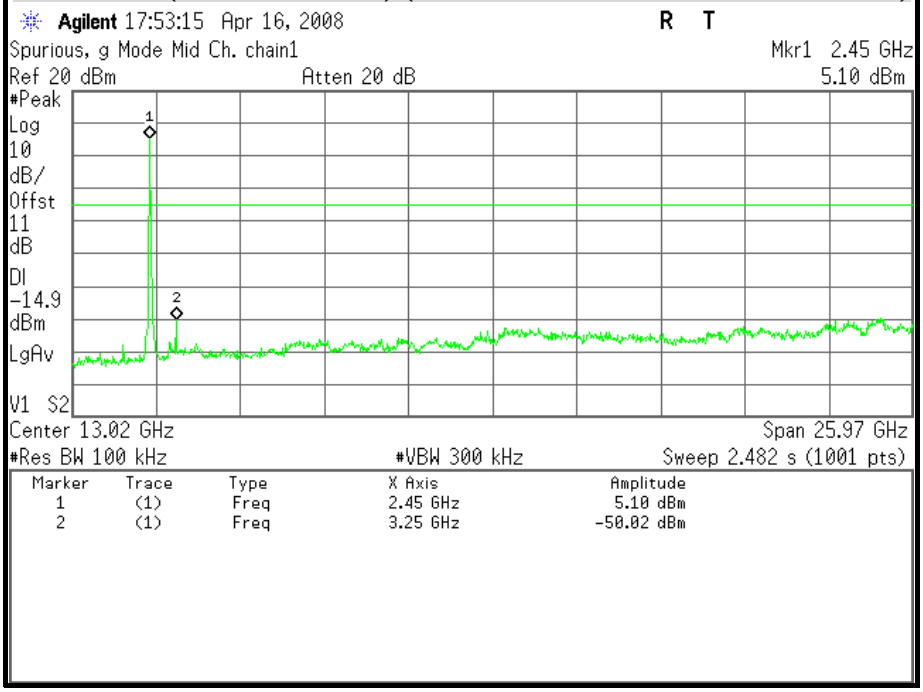
CH High (30MHz~26GHz) ( IEEE 802.11n HT20 mode - Chain 0 )



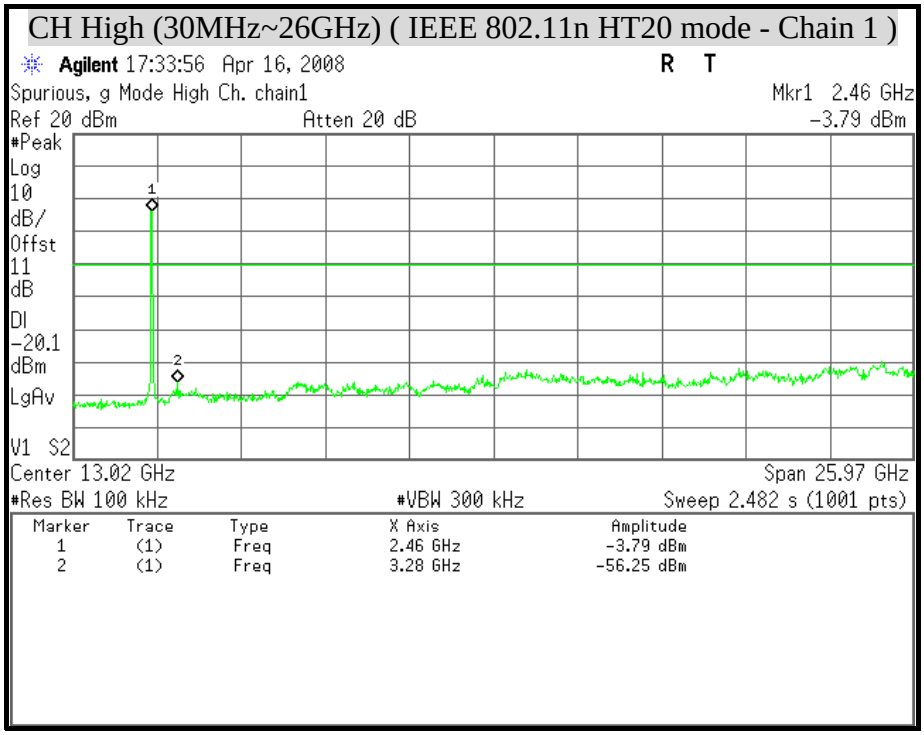
CH Low (30MHz~26GHz) ( IEEE 802.11n HT20 mode - Chain 1 )



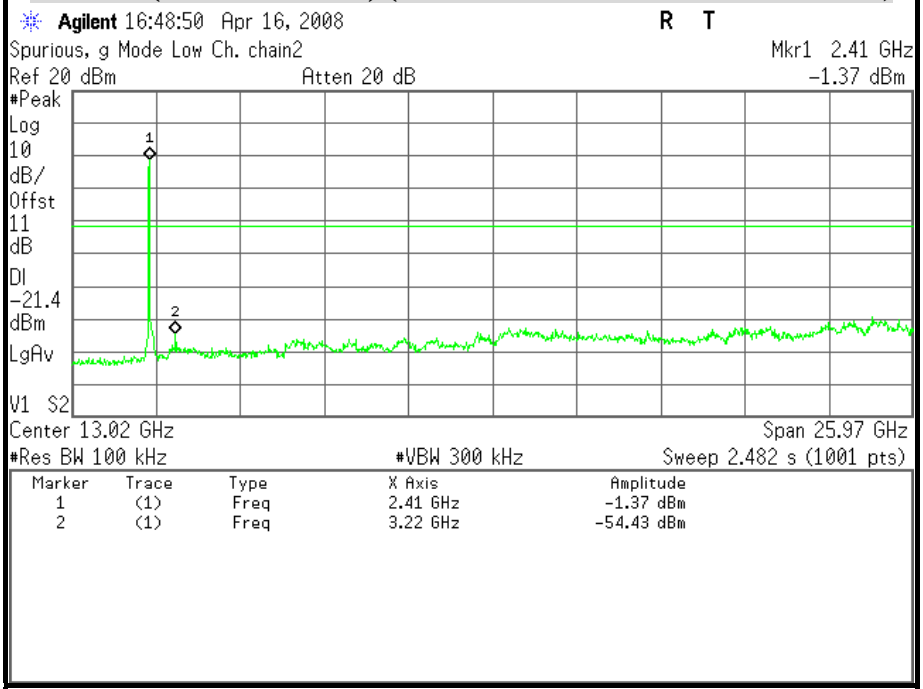

CH Middle (30MHz~26GHz) ( IEEE 802.11n HT20 mode - Chain 1 )



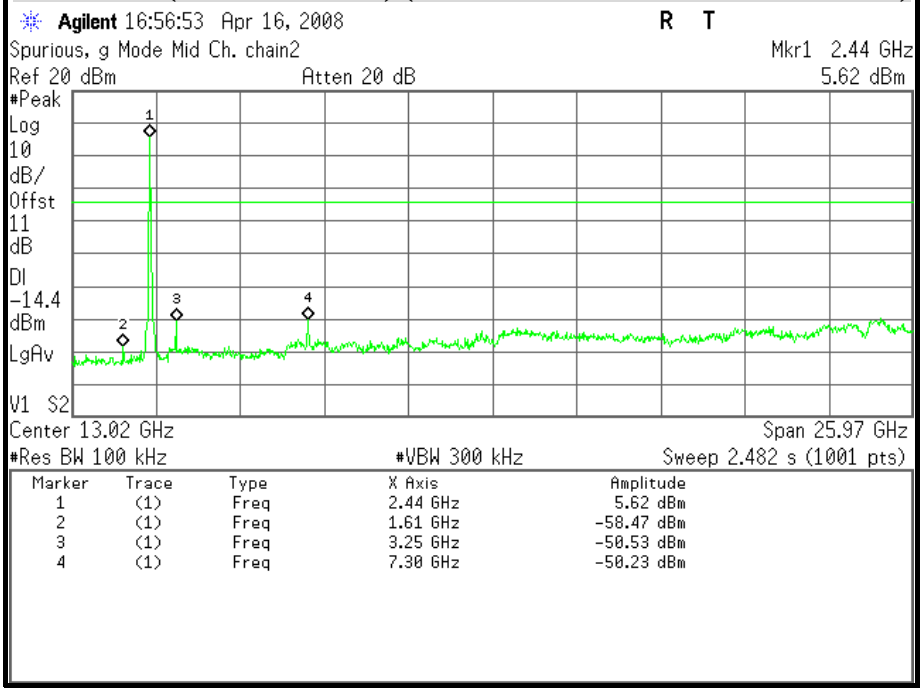
CH High (30MHz~26GHz) ( IEEE 802.11n HT20 mode - Chain 1 )



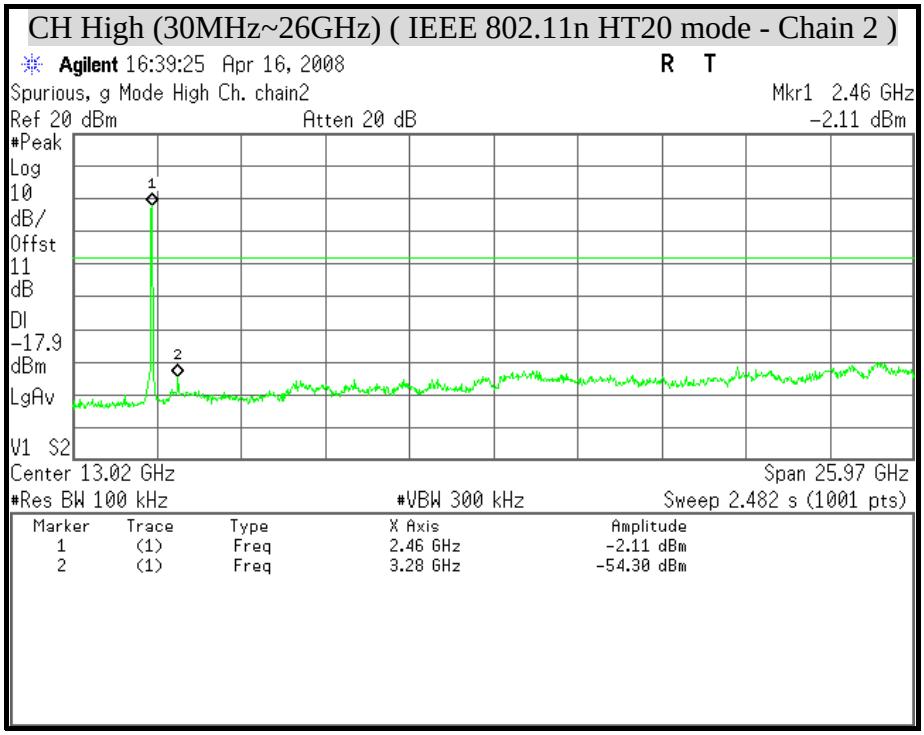
CH Low (30MHz~26GHz) ( IEEE 802.11n HT20 mode - Chain 2 )




CH Middle (30MHz~26GHz) ( IEEE 802.11n HT20 mode - Chain 2 )



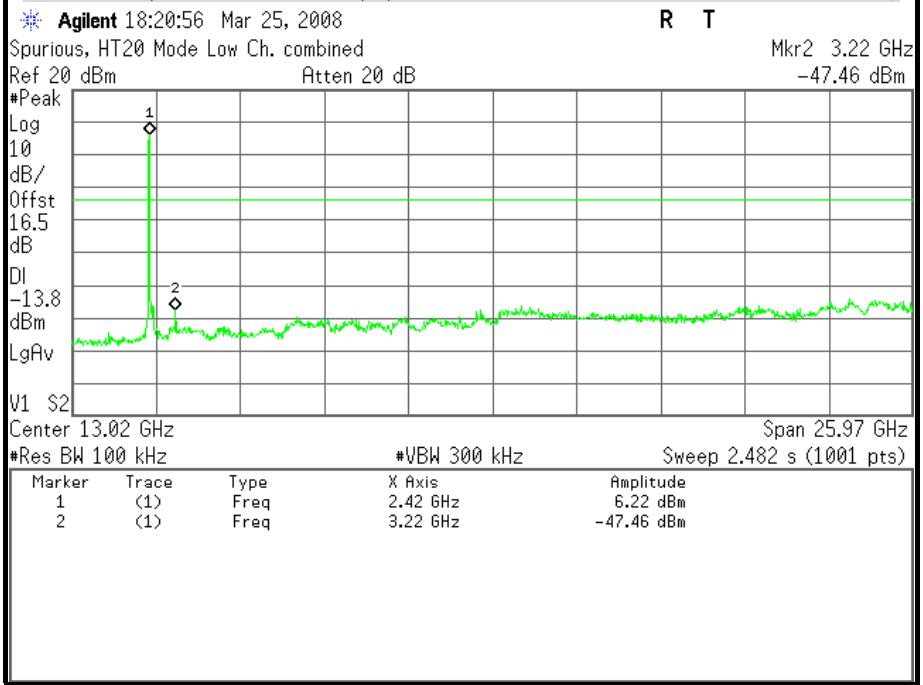
CH High (30MHz~26GHz) ( IEEE 802.11n HT20 mode - Chain 2 )



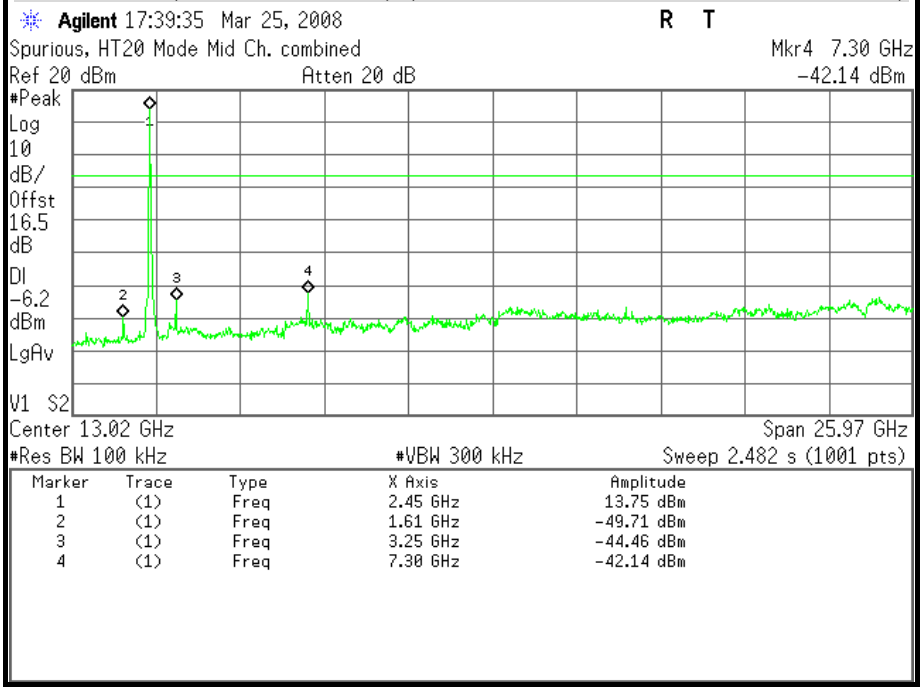
## OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

## ( IEEE 802.11n HT20 Combined mode )

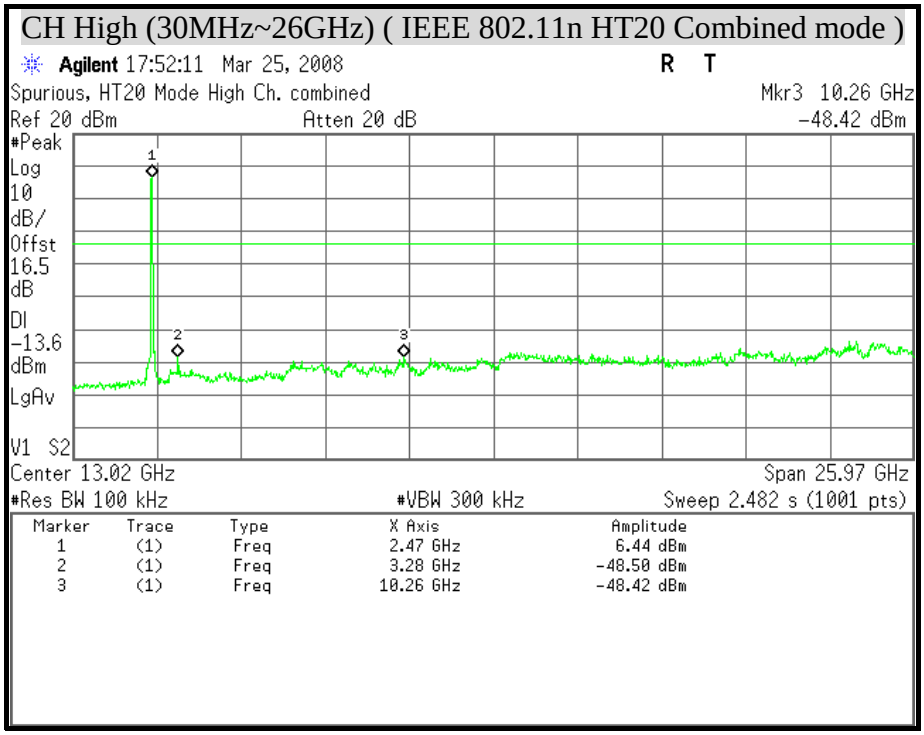
CH Low (30MHz~26GHz) ( IEEE 802.11n HT20 Combined mode )




CH Middle (30MHz~26GHz) ( IEEE 802.11n HT20 Combined mode )



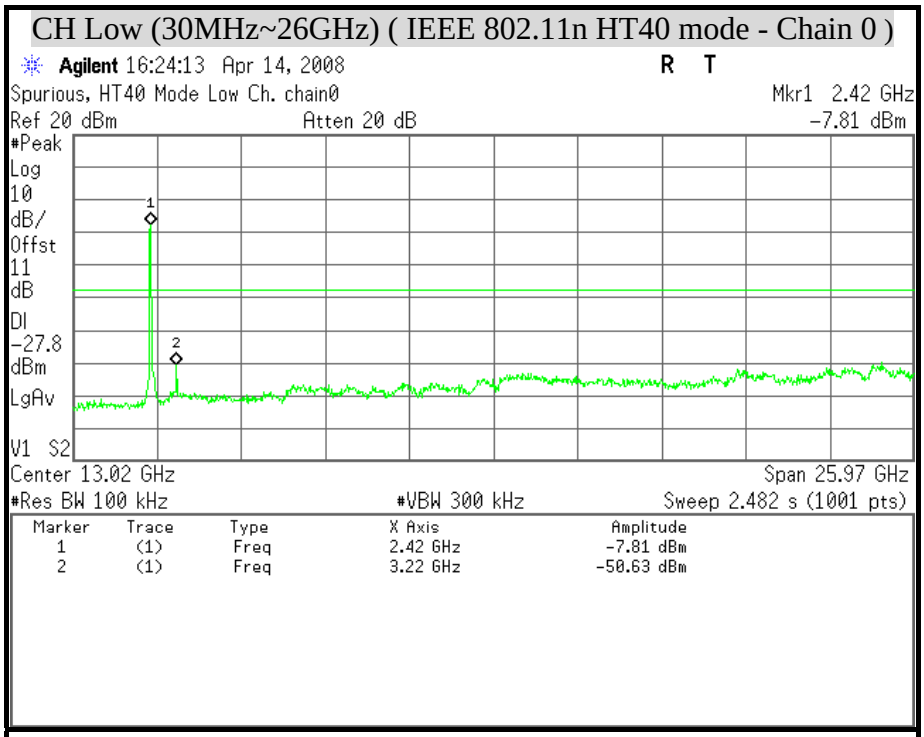
CH High (30MHz~26GHz) ( IEEE 802.11n HT20 Combined mode )



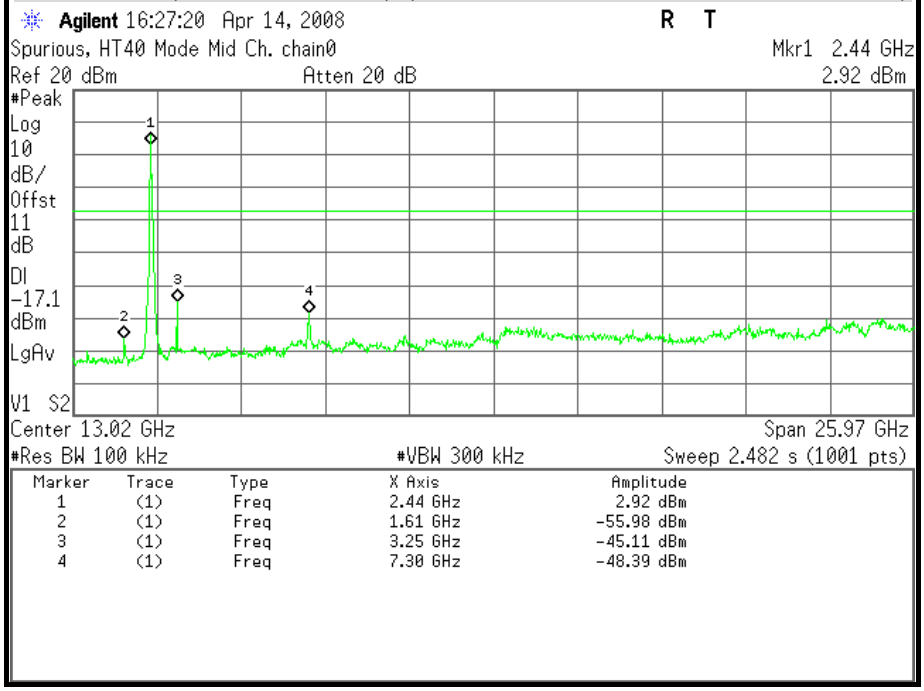
## OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

## ( IEEE 802.11n HT40 mode )

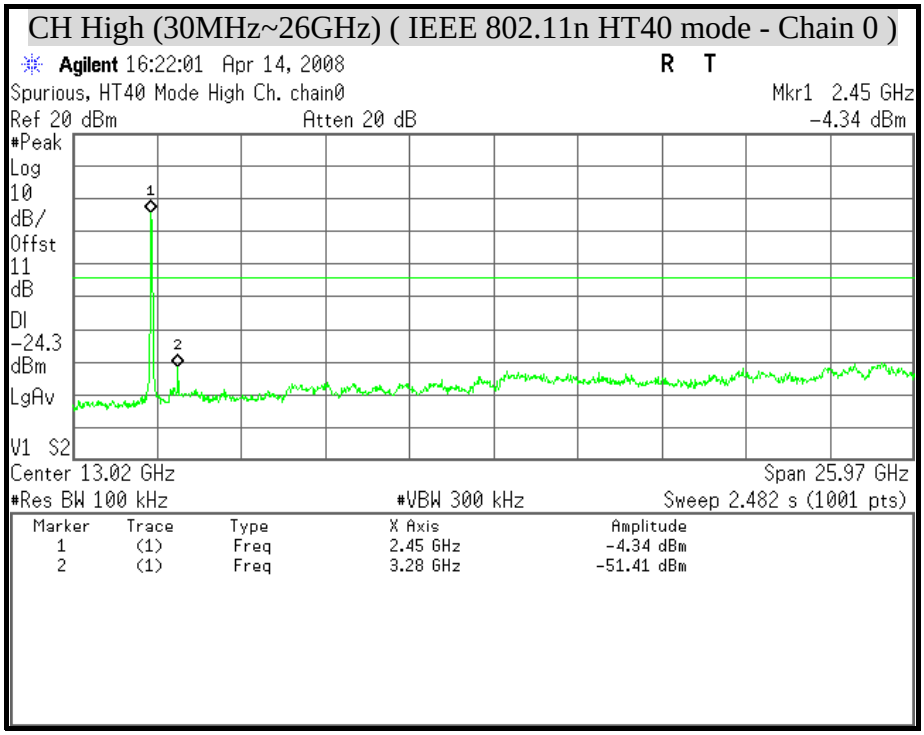
CH Low (30MHz~26GHz) ( IEEE 802.11n HT40 mode - Chain 0 )



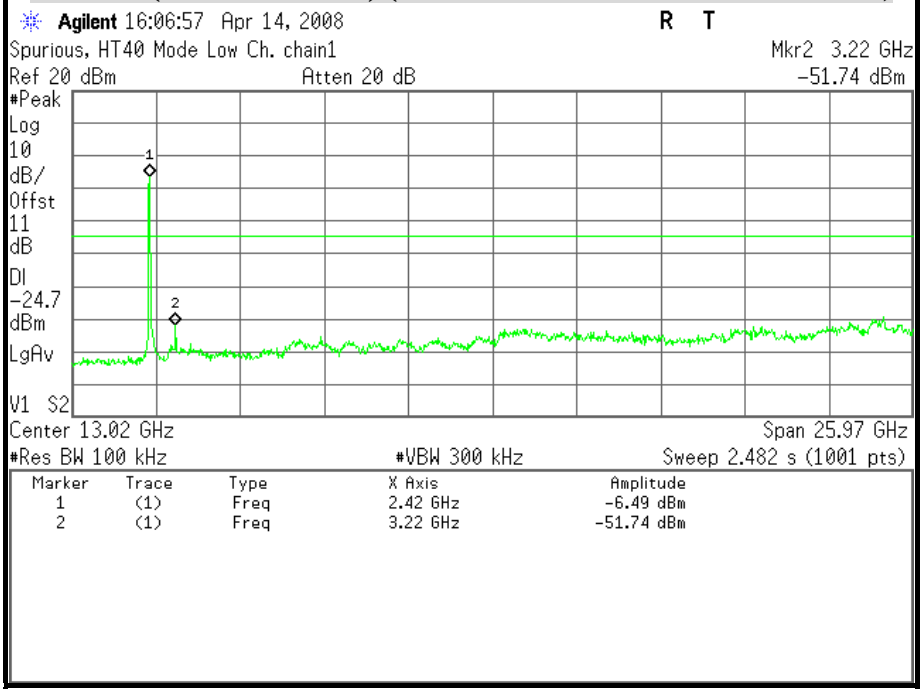

CH Middle (30MHz~26GHz) ( IEEE 802.11n HT40 mode - Chain 0 )



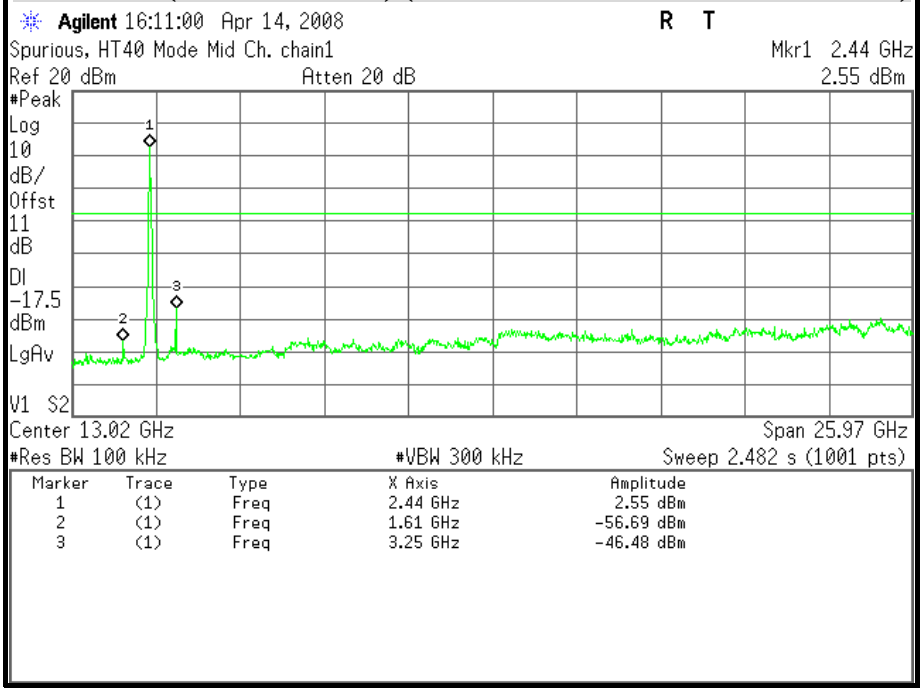
CH High (30MHz~26GHz) ( IEEE 802.11n HT40 mode - Chain 0 )



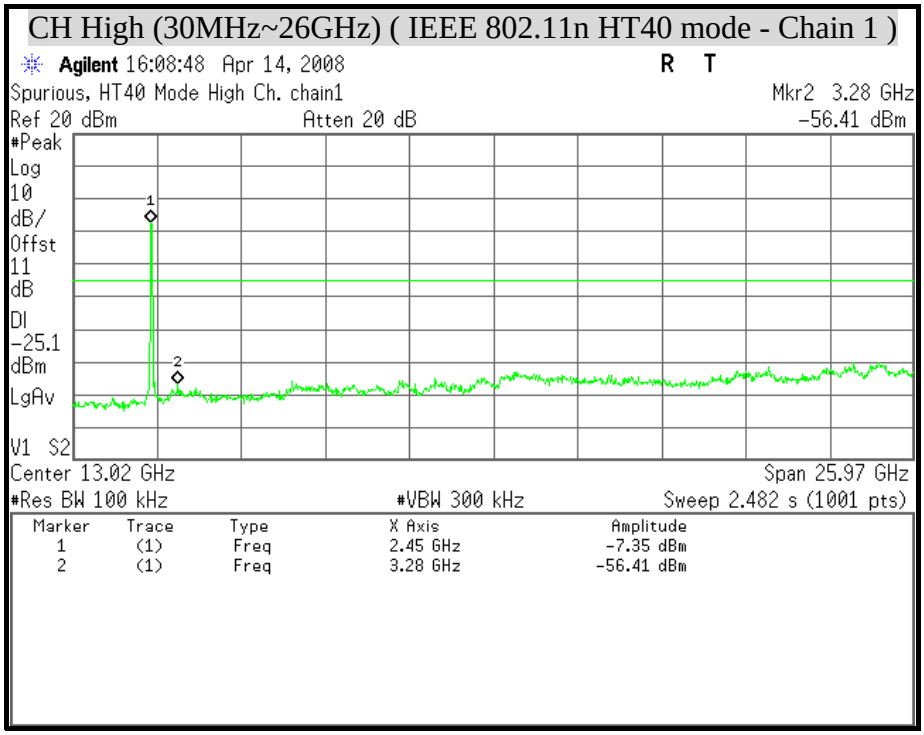
CH Low (30MHz~26GHz) ( IEEE 802.11n HT40 mode - Chain 1 )



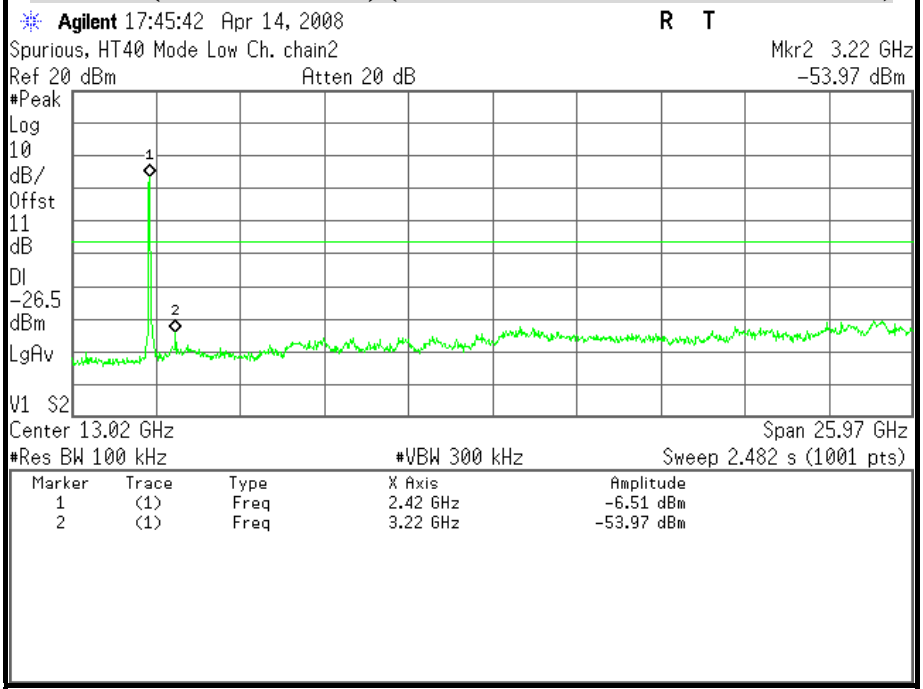

CH Middle (30MHz~26GHz) ( IEEE 802.11n HT40 mode - Chain 1 )



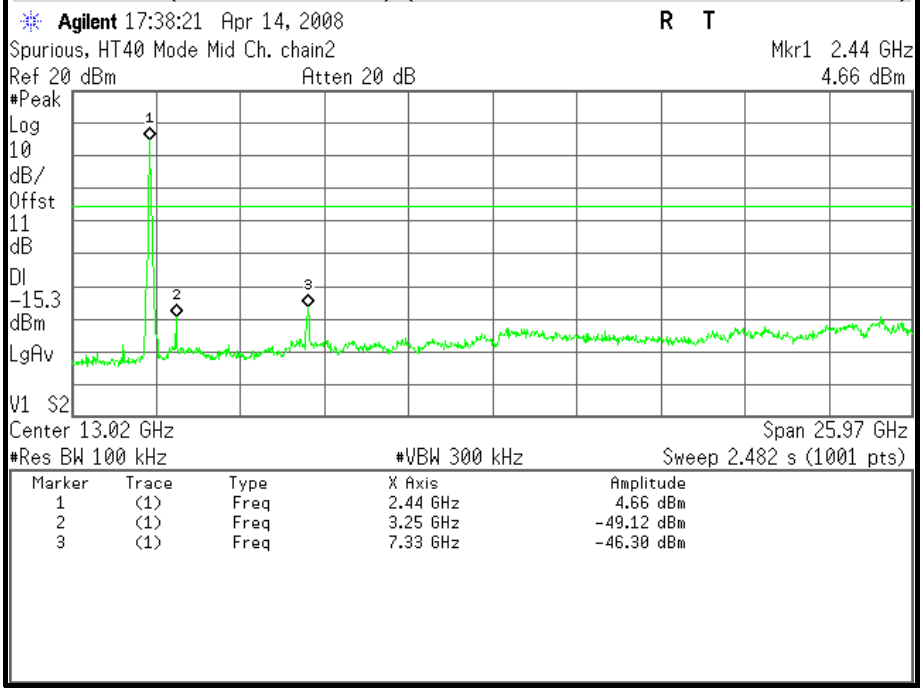
CH High (30MHz~26GHz) ( IEEE 802.11n HT40 mode - Chain 1 )



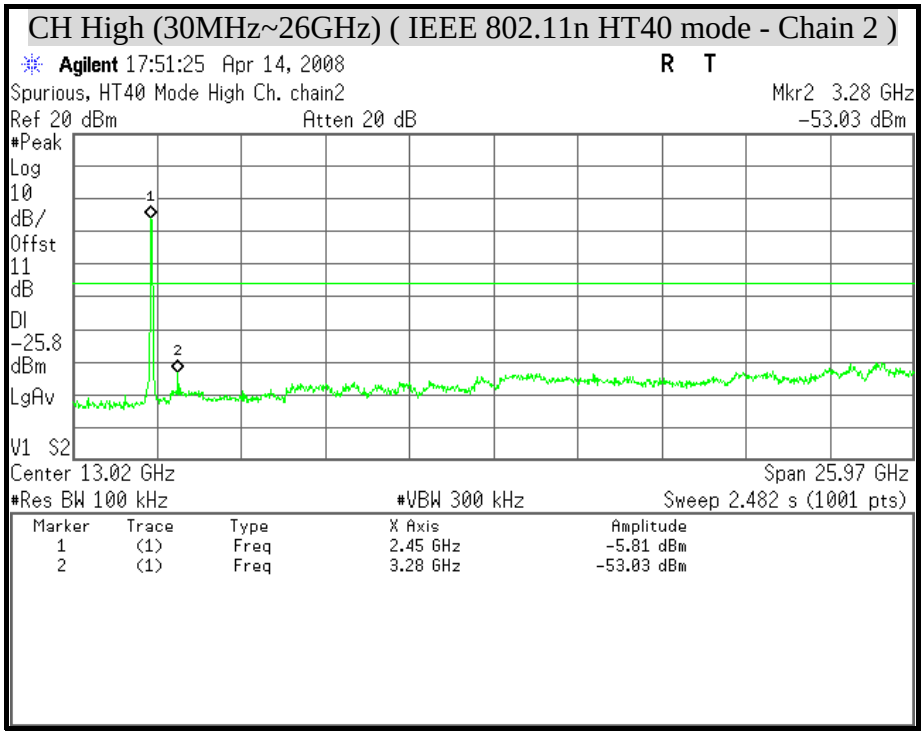
CH Low (30MHz~26GHz) ( IEEE 802.11n HT40 mode - Chain 2 )




CH Middle (30MHz~26GHz) ( IEEE 802.11n HT40 mode - Chain 2 )



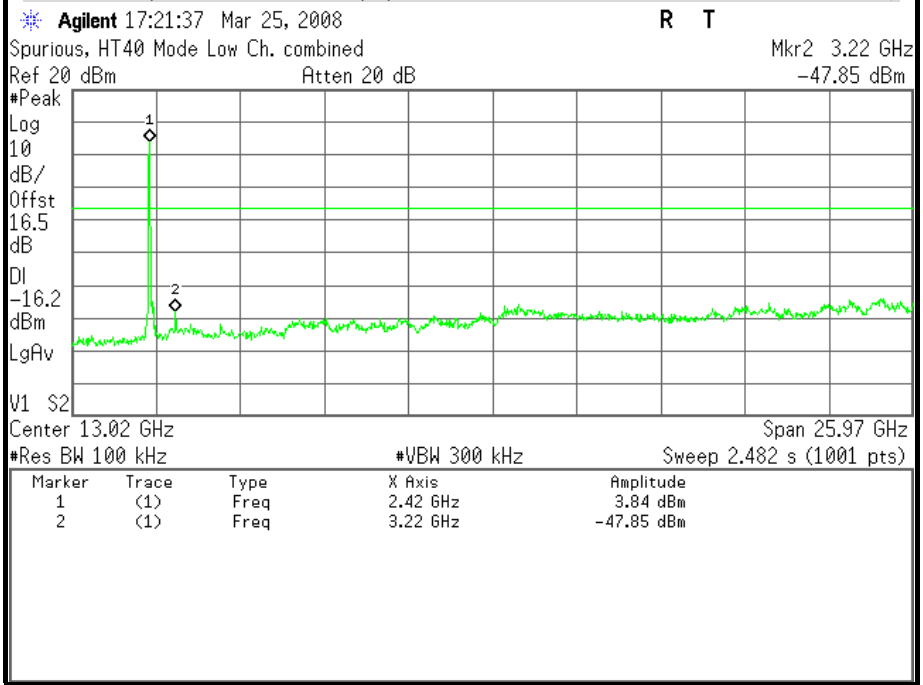
CH High (30MHz~26GHz) ( IEEE 802.11n HT40 mode - Chain 2 )



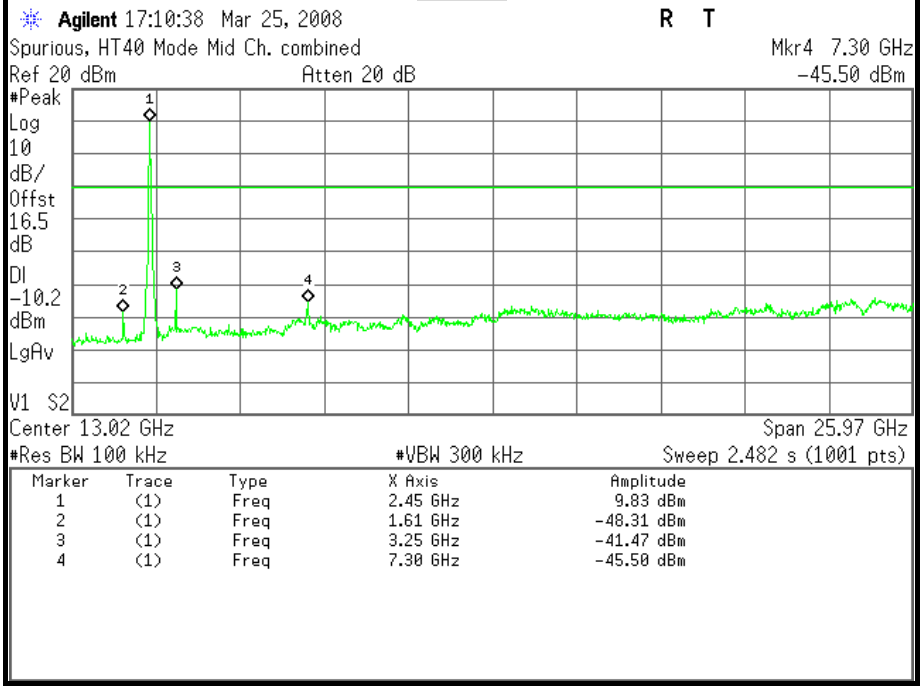
## OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

## ( IEEE 802.11n HT40 Combined mode )

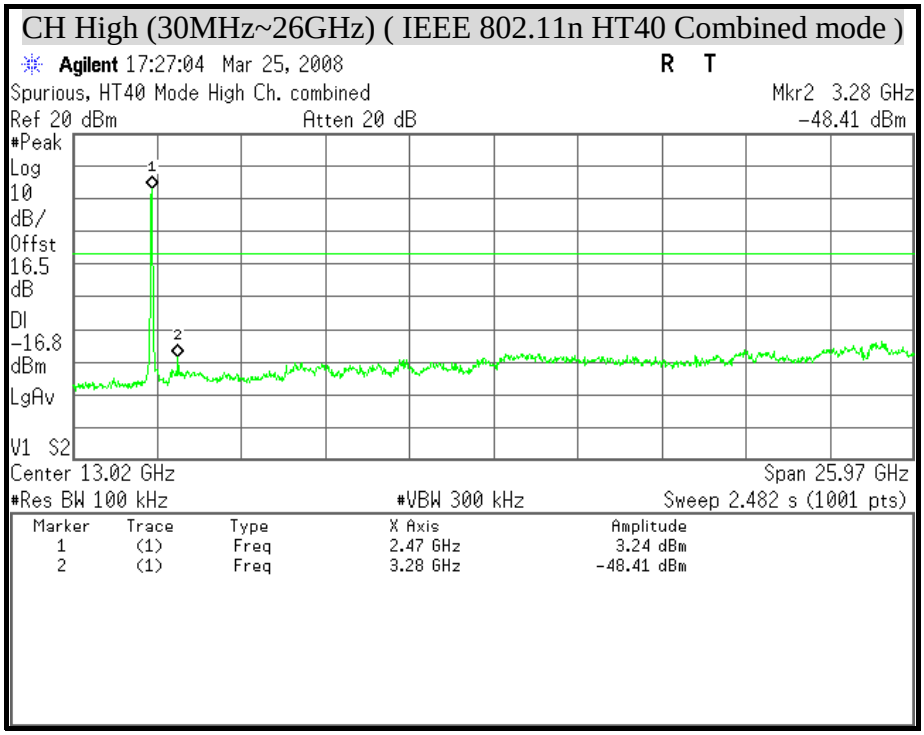
CH Low (30MHz~26GHz) ( IEEE 802.11n HT40 Combined mode )




CH Middle (30MHz~26GHz) ( IEEE 802.11n HT40 Combined mode )



CH High (30MHz~26GHz) ( IEEE 802.11n HT40 Combined mode )



# 8.8 RADIATED EMISSIONS

## 8.8.1 TRANSMITTER RADIATED SUPURIOUS EMSSIONS

**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 |
| [1]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 - 3338 | 36.43 - 36.5 |
| 12.57675 - 12.57725 | 322 -335.4 | 3600 - 4400 | ([2]) |
| 13.36 - 13.41 | | | |

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] 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 is 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 (MHz) | Field Strength (microvolts/meter) | Measurement Distance (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.

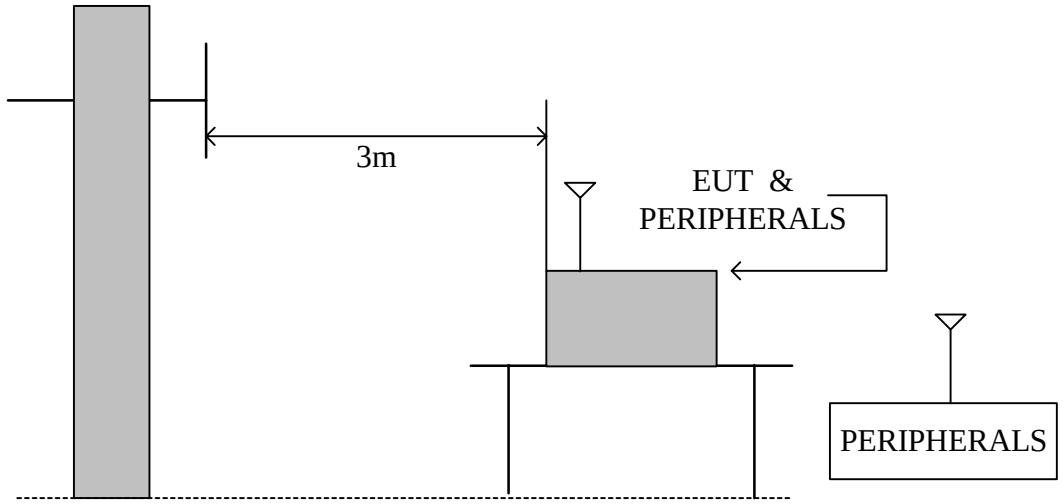
**TEST EQUIPMENT**

The following test equipment is utilized in making the measurements contained in this report.

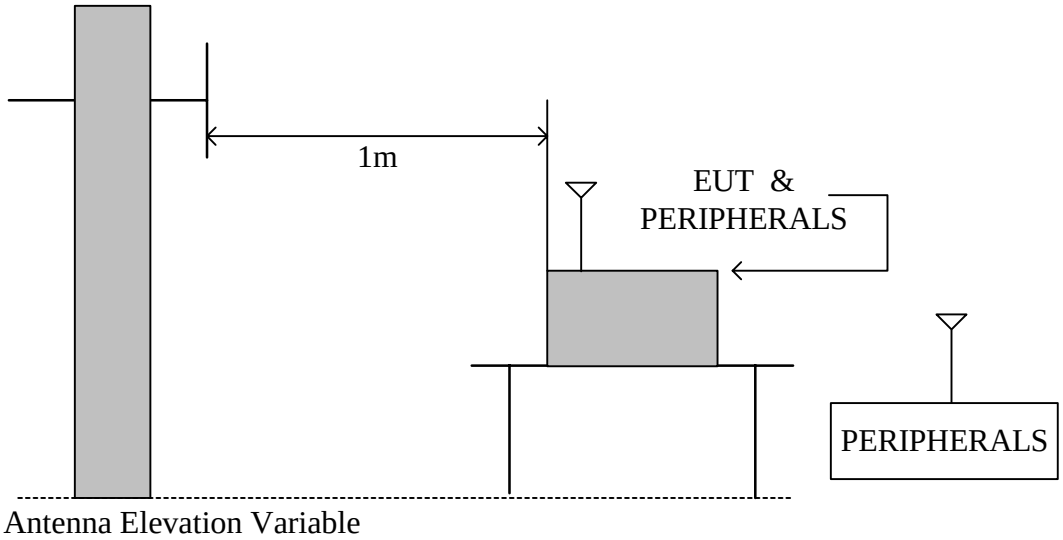
| Manufacturer or Type | Model No. | Serial No. | Date of Calibration | Calibration Period | Remark |
|---|---|---|---|---|---|
| CHASE BILOG ANTENNA | CBL6112B | 2817 | December 21, 2007 | 1 Year | FINAL |
| R/S SPECTRUM ANALYZER | FSEK30 | 835253/002 | October 25, 2007 | 1 Year | FINAL |
| AGILENT SPECTRUM ANALYZER | E4446A | MY433601.32 | June 24, 2008 | 1 Year | FINAL |
| R/S EMI TEST RECEIVER | ESCS30 | 835418/008 | October 16, 2007 | 1 Year | FINAL |
| OPEN SITE | ---------- | No.2 | May 07, 2008 | 1 Year | FINAL |
| MIYAZAKI N TYPE COAXIAL CABLE | 8D-FB | 02 | May 16, 2008 | 1 Year | FINAL |
| Horn Antenna | AH-118 | 10089 | October 18, 2007 | 1 Year | FINAL |
| Horn Antenna | AH-840 | 03077 | December 25, 2007 | 1 Year | FINAL |
| Agilent Pre-amplifier | 8449B | 3008A01471 | December 20, 2007 | 1 Year | FINAL |
| HP Amplifier | 8447D | 2944A10052 | December 24, 2007 | 1 Year | FINAL |
| HP High pass filter | 84300/80038 | 002 | CAL. ON USE | 1 Year | FINAL |
| HP High pass filter | 84300/80039 | 003 | CAL. ON USE | 1 Year | FINAL |

**TEST SETUP**

The diagram below shows the test setup that is utilized to make the measurements for emission from 30 to 1GHz.




The diagram below shows the test setup that is utilized to make the measurements for emission above 1GHz.



**TEST PROCEDURE**

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.

b. White measuring the radiated emission below 1GHz, the EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. White measuring the radiated emission above 1GHz, the EUT was set 1 meters away from the interference-receiving antenna

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarization of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold mode.

f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Note：

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 KHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.

2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection and frequency above 1GHz.

3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

**TEST RESULTS**

No non-compliance noted

## 8.8.2 WORST-CASE RADIATED EMISSION BELOW 1 GHz

| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point | **Test Date** | 2008/06/07 |
|---|---|---|---|
| **Model** | DAP-2553 | **Test By** | Alan Fan |
| **Test Mode** | Normal operating (worst-case) | **TEMP & Humidity** | 33°C, 60% |

| Frequency (MHz) | Antenna Factor (dB/m) | Cable Loss (dB) | Meter Reading at 3m(dBμV) | | Limits (dBμV/m) | Emission Level at 3m(dBμV/m) | |
|---|---|---|---|---|---|---|---|
| | | | Horizontal | Vertical | | Horizontal | Vertical |
| 75.00 | 7.05 | 1.23 | 10.00 | 22.00 | 40.00 | 18.28 | 30.28 |
| 225.00 | 11.50 | 2.18 | 7.00 | 7.50 | 46.00 | 20.68 | 21.18 |
| 249.99 | 12.80 | 2.33 | 10.50 | 11.70 | 46.00 | 25.63 | 26.83 |
| 300.00 | 13.90 | 2.62 | 11.10 | 10.00 | 46.00 | 27.62 | 26.52 |
| 375.00 | 15.85 | 3.00 | 11.00 | 7.80 | 46.00 | 29.85 | 26.65 |
| 400.00 | 16.50 | 3.13 | 12.70 | 13.20 | 46.00 | 32.33 | 32.83 |
| 499.99 | 17.70 | 3.61 | 11.50 | 16.00 | 46.00 | 32.81 | 37.31 |
| 600.00 | 19.00 | 3.95 | 8.00 | 9.50 | 46.00 | 30.95 | 32.45 |
| 630.00 | 19.18 | 4.07 | 6.50 | 5.00 | 46.00 | 29.75 | 28.25 |
| 650.00 | 19.30 | 4.14 | 7.00 | 5.30 | 46.00 | 30.44 | 28.74 |
| 730.00 | 19.90 | 4.44 | 4.00 | 2.80 | 46.00 | 28.34 | 27.14 |
| 750.00 | 20.10 | 4.51 | 5.00 | 3.20 | 46.00 | 29.61 | 27.81 |

***Remark:*** *Emission level (dBμV/m) =Antenna Factor (dB/m) + Cable loss (dB) + Meter Reading (dBμV).*

## 8.8.3 TRANSMITTER RADIATED EMISSION ABOVE 1 GHz

| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point | **Test Date** | 2008/03/19 |
|---|---|---|---|
| **Model** | DAP-2553 | **Test By** | Gumdam Lin |
| **Test Mode** | IEEE 802.11a TX (CH Low) | **TEMP & Humidity** | 22°C, 78% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3830.00 | 46.37 | 31.29 | 5.84 | 35.40 | 9.50 | 0.41 | 39.01 | 74.00 | -34.99 | P | 1.00 |
| 3830.00 | 32.09 | 31.29 | 5.84 | 35.40 | 9.50 | 0.41 | 24.73 | 54.00 | -29.27 | A | 1.00 |
| 7660.05 | 48.35 | 40.02 | 8.35 | 36.03 | 9.50 | 0.66 | 51.85 | 74.00 | -22.15 | P | 1.00 |
| 7660.05 | 36.55 | 40.02 | 8.35 | 36.03 | 9.50 | 0.66 | 40.05 | 54.00 | -13.95 | A | 1.00 |
| 11486.20 | 52.35 | 40.17 | 10.02 | 35.30 | 9.50 | 0.71 | 58.46 | 74.00 | -15.54 | P | 1.00 |
| 11486.20 | 38.25 | 40.17 | 10.02 | 35.30 | 9.50 | 0.71 | 44.36 | 54.00 | -9.64 | A | 1.00 |

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| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3830.00 | 46.25 | 31.29 | 5.84 | 35.40 | 9.50 | 0.41 | 38.89 | 74.00 | -35.11 | P | 1.00 |
| 3830.00 | 32.02 | 31.29 | 5.84 | 35.40 | 9.50 | 0.41 | 24.66 | 54.00 | -29.34 | A | 1.00 |
| 7660.05 | 50.72 | 40.02 | 8.35 | 36.03 | 9.50 | 0.66 | 54.22 | 74.00 | -19.78 | P | 1.00 |
| 7660.05 | 43.83 | 40.02 | 8.35 | 36.03 | 9.50 | 0.66 | 47.33 | 54.00 | -6.67 | A | 1.00 |
| 11486.20 | 58.56 | 40.17 | 10.02 | 35.30 | 9.50 | 0.71 | 64.67 | 74.00 | -9.33 | P | 1.00 |
| 11486.20 | 43.43 | 40.17 | 10.02 | 35.30 | 9.50 | 0.71 | 49.54 | 54.00 | -4.46 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point | **Test Date** | 2008/03/20 |
|---|---|---|---|
| **Model** | DAP-2553 | **Test By** | Gumdam Lin |
| **Test Mode** | IEEE 802.11a TX (CH Middle) | **TEMP & Humidity** | 27°C, 57% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3856.66 | 46.31 | 31.34 | 5.85 | 35.39 | 9.50 | 0.36 | 38.97 | 74.00 | -35.03 | P | 1.00 |
| 3856.66 | 32.80 | 31.34 | 5.85 | 35.39 | 9.50 | 0.36 | 25.46 | 54.00 | -28.54 | A | 1.00 |
| 7713.39 | 50.89 | 40.10 | 8.34 | 36.04 | 9.50 | 0.66 | 54.45 | 74.00 | -19.55 | P | 1.00 |
| 7713.39 | 43.65 | 40.10 | 8.34 | 36.04 | 9.50 | 0.66 | 47.21 | 54.00 | -6.79 | A | 1.00 |
| 11576.10 | 53.64 | 40.37 | 10.11 | 35.33 | 9.50 | 0.67 | 59.96 | 74.00 | -14.04 | P | 1.00 |
| 11576.10 | 39.50 | 40.37 | 10.11 | 35.33 | 9.50 | 0.67 | 45.82 | 54.00 | -8.18 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3856.66 | 47.27 | 31.34 | 5.85 | 35.39 | 9.50 | 0.36 | 39.93 | 74.00 | -34.07 | P | 1.00 |
| 3856.66 | 34.09 | 31.34 | 5.85 | 35.39 | 9.50 | 0.36 | 26.75 | 54.00 | -27.25 | A | 1.00 |
| 7713.39 | 53.53 | 40.10 | 8.34 | 36.04 | 9.50 | 0.66 | 57.09 | 74.00 | -16.91 | P | 1.00 |
| 7713.39 | 48.38 | 40.10 | 8.34 | 36.04 | 9.50 | 0.66 | 51.94 | 54.00 | -2.06 | A | 1.00 |
| 11576.10 | 59.14 | 40.37 | 10.11 | 35.33 | 9.50 | 0.67 | 65.46 | 74.00 | -8.54 | P | 1.00 |
| 11576.10 | 44.35 | 40.37 | 10.11 | 35.33 | 9.50 | 0.67 | 50.67 | 54.00 | -3.33 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point | **Test Date** | 2008/03/19 |
|---|---|---|---|
| **Model** | DAP-2553 | **Test By** | Gumdam Lin |
| **Test Mode** | IEEE 802.11a TX (CH High) | **TEMP & Humidity** | 22°C, 78% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3883.33 | 46.55 | 31.39 | 5.85 | 35.37 | 9.50 | 0.31 | 39.23 | 74.00 | -34.77 | P | 1.00 |
| 3883.33 | 32.36 | 31.39 | 5.85 | 35.37 | 9.50 | 0.31 | 25.04 | 54.00 | -28.96 | A | 1.00 |
| 7766.76 | 50.40 | 40.17 | 8.34 | 36.05 | 9.50 | 0.65 | 54.01 | 74.00 | -19.99 | P | 1.00 |
| 7766.76 | 42.28 | 40.17 | 8.34 | 36.05 | 9.50 | 0.65 | 45.89 | 54.00 | -8.11 | A | 1.00 |
| 11646.10 | 56.96 | 40.52 | 10.19 | 35.36 | 9.50 | 0.63 | 63.45 | 74.00 | -10.55 | P | 1.00 |
| 11646.10 | 41.87 | 40.52 | 10.19 | 35.36 | 9.50 | 0.63 | 48.36 | 54.00 | -5.64 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3883.33 | 48.12 | 31.39 | 5.85 | 35.37 | 9.50 | 0.31 | 40.80 | 74.00 | -33.20 | P | 1.00 |
| 3883.33 | 34.91 | 31.39 | 5.85 | 35.37 | 9.50 | 0.31 | 27.59 | 54.00 | -26.41 | A | 1.00 |
| 7766.76 | 53.43 | 40.17 | 8.34 | 36.05 | 9.50 | 0.65 | 57.04 | 74.00 | -16.96 | P | 1.00 |
| 7766.76 | 48.85 | 40.17 | 8.34 | 36.05 | 9.50 | 0.65 | 52.46 | 54.00 | -1.54 | A | 1.00 |
| 11646.10 | 60.38 | 40.52 | 10.19 | 35.36 | 9.50 | 0.63 | 66.87 | 74.00 | -7.13 | P | 1.00 |
| 11646.10 | 46.15 | 40.52 | 10.19 | 35.36 | 9.50 | 0.63 | 52.64 | 54.00 | -1.36 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| Product Name | D-Link AirPremier N Dual Band PoE Access Point | Test Date | 2008/03/19 |
|---|---|---|---|
| Model | DAP-2553 | Test By | Gumdam Lin |
| Test Mode | IEEE 802.11n HT20 TX (CH Low) | TEMP & Humidity | 22°C, 78% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3830.00 | 45.56 | 31.29 | 5.84 | 35.40 | 9.50 | 0.41 | 38.20 | 74.00 | -35.80 | P | 1.00 |
| 3830.00 | 31.85 | 31.29 | 5.84 | 35.40 | 9.50 | 0.41 | 24.49 | 54.00 | -29.51 | A | 1.00 |
| 7659.93 | 48.47 | 40.02 | 8.35 | 36.03 | 9.50 | 0.66 | 51.97 | 74.00 | -22.03 | P | 1.00 |
| 7659.93 | 37.02 | 40.02 | 8.35 | 36.03 | 9.50 | 0.66 | 40.52 | 54.00 | -13.48 | A | 1.00 |
| 11490.76 | 51.51 | 40.18 | 10.03 | 35.30 | 9.50 | 0.71 | 57.63 | 74.00 | -16.37 | P | 1.00 |
| 11490.76 | 36.76 | 40.18 | 10.03 | 35.30 | 9.50 | 0.71 | 42.88 | 54.00 | -11.12 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3830.00 | 46.08 | 31.29 | 5.84 | 35.40 | 9.50 | 0.41 | 38.72 | 74.00 | -35.28 | P | 1.00 |
| 3830.00 | 32.75 | 31.29 | 5.84 | 35.40 | 9.50 | 0.41 | 25.39 | 54.00 | -28.61 | A | 1.00 |
| 7659.93 | 51.50 | 40.02 | 8.35 | 36.03 | 9.50 | 0.66 | 55.00 | 74.00 | -19.00 | P | 1.00 |
| 7659.93 | 44.93 | 40.02 | 8.35 | 36.03 | 9.50 | 0.66 | 48.43 | 54.00 | -5.57 | A | 1.00 |
| 11490.76 | 57.75 | 40.18 | 10.03 | 35.30 | 9.50 | 0.71 | 63.87 | 74.00 | -10.13 | P | 1.00 |
| 11490.76 | 41.86 | 40.18 | 10.03 | 35.30 | 9.50 | 0.71 | 47.98 | 54.00 | -6.02 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point | **Test Date** | 2008/03/20 |
|---|---|---|---|
| **Model** | DAP-2553 | **Test By** | Gumdam Lin |
| **Test Mode** | IEEE 802.11n HT20 TX (CH Middle) | **TEMP & Humidity** | 27°C, 57% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3856.66 | 45.36 | 31.34 | 5.85 | 35.39 | 9.50 | 0.36 | 38.02 | 74.00 | -35.98 | P | 1.00 |
| 3856.66 | 32.17 | 31.34 | 5.85 | 35.39 | 9.50 | 0.36 | 24.83 | 54.00 | -29.17 | A | 1.00 |
| 7713.46 | 51.52 | 40.10 | 8.34 | 36.04 | 9.50 | 0.66 | 55.08 | 74.00 | -18.92 | P | 1.00 |
| 7713.46 | 43.05 | 40.10 | 8.34 | 36.04 | 9.50 | 0.66 | 46.61 | 54.00 | -7.39 | A | 1.00 |
| 11574.60 | 52.88 | 40.36 | 10.11 | 35.33 | 9.50 | 0.67 | 59.20 | 74.00 | -14.80 | P | 1.00 |
| 11574.60 | 39.07 | 40.36 | 10.11 | 35.33 | 9.50 | 0.67 | 45.39 | 54.00 | -8.61 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3856.66 | 46.12 | 31.34 | 5.85 | 35.39 | 9.50 | 0.36 | 38.78 | 74.00 | -35.22 | P | 1.00 |
| 3856.66 | 34.78 | 31.34 | 5.85 | 35.39 | 9.50 | 0.36 | 27.44 | 54.00 | -26.56 | A | 1.00 |
| 7713.46 | 54.02 | 40.10 | 8.34 | 36.04 | 9.50 | 0.66 | 57.58 | 74.00 | -16.42 | P | 1.00 |
| 7713.46 | 48.80 | 40.10 | 8.34 | 36.04 | 9.50 | 0.66 | 52.36 | 54.00 | -1.64 | A | 1.00 |
| 11574.60 | 59.35 | 40.36 | 10.11 | 35.33 | 9.50 | 0.67 | 65.67 | 74.00 | -8.33 | P | 1.00 |
| 11574.60 | 44.95 | 40.36 | 10.11 | 35.33 | 9.50 | 0.67 | 51.27 | 54.00 | -2.73 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point | **Test Date** | 2008/03/19 |
|---|---|---|---|
| **Model** | DAP-2553 | **Test By** | Gumdam Lin |
| **Test Mode** | IEEE 802.11n HT20 TX (CH High) | **TEMP & Humidity** | 22°C, 78% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3883.33 | 46.48 | 31.39 | 5.85 | 35.37 | 9.50 | 0.31 | 39.16 | 74.00 | -34.84 | P | 1.00 |
| 3883.33 | 32.50 | 31.39 | 5.85 | 35.37 | 9.50 | 0.31 | 25.18 | 54.00 | -28.82 | A | 1.00 |
| 7766.75 | 50.73 | 40.17 | 8.34 | 36.05 | 9.50 | 0.65 | 54.34 | 74.00 | -19.66 | P | 1.00 |
| 7766.75 | 42.22 | 40.17 | 8.34 | 36.05 | 9.50 | 0.65 | 45.83 | 54.00 | -8.17 | A | 1.00 |
| 11642.68 | 55.35 | 40.51 | 10.19 | 35.36 | 9.50 | 0.64 | 61.83 | 74.00 | -12.17 | P | 1.00 |
| 11642.68 | 40.52 | 40.51 | 10.19 | 35.36 | 9.50 | 0.64 | 47.00 | 54.00 | -7.00 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3883.33 | 46.16 | 31.39 | 5.85 | 35.37 | 9.50 | 0.31 | 38.84 | 74.00 | -35.16 | P | 1.00 |
| 3883.33 | 34.68 | 31.39 | 5.85 | 35.37 | 9.50 | 0.31 | 27.36 | 54.00 | -26.64 | A | 1.00 |
| 7766.75 | 53.05 | 40.17 | 8.34 | 36.05 | 9.50 | 0.65 | 56.66 | 74.00 | -17.34 | P | 1.00 |
| 7766.75 | 48.46 | 40.17 | 8.34 | 36.05 | 9.50 | 0.65 | 52.07 | 54.00 | -1.93 | A | 1.00 |
| 11642.68 | 60.75 | 40.51 | 10.19 | 35.36 | 9.50 | 0.64 | 67.23 | 74.00 | -6.77 | P | 1.00 |
| 11642.68 | 46.17 | 40.51 | 10.19 | 35.36 | 9.50 | 0.64 | 52.65 | 54.00 | -1.35 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point | **Test Date** | 2008/03/19 |
|---|---|---|---|
| **Model** | DAP-2553 | **Test By** | Gumdam Lin |
| **Test Mode** | IEEE 802.11n HT40 TX (CH Low) | **TEMP & Humidity** | 22°C, 78% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3836.83 | 45.77 | 31.31 | 5.84 | 35.40 | 9.50 | 0.39 | 38.42 | 74.00 | -35.58 | P | 1.00 |
| 3836.83 | 32.21 | 31.31 | 5.84 | 35.40 | 9.50 | 0.39 | 24.86 | 54.00 | -29.14 | A | 1.00 |
| 7673.43 | 49.71 | 40.04 | 8.35 | 36.03 | 9.50 | 0.66 | 53.22 | 74.00 | -20.78 | P | 1.00 |
| 7673.43 | 39.69 | 40.04 | 8.35 | 36.03 | 9.50 | 0.66 | 43.20 | 54.00 | -10.80 | A | 1.00 |
| 11502.48 | 50.28 | 40.21 | 10.03 | 35.30 | 9.50 | 0.71 | 56.43 | 74.00 | -17.57 | P | 1.00 |
| 11502.48 | 36.25 | 40.21 | 10.03 | 35.30 | 9.50 | 0.71 | 42.40 | 54.00 | -11.60 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3836.83 | 46.46 | 31.31 | 5.84 | 35.40 | 9.50 | 0.39 | 39.11 | 74.00 | -34.89 | P | 1.00 |
| 3836.83 | 34.33 | 31.31 | 5.84 | 35.40 | 9.50 | 0.39 | 26.98 | 54.00 | -27.02 | A | 1.00 |
| 7673.43 | 52.43 | 40.04 | 8.35 | 36.03 | 9.50 | 0.66 | 55.94 | 74.00 | -18.06 | P | 1.00 |
| 7673.43 | 46.85 | 40.04 | 8.35 | 36.03 | 9.50 | 0.66 | 50.36 | 54.00 | -3.64 | A | 1.00 |
| 11502.48 | 55.05 | 40.21 | 10.03 | 35.30 | 9.50 | 0.71 | 61.20 | 74.00 | -12.80 | P | 1.00 |
| 11502.48 | 41.84 | 40.21 | 10.03 | 35.30 | 9.50 | 0.71 | 47.99 | 54.00 | -6.01 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| Product Name | D-Link AirPremier N Dual Band PoE Access Point | Test Date | 2008/03/19 |
|---|---|---|---|
| Model | DAP-2553 | Test By | Gumdam Lin |
| Test Mode | IEEE 802.11n HT40 TX (CH High) | TEMP & Humidity | 22°C, 78% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3863.32 | 45.36 | 31.35 | 5.85 | 35.38 | 9.50 | 0.34 | 38.02 | 74.00 | -35.98 | P | 1.00 |
| 3863.32 | 32.11 | 31.35 | 5.85 | 35.38 | 9.50 | 0.34 | 24.77 | 54.00 | -29.23 | A | 1.00 |
| 7726.64 | 50.59 | 40.12 | 8.34 | 36.05 | 9.50 | 0.66 | 54.16 | 74.00 | -19.84 | P | 1.00 |
| 7726.64 | 42.89 | 40.12 | 8.34 | 36.05 | 9.50 | 0.66 | 46.46 | 54.00 | -7.54 | A | 1.00 |
| 11590.00 | 51.71 | 40.40 | 10.13 | 35.34 | 9.50 | 0.66 | 58.06 | 74.00 | -15.94 | P | 1.00 |
| 11590.00 | 38.28 | 40.40 | 10.13 | 35.34 | 9.50 | 0.66 | 44.63 | 54.00 | -9.37 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 3863.32 | 46.82 | 31.35 | 5.85 | 35.38 | 9.50 | 0.34 | 39.48 | 74.00 | -34.52 | P | 1.00 |
| 3863.32 | 34.16 | 31.35 | 5.85 | 35.38 | 9.50 | 0.34 | 26.82 | 54.00 | -27.18 | A | 1.00 |
| 7726.64 | 53.68 | 40.12 | 8.34 | 36.05 | 9.50 | 0.66 | 57.25 | 74.00 | -16.75 | P | 1.00 |
| 7726.64 | 49.49 | 40.12 | 8.34 | 36.05 | 9.50 | 0.66 | 53.06 | 54.00 | -0.94 | A | 1.00 |
| 11590.00 | 56.96 | 40.40 | 10.13 | 35.34 | 9.50 | 0.66 | 63.31 | 74.00 | -10.69 | P | 1.00 |
| 11590.00 | 43.79 | 40.40 | 10.13 | 35.34 | 9.50 | 0.66 | 50.14 | 54.00 | -3.86 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| Product Name | D-Link AirPremier N Dual Band PoE Access Point | Test Date | 2008/03/03 |
|---|---|---|---|
| Model | DAP-2553 | Test By | Gumdam Lin |
| Test Mode | IEEE 802.11b TX (CH Low) | TEMP & Humidity | 25°C, 59% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBμV) | AF (dBμV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1608.00 | 47.98 | 27.38 | 3.77 | 35.26 | 9.50 | 0.00 | 34.37 | 74.00 | -39.63 | P | 1.00 |
| 1608.00 | 36.92 | 27.38 | 3.77 | 35.26 | 9.50 | 0.00 | 23.31 | 54.00 | -30.69 | A | 1.00 |
| 3215.87 | 47.67 | 30.64 | 5.63 | 35.60 | 9.50 | 0.00 | 38.84 | 74.00 | -35.16 | P | 1.00 |
| 3215.87 | 36.12 | 30.64 | 5.63 | 35.60 | 9.50 | 0.00 | 27.29 | 54.00 | -26.71 | A | 1.00 |
| 4824.12 | 48.54 | 34.71 | 6.32 | 35.66 | 9.50 | 0.35 | 44.75 | 74.00 | -29.25 | P | 1.00 |
| 4824.12 | 36.86 | 34.71 | 6.32 | 35.66 | 9.50 | 0.35 | 33.07 | 54.00 | -20.93 | A | 1.00 |
| 7236.00 | 46.75 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 49.75 | 74.00 | -24.25 | P | 1.00 |
| 7236.00 | 33.81 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 36.81 | 54.00 | -17.19 | A | 1.00 |
| 12060.00 | 47.57 | 41.36 | 10.56 | 35.40 | 9.50 | 0.43 | 55.02 | 74.00 | -18.98 | P | 1.00 |
| 12060.00 | 34.17 | 41.36 | 10.56 | 35.40 | 9.50 | 0.43 | 41.62 | 54.00 | -12.38 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBμV) | AF (dBμV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1608.00 | 48.95 | 27.38 | 3.77 | 35.26 | 9.50 | 0.00 | 35.34 | 74.00 | -38.66 | P | 1.00 |
| 1608.00 | 40.60 | 27.38 | 3.77 | 35.26 | 9.50 | 0.00 | 26.99 | 54.00 | -27.01 | A | 1.00 |
| 3215.87 | 55.05 | 30.64 | 5.63 | 35.60 | 9.50 | 0.00 | 46.22 | 74.00 | -27.78 | P | 1.00 |
| 3215.87 | 51.98 | 30.64 | 5.63 | 35.60 | 9.50 | 0.00 | 43.15 | 54.00 | -10.85 | A | 1.00 |
| 4824.12 | 60.37 | 34.71 | 6.32 | 35.66 | 9.50 | 0.35 | 56.58 | 74.00 | -17.42 | P | 1.00 |
| 4824.12 | 57.24 | 34.71 | 6.32 | 35.66 | 9.50 | 0.35 | 53.45 | 54.00 | -0.55 | A | 1.00 |
| 7236.00 | 47.11 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 50.11 | 74.00 | -23.89 | P | 1.00 |
| 7236.00 | 33.84 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 36.84 | 54.00 | -17.16 | A | 1.00 |
| 12060.00 | 47.20 | 41.36 | 10.56 | 35.40 | 9.50 | 0.43 | 54.65 | 74.00 | -19.35 | P | 1.00 |
| 12060.00 | 34.12 | 41.36 | 10.56 | 35.40 | 9.50 | 0.43 | 41.57 | 54.00 | -12.43 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| Product Name | D-Link AirPremier N Dual Band PoE Access Point | Test Date | 2008/03/05 |
|---|---|---|---|
| Model | DAP-2553 | Test By | Gumdam Lin |
| Test Mode | IEEE 802.11b TX (CH Middle) | TEMP & Humidity | 18°C, 68% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBμV) | AF (dBμV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1625.13 | 47.50 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 34.05 | 74.00 | -39.95 | P | 1.00 |
| 1625.13 | 35.08 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 21.63 | 54.00 | -32.37 | A | 1.00 |
| 3249.42 | 47.57 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 38.77 | 74.00 | -35.23 | P | 1.00 |
| 3249.42 | 34.18 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 25.38 | 54.00 | -28.62 | A | 1.00 |
| 4874.11 | 48.86 | 34.82 | 6.32 | 35.67 | 9.50 | 0.30 | 45.12 | 74.00 | -28.88 | P | 1.00 |
| 4874.11 | 38.13 | 34.82 | 6.32 | 35.67 | 9.50 | 0.30 | 34.39 | 54.00 | -19.61 | A | 1.00 |
| 7236.00 | 47.23 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 50.23 | 74.00 | -23.77 | P | 1.00 |
| 7236.00 | 33.69 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 36.69 | 54.00 | -17.31 | A | 1.00 |
| 12185.00 | 46.68 | 41.49 | 10.52 | 35.20 | 9.50 | 0.39 | 54.38 | 74.00 | -19.62 | P | 1.00 |
| 12185.00 | 33.71 | 41.49 | 10.52 | 35.20 | 9.50 | 0.39 | 41.41 | 54.00 | -12.59 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBμV) | AF (dBμV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1625.13 | 49.33 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 35.88 | 74.00 | -38.12 | P | 1.00 |
| 1625.13 | 38.84 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 25.39 | 54.00 | -28.61 | A | 1.00 |
| 3249.42 | 51.99 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 43.19 | 74.00 | -30.81 | P | 1.00 |
| 3249.42 | 47.81 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 39.01 | 54.00 | -14.99 | A | 1.00 |
| 4874.11 | 58.96 | 34.82 | 6.32 | 35.67 | 9.50 | 0.30 | 55.22 | 74.00 | -18.78 | P | 1.00 |
| 4874.11 | 56.86 | 34.82 | 6.32 | 35.67 | 9.50 | 0.30 | 53.12 | 54.00 | -0.88 | A | 1.00 |
| 7236.00 | 48.17 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 51.17 | 74.00 | -22.83 | P | 1.00 |
| 7236.00 | 34.92 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 37.92 | 54.00 | -16.08 | A | 1.00 |
| 12185.00 | 46.97 | 41.49 | 10.52 | 35.20 | 9.50 | 0.39 | 54.67 | 74.00 | -19.33 | P | 1.00 |
| 12185.00 | 33.79 | 41.49 | 10.52 | 35.20 | 9.50 | 0.39 | 41.49 | 54.00 | -12.51 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| Product Name | D-Link AirPremier N Dual Band PoE Access Point | Test Date | 2008/03/03 |
|---|---|---|---|
| Model | DAP-2553 | Test By | Gumdam Lin |
| Test Mode | IEEE 802.11b TX (CH High) | TEMP & Humidity | 25°C, 59% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBμV) | AF (dBμV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1641.38 | 47.36 | 27.62 | 3.82 | 35.24 | 9.50 | 0.00 | 34.06 | 74.00 | -39.94 | P | 1.00 |
| 1641.38 | 33.26 | 27.62 | 3.82 | 35.24 | 9.50 | 0.00 | 19.96 | 54.00 | -34.04 | A | 1.00 |
| 3282.76 | 48.27 | 30.66 | 5.67 | 35.60 | 9.50 | 0.00 | 39.49 | 74.00 | -34.51 | P | 1.00 |
| 3282.76 | 33.95 | 30.66 | 5.67 | 35.60 | 9.50 | 0.00 | 25.17 | 54.00 | -28.83 | A | 1.00 |
| 4924.07 | 48.71 | 34.93 | 6.32 | 35.68 | 9.50 | 0.25 | 45.02 | 74.00 | -28.98 | P | 1.00 |
| 4924.07 | 38.07 | 34.93 | 6.32 | 35.68 | 9.50 | 0.25 | 34.38 | 54.00 | -19.62 | A | 1.00 |
| 7386.00 | 47.56 | 39.55 | 8.33 | 35.95 | 9.50 | 0.76 | 50.75 | 74.00 | -23.25 | P | 1.00 |
| 7386.00 | 33.79 | 39.55 | 8.33 | 35.95 | 9.50 | 0.76 | 36.98 | 54.00 | -17.02 | A | 1.00 |
| 12310.00 | 47.78 | 41.61 | 10.49 | 35.00 | 9.50 | 0.35 | 55.72 | 74.00 | -18.28 | P | 1.00 |
| 12310.00 | 34.37 | 41.61 | 10.49 | 35.00 | 9.50 | 0.35 | 42.31 | 54.00 | -11.69 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBμV) | AF (dBμV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1641.38 | 49.56 | 27.62 | 3.82 | 35.24 | 9.50 | 0.00 | 36.26 | 74.00 | -37.74 | P | 1.00 |
| 1641.38 | 39.41 | 27.62 | 3.82 | 35.24 | 9.50 | 0.00 | 26.11 | 54.00 | -27.89 | A | 1.00 |
| 3282.76 | 53.48 | 30.66 | 5.67 | 35.60 | 9.50 | 0.00 | 44.70 | 74.00 | -29.30 | P | 1.00 |
| 3282.76 | 48.27 | 30.66 | 5.67 | 35.60 | 9.50 | 0.00 | 39.49 | 54.00 | -14.51 | A | 1.00 |
| 4924.07 | 58.53 | 34.93 | 6.32 | 35.68 | 9.50 | 0.25 | 54.84 | 74.00 | -19.16 | P | 1.00 |
| 4924.07 | 55.78 | 34.93 | 6.32 | 35.68 | 9.50 | 0.25 | 52.09 | 54.00 | -1.91 | A | 1.00 |
| 7386.00 | 47.86 | 39.55 | 8.33 | 35.95 | 9.50 | 0.76 | 51.05 | 74.00 | -22.95 | P | 1.00 |
| 7386.00 | 33.67 | 39.55 | 8.33 | 35.95 | 9.50 | 0.76 | 36.86 | 54.00 | -17.14 | A | 1.00 |
| 12310.00 | 47.63 | 41.61 | 10.49 | 35.00 | 9.50 | 0.35 | 55.57 | 74.00 | -18.43 | P | 1.00 |
| 12310.00 | 34.29 | 41.61 | 10.49 | 35.00 | 9.50 | 0.35 | 42.23 | 54.00 | -11.77 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| Product Name | D-Link AirPremier N Dual Band PoE Access Point | Test Date | 2008/02/29 |
|---|---|---|---|
| Model | DAP-2553 | Test By | Gumdam Lin |
| Test Mode | IEEE 802.11g TX (CH Low) | TEMP & Humidity | 18°C, 75% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBμV) | AF (dBμV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1608.05 | 47.16 | 27.38 | 3.77 | 35.26 | 9.50 | 0.00 | 33.55 | 74.00 | -40.45 | P | 1.00 |
| 1608.05 | 34.70 | 27.38 | 3.77 | 35.26 | 9.50 | 0.00 | 21.09 | 54.00 | -32.91 | A | 1.00 |
| 3216.07 | 48.71 | 30.64 | 5.63 | 35.60 | 9.50 | 0.00 | 39.88 | 74.00 | -34.12 | P | 1.00 |
| 3216.07 | 40.08 | 30.64 | 5.63 | 35.60 | 9.50 | 0.00 | 31.25 | 54.00 | -22.75 | A | 1.00 |
| 4824.33 | 47.56 | 34.71 | 6.32 | 35.66 | 9.50 | 0.35 | 43.77 | 74.00 | -30.23 | P | 1.00 |
| 4824.33 | 33.67 | 34.71 | 6.32 | 35.66 | 9.50 | 0.35 | 29.88 | 54.00 | -24.12 | A | 1.00 |
| 7236.00 | 46.95 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 49.95 | 74.00 | -24.05 | P | 1.00 |
| 7236.00 | 33.46 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 36.46 | 54.00 | -17.54 | A | 1.00 |
| 12060.00 | 47.39 | 41.36 | 10.56 | 35.40 | 9.50 | 0.43 | 54.84 | 74.00 | -19.16 | P | 1.00 |
| 12060.00 | 33.87 | 41.36 | 10.56 | 35.40 | 9.50 | 0.43 | 41.32 | 54.00 | -12.68 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBμV) | AF (dBμV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1608.05 | 48.25 | 27.38 | 3.77 | 35.26 | 9.50 | 0.00 | 34.64 | 74.00 | -39.36 | P | 1.00 |
| 1608.05 | 34.76 | 27.38 | 3.77 | 35.26 | 9.50 | 0.00 | 21.15 | 54.00 | -32.85 | A | 1.00 |
| 3216.07 | 57.24 | 30.64 | 5.63 | 35.60 | 9.50 | 0.00 | 48.41 | 74.00 | -25.59 | P | 1.00 |
| 3216.07 | 54.82 | 30.64 | 5.63 | 35.60 | 9.50 | 0.00 | 45.99 | 54.00 | -8.01 | A | 1.00 |
| 4824.33 | 54.31 | 34.71 | 6.32 | 35.66 | 9.50 | 0.35 | 50.52 | 74.00 | -23.48 | P | 1.00 |
| 4824.33 | 39.74 | 34.71 | 6.32 | 35.66 | 9.50 | 0.35 | 35.95 | 54.00 | -18.05 | A | 1.00 |
| 7236.00 | 46.72 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 49.72 | 74.00 | -24.28 | P | 1.00 |
| 7236.00 | 33.53 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 36.53 | 54.00 | -17.47 | A | 1.00 |
| 12060.00 | 47.76 | 41.36 | 10.56 | 35.40 | 9.50 | 0.43 | 55.21 | 74.00 | -18.79 | P | 1.00 |
| 12060.00 | 34.35 | 41.36 | 10.56 | 35.40 | 9.50 | 0.43 | 41.80 | 54.00 | -12.20 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point | **Test Date** | 2008/03/03 |
|---|---|---|---|
| **Model** | DAP-2553 | **Test By** | Gumdam Lin |
| **Test Mode** | IEEE 802.11g TX (CH Middle) | **TEMP & Humidity** | 25°C, 59% |

Measurement Distance at 1m Horizontal polarity

| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1624.87 | 48.18 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 34.73 | 74.00 | -39.27 | P | 1.00 |
| 1624.87 | 36.00 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 22.55 | 54.00 | -31.45 | A | 1.00 |
| 3249.38 | 51.10 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 42.30 | 74.00 | -31.70 | P | 1.00 |
| 3249.38 | 43.34 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 34.54 | 54.00 | -19.46 | A | 1.00 |
| 4874.97 | 47.36 | 34.82 | 6.32 | 35.67 | 9.50 | 0.30 | 43.62 | 74.00 | -30.38 | P | 1.00 |
| 4874.97 | 33.67 | 34.82 | 6.32 | 35.67 | 9.50 | 0.30 | 29.93 | 54.00 | -24.07 | A | 1.00 |
| 7302.16 | 60.87 | 39.36 | 8.29 | 35.92 | 9.50 | 0.84 | 63.95 | 74.00 | -10.05 | P | 1.00 |
| 7302.16 | 36.67 | 39.36 | 8.29 | 35.92 | 9.50 | 0.84 | 39.75 | 54.00 | -14.25 | A | 1.00 |
| 12185.00 | 47.21 | 41.49 | 10.52 | 35.20 | 9.50 | 0.39 | 54.91 | 74.00 | -19.09 | P | 1.00 |
| 12185.00 | 33.75 | 41.49 | 10.52 | 35.20 | 9.50 | 0.39 | 41.45 | 54.00 | -12.55 | A | 1.00 |

Measurement Distance at 1m Vertical polarity

| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1624.87 | 54.22 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 40.77 | 74.00 | -33.23 | P | 1.00 |
| 1624.87 | 45.04 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 31.59 | 54.00 | -22.41 | A | 1.00 |
| 3249.38 | 62.05 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 53.25 | 74.00 | -20.75 | P | 1.00 |
| 3249.38 | 59.38 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 50.58 | 54.00 | -3.42 | A | 1.00 |
| 4874.97 | 62.18 | 34.82 | 6.32 | 35.67 | 9.50 | 0.30 | 58.44 | 74.00 | -15.56 | P | 1.00 |
| 4874.97 | 47.19 | 34.82 | 6.32 | 35.67 | 9.50 | 0.30 | 43.45 | 54.00 | -10.55 | A | 1.00 |
| 7302.16 | 67.36 | 39.36 | 8.29 | 35.92 | 9.50 | 0.84 | 70.44 | 74.00 | -3.56 | P | 1.00 |
| 7302.16 | 45.13 | 39.36 | 8.29 | 35.92 | 9.50 | 0.84 | 48.21 | 54.00 | -5.79 | A | 1.00 |
| 12176.29 | 52.77 | 41.48 | 10.53 | 35.22 | 9.50 | 0.39 | 60.45 | 74.00 | -13.55 | P | 1.00 |
| 12176.29 | 35.26 | 41.48 | 10.53 | 35.22 | 9.50 | 0.39 | 42.94 | 54.00 | -11.06 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| Product Name | D-Link AirPremier N Dual Band PoE Access Point | Test Date | 2008/02/29 |
|---|---|---|---|
| Model | DAP-2553 | Test By | Gumdam Lin |
| Test Mode | IEEE 802.11g TX (CH High) | TEMP & Humidity | 18°C, 75% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1641.03 | 47.63 | 27.62 | 3.82 | 35.24 | 9.50 | 0.00 | 34.32 | 74.00 | -39.68 | P | 1.00 |
| 1641.03 | 33.96 | 27.62 | 3.82 | 35.24 | 9.50 | 0.00 | 20.65 | 54.00 | -33.35 | A | 1.00 |
| 3282.70 | 49.02 | 30.66 | 5.67 | 35.60 | 9.50 | 0.00 | 40.24 | 74.00 | -33.76 | P | 1.00 |
| 3282.70 | 37.78 | 30.66 | 5.67 | 35.60 | 9.50 | 0.00 | 29.00 | 54.00 | -25.00 | A | 1.00 |
| 4927.72 | 47.75 | 34.94 | 6.32 | 35.69 | 9.50 | 0.24 | 44.07 | 74.00 | -29.93 | P | 1.00 |
| 4927.72 | 34.29 | 34.94 | 6.32 | 35.69 | 9.50 | 0.24 | 30.61 | 54.00 | -23.39 | A | 1.00 |
| 7386.00 | 47.62 | 39.55 | 8.33 | 35.95 | 9.50 | 0.76 | 50.81 | 74.00 | -23.19 | P | 1.00 |
| 7386.00 | 33.71 | 39.55 | 8.33 | 35.95 | 9.50 | 0.76 | 36.90 | 54.00 | -17.10 | A | 1.00 |
| 12310.00 | 47.79 | 41.61 | 10.49 | 35.00 | 9.50 | 0.35 | 55.73 | 74.00 | -18.27 | P | 1.00 |
| 12310.00 | 34.39 | 41.61 | 10.49 | 35.00 | 9.50 | 0.35 | 42.33 | 54.00 | -11.67 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1641.03 | 48.04 | 27.62 | 3.82 | 35.24 | 9.50 | 0.00 | 34.73 | 74.00 | -39.27 | P | 1.00 |
| 1641.03 | 39.81 | 27.62 | 3.82 | 35.24 | 9.50 | 0.00 | 26.50 | 54.00 | -27.50 | A | 1.00 |
| 3282.70 | 56.37 | 30.66 | 5.67 | 35.60 | 9.50 | 0.00 | 47.59 | 74.00 | -26.41 | P | 1.00 |
| 3282.70 | 53.66 | 30.66 | 5.67 | 35.60 | 9.50 | 0.00 | 44.88 | 54.00 | -9.12 | A | 1.00 |
| 4927.72 | 52.19 | 34.94 | 6.32 | 35.69 | 9.50 | 0.24 | 48.51 | 74.00 | -25.49 | P | 1.00 |
| 4927.72 | 37.66 | 34.94 | 6.32 | 35.69 | 9.50 | 0.24 | 33.98 | 54.00 | -20.02 | A | 1.00 |
| 7386.00 | 46.76 | 39.55 | 8.33 | 35.95 | 9.50 | 0.76 | 49.95 | 74.00 | -24.05 | P | 1.00 |
| 7386.00 | 33.25 | 39.55 | 8.33 | 35.95 | 9.50 | 0.76 | 36.44 | 54.00 | -17.56 | A | 1.00 |
| 12310.00 | 47.01 | 41.61 | 10.49 | 35.00 | 9.50 | 0.35 | 54.95 | 74.00 | -19.05 | P | 1.00 |
| 12310.00 | 33.42 | 41.61 | 10.49 | 35.00 | 9.50 | 0.35 | 41.36 | 54.00 | -12.64 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point | **Test Date** | 2008/03/03 |
|---|---|---|---|
| **Model** | DAP-2553 | **Test By** | Gumdam Lin |
| **Test Mode** | IEEE 802.11n HT20 TX (CH Low) | **TEMP & Humidity** | 25°C, 59% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1608.00 | 48.14 | 27.38 | 3.77 | 35.26 | 9.50 | 0.00 | 34.53 | 74.00 | -39.47 | P | 1.00 |
| 1608.00 | 34.27 | 27.38 | 3.77 | 35.26 | 9.50 | 0.00 | 20.66 | 54.00 | -33.34 | A | 1.00 |
| 3216.08 | 49.77 | 30.64 | 5.63 | 35.60 | 9.50 | 0.00 | 40.94 | 74.00 | -33.06 | P | 1.00 |
| 3216.08 | 39.52 | 30.64 | 5.63 | 35.60 | 9.50 | 0.00 | 30.69 | 54.00 | -23.31 | A | 1.00 |
| 4824.21 | 46.01 | 34.71 | 6.32 | 35.66 | 9.50 | 0.35 | 42.22 | 74.00 | -31.78 | P | 1.00 |
| 4824.21 | 33.28 | 34.71 | 6.32 | 35.66 | 9.50 | 0.35 | 29.49 | 54.00 | -24.51 | A | 1.00 |
| 7236.00 | 46.99 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 49.99 | 74.00 | -24.01 | P | 1.00 |
| 7236.00 | 33.30 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 36.30 | 54.00 | -17.70 | A | 1.00 |
| 12060.00 | 47.58 | 41.36 | 10.56 | 35.40 | 9.50 | 0.43 | 55.03 | 74.00 | -18.97 | P | 1.00 |
| 12060.00 | 33.69 | 41.36 | 10.56 | 35.40 | 9.50 | 0.43 | 41.14 | 54.00 | -12.86 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1608.00 | 47.73 | 27.38 | 3.77 | 35.26 | 9.50 | 0.00 | 34.12 | 74.00 | -39.88 | P | 1.00 |
| 1608.00 | 34.35 | 27.38 | 3.77 | 35.26 | 9.50 | 0.00 | 20.74 | 54.00 | -33.26 | A | 1.00 |
| 3216.08 | 58.10 | 30.64 | 5.63 | 35.60 | 9.50 | 0.00 | 49.27 | 74.00 | -24.73 | P | 1.00 |
| 3216.08 | 55.11 | 30.64 | 5.63 | 35.60 | 9.50 | 0.00 | 46.28 | 54.00 | -7.72 | A | 1.00 |
| 4824.21 | 54.86 | 34.71 | 6.32 | 35.66 | 9.50 | 0.35 | 51.07 | 74.00 | -22.93 | P | 1.00 |
| 4824.21 | 37.72 | 34.71 | 6.32 | 35.66 | 9.50 | 0.35 | 33.93 | 54.00 | -20.07 | A | 1.00 |
| 7236.00 | 47.72 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 50.72 | 74.00 | -23.28 | P | 1.00 |
| 7236.00 | 33.14 | 39.22 | 8.27 | 35.89 | 9.50 | 0.90 | 36.14 | 54.00 | -17.86 | A | 1.00 |
| 12060.00 | 47.85 | 41.36 | 10.56 | 35.40 | 9.50 | 0.43 | 55.30 | 74.00 | -18.70 | P | 1.00 |
| 12060.00 | 33.74 | 41.36 | 10.56 | 35.40 | 9.50 | 0.43 | 41.19 | 54.00 | -12.81 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point | **Test Date** | 2008/03/03 |
|---|---|---|---|
| **Model** | DAP-2553 | **Test By** | Gumdam Lin |
| **Test Mode** | IEEE 802.11n HT20 TX (CH Middle) | **TEMP & Humidity** | 23°C, 51% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1624.54 | 49.42 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 35.96 | 74.00 | -38.04 | P | 1.00 |
| 1624.54 | 36.00 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 22.54 | 54.00 | -31.46 | A | 1.00 |
| 3249.32 | 51.19 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 42.39 | 74.00 | -31.61 | P | 1.00 |
| 3249.32 | 43.87 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 35.07 | 54.00 | -18.93 | A | 1.00 |
| 4873.26 | 48.05 | 34.82 | 6.32 | 35.67 | 9.50 | 0.30 | 44.31 | 74.00 | -29.69 | P | 1.00 |
| 4873.26 | 34.66 | 34.82 | 6.32 | 35.67 | 9.50 | 0.30 | 30.92 | 54.00 | -23.08 | A | 1.00 |
| 7310.69 | 60.08 | 39.38 | 8.30 | 35.92 | 9.50 | 0.83 | 63.17 | 74.00 | -10.83 | P | 1.00 |
| 7310.69 | 37.45 | 39.38 | 8.30 | 35.92 | 9.50 | 0.83 | 40.54 | 54.00 | -13.46 | A | 1.00 |
| 12183.97 | 47.63 | 41.48 | 10.52 | 35.21 | 9.50 | 0.39 | 55.32 | 74.00 | -18.68 | P | 1.00 |
| 12183.97 | 33.85 | 41.48 | 10.52 | 35.21 | 9.50 | 0.39 | 41.54 | 54.00 | -12.46 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1624.54 | 53.71 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 40.25 | 74.00 | -33.75 | P | 1.00 |
| 1624.54 | 43.47 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 30.01 | 54.00 | -23.99 | A | 1.00 |
| 3249.32 | 62.24 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 53.44 | 74.00 | -20.56 | P | 1.00 |
| 3249.32 | 59.91 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 51.11 | 54.00 | -2.89 | A | 1.00 |
| 4873.26 | 64.59 | 34.82 | 6.32 | 35.67 | 9.50 | 0.30 | 60.85 | 74.00 | -13.15 | P | 1.00 |
| 4873.26 | 47.48 | 34.82 | 6.32 | 35.67 | 9.50 | 0.30 | 43.74 | 54.00 | -10.26 | A | 1.00 |
| 7310.69 | 68.89 | 39.38 | 8.30 | 35.92 | 9.50 | 0.83 | 71.98 | 74.00 | -2.02 | P | 1.00 |
| 7310.69 | 41.79 | 39.38 | 8.30 | 35.92 | 9.50 | 0.83 | 44.88 | 54.00 | -9.12 | A | 1.00 |
| 12183.97 | 53.29 | 41.48 | 10.52 | 35.21 | 9.50 | 0.39 | 60.98 | 74.00 | -13.02 | P | 1.00 |
| 12183.97 | 34.50 | 41.48 | 10.52 | 35.21 | 9.50 | 0.39 | 42.19 | 54.00 | -11.81 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point | **Test Date** | 2008/03/04 |
|---|---|---|---|
| **Model** | DAP-2553 | **Test By** | Gumdam Lin |
| **Test Mode** | IEEE 802.11n HT20 TX (CH High) | **TEMP & Humidity** | 24°C, 55% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1641.38 | 47.82 | 27.62 | 3.82 | 35.24 | 9.50 | 0.00 | 34.52 | 74.00 | -39.48 | P | 1.00 |
| 1641.38 | 33.77 | 27.62 | 3.82 | 35.24 | 9.50 | 0.00 | 20.47 | 54.00 | -33.53 | A | 1.00 |
| 3282.75 | 48.25 | 30.66 | 5.67 | 35.60 | 9.50 | 0.00 | 39.47 | 74.00 | -34.53 | P | 1.00 |
| 3282.75 | 36.40 | 30.66 | 5.67 | 35.60 | 9.50 | 0.00 | 27.62 | 54.00 | -26.38 | A | 1.00 |
| 4924.52 | 46.59 | 34.93 | 6.32 | 35.68 | 9.50 | 0.25 | 42.90 | 74.00 | -31.10 | P | 1.00 |
| 4924.52 | 32.87 | 34.93 | 6.32 | 35.68 | 9.50 | 0.25 | 29.18 | 54.00 | -24.82 | A | 1.00 |
| 7386.00 | 46.96 | 39.55 | 8.33 | 35.95 | 9.50 | 0.76 | 50.15 | 74.00 | -23.85 | P | 1.00 |
| 7386.00 | 33.77 | 39.55 | 8.33 | 35.95 | 9.50 | 0.76 | 36.96 | 54.00 | -17.04 | A | 1.00 |
| 12310.00 | 47.61 | 41.61 | 10.49 | 35.00 | 9.50 | 0.35 | 55.55 | 74.00 | -18.45 | P | 1.00 |
| 12310.00 | 35.05 | 41.61 | 10.49 | 35.00 | 9.50 | 0.35 | 42.99 | 54.00 | -11.01 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1641.38 | 48.71 | 27.62 | 3.82 | 35.24 | 9.50 | 0.00 | 35.41 | 74.00 | -38.59 | P | 1.00 |
| 1641.38 | 38.10 | 27.62 | 3.82 | 35.24 | 9.50 | 0.00 | 24.80 | 54.00 | -29.20 | A | 1.00 |
| 3282.75 | 56.19 | 30.66 | 5.67 | 35.60 | 9.50 | 0.00 | 47.41 | 74.00 | -26.59 | P | 1.00 |
| 3282.75 | 52.50 | 30.66 | 5.67 | 35.60 | 9.50 | 0.00 | 43.72 | 54.00 | -10.28 | A | 1.00 |
| 4924.52 | 50.57 | 34.93 | 6.32 | 35.68 | 9.50 | 0.25 | 46.88 | 74.00 | -27.12 | P | 1.00 |
| 4924.52 | 35.85 | 34.93 | 6.32 | 35.68 | 9.50 | 0.25 | 32.16 | 54.00 | -21.84 | A | 1.00 |
| 7386.00 | 47.55 | 39.55 | 8.33 | 35.95 | 9.50 | 0.76 | 50.74 | 74.00 | -23.26 | P | 1.00 |
| 7386.00 | 33.82 | 39.55 | 8.33 | 35.95 | 9.50 | 0.76 | 37.01 | 54.00 | -16.99 | A | 1.00 |
| 12310.00 | 47.83 | 41.61 | 10.49 | 35.00 | 9.50 | 0.35 | 55.77 | 74.00 | -18.23 | P | 1.00 |
| 12310.00 | 34.07 | 41.61 | 10.49 | 35.00 | 9.50 | 0.35 | 42.01 | 54.00 | -11.99 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point | **Test Date** | 2008/03/04 |
|---|---|---|---|
| **Model** | DAP-2553 | **Test By** | Gumdam Lin |
| **Test Mode** | IEEE 802.11n HT40 TX (CH Low) | **TEMP & Humidity** | 24°C, 55% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1614.73 | 48.23 | 27.43 | 3.78 | 35.25 | 9.50 | 0.00 | 34.68 | 74.00 | -39.32 | P | 1.00 |
| 1614.73 | 33.42 | 27.43 | 3.78 | 35.25 | 9.50 | 0.00 | 19.87 | 54.00 | -34.13 | A | 1.00 |
| 3229.39 | 47.85 | 30.65 | 5.64 | 35.60 | 9.50 | 0.00 | 39.03 | 74.00 | -34.97 | P | 1.00 |
| 3229.39 | 36.12 | 30.65 | 5.64 | 35.60 | 9.50 | 0.00 | 27.30 | 54.00 | -26.70 | A | 1.00 |
| 4842.94 | 46.82 | 34.75 | 6.32 | 35.67 | 9.50 | 0.33 | 43.05 | 74.00 | -30.95 | P | 1.00 |
| 4842.94 | 33.15 | 34.75 | 6.32 | 35.67 | 9.50 | 0.33 | 29.38 | 54.00 | -24.62 | A | 1.00 |
| 7266.00 | 47.23 | 39.29 | 8.28 | 35.91 | 9.50 | 0.88 | 50.27 | 74.00 | -23.73 | P | 1.00 |
| 7266.00 | 33.41 | 39.29 | 8.28 | 35.91 | 9.50 | 0.88 | 36.45 | 54.00 | -17.55 | A | 1.00 |
| 12110.00 | 47.87 | 41.41 | 10.55 | 35.32 | 9.50 | 0.41 | 55.42 | 74.00 | -18.58 | P | 1.00 |
| 12110.00 | 33.05 | 41.41 | 10.55 | 35.32 | 9.50 | 0.41 | 40.60 | 54.00 | -13.40 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1614.73 | 48.52 | 27.43 | 3.78 | 35.25 | 9.50 | 0.00 | 34.97 | 74.00 | -39.03 | P | 1.00 |
| 1614.73 | 33.78 | 27.43 | 3.78 | 35.25 | 9.50 | 0.00 | 20.23 | 54.00 | -33.77 | A | 1.00 |
| 3229.39 | 56.37 | 30.65 | 5.64 | 35.60 | 9.50 | 0.00 | 47.55 | 74.00 | -26.45 | P | 1.00 |
| 3229.39 | 52.45 | 30.65 | 5.64 | 35.60 | 9.50 | 0.00 | 43.63 | 54.00 | -10.37 | A | 1.00 |
| 4842.94 | 48.05 | 34.75 | 6.32 | 35.67 | 9.50 | 0.33 | 44.28 | 74.00 | -29.72 | P | 1.00 |
| 4842.94 | 34.53 | 34.75 | 6.32 | 35.67 | 9.50 | 0.33 | 30.76 | 54.00 | -23.24 | A | 1.00 |
| 7266.00 | 47.12 | 39.29 | 8.28 | 35.91 | 9.50 | 0.88 | 50.16 | 74.00 | -23.84 | P | 1.00 |
| 7266.00 | 33.43 | 39.29 | 8.28 | 35.91 | 9.50 | 0.88 | 36.47 | 54.00 | -17.53 | A | 1.00 |
| 12110.00 | 47.59 | 41.41 | 10.55 | 35.32 | 9.50 | 0.41 | 55.14 | 74.00 | -18.86 | P | 1.00 |
| 12110.00 | 33.01 | 41.41 | 10.55 | 35.32 | 9.50 | 0.41 | 40.56 | 54.00 | -13.44 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point | **Test Date** | 2008/03/03 |
|---|---|---|---|
| **Model** | DAP-2553 | **Test By** | Gumdam Lin |
| **Test Mode** | IEEE 802.11n HT40 TX (CH Middle) | **TEMP & Humidity** | 23°C, 51% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1624.75 | 48.13 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 34.68 | 74.00 | -39.32 | P | 1.00 |
| 1624.75 | 35.22 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 21.77 | 54.00 | -32.23 | A | 1.00 |
| 3249.45 | 50.49 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 41.69 | 74.00 | -32.31 | P | 1.00 |
| 3249.45 | 42.03 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 33.23 | 54.00 | -20.77 | A | 1.00 |
| 4867.68 | 47.26 | 34.81 | 6.32 | 35.67 | 9.50 | 0.30 | 43.52 | 74.00 | -30.48 | P | 1.00 |
| 4867.68 | 32.99 | 34.81 | 6.32 | 35.67 | 9.50 | 0.30 | 29.25 | 54.00 | -24.75 | A | 1.00 |
| 7327.53 | 58.18 | 39.42 | 8.30 | 35.93 | 9.50 | 0.82 | 61.29 | 74.00 | -12.71 | P | 1.00 |
| 7327.53 | 37.61 | 39.42 | 8.30 | 35.93 | 9.50 | 0.82 | 40.72 | 54.00 | -13.28 | A | 1.00 |
| 12205.62 | 47.56 | 41.51 | 10.52 | 35.17 | 9.50 | 0.38 | 55.30 | 74.00 | -18.70 | P | 1.00 |
| 12205.62 | 33.90 | 41.51 | 10.52 | 35.17 | 9.50 | 0.38 | 41.64 | 54.00 | -12.36 | A | 1.00 |

| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1624.75 | 53.69 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 40.24 | 74.00 | -33.76 | P | 1.00 |
| 1624.75 | 45.62 | 27.50 | 3.80 | 35.25 | 9.50 | 0.00 | 32.17 | 54.00 | -21.83 | A | 1.00 |
| 3249.45 | 63.73 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 54.93 | 74.00 | -19.07 | P | 1.00 |
| 3249.45 | 59.83 | 30.65 | 5.65 | 35.60 | 9.50 | 0.00 | 51.03 | 54.00 | -2.97 | A | 1.00 |
| 4867.68 | 59.95 | 34.81 | 6.32 | 35.67 | 9.50 | 0.30 | 56.21 | 74.00 | -17.79 | P | 1.00 |
| 4867.68 | 44.50 | 34.81 | 6.32 | 35.67 | 9.50 | 0.30 | 40.76 | 54.00 | -13.24 | A | 1.00 |
| 7327.53 | 67.97 | 39.42 | 8.30 | 35.93 | 9.50 | 0.82 | 71.08 | 74.00 | -2.92 | P | 1.00 |
| 7327.53 | 45.17 | 39.42 | 8.30 | 35.93 | 9.50 | 0.82 | 48.28 | 54.00 | -5.72 | A | 1.00 |
| 12205.62 | 50.38 | 41.51 | 10.52 | 35.17 | 9.50 | 0.38 | 58.12 | 74.00 | -15.88 | P | 1.00 |
| 12205.62 | 35.33 | 41.51 | 10.52 | 35.17 | 9.50 | 0.38 | 43.07 | 54.00 | -10.93 | A | 1.00 |

***Remark:***

*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

| **Product Name** | D-Link AirPremier N Dual Band PoE Access Point | **Test Date** | 2008/03/03 |
|---|---|---|---|
| **Model** | DAP-2553 | **Test By** | Gumdam Lin |
| **Test Mode** | IEEE 802.11n HT40 TX (CH High) | **TEMP & Humidity** | 23°C, 51% |

| Measurement Distance at 1m Horizontal polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1634.73 | 47.57 | 27.57 | 3.81 | 35.25 | 9.50 | 0.00 | 34.21 | 74.00 | -39.79 | P | 1.00 |
| 1634.73 | 33.38 | 27.57 | 3.81 | 35.25 | 9.50 | 0.00 | 20.02 | 54.00 | -33.98 | A | 1.00 |
| 3269.40 | 48.45 | 30.65 | 5.66 | 35.60 | 9.50 | 0.00 | 39.66 | 74.00 | -34.34 | P | 1.00 |
| 3269.40 | 36.39 | 30.65 | 5.66 | 35.60 | 9.50 | 0.00 | 27.60 | 54.00 | -26.40 | A | 1.00 |
| 4904.05 | 46.69 | 34.89 | 6.32 | 35.68 | 9.50 | 0.27 | 42.98 | 74.00 | -31.02 | P | 1.00 |
| 4904.05 | 32.36 | 34.89 | 6.32 | 35.68 | 9.50 | 0.27 | 28.65 | 54.00 | -25.35 | A | 1.00 |
| 7356.00 | 47.31 | 39.48 | 8.32 | 35.94 | 9.50 | 0.79 | 50.46 | 74.00 | -23.54 | P | 1.00 |
| 7356.00 | 33.57 | 39.48 | 8.32 | 35.94 | 9.50 | 0.79 | 36.72 | 54.00 | -17.28 | A | 1.00 |
| 12260.00 | 47.63 | 41.56 | 10.50 | 35.08 | 9.50 | 0.37 | 55.47 | 74.00 | -18.53 | P | 1.00 |
| 12260.00 | 33.55 | 41.56 | 10.50 | 35.08 | 9.50 | 0.37 | 41.39 | 54.00 | -12.61 | A | 1.00 |

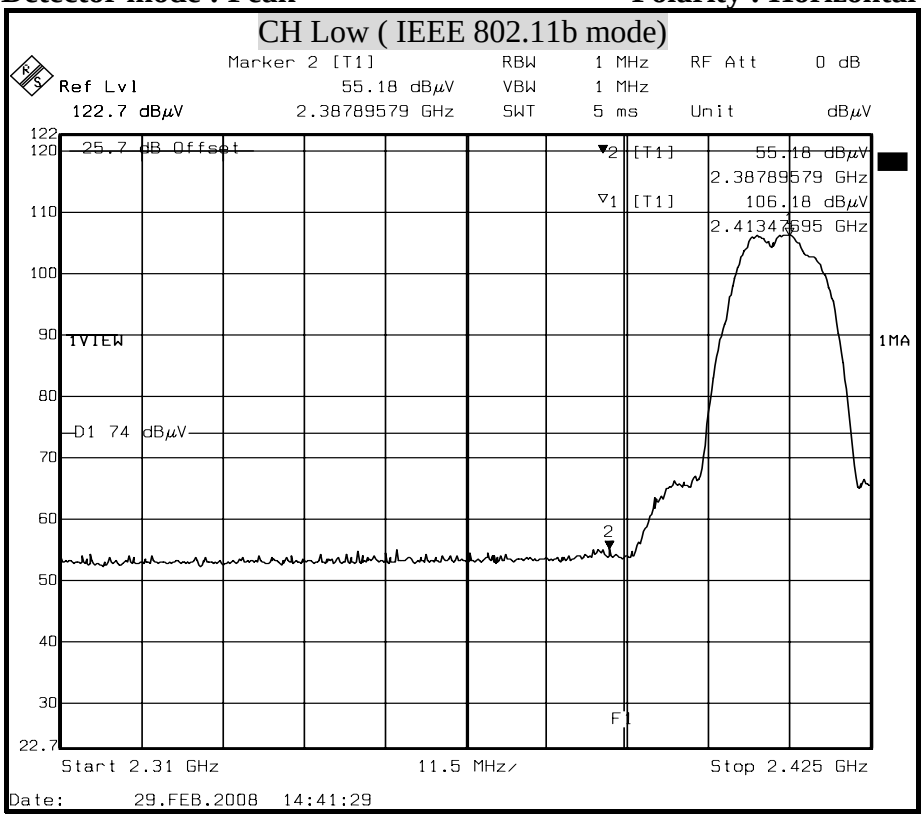
| Measurement Distance at 1m Vertical polarity | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Freq. (MHz) | Reading (dBµV) | AF (dBµV) | Cable (dB) | Pre-amp (dB) | Dist (dB) | Filter (dB) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Mark (P/Q/A) | Height (Meter) |
| 1634.73 | 48.70 | 27.57 | 3.81 | 35.25 | 9.50 | 0.00 | 35.34 | 74.00 | -38.66 | P | 1.00 |
| 1634.73 | 38.52 | 27.57 | 3.81 | 35.25 | 9.50 | 0.00 | 25.16 | 54.00 | -28.84 | A | 1.00 |
| 3269.40 | 56.09 | 30.65 | 5.66 | 35.60 | 9.50 | 0.00 | 47.30 | 74.00 | -26.70 | P | 1.00 |
| 3269.40 | 52.39 | 30.65 | 5.66 | 35.60 | 9.50 | 0.00 | 43.60 | 54.00 | -10.40 | A | 1.00 |
| 4904.05 | 47.66 | 34.89 | 6.32 | 35.68 | 9.50 | 0.27 | 43.95 | 74.00 | -30.05 | P | 1.00 |
| 4904.05 | 33.95 | 34.89 | 6.32 | 35.68 | 9.50 | 0.27 | 30.24 | 54.00 | -23.76 | A | 1.00 |
| 7356.00 | 47.28 | 39.48 | 8.32 | 35.94 | 9.50 | 0.79 | 50.43 | 74.00 | -23.57 | P | 1.00 |
| 7356.00 | 33.43 | 39.48 | 8.32 | 35.94 | 9.50 | 0.79 | 36.58 | 54.00 | -17.42 | A | 1.00 |
| 12260.00 | 47.76 | 41.56 | 10.50 | 35.08 | 9.50 | 0.37 | 55.60 | 74.00 | -18.40 | P | 1.00 |
| 12260.00 | 33.77 | 41.56 | 10.50 | 35.08 | 9.50 | 0.37 | 41.61 | 54.00 | -12.39 | A | 1.00 |

***Remark:***

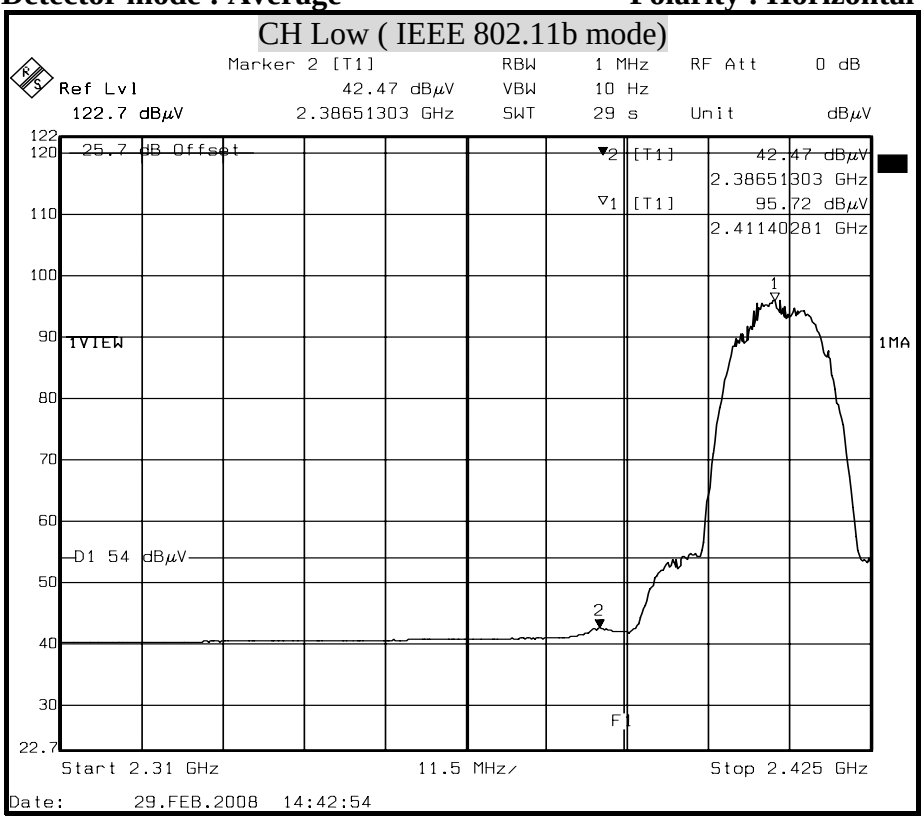
*1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)*
*2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz*
*3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB*
*4. The result basic equation calculation is as follow:*
*Level = Reading + AF + Cable – Preamp + Filter – Dist, Margin = Level-Limit*
*5. The other emission levels were 20dB below the limit*
*6. The test limit distance is 3M limit.*

## 8.8.4 RESTRICTED BAND EDGES

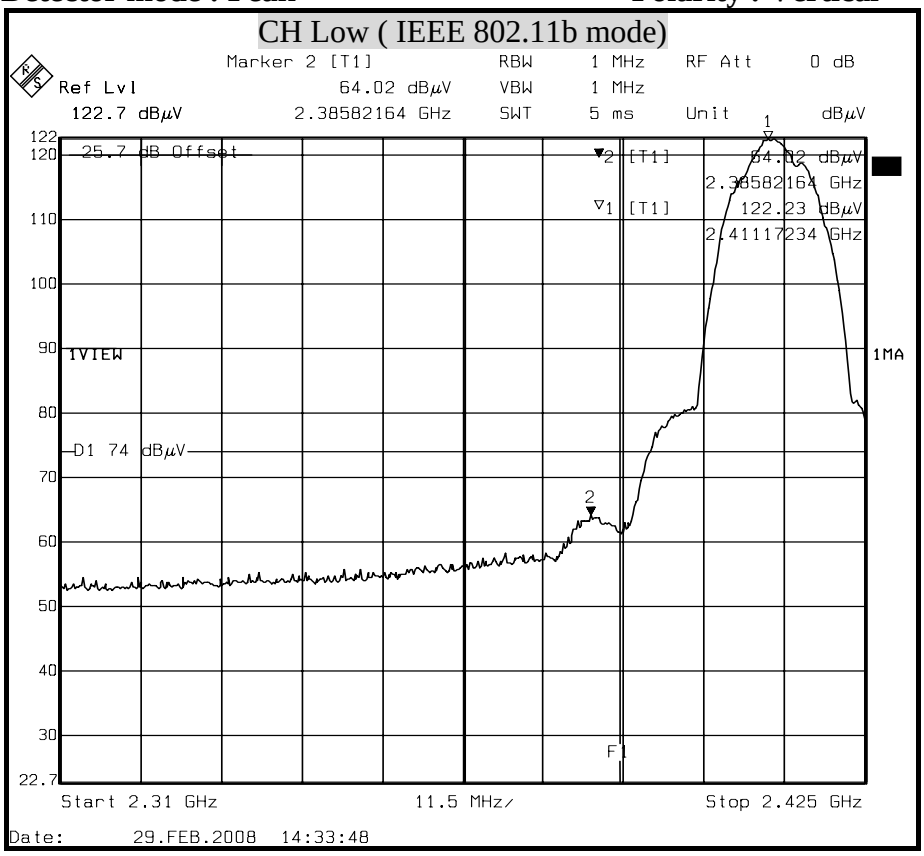
**Detector mode : Peak** **Polarity : Horizontal**



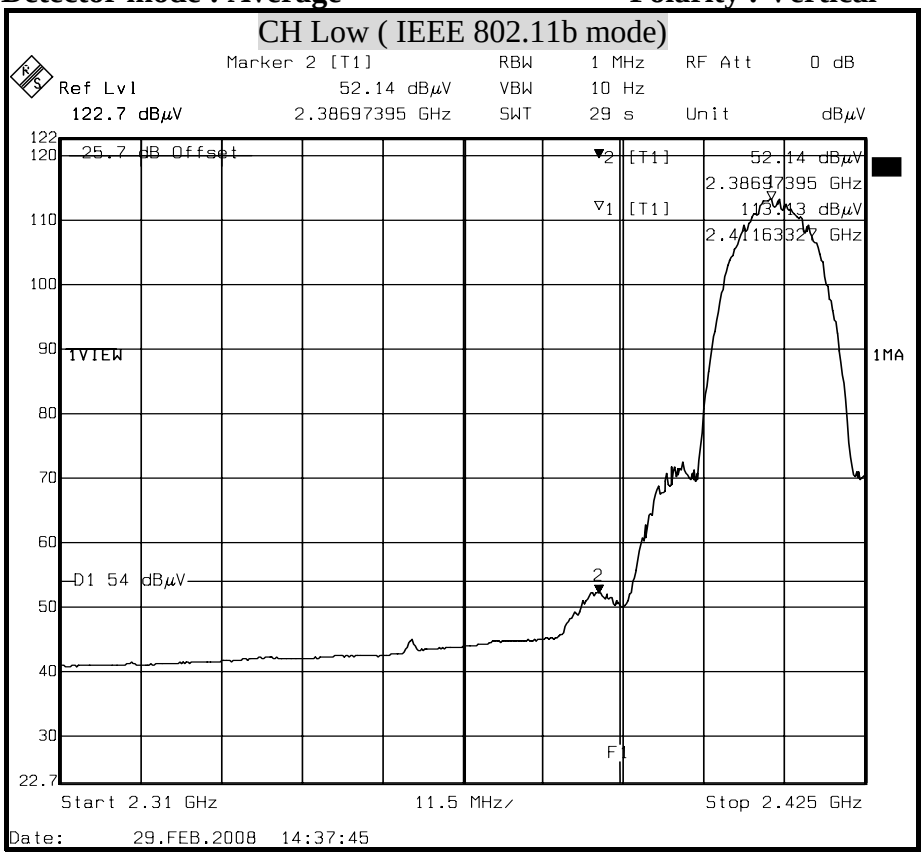

**Detector mode : Average** **Polarity : Horizontal**



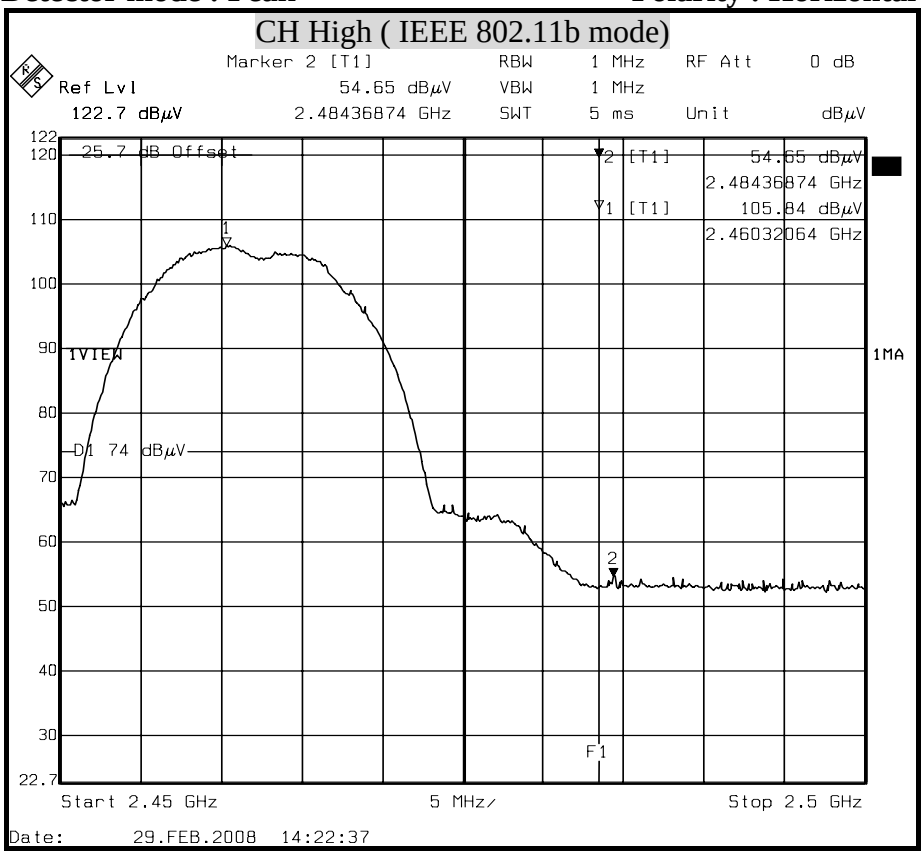
**Detector mode : Peak** **Polarity : Vertical**



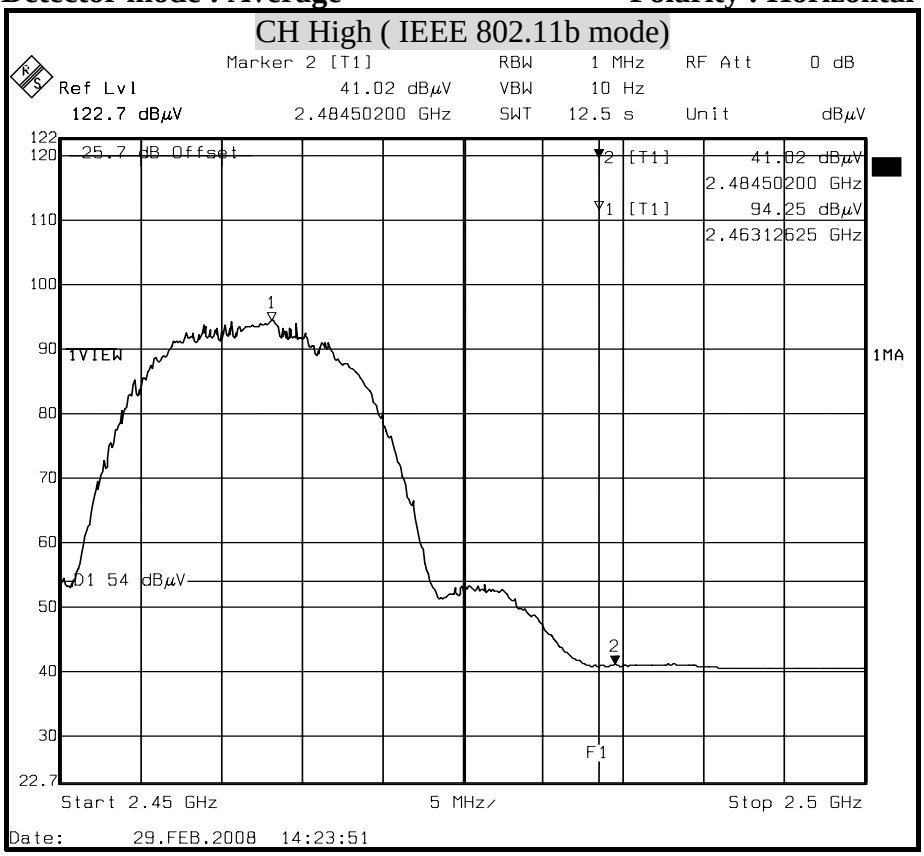

**Detector mode : Average** **Polarity : Vertical**



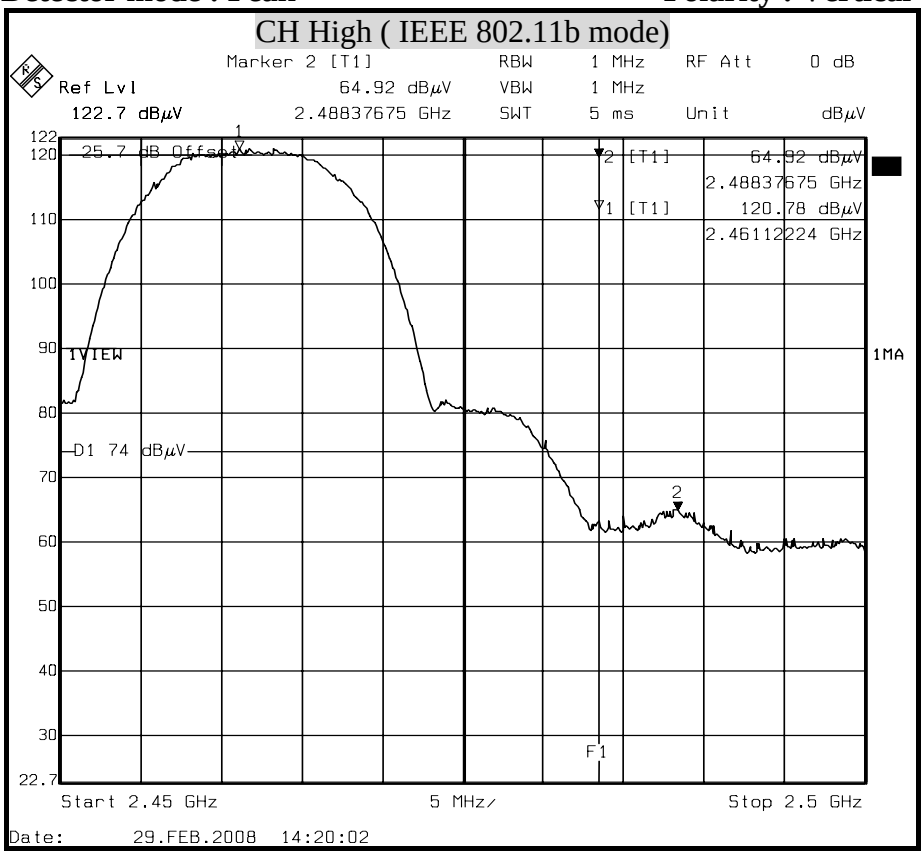
**Detector mode : Peak** **Polarity : Horizontal**



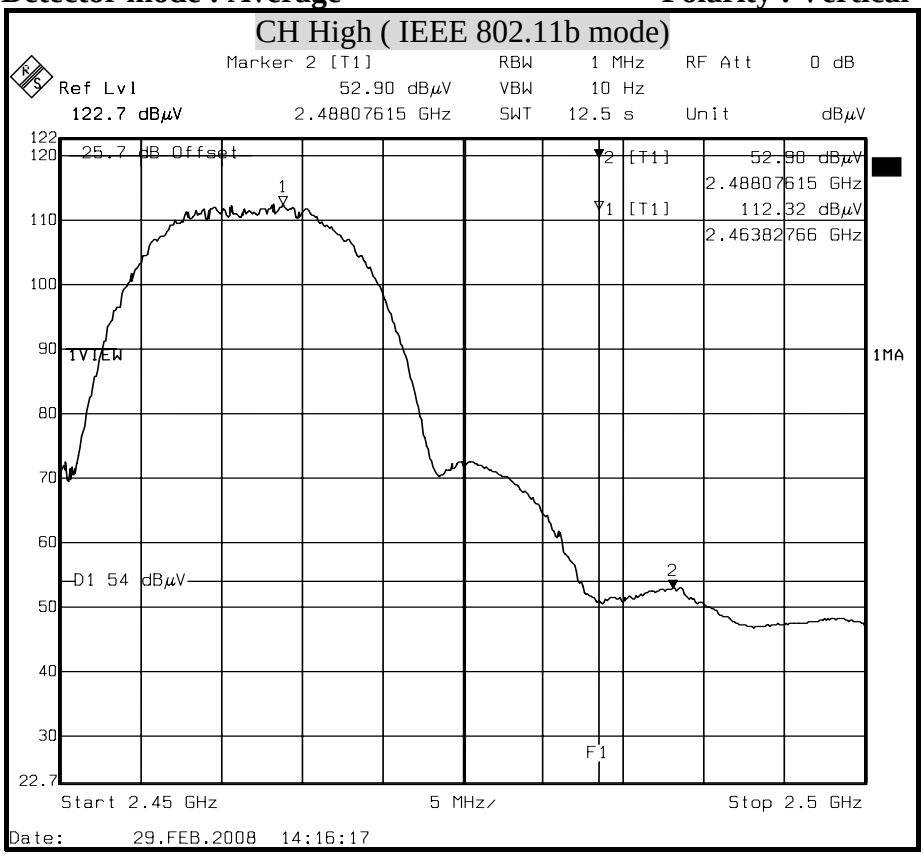

**Detector mode : Average** **Polarity : Horizontal**



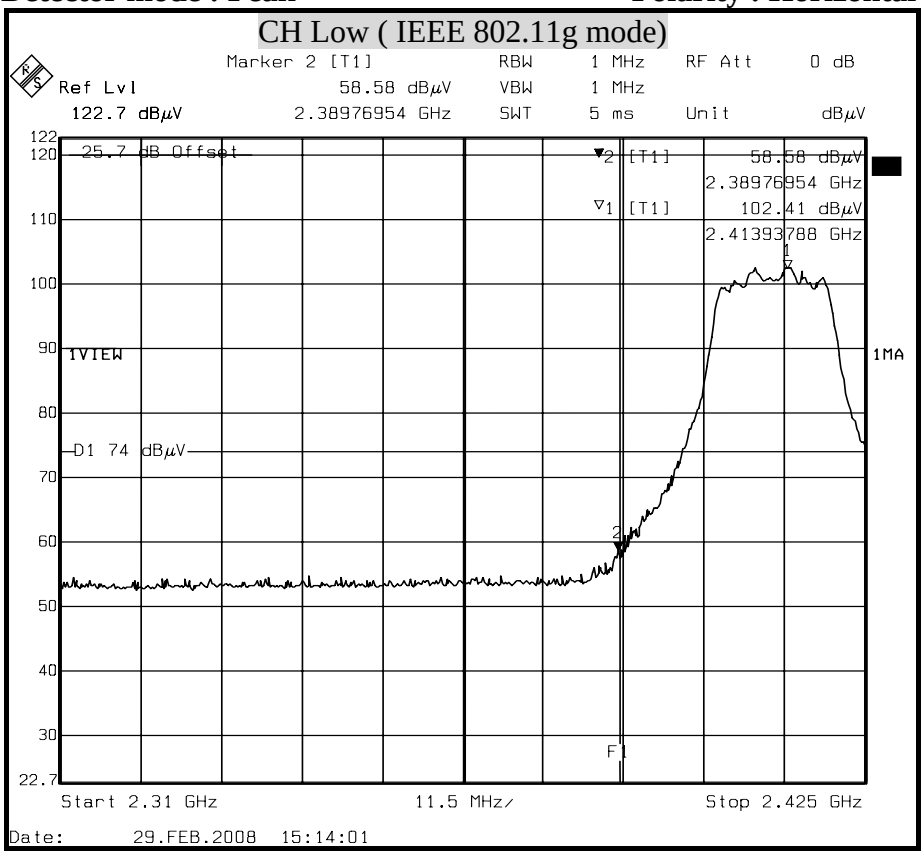
**Detector mode : Peak** **Polarity : Vertical**



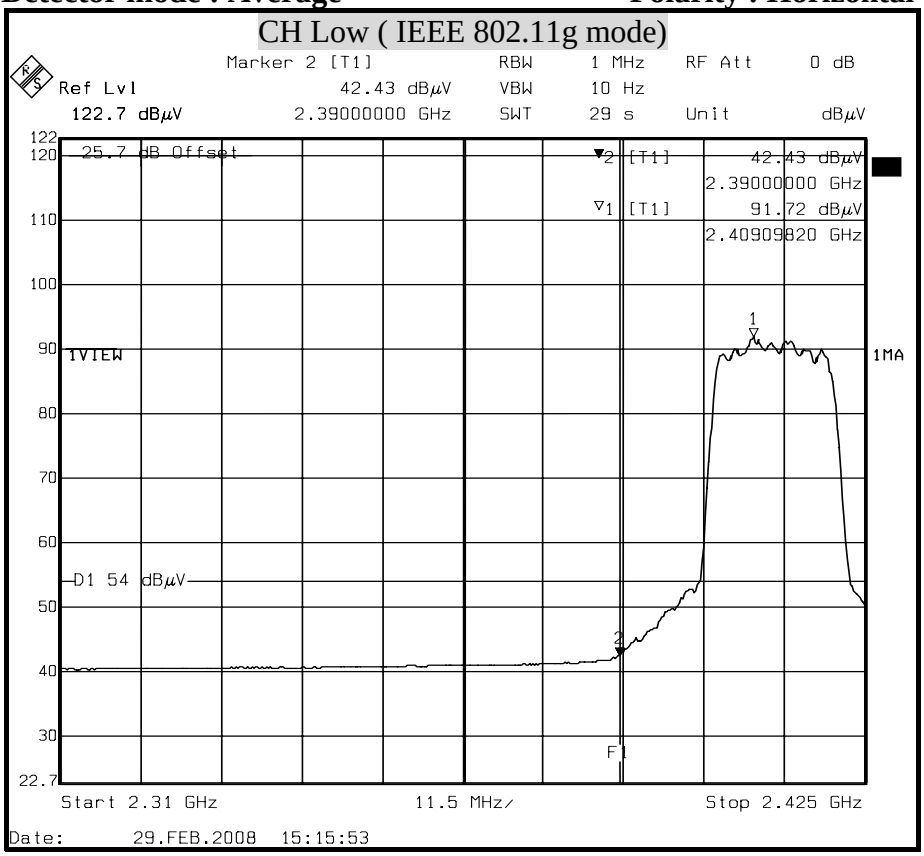

**Detector mode : Average** **Polarity : Vertical**



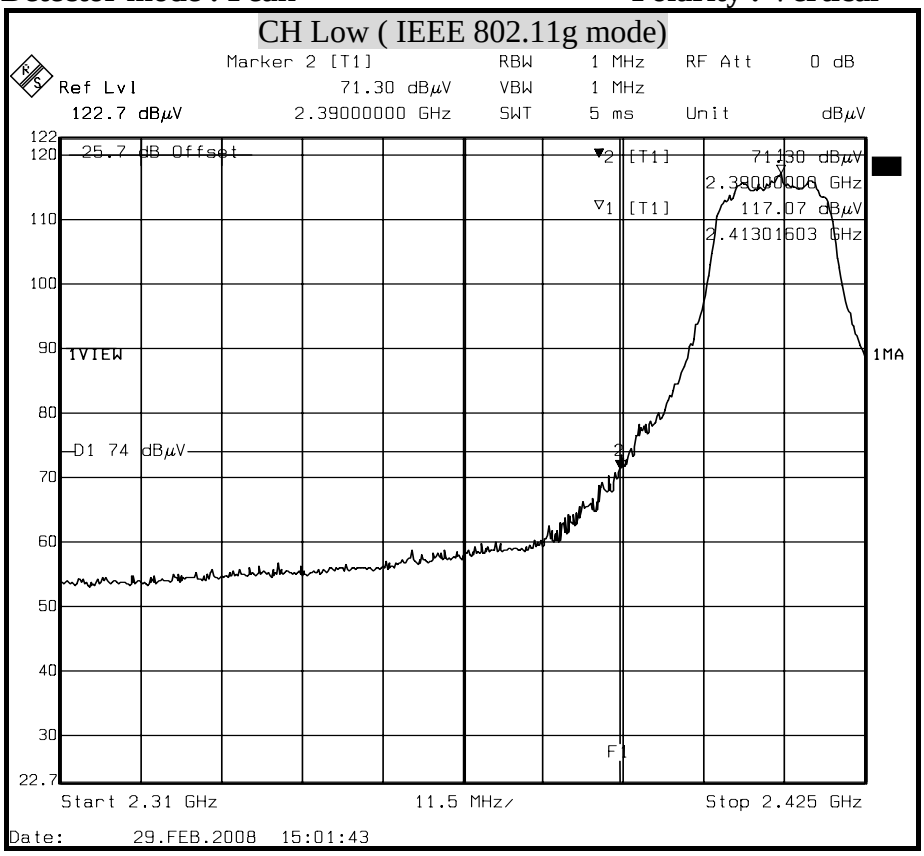
**Detector mode : Peak** **Polarity : Horizontal**



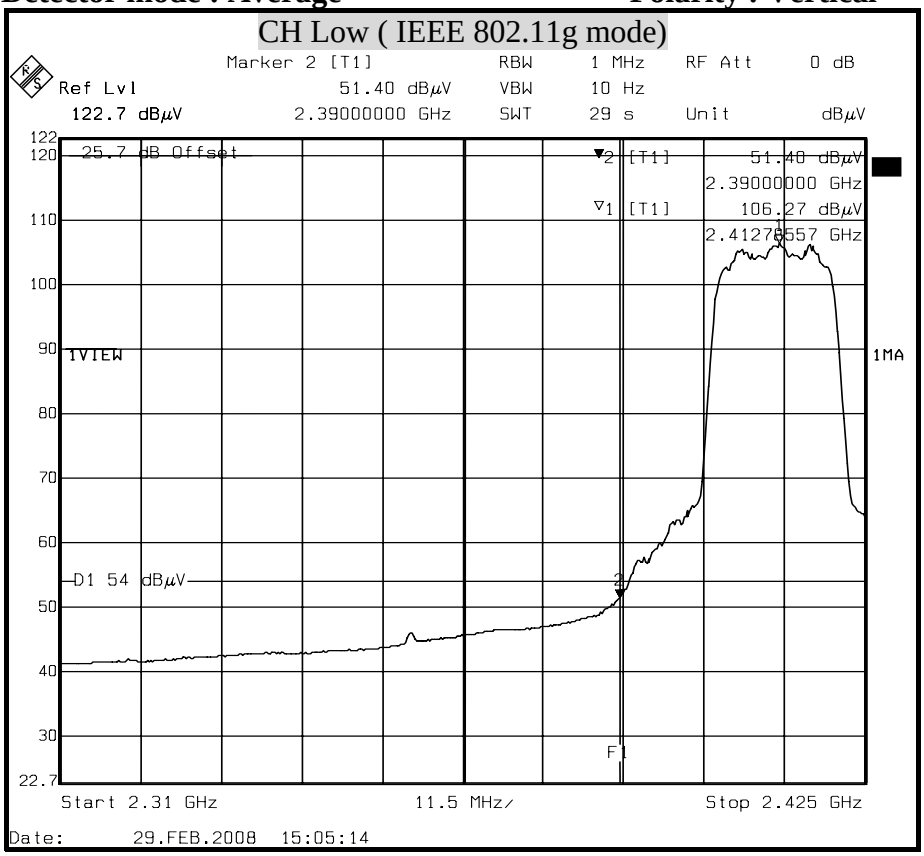

**Detector mode : Average** **Polarity : Horizontal**



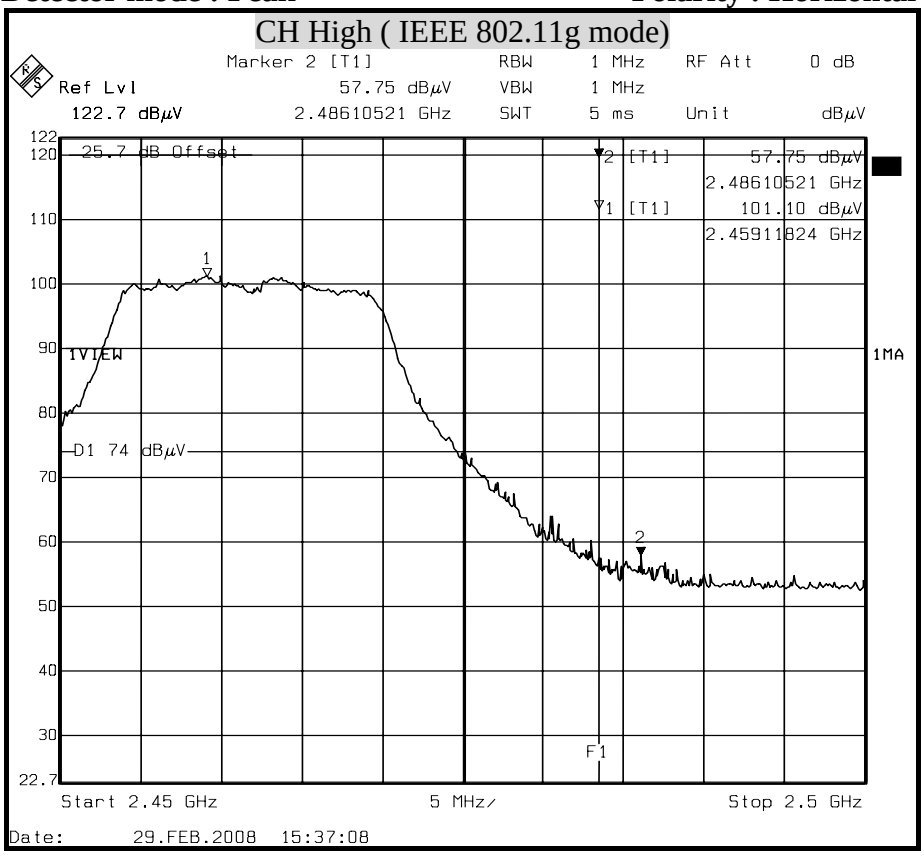
**Detector mode : Peak** **Polarity : Vertical**



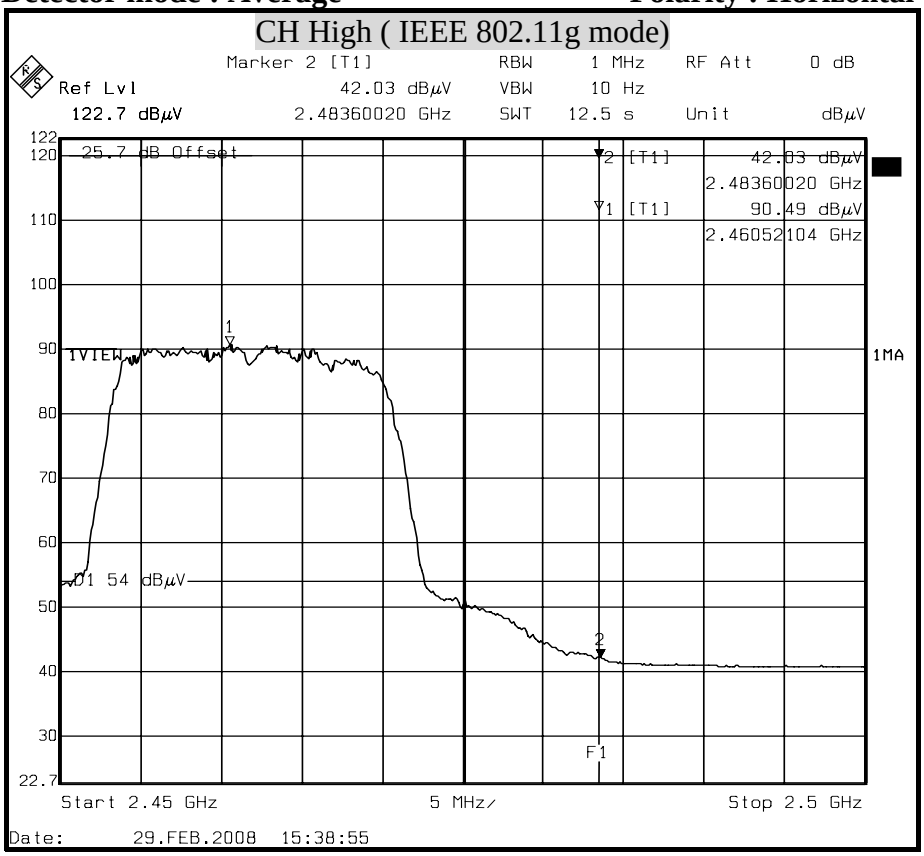

**Detector mode : Average** **Polarity : Vertical**



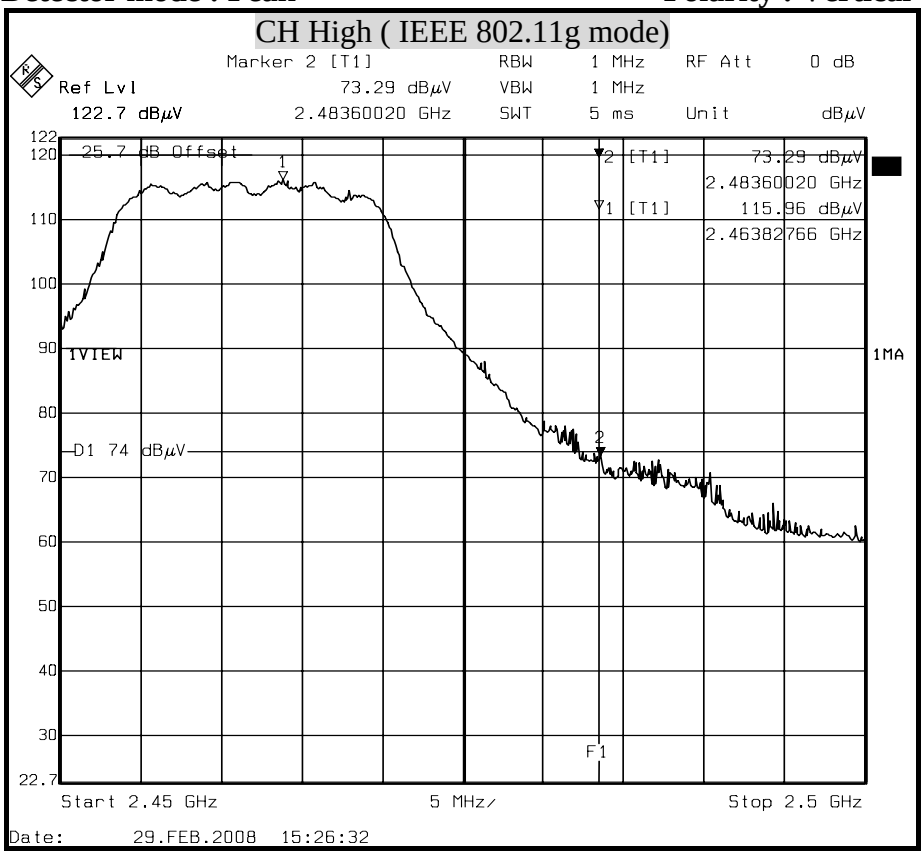
**Detector mode : Peak** **Polarity : Horizontal**



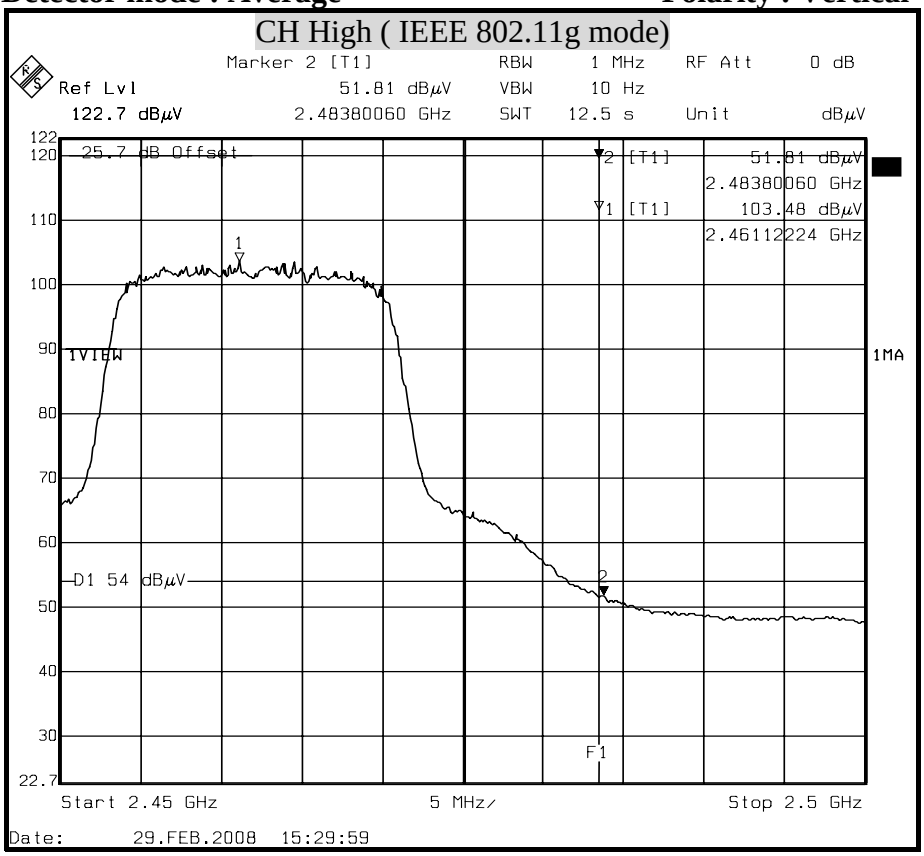

**Detector mode : Average** **Polarity : Horizontal**



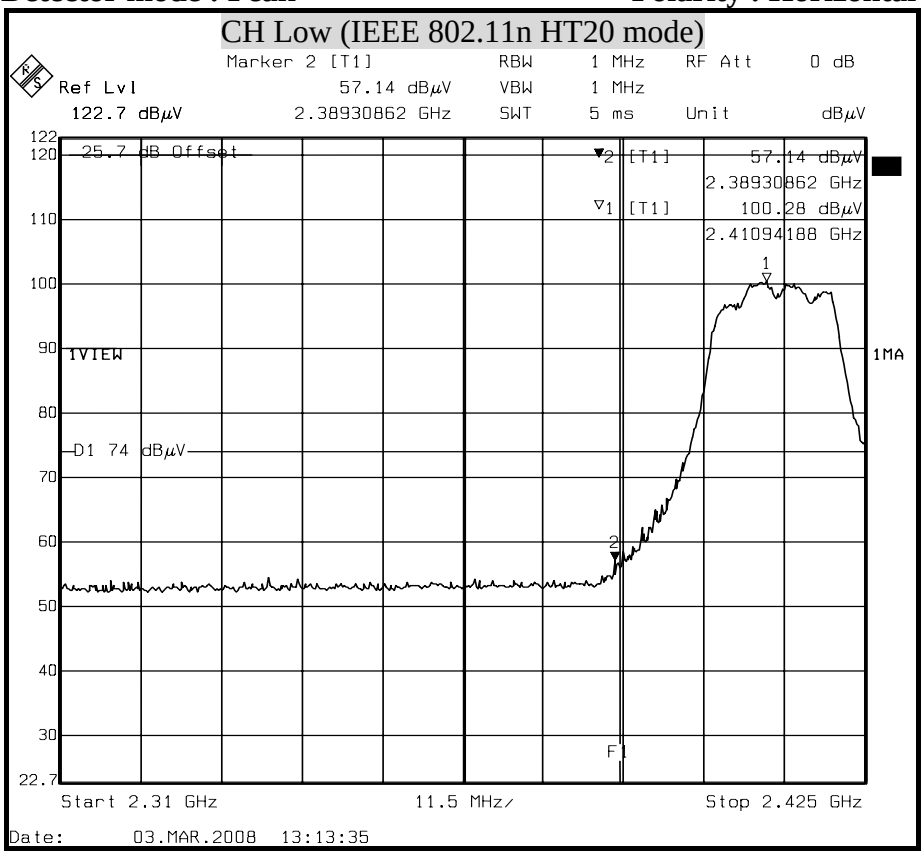
**Detector mode : Peak** **Polarity : Vertical**



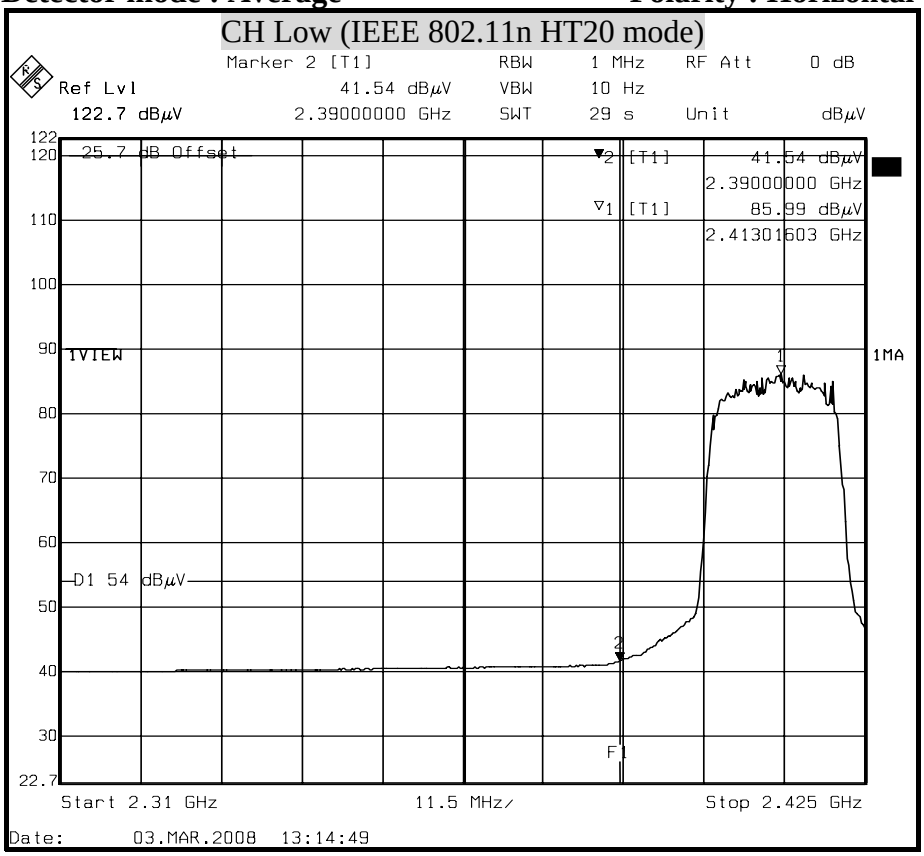

**Detector mode : Average** **Polarity : Vertical**



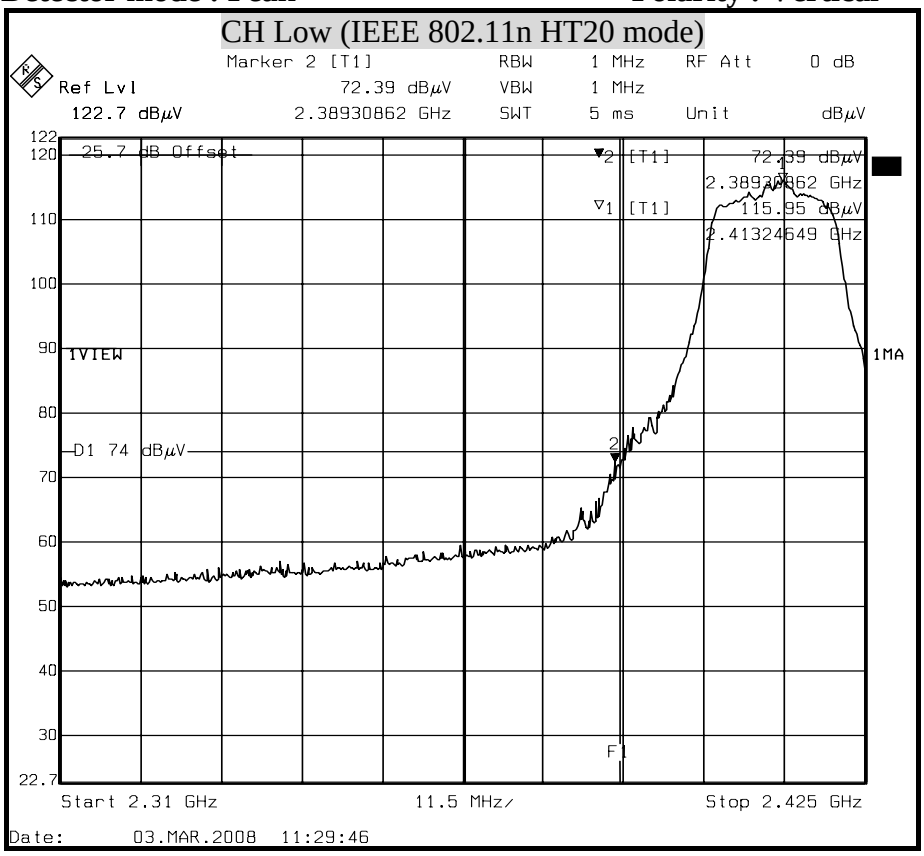
**Detector mode : Peak** **Polarity : Horizontal**



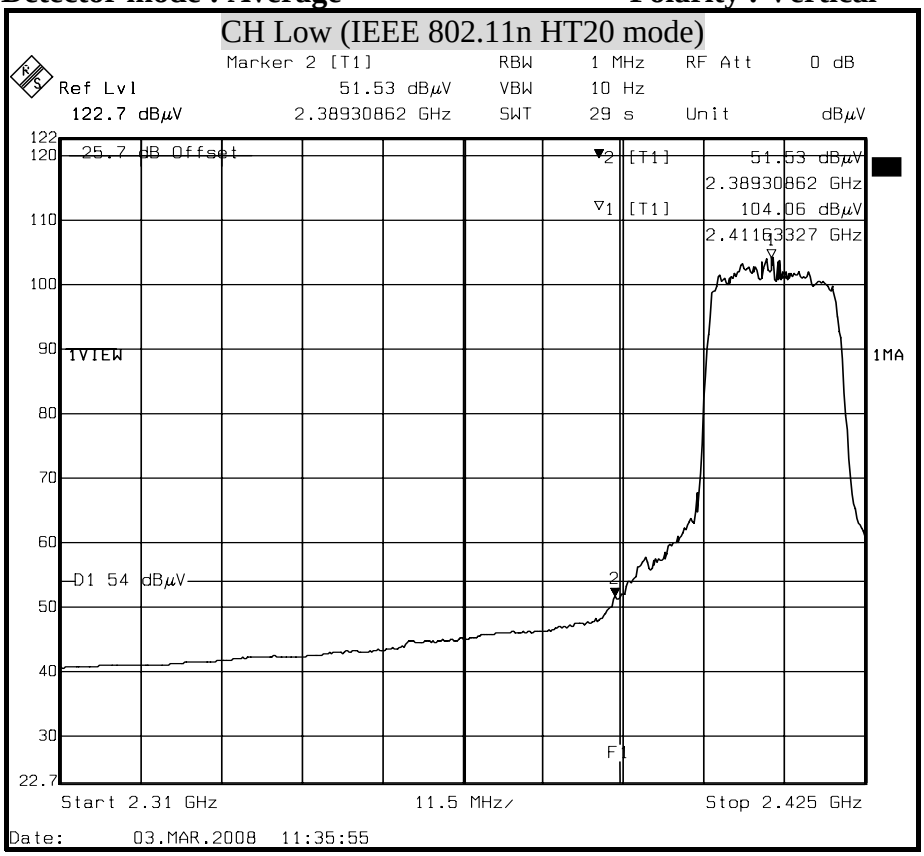

**Detector mode : Average** **Polarity : Horizontal**



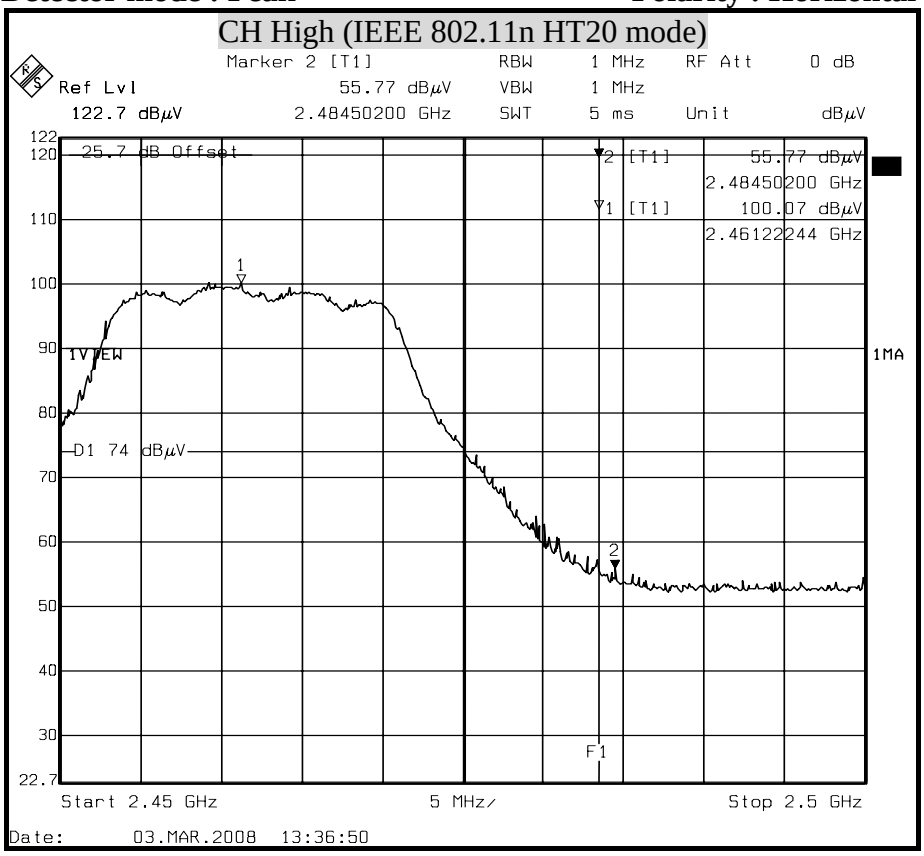
**Detector mode : Peak** **Polarity : Vertical**



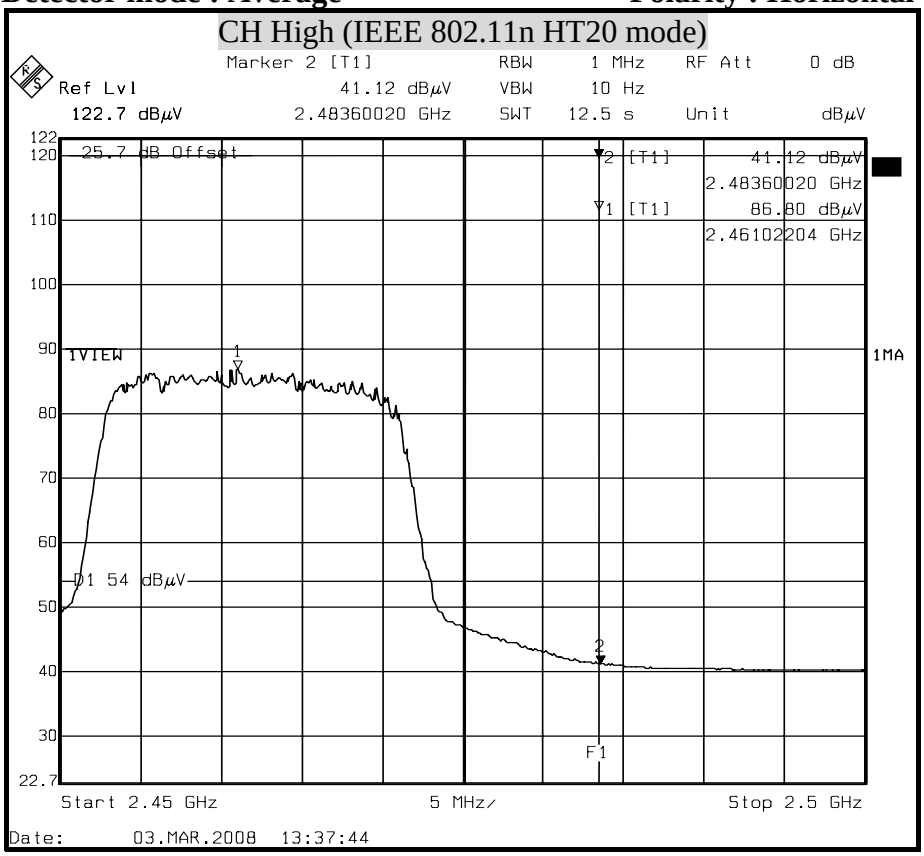

**Detector mode : Average** **Polarity : Vertical**



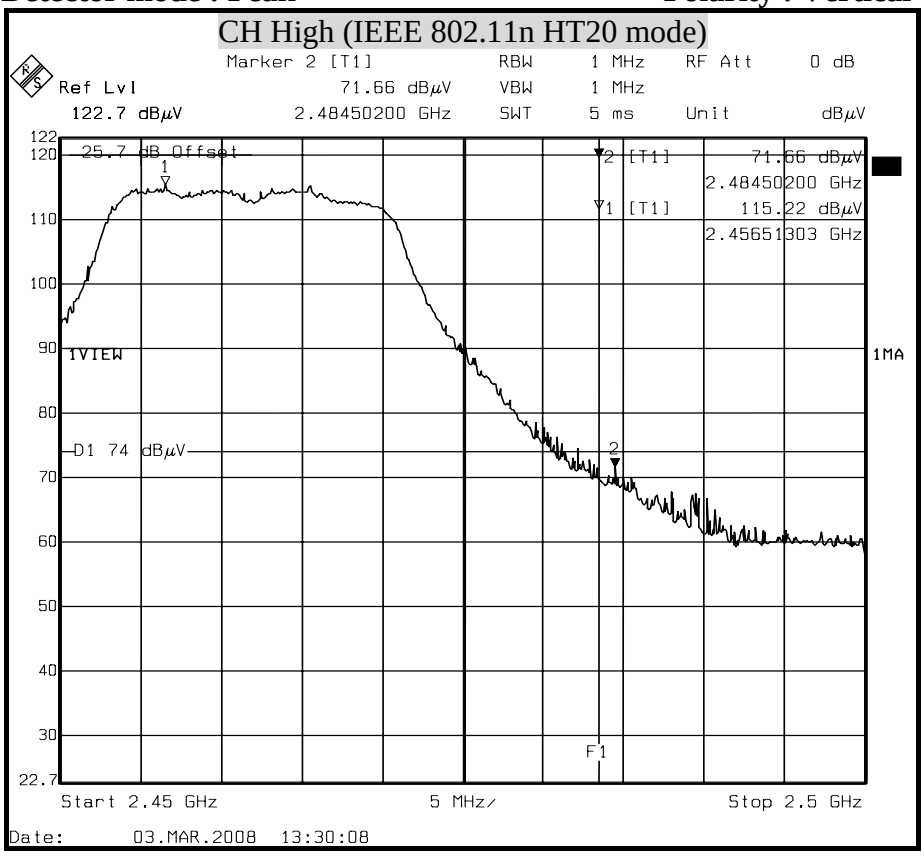
**Detector mode : Peak** **Polarity : Horizontal**



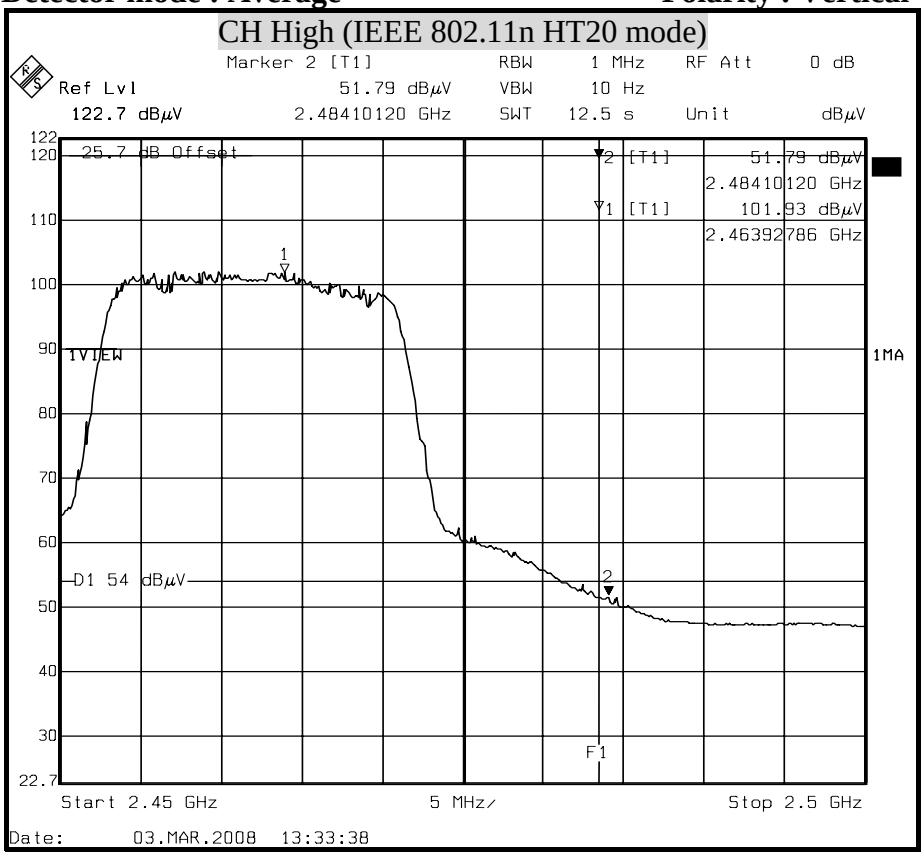

**Detector mode : Average** **Polarity : Horizontal**



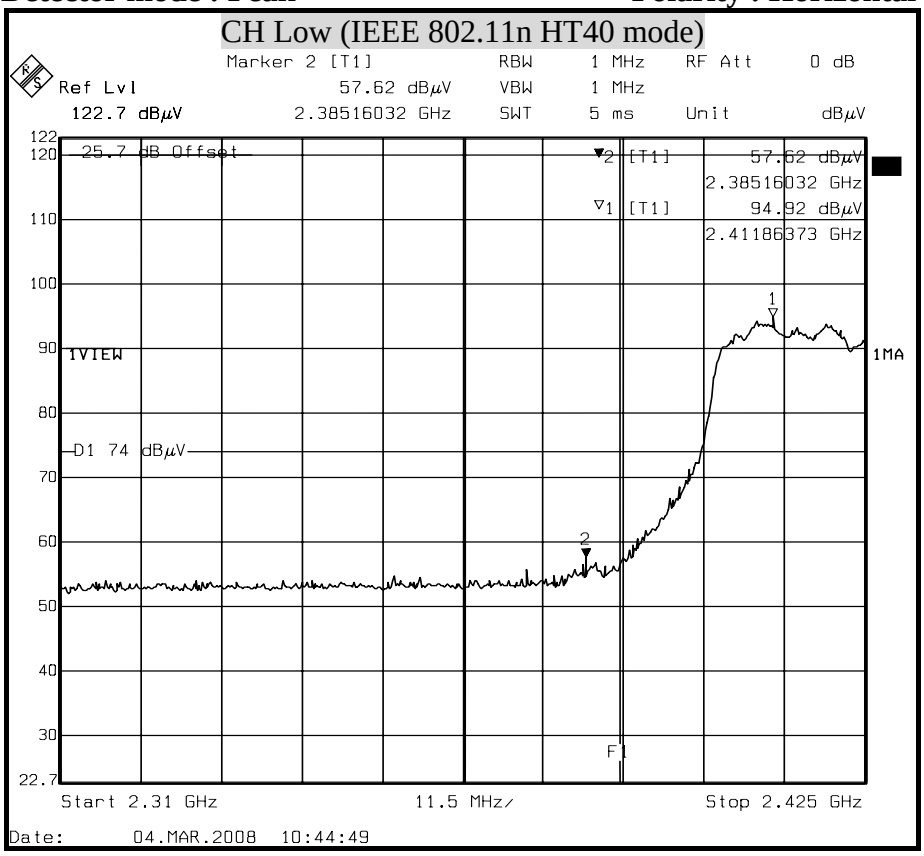
**Detector mode : Peak** **Polarity : Vertical**



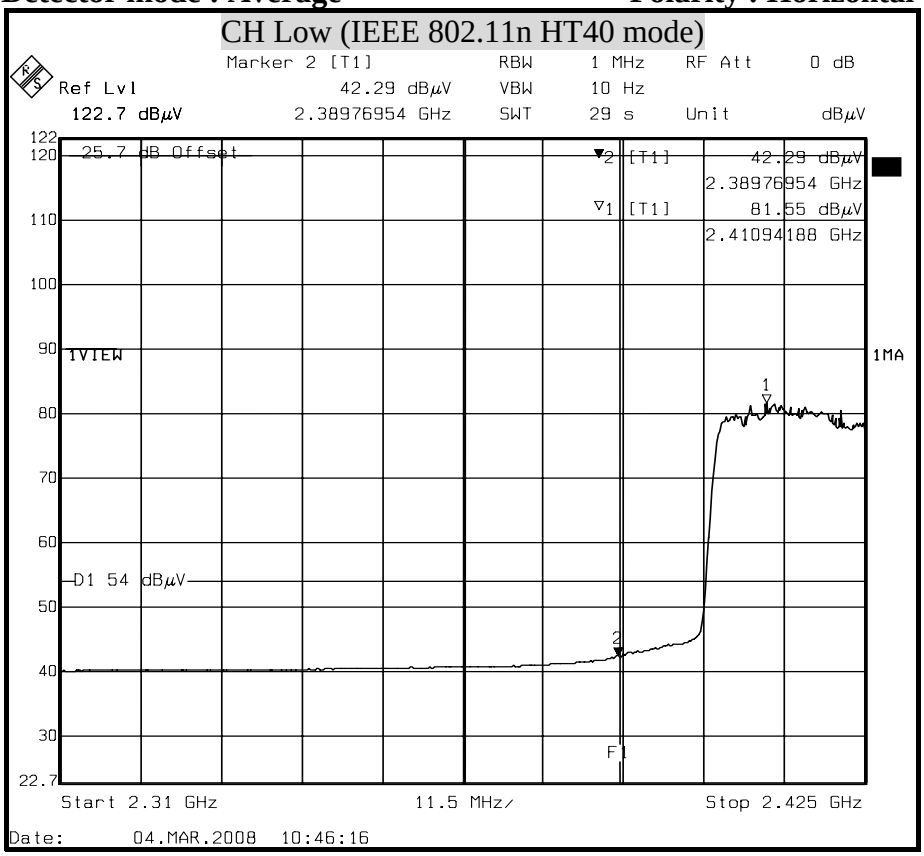

**Detector mode : Average** **Polarity : Vertical**



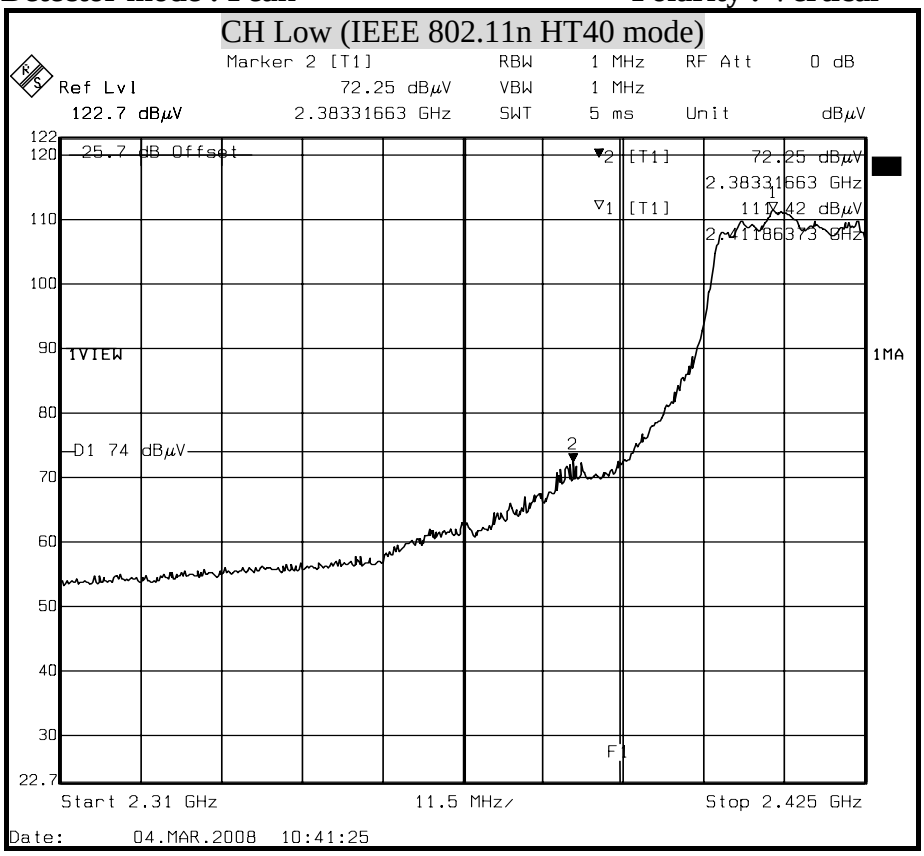
**Detector mode : Peak** **Polarity : Horizontal**



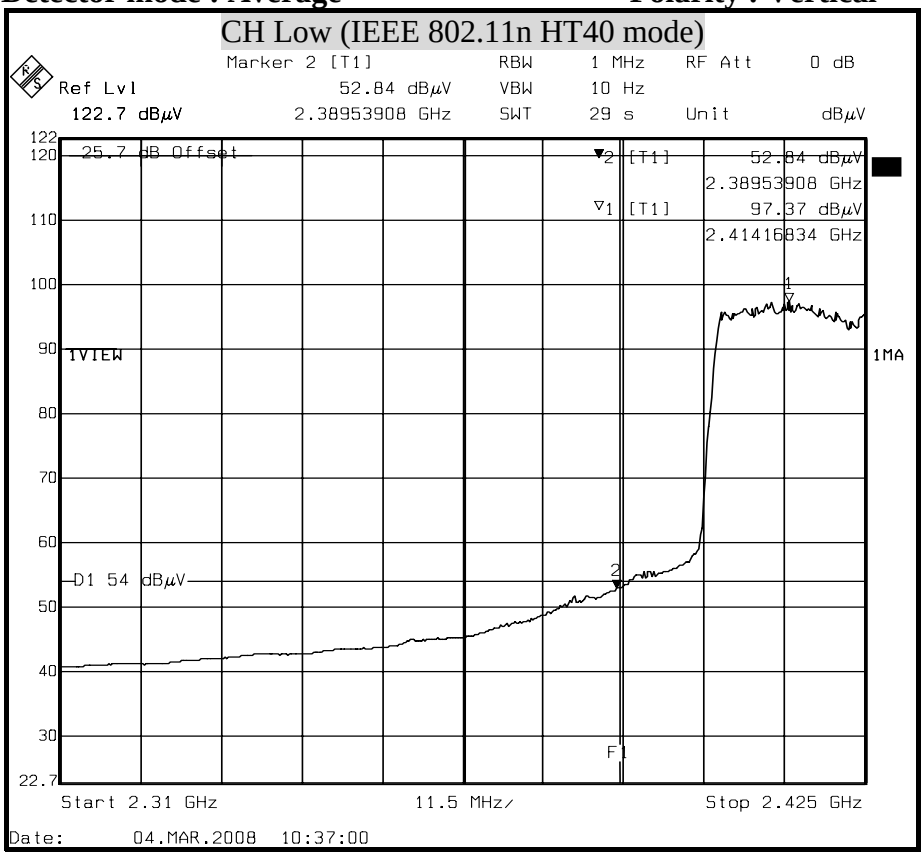

**Detector mode : Average** **Polarity : Horizontal**



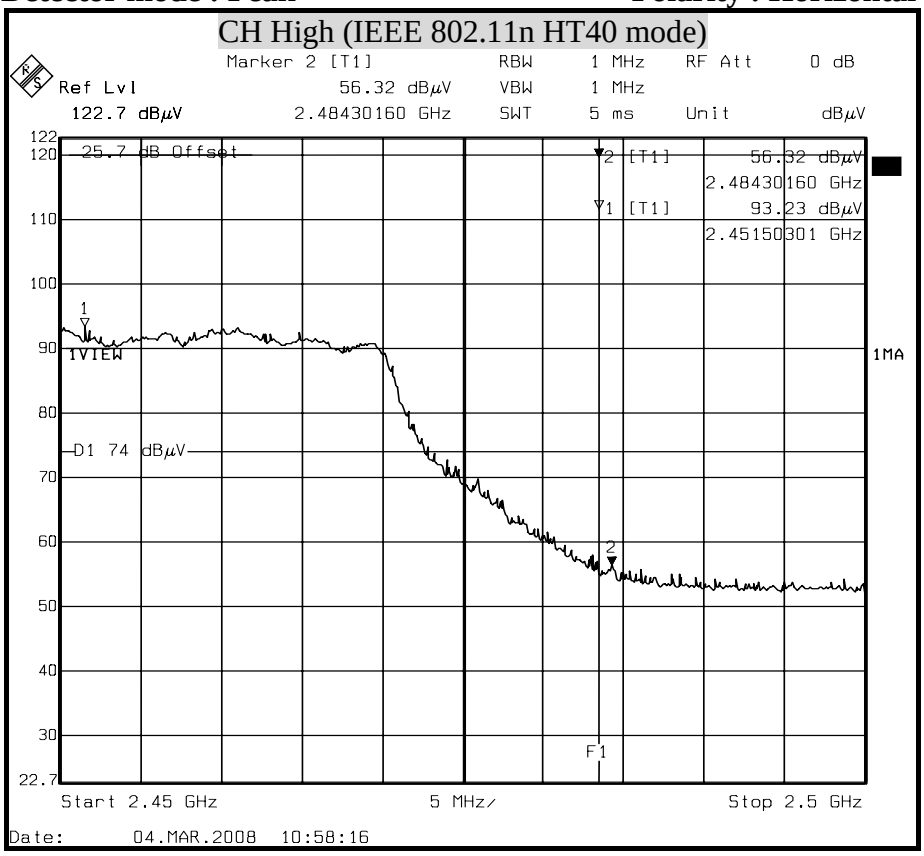
**Detector mode : Peak** **Polarity : Vertical**



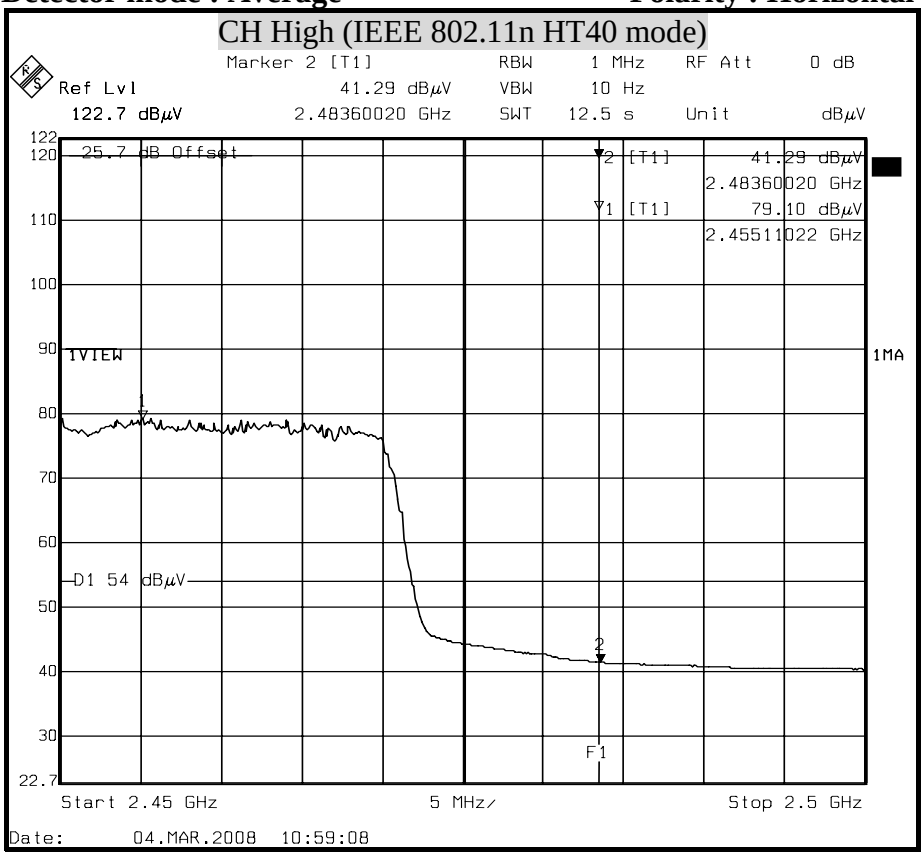

**Detector mode : Average** **Polarity : Vertical**



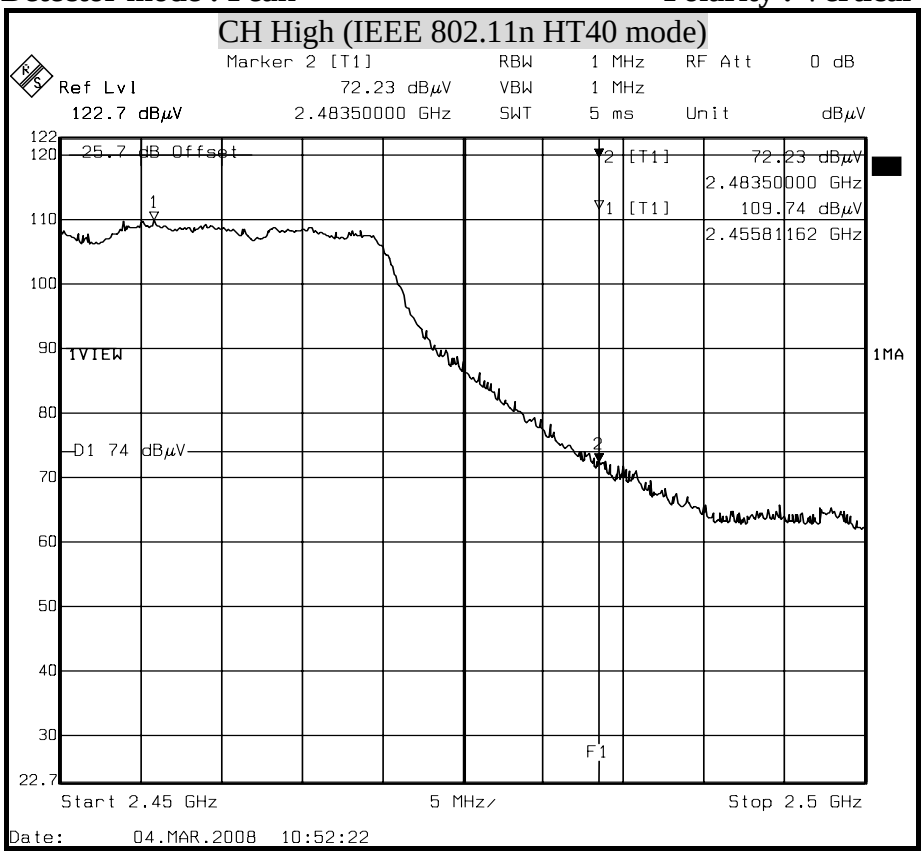
**Detector mode : Peak** **Polarity : Horizontal**



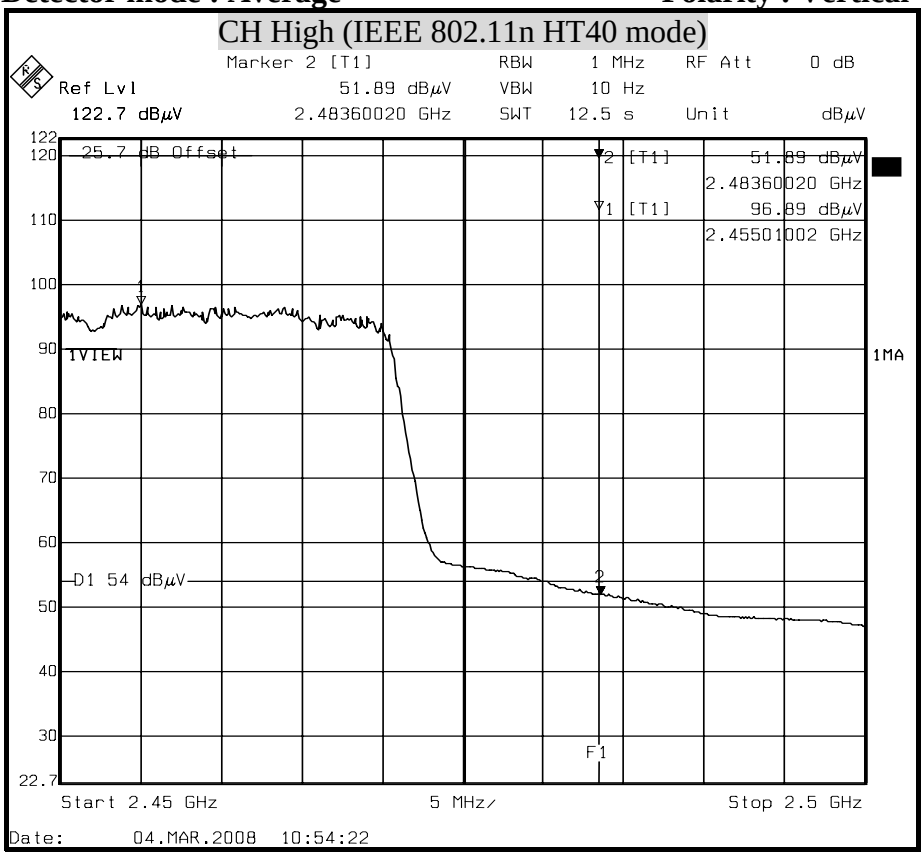

**Detector mode : Average** **Polarity : Horizontal**



**Detector mode : Peak** **Polarity : Vertical**




**Detector mode : Average** **Polarity : Vertical**



## 8.9 POWERLINE CONDUCTED EMISSIONS

### LIMITS

§ 15.207 (a) Except as shown in paragraph (b) and (c) 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 μH/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.

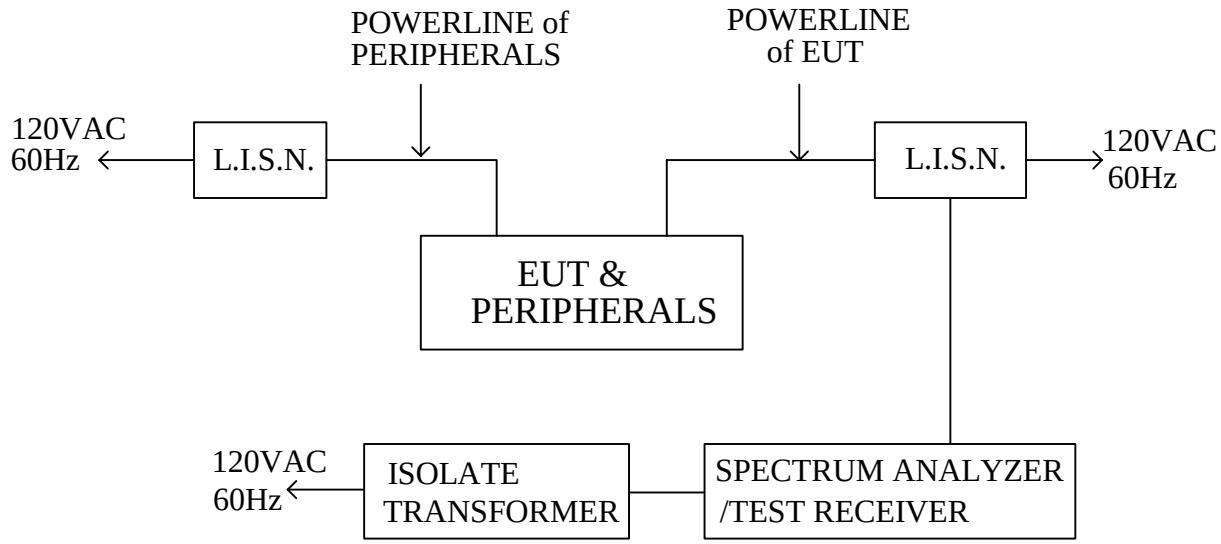
| Frequency of Emission (MHz) | Conducted limit (dBμv) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15 - 0.5 | 66 to 56 | 56 to 46 |
| 0.5 - 5 | 56 | 46 |
| 5 - 30 | 60 | 50 |

### TEST EQUIPMENT

The following test equipment is used during the conducted powerline tests：

| Manufacturer or Type | Model No. | Serial No. | Date of Calibration | Calibration Period | Remark |
|---|---|---|---|---|---|
| SCHWARZBECK L.I.S.N | NSLK 8127 | 8127-465 | July 09, 2007 | 1 Year | FINAL |
| SCHWARZBECK L.I.S.N | NSLK 8127 | 8127-473 | October 04, 2007 | 1 Year | FINAL |
| R & S TEST RECEIVER | ESHS30 | 838550/003 | January 23, 2008 | 1 Year | FINAL |
| KEENE SHIELDED ROOM | 5983 | No.1 | N/A | N/A | FINAL |
| R & S PULSE LIMIT | ESH3-Z2 | 10117 | September 17, 2007 | 1 Year | FINAL |
| BELDEN N TYPE COAXIAL CABLE | 8268 M17/164 | 003 | September 14, 2007 | 1 Year | FINAL |

**TEST SETUP**




**TEST PROCEDURE**

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80cm 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 quasi-peak detection and average detection measurements.

Line conducted data is recorded for both NEUTRAL and LINE.

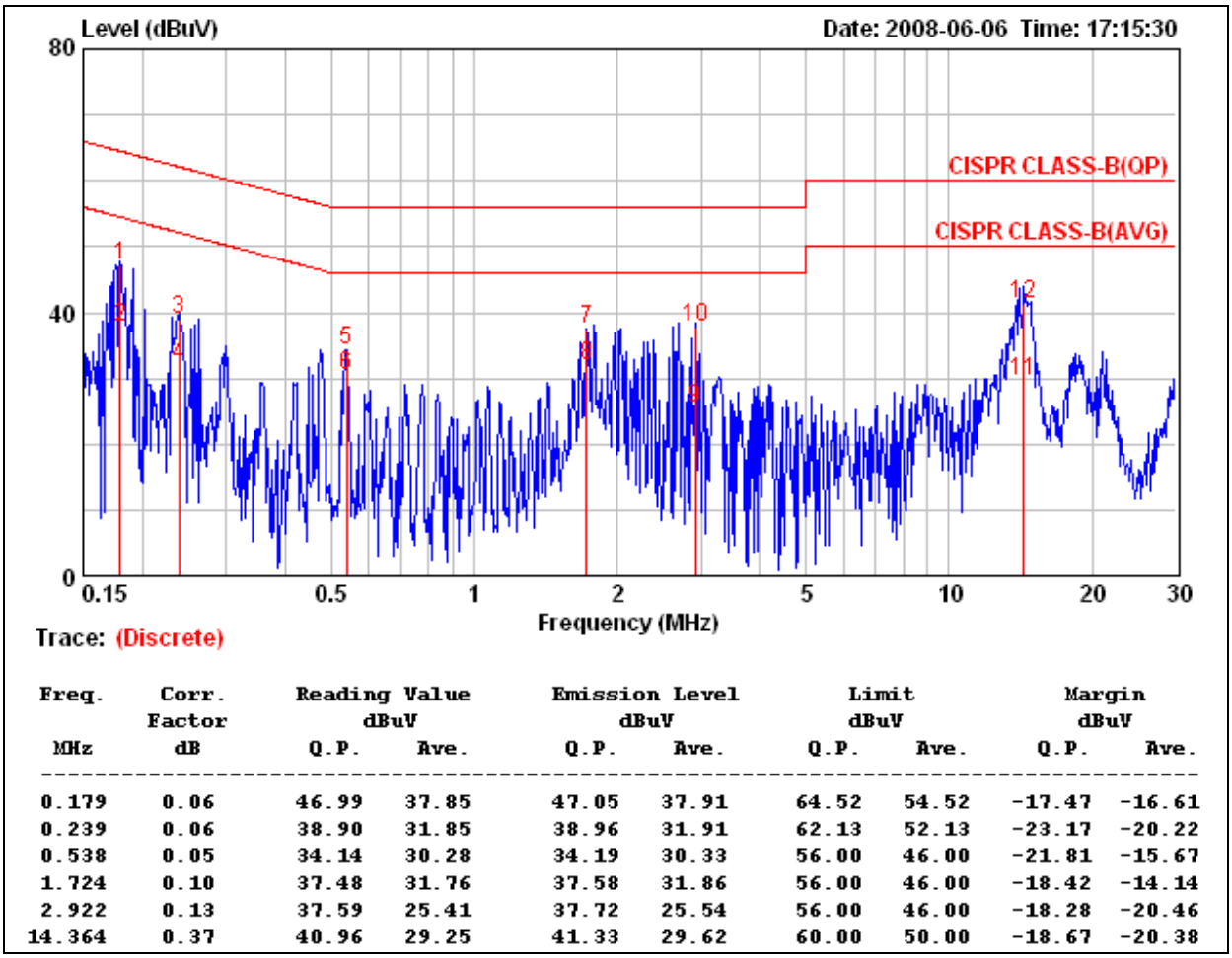
**TEST RESULTS**

No non-compliance noted

## CONDUCTED RF VOLTAGE MEASUREMENT

| Product Name | D-Link AirPremier N Dual Band PoE Access Point | Test Date | 2008/06/06 |
|---|---|---|---|
| Model | DAP-2553 | Test By | Vic Lin |
| Test Mode | Power Adapter (1) | TEMP & Humidity | 23.9°C, 72% |

LINE



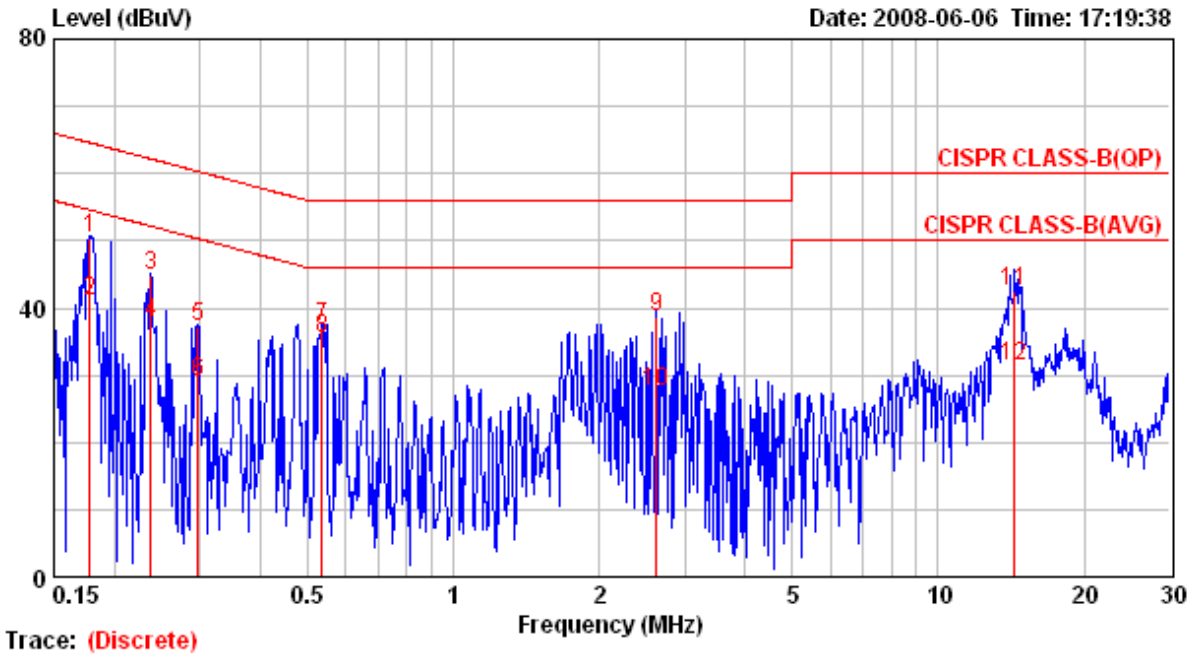

| Freq. MHz | Corr. Factor dB | Reading Value dBuV Q.P. | Reading Value dBuV Ave. | Emission Level dBuV Q.P. | Emission Level dBuV Ave. | Limit dBuV Q.P. | Limit dBuV Ave. | Margin dBuV Q.P. | Margin dBuV Ave. |
|---|---|---|---|---|---|---|---|---|---|
| 0.179 | 0.06 | 46.99 | 37.85 | 47.05 | 37.91 | 64.52 | 54.52 | -17.47 | -16.61 |
| 0.239 | 0.06 | 38.90 | 31.85 | 38.96 | 31.91 | 62.13 | 52.13 | -23.17 | -20.22 |
| 0.538 | 0.05 | 34.14 | 30.28 | 34.19 | 30.33 | 56.00 | 46.00 | -21.81 | -15.67 |
| 1.724 | 0.10 | 37.48 | 31.76 | 37.58 | 31.86 | 56.00 | 46.00 | -18.42 | -14.14 |
| 2.922 | 0.13 | 37.59 | 25.41 | 37.72 | 25.54 | 56.00 | 46.00 | -18.28 | -20.46 |
| 14.364 | 0.37 | 40.96 | 29.25 | 41.33 | 29.62 | 60.00 | 50.00 | -18.67 | -20.38 |

***Remark:***

*1. Correction Factor = Insertion loss + cable loss*
*2. Margin value = Emission level – Limit value*

| Product Name | D-Link AirPremier N Dual Band PoE Access Point | Test Date | 2008/06/06 |
|---|---|---|---|
| Model | DAP-2553 | Test By | Vic Lin |
| Test Mode | Power Adapter (1) | TEMP & Humidity | 23.9°C, 72% |

NEUTRAL



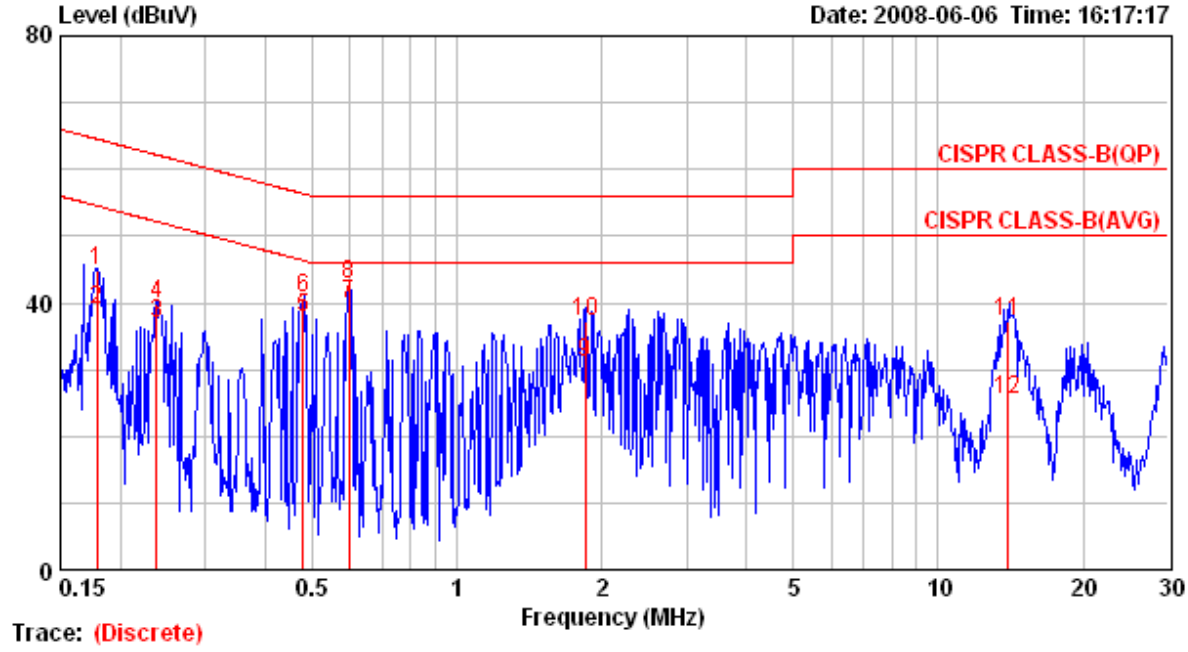

| Freq. MHz | Corr. Factor dB | Reading Value dBuV Q.P. | Reading Value dBuV Ave. | Emission Level dBuV Q.P. | Emission Level dBuV Ave. | Limit dBuV Q.P. | Limit dBuV Ave. | Margin dBuV Q.P. | Margin dBuV Ave. |
|---|---|---|---|---|---|---|---|---|---|
| 0.178 | 0.06 | 50.41 | 41.05 | 50.47 | 41.11 | 64.57 | 54.57 | -14.10 | -13.46 |
| 0.238 | 0.06 | 44.78 | 37.77 | 44.84 | 37.83 | 62.17 | 52.17 | -17.33 | -14.34 |
| 0.297 | 0.06 | 37.13 | 29.02 | 37.19 | 29.08 | 60.32 | 50.32 | -23.14 | -21.25 |
| 0.536 | 0.05 | 37.25 | 35.51 | 37.30 | 35.56 | 56.00 | 46.00 | -18.70 | -10.44 |
| 2.622 | 0.12 | 38.68 | 27.32 | 38.80 | 27.44 | 56.00 | 46.00 | -17.20 | -18.56 |
| 14.364 | 0.37 | 42.22 | 30.95 | 42.59 | 31.32 | 60.00 | 50.00 | -17.41 | -18.68 |

***Remark:***

*1. Correction Factor = Insertion loss + cable loss*
*2. Margin value = Emission level – Limit value*

| Product Name | D-Link AirPremier N Dual Band PoE Access Point | Test Date | 2008/06/06 |
|---|---|---|---|
| Model | DAP-2553 | Test By | Vic Lin |
| Test Mode | Power Adapter (2) | TEMP & Humidity | 23.9°C, 72% |

LINE



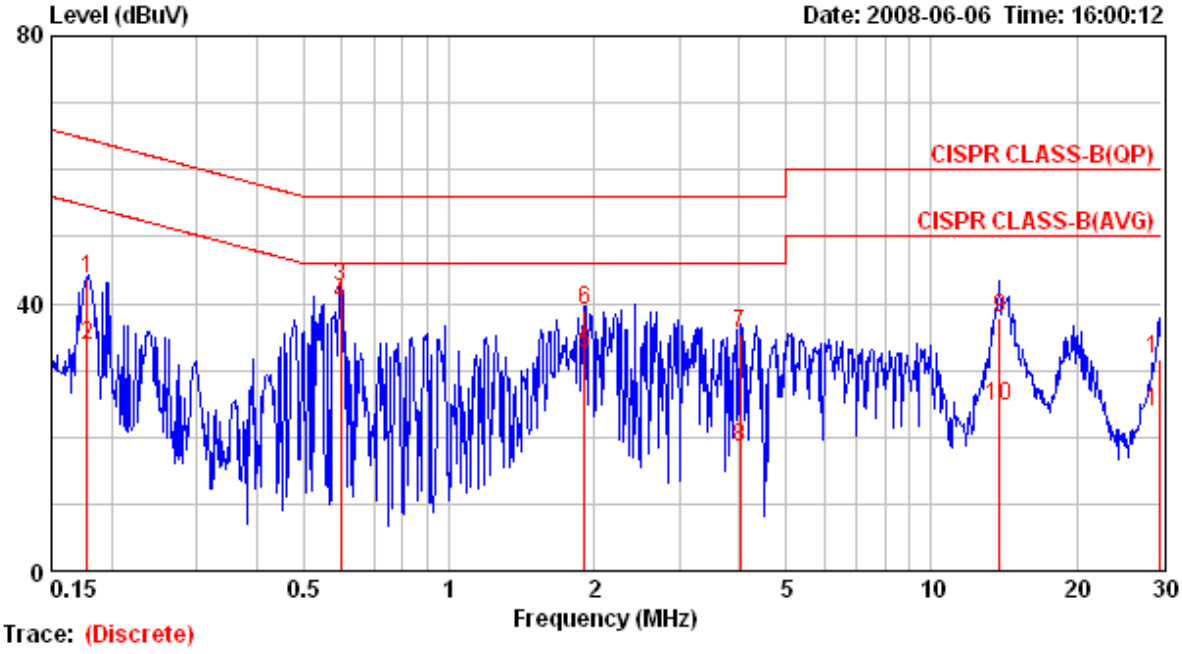

| Freq. | Corr. Factor | Reading Value dBuV | | Emission Level dBuV | | Limit dBuV | | Margin dBuV | |
|---|---|---|---|---|---|---|---|---|---|
| MHz | dB | Q.P. | Ave. | Q.P. | Ave. | Q.P. | Ave. | Q.P. | Ave. |
| 0.179 | 0.06 | 44.90 | 39.06 | 44.96 | 39.12 | 64.54 | 54.54 | -19.58 | -15.42 |
| 0.238 | 0.06 | 39.80 | 36.98 | 39.86 | 37.04 | 62.17 | 52.17 | -22.31 | -15.13 |
| 0.479 | 0.05 | 40.68 | 37.69 | 40.73 | 37.74 | 56.35 | 46.35 | -15.62 | -8.61 |
| 0.598 | 0.06 | 42.75 | 39.82 | 42.81 | 39.88 | 56.00 | 46.00 | -13.19 | -6.12 |
| 1.850 | 0.11 | 37.09 | 30.93 | 37.20 | 31.04 | 56.00 | 46.00 | -18.80 | -14.96 |
| 13.970 | 0.37 | 36.84 | 25.15 | 37.21 | 25.52 | 60.00 | 50.00 | -22.79 | -24.48 |

***Remark:***

*1. Correction Factor = Insertion loss + cable loss*
*2. Margin value = Emission level – Limit value*

| Product Name | D-Link AirPremier N Dual Band PoE Access Point | Test Date | 2008/06/06 |
|---|---|---|---|
| Model | DAP-2553 | Test By | Vic Lin |
| Test Mode | Power Adapter (2) | TEMP & Humidity | 23.9°C, 72% |

NEUTRAL




| Freq. MHz | Corr. Factor dB | Reading Value dBuV Q.P. | Reading Value dBuV Ave. | Emission Level dBuV Q.P. | Emission Level dBuV Ave. | Limit dBuV Q.P. | Limit dBuV Ave. | Margin dBuV Q.P. | Margin dBuV Ave. |
|---|---|---|---|---|---|---|---|---|---|
| 0.178 | 0.06 | 43.68 | 33.68 | 43.74 | 33.74 | 64.59 | 54.59 | -20.85 | -20.85 |
| 0.595 | 0.06 | 42.51 | 39.93 | 42.57 | 39.99 | 56.00 | 46.00 | -13.43 | -6.01 |
| 1.910 | 0.11 | 38.74 | 32.47 | 38.85 | 32.58 | 56.00 | 46.00 | -17.15 | -13.42 |
| 4.006 | 0.15 | 35.25 | 18.42 | 35.40 | 18.57 | 56.00 | 46.00 | -20.60 | -27.43 |
| 13.837 | 0.36 | 37.35 | 24.35 | 37.71 | 24.71 | 60.00 | 50.00 | -22.29 | -25.29 |
| 29.684 | 0.61 | 31.04 | 23.20 | 31.65 | 23.81 | 60.00 | 50.00 | -28.35 | -26.19 |

***Remark:***

*1. Correction Factor = Insertion loss + cable loss*
*2. Margin value = Emission level – Limit value*

# 9. ANTENNA REQUIREMENT

## 9.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

## 9.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used for this product is Dipole antenna. The peak Gain of this antenna is 3dBi at 2.4GHz and 5dBi at 5.0GHz