

FCC RF Test Report

APPLICANT : Research In Motion Limited
EQUIPMENT : HSPA+ FDD 1, 2, 4, 5 & 8 Tablet PC
BRAND NAME : RIM
MODEL NAME : REH51UW
MARKETING NAME : P150-32***The stars "*" in model name can be 0 to 9, A to Z or blank, for marking purpose.
FCC ID : L6AREH50UW
STANDARD : FCC Part 15 Subpart E
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure TX

The product was received on Oct. 28, 2011 and completely tested on Dec. 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:



Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

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

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FCC ID : L6AREH50UW

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SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.403(i)	A9.2	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	A9.2	Maximum Conducted Output Power	$\leq 17, 24, 30$ dBm (depend on band)	Pass	-
3.3	15.407(a)	A9.2	Power Spectral Density	$\leq 4, 11, 17$ dBm (depend on band)	Pass	-
3.4	15.207	Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 8.00 dB at 0.366 MHz
3.5	15.407(b)	A9.3	Unwanted Emissions	$\leq -17, -27$ dBm (depend on band)&15.209(a)	Pass	Under limit 3.74 dB at 30.000 MHz
3.6	15.407(b)	A9.3	Peak Excursion Ratio	≤ 13 dB	Pass	-
3.7	15.407(c)	A9.5	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.8	15.407(g)	A9.5	Frequency Stability	Within Operation Band	Pass	-
3.9	15.203 & 15.407(a)	A9.2	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Research In Motion Limited
295 Phillip Street, Waterloo, Ontario, Canada

1.2 Manufacturer

Quanta Computer Inc.
No. 188, Wen Hwa 2nd Road, Kuei Shan Hsiang, Tao Yuan Shien, 333 Taiwan

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	HSPA+ FDD 1, 2, 4, 5 & 8 Tablet PC
Brand Name	RIM
Model Name	REH51UW
Marketing Name	P150-32***The stars "*" in model name can be 0 to 9, A to Z or blank, for marking purpose.
FCC ID	L6AREH50UW
Tx/Rx Frequency Range	5150 MHz ~ 5250 MHz 5250 MHz ~ 5350 MHz 5470 MHz ~ 5725 MHz
Maximum Output Power to Antenna	<5150 MHz ~ 5250 MHz> 802.11a : 13.70 dBm / 0.0234 W 802.11n (BW 20MHz) : 13.91 dBm / 0.0246 W <5250 MHz ~ 5350 MHz> 802.11a : 14.11 dBm / 0.0258 W 802.11n (BW 20MHz) : 13.82 dBm / 0.0241 W <5470 MHz ~ 5725 MHz> 802.11a : 13.74 dBm / 0.0237 W 802.11n (BW 20MHz) : 13.50 dBm / 0.0224 W
Antenna Type	<5150 MHz ~ 5250 MHz> Fixed Internal Antenna with gain -4.33 dBi <5250 MHz ~ 5350 MHz> Fixed Internal Antenna with gain -3.99 dBi <5470 MHz ~ 5725 MHz> Fixed Internal Antenna with gain -4.93 dBi
HW Version	DARU3MB1AD0 REVD
SW Version	1.0.0.0
Type of Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT Stage	Identical Prototype

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

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978		
Test Site No.	Sporton Site No.		FCC/IC Registration No.
	CO05-HY	03CH07-HY	722060/4086B-1

1.5 Applied Standards

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

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 789033 D01 General UNII Test Procedures v01
- ♦ ANSI C63.4-2003
- ♦ IC RSS-210 Issued 8
- ♦ IC RSS-Gen Issue 3

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, recorded in a separate test report.

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	P20G	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Earphone + Mic	Ergotech	ET-E200	FCC DoC	Unshielded, 1.8 m	N/A
5.	LCD Monitor	Acer	H223HQ	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
6.	Bluetooth Earphone	Nokia	BH-102	PYAHS-107W	N/A	N/A
7.	iPod	Apple	A1199	FCC DoC	Shielded, 1.0 m	N/A
8.	iPod	Apple	N/A	FCC DoC	Unshielded, 1.0 m	N/A

2 Test Configuration of Equipment Under Test

2.1 Carrier Frequency Channel

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

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

2.2 RF Power

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

Band	5GHz 802.11a RF Power (dBm) (Duty cycle 100%)								
Channel	36	44	48	52	60	64	100	120	140
Frequency (MHz)	5180	5220	5240	5260	5300	5320	5500	5580	5700
Power	13.67	13.51	13.70	13.57	13.83	14.11	13.74	13.40	13.39

Band	5GHz 802.11 n (BW 20MHz) RF Power (dBm) (Duty cycle 100%)								
Channel	36	44	48	52	60	64	100	120	140
Frequency (MHz)	5180	5220	5240	5260	5300	5320	5500	5580	5700
Power	13.61	13.91	13.59	13.42	13.64	13.82	13.50	13.43	13.15

Remark:

1. All the test data for each data rate were verified, but only the worst case was reported.
2. The data rates of WLAN 802.11a/n were set in 6Mbps for 802.11a and 6.5Mbps for 802.11n (BW 20MHz) for all the test cases due to the highest RF output power.
3. The EUT is programmed to transmit signal continuously for all testing.



2.3 Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction (150 kHz to 30 MHz), radiation (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

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

The following tables are showing the test modes as the worst cases (E1 plane) and recorded in this report.

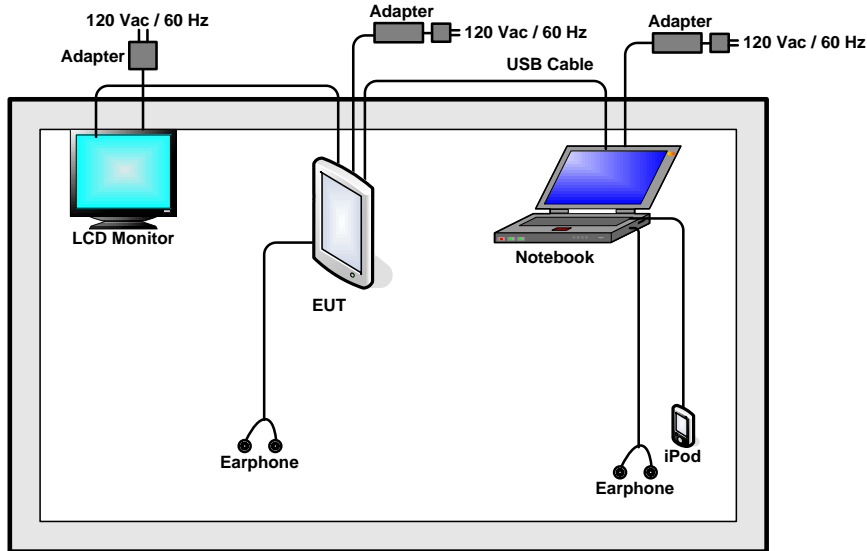
Test Cases	
Test Item	802.11a (Modulation : OFDM)
Conducted TCs	<ul style="list-style-type: none"> ■ Mode 1: 802.11a_CH36_5180 MHz ■ Mode 2: 802.11a_CH44_5220 MHz ■ Mode 3: 802.11a_CH48_5240 MHz ■ Mode 4: 802.11a_CH52_5260 MHz ■ Mode 5: 802.11a_CH60_5300 MHz ■ Mode 6: 802.11a_CH64_5320 MHz ■ Mode 7: 802.11a_CH100_5500 MHz ■ Mode 8: 802.11a_CH116_5580 MHz ■ Mode 9: 802.11a_CH140_5700 MHz ■ Mode 10: 802.11n_CH36_5180 MHz (BW 20M) ■ Mode 11: 802.11n_CH44_5220 MHz (BW 20M) ■ Mode 12: 802.11n_CH48_5240 MHz (BW 20M) ■ Mode 13: 802.11n_CH52_5260 MHz (BW 20M) ■ Mode 14: 802.11n_CH60_5300 MHz (BW 20M) ■ Mode 15: 802.11n_CH64_5320 MHz (BW 20M) ■ Mode 16: 802.11n_CH100_5500 MHz (BW 20M) ■ Mode 17: 802.11n_CH116_5580 MHz (BW 20M) ■ Mode 18: 802.11n_CH140_5700 MHz (BW 20M)



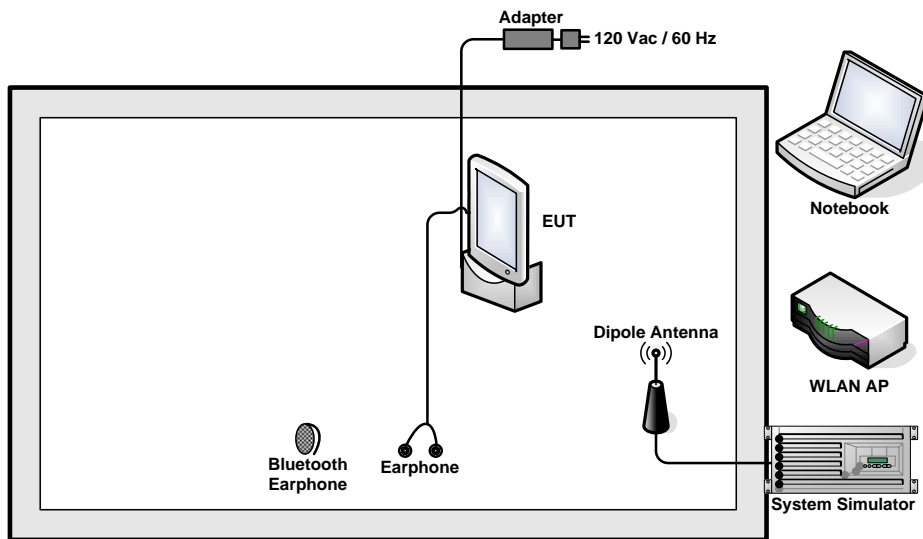
Test Cases	
Test Item	802.11a (Modulation : OFDM)
Radiated TCs	<ul style="list-style-type: none"> ■ Mode 1: 802.11a_CH36_5180 MHz ■ Mode 2: 802.11a_CH44_5220 MHz ■ Mode 3: 802.11a_CH48_5240 MHz ■ Mode 4: 802.11a_CH52_5260 MHz ■ Mode 5: 802.11a_CH60_5300 MHz ■ Mode 6: 802.11a_CH64_5320 MHz ■ Mode 7: 802.11a_CH100_5500 MHz ■ Mode 8: 802.11a_CH116_5580 MHz ■ Mode 9: 802.11a_CH140_5700 MHz ■ Mode 10: 802.11n_CH36_5180 MHz (BW 20M) ■ Mode 11: 802.11n_CH44_5220 MHz (BW 20M) ■ Mode 12: 802.11n_CH48_5240 MHz (BW 20M) ■ Mode 13: 802.11n_CH52_5260 MHz (BW 20M) ■ Mode 14: 802.11n_CH60_5300 MHz (BW 20M) ■ Mode 15: 802.11n_CH64_5320 MHz (BW 20M) ■ Mode 16: 802.11n_CH100_5500 MHz (BW 20M) ■ Mode 17: 802.11n_CH116_5580 MHz (BW 20M) ■ Mode 18: 802.11n_CH140_5700 MHz (BW 20M)
AC Conducted Emission	Mode 1 : CDMA2000 BC0 Idle + Bluetooth Link + WLAN (5G) Link + Adapter 3 + Battery 1 + H Pattern + Earphone
Remark: For radiated TCs, all the tests were performance with Adapter 2.	

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 RF Utility

The programmed RF Utility "Ttermpro.exe", is installed in EUT 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

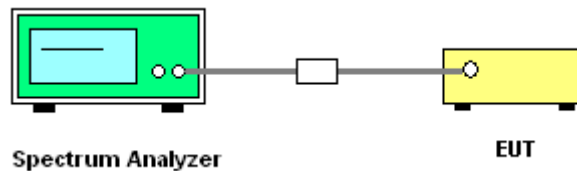
3.1.1 Measuring Instruments

See list of measuring instruments of this test report.

3.1.2 Test Procedures

1. The testing follows FCC KDB 789033 D01 General UNII Test Procedures v01.
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

3.1.3 Test Setup





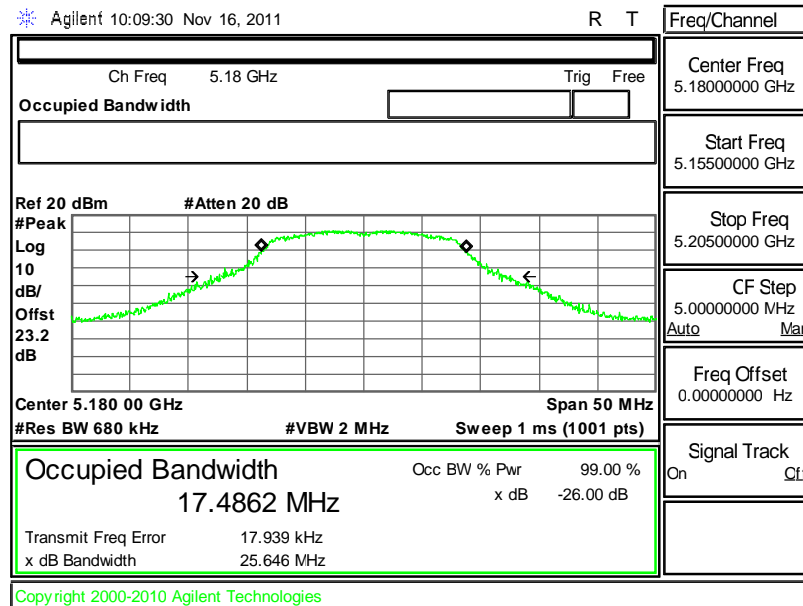
3.1.4 Test Result of 26dB Bandwidth Plots

Test Mode :	Mode 1~9	Temperature :	24~26°C
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Channel	Frequency (MHz)	802.11a 26dB Bandwidth (MHz)	Pass/Fail
36	5180	25.646	N/A
44	5220	24.808	N/A
48	5240	24.803	N/A
52	5260	24.728	N/A
60	5300	24.862	N/A
64	5320	25.096	N/A
100	5500	25.813	N/A
116	5580	25.124	N/A
140	5700	24.470	N/A

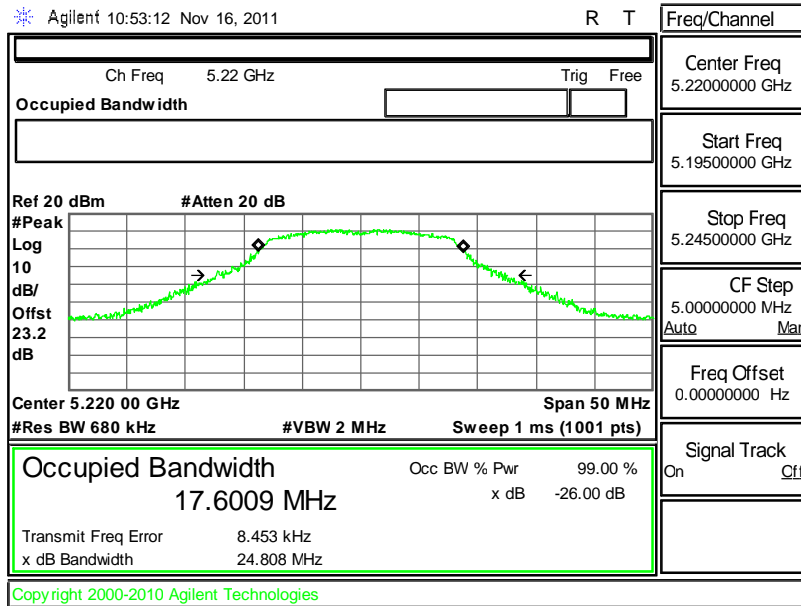
Note: N/A, 26dB Bandwidth is reporting only.

26 dB Bandwidth Plot on 802.11a Channel 36

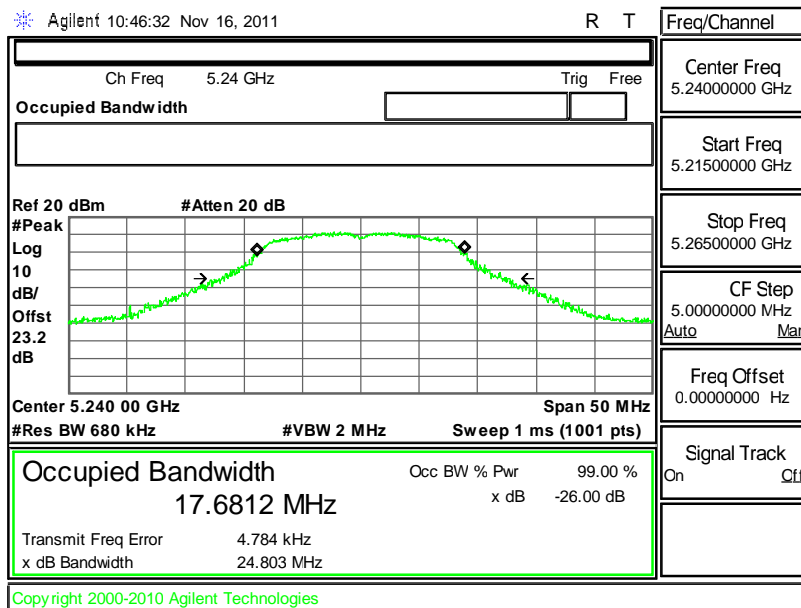




26 dB Bandwidth Plot on 802.11a Channel 44

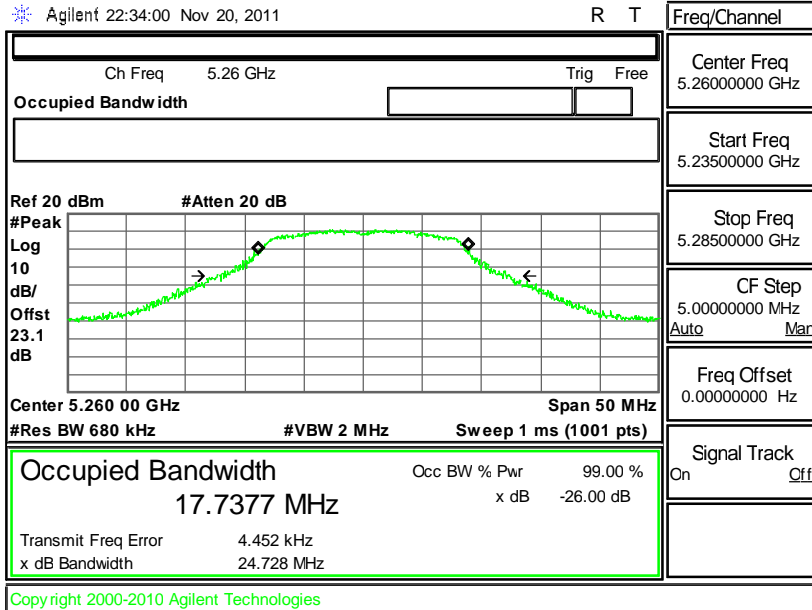


26 dB Bandwidth Plot on 802.11a Channel 48

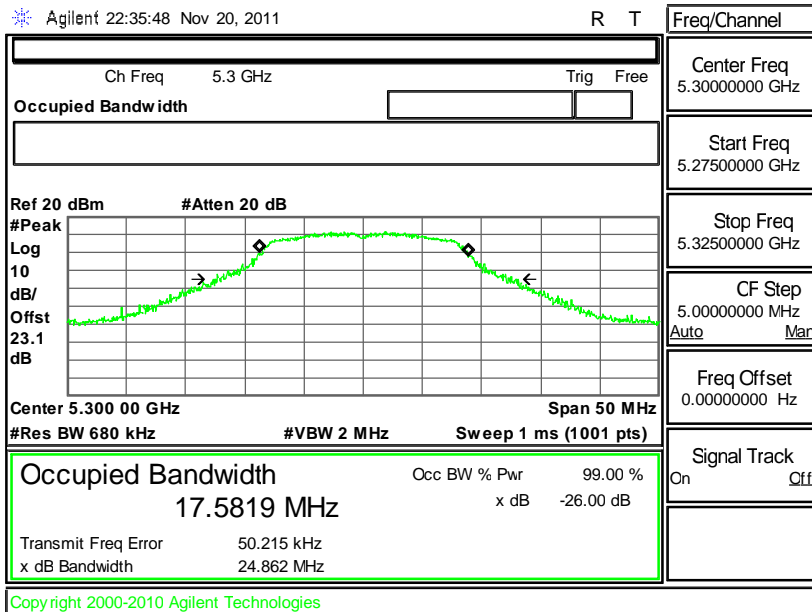




26 dB Bandwidth Plot on 802.11a Channel 52

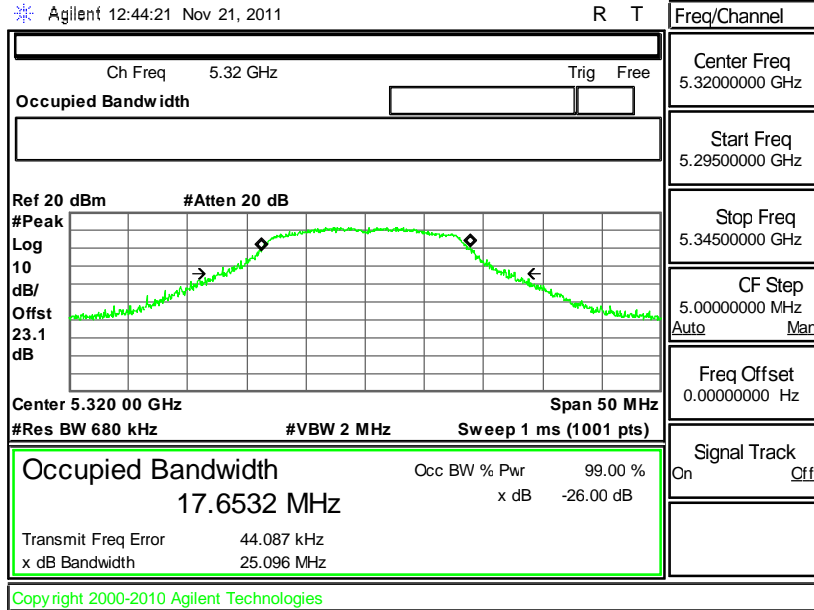


26 dB Bandwidth Plot on 802.11a Channel 60

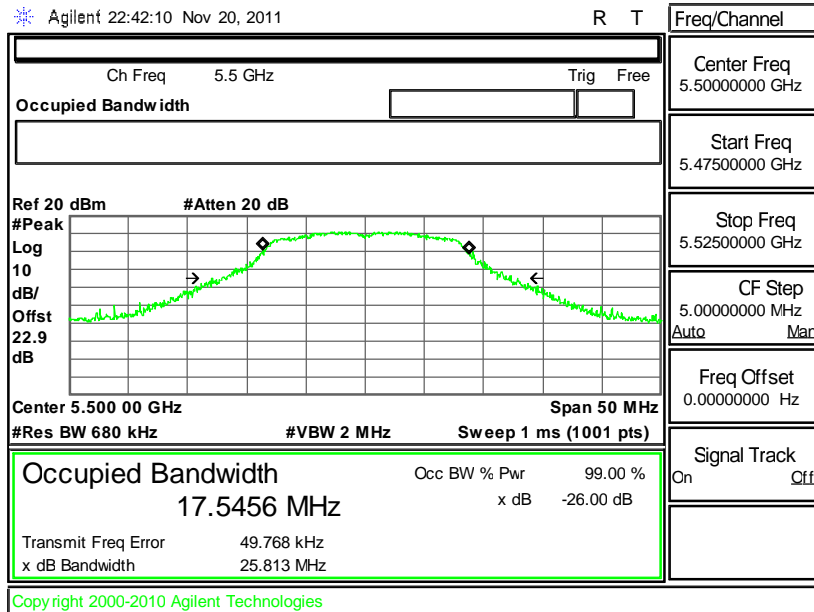




26 dB Bandwidth Plot on 802.11a Channel 64

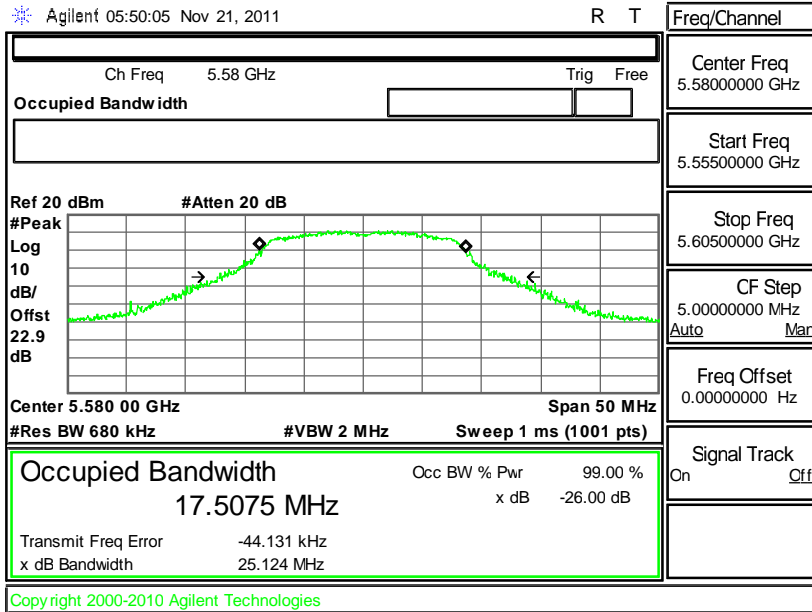


26 dB Bandwidth Plot on 802.11a Channel 100

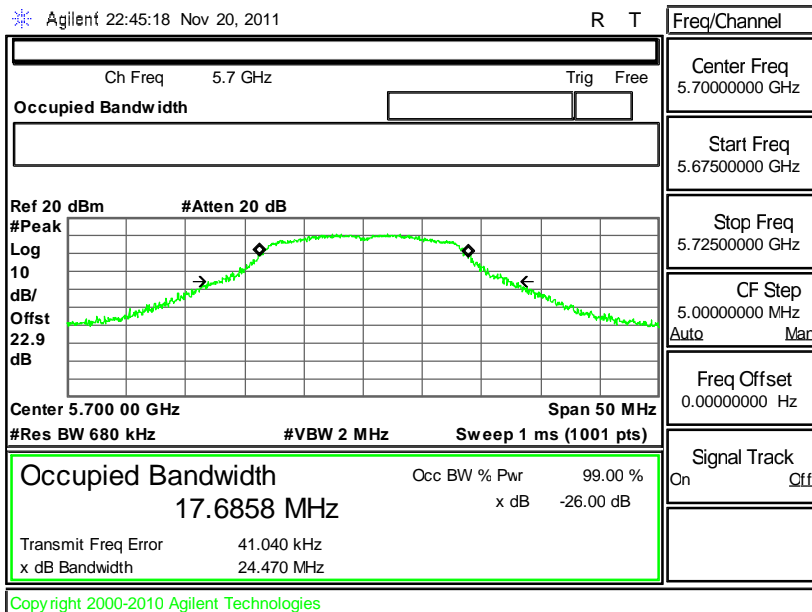




26 dB Bandwidth Plot on 802.11a Channel 116



26 dB Bandwidth Plot on 802.11a Channel 140



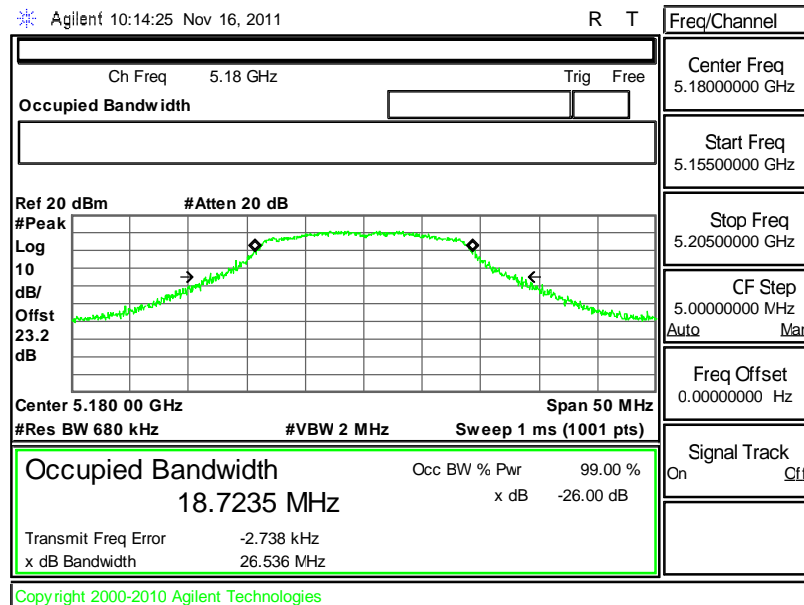


Test Mode :	Mode 10~18	Temperature :	24~26°C
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 26dB Bandwidth (MHz)	Pass/Fail
36	5180	26.536	N/A
44	5220	25.957	N/A
48	5240	25.396	N/A
52	5260	25.653	N/A
60	5300	25.977	N/A
64	5320	26.547	N/A
100	5500	26.680	N/A
116	5580	26.472	N/A
140	5700	26.122	N/A

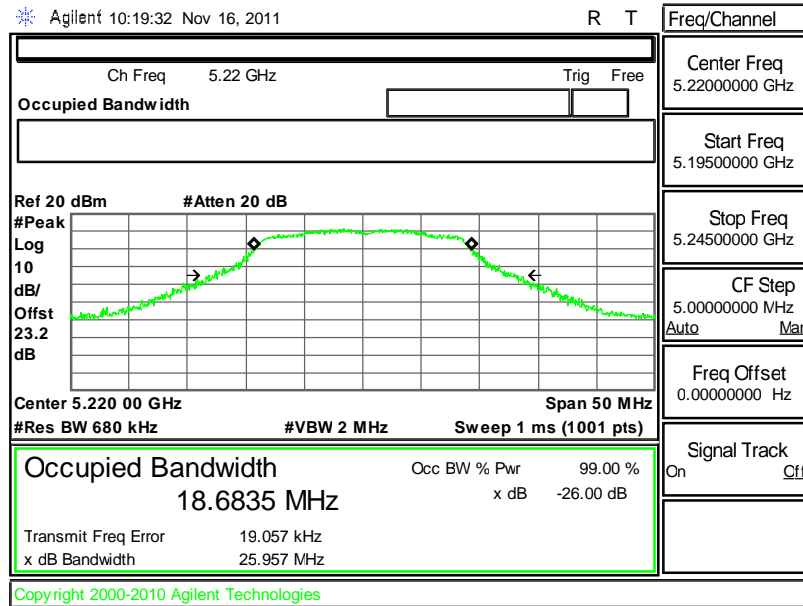
Note: N/A, 26dB Bandwidth is reporting only.

26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 36

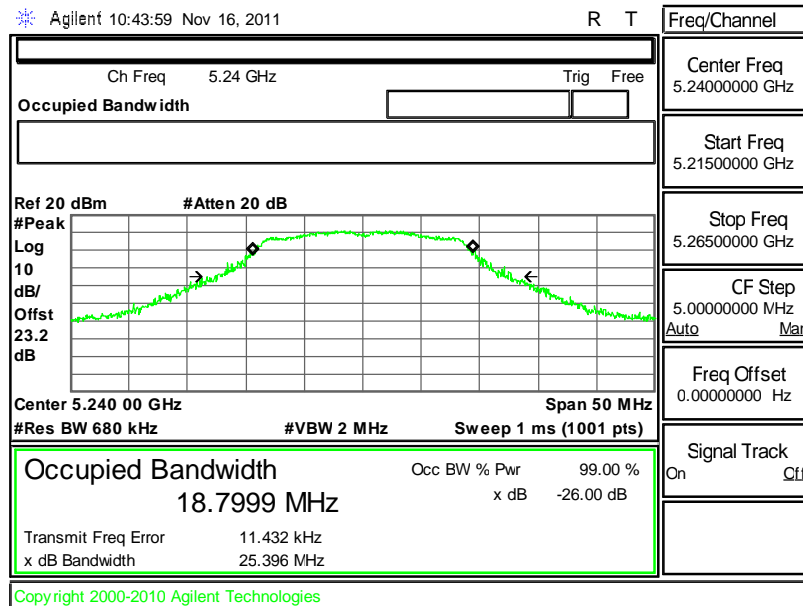




26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 44

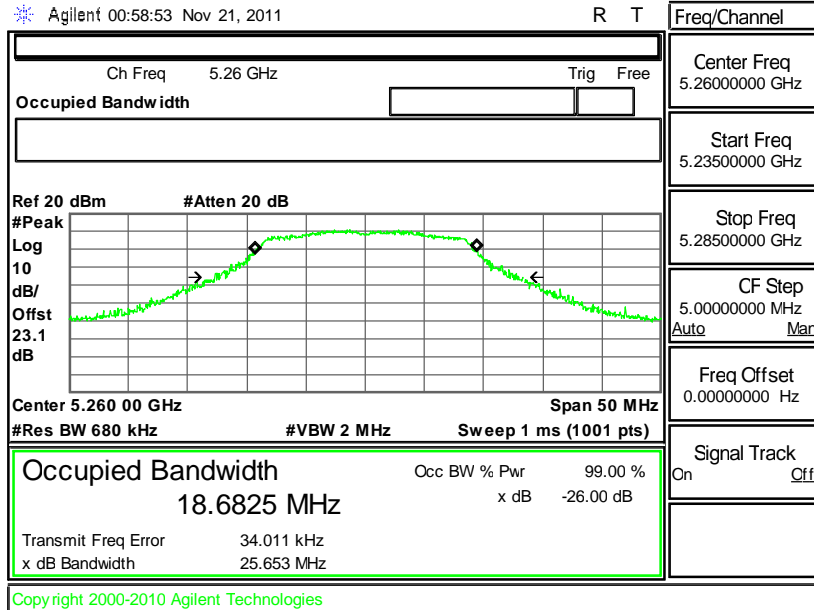


26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 48

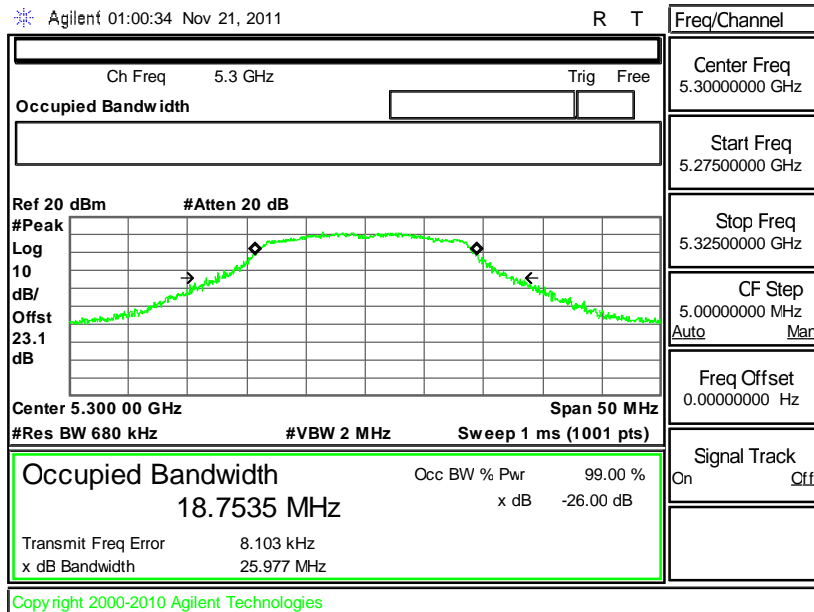




26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 52

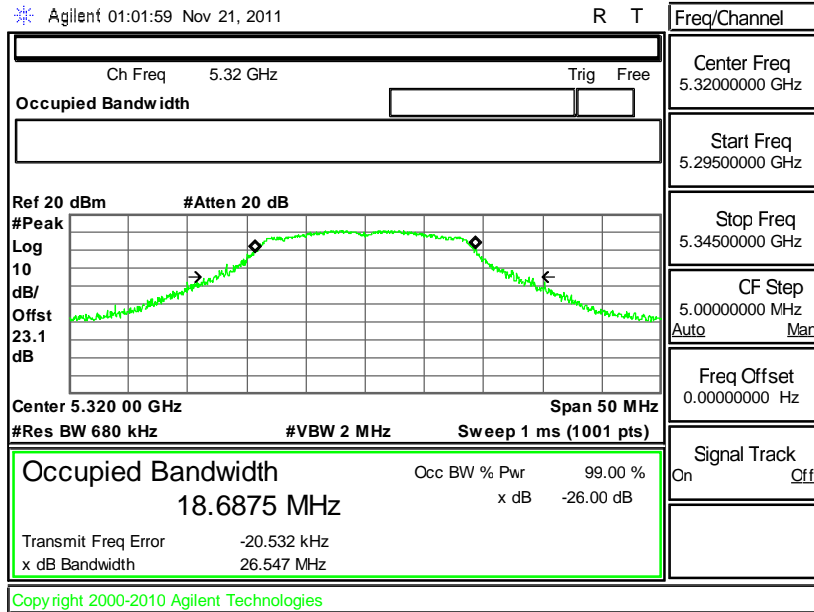


26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 60

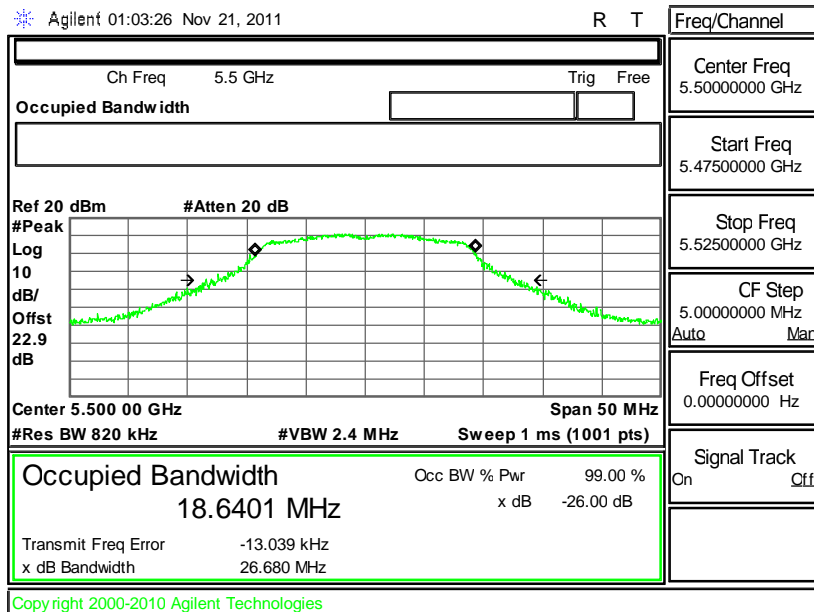




26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 64

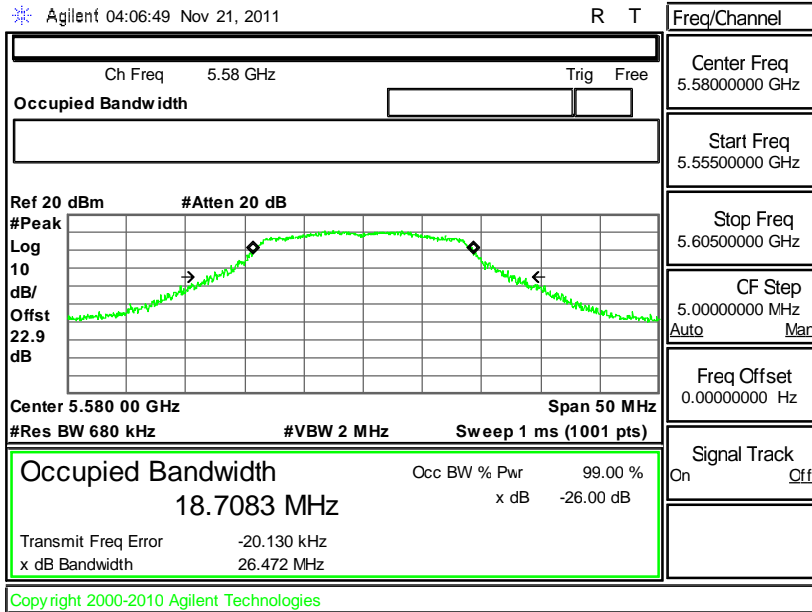


26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 100

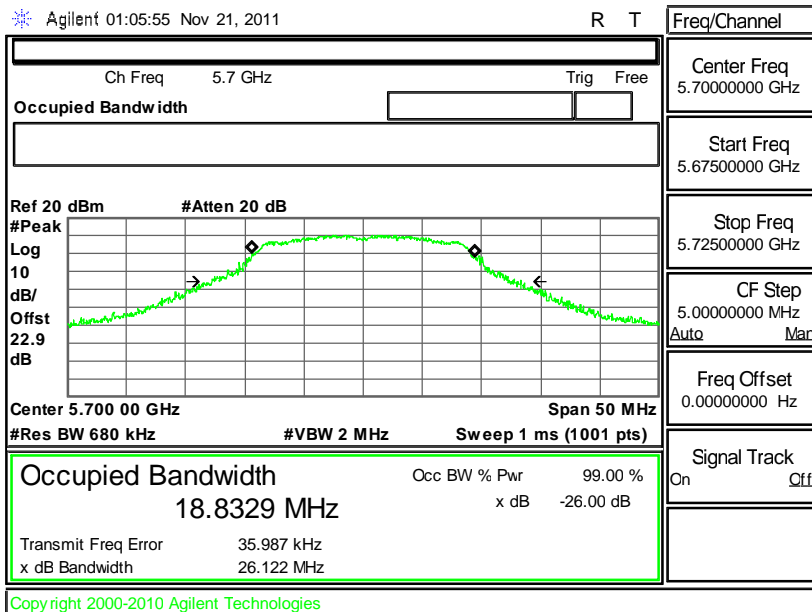




26 dB Bandwidth Plot on 802.11a Channel 116



26 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 140





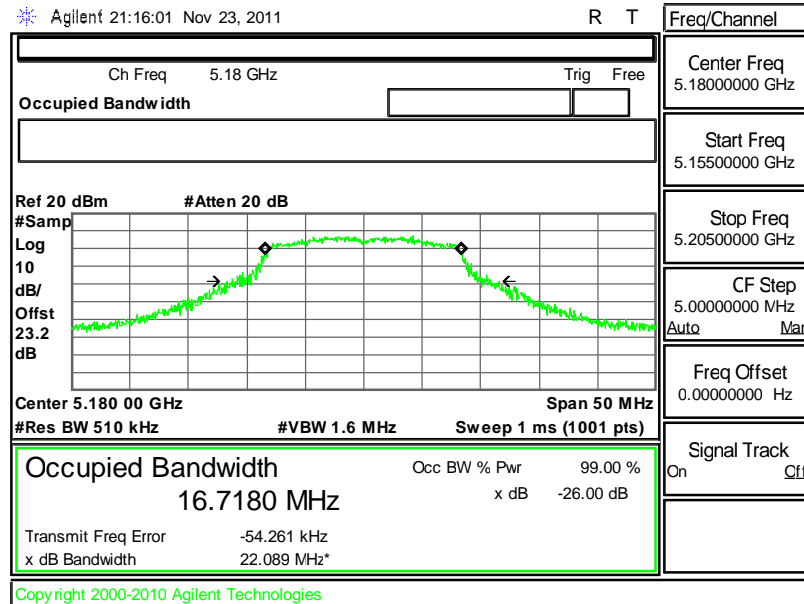
3.1.5 Test Result of 99% Bandwidth Plots

Test Mode :	Mode 1~9	Temperature :	24~26°C
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Channel	Frequency (MHz)	802.11a 99% Bandwidth (MHz)	Pass/Fail
36	5180	16.7180	N/A
44	5220	16.7631	N/A
48	5240	16.8058	N/A
52	5260	16.7266	N/A
60	5300	16.7565	N/A
64	5320	16.6928	N/A
100	5500	16.7806	N/A
116	5580	16.7586	N/A
140	5700	16.7078	N/A

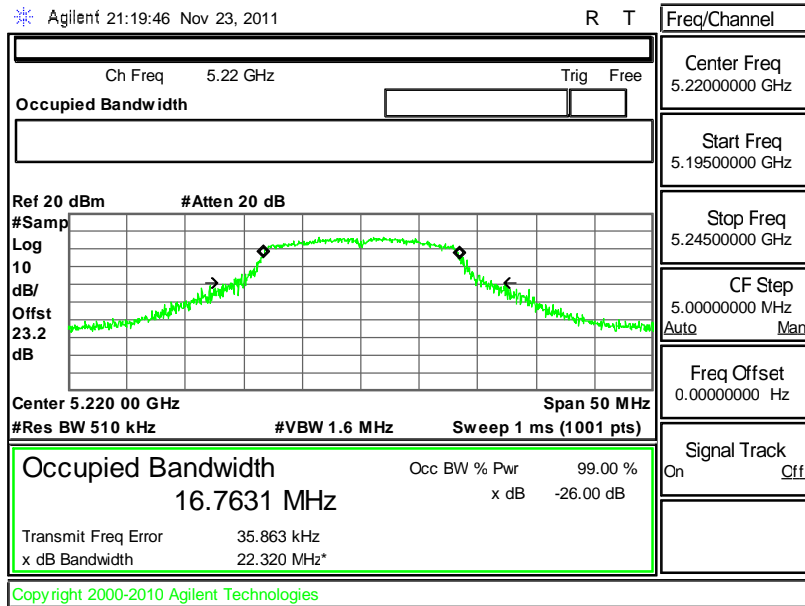
Note: N/A, 99% Bandwidth is reporting only.

99% Bandwidth Plot on 802.11a Channel 36

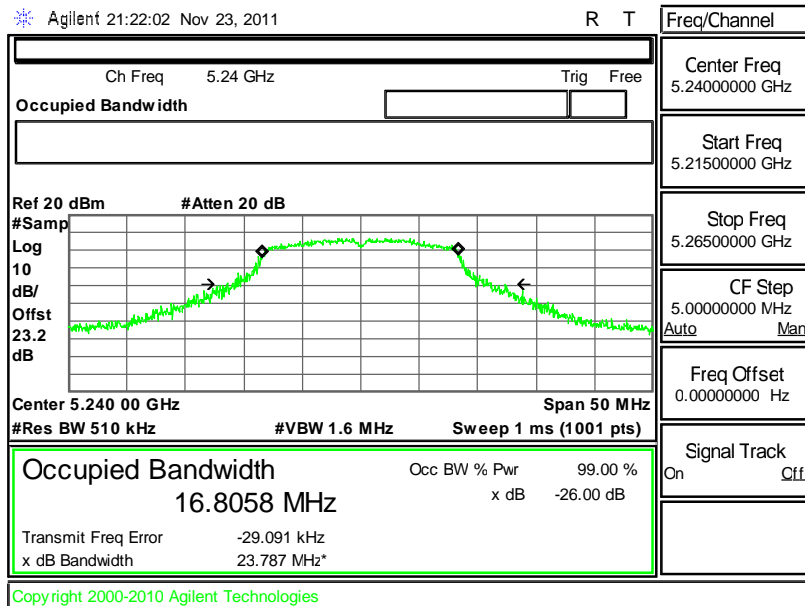




99% Bandwidth Plot on 802.11a Channel 44

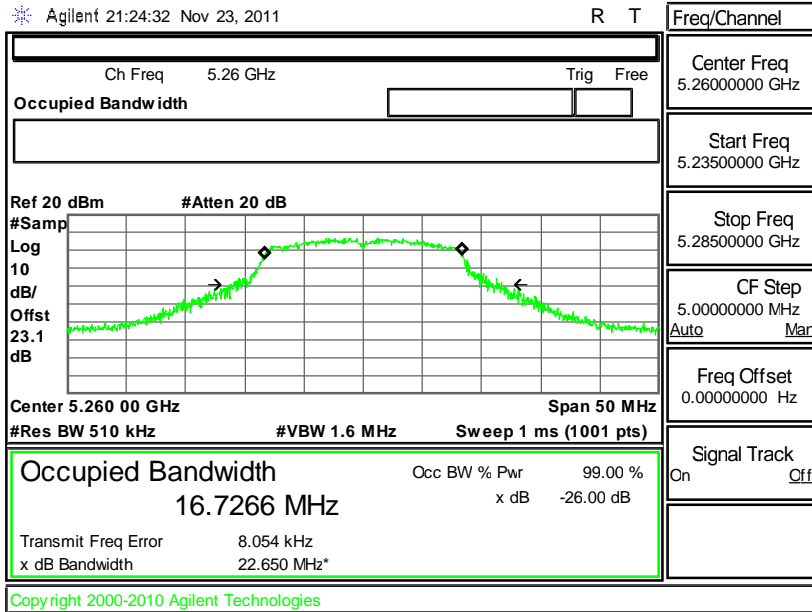


99% Bandwidth Plot on 802.11a Channel 48

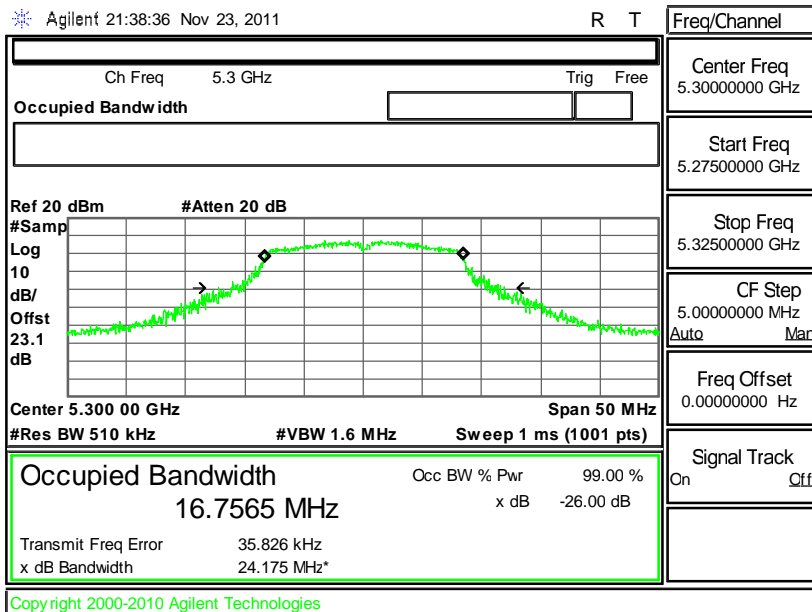




99% Bandwidth Plot on 802.11a Channel 52

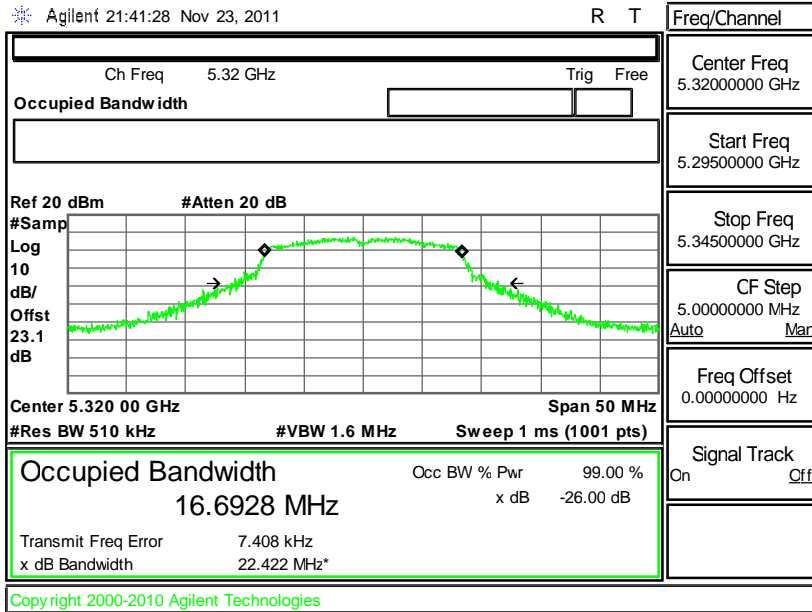


99% Bandwidth Plot on 802.11a Channel 60

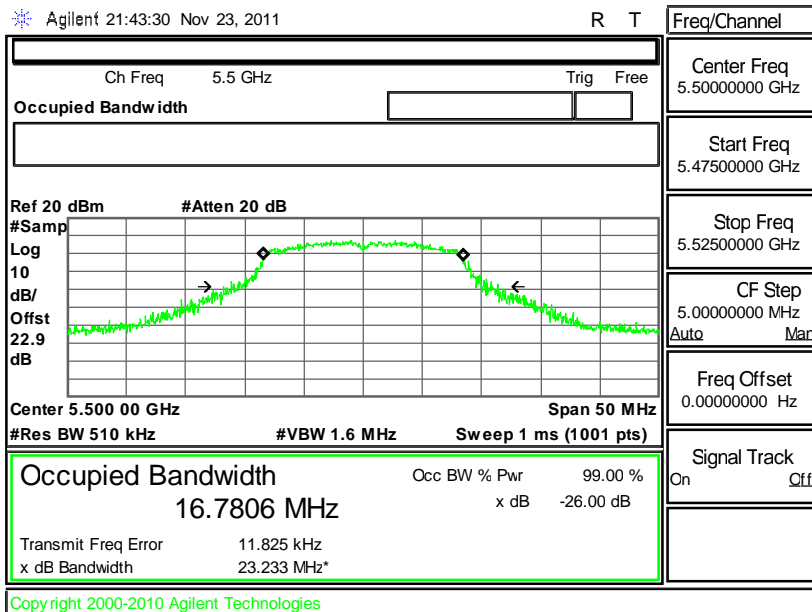




99% Bandwidth Plot on 802.11a Channel 64

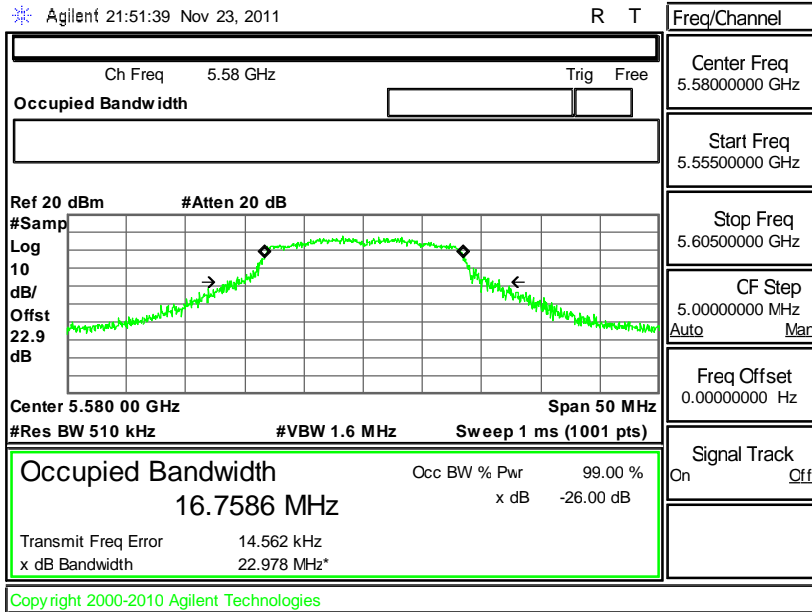


99% Bandwidth Plot on 802.11a Channel 100

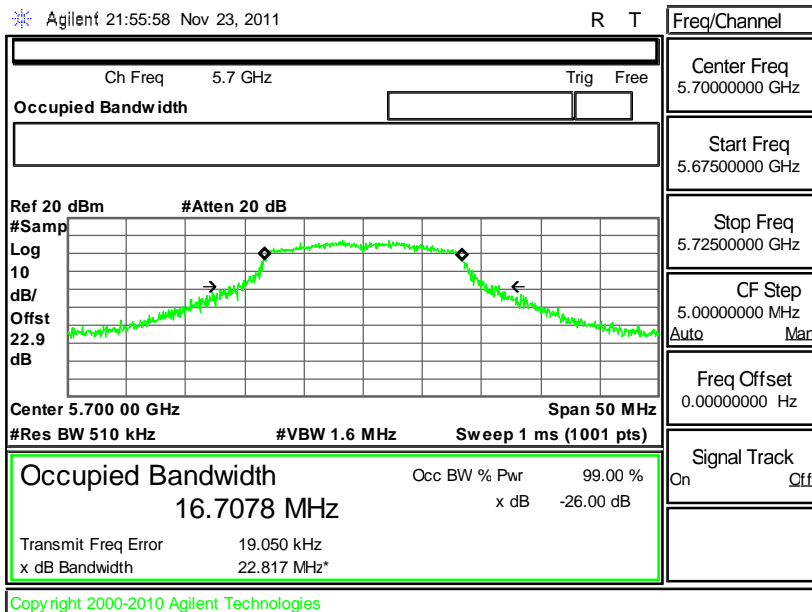




99% Bandwidth Plot on 802.11a Channel 116



99% Bandwidth Plot on 802.11a Channel 140



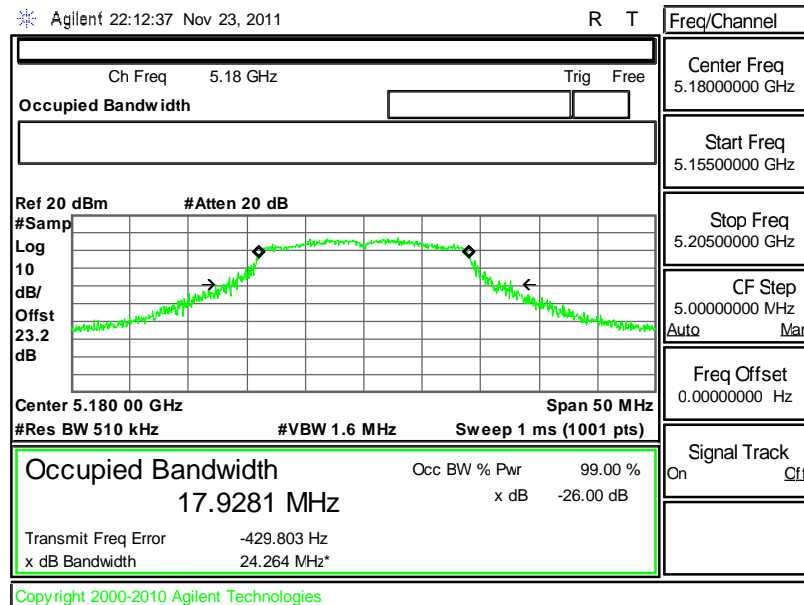


Test Mode :	Mode 10~18	Temperature :	24~26°C
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 99% Bandwidth (MHz)	Pass/Fail
36	5180	17.9281	N/A
44	5220	17.9474	N/A
48	5240	17.8649	N/A
52	5260	17.8852	N/A
60	5300	17.9077	N/A
64	5320	17.8679	N/A
100	5500	17.8535	N/A
116	5580	17.9012	N/A
140	5700	17.9332	N/A

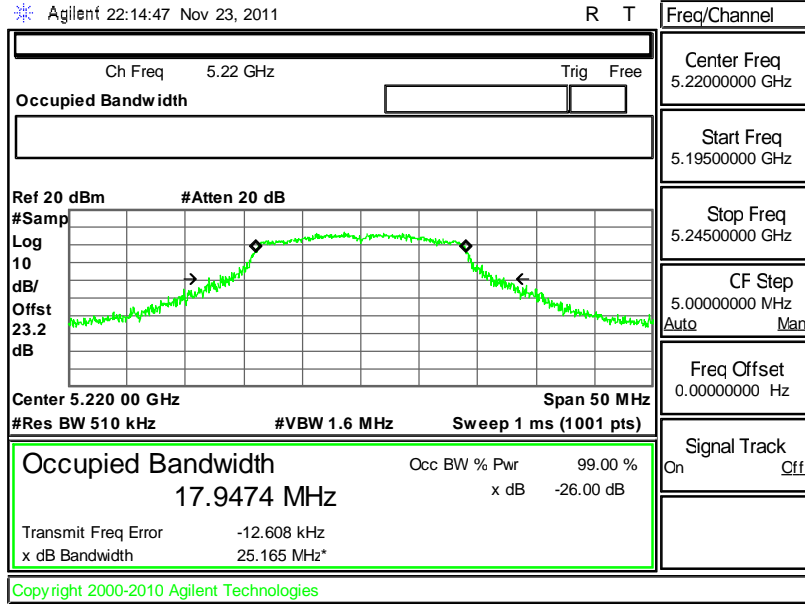
Note: N/A, 99% Bandwidth is reporting only.

99% Bandwidth Plot on 802.11n (BW 20MHz) Channel 36

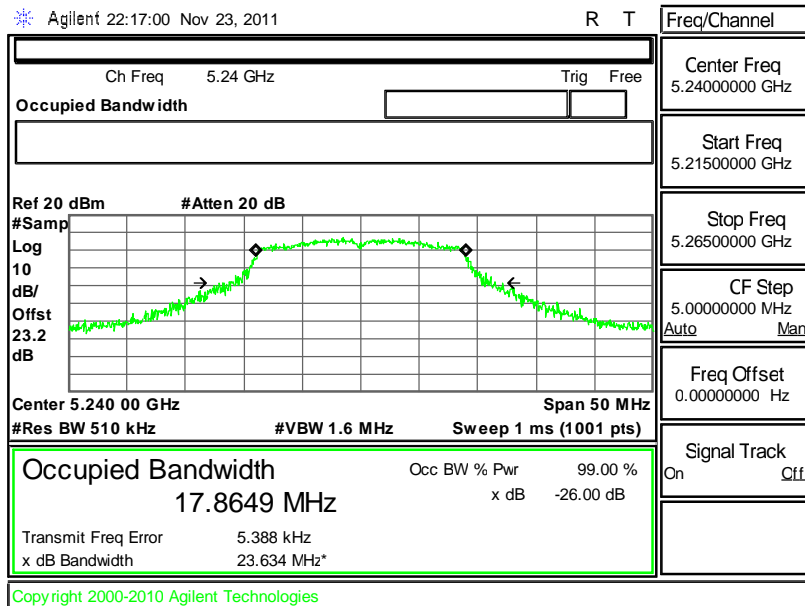




99% Bandwidth Plot on 802.11n (BW 20MHz) Channel 44

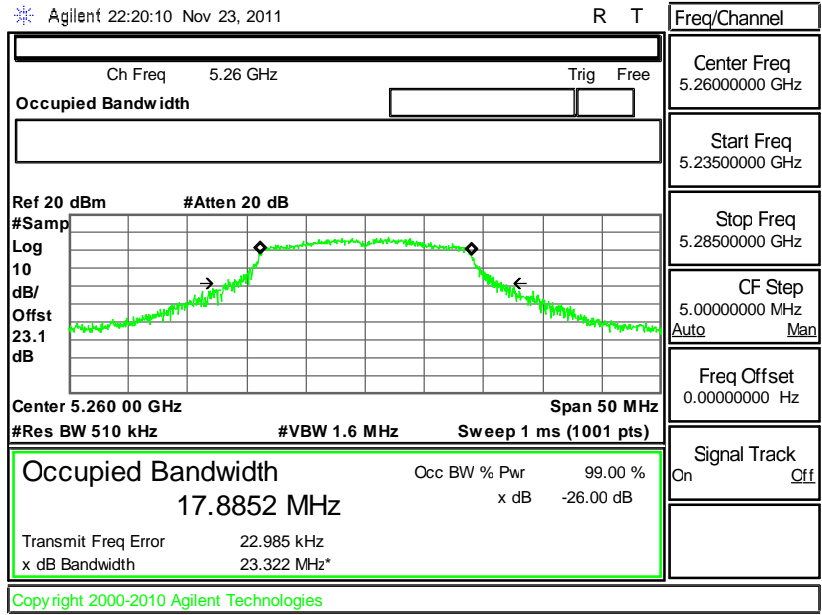


99% Bandwidth Plot on 802.11n (BW 20MHz) Channel 48

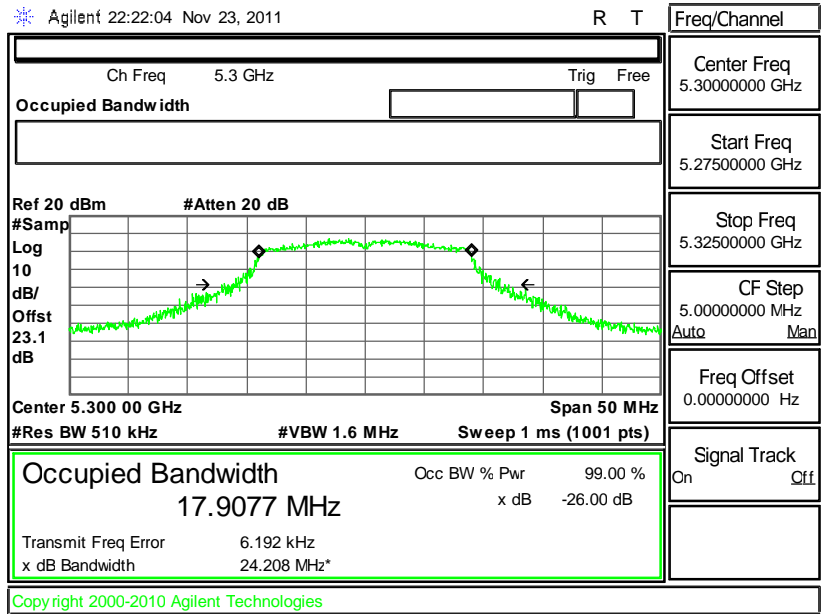




99% Bandwidth Plot on 802.11n (BW 20MHz) Channel 52

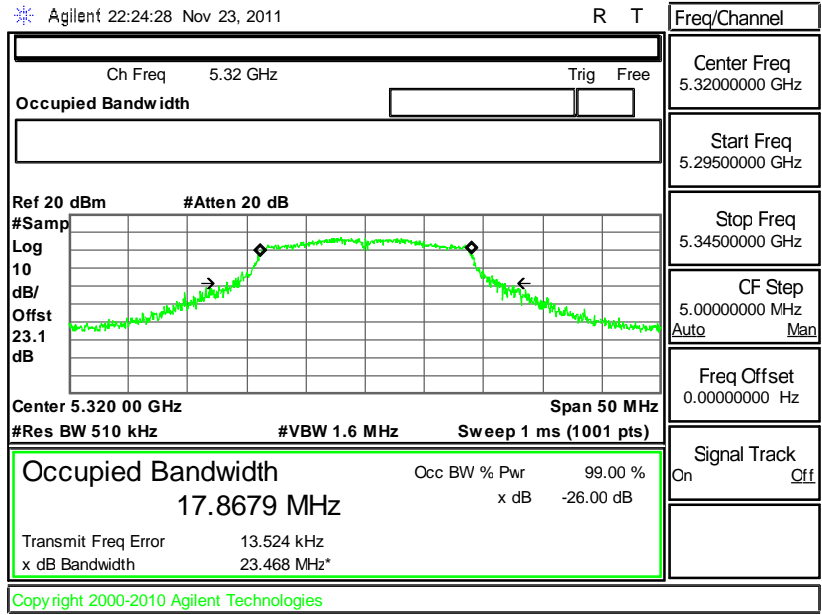


99% Bandwidth Plot on 802.11n (BW 20MHz) Channel 60

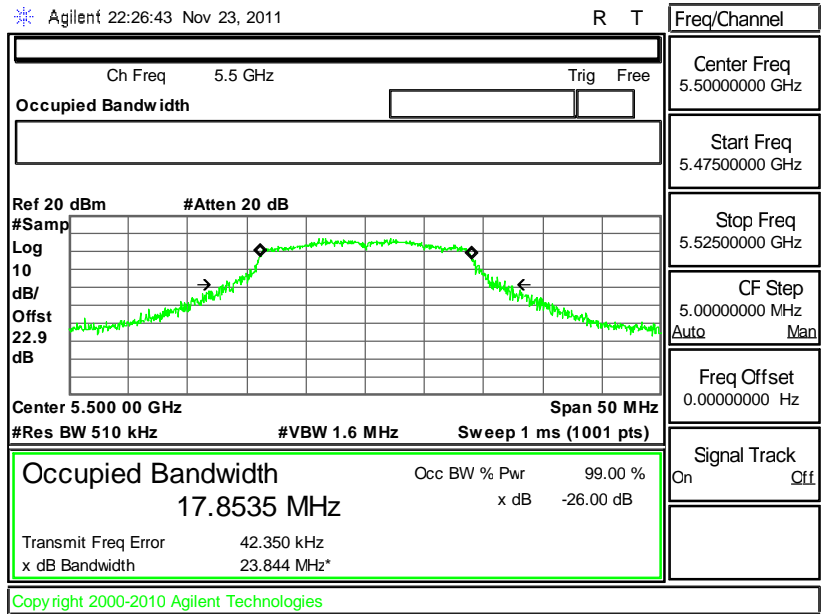




99% Bandwidth Plot on 802.11n (BW 20MHz) Channel 64

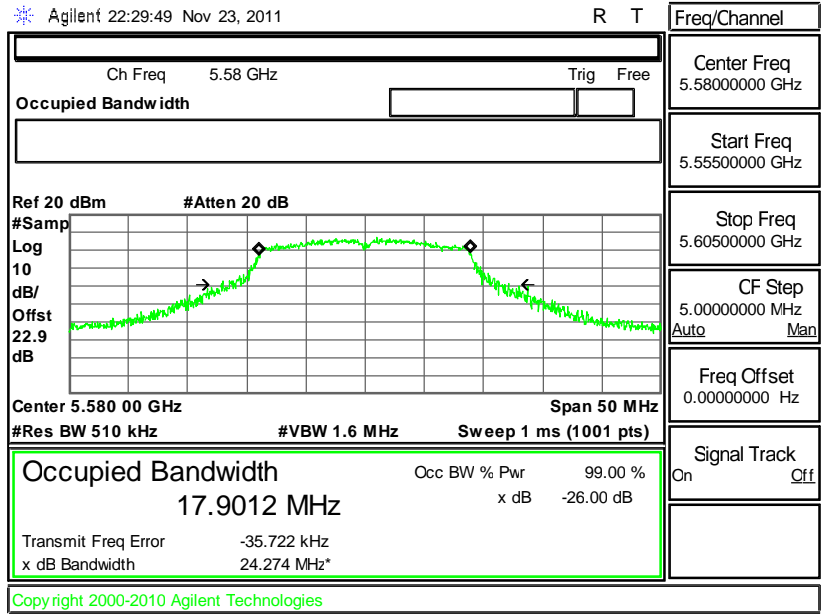


99% Bandwidth Plot on 802.11n (BW 20MHz) Channel 100

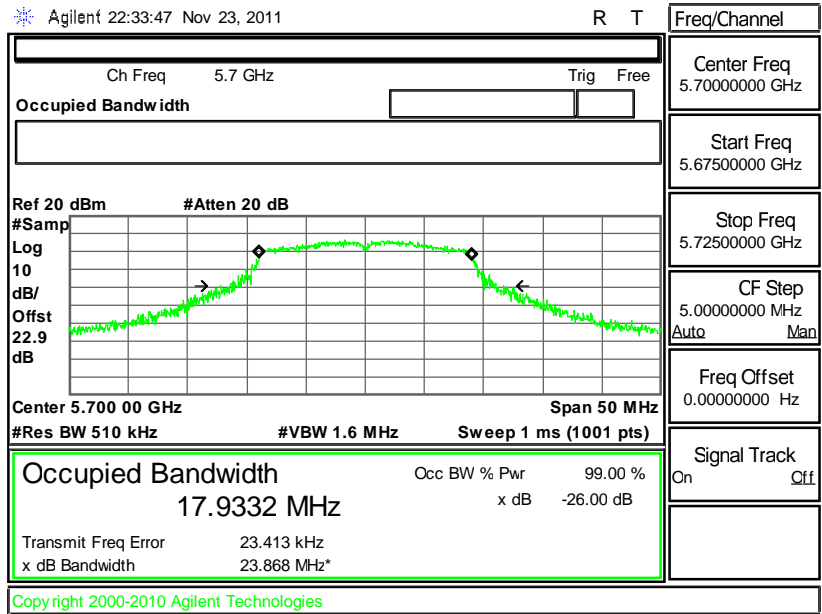




99% Bandwidth Plot on 802.11n (BW 20MHz) Channel 116



99% Bandwidth Plot on 802.11n (BW 20MHz) Channel 140



3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

For the band 5.15~5.25 GHz, the maximum conducted 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.

3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

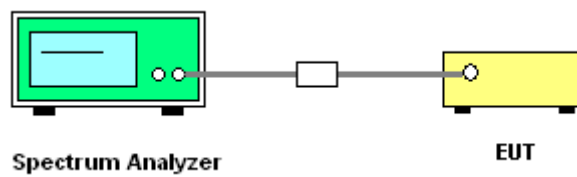
The duty cycle of WLAN 802.11a/n were 100 % for 802.11a and 100 % for 802.11n (BW 20MHz).

1. The testing follows Method SA-1 of FCC KDB 789033 D01 General UNII Test Procedures v01.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW \geq 3 MHz.
 - Number of points in sweep \geq 2 Span / RBW.
 - Sweep time = auto.
 - Detector = sample
 - Trace average at least 100 traces in power averaging mode.
 - Compute power by integrating the spectrum across the 26 dB EBW of the signal using the spectrum analyzer's band power measurement function with band limits set equal to the EBW band edges. If the spectrum analyzer does not have a band power function, sum the spectrum levels at 1 MHz intervals extending across the 26 dB EBW of the spectrum.

2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable, as below example,
For 802.11a Channel 36, the final power in test report is 13.67 dBm which is the reading of spectrum analyzer with offset cable loss (2.1 dB), and attenuator loss (21.1 dB).

3. Measure the power and record it.

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Test Mode :	Mode 1~9	Temperature :	24~26°C
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Channel	Frequency (MHz)	Measured Power Output (dBm)	Max. Limits (dBm)	Pass/Fail
36	5180	13.67	17	Pass
44	5220	13.51	17	Pass
48	5240	13.70	17	Pass
52	5260	13.57	24	Pass
60	5300	13.83	24	Pass
64	5320	14.11	24	Pass
100	5500	13.74	24	Pass
116	5580	13.40	24	Pass
140	5700	13.39	24	Pass

Note:

1. For the band 5.15~5.25 GHz, the maximum conducted output power shall not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log (26dB BW)
2. 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 dBm + 10log (26dB BW).



Test Mode :	Mode 10~18	Temperature :	24~26°C
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Channel	Frequency (MHz)	Measured Power Output (dBm)	Max. Limits (dBm)	Pass/Fail
36	5180	13.61	17	Pass
44	5220	13.91	17	Pass
48	5240	13.59	17	Pass
52	5260	13.42	24	Pass
60	5300	13.64	24	Pass
64	5320	13.82	24	Pass
100	5500	13.50	24	Pass
116	5580	13.43	24	Pass
140	5700	13.15	24	Pass

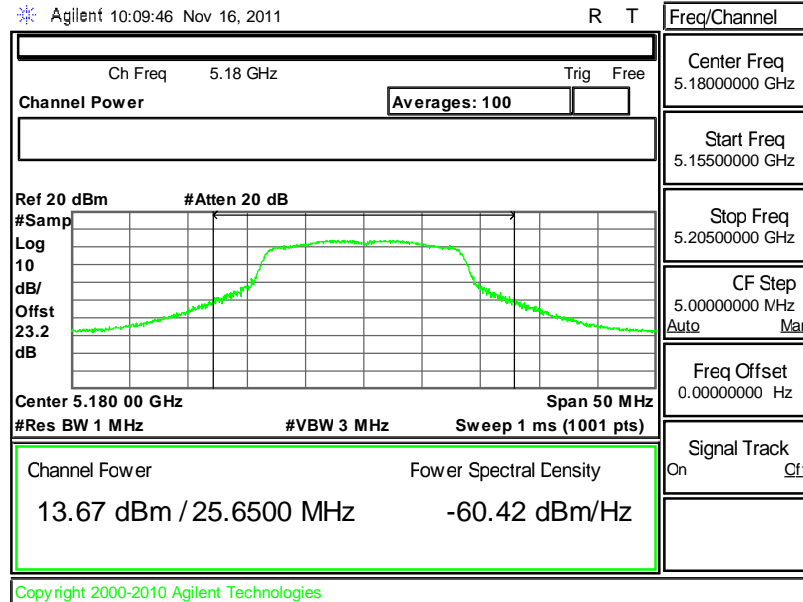
Note:

1. For the band 5.15~5.25 GHz, the maximum conducted output power shall not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log (26dB BW)
2. 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 dBm + 10log (26dB BW)



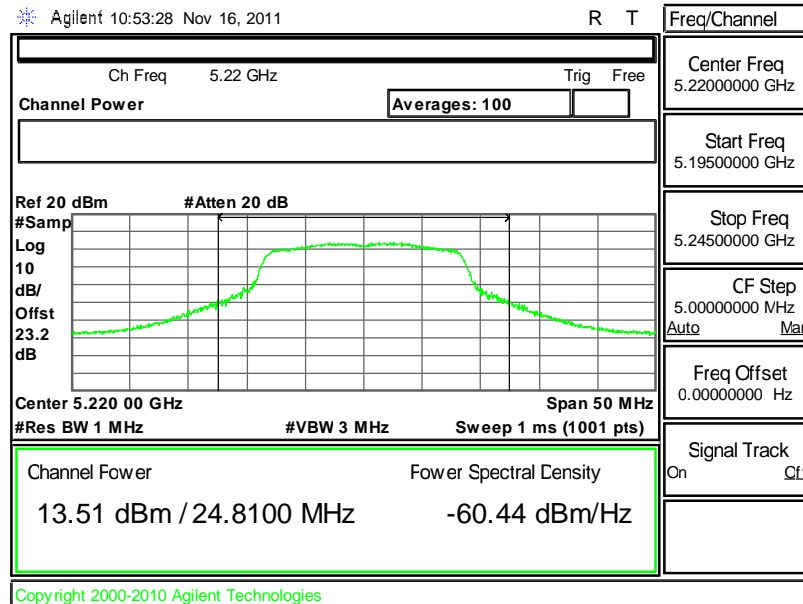
3.2.6 Test Result of Power Output Plots

Output Power Plot on 802.11a Channel 36



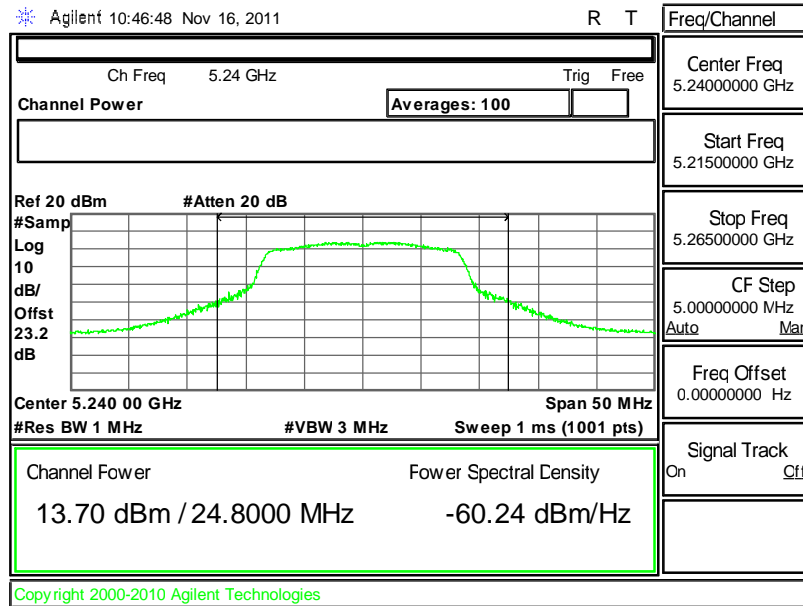
Total path loss 23.2 dB (cable loss: 2.1dB, attenuator: 21.1dB)

Output Power Plot on 802.11a Channel 44

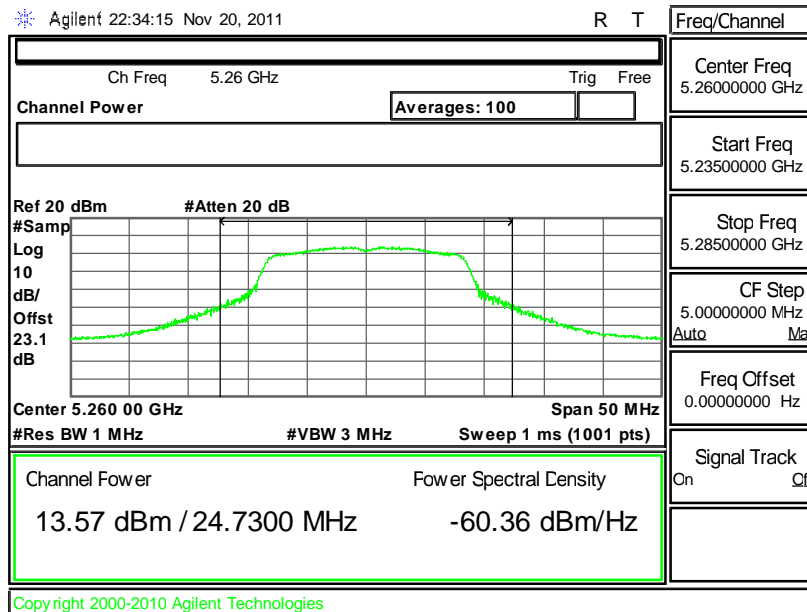




Output Power Plot on 802.11a Channel 48



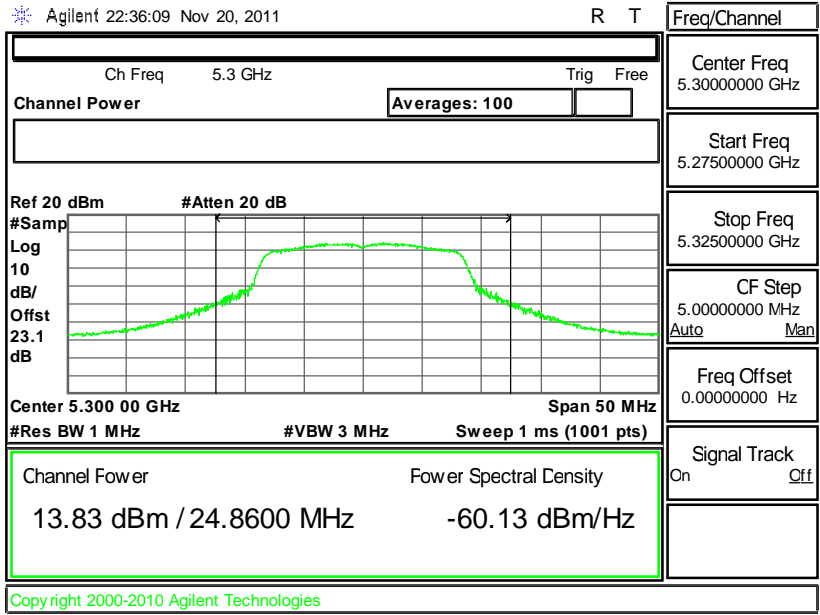
Output Power Plot on 802.11a Channel 52



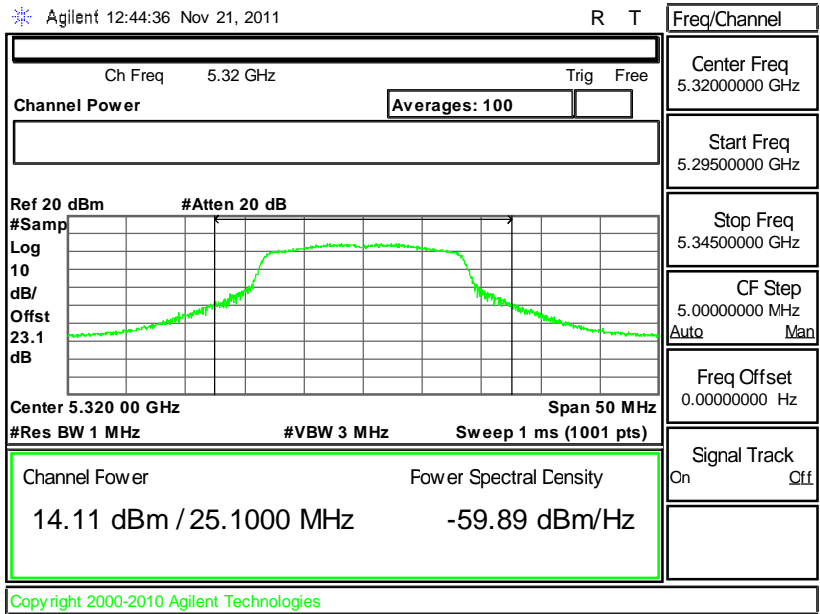
Total path loss 23.1 dB (cable loss: 2.1dB, attenuator: 21.0dB)



Output Power Plot on 802.11a Channel 60

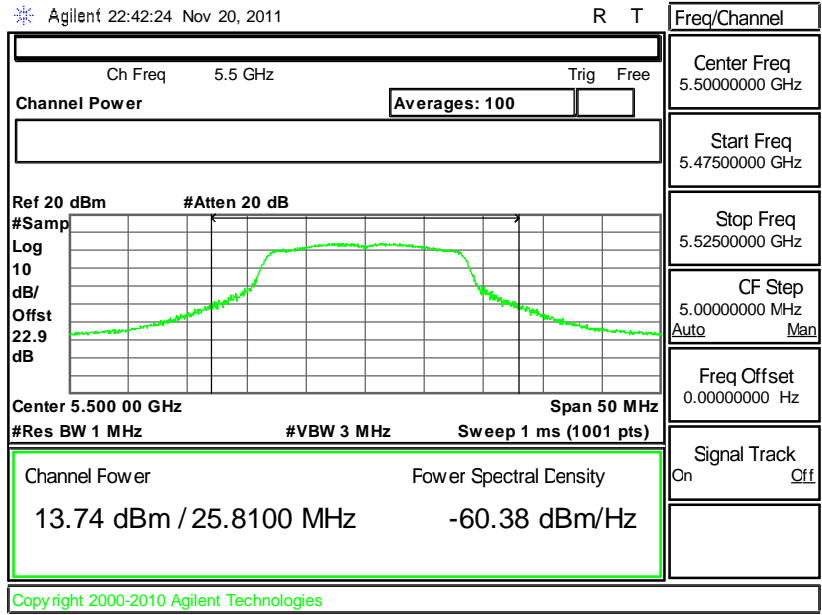


Output Power Plot on 802.11a Channel 64



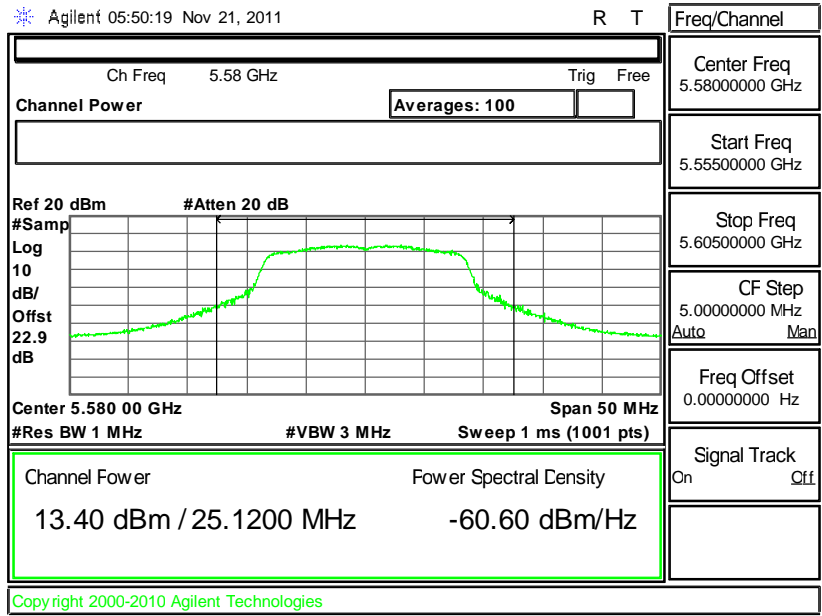


Output Power Plot on 802.11a Channel 100



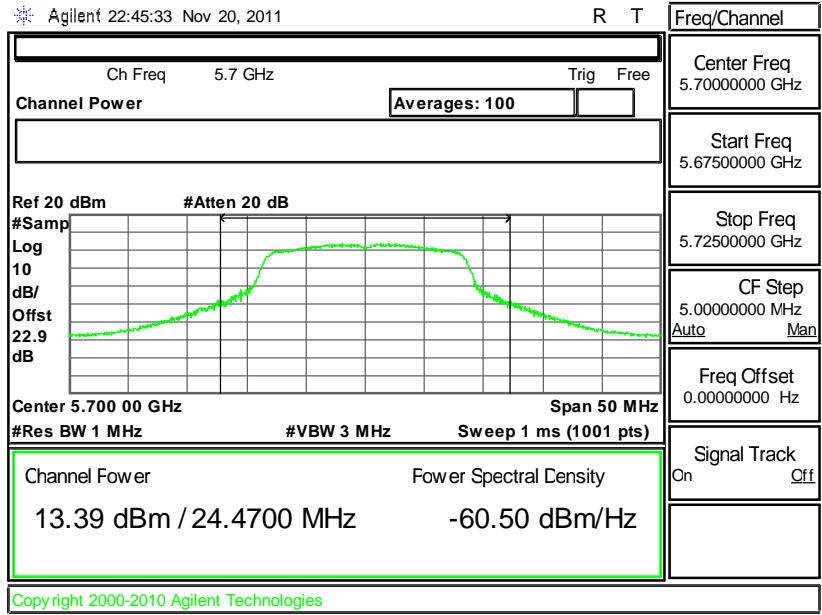
Total path loss 22.9 dB (cable loss: 2.1dB, attenuator: 20.8dB)

Output Power Plot on 802.11a Channel 116

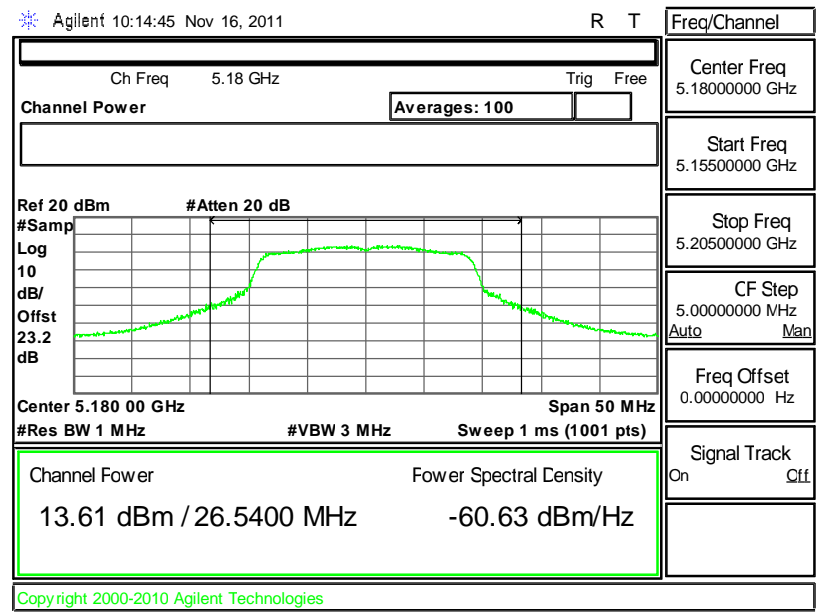




Output Power Plot on 802.11a Channel 140



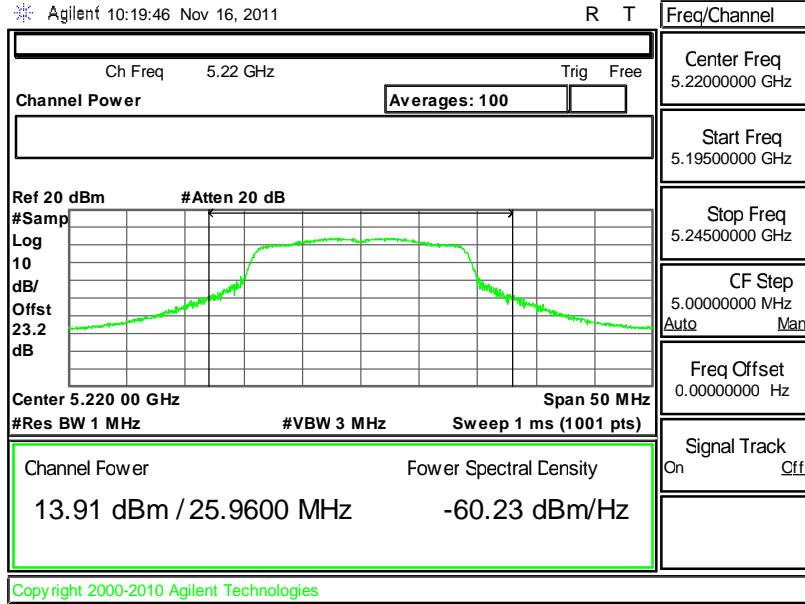
Output Power Plot on 802.11n (BW 20MHz) Channel 36



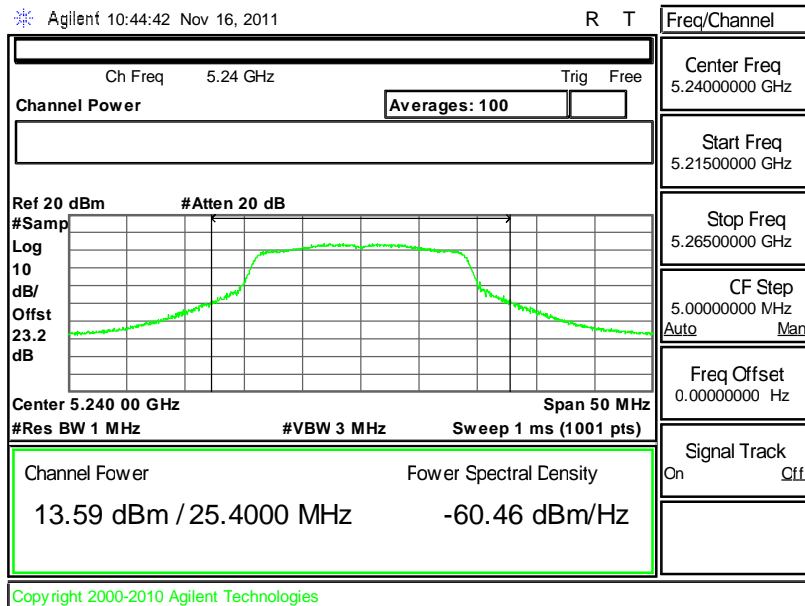
Total path loss 23.2 dB (cable loss: 2.1dB, attenuator: 21.1dB)



Output Power Plot on 802.11n (BW 20MHz) Channel 44

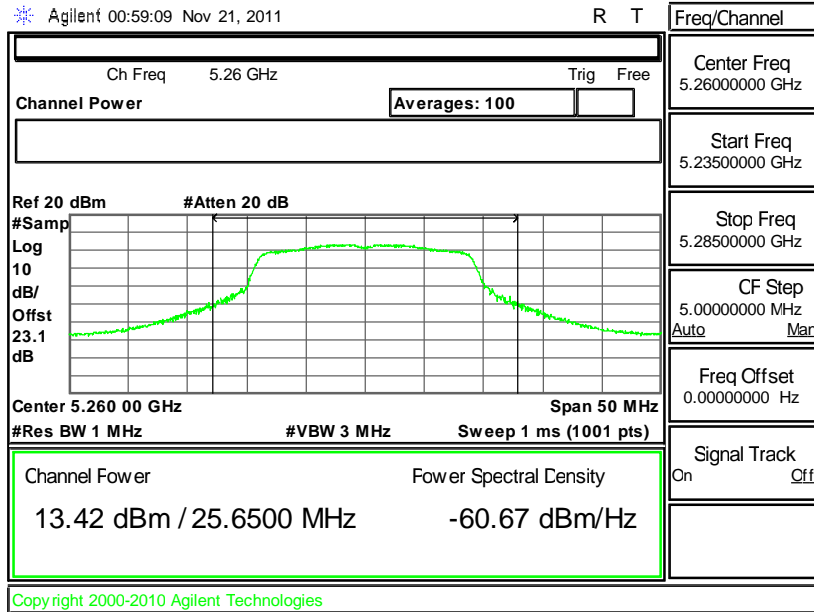


Output Power Plot on 802.11n (BW 20MHz) Channel 48



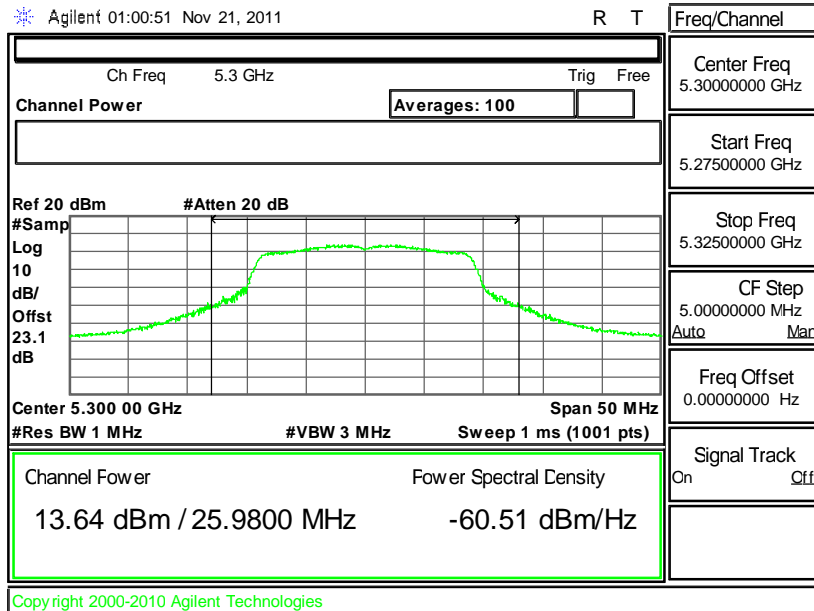


Output Power Plot on 802.11n (BW 20MHz) Channel 52



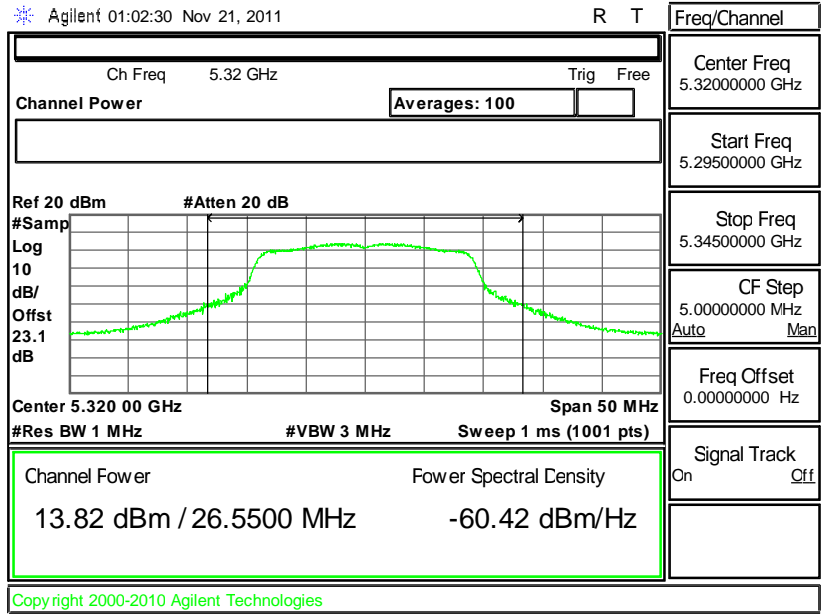
Total path loss 23.1 dB (cable loss: 2.1dB, attenuator: 21.0dB)

Output Power Plot on 802.11n (BW 20MHz) Channel 60

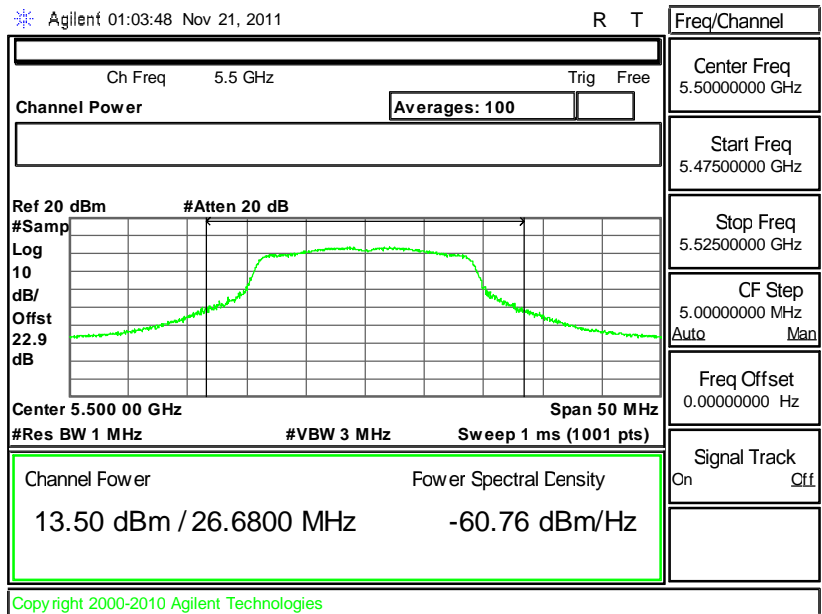




Output Power Plot on 802.11n (BW 20MHz) Channel 64



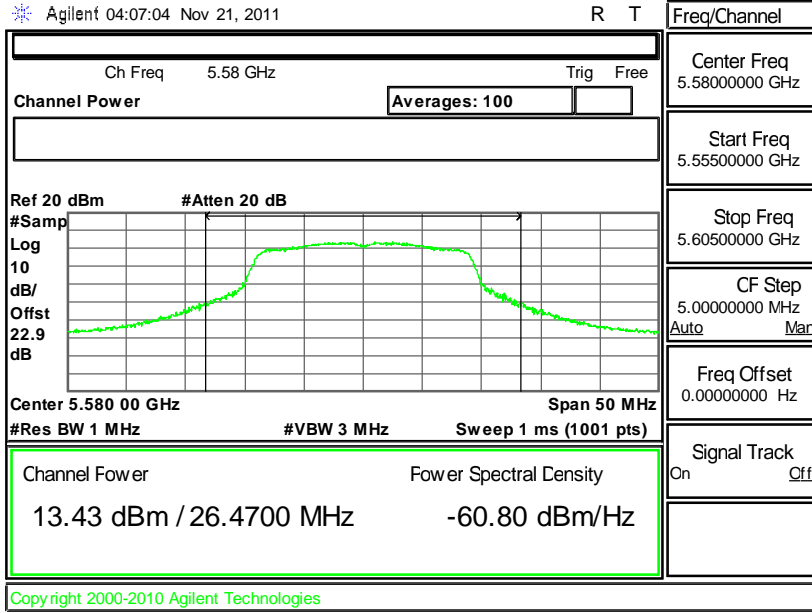
Output Power Plot on 802.11n (BW 20MHz) Channel 100



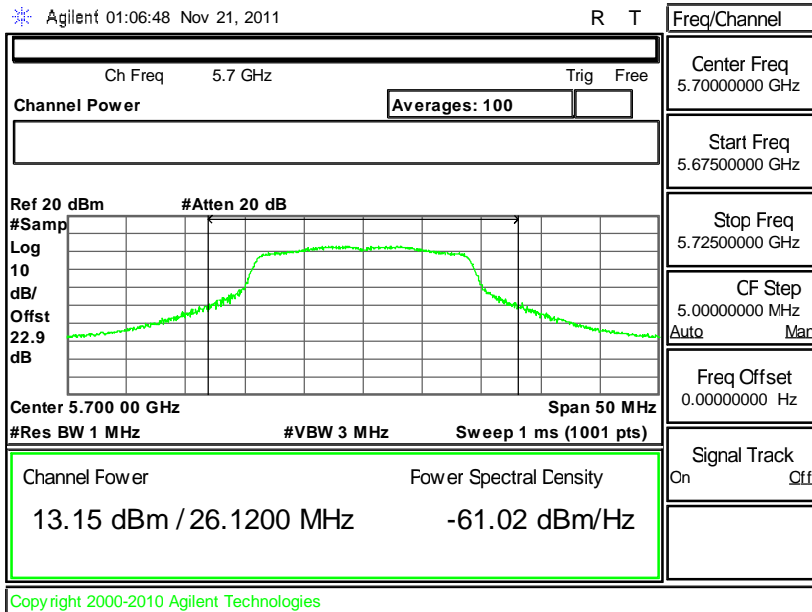
Total path loss 22.9 dB (cable loss: 2.1dB, attenuator: 20.8dB)



Output Power Plot on 802.11n (BW 20MHz) Channel 116



Output Power Plot on 802.11n (BW 20MHz) Channel 140



3.3 Power Spectral Density Measurement

3.3.1 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.

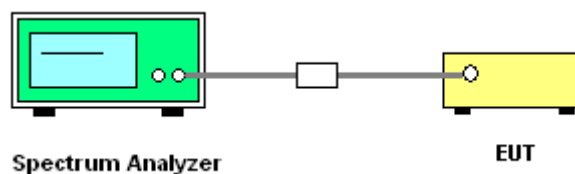
3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

1. The testing follows Method SA-1 of FCC KDB 789033 D01 General UNII Test Procedures v01.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW \geq 3 MHz.
 - Number of points in sweep \geq 2 Span / RBW.
 - Sweep time = auto.
 - Detector = sample
 - Trace average at least 100 traces in power averaging mode.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

3.3.4 Test Setup



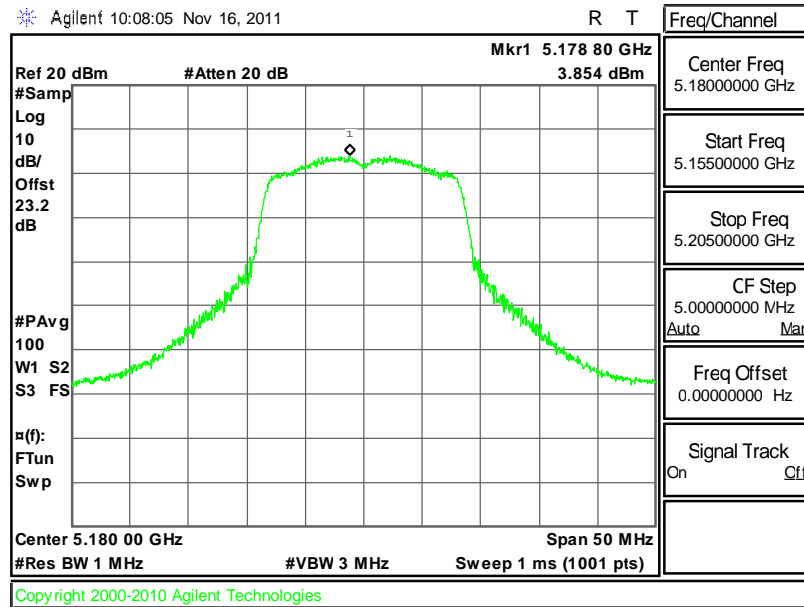


3.3.5 Test Result of Power Spectral Density

Test Mode :	Mode 1~9	Temperature :	24~26°C
Test Engineer :	Book Lin	Relative Humidity :	45~49%

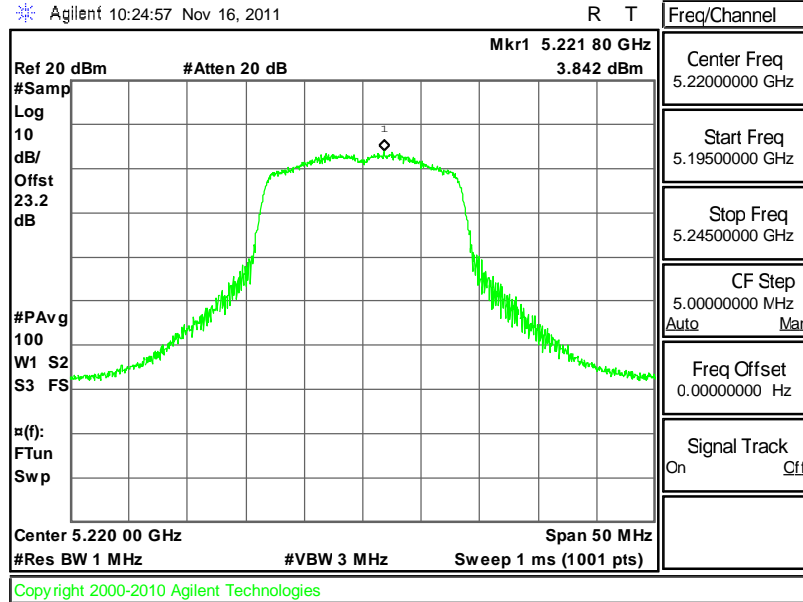
Channel	Frequency (MHz)	Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
36	5180	3.854	4	Pass
44	5220	3.842	4	Pass
48	5240	3.824	4	Pass
52	5260	3.505	11	Pass
60	5300	3.835	11	Pass
64	5320	4.204	11	Pass
100	5500	3.888	11	Pass
116	5580	4.107	11	Pass
140	5700	3.691	11	Pass

PSD Plot on 802.11a Channel 36

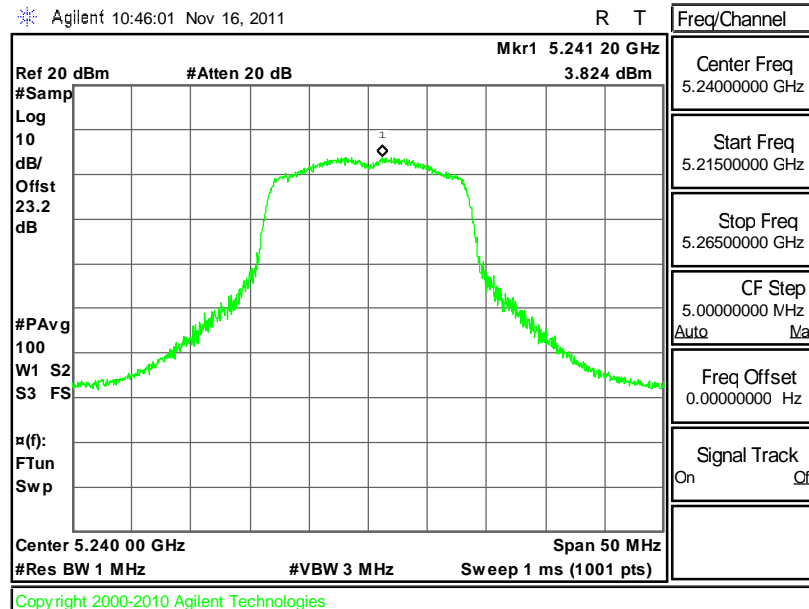




PSD Plot on 802.11a Channel 44

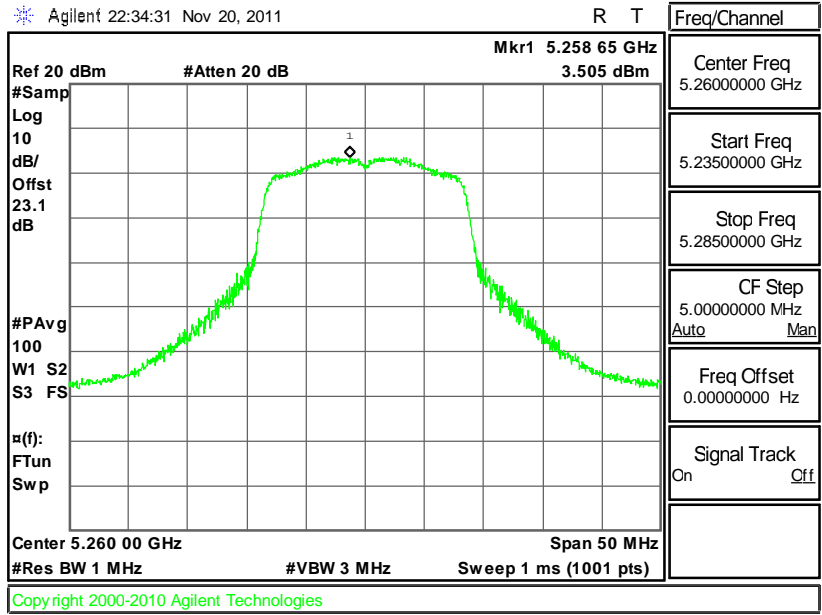


PSD Plot on 802.11a Channel 48

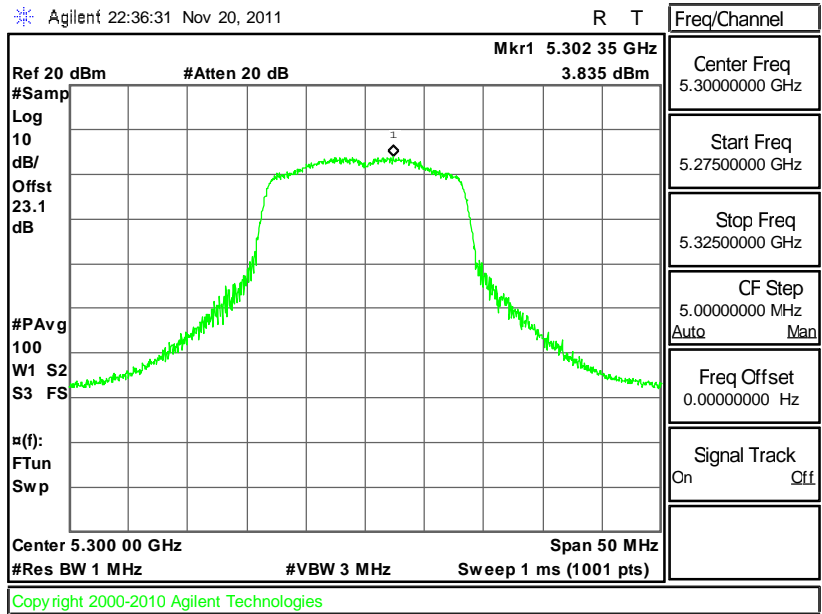




PSD Plot on 802.11a Channel 52

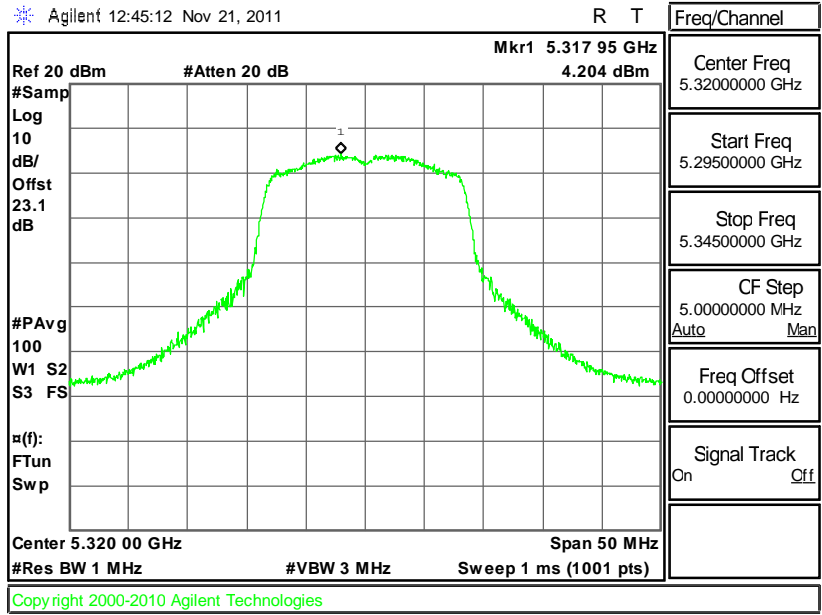


PSD Plot on 802.11a Channel 60

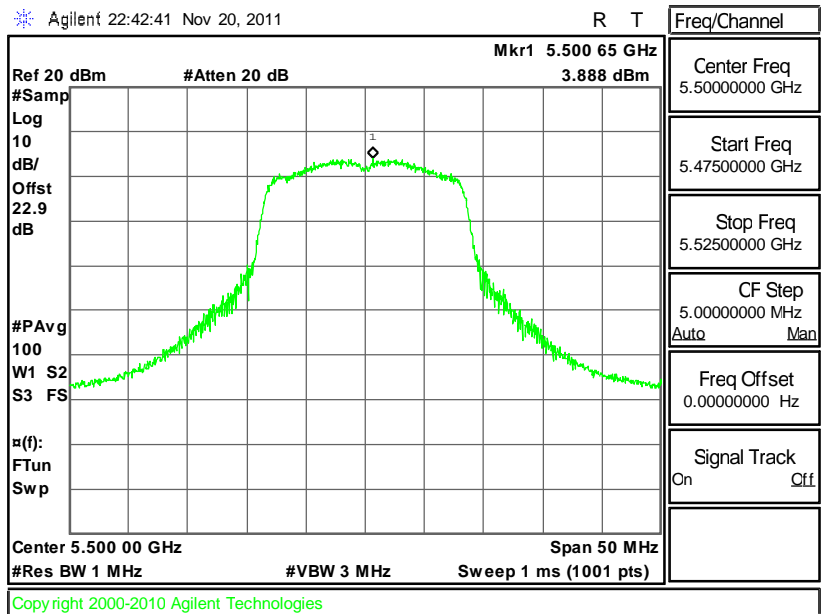




PSD Plot on 802.11a Channel 64

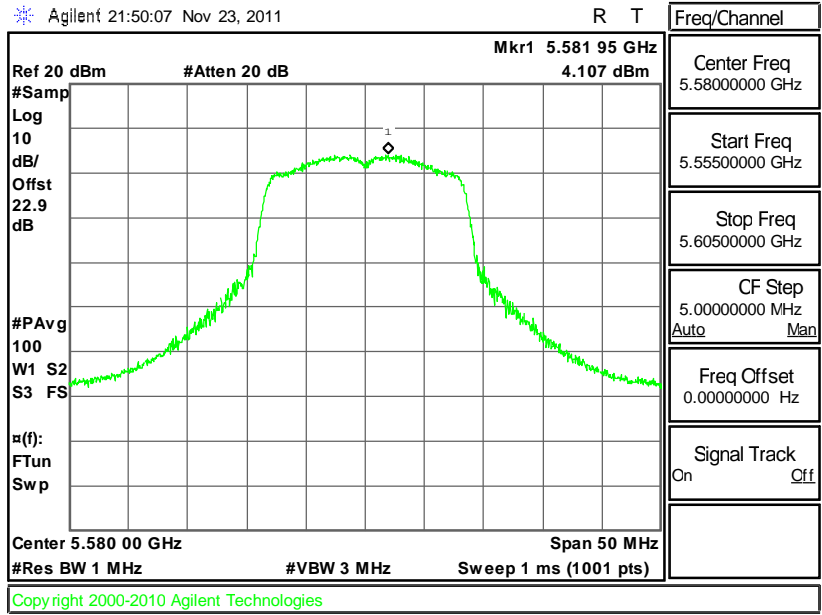


PSD Plot on 802.11a Channel 100

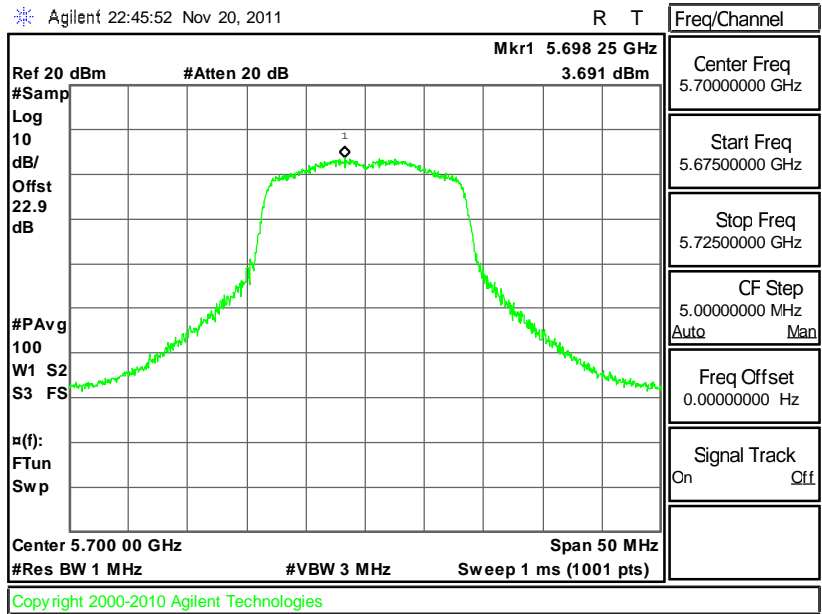




PSD Plot on 802.11a Channel 116



PSD Plot on 802.11a Channel 140

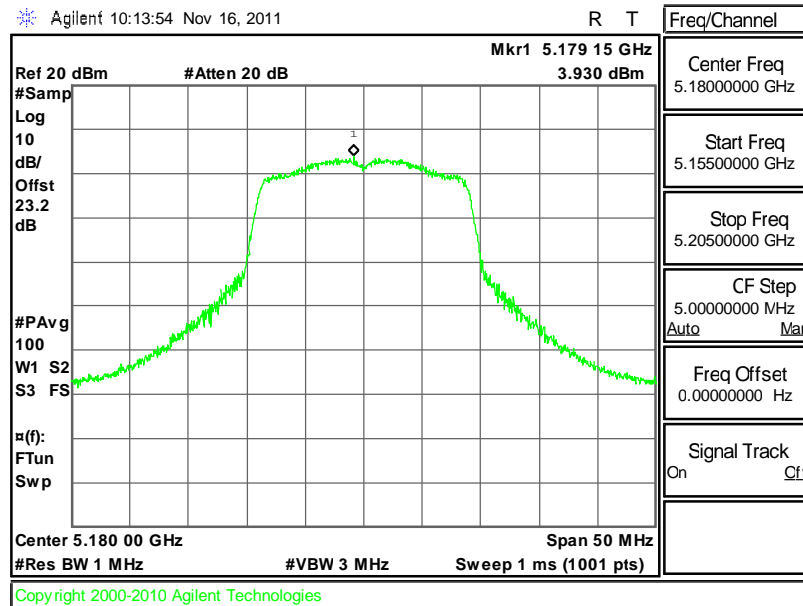




Test Mode :	Mode 10~18	Temperature :	24~26°C
Test Engineer :	Book Lin	Relative Humidity :	45~49%

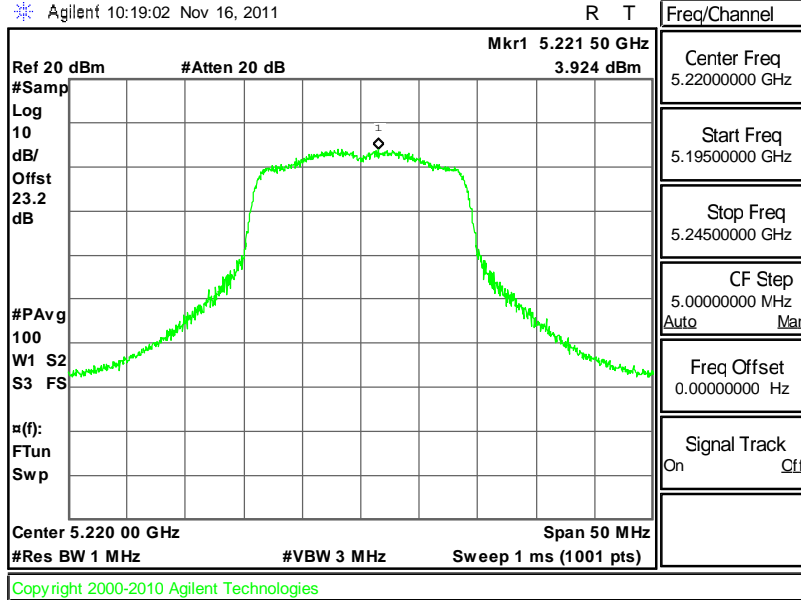
Channel	Frequency (MHz)	Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
36	5180	3.930	4	Pass
44	5220	3.924	4	Pass
48	5240	3.534	4	Pass
52	5260	3.518	11	Pass
60	5300	3.431	11	Pass
64	5320	3.981	11	Pass
100	5500	3.404	11	Pass
116	5580	3.719	11	Pass
140	5700	3.252	11	Pass

PSD Plot on 802.11n (BW 20MHz) Channel 36

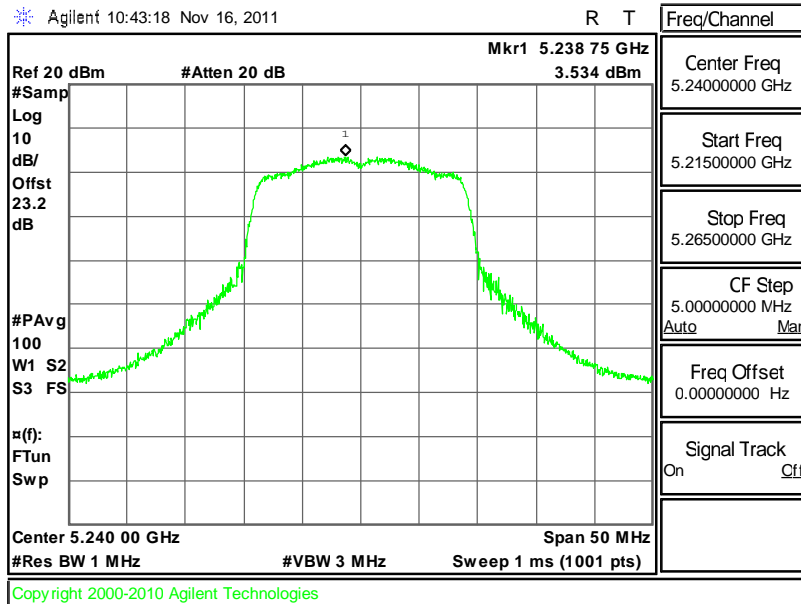




PSD Plot on 802.11n (BW 20MHz) Channel 44

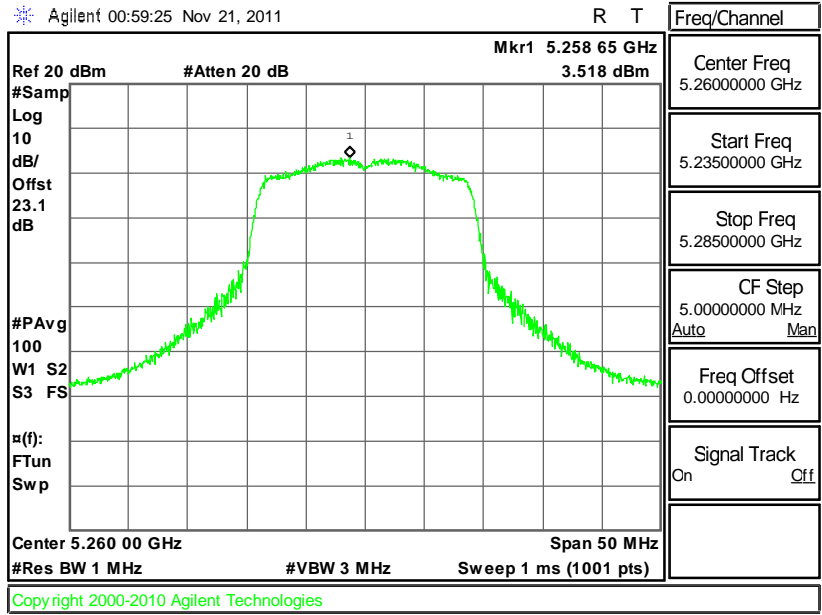


PSD Plot on 802.11n (BW 20MHz) Channel 48

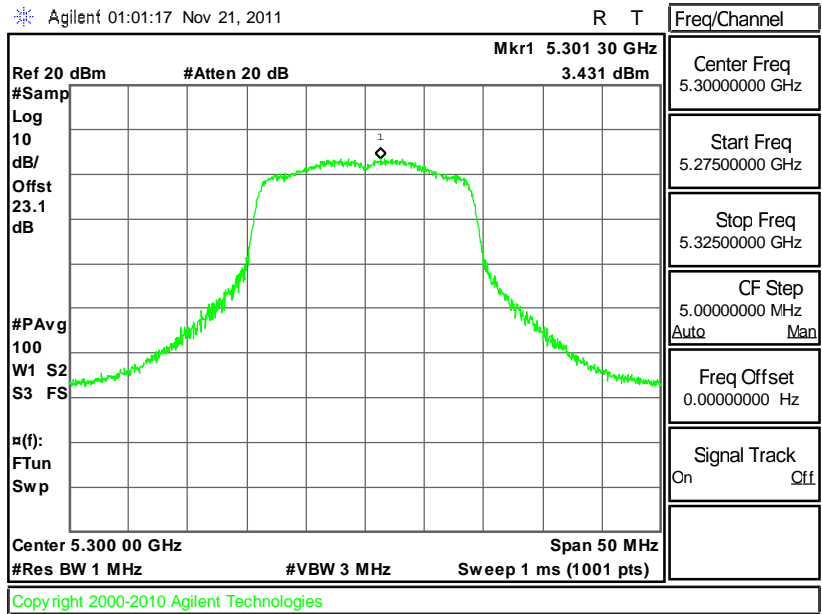




PSD Plot on 802.11n (BW 20MHz) Channel 52

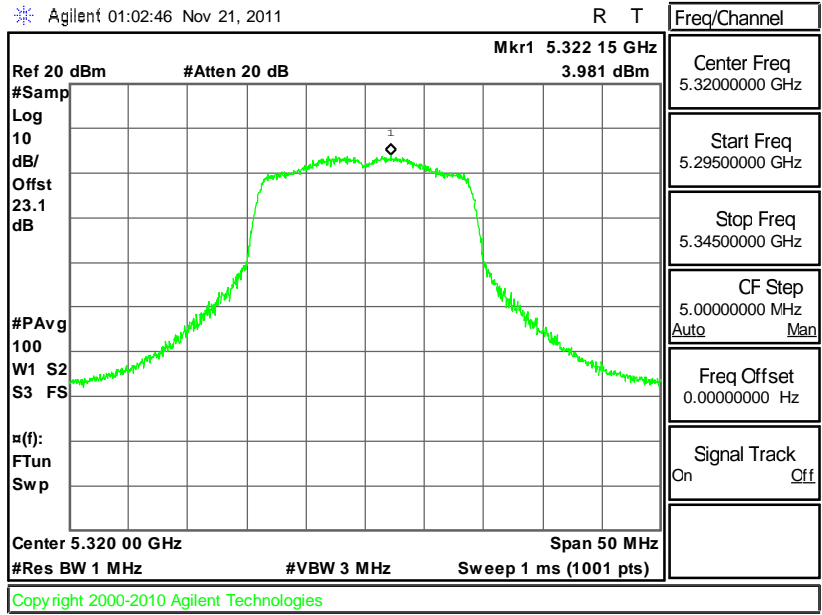


PSD Plot on 802.11n (BW 20MHz) Channel 60

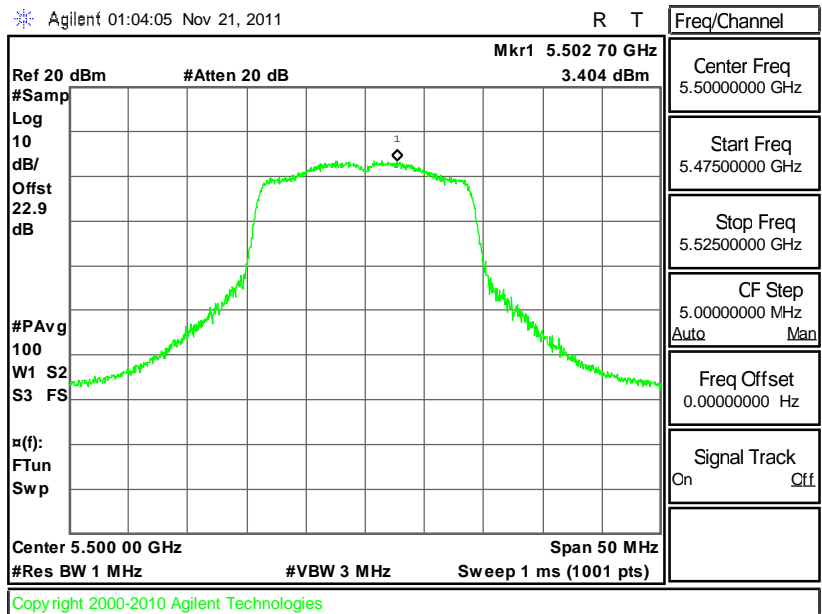




PSD Plot on 802.11n (BW 20MHz) Channel 64

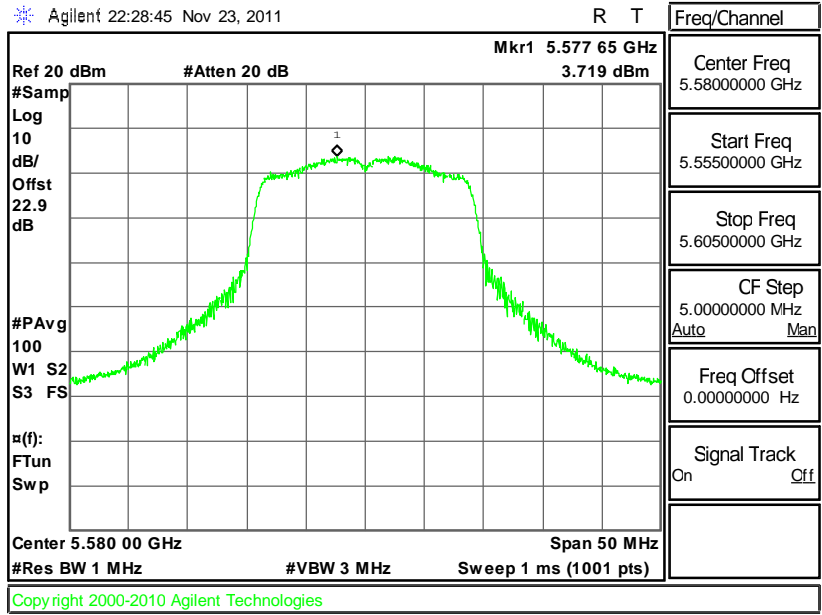


PSD Plot on 802.11n (BW 20MHz) Channel 100

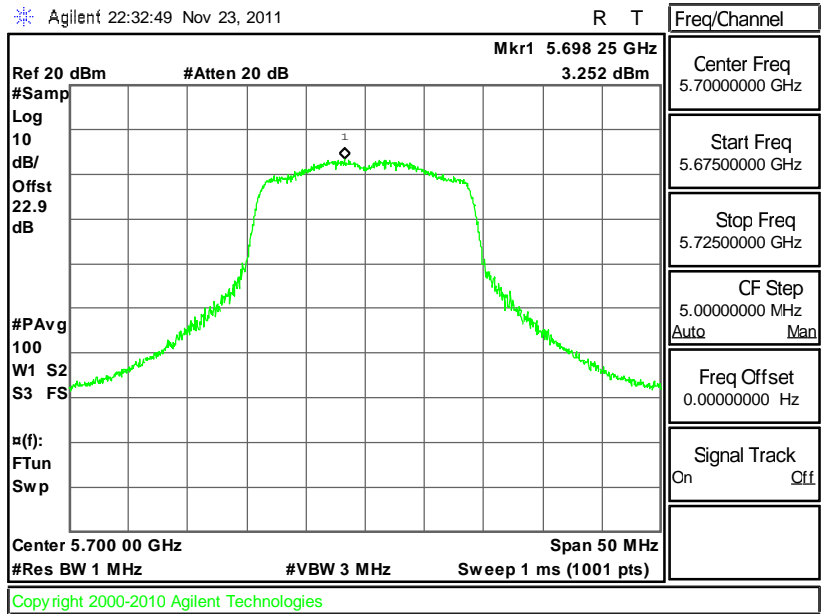




PSD Plot on 802.11n (BW 20MHz) Channel 116



PSD Plot on 802.11n (BW 20MHz) Channel 140



3.4 AC Conducted Emission Measurement

3.4.1 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.

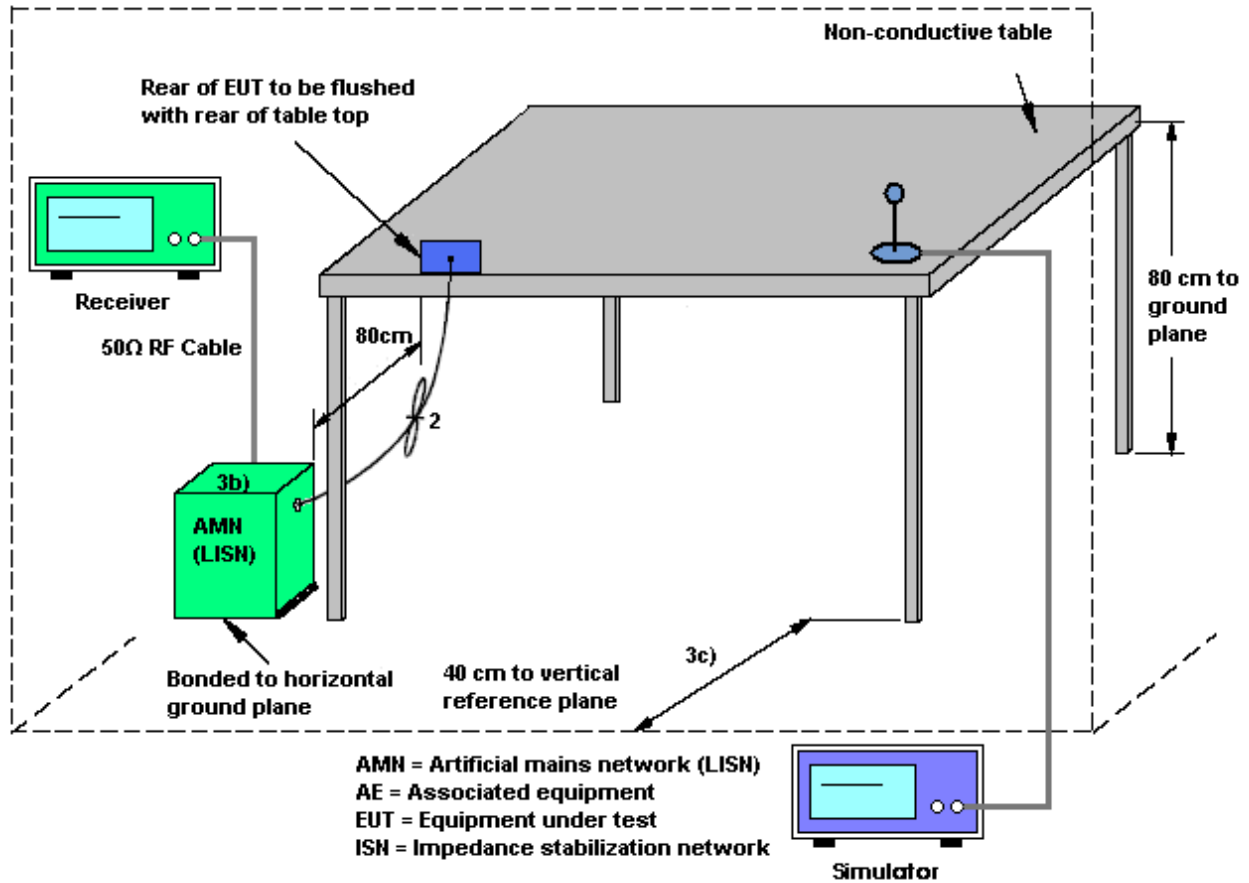
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedures

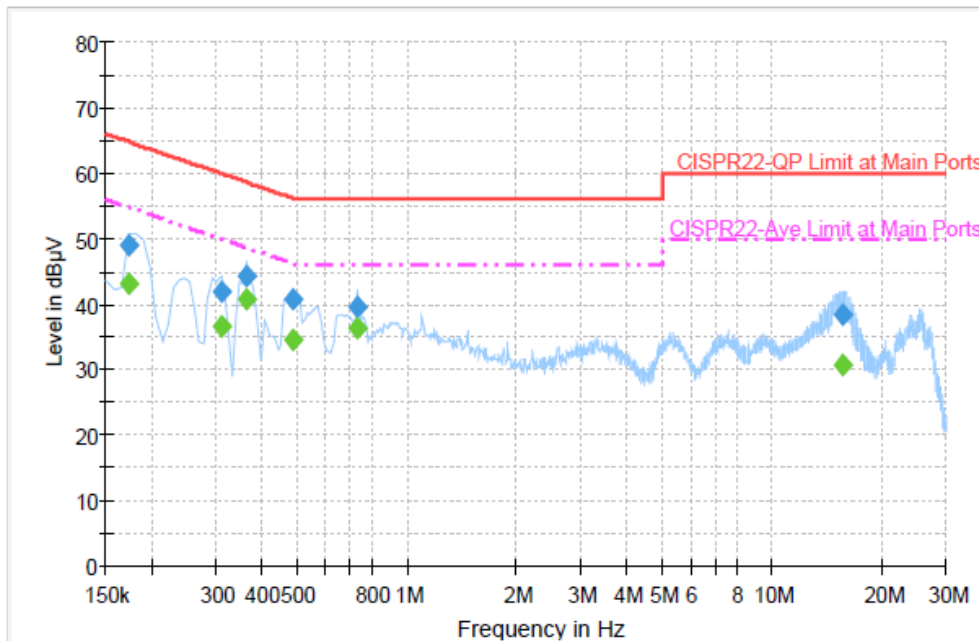
1. Please follow the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All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

3.4.4 Test Setup



3.4.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~23°C
Test Engineer :	Aslen Chiu	Relative Humidity :	42~45%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	CDMA2000 BC0 Idle + Bluetooth Link + WLAN (5G) Link + Adapter 3 + Battery 1 + H Pattern + Earphone		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



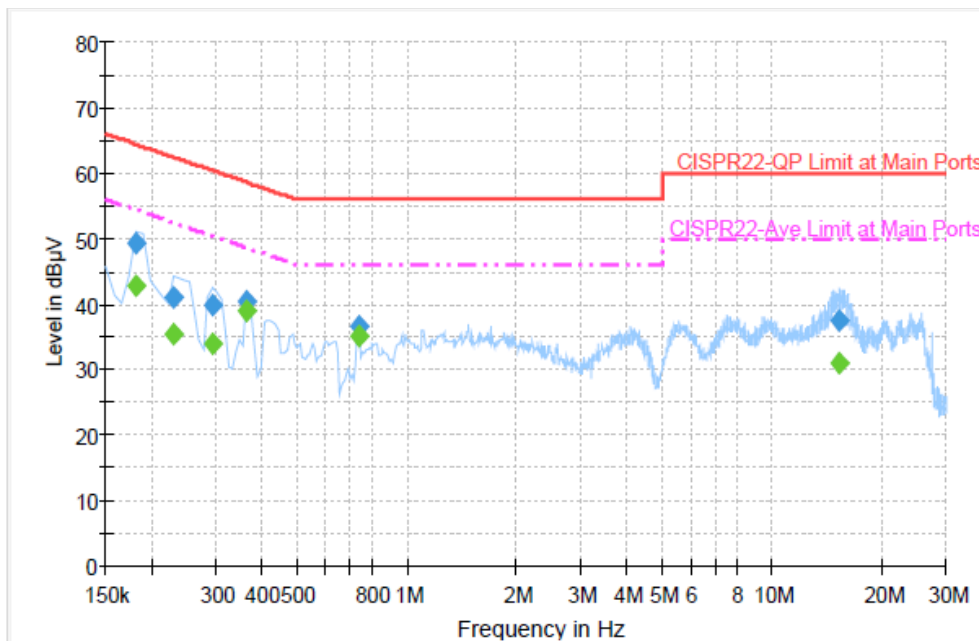
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	49.1	Off	L1	19.4	15.7	64.8
0.310000	42.0	Off	L1	19.4	18.0	60.0
0.366000	44.3	Off	L1	19.4	14.3	58.6
0.486000	40.7	Off	L1	19.4	15.5	56.2
0.734000	39.6	Off	L1	19.4	16.4	56.0
15.694000	38.3	Off	L1	19.7	21.7	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	43.2	Off	L1	19.4	11.6	54.8
0.310000	36.6	Off	L1	19.4	13.4	50.0
0.366000	40.6	Off	L1	19.4	8.0	48.6
0.486000	34.6	Off	L1	19.4	11.6	46.2
0.734000	36.3	Off	L1	19.4	9.7	46.0
15.694000	30.7	Off	L1	19.7	19.3	50.0

Test Mode :	Mode 1	Temperature :	20~23°C
Test Engineer :	Aslen Chiu	Relative Humidity :	42~45%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	CDMA2000 BC0 Idle + Bluetooth Link + WLAN (5G) Link + Adapter 3 + Battery 1 + H Pattern + Earphone		
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)
0.182000	49.2	Off	N	19.4	15.2	64.4
0.230000	41.1	Off	N	19.5	21.3	62.4
0.294000	40.0	Off	N	19.4	20.4	60.4
0.366000	40.5	Off	N	19.4	18.1	58.6
0.742000	36.7	Off	N	19.4	19.3	56.0
15.238000	37.6	Off	N	19.7	22.4	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	42.8	Off	N	19.4	11.6	54.4
0.230000	35.3	Off	N	19.5	17.1	52.4
0.294000	34.0	Off	N	19.4	16.4	50.4
0.366000	39.1	Off	N	19.4	9.5	48.6
0.742000	35.0	Off	N	19.4	11.0	46.0
15.238000	30.9	Off	N	19.7	19.1	50.0

3.5 Unwanted Radiated Emission Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part15.205.

3.5.1 Limit of Unwanted Emissions

(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 –27dBm/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) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,

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

Note: The following formula is used to convert the EIRP to field strength.

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts)}$$

EIRP (dBm)	Field Strength at 3m (dBuV/m)
- 27	68.3

3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

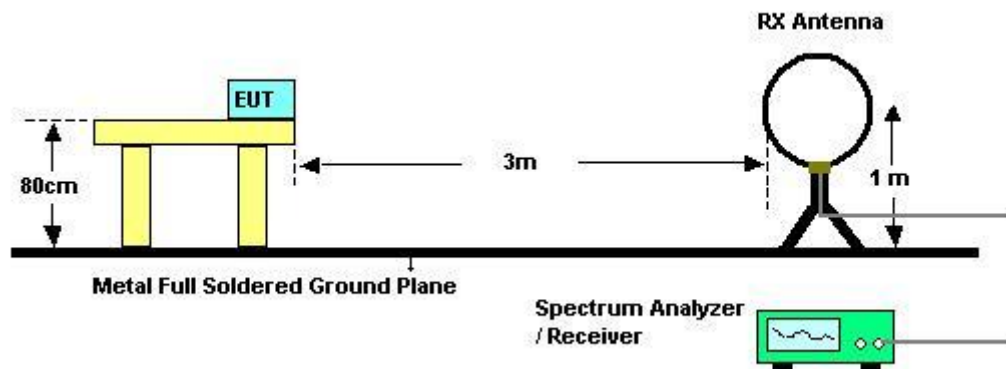
3.5.3 Test Procedures

1. The testing follows the guidelines in FCC KDB 789033 D01 General UNII Test Procedures v01.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 KHz
 - VBW = 300 KHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - The setting follows the G) 5) of FCC KDB 789033.
 - RBW = 1 MHz
 - VBW \geq 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
 - (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
 - The setting follows G) 6) of FCC KDB 789033.
 - RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW \geq 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT was placed on a rotatable table top 0.8 meter above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest radiation.
5. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
6. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.

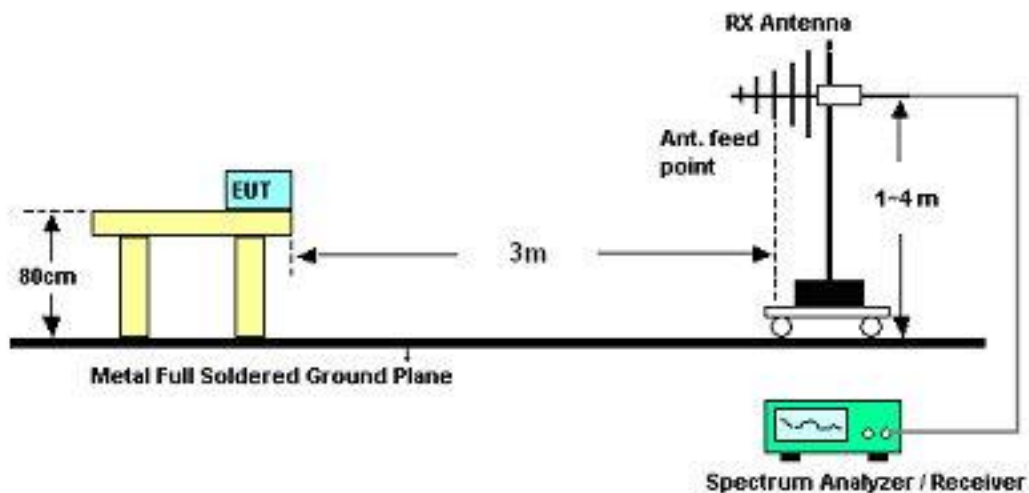
7. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
8. For testing above 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.

3.5.4 Test Setup

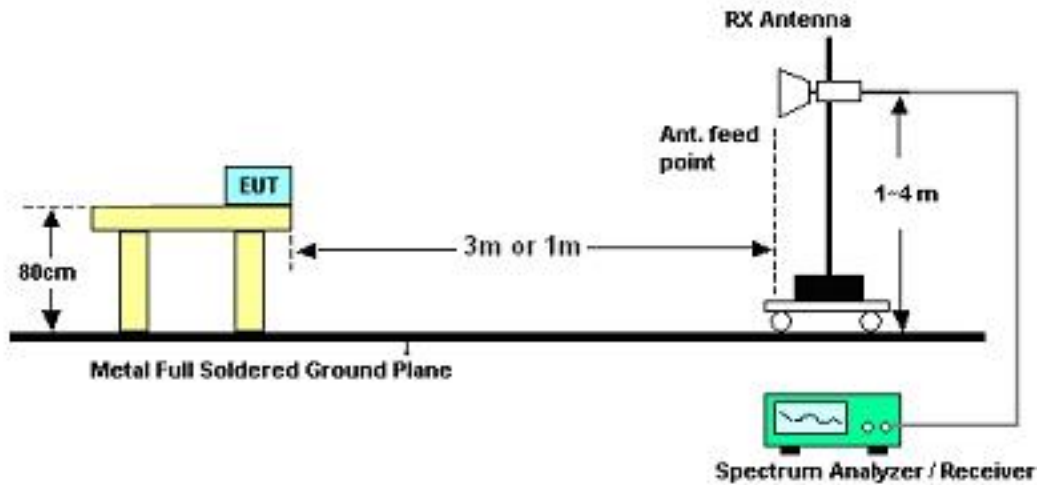
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated Emissions (9 KHz ~ 30 MHz)

The low frequency, which started from 9 KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.



3.5.6 Test Result

3.5.6.1 Test Result of Radiated Band Edges

Test Mode :	Mode 1	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	42~43%
Test Channel :	36	Test Engineer :	Gavin Wu

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	53.29	-20.71	74	43.31	34.22	9.41	33.65	100	329	Peak
5150	42.62	-11.38	54	32.64	34.22	9.41	33.65	100	329	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	54.41	-19.59	74	44.43	34.22	9.41	33.65	130	298	Peak
5150	41.89	-12.11	54	31.91	34.22	9.41	33.65	130	298	Average

Test Mode :	Mode 3	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	42~43%
Test Channel :	48	Test Engineer :	Gavin Wu

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
5356	54.96	-19.04	74	44.01	34.38	9.78	33.21	100	332	Peak
5356	42.98	-11.02	54	32.03	34.38	9.78	33.21	100	332	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
5452	54.54	-19.46	74	43.15	34.46	9.94	33.01	100	291	Peak
5452	42.25	-11.75	54	30.86	34.46	9.94	33.01	100	291	Average



Test Mode :	Mode 4	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	42~43%
Test Channel :	52	Test Engineer :	Gavin Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5124	54.08	-19.92	74	44.2	34.21	9.37	33.7	100	323	Peak
5124	40.84	-13.16	54	30.96	34.21	9.37	33.7	100	323	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5116	53.76	-20.24	74	43.9	34.19	9.37	33.7	100	288	Peak
5116	40.82	-13.18	54	30.96	34.19	9.37	33.7	100	288	Average

Test Mode :	Mode 6	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	42~43%
Test Channel :	64	Test Engineer :	Gavin Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	57.53	-16.47	74	46.67	34.38	9.74	33.26	100	328	Peak
5350	46.22	-7.78	54	35.36	34.38	9.74	33.26	100	328	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	55.4	-18.6	74	44.54	34.38	9.74	33.26	100	276	Peak
5350	43.84	-10.16	54	32.98	34.38	9.74	33.26	100	276	Average



Test Mode :	Mode 7	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	42~43%
Test Channel :	100	Test Engineer :	Gavin Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5470	57.16	-11.14	68.3	45.76	34.47	9.94	33.01	100	316	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5470	55.07	-13.23	68.3	43.67	34.47	9.94	33.01	154	293	Peak

Test Mode :	Mode 9	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	42~43%
Test Channel :	140	Test Engineer :	Gavin Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	55.03	-13.27	68.3	43.48	34.81	9.92	33.18	100	302	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	55.46	-12.84	68.3	43.91	34.81	9.92	33.18	100	267	Peak



Test Mode :	Mode 10	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	42~43%
Test Channel :	36	Test Engineer :	Gavin Wu

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	53.65	-20.35	74	43.67	34.22	9.41	33.65	100	341	Peak
5150	42.63	-11.37	54	32.65	34.22	9.41	33.65	100	341	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	53.37	-20.63	74	43.39	34.22	9.41	33.65	116	302	Peak
5150	41.97	-12.03	54	31.99	34.22	9.41	33.65	116	302	Average

Test Mode :	Mode 12	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	42~43%
Test Channel :	48	Test Engineer :	Gavin Wu

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
5452	54.16	-19.84	74	42.77	34.46	9.94	33.01	100	331	Peak
5452	42.26	-11.74	54	30.87	34.46	9.94	33.01	100	331	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
5438	53.87	-20.13	74	42.58	34.45	9.9	33.06	101	283	Peak
5438	42.14	-11.86	54	30.85	34.45	9.9	33.06	101	283	Average



Test Mode :	Mode 13	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	42~43%
Test Channel :	52	Test Engineer :	Gavin Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5142	54.07	-19.93	74	44.09	34.22	9.41	33.65	100	324	Peak
5142	41.72	-12.28	54	31.74	34.22	9.41	33.65	100	324	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5076	53.28	-20.72	74	43.62	34.17	9.29	33.8	100	284	Peak
5076	40.43	-13.57	54	30.77	34.17	9.29	33.8	100	284	Average

Test Mode :	Mode 15	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	42~43%
Test Channel :	64	Test Engineer :	Gavin Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	59.35	-14.65	74	48.49	34.38	9.74	33.26	100	323	Peak
5350	47.42	-6.58	54	36.56	34.38	9.74	33.26	100	323	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	57.19	-16.81	74	46.33	34.38	9.74	33.26	100	292	Peak
5350	48.29	-5.71	54	37.43	34.38	9.74	33.26	100	292	Average



Test Mode :	Mode 16	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	42~43%
Test Channel :	100	Test Engineer :	Gavin Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5470	57.55	-10.75	68.3	46.15	34.47	9.94	33.01	100	314	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5470	54.88	-13.42	68.3	43.48	34.47	9.94	33.01	100	45	Peak

Test Mode :	Mode 18	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	42~43%
Test Channel :	140	Test Engineer :	Gavin Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	58.46	-9.84	68.3	46.91	34.81	9.92	33.18	100	298	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	55.44	-12.86	68.3	43.89	34.81	9.92	33.18	100	318	Peak



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

Temperature	23~24°C	Humidity	42~43%
Test Engineer	Gavin Wu		

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.



3.5.8 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)

Test Mode :	Mode 1	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	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
30	32.67	-7.33	40	43.6	20	0.53	31.46	164	220	Peak
80.49	24.67	-15.33	40	47.62	7.7	0.88	31.53	-	-	Peak
210.09	19.58	-23.92	43.5	39.85	9.84	1.36	31.47	-	-	Peak
351.8	30.94	-15.06	46	45.51	14.72	1.99	31.28	-	-	Peak
567.4	24.42	-21.58	46	33.54	19.24	2.6	30.96	-	-	Peak
704.6	27.34	-18.66	46	34.54	20.66	2.95	30.81	-	-	Peak
5150	53.29	-20.71	74	43.31	34.22	9.41	33.65	100	329	Peak
5150	42.62	-11.38	54	32.64	34.22	9.41	33.65	100	329	Average
5180	97.14	-	-	87.04	34.25	9.45	33.6	100	329	Average
5180	107.54	-	-	97.44	34.25	9.45	33.6	100	329	Peak
5414	54.89	-19.11	74	43.71	34.43	9.86	33.11	100	329	Peak
5414	41.56	-12.44	54	30.38	34.43	9.86	33.11	100	329	Average



Test Mode :	Mode 1	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
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
30.54	36.09	-3.91	40	47.73	19.28	0.54	31.46	109	223	Peak
40.26	29.15	-10.85	40	47.13	12.9	0.63	31.51	-	-	Peak
81.3	24.58	-15.42	40	47.43	7.79	0.89	31.53	-	-	Peak
346.9	22.39	-23.61	46	37.15	14.58	1.95	31.29	-	-	Peak
463.8	21.52	-24.48	46	32.94	17.33	2.33	31.08	-	-	Peak
766.9	23.4	-22.6	46	29.4	21.6	3.09	30.69	-	-	Peak
5150	54.41	-19.59	74	44.43	34.22	9.41	33.65	130	298	Peak
5150	41.89	-12.11	54	31.91	34.22	9.41	33.65	130	298	Average
5180	103.36	-	-	93.26	34.25	9.45	33.6	130	298	Peak
5180	93.86	-	-	83.76	34.25	9.45	33.6	130	298	Average
5428	54.07	-19.93	74	42.89	34.43	9.86	33.11	130	298	Peak
5428	41.95	-12.05	54	30.77	34.43	9.86	33.11	130	298	Average



Test Mode :	Mode 2	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	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
30	29.38	-10.62	40	40.31	20	0.53	31.46	136	321	Peak
80.22	20.51	-19.49	40	43.46	7.7	0.88	31.53	-	-	Peak
253.29	22.37	-23.63	46	39.59	12.64	1.55	31.41	-	-	Peak
346.9	23.76	-22.24	46	38.52	14.58	1.95	31.29	-	-	Peak
399.4	23.81	-22.19	46	36.85	16	2.14	31.18	-	-	Peak
680.1	22.32	-23.68	46	29.82	20.44	2.9	30.84	-	-	Peak
5150	54.14	-19.86	74	44.16	34.22	9.41	33.65	101	326	Peak
5150	42.03	-11.97	54	32.05	34.22	9.41	33.65	101	326	Average
5220	109.78	-	-	99.48	34.27	9.53	33.5	101	326	Peak
5220	100.17	-	-	89.87	34.27	9.53	33.5	101	326	Average
5446	55.05	-18.95	74	43.75	34.46	9.9	33.06	101	326	Peak
5446	42.52	-11.48	54	31.22	34.46	9.9	33.06	101	326	Average



Test Mode :	Mode 2	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	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
30	35.66	-4.34	40	46.59	20	0.53	31.46	100	214	Peak
39.18	28.57	-11.43	40	45.38	14.08	0.61	31.5	-	-	Peak
81.3	24.13	-15.87	40	46.98	7.79	0.89	31.53	-	-	Peak
323.8	23.66	-22.34	46	39.19	13.96	1.83	31.32	-	-	Peak
472.2	22.14	-23.86	46	33.34	17.51	2.36	31.07	-	-	Peak
741.7	23.29	-22.71	46	29.74	21.23	3.04	30.72	-	-	Peak
5142	54.41	-19.59	74	44.43	34.22	9.41	33.65	100	294	Peak
5142	41.1	-12.9	54	31.12	34.22	9.41	33.65	100	294	Average
5220	104.72	-	-	94.42	34.27	9.53	33.5	100	294	Peak
5220	95.19	-	-	84.89	34.27	9.53	33.5	100	294	Average
5406	54.32	-19.68	74	43.15	34.42	9.86	33.11	100	294	Peak
5406	42.17	-11.83	54	31	34.42	9.86	33.11	100	294	Average



Test Mode :	Mode 3	Temperature :	23~24°C
Test Channel :	48	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	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
30	32.37	-7.63	40	43.3	20	0.53	31.46	151	174	Peak
80.22	20.68	-19.32	40	43.63	7.7	0.88	31.53	-	-	Peak
244.38	22.12	-23.88	46	39.81	12.2	1.53	31.42	-	-	Peak
349	23.81	-22.19	46	38.49	14.64	1.97	31.29	-	-	Peak
399.4	23.41	-22.59	46	36.45	16	2.14	31.18	-	-	Peak
764.1	23.15	-22.85	46	29.2	21.56	3.08	30.69	-	-	Peak
5148	54.26	-19.74	74	44.28	34.22	9.41	33.65	100	332	Peak
5148	41.08	-12.92	54	31.1	34.22	9.41	33.65	100	332	Average
5240	110.16	-	-	99.75	34.29	9.57	33.45	100	332	Peak
5240	100.58	-	-	90.17	34.29	9.57	33.45	100	332	Average
5356	54.96	-19.04	74	44.01	34.38	9.78	33.21	100	332	Peak
5356	42.98	-11.02	54	32.03	34.38	9.78	33.21	100	332	Average



Test Mode :	Mode 3	Temperature :	23~24°C
Test Channel :	48	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	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
30	36.26	-3.74	40	47.19	20	0.53	31.46	100	336	Peak
39.18	28.77	-11.23	40	45.58	14.08	0.61	31.5	-	-	Peak
81.3	22.83	-17.17	40	45.68	7.79	0.89	31.53	-	-	Peak
349	22.7	-23.3	46	37.38	14.64	1.97	31.29	-	-	Peak
475	21.92	-24.08	46	33.03	17.58	2.37	31.06	-	-	Peak
749.4	23.31	-22.69	46	29.61	21.34	3.06	30.7	-	-	Peak
5100	53.97	-20.03	74	44.21	34.18	9.33	33.75	100	291	Peak
5100	40.81	-13.19	54	31.05	34.18	9.33	33.75	100	291	Average
5240	105.59	-	-	95.27	34.29	9.53	33.5	100	291	Peak
5240	96.03	-	-	85.62	34.29	9.57	33.45	100	291	Average
5452	54.54	-19.46	74	43.15	34.46	9.94	33.01	100	291	Peak
5452	42.25	-11.75	54	30.86	34.46	9.94	33.01	100	291	Average



Test Mode :	Mode 4	Temperature :	23~24°C
Test Channel :	52	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	5260 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	27.86	-12.14	40	38.79	20	0.53	31.46	127	91	Peak
202.26	17.99	-25.51	43.5	38.84	9.3	1.33	31.48	-	-	Peak
239.25	22.2	-23.8	46	40.23	11.86	1.53	31.42	-	-	Peak
349.7	23.04	-22.96	46	37.69	14.66	1.97	31.28	-	-	Peak
593.3	21.2	-24.8	46	29.78	19.68	2.67	30.93	-	-	Peak
794.9	22.81	-23.19	46	28.33	22.03	3.13	30.68	-	-	Peak
5124	54.08	-19.92	74	44.2	34.21	9.37	33.7	100	323	Peak
5124	40.84	-13.16	54	30.96	34.21	9.37	33.7	100	323	Average
5260	108.53	-	-	98.11	34.3	9.57	33.45	100	323	Peak
5260	99.47	-	-	88.95	34.31	9.62	33.41	100	323	Average
5454	53.73	-20.27	74	42.34	34.46	9.94	33.01	100	323	Peak
5454	42.28	-11.72	54	30.89	34.46	9.94	33.01	100	323	Average



Test Mode :	Mode 4	Temperature :	23~24°C
Test Channel :	52	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	5260 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	23.02	-16.98	40	33.95	20	0.53	31.46	111	125	Peak
81.57	21.23	-18.77	40	44.08	7.79	0.89	31.53	-	-	Peak
299.46	23.95	-22.05	46	40.21	13.3	1.77	31.33	-	-	Peak
349	22.57	-23.43	46	37.25	14.64	1.97	31.29	-	-	Peak
472.2	21.06	-24.94	46	32.26	17.51	2.36	31.07	-	-	Peak
704.6	22.78	-23.22	46	29.98	20.66	2.95	30.81	-	-	Peak
5116	53.76	-20.24	74	43.9	34.19	9.37	33.7	100	288	Peak
5116	40.82	-13.18	54	30.96	34.19	9.37	33.7	100	288	Average
5260	104.8	-	-	94.38	34.3	9.57	33.45	100	288	Peak
5260	95.22	-	-	84.7	34.31	9.62	33.41	100	288	Average
5374	54.23	-19.77	74	43.27	34.39	9.78	33.21	100	288	Peak
5374	41.82	-12.18	54	30.86	34.39	9.78	33.21	100	288	Average



Test Mode :	Mode 5	Temperature :	23~24°C
Test Channel :	60	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	5300 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	21.52	-18.48	40	32.45	20	0.53	31.46	161	195	Peak
202.53	18.22	-25.28	43.5	39.07	9.3	1.33	31.48	-	-	Peak
232.5	22.4	-23.6	46	40.95	11.39	1.5	31.44	-	-	Peak
349	22.95	-23.05	46	37.63	14.64	1.97	31.29	-	-	Peak
399.4	22.96	-23.04	46	36	16	2.14	31.18	-	-	Peak
702.5	22.71	-23.29	46	29.96	20.63	2.94	30.82	-	-	Peak
5150	40.63	-13.37	54	30.96	34.18	9.29	33.8	100	325	Average
5150	55.33	-18.67	74	45.66	34.18	9.29	33.8	100	325	Peak
5300	110.74	-	-	100.1	34.34	9.66	33.36	100	325	Peak
5300	100.93	-	-	90.29	34.34	9.66	33.36	100	325	Average
5356	56.8	-17.2	74	45.85	34.38	9.78	33.21	100	325	Peak
5356	43.93	-10.07	54	32.98	34.38	9.78	33.21	100	325	Average



Test Mode :	Mode 5	Temperature :	23~24°C
Test Channel :	60	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	5300 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
31.62	23.24	-16.76	40	35.59	18.56	0.55	31.46	100	145	Peak
92.37	19.58	-23.92	43.5	41.3	8.84	0.96	31.52	-	-	Peak
227.1	24.17	-21.83	46	43.18	10.98	1.46	31.45	-	-	Peak
346.9	22.23	-23.77	46	36.99	14.58	1.95	31.29	-	-	Peak
573.7	22.63	-23.37	46	31.61	19.35	2.62	30.95	-	-	Peak
811.7	24.09	-21.91	46	29.39	22.22	3.17	30.69	-	-	Peak
5148	53.85	-20.15	74	43.87	34.22	9.41	33.65	100	278	Peak
5148	41.66	-12.34	54	31.68	34.22	9.41	33.65	100	278	Average
5300	105.79	-	-	95.15	34.34	9.66	33.36	100	278	Peak
5300	96.23	-	-	85.59	34.34	9.66	33.36	100	278	Average
5350	55.5	-18.5	74	44.64	34.38	9.74	33.26	100	278	Peak
5350	42.71	-11.29	54	31.85	34.38	9.74	33.26	100	278	Average



Test Mode :	Mode 6	Temperature :	23~24°C
Test Channel :	64	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	5320 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.81	21.27	-18.73	40	32.91	19.28	0.54	31.46	133	205	Peak
210.09	17.38	-26.12	43.5	37.65	9.84	1.36	31.47	-	-	Peak
245.73	21.37	-24.63	46	38.99	12.26	1.53	31.41	-	-	Peak
349.7	23.42	-22.58	46	38.07	14.66	1.97	31.28	-	-	Peak
399.4	23.4	-22.6	46	36.44	16	2.14	31.18	-	-	Peak
758.5	22.69	-23.31	46	28.85	21.47	3.07	30.7	-	-	Peak
5140	53.45	-20.55	74	43.56	34.22	9.37	33.7	100	328	Peak
5140	41.1	-12.9	54	31.21	34.22	9.37	33.7	100	328	Average
5320	110.71	-	-	99.97	34.35	9.7	33.31	100	328	Peak
5320	101.06	-	-	90.32	34.35	9.7	33.31	100	328	Average
5350	57.53	-16.47	74	46.67	34.38	9.74	33.26	100	328	Peak
5350	46.22	-7.78	54	35.36	34.38	9.74	33.26	100	328	Average



Test Mode :	Mode 6	Temperature :	23~24°C
Test Channel :	64	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	5320 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	24.44	-15.56	40	35.37	20	0.53	31.46	100	103	Peak
125.85	20.89	-22.61	43.5	39.65	11.68	1.13	31.57	-	-	Peak
253.02	22.41	-23.59	46	39.63	12.64	1.55	31.41	-	-	Peak
301.4	23.23	-22.77	46	39.44	13.35	1.77	31.33	-	-	Peak
349.7	23.13	-22.87	46	37.78	14.66	1.97	31.28	-	-	Peak
590.5	23.09	-22.91	46	31.73	19.63	2.66	30.93	-	-	Peak
5148	52.51	-21.49	74	42.53	34.22	9.41	33.65	100	276	Peak
5148	41.72	-12.28	54	31.74	34.22	9.41	33.65	100	276	Average
5320	105.16	-	-	94.42	34.35	9.7	33.31	100	276	Peak
5320	96.84	-	-	86.1	34.35	9.7	33.31	100	276	Average
5350	55.4	-18.6	74	44.54	34.38	9.74	33.26	100	276	Peak
5350	43.84	-10.16	54	32.98	34.38	9.74	33.26	100	276	Average



Test Mode :	Mode 7	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5500 MHz is fundamental signal which can be ignored. 2. 5470 MHz and 5725 MHz are not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	20.6	-19.4	40	31.53	20	0.53	31.46	115	263	Peak
234.93	22.45	-23.55	46	40.86	11.52	1.5	31.43	-	-	Peak
281.1	21.22	-24.78	46	37.89	13.04	1.64	31.35	-	-	Peak
321	22.48	-23.52	46	38.11	13.88	1.81	31.32	-	-	Peak
539.4	21.27	-24.73	46	30.98	18.76	2.53	31	-	-	Peak
778.1	23.41	-22.59	46	29.23	21.77	3.1	30.69	-	-	Peak
5470	57.16	-11.14	68.3	45.76	34.47	9.94	33.01	100	316	Peak
5500	107.03	-	-	95.42	34.5	10.02	32.91	100	316	Peak
5500	97.79	-	-	86.18	34.5	10.02	32.91	100	316	Average
5725	52.98	-15.32	68.3	41.43	34.81	9.92	33.18	100	316	Peak



Test Mode :	Mode 7	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5500 MHz is fundamental signal which can be ignored. 2. 5470 MHz and 5725 MHz are not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	23.74	-16.26	40	34.67	20	0.53	31.46	100	355	Peak
81.57	20.4	-19.6	40	43.25	7.79	0.89	31.53	-	-	Peak
205.77	18.07	-25.43	43.5	38.7	9.5	1.34	31.47	-	-	Peak
346.2	23.8	-22.2	46	38.59	14.56	1.94	31.29	-	-	Peak
525.4	20	-26	46	29.99	18.53	2.5	31.02	-	-	Peak
741.7	22.9	-23.1	46	29.35	21.23	3.04	30.72	-	-	Peak
5470	55.07	-13.23	68.3	43.67	34.47	9.94	33.01	154	293	Peak
5500	102.64	-	-	91.03	34.5	10.02	32.91	154	293	Peak
5500	93.1	-	-	81.49	34.5	10.02	32.91	154	293	Average
5725	53.83	-14.47	68.3	42.28	34.81	9.92	33.18	154	293	Peak



Test Mode :	Mode 8	Temperature :	23~24°C
Test Channel :	116	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5580 MHz is fundamental signal which can be ignored. 2. 5470 MHz and 5725 MHz are not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.27	20.92	-19.08	40	31.85	20	0.53	31.46	100	24	Peak
196.05	16.17	-27.33	43.5	37.3	9.06	1.3	31.49	-	-	Peak
238.98	24.5	-21.5	46	42.61	11.79	1.52	31.42	-	-	Peak
302.1	20.27	-25.73	46	36.44	13.38	1.78	31.33	-	-	Peak
772.5	22.99	-23.01	46	28.9	21.68	3.1	30.69	-	-	Peak
985.3	27.15	-26.85	54	29.85	24.38	3.5	30.58	-	-	Peak
5470	52.87	-15.43	68.3	41.47	34.47	9.94	33.01	100	305	Peak
5580	105.9	-	-	94.31	34.6	9.99	33	100	305	Peak
5580	96.98	-	-	85.39	34.6	9.99	33	100	305	Average
5725	54.23	-14.07	68.3	42.68	34.81	9.92	33.18	100	305	Peak



Test Mode :	Mode 8	Temperature :	23~24°C
Test Channel :	116	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5580 MHz is fundamental signal which can be ignored. 2. 5470 MHz and 5725 MHz are not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.81	24.12	-15.88	40	35.76	19.28	0.54	31.46	100	25	Peak
120.45	17.04	-26.46	43.5	35.8	11.7	1.1	31.56	-	-	Peak
268.14	20.83	-25.17	46	37.72	12.86	1.63	31.38	-	-	Peak
520.5	19.53	-26.47	46	29.62	18.45	2.49	31.03	-	-	Peak
792.1	23.73	-22.27	46	29.3	21.98	3.13	30.68	-	-	Peak
979	26.47	-27.53	54	29.28	24.28	3.49	30.58	-	-	Peak
5470	52.68	-15.62	68.3	41.28	34.47	9.94	33.01	100	34	Peak
5580	103.44	-	-	91.85	34.6	9.99	33	100	34	Peak
5580	94.69	-	-	83.1	34.6	9.99	33	100	34	Average
5725	52.79	-15.51	68.3	41.24	34.81	9.92	33.18	100	34	Peak



Test Mode :	Mode 9	Temperature :	23~24°C
Test Channel :	140	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. 5470 MHz and 5725 MHz are not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.81	22.01	-17.99	40	33.65	19.28	0.54	31.46	100	12	Peak
194.7	23.73	-19.77	43.5	44.87	9.05	1.3	31.49	-	-	Peak
257.61	22.08	-23.92	46	39.21	12.71	1.58	31.42	-	-	Peak
475.7	19.72	-26.28	46	30.83	17.58	2.37	31.06	-	-	Peak
783	23.76	-22.24	46	29.5	21.84	3.11	30.69	-	-	Peak
971.3	25.86	-28.14	54	28.79	24.16	3.48	30.57	-	-	Peak
5470	52.95	-15.35	68.3	41.55	34.47	9.94	33.01	100	302	Peak
5700	106.94	-	-	95.37	34.79	9.93	33.15	100	302	Peak
5700	96.24	-	-	84.69	34.77	9.93	33.15	100	302	Average
5725	55.03	-13.27	68.3	43.48	34.81	9.92	33.18	100	302	Peak



Test Mode :	Mode 9	Temperature :	23~24°C
Test Channel :	140	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. 5470 MHz and 5725 MHz are not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	23.13	-16.87	40	34.06	20	0.53	31.46	100	37	Peak
140.97	22.1	-21.4	43.5	41.07	11.38	1.2	31.55	-	-	Peak
254.37	20.02	-25.98	46	37.23	12.65	1.55	31.41	-	-	Peak
304.9	21.15	-24.85	46	37.27	13.43	1.78	31.33	-	-	Peak
752.2	23.22	-22.78	46	29.47	21.39	3.06	30.7	-	-	Peak
903.4	26.22	-19.78	46	30.42	23.14	3.35	30.69	-	-	Peak
5470	54.56	-13.74	68.3	43.16	34.47	9.94	33.01	100	267	Peak
5700	103.08	-	-	91.53	34.77	9.93	33.15	100	267	Peak
5700	93.98	-	-	82.43	34.77	9.93	33.15	100	267	Average
5725	55.46	-12.84	68.3	43.91	34.81	9.92	33.18	100	267	Peak



Test Mode :	Mode 10	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	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
30.54	21.12	-18.88	40	32.76	19.28	0.54	31.46	100	38	Peak
89.94	16.99	-26.51	43.5	38.97	8.6	0.94	31.52	-	-	Peak
262.74	22.73	-23.27	46	39.75	12.78	1.61	31.41	-	-	Peak
315.4	21.16	-24.84	46	36.96	13.72	1.8	31.32	-	-	Peak
783.7	23.06	-22.94	46	28.79	21.85	3.11	30.69	-	-	Peak
996.5	26.17	-27.83	54	28.7	24.54	3.51	30.58	-	-	Peak
5150	53.65	-20.35	74	43.67	34.22	9.41	33.65	100	341	Peak
5150	42.63	-11.37	54	32.65	34.22	9.41	33.65	100	341	Average
5180	106.18	-	-	96.08	34.25	9.45	33.6	100	341	Peak
5180	95.69	-	-	85.59	34.25	9.45	33.6	100	341	Average
5420	41.95	-12.05	54	30.77	34.43	9.86	33.11	100	341	Average
5420	53.74	-20.26	74	42.56	34.43	9.86	33.11	100	341	Peak



Test Mode :	Mode 10	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
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
30.54	25.22	-14.78	40	36.86	19.28	0.54	31.46	100	49	Peak
206.58	20.8	-22.7	43.5	41.35	9.57	1.35	31.47	-	-	Peak
295.41	21.04	-24.96	46	37.38	13.25	1.74	31.33	-	-	Peak
341.3	19.77	-26.23	46	34.74	14.43	1.9	31.3	-	-	Peak
738.2	22.15	-23.85	46	28.68	21.17	3.03	30.73	-	-	Peak
988.1	26.34	-27.66	54	28.99	24.43	3.5	30.58	-	-	Peak
5150	53.37	-20.63	74	43.39	34.22	9.41	33.65	116	302	Peak
5150	41.97	-12.03	54	31.99	34.22	9.41	33.65	116	302	Average
5180	92.51	-	-	82.41	34.25	9.45	33.6	116	302	Average
5180	102.77	-	-	92.67	34.25	9.45	33.6	116	302	Peak
5446	54.41	-19.59	74	43.11	34.46	9.9	33.06	116	302	Peak
5446	42.09	-11.91	54	30.79	34.46	9.9	33.06	116	302	Average



Test Mode :	Mode 11	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	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
73.74	19.79	-20.21	40	43.67	6.81	0.85	31.54	100	30	Peak
89.94	17.29	-26.21	43.5	39.27	8.6	0.94	31.52	-	-	Peak
234.93	22.18	-23.82	46	40.59	11.52	1.5	31.43	-	-	Peak
349.7	21.19	-24.81	46	35.84	14.66	1.97	31.28	-	-	Peak
783.7	23.46	-22.54	46	29.19	21.85	3.11	30.69	-	-	Peak
976.9	26	-28	54	28.84	24.25	3.49	30.58	-	-	Peak
5030	53.58	-20.42	74	44.14	34.13	9.21	33.9	100	325	Peak
5030	40.29	-13.71	54	30.85	34.13	9.21	33.9	100	325	Average
5220	97.92	-	-	87.62	34.27	9.53	33.5	100	325	Average
5220	106.76	-	-	96.46	34.27	9.53	33.5	100	325	Peak
5422	53.6	-20.4	74	42.42	34.43	9.86	33.11	100	325	Peak
5422	42.26	-11.74	54	31.08	34.43	9.86	33.11	100	325	Average



Test Mode :	Mode 11	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	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
30.54	24.71	-15.29	40	36.35	19.28	0.54	31.46	100	21	Peak
196.05	24.03	-19.47	43.5	45.16	9.06	1.3	31.49	-	-	Peak
241.14	23.82	-22.18	46	41.72	11.99	1.53	31.42	-	-	Peak
346.9	18.77	-27.23	46	33.53	14.58	1.95	31.29	-	-	Peak
576.5	21.89	-24.11	46	30.83	19.39	2.62	30.95	-	-	Peak
993	26.07	-27.93	54	28.65	24.5	3.5	30.58	-	-	Peak
5150	53.46	-20.54	74	43.48	34.22	9.41	33.65	141	309	Peak
5150	41.8	-12.2	54	31.82	34.22	9.41	33.65	141	309	Average
5220	102.79	-	-	92.49	34.27	9.53	33.5	141	309	Peak
5220	93.56	-	-	83.26	34.27	9.53	33.5	141	309	Average
5422	54.74	-19.26	74	43.56	34.43	9.86	33.11	141	309	Peak
5422	41.96	-12.04	54	30.78	34.43	9.86	33.11	141	309	Average



Test Mode :	Mode 12	Temperature :	23~24°C
Test Channel :	48	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	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
73.74	21.77	-18.23	40	45.65	6.81	0.85	31.54	100	38	Peak
193.62	17.23	-26.27	43.5	38.39	9.04	1.3	31.5	-	-	Peak
233.85	22.32	-23.68	46	40.79	11.46	1.5	31.43	-	-	Peak
323.8	21.59	-24.41	46	37.12	13.96	1.83	31.32	-	-	Peak
729.8	22.88	-23.12	46	29.58	21.04	3.01	30.75	-	-	Peak
993.7	26.46	-27.54	54	29.03	24.51	3.5	30.58	-	-	Peak
5140	52.83	-21.17	74	42.94	34.22	9.37	33.7	100	331	Peak
5140	41.73	-12.27	54	31.84	34.22	9.37	33.7	100	331	Average
5240	98.93	-	-	88.52	34.29	9.57	33.45	100	331	Average
5240	107.27	-	-	96.86	34.29	9.57	33.45	100	331	Peak
5452	54.16	-19.84	74	42.77	34.46	9.94	33.01	100	331	Peak
5452	42.26	-11.74	54	30.87	34.46	9.94	33.01	100	331	Average



Test Mode :	Mode 12	Temperature :	23~24°C
Test Channel :	48	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	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
30	25.29	-14.71	40	36.22	20	0.53	31.46	100	52	Peak
92.37	19.35	-24.15	43.5	41.07	8.84	0.96	31.52	-	-	Peak
244.65	21.28	-24.72	46	38.97	12.2	1.53	31.42	-	-	Peak
321	20.49	-25.51	46	36.12	13.88	1.81	31.32	-	-	Peak
794.9	24.21	-21.79	46	29.73	22.03	3.13	30.68	-	-	Peak
993.7	26.39	-27.61	54	28.96	24.51	3.5	30.58	-	-	Peak
5110	53.42	-20.58	74	43.65	34.19	9.33	33.75	101	283	Peak
5110	40.83	-13.17	54	31.06	34.19	9.33	33.75	101	283	Average
5240	95.57	-	-	85.16	34.29	9.57	33.45	101	283	Average
5240	104.14	-	-	93.73	34.29	9.57	33.45	101	283	Peak
5438	53.87	-20.13	74	42.58	34.45	9.9	33.06	101	283	Peak
5438	42.14	-11.86	54	30.85	34.45	9.9	33.06	101	283	Average



Test Mode :	Mode 13	Temperature :	23~24°C
Test Channel :	52	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	5260 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
73.74	21.19	-18.81	40	45.07	6.81	0.85	31.54	100	53	Peak
89.94	16.93	-26.57	43.5	38.91	8.6	0.94	31.52	-	-	Peak
244.65	21.4	-24.6	46	39.09	12.2	1.53	31.42	-	-	Peak
349.7	21.09	-24.91	46	35.74	14.66	1.97	31.28	-	-	Peak
761.3	23.79	-22.21	46	29.89	21.52	3.08	30.7	-	-	Peak
993.7	27.25	-26.75	54	29.82	24.51	3.5	30.58	-	-	Peak
5142	54.07	-19.93	74	44.09	34.22	9.41	33.65	100	324	Peak
5142	41.72	-12.28	54	31.74	34.22	9.41	33.65	100	324	Average
5260	99.11	-	-	88.59	34.31	9.62	33.41	100	324	Average
5260	108.32	-	-	97.8	34.31	9.62	33.41	100	324	Peak
5366	54.65	-19.35	74	43.69	34.39	9.78	33.21	100	324	Peak
5366	42.19	-11.81	54	31.23	34.39	9.78	33.21	100	324	Average



Test Mode :	Mode 13	Temperature :	23~24°C
Test Channel :	52	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	5260 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
37.29	28.86	-11.14	40	45.09	14.66	0.6	31.49	100	54	Peak
92.37	19.86	-23.64	43.5	41.58	8.84	0.96	31.52	-	-	Peak
248.97	23.18	-22.82	46	40.53	12.53	1.53	31.41	-	-	Peak
411.3	24.65	-21.35	46	37.39	16.24	2.18	31.16	-	-	Peak
769.7	23.19	-22.81	46	29.14	21.65	3.09	30.69	-	-	Peak
976.2	26.87	-27.13	54	29.72	24.24	3.49	30.58	-	-	Peak
5076	53.28	-20.72	74	43.62	34.17	9.29	33.8	100	284	Peak
5076	40.43	-13.57	54	30.77	34.17	9.29	33.8	100	284	Average
5260	104.08	-	-	93.56	34.31	9.62	33.41	100	284	Peak
5260	95.3	-	-	84.78	34.31	9.62	33.41	100	284	Average
5460	54.74	-19.26	74	43.35	34.46	9.94	33.01	100	284	Peak
5460	42.19	-11.81	54	30.8	34.46	9.94	33.01	100	284	Average



Test Mode :	Mode 14	Temperature :	23~24°C
Test Channel :	60	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	5300 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.54	21.72	-18.28	40	33.36	19.28	0.54	31.46	100	35	Peak
89.94	17.55	-25.95	43.5	39.53	8.6	0.94	31.52	-	-	Peak
236.01	21.94	-24.06	46	40.27	11.59	1.51	31.43	-	-	Peak
388.9	21.14	-24.86	46	34.52	15.71	2.12	31.21	-	-	Peak
774.6	24.45	-21.55	46	30.32	21.72	3.1	30.69	-	-	Peak
996.5	26.44	-27.56	54	28.97	24.54	3.51	30.58	-	-	Peak
5150	53.79	-20.21	74	43.81	34.22	9.41	33.65	100	323	Peak
5150	41.71	-12.29	54	31.73	34.22	9.41	33.65	100	323	Average
5300	109.68	-	-	99.04	34.34	9.66	33.36	100	323	Peak
5300	100.23	-	-	89.59	34.34	9.66	33.36	100	323	Average
5430	53.36	-20.64	74	42.07	34.45	9.9	33.06	100	323	Peak
5430	42.26	-11.74	54	30.97	34.45	9.9	33.06	100	323	Average



Test Mode :	Mode 14	Temperature :	23~24°C
Test Channel :	60	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	5300 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.54	24.73	-15.27	40	36.37	19.28	0.54	31.46	100	13	Peak
201.45	22.14	-21.36	43.5	43.06	9.23	1.33	31.48	-	-	Peak
216.3	20.66	-25.34	46	40.48	10.24	1.4	31.46	-	-	Peak
346.9	20	-26	46	34.76	14.58	1.95	31.29	-	-	Peak
592.6	22.42	-23.58	46	31.01	19.67	2.67	30.93	-	-	Peak
903.4	27.96	-18.04	46	32.16	23.14	3.35	30.69	-	-	Peak
5084	53.4	-20.6	74	43.74	34.17	9.29	33.8	101	280	Peak
5084	40.5	-13.5	54	30.84	34.17	9.29	33.8	101	280	Average
5300	96.45	-	-	85.81	34.34	9.66	33.36	101	280	Average
5300	105.68	-	-	95.04	34.34	9.66	33.36	101	280	Peak
5366	54.45	-19.55	74	43.49	34.39	9.78	33.21	101	280	Peak
5366	42.44	-11.56	54	31.48	34.39	9.78	33.21	101	280	Average



Test Mode :	Mode 15	Temperature :	23~24°C
Test Channel :	64	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	5320 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
73.74	21.13	-18.87	40	45.01	6.81	0.85	31.54	-	-	Peak
211.98	17.96	-25.54	43.5	38.08	9.98	1.37	31.47	-	-	Peak
245.46	20.51	-25.49	46	38.14	12.26	1.53	31.42	-	-	Peak
346.9	20.94	-25.06	46	35.7	14.58	1.95	31.29	-	-	Peak
732.6	22.33	-23.67	46	28.97	21.08	3.02	30.74	-	-	Peak
903.4	29.96	-16.04	46	34.16	23.14	3.35	30.69	100	63	Peak
5142	54.32	-19.68	74	44.34	34.22	9.41	33.65	100	323	Peak
5142	41.89	-12.11	54	31.91	34.22	9.41	33.65	100	323	Average
5320	101.7	-	-	90.96	34.35	9.7	33.31	100	323	Average
5320	110.07	-	-	99.33	34.35	9.7	33.31	100	323	Peak
5350	59.35	-14.65	74	48.49	34.38	9.74	33.26	100	323	Peak
5350	47.42	-6.58	54	36.56	34.38	9.74	33.26	100	323	Average



Test Mode :	Mode 15	Temperature :	23~24°C
Test Channel :	64	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	5320 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.54	25.68	-14.32	40	37.32	19.28	0.54	31.46	100	63	Peak
207.93	20.87	-22.63	43.5	41.35	9.64	1.35	31.47	-	-	Peak
258.42	19.45	-26.55	46	36.58	12.71	1.58	31.42	-	-	Peak
514.2	19.7	-26.3	46	29.93	18.33	2.48	31.04	-	-	Peak
763.4	23.71	-22.29	46	29.77	21.55	3.08	30.69	-	-	Peak
903.4	26.92	-19.08	46	31.12	23.14	3.35	30.69	-	-	Peak
5134	53.45	-20.55	74	43.57	34.21	9.37	33.7	100	292	Peak
5134	41.76	-12.24	54	31.88	34.21	9.37	33.7	100	292	Average
5320	97.82	-	-	87.08	34.35	9.7	33.31	100	292	Average
5320	106.72	-	-	95.98	34.35	9.7	33.31	100	292	Peak
5350	57.19	-16.81	74	46.33	34.38	9.74	33.26	100	292	Peak
5350	48.29	-5.71	54	37.43	34.38	9.74	33.26	100	292	Average



Test Mode :	Mode 16	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5500 MHz is fundamental signal which can be ignored. 2. 5470 MHz and 5725 MHz are not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
31.62	28.05	-11.95	40	40.4	18.56	0.55	31.46	100	23	Peak
89.94	17.02	-26.48	43.5	39	8.6	0.94	31.52	-	-	Peak
242.22	22.1	-23.9	46	39.93	12.06	1.53	31.42	-	-	Peak
472.2	21.63	-24.37	46	32.83	17.51	2.36	31.07	-	-	Peak
755.7	23.19	-22.81	46	29.39	21.43	3.07	30.7	-	-	Peak
903.4	31.27	-14.73	46	35.47	23.14	3.35	30.69	-	-	Peak
5470	57.55	-10.75	68.3	46.15	34.47	9.94	33.01	100	314	Peak
5500	106.82	-	-	95.21	34.5	10.02	32.91	100	314	Peak
5500	97.53	-	-	85.92	34.5	10.02	32.91	100	314	Average
5725	52.67	-15.63	68.3	41.12	34.81	9.92	33.18	100	314	Peak



Test Mode :	Mode 16	Temperature :	23~24°C
Test Channel :	100	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5500 MHz is fundamental signal which can be ignored. 2. 5470 MHz and 5725 MHz are not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.54	25.93	-14.07	40	37.57	19.28	0.54	31.46	100	45	Peak
89.94	19.55	-23.95	43.5	41.53	8.6	0.94	31.52	-	-	Peak
294.06	19.64	-26.36	46	36.02	13.22	1.72	31.32	-	-	Peak
467.3	19.57	-26.43	46	30.89	17.41	2.34	31.07	-	-	Peak
757.8	22.93	-23.07	46	29.1	21.46	3.07	30.7	-	-	Peak
976.2	26.7	-27.3	54	29.55	24.24	3.49	30.58	-	-	Peak
5470	54.88	-13.42	68.3	43.48	34.47	9.94	33.01	100	45	Peak
5500	103.13	-	-	91.52	34.5	10.02	32.91	100	45	Peak
5500	93.79	-	-	82.18	34.5	10.02	32.91	100	45	Average
5725	53.36	-14.94	68.3	41.81	34.81	9.92	33.18	100	45	Peak



Test Mode :	Mode 17	Temperature :	23~24°C
Test Channel :	116	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5580 MHz is fundamental signal which can be ignored. 2. 5470 MHz and 5725 MHz are not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.54	25.18	-14.82	40	36.82	19.28	0.54	31.46	100	122	Peak
140.97	24.85	-18.65	43.5	43.82	11.38	1.2	31.55	-	-	Peak
243.3	22.26	-23.74	46	40.02	12.13	1.53	31.42	-	-	Peak
318.2	21.58	-24.42	46	37.29	13.8	1.81	31.32	-	-	Peak
707.4	22.42	-23.58	46	29.56	20.7	2.96	30.8	-	-	Peak
998.6	26.4	-27.6	54	28.88	24.59	3.51	30.58	-	-	Peak
5470	53.78	-14.52	68.3	42.38	34.47	9.94	33.01	100	307	Peak
5580	105.92	-	-	94.33	34.6	9.99	33	100	307	Peak
5580	97.18	-	-	85.59	34.6	9.99	33	100	307	Average
5725	52.98	-15.32	68.3	41.43	34.81	9.92	33.18	100	307	Peak



Test Mode :	Mode 17	Temperature :	23~24°C
Test Channel :	116	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5580 MHz is fundamental signal which can be ignored. 2. 5470 MHz and 5725 MHz are not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.81	25.63	-14.37	40	37.27	19.28	0.54	31.46	100	38	Peak
92.37	20.58	-22.92	43.5	42.3	8.84	0.96	31.52	-	-	Peak
262.74	25.83	-20.17	46	42.85	12.78	1.61	31.41	-	-	Peak
349	19.24	-26.76	46	33.92	14.64	1.97	31.29	-	-	Peak
688.5	22.31	-23.69	46	29.71	20.51	2.92	30.83	-	-	Peak
903.4	28.26	-17.74	46	32.46	23.14	3.35	30.69	-	-	Peak
5470	53.49	-14.81	68.3	42.09	34.47	9.94	33.01	100	271	Peak
5580	103.25	-	-	91.66	34.6	9.99	33	100	271	Peak
5580	93.86	-	-	82.27	34.6	9.99	33	100	271	Average
5725	53.79	-14.51	68.3	42.24	34.81	9.92	33.18	100	271	Peak



Test Mode :	Mode 18	Temperature :	23~24°C
Test Channel :	140	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Horizontal
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. 5470 MHz and 5725 MHz are not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
31.62	20.06	-19.94	40	32.41	18.56	0.55	31.46	-	-	Peak
211.98	18.56	-24.94	43.5	38.68	9.98	1.37	31.47	-	-	Peak
246.54	19.18	-26.82	46	36.73	12.33	1.53	31.41	-	-	Peak
302.1	26.03	-19.97	46	42.2	13.38	1.78	31.33	-	-	Peak
778.1	22.84	-23.16	46	28.66	21.77	3.1	30.69	-	-	Peak
915.3	41.33	-4.67	46	45.28	23.33	3.38	30.66	100	124	Peak
5470	53.82	-14.48	68.3	42.42	34.47	9.94	33.01	100	298	Peak
5700	106.24	-	-	94.69	34.77	9.93	33.15	100	298	Peak
5700	96.83	-	-	85.28	34.77	9.93	33.15	100	298	Average
5725	58.46	-9.84	68.3	46.91	34.81	9.92	33.18	100	298	Peak



Test Mode :	Mode 18	Temperature :	23~24°C
Test Channel :	140	Relative Humidity :	42~43%
Test Engineer :	Gavin Wu	Polarization :	Vertical
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. 5470 MHz and 5725 MHz are not within a restricted band.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.54	26.59	-13.41	40	38.23	19.28	0.54	31.46	-	-	Peak
211.17	18.03	-25.47	43.5	38.22	9.91	1.37	31.47	-	-	Peak
236.01	26.74	-19.26	46	45.07	11.59	1.51	31.43	-	-	Peak
310.5	20.16	-25.84	46	36.11	13.59	1.79	31.33	-	-	Peak
780.2	23.91	-22.09	46	29.7	21.79	3.11	30.69	-	-	Peak
915.3	33.33	-12.67	46	37.28	23.33	3.38	30.66	100	142	Peak
5470	53.72	-14.58	68.3	42.32	34.47	9.94	33.01	100	318	Peak
5700	102.48	-	-	90.93	34.77	9.93	33.15	100	318	Peak
5700	91.94	-	-	80.39	34.77	9.93	33.15	100	318	Average
5725	55.44	-12.86	68.3	43.89	34.81	9.92	33.18	100	318	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.

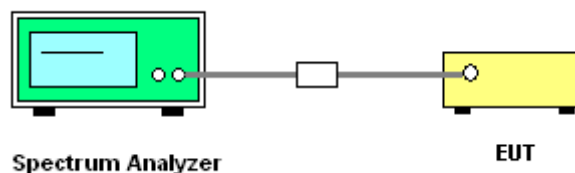
3.6.2 Measuring Instruments

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. Set the spectrum analyzer span to view the entire emission bandwidth.
3. Find the maximum of the peak-max-hold spectrum.
 - * Set RBW = 1 MHz.
 - *Set VBW \leq 3 MHz.
 - *Detector = peak.
 - *Trace mode = max-hold.
 - *Allow the sweeps to continue until the trace stabilizes.
 - *Use the peak search function to find the peak of the spectrum.
4. Use the procedure found under section 3.3 to measure the PPSD.
5. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

3.6.4 Test Setup

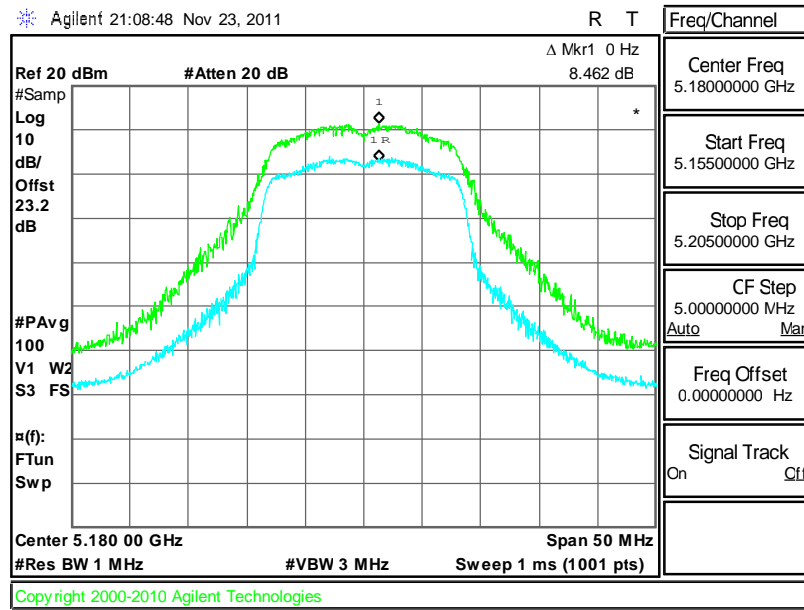




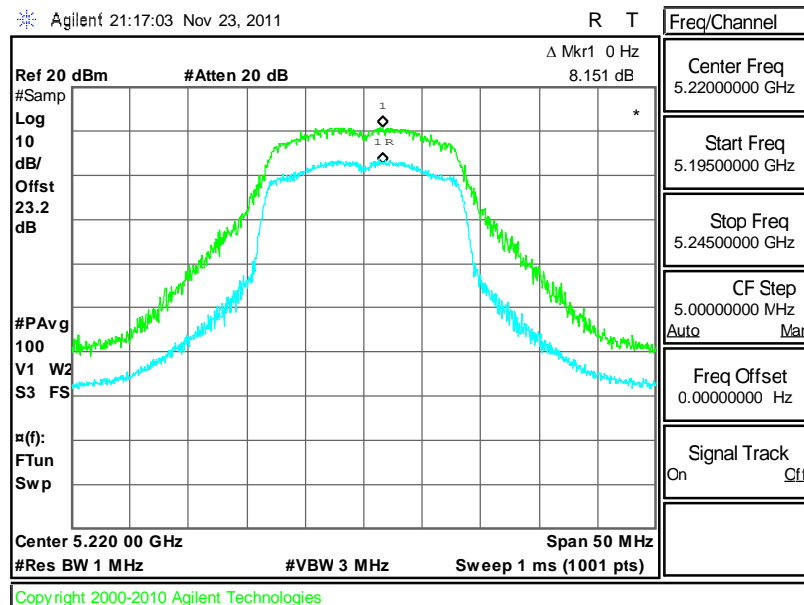
3.6.5 Test Result of Peak Excursion Ratio

Test Mode :	Mode 1~9	Temperature :	24~26°C
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11a Channel 36

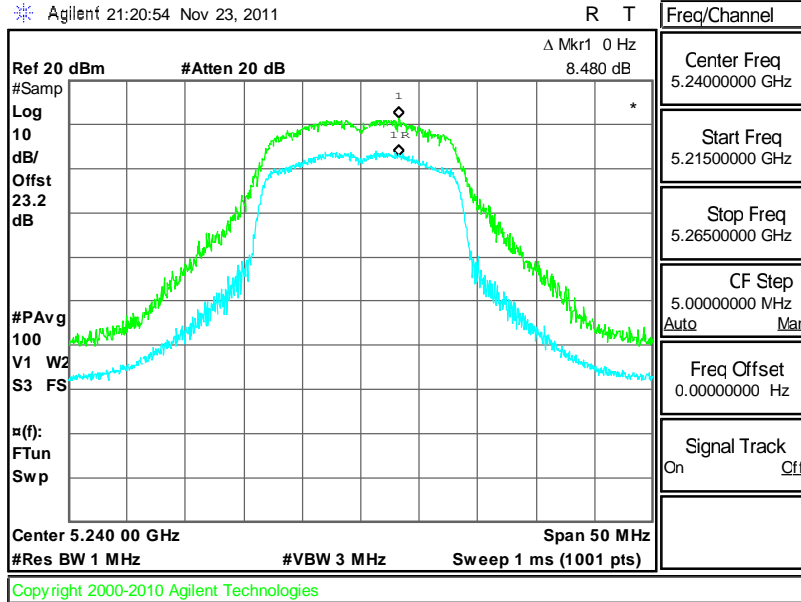


Peak Excursion Ratio Plot on 802.11a Channel 44

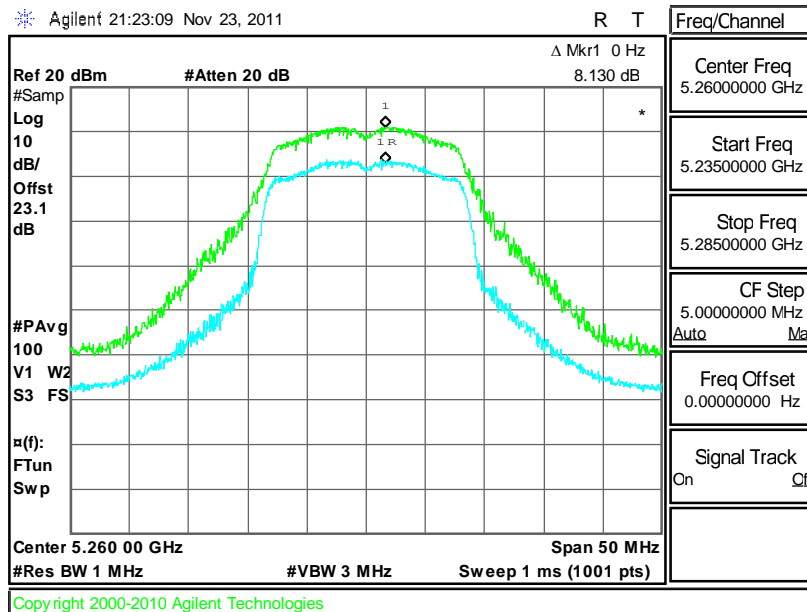




Peak Excursion Ratio Plot on 802.11a Channel 48

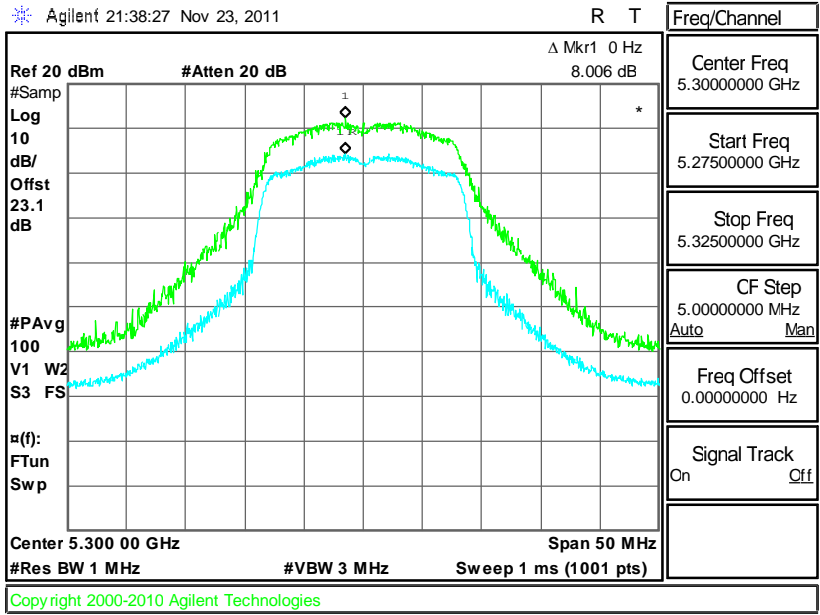


Peak Excursion Ratio Plot on 802.11a Channel 52

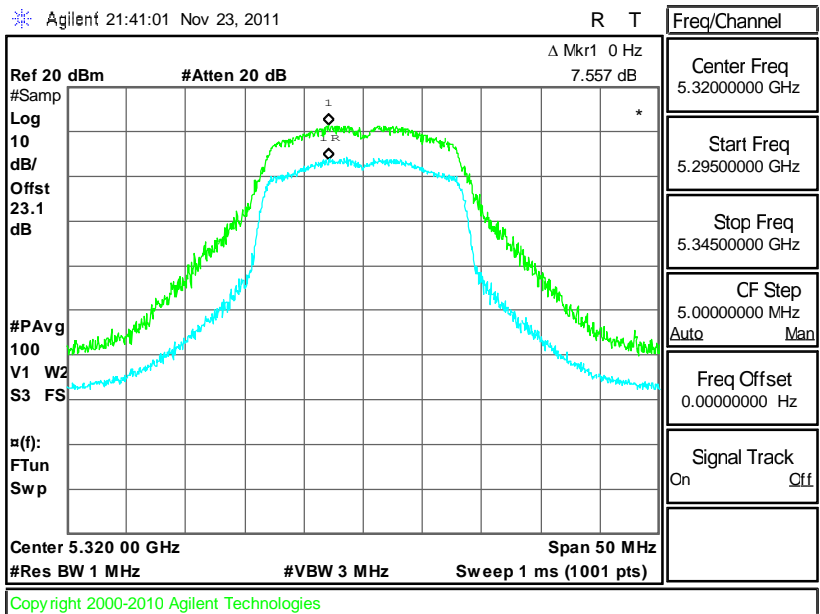




Peak Excursion Ratio Plot on 802.11a Channel 60

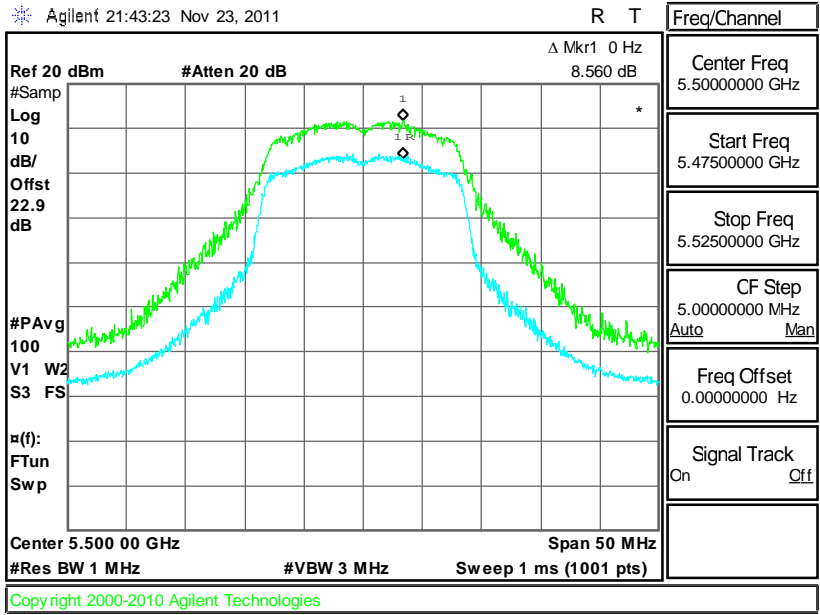


Peak Excursion Ratio Plot on 802.11a Channel 64

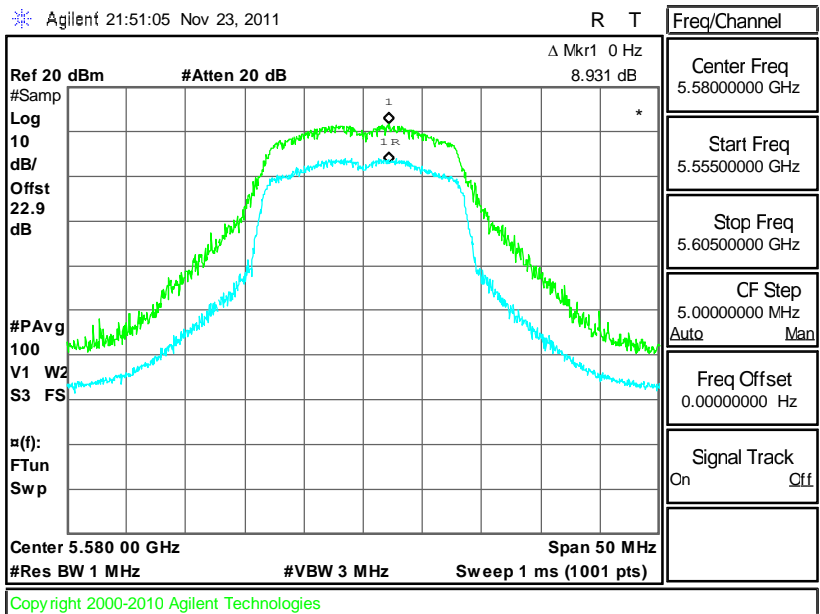




Peak Excursion Ratio Plot on 802.11a Channel 100

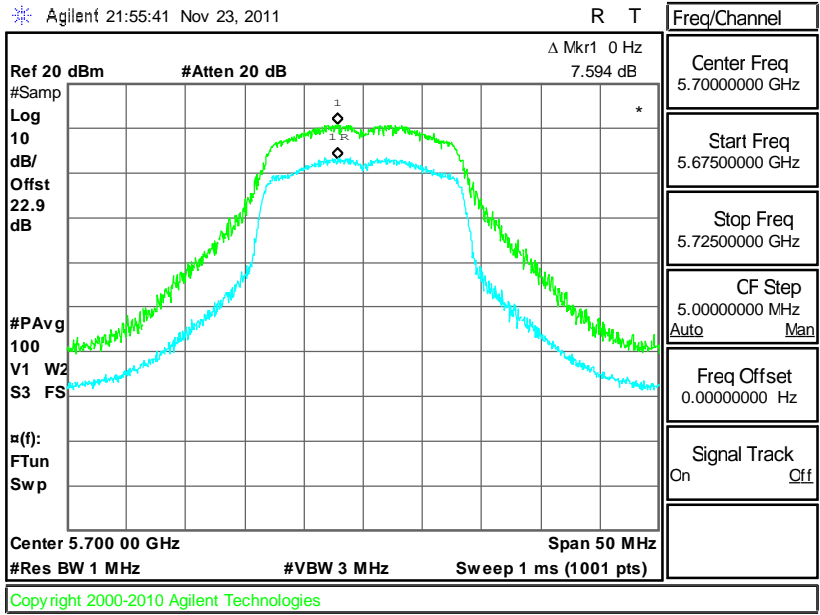


Peak Excursion Ratio Plot on 802.11a Channel 116





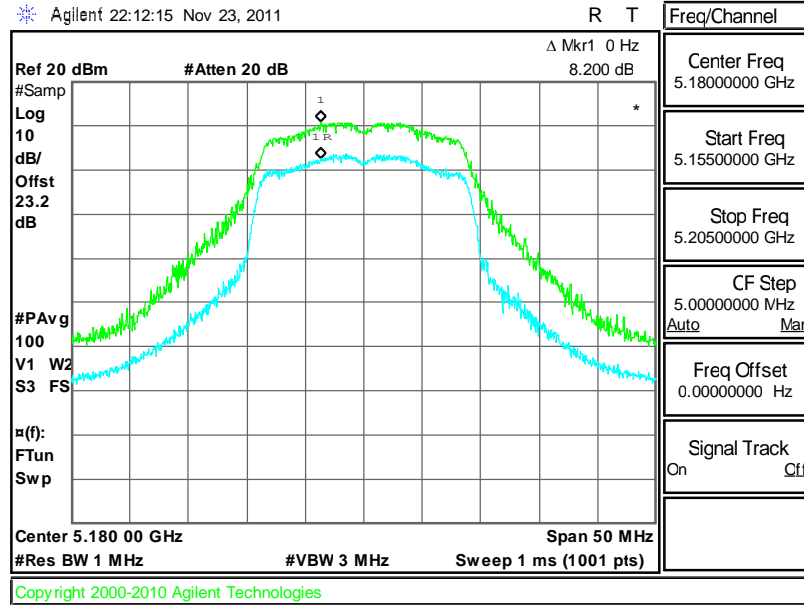
Peak Excursion Ratio Plot on 802.11a Channel 140



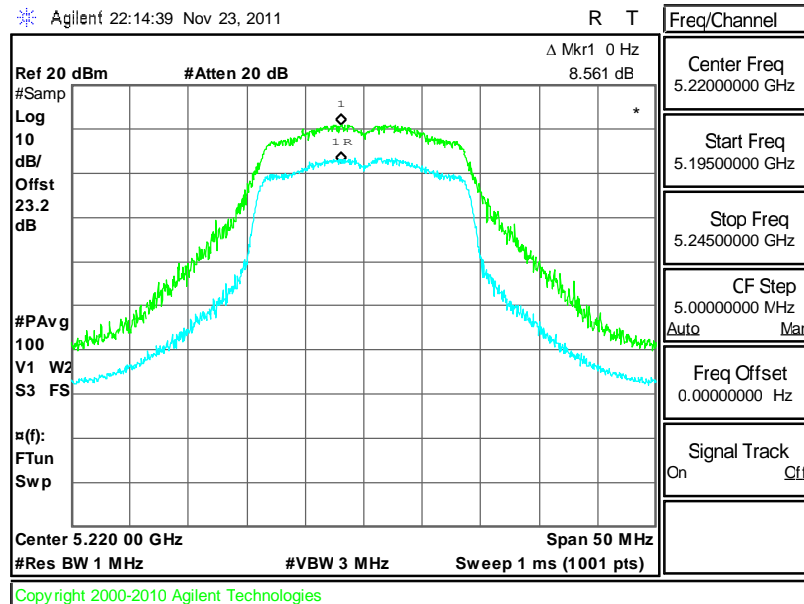


Test Mode :	Mode 10~18	Temperature :	24~26°C
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n (BW 20MHz) Channel 36

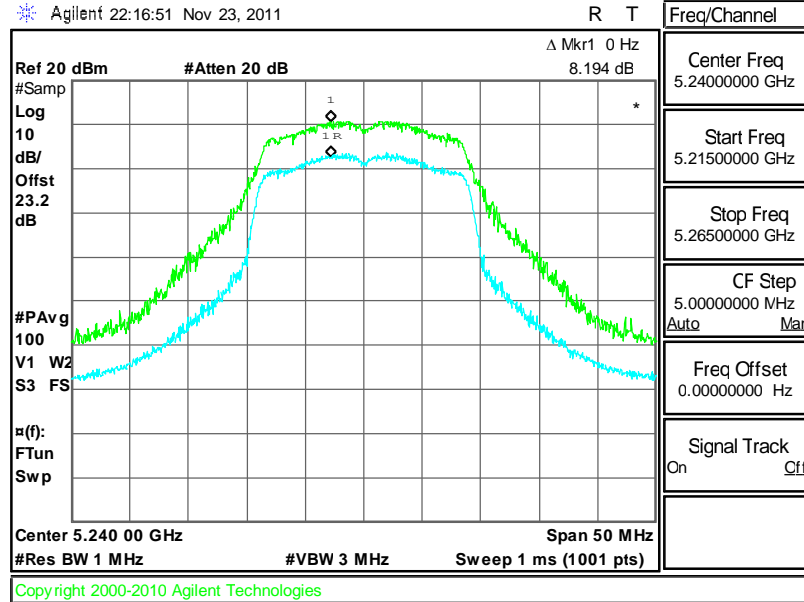


Peak Excursion Ratio Plot on 802.11n (BW 20MHz) Channel 44

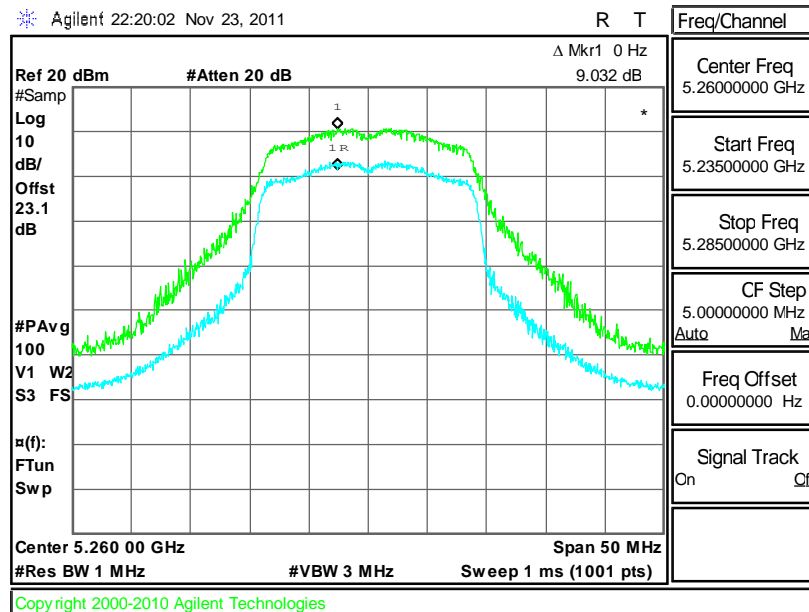




Peak Excursion Ratio Plot on 802.11n (BW 20MHz) Channel 48

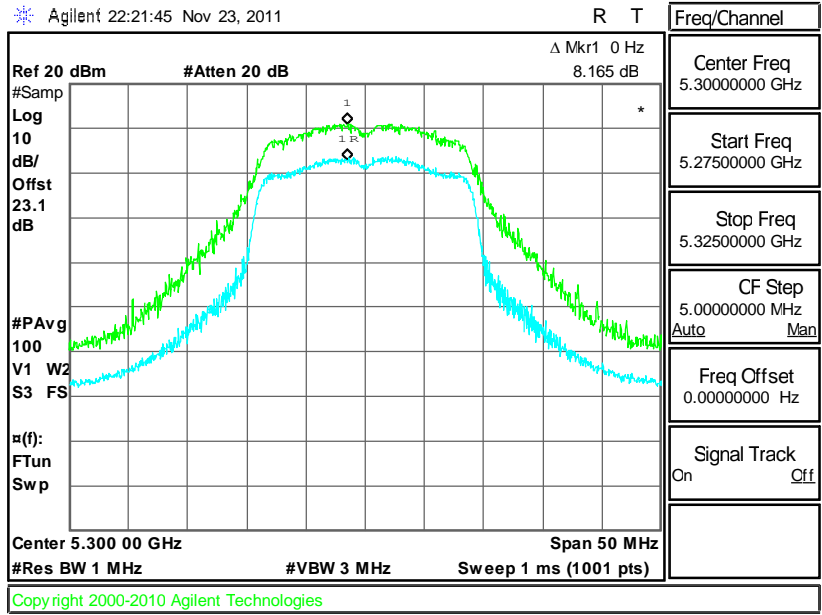


Peak Excursion Ratio Plot on 802.11n (BW 20MHz) Channel 52

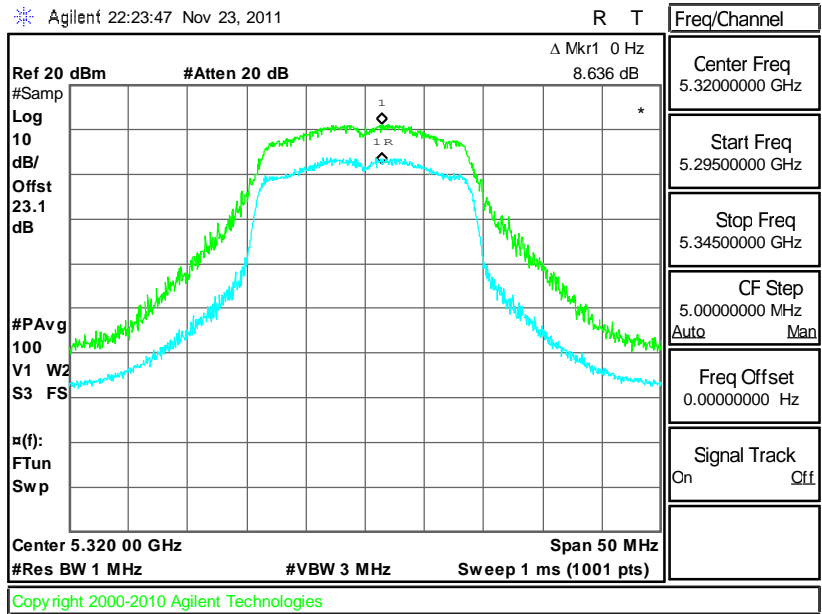




Peak Excursion Ratio Plot on 802.11n (BW 20MHz) Channel 60

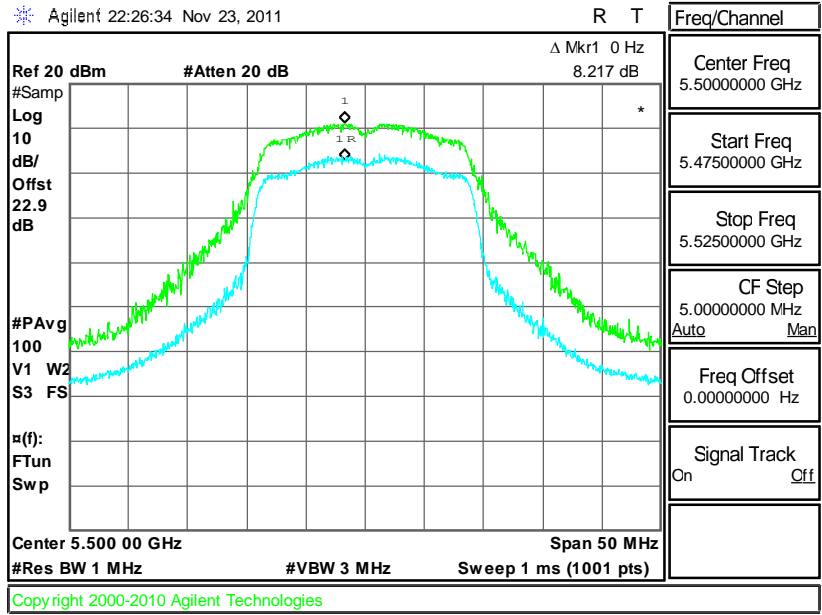


Peak Excursion Ratio Plot on 802.11n (BW 20MHz) Channel 64

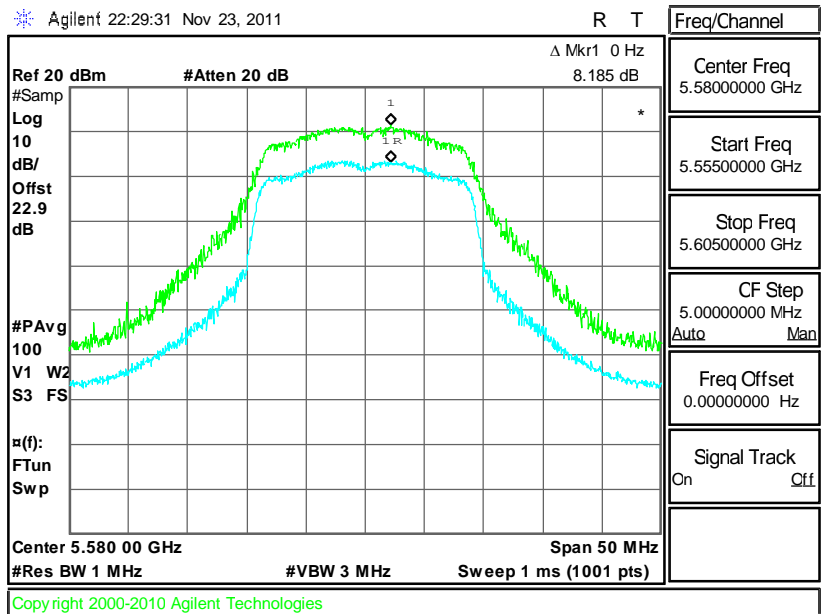




Peak Excursion Ratio Plot on 802.11n (BW 20MHz) Channel 100

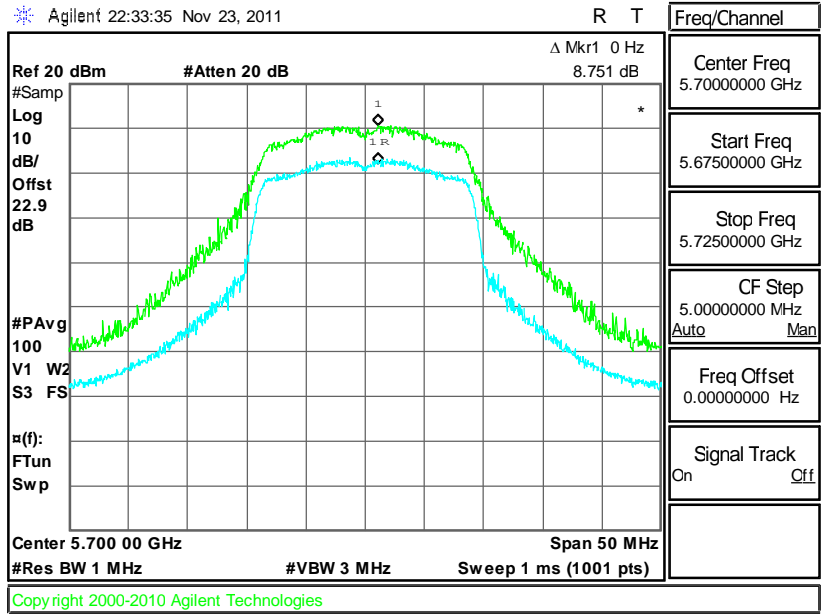


Peak Excursion Ratio Plot on 802.11n (BW 20MHz) Channel 116





Peak Excursion Ratio Plot on 802.11n (BW 20MHz) Channel 140





3.7 Automatically Discontinue Transmission

3.7.1 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.

3.7.2 Measuring Instruments

See list of measuring instruments of this test report.

3.7.3 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.

3.8 Frequency Stability Measurement

3.8.1 Limit of Frequency Stability

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

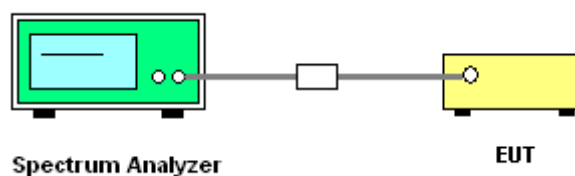
3.8.2 Measuring Instruments

See list of measuring instruments of this test report.

3.8.3 Test Procedures

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

3.8.4 Test Setup





3.8.5 Test Result of Frequency Stability

Test Mode :	Mode 1~9	Temperature :	24~26°C
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
36	5180	5171.79	5188.21	0.00
44	5220	5211.75	5228.21	-3.83
48	5240	5231.75	5248.25	0.00
52	5260	5251.75	5268.25	0.00
60	5300	5291.79	5308.25	3.77
64	5320	5311.79	5328.25	3.76
100	5500	5491.75	5508.21	-3.64
116	5580	5571.79	5588.21	0.00
140	5700	5691.75	5708.25	0.00

Test Mode :	Mode 10~18	Temperature :	24~26°C
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
36	5180	5171.17	5188.88	4.83
44	5220	5211.17	5228.83	0.00
48	5240	5231.17	5248.83	0.00
52	5260	5251.17	5268.83	0.00
60	5300	5291.17	5308.83	0.00
64	5320	5311.17	5328.88	4.70
100	5500	5491.17	5508.88	4.55
116	5580	5571.17	5588.83	0.00
140	5700	5691.17	5708.83	0.00



3.9 Antenna Requirements

3.9.1 Standard Applicable

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

3.9.2 Antenna Connected Construction

The antennas type used in this product is Fixed Internal Antenna without connector and it is considered to meet antenna requirement of FCC.

3.9.3 Antenna Gain

The antenna gain is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
System Simulator	R&S	CMU200	117995	N/A	Jul. 28, 2011	Nov. 16, 2011~ Nov. 23, 2011	Jul. 27, 2012	Conducted (TH02-HY)
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 13, 2011	Nov. 16, 2011~ Nov. 23, 2011	Jun. 12, 2012	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 18, 2011	Nov. 16, 2011~ Nov. 23, 2011	Sep. 17, 2012	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	0846202	N/A	Sep. 18, 2011	Nov. 16, 2011~ Nov. 23, 2011	Sep. 17, 2012	Conducted (TH02-HY)
Thermal Chamber	Ten Billion	TTH-D35P	TBN-930701	N/A	Jul. 27, 2011	Nov. 16, 2011~ Nov. 23, 2011	Jul. 26, 2012	Conducted (TH02-HY)
EMI Test Receive	R&S	ESCI 7	100724	9kHz~7GHz	Aug. 22, 2011	Dec. 20, 2011 ~ Dec. 21, 2011	Aug. 21, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz~30MHz	Dec. 09, 2011	Dec. 20, 2011 ~ Dec. 21, 2011	Dec. 08, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz~30MHz	Dec. 06, 2011	Dec. 20, 2011 ~ Dec. 21, 2011	Dec. 05, 2012	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Dec. 20, 2011 ~ Dec. 21, 2011	N/A	Conduction (CO05-HY)
System Simulator	R&S	CMU200	112403	N/A	Feb. 22, 2011	Dec. 20, 2011 ~ Dec. 21, 2011	Feb. 21, 2012	Conduction (CO05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 22, 2011	Dec. 03, 2011~ Dec. 06, 2011	Oct. 21, 2012	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP30	101352	9KHz ~ 30GHz	Nov. 03, 2011	Dec. 03, 2011~ Dec. 06, 2011	Nov. 02, 2012	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 10, 2011	Dec. 03, 2011~ Dec. 06, 2011	Aug. 09, 2012	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A01917	1GHz~26.5GHz	Apr. 14, 2011	Dec. 03, 2011~ Dec. 06, 2011	Apr. 13, 2012	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32 dB.GAIN	Mar. 29, 2011	Dec. 03, 2011~ Dec. 06, 2011	Mar. 28, 2012	Radiation (03CH07-HY)
EMI TEST RECEIVER	R&S	ESCI 7	100724	9kHz~7GHz	Aug. 22, 2011	Dec. 03, 2011~ Dec. 06, 2011	Aug. 21, 2012	Radiation (03CH07-HY)
Pre Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	159088	1GHz ~ 18GHz	Feb. 21, 2011	Dec. 03, 2011~ Dec. 06, 2011	Feb. 20, 2012	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
Combined Standard Uncertainty $U_c(y)$	1.13		
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.26		

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
Combined Standard Uncertainty $U_c(y)$	1.27		
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.54		



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
Combined Standard Uncertainty $U_c(y)$	2.36				
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.72				



Appendix A. Photographs of EUT

Please refer to Sporton report number EP1D0804 as below.