FCC/IC RF Test Report

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

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

The product was received on Aug. 06, 2010 and completely tested on Sep. 06, 2010. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown compliance with the applicable technical standards.

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

Reviewed by:

Anderson Chiu

Anderson Chiu / Deputy Manager

Testing Laboratory 1190

SPORTON INTERNATIONAL INC.

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR080603B	Rev. 01	Initial issue of report	Sep. 16, 2010

SUMMARY OF TEST RESULT

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

1 General Description

1.1 Applicant

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

1.2 Manufacturer

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

1.3 Testing Site Facilities

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

1.4 Applied Standards

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

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

Remark:

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

1.5 Ancillary Equipment List

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

2 Equipment Under Test

2.1 General Information of EUT

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

Remark:

1. For other wireless features of this EUT, test report will be issued separately.
2. This test report recorded only product characteristics and test results of Unlicensed National Information Infrastructure (UNII).
3. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

2.2 Carrier Frequency Channel

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

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

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

2.3 Maximum Output Power

The device has the maximum average conducted power as below:

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

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

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

The device has the maximum output conducted power as below:

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

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

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

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

2.4 Antenna Information

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

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

2.5 Worst-case Configuration and Test Mode

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

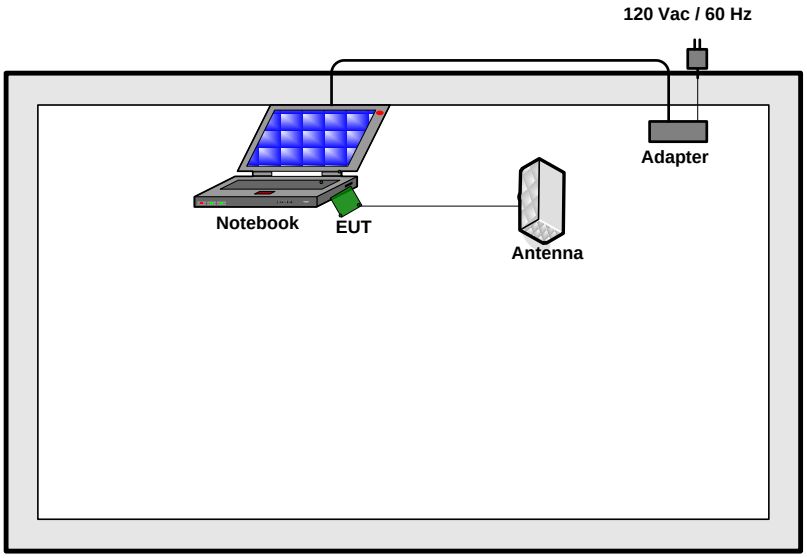
The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz), radiated emission (30 MHz to the 10th harmonic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

WORST-CASE CONFIGURATION AND MODE
The worst-case data rates are determined to be as follows for each mode, based on the investigations by measuring the average power, output power and PPSD across all the data rates, bandwidths, modulations and spatial stream modes.
Thus all tests were made with following data rates:
802.11a mode, 20 MHz Channel Bandwidth, 9 Mb/s, OFDM Modulation;
802.11n HT20 mode, 20 MHz Channel Bandwidth, MCS0, 6.5 Mb/s, OFDM Modulation;
802.11n HT40 mode, 40 MHz Channel Bandwidth, MCS0, 13.5 Mb/s, OFDM Modulation;
In addition, the radiated emission power is higher when Beam Forming is on, thus, all the radiated emission tests were performed with Beam Forming on; plus, the composite antenna gains were taken into the consideration for calculating transmit power limits; therefore, all the data listed in this report will adhere to both Beam Forming and non Bean Forming cases.

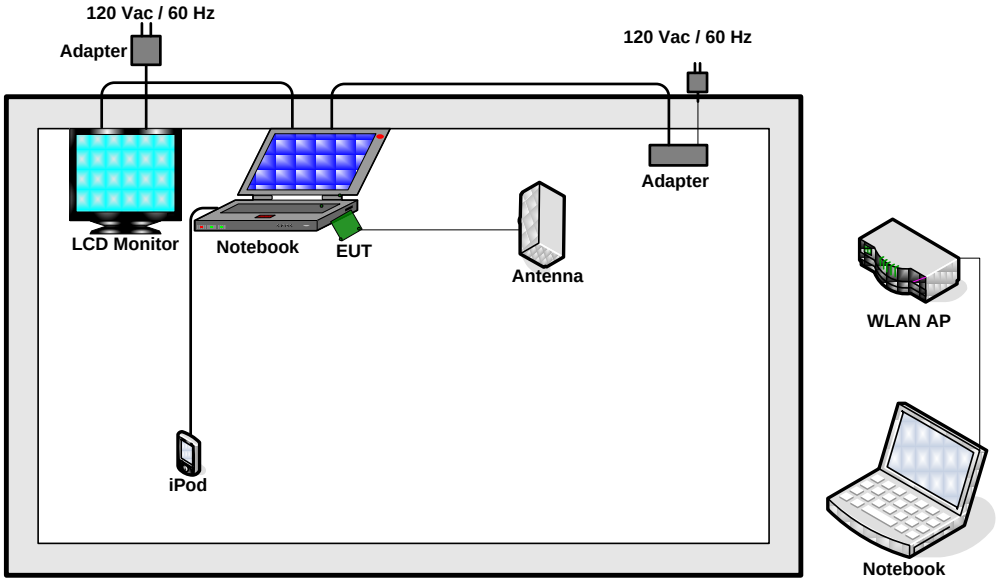
This device has been evaluated as module of mobile device, as well as portable device. Therefore, for radiated spurious emission, the EUT antenna has been tested in X,Y, and Z axis to simulate mobile and portable position. The worst case position is Z-axis, only data from Z-axis was recorded in this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

2.6 Connection Diagram of Test System

<WLAN Tx Mode>



< AC Conducted Emission Mode>



2.7 RF Utility

The programmed RF Utility “art2_ver_1_8”, is installed in notebook to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

3 Test Result

3.1 26dB & 99% Bandwidth Measurement

3.1.1 Limit of 26dB & 99% Bandwidth

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

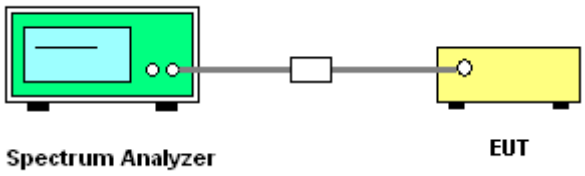
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup



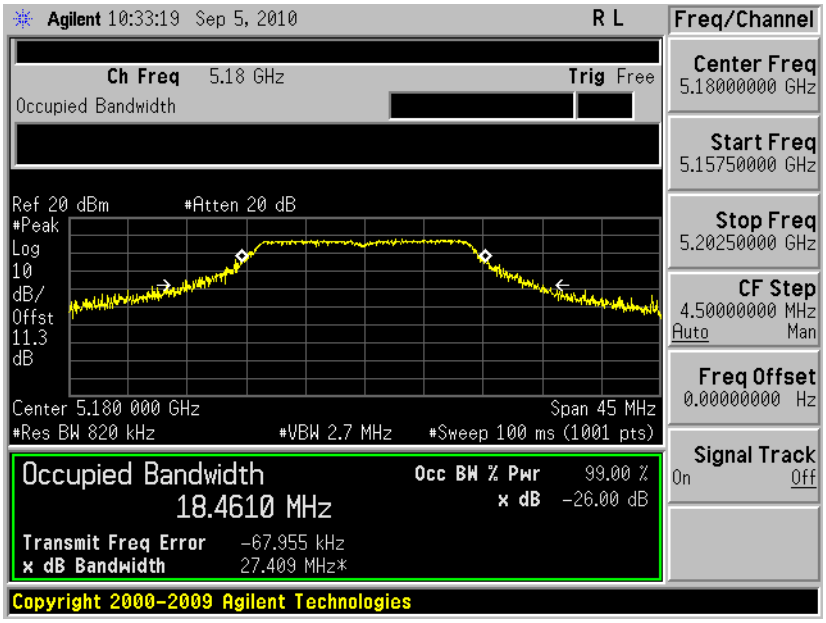
3.1.5 Test Result of 26dB and 99% Bandwidth

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

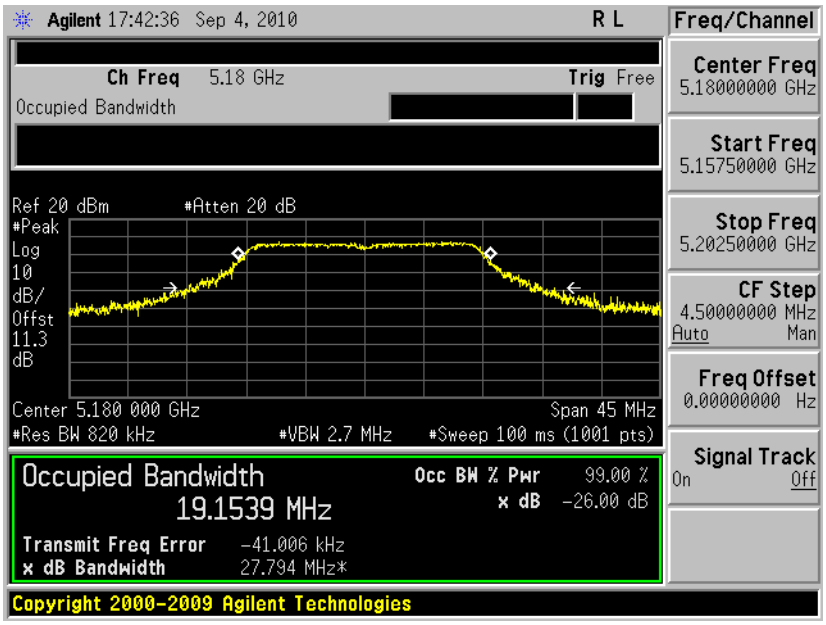
Channel	Frequency (MHz)	802.11a 26dB Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	27.41	27.79
44	5220	26.88	25.67
48	5240	28.25	25.98
52	5260	32.51	31.93
60	5300	29.67	31.43
64	5320	29.24	26.88
100	5500	39.47	40.55
120	5600	42.40	39.45
140	5700	41.14	40.37

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

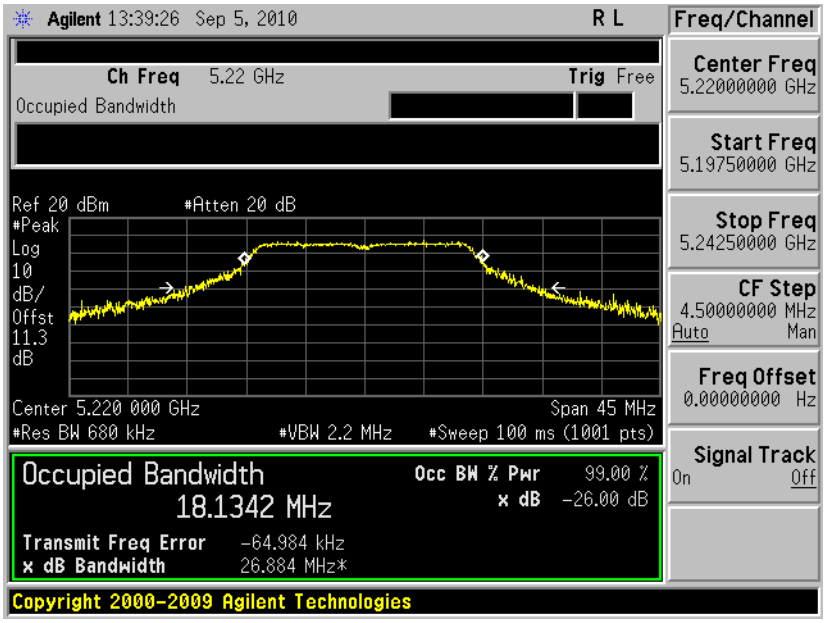
26 dB & 99% Bandwidth Plot on 802.11a Channel 36 - Chain 0



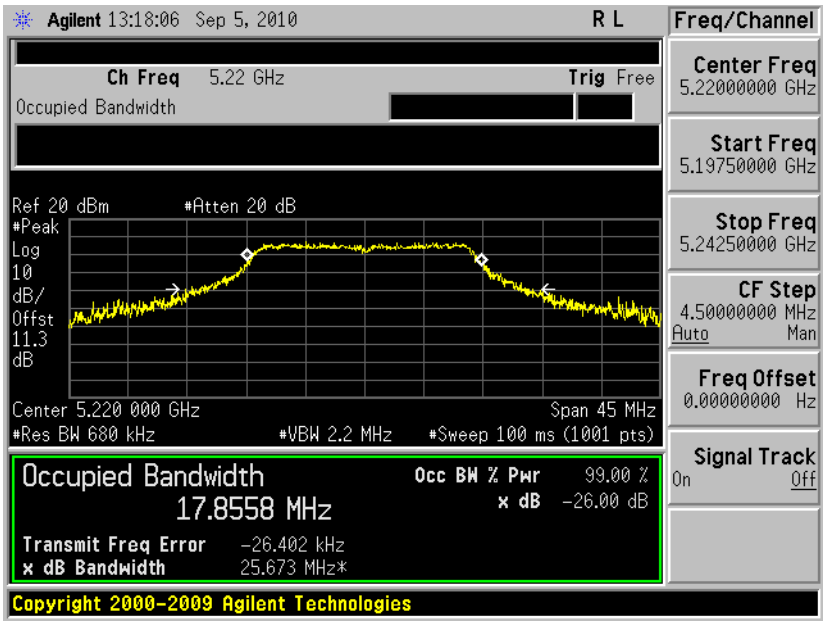
26 dB & 99% Bandwidth Plot on 802.11a Channel 36 - Chain 1



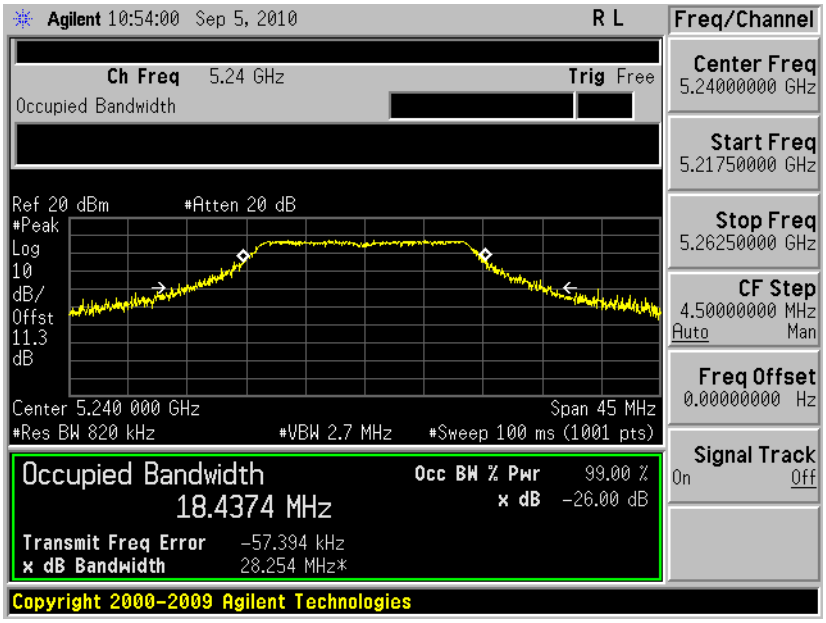
26 dB & 99% Bandwidth Plot on 802.11a Channel 44 - Chain 0



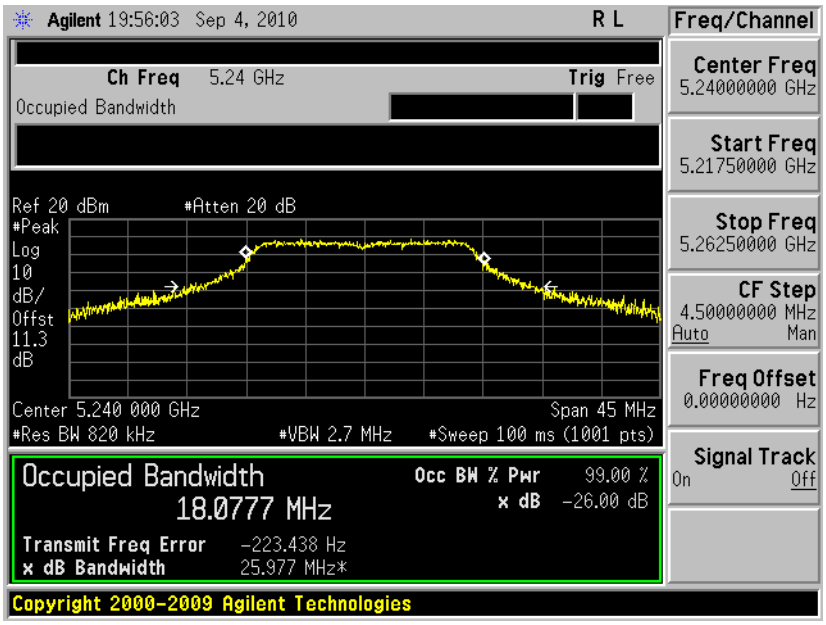
26 dB & 99% Bandwidth Plot on 802.11a Channel 44 - Chain 1



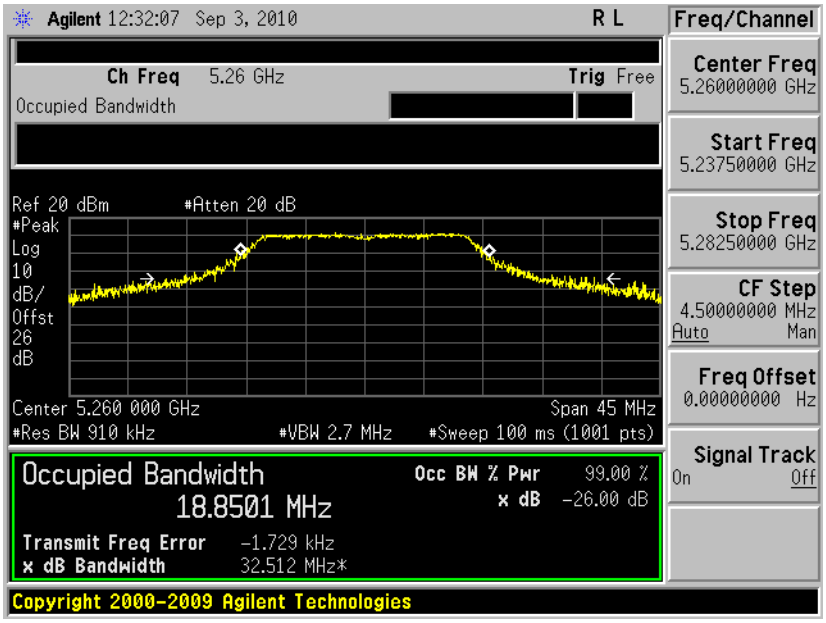
26 dB & 99% Bandwidth Plot on 802.11a Channel 48 - Chain 0



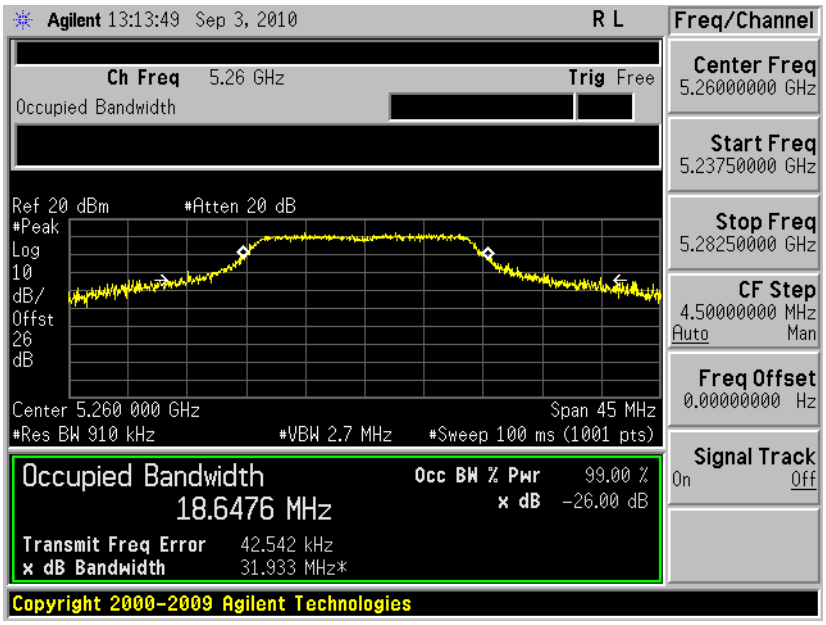
26 dB & 99% Bandwidth Plot on 802.11a Channel 48 - Chain 1



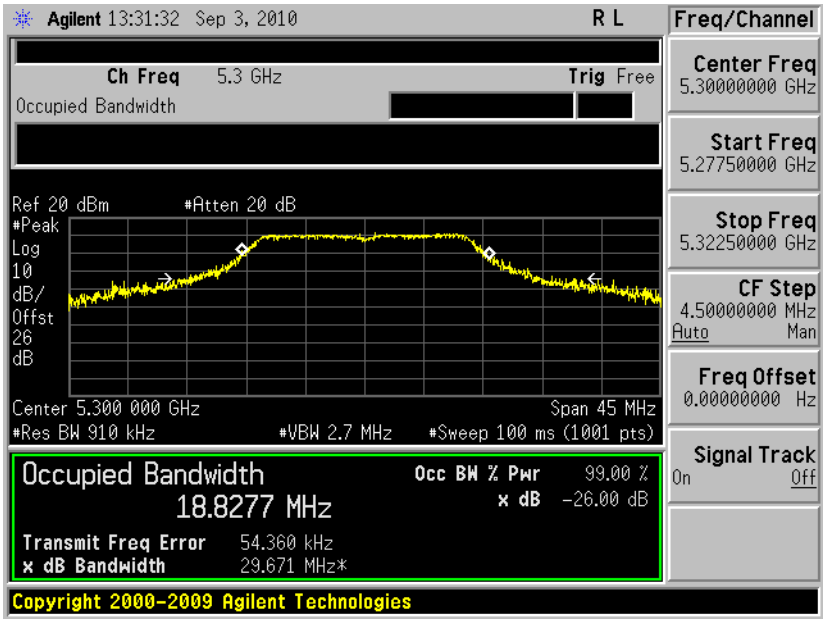
26 dB & 99% Bandwidth Plot on 802.11a Channel 52 - Chain 0



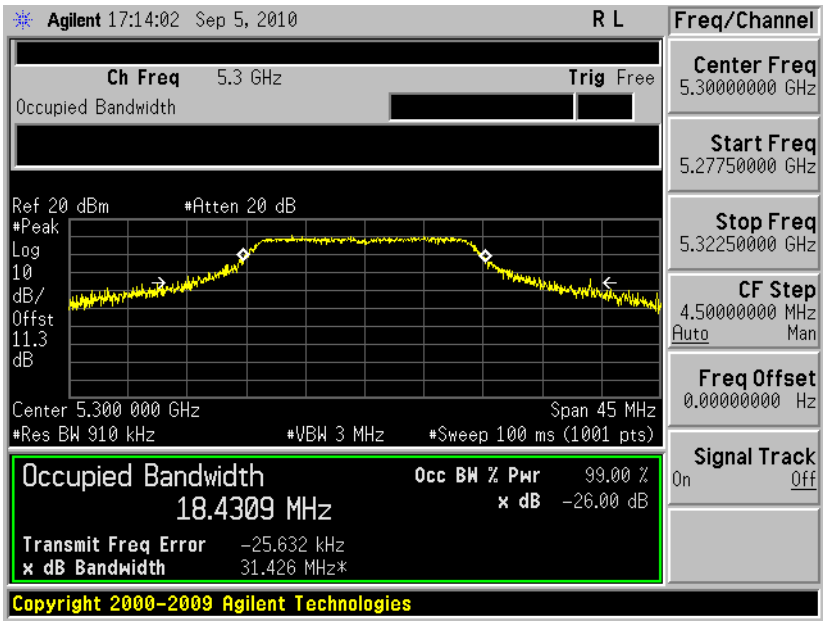
26 dB & 99% Bandwidth Plot on 802.11a Channel 52 - Chain 1



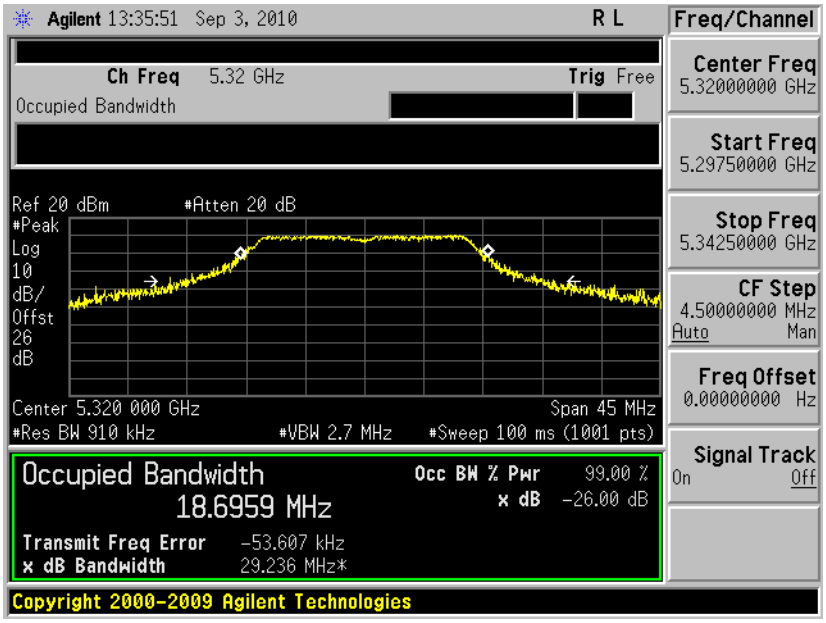
26 dB & 99% Bandwidth Plot on 802.11a Channel 60 - Chain 0



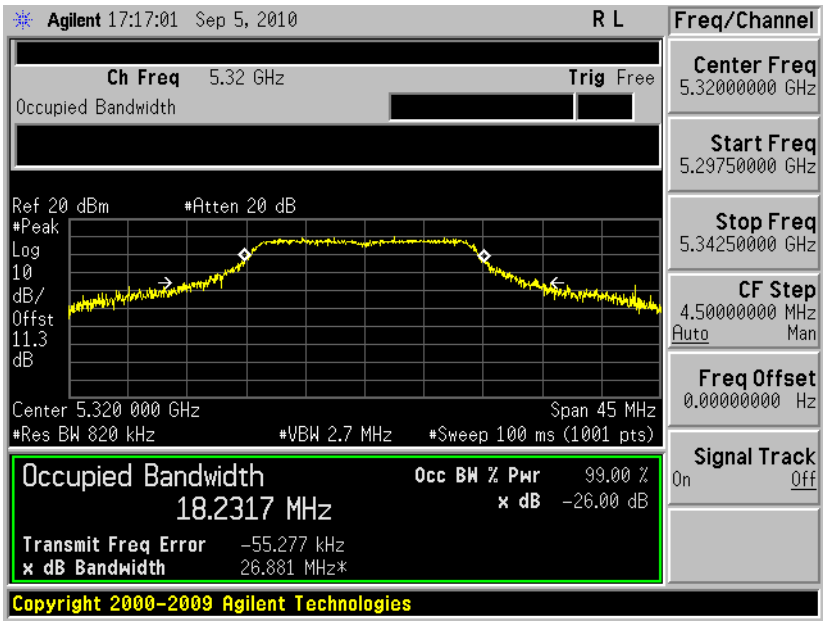
26 dB & 99% Bandwidth Plot on 802.11a Channel 60 - Chain 1



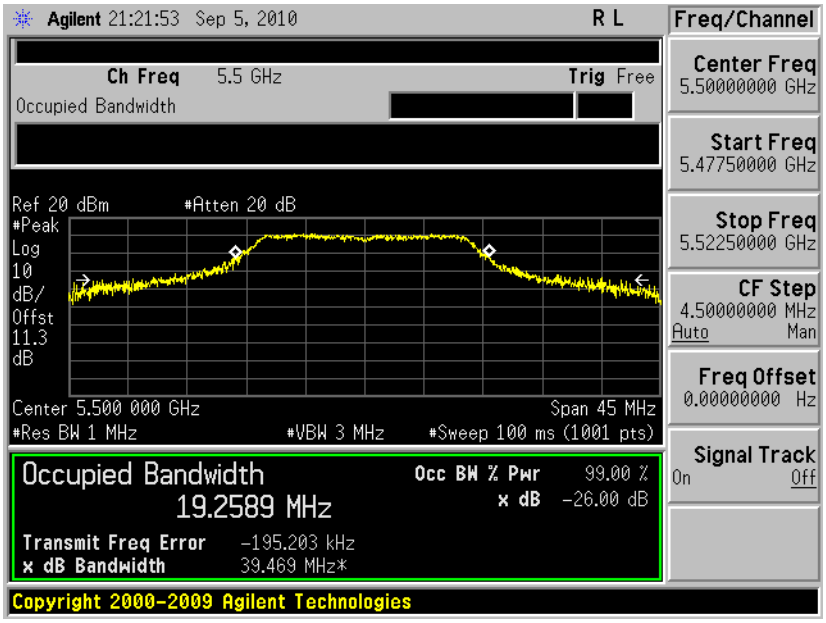
26 dB & 99% Bandwidth Plot on 802.11a Channel 64 - Chain 0



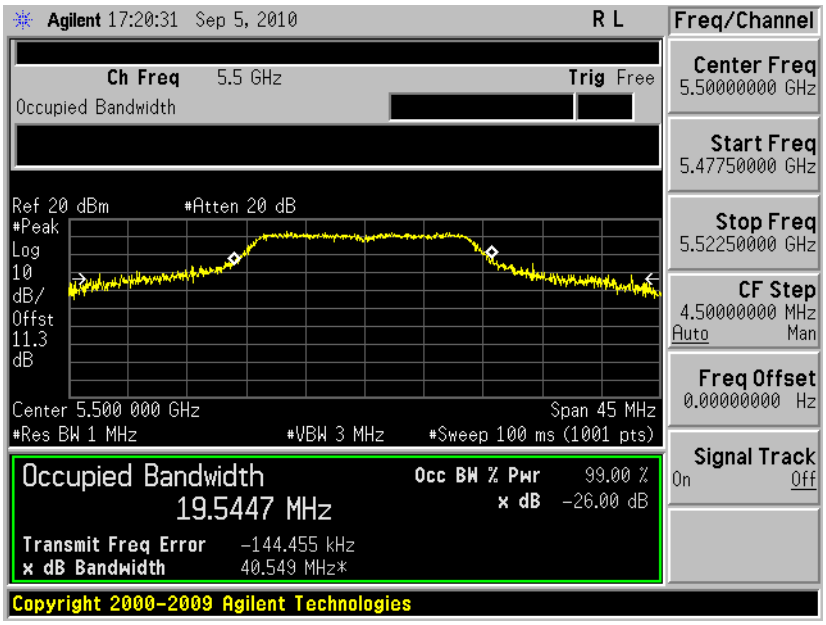
26 dB & 99% Bandwidth Plot on 802.11a Channel 64 - Chain 1



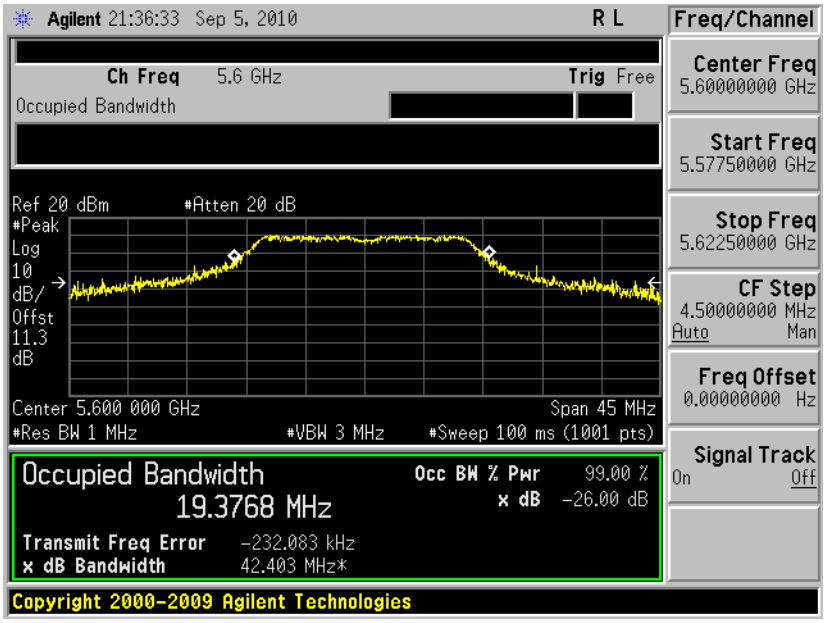
26 dB & 99% Bandwidth Plot on 802.11a Channel 100 - Chain 0



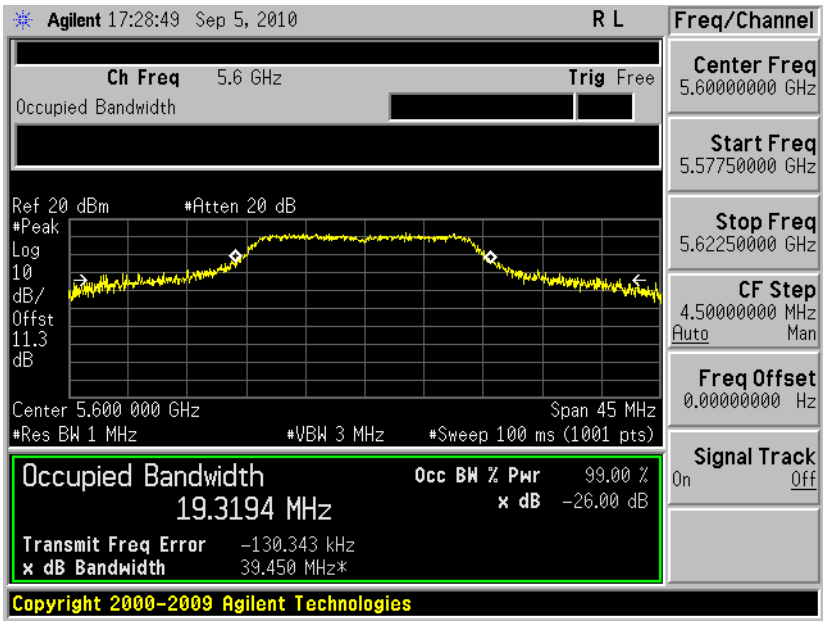
26 dB & 99% Bandwidth Plot on 802.11a Channel 100 - Chain 1



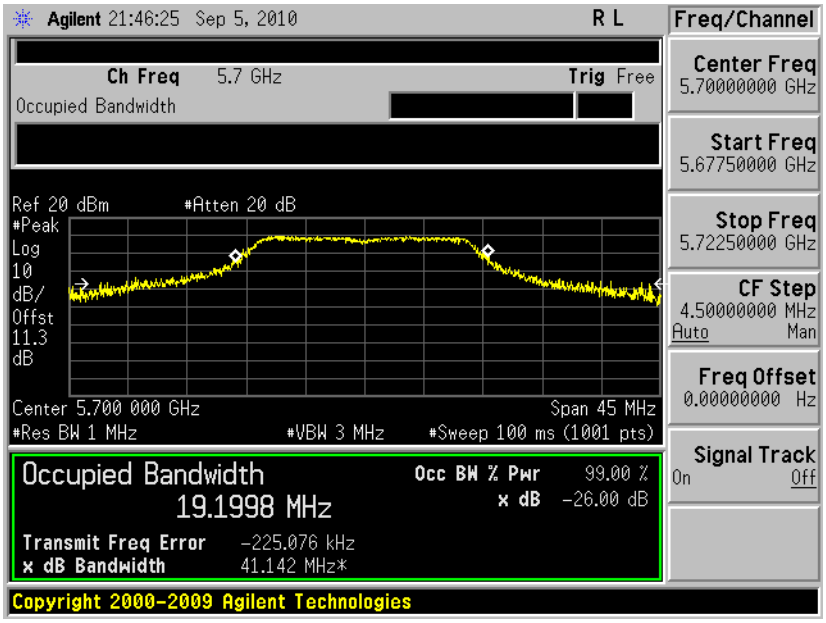
26 dB & 99% Bandwidth Plot on 802.11a Channel 120 - Chain 0



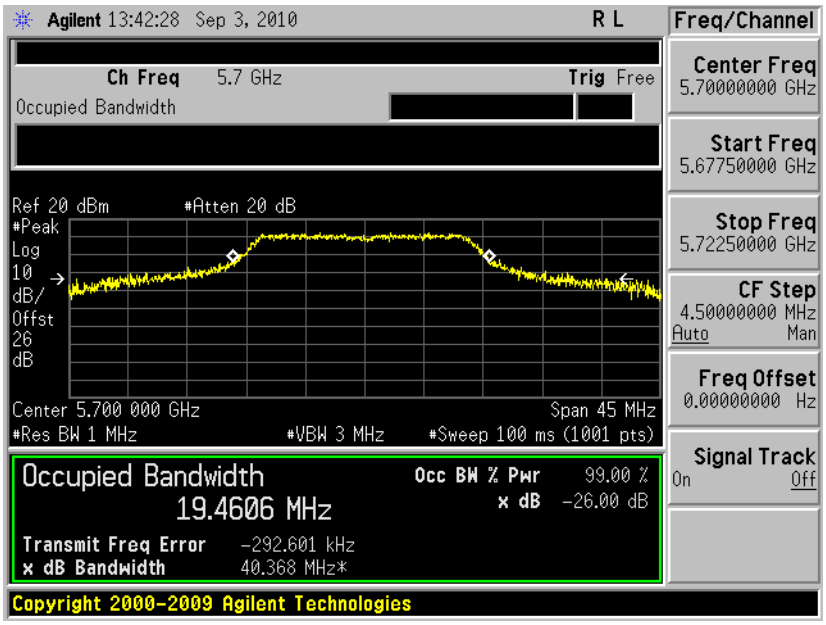
26 dB & 99% Bandwidth Plot on 802.11a Channel 120 - Chain 1



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



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

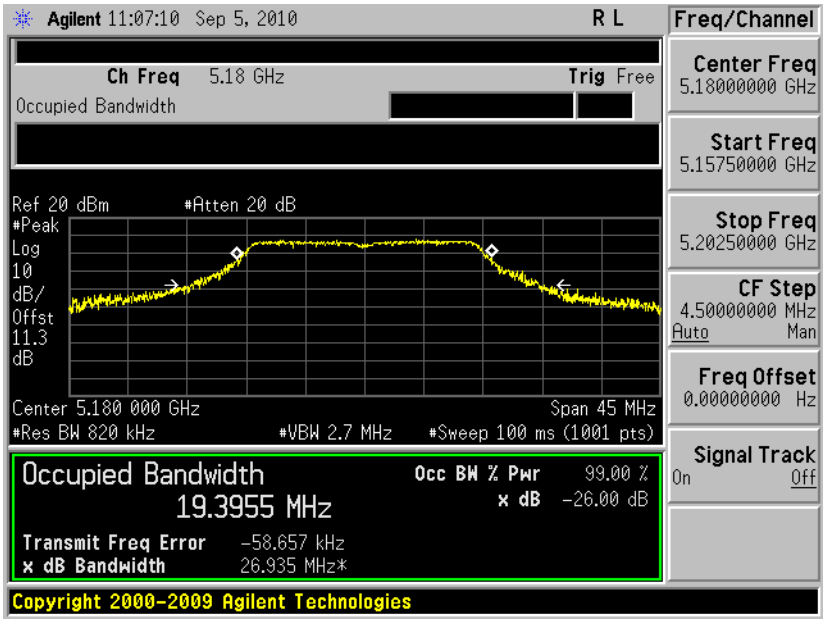


Test Mode :	802.11n (HT-20) L/M/H channels	Temperature :	25~27℃
Test Engineer :	Lancelot Chen and Alan Liu	Relative Humidity :	41~44%

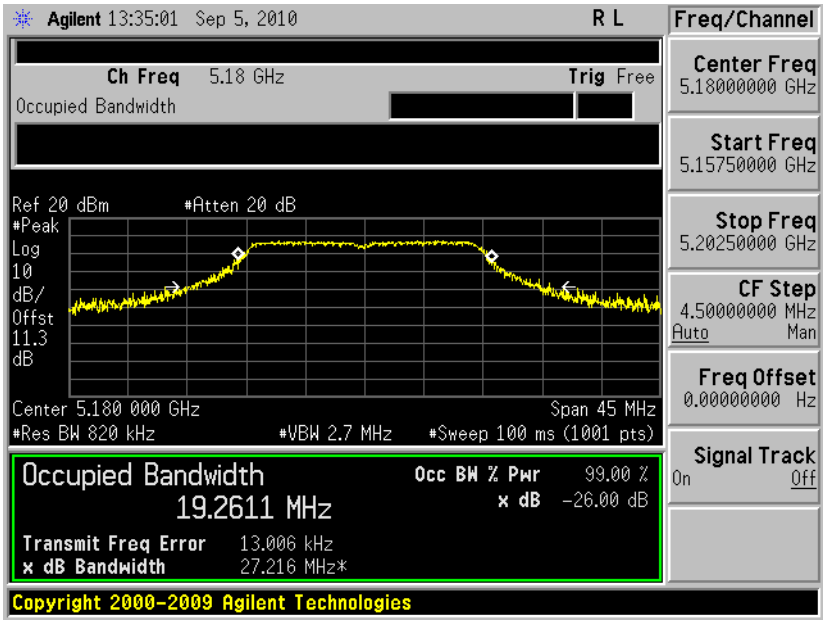
Channel	Frequency (MHz)	802.11n (HT-20) 26dB Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	26.94	27.22
44	5220	27.53	27.48
48	5240	28.48	28.72
52	5260	29.60	33.51
60	5300	32.66	35.80
64	5320	28.16	30.87
100	5500	43.00	42.75
120	5600	39.39	43.32
140	5700	39.28	44.70

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

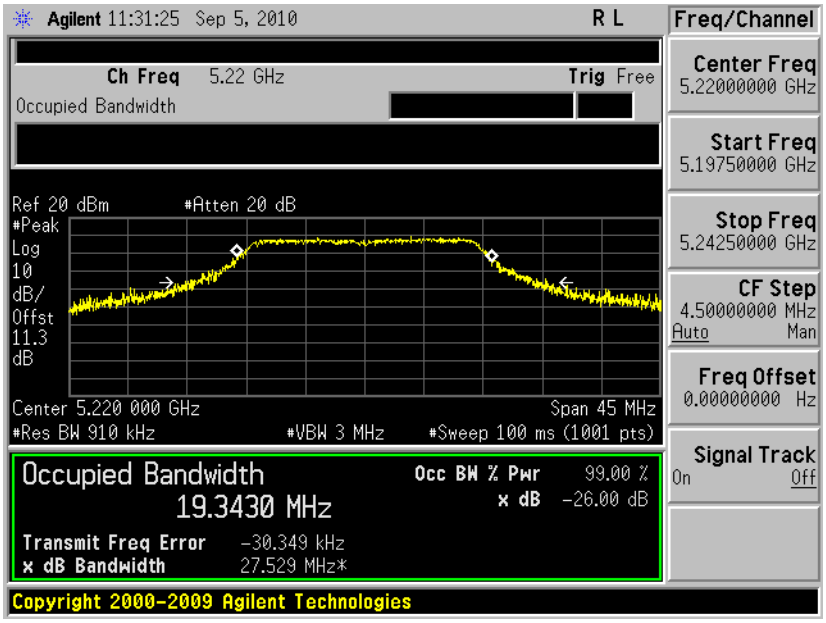
26 & 99% dB Bandwidth Plot on 802.11n (HT-20) Channel 36 - Chain 0



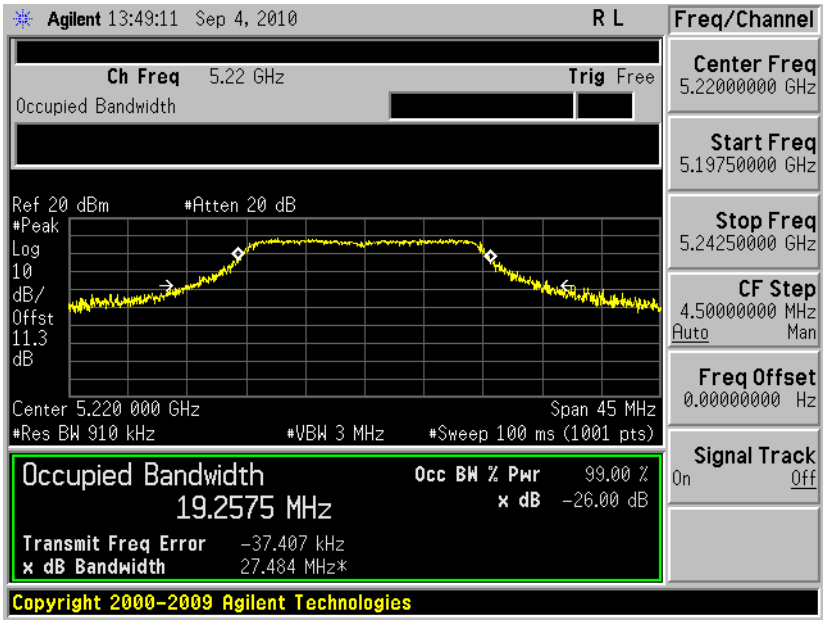
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 36 - Chain 1



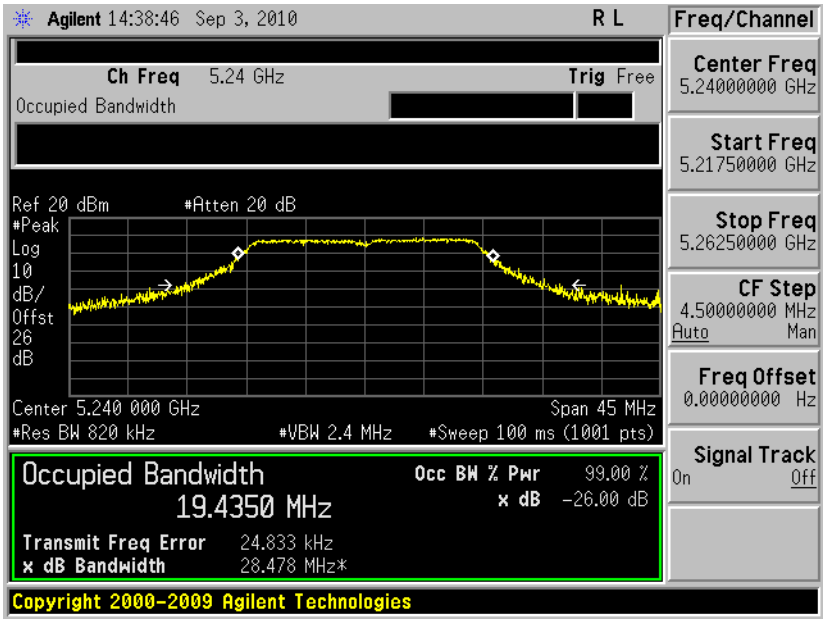
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 44 - Chain 0



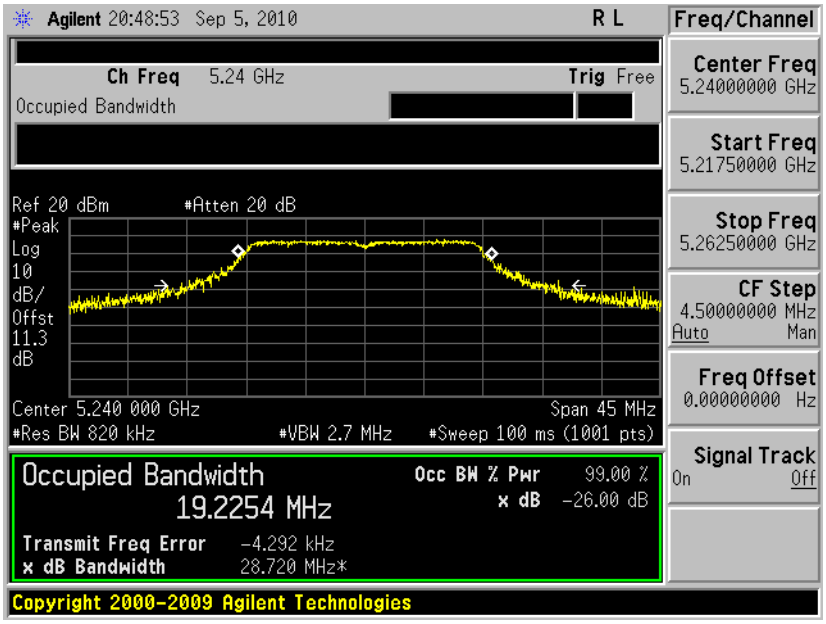
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 44 - Chain 1



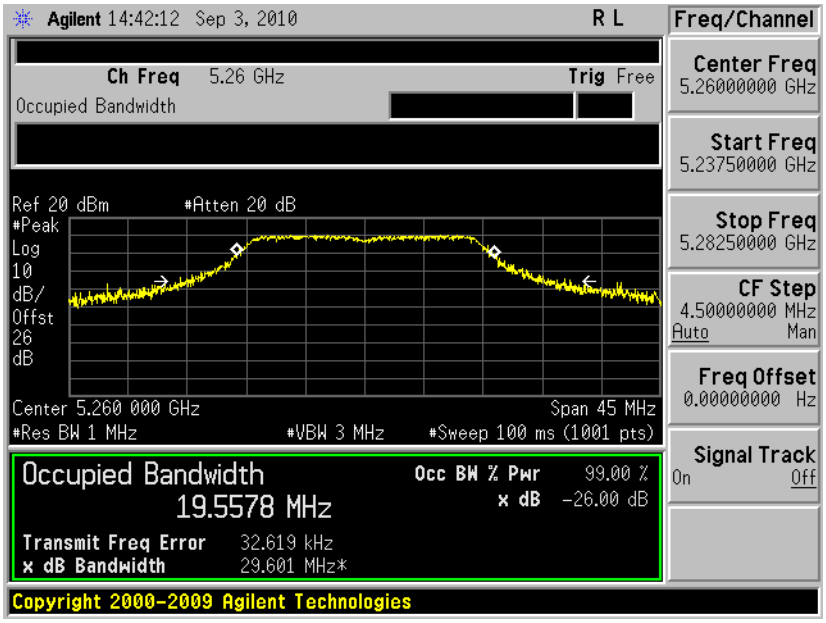
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 48 - Chain 0



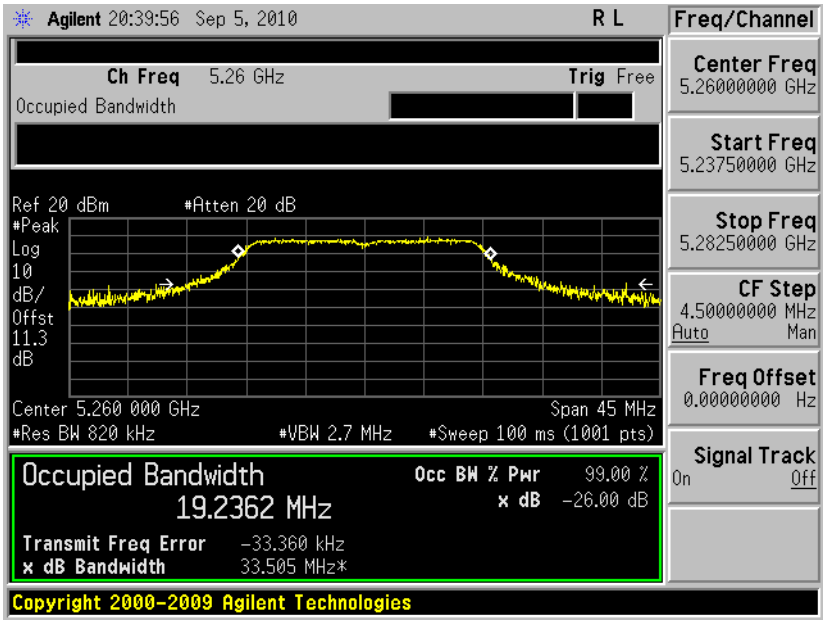
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 48 - Chain 1



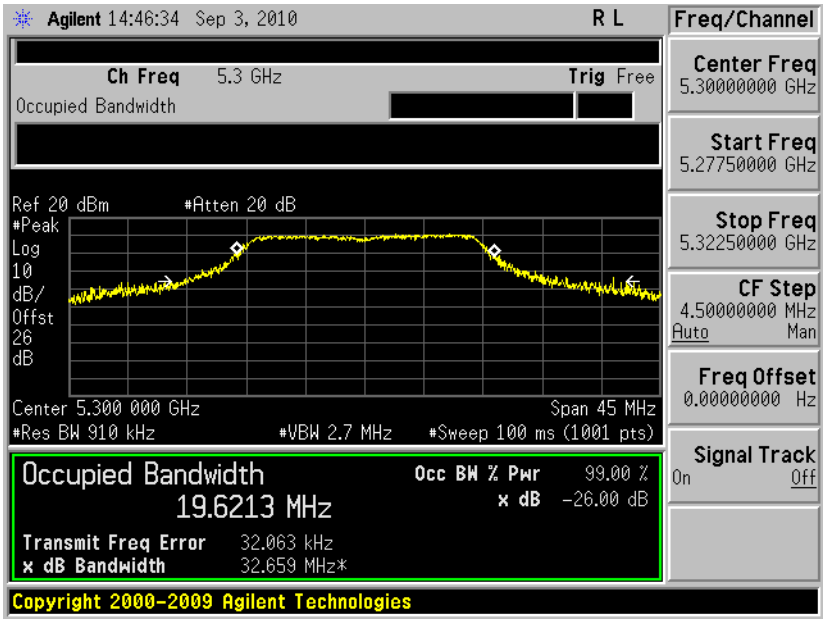
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 52 - Chain 0



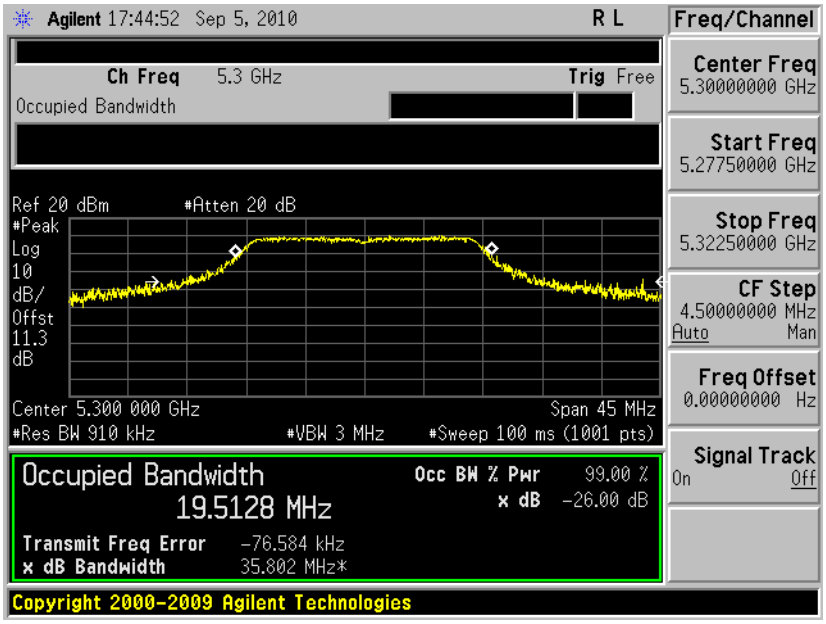
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 52 - Chain 1



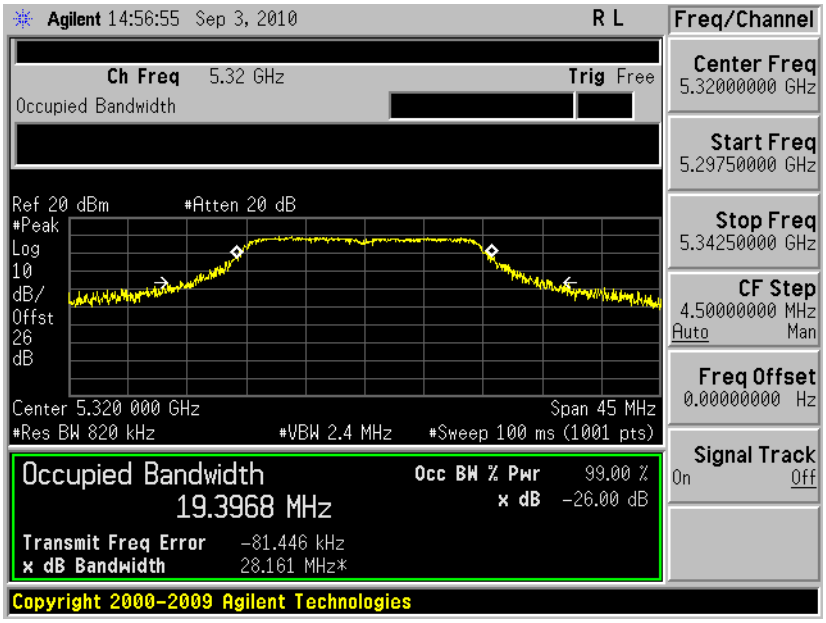
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 60 - Chain 0



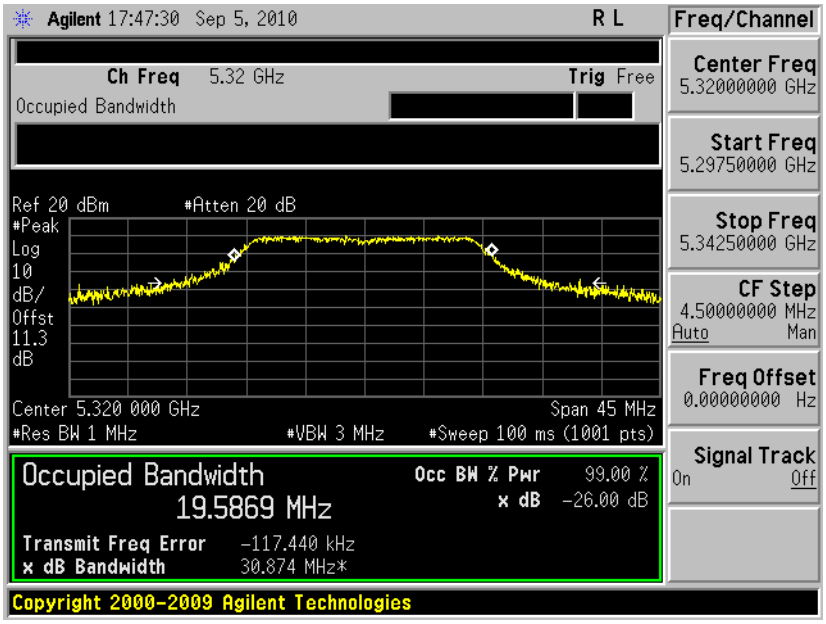
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 60 - Chain 1



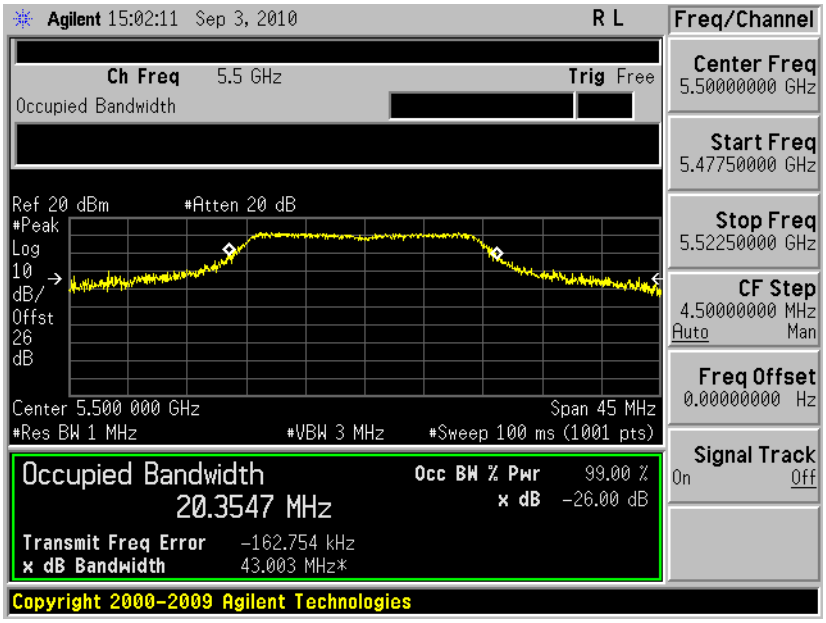
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 64 - Chain 0



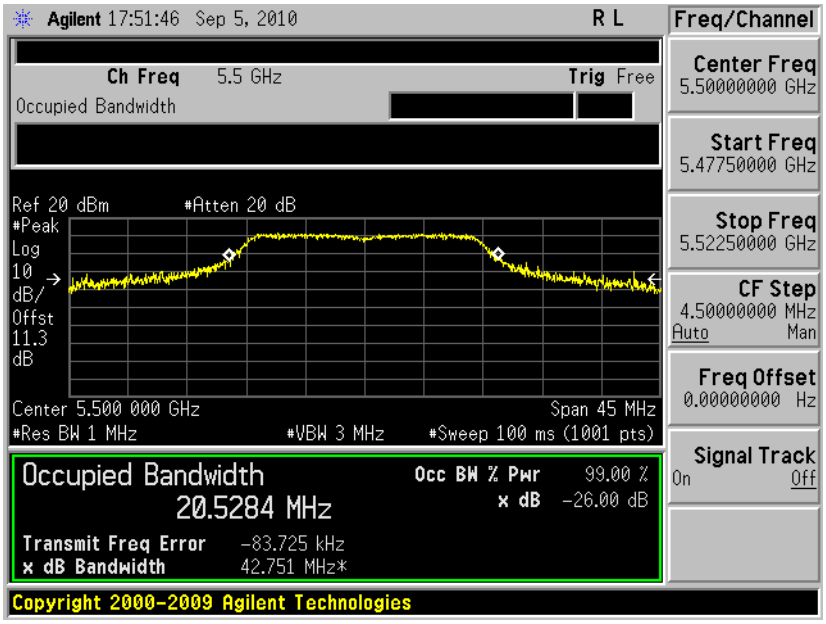
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 64 - Chain 1



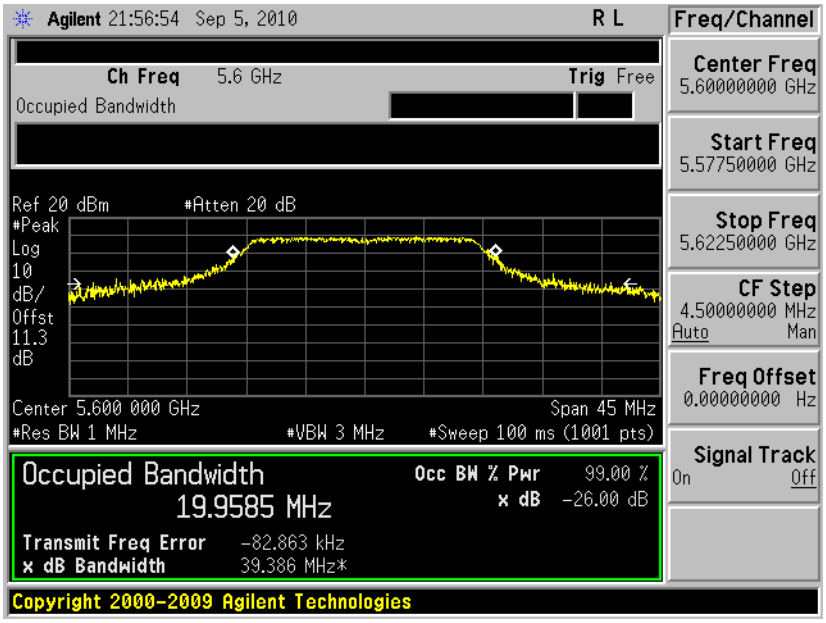
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 100 - Chain 0



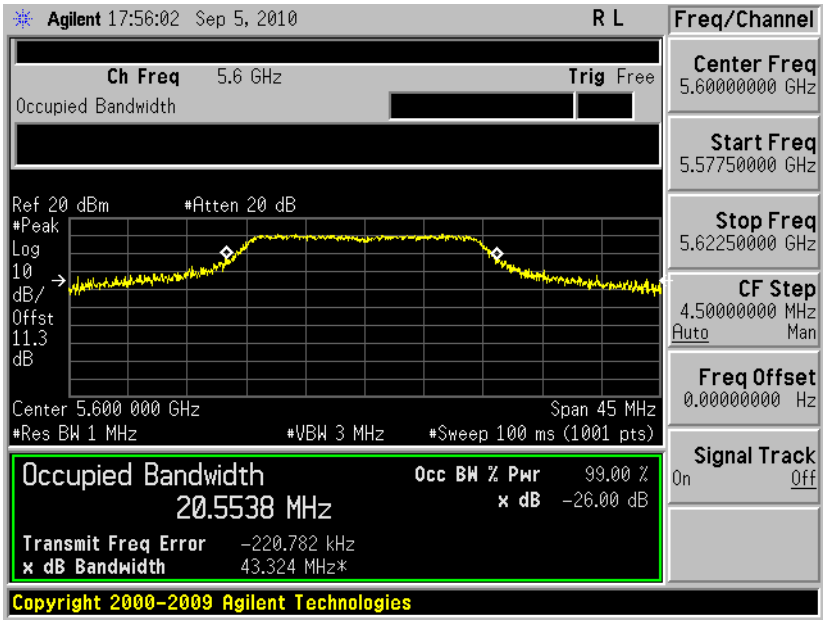
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 100 - Chain 1



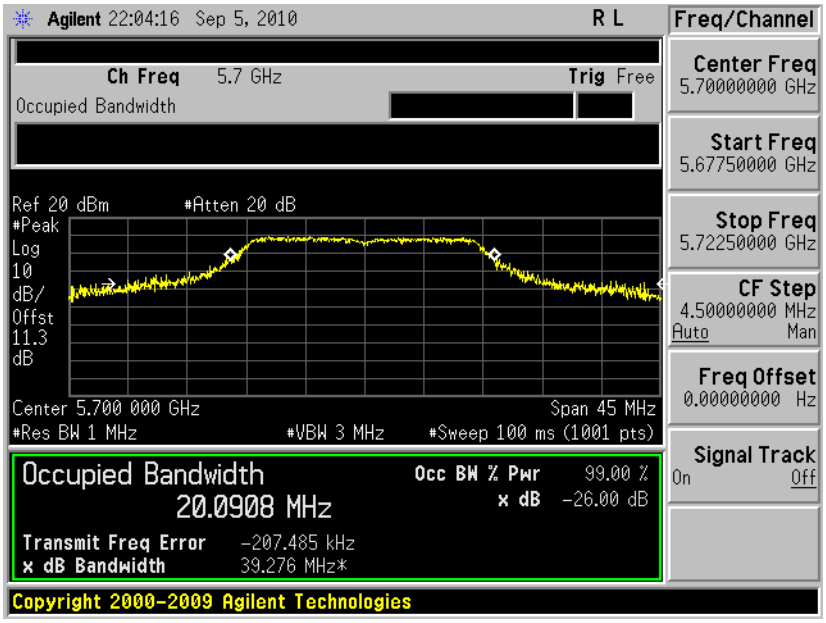
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 120 - Chain 0



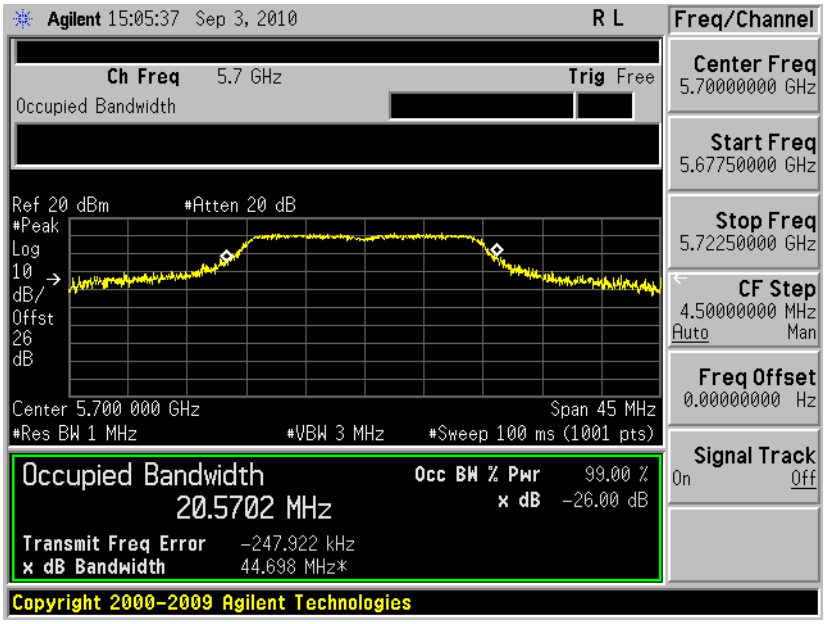
26 dB & 99% Bandwidth Plot on 802.11n (HT-20) Channel 120 - Chain 1



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



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

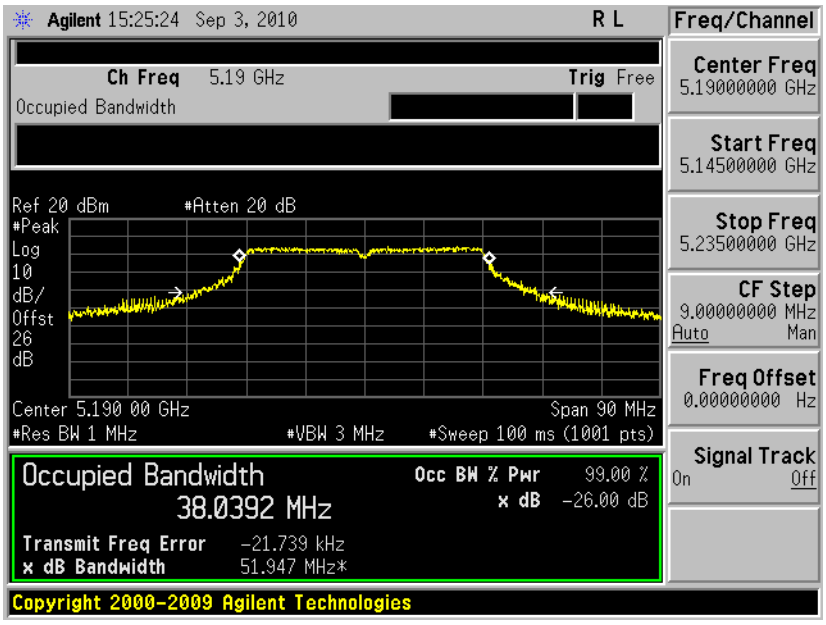


Test Mode :	802.11n (HT-40) L/M/H channels	Temperature :	25~27℃
Test Engineer :	Lancelot Chen and Alan Liu	Relative Humidity :	41~44%

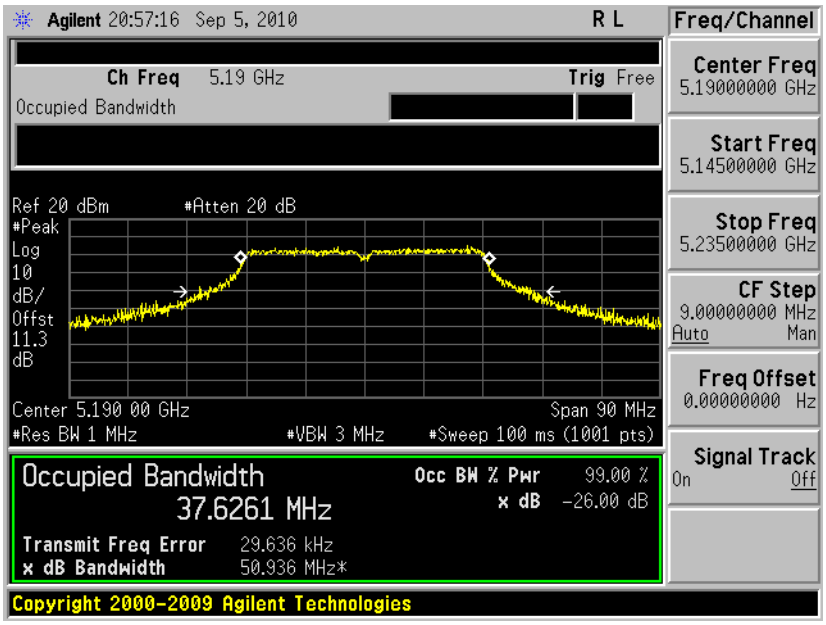
Channel	Frequency (MHz)	802.11n (HT-40) 26dB Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	51.95	50.94
46	5230	71.39	59.82
54	5270	58.04	50.45
62	5310	51.73	50.74
102	5510	75.27	76.72
118	5590	80.14	84.45
134	5670	85.19	83.56

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

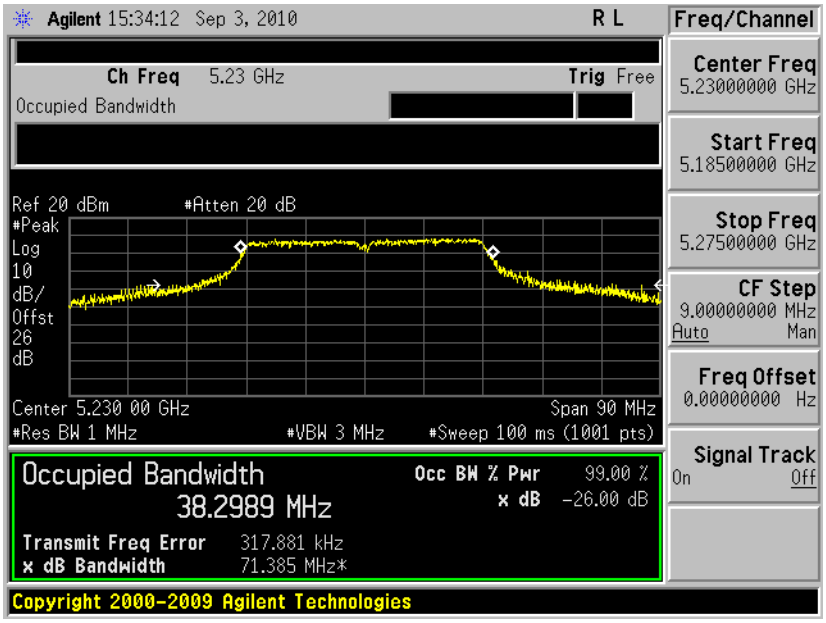
26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 38 - Chain 0



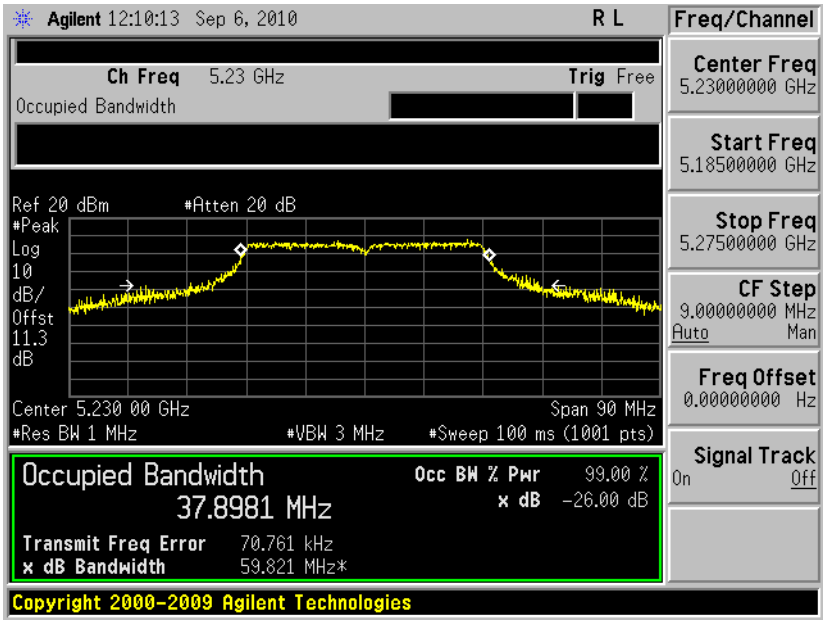
26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 38 - Chain 1



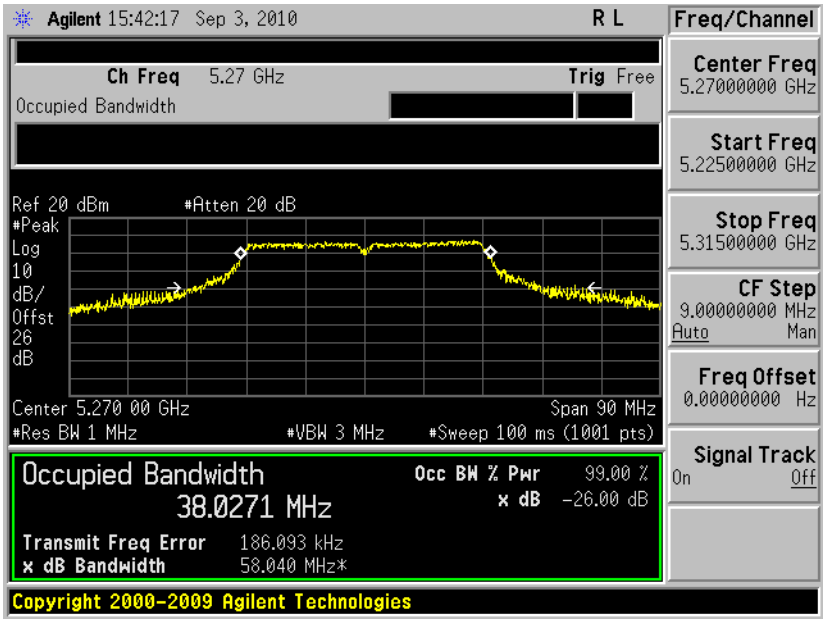
26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 46 - Chain 0



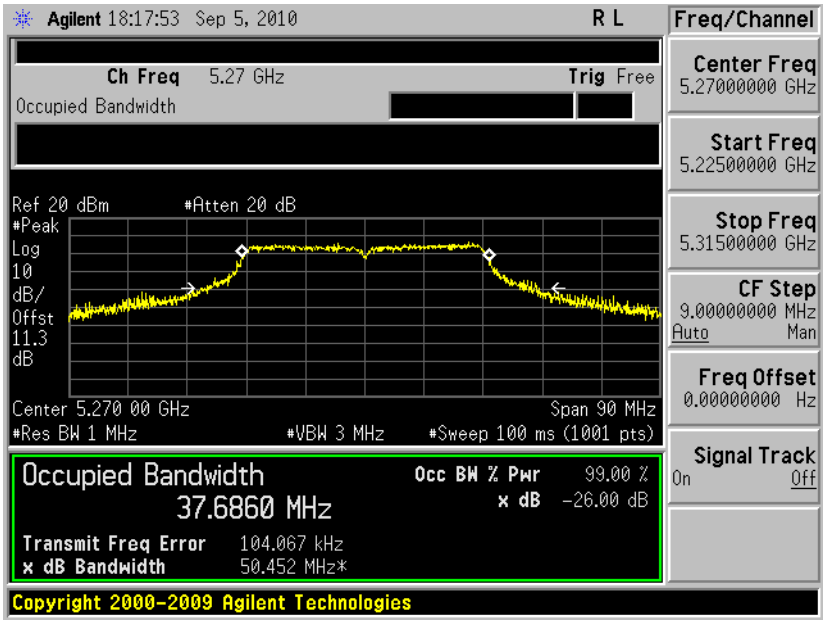
26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 46 - Chain 1



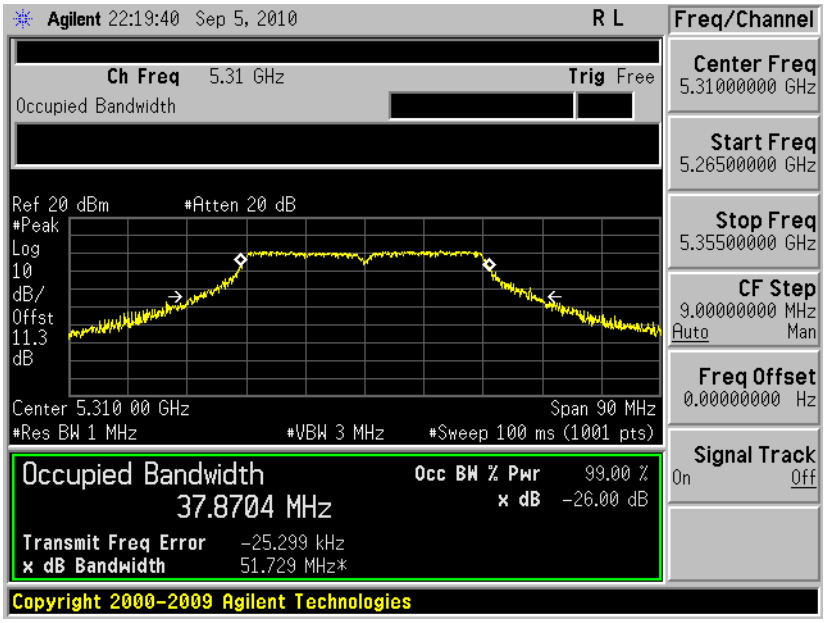
26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 54 - Chain 0



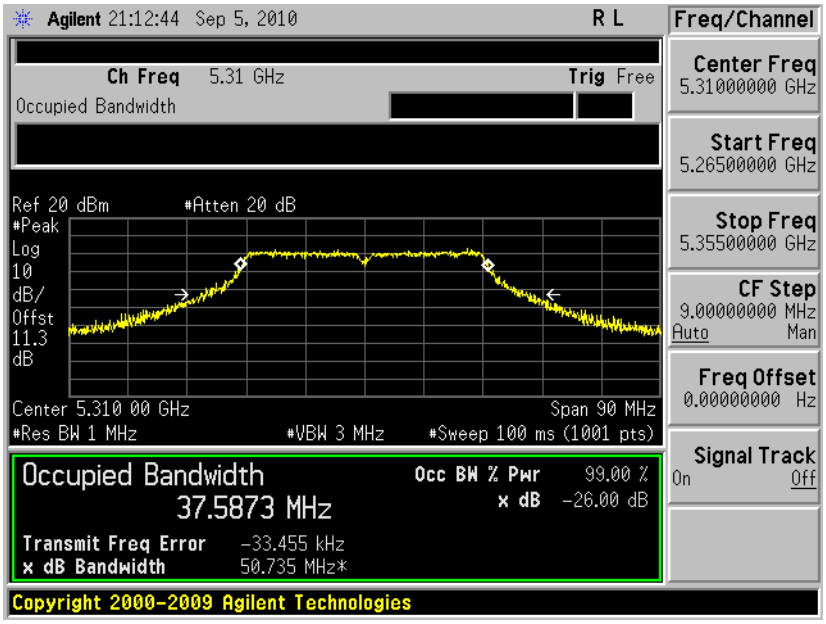
26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 54 - Chain 1



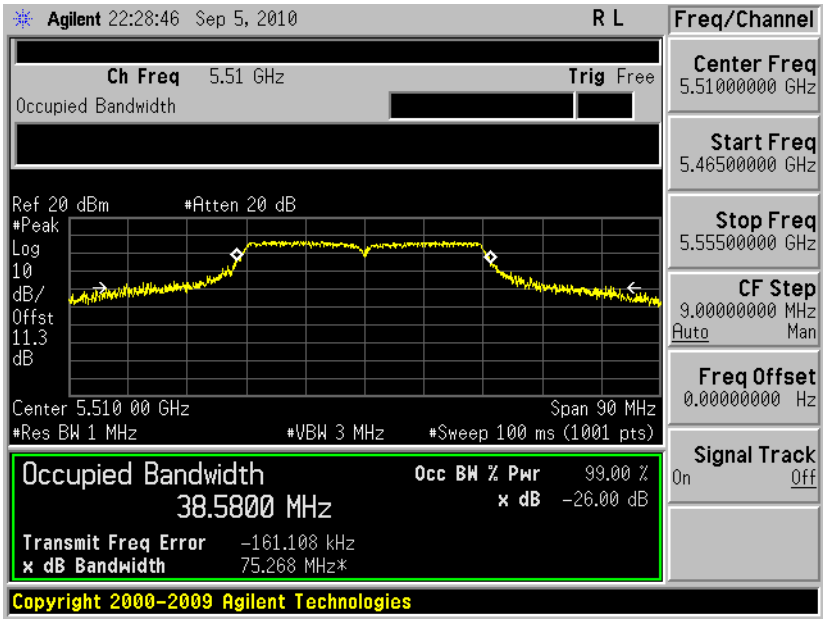
26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 62 - Chain 0



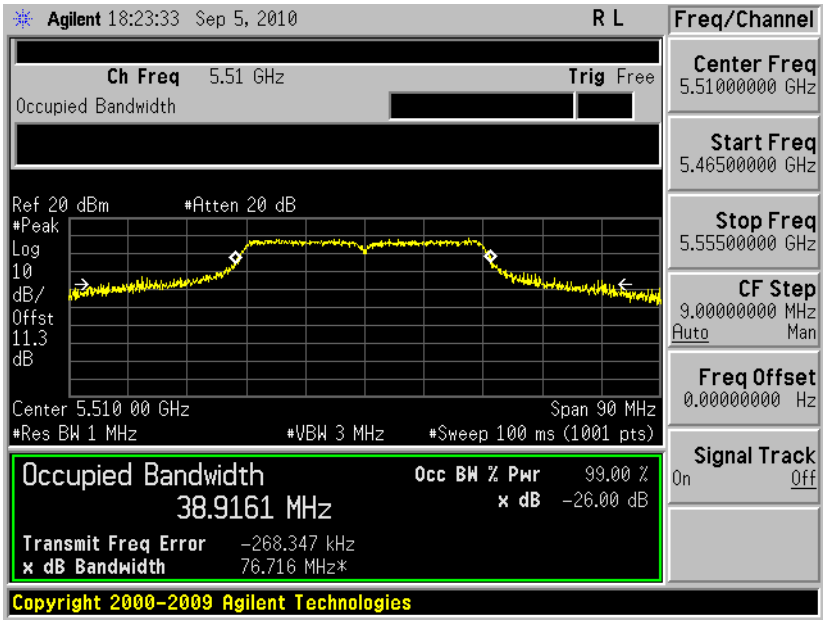
26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 62 - Chain 1



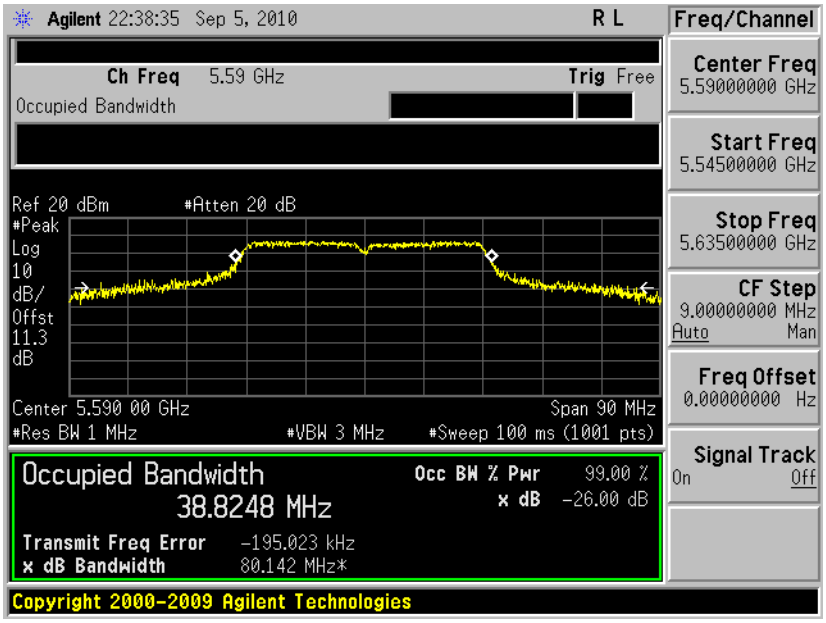
26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 102 - Chain 0



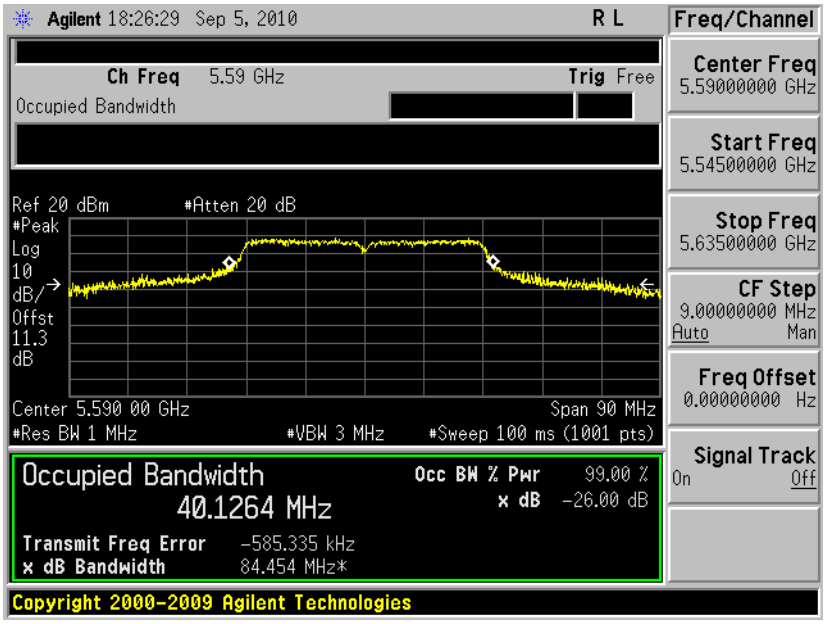
26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 102 - Chain 1



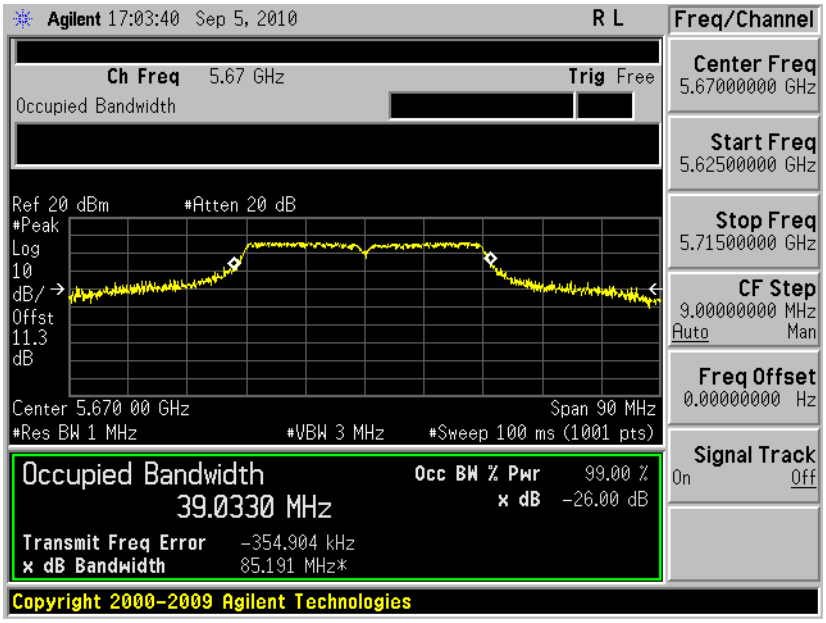
26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 118 - Chain 0



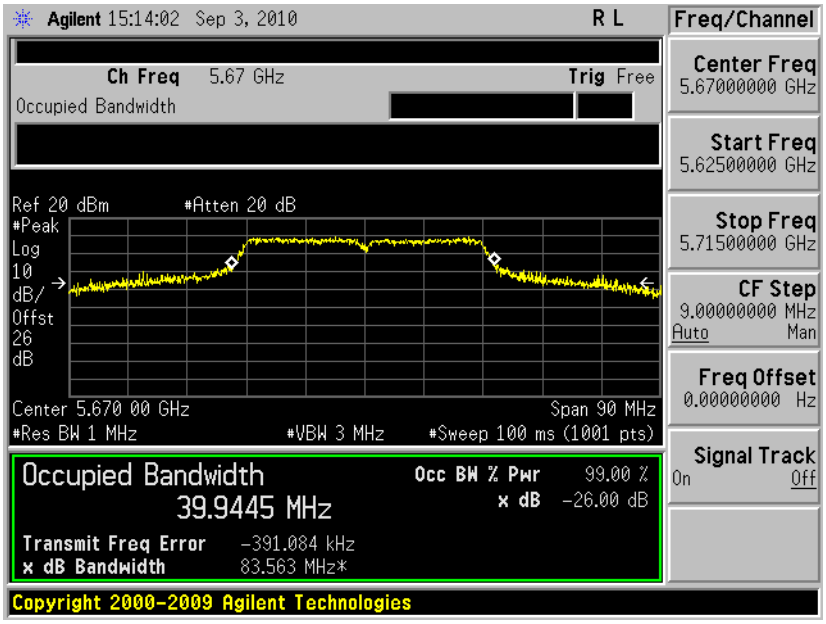
26 dB & 99% Bandwidth Plot on 802.11n (HT-40) Channel 118 - Chain 1



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



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



3.2 Power Spectral Density Measurement

3.2.1 Limit of Power Spectral Density

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

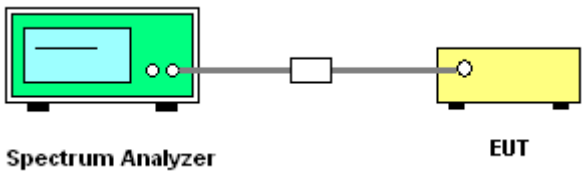
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

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

3.2.4 Test Setup



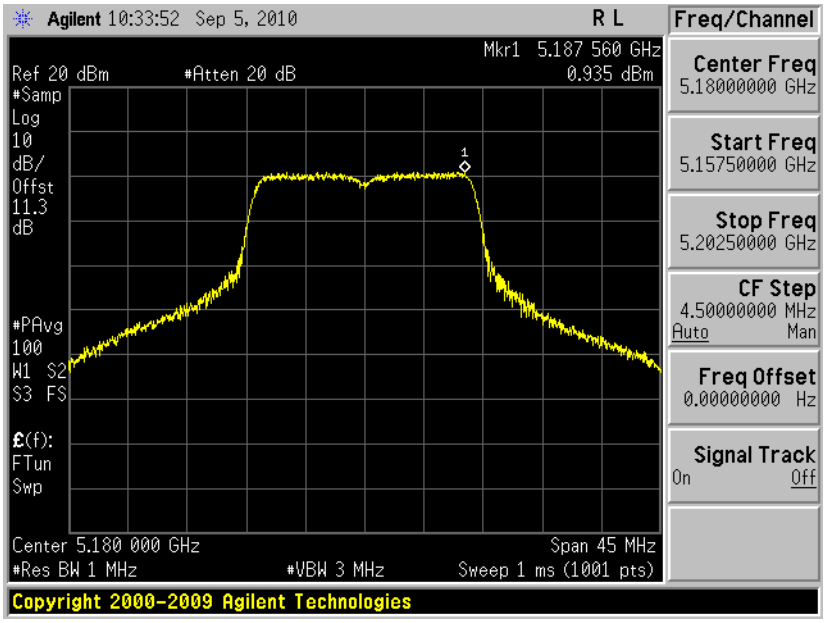
3.2.5 Test Result of Power Spectral Density

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

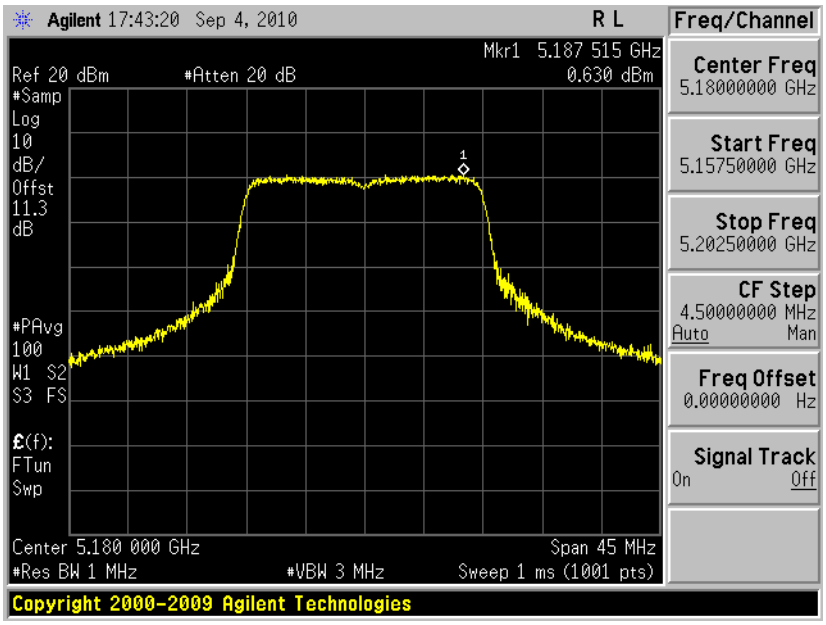
Channel	Frequency (MHz)	802.11a Measured PSD (dBm)			Max. Limits (dBm)	Pass/Fail
		Chain 0	Chain 1	Summation		
36	5180	0.94	0.63	3.80	3.92	Pass
44	5220	1.06	0.50	3.80	3.92	Pass
48	5240	0.62	0.86	3.75	3.92	Pass
52	5260	2.99	2.39	5.71	10.92	Pass
60	5300	2.66	2.57	5.63	10.92	Pass
64	5320	1.61	2.01	4.82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

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

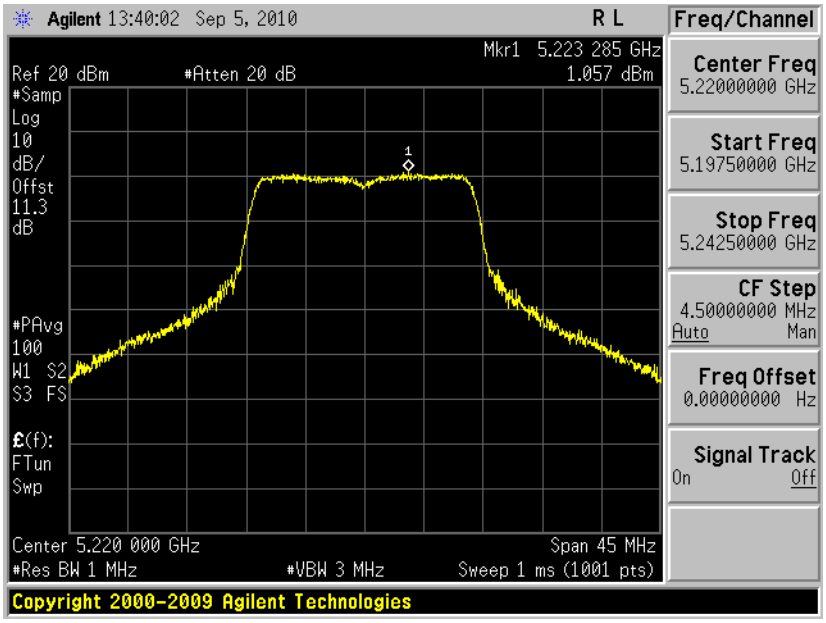
PSD Plot on 802.11a Channel 36 - Chain 0



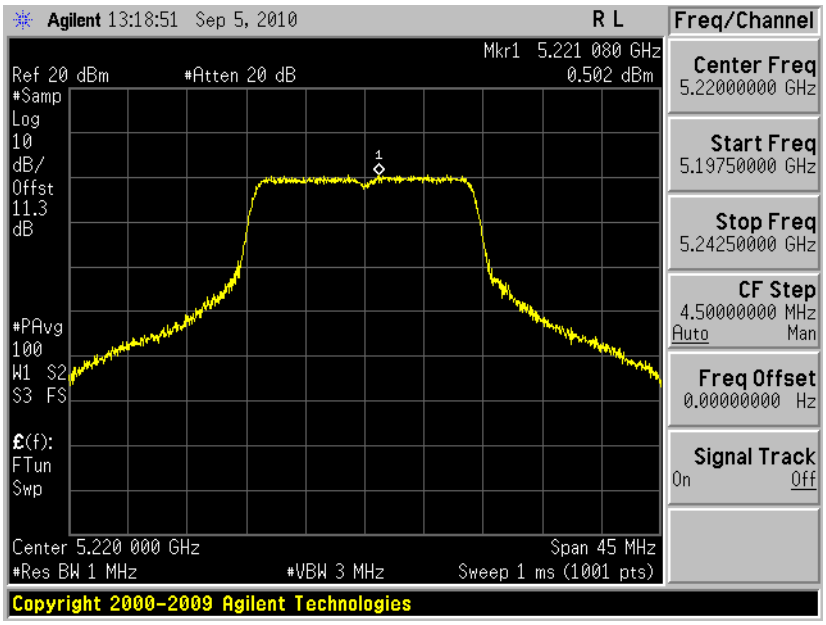
PSD Plot on 802.11a Channel 36 - Chain 1



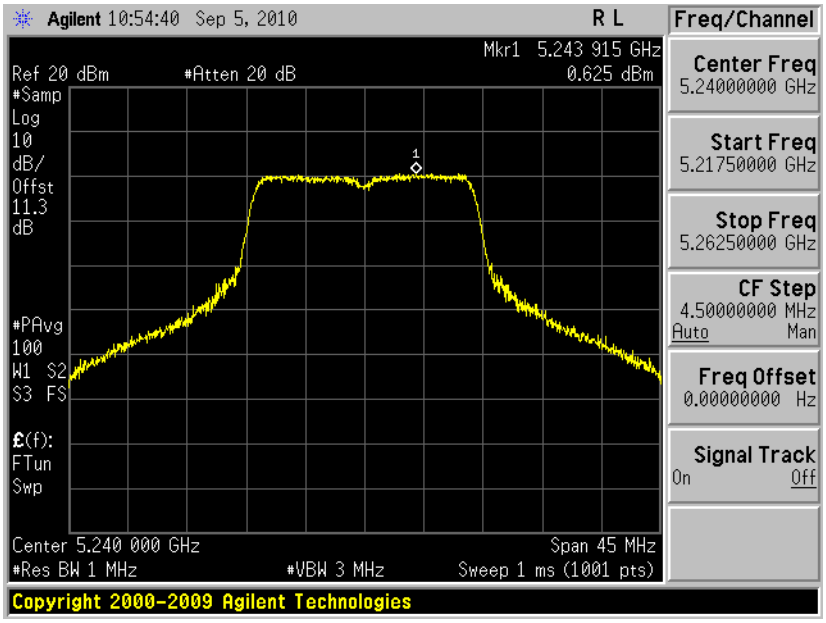
PSD Plot on 802.11a Channel 44 - Chain 0



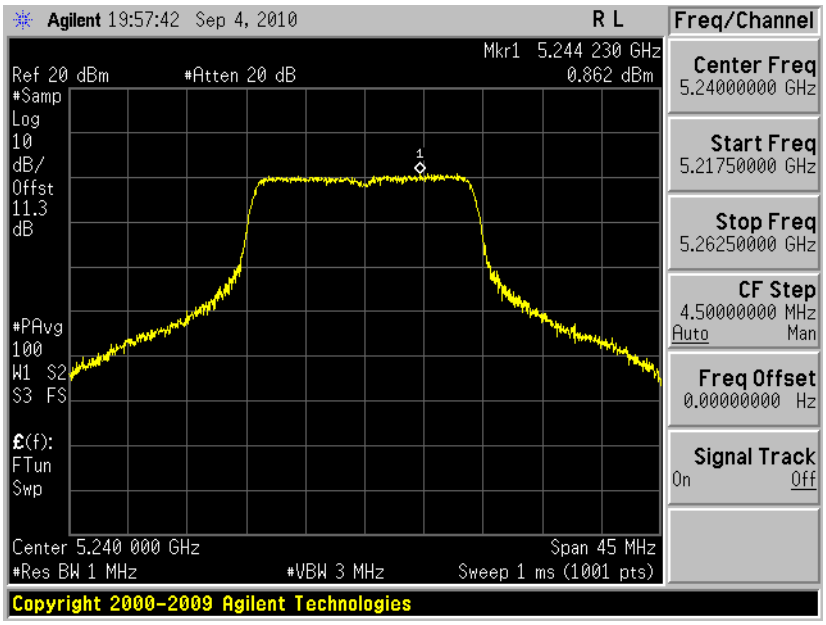
PSD Plot on 802.11a Channel 44 - Chain 1



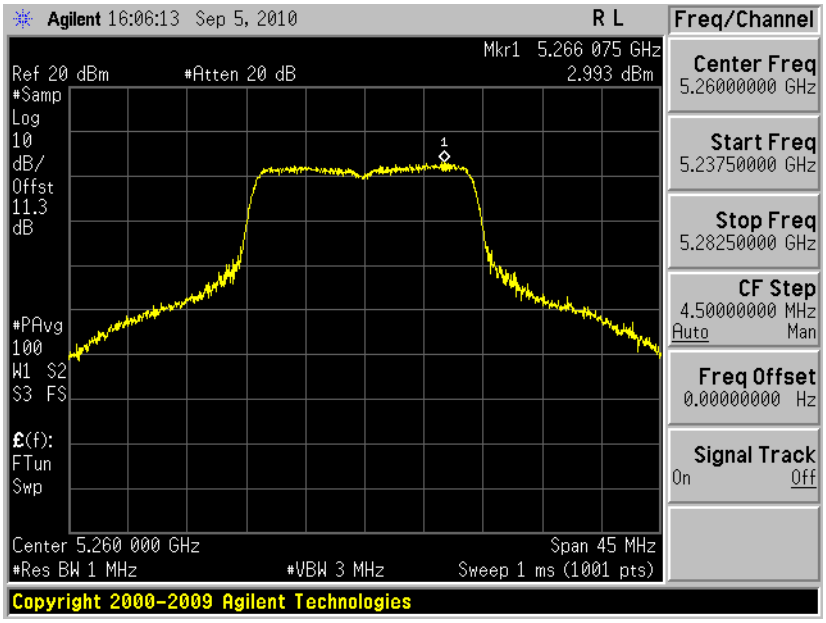
PSD Plot on 802.11a Channel 48 - Chain 0



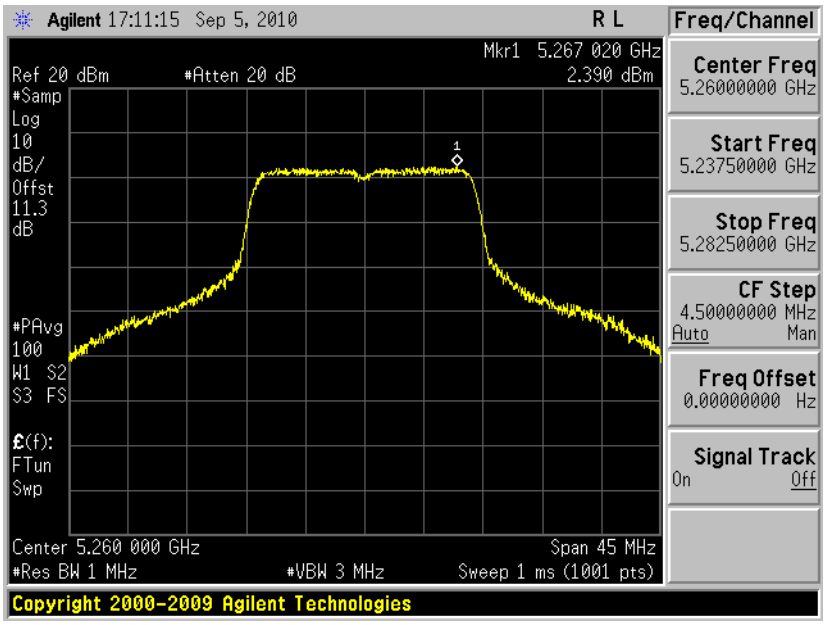
PSD Plot on 802.11a Channel 48 - Chain 1



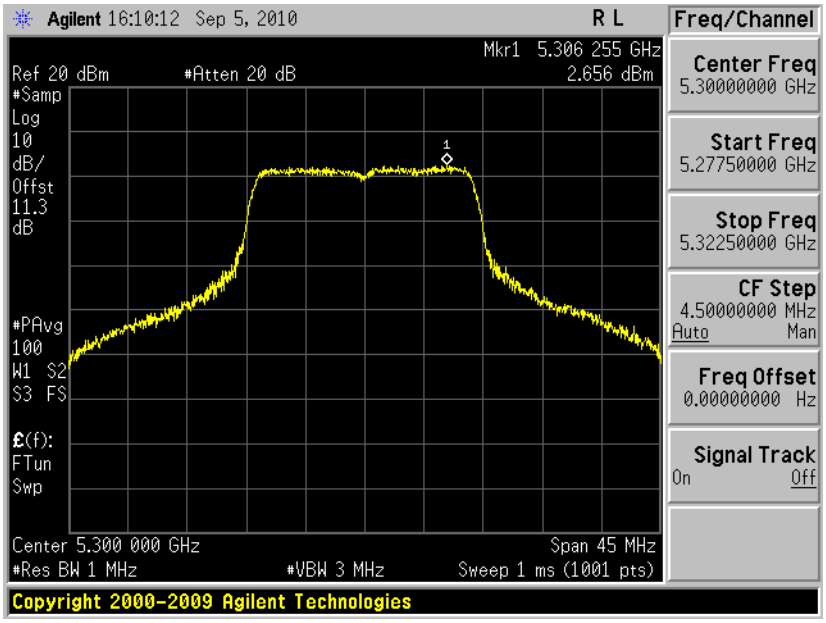
PSD Plot on 802.11a Channel 52 - Chain 0



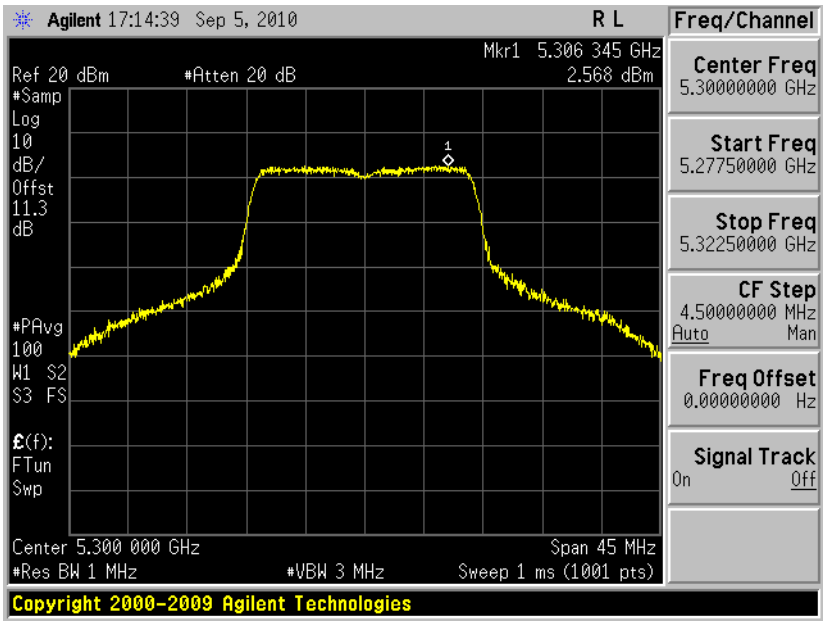
PSD Plot on 802.11a Channel 52 - Chain 1



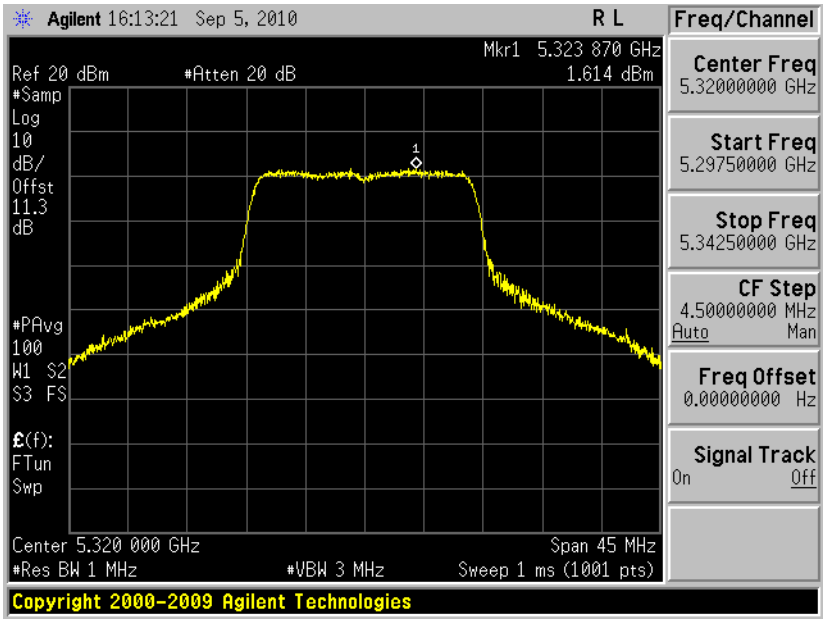
PSD Plot on 802.11a Channel 60 - Chain 0



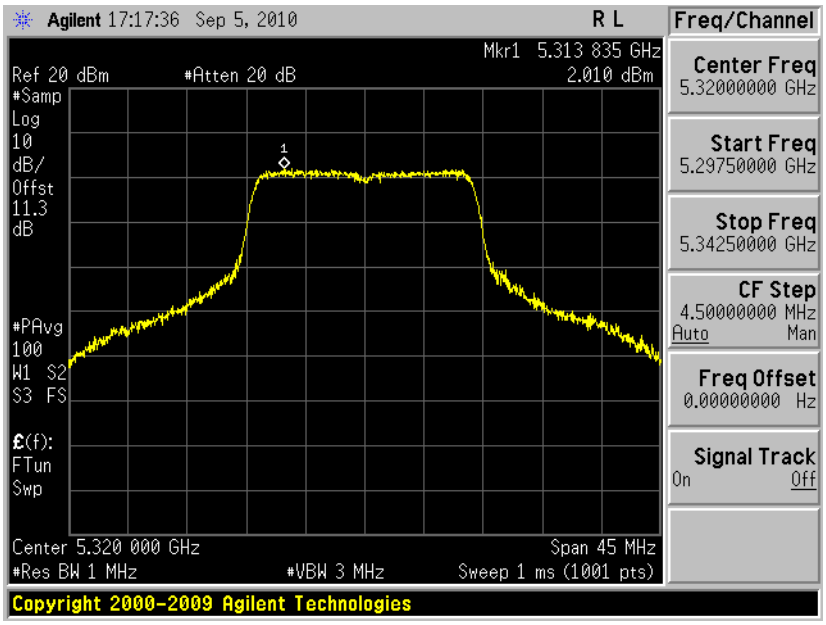
PSD Plot on 802.11a Channel 60 - Chain 1



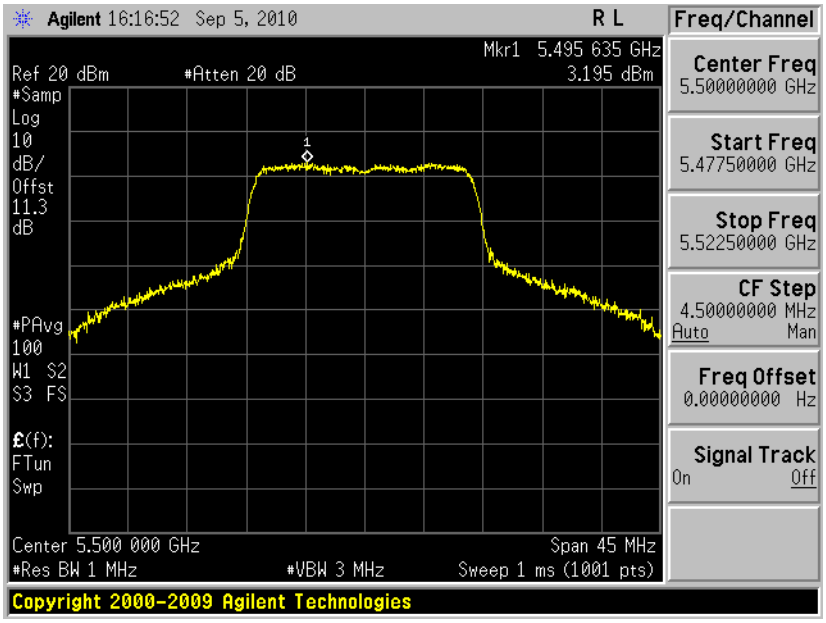
PSD Plot on 802.11a Channel 64 - Chain 0



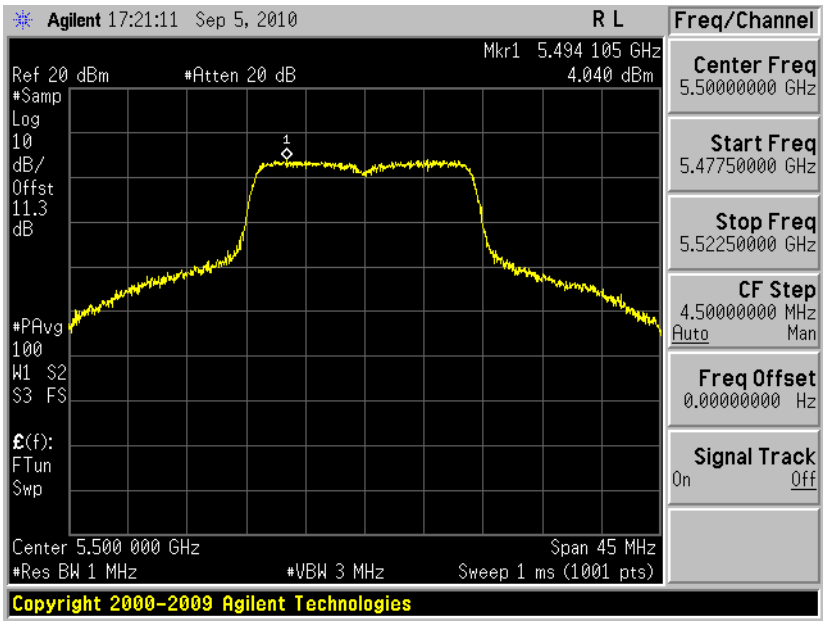
PSD Plot on 802.11a Channel 64 - Chain 1



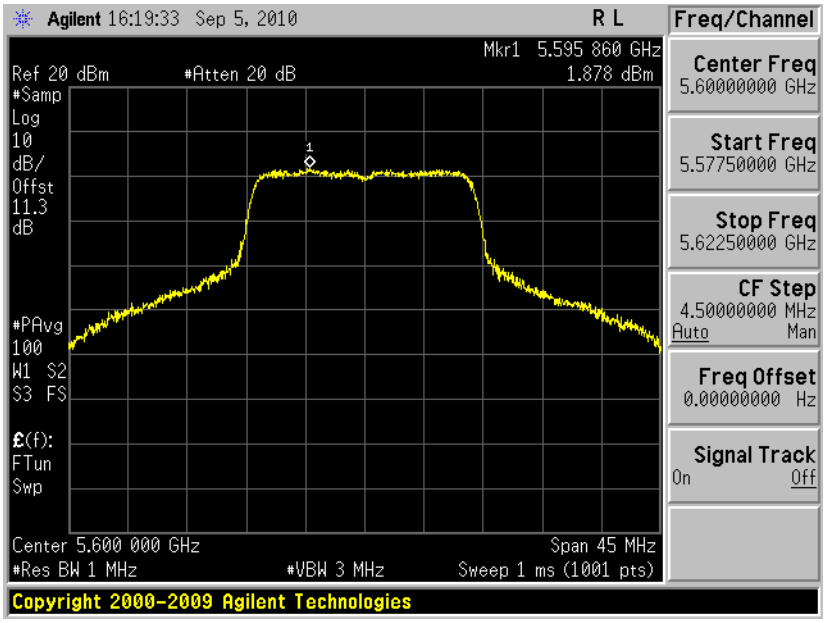
PSD Plot on 802.11a Channel 100 - Chain 0



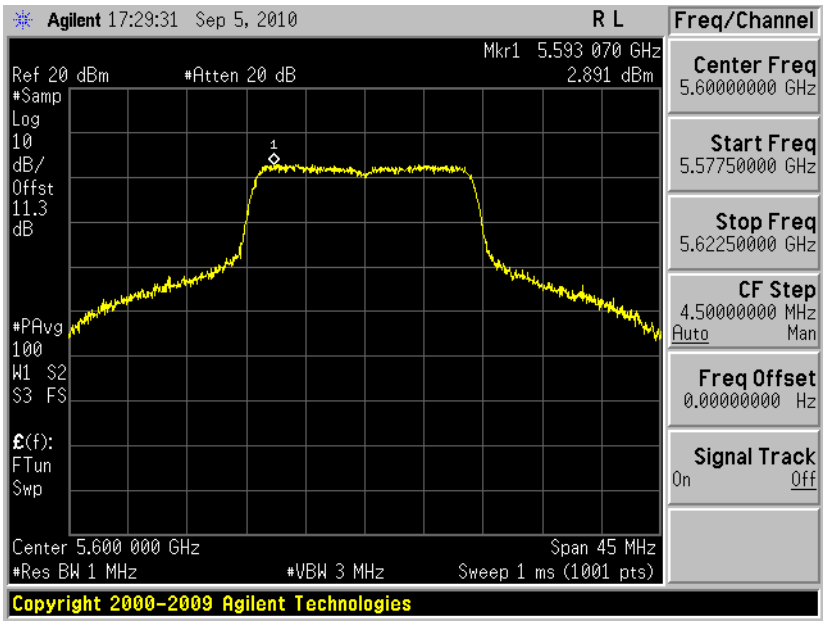
PSD Plot on 802.11a Channel 100 - Chain 1



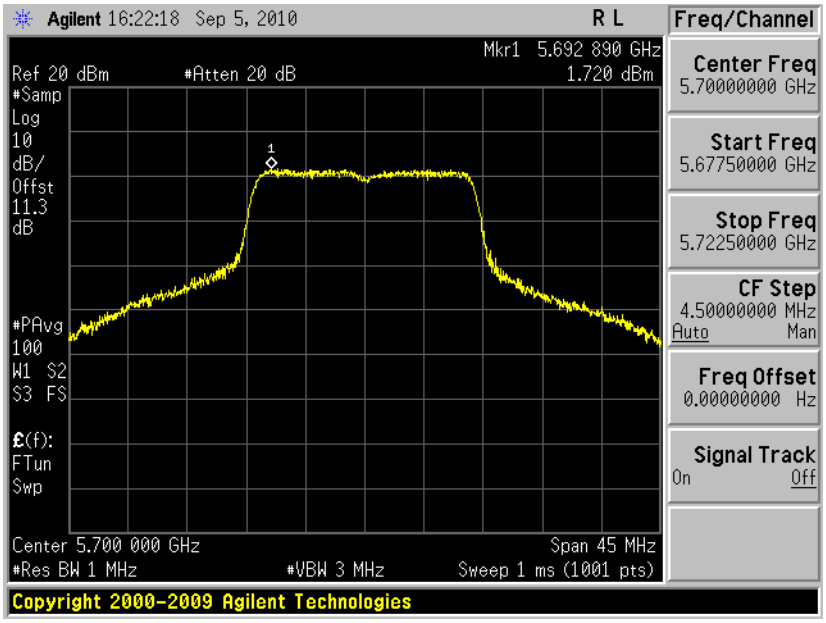
PSD Plot on 802.11a Channel 120 - Chain 0



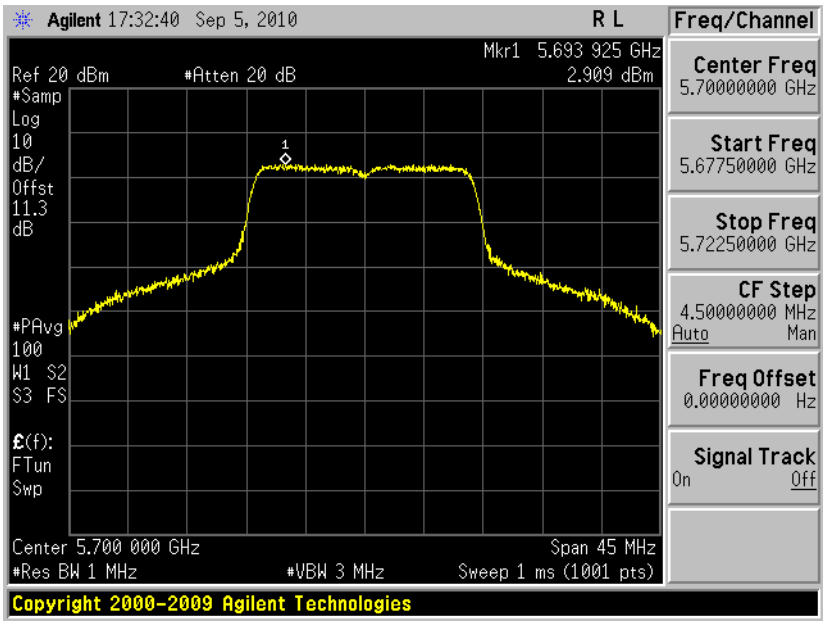
PSD Plot on 802.11a Channel 100 - Chain 1



PSD Plot on 802.11a Channel 140 - Chain 0



PSD Plot on 802.11a Channel 140 - Chain 1

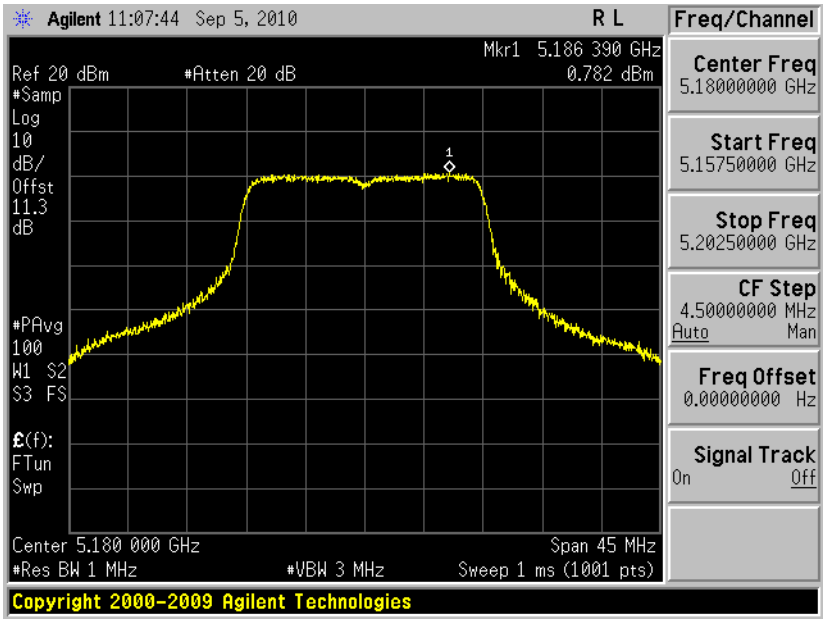


Test Mode :	802.11n (HT-20) L/M/H channels	Temperature :	25~27℃
Test Engineer :	Lancelot Chen and Alan Liu	Relative Humidity :	41~44%

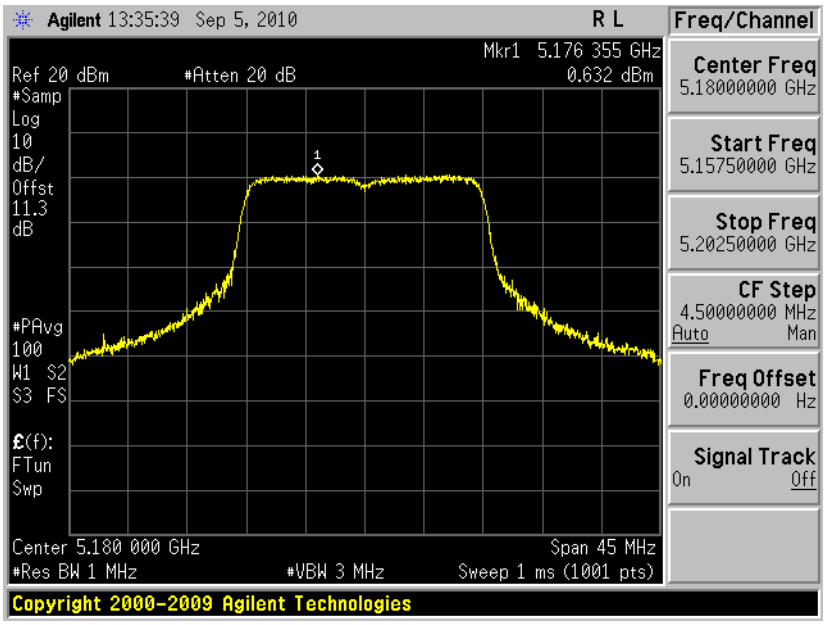
Channel	Frequency (MHz)	802.11n (HT-20) Measured PSD (dBm)			Max. Limits (dBm)	Pass/Fail
		Chain 0	Chain 1	Summation		
36	5180	0.78	0.63	3.72	3.92	Pass
44	5220	0.94	0.65	3.81	3.92	Pass
48	5240	0.98	0.8	3.90	3.92	Pass
52	5260	1.71	1.78	4.76	10.92	Pass
60	5300	2.18	2.24	5.22	10.92	Pass
64	5320	1.70	1.88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

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

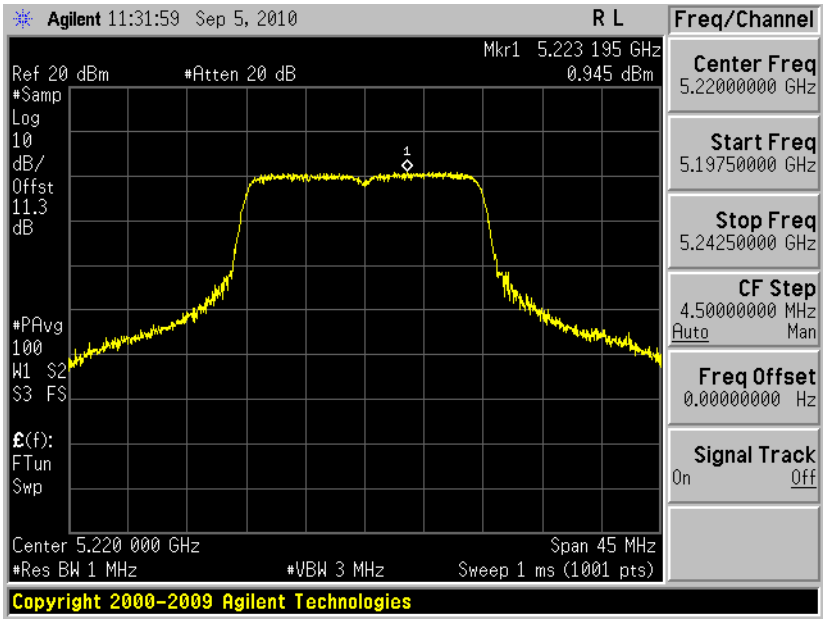
PSD Plot on 802.11n (HT-20) Channel 36 - Chain 0



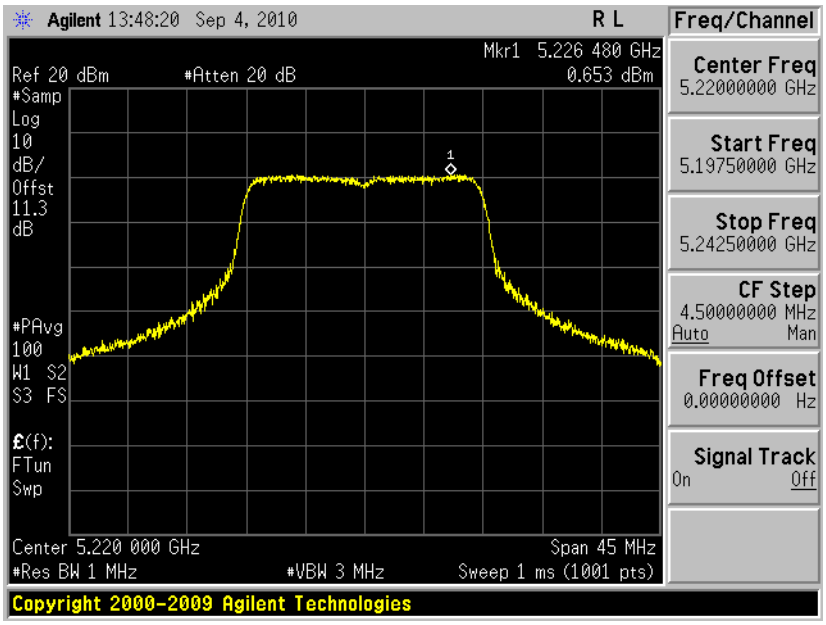
PSD Plot on 802.11n (HT-20) Channel 36 - Chain 1



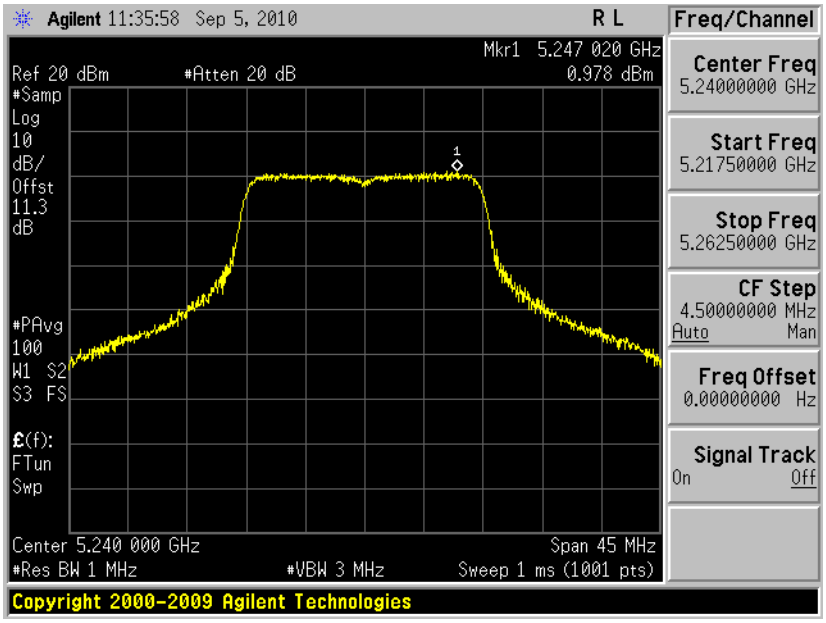
PSD Plot on 802.11n (HT-20) Channel 44 - Chain 0



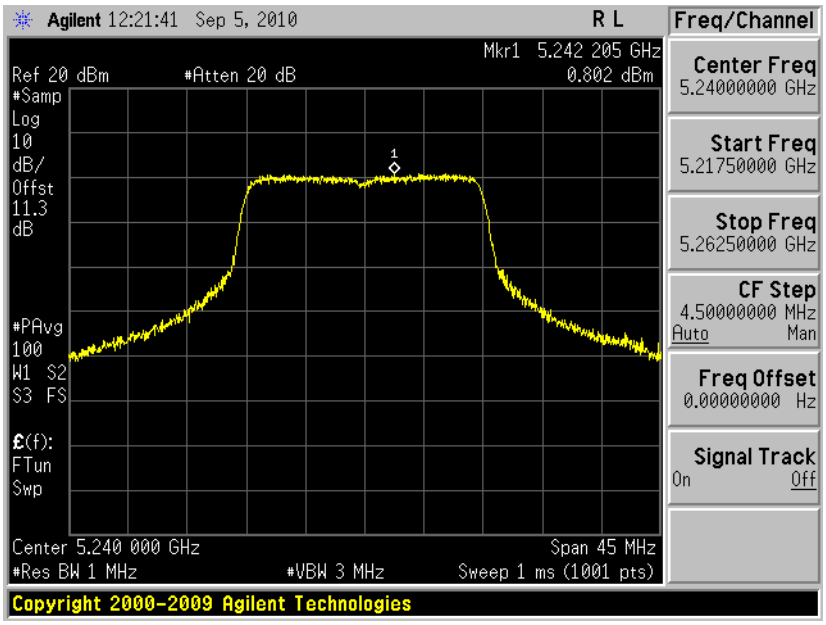
PSD Plot on 802.11n (HT-20) Channel 44 - Chain 1



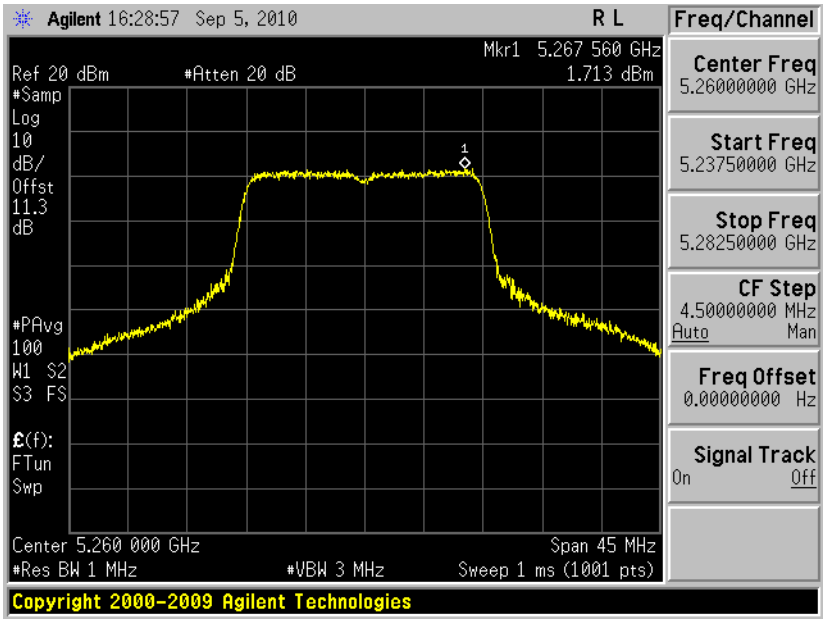
PSD Plot on 802.11n (HT-20) Channel 48 - Chain 0



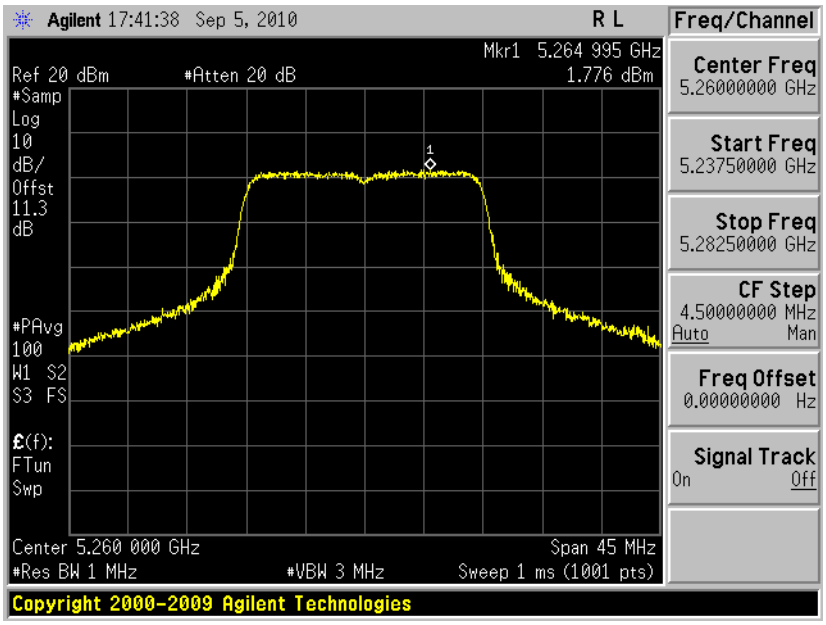
PSD Plot on 802.11n (HT-20) Channel 48 - Chain 1



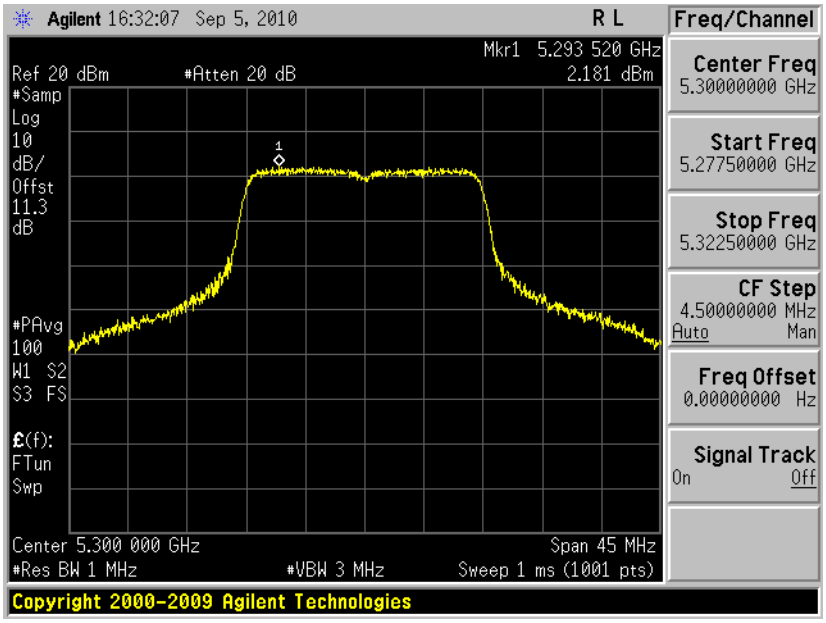
PSD Plot on 802.11n (HT-20) Channel 52 - Chain 0



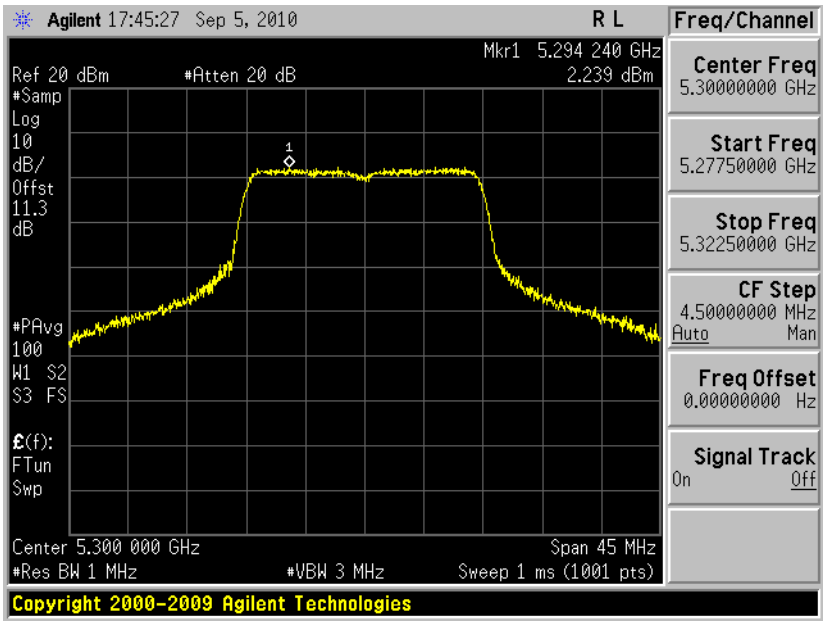
PSD Plot on 802.11n (HT-20) Channel 52 - Chain 1



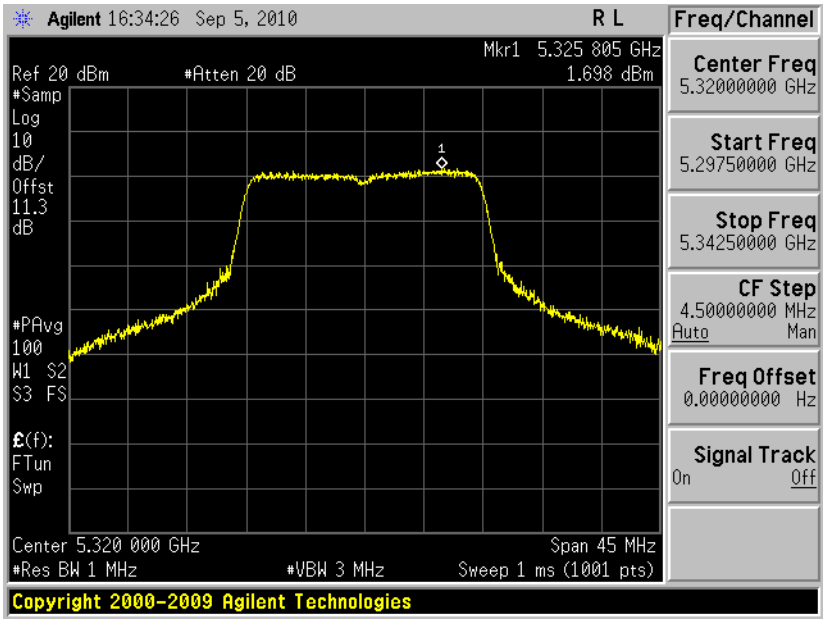
PSD Plot on 802.11n (HT-20) Channel 60 - Chain 0



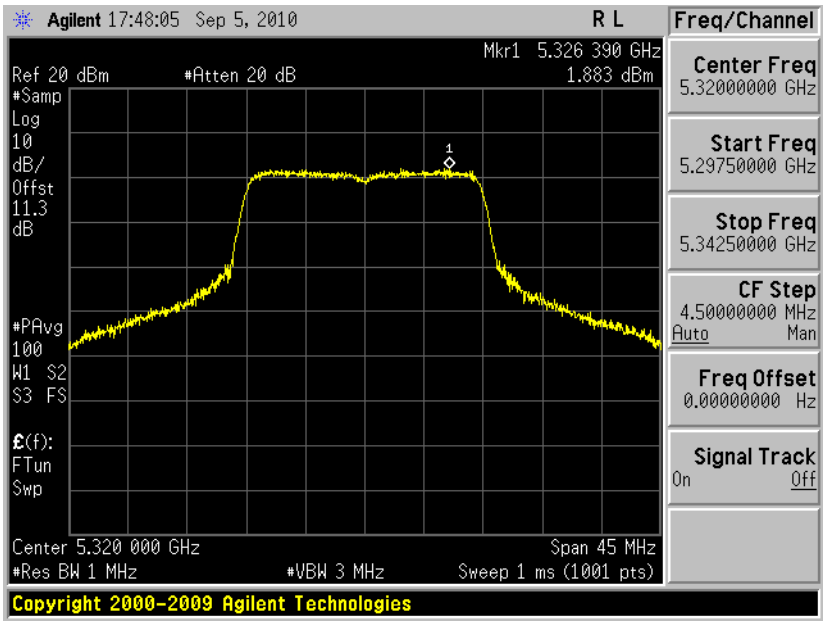
PSD Plot on 802.11n (HT-20) Channel 60 - Chain 1



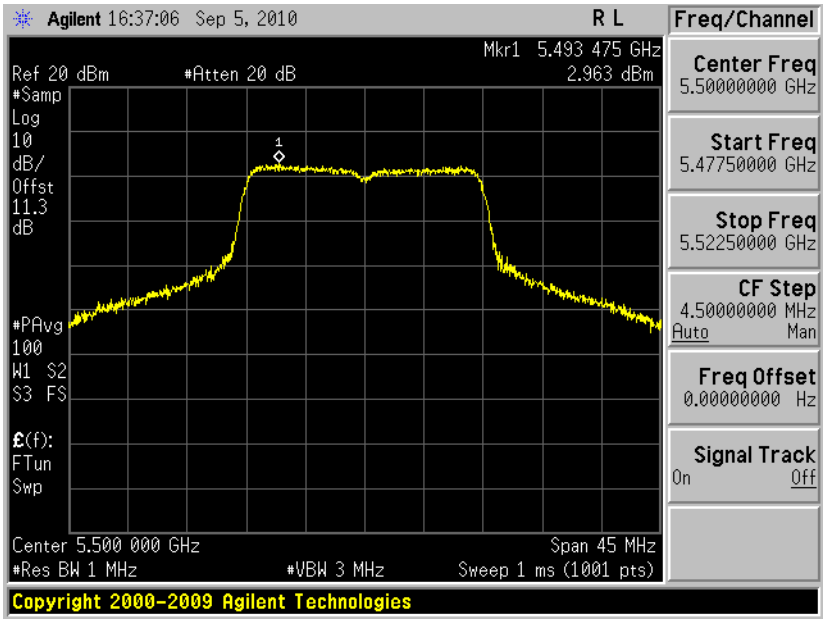
PSD Plot on 802.11n (HT-20) Channel 64 - Chain 0



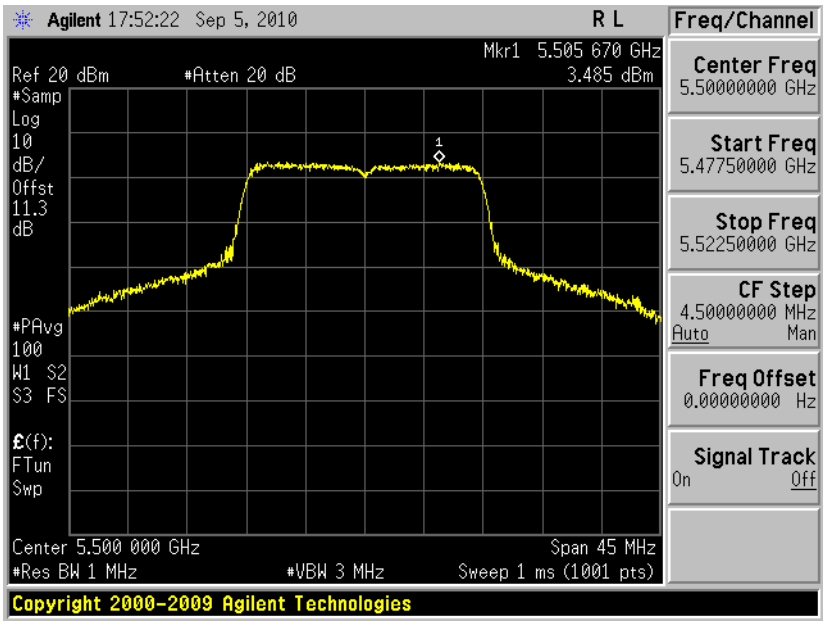
PSD Plot on 802.11n (HT-20) Channel 64 - Chain 1



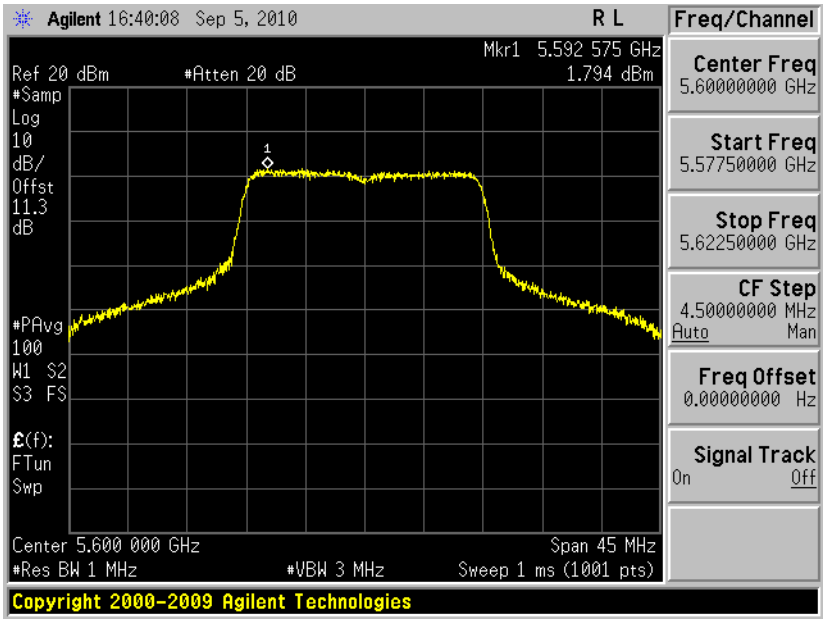
PSD Plot on 802.11n (HT-20) Channel 100 - Chain 0



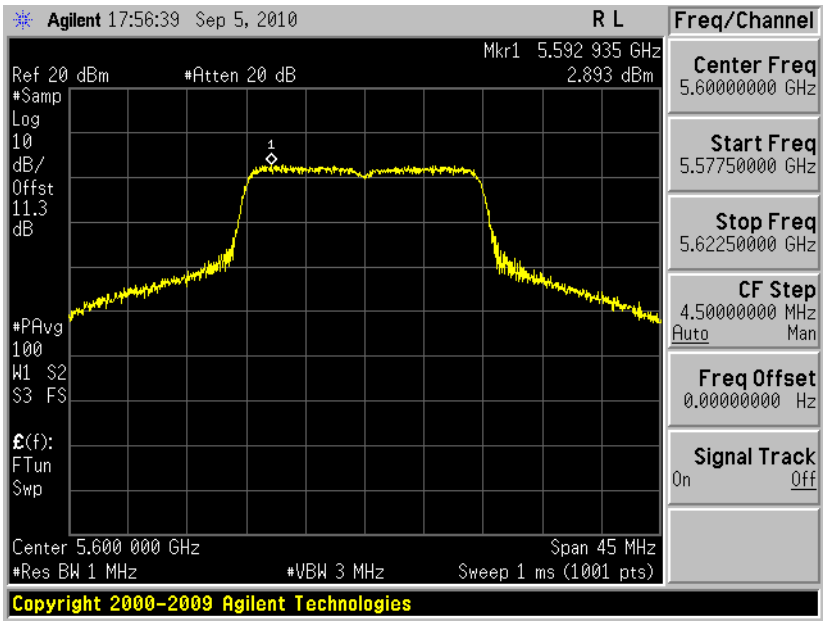
PSD Plot on 802.11n (HT-20) Channel 100 - Chain 1



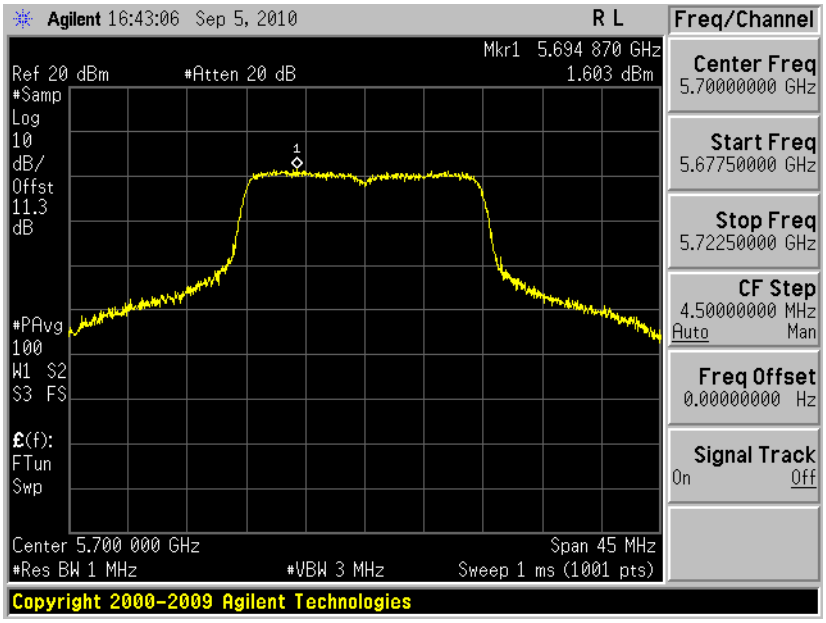
PSD Plot on 802.11n (HT-20) Channel 120 - Chain 0



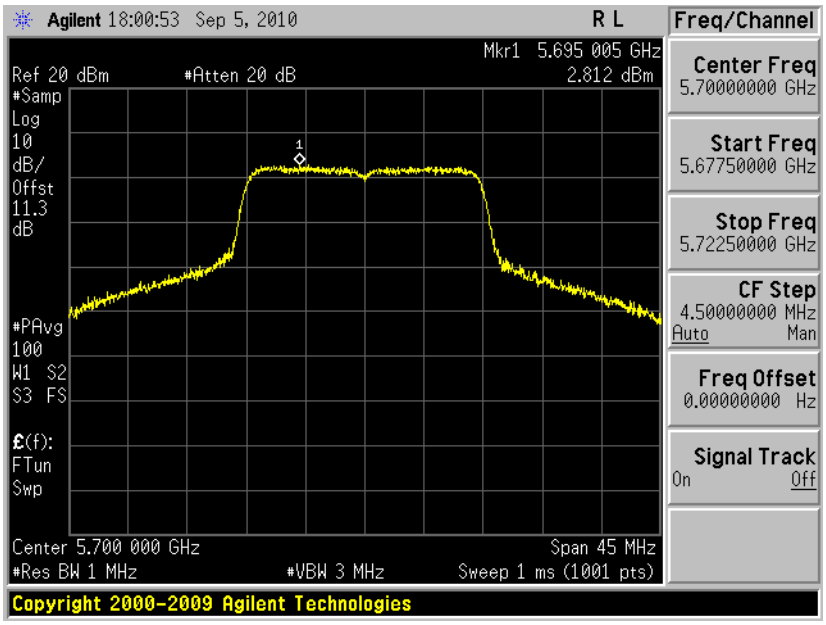
PSD Plot on 802.11n (HT-20) Channel 120 - Chain 1



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



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

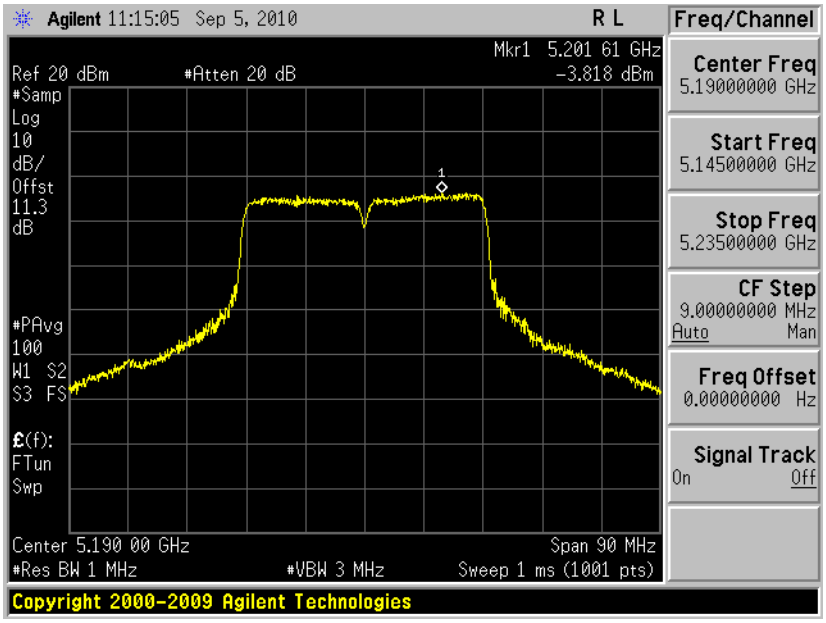


Test Mode :	802.11n (HT-40) L/M/H channels	Temperature :	25~27℃
Test Engineer :	Lancelot Chen and Alan Liu	Relative Humidity :	41~44%

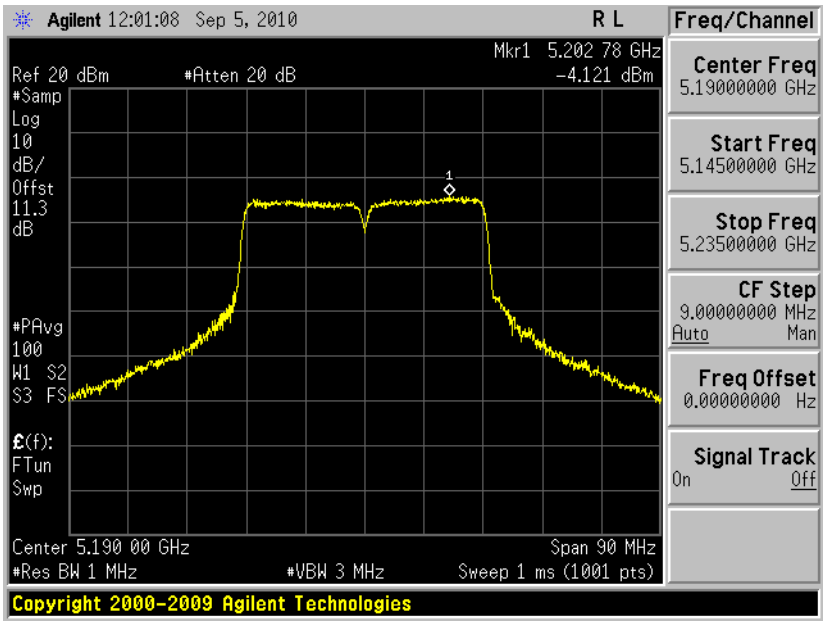
Channel	Frequency (MHz)	802.11n (HT-40) Measured PSD (dBm)			Max. Limits (dBm)	Pass/Fail
		Chain 0	Chain 1	Summation		
38	5190	-3.82	-4.12	-0.96	3.92	Pass
46	5230	-0.59	-1.17	2.14	3.92	Pass
54	5270	-2.17	-2.54	0.66	10.92	Pass
62	5310	-6.58	-6.39	-3.47	10.92	Pass
102	5510	-1.10	-0.07	2.46	9.23	Pass
118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

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

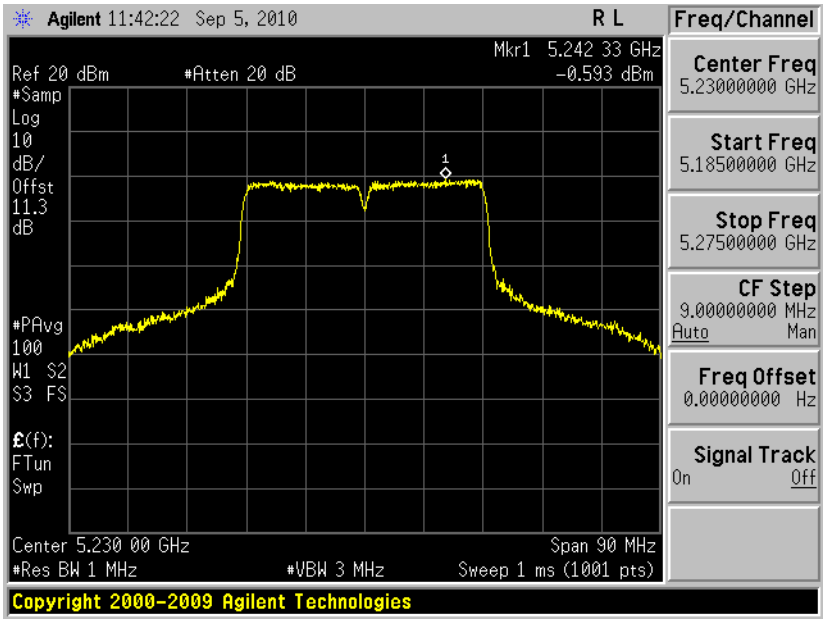
PSD Plot on 802.11n (HT-40) Channel 38 - Chain 0



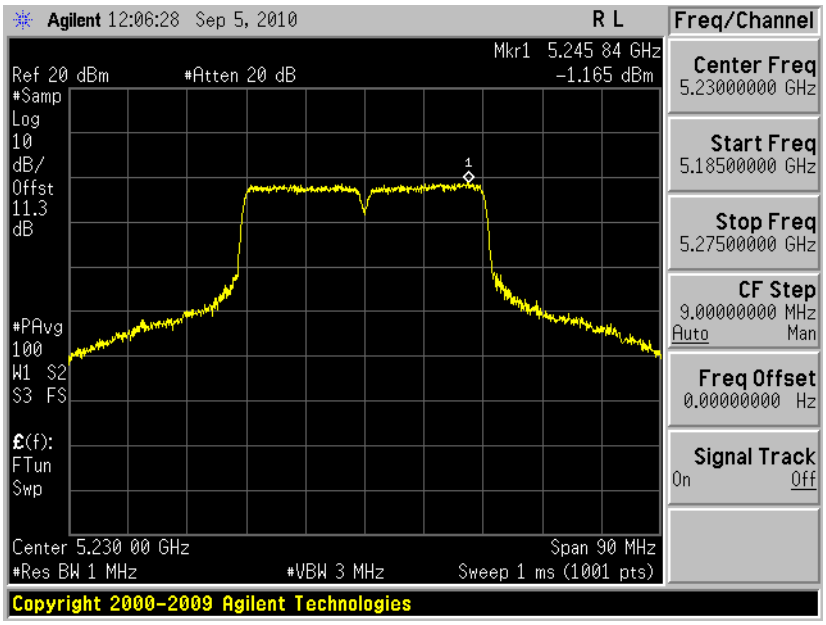
PSD Plot on 802.11n (HT-40) Channel 38 - Chain 1



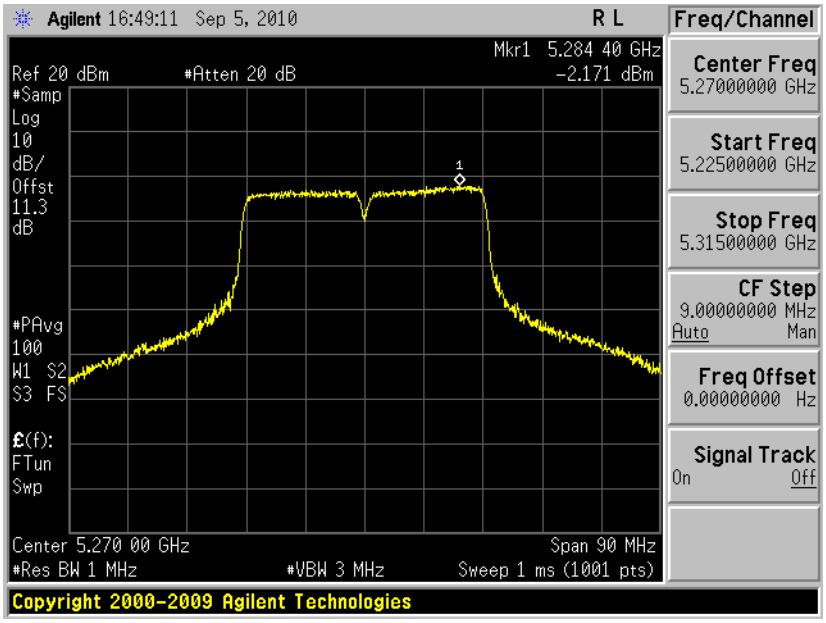
PSD Plot on 802.11n (HT-40) Channel 46 - Chain 0



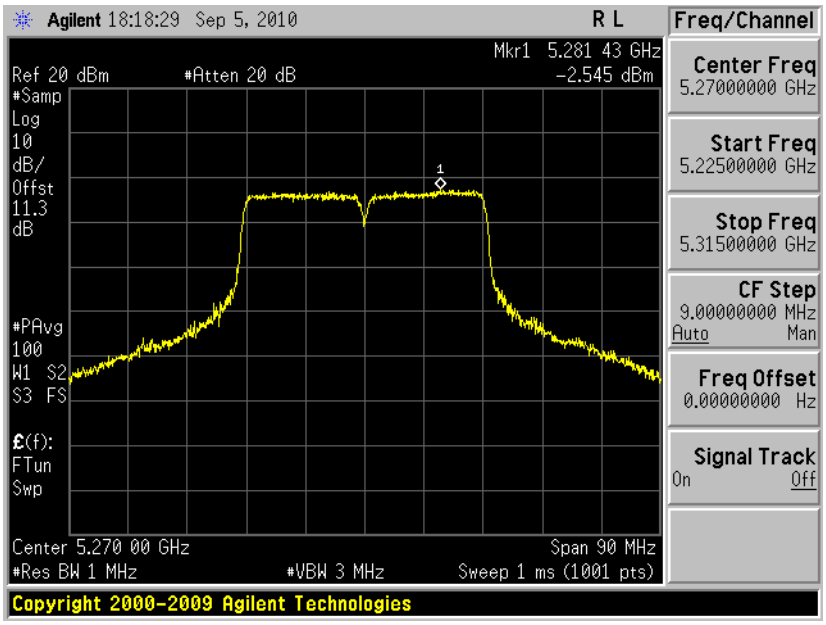
PSD Plot on 802.11n (HT-40) Channel 46 - Chain 1



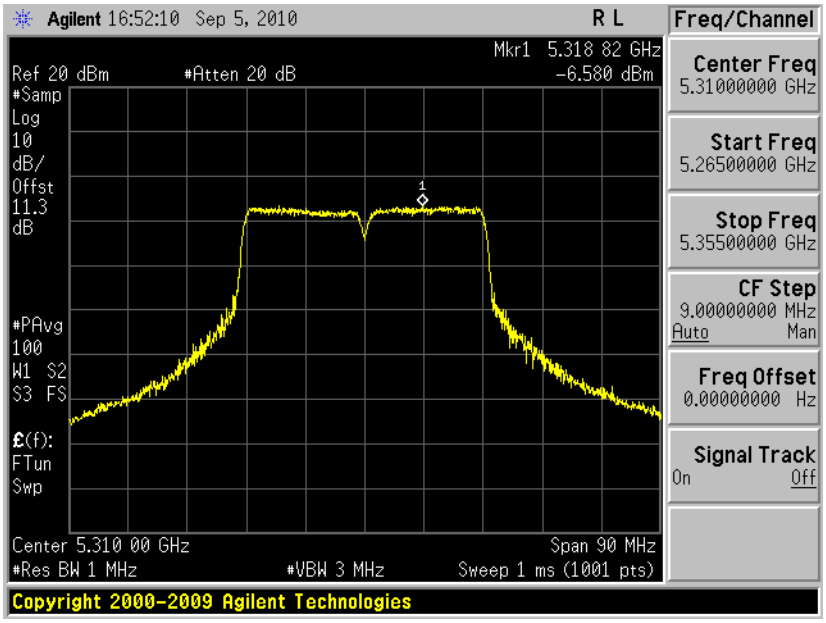
PSD Plot on 802.11n (HT-40) Channel 54 - Chain 0



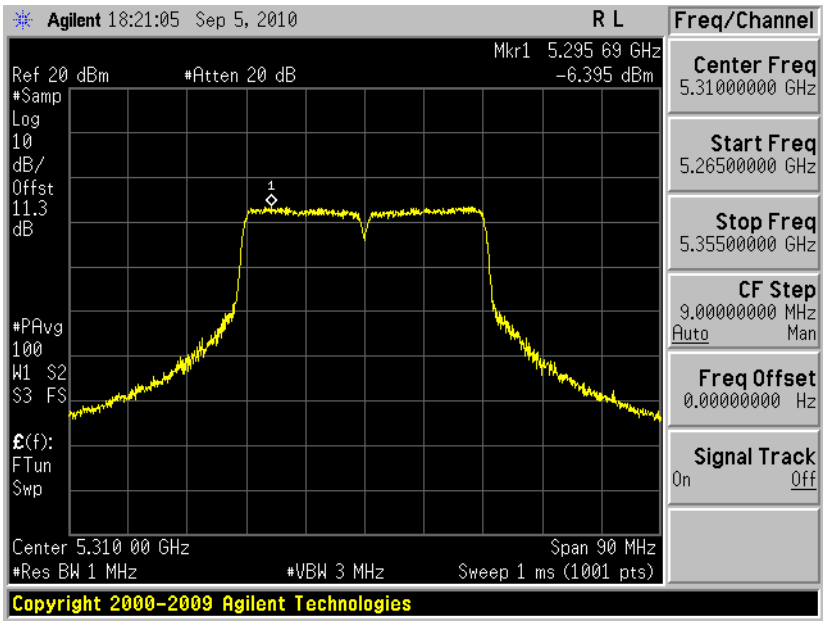
PSD Plot on 802.11n (HT-40) Channel 54 - Chain 1



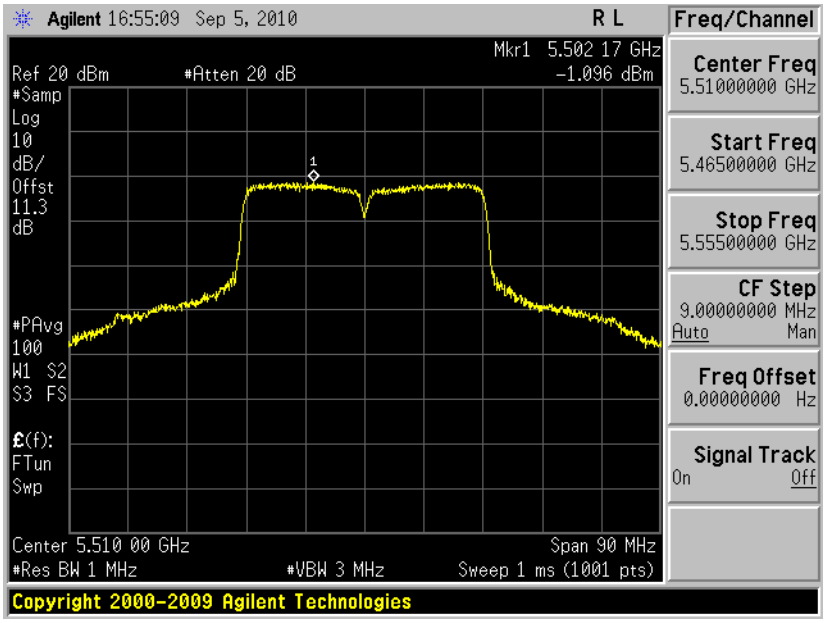
PSD Plot on 802.11n (HT-40) Channel 62 - Chain 0



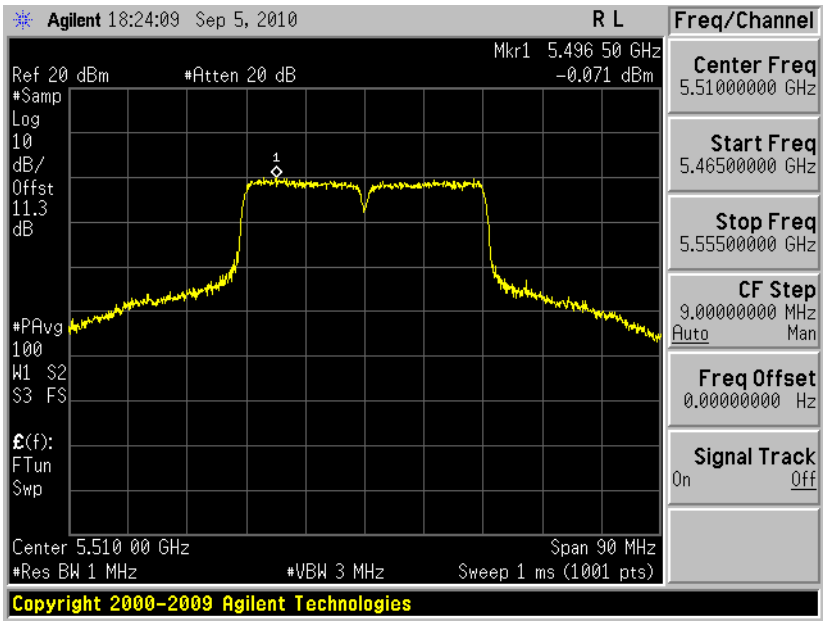
PSD Plot on 802.11n (HT-40) Channel 62 - Chain 1



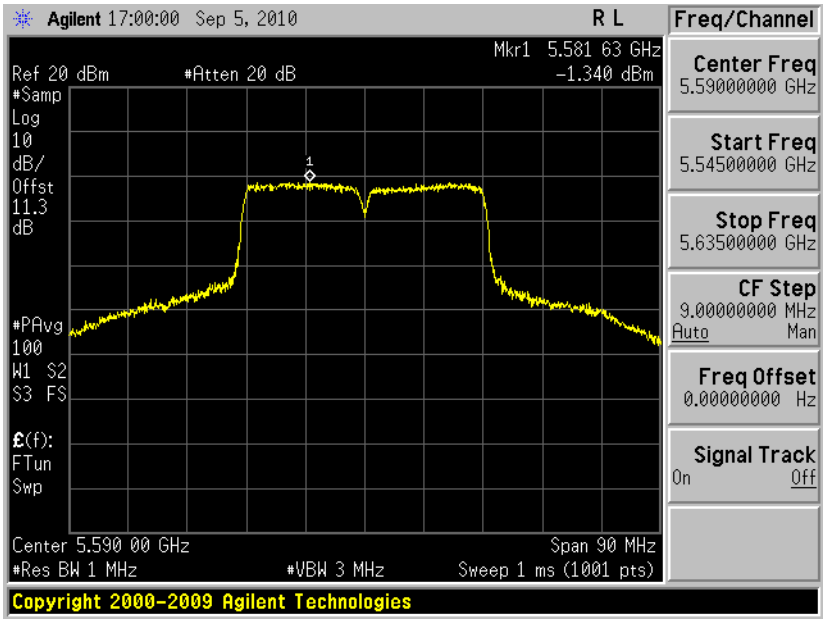
PSD Plot on 802.11n (HT-40) Channel 102 - Chain 0



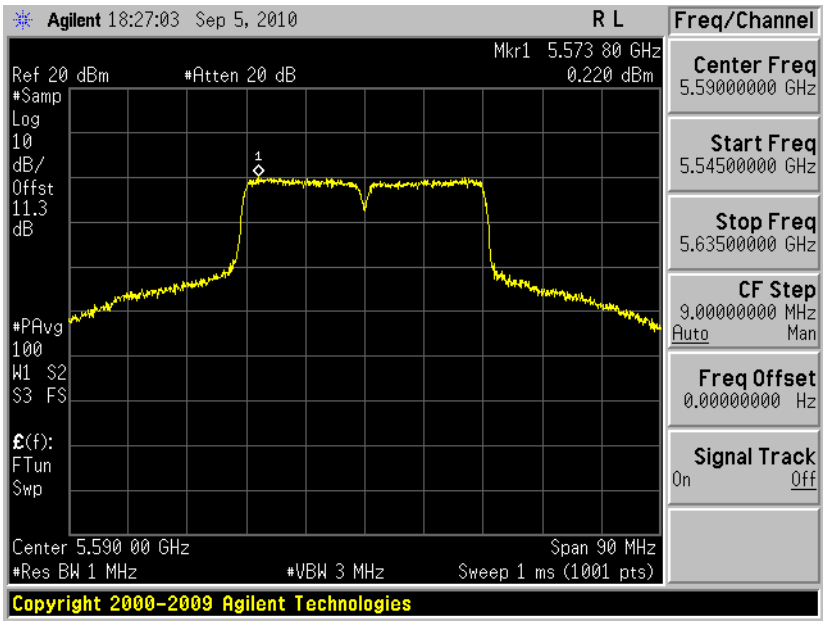
PSD Plot on 802.11n (HT-40) Channel 102 - Chain 1



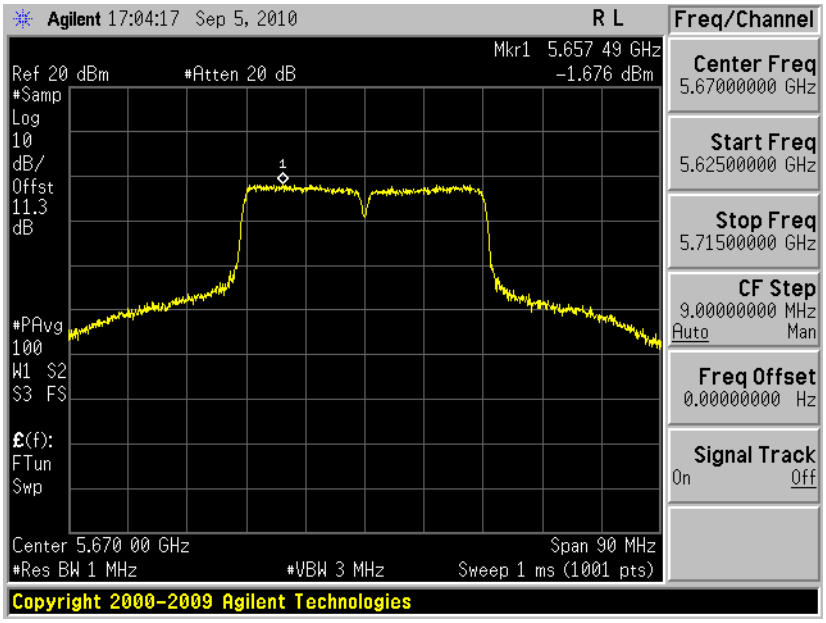
PSD Plot on 802.11n (HT-40) Channel 118 - Chain 0



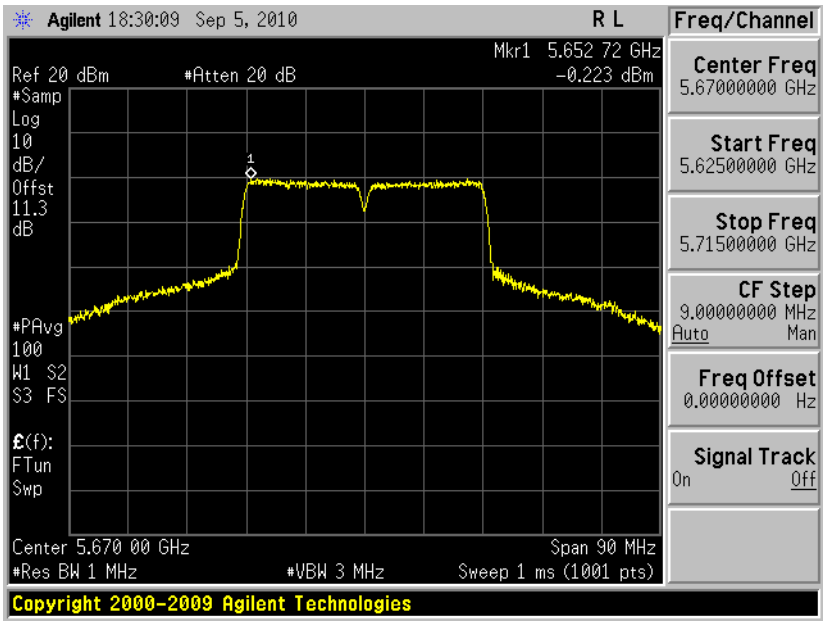
PSD Plot on 802.11n (HT-40) Channel 118 - Chain 1



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



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



3.3 Average Power Measurement

3.3.1 Limit of Average Power

None; for reporting purposes only.

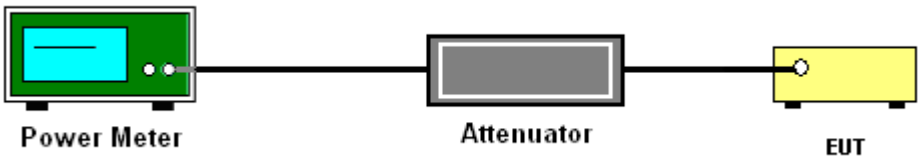
3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

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

3.3.4 Test Setup



3.3.5 Test Result of Average Power

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

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

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

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

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

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

3.4 Output Power Measurement

3.4.1 Limit of Maximum Output Power

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

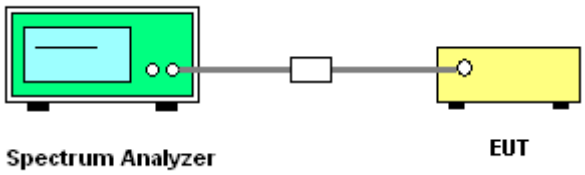
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedures

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

3.4.4 Test Setup



3.4.5 Test Result of Output Power

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

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

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

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

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

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

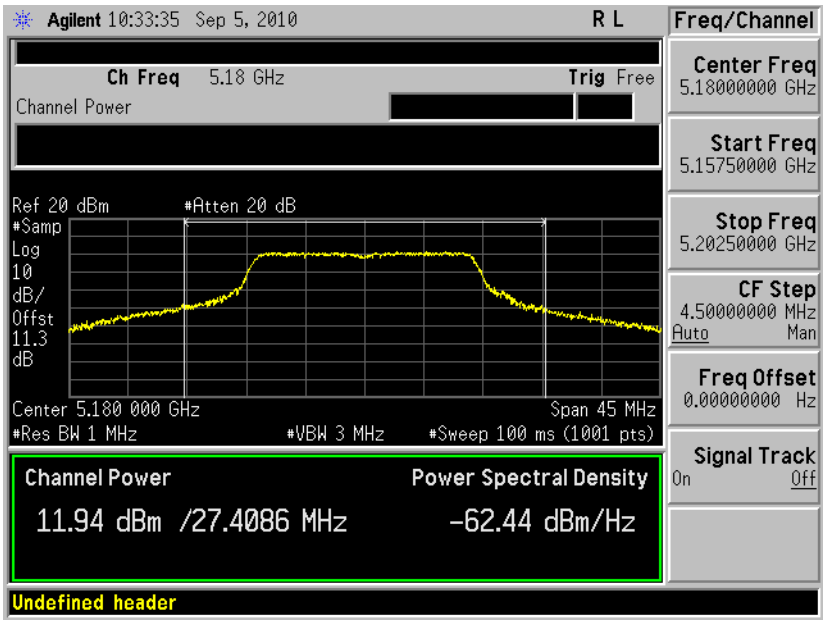
Test Mode :	802.11n (HT-40) L/M/H channels	Temperature :	25~27℃
Test Engineer :	Lancelot Chen and Alan Liu	Relative Humidity :	41~44%

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

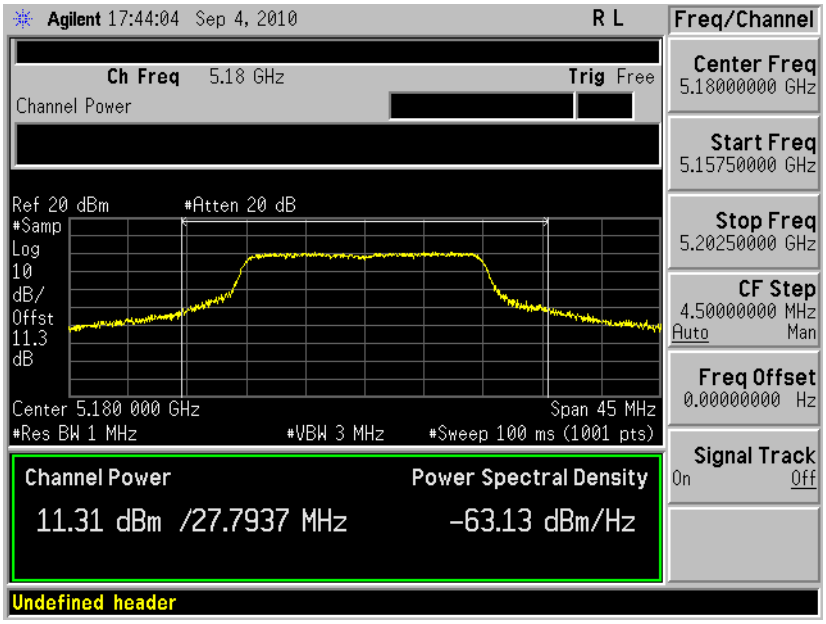
Note: The maximum composite antenna gain is 6.08 for 5150 MHz ~ 5350 MHz and 7.77 dBi for 5470 MHz ~ 5725 MHz; therefore the limits are 16.92 dBm for 5150 MHz ~ 5250 MHz, 23.92 dBm for 5250 MHz ~ 5350 MHz and 22.23 dBm for 5470 MHz ~ 5725 MHz.

3.4.6 Test Result of Output Power Plots

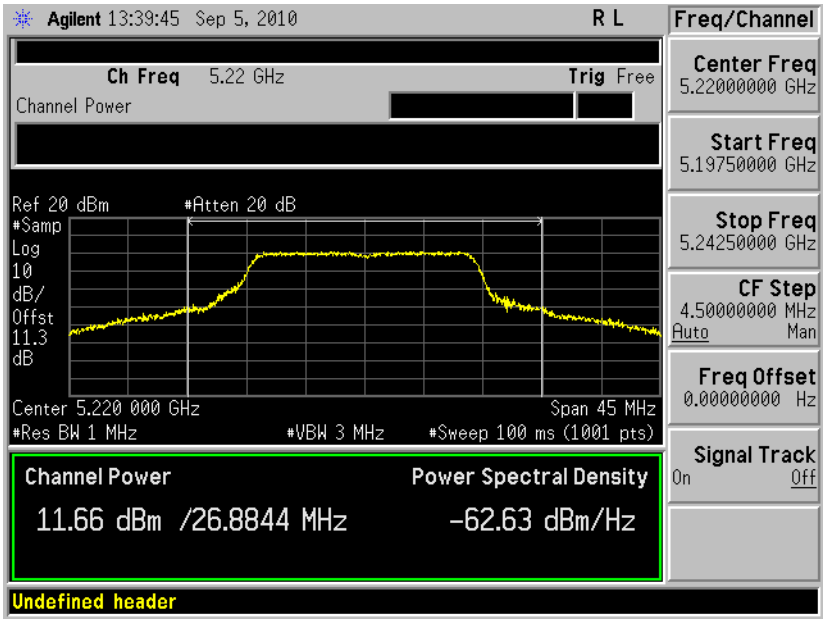
Output Power Plot on 802.11a Channel 36 - Chain 0



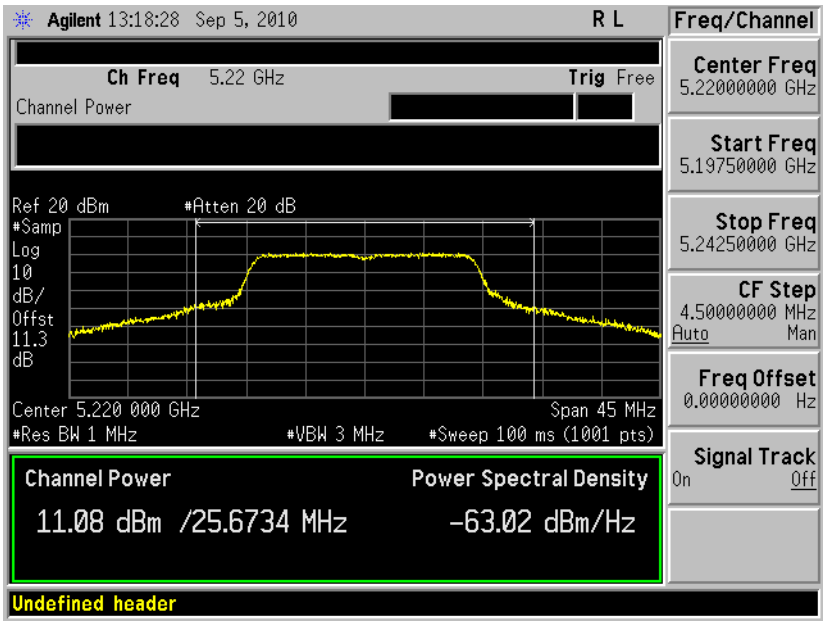
Output Power Plot on 802.11a Channel 36 - Chain 1



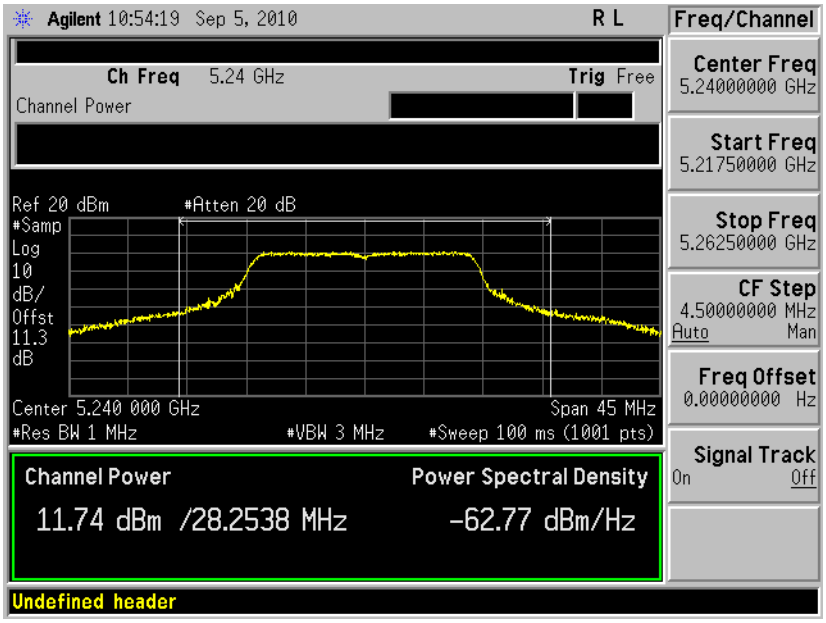
Output Power Plot on 802.11a Channel 44 - Chain 0



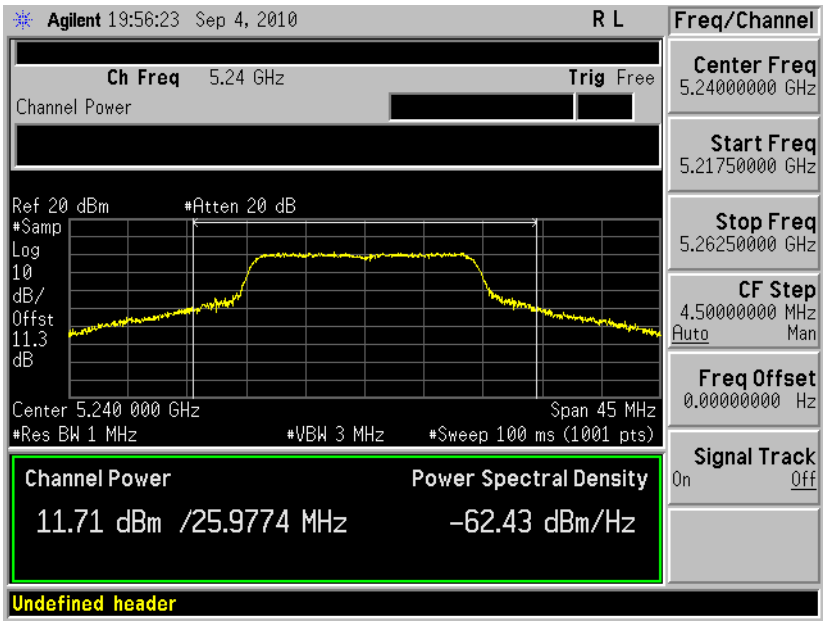
Output Power Plot on 802.11a Channel 44 - Chain 1



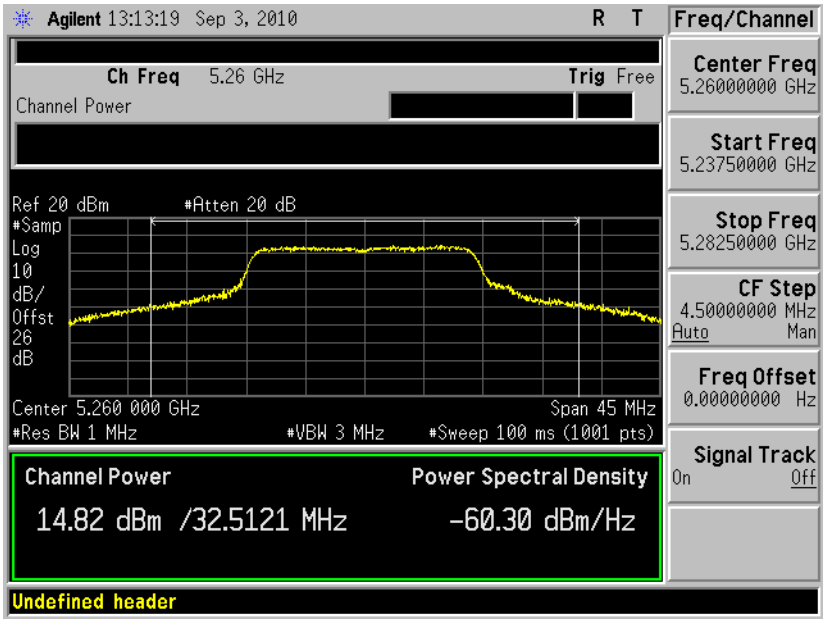
Output Power Plot on 802.11a Channel 48 – Chain 0



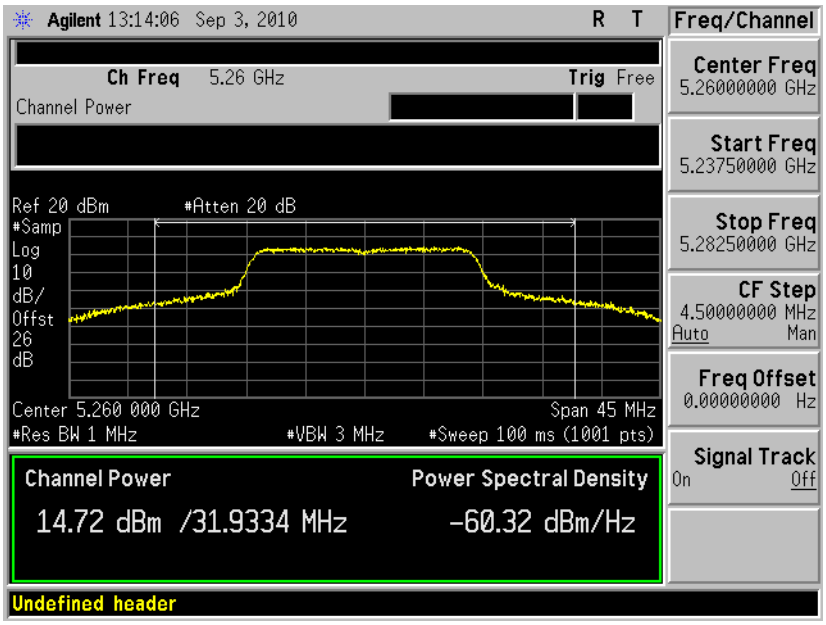
Output Power Plot on 802.11a Channel 48 - Chain 1



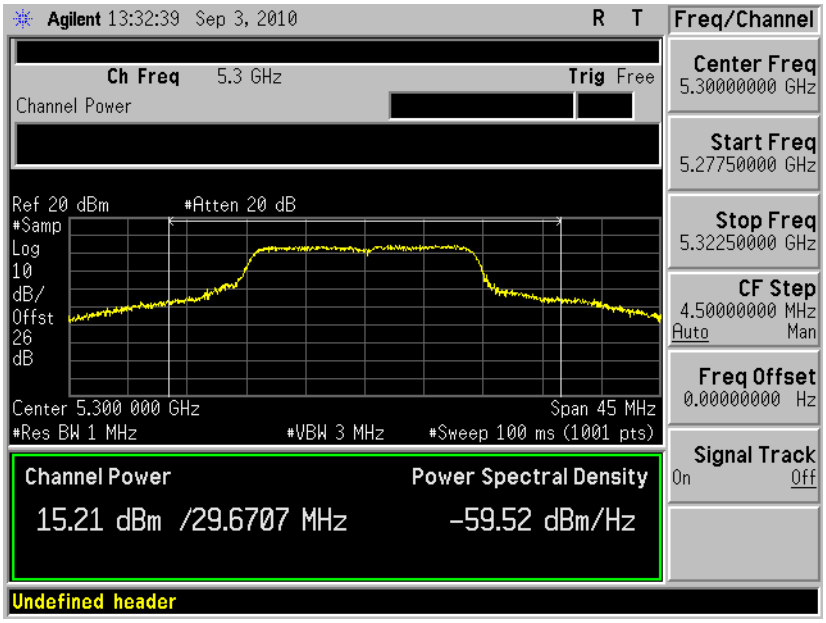
Output Power Plot on 802.11a Channel 52 - Chain 0



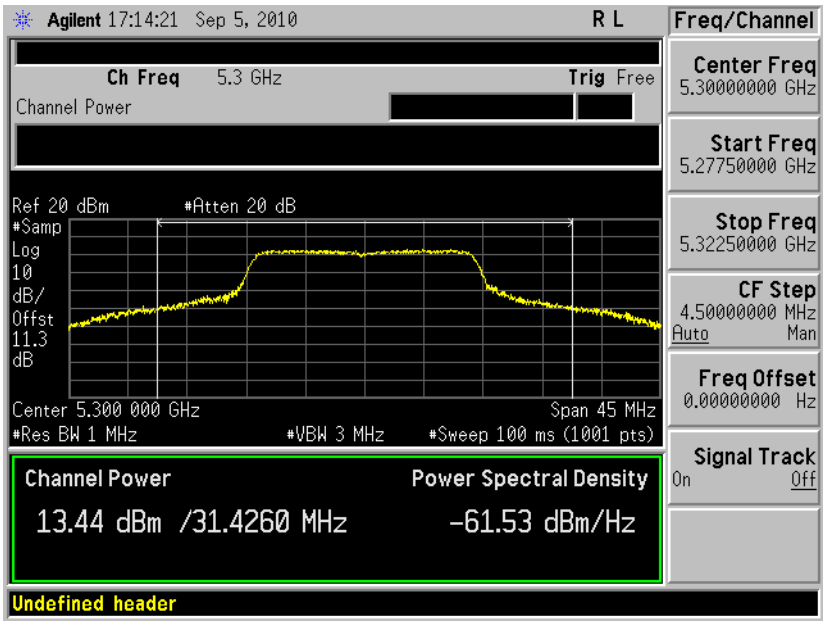
Output Power Plot on 802.11a Channel 52 - Chain 1



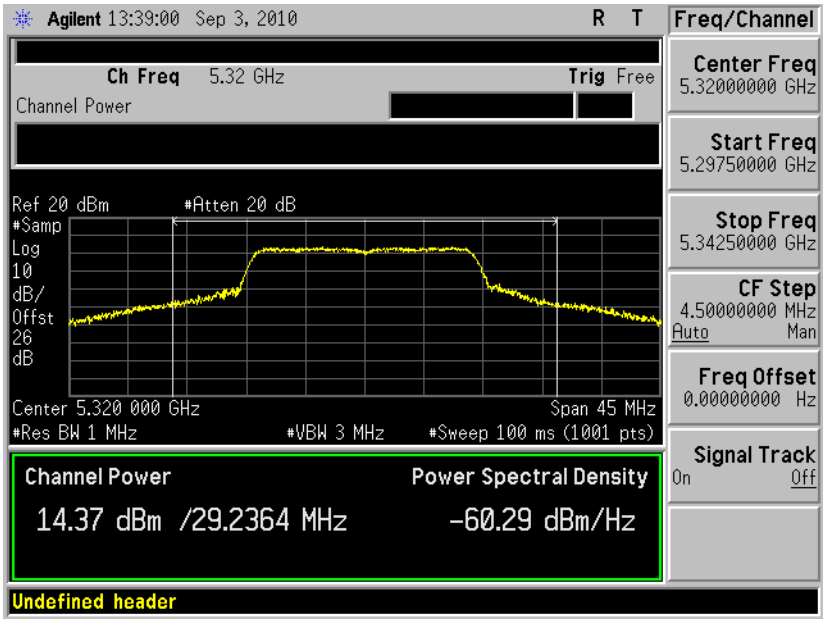
Output Power Plot on 802.11a Channel 60 - Chain 0



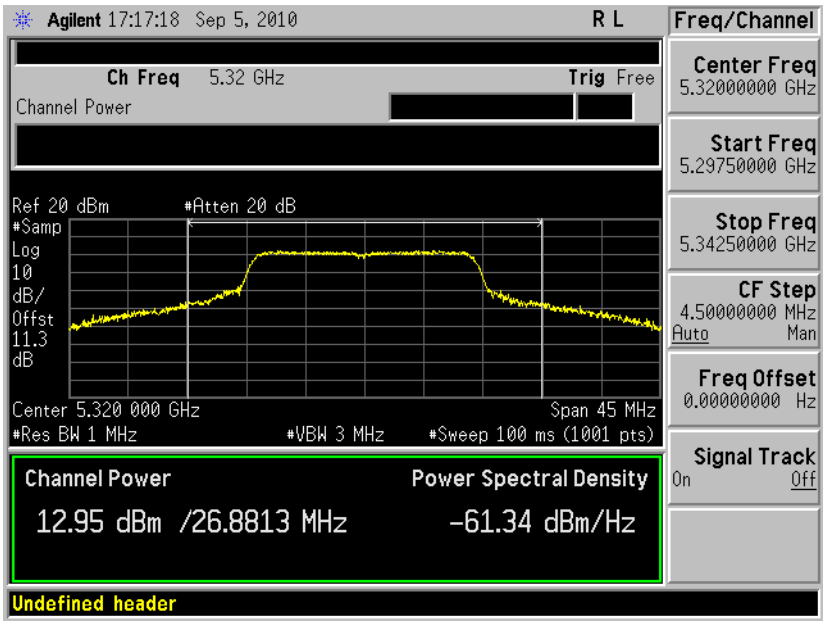
Output Power Plot on 802.11a Channel 60 - Chain 1



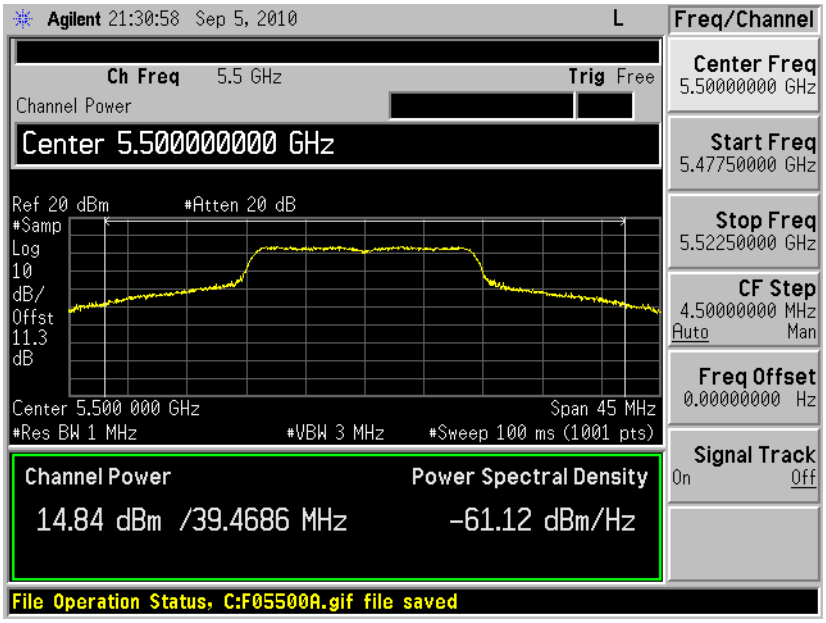
Output Power Plot on 802.11a Channel 64 - Chain 0



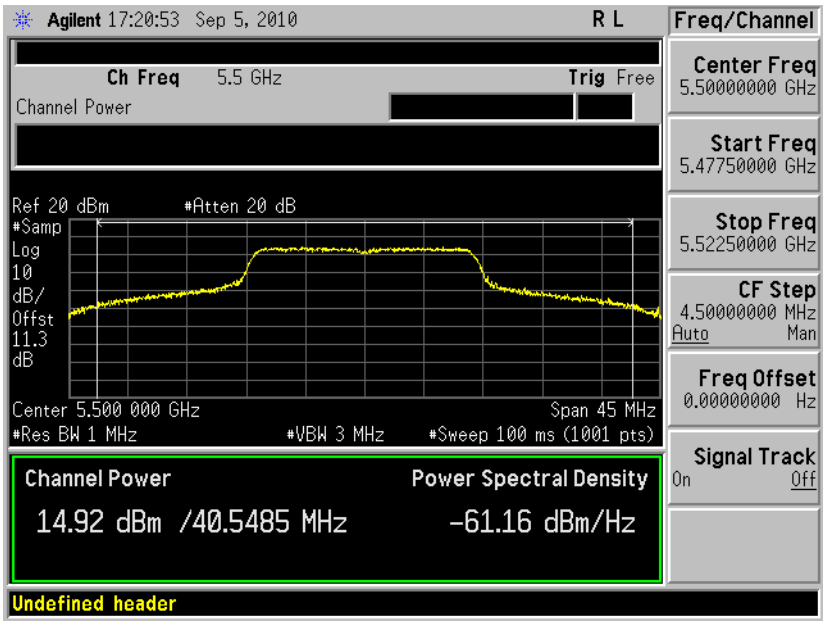
Output Power Plot on 802.11a Channel 64 - Chain 1



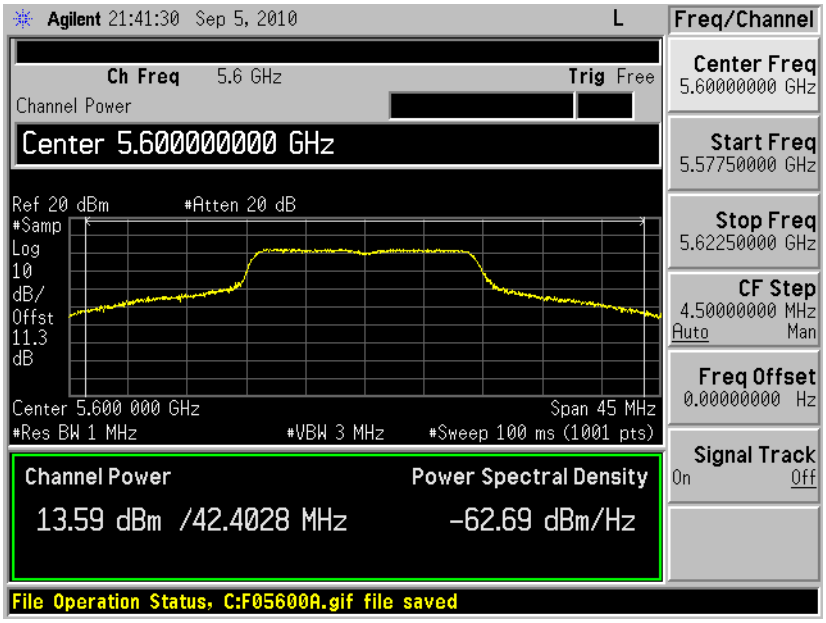
Output Power Plot on 802.11a Channel 100 – Chain 0



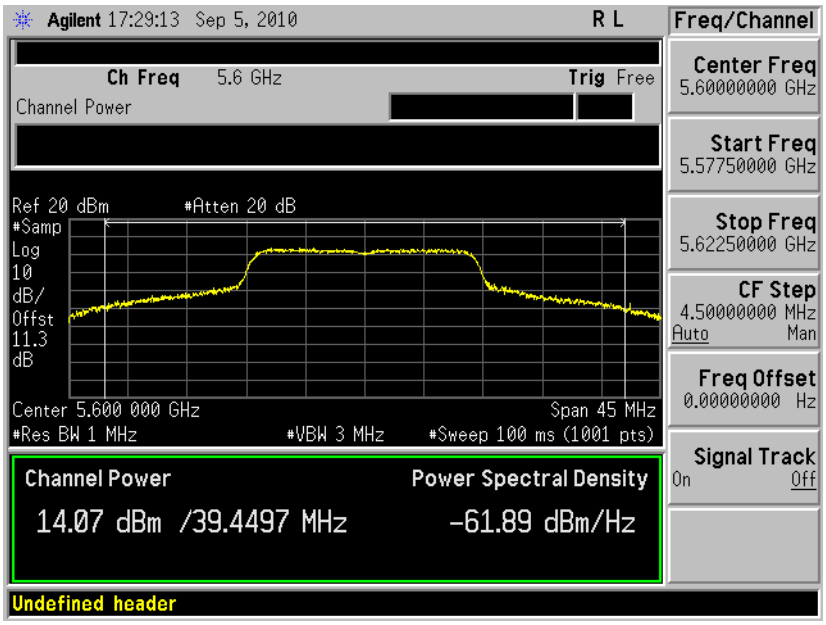
Output Power Plot on 802.11a Channel 100 - Chain 1



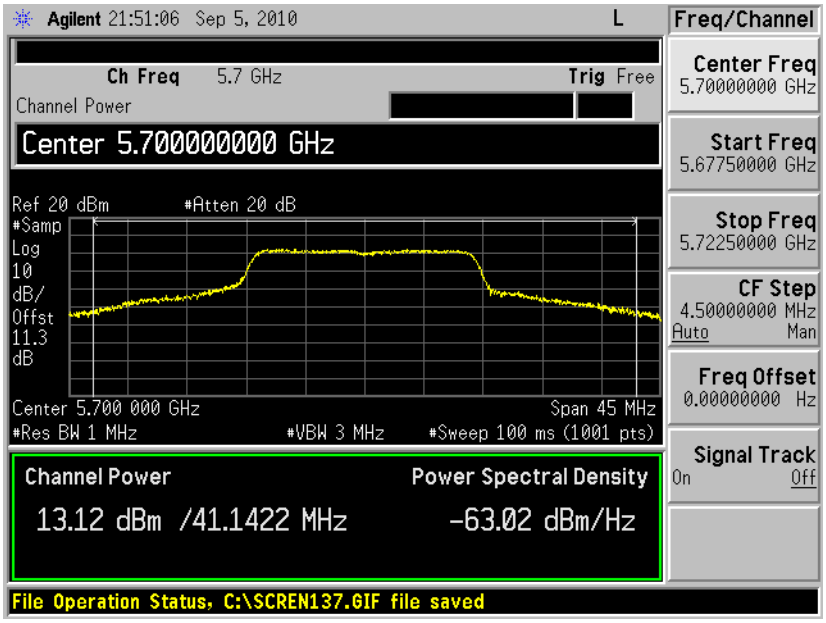
Output Power Plot on 802.11a Channel 120 - Chain 0



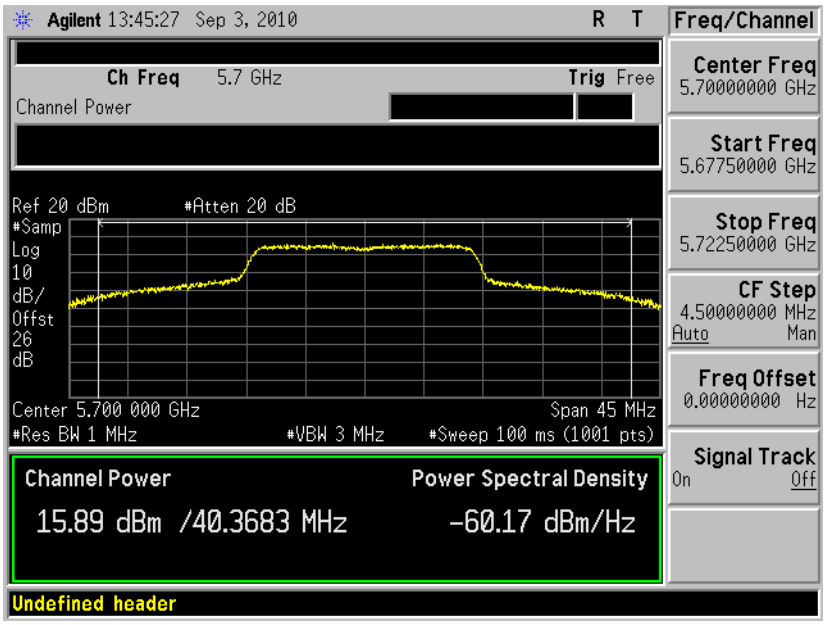
Output Power Plot on 802.11a Channel 120 - Chain 1



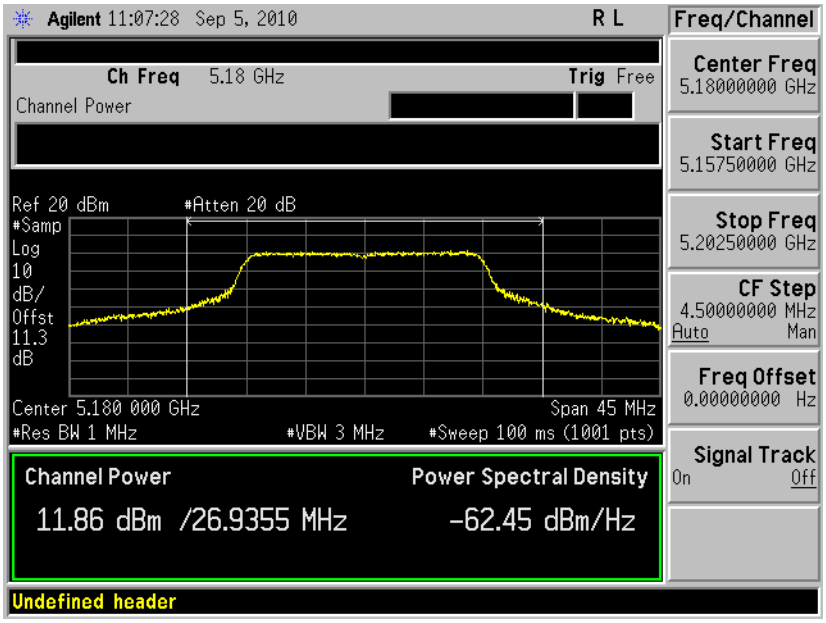
Output Power Plot on 802.11a Channel 140 - Chain 0



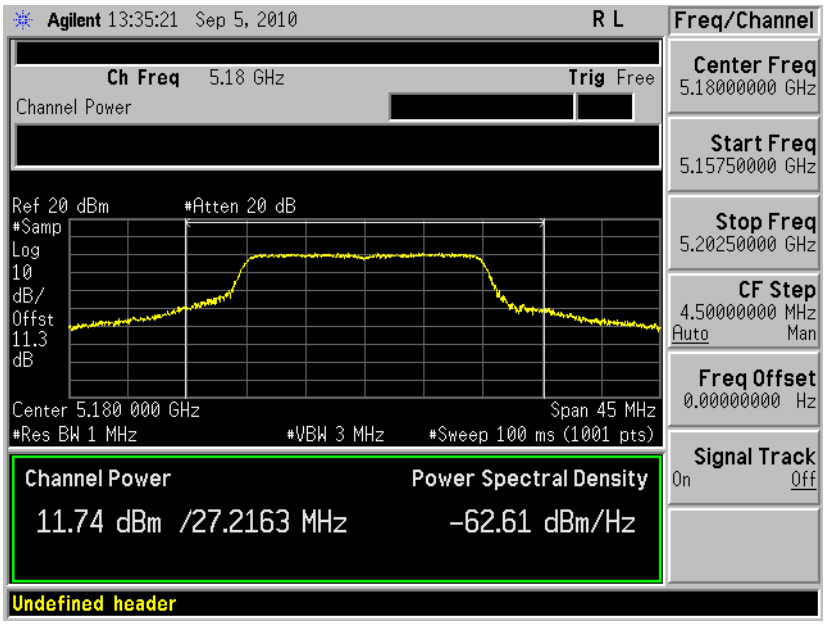
Output Power Plot on 802.11a Channel 140 - Chain 1



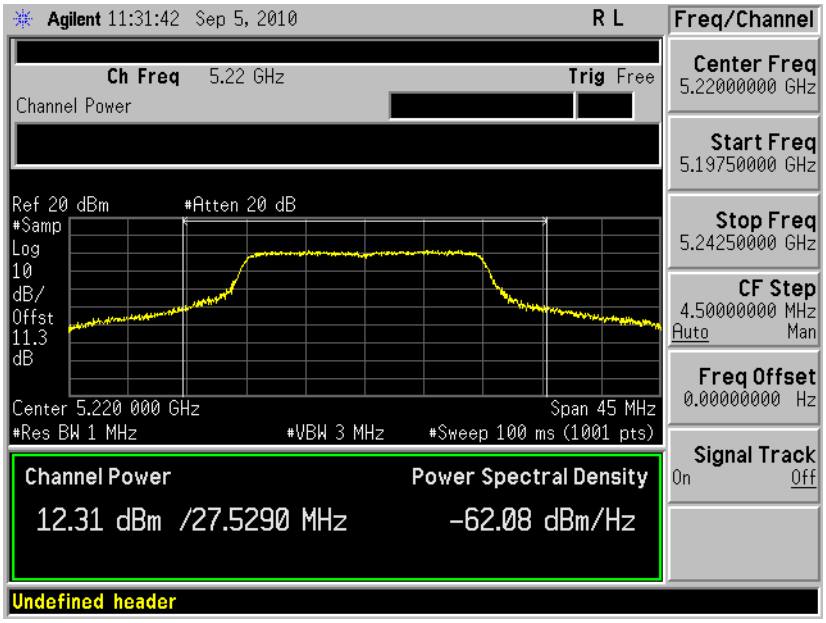
Output Power Plot on 802.11n (HT-20) Channel 36 - Chain 0



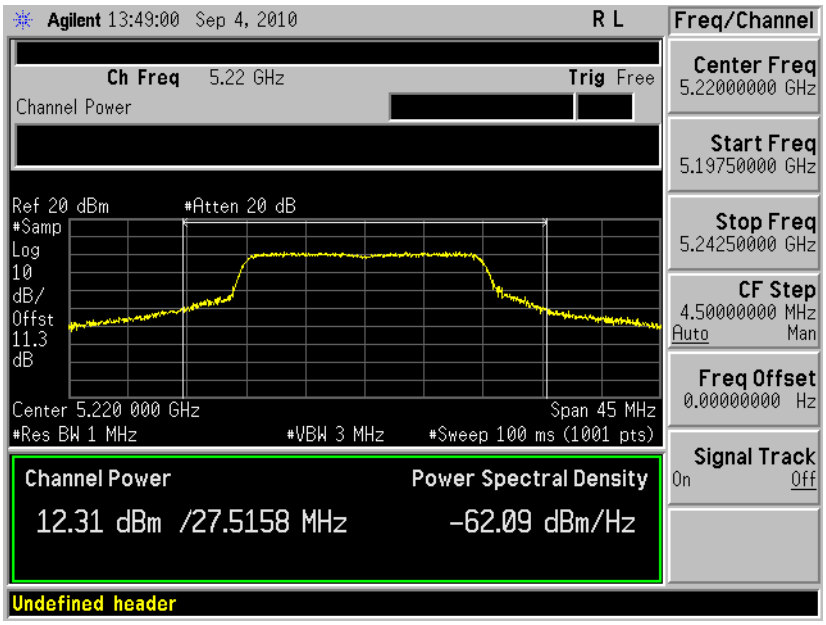
Output Power Plot on 802.11n (HT-20) Channel 36 - Chain 1



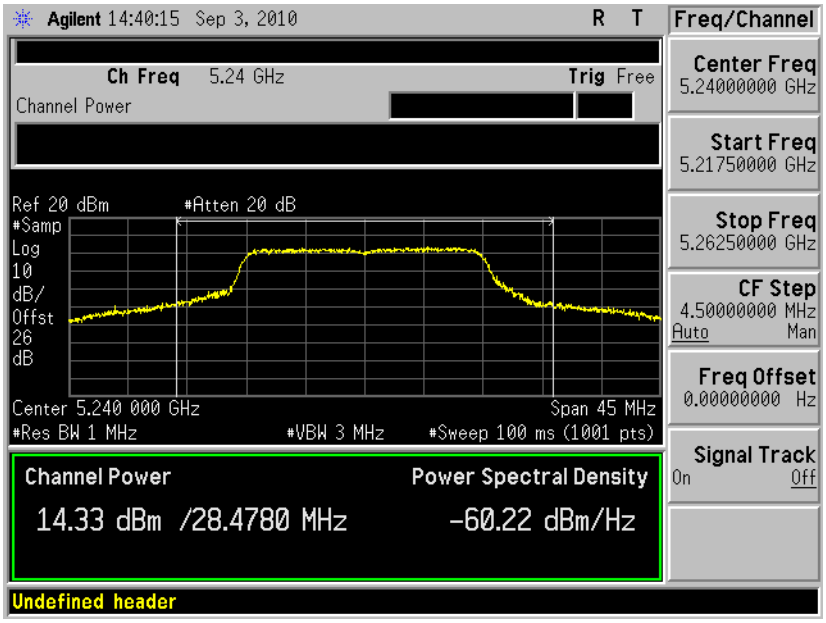
Output Power Plot on 802.11n (HT-20) Channel 44 - Chain 0



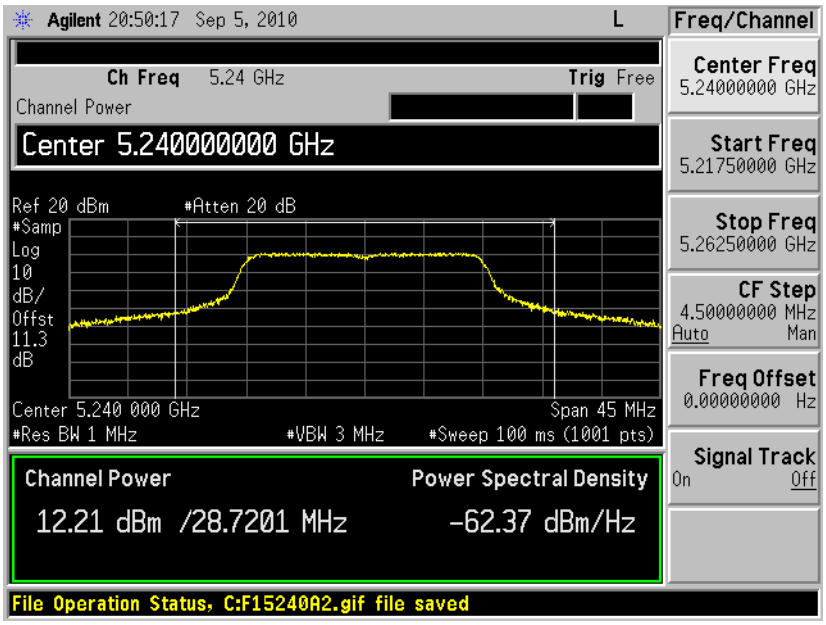
Output Power Plot on 802.11n (HT-20) Channel 44 - Chain 1



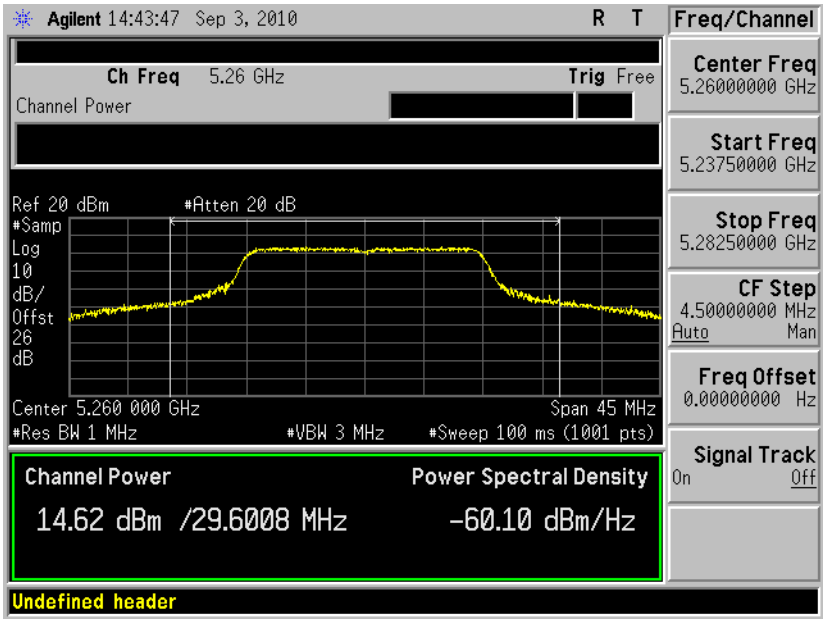
Output Power Plot on 802.11n (HT-20) Channel 48 - Chain 0



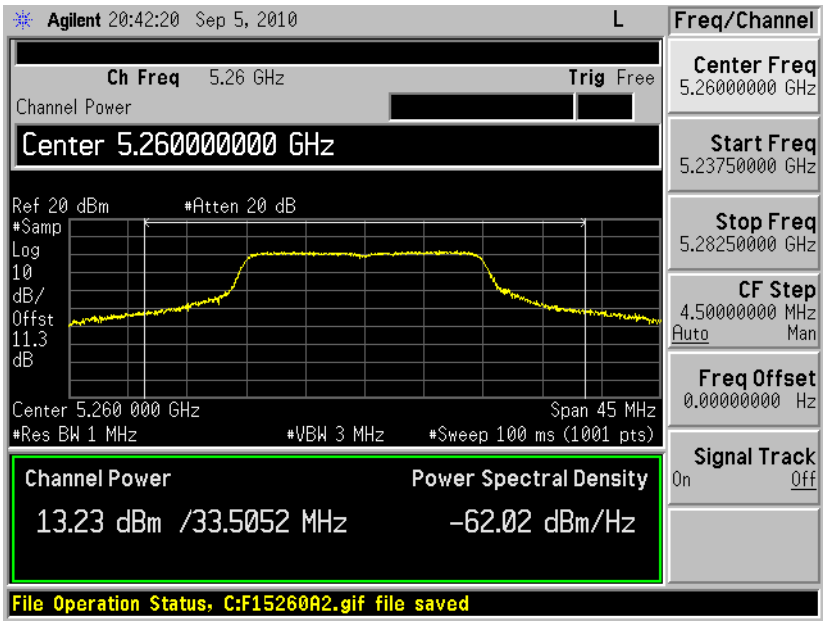
Output Power Plot on 802.11n (HT-20) Channel 48 - Chain 1



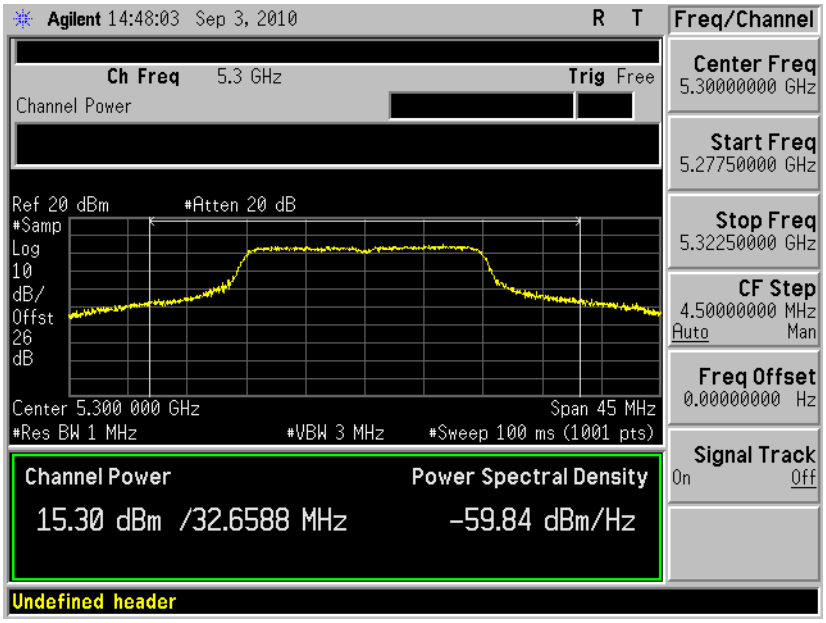
Output Power Plot on 802.11n (HT-20) Channel 52 - Chain 0



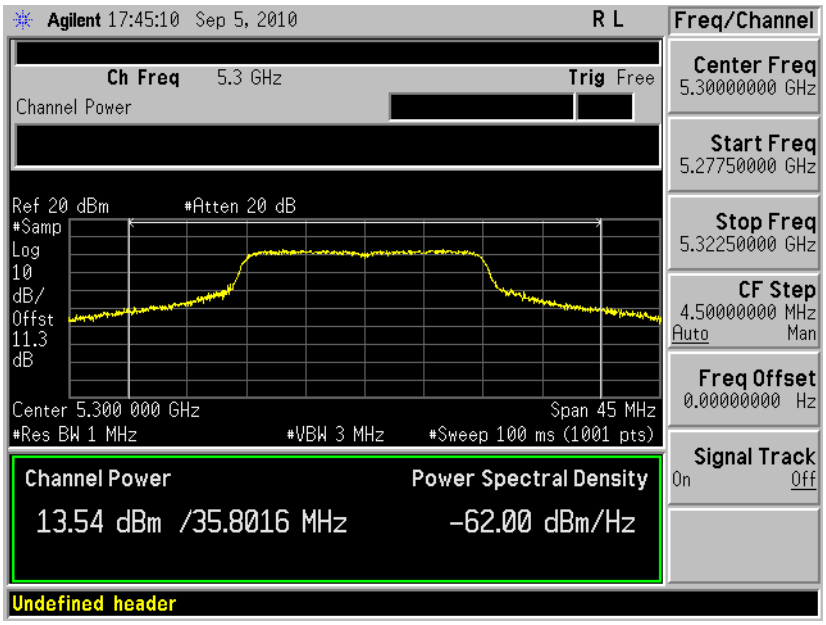
Output Power Plot on 802.11n (HT-20) Channel 52 - Chain 1



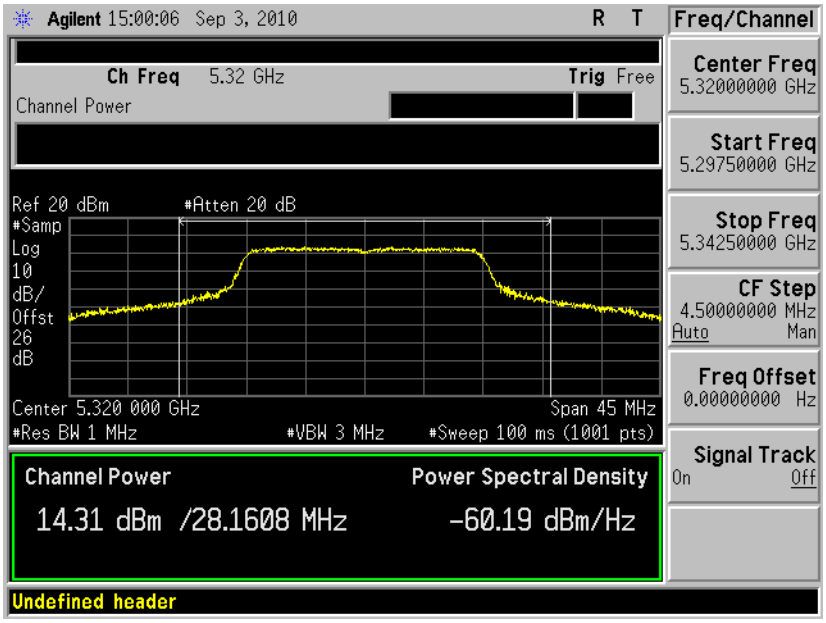
Output Power Plot on 802.11n (HT-20) Channel 60 - Chain 0



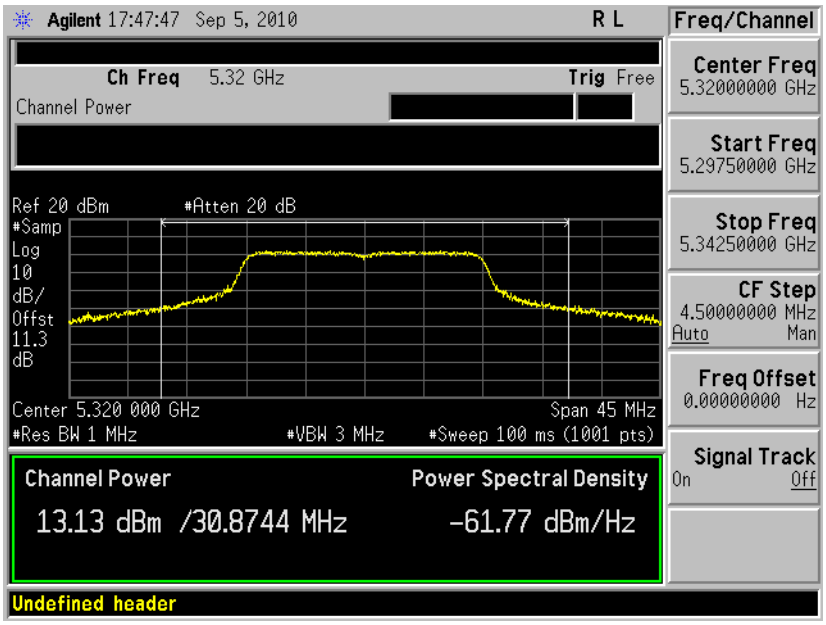
Output Power Plot on 802.11n (HT-20) Channel 60 - Chain 1



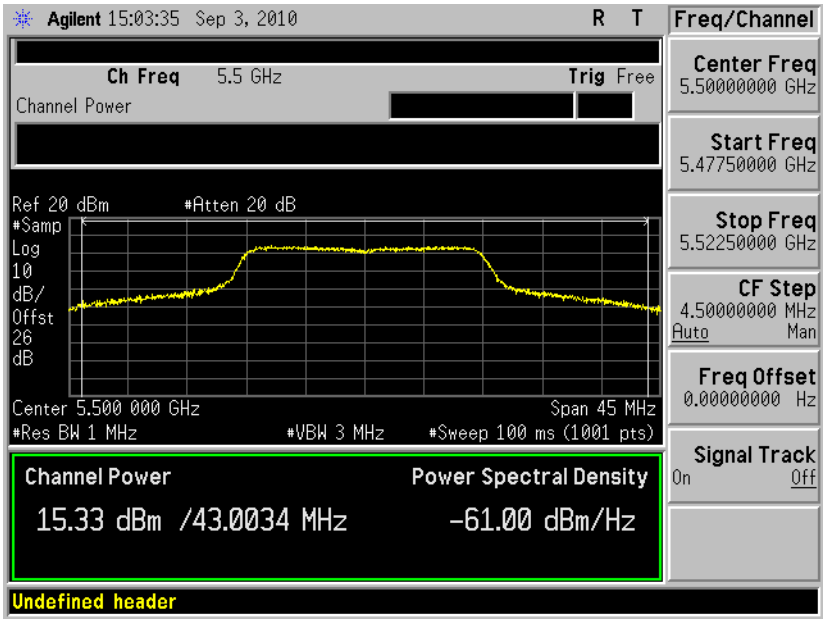
Output Power Plot on 802.11n (HT-20) Channel 64 - Chain 0



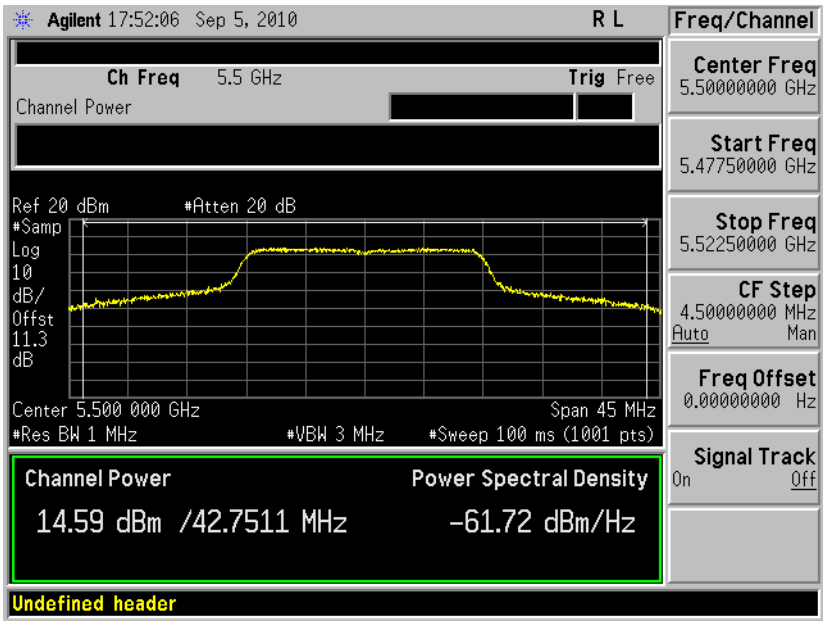
Output Power Plot on 802.11n (HT-20) Channel 64 - Chain 1



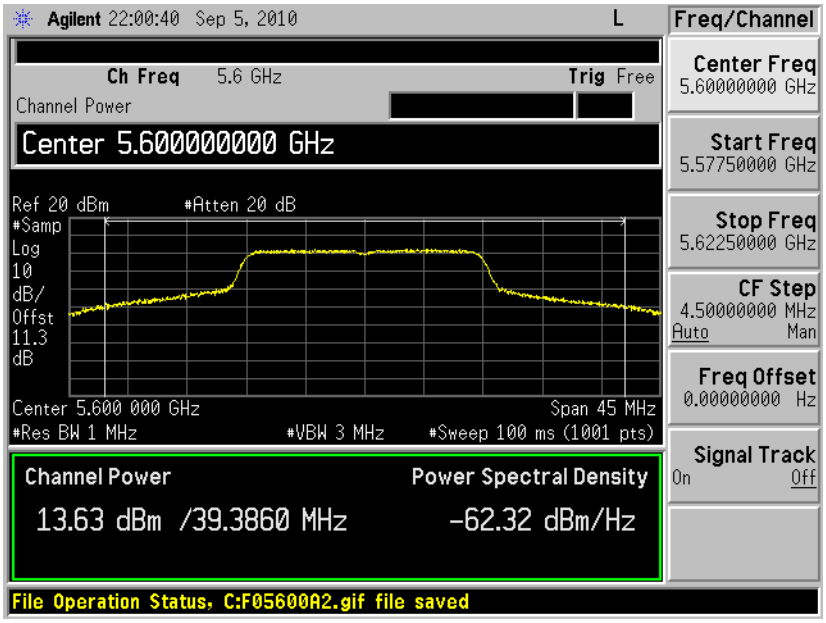
Output Power Plot on 802.11n (HT-20) Channel 100 - Chain 0



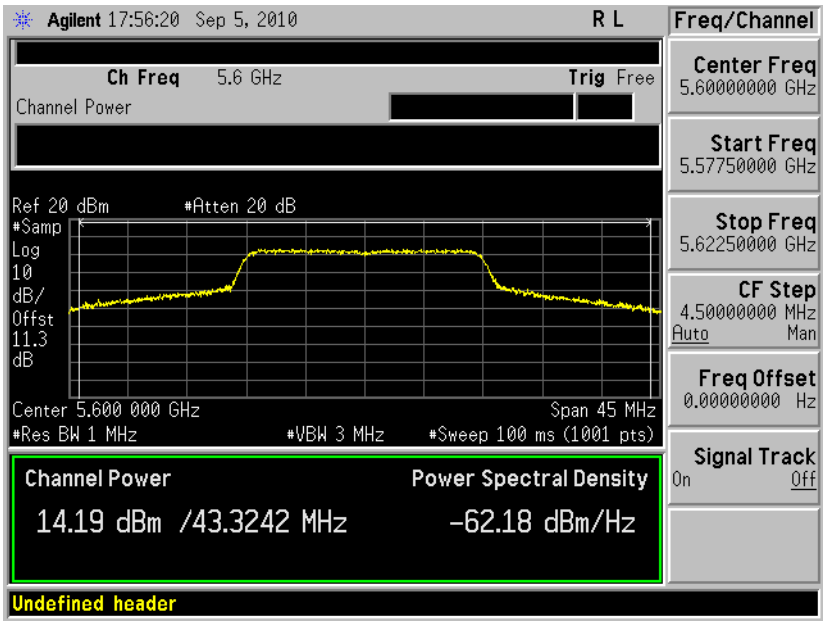
Output Power Plot on 802.11n (HT-20) Channel 100 - Chain 1



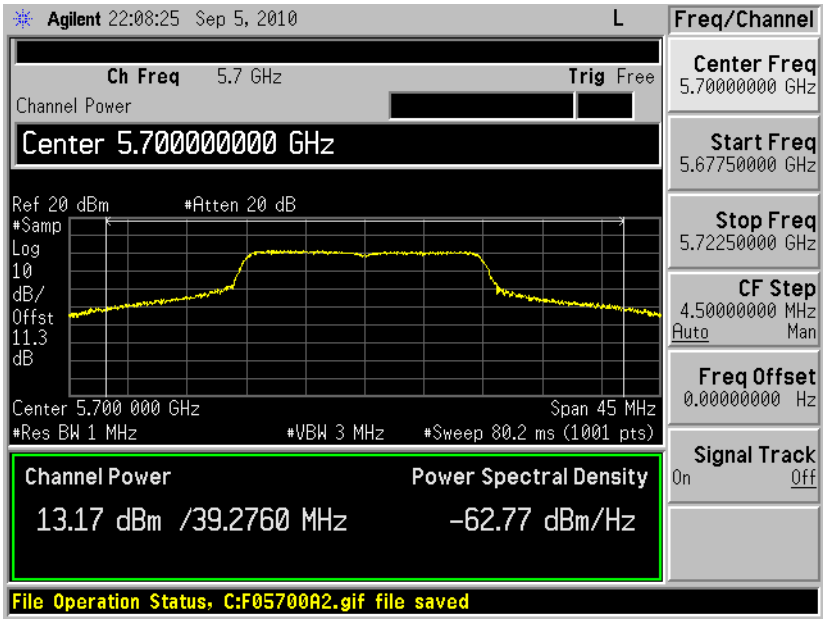
Output Power Plot on 802.11n (HT-20) Channel 120 - Chain 0



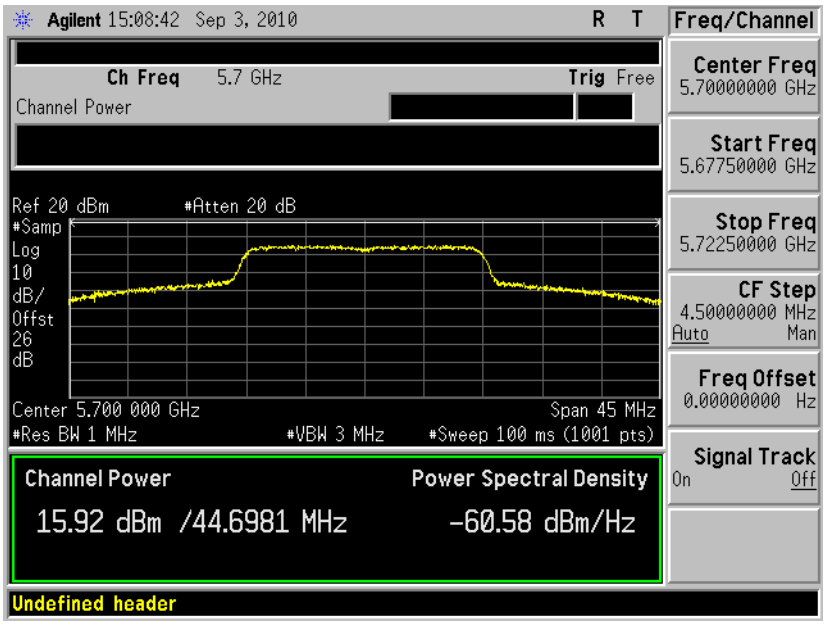
Output Power Plot on 802.11n (HT-20) Channel 120 - Chain 1



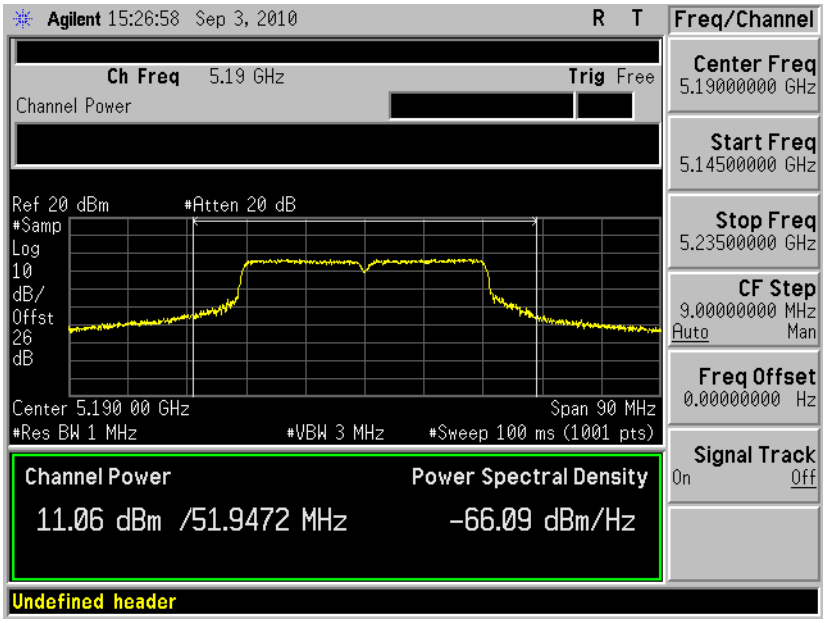
Output Power Plot on 802.11n (HT-20) Channel 140 - Chain 0



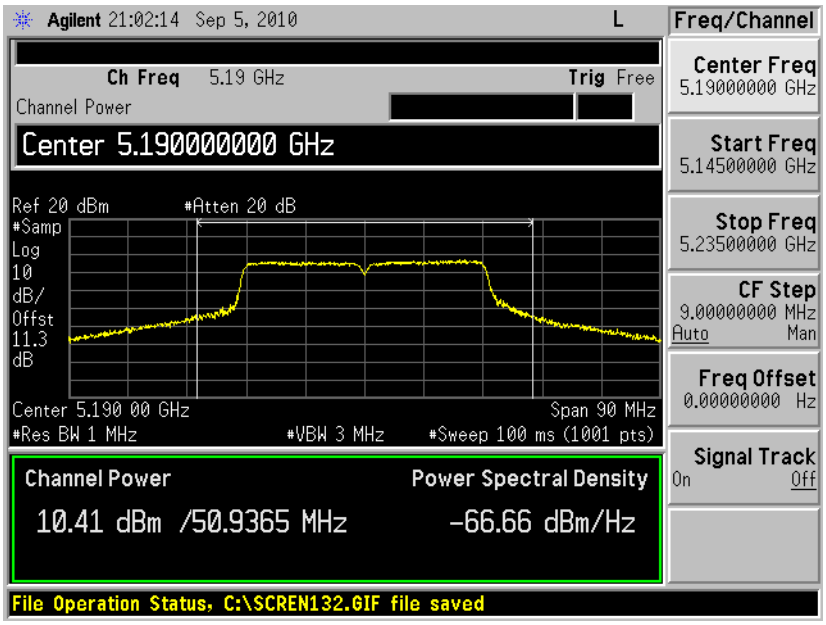
Output Power Plot on 802.11n (HT-20) Channel 140 - Chain 1



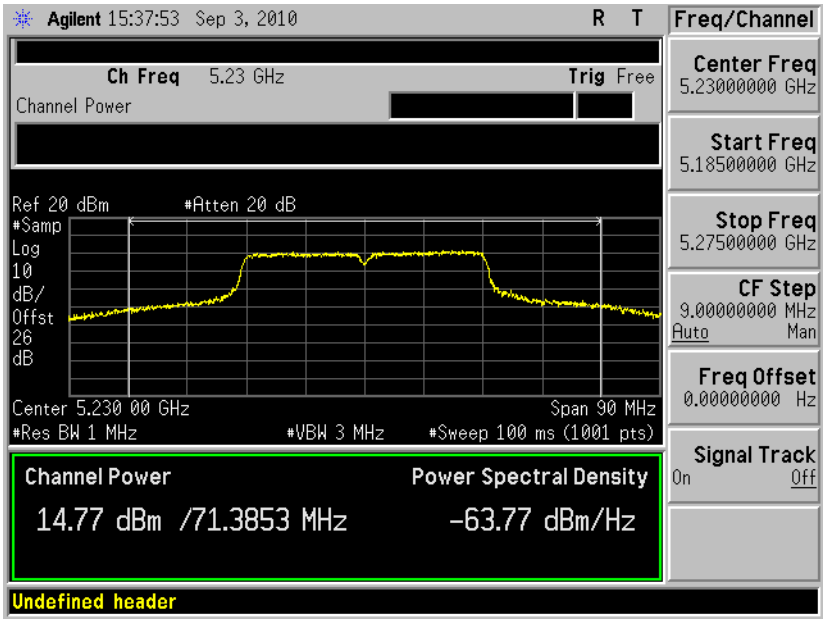
Output Power Plot on 802.11n (HT-40) Channel 38 - Chain 0



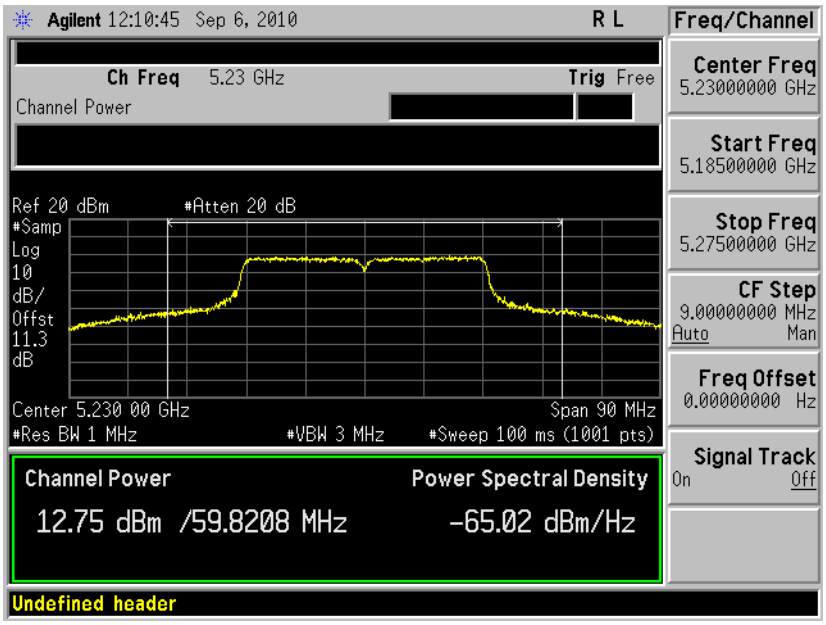
Output Power Plot on 802.11n (HT-40) Channel 38 - Chain 1



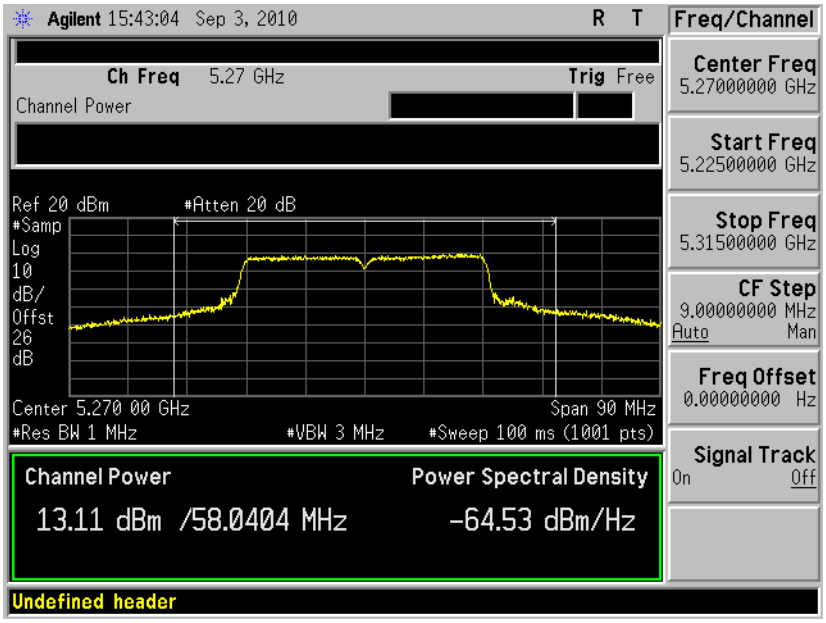
Output Power Plot on 802.11n (HT-40) Channel 46 - Chain 0



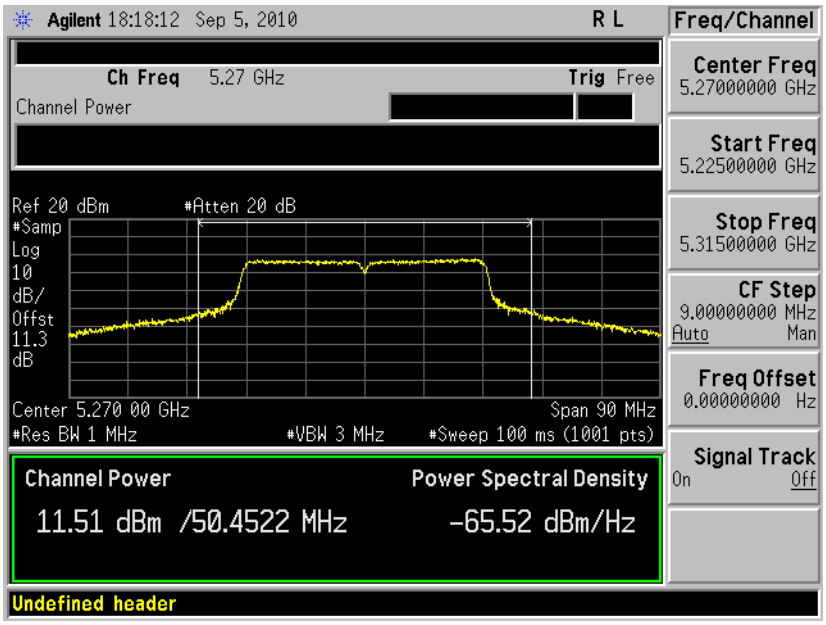
Output Power Plot on 802.11n (HT-40) Channel 46 - Chain 1



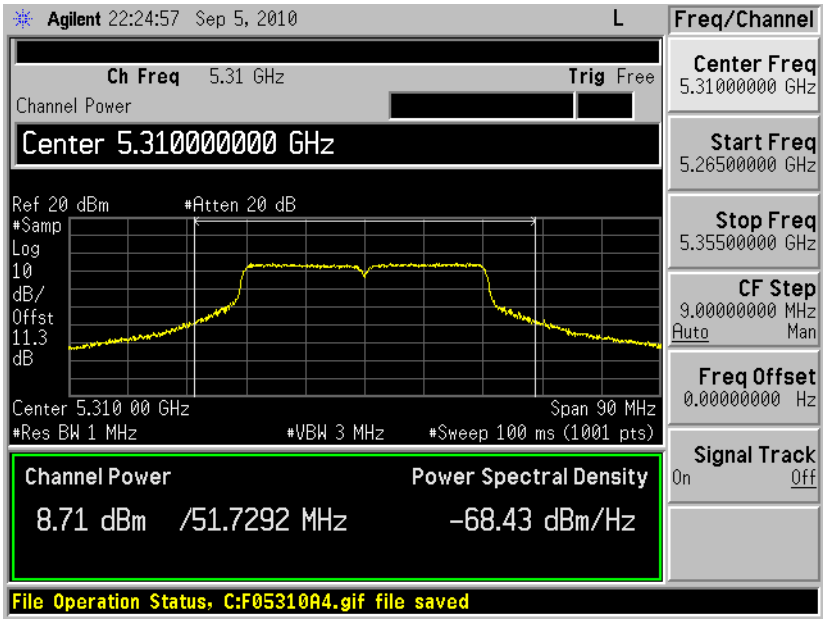
Output Power Plot on 802.11n (HT-40) Channel 54 - Chain 0



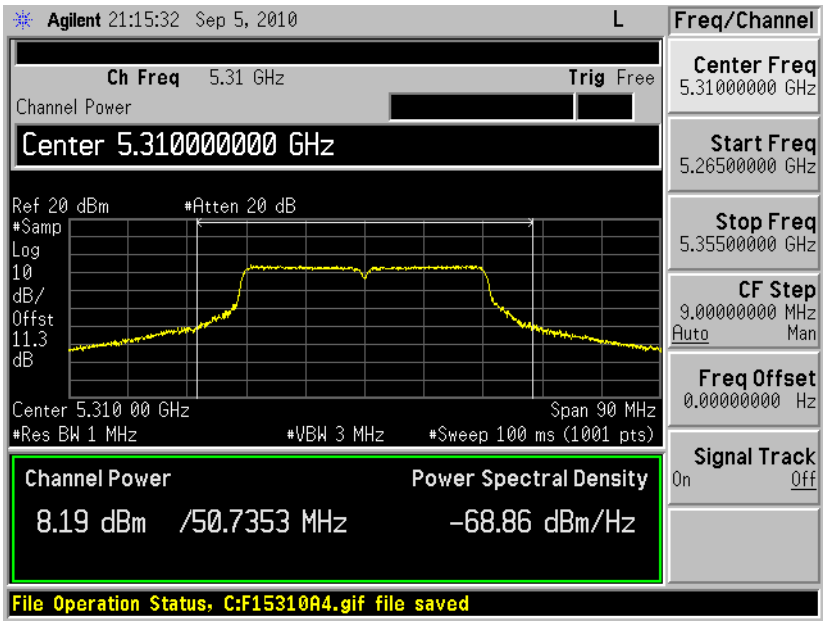
Output Power Plot on 802.11n (HT-40) Channel 54 - Chain 1



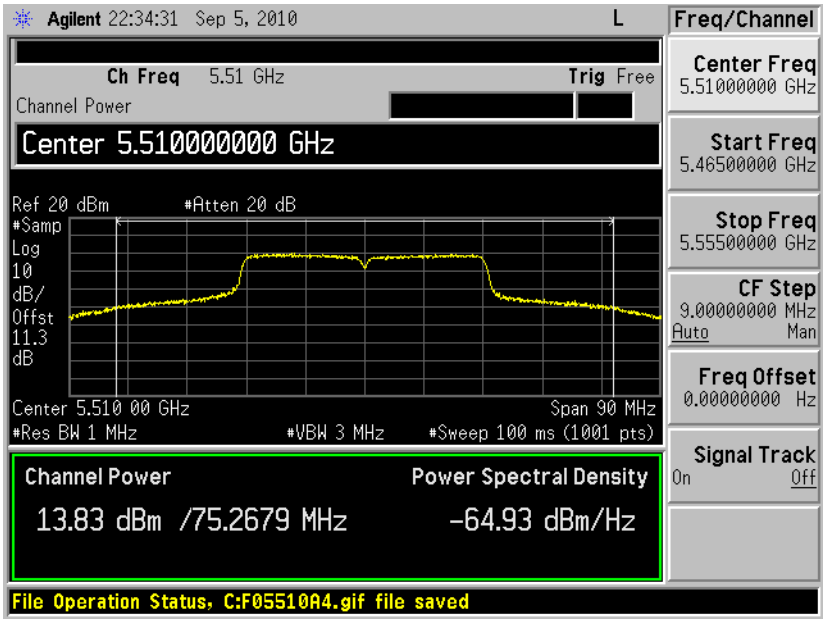
Output Power Plot on 802.11n (HT-40) Channel 62 - Chain 0



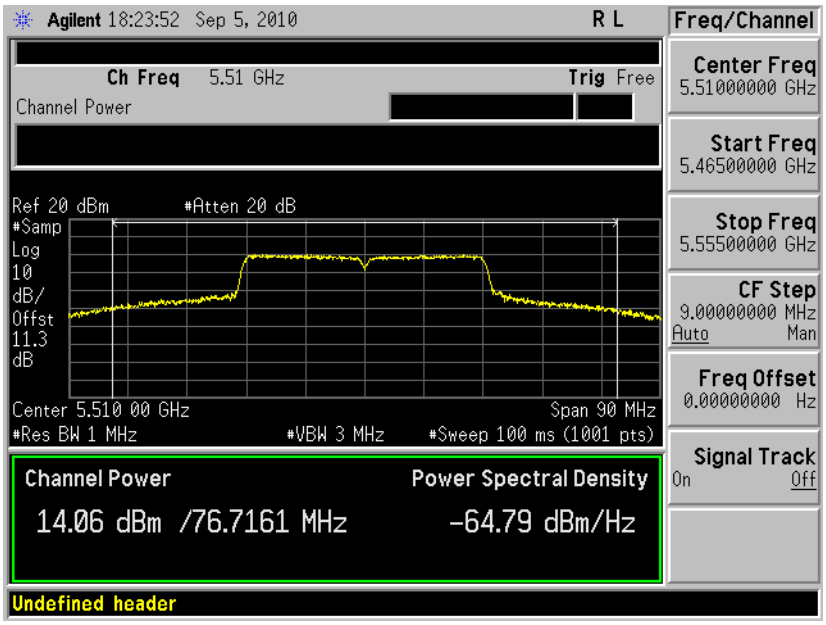
Output Power Plot on 802.11n (HT-40) Channel 62 - Chain 1



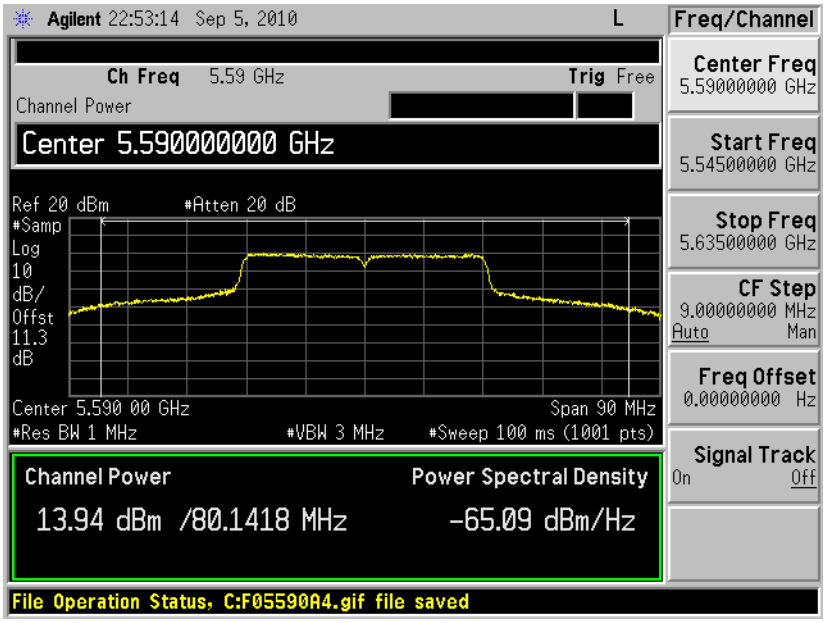
Output Power Plot on 802.11n (HT-40) Channel 102 - Chain 0



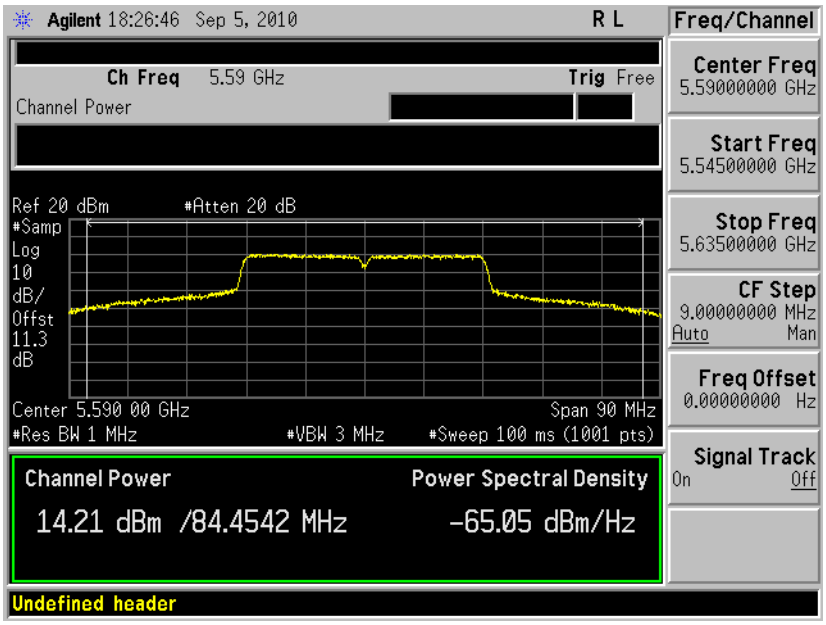
Output Power Plot on 802.11n (HT-40) Channel 102 - Chain 1



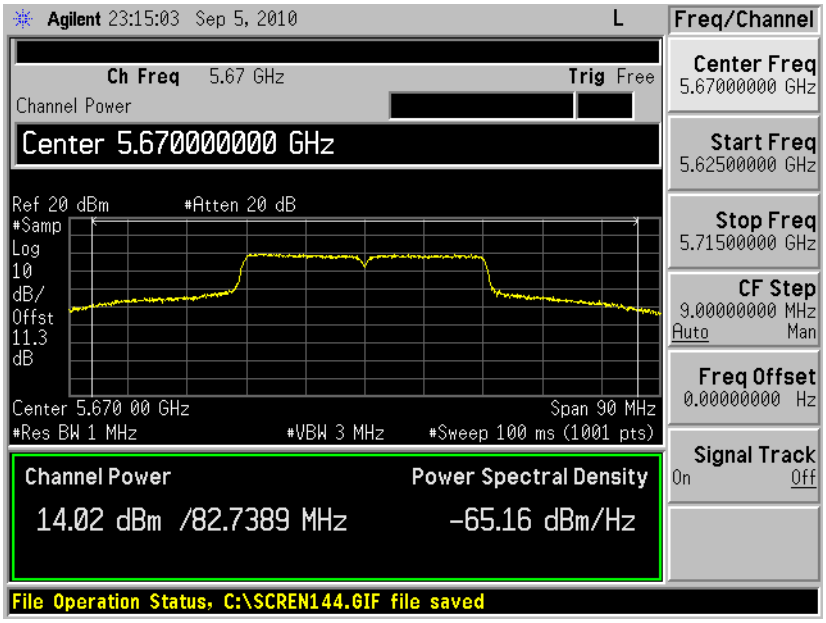
Output Power Plot on 802.11n (HT-40) Channel 118 - Chain 0



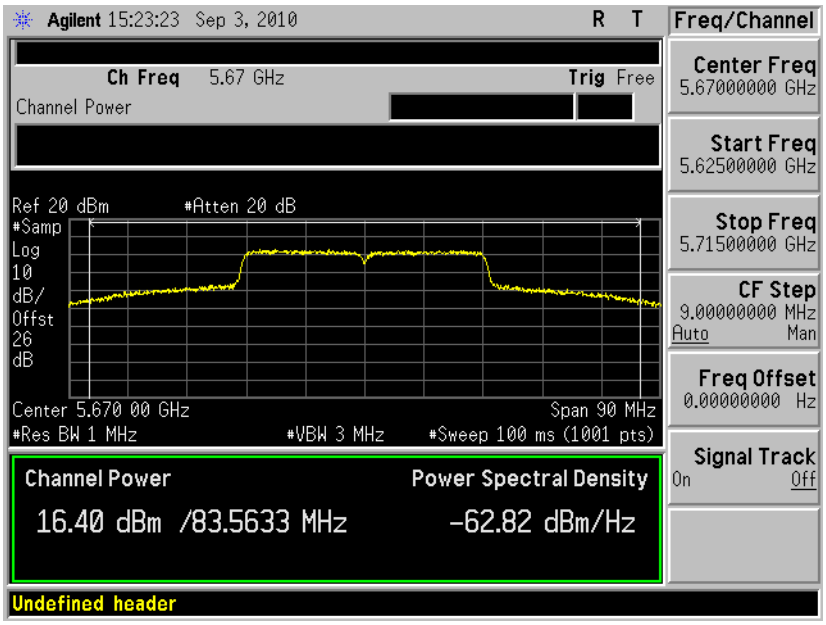
Output Power Plot on 802.11n (HT-40) Channel 118 - Chain 1



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



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



3.5 Conducted Spurious Emission Measurement

3.5.1 Limit of Spurious Emission Measurement

(1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz.

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

(3) For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.

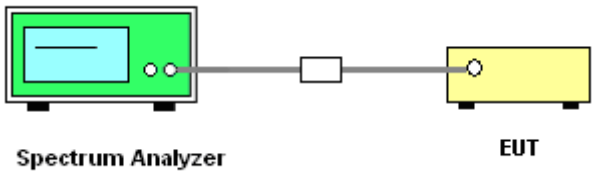
3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedure

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

3.5.4 Test Setup



3.5.5 Test Result

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

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

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

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

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

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

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

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

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

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

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

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

3.6 Band Edges Measurement

3.6.1 Limit of Band Edges

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

(2) The provisions of Section 15.205 Restricted bands of operation of this part apply to intentional radiators operating under this section.

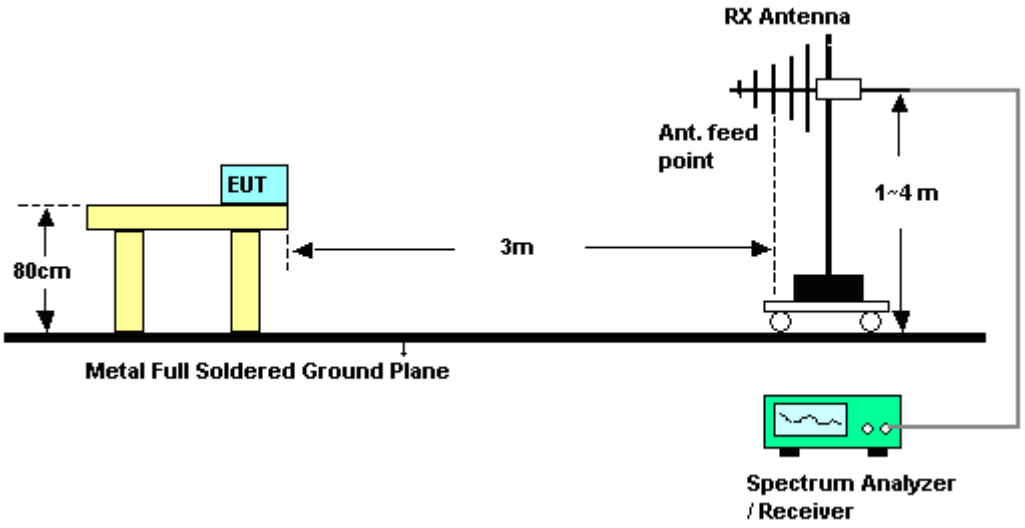
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

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

3.6.4 Test Setup



3.6.6 Test Result of Radiated Band Edges

Test Mode :	802.11a L channel	**Temperature :**	25~26°C℃
Test Band :	802.11a	**Relative Humidity :**	43~44%%
Test Channel :	36	**Test Engineer :**	Kay 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	67.49	-6.51	74	60.55	34.02	6.7	33.78	100	274	Peak
5150	46.85	-7.15	54	39.91	34.02	6.7	33.78	100	274	Average

ANTENNA POLARITY : VERTICAL										
Frequency (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	68.04	-5.96	74	61.1	34.02	6.7	33.78	100	274	Peak
5150	46.21	-7.79	54	39.27	34.02	6.7	33.78	100	274	Average

Test Mode :	802.11a H channel	**Temperature :**	25~26°C℃
Test Band :	802.11a	**Relative Humidity :**	43~44%%
Test Channel :	64	**Test Engineer :**	Kay 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
5350	64.68	-9.32	74	57.47	34.18	6.8	33.77	100	288	Peak
5350	42.32	-11.68	54	35.11	34.18	6.8	33.77	100	288	Average

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

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

ANTENNA POLARITY : HORIZONTAL										
Frequency (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
5460	56.34	-17.66	74	48.99	34.26	6.85	33.76	100	252	Peak
5460	40.79	-13.21	54	33.44	34.26	6.85	33.76	100	252	Average

ANTENNA POLARITY : VERTICAL										
Frequency (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
5458	63.56	-10.44	74	56.21	34.26	6.85	33.76	100	252	Peak
5458	44.07	-9.93	54	36.72	34.26	6.85	33.76	100	252	Average

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

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

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

Test Mode :	802.11n (HT-20) L channel	Temperature :	25~26°C℃
Test Band :	802.11n (HT-20)	Relative Humidity :	43~44%%
Test Channel :	36	Test Engineer :	Kay 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
5148	67.46	-6.54	74	60.52	34.02	6.7	33.78	100	274	Peak
5148	42.74	-11.26	54	35.8	34.02	6.7	33.78	100	274	Average

ANTENNA POLARITY : VERTICAL										
Frequency (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	67.98	-6.02	74	61.04	34.02	6.7	33.78	100	274	Peak
5150	44.85	-9.15	54	37.91	34.02	6.7	33.78	100	274	Average

Test Mode :	802.11n (HT-20) H channel	Temperature :	25~26°C℃
Test Band :	802.11n (HT-20)	Relative Humidity :	43~44%%
Test Channel :	64	Test Engineer :	Kay 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
5350	60.18	-13.82	74	52.97	34.18	6.8	33.77	100	288	Peak
5350	42.47	-11.53	54	35.26	34.18	6.8	33.77	100	288	Average

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

Test Mode :	802.11n (HT-20) L channel	Temperature :	25~26°C℃
Test Band :	802.11n (HT-20)	Relative Humidity :	43~44%%
Test Channel :	100	Test Engineer :	Kay 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
5460	64.53	-9.47	74	57.18	34.26	6.85	33.76	100	252	Peak
5460	41.12	-12.88	54	33.77	34.26	6.85	33.76	100	252	Average

ANTENNA POLARITY : VERTICAL										
Frequency (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
5460	68.16	-5.84	74	60.81	34.26	6.85	33.76	100	252	Peak
5460	37.35	-16.65	54	30	34.26	6.85	33.76	100	252	Average

Test Mode :	802.11n (HT-20) H channel	Temperature :	25~26°C℃
Test Band :	802.11n (HT-20)	Relative Humidity :	43~44%%
Test Channel :	140	Test Engineer :	Kay 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
5725	64.21	-24.09	88.3	55.62	34.51	9.92	35.84	100	279	Peak
5725	44.68	-23.62	68.3	36.09	34.51	9.92	35.84	100	279	Average

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

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

ANTENNA POLARITY : HORIZONTAL										
Frequency (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	67.75	-6.25	74	60.81	34.02	6.7	33.78	100	290	Peak
5150	49.76	-4.24	54	42.82	34.02	6.7	33.78	100	290	Average

ANTENNA POLARITY : VERTICAL										
Frequency (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	72.79	-1.21	74	65.85	34.02	6.7	33.78	100	290	Peak
5150	53.41	-0.59	54	46.47	34.02	6.7	33.78	100	290	Average

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

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

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

Test Mode :	802.11n (HT-40) L channel	Temperature :	25~26°C℃
Test Band :	802.11n (HT-40)	Relative Humidity :	43~44%%
Test Channel :	102	Test Engineer :	Kay 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
5460	64.37	-9.63	74	57.02	34.26	6.85	33.76	100	252	Peak
5460	45.04	-8.96	54	37.69	34.26	6.85	33.76	100	252	Average

ANTENNA POLARITY : VERTICAL										
Frequency (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
5460	72.78	-1.22	74	65.43	34.26	6.85	33.76	100	252	Peak
5460	49.6	-4.4	54	42.25	34.26	6.85	33.76	100	252	Average

Test Mode :	802.11n (HT-40) H channel	Temperature :	25~26°C℃
Test Band :	802.11n (HT-40)	Relative Humidity :	43~44%%
Test Channel :	134	Test Engineer :	Kay 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
5725	62.44	-25.86	88.3	54.98	34.21	7.01	33.76	100	258	Peak
5725	46.58	-21.72	68.3	39.12	34.21	7.01	33.76	100	258	Average

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

3.7 Peak Excursion Ratio Measurement

3.7.1 Limit of Peak Excursion Ratio

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

3.7.2 Measuring Instruments

See list of measuring instruments of this test report.

3.7.3 Test Procedures

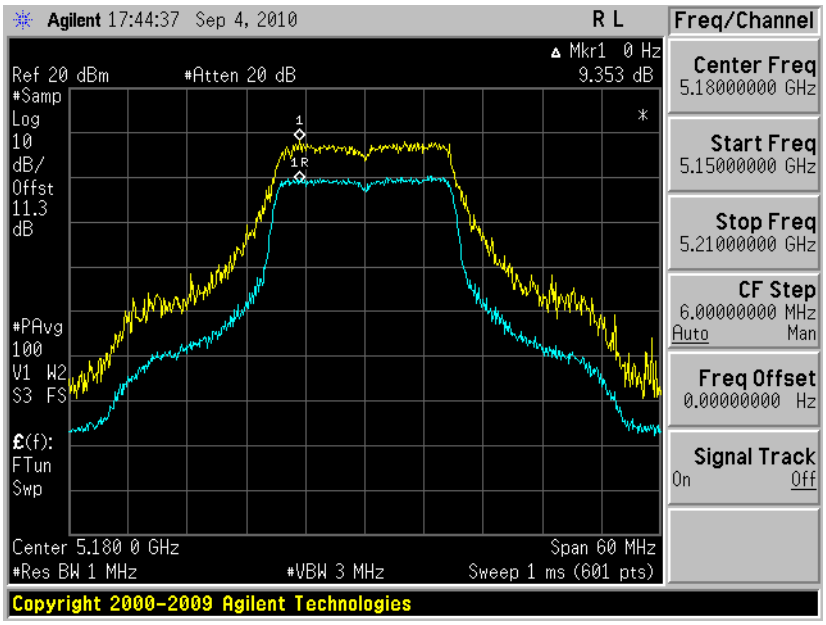
1. The transmitter output is connected to the spectrum analyzer.
2. The resolution bandwidth is set to and maintained at 1 MHz. The video bandwidth is set to 3 MHz.
3. Trace A is set peak detector and to Max Hold, then to View. Then the detector is readjusted to sample detector, max hold to run for 60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

3.7.4 Test Setup

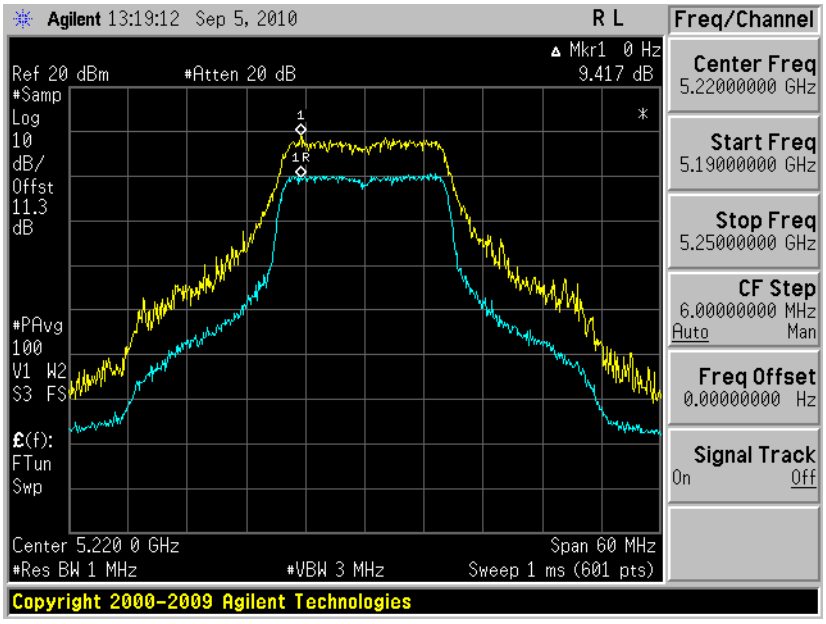
3.7.5 Test Result of Peak Excursion Ratio

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

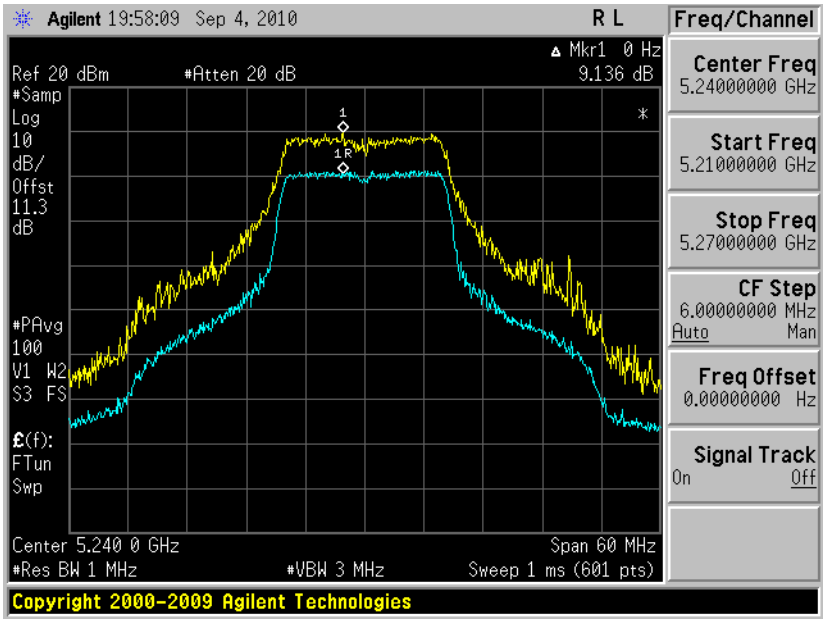
Peak Excursion Ratio Plot on 802.11a Channel 36 - Chain 1



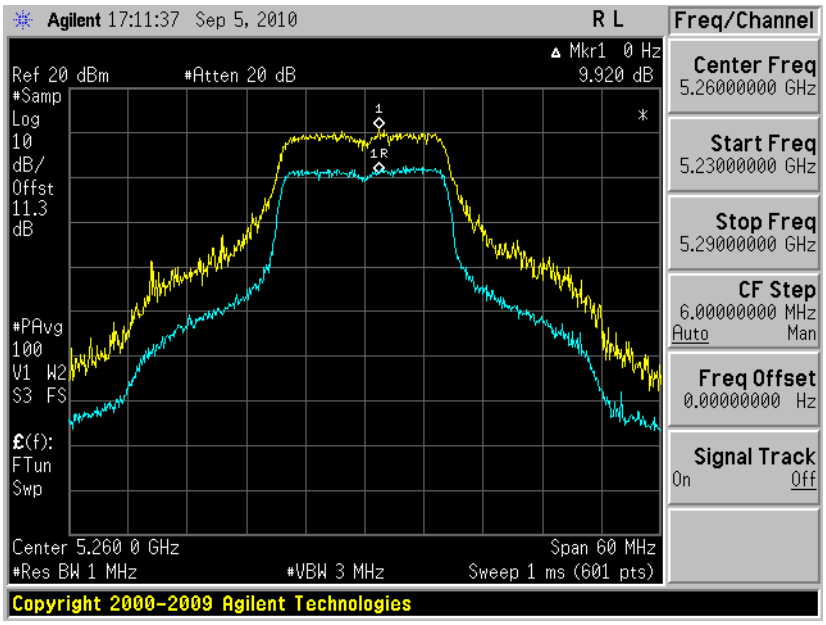
Peak Excursion Ratio Plot on 802.11a Channel 44 - Chain 1



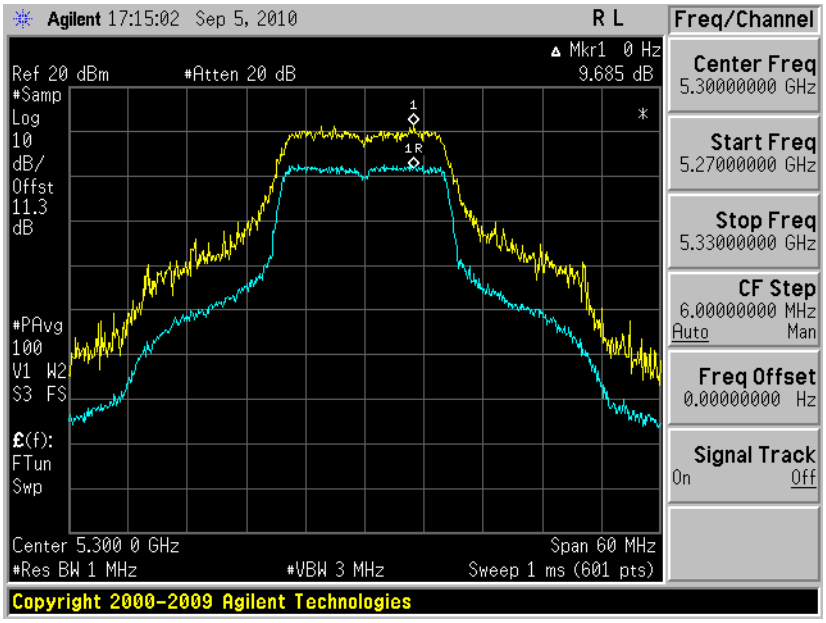
Peak Excursion Ratio Plot on 802.11a Channel 48 - Chain 1



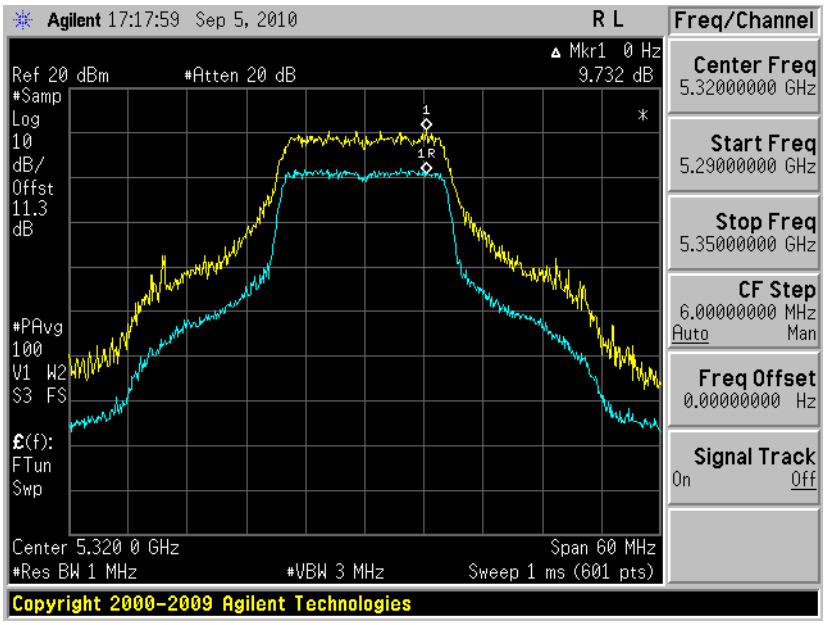
Peak Excursion Ratio Plot on 802.11a Channel 52 - Chain 1



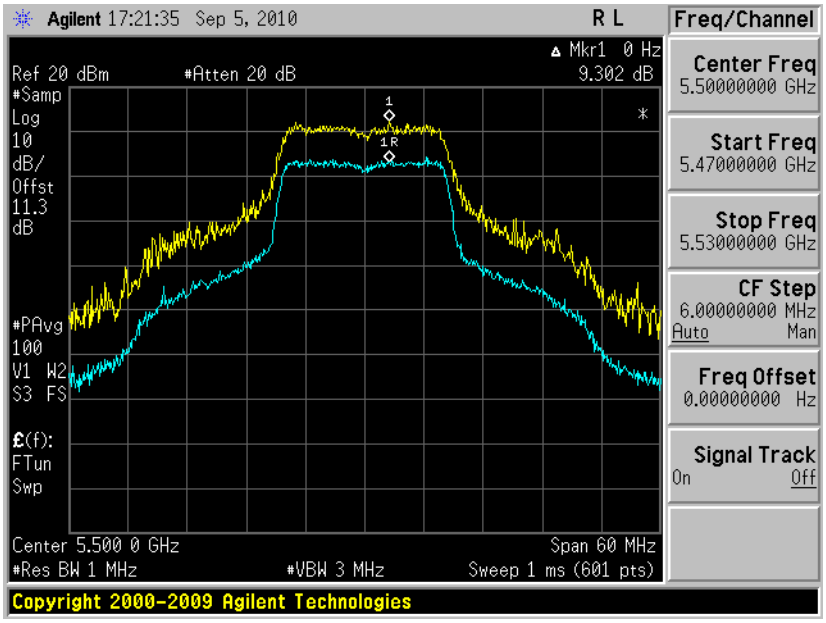
Peak Excursion Ratio Plot on 802.11a Channel 60 - Chain 1



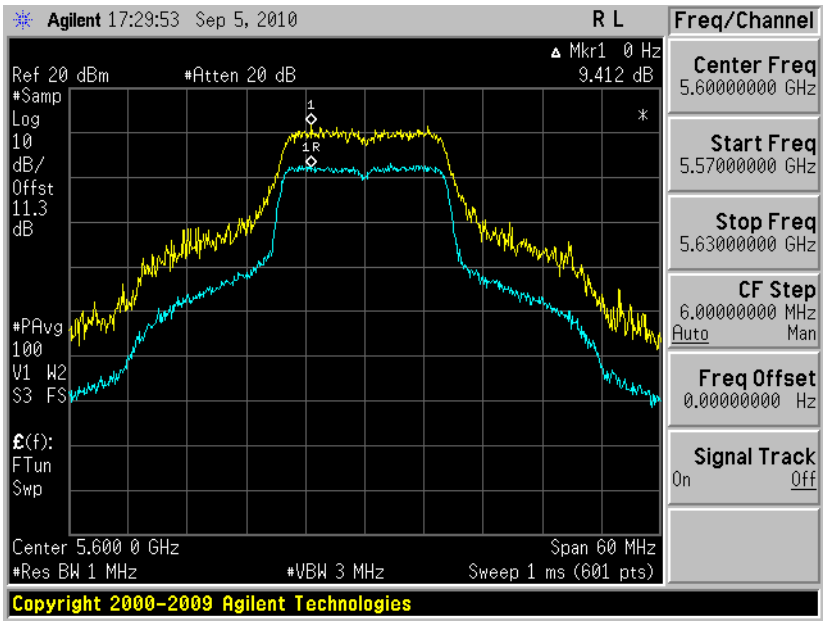
Peak Excursion Ratio Plot on 802.11a Channel 64 - Chain 1



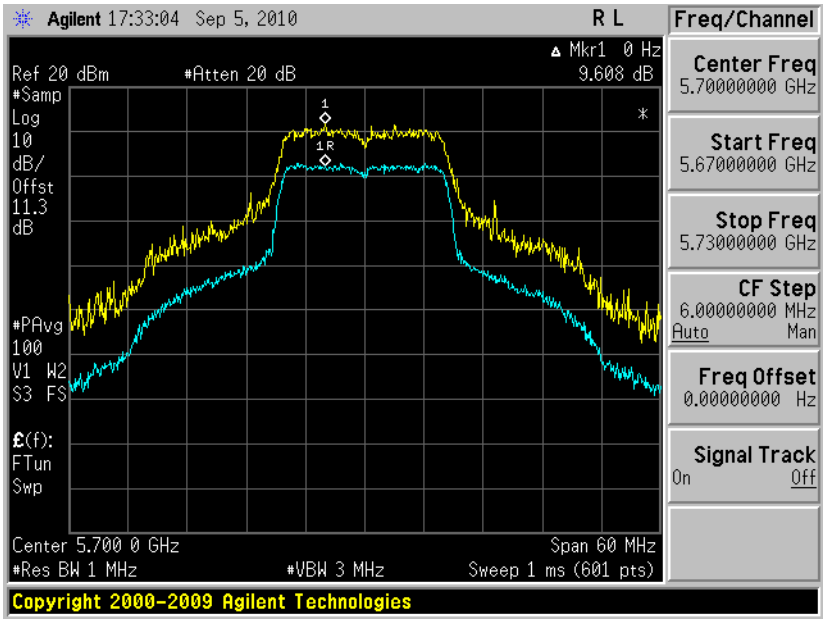
Peak Excursion Ratio Plot on 802.11a Channel 100 - Chain 1



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

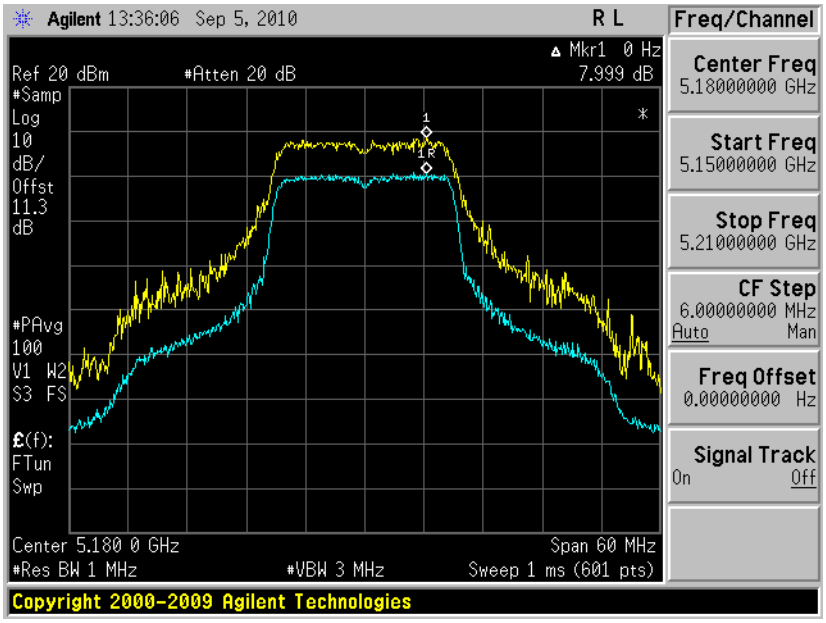


Peak Excursion Ratio Plot on 802.11a Channel 140 - Chain 1

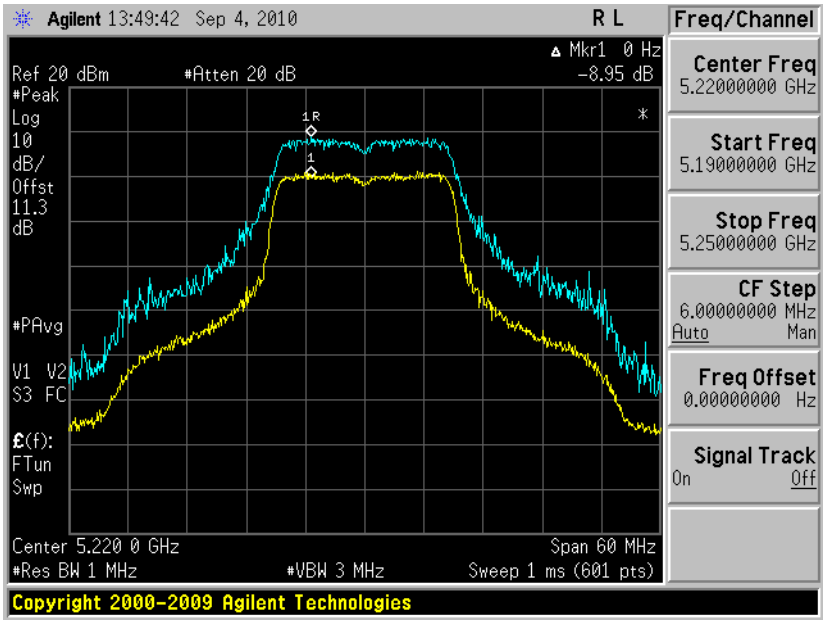


Test Mode :	802.11n (HT-20) L/M/H channels	**Temperature :**	25~27℃
Test Engineer :	Lancelot Chen and Alan Liu	**Relative Humidity :**	41~44%

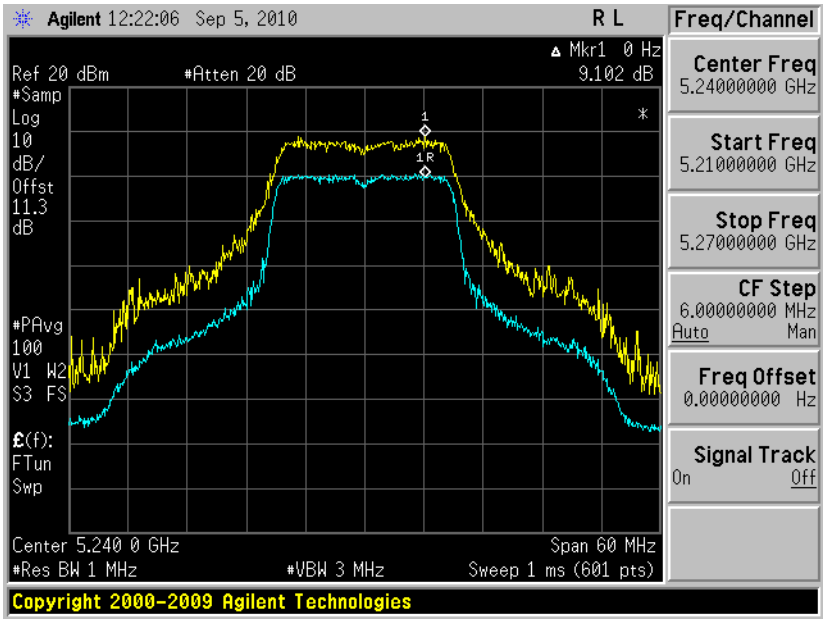
Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 36 - Chain 1



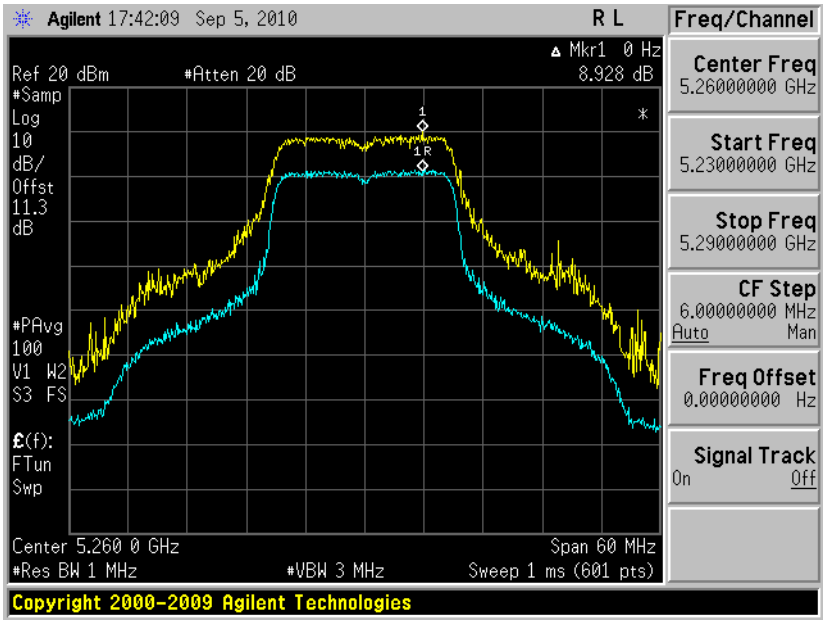
Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 44 - Chain 1



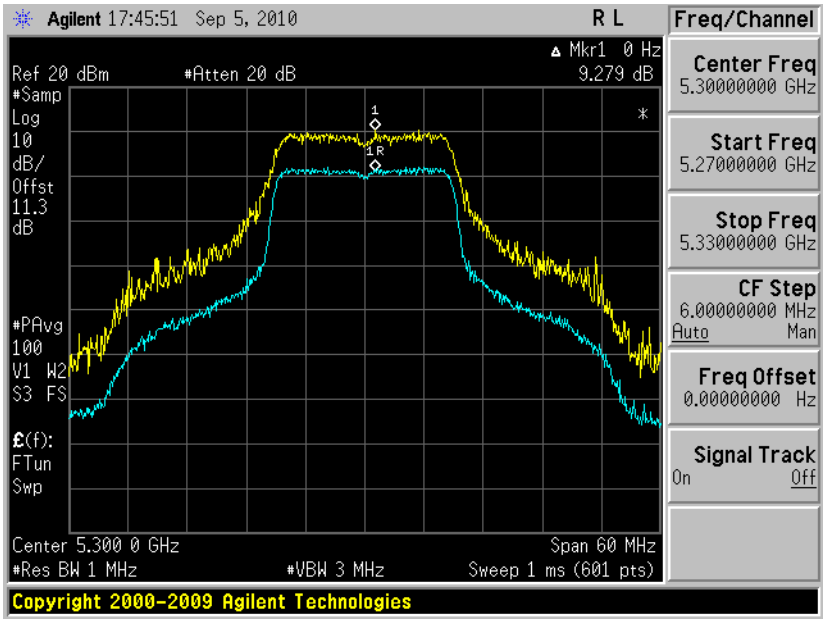
Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 48 - Chain 1



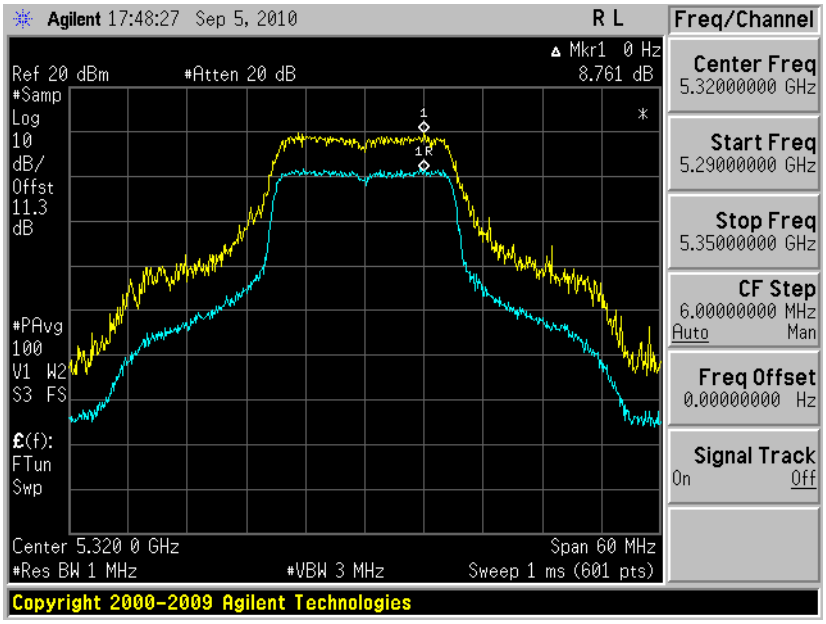
Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 52 - Chain 1



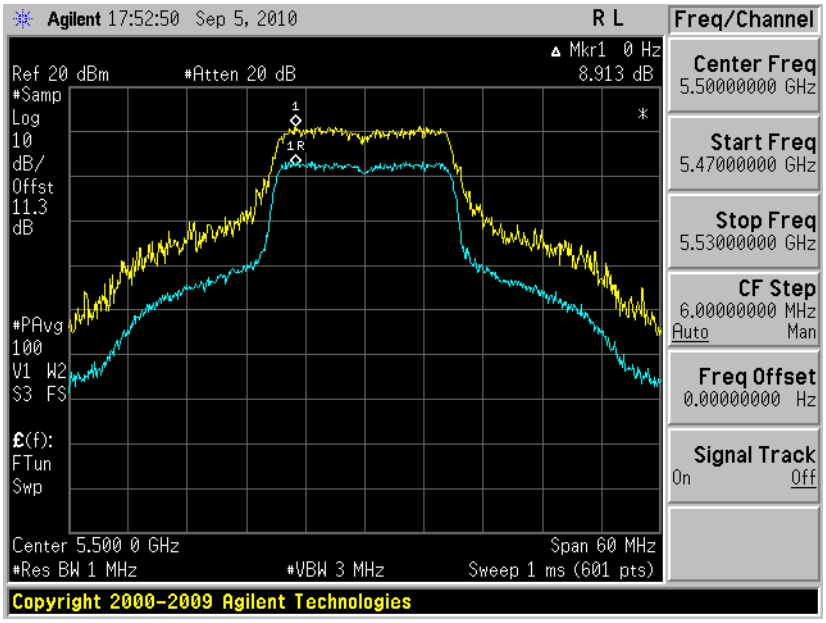
Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 60 - Chain 1



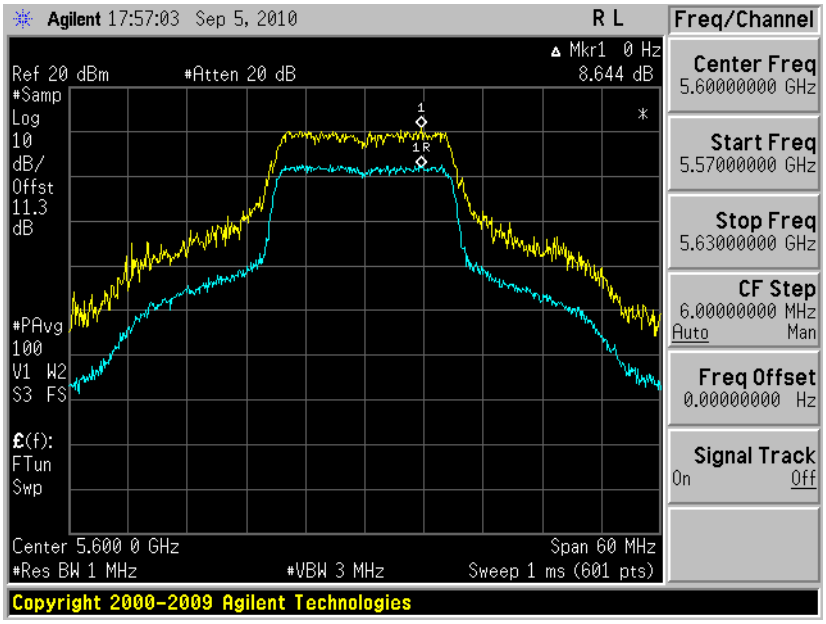
Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 64 - Chain 1



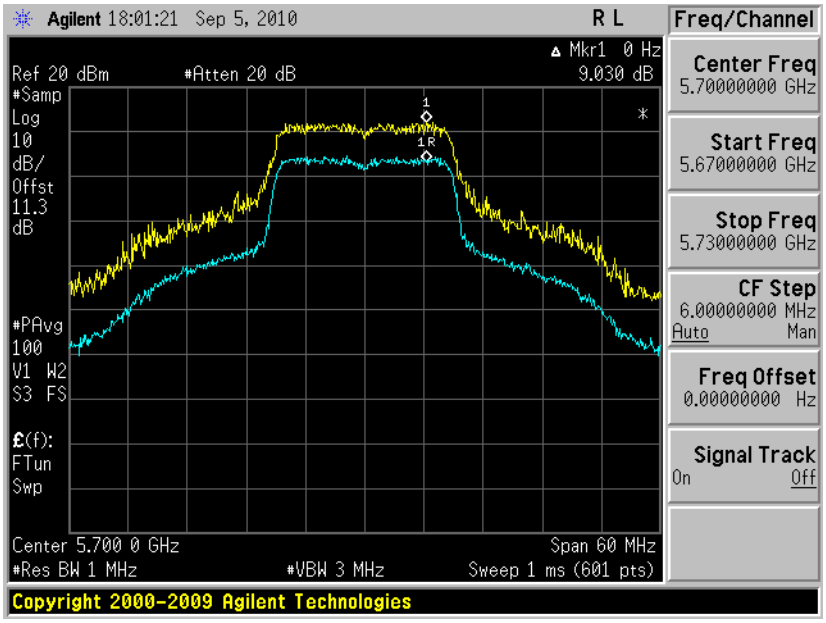
Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 100 - Chain 1



Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 120 - Chain 1

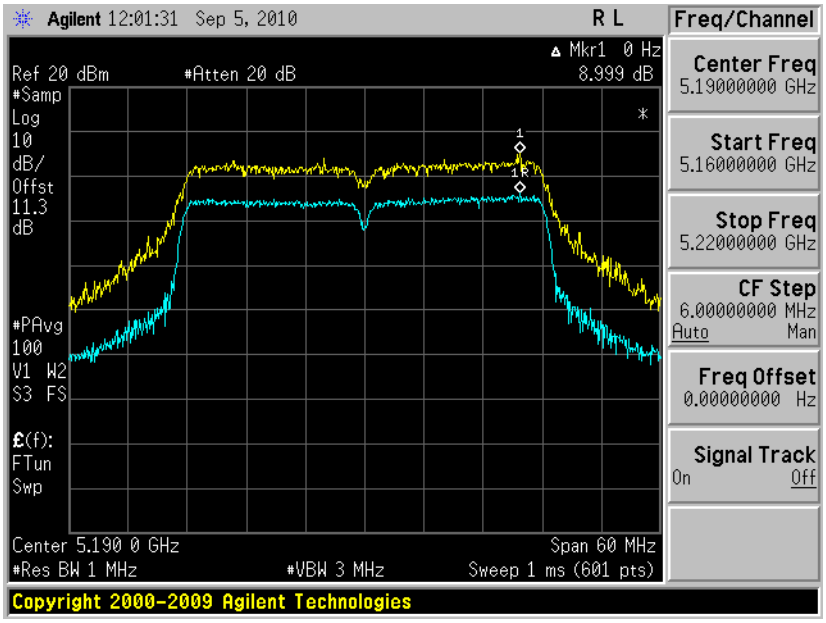


Peak Excursion Ratio Plot on 802.11n (HT-20) Channel 140 - Chain 1

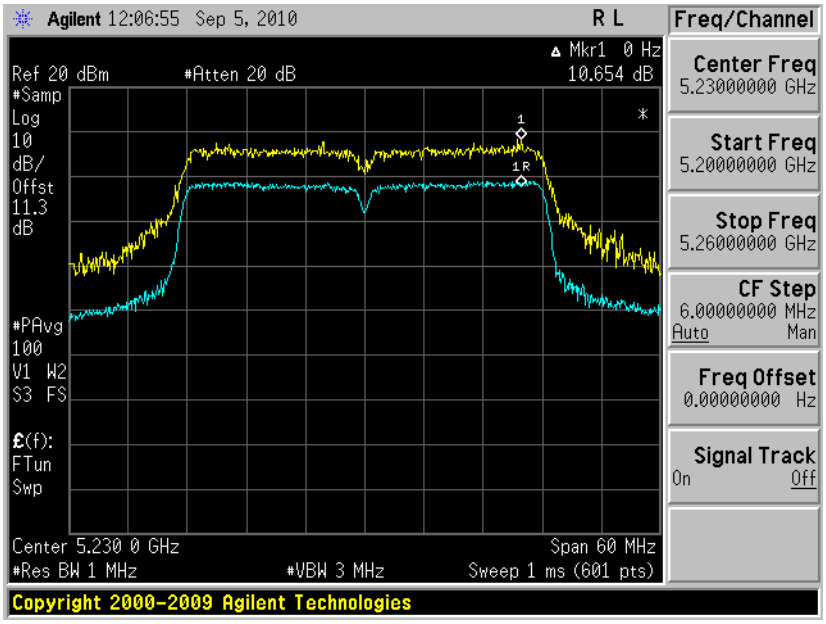


Test Mode :	802.11n (HT-40) L/M/H channels	**Temperature :**	25~27℃
Test Engineer :	Lancelot Chen and Alan Liu	**Relative Humidity :**	41~44%

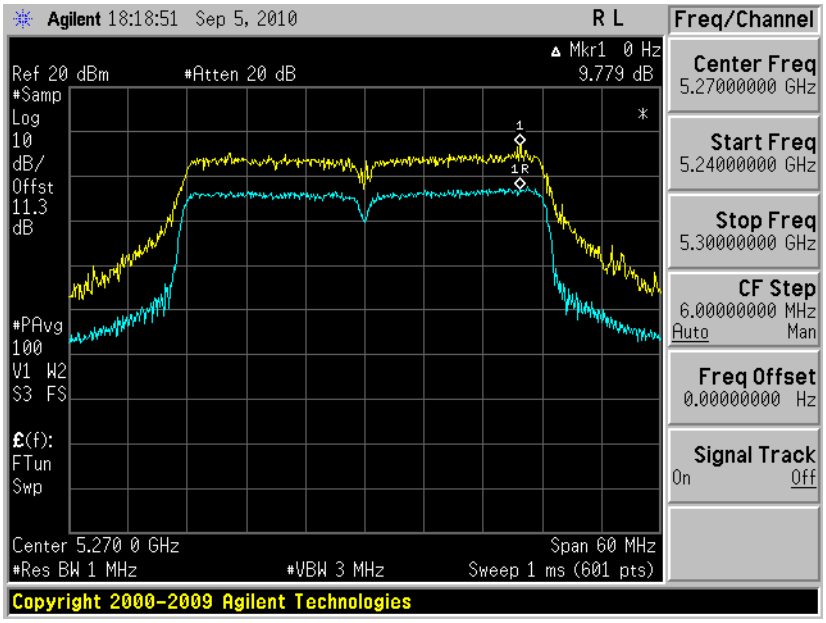
Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 38 - Chain 1



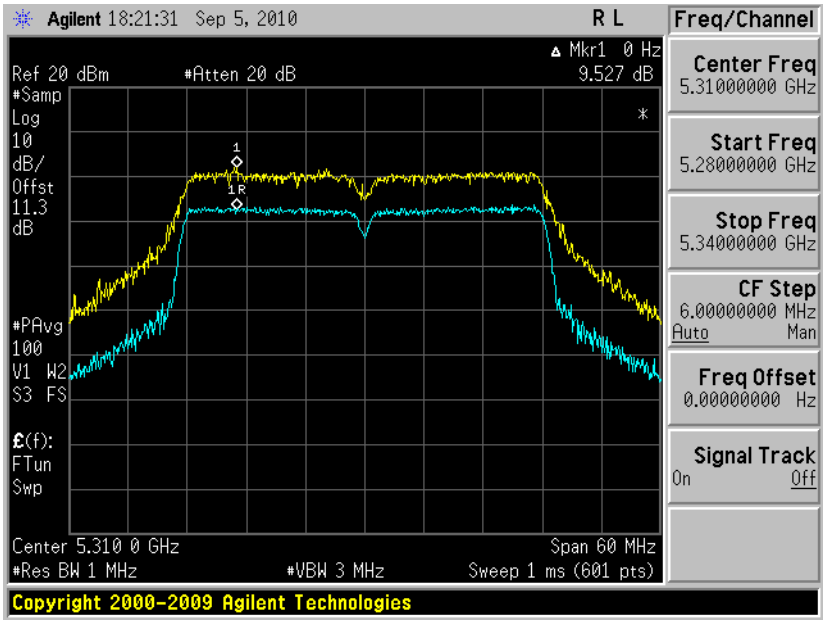
Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 46 - Chain 1



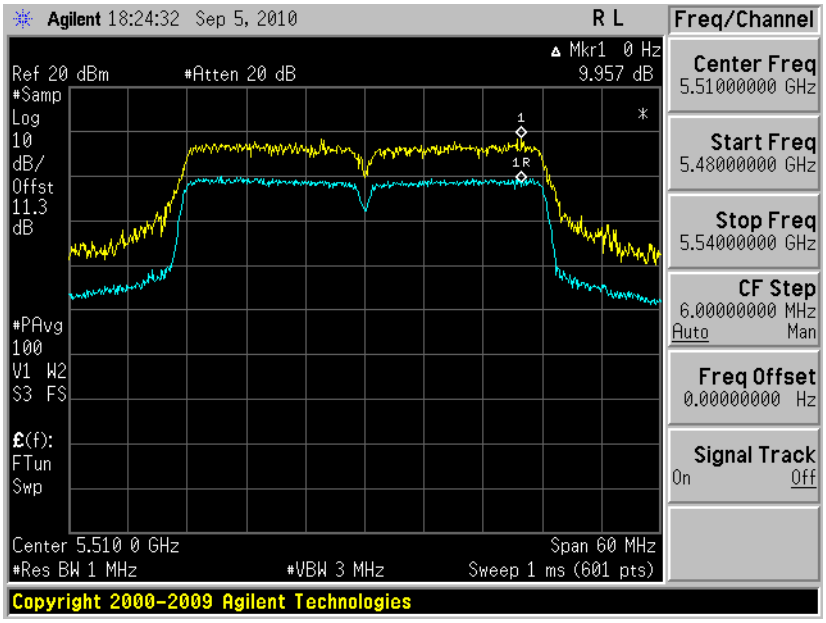
Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 54 - Chain 1



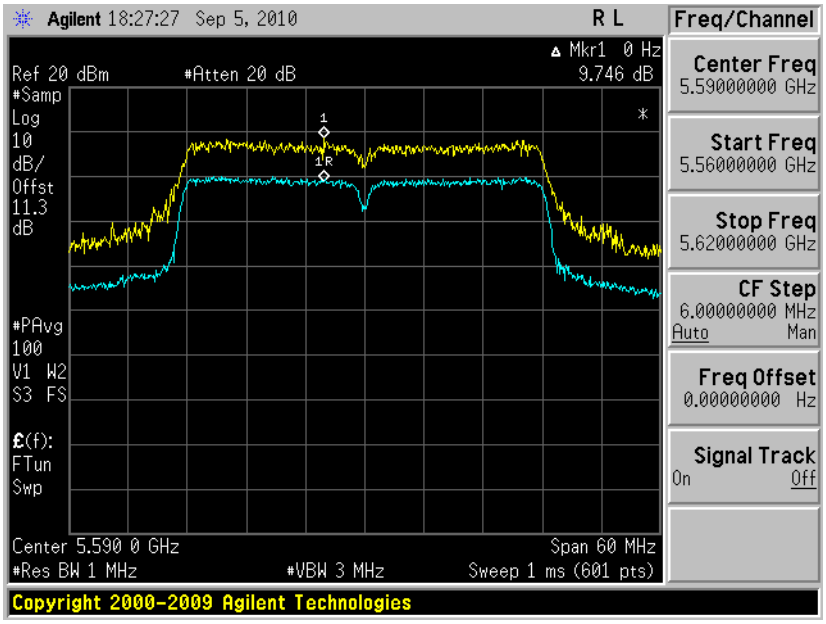
Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 62 - Chain 1



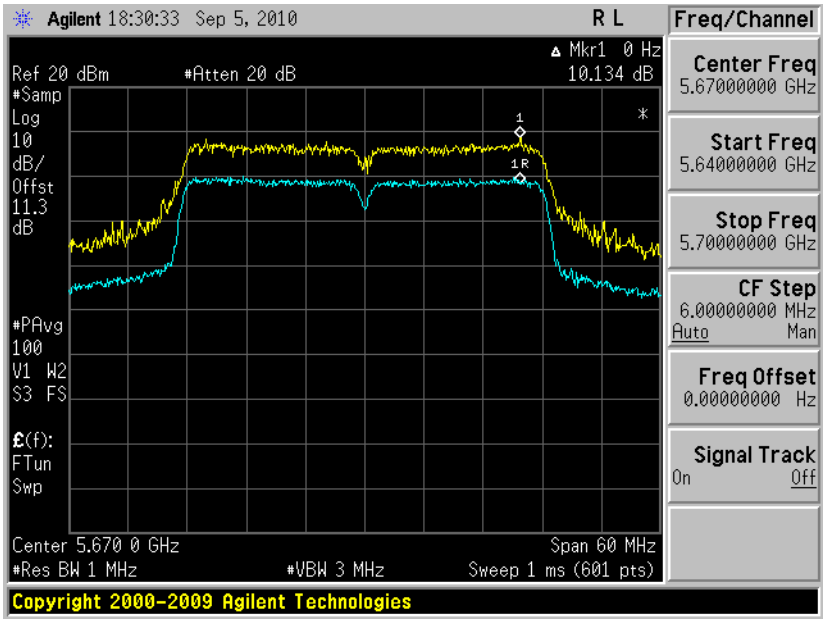
Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 102 - Chain 1



Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 118 - Chain 1



Peak Excursion Ratio Plot on 802.11n (HT-40) Channel 134 - Chain 1



3.8 Frequency Stability Requirement

3.8.1 Limit

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

3.8.2 Declaration

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

3.9 Radiated Emission Measurement

3.9.1 Limit of Radiated Emission

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

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

(1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz.

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

(3) For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.

(4) The provisions of Section 15.205 Restricted bands of operation of this part apply to intentional radiators operating under this section.

3.9.2 Measuring Instruments

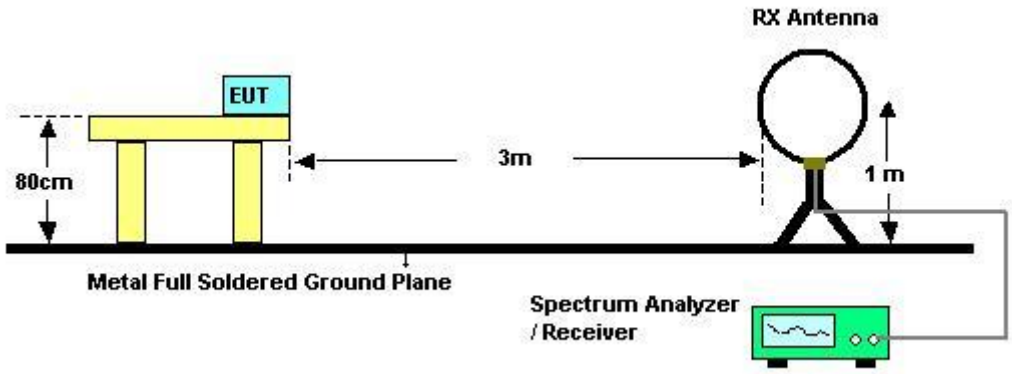
See list of measuring instruments of this test report.

3.9.3 Test Procedures

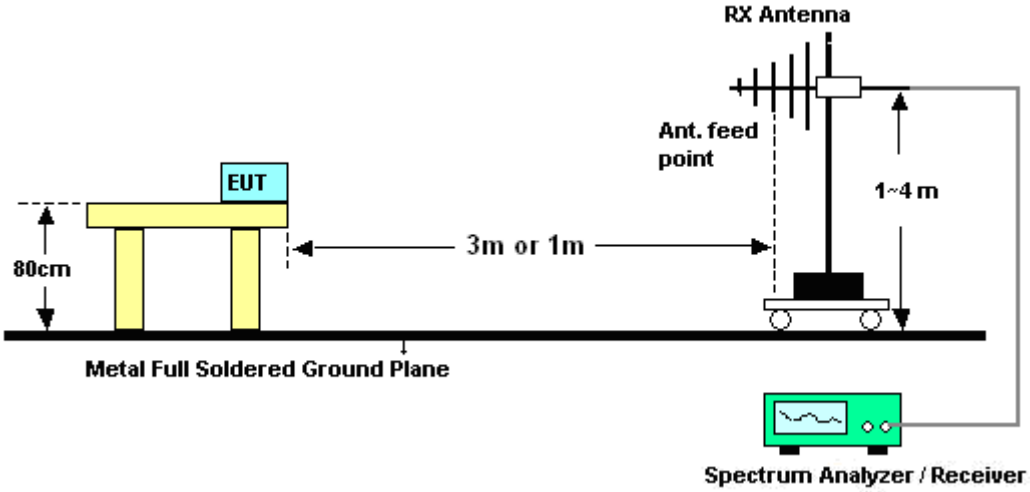
1. The testing follows the guidelines in FCC Public Notice DA 02-2138, (Measurement Guidelines of UNII)
2. The EUT was placed on a rotatable table top 0.8 meter above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna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

3.9.4 Test Setup

For radiated emissions below 30MHz



For radiated emissions above 30MHz



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

Temperature	25~26°C	Humidity	43~44%
Test Engineer	Kay 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 (specific distance / test distance) (dB);

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

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

Test Mode :	802.11a M channel	**Temperature :**	25~26°C
Test Channel :	60	**Relative Humidity :**	43~44%
Test Engineer :	Kay Wu	**Polarization :**	Horizontal

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

Test Mode :	802.11a M channel	**Temperature :**	25~26°C
Test Channel :	60	**Relative Humidity :**	43~44%
Test Engineer :	Kay Wu	**Polarization :**	Vertical

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

Test Mode :	802.11a L channel	**Temperature :**	25~26°C
Test Channel :	100	**Relative Humidity :**	43~44%
Test Engineer :	Kay Wu	**Polarization :**	Horizontal

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

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

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

3.9.7 Test Result of Radiated Emission (1GHz ~ 10th Harmonic)

Test Mode :	802.11a L channel	**Temperature :**	25~26°C
Test Channel :	36	**Relative Humidity :**	43~44%
Test Engineer :	Kay 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
5150	46.85	-7.15	54	39.91	34.02	6.7	33.78	100	274	Average
5150	67.49	-6.51	74	60.55	34.02	6.7	33.78	100	274	Peak
5180	96.88	-	-	89.9	34.05	6.71	33.78	100	274	Average
5180	109.72	-	-	102.74	34.05	6.71	33.78	100	274	Peak
5350	40.28	-13.72	54	33.07	34.18	6.8	33.77	100	274	Average
5350	49.25	-24.75	74	42.04	34.18	6.8	33.77	100	274	Peak

Test Mode :	802.11a L channel	Temperature :	25~26°C
Test Channel :	36	Relative Humidity :	43~44%
Test Engineer :	Kay 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
5150	46.21	-7.79	54	39.27	34.02	6.7	33.78	100	274	Average
5150	68.04	-5.96	74	61.1	34.02	6.7	33.78	100	274	Peak
5180	99.26	-	-	92.28	34.05	6.71	33.78	100	274	Average
5180	112.59	-	-	105.61	34.05	6.71	33.78	100	274	Peak
5440	47.38	-6.62	54	40.04	34.25	6.85	33.76	100	274	Average
5440	54.35	-19.65	74	47.01	34.25	6.85	33.76	100	274	Peak
10360	53.65	-20.35	74	62.13	37.49	10.31	56.28	149	61	Peak
15540	44.8	-9.2	54	47.51	40.12	12.36	55.19	149	61	Average
15540	59.11	-14.89	74	61.82	40.12	12.36	55.19	149	61	Peak

Test Mode :	802.11a M channel	**Temperature :**	25~26°C
Test Channel :	44	**Relative Humidity :**	43~44%
Test Engineer :	Kay 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
5094	41.09	-12.91	54	34.22	33.98	6.67	33.78	100	289	Average
5094	49.89	-24.11	74	43.02	33.98	6.67	33.78	100	289	Peak
5220	94.81	-	-	87.78	34.07	6.74	33.78	100	289	Average
5220	107.52	-	-	100.47	34.09	6.74	33.78	100	289	Peak
5424	41.83	-12.17	54	34.53	34.23	6.84	33.77	100	289	Average
5424	50.31	-23.69	74	43.01	34.23	6.84	33.77	100	289	Peak

Test Mode :	802.11a M channel	Temperature :	25~26°C
Test Channel :	44	Relative Humidity :	43~44%
Test Engineer :	Kay 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
5140	41.85	-12.15	54	34.91	34.02	6.7	33.78	100	289	Average
5140	52.47	-21.53	74	45.53	34.02	6.7	33.78	100	289	Peak
5220	94.28	-	-	87.25	34.07	6.74	33.78	100	289	Average
5220	114.5	-	-	107.45	34.09	6.74	33.78	100	289	Peak
5456	44.06	-9.94	54	36.71	34.26	6.85	33.76	100	289	Average
5456	52.71	-21.29	74	45.36	34.26	6.85	33.76	100	289	Peak
10440	52.29	-21.71	74	60.75	37.56	10.22	56.24	149	60	Peak
15660	46.09	-7.91	54	48.91	40.19	12.28	55.29	149	60	Average
15660	60.93	-13.07	74	63.75	40.19	12.28	55.29	149	60	Peak

Test Mode :	802.11a H channel	**Temperature :**	25~26°C
Test Channel :	48	**Relative Humidity :**	43~44%
Test Engineer :	Kay 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
5080	41.41	-12.59	54	34.57	33.97	6.66	33.79	100	276	Average
5080	50.3	-23.7	74	43.46	33.97	6.66	33.79	100	276	Peak
5240	94.54	-	-	87.48	34.09	6.75	33.78	100	276	Average
5240	106.94	-	-	99.89	34.09	6.74	33.78	100	276	Peak
5414	41.29	-12.71	54	33.99	34.23	6.84	33.77	100	276	Average
5414	50.67	-23.33	74	43.37	34.23	6.84	33.77	100	276	Peak

Test Mode :	802.11a H channel	Temperature :	25~26°C
Test Channel :	48	Relative Humidity :	43~44%
Test Engineer :	Kay 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
5078	42.76	-11.24	54	35.92	33.97	6.66	33.79	100	276	Average
5078	51.56	-22.44	74	44.72	33.97	6.66	33.79	100	276	Peak
5240	100.8	-	-	93.74	34.09	6.75	33.78	100	276	Average
5240	113.18	-	-	106.13	34.09	6.74	33.78	100	276	Peak
5416	42.5	-11.5	54	35.2	34.23	6.84	33.77	100	276	Average
5416	53.18	-20.82	74	45.88	34.23	6.84	33.77	100	276	Peak
10480	51.2	-22.8	74	59.66	37.57	10.2	56.23	149	60	Peak
15720	44.47	-9.53	54	47.34	40.23	12.25	55.35	151	60	Average
15720	58.09	-15.91	74	60.96	40.23	12.25	55.35	151	60	Peak

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

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

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

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

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

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

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

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

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

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

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

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

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

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
5460	40.79	-13.21	54	33.44	34.26	6.85	33.76	100	252	Average
5460	56.34	-17.66	74	48.99	34.26	6.85	33.76	100	252	Peak
5500	91.09	-	-	83.67	34.3	6.88	33.76	100	252	Average
5500	103.11	-	-	95.69	34.3	6.88	33.76	100	252	Peak
5725	40.69	-27.61	68.3	33.23	34.21	7.01	33.76	100	252	Average
5725	47.99	-40.31	88.3	40.53	34.21	7.01	33.76	100	252	Peak

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

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
99.93	30.33	-13.17	43.5	49.76	11.2	0.95	31.58	-	-	Peak
199.29	37.09	-6.41	43.5	57.63	9.65	1.26	31.45	-	-	Peak
298.65	38.55	-7.45	46	54.72	13.56	1.55	31.28	-	-	Peak
498.1	42.29	-3.71	46	53.25	18.08	2.04	31.08	100	174	Peak
624.8	38.01	-7.99	46	47.12	19.46	2.25	30.82	-	-	Peak
747.3	34.14	-11.86	46	41.5	20.68	2.51	30.55	-	-	Peak
5458	44.07	-9.93	54	36.72	34.26	6.85	33.76	100	252	Average
5458	63.56	-10.44	74	56.21	34.26	6.85	33.76	100	252	Peak
5500	99.57	-	-	92.15	34.3	6.88	33.76	100	252	Average
5500	112.15	-	-	104.74	34.29	6.88	33.76	100	252	Peak
5725	41.04	-27.26	68.3	33.58	34.21	7.01	33.76	100	252	Average
5725	48.98	-39.32	88.3	41.52	34.21	7.01	33.76	100	252	Peak
11000	53	-1	54	60.74	37.8	10.44	55.98	139	0	Average
11000	68.76	-5.24	74	76.5	37.8	10.44	55.98	139	0	Peak

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

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
5432	40.18	-13.82	54	32.85	34.25	6.84	33.76	100	248	Average
5432	51.29	-22.71	74	43.96	34.25	6.84	33.76	100	248	Peak
5600	89.26	-	-	81.82	34.26	6.94	33.76	100	248	Average
5600	103.22	-	-	95.78	34.26	6.94	33.76	100	248	Peak
5725	40.13	-28.17	68.3	32.67	34.21	7.01	33.76	100	248	Average
5725	48.33	-39.97	88.3	40.87	34.21	7.01	33.76	100	248	Peak
11200	39.27	-14.73	54	46.73	37.92	10.46	55.84	140	16	Average
11200	53.02	-20.98	74	60.48	37.92	10.46	55.84	140	16	Peak

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

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
5378	51.58	-22.42	74	44.32	34.21	6.82	33.77	100	248	Peak
5600	99.54	-	-	92.1	34.26	6.94	33.76	100	248	Average
5600	111.92	-	-	104.48	34.26	6.94	33.76	100	248	Peak
5725	40.53	-27.77	68.3	33.07	34.21	7.01	33.76	100	248	Average
5725	48.64	-39.66	88.3	41.18	34.21	7.01	33.76	100	248	Peak
11200	53.36	-0.64	54	60.82	37.92	10.46	55.84	140	16	Average
11200	69.72	-4.28	74	77.18	37.92	10.46	55.84	140	16	Peak

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

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

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

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

Test Mode :	802.11n (HT-20) L channel	**Temperature :**	25~26°C
Test Channel :	36	**Relative Humidity :**	43~44%
Test Engineer :	Kay 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
5148	42.74	-11.26	54	35.8	34.02	6.7	33.78	100	274	Average
5148	67.46	-6.54	74	60.52	34.02	6.7	33.78	100	274	Peak
5180	95.08	-	-	88.1	34.05	6.71	33.78	100	274	Average
5180	108.4	-	-	101.42	34.05	6.71	33.78	100	274	Peak
5440	42.51	-11.49	54	35.17	34.25	6.85	33.76	100	274	Average
5440	54.37	-19.63	74	47.03	34.25	6.85	33.76	100	274	Peak

Test Mode :	802.11n (HT-20) L channel	**Temperature :**	25~26°C
Test Channel :	36	**Relative Humidity :**	43~44%
Test Engineer :	Kay 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
5150	44.85	-9.15	54	37.91	34.02	6.7	33.78	100	274	Average
5150	67.98	-6.02	74	61.04	34.02	6.7	33.78	100	274	Peak
5180	99	-	-	92.02	34.05	6.71	33.78	100	274	Average
5180	111.56	-	-	104.58	34.05	6.71	33.78	100	274	Peak
5440	46.17	-7.83	54	38.83	34.25	6.85	33.76	100	274	Average
5440	53.87	-20.13	74	46.53	34.25	6.85	33.76	100	274	Peak
15540	43.73	-10.27	54	46.44	40.12	12.36	55.19	149	61	Average
15540	59.16	-14.84	74	61.88	40.13	12.35	55.2	149	61	Peak

Test Mode :	802.11n (HT-20) M channel	**Temperature :**	25~26°C
Test Channel :	44	**Relative Humidity :**	43~44%
Test Engineer :	Kay 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
5080	41.79	-12.21	54	34.95	33.97	6.66	33.79	100	289	Average
5080	50.52	-23.48	74	43.68	33.97	6.66	33.79	100	289	Peak
5220	95.39	-	-	88.36	34.07	6.74	33.78	100	289	Average
5220	106.62	-	-	99.59	34.07	6.74	33.78	100	289	Peak
5440	41.61	-12.39	54	34.27	34.25	6.85	33.76	100	289	Average
5440	50.3	-23.7	74	42.96	34.25	6.85	33.76	100	289	Peak

Test Mode :	802.11n (HT-20) M channel	**Temperature :**	25~26°C
Test Channel :	44	**Relative Humidity :**	43~44%
Test Engineer :	Kay 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
5134	41.96	-12.04	54	35.05	34.01	6.68	33.78	100	289	Average
5134	52.92	-21.08	74	46.01	34.01	6.68	33.78	100	289	Peak
5220	99.91	-	-	92.88	34.07	6.74	33.78	100	289	Average
5220	112.42	-	-	105.39	34.07	6.74	33.78	100	289	Peak
5400	43.07	-10.93	54	35.79	34.22	6.83	33.77	100	289	Average
5400	52.76	-21.24	74	45.48	34.22	6.83	33.77	100	289	Peak
10440	52.39	-21.61	74	60.85	37.56	10.22	56.24	149	60	Peak
15660	46.49	-7.51	54	49.31	40.19	12.28	55.29	149	60	Average
15660	60.48	-13.52	74	63.3	40.19	12.28	55.29	149	60	Peak

Test Mode :	802.11n (HT-20) H channel	**Temperature :**	25~26°C
Test Channel :	48	**Relative Humidity :**	43~44%
Test Engineer :	Kay 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
5120	41.52	-12.48	54	34.63	33.99	6.68	33.78	100	276	Average
5120	49.85	-24.15	74	42.96	33.99	6.68	33.78	100	276	Peak
5240	95.43	-	-	88.37	34.09	6.75	33.78	100	276	Average
5240	106.41	-	-	99.36	34.09	6.74	33.78	100	276	Peak
5364	41.8	-12.2	54	34.56	34.19	6.82	33.77	100	276	Average
5364	50.94	-23.06	74	43.7	34.19	6.82	33.77	100	276	Peak

Test Mode :	802.11n (HT-20) H channel	Temperature :	25~26°C
Test Channel :	48	Relative Humidity :	43~44%
Test Engineer :	Kay 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
5136	43.69	-10.31	54	36.78	34.01	6.68	33.78	100	276	Average
5136	51.26	-22.74	74	44.35	34.01	6.68	33.78	100	276	Peak
5240	101.35	-	-	94.29	34.09	6.75	33.78	100	276	Average
5240	113.37	-	-	106.3	34.1	6.75	33.78	100	276	Peak
5398	42.5	-11.5	54	35.22	34.22	6.83	33.77	100	276	Average
5398	52.79	-21.21	74	45.51	34.22	6.83	33.77	100	276	Peak
15720	44.62	-9.38	54	47.49	40.23	12.25	55.35	151	60	Average
15720	59.42	-14.58	74	62.29	40.23	12.25	55.35	151	60	Peak

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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
5416	41.76	-12.24	54	34.46	34.23	6.84	33.77	100	258	Average
5416	52.57	-21.43	74	45.27	34.23	6.84	33.77	100	258	Peak
5670	96.82	-	-	89.36	34.23	6.99	33.76	100	258	Average
5670	109.46	-	-	102	34.23	6.99	33.76	100	258	Peak
5725	56.77	-11.53	68.3	49.31	34.21	7.01	33.76	100	258	Average
5725	74.8	-13.5	88.3	67.34	34.21	7.01	33.76	100	258	Peak
11340	53.24	-0.76	54	60.52	38	10.47	55.75	147	4	Average
11340	67.34	-6.66	74	74.62	38	10.47	55.75	147	4	Peak

3.10 AC Conducted Emission Measurement

3.10.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

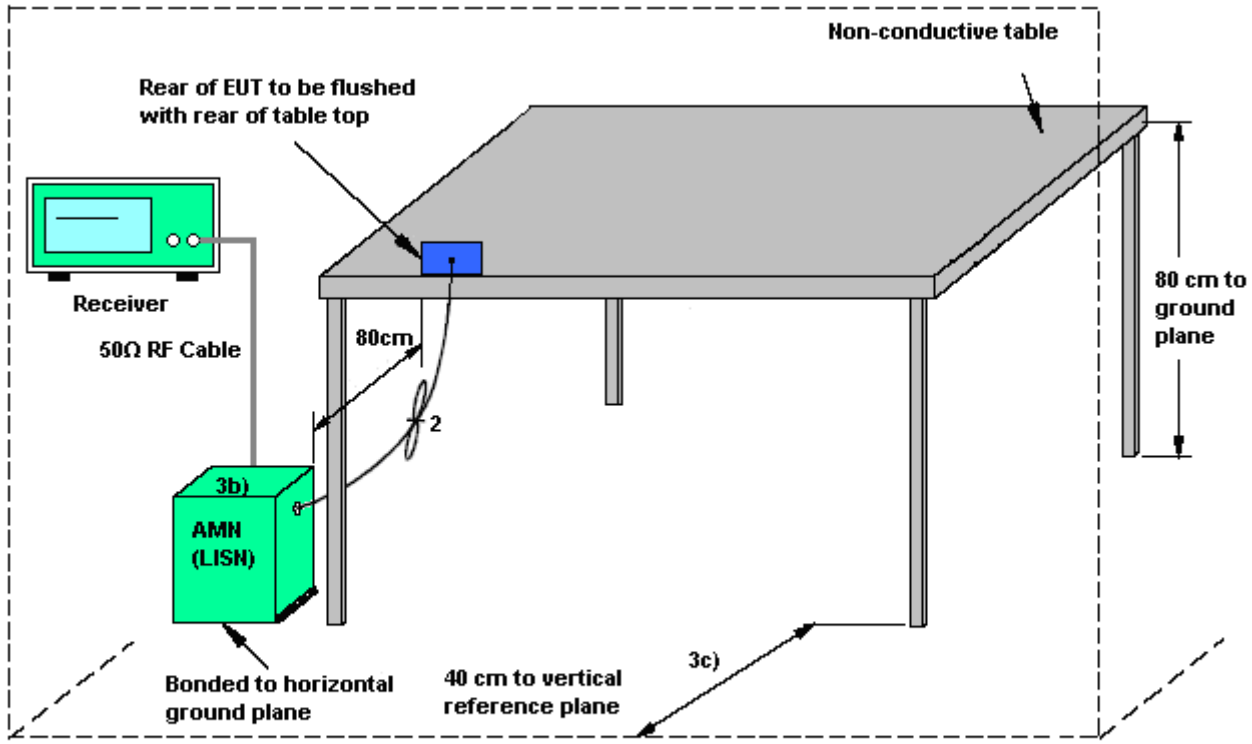
3.10.2 Measuring Instruments

See list of measuring instruments of this test report.

3.10.3 Test Procedures

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

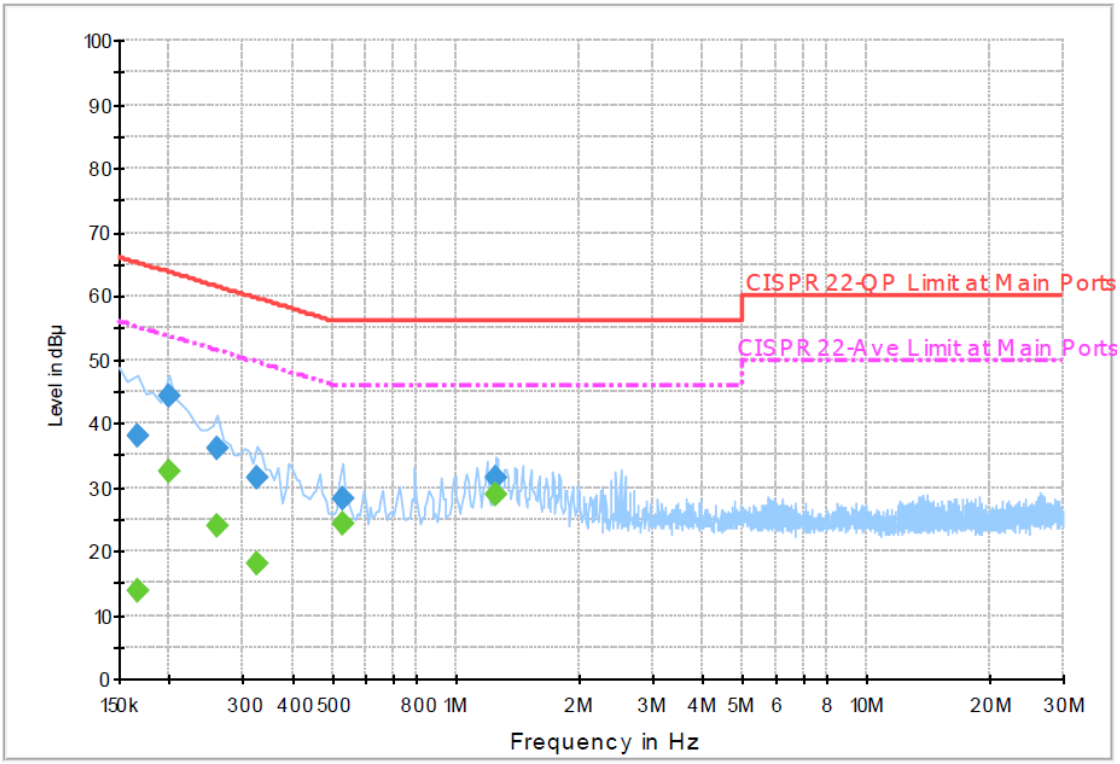
3.10.4 Test Setup



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.10.5 Test Result of AC Conducted Emission

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



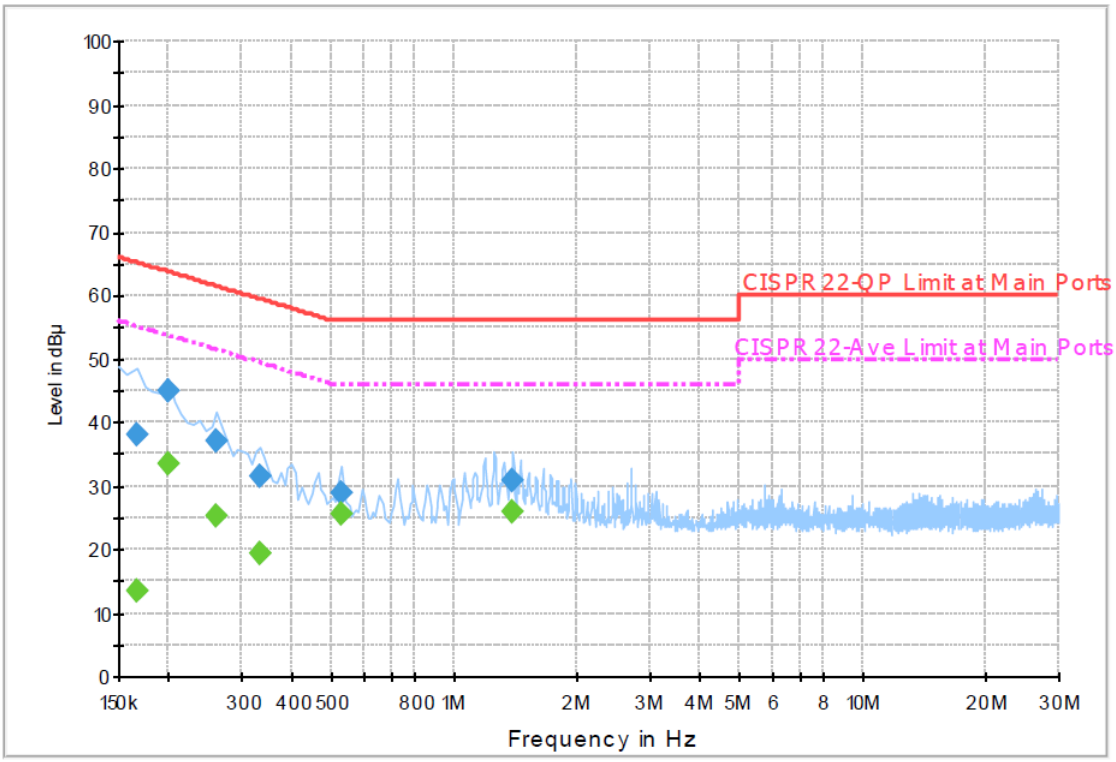
Final Result 1

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

Final Result 2

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

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



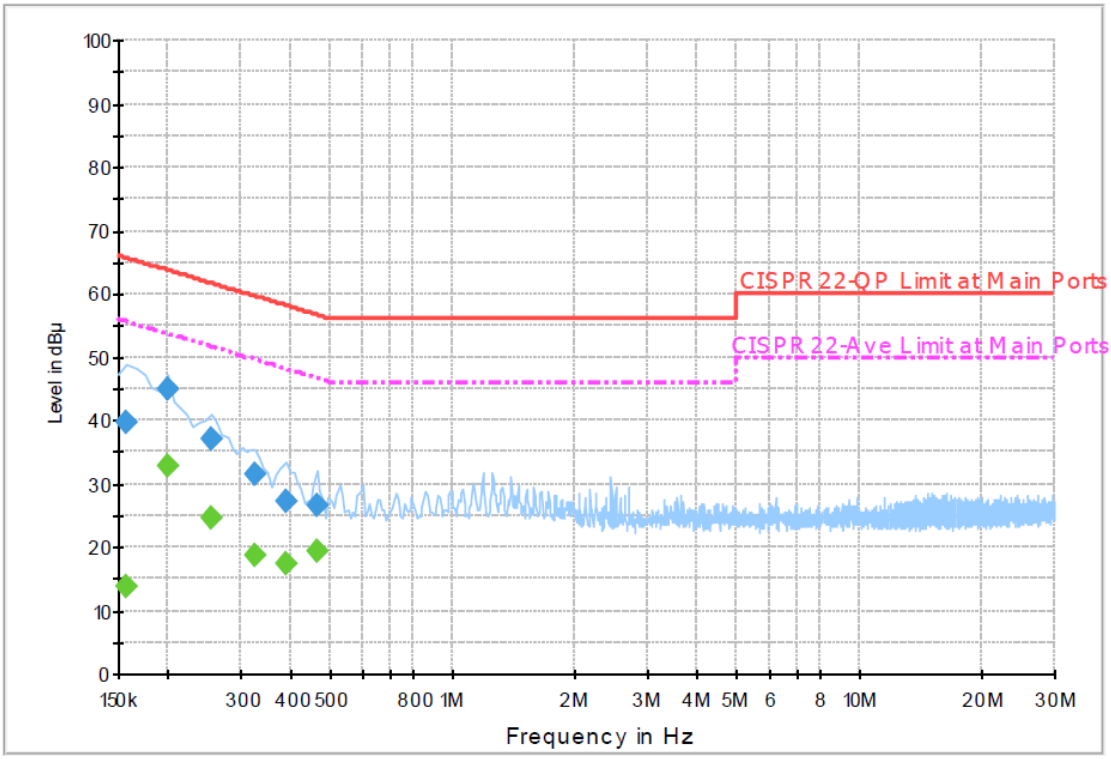
Final Result 1

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

Final Result 2

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

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



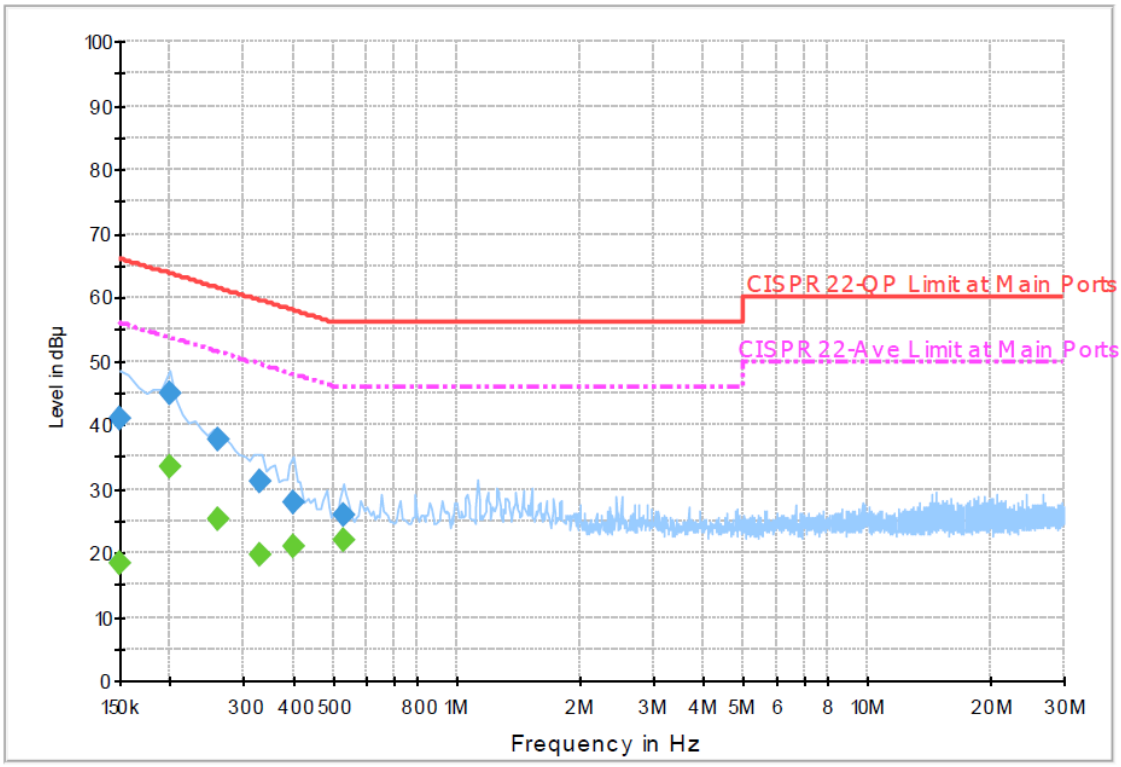
Final Result 1

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

Final Result 2

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

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



Final Result 1

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

Final Result 2

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

3.11 Automatically Discontinue Transmission

3.11.1 Limit of Automatically Discontinue Transmission

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

3.11.2 Measuring Instruments

See list of measuring instruments of this test report.

3.11.3 Test Result of Automatically Discontinue Transmission

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

4 List of Measuring Equipments

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

5 Uncertainty of Evaluation

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

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.10	Normal (k=2)	0.05
Cable Loss	0.10	Normal (k=2)	0.05
AMN Insertion Loss	2.50	Rectangular	0.63
Receiver Specification	1.50	Rectangular	0.43
Site Imperfection	1.39	Rectangular	0.80
Mismatch	+0.34 / -0.35	U-Shape	0.24
Combined Standard Uncertainty Uc(y)	**1.13**		
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(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 Uc(y)	**1.27**		
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(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 Γ1 = 0.197 Antenna VSWR Γ2 = 0.194 Uncertainty = 20Log(1-Γ1*Γ2)	+0.34 / -0.35	U-Shape	0.244	1	0.244
Combined Standard Uncertainty Uc(y)	**2.36**				
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.72**				

Appendix A. Antenna Requirement

➢ Standard Applicable

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

➢ Antenna Connected Construction

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

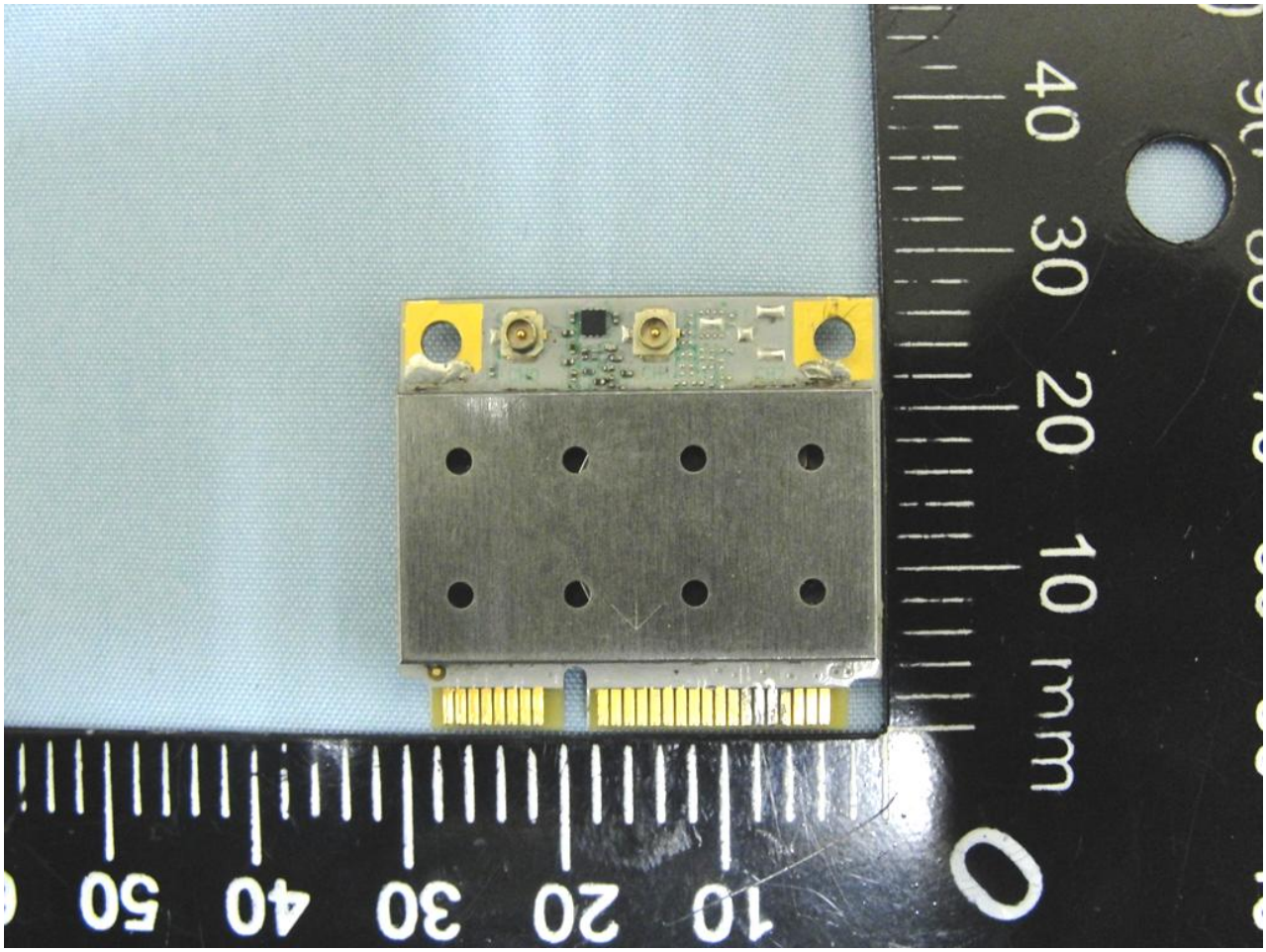
➢ Composite Antenna Gain

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

Appendix B. Photographs of EUT

Please refer to Sporton report number EP080603 as below.

Brand Name: Atheros / Model Name: AR5BHB116



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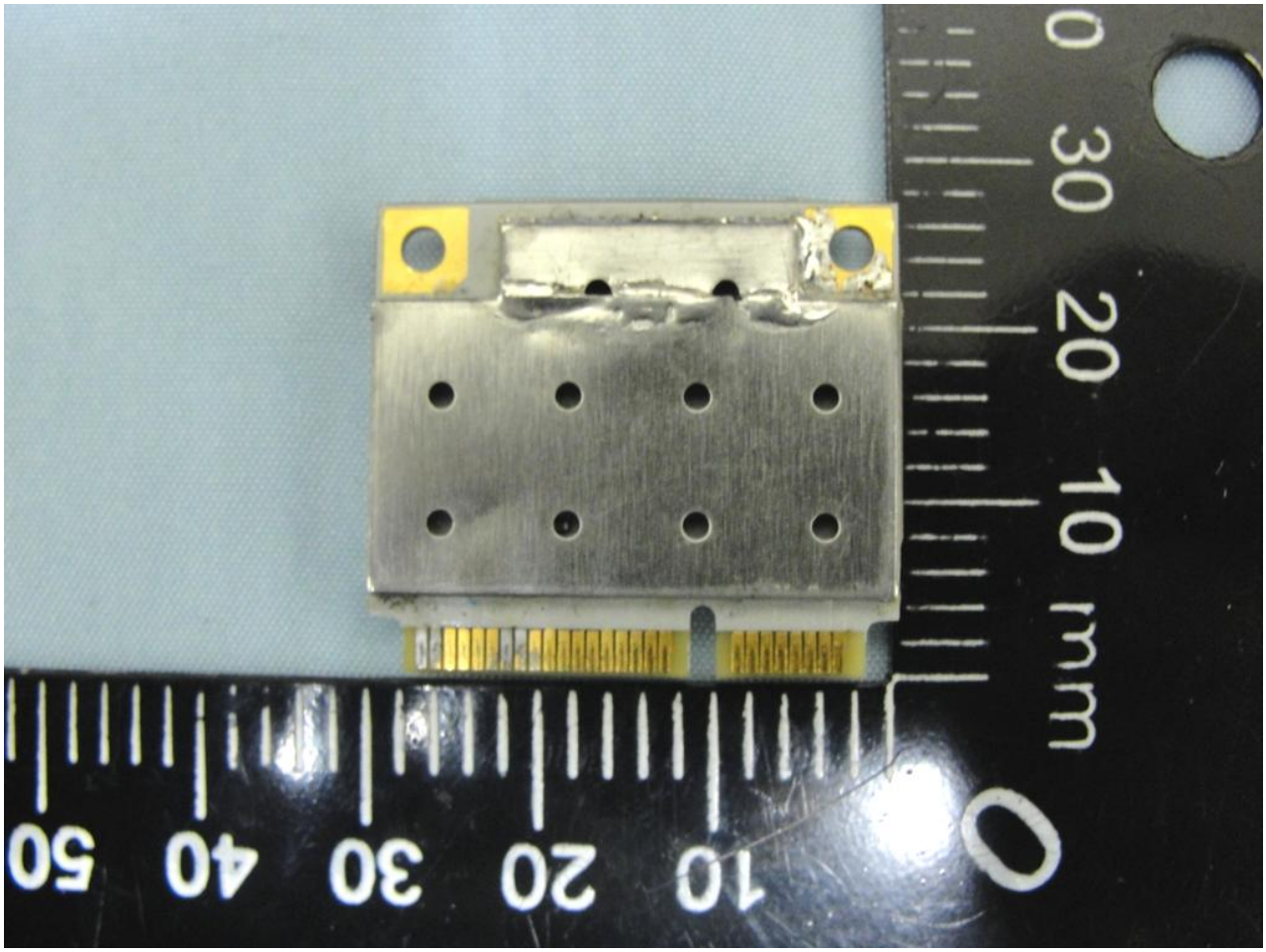

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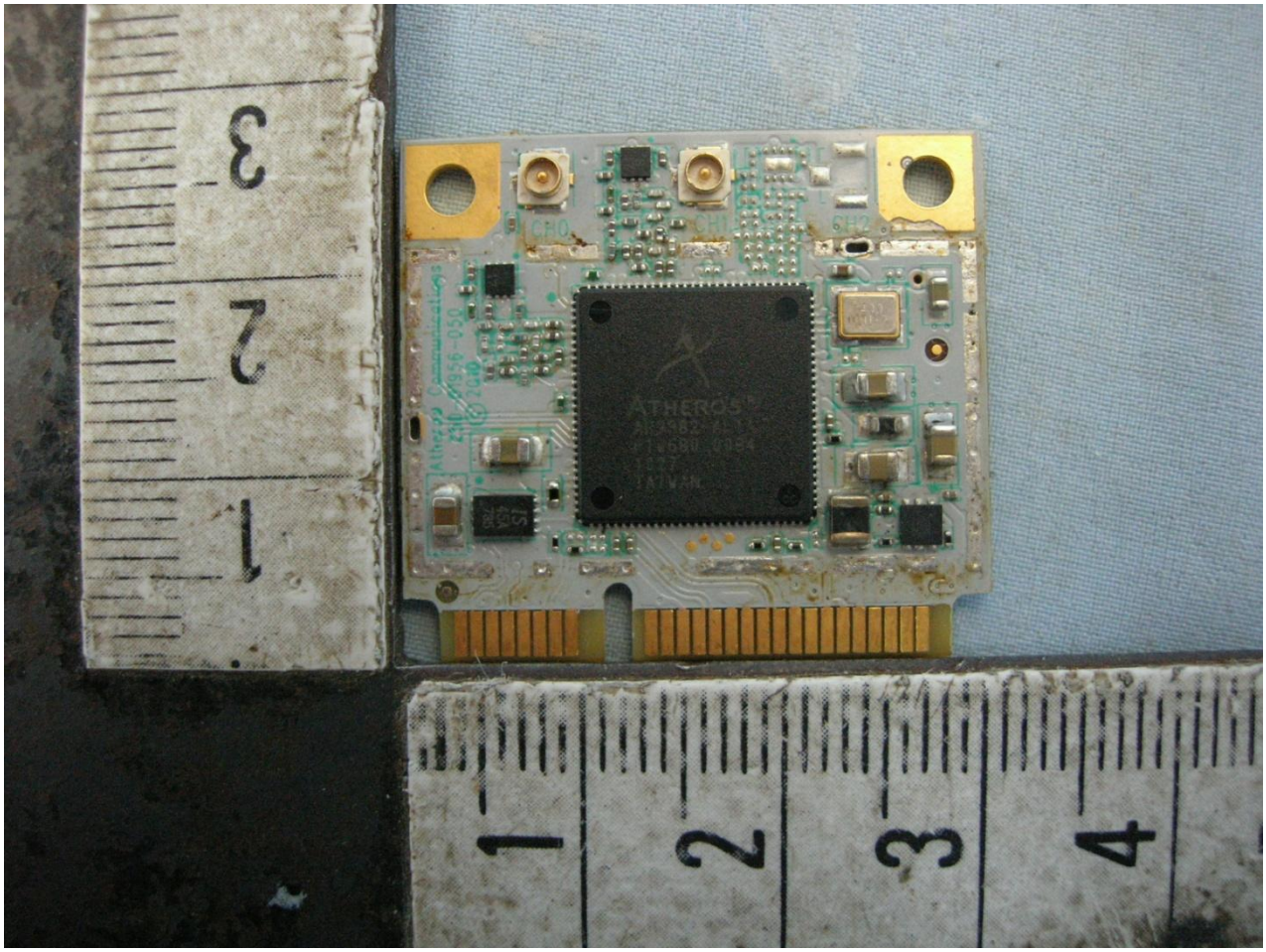

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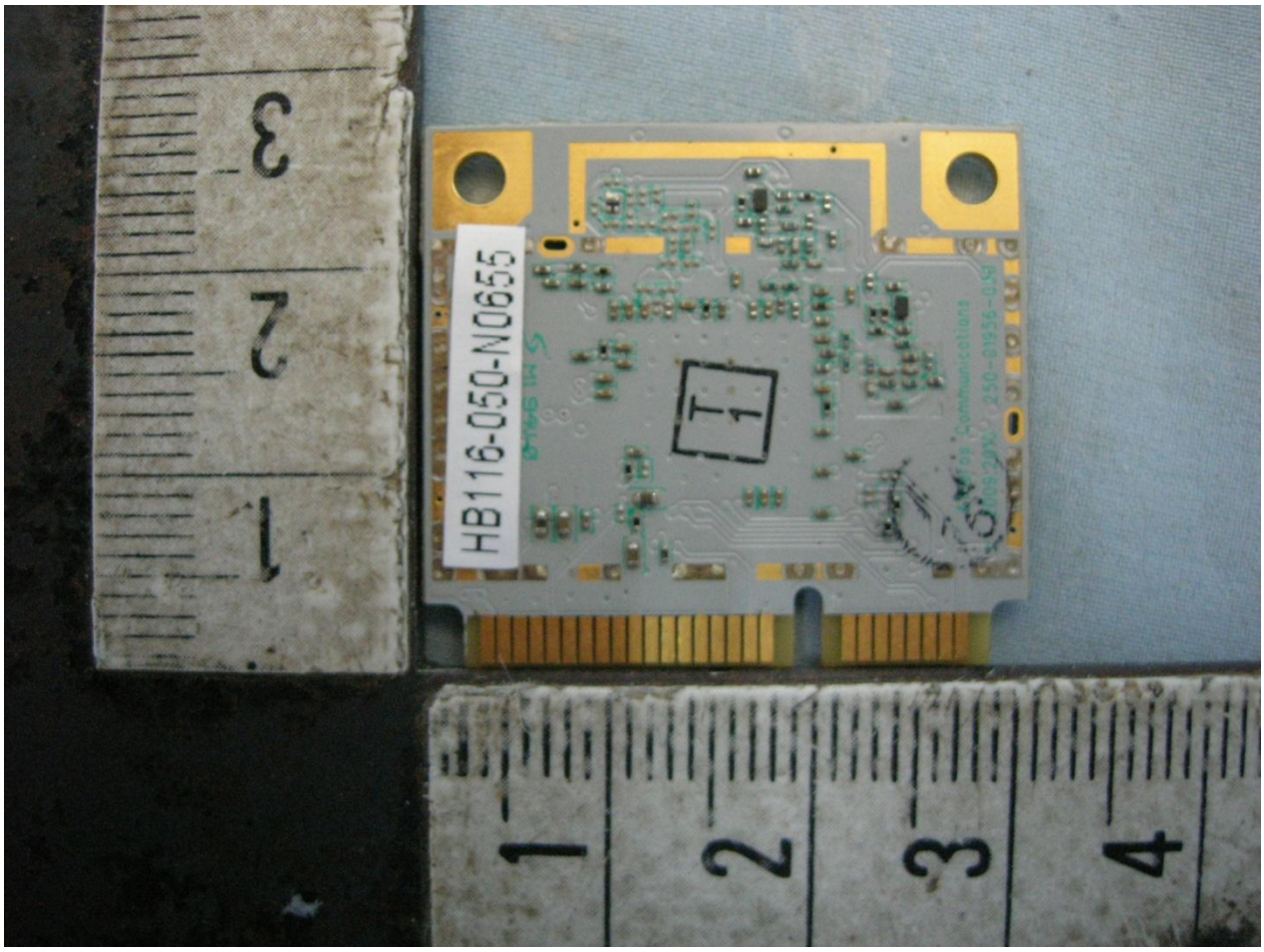
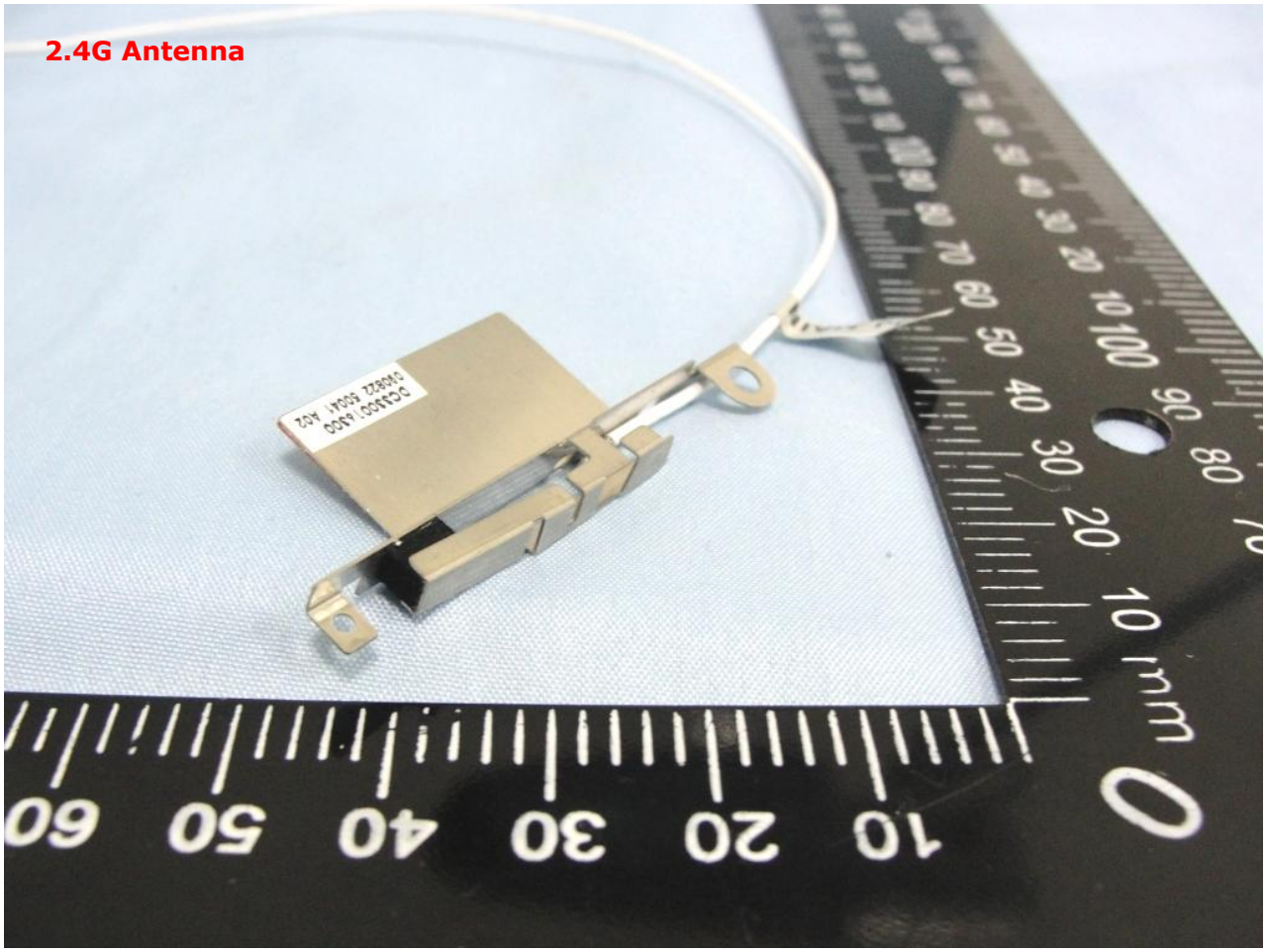


Brand Name: Atheros / Model Name: AR5BHB116



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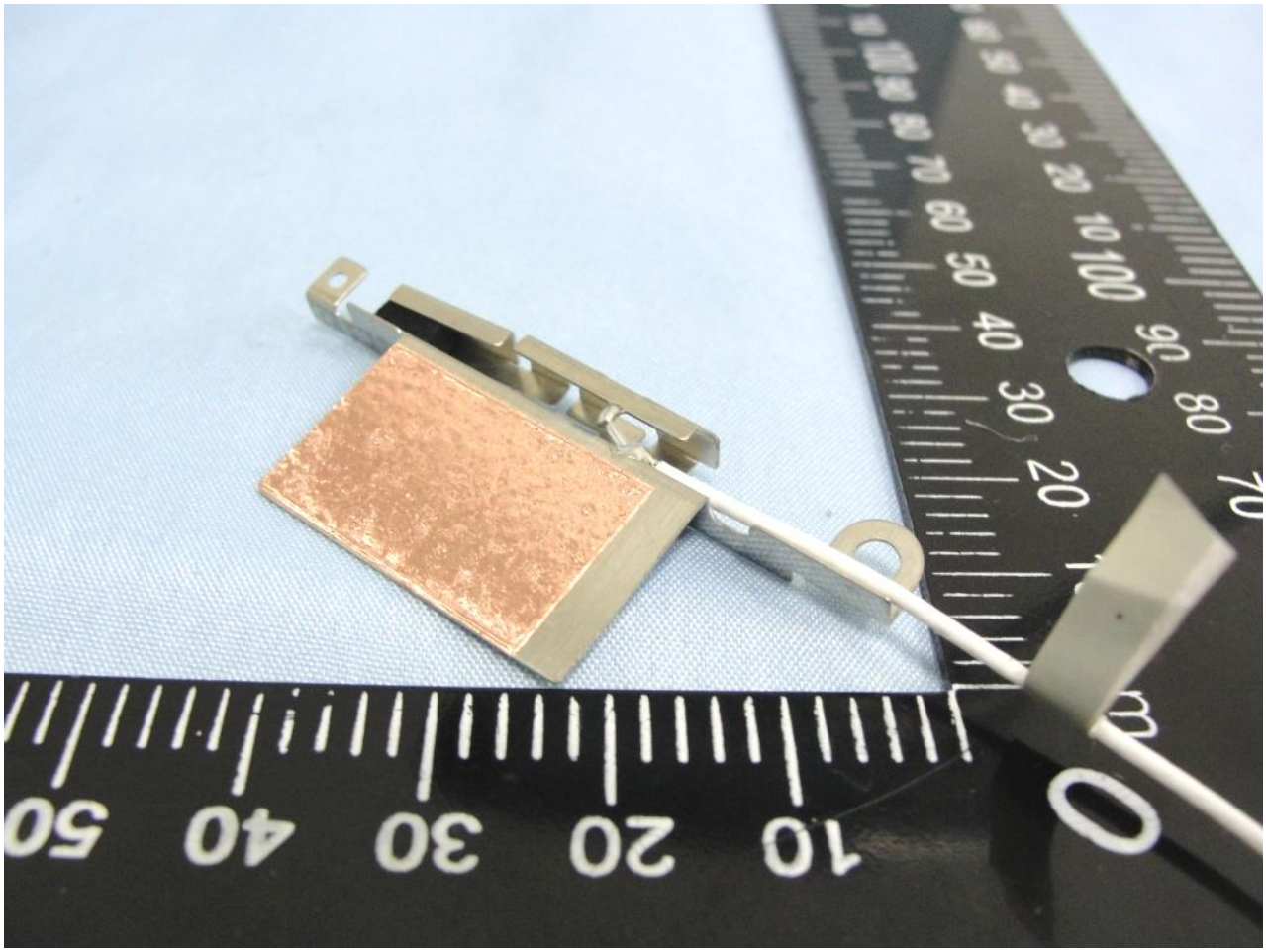
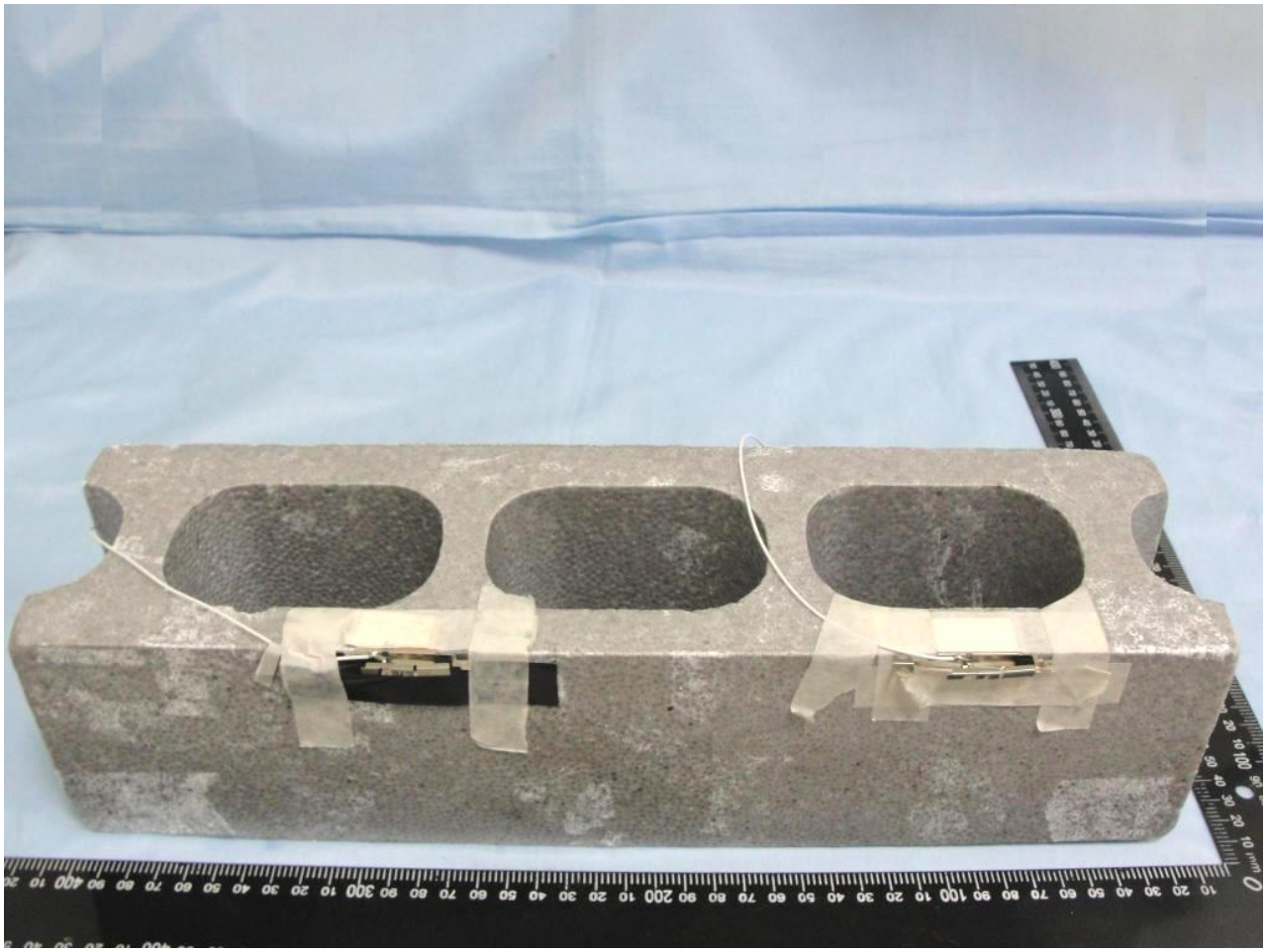
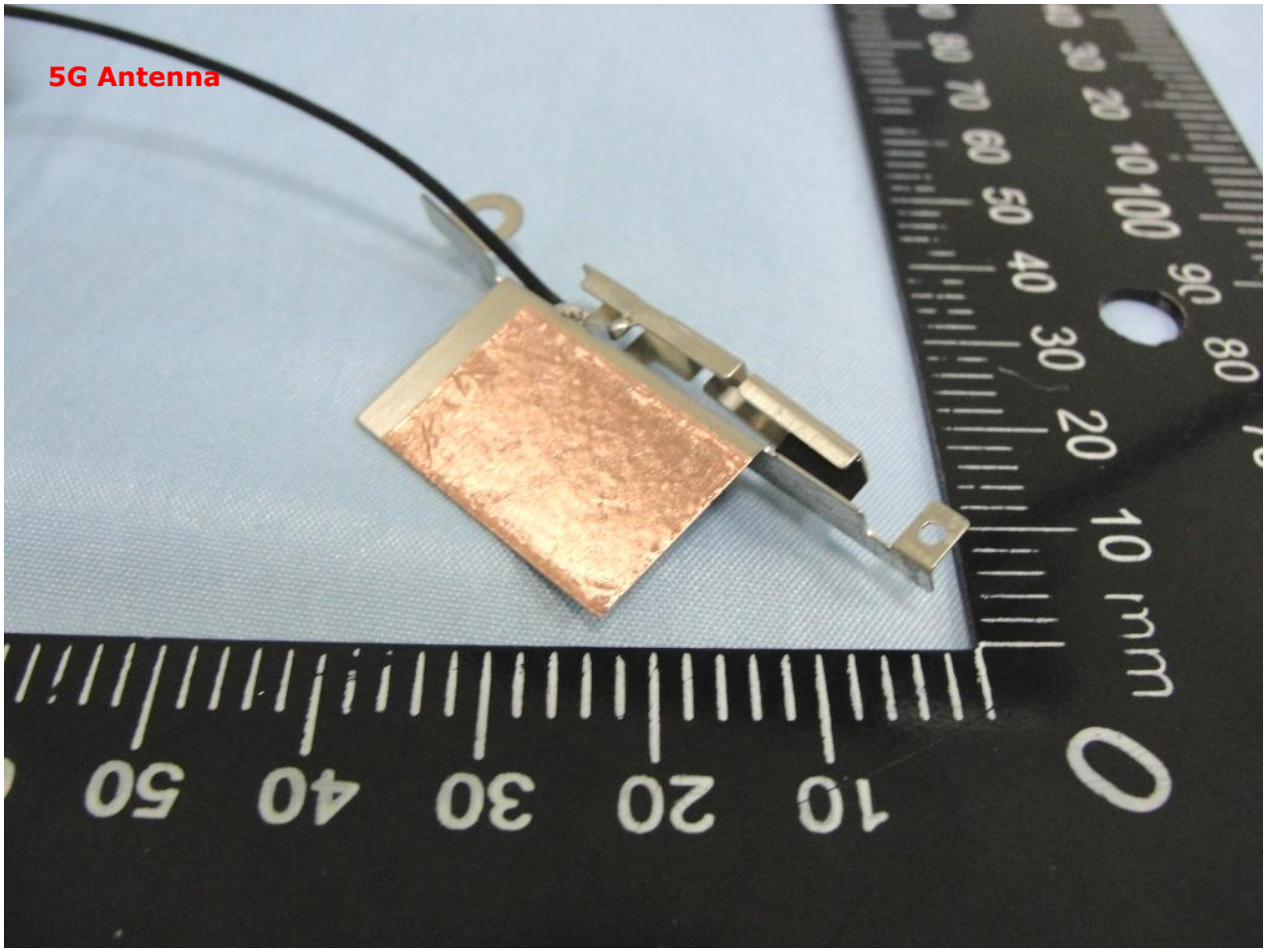


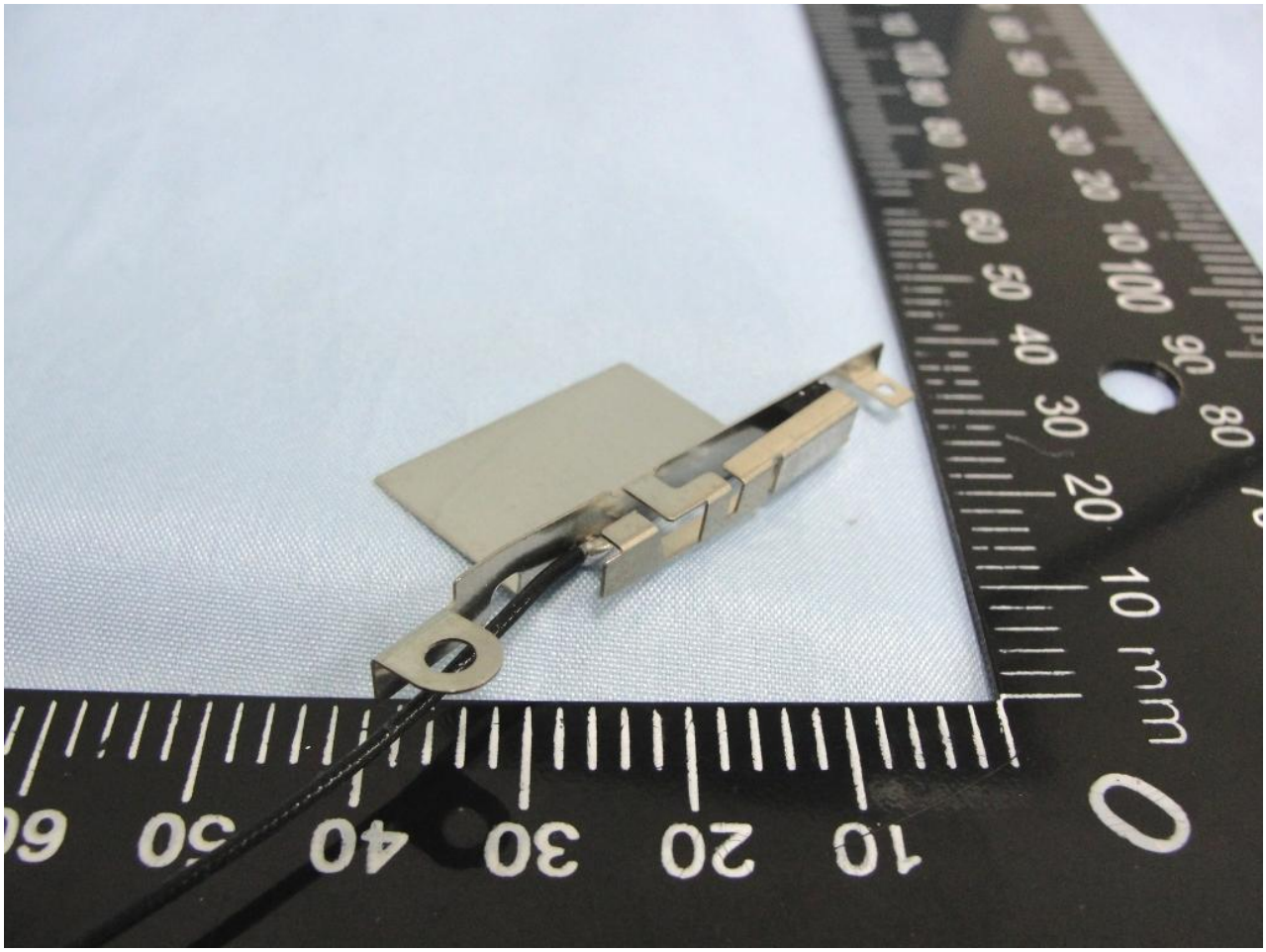
Brand Name: Atheros / Model Name: AR5BHB116



Brand Name: Atheros / Model Name: AR5BHB116



Brand Name: Atheros / Model Name: AR5BHB116



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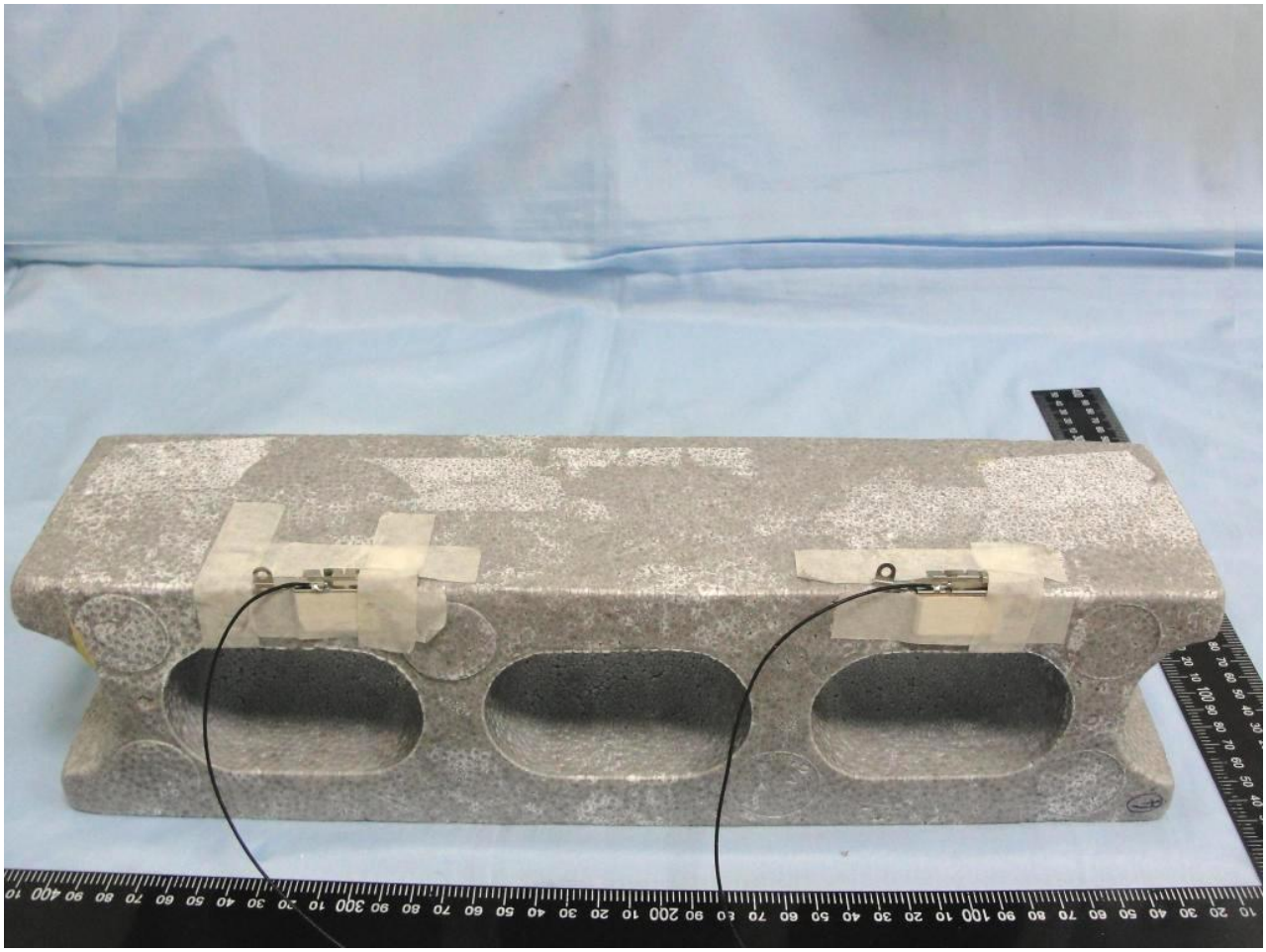
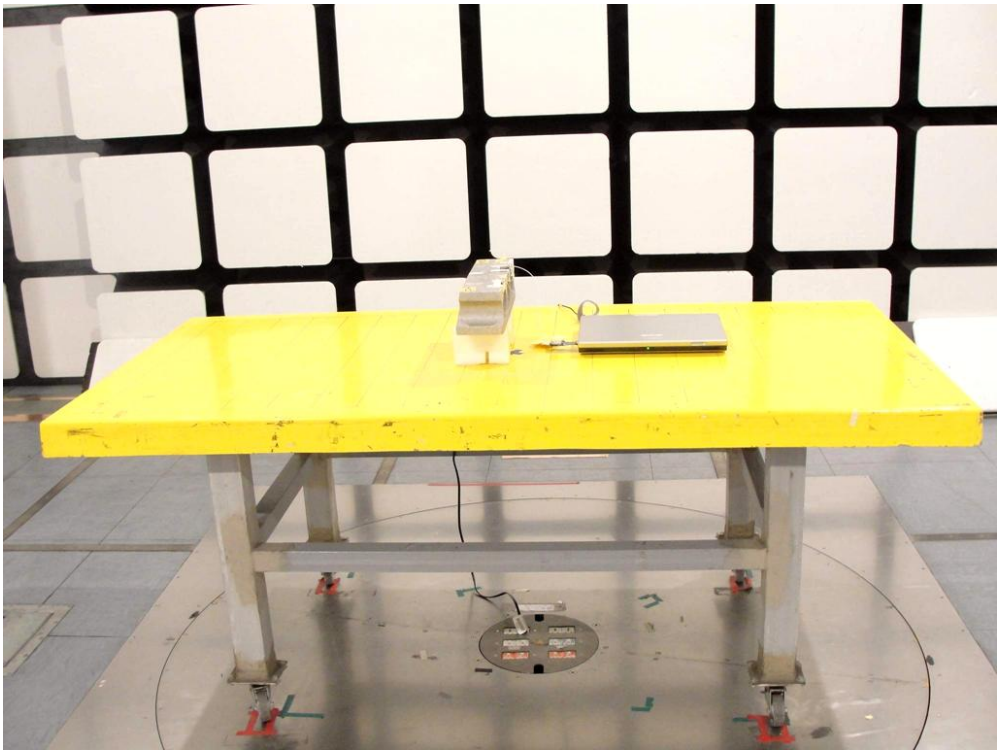


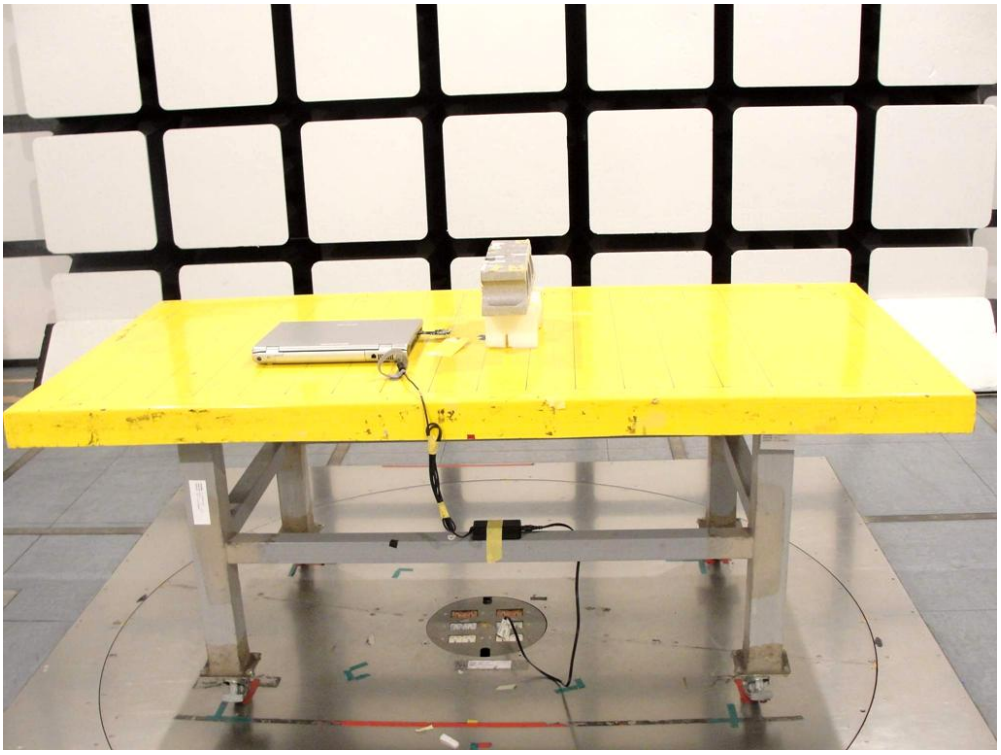
Appendix C. Setup Photographs

<Radiated Emission>

Front View

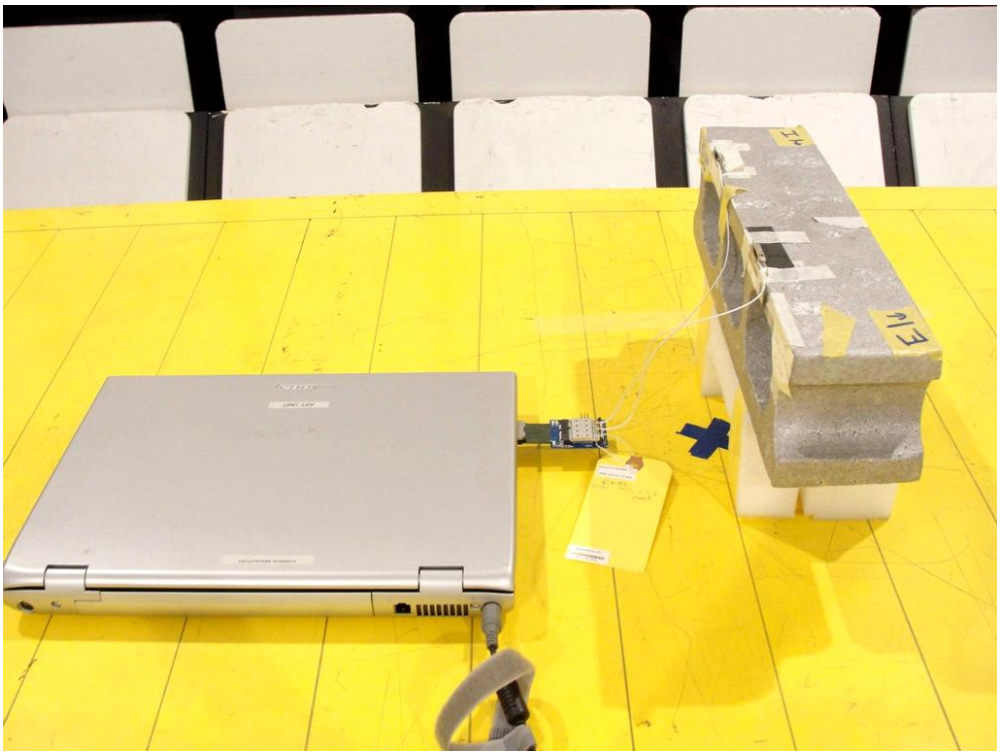


Rear View



Remote View

Near View

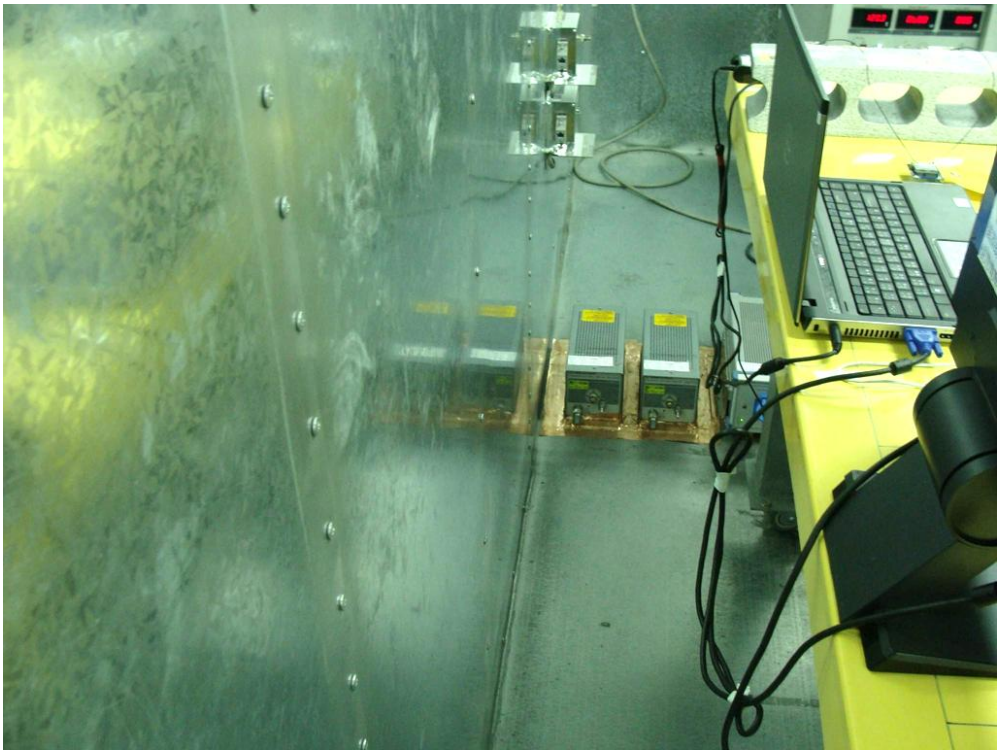


<AC Conducted Emission>

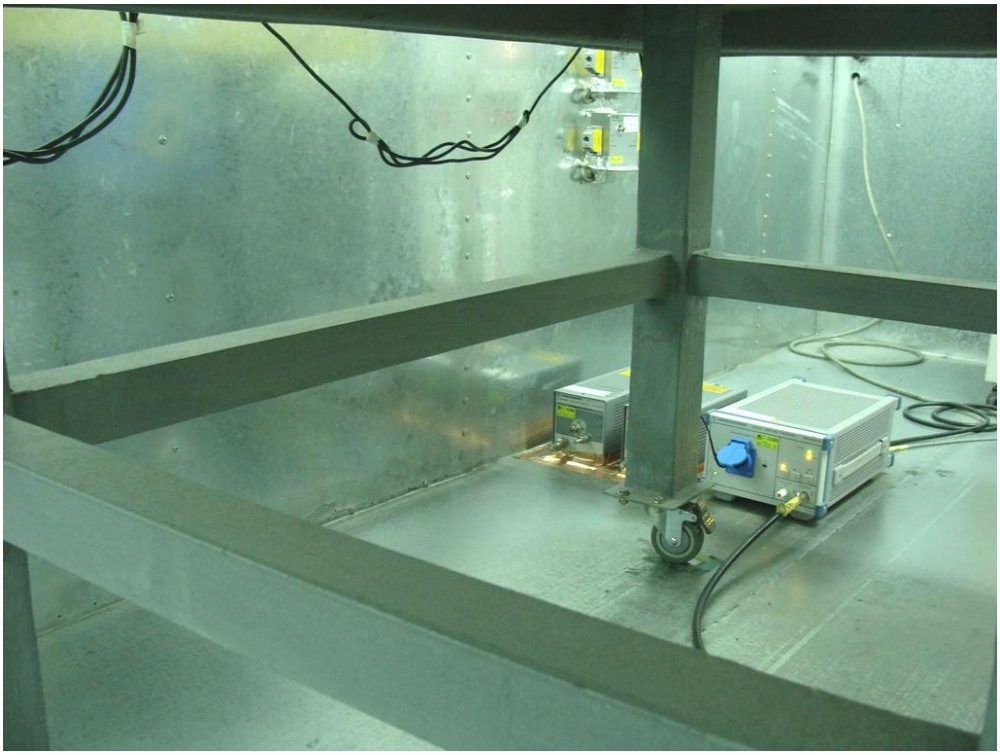
Mode 1

Front View

Rear View



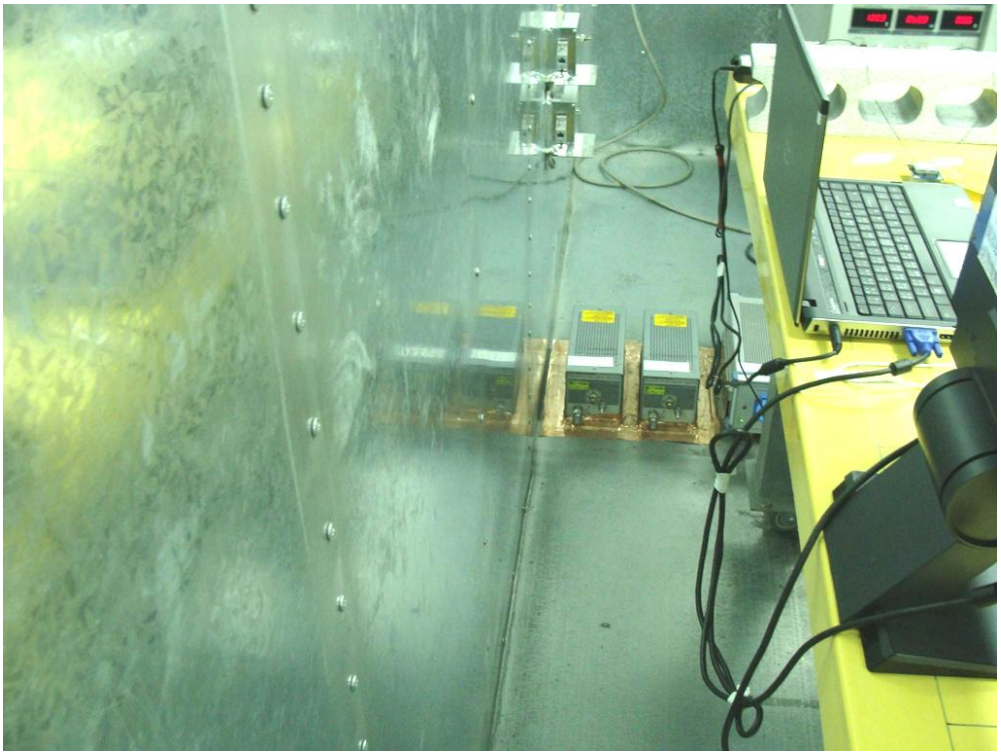
Side View



Mode 2

Front View

Rear View



Side View