

FCC Test Report

Product Name	Notebook PC
Model No	T100T, H100T, R104T, T101T, H101T, R105T, T102T, H102T, R106T
FCC ID	MSQT100TAR

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

Date of Receipt	Apr. 22, 2014
Issued Date	June 06, 2014
Report No.	1440479R-RFUSP06V00
Report Version	V1.0



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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

The test report shall not be reproduced without the written approval of QuieTek Corporation.

Test Report

Issued Date: June 06, 2014

Report No.: 1440479R-RFUSP06V00



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, T101T, H101T, R105T, T102T, H102T, R106T
FCC ID.	MSQT100TAR
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 C63.10: 2009, FCC KDB-789033
Test Result	Complied

Documented By :



(Senior Adm. Specialist / Genie Chang)

Tested By :



(Engineer / Jack Hsu)

Approved By :



(Director / 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	106
7.3.	Limits	107
7.4.	Test Procedure	107
7.5.	Uncertainty	108
7.6.	Test Result of Band Edge	109
8.	Frequency Stability.....	136
8.1.	Test Equipment.....	136
8.2.	Test Setup	136
8.3.	Limits	136
8.4.	Test Procedure	136
8.5.	Uncertainty	136
8.6.	Test Result of Frequency Stability.....	137
9.	EMI Reduction Method During Compliance Testing	140
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.	MSQT100TAR
Model No.	T100T, H100T, R104T, T101T, H101T, R105T, T102T, H102T, R106T
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"
USB Cable	Non-Shielded, 1.5m
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	WAG-P-LB-00-001	PIFA	-8.30dBi for 5.15~5.25GHz -5.31dBi for 5.25~5.35GHz -3.79dBi 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 nine models, the differences between the models is pre-reserved model name, provided for different sales channels.

Difference between the installed OS is as follows:

Installed OS	Model No
Windows 8	T100T, H100T, R104T
Android	T101T, H101T, R105T, T102T, H102T, R106T

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)
-----------	---

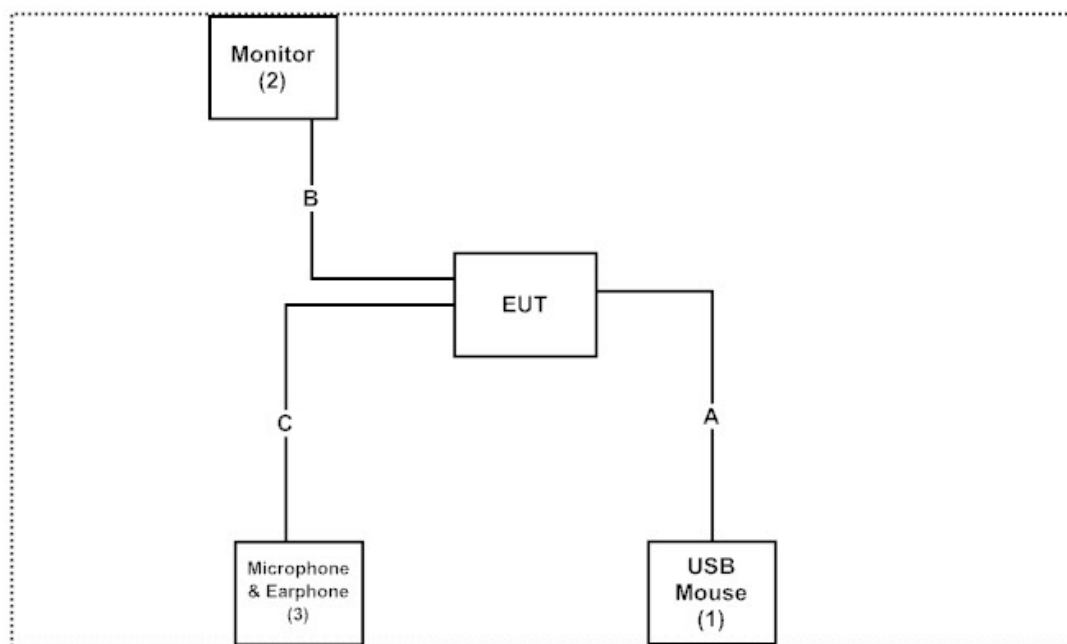
1.3. Tested System Details

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-728-011-038L	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

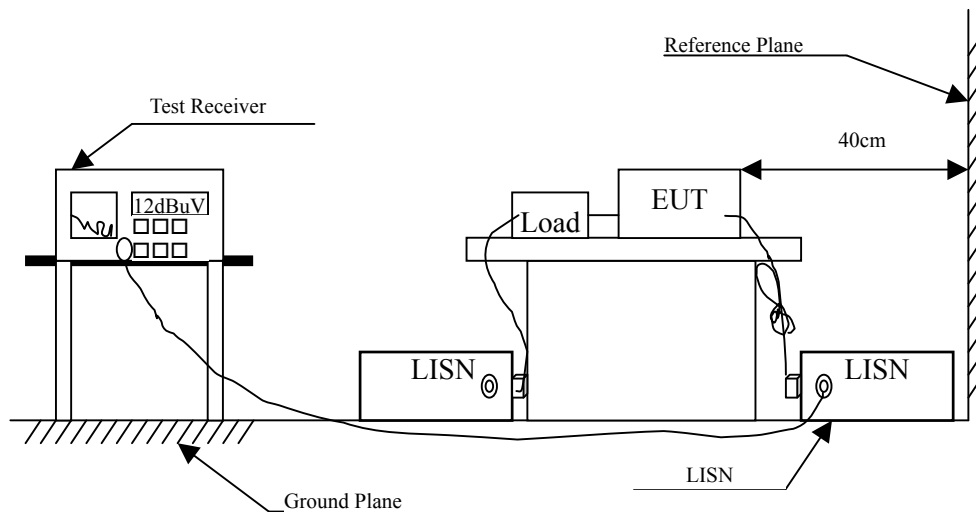
2.1. Test Equipment

	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., 2014	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2014	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar, 2014	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2014	
	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					
0.193	9.738	38.140	47.878	-16.893	64.771
0.212	9.739	31.030	40.769	-23.460	64.229
0.240	9.740	32.790	42.530	-20.899	63.429
0.275	9.742	29.720	39.462	-22.967	62.429
0.455	9.750	24.790	34.540	-22.746	57.286
0.537	9.754	28.450	38.204	-17.796	56.000
Average					
0.193	9.738	24.750	34.488	-20.283	54.771
0.212	9.739	12.550	22.289	-31.940	54.229
0.240	9.740	19.480	29.220	-24.209	53.429
0.275	9.742	14.150	23.892	-28.537	52.429
0.455	9.750	14.850	24.600	-22.686	47.286
0.537	9.754	19.200	28.954	-17.046	46.000

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					
0.170	9.747	37.500	47.247	-18.182	65.429
0.220	9.750	31.740	41.490	-22.510	64.000
0.232	9.750	28.610	38.360	-25.297	63.657
0.255	9.751	29.010	38.761	-24.239	63.000
0.302	9.745	25.920	35.666	-25.991	61.657
0.529	9.754	23.410	33.164	-22.836	56.000
Average					
0.170	9.747	23.110	32.857	-22.572	55.429
0.220	9.750	12.800	22.550	-31.450	54.000
0.232	9.750	14.020	23.770	-29.887	53.657
0.255	9.751	12.590	22.341	-30.659	53.000
0.302	9.745	11.030	20.776	-30.881	51.657
0.529	9.754	14.200	23.954	-22.046	46.000

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					
0.166	9.745	35.410	45.155	-20.388	65.543
0.193	9.738	28.730	38.468	-26.303	64.771
0.248	9.741	28.610	38.351	-24.849	63.200
0.494	9.752	27.860	37.612	-18.559	56.171
0.529	9.754	28.230	37.984	-18.016	56.000
0.781	9.765	31.890	41.655	-14.345	56.000
Average					
0.166	9.745	17.710	27.455	-28.088	55.543
0.193	9.738	12.150	21.888	-32.883	54.771
0.248	9.741	13.570	23.311	-29.889	53.200
0.494	9.752	18.310	28.062	-18.109	46.171
0.529	9.754	19.900	29.654	-16.346	46.000
0.781	9.765	24.610	34.375	-11.625	46.000

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					
0.154	9.749	33.350	43.098	-22.788	65.886
0.201	9.749	27.970	37.719	-26.824	64.543
0.295	9.748	21.000	30.748	-31.109	61.857
0.486	9.752	19.740	29.492	-26.908	56.400
0.716	9.768	22.550	32.318	-23.682	56.000
0.777	9.775	29.240	39.015	-16.985	56.000
Average					
0.154	9.749	17.160	26.908	-28.978	55.886
0.201	9.749	11.400	21.149	-33.394	54.543
0.295	9.748	5.530	15.278	-36.579	51.857
0.486	9.752	10.550	20.302	-26.098	46.400
0.716	9.768	14.440	24.208	-21.792	46.000
0.777	9.775	20.160	29.935	-16.065	46.000

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	9.746	29.000	38.746	-26.911	65.657
0.255	9.741	21.740	31.481	-31.519	63.000
0.298	9.743	19.500	29.243	-32.528	61.771
0.494	9.752	25.470	35.222	-20.949	56.171
0.763	9.764	29.360	39.124	-16.876	56.000
0.813	9.767	29.050	38.817	-17.183	56.000
Average					
0.162	9.746	15.780	25.526	-30.131	55.657
0.255	9.741	8.170	17.911	-35.089	53.000
0.298	9.743	3.330	13.073	-38.698	51.771
0.494	9.752	15.830	25.582	-20.589	46.171
0.763	9.764	24.780	34.544	-11.456	46.000
0.813	9.767	22.530	32.297	-13.703	46.000

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					
0.158	9.747	30.530	40.277	-25.494	65.771
0.236	9.750	24.570	34.320	-29.223	63.543
0.431	9.749	20.920	30.669	-27.302	57.971
0.509	9.753	27.020	36.773	-19.227	56.000
0.720	9.769	29.900	39.670	-16.330	56.000
0.767	9.774	35.250	45.024	-10.976	56.000
Average					
0.158	9.747	16.850	26.597	-29.174	55.771
0.236	9.750	9.900	19.650	-33.893	53.543
0.431	9.749	11.140	20.889	-27.082	47.971
0.509	9.753	19.440	29.193	-16.807	46.000
0.720	9.769	23.370	33.140	-12.860	46.000
0.767	9.774	29.880	39.654	-6.346	46.000

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

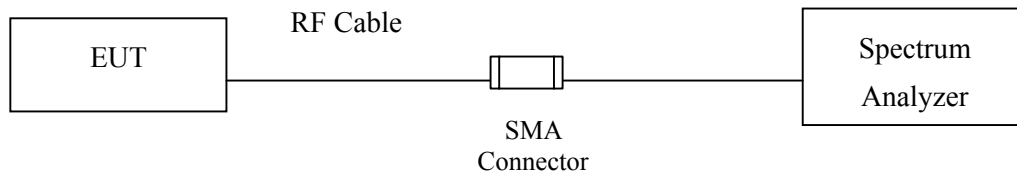
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2014
X	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2014
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2014

Note:

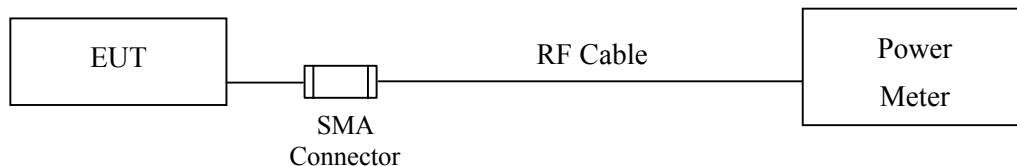
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

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	12.09	--	--	--	--	--	--	--	<17dBm
44	5220	12.15	12.03	11.90	11.77	11.65	11.52	11.39	11.26	<17dBm
48	5240	12.14	--	--	--	--	--	--	--	<17dBm
52	5260	12.18	--	--	--	--	--	--	--	<24dBm
60	5300	12.21	12.09	11.92	11.78	11.64	11.49	11.34	11.20	<24dBm
64	5320	12.23	--	--	--	--	--	--	--	<24dBm
100	5500	9.98	--	--	--	--	--	--	--	<24dBm
116	5580	11.98	11.78	11.56	11.41	11.24	11.07	10.90	10.73	<24dBm
140	5700	11.72	--	--	--	--	--	--	--	<24dBm

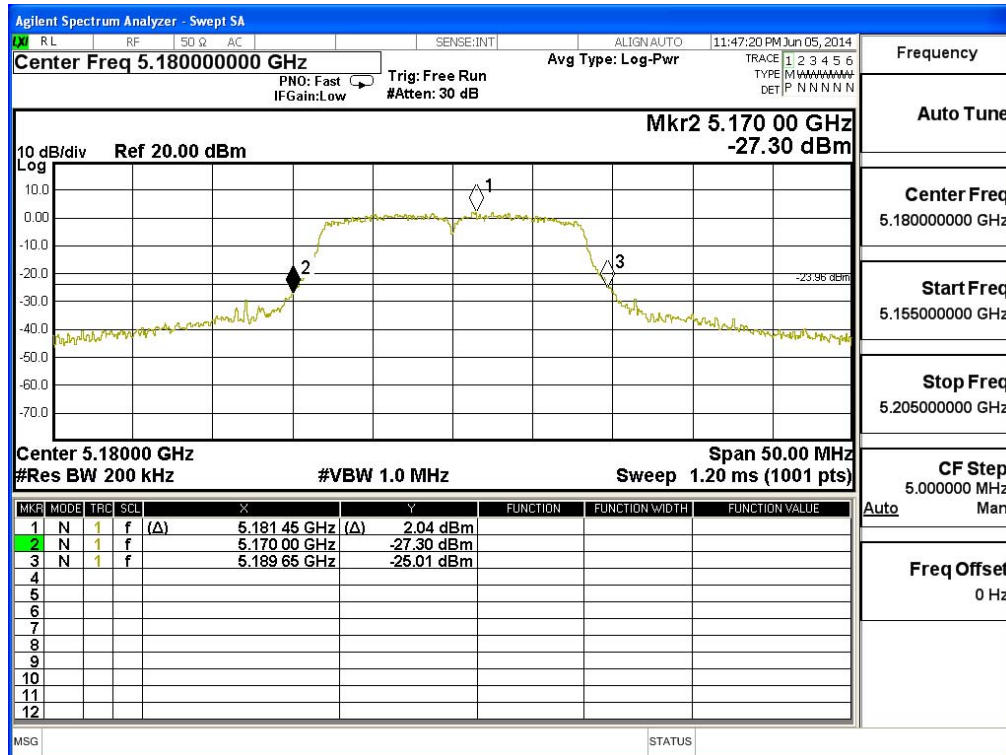
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

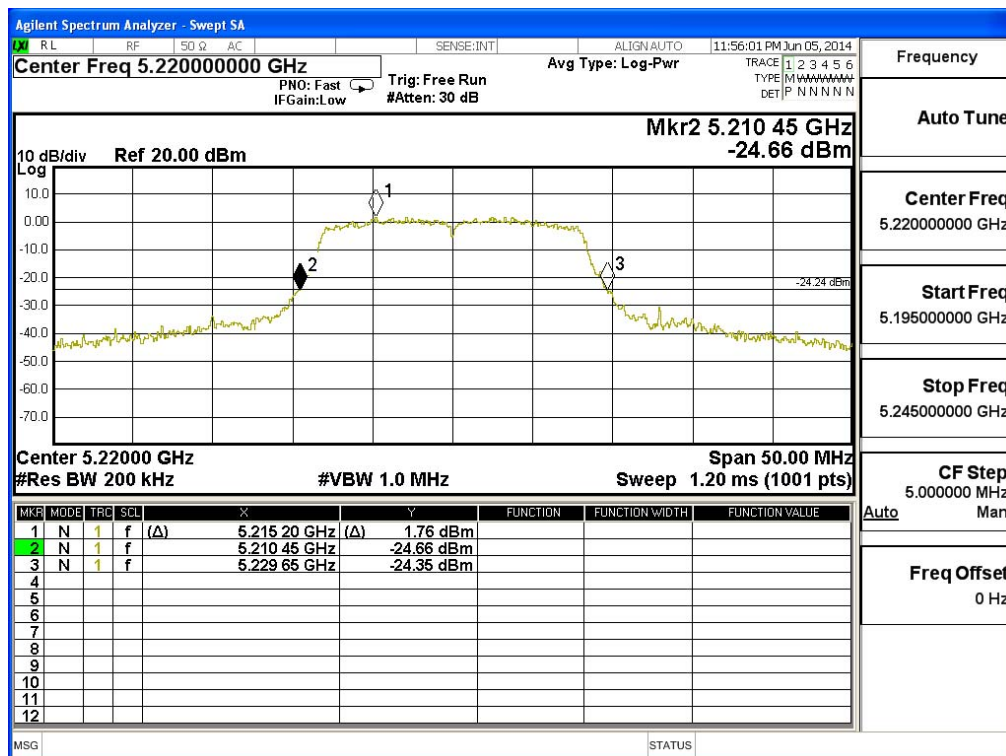
Channel Number	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit	
				(dBm)	dBm+10log(BW)
36	5180	19.65	12.09	17	16.93
44	5220	19.20	12.15	17	16.83
48	5240	19.85	12.14	17	16.98
52	5260	19.35	12.18	24	23.87
60	5300	19.50	12.21	24	23.90
64	5320	19.55	12.23	24	23.91
100	5500	19.35	9.98	24	23.87
116	5580	19.45	11.98	24	23.89
140	5700	19.20	11.72	24	23.83

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

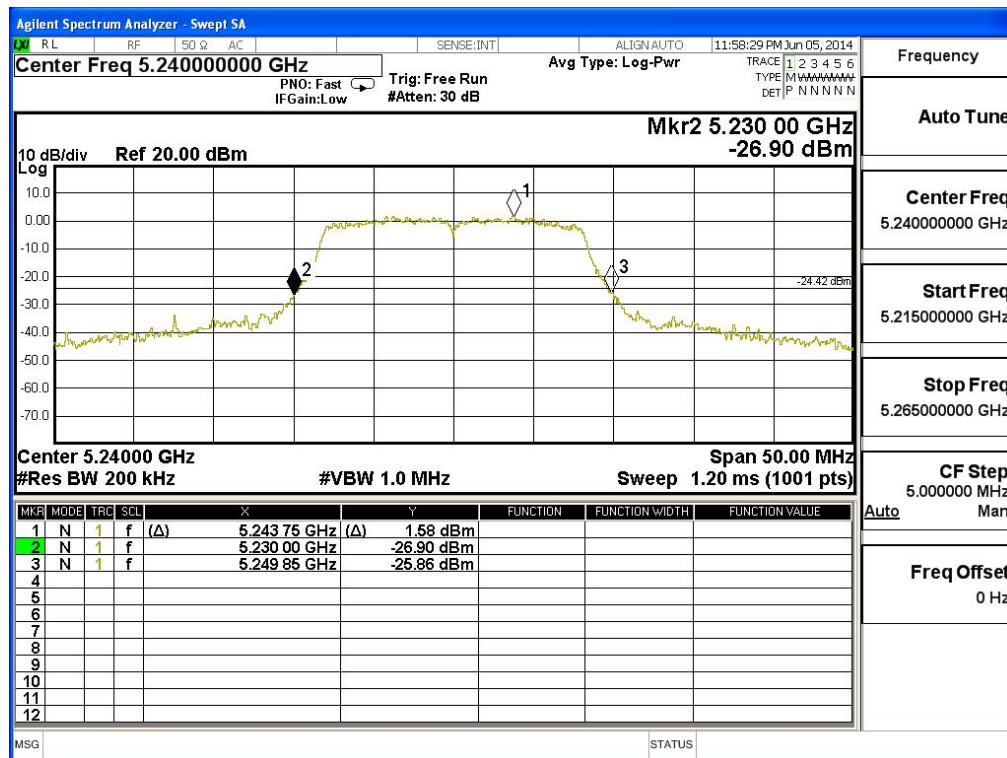
26dBc Occupied Bandwidth: Channel 36



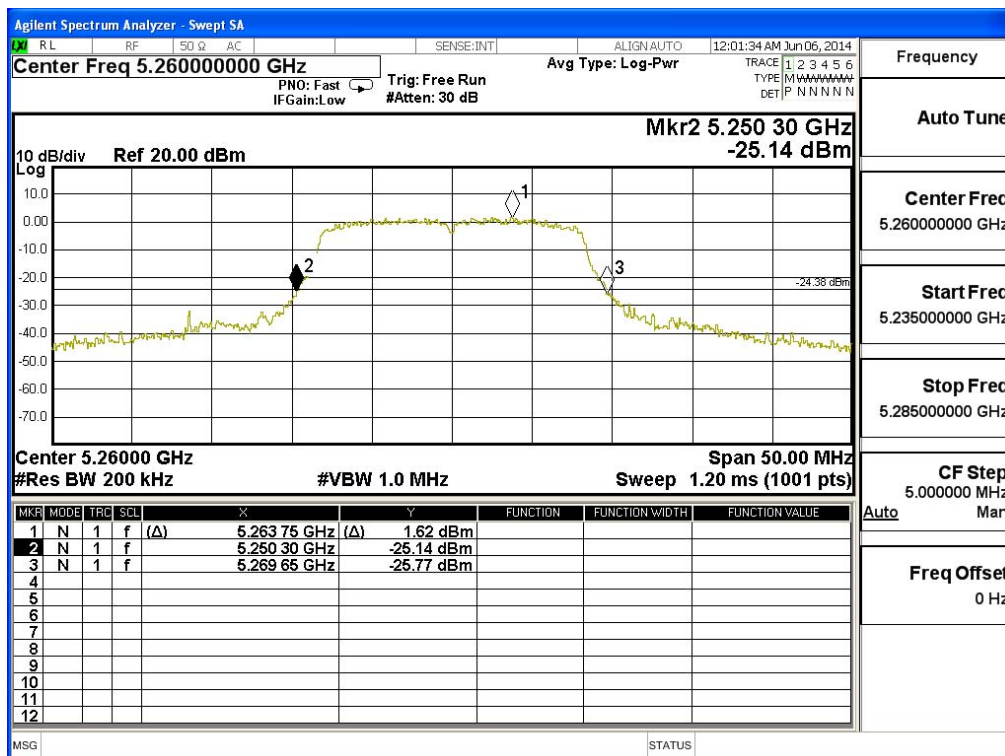
Channel 44



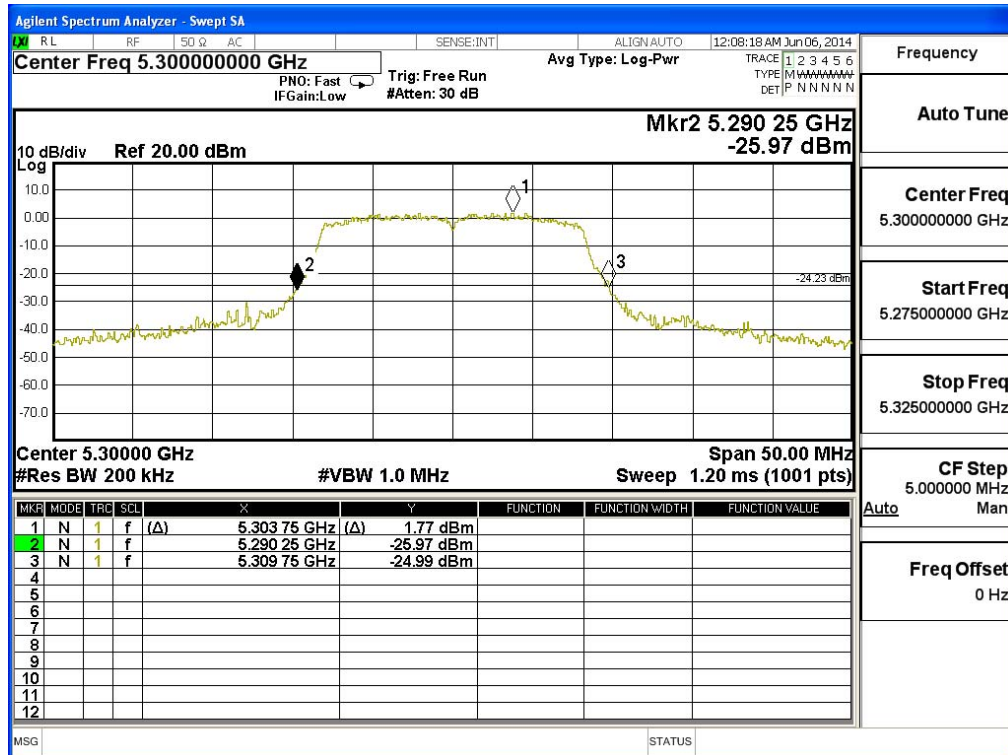
Channel 48



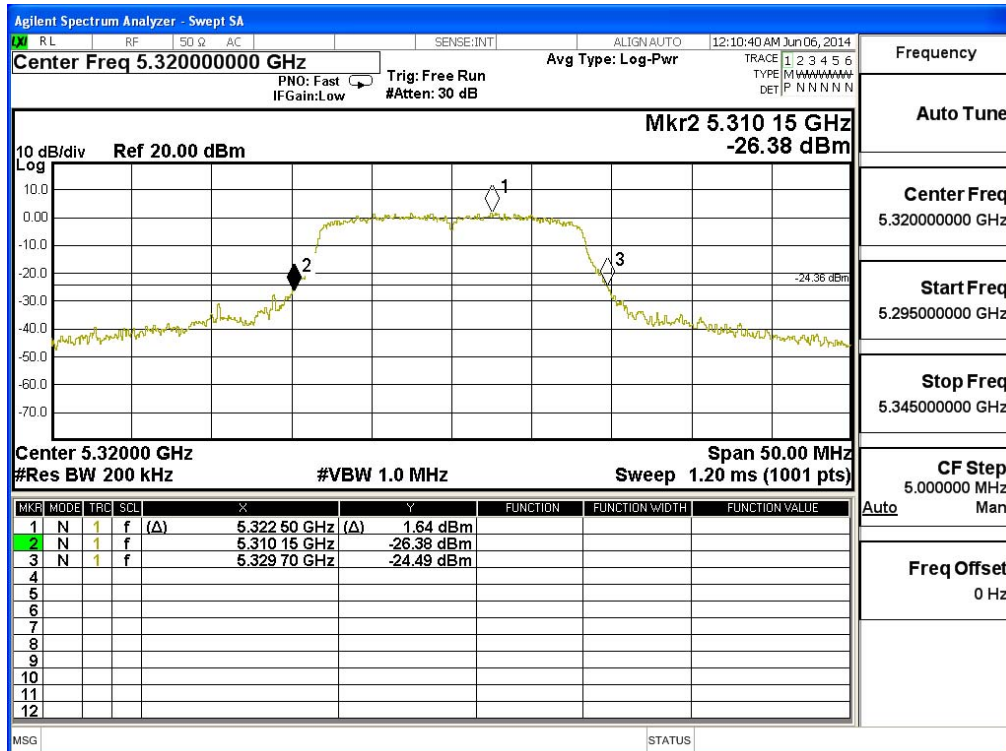
Channel 52



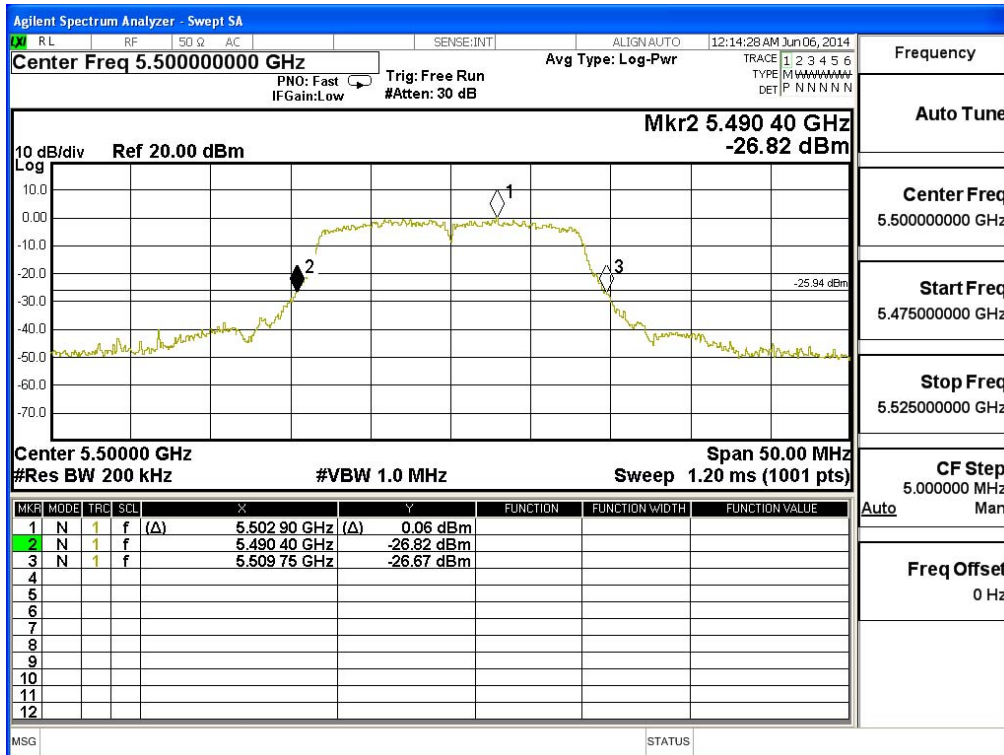
Channel 60



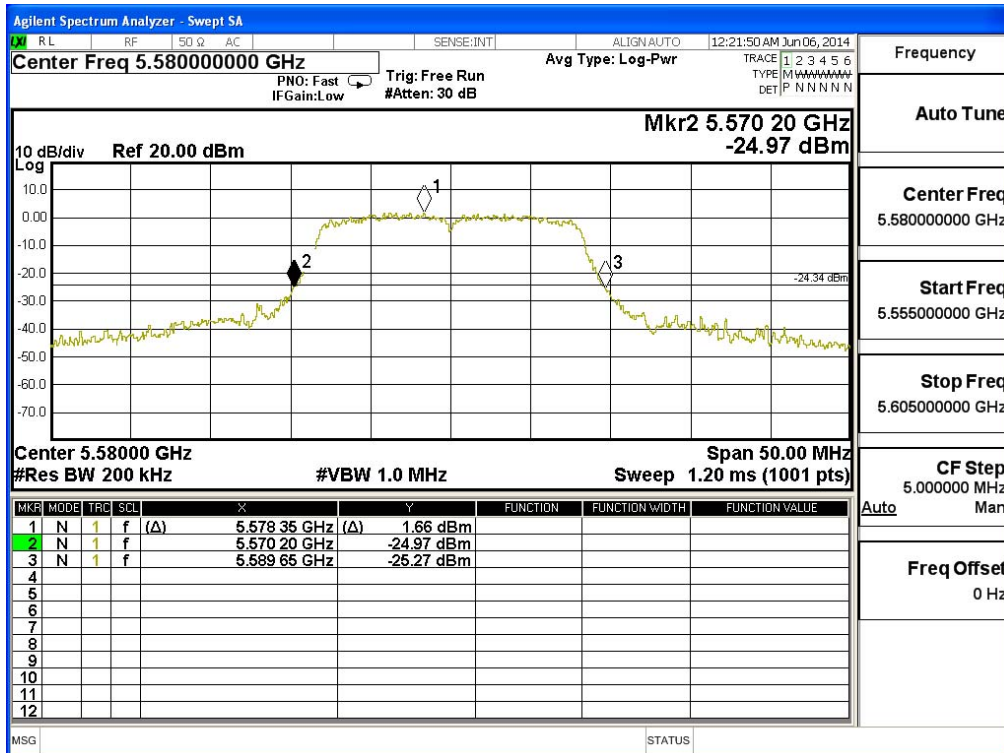
Channel 64



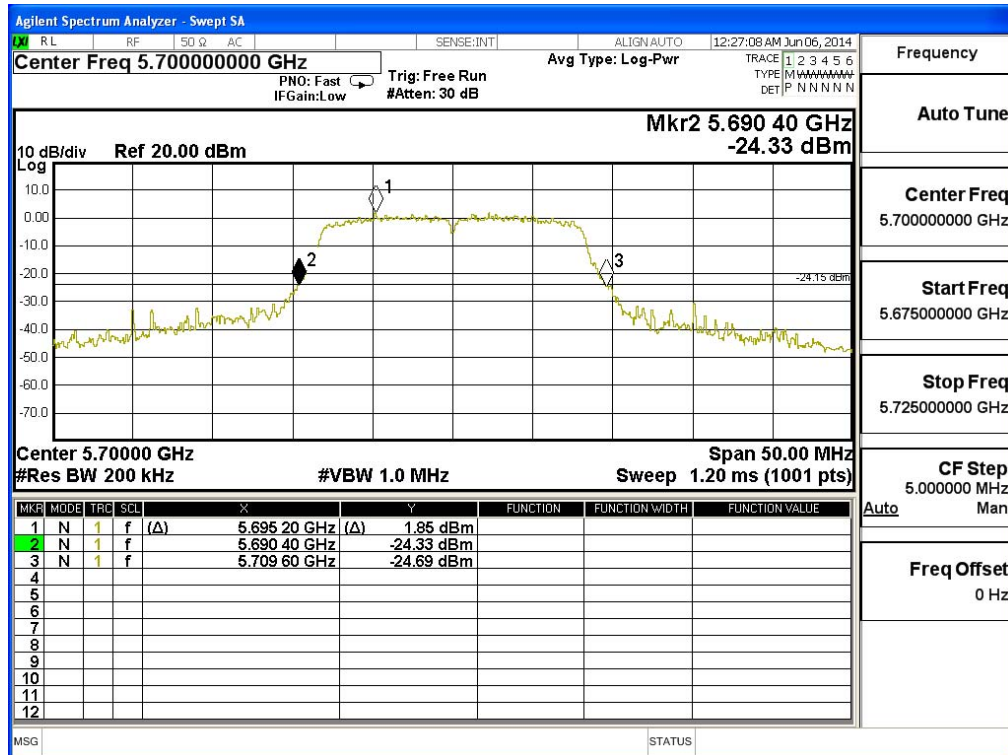
Channel 100



Channel 116



Channel 140



Product : Notebook PC
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Mode : Mode 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	11.92	--	--	--	--	--	--	--	<17dBm
44	5220	11.95	11.84	11.63	11.49	11.33	11.17	11.01	10.85	<17dBm
48	5240	12.09	--	--	--	--	--	--	--	<17dBm
52	5260	12.14	--	--	--	--	--	--	--	<24dBm
60	5300	12.11	12.02	11.86	11.75	11.62	11.50	11.37	11.25	<24dBm
64	5320	12.18	--	--	--	--	--	--	--	<24dBm
100	5500	9.86	--	--	--	--	--	--	--	<24dBm
116	5580	11.99	11.57	11.33	11.16	10.98	10.79	10.61	10.42	<24dBm
140	5700	11.62	--	--	--	--	--	--	--	<24dBm

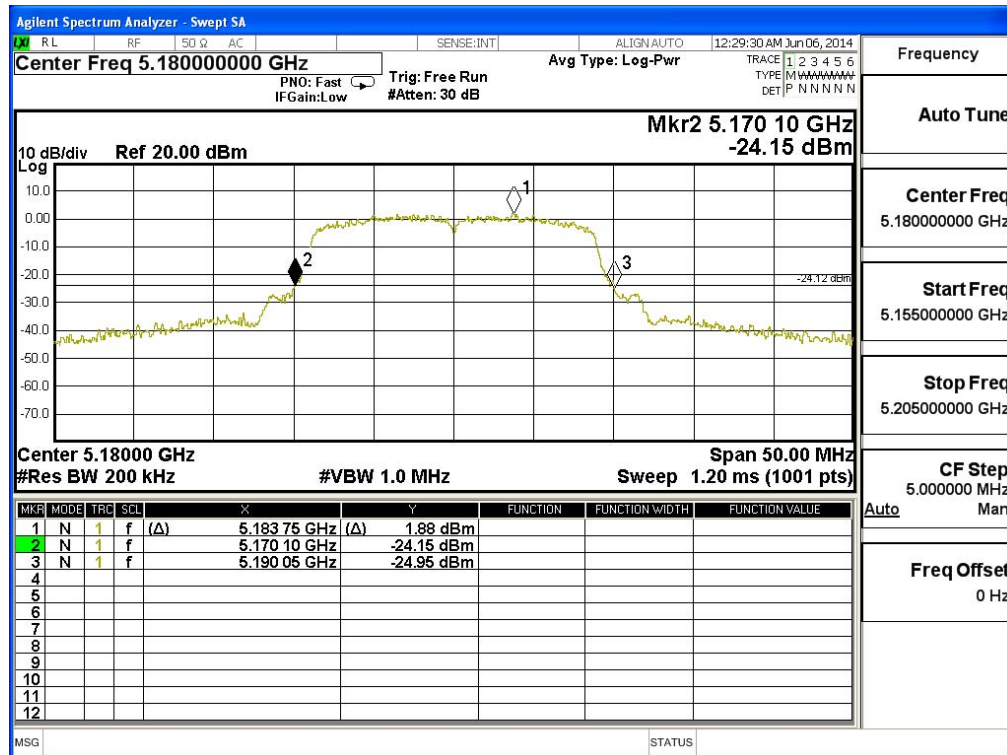
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

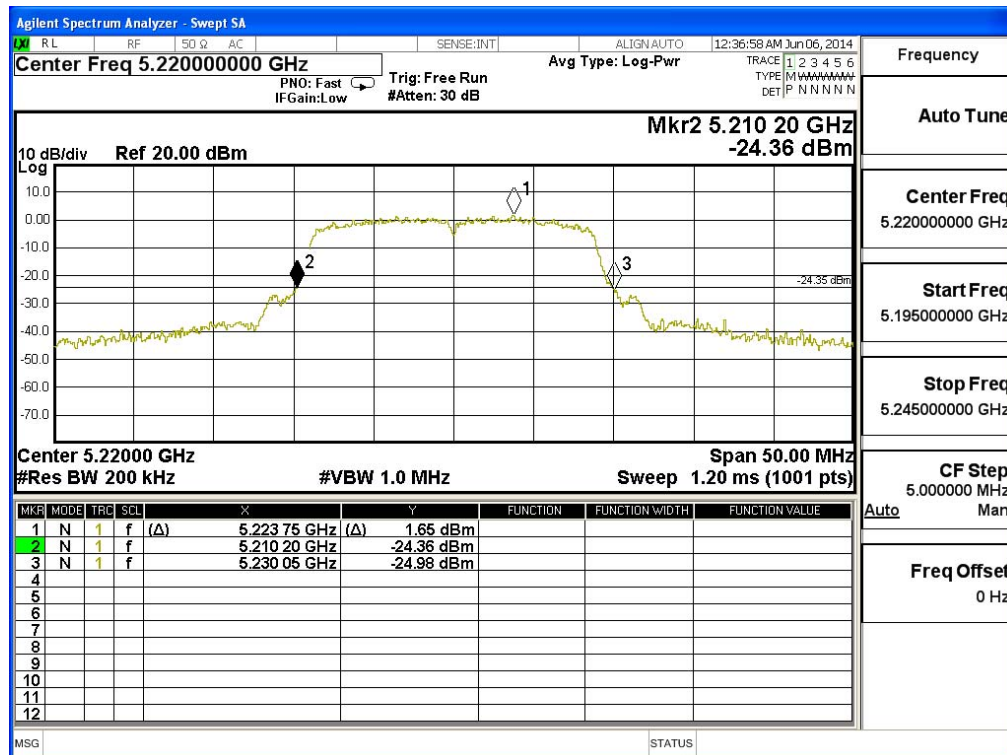
Channel Number	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit	
				(dBm)	dBm+10log(BW)
36	5180	19.95	11.92	17	17.00
44	5220	19.85	11.95	17	16.98
48	5240	20.00	12.09	17	17.01
52	5260	19.85	12.14	24	23.98
60	5300	20.00	12.11	24	24.01
64	5320	20.00	12.18	24	24.01
100	5500	19.85	9.86	24	23.98
116	5580	19.55	11.99	24	23.91
140	5700	20.00	11.62	24	24.01

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

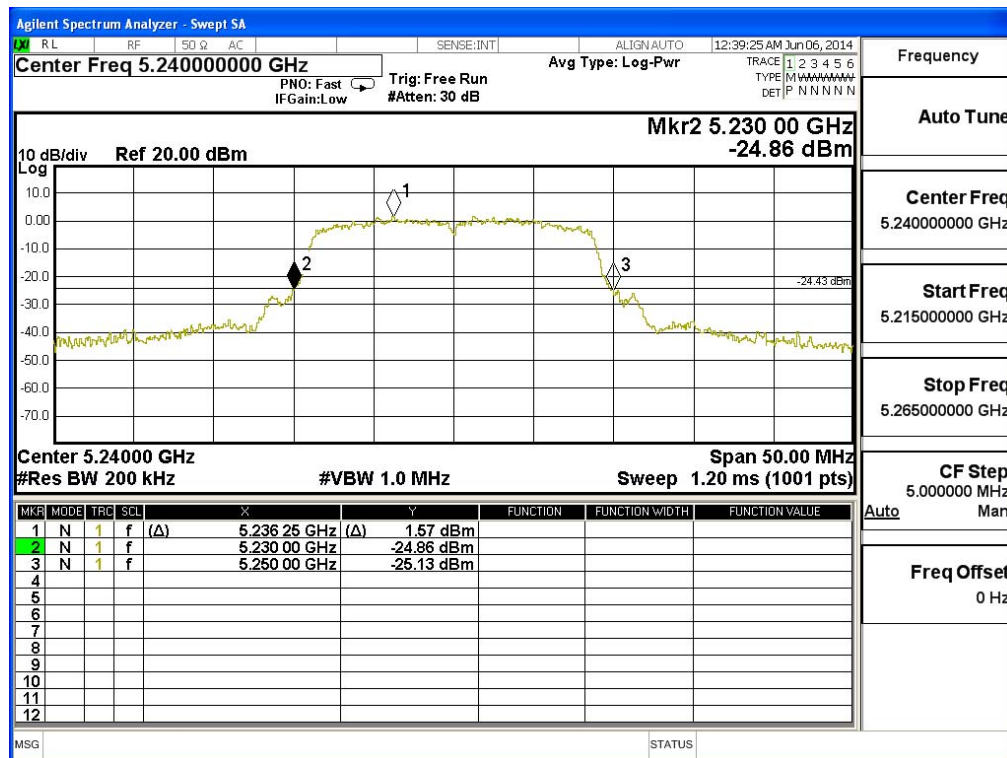
26dBc Occupied Bandwidth: Channel 36



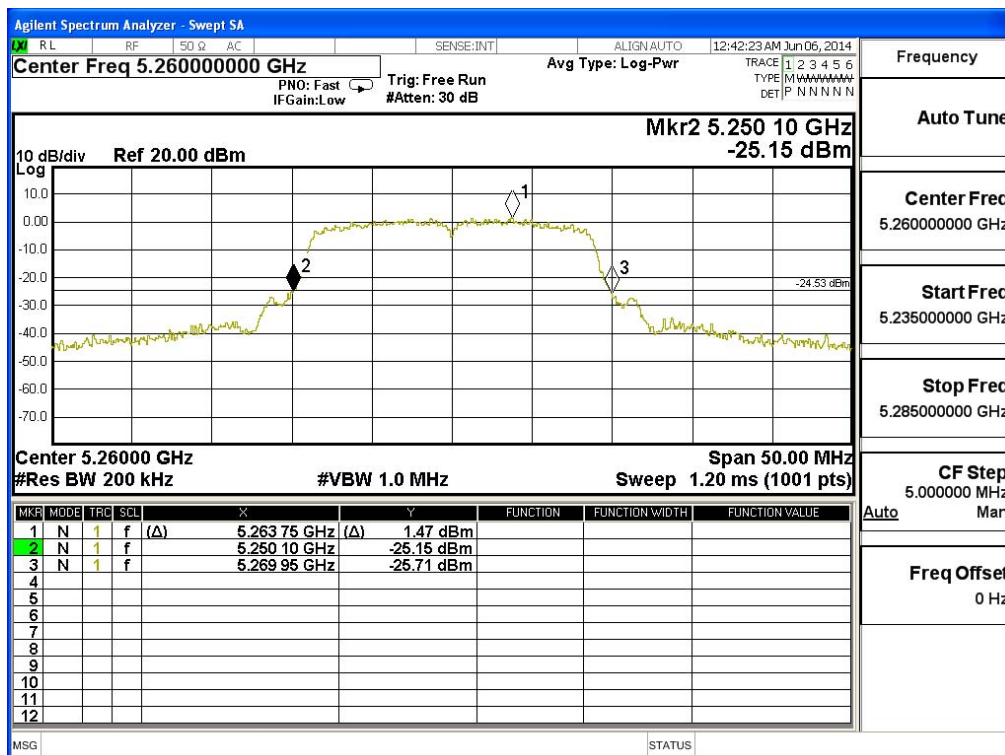
Channel 44



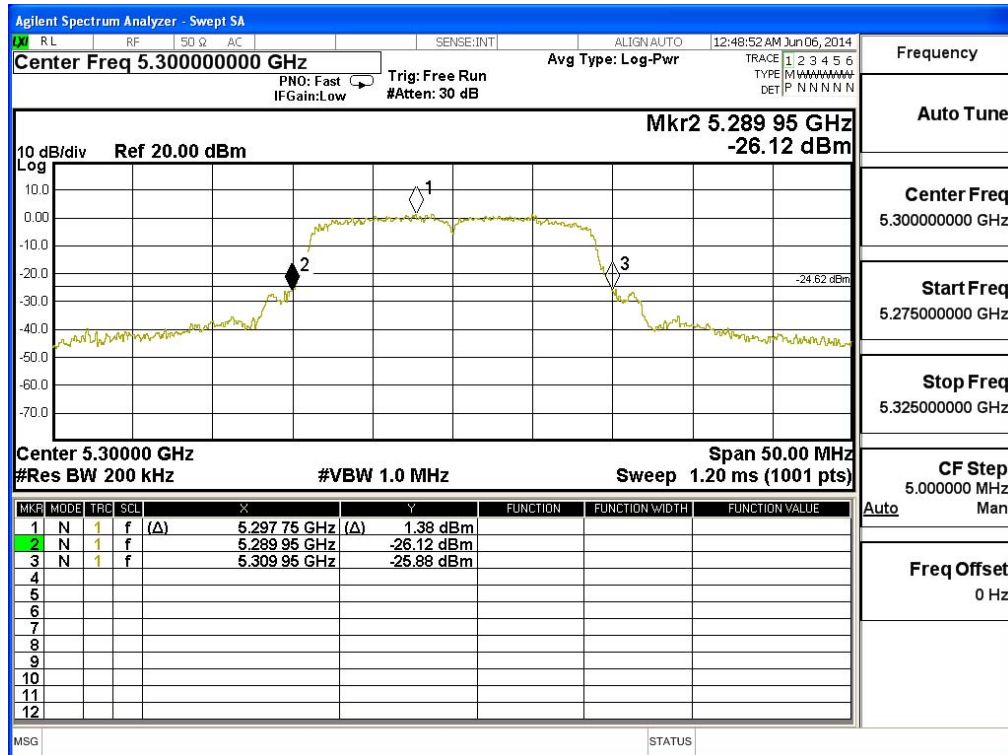
Channel 48



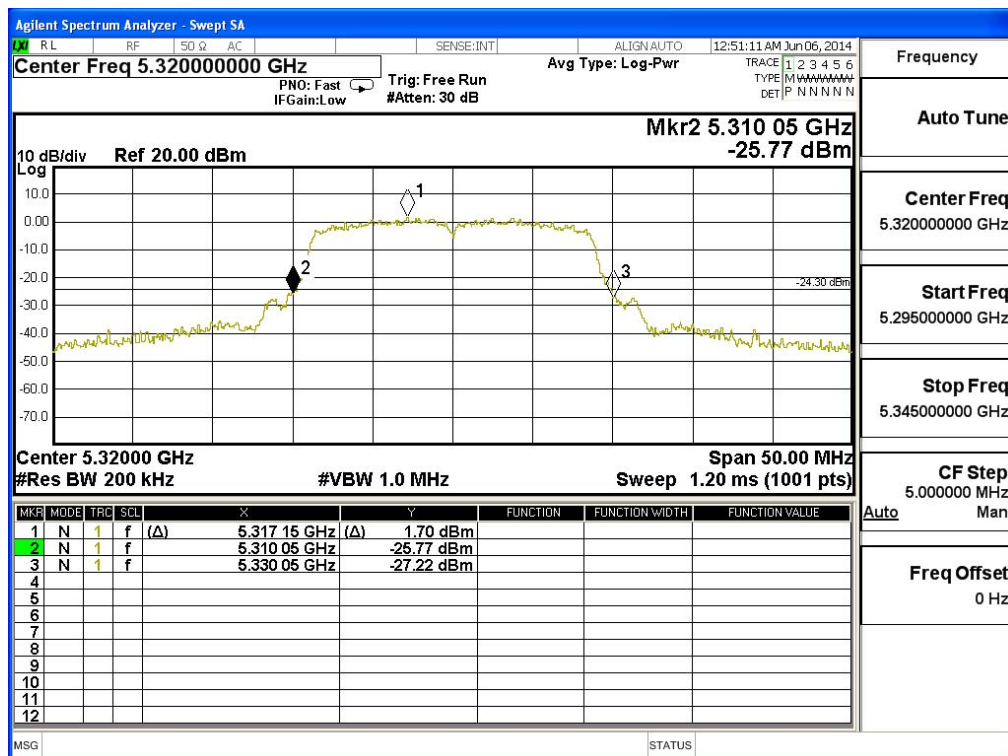
Channel 52



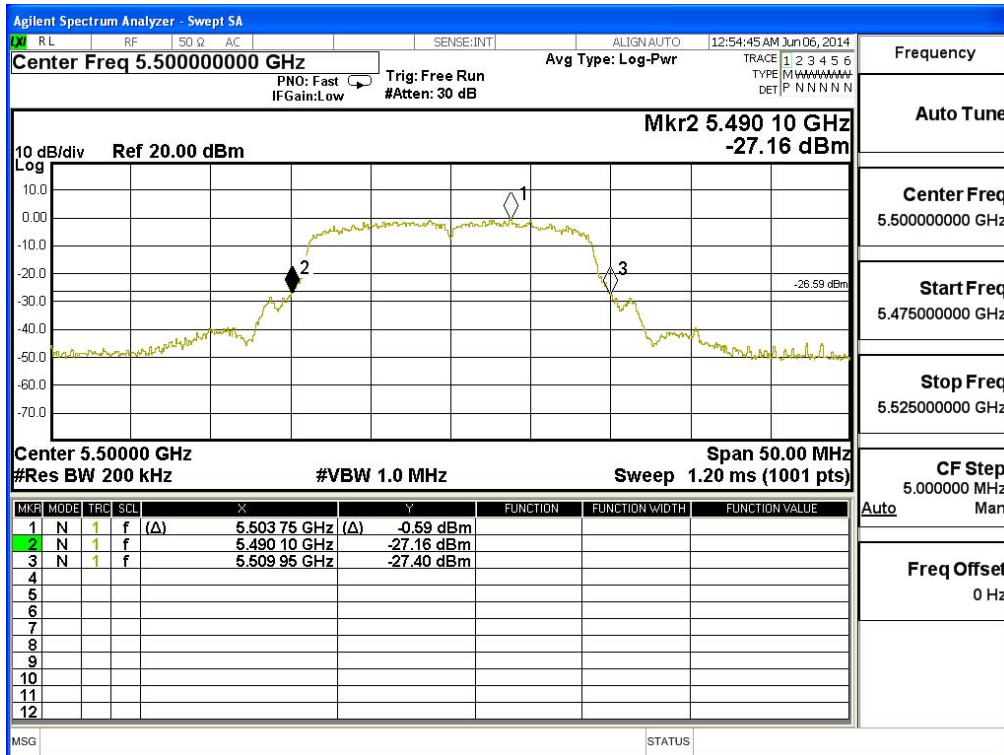
Channel 60



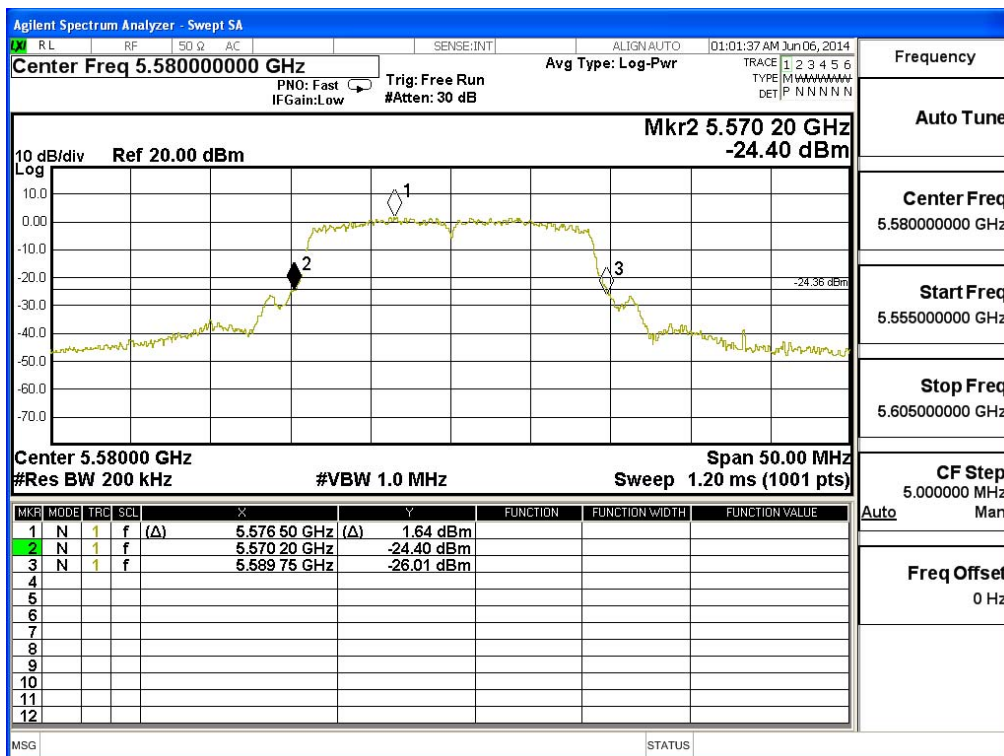
Channel 64



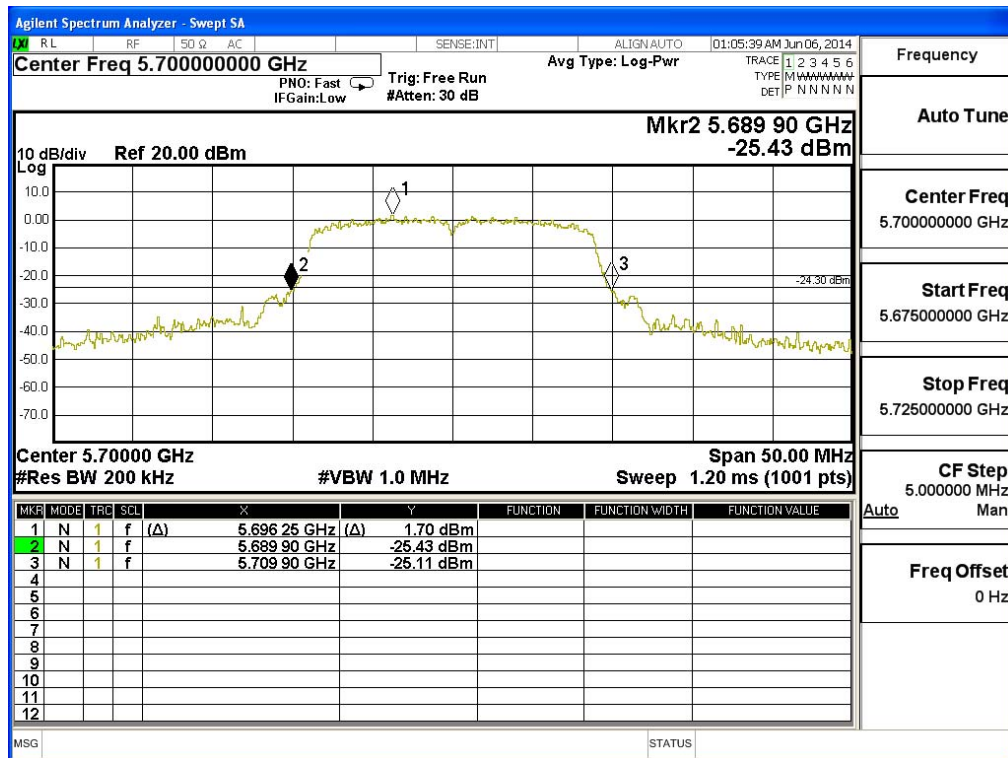
Channel 100



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	10.50	10.39	10.24	10.12	9.99	9.86	9.73	9.60	<17dBm
46	5230	11.64	--	--	--	--	--	--	--	<17dBm
54	5270	11.75	11.59	11.41	11.24	11.07	10.90	10.73	10.56	<17dBm
62	5310	9.65	--	--	--	--	--	--	--	<24dBm
102	5510	9.54	--	--	--	--	--	--	--	<24dBm
110	5550	11.53	11.41	11.24	11.10	10.96	10.81	10.67	10.52	<24dBm
134	5670	11.29	--	--	--	--	--	--	--	<24dBm

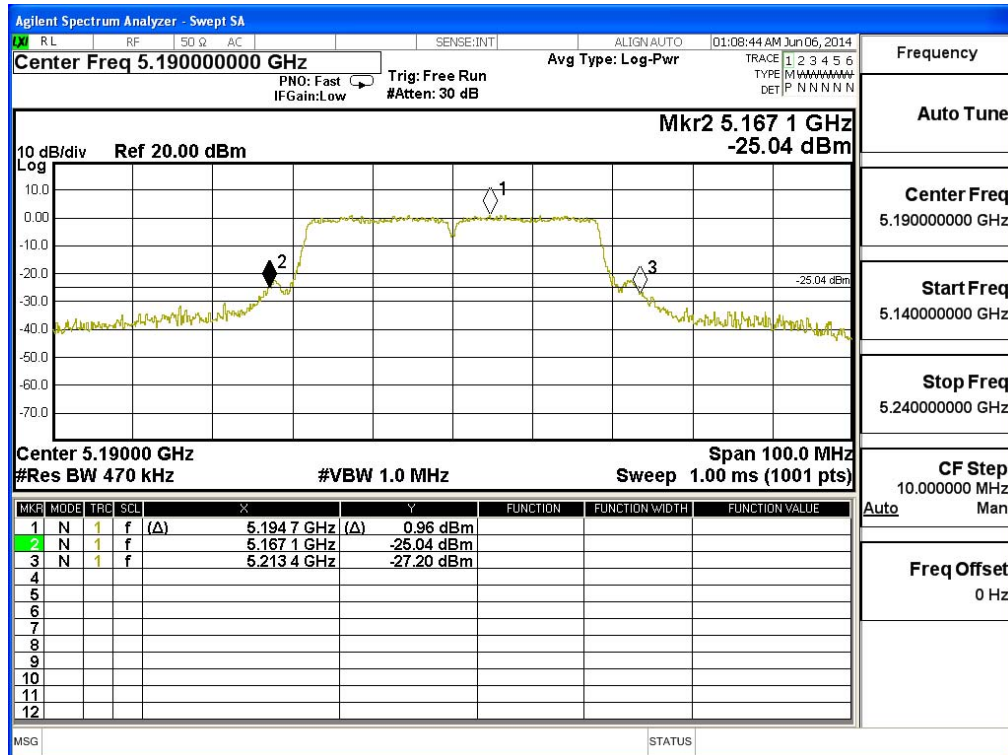
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

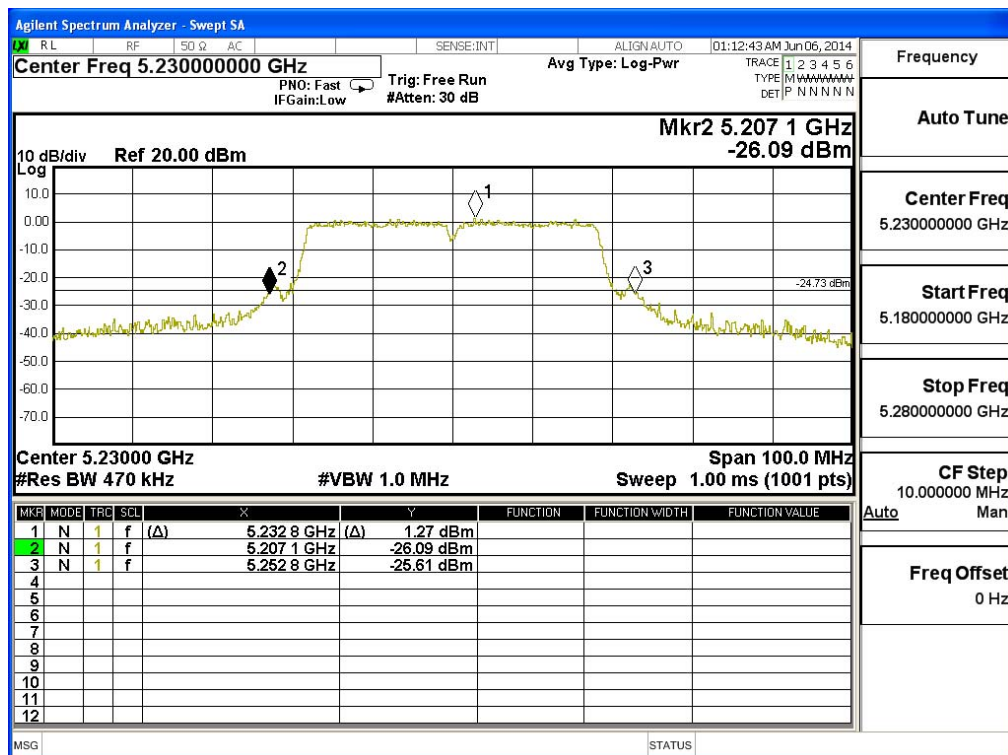
Channel Number	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit	
				(dBm)	dBm+10log(BW)
38	5190	46.30	10.50	17	20.66
46	5230	45.70	11.64	17	20.60
54	5270	46.00	11.75	24	27.63
62	5310	45.60	9.65	24	27.59
102	5510	45.70	9.54	24	27.60
110	5550	45.80	11.53	24	27.61
134	5670	45.90	11.29	24	27.62

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

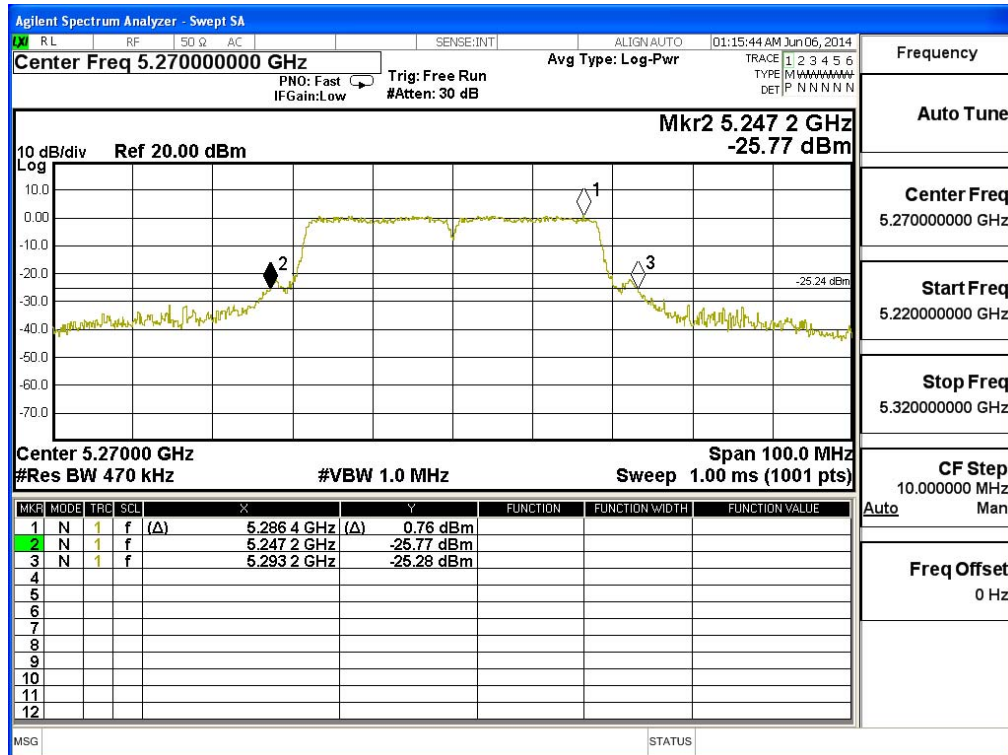
26dBc Occupied Bandwidth: Channel 38



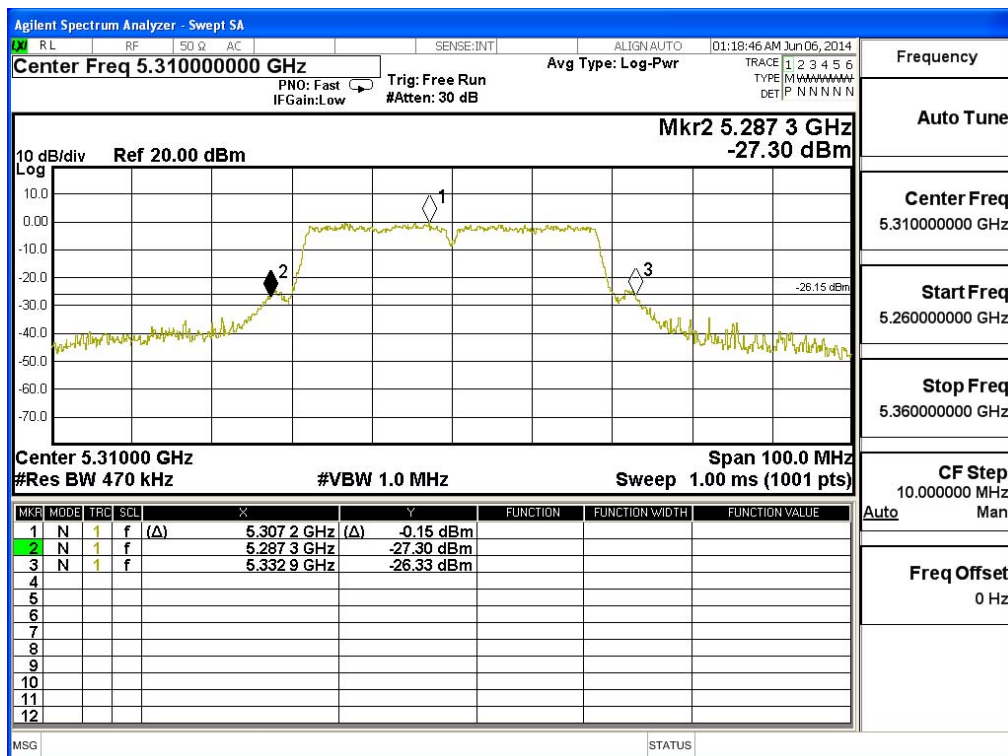
Channel 46



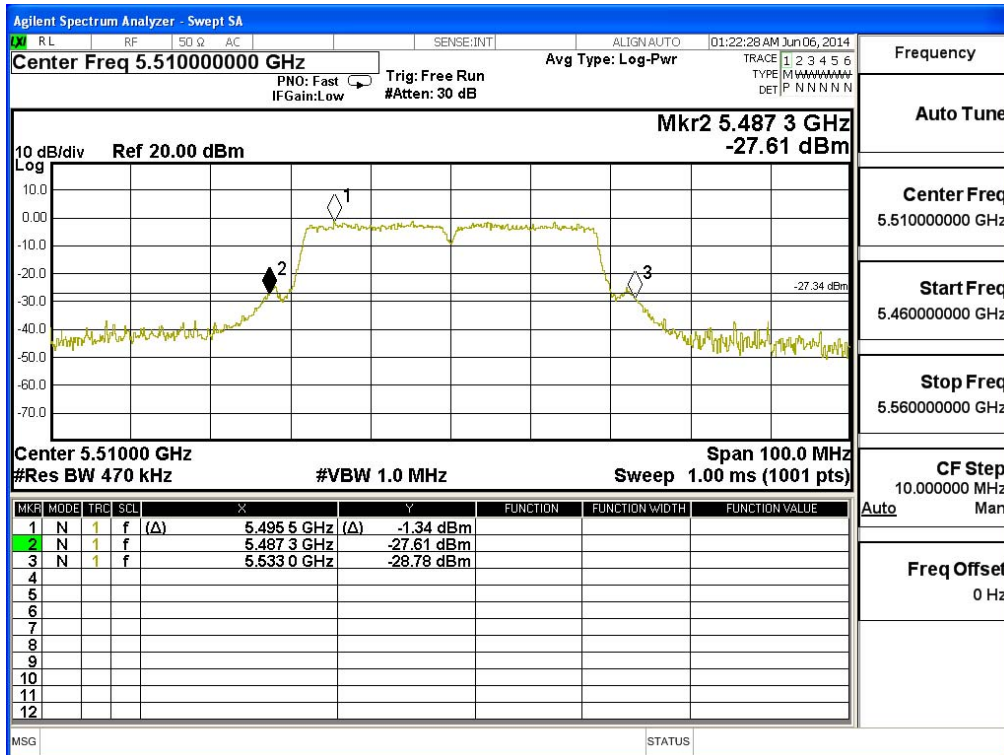
Channel 54



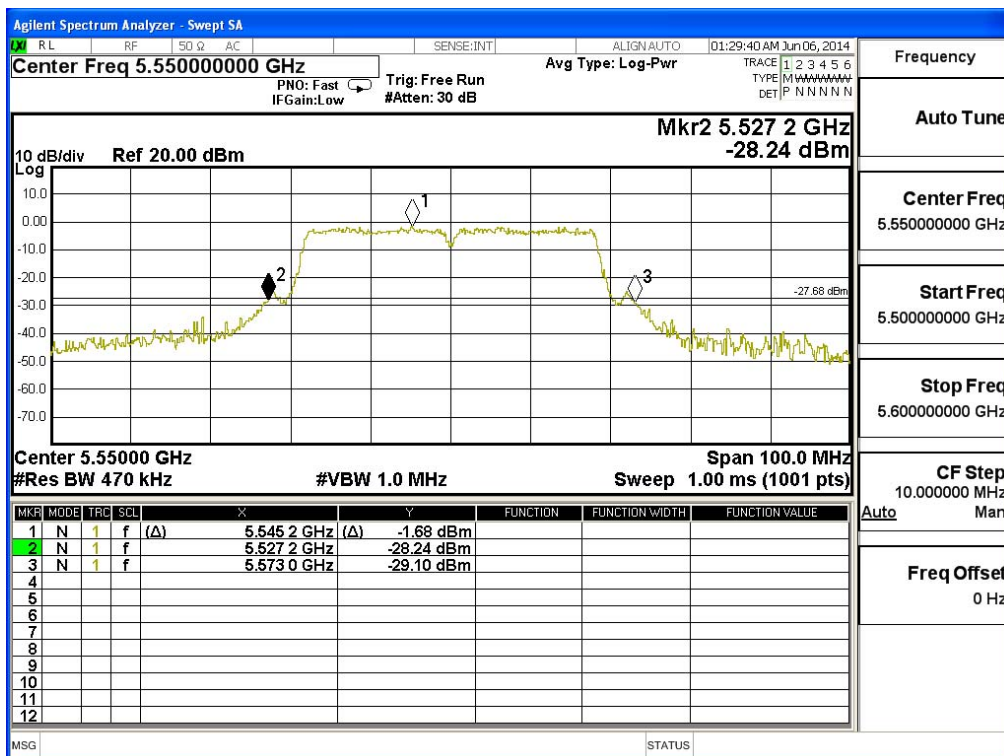
Channel 62



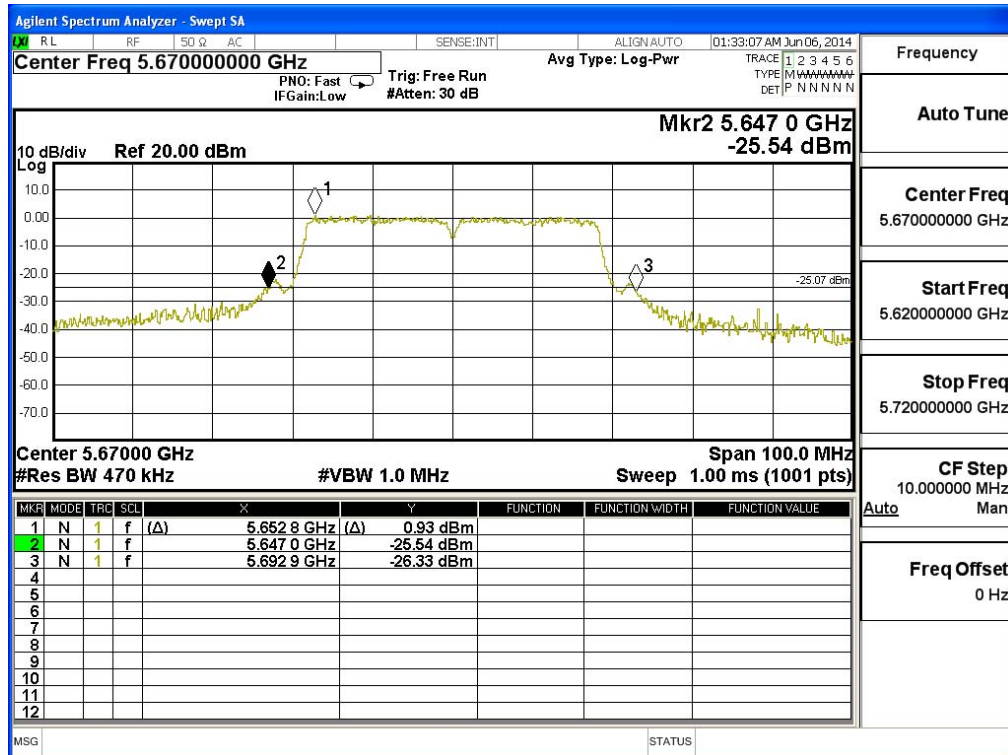
Channel 102



Channel 110



Channel 134



4. Peak Power Spectral Density

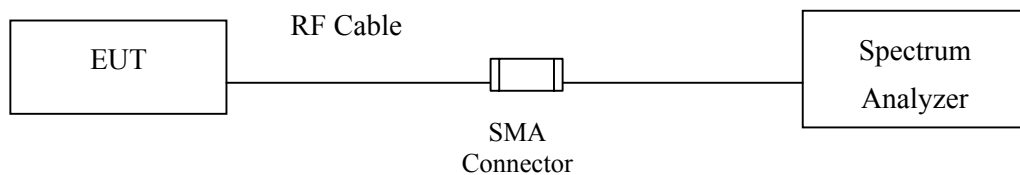
4.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2014
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2014
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr, 2014

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