

FCC Test Report

Product Name	Notebook PC
Model No	T100T, H100T, R104T
FCC ID	MSQT100T

Applicant	ASUSTeK COMPUTER INC.
Address	4F, No. 150, LI-TE Rd., PEITOU, TAIPEI 112, TAIWAN

Date of Receipt	Aug. 12, 2013
Issued Date	Sep. 09, 2013
Report No.	138248R-RFUSP46V01
Report Version	V1.0



The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of Quietek Corporation.

This report must not be used to claim product endorsement by TAF or any agency of the U.S. Government.

Test Report Certification

Issued Date: Sep. 09, 2013

Report No.: 138248R-RFUSP46V01



Product Name	Notebook PC
Applicant	ASUSTeK COMPUTER INC.
Address	4F, No. 150, LI-TE Rd., PEITOU, TAIPEI 112, TAIWAN
Manufacturer	TECH-COM(SHANGHAI) COMPUTER CO. LTD
Model No.	T100T, H100T, R104T
FCC ID.	MSQT100T
EUT Rated Voltage	AC 100-240V, 50-60Hz
EUT Test Voltage	AC 120V/60Hz
Trade Name	ASUS
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E: 2012 ANSI C63.4, 2003, ANSI C63.10: 2009, FCC KDB-789033
Test Result	Complied

The Test Results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of Quietek Corporation.

This report must not be used to claim product endorsement by TAF or any agency of the U.S. Government.

Documented By :



(Senior Adm. Specialist / Rita Huang)

Tested By :



(Engineer / Jack Hsu)

Approved By :



(Manager / Vincent Lin)

TABLE OF CONTENTS

Description	Page
1. GENERAL INFORMATION	5
1.1. EUT Description.....	5
1.2. Operational Description	7
1.3. Tested System Details.....	8
1.4. Configuration of tested System	8
1.5. EUT Exercise Software	8
1.6. Test Facility	9
2. Conducted Emission.....	10
2.1. Test Equipment.....	10
2.2. Test Setup	10
2.3. Limits	11
2.4. Test Procedure	11
2.5. Uncertainty	11
2.6. Test Result of Conducted Emission.....	12
3. Maximun conducted output power	18
3.1. Test Equipment.....	18
3.2. Test Setup	18
3.3. Limits	19
3.4. Test Procedure	19
3.5. Uncertainty	19
3.6. Test Result of Maximum conducted output power.....	20
4. Peak Power Spectral Density.....	40
4.1. Test Equipment.....	40
4.2. Test Setup	40
4.3. Limits	40
4.4. Test Procedure	41
4.5. Uncertainty	41
4.6. Test Result of Peak Power Spectral Density	42
5. Peak Excursion	58
5.1. Test Equipment.....	58
5.2. Test Setup	58
5.3. Limits	58
5.4. Test Procedure	59
5.5. Uncertainty	59
5.6. Test Result of Peak Excursion.....	60
6. Radiated Emission.....	69
6.1. Test Equipment.....	69
6.2. Test Setup	69
6.3. Limits	70
6.4. Test Procedure	71
6.5. Uncertainty	71
6.6. Test Result of Radiated Emission.....	72
7. Band Edge	106

7.1.	Test Equipment.....	106
7.2.	Test Setup	107
7.3.	Limits	108
7.4.	Test Procedure	108
7.5.	Uncertainty	109
7.6.	Test Result of Band Edge	110
8.	Frequency Stability.....	137
8.1.	Test Equipment.....	137
8.2.	Test Setup	137
8.3.	Limits	137
8.4.	Test Procedure	137
8.5.	Uncertainty	137
8.6.	Test Result of Frequency Stability.....	138
9.	EMI Reduction Method During Compliance Testing	141
Attachment 1:	EUT Test Photographs	
Attachment 2:	EUT Detailed Photographs	

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Notebook PC
Trade Name	ASUS
FCC ID.	MSQT100T
Model No.	T100T, H100T, R104T
Frequency Range	802.11a/n-20MHz: 5180-5320MHz, 5500-5700MHz 802.11n-40MHz: 5190-5310, 5510-5670MHz
Number of Channels	802.11a/n-20MHz: 19; 802.11n-40MHz: 9
Data Rate	802.11a: 6 - 54Mbps 802.11n: up to 150Mbps
Channel Control	Auto
Type of Modulation	802.11a/n: OFDM, BPSK, QPSK, 16QAM, 64QAM
Antenna Type	PIFA Antenna
Antenna Gain	Refer to the table "Antenna List"
Power Cable	Shielded, 1.7m
USB Cable	Non-Shielded, 1.0m
Power Adapter	MFR: ASUS, M/N: W12-010N3A Input: 100-240V, 50-60Hz, 0.3A Output: 5V, 2A

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	INPAQ	WA-P-LB-02-083	PIFA	-1.01 dBi for 5.15~5.25GHz 1.05 dBi for 5.25~5.35GHz 1.43 dBi for 5.47~5.725GHz

Note: The antenna of EUT is conform to FCC 15.203

802.11a/n-20MHz Center Working Frequency of Each Channel:

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

802.11n-40MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 38:	5190 MHz	Channel 46:	5230 MHz	Channel 54:	5270 MHz	Channel 62:	5310 MHz
Channel 102:	5510 MHz	Channel 110:	5550 MHz	Channel 118:	5590 MHz	Channel 126:	5630 MHz
Channel 134:	5670 MHz						

Note:

1. This device is a Notebook PC, Contains functions and so on WLAN 、 Bluetooth , This report for WLAN.
2. The Hardware is identical for three models, the differences between the models is pre-reserved model name, provided for different sales channels.
3. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.
4. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
5. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11a is 6Mbps 、 802.11n(20M-BW) is 7.2Mbps and 、 802.11n(40M-BW) is 15Mbps).
6. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart E for Unlicensed National Information Infrastructure devices.

Test Mode	Mode 1: Transmit (802.11a-6Mbps) Mode 2: Transmit (802.11n-20BW 7.2Mbps) Mode 3: Transmit (802.11n-40BW 15Mbps)
-----------	---

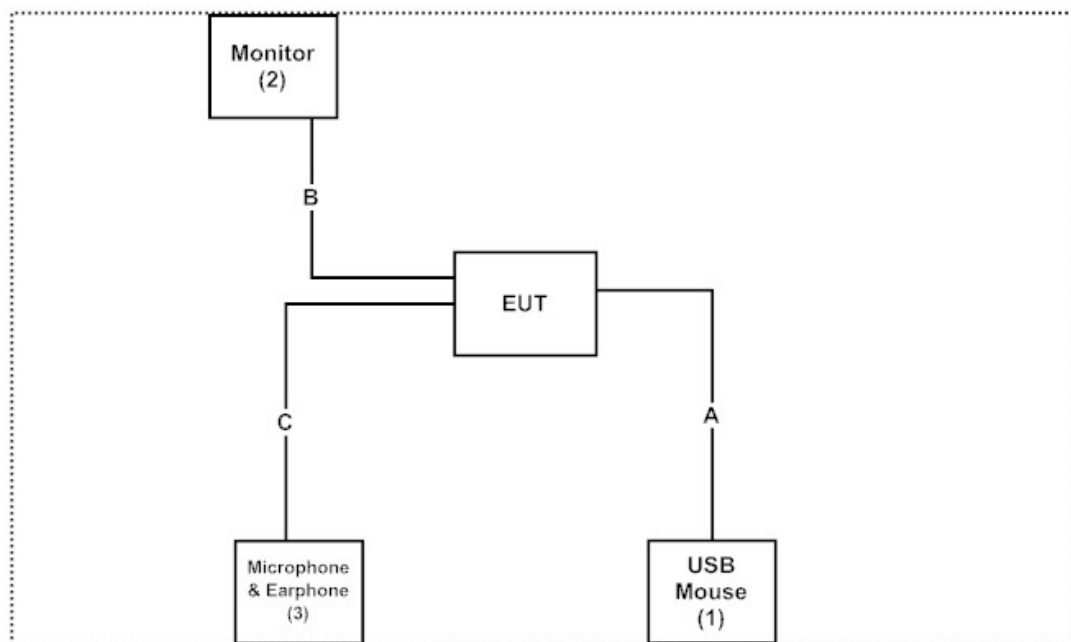
1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
(1) USB Mouse	Logitech	M-U0003	LZ024HR	DoC	N/A
(2) Monitor	DELL	U2410	CN-0J257M-728-01I-038L	DoC	Non-Shielded, 1.8m
(3) Microphone & Earphone	Ergotech	ET-E201	N/A	N/A	N/A

Signal Cable Type		Signal cable Description
A	Mouse Cable	Non-Shielded, 1.8m
B	HDMI Cable	Non-Shielded, 1.8m
C	Microphone & Earphone Cable	Non-Shielded, 1.8m

1.4. Configuration of tested System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute program "WL.exe" on the EUT.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Press "OK" to start the continuous Transmit.
- (5) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://www.quietek.com/tw/ctg/cts/accreditations.htm>

The address and introduction of Quietek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 92195

Site Name: Quietek Corporation
Site Address: No.5-22, Ruishukeng Linkou Dist., New Taipei City
24451, Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

2. Conducted Emission

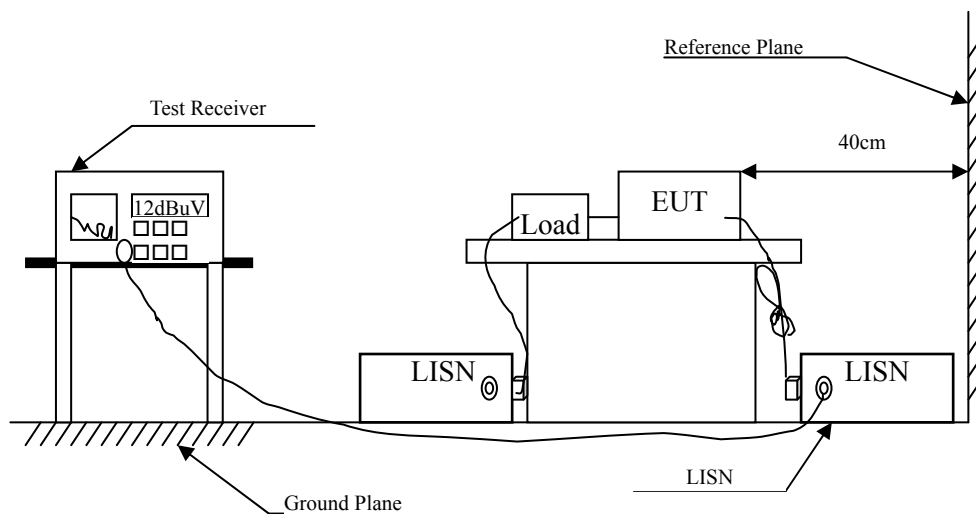
2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2013	
X	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2013	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2013	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar, 2013	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2013	
	No.1 Shielded Room				

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBUV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks : In the above table, the tighter limit applies at the band edges.

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10, 2009 on conducted measurement.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

The EUT was setup to ANSI C63.10, 2009; tested to DTS test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : Notebook PC
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 1					
Quasi-Peak					
0.150	9.696	29.590	39.286	-26.714	66.000
0.404	9.708	25.230	34.938	-23.805	58.743
1.326	9.760	12.810	22.570	-33.430	56.000
2.033	9.802	10.430	20.232	-35.768	56.000
5.091	9.830	16.120	25.950	-34.050	60.000
20.502	9.923	10.000	19.923	-40.077	60.000
Average					
0.150	9.696	16.300	25.996	-30.004	56.000
0.404	9.708	22.550	32.258	-16.485	48.743
1.326	9.760	10.410	20.170	-25.830	46.000
2.033	9.802	7.940	17.742	-28.258	46.000
5.091	9.830	11.040	20.870	-29.130	50.000
20.502	9.923	4.690	14.613	-35.387	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Notebook PC
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5190MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.150	9.676	30.760	40.436	-25.564	66.000
0.220	9.680	25.690	35.370	-28.630	64.000
0.404	9.688	24.390	34.078	-24.665	58.743
0.713	9.707	12.490	22.197	-33.803	56.000
1.345	9.741	9.850	19.591	-36.409	56.000
7.037	9.850	8.790	18.640	-41.360	60.000
Average					
0.150	9.676	19.460	29.136	-26.864	56.000
0.220	9.680	12.780	22.460	-31.540	54.000
0.404	9.688	19.750	29.438	-19.305	48.743
0.713	9.707	9.610	19.317	-26.683	46.000
1.345	9.741	7.500	17.241	-28.759	46.000
7.037	9.850	4.520	14.370	-35.630	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Notebook PC
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5270MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.154	9.697	29.630	39.327	-26.559	65.886
0.408	9.708	24.850	34.558	-24.071	58.629
0.943	9.732	11.770	21.502	-34.498	56.000
1.709	9.777	12.000	21.777	-34.223	56.000
2.447	9.810	10.850	20.660	-35.340	56.000
5.412	9.830	15.450	25.280	-34.720	60.000
Average					
0.154	9.697	16.300	25.997	-29.889	55.886
0.408	9.708	22.110	31.818	-16.811	48.629
0.943	9.732	9.100	18.832	-27.168	46.000
1.709	9.777	9.610	19.387	-26.613	46.000
2.447	9.810	8.370	18.180	-27.820	46.000
5.412	9.830	11.560	21.390	-28.610	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Notebook PC
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5270MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.150	9.676	30.720	40.396	-25.604	66.000
0.244	9.681	24.610	34.291	-29.023	63.314
0.404	9.688	24.330	34.018	-24.725	58.743
1.326	9.740	10.960	20.700	-35.300	56.000
2.408	9.790	8.210	18.000	-38.000	56.000
6.646	9.850	9.690	19.540	-40.460	60.000
Average					
0.150	9.676	19.540	29.216	-26.784	56.000
0.244	9.681	12.940	22.621	-30.693	53.314
0.404	9.688	19.750	29.438	-19.305	48.743
1.326	9.740	8.840	18.580	-27.420	46.000
2.408	9.790	5.750	15.540	-30.460	46.000
6.646	9.850	6.090	15.940	-34.060	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Notebook PC
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5550MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.162	9.697	29.170	38.867	-26.790	65.657
0.396	9.708	23.670	33.378	-25.593	58.971
1.322	9.760	13.030	22.790	-33.210	56.000
2.017	9.801	10.970	20.771	-35.229	56.000
5.431	9.830	15.750	25.580	-34.420	60.000
21.400	9.939	9.520	19.459	-40.541	60.000
Average					
0.162	9.697	15.880	25.577	-30.080	55.657
0.396	9.708	21.230	30.938	-18.033	48.971
1.322	9.760	10.520	20.280	-25.720	46.000
2.017	9.801	8.420	18.221	-27.779	46.000
5.431	9.830	11.800	21.630	-28.370	50.000
21.400	9.939	4.520	14.459	-35.541	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Notebook PC
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5550MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.154	9.677	30.700	40.377	-25.509	65.886
0.404	9.688	24.410	34.098	-24.645	58.743
0.888	9.720	10.740	20.460	-35.540	56.000
1.314	9.739	11.000	20.739	-35.261	56.000
1.736	9.768	9.750	19.518	-36.482	56.000
6.537	9.840	8.320	18.160	-41.840	60.000
Average					
0.154	9.677	19.460	29.137	-26.749	55.886
0.404	9.688	19.750	29.438	-19.305	48.743
0.888	9.720	8.560	18.280	-27.720	46.000
1.314	9.739	8.840	18.579	-27.421	46.000
1.736	9.768	7.430	17.198	-28.802	46.000
6.537	9.840	4.510	14.350	-35.650	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3. Maximun conducted output power

3.1. Test Equipment

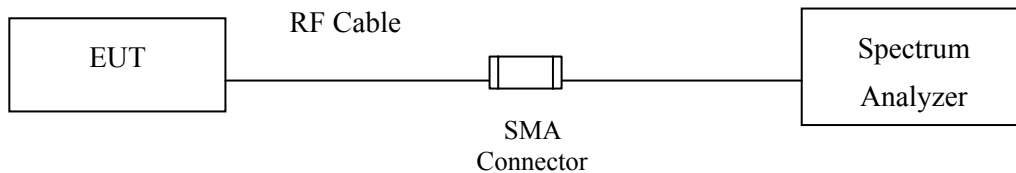
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2013
X	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

Note:

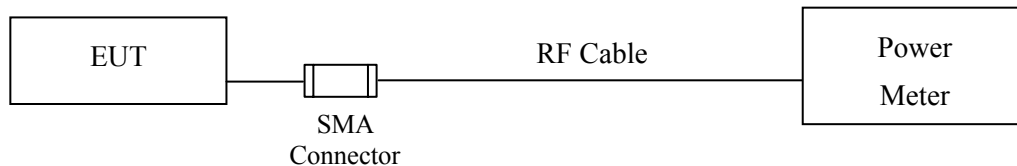
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

3.2. Test Setup

26dBc Occupied Bandwidth



Conduction Power Measurement



3.3. Limits

- (1) 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 or $4 \text{ dBm} + 10\log B$, where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- (2) For the band 5.25-5.35 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10\log B$, where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- (3) For the band 5.725-5.825 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1W or $17 \text{ dBm} + 10\log B$, where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the Maximum conducted output power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

3.4. Test Procedure

As an alternative to FCC KDB-789033, the EUT maximum conducted output power was measured with an average power meter employing a video bandwidth greater than 6dB BW of the emission under test. Maximum conducted output power was read directly from the meter across all data rates, and across three channels within each sub-band. Special care was used to make sure that the EUT was transmitting in continuous mode. This method exceeds the limitations of FCC KDB-789033, and provides more accurate measurements.

The Maximum conducted output power using KDB 789033 section E)3)b) Method PM-G (Measurement using a gated RF average power meter).

3.5. Uncertainty

$\pm 1.27 \text{ dB}$

3.6. Test Result of Maximum conducted output power

Product : Notebook PC
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	11.99	--	--	--	--	--	--	--	<17dBm
44	5220	11.95	11.81	11.66	11.52	11.37	11.23	11.08	10.94	<17dBm
48	5240	11.93	--	--	--	--	--	--	--	<17dBm
52	5260	11.89	--	--	--	--	--	--	--	<24dBm
60	5300	11.93	11.77	11.63	11.48	11.33	11.18	11.03	10.88	<24dBm
64	5320	11.82	--	--	--	--	--	--	--	<24dBm
100	5500	11.76	--	--	--	--	--	--	--	<24dBm
116	5580	11.95	11.83	11.69	11.56	11.43	11.30	11.17	11.04	<24dBm
140	5700	11.89	--	--	--	--	--	--	--	<24dBm

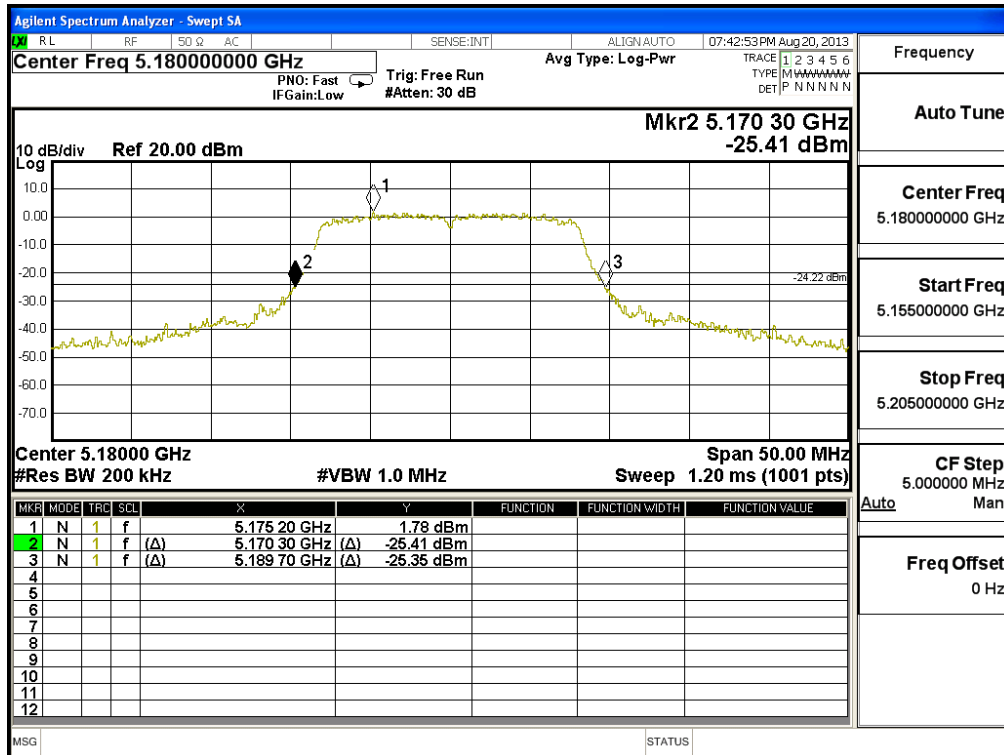
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

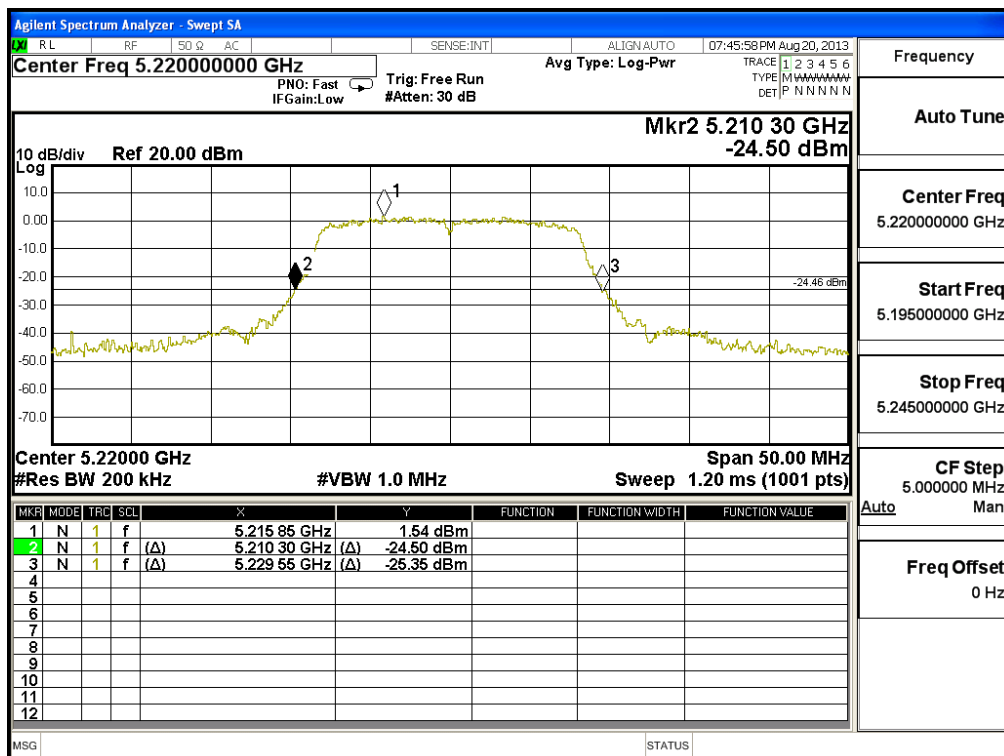
Channel Number	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit	
				(dBm)	dBm+10log(BW)
36	5180	19.40	11.99	17	16.88
44	5220	19.25	11.95	17	16.84
48	5240	19.45	11.93	17	16.89
52	5260	19.40	11.89	24	23.88
60	5300	19.35	11.93	24	23.87
64	5320	19.60	11.82	24	23.92
100	5500	19.55	11.76	24	23.91
116	5580	19.40	11.95	24	23.88
140	5700	19.65	11.89	24	23.93

Note: Power Output Value =Reading value on average power meter + cable loss

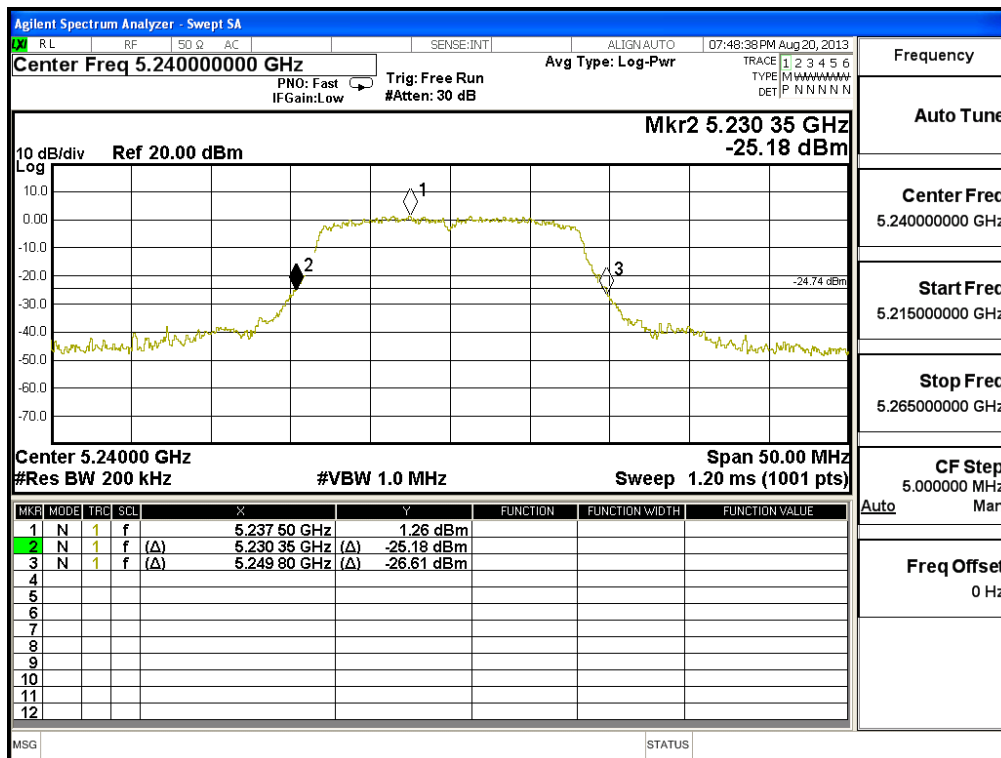
26dBc Occupied Bandwidth: Channel 36



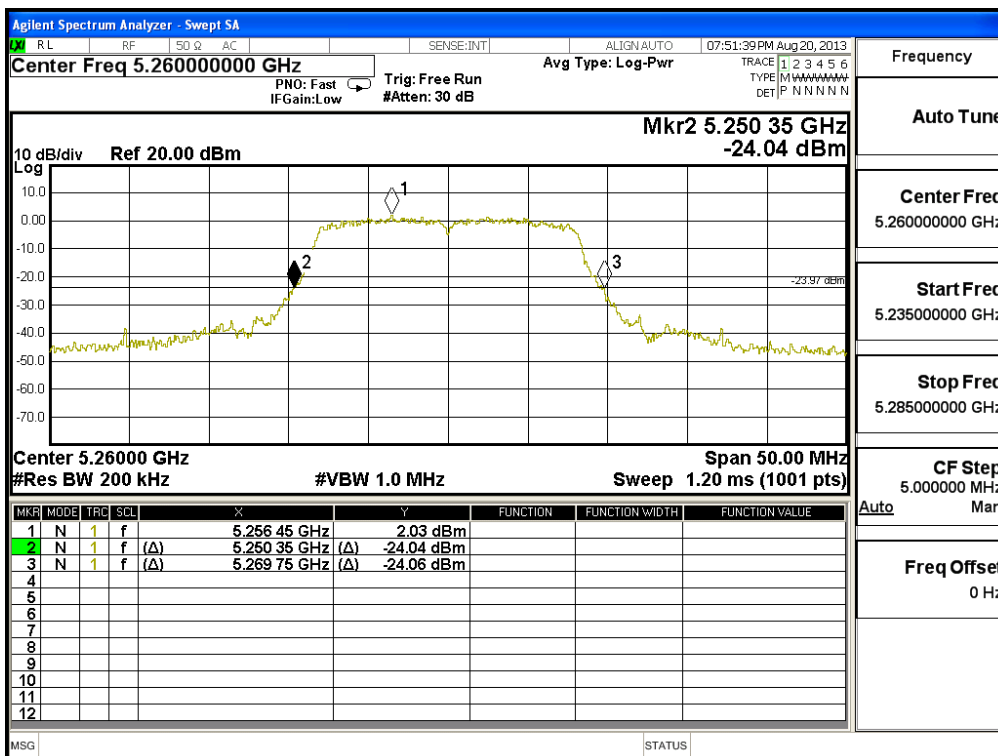
Channel 40



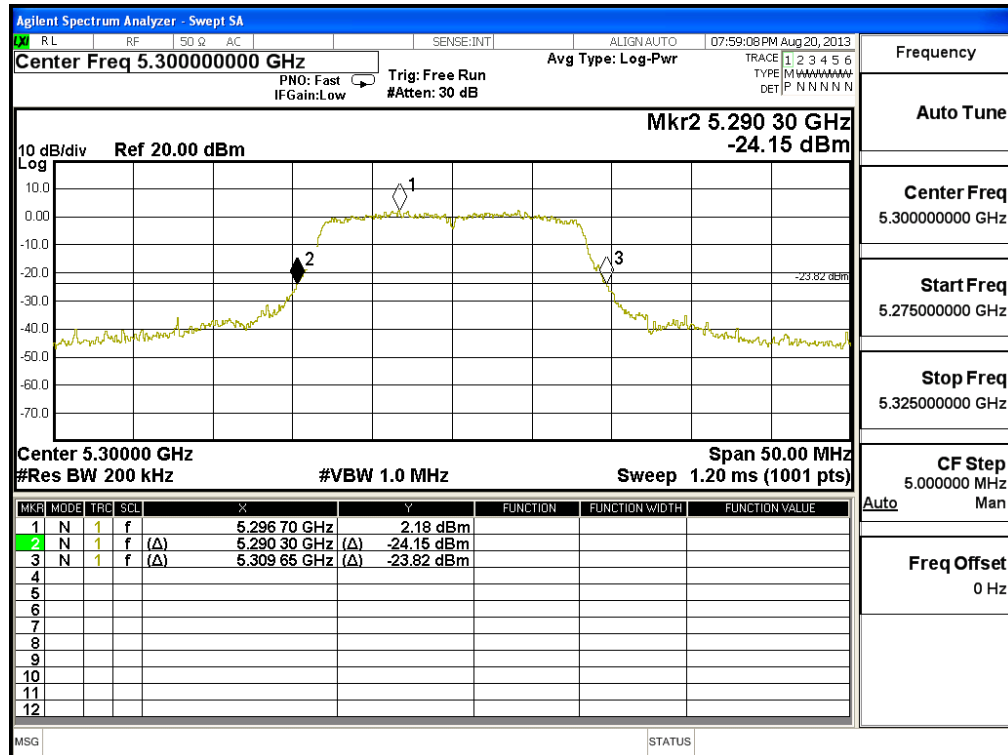
Channel 48



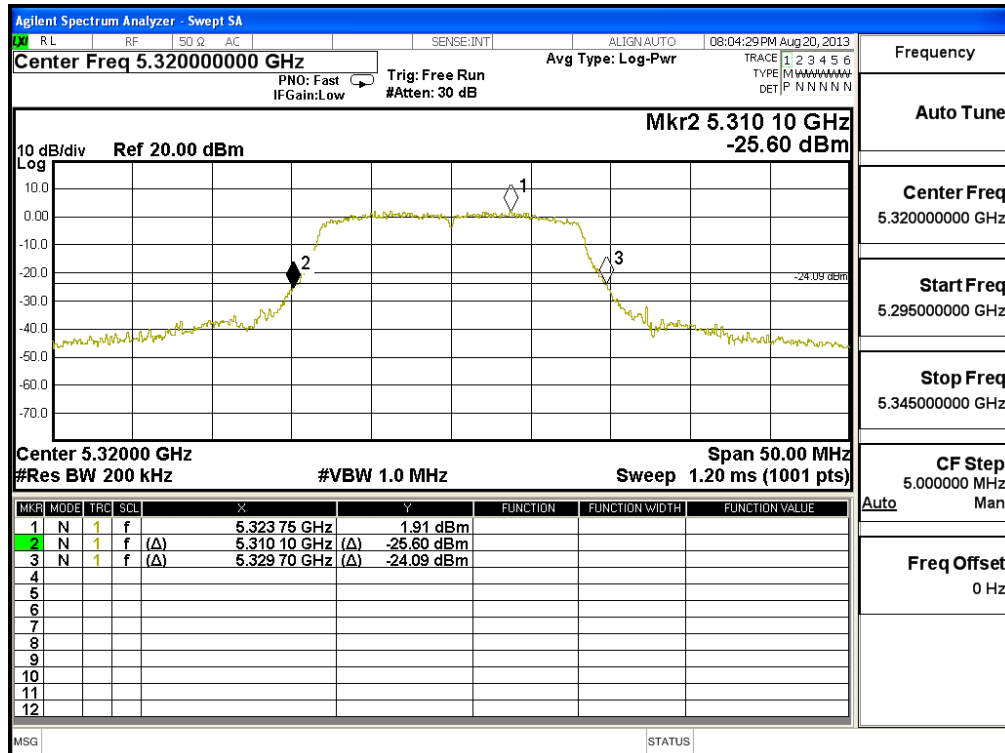
Channel 52



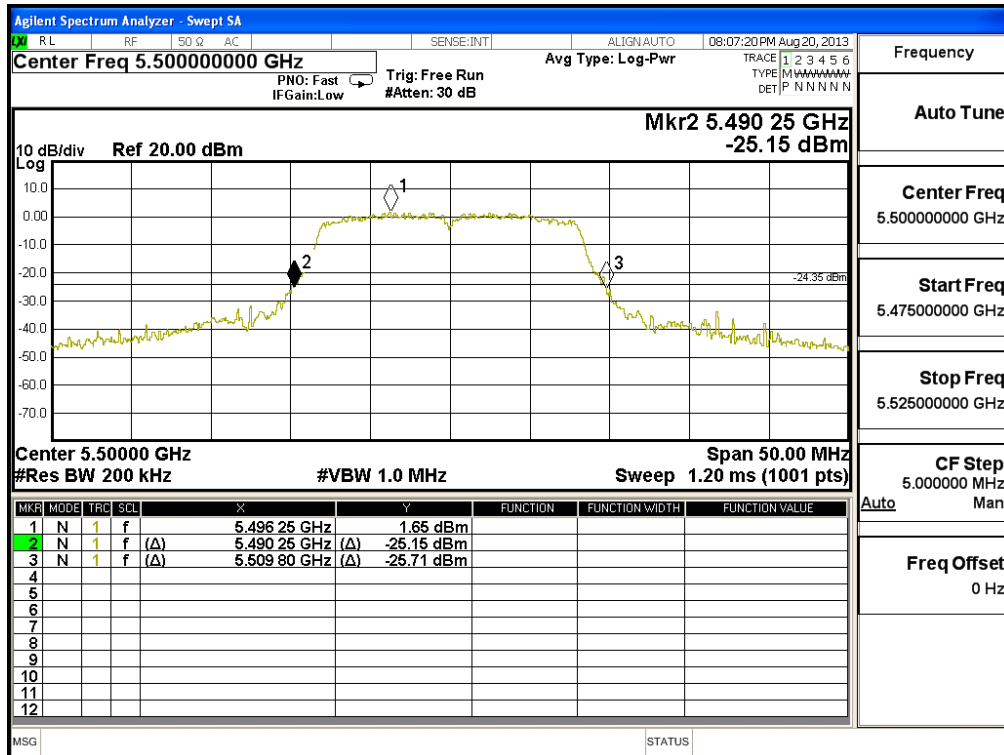
Channel 60



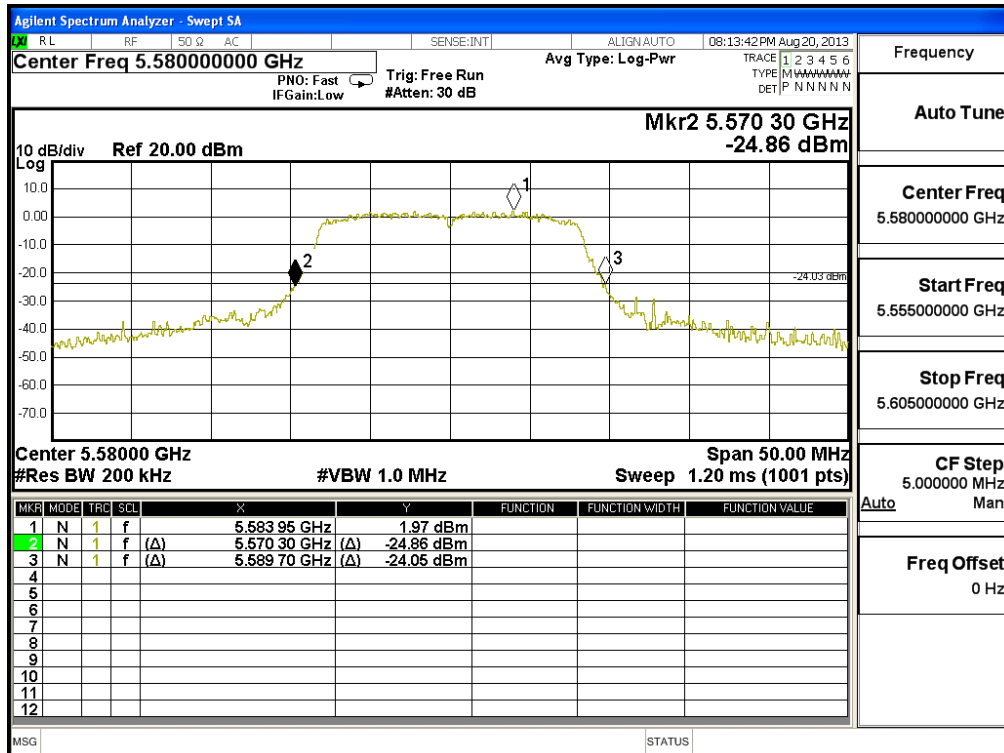
Channel 64



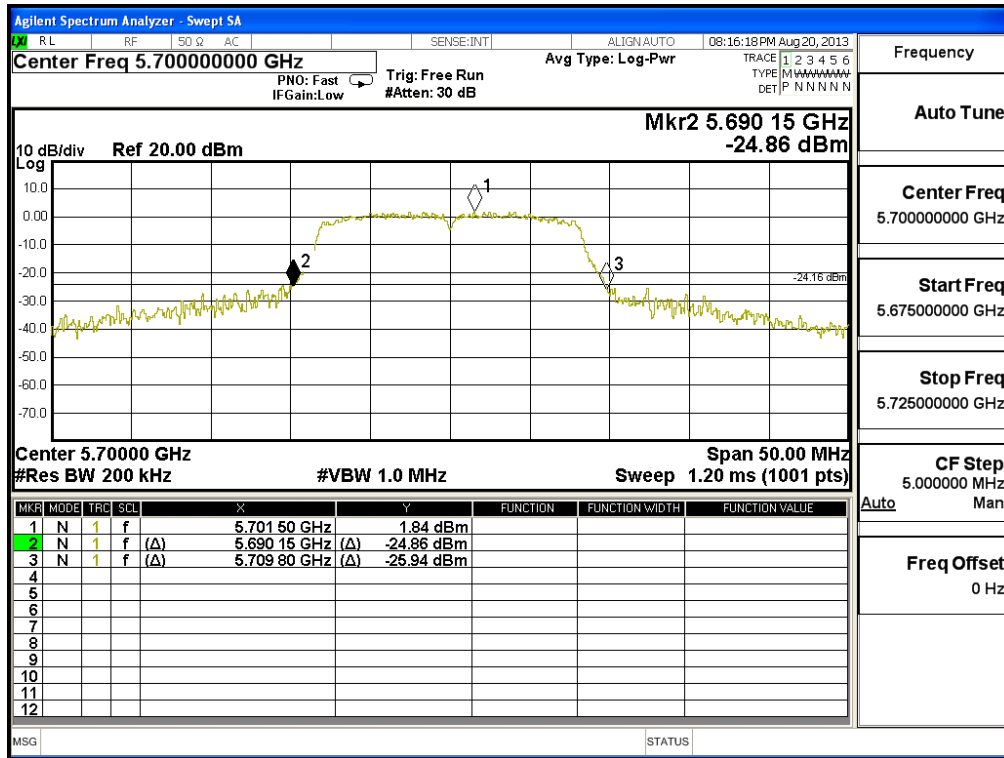
Channel 100



Channel 116



Channel 140



Product : Notebook PC
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps)

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		7.2	14.4	21.7	28.9	43.3	57.8	65	72.2	
		Measurement Level (dBm)								
36	5180	11.71	--	--	--	--	--	--	--	<17dBm
44	5220	11.82	11.7	11.56	11.43	11.30	11.17	11.04	10.91	<17dBm
48	5240	11.82	--	--	--	--	--	--	--	<17dBm
52	5260	11.87	--	--	--	--	--	--	--	<24dBm
60	5300	11.90	11.79	11.68	11.57	11.46	11.35	11.24	11.13	<24dBm
64	5320	11.82	--	--	--	--	--	--	--	<24dBm
100	5500	11.80	--	--	--	--	--	--	--	<24dBm
116	5580	11.82	11.77	11.58	11.48	11.36	11.24	11.12	11.00	<24dBm
140	5700	11.93	--	--	--	--	--	--	--	<24dBm

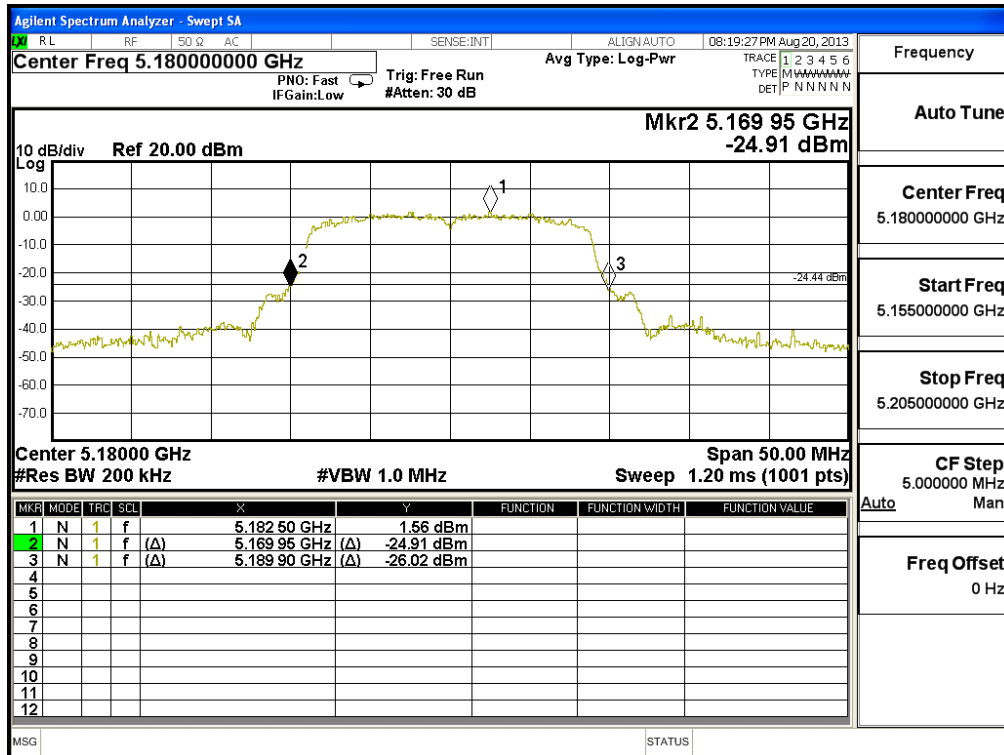
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

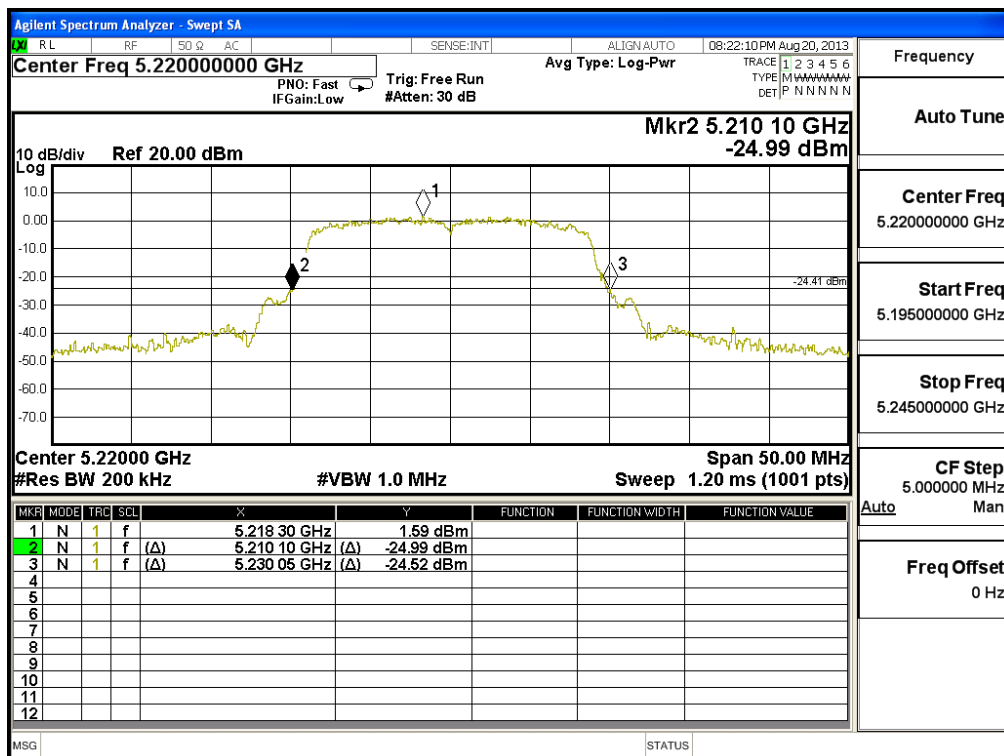
Channel Number	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit	
				(dBm)	dBm+10log(BW)
36	5180	19.95	11.71	17	17.00
44	5220	19.95	11.82	17	17.00
48	5240	20.00	11.82	17	17.01
52	5260	19.75	11.87	24	23.96
60	5300	19.70	11.90	24	23.94
64	5320	19.95	11.82	24	24.00
100	5500	19.90	11.80	24	23.99
116	5580	19.95	11.82	24	24.00
140	5700	20.20	11.93	24	24.05

Note: Power Output Value =Reading value on average power meter + cable loss

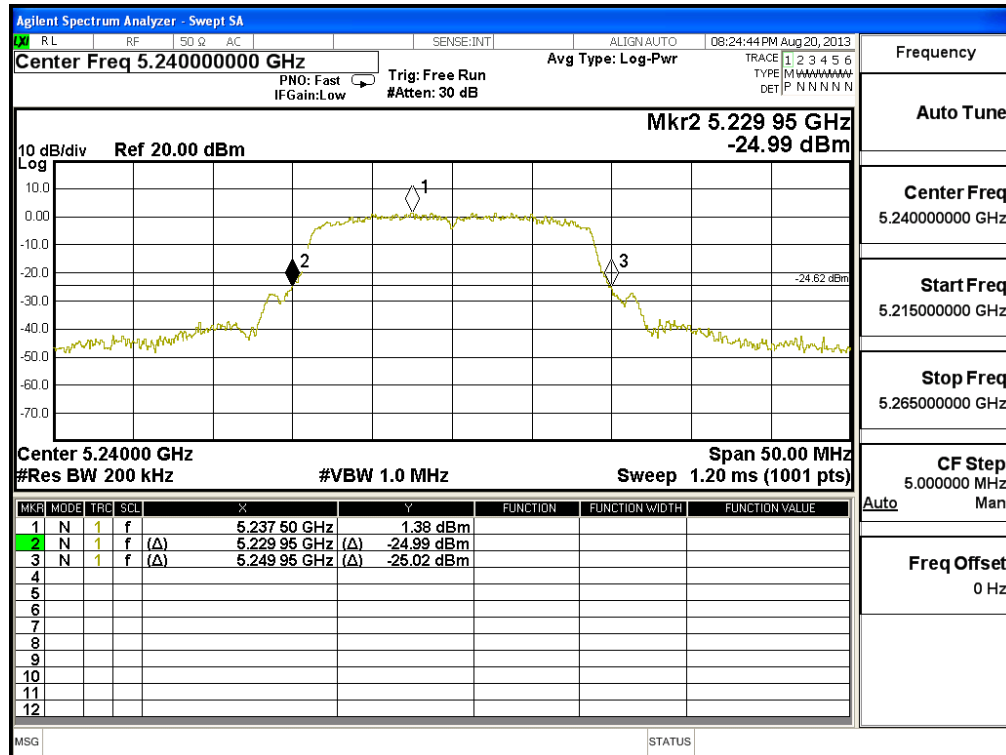
26dBc Occupied Bandwidth: Channel 36



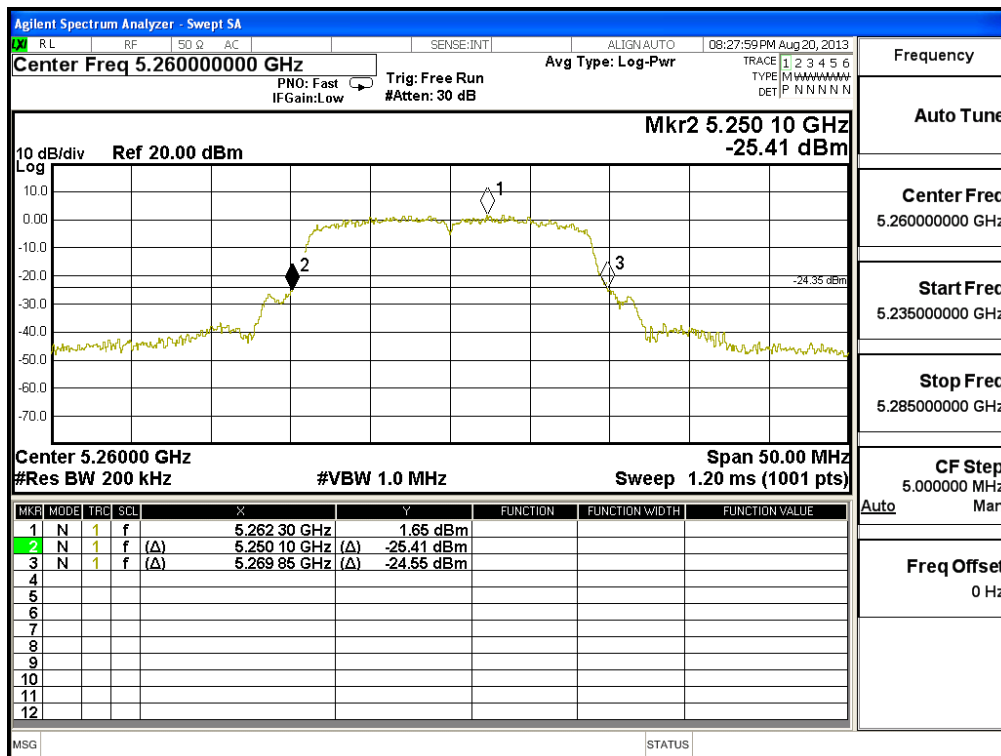
Channel 44



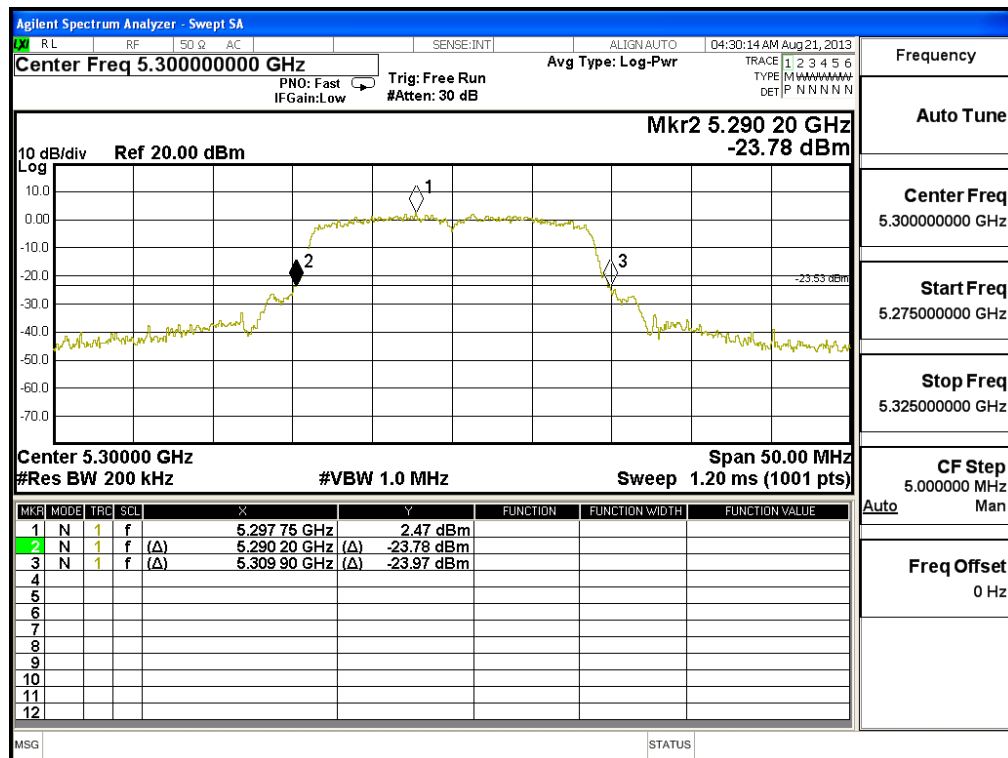
Channel 48



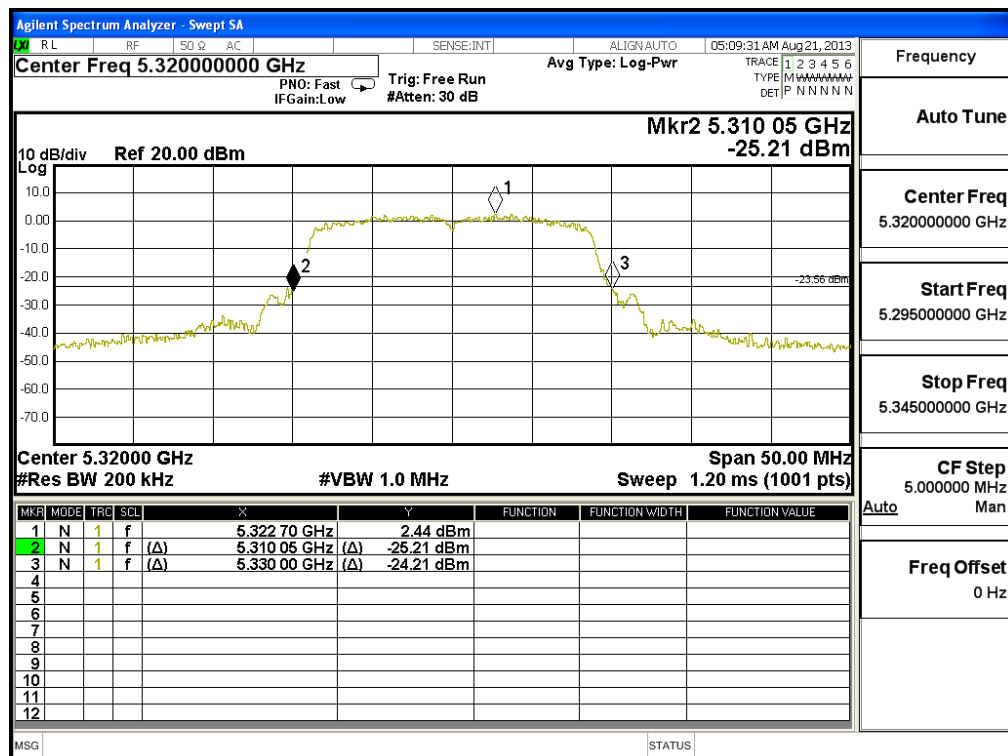
Channel 52



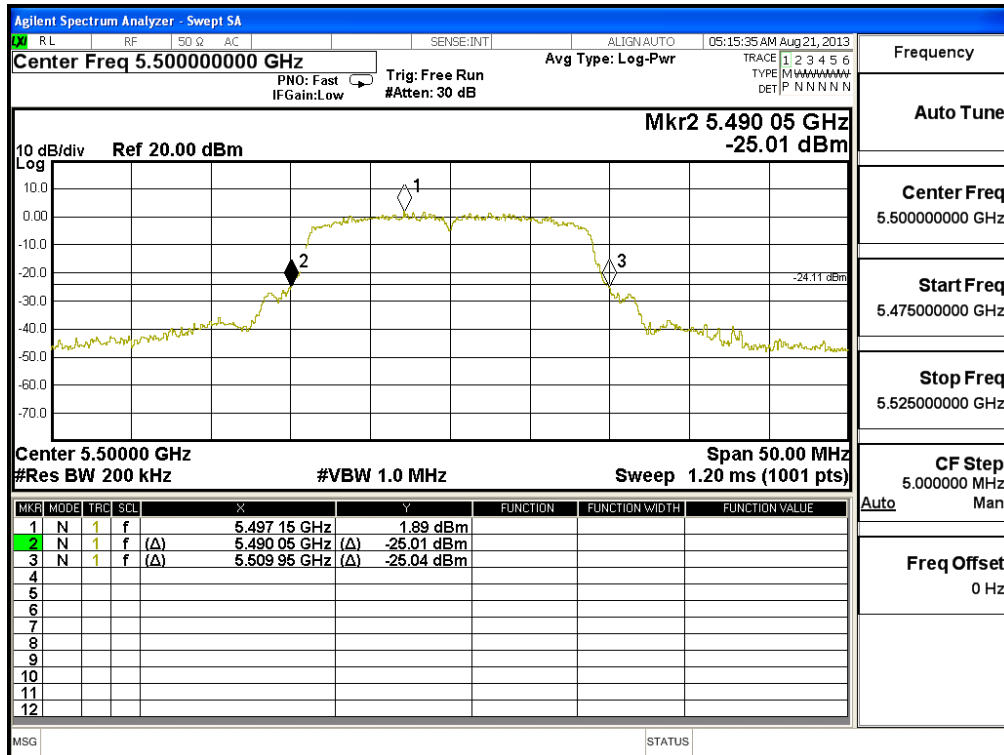
Channel 60



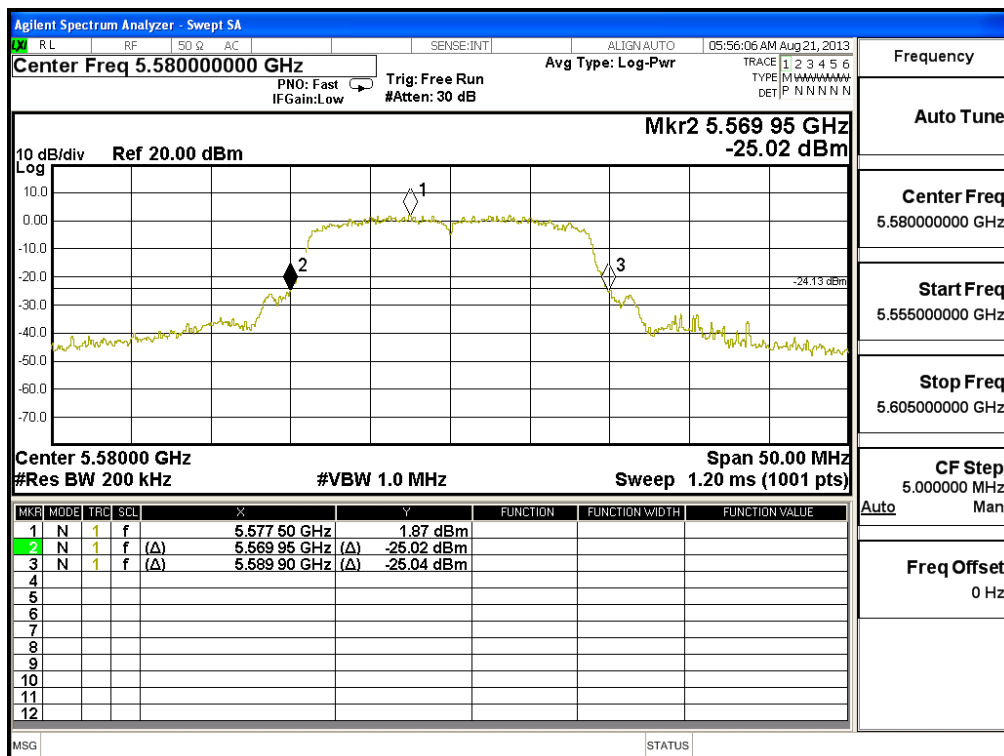
Channel 64



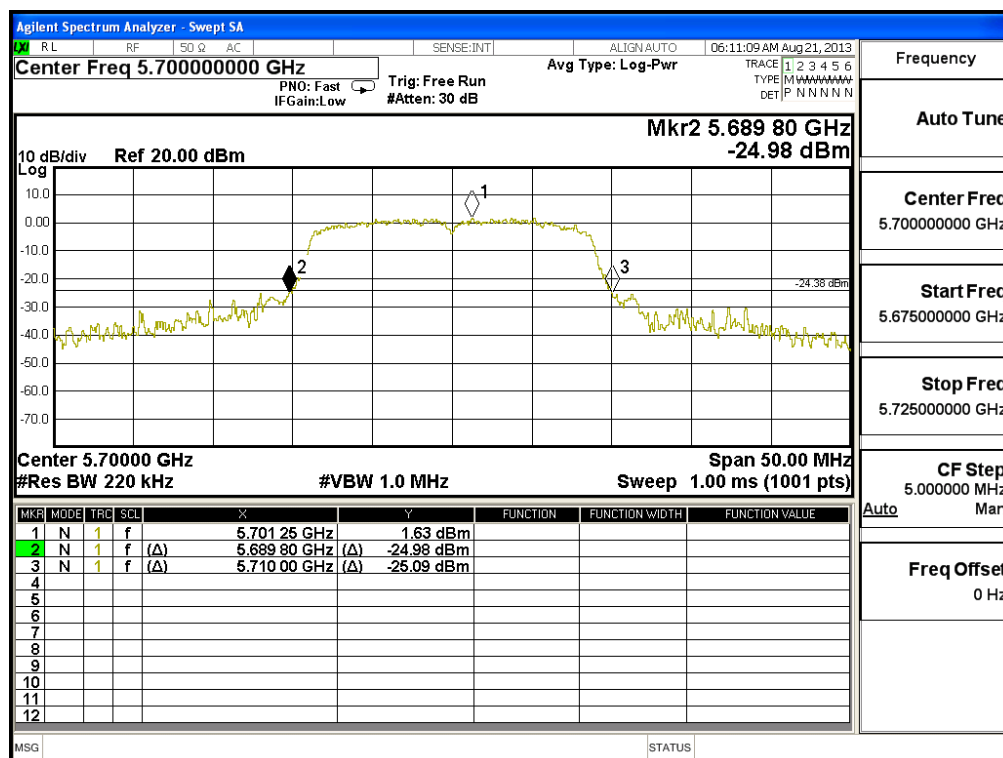
Channel 100



Channel 116



Channel 140



Product : Notebook PC
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		15	30	45	60	90	120	135	150	
		Measurement Level (dBm)								
38	5190	11.31	11.19	11.1	10.99	10.89	10.78	10.68	10.57	<17dBm
46	5230	11.51	--	--	--	--	--	--	--	<17dBm
54	5270	11.47	11.33	11.21	11.08	10.95	10.82	10.69	10.56	<17dBm
62	5310	11.69	--	--	--	--	--	--	--	<24dBm
102	5510	11.85	--	--	--	--	--	--	--	<24dBm
110	5550	11.92	11.8	11.67	11.55	11.42	11.30	11.17	11.05	<24dBm
134	5670	11.82	--	--	--	--	--	--	--	<24dBm

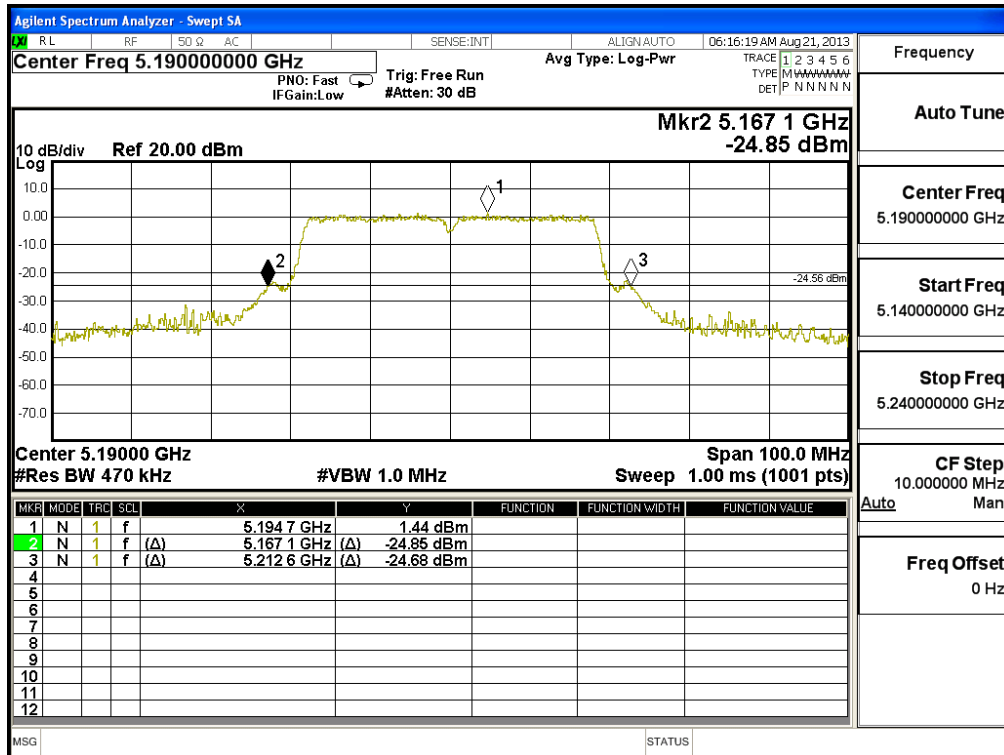
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

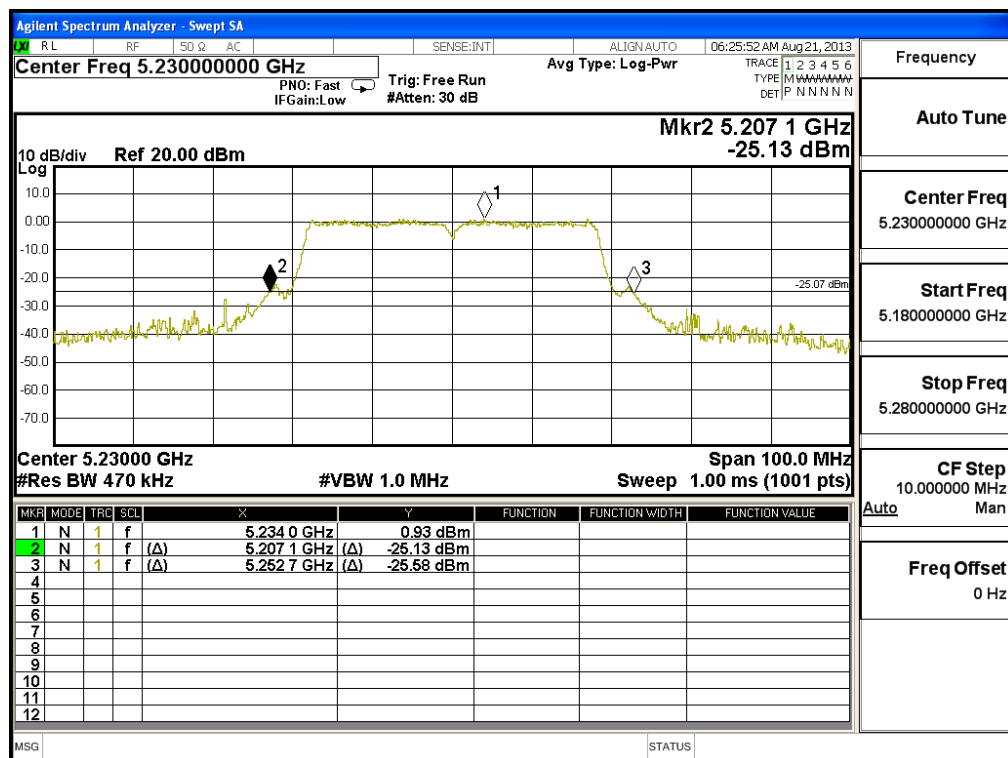
Channel Number	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit	
				(dBm)	dBm+10log(BW)
38	5190	45.50	11.31	17	20.58
46	5230	45.60	11.51	17	20.59
54	5270	45.30	11.47	24	27.56
62	5310	45.50	11.69	24	27.58
102	5510	45.80	11.85	24	27.61
110	5550	45.10	11.92	24	27.54
134	5670	45.70	11.82	24	27.60

Note: Power Output Value =Reading value on average power meter + cable loss

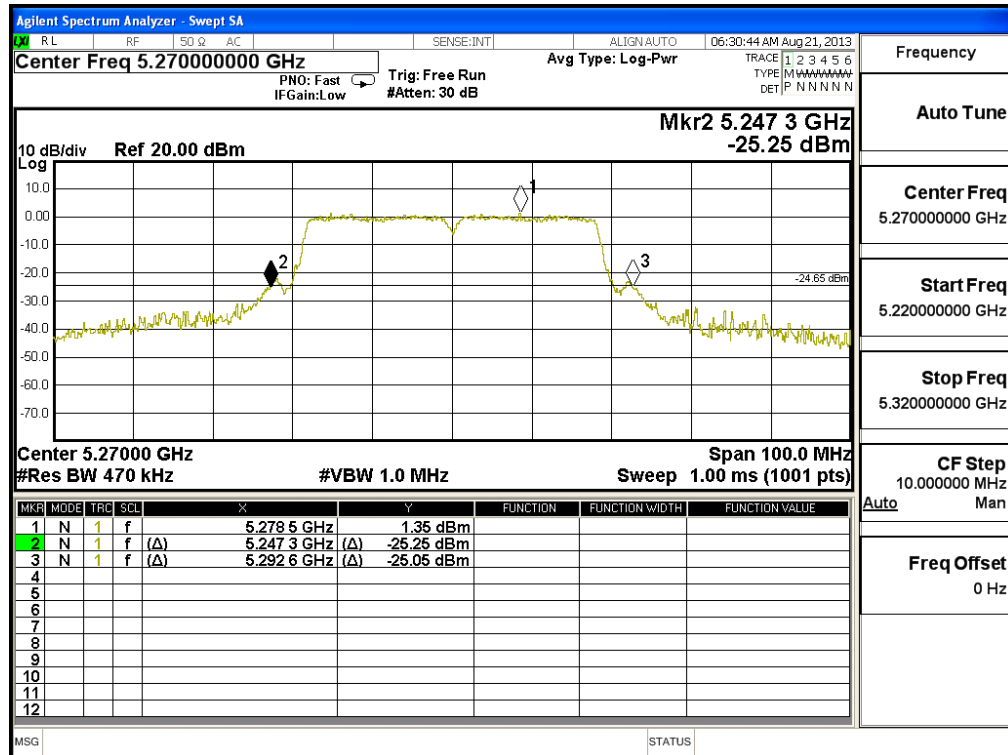
26dBc Occupied Bandwidth: Channel 38



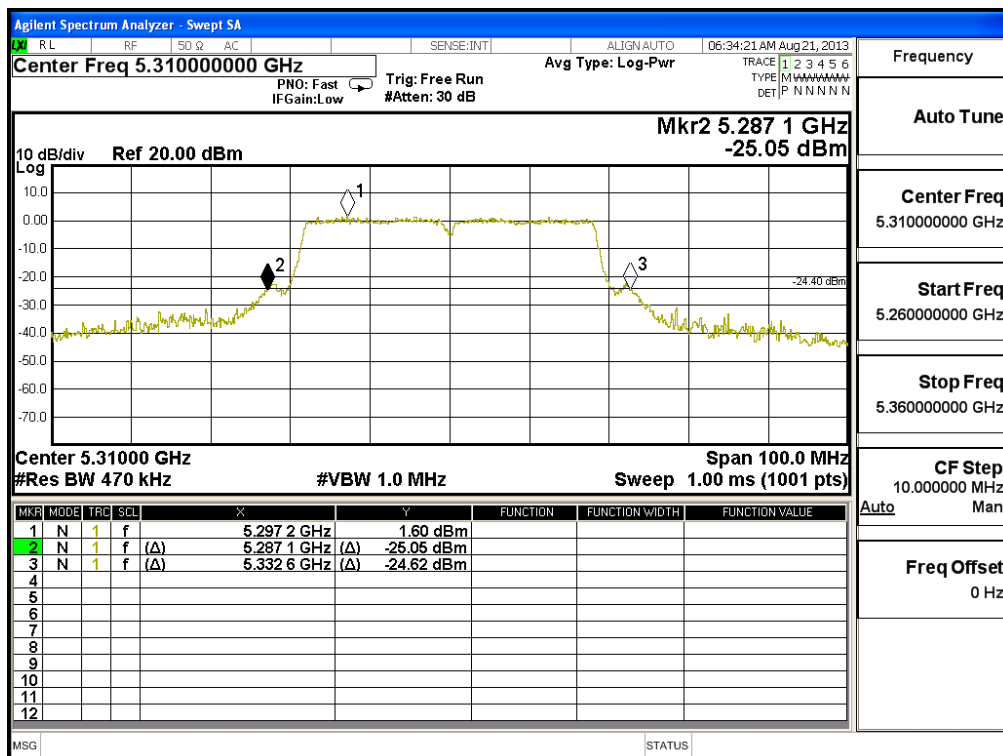
Channel 46



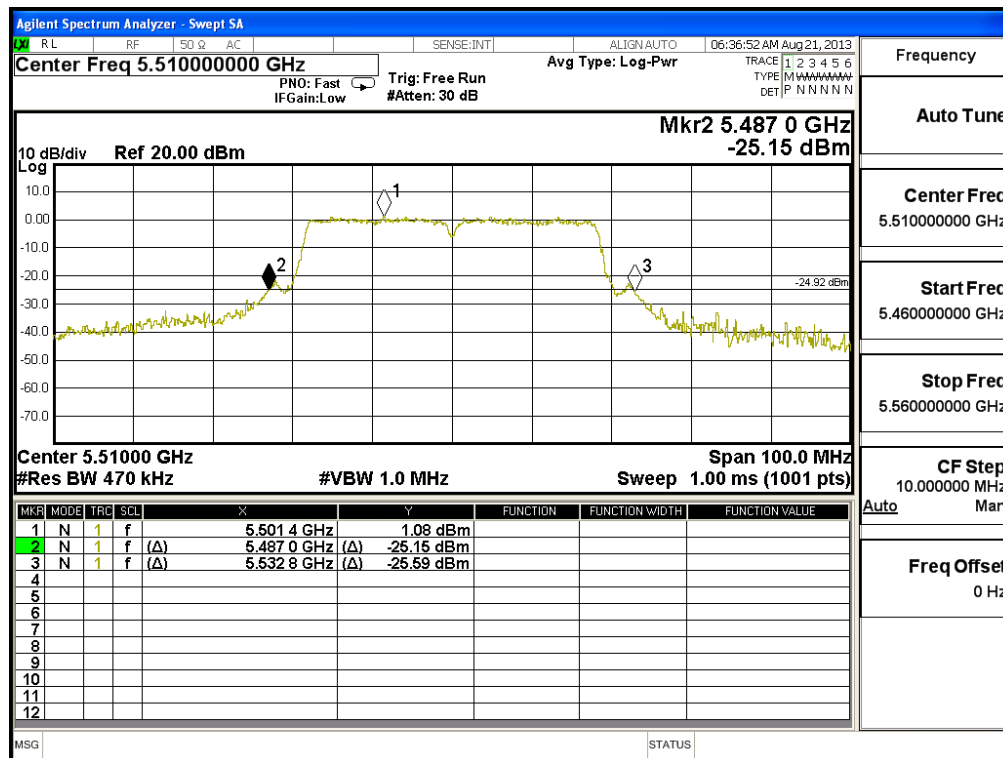
Channel 54



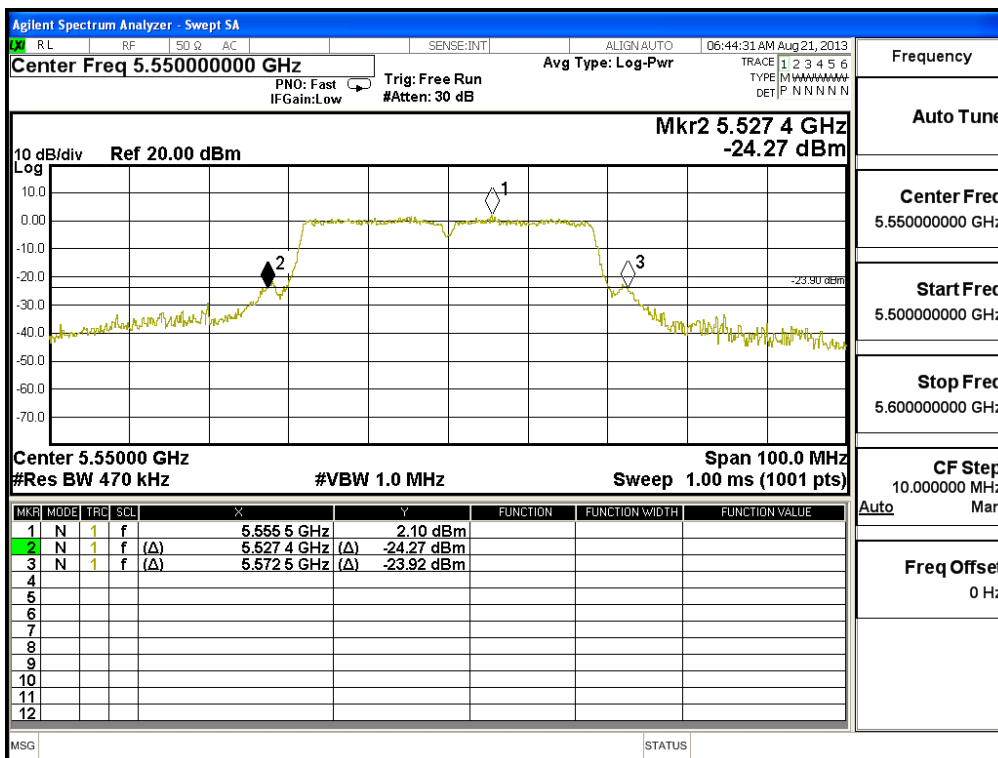
Channel 62



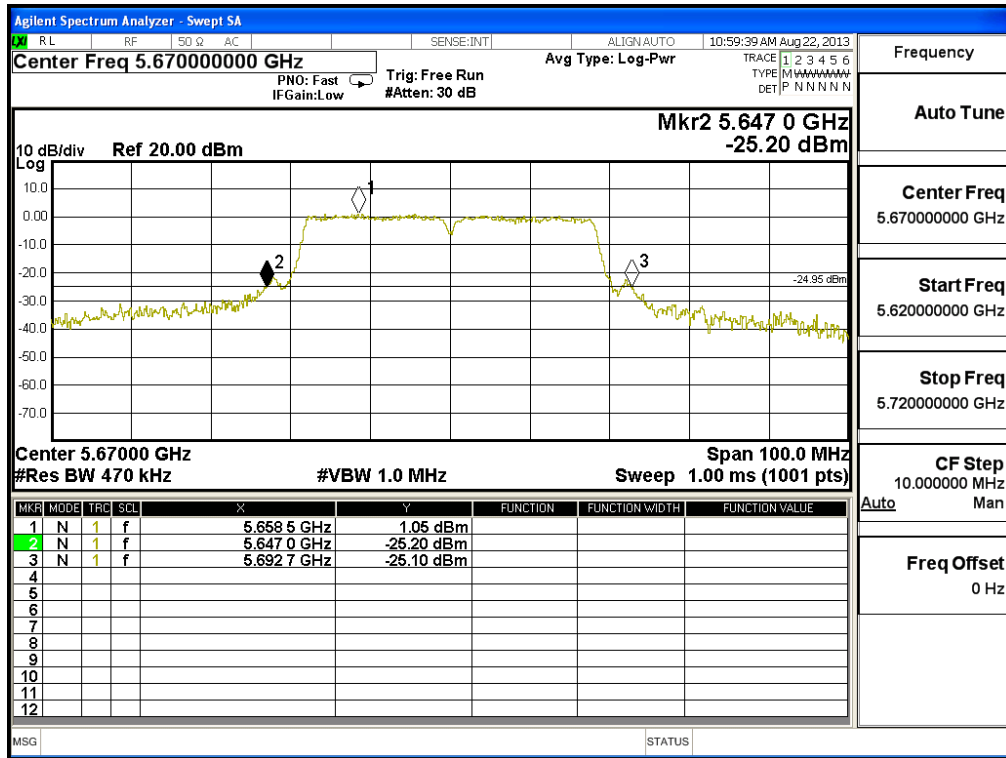
Channel 102



Channel 110



Channel 134



4. Peak Power Spectral Density

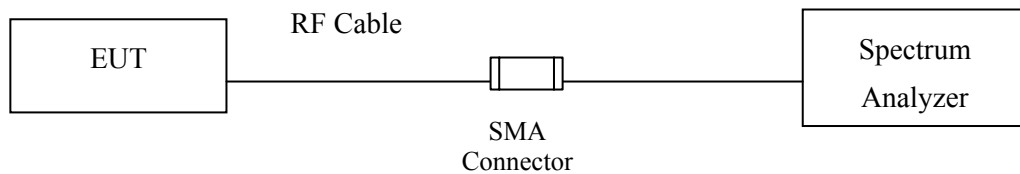
4.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr, 2013

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

4.2. Test Setup



4.3. Limits

- (4) For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- (5) For the band 5.25-5.35 GHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- (6) For the band 5.725-5.825 GHz, the peak power spectral density shall not exceed 17 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

4.4. Test Procedure

The EUT was setup to ANSI C63.10, 2009; tested to DTS test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

The Peak Power Spectral Density using KDB 789033 section F) procedure, Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer.

SA-1 method is selected to run the test.

4.5. Uncertainty

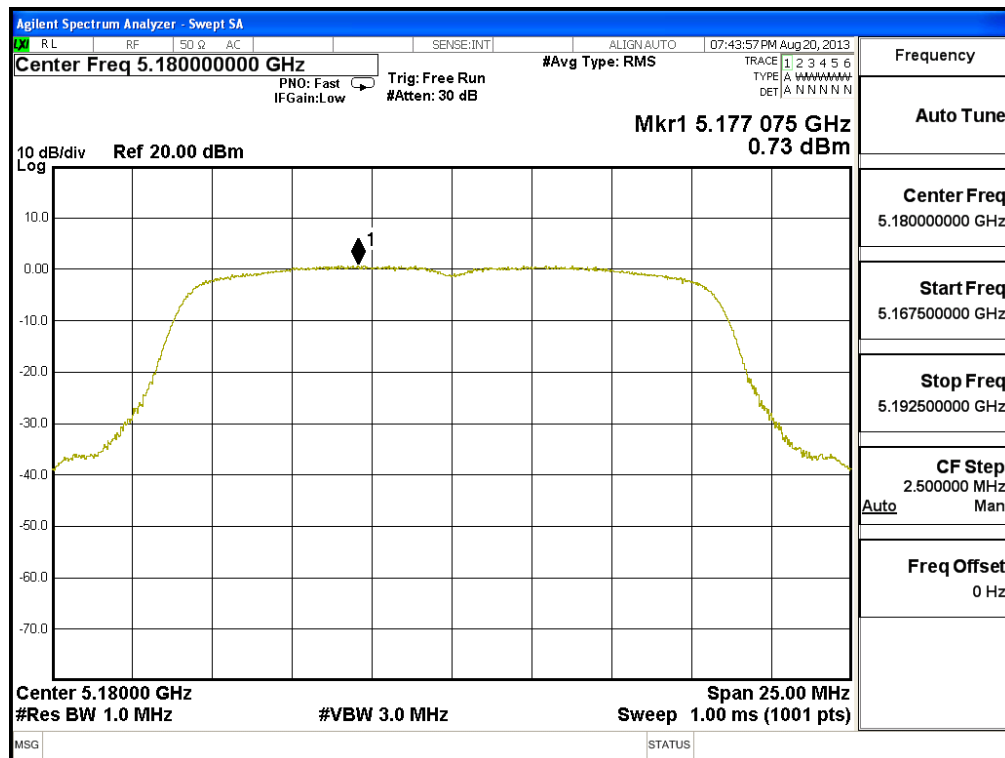
± 1.27 dB

4.6. Test Result of Peak Power Spectral Density

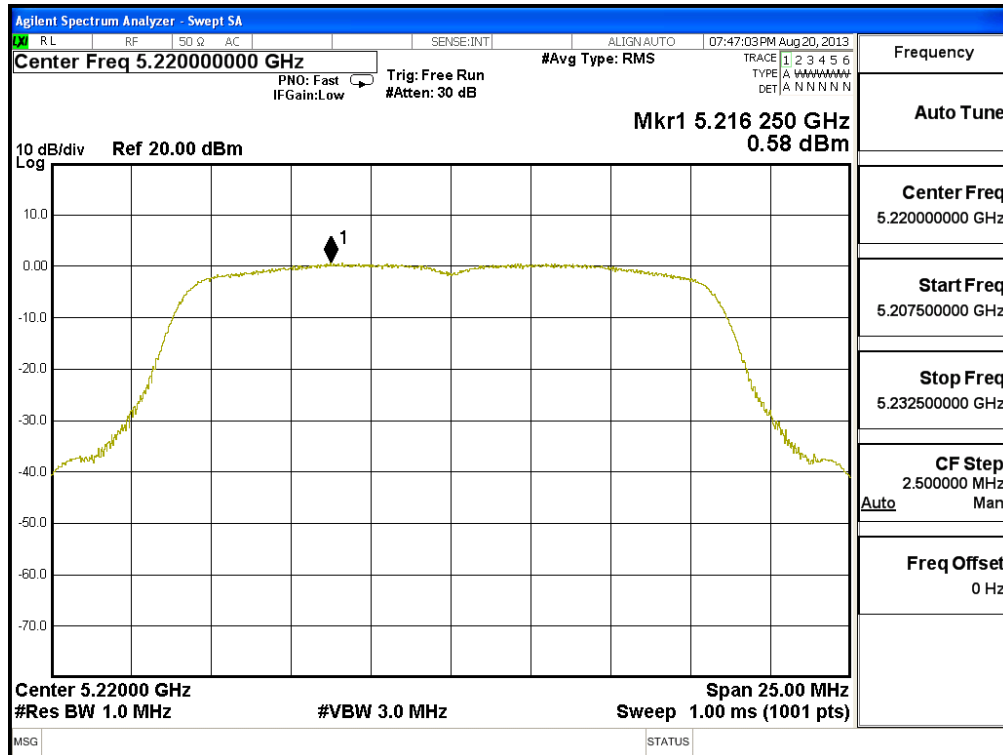
Product : Notebook PC
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Channel Number	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	0.730	<4	Pass
44	5220	0.580	<4	Pass
48	5240	0.400	<4	Pass
52	5260	0.550	<11	Pass
60	5300	1.050	<11	Pass
64	5320	1.390	<11	Pass
100	5500	0.710	<11	Pass
116	5580	1.100	<11	Pass
140	5700	1.000	<11	Pass

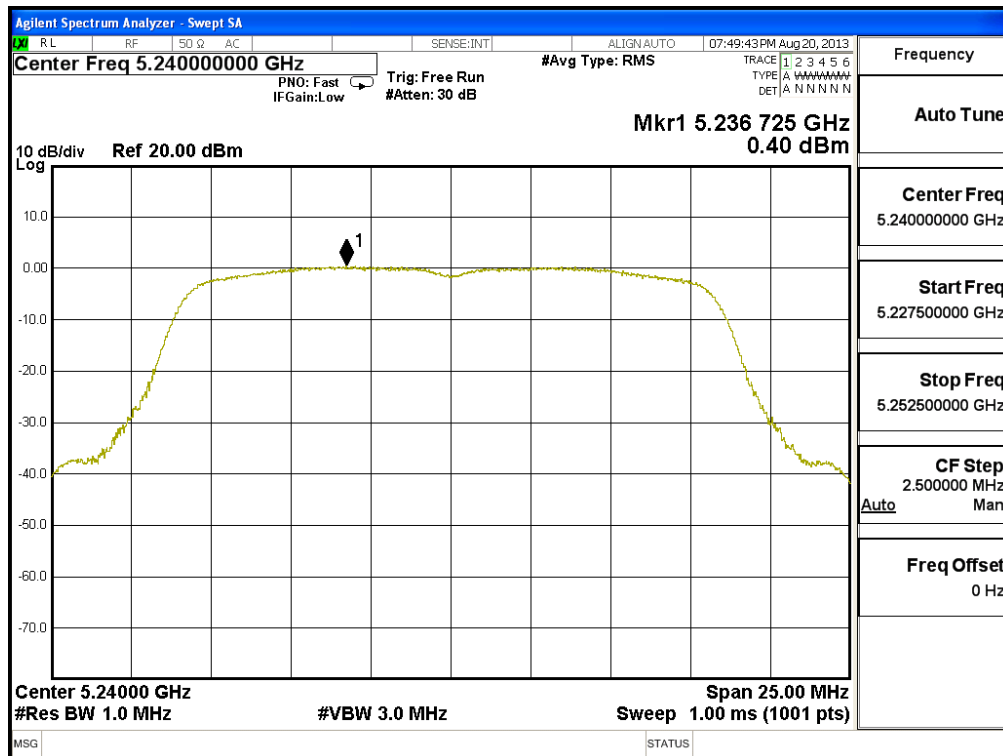
Channel 36:



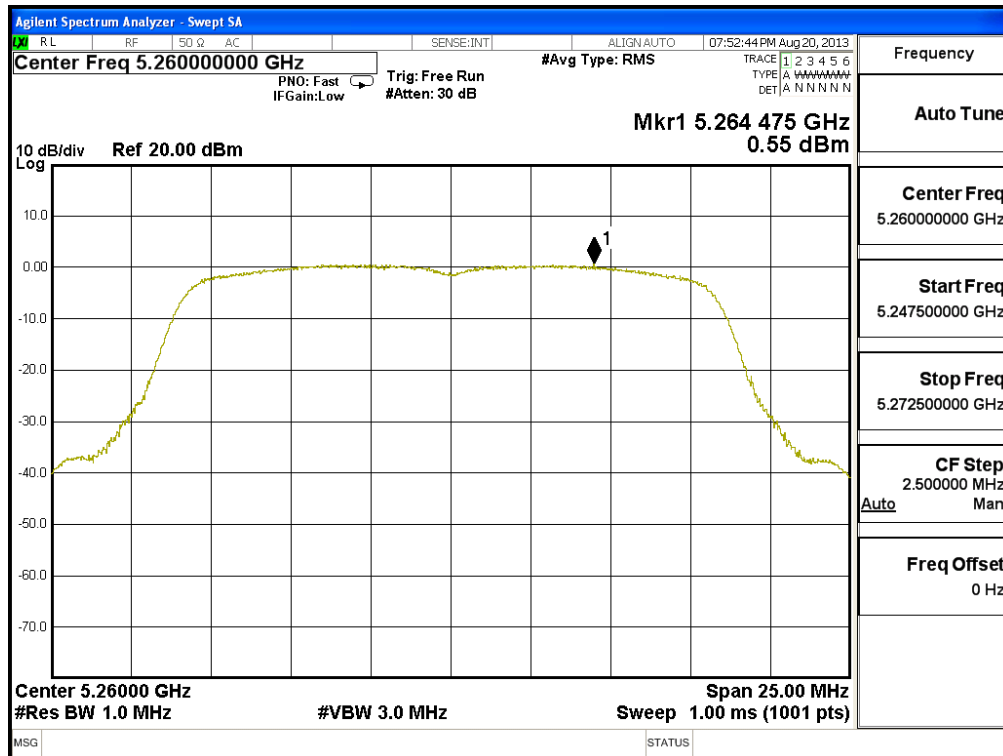
Channel 44:



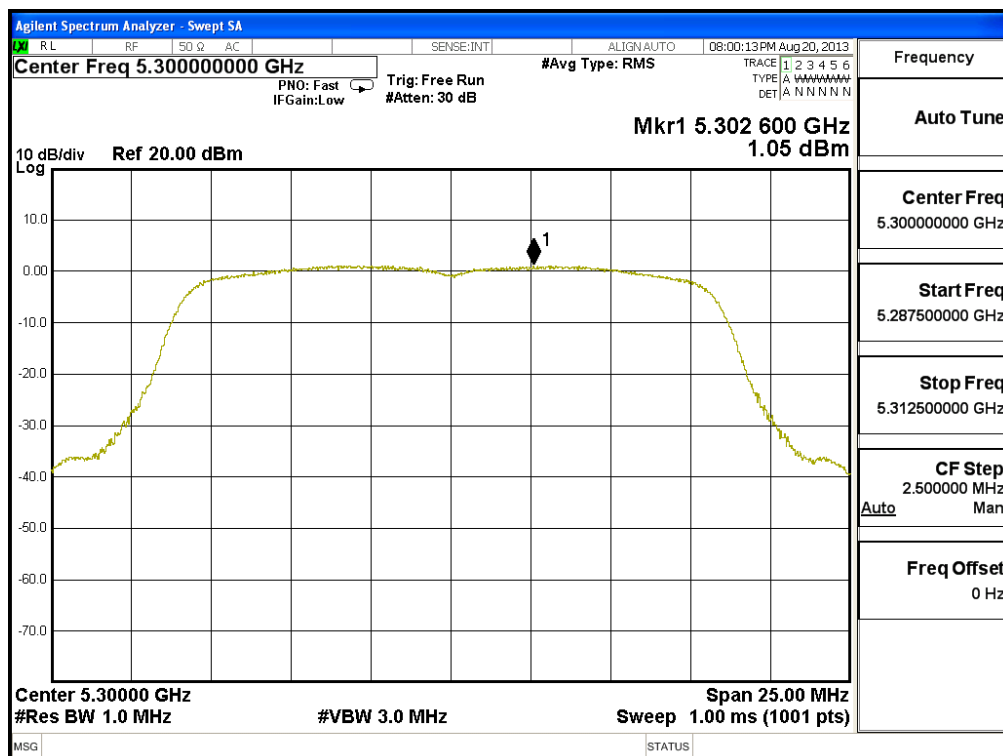
Channel 48:



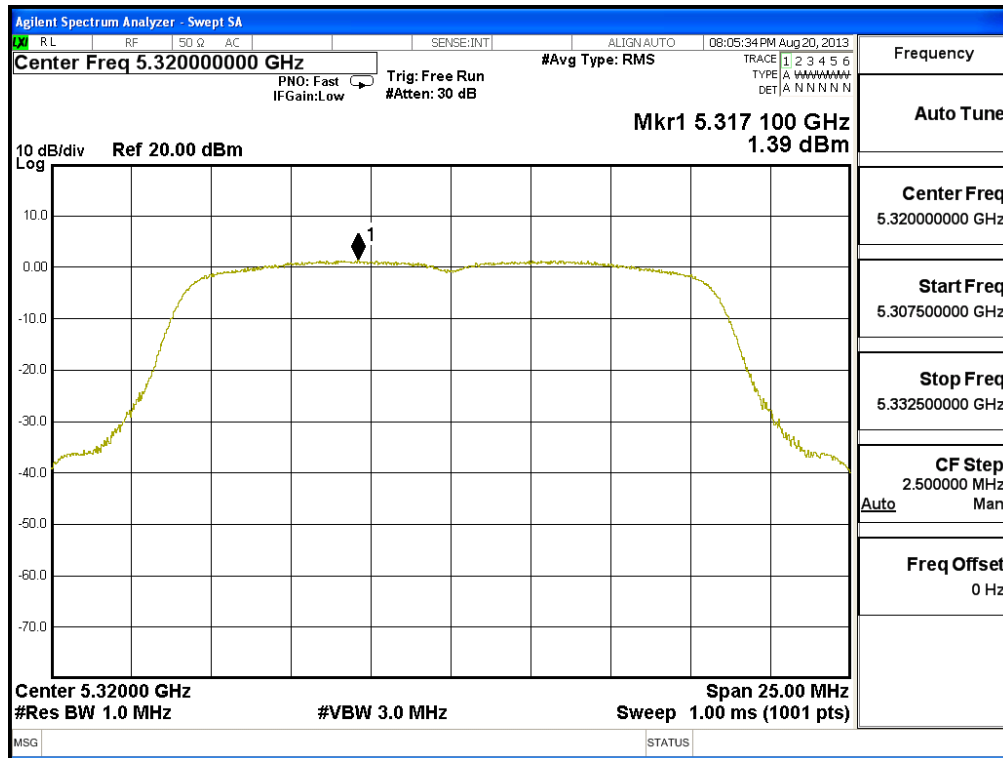
Channel 52:



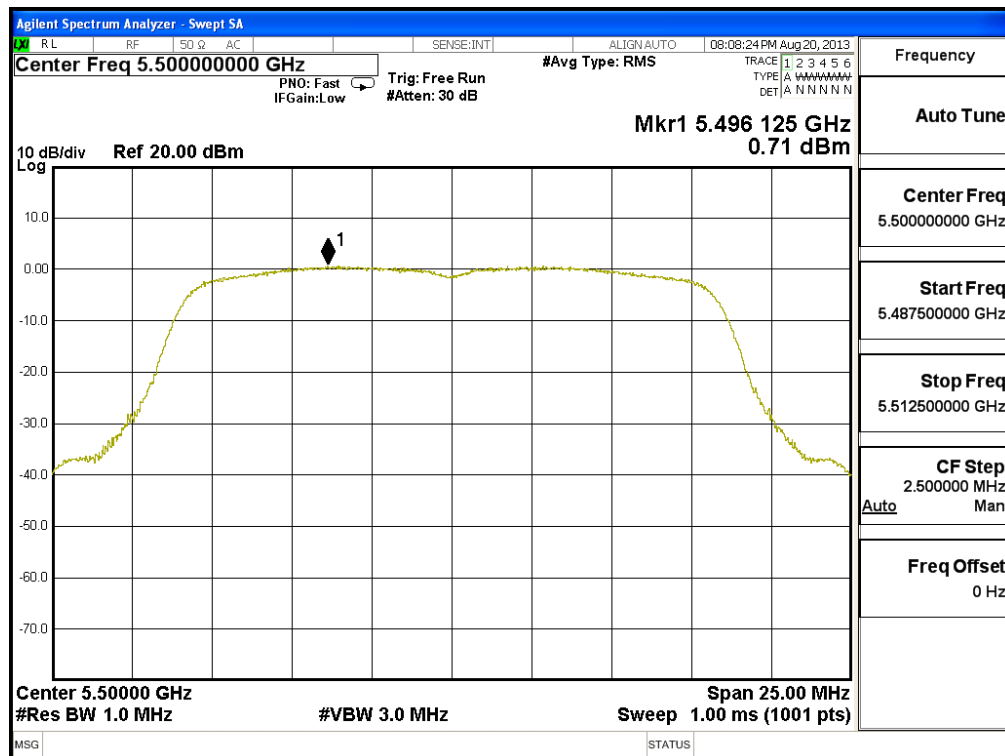
Channel 60:



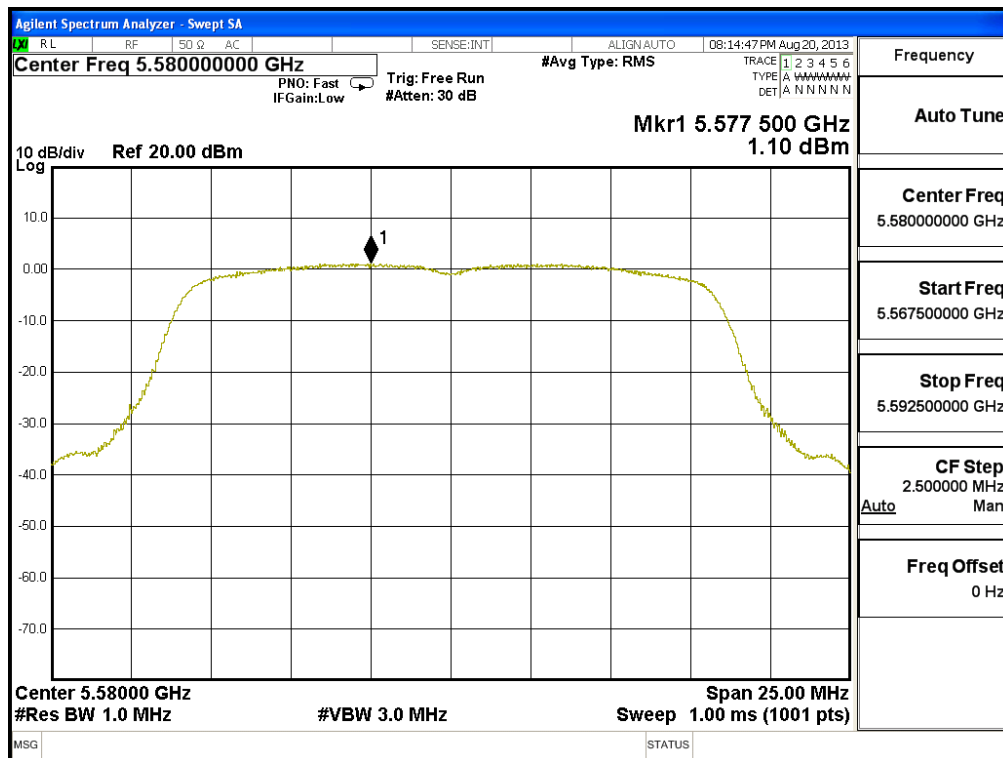
Channel 64:



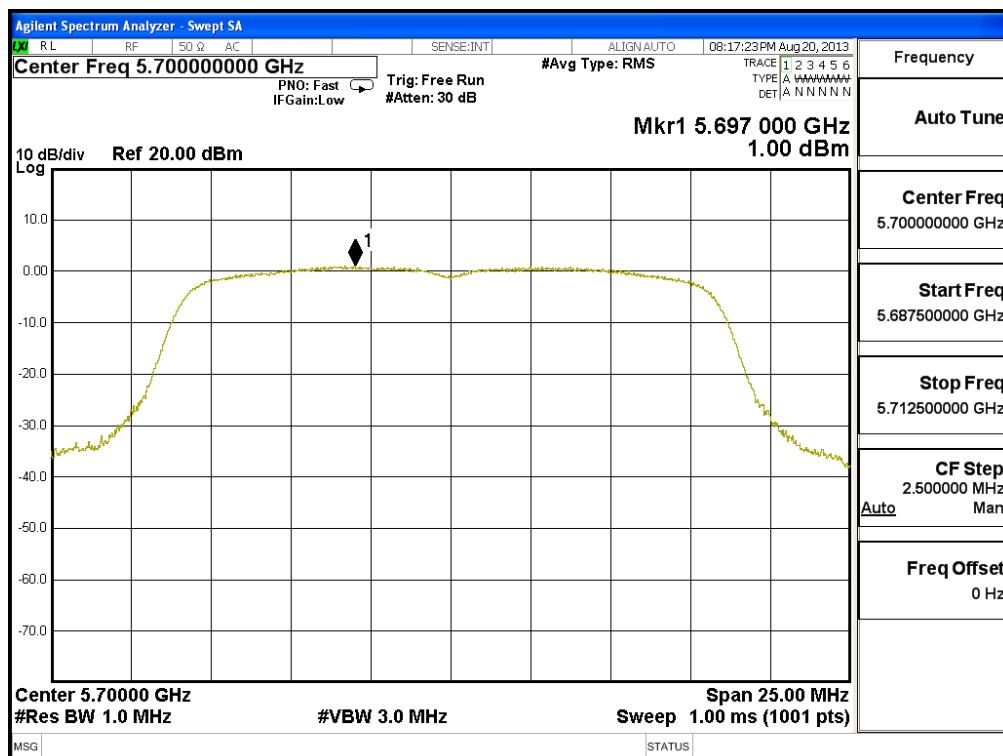
Channel 100:



Channel 116:



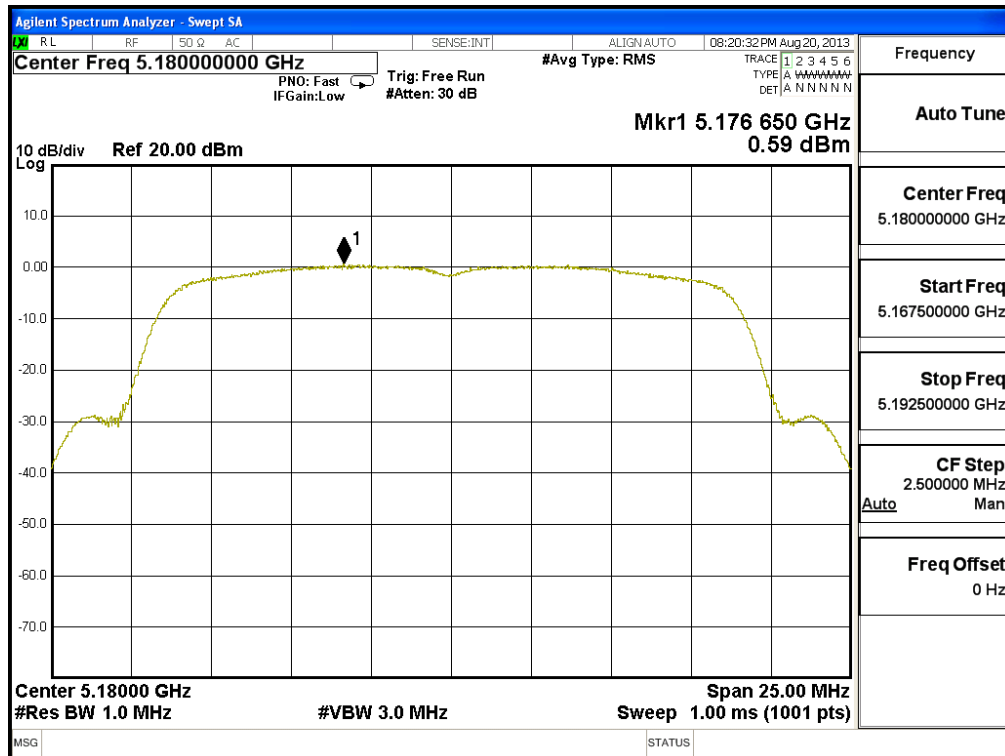
Channel 140:



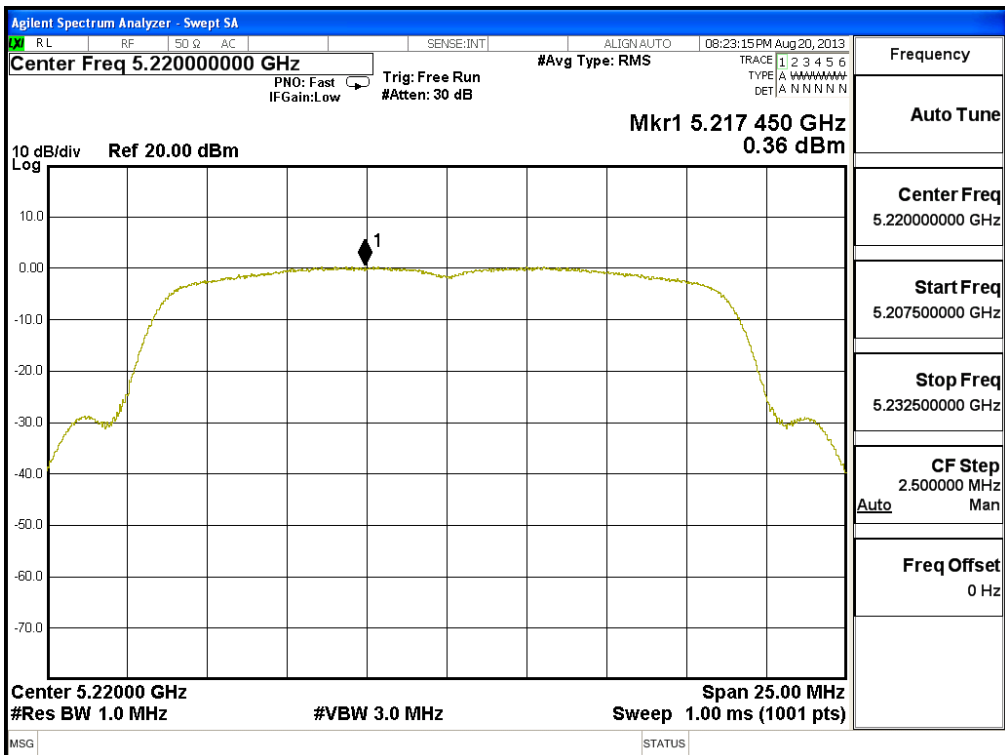
Product : Notebook PC
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps)

Channel Number	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	0.590	<4	Pass
44	5220	0.360	<4	Pass
48	5240	0.280	<4	Pass
52	5260	0.340	<11	Pass
60	5300	1.040	<11	Pass
64	5320	1.160	<11	Pass
100	5500	0.060	<11	Pass
116	5580	0.610	<11	Pass
140	5700	0.800	<11	Pass

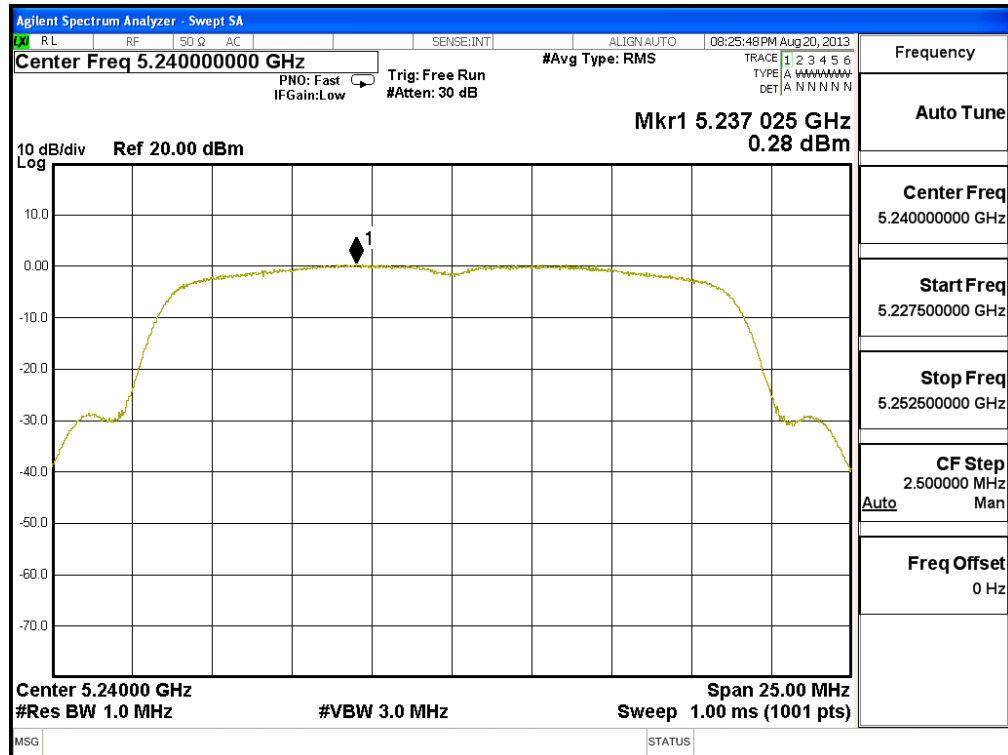
Channel 36



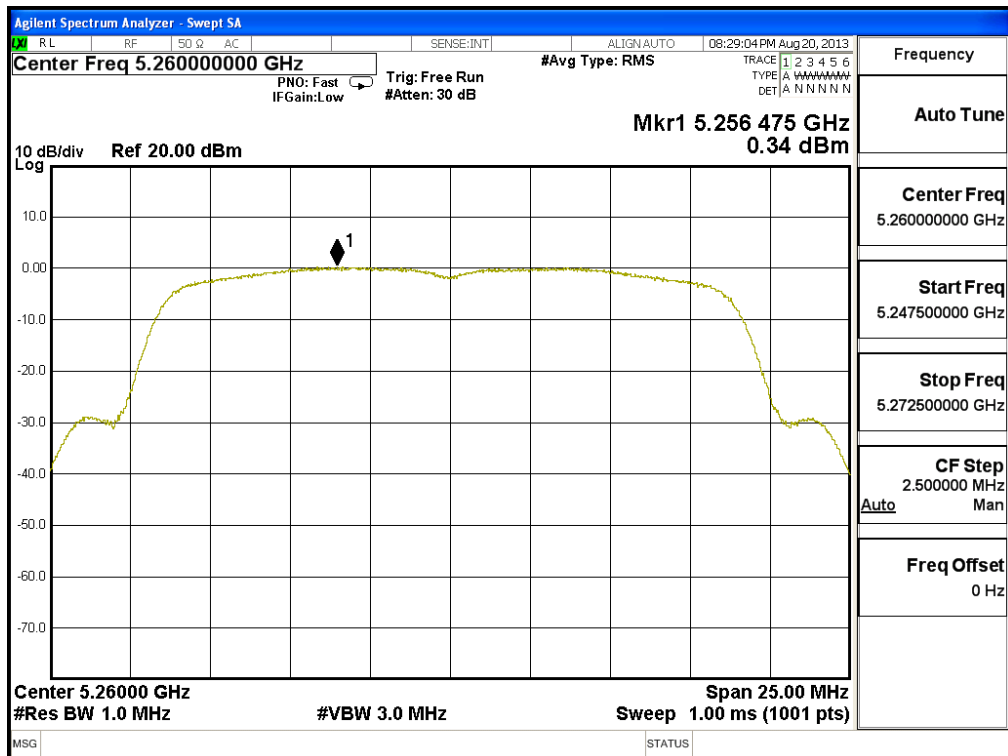
Channel 44



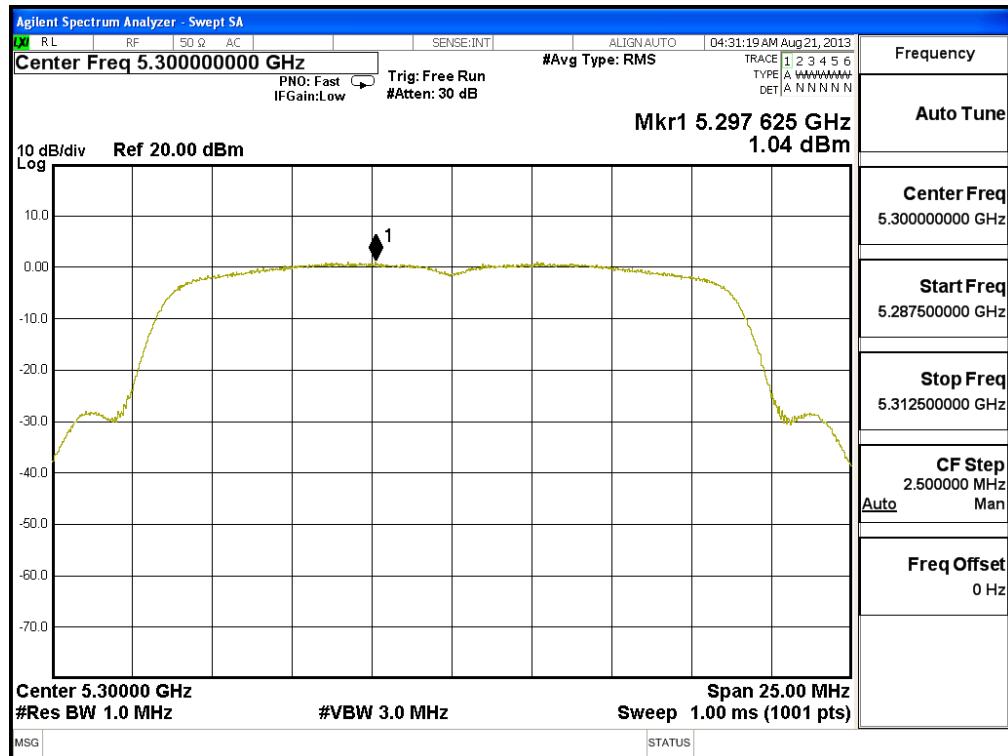
Channel 48



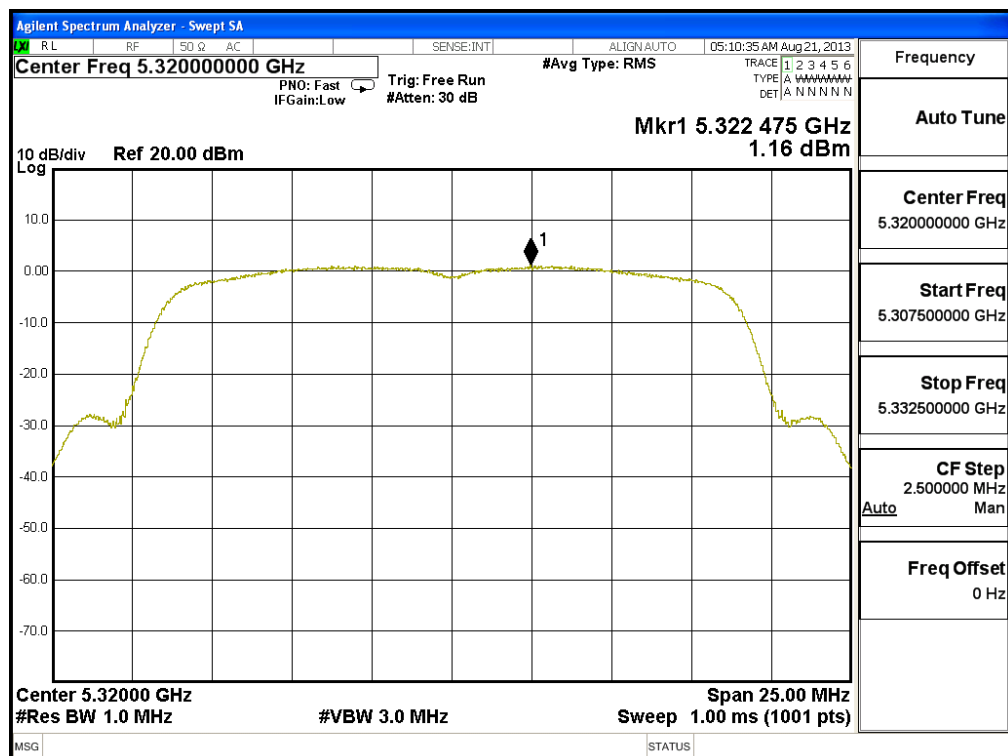
Channel 52



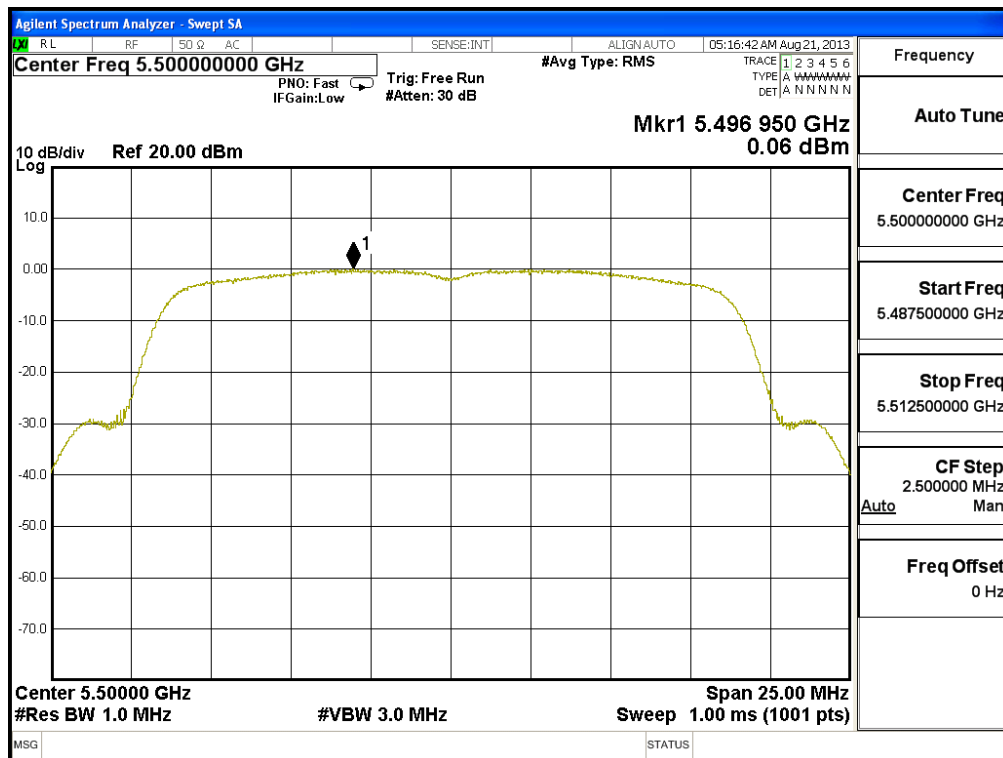
Channel 60



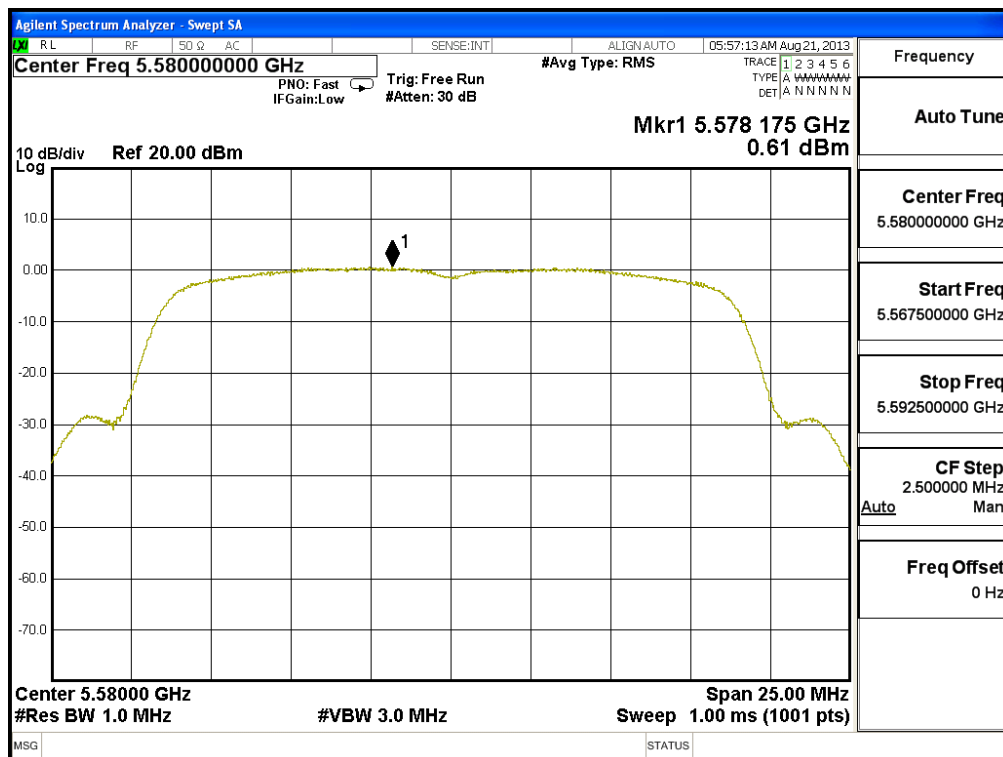
Channel 64



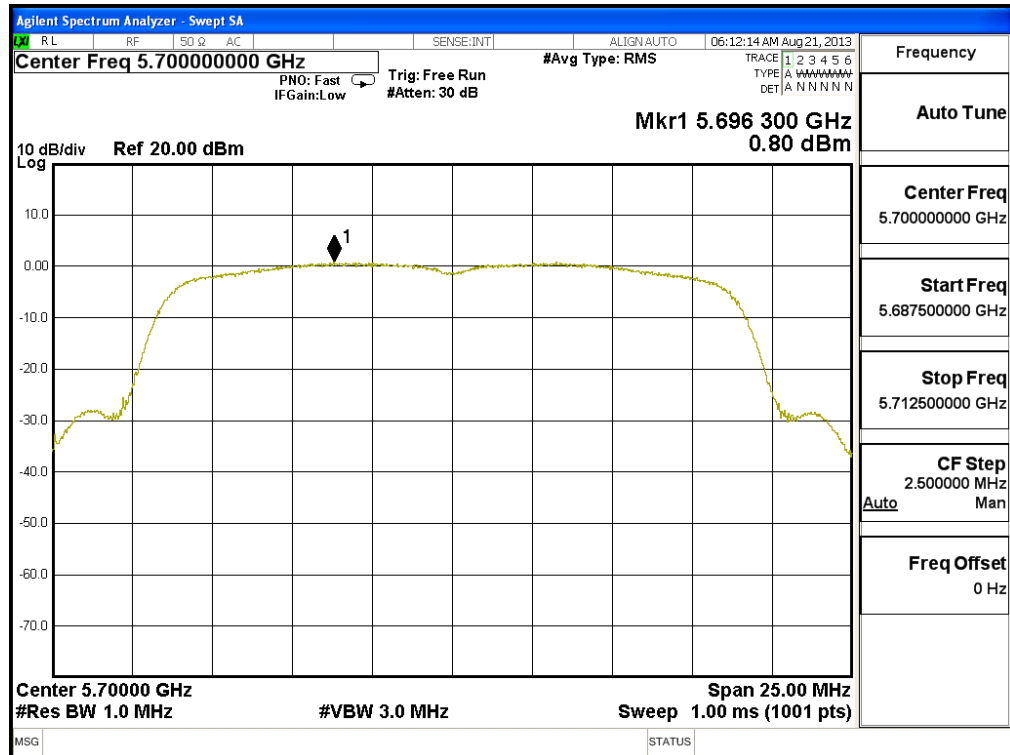
Channel 100



Channel 116



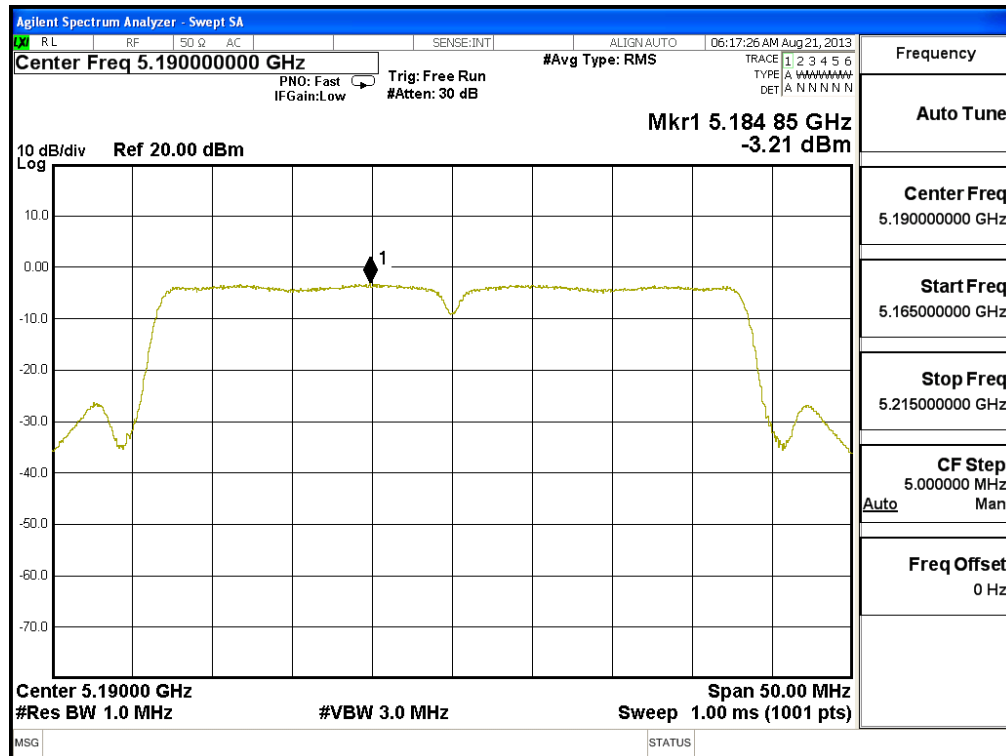
Channel 140



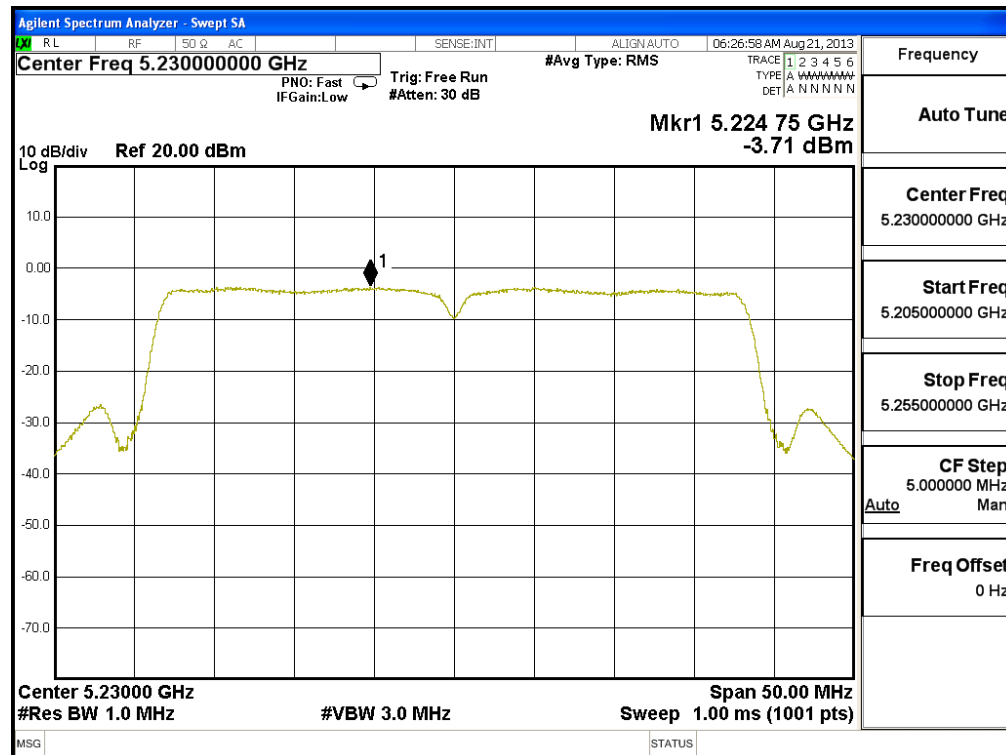
Product : Notebook PC
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)

Channel Number	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
38	5190	-3.210	<4	Pass
46	5230	-3.710	<4	Pass
54	5270	-3.610	<11	Pass
62	5310	-2.960	<11	Pass
102	5510	-3.660	<11	Pass
110	5550	-3.110	<11	Pass
134	5670	-3.130	<11	Pass

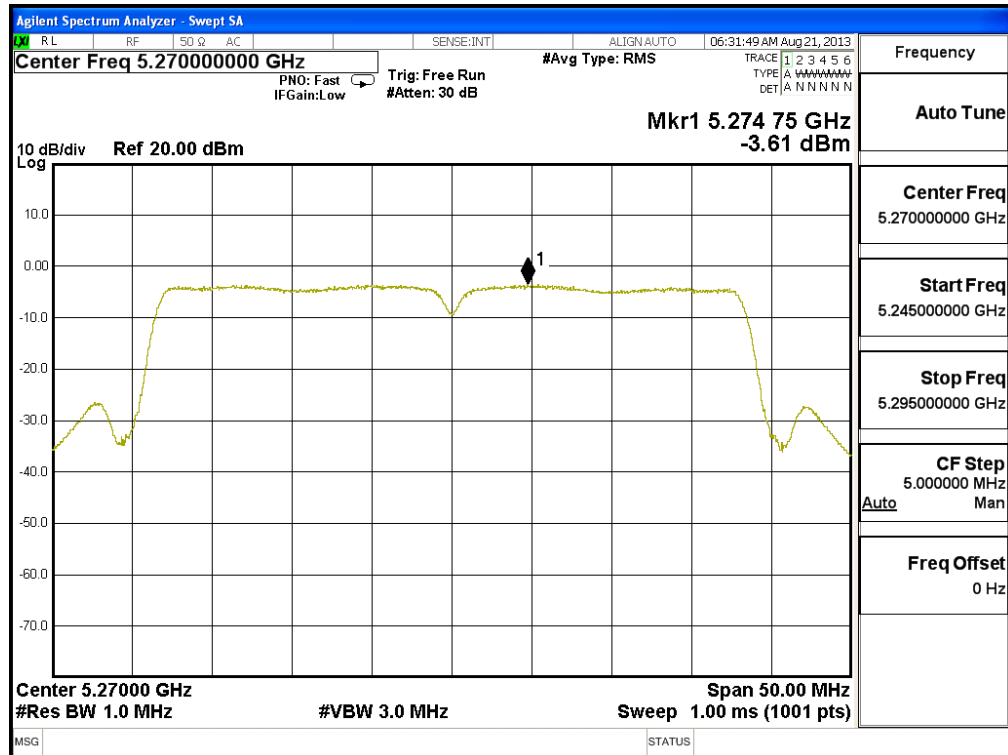
Channel 38



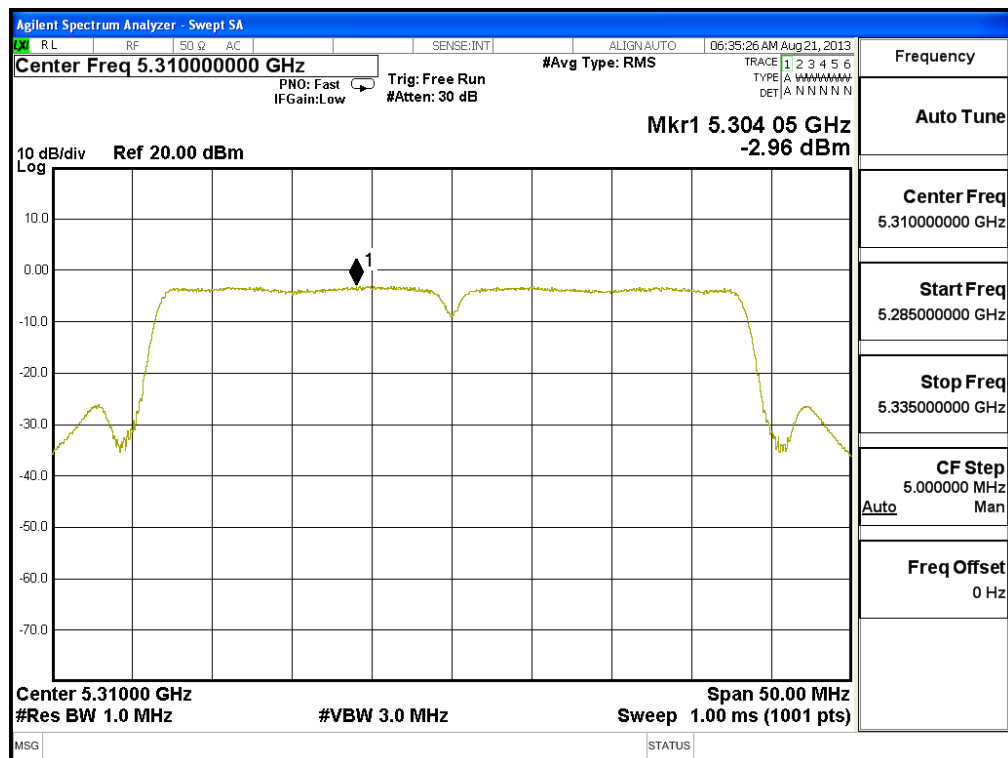
Channel 46



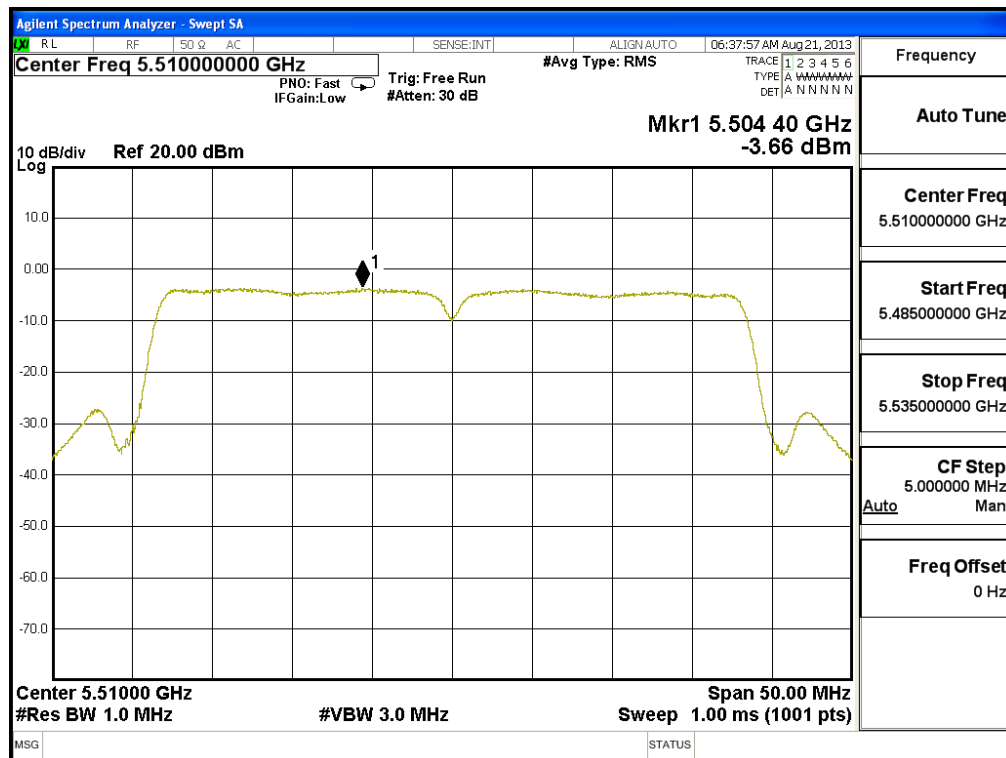
Channel 54



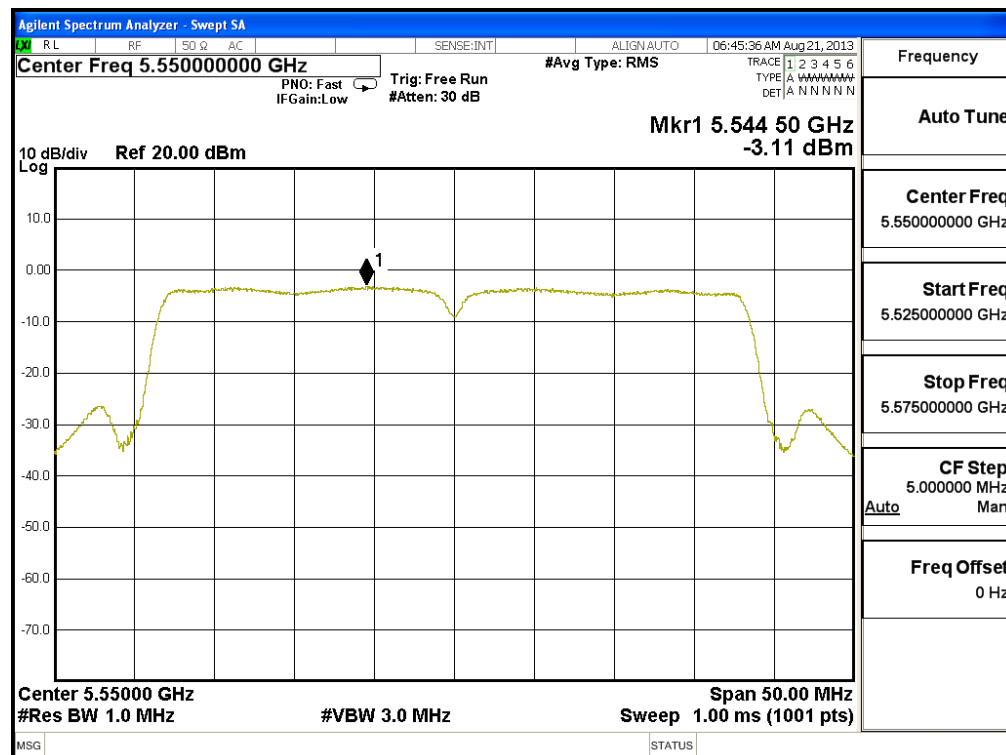
Channel 62



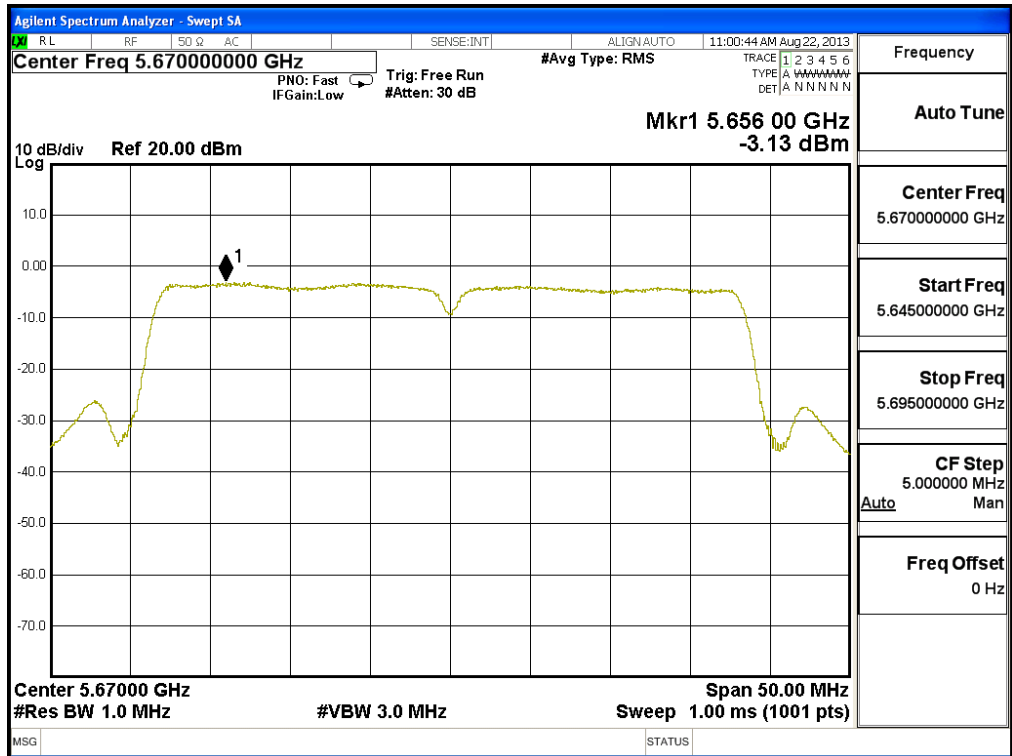
Channel 102



Channel 110



Channel 134



5. Peak Excursion

5.1. Test Equipment

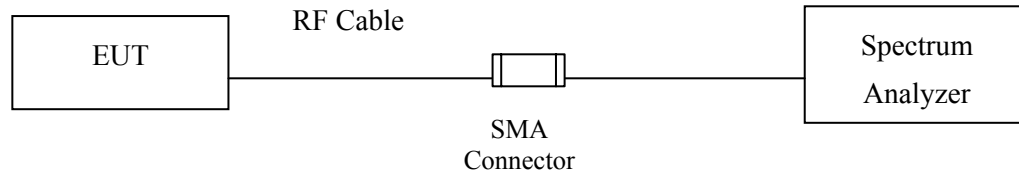
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

5.2. Test Setup

Conduction Power Measurement



5.3. Limits

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

5.4. Test Procedure

The EUT was setup to ANSI C63.10, 2009; tested to DTS test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

Step 1: Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth.

Step 2: Find the maximum of the peak-max-hold spectrum.

(Set RBW = 1 MHz, VBW $\geq$ 3 MHz, Detector = peak, Trace mode = max-hold,

Allow the sweeps to continue until the trace stabilizes, Use the peak search function to find the peak of the spectrum.)

Step 3: Use the procedure found under KDB-789033 F) to measure the PPSD.

Step 4: Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

5.5. Uncertainty

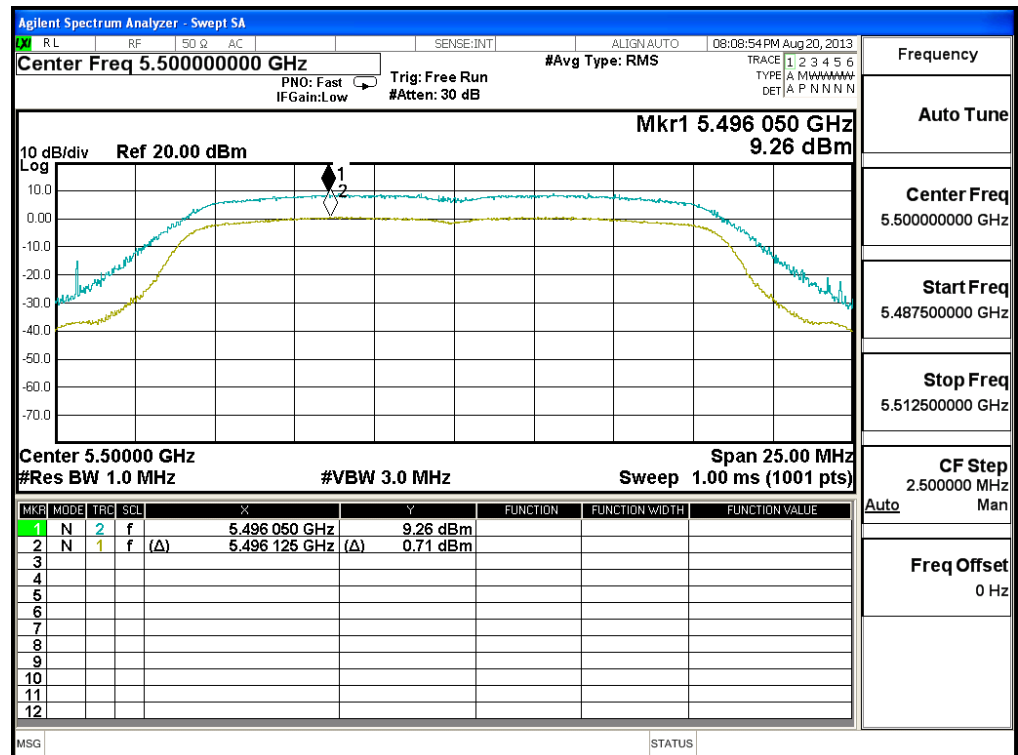
± 1.27 dB

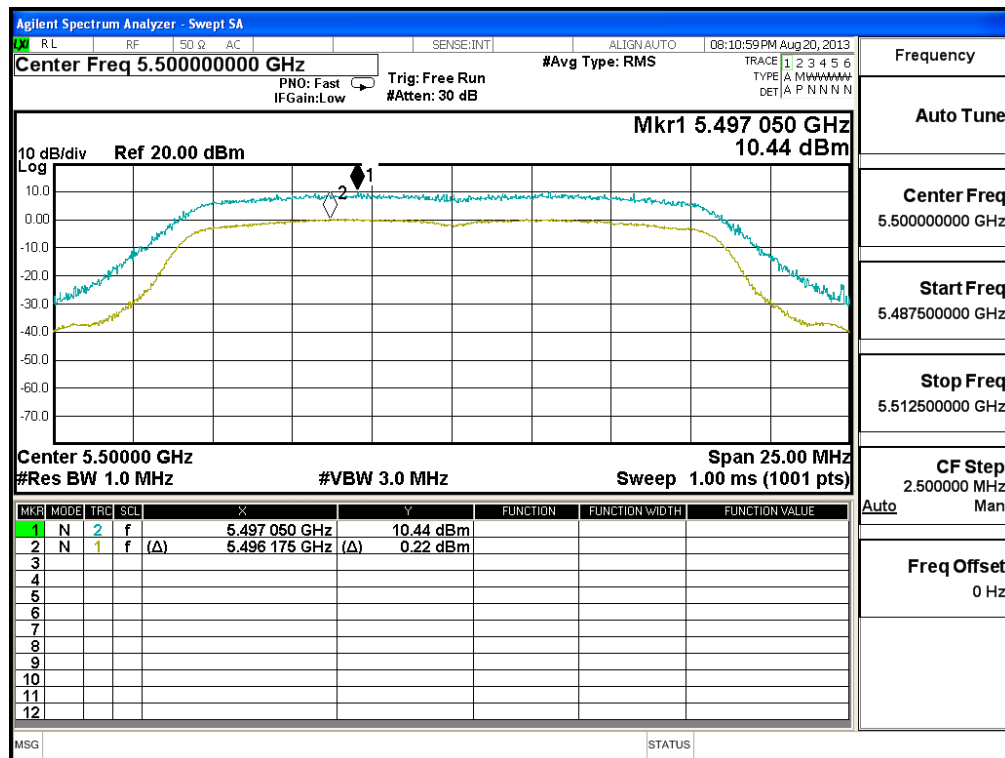
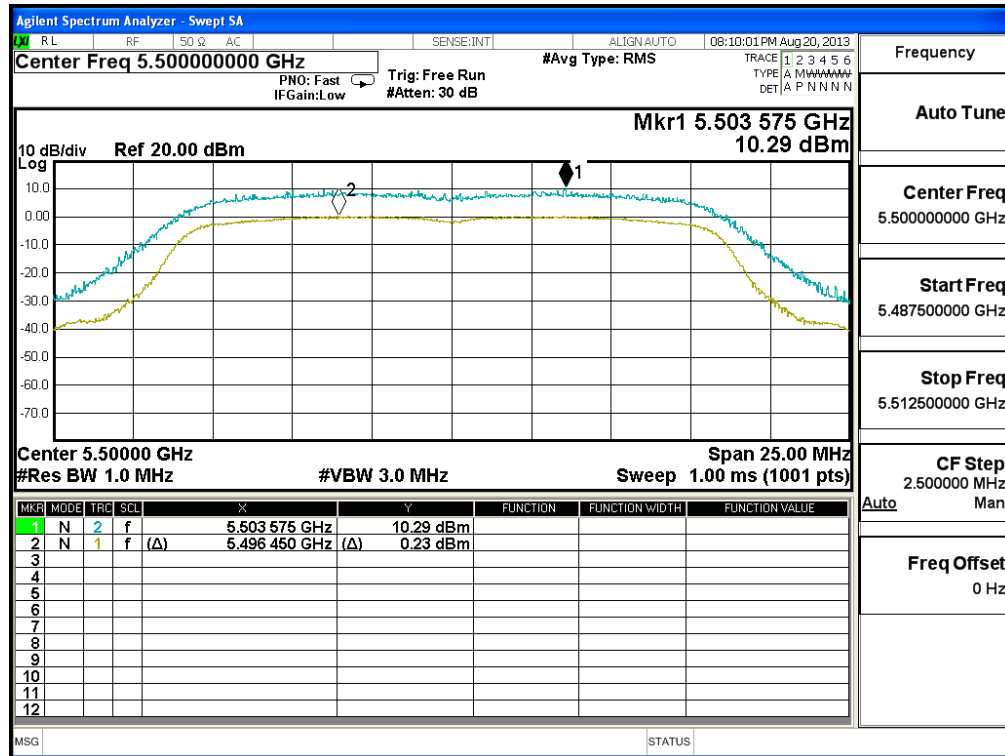
5.6. Test Result of Peak Excursion

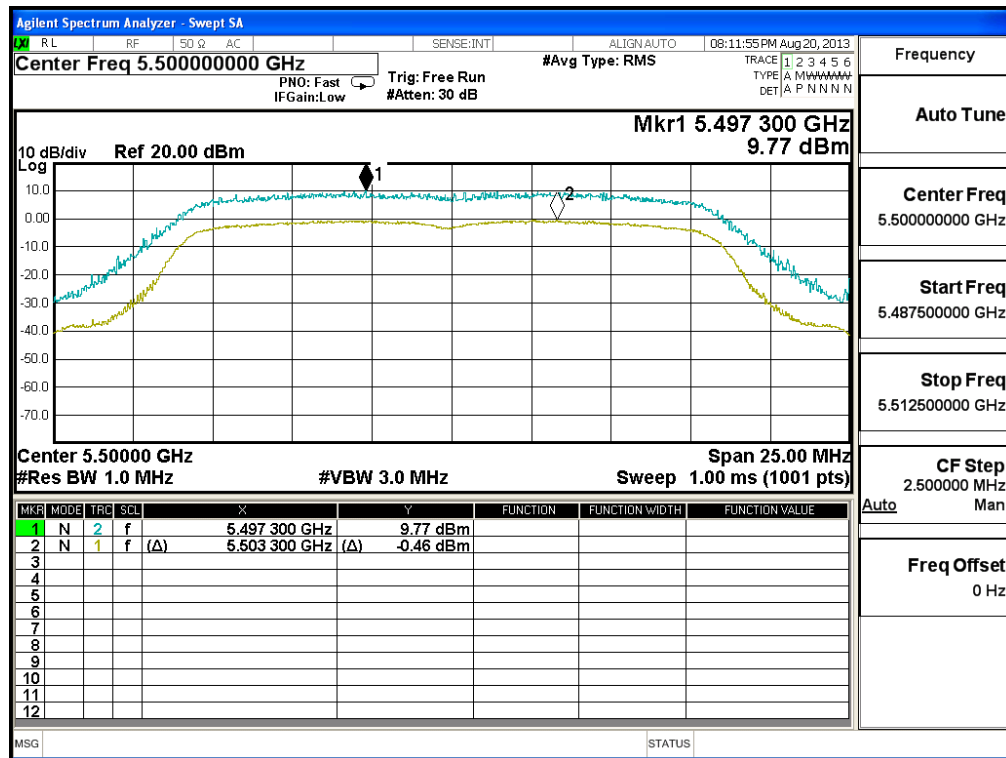
Product : Notebook PC
 Test Item : Peak Excursion
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Channel No.	Frequency (MHz)	Data Rate (Mbps)	Measurement Level (dB)	Required Limit (dB)	Result
100	5500	6	8.550	<13	Pass
		12	10.060	<13	Pass
		24	10.220	<13	Pass
		54	10.230	<13	Pass

Channel 100:



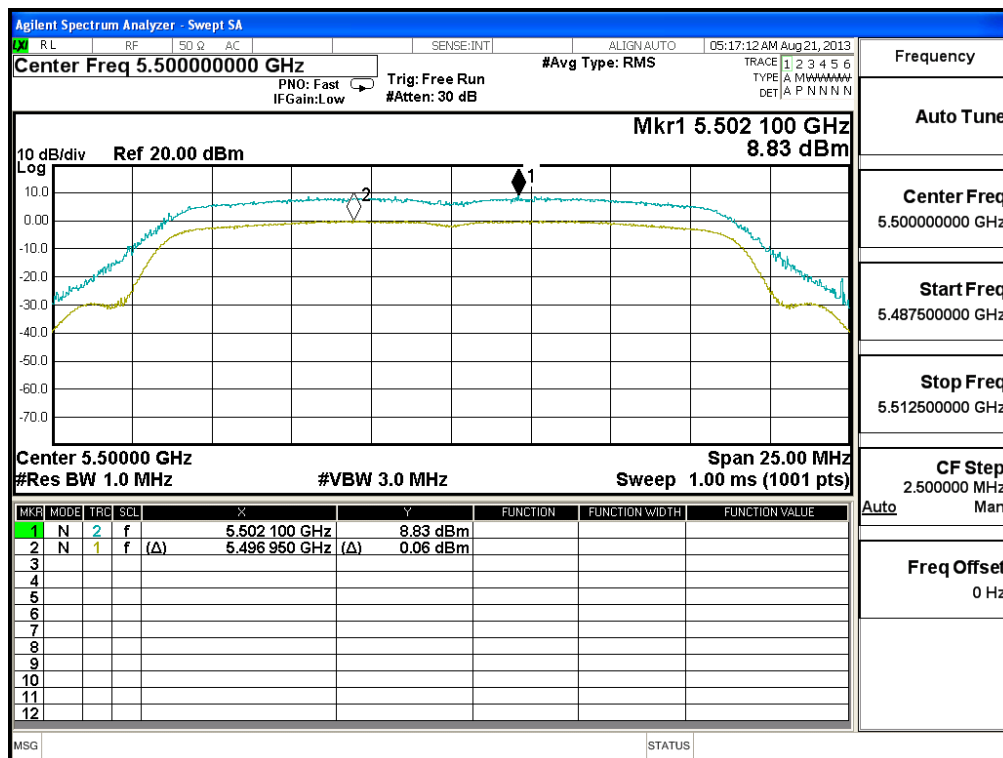


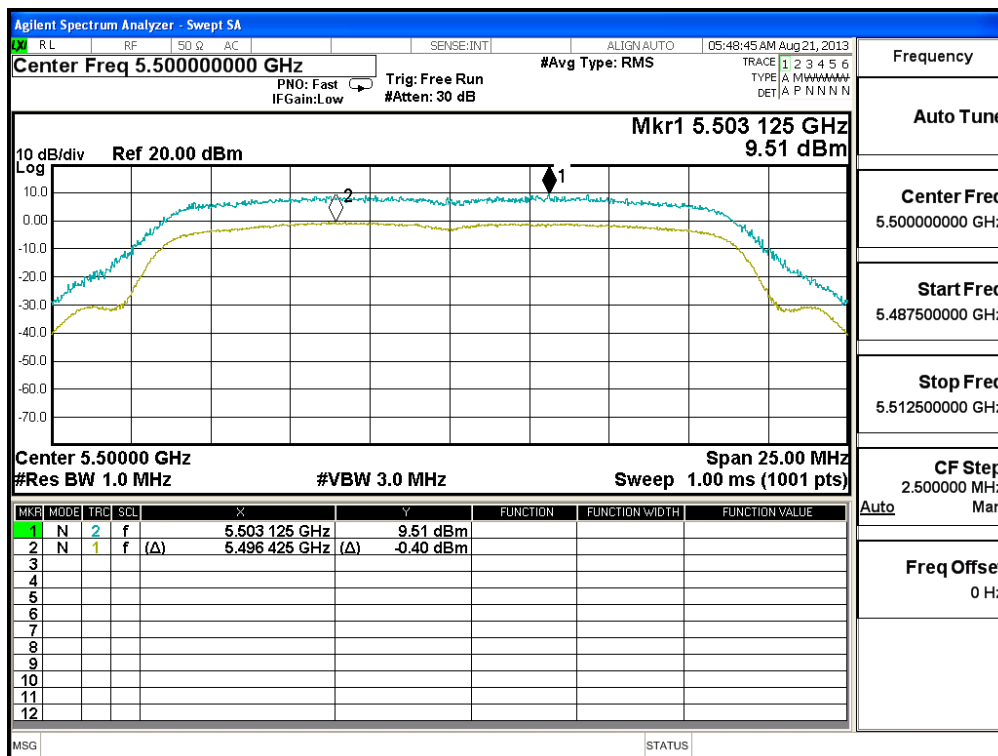
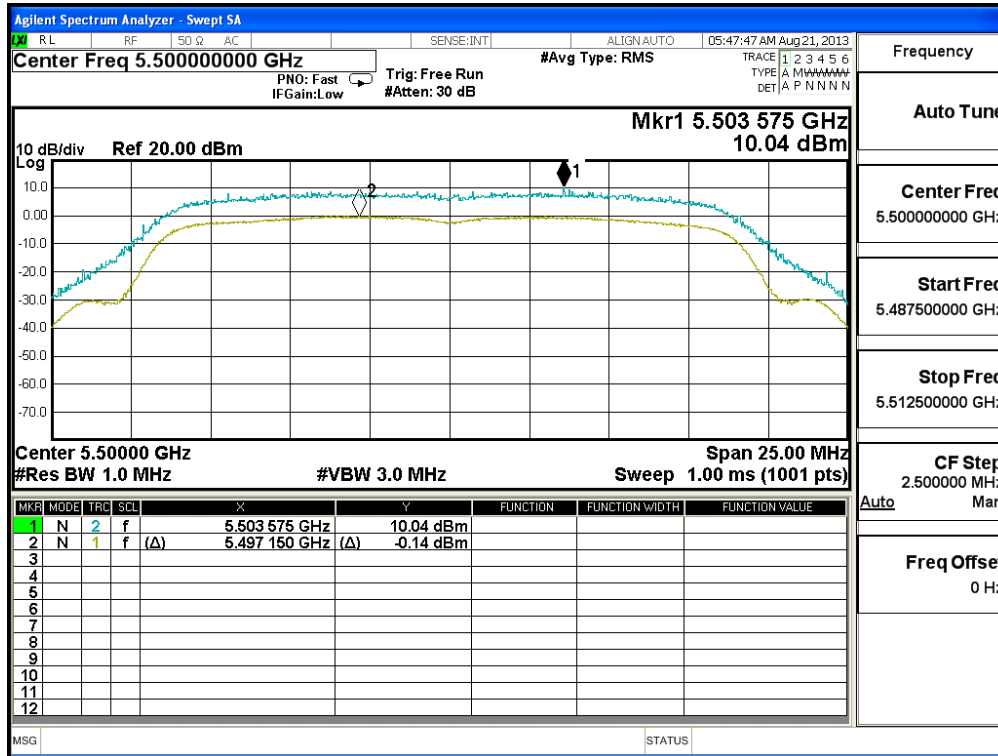


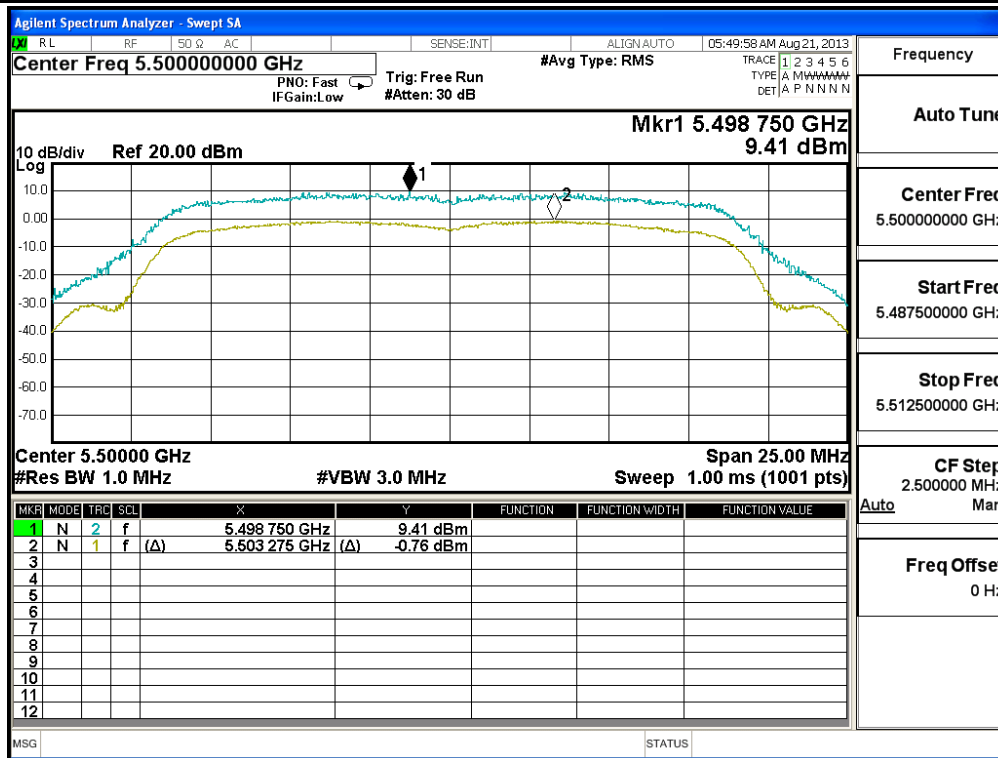
Product : Notebook PC
 Test Item : Peak Excursion
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps)

Channel No.	Frequency (MHz)	Data Rate (Mbps)	Measurement Level (dB)	Required Limit (dB)	Result
100	5500	MCS (0)	8.770	<13	Pass
		MCS (2)	10.180	<13	Pass
		MCS (4)	9.910	<13	Pass
		MCS (7)	10.170	<13	Pass

Channel 100:



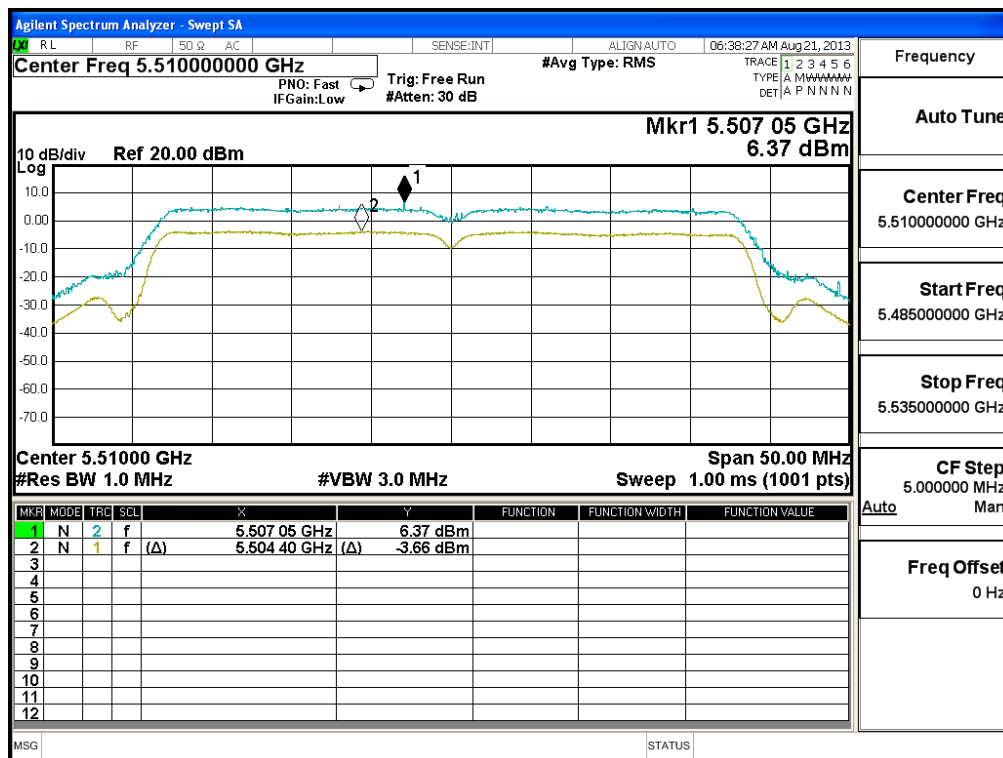


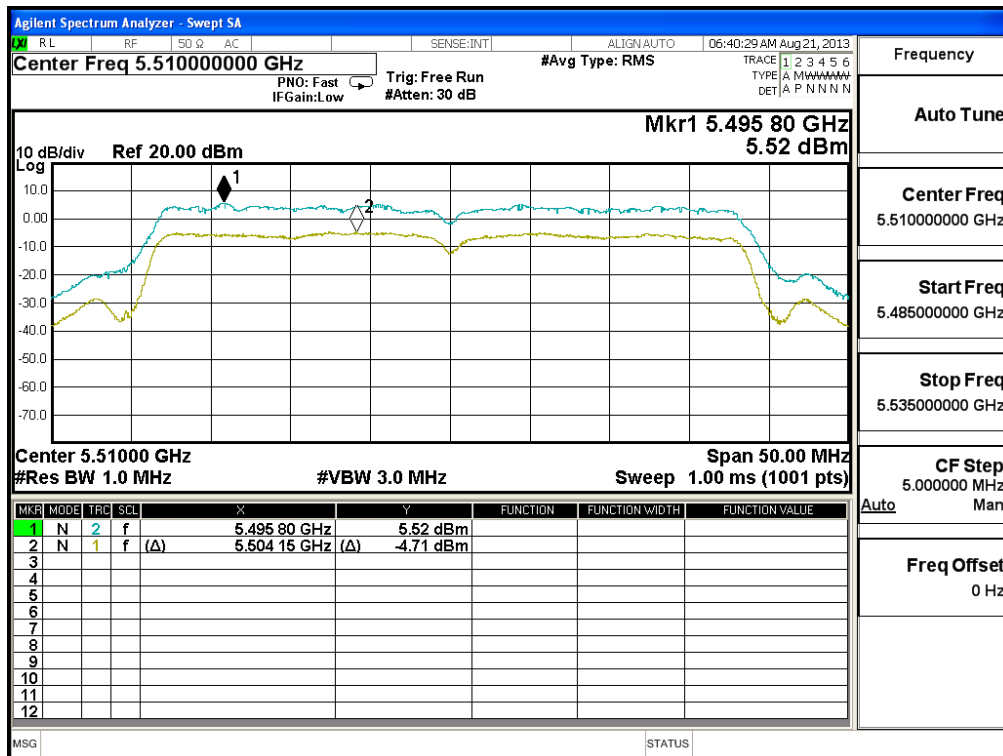
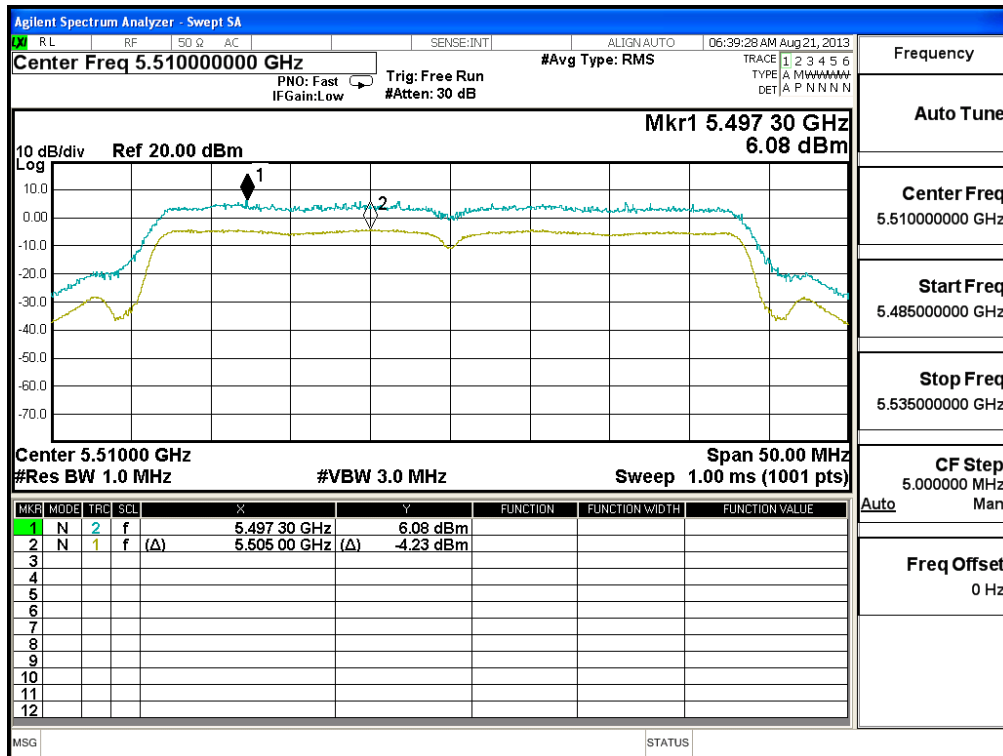


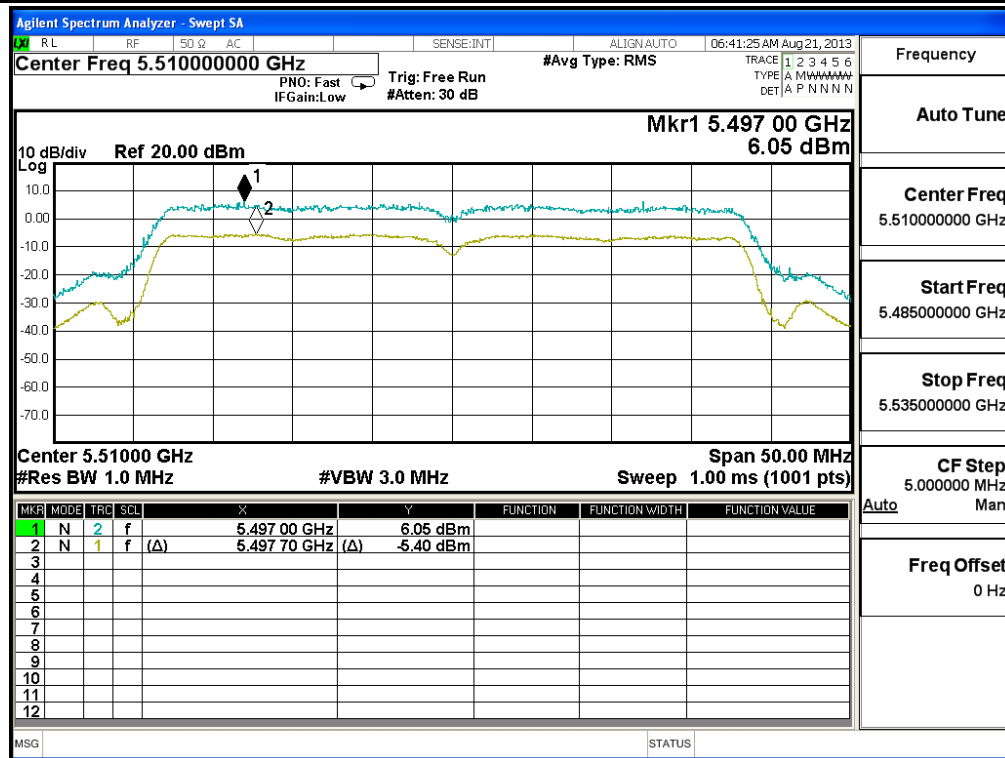
Product : Notebook PC
 Test Item : Peak Excursion
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)

Channel No.	Frequency (MHz)	Data Rate (Mbps)	Measurement Level (dB)	Required Limit (dB)	Result
102	5510	MCS (0)	10.030	<13	Pass
		MCS (2)	10.310	<13	Pass
		MCS (4)	10.230	<13	Pass
		MCS (7)	11.450	<13	Pass

Channel 102:







6. Radiated Emission

6.1. Test Equipment

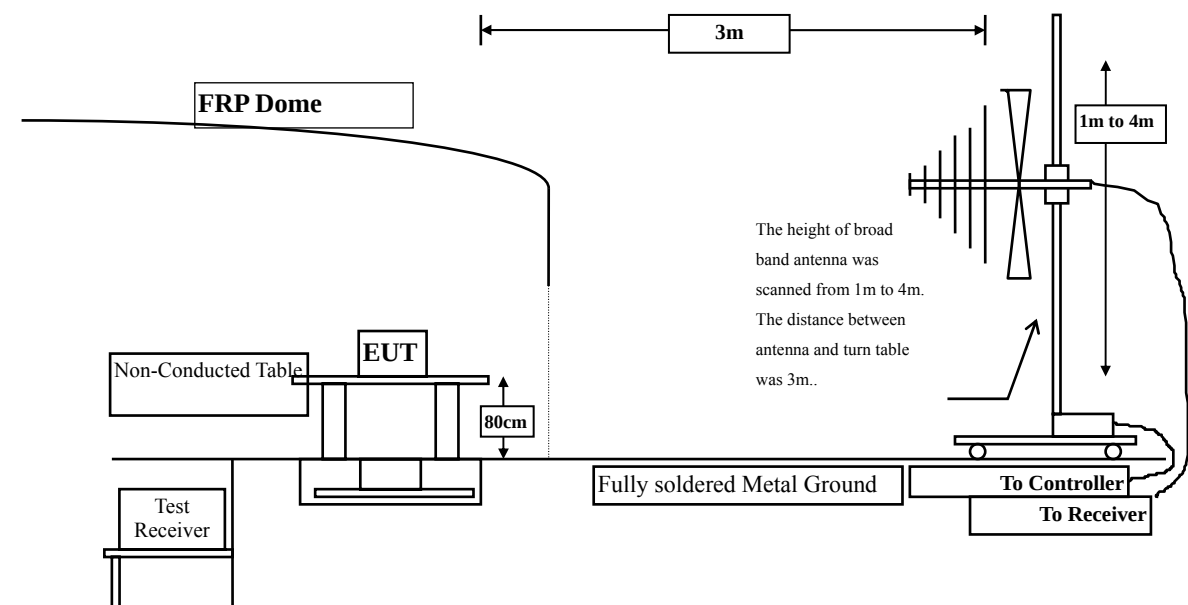
The following test equipments are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 3	X	Loop Antenna	Teseq	HLA6120 / 26739	Jul., 2013
	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2013
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2013
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2013
	X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2013
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2013
	X	Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar, 2013
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2013
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2013
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2013
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

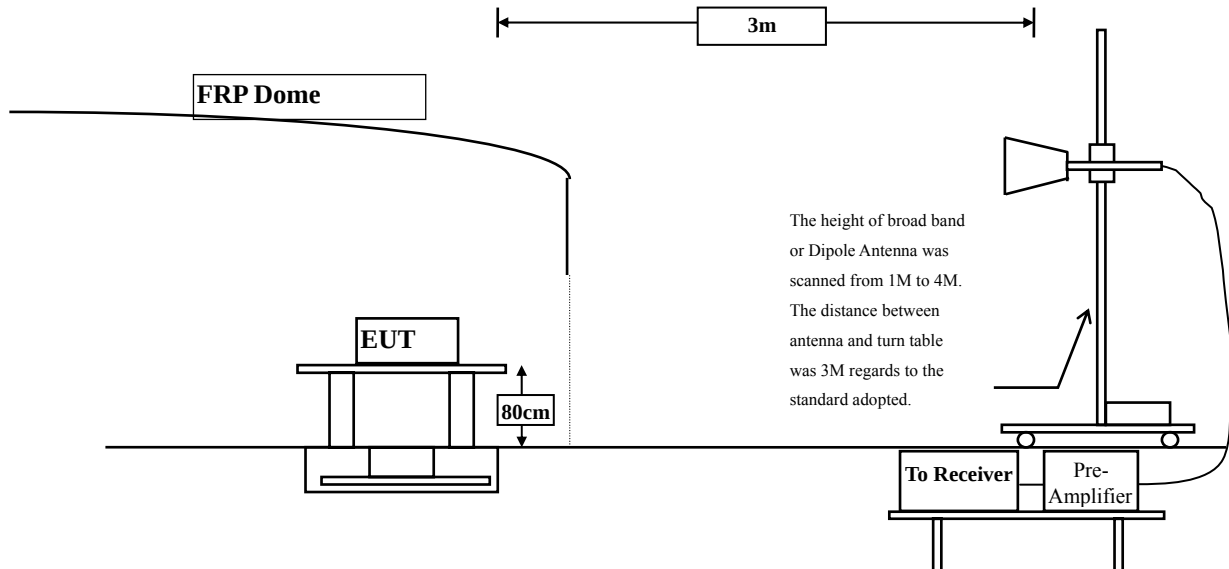
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
 2. The test instruments marked with "X" are used to measure the final test results.

6.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

6.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2009 and tested according to FCC KDB-789033 test procedure for compliance to FCC 47CFR 15. 407 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2009 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The measurement frequency range from 9KHz - 10th Harmonic of fundamental was investigated.

6.5. Uncertainty

± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

6.6. Test Result of Radiated Emission

Product : Notebook PC
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5180MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
10360.000	12.930	38.700	51.630	-22.370	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
10360.000	13.724	38.770	52.494	-21.506	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000
31080.000	*	*	*	*	74.000
36260.000	*	*	*	*	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10440.000	13.322	38.130	51.452	-22.548	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10440.000	14.245	38.530	52.775	-21.225	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5240MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10480.000	13.693	37.620	51.314	-22.686	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10480.000	14.620	38.530	53.151	-20.849	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5260MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10520.000	14.015	37.430	51.445	-22.555	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10520.000	14.818	37.530	52.348	-21.652	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5300MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10580.000	14.423	37.240	51.663	-22.337	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10580.000	14.849	37.000	51.849	-22.151	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5320MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10640.000	15.399	37.050	52.449	-21.551	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10640.000	15.083	37.780	52.863	-21.137	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5500MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

11000.000	16.399	36.720	53.119	-20.881	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

11000.000	17.132	36.240	53.372	-20.628	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5580MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11160.000	16.664	35.150	51.815	-22.185	74.000
16800.000	*	*	*	*	74.000
22400.000	*	*	*	*	74.000
28000.000	*	*	*	*	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
11160.000	17.643	36.520	54.163	-19.837	74.000
16800.000	*	*	*	*	74.000
22400.000	*	*	*	*	74.000
28000.000	*	*	*	*	74.000
Average					
Detector:					
11160.000	17.643	21.610	39.253	-14.747	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5700MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
11400.000	16.530	35.900	52.431	-21.569	74.000
17100.000	*	*	*	*	74.000
22800.000	*	*	*	*	74.000
28500.000	*	*	*	*	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
11400.000	17.138	38.760	55.898	-18.102	74.000
17100.000	*	*	*	*	74.000
22800.000	*	*	*	*	74.000
28500.000	*	*	*	*	74.000
Average					
Detector:					
11400.000	17.138	23.960	41.098	-12.902	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5180MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10360.000	12.930	37.730	50.660	-23.340	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10360.000	13.724	38.970	52.694	-21.306	74.000
15540.000	*	*	*	*	74.000
20720.000	*	*	*	*	74.000
25900.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5220MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10440.000	13.322	37.640	50.962	-23.038	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10440.000	14.245	38.740	52.985	-21.015	74.000
15660.000	*	*	*	*	74.000
20880.000	*	*	*	*	74.000
26100.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5240MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10480.000	13.693	37.340	51.034	-22.966	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10480.000	14.620	37.680	52.301	-21.699	74.000
15720.000	*	*	*	*	74.000
20960.000	*	*	*	*	74.000
26200.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5260MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10520.000	14.015	37.030	51.045	-22.955	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10520.000	14.818	37.670	52.488	-21.512	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5300MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10600.000	14.550	36.620	51.169	-22.831	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10600.000	14.881	37.760	52.641	-21.359	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5320MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10640.000	14.690	37.420	52.110	-21.890	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10640.000	15.083	37.080	52.163	-21.837	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5500MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
11000.000	16.399	36.690	53.089	-20.911	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
11000.000	17.132	37.030	54.162	-19.838	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	74.000
Average Detector:					
11000.000	17.132	22.670	39.802	-14.198	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5580MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

11160.000	16.664	35.460	52.125	-21.875	74.000
16800.000	*	*	*	*	74.000
22400.000	*	*	*	*	74.000
28000.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

11160.000	17.643	35.700	53.343	-20.657	74.000
16800.000	*	*	*	*	74.000
22400.000	*	*	*	*	74.000
28000.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5700MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

11400.000	16.530	35.840	52.371	-21.629	74.000
17100.000	*	*	*	*	74.000
22800.000	*	*	*	*	74.000
28500.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

11400.000	17.138	37.920	55.058	-18.942	74.000
17100.000	*	*	*	*	74.000
22800.000	*	*	*	*	74.000
28500.000	*	*	*	*	74.000

Average

Detector:

11400.000	17.138	23.700	40.838	-13.162	54.000
-----------	--------	--------	--------	---------	--------

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5190MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10380.000	12.939	37.940	50.879	-23.121	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10380.000	13.796	38.810	52.606	-21.394	74.000
15570.000	*	*	*	*	74.000
20760.000	*	*	*	*	74.000
25950.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5230MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10460.000	13.508	37.970	51.478	-22.522	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10460.000	14.433	37.910	52.343	-21.657	74.000
15690.000	*	*	*	*	74.000
20920.000	*	*	*	*	74.000
26150.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5270MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10540.000	14.151	37.330	51.480	-22.520	74.000
15810.000	*	*	*	*	74.000
21080.000	*	*	*	*	74.000
26350.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10540.000	14.829	36.860	51.688	-22.312	74.000
15810.000	*	*	*	*	74.000
21080.000	*	*	*	*	74.000
26350.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5310MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

10620.000	14.623	36.460	51.083	-22.917	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

10620.000	14.970	36.950	51.920	-22.080	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5510MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

11020.000	16.474	36.540	53.013	-20.987	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

11020.000	17.224	36.570	53.794	-20.206	74.000
15930.000	*	*	*	*	74.000
21240.000	*	*	*	*	74.000
26550.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5550MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

11100.000	16.681	35.750	52.431	-21.569	74.000
16770.000	*	*	*	*	74.000
22360.000	*	*	*	*	74.000
27950.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

11100.000	17.523	35.240	52.763	-21.237	74.000
16770.000	*	*	*	*	74.000
22360.000	*	*	*	*	74.000
27950.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5670MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector:

11340.000	16.408	36.000	52.407	-21.593	74.000
17010.000	*	*	*	*	74.000
22680.000	*	*	*	*	74.000
28350.000	*	*	*	*	74.000

Average

Detector:

--

Vertical

Peak Detector:

11340.000	17.167	36.590	53.757	-20.243	74.000
17010.000	*	*	*	*	74.000
22680.000	*	*	*	*	74.000
28350.000	*	*	*	*	74.000

Average

Detector:

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Notebook PC
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector

39.700	-3.625	37.317	33.692	-6.308	40.000
66.860	-13.595	42.456	28.861	-11.139	40.000
301.600	-4.465	27.885	23.420	-22.580	46.000
386.960	1.112	24.889	26.001	-19.999	46.000
594.540	3.555	25.698	29.253	-16.747	46.000
831.220	7.121	25.799	32.920	-13.080	46.000

Vertical

Peak Detector

68.800	-12.433	44.267	31.834	-8.166	40.000
224.000	-6.379	31.663	25.284	-20.716	46.000
377.260	0.647	25.519	26.166	-19.834	46.000
691.540	2.092	23.440	25.532	-20.468	46.000
807.940	3.361	23.364	26.725	-19.275	46.000
928.220	3.640	22.376	26.016	-19.984	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Notebook PC
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5300MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal

Peak Detector

41.640	-6.175	37.204	31.030	-8.970	40.000
66.860	-13.595	42.431	28.836	-11.164	40.000
462.620	3.589	23.010	26.599	-19.401	46.000
617.820	2.438	26.434	28.872	-17.128	46.000
831.220	7.121	24.831	31.952	-14.048	46.000
930.160	7.530	23.074	30.604	-15.396	46.000

Vertical

Peak Detector

66.860	-12.435	44.272	31.837	-8.163	40.000
212.360	-5.752	31.689	25.937	-17.563	43.500
365.620	0.282	25.165	25.447	-20.553	46.000
522.760	1.116	23.507	24.623	-21.377	46.000
689.600	2.302	22.616	24.918	-21.082	46.000
926.280	3.342	23.488	26.830	-19.170	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Notebook PC
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5580MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
66.860	-13.595	42.897	29.302	-10.698	40.000
462.620	3.589	23.318	26.907	-19.093	46.000
594.540	3.555	25.524	29.079	-16.921	46.000
831.220	7.121	25.649	32.770	-13.230	46.000
918.520	6.718	23.365	30.083	-15.917	46.000
984.480	8.098	22.772	30.870	-23.130	54.000
Vertical					
Peak Detector					
66.860	-12.435	44.113	31.678	-8.322	40.000
224.000	-6.379	31.871	25.492	-20.508	46.000
375.320	0.388	23.745	24.133	-21.867	46.000
540.220	2.169	22.210	24.379	-21.621	46.000
844.800	2.462	22.417	24.879	-21.121	46.000
930.160	3.830	22.474	26.304	-19.696	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Notebook PC
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5220MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
39.700	-3.625	36.487	32.862	-7.138	40.000
66.860	-13.595	42.677	29.082	-10.918	40.000
301.600	-4.465	29.109	24.644	-21.356	46.000
460.680	4.030	23.344	27.374	-18.626	46.000
594.540	3.555	24.736	28.291	-17.709	46.000
831.220	7.121	25.328	32.449	-13.551	46.000
Vertical					
Peak Detector					
68.800	-12.433	43.626	31.193	-8.807	40.000
212.360	-5.752	31.330	25.578	-17.922	43.500
301.600	-3.985	27.500	23.515	-22.485	46.000
526.640	1.152	23.491	24.643	-21.357	46.000
691.540	2.092	22.628	24.720	-21.280	46.000
920.460	3.272	23.145	26.417	-19.583	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Notebook PC
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5300MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
39.700	-3.625	36.391	32.766	-7.234	40.000
66.860	-13.595	41.595	28.000	-12.000	40.000
381.140	1.386	25.230	26.616	-19.384	46.000
594.540	3.555	24.646	28.201	-17.799	46.000
838.980	6.031	24.366	30.397	-15.603	46.000
930.160	7.530	23.622	31.152	-14.848	46.000
Vertical					
Peak Detector					
66.860	-12.435	44.092	31.657	-8.343	40.000
224.000	-6.379	31.702	25.323	-20.677	46.000
381.140	0.816	24.115	24.931	-21.069	46.000
532.460	1.209	24.665	25.874	-20.126	46.000
831.220	2.041	24.084	26.125	-19.875	46.000
968.960	3.936	21.595	25.531	-28.469	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Notebook PC
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) (5580MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
39.700	-3.625	34.613	30.988	-9.012	40.000
66.860	-13.595	42.333	28.738	-11.262	40.000
381.140	1.386	23.918	25.304	-20.696	46.000
470.380	3.550	23.096	26.646	-19.354	46.000
594.540	3.555	25.019	28.574	-17.426	46.000
831.220	7.121	25.220	32.341	-13.659	46.000
Vertical					
Peak Detector					
66.860	-12.435	43.798	31.363	-8.637	40.000
222.060	-6.484	31.652	25.167	-20.833	46.000
377.260	0.647	24.337	24.984	-21.016	46.000
540.220	2.169	22.348	24.517	-21.483	46.000
773.020	2.405	22.492	24.897	-21.103	46.000
926.280	3.342	22.937	26.279	-19.721	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Notebook PC
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5190MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
39.700	-3.625	36.541	32.916	-7.084	40.000
64.920	-12.587	40.584	27.997	-12.003	40.000
212.360	-10.382	32.045	21.663	-21.837	43.500
468.440	3.544	23.429	26.973	-19.027	46.000
617.820	2.438	27.203	29.641	-16.359	46.000
850.620	6.773	23.266	30.039	-15.961	46.000
Vertical					
Peak Detector					
66.860	-12.435	43.591	31.156	-8.844	40.000
222.060	-6.484	32.480	25.995	-20.005	46.000
379.200	0.881	24.160	25.041	-20.959	46.000
565.440	-2.433	23.743	21.310	-24.690	46.000
831.220	2.041	24.522	26.563	-19.437	46.000
924.340	3.149	23.111	26.260	-19.740	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Notebook PC
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5270MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
39.700	-3.625	33.924	30.299	-9.701	40.000
66.860	-13.595	40.389	26.794	-13.206	40.000
458.740	3.298	23.331	26.629	-19.371	46.000
594.540	3.555	24.301	27.856	-18.144	46.000
831.220	7.121	22.701	29.822	-16.178	46.000
982.540	7.679	22.921	30.600	-23.400	54.000
Vertical					
Peak Detector					
66.860	-12.435	43.536	31.101	-8.899	40.000
220.120	-6.543	34.345	27.802	-18.198	46.000
381.140	0.816	24.060	24.876	-21.124	46.000
540.220	2.169	22.650	24.819	-21.181	46.000
617.820	0.958	25.623	26.581	-19.419	46.000
967.020	3.889	22.390	26.279	-27.721	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : Notebook PC
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) (5550MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector					
35.820	-1.445	30.210	28.765	-11.235	40.000
64.920	-12.587	40.681	28.094	-11.906	40.000
460.680	4.030	23.288	27.318	-18.682	46.000
594.540	3.555	24.290	27.845	-18.155	46.000
825.400	7.346	22.504	29.850	-16.150	46.000
930.160	7.530	22.312	29.842	-16.158	46.000
Vertical					
Peak Detector					
66.860	-12.435	44.159	31.724	-8.276	40.000
216.240	-6.051	32.940	26.889	-19.111	46.000
375.320	0.388	24.786	25.174	-20.826	46.000
617.820	0.958	26.320	27.278	-18.722	46.000
782.720	2.757	23.437	26.194	-19.806	46.000
932.100	3.430	23.950	27.380	-18.620	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

7. Band Edge

7.1. Test Equipment

RF Conducted Measurement

The following test equipments are used during the band edge tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

RF Radiated Measurement:

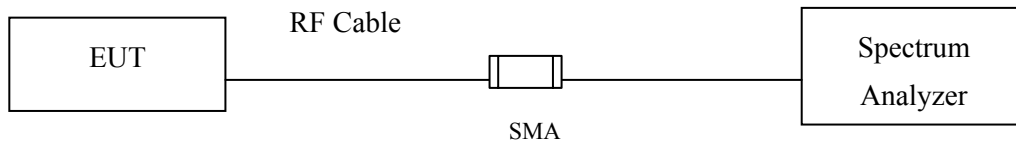
The following test equipments are used during the band edge tests:

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2013
	X Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2013
	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2013
	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2013
	X Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2013
	Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar, 2013
	X Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2013
	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2013
	X Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2013
	X Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X Coaxial Switch	Anritsu	MP59B/6200265729	N/A

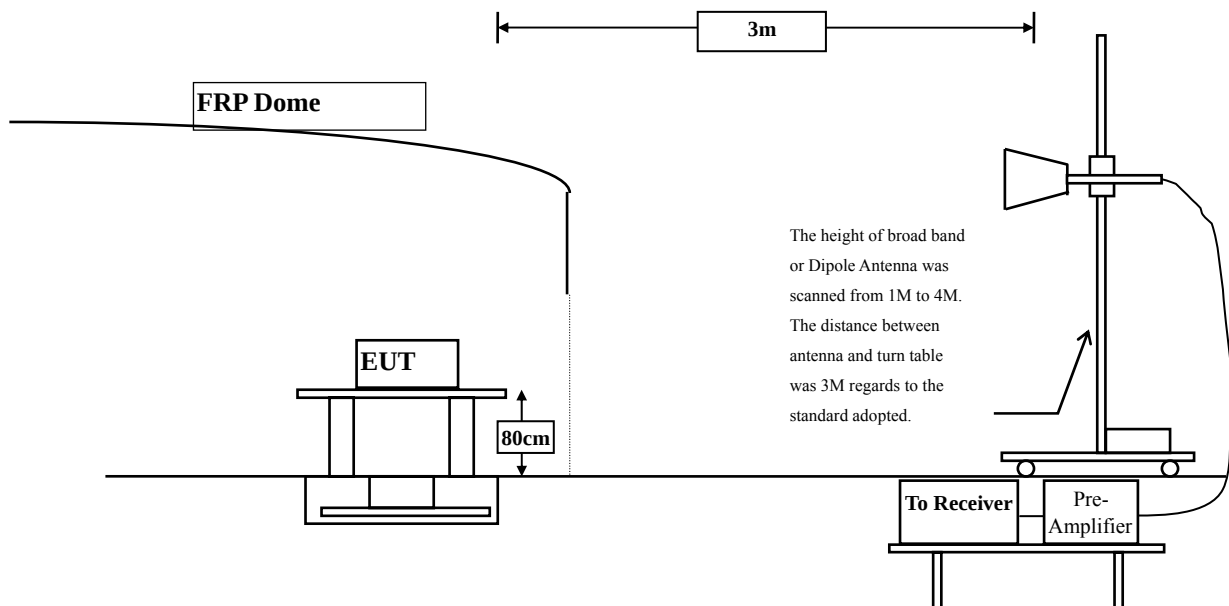
- Note:
1. All instruments are calibrated every one year.
 2. The test instruments marked by "X" are used to measure the final test results.

7.2. Test Setup

RF Conducted Measurement



RF Radiated Measurement:



7.3. Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remarks :

1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

7.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10:2009 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz.

The EUT was setup to ANSI C63.10, 2009; tested to DTS test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

7.5. Uncertainty

± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

7.6. Test Result of Band Edge

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 36

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
36 (Peak)	5148.600	11.739	52.237	63.976	74.00	54.00	Pass
36 (Peak)	5150.000	11.729	47.560	59.289	74.00	54.00	Pass
36 (Peak)	5179.900	11.748	93.755	105.504	--	--	Pass
36 (Average)	5150.000	11.729	34.260	45.989	74.00	54.00	Pass
36 (Average)	5176.500	11.740	81.007	92.747	--	--	Pass

Figure Channel 36:

Horizontal (Peak)

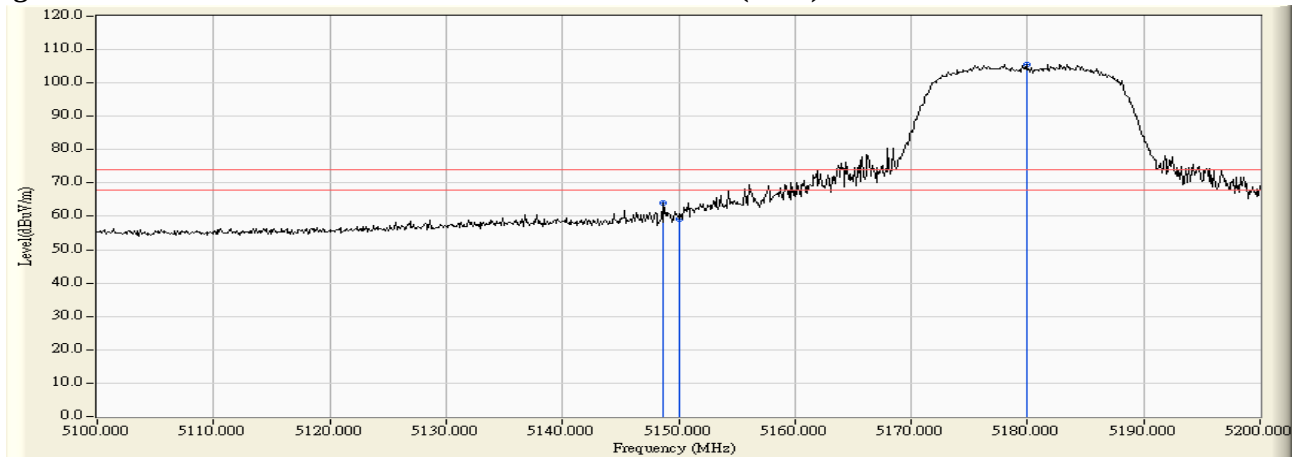
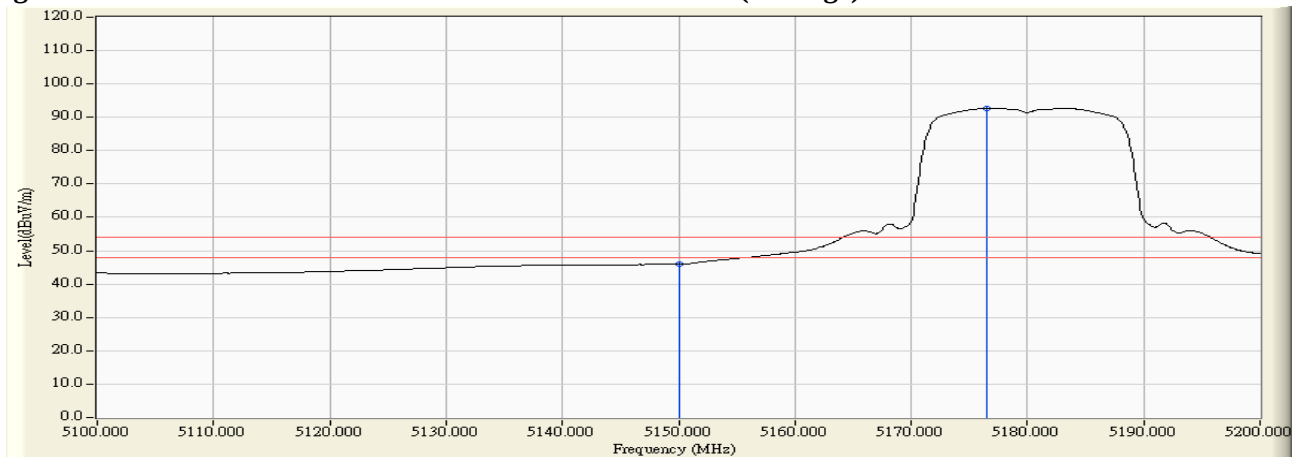


Figure Channel 36:

Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 36

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
36 (Peak)	5148.300	11.741	54.323	66.064	74.00	54.00	Pass
36 (Peak)	5149.800	11.730	55.271	67.001	74.00	54.00	Pass
36 (Peak)	5150.000	11.729	52.003	63.732	74.00	54.00	Pass
36 (Peak)	5176.800	11.741	96.720	108.461	--	--	Pass
36 (Average)	5150.000	11.729	35.954	47.683	74.00	54.00	Pass
36 (Average)	5176.700	11.741	83.661	95.402	--	--	Pass

Figure Channel 36:

Vertical (Peak)

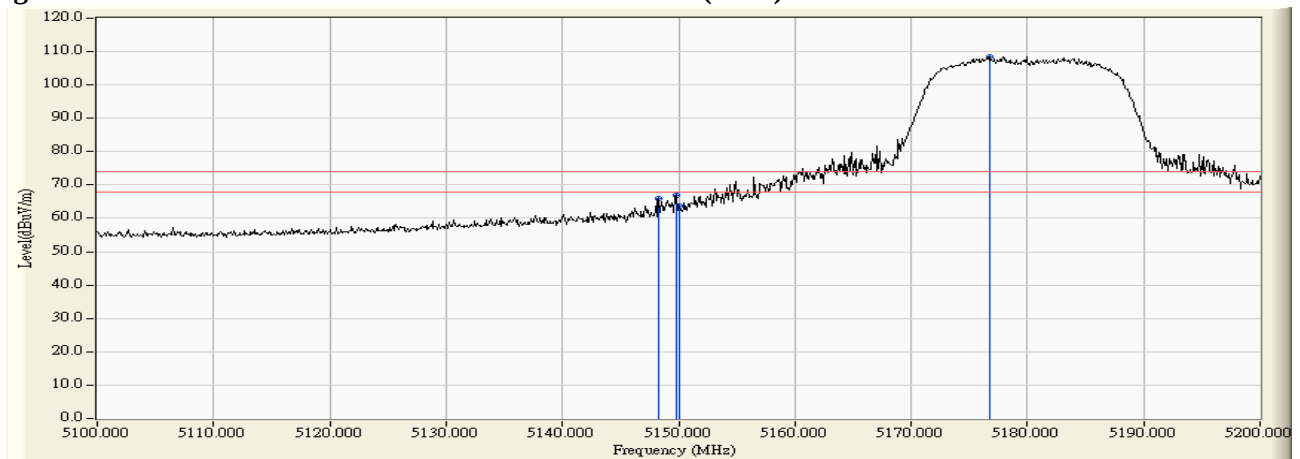
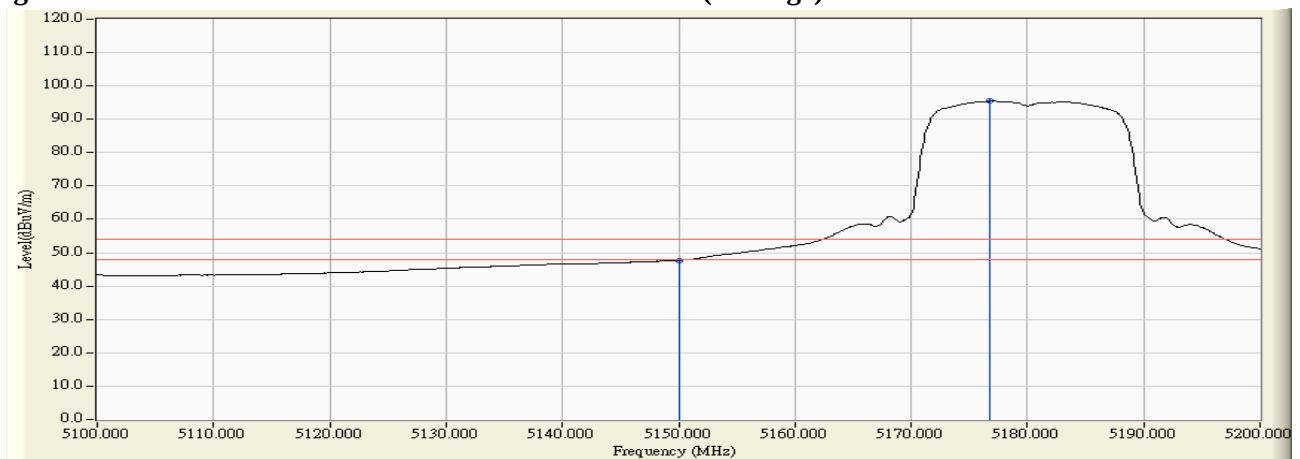


Figure Channel 36:

Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 64

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
64 (Peak)	5317.600	11.959	93.240	105.199	--	--	Pass
64 (Peak)	5350.000	11.966	46.908	58.875	74.00	54.00	Pass
64 (Average)	5316.700	11.960	80.141	92.101	--	--	Pass
64 (Average)	5350.000	11.966	33.532	45.499	74.00	54.00	Pass

Figure Channel 64: Horizontal (Peak)

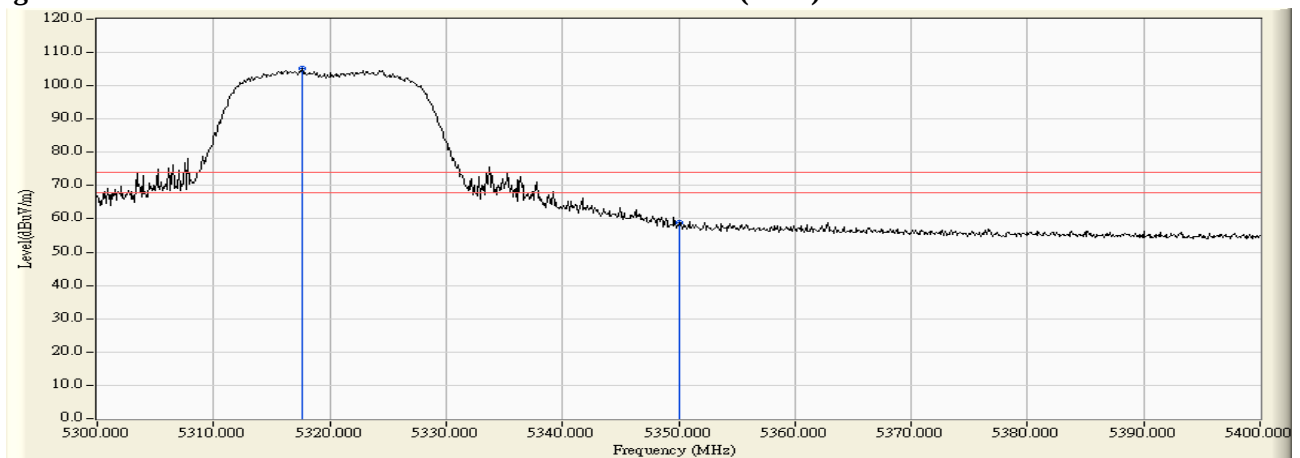
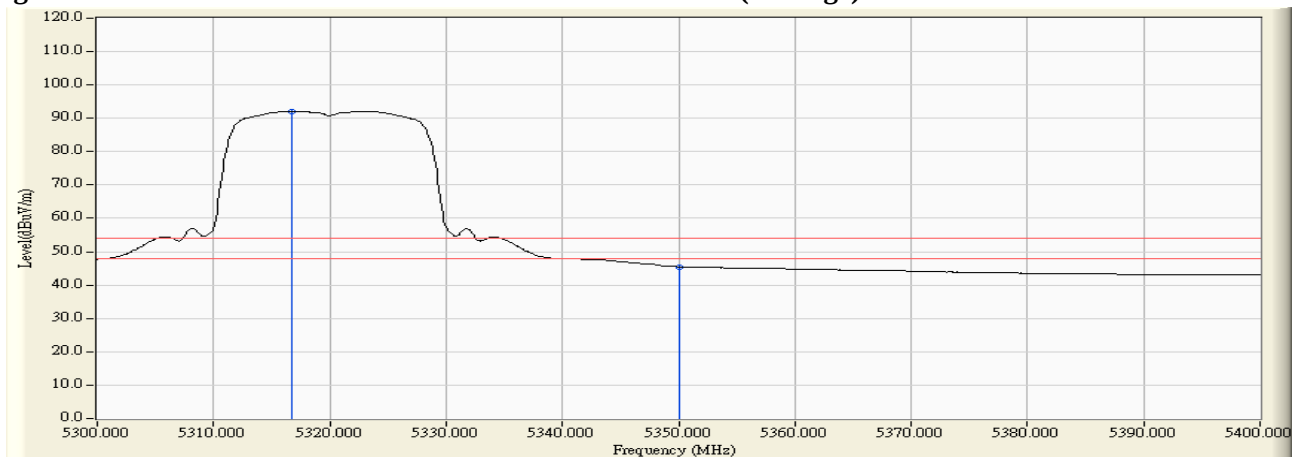


Figure Channel 64: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 64

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
64 (Peak)	5321.300	11.956	94.188	106.144	--	--	Pass
64 (Peak)	5350.000	11.966	46.090	58.057	74.00	54.00	Pass
64 (Peak)	5350.800	11.972	49.034	61.006	74.00	54.00	Pass
64 (Average)	5316.600	11.960	80.672	92.632	--	--	Pass
64 (Average)	5350.000	11.966	33.582	45.549	74.00	54.00	Pass

Figure Channel 64: Vertical (Peak)

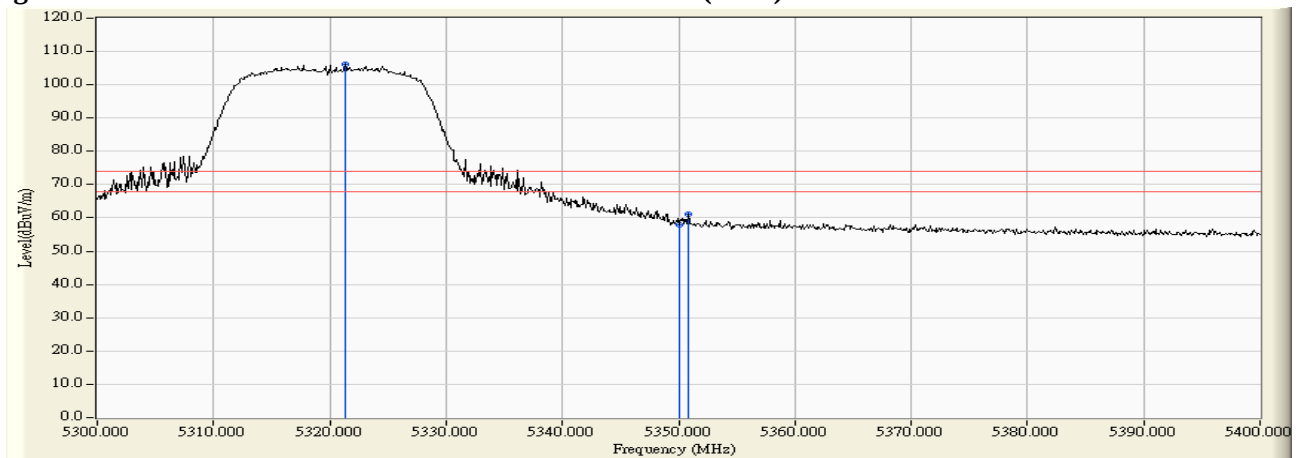
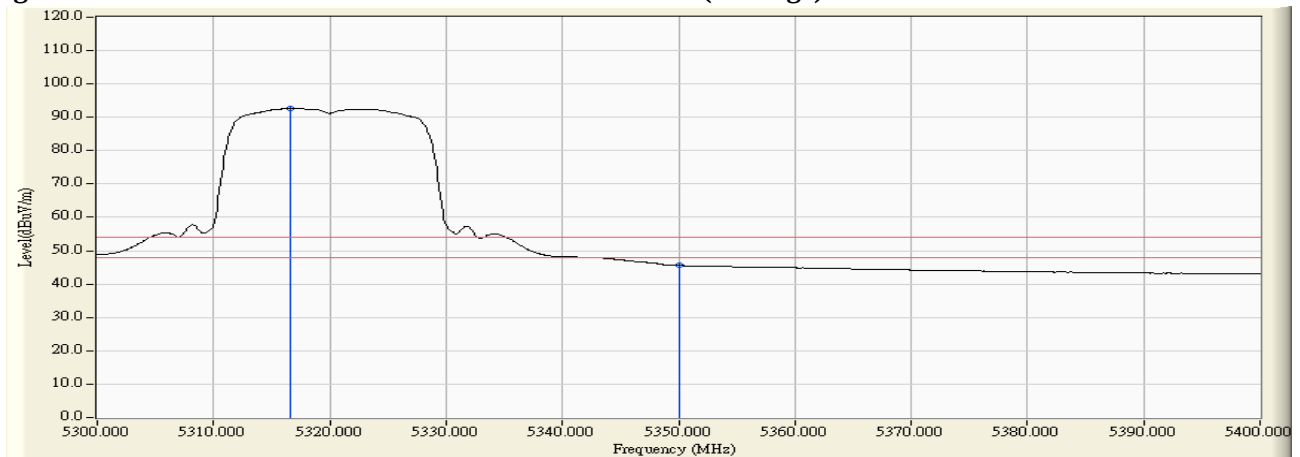


Figure Channel 64: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 100

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
100 (Peak)	5460.000	12.008	44.400	56.408	74.00	54.00	Pass
100 (Peak)	5496.800	12.109	91.425	103.534	--	--	Pass
100 (Average)	5460.000	12.008	32.329	44.337	74.00	54.00	Pass
100 (Average)	5496.600	12.108	78.050	90.157	--	--	Pass

Figure Channel 100:

Horizontal (Peak)

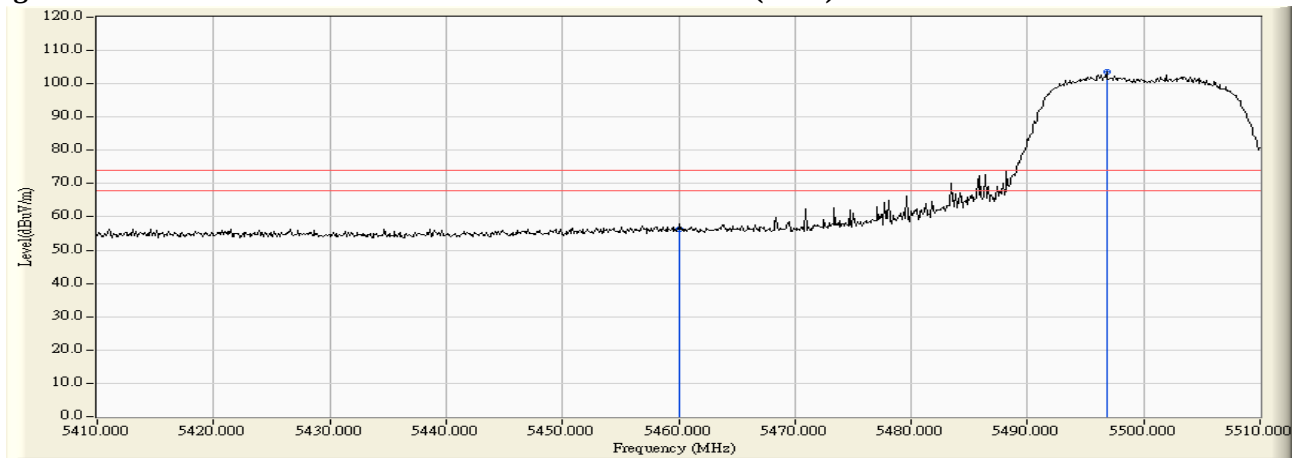
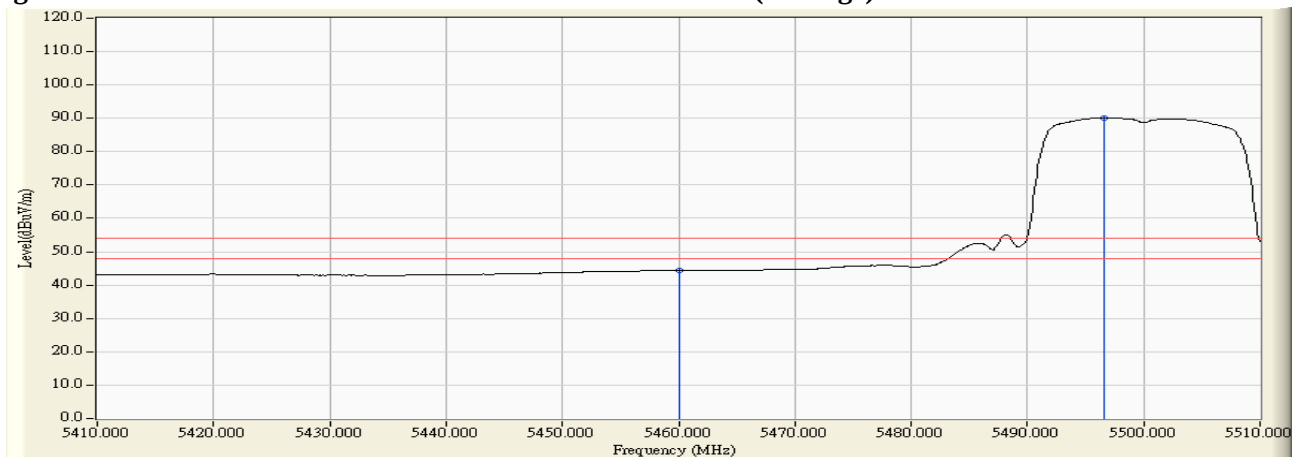


Figure Channel 100:

Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 100

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
100 (Peak)	5458.500	11.996	47.481	59.477	74.00	54.00	Pass
100 (Peak)	5460.000	12.008	45.209	57.217	74.00	54.00	Pass
100 (Peak)	5497.400	12.113	94.048	106.161	--	--	Pass
100 (Average)	5460.000	12.008	33.725	45.733	74.00	54.00	Pass
100 (Average)	5496.500	12.106	81.147	93.254	--	--	Pass

Figure Channel 100: Vertical (Peak)

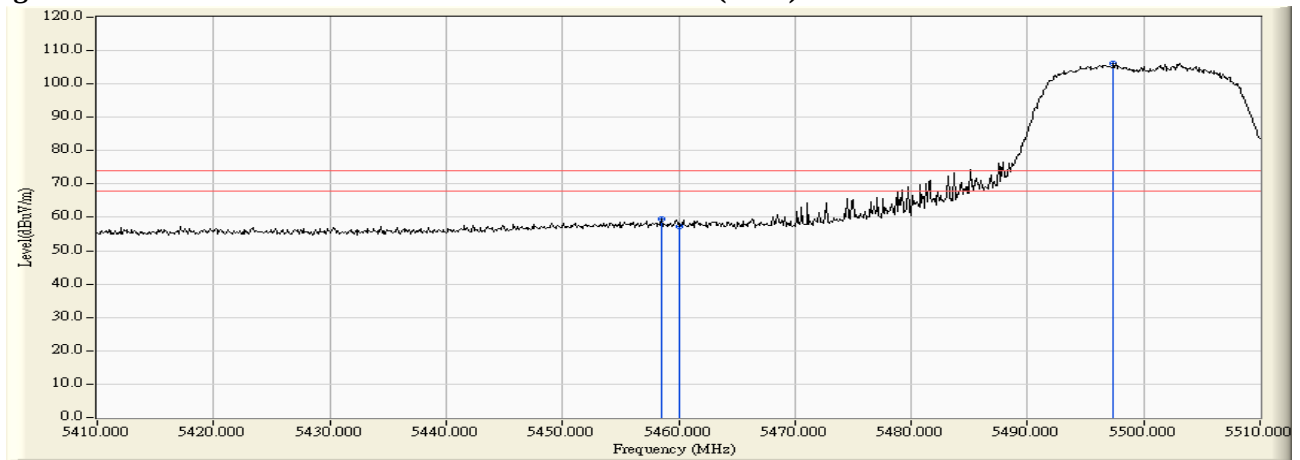
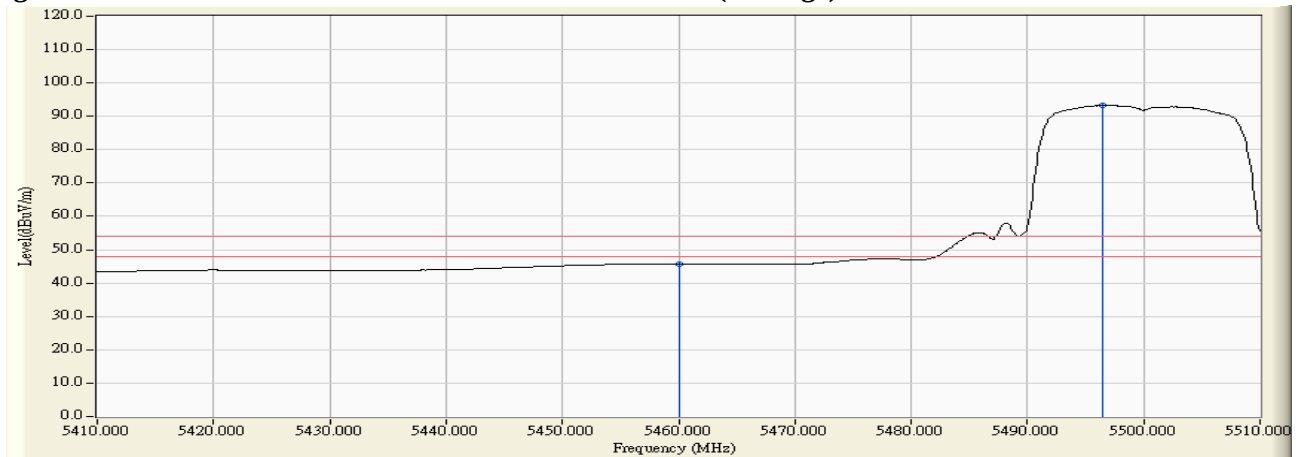


Figure Channel 100: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 100

RF Radiated Measurement:

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5470.000	18.334	-70.330	-51.996	-24.996	-27.000	Pass

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5470.000	19.335	-69.950	-50.615	-23.615	-27.000	Pass

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 140

RF Radiated Measurement:

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5725.000	18.649	-70.770	-52.121	-25.121	-27.000	Pass

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5725.000	19.372	-70.750	-51.378	-24.378	-27.000	Pass

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 36

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
36 (Peak)	5147.800	11.744	49.086	60.830	74.00	54.00	Pass
36 (Peak)	5150.000	11.729	47.052	58.781	74.00	54.00	Pass
36 (Peak)	5175.700	11.739	91.879	103.617	--	--	Pass
36 (Average)	5150.000	11.729	32.692	44.421	74.00	54.00	Pass
36 (Average)	5176.500	11.740	78.160	89.900	--	--	Pass

Figure Channel 36:

Horizontal (Peak)

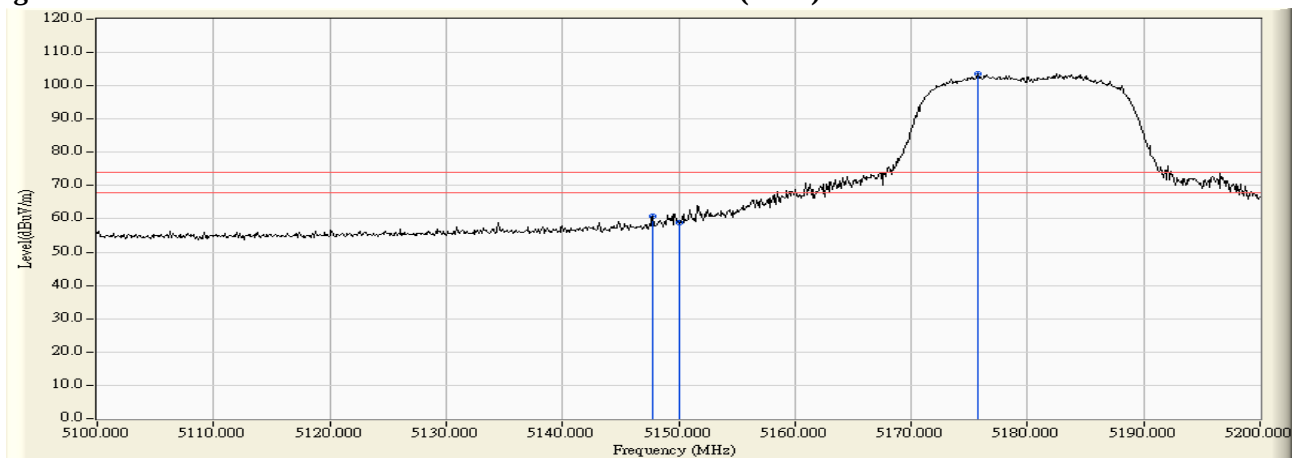
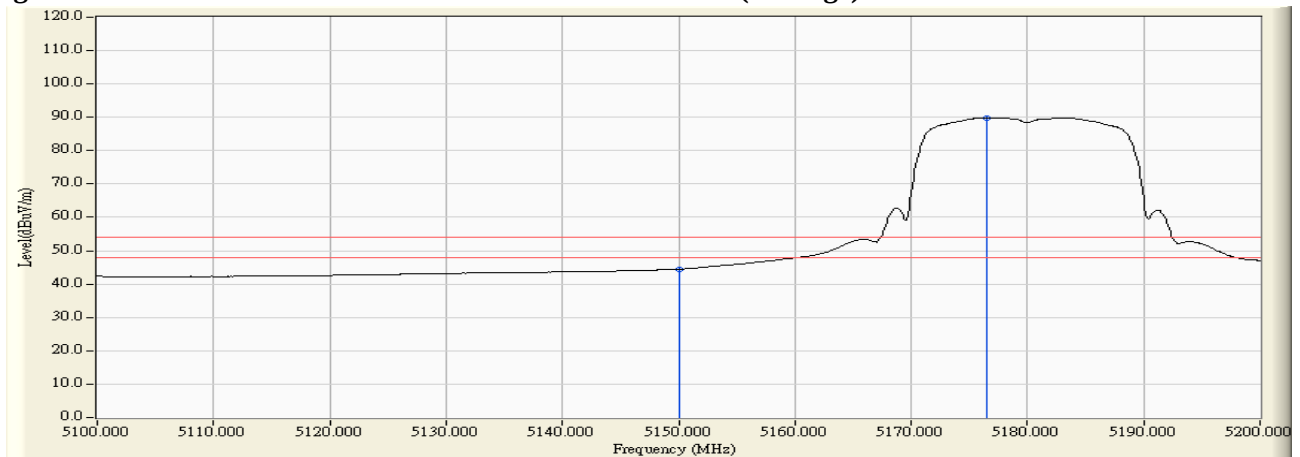


Figure Channel 36:

Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 36

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
36 (Peak)	5147.700	11.745	54.042	65.787	74.00	54.00	Pass
36 (Peak)	5150.000	11.729	51.458	63.187	74.00	54.00	Pass
36 (Peak)	5177.800	11.744	97.155	108.899	--	--	Pass
36 (Average)	5150.000	11.729	35.920	47.649	74.00	54.00	Pass
36 (Average)	5177.200	11.742	83.153	94.895	--	--	Pass

Figure Channel 36: Vertical (Peak)

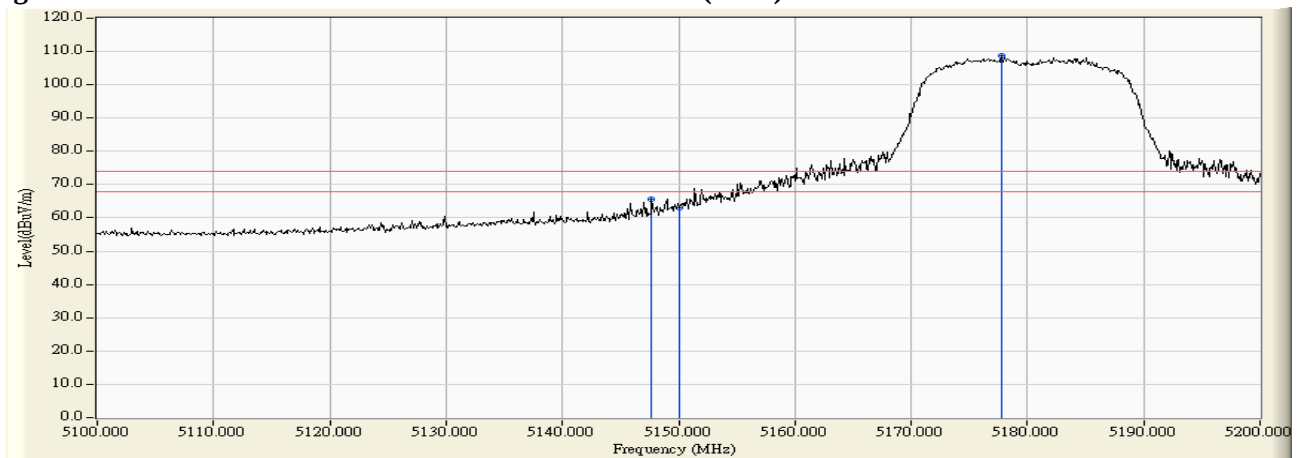
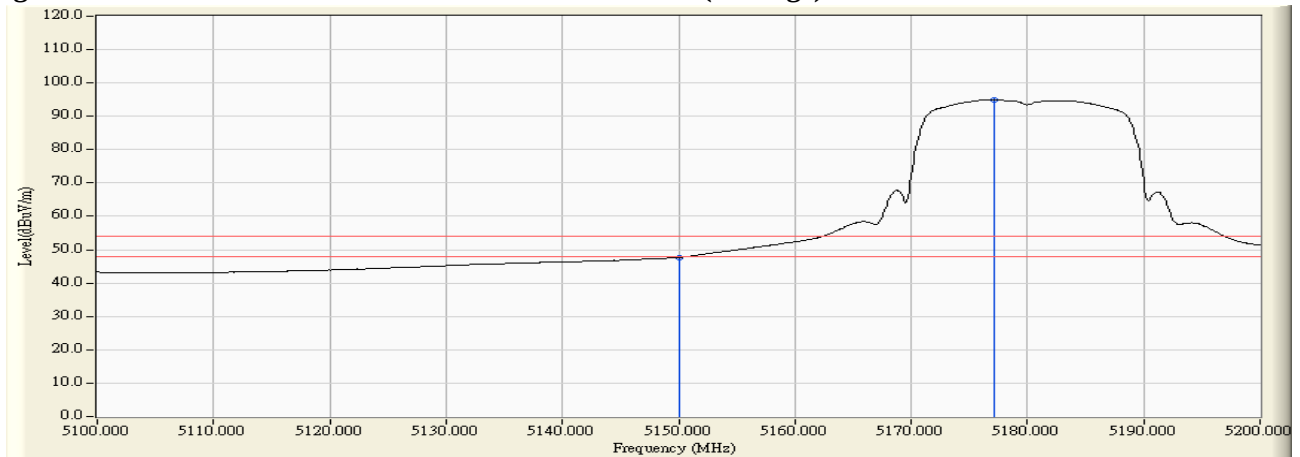


Figure Channel 36: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 64

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
64 (Peak)	5318.200	11.958	93.321	105.279	--	--	Pass
64 (Peak)	5350.000	11.966	45.347	57.314	74.00	54.00	Pass
64 (Average)	5317.000	11.960	79.920	91.880	--	--	Pass
64 (Average)	5350.000	11.966	33.027	44.994	74.00	54.00	Pass

Figure Channel 64: Horizontal (Peak)

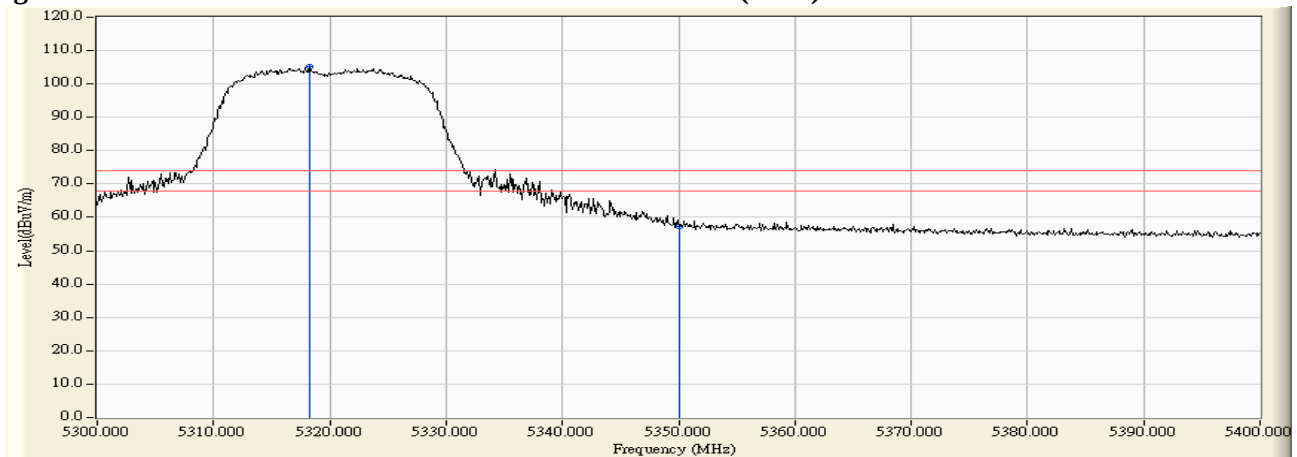
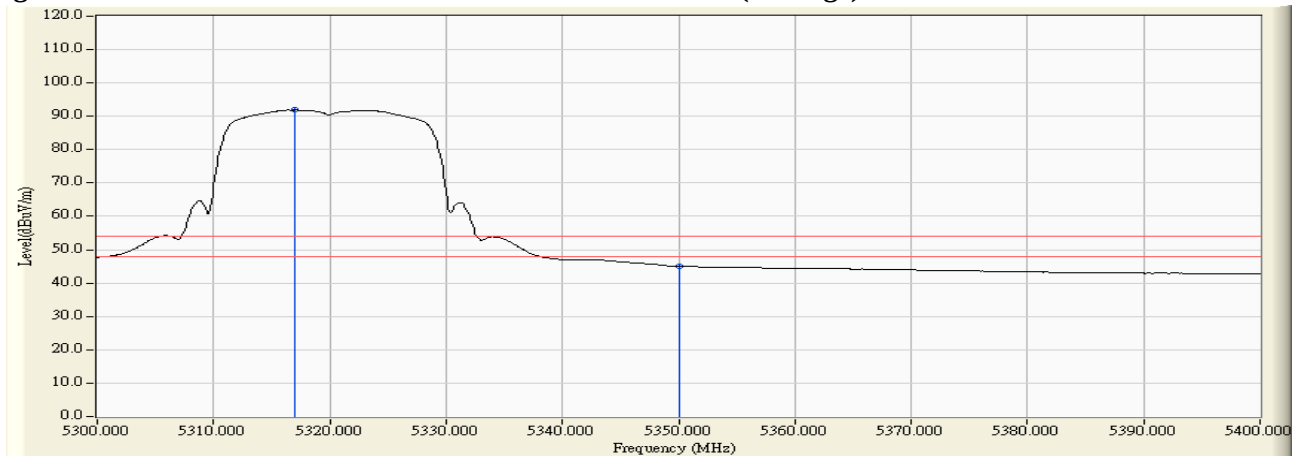


Figure Channel 64: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 64

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
64 (Peak)	5317.700	11.959	93.352	105.311	--	--	Pass
64 (Peak)	5350.000	11.966	45.671	57.638	74.00	54.00	Pass
64 (Average)	5317.100	11.960	80.236	92.195	--	--	Pass
64 (Average)	5350.000	11.966	33.597	45.564	74.00	54.00	Pass

Figure Channel 64: Vertical (Peak)

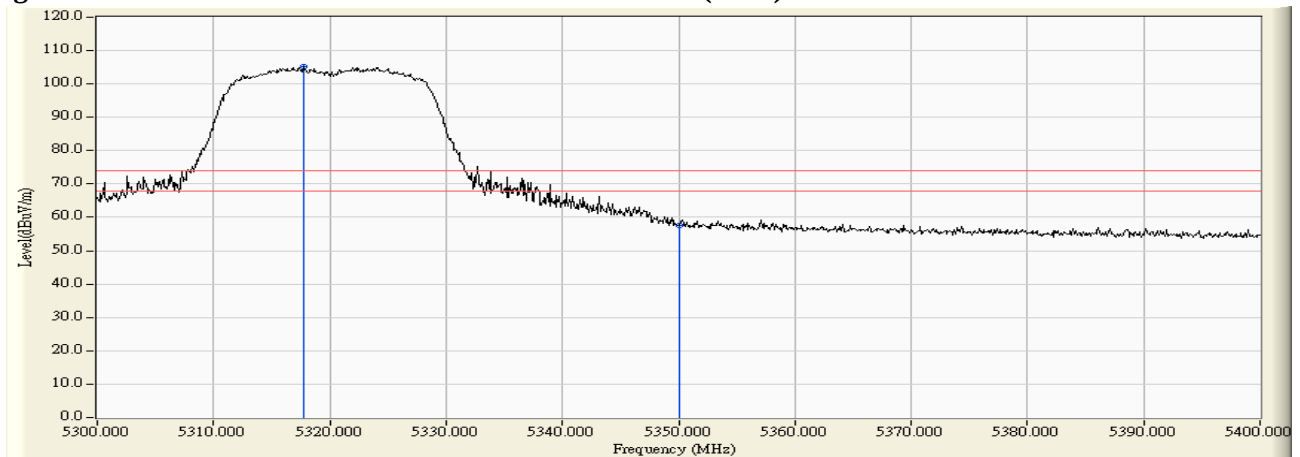


Figure Channel 64: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 100

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
100 (Peak)	5460.000	12.008	44.650	56.658	74.00	54.00	Pass
100 (Peak)	5497.800	12.115	92.336	104.451	--	--	Pass
100 (Average)	5460.000	12.008	32.356	44.364	74.00	54.00	Pass
100 (Average)	5496.800	12.109	78.535	90.644	--	--	Pass

Figure Channel 100:

Horizontal (Peak)

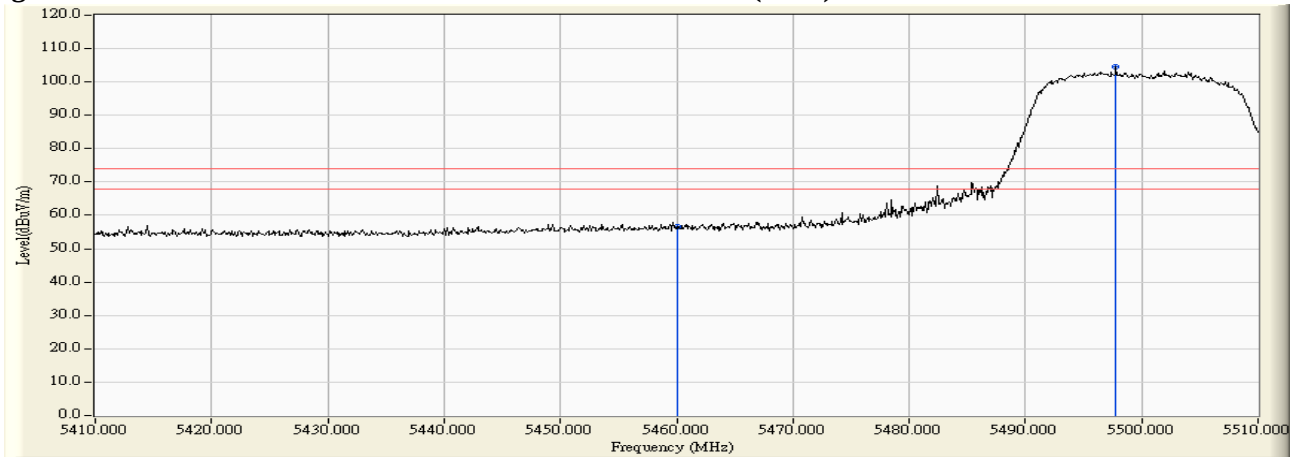
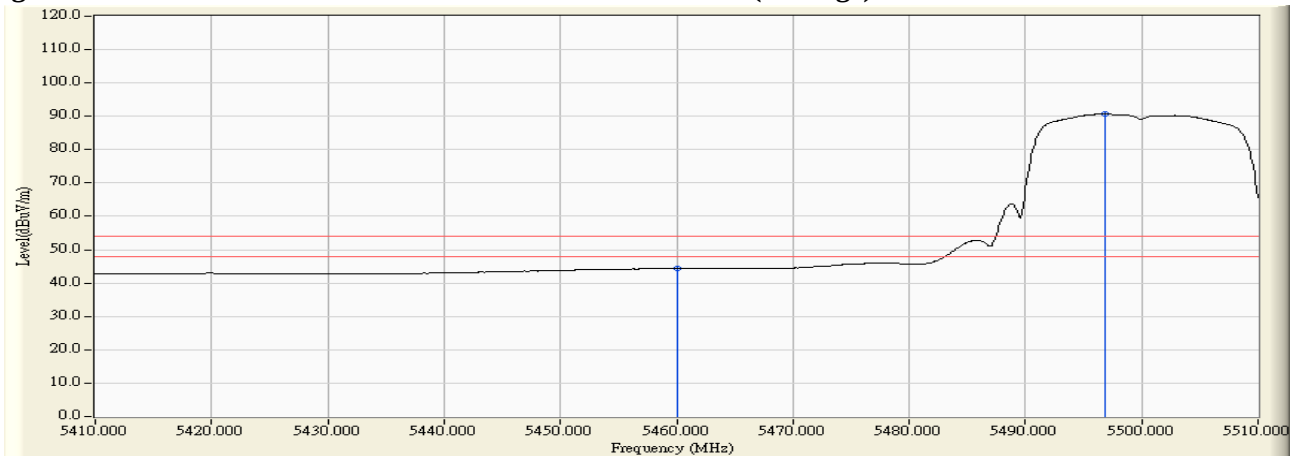


Figure Channel 100:

Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 100

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
100 (Peak)	5460.000	12.008	46.037	58.045	74.00	54.00	Pass
100 (Peak)	5497.900	12.116	92.439	104.555	--	--	Pass
100 (Average)	5460.000	12.008	32.341	44.349	74.00	54.00	Pass
100 (Average)	5496.300	12.105	78.625	90.730	--	--	Pass

Figure Channel 100: Vertical (Peak)

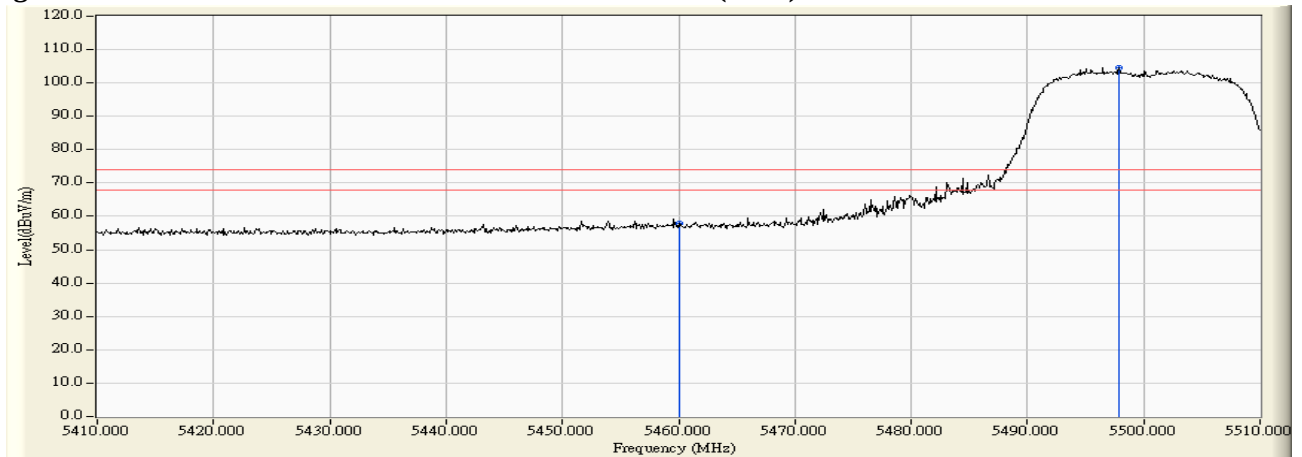
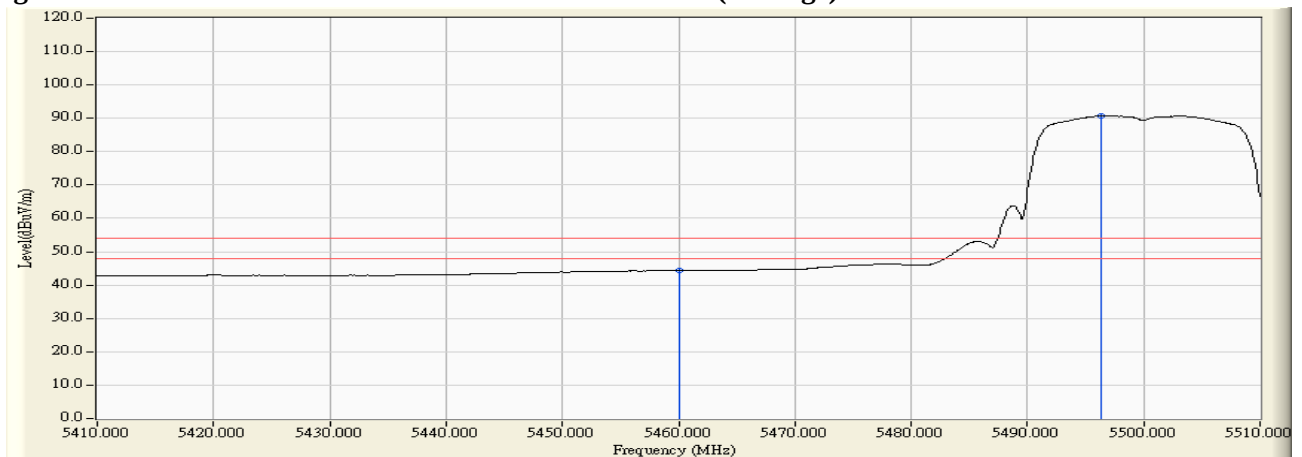


Figure Channel 100: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 100

RF Radiated Measurement:

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5470.000	18.334	-70.020	-51.686	-24.686	-27.000	Pass

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5470.000	19.335	-70.250	-50.915	-23.915	-27.000	Pass

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps) -Channel 140

RF Radiated Measurement:

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5725.000	18.649	-71.650	-53.001	-26.001	-27.000	Pass

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5725.000	19.372	-72.330	-52.958	-25.958	-27.000	Pass

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 38

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
38 (Peak)	5150.000	11.729	56.296	68.025	74.00	54.00	Pass
38 (Peak)	5185.000	11.761	90.003	101.764	--	--	Pass
38 (Average)	5150.000	11.729	38.042	49.771	74.00	54.00	Pass
38 (Average)	5194.500	11.888	74.823	86.710	--	--	Pass

Figure Channel 38:

Horizontal (Peak)

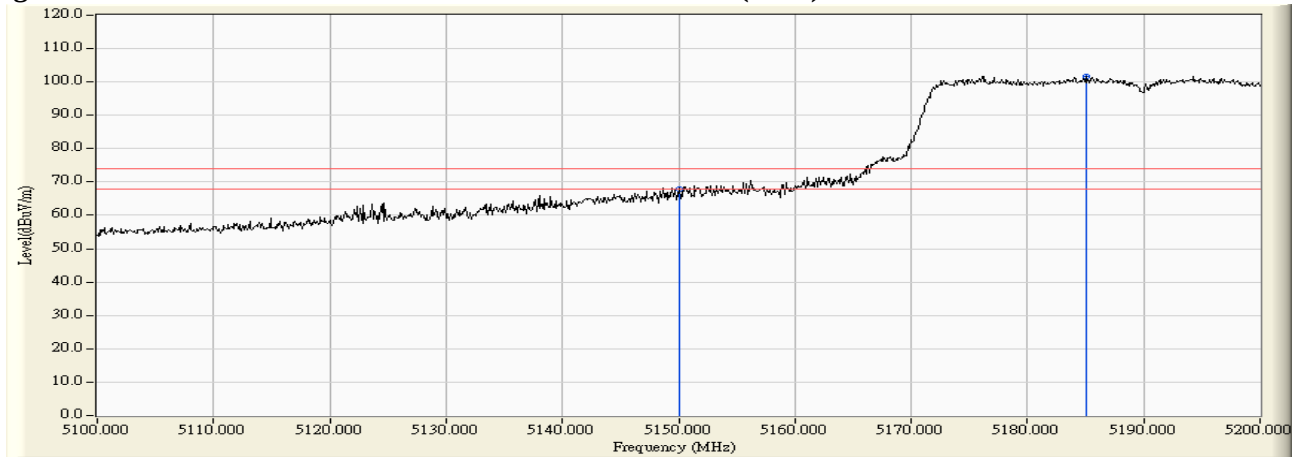
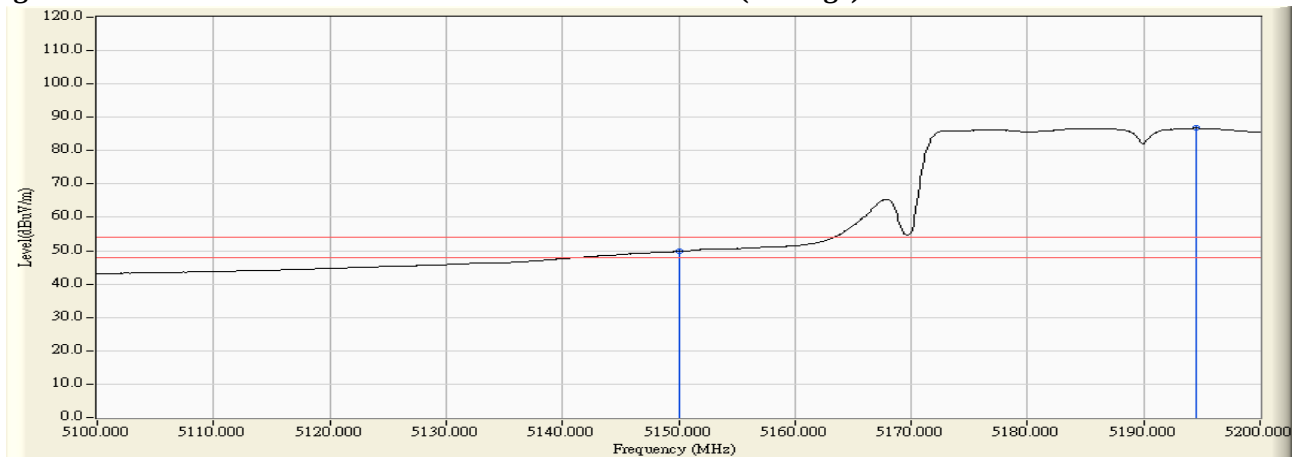


Figure Channel 38:

Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 38

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
38 (Peak)	5147.300	11.747	58.341	70.088	74.00	54.00	Pass
38 (Peak)	5148.500	11.739	58.923	70.662	74.00	54.00	Pass
38 (Peak)	5150.000	11.729	57.630	69.359	74.00	54.00	Pass
38 (Peak)	5187.200	11.767	93.255	105.021	--	--	Pass
38 (Average)	5150.000	11.729	40.563	52.292	74.00	54.00	Pass
38 (Average)	5176.400	11.740	77.857	89.597	--	--	Pass

Figure Channel 38:

Vertical (Peak)

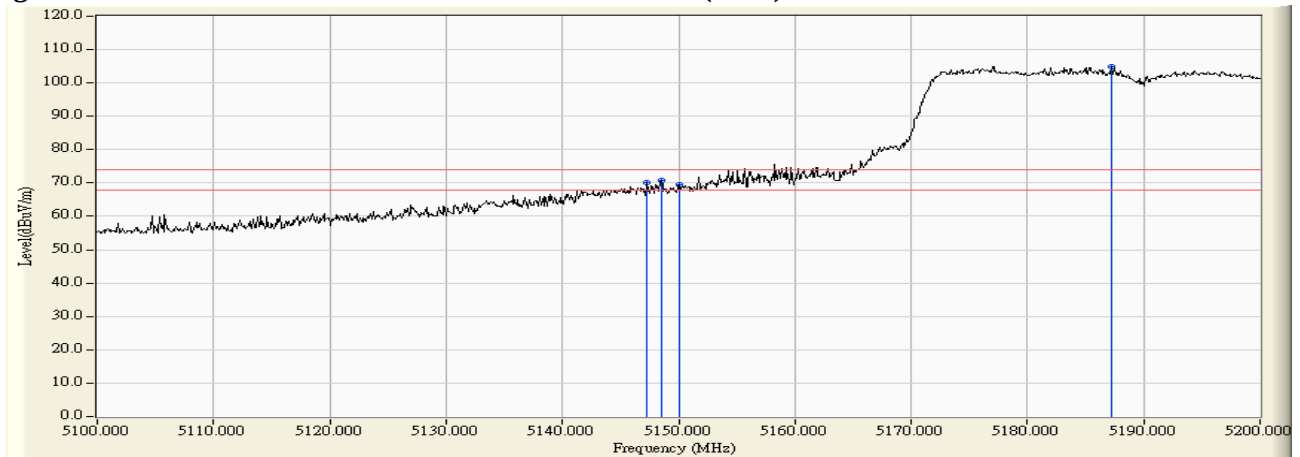
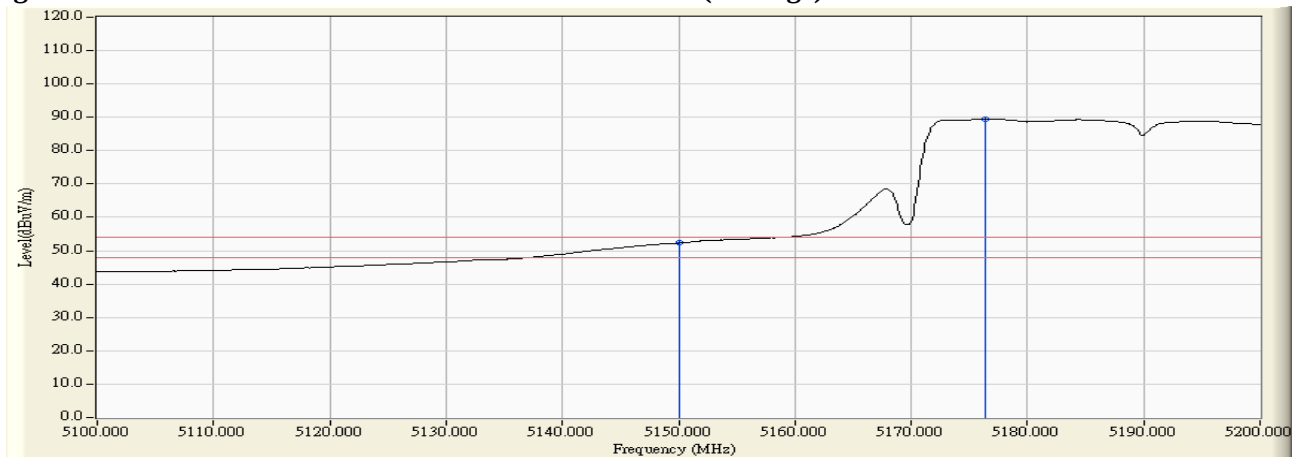


Figure Channel 38:

Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 62

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
62 (Peak)	5307.500	11.949	89.490	101.440	--	--	Pass
62 (Peak)	5350.000	11.966	47.389	59.356	74.00	54.00	Pass
62 (Peak)	5351.000	11.974	52.777	64.750	74.00	54.00	Pass
62 (Peak)	5356.100	12.008	50.571	62.579	74.00	54.00	Pass
62 (Average)	5304.800	11.943	74.038	85.981	--	--	Pass
62 (Average)	5350.000	11.966	33.964	45.931	74.00	54.00	Pass

Figure Channel 62: Horizontal (Peak)

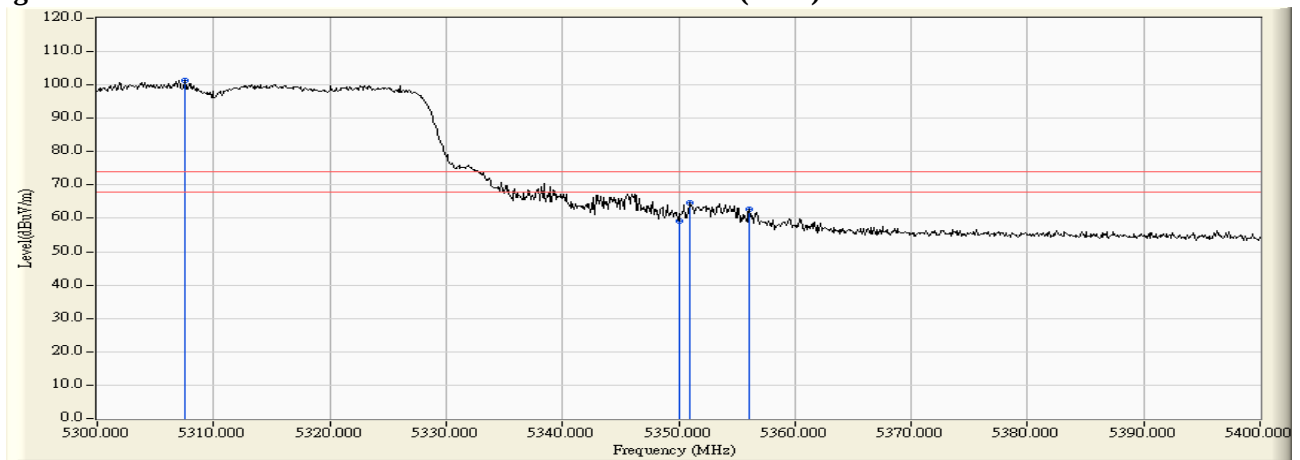
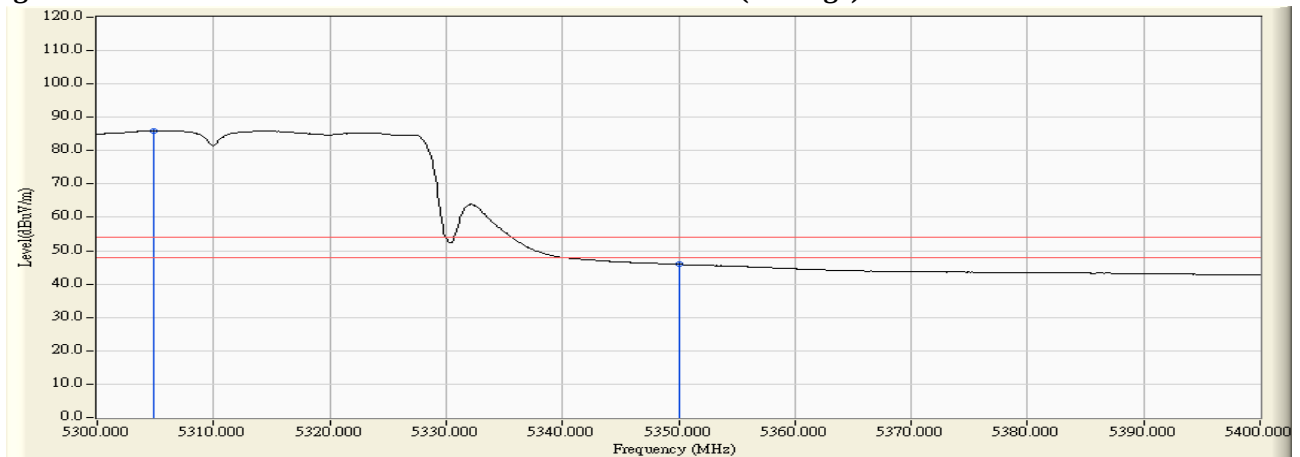


Figure Channel 62: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 62

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
62 (Peak)	5303.700	11.940	91.537	103.477	--	--	Pass
62 (Peak)	5350.000	11.966	51.523	63.490	74.00	54.00	Pass
62 (Peak)	5350.500	11.970	56.924	68.894	74.00	54.00	Pass
62 (Average)	5315.000	11.962	75.884	87.845	--	--	Pass
62 (Average)	5350.000	11.966	36.014	47.981	74.00	54.00	Pass

Figure Channel 62: Vertical (Peak)

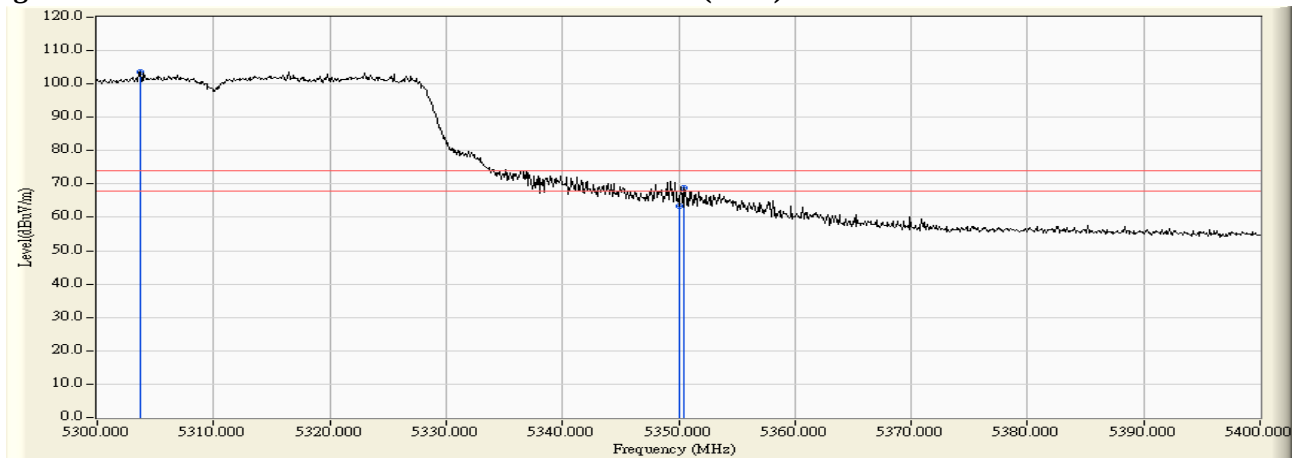
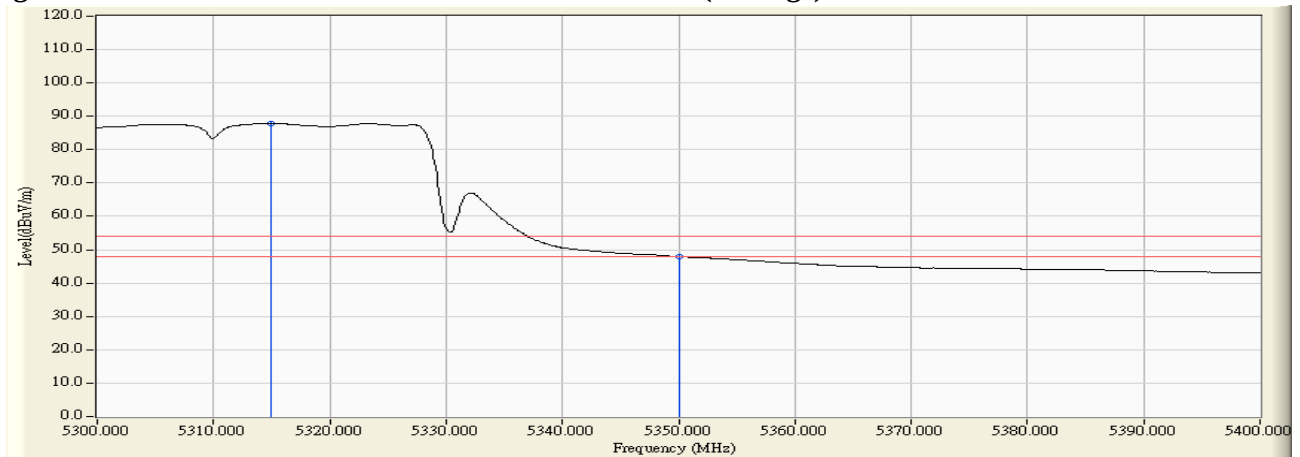


Figure Channel 62: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 102

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
102 (Peak)	5458.950	12.000	48.958	60.958	74.00	54.00	Pass
102 (Peak)	5460.000	12.008	46.400	58.408	74.00	54.00	Pass
102 (Peak)	5496.150	12.104	85.024	97.128	--	--	Pass
102 (Average)	5460.000	12.008	31.726	43.734	74.00	54.00	Pass
102 (Average)	5496.150	12.104	70.150	82.254	--	--	Pass

Figure Channel 102: Horizontal (Peak)

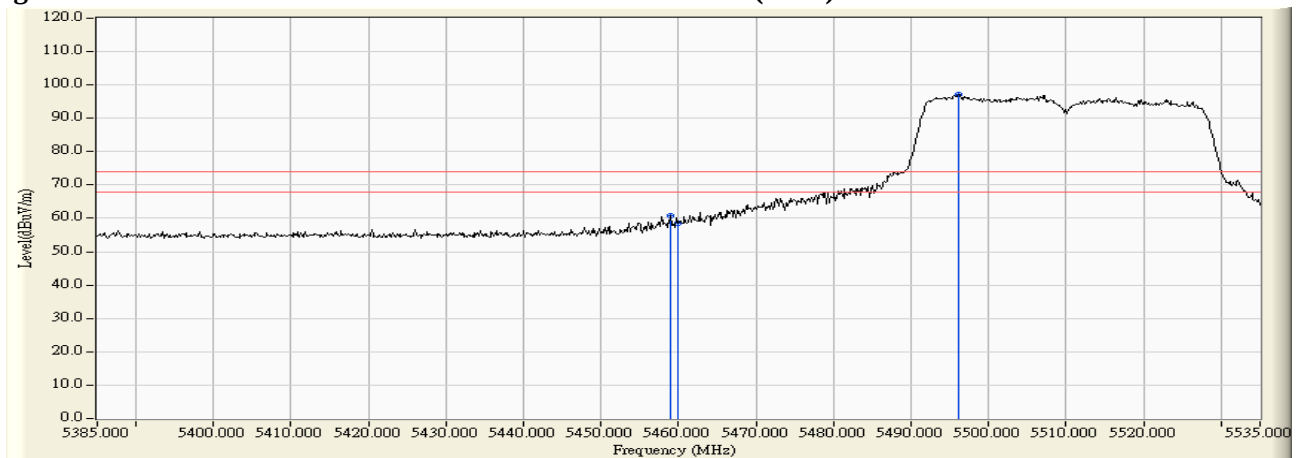
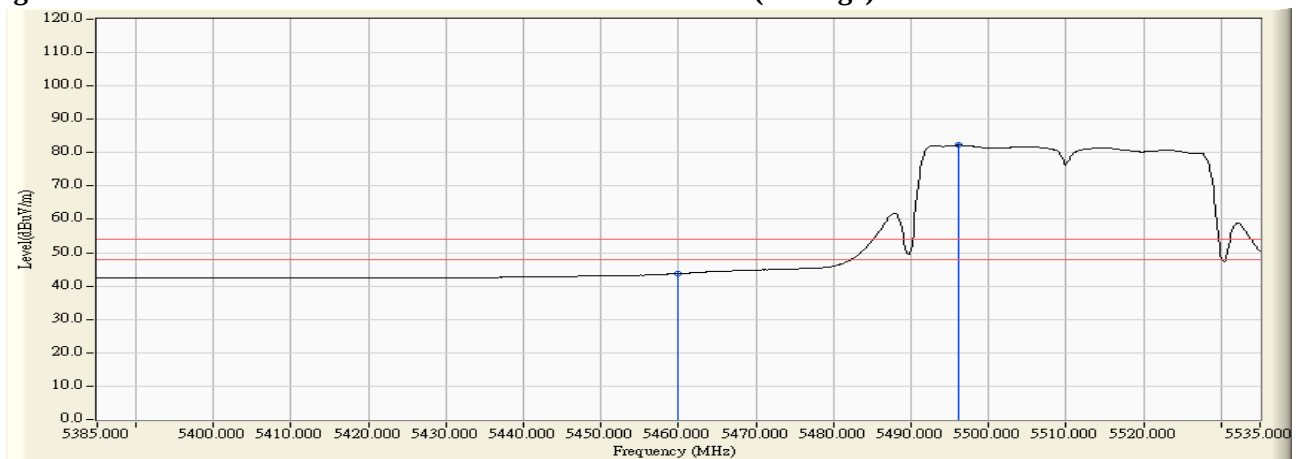


Figure Channel 102: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 102

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
102 (Peak)	5458.950	12.000	51.147	63.147	74.00	54.00	Pass
102 (Peak)	5460.000	12.008	49.237	61.245	74.00	54.00	Pass
102 (Peak)	5507.400	12.181	89.253	101.434	--	--	Pass
102 (Average)	5460.000	12.008	33.120	45.128	74.00	54.00	Pass
102 (Average)	5504.550	12.159	73.800	85.960	--	--	Pass

Figure Channel 102: Vertical (Peak)

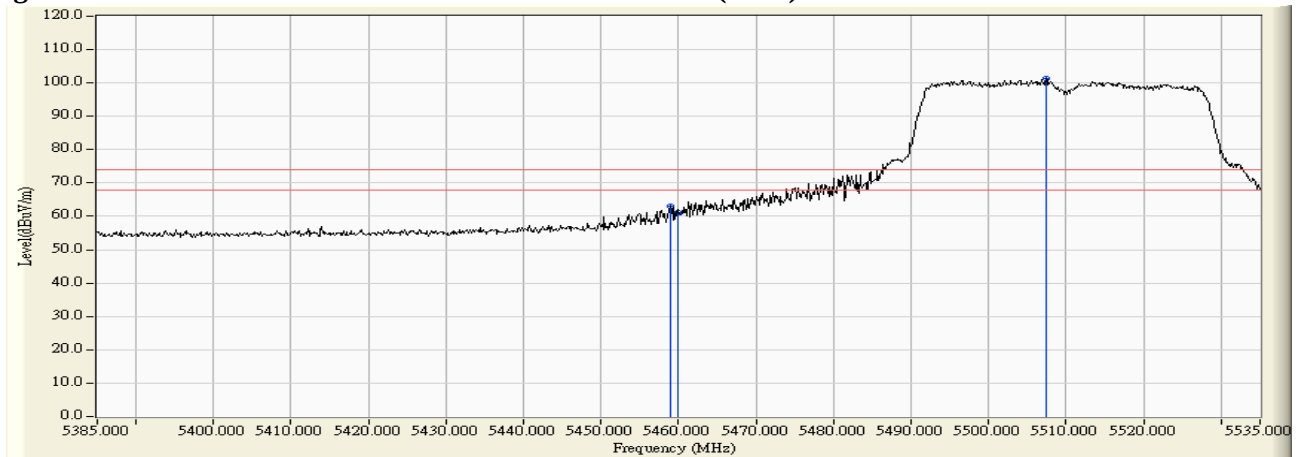
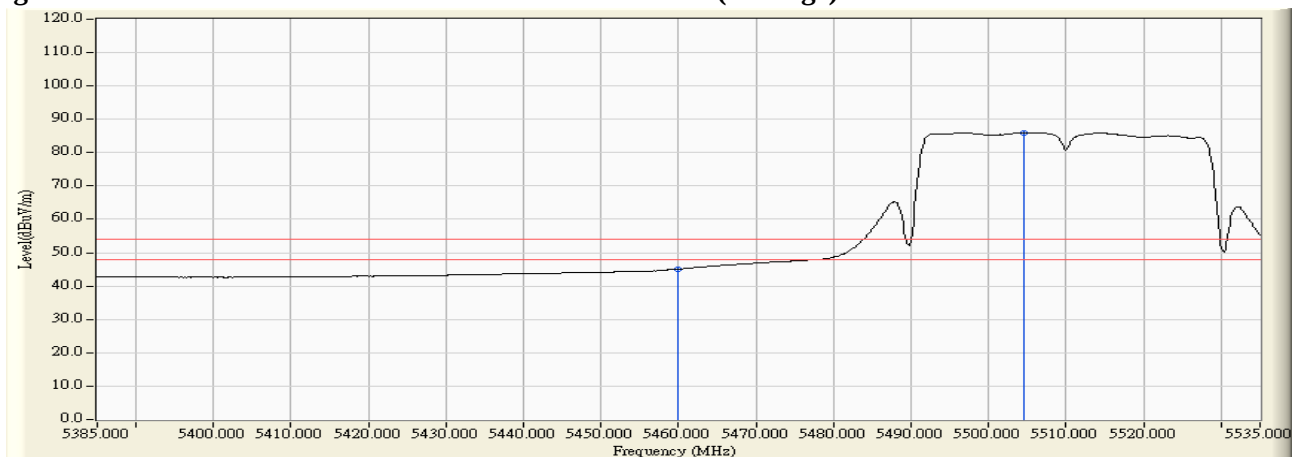


Figure Channel 102: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 102

RF Radiated Measurement:

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5470.000	18.334	-68.590	-50.256	-23.256	-27.000	Pass

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5470.000	19.335	-67.710	-48.375	-21.375	-27.000	Pass

Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps) -Channel 134

RF Radiated Measurement:

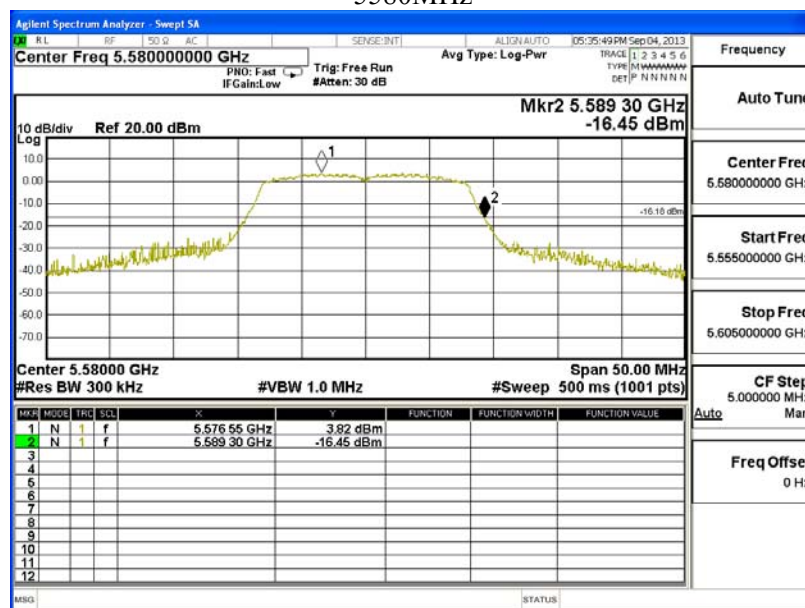
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Horizontal	5725.000	18.649	-74.930	-56.281	-29.281	-27.000	Pass

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm/m)	Margin (dB)	Limit (dBm/m)	Result
Vertical	5670.000	19.249	-75.210	-55.961	-28.961	-27.000	Pass

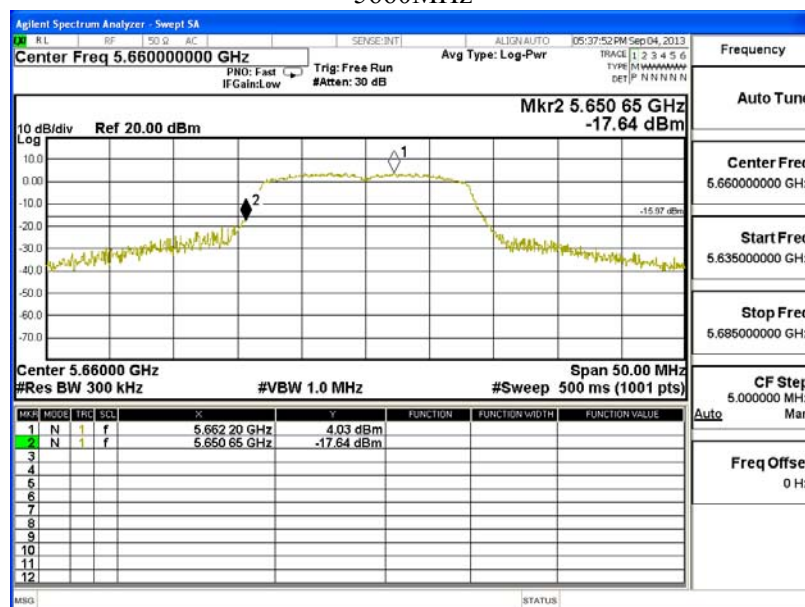
Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5580	5589.30	<5600	PASS
5660	5650.65	>5650	PASS

NOTE: The 5600~5650MHz band is not used in accordance with 15.215 requirement.
 5580MHz



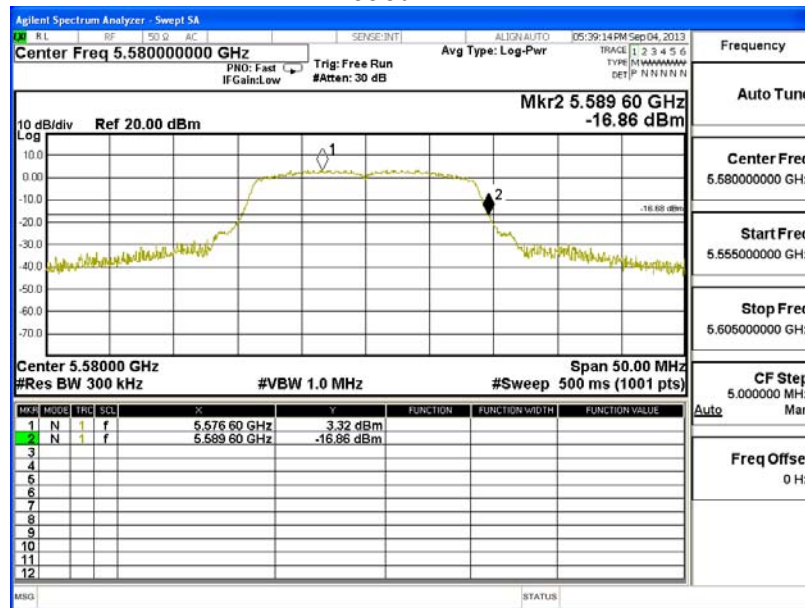
5660MHz



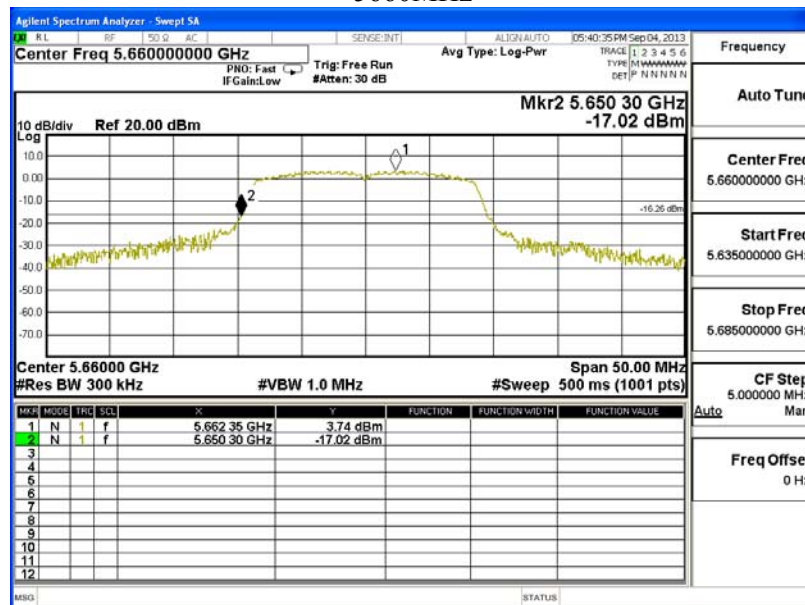
Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 7.2Mbps)

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5580	5589.60	<5600	PASS
5660	5650.30	>5650	PASS

NOTE: The 5600~5650MHz band is not used in accordance with 15.215 requirement.
 5580MHz



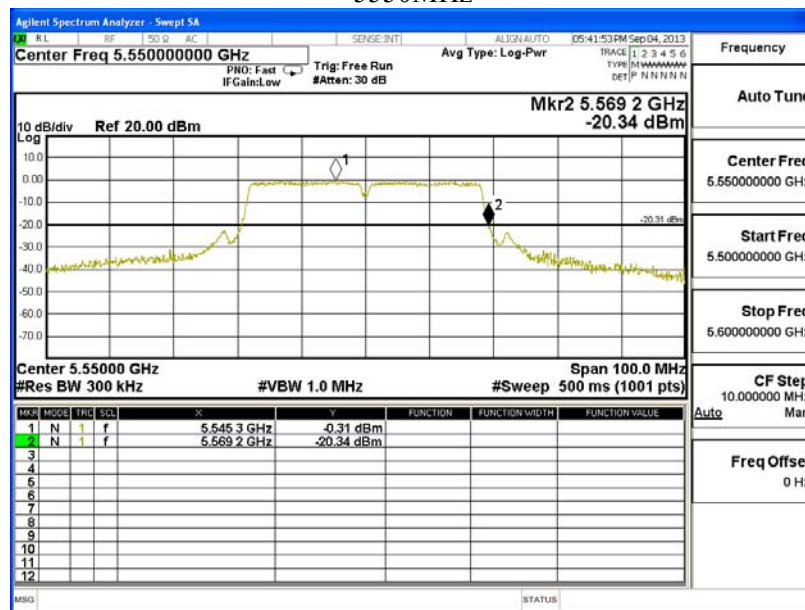
5660MHz



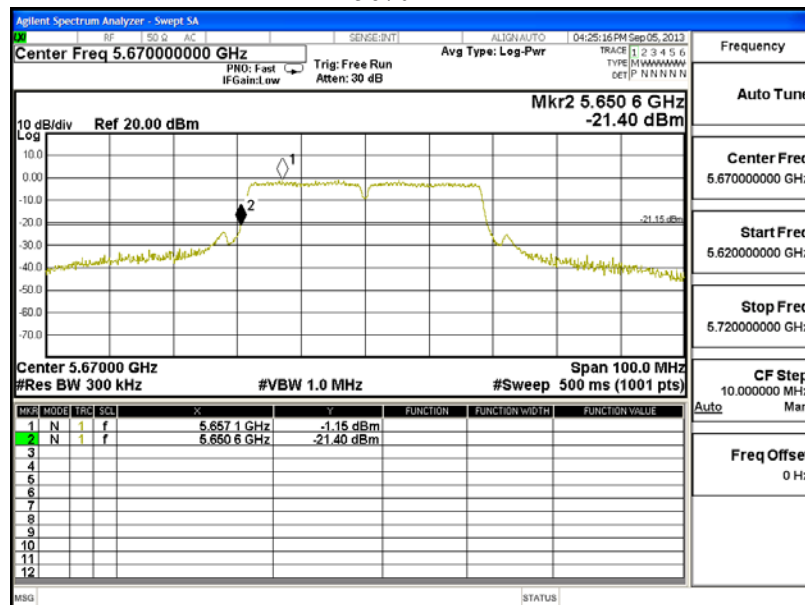
Product : Notebook PC
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 15Mbps)

Test Frequency (MHz)	Measurement Level (20dB BW) (MHz)	Limit (MHz)	Result
5550	5569.20	<5600	PASS
5670	5650.60	>5650	PASS

NOTE: The 5600~5650MHz band is not used in accordance with 15.215 requirement.
 5550MHz



5670MHz



8. Frequency Stability

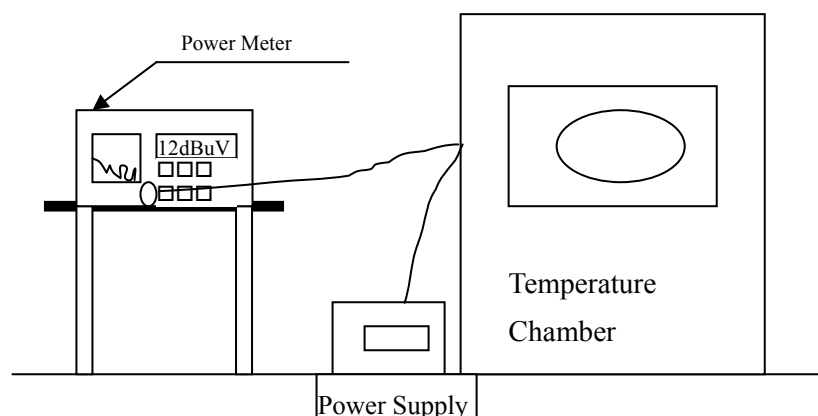
8.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2013
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

8.2. Test Setup



8.3. Limits

Manufactures 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

8.4. Test Procedure

The EUT was setup to ANSI C63.10, 2009; tested to DTS test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

8.5. Uncertainty

± 150 Hz

8.6. Test Result of Frequency Stability

Product : Notebook PC
 Test Item : Frequency Stability
 Test Site : Temperature Chamber
 Test Mode : Carrier Wave

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	ΔF (MHz)
Tnom (20) °C	Vnom (120)V	36	5180.0000	5180.0064	-0.0064
		38	5190.0000	5190.0089	-0.0089
		44	5220.0000	5220.0095	-0.0095
		46	5230.0000	5230.0085	-0.0085
		48	5240.0000	5240.0099	-0.0099
		52	5260.0000	5260.0085	-0.0085
		54	5270.0000	5270.0098	-0.0098
		60	5300.0000	5300.0089	-0.0089
		62	5310.0000	5310.0100	-0.0100
		64	5320.0000	5320.0100	-0.0100
		100	5500.0000	5500.0096	-0.0096
		102	5510.0000	5510.0100	-0.0100
		110	5550.0000	5550.0100	-0.0100
		116	5580.0000	5580.0099	-0.0099
		134	5670.0000	5670.0100	-0.0100
		140	5700.0000	5700.0095	-0.0095

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmax (50) °C	Vmax (138)V	36	5180.0000	5180.0058	-0.0058
		38	5190.0000	5190.0099	-0.0099
		44	5220.0000	5220.0095	-0.0095
		46	5230.0000	5230.0085	-0.0085
		48	5240.0000	5240.0098	-0.0098
		52	5260.0000	5260.0085	-0.0085
		54	5270.0000	5270.0098	-0.0098
		60	5300.0000	5300.0085	-0.0085
		62	5310.0000	5310.0100	-0.0100
		64	5320.0000	5320.0100	-0.0100
		100	5500.0000	5500.0068	-0.0068
		102	5510.0000	5510.0100	-0.0100
		110	5550.0000	5550.0098	-0.0098
		116	5580.0000	5580.0087	-0.0087
		134	5670.0000	5670.0099	-0.0099
		140	5700.0000	5700.0095	-0.0095
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmax (50) °C	Vmin (102)V	36	5180.0000	5180.0058	-0.0058
		38	5190.0000	5190.0099	-0.0099
		44	5220.0000	5220.0095	-0.0095
		46	5230.0000	5230.0085	-0.0085
		48	5240.0000	5240.0098	-0.0098
		52	5260.0000	5260.0085	-0.0085
		54	5270.0000	5270.0098	-0.0098
		60	5300.0000	5300.0085	-0.0085
		62	5310.0000	5310.0100	-0.0100
		64	5320.0000	5320.0100	-0.0100
		100	5500.0000	5500.0068	-0.0068
		102	5510.0000	5510.0100	-0.0100
		110	5550.0000	5550.0580	-0.0580
		116	5580.0000	5580.0097	-0.0097
		134	5670.0000	5670.0099	-0.0099
		140	5700.0000	5700.0095	-0.0095

Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmin (0) °C	Vmax (138)V	36	5180.0000	5180.0100	-0.0100
		38	5190.0000	5190.0089	-0.0089
		44	5220.0000	5220.0095	-0.0095
		46	5230.0000	5230.0098	-0.0098
		48	5240.0000	5240.0094	-0.0094
		52	5260.0000	5260.0085	-0.0085
		54	5270.0000	5270.0098	-0.0098
		60	5300.0000	5300.0089	-0.0089
		62	5310.0000	5310.0100	-0.0100
		64	5320.0000	5320.0100	-0.0100
		100	5500.0000	5500.0093	-0.0093
		102	5510.0000	5510.0096	-0.0096
		110	5550.0000	5550.0100	-0.0100
		116	5580.0000	5580.0098	-0.0098
		134	5670.0000	5670.0100	-0.0100
		140	5700.0000	5700.0095	-0.0095
Test Conditions		Channel	Frequency (MHz)	Frequency (MHz)	$\triangle$ F (MHz)
Tmin (0) °C	Vmin (102)V	36	5180.0000	5180.0100	-0.0100
		38	5190.0000	5190.0089	-0.0089
		44	5220.0000	5220.0095	-0.0095
		46	5230.0000	5230.0098	-0.0098
		48	5240.0000	5240.0094	-0.0094
		52	5260.0000	5260.0085	-0.0085
		54	5270.0000	5270.0098	-0.0098
		60	5300.0000	5300.0089	-0.0089
		62	5310.0000	5310.0100	-0.0100
		64	5320.0000	5320.0100	-0.0100
		100	5500.0000	5500.0093	-0.0093
		102	5510.0000	5510.0096	-0.0096
		110	5550.0000	5550.0100	-0.0100
		116	5580.0000	5580.0097	-0.0097
		134	5670.0000	5670.0100	-0.0100
		140	5700.0000	5700.0095	-0.0095

9. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs