# FCC RF Test Report

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|---|---|---|
| APPLICANT | : | Meru Networks Inc. |
| EQUIPMENT | : | Dual Radio Access Point AP1000 |
| BRAND NAME | : | Meru Networks Inc. |
| MODEL NAME | : | AP1020i |
| FCC ID | : | RE7-AP1020 |
| STANDARD | : | FCC Part 15 Subpart C §15.247 |
| CLASSIFICATION | : | Digital Transmission System (DTS) |

**The product was received on Aug. 26, 2010 and completely tested on Sep. 28, 2010. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown the compliance with the applicable technical standards.**

**The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.**

**Reviewed by:**

Anderson Chiu

**Anderson Chiu / Deputy Manager**

Testing Laboratory 1190

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

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# REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|---|---|---|---|
| FR082617A | Rev. 01 | Initial issue of report | Sep. 29, 2010 |
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# SUMMARY OF TEST RESULT

| Report Section | FCC Rule | IC Rule | Description | Limit | Result | Remark |
|---|---|---|---|---|---|---|
| 3.1 | 15.247(a)(2) | A8.2(a) | 6dB Bandwidth | ≥ 0.5MHz | Pass | - |
| 3.1 | - | Gen 4.4.1 | 99% Bandwidth | - | Pass | - |
| 3.2 | 15.247(b) | A8.4 | Power Output Measurement | ≤ 30dBm | Pass | - |
| 3.3 | 15.247(d) | A8.5 | Frequency Band Edges | ≤ 20dBc | Pass | - |
| 3.4 | 15.247(d) | A8.5 | Spurious Emission | < 20 dBc | Pass | - |
| 3.5 | 15.247(e) | A8.2(b) | Power Spectral Density | ≤ 8dBm | Pass | - |
| 3.6 | 15.207 | Gen 7.2.2 | AC Conducted Emission | 15.207(a) | Pass | Under limit 2.31 dB at 10.402 MHz |
| 3.7 | 15.247(d) | A8.5 | Transmitter Radiated Emission | 15.209(a) & 15.247(d) | Pass | Under limit 1.02 dB at 2389.99 MHz |
| 3.8 | 15.203 & 15.247(b) | A8.4 | Antenna Requirement | N/A | Pass | - |

# 1 General Description

## 1.1 Applicant

**Meru Networks Inc.**
894 Ross Drive Sunnyvale, CA 94089 USA

## 1.2 Manufacturer

**Universal Scientific Industrial (Shanghai)**
No. 1558, Zhang Dong Road, Zhangjiang Hi-Tech Park, Shanghai 201203, P.R. China

## 1.3 Feature of Equipment Under Test

| Product Feature & Specification | |
|---|---|
| **Equipment** | Dual Radio Access Point AP1000 |
| **Brand Name** | Meru Networks Inc. |
| **Model Name** | AP1020i |
| **FCC ID** | RE7-AP1020 |
| **Tx/Rx Frequency Range** | 802.11b/g/n : 2400 MHz ~ 2483.5 MHz<br>802.11a/n : 5725 MHz ~ 5850 MHz |
| **Channel Spacing** | 802.11b/g : 5 MHz<br>802.11a : 20 MHz |
| **Maximum Output Power to Antenna** | **WLAN 1:**<br>**<2400 MHz ~ 2483.5 MHz>**<br>802.11b : 23.80 dBm (0.240 W)<br>802.11g : 25.66 dBm (0.368 W)<br>802.11n (BW 20MHz) : 26.47 dBm (0.443 W)<br>802.11n (BW 40MHz) : 25.33 dBm (0.341 W)<br>**<5725 MHz ~ 5850 MHz>**<br>802.11a : 23.15 dBm (0.207 W)<br>802.11n (BW 20MHz) : 25.04 dBm (0.319 W)<br>802.11n (BW 40MHz) : 24.34 dBm (0.272 W)<br>**WLAN 2:**<br>**<2400 MHz ~ 2483.5 MHz>**<br>802.11b : 23.12 dBm (0.205 W)<br>802.11g : 25.58 dBm (0.361 W)<br>802.11n (BW 20MHz) : 26.41 dBm (0.437 W)<br>802.11n (BW 40MHz) : 25.37 dBm (0.345 W)<br>**<5725 MHz ~ 5850 MHz>**<br>802.11a : 22.90 dBm (0.195 W)<br>802.11n (BW 20MHz) : 24.57 dBm (0.286 W)<br>802.11n (BW 40MHz) : 24.08 dBm (0.256 W) |
| **HW Version** | System : MVT 3.0<br>WLAN 2 : MVT 3.0 |
| **SW Version** | System : MVT 3.0<br>WLAN 2 : MVT 3.0 |
| **Type of Modulation** | 802.11b : DSSS (BPSK / QPSK / CCK)<br>802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) |
| **EUT Stage** | Production Unit |

| Antenna Information | | |
|---|---|---|
| **Antenna** | **Model Name** | N-I1-XX-F |
| | **Antenna Type** | PIFA Antenna |
| | **Antenna Gain** | 3.5 dBi for WLAN (2.4G) ; 6 dBi for WLAN (5G) |

**Remark:**

**1.** For other wireless features of this EUT, test report will be issued separately.

**2.** This test report recorded only product characteristics and test results of Digital Transmission System (DTS).

**3.** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

## 1.4 Testing Site

| Test Site | SPORTON INTERNATIONAL INC. | |
|---|---|---|
| Test Site Location | No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,<br>Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.<br>TEL: +886-3-3273456 / FAX: +886-3-3284978 | |
| Test Site No. | **Sporton Site No.** | **FCC/IC Registration No.** |
| | 03CH07HY | TW1022/4086B-1 |

| Test Site | SPORTON INTERNATIONAL INC. |
|---|---|
| Test Site Location | No. 30-2, Dingfu Tsuen, Linkou Shiang, Taipei, Taiwan 244, R.O.C.<br>TEL: +886-2-2603-5367 / +886-2-2601-1640<br>FAX: +886-2-2601-1695 |
| Test Site No. | **Sporton Site No. :**<br>CO01-LK |

## 1.5 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 (Measurement Guidelines of DTS)
- ANSI C63.4-2003
- IC RSS-210 Issue 7

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B (DoC), recorded in a separate test report.

## 1.6 Ancillary Equipment List

| Item | Equipment | Trade Name | Model Name | FCC ID | Data Cable | Power Cord |
|---|---|---|---|---|---|---|
| 1. | Notebook | DELL | Vostro 1510 | FCC DoC | N/A | AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m |
| 2. | LCD Monitor | Lenovo | 6135-AB1 | FCC DoC | Shielded, 1.6 m | Unshielded, 1.8 m |
| 3. | iPod | Apple | A1199 | FCC DoC | Shielded, 1.0 m | N/A |
| 4. | iPod | Apple | A1285 | FCC DoC | Shielded, 1.0 m | N/A |
| 5. | POE | PHIHONG | POE20U-560(G) | N/A | N/A | N/A |

# 2 Test Configuration of Equipment Under Test

## 2.1 RF Power

Preliminary tests were performed in different data rate and recorded the RF power output in the following table:

**<WLAN 1>**

| Channel | Frequency | Chain | 2.4GHz 802.11b RF Power (dBm) | | | |
|---|---|---|---|---|---|---|
| | | | Data Rate | | | |
| | | | 1 Mbps | 2 Mbps | 5.5 Mbps | 11 Mbps |
| CH 01 | 2412 MHz | A | 22.06 | 21.75 | 21.74 | 21.88 |
| CH 02 | 2417 MHz | A | 23.73 | 23.60 | 23.58 | 23.62 |
| CH 06 | 2437 MHz | A | **23.80** | 23.72 | 23.77 | 23.62 |
| CH 10 | 2457 MHz | A | 22.14 | 22.06 | 21.77 | 21.72 |
| CH 11 | 2462 MHz | A | 22.17 | 22.04 | 21.88 | 21.75 |
| CH 01 | 2412 MHz | B | 22.01 | 21.96 | 21.89 | 21.91 |
| CH 02 | 2417 MHz | B | 23.65 | 23.52 | 23.59 | 23.50 |
| CH 06 | 2437 MHz | B | 23.75 | 23.66 | 23.52 | 23.63 |
| CH 10 | 2457 MHz | B | 22.15 | 22.44 | 22.43 | 22.41 |
| CH 11 | 2462 MHz | B | 22.23 | 22.44 | 22.48 | 22.29 |

| Channel | Frequency | Chain | 2.4GHz 802.11g RF Power (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Data Rate | | | | | | | |
| | | | 6 Mbps | 9 Mbps | 12 Mbps | 18 Mbps | 24 Mbps | 36 Mbps | 48 Mbps | 54 Mbps |
| CH 01 | 2412 MHz | A | 25.10 | 24.46 | 24.39 | 24.25 | 24.47 | 24.54 | 24.14 | 24.58 |
| CH 02 | 2417 MHz | A | **25.66** | 25.27 | 25.02 | 25.04 | 25.20 | 25.22 | 24.84 | 25.04 |
| CH 06 | 2437 MHz | A | 25.25 | 25.26 | 25.13 | 25.16 | 25.02 | 25.03 | 25.05 | 25.00 |
| CH 10 | 2457 MHz | A | 25.64 | 25.51 | 25.49 | 25.31 | 25.45 | 25.25 | 25.33 | 25.38 |
| CH 11 | 2462 MHz | A | 24.51 | 24.51 | 24.17 | 24.50 | 24.14 | 23.99 | 23.86 | 24.21 |
| CH 01 | 2412 MHz | B | 24.64 | 24.63 | 24.27 | 24.47 | 24.58 | 24.46 | 24.43 | 24.42 |
| CH 02 | 2417 MHz | B | 25.32 | 25.21 | 25.13 | 25.25 | 25.28 | 25.25 | 25.11 | 25.23 |
| CH 06 | 2437 MHz | B | 25.32 | 25.24 | 25.20 | 25.17 | 25.26 | 25.21 | 25.22 | 25.30 |
| CH 10 | 2457 MHz | B | 25.15 | 24.88 | 25.08 | 25.13 | 24.94 | 24.99 | 25.11 | 25.06 |
| CH 11 | 2462 MHz | B | 24.41 | 24.37 | 24.26 | 24.39 | 24.30 | 24.40 | 24.30 | 24.24 |

| Channel | Frequency | Chain | 2.4GHz 802.11n (BW 20MHz) RF Power (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Data Rate | | | | | | | |
| | | | 6.5 Mbps | 13 Mbps | 19.5 Mbps | 26 Mbps | 39 Mbps | 52 Mbps | 58.5 Mbps | 65 Mbps |
| CH 01 | 2412 MHz | A+B | 25.98 | - | - | - | - | - | - | - |
| CH 02 | 2417 MHz | A+B | **26.47** | 25.89 | 25.91 | 26.12 | 26.29 | 26.15 | 26.12 | 25.96 |
| CH 06 | 2437 MHz | A+B | 26.15 | - | - | - | - | - | - | - |
| CH 10 | 2457 MHz | A+B | 26.25 | - | - | - | - | - | - | - |
| CH 11 | 2462 MHz | A+B | 25.56 | - | - | - | - | - | - | - |
| **Channel** | **Frequency** | **Chain** | **13 Mbps** | **26 Mbps** | **39 Mbps** | **52 Mbps** | **78 Mbps** | **104 Mbps** | **117 Mbps** | **130 Mbps** |
| CH 01 | 2412 MHz | A+B | - | - | - | - | - | - | - | - |
| CH 02 | 2417 MHz | A+B | 26.00 | 25.86 | 25.98 | 25.88 | 25.77 | 26.04 | 25.85 | 25.61 |
| CH 06 | 2437 MHz | A+B | - | - | - | - | - | - | - | - |
| CH 10 | 2457 MHz | A+B | - | - | - | - | - | - | - | - |
| CH 11 | 2462 MHz | A+B | - | - | - | - | - | - | - | - |

| Channel | Frequency | Chain | 2.4GHz 802.11n (BW 40MHz) RF Power (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Data Rate | | | | | | | |
| | | | 13.5 Mbps | 27 Mbps | 40.5 Mbps | 54 Mbps | 81 Mbps | 108 Mbps | 121.5 Mbps | 135 Mbps |
| CH 03 | 2422 MHz | A+B | 23.99 | - | - | - | - | - | - | - |
| CH 04 | 2427 MHz | A+B | 23.77 | - | - | - | - | - | - | - |
| CH 06 | 2437 MHz | A+B | **25.33** | 24.91 | 25.17 | 25.29 | 24.79 | 25.30 | 25.28 | 25.10 |
| CH 08 | 2447 MHz | A+B | 25.12 | - | - | - | - | - | - | - |
| CH 09 | 2452 MHz | A+B | 23.61 | - | - | - | - | - | - | - |
| **Channel** | **Frequency** | **Chain** | **27 Mbps** | **54 Mbps** | **81 Mbps** | **108 Mbps** | **162 Mbps** | **216 Mbps** | **243 Mbps** | **270 Mbps** |
| CH 03 | 2422 MHz | A+B | - | - | - | - | - | - | - | - |
| CH 04 | 2427 MHz | A+B | - | - | - | - | - | - | - | - |
| CH 06 | 2437 MHz | A+B | 25.23 | 25.29 | 25.02 | 25.18 | 25.26 | 25.00 | 24.98 | 25.01 |
| CH 08 | 2447 MHz | A+B | - | - | - | - | - | - | - | - |
| CH 09 | 2452 MHz | A+B | - | - | - | - | - | - | - | - |

| Channel | Frequency | Chain | 5GHz 802.11a RF Power (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Data Rate | | | | | | | |
| | | | 6 Mbps | 9 Mbps | 12 Mbps | 18 Mbps | 24 Mbps | 36 Mbps | 48 Mbps | 54 Mbps |
| CH 149 | 5745 MHz | A | 22.88 | 22.81 | 22.55 | 22.50 | 22.84 | 22.85 | 22.46 | 22.63 |
| CH 157 | 5785 MHz | A | 22.57 | 22.50 | 22.35 | 22.16 | 22.45 | 22.36 | 22.14 | 22.47 |
| CH 165 | 5825 MHz | A | **23.15** | 22.75 | 22.30 | 22.42 | 22.37 | 22.65 | 22.37 | 22.41 |
| CH 149 | 5745 MHz | B | 22.87 | 22.78 | 22.57 | 22.84 | 22.82 | 22.70 | 22.68 | 22.70 |
| CH 157 | 5785 MHz | B | 23.08 | 22.47 | 22.00 | 22.21 | 22.14 | 22.23 | 22.09 | 22.20 |
| CH 165 | 5825 MHz | B | 22.95 | 22.29 | 22.37 | 22.41 | 22.27 | 22.56 | 22.33 | 22.45 |

| Channel | Frequency | Chain | 5GHz 802.11n (BW 20MHz) RF Power (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Data Rate | | | | | | | |
| | | | 6.5 Mbps | 13 Mbps | 19.5 Mbps | 26 Mbps | 39 Mbps | 52 Mbps | 58.5 Mbps | 65 Mbps |
| CH 149 | 5745 MHz | A+B | 24.62 | - | - | - | - | - | - | - |
| CH 157 | 5785 MHz | A+B | 24.74 | - | - | - | - | - | - | - |
| CH 165 | 5825 MHz | A+B | **25.04** | 24.89 | 24.51 | 24.80 | 24.67 | 24.35 | 24.71 | 24.62 |
| **Channel** | **Frequency** | **Chain** | **13 Mbps** | **26 Mbps** | **39 Mbps** | **52 Mbps** | **78 Mbps** | **104 Mbps** | **117 Mbps** | **130 Mbps** |
| CH 149 | 5745 MHz | A+B | - | - | - | - | - | - | - | - |
| CH 157 | 5785 MHz | A+B | - | - | - | - | - | - | - | - |
| CH 165 | 5825 MHz | A+B | 25.02 | 24.88 | 24.60 | 24.67 | 24.73 | 24.82 | 24.70 | 24.53 |

| Channel | Frequency | Chain | 5GHz 802.11n (BW 40MHz) RF Power (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Data Rate | | | | | | | |
| | | | 13.5 Mbps | 27 Mbps | 40.5 Mbps | 54 Mbps | 81 Mbps | 108 Mbps | 121.5 Mbps | 135.0 Mbps |
| CH 151 | 5755 MHz | A+B | 24.29 | - | - | - | - | - | - | - |
| CH 159 | 5795 MHz | A+B | **24.34** | 24.19 | 24.24 | 24.33 | 24.16 | 24.31 | 23.93 | 24.10 |
| **Channel** | **Frequency** | **Chain** | **27 Mbps** | **54 Mbps** | **81 Mbps** | **108 Mbps** | **162 Mbps** | **216 Mbps** | **243 Mbps** | **270 Mbps** |
| CH 151 | 5755 MHz | A+B | - | - | - | - | - | - | - | - |
| CH 159 | 5795 MHz | A+B | 24.09 | 24.19 | 24.14 | 24.13 | 23.96 | 23.95 | 24.16 | 23.91 |

**<WLAN 2>**

| Channel | Frequency | Chain | 2.4GHz 802.11b RF Power (dBm) | | | |
|---|---|---|---|---|---|---|
| | | | Data Rate | | | |
| | | | 1 Mbps | 2 Mbps | 5.5 Mbps | 11 Mbps |
| CH 01 | 2412 MHz | A | 20.52 | - | - | - |
| CH 02 | 2417 MHz | A | **23.12** | 22.89 | 22.82 | 22.85 |
| CH 06 | 2437 MHz | A | 22.48 | - | - | - |
| CH 10 | 2457 MHz | A | 21.84 | - | - | - |
| CH 11 | 2462 MHz | A | 21.83 | - | - | - |
| CH 01 | 2412 MHz | B | 20.28 | - | - | - |
| CH 02 | 2417 MHz | B | 22.93 | 22.87 | 22.85 | 22.90 |
| CH 06 | 2437 MHz | B | 22.40 | - | - | - |
| CH 10 | 2457 MHz | B | 21.76 | - | - | - |
| CH 11 | 2462 MHz | B | 21.62 | - | - | - |

| Channel | Frequency | Chain | 2.4GHz 802.11g RF Power (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Data Rate | | | | | | | |
| | | | 6 Mbps | 9 Mbps | 12 Mbps | 18 Mbps | 24 Mbps | 36 Mbps | 48 Mbps | 54 Mbps |
| CH 01 | 2412 MHz | A | 24.09 | 24.24 | 23.86 | 23.95 | 23.87 | 24.01 | 23.70 | 23.81 |
| CH 02 | 2417 MHz | A | 25.36 | 25.14 | 25.03 | 25.21 | 25.28 | 25.37 | 25.08 | 25.09 |
| CH 06 | 2437 MHz | A | **25.58** | 25.54 | 25.50 | 25.47 | 25.36 | 25.57 | 25.48 | 25.47 |
| CH 10 | 2457 MHz | A | 25.33 | 25.35 | 25.21 | 25.25 | 25.15 | 25.23 | 25.24 | 25.45 |
| CH 11 | 2462 MHz | A | 24.50 | 24.71 | 24.45 | 25.49 | 24.55 | 24.32 | 24.30 | 24.23 |
| CH 01 | 2412 MHz | B | 24.37 | 24.42 | 23.95 | 23.98 | 24.15 | 24.04 | 23.92 | 24.05 |
| CH 02 | 2417 MHz | B | 25.12 | 25.23 | 25.47 | 25.43 | 25.43 | 25.36 | 25.25 | 25.35 |
| CH 06 | 2437 MHz | B | 25.00 | 25.29 | 25.46 | 25.07 | 24.95 | 24.92 | 25.12 | 25.13 |
| CH 10 | 2457 MHz | B | 25.10 | 25.22 | 25.18 | 25.16 | 24.93 | 25.18 | 25.00 | 25.16 |
| CH 11 | 2462 MHz | B | 24.40 | 24.41 | 23.87 | 24.37 | 23.92 | 23.67 | 24.55 | 24.35 |

| Channel | Frequency | Chain | 2.4GHz 802.11n (BW 20MHz) RF Power (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Data Rate | | | | | | | |
| | | | 6.5 Mbps | 13 Mbps | 19.5 Mbps | 26 Mbps | 39 Mbps | 52 Mbps | 58.5 Mbps | 65 Mbps |
| CH 01 | 2412 MHz | A+B | 25.74 | 25.57 | 25.63 | 25.65 | 25.50 | 25.44 | 25.58 | 25.54 |
| CH 02 | 2417 MHz | A+B | **26.41** | 26.13 | 26.13 | 26.12 | 26.08 | 26.14 | 26.07 | 26.08 |
| CH 06 | 2437 MHz | A+B | 25.86 | 25.69 | 25.80 | 25.75 | 25.75 | 25.72 | 25.65 | 25.68 |
| CH 10 | 2457 MHz | A+B | 26.20 | 25.95 | 25.92 | 26.05 | 25.94 | 26.10 | 25.88 | 25.99 |
| CH 11 | 2462 MHz | A+B | 25.34 | 25.10 | 25.14 | 25.14 | 24.95 | 25.16 | 25.03 | 25.12 |
| **Channel** | **Frequency** | **Chain** | **13 Mbps** | **26 Mbps** | **39 Mbps** | **52 Mbps** | **78 Mbps** | **104 Mbps** | **117 Mbps** | **130 Mbps** |
| CH 01 | 2412 MHz | A+B | 25.63 | 25.48 | 25.55 | 25.56 | 25.46 | 25.54 | 25.52 | 25.65 |
| CH 02 | 2417 MHz | A+B | 26.23 | 26.18 | 26.09 | 26.07 | 26.13 | 26.03 | 26.02 | 26.03 |
| CH 06 | 2437 MHz | A+B | 25.81 | 25.78 | 25.75 | 25.66 | 25.71 | 25.67 | 25.83 | 25.80 |
| CH 10 | 2457 MHz | A+B | 26.11 | 26.00 | 26.03 | 26.01 | 25.98 | 25.97 | 25.93 | 26.04 |
| CH 11 | 2462 MHz | A+B | 25.26 | 25.15 | 25.18 | 25.23 | 25.20 | 25.09 | 25.29 | 25.10 |

| Channel | Frequency | Chain | 2.4GHz 802.11n (BW 40MHz) RF Power (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Data Rate | | | | | | | |
| | | | 13.5 Mbps | 27 Mbps | 40.5 Mbps | 54 Mbps | 81 Mbps | 108 Mbps | 121.5 Mbps | 135 Mbps |
| CH 03 | 2422 MHz | A+B | 22.29 | 21.79 | 21.94 | 21.82 | 21.85 | 21.89 | 21.89 | 21.84 |
| CH 04 | 2427 MHz | A+B | 23.83 | 23.64 | 23.70 | 23.56 | 23.30 | 23.66 | 23.60 | 23.44 |
| CH 06 | 2437 MHz | A+B | **25.37** | 25.21 | 25.26 | 25.23 | 25.13 | 25.32 | 25.19 | 25.26 |
| CH 08 | 2447 MHz | A+B | 24.96 | 24.51 | 24.65 | 24.79 | 24.82 | 24.93 | 24.84 | 24.86 |
| CH 09 | 2452 MHz | A+B | 24.24 | 24.51 | 24.13 | 24.57 | 24.27 | 24.39 | 24.41 | 24.53 |
| **Channel** | **Frequency** | **Chain** | **27 Mbps** | **54 Mbps** | **81 Mbps** | **108 Mbps** | **162 Mbps** | **216 Mbps** | **243 Mbps** | **270 Mbps** |
| CH 03 | 2422 MHz | A+B | 22.09 | 21.77 | 21.94 | 21.92 | 21.75 | 22.06 | 21.79 | 21.84 |
| CH 04 | 2427 MHz | A+B | 23.70 | 23.54 | 23.56 | 23.53 | 23.33 | 23.58 | 23.64 | 23.37 |
| CH 06 | 2437 MHz | A+B | 25.34 | 25.21 | 25.21 | 25.30 | 25.01 | 25.15 | 25.29 | 25.20 |
| CH 08 | 2447 MHz | A+B | 24.77 | 24.97 | 24.82 | 25.04 | 24.81 | 24.80 | 24.74 | 24.88 |
| CH 09 | 2452 MHz | A+B | 24.38 | 24.31 | 24.42 | 24.39 | 24.34 | 24.50 | 24.30 | 24.43 |

| Channel | Frequency | Chain | 5GHz 802.11a RF Power (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Data Rate | | | | | | | |
| | | | 6 Mbps | 9 Mbps | 12 Mbps | 18 Mbps | 24 Mbps | 36 Mbps | 48 Mbps | 54 Mbps |
| CH 149 | 5745 MHz | A | 22.52 | 21.91 | 21.74 | 21.87 | 21.91 | 22.00 | 21.71 | 21.94 |
| CH 157 | 5785 MHz | A | **22.90** | 22.32 | 22.13 | 22.12 | 22.17 | 22.16 | 22.00 | 22.15 |
| CH 165 | 5825 MHz | A | 22.84 | 22.22 | 22.16 | 22.09 | 22.14 | 22.10 | 22.09 | 22.15 |
| CH 149 | 5745 MHz | B | 22.43 | 22.31 | 22.10 | 22.04 | 22.06 | 22.15 | 22.03 | 22.24 |
| CH 157 | 5785 MHz | B | 22.88 | 22.27 | 22.25 | 22.33 | 22.43 | 22.20 | 22.30 | 22.43 |
| CH 165 | 5825 MHz | B | 22.82 | 22.71 | 22.42 | 22.40 | 22.60 | 22.57 | 22.44 | 22.41 |

| Channel | Frequency | Chain | 5GHz 802.11n (BW 20MHz) RF Power (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Data Rate | | | | | | | |
| | | | 6.5 Mbps | 13 Mbps | 19.5 Mbps | 26 Mbps | 39 Mbps | 52 Mbps | 58.5 Mbps | 65 Mbps |
| CH 149 | 5745 MHz | A+B | **24.57** | 23.97 | 24.09 | 24.52 | 24.20 | 24.16 | 24.10 | 24.25 |
| CH 157 | 5785 MHz | A+B | 24.53 | - | - | - | - | - | - | - |
| CH 165 | 5825 MHz | A+B | 24.50 | - | - | - | - | - | - | - |
| **Channel** | **Frequency** | **Chain** | **13 Mbps** | **26 Mbps** | **39 Mbps** | **52 Mbps** | **78 Mbps** | **104 Mbps** | **117 Mbps** | **130 Mbps** |
| CH 149 | 5745 MHz | A+B | 24.24 | 24.41 | 24.12 | 23.98 | 24.18 | 24.32 | 23.93 | 24.18 |
| CH 157 | 5785 MHz | A+B | - | - | - | - | - | - | - | - |
| CH 165 | 5825 MHz | A+B | - | - | - | - | - | - | - | - |

| Channel | Frequency | Chain | 5GHz 802.11n (BW 40MHz) RF Power (dBm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Data Rate | | | | | | | |
| | | | 13.5 Mbps | 27 Mbps | 40.5 Mbps | 54 Mbps | 81 Mbps | 108 Mbps | 121.5 Mbps | 135.0 Mbps |
| CH 151 | 5755 MHz | A+B | 23.84 | 23.62 | 23.42 | 23.65 | 23.31 | 23.54 | 23.63 | 23.46 |
| CH 159 | 5795 MHz | A+B | **24.08** | - | - | - | - | - | - | - |
| **Channel** | **Frequency** | **Chain** | **27 Mbps** | **54 Mbps** | **81 Mbps** | **108 Mbps** | **162 Mbps** | **216 Mbps** | **243 Mbps** | **270 Mbps** |
| CH 151 | 5755 MHz | A+B | 23.44 | 23.25 | 23.40 | 23.88 | 23.28 | 23.17 | 23.38 | 23.28 |
| CH 159 | 5795 MHz | A+B | - | - | - | - | - | - | - | - |

**Remark:**

1. Chain A+B was tested by combiner, and the chain A and B was tested individually and calculated with the formula of 10*LOG (10^ (chain A/10) + 10^ (chain B/10)).
2. The data rates of WLAN 802.11b were set in 1Mbps, 6Mbps for 802.11g, 6.5Mbps for 2.4GHz 802.11n (BW 20MHz), 13.5Mbps for 2.4GHz 802.11n (BW 40MHz), 6Mbps for 802.11a, 6.5Mbps for 5GHz 802.11n (BW 20MHz), 13.5Mbps for 5GHz 802.11n (BW 40MHz) for all the test cases due to the highest RF output power.
3. The EUT is programmed to transmit signals continuously for all testing.
4. SISO stands for single input and single output. It means that only one chain transmits signals at a time.
5. 2Tx is one type of MIMO, which means that two chains transmit signals at the same time.

## 2.2 Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz), radiated emission (30 MHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

Pre-scanned tests, X, Y, Z in three orthogonal panels, were conducted to determine the final configuration from all possible combinations modes.

The following table is showing the total pre-scanned test modes, and the worst modes are recorded in this report only.

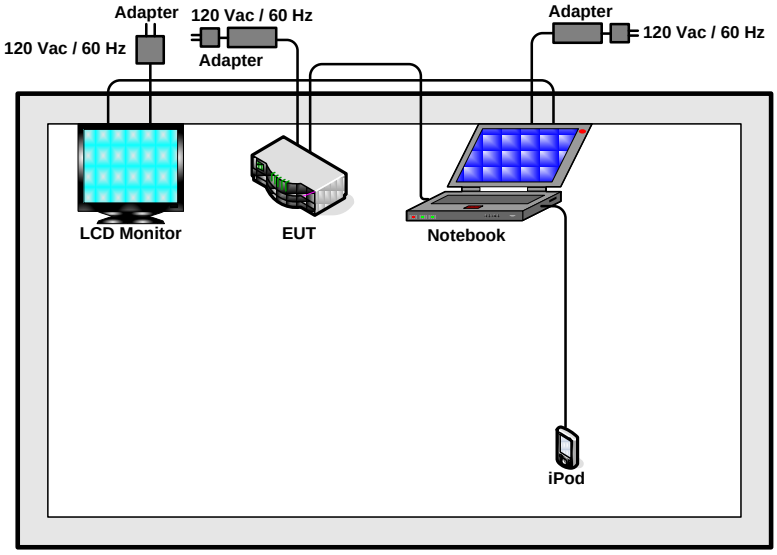
| Test Cases | |
|---|---|
| **Test Item** | **802.11b (Modulation : DSSS)**<br>**802.11a/g/n (Modulation : OFDM)** |
| **Conducted TCs** | Mode 1: 802.11b_CH01_2412 MHz + WLAN 1<br>Mode 2: 802.11b_CH02_2417 MHz + WLAN 1<br>Mode 3: 802.11b_CH06_2437 MHz + WLAN 1<br>Mode 4: 802.11b_CH10_2457 MHz + WLAN 1<br>Mode 5: 802.11b_CH11_2462 MHz + WLAN 1<br>Mode 6: 802.11g_CH01_2412 MHz + WLAN 1<br>Mode 7: 802.11g_CH02_2417 MHz + WLAN 1<br>Mode 8: 802.11g_CH06_2437 MHz + WLAN 1<br>Mode 9: 802.11g_CH10_2457 MHz + WLAN 1<br>Mode 10: 802.11g_CH11_2462 MHz + WLAN 1<br>Mode 11: 802.11n_CH01_2412 MHz (BW 20M) + WLAN 1<br>Mode 12: 802.11n_CH02_2417 MHz (BW 20M) + WLAN 1<br>Mode 13: 802.11n_CH06_2437 MHz (BW 20M) + WLAN 1<br>Mode 14: 802.11n_CH10_2457 MHz (BW 20M) + WLAN 1<br>Mode 15: 802.11n_CH11_2462 MHz (BW 20M) + WLAN 1<br>Mode 16: 802.11n_CH03_2422 MHz (BW 40M) + WLAN 1<br>Mode 17: 802.11n_CH04_2427 MHz (BW 40M) + WLAN 1<br>Mode 18: 802.11n_CH06_2437 MHz (BW 40M) + WLAN 1<br>Mode 19: 802.11n_CH08_2447 MHz (BW 40M) + WLAN 1<br>Mode 20: 802.11n_CH09_2452 MHz (BW 40M) + WLAN 1<br>Mode 21: 802.11a_CH149_5745 MHz + WLAN 1<br>Mode 22: 802.11a_CH157_5785 MHz + WLAN 1<br>Mode 23: 802.11a_CH165_5825 MHz + WLAN 1<br>Mode 24: 802.11n_CH149_5745 MHz (BW 20M) + WLAN 1<br>Mode 25: 802.11n_CH157_5785 MHz (BW 20M) + WLAN 1<br>Mode 26: 802.11n_CH165_5825 MHz (BW 20M) + WLAN 1<br>Mode 27: 802.11n_CH151_5755 MHz (BW 40M) + WLAN 1<br>Mode 28: 802.11n_CH159_5795 MHz (BW 40M) + WLAN 1 |

| Test Cases | |
|---|---|
| **Conducted TCs** | Mode 29: 802.11b_CH01_2412 MHz + WLAN 2<br>Mode 30: 802.11b_CH02_2417 MHz + WLAN 2<br>Mode 31: 802.11b_CH06_2437 MHz + WLAN 2<br>Mode 32: 802.11b_CH10_2457 MHz + WLAN 2<br>Mode 33: 802.11b_CH11_2462 MHz + WLAN 2<br>Mode 34: 802.11g_CH01_2412 MHz + WLAN 2<br>Mode 35: 802.11g_CH02_2417 MHz + WLAN 2<br>Mode 36: 802.11g_CH06_2437 MHz + WLAN 2<br>Mode 37: 802.11g_CH10_2457 MHz + WLAN 2<br>Mode 38: 802.11g_CH11_2462 MHz + WLAN 2<br>Mode 39: 802.11n_CH01_2412 MHz (BW 20M) + WLAN 2<br>Mode 40: 802.11n_CH02_2417 MHz (BW 20M) + WLAN 2<br>Mode 41: 802.11n_CH06_2437 MHz (BW 20M) + WLAN 2<br>Mode 42: 802.11n_CH10_2457 MHz (BW 20M) + WLAN 2<br>Mode 43: 802.11n_CH11_2462 MHz (BW 20M) + WLAN 2<br>Mode 44: 802.11n_CH03_2422 MHz (BW 40M) + WLAN 2<br>Mode 45: 802.11n_CH04_2427 MHz (BW 40M) + WLAN 2<br>Mode 46: 802.11n_CH06_2437 MHz (BW 40M) + WLAN 2<br>Mode 47: 802.11n_CH08_2447 MHz (BW 40M) + WLAN 2<br>Mode 48: 802.11n_CH09_2452 MHz (BW 40M) + WLAN 2<br>Mode 49: 802.11a_CH149_5745 MHz + WLAN 2<br>Mode 50: 802.11a_CH157_5785 MHz + WLAN 2<br>Mode 51: 802.11a_CH165_5825 MHz + WLAN 2<br>Mode 52: 802.11n_CH149_5745 MHz (BW 20M) + WLAN 2<br>Mode 53: 802.11n_CH157_5785 MHz (BW 20M) + WLAN 2<br>Mode 54: 802.11n_CH165_5825 MHz (BW 20M) + WLAN 2<br>Mode 55: 802.11n_CH151_5755 MHz (BW 40M) + WLAN 2<br>Mode 56: 802.11n_CH159_5795 MHz (BW 40M) + WLAN 2 |
| **Radiated TCs** | Mode 1: 802.11b_CH01_2412 MHz + WLAN 1<br>Mode 2: 802.11b_CH02_2417 MHz + WLAN 1<br>Mode 3: 802.11b_CH06_2437 MHz + WLAN 1<br>Mode 4: 802.11b_CH10_2457 MHz + WLAN 1<br>Mode 5: 802.11b_CH11_2462 MHz + WLAN 1<br>Mode 6: 802.11g_CH01_2412 MHz + WLAN 1<br>Mode 7: 802.11g_CH02_2417 MHz + WLAN 1<br>Mode 8: 802.11g_CH06_2437 MHz + WLAN 1<br>Mode 9: 802.11g_CH10_2457 MHz + WLAN 1<br>Mode 10: 802.11g_CH11_2462 MHz + WLAN 1<br>Mode 11: 802.11n_CH01_2412 MHz (BW 20M) + WLAN 1<br>Mode 12: 802.11n_CH02_2417 MHz (BW 20M) + WLAN 1<br>Mode 13: 802.11n_CH06_2437 MHz (BW 20M) + WLAN 1<br>Mode 14: 802.11n_CH10_2457 MHz (BW 20M) + WLAN 1<br>Mode 15: 802.11n_CH11_2462 MHz (BW 20M) + WLAN 1 |

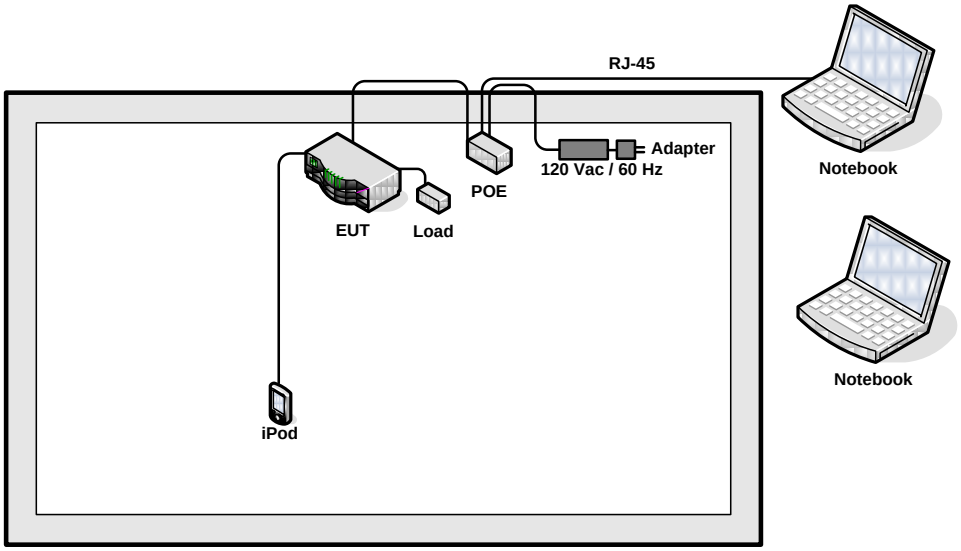
| Test Cases | |
|---|---|
| **Radiated TCs** | Mode 16: 802.11n_CH03_2422 MHz (BW 40M) + WLAN 1<br>Mode 17: 802.11n_CH04_2427 MHz (BW 40M) + WLAN 1<br>Mode 18: 802.11n_CH06_2437 MHz (BW 40M) + WLAN 1<br>Mode 19: 802.11n_CH08_2447 MHz (BW 40M) + WLAN 1<br>Mode 20: 802.11n_CH09_2452 MHz (BW 40M) + WLAN 1<br>Mode 21: 802.11a_CH149_5745 MHz + WLAN 1<br>Mode 22: 802.11a_CH157_5785 MHz + WLAN 1<br>Mode 23: 802.11a_CH165_5825 MHz + WLAN 1<br>Mode 24: 802.11n_CH149_5745 MHz (BW 20M) + WLAN 1<br>Mode 25: 802.11n_CH157_5785 MHz (BW 20M) + WLAN 1<br>Mode 26: 802.11n_CH165_5825 MHz (BW 20M) + WLAN 1<br>Mode 27: 802.11n_CH151_5755 MHz (BW 40M) + WLAN 1<br>Mode 28: 802.11n_CH159_5795 MHz (BW 40M) + WLAN 1<br>Mode 29: 802.11b_CH01_2412 MHz + WLAN 2<br>Mode 30: 802.11b_CH02_2417 MHz + WLAN 2<br>Mode 31: 802.11b_CH06_2437 MHz + WLAN 2<br>Mode 32: 802.11b_CH10_2457 MHz + WLAN 2<br>Mode 33: 802.11b_CH11_2462 MHz + WLAN 2<br>Mode 34: 802.11g_CH01_2412 MHz + WLAN 2<br>Mode 35: 802.11g_CH02_2417 MHz + WLAN 2<br>Mode 36: 802.11g_CH06_2437 MHz + WLAN 2<br>Mode 37: 802.11g_CH10_2457 MHz + WLAN 2<br>Mode 38: 802.11g_CH11_2462 MHz + WLAN 2<br>Mode 39: 802.11n_CH01_2412 MHz (BW 20M) + WLAN 2<br>Mode 40: 802.11n_CH02_2417 MHz (BW 20M) + WLAN 2<br>Mode 41: 802.11n_CH06_2437 MHz (BW 20M) + WLAN 2<br>Mode 42: 802.11n_CH10_2457 MHz (BW 20M) + WLAN 2<br>Mode 43: 802.11n_CH11_2462 MHz (BW 20M) + WLAN 2<br>Mode 44: 802.11n_CH03_2422 MHz (BW 40M) + WLAN 2<br>Mode 45: 802.11n_CH04_2427 MHz (BW 40M) + WLAN 2<br>Mode 46: 802.11n_CH06_2437 MHz (BW 40M) + WLAN 2<br>Mode 47: 802.11n_CH08_2447 MHz (BW 40M) + WLAN 2<br>Mode 48: 802.11n_CH09_2452 MHz (BW 40M) + WLAN 2<br>Mode 49: 802.11a_CH149_5745 MHz + WLAN 2<br>Mode 50: 802.11a_CH157_5785 MHz + WLAN 2<br>Mode 51: 802.11a_CH165_5825 MHz + WLAN 2<br>Mode 52: 802.11n_CH149_5745 MHz (BW 20M) + WLAN 2<br>Mode 53: 802.11n_CH157_5785 MHz (BW 20M) + WLAN 2<br>Mode 54: 802.11n_CH165_5825 MHz (BW 20M) + WLAN 2<br>Mode 55: 802.11n_CH151_5755 MHz (BW 40M) + WLAN 2<br>Mode 56: 802.11n_CH159_5795 MHz (BW 40M) + WLAN 2 |
| **AC Conducted Emission** | Mode 1 : WLAN 1 (5G) Link + WLAN 2 (5G) Link + POE |

## 2.3 Connection Diagram of Test System

**<WLAN Tx Mode>**




**<EUT with POE Mode>**




## 2.4 RF Utility

The programmed RF utility “Hypeterminal” is installed in notebook to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

# 3 Test Result

## 3.1 6dB and 99% Bandwidth Measurement

### 3.1.1 Limit of 6dB Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

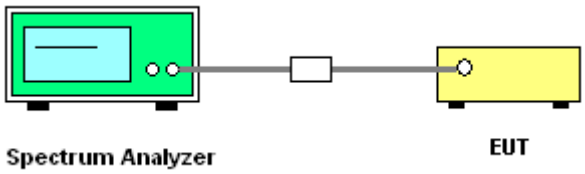
### 3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW. The 6 dB bandwidth must be greater than 500 kHz.
4. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

### 3.1.4 Test Setup



### 3.1.5 Test Result of 6dB Bandwidth

| Test Mode : | Mode 1~5 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11b 6dB Bandwidth (MHz) | 6dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 01 | 2412 | 8.08 | 0.5 | Pass |
| 02 | 2417 | 8.12 | 0.5 | Pass |
| 06 | 2437 | 8.12 | 0.5 | Pass |
| 10 | 2457 | 8.08 | 0.5 | Pass |
| 11 | 2462 | 8.08 | 0.5 | Pass |

| Test Mode : | Mode 6~10 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11g 6dB Bandwidth (MHz) | 6dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 01 | 2412 | 16.32 | 0.5 | Pass |
| 02 | 2417 | 15.04 | 0.5 | Pass |
| 06 | 2437 | 15.12 | 0.5 | Pass |
| 10 | 2457 | 15.36 | 0.5 | Pass |
| 11 | 2462 | 15.68 | 0.5 | Pass |

| Test Mode : | Mode 11~15 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) 6dB Bandwidth (MHz) | 6dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 01 | 2412 | 16.32 | 0.5 | Pass |
| 02 | 2417 | 16.32 | 0.5 | Pass |
| 06 | 2437 | 16.32 | 0.5 | Pass |
| 10 | 2457 | 16.08 | 0.5 | Pass |
| 11 | 2462 | 16.32 | 0.5 | Pass |

| Test Mode : | Mode 16~20 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) 6dB Bandwidth (MHz) | 6dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 03 | 2422 | 35.84 | 0.5 | Pass |
| 04 | 2427 | 35.84 | 0.5 | Pass |
| 06 | 2437 | 35.84 | 0.5 | Pass |
| 08 | 2447 | 35.84 | 0.5 | Pass |
| 09 | 2452 | 35.84 | 0.5 | Pass |

| Test Mode : | Mode 21~23 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11a 6dB Bandwidth (MHz) | 6dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 149 | 5745 | 16.40 | 0.5 | Pass |
| 157 | 5785 | 16.36 | 0.5 | Pass |
| 165 | 5825 | 16.40 | 0.5 | Pass |

| Test Mode : | Mode 24~26 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) 6dB Bandwidth (MHz) | 6dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 149 | 5745 | 16.08 | 0.5 | Pass |
| 157 | 5785 | 16.08 | 0.5 | Pass |
| 165 | 5825 | 16.08 | 0.5 | Pass |

| Test Mode : | Mode 27~28 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) 6dB Bandwidth (MHz) | 6dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 151 | 5755 | 35.76 | 0.5 | Pass |
| 159 | 5795 | 35.60 | 0.5 | Pass |

| Test Mode : | Mode 29~33 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11b 6dB Bandwidth (MHz) | 6dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 01 | 2412 | 10.16 | 0.5 | Pass |
| 02 | 2417 | 10.12 | 0.5 | Pass |
| 06 | 2437 | 10.16 | 0.5 | Pass |
| 10 | 2457 | 10.16 | 0.5 | Pass |
| 11 | 2462 | 10.16 | 0.5 | Pass |

| Test Mode : | Mode 34~38 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11g 6dB Bandwidth (MHz) | 6dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 01 | 2412 | 16.28 | 0.5 | Pass |
| 02 | 2417 | 16.04 | 0.5 | Pass |
| 06 | 2437 | 16.24 | 0.5 | Pass |
| 10 | 2457 | 15.72 | 0.5 | Pass |
| 11 | 2462 | 16.28 | 0.5 | Pass |

| Test Mode : | Mode 39~43 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) 6dB Bandwidth (MHz) | 6dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 01 | 2412 | 16.16 | 0.5 | Pass |
| 02 | 2417 | 16.08 | 0.5 | Pass |
| 06 | 2437 | 16.08 | 0.5 | Pass |
| 10 | 2457 | 16.16 | 0.5 | Pass |
| 11 | 2462 | 16.16 | 0.5 | Pass |

| Test Mode : | Mode 44~48 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) 6dB Bandwidth (MHz) | 6dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 03 | 2422 | 35.84 | 0.5 | Pass |
| 04 | 2427 | 35.84 | 0.5 | Pass |
| 06 | 2437 | 35.84 | 0.5 | Pass |
| 08 | 2447 | 35.84 | 0.5 | Pass |
| 09 | 2452 | 35.84 | 0.5 | Pass |

| Test Mode : | Mode 49~51 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11a 6dB Bandwidth (MHz) | 6dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 149 | 5745 | 16.36 | 0.5 | Pass |
| 157 | 5785 | 16.36 | 0.5 | Pass |
| 165 | 5825 | 16.36 | 0.5 | Pass |

| Test Mode : | Mode 52~54 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) 6dB Bandwidth (MHz) | 6dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 149 | 5745 | 16.08 | 0.5 | Pass |
| 157 | 5785 | 16.08 | 0.5 | Pass |
| 165 | 5825 | 16.08 | 0.5 | Pass |

| Test Mode : | Mode 55~56 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) 6dB Bandwidth (MHz) | 6dB Bandwidth Min. Limit (MHz) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 151 | 5755 | 35.20 | 0.5 | Pass |
| 159 | 5795 | 35.20 | 0.5 | Pass |

### 3.1.6 Test Result of 99% Occupied Bandwidth

| Test Mode : | Mode 1~5 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11b 99% Occupied Bandwidth (MHz) | Pass/Fail |
|---|---|---|---|
| | | Chain A | |
| 01 | 2412 | 10.48 | Pass |
| 02 | 2417 | 10.72 | Pass |
| 06 | 2437 | 10.72 | Pass |
| 10 | 2457 | 10.48 | Pass |
| 11 | 2462 | 10.48 | Pass |

| Test Mode : | Mode 6~10 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11g 99% Occupied Bandwidth (MHz) | Pass/Fail |
|---|---|---|---|
| | | Chain A | |
| 01 | 2412 | 17.12 | Pass |
| 02 | 2417 | 17.28 | Pass |
| 06 | 2437 | 17.12 | Pass |
| 10 | 2457 | 17.20 | Pass |
| 11 | 2462 | 17.12 | Pass |

| Test Mode : | Mode 11~15 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) 99% Occupied Bandwidth (MHz) | Pass/Fail |
|---|---|---|---|
| | | Chain A+B | |
| 01 | 2412 | 17.44 | Pass |
| 02 | 2417 | 17.52 | Pass |
| 06 | 2437 | 17.44 | Pass |
| 10 | 2457 | 17.44 | Pass |
| 11 | 2462 | 17.52 | Pass |

| Test Mode : | Mode 16~20 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) 99% Occupied Bandwidth (MHz) | Pass/Fail |
|---|---|---|---|
| | | Chain A+B | |
| 03 | 2422 | 37.12 | Pass |
| 04 | 2427 | 37.12 | Pass |
| 06 | 2437 | 37.12 | Pass |
| 08 | 2447 | 37.12 | Pass |
| 09 | 2452 | 37.12 | Pass |

| Test Mode : | Mode 21~23 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11a 99% Occupied Bandwidth (MHz) | Pass/Fail |
|---|---|---|---|
| | | Chain A | |
| 149 | 5745 | 17.36 | Pass |
| 157 | 5785 | 17.36 | Pass |
| 165 | 5825 | 17.36 | Pass |

| Test Mode : | Mode 24~26 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) 99% Occupied Bandwidth (MHz) | Pass/Fail |
|---|---|---|---|
| | | Chain A+B | |
| 149 | 5745 | 17.52 | Pass |
| 157 | 5785 | 17.40 | Pass |
| 165 | 5825 | 17.44 | Pass |

| Test Mode : | Mode 27~28 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) 99% Occupied Bandwidth (MHz) | Pass/Fail |
|---|---|---|---|
| | | Chain A+B | |
| 151 | 5755 | 37.12 | Pass |
| 159 | 5795 | 37.12 | Pass |

| Test Mode : | Mode 29~33 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11b 99% Occupied Bandwidth (MHz) | Pass/Fail |
|---|---|---|---|
| | | Chain A | |
| 01 | 2412 | 13.28 | Pass |
| 02 | 2417 | 13.28 | Pass |
| 06 | 2437 | 13.36 | Pass |
| 10 | 2457 | 13.28 | Pass |
| 11 | 2462 | 13.36 | Pass |

| Test Mode : | Mode 34~38 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11g 99% Occupied Bandwidth (MHz) | Pass/Fail |
|---|---|---|---|
| | | Chain A | |
| 01 | 2412 | 17.20 | Pass |
| 02 | 2417 | 17.36 | Pass |
| 06 | 2437 | 17.28 | Pass |
| 10 | 2457 | 17.44 | Pass |
| 11 | 2462 | 17.20 | Pass |

| Test Mode : | Mode 39~43 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) 99% Occupied Bandwidth (MHz) | Pass/Fail |
|---|---|---|---|
| | | Chain A+B | |
| 01 | 2412 | 17.60 | Pass |
| 02 | 2417 | 17.52 | Pass |
| 06 | 2437 | 17.52 | Pass |
| 10 | 2457 | 17.60 | Pass |
| 11 | 2462 | 17.68 | Pass |

| Test Mode : | Mode 44~48 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) 99% Occupied Bandwidth (MHz) | Pass/Fail |
|---|---|---|---|
| | | Chain A+B | |
| 03 | 2422 | 37.28 | Pass |
| 04 | 2427 | 37.28 | Pass |
| 06 | 2437 | 37.28 | Pass |
| 08 | 2447 | 37.28 | Pass |
| 09 | 2452 | 37.28 | Pass |

| Test Mode : | Mode 49~51 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11a 99% Occupied Bandwidth (MHz) | Pass/Fail |
|---|---|---|---|
| | | Chain A | |
| 149 | 5745 | 17.60 | Pass |
| 157 | 5785 | 17.44 | Pass |
| 165 | 5825 | 17.52 | Pass |

| Test Mode : | Mode 52~54 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) 99% Occupied Bandwidth (MHz) | Pass/Fail |
|---|---|---|---|
| | | Chain A+B | |
| 149 | 5745 | 17.68 | Pass |
| 157 | 5785 | 17.68 | Pass |
| 165 | 5825 | 17.76 | Pass |

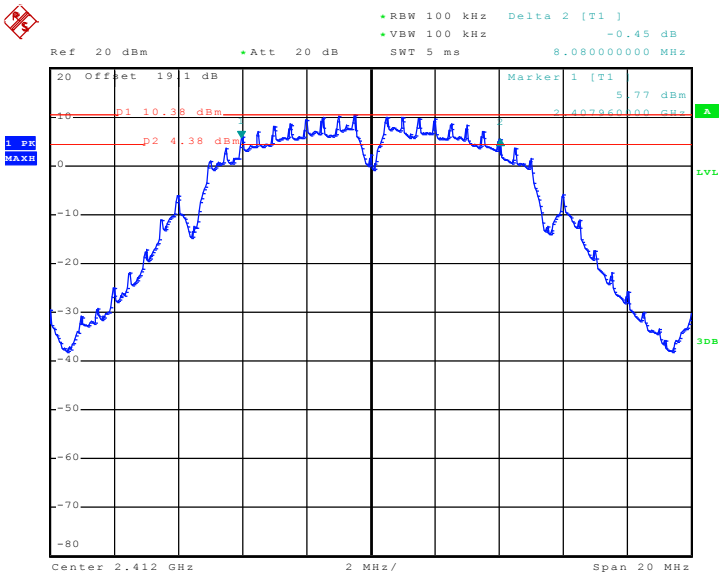
| Test Mode : | Mode 55~56 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) 99% Occupied Bandwidth (MHz) | Pass/Fail |
|---|---|---|---|
| | | Chain A+B | |
| 151 | 5755 | 37.12 | Pass |
| 159 | 5795 | 37.28 | Pass |

## 3.1.7 Test Result of 6dB Bandwidth Plots

**Mode 1 :**

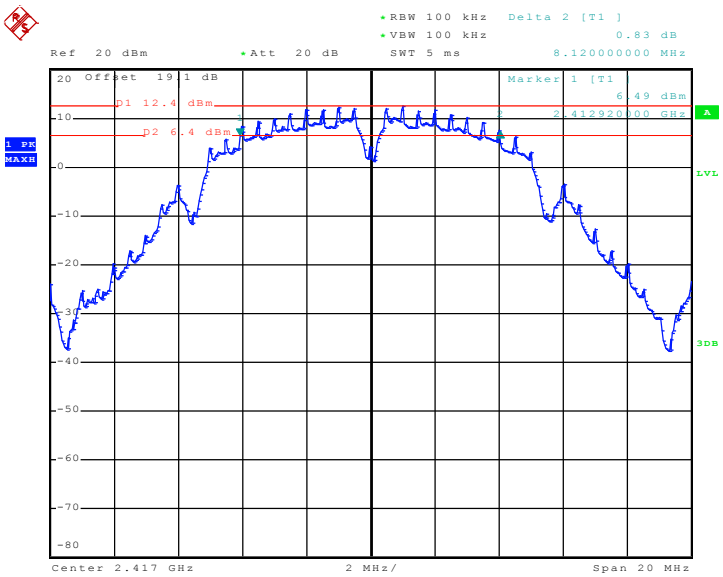
**6 dB Bandwidth Plot on 802.11b Channel 01 - Chain A**




Date: 13.SEP.2010 11:38:20

**Mode 2 :**

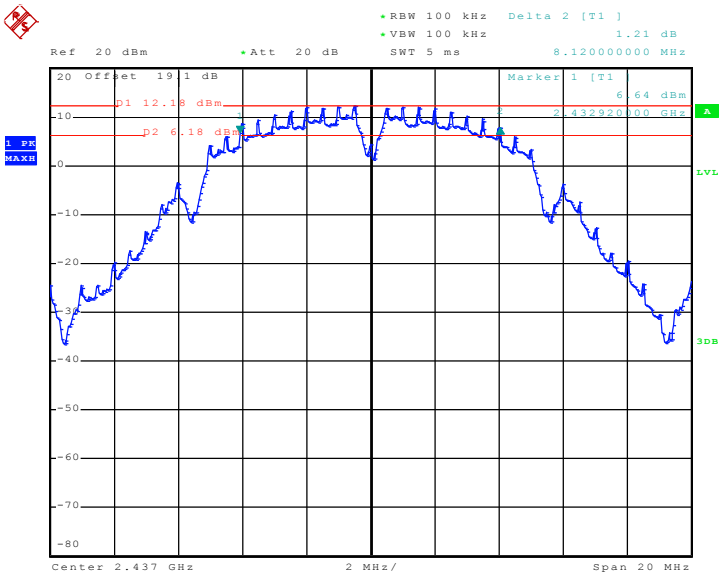
**6 dB Bandwidth Plot on 802.11b Channel 02 - Chain A**




Date: 13.SEP.2010 11:43:09

**Mode 3 :**

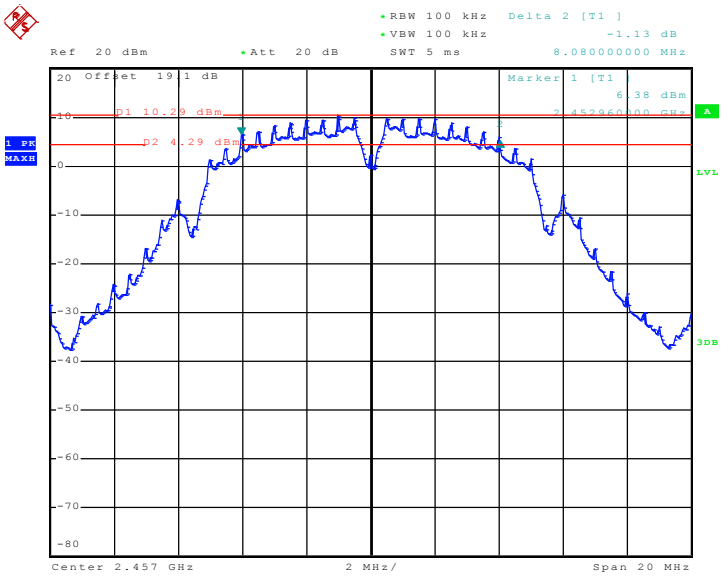
**6 dB Bandwidth Plot on 802.11b Channel 06 - Chain A**




Date: 13.SEP.2010 11:47:19

**Mode 4 :**

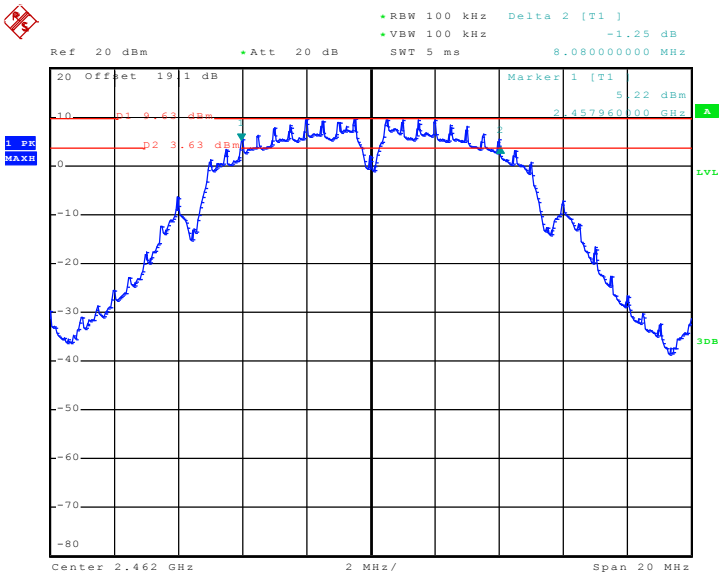
**6 dB Bandwidth Plot on 802.11b Channel 10 - Chain A**




Date: 13.SEP.2010 11:49:26

**Mode 5 :**

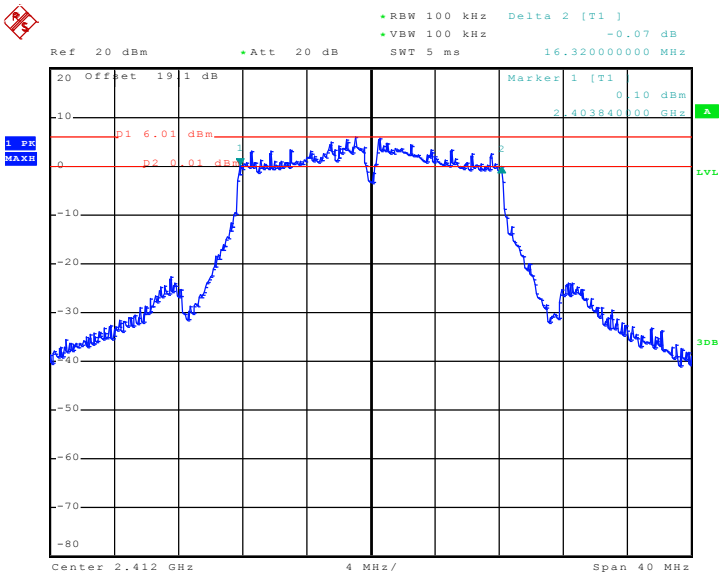
**6 dB Bandwidth Plot on 802.11b Channel 11 - Chain A**




Date: 13.SEP.2010 11:32:03

**Mode 6 :**

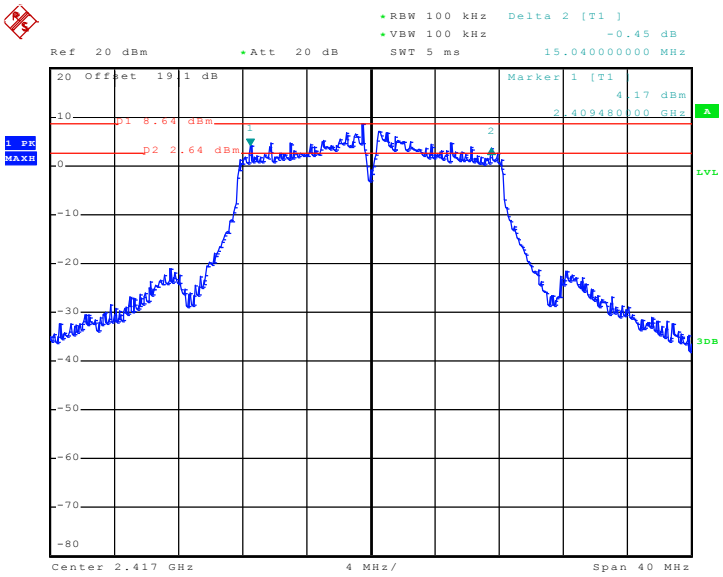
**6 dB Bandwidth Plot on 802.11g Channel 01 - Chain A**




Date: 13.SEP.2010 17:34:17

**Mode 7 :**

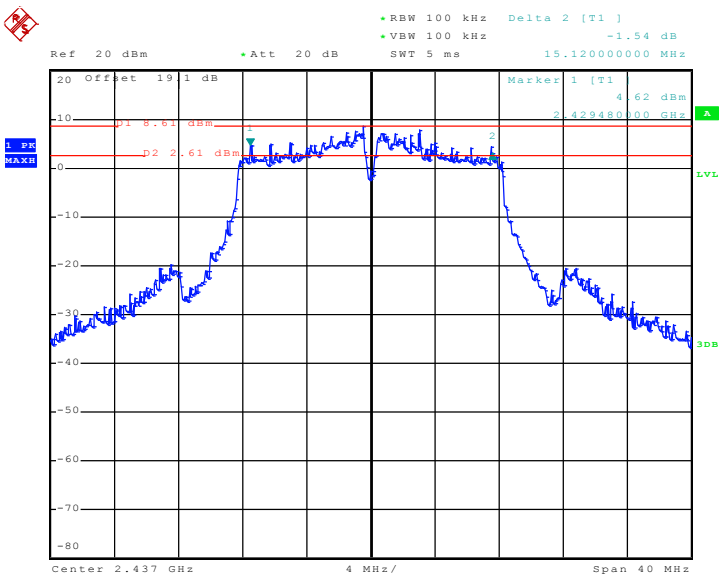
**6 dB Bandwidth Plot on 802.11g Channel 02 - Chain A**




Date: 13.SEP.2010 17:31:18

**Mode 8 :**

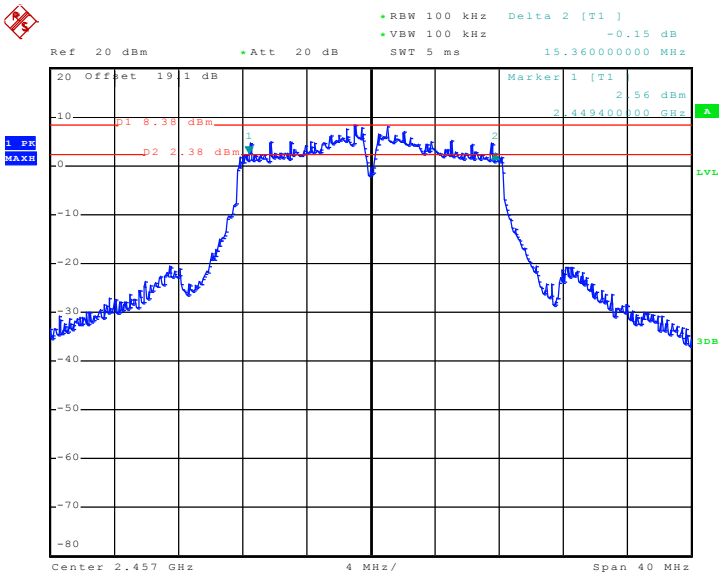
**6 dB Bandwidth Plot on 802.11g Channel 06 - Chain A**




Date: 13.SEP.2010 17:28:54

**Mode 9 :**

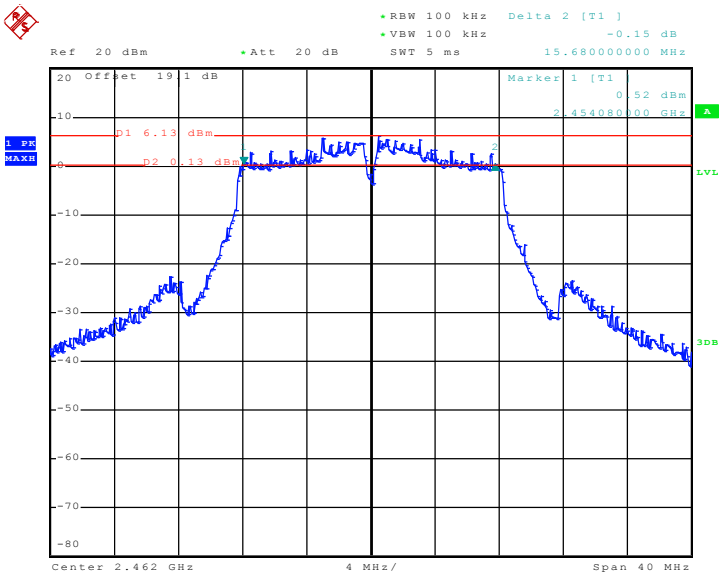
**6 dB Bandwidth Plot on 802.11g Channel 10 - Chain A**




Date: 13.SEP.2010 17:26:22

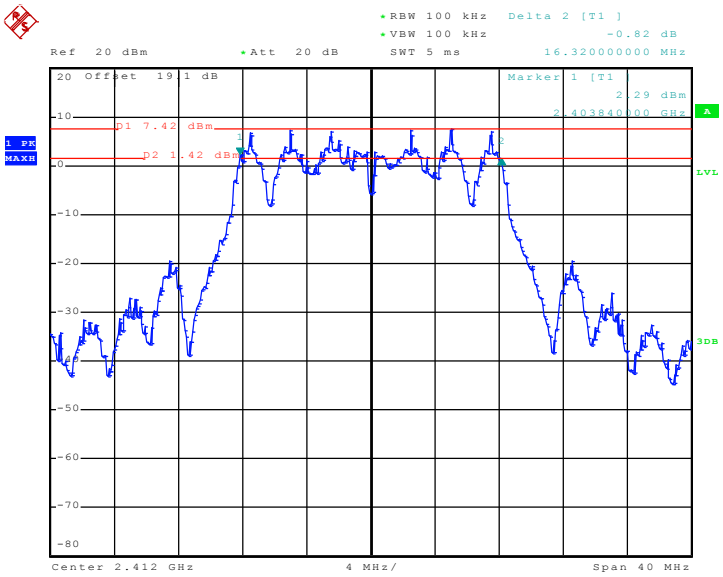
**Mode 10 :**

**6 dB Bandwidth Plot on 802.11g Channel 11 - Chain A**



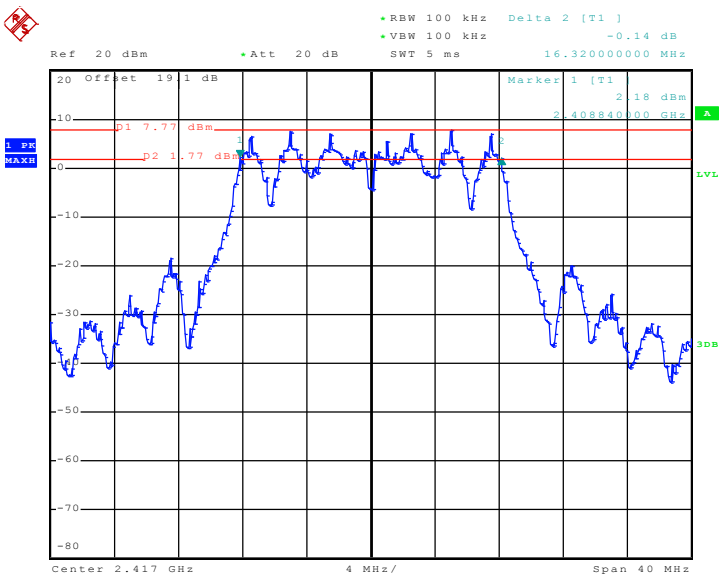

Date: 13.SEP.2010 17:21:27

**Mode 11 : 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 01 - Chain A+B**



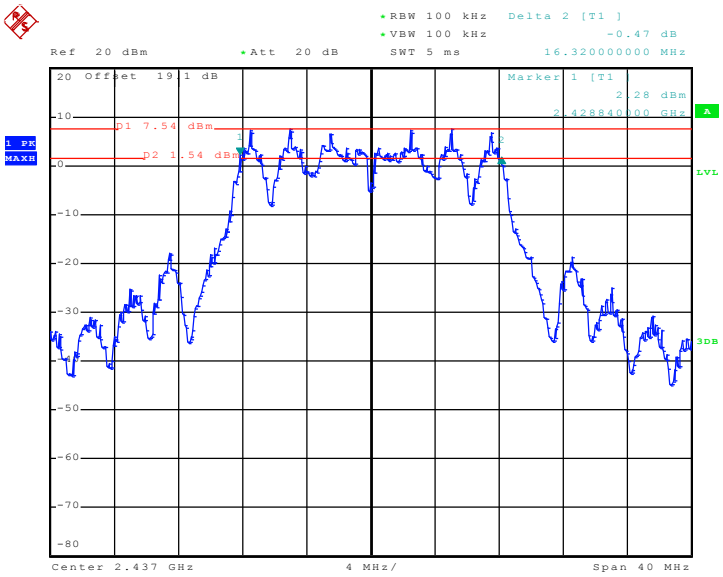

Date: 16.SEP.2010 09:41:43

**Mode 12 : 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 02 - Chain A+B**



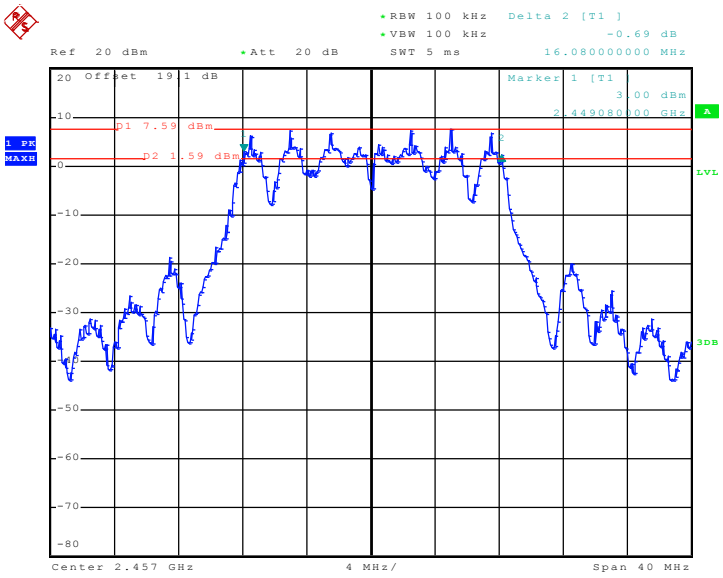

Date: 16.SEP.2010 09:43:50

**Mode 13 : 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 06 - Chain A+B**



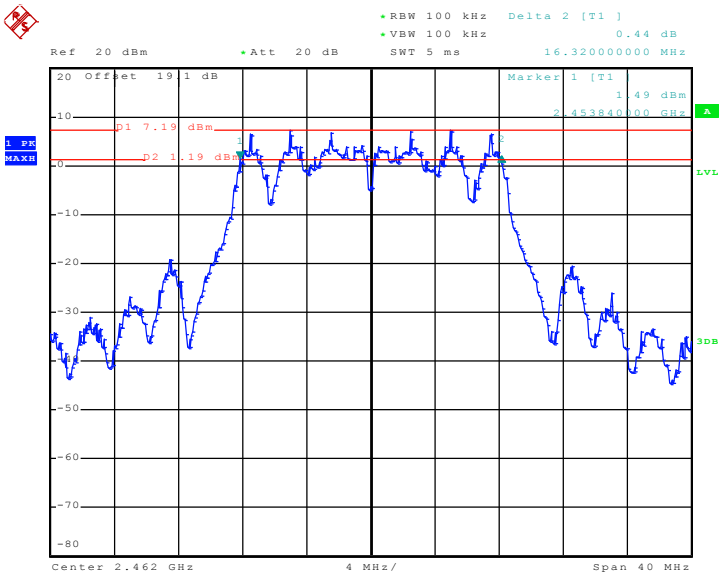

Date: 16.SEP.2010 09:45:45

**Mode 14 : 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 10 - Chain A+B**



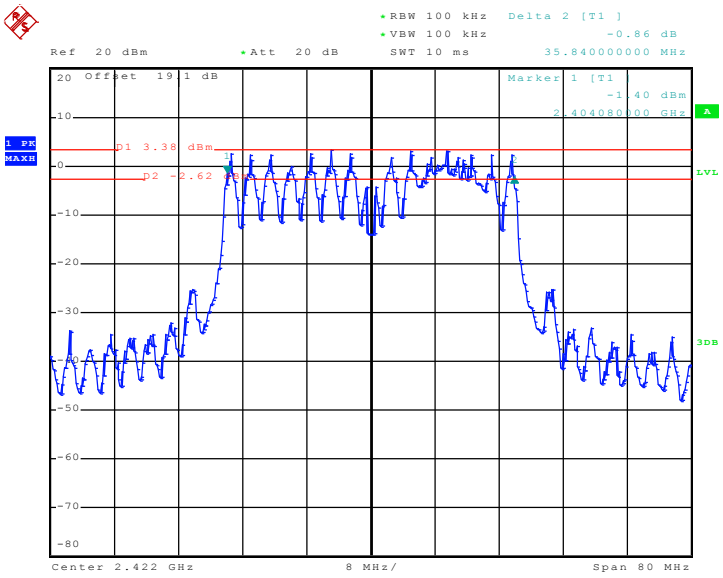

Date: 16.SEP.2010 09:47:35

**Mode 15 : 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 11 - Chain A+B**



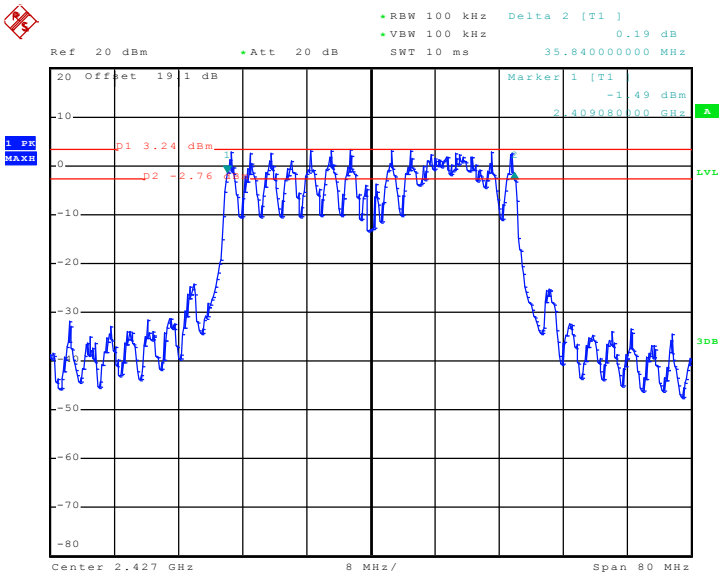

Date: 16.SEP.2010 09:50:14

**Mode 16 : 6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 03 - Chain A+B**



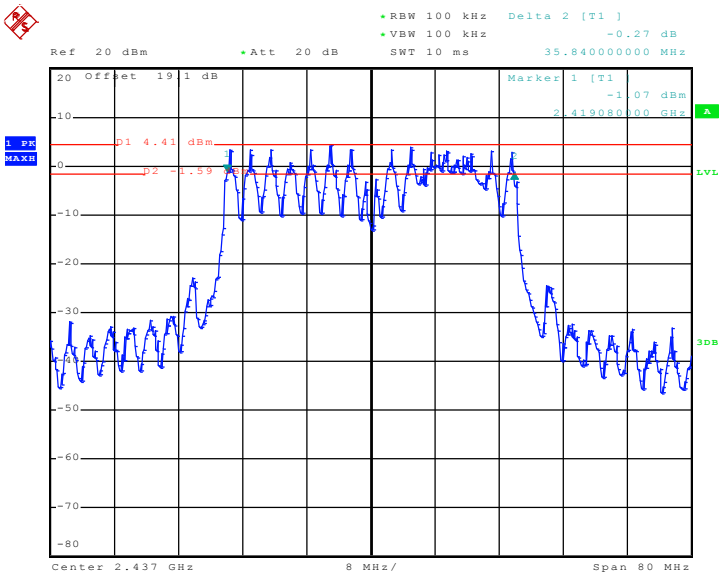

Date: 16.SEP.2010 11:37:49

**Mode 17 : 6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 04 - Chain A+B**



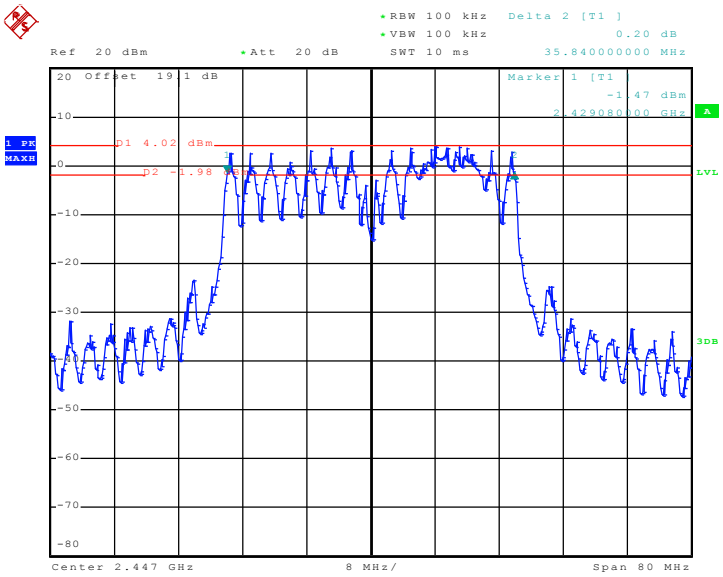

Date: 16.SEP.2010 11:40:17

**Mode 18 : 6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 06 - Chain A+B**



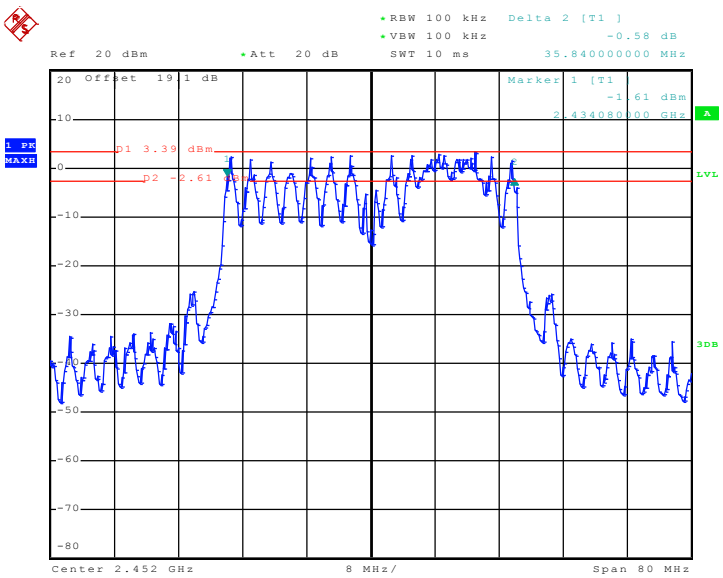

Date: 16.SEP.2010 11:41:55

**Mode 19: 6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 08 - Chain A+B**




Date: 16.SEP.2010 11:45:21

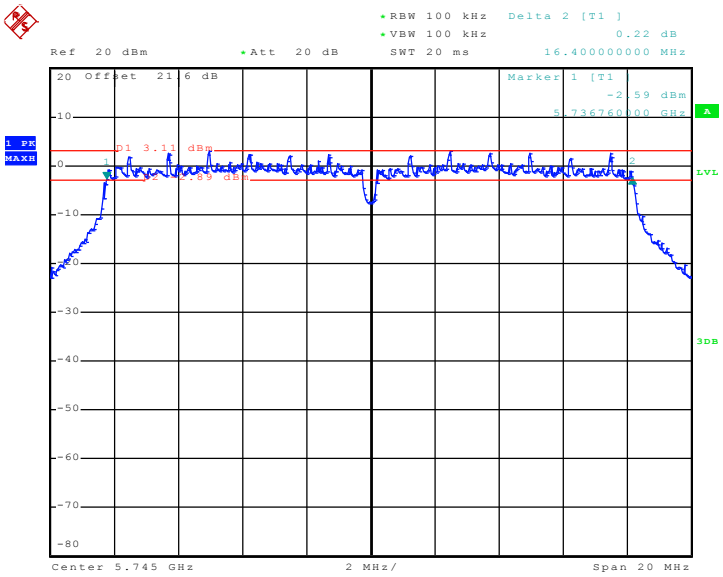
**Mode 20: 6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 09 - Chain A+B**




Date: 16.SEP.2010 11:50:01

**Mode 21:**

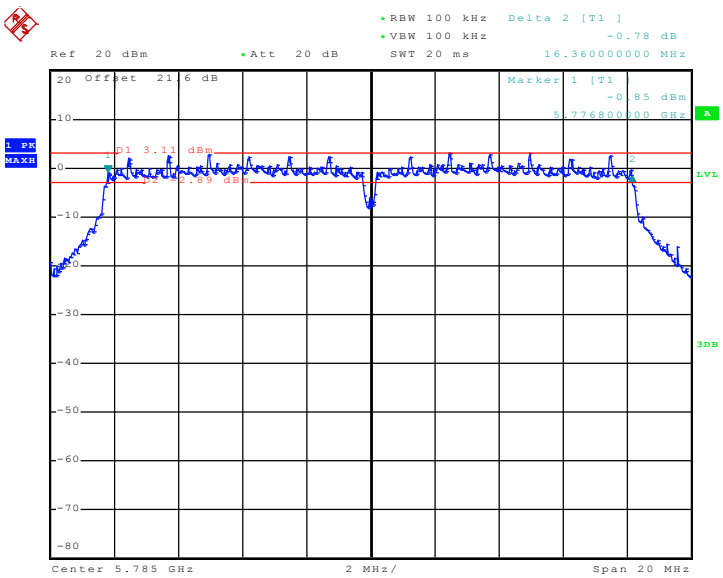
**6 dB Bandwidth Plot on 802.11a Channel 149 - Chain A**




Date: 20.SEP.2010 16:01:05

**Mode 22:**

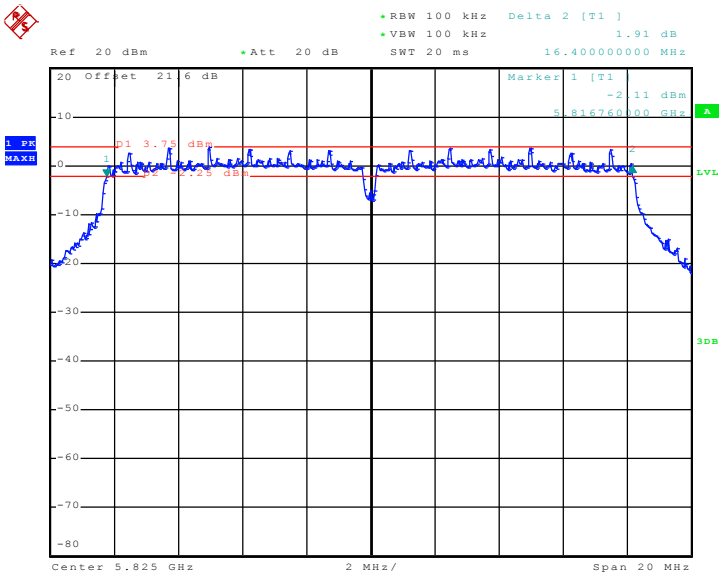
**6 dB Bandwidth Plot on 802.11a Channel 157 - Chain A**




Date: 20.SEP.2010 19:21:51

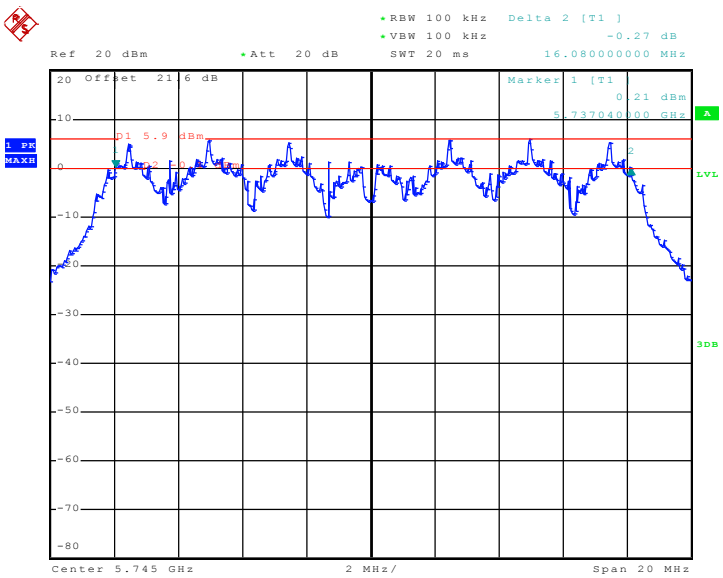
**Mode 23:**

**6 dB Bandwidth Plot on 802.11a Channel 165 - Chain A**



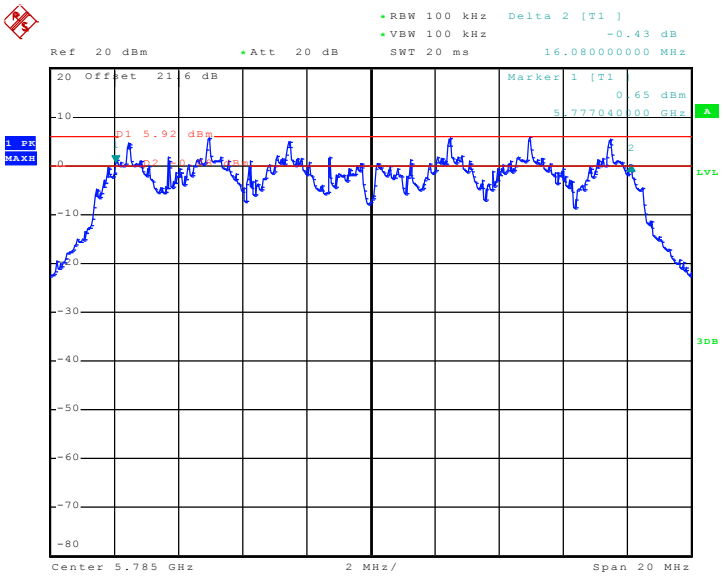

Date: 20.SEP.2010 19:17:40

**Mode 24: 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 149 - Chain A+B**



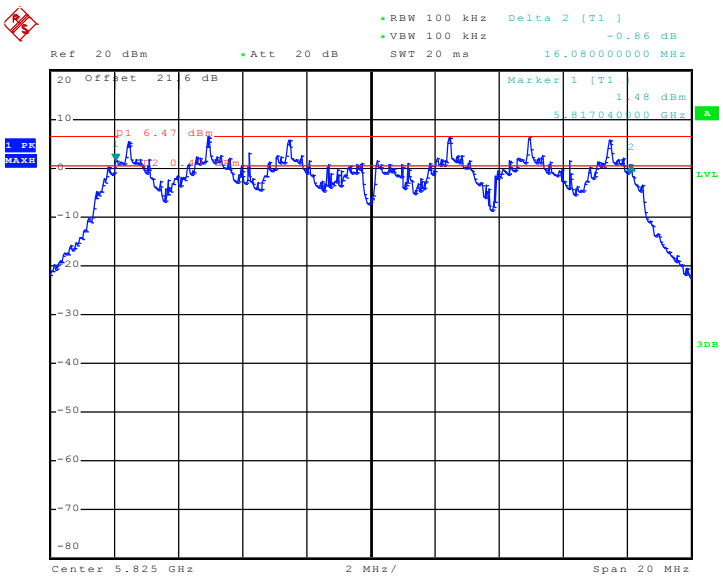

Date: 23.SEP.2010 06:51:44

**Mode 25: 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 157 - Chain A+B**



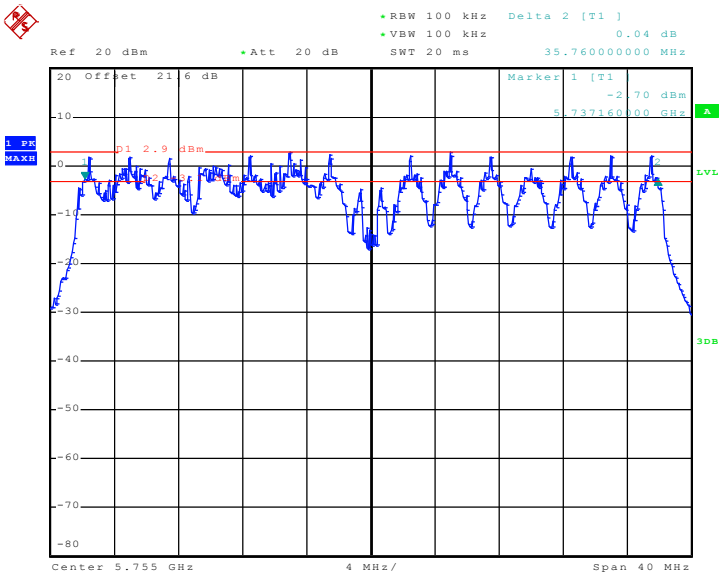

Date: 23.SEP.2010 06:56:28

**Mode 26: 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 165 - Chain A+B**



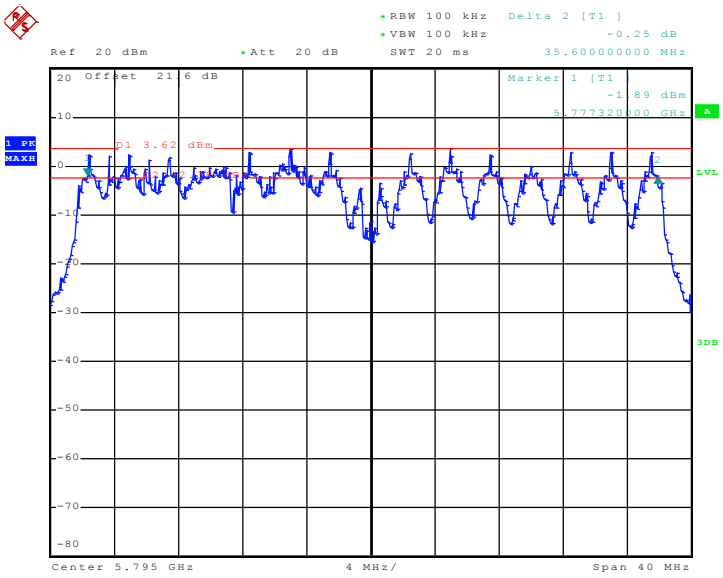

Date: 23.SEP.2010 07:05:14

**Mode 27: 6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 151 - Chain A+B**




Date: 23.SEP.2010 07:23:34

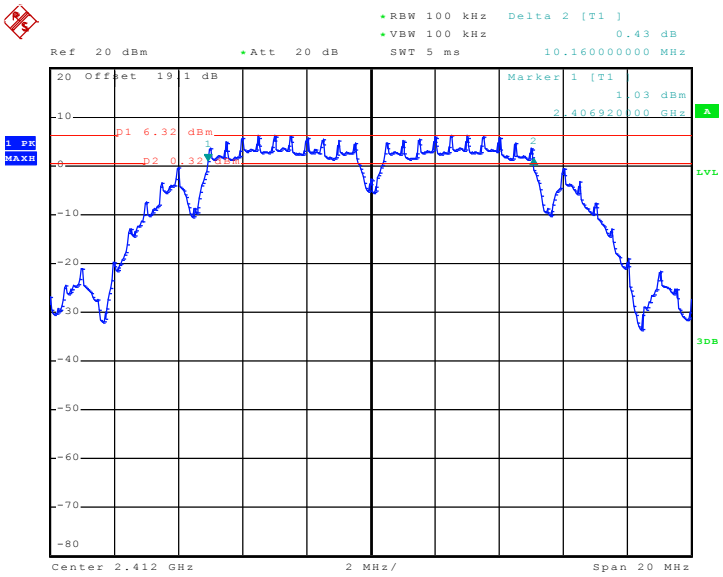
**Mode 28: 6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 159 - Chain A+B**




Date: 23.SEP.2010 07:26:08

**Mode 29 :**

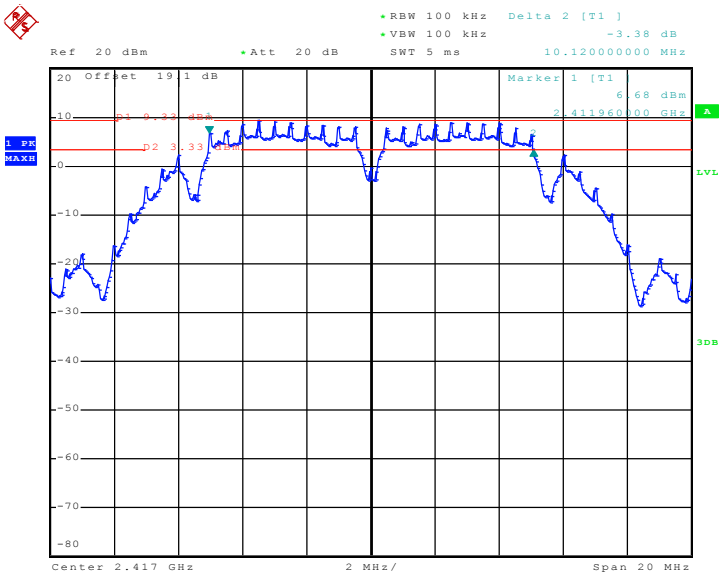
**6 dB Bandwidth Plot on 802.11b Channel 01 - Chain A**




Date: 16.SEP.2010 03:12:10

**Mode 30 :**

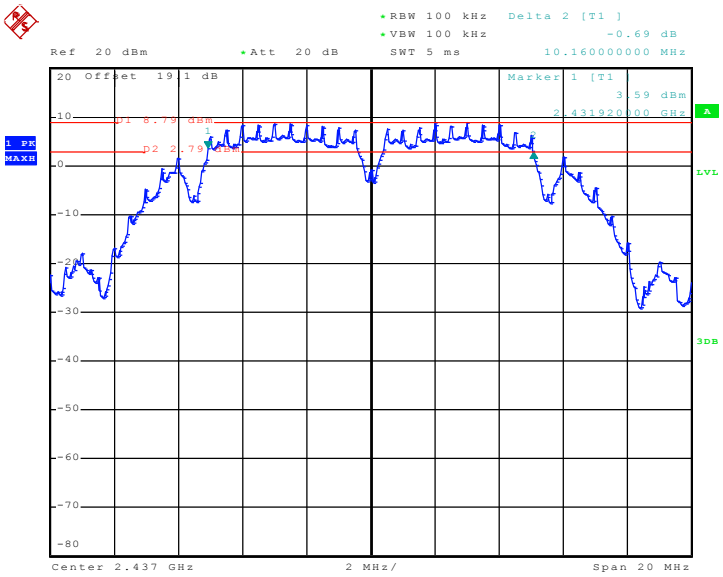
**6 dB Bandwidth Plot on 802.11b Channel 02 - Chain A**




Date: 16.SEP.2010 03:17:11

**Mode 31 :**

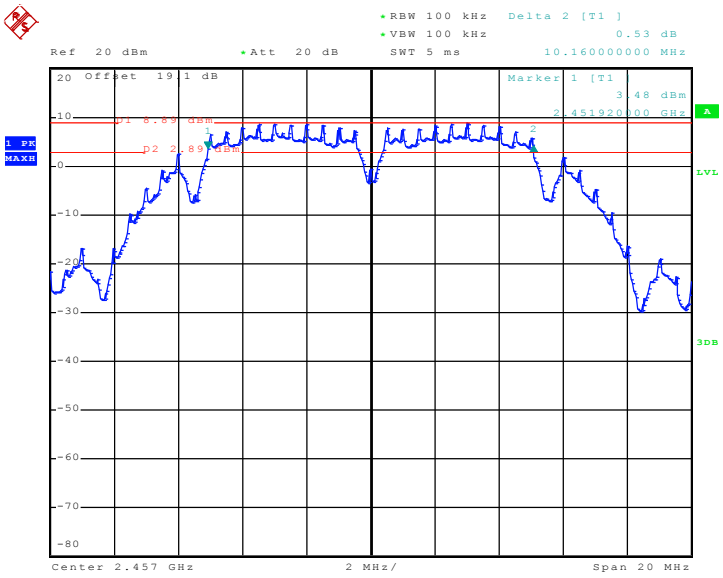
**6 dB Bandwidth Plot on 802.11b Channel 06 - Chain A**




Date: 24.SEP.2010 04:54:59

**Mode 32 :**

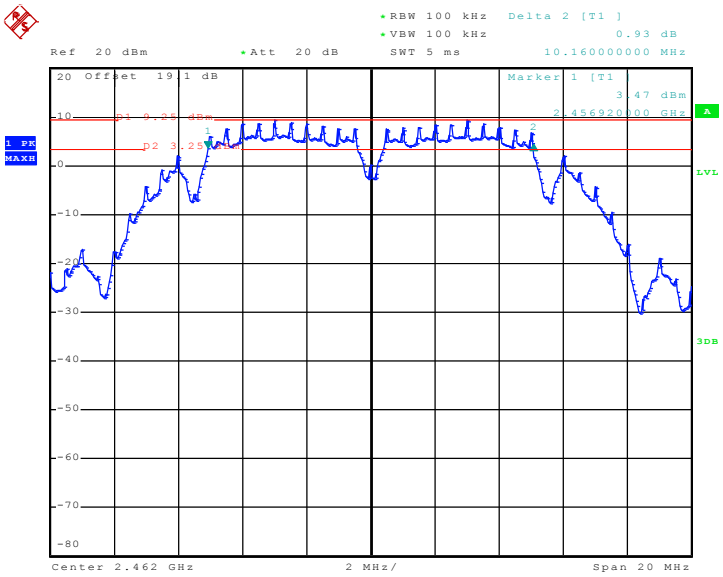
**6 dB Bandwidth Plot on 802.11b Channel 10 - Chain A**




Date: 16.SEP.2010 03:21:07

**Mode 33 :**

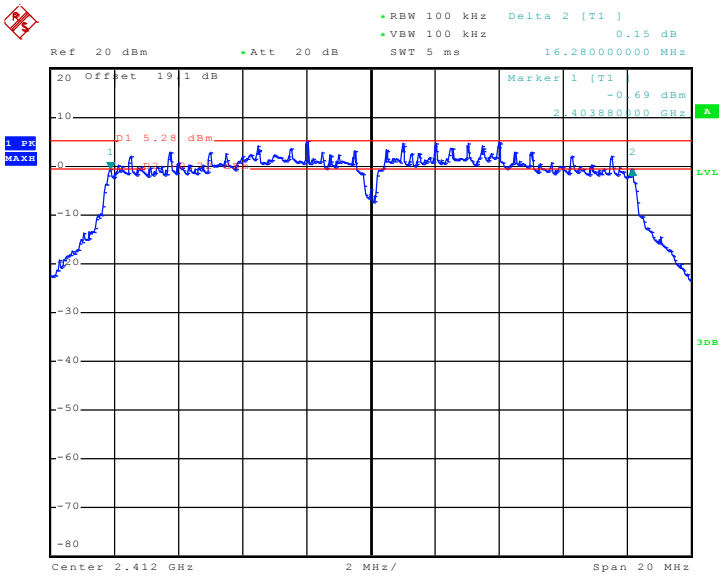
**6 dB Bandwidth Plot on 802.11b Channel 11 - Chain A**




Date: 16.SEP.2010 03:23:23

**Mode 34 :**

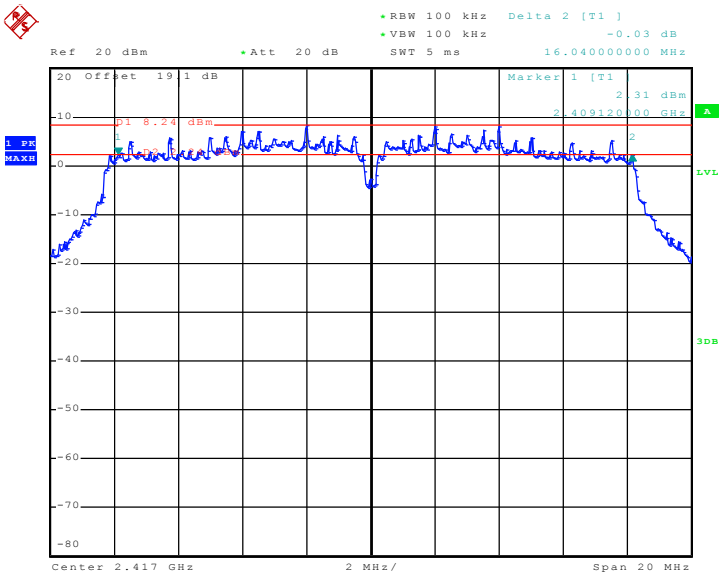
**6 dB Bandwidth Plot on 802.11g Channel 01 - Chain A**




Date: 16.SEP.2010 04:44:16

**Mode 35 :**

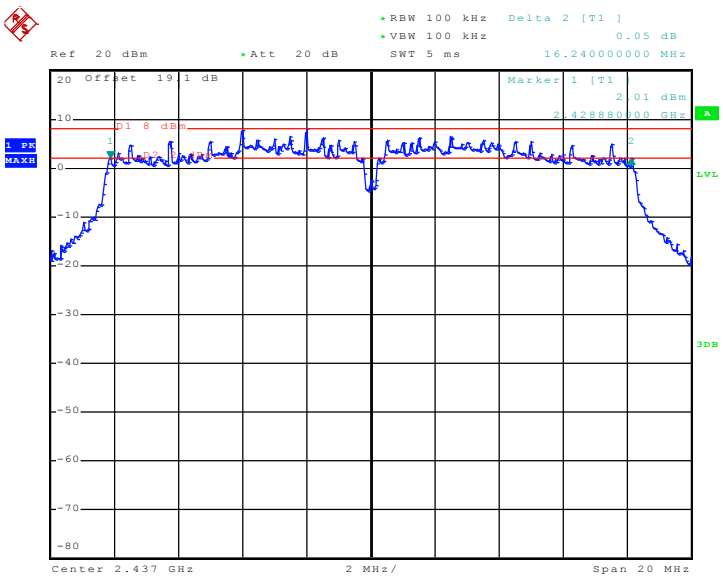
**6 dB Bandwidth Plot on 802.11g Channel 02 - Chain A**




Date: 16.SEP.2010 05:13:05

**Mode 36 :**

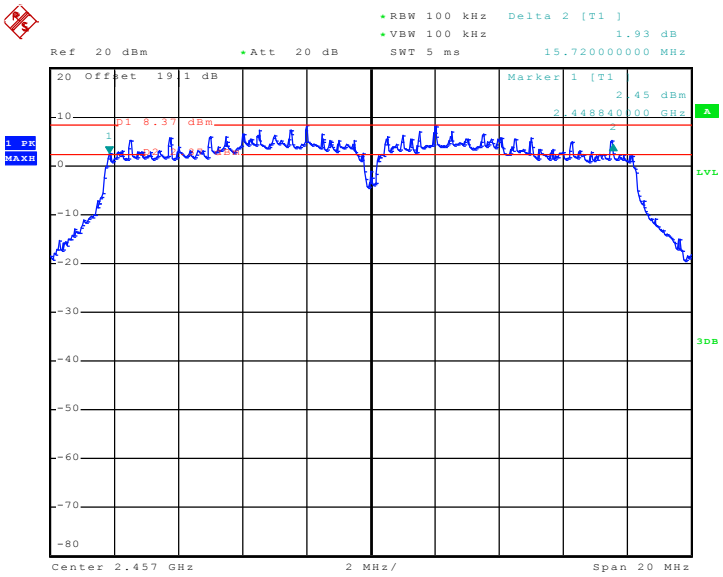
**6 dB Bandwidth Plot on 802.11g Channel 06 - Chain A**




Date: 16.SEP.2010 05:14:43

**Mode 37 :**

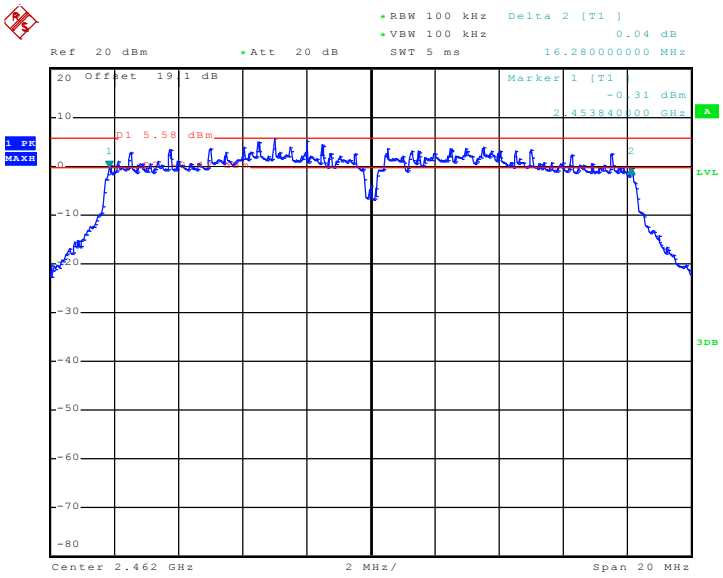
**6 dB Bandwidth Plot on 802.11g Channel 10 - Chain A**




Date: 16.SEP.2010 05:45:06

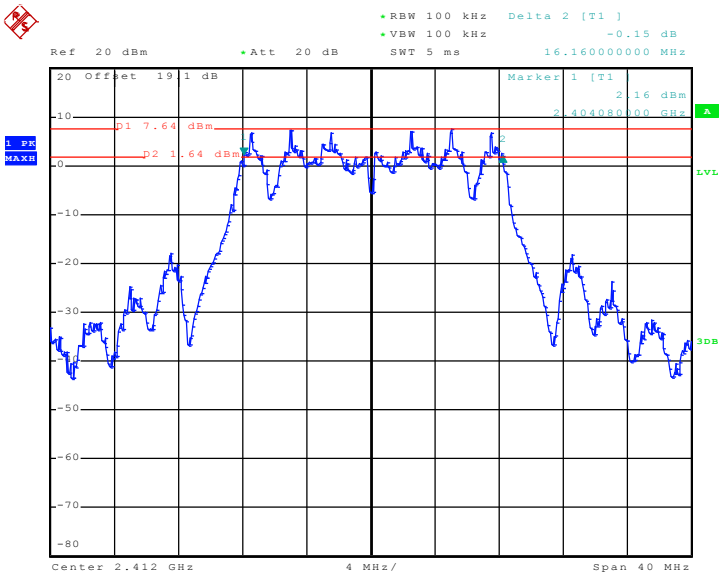
**Mode 38 :**

**6 dB Bandwidth Plot on 802.11g Channel 11 - Chain A**



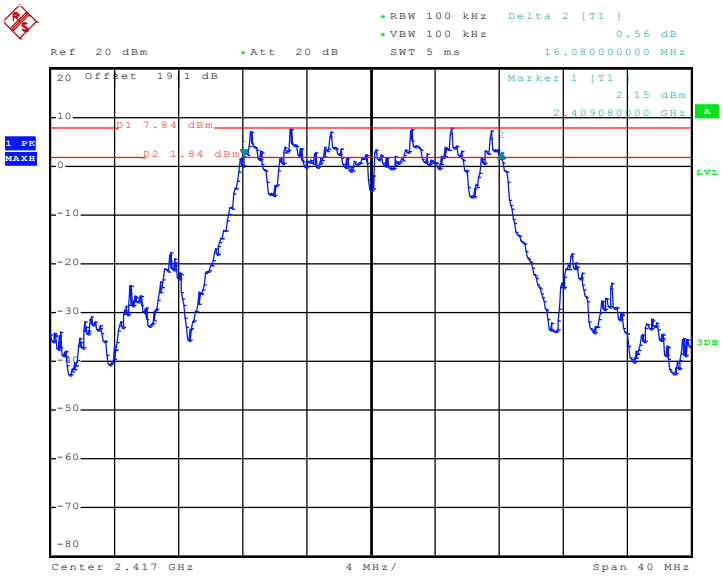

Date: 16.SEP.2010 05:46:36

**Mode 39 : 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 01 - Chain A+B**



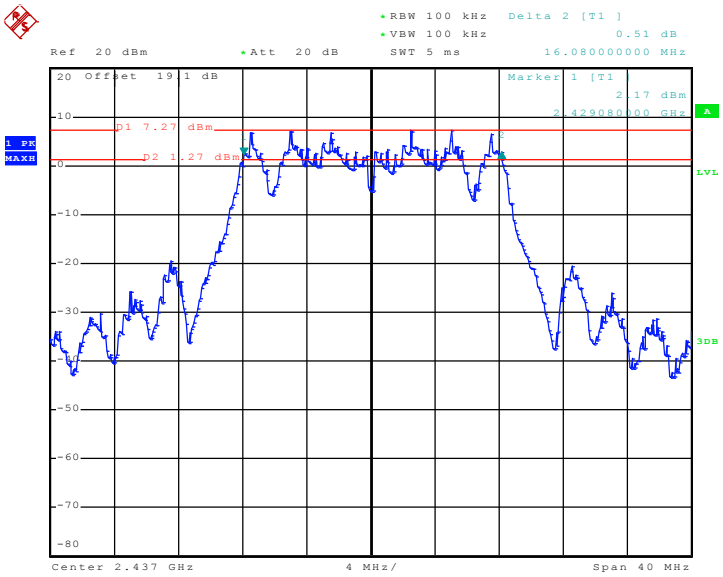

Date: 27.SEP.2010 18:06:13

**Mode 40 : 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 02 - Chain A+B**



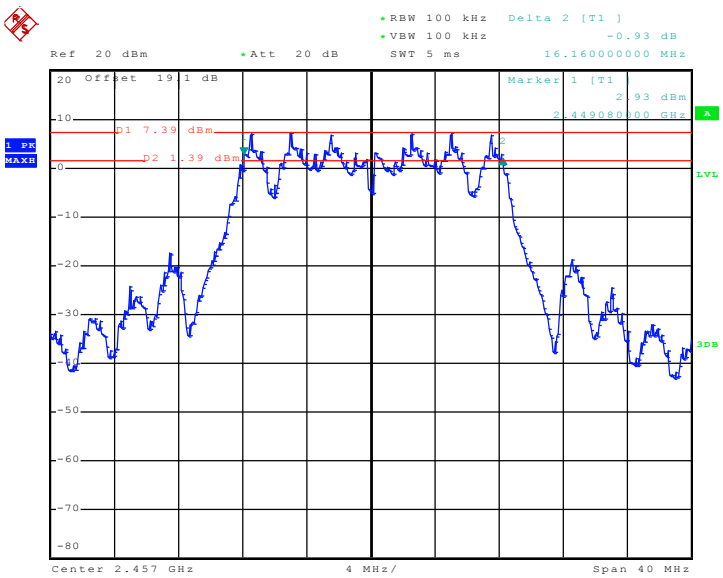

Date: 27.SEP.2010 18:11:02

**Mode 41 : 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 06 - Chain A+B**



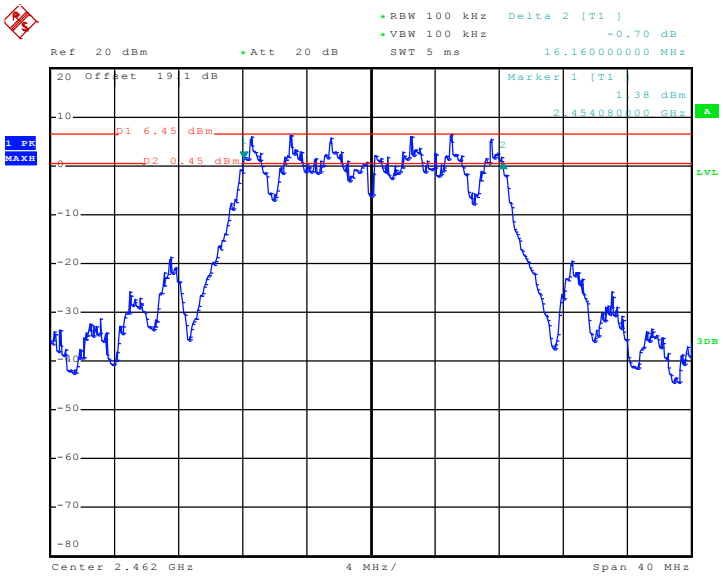

Date: 27.SEP.2010 18:13:02

**Mode 42 : 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 10 - Chain A+B**



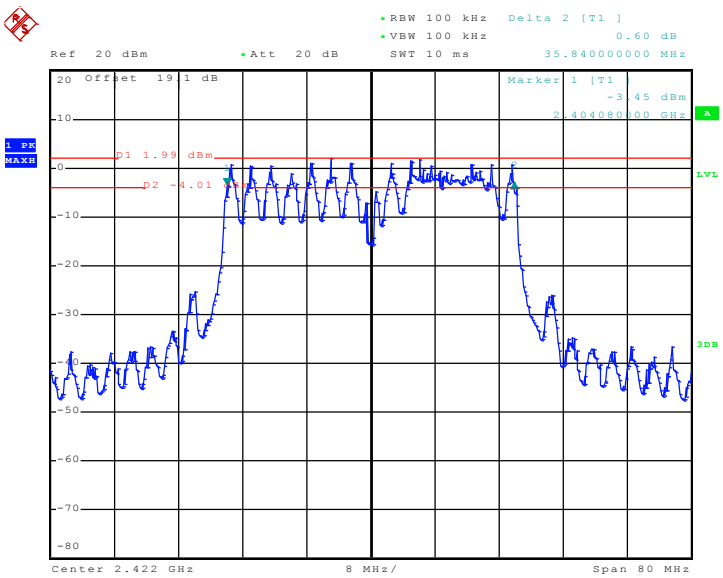

Date: 27.SEP.2010 18:15:46

**Mode 43 : 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 11 - Chain A+B**



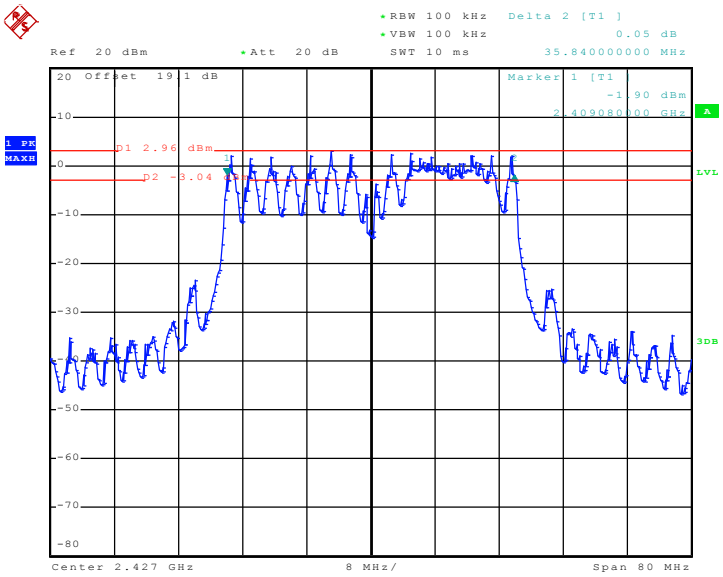

Date: 27.SEP.2010 18:16:58

**Mode 44 : 6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 03 - Chain A+B**



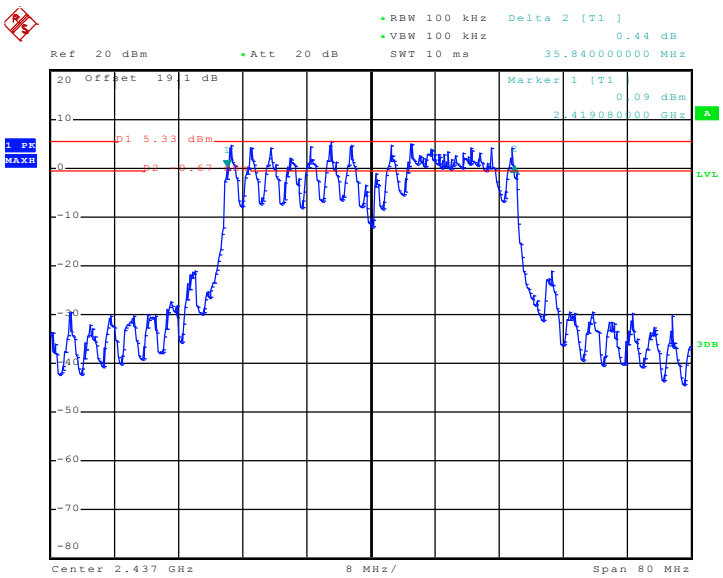

Date: 27.SEP.2010 20:05:59

**Mode 45 : 6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 04 - Chain A+B**



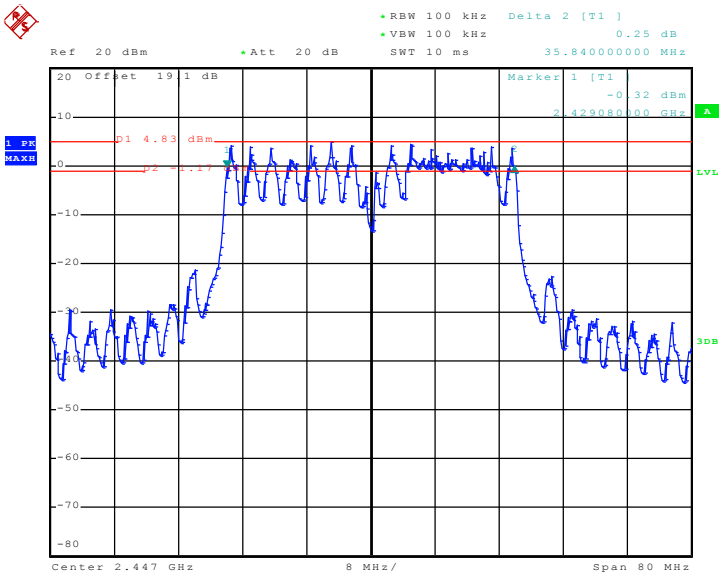

Date: 27.SEP.2010 19:47:54

**Mode 46 : 6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 06 - Chain A+B**



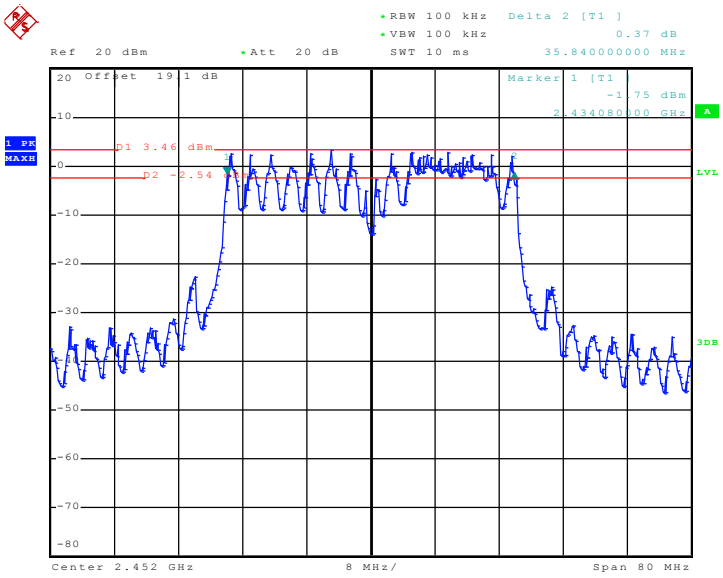

Date: 27.SEP.2010 19:49:36

**Mode 47: 6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 08 - Chain A+B**




Date: 27.SEP.2010 19:51:14

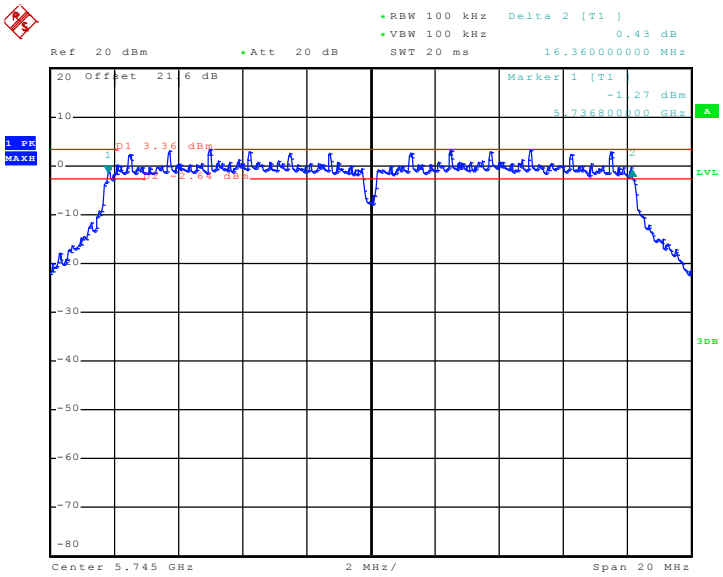
**Mode 48: 6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 09 - Chain A+B**




Date: 27.SEP.2010 19:52:24

**Mode 49:**

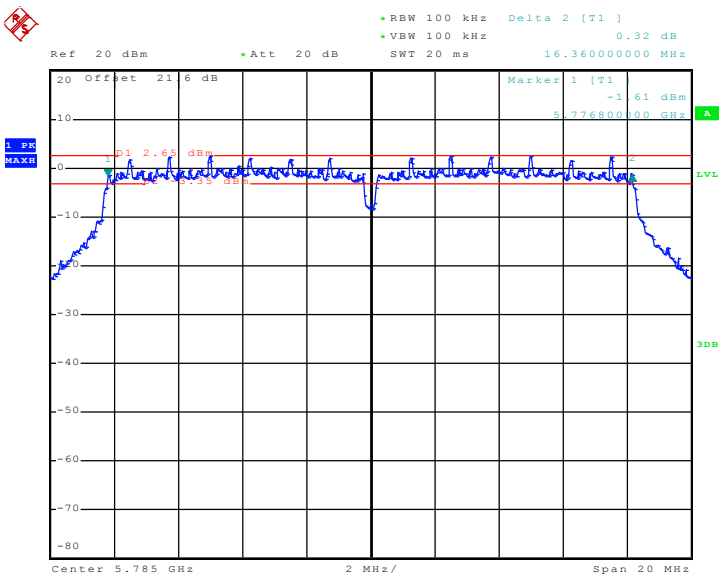
**6 dB Bandwidth Plot on 802.11a Channel 149 - Chain A**




Date: 20.SEP.2010 14:11:02

**Mode 50:**

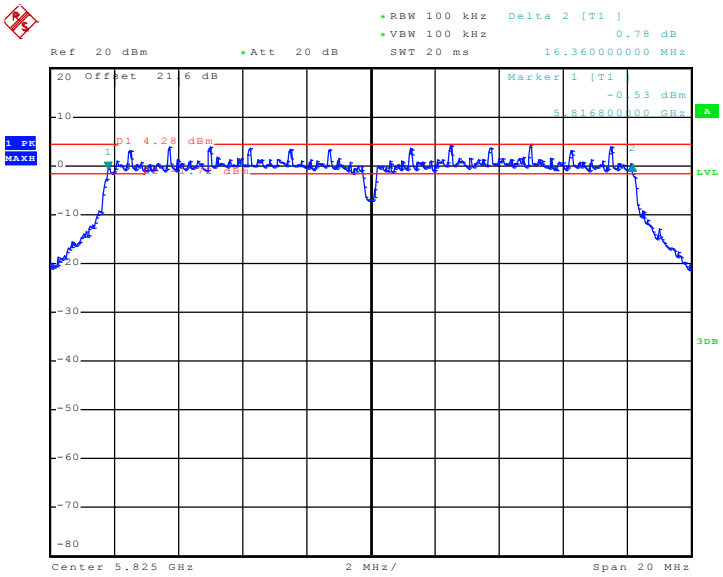
**6 dB Bandwidth Plot on 802.11a Channel 157 - Chain A**




Date: 27.SEP.2010 20:20:38

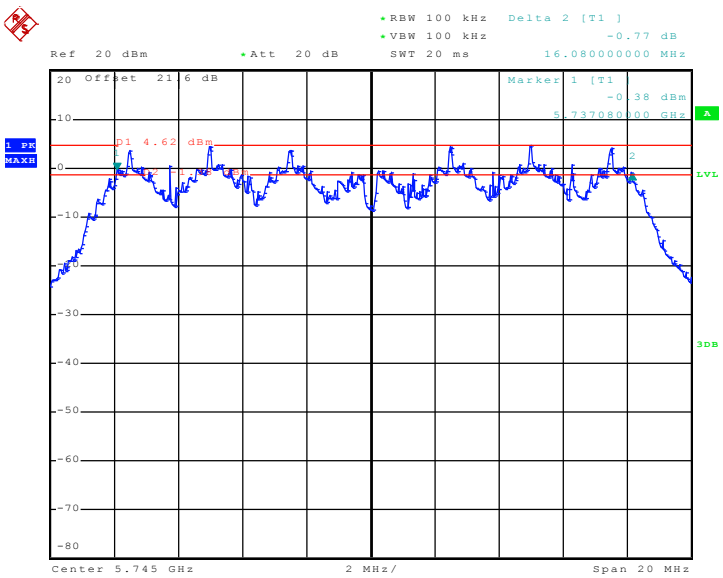
**Mode 51:**

**6 dB Bandwidth Plot on 802.11a Channel 165 - Chain A**



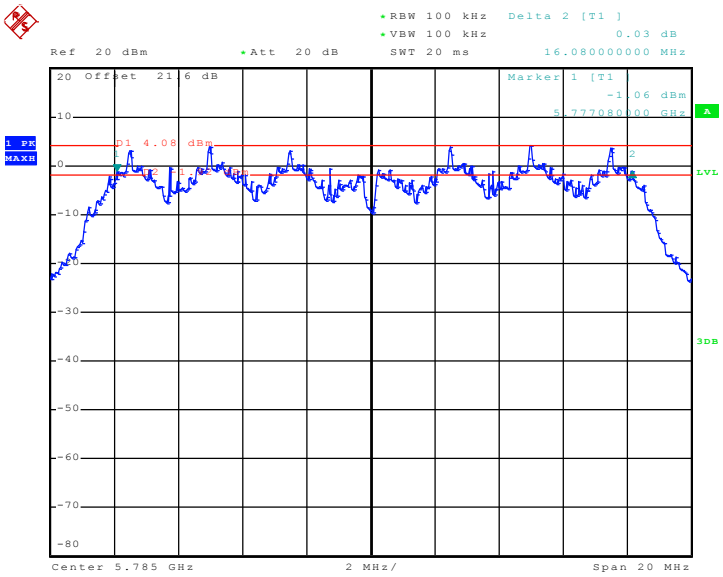

Date: 20.SEP.2010 14:55:07

**Mode 52: 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 149 - Chain A+B**



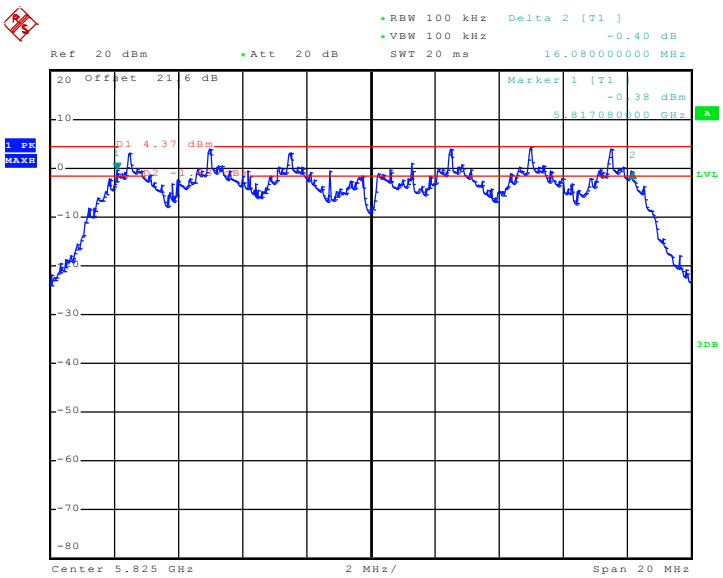

Date: 28.SEP.2010 00:20:54

**Mode 53: 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 157 - Chain A+B**



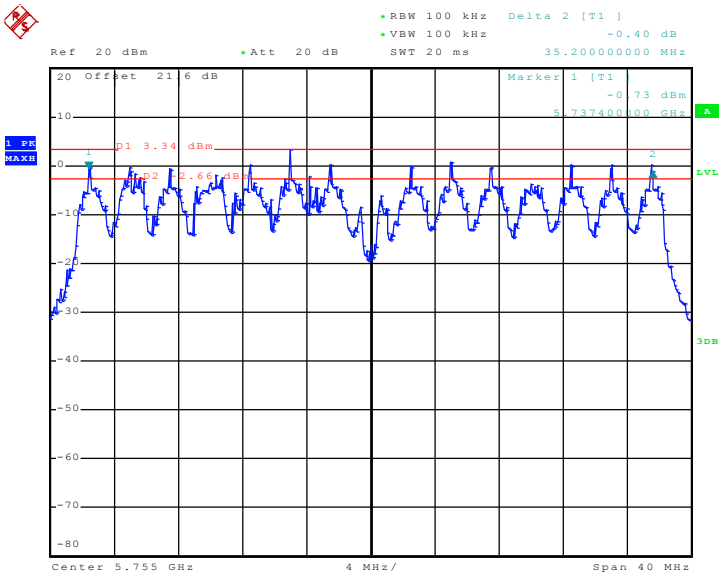

Date: 28.SEP.2010 00:27:35

**Mode 54: 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 165 - Chain A+B**



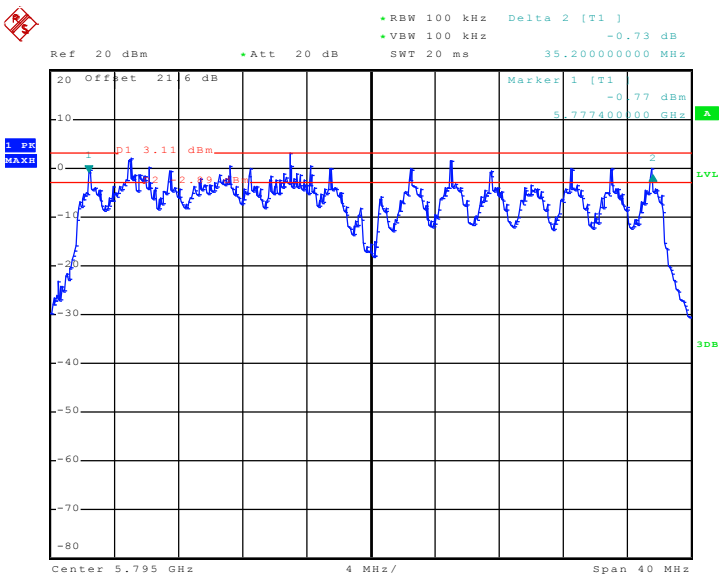

Date: 28.SEP.2010 00:26:17

**Mode 55: 6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 151 - Chain A+B**




Date: 28.SEP.2010 00:54:56

**Mode 56: 6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 159 - Chain A+B**

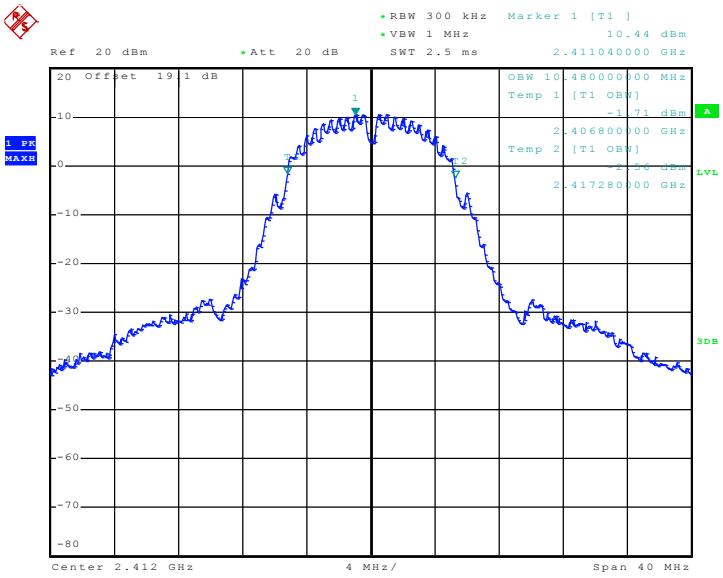



Date: 28.SEP.2010 00:53:05

## 3.1.8 Test Result of 99% Bandwidth Plots

**Mode 1 :**

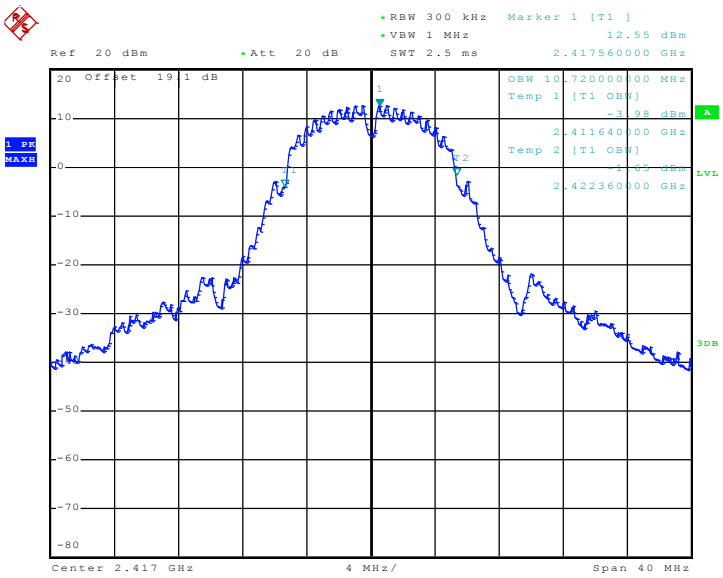
**99% Occupied Bandwidth Plot on 802.11b Channel 01 - Chain A**




Date: 13.SEP.2010 18:25:36

**Mode 2 :**

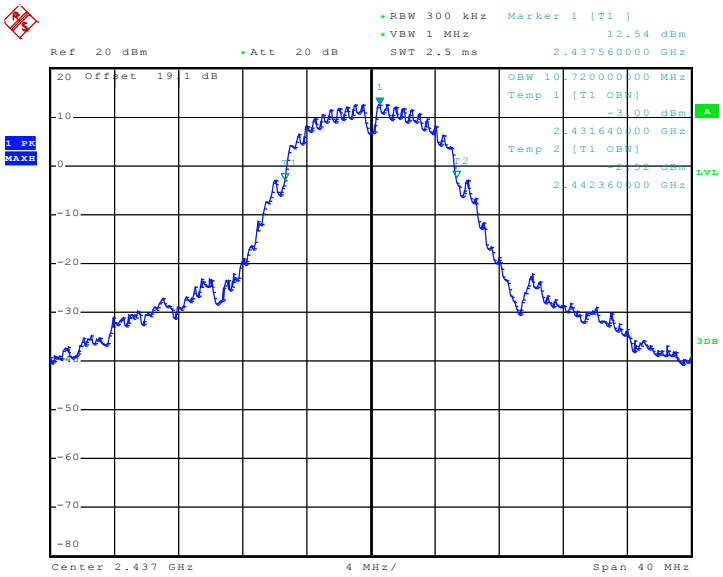
**99% Occupied Bandwidth Plot on 802.11b Channel 02 - Chain A**




Date: 13.SEP.2010 18:26:21

**Mode 3 :**

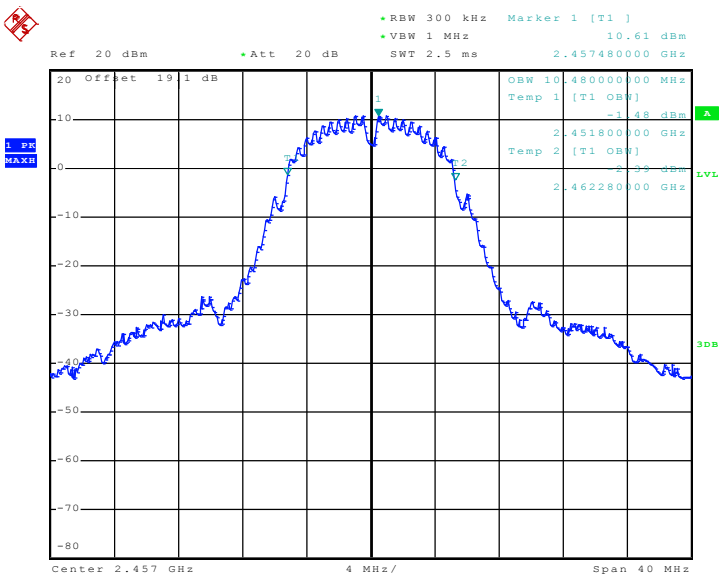
**99% Occupied Bandwidth Plot on 802.11b Channel 06 - Chain A**




Date: 13.SEP.2010 18:27:11

**Mode 4 :**

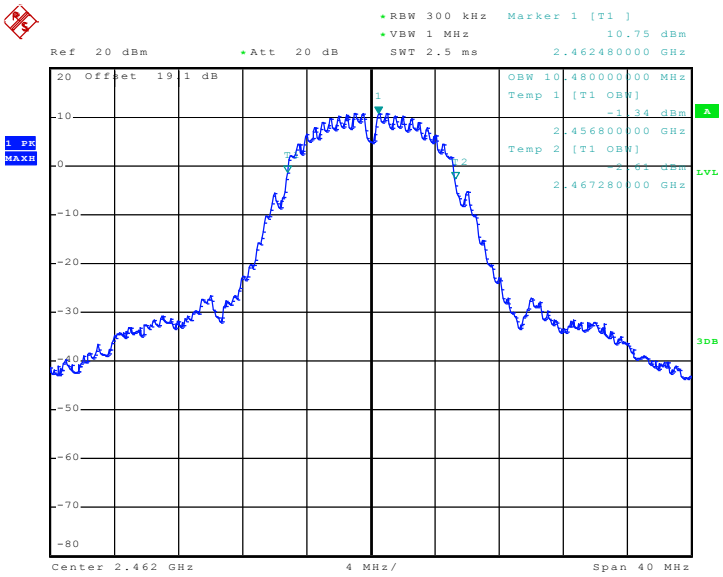
**99% Occupied Bandwidth Plot on 802.11b Channel 10 - Chain A**




Date: 13.SEP.2010 18:28:41

**Mode 5 :**

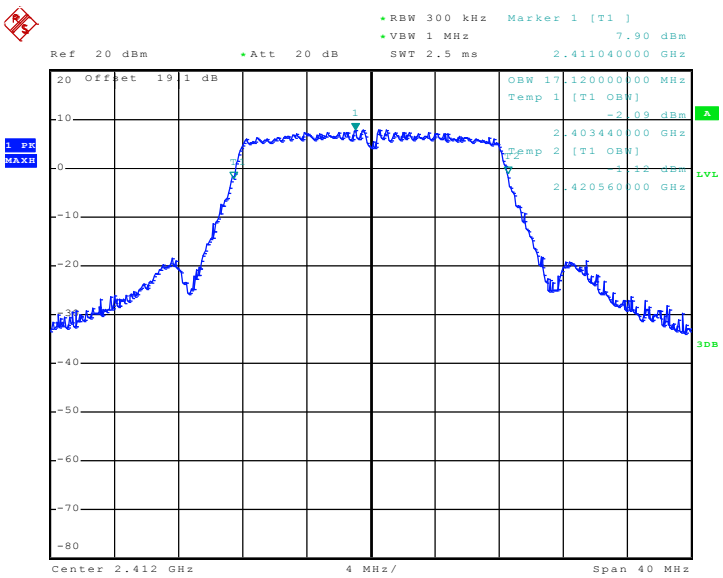
**99% Occupied Bandwidth Plot on 802.11b Channel 11 - Chain A**




Date: 13.SEP.2010 18:29:20

**Mode 6 :**

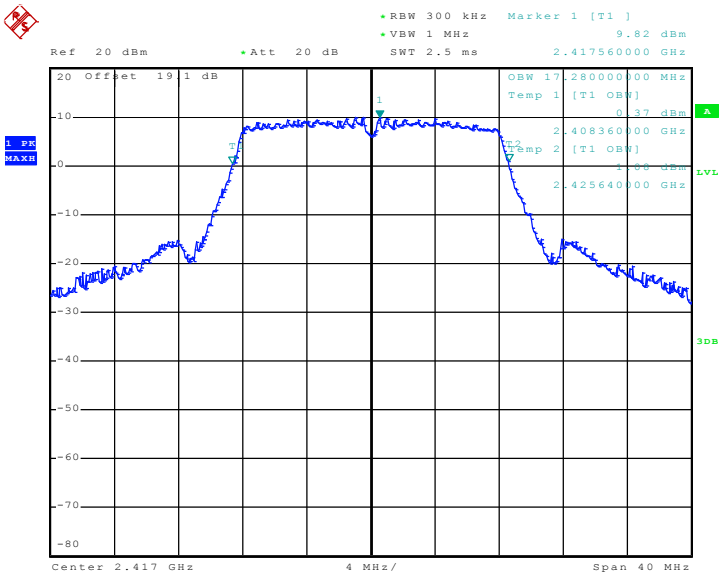
**99% Occupied Bandwidth Plot on 802.11g Channel 01 - Chain A**




Date: 13.SEP.2010 18:31:37

**Mode 7 :**

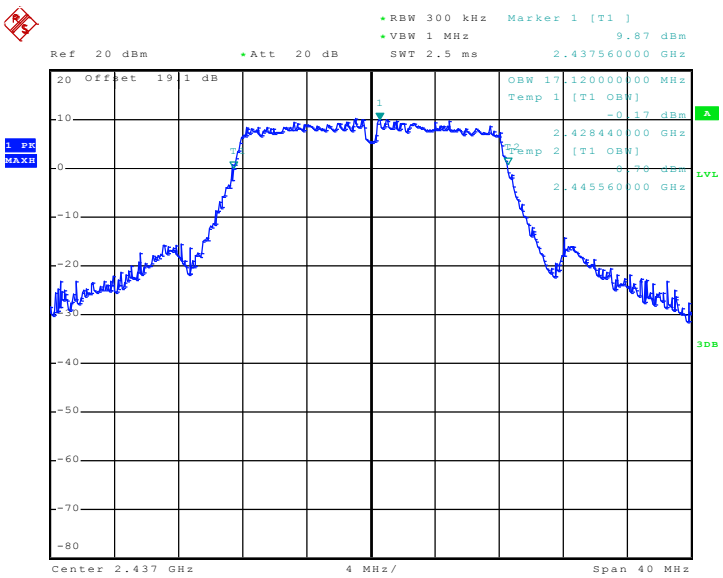
**99% Occupied Bandwidth Plot on 802.11g Channel 02 - Chain A**




Date: 13.SEP.2010 18:34:00

**Mode 8 :**

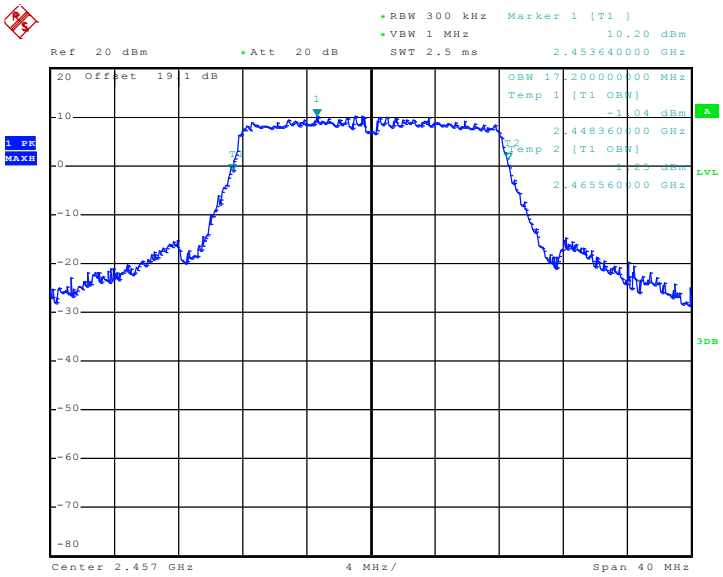
**99% Occupied Bandwidth Plot on 802.11g Channel 06 - Chain A**




Date: 13.SEP.2010 18:34:53

**Mode 9 :**

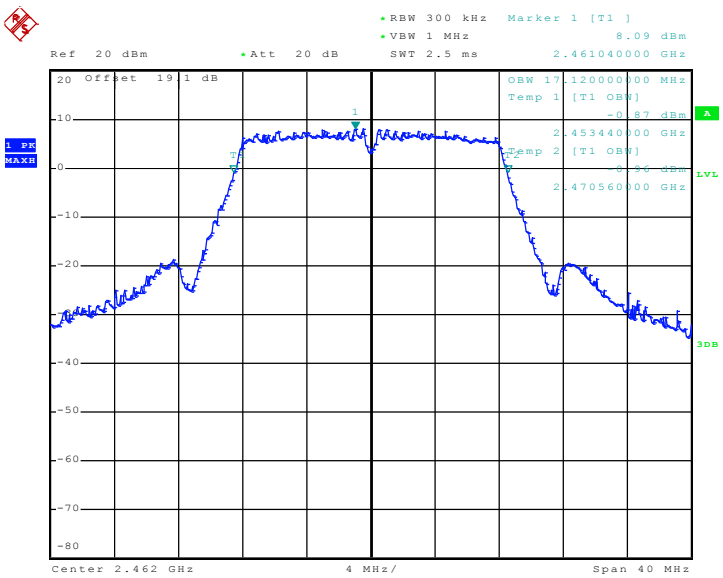
**99% Occupied Bandwidth Plot on 802.11g Channel 10 - Chain A**




Date: 13.SEP.2010 19:11:04

**Mode 10 :**

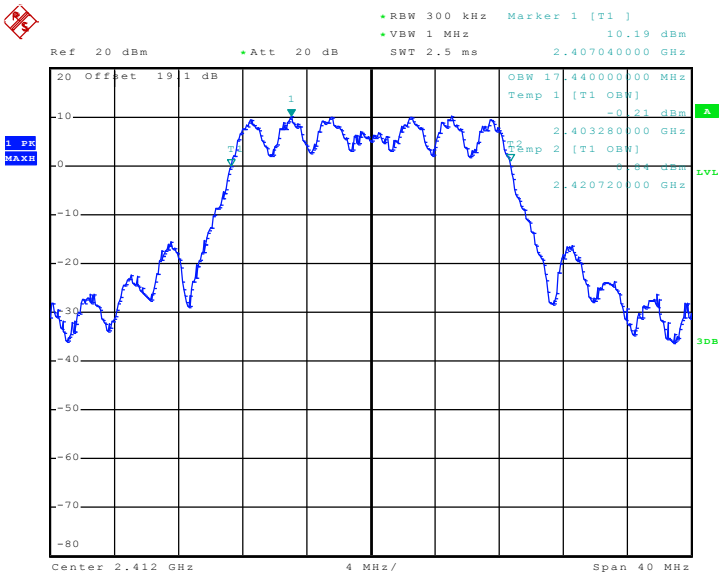
**99% Occupied Bandwidth Plot on 802.11g Channel 11 - Chain A**




Date: 13.SEP.2010 19:12:13

**Mode 11 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

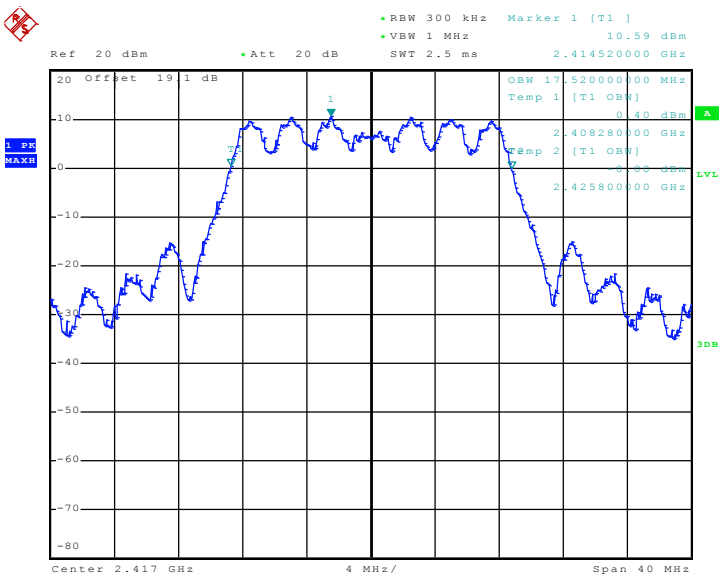
**Channel 01 - Chain A+B**




Date: 16.SEP.2010 10:25:06

**Mode 12 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

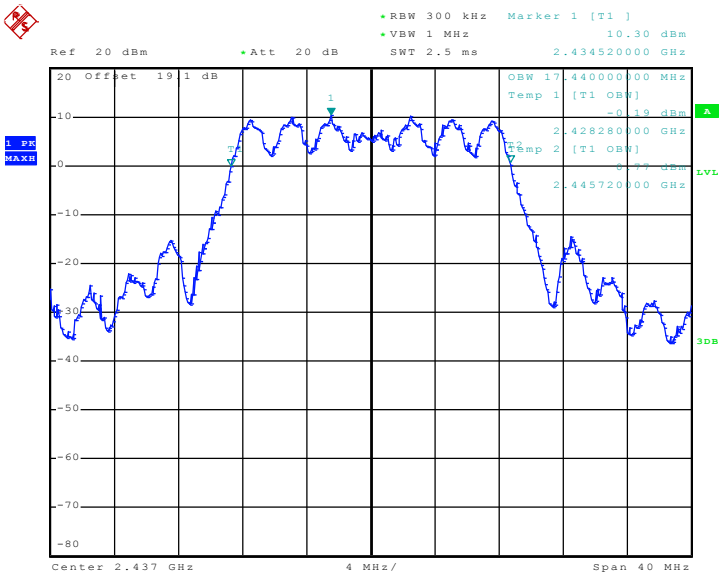
**Channel 02 - Chain A+B**




Date: 16.SEP.2010 10:24:04

**Mode 13 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

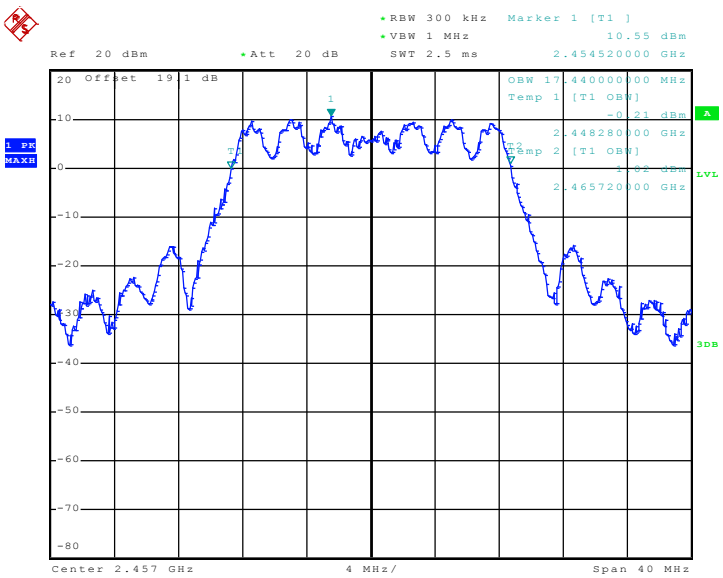
**Channel 06 - Chain A+B**




Date: 16.SEP.2010 10:21:37

**Mode 14 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

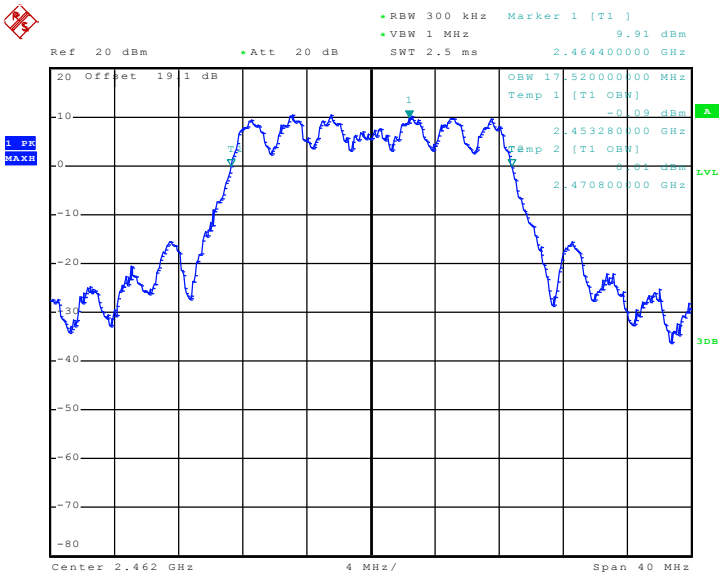
**Channel 10 - Chain A+B**




Date: 16.SEP.2010 10:20:40

**Mode 15 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

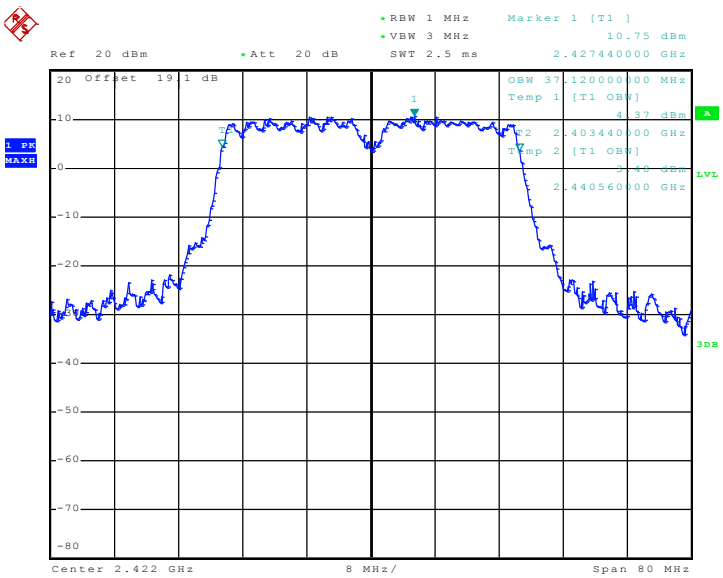
**Channel 11 - Chain A+B**




Date: 16.SEP.2010 09:53:50

**Mode 16 : 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)**

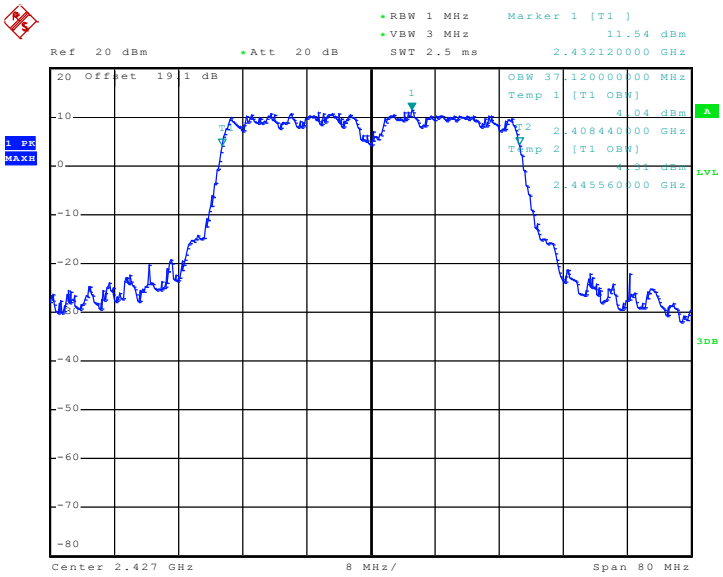
**Channel 03 - Chain A+B**




Date: 24.SEP.2010 00:34:16

**Mode 17 : 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)**

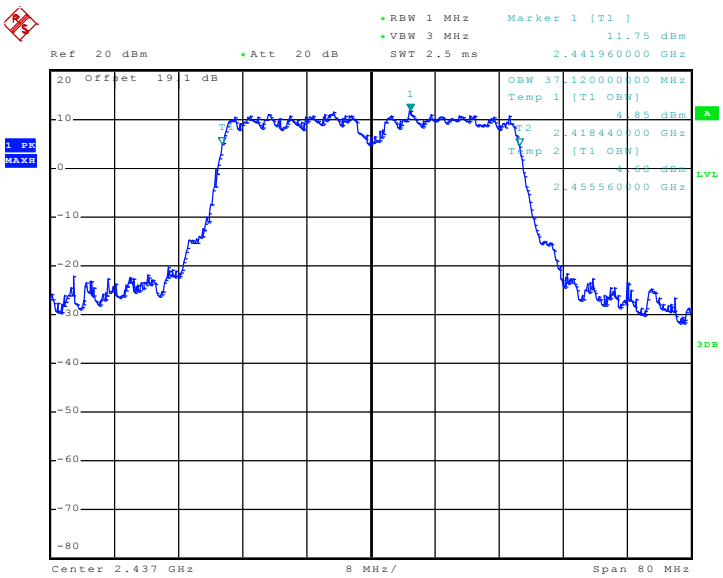
**Channel 04 - Chain A+B**




Date: 24.SEP.2010 00:33:28

**Mode 18 : 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)**

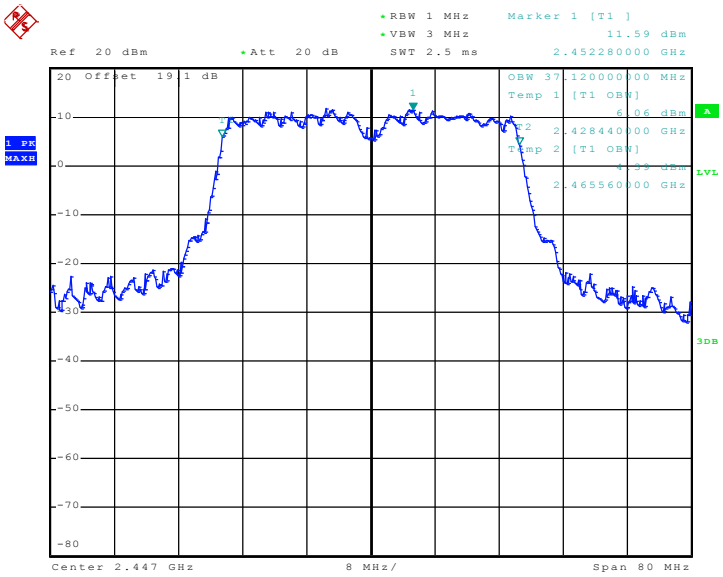
**Channel 06 - Chain A+B**




Date: 24.SEP.2010 00:32:38

**Mode 19: 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)**

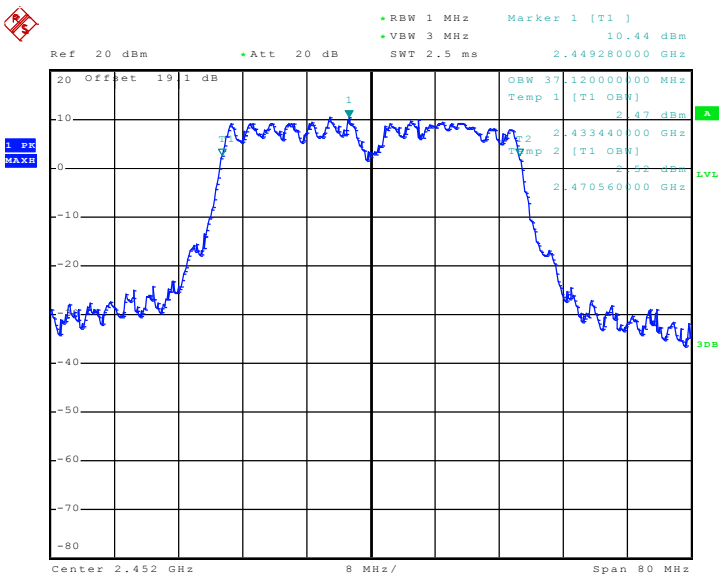
**Channel 08 - Chain A+B**




Date: 24.SEP.2010 00:31:45

**Mode 20: 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)**

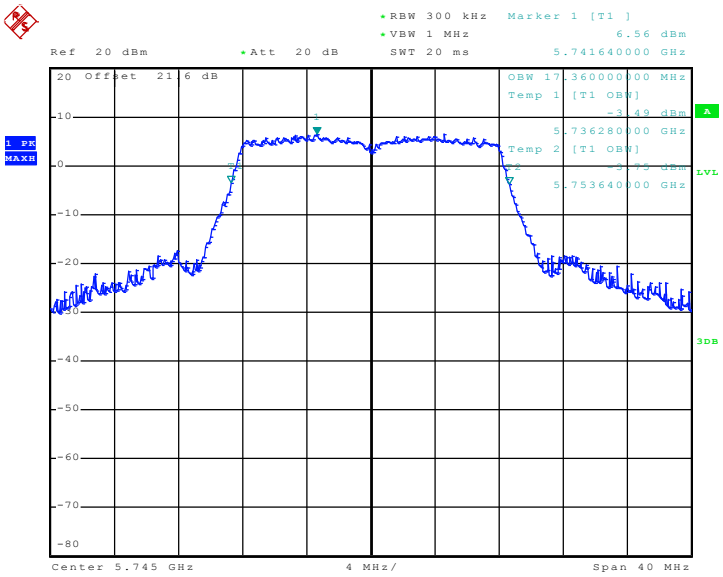
**Channel 09 - Chain A+B**




Date: 24.SEP.2010 00:30:07

**Mode 21:**

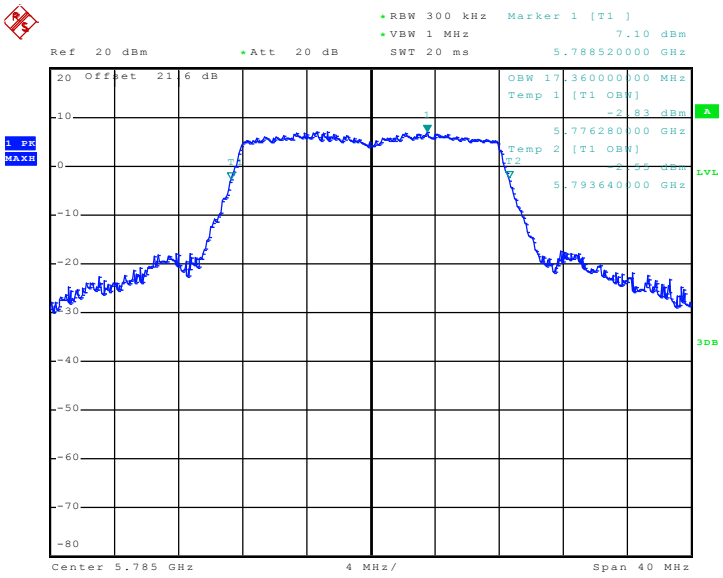
**99% Occupied Bandwidth Plot on 802.11a Channel 149 - Chain A**




Date: 20.SEP.2010 16:03:31

**Mode 22:**

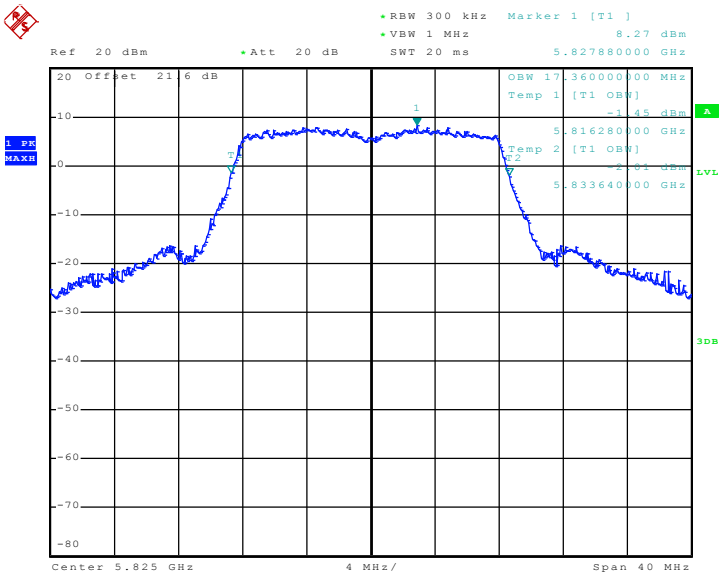
**99% Occupied Bandwidth Plot on 802.11a Channel 157 - Chain A**




Date: 20.SEP.2010 19:20:36

**Mode 23:**

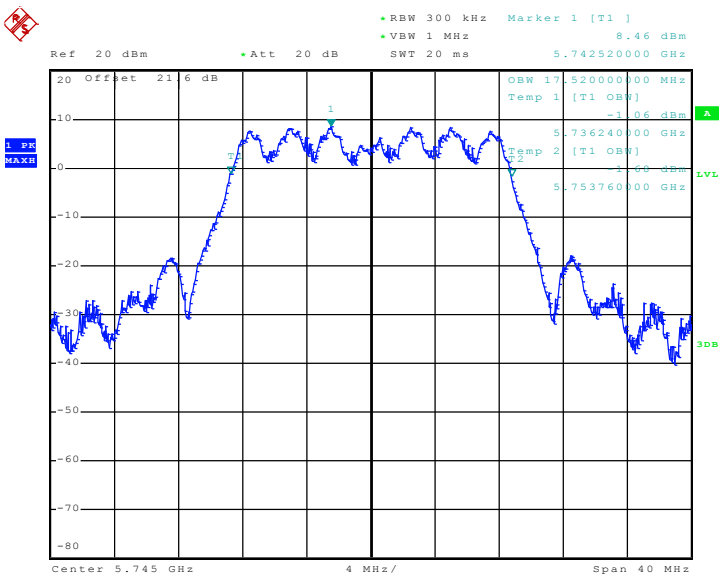
**99% Occupied Bandwidth Plot on 802.11a Channel 165 - Chain A**




Date: 20.SEP.2010 19:19:40

**Mode 24: 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

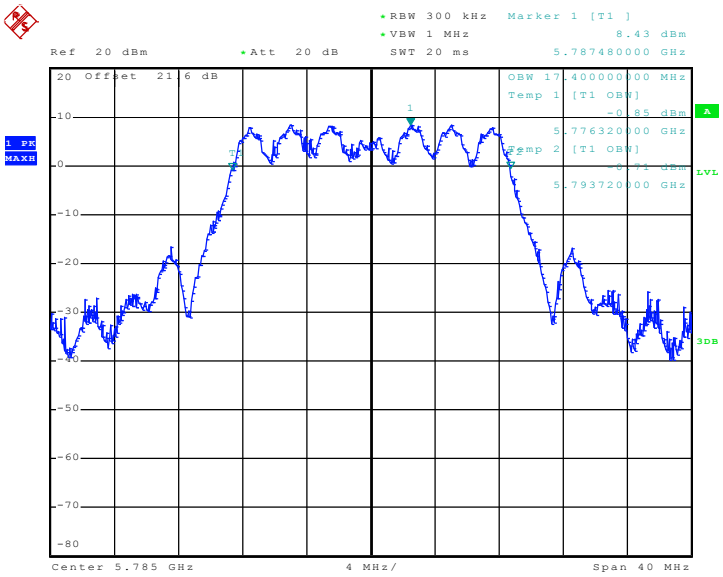
**Channel 149 - Chain A+B**




Date: 24.SEP.2010 03:04:13

**Mode 25: 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

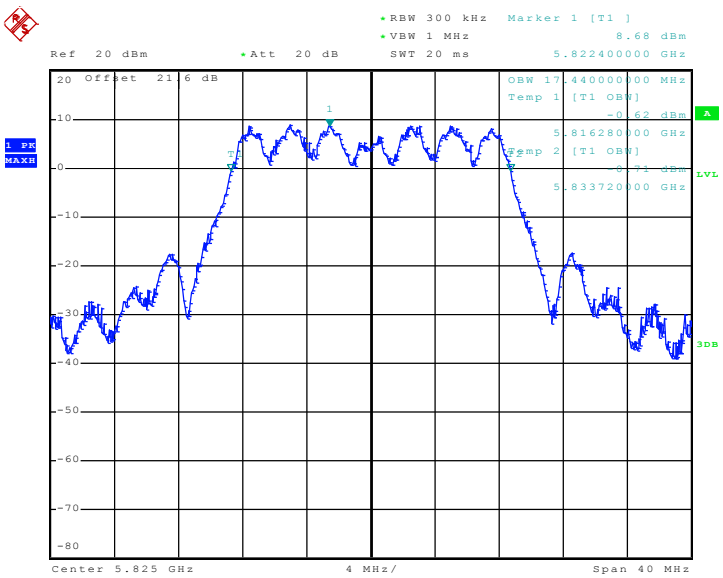
**Channel 157 - Chain A+B**




Date: 24.SEP.2010 03:04:54

**Mode 26: 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

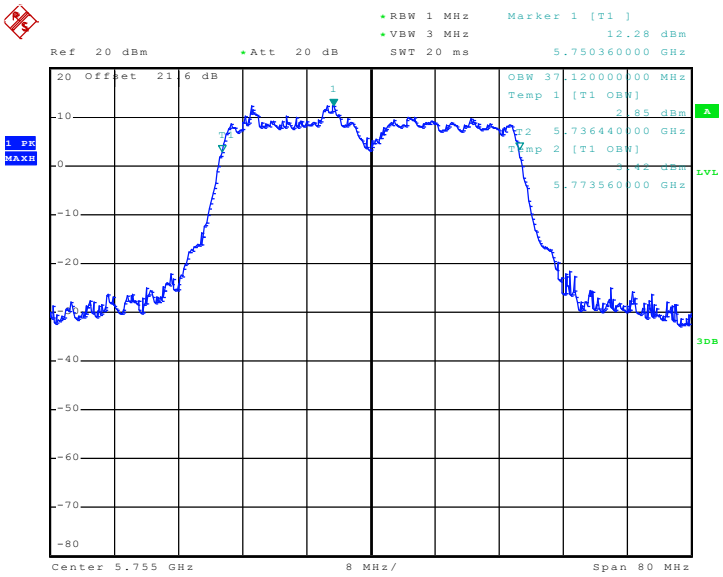
**Channel 165 - Chain A+B**




Date: 24.SEP.2010 03:05:49

**Mode 27: 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)**

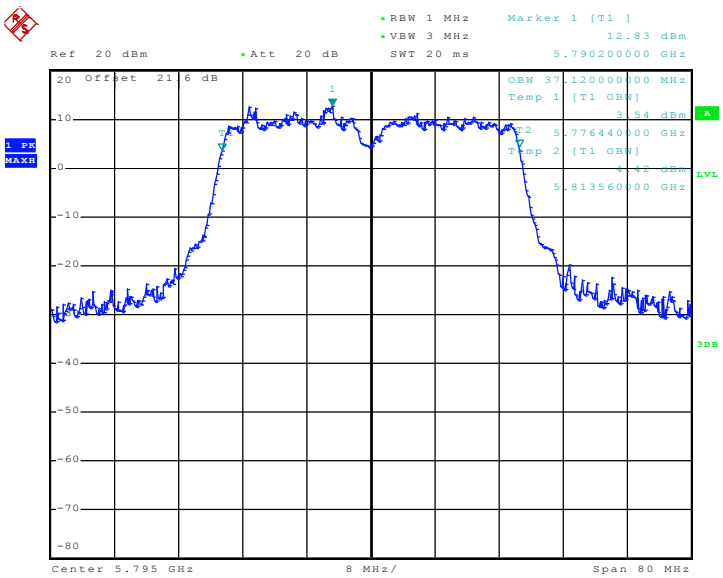
**Channel 151 - Chain A+B**




Date: 24.SEP.2010 03:39:26

**Mode 28: 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)**

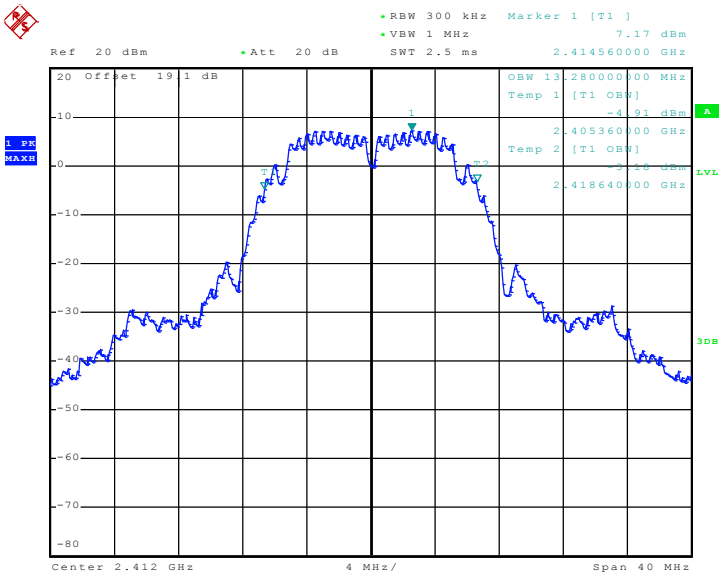
**Channel 159 - Chain A+B**




Date: 24.SEP.2010 03:40:07

**Mode 29 :**

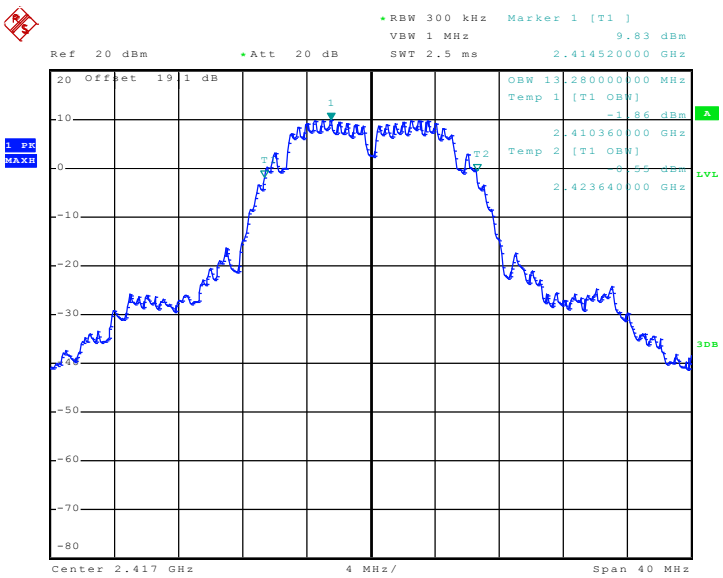
**99% Occupied Bandwidth Plot on 802.11b Channel 01 - Chain A**




Date: 16.SEP.2010 03:14:51

**Mode 30 :**

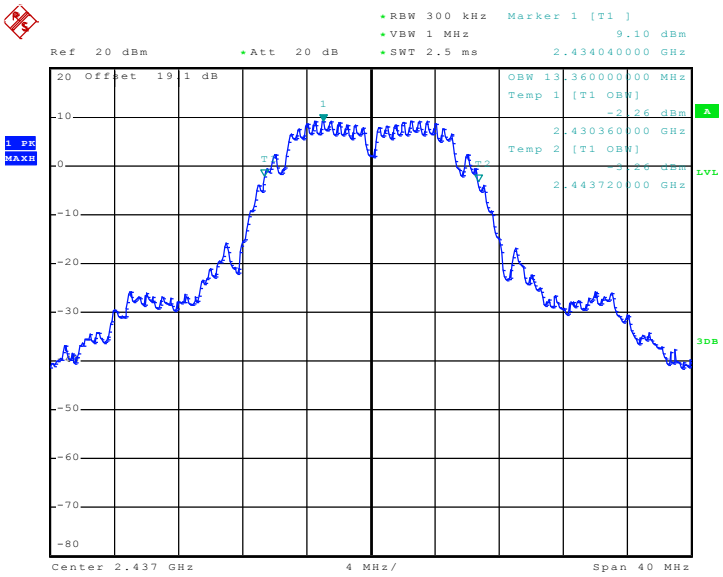
**99% Occupied Bandwidth Plot on 802.11b Channel 02 - Chain A**




Date: 16.SEP.2010 03:17:47

**Mode 31 :**

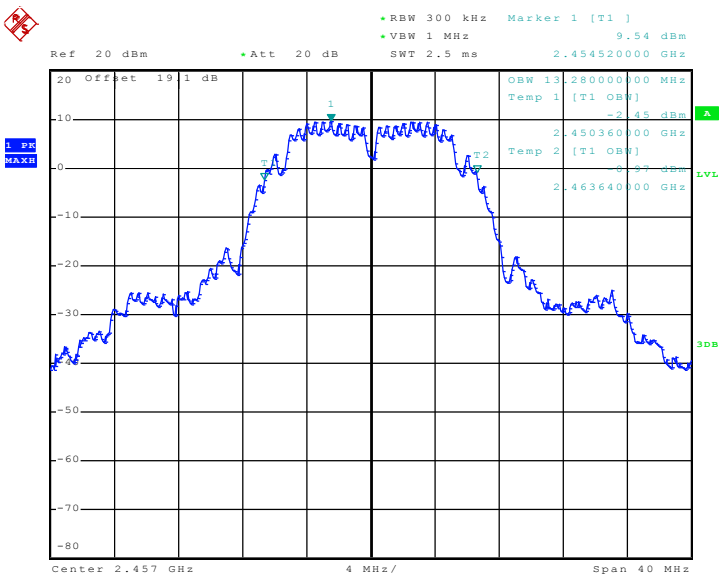
**99% Occupied Bandwidth Plot on 802.11b Channel 06 - Chain A**




Date: 24.SEP.2010 04:56:30

**Mode 32 :**

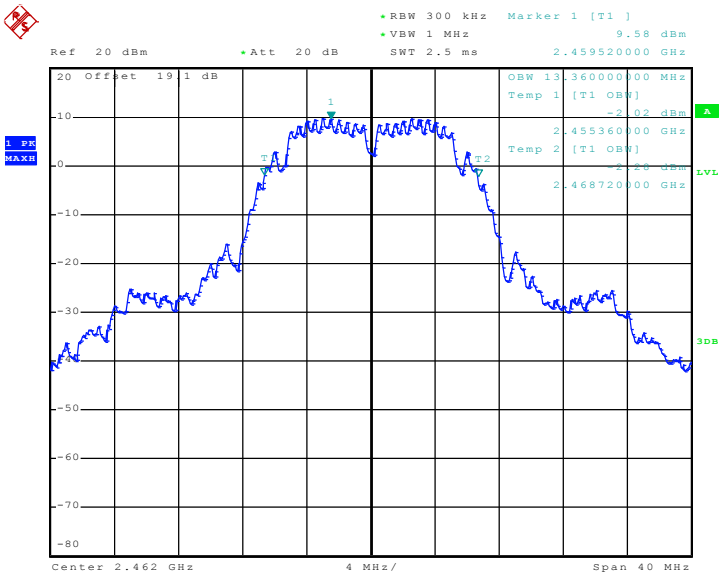
**99% Occupied Bandwidth Plot on 802.11b Channel 10 - Chain A**




Date: 16.SEP.2010 03:21:45

**Mode 33 :**

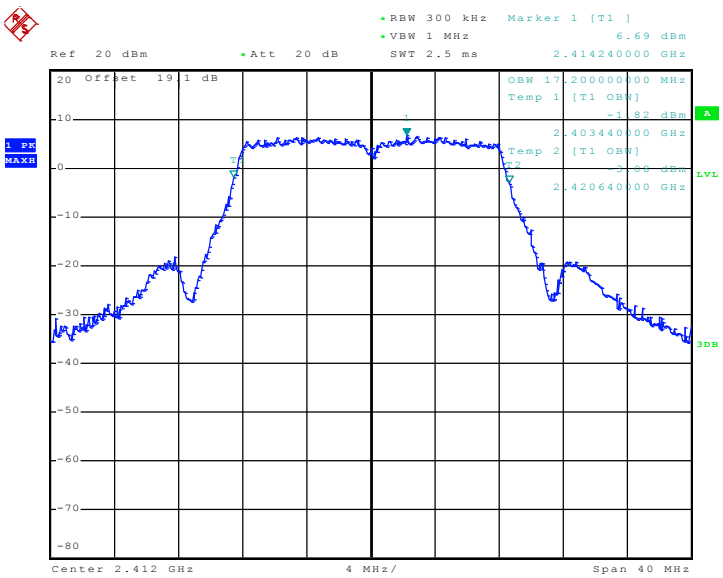
**99% Occupied Bandwidth Plot on 802.11b Channel 11 - Chain A**




Date: 16.SEP.2010 03:22:23

**Mode 34 :**

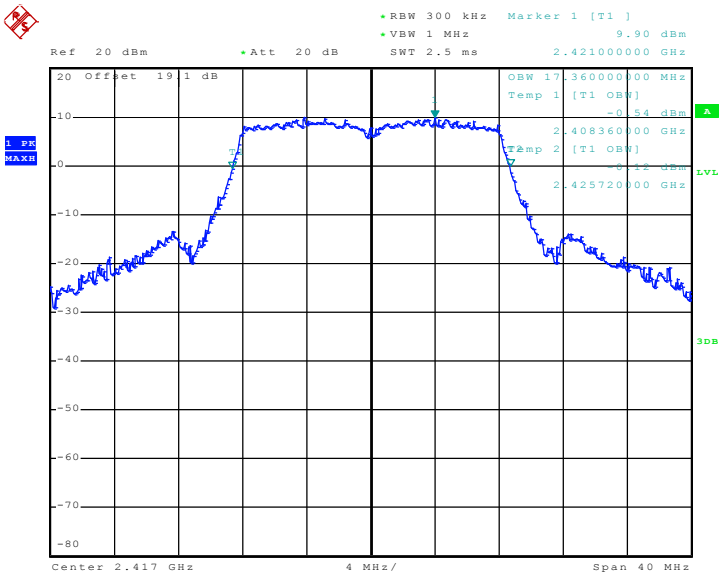
**99% Occupied Bandwidth Plot on 802.11g Channel 01 - Chain A**




Date: 16.SEP.2010 04:46:57

**Mode 35 :**

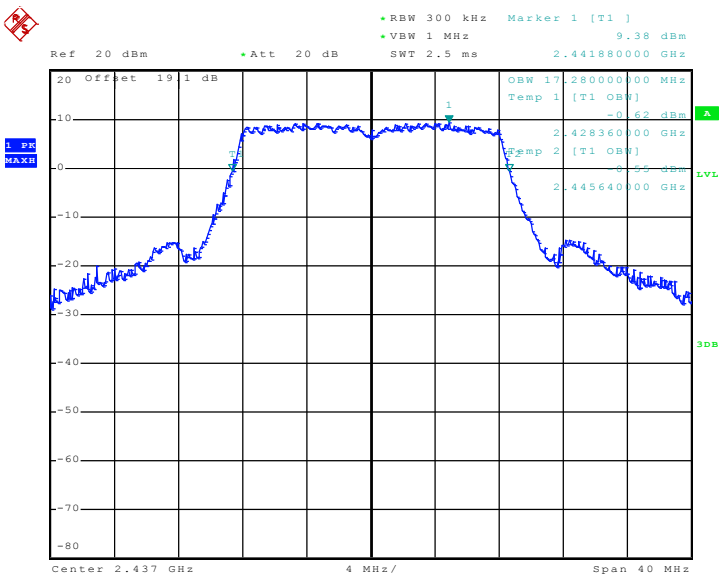
**99% Occupied Bandwidth Plot on 802.11g Channel 02 - Chain A**




Date: 16.SEP.2010 05:11:56

**Mode 36 :**

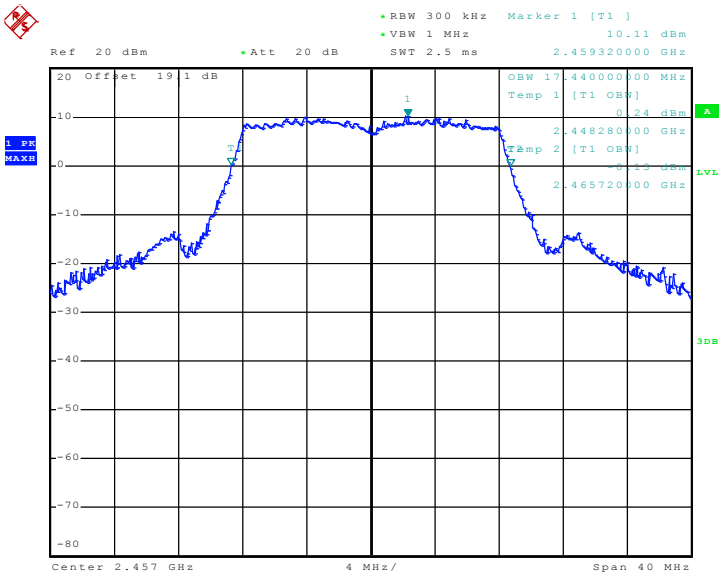
**99% Occupied Bandwidth Plot on 802.11g Channel 06 - Chain A**




Date: 16.SEP.2010 05:15:25

**Mode 37 :**

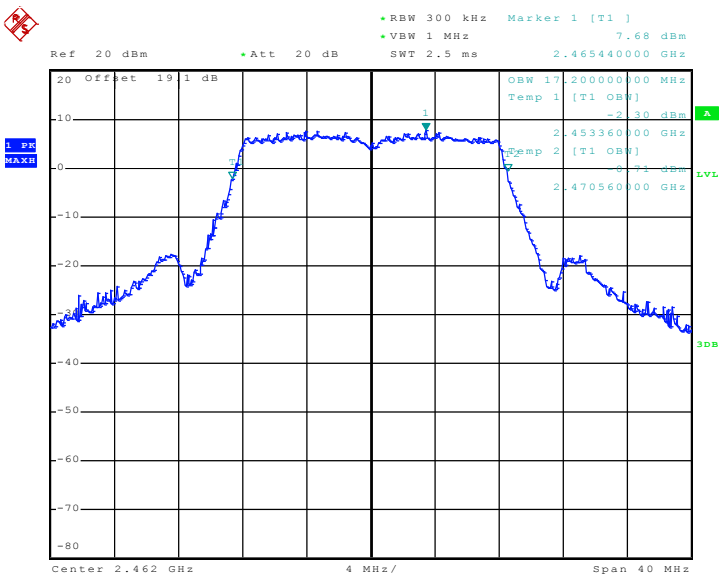
**99% Occupied Bandwidth Plot on 802.11g Channel 10 - Chain A**




Date: 16.SEP.2010 05:43:02

**Mode 38 :**

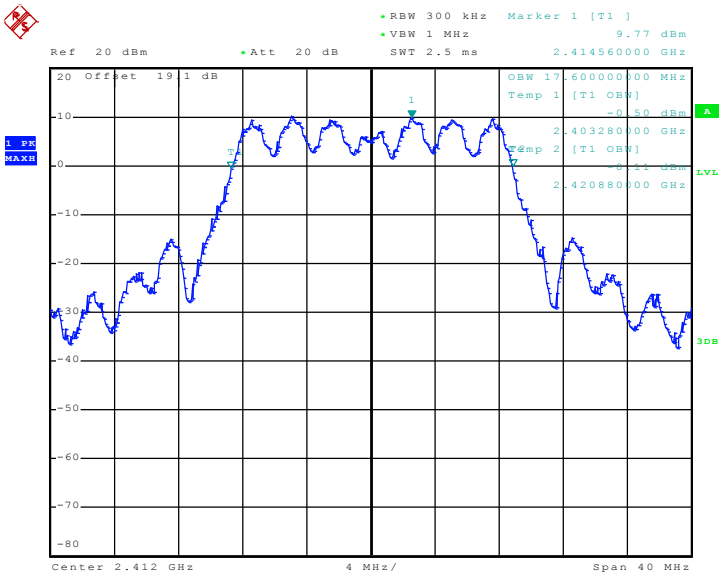
**99% Occupied Bandwidth Plot on 802.11g Channel 11 - Chain A**




Date: 16.SEP.2010 05:50:39

**Mode 39 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

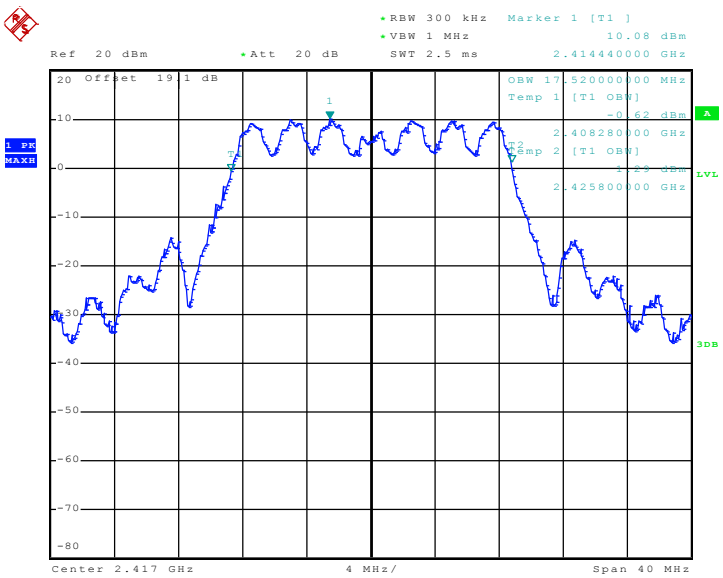
**Channel 01 - Chain A+B**




Date: 27.SEP.2010 18:08:45

**Mode 40 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

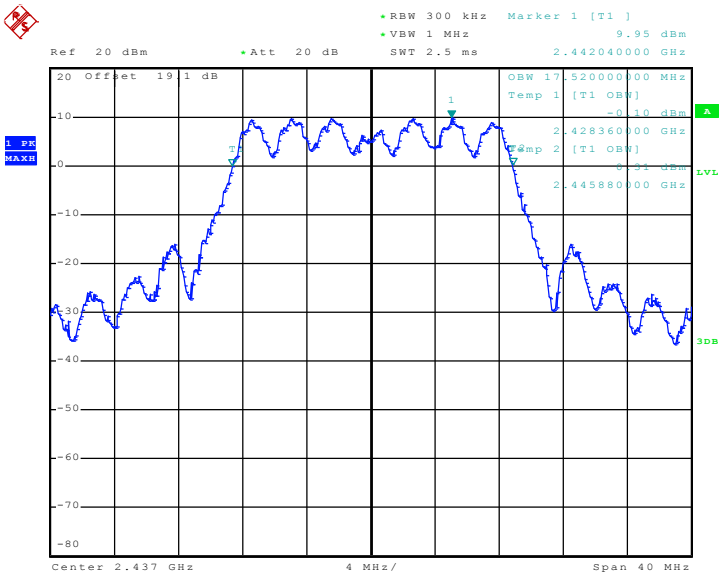
**Channel 02 - Chain A+B**




Date: 27.SEP.2010 18:09:31

**Mode 41 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

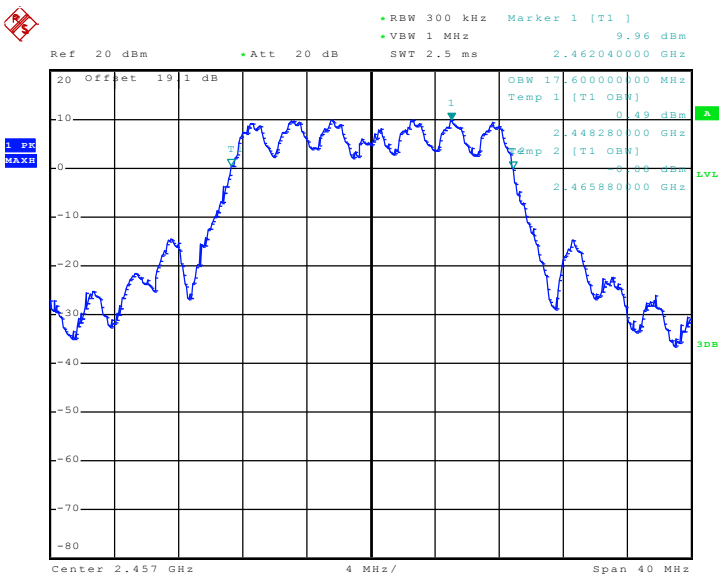
**Channel 06 - Chain A+B**




Date: 27.SEP.2010 18:13:42

**Mode 42 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

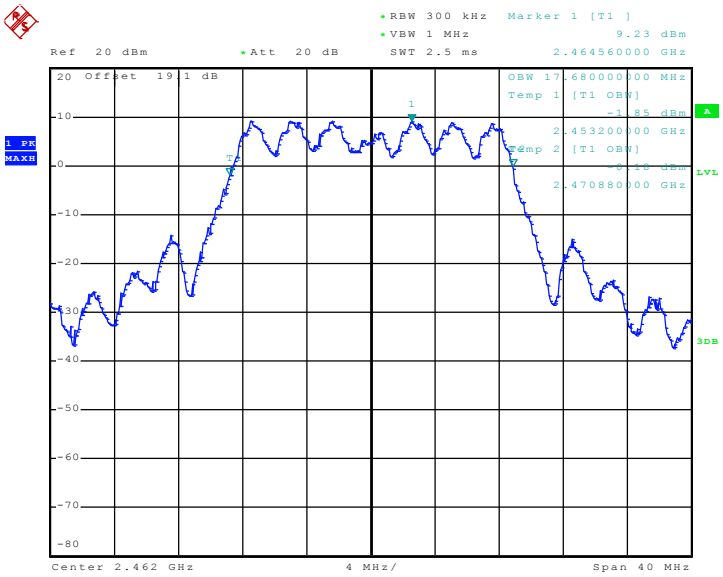
**Channel 10 - Chain A+B**




Date: 27.SEP.2010 18:14:31

**Mode 43 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

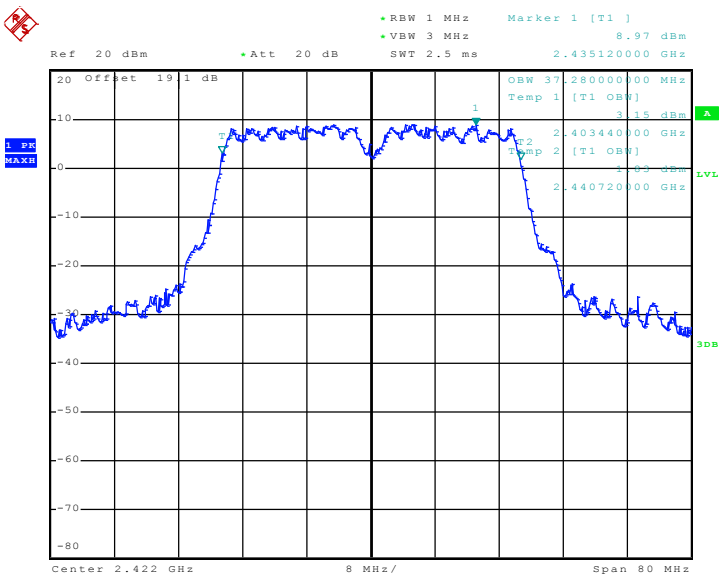
**Channel 11 - Chain A+B**




Date: 27.SEP.2010 18:19:47

**Mode 44 : 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)**

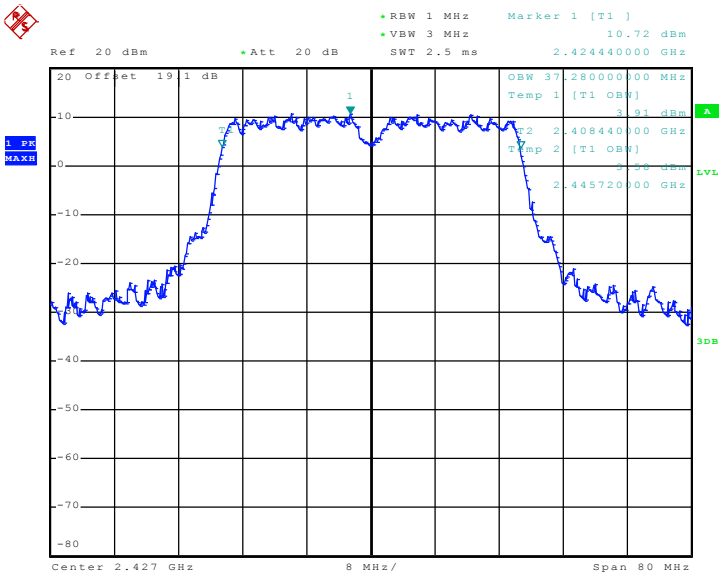
**Channel 03 - Chain A+B**




Date: 27.SEP.2010 18:38:43

**Mode 45 : 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)**

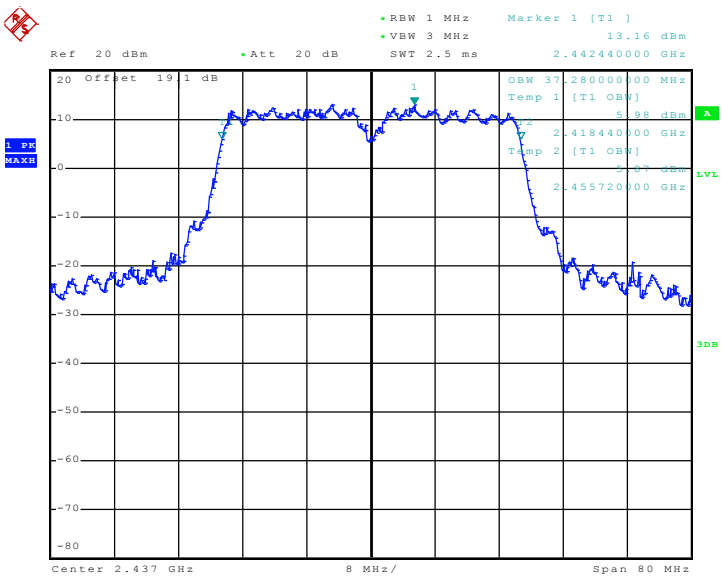
**Channel 04 - Chain A+B**




Date: 27.SEP.2010 18:37:22

**Mode 46 : 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)**

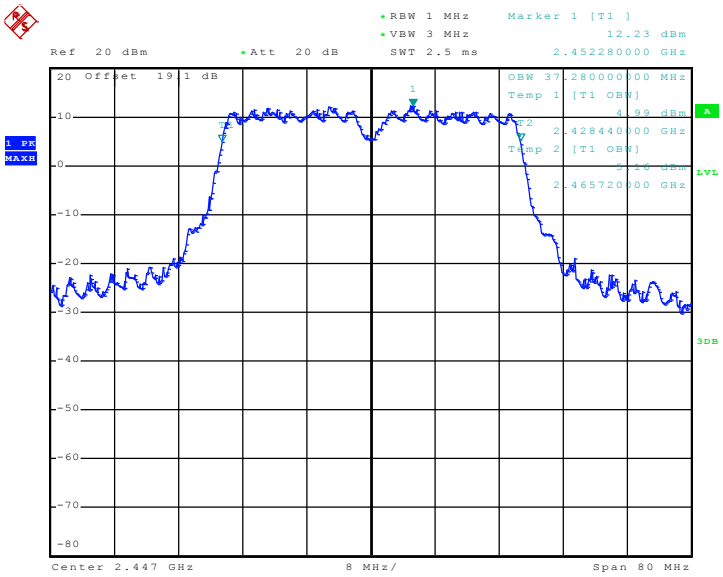
**Channel 06 - Chain A+B**




Date: 27.SEP.2010 18:35:48

**Mode 47: 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)**

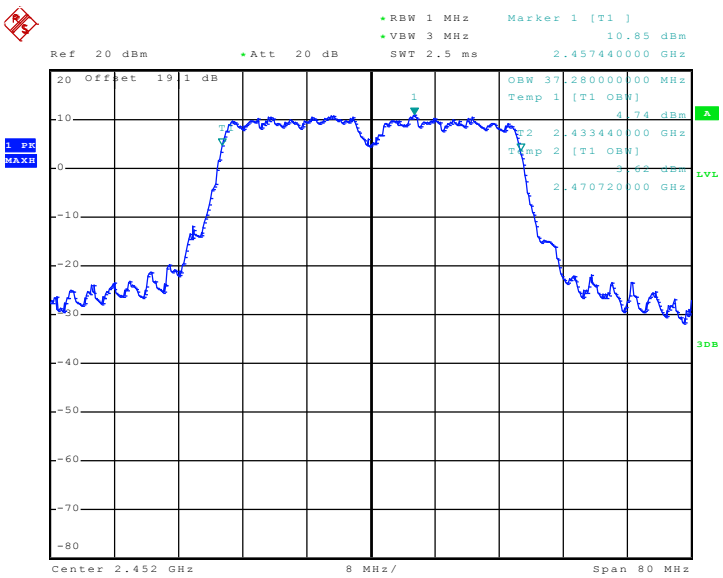
**Channel 08 - Chain A+B**




Date: 27.SEP.2010 18:34:53

**Mode 48: 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)**

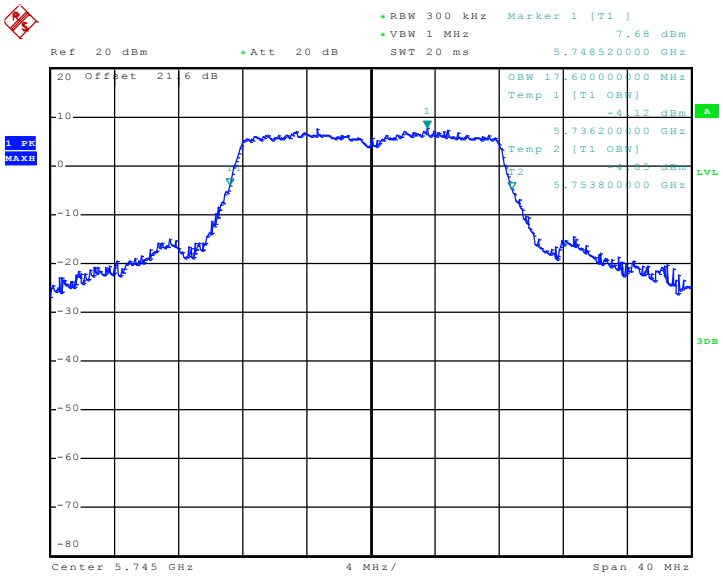
**Channel 09 - Chain A+B**




Date: 27.SEP.2010 18:33:44

**Mode 49:**

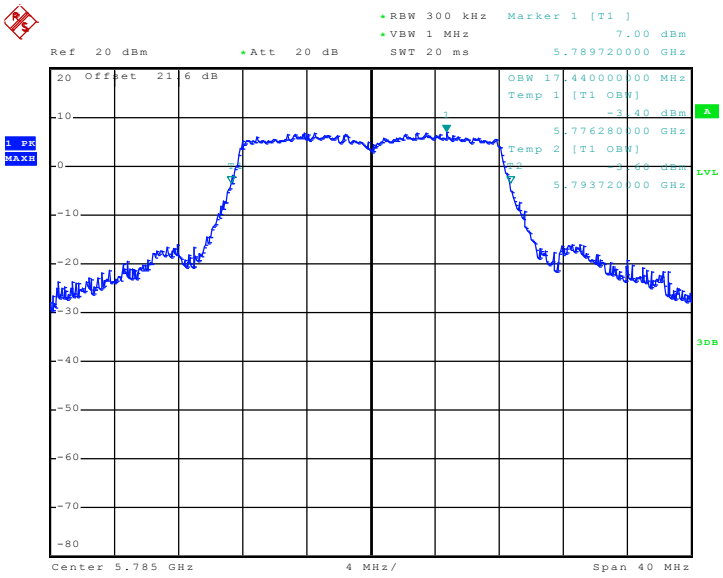
**99% Occupied Bandwidth Plot on 802.11a Channel 149 - Chain A**




Date: 20.SEP.2010 14:22:44

**Mode 50:**

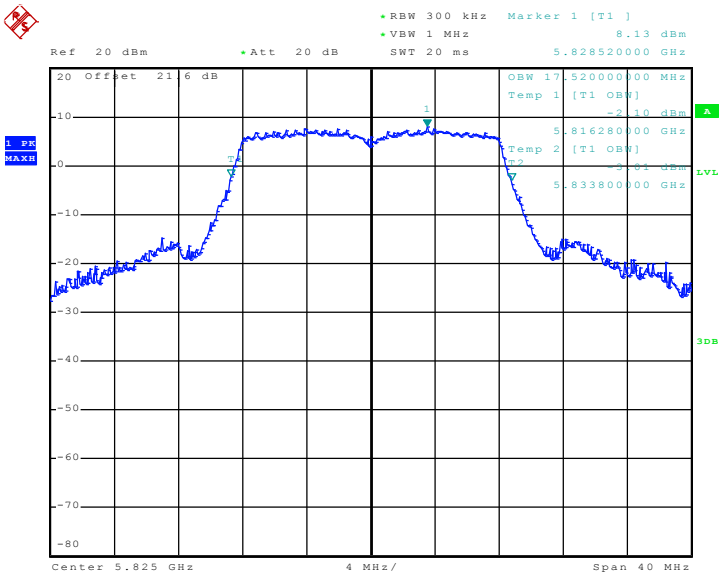
**99% Occupied Bandwidth Plot on 802.11a Channel 157 - Chain A**




Date: 20.SEP.2010 14:23:27

**Mode 51:**

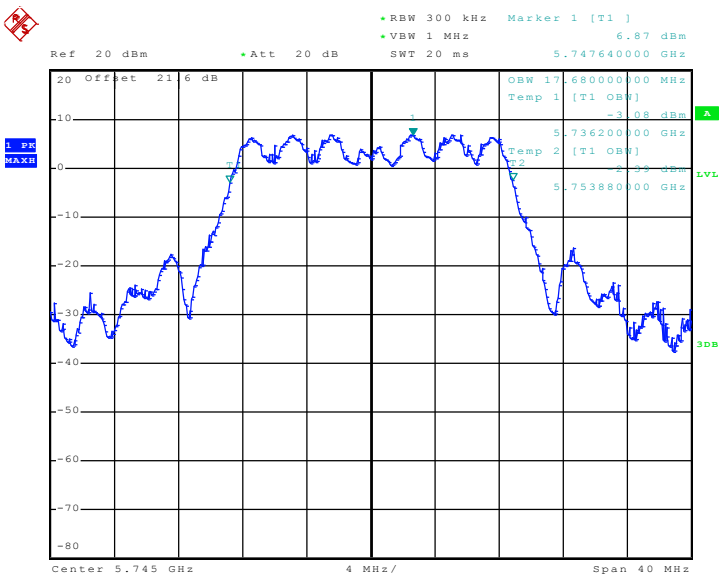
**99% Occupied Bandwidth Plot on 802.11a Channel 165 - Chain A**




Date: 20.SEP.2010 14:57:24

**Mode 52: 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

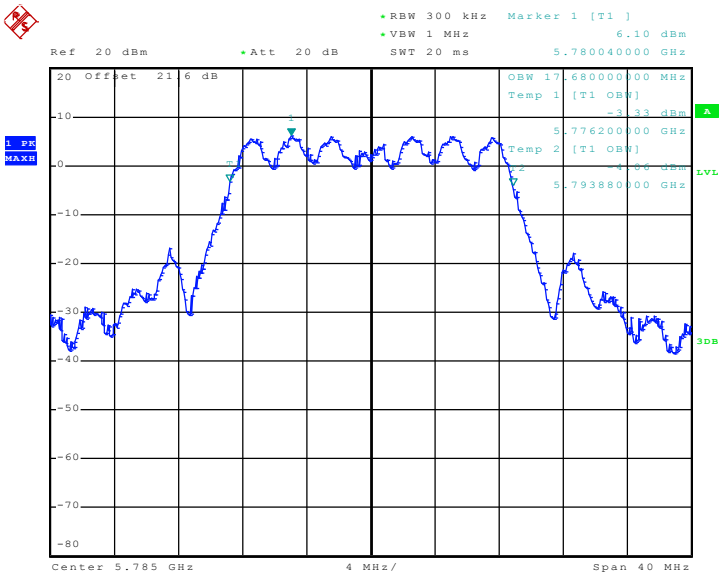
**Channel 149 - Chain A+B**




Date: 28.SEP.2010 00:40:56

**Mode 53: 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

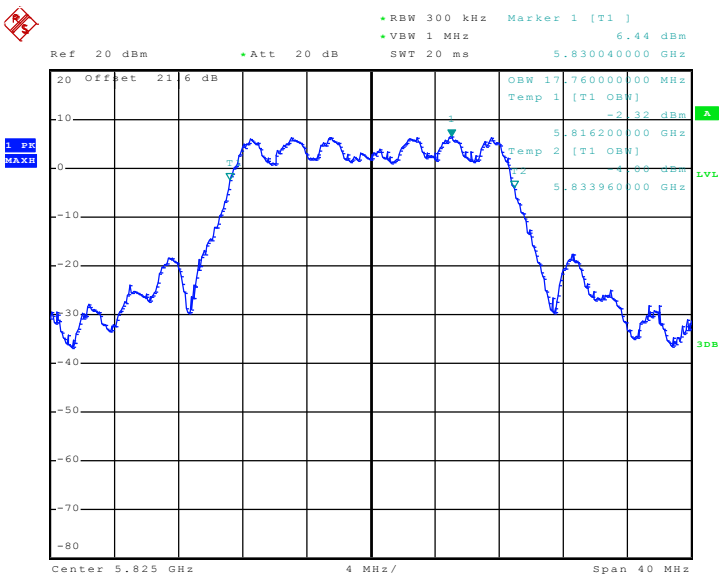
**Channel 157 - Chain A+B**




Date: 28.SEP.2010 00:39:25

**Mode 54: 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)**

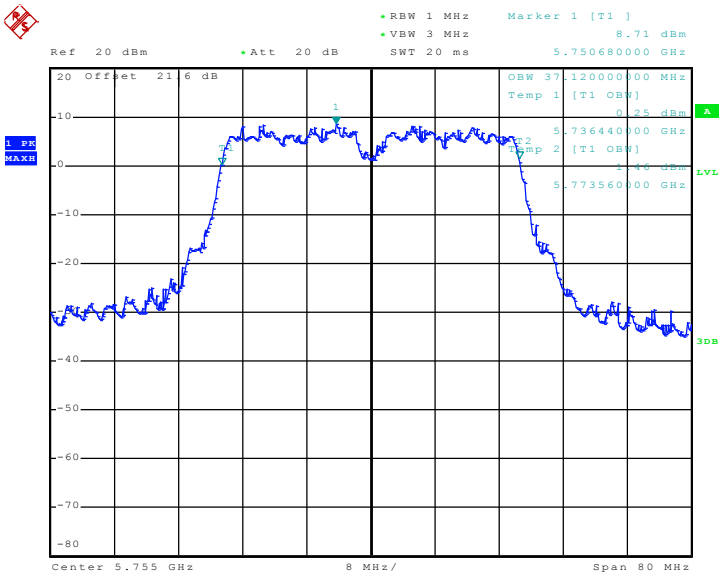
**Channel 165 - Chain A+B**




Date: 28.SEP.2010 00:38:30

**Mode 55: 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)**

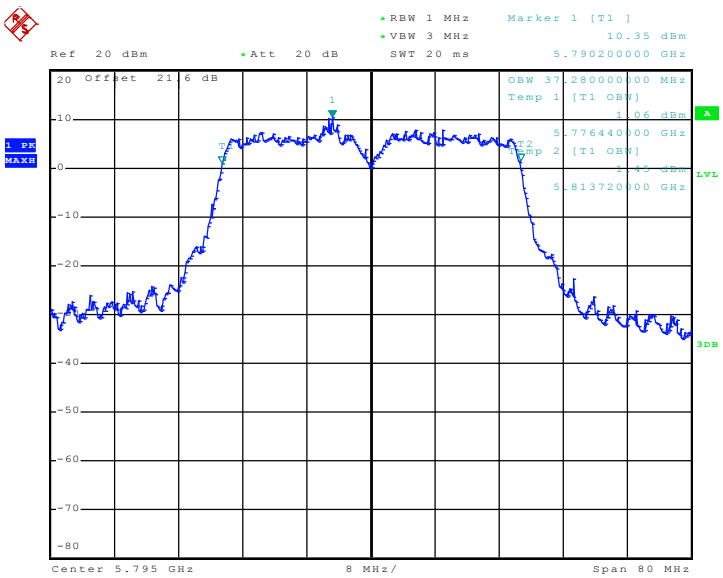
**Channel 151 - Chain A+B**




Date: 28.SEP.2010 00:45:53

**Mode 56: 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)**

**Channel 159 - Chain A+B**




Date: 28.SEP.2010 00:47:22

## 3.2 Output Power Measurement

### 3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz and 5725-5850MHz, the limit for peak output power is 30dBm. If transmitting antenna of directional gain greater than 6dBi are used the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

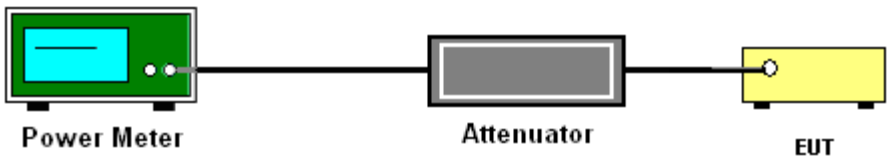
### 3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.2.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the power meter by a low loss cable.
3. Measure the power by power meter.

### 3.2.4 Test Setup



### 3.2.5 Test Result of Output Power

| Test Mode : | Mode 1~5 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11b Measured Output Power (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 01 | 2412 | 22.06 | 30 | Pass |
| 02 | 2417 | 23.73 | 30 | Pass |
| 06 | 2437 | 23.80 | 30 | Pass |
| 10 | 2457 | 22.14 | 30 | Pass |
| 11 | 2462 | 22.17 | 30 | Pass |

| Test Mode : | Mode 6~10 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11g Measured Output Power (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 01 | 2412 | 25.10 | 30 | Pass |
| 02 | 2417 | 25.66 | 30 | Pass |
| 06 | 2437 | 25.25 | 30 | Pass |
| 10 | 2457 | 25.64 | 30 | Pass |
| 11 | 2462 | 24.51 | 30 | Pass |

| Test Mode : | Mode 11~15 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) Measured Output Power (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 01 | 2412 | 25.98 | 30 | Pass |
| 02 | 2417 | 26.47 | 30 | Pass |
| 06 | 2437 | 26.15 | 30 | Pass |
| 10 | 2457 | 26.25 | 30 | Pass |
| 11 | 2462 | 25.56 | 30 | Pass |

| Test Mode : | Mode 16~20 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) Measured Output Power (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 03 | 2422 | 23.99 | 30 | Pass |
| 04 | 2427 | 23.77 | 30 | Pass |
| 06 | 2437 | 25.33 | 30 | Pass |
| 08 | 2447 | 25.12 | 30 | Pass |
| 09 | 2452 | 23.61 | 30 | Pass |

| Test Mode : | Mode 21~23 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11a Measured Output Power (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 149 | 5745 | 22.88 | 30 | Pass |
| 157 | 5785 | 22.57 | 30 | Pass |
| 165 | 5825 | 23.15 | 30 | Pass |

| Test Mode : | Mode 24~26 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) Measured Output Power (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 149 | 5745 | 24.62 | 30 | Pass |
| 157 | 5785 | 24.74 | 30 | Pass |
| 165 | 5825 | 25.04 | 30 | Pass |

| Test Mode : | Mode 27~28 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) Measured Output Power (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 151 | 5755 | 24.29 | 30 | Pass |
| 159 | 5795 | 24.34 | 30 | Pass |

| Test Mode : | Mode 29~33 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11b Measured Output Power (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 01 | 2412 | 20.52 | 30 | Pass |
| 02 | 2417 | 23.12 | 30 | Pass |
| 06 | 2437 | 22.48 | 30 | Pass |
| 10 | 2457 | 21.84 | 30 | Pass |
| 11 | 2462 | 21.83 | 30 | Pass |

| Test Mode : | Mode 34~38 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11g Measured Output Power (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 01 | 2412 | 24.09 | 30 | Pass |
| 02 | 2417 | 25.36 | 30 | Pass |
| 06 | 2437 | 25.58 | 30 | Pass |
| 10 | 2457 | 25.33 | 30 | Pass |
| 11 | 2462 | 24.50 | 30 | Pass |

| Test Mode : | Mode 39~43 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) Measured Output Power (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 01 | 2412 | 25.74 | 30 | Pass |
| 02 | 2417 | 26.41 | 30 | Pass |
| 06 | 2437 | 25.86 | 30 | Pass |
| 10 | 2457 | 26.20 | 30 | Pass |
| 11 | 2462 | 25.34 | 30 | Pass |

| Test Mode : | Mode 44~48 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) Measured Output Power (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 03 | 2422 | 22.29 | 30 | Pass |
| 04 | 2427 | 23.83 | 30 | Pass |
| 06 | 2437 | 25.37 | 30 | Pass |
| 08 | 2447 | 24.96 | 30 | Pass |
| 09 | 2452 | 24.24 | 30 | Pass |

| Test Mode : | Mode 49~51 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11a Measured Output Power (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 149 | 5745 | 22.52 | 30 | Pass |
| 157 | 5785 | 22.90 | 30 | Pass |
| 165 | 5825 | 22.84 | 30 | Pass |

| Test Mode : | Mode 52~54 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) Measured Output Power (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 149 | 5745 | 24.57 | 30 | Pass |
| 157 | 5785 | 24.53 | 30 | Pass |
| 165 | 5825 | 24.50 | 30 | Pass |

| Test Mode : | Mode 55~56 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) Measured Output Power (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A+B | | |
| 151 | 5755 | 23.84 | 30 | Pass |
| 159 | 5795 | 24.08 | 30 | Pass |

## 3.3 Band Edges Measurement

### 3.3.1 Limit of Band Edges

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB.

### 3.3.2 Measuring Instruments

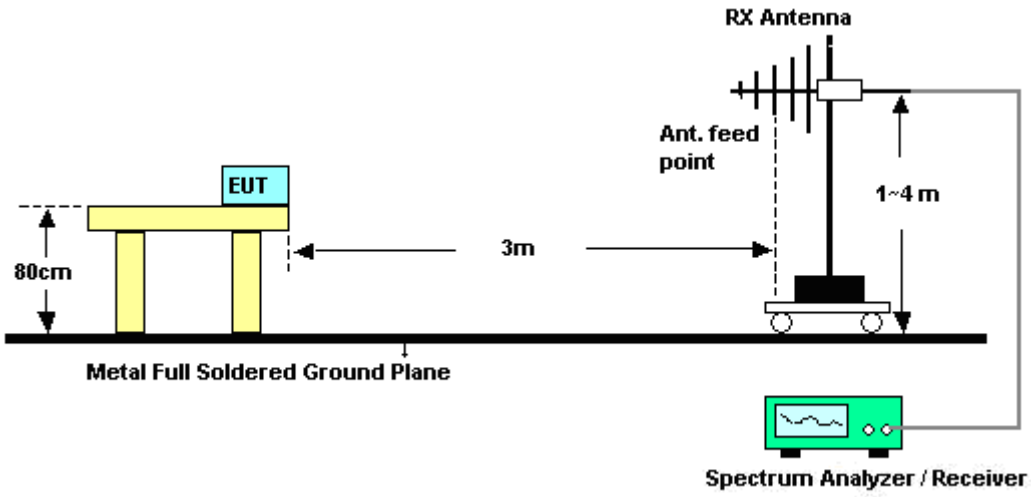
See list of measuring instruments of this test report.

### 3.3.3 Test Procedures

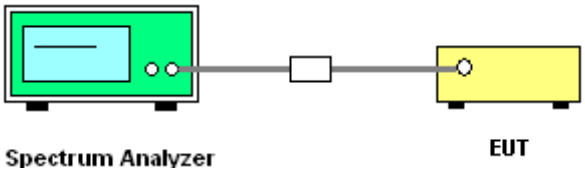
1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 100 kHz, Video bandwidth (VBW) > RBW. Band edge emissions must be at least 20 dB below the highest emission level within the authorized band as measured with a 100 kHz RBW. Note: If the output power of this device was measured by power meter, the attenuation under this paragraph shall be 30 dB instead of 20 dB.
3. Radiated emission test: Apply to band edge emissions that fall in the restricted bands listed in FCC Section 15.205. The maximum permitted average field strength is listed in FCC Section 15.209. A pre-amp is necessary for this measurement. For measurements above 1 GHz, set RBW = 1MHz, VBW = 10 Hz, Sweep=Auto. If the emission is pulsed, modify the unit for continuous operation; use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation as in FCC Section 15.35(b) and (c).

### 3.3.4 Test Setup

**<Radiated Band Edges>**




**<Conducted Band Edges>**



### 3.3.5 Test Result of Radiated Band Edges

| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 1 | **Temperature :** | 25~26°C |
| **Test Band :** | 802.11b | **Relative Humidity :** | 45~46% |
| **Test Channel :** | 01 | **Test Engineer :** | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Frequency ( MHz )** | **Level ( dBuV/m )** | **Over Limit ( dB )** | **Limit Line ( dBuV/m )** | **Read Level (dBuV)** | **Antenna Factor ( dB )** | **Cable Loss ( dB )** | **Preamp Factor ( dB )** | **Ant Pos ( cm )** | **Table Pos ( deg )** | **Remark** |
| 2389.61 | 53.76 | -20.24 | 74 | 49.08 | 32.18 | 6.03 | 33.53 | 100 | 231 | Peak |
| 2389.61 | 41.89 | -12.11 | 54 | 37.21 | 32.18 | 6.03 | 33.53 | 100 | 231 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Frequency ( MHz )** | **Level ( dBuV/m )** | **Over Limit ( dB )** | **Limit Line ( dBuV/m )** | **Read Level (dBuV)** | **Antenna Factor ( dB )** | **Cable Loss ( dB )** | **Preamp Factor ( dB )** | **Ant Pos ( cm )** | **Table Pos ( deg )** | **Remark** |
| 2389.99 | 56.97 | -17.03 | 74 | 52.29 | 32.18 | 6.03 | 33.53 | 100 | 347 | Peak |
| 2389.99 | 45.79 | -8.21 | 54 | 41.11 | 32.18 | 6.03 | 33.53 | 100 | 347 | Average |

| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 5 | **Temperature :** | 25~26°C |
| **Test Band :** | 802.11b | **Relative Humidity :** | 45~46% |
| **Test Channel :** | 11 | **Test Engineer :** | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Frequency ( MHz )** | **Level ( dBuV/m )** | **Over Limit ( dB )** | **Limit Line ( dBuV/m )** | **Read Level (dBuV)** | **Antenna Factor ( dB )** | **Cable Loss ( dB )** | **Preamp Factor ( dB )** | **Ant Pos ( cm )** | **Table Pos ( deg )** | **Remark** |
| 2483.66 | 49.01 | -24.99 | 74 | 44.11 | 32.28 | 6.18 | 33.56 | 164 | 338 | Peak |
| 2483.66 | 37.98 | -16.02 | 54 | 33.08 | 32.28 | 6.18 | 33.56 | 164 | 338 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Frequency ( MHz )** | **Level ( dBuV/m )** | **Over Limit ( dB )** | **Limit Line ( dBuV/m )** | **Read Level (dBuV)** | **Antenna Factor ( dB )** | **Cable Loss ( dB )** | **Preamp Factor ( dB )** | **Ant Pos ( cm )** | **Table Pos ( deg )** | **Remark** |
| 2484.42 | 57.56 | -16.44 | 74 | 52.66 | 32.28 | 6.18 | 33.56 | 123 | 168 | Peak |
| 2484.42 | 47.67 | -6.33 | 54 | 42.77 | 32.28 | 6.18 | 33.56 | 123 | 168 | Average |

| Test Mode : | Mode 6 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11g | Relative Humidity : | 45~46% |
| Test Channel : | 01 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2389.99 | 64.86 | -9.14 | 74 | 60.18 | 32.18 | 6.03 | 33.53 | 100 | 230 | Peak |
| 2389.99 | 46.35 | -7.65 | 54 | 41.67 | 32.18 | 6.03 | 33.53 | 100 | 230 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2389.99 | 68.36 | -5.64 | 74 | 63.68 | 32.18 | 6.03 | 33.53 | 100 | 347 | Peak |
| 2389.99 | 49.85 | -4.15 | 54 | 45.17 | 32.18 | 6.03 | 33.53 | 100 | 347 | Average |

| Test Mode : | Mode 10 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11g | Relative Humidity : | 45~46% |
| Test Channel : | 11 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2483.5 | 56.68 | -17.32 | 74 | 51.78 | 32.28 | 6.18 | 33.56 | 194 | 230 | Peak |
| 2483.5 | 41.28 | -12.72 | 54 | 36.38 | 32.28 | 6.18 | 33.56 | 194 | 230 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2483.5 | 66.25 | -7.75 | 74 | 61.35 | 32.28 | 6.18 | 33.56 | 124 | 168 | Peak |
| 2483.5 | 49.74 | -4.26 | 54 | 44.84 | 32.28 | 6.18 | 33.56 | 124 | 168 | Average |

| Test Mode : | Mode 11 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 20MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 01 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2389.61 | 69.3 | -4.7 | 74 | 64.62 | 32.18 | 6.03 | 33.53 | 130 | 233 | Peak |
| 2389.61 | 50.04 | -3.96 | 54 | 45.36 | 32.18 | 6.03 | 33.53 | 130 | 233 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2388.85 | 68.11 | -5.89 | 74 | 63.43 | 32.18 | 6.03 | 33.53 | 100 | 166 | Peak |
| 2388.85 | 48.14 | -5.86 | 54 | 43.46 | 32.18 | 6.03 | 33.53 | 100 | 166 | Average |

| Test Mode : | Mode 15 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 20MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 11 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2485.18 | 64.82 | -9.18 | 74 | 59.92 | 32.28 | 6.18 | 33.56 | 195 | 233 | Peak |
| 2485.18 | 46.11 | -7.89 | 54 | 41.21 | 32.28 | 6.18 | 33.56 | 195 | 233 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2483.66 | 65.6 | -8.4 | 74 | 60.7 | 32.28 | 6.18 | 33.56 | 124 | 349 | Peak |
| 2483.66 | 47.57 | -6.43 | 54 | 42.67 | 32.28 | 6.18 | 33.56 | 124 | 349 | Average |

| Test Mode : | Mode 16 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 40MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 03 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2385.05 | 68.91 | -5.09 | 74 | 64.25 | 32.16 | 6.03 | 33.53 | 200 | 233 | Peak |
| 2385.05 | 51.25 | -2.75 | 54 | 46.59 | 32.16 | 6.03 | 33.53 | 200 | 233 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2376.69 | 68.49 | -5.51 | 74 | 63.87 | 32.16 | 5.99 | 33.53 | 100 | 71 | Peak |
| 2376.69 | 49.89 | -4.11 | 54 | 45.27 | 32.16 | 5.99 | 33.53 | 100 | 71 | Average |

| Test Mode : | Mode 20 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 40MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 09 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2485.37 | 66.36 | -7.64 | 74 | 61.46 | 32.28 | 6.18 | 33.56 | 200 | 235 | Peak |
| 2485.37 | 49.55 | -4.45 | 54 | 44.65 | 32.28 | 6.18 | 33.56 | 200 | 235 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2485.18 | 64.55 | -9.45 | 74 | 59.65 | 32.28 | 6.18 | 33.56 | 121 | 197 | Peak |
| 2485.18 | 50.5 | -3.5 | 54 | 45.6 | 32.28 | 6.18 | 33.56 | 121 | 197 | Average |

| Test Mode : | Mode 21 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11a | Relative Humidity : | 45~46% |
| Test Channel : | 149 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5725 | 69.92 | -12.34 | 82.26 | 61.02 | 34.82 | 9.92 | 35.84 | 100 | 358 | Peak |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5725 | 77.8 | -11.36 | 89.16 | 68.9 | 34.82 | 9.92 | 35.84 | 129 | 5 | Peak |

| Test Mode : | Mode 23 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11a | Relative Humidity : | 45~46% |
| Test Channel : | 165 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5850 | 64.38 | -15.87 | 80.25 | 55.34 | 34.94 | 9.87 | 35.77 | 100 | 2 | Peak |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5850 | 72.71 | -14.92 | 87.63 | 63.67 | 34.94 | 9.87 | 35.77 | 125 | 3 | Peak |

| Test Mode : | Mode 24 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 20MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 149 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5725 | 66.58 | -13.2 | 79.78 | 57.68 | 34.82 | 9.92 | 35.84 | 100 | 349 | Peak |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5725 | 72.67 | -13.71 | 86.38 | 63.77 | 34.82 | 9.92 | 35.84 | 117 | 354 | Peak |

| Test Mode : | Mode 26 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 20MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 165 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5850 | 57.04 | -22.86 | 79.9 | 48 | 34.94 | 9.87 | 35.77 | 100 | 348 | Peak |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5850 | 66.39 | -19.13 | 85.52 | 57.35 | 34.94 | 9.87 | 35.77 | 103 | 2 | Peak |

| Test Mode : | Mode 27 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 40MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 151 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5725 | 64.86 | -13.49 | 78.35 | 55.96 | 34.82 | 9.92 | 35.84 | 100 | 349 | Peak |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5725 | 71.01 | -12.63 | 83.64 | 62.11 | 34.82 | 9.92 | 35.84 | 104 | 354 | Peak |

| Test Mode : | Mode 28 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 40MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 159 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5850 | 52.03 | -25.33 | 77.36 | 42.99 | 34.94 | 9.87 | 35.77 | 100 | 348 | Peak |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5850 | 58.39 | -24.37 | 82.76 | 49.35 | 34.94 | 9.87 | 35.77 | 115 | 0 | Peak |

| Test Mode : | Mode 29 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11b | Relative Humidity : | 45~46% |
| Test Channel : | 01 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2389.61 | 58.17 | -15.83 | 74 | 53.49 | 32.18 | 6.03 | 33.53 | 131 | 128 | Peak |
| 2389.61 | 48.49 | -5.51 | 54 | 43.81 | 32.18 | 6.03 | 33.53 | 131 | 128 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2389.42 | 61.53 | -12.47 | 74 | 56.85 | 32.18 | 6.03 | 33.53 | 100 | 163 | Peak |
| 2389.42 | 52.37 | -1.63 | 54 | 47.69 | 32.18 | 6.03 | 33.53 | 100 | 163 | Average |

| Test Mode : | Mode 33 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11b | Relative Humidity : | 45~46% |
| Test Channel : | 11 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2483.66 | 54.51 | -19.49 | 74 | 49.61 | 32.28 | 6.18 | 33.56 | 102 | 297 | Peak |
| 2483.66 | 45.64 | -8.36 | 54 | 40.74 | 32.28 | 6.18 | 33.56 | 102 | 297 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2483.66 | 60.75 | -13.25 | 74 | 55.85 | 32.28 | 6.18 | 33.56 | 126 | 163 | Peak |
| 2483.66 | 52.65 | -1.35 | 54 | 47.75 | 32.28 | 6.18 | 33.56 | 126 | 163 | Average |

| Test Mode : | Mode 34 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11g | Relative Humidity : | 45~46% |
| Test Channel : | 01 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2389.99 | 65.85 | -8.15 | 74 | 61.17 | 32.18 | 6.03 | 33.53 | 131 | 128 | Peak |
| 2389.99 | 47.83 | -6.17 | 54 | 43.15 | 32.18 | 6.03 | 33.53 | 131 | 128 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2389.99 | 70.8 | -3.2 | 74 | 66.12 | 32.18 | 6.03 | 33.53 | 100 | 163 | Peak |
| 2389.99 | 52.98 | -1.02 | 54 | 48.3 | 32.18 | 6.03 | 33.53 | 100 | 163 | Average |

| Test Mode : | Mode 38 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11g | Relative Humidity : | 45~46% |
| Test Channel : | 11 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2483.66 | 56.73 | -17.27 | 74 | 51.83 | 32.28 | 6.18 | 33.56 | 102 | 298 | Peak |
| 2483.66 | 40.61 | -13.39 | 54 | 35.71 | 32.28 | 6.18 | 33.56 | 102 | 298 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2483.5 | 63.21 | -10.79 | 74 | 58.31 | 32.28 | 6.18 | 33.56 | 127 | 164 | Peak |
| 2483.5 | 46.63 | -7.37 | 54 | 41.73 | 32.28 | 6.18 | 33.56 | 127 | 164 | Average |

| Test Mode : | Mode 39 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 20MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 01 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2388.85 | 72.56 | -1.44 | 74 | 67.88 | 32.18 | 6.03 | 33.53 | 132 | 127 | Peak |
| 2388.85 | 51.69 | -2.31 | 54 | 47.01 | 32.18 | 6.03 | 33.53 | 132 | 127 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2389.99 | 69.29 | -4.71 | 74 | 64.61 | 32.18 | 6.03 | 33.53 | 100 | 12 | Peak |
| 2389.99 | 50.95 | -3.05 | 54 | 46.27 | 32.18 | 6.03 | 33.53 | 100 | 12 | Average |

| Test Mode : | Mode 43 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 20MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 11 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2483.66 | 61.7 | -12.3 | 74 | 56.8 | 32.28 | 6.18 | 33.56 | 100 | 298 | Peak |
| 2483.66 | 45.04 | -8.96 | 54 | 40.14 | 32.28 | 6.18 | 33.56 | 100 | 298 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2484.42 | 64.94 | -9.06 | 74 | 60.04 | 32.28 | 6.18 | 33.56 | 100 | 37 | Peak |
| 2484.42 | 47.14 | -6.86 | 54 | 42.24 | 32.28 | 6.18 | 33.56 | 100 | 37 | Average |

| Test Mode : | Mode 44 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 40MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 03 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2376.69 | 67.44 | -6.56 | 74 | 62.82 | 32.16 | 5.99 | 33.53 | 133 | 129 | Peak |
| 2376.69 | 50.46 | -3.54 | 54 | 45.84 | 32.16 | 5.99 | 33.53 | 133 | 129 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2387.9 | 65.37 | -8.63 | 74 | 60.69 | 32.18 | 6.03 | 33.53 | 100 | 10 | Peak |
| 2387.9 | 48.51 | -5.49 | 54 | 43.83 | 32.18 | 6.03 | 33.53 | 100 | 10 | Average |

| Test Mode : | Mode 48 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 40MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 09 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2483.5 | 61.19 | -12.81 | 74 | 56.29 | 32.28 | 6.18 | 33.56 | 100 | 126 | Peak |
| 2483.5 | 45.74 | -8.26 | 54 | 40.84 | 32.28 | 6.18 | 33.56 | 100 | 126 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 2484 | 64.57 | -9.43 | 74 | 59.67 | 32.28 | 6.18 | 33.56 | 100 | 34 | Peak |
| 2484 | 46.75 | -7.25 | 54 | 41.85 | 32.28 | 6.18 | 33.56 | 100 | 34 | Average |

| Test Mode : | Mode 49 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11a | Relative Humidity : | 45~46% |
| Test Channel : | 149 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5725 | 71.33 | -9.46 | 80.79 | 62.43 | 34.82 | 9.92 | 35.84 | 100 | 7 | Peak |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5725 | 77.65 | -9.69 | 87.34 | 68.75 | 34.82 | 9.92 | 35.84 | 168 | 348 | Peak |

| Test Mode : | Mode 51 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11a | Relative Humidity : | 45~46% |
| Test Channel : | 165 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5850 | 63.33 | -17.79 | 81.12 | 54.29 | 34.94 | 9.87 | 35.77 | 123 | 12 | Peak |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5850 | 73.48 | -15.72 | 89.2 | 64.44 | 34.94 | 9.87 | 35.77 | 164 | 357 | Peak |

| Test Mode : | Mode 52 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 20MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 149 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5725 | 63.73 | -14.34 | 78.07 | 54.83 | 34.82 | 9.92 | 35.84 | 102 | 6 | Peak |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5725 | 68.08 | -16.78 | 84.86 | 59.18 | 34.82 | 9.92 | 35.84 | 172 | 308 | Peak |

| Test Mode : | Mode 54 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 20MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 165 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5850 | 54.48 | -23.44 | 77.92 | 45.44 | 34.94 | 9.87 | 35.77 | 100 | 24 | Peak |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5850 | 64 | -23.32 | 87.32 | 54.96 | 34.94 | 9.87 | 35.77 | 126 | 353 | Peak |

| Test Mode : | Mode 55 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 40MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 151 | Test Engineer : | David Yang |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5725 | 60.3 | -17.93 | 78.23 | 51.4 | 34.82 | 9.92 | 35.84 | 103 | 25 | Peak |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5725 | 66.82 | -14.16 | 80.98 | 57.92 | 34.82 | 9.92 | 35.84 | 120 | 304 | Peak |

| Test Mode : | Mode 56 | Temperature : | 25~26°C |
|---|---|---|---|
| Test Band : | 802.11n (BW 40MHz) | Relative Humidity : | 45~46% |
| Test Channel : | 159 | Test Engineer : | David Yang |

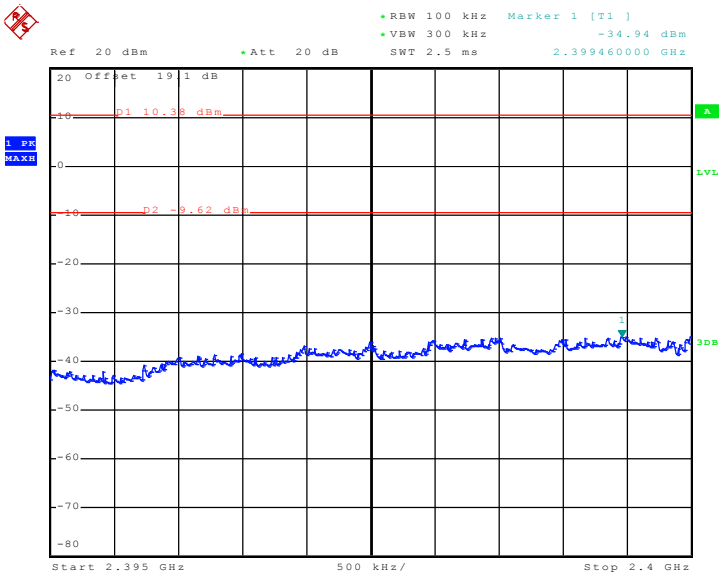
| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5850 | 50.32 | -28.55 | 78.87 | 41.28 | 34.94 | 9.87 | 35.77 | 102 | 25 | Peak |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5850 | 54.57 | -27.61 | 82.18 | 45.53 | 34.94 | 9.87 | 35.77 | 128 | 360 | Peak |

### 3.3.6 Test Result of Conducted Band Edges

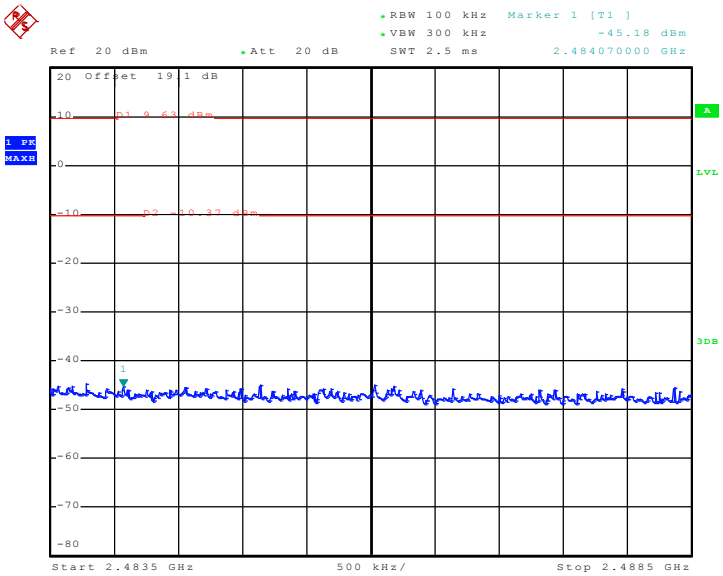
| Test Mode : | Mode 1 and 5 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11b | Relative Humidity : | 46~48% |
| Test Channel : | 01 and 11 | Test Engineer : | Ken Hsu |

**Low Band Edge Plot on 802.11b Channel 01**




Date: 13.SEP.2010 11:40:42

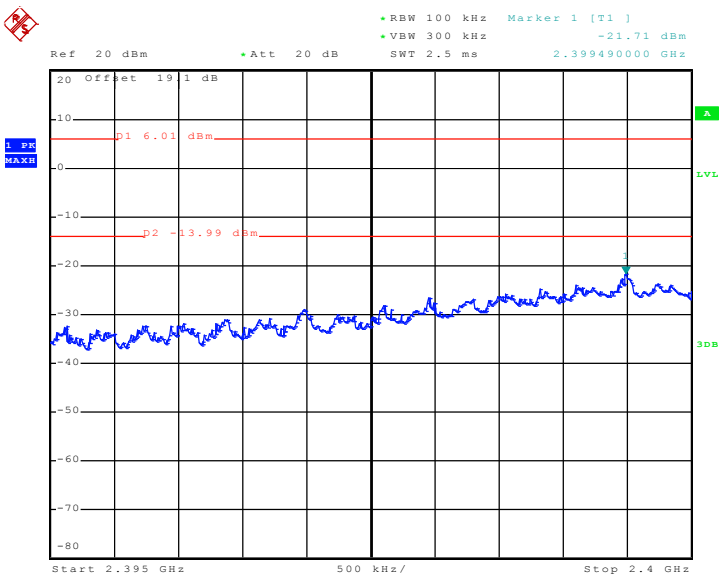
**High Band Edge Plot on 802.11b Channel 11**




Date: 13.SEP.2010 11:33:43

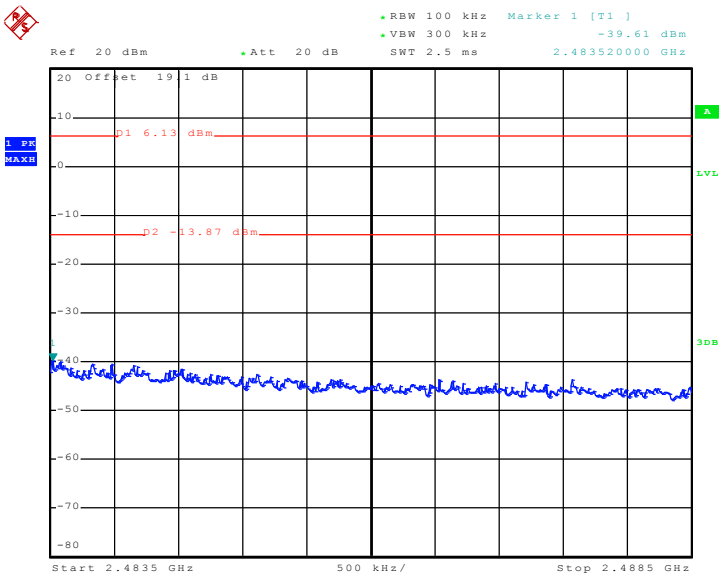
| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 6 and 10 | **Temperature :** | 24~26℃ |
| **Test Band :** | 802.11g | **Relative Humidity :** | 46~48% |
| **Test Channel :** | 01 and 11 | **Test Engineer :** | Ken Hsu |

**Low Band Edge Plot on 802.11g Channel 01**




Date: 13.SEP.2010 17:49:58

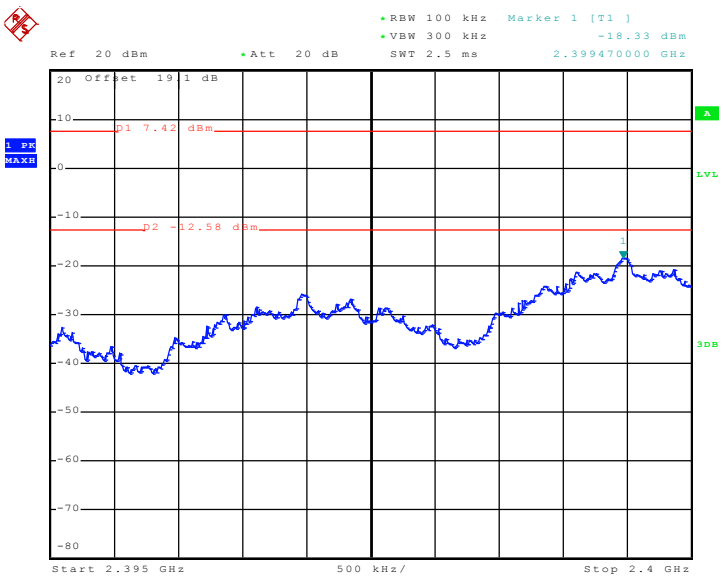
**High Band Edge Plot on 802.11g Channel 11**




Date: 13.SEP.2010 18:13:38

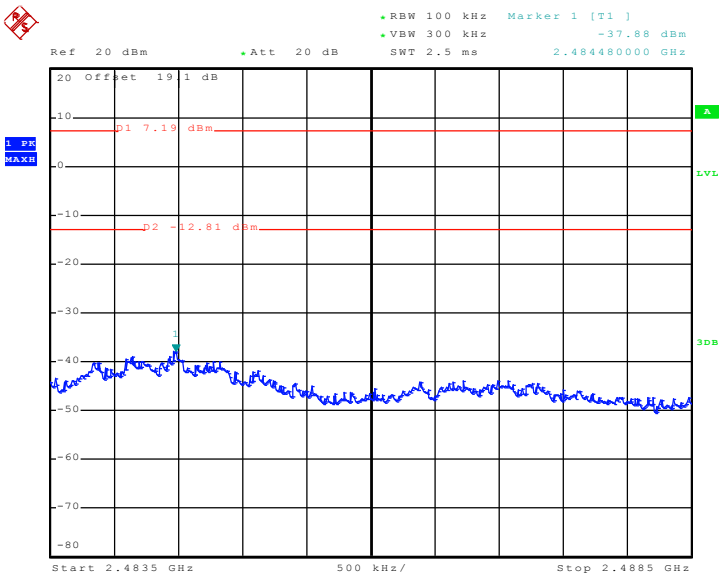
| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 11 and 15 | **Temperature :** | 24~26℃ |
| **Test Band :** | 802.11n (BW 20MHz) | **Relative Humidity :** | 46~48% |
| **Test Channel :** | 01 and 11 | **Test Engineer :** | Ken Hsu |

**Low Band Edge Plot on 802.11n (BW 20MHz) Channel 01**




Date: 16.SEP.2010 10:41:52

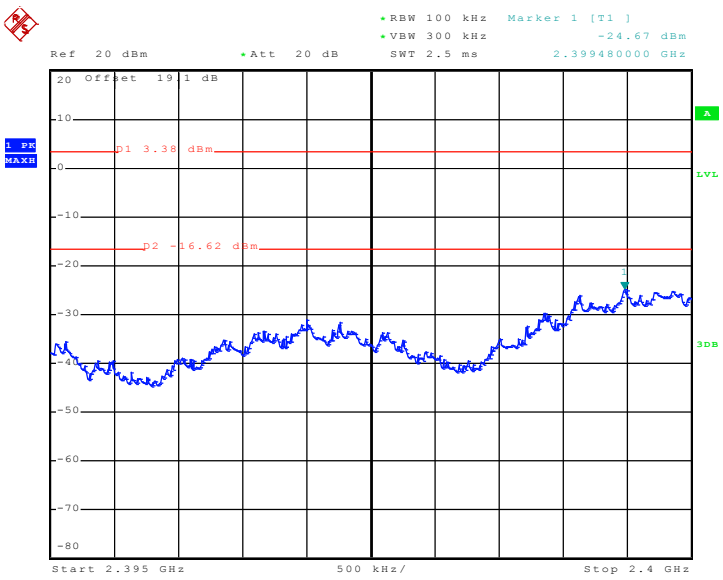
**High Band Edge Plot on 802.11n (BW 20MHz) Channel 11**




Date: 16.SEP.2010 10:37:16

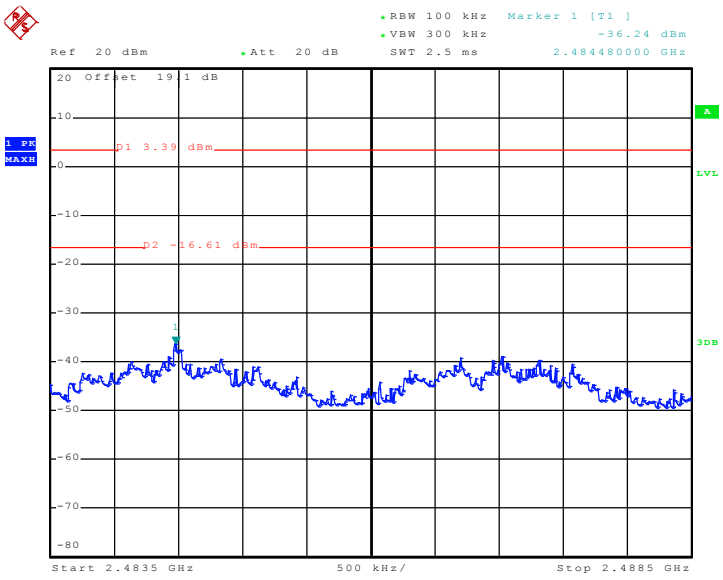
| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 16 and 20 | **Temperature :** | 24~26℃ |
| **Test Band :** | 802.11n (BW 40MHz) | **Relative Humidity :** | 46~48% |
| **Test Channel :** | 03 and 09 | **Test Engineer :** | Ken Hsu |

**Low Band Edge Plot on 802.11n (BW 40MHz) Channel 03**




Date: 24.SEP.2010 00:23:23

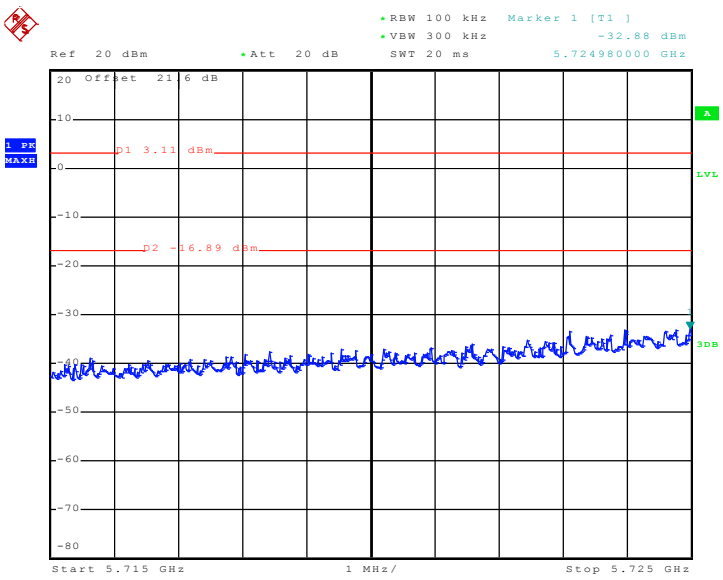
**High Band Edge Plot on 802.11n (BW 40MHz) Channel 09**




Date: 24.SEP.2010 00:26:25

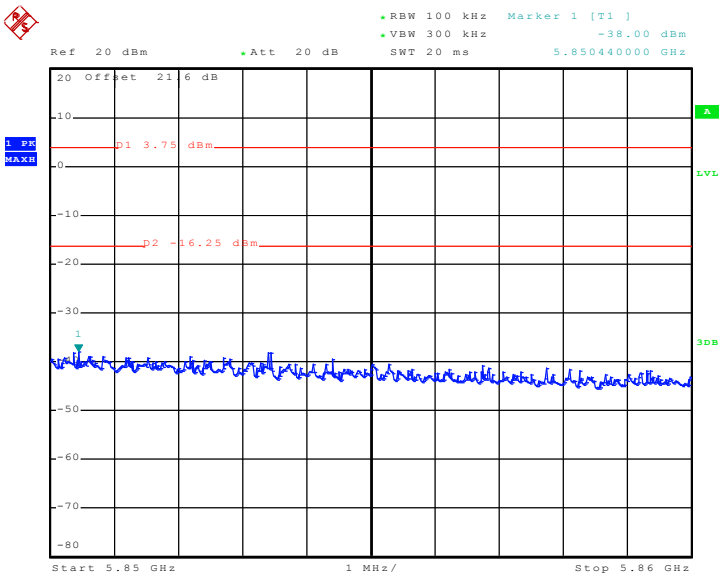
| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 21 and 23 | **Temperature :** | 24~26℃ |
| **Test Band :** | 802.11a | **Relative Humidity :** | 46~48% |
| **Test Channel :** | 149 and 165 | **Test Engineer :** | Ken Hsu |

**Low Band Edge Plot on 802.11a Channel 149**




Date: 23.SEP.2010 06:35:56

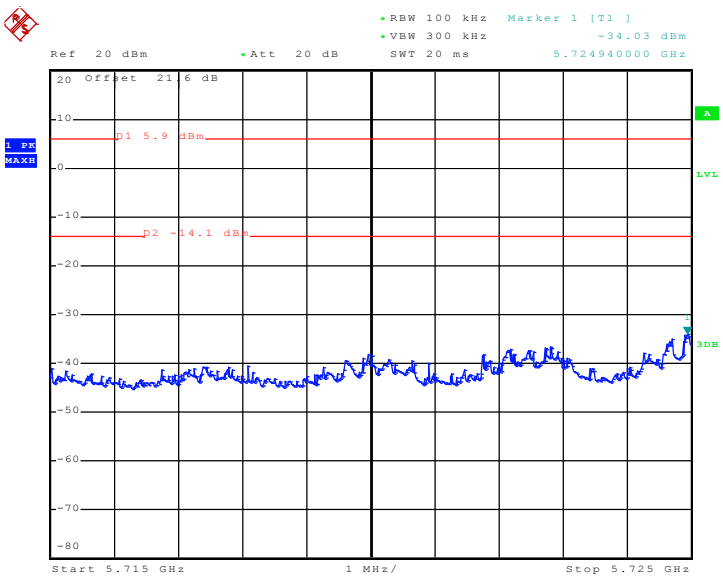
**High Band Edge Plot on 802.11a Channel 165**




Date: 23.SEP.2010 06:43:22

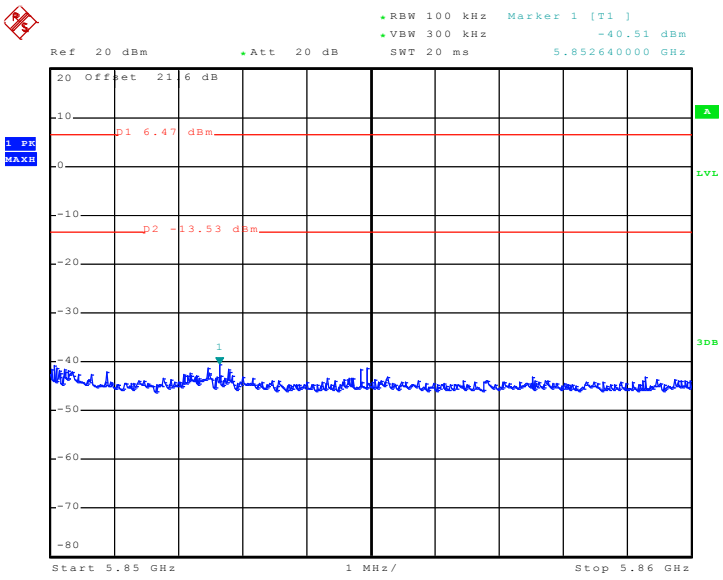
| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 24 and 26 | **Temperature :** | 24~26℃ |
| **Test Band :** | 802.11n (BW 20MHz) | **Relative Humidity :** | 46~48% |
| **Test Channel :** | 149 and 165 | **Test Engineer :** | Ken Hsu |

**Low Band Edge Plot on 802.11n (BW 20MHz) Channel 149**




Date: 23.SEP.2010 07:17:47

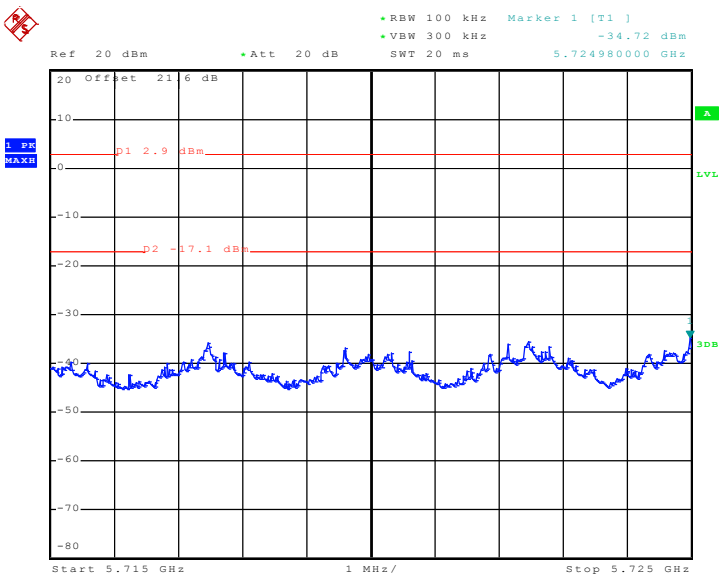
**High Band Edge Plot on 802.11n (BW 20MHz) Channel 165**




Date: 23.SEP.2010 07:09:52

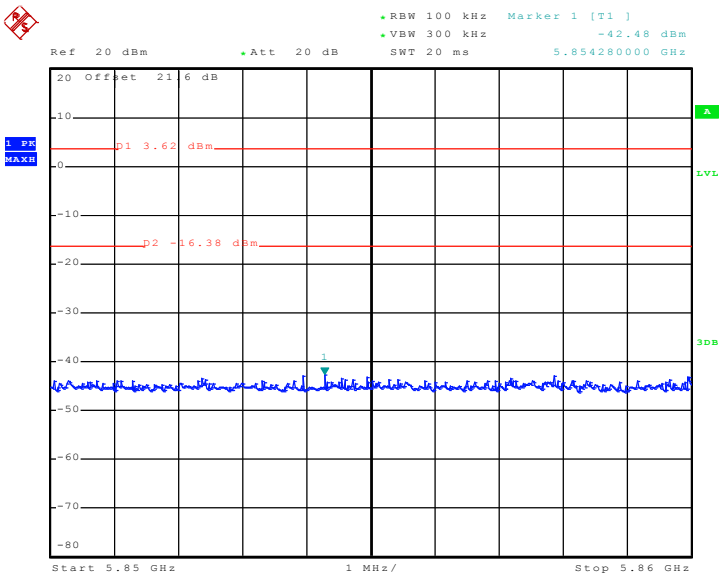
| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 27 and 28 | **Temperature :** | 24~26℃ |
| **Test Band :** | 802.11n (BW 40MHz) | **Relative Humidity :** | 46~48% |
| **Test Channel :** | 151 and 159 | **Test Engineer :** | Ken Hsu |

**Low Band Edge Plot on 802.11n (BW 40MHz) Channel 151**




Date: 23.SEP.2010 07:31:53

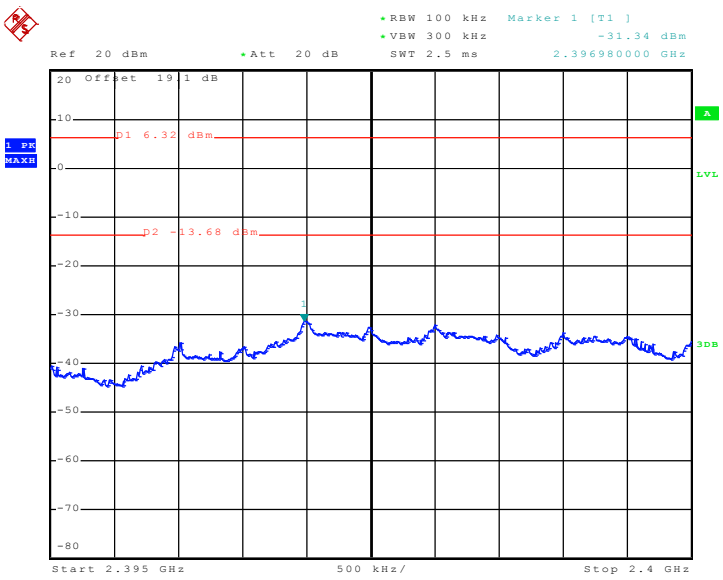
**High Band Edge Plot on 802.11n (BW 40MHz) Channel 159**




Date: 23.SEP.2010 07:28:13

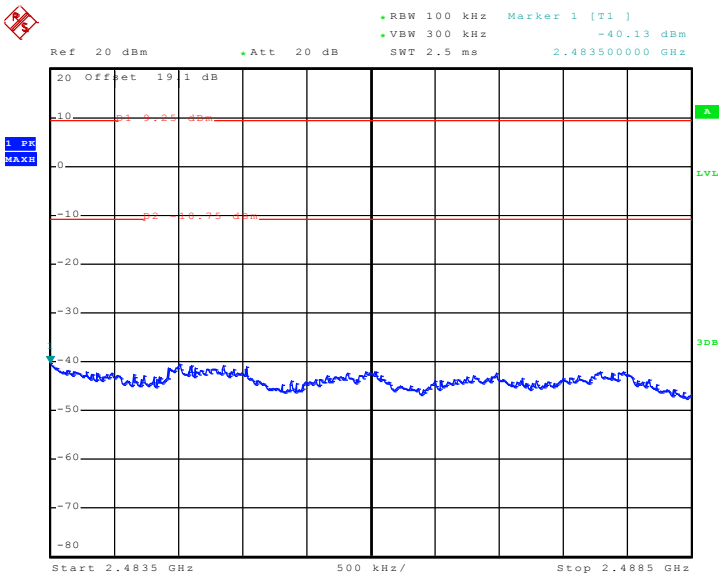
| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 29 and 33 | **Temperature :** | 24~26℃ |
| **Test Band :** | 802.11b | **Relative Humidity :** | 46~48% |
| **Test Channel :** | 01 and 11 | **Test Engineer :** | Ken Hsu |

**Low Band Edge Plot on 802.11b Channel 01**




Date: 16.SEP.2010 03:13:20

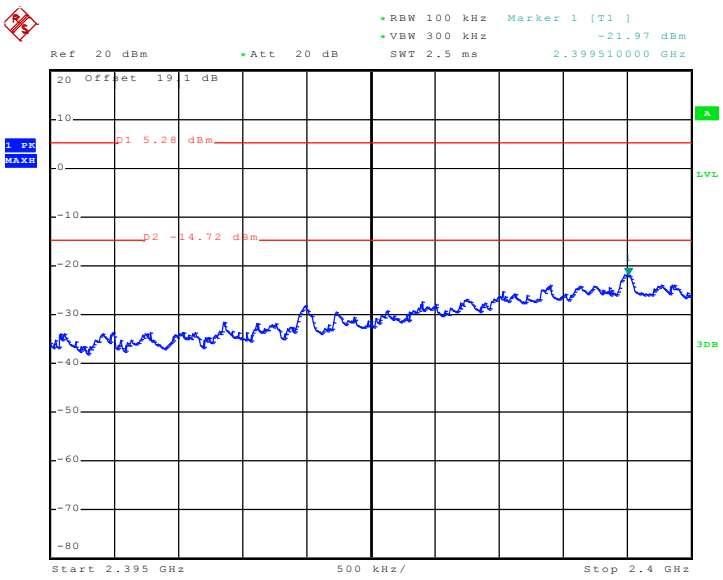
**High Band Edge Plot on 802.11b Channel 11**




Date: 16.SEP.2010 03:24:51

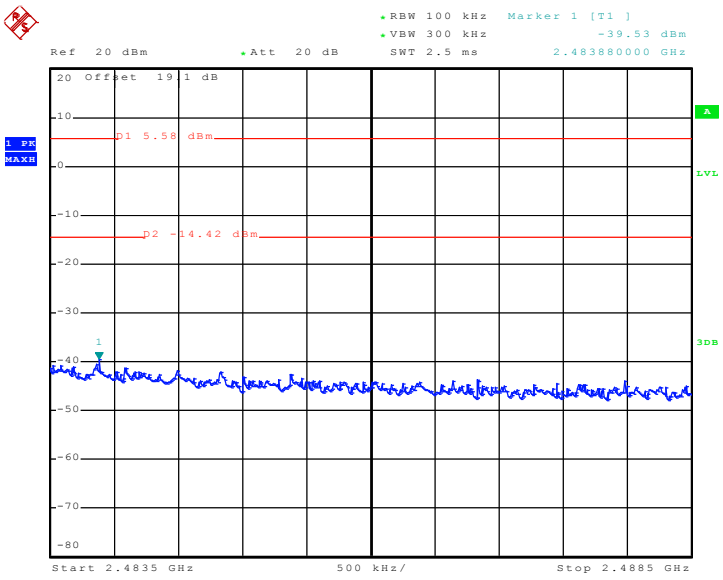
| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 34 and 38 | **Temperature :** | 24~26℃ |
| **Test Band :** | 802.11g | **Relative Humidity :** | 46~48% |
| **Test Channel :** | 01 and 11 | **Test Engineer :** | Ken Hsu |

**Low Band Edge Plot on 802.11g Channel 01**




Date: 16.SEP.2010 04:44:59

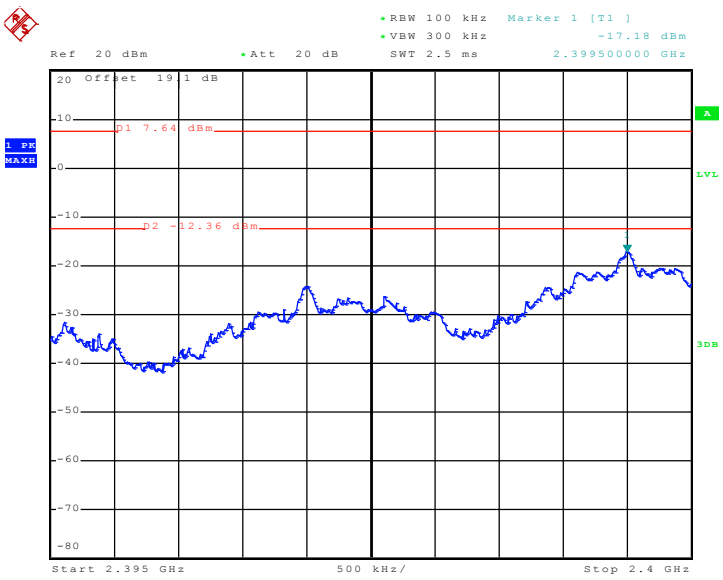
**High Band Edge Plot on 802.11g Channel 11**




Date: 16.SEP.2010 05:47:22

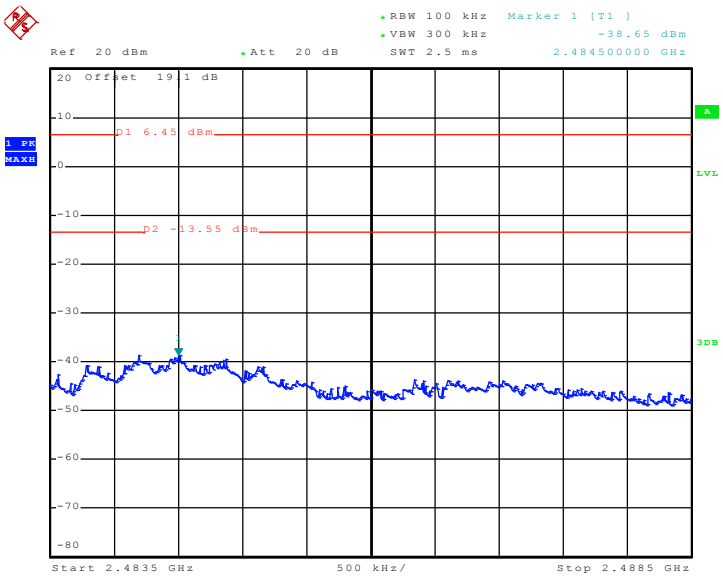
| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 39 and 43 | **Temperature :** | 24~26℃ |
| **Test Band :** | 802.11n (BW 20MHz) | **Relative Humidity :** | 46~48% |
| **Test Channel :** | 01 and 11 | **Test Engineer :** | Ken Hsu |

**Low Band Edge Plot on 802.11n (BW 20MHz) Channel 01**




Date: 27.SEP.2010 18:07:00

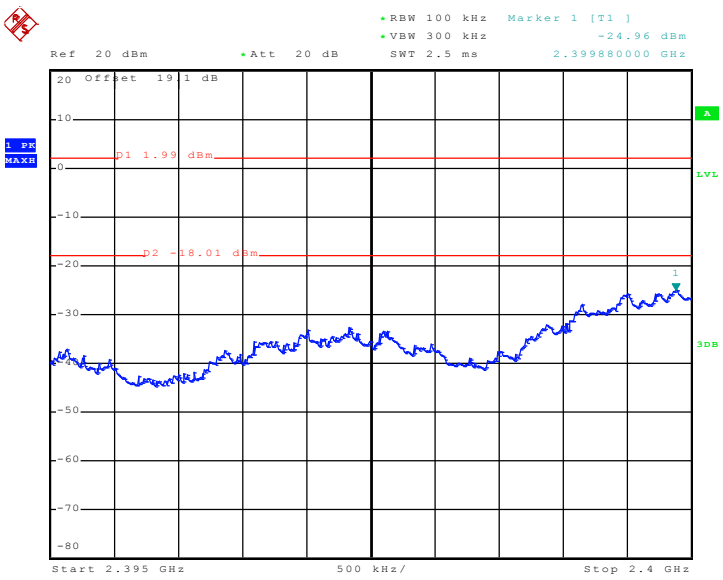
**High Band Edge Plot on 802.11n (BW 20MHz) Channel 11**




Date: 27.SEP.2010 18:17:51

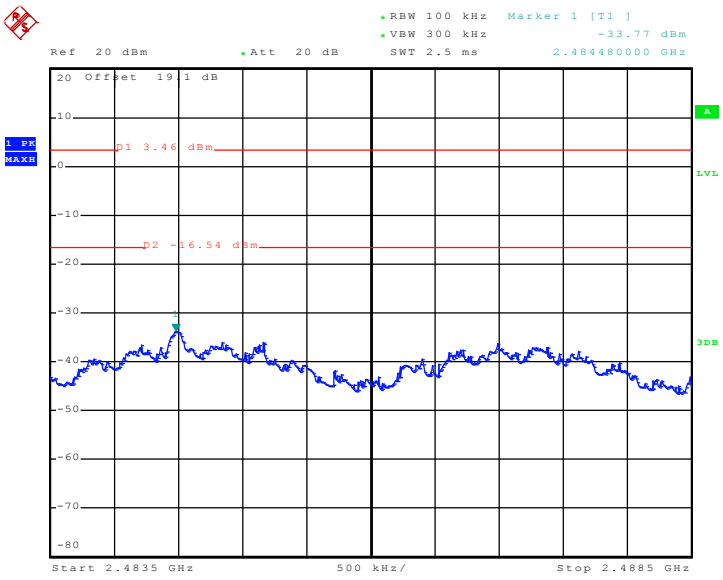
| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 44 and 48 | **Temperature :** | 24~26℃ |
| **Test Band :** | 802.11n (BW 40MHz) | **Relative Humidity :** | 46~48% |
| **Test Channel :** | 03 and 09 | **Test Engineer :** | Ken Hsu |

**Low Band Edge Plot on 802.11n (BW 40MHz) Channel 03**




Date: 27.SEP.2010 20:06:51

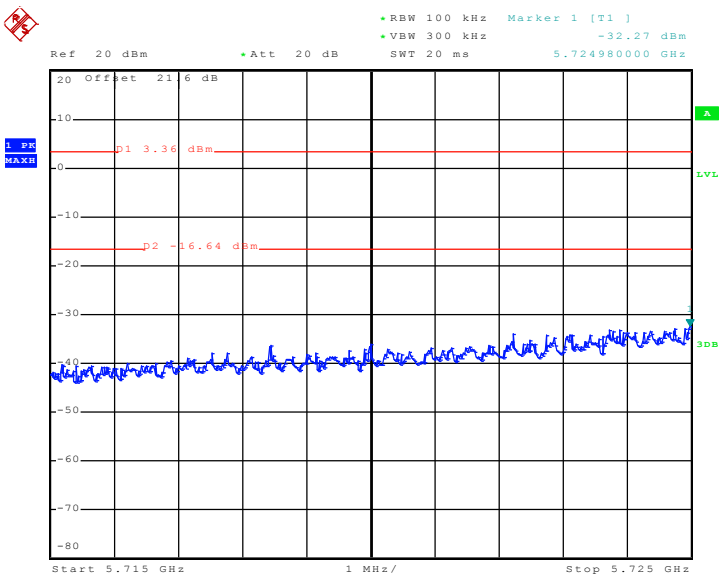
**High Band Edge Plot on 802.11n (BW 40MHz) Channel 09**




Date: 27.SEP.2010 19:53:14

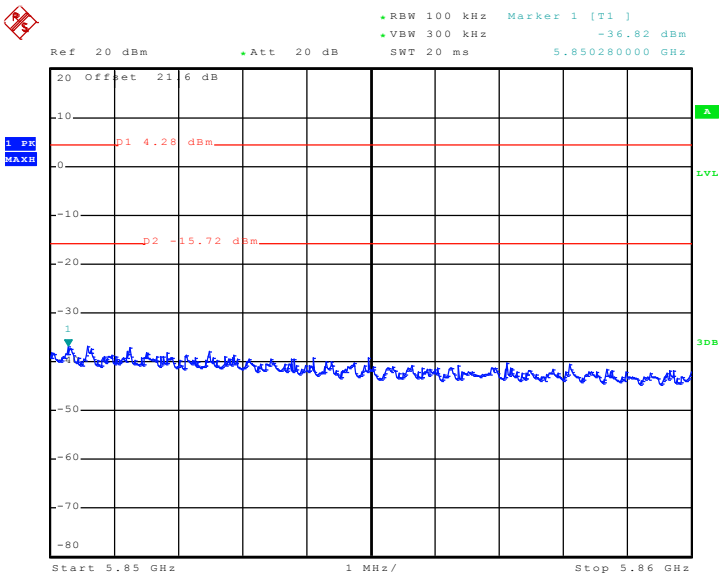
| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 49 and 51 | **Temperature :** | 24~26℃ |
| **Test Band :** | 802.11a | **Relative Humidity :** | 46~48% |
| **Test Channel :** | 149 and 165 | **Test Engineer :** | Ken Hsu |

**Low Band Edge Plot on 802.11a Channel 149**




Date: 27.SEP.2010 20:19:16

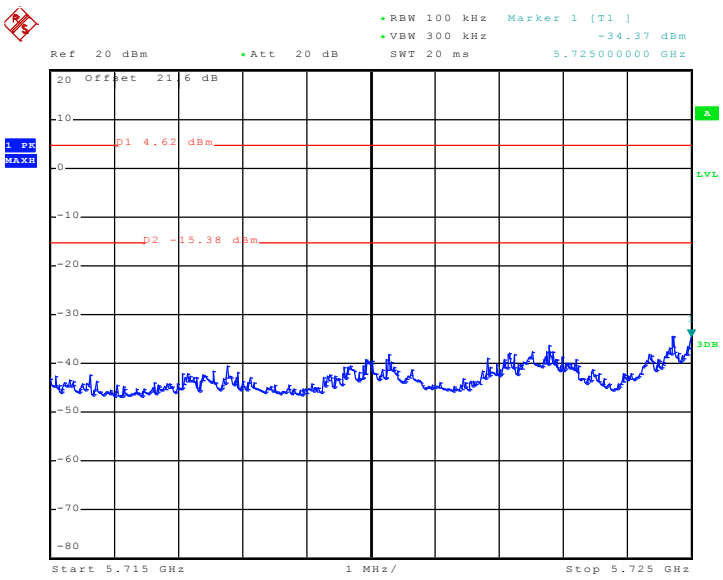
**High Band Edge Plot on 802.11a Channel 165**




Date: 27.SEP.2010 20:23:24

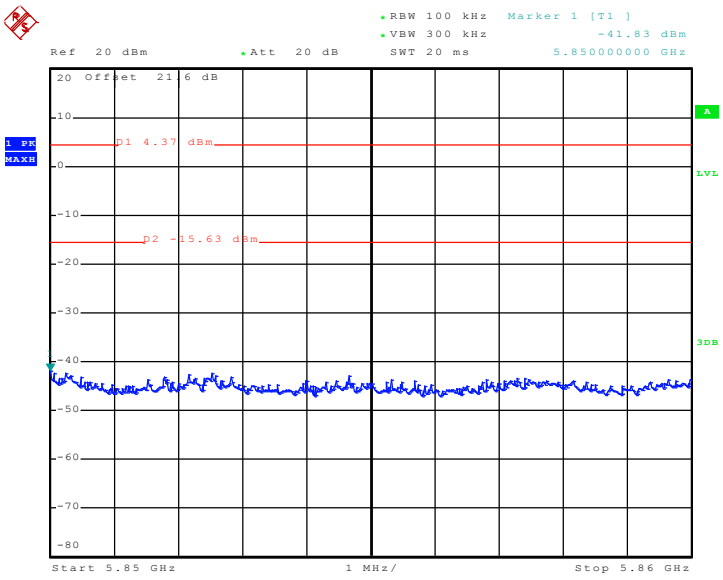
| Test Mode : | Mode 52 and 54 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11n (BW 20MHz) | Relative Humidity : | 46~48% |
| Test Channel : | 149 and 165 | Test Engineer : | Ken Hsu |

**Low Band Edge Plot on 802.11n (BW 20MHz) Channel 149**




Date: 28.SEP.2010 00:32:39

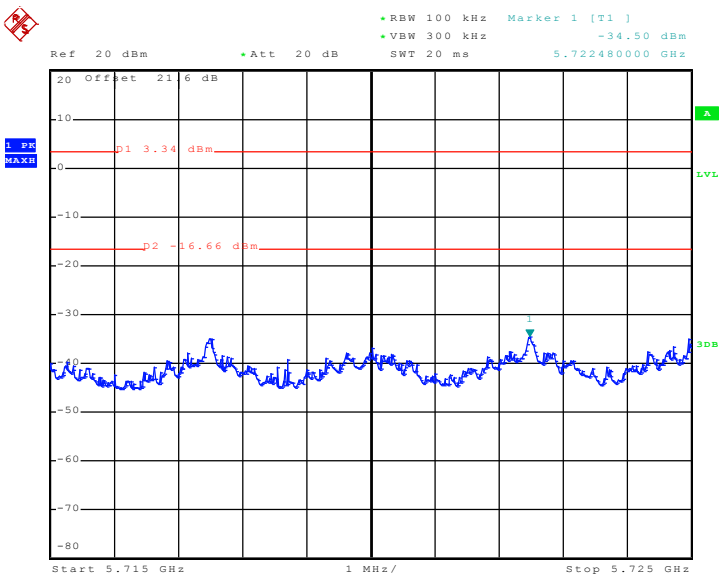
**High Band Edge Plot on 802.11n (BW 20MHz) Channel 165**




Date: 28.SEP.2010 00:35:06

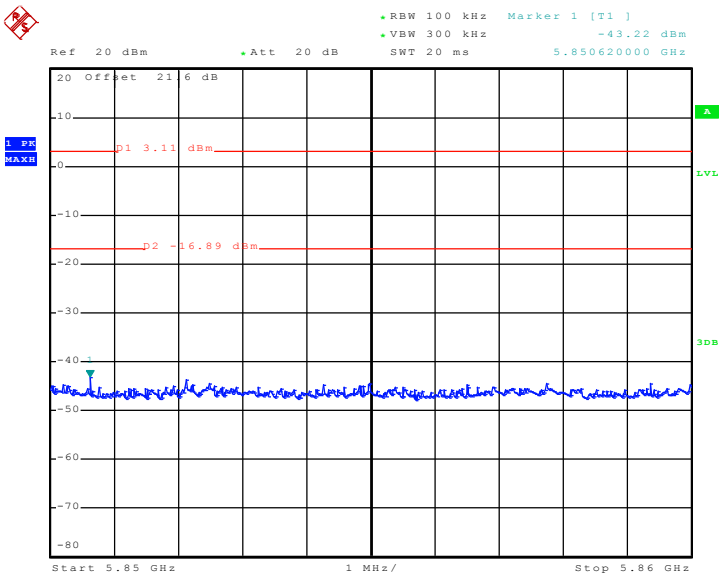
| Test Mode : | Mode 55 and 56 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11n (BW 40MHz) | Relative Humidity : | 46~48% |
| Test Channel : | 151 and 159 | Test Engineer : | Ken Hsu |

**Low Band Edge Plot on 802.11n (BW 40MHz) Channel 151**




Date: 28.SEP.2010 01:06:26

**High Band Edge Plot on 802.11n (BW 40MHz) Channel 159**




Date: 28.SEP.2010 01:08:34

## 3.4 Spurious Emission Measurement

### 3.4.1 Limit of Spurious Emission Measurement

All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band.

### 3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.4.3 Test Procedure

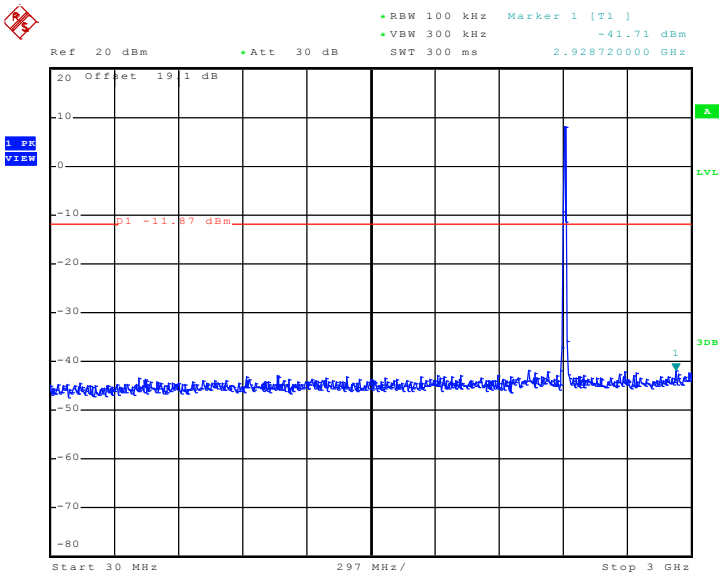
1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set RBW = 100 kHz, Video bandwidth (VBW) > RBW, scan up through 10th harmonic. All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.

### 3.4.4 Test Setup

### 3.4.5 Test Result

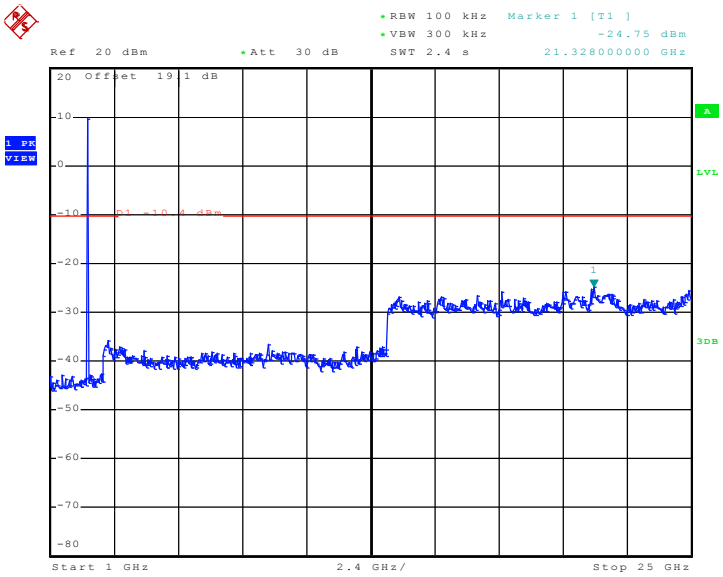
| Test Mode : | Mode 1~5 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11b | Relative Humidity : | 46~48% |
| Test Channel : | 01, 02, 06, 10, 11 | Test Engineer : | Ken Hsu |

**Mode 1: Conducted Spurious Emission Plot on 802.11b between 30 MHz ~ 3 GHz - Chain A**



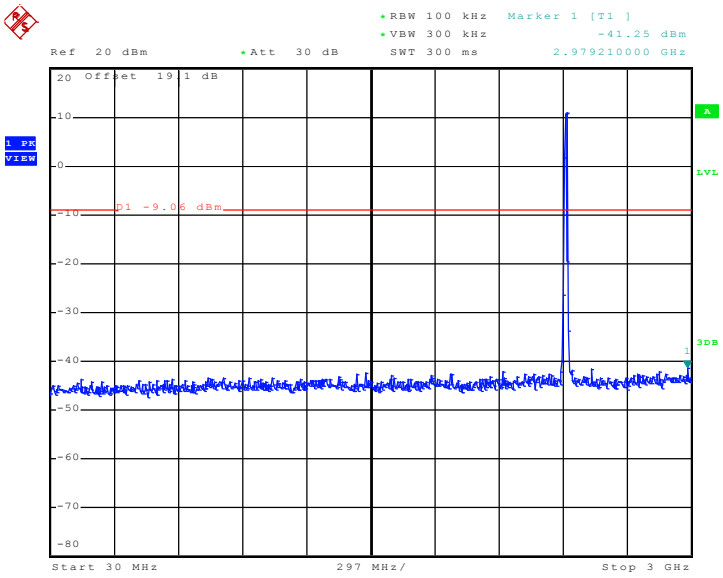

Date: 24.SEP.2010 00:41:54

**Mode 1: Conducted Spurious Emission Plot on 802.11b between 1 GHz ~ 25 GHz - Chain A**



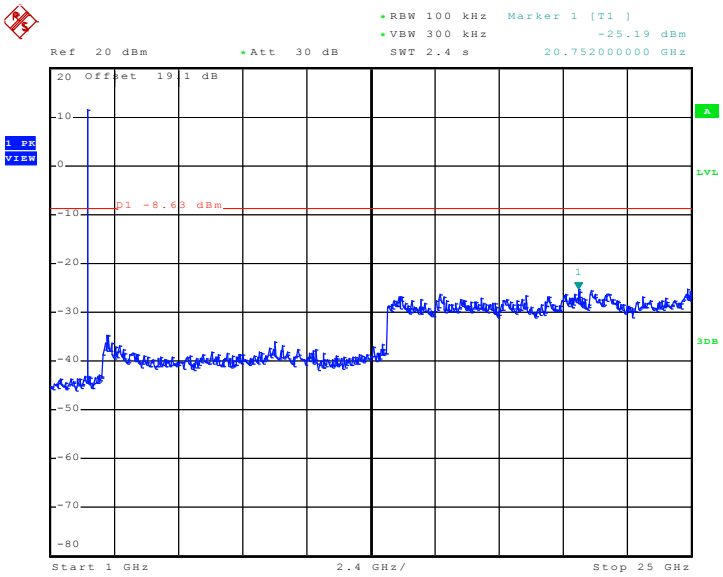

Date: 24.SEP.2010 00:42:11

**Mode 2: Conducted Spurious Emission Plot on 802.11b between 30 MHz ~ 3 GHz - Chain A**



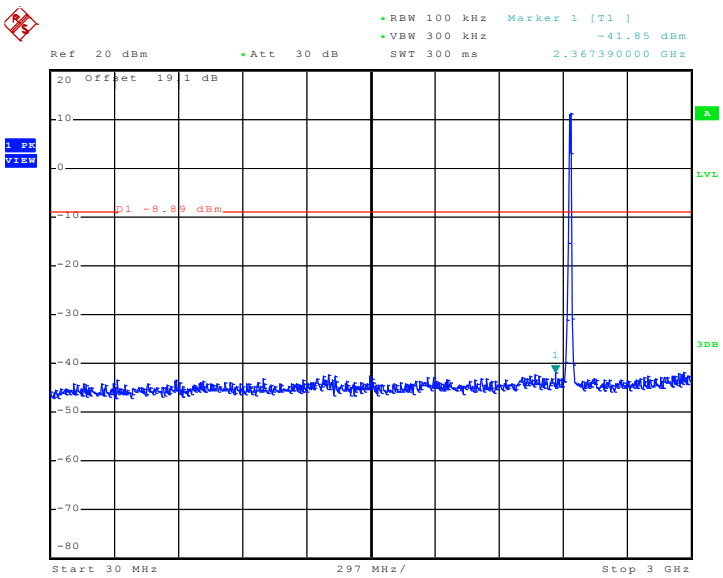

Date: 24.SEP.2010 00:45:44

**Mode 2: Conducted Spurious Emission Plot on 802.11b between 1 GHz ~ 25 GHz - Chain A**



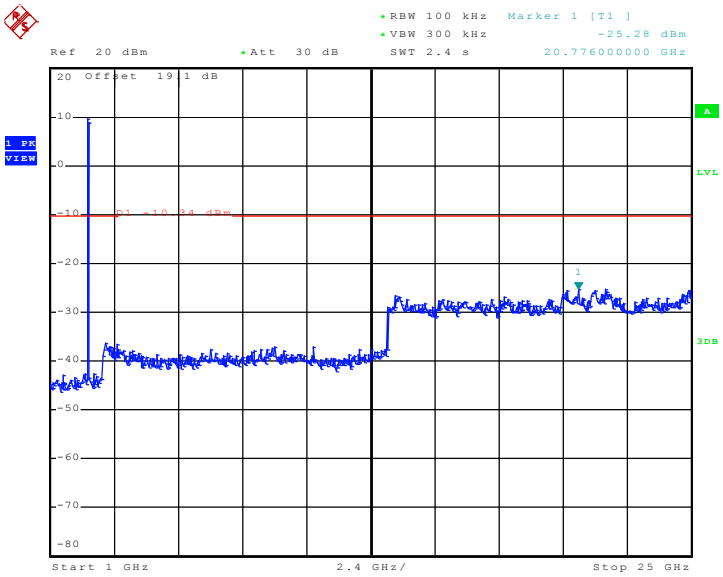

Date: 24.SEP.2010 00:46:01

**Mode 3: Conducted Spurious Emission Plot on 802.11b between 30 MHz ~ 3 GHz - Chain A**



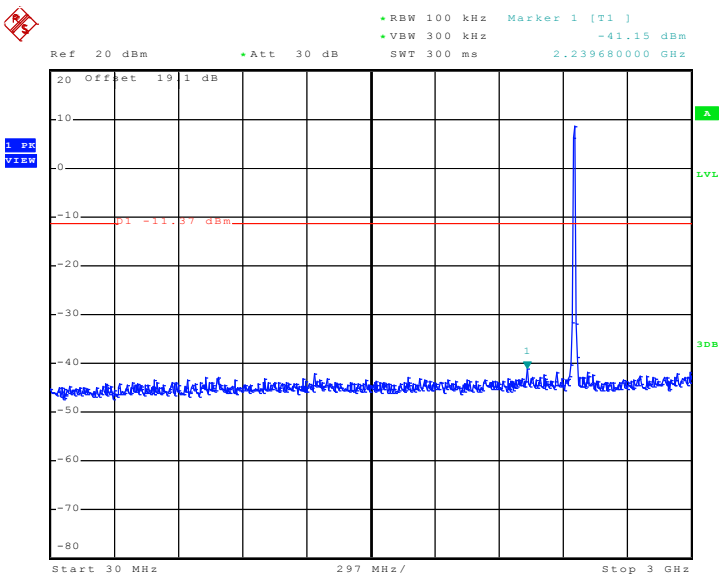

Date: 24.SEP.2010 00:47:17

**Mode 3: Conducted Spurious Emission Plot on 802.11b between 1 GHz ~ 25 GHz - Chain A**



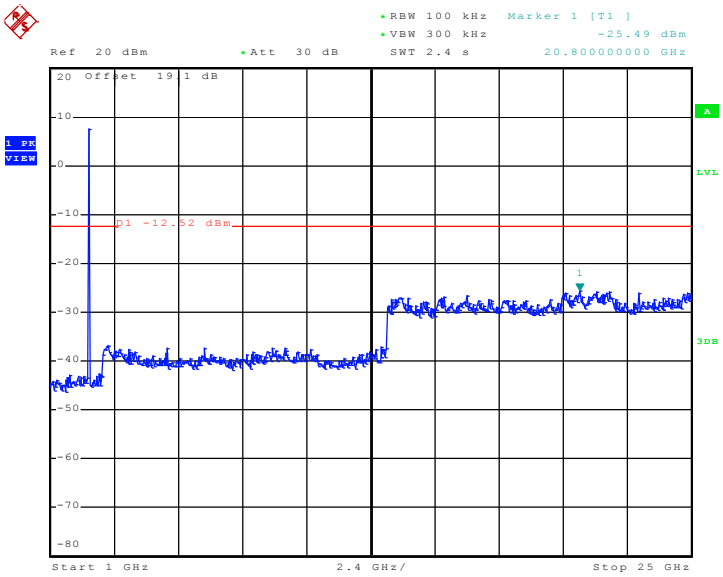

Date: 24.SEP.2010 00:47:33

**Mode 4: Conducted Spurious Emission Plot on 802.11b between 30 MHz ~ 3 GHz - Chain A**



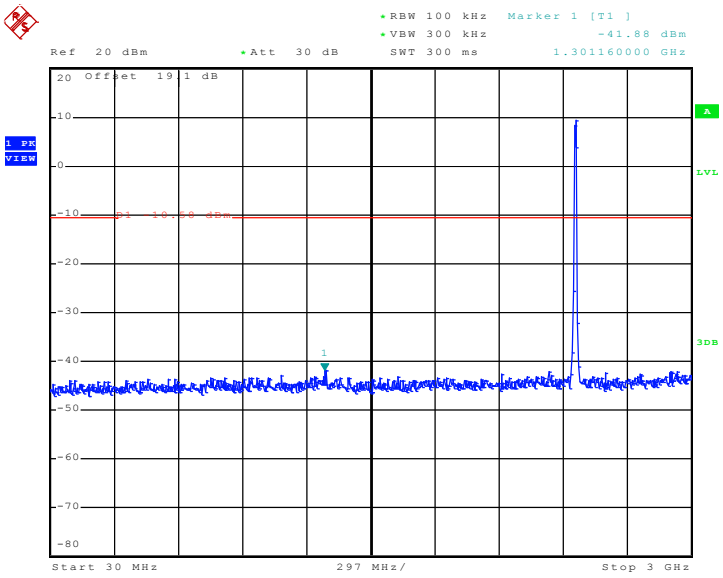

Date: 24.SEP.2010 00:48:29

**Mode 4: Conducted Spurious Emission Plot on 802.11b between 1 GHz ~ 25 GHz - Chain A**



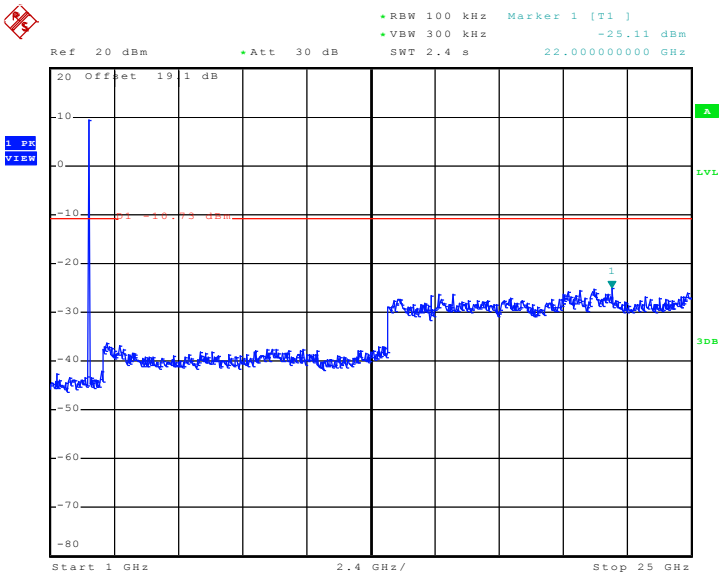

Date: 24.SEP.2010 00:48:45

**Mode 5: Conducted Spurious Emission Plot on 802.11b between 30 MHz ~ 3 GHz - Chain A**




Date: 24.SEP.2010 00:49:18

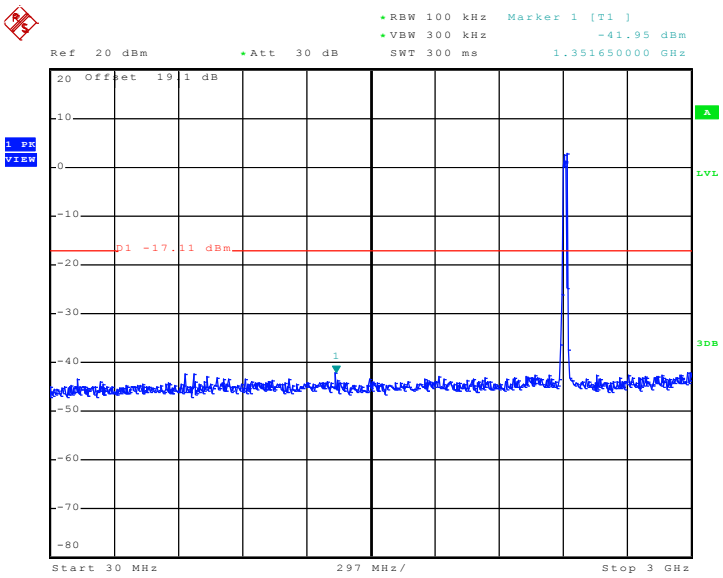
**Mode 5: Conducted Spurious Emission Plot on 802.11b between 1 GHz ~ 25 GHz - Chain A**




Date: 24.SEP.2010 00:49:34

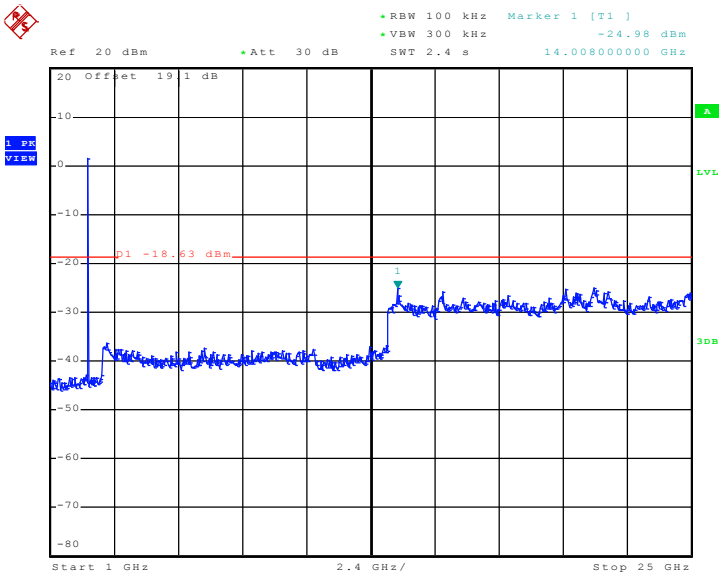
| Test Mode : | Mode 6~10 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11g | Relative Humidity : | 46~48% |
| Test Channel : | 01, 02, 06, 10, 11 | Test Engineer : | Ken Hsu |

**Mode 6: Conducted Spurious Emission Plot on 802.11g between 30 MHz ~ 3 GHz - Chain A**



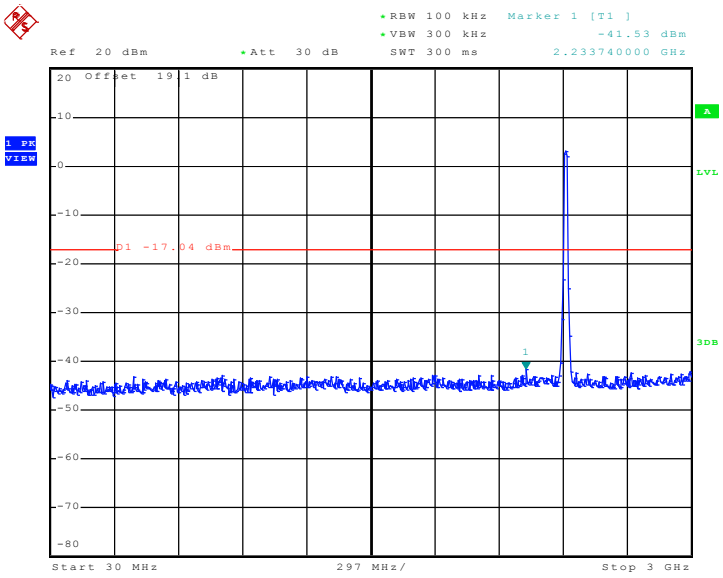

Date: 24.SEP.2010 00:51:38

**Mode 6: Conducted Spurious Emission Plot on 802.11g between 1 GHz ~ 25 GHz - Chain A**



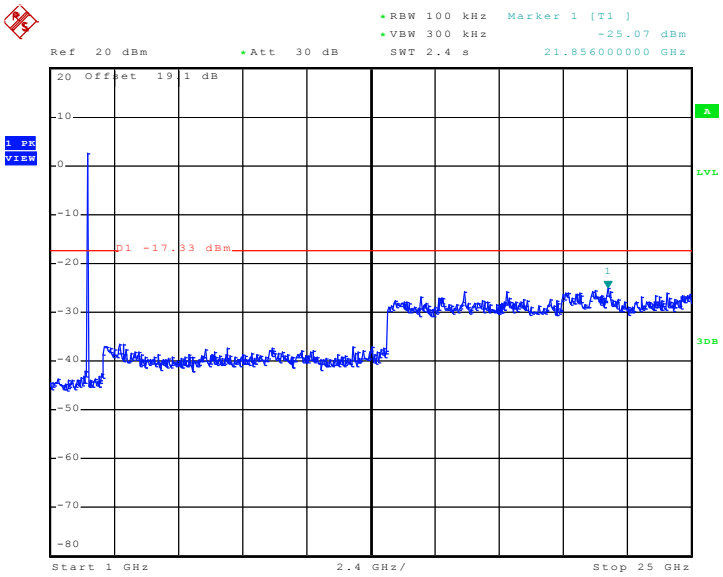

Date: 24.SEP.2010 00:51:55

**Mode 7: Conducted Spurious Emission Plot on 802.11g between 30 MHz ~ 3 GHz - Chain A**



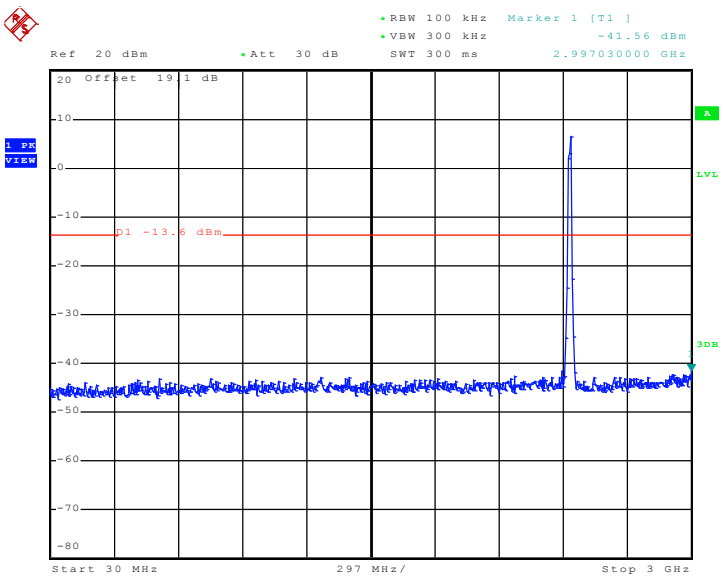

Date: 24.SEP.2010 00:52:36

**Mode 7: Conducted Spurious Emission Plot on 802.11g between 1 GHz ~ 25 GHz - Chain A**



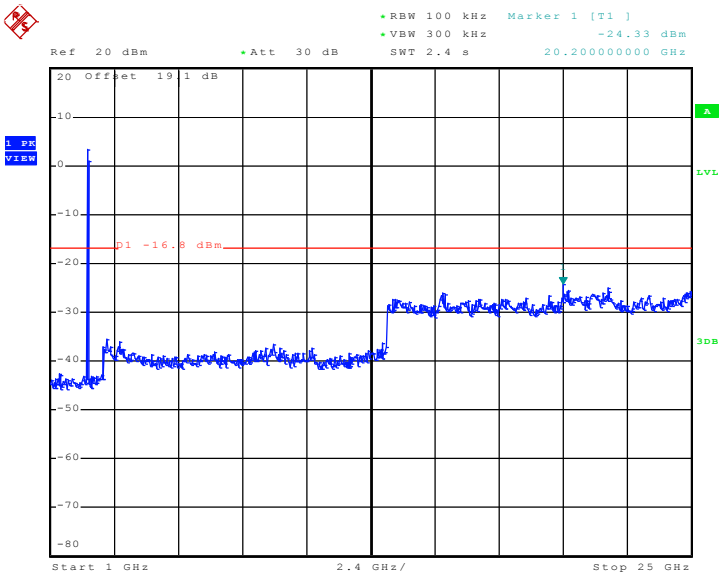

Date: 24.SEP.2010 00:52:52

**Mode 8: Conducted Spurious Emission Plot on 802.11g between 30 MHz ~ 3 GHz - Chain A**



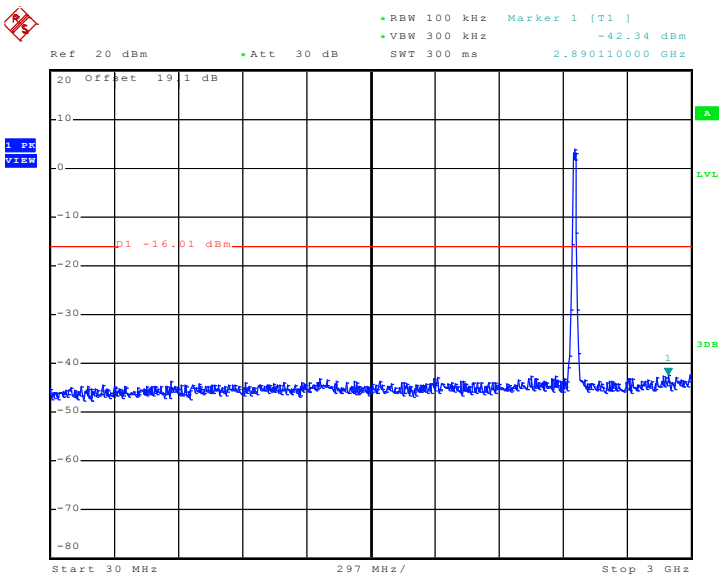

Date: 24.SEP.2010 00:53:28

**Mode 8: Conducted Spurious Emission Plot on 802.11g between 1 GHz ~ 25 GHz - Chain A**



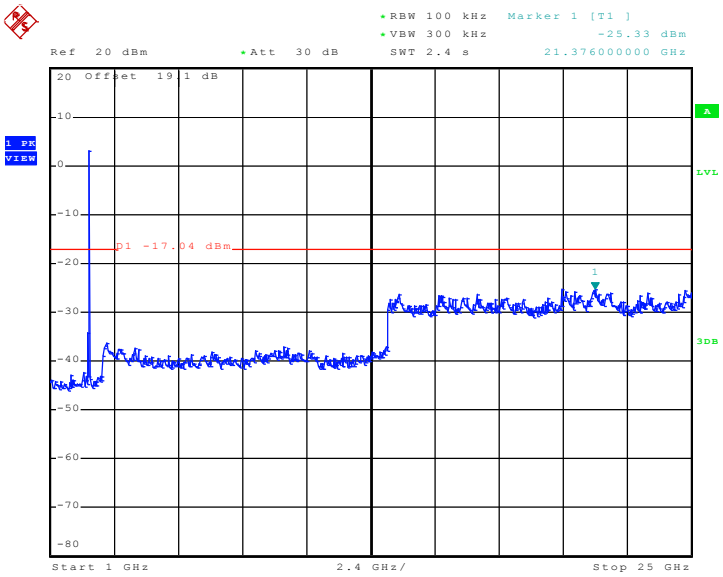

Date: 24.SEP.2010 00:55:29

**Mode 9: Conducted Spurious Emission Plot on 802.11g between 30 MHz ~ 3 GHz - Chain A**



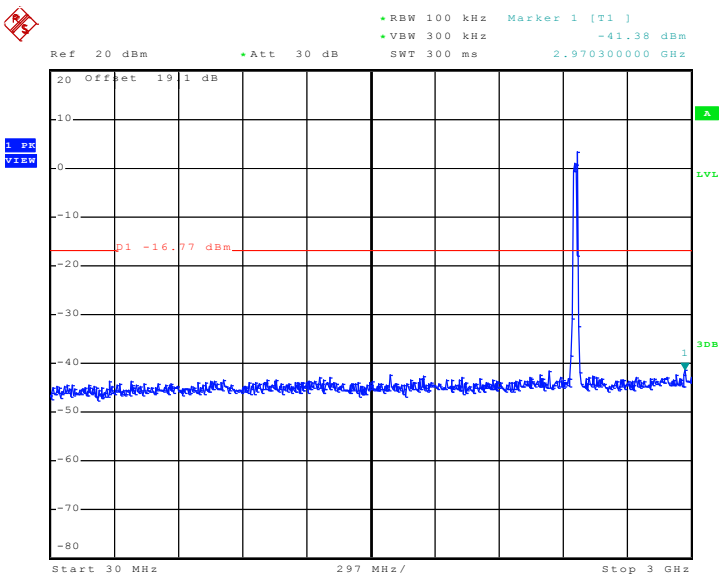

Date: 24.SEP.2010 02:40:34

**Mode 9: Conducted Spurious Emission Plot on 802.11g between 1 GHz ~ 25 GHz - Chain A**



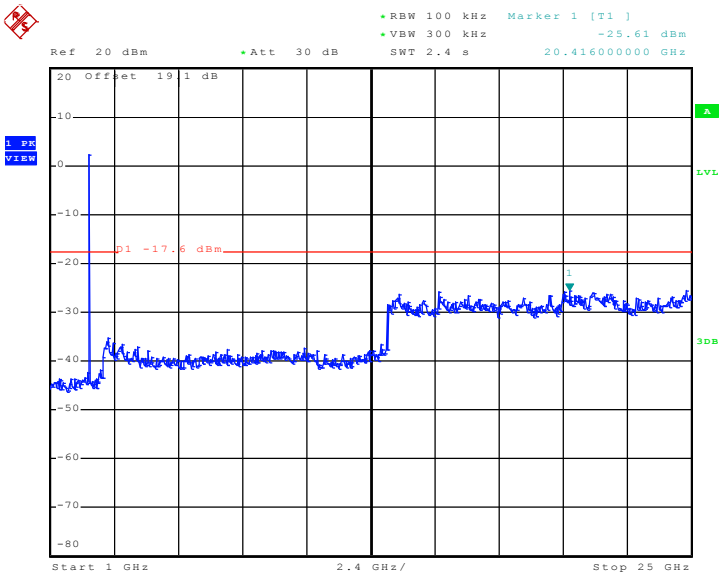

Date: 24.SEP.2010 00:57:23

**Mode 10: Conducted Spurious Emission Plot on 802.11g between 30 MHz ~ 3 GHz - Chain A**




Date: 24.SEP.2010 00:58:57

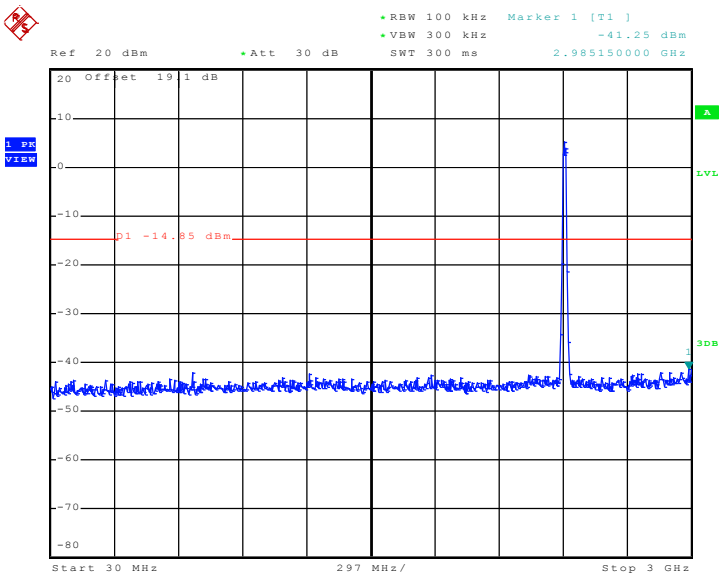
**Mode 10: Conducted Spurious Emission Plot on 802.11g between 1 GHz ~ 25 GHz - Chain A**




Date: 24.SEP.2010 00:59:14

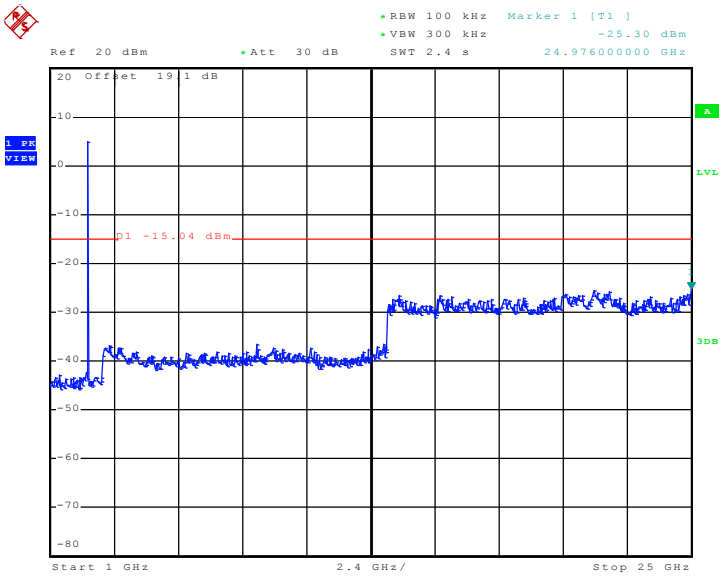
| Test Mode : | Mode 11~15 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11n (BW 20MHz, 2Tx) | Relative Humidity : | 46~48% |
| Test Channel : | 01, 02, 06, 10, 11 | Test Engineer : | Ken Hsu |

**Mode 11: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 3 GHz - Chain A+B**



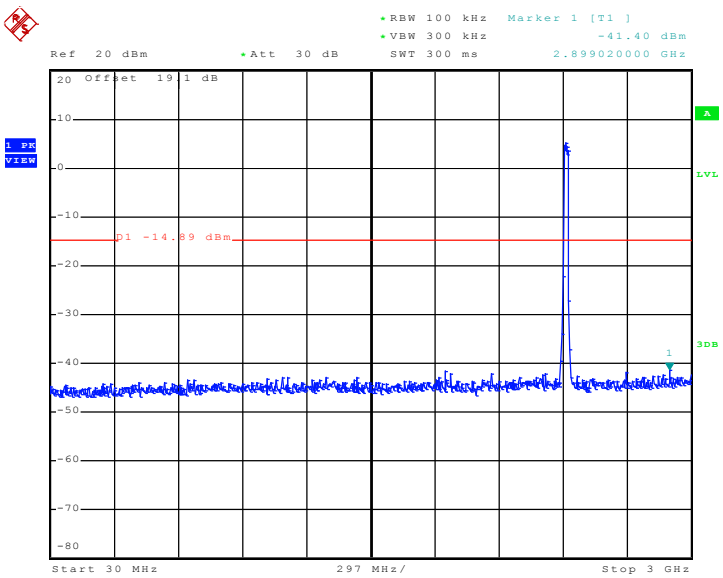

Date: 24.SEP.2010 01:02:36

**Mode 11: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 1 GHz ~ 25 GHz - Chain A+B**



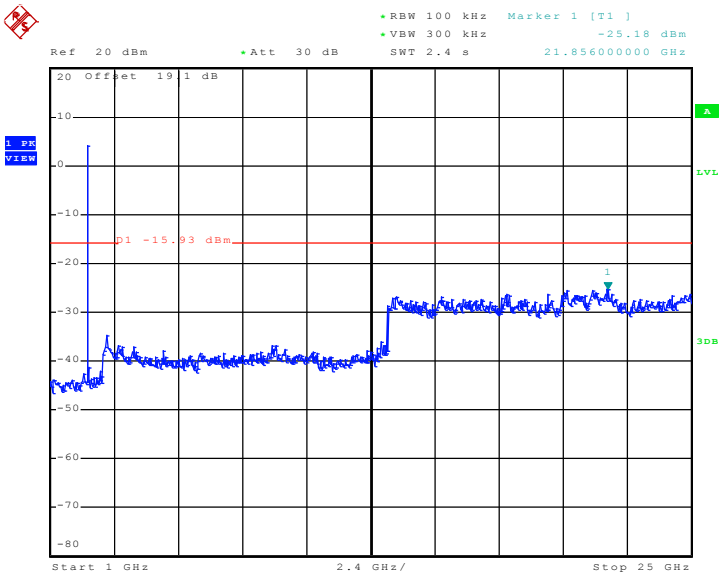

Date: 24.SEP.2010 01:02:52

**Mode 12: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 3 GHz - Chain A+B**



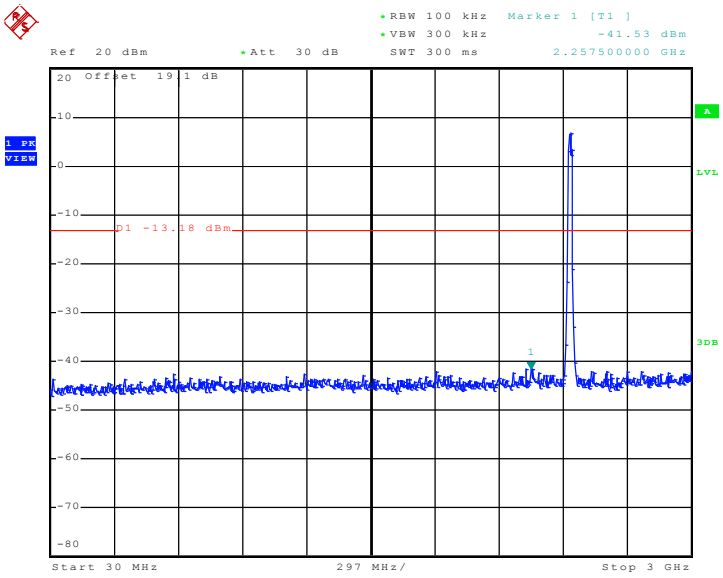

Date: 24.SEP.2010 01:03:43

**Mode 12: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 1 GHz ~ 25 GHz - Chain A+B**



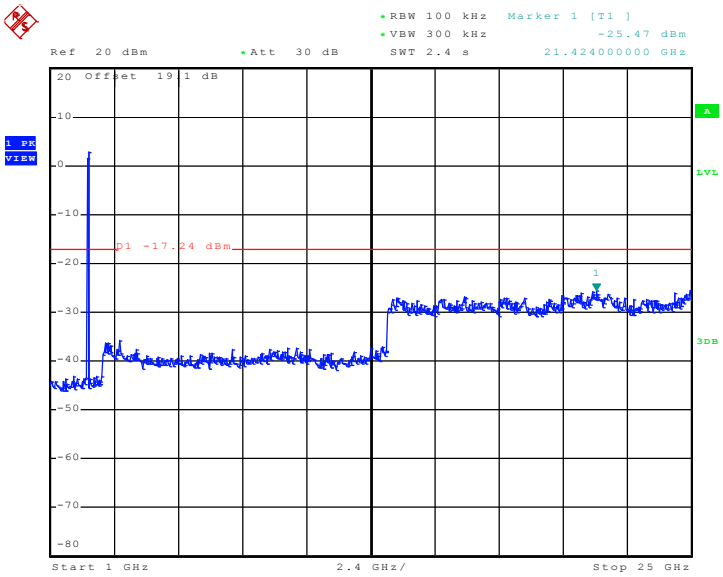

Date: 24.SEP.2010 01:03:59

**Mode 13: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 3 GHz - Chain A+B**



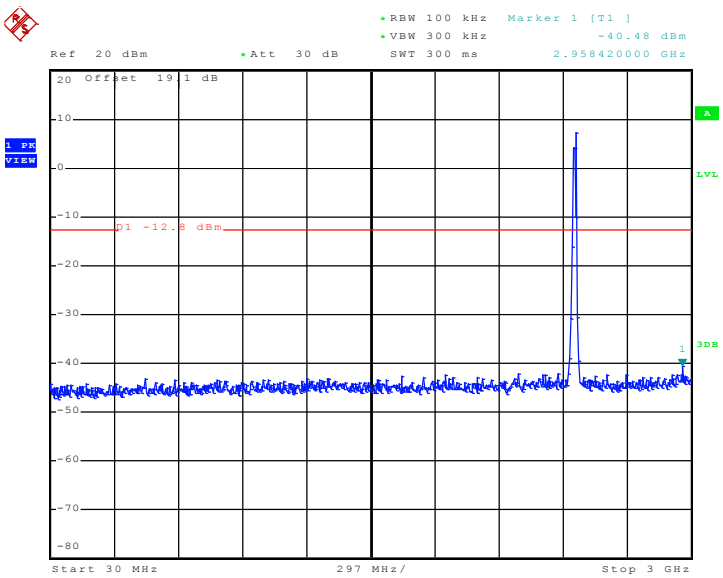

Date: 24.SEP.2010 02:43:24

**Mode 13: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 1 GHz ~ 25 GHz - Chain A+B**



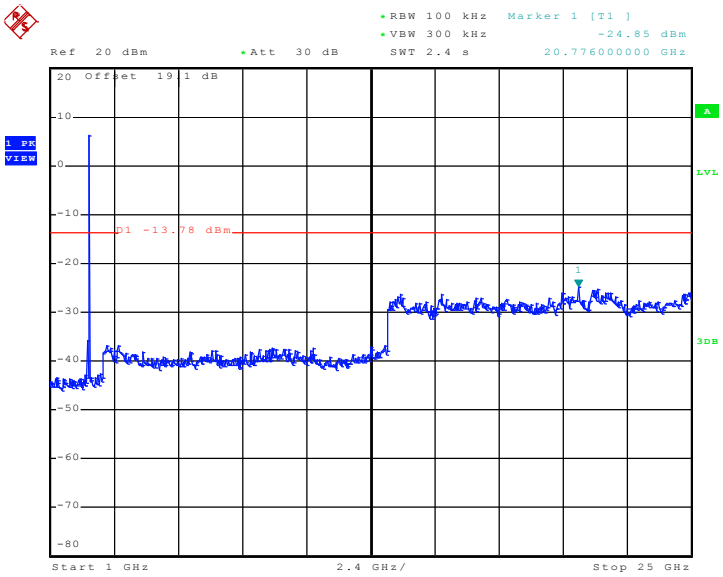

Date: 24.SEP.2010 01:05:49

**Mode 14: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 3 GHz - Chain A+B**



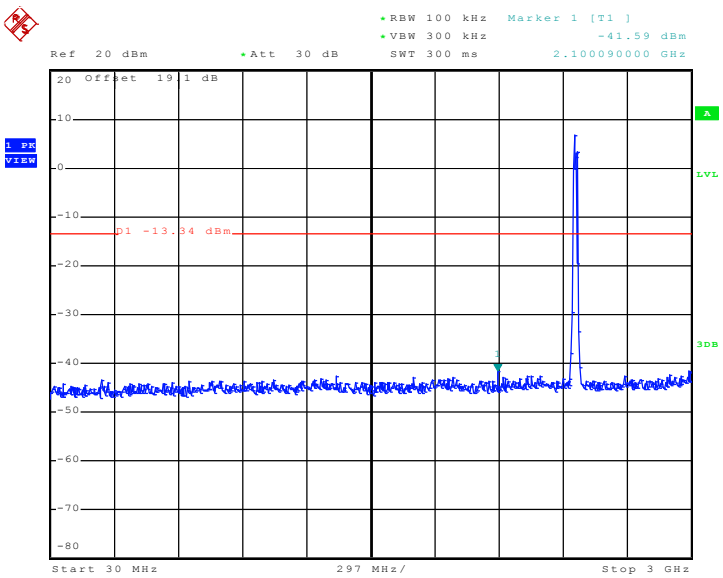

Date: 24.SEP.2010 01:07:13

**Mode 14: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 1 GHz ~ 25 GHz - Chain A+B**



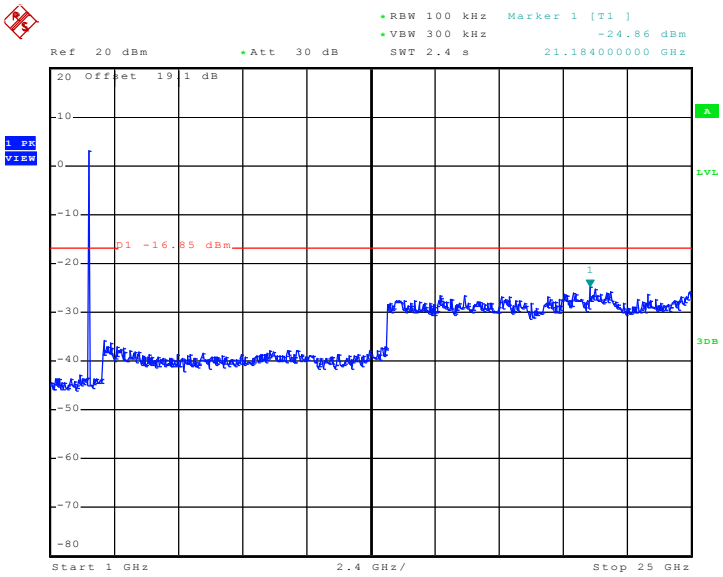

Date: 24.SEP.2010 01:07:29

**Mode 15: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 3 GHz - Chain A+B**




Date: 24.SEP.2010 01:17:44

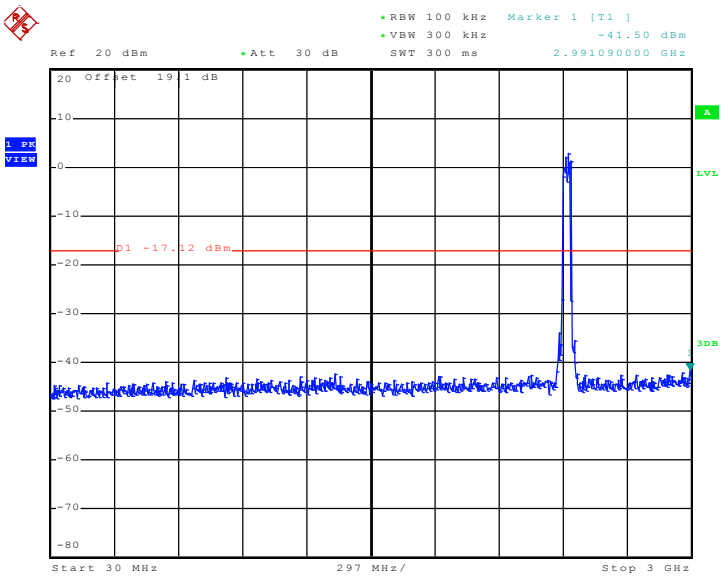
**Mode 15: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 1 GHz ~ 25 GHz - Chain A+B**



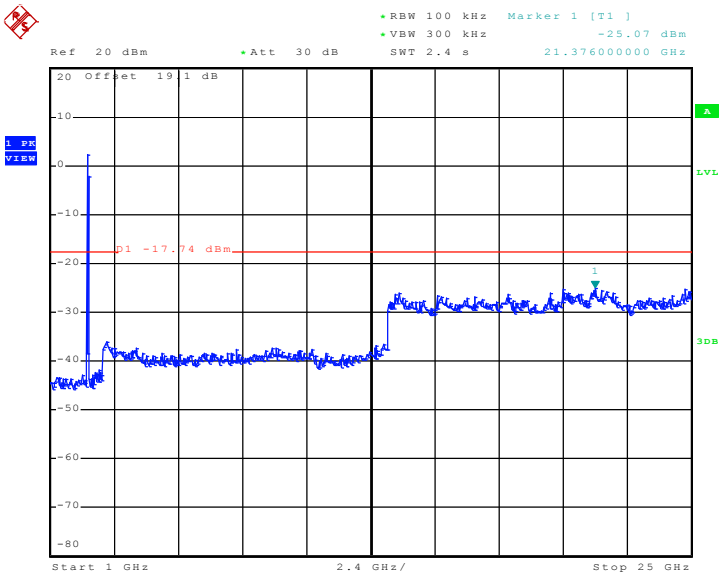

Date: 24.SEP.2010 01:18:01

| Test Mode : | Mode 16~20 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11n (BW 40MHz, 2Tx) | Relative Humidity : | 46~48% |
| Test Channel : | 03, 04, 06, 08, 09 | Test Engineer : | Ken Hsu |

**Mode 16: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 30 MHz ~ 3 GHz - Chain A+B**

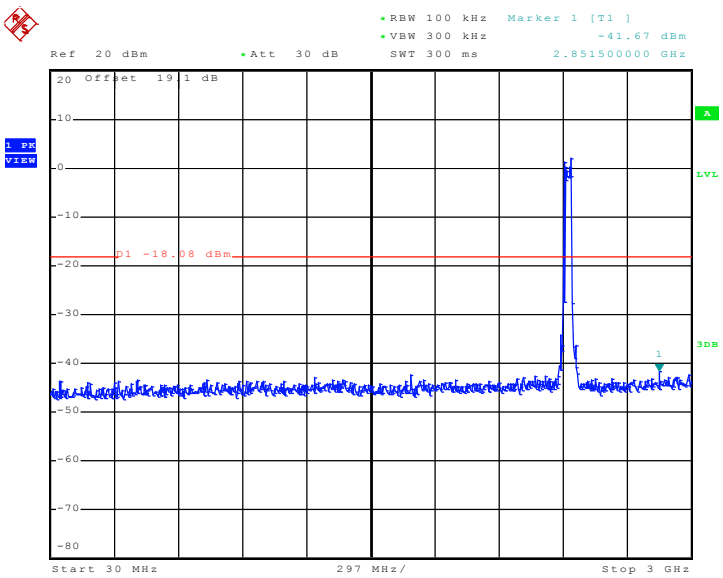


**Mode 16: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 1 GHz ~ 25 GHz - Chain A+B**



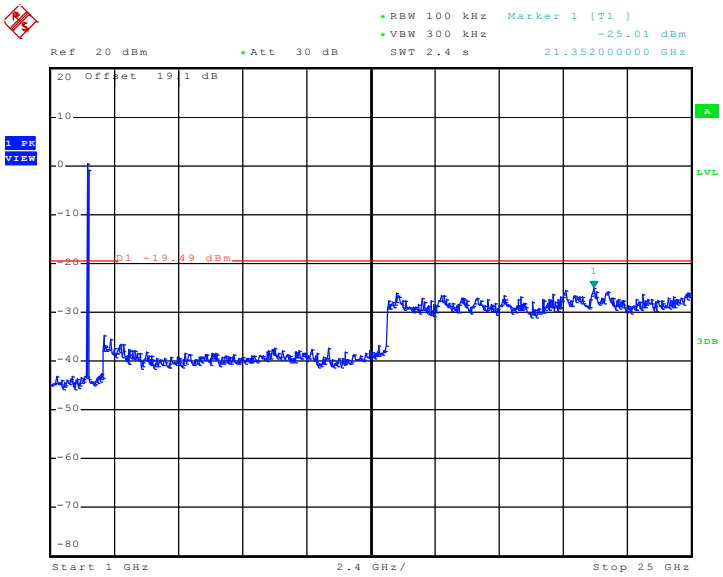

Date: 24.SEP.2010 01:36:27

**Mode 17: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 30 MHz ~ 3 GHz - Chain A+B**



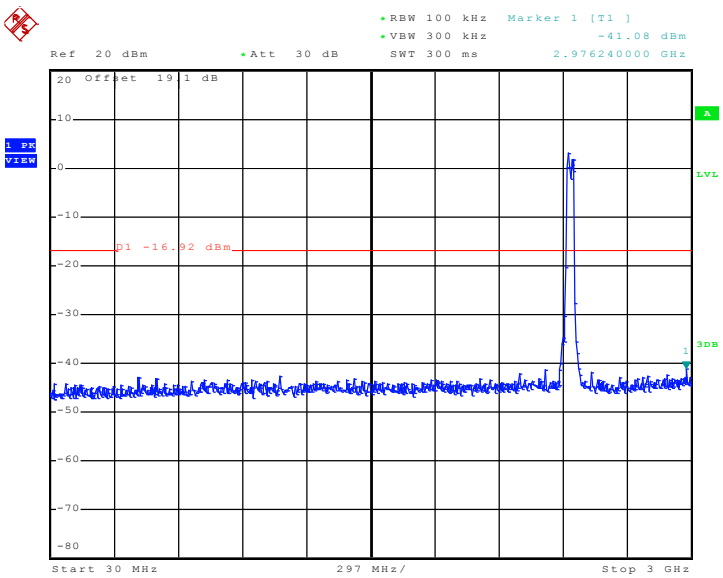

Date: 24.SEP.2010 01:45:22

## Mode 17: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 1 GHz ~ 25 GHz - Chain A+B



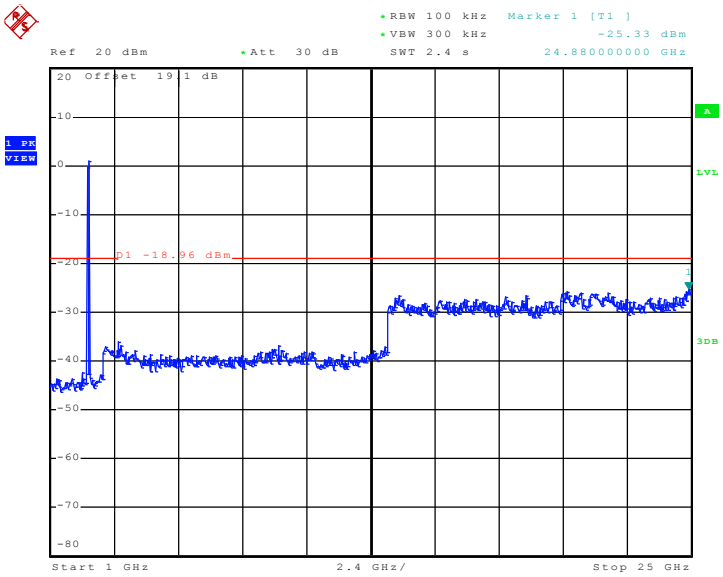

Date: 24.SEP.2010 01:33:57

## Mode 18: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 30 MHz ~ 3 GHz - Chain A+B



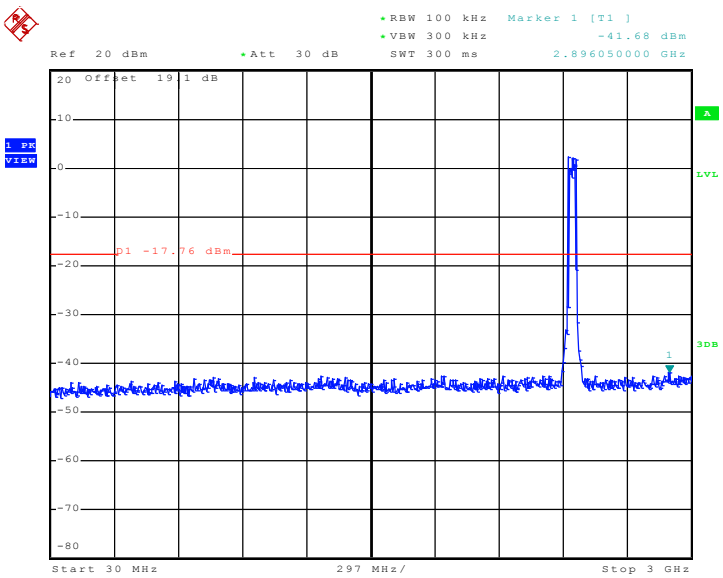

Date: 24.SEP.2010 01:43:55

**Mode 18: Conducted Spurious Emission Plot on 802.11n(BW 40MHz) between 1 GHz ~ 25 GHz - Chain A+B**



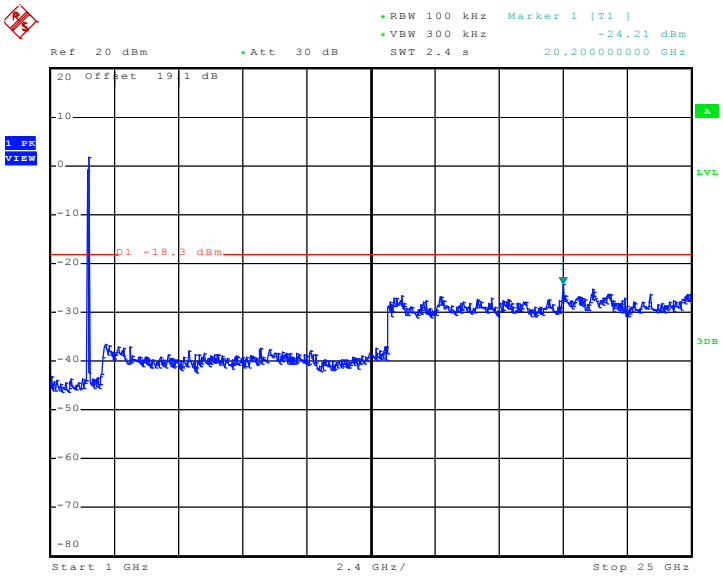

Date: 24.SEP.2010 01:37:23

**Mode 19: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 30 MHz ~ 3 GHz - Chain A+B**



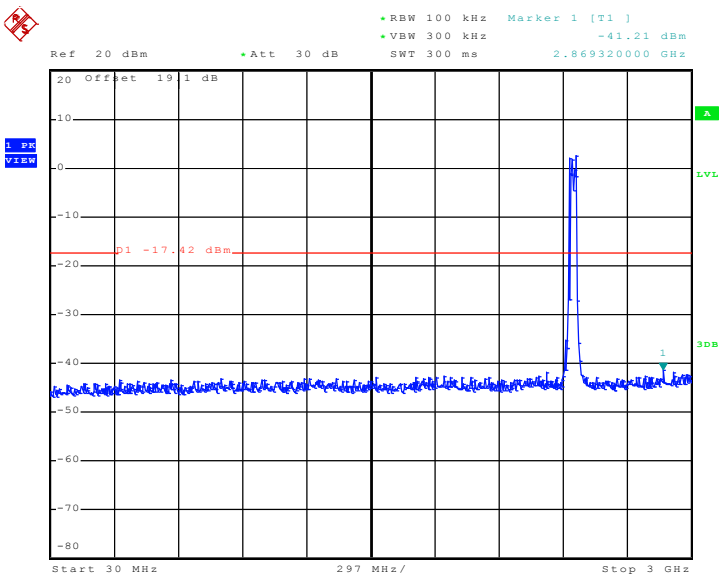

Date: 24.SEP.2010 01:43:04

**Mode 19: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 1 GHz ~ 25 GHz - Chain A+B**



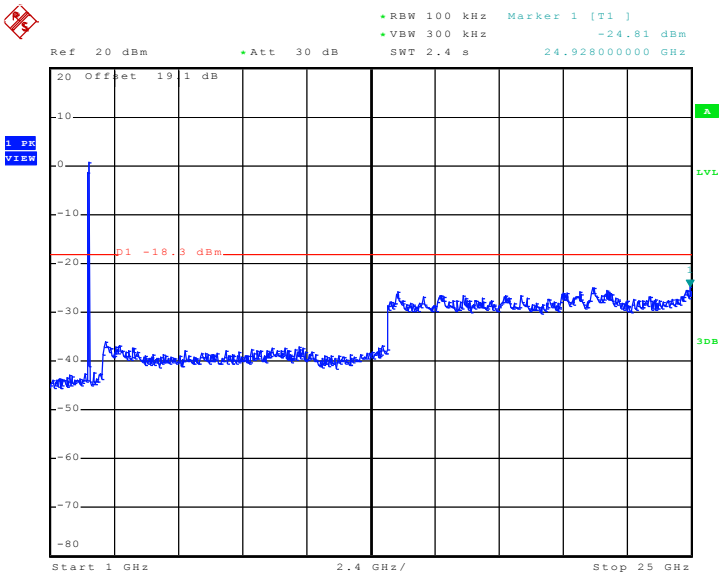

Date: 24.SEP.2010 01:38:20

**Mode 20: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 30 MHz ~ 3 GHz - Chain A+B**




Date: 24.SEP.2010 01:41:54

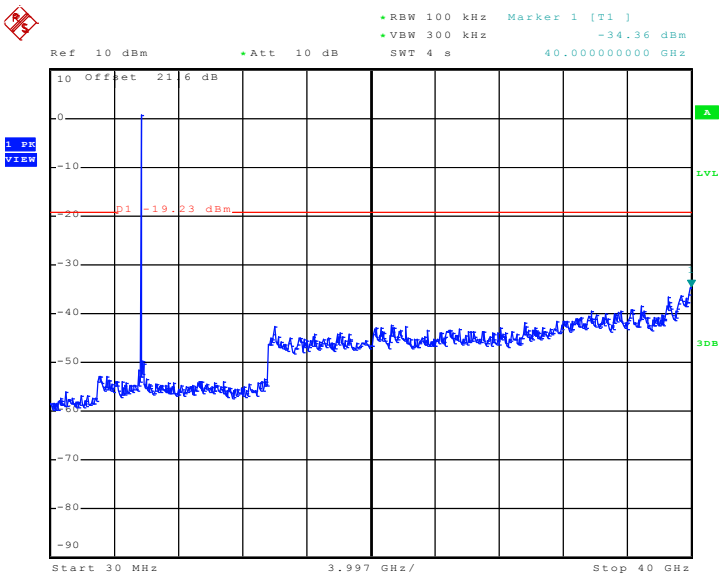
**Mode 20: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 1 GHz ~ 25 GHz - Chain A+B**




Date: 24.SEP.2010 01:39:16

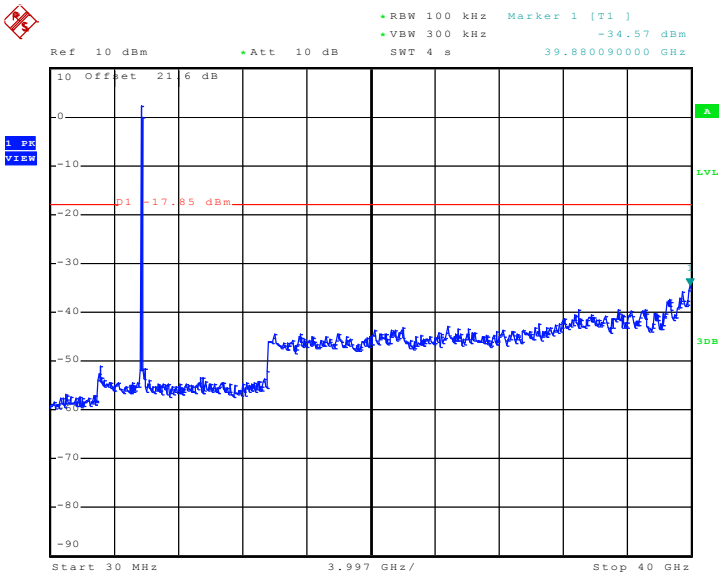
| Test Mode : | Mode 21~23 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11a | Relative Humidity : | 46~48% |
| Test Channel : | 149, 157, 165 | Test Engineer : | Ken Hsu |

**Mode 21:Conducted Spurious Emission Plot on 802.11a between 30 MHz ~ 40 GHz Chain A**



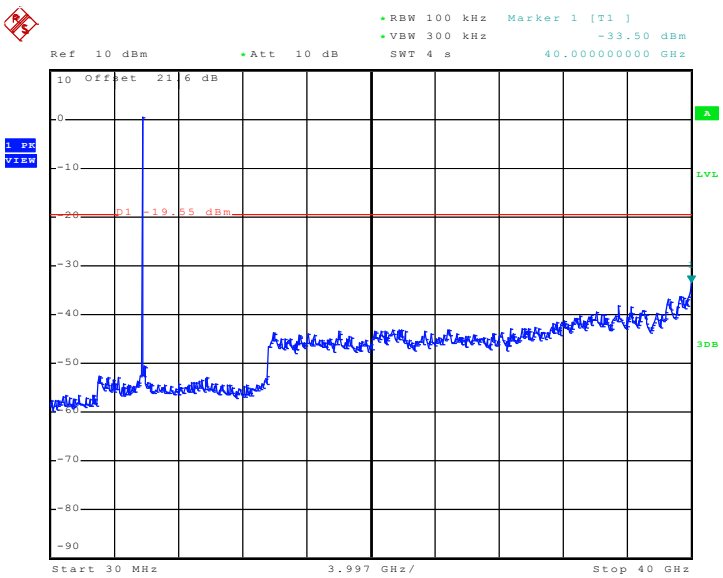

Date: 24.SEP.2010 02:49:30

**Mode 22:Conducted Spurious Emission Plot on 802.11a between 30 MHz ~ 40 GHz Chain A**




Date: 24.SEP.2010 02:50:28

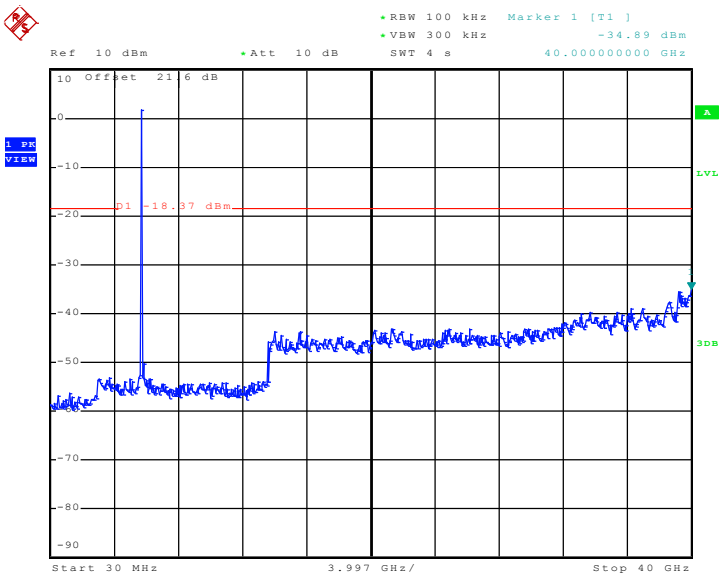
**Mode 23:Conducted Spurious Emission Plot on 802.11a between 30 MHz ~ 40 GHz Chain A**



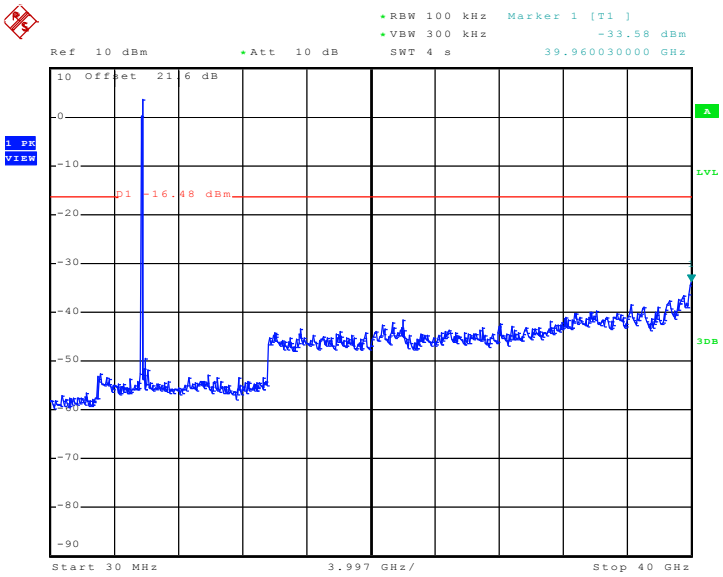

Date: 24.SEP.2010 02:51:34

| Test Mode : | Mode 24~26 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11n (BW 20MHz, 2Tx) | Relative Humidity : | 46~48% |
| Test Channel : | 149, 157, 165 | Test Engineer : | Ken Hsu |

**Mode 24:Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 40 GHz Chain A+B**

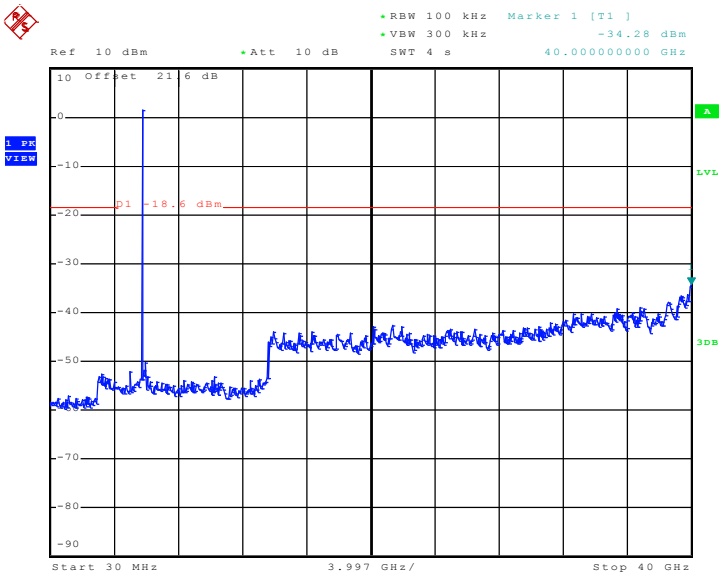


## Mode 25:Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 40 GHz Chain A+B




Date: 24.SEP.2010 02:54:31

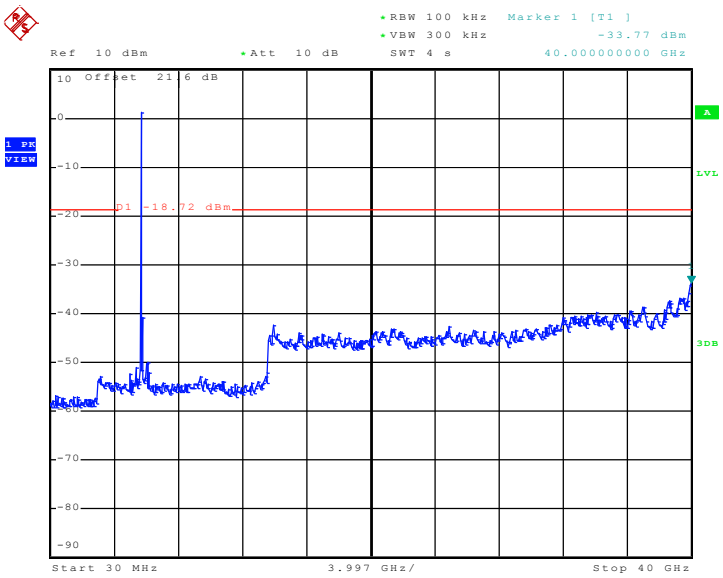
## Mode 26:Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 40 GHz Chain A+B



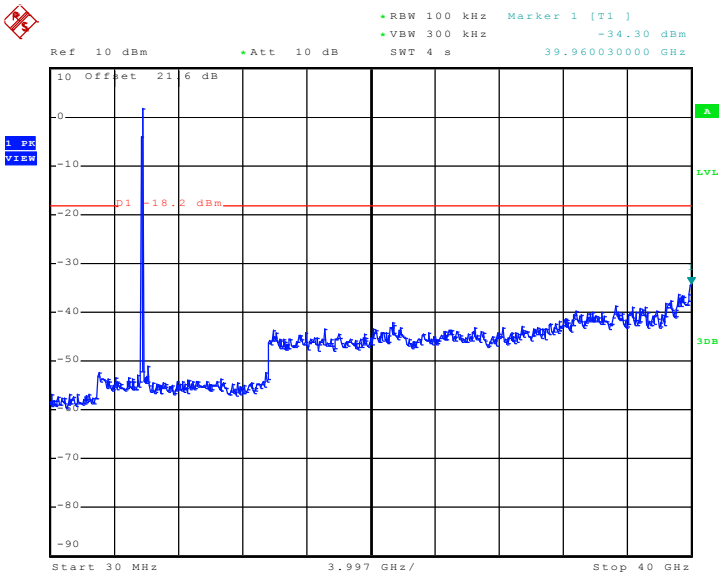

Date: 24.SEP.2010 02:55:15

| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 27~28 | **Temperature :** | 24~26℃ |
| **Test Band :** | 802.11n (BW 40MHz, 2Tx) | **Relative Humidity :** | 46~48% |
| **Test Channel :** | 151 and 159 | **Test Engineer :** | Ken Hsu |

**Mode 27:Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 30 MHz ~ 40 GHz Chain A+B**



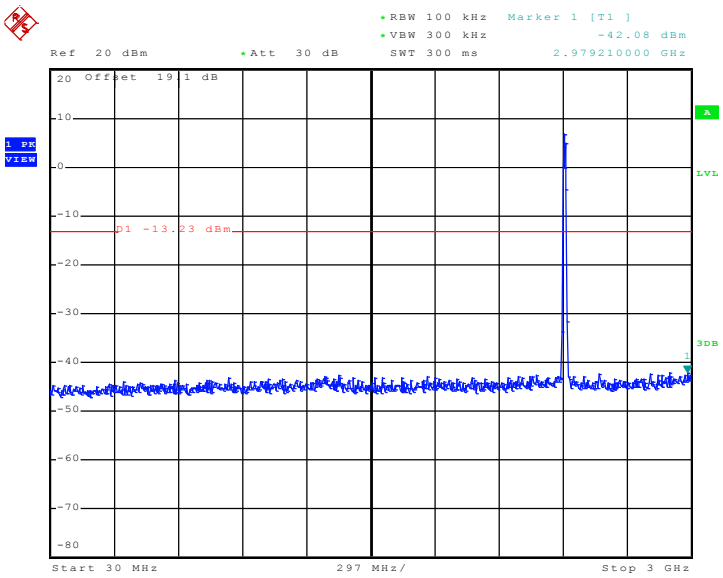
**Mode 28:Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 30 MHz ~ 40 GHz Chain A+B**




Date: 24.SEP.2010 02:57:43

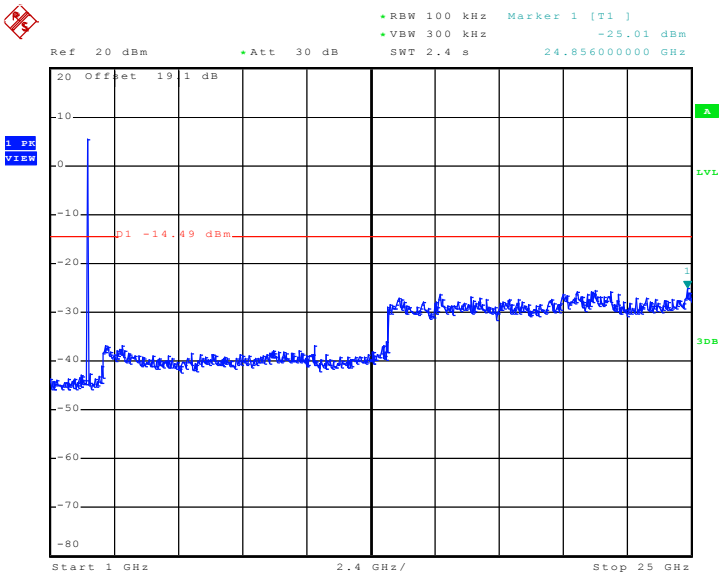
| Test Mode : | Mode 29~33 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11b | Relative Humidity : | 46~48% |
| Test Channel : | 01, 02, 06, 10, 11 | Test Engineer : | Ken Hsu |

**Mode 29: Conducted Spurious Emission Plot on 802.11b between 30 MHz ~ 3 GHz - Chain A**



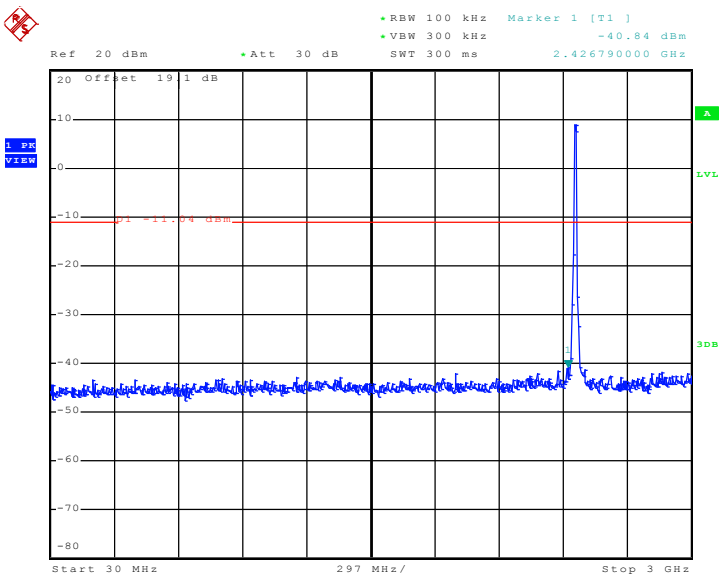

Date: 28.SEP.2010 02:51:58

**Mode 29: Conducted Spurious Emission Plot on 802.11b between 1 GHz ~ 25 GHz - Chain A**



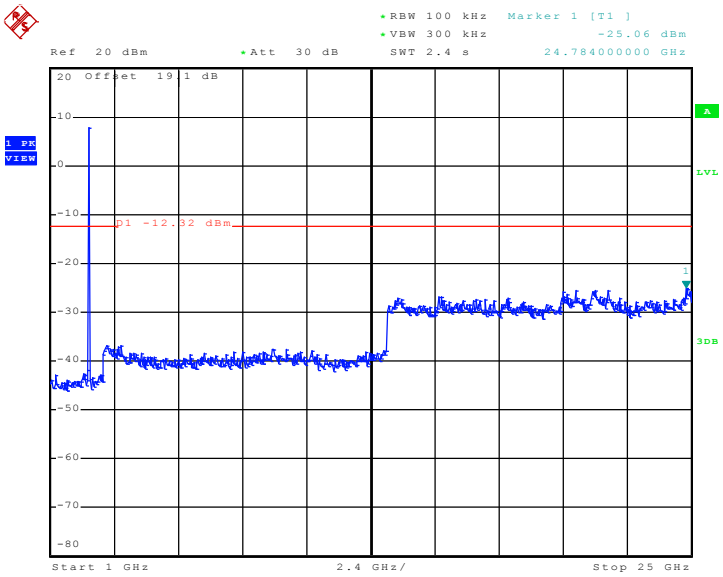

Date: 28.SEP.2010 02:52:15

**Mode 30: Conducted Spurious Emission Plot on 802.11b between 30 MHz ~ 3 GHz - Chain A**



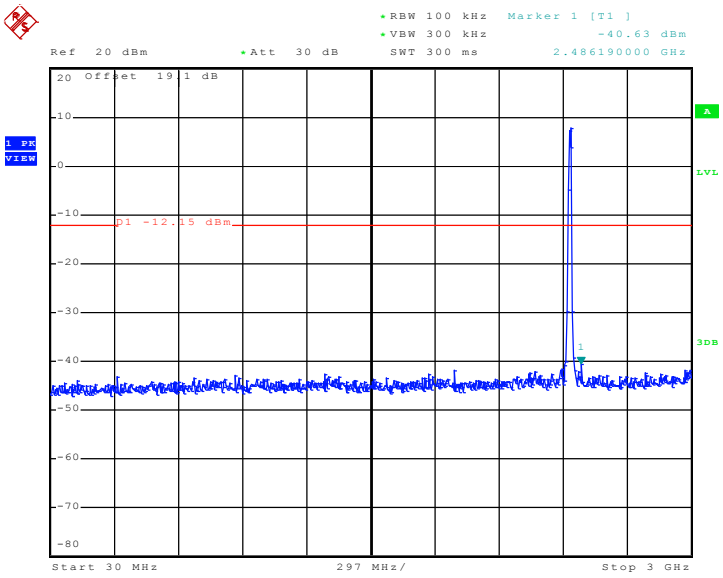

Date: 28.SEP.2010 02:54:02

**Mode 30: Conducted Spurious Emission Plot on 802.11b between 1 GHz ~ 25 GHz - Chain A**



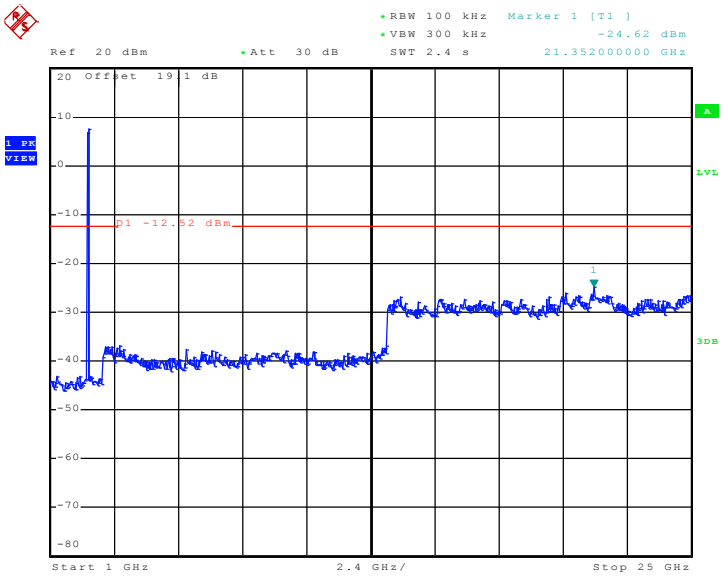

Date: 28.SEP.2010 02:54:19

**Mode 31: Conducted Spurious Emission Plot on 802.11b between 30 MHz ~ 3 GHz - Chain A**



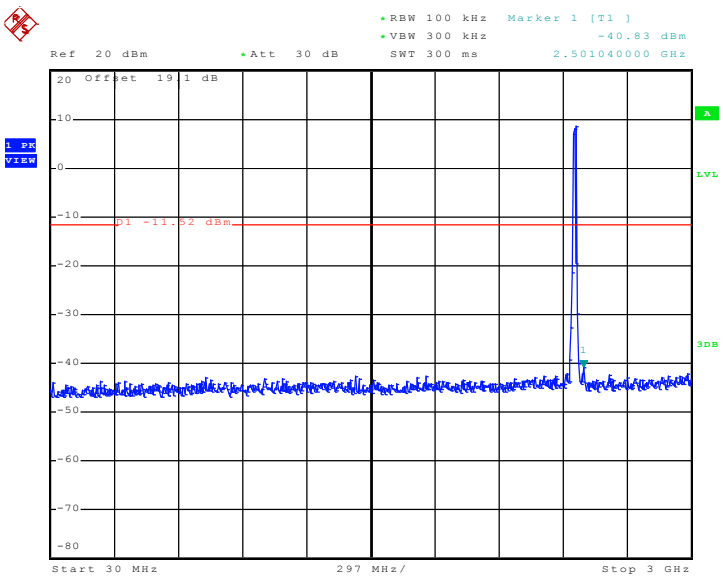

Date: 28.SEP.2010 02:55:34

**Mode 31: Conducted Spurious Emission Plot on 802.11b between 1 GHz ~ 25 GHz - Chain A**



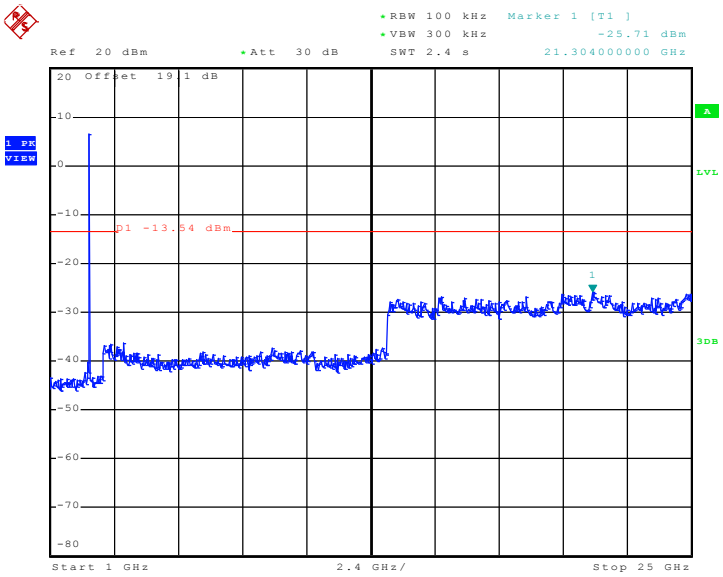

Date: 28.SEP.2010 02:55:51

**Mode 32: Conducted Spurious Emission Plot on 802.11b between 30 MHz ~ 3 GHz - Chain A**



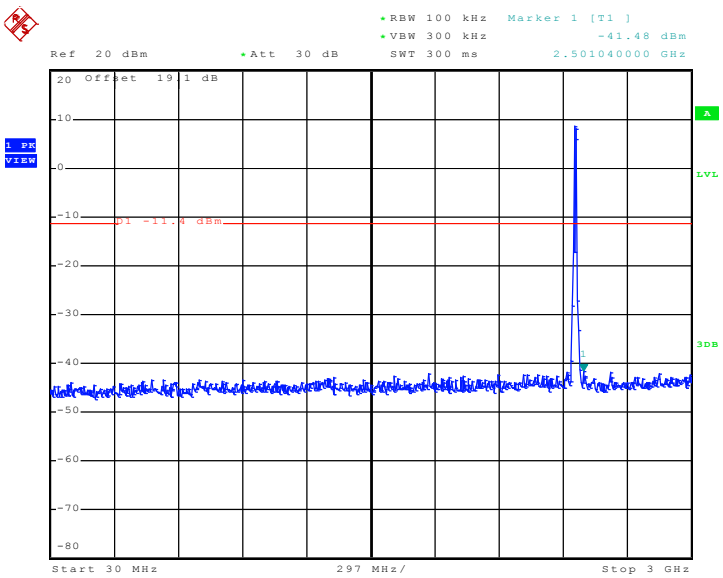

Date: 28.SEP.2010 02:57:08

**Mode 32: Conducted Spurious Emission Plot on 802.11b between 1 GHz ~ 25 GHz - Chain A**



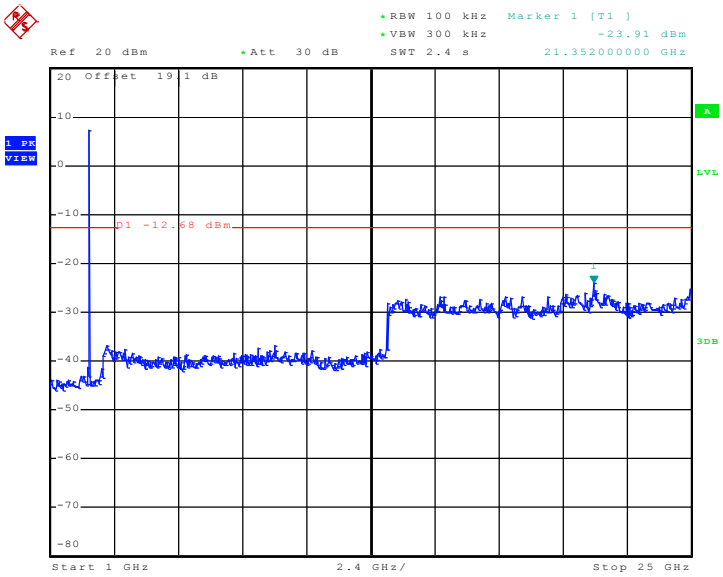

Date: 28.SEP.2010 02:57:25

**Mode 33: Conducted Spurious Emission Plot on 802.11b between 30 MHz ~ 3 GHz - Chain A**




Date: 28.SEP.2010 02:58:34

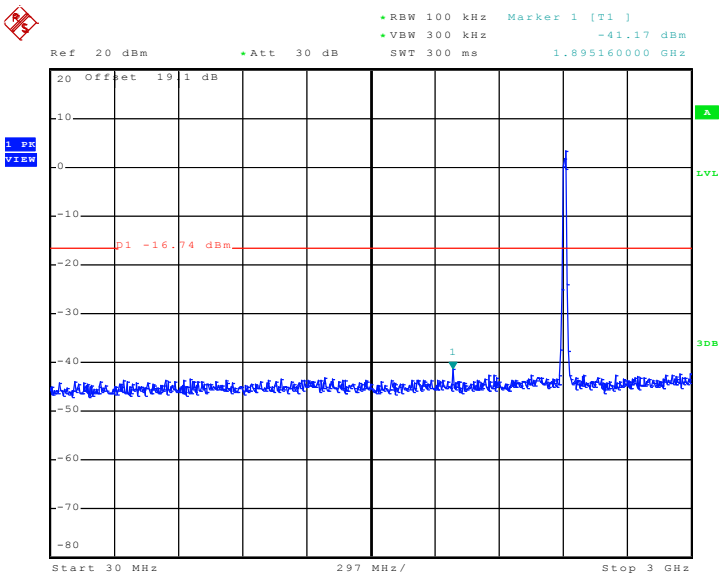
**Mode 33: Conducted Spurious Emission Plot on 802.11b between 1 GHz ~ 25 GHz - Chain A**




Date: 28.SEP.2010 02:58:50

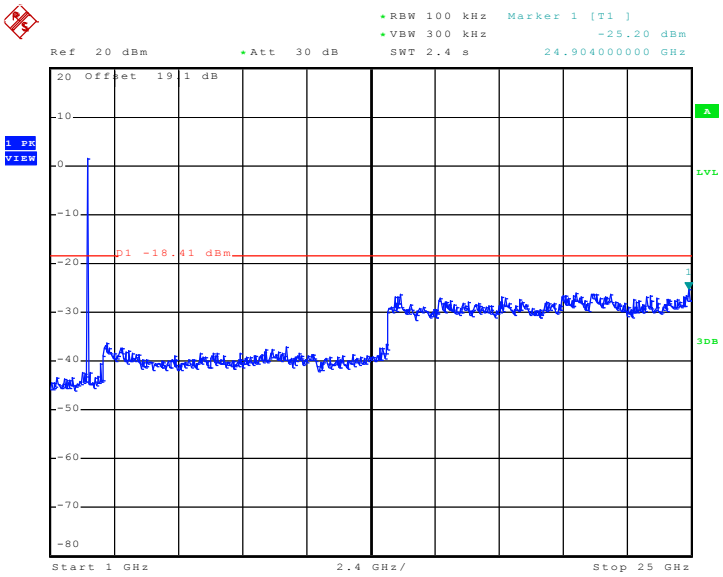
| Test Mode : | Mode 34~38 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11g | Relative Humidity : | 46~48% |
| Test Channel : | 01, 02, 06, 10, 11 | Test Engineer : | Ken Hsu |

**Mode 34: Conducted Spurious Emission Plot on 802.11g between 30 MHz ~ 3 GHz - Chain A**



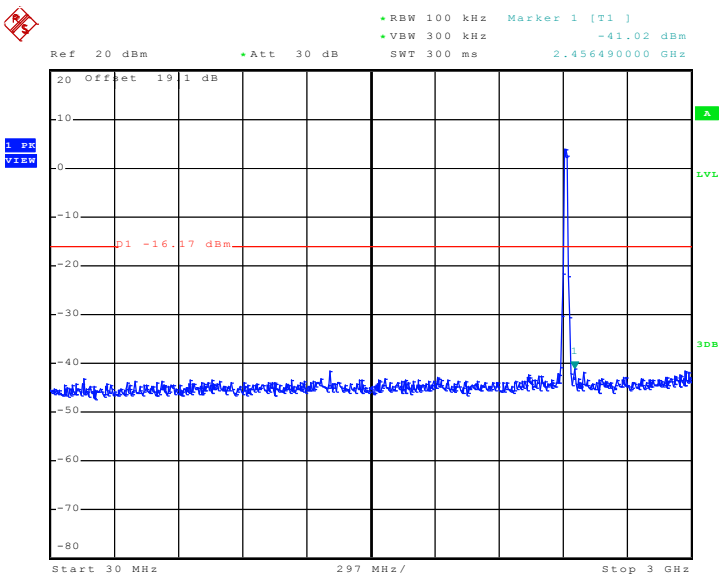

Date: 28.SEP.2010 03:01:18

**Mode 34: Conducted Spurious Emission Plot on 802.11g between 1 GHz ~ 25 GHz - Chain A**



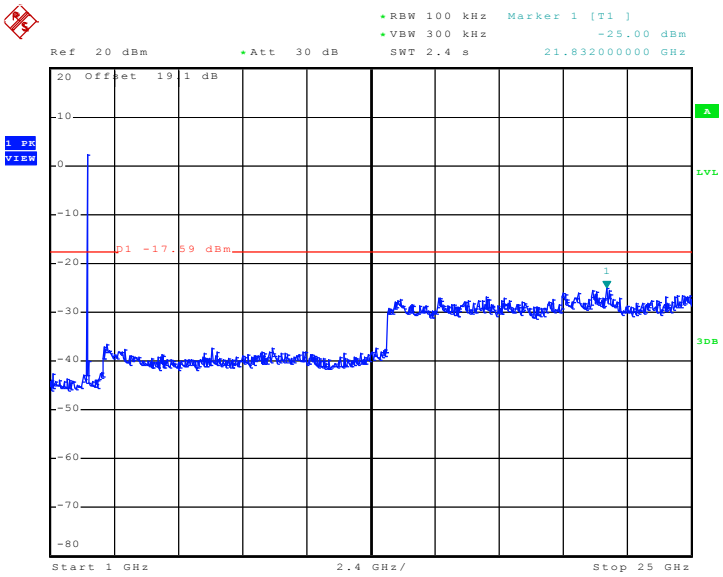

Date: 28.SEP.2010 03:01:34

**Mode 35: Conducted Spurious Emission Plot on 802.11g between 30 MHz ~ 3 GHz - Chain A**



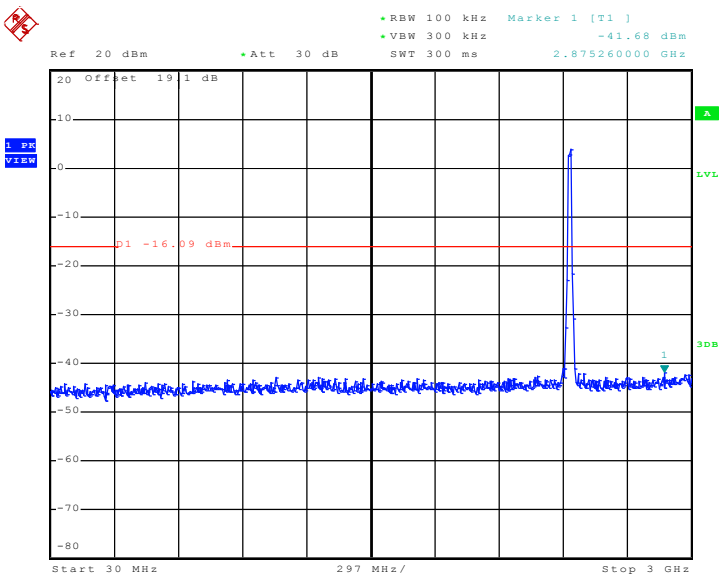

Date: 28.SEP.2010 03:03:06

**Mode 35: Conducted Spurious Emission Plot on 802.11g between 1 GHz ~ 25 GHz - Chain A**



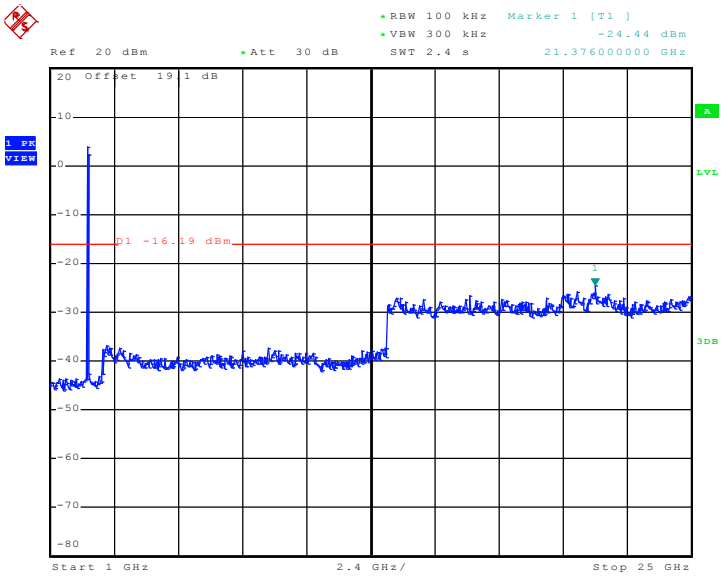

Date: 28.SEP.2010 03:03:22

**Mode 36: Conducted Spurious Emission Plot on 802.11g between 30 MHz ~ 3 GHz - Chain A**



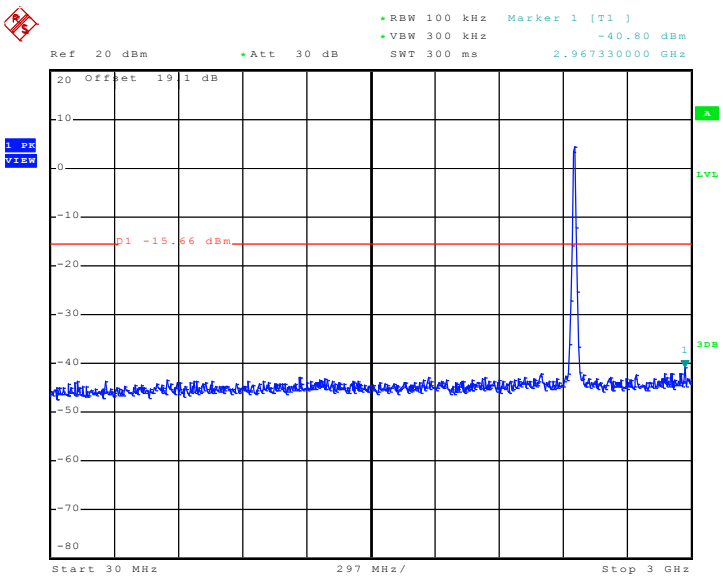

Date: 28.SEP.2010 03:04:54

**Mode 36: Conducted Spurious Emission Plot on 802.11g between 1 GHz ~ 25 GHz - Chain A**



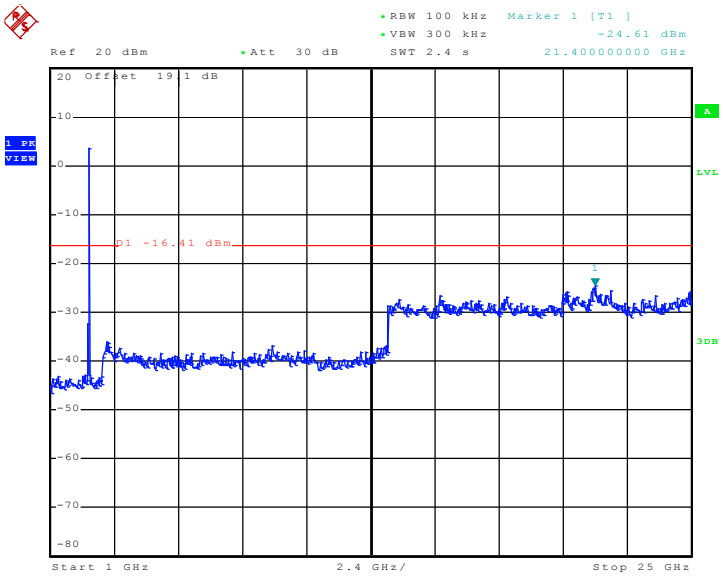

Date: 28.SEP.2010 03:05:10

**Mode 37: Conducted Spurious Emission Plot on 802.11g between 30 MHz ~ 3 GHz - Chain A**



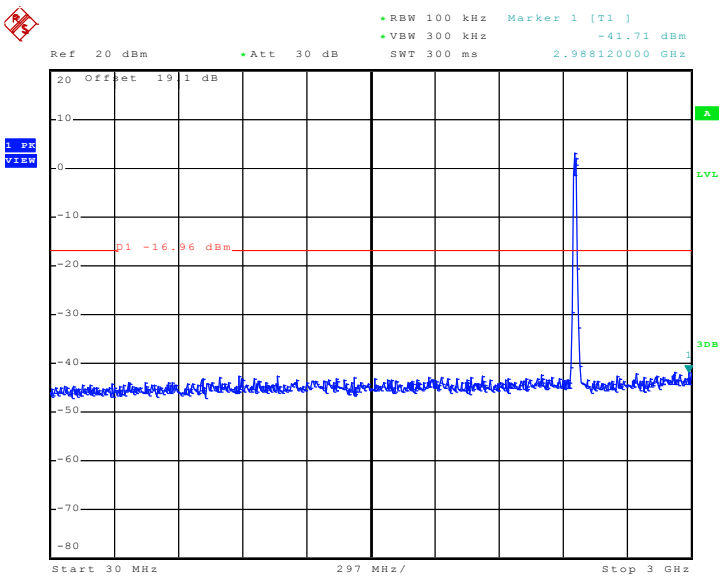

Date: 28.SEP.2010 03:06:27

**Mode 37: Conducted Spurious Emission Plot on 802.11g between 1 GHz ~ 25 GHz - Chain A**



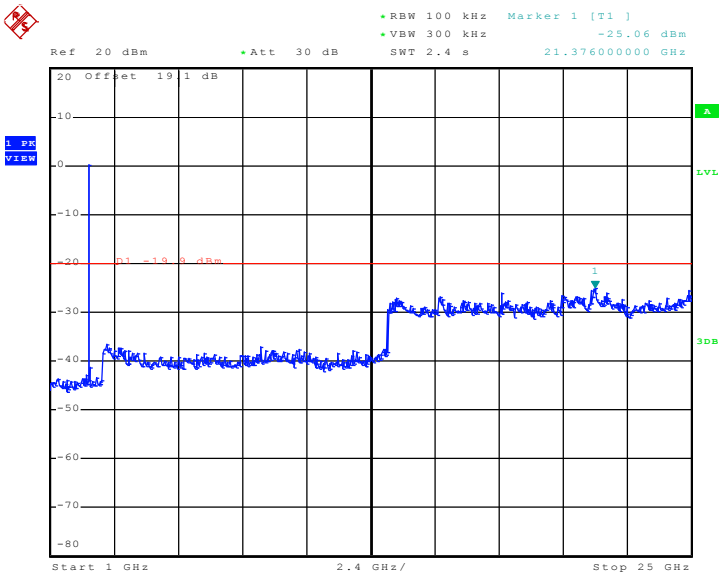

Date: 28.SEP.2010 03:06:43

**Mode 38: Conducted Spurious Emission Plot on 802.11g between 30 MHz ~ 3 GHz - Chain A**




Date: 28.SEP.2010 03:08:02

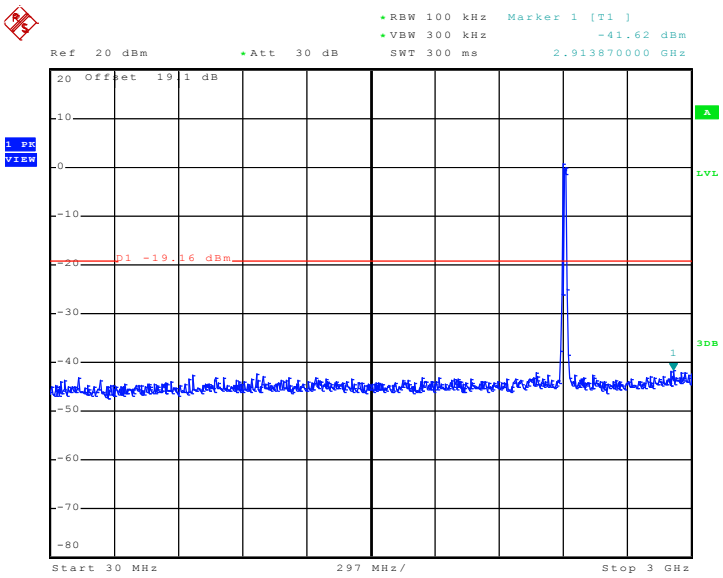
**Mode 38: Conducted Spurious Emission Plot on 802.11g between 1 GHz ~ 25 GHz - Chain A**



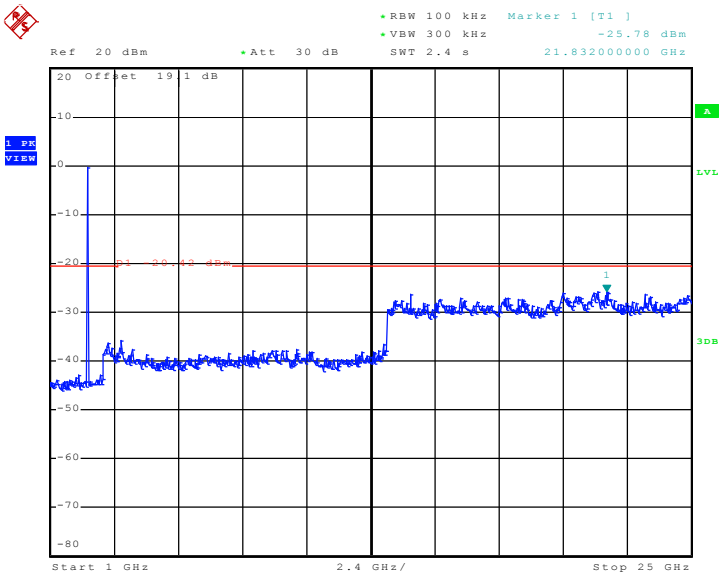

Date: 28.SEP.2010 03:08:19

| Test Mode : | Mode 39~43 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11n (BW 20MHz, 2Tx) | Relative Humidity : | 46~48% |
| Test Channel : | 01, 02, 06, 10, 11 | Test Engineer : | Ken Hsu |

**Mode 39: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 3 GHz - Chain A+B**

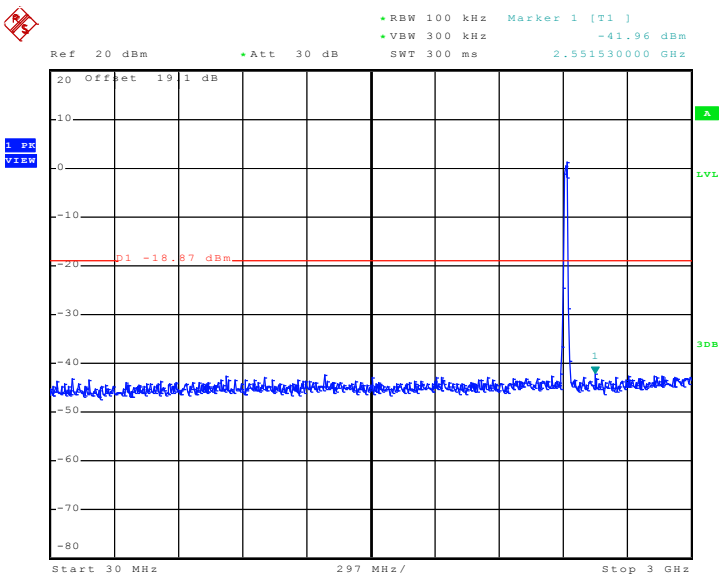


**Mode 39: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 1 GHz ~ 25 GHz - Chain A+B**



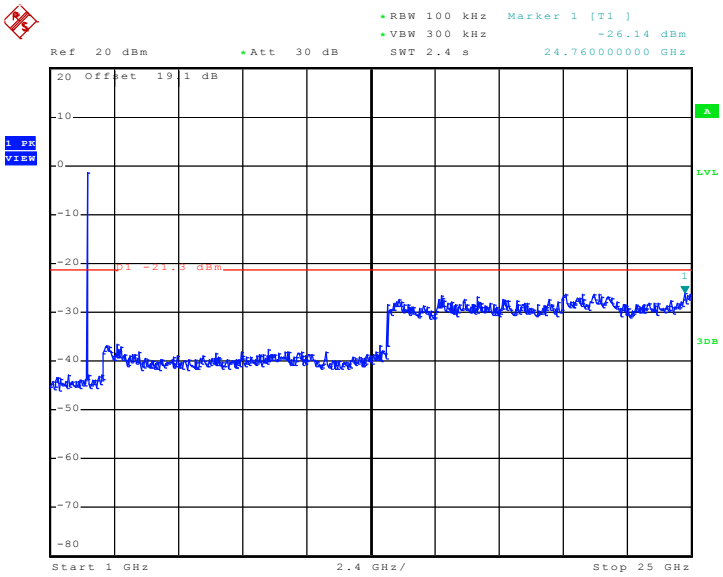

Date: 28.SEP.2010 03:11:21

**Mode 40: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 3 GHz - Chain A+B**



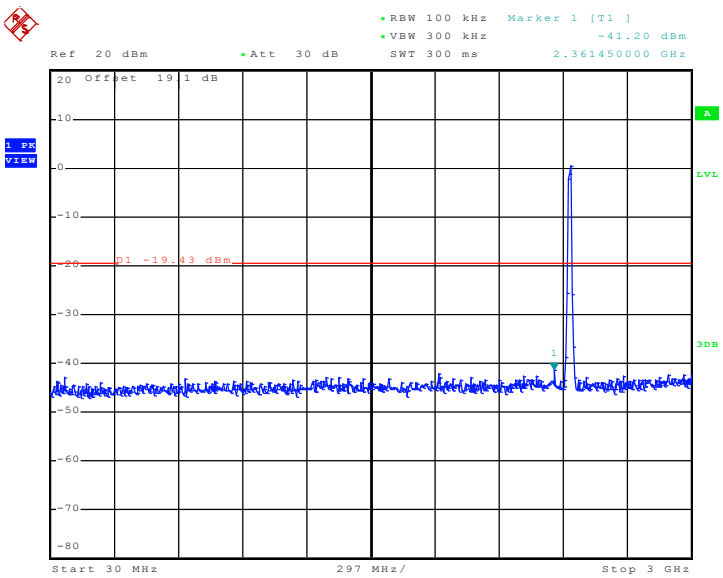

Date: 28.SEP.2010 03:12:33

**Mode 40: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 1 GHz ~ 25 GHz - Chain A+B**



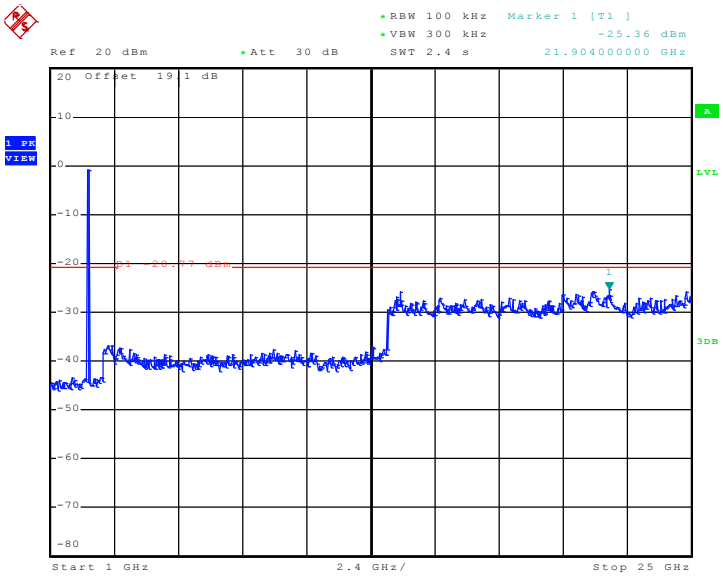

Date: 28.SEP.2010 03:12:50

**Mode 41: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 3 GHz - Chain A+B**



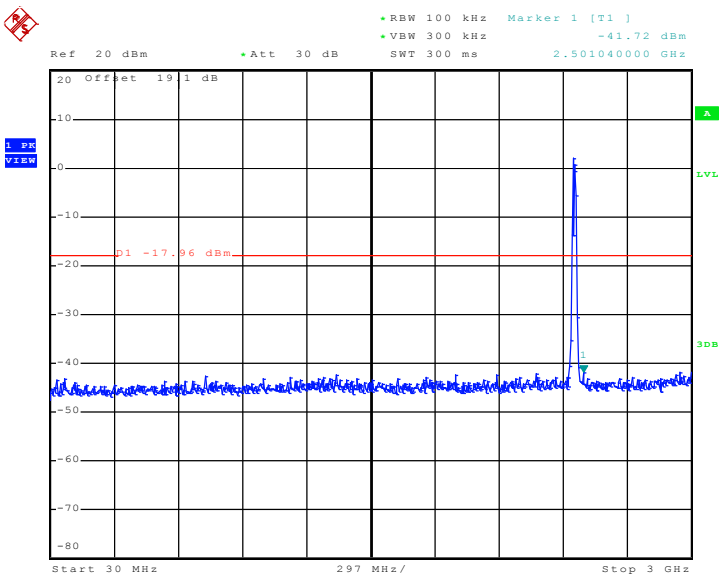

Date: 28.SEP.2010 03:15:23

**Mode 41: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 1 GHz ~ 25 GHz - Chain A+B**



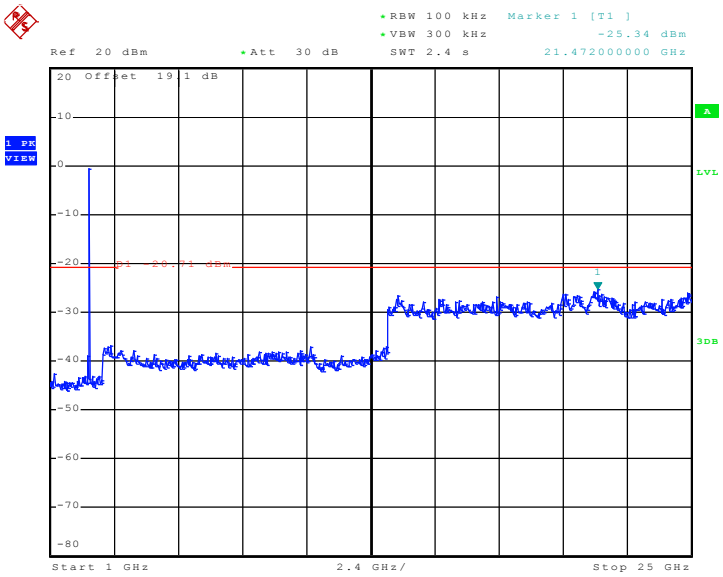

Date: 28.SEP.2010 03:15:40

**Mode 42: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 3 GHz - Chain A+B**



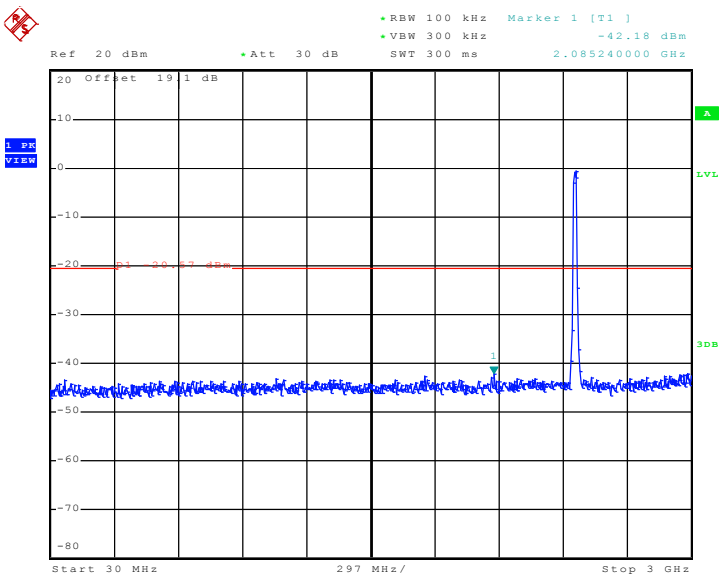

Date: 28.SEP.2010 03:17:14

## Mode 42: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 1 GHz ~ 25 GHz - Chain A+B



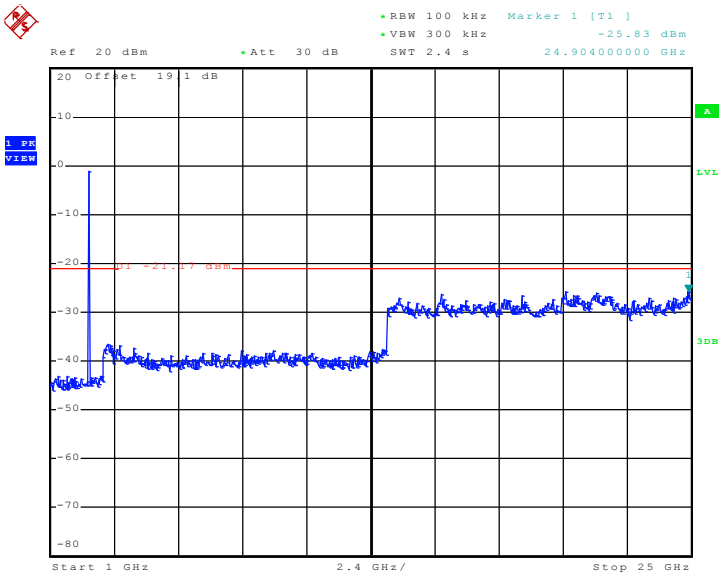

Date: 28.SEP.2010 03:17:30

## Mode 43: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 3 GHz - Chain A+B




Date: 28.SEP.2010 03:18:57

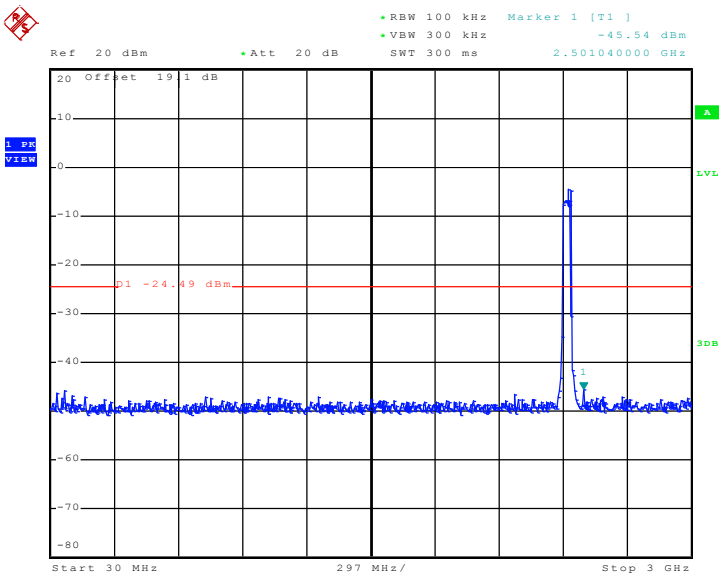
**Mode 43: Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 1 GHz ~ 25 GHz - Chain A+B**




Date: 28.SEP.2010 03:19:14

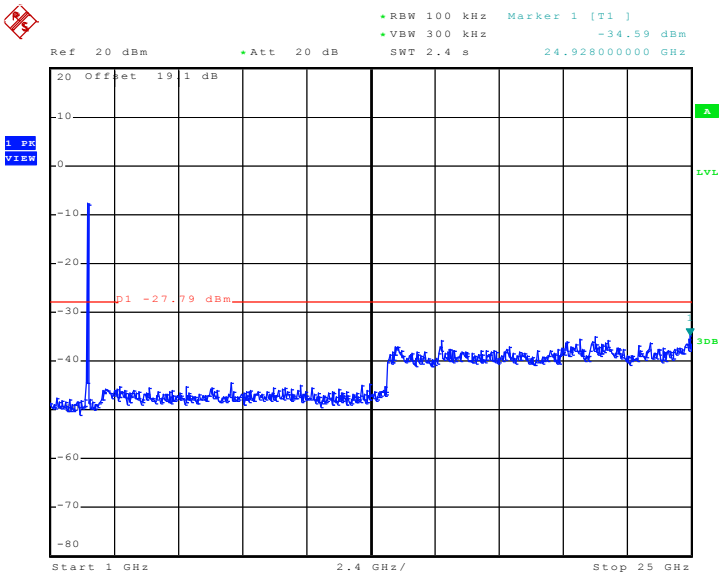
| Test Mode : | Mode 44~48 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11n (BW 40MHz, 2Tx) | Relative Humidity : | 46~48% |
| Test Channel : | 03, 04, 06, 08, 09 | Test Engineer : | Ken Hsu |

**Mode 44: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 30 MHz ~ 3 GHz - Chain A+B**



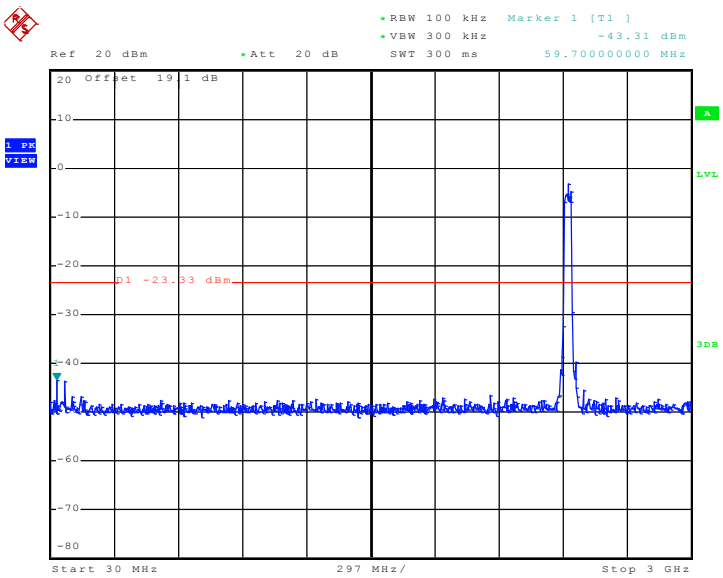

Date: 28.SEP.2010 03:25:01

**Mode 44: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 1 GHz ~ 25 GHz - Chain A+B**



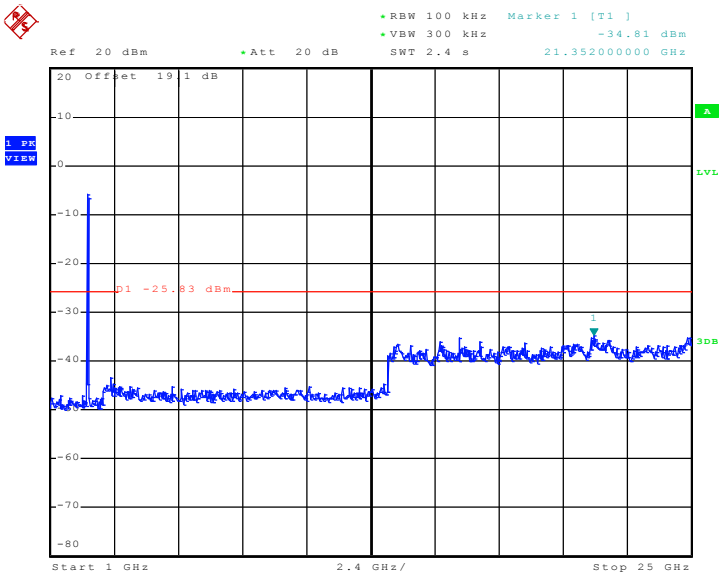

Date: 28.SEP.2010 03:24:05

**Mode 45: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 30 MHz ~ 3 GHz - Chain A+B**



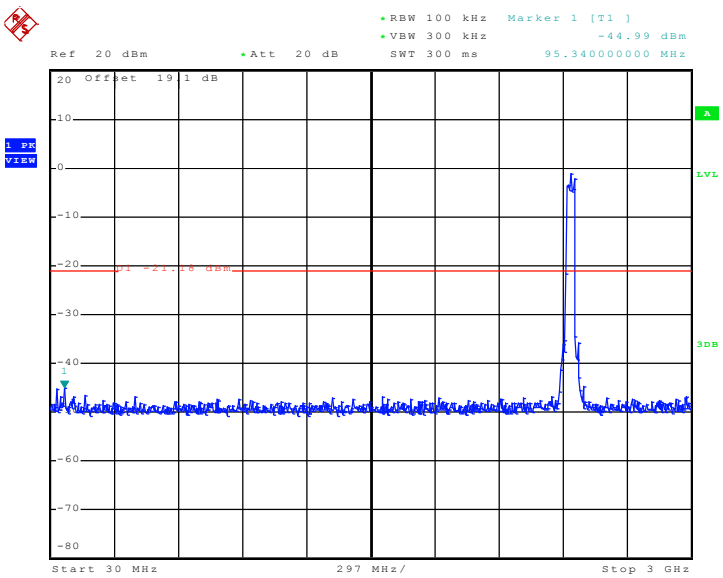

Date: 28.SEP.2010 03:27:17

**Mode 45: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 1 GHz ~ 25 GHz - Chain A+B**



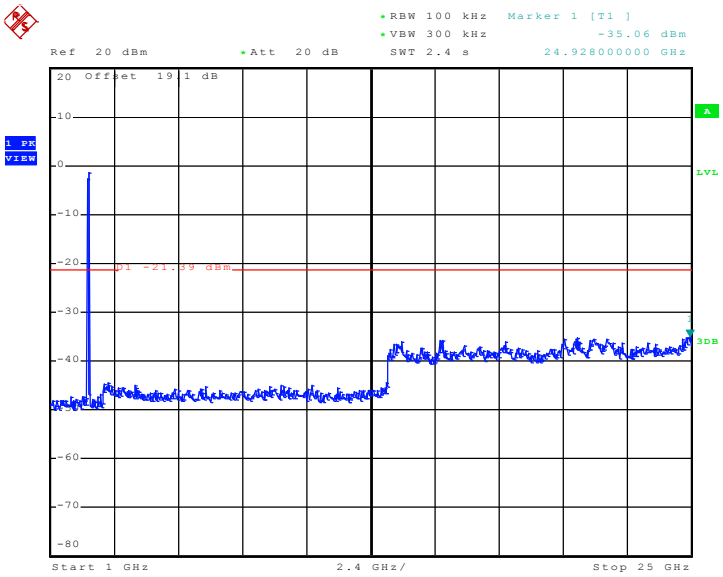

Date: 28.SEP.2010 03:28:09

**Mode 46: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 30 MHz ~ 3 GHz - Chain A+B**



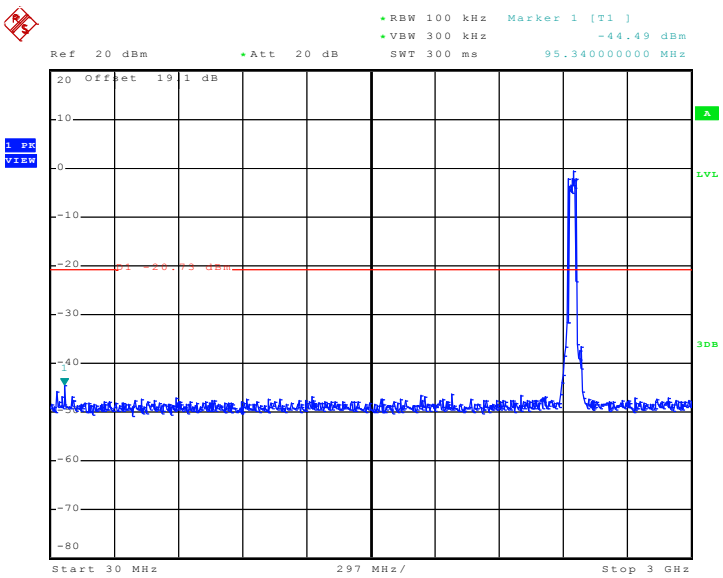

Date: 28.SEP.2010 03:30:32

**Mode 46: Conducted Spurious Emission Plot on 802.11n(BW 40MHz) between 1 GHz ~ 25 GHz - Chain A+B**



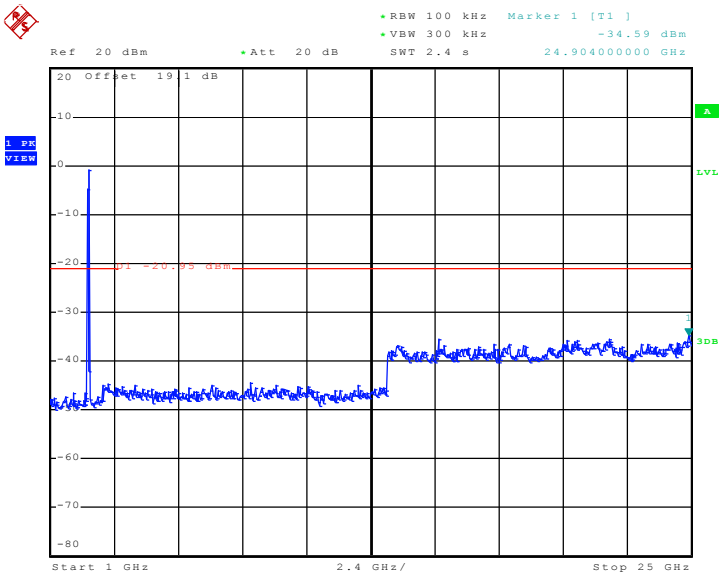

Date: 28.SEP.2010 03:29:28

**Mode 47: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 30 MHz ~ 3 GHz - Chain A+B**



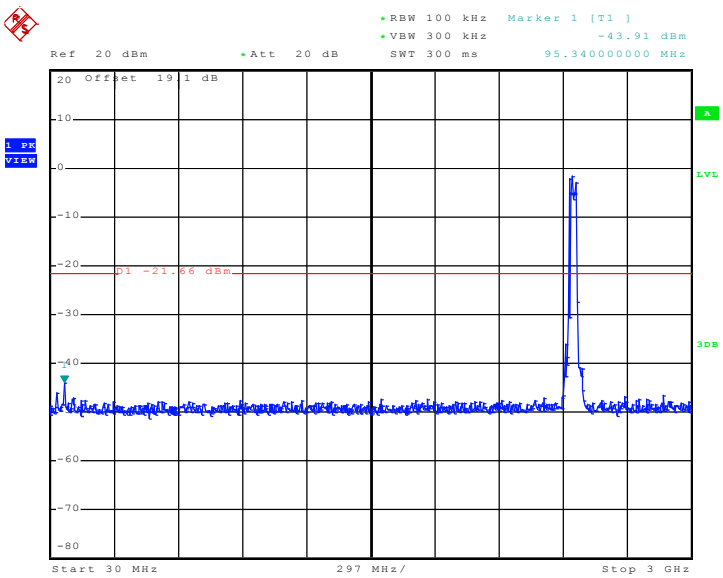

Date: 28.SEP.2010 03:32:03

## Mode 47: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 1 GHz ~ 25 GHz - Chain A+B



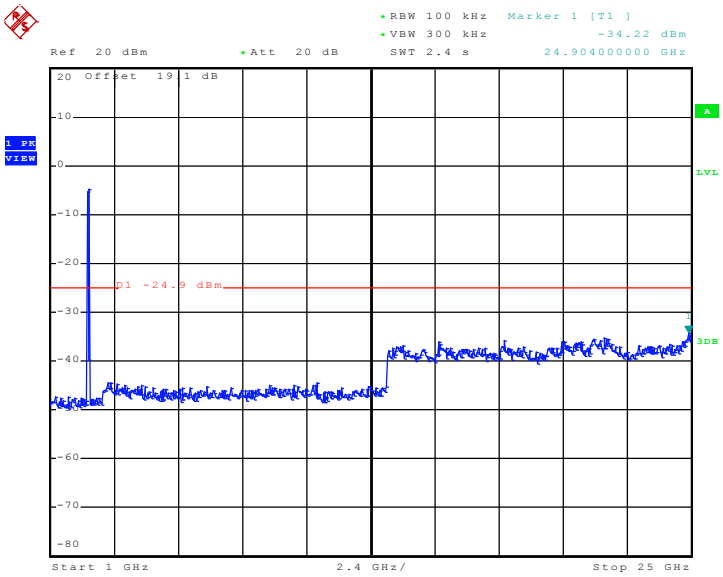

Date: 28.SEP.2010 03:33:08

## Mode 48: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 30 MHz ~ 3 GHz - Chain A+B




Date: 28.SEP.2010 03:36:27

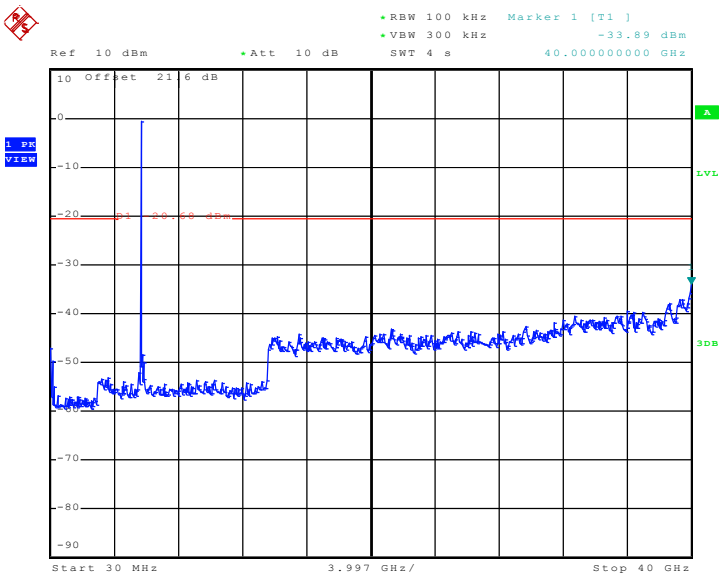
**Mode 48: Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 1 GHz ~ 25 GHz - Chain A+B**




Date: 28.SEP.2010 03:35:38

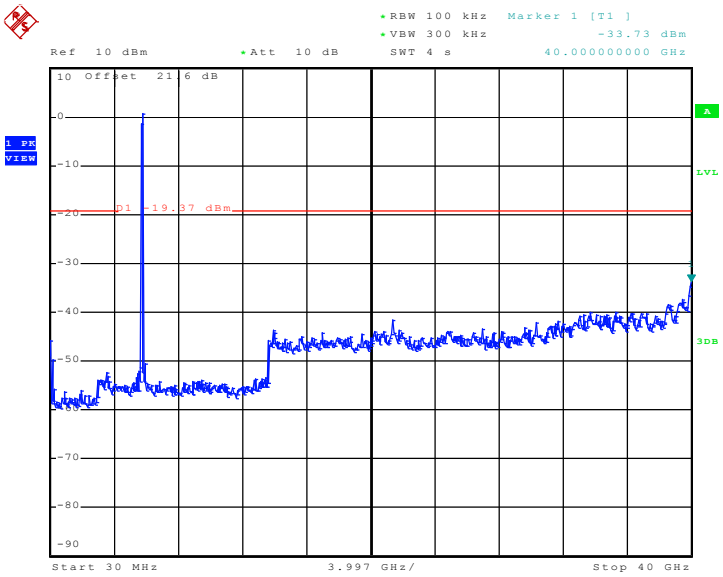
| Test Mode : | Mode 49~51 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11a | Relative Humidity : | 46~48% |
| Test Channel : | 149, 157, 165 | Test Engineer : | Ken Hsu |

**Mode 49:Conducted Spurious Emission Plot on 802.11a between 30 MHz ~ 40 GHz Chain A**



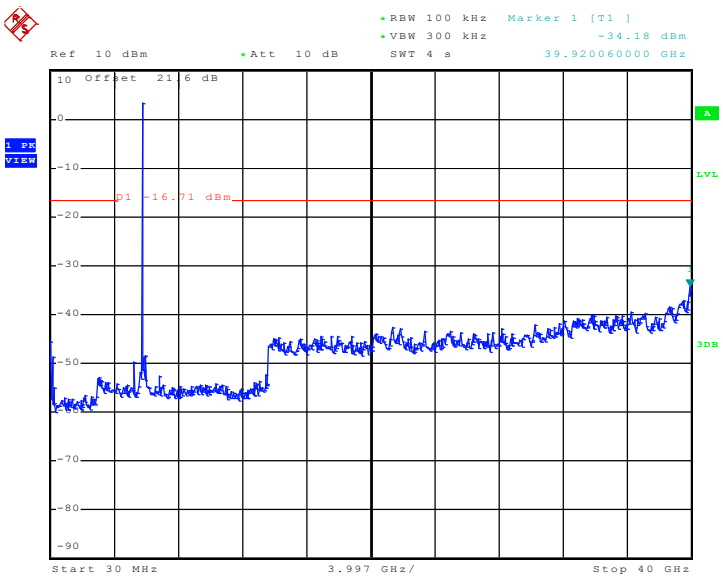

Date: 28.SEP.2010 03:41:37

**Mode 50:Conducted Spurious Emission Plot on 802.11a between 30 MHz ~ 40 GHz Chain A**




Date: 28.SEP.2010 03:45:13

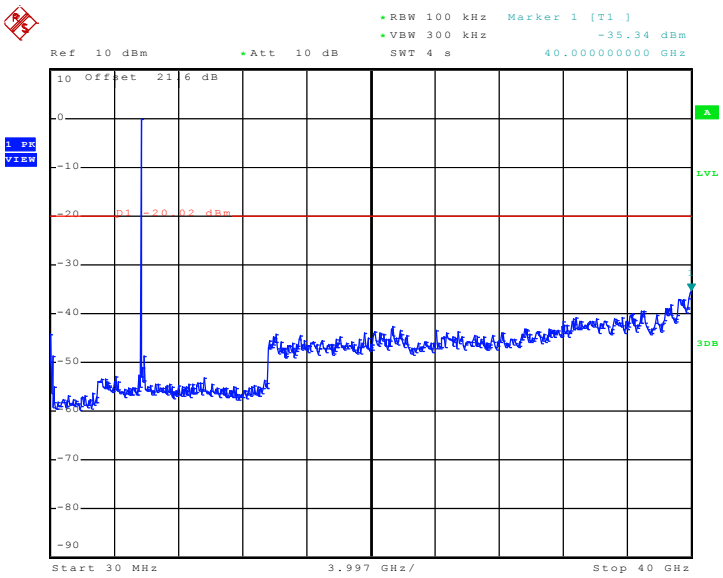
**Mode 51:Conducted Spurious Emission Plot on 802.11a between 30 MHz ~ 40 GHz Chain A**




Date: 28.SEP.2010 03:43:23

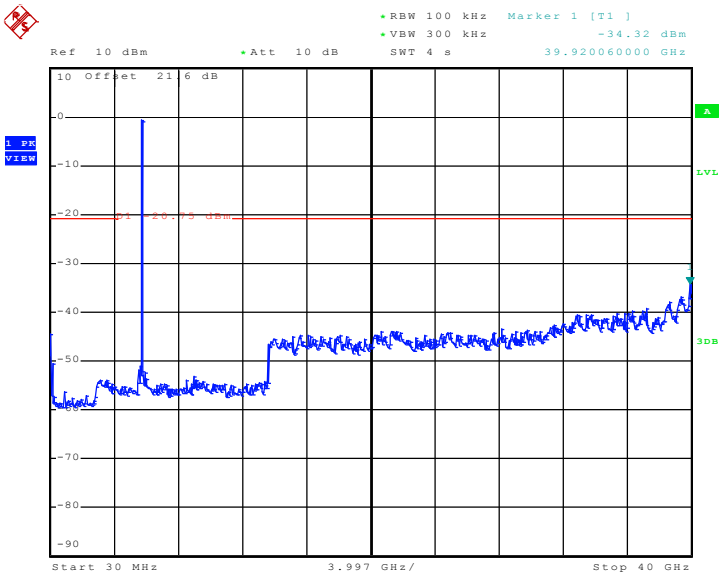
| Test Mode : | Mode 52~54 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11n (BW 20MHz, 2Tx) | Relative Humidity : | 46~48% |
| Test Channel : | 149, 157, 165 | Test Engineer : | Ken Hsu |

**Mode 52:Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 40 GHz Chain A+B**



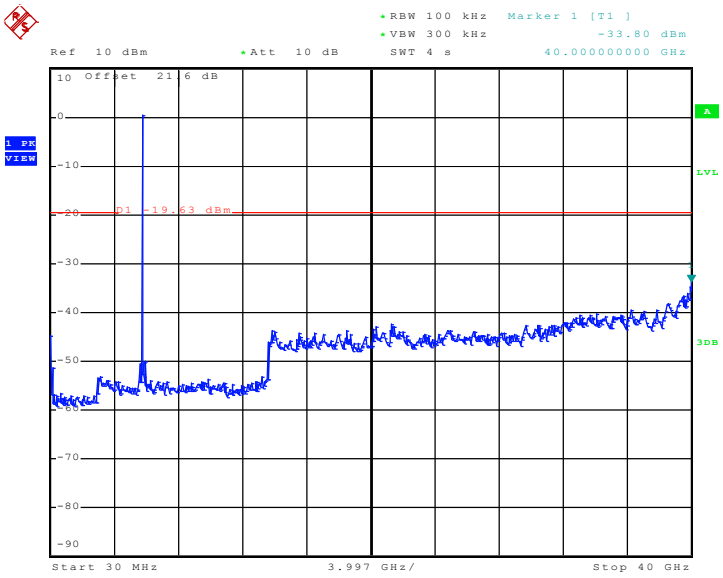

Date: 28.SEP.2010 03:51:57

## Mode 53:Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 40 GHz Chain A+B




Date: 28.SEP.2010 03:51:08

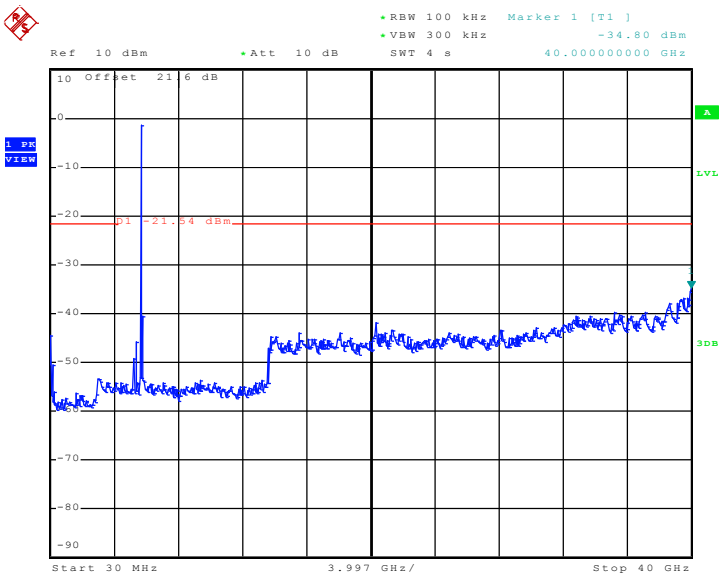
## Mode 54:Conducted Spurious Emission Plot on 802.11n (BW 20MHz) between 30 MHz ~ 40 GHz Chain A+B




Date: 28.SEP.2010 03:49:18

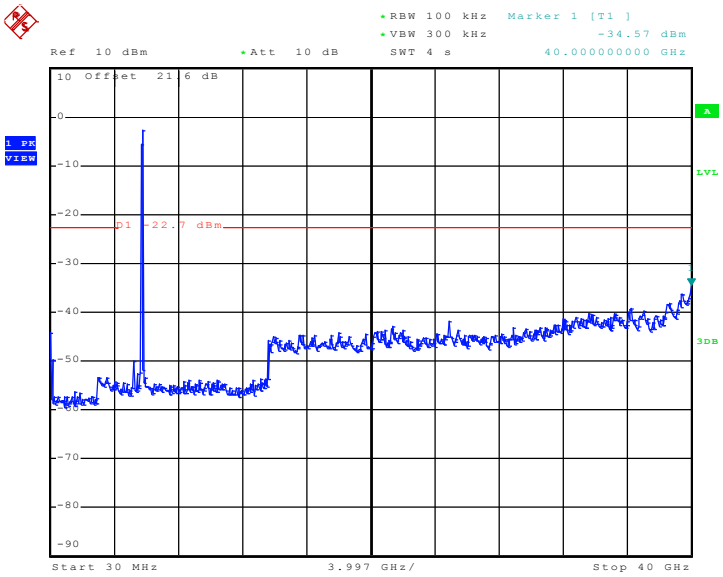
| Test Mode : | Mode 55~56 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Band : | 802.11n (BW 40MHz, 2Tx) | Relative Humidity : | 46~48% |
| Test Channel : | 151 and 159 | Test Engineer : | Ken Hsu |

**Mode 55:Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 30 MHz ~ 40 GHz Chain A+B**




Date: 28.SEP.2010 03:54:47

**Mode 56:Conducted Spurious Emission Plot on 802.11n (BW 40MHz) between 30 MHz ~ 40 GHz Chain A+B**




Date: 28.SEP.2010 03:55:48

## 3.5 Power Spectral Density Measurement

### 3.5.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

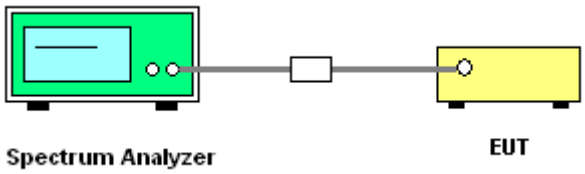
### 3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.5.3 Test Procedures

1. The test follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Take the measured data from spectrum analyzer.

### 3.5.4 Test Setup



### 3.5.5 Test Result of Power Spectral Density

| Test Mode : | Mode 1~5 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11b Measured PSD (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 01 | 2412 | -3.12 | 8 | Pass |
| 02 | 2417 | -0.09 | 8 | Pass |
| 06 | 2437 | 1.70 | 8 | Pass |
| 10 | 2457 | -3.04 | 8 | Pass |
| 11 | 2462 | -2.99 | 8 | Pass |

| Test Mode : | Mode 6~10 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11g Measured PSD (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 01 | 2412 | 1.71 | 8 | Pass |
| 02 | 2417 | -4.18 | 8 | Pass |
| 06 | 2437 | -3.86 | 8 | Pass |
| 10 | 2457 | -3.96 | 8 | Pass |
| 11 | 2462 | -6.17 | 8 | Pass |

| Test Mode : | Mode 11~15 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) Measured PSD (dBm) | | | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|---|---|
| | | Chain A | Chain B | Chain A+B | | |
| 01 | 2412 | -9.03 | -8.53 | -5.76 | 8 | Pass |
| 02 | 2417 | -8.57 | -8.06 | -5.30 | 8 | Pass |
| 06 | 2437 | -8.53 | -6.45 | -4.36 | 8 | Pass |
| 10 | 2457 | -6.24 | -7.36 | -3.75 | 8 | Pass |
| 11 | 2462 | -8.71 | -7.97 | -5.31 | 8 | Pass |

**Note:** Chain A+B was tested by combiner, and the chain A and B was tested individually and calculated with the formula of 10*LOG (10^ (chain A/10) + 10^ (chain B/10)).

| Test Mode : | Mode 16~20 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) Measured PSD (dBm) | | | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|---|---|
| | | Chain A | Chain B | Chain A+B | | |
| 03 | 2422 | -15.06 | -14.32 | -11.66 | 8 | Pass |
| 04 | 2427 | -14.90 | -14.06 | -11.45 | 8 | Pass |
| 06 | 2437 | -14.06 | -13.60 | -10.81 | 8 | Pass |
| 08 | 2447 | -13.31 | -13.59 | -10.44 | 8 | Pass |
| 09 | 2452 | -15.06 | -14.23 | -11.61 | 8 | Pass |

**Note:** Chain A+B was tested by combiner, and the chain A and B was tested individually and calculated with the formula of 10*LOG (10^ (chain A/10) + 10^ (chain B/10)).

| Test Mode : | Mode 21~23 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11a Measured PSD (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 149 | 5745 | -9.24 | 8 | Pass |
| 157 | 5785 | -9.06 | 8 | Pass |
| 165 | 5825 | -8.61 | 8 | Pass |

| Test Mode : | Mode 24~26 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) Measured PSD (dBm) | | | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|---|---|
| | | Chain A | Chain B | Chain A+B | | |
| 149 | 5745 | -13.95 | -13.77 | -10.85 | 8 | Pass |
| 157 | 5785 | -13.90 | -13.43 | -10.65 | 8 | Pass |
| 165 | 5825 | -13.57 | -13.24 | -10.39 | 8 | Pass |

**Note:** Chain A+B was tested by combiner, and the chain A and B was tested individually and calculated with the formula of 10*LOG (10^ (chain A/10) + 10^ (chain B/10)).

| Test Mode : | Mode 27~28 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) Measured PSD (dBm) | | | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|---|---|
| | | Chain A | Chain B | Chain A+B | | |
| 151 | 5755 | -15.95 | -15.79 | -12.86 | 8 | Pass |
| 159 | 5795 | -15.24 | -15.07 | -12.14 | | |

**Note:** Chain A+B was tested by combiner, and the chain A and B was tested individually and calculated with the formula of 10*LOG (10^ (chain A/10) + 10^ (chain B/10)).

| Test Mode : | Mode 29~33 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11b Measured PSD (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 01 | 2412 | -7.32 | 8 | Pass |
| 02 | 2417 | -4.45 | 8 | Pass |
| 06 | 2437 | -4.88 | 8 | Pass |
| 10 | 2457 | -3.62 | 8 | Pass |
| 11 | 2462 | -4.95 | 8 | Pass |

| Test Mode : | Mode 34~38 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11g Measured PSD (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 01 | 2412 | -9.70 | 8 | Pass |
| 02 | 2417 | -2.28 | 8 | Pass |
| 06 | 2437 | -7.11 | 8 | Pass |
| 10 | 2457 | -6.98 | 8 | Pass |
| 11 | 2462 | -9.21 | 8 | Pass |

| Test Mode : | Mode 39~43 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) Measured PSD (dBm) | | | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|---|---|
| | | Chain A | Chain B | Chain A+B | | |
| 01 | 2412 | -10.81 | -9.61 | -7.16 | 8 | Pass |
| 02 | 2417 | -10.58 | -10.10 | -7.32 | 8 | Pass |
| 06 | 2437 | -10.57 | -10.48 | -7.51 | 8 | Pass |
| 10 | 2457 | -10.65 | -10.00 | -7.30 | 8 | Pass |
| 11 | 2462 | -9.08 | -10.90 | -6.89 | 8 | Pass |

**Note:** Chain A+B was tested by combiner, and the chain A and B was tested individually and calculated with the formula of 10*LOG (10^ (chain A/10) + 10^ (chain B/10)).

| Test Mode : | Mode 44~48 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) Measured PSD (dBm) | | | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|---|---|
| | | Chain A | Chain B | Chain A+B | | |
| 03 | 2422 | -16.94 | -16.31 | -13.60 | 8 | Pass |
| 04 | 2427 | -15.87 | -14.91 | -12.35 | 8 | Pass |
| 06 | 2437 | -13.62 | -13.13 | -10.36 | 8 | Pass |
| 08 | 2447 | -7.07 | -13.66 | -6.21 | 8 | Pass |
| 09 | 2452 | -10.91 | -14.33 | -9.28 | 8 | Pass |

**Note:** Chain A+B was tested by combiner, and the chain A and B was tested individually and calculated with the formula of 10*LOG (10^ (chain A/10) + 10^ (chain B/10)).

| Test Mode : | Mode 49~51 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11a Measured PSD (dBm) | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|
| | | Chain A | | |
| 149 | 5745 | -10.21 | 8 | Pass |
| 157 | 5785 | -9.81 | 8 | Pass |
| 165 | 5825 | -9.49 | 8 | Pass |

| Test Mode : | Mode 52~54 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

| Channel | Frequency (MHz) | 802.11n (BW 20MHz, 2Tx) Measured PSD (dBm) | | | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|---|---|
| | | Chain A | Chain B | Chain A+B | | |
| 149 | 5745 | -13.23 | -12.38 | -9.77 | 8 | Pass |
| 157 | 5785 | -13.67 | -12.64 | -10.11 | 8 | Pass |
| 165 | 5825 | -13.15 | -12.44 | -9.77 | 8 | Pass |

**Note:** Chain A+B was tested by combiner, and the chain A and B was tested individually and calculated with the formula of 10*LOG (10^ (chain A/10) + 10^ (chain B/10)).

| Test Mode : | Mode 55~56 | Temperature : | 24~26℃ |
|---|---|---|---|
| Test Engineer : | Ken Hsu | Relative Humidity : | 46~48% |

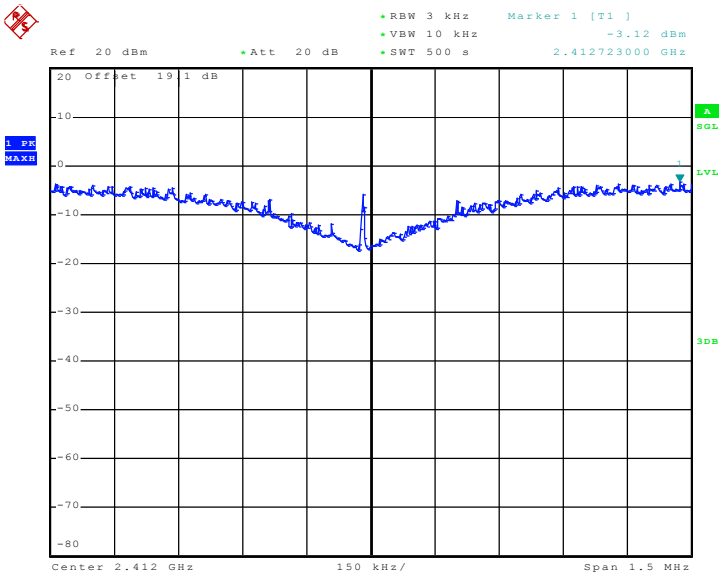
| Channel | Frequency (MHz) | 802.11n (BW 40MHz, 2Tx) Measured PSD (dBm) | | | Max. Limits (dBm) | Pass/Fail |
|---|---|---|---|---|---|---|
| | | Chain A | Chain B | Chain A+B | | |
| 151 | 5755 | -15.57 | -14.74 | -12.12 | 8 | Pass |
| 159 | 5795 | -15.09 | -14.60 | -11.83 | | |

**Note:** Chain A+B was tested by combiner, and the chain A and B was tested individually and calculated with the formula of 10*LOG (10^ (chain A/10) + 10^ (chain B/10)).

## 3.5.6 Test Result of Power Spectral Density Plots

**Mode 1 :**

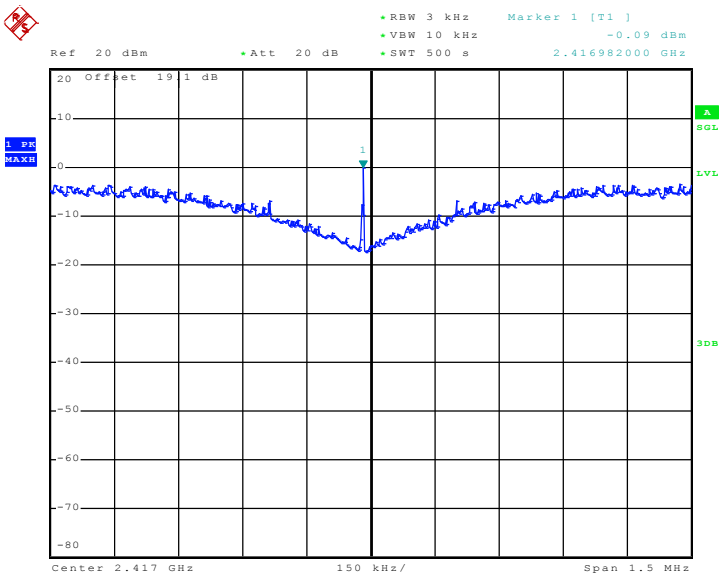
**PSD Plot on 802.11b Channel 01 - Chain A**




Date: 13.SEP.2010 14:23:01

**Mode 2 :**

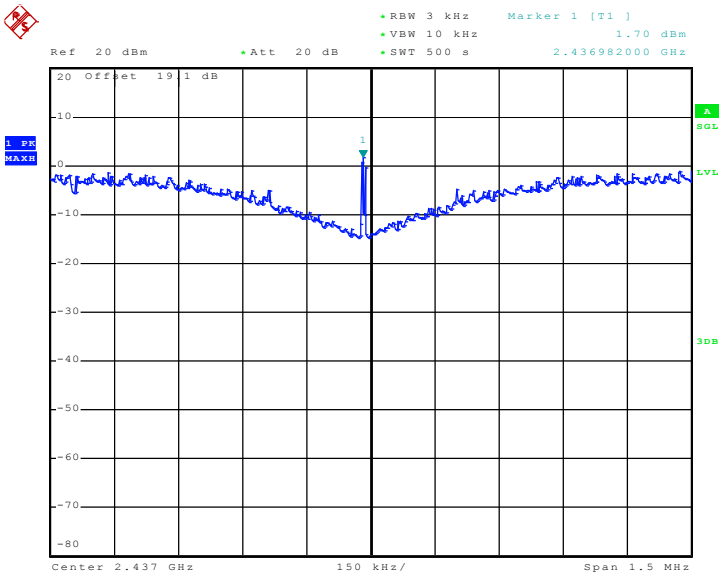
**PSD Plot on 802.11b Channel 02 - Chain A**




Date: 13.SEP.2010 14:32:05

**Mode 3 :**

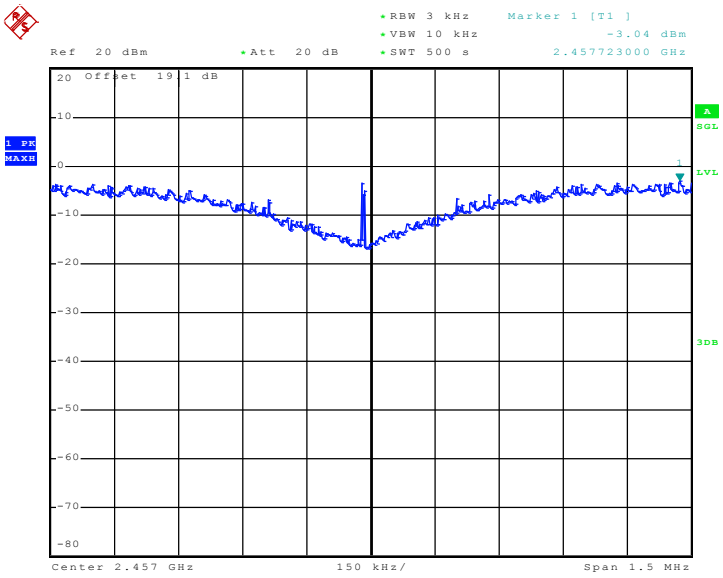
**PSD Plot on 802.11b Channel 06 - Chain A**




Date: 13.SEP.2010 14:41:35

**Mode 4 :**

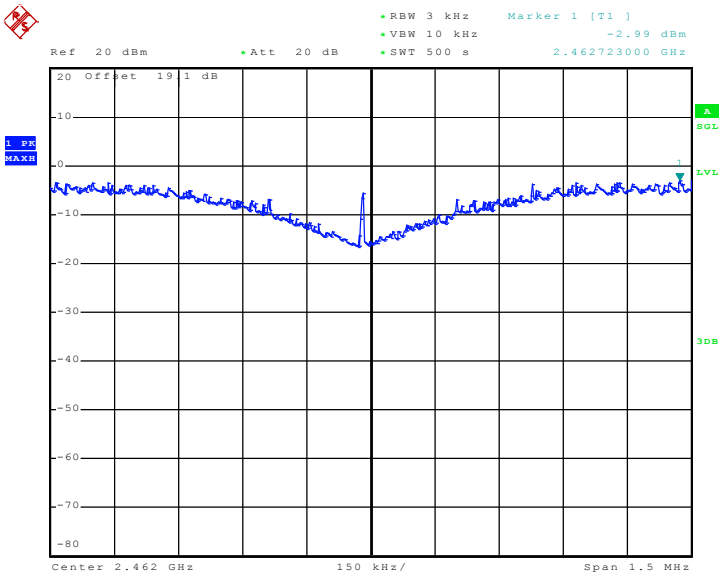
**PSD Plot on 802.11b Channel 10 - Chain A**




Date: 13.SEP.2010 15:15:23

**Mode 5 :**

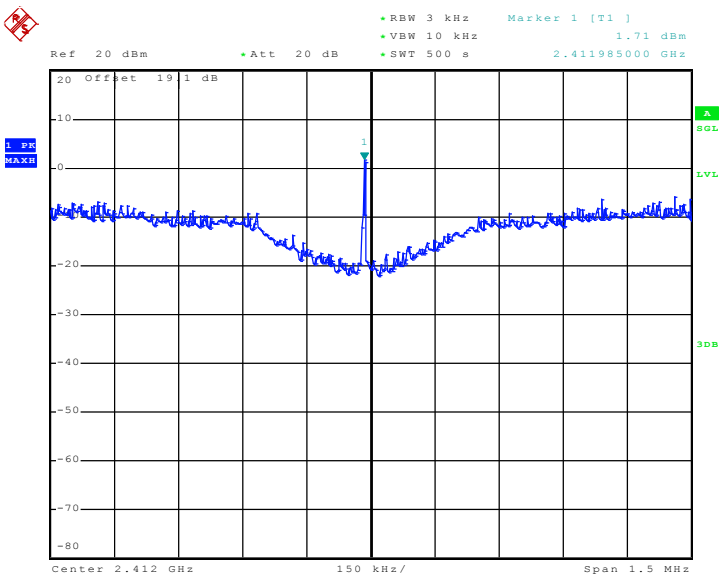
**PSD Plot on 802.11b Channel 11 - Chain A**




Date: 13.SEP.2010 15:47:21

**Mode 6 :**

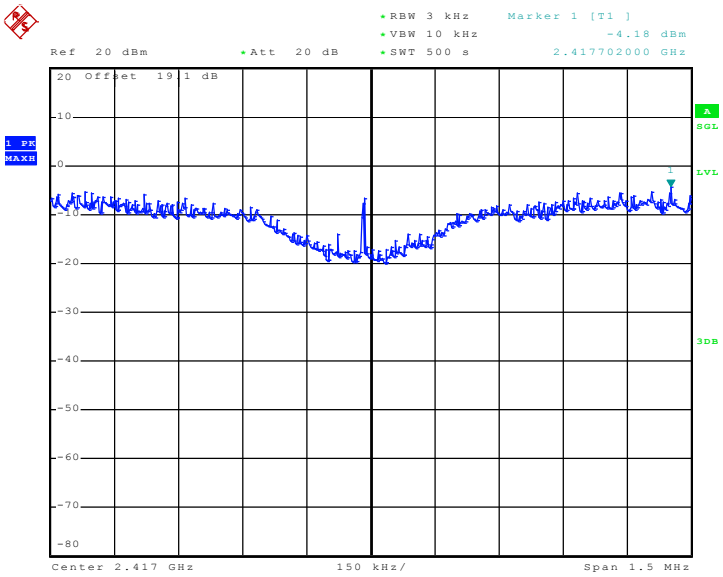
**PSD Plot on 802.11g Channel 01 - Chain A**




Date: 13.SEP.2010 15:59:07

**Mode 7 :**

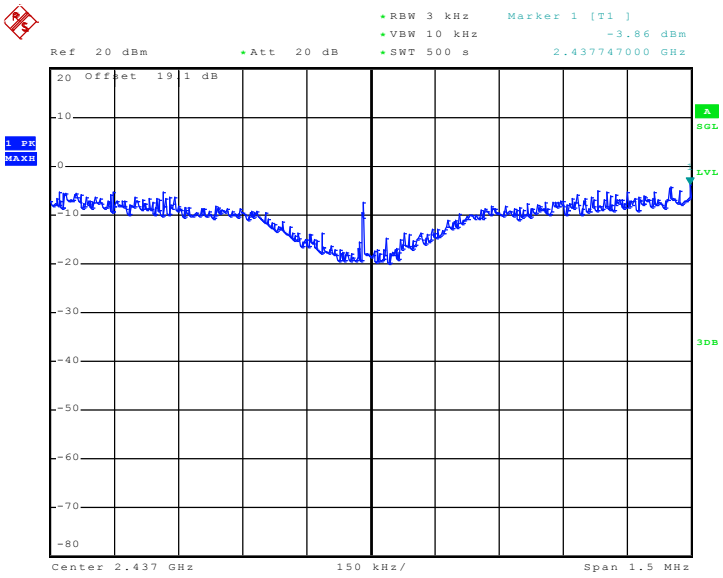
**PSD Plot on 802.11g Channel 02 - Chain A**




Date: 13.SEP.2010 16:29:07

**Mode 8 :**

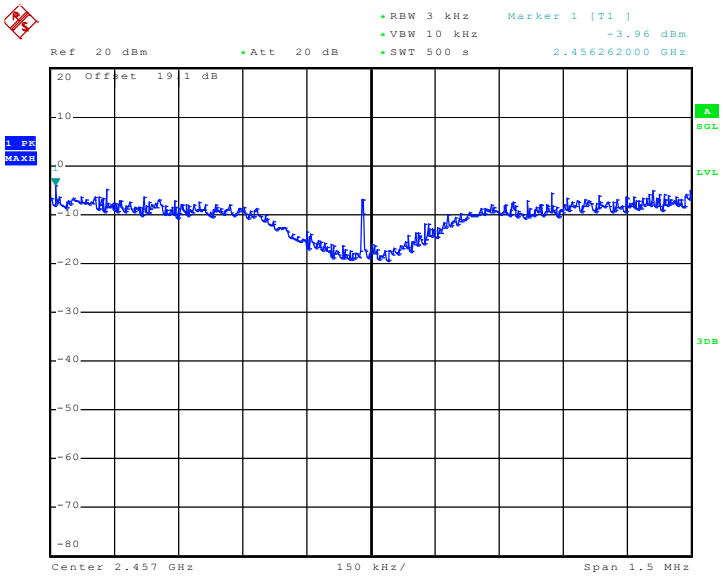
**PSD Plot on 802.11g Channel 06 - Chain A**




Date: 13.SEP.2010 16:39:56

**Mode 9 :**

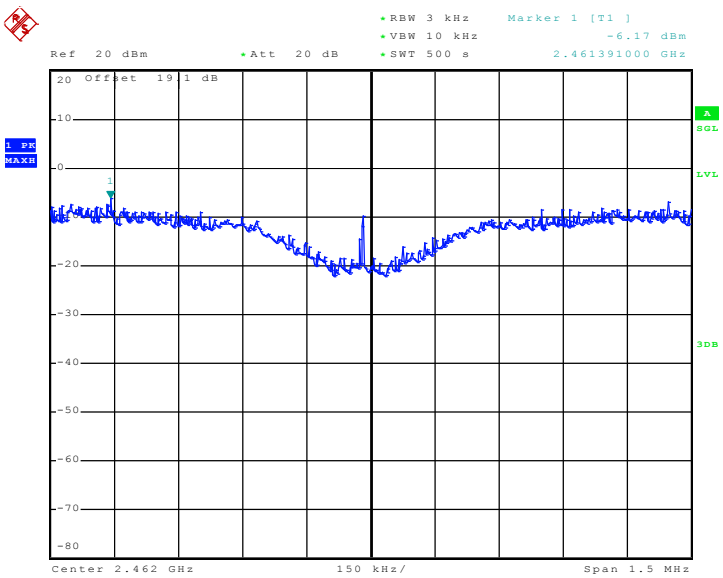
**PSD Plot on 802.11g Channel 10 - Chain A**




Date: 13.SEP.2010 16:58:46

**Mode 10 :**

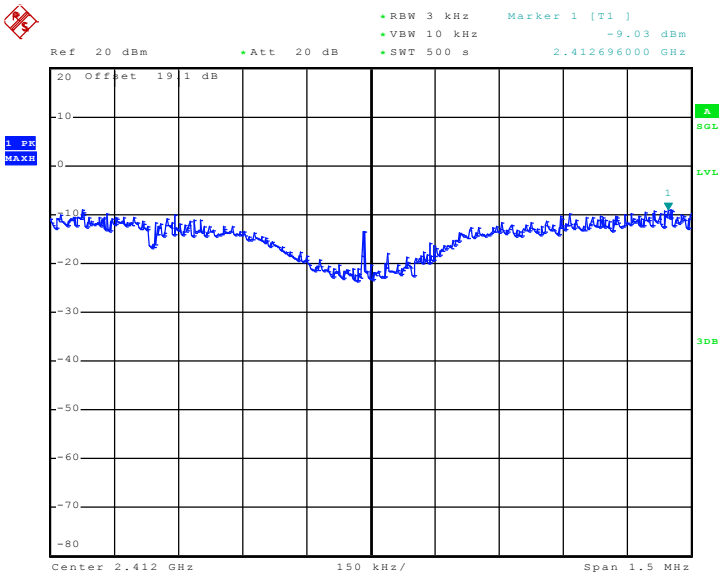
**PSD Plot on 802.11g Channel 11 - Chain A**




Date: 13.SEP.2010 17:13:07

**Mode 11 :**

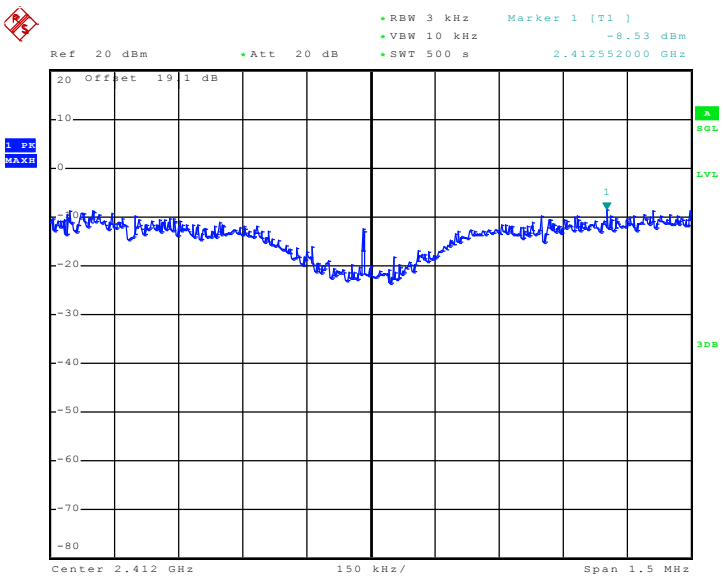
**PSD Plot on 802.11n (BW 20MHz) Channel 01 - Chain A**




Date: 14.SEP.2010 09:46:23

**Mode 11 :**

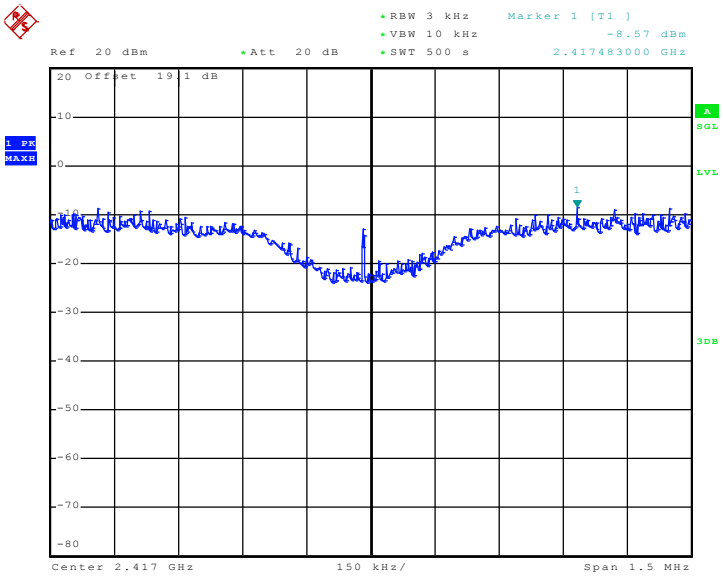
**PSD Plot on 802.11n (BW 20MHz) Channel 01 - Chain B**




Date: 14.SEP.2010 09:57:56

**Mode 12 :**

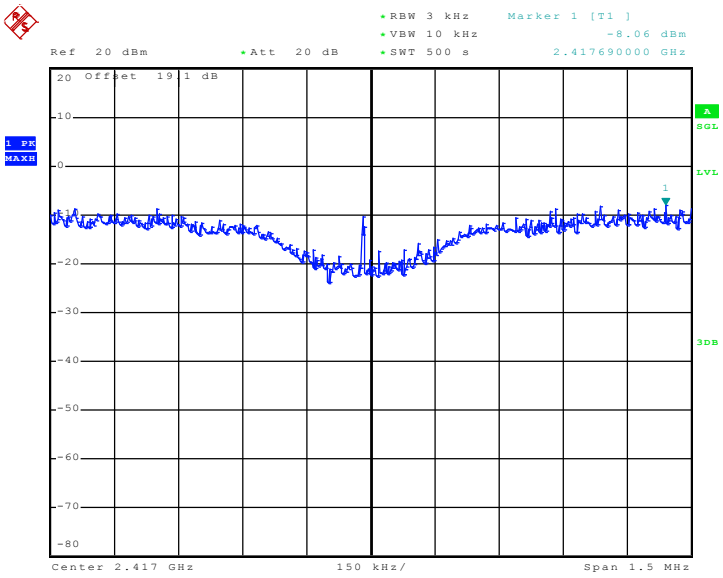
**PSD Plot on 802.11n (BW 20MHz) Channel 02 - Chain A**




Date: 14.SEP.2010 11:12:45

**Mode 12 :**

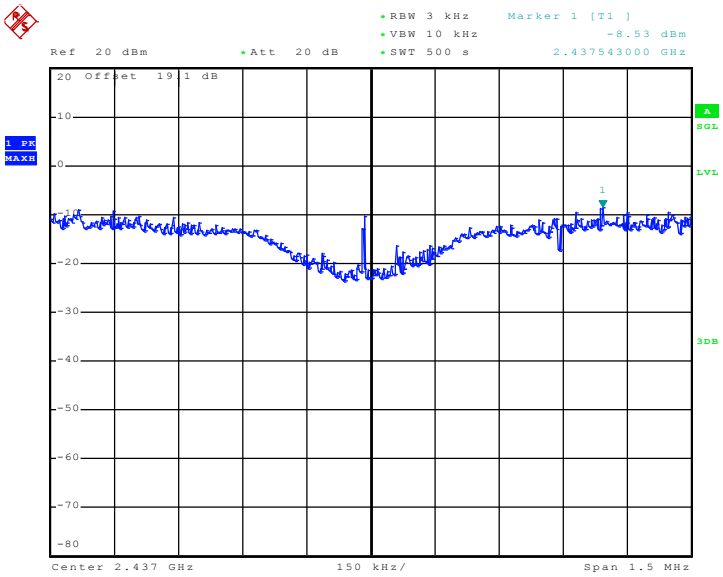
**PSD Plot on 802.11n (BW 20MHz) Channel 02 - Chain B**




Date: 14.SEP.2010 10:12:54

**Mode 13 :**

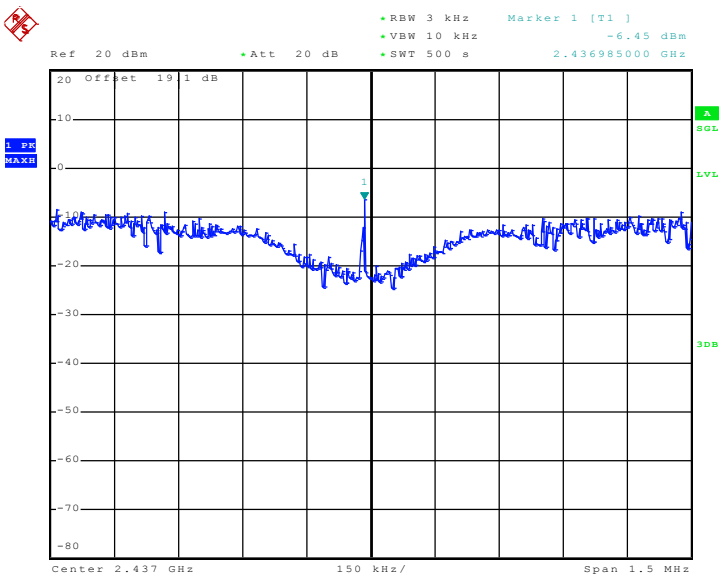
**PSD Plot on 802.11n (BW 20MHz) Channel 06 - Chain A**




Date: 14.SEP.2010 11:28:21

**Mode 13 :**

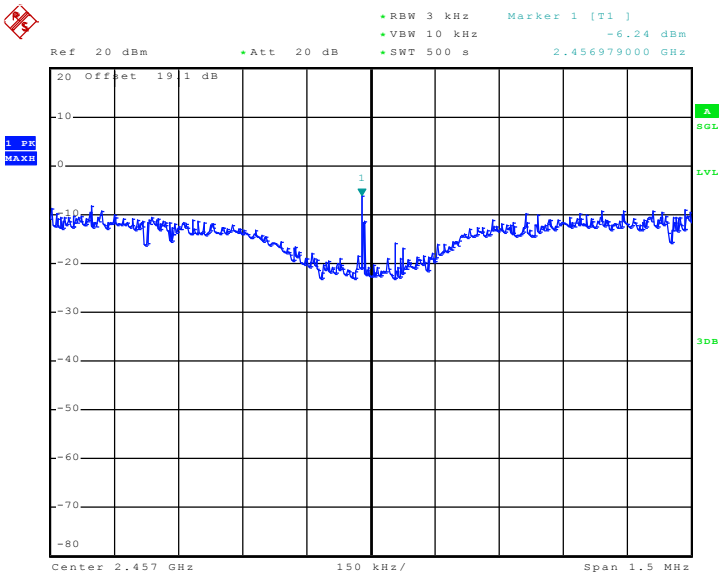
**PSD Plot on 802.11n (BW 20MHz) Channel 06 - Chain B**




Date: 14.SEP.2010 11:38:49

**Mode 14 :**

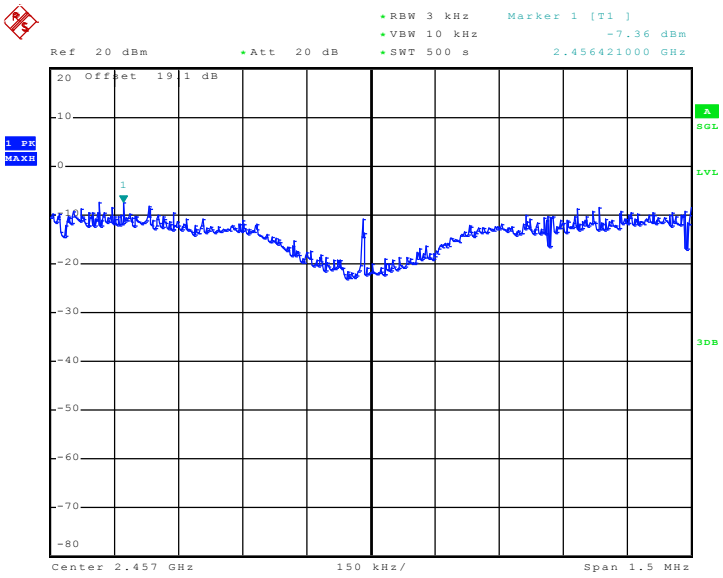
**PSD Plot on 802.11n (BW 20MHz) Channel 10 - Chain A**




Date: 14.SEP.2010 11:59:49

**Mode 14 :**

**PSD Plot on 802.11n (BW 20MHz) Channel 10 - Chain B**




Date: 14.SEP.2010 11:49:10