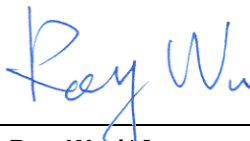


# FCC RF Test Report

**APPLICANT** : Atheros Communications, Inc.  
**EQUIPMENT** : 802.11a/b/g/n WLAN + Bluetooth Combo module  
**BRAND NAME** : Atheros  
**MODEL NAME** : ARS42  
**FCC ID** : PPD-ARS42  
**STANDARD** : FCC Part 15 Subpart E  
**CLASSIFICATION** : Unlicensed National Information Infrastructure (UNII)

The WiFi + Bluetooth module was tested on extended card inserted to a host laptop PC.  
The product was received on Feb. 15, 2011 and completely tested on Mar. 21, 2011. 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:



Roy Wu / 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
FR121516C	Rev. 01	Initial issue of report	May 04, 2011

## 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	≤ 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	≤ 17, 24, 30 dBm (depend on band)	Pass	-
3.5	15.407(b)	A9.3	Band Edges Measurement	≤ -17, -27 dBm (depend on band)&15.209(a)	Pass	-
3.6	15.407(b)	A9.3	Peak Excursion Ratio Measurement	≤ 13dB	Pass	-
3.7	15.407(g)	A9.5	Frequency Stability Measurement	Within Operation Band	Pass	-
3.8	15.407(b)	A9.3	Radiated Emission Measurement	≤ -17, -27 dBm (depend on band)&15.209(a)	Pass	Under limit 0.65 dB at 5352 MHz
3.9	15.207	Gen 7.2.2	AC Conducted Emission Measurement	15.207(a)	Pass	Under limit 17.2 dB at 0.19 MHz
3.10	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, United States

## 1.2 Manufacturer

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

## 1.3 Testing Site Facilities

<b>Test Site</b>	SPORTON INTERNATIONAL INC.		
<b>Test Site Location</b>	No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978		
<b>Test Site No.</b>	<b>Sporton Site No.</b>		<b>FCC/IC Registration No.</b>
	CO05-HY	03CH07-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 Issue 8
- ♦ 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.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A
2.	Notebook	DELL	Larirude E4300	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	LCD Monitor	Lenovo	6135-AB1	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m



## 2 Equipment Under Test

### 2.1 General Information of EUT

Product Feature & Specification	
Equipment	802.11a/b/g/n WLAN + Bluetooth Combo module
Brand Name	Atheros
Model Name	ARS42
FCC ID	PPD-ARS42
Tx/Rx Frequency Range	5150 MHz ~ 5250 MHz 5250 MHz ~ 5350 MHz 5470 MHz ~ 5725 MHz
Type of Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT Stage	Identical 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	120	5600	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	120	5600	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	134	5670





## 2.3 Maximum Output Power

### 2.3.1 Average Conducted Power

The device has the maximum average conducted power as below:

Frequency Range (MHz)	Mode	Band I RF Power (dBm)
5150 ~ 5250	802.11a	14.26
	802.11n HT-20	14.28
	802.11n HT-40	12.89

Frequency Range (MHz)	Mode	Band II RF Power (dBm)
5250 ~ 5350	802.11a	17.17
	802.11n HT-20	17.09
	802.11n HT-40	13.53

Frequency Range (MHz)	Mode	Band III RF Power (dBm)
5470 ~ 5725	802.11a	17.17
	802.11n HT-20	17.01
	802.11n HT-40	13.25



### 2.3.2 Output Conducted Power

The device has the maximum output conducted power as below:

Frequency Range (MHz)	Mode	Band I RF Power (dBm)
5150 ~ 5250	802.11a	14.32
	802.11n HT-20	14.42
	802.11n HT-40	13.03

Frequency Range (MHz)	Mode	Band II RF Power (dBm)
5250 ~ 5350	802.11a	17.13
	802.11n HT-20	17.04
	802.11n HT-40	13.46

Frequency Range (MHz)	Mode	Band III RF Power (dBm)
5470 ~ 5725	802.11a	17.18
	802.11n HT-20	17.08
	802.11n HT-40	13.08



## 2.4 Antenna Information

Brand / Model Name	Type	Frequency Range (MHz)	Antenna Gain (dBi)
Wistron Neweb Corporation / EBJ	PIFA	2400 ~ 2500	3.62
Wistron Neweb Corporation / EBJ	PIFA	5250 ~ 5350	3.08
Wistron Neweb Corporation / EBJ	PIFA	5470 ~ 5725	4.76
Wistron Neweb Corporation / EBJ	PIFA	5725 ~ 5850	4.76
Wistron Neweb Corporation / ED4	PIFA	2400 ~ 2500	1.48
Wistron Neweb Corporation / ED4	PIFA	5250 ~ 5350	5.56
Wistron Neweb Corporation / ED4	PIFA	5470 ~ 5725	5.34
Wistron Neweb Corporation / ED4	PIFA	5725 ~ 5850	3.14



## **2.5 Worst-case Configuration and Test Mode**

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;

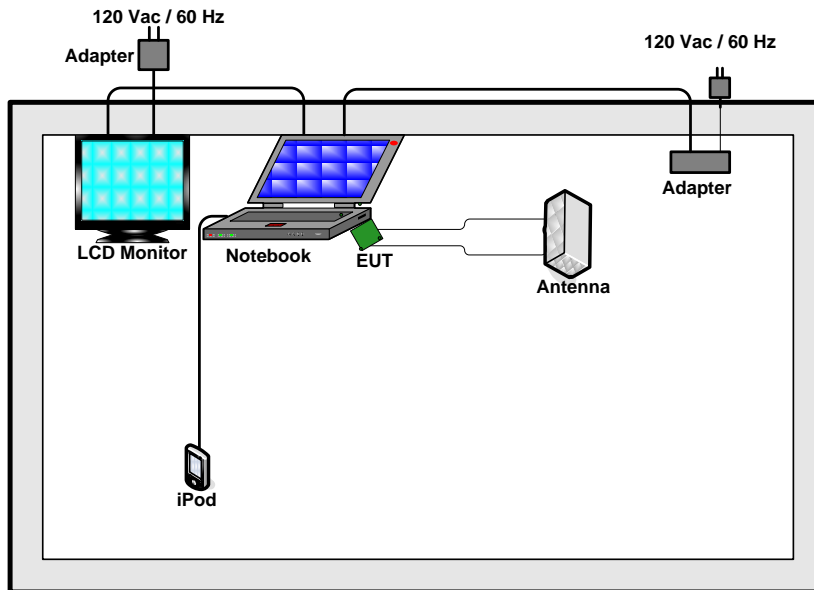
802.11n HT20 mode, 20 MHz Channel Bandwidth, MCS0, 6.5 Mb/s, OFDM Modulation;

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 Bean 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 X-axis, only data from X-axis was recorded in this report.

## 2.6 Connection Diagram of Test System



## 2.7 RF Utility

The programmed RF Utility "Art", 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.

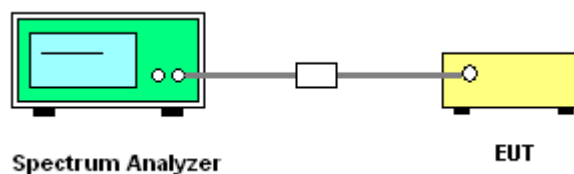
##### 3.1.2 Measuring Instruments

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

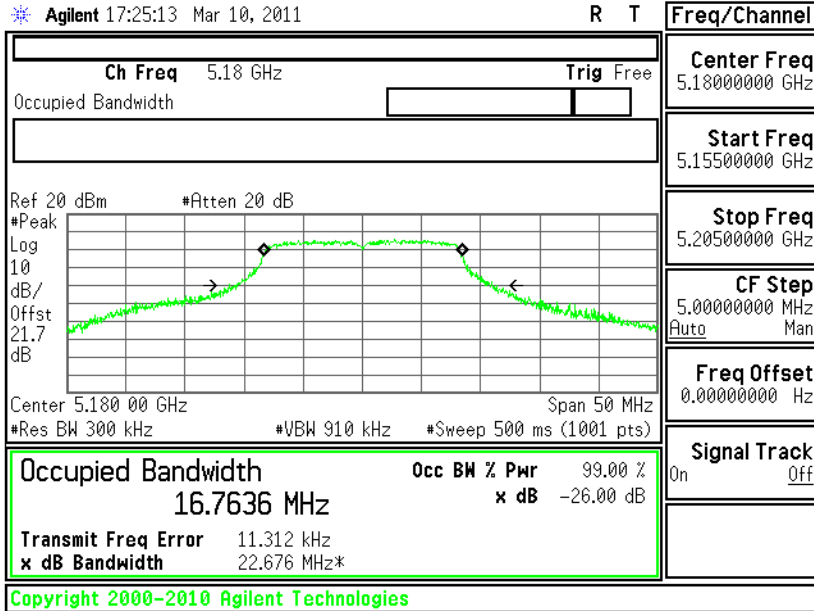
Test Mode :	802.11a L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a 26dB Bandwidth (MHz)
36	5180	22.68
44	5220	22.24
48	5240	22.51
52	5260	26.62
60	5300	26.29
64	5320	29.42
100	5500	26.23
120	5600	35.22
140	5700	37.45

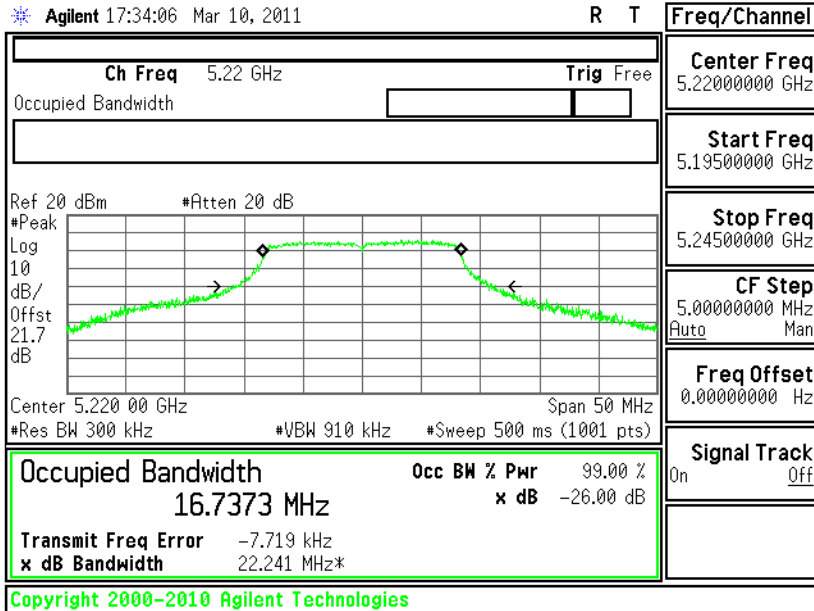
Channel	Frequency (MHz)	802.11a 99% Occupied Bandwidth (MHz)
36	5180	16.76
44	5220	16.74
48	5240	16.75
52	5260	16.94
60	5300	16.96
64	5320	16.97
100	5500	16.87
120	5600	17.64
140	5700	18.92



26 dB & 99% Bandwidth Plot on 802.11a Channel 36



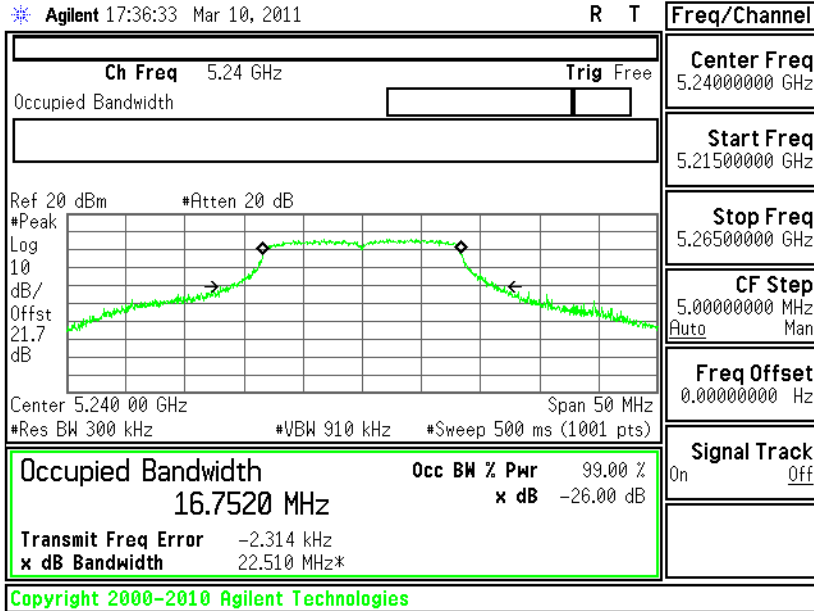
26 dB & 99% Bandwidth Plot on 802.11a Channel 44



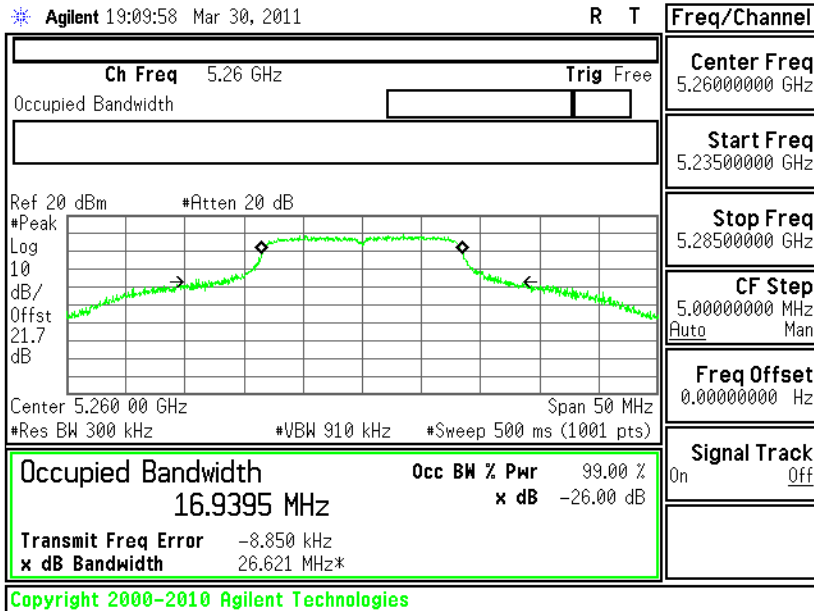




26 dB & 99% Bandwidth Plot on 802.11a Channel 48

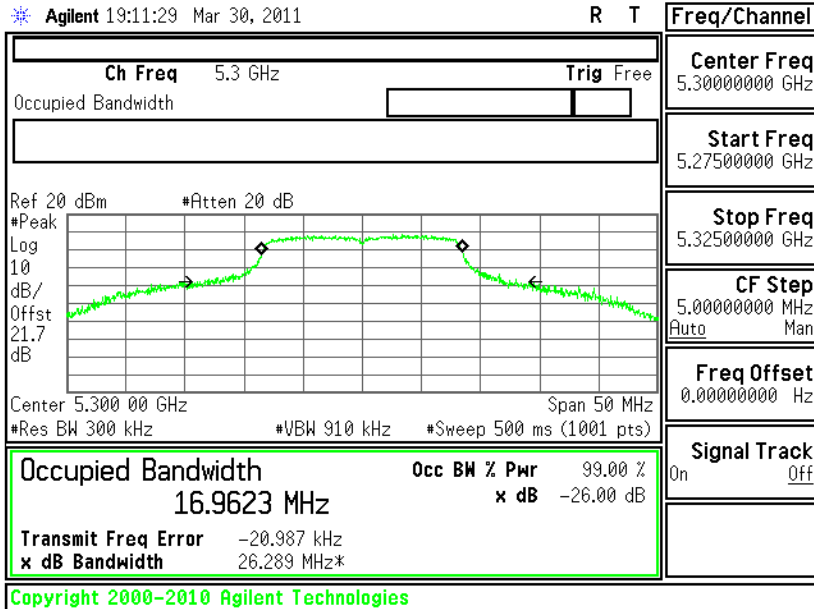


26 dB & 99% Bandwidth Plot on 802.11a Channel 52

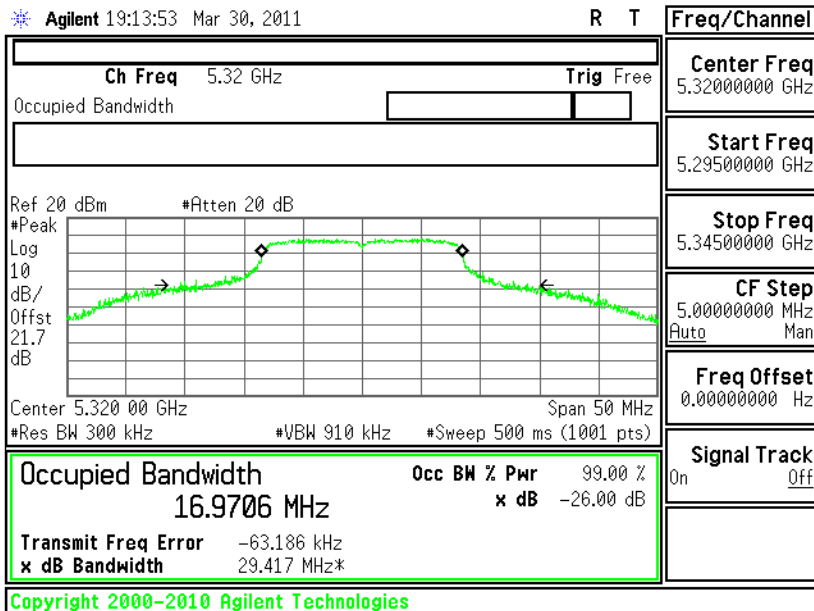




26 dB & 99% Bandwidth Plot on 802.11a Channel 60

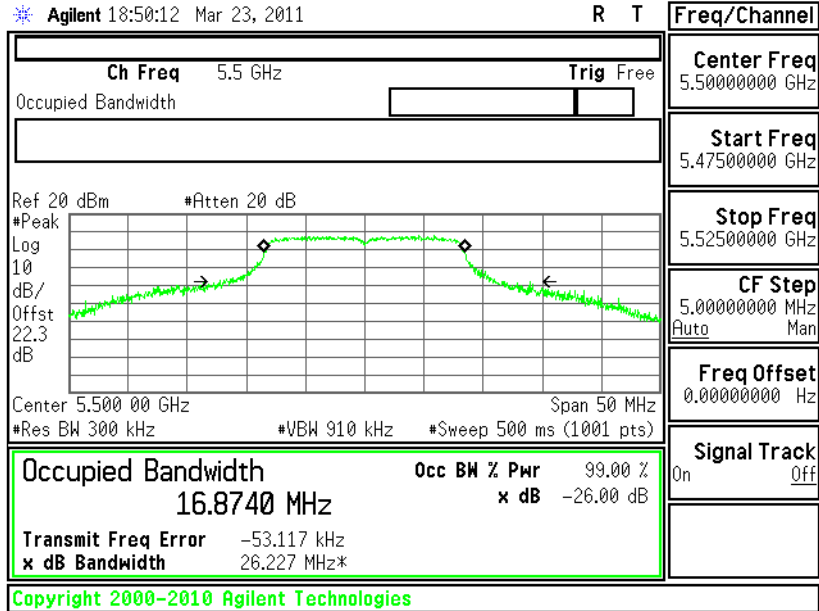


26 dB & 99% Bandwidth Plot on 802.11a Channel 64

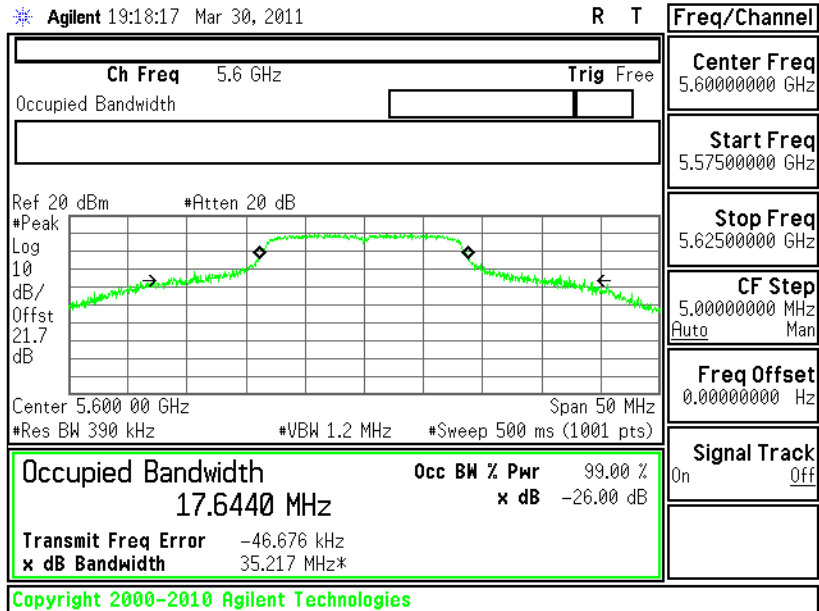




26 dB & 99% Bandwidth Plot on 802.11a Channel 100

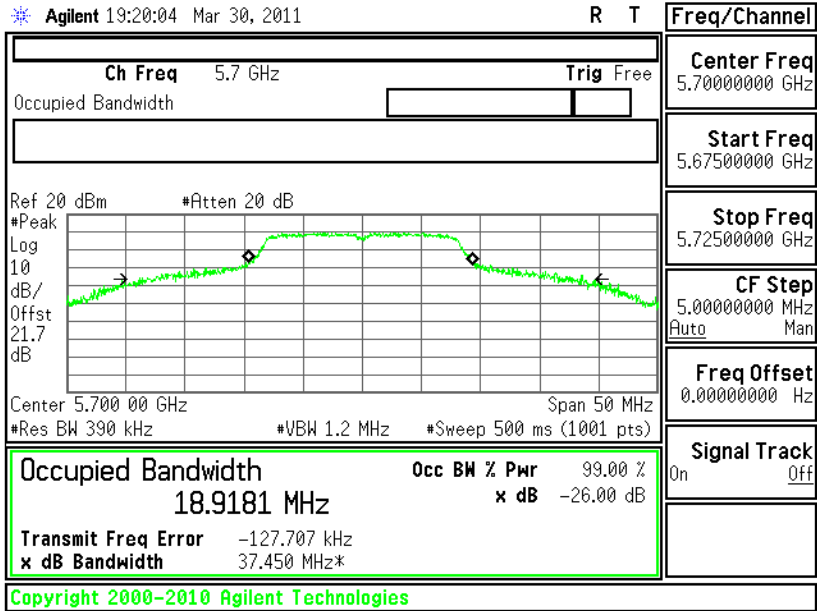


26 dB & 99% Bandwidth Plot on 802.11a Channel 120





26 dB & 99% Bandwidth Plot on 802.11a Channel 140





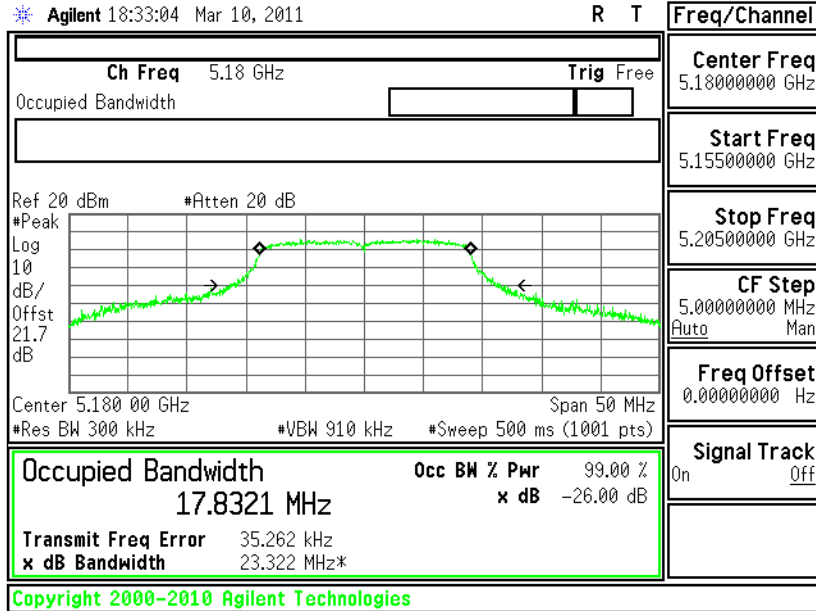
Test Mode :	802.11n (HT-20) L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (HT-20) 26dB Bandwidth (MHz)
36	5180	23.32
44	5220	23.64
48	5240	22.93
52	5260	30.65
60	5300	32.06
64	5320	35.46
100	5500	24.03
120	5600	36.20
140	5700	40.10

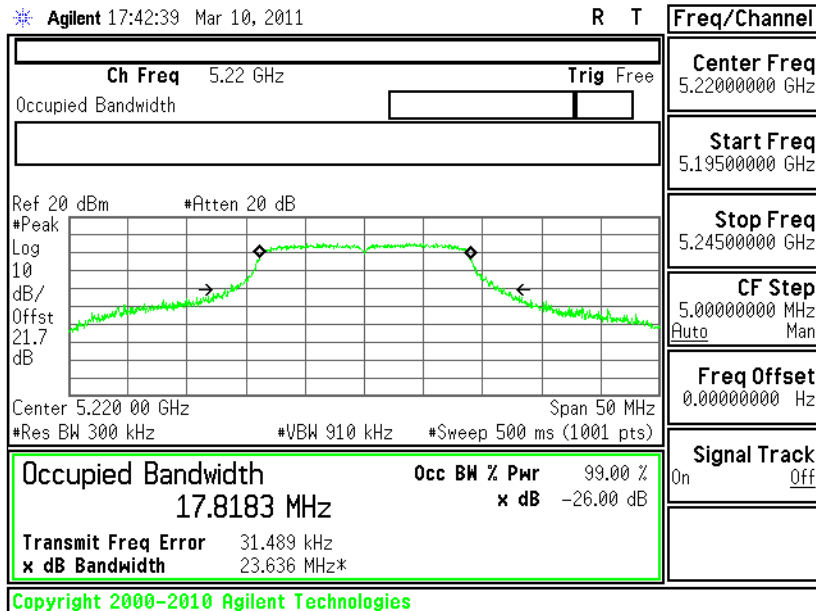
Channel	Frequency (MHz)	802.11n (HT-20) 99% Bandwidth (MHz)
36	5180	17.83
44	5220	17.82
48	5240	17.78
52	5260	18.05
60	5300	18.12
64	5320	18.54
100	5500	17.87
120	5600	18.48
140	5700	19.90



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

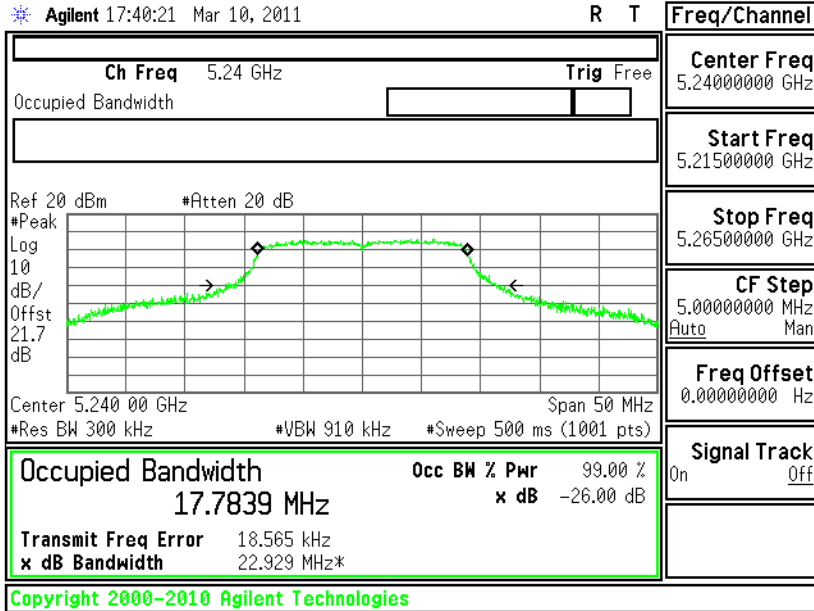


26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 44

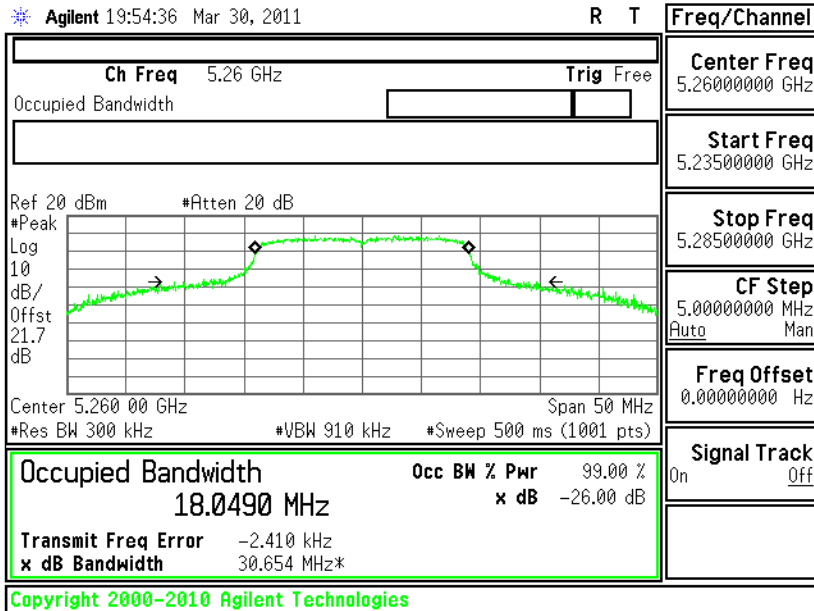




26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 48

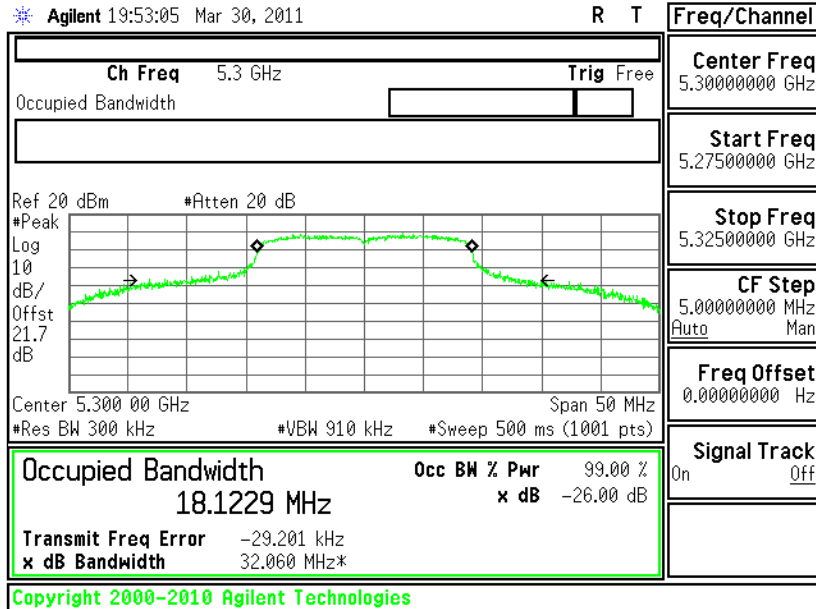


26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 52

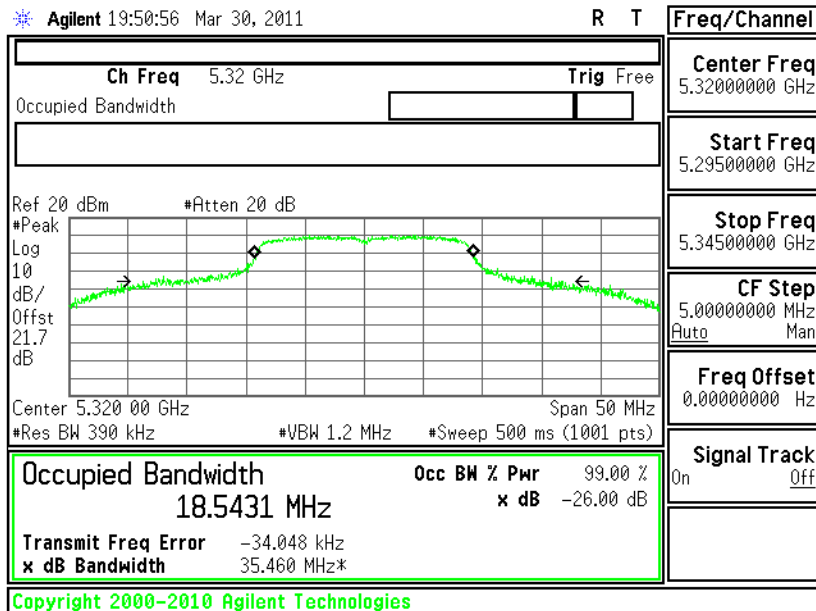




26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 60



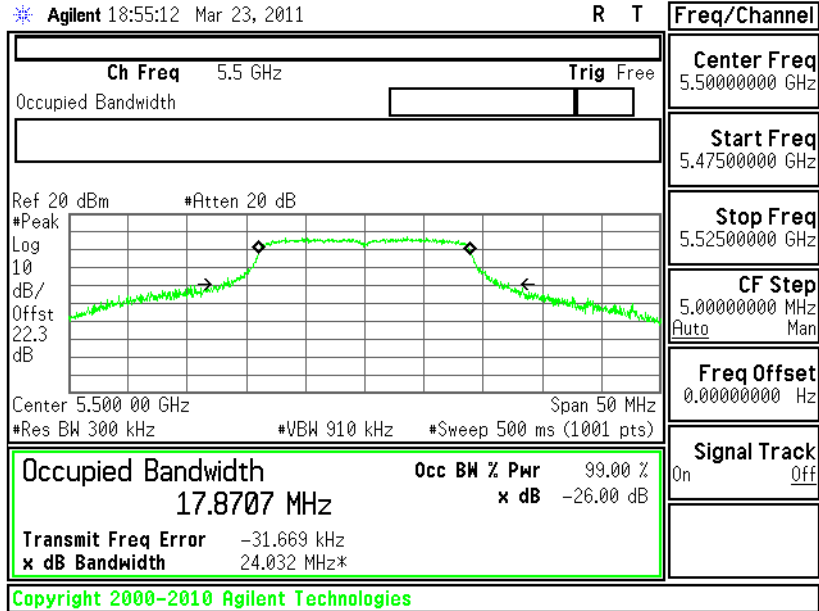
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 64



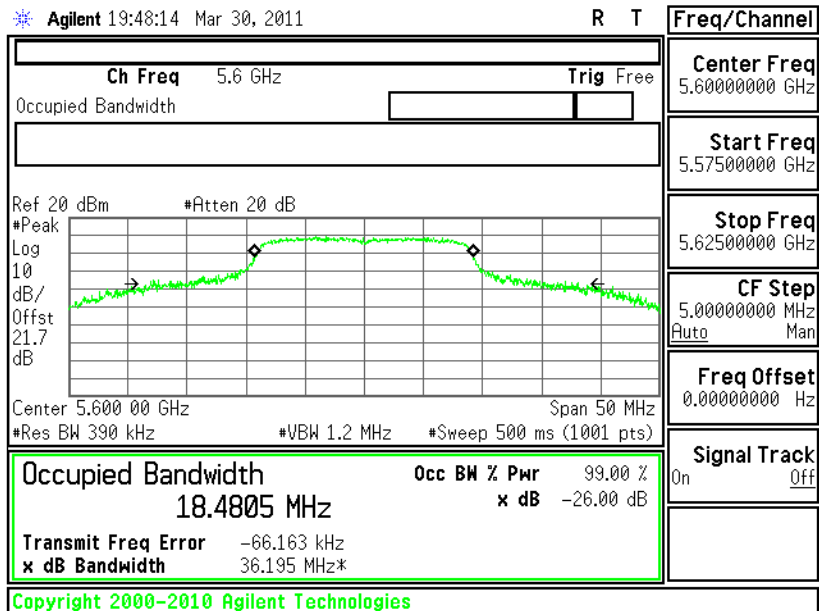




26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 100

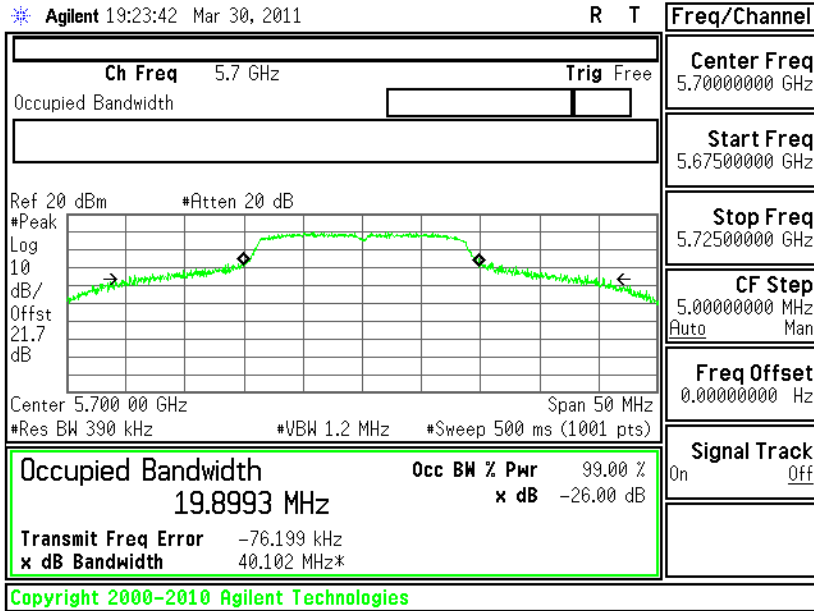


26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 120





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





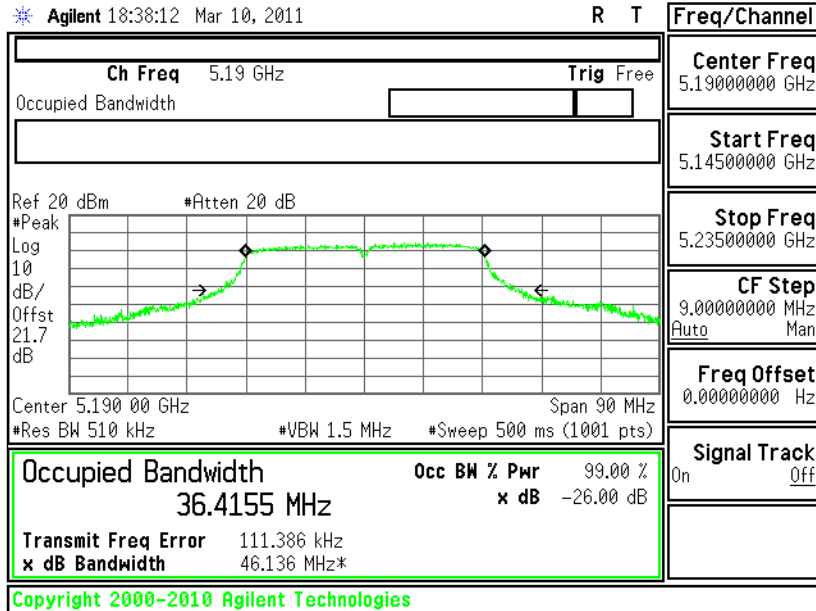
Test Mode :	802.11n (HT-40) L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (HT-40) 26dB Bandwidth (MHz)
38	5190	46.14
46	5230	45.15
54	5270	46.61
62	5310	45.35
102	5510	45.57
118	5590	46.48
134	5670	45.43

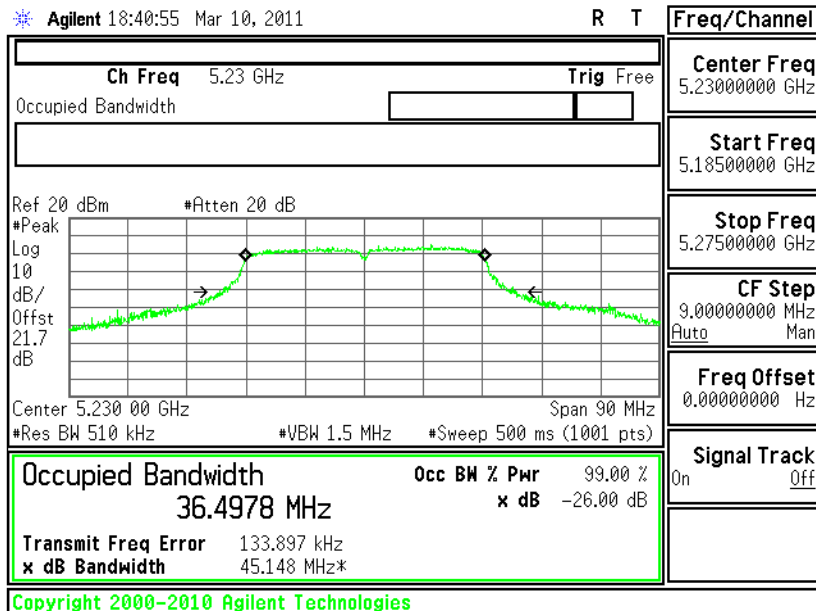
Channel	Frequency (MHz)	802.11n (HT-40) 99% Bandwidth (MHz)
38	5190	36.42
46	5230	36.50
54	5270	36.55
62	5310	36.53
102	5510	36.49
118	5590	36.41
134	5670	36.44



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

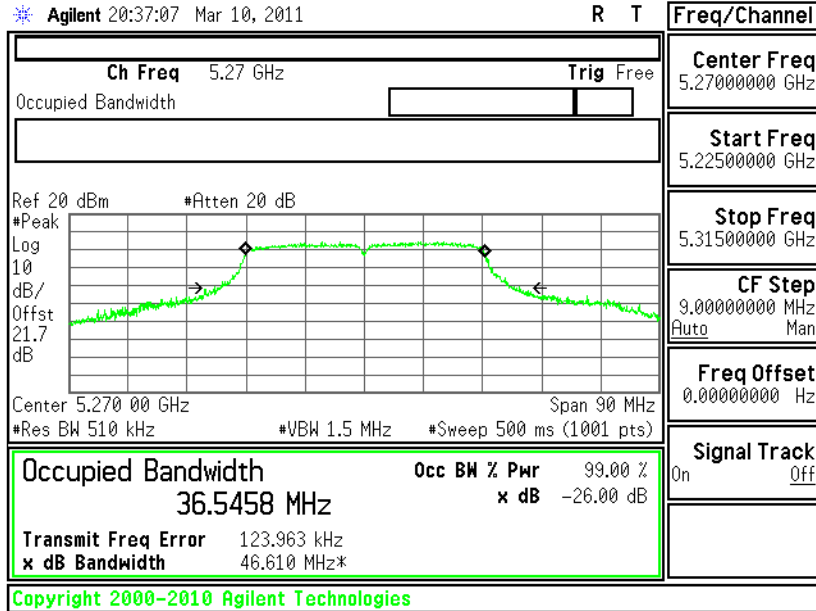


26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 46

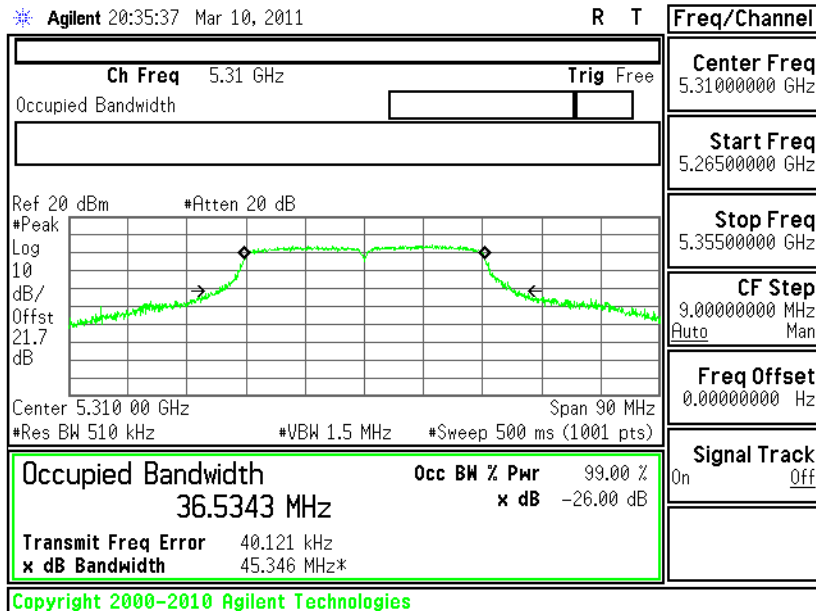




26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 54

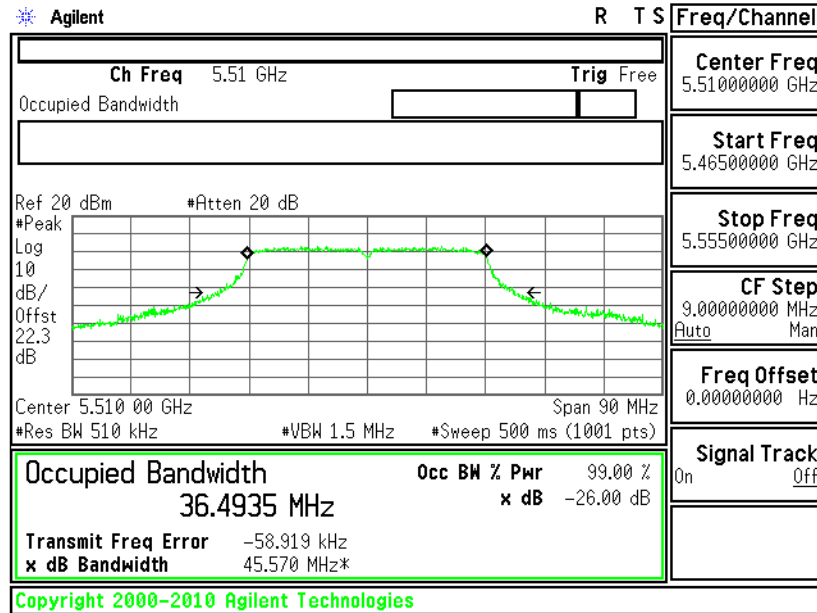


26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 62

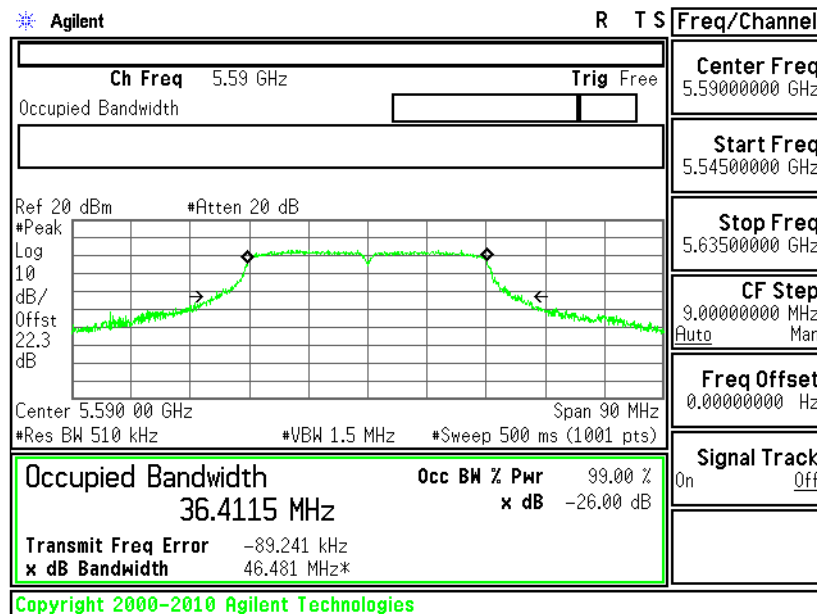




26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 102

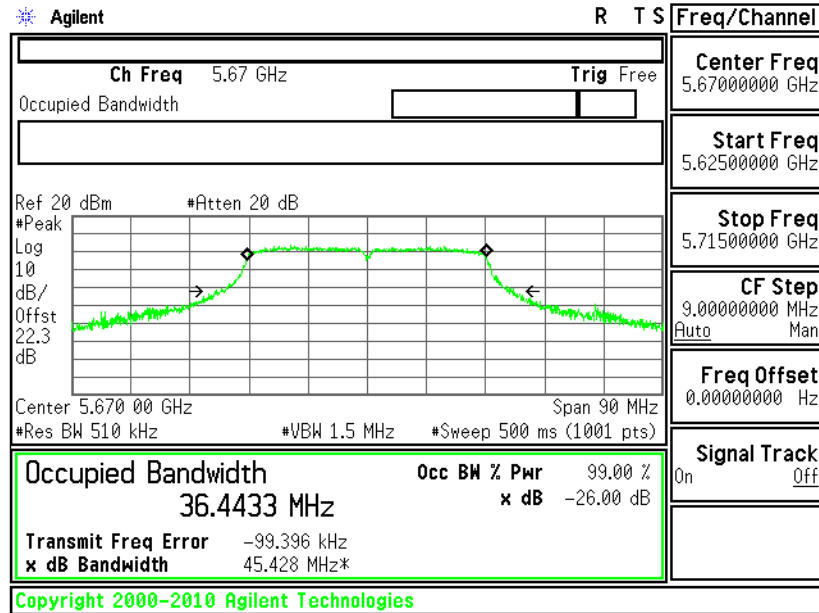


26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 118





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



## 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.

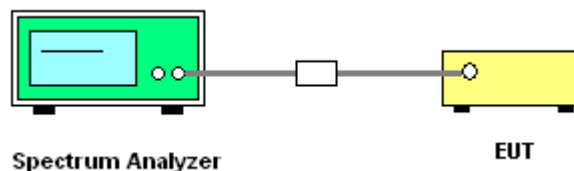
### 3.2.2 Measuring Instruments

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 2 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 power averaging.

### 3.2.4 Test Setup







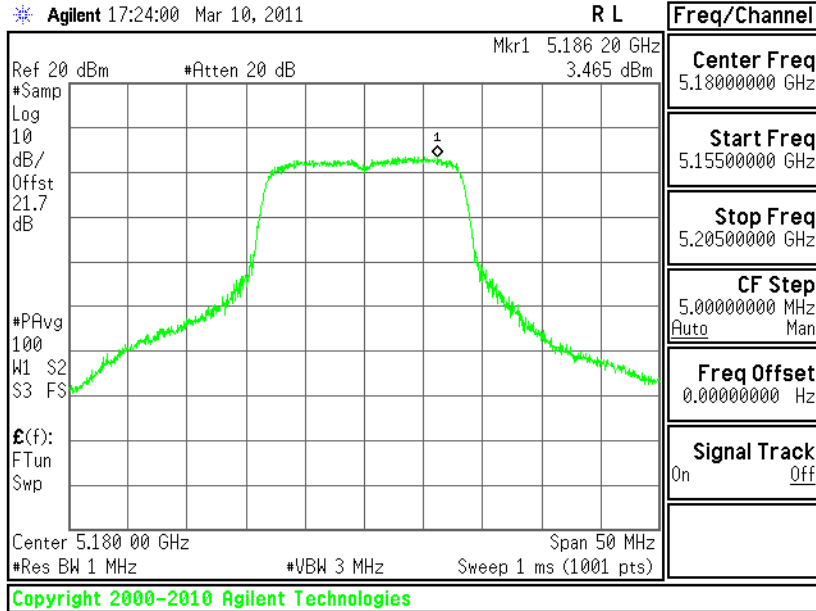
3.2.5 Test Result of Power Spectral Density

Test Mode :	802.11a L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

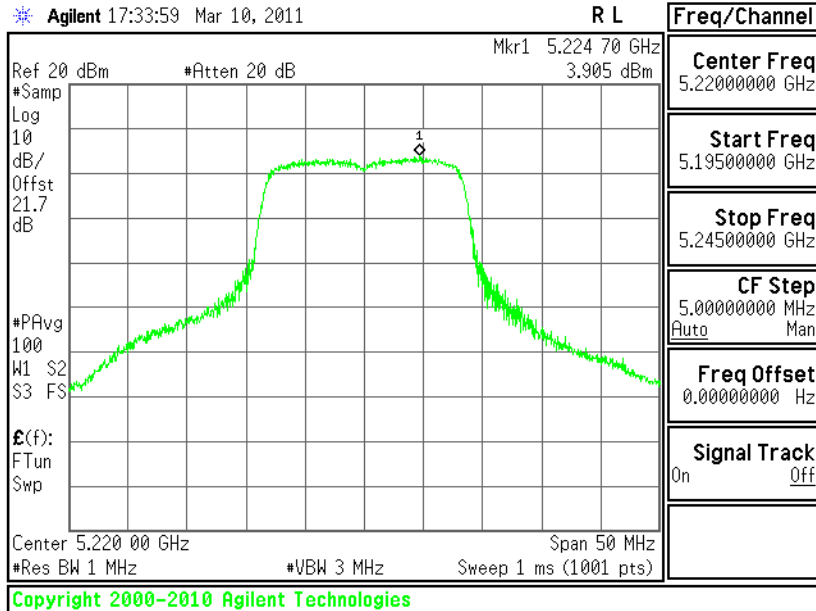
Channel	Frequency (MHz)	802.11a Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
36	5180	3.47	4	Pass
44	5220	3.91	4	Pass
48	5240	3.85	4	Pass
52	5260	6.18	11	Pass
60	5300	6.40	11	Pass
64	5320	6.22	11	Pass
100	5500	5.70	17	Pass
120	5600	6.22	17	Pass
140	5700	6.19	17	Pass



**PSD Plot on 802.11a Channel 36**

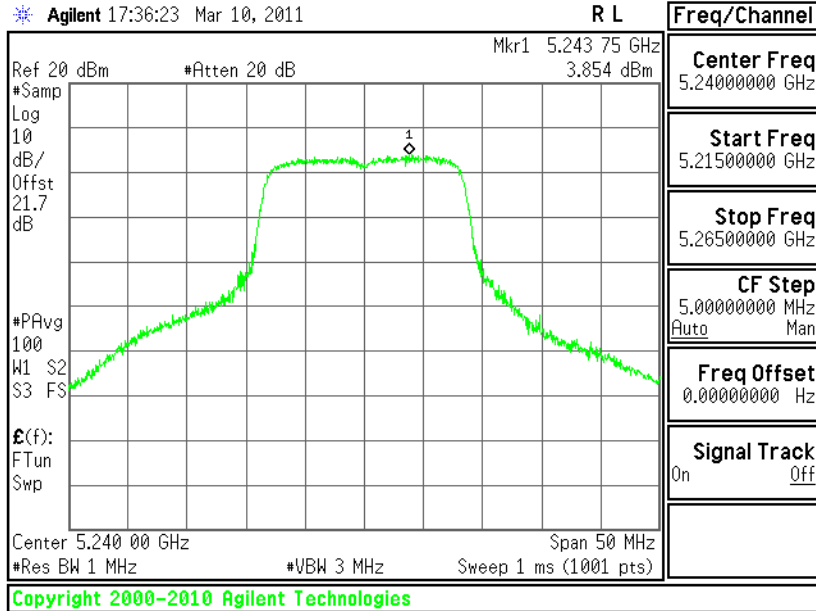


**PSD Plot on 802.11a Channel 44**

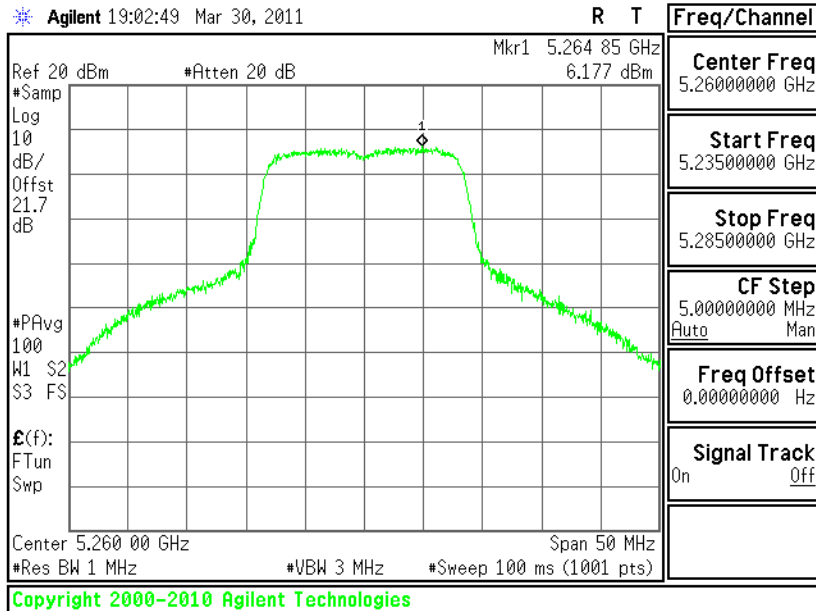




**PSD Plot on 802.11a Channel 48**

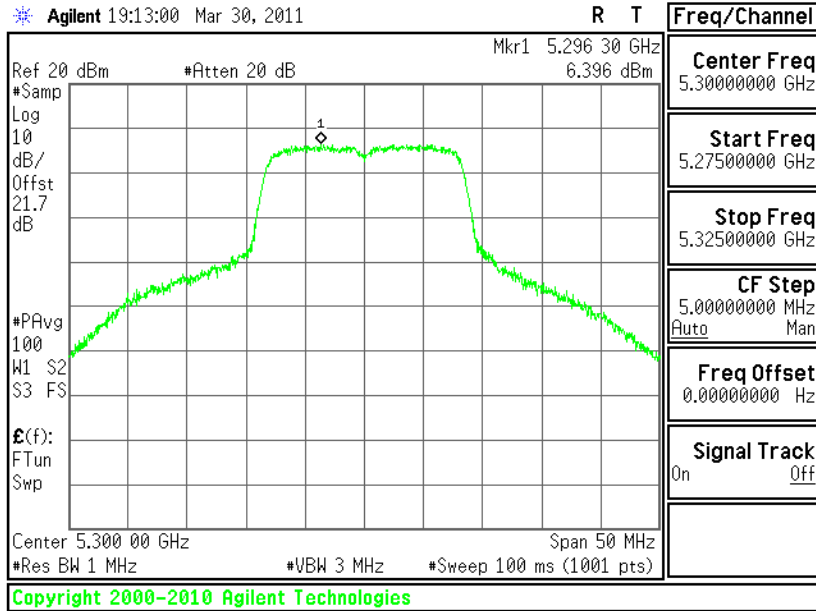


**PSD Plot on 802.11a Channel 52**

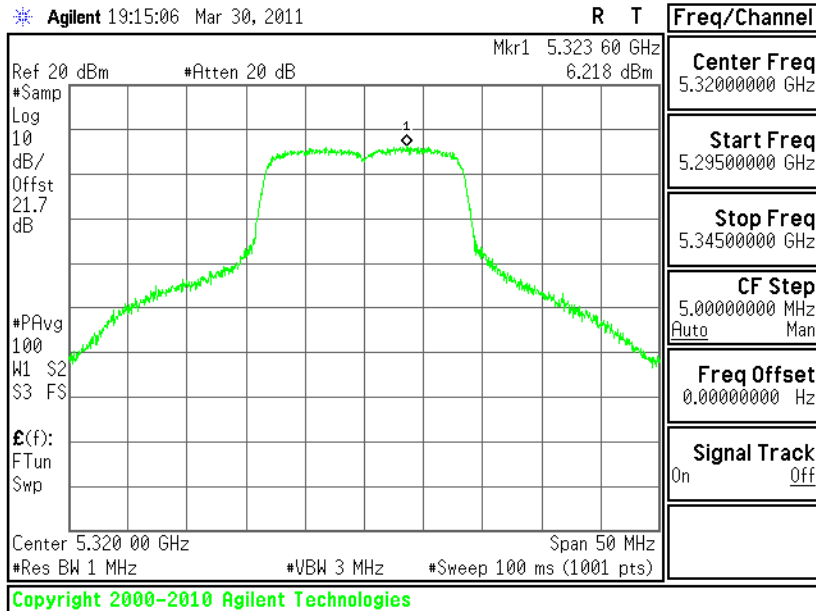




**PSD Plot on 802.11a Channel 60**

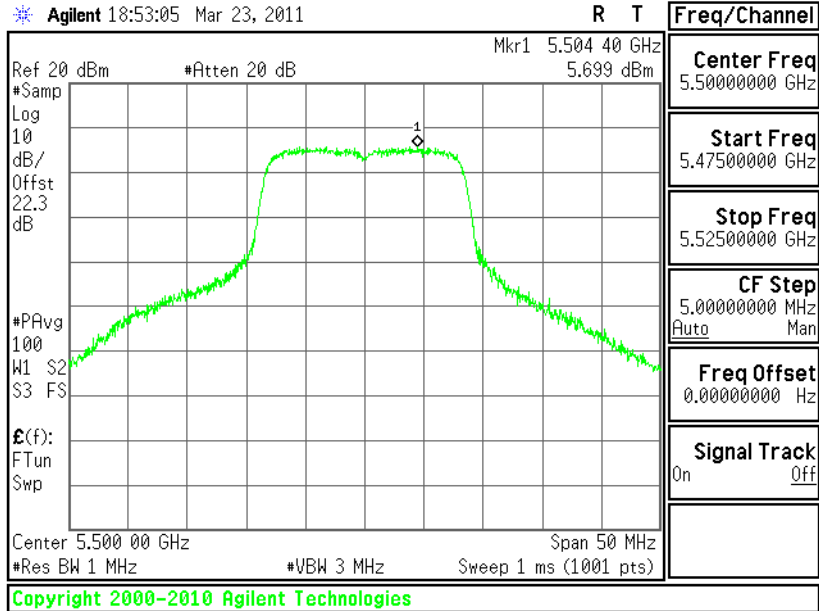


**PSD Plot on 802.11a Channel 64**

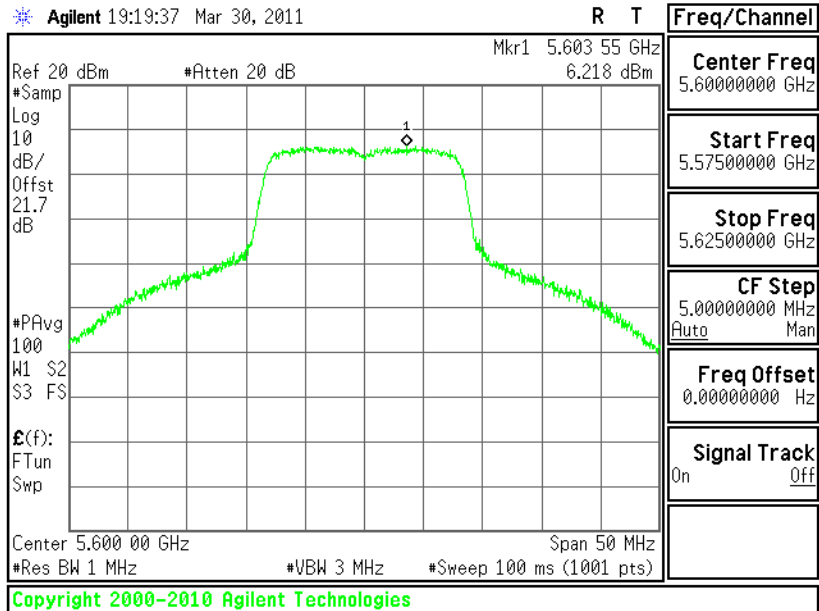




PSD Plot on 802.11a Channel 100

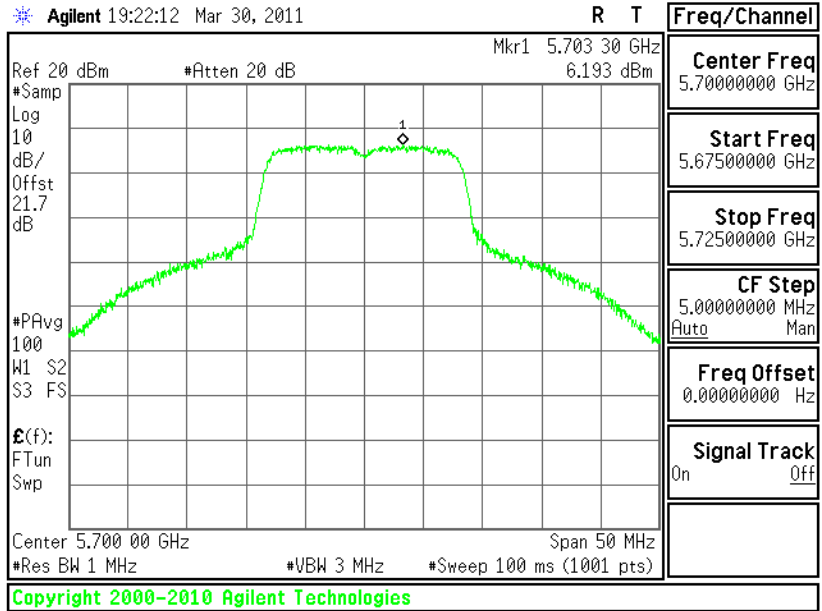


PSD Plot on 802.11a Channel 120





PSD Plot on 802.11a Channel 140



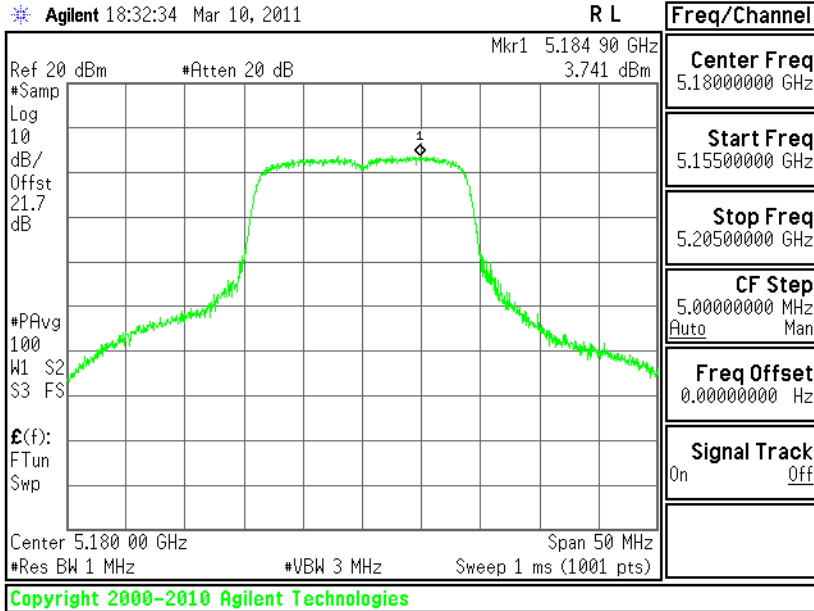


Test Mode :	802.11n (HT-20) L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

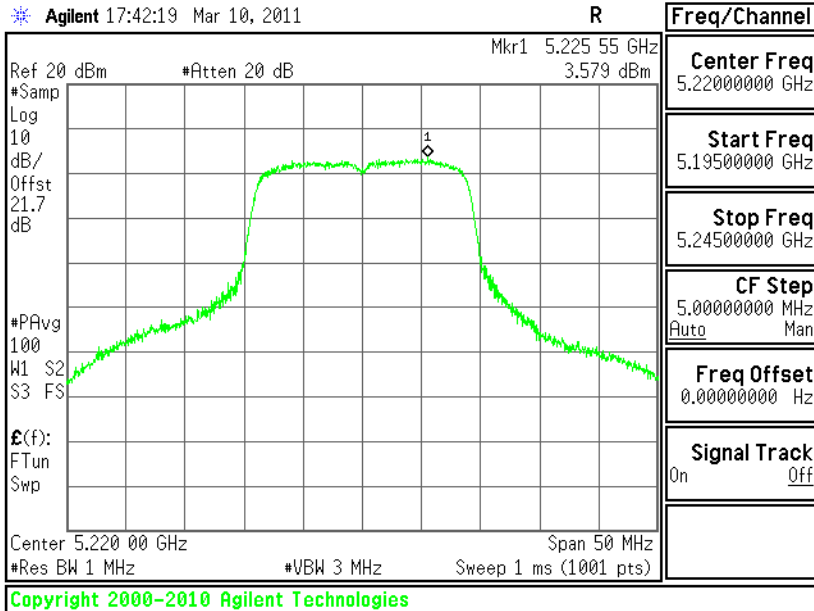
Channel	Frequency (MHz)	802.11n (HT-20) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
36	5180	3.74	4	Pass
44	5220	3.58	4	Pass
48	5240	3.65	4	Pass
52	5260	6.18	11	Pass
60	5300	6.09	11	Pass
64	5320	6.07	11	Pass
100	5500	5.04	17	Pass
120	5600	5.73	17	Pass
140	5700	6.09	17	Pass



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



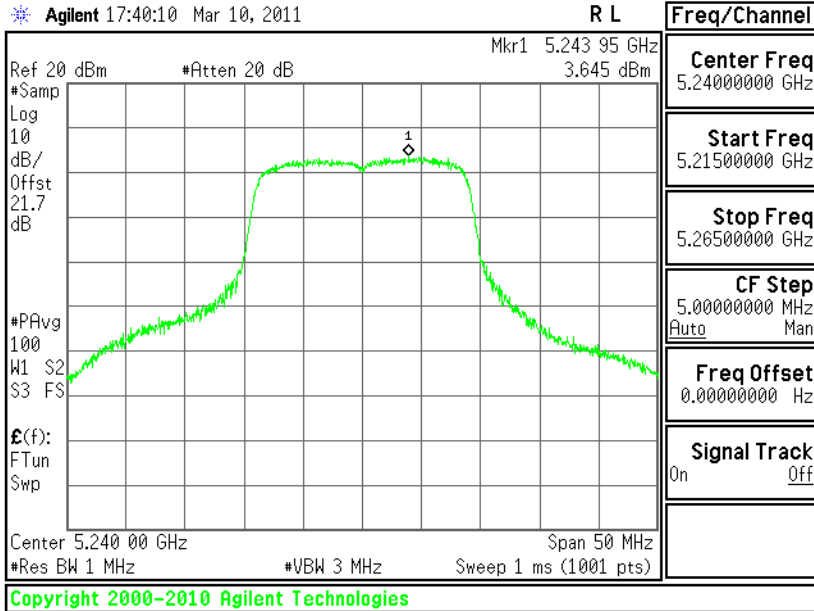
**PSD Plot on 802.11n (HT-20) Channel 44**



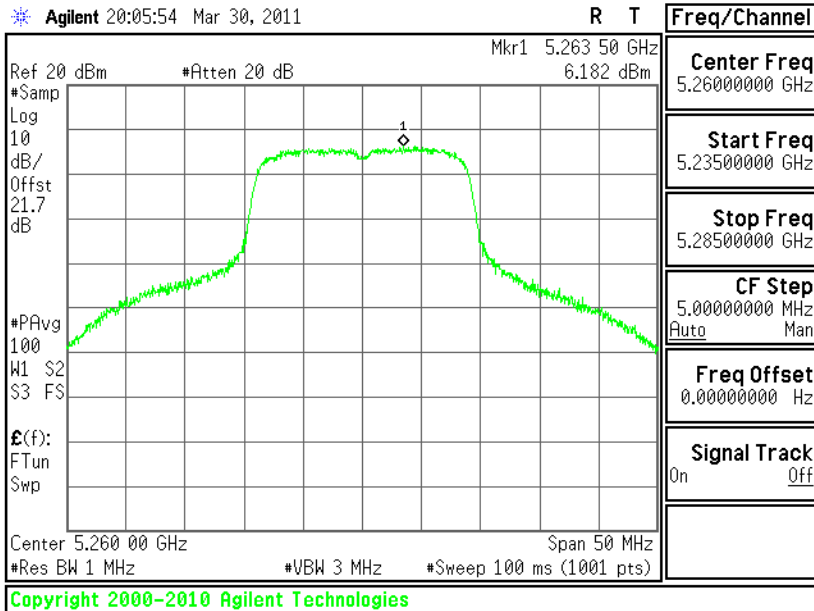




**PSD Plot on 802.11n (HT-20) Channel 48**

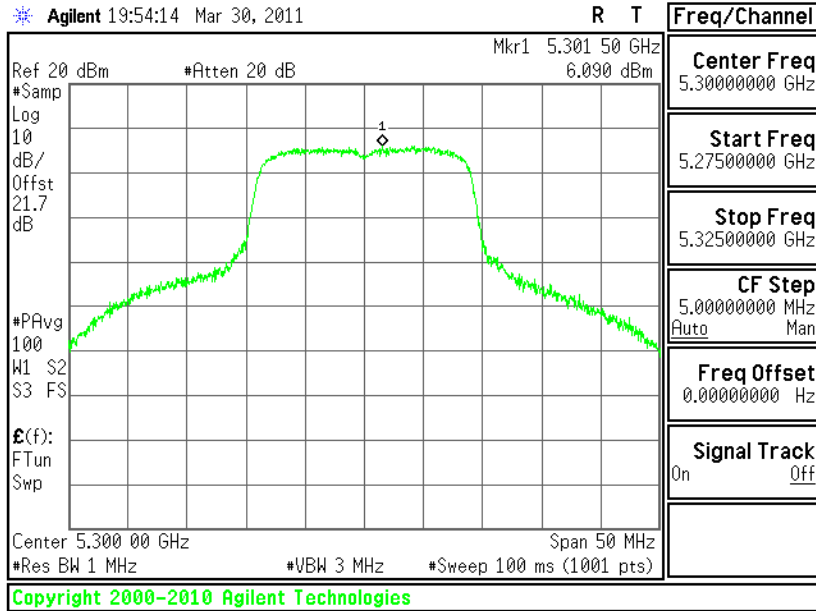


**PSD Plot on 802.11n (HT-20) Channel 52**

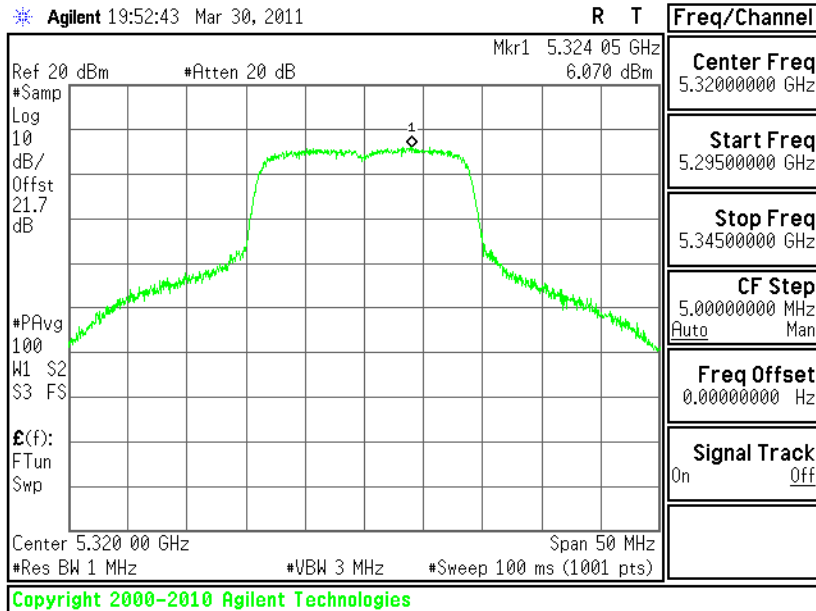




PSD Plot on 802.11n (HT-20) Channel 60

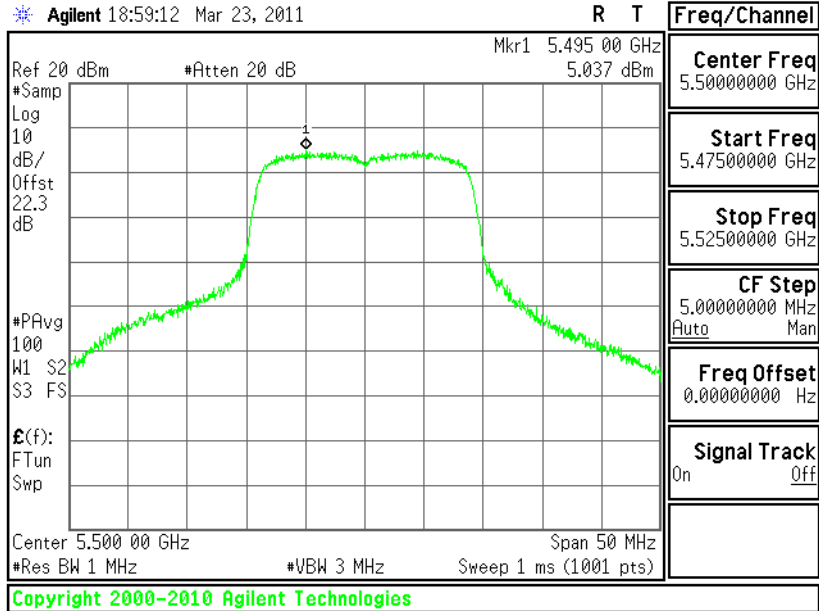


PSD Plot on 802.11n (HT-20) Channel 64

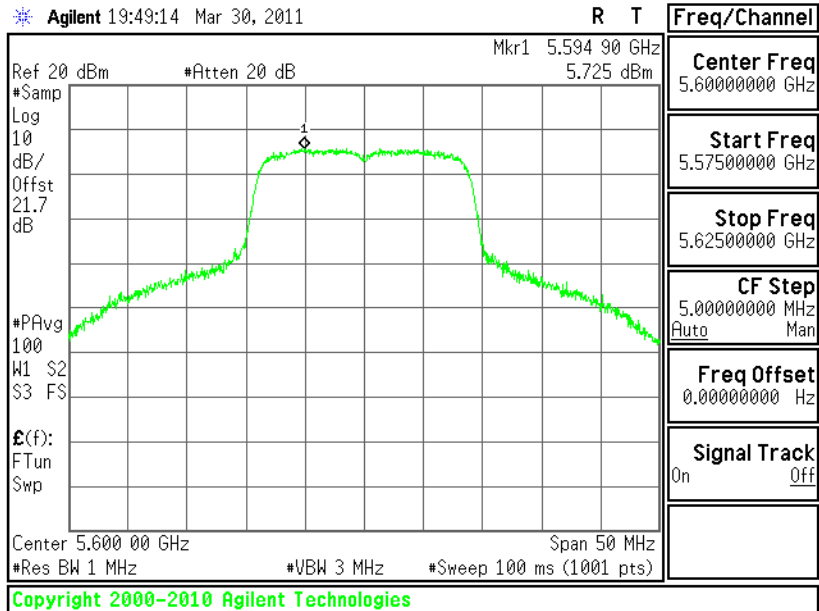




PSD Plot on 802.11n (HT-20) Channel 100

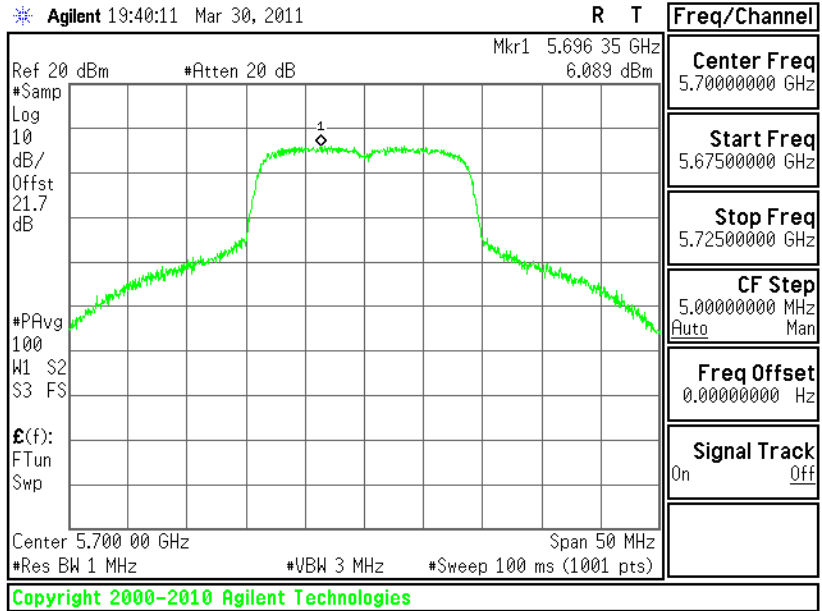


PSD Plot on 802.11n (HT-20) Channel 120





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



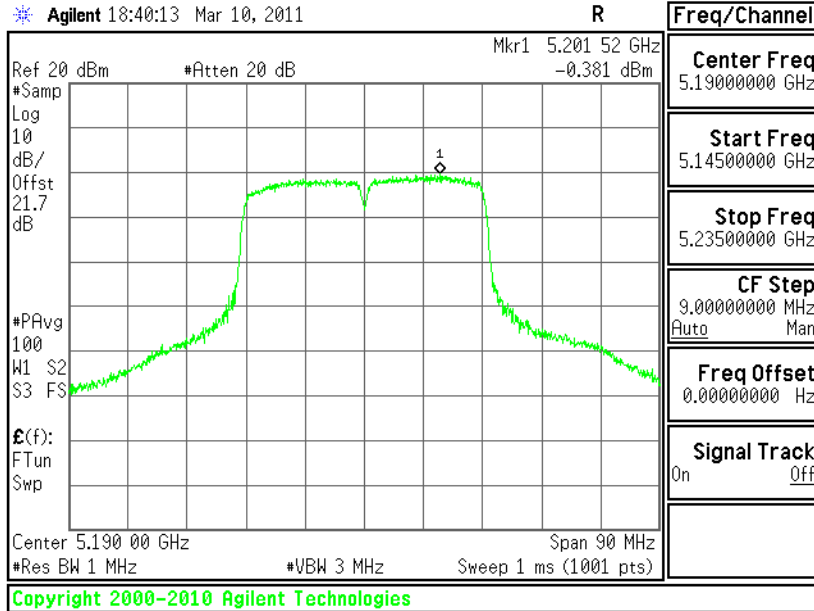


Test Mode :	802.11n (HT-40) L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

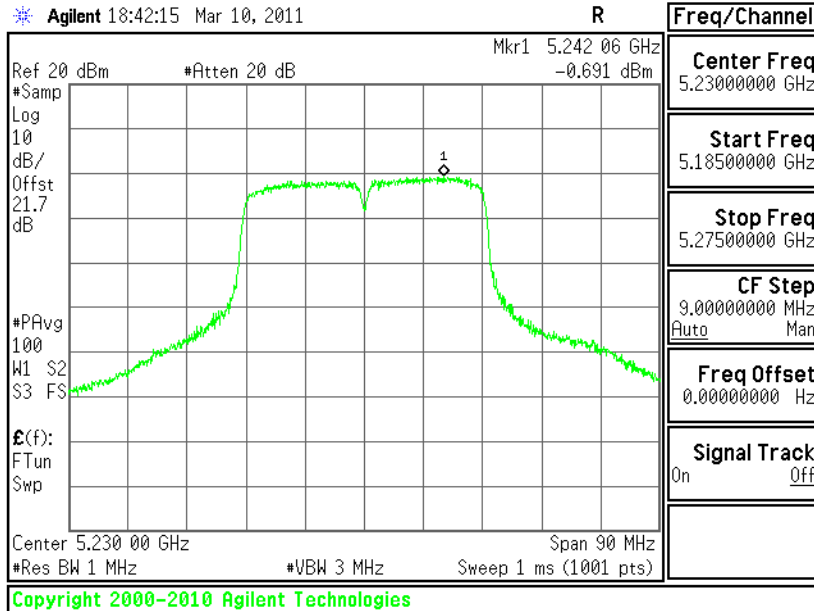
Channel	Frequency (MHz)	802.11n (HT-40) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
38	5190	-0.38	4	Pass
46	5230	-0.69	4	Pass
54	5270	-0.83	11	Pass
62	5310	-1.21	11	Pass
102	5510	-1.80	17	Pass
118	5590	-1.58	17	Pass
134	5670	-1.96	17	Pass



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

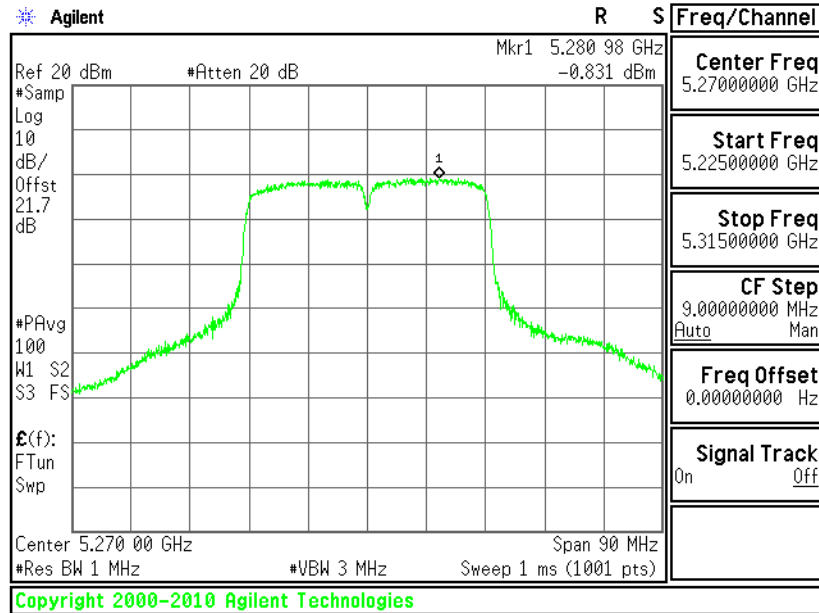


PSD Plot on 802.11n (HT-40) Channel 46

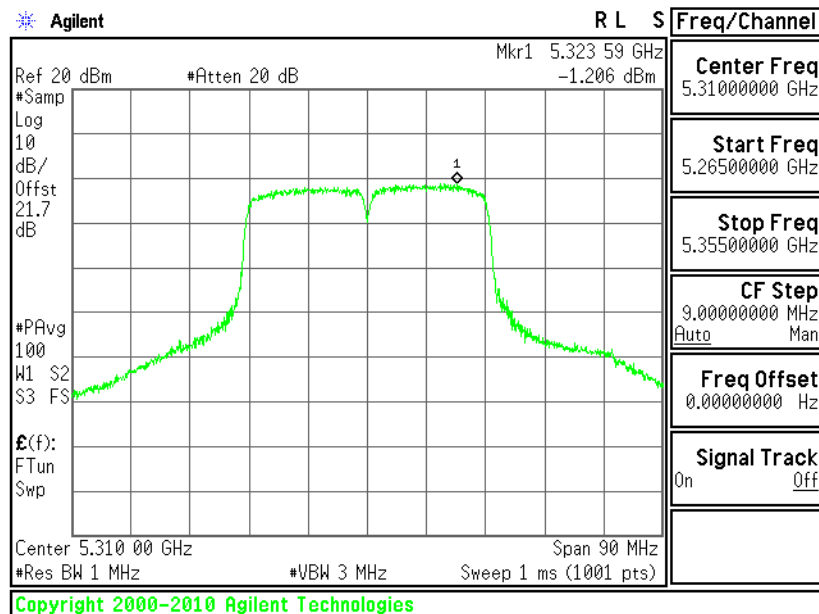




PSD Plot on 802.11n (HT-40) Channel 54

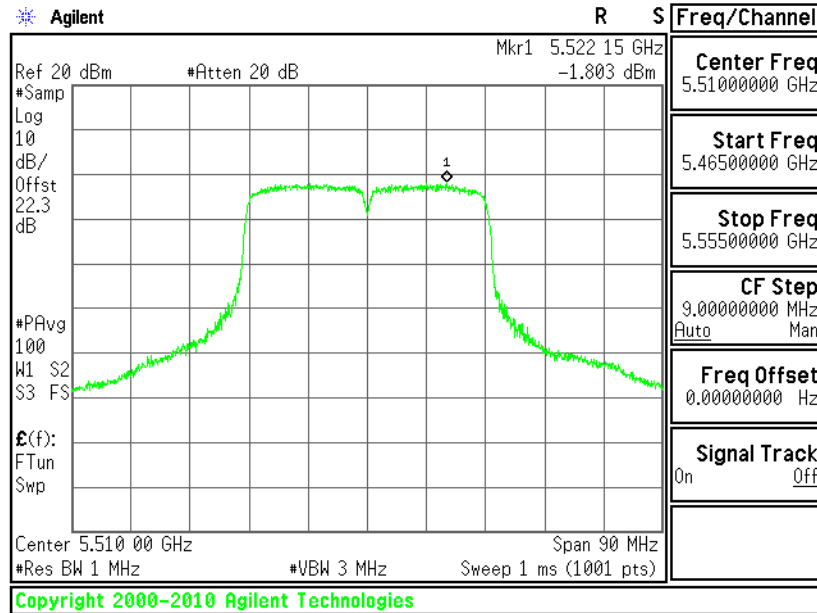


PSD Plot on 802.11n (HT-40) Channel 62

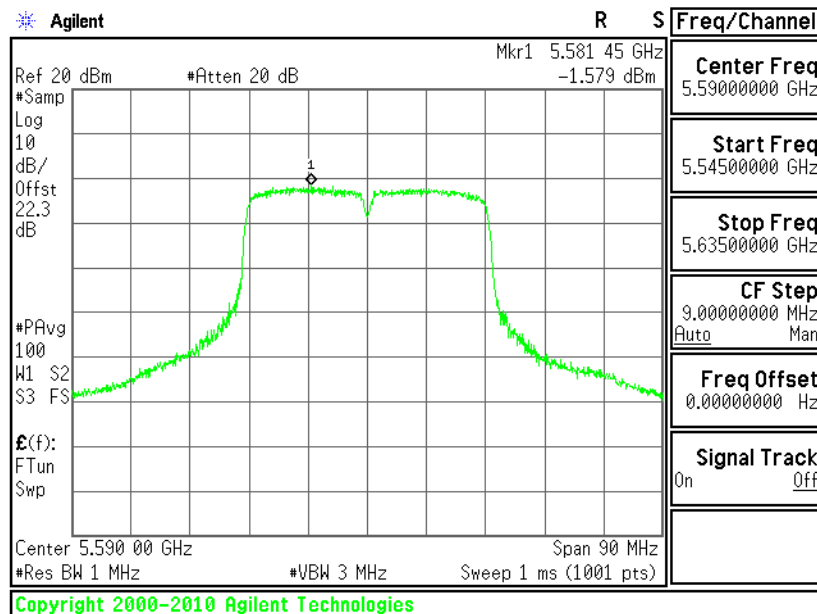




PSD Plot on 802.11n (HT-40) Channel 102



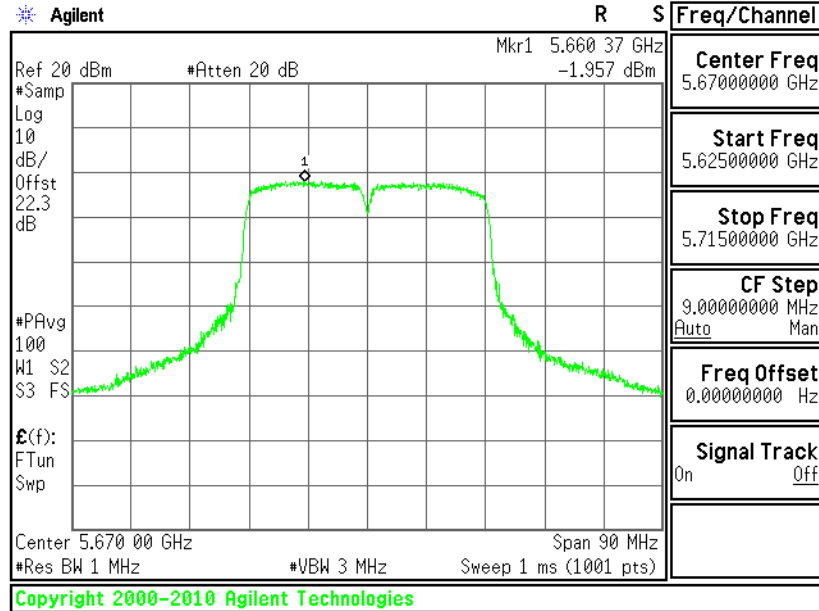
PSD Plot on 802.11n (HT-40) Channel 118







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



### 3.3 Average Power Measurement

#### 3.3.1 Limit of Average Power

None; for reporting purposes only.

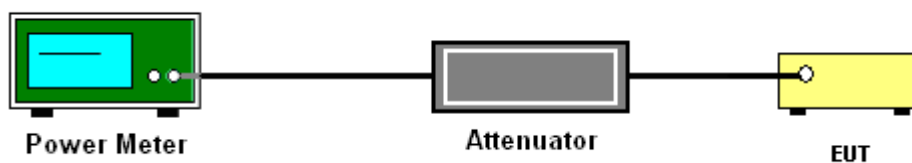
#### 3.3.2 Measuring Instruments

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

Test Mode :	802.11a L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a Measured Output Power (dBm)
36	5180	13.87
44	5220	14.12
48	5240	14.26
52	5260	16.95
60	5300	17.17
64	5320	16.90
100	5500	16.54
120	5600	17.05
140	5700	17.17

Test Mode :	802.11n (HT-20) L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (HT-20) Measured Output Power (dBm)
36	5180	14.28
44	5220	14.01
48	5240	14.25
52	5260	16.91
60	5300	17.09
64	5320	17.06
100	5500	15.57
120	5600	16.96
140	5700	17.01



Test Mode :	802.11n (HT-40) L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (HT-40) Measured Output Power (dBm)
38	5190	12.89
46	5230	12.84
54	5270	13.38
62	5310	13.53
102	5510	13.25
118	5590	13.11
134	5670	13.14

## 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.

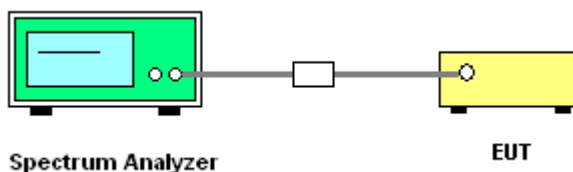
### 3.4.2 Measuring Instruments

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

Test Mode :	802.11a L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
36	5180	13.97	17	Pass
44	5220	14.08	17	Pass
48	5240	14.32	17	Pass
52	5260	17.00	24	Pass
60	5300	17.13	24	Pass
64	5320	16.83	24	Pass
100	5500	16.38	24	Pass
120	5600	16.92	24	Pass
140	5700	17.18	24	Pass

Test Mode :	802.11n (HT-20) L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (HT-20) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
36	5180	14.42	17	Pass
44	5220	13.94	17	Pass
48	5240	14.20	17	Pass
52	5260	17.00	24	Pass
60	5300	17.02	24	Pass
64	5320	17.04	24	Pass
100	5500	15.71	24	Pass
120	5600	16.85	24	Pass
140	5700	17.08	24	Pass



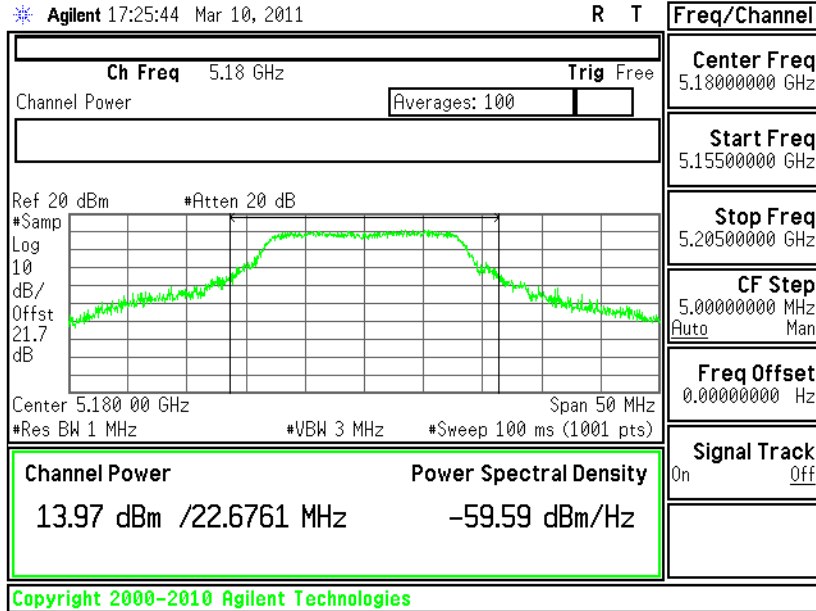
Test Mode :	802.11n (HT-40) L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (HT-40) Measured Output Power (dBm)	Max. Limits (dBm )	Pass/Fail
38	5190	13.03	17	Pass
46	5230	12.95	17	Pass
54	5270	13.46	24	Pass
62	5310	13.37	24	Pass
102	5510	13.03	24	Pass
118	5590	13.08	24	Pass
134	5670	12.98	24	Pass

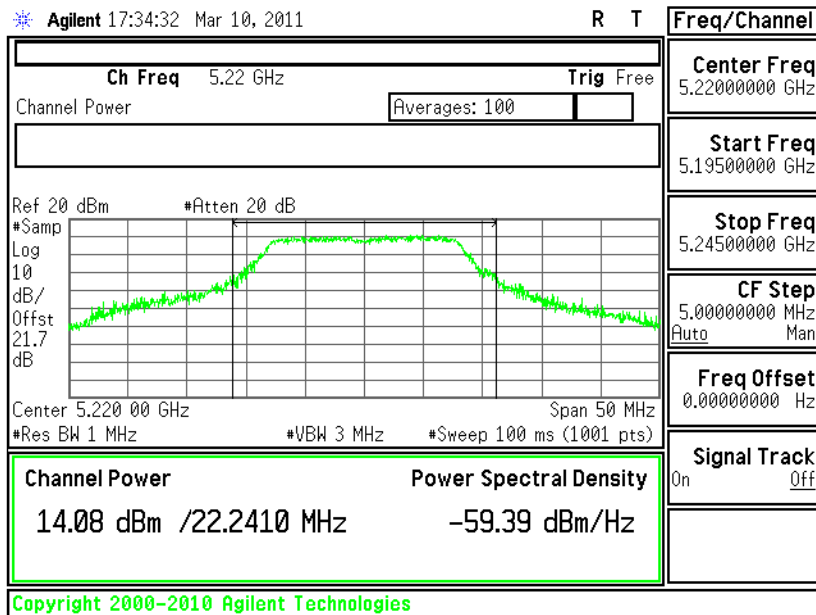


### 3.4.6 Test Result of Output Power Plots

#### Output Power Plot on 802.11a Channel 36



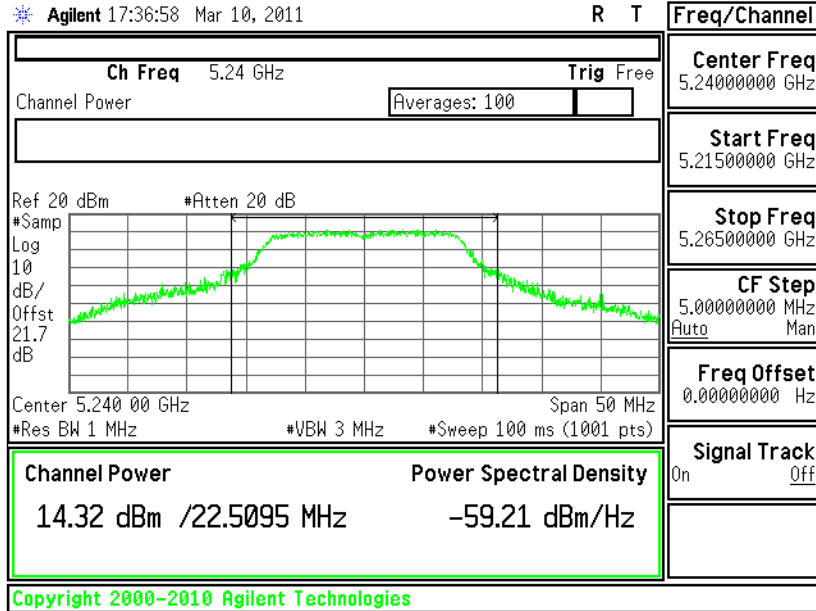
#### Output Power Plot on 802.11a Channel 44



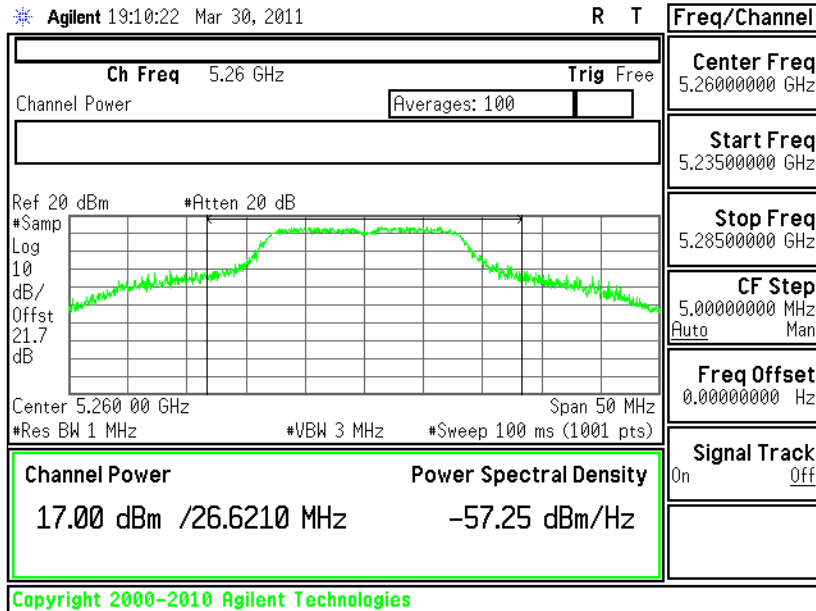




**Output Power Plot on 802.11a Channel 48**

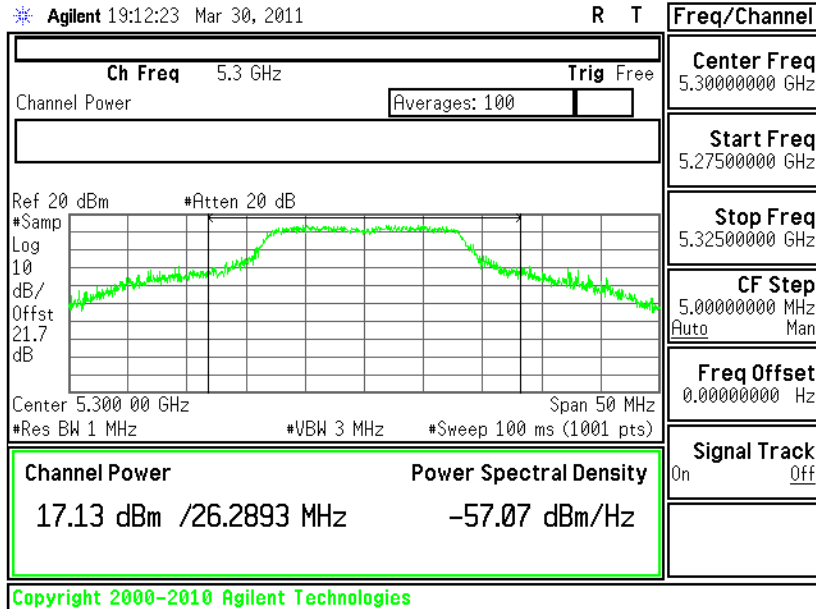


**Output Power Plot on 802.11a Channel 52**

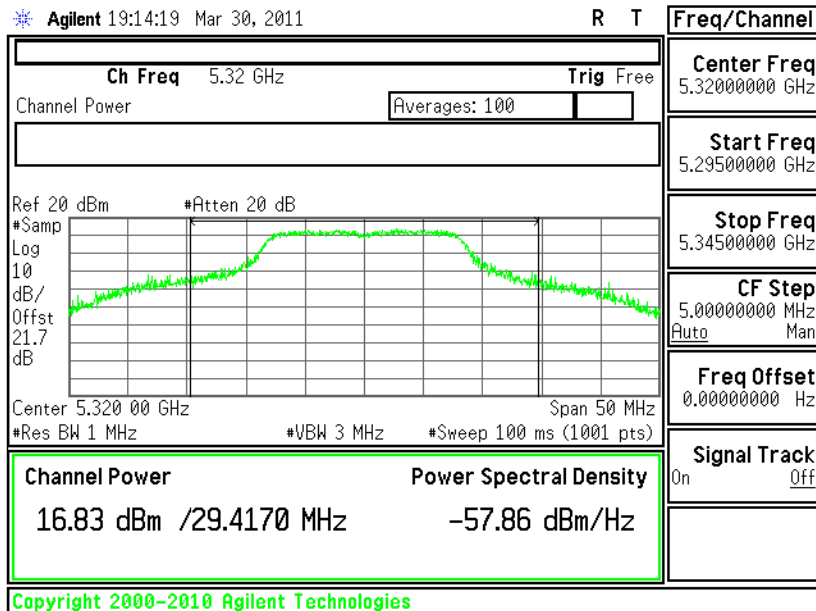




**Output Power Plot on 802.11a Channel 60**

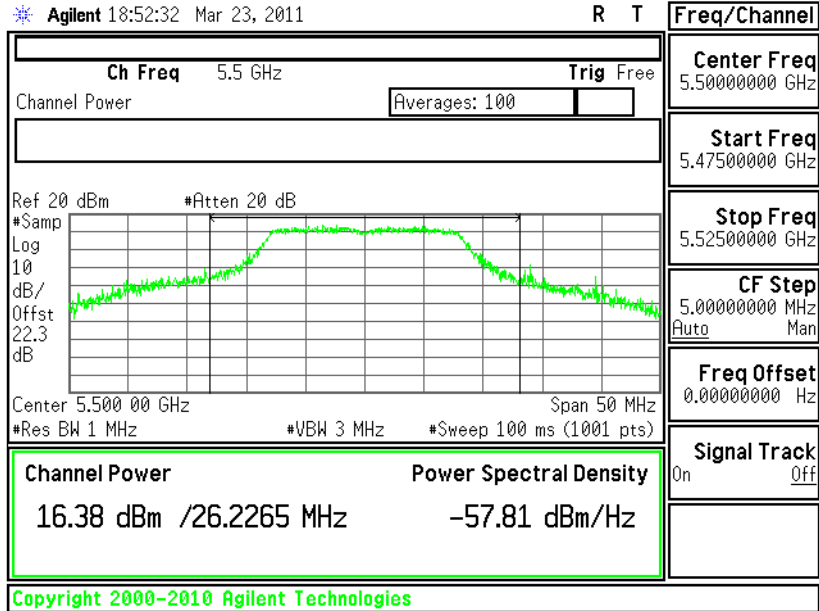


**Output Power Plot on 802.11a Channel 64**

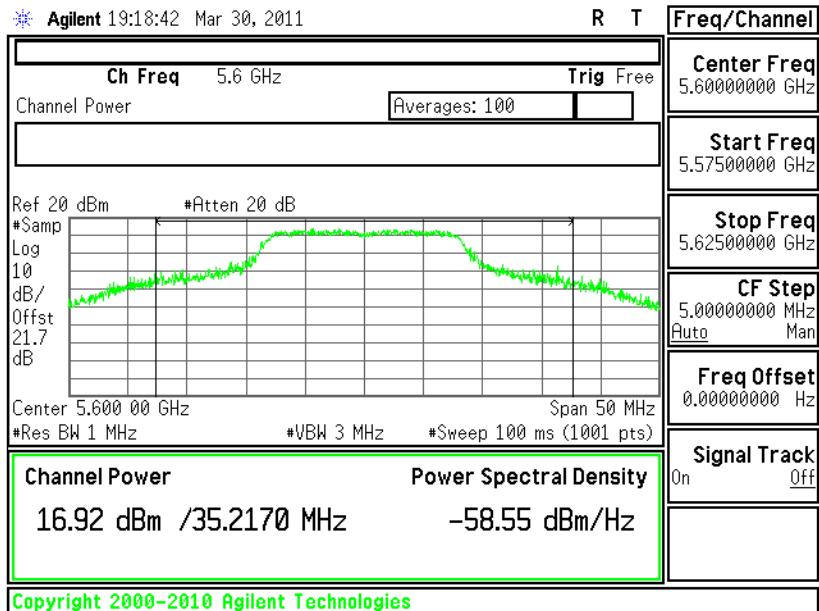




**Output Power Plot on 802.11a Channel 100**

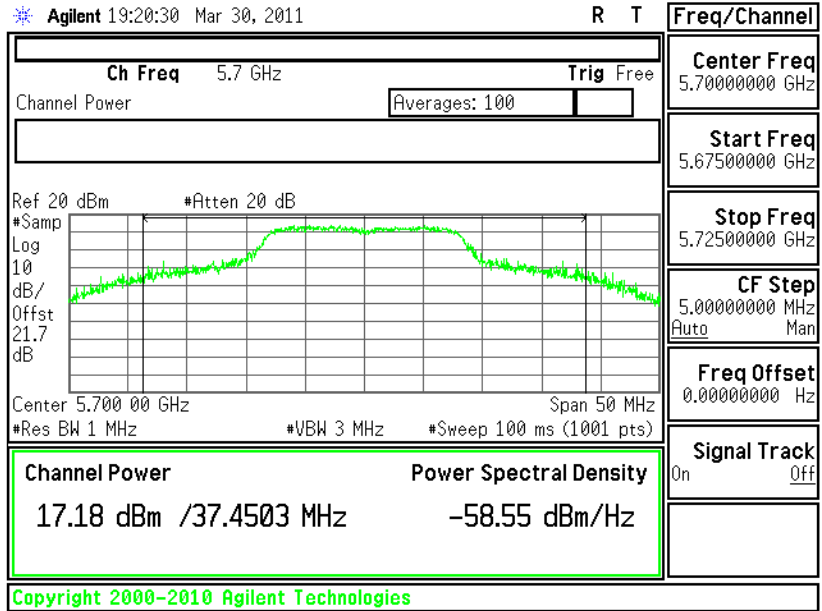


**Output Power Plot on 802.11a Channel 120**



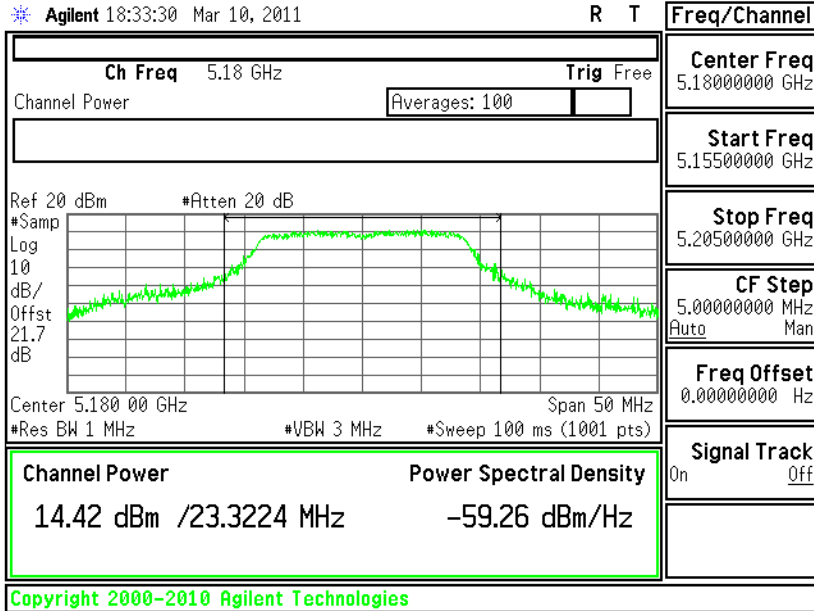


Output Power Plot on 802.11a Channel 140

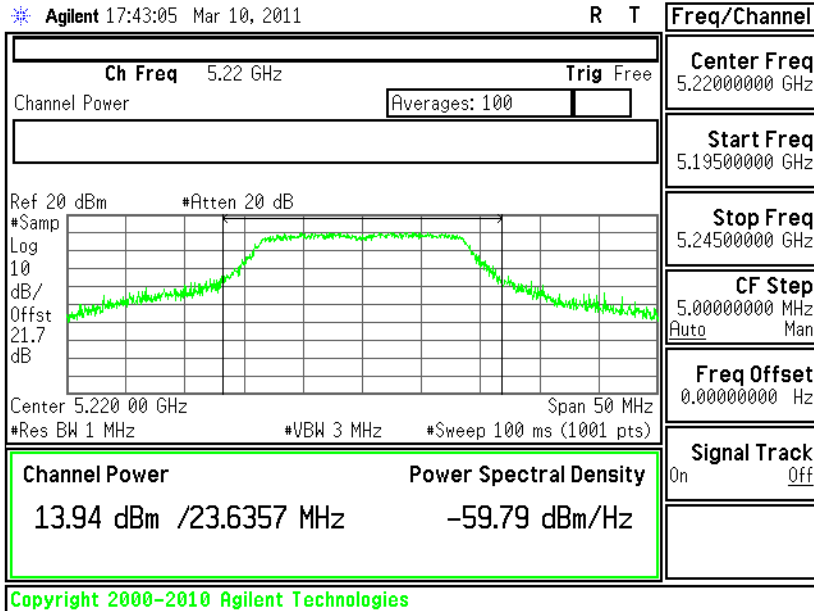




Output Power Plot on 802.11n (HT-20) Channel 36

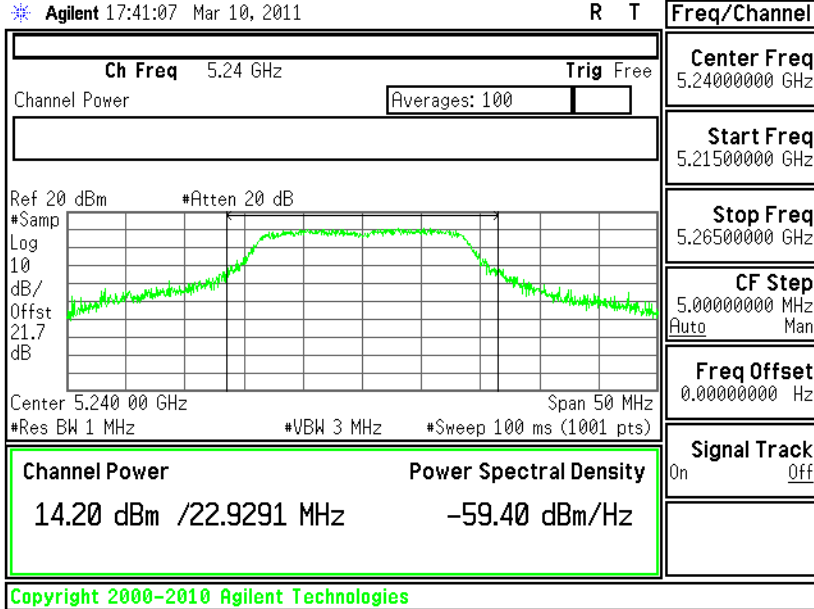


Output Power Plot on 802.11n (HT-20) Channel 44

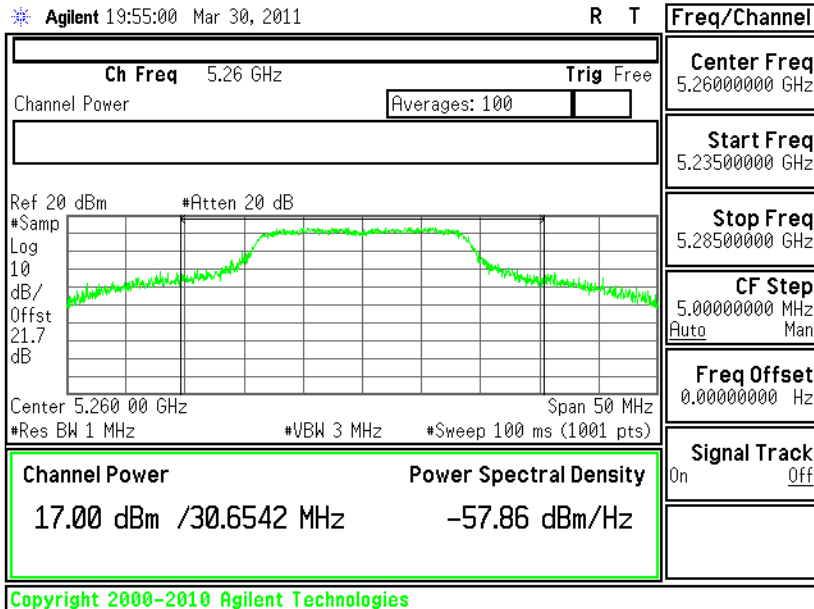




**Output Power Plot on 802.11n (HT-20) Channel 48**

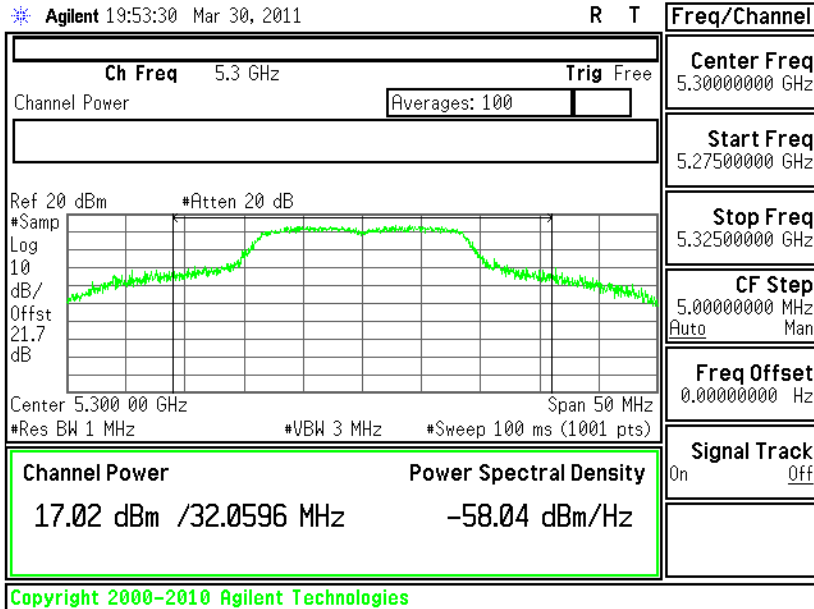


**Output Power Plot on 802.11n (HT-20) Channel 52**

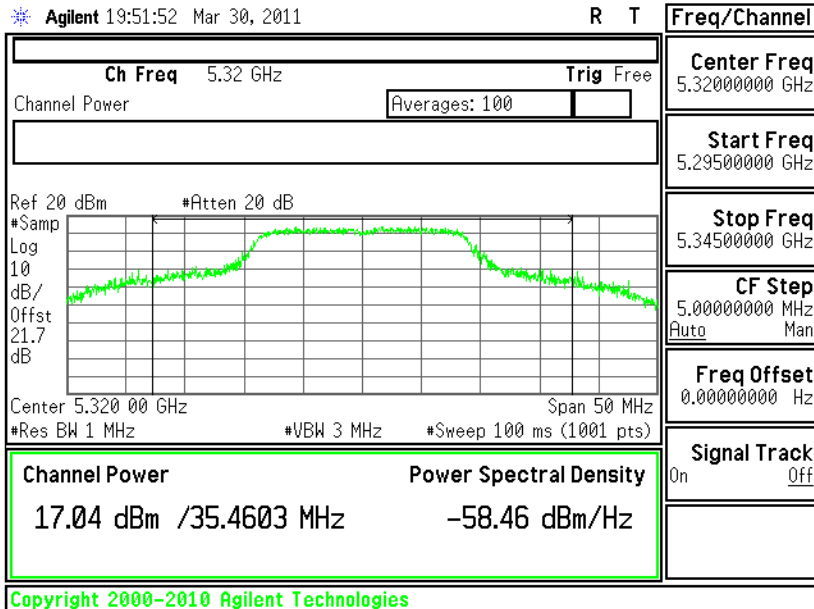




**Output Power Plot on 802.11n (HT-20) Channel 60**

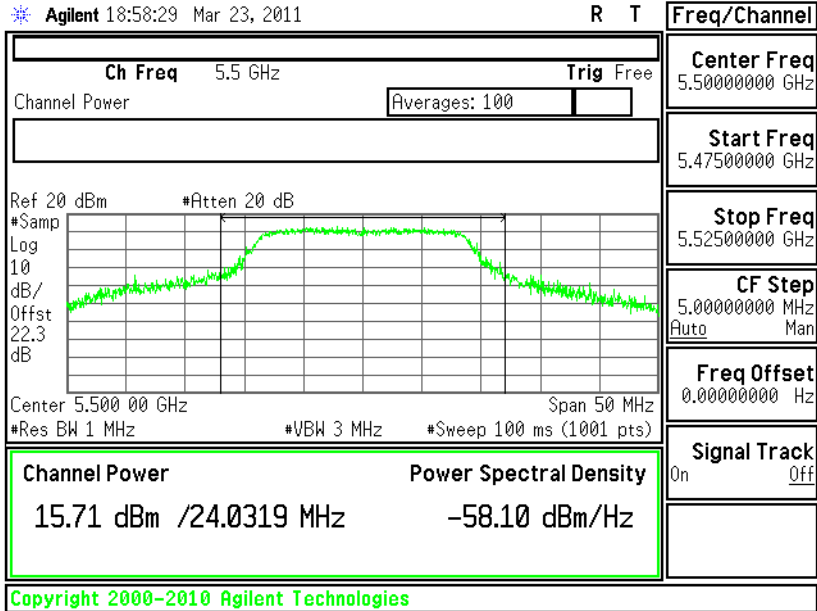


**Output Power Plot on 802.11n (HT-20) Channel 64**

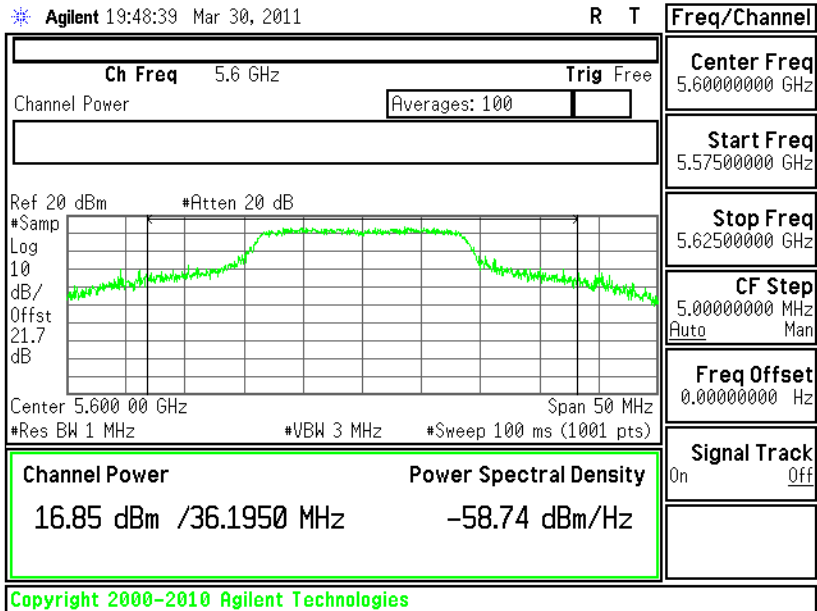




**Output Power Plot on 802.11n (HT-20) Channel 100**



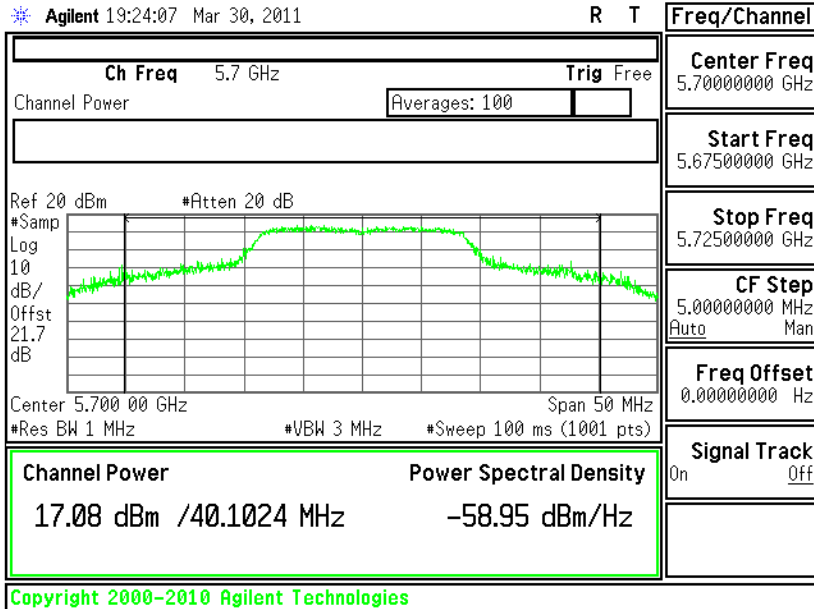
**Output Power Plot on 802.11n (HT-20) Channel 120**



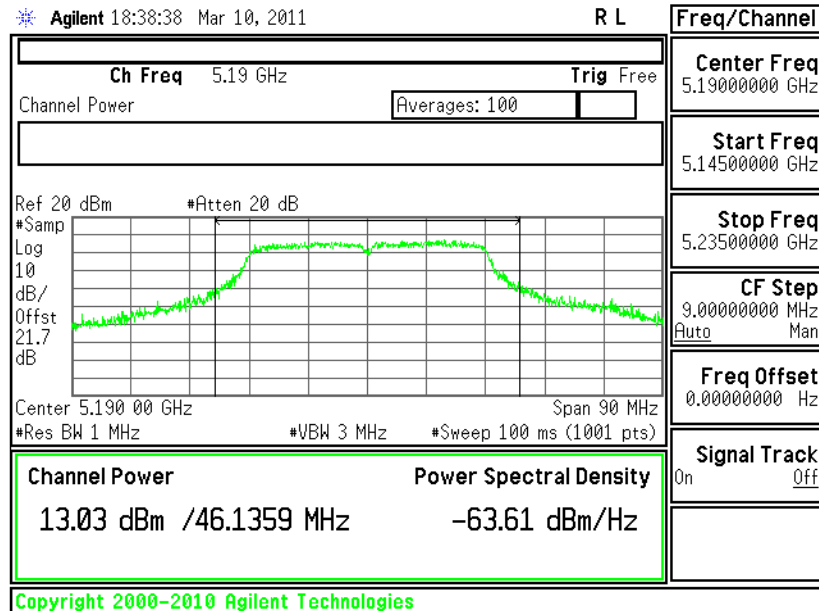




Output Power Plot on 802.11n (HT-20) Channel 140

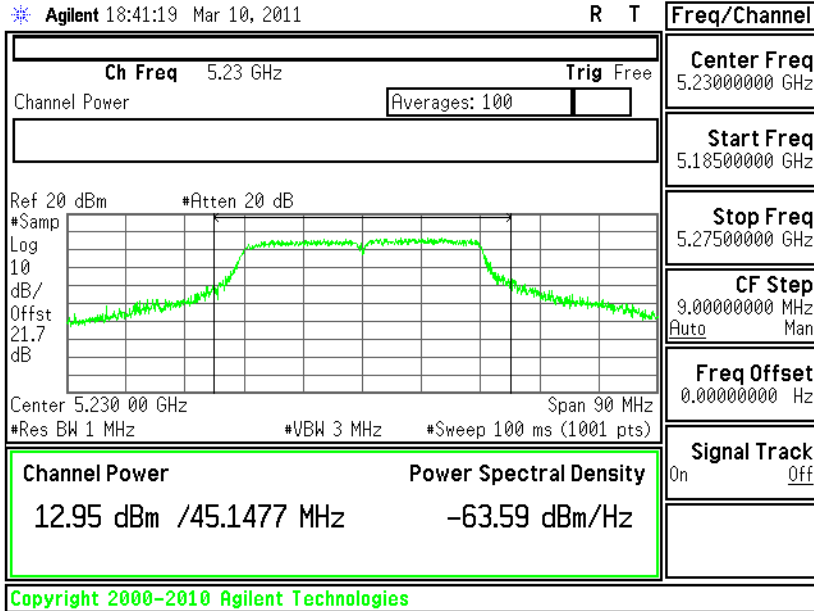


Output Power Plot on 802.11n (HT-40) Channel 38

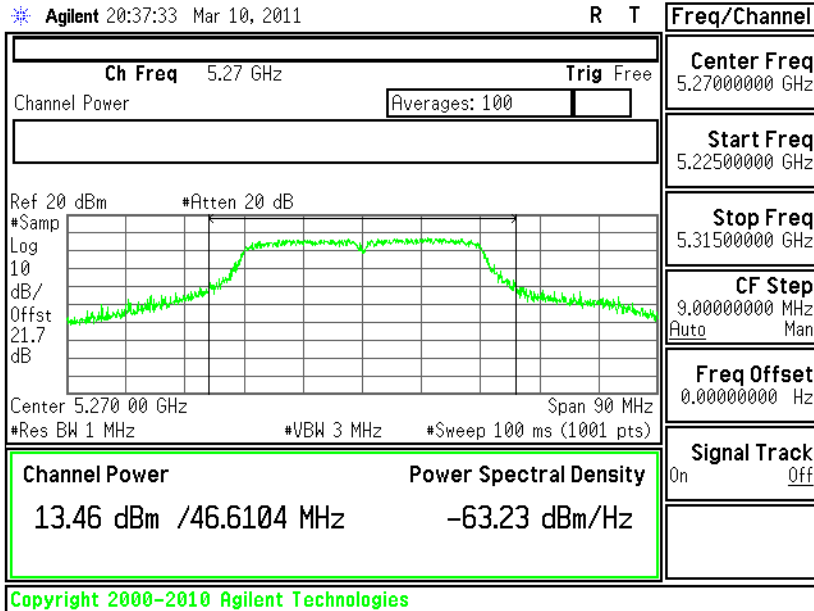




Output Power Plot on 802.11n (HT-40) Channel 46

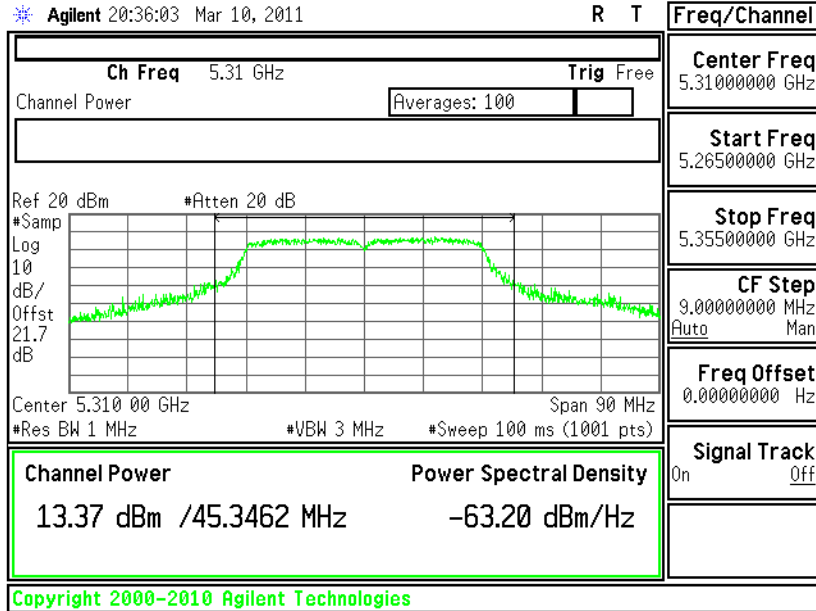


Output Power Plot on 802.11n (HT-40) Channel 54

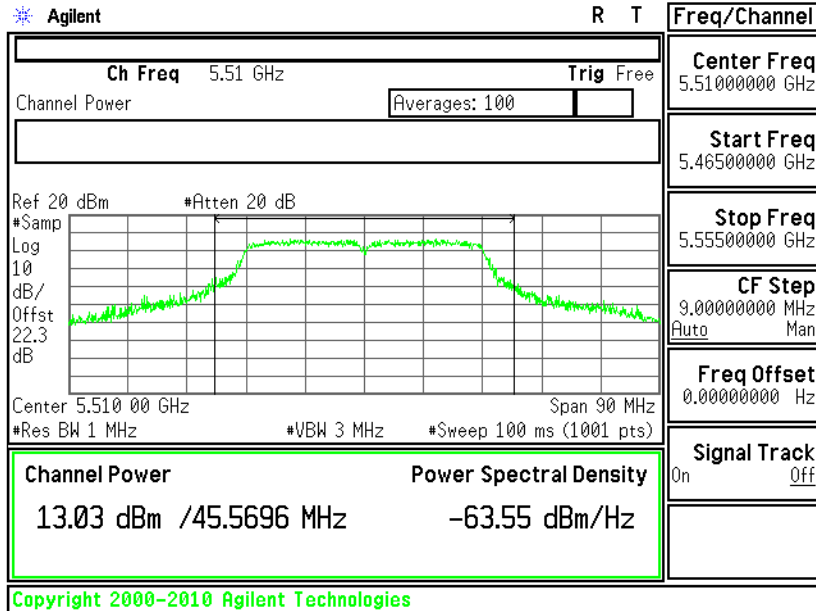




Output Power Plot on 802.11n (HT-40) Channel 62

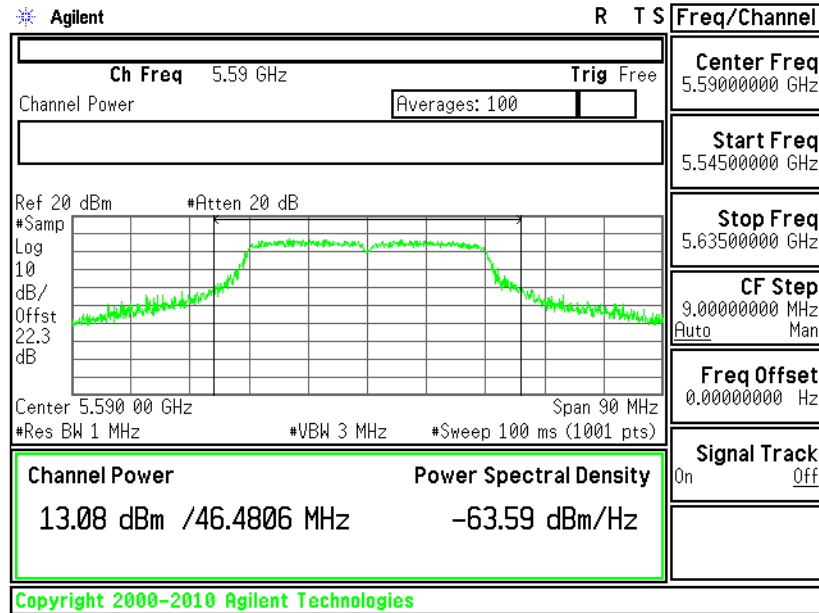


Output Power Plot on 802.11n (HT-40) Channel 102

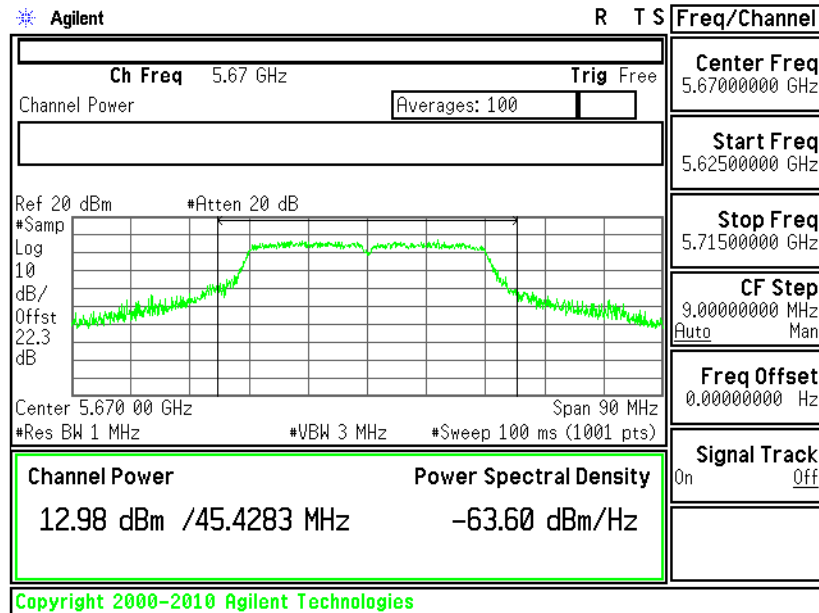




Output Power Plot on 802.11n (HT-40) Channel 118



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





## 3.5 Band Edges Measurement

### 3.5.1 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.

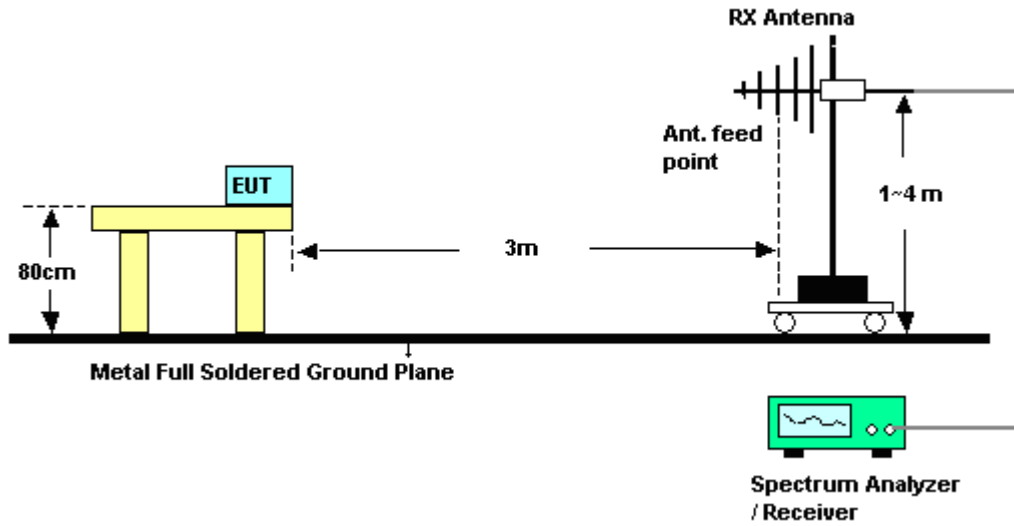
### 3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.5.3 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.

### 3.5.4 Test Setup





3.5.5

3.5.6 Test Result of Radiated Band Edges

Test Mode :	802.11a L channel	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	45~50%
Test Channel :	36	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5150	60.23	-13.77	74	52.94	33.92	6.7	33.33	200	299	Peak
5150	44.1	-9.9	54	36.81	33.92	6.7	33.33	200	299	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5148	51.91	-22.09	74	44.62	33.92	6.7	33.33	112	355	Peak
5148	39.16	-14.84	54	31.87	33.92	6.7	33.33	112	355	Average

Test Mode :	802.11a H channel	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	45~50%
Test Channel :	64	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5352	69.26	-4.74	74	61.62	34.08	6.8	33.24	200	296	Peak
5352	52.71	-1.29	54	45.07	34.08	6.8	33.24	200	296	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5350	55.56	-18.44	74	47.92	34.08	6.8	33.24	156	358	Peak
5350	42.6	-11.4	54	34.96	34.08	6.8	33.24	156	358	Average



Test Mode :	802.11a L channel	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	45~50%
Test Channel :	100	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5470	67.74	-0.56	68.3	59.89	34.17	6.87	33.19	100	357	Peak

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5470	64.64	-3.66	68.3	56.79	34.17	6.87	33.19	100	39	Peak

Test Mode :	802.11a H channel	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	45~50%
Test Channel :	140	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5725	63.75	-4.55	68.3	55.42	34.51	7.01	33.19	128	344	Peak

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5725	61.52	-6.78	68.3	53.19	34.51	7.01	33.19	123	95	Peak





Test Mode :	802.11n (HT-20) L channel	Temperature :	23~24°C
Test Band :	802.11n (HT-20)	Relative Humidity :	45~50%
Test Channel :	36	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5150	61.21	-12.79	74	53.92	33.92	6.7	33.33	200	299	Peak
5150	44.65	-9.35	54	37.36	33.92	6.7	33.33	200	299	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5150	55.78	-18.22	74	48.49	33.92	6.7	33.33	112	355	Peak
5150	38.68	-15.32	54	31.39	33.92	6.7	33.33	112	355	Average

Test Mode :	802.11n (HT-20) H channel	Temperature :	23~24°C
Test Band :	802.11n (HT-20)	Relative Humidity :	45~50%
Test Channel :	64	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5350	70.39	-3.61	74	62.75	34.08	6.8	33.24	200	296	Peak
5350	53.01	-0.99	54	45.37	34.08	6.8	33.24	200	296	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5350	57.04	-16.96	74	49.4	34.08	6.8	33.24	156	358	Peak
5350	42.81	-11.19	54	35.17	34.08	6.8	33.24	156	358	Average



Test Mode :	802.11n (HT-20) L channel	Temperature :	23~24°C
Test Band :	802.11n (HT-20)	Relative Humidity :	45~50%
Test Channel :	100	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5470	67.51	-0.79	68.3	59.66	34.17	6.87	33.19	100	357	Peak

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5470	64.79	-3.51	68.3	56.94	34.17	6.87	33.19	100	39	Peak

Test Mode :	802.11n (HT-20) H channel	Temperature :	23~24°C
Test Band :	802.11n (HT-20)	Relative Humidity :	45~50%
Test Channel :	140	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5725	65.55	-2.75	68.3	57.22	34.51	7.01	33.19	128	344	Peak

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5725	63.16	-5.14	68.3	54.83	34.51	7.01	33.19	123	95	Peak



Test Mode :	802.11n (HT-40) L channel	Temperature :	23~24°C
Test Band :	802.11n (HT-40)	Relative Humidity :	45~50%
Test Channel :	38	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5148	68.68	-5.32	74	61.39	33.92	6.7	33.33	200	304	Peak
5148	46.73	-7.27	54	39.44	33.92	6.7	33.33	200	304	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5150	56.49	-17.51	74	49.2	33.92	6.7	33.33	100	278	Peak
5150	40.37	-13.63	54	33.08	33.92	6.7	33.33	100	278	Average

Test Mode :	802.11n (HT-40) H channel	Temperature :	23~24°C
Test Band :	802.11n (HT-40)	Relative Humidity :	45~50%
Test Channel :	62	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5352	70.66	-3.34	74	63.02	34.08	6.8	33.24	153	300	Peak
5352	53.35	-0.65	54	45.71	34.08	6.8	33.24	153	300	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5350	59.31	-14.69	74	51.67	34.08	6.8	33.24	100	275	Peak
5350	43.56	-10.44	54	35.92	34.08	6.8	33.24	100	275	Average



Test Mode :	802.11n (HT-40) L channel	Temperature :	23~24°C
Test Band :	802.11n (HT-40)	Relative Humidity :	45~50%
Test Channel :	102	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5470	65.17	-3.13	68.3	57.32	34.17	6.87	33.19	100	359	Peak

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5470	63.27	-5.03	68.3	55.42	34.17	6.87	33.19	100	44	Peak

Test Mode :	802.11n (HT-40) H channel	Temperature :	23~24°C
Test Band :	802.11n (HT-40)	Relative Humidity :	45~50%
Test Channel :	134	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5725	57.84	-10.46	68.3	49.51	34.51	7.01	33.19	130	354	Peak

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5725	57.53	-10.77	68.3	49.2	34.51	7.01	33.19	125	92	Peak

## 3.6 Peak Excursion Ratio Measurement

### 3.6.1 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.

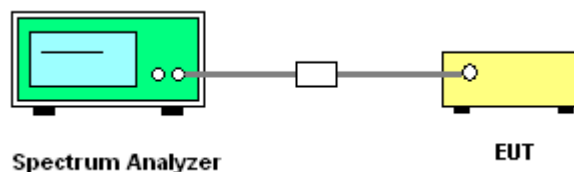
### 3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.6.3 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 1 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.

### 3.6.4 Test Setup

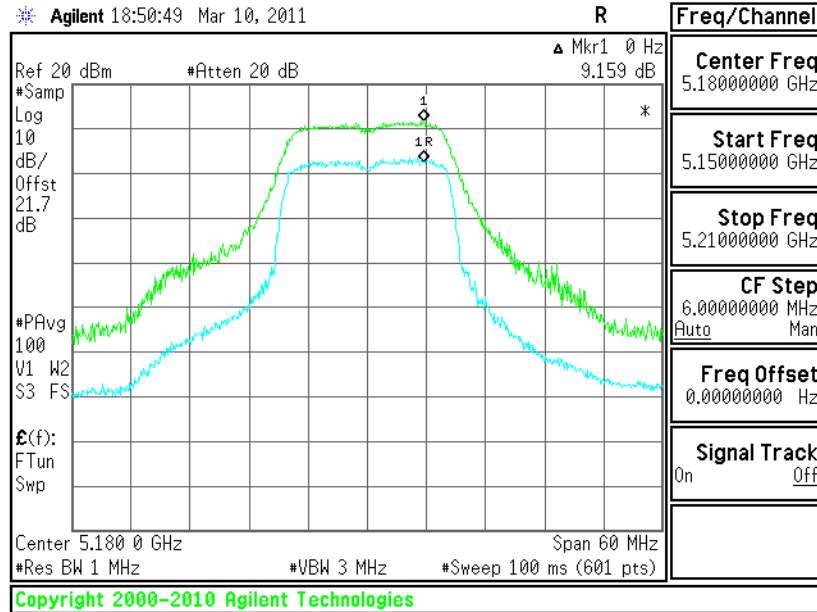




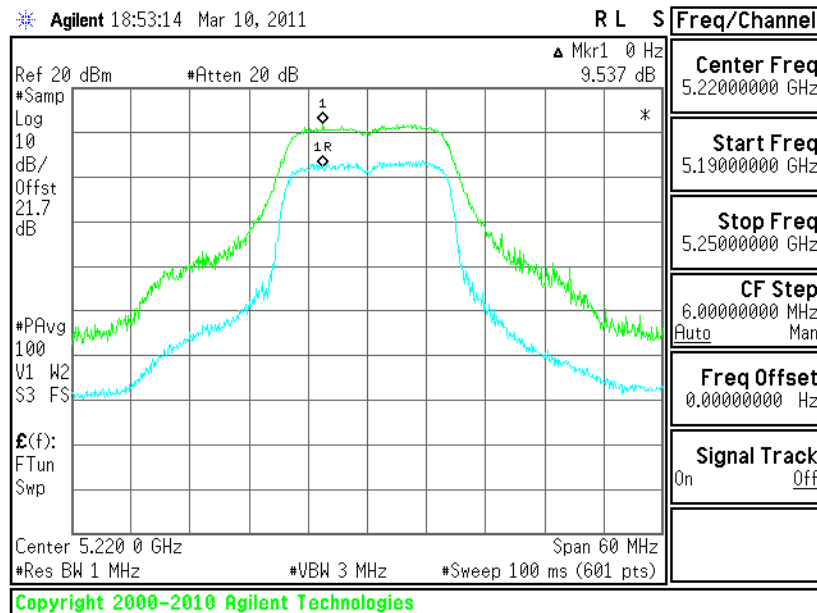
3.6.5 Test Result of Peak Excursion Ratio

Test Mode :	802.11a L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

Peak Excursion Ratio Plot on 802.11a Channel 36

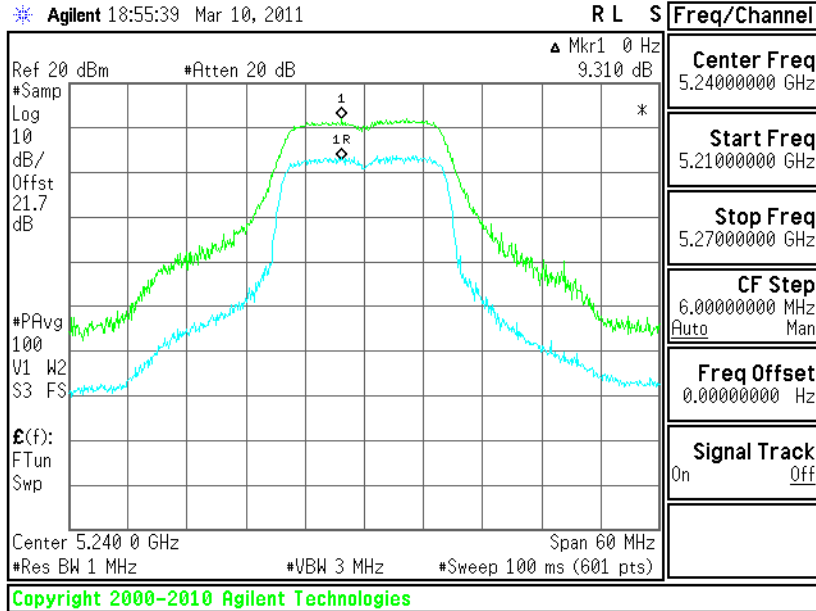


Peak Excursion Ratio Plot on 802.11a Channel 44

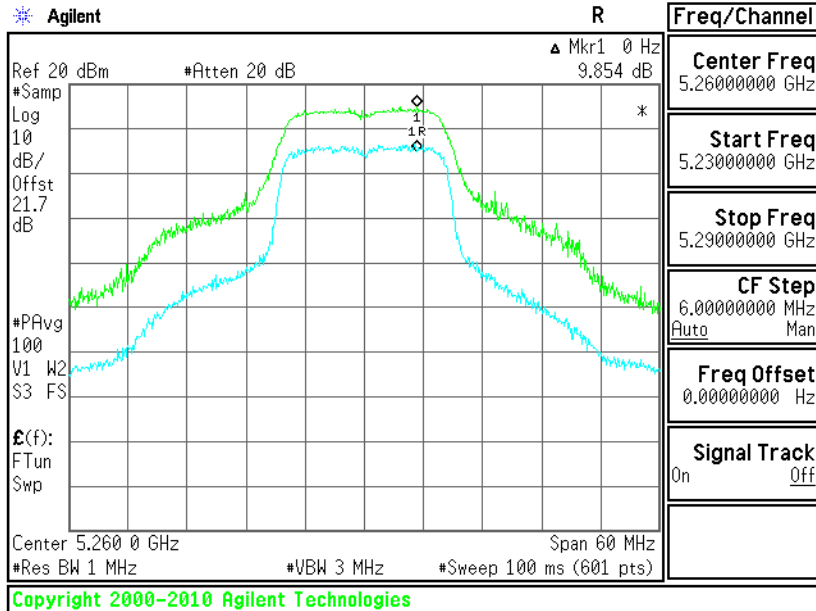




Peak Excursion Ratio Plot on 802.11a Channel 48

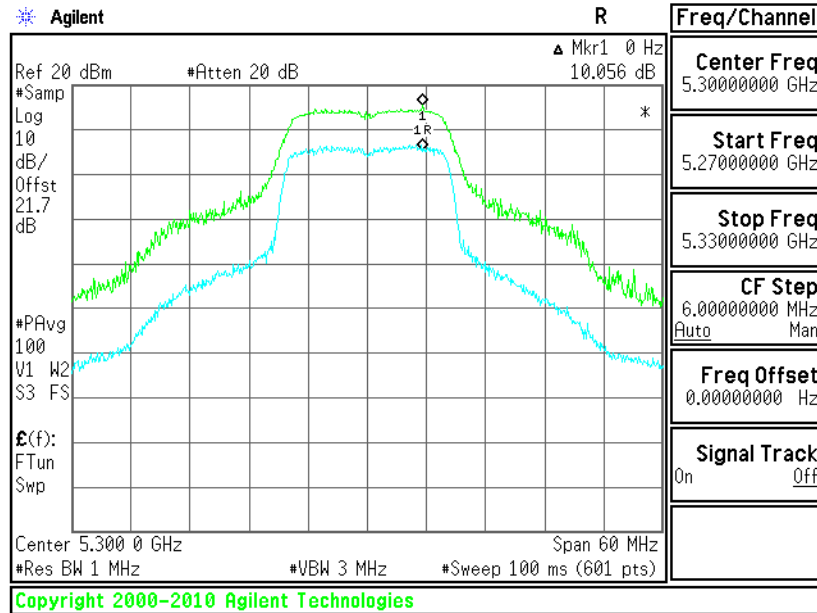


Peak Excursion Ratio Plot on 802.11a Channel 52

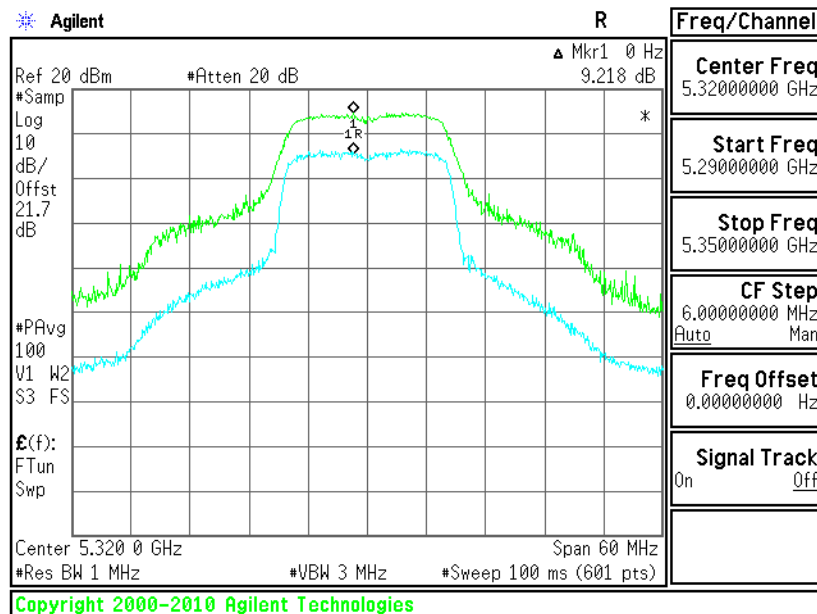




Peak Excursion Ratio Plot on 802.11a Channel 60



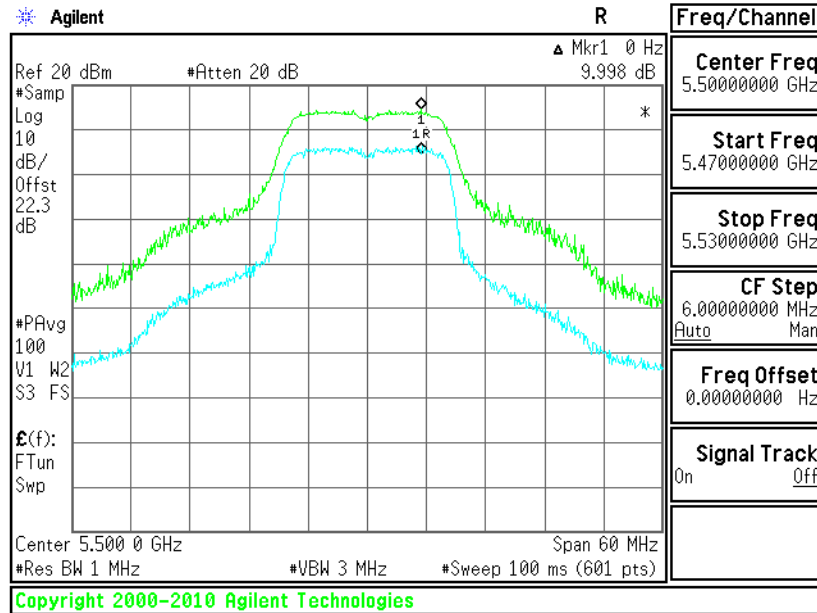
Peak Excursion Ratio Plot on 802.11a Channel 64



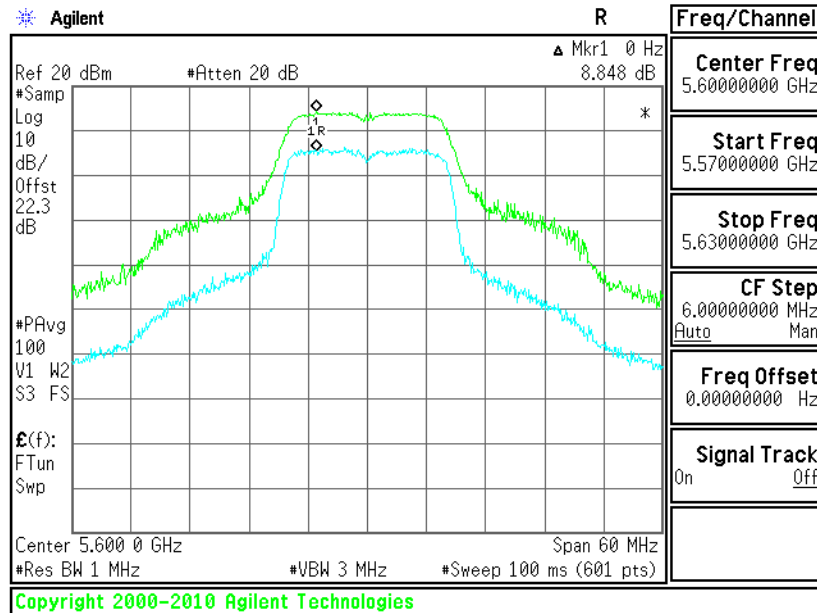




Peak Excursion Ratio Plot on 802.11a Channel 100

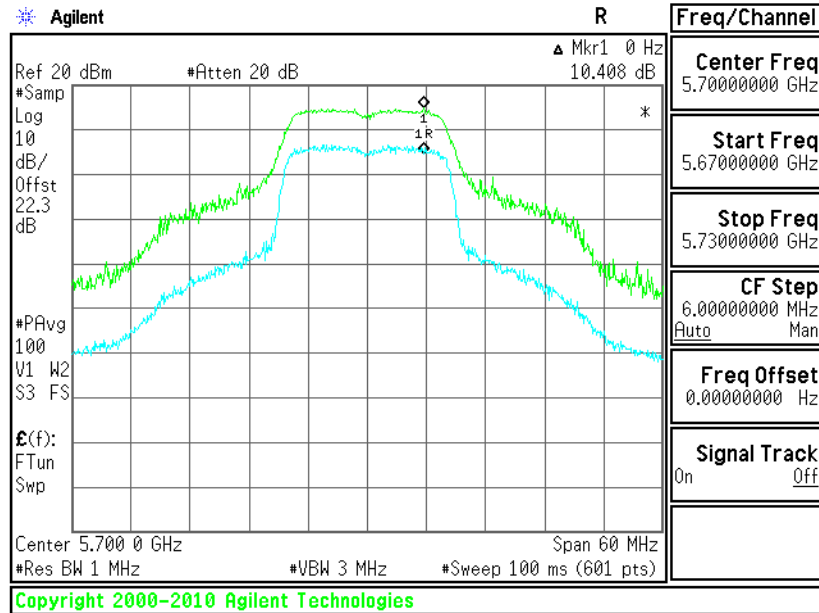


Peak Excursion Ratio Plot on 802.11a Channel 120





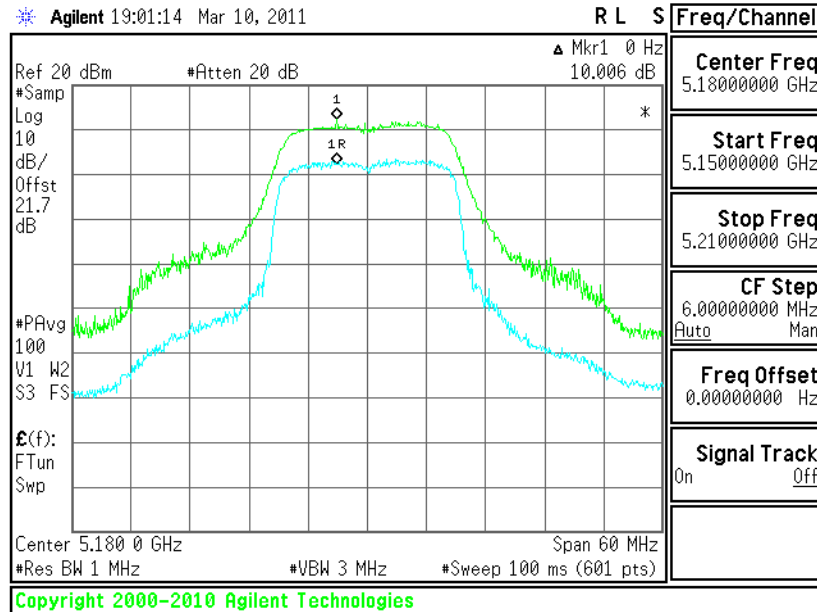
Peak Excursion Ratio Plot on 802.11a Channel 140



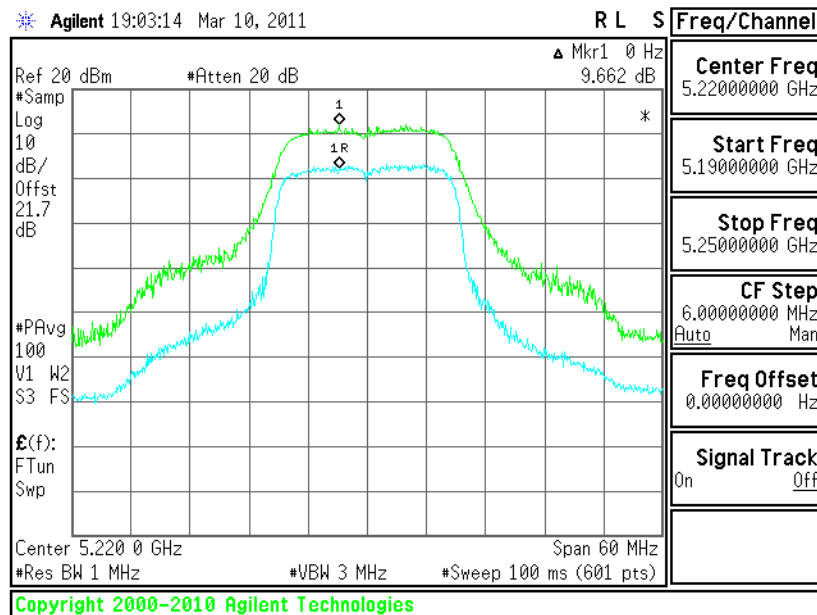


Test Mode :	802.11n (HT-20) L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

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

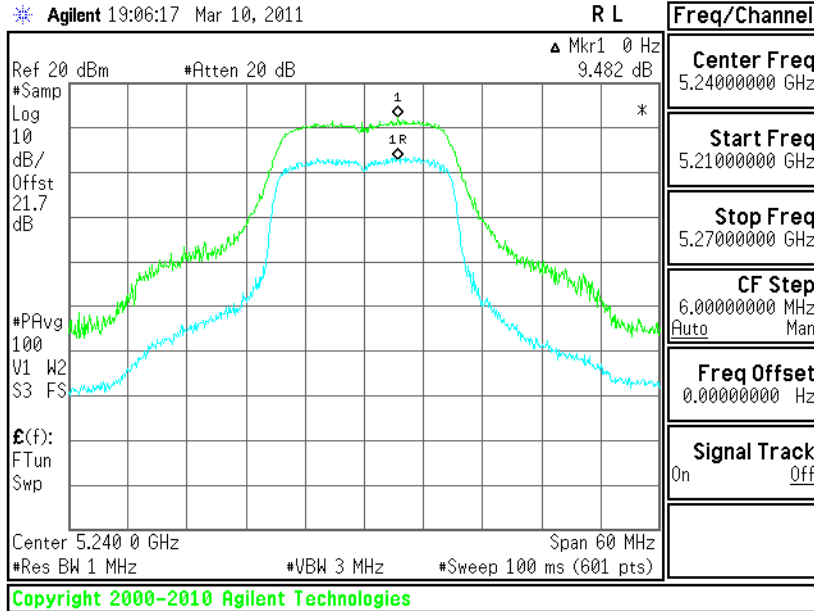


Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 44

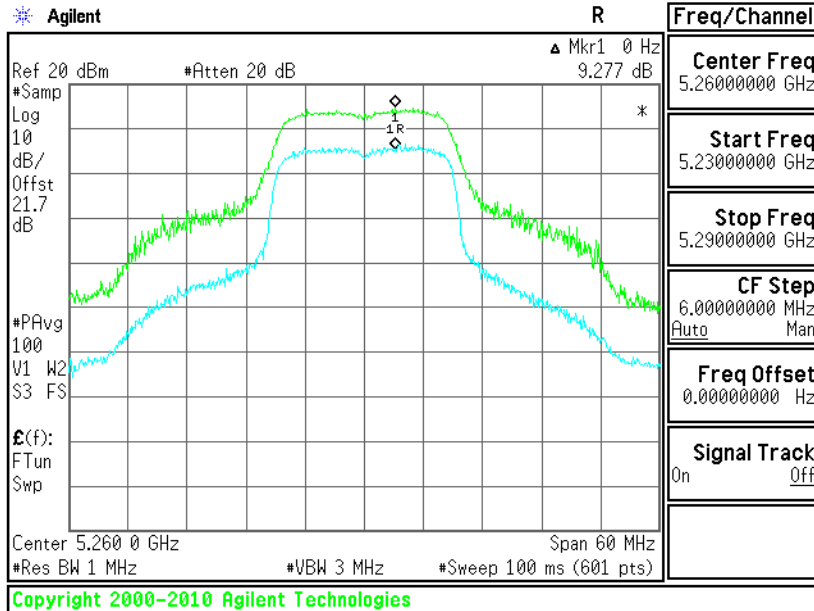




**Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 48**

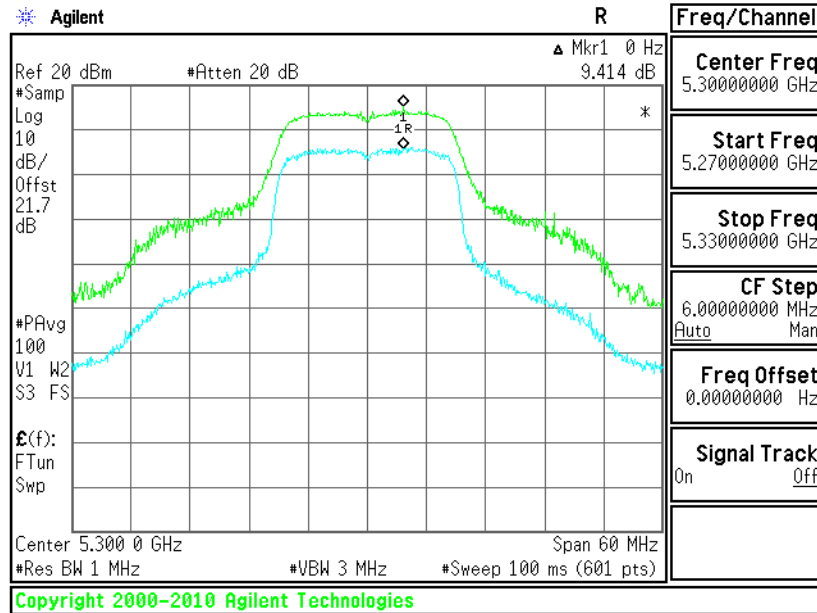


**Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 52**

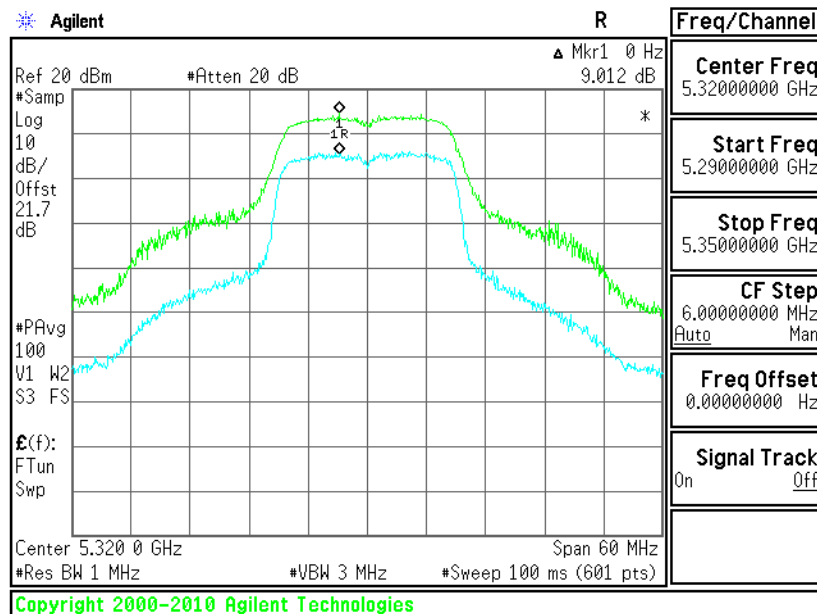




Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 60

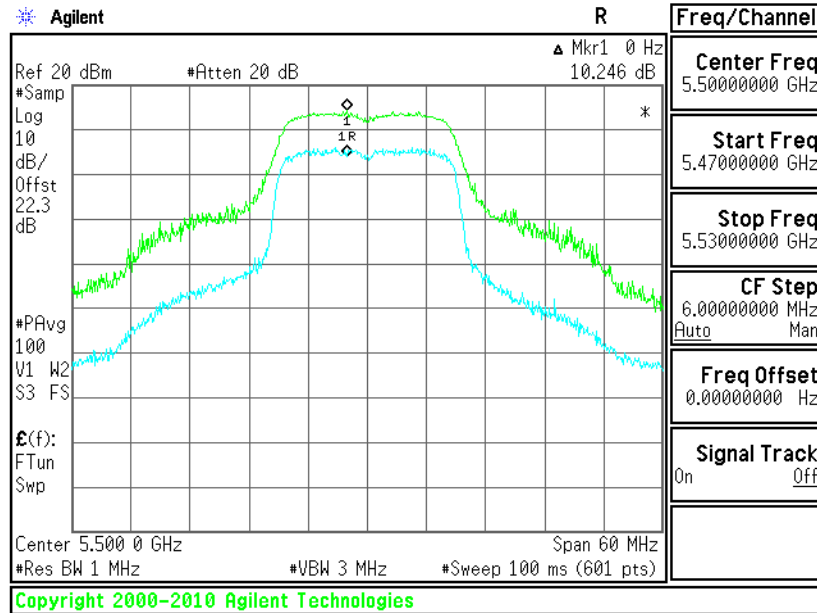


Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 64

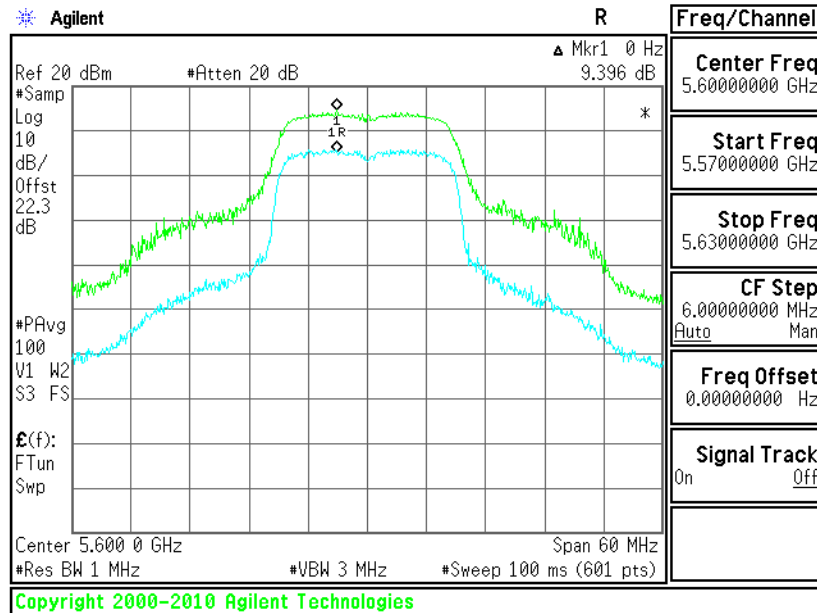




Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 100

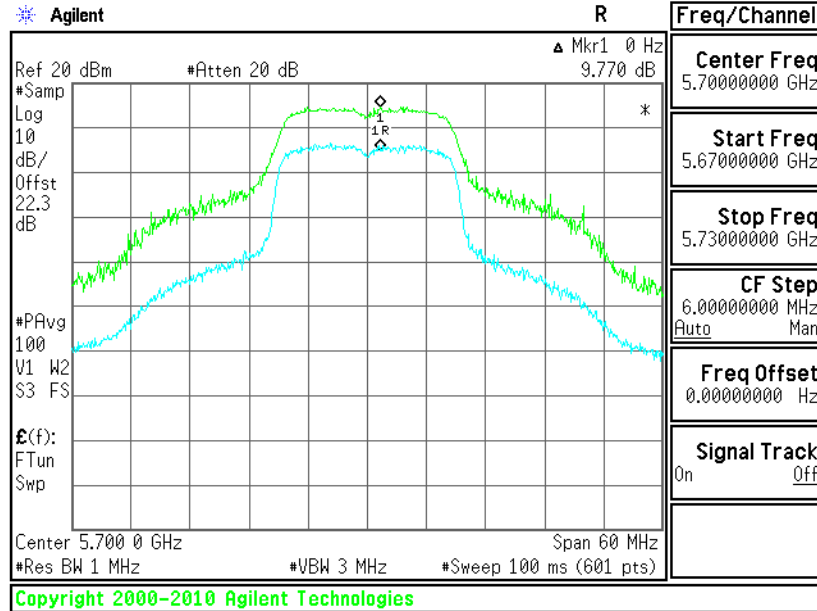


Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 120





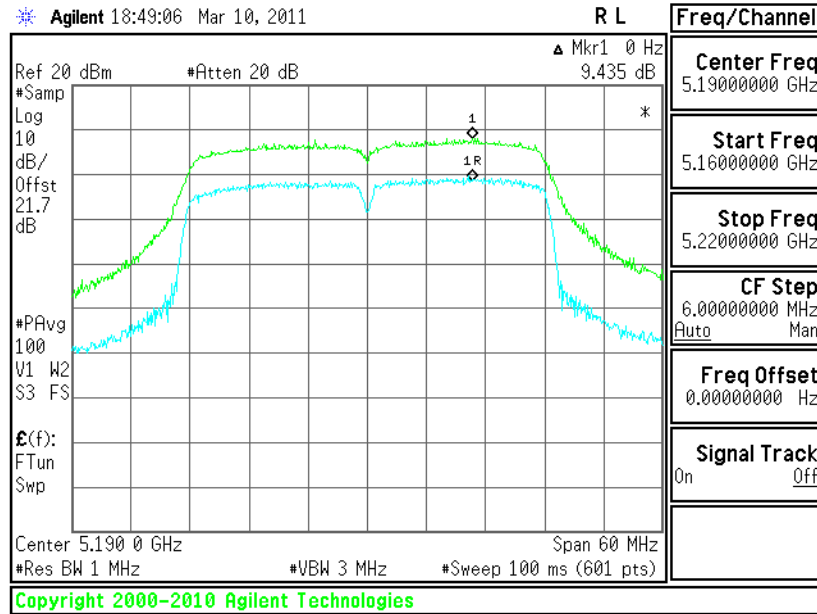
Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 140



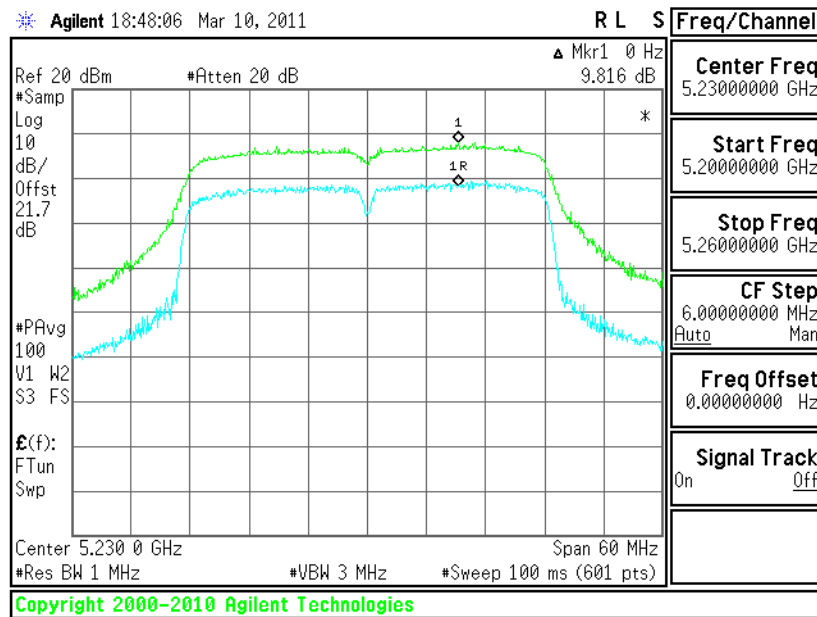


Test Mode :	802.11n (HT-40) L/M/H channels	Temperature :	24~26°C
Test Engineer :	Cona Huang	Relative Humidity :	50~53%

Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 38



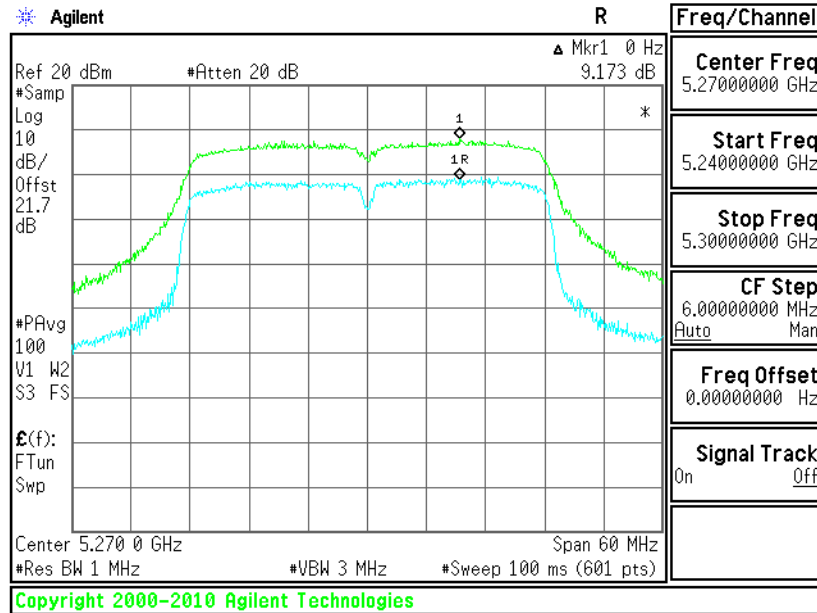
Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 46



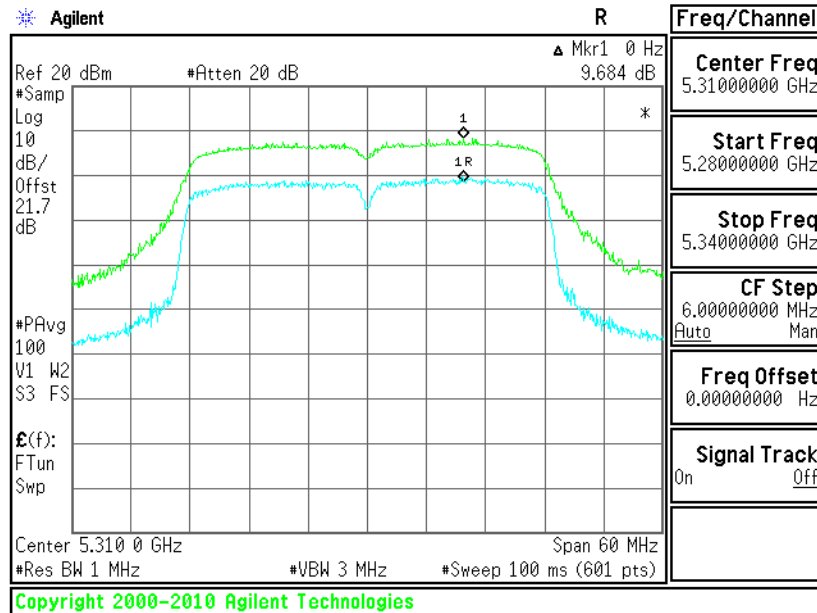




Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 54

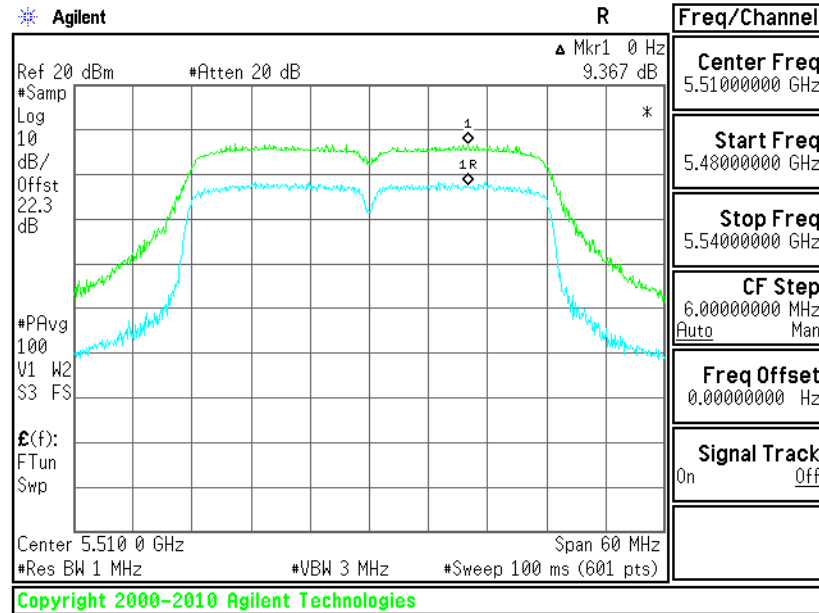


Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 62

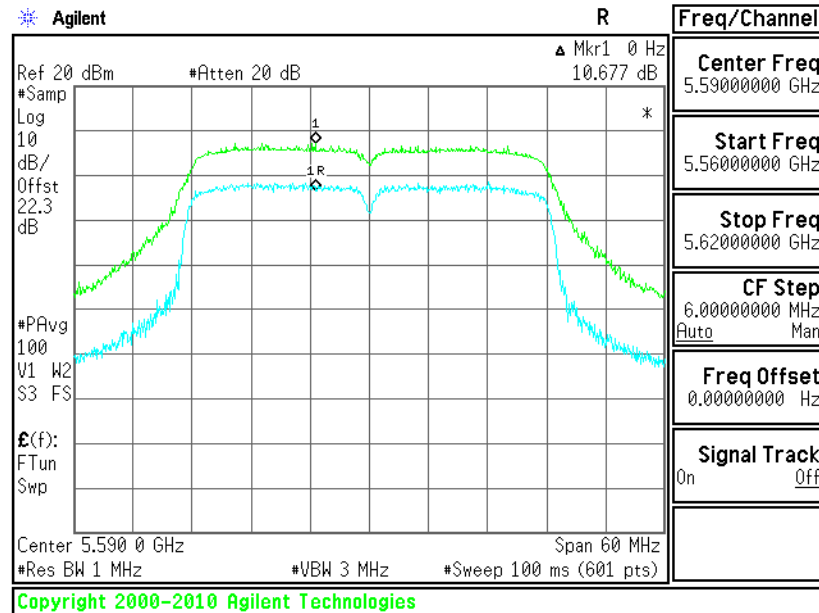




Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 102

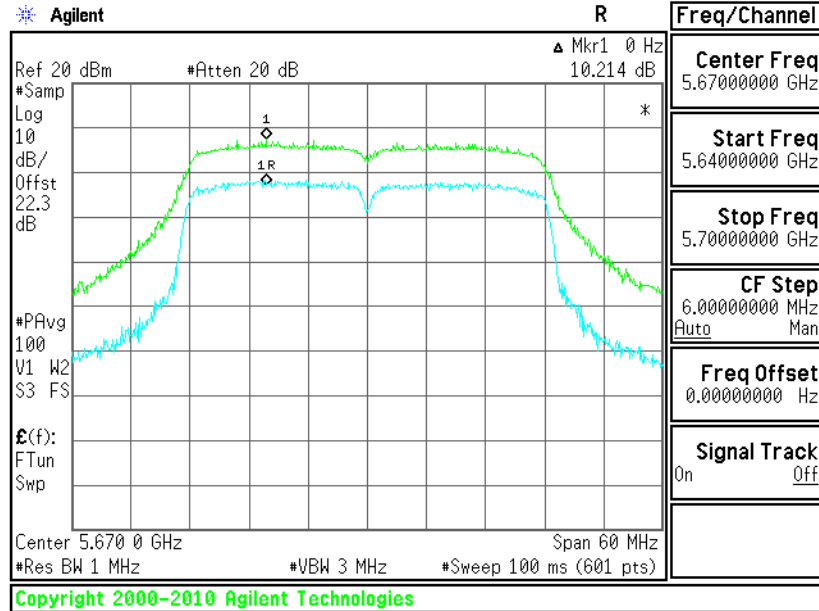


Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 118





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





## **3.7 Frequency Stability Requirement**

### **3.7.1 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.

### **3.7.2 Declaration**

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

### 3.8 Radiated Emission Measurement

#### 3.8.1 Limit of Radiated Emission

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

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (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.

#### 3.8.2 Measuring Instruments

See list of measuring instruments of this test report.

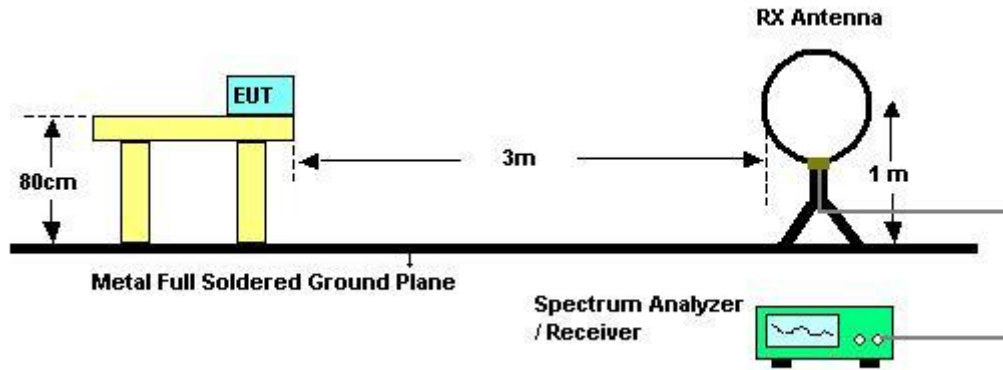


### **3.8.3 Test Procedures**

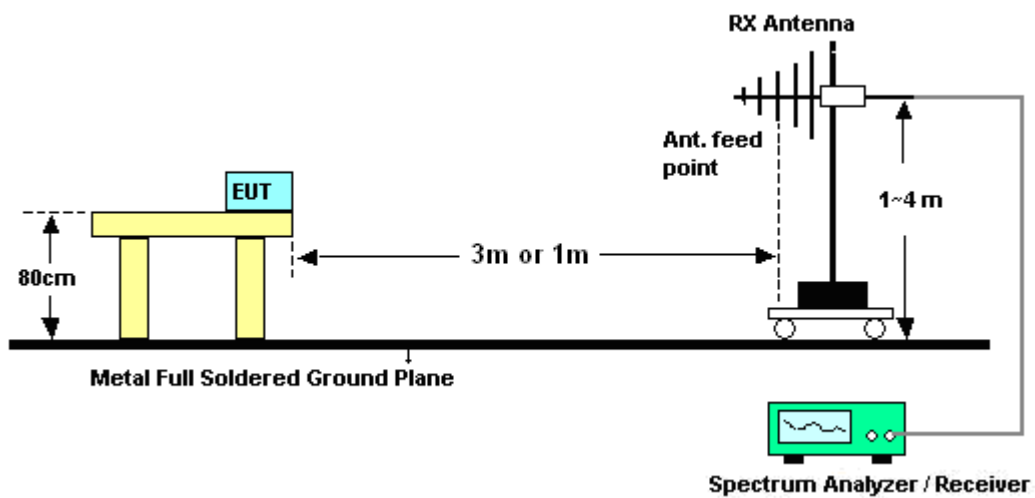
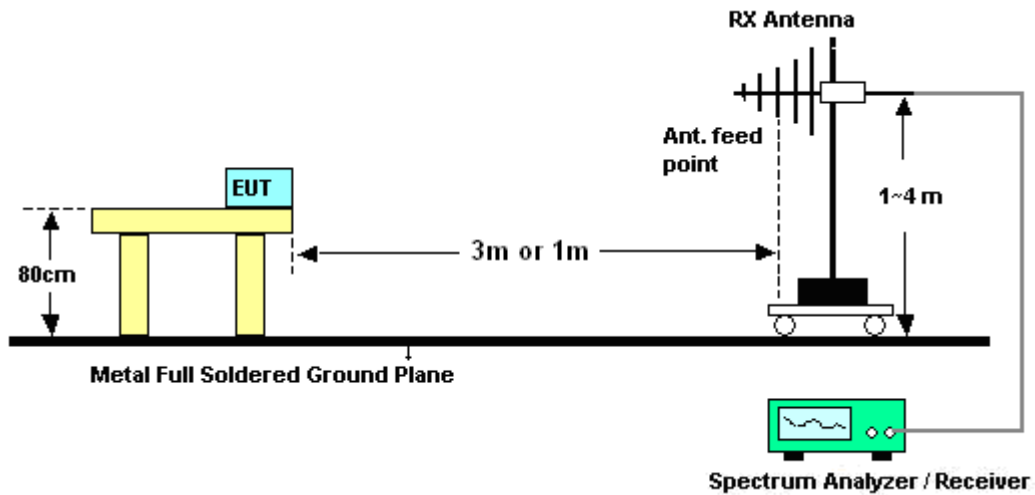
4. The testing follows the guidelines in FCC Public Notice DA 02-2138, (Measurement Guidelines of UNII)
5. The EUT was placed on a rotatable table top 0.8 meter above ground.
6. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
7. The table was rotated 360 degrees to determine the position of the highest radiation.
8. 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.
9. 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.
10. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
11. 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.
12. 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.

### 3.8.4 Test Setup

For radiated emissions below 30MHz



For radiated emissions above 30MHz





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

Temperature	23~24°C	Humidity	45~50%
Test Engineer	Cona Huang		

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





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

Test Mode :	802.11a L channel	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	45~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
139.89	38.49	-5.01	43.5	58.23	10.7	1.07	31.51	-	-	Peak
161.49	38.39	-5.11	43.5	59.26	9.5	1.14	31.51	-	-	Peak
293.79	40.76	-5.24	46	58.41	12.1	1.55	31.3	-	-	Peak
304.2	39.07	-6.93	46	56.5	12.29	1.55	31.27	-	-	Peak
441.4	40.57	-5.43	46	54.14	15.72	1.87	31.16	-	-	Peak
460.3	41.01	-4.99	46	54.06	16.17	1.92	31.14	105	221	Peak



Test Mode :	802.11a L channel	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	45~50%
Test Engineer :	Cona Huang	Polarization :	Vertical

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
39.72	33.26	-6.74	40	50.93	13.26	0.58	31.51	-	-	Peak
84.27	35.45	-4.55	40	58.82	7.34	0.84	31.55	100	166	Peak
133.41	32.27	-11.23	43.5	51.92	10.8	1.07	31.52	-	-	Peak
382.6	37.83	-8.17	46	52.95	14.33	1.77	31.22	-	-	Peak
532.4	33.09	-12.91	46	44.38	17.61	2.1	31	-	-	Peak
680.1	33.65	-12.35	46	42.99	19.05	2.35	30.74	-	-	Peak



Test Mode :	802.11a L channel	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	45~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
123.96	37.49	-6.01	43.5	57	10.94	1.07	31.52	-	-	Peak
139.35	37.88	-5.62	43.5	57.62	10.7	1.07	31.51	-	-	Peak
158.25	39.26	-4.24	43.5	59.87	9.75	1.14	31.5	-	-	Peak
393.1	41.01	-4.99	46	55.81	14.58	1.82	31.2	-	-	Peak
423.9	41.85	-4.15	46	55.83	15.32	1.87	31.17	100	154	Peak
440.7	39.76	-6.24	46	53.35	15.7	1.87	31.16	-	-	Peak



Test Mode :	802.11a L channel	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	45~50%
Test Engineer :	Cona Huang	Polarization :	Vertical

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
40.8	33.82	-6.18	40	52.08	12.68	0.58	31.52	-	-	Peak
81.03	35.73	-4.27	40	59.64	6.8	0.84	31.55	-	-	Peak
134.49	33.68	-9.82	43.5	53.33	10.79	1.07	31.51	-	-	Peak
391.7	38.02	-7.98	46	52.89	14.56	1.77	31.2	-	-	Peak
424.6	42.54	-3.46	46	56.5	15.34	1.87	31.17	100	16	Peak
533.1	38.09	-7.91	46	49.36	17.62	2.1	30.99	-	-	Peak



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

Test Mode :	802.11a L channel	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	45~50%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5180 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2830	44	-30	74	40.62	32.33	4.91	33.86	100	0	Peak
3672	47.63	-26.37	74	43.36	32.48	5.42	33.63	100	0	Peak
5150	44.1	-9.9	54	36.81	33.92	6.7	33.33	200	299	Average
5150	60.23	-13.77	74	52.94	33.92	6.7	33.33	200	299	Peak
5180	98.66	-	-	91.32	33.95	6.71	33.32	200	299	Average
5180	109.64	-	-	102.3	33.95	6.71	33.32	200	299	Peak
5426	48.32	-5.68	54	40.56	34.13	6.84	33.21	200	299	Average
5426	60.23	-13.77	74	52.47	34.13	6.84	33.21	200	299	Peak
10360	52.29	-16.01	68.3	60.91	37.32	10.31	56.25	100	0	Peak



<b>Test Mode :</b>	802.11a L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	36	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5180 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2818	44.88	-29.12	74	41.52	32.31	4.91	33.86	100	0	Peak
3636	49.03	-24.97	74	44.87	32.42	5.38	33.64	100	0	Peak
5148	39.16	-14.84	54	31.87	33.92	6.7	33.33	112	355	Average
5148	51.91	-22.09	74	44.62	33.92	6.7	33.33	112	355	Peak
5180	91.39	-	-	84.05	33.95	6.71	33.32	112	355	Average
5180	102.51	-	-	95.17	33.95	6.71	33.32	112	355	Peak
5352	40.39	-13.61	54	32.75	34.08	6.8	33.24	112	355	Average
5352	51.82	-22.18	74	44.18	34.08	6.8	33.24	112	355	Peak
10360	47.97	-20.33	68.3	56.91	37.32	10.31	56.57	100	0	Peak



<b>Test Mode :</b>	802.11a M channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	44	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5220 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2792	44.58	-29.42	74	41.32	32.25	4.89	33.88	100	0	Peak
3652	48.42	-25.58	74	44.21	32.45	5.4	33.64	100	0	Peak
5134	38.96	-15.04	54	31.71	33.91	6.68	33.34	200	303	Average
5134	51.42	-22.58	74	44.17	33.91	6.68	33.34	200	303	Peak
5220	97.81	-	-	90.4	33.97	6.74	33.3	200	303	Average
5220	108.35	-	-	100.94	33.97	6.74	33.3	200	303	Peak
5380	45.66	-8.34	54	37.96	34.11	6.82	33.23	200	303	Average
5380	57.91	-16.09	74	50.21	34.11	6.82	33.23	200	303	Peak
10440	50.74	-17.56	68.3	59.42	37.36	10.22	56.26	100	0	Peak



<b>Test Mode :</b>	802.11a M channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	44	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5220 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2766	44.38	-29.62	74	41.17	32.23	4.87	33.89	100	0	Peak
3702	48.88	-25.12	74	44.53	32.53	5.44	33.62	100	0	Peak
5052	38.23	-15.77	54	31.11	33.84	6.65	33.37	190	225	Average
5052	52.15	-21.85	74	45.03	33.84	6.65	33.37	190	225	Peak
5220	88.46	-	-	81.05	33.97	6.74	33.3	190	225	Average
5220	99.17	-	-	91.76	33.97	6.74	33.3	190	225	Peak
5442	39.99	-14.01	54	32.19	34.15	6.85	33.2	190	225	Average
5442	51.26	-22.74	74	43.46	34.15	6.85	33.2	190	225	Peak
10440	46.57	-21.73	68.3	55.5	37.36	10.22	56.51	100	0	Peak





<b>Test Mode :</b>	802.11a H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	48	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5240 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2734	44.18	-29.82	74	41.11	32.17	4.82	33.92	100	0	Peak
3654	47.43	-26.57	74	43.21	32.45	5.4	33.63	100	0	Peak
5150	39.28	-14.72	54	31.99	33.92	6.7	33.33	195	308	Average
5150	52.71	-21.29	74	45.42	33.92	6.7	33.33	195	308	Peak
5240	98.78	-	-	91.33	33.99	6.75	33.29	195	308	Average
5240	110.21	-	-	102.76	33.99	6.75	33.29	195	308	Peak
5448	44.89	-9.11	54	37.08	34.16	6.85	33.2	195	308	Average
5448	57.49	-16.51	74	49.68	34.16	6.85	33.2	195	308	Peak
10480	51.93	-16.37	68.3	60.65	37.39	10.17	56.28	100	0	Peak



<b>Test Mode :</b>	802.11a H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	48	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5240 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2694	43.84	-30.16	74	40.86	32.12	4.8	33.94	100	0	Peak
3668	48.7	-25.3	74	44.43	32.48	5.42	33.63	100	0	Peak
5056	38.41	-15.59	54	31.28	33.85	6.65	33.37	145	86	Average
5056	51.87	-22.13	74	44.74	33.85	6.65	33.37	145	86	Peak
5240	90.09	-	-	82.64	33.99	6.75	33.29	145	86	Average
5240	100.28	-	-	92.83	33.99	6.75	33.29	145	86	Peak
5432	38.77	-15.23	54	30.98	34.15	6.84	33.2	145	86	Average
5432	51.39	-22.61	74	43.6	34.15	6.84	33.2	145	86	Peak
10480	45.99	-22.31	68.3	54.9	37.39	10.17	56.47	100	0	Peak



<b>Test Mode :</b>	802.11a L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	52	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5260 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2766	44.11	-29.89	74	40.9	32.23	4.87	33.89	100	0	Peak
3672	47.59	-26.41	74	43.32	32.48	5.42	33.63	100	0	Peak
5100	40.89	-13.11	54	33.69	33.88	6.67	33.35	200	297	Average
5100	54.44	-19.56	74	47.24	33.88	6.67	33.35	200	297	Peak
5260	101.55	-	-	94.06	34.01	6.75	33.27	200	297	Average
5260	113.37	-	-	105.88	34.01	6.75	33.27	200	297	Peak
5416	47.46	-6.54	54	39.7	34.13	6.84	33.21	200	297	Average
5416	60.34	-13.66	74	52.58	34.13	6.84	33.21	200	297	Peak
10520	54.09	-19.91	74	62.77	37.41	10.18	56.27	100	0	Peak



<b>Test Mode :</b>	802.11a L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	52	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5260 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2784	43.61	-30.39	74	40.38	32.25	4.87	33.89	100	0	Peak
3678	47.8	-26.2	74	43.5	32.5	5.42	33.62	100	0	Peak
5123.785	38.14	-15.86	54	30.89	33.91	6.68	33.34	146	359	Average
5123.785	50.58	-23.42	74	43.33	33.91	6.68	33.34	146	359	Peak
5260	93.4	-	-	85.91	34.01	6.75	33.27	146	359	Average
5260	103.92	-	-	96.43	34.01	6.75	33.27	146	359	Peak
5351	39.29	-14.71	54	31.65	34.08	6.8	33.24	146	359	Average
5351	50.58	-23.42	74	42.94	34.08	6.8	33.24	146	359	Peak
10520	49.15	-24.85	74	57.98	37.41	10.18	56.42	100	0	Peak



<b>Test Mode :</b>	802.11a M channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	60	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5300 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2826	43.56	-30.44	74	40.2	32.31	4.91	33.86	100	0	Peak
3690	48.07	-25.93	74	43.75	32.5	5.44	33.62	100	0	Peak
5142	39.76	-14.24	54	32.47	33.92	6.7	33.33	198	297	Average
5142	52.55	-21.45	74	45.26	33.92	6.7	33.33	198	297	Peak
5300	103.59	-	-	96.03	34.04	6.78	33.26	198	297	Average
5300	114.3	-	-	106.74	34.04	6.78	33.26	198	297	Peak
5350	46.2	-7.8	54	38.56	34.08	6.8	33.24	198	297	Average
5350	58.54	-15.46	74	50.9	34.08	6.8	33.24	198	297	Peak
10600	43.56	-10.44	54	52.08	37.46	10.22	56.2	100	175	Average
10600	54.47	-19.53	74	62.99	37.46	10.22	56.2	100	175	Peak
15900	39.87	-14.13	54	44.68	40.2	12.12	57.13	100	157	Average
15900	51.56	-22.44	74	56.37	40.2	12.12	57.13	100	157	Peak



<b>Test Mode :</b>	802.11a M channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	60	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5300 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2818	44.01	-29.99	74	40.65	32.31	4.91	33.86	100	0	Peak
3768	48.57	-25.43	74	44.04	32.64	5.5	33.61	100	0	Peak
5124	38.12	-15.88	54	30.87	33.91	6.68	33.34	162	357	Average
5124	51.59	-22.41	74	44.34	33.91	6.68	33.34	162	357	Peak
5300	93.27	-	-	85.71	34.04	6.78	33.26	162	357	Average
5300	104.37	-	-	96.81	34.04	6.78	33.26	162	357	Peak
5454	39.1	-14.9	54	31.28	34.16	6.85	33.19	162	357	Average
5454	51.03	-22.97	74	43.21	34.16	6.85	33.19	162	357	Peak
10600	39.52	-14.48	54	48.12	37.46	10.22	56.28	108	233	Average
10600	49.88	-24.12	74	58.48	37.46	10.22	56.28	108	233	Peak



<b>Test Mode :</b>	802.11a H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	64	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5320 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2772	43.58	-30.42	74	40.37	32.23	4.87	33.89	100	0	Peak
3836	47.89	-26.11	74	43.19	32.75	5.54	33.59	100	0	Peak
5146	38.92	-15.08	54	31.63	33.92	6.7	33.33	200	296	Average
5146	51.55	-22.45	74	44.26	33.92	6.7	33.33	200	296	Peak
5320	102.52	-	-	94.93	34.05	6.79	33.25	200	296	Average
5320	113.92	-	-	106.33	34.05	6.79	33.25	200	296	Peak
5352	52.71	-1.29	54	45.07	34.08	6.8	33.24	200	296	Average
5352	69.26	-4.74	74	61.62	34.08	6.8	33.24	200	296	Peak
10640	41.63	-12.37	54	50.07	37.48	10.25	56.17	100	249	Average
10640	50.23	-23.77	74	58.67	37.48	10.25	56.17	100	249	Peak
15960	39.37	-14.63	54	44.15	40.2	12.08	57.06	100	148	Average
15960	50.62	-23.38	74	55.4	40.2	12.08	57.06	100	148	Peak



<b>Test Mode :</b>	802.11a H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	64	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5320 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2724	44.69	-29.31	74	41.64	32.15	4.82	33.92	100	0	Peak
3780	50.84	-23.16	74	46.27	32.67	5.5	33.6	100	0	Peak
5148	38.11	-15.89	54	30.82	33.92	6.7	33.33	156	358	Average
5148	51.12	-22.88	74	43.83	33.92	6.7	33.33	156	358	Peak
5320	92.74	-	-	85.15	34.05	6.79	33.25	156	358	Average
5320	103.45	-	-	95.86	34.05	6.79	33.25	156	358	Peak
5350	42.6	-11.4	54	34.96	34.08	6.8	33.24	156	358	Average
5350	55.56	-18.44	74	47.92	34.08	6.8	33.24	156	358	Peak
10640	38.64	-15.36	54	47.13	37.48	10.25	56.22	104	233	Average
10640	49.78	-24.22	74	58.27	37.48	10.25	56.22	104	233	Peak





<b>Test Mode :</b>	802.11a L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	100	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5500 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2666	43.51	-30.49	74	40.63	32.07	4.78	33.97	-	-	Peak
3820	48.38	-25.62	74	43.71	32.72	5.54	33.59	-	-	Peak
5459.125	45.5	-8.5	54	37.68	34.16	6.85	33.19	100	357	Average
5459.125	58.59	-15.41	74	50.77	34.16	6.85	33.19	100	357	Peak
5470	67.74	-0.56	68.3	59.89	34.17	6.87	33.19	100	357	Peak
5500	103.33	-	-	95.42	34.2	6.88	33.17	100	357	Average
5500	113.17	-	-	105.26	34.2	6.88	33.17	100	357	Peak
5725	52.22	-16.08	68.3	43.89	34.51	7.01	33.19	100	357	Peak
11000	49.86	-4.14	54	57.61	37.7	10.44	55.89	100	328	Average
11000	60.05	-13.95	74	67.8	37.7	10.44	55.89	100	328	Peak
16500	57.89	-10.41	68.3	60.16	41.3	12.8	56.37	100	0	Peak



<b>Test Mode :</b>	802.11a L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	100	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5500 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2778	43.74	-30.26	74	40.51	32.25	4.87	33.89	-	-	Peak
3802	47.26	-26.74	74	42.64	32.7	5.52	33.6	-	-	Peak
5459.5	45.67	-8.33	54	37.85	34.16	6.85	33.19	100	39	Average
5459.5	65.9	-8.1	74	58.08	34.16	6.85	33.19	100	39	Peak
5470	64.64	-3.66	68.3	56.79	34.17	6.87	33.19	100	39	Peak
5500	99.78	-	-	91.87	34.2	6.88	33.17	100	39	Average
5500	110.66	-	-	102.75	34.2	6.88	33.17	100	39	Peak
5725	50.91	-17.39	68.3	42.58	34.51	7.01	33.19	100	39	Peak
11000	42.83	-11.17	54	50.31	37.7	10.44	55.62	100	14	Average
11000	54.51	-19.49	74	61.99	37.7	10.44	55.62	100	14	Peak



<b>Test Mode :</b>	802.11a M channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	120	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5600 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2706	44.69	-29.31	74	41.71	32.12	4.8	33.94	100	0	Peak
3842	48.8	-25.2	74	44.08	32.75	5.56	33.59	100	0	Peak
5470	56.69	-11.61	68.3	48.84	34.17	6.87	33.19	121	359	Peak
5600	103.9	-	-	95.8	34.34	6.94	33.18	121	359	Average
5600	115.85	-	-	107.75	34.34	6.94	33.18	121	359	Peak
5725	56.02	-12.28	68.3	47.69	34.51	7.01	33.19	121	359	Peak
11200	44.57	-9.43	54	51.86	37.86	10.46	55.61	100	311	Average
11200	53.62	-20.38	74	60.91	37.86	10.46	55.61	100	311	Peak
16800	60.32	-7.98	68.3	62.15	41.42	13	56.25	100	0	Peak



Test Mode :	802.11a M channel	Temperature :	23~24°C
Test Channel :	120	Relative Humidity :	45~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5600 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2694	43.27	-30.73	74	40.29	32.12	4.8	33.94	100	0	Peak
3844	47.75	-26.25	74	43.03	32.75	5.56	33.59	100	0	Peak
5470	54.28	-14.02	68.3	46.43	34.17	6.87	33.19	111	71	Peak
5600	100.05	-	-	91.95	34.34	6.94	33.18	111	71	Average
5600	110.85	-	-	102.75	34.34	6.94	33.18	111	71	Peak
5725	52.87	-15.43	68.3	44.54	34.51	7.01	33.19	111	71	Peak
16800	59.56	-14.44	74	58.73	41.42	13	53.59	100	0	Peak



<b>Test Mode :</b>	802.11a H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	140	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5700 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2792	45.84	-28.16	74	42.58	32.25	4.89	33.88	100	0	Peak
3896	49.08	-24.92	74	44.22	32.83	5.6	33.57	100	0	Peak
5470	52.54	-15.76	68.3	44.69	34.17	6.87	33.19	128	344	Peak
5700	104.34	-	-	96.06	34.47	7	33.19	128	344	Average
5700	115.88	-	-	107.6	34.47	7	33.19	128	344	Peak
5725	63.75	-4.55	68.3	55.42	34.51	7.01	33.19	128	344	Peak
11400	43.44	-10.56	54	50.28	38.02	10.47	55.33	102	228	Average
11400	54.49	-19.51	74	61.33	38.02	10.47	55.33	102	228	Peak
17100	51.66	-16.64	68.3	53.37	41.42	13.15	56.28	100	0	Peak



<b>Test Mode :</b>	802.11a H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	140	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5700 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2792	47.49	-26.51	74	44.23	32.25	4.89	33.88	100	0	Peak
3884	49.37	-24.63	74	44.54	32.83	5.58	33.58	100	0	Peak
5470	53.07	-15.23	68.3	45.22	34.17	6.87	33.19	123	95	Peak
5700	101.64	-	-	93.36	34.47	7	33.19	123	95	Average
5700	112.85	-	-	104.57	34.47	7	33.19	123	95	Peak
5725	61.52	-6.78	68.3	53.19	34.51	7.01	33.19	123	95	Peak
11400	36.66	-17.34	54	43.87	38.02	10.47	55.7	105	54	Average
11400	47.81	-26.19	74	55.02	38.02	10.47	55.7	105	54	Peak
17100	52.5	-15.8	68.3	51.43	41.42	13.15	53.5	100	0	Peak



<b>Test Mode :</b>	802.11n (HT-20) L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	36	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5180 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2762	45.19	-28.81	74	42.02	32.23	4.85	33.91	100	0	Peak
3870	49.39	-24.61	74	44.58	32.81	5.58	33.58	100	0	Peak
5150	44.65	-9.35	54	37.36	33.92	6.7	33.33	200	299	Average
5150	61.21	-12.79	74	53.92	33.92	6.7	33.33	200	299	Peak
5180	99.09	-	-	91.75	33.95	6.71	33.32	200	299	Average
5180	110.04	-	-	102.7	33.95	6.71	33.32	200	299	Peak
5398	48.34	-5.66	54	40.61	34.12	6.83	33.22	200	299	Average
5398	61.85	-12.15	74	54.12	34.12	6.83	33.22	200	299	Peak
10360	52.28	-16.02	68.3	60.9	37.32	10.31	56.25	100	0	Peak



<b>Test Mode :</b>	802.11n (HT-20) L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	36	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5180 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2704	45.12	-28.88	74	42.14	32.12	4.8	33.94	100	0	Peak
3834	48.37	-25.63	74	43.67	32.75	5.54	33.59	100	0	Peak
5150	38.68	-15.32	54	31.39	33.92	6.7	33.33	112	355	Average
5150	55.78	-18.22	74	48.49	33.92	6.7	33.33	112	355	Peak
5180	91.38	-	-	84.04	33.95	6.71	33.32	112	355	Average
5180	102.26	-	-	94.92	33.95	6.71	33.32	112	355	Peak
5352	39.94	-14.06	54	32.3	34.08	6.8	33.24	112	355	Average
5352	53.37	-20.63	74	45.73	34.08	6.8	33.24	112	355	Peak
10360	47.95	-20.35	68.3	56.89	37.32	10.31	56.57	100	0	Peak





<b>Test Mode :</b>	802.11n (HT-20) M channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	44	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5220 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2788	46.43	-27.57	74	43.2	32.25	4.87	33.89	100	0	Peak
3856	49.12	-24.88	74	44.36	32.78	5.56	33.58	100	0	Peak
5148	39.9	-14.1	54	32.61	33.92	6.7	33.33	200	303	Average
5148	50.92	-23.08	74	43.63	33.92	6.7	33.33	200	303	Peak
5220	98.84	-	-	91.43	33.97	6.74	33.3	200	303	Average
5220	109.8	-	-	102.39	33.97	6.74	33.3	200	303	Peak
5380	45.58	-8.42	54	37.88	34.11	6.82	33.23	200	303	Average
5380	58.18	-15.82	74	50.48	34.11	6.82	33.23	200	303	Peak
10440	48.52	-19.78	68.3	57.2	37.36	10.22	56.26	100	0	Peak



<b>Test Mode :</b>	802.11n (HT-20) M channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	44	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5220 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2750	45.29	-28.71	74	42.15	32.2	4.85	33.91	100	0	Peak
3846	47.91	-26.09	74	43.18	32.75	5.56	33.58	100	0	Peak
5040	37.43	-16.57	54	30.32	33.84	6.65	33.38	190	225	Average
5040	50.42	-23.58	74	43.31	33.84	6.65	33.38	190	225	Peak
5220	87.87	-	-	80.46	33.97	6.74	33.3	190	225	Average
5220	99.86	-	-	92.45	33.97	6.74	33.3	190	225	Peak
5434	39.58	-14.42	54	31.79	34.15	6.84	33.2	190	225	Average
5434	51.35	-22.65	74	43.56	34.15	6.84	33.2	190	225	Peak
10440	46.41	-21.89	68.3	55.34	37.36	10.22	56.51	100	0	Peak



<b>Test Mode :</b>	802.11n (HT-20) H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	48	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5240 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2792	46.4	-27.6	74	43.14	32.25	4.89	33.88	100	0	Peak
3888	49.46	-24.54	74	44.61	32.83	5.6	33.58	100	0	Peak
5088	39.21	-14.79	54	32.03	33.87	6.67	33.36	195	308	Average
5088	51.88	-22.12	74	44.7	33.87	6.67	33.36	195	308	Peak
5240	98.73	-	-	91.28	33.99	6.75	33.29	195	308	Average
5240	109.35	-	-	101.9	33.99	6.75	33.29	195	308	Peak
5436	45.18	-8.82	54	37.39	34.15	6.84	33.2	195	308	Average
5436	56.93	-17.07	74	49.14	34.15	6.84	33.2	195	308	Peak
10480	50.99	-17.31	68.3	59.71	37.39	10.17	56.28	100	0	Peak



<b>Test Mode :</b>	802.11n (HT-20) H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	48	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5240 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2706	44.99	-29.01	74	42.01	32.12	4.8	33.94	100	0	Peak
3954	49.03	-24.97	74	44.01	32.94	5.64	33.56	100	0	Peak
5002	38.38	-15.62	54	31.35	33.8	6.62	33.39	145	86	Average
5002	51.11	-22.89	74	44.08	33.8	6.62	33.39	145	86	Peak
5240	89.63	-	-	82.18	33.99	6.75	33.29	145	86	Average
5240	99.89	-	-	92.44	33.99	6.75	33.29	145	86	Peak
5450	39.61	-14.39	54	31.8	34.16	6.85	33.2	145	86	Average
5450	51.42	-22.58	74	43.61	34.16	6.85	33.2	145	86	Peak
10479	46.15	-22.15	68.3	55.03	37.39	10.2	56.47	100	0	Peak



<b>Test Mode :</b>	802.11n (HT-20) L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	52	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5260 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2810	44.09	-29.91	74	40.8	32.28	4.89	33.88	100	0	Peak
3838	47.43	-26.57	74	42.71	32.75	5.56	33.59	100	0	Peak
5106	40.91	-13.09	54	33.7	33.89	6.67	33.35	200	297	Average
5106	53.28	-20.72	74	46.07	33.89	6.67	33.35	200	297	Peak
5260	101.55	-	-	94.06	34.01	6.75	33.27	200	297	Average
5260	112.03	-	-	104.54	34.01	6.75	33.27	200	297	Peak
5420	47.46	-6.54	54	39.7	34.13	6.84	33.21	200	297	Average
5420	58.56	-15.44	74	50.8	34.13	6.84	33.21	200	297	Peak
10520	54.84	-13.46	68.3	63.52	37.41	10.18	56.27	100	0	Peak



<b>Test Mode :</b>	802.11n (HT-20) L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	52	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5260 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2698	43.75	-30.25	74	40.77	32.12	4.8	33.94	100	0	Peak
3912	47.6	-26.4	74	42.71	32.86	5.6	33.57	100	0	Peak
5078	38.29	-15.71	54	31.12	33.87	6.66	33.36	146	359	Average
5078	51.57	-22.43	74	44.4	33.87	6.66	33.36	146	359	Peak
5260	93.23	-	-	85.74	34.01	6.75	33.27	146	359	Average
5260	103.84	-	-	96.35	34.01	6.75	33.27	146	359	Peak
5424	39.18	-14.82	54	31.42	34.13	6.84	33.21	146	359	Average
5424	51.55	-22.45	74	43.79	34.13	6.84	33.21	146	359	Peak
10520	48.85	-19.45	68.3	57.68	37.41	10.18	56.42	100	0	Peak



<b>Test Mode :</b>	802.11n (HT-20) M channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	60	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5300 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2714	44.01	-29.99	74	41	32.15	4.8	33.94	100	0	Peak
3832	47.04	-26.96	74	42.34	32.75	5.54	33.59	100	0	Peak
5140	39.75	-14.25	54	32.47	33.92	6.7	33.34	198	297	Average
5140	52.44	-21.56	74	45.16	33.92	6.7	33.34	198	297	Peak
5300	103.32	-	-	95.76	34.04	6.78	33.26	198	297	Average
5300	114.03	-	-	106.47	34.04	6.78	33.26	198	297	Peak
5350	46.1	-7.9	54	38.46	34.08	6.8	33.24	198	297	Average
5350	60.62	-13.38	74	52.98	34.08	6.8	33.24	198	297	Peak
10600	45.82	-8.18	54	54.34	37.46	10.22	56.2	100	111	Average
10600	54.4	-19.6	74	62.92	37.46	10.22	56.2	100	111	Peak
15900	39.66	-14.34	54	44.47	40.2	12.12	57.13	100	121	Average
15900	50.62	-23.38	74	55.43	40.2	12.12	57.13	100	121	Peak



<b>Test Mode :</b>	802.11n (HT-20) M channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	60	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5300 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2656	43.89	-30.11	74	41.06	32.04	4.76	33.97	100	0	Peak
3858	47.87	-26.13	74	43.11	32.78	5.56	33.58	100	0	Peak
5130	38.04	-15.96	54	30.79	33.91	6.68	33.34	162	357	Average
5130	50.83	-23.17	74	43.58	33.91	6.68	33.34	162	357	Peak
5300	93.27	-	-	85.71	34.04	6.78	33.26	162	357	Average
5300	104.06	-	-	96.5	34.04	6.78	33.26	162	357	Peak
5430	39.01	-14.99	54	31.22	34.15	6.84	33.2	162	357	Average
5430	51.51	-22.49	74	43.72	34.15	6.84	33.2	162	357	Peak
10600	38.44	-15.56	54	47.04	37.46	10.22	56.28	133	147	Average
10600	49.46	-24.54	74	58.06	37.46	10.22	56.28	133	147	Peak





<b>Test Mode :</b>	802.11n (HT-20) H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	64	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5320 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2652	44.26	-29.74	74	41.43	32.04	4.76	33.97	100	0	Peak
3906	48.01	-25.99	74	43.12	32.86	5.6	33.57	100	0	Peak
5126	38.95	-15.05	54	31.7	33.91	6.68	33.34	200	296	Average
5126	52.03	-21.97	74	44.78	33.91	6.68	33.34	200	296	Peak
5320	102.61	-	-	95.02	34.05	6.79	33.25	200	296	Average
5320	114.53	-	-	106.94	34.05	6.79	33.25	200	296	Peak
5350	53.01	-0.99	54	45.37	34.08	6.8	33.24	200	296	Average
5350	70.39	-3.61	74	62.75	34.08	6.8	33.24	200	296	Peak
10640	42.99	-11.01	54	51.43	37.48	10.25	56.17	100	266	Average
10640	53.83	-20.17	74	62.27	37.48	10.25	56.17	100	266	Peak
15960	39.61	-14.39	54	44.39	40.2	12.08	57.06	100	36	Average
15960	50.98	-23.02	74	55.76	40.2	12.08	57.06	100	36	Peak



<b>Test Mode :</b>	802.11n (HT-20) H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	64	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5320 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2794	46.58	-27.42	74	43.29	32.28	4.89	33.88	100	0	Peak
3862	50.03	-23.97	74	45.27	32.78	5.56	33.58	100	0	Peak
5042	37.94	-16.06	54	30.83	33.84	6.65	33.38	156	358	Average
5042	51.76	-22.24	74	44.65	33.84	6.65	33.38	156	358	Peak
5320	92.79	-	-	85.2	34.05	6.79	33.25	156	358	Average
5320	104.3	-	-	96.71	34.05	6.79	33.25	156	358	Peak
5350	42.81	-11.19	54	35.17	34.08	6.8	33.24	156	358	Average
5350	57.04	-16.96	74	49.4	34.08	6.8	33.24	156	358	Peak
10640	36.85	-17.15	54	45.34	37.48	10.25	56.22	114	211	Average
10640	47.7	-26.3	74	56.19	37.48	10.25	56.22	114	211	Peak



<b>Test Mode :</b>	802.11n (HT-20) L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	100	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5500 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2708	45.3	-28.7	74	42.32	32.12	4.8	33.94	100	0	Peak
3910	49.79	-24.21	74	44.9	32.86	5.6	33.57	100	0	Peak
5455.75	45.43	-8.57	54	37.61	34.16	6.85	33.19	100	357	Average
5455.75	60.28	-13.72	74	52.46	34.16	6.85	33.19	100	357	Peak
5470	67.51	-0.79	68.3	59.66	34.17	6.87	33.19	100	357	Peak
5500	102.51	-	-	94.6	34.2	6.88	33.17	100	357	Average
5500	113.32	-	-	105.41	34.2	6.88	33.17	100	357	Peak
5725	51.84	-16.46	68.3	43.51	34.51	7.01	33.19	100	357	Peak
11000	50.51	-3.49	54	58.26	37.7	10.44	55.89	101	299	Average
11000	61.33	-12.67	74	69.08	37.7	10.44	55.89	101	299	Peak
16500	57.86	-10.44	68.3	60.13	41.3	12.8	56.37	100	0	Peak



<b>Test Mode :</b>	802.11n (HT-20) L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	100	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5500 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2730	45.69	-28.31	74	42.62	32.17	4.82	33.92	100	0	Peak
3848	48.53	-25.47	74	43.77	32.78	5.56	33.58	100	0	Peak
5459.875	42.71	-11.29	54	34.89	34.16	6.85	33.19	100	39	Average
5459.875	58.37	-15.63	74	50.55	34.16	6.85	33.19	100	39	Peak
5470	64.79	-3.51	68.3	56.94	34.17	6.87	33.19	100	39	Peak
5500	100.34	-	-	92.43	34.2	6.88	33.17	100	39	Average
5500	110.56	-	-	139.68	0	6.88	36	100	39	Peak
5725	49.49	-18.81	68.3	41.16	34.51	7.01	33.19	100	39	Peak
11000	43.27	-10.73	54	50.75	37.7	10.44	55.62	100	246	Average
11000	54.59	-19.41	74	62.07	37.7	10.44	55.62	100	246	Peak



<b>Test Mode :</b>	802.11n (HT-20) M channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	120	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5600 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2686	45.16	-28.84	74	42.24	32.09	4.78	33.95	100	0	Peak
3948	48.5	-25.5	74	43.5	32.92	5.64	33.56	100	0	Peak
5470	56.65	-11.65	68.3	48.8	34.17	6.87	33.19	121	359	Peak
5600	104.56	-	-	96.46	34.34	6.94	33.18	121	359	Average
5600	115.21	-	-	107.11	34.34	6.94	33.18	121	359	Peak
5725	54.43	-13.87	68.3	46.1	34.51	7.01	33.19	121	359	Peak
11200	41.28	-12.72	54	48.57	37.86	10.46	55.61	100	297	Average
11200	52.53	-21.47	74	59.82	37.86	10.46	55.61	100	297	Peak
16800	59.73	-8.57	68.3	61.56	41.42	13	56.25	100	0	Peak



<b>Test Mode :</b>	802.11n (HT-20) M channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	120	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5600 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2794	46.23	-27.77	74	42.94	32.28	4.89	33.88	100	0	Peak
3690	48.33	-25.67	74	44.01	32.5	5.44	33.62	100	0	Peak
5470	53.99	-14.31	68.3	46.14	34.17	6.87	33.19	111	71	Peak
5600	99.63	-	-	91.53	34.34	6.94	33.18	111	71	Average
5600	110.69	-	-	102.59	34.34	6.94	33.18	111	71	Peak
5725	52.1	-16.2	68.3	43.77	34.51	7.01	33.19	111	71	Peak
11200	37.05	-16.95	54	44.39	37.86	10.46	55.66	100	259	Average
11200	48.04	-25.96	74	55.38	37.86	10.46	55.66	100	259	Peak
16800	57.84	-16.16	74	57.01	41.42	13	53.59	100	0	Peak



<b>Test Mode :</b>	802.11n (HT-20) H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	140	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5700 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2698	45.73	-28.27	74	42.75	32.12	4.8	33.94	100	0	Peak
3842	49.52	-24.48	74	44.8	32.75	5.56	33.59	100	0	Peak
5470	52.2	-16.1	68.3	44.35	34.17	6.87	33.19	128	344	Peak
5700	103.54	-	-	95.26	34.47	7	33.19	128	344	Average
5700	115.53	-	-	107.25	34.47	7	33.19	128	344	Peak
5725	65.55	-2.75	68.3	57.22	34.51	7.01	33.19	128	344	Peak
11400	43.29	-10.71	54	50.13	38.02	10.47	55.33	100	288	Average
11400	54.35	-19.65	74	61.19	38.02	10.47	55.33	100	288	Peak
17100	50.85	-17.45	68.3	52.56	41.42	13.15	56.28	100	0	Peak



Test Mode :	802.11n (HT-20) H channel	Temperature :	23~24°C
Test Channel :	140	Relative Humidity :	45~50%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5700 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2660	44.79	-29.21	74	41.93	32.07	4.76	33.97	100	0	Peak
3910	48.95	-25.05	74	44.06	32.86	5.6	33.57	100	0	Peak
5470	52.97	-15.33	68.3	45.12	34.17	6.87	33.19	123	95	Peak
5700	100.67	-	-	92.39	34.47	7	33.19	123	95	Average
5700	112.6	-	-	104.32	34.47	7	33.19	123	95	Peak
5725	63.16	-5.14	68.3	54.83	34.51	7.01	33.19	123	95	Peak
11400	36.58	-17.42	54	43.79	38.02	10.47	55.7	100	119	Average
11400	47.4	-26.6	74	54.61	38.02	10.47	55.7	100	119	Peak





<b>Test Mode :</b>	802.11n (HT-40) L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	38	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5190 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2682	44.99	-29.01	74	42.07	32.09	4.78	33.95	100	0	Peak
3880	49.35	-24.65	74	44.54	32.81	5.58	33.58	100	0	Peak
5148	46.73	-7.27	54	39.44	33.92	6.7	33.33	200	304	Average
5148	68.68	-5.32	74	61.39	33.92	6.7	33.33	200	304	Peak
5190	94.44	-	-	87.08	33.95	6.72	33.31	200	304	Average
5190	106.02	-	-	98.66	33.95	6.72	33.31	200	304	Peak
5404	45.16	-8.84	54	37.42	34.12	6.83	33.21	200	304	Average
5404	58.21	-15.79	74	50.47	34.12	6.83	33.21	200	304	Peak



<b>Test Mode :</b>	802.11n (HT-40) L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	38	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5190 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2680	45.24	-28.76	74	42.32	32.09	4.78	33.95	100	0	Peak
3888	49.19	-24.81	74	44.34	32.83	5.6	33.58			Peak
5150	40.37	-13.63	54	33.08	33.92	6.7	33.33	100	278	Average
5150	56.49	-17.51	74	49.2	33.92	6.7	33.33	100	278	Peak
5190	88.83	-	-	81.47	33.95	6.72	33.31	100	278	Average
5190	99.88	-	-	92.52	33.95	6.72	33.31	100	278	Peak
5350	38.67	-15.33	54	31.03	34.08	6.8	33.24	100	278	Average
5350	51.52	-22.48	74	43.88	34.08	6.8	33.24	100	278	Peak



<b>Test Mode :</b>	802.11n (HT-40) H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	46	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5230 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2770	45.38	-28.62	74	42.17	32.23	4.87	33.89	100	0	Peak
3780	48.65	-25.35	74	44.08	32.67	5.5	33.6	100	0	Peak
5066	38.88	-15.12	54	31.74	33.85	6.66	33.37	152	306	Average
5066	51.85	-22.15	74	44.71	33.85	6.66	33.37	152	306	Peak
5230	93.33	-	-	85.9	33.99	6.74	33.3	152	306	Average
5230	104.81	-	-	97.38	33.99	6.74	33.3	152	306	Peak
5354	43.33	-10.67	54	35.69	34.08	6.8	33.24	152	306	Average
5354	55.65	-18.35	74	48.01	34.08	6.8	33.24	152	306	Peak



<b>Test Mode :</b>	802.11n (HT-40) H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	46	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5230 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2788	46.91	-27.09	74	43.68	32.25	4.87	33.89	100	0	Peak
3786	49.48	-24.52	74	44.91	32.67	5.5	33.6	100	0	Peak
5042	37.55	-16.45	54	30.44	33.84	6.65	33.38	100	278	Average
5042	51.32	-22.68	74	44.21	33.84	6.65	33.38	100	278	Peak
5230	88.59	-	-	81.16	33.99	6.74	33.3	100	278	Average
5230	99.41	-	-	91.98	33.99	6.74	33.3	100	278	Peak
5452	38.66	-15.34	54	30.84	34.16	6.85	33.19	100	278	Average
5452	50.99	-23.01	74	43.17	34.16	6.85	33.19	100	278	Peak



<b>Test Mode :</b>	802.11n (HT-40) L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	54	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5270 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2618	45.23	-28.77	74	42.51	31.99	4.73	34	100	0	Peak
3638	49	-25	74	44.84	32.42	5.38	33.64	100	0	Peak
5138	38.24	-15.76	54	30.97	33.91	6.7	33.34	200	293	Average
5138	51.57	-22.43	74	44.3	33.91	6.7	33.34	200	293	Peak
5270	94.8	-	-	87.3	34.01	6.76	33.27	200	293	Average
5270	106.25	-	-	98.75	34.01	6.76	33.27	200	293	Peak
5420	43.86	-10.14	54	36.1	34.13	6.84	33.21	200	293	Average
5420	56.63	-17.37	74	48.87	34.13	6.84	33.21	200	293	Peak



<b>Test Mode :</b>	802.11n (HT-40) L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	54	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5270 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2710	45.88	-28.12	74	42.87	32.15	4.8	33.94	100	0	Peak
3782	48.8	-25.2	74	44.23	32.67	5.5	33.6	100	0	Peak
5112	30.41	-23.59	54	23.19	33.89	6.68	33.35	100	278	Average
5112	50.83	-23.17	74	43.61	33.89	6.68	33.35	100	278	Peak
5270	89.18	-	-	81.68	34.01	6.76	33.27	100	278	Average
5270	99.89	-	-	92.39	34.01	6.76	33.27	100	278	Peak
5438	38.49	-15.51	54	30.69	34.15	6.85	33.2	100	278	Average
5438	50.96	-23.04	74	43.16	34.15	6.85	33.2	100	278	Peak



<b>Test Mode :</b>	802.11n (HT-40) H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	62	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5310 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2780	45.53	-28.47	74	42.3	32.25	4.87	33.89	100	0	Peak
3956	49.51	-24.49	74	44.49	32.94	5.64	33.56	100	0	Peak
5126	38.73	-15.27	54	31.48	33.91	6.68	33.34	153	300	Average
5126	50.7	-23.3	74	43.45	33.91	6.68	33.34	153	300	Peak
5310	95.57	-	-	87.99	34.05	6.78	33.25	153	300	Average
5310	106.61	-	-	99.03	34.05	6.78	33.25	153	300	Peak
5352	53.35	-0.65	54	45.71	34.08	6.8	33.24	153	300	Average
5352	70.66	-3.34	74	63.02	34.08	6.8	33.24	153	300	Peak



<b>Test Mode :</b>	802.11n (HT-40) H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	62	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5310 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2712	45.21	-28.79	74	42.2	32.15	4.8	33.94	100	0	Peak
3604	48.72	-25.28	74	44.64	32.37	5.36	33.65	100	0	Peak
5062	37.55	-16.45	54	30.41	33.85	6.66	33.37	100	275	Average
5062	51.05	-22.95	74	43.91	33.85	6.66	33.37	100	275	Peak
5310	88.05	-	-	80.47	34.05	6.78	33.25	100	275	Average
5310	99.22	-	-	91.64	34.05	6.78	33.25	100	275	Peak
5350	43.56	-10.44	54	35.92	34.08	6.8	33.24	100	275	Average
5350	59.31	-14.69	74	51.67	34.08	6.8	33.24	100	275	Peak





<b>Test Mode :</b>	802.11n (HT-40) L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	102	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5510 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2752	44.84	-29.16	74	41.7	32.2	4.85	33.91	100	0	Peak
3816	49.76	-24.24	74	45.1	32.72	5.54	33.6	100	0	Peak
5446	48.1	-5.9	54	40.29	34.16	6.85	33.2	100	359	Average
5446	60.44	-13.56	74	52.63	34.16	6.85	33.2	100	359	Peak
5470	65.17	-3.13	68.3	57.32	34.17	6.87	33.19	100	359	Peak
5510	96.67	-	-	88.76	34.2	6.88	33.17	100	359	Average
5510	108	-	-	100.09	34.2	6.88	33.17	100	359	Peak
5725	51.17	-17.13	68.3	42.84	34.51	7.01	33.19	100	359	Peak
11020	39.86	-14.14	54	47.58	37.71	10.44	55.87	100	279	Average
11020	50.13	-23.87	74	57.85	37.71	10.44	55.87	100	279	Peak



<b>Test Mode :</b>	802.11n (HT-40) L channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	102	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5510 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2726	45.07	-28.93	74	42	32.17	4.82	33.92	100	0	Peak
3716	48.59	-25.41	74	44.19	32.56	5.46	33.62	100	0	Peak
5454	46.67	-7.33	54	38.85	34.16	6.85	33.19	100	44	Average
5454	58.16	-15.84	74	50.34	34.16	6.85	33.19	100	44	Peak
5470	63.27	-5.03	68.3	55.42	34.17	6.87	33.19	100	44	Peak
5510	94.36	-	-	86.45	34.2	6.88	33.17	100	44	Average
5510	105.38	-	-	97.47	34.2	6.88	33.17	100	44	Peak
5725	51.06	-17.24	68.3	42.73	34.51	7.01	33.19	100	44	Peak
11020	36.51	-17.49	54	43.98	37.71	10.44	55.62	100	25	Average
11020	47.17	-26.83	74	54.64	37.71	10.44	55.62	100	25	Peak



<b>Test Mode :</b>	802.11n (HT-40) M channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	118	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5590 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2712	45.62	-28.38	74	42.61	32.15	4.8	33.94	100	0	Peak
3862	49.33	-24.67	74	44.57	32.78	5.56	33.58	100	0	Peak
5470	58.16	-10.14	68.3	50.31	34.17	6.87	33.19	109	357	Peak
5590	96.87	-	-	88.79	34.32	6.94	33.18	109	357	Average
5590	107.85	-	-	99.77	34.32	6.94	33.18	109	357	Peak
5725	54.07	-14.23	68.3	45.74	34.51	7.01	33.19	109	357	Peak



<b>Test Mode :</b>	802.11n (HT-40) M channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	118	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5590 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2698	44.96	-29.04	74	41.98	32.12	4.8	33.94	100	0	Peak
3862	49.37	-24.63	74	44.61	32.78	5.56	33.58	100	0	Peak
5470	54.54	-13.76	68.3	46.69	34.17	6.87	33.19	109	71	Peak
5590	95.46	-	-	87.38	34.32	6.94	33.18	109	71	Average
5590	106.04	-	-	97.96	34.32	6.94	33.18	109	71	Peak
5725	53.46	-14.84	68.3	45.13	34.51	7.01	33.19	109	71	Peak



<b>Test Mode :</b>	802.11n (HT-40) H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	134	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5670 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2768	44.82	-29.18	74	41.61	32.23	4.87	33.89	100	0	Peak
3686	48.37	-25.63	74	44.07	32.5	5.42	33.62	100	0	Peak
5470	55.4	-12.9	68.3	47.55	34.17	6.87	33.19	130	354	Peak
5670	96.83	-	-	88.58	34.44	6.99	33.18	130	354	Average
5670	107.83	-	-	99.58	34.44	6.99	33.18	130	354	Peak
5725	57.84	-10.46	68.3	49.51	34.51	7.01	33.19	130	354	Peak



<b>Test Mode :</b>	802.11n (HT-40) H channel	<b>Temperature :</b>	23~24°C
<b>Test Channel :</b>	134	<b>Relative Humidity :</b>	45~50%
<b>Test Engineer :</b>	Cona Huang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5670 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2730	45.74	-28.26	74	42.67	32.17	4.82	33.92	100	0	Peak
3782	49.43	-24.57	74	44.86	32.67	5.5	33.6	100	0	Peak
5470	51.99	-16.31	68.3	44.14	34.17	6.87	33.19	125	92	Peak
5670	94.71	-	-	86.46	34.44	6.99	33.18	125	92	Average
5670	105.88	-	-	97.63	34.44	6.99	33.18	125	92	Peak
5725	57.53	-10.77	68.3	49.2	34.51	7.01	33.19	125	92	Peak

### 3.9 AC Conducted Emission Measurement

#### 3.9.1 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.

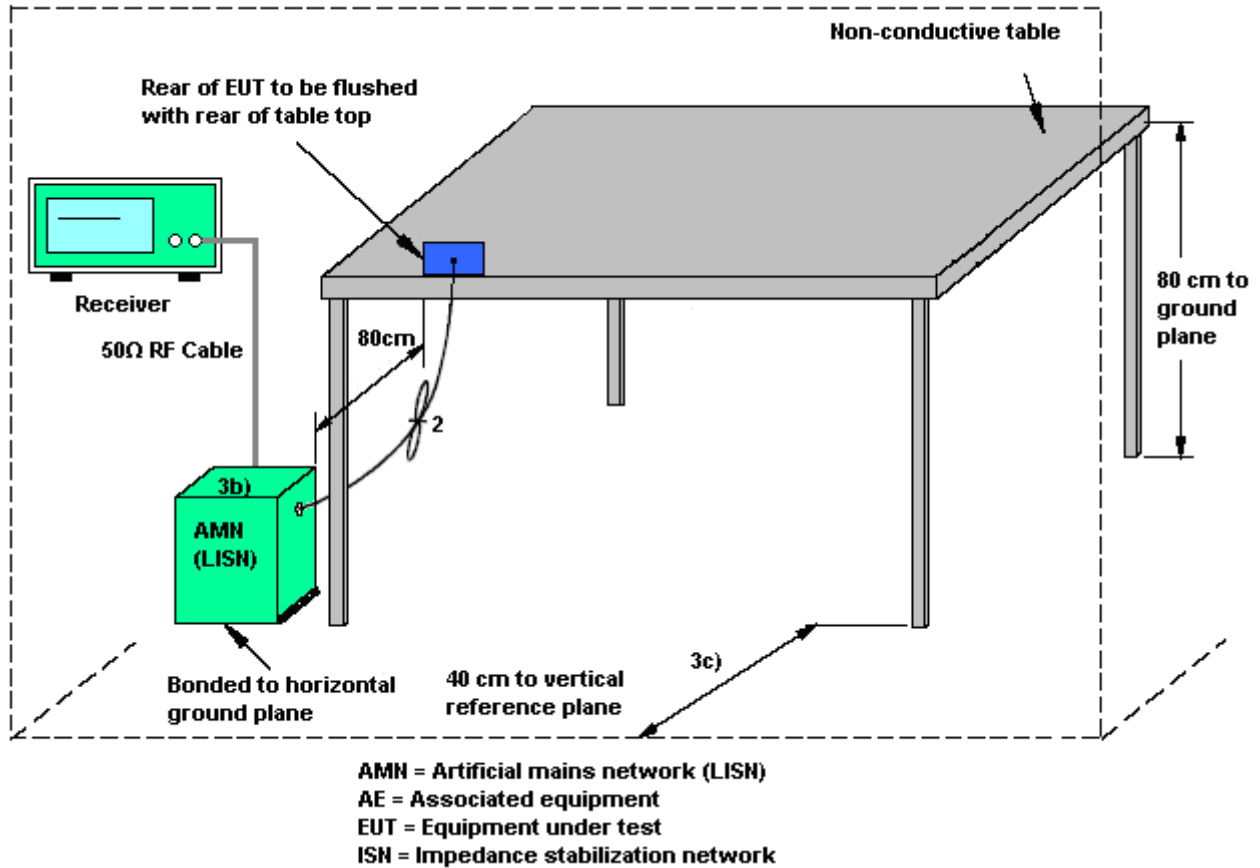
#### 3.9.2 Measuring Instruments

See list of measuring instruments of this test report.

#### 3.9.3 Test Procedures

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

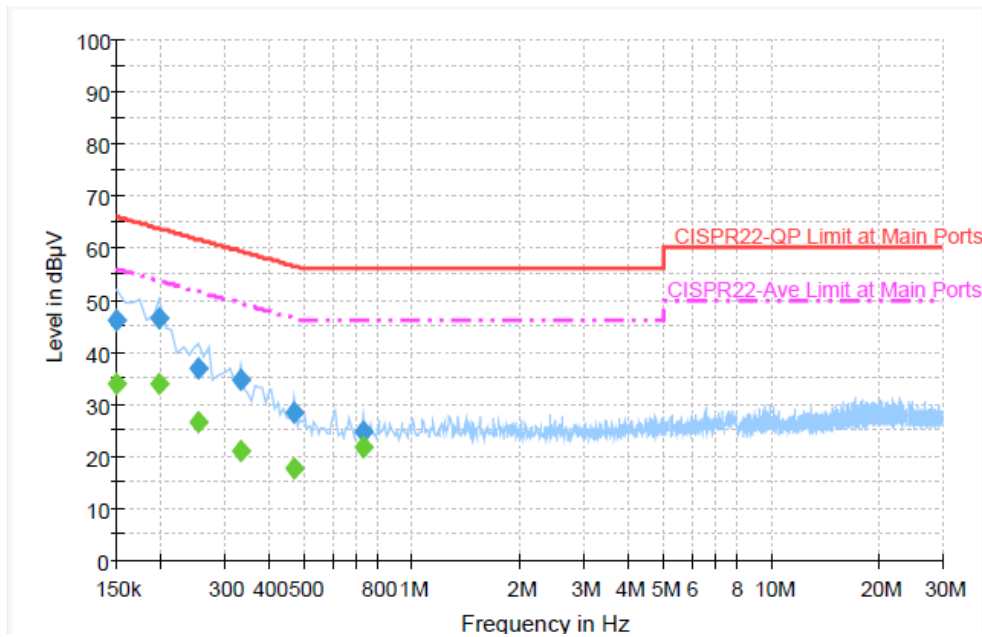
### 3.9.4 Test Setup





### 3.9.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Cona Huang	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Tx + Bluetooth Tx		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



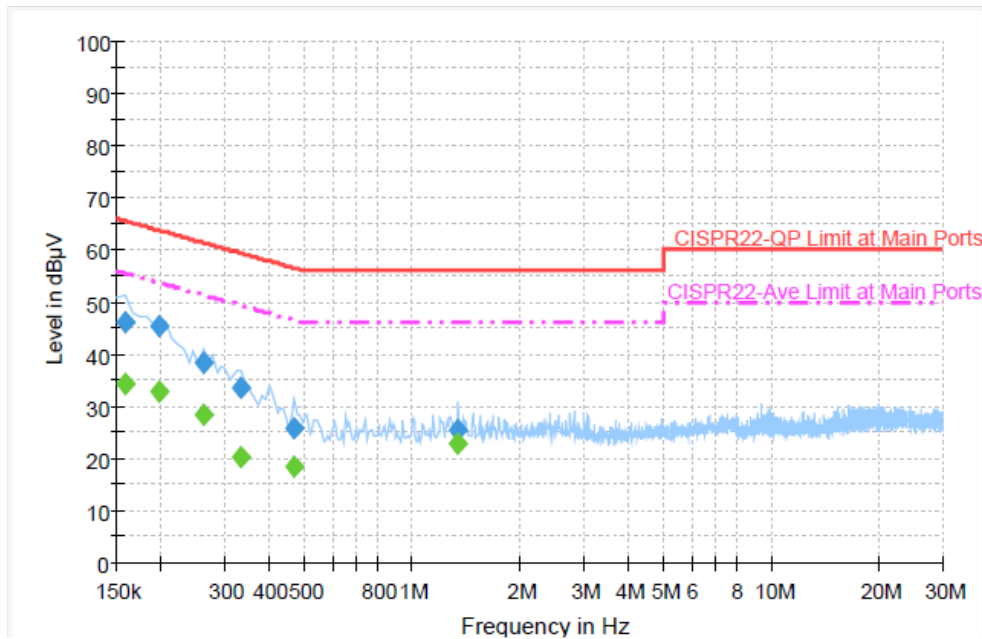
#### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	46.1	Off	L1	19.4	19.9	66.0
0.198000	46.5	Off	L1	19.3	17.2	63.7
0.254000	36.7	Off	L1	19.3	24.9	61.6
0.334000	34.6	Off	L1	19.3	24.8	59.4
0.470000	28.3	Off	L1	19.4	28.2	56.5
0.734000	24.6	Off	L1	19.4	31.4	56.0

#### Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	33.9	Off	L1	19.4	42.1	56.0
0.198000	33.9	Off	L1	19.3	19.8	53.7
0.254000	26.6	Off	L1	19.3	25.0	51.6
0.334000	21.0	Off	L1	19.3	28.4	49.4
0.470000	17.8	Off	L1	19.4	28.7	46.5
0.734000	21.9	Off	L1	19.4	24.1	46.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Cona Huang	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Tx + Bluetooth Tx		
Remark :	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	46.0	Off	N	19.4	19.6	65.6
0.198000	45.4	Off	N	19.3	18.3	63.7
0.262000	38.4	Off	N	19.4	23.0	61.4
0.334000	33.7	Off	N	19.3	25.7	59.4
0.470000	26.0	Off	N	19.4	30.5	56.5
1.342000	25.3	Off	N	19.4	30.7	56.0

**Final Result 2**

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	34.4	Off	N	19.4	21.2	55.6
0.198000	32.8	Off	N	19.3	20.9	53.7
0.262000	28.5	Off	N	19.4	22.9	51.4
0.334000	20.4	Off	N	19.3	29.0	49.4
0.470000	18.4	Off	N	19.4	28.1	46.5
1.342000	23.0	Off	N	19.4	23.0	46.0



## **3.10 Automatically Discontinue Transmission**

### **3.10.1 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.

### **3.10.2 Measuring Instruments**

See list of measuring instruments of this test report.

### **3.10.3 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
System Simulator	R&S	CMU200	117995	N/A	Jun. 08, 2009	Jun. 07, 2011	Conducted (TH02-HY)
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 11, 2010	Jun. 10, 2011	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 13, 2010	Sep. 12, 2011	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	0846202	N/A	Sep. 14, 2010	Sep. 13, 2011	Conducted (TH02-HY)
Power Meter	Agilent	E4416A	GB41292344	N/A	Feb. 18, 2011	Feb. 17, 2012	Conducted (TH02-HY)
Power Sensor	Agilent	E9327A	US40441548	N/A	Feb. 18, 2011	Feb. 17, 2012	Conducted (TH02-HY)
Thermal Chamber	Ten Billion	TTH-D35P	TBN-930701	N/A	Jul. 30,2010	Jul. 29, 2011	Conducted (TH02-HY)
EMI Test Receive	R&S	ESCS 30	100356	9KHz – 2.75GHz	Aug. 16, 2010	Aug. 15, 2011	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz – 30MHz	Dec. 03, 2010	Dec. 02, 2011	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz – 30MHz	Dec. 01, 2010	Nov. 30, 2011	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
ISN	Teseq GmbH	ISN T400A	25696	N/A	Jun. 19, 2010	Jun. 18, 2011	Conduction (CO05-HY)
ISN	Teseq GmbH	ISN T800	27134	N/A	Jun. 19, 2010	Jun. 18, 2011	Conduction (CO05-HY)
DC- LISN	R&S	ESH3-26	1000485	0.1MHz~200MHz	Jun. 17, 2010	Jun. 16, 2011	Conduction (CO05-HY)
DC- LISN	R&S	ESH3-26	1000484	0.1MHz~200MHz	Jun. 17, 2010	Jun. 16, 2011	Conduction (CO05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 31, 2010	Oct. 30, 2011	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP	101067	9KHz ~ 30GHz	Dec. 03, 2010	Dec. 02, 2011	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 19, 2010	Aug. 18, 2011	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 18, 2010	Oct. 17, 2011	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Dec. 06, 2010	Dec. 05, 2011	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32 dB.GAIN	Mar. 27, 2010	Mar. 26, 2011	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz~30 MHz	Jul. 29, 2010	Jul. 28, 2011	Radiation (03CH07-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	±0.10	Normal (k=2)	0.10	1	0.10
Antenna Factor Calibration	±1.70	Normal (k=2)	0.85	1	0.85
Cable Loss Calibration	±0.50	Normal (k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site Imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20\text{Log}(1-\Gamma_1*\Gamma_2)$	+0.34 / -0.35	U-Shape	0.244	1	0.244
<b>Combined Standard Uncertainty Uc(y)</b>	<b>2.36</b>				
<b>Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))</b>	<b>4.72</b>				



## **Appendix A. Photographs of EUT**

Please refer to Sporton report number EP121516 as below.