

# FCC/IC RF Test Report

APPLICANT : Atheros Communications, Inc.  
EQUIPMENT : AR5BHB116 2x2 802.11n PCIe module  
BRAND NAME : Atheros  
MODEL NAME : AR5BHB116  
FCC ID : PPD-AR5BHB116  
IC : 4104A-AR5BHB116  
STANDARD : FCC Part 15 Subpart E  
IC RSS-210 Issue 7  
CLASSIFICATION : Unlicensed National Information Infrastructure (UNII)

The WiFi module was tested on extended card inserted to a host laptop PC.

The product was received on Aug. 06, 2010 and completely tested on Sep. 06, 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 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 / Deputy Manager



**SPORTON INTERNATIONAL INC.**

No. 52, Hwa Ya 1<sup>st</sup> 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   |
|------------|---------|-------------------------|---------------|
| FR080603B  | Rev. 01 | Initial issue of report | Sep. 16, 2010 |
|            |         |                         |               |
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|            |         |                         |               |

## SUMMARY OF TEST RESULT

| Report Section | FCC Rule  | IC Rule   | Description                             | Limit                                          | Result | Remark                           |
|----------------|-----------|-----------|-----------------------------------------|------------------------------------------------|--------|----------------------------------|
| 3.1            | 15.403(i) | A9.2      | 26dB & 99% Bandwidth Measurement        | -                                              | N/A    | -                                |
| 3.2            | 15.407(a) | A9.2      | Power Spectral Density Measurement      | $\leq 4, 11, 17$ dBm (depend on band)          | Pass   | -                                |
| 3.3            | -         | -         | Average Power Measurement               | -                                              | N/A    | -                                |
| 3.4            | 15.407(a) | A9.2      | Output Power Measurement                | $\leq 17, 24, 30$ dBm (depend on band)         | Pass   | -                                |
| 3.5            | 15.407(b) | A9.3      | Conducted Spurious Emission Measurement | $\leq -17, -27$ dBm (depend on band)&15.209(a) | Pass   | -                                |
| 3.6            | 15.407(b) | A9.3      | Band Edges Measurement                  | $\leq -17, -27$ dBm (depend on band)&15.209(a) | Pass   | -                                |
| 3.7            | 15.407(b) | A9.3      | Peak Excursion Ratio Measurement        | $\leq 13$ dB                                   | Pass   | -                                |
| 3.8            | 15.407(g) | A9.5      | Frequency Stability Measurement         | Within Operation Band                          | Pass   | -                                |
| 3.9            | 15.407(b) | A9.3      | Radiated Emission Measurement           | $\leq -17, -27$ dBm (depend on band)&15.209(a) | Pass   | Under limit 0.52 dB at 11400 MHz |
| 3.10           | 15.207    | Gen 7.2.2 | AC Conducted Emission Measurement       | 15.207(a)                                      | Pass   | Under limit 17.3 dB at 1.246 MHz |
| 3.11           | 15.407(c) | A9.5      | Automatically Discontinue Transmission  | Discontinue Transmission                       | Pass   | -                                |

# 1 General Description

## 1.1 Applicant

Atheros Communications, Inc.  
1700 Technology Drive, San Jose, CA 95110

## 1.2 Manufacturer

Atheros Communications, Inc.  
1700 Technology Drive, San Jose, CA 95110

## 1.3 Testing Site Facilities

|                    |                                                                                                                                                              |           |                         |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------|
| Test Site          | SPORTON INTERNATIONAL INC.                                                                                                                                   |           |                         |
| Test Site Location | No. 52, Hwa Ya 1 <sup>st</sup> 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. |
|                    | CO05-HY                                                                                                                                                      | 03CH05-HY | TW1022/4086B-1          |

## 1.4 Applied Standards

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

- ♦ FCC Part 15 Subpart E
- ♦ IC RSS-210 Issued 7
- ♦ FCC Public Notice DA 02-2138, (Measurement Guidelines of UNII)
- ♦ ANSI C63.4-2003

### 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.

## 1.5 Ancillary Equipment List

| Item | Equipment   | Trade Name | Model Name  | FCC ID      | Data Cable      | Power Cord                                                 |
|------|-------------|------------|-------------|-------------|-----------------|------------------------------------------------------------|
| 1.   | WLAN AP     | D-Link     | DIR-628     | KA2DIR628A2 | N/A             | Unshielded, 1.8 m                                          |
| 2.   | Notebook    | DELL       | Vostro 3400 | E2K24GBRL   | N/A             | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |
| 3.   | Notebook    | Lenovo     | N200        | FCC DoC     | N/A             | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |
| 4.   | LCD Monitor | Lenovo     | 6135-AB1    | FCC DoC     | Shielded, 1.6 m | Unshielded, 1.8 m                                          |
| 5.   | iPod        | Apple      | A1285       | FCC DoC     | Shielded, 1.0 m | N/A                                                        |

## 2 Equipment Under Test

### 2.1 General Information of EUT

| Product Feature & Specification |                                                                   |
|---------------------------------|-------------------------------------------------------------------|
| Equipment                       | AR5BHB116 2x2 802.11n PCIe module                                 |
| Brand Name                      | Atheros                                                           |
| Model Name                      | AR5BHB116                                                         |
| FCC ID                          | PPD-AR5BHB116                                                     |
| IC                              | 4104A-AR5BHB116                                                   |
| Tx/Rx Frequency Range           | 5150 MHz ~ 5250 MHz<br>5250 MHz ~ 5350 MHz<br>5470 MHz ~ 5725 MHz |
| Beam-Forming                    | This device supports beam-forming technology                      |
| Type of Antenna Connector       | IPEX                                                              |
| HW Version                      | 051                                                               |
| Test SW Version                 | 1.8                                                               |
| Type of Modulation              | OFDM (BPSK / QPSK / 16QAM / 64QAM)                                |
| EUT Stage                       | Engineering Prototype                                             |

**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 Unlicensed National Information Infrastructure (UNII).
3. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

## 2.2 Carrier Frequency Channel

| 802.11a Carrier Frequency Channel |             |         |             |         |             |         |             |
|-----------------------------------|-------------|---------|-------------|---------|-------------|---------|-------------|
| Channel                           | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
| 36                                | 5180        | 40      | 5200        | 44      | 5220        | 48      | 5240        |
| 52                                | 5260        | 56      | 5280        | 60      | 5300        | 64      | 5320        |
| 100                               | 5500        | 104     | 5520        | 108     | 5540        | 112     | 5560        |
| 116                               | 5580        | 120     | 5600        | 124     | 5620        | 128     | 5640        |
| 132                               | 5660        | 136     | 5680        | 140     | 5700        | -       | -           |

| 802.11n (HT-20) Carrier Frequency Channel |             |         |             |         |             |         |             |
|-------------------------------------------|-------------|---------|-------------|---------|-------------|---------|-------------|
| Channel                                   | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
| 36                                        | 5180        | 40      | 5200        | 44      | 5220        | 48      | 5240        |
| 52                                        | 5260        | 56      | 5280        | 60      | 5300        | 64      | 5320        |
| 100                                       | 5500        | 104     | 5520        | 108     | 5540        | 112     | 5560        |
| 116                                       | 5580        | 120     | 5600        | 124     | 5620        | 128     | 5640        |
| 132                                       | 5660        | 136     | 5680        | 140     | 5700        | -       | -           |

| 802.11n (HT-40) Carrier Frequency Channel |             |         |             |         |             |         |             |
|-------------------------------------------|-------------|---------|-------------|---------|-------------|---------|-------------|
| Channel                                   | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
| 38                                        | 5190        | 46      | 5230        | 54      | 5270        | 62      | 5310        |
| 102                                       | 5510        | 110     | 5550        | 118     | 5590        | 126     | 5630        |
| 134                                       | 5670        | -       | -           | -       | -           | -       | -           |

## 2.3 Maximum Output Power

The device has the maximum average conducted power as below:

| Frequency Range<br>(MHz) | Mode          | Band I RF Power<br>(dBm) |         |             |
|--------------------------|---------------|--------------------------|---------|-------------|
|                          |               | Chain 0                  | Chain 1 | Total Power |
| 5150 ~ 5250              | 802.11a       | 12.08                    | 12.11   | 15.11       |
|                          | 802.11n HT-20 | 14.36                    | 12.45   | 16.52       |
|                          | 802.11n HT-40 | 14.91                    | 13.40   | 17.23       |

| Frequency Range<br>(MHz) | Mode          | Band II RF Power<br>(dBm) |         |             |
|--------------------------|---------------|---------------------------|---------|-------------|
|                          |               | Chain 0                   | Chain 1 | Total Power |
| 5250 ~ 5350              | 802.11a       | 15.43                     | 14.21   | 17.87       |
|                          | 802.11n HT-20 | 15.14                     | 13.44   | 17.38       |
|                          | 802.11n HT-40 | 13.23                     | 11.87   | 15.61       |

| Frequency Range<br>(MHz) | Mode          | Band III RF Power<br>(dBm) |         |             |
|--------------------------|---------------|----------------------------|---------|-------------|
|                          |               | Chain 0                    | Chain 1 | Total Power |
| 5470 ~ 5725              | 802.11a       | 13.60                      | 15.89   | 17.90       |
|                          | 802.11n HT-20 | 15.52                      | 14.95   | 18.25       |
|                          | 802.11n HT-40 | 14.42                      | 16.40   | 18.53       |

The device has the maximum output conducted power as below:

| Frequency Range<br>(MHz) | Mode          | Band I RF Power<br>(dBm) |         |             |
|--------------------------|---------------|--------------------------|---------|-------------|
|                          |               | Chain 0                  | Chain 1 | Total Power |
| 5150 ~ 5250              | 802.11a       | 11.74                    | 11.71   | 14.74       |
|                          | 802.11n HT-20 | 14.33                    | 12.21   | 16.41       |
|                          | 802.11n HT-40 | 14.77                    | 12.75   | 16.89       |

| Frequency Range<br>(MHz) | Mode          | Band II RF Power<br>(dBm) |         |             |
|--------------------------|---------------|---------------------------|---------|-------------|
|                          |               | Chain 0                   | Chain 1 | Total Power |
| 5250 ~ 5350              | 802.11a       | 14.82                     | 14.72   | 17.78       |
|                          | 802.11n HT-20 | 15.30                     | 13.54   | 17.52       |
|                          | 802.11n HT-40 | 13.11                     | 11.51   | 15.39       |

| Frequency Range<br>(MHz) | Mode          | Band III RF Power<br>(dBm) |         |             |
|--------------------------|---------------|----------------------------|---------|-------------|
|                          |               | Chain 0                    | Chain 1 | Total Power |
| 5470 ~ 5725              | 802.11a       | 14.84                      | 14.92   | 17.89       |
|                          | 802.11n HT-20 | 15.33                      | 14.59   | 17.99       |
|                          | 802.11n HT-40 | 14.02                      | 16.40   | 18.38       |

**Remark:** The EUT is programmed to transmit signal continuously for all testing.

## 2.4 Antenna Information

The device is 2x2 configuration and 2 PIFA antennas are utilized for radiation emission testing. The antenna composite gain on different frequency range is shown in the following table:

| Brand / Model Name                               | Type | Frequency Range (MHz) | Antenna Gain (dBi) | Composite Gain (dBi) |
|--------------------------------------------------|------|-----------------------|--------------------|----------------------|
| Winstron Neweb Corporation / EBJ Aux. + EBJ Aux. | PIFA | 5150 ~ 5350           | 3.08               | 6.08                 |
| Winstron Neweb Corporation / EBJ Main + EBJ Main | PIFA | 5470 ~ 5725           | 4.76               | 7.77                 |

## 2.5 Worst-case Configuration and Test Mode

The 2x2 configuration was used for conducted and radiated testing in this report. The WiFi module was tested as a modular. The module was tested outside of the laptop via an extender.

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).

### WORST-CASE CONFIGURATION AND MODE

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

Thus all tests were made with following data rates:

802.11a mode, 20 MHz Channel Bandwidth, 9 Mb/s, OFDM Modulation;

802.11n HT20 mode, 20 MHz Channel Bandwidth, MCS0, 6.5 Mb/s, OFDM Modulation;

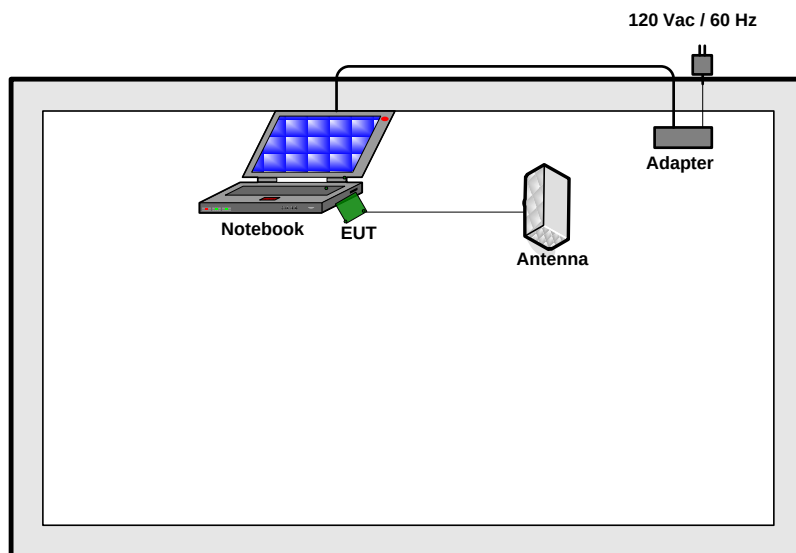
802.11n HT40 mode, 40 MHz Channel Bandwidth, MCS0, 13.5 Mb/s, OFDM Modulation;

In addition, the radiated emission power is higher when Beam Forming is on, thus, all the radiated emission tests were performed with Beam Forming on; plus, the composite antenna gains were taken into the consideration for calculating transmit power limits; therefore, all the data listed in this report will adhere to both Beam Forming and non Beam Forming cases.

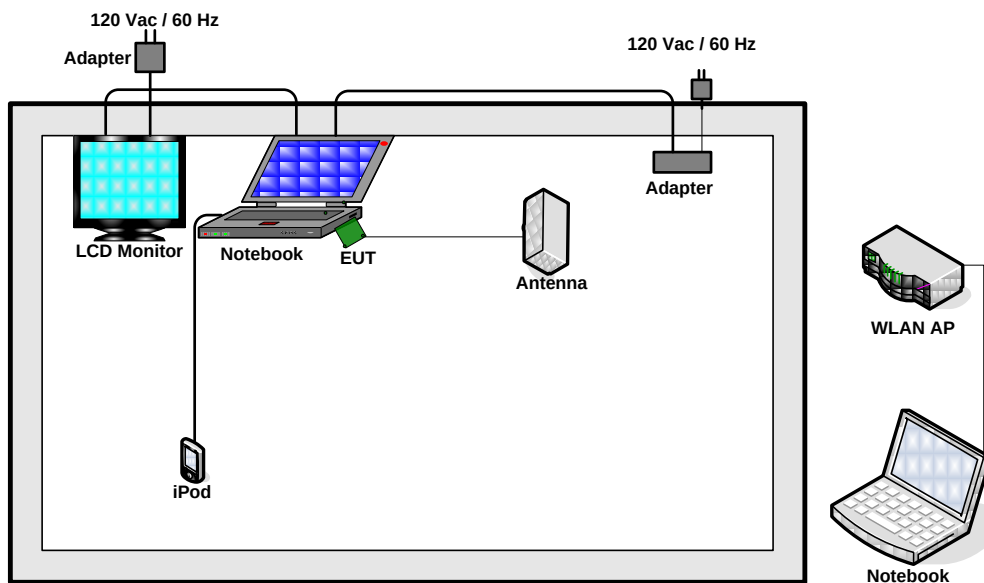
This device has been evaluated as module of mobile device, as well as portable device. Therefore, for radiated spurious emission, the EUT antenna has been tested in X,Y, and Z axis to simulate mobile and portable position. The worst case position is Z-axis, only data from Z-axis was recorded in this report.

## 2.6 Connection Diagram of Test System

### <WLAN Tx Mode>



### < AC Conducted Emission Mode>



## 2.7 RF Utility

The programmed RF Utility “art2\_ver\_1\_8”, 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 26dB & 99% Bandwidth Measurement

##### 3.1.1 Limit of 26dB & 99% Bandwidth

There is no restriction limits for bandwidth. The maximum conducted output power can be limited by measured emission bandwidth (B). For the band 5.15~5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log B. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10log B.

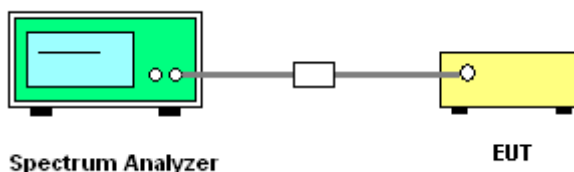
##### 3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

##### 3.1.3 Test Procedures

1. The testing follows FCC Public Notice DA 02-2138 (Measurement Guidelines of UNII).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Read RBW and repeat measurement as needed until the RBW/BW ratio is approximately 1%.
4. Use a RBW = approximately 1% of the emission bandwidth; Set the VBW > RBW; Use a peak detector.
5. Measure the maximum width of the emission that is 26 dB relative to the peak of the emission and 99% occupied bandwidth.

##### 3.1.4 Test Setup



**3.1.5 Test Result of 26dB and 99% Bandwidth**

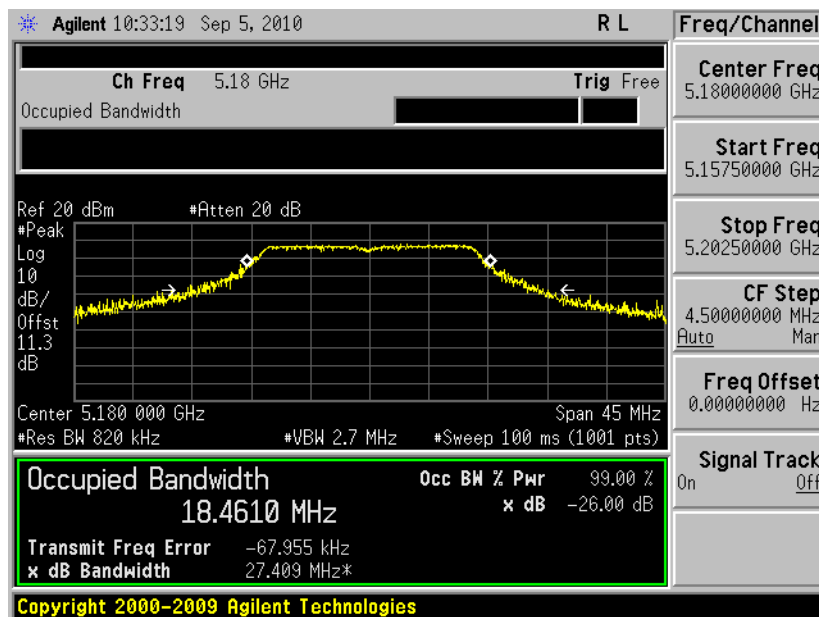
|                        |                            |                            |        |
|------------------------|----------------------------|----------------------------|--------|
| <b>Test Mode :</b>     | 802.11a L/M/H channels     | <b>Temperature :</b>       | 25~27℃ |
| <b>Test Engineer :</b> | Lancelot Chen and Alan Liu | <b>Relative Humidity :</b> | 41~44% |

| Channel | Frequency (MHz) | 802.11a<br>26dB Bandwidth (MHz) |         |
|---------|-----------------|---------------------------------|---------|
|         |                 | Chain 0                         | Chain 1 |
| 36      | 5180            | 27.41                           | 27.79   |
| 44      | 5220            | 26.88                           | 25.67   |
| 48      | 5240            | 28.25                           | 25.98   |
| 52      | 5260            | 32.51                           | 31.93   |
| 60      | 5300            | 29.67                           | 31.43   |
| 64      | 5320            | 29.24                           | 26.88   |
| 100     | 5500            | 39.47                           | 40.55   |
| 120     | 5600            | 42.40                           | 39.45   |
| 140     | 5700            | 41.14                           | 40.37   |

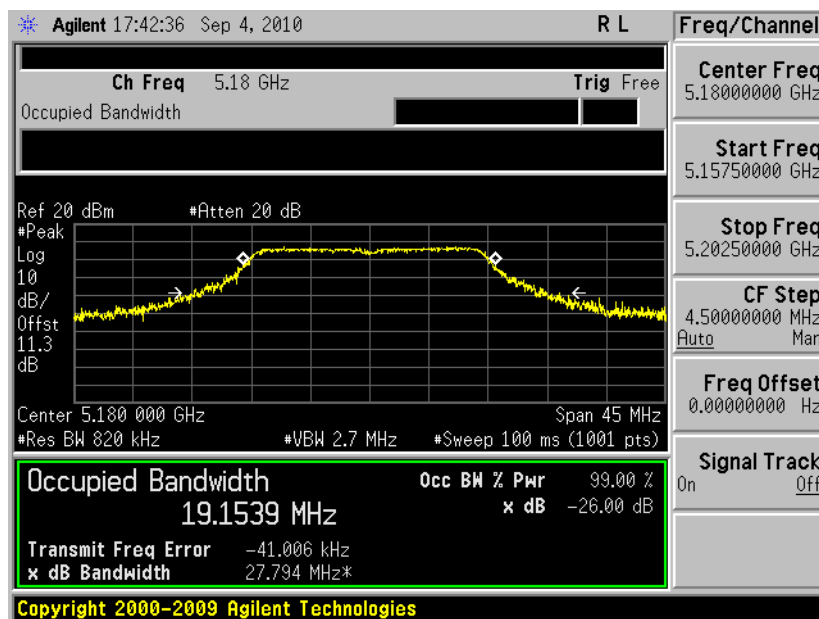
| Channel | Frequency (MHz) | 802.11a<br>99% Occupied Bandwidth (MHz) |         |
|---------|-----------------|-----------------------------------------|---------|
|         |                 | Chain 0                                 | Chain 1 |
| 36      | 5180            | 18.46                                   | 19.15   |
| 44      | 5220            | 18.13                                   | 17.86   |
| 48      | 5240            | 18.44                                   | 18.08   |
| 52      | 5260            | 18.85                                   | 18.65   |
| 60      | 5300            | 18.83                                   | 18.43   |
| 64      | 5320            | 18.70                                   | 18.23   |
| 100     | 5500            | 19.26                                   | 19.54   |
| 120     | 5600            | 19.38                                   | 19.32   |
| 140     | 5700            | 19.20                                   | 19.46   |



## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 36 - Chain 0

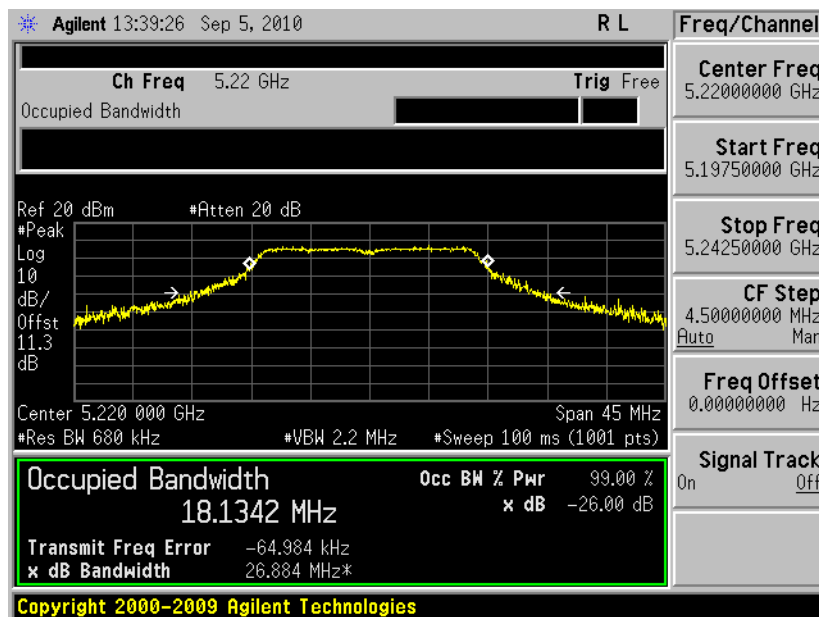


## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 36 - Chain 1

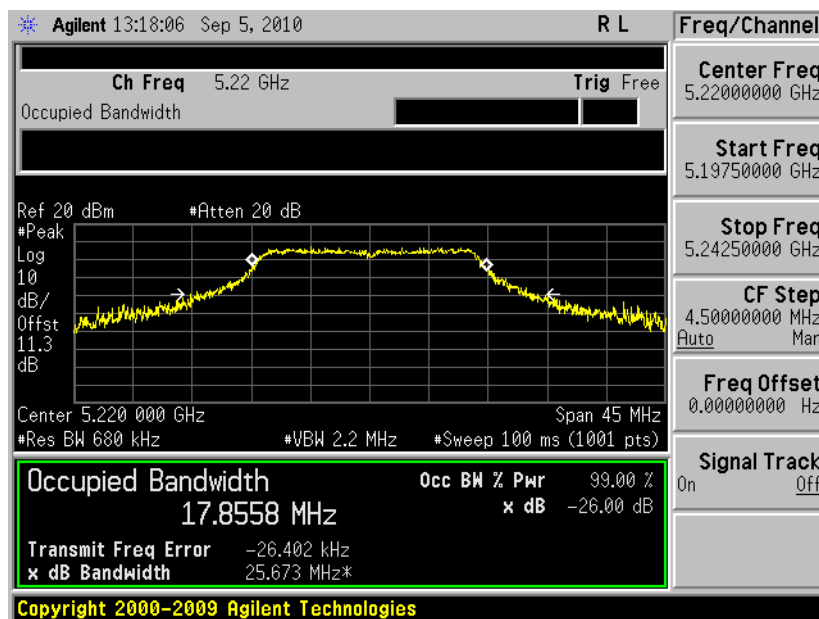




## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 44 - Chain 0

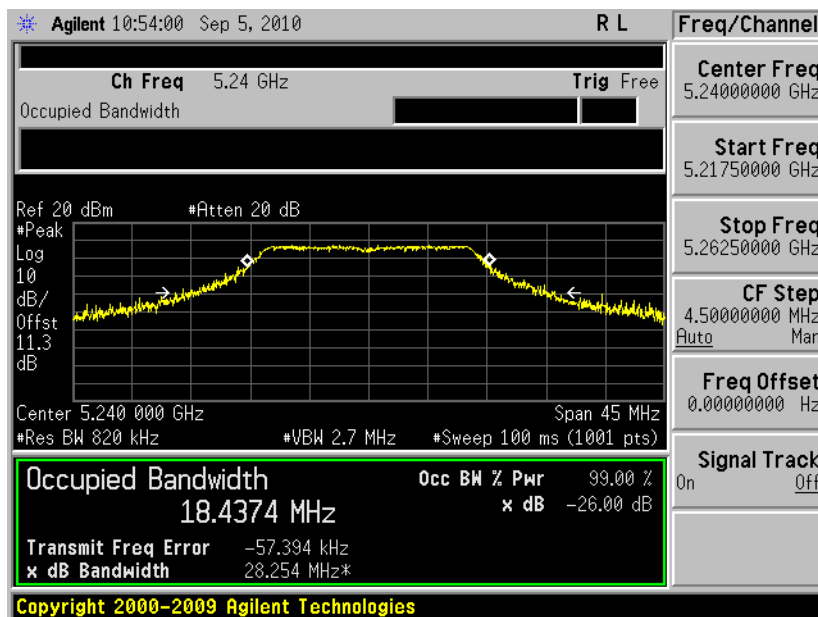


## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 44 - Chain 1

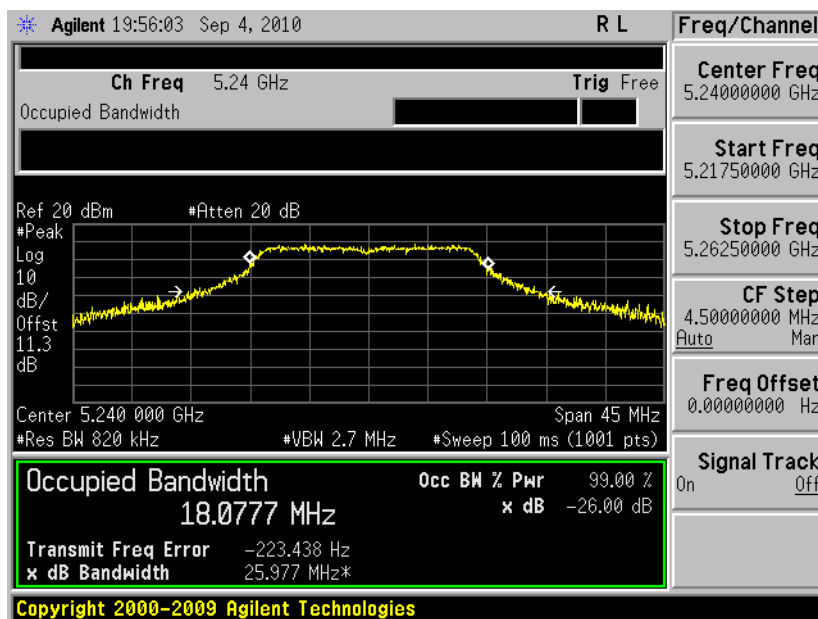




## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 48 - Chain 0

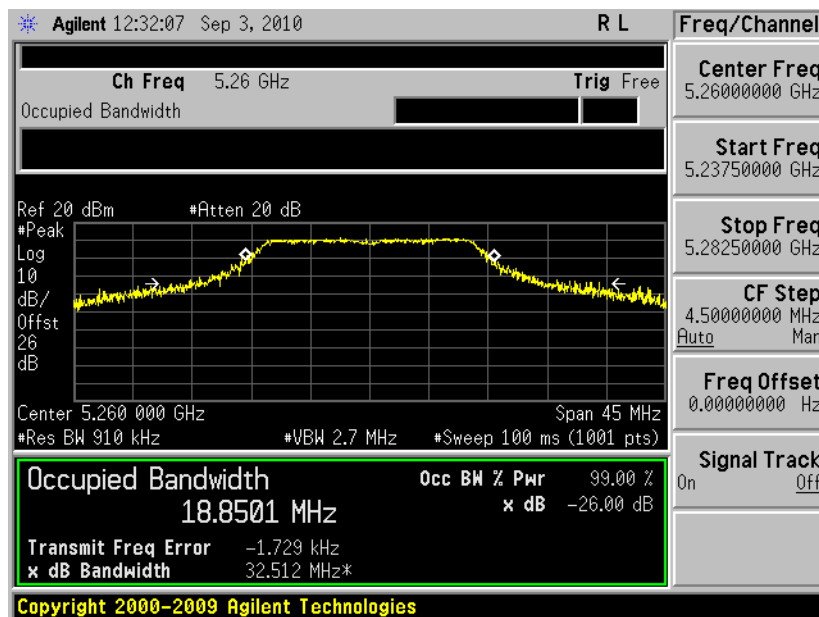


## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 48 - Chain 1

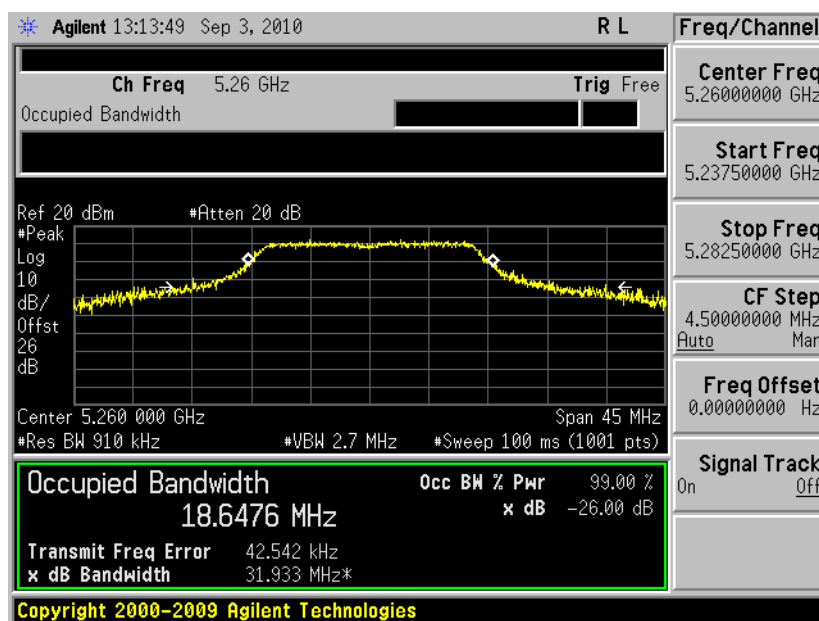




## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 52 - Chain 0

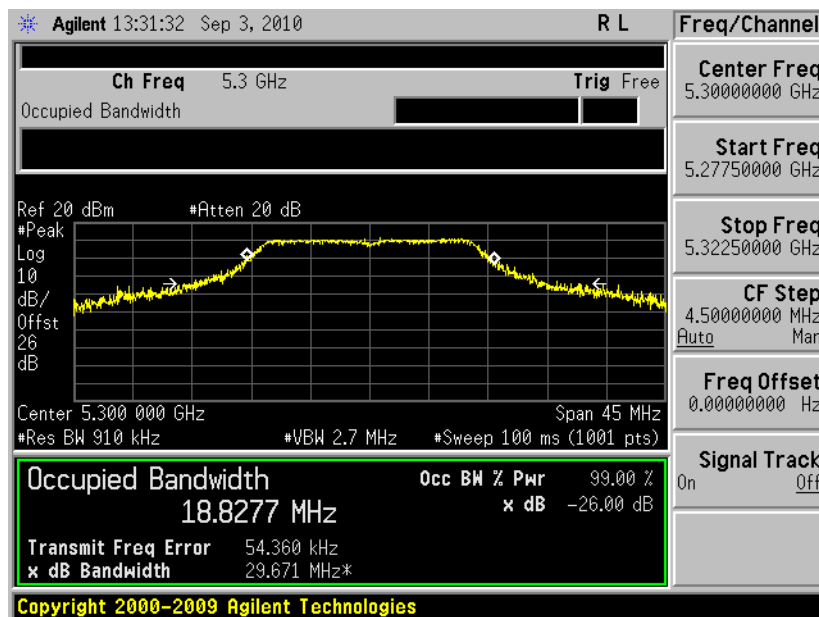


## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 52 - Chain 1

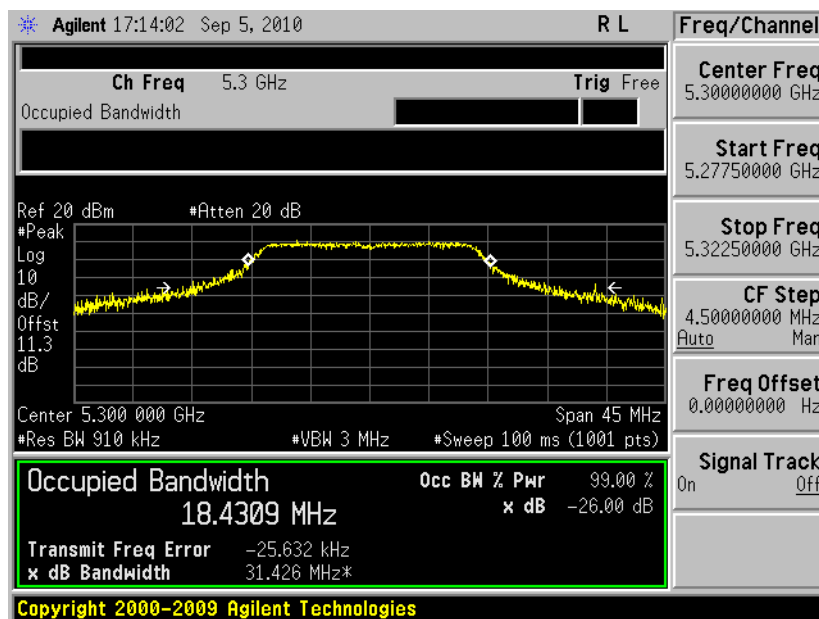




## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 60 - Chain 0

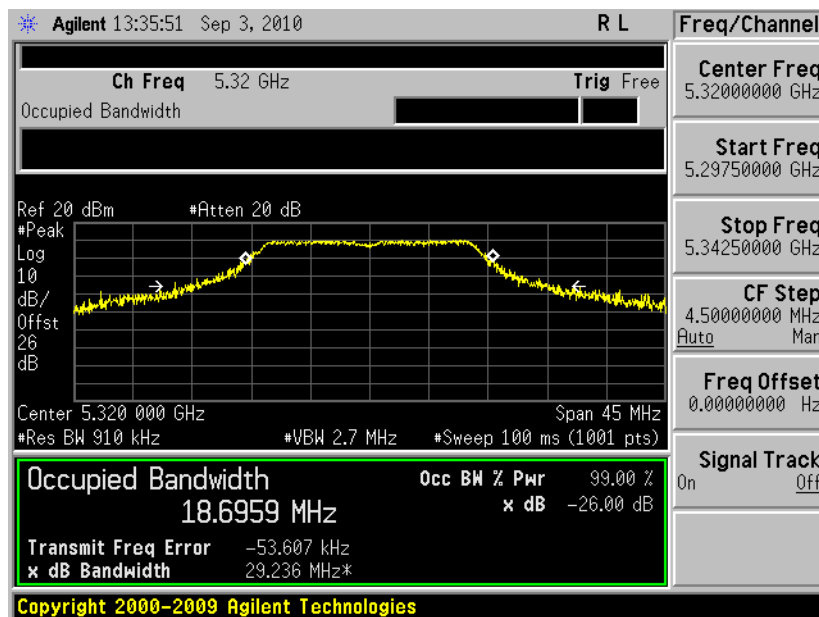


## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 60 - Chain 1

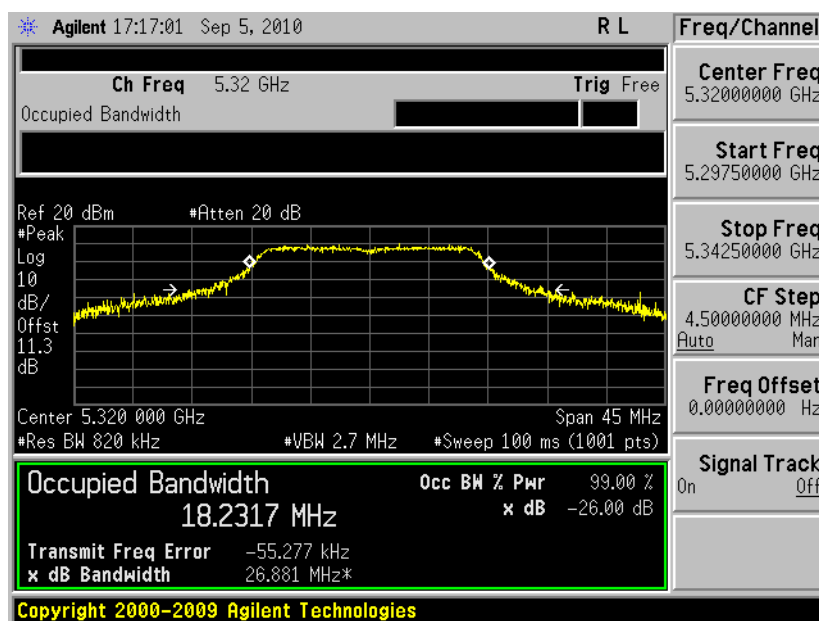




## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 64 - Chain 0

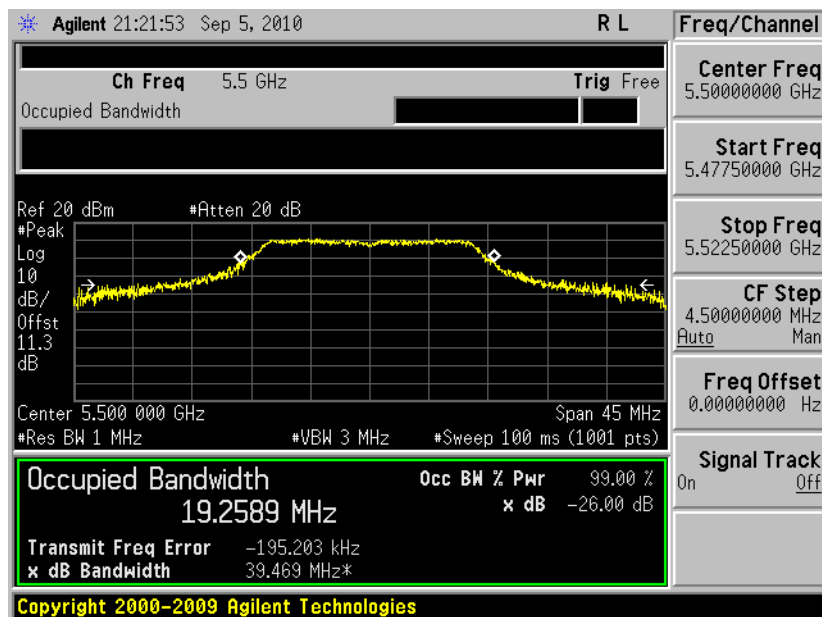


## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 64 - Chain 1

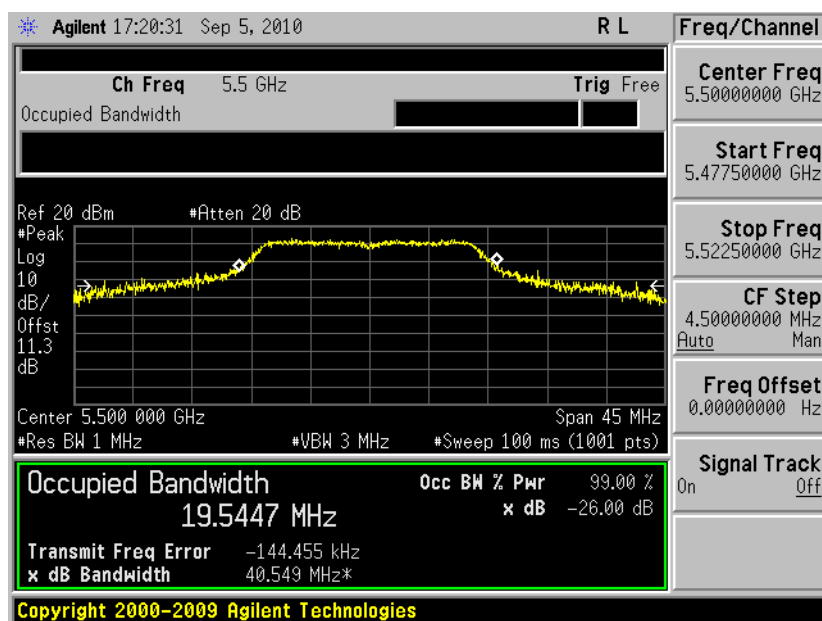




## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 100 - Chain 0

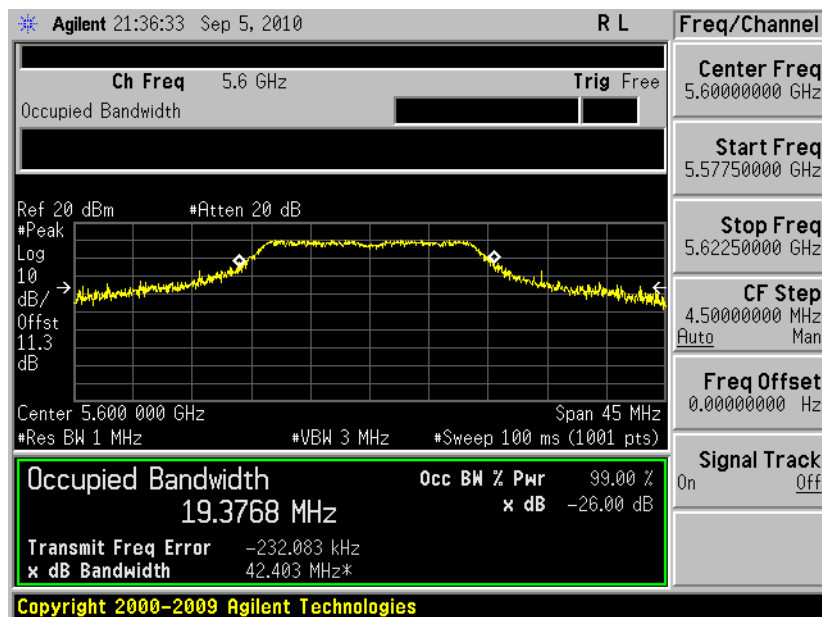


## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 100 - Chain 1

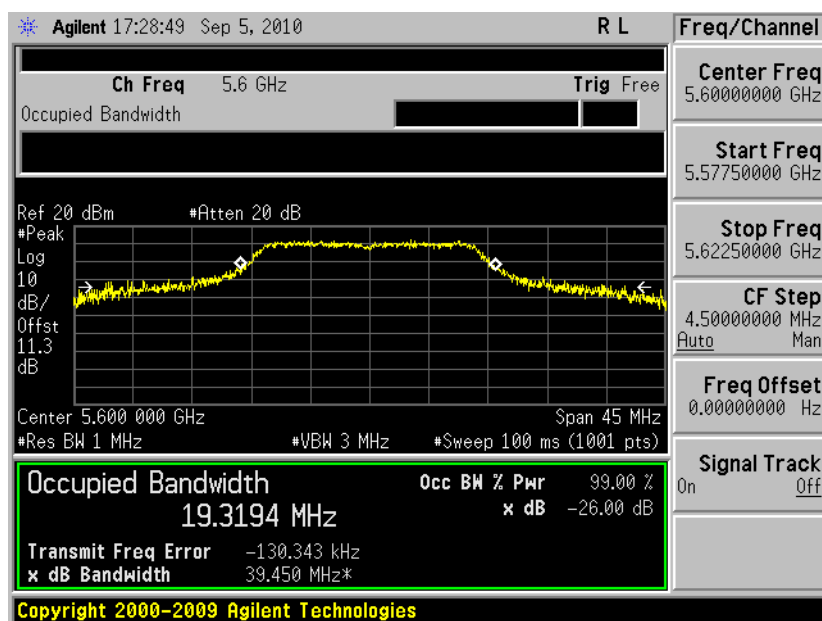




## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 120 - Chain 0

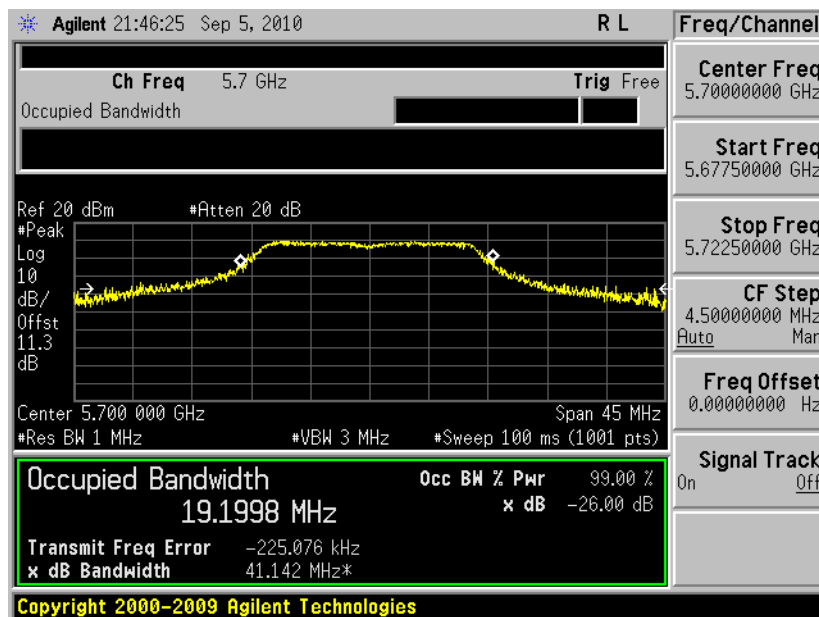


## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 120 - Chain 1

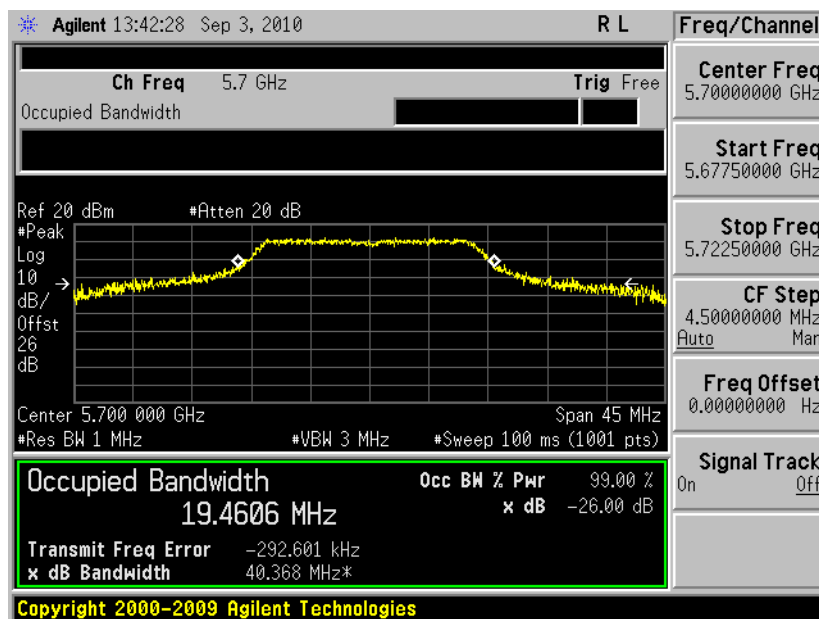




## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 140 - Chain 0



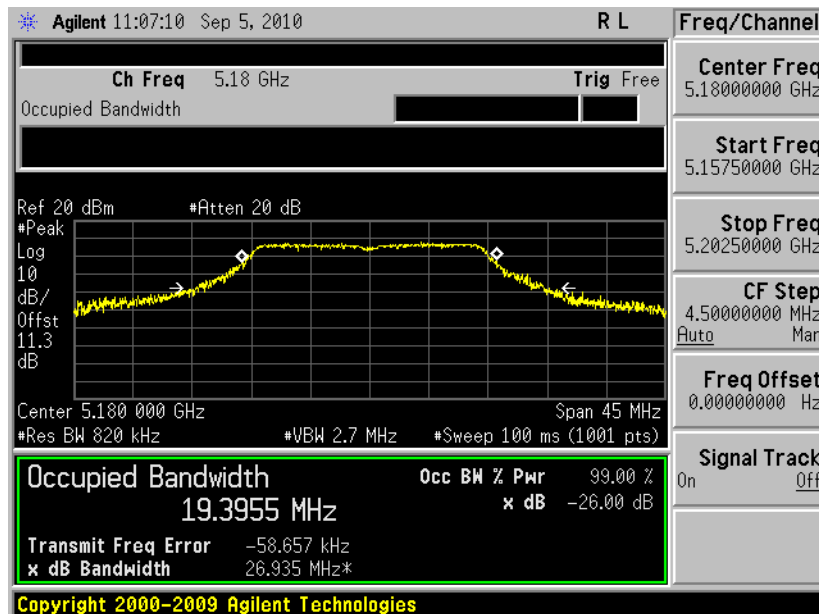
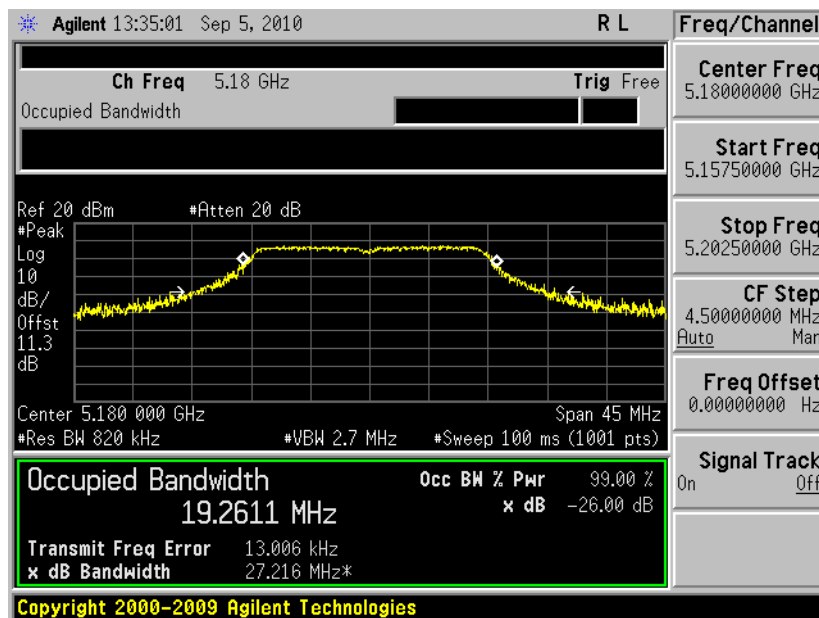
## 26 dB &amp; 99% Bandwidth Plot on 802.11a Channel 140 - Chain 1



|                        |                                |                            |         |
|------------------------|--------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11n (HT-20) L/M/H channels | <b>Temperature :</b>       | 25~27°C |
| <b>Test Engineer :</b> | Lancelot Chen and Alan Liu     | <b>Relative Humidity :</b> | 41~44%  |

| Channel | Frequency (MHz) | 802.11n (HT-20)<br>26dB Bandwidth (MHz) |         |
|---------|-----------------|-----------------------------------------|---------|
|         |                 | Chain 0                                 | Chain 1 |
| 36      | 5180            | 26.94                                   | 27.22   |
| 44      | 5220            | 27.53                                   | 27.48   |
| 48      | 5240            | 28.48                                   | 28.72   |
| 52      | 5260            | 29.60                                   | 33.51   |
| 60      | 5300            | 32.66                                   | 35.80   |
| 64      | 5320            | 28.16                                   | 30.87   |
| 100     | 5500            | 43.00                                   | 42.75   |
| 120     | 5600            | 39.39                                   | 43.32   |
| 140     | 5700            | 39.28                                   | 44.70   |

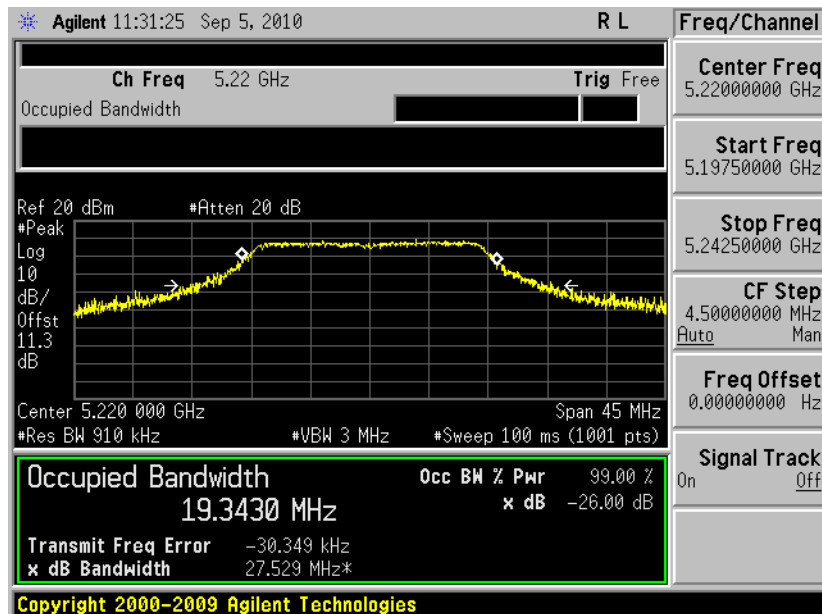
| Channel | Frequency (MHz) | 802.11n (HT-20)<br>99% Bandwidth (MHz) |         |
|---------|-----------------|----------------------------------------|---------|
|         |                 | Chain 0                                | Chain 1 |
| 36      | 5180            | 19.40                                  | 19.26   |
| 44      | 5220            | 19.34                                  | 19.26   |
| 48      | 5240            | 19.44                                  | 19.23   |
| 52      | 5260            | 19.56                                  | 19.24   |
| 60      | 5300            | 19.62                                  | 19.51   |
| 64      | 5320            | 19.40                                  | 19.59   |
| 100     | 5500            | 20.35                                  | 20.53   |
| 120     | 5600            | 19.96                                  | 20.55   |
| 140     | 5700            | 20.09                                  | 20.57   |

**26 & 99% dB Bandwidth Plot on 802.11n (HT-20) Channel 36 -**
**Chain 0**

**26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 36 -**
**Chain 1**




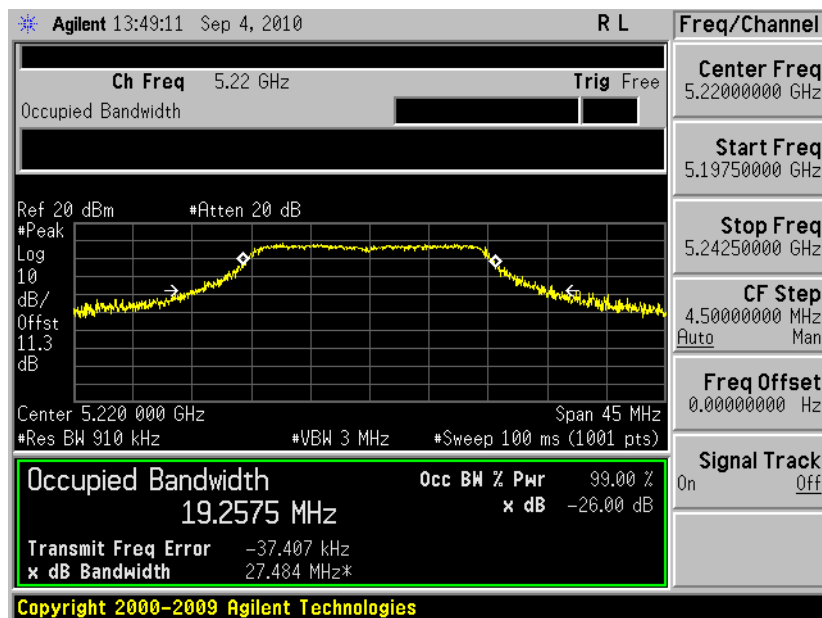
## 26 dB &amp; 99% Bandwidth Plot on 802.11n (HT-20) Channel 44 -

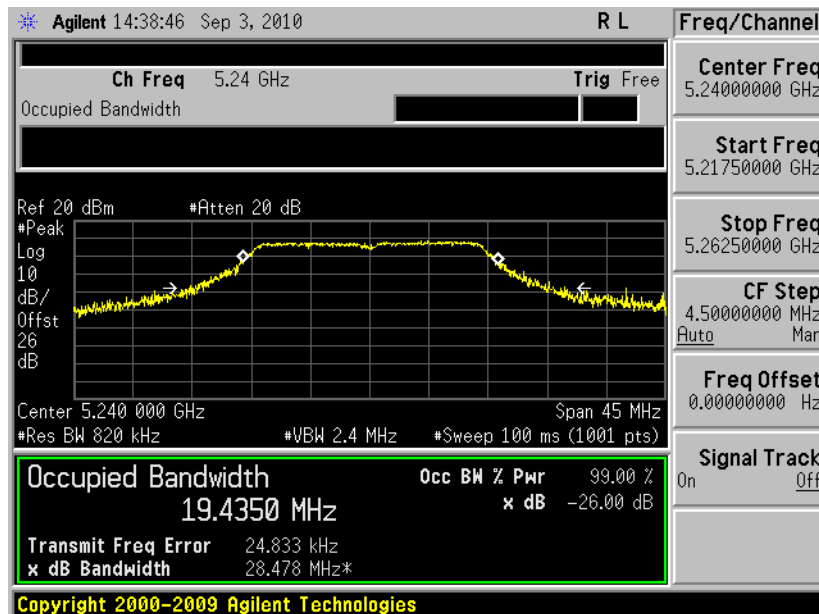
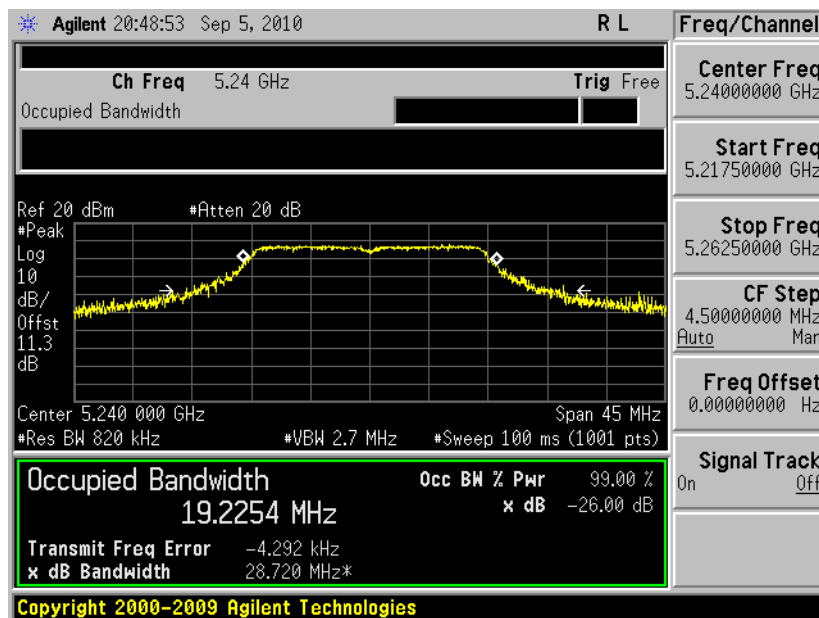
## Chain 0

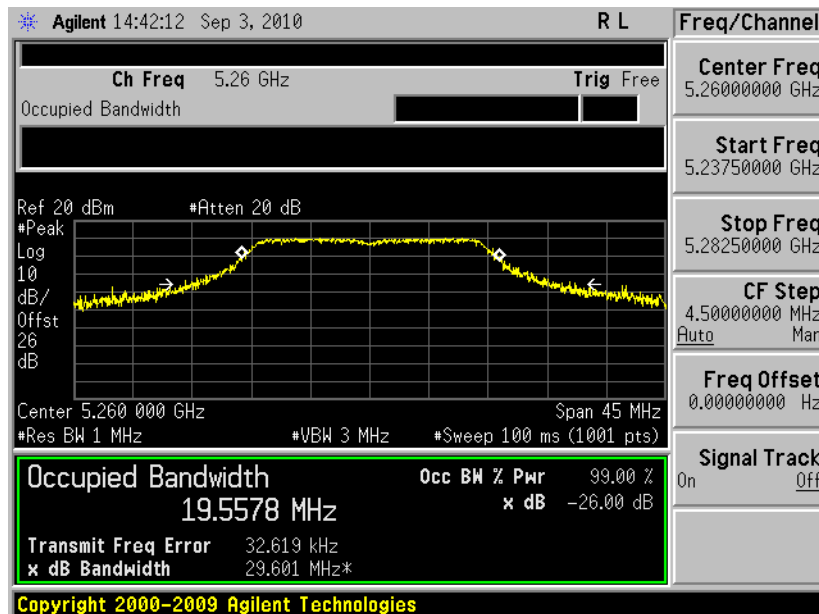
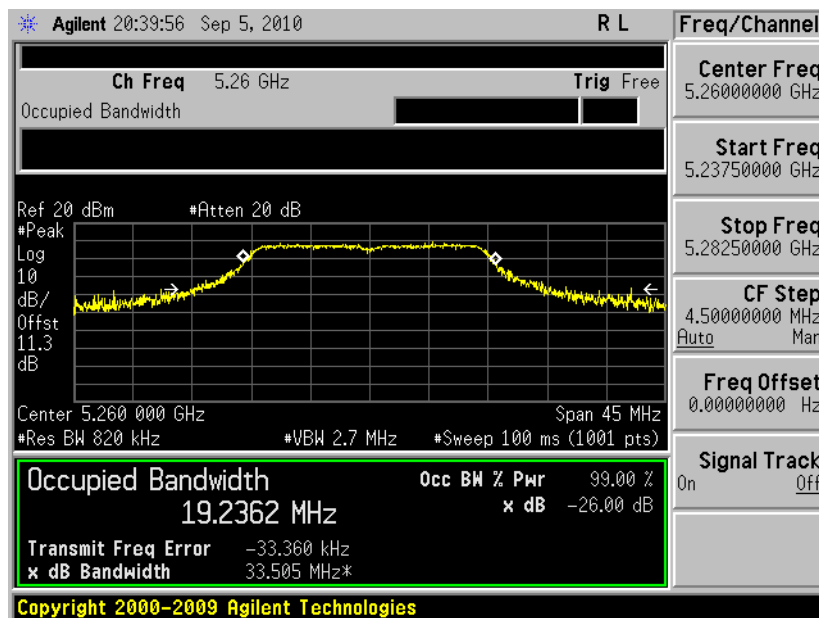


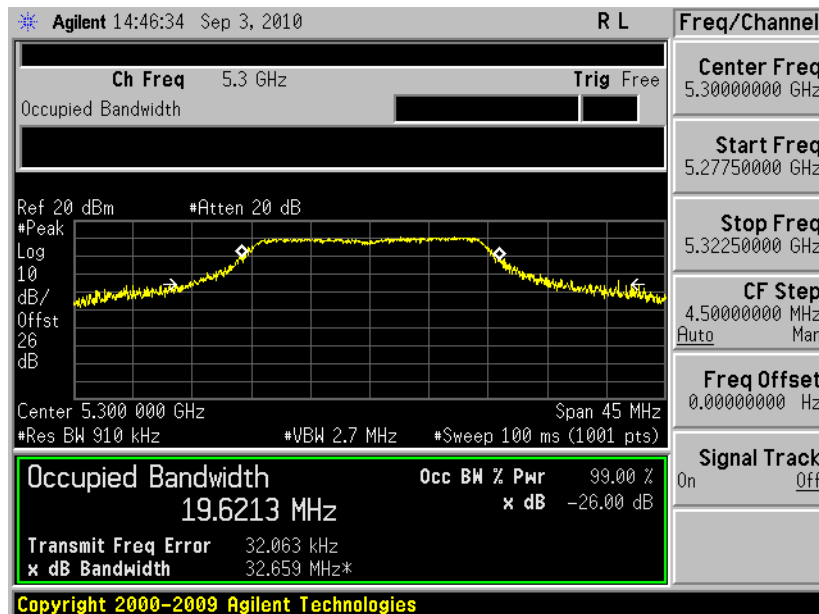
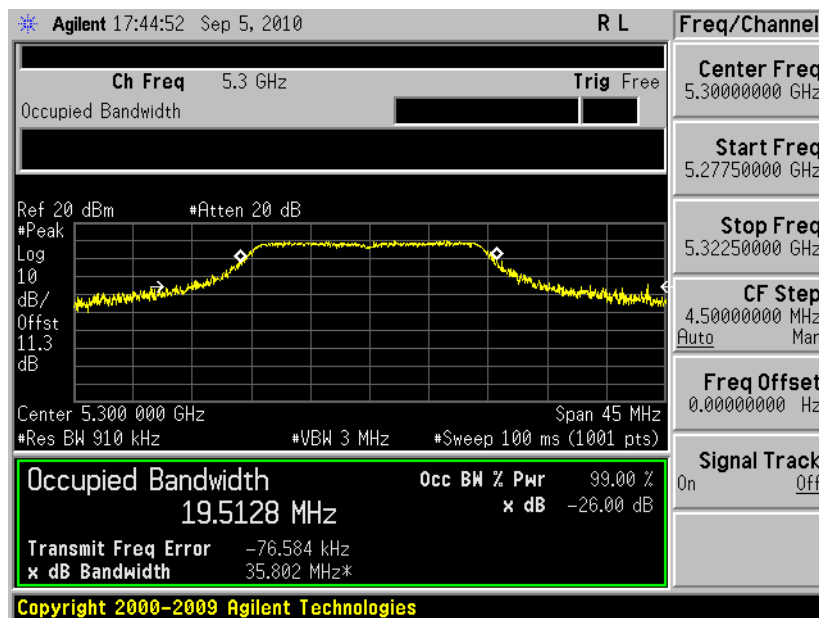
## 26 dB &amp; 99% Bandwidth Plot on 802.11n (HT-20) Channel 44 -

## Chain 1



**26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 48 -**
**Chain 0**

**26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 48 -**
**Chain 1**


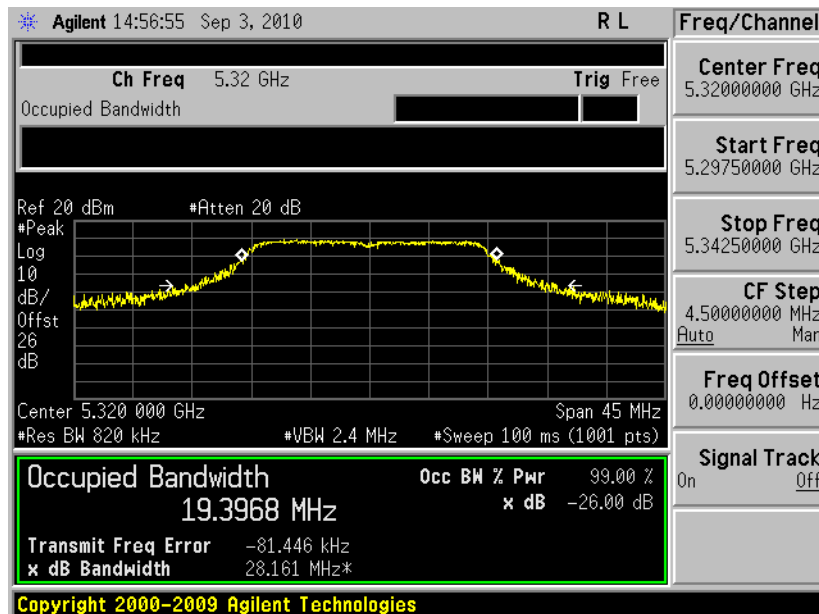
**26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 52 -**
**Chain 0**

**26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 52 -**
**Chain 1**


**26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 60 -**
**Chain 0**

**26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 60 -**
**Chain 1**




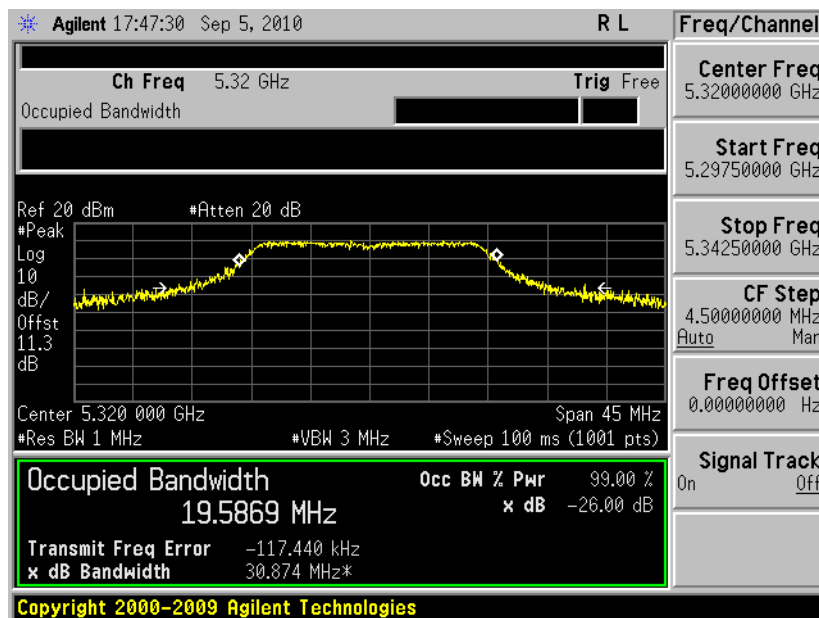
## 26 dB &amp; 99% Bandwidth Plot on 802.11n (HT-20) Channel 64 -

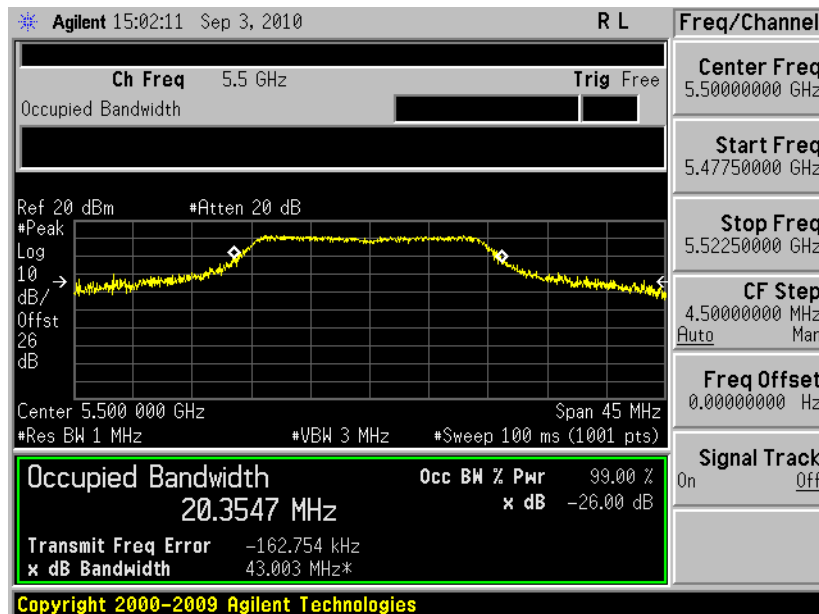
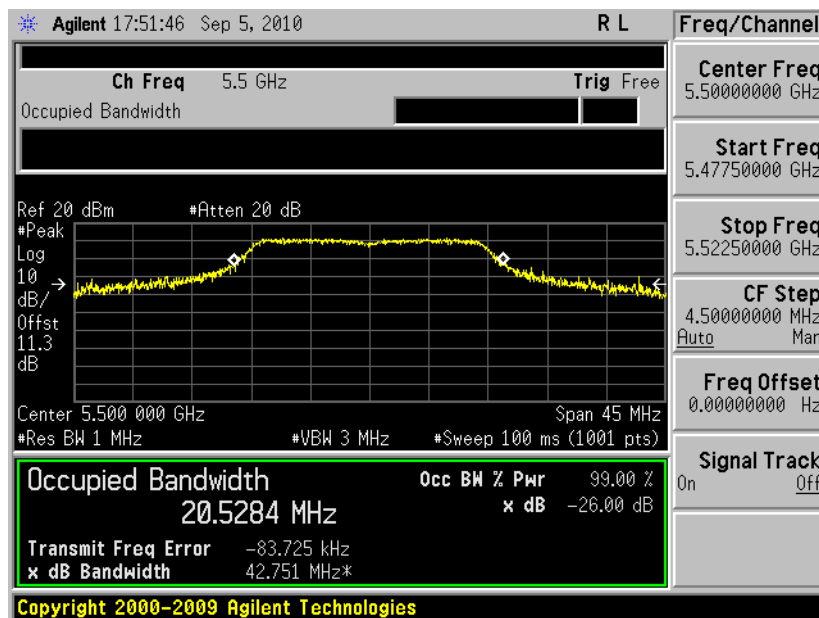
## Chain 0

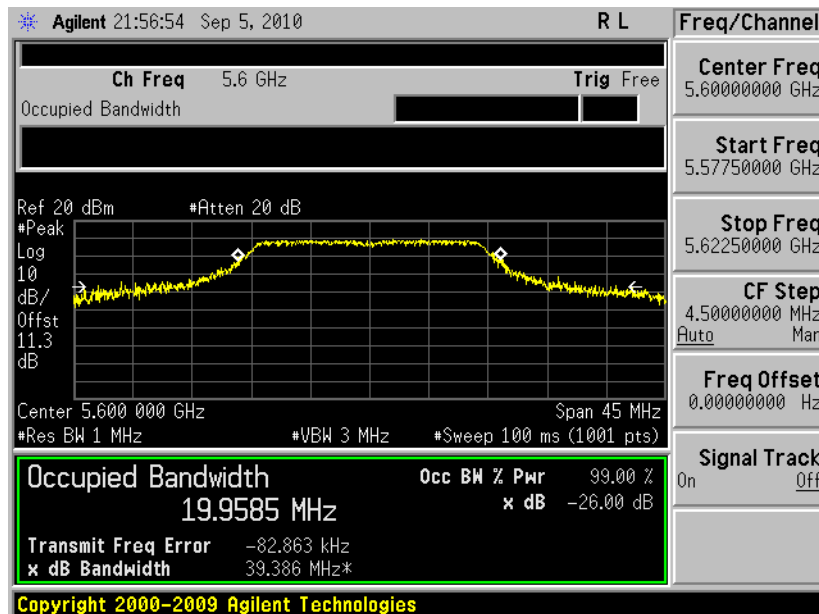
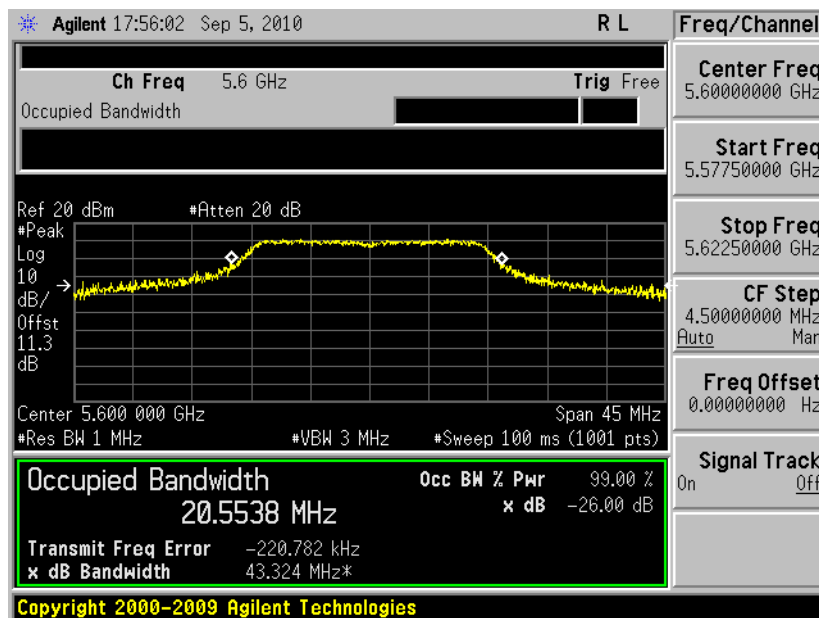


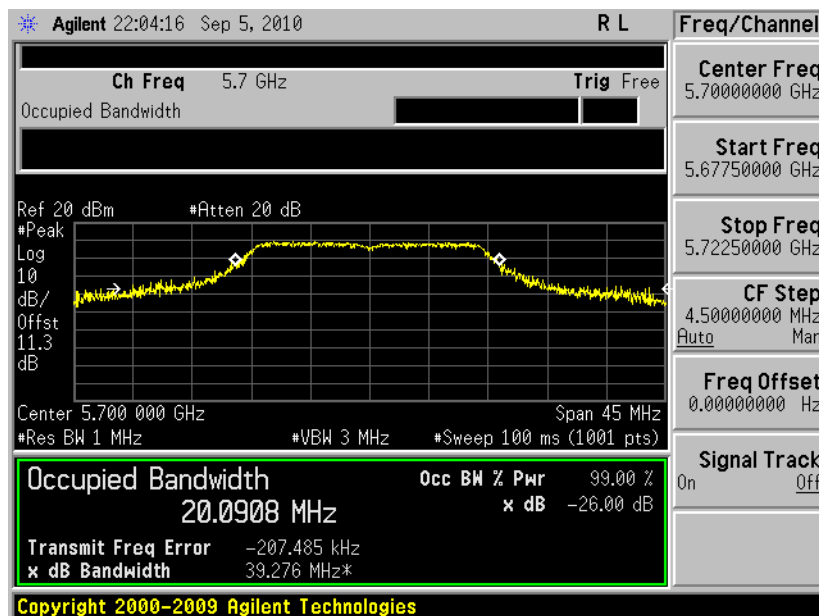
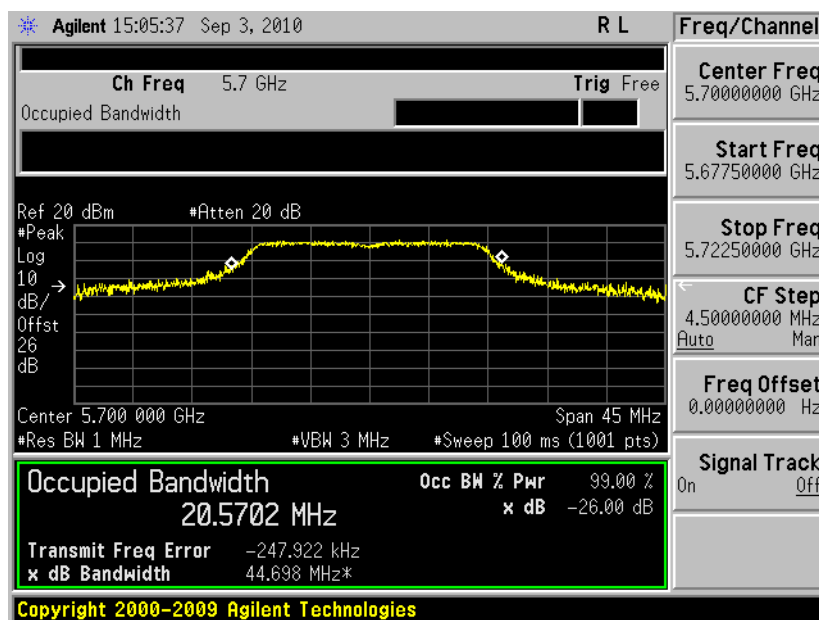
## 26 dB &amp; 99% Bandwidth Plot on 802.11n (HT-20) Channel 64 -

## Chain 1



**26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 100 -**
**Chain 0**

**26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 100 -**
**Chain 1**


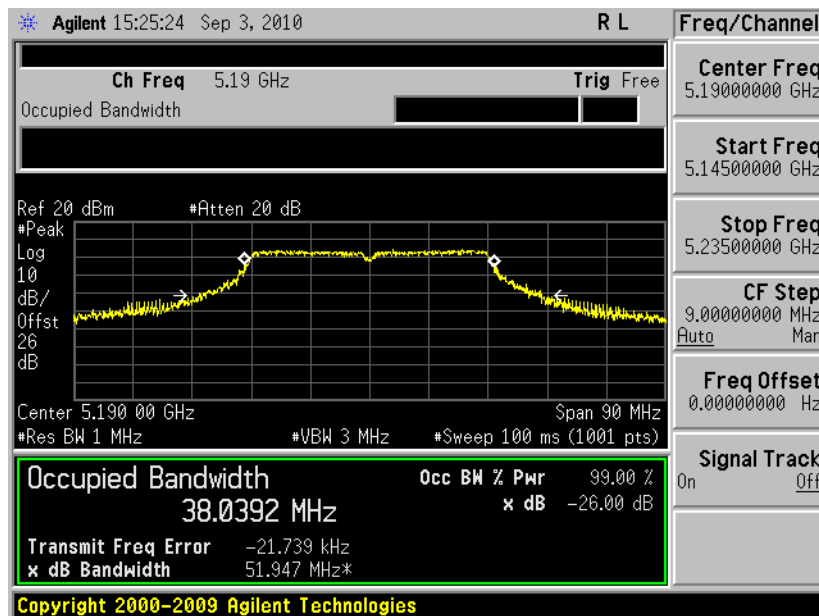
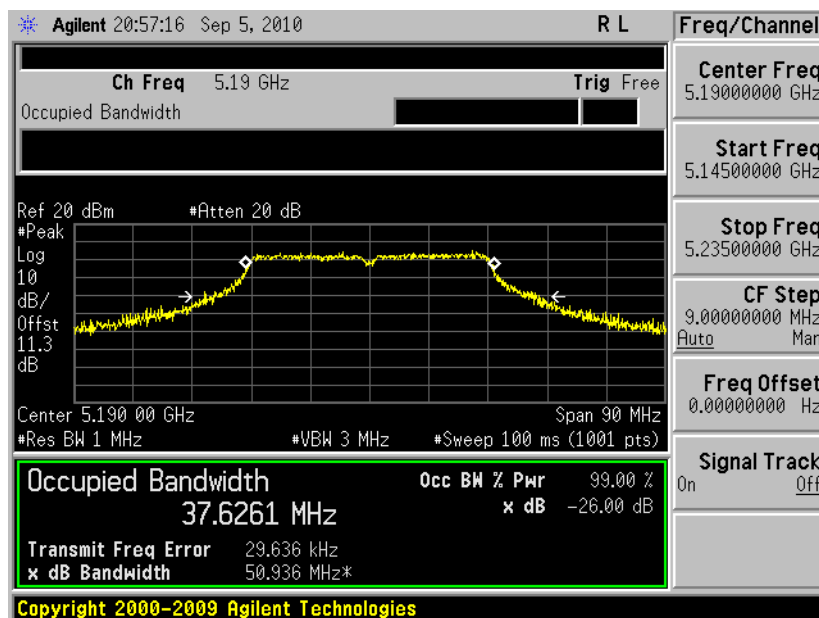
**26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 120 -**
**Chain 0**

**26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 120 -**
**Chain 1**


**26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 140 -**
**Chain 0**

**26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 140 -**
**Chain 1**


|                        |                                |                            |         |
|------------------------|--------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11n (HT-40) L/M/H channels | <b>Temperature :</b>       | 25~27°C |
| <b>Test Engineer :</b> | Lancelot Chen and Alan Liu     | <b>Relative Humidity :</b> | 41~44%  |

| Channel | Frequency (MHz) | 802.11n (HT-40)<br>26dB Bandwidth (MHz) |         |
|---------|-----------------|-----------------------------------------|---------|
|         |                 | Chain 0                                 | Chain 1 |
| 38      | 5190            | 51.95                                   | 50.94   |
| 46      | 5230            | 71.39                                   | 59.82   |
| 54      | 5270            | 58.04                                   | 50.45   |
| 62      | 5310            | 51.73                                   | 50.74   |
| 102     | 5510            | 75.27                                   | 76.72   |
| 118     | 5590            | 80.14                                   | 84.45   |
| 134     | 5670            | 85.19                                   | 83.56   |

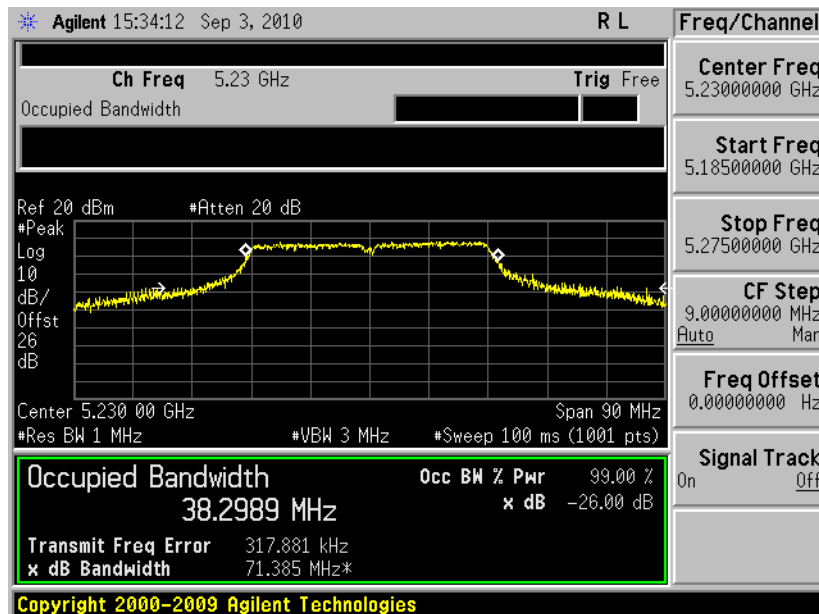
| Channel | Frequency (MHz) | 802.11n (HT-40)<br>26dB Bandwidth (MHz) |         |
|---------|-----------------|-----------------------------------------|---------|
|         |                 | Chain 0                                 | Chain 1 |
| 38      | 5190            | 38.04                                   | 37.63   |
| 46      | 5230            | 38.30                                   | 38.03   |
| 54      | 5270            | 38.03                                   | 37.69   |
| 62      | 5310            | 37.87                                   | 37.59   |
| 102     | 5510            | 38.58                                   | 38.92   |
| 118     | 5590            | 38.82                                   | 40.13   |
| 134     | 5670            | 39.03                                   | 39.94   |

**26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 38 -**
**Chain 0**

**26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 38 -**
**Chain 1**




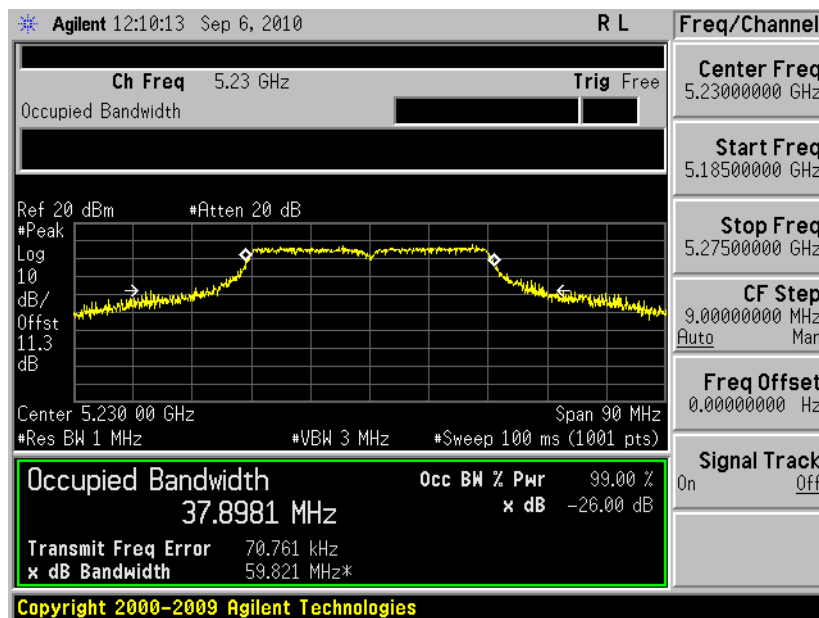
## 26 dB &amp; 99% Bandwidth Plot on 802.11n (HT-40) Channel 46 -

## Chain 0



## 26 dB &amp; 99% Bandwidth Plot on 802.11n (HT-40) Channel 46 -

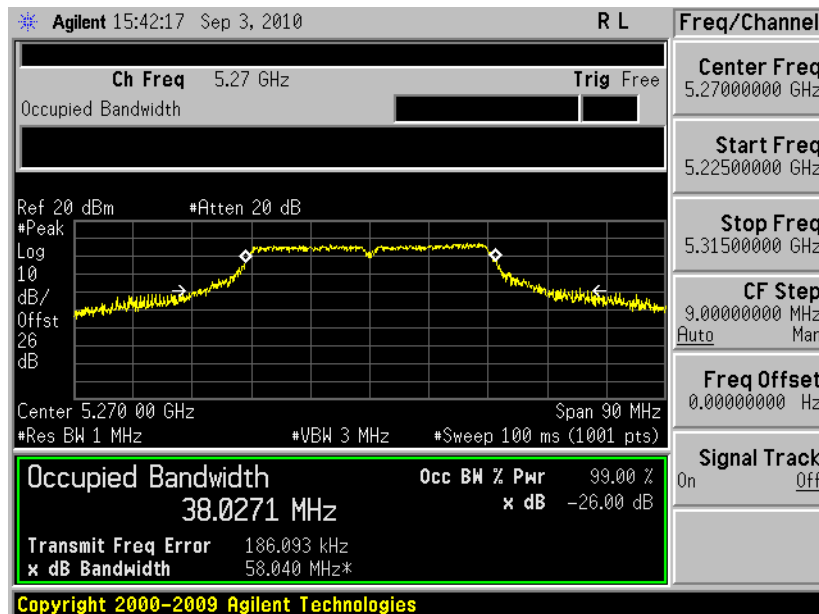
## Chain 1





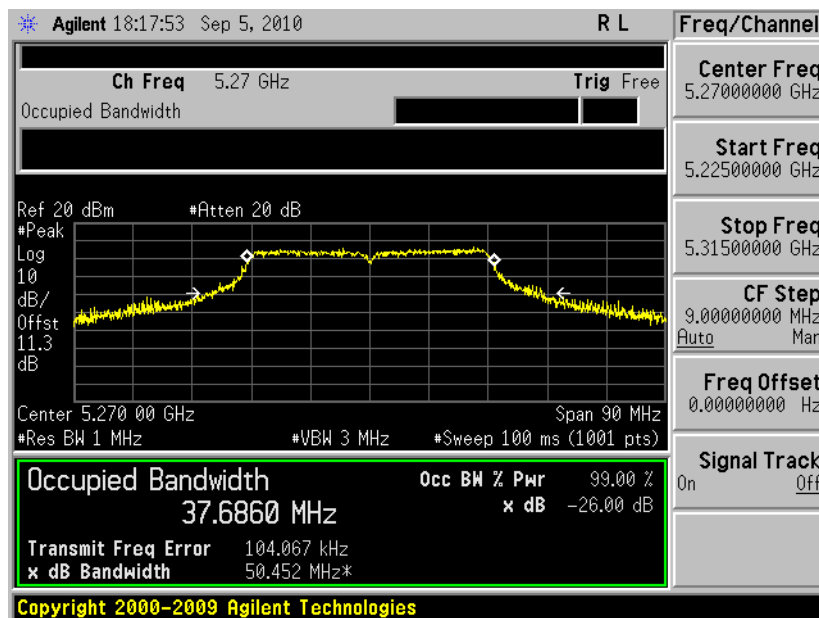
## 26 dB &amp; 99% Bandwidth Plot on 802.11n (HT-40) Channel 54 -

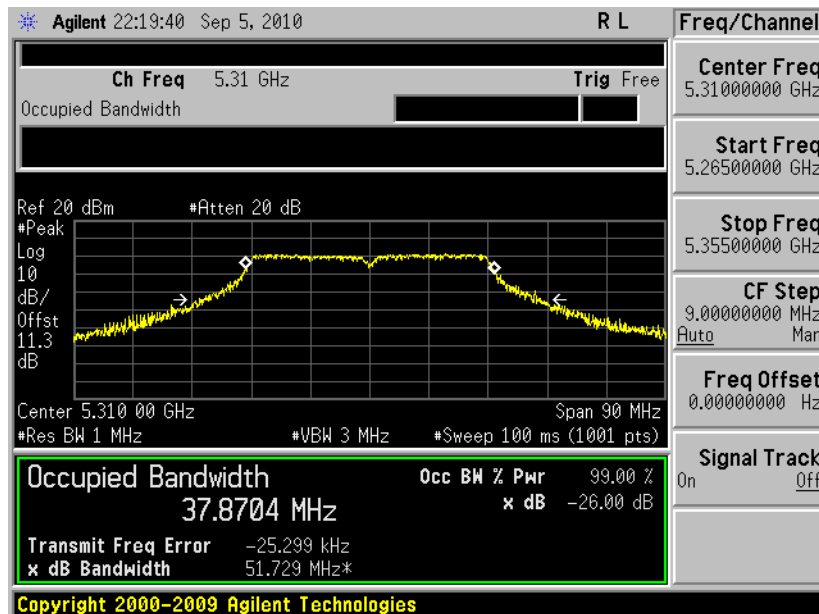
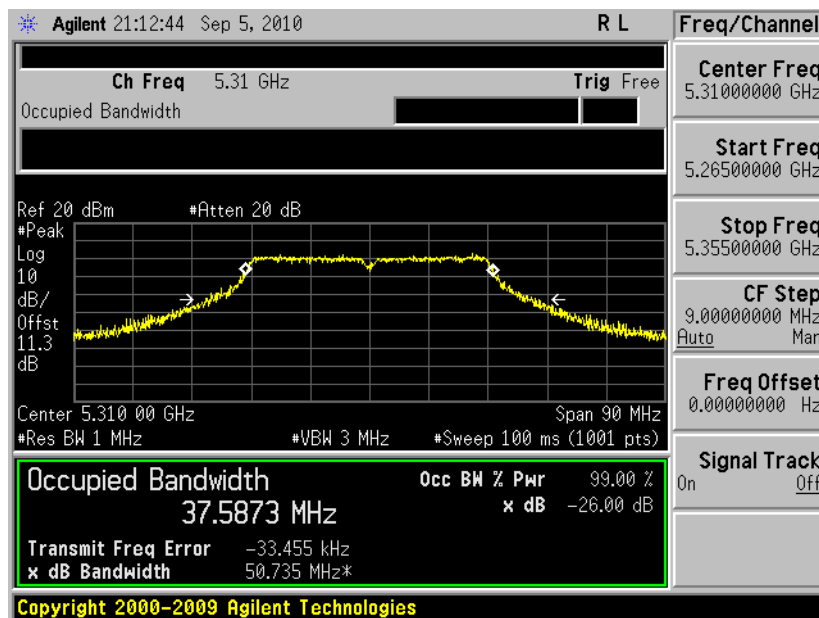
## Chain 0

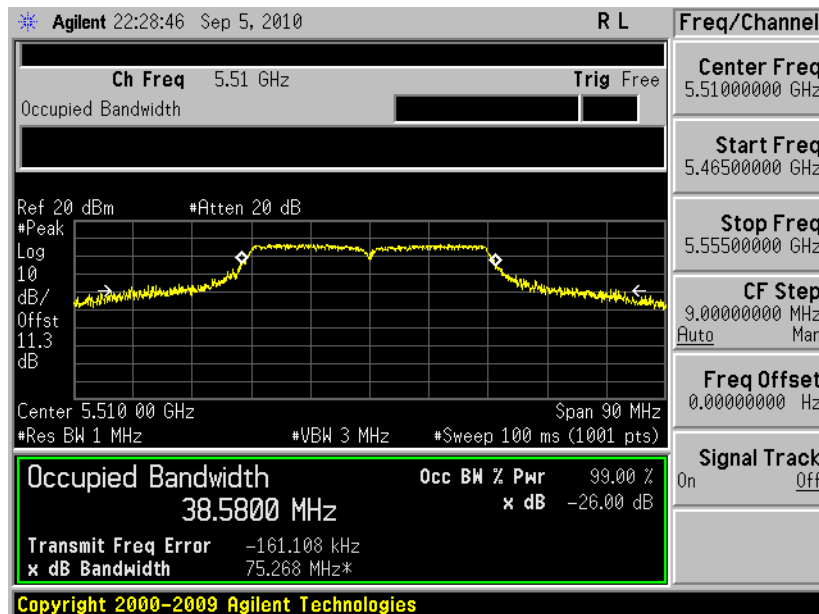
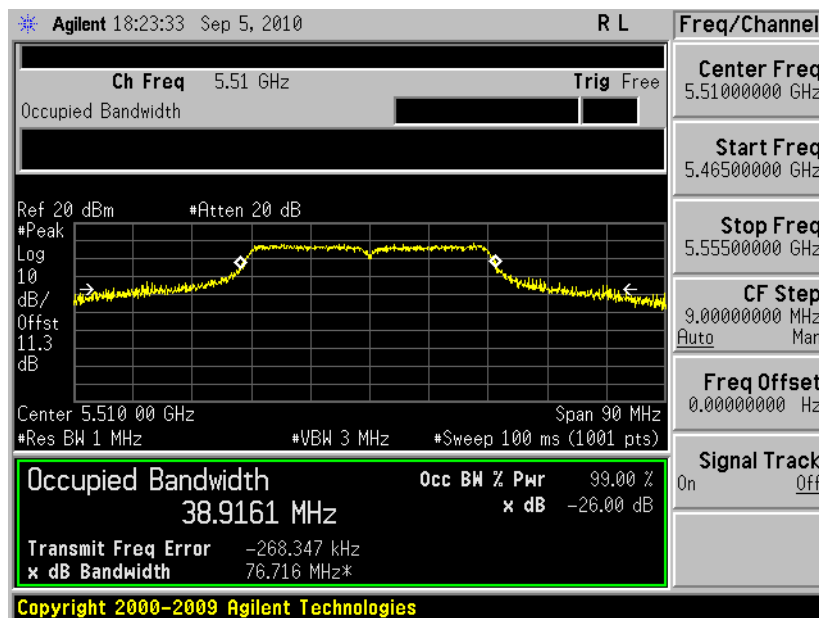


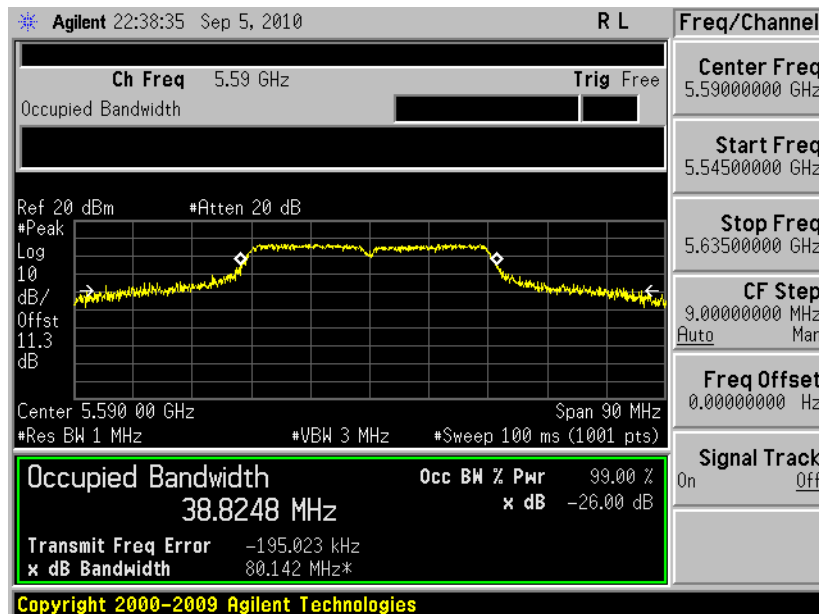
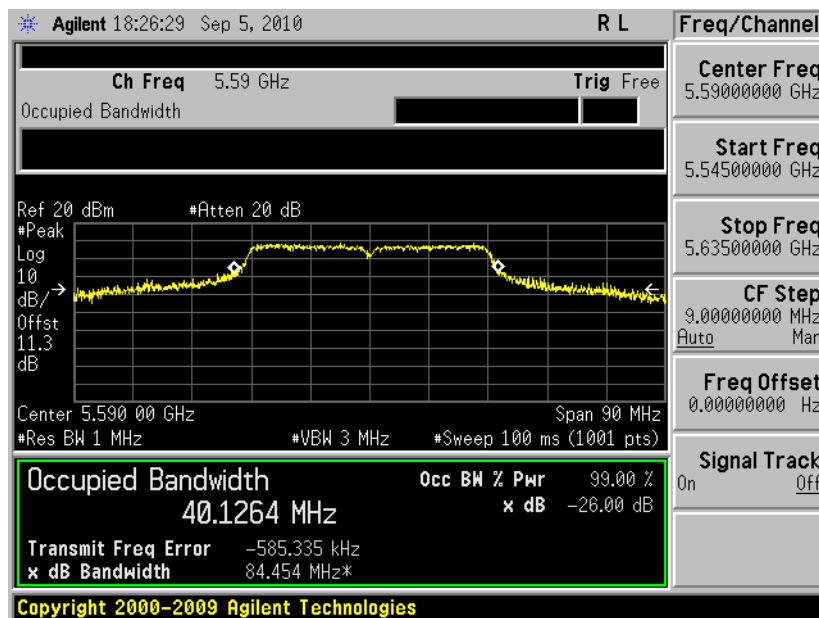
## 26 dB &amp; 99% Bandwidth Plot on 802.11n (HT-40) Channel 54 -

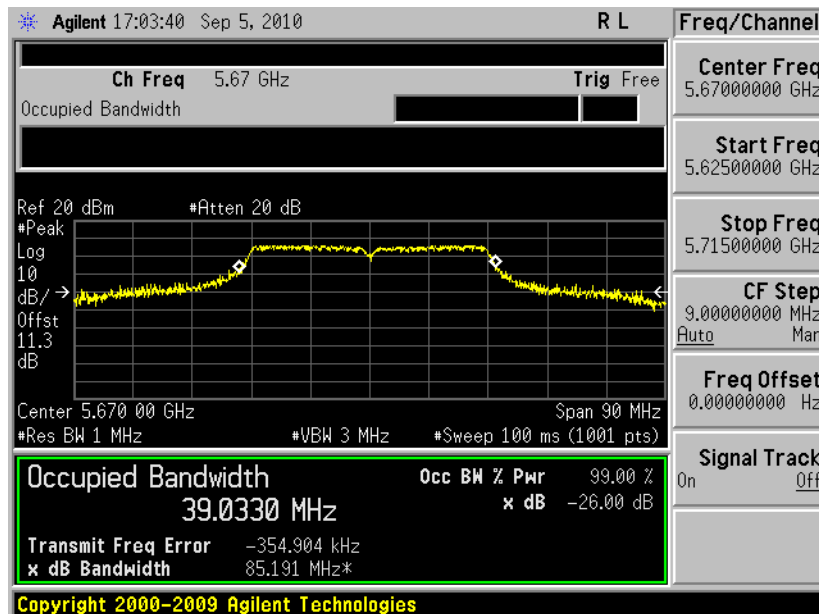
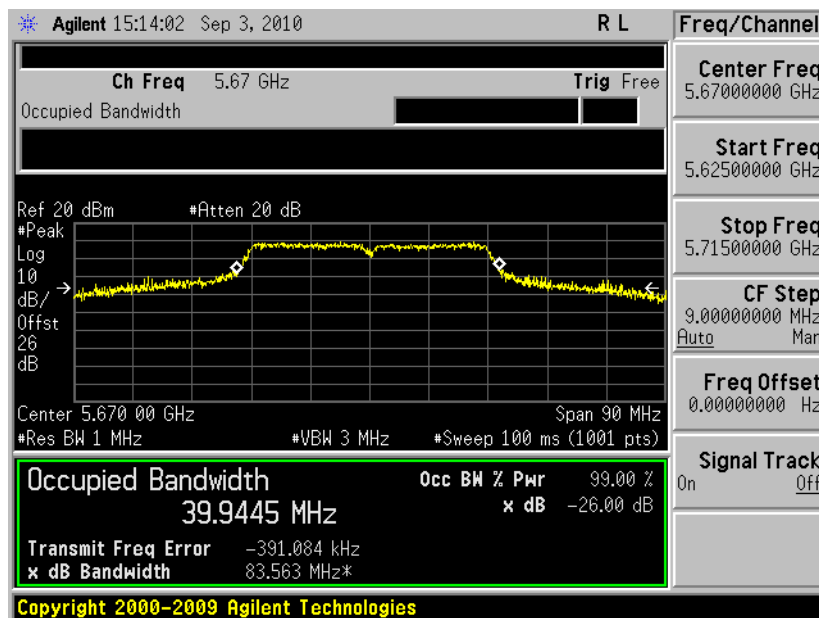
## Chain 1



**26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 62 -**
**Chain 0**

**26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 62 -**
**Chain 1**


**26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 102 -**
**Chain 0**

**26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 102 -**
**Chain 1**


**26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 118 -**
**Chain 0**

**26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 118 -**
**Chain 1**


**26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 134 -**
**Chain 0**

**26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 134 -**
**Chain 1**


## 3.2 Power Spectral Density Measurement

### 3.2.1 Limit of Power Spectral Density

For the band 5.15–5.25 GHz, the peak power spectral density shall not exceed 4 dBm in any 1MHz band. For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the peak power spectral density shall not exceed 11 dBm in any 1MHz band. If transmitting antenna directional gain is greater than 6 dBi, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

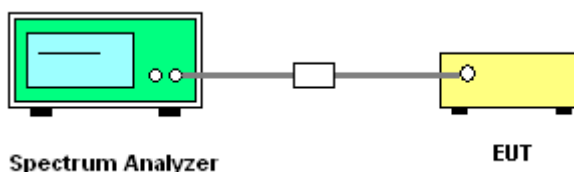
### 3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.2.3 Test Procedures

The transmitter output is connected to the spectrum analyzer. According to the method 3 of DA-02-2138, the resolution bandwidth is set to 1 MHz, video bandwidth is 3MHz, trace average 100 traces in power averaging mode, and sample detection is used, and the analyzer is set for video averaging.

### 3.2.4 Test Setup



### 3.2.5 Test Result of Power Spectral Density

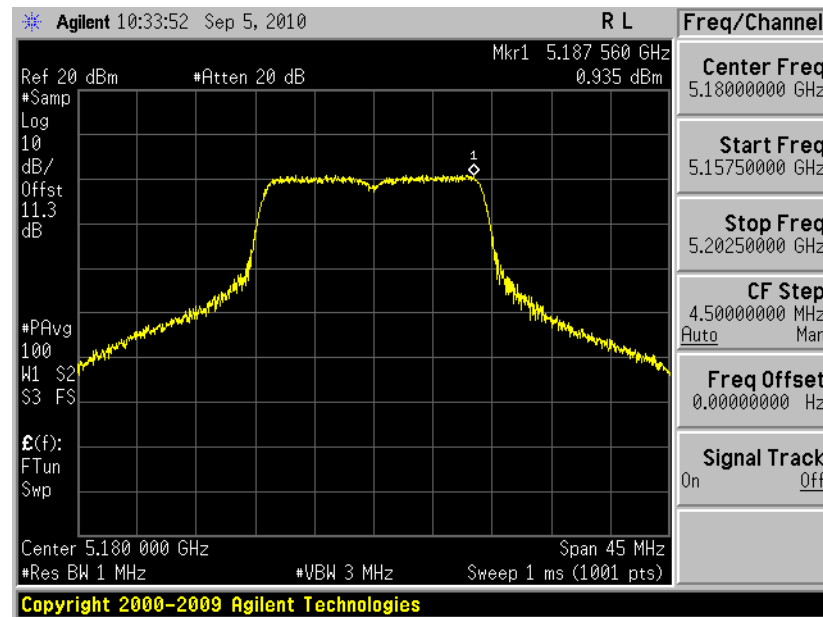
|                        |                            |                            |         |
|------------------------|----------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11a L/M/H channels     | <b>Temperature :</b>       | 25~27°C |
| <b>Test Engineer :</b> | Lancelot Chen and Alan Liu | <b>Relative Humidity :</b> | 41~44%  |

| Channel | Frequency (MHz) | 802.11a<br>Measured PSD (dBm) |         |           | Max. Limits (dBm ) | Pass/Fail |
|---------|-----------------|-------------------------------|---------|-----------|--------------------|-----------|
|         |                 | Chain 0                       | Chain 1 | Summation |                    |           |
| 36      | 5180            | 0.94                          | 0.63    | 3.80      | 3.92               | Pass      |
| 44      | 5220            | 1.06                          | 0.50    | 3.80      | 3.92               | Pass      |
| 48      | 5240            | 0.62                          | 0.86    | 3.75      | 3.92               | Pass      |
| 52      | 5260            | 2.99                          | 2.39    | 5.71      | 10.92              | Pass      |
| 60      | 5300            | 2.66                          | 2.57    | 5.63      | 10.92              | Pass      |
| 64      | 5320            | 1.61                          | 2.01    | 4.82      | 10.92              | Pass      |
| 100     | 5500            | 3.19                          | 4.04    | 6.65      | 9.23               | Pass      |
| 120     | 5600            | 1.88                          | 2.89    | 5.42      | 9.23               | Pass      |
| 140     | 5700            | 1.72                          | 2.91    | 5.37      | 9.23               | Pass      |

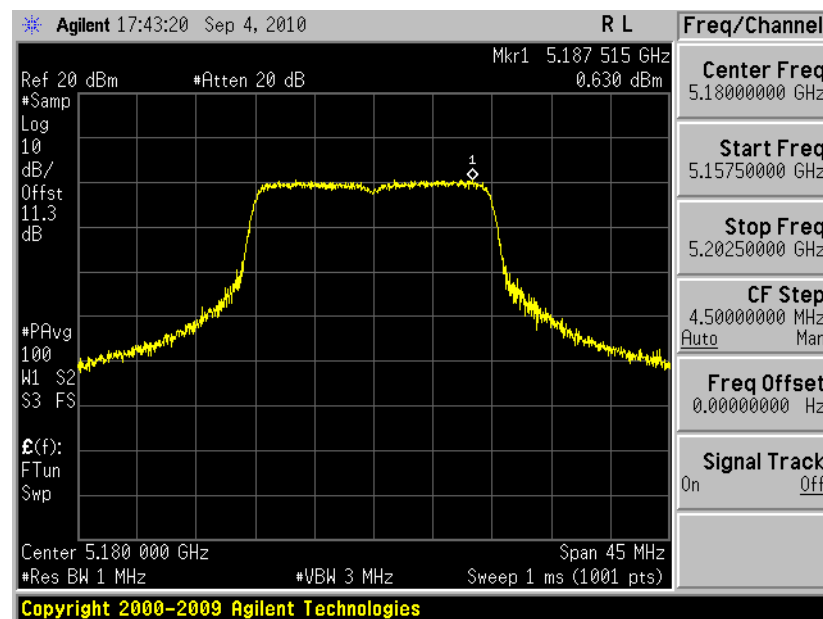
**Note:** The maximum composite antenna gain is 6.08 for 5150 MHz ~ 5350 MHz and 7.77 dBi for 5470 MHz ~ 5725 MHz; therefore the limits are 3.92 dBm for 5150 MHz ~ 5250 MHz, 10.92 dBm for 5250 MHz ~ 5350 MHz and 9.23 dBm for 5470 MHz ~ 5725 MHz.



PSD Plot on 802.11a Channel 36 - Chain 0

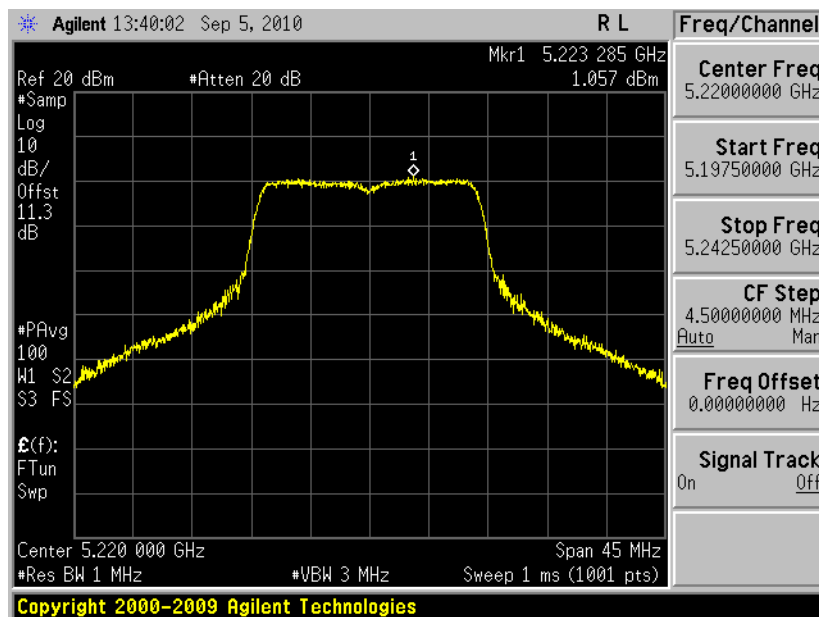


PSD Plot on 802.11a Channel 36 - Chain 1

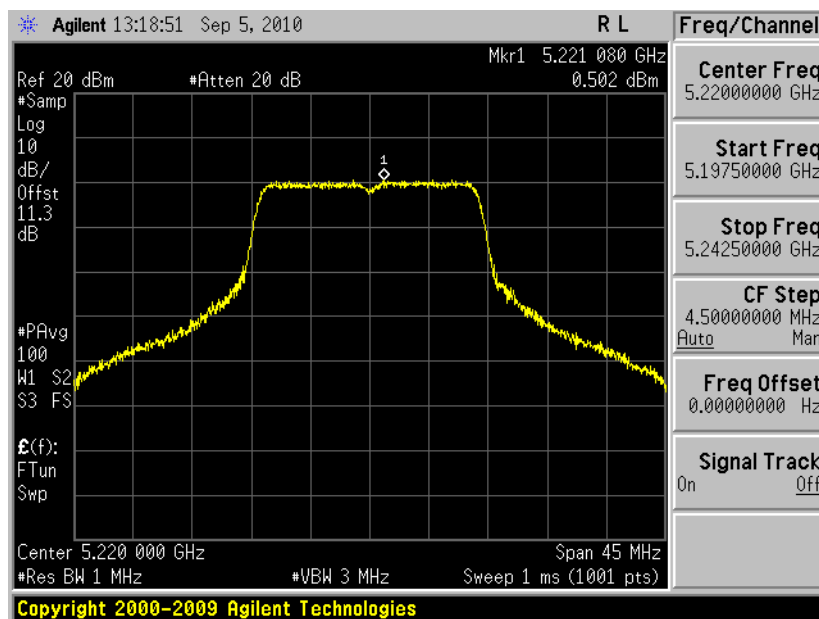




## PSD Plot on 802.11a Channel 44 - Chain 0

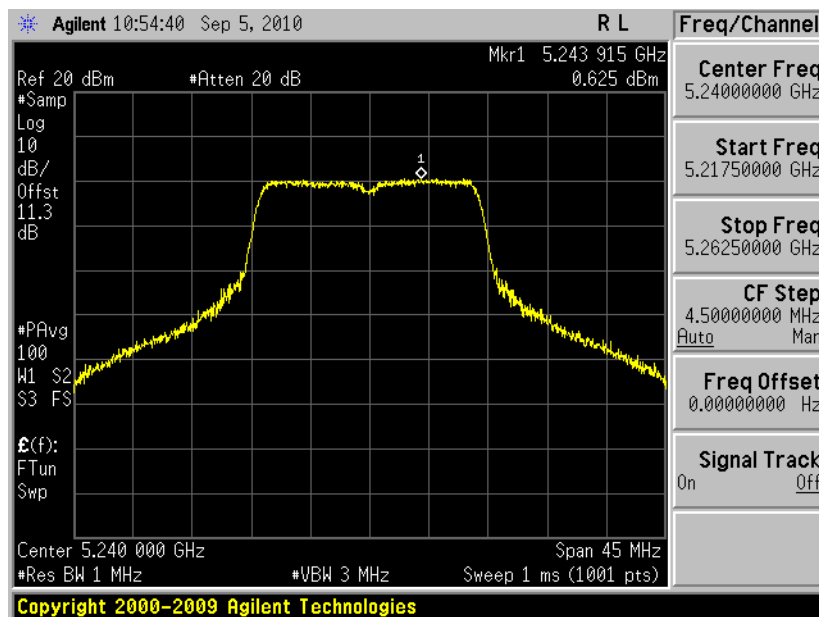


## PSD Plot on 802.11a Channel 44 - Chain 1

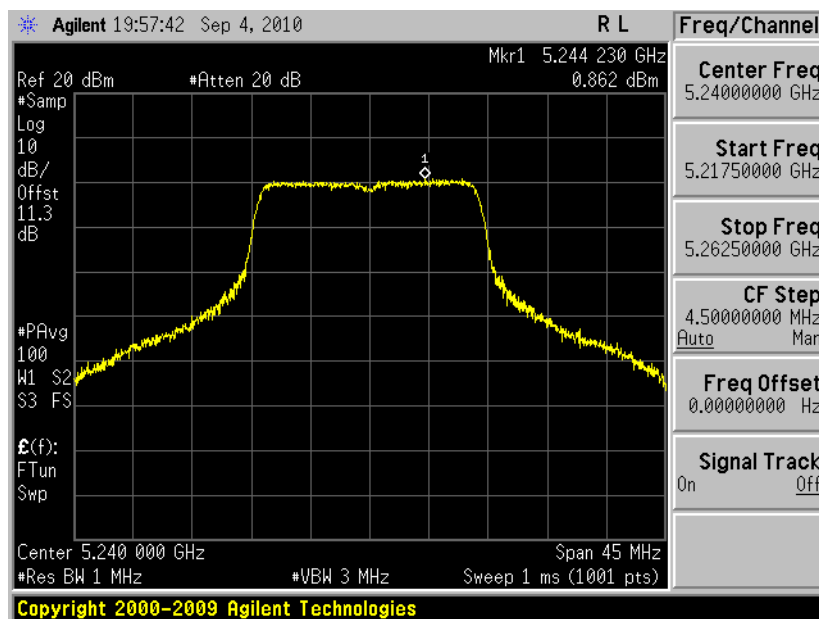




## PSD Plot on 802.11a Channel 48 - Chain 0

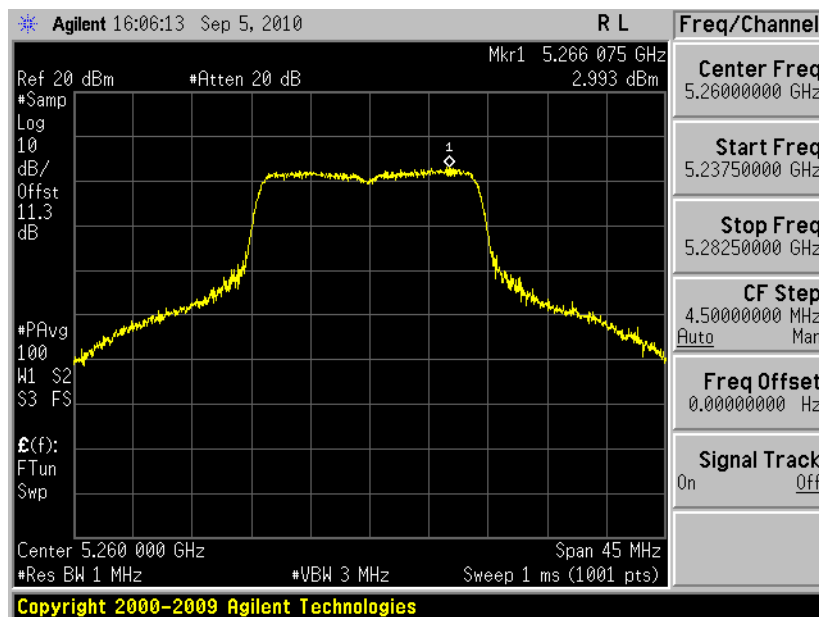


## PSD Plot on 802.11a Channel 48 - Chain 1

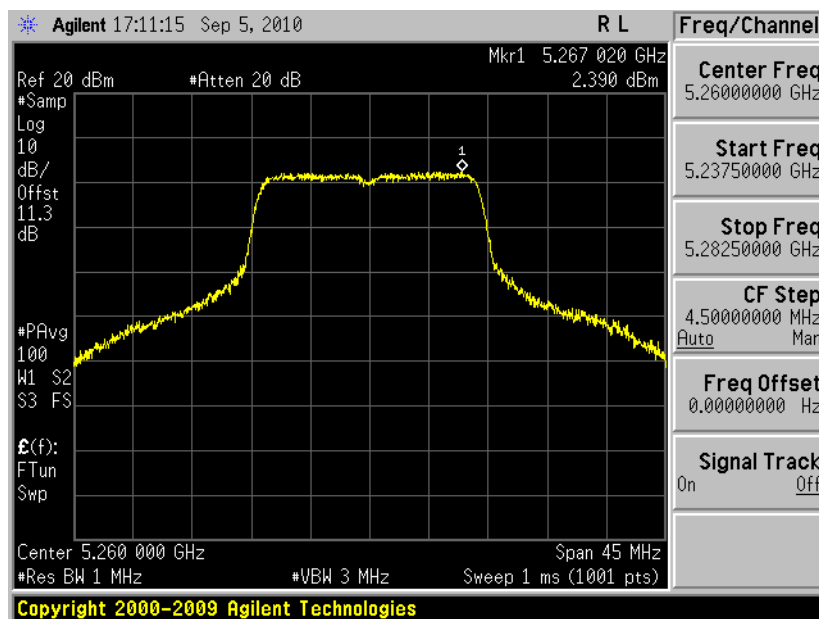




## PSD Plot on 802.11a Channel 52 - Chain 0

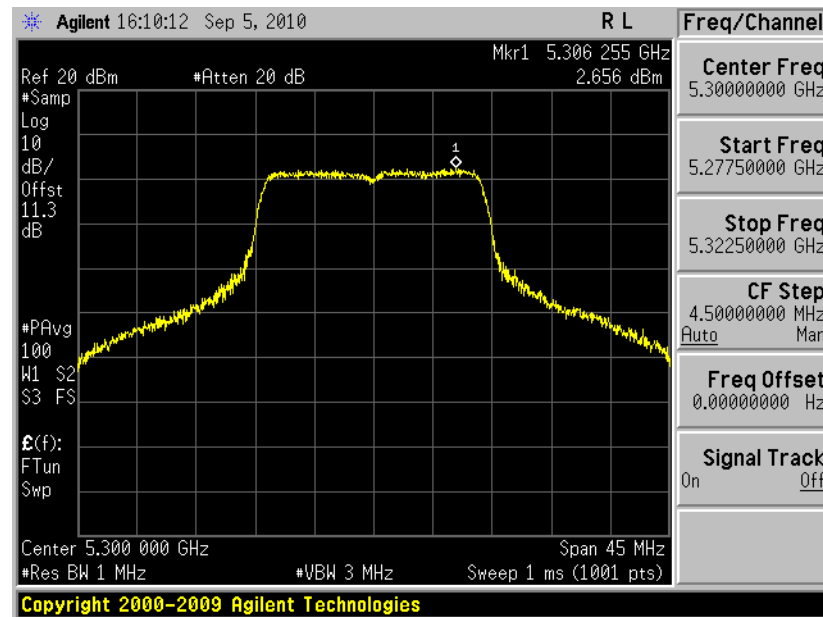


## PSD Plot on 802.11a Channel 52 - Chain 1

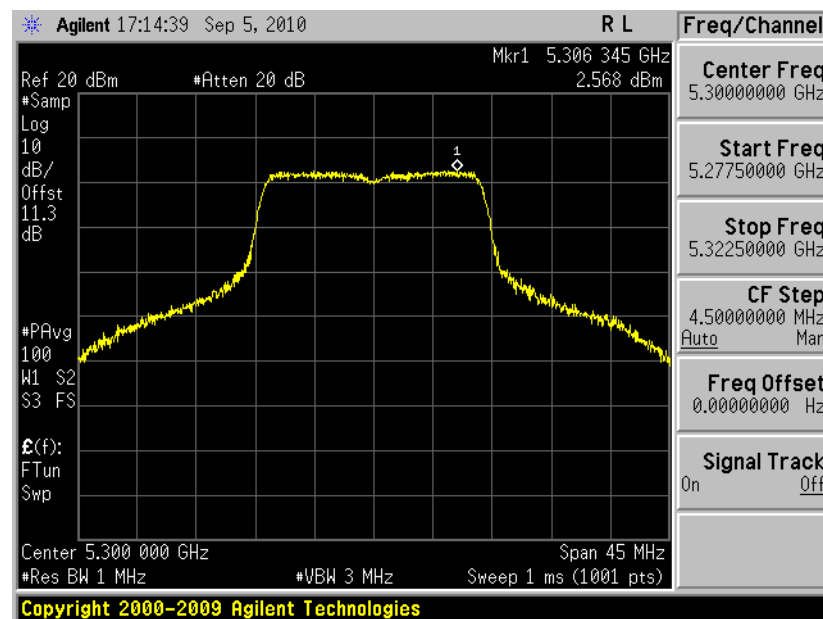




PSD Plot on 802.11a Channel 60 - Chain 0

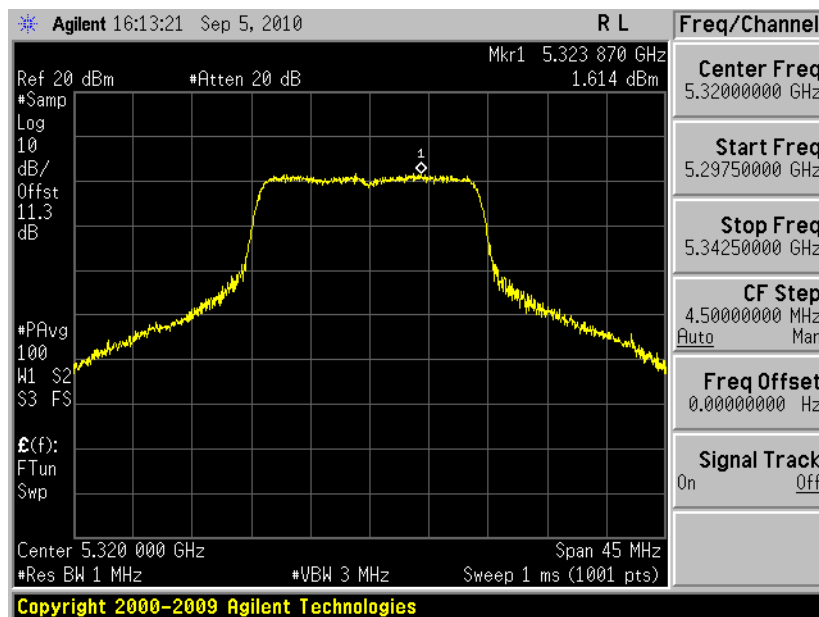


PSD Plot on 802.11a Channel 60 - Chain 1

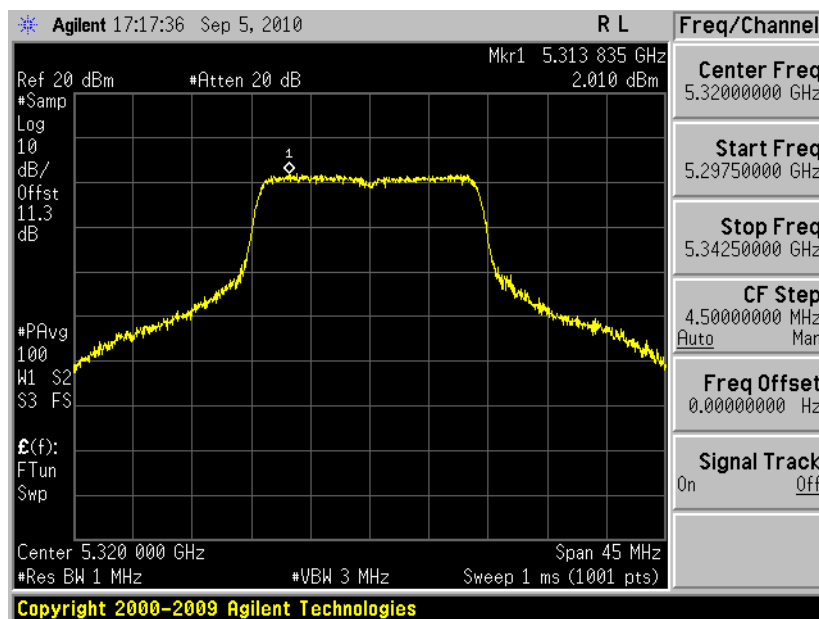


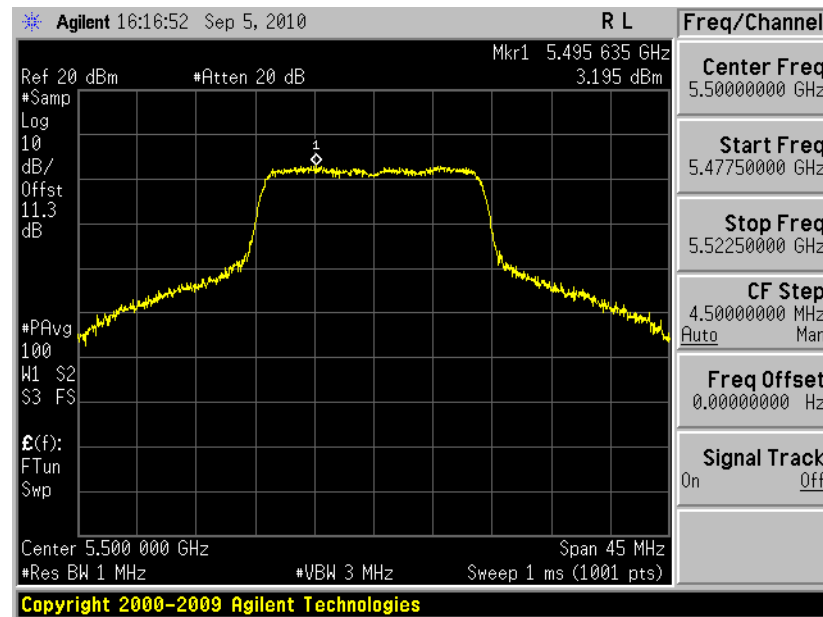
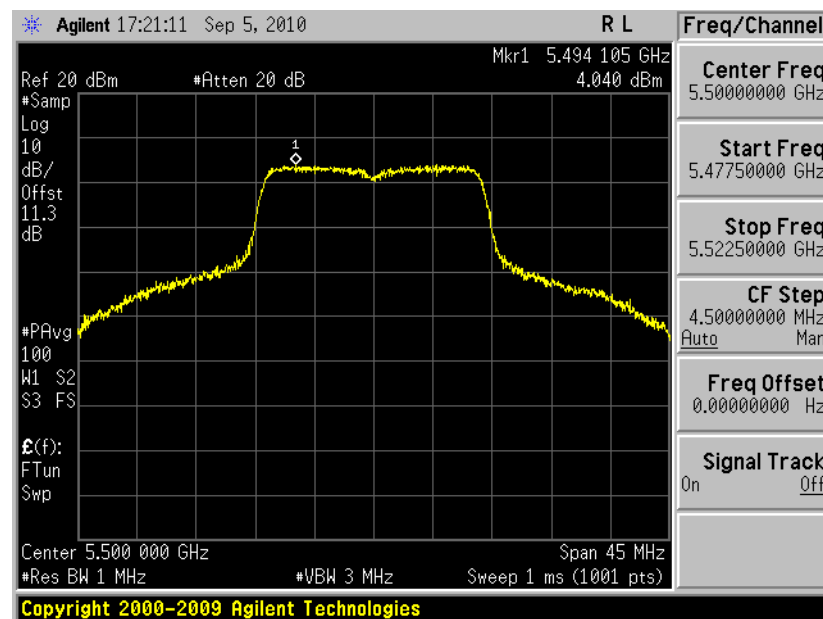


## PSD Plot on 802.11a Channel 64 - Chain 0



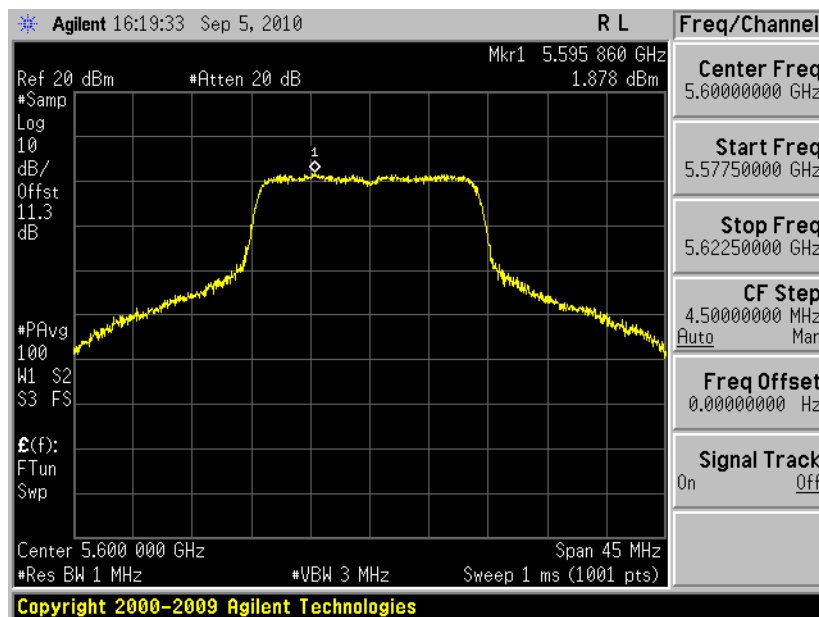
## PSD Plot on 802.11a Channel 64 - Chain 1



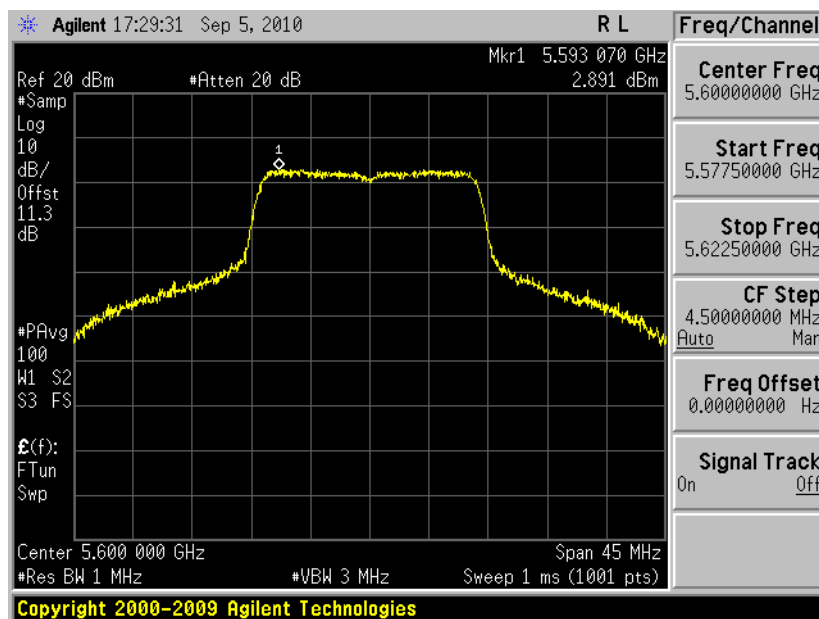
**PSD Plot on 802.11a Channel 100 - Chain 0**

**PSD Plot on 802.11a Channel 100 - Chain 1**




PSD Plot on 802.11a Channel 120 - Chain 0

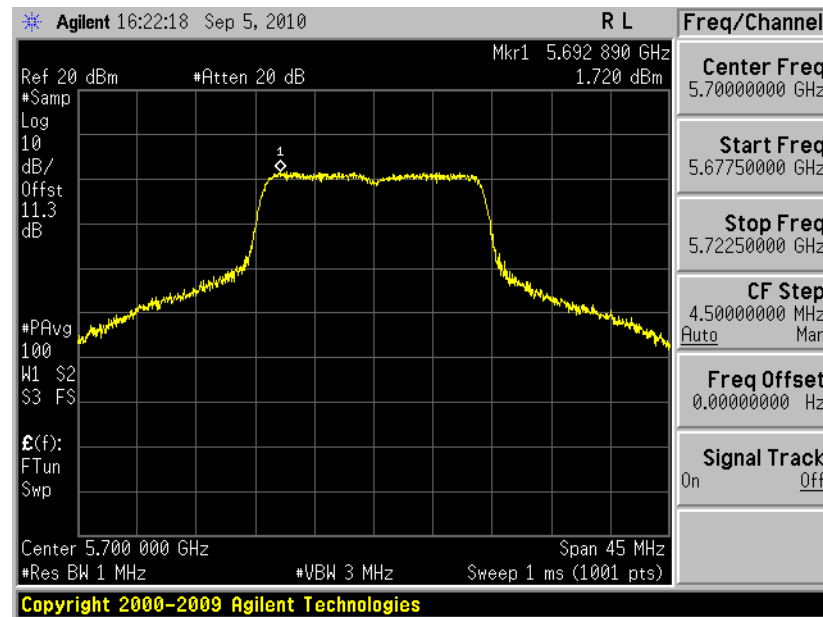


PSD Plot on 802.11a Channel 100 - Chain 1

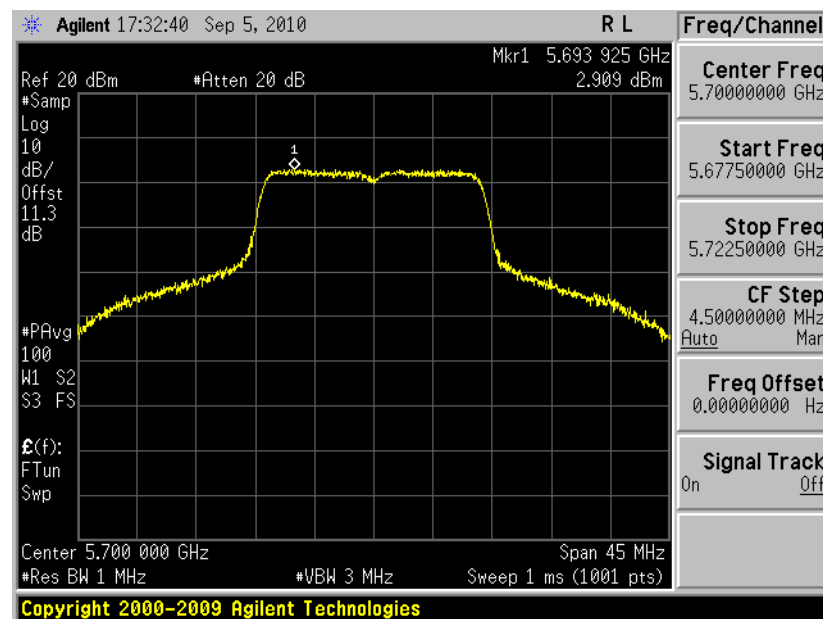




PSD Plot on 802.11a Channel 140 - Chain 0



PSD Plot on 802.11a Channel 140 - Chain 1



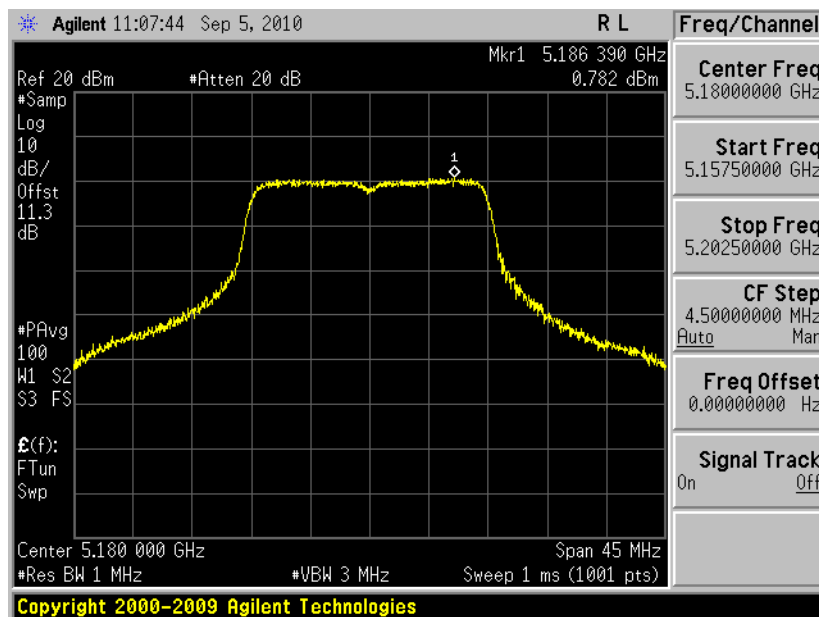
|                        |                                |                            |         |
|------------------------|--------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11n (HT-20) L/M/H channels | <b>Temperature :</b>       | 25~27°C |
| <b>Test Engineer :</b> | Lancelot Chen and Alan Liu     | <b>Relative Humidity :</b> | 41~44%  |

| Channel | Frequency (MHz) | 802.11n (HT-20)<br>Measured PSD (dBm) |         |           | Max. Limits (dBm ) | Pass/Fail |
|---------|-----------------|---------------------------------------|---------|-----------|--------------------|-----------|
|         |                 | Chain 0                               | Chain 1 | Summation |                    |           |
| 36      | 5180            | 0.78                                  | 0.63    | 3.72      | 3.92               | Pass      |
| 44      | 5220            | 0.94                                  | 0.65    | 3.81      | 3.92               | Pass      |
| 48      | 5240            | 0.98                                  | 0.8     | 3.90      | 3.92               | Pass      |
| 52      | 5260            | 1.71                                  | 1.78    | 4.76      | 10.92              | Pass      |
| 60      | 5300            | 2.18                                  | 2.24    | 5.22      | 10.92              | Pass      |
| 64      | 5320            | 1.70                                  | 1.88    | 4.80      | 10.92              | Pass      |
| 100     | 5500            | 2.96                                  | 3.48    | 6.24      | 9.23               | Pass      |
| 120     | 5600            | 1.79                                  | 2.89    | 5.39      | 9.23               | Pass      |
| 140     | 5700            | 1.60                                  | 2.81    | 5.26      | 9.23               | Pass      |

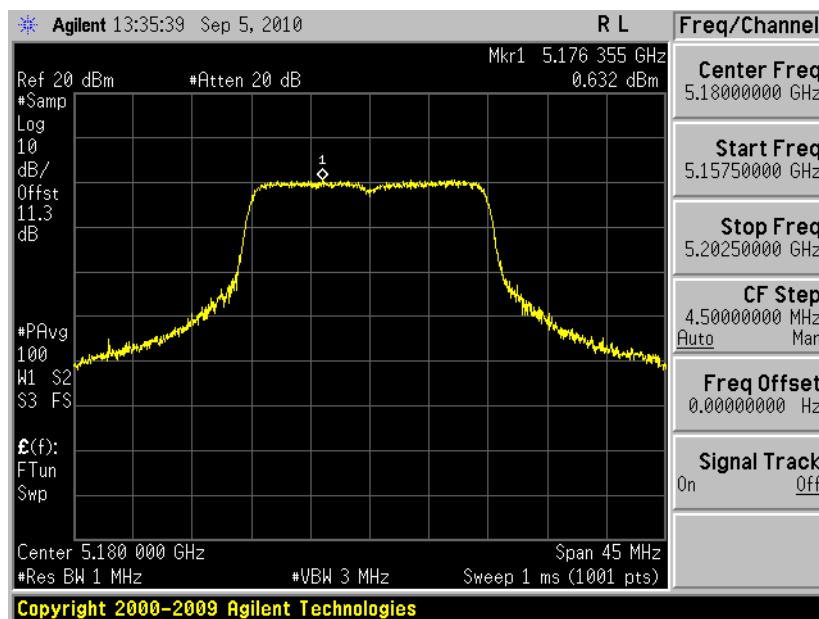
**Note:** The maximum composite antenna gain is 6.08 for 5150 MHz ~ 5350 MHz and 7.77 dBi for 5470 MHz ~ 5725 MHz; therefore the limits are 3.92 dBm for 5150 MHz ~ 5250 MHz, 10.92 dBm for 5250 MHz ~ 5350 MHz and 9.23 dBm for 5470 MHz ~ 5725 MHz.



PSD Plot on 802.11n (HT-20) Channel 36 - Chain 0

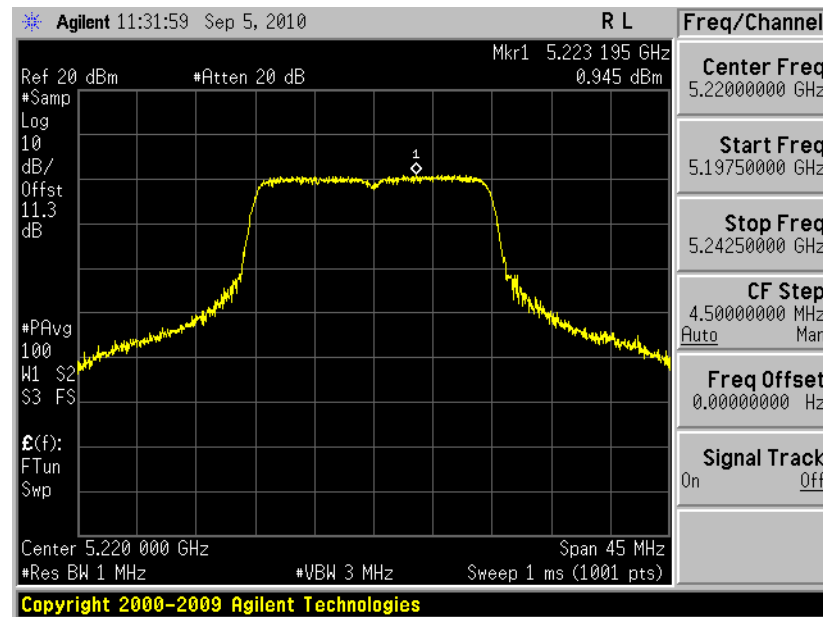


PSD Plot on 802.11n (HT-20) Channel 36 - Chain 1

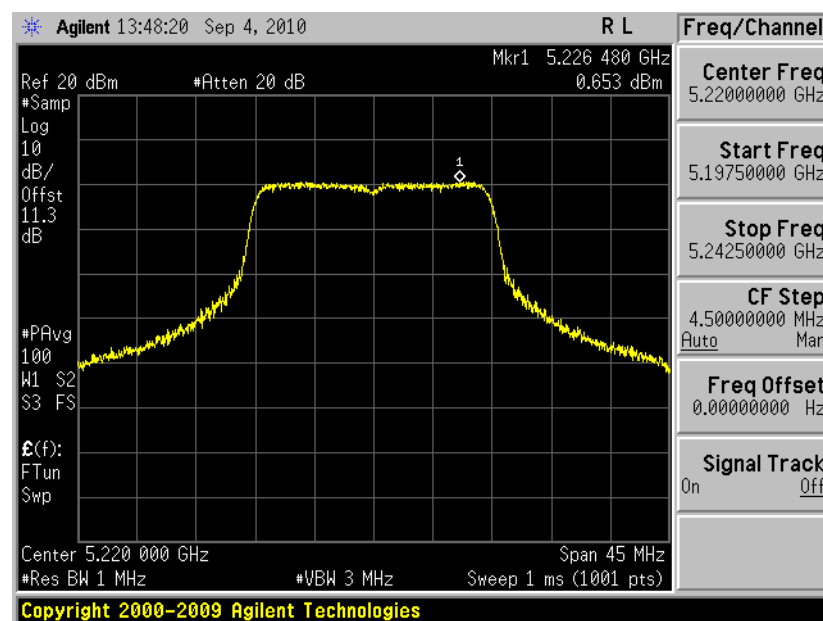




PSD Plot on 802.11n (HT-20) Channel 44 - Chain 0

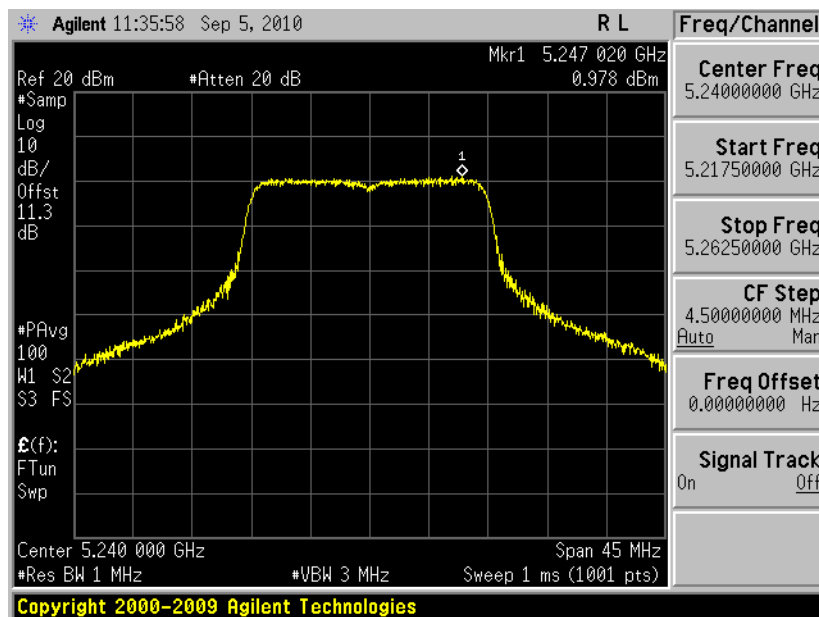


PSD Plot on 802.11n (HT-20) Channel 44 - Chain 1

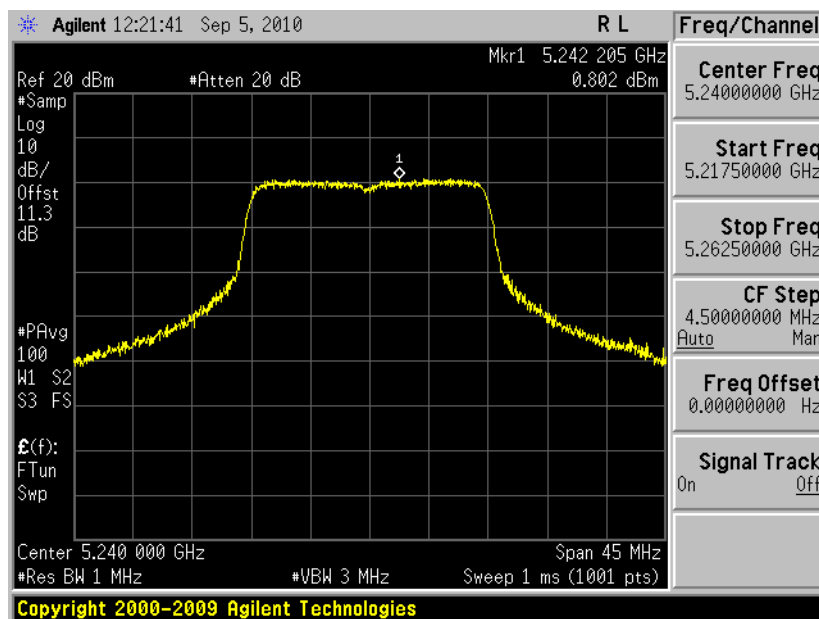




## PSD Plot on 802.11n (HT-20) Channel 48 - Chain 0

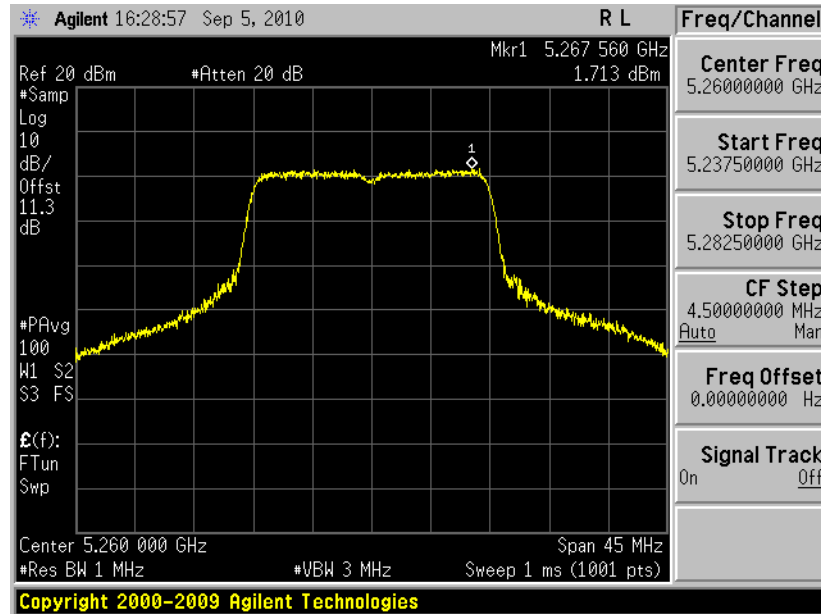


## PSD Plot on 802.11n (HT-20) Channel 48 - Chain 1

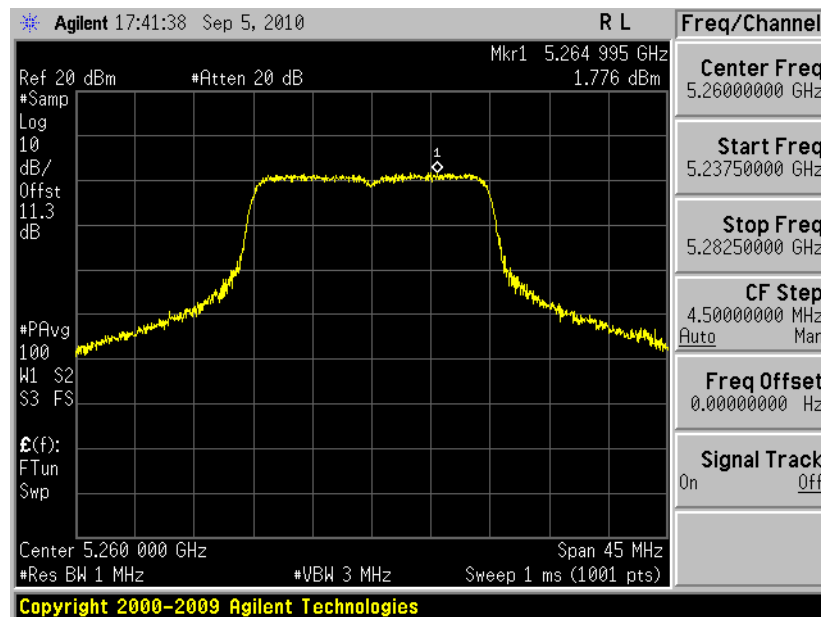


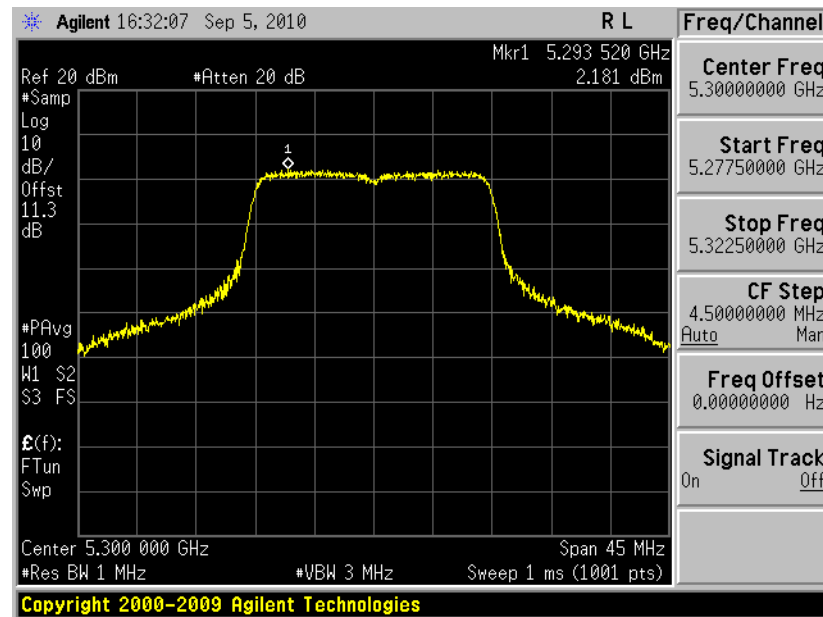
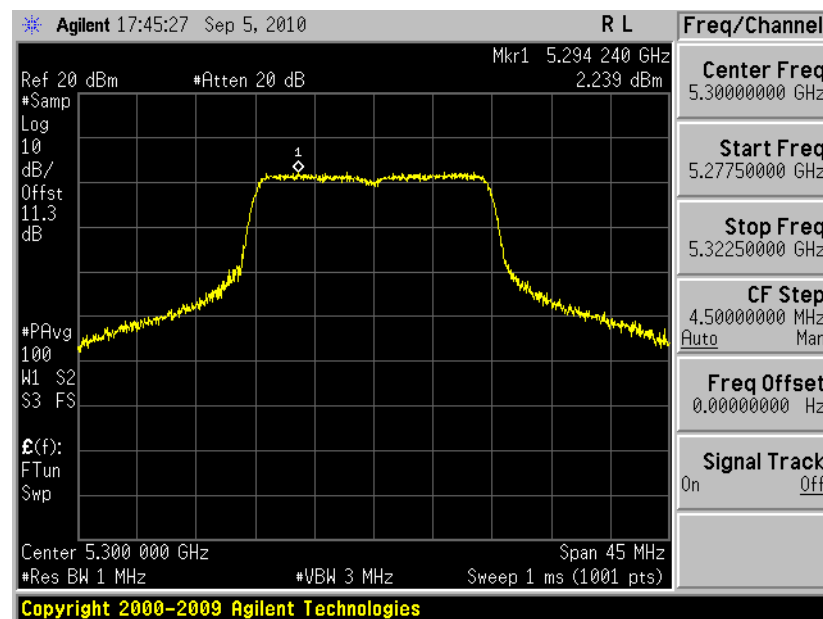


PSD Plot on 802.11n (HT-20) Channel 52 - Chain 0



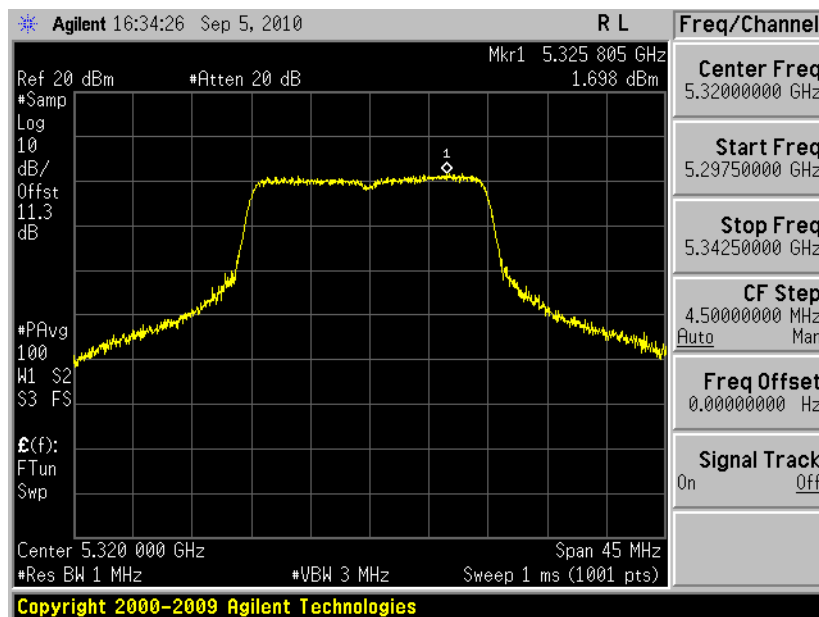
PSD Plot on 802.11n (HT-20) Channel 52 - Chain 1



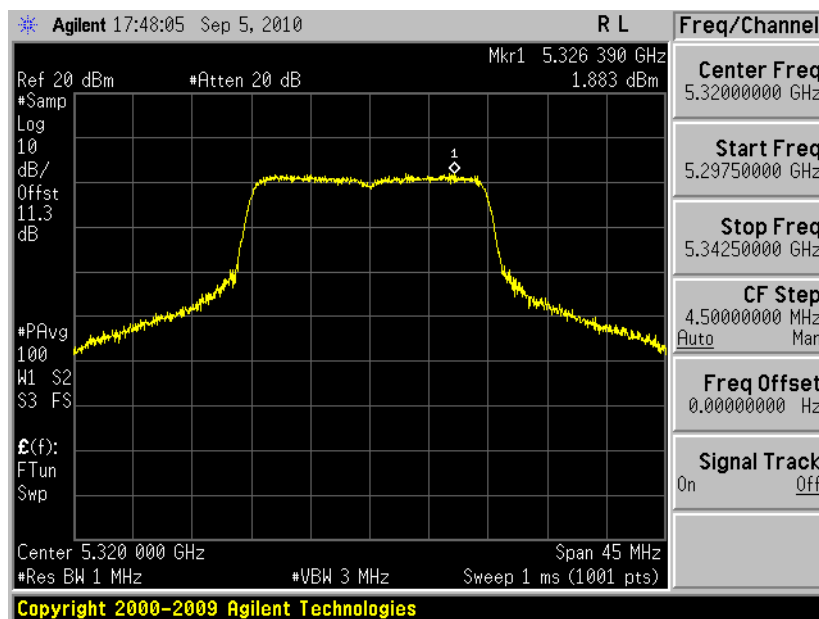
**PSD Plot on 802.11n (HT-20) Channel 60 - Chain 0**

**PSD Plot on 802.11n (HT-20) Channel 60 - Chain 1**




## PSD Plot on 802.11n (HT-20) Channel 64 - Chain 0

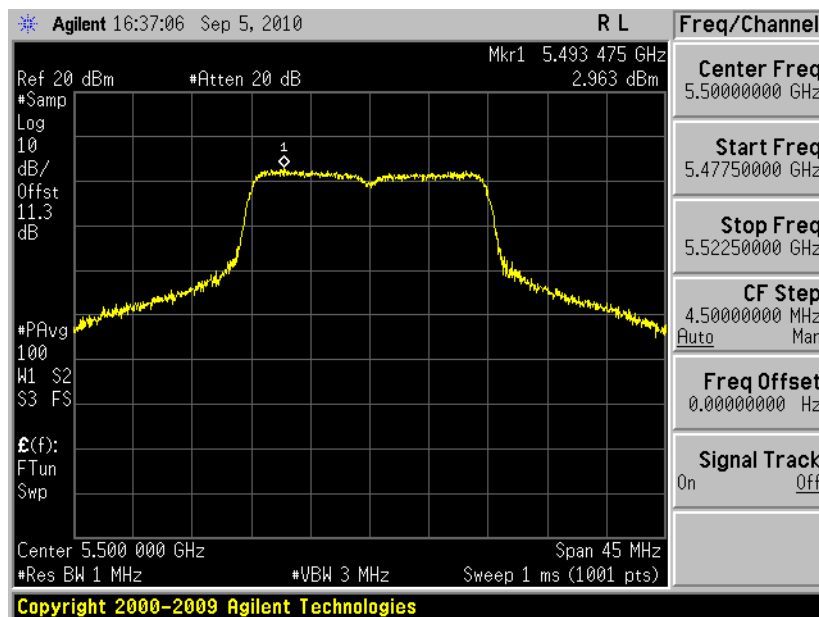


## PSD Plot on 802.11n (HT-20) Channel 64 - Chain 1

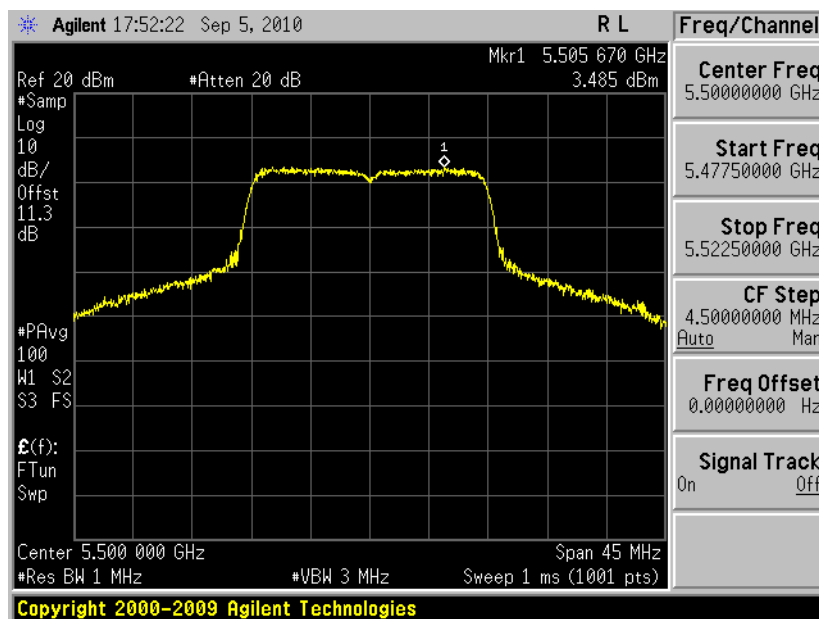




## PSD Plot on 802.11n (HT-20) Channel 100 - Chain 0

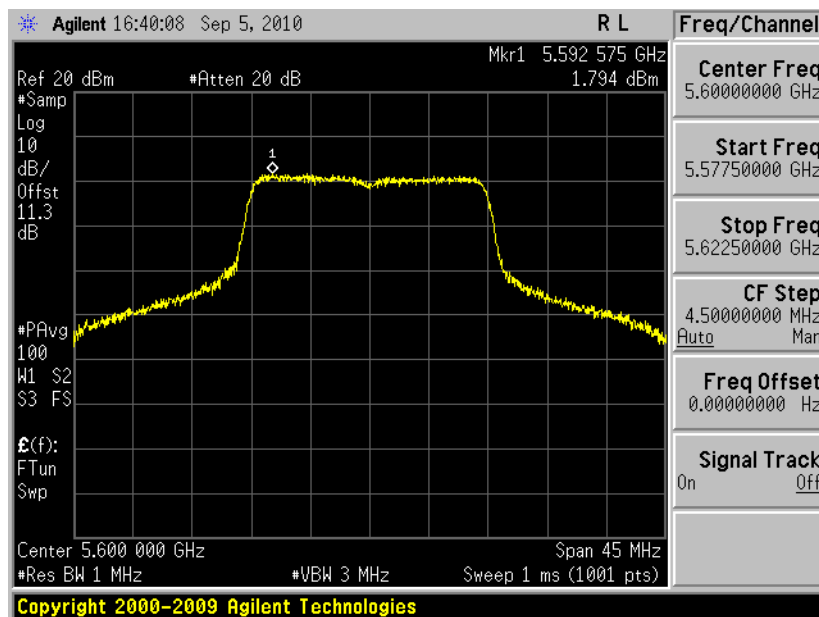


## PSD Plot on 802.11n (HT-20) Channel 100 - Chain 1

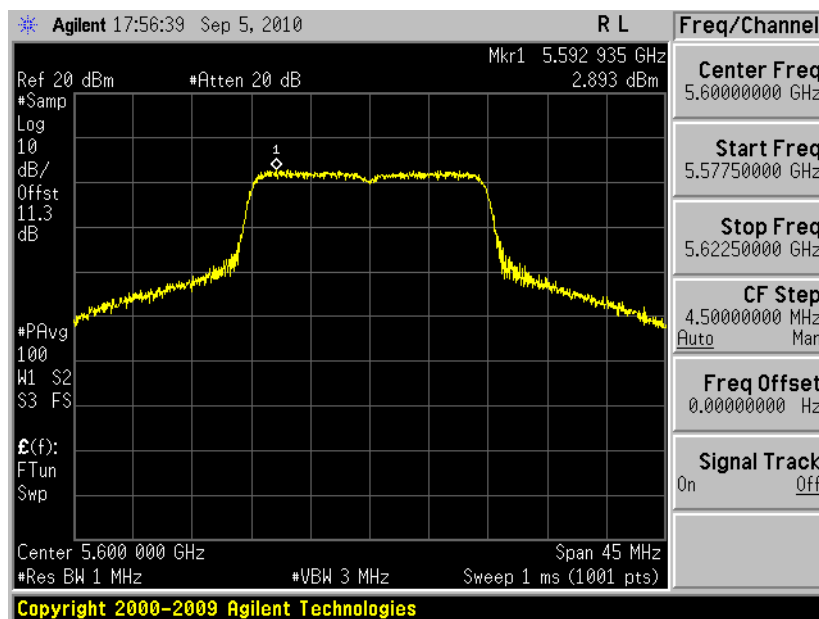


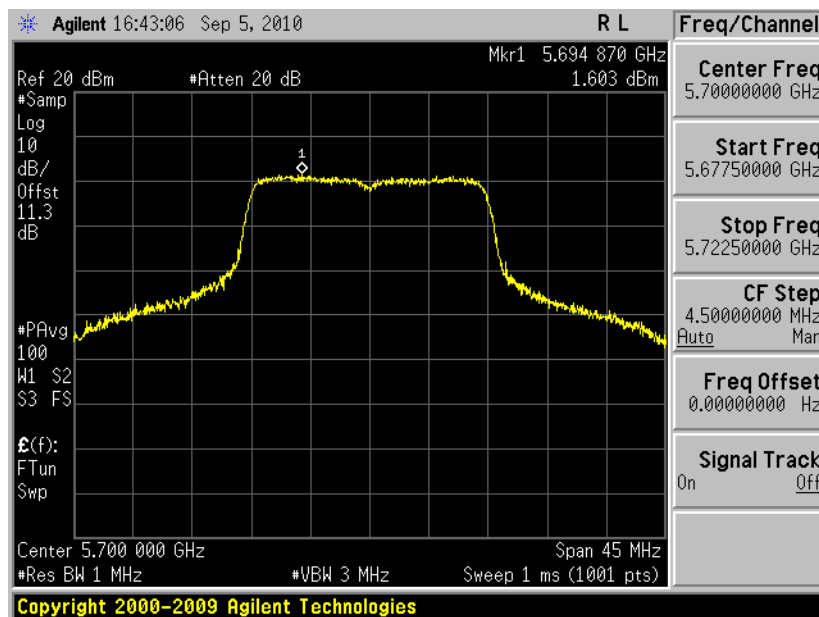
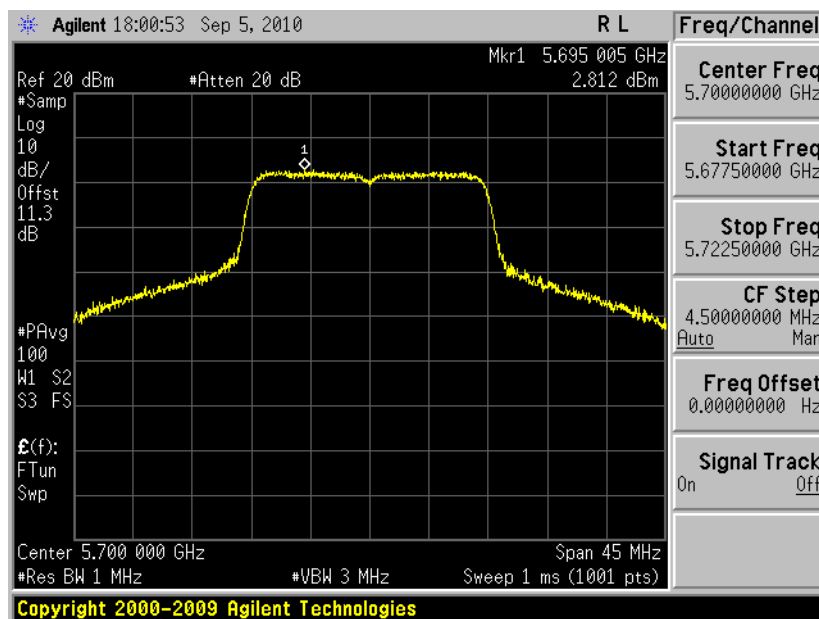


## PSD Plot on 802.11n (HT-20) Channel 120 - Chain 0



## PSD Plot on 802.11n (HT-20) Channel 120 - Chain 1



**PSD Plot on 802.11n (HT-20) Channel 140 - Chain 0**

**PSD Plot on 802.11n (HT-20) Channel 140 - Chain 1**


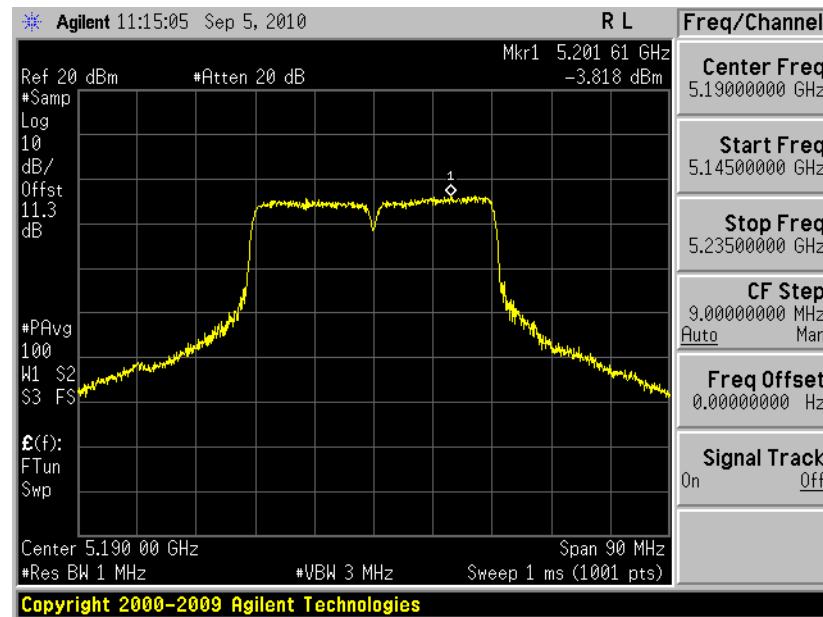
|                        |                                |                            |         |
|------------------------|--------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11n (HT-40) L/M/H channels | <b>Temperature :</b>       | 25~27°C |
| <b>Test Engineer :</b> | Lancelot Chen and Alan Liu     | <b>Relative Humidity :</b> | 41~44%  |

| Channel | Frequency (MHz) | 802.11n (HT-40)<br>Measured PSD (dBm) |         |           | Max. Limits (dBm ) | Pass/Fail |
|---------|-----------------|---------------------------------------|---------|-----------|--------------------|-----------|
|         |                 | Chain 0                               | Chain 1 | Summation |                    |           |
| 38      | 5190            | -3.82                                 | -4.12   | -0.96     | 3.92               | Pass      |
| 46      | 5230            | -0.59                                 | -1.17   | 2.14      | 3.92               | Pass      |
| 54      | 5270            | -2.17                                 | -2.54   | 0.66      | 10.92              | Pass      |
| 62      | 5310            | -6.58                                 | -6.39   | -3.47     | 10.92              | Pass      |
| 102     | 5510            | -1.10                                 | -0.07   | 2.46      | 9.23               | Pass      |
| 118     | 5590            | -1.34                                 | 0.22    | 2.52      | 9.23               | Pass      |
| 134     | 5670            | -1.68                                 | -0.22   | 2.12      | 9.23               | Pass      |

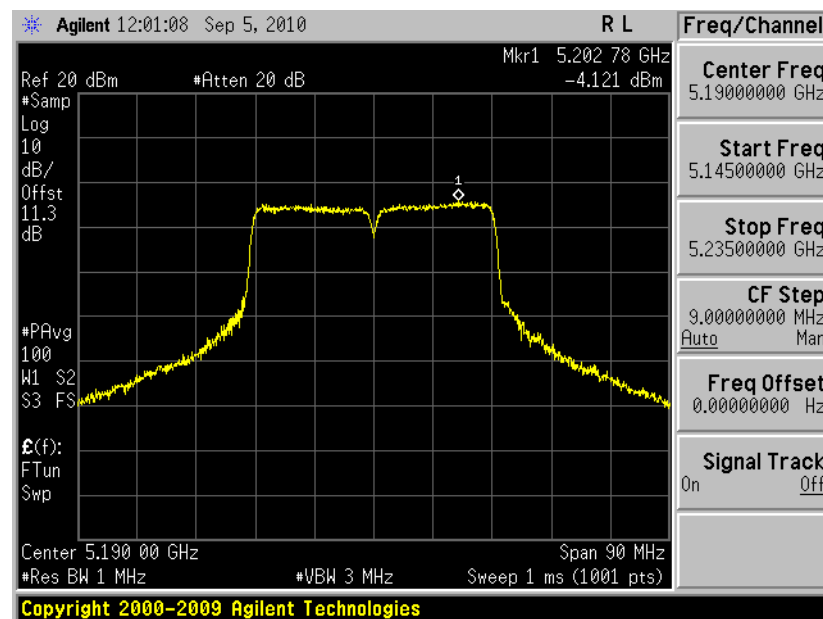
**Note:** The maximum composite antenna gain is 6.08 for 5150 MHz ~ 5350 MHz and 7.77 dBi for 5470 MHz ~ 5725 MHz; therefore the limits are 3.92 dBm for 5150 MHz ~ 5250 MHz, 10.92 dBm for 5250 MHz ~ 5350 MHz and 9.23 dBm for 5470 MHz ~ 5725 MHz.



PSD Plot on 802.11n (HT-40) Channel 38 - Chain 0

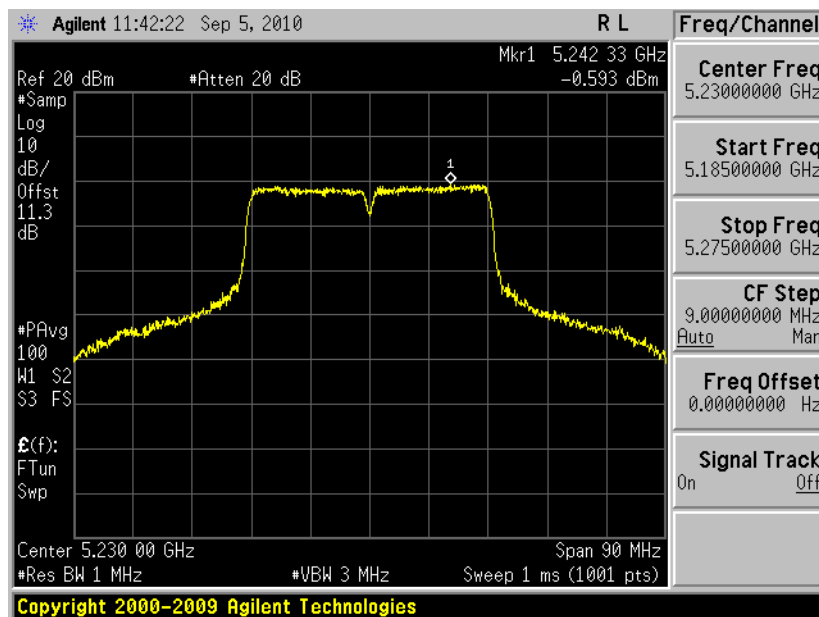


PSD Plot on 802.11n (HT-40) Channel 38 - Chain 1

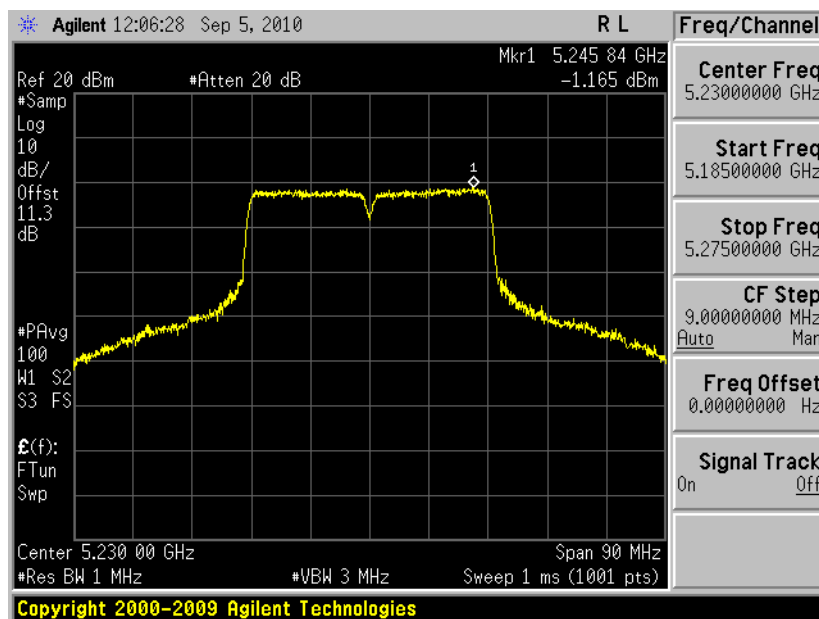




## PSD Plot on 802.11n (HT-40) Channel 46 - Chain 0

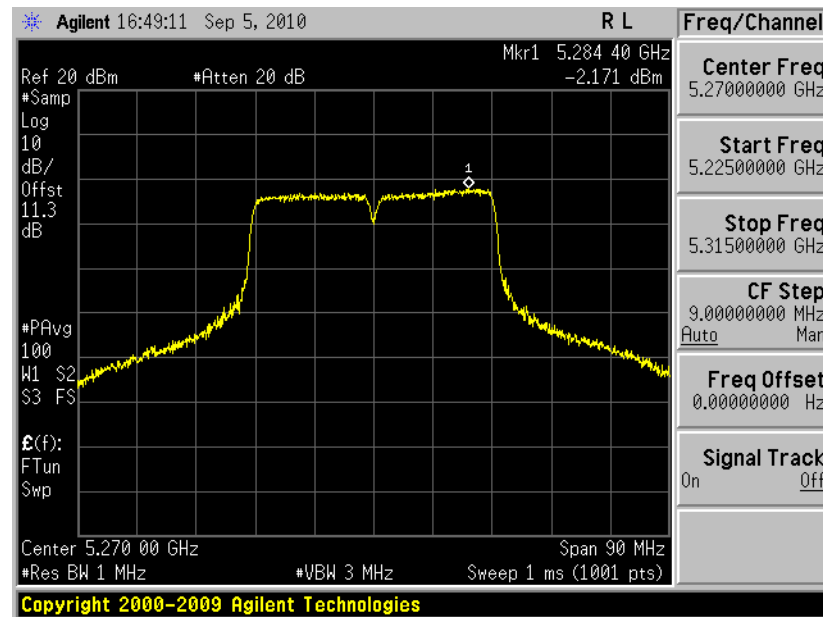


## PSD Plot on 802.11n (HT-40) Channel 46 - Chain 1

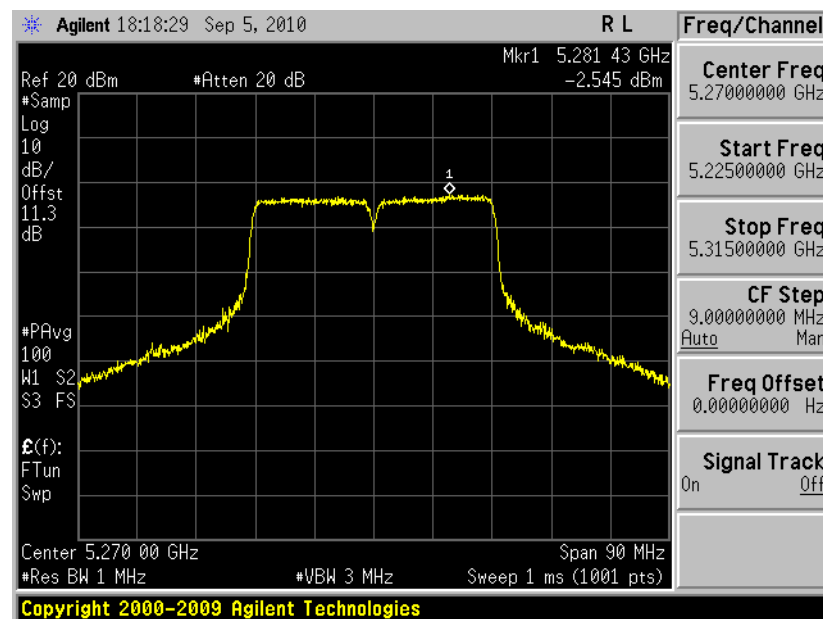




PSD Plot on 802.11n (HT-40) Channel 54 - Chain 0

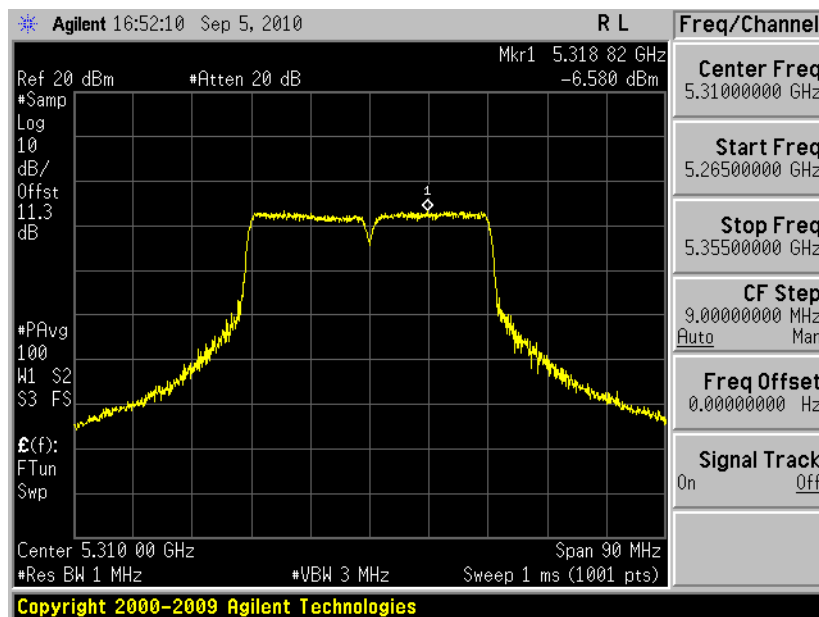


PSD Plot on 802.11n (HT-40) Channel 54 - Chain 1

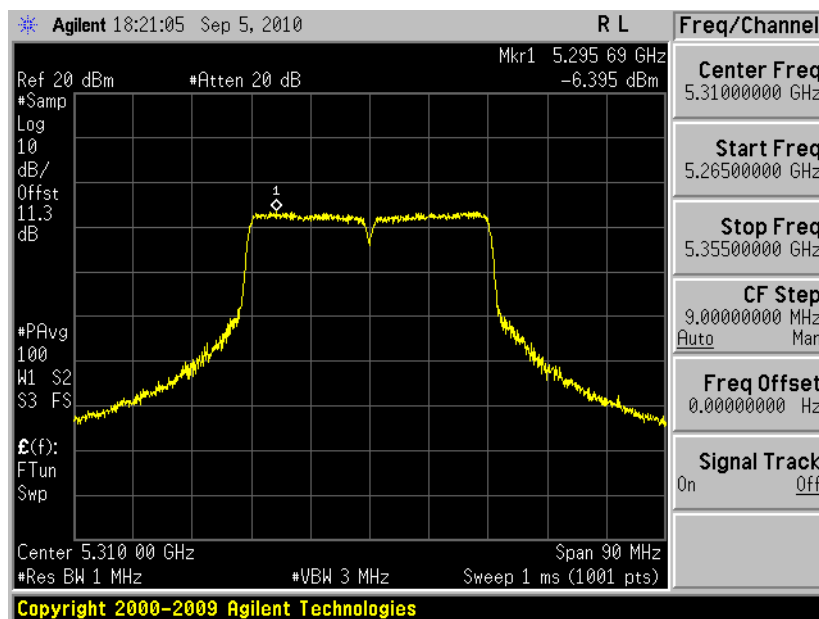


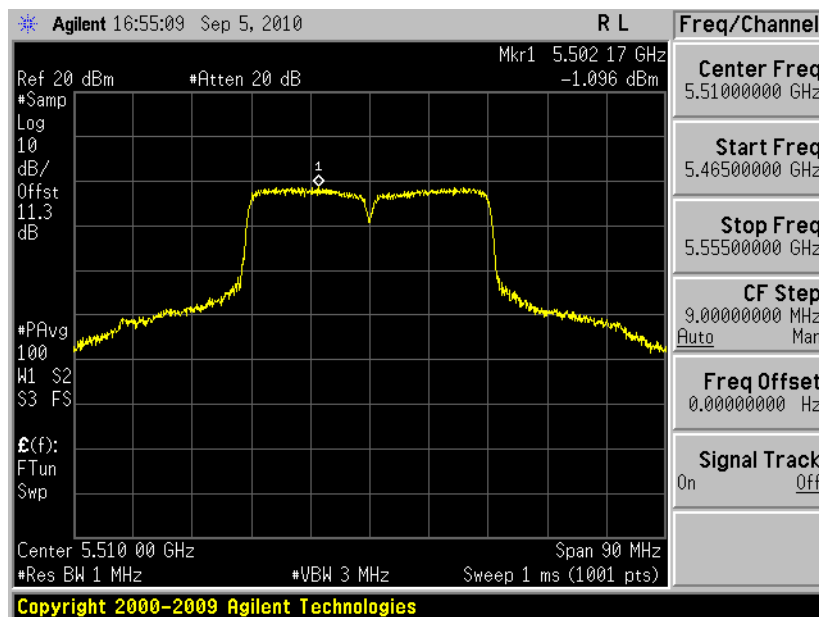
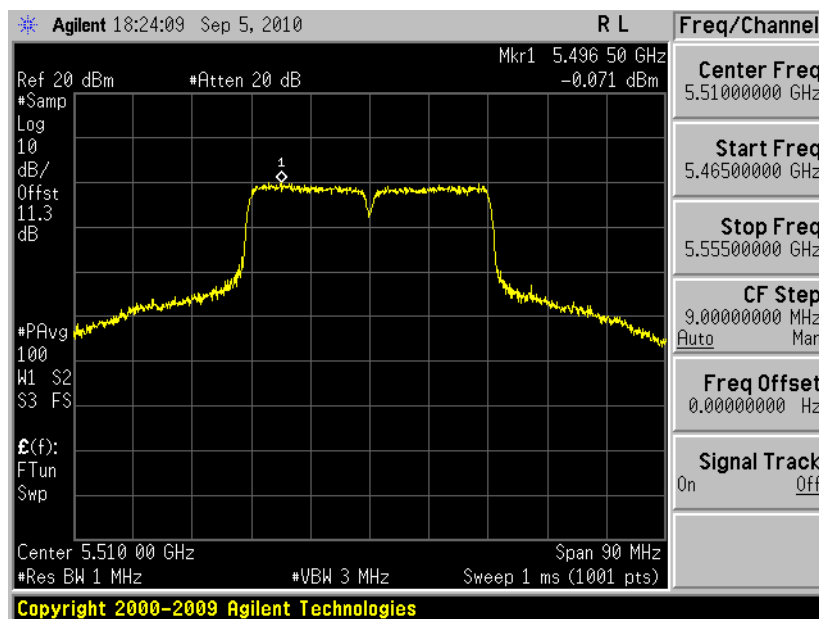


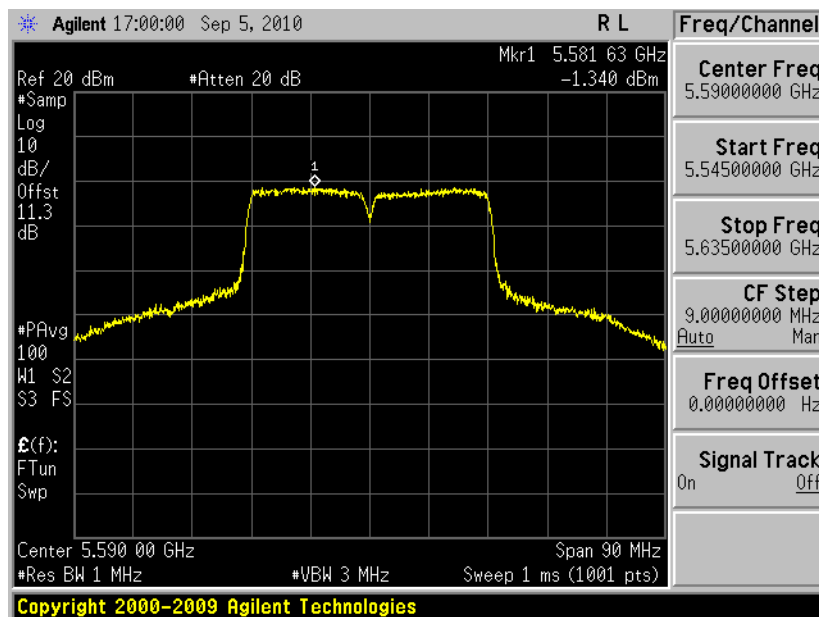
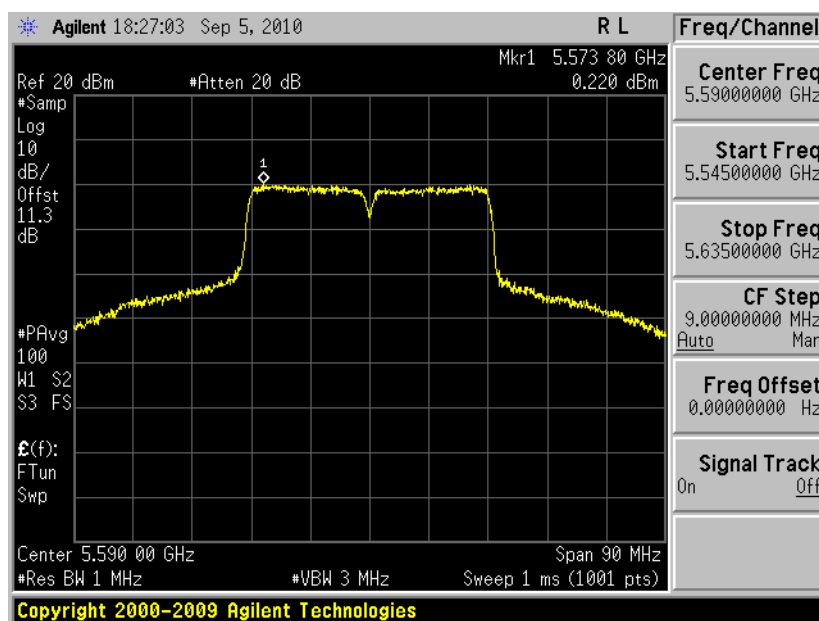
## PSD Plot on 802.11n (HT-40) Channel 62 - Chain 0



## PSD Plot on 802.11n (HT-40) Channel 62 - Chain 1

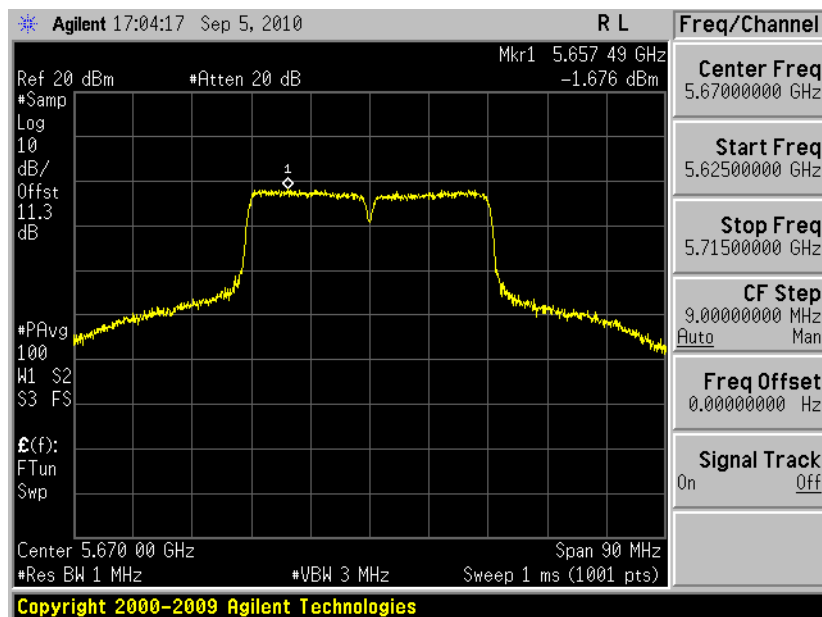


**PSD Plot on 802.11n (HT-40) Channel 102 - Chain 0**

**PSD Plot on 802.11n (HT-40) Channel 102 - Chain 1**


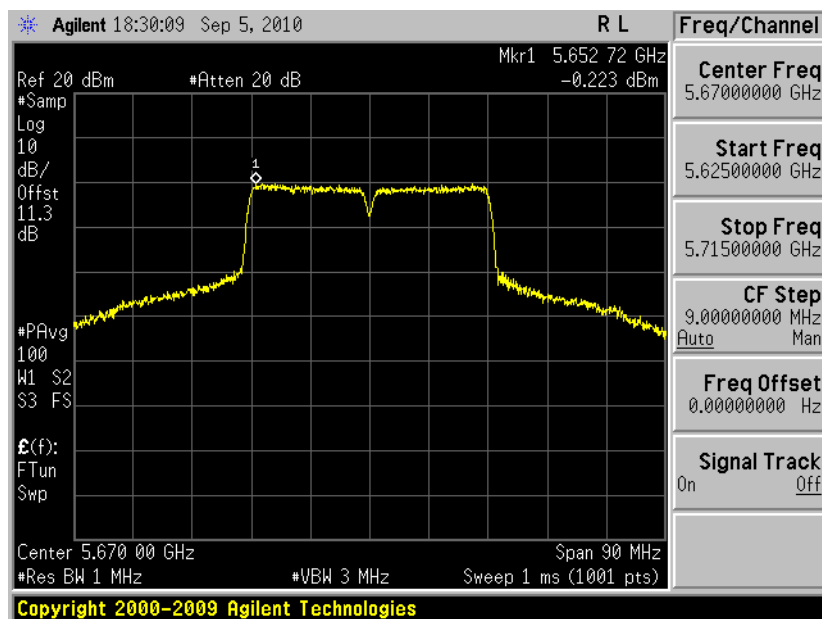
**PSD Plot on 802.11n (HT-40) Channel 118 - Chain 0**

**PSD Plot on 802.11n (HT-40) Channel 118 - Chain 1**




## PSD Plot on 802.11n (HT-40) Channel 134 - Chain 0



## PSD Plot on 802.11n (HT-40) Channel 134 - Chain 1



### 3.3 Average Power Measurement

#### 3.3.1 Limit of Average Power

None; for reporting purposes only.

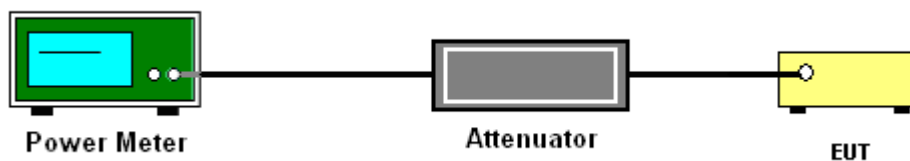
#### 3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

#### 3.3.3 Test Procedures

1. The RF output of EUT was connected to the power meter by a low loss cable.
2. Measure the power by power meter.

#### 3.3.4 Test Setup



### 3.3.5 Test Result of Average Power

|                        |                            |                            |         |
|------------------------|----------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11a L/M/H channels     | <b>Temperature :</b>       | 25~27°C |
| <b>Test Engineer :</b> | Lancelot Chen and Alan Liu | <b>Relative Humidity :</b> | 41~44%  |

| Channel | Frequency (MHz) | 802.11a<br>Measured Output Power (dBm) |         |             |
|---------|-----------------|----------------------------------------|---------|-------------|
|         |                 | Chain 0                                | Chain 1 | Total Power |
| 36      | 5180            | 11.94                                  | 11.99   | 14.98       |
| 44      | 5220            | 11.73                                  | 11.73   | 14.74       |
| 48      | 5240            | 12.08                                  | 12.11   | 15.11       |
| 52      | 5260            | 15.43                                  | 14.21   | 17.87       |
| 60      | 5300            | 15.20                                  | 13.46   | 17.43       |
| 64      | 5320            | 14.66                                  | 13.40   | 17.09       |
| 100     | 5500            | 15.27                                  | 14.26   | 17.80       |
| 120     | 5600            | 14.08                                  | 14.09   | 17.10       |
| 140     | 5700            | 13.60                                  | 15.89   | 17.90       |

|                        |                                |                            |         |
|------------------------|--------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11n (HT-20) L/M/H channels | <b>Temperature :</b>       | 25~27°C |
| <b>Test Engineer :</b> | Lancelot Chen and Alan Liu     | <b>Relative Humidity :</b> | 41~44%  |

| Channel | Frequency (MHz) | 802.11n (HT-20)<br>Measured Output Power (dBm) |         |             |
|---------|-----------------|------------------------------------------------|---------|-------------|
|         |                 | Chain 0                                        | Chain 1 | Total Power |
| 36      | 5180            | 12.21                                          | 11.98   | 15.11       |
| 44      | 5220            | 12.81                                          | 12.16   | 15.51       |
| 48      | 5240            | 14.36                                          | 12.45   | 16.52       |
| 52      | 5260            | 15.03                                          | 13.53   | 17.35       |
| 60      | 5300            | 15.14                                          | 13.44   | 17.38       |
| 64      | 5320            | 14.54                                          | 13.34   | 16.99       |
| 100     | 5500            | 15.52                                          | 14.95   | 18.25       |
| 120     | 5600            | 14.06                                          | 14.16   | 17.12       |
| 140     | 5700            | 13.64                                          | 16.08   | 18.04       |

|                        |                                |                            |         |
|------------------------|--------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11n (HT-40) L/M/H channels | <b>Temperature :</b>       | 25~27°C |
| <b>Test Engineer :</b> | Lancelot Chen and Alan Liu     | <b>Relative Humidity :</b> | 41~44%  |

| Channel | Frequency (MHz) | 802.11n (HT-40)<br>Measured Output Power (dBm) |         |             |
|---------|-----------------|------------------------------------------------|---------|-------------|
|         |                 | Chain 0                                        | Chain 1 | Total Power |
| 38      | 5190            | 11.65                                          | 10.88   | 14.29       |
| 46      | 5230            | 14.91                                          | 13.40   | 17.23       |
| 54      | 5270            | 13.23                                          | 11.87   | 15.61       |
| 62      | 5310            | 9.19                                           | 8.62    | 11.92       |
| 102     | 5510            | 14.27                                          | 13.74   | 17.02       |
| 118     | 5590            | 14.44                                          | 13.90   | 17.19       |
| 134     | 5670            | 14.42                                          | 16.40   | 18.53       |

### 3.4 Output Power Measurement

#### 3.4.1 Limit of Maximum Output Power

For the band 5.15~5.25 GHz, the maximum output power shall not exceed the lesser of 50 mW (17dBm) or  $4 \text{ dBm} + 10\log B$ , where B is the 26 dB emissions bandwidth in MHz. If transmitting antenna directional gain is greater than 6 dBi, the peak output power and power density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power shall not exceed the lesser of 250 mW (24dBm) or  $11 \text{ dBm} + 10\log B$ . If transmitting antenna directional gain is greater than 6 dBi, the peak output power and power density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

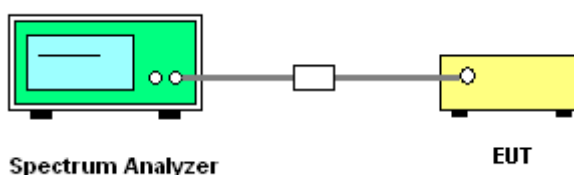
#### 3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

#### 3.4.3 Test Procedures

1. The testing follows FCC Public Notice DA 02-2138 (Measurement Guidelines of UNII).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Measure the power and record it.

#### 3.4.4 Test Setup



### 3.4.5 Test Result of Output Power

|                        |                            |                            |         |
|------------------------|----------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11a L/M/H channels     | <b>Temperature :</b>       | 25~27°C |
| <b>Test Engineer :</b> | Lancelot Chen and Alan Liu | <b>Relative Humidity :</b> | 41~44%  |

| Channel | Frequency (MHz) | 802.11a<br>Measured Output Power (dBm) |         |           | Max. Limits (dBm ) | Pass/Fail |
|---------|-----------------|----------------------------------------|---------|-----------|--------------------|-----------|
|         |                 | Chain 0                                | Chain 1 | Summation |                    |           |
| 36      | 5180            | 11.94                                  | 11.31   | 14.65     | 16.92              | Pass      |
| 44      | 5220            | 11.66                                  | 11.08   | 14.39     | 16.92              | Pass      |
| 48      | 5240            | 11.74                                  | 11.71   | 14.74     | 16.92              | Pass      |
| 52      | 5260            | 14.82                                  | 14.72   | 17.78     | 23.92              | Pass      |
| 60      | 5300            | 15.21                                  | 13.44   | 17.42     | 23.92              | Pass      |
| 64      | 5320            | 14.37                                  | 12.95   | 16.73     | 23.92              | Pass      |
| 100     | 5500            | 14.84                                  | 14.92   | 17.89     | 22.23              | Pass      |
| 120     | 5600            | 13.59                                  | 14.07   | 16.85     | 22.23              | Pass      |
| 140     | 5700            | 13.12                                  | 15.89   | 17.73     | 22.23              | Pass      |

**Note:** The maximum composite antenna gain is 6.08 for 5150 MHz ~ 5350 MHz and 7.77 dBi for 5470 MHz ~ 5725 MHz; therefore the limits are 16.92 dBm for 5150 MHz ~ 5250 MHz, 23.92 dBm for 5250 MHz ~ 5350 MHz and 22.23 dBm for 5470 MHz ~ 5725 MHz.

|                        |                                |                            |         |
|------------------------|--------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11n (HT-20) L/M/H channels | <b>Temperature :</b>       | 25~27°C |
| <b>Test Engineer :</b> | Lancelot Chen and Alan Liu     | <b>Relative Humidity :</b> | 41~44%  |

| Channel | Frequency (MHz) | 802.11n (HT-20)<br>Measured Output Power (dBm) |         |           | Max. Limits (dBm ) | Pass/Fail |
|---------|-----------------|------------------------------------------------|---------|-----------|--------------------|-----------|
|         |                 | Chain 0                                        | Chain 1 | Summation |                    |           |
| 36      | 5180            | 11.86                                          | 11.74   | 14.81     | 16.92              | Pass      |
| 44      | 5220            | 12.31                                          | 12.31   | 15.32     | 16.92              | Pass      |
| 48      | 5240            | 14.33                                          | 12.21   | 16.41     | 16.92              | Pass      |
| 52      | 5260            | 14.62                                          | 13.23   | 16.99     | 23.92              | Pass      |
| 60      | 5300            | 15.30                                          | 13.54   | 17.52     | 23.92              | Pass      |
| 64      | 5320            | 14.31                                          | 13.13   | 16.77     | 23.92              | Pass      |
| 100     | 5500            | 15.33                                          | 14.59   | 17.99     | 22.23              | Pass      |
| 120     | 5600            | 13.63                                          | 14.19   | 16.93     | 22.23              | Pass      |
| 140     | 5700            | 13.17                                          | 15.92   | 17.77     | 22.23              | Pass      |

**Note:** The maximum composite antenna gain is 6.08 for 5150 MHz ~ 5350 MHz and 7.77 dBi for 5470 MHz ~ 5725 MHz; therefore the limits are 16.92 dBm for 5150 MHz ~ 5250 MHz, 23.92 dBm for 5250 MHz ~ 5350 MHz and 22.23 dBm for 5470 MHz ~ 5725 MHz.

|                        |                                |                            |         |
|------------------------|--------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11n (HT-40) L/M/H channels | <b>Temperature :</b>       | 25~27°C |
| <b>Test Engineer :</b> | Lancelot Chen and Alan Liu     | <b>Relative Humidity :</b> | 41~44%  |

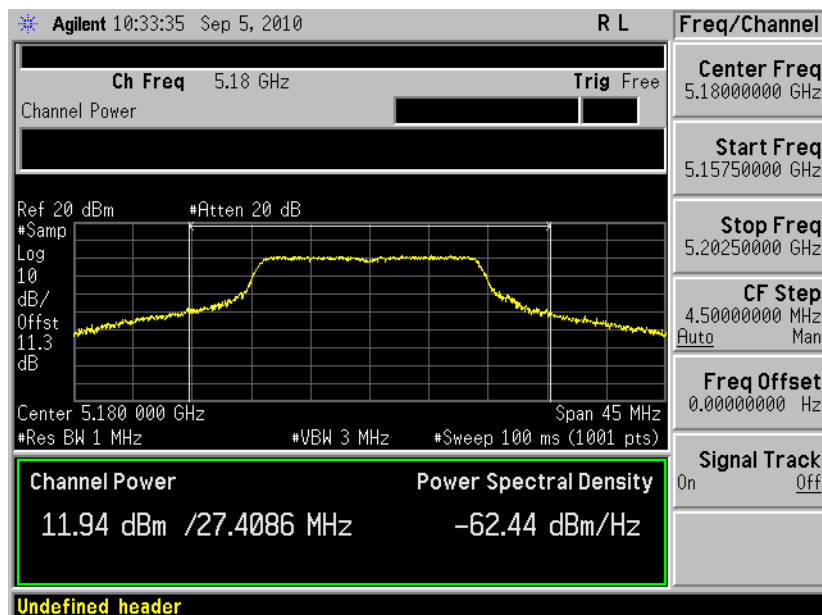
| Channel | Frequency (MHz) | 802.11n (HT-40)<br>Measured Output Power (dBm) |         |           | Max. Limits (dBm ) | Pass/Fail |
|---------|-----------------|------------------------------------------------|---------|-----------|--------------------|-----------|
|         |                 | Chain 0                                        | Chain 1 | Summation |                    |           |
| 38      | 5190            | 11.06                                          | 10.41   | 13.76     | 16.92              | Pass      |
| 46      | 5230            | 14.77                                          | 12.75   | 16.89     | 16.92              | Pass      |
| 54      | 5270            | 13.11                                          | 11.51   | 15.39     | 23.92              | Pass      |
| 62      | 5310            | 8.71                                           | 8.19    | 11.47     | 23.92              | Pass      |
| 102     | 5510            | 13.83                                          | 14.06   | 16.96     | 22.23              | Pass      |
| 118     | 5590            | 13.94                                          | 14.21   | 17.09     | 22.23              | Pass      |
| 134     | 5670            | 14.02                                          | 16.40   | 18.38     | 22.23              | Pass      |

**Note:** The maximum composite antenna gain is 6.08 for 5150 MHz ~ 5350 MHz and 7.77 dBi for 5470 MHz ~ 5725 MHz; therefore the limits are 16.92 dBm for 5150 MHz ~ 5250 MHz, 23.92 dBm for 5250 MHz ~ 5350 MHz and 22.23 dBm for 5470 MHz ~ 5725 MHz.

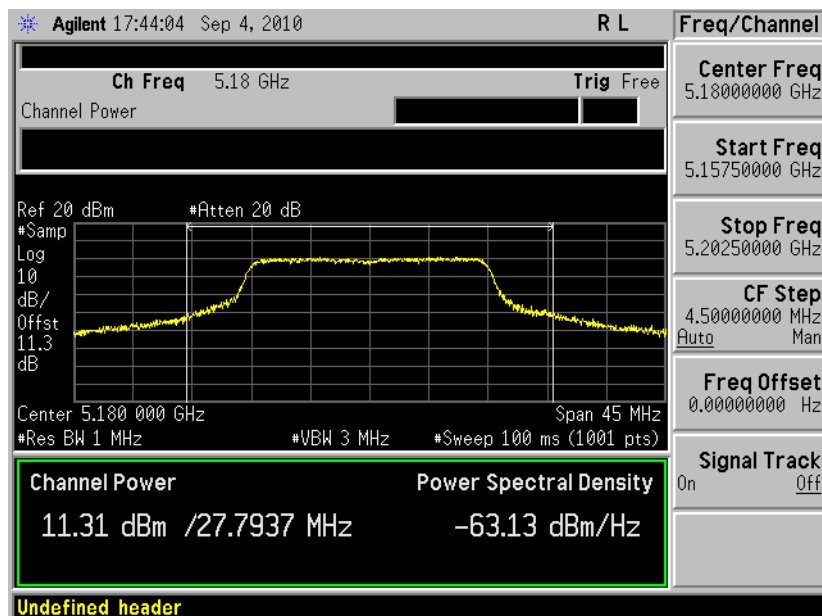


## 3.4.6 Test Result of Output Power Plots

Output Power Plot on 802.11a Channel 36 - Chain 0

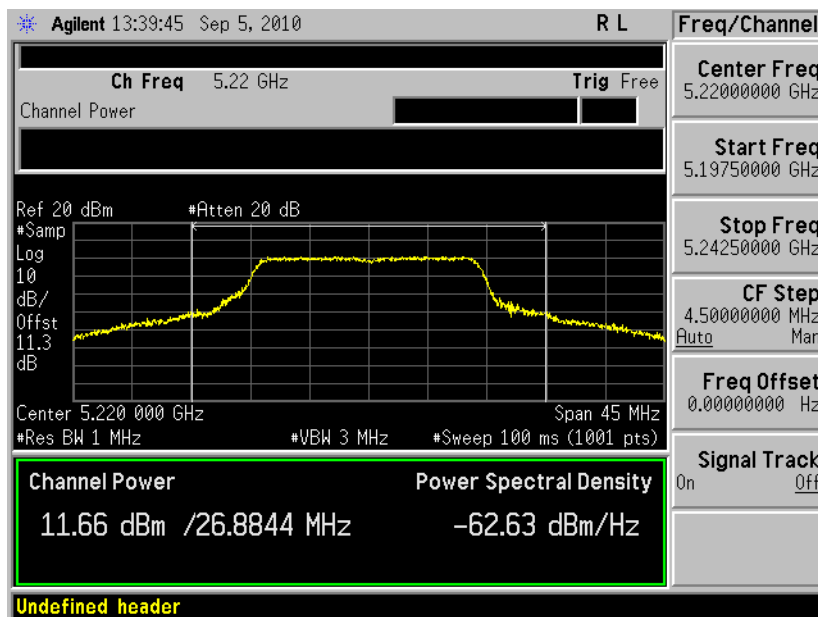


Output Power Plot on 802.11a Channel 36 - Chain 1

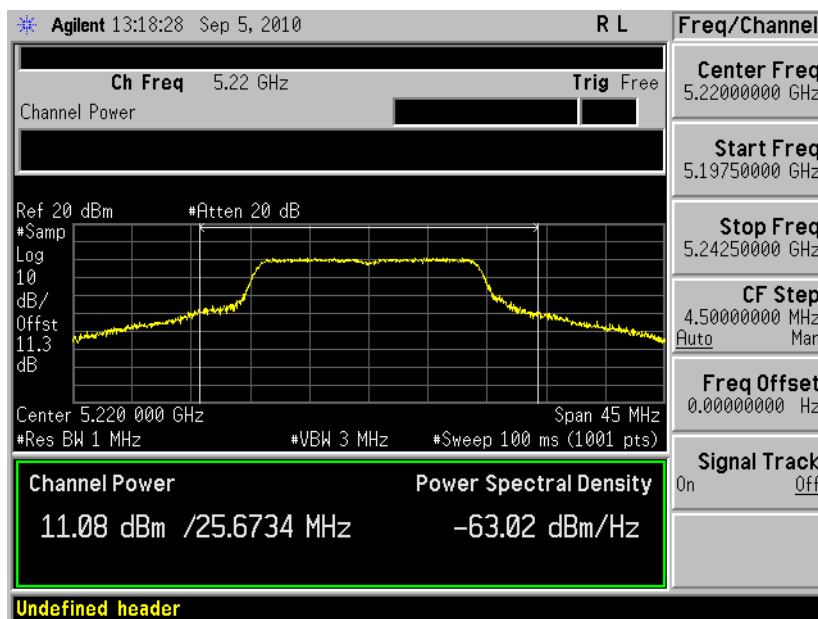




## Output Power Plot on 802.11a Channel 44 - Chain 0

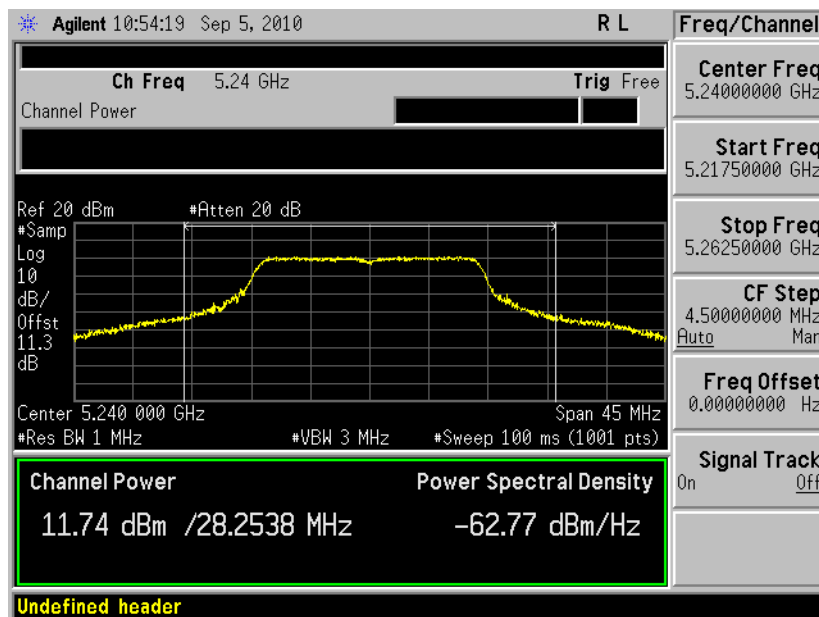


## Output Power Plot on 802.11a Channel 44 - Chain 1

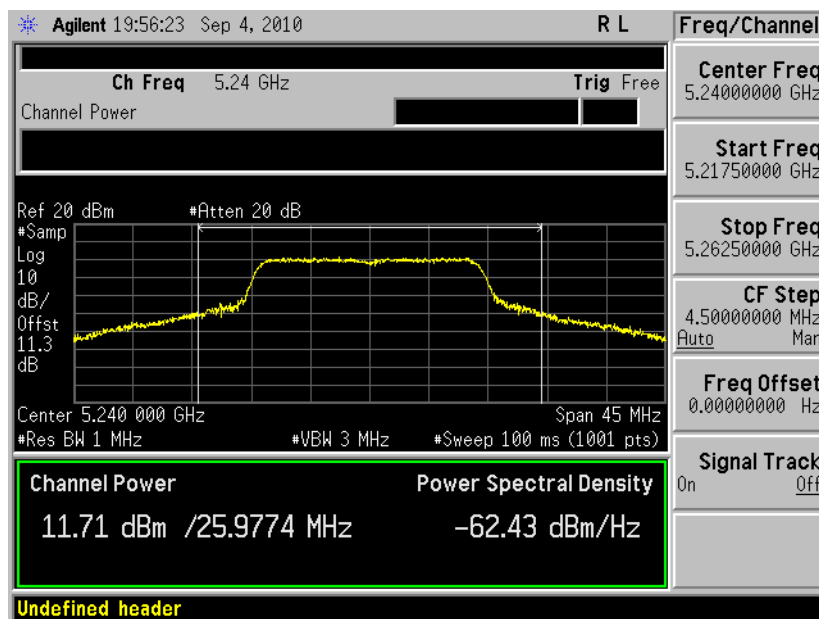




## Output Power Plot on 802.11a Channel 48 – Chain 0

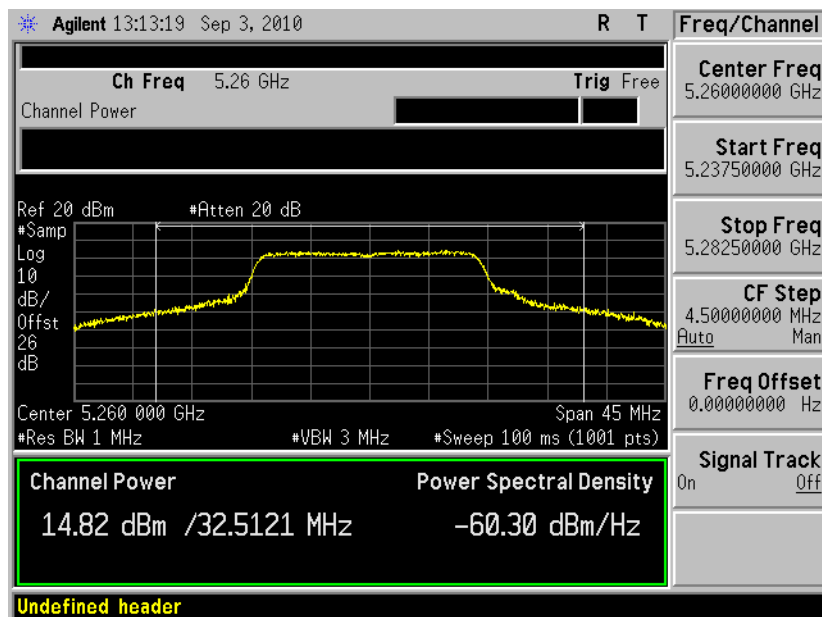


## Output Power Plot on 802.11a Channel 48 - Chain 1

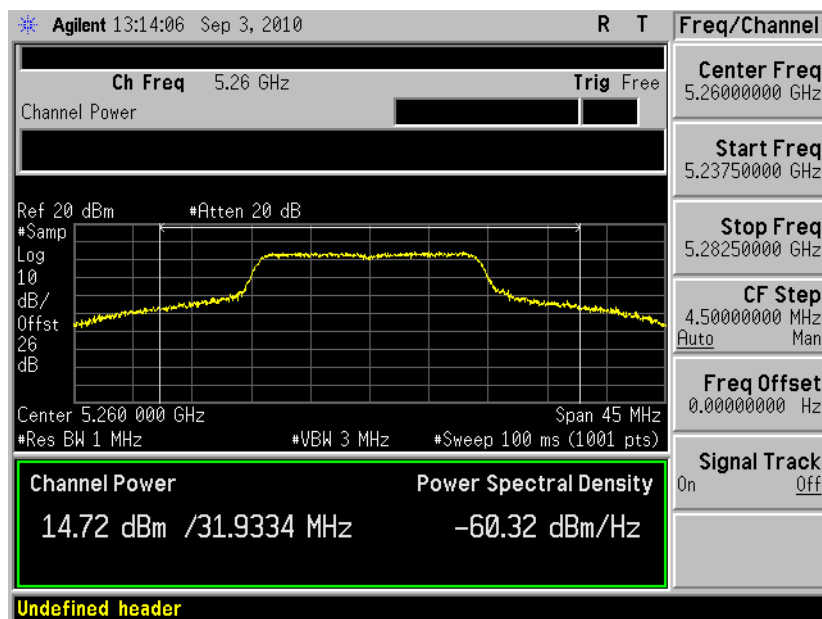




## Output Power Plot on 802.11a Channel 52 - Chain 0

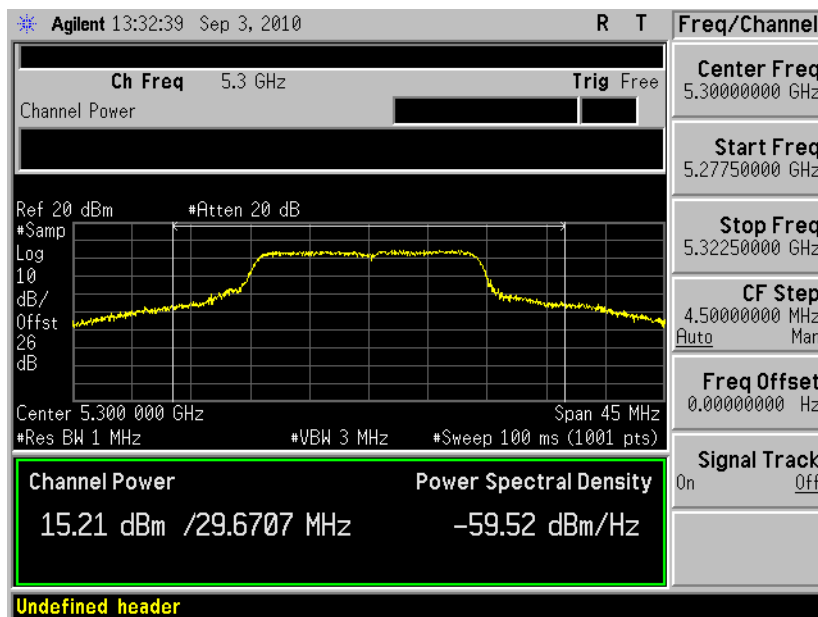


## Output Power Plot on 802.11a Channel 52 - Chain 1

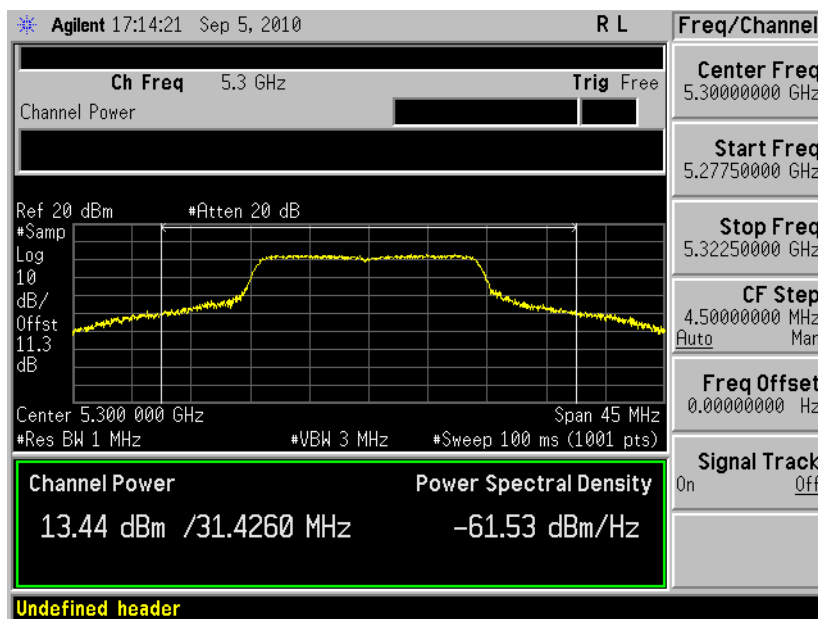




## Output Power Plot on 802.11a Channel 60 - Chain 0

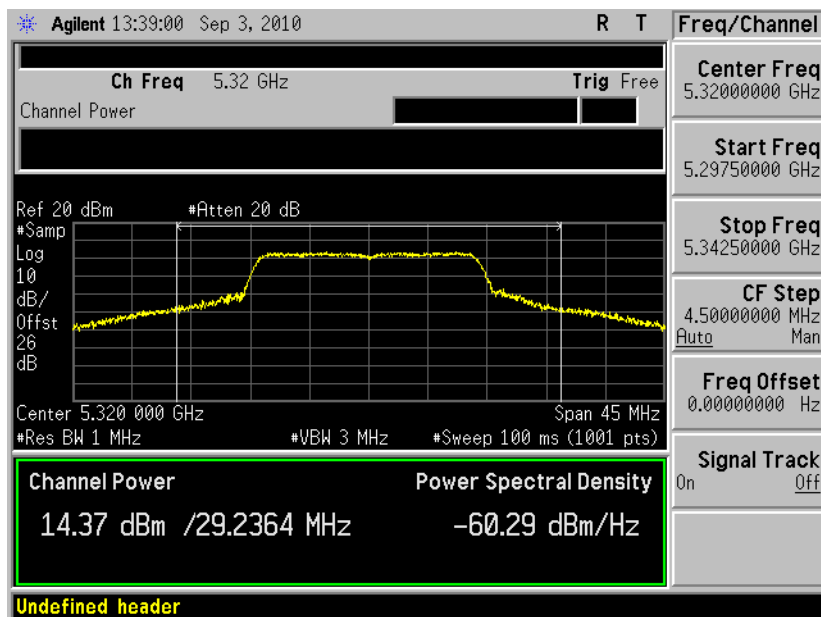


## Output Power Plot on 802.11a Channel 60 - Chain 1

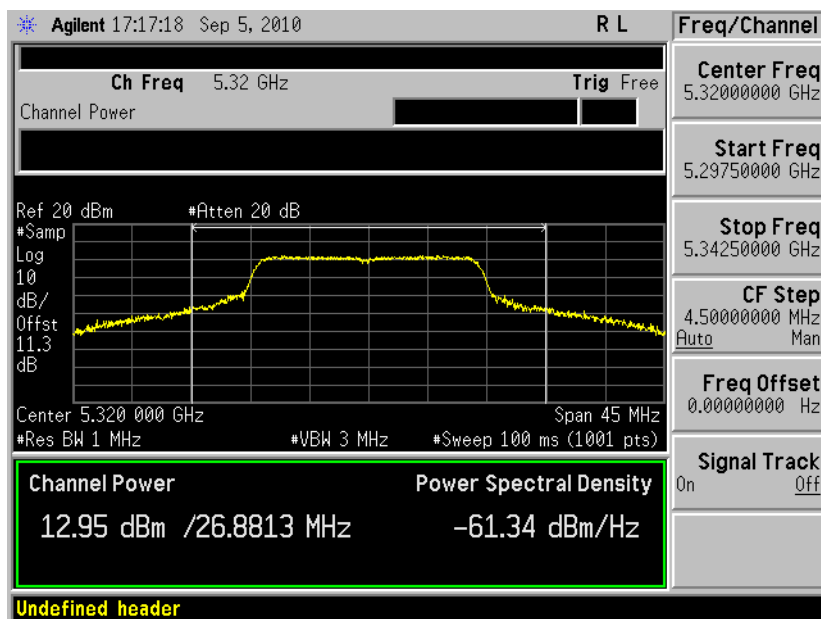




## Output Power Plot on 802.11a Channel 64 - Chain 0

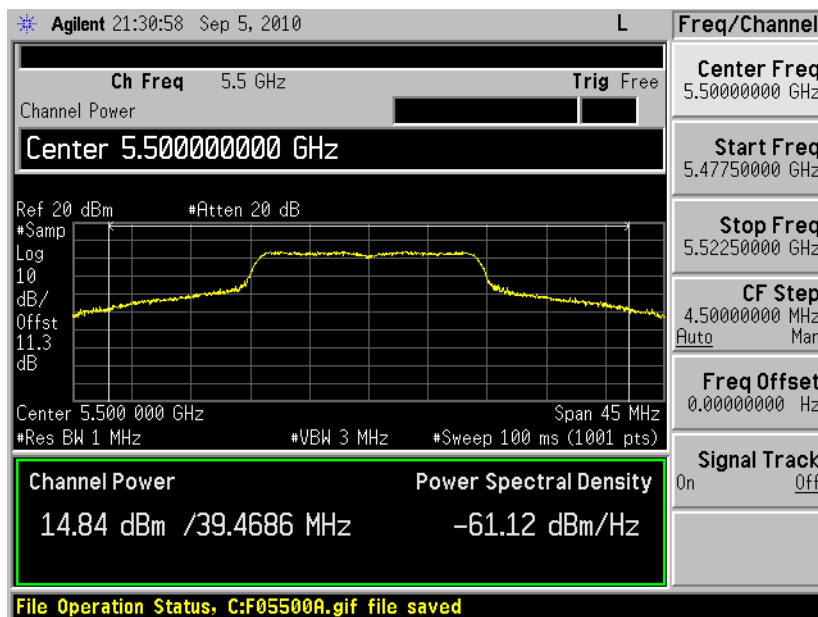


## Output Power Plot on 802.11a Channel 64 - Chain 1

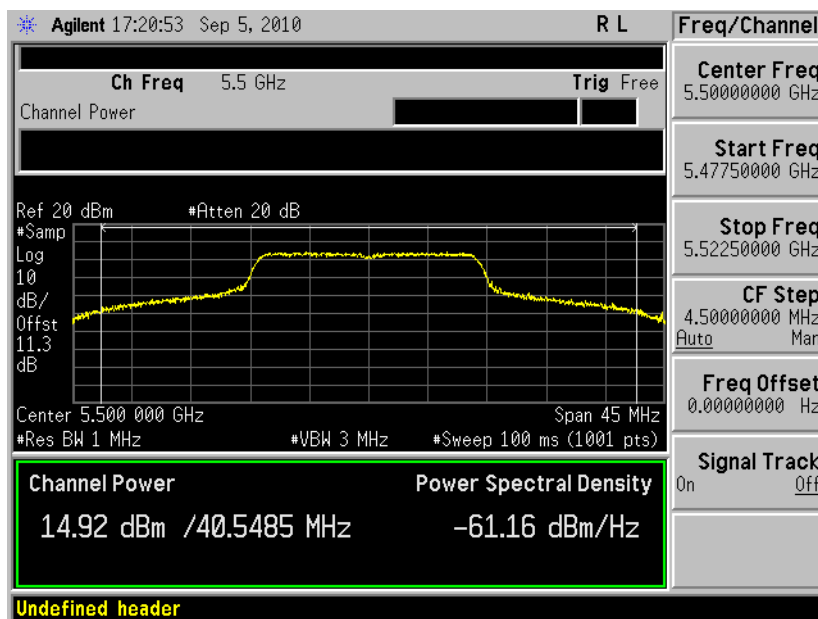




## Output Power Plot on 802.11a Channel 100 – Chain 0

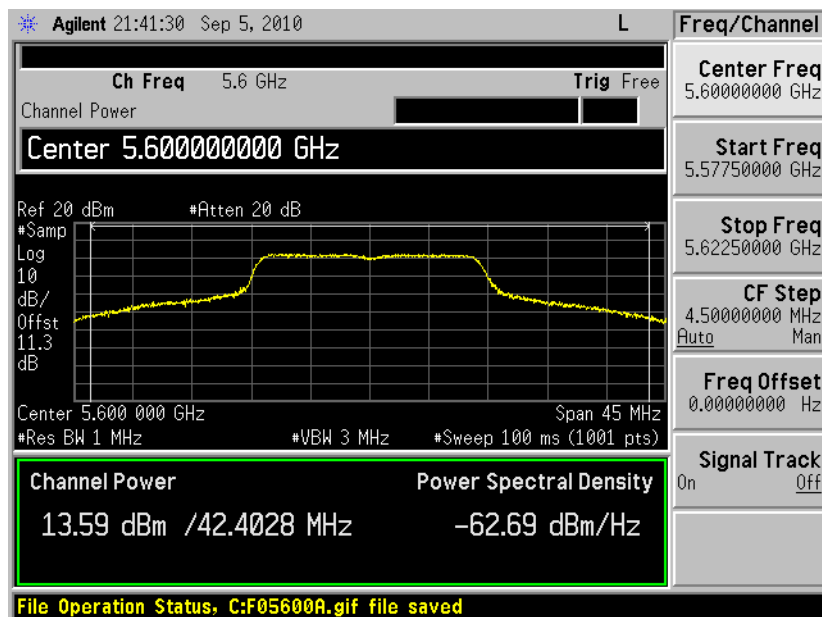


## Output Power Plot on 802.11a Channel 100 - Chain 1

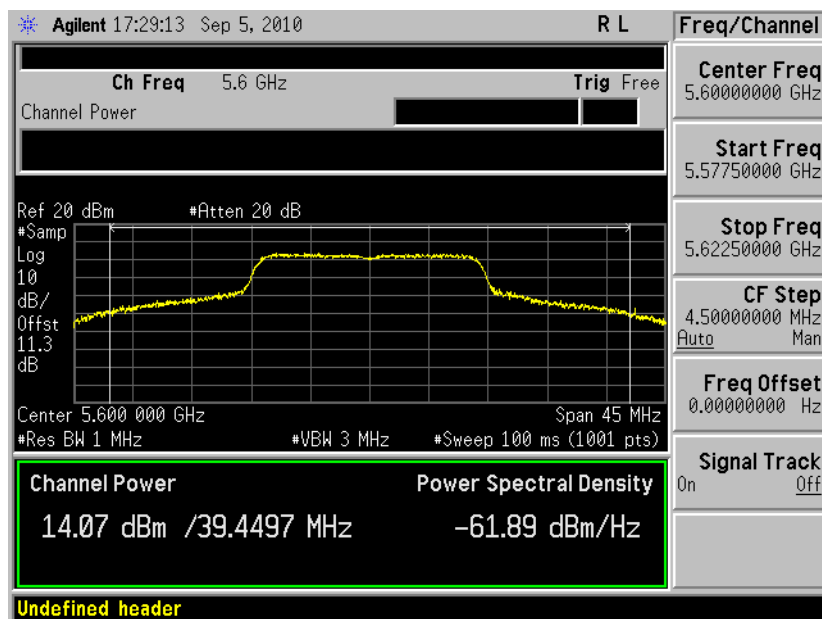




## Output Power Plot on 802.11a Channel 120 - Chain 0

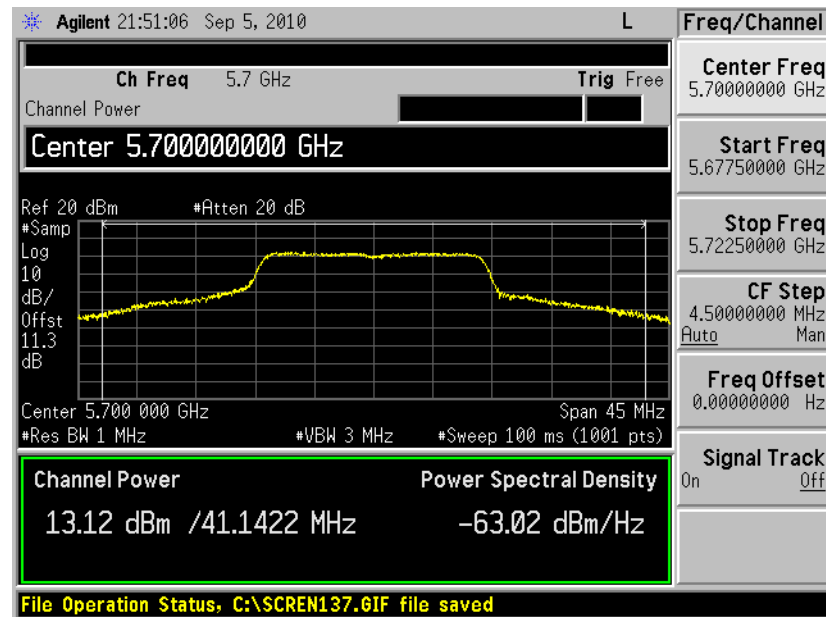


## Output Power Plot on 802.11a Channel 120 - Chain 1

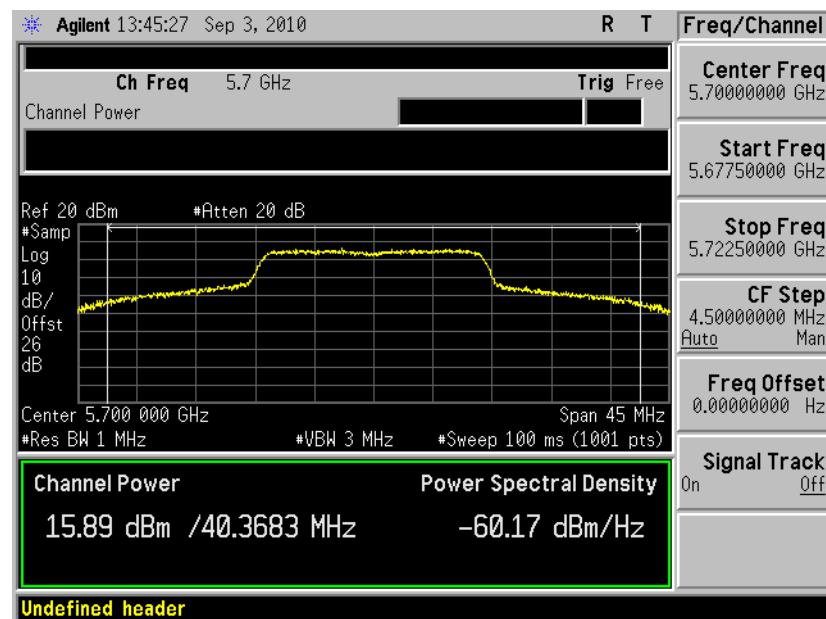




## Output Power Plot on 802.11a Channel 140 - Chain 0

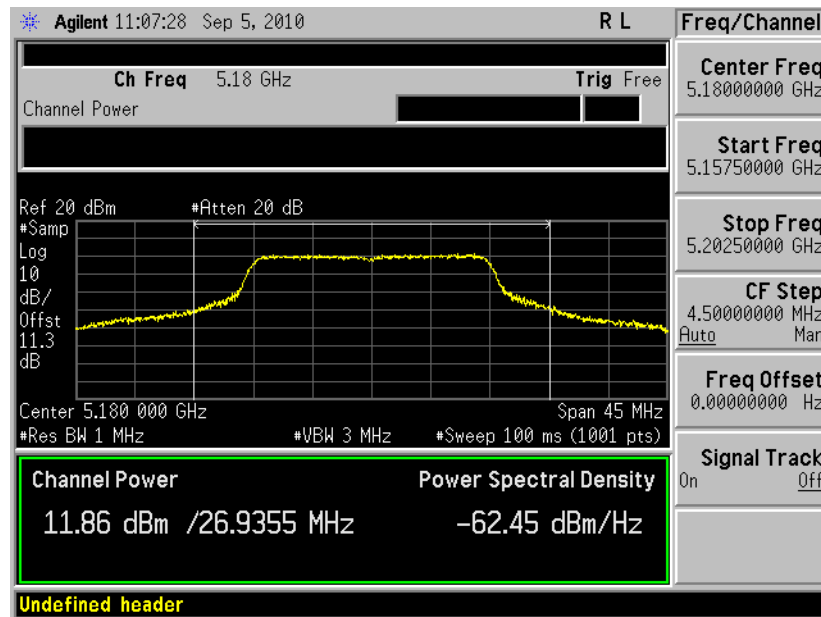


## Output Power Plot on 802.11a Channel 140 - Chain 1

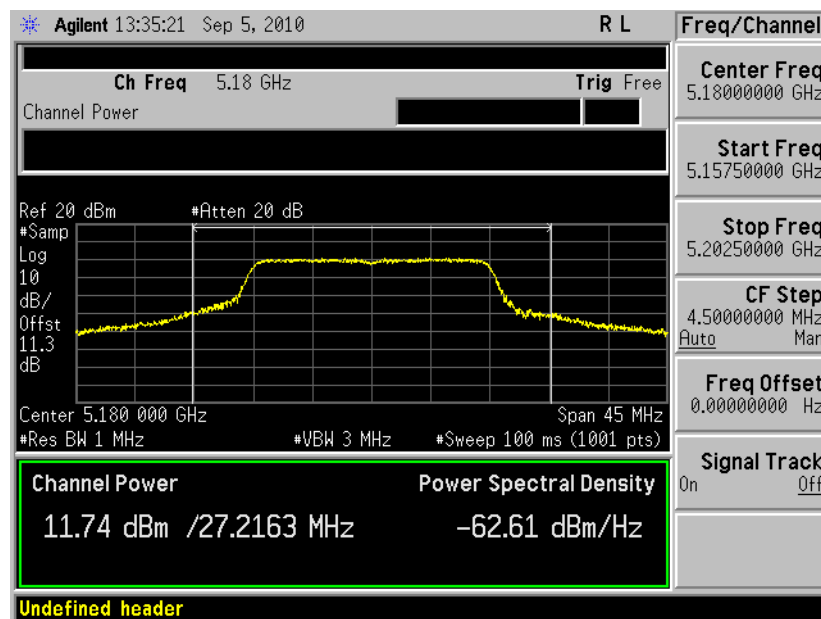




Output Power Plot on 802.11n (HT-20) Channel 36 - Chain 0

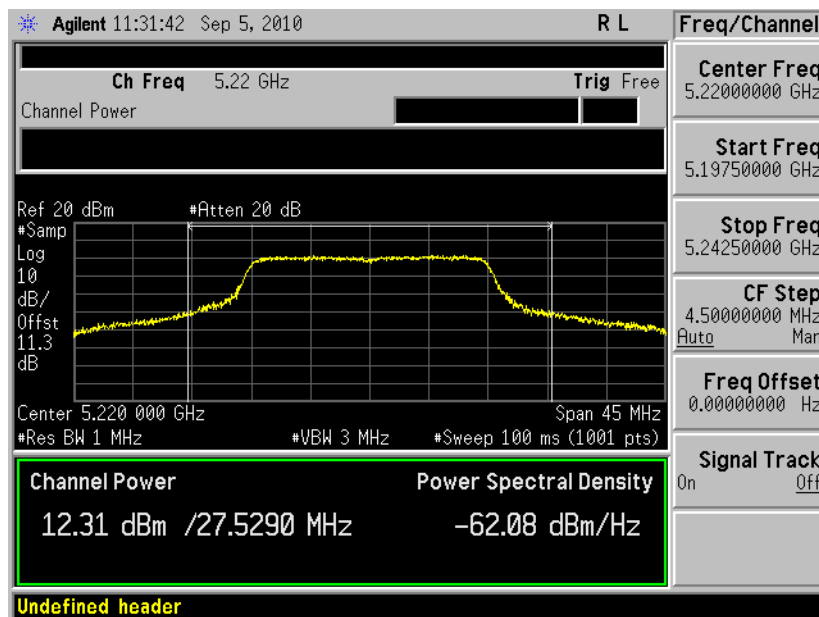


Output Power Plot on 802.11n (HT-20) Channel 36 - Chain 1

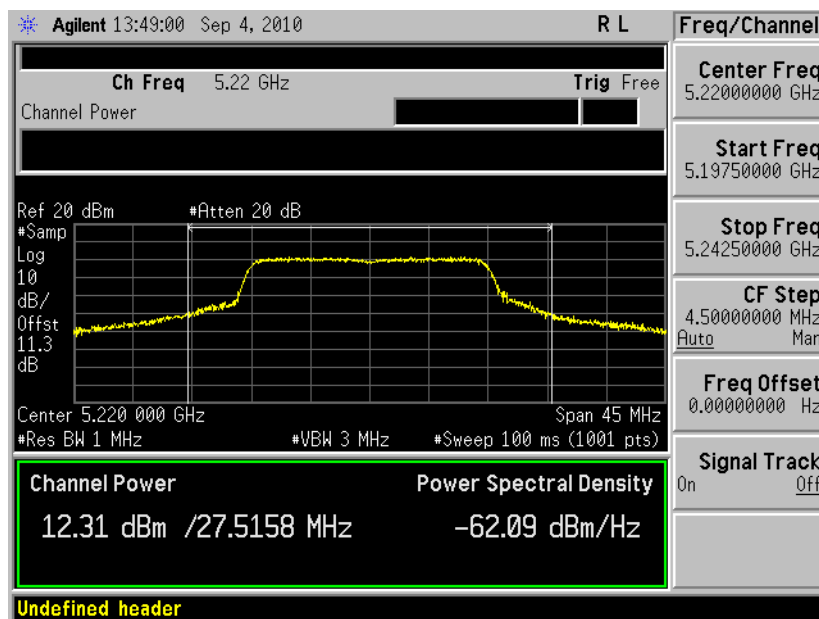


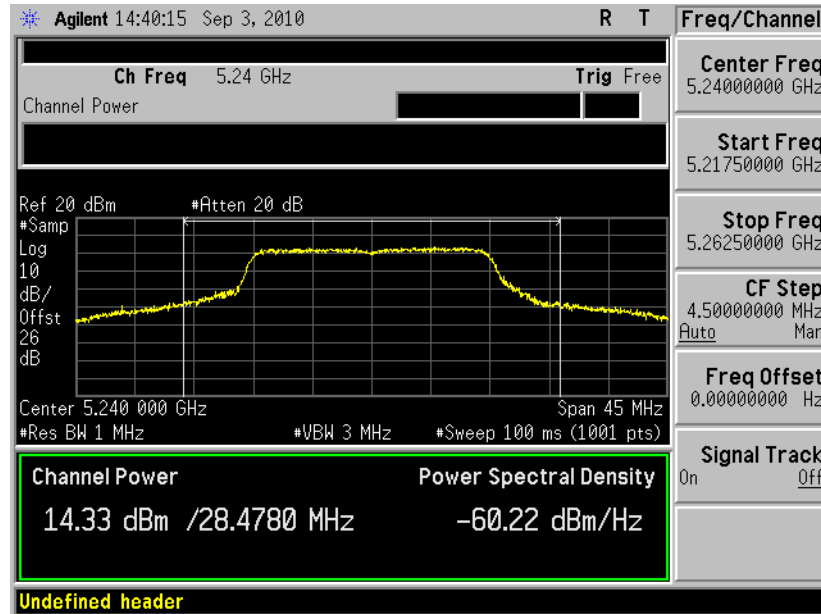
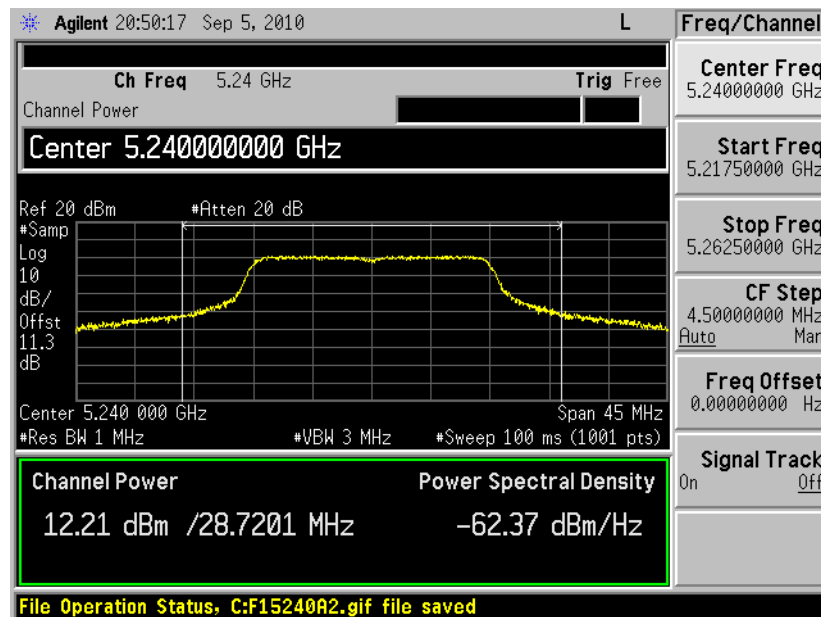


## Output Power Plot on 802.11n (HT-20) Channel 44 - Chain 0



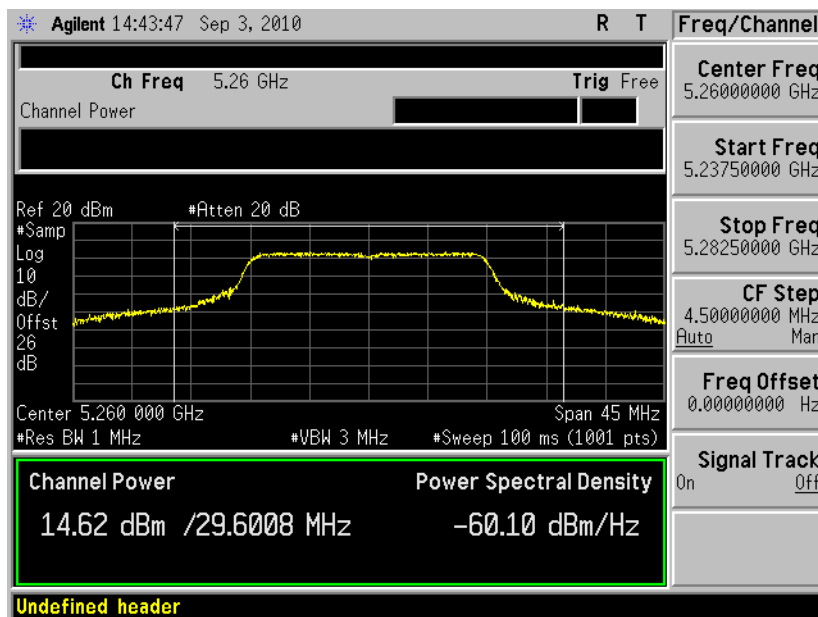
## Output Power Plot on 802.11n (HT-20) Channel 44 - Chain 1



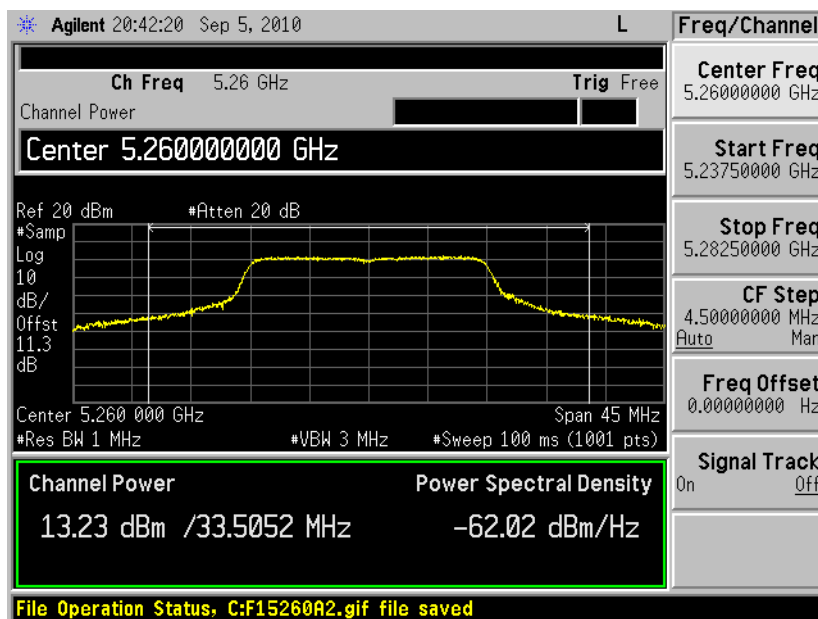
**Output Power Plot on 802.11n (HT-20) Channel 48 - Chain 0**

**Output Power Plot on 802.11n (HT-20) Channel 48 - Chain 1**




## Output Power Plot on 802.11n (HT-20) Channel 52 - Chain 0

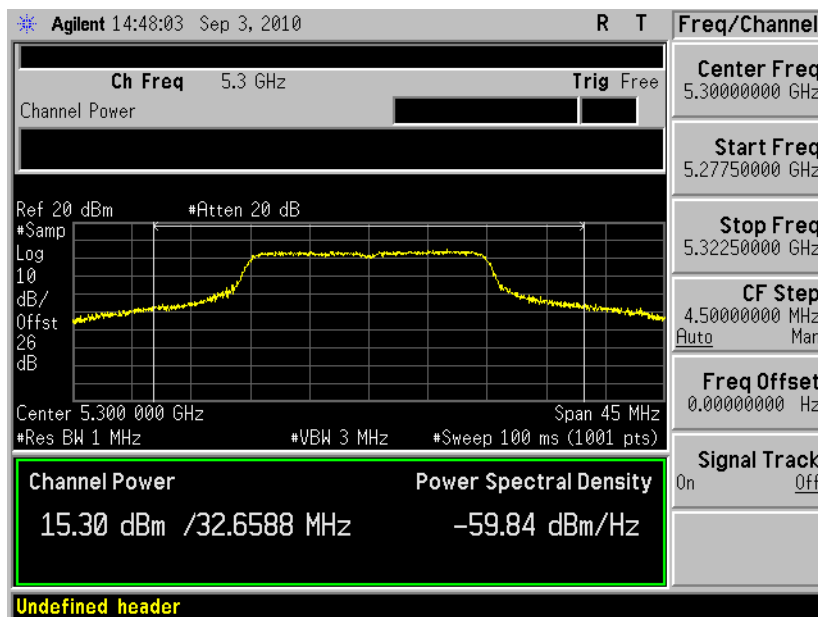


## Output Power Plot on 802.11n (HT-20) Channel 52 - Chain 1

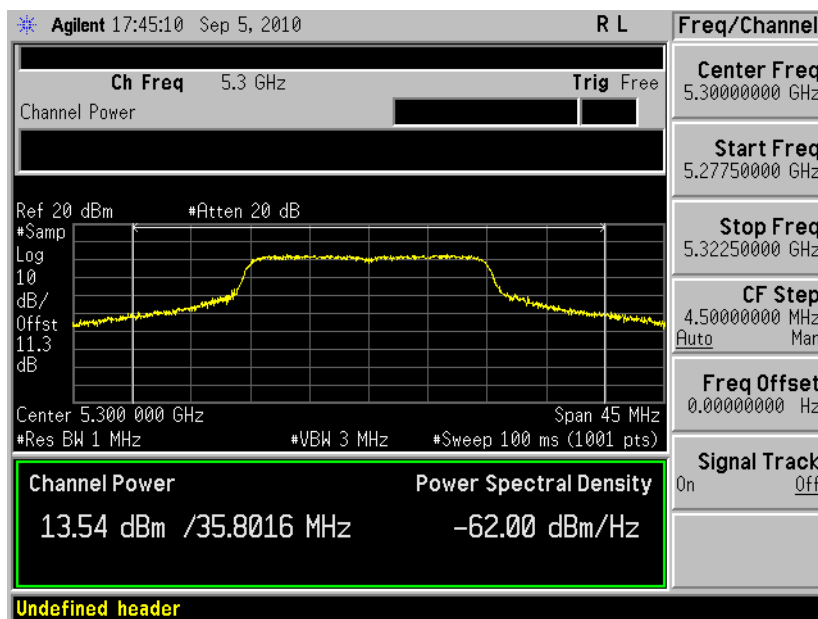




## Output Power Plot on 802.11n (HT-20) Channel 60 - Chain 0

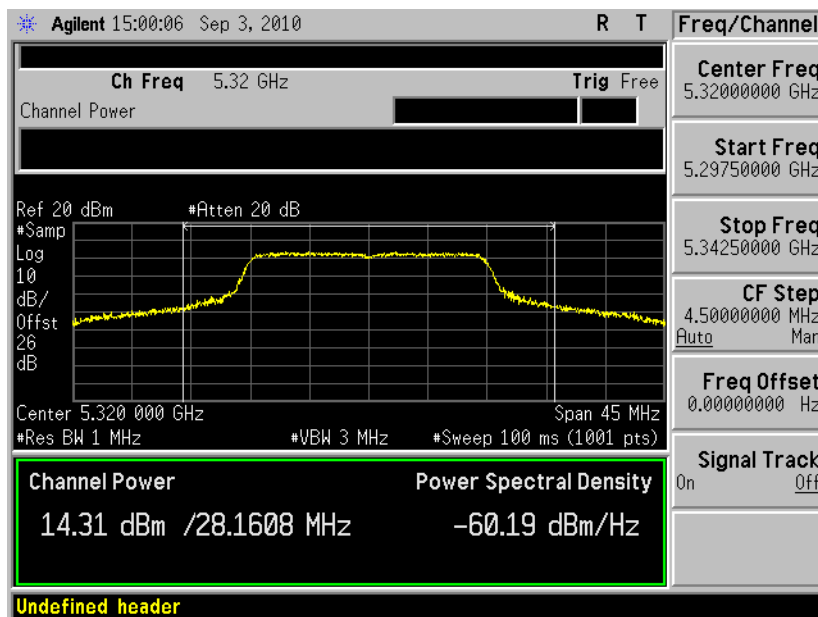


## Output Power Plot on 802.11n (HT-20) Channel 60 - Chain 1

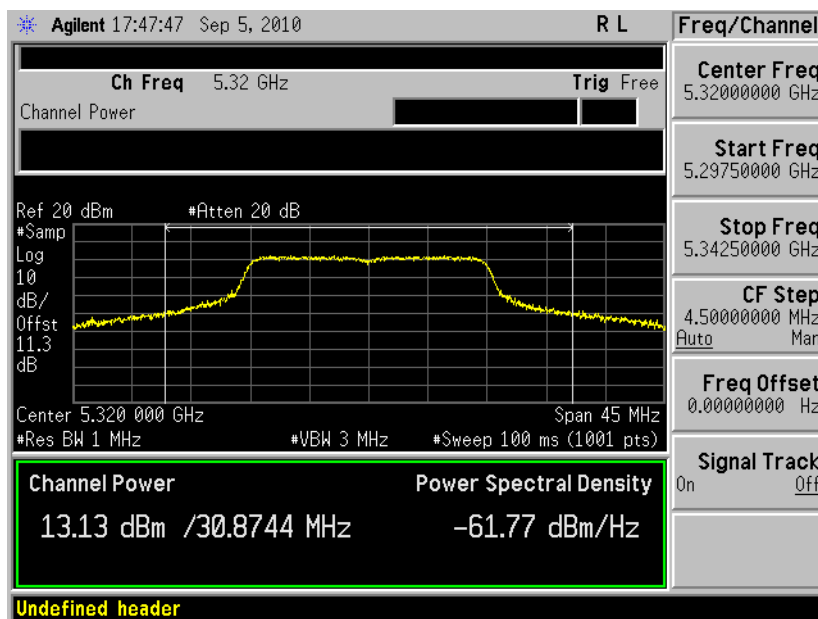




## Output Power Plot on 802.11n (HT-20) Channel 64 - Chain 0

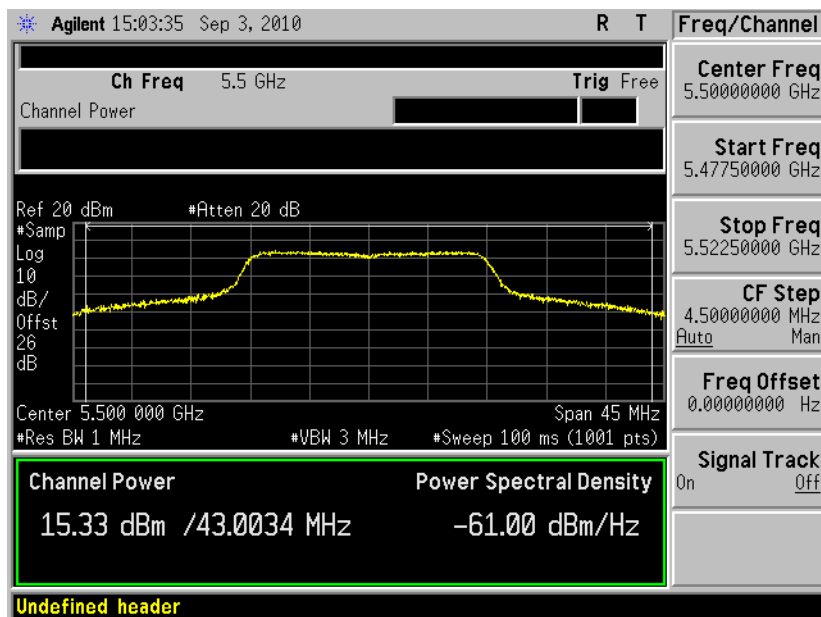


## Output Power Plot on 802.11n (HT-20) Channel 64 - Chain 1

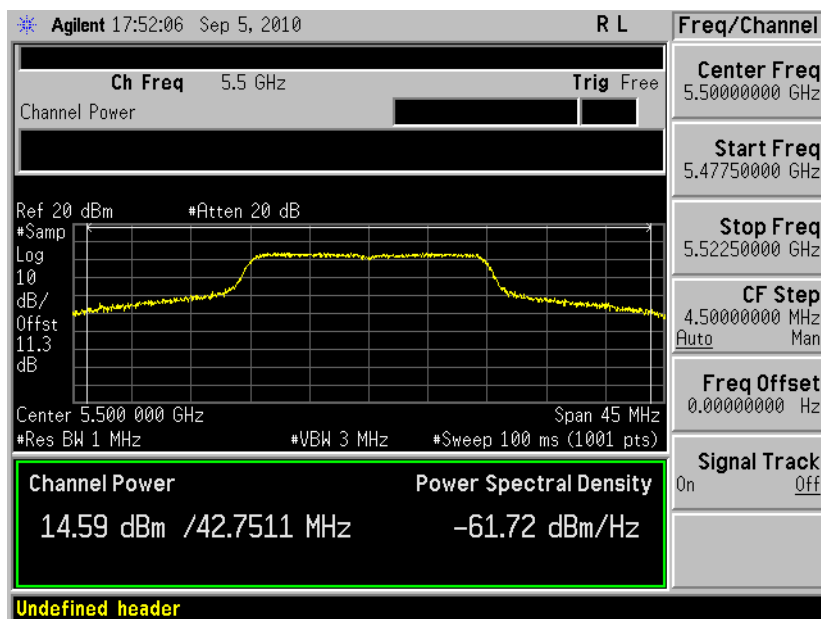




## Output Power Plot on 802.11n (HT-20) Channel 100 - Chain 0

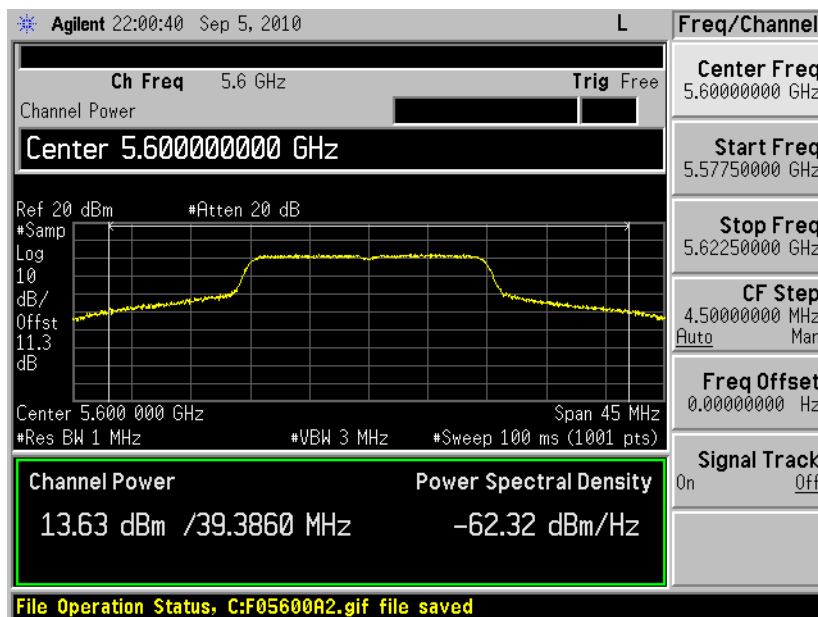


## Output Power Plot on 802.11n (HT-20) Channel 100 - Chain 1

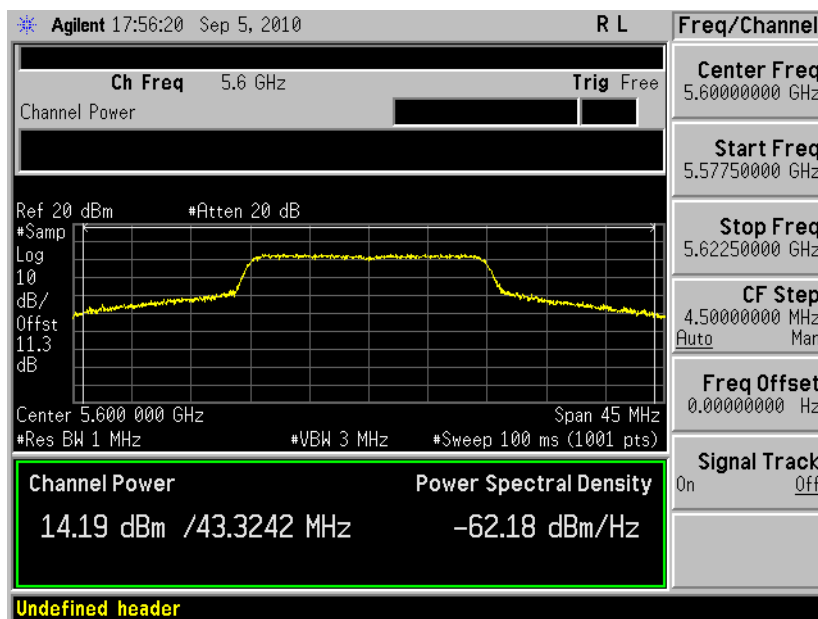




## Output Power Plot on 802.11n (HT-20) Channel 120 - Chain 0

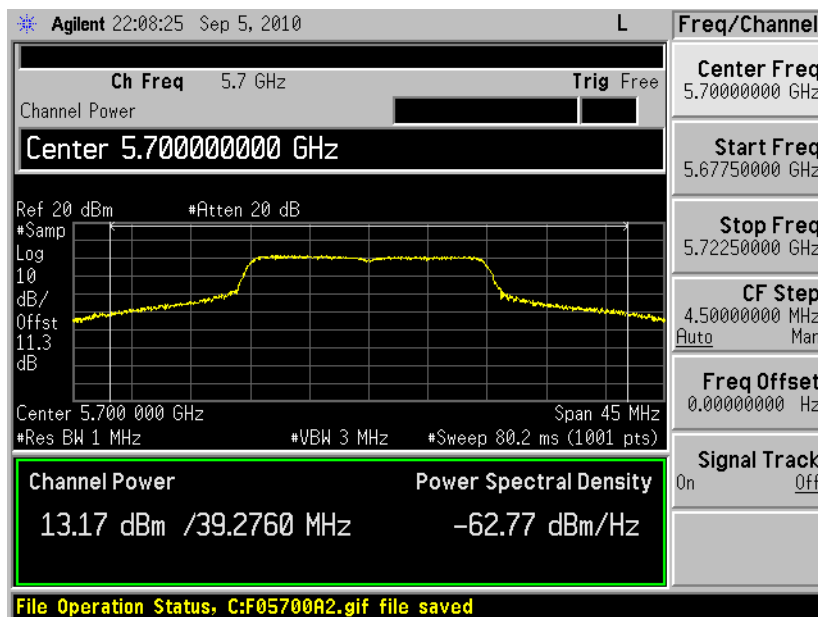


## Output Power Plot on 802.11n (HT-20) Channel 120 - Chain 1

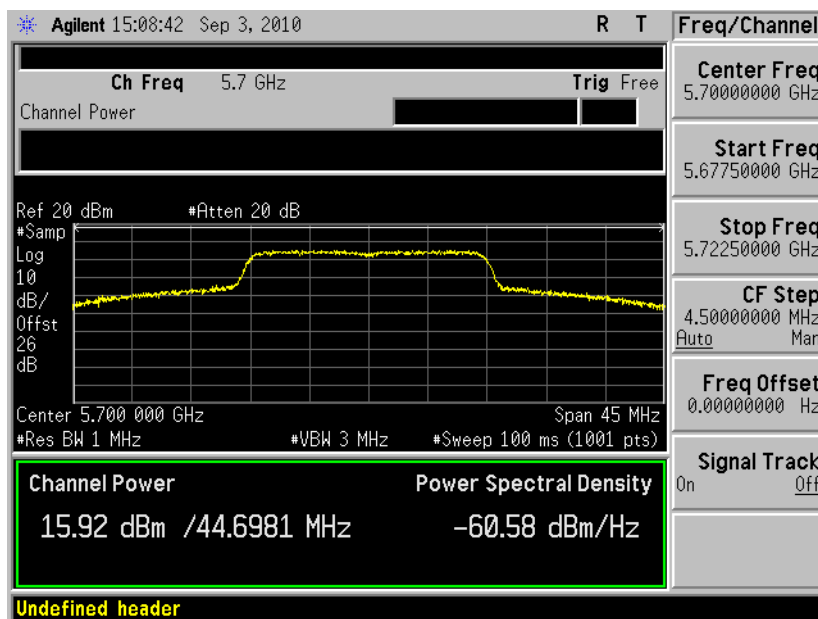




## Output Power Plot on 802.11n (HT-20) Channel 140 - Chain 0

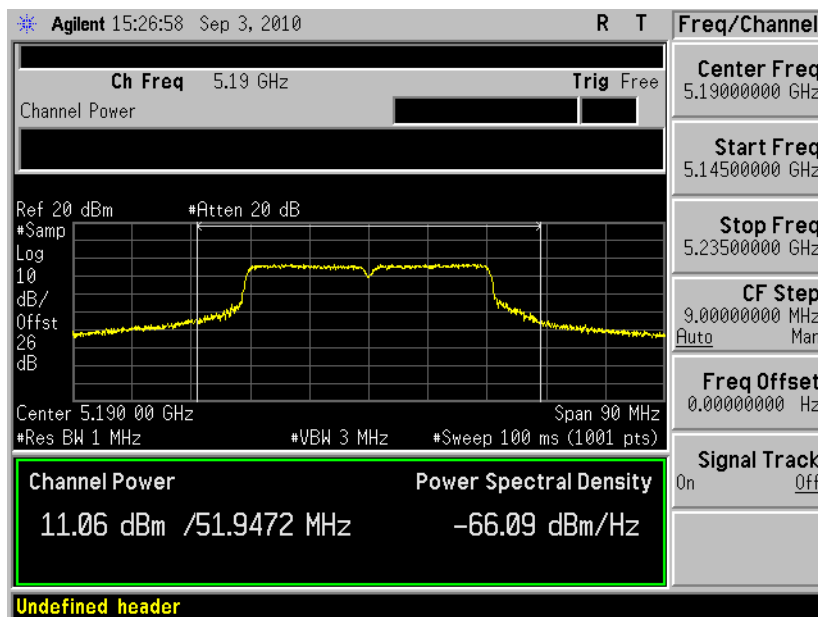


## Output Power Plot on 802.11n (HT-20) Channel 140 - Chain 1

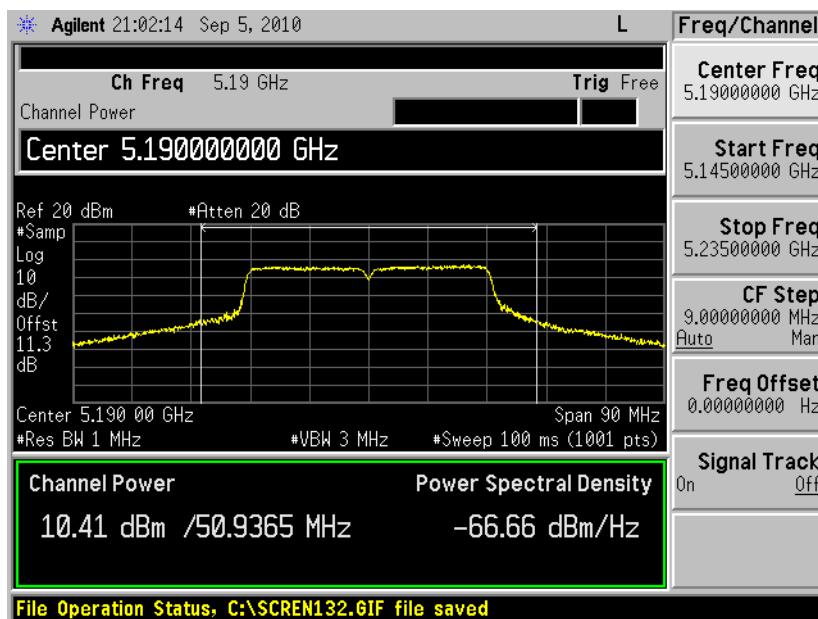




## Output Power Plot on 802.11n (HT-40) Channel 38 - Chain 0

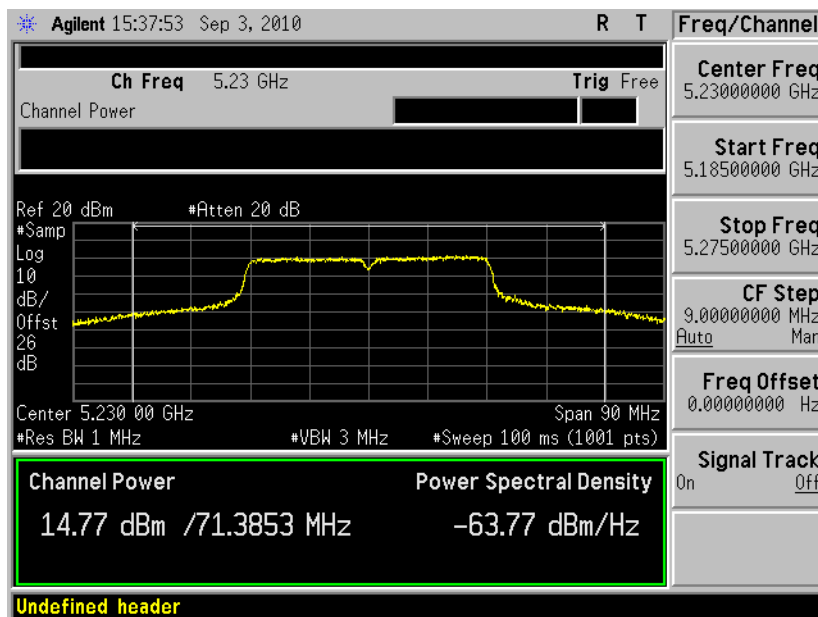


## Output Power Plot on 802.11n (HT-40) Channel 38 - Chain 1

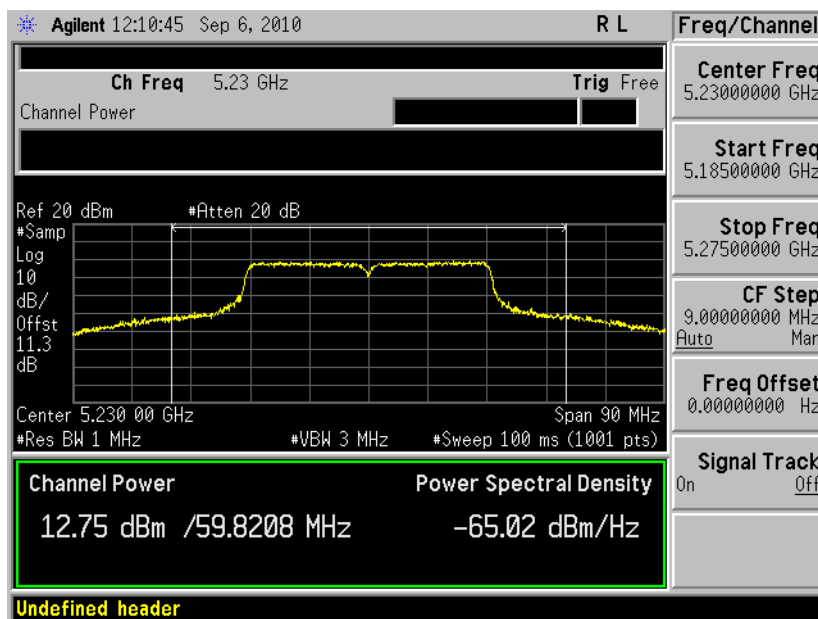




## Output Power Plot on 802.11n (HT-40) Channel 46 - Chain 0

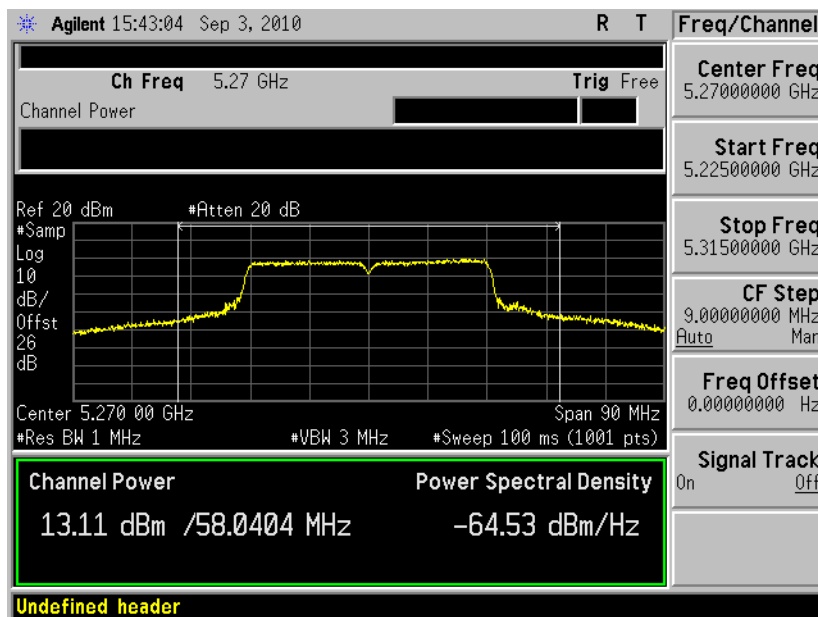


## Output Power Plot on 802.11n (HT-40) Channel 46 - Chain 1

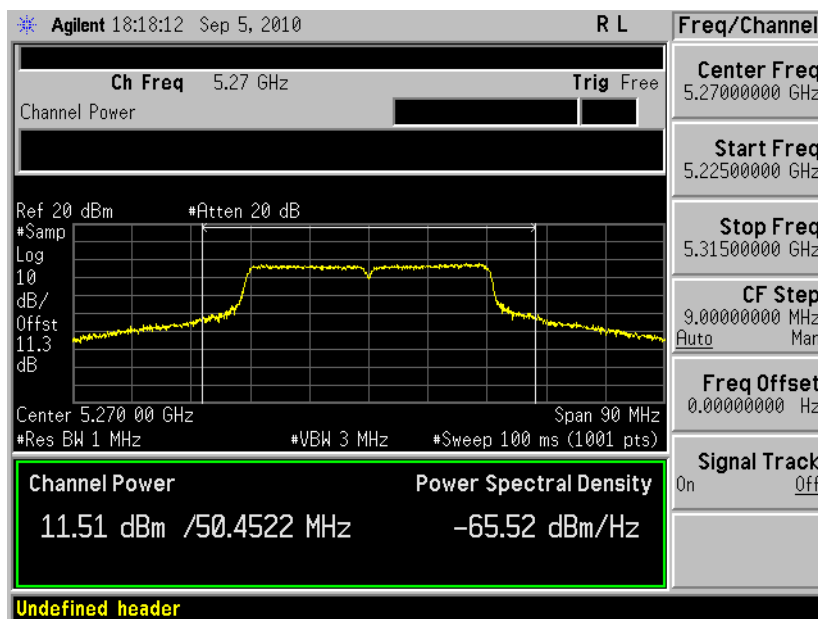




## Output Power Plot on 802.11n (HT-40) Channel 54 - Chain 0

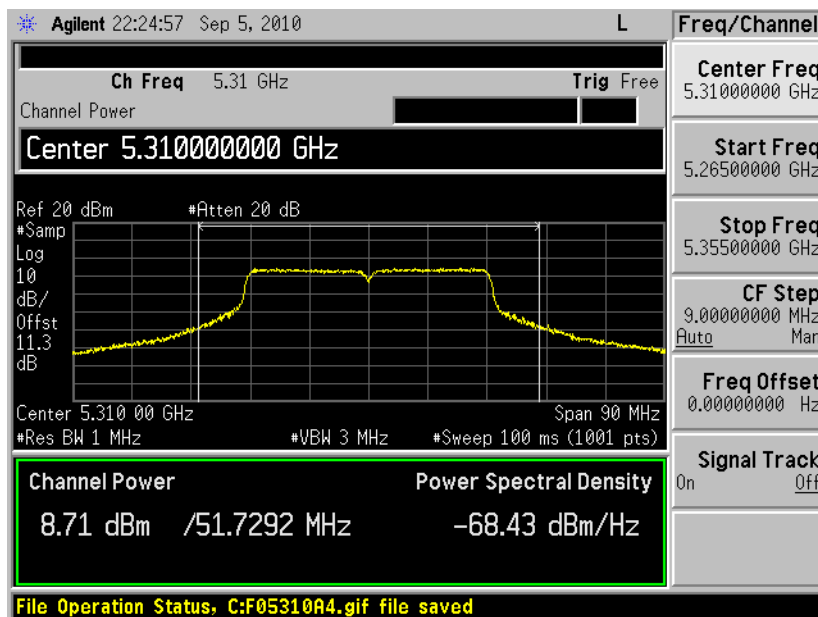


## Output Power Plot on 802.11n (HT-40) Channel 54 - Chain 1

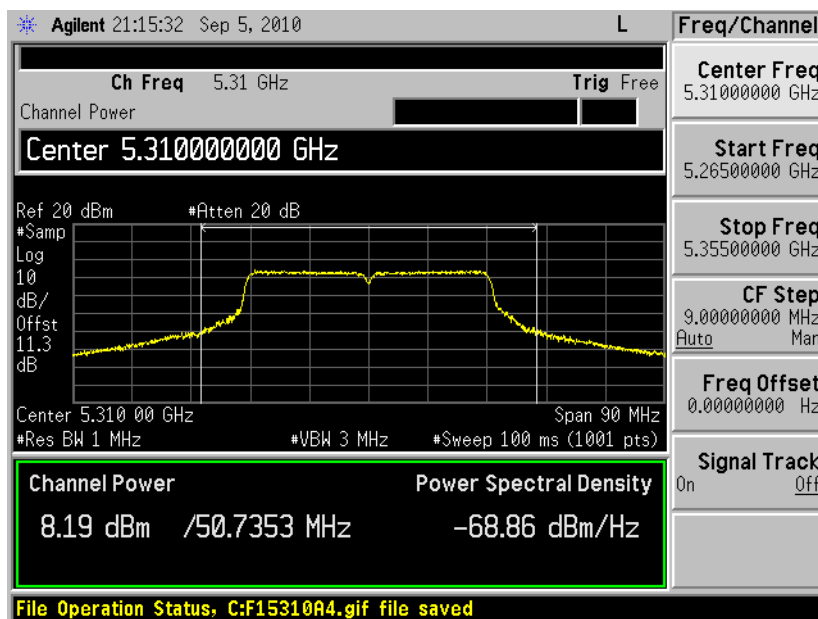




## Output Power Plot on 802.11n (HT-40) Channel 62 - Chain 0

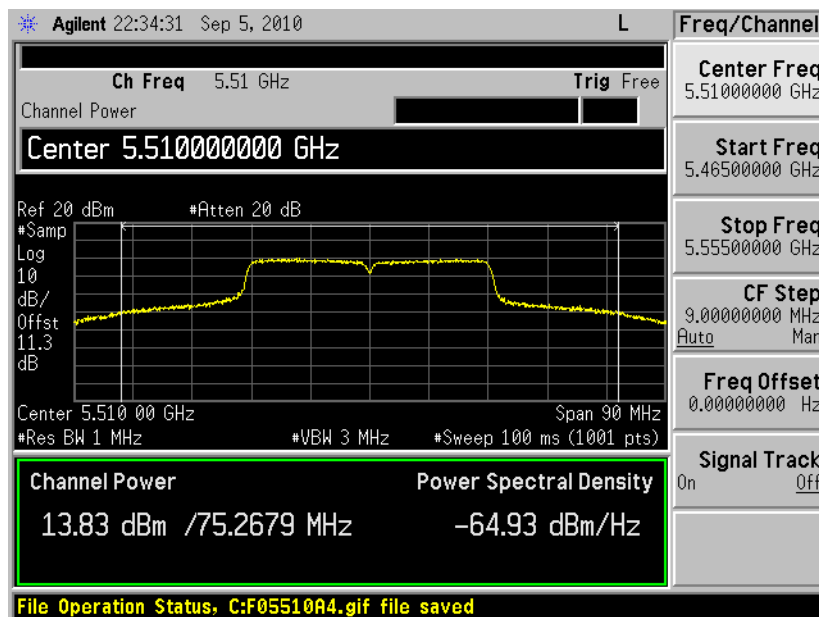


## Output Power Plot on 802.11n (HT-40) Channel 62 - Chain 1

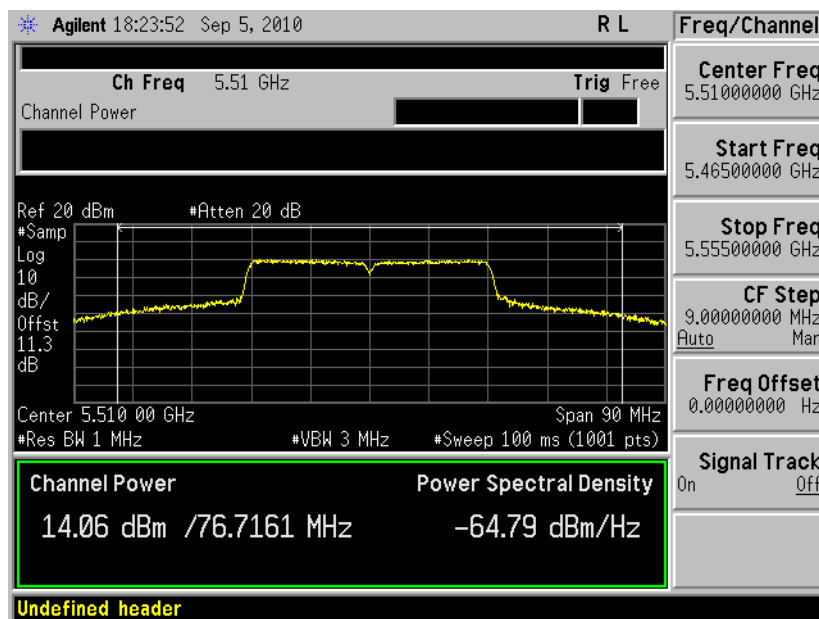




## Output Power Plot on 802.11n (HT-40) Channel 102 - Chain 0

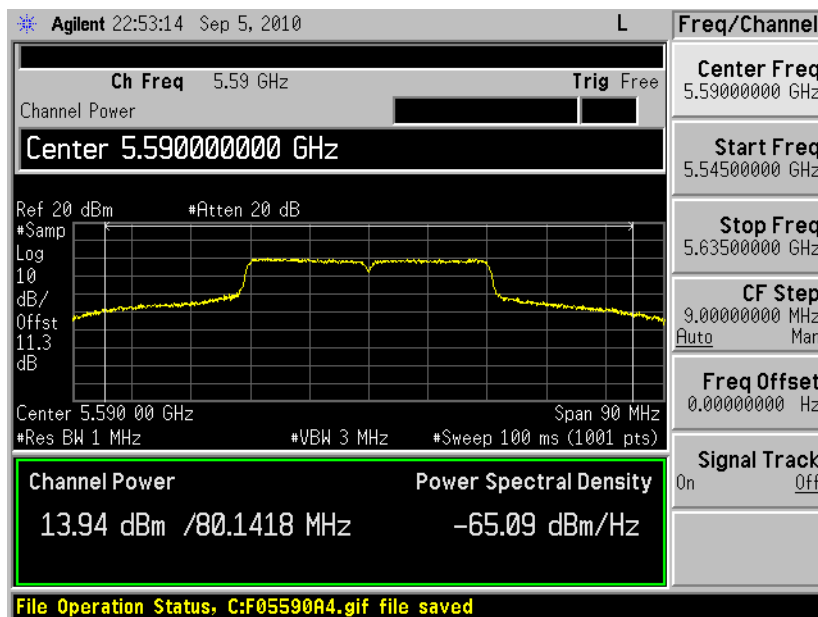


## Output Power Plot on 802.11n (HT-40) Channel 102 - Chain 1

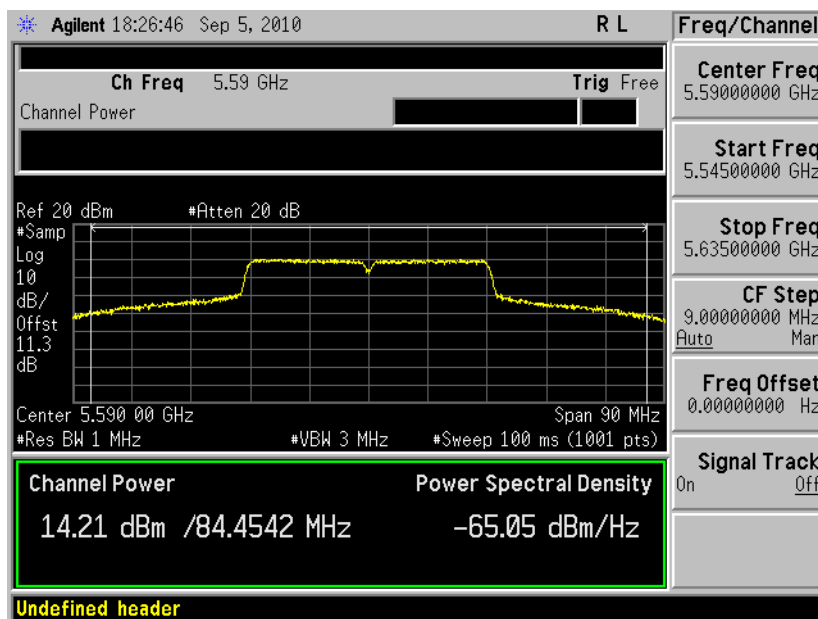




## Output Power Plot on 802.11n (HT-40) Channel 118 - Chain 0

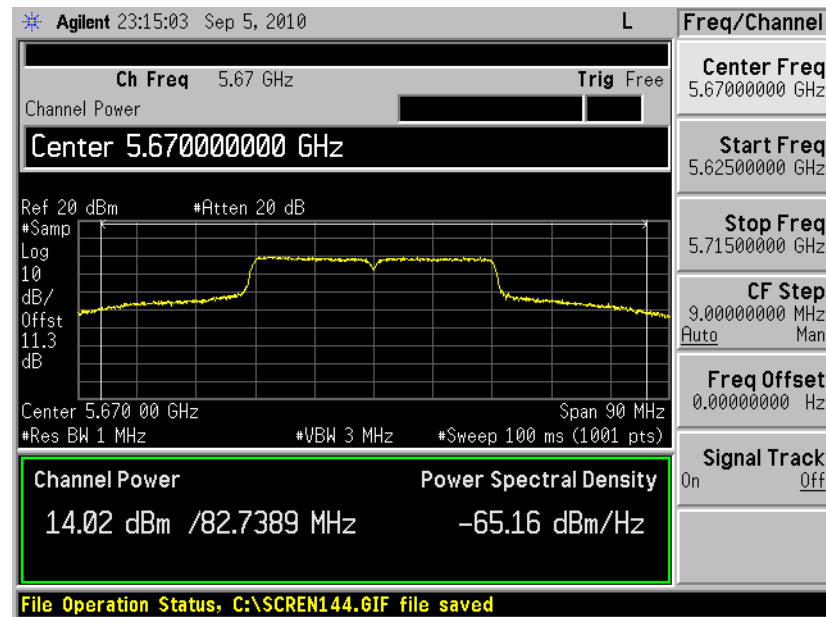


## Output Power Plot on 802.11n (HT-40) Channel 118 - Chain 1

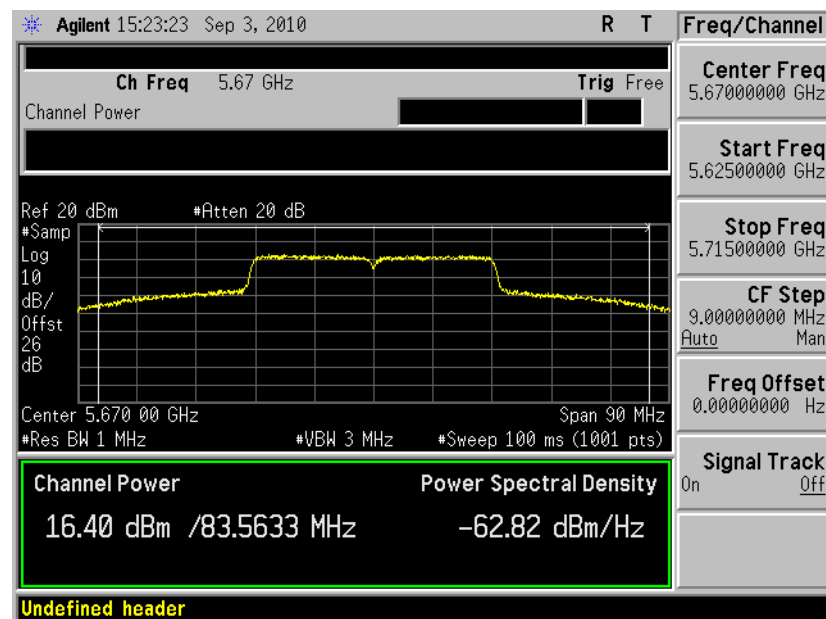




## Output Power Plot on 802.11n (HT-40) Channel 134 - Chain 0



## Output Power Plot on 802.11n (HT-40) Channel 134 - Chain 1



## 3.5 Conducted Spurious Emission Measurement

### 3.5.1 Limit of Spurious Emission Measurement

- (1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz.
- (2) For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25–5.35 GHz band that generate emissions in the 5.15–5.25 GHz band must meet all applicable technical requirements for operation in the 5.15–5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27 dBm/MHz in the 5.15–5.25 GHz band.
- (3) For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of –27 dBm/MHz.

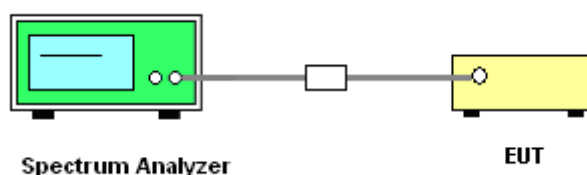
### 3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.5.3 Test Procedure

1. The transmitter output was connected to the spectrum analyzer via a low loss cable.
2. Set RBW = VBW = 1 MHz, Video bandwidth (VBW), scan from 30 MHz to 40 GHz.

### 3.5.4 Test Setup



### 3.5.5 Test Result

|                       |                                       |                            |                            |
|-----------------------|---------------------------------------|----------------------------|----------------------------|
| <b>Test Mode :</b>    | 802.11a L/M/H channels                | <b>Temperature :</b>       | 25~27℃                     |
| <b>Test Band :</b>    | 802.11a                               | <b>Relative Humidity :</b> | 41~44%                     |
| <b>Test Channel :</b> | 36, 44, 48, 52, 60, 64, 100, 120, 140 | <b>Test Engineer :</b>     | Lancelot Chen and Alan Liu |

| Channel | Frequency (MHz) | Chain | Frequency (MHz) | SA Reading (dBm) | Path loss (dB) | Level (dBm) | Total level (dBm) | Composite Antenna Gain (dBi) | Test result (EIRP,dBm) | Limit (dBm) |
|---------|-----------------|-------|-----------------|------------------|----------------|-------------|-------------------|------------------------------|------------------------|-------------|
| Ch 36   | 5180            | 0     | 10360           | -47.35           | 4.31           | -43.04      | -42.35            | 6.08                         | -36.27                 | -27         |
|         |                 | 1     | 10360           | -55.01           | 4.31           | -50.70      |                   |                              |                        |             |
|         |                 | 0     | 15540           | -48.08           | 4.38           | -43.70      | -43.44            | 6.08                         | -37.36                 | -27         |
|         |                 | 1     | 15540           | -60.19           | 4.38           | -55.81      |                   |                              |                        |             |
| Ch 44   | 5220            | 0     | 10440           | -50.36           | 4.31           | -46.05      | -46.04            | 6.08                         | -39.96                 | -27         |
|         |                 | 1     | 10440           | -77.57           | 4.31           | -73.26      |                   |                              |                        |             |
|         |                 | 0     | 15660           | -50.31           | 4.38           | -45.93      | -45.83            | 6.08                         | -39.75                 | -27         |
|         |                 | 1     | 15660           | -66.64           | 4.38           | -62.26      |                   |                              |                        |             |
| Ch 48   | 5240            | 0     | 10480           | -49.75           | 4.31           | -45.44      | -44.82            | 6.08                         | -38.74                 | -27         |
|         |                 | 1     | 10480           | -57.87           | 4.31           | -53.56      |                   |                              |                        |             |
|         |                 | 0     | 15720           | -48.11           | 4.68           | -43.43      | -43.22            | 6.08                         | -37.14                 | -27         |
|         |                 | 1     | 15720           | -61.23           | 4.68           | -56.55      |                   |                              |                        |             |
| Ch 52   | 5260            | 0     | 10520           | -46.61           | 4.31           | -42.30      | -41.30            | 6.08                         | -35.22                 | -27         |
|         |                 | 1     | 10520           | -52.48           | 4.31           | -48.17      |                   |                              |                        |             |
|         |                 | 0     | 15780           | -47.24           | 4.68           | -42.56      | -42.38            | 6.08                         | -36.30                 | -27         |
|         |                 | 1     | 15780           | -60.96           | 4.68           | -56.28      |                   |                              |                        |             |
| Ch 60   | 5300            | 0     | 10600           | -47.28           | 4.31           | -42.97      | -42.57            | 6.08                         | -36.49                 | -27         |
|         |                 | 1     | 10600           | -57.43           | 4.31           | -53.12      |                   |                              |                        |             |
|         |                 | 0     | 15900           | -51.65           | 4.68           | -46.97      | -46.39            | 6.08                         | -40.31                 | -27         |
|         |                 | 1     | 15900           | -60.11           | 4.68           | -55.43      |                   |                              |                        |             |
| Ch 64   | 5320            | 0     | 10640           | -49.6            | 4.31           | -45.29      | -44.87            | 6.08                         | -38.79                 | -27         |
|         |                 | 1     | 10640           | -59.51           | 4.31           | -55.20      |                   |                              |                        |             |
|         |                 | 0     | 15960           | -53.69           | 4.68           | -49.01      | -48.28            | 6.08                         | -42.20                 | -27         |
|         |                 | 1     | 15960           | -61.07           | 4.68           | -56.39      |                   |                              |                        |             |
| Ch 100  | 5500            | 0     | 11000           | -45.71           | 4.31           | -41.40      | -40.34            | 7.77                         | -32.57                 | -27         |
|         |                 | 1     | 11000           | -51.3            | 4.31           | -46.99      |                   |                              |                        |             |
|         |                 | 0     | 16500           | -52.57           | 4.68           | -47.89      | -45.91            | 7.77                         | -38.14                 | -27         |
|         |                 | 1     | 16500           | -54.95           | 4.68           | -50.27      |                   |                              |                        |             |



| Channel | Frequency (MHz) | Chain | Frequency (MHz) | SA Reading (dBm) | Path loss (dB) | Level (dBm) | Total level (dBm) | Composite Antenna Gain (dBi) | Test result (EIRP,dBm) | Limit (dBm) |
|---------|-----------------|-------|-----------------|------------------|----------------|-------------|-------------------|------------------------------|------------------------|-------------|
| Ch 120  | 5600            | 0     | 11200           | -47.68           | 4.31           | -43.37      | -42.19            | 7.77                         | -34.42                 | -27         |
|         |                 | 1     | 11200           | -52.73           | 4.31           | -48.42      |                   |                              |                        |             |
|         |                 | 0     | 16800           | -53.52           | 4.47           | -49.05      | -47.00            | 7.77                         | -39.23                 | -27         |
|         |                 | 1     | 16800           | -55.72           | 4.47           | -51.25      |                   |                              |                        |             |
| Ch 140  | 5700            | 0     | 11400           | -45.92           | 4.31           | -41.61      | -39.67            | 7.77                         | -31.90                 | -27         |
|         |                 | 1     | 11400           | -48.41           | 4.31           | -44.10      |                   |                              |                        |             |
|         |                 | 0     | 17100           | -51.9            | 4.47           | -47.43      | -45.27            | 7.77                         | -37.50                 | -27         |
|         |                 | 1     | 17100           | -53.81           | 4.47           | -49.34      |                   |                              |                        |             |
|         |                 | 0     | 22800           | -63.2            | 4.27           | -58.93      | -53.03            | 7.77                         | -44.26                 | -26         |
|         |                 | 1     | 22800           | -58.59           | 4.27           | -54.32      |                   |                              |                        |             |

**Note:** Above frequency points shown are the highest conducted spurious emission results from EUT and frequency range tested is from 30 MHz to 40 GHz.

|                       |                                       |                            |                            |
|-----------------------|---------------------------------------|----------------------------|----------------------------|
| <b>Test Mode :</b>    | 802.11n (HT-20) L/M/H channels        | <b>Temperature :</b>       | 25~27°C                    |
| <b>Test Band :</b>    | 802.11n (HT-20)                       | <b>Relative Humidity :</b> | 41~44%                     |
| <b>Test Channel :</b> | 36, 44, 48, 52, 60, 64, 100, 120, 140 | <b>Test Engineer :</b>     | Lancelot Chen and Alan Liu |

| Channel | Frequency (MHz) | Chain | Frequency (MHz) | SA Reading (dBm) | Path loss (dB) | Level (dBm) | Total level (dBm) | Composite Antenna Gain (dBi) | Test result (EIRP,dBm) | Limit (dBm) |
|---------|-----------------|-------|-----------------|------------------|----------------|-------------|-------------------|------------------------------|------------------------|-------------|
| Ch 36   | 5180            | 0     | 10360           | -44.54           | 4.31           | -40.23      | -39.94            | 6.08                         | -33.86                 | -27         |
|         |                 | 1     | 10360           | -56.15           | 4.31           | -51.84      |                   |                              |                        |             |
|         |                 | 0     | 15540           | -45.51           | 4.38           | -41.13      | -41.05            | 6.08                         | -34.97                 | -27         |
|         |                 | 1     | 15540           | -63.06           | 4.38           | -58.68      |                   |                              |                        |             |
| Ch 44   | 5220            | 0     | 10440           | -49.97           | 4.31           | -45.66      | -45.52            | 6.08                         | -39.44                 | -27         |
|         |                 | 1     | 10440           | -64.76           | 4.31           | -60.45      |                   |                              |                        |             |
|         |                 | 0     | 15660           | -49.64           | 4.68           | -44.96      | -44.67            | 6.08                         | -38.59                 | -27         |
|         |                 | 1     | 15660           | -61.22           | 4.68           | -56.54      |                   |                              |                        |             |
| Ch 48   | 5240            | 0     | 10480           | -50.23           | 4.31           | -45.92      | -45.24            | 6.08                         | -39.16                 | -27         |
|         |                 | 1     | 10480           | -57.91           | 4.31           | -53.60      |                   |                              |                        |             |
|         |                 | 0     | 15720           | -50.72           | 4.68           | -46.04      | -45.77            | 6.08                         | -39.69                 | -27         |
|         |                 | 1     | 15720           | -62.7            | 4.68           | -58.02      |                   |                              |                        |             |
| Ch 52   | 5260            | 0     | 10520           | -46.66           | 4.31           | -42.35      | -41.80            | 6.08                         | -35.72                 | -27         |
|         |                 | 1     | 10520           | -55.36           | 4.31           | -51.05      |                   |                              |                        |             |
|         |                 | 0     | 15780           | -47.32           | 4.68           | -42.64      | -42.48            | 6.08                         | -36.40                 | -27         |
|         |                 | 1     | 15780           | -61.54           | 4.68           | -56.86      |                   |                              |                        |             |
| Ch 60   | 5300            | 0     | 10600           | -49.46           | 4.31           | -45.15      | -44.72            | 6.08                         | -38.64                 | -27         |
|         |                 | 1     | 10600           | -59.32           | 4.31           | -55.01      |                   |                              |                        |             |
|         |                 | 0     | 15900           | -51.47           | 4.68           | -46.79      | -46.35            | 6.08                         | -40.27                 | -27         |
|         |                 | 1     | 15900           | -61.19           | 4.68           | -56.51      |                   |                              |                        |             |
| Ch 64   | 5320            | 0     | 10640           | -50.84           | 4.31           | -46.53      | -45.98            | 6.08                         | -39.90                 | -27         |
|         |                 | 1     | 10640           | -59.5            | 4.31           | -55.19      |                   |                              |                        |             |
|         |                 | 0     | 15960           | -53.83           | 4.68           | -49.15      | -48.26            | 6.08                         | -42.18                 | -27         |
|         |                 | 1     | 15960           | -60.25           | 4.68           | -55.57      |                   |                              |                        |             |

| Channel | Frequency (MHz) | Chain | Frequency (MHz) | SA Reading (dBm) | Path loss (dB) | Level (dBm) | Total level (dBm) | Composite Antenna Gain (dBi) | Test result (EIRP,dBm) | Limit (dBm) |
|---------|-----------------|-------|-----------------|------------------|----------------|-------------|-------------------|------------------------------|------------------------|-------------|
| Ch 100  | 5500            | 0     | 11000           | -46.36           | 4.31           | -42.05      | -41.08            | 7.77                         | -33.31                 | -27         |
|         |                 | 1     | 11000           | -52.4            | 4.31           | -48.09      |                   |                              |                        |             |
|         |                 | 0     | 16500           | -49.73           | 4.47           | -45.26      | -44.42            | 7.77                         | -36.65                 | -27         |
|         |                 | 1     | 16500           | -56.45           | 4.47           | -51.98      |                   |                              |                        |             |
| Ch 120  | 5600            | 0     | 11200           | -49.67           | 4.31           | -45.36      | -43.25            | 7.77                         | -35.48                 | -27         |
|         |                 | 1     | 11200           | -51.72           | 4.31           | -47.41      |                   |                              |                        |             |
|         |                 | 0     | 16800           | -52.73           | 4.47           | -48.26      | -47.09            | 7.77                         | -39.32                 | -27         |
|         |                 | 1     | 16800           | -57.83           | 4.47           | -53.36      |                   |                              |                        |             |
| Ch 140  | 5700            | 0     | 11400           | -46.3            | 4.31           | -41.99      | -39.13            | 7.77                         | -31.36                 | -27         |
|         |                 | 1     | 11400           | -46.6            | 4.31           | -42.29      |                   |                              |                        |             |
|         |                 | 0     | 17100           | -51.97           | 4.47           | -47.50      | -44.40            | 7.77                         | -36.63                 | -27         |
|         |                 | 1     | 17100           | -51.79           | 4.47           | -47.32      |                   |                              |                        |             |
|         |                 | 0     | 22800           | -63.69           | 4.27           | -59.42      | -53.25            | 7.77                         | -44.48                 | -27         |
|         |                 | 1     | 22800           | -58.72           | 4.27           | -54.45      |                   |                              |                        |             |

**Note:** Above frequency points shown are the highest conducted spurious emission results from EUT and frequency range tested is from 30 MHz to 40 GHz.



|                       |                                |                            |                            |
|-----------------------|--------------------------------|----------------------------|----------------------------|
| <b>Test Mode :</b>    | 802.11n (HT-40) L/M/H channels | <b>Temperature :</b>       | 25~27°C                    |
| <b>Test Band :</b>    | 802.11n (HT-40)                | <b>Relative Humidity :</b> | 41~44%                     |
| <b>Test Channel :</b> | 38, 46, 54, 62, 102, 134       | <b>Test Engineer :</b>     | Lancelot Chen and Alan Liu |

| Channel | Frequency (MHz) | Chain | Frequency (MHz) | SA Reading (dBm) | Path loss (dB) | Level (dBm) | Total level (dBm) | Composite Antenna Gain (dBi) | Test result (EIRP,dBm) | Limit (dBm) |
|---------|-----------------|-------|-----------------|------------------|----------------|-------------|-------------------|------------------------------|------------------------|-------------|
| Ch 38   | 5190            | 0     | 10380           | -55.48           | 4.31           | -51.17      | -50.77            | 6.08                         | -44.69                 | -27         |
|         |                 | 1     | 10380           | -65.69           | 4.31           | -61.38      |                   |                              |                        |             |
|         |                 | 0     | 15570           | -58.07           | 4.68           | -53.39      | -52.75            | 6.08                         | -46.67                 | -27         |
|         |                 | 1     | 15570           | -66.07           | 4.68           | -61.39      |                   |                              |                        |             |
| Ch 46   | 5230            | 0     | 10460           | -51.39           | 4.31           | -47.08      | -46.66            | 6.08                         | -40.58                 | -27         |
|         |                 | 1     | 10460           | -61.31           | 4.31           | -57.00      |                   |                              |                        |             |
|         |                 | 0     | 15690           | -49.73           | 4.68           | -45.05      | -44.87            | 6.08                         | -38.79                 | -27         |
|         |                 | 1     | 15690           | -63.48           | 4.68           | -58.80      |                   |                              |                        |             |
| Ch 54   | 5270            | 0     | 10540           | -50.2            | 4.31           | -45.89      | -45.38            | 6.08                         | -39.30                 | -27         |
|         |                 | 1     | 10540           | -59.22           | 4.31           | -54.91      |                   |                              |                        |             |
|         |                 | 0     | 15810           | -58.2            | 4.68           | -53.52      | -52.80            | 6.08                         | -46.72                 | -27         |
|         |                 | 1     | 15810           | -65.67           | 4.68           | -60.99      |                   |                              |                        |             |
| Ch 62   | 5310            | 0     | 10620           | -59.75           | 4.31           | -55.44      | -55.22            | 6.08                         | -49.14                 | -27         |
|         |                 | 1     | 10620           | -72.64           | 4.31           | -68.33      |                   |                              |                        |             |
|         |                 | 0     | 15930           | -66.81           | 4.68           | -62.13      | -58.95            | 6.08                         | -52.87                 | -27         |
|         |                 | 1     | 15930           | -66.47           | 4.68           | -61.79      |                   |                              |                        |             |
| Ch 102  | 5510            | 0     | 11020           | -49.98           | 4.31           | -45.67      | -44.68            | 7.77                         | -36.91                 | -27         |
|         |                 | 1     | 11020           | -55.92           | 4.31           | -51.61      |                   |                              |                        |             |
|         |                 | 0     | 16530           | -56.24           | 4.47           | -51.77      | -49.75            | 7.77                         | -41.98                 | -27         |
|         |                 | 1     | 16530           | -58.51           | 4.47           | -54.04      |                   |                              |                        |             |
| Ch 118  | 5590            | 0     | 11180           | -48.19           | 4.31           | -43.88      | -43.25            | 7.77                         | -35.48                 | -27         |
|         |                 | 1     | 11180           | -56.27           | 4.31           | -51.96      |                   |                              |                        |             |
|         |                 | 0     | 16770           | -53.11           | 4.47           | -48.64      | -48.02            | 7.77                         | -40.25                 | -27         |
|         |                 | 1     | 16770           | -61.22           | 4.47           | -56.75      |                   |                              |                        |             |



| Channel | Frequency (MHz) | Chain | Frequency (MHz) | SA Reading (dBm) | Path loss (dB) | Level (dBm) | Total level (dBm) | Composite Antenna Gain (dBi) | Test result (EIRP,dBm) | Limit (dBm) |
|---------|-----------------|-------|-----------------|------------------|----------------|-------------|-------------------|------------------------------|------------------------|-------------|
| Ch 134  | 5670            | 0     | 11340           | -47.5            | 4.31           | -43.19      | -42.45            | 7.77                         | -34.68                 | -27         |
|         |                 | 1     | 11340           | -54.78           | 4.31           | -50.47      |                   |                              |                        |             |
|         |                 | 0     | 17010           | -54.1            | 4.47           | -49.63      | -48.32            | 7.77                         | -40.55                 | -27         |
|         |                 | 1     | 17010           | -58.65           | 4.47           | -54.18      |                   |                              |                        |             |
|         |                 | 1     | 10540           | -59.22           | 4.31           | -54.91      |                   |                              |                        |             |

**Note:** Above frequency points shown are the highest conducted spurious emission results from EUT and frequency range tested is from 30 MHz to 40 GHz.

## 3.6 Band Edges Measurement

### 3.6.1 Limit of Band Edges

- (1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25–5.35 GHz band that generate emissions in the 5.15–5.25 GHz band must meet all applicable technical requirements for operation in the 5.15–5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27 dBm/MHz in the 5.15–5.25 GHz band. For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.
- (2) The provisions of Section 15.205 Restricted bands of operation of this part apply to intentional radiators operating under this section.

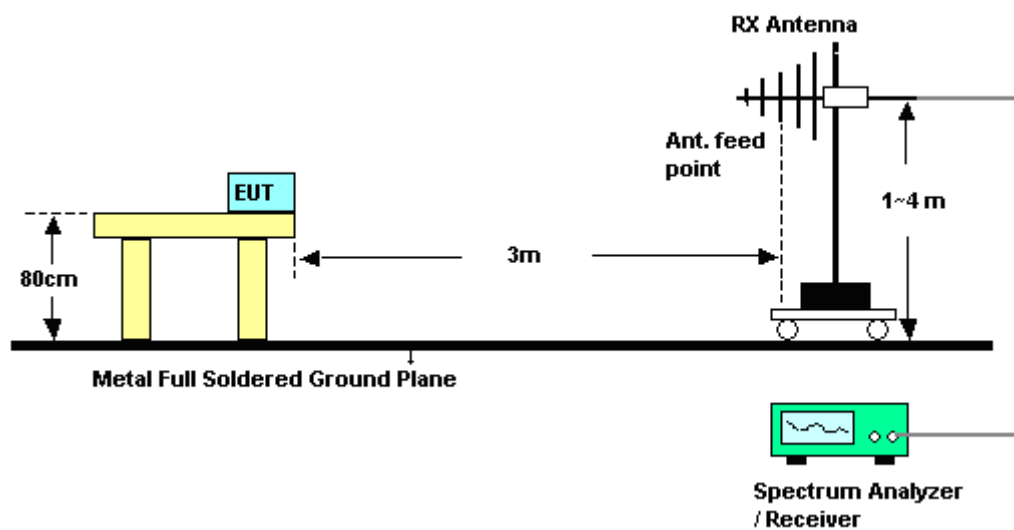
### 3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.6.3 Test Procedures

1. Set both RBW and VBW of spectrum analyzer to 1MHz with convenient frequency span including 1MHz bandwidth from band edge.
2. The band edges was measured and recorded.

### 3.6.4 Test Setup



### 3.6.6 Test Result of Radiated Band Edges

|                       |                   |                            |         |
|-----------------------|-------------------|----------------------------|---------|
| <b>Test Mode :</b>    | 802.11a L channel | <b>Temperature :</b>       | 25~26°C |
| <b>Test Band :</b>    | 802.11a           | <b>Relative Humidity :</b> | 43~44%% |
| <b>Test Channel :</b> | 36                | <b>Test Engineer :</b>     | Kay Wu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5150                          | 67.49               | -6.51                   | 74                          | 60.55                     | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Peak    |
| 5150                          | 46.85               | -7.15                   | 54                          | 39.91                     | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5150                        | 68.04               | -5.96                   | 74                          | 61.1                      | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Peak    |
| 5150                        | 46.21               | -7.79                   | 54                          | 39.27                     | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Average |

|                       |                   |                            |         |
|-----------------------|-------------------|----------------------------|---------|
| <b>Test Mode :</b>    | 802.11a H channel | <b>Temperature :</b>       | 25~26°C |
| <b>Test Band :</b>    | 802.11a           | <b>Relative Humidity :</b> | 43~44%% |
| <b>Test Channel :</b> | 64                | <b>Test Engineer :</b>     | Kay Wu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5350                          | 64.68               | -9.32                   | 74                          | 57.47                     | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Peak    |
| 5350                          | 42.32               | -11.68                  | 54                          | 35.11                     | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5350                        | 65.74               | -8.26                   | 74                          | 58.53                     | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Peak    |
| 5350                        | 45.6                | -8.4                    | 54                          | 38.39                     | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Average |



|                |                   |                     |         |
|----------------|-------------------|---------------------|---------|
| Test Mode :    | 802.11a L channel | Temperature :       | 25~26°C |
| Test Band :    | 802.11a           | Relative Humidity : | 43~44%% |
| Test Channel : | 100               | Test Engineer :     | Kay Wu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5460                          | 56.34               | -17.66                  | 74                          | 48.99                     | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Peak    |
| 5460                          | 40.79               | -13.21                  | 54                          | 33.44                     | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5458                        | 63.56               | -10.44                  | 74                          | 56.21                     | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Peak    |
| 5458                        | 44.07               | -9.93                   | 54                          | 36.72                     | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Average |

|                |                   |                     |         |
|----------------|-------------------|---------------------|---------|
| Test Mode :    | 802.11a H channel | Temperature :       | 25~26°C |
| Test Band :    | 802.11a           | Relative Humidity : | 43~44%% |
| Test Channel : | 140               | Test Engineer :     | Kay Wu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5725                          | 65.79               | -22.51                  | 88.3                        | 57.2                      | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Peak    |
| 5725                          | 38.29               | -30.01                  | 68.3                        | 29.7                      | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5725                        | 75.88               | -12.42                  | 88.3                        | 67.29                     | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Peak    |
| 5725                        | 53.3                | -15                     | 68.3                        | 44.71                     | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Average |



|                       |                           |                            |         |
|-----------------------|---------------------------|----------------------------|---------|
| <b>Test Mode :</b>    | 802.11n (HT-20) L channel | <b>Temperature :</b>       | 25~26°C |
| <b>Test Band :</b>    | 802.11n (HT-20)           | <b>Relative Humidity :</b> | 43~44%% |
| <b>Test Channel :</b> | 36                        | <b>Test Engineer :</b>     | Kay Wu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5148                          | 67.46               | -6.54                   | 74                          | 60.52                     | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Peak    |
| 5148                          | 42.74               | -11.26                  | 54                          | 35.8                      | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5150                        | 67.98               | -6.02                   | 74                          | 61.04                     | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Peak    |
| 5150                        | 44.85               | -9.15                   | 54                          | 37.91                     | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Average |

|                       |                           |                            |         |
|-----------------------|---------------------------|----------------------------|---------|
| <b>Test Mode :</b>    | 802.11n (HT-20) H channel | <b>Temperature :</b>       | 25~26°C |
| <b>Test Band :</b>    | 802.11n (HT-20)           | <b>Relative Humidity :</b> | 43~44%% |
| <b>Test Channel :</b> | 64                        | <b>Test Engineer :</b>     | Kay Wu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5350                          | 60.18               | -13.82                  | 74                          | 52.97                     | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Peak    |
| 5350                          | 42.47               | -11.53                  | 54                          | 35.26                     | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5350                        | 68.07               | -5.93                   | 74                          | 60.86                     | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Peak    |
| 5350                        | 46.2                | -7.8                    | 54                          | 38.99                     | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Average |



|                       |                           |                            |         |
|-----------------------|---------------------------|----------------------------|---------|
| <b>Test Mode :</b>    | 802.11n (HT-20) L channel | <b>Temperature :</b>       | 25~26°C |
| <b>Test Band :</b>    | 802.11n (HT-20)           | <b>Relative Humidity :</b> | 43~44%% |
| <b>Test Channel :</b> | 100                       | <b>Test Engineer :</b>     | Kay Wu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5460                          | 64.53               | -9.47                   | 74                          | 57.18                     | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Peak    |
| 5460                          | 41.12               | -12.88                  | 54                          | 33.77                     | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5460                        | 68.16               | -5.84                   | 74                          | 60.81                     | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Peak    |
| 5460                        | 37.35               | -16.65                  | 54                          | 30                        | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Average |

|                       |                           |                            |         |
|-----------------------|---------------------------|----------------------------|---------|
| <b>Test Mode :</b>    | 802.11n (HT-20) H channel | <b>Temperature :</b>       | 25~26°C |
| <b>Test Band :</b>    | 802.11n (HT-20)           | <b>Relative Humidity :</b> | 43~44%% |
| <b>Test Channel :</b> | 140                       | <b>Test Engineer :</b>     | Kay Wu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5725                          | 64.21               | -24.09                  | 88.3                        | 55.62                     | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Peak    |
| 5725                          | 44.68               | -23.62                  | 68.3                        | 36.09                     | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5725                        | 78.85               | -9.45                   | 88.3                        | 70.26                     | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Peak    |
| 5725                        | 56.85               | -11.45                  | 68.3                        | 48.26                     | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Average |



|                |                           |                     |         |
|----------------|---------------------------|---------------------|---------|
| Test Mode :    | 802.11n (HT-40) L channel | Temperature :       | 25~26°C |
| Test Band :    | 802.11n (HT-40)           | Relative Humidity : | 43~44%% |
| Test Channel : | 38                        | Test Engineer :     | Kay Wu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5150                          | 67.75               | -6.25                   | 74                          | 60.81                     | 34.02                       | 6.7                     | 33.78                      | 100                  | 290                     | Peak    |
| 5150                          | 49.76               | -4.24                   | 54                          | 42.82                     | 34.02                       | 6.7                     | 33.78                      | 100                  | 290                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5150                        | 72.79               | -1.21                   | 74                          | 65.85                     | 34.02                       | 6.7                     | 33.78                      | 100                  | 290                     | Peak    |
| 5150                        | 53.41               | -0.59                   | 54                          | 46.47                     | 34.02                       | 6.7                     | 33.78                      | 100                  | 290                     | Average |

|                |                           |                     |         |
|----------------|---------------------------|---------------------|---------|
| Test Mode :    | 802.11n (HT-40) H channel | Temperature :       | 25~26°C |
| Test Band :    | 802.11n (HT-40)           | Relative Humidity : | 43~44%% |
| Test Channel : | 62                        | Test Engineer :     | Kay Wu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5350                          | 64.19               | -9.81                   | 74                          | 56.98                     | 34.18                       | 6.8                     | 33.77                      | 100                  | 281                     | Peak    |
| 5350                          | 49.88               | -4.12                   | 54                          | 42.67                     | 34.18                       | 6.8                     | 33.77                      | 100                  | 281                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5350                        | 69.13               | -4.87                   | 74                          | 61.92                     | 34.18                       | 6.8                     | 33.77                      | 100                  | 281                     | Peak    |
| 5350                        | 53.25               | -0.75                   | 54                          | 46.04                     | 34.18                       | 6.8                     | 33.77                      | 100                  | 281                     | Average |



|                       |                           |                            |         |
|-----------------------|---------------------------|----------------------------|---------|
| <b>Test Mode :</b>    | 802.11n (HT-40) L channel | <b>Temperature :</b>       | 25~26°C |
| <b>Test Band :</b>    | 802.11n (HT-40)           | <b>Relative Humidity :</b> | 43~44%% |
| <b>Test Channel :</b> | 102                       | <b>Test Engineer :</b>     | Kay Wu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5460                          | 64.37               | -9.63                   | 74                          | 57.02                     | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Peak    |
| 5460                          | 45.04               | -8.96                   | 54                          | 37.69                     | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5460                        | 72.78               | -1.22                   | 74                          | 65.43                     | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Peak    |
| 5460                        | 49.6                | -4.4                    | 54                          | 42.25                     | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Average |

|                       |                           |                            |         |
|-----------------------|---------------------------|----------------------------|---------|
| <b>Test Mode :</b>    | 802.11n (HT-40) H channel | <b>Temperature :</b>       | 25~26°C |
| <b>Test Band :</b>    | 802.11n (HT-40)           | <b>Relative Humidity :</b> | 43~44%% |
| <b>Test Channel :</b> | 134                       | <b>Test Engineer :</b>     | Kay Wu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5725                          | 62.44               | -25.86                  | 88.3                        | 54.98                     | 34.21                       | 7.01                    | 33.76                      | 100                  | 258                     | Peak    |
| 5725                          | 46.58               | -21.72                  | 68.3                        | 39.12                     | 34.21                       | 7.01                    | 33.76                      | 100                  | 258                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>( dBuV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 5725                        | 74.8                | -13.5                   | 88.3                        | 67.34                     | 34.21                       | 7.01                    | 33.76                      | 100                  | 258                     | Peak    |
| 5725                        | 56.77               | -11.53                  | 68.3                        | 49.31                     | 34.21                       | 7.01                    | 33.76                      | 100                  | 258                     | Average |

### 3.7 Peak Excursion Ratio Measurement

#### 3.7.1 Limit of Peak Excursion Ratio

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

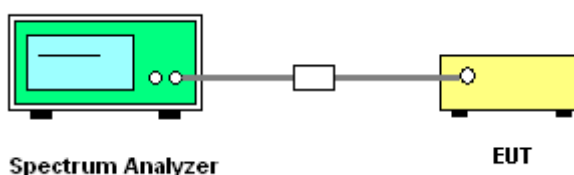
#### 3.7.2 Measuring Instruments

See list of measuring instruments of this test report.

#### 3.7.3 Test Procedures

1. The transmitter output is connected to the spectrum analyzer.
2. The resolution bandwidth is set to and maintained at 1 MHz. The video bandwidth is set to 3 MHz.
3. Trace A is set peak detector and to Max Hold, then to View. Then the detector is readjusted to sample detector, max hold to run for 60 seconds, and the signal under this measurement condition is captured in Trace B in Accordance with the method 3 of DA-02-2138.
4. The difference between the traces is investigated. The marker is placed at the frequency, which shows the largest difference. The amplitude delta between the traces at this frequency is the peak excursion.

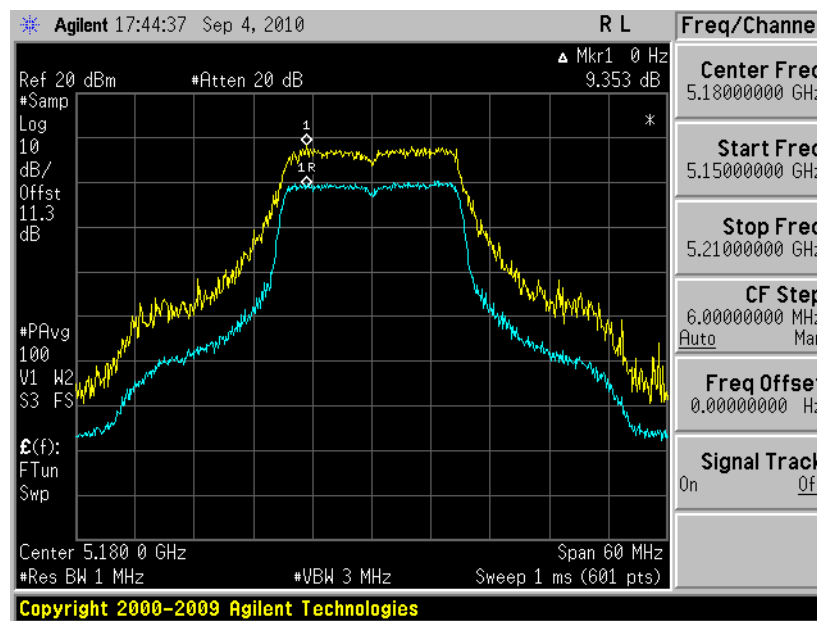
#### 3.7.4 Test Setup



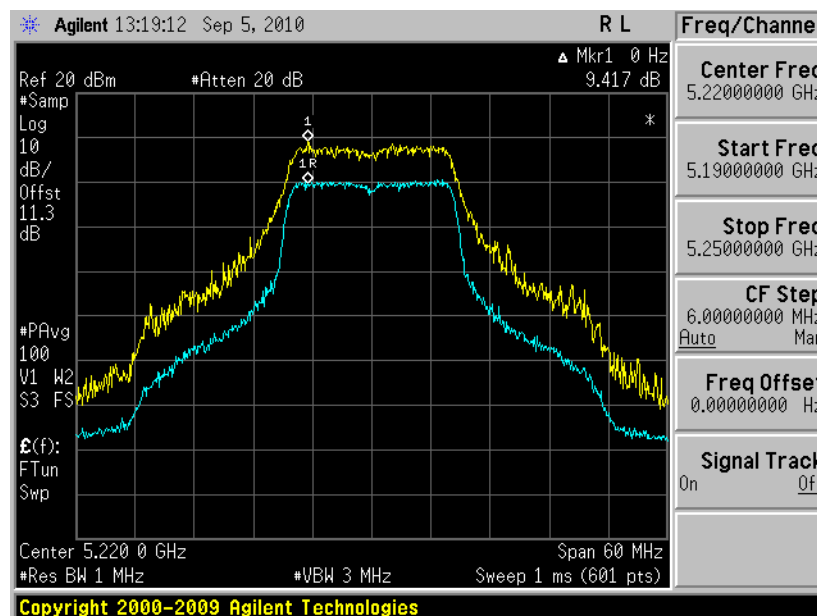
### 3.7.5 Test Result of Peak Excursion Ratio

|                        |                            |                            |         |
|------------------------|----------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11a L/M/H channels     | <b>Temperature :</b>       | 25~27°C |
| <b>Test Engineer :</b> | Lancelot Chen and Alan Liu | <b>Relative Humidity :</b> | 41~44%  |

**Peak Excursion Ratio Plot on 802.11a Channel 36 - Chain 1**

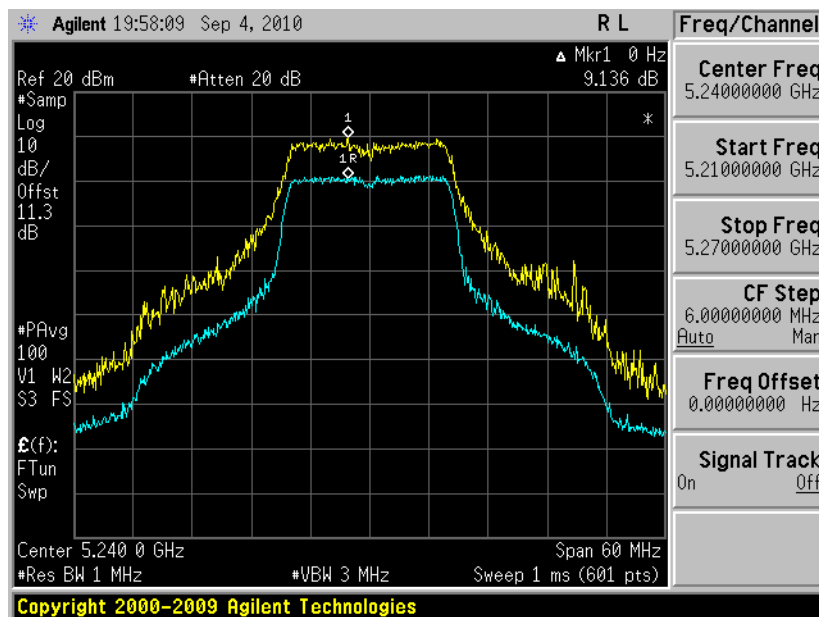


**Peak Excursion Ratio Plot on 802.11a Channel 44 - Chain 1**

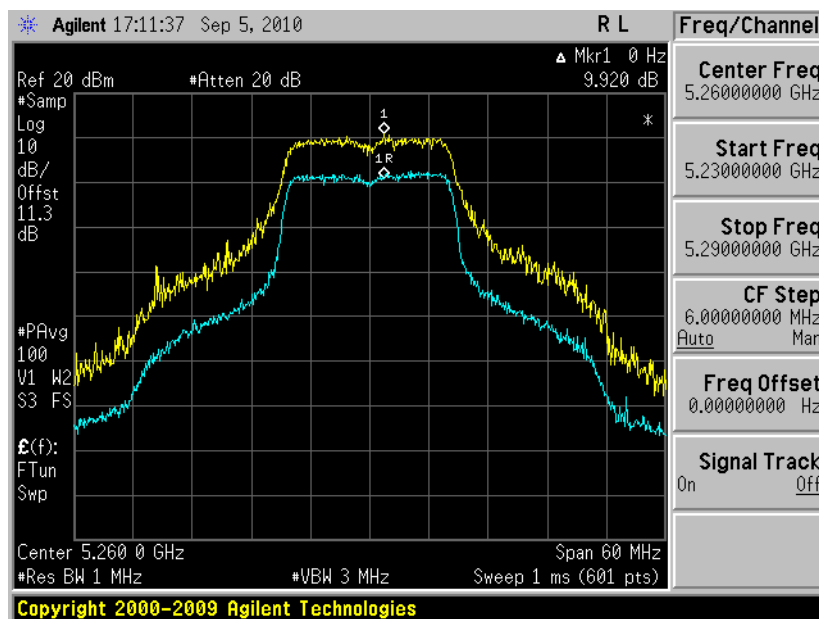




## Peak Excursion Ratio Plot on 802.11a Channel 48 - Chain 1

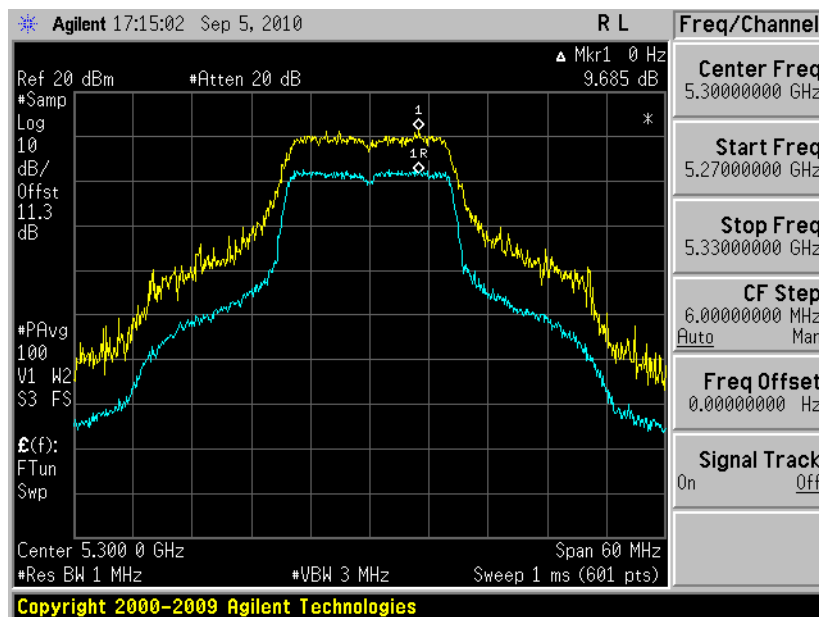


## Peak Excursion Ratio Plot on 802.11a Channel 52 - Chain 1

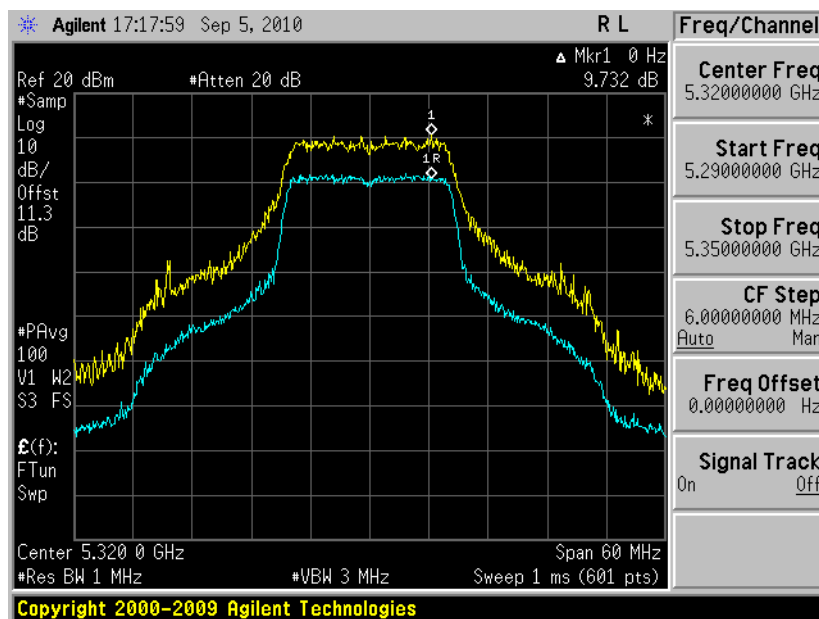




## Peak Excursion Ratio Plot on 802.11a Channel 60 - Chain 1

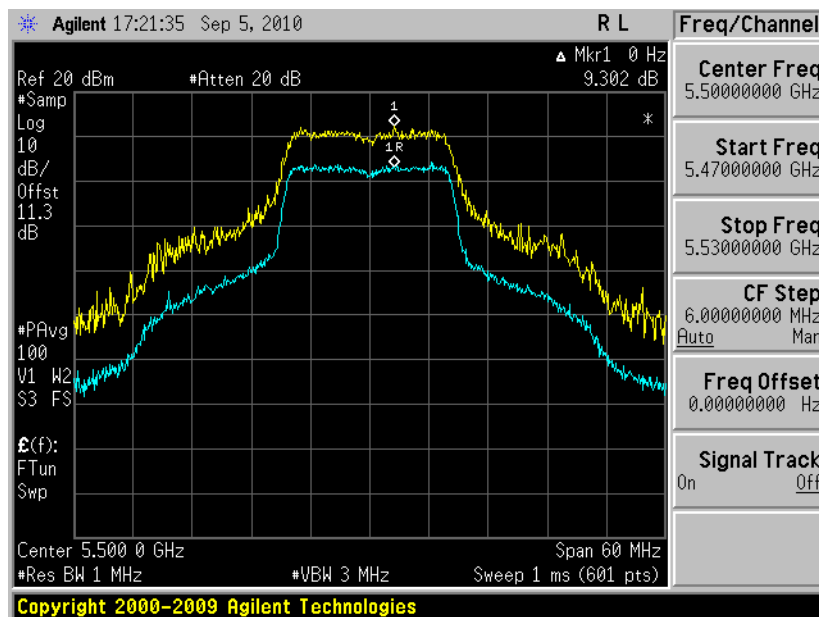


## Peak Excursion Ratio Plot on 802.11a Channel 64 - Chain 1

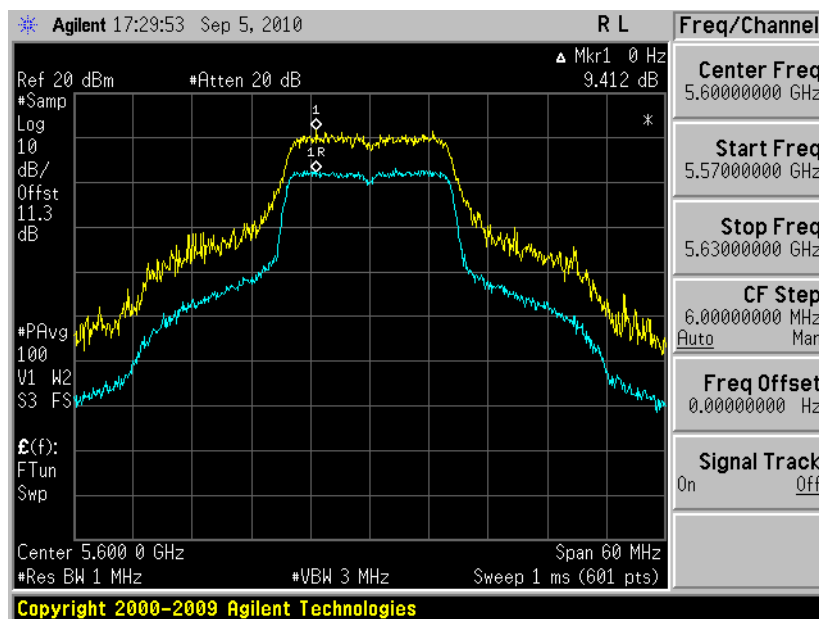




## Peak Excursion Ratio Plot on 802.11a Channel 100 - Chain 1

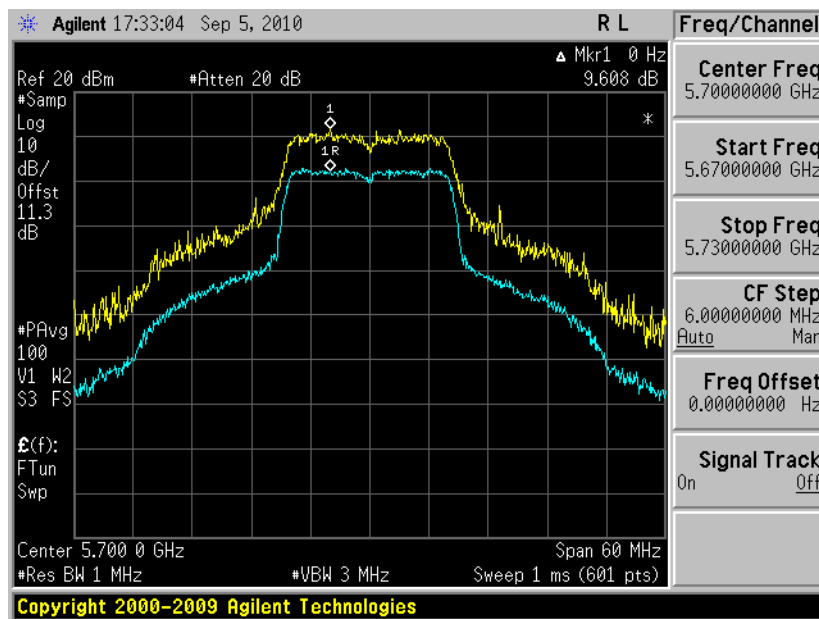


## Peak Excursion Ratio Plot on 802.11a Channel 120 - Chain 1

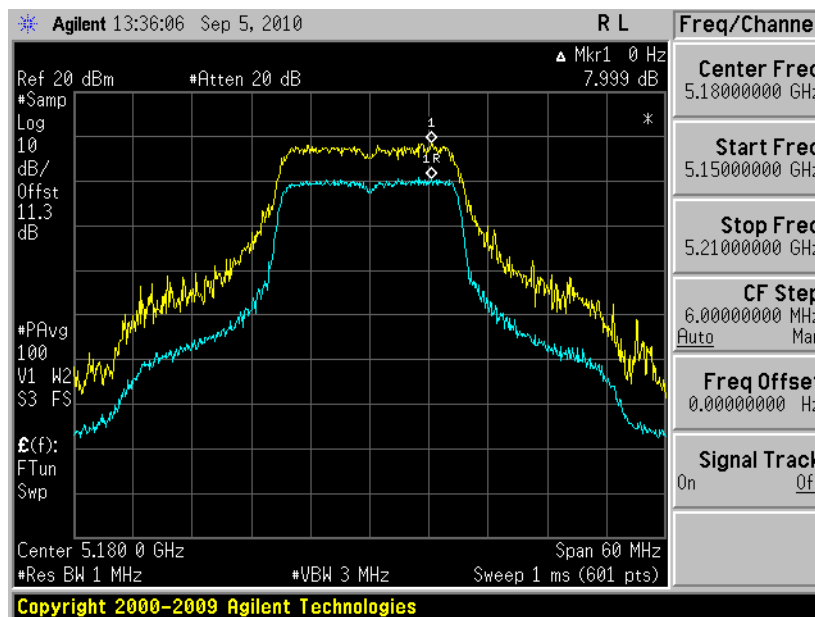
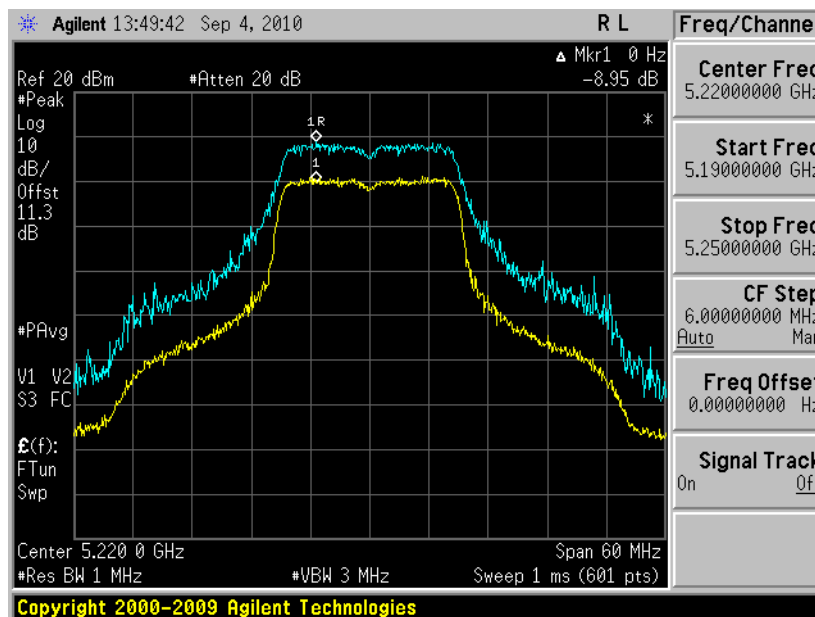




Peak Excursion Ratio Plot on 802.11a Channel 140 - Chain 1



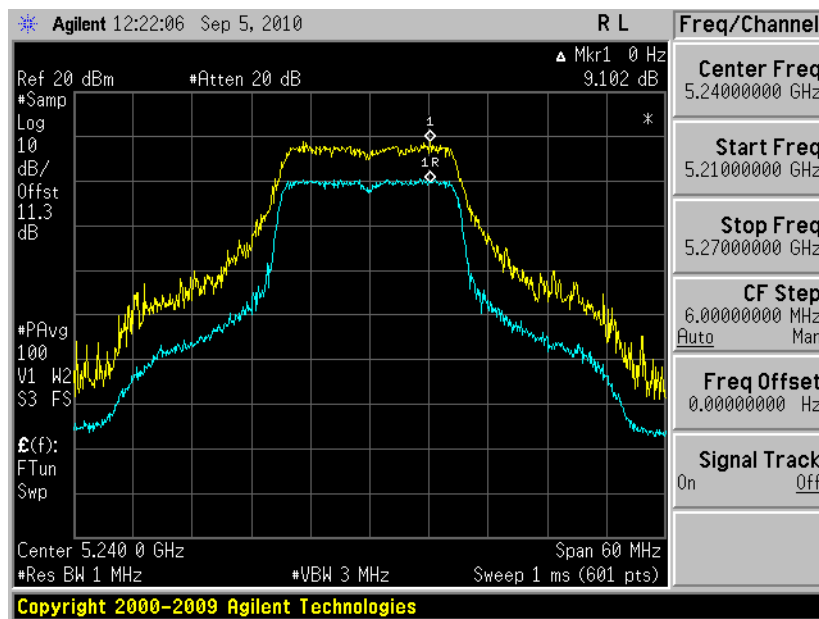
|                        |                                |                            |         |
|------------------------|--------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11n (HT-20) L/M/H channels | <b>Temperature :</b>       | 25~27°C |
| <b>Test Engineer :</b> | Lancelot Chen and Alan Liu     | <b>Relative Humidity :</b> | 41~44%  |

**Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 36 -**
**Chain 1**

**Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 44 -**
**Chain 1**




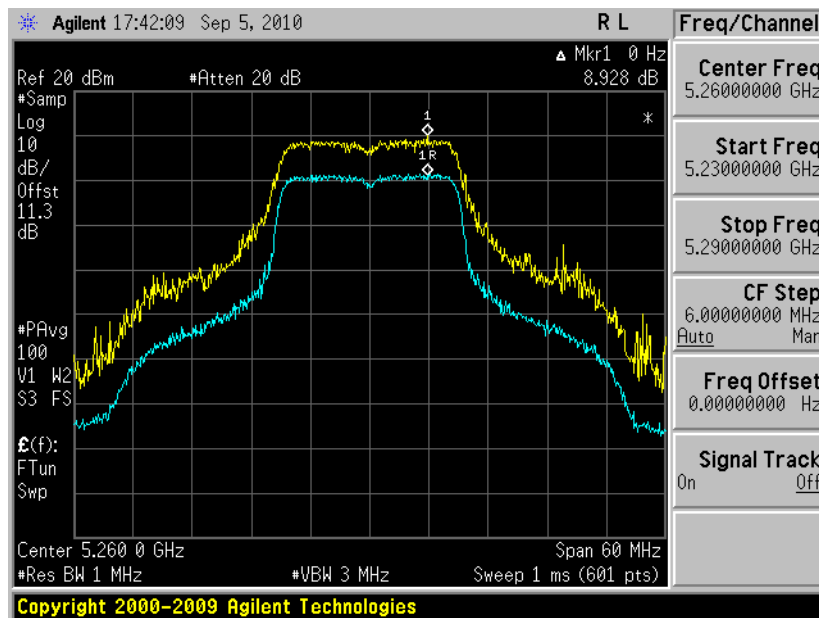
## Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 48 -

## Chain 1



## Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 52 -

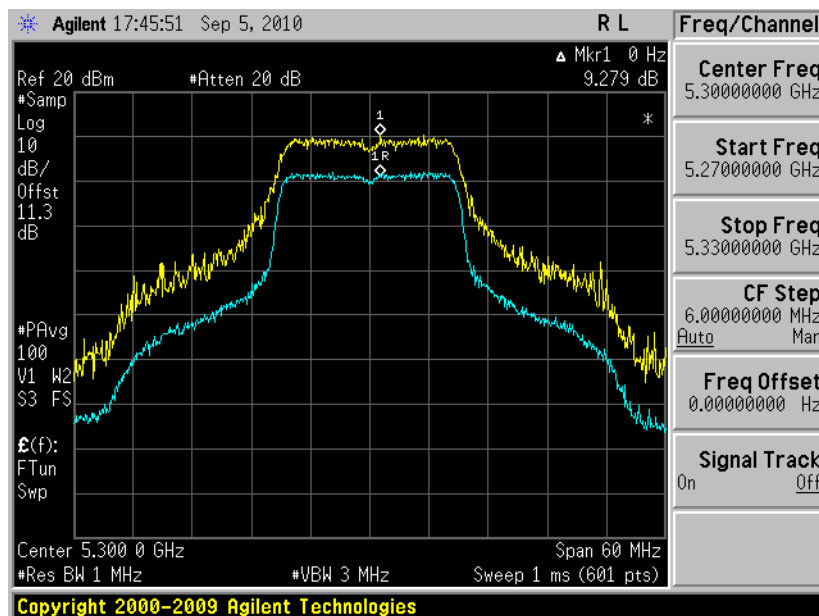
## Chain 1





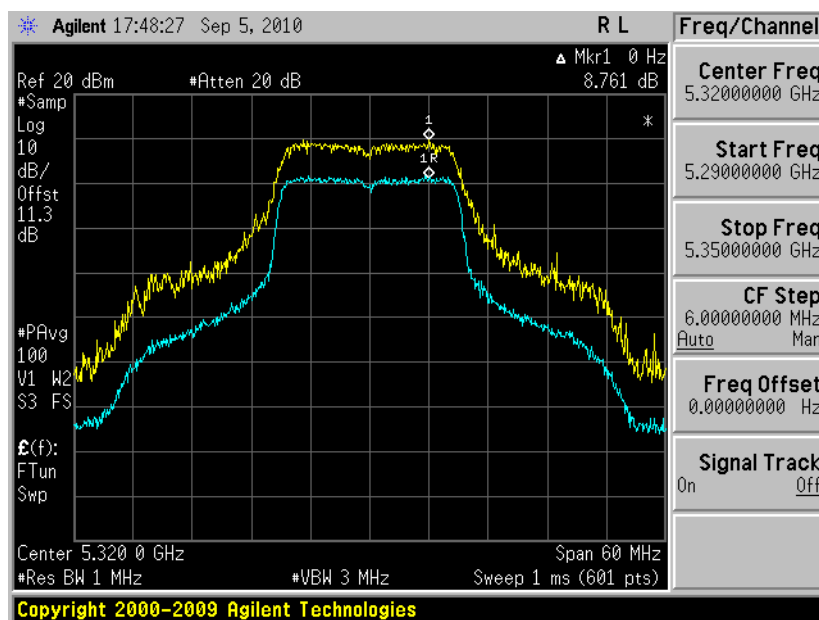
## Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 60 -

## Chain 1



## Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 64 -

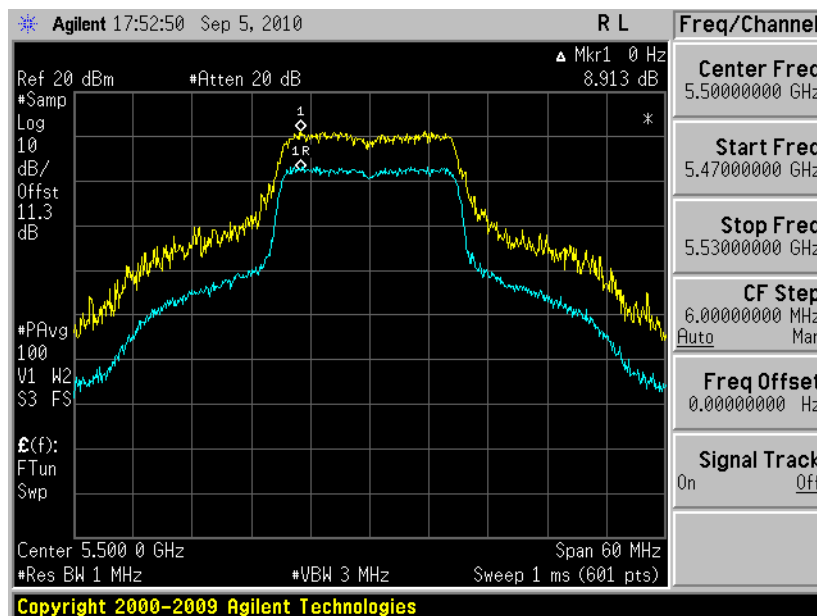
## Chain 1





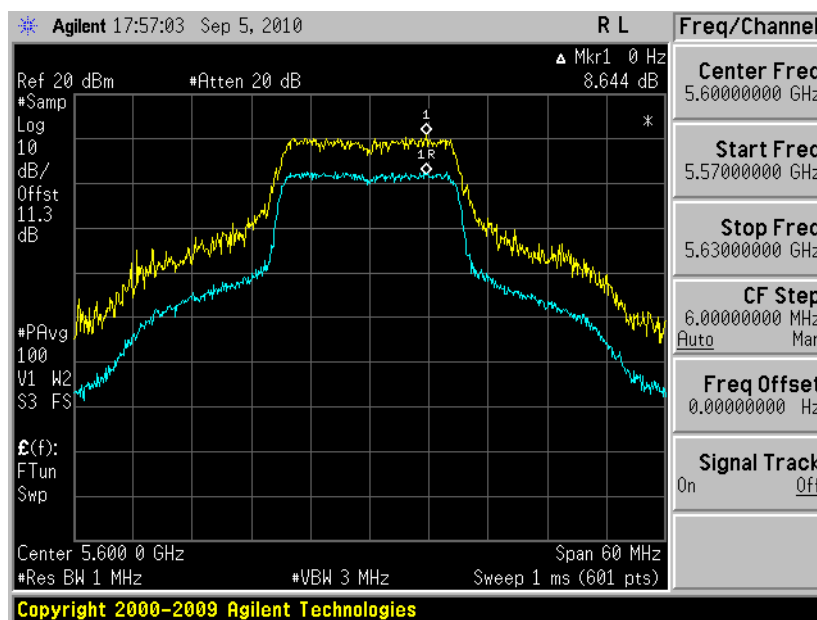
## Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 100 -

## Chain 1



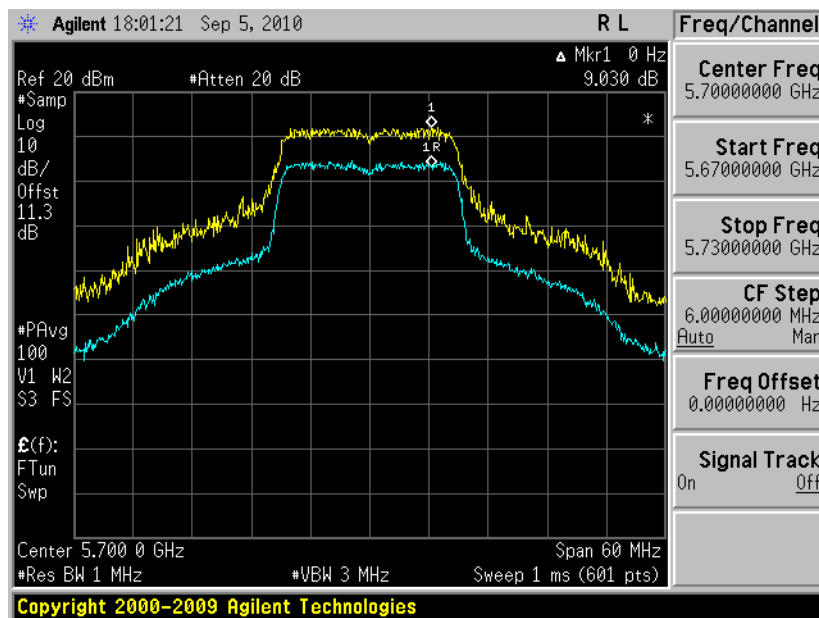
## Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 120 -

## Chain 1



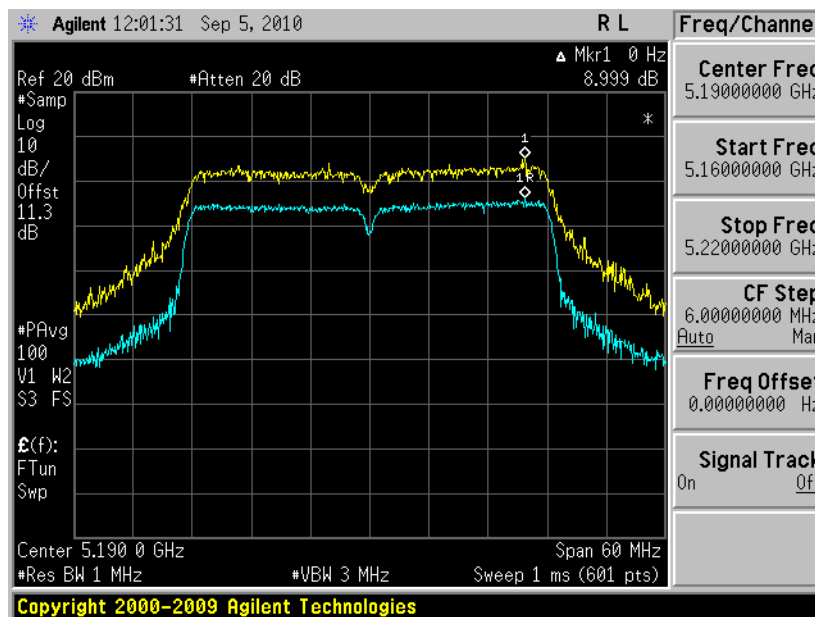
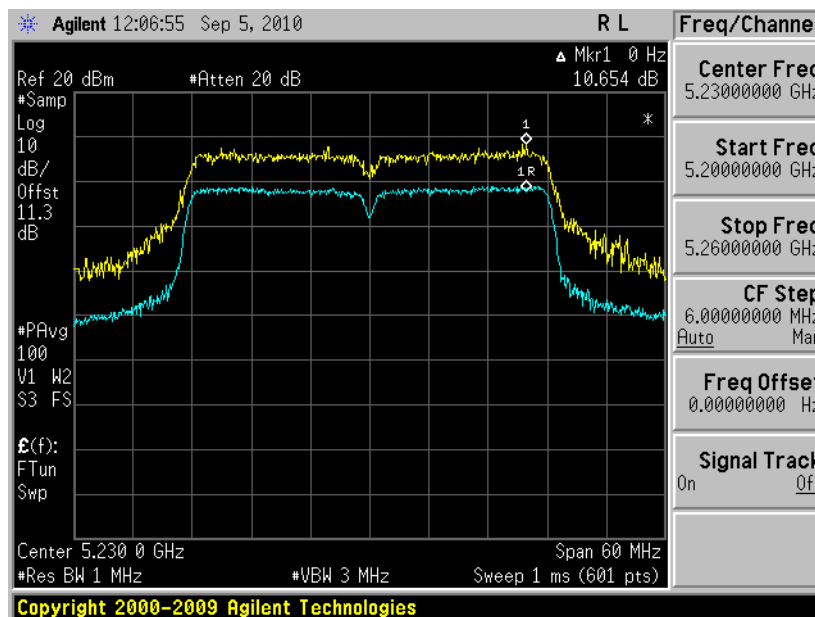
### Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 140 -

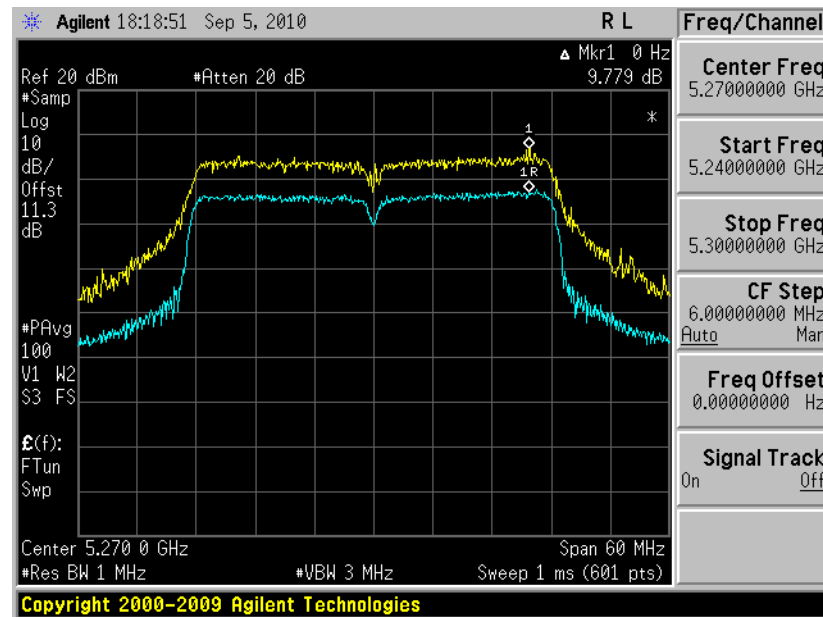
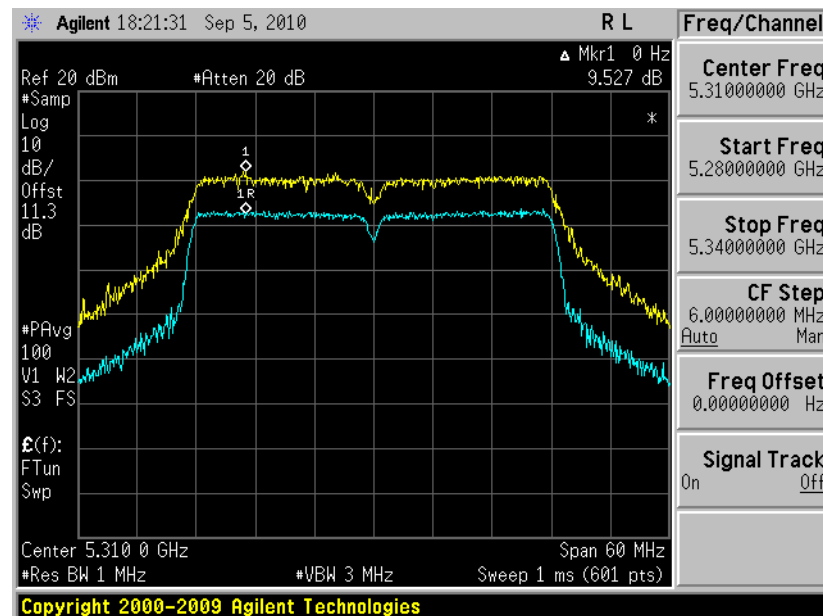
### Chain 1





|                 |                                |                     |         |
|-----------------|--------------------------------|---------------------|---------|
| Test Mode :     | 802.11n (HT-40) L/M/H channels | Temperature :       | 25~27°C |
| Test Engineer : | Lancelot Chen and Alan Liu     | Relative Humidity : | 41~44%  |

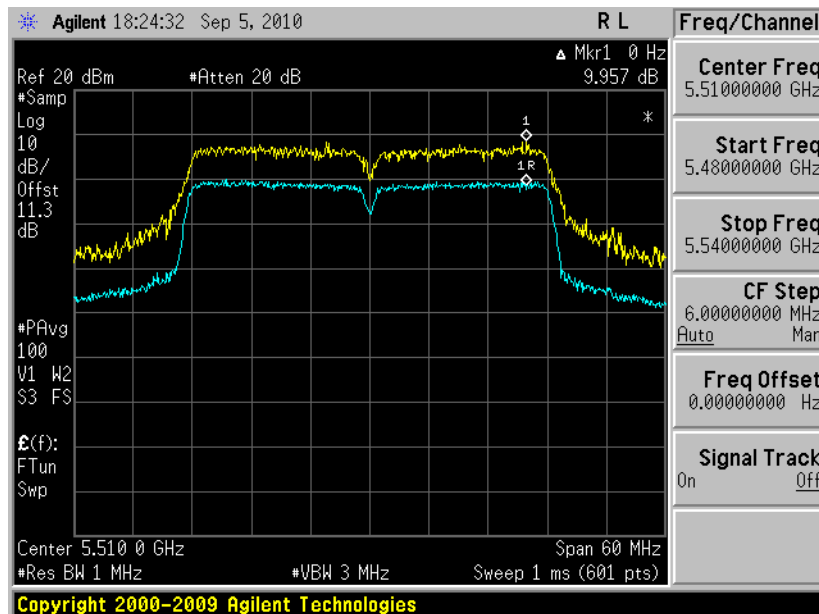
**Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 38 -****Chain 1****Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 46 -****Chain 1**

**Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 54 -**
**Chain 1**

**Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 62 -**
**Chain 1**




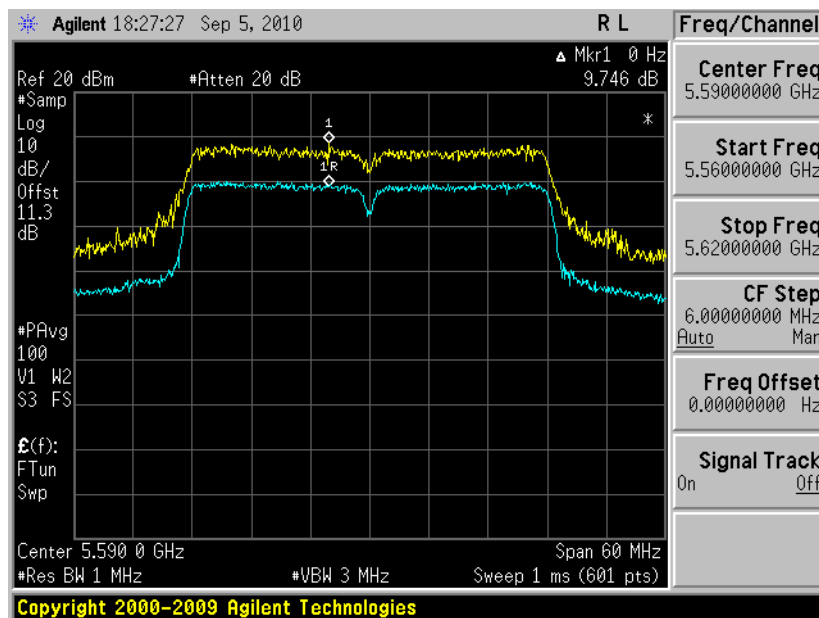
## Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 102 -

## Chain 1



## Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 118 -

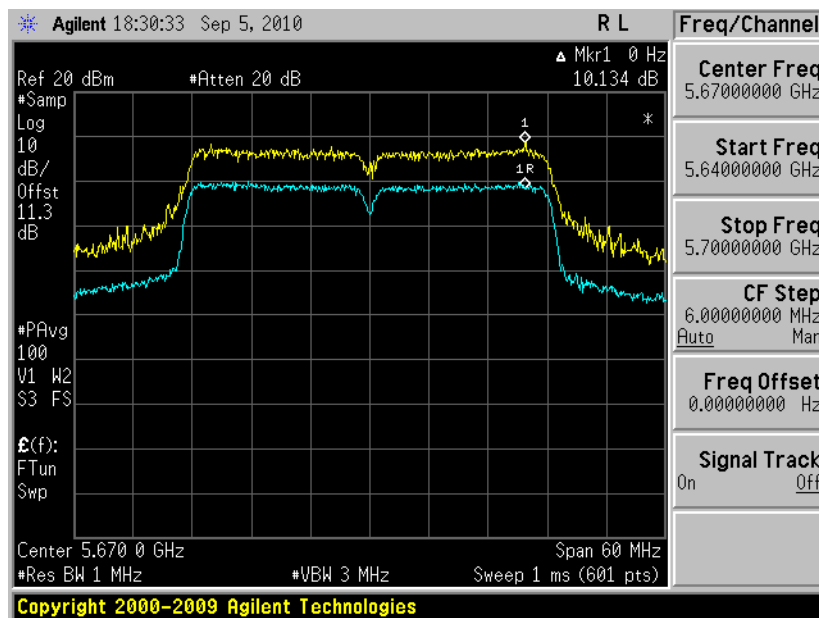
## Chain 1





Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 134 -

Chain 1





## **3.8 Frequency Stability Requirement**

### **3.8.1 Limit**

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

### **3.8.2 Declaration**

According to the manufacturer's declaration, this device complies with this test case.

### 3.9 Radiated Emission Measurement

#### 3.9.1 Limit of Radiated Emission

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.

| Frequency<br>(MHz) | Field Strength<br>(microvolts/meter) | Measurement Distance<br>(meters) |
|--------------------|--------------------------------------|----------------------------------|
| 0.009 – 0.490      | 2400/F(kHz)                          | 300                              |
| 0.490 – 1.705      | 24000/F(kHz)                         | 30                               |
| 1.705 – 30.0       | 30                                   | 30                               |
| 30 – 88            | 100                                  | 3                                |
| 88 – 216           | 150                                  | 3                                |
| 216 - 960          | 200                                  | 3                                |
| Above 960          | 500                                  | 3                                |

- (1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz.
- (2) For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25–5.35 GHz band that generate emissions in the 5.15–5.25 GHz band must meet all applicable technical requirements for operation in the 5.15–5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27 dBm/MHz in the 5.15–5.25 GHz band.
- (3) For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of –27 dBm/MHz.
- (4) The provisions of Section 15.205 Restricted bands of operation of this part apply to intentional radiators operating under this section.

#### 3.9.2 Measuring Instruments

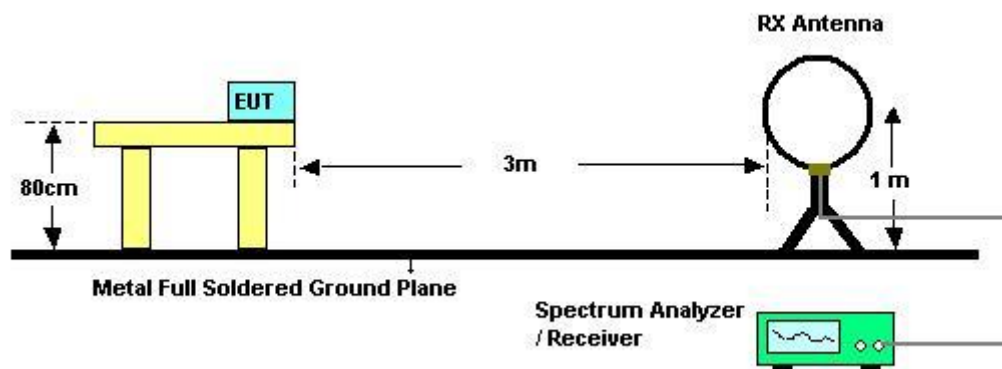
See list of measuring instruments of this test report.

### **3.9.3 Test Procedures**

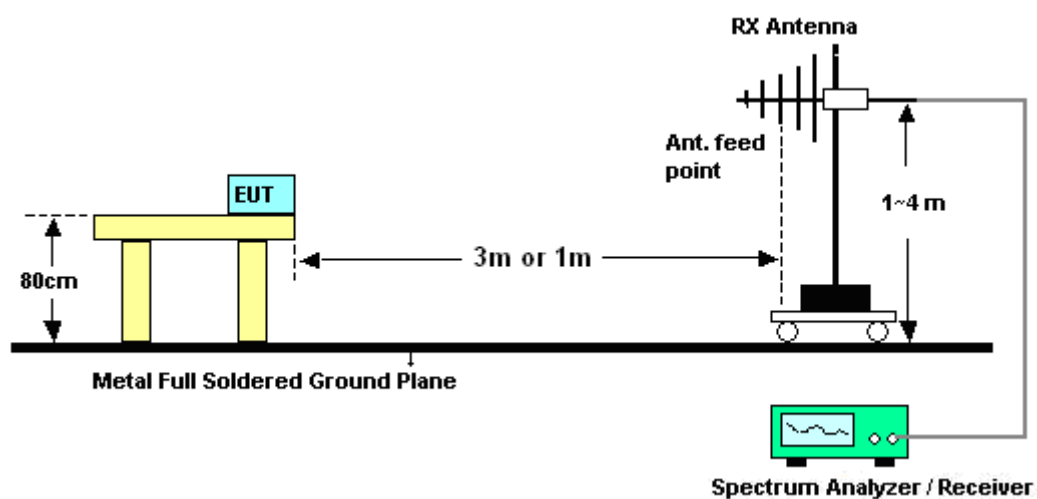
1. The testing follows the guidelines in FCC Public Notice DA 02-2138, (Measurement Guidelines of UNII)
2. The EUT was placed on a rotatable table top 0.8 meter above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest radiation.
5. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
6. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
7. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
8. For testing below 1GHz, If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported.
9. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

### 3.9.4 Test Setup

For radiated emissions below 30MHz



For radiated emissions above 30MHz



**3.9.5 Test Results of Radiated Emissions (9kHz ~ 30MHz)**

|                      |         |                 |        |
|----------------------|---------|-----------------|--------|
| <b>Temperature</b>   | 25~26°C | <b>Humidity</b> | 43~44% |
| <b>Test Engineer</b> | Kay Wu  |                 |        |

| <b>Freq.<br/>(MHz)</b> | <b>Level<br/>(dBuV)</b> | <b>Over Limit<br/>(dB)</b> | <b>Limit Line<br/>(dBuV)</b> | <b>Remark</b> |
|------------------------|-------------------------|----------------------------|------------------------------|---------------|
| -                      | -                       | -                          | -                            | See Note      |

**Note:**

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

Distance extrapolation factor =  $40 \log (\text{specific distance} / \text{test distance})$  (dB);

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

**3.9.6 Test Result of Radiated Emission (30MHz ~ 1GHz)**

|                        |                   |                            |            |
|------------------------|-------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11a M channel | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 60                | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu            | <b>Polarization :</b>      | Horizontal |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|--------|
| 99.93                | 35.57               | -7.93                   | 43.5                        | 55                      | 11.2                        | 0.95                    | 31.58                      | -                    | -                       | Peak   |
| 200.1                | 41.25               | -2.25                   | 43.5                        | 61.81                   | 9.63                        | 1.26                    | 31.45                      | 140                  | 0                       | QP     |
| 298.92               | 42.05               | -3.95                   | 46                          | 58.22                   | 13.56                       | 1.55                    | 31.28                      | -                    | -                       | Peak   |
| 498.1                | 42.66               | -3.34                   | 46                          | 53.62                   | 18.08                       | 2.04                    | 31.08                      | -                    | -                       | Peak   |
| 746.6                | 39.15               | -6.85                   | 46                          | 46.53                   | 20.66                       | 2.51                    | 30.55                      | -                    | -                       | Peak   |
| 800.5                | 39.19               | -6.81                   | 46                          | 46.41                   | 20.75                       | 2.57                    | 30.54                      | -                    | -                       | Peak   |



|                        |                   |                            |          |
|------------------------|-------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11a M channel | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 60                | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu            | <b>Polarization :</b>      | Vertical |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|--------|
| 99.66                | 29.67               | -13.83                  | 43.5                        | 49.1                    | 11.2                        | 0.95                    | 31.58                      | -                    | -                       | Peak   |
| 200.1                | 37.19               | -6.31                   | 43.5                        | 57.75                   | 9.63                        | 1.26                    | 31.45                      | -                    | -                       | Peak   |
| 300                  | 41.66               | -4.34                   | 46                          | 57.8                    | 13.58                       | 1.55                    | 31.27                      | -                    | -                       | Peak   |
| 500.2                | 42.78               | -3.22                   | 46                          | 53.72                   | 18.1                        | 2.04                    | 31.08                      | 100                  | 14                      | Peak   |
| 624.8                | 36.52               | -9.48                   | 46                          | 45.63                   | 19.46                       | 2.25                    | 30.82                      | -                    | -                       | Peak   |
| 746.6                | 33.71               | -12.29                  | 46                          | 41.09                   | 20.66                       | 2.51                    | 30.55                      | -                    | -                       | Peak   |

|                        |                   |                            |            |
|------------------------|-------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11a L channel | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 100               | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu            | <b>Polarization :</b>      | Horizontal |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|--------|
| 99.66                | 35.7                | -7.8                    | 43.5                        | 55.13                   | 11.2                        | 0.95                    | 31.58                      | -                    | -                       | Peak   |
| 199.02               | 42.51               | -0.99                   | 43.5                        | 63.1                    | 9.6                         | 1.26                    | 31.45                      | 145                  | 2                       | QP     |
| 300                  | 42.47               | -3.53                   | 46                          | 58.61                   | 13.58                       | 1.55                    | 31.27                      | -                    | -                       | Peak   |
| 497.4                | 41.79               | -4.21                   | 46                          | 52.75                   | 18.08                       | 2.04                    | 31.08                      | -                    | -                       | Peak   |
| 746.6                | 39.27               | -6.73                   | 46                          | 46.65                   | 20.66                       | 2.51                    | 30.55                      | -                    | -                       | Peak   |
| 800.5                | 38.09               | -7.91                   | 46                          | 45.31                   | 20.75                       | 2.57                    | 30.54                      | -                    | -                       | Peak   |



|                        |                   |                            |          |
|------------------------|-------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11a L channel | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 100               | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu            | <b>Polarization :</b>      | Vertical |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|--------|
| 99.93                | 30.33               | -13.17                  | 43.5                        | 49.76                   | 11.2                        | 0.95                    | 31.58                      | -                    | -                       | Peak   |
| 199.29               | 37.09               | -6.41                   | 43.5                        | 57.63                   | 9.65                        | 1.26                    | 31.45                      | -                    | -                       | Peak   |
| 298.65               | 38.55               | -7.45                   | 46                          | 54.72                   | 13.56                       | 1.55                    | 31.28                      | -                    | -                       | Peak   |
| 498.1                | 42.29               | -3.71                   | 46                          | 53.25                   | 18.08                       | 2.04                    | 31.08                      | 100                  | 174                     | Peak   |
| 624.8                | 38.01               | -7.99                   | 46                          | 47.12                   | 19.46                       | 2.25                    | 30.82                      | -                    | -                       | Peak   |
| 747.3                | 34.14               | -11.86                  | 46                          | 41.5                    | 20.68                       | 2.51                    | 30.55                      | -                    | -                       | Peak   |

**3.9.7 Test Result of Radiated Emission (1GHz ~ 10<sup>th</sup> Harmonic)**

|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11a L channel                                     | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 36                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5180 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5150                 | 46.85               | -7.15                   | 54                          | 39.91                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Average |
| 5150                 | 67.49               | -6.51                   | 74                          | 60.55                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Peak    |
| 5180                 | 96.88               | -                       | -                           | 89.9                    | 34.05                       | 6.71                    | 33.78                      | 100                  | 274                     | Average |
| 5180                 | 109.72              | -                       | -                           | 102.74                  | 34.05                       | 6.71                    | 33.78                      | 100                  | 274                     | Peak    |
| 5350                 | 40.28               | -13.72                  | 54                          | 33.07                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 274                     | Average |
| 5350                 | 49.25               | -24.75                  | 74                          | 42.04                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 274                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11a L channel                                     | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 36                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5180 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5150                 | 46.21               | -7.79                   | 54                          | 39.27                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Average |
| 5150                 | 68.04               | -5.96                   | 74                          | 61.1                    | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Peak    |
| 5180                 | 99.26               | -                       | -                           | 92.28                   | 34.05                       | 6.71                    | 33.78                      | 100                  | 274                     | Average |
| 5180                 | 112.59              | -                       | -                           | 105.61                  | 34.05                       | 6.71                    | 33.78                      | 100                  | 274                     | Peak    |
| 5440                 | 47.38               | -6.62                   | 54                          | 40.04                   | 34.25                       | 6.85                    | 33.76                      | 100                  | 274                     | Average |
| 5440                 | 54.35               | -19.65                  | 74                          | 47.01                   | 34.25                       | 6.85                    | 33.76                      | 100                  | 274                     | Peak    |
| 10360                | 53.65               | -20.35                  | 74                          | 62.13                   | 37.49                       | 10.31                   | 56.28                      | 149                  | 61                      | Peak    |
| 15540                | 44.8                | -9.2                    | 54                          | 47.51                   | 40.12                       | 12.36                   | 55.19                      | 149                  | 61                      | Average |
| 15540                | 59.11               | -14.89                  | 74                          | 61.82                   | 40.12                       | 12.36                   | 55.19                      | 149                  | 61                      | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11a M channel                                     | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 44                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5220 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5094                 | 41.09               | -12.91                  | 54                          | 34.22                   | 33.98                       | 6.67                    | 33.78                      | 100                  | 289                     | Average |
| 5094                 | 49.89               | -24.11                  | 74                          | 43.02                   | 33.98                       | 6.67                    | 33.78                      | 100                  | 289                     | Peak    |
| 5220                 | 94.81               | -                       | -                           | 87.78                   | 34.07                       | 6.74                    | 33.78                      | 100                  | 289                     | Average |
| 5220                 | 107.52              | -                       | -                           | 100.47                  | 34.09                       | 6.74                    | 33.78                      | 100                  | 289                     | Peak    |
| 5424                 | 41.83               | -12.17                  | 54                          | 34.53                   | 34.23                       | 6.84                    | 33.77                      | 100                  | 289                     | Average |
| 5424                 | 50.31               | -23.69                  | 74                          | 43.01                   | 34.23                       | 6.84                    | 33.77                      | 100                  | 289                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11a M channel                                     | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 44                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5220 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5140                 | 41.85               | -12.15                  | 54                          | 34.91                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 289                     | Average |
| 5140                 | 52.47               | -21.53                  | 74                          | 45.53                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 289                     | Peak    |
| 5220                 | 94.28               | -                       | -                           | 87.25                   | 34.07                       | 6.74                    | 33.78                      | 100                  | 289                     | Average |
| 5220                 | 114.5               | -                       | -                           | 107.45                  | 34.09                       | 6.74                    | 33.78                      | 100                  | 289                     | Peak    |
| 5456                 | 44.06               | -9.94                   | 54                          | 36.71                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 289                     | Average |
| 5456                 | 52.71               | -21.29                  | 74                          | 45.36                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 289                     | Peak    |
| 10440                | 52.29               | -21.71                  | 74                          | 60.75                   | 37.56                       | 10.22                   | 56.24                      | 149                  | 60                      | Peak    |
| 15660                | 46.09               | -7.91                   | 54                          | 48.91                   | 40.19                       | 12.28                   | 55.29                      | 149                  | 60                      | Average |
| 15660                | 60.93               | -13.07                  | 74                          | 63.75                   | 40.19                       | 12.28                   | 55.29                      | 149                  | 60                      | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11a H channel                                     | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 48                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5240 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5080                 | 41.41               | -12.59                  | 54                          | 34.57                   | 33.97                       | 6.66                    | 33.79                      | 100                  | 276                     | Average |
| 5080                 | 50.3                | -23.7                   | 74                          | 43.46                   | 33.97                       | 6.66                    | 33.79                      | 100                  | 276                     | Peak    |
| 5240                 | 94.54               | -                       | -                           | 87.48                   | 34.09                       | 6.75                    | 33.78                      | 100                  | 276                     | Average |
| 5240                 | 106.94              | -                       | -                           | 99.89                   | 34.09                       | 6.74                    | 33.78                      | 100                  | 276                     | Peak    |
| 5414                 | 41.29               | -12.71                  | 54                          | 33.99                   | 34.23                       | 6.84                    | 33.77                      | 100                  | 276                     | Average |
| 5414                 | 50.67               | -23.33                  | 74                          | 43.37                   | 34.23                       | 6.84                    | 33.77                      | 100                  | 276                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11a H channel                                     | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 48                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5240 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5078                 | 42.76               | -11.24                  | 54                          | 35.92                   | 33.97                       | 6.66                    | 33.79                      | 100                  | 276                     | Average |
| 5078                 | 51.56               | -22.44                  | 74                          | 44.72                   | 33.97                       | 6.66                    | 33.79                      | 100                  | 276                     | Peak    |
| 5240                 | 100.8               | -                       | -                           | 93.74                   | 34.09                       | 6.75                    | 33.78                      | 100                  | 276                     | Average |
| 5240                 | 113.18              | -                       | -                           | 106.13                  | 34.09                       | 6.74                    | 33.78                      | 100                  | 276                     | Peak    |
| 5416                 | 42.5                | -11.5                   | 54                          | 35.2                    | 34.23                       | 6.84                    | 33.77                      | 100                  | 276                     | Average |
| 5416                 | 53.18               | -20.82                  | 74                          | 45.88                   | 34.23                       | 6.84                    | 33.77                      | 100                  | 276                     | Peak    |
| 10480                | 51.2                | -22.8                   | 74                          | 59.66                   | 37.57                       | 10.2                    | 56.23                      | 149                  | 60                      | Peak    |
| 15720                | 44.47               | -9.53                   | 54                          | 47.34                   | 40.23                       | 12.25                   | 55.35                      | 151                  | 60                      | Average |
| 15720                | 58.09               | -15.91                  | 74                          | 60.96                   | 40.23                       | 12.25                   | 55.35                      | 151                  | 60                      | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11a L channel                                     | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 52                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5260 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5120                 | 40.96               | -13.04                  | 54                          | 34.07                   | 33.99                       | 6.68                    | 33.78                      | 102                  | 294                     | Average |
| 5120                 | 51.33               | -22.67                  | 74                          | 44.44                   | 33.99                       | 6.68                    | 33.78                      | 102                  | 294                     | Peak    |
| 5260                 | 93.83               | -                       | -                           | 86.74                   | 34.11                       | 6.75                    | 33.77                      | 102                  | 294                     | Average |
| 5260                 | 105.86              | -                       | -                           | 98.76                   | 34.11                       | 6.76                    | 33.77                      | 102                  | 294                     | Peak    |
| 5438                 | 41.94               | -12.06                  | 54                          | 34.6                    | 34.25                       | 6.85                    | 33.76                      | 102                  | 294                     | Average |
| 5438                 | 50.87               | -23.13                  | 74                          | 43.53                   | 34.25                       | 6.85                    | 33.76                      | 102                  | 294                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11a L channel                                     | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 52                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5260 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5014                 | 41.02               | -12.98                  | 54                          | 34.27                   | 33.91                       | 6.63                    | 33.79                      | 102                  | 294                     | Average |
| 5014                 | 50.07               | -23.93                  | 74                          | 43.32                   | 33.91                       | 6.63                    | 33.79                      | 102                  | 294                     | Peak    |
| 5260                 | 100.27              | -                       | -                           | 93.18                   | 34.11                       | 6.75                    | 33.77                      | 102                  | 294                     | Average |
| 5260                 | 112.67              | -                       | -                           | 105.57                  | 34.11                       | 6.76                    | 33.77                      | 102                  | 294                     | Peak    |
| 5386                 | 43.44               | -10.56                  | 54                          | 36.18                   | 34.21                       | 6.82                    | 33.77                      | 102                  | 294                     | Average |
| 5386                 | 53.23               | -20.77                  | 74                          | 45.97                   | 34.21                       | 6.82                    | 33.77                      | 102                  | 294                     | Peak    |
| 10520                | 51.08               | -22.92                  | 74                          | 59.49                   | 37.61                       | 10.18                   | 56.2                       | 151                  | 60                      | Peak    |
| 15780                | 42.7                | -11.3                   | 54                          | 45.63                   | 40.27                       | 12.2                    | 55.4                       | 151                  | 60                      | Average |
| 15780                | 56.58               | -17.42                  | 74                          | 59.49                   | 40.27                       | 12.22                   | 55.4                       | 151                  | 60                      | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11a M channel                                     | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 60                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5300 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5040                 | 42.13               | -11.87                  | 54                          | 35.33                   | 33.94                       | 6.65                    | 33.79                      | 100                  | 292                     | Average |
| 5040                 | 51.16               | -22.84                  | 74                          | 44.36                   | 33.94                       | 6.65                    | 33.79                      | 100                  | 292                     | Peak    |
| 5300                 | 92.93               | -                       | -                           | 85.78                   | 34.14                       | 6.78                    | 33.77                      | 100                  | 292                     | Average |
| 5300                 | 105.12              | -                       | -                           | 97.97                   | 34.14                       | 6.78                    | 33.77                      | 100                  | 292                     | Peak    |
| 5350                 | 42.08               | -11.92                  | 54                          | 34.87                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 292                     | Average |
| 5350                 | 49.65               | -24.35                  | 74                          | 42.44                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 292                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11a M channel                                     | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 60                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5300 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5080                 | 44.34               | -9.66                   | 54                          | 37.5                    | 33.97                       | 6.66                    | 33.79                      | 100                  | 292                     | Average |
| 5080                 | 52.59               | -21.41                  | 74                          | 45.75                   | 33.97                       | 6.66                    | 33.79                      | 100                  | 292                     | Peak    |
| 5300                 | 101.23              | -                       | -                           | 94.08                   | 34.14                       | 6.78                    | 33.77                      | 100                  | 292                     | Average |
| 5300                 | 114.04              | -                       | -                           | 106.89                  | 34.14                       | 6.78                    | 33.77                      | 100                  | 292                     | Peak    |
| 5354                 | 46.6                | -7.4                    | 54                          | 39.39                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 292                     | Average |
| 5354                 | 54.75               | -19.25                  | 74                          | 47.54                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 292                     | Peak    |
| 10600                | 36.51               | -17.49                  | 54                          | 44.81                   | 37.64                       | 10.22                   | 56.16                      | 151                  | 60                      | Average |
| 10600                | 50.79               | -23.21                  | 74                          | 59.09                   | 37.64                       | 10.22                   | 56.16                      | 151                  | 60                      | Peak    |
| 15900                | 39.23               | -14.77                  | 54                          | 42.27                   | 40.34                       | 12.12                   | 55.5                       | 151                  | 60                      | Average |
| 15900                | 52.32               | -21.68                  | 74                          | 55.37                   | 40.35                       | 12.12                   | 55.52                      | 151                  | 60                      | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11a H channel                                     | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 64                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5320 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5150                 | 49.52               | -24.48                  | 74                          | 42.58                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 288                     | Peak    |
| 5150                 | 40                  | -34                     | 74                          | 33.06                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 288                     | Peak    |
| 5320                 | 95.87               | -                       | -                           | 88.7                    | 34.15                       | 6.79                    | 33.77                      | 100                  | 288                     | Average |
| 5320                 | 108.43              | -                       | -                           | 101.26                  | 34.15                       | 6.79                    | 33.77                      | 100                  | 288                     | Peak    |
| 5350                 | 42.32               | -11.68                  | 54                          | 35.11                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Average |
| 5350                 | 64.68               | -9.32                   | 74                          | 57.47                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11a H channel                                     | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 64                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5320 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5150                 | 39.8                | -14.2                   | 54                          | 32.86                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 288                     | Average |
| 5150                 | 49.3                | -24.7                   | 74                          | 42.36                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 288                     | Peak    |
| 5320                 | 99.77               | -                       | -                           | 92.6                    | 34.15                       | 6.79                    | 33.77                      | 100                  | 288                     | Average |
| 5320                 | 112.52              | -                       | -                           | 105.35                  | 34.15                       | 6.79                    | 33.77                      | 100                  | 288                     | Peak    |
| 5350                 | 45.6                | -8.4                    | 54                          | 38.39                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Average |
| 5350                 | 65.74               | -8.26                   | 74                          | 58.53                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Peak    |

|                        |                                                                                                          |                            |            |
|------------------------|----------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11a L channel                                                                                        | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 100                                                                                                      | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                                                                   | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 5500 MHz is Fundamental Signals which can be ignored.<br>2. 5725 MHz is not within a restricted band. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5460                 | 40.79               | -13.21                  | 54                          | 33.44                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Average |
| 5460                 | 56.34               | -17.66                  | 74                          | 48.99                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Peak    |
| 5500                 | 91.09               | -                       | -                           | 83.67                   | 34.3                        | 6.88                    | 33.76                      | 100                  | 252                     | Average |
| 5500                 | 103.11              | -                       | -                           | 95.69                   | 34.3                        | 6.88                    | 33.76                      | 100                  | 252                     | Peak    |
| 5725                 | 40.69               | -27.61                  | 68.3                        | 33.23                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 252                     | Average |
| 5725                 | 47.99               | -40.31                  | 88.3                        | 40.53                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 252                     | Peak    |

|                        |                                                                                                          |                            |          |
|------------------------|----------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11a L channel                                                                                        | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 100                                                                                                      | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                                                                   | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 5500 MHz is Fundamental Signals which can be ignored.<br>2. 5725 MHz is not within a restricted band. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 99.93                | 30.33               | -13.17                  | 43.5                        | 49.76                   | 11.2                        | 0.95                    | 31.58                      | -                    | -                       | Peak    |
| 199.29               | 37.09               | -6.41                   | 43.5                        | 57.63                   | 9.65                        | 1.26                    | 31.45                      | -                    | -                       | Peak    |
| 298.65               | 38.55               | -7.45                   | 46                          | 54.72                   | 13.56                       | 1.55                    | 31.28                      | -                    | -                       | Peak    |
| 498.1                | 42.29               | -3.71                   | 46                          | 53.25                   | 18.08                       | 2.04                    | 31.08                      | 100                  | 174                     | Peak    |
| 624.8                | 38.01               | -7.99                   | 46                          | 47.12                   | 19.46                       | 2.25                    | 30.82                      | -                    | -                       | Peak    |
| 747.3                | 34.14               | -11.86                  | 46                          | 41.5                    | 20.68                       | 2.51                    | 30.55                      | -                    | -                       | Peak    |
| 5458                 | 44.07               | -9.93                   | 54                          | 36.72                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Average |
| 5458                 | 63.56               | -10.44                  | 74                          | 56.21                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Peak    |
| 5500                 | 99.57               | -                       | -                           | 92.15                   | 34.3                        | 6.88                    | 33.76                      | 100                  | 252                     | Average |
| 5500                 | 112.15              | -                       | -                           | 104.74                  | 34.29                       | 6.88                    | 33.76                      | 100                  | 252                     | Peak    |
| 5725                 | 41.04               | -27.26                  | 68.3                        | 33.58                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 252                     | Average |
| 5725                 | 48.98               | -39.32                  | 88.3                        | 41.52                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 252                     | Peak    |
| 11000                | 53                  | -1                      | 54                          | 60.74                   | 37.8                        | 10.44                   | 55.98                      | 139                  | 0                       | Average |
| 11000                | 68.76               | -5.24                   | 74                          | 76.5                    | 37.8                        | 10.44                   | 55.98                      | 139                  | 0                       | Peak    |

|                        |                                                                                                          |                            |            |
|------------------------|----------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11a M channel                                                                                        | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 120                                                                                                      | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                                                                   | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 5600 MHz is Fundamental Signals which can be ignored.<br>2. 5725 MHz is not within a restricted band. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5432                 | 40.18               | -13.82                  | 54                          | 32.85                   | 34.25                       | 6.84                    | 33.76                      | 100                  | 248                     | Average |
| 5432                 | 51.29               | -22.71                  | 74                          | 43.96                   | 34.25                       | 6.84                    | 33.76                      | 100                  | 248                     | Peak    |
| 5600                 | 89.26               | -                       | -                           | 81.82                   | 34.26                       | 6.94                    | 33.76                      | 100                  | 248                     | Average |
| 5600                 | 103.22              | -                       | -                           | 95.78                   | 34.26                       | 6.94                    | 33.76                      | 100                  | 248                     | Peak    |
| 5725                 | 40.13               | -28.17                  | 68.3                        | 32.67                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 248                     | Average |
| 5725                 | 48.33               | -39.97                  | 88.3                        | 40.87                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 248                     | Peak    |
| 11200                | 39.27               | -14.73                  | 54                          | 46.73                   | 37.92                       | 10.46                   | 55.84                      | 140                  | 16                      | Average |
| 11200                | 53.02               | -20.98                  | 74                          | 60.48                   | 37.92                       | 10.46                   | 55.84                      | 140                  | 16                      | Peak    |

|                        |                                                                                                          |                            |          |
|------------------------|----------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11a M channel                                                                                        | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 120                                                                                                      | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                                                                   | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 5600 MHz is Fundamental Signals which can be ignored.<br>2. 5725 MHz is not within a restricted band. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5378                 | 51.58               | -22.42                  | 74                          | 44.32                   | 34.21                       | 6.82                    | 33.77                      | 100                  | 248                     | Peak    |
| 5600                 | 99.54               | -                       | -                           | 92.1                    | 34.26                       | 6.94                    | 33.76                      | 100                  | 248                     | Average |
| 5600                 | 111.92              | -                       | -                           | 104.48                  | 34.26                       | 6.94                    | 33.76                      | 100                  | 248                     | Peak    |
| 5725                 | 40.53               | -27.77                  | 68.3                        | 33.07                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 248                     | Average |
| 5725                 | 48.64               | -39.66                  | 88.3                        | 41.18                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 248                     | Peak    |
| 11200                | 53.36               | -0.64                   | 54                          | 60.82                   | 37.92                       | 10.46                   | 55.84                      | 140                  | 16                      | Average |
| 11200                | 69.72               | -4.28                   | 74                          | 77.18                   | 37.92                       | 10.46                   | 55.84                      | 140                  | 16                      | Peak    |

|                        |                                                                                                          |                            |            |
|------------------------|----------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11a H channel                                                                                        | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 140                                                                                                      | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                                                                   | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 5700 MHz is Fundamental Signals which can be ignored.<br>2. 5725 MHz is not within a restricted band. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5470                 | 41.01               | -12.99                  | 54                          | 32.74                   | 34.17                       | 9.94                    | 35.84                      | 100                  | 279                     | Average |
| 5470                 | 48.88               | -25.12                  | 74                          | 40.61                   | 34.17                       | 9.94                    | 35.84                      | 100                  | 279                     | Peak    |
| 5700                 | 79.42               | -                       | -                           | 70.88                   | 34.47                       | 9.93                    | 35.86                      | 100                  | 279                     | Average |
| 5700                 | 97.15               | -                       | -                           | 88.61                   | 34.47                       | 9.93                    | 35.86                      | 100                  | 279                     | Peak    |
| 5725                 | 38.29               | -30.01                  | 68.3                        | 29.7                    | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Average |
| 5725                 | 65.79               | -22.51                  | 88.3                        | 57.2                    | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Peak    |
| 11400                | 40.43               | -13.57                  | 54                          | 70.49                   | -9.66                       | 13.16                   | 33.56                      | 136                  | 24                      | Average |
| 11400                | 55.4                | -18.6                   | 74                          | 85.46                   | -9.66                       | 13.16                   | 33.56                      | 136                  | 24                      | Peak    |

|                        |                                                                                                          |                            |          |
|------------------------|----------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11a H channel                                                                                        | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 140                                                                                                      | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                                                                   | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 5700 MHz is Fundamental Signals which can be ignored.<br>2. 5725 MHz is not within a restricted band. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5470                 | 37.99               | -16.01                  | 54                          | 29.72                   | 34.17                       | 9.94                    | 35.84                      | 100                  | 279                     | Average |
| 5470                 | 48.99               | -25.01                  | 74                          | 40.72                   | 34.17                       | 9.94                    | 35.84                      | 100                  | 279                     | Peak    |
| 5700                 | 96.02               | -                       | -                           | 87.48                   | 34.47                       | 9.93                    | 35.86                      | 100                  | 279                     | Average |
| 5700                 | 108.86              | -                       | -                           | 100.29                  | 34.49                       | 9.93                    | 35.85                      | 100                  | 279                     | Peak    |
| 5725                 | 53.3                | -15                     | 68.3                        | 44.71                   | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Average |
| 5725                 | 75.88               | -12.42                  | 88.3                        | 67.29                   | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Peak    |
| 11400                | 53.19               | -0.81                   | 54                          | 83.25                   | -9.66                       | 13.16                   | 33.56                      | 136                  | 24                      | Average |
| 11400                | 67.24               | -6.76                   | 74                          | 97.3                    | -9.66                       | 13.16                   | 33.56                      | 136                  | 24                      | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-20) L channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 36                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5180 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5148                 | 42.74               | -11.26                  | 54                          | 35.8                    | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Average |
| 5148                 | 67.46               | -6.54                   | 74                          | 60.52                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Peak    |
| 5180                 | 95.08               | -                       | -                           | 88.1                    | 34.05                       | 6.71                    | 33.78                      | 100                  | 274                     | Average |
| 5180                 | 108.4               | -                       | -                           | 101.42                  | 34.05                       | 6.71                    | 33.78                      | 100                  | 274                     | Peak    |
| 5440                 | 42.51               | -11.49                  | 54                          | 35.17                   | 34.25                       | 6.85                    | 33.76                      | 100                  | 274                     | Average |
| 5440                 | 54.37               | -19.63                  | 74                          | 47.03                   | 34.25                       | 6.85                    | 33.76                      | 100                  | 274                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-20) L channel                             | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 36                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5180 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5150                 | 44.85               | -9.15                   | 54                          | 37.91                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Average |
| 5150                 | 67.98               | -6.02                   | 74                          | 61.04                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 274                     | Peak    |
| 5180                 | 99                  | -                       | -                           | 92.02                   | 34.05                       | 6.71                    | 33.78                      | 100                  | 274                     | Average |
| 5180                 | 111.56              | -                       | -                           | 104.58                  | 34.05                       | 6.71                    | 33.78                      | 100                  | 274                     | Peak    |
| 5440                 | 46.17               | -7.83                   | 54                          | 38.83                   | 34.25                       | 6.85                    | 33.76                      | 100                  | 274                     | Average |
| 5440                 | 53.87               | -20.13                  | 74                          | 46.53                   | 34.25                       | 6.85                    | 33.76                      | 100                  | 274                     | Peak    |
| 15540                | 43.73               | -10.27                  | 54                          | 46.44                   | 40.12                       | 12.36                   | 55.19                      | 149                  | 61                      | Average |
| 15540                | 59.16               | -14.84                  | 74                          | 61.88                   | 40.13                       | 12.35                   | 55.2                       | 149                  | 61                      | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-20) M channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 44                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5220 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5080                 | 41.79               | -12.21                  | 54                          | 34.95                   | 33.97                       | 6.66                    | 33.79                      | 100                  | 289                     | Average |
| 5080                 | 50.52               | -23.48                  | 74                          | 43.68                   | 33.97                       | 6.66                    | 33.79                      | 100                  | 289                     | Peak    |
| 5220                 | 95.39               | -                       | -                           | 88.36                   | 34.07                       | 6.74                    | 33.78                      | 100                  | 289                     | Average |
| 5220                 | 106.62              | -                       | -                           | 99.59                   | 34.07                       | 6.74                    | 33.78                      | 100                  | 289                     | Peak    |
| 5440                 | 41.61               | -12.39                  | 54                          | 34.27                   | 34.25                       | 6.85                    | 33.76                      | 100                  | 289                     | Average |
| 5440                 | 50.3                | -23.7                   | 74                          | 42.96                   | 34.25                       | 6.85                    | 33.76                      | 100                  | 289                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-20) M channel                             | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 44                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5220 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5134                 | 41.96               | -12.04                  | 54                          | 35.05                   | 34.01                       | 6.68                    | 33.78                      | 100                  | 289                     | Average |
| 5134                 | 52.92               | -21.08                  | 74                          | 46.01                   | 34.01                       | 6.68                    | 33.78                      | 100                  | 289                     | Peak    |
| 5220                 | 99.91               | -                       | -                           | 92.88                   | 34.07                       | 6.74                    | 33.78                      | 100                  | 289                     | Average |
| 5220                 | 112.42              | -                       | -                           | 105.39                  | 34.07                       | 6.74                    | 33.78                      | 100                  | 289                     | Peak    |
| 5400                 | 43.07               | -10.93                  | 54                          | 35.79                   | 34.22                       | 6.83                    | 33.77                      | 100                  | 289                     | Average |
| 5400                 | 52.76               | -21.24                  | 74                          | 45.48                   | 34.22                       | 6.83                    | 33.77                      | 100                  | 289                     | Peak    |
| 10440                | 52.39               | -21.61                  | 74                          | 60.85                   | 37.56                       | 10.22                   | 56.24                      | 149                  | 60                      | Peak    |
| 15660                | 46.49               | -7.51                   | 54                          | 49.31                   | 40.19                       | 12.28                   | 55.29                      | 149                  | 60                      | Average |
| 15660                | 60.48               | -13.52                  | 74                          | 63.3                    | 40.19                       | 12.28                   | 55.29                      | 149                  | 60                      | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-20) H channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 48                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5240 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5120                 | 41.52               | -12.48                  | 54                          | 34.63                   | 33.99                       | 6.68                    | 33.78                      | 100                  | 276                     | Average |
| 5120                 | 49.85               | -24.15                  | 74                          | 42.96                   | 33.99                       | 6.68                    | 33.78                      | 100                  | 276                     | Peak    |
| 5240                 | 95.43               | -                       | -                           | 88.37                   | 34.09                       | 6.75                    | 33.78                      | 100                  | 276                     | Average |
| 5240                 | 106.41              | -                       | -                           | 99.36                   | 34.09                       | 6.74                    | 33.78                      | 100                  | 276                     | Peak    |
| 5364                 | 41.8                | -12.2                   | 54                          | 34.56                   | 34.19                       | 6.82                    | 33.77                      | 100                  | 276                     | Average |
| 5364                 | 50.94               | -23.06                  | 74                          | 43.7                    | 34.19                       | 6.82                    | 33.77                      | 100                  | 276                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-20) H channel                             | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 48                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5240 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5136                 | 43.69               | -10.31                  | 54                          | 36.78                   | 34.01                       | 6.68                    | 33.78                      | 100                  | 276                     | Average |
| 5136                 | 51.26               | -22.74                  | 74                          | 44.35                   | 34.01                       | 6.68                    | 33.78                      | 100                  | 276                     | Peak    |
| 5240                 | 101.35              | -                       | -                           | 94.29                   | 34.09                       | 6.75                    | 33.78                      | 100                  | 276                     | Average |
| 5240                 | 113.37              | -                       | -                           | 106.3                   | 34.1                        | 6.75                    | 33.78                      | 100                  | 276                     | Peak    |
| 5398                 | 42.5                | -11.5                   | 54                          | 35.22                   | 34.22                       | 6.83                    | 33.77                      | 100                  | 276                     | Average |
| 5398                 | 52.79               | -21.21                  | 74                          | 45.51                   | 34.22                       | 6.83                    | 33.77                      | 100                  | 276                     | Peak    |
| 15720                | 44.62               | -9.38                   | 54                          | 47.49                   | 40.23                       | 12.25                   | 55.35                      | 151                  | 60                      | Average |
| 15720                | 59.42               | -14.58                  | 74                          | 62.29                   | 40.23                       | 12.25                   | 55.35                      | 151                  | 60                      | Peak    |

|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-20) L channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 52                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5260 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5100                 | 40.92               | -13.08                  | 54                          | 34.05                   | 33.98                       | 6.67                    | 33.78                      | 102                  | 294                     | Average |
| 5100                 | 50.04               | -23.96                  | 74                          | 43.17                   | 33.98                       | 6.67                    | 33.78                      | 102                  | 294                     | Peak    |
| 5260                 | 94.36               | -                       | -                           | 87.27                   | 34.11                       | 6.75                    | 33.77                      | 102                  | 294                     | Average |
| 5260                 | 104.99              | -                       | -                           | 97.89                   | 34.11                       | 6.76                    | 33.77                      | 102                  | 294                     | Peak    |
| 5400                 | 41.76               | -12.24                  | 54                          | 34.48                   | 34.22                       | 6.83                    | 33.77                      | 102                  | 294                     | Average |
| 5400                 | 50.31               | -23.69                  | 74                          | 43.03                   | 34.22                       | 6.83                    | 33.77                      | 102                  | 294                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-20) L channel                             | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 52                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5260 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5082                 | 42.42               | -11.58                  | 54                          | 35.58                   | 33.97                       | 6.66                    | 33.79                      | 102                  | 294                     | Average |
| 5082                 | 51.08               | -22.92                  | 74                          | 44.24                   | 33.97                       | 6.66                    | 33.79                      | 102                  | 294                     | Peak    |
| 5260                 | 100.6               | -                       | -                           | 93.51                   | 34.11                       | 6.75                    | 33.77                      | 102                  | 294                     | Average |
| 5260                 | 113.25              | -                       | -                           | 106.15                  | 34.11                       | 6.76                    | 33.77                      | 102                  | 294                     | Peak    |
| 5400                 | 43.55               | -10.45                  | 54                          | 36.27                   | 34.22                       | 6.83                    | 33.77                      | 102                  | 294                     | Average |
| 5400                 | 53.91               | -20.09                  | 74                          | 46.63                   | 34.22                       | 6.83                    | 33.77                      | 102                  | 294                     | Peak    |
| 15780                | 41.03               | -12.97                  | 54                          | 43.96                   | 40.27                       | 12.2                    | 55.4                       | 151                  | 60                      | Average |
| 15780                | 54.76               | -19.24                  | 74                          | 57.67                   | 40.27                       | 12.22                   | 55.4                       | 151                  | 60                      | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-20) M channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 60                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5300 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5080                 | 41.75               | -12.25                  | 54                          | 34.91                   | 33.97                       | 6.66                    | 33.79                      | 100                  | 292                     | Average |
| 5080                 | 51.22               | -22.78                  | 74                          | 44.38                   | 33.97                       | 6.66                    | 33.79                      | 100                  | 292                     | Peak    |
| 5300                 | 93.91               | -                       | -                           | 86.76                   | 34.14                       | 6.78                    | 33.77                      | 100                  | 292                     | Average |
| 5300                 | 104.76              | -                       | -                           | 97.61                   | 34.14                       | 6.78                    | 33.77                      | 100                  | 292                     | Peak    |
| 5400                 | 42.59               | -11.41                  | 54                          | 35.31                   | 34.22                       | 6.83                    | 33.77                      | 100                  | 292                     | Average |
| 5400                 | 51.35               | -22.65                  | 74                          | 44.07                   | 34.22                       | 6.83                    | 33.77                      | 100                  | 292                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-20) M channel                             | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 60                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5300 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5078                 | 44.83               | -9.17                   | 54                          | 37.99                   | 33.97                       | 6.66                    | 33.79                      | 100                  | 292                     | Average |
| 5078                 | 52.08               | -21.92                  | 74                          | 45.24                   | 33.97                       | 6.66                    | 33.79                      | 100                  | 292                     | Peak    |
| 5300                 | 101.71              | -                       | -                           | 94.56                   | 34.14                       | 6.78                    | 33.77                      | 100                  | 292                     | Average |
| 5300                 | 113.37              | -                       | -                           | 106.22                  | 34.14                       | 6.78                    | 33.77                      | 100                  | 292                     | Peak    |
| 5352                 | 47.18               | -6.82                   | 54                          | 39.97                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 292                     | Average |
| 5352                 | 57.52               | -16.48                  | 74                          | 50.31                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 292                     | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-20) H channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 64                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5320 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5150                 | 40.12               | -13.88                  | 54                          | 33.18                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 288                     | Average |
| 5150                 | 49.07               | -24.93                  | 74                          | 42.13                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 288                     | Peak    |
| 5320                 | 95.22               | -                       | -                           | 88.05                   | 34.15                       | 6.79                    | 33.77                      | 100                  | 288                     | Average |
| 5320                 | 108.17              | -                       | -                           | 101                     | 34.15                       | 6.79                    | 33.77                      | 100                  | 288                     | Peak    |
| 5350                 | 42.47               | -11.53                  | 54                          | 35.26                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Average |
| 5350                 | 60.18               | -13.82                  | 74                          | 52.97                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-20) H channel                             | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 64                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5320 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5150                 | 40.81               | -13.19                  | 54                          | 33.87                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 288                     | Average |
| 5150                 | 49.94               | -24.06                  | 74                          | 43                      | 34.02                       | 6.7                     | 33.78                      | 100                  | 288                     | Peak    |
| 5320                 | 99.35               | -                       | -                           | 92.18                   | 34.15                       | 6.79                    | 33.77                      | 100                  | 288                     | Average |
| 5320                 | 111.33              | -                       | -                           | 104.16                  | 34.15                       | 6.79                    | 33.77                      | 100                  | 288                     | Peak    |
| 5350                 | 46.2                | -7.8                    | 54                          | 38.99                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Average |
| 5350                 | 68.07               | -5.93                   | 74                          | 60.86                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 288                     | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-20) L channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 100                                                   | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5500 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5460                 | 41.12               | -12.88                  | 54                          | 33.77                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Average |
| 5460                 | 64.53               | -9.47                   | 74                          | 57.18                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Peak    |
| 5500                 | 91.51               | -                       | -                           | 84.09                   | 34.3                        | 6.88                    | 33.76                      | 100                  | 252                     | Average |
| 5500                 | 109.67              | -                       | -                           | 102.25                  | 34.3                        | 6.88                    | 33.76                      | 100                  | 252                     | Peak    |
| 5725                 | 39.78               | -28.52                  | 68.3                        | 32.32                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 252                     | Average |
| 5725                 | 47.59               | -40.71                  | 88.3                        | 40.13                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 252                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-20) L channel                             | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 100                                                   | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5500 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5460                 | 37.35               | -16.65                  | 54                          | 30                      | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Average |
| 5460                 | 68.16               | -5.84                   | 74                          | 60.81                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Peak    |
| 5500                 | 100.18              | -                       | -                           | 92.76                   | 34.3                        | 6.88                    | 33.76                      | 100                  | 252                     | Average |
| 5500                 | 111.97              | -                       | -                           | 104.55                  | 34.3                        | 6.88                    | 33.76                      | 100                  | 252                     | Peak    |
| 5725                 | 39.97               | -28.33                  | 68.3                        | 32.51                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 252                     | Average |
| 5725                 | 48.97               | -39.33                  | 88.3                        | 41.51                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 252                     | Peak    |
| 11000                | 53.06               | -0.94                   | 54                          | 60.8                    | 37.8                        | 10.44                   | 55.98                      | 139                  | 0                       | Average |
| 11000                | 67.26               | -6.74                   | 74                          | 75                      | 37.8                        | 10.44                   | 55.98                      | 139                  | 0                       | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-20) M channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 120                                                   | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5600 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5402                 | 40.42               | -13.58                  | 54                          | 33.14                   | 34.22                       | 6.83                    | 33.77                      | 100                  | 248                     | Average |
| 5402                 | 49.83               | -24.17                  | 74                          | 42.55                   | 34.22                       | 6.83                    | 33.77                      | 100                  | 248                     | Peak    |
| 5600                 | 89.58               | -                       | -                           | 82.14                   | 34.26                       | 6.94                    | 33.76                      | 100                  | 248                     | Average |
| 5600                 | 100.43              | -                       | -                           | 92.99                   | 34.26                       | 6.94                    | 33.76                      | 100                  | 248                     | Peak    |
| 5725                 | 40.6                | -27.7                   | 68.3                        | 33.14                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 248                     | Average |
| 5725                 | 48.26               | -40.04                  | 88.3                        | 40.8                    | 34.21                       | 7.01                    | 33.76                      | 100                  | 248                     | Peak    |
| 11200                | 37.75               | -16.25                  | 54                          | 45.21                   | 37.92                       | 10.46                   | 55.84                      | 140                  | 16                      | Average |
| 11200                | 52.01               | -21.99                  | 74                          | 59.5                    | 37.91                       | 10.46                   | 55.86                      | 140                  | 16                      | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-20) M channel                             | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 120                                                   | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5600 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5432                 | 42.17               | -11.83                  | 54                          | 34.84                   | 34.25                       | 6.84                    | 33.76                      | 100                  | 248                     | Average |
| 5432                 | 51.75               | -22.25                  | 74                          | 44.42                   | 34.25                       | 6.84                    | 33.76                      | 100                  | 248                     | Peak    |
| 5600                 | 99.8                | -                       | -                           | 92.36                   | 34.26                       | 6.94                    | 33.76                      | 100                  | 248                     | Average |
| 5600                 | 111.38              | -                       | -                           | 103.93                  | 34.27                       | 6.94                    | 33.76                      | 100                  | 248                     | Peak    |
| 5725                 | 41.87               | -26.43                  | 68.3                        | 34.41                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 248                     | Average |
| 5725                 | 49.41               | -38.89                  | 88.3                        | 41.95                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 248                     | Peak    |
| 11200                | 53                  | -1                      | 54                          | 60.46                   | 37.92                       | 10.46                   | 55.84                      | 140                  | 16                      | Average |
| 11200                | 66.71               | -7.29                   | 74                          | 74.17                   | 37.92                       | 10.46                   | 55.84                      | 140                  | 16                      | Peak    |



|                        |                                                                                                          |                            |            |
|------------------------|----------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-20) H channel                                                                                | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 140                                                                                                      | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                                                                   | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 5700 MHz is Fundamental Signals which can be ignored.<br>2. 5725 MHz is not within a restricted band. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5470                 | 37.74               | -16.26                  | 54                          | 29.47                   | 34.17                       | 9.94                    | 35.84                      | 100                  | 279                     | Average |
| 5470                 | 49.07               | -24.93                  | 74                          | 40.8                    | 34.17                       | 9.94                    | 35.84                      | 100                  | 279                     | Peak    |
| 5700                 | 85.21               | -                       | -                           | 76.67                   | 34.47                       | 9.93                    | 35.86                      | 100                  | 279                     | Average |
| 5700                 | 95.93               | -                       | -                           | 87.39                   | 34.47                       | 9.93                    | 35.86                      | 100                  | 279                     | Peak    |
| 5725                 | 44.68               | -23.62                  | 68.3                        | 36.09                   | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Average |
| 5725                 | 64.21               | -24.09                  | 88.3                        | 55.62                   | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Peak    |
| 11400                | 40.16               | -13.84                  | 54                          | 70.22                   | -9.66                       | 13.16                   | 33.56                      | 136                  | 24                      | Average |
| 11400                | 53.3                | -20.7                   | 74                          | 83.36                   | -9.66                       | 13.16                   | 33.56                      | 136                  | 24                      | Peak    |

|                        |                                                                                                          |                            |          |
|------------------------|----------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-20) H channel                                                                                | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 140                                                                                                      | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                                                                   | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 5700 MHz is Fundamental Signals which can be ignored.<br>2. 5725 MHz is not within a restricted band. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5470                 | 38.06               | -15.94                  | 54                          | 29.79                   | 34.17                       | 9.94                    | 35.84                      | 100                  | 279                     | Average |
| 5470                 | 49.52               | -24.48                  | 74                          | 41.25                   | 34.17                       | 9.94                    | 35.84                      | 100                  | 279                     | Peak    |
| 5700                 | 97.39               | -                       | -                           | 88.85                   | 34.47                       | 9.93                    | 35.86                      | 100                  | 279                     | Average |
| 5700                 | 107.79              | -                       | -                           | 99.25                   | 34.47                       | 9.93                    | 35.86                      | 100                  | 279                     | Peak    |
| 5725                 | 56.85               | -11.45                  | 68.3                        | 48.26                   | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Average |
| 5725                 | 78.85               | -9.45                   | 88.3                        | 70.26                   | 34.51                       | 9.92                    | 35.84                      | 100                  | 279                     | Peak    |
| 11400                | 53.48               | -0.52                   | 54                          | 83.54                   | -9.66                       | 13.16                   | 33.56                      | 136                  | 24                      | Average |
| 11400                | 67.67               | -6.33                   | 74                          | 97.73                   | -9.66                       | 13.16                   | 33.56                      | 136                  | 24                      | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-40) L channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 38                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5190 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5150                 | 49.76               | -4.24                   | 54                          | 42.82                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 290                     | Average |
| 5150                 | 67.75               | -6.25                   | 74                          | 60.81                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 290                     | Peak    |
| 5190                 | 89.1                | -                       | -                           | 82.11                   | 34.05                       | 6.72                    | 33.78                      | 100                  | 290                     | Average |
| 5190                 | 100.81              | -                       | -                           | 93.83                   | 34.05                       | 6.71                    | 33.78                      | 100                  | 290                     | Peak    |
| 5440                 | 43.76               | -10.24                  | 54                          | 36.42                   | 34.25                       | 6.85                    | 33.76                      | 100                  | 290                     | Average |
| 5440                 | 51.36               | -22.64                  | 74                          | 44.02                   | 34.25                       | 6.85                    | 33.76                      | 100                  | 290                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-40) L channel                             | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 38                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5190 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5150                 | 53.41               | -0.59                   | 54                          | 46.47                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 290                     | Average |
| 5150                 | 72.79               | -1.21                   | 74                          | 65.85                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 290                     | Peak    |
| 5190                 | 95.26               | -                       | -                           | 88.27                   | 34.05                       | 6.72                    | 33.78                      | 100                  | 290                     | Average |
| 5190                 | 107.06              | -                       | -                           | 100.06                  | 34.06                       | 6.72                    | 33.78                      | 100                  | 290                     | Peak    |
| 5400                 | 48.16               | -5.84                   | 54                          | 40.88                   | 34.22                       | 6.83                    | 33.77                      | 100                  | 290                     | Average |
| 5400                 | 55.46               | -18.54                  | 74                          | 48.18                   | 34.22                       | 6.83                    | 33.77                      | 100                  | 290                     | Peak    |

|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-40) H channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 46                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5230 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5150                 | 44.67               | -9.33                   | 54                          | 37.73                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 295                     | Average |
| 5150                 | 57.84               | -16.16                  | 74                          | 50.9                    | 34.02                       | 6.7                     | 33.78                      | 100                  | 295                     | Peak    |
| 5230                 | 90.76               | -                       | -                           | 83.71                   | 34.09                       | 6.74                    | 33.78                      | 100                  | 295                     | Average |
| 5230                 | 102.99              | -                       | -                           | 95.92                   | 34.1                        | 6.75                    | 33.78                      | 100                  | 295                     | Peak    |
| 5440                 | 44.92               | -9.08                   | 54                          | 37.58                   | 34.25                       | 6.85                    | 33.76                      | 100                  | 295                     | Average |
| 5440                 | 51.46               | -22.54                  | 74                          | 44.12                   | 34.25                       | 6.85                    | 33.76                      | 100                  | 295                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-40) H channel                             | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 46                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5230 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5150                 | 45.05               | -8.95                   | 54                          | 38.11                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 295                     | Average |
| 5150                 | 57.72               | -16.28                  | 74                          | 50.78                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 295                     | Peak    |
| 5230                 | 96.76               | -                       | -                           | 89.71                   | 34.09                       | 6.74                    | 33.78                      | 100                  | 295                     | Average |
| 5230                 | 110.06              | -                       | -                           | 102.99                  | 34.1                        | 6.75                    | 33.78                      | 100                  | 295                     | Peak    |
| 5352                 | 47.05               | -6.95                   | 54                          | 39.84                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 295                     | Average |
| 5352                 | 54.16               | -19.84                  | 74                          | 46.95                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 295                     | Peak    |
| 15690                | 40.91               | -13.09                  | 54                          | 43.76                   | 40.21                       | 12.26                   | 55.32                      | 144                  | 58                      | Average |
| 15690                | 54.32               | -19.68                  | 74                          | 57.17                   | 40.21                       | 12.26                   | 55.32                      | 144                  | 58                      | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-40) L channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 54                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5270 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5102                 | 42.5                | -11.5                   | 54                          | 35.63                   | 33.98                       | 6.67                    | 33.78                      | 100                  | 292                     | Average |
| 5102                 | 50.22               | -23.78                  | 74                          | 43.35                   | 33.98                       | 6.67                    | 33.78                      | 100                  | 292                     | Peak    |
| 5270                 | 89.93               | -                       | -                           | 82.83                   | 34.11                       | 6.76                    | 33.77                      | 100                  | 292                     | Average |
| 5270                 | 102.44              | -                       | -                           | 95.32                   | 34.13                       | 6.76                    | 33.77                      | 100                  | 292                     | Peak    |
| 5446                 | 43.17               | -10.83                  | 54                          | 35.82                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 292                     | Average |
| 5446                 | 52.02               | -21.98                  | 74                          | 44.67                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 292                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-40) L channel                             | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 54                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5270 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5080                 | 43.83               | -10.17                  | 54                          | 36.99                   | 33.97                       | 6.66                    | 33.79                      | 100                  | 292                     | Average |
| 5080                 | 52.28               | -21.72                  | 74                          | 45.44                   | 33.97                       | 6.66                    | 33.79                      | 100                  | 292                     | Peak    |
| 5270                 | 97.38               | -                       | -                           | 90.28                   | 34.11                       | 6.76                    | 33.77                      | 100                  | 292                     | Average |
| 5270                 | 110.45              | -                       | -                           | 103.33                  | 34.13                       | 6.76                    | 33.77                      | 100                  | 292                     | Peak    |
| 5354                 | 48.01               | -5.99                   | 54                          | 40.8                    | 34.18                       | 6.8                     | 33.77                      | 100                  | 292                     | Average |
| 5354                 | 55.93               | -18.07                  | 74                          | 48.72                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 292                     | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-40) H channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 62                                                    | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5310 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5150                 | 40.05               | -13.95                  | 54                          | 33.11                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 281                     | Average |
| 5150                 | 49.42               | -24.58                  | 74                          | 42.48                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 281                     | Peak    |
| 5310                 | 89.87               | -                       | -                           | 82.71                   | 34.15                       | 6.78                    | 33.77                      | 100                  | 281                     | Average |
| 5310                 | 101.33              | -                       | -                           | 94.18                   | 34.14                       | 6.78                    | 33.77                      | 100                  | 281                     | Peak    |
| 5350                 | 49.88               | -4.12                   | 54                          | 42.67                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 281                     | Average |
| 5350                 | 64.19               | -9.81                   | 74                          | 56.98                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 281                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-40) H channel                             | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 62                                                    | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5310 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5150                 | 40.34               | -13.66                  | 54                          | 33.4                    | 34.02                       | 6.7                     | 33.78                      | 100                  | 281                     | Average |
| 5150                 | 50.42               | -23.58                  | 74                          | 43.48                   | 34.02                       | 6.7                     | 33.78                      | 100                  | 281                     | Peak    |
| 5310                 | 92.33               | -                       | -                           | 85.17                   | 34.15                       | 6.78                    | 33.77                      | 100                  | 281                     | Average |
| 5310                 | 104.52              | -                       | -                           | 97.35                   | 34.15                       | 6.79                    | 33.77                      | 100                  | 281                     | Peak    |
| 5350                 | 53.25               | -0.75                   | 54                          | 46.04                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 281                     | Average |
| 5350                 | 69.13               | -4.87                   | 74                          | 61.92                   | 34.18                       | 6.8                     | 33.77                      | 100                  | 281                     | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-40) L channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 102                                                   | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5510 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5460                 | 45.04               | -8.96                   | 54                          | 37.69                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Average |
| 5460                 | 64.37               | -9.63                   | 74                          | 57.02                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Peak    |
| 5510                 | 85.48               | -                       | -                           | 78.06                   | 34.3                        | 6.88                    | 33.76                      | 100                  | 252                     | Average |
| 5510                 | 97.14               | -                       | -                           | 89.72                   | 34.3                        | 6.88                    | 33.76                      | 100                  | 252                     | Peak    |
| 5725                 | 40.09               | -28.21                  | 68.3                        | 32.63                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 252                     | Average |
| 5725                 | 48.38               | -39.92                  | 88.3                        | 40.92                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 252                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-40) L channel                             | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 102                                                   | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5510 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5460                 | 49.6                | -4.4                    | 54                          | 42.25                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Average |
| 5460                 | 72.78               | -1.22                   | 74                          | 65.43                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 252                     | Peak    |
| 5510                 | 94.53               | -                       | -                           | 87.11                   | 34.3                        | 6.88                    | 33.76                      | 100                  | 252                     | Average |
| 5510                 | 106.72              | -                       | -                           | 99.3                    | 34.3                        | 6.88                    | 33.76                      | 100                  | 252                     | Peak    |
| 5725                 | 40.38               | -27.92                  | 68.3                        | 32.92                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 252                     | Average |
| 5725                 | 49.02               | -39.28                  | 88.3                        | 41.56                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 252                     | Peak    |
| 11020                | 48.54               | -5.46                   | 54                          | 56.26                   | 37.81                       | 10.44                   | 55.97                      | 142                  | 0                       | Average |
| 11020                | 62.44               | -11.56                  | 74                          | 70.14                   | 37.82                       | 10.44                   | 55.96                      | 142                  | 0                       | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-40) M channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 118                                                   | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5590 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5392                 | 40.15               | -13.85                  | 54                          | 32.88                   | 34.21                       | 6.83                    | 33.77                      | 100                  | 249                     | Average |
| 5392                 | 50.27               | -23.73                  | 74                          | 43                      | 34.21                       | 6.83                    | 33.77                      | 100                  | 249                     | Peak    |
| 5590                 | 87.09               | -                       | -                           | 79.64                   | 34.27                       | 6.94                    | 33.76                      | 100                  | 249                     | Average |
| 5590                 | 98.85               | -                       | -                           | 91.41                   | 34.26                       | 6.94                    | 33.76                      | 100                  | 249                     | Peak    |
| 5725                 | 40.44               | -27.86                  | 68.3                        | 32.98                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 249                     | Average |
| 5725                 | 49.79               | -38.51                  | 88.3                        | 42.33                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 249                     | Peak    |



|                        |                                                       |                            |          |
|------------------------|-------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-40) M channel                             | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 118                                                   | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 5590 MHz is Fundamental Signals which can be ignored. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5436                 | 41.86               | -12.14                  | 54                          | 34.53                   | 34.25                       | 6.84                    | 33.76                      | 100                  | 249                     | Average |
| 5436                 | 51.52               | -22.48                  | 74                          | 44.19                   | 34.25                       | 6.84                    | 33.76                      | 100                  | 249                     | Peak    |
| 5590                 | 97.25               | -                       | -                           | 89.8                    | 34.27                       | 6.94                    | 33.76                      | 100                  | 249                     | Average |
| 5590                 | 109.18              | -                       | -                           | 101.74                  | 34.27                       | 6.93                    | 33.76                      | 100                  | 249                     | Peak    |
| 5725                 | 41.13               | -27.17                  | 68.3                        | 33.67                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 249                     | Average |
| 5725                 | 49.51               | -38.79                  | 88.3                        | 42.05                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 249                     | Peak    |
| 11180                | 53.01               | -0.99                   | 54                          | 60.5                    | 37.91                       | 10.46                   | 55.86                      | 143                  | 15                      | Average |
| 11180                | 65.48               | -8.52                   | 74                          | 72.98                   | 37.91                       | 10.45                   | 55.86                      | 143                  | 15                      | Peak    |



|                        |                                                       |                            |            |
|------------------------|-------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11n (HT-40) H channel                             | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 134                                                   | <b>Relative Humidity :</b> | 43~44%     |
| <b>Test Engineer :</b> | Kay Wu                                                | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 5670 MHz is Fundamental Signals which can be ignored. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5450                 | 40.57               | -13.43                  | 54                          | 33.22                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 258                     | Average |
| 5450                 | 50.06               | -23.94                  | 74                          | 42.71                   | 34.26                       | 6.85                    | 33.76                      | 100                  | 258                     | Peak    |
| 5670                 | 88.18               | -                       | -                           | 80.8                    | 34.27                       | 6.87                    | 33.76                      | 100                  | 258                     | Average |
| 5670                 | 99.84               | -                       | -                           | 92.39                   | 34.24                       | 6.97                    | 33.76                      | 100                  | 258                     | Peak    |
| 5725                 | 46.58               | -21.72                  | 68.3                        | 39.12                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 258                     | Average |
| 5725                 | 62.44               | -25.86                  | 88.3                        | 54.98                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 258                     | Peak    |



|                        |                                                                                                          |                            |          |
|------------------------|----------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11n (HT-40) H channel                                                                                | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 134                                                                                                      | <b>Relative Humidity :</b> | 43~44%   |
| <b>Test Engineer :</b> | Kay Wu                                                                                                   | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 5670 MHz is Fundamental Signals which can be ignored.<br>2. 5725 MHz is not within a restricted band. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBuV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBuV/m ) | Read<br>Level<br>(dBuV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5416                 | 41.76               | -12.24                  | 54                          | 34.46                   | 34.23                       | 6.84                    | 33.77                      | 100                  | 258                     | Average |
| 5416                 | 52.57               | -21.43                  | 74                          | 45.27                   | 34.23                       | 6.84                    | 33.77                      | 100                  | 258                     | Peak    |
| 5670                 | 96.82               | -                       | -                           | 89.36                   | 34.23                       | 6.99                    | 33.76                      | 100                  | 258                     | Average |
| 5670                 | 109.46              | -                       | -                           | 102                     | 34.23                       | 6.99                    | 33.76                      | 100                  | 258                     | Peak    |
| 5725                 | 56.77               | -11.53                  | 68.3                        | 49.31                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 258                     | Average |
| 5725                 | 74.8                | -13.5                   | 88.3                        | 67.34                   | 34.21                       | 7.01                    | 33.76                      | 100                  | 258                     | Peak    |
| 11340                | 53.24               | -0.76                   | 54                          | 60.52                   | 38                          | 10.47                   | 55.75                      | 147                  | 4                       | Average |
| 11340                | 67.34               | -6.66                   | 74                          | 74.62                   | 38                          | 10.47                   | 55.75                      | 147                  | 4                       | Peak    |

### 3.10 AC Conducted Emission Measurement

#### 3.10.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

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

\*Decreases with the logarithm of the frequency.

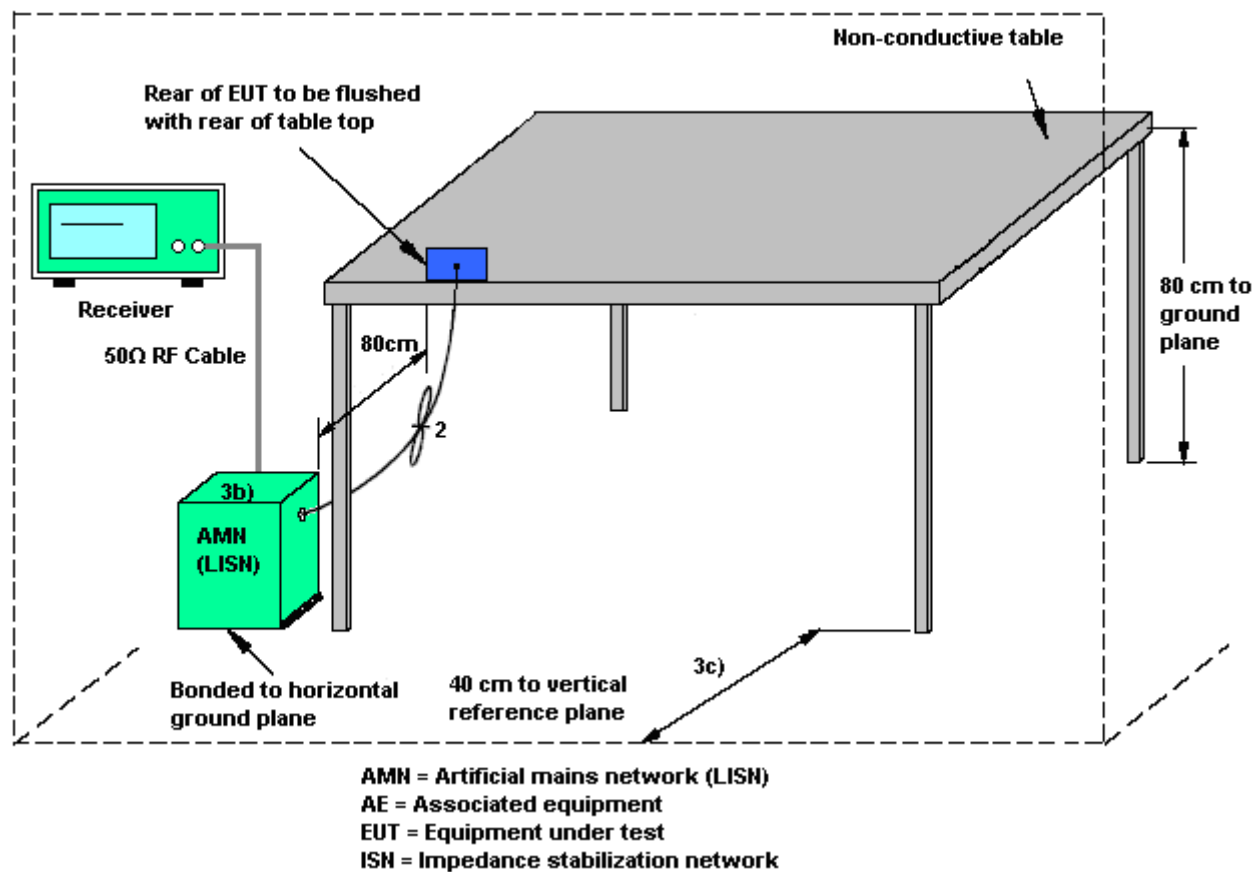
#### 3.10.2 Measuring Instruments

See list of measuring instruments of this test report.

#### 3.10.3 Test Procedures

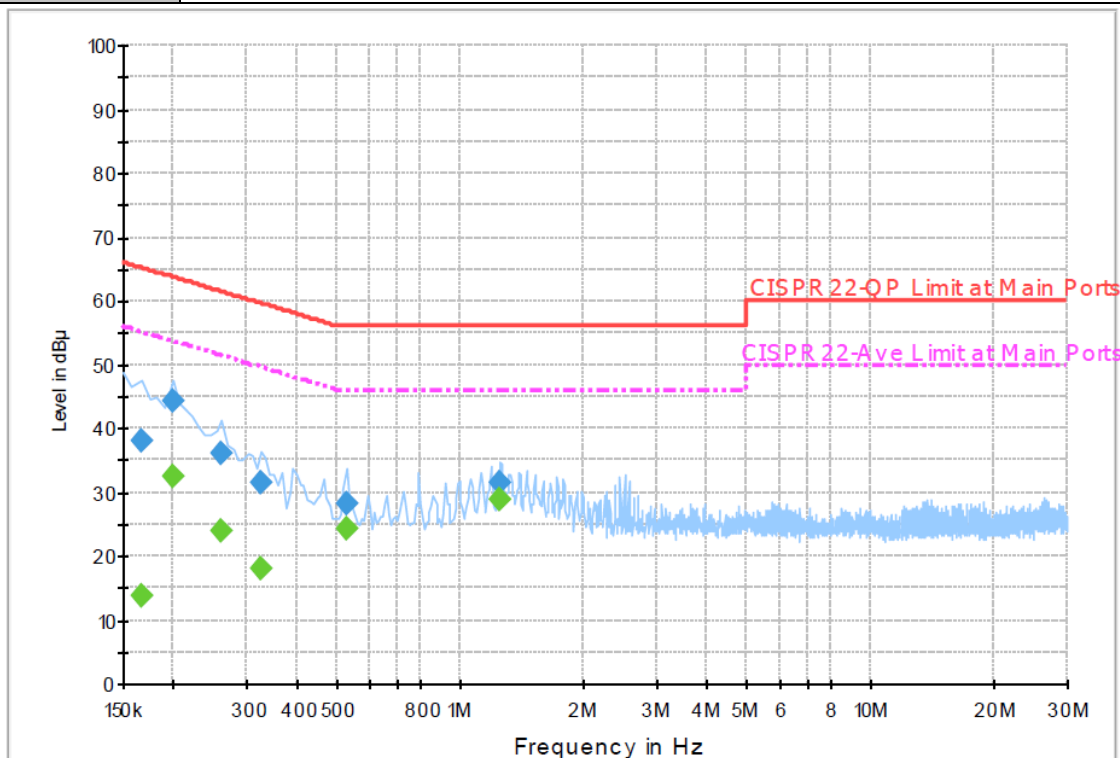
10. Please follow the guidelines in ANSI C63.4-2003.
11. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
12. Connect EUT to the power mains through a line impedance stabilization network (LISN).
13. All the support units are connecting to the other LISN.
14. The LISN provides 50 ohm coupling impedance for the measuring instrument.
15. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
16. Both sides of AC line were checked for maximum conducted interference.
17. The frequency range from 150 kHz to 30 MHz was searched.
18. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

### 3.10.4 Test Setup



### 3.10.5 Test Result of AC Conducted Emission

|                        |                                                                                 |                            |        |
|------------------------|---------------------------------------------------------------------------------|----------------------------|--------|
| <b>Test Mode :</b>     | Mode 1                                                                          | <b>Temperature :</b>       | 20~22℃ |
| <b>Test Engineer :</b> | Novic Jiang                                                                     | <b>Relative Humidity :</b> | 40~42% |
| <b>Test Voltage :</b>  | 120Vac / 60Hz                                                                   | <b>Phase :</b>             | Line   |
| <b>Function Type :</b> | WLAN Link (2.4G) + Antenna (EBJ Aux. + EBJ Aux.)                                |                            |        |
| <b>Remark :</b>        | All emissions not reported here are more than 10 dB below the prescribed limit. |                            |        |



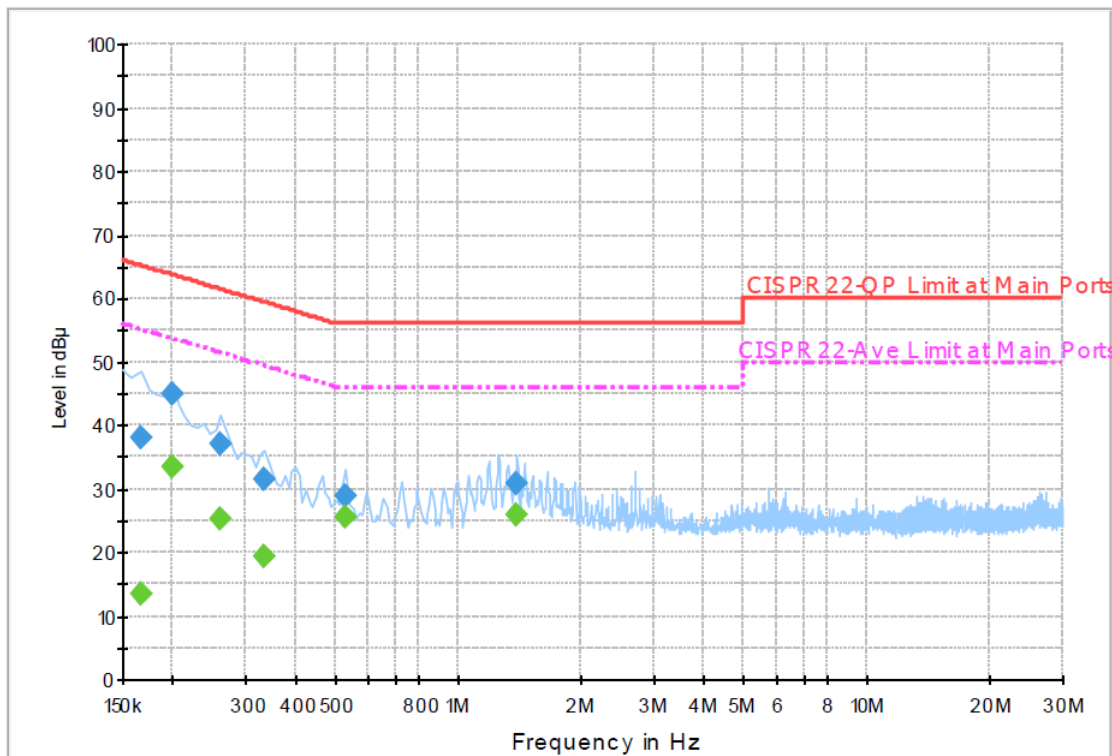
#### Final Result 1

| Frequency (MHz) | QuasiPeak (dBμV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|------------------|--------|------|------------|-------------|--------------|
| 0.166000        | 38.1             | Off    | L1   | 19.5       | 27.1        | 65.2         |
| 0.198000        | 44.3             | Off    | L1   | 19.5       | 19.4        | 63.7         |
| 0.262000        | 35.9             | Off    | L1   | 19.4       | 25.5        | 61.4         |
| 0.326000        | 31.4             | Off    | L1   | 19.4       | 28.2        | 59.6         |
| 0.526000        | 28.3             | Off    | L1   | 19.5       | 27.7        | 56.0         |
| 1.246000        | 31.6             | Off    | L1   | 19.5       | 24.4        | 56.0         |

#### Final Result 2

| Frequency (MHz) | Average (dBμV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|----------------|--------|------|------------|-------------|--------------|
| 0.166000        | 13.6           | Off    | L1   | 19.5       | 41.6        | 55.2         |
| 0.198000        | 32.5           | Off    | L1   | 19.5       | 21.2        | 53.7         |
| 0.262000        | 24.0           | Off    | L1   | 19.4       | 27.4        | 51.4         |
| 0.326000        | 18.1           | Off    | L1   | 19.4       | 31.5        | 49.6         |
| 0.526000        | 24.2           | Off    | L1   | 19.5       | 21.8        | 46.0         |
| 1.246000        | 28.7           | Off    | L1   | 19.5       | 17.3        | 46.0         |

|                        |                                                                                 |                            |         |
|------------------------|---------------------------------------------------------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | Mode 1                                                                          | <b>Temperature :</b>       | 20~22°C |
| <b>Test Engineer :</b> | Novic Jiang                                                                     | <b>Relative Humidity :</b> | 40~42%  |
| <b>Test Voltage :</b>  | 120Vac / 60Hz                                                                   | <b>Phase :</b>             | Neutral |
| <b>Function Type :</b> | WLAN Link (5G) + Antenna (EBJ Aux. + EBJ Aux.)                                  |                            |         |
| <b>Remark :</b>        | All emissions not reported here are more than 10 dB below the prescribed limit. |                            |         |

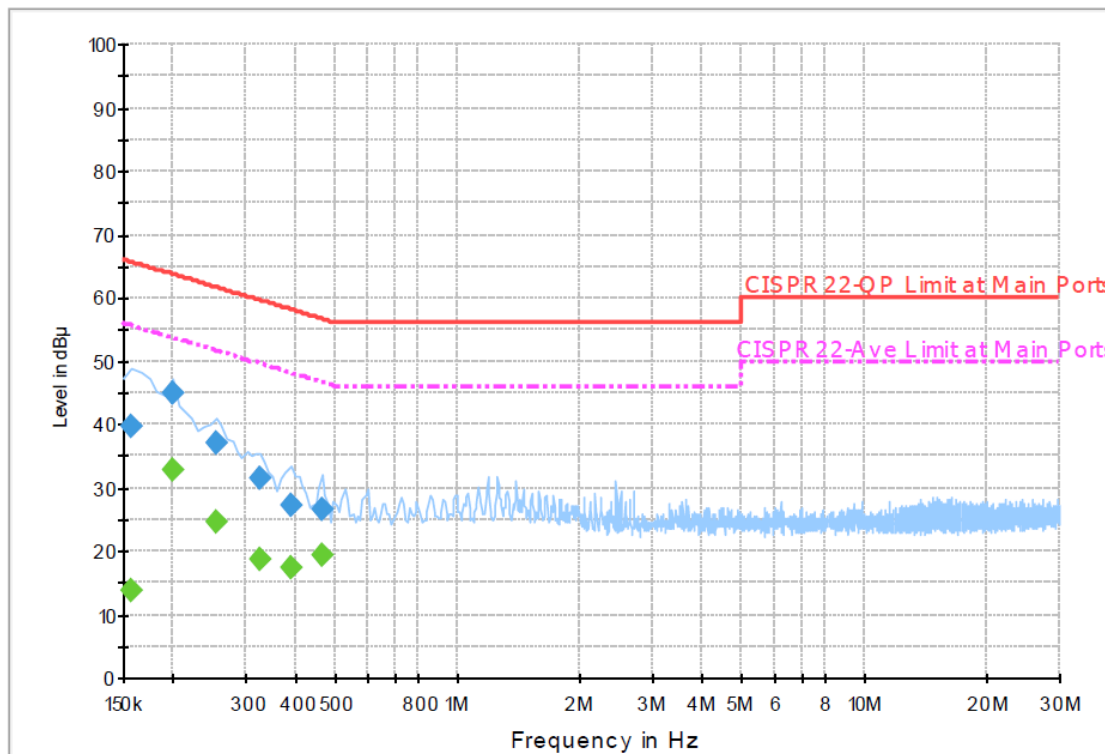

**Final Result 1**

| Frequency (MHz) | QuasiPeak (dBμV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|------------------|--------|------|------------|-------------|--------------|
| 0.166000        | 38.1             | Off    | N    | 19.5       | 27.1        | 65.2         |
| 0.198000        | 44.9             | Off    | N    | 19.5       | 18.8        | 63.7         |
| 0.262000        | 37.1             | Off    | N    | 19.4       | 24.3        | 61.4         |
| 0.334000        | 31.5             | Off    | N    | 19.5       | 27.9        | 59.4         |
| 0.526000        | 28.9             | Off    | N    | 19.5       | 27.1        | 56.0         |
| 1.382000        | 30.9             | Off    | N    | 19.5       | 25.1        | 56.0         |

**Final Result 2**

| Frequency (MHz) | Average (dBμV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|----------------|--------|------|------------|-------------|--------------|
| 0.166000        | 13.6           | Off    | N    | 19.5       | 41.6        | 55.2         |
| 0.198000        | 33.4           | Off    | N    | 19.5       | 20.3        | 53.7         |
| 0.262000        | 25.3           | Off    | N    | 19.4       | 26.1        | 51.4         |
| 0.334000        | 19.3           | Off    | N    | 19.5       | 30.1        | 49.4         |
| 0.526000        | 25.5           | Off    | N    | 19.5       | 20.5        | 46.0         |
| 1.382000        | 25.8           | Off    | N    | 19.5       | 20.2        | 46.0         |

|                        |                                                                                 |                            |         |
|------------------------|---------------------------------------------------------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | Mode 2                                                                          | <b>Temperature :</b>       | 20~22°C |
| <b>Test Engineer :</b> | Novic Jiang                                                                     | <b>Relative Humidity :</b> | 40~42%  |
| <b>Test Voltage :</b>  | 120Vac / 60Hz                                                                   | <b>Phase :</b>             | Line    |
| <b>Function Type :</b> | WLAN Link (5G) + Antenna (EBJ Main + EBJ Main)                                  |                            |         |
| <b>Remark :</b>        | All emissions not reported here are more than 10 dB below the prescribed limit. |                            |         |

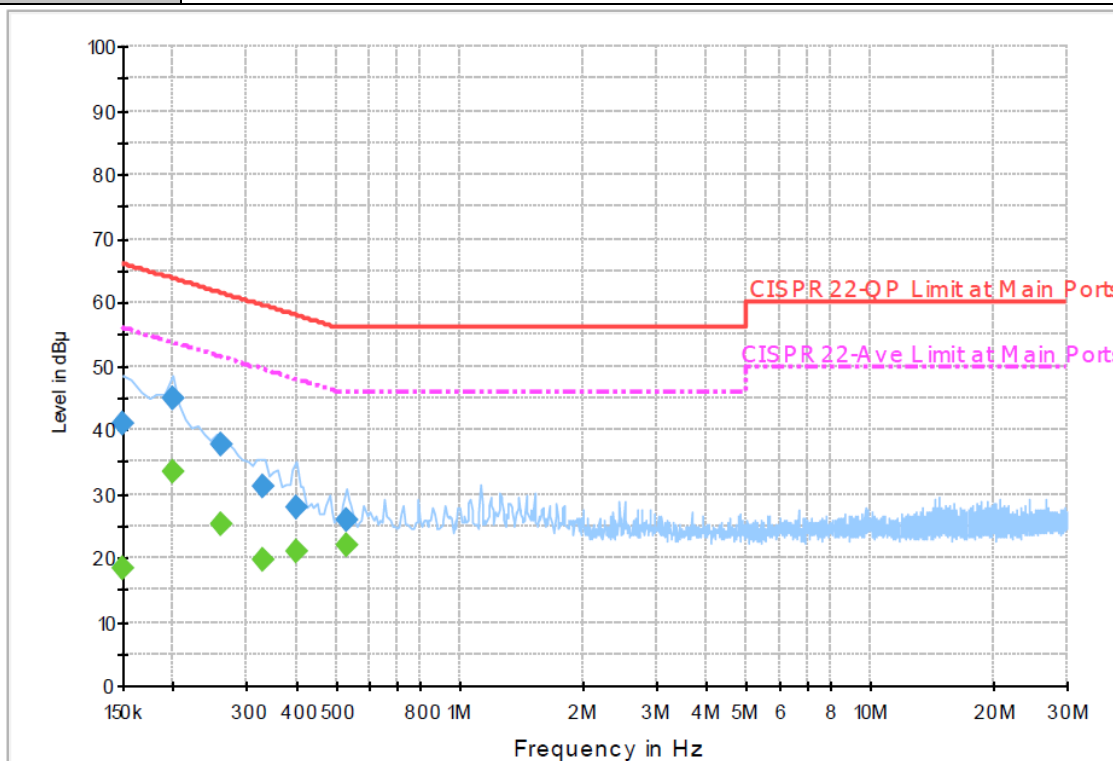

**Final Result 1**

| Frequency (MHz) | QuasiPeak (dBμV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|------------------|--------|------|------------|-------------|--------------|
| 0.158000        | 39.6             | Off    | L1   | 19.5       | 26.0        | 65.6         |
| 0.198000        | 44.9             | Off    | L1   | 19.5       | 18.8        | 63.7         |
| 0.254000        | 37.0             | Off    | L1   | 19.4       | 24.4        | 61.4         |
| 0.326000        | 31.6             | Off    | L1   | 19.4       | 28.0        | 59.6         |
| 0.390000        | 27.2             | Off    | L1   | 19.4       | 30.9        | 58.1         |
| 0.462000        | 26.5             | Off    | L1   | 19.4       | 30.2        | 56.7         |

**Final Result 2**

| Frequency (MHz) | Average (dBμV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|----------------|--------|------|------------|-------------|--------------|
| 0.158000        | 13.9           | Off    | L1   | 19.5       | 41.7        | 55.6         |
| 0.198000        | 32.7           | Off    | L1   | 19.5       | 21.0        | 53.7         |
| 0.254000        | 24.7           | Off    | L1   | 19.4       | 26.7        | 51.4         |
| 0.326000        | 18.6           | Off    | L1   | 19.4       | 31.0        | 49.6         |
| 0.390000        | 17.3           | Off    | L1   | 19.4       | 30.8        | 48.1         |
| 0.462000        | 19.4           | Off    | L1   | 19.4       | 27.3        | 46.7         |

|                        |                                                                                 |                            |         |
|------------------------|---------------------------------------------------------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | Mode 2                                                                          | <b>Temperature :</b>       | 20~22°C |
| <b>Test Engineer :</b> | Novic Jiang                                                                     | <b>Relative Humidity :</b> | 40~42%  |
| <b>Test Voltage :</b>  | 120Vac / 60Hz                                                                   | <b>Phase :</b>             | Neutral |
| <b>Function Type :</b> | WLAN Link (5G) + Antenna (EBJ Main + EBJ Main)                                  |                            |         |
| <b>Remark :</b>        | All emissions not reported here are more than 10 dB below the prescribed limit. |                            |         |


**Final Result 1**

| Frequency (MHz) | QuasiPeak (dBμV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|------------------|--------|------|------------|-------------|--------------|
| 0.150000        | 41.1             | Off    | N    | 19.5       | 24.9        | 66.0         |
| 0.198000        | 45.0             | Off    | N    | 19.5       | 18.7        | 63.7         |
| 0.262000        | 37.9             | Off    | N    | 19.4       | 23.5        | 61.4         |
| 0.328000        | 31.3             | Off    | N    | 19.5       | 28.3        | 59.6         |
| 0.398000        | 27.8             | Off    | N    | 19.4       | 30.1        | 57.9         |
| 0.526000        | 26.0             | Off    | N    | 19.5       | 30.0        | 56.0         |

**Final Result 2**

| Frequency (MHz) | Average (dBμV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|----------------|--------|------|------------|-------------|--------------|
| 0.150000        | 18.3           | Off    | N    | 19.5       | 37.7        | 56.0         |
| 0.198000        | 33.4           | Off    | N    | 19.5       | 20.3        | 53.7         |
| 0.262000        | 25.2           | Off    | N    | 19.4       | 26.2        | 51.4         |
| 0.328000        | 19.6           | Off    | N    | 19.5       | 30.0        | 49.6         |
| 0.398000        | 21.0           | Off    | N    | 19.4       | 26.9        | 47.9         |
| 0.526000        | 22.0           | Off    | N    | 19.5       | 24.0        | 46.0         |

### **3.11 Automatically Discontinue Transmission**

#### **3.11.1 Limit of Automatically Discontinue Transmission**

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

#### **3.11.2 Measuring Instruments**

See list of measuring instruments of this test report.

#### **3.11.3 Test Result of Automatically Discontinue Transmission**

During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

## 4 List of Measuring Equipments

| Instrument           | Manufacturer      | Model No.    | Serial No.  | Characteristics | Calibration Date | Due Date      | Remark                |
|----------------------|-------------------|--------------|-------------|-----------------|------------------|---------------|-----------------------|
| Spectrum Analyzer    | R&S               | FSP30        | 101329      | 9kHz~30GHz      | Apr. 26, 2010    | Apr. 25, 2011 | Conducted (TH02-HY)   |
| Power Meter          | Anritsu           | ML2495A      | 0932001     | N/A             | Sep. 17, 2009    | Sep. 16, 2010 | Conducted (TH02-HY)   |
| Power Sensor         | Anritsu           | MA2411B      | 0846202     | N/A             | Sep. 10, 2009    | Sep. 09, 2010 | Conducted (TH02-HY)   |
| Power Meter          | Agilent           | E4416A       | GB41292344  | N/A             | Feb. 25, 2010    | Feb. 24, 2011 | Conducted (TH02-HY)   |
| Power Sensor         | Agilent           | E9327A       | US40441548  | N/A             | Feb. 25, 2010    | Feb. 24, 2011 | Conducted (TH02-HY)   |
| EMI Test Receive     | R&S               | ESU          | 100211      | 9KHz ~ 2.75GHz  | May 28, 2010     | May 27, 2011  | Conduction (CO05-HY)  |
| Two-LISN             | R&S               | ENV216       | 11-100081   | 9kHz~30MHz      | Nov. 30, 2009    | Nov. 29, 2010 | Conduction (CO05-HY)  |
| Two-LISN             | R&S               | ENV216       | 11-100080   | 9kHz~30MHz      | Nov. 23, 2009    | Nov. 22, 2010 | Conduction (CO05-HY)  |
| AC Power Source      | APC               | APC-1000W    | N/A         | N/A             | N/A              | N/A           | Conduction (CO05-HY)  |
| Spectrum Analyzer    | R&S               | FSP40        | 100057      | 9KHz-40GHz      | Oct. 20, 2009    | Oct. 19, 2010 | Radiation (03CH05-HY) |
| Amplifier            | COM-POWER         | PA-103       | 161069      | 1KHz - 1GHz     | Mar. 29, 2010    | Mar. 28, 2011 | Radiation (03CH05-HY) |
| Bilog Antenna        | SCHAFFNER         | CBL6111C     | 2726        | 30MHz ~ 1GHz    | Oct. 31, 2009    | Oct. 30, 2010 | Radiation (03CH05-HY) |
| SHF-EHF Horn Antenna | SCHWARZBECK       | BBHA 9170    | BBHA9170251 | 15GHz- 40GHz    | Oct. 14, 2009    | Oct. 13, 2010 | Radiation (03CH05-HY) |
| Pre Amplifier        | Agilent           | 8449B        | 3008A01917  | 1GHz- 26.5GHz   | Nov. 11, 2009    | Nov. 10, 2010 | Radiation (03CH05-HY) |
| Turn Table           | HD                | Deis HD 2000 | 420/611     | 0 - 360 degree  | N/A              | N/A           | Radiation (03CH05-HY) |
| Antenna Mast         | HD                | MA 240       | 240/666     | 1 m - 4 m       | N/A              | N/A           | Radiation (03CH05-HY) |
| Horn Antenna         | ESCO              | 3117         | 00066584    | 1GHz ~ 18GHz    | Aug. 05, 2010    | Aug. 04, 2011 | Radiation (03CH05-HY) |
| Horn Antenna         | Training Research | AH-0801      | 95119       | 8GHz~18GHz      | Nov. 02, 2009    | Nov. 01, 2010 | Radiation (03CH05-HY) |
| Loop Antenna         | R&S               | HFH2-Z2      | 860004/001  | 9 kHz~30 MHz    | Jul. 29, 2010    | Jul. 28, 2011 | Radiation (03CH05-HY) |

## 5 Uncertainty of Evaluation

### Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

| Contribution                                                                             | Uncertainty of $X_i$ |                          | $u(X_i)$ |
|------------------------------------------------------------------------------------------|----------------------|--------------------------|----------|
|                                                                                          | dB                   | Probability Distribution |          |
| Receiver Reading                                                                         | 0.10                 | Normal (k=2)             | 0.05     |
| Cable Loss                                                                               | 0.10                 | Normal (k=2)             | 0.05     |
| AMN Insertion Loss                                                                       | 2.50                 | Rectangular              | 0.63     |
| Receiver Specification                                                                   | 1.50                 | Rectangular              | 0.43     |
| Site Imperfection                                                                        | 1.39                 | Rectangular              | 0.80     |
| Mismatch                                                                                 | +0.34 / -0.35        | U-Shape                  | 0.24     |
| <b>Combined Standard Uncertainty <math>U_c(y)</math></b>                                 | <b>1.13</b>          |                          |          |
| <b>Measuring Uncertainty for a Level of Confidence of 95% (<math>U = 2U_c(y)</math>)</b> | <b>2.26</b>          |                          |          |

### Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

| Contribution                                                                             | Uncertainty of $X_i$ |                          | $u(X_i)$ |
|------------------------------------------------------------------------------------------|----------------------|--------------------------|----------|
|                                                                                          | dB                   | Probability Distribution |          |
| Receiver Reading                                                                         | 0.41                 | Normal (k=2)             | 0.21     |
| Antenna Factor Calibration                                                               | 0.83                 | Normal (k=2)             | 0.42     |
| Cable Loss Calibration                                                                   | 0.25                 | Normal (k=2)             | 0.13     |
| Pre-Amplifier Gain Calibration                                                           | 0.27                 | Normal (k=2)             | 0.14     |
| RCV/SPA Specification                                                                    | 2.50                 | Rectangular              | 0.72     |
| Antenna Factor Interpolation for Frequency                                               | 1.00                 | Rectangular              | 0.29     |
| Site Imperfection                                                                        | 1.43                 | Rectangular              | 0.83     |
| Mismatch                                                                                 | +0.39 / -0.41        | U-Shape                  | 0.28     |
| <b>Combined Standard Uncertainty <math>U_c(y)</math></b>                                 | <b>1.27</b>          |                          |          |
| <b>Measuring Uncertainty for a Level of Confidence of 95% (<math>U = 2U_c(y)</math>)</b> | <b>2.54</b>          |                          |          |

**Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)**

| Contribution                                                                                                                         | Uncertainty of $X_i$ |                          | $u(X_i)$ | $C_i$ | $C_i * u(X_i)$ |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------|----------|-------|----------------|
|                                                                                                                                      | dB                   | Probability Distribution |          |       |                |
| Receiver Reading                                                                                                                     | $\pm 0.10$           | Normal (k=2)             | 0.10     | 1     | 0.10           |
| Antenna Factor Calibration                                                                                                           | $\pm 1.70$           | Normal (k=2)             | 0.85     | 1     | 0.85           |
| Cable Loss Calibration                                                                                                               | $\pm 0.50$           | Normal (k=2)             | 0.25     | 1     | 0.25           |
| Receiver Correction                                                                                                                  | $\pm 2.00$           | Rectangular              | 1.15     | 1     | 1.15           |
| Antenna Factor Directional                                                                                                           | $\pm 1.50$           | Rectangular              | 0.87     | 1     | 0.87           |
| Site Imperfection                                                                                                                    | $\pm 2.80$           | Triangular               | 1.14     | 1     | 1.14           |
| Mismatch<br>Receiver VSWR $\Gamma_1 = 0.197$<br>Antenna VSWR $\Gamma_2 = 0.194$<br>Uncertainty = $20\text{Log}(1-\Gamma_1*\Gamma_2)$ | +0.34 / -0.35        | U-Shape                  | 0.244    | 1     | 0.244          |
| <b>Combined Standard Uncertainty<br/><math>U_c(y)</math></b>                                                                         | <b>2.36</b>          |                          |          |       |                |
| <b>Measuring Uncertainty for a<br/>Level of Confidence of 95%<br/>(<math>U = 2U_c(y)</math>)</b>                                     | <b>4.72</b>          |                          |          |       |                |



## **Appendix A. Antenna Requirement**

➤ **Standard Applicable**

According to FCC 47 CFR Section 15.407(a)(1)(2) ,if transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

➤ **Antenna Connected Construction**

The antennas type used in this product is PIFA Antenna with IPEX connector and it is considered to meet antenna requirement of FCC.

➤ **Composite Antenna Gain**

The composite antenna gain is more than 6 dBi. Therefore, it is must to reduce maximum peak output power limit.



## **Appendix B. Photographs of EUT**

Please refer to Sporton report number EP080603 as below.