



Test Report

Product Name	802.11 a/b/g/n RTL8192DU Module
Model No	RTL8192DU
FCC ID	RK9-RTL8192DU

Applicant	CastleNet Technology Inc.
Address	No.64,Chung-Shan Rd. Tu-Cheng District, New Taipei City, Taiwan

Date of Receipt	May 02, 2012
Issued Date	June 27, 2012
Report No.	125068R-RFUSP32V01
Report Version	V1.0



The test results relate only to the samples tested.
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 This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Test Report Certification

Issued Date: June 27, 2012

Report No.: 125068R-RFUSP32V01




Product Name	802.11 a/b/g/n RTL8192DU Module
Applicant	CastleNet Technology Inc.
Address	No.64,Chung-Shan Rd. Tu-Cheng District, New Taipei City, Taiwan
Manufacturer	CastleNet Technology Inc.
Model No.	RTL8192DU
FCC ID.	RK9-RTL8192DU
EUT Rated Voltage	DC 5V(Power by USB)
EUT Test Voltage	AC 120V/60Hz
Trade Name	CastleNet
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E: 2010 ANSI C63.4: 2003, FCC KDB-789033
Test Result	Complied

The Test Results relate only to the samples tested.

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Documented By :



(Senior Adm. Specialist / Genie Chang)

Tested By :



(Assistant 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	9
1.6. Test Facility	10
2. Conducted Emission.....	11
2.1. Test Equipment.....	11
2.2. Test Setup	11
2.3. Limits	12
2.4. Test Procedure	12
2.5. Uncertainty	12
2.6. Test Result of Conducted Emission.....	13
3. Peak Transmit Power	19
3.1. Test Equipment.....	19
3.2. Test Setup	19
3.3. Limits	20
3.4. Test Procedur	20
3.5. Uncertainty	20
3.6. Test Result of Peak Transmit Power.....	21
4. Peak Power Spectral Density.....	48
4.1. Test Equipment.....	48
4.2. Test Setup	48
4.3. Limits	48
4.4. Test Procedure	49
4.5. Uncertainty	49
4.6. Test Result of Peak Power Spectral Density	50
5. Peak Excursion	73
5.1. Test Equipment.....	73
5.2. Test Setup	73
5.3. Limits	73
5.4. Test Procedure	73
5.5. Uncertainty	73
5.6. Test Result of Peak Excursion.....	74
6. Radiated Emission.....	97
6.1. Test Equipment.....	97
6.2. Test Setup	97
6.3. Limits	98
6.4. Test Procedure	99
6.5. Uncertainty	99
6.6. Test Result of Radiated Emission.....	100
7. Band Edge	134

7.1.	Test Equipment.....	134
7.2.	Test Setup	135
7.3.	Limits	136
7.4.	Test Procedure	136
7.5.	Uncertainty	136
7.6.	Test Result of Band Edge	137
8.	Frequency Stability.....	162
8.1.	Test Equipment.....	162
8.2.	Test Setup	162
8.3.	Limits	162
8.4.	Test Procedure	162
8.5.	Uncertainty	162
8.6.	Test Result of Frequency Stability.....	163
9.	EMI Reduction Method During Compliance Testing	169
Attachment 1:	EUT Test Photographs	
Attachment 2:	EUT Detailed Photographs	

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	802.11 a/b/g/n RTL8192DU Module
Trade Name	CastleNet
FCC ID.	RK9-RTL8192DU
Model No.	RTL8192DU
Frequency Range	802.11a/n-20MHz: 5180-5320MHz, 5500-5700MHz 802.11n-40MHz: 5190-5310, 5510-5670MHz
Number of Channels	802.11a/n-20MHz: 16; 802.11n-40MHz: 7
Data Rate	802.11a: 6 - 54Mbps 802.11n: up to 300Mbps
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"

Antenna List

No.	Manufacturer	Model No.	Peak Gain
1	SpeedTech	DPLP13B-00001-H	4.48dBi For 5.15~5.35GHz 3.83dBi For 5.47~5.725GHz
2	BRITO TECHNOLOGY	WFOEM33-I0185	-1.38dBi For 5.15~5.35GHz -1.59dBi For 5.47~5.725GHz

Note: 1.The antenna of EUT is conform to FCC 15.203

2.This report uses the maximum antenna gain.

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 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 134:	5670 MHz		

Note:

1. This device is a 802.11 a/b/g/n RTL8192DU Module with a built-in 2.4GHz and 5GHz WLAN transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 1Mbps 、802.11g is 6Mbps 、802.11n(20M-BW) is 14.4Mbps and 、802.11n(40M-BW) is 30Mbps).
4. 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.
5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode	Mode 1: Transmit (802.11a-6Mbps) Mode 2: Transmit (802.11n-20BW 14.4Mbps) Mode 3: Transmit (802.11n-40BW 30Mbps)
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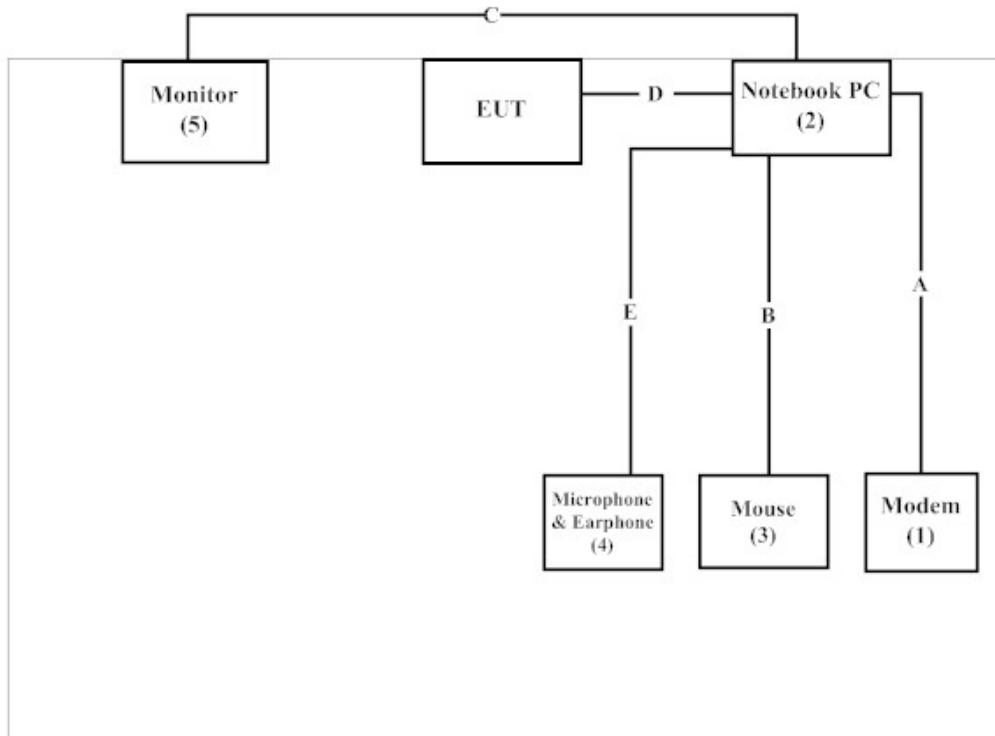
1.3. Tested System Details

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.	Power Cord
(1) Modem	ACEEX	DM-1414	0102027558	Non-Shielded, 1.8m
(2) Notebook PC	DELL	PPT	N/A	Non-Shielded, 0.8m
(3) Mouse	Microsoft	X09-13962	69657-492-9730045-60447	N/A
(4) Microphone & Earphone	Ergotech	ET-E201	N/A	N/A
(5) Monitor	LG	W2261VT	907YHZK07373	Non-Shielded, 1.8m

Signal Cable Type	Signal cable Description
A Modem Cable	Non-Shielded, 1.5m
B Mouse Cable	Non-Shielded, 1.8m
C VGA Cable	Non-Shielded, 1.8m, with one ferrite core bonded.
D USB Cable	Non-Shielded, 0.26m
E Earphone & Microphone Cable	Non-Shielded, 1.7m, with one ferrite core bonded.

1.4. Configuration of tested System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute program 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

Accreditation on NVLAP
NVLAP Lab Code: 200533-0

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

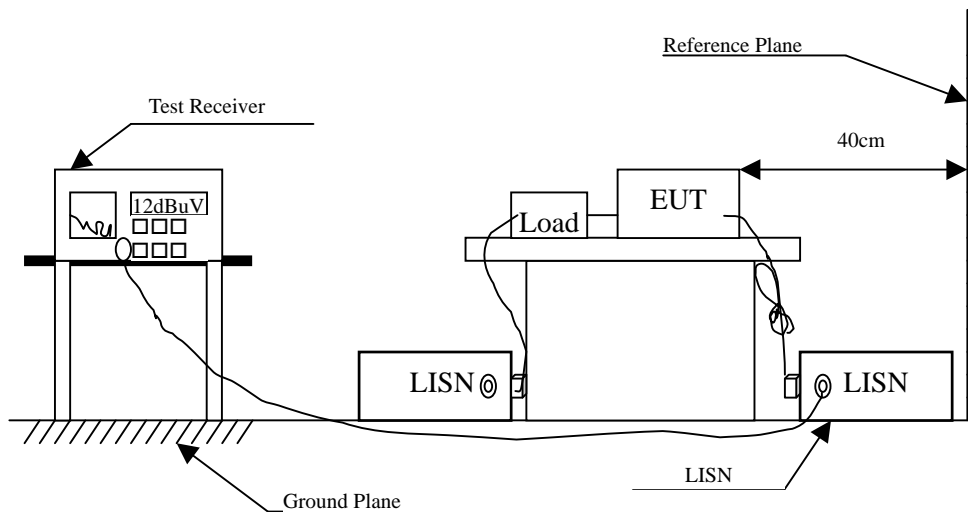
2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2011	
X	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2012	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2012	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar, 2012	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2012	
	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 C63.4: 2003 on conducted measurement.

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

The EUT was setup to ANSI C63.4, 2003; 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 : 802.11 a/b/g/n RTL8192DU Module
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 1					
Quasi-Peak					
0.162	9.820	41.195	51.015	-14.642	65.657
0.190	9.820	29.409	39.229	-25.628	64.857
0.226	9.820	30.969	40.789	-23.040	63.829
0.290	9.820	27.167	36.987	-25.013	62.000
0.326	9.820	30.503	40.323	-20.648	60.971
0.606	9.820	20.555	30.375	-25.625	56.000
Average					
0.162	9.820	25.411	35.231	-20.426	55.657
0.190	9.820	16.239	26.059	-28.798	54.857
0.226	9.820	20.893	30.713	-23.116	53.829
0.290	9.820	21.315	31.135	-20.865	52.000
0.326	9.820	21.113	30.933	-20.038	50.971
0.606	9.820	14.326	24.146	-21.854	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 : 802.11 a/b/g/n RTL8192DU Module
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 2					
Quasi-Peak					
0.162	9.840	37.448	47.288	-18.369	65.657
0.266	9.840	28.618	38.458	-24.228	62.686
0.314	9.830	25.872	35.702	-25.612	61.314
0.346	9.830	21.944	31.774	-28.626	60.400
0.498	9.830	17.563	27.393	-28.664	56.057
0.622	9.830	19.611	29.441	-26.559	56.000
Average					
0.162	9.840	22.119	31.959	-23.698	55.657
0.266	9.840	21.754	31.594	-21.092	52.686
0.314	9.830	20.085	29.915	-21.399	51.314
0.346	9.830	13.762	23.592	-26.808	50.400
0.498	9.830	10.318	20.148	-25.909	46.057
0.622	9.830	13.578	23.408	-22.592	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 : 802.11 a/b/g/n RTL8192DU Module
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5270MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 1					
Quasi-Peak					
0.150	9.720	40.610	50.330	-15.670	66.000
0.181	9.699	42.310	52.009	-13.105	65.114
0.197	9.689	38.960	48.649	-16.008	64.657
0.283	9.646	36.720	46.366	-15.834	62.200
0.314	9.640	37.240	46.880	-14.434	61.314
0.400	9.640	31.550	41.190	-17.667	58.857
Average					
0.150	9.720	29.810	39.530	-16.470	56.000
0.181	9.699	29.570	39.269	-15.845	55.114
0.197	9.689	21.660	31.349	-23.308	54.657
0.283	9.646	36.160	45.806	-6.394	52.200
0.314	9.640	35.650	45.290	-6.024	51.314
0.400	9.640	16.970	26.610	-22.247	48.857

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 : 802.11 a/b/g/n RTL8192DU Module
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5270MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 2					
Quasi-Peak					
0.150	9.730	36.240	45.970	-20.030	66.000
0.177	9.706	37.360	47.066	-18.163	65.229
0.283	9.647	36.800	46.446	-15.754	62.200
0.310	9.650	35.180	44.830	-16.599	61.429
0.420	9.650	33.040	42.690	-15.596	58.286
0.505	9.650	27.530	37.180	-18.820	56.000
Average					
0.150	9.730	28.510	38.240	-17.760	56.000
0.177	9.706	25.550	35.256	-19.973	55.229
0.283	9.647	36.200	45.846	-6.354	52.200
0.310	9.650	33.690	43.340	-8.089	51.429
0.420	9.650	18.900	28.550	-19.736	48.286
0.505	9.650	16.620	26.270	-19.730	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 : 802.11 a/b/g/n RTL8192DU Module
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5550MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 1					
Quasi-Peak					
0.162	9.712	41.490	51.202	-14.455	65.657
0.185	9.696	41.940	51.636	-13.364	65.000
0.205	9.683	40.070	49.753	-14.676	64.429
0.283	9.646	36.760	46.406	-15.794	62.200
0.314	9.640	37.020	46.660	-14.654	61.314
0.404	9.640	31.550	41.190	-17.553	58.743
Average					
0.162	9.712	30.190	39.902	-15.755	55.657
0.185	9.696	27.850	37.546	-17.454	55.000
0.205	9.683	26.250	35.933	-18.496	54.429
0.283	9.646	36.290	45.936	-6.264	52.200
0.314	9.640	35.650	45.290	-6.024	51.314
0.404	9.640	18.910	28.550	-20.193	48.743

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 : 802.11 a/b/g/n RTL8192DU Module
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5550MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 2					
Quasi-Peak					
0.193	9.691	35.940	45.631	-19.140	64.771
0.212	9.678	36.040	45.718	-18.511	64.229
0.283	9.647	36.890	46.536	-15.664	62.200
0.314	9.650	37.300	46.950	-14.364	61.314
0.420	9.650	32.090	41.740	-16.546	58.286
0.736	9.666	27.060	36.726	-19.274	56.000
Average					
0.193	9.691	21.480	31.171	-23.600	54.771
0.212	9.678	26.590	36.268	-17.961	54.229
0.283	9.647	36.200	45.846	-6.354	52.200
0.314	9.650	35.370	45.020	-6.294	51.314
0.420	9.650	17.800	27.450	-20.836	48.286
0.736	9.666	14.460	24.126	-21.874	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. Peak Transmit Power

3.1. Test Equipment

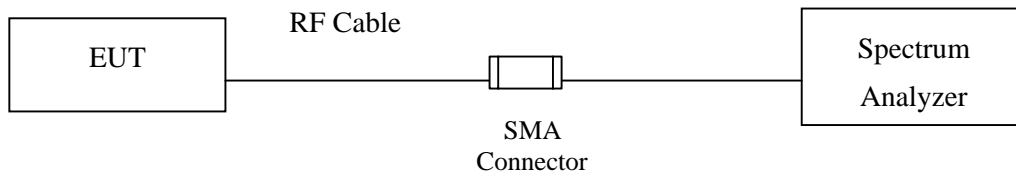
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2012
X	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2012
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2012

Note:

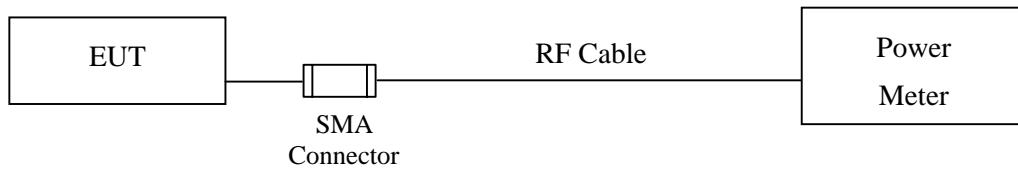
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

3.2. Test Setup

26dBc Occupied Bandwidth



Conduction Power Measurement



3.3. Limits

- (1) For the band 5.15-5.25 GHz, the peak transmit 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 peak transmit 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 peak transmit 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 peak transmit 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 peak transmit 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 peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

3.4. Test Procedur

As an alternative to FCC KDB-789033, the EUT peak power was measured with a peak power meter employing a video bandwidth greater than 6dB BW of the emission under test. Peak 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.

3.5. Uncertainty

$\pm 1.27 \text{ dB}$

3.6. Test Result of Peak Transmit Power

Product : 802.11 a/b/g/n RTL8192DU Module
 Test Item : Peak Transmit Power
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)

CHAIN A

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	16.31	--	--	--	--	--	--	--	<17dBm
44	5220	15.61	15.6	15.6	15.58	15.57	15.55	15.54	15.53	<17dBm
48	5240	15.41	--	--	--	--	--	--	--	<17dBm
52	5260	16.91	--	--	--	--	--	--	--	<24dBm
60	5300	16.46	16.45	16.44	16.44	16.42	16.4	16.48	16.47	<24dBm
64	5320	16.78	--	--	--	--	--	--	--	<24dBm
100	5500	15.91	--	--	--	--	--	--	--	<24dBm
116	5580	14.86	14.85	14.83	14.83	14.81	14.78	14.77	14.75	<24dBm
140	5700	13.46	--	--	--	--	--	--	--	<24dBm

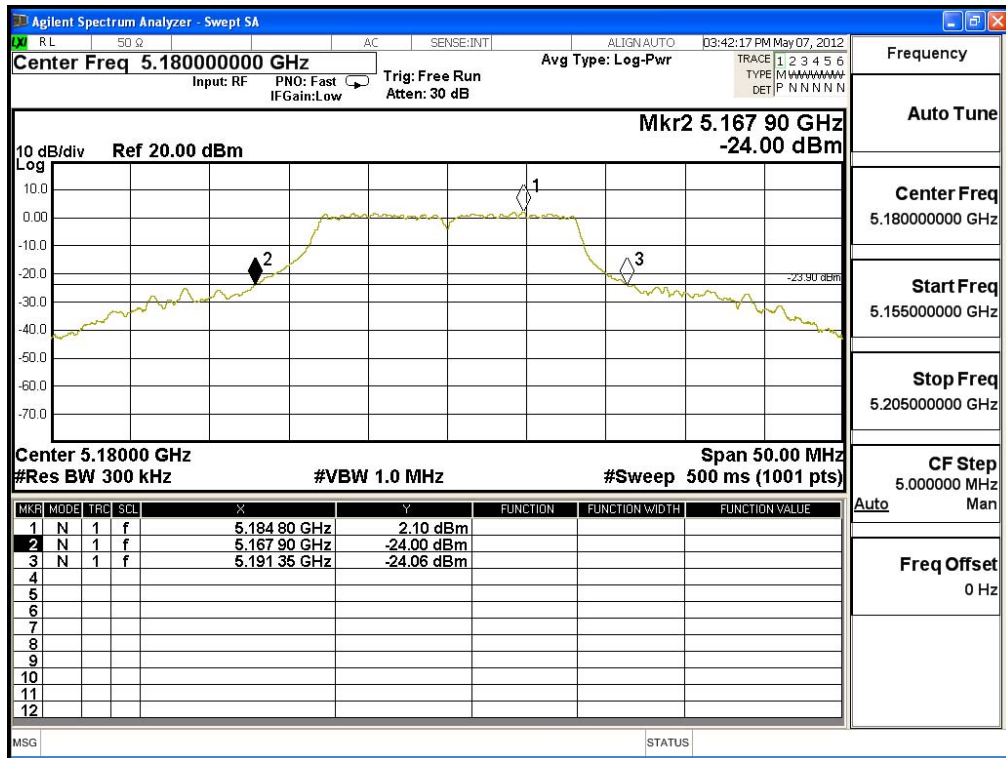
Note: Peak Power Output Value =Reading value on peak power meter + cable loss

Peak Transmit Power Measurement:

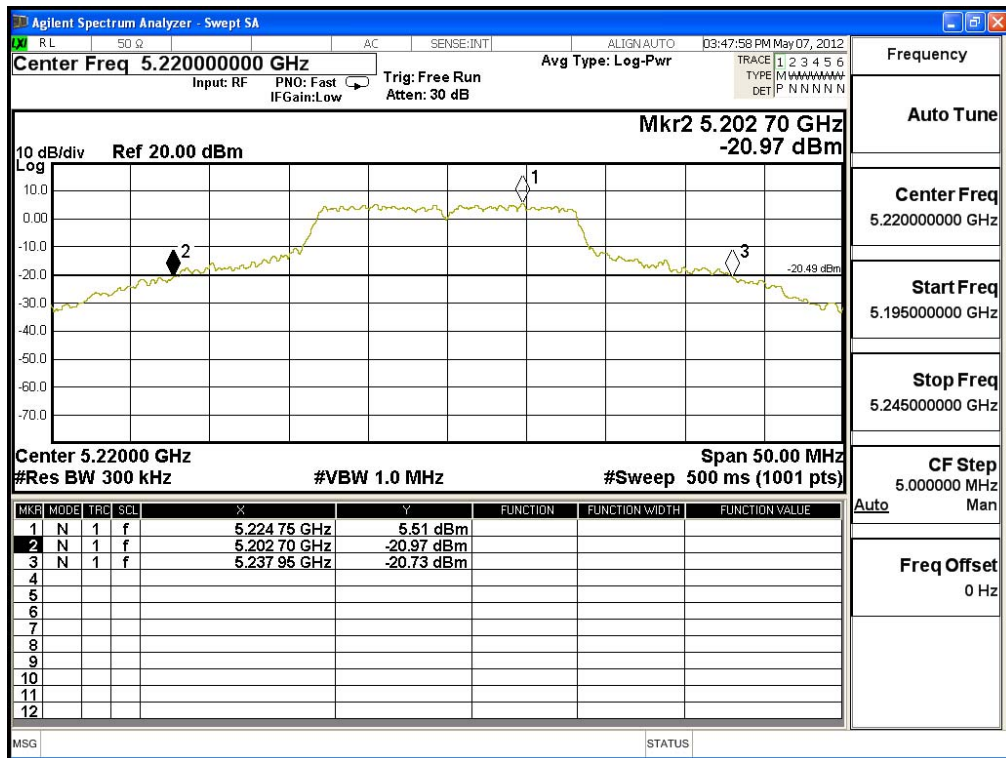
Channel Number	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit	
				(dBm)	dBm+10log(BW)
36	5180	23.450	16.31	17	17.70
44	5220	35.250	15.61	17	19.47
48	5240	36.900	15.41	17	19.67
52	5260	40.850	16.91	24	27.11
60	5300	39.550	16.48	24	26.97
64	5320	39.550	16.78	24	26.97
100	5500	37.700	15.91	24	26.76
116	5580	36.750	14.86	24	26.65
140	5700	35.400	13.46	24	26.49

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

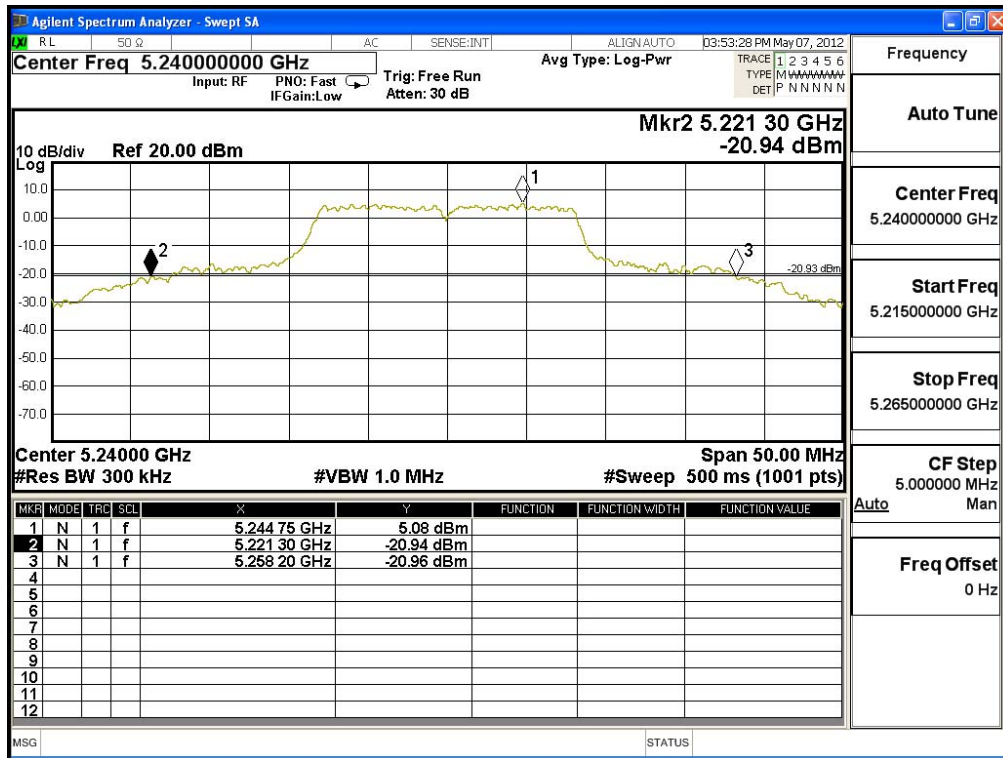
26dBc Occupied Bandwidth: Channel 36



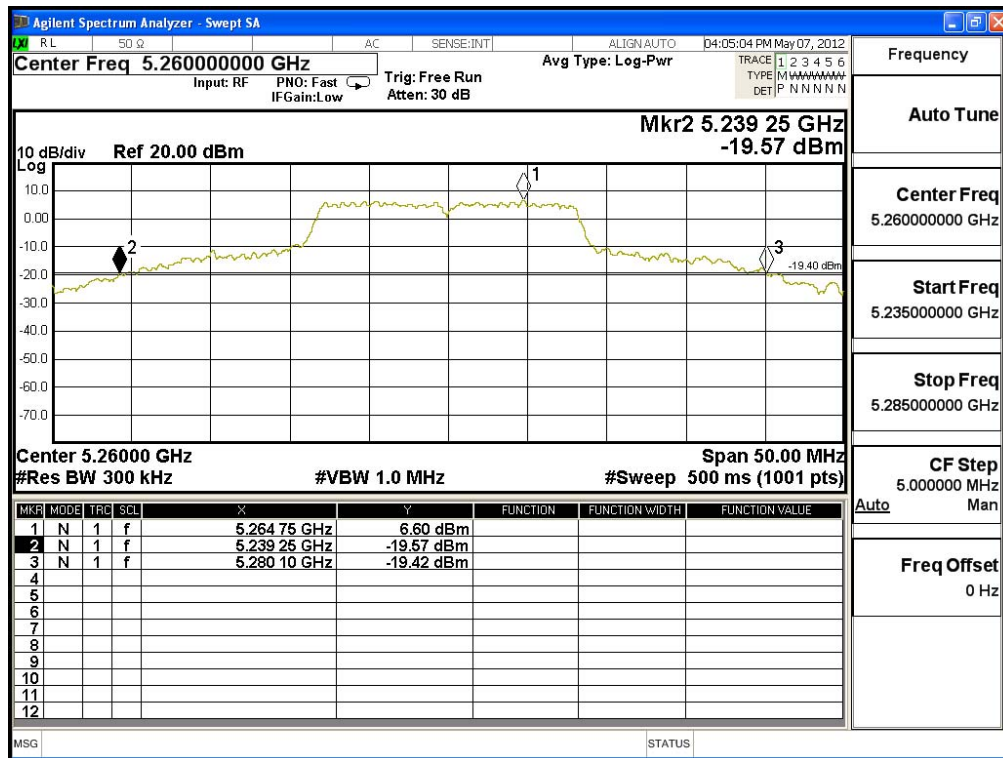
Channel 40



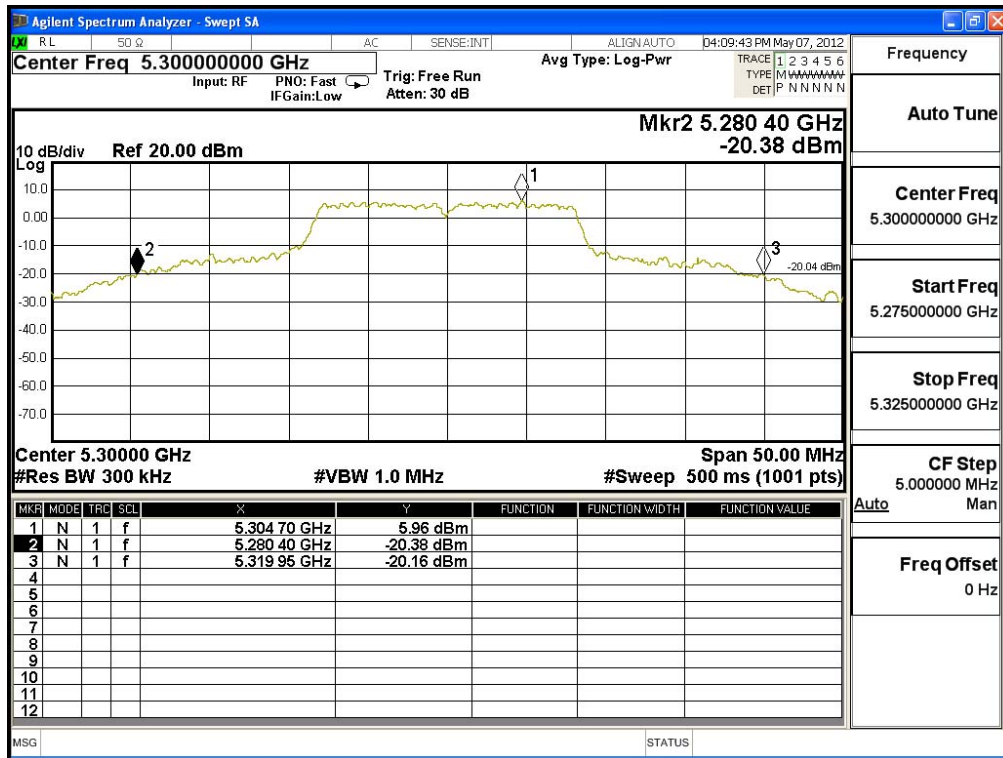
Channel 48



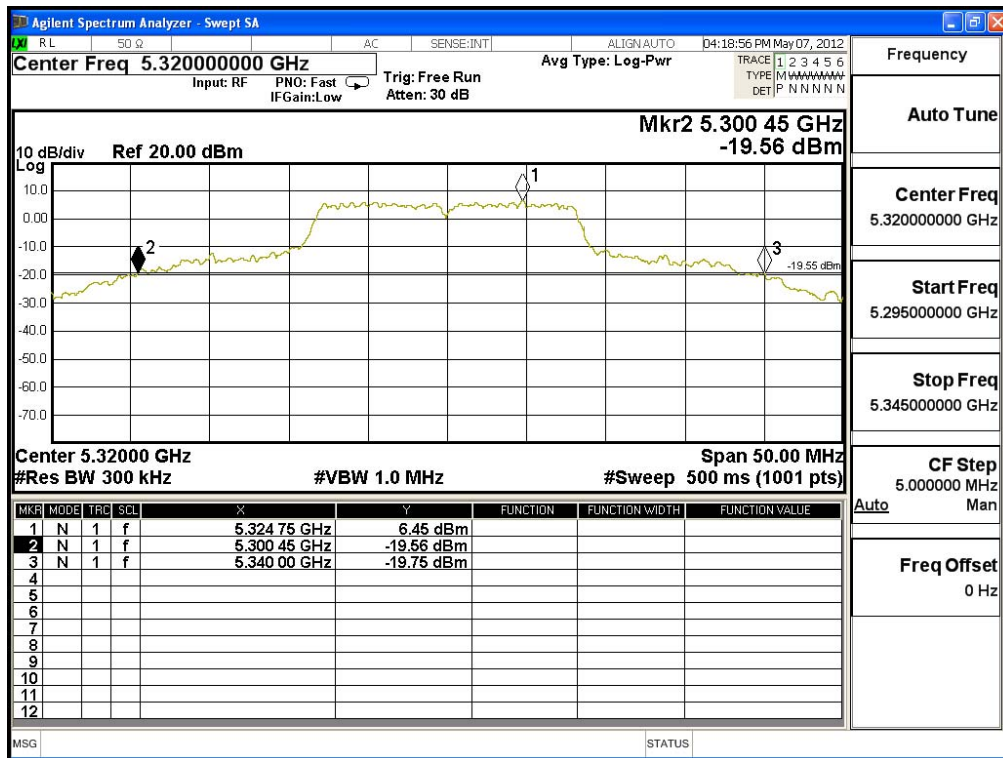
Channel 52



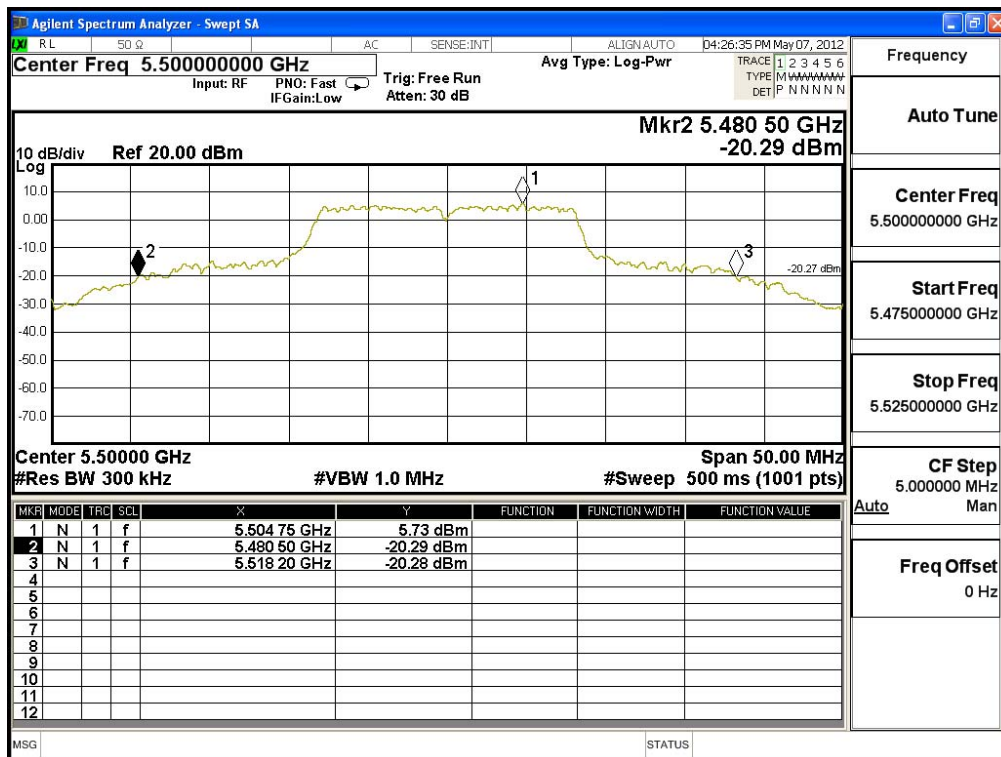
Channel 60



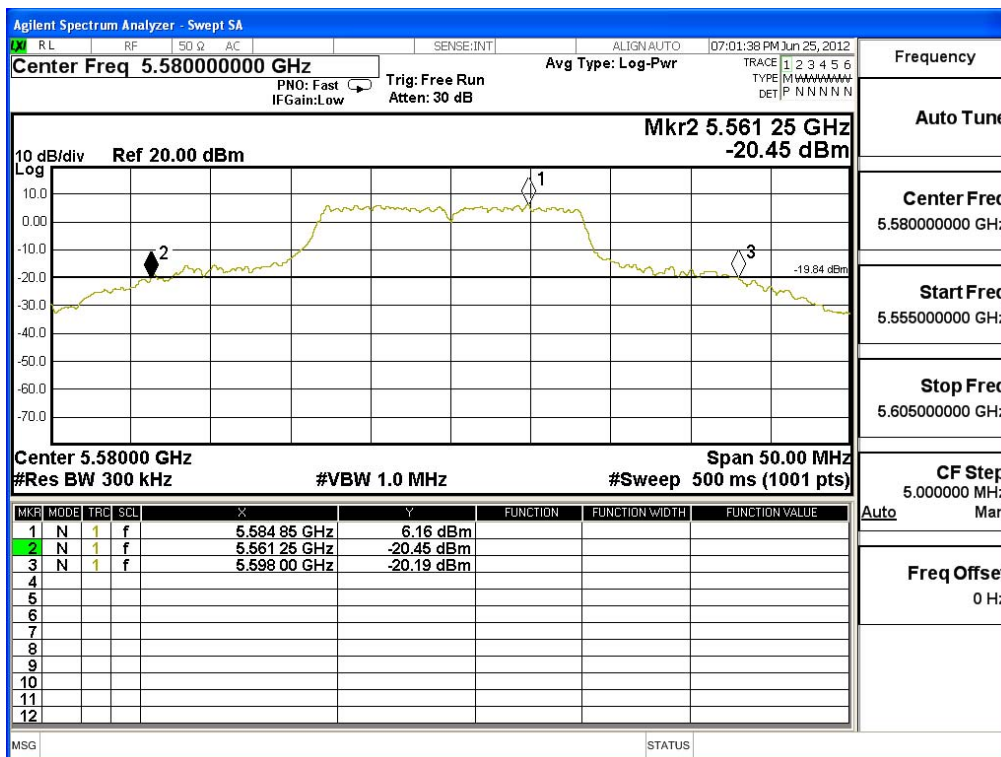
Channel 64



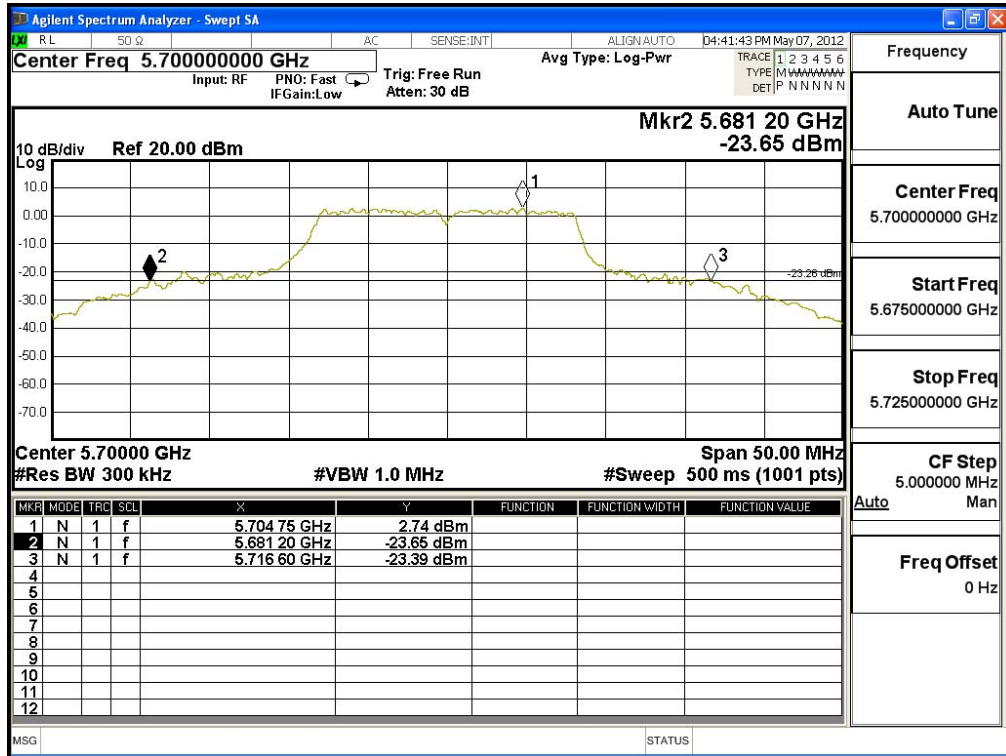
Channel 100



Channel 116



Channel 140



Product : 802.11 a/b/g/n RTL8192DU Module
 Test Item : Peak Transmit Power
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)

CHAIN A

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	
		Measurement Level (dBm)								
36	5180	10.75	--	--	--	--	--	--	--	<17dBm
44	5220	11.25	11.24	11.22	11.21	11.21	11.18	11.17	11.16	<17dBm
48	5240	11.42	--	--	--	--	--	--	--	<17dBm
52	5260	17.03	--	--	--	--	--	--	--	<24dBm
60	5300	16.45	13.67	13.66	13.66	13.63	13.62	13.62	13.6	<24dBm
64	5320	15.75	--	--	--	--	--	--	--	<24dBm
100	5500	14.78	--	--	--	--	--	--	--	<24dBm
116	5580	12.98	12.97	12.97	12.96	12.93	12.92	12.9	12.89	<24dBm
140	5700	10.17	--	--	--	--	--	--	--	<24dBm

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

CHAIN B

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	
		Measurement Level (dBm)								
36	5180	14.51	--	--	--	--	--	--	--	<17dBm
44	5220	13.58	13.57	13.55	13.54	13.54	13.52	13.5	13.49	<17dBm
48	5240	13.39	--	--	--	--	--	--	--	<17dBm
52	5260	16.53	--	--	--	--	--	--	--	<24dBm
60	5300	15.32	13.25	13.24	13.24	13.21	13.18	13.17	13.16	<24dBm
64	5320	14.65	--	--	--	--	--	--	--	<24dBm
100	5500	13.25	--	--	--	--	--	--	--	<24dBm
116	5580	11.75	11.74	11.73	11.73	11.71	11.72	11.7	11.69	<24dBm
140	5700	10.55	--	--	--	--	--	--	--	<24dBm

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

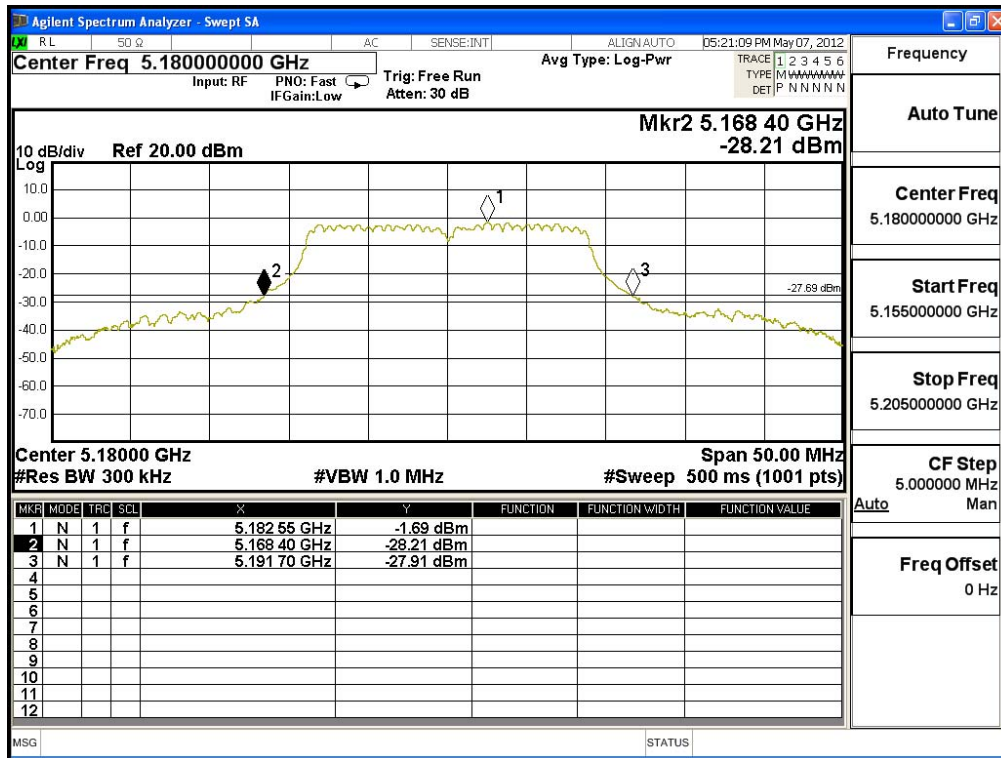
Peak Transmit Power Measurement:
CHAIN A+B

Channel Number	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit	
						(dBm)	dBm+10log(BW)
36	5180	23.300	10.75	14.51	16.04	17	17.67
44	5220	23.500	11.25	13.58	15.58	17	17.71
48	5240	23.450	11.42	13.39	15.53	17	17.70
52	5260	40.200	17.03	16.53	19.80	24	27.04
60	5300	36.800	16.45	15.32	18.93	24	26.66
64	5320	36.650	15.75	14.65	18.25	24	26.64
100	5500	23.850	14.78	13.25	17.09	24	24.77
116	5580	27.200	12.98	11.75	15.42	24	25.35
140	5700	23.350	10.17	10.55	13.37	24	24.68

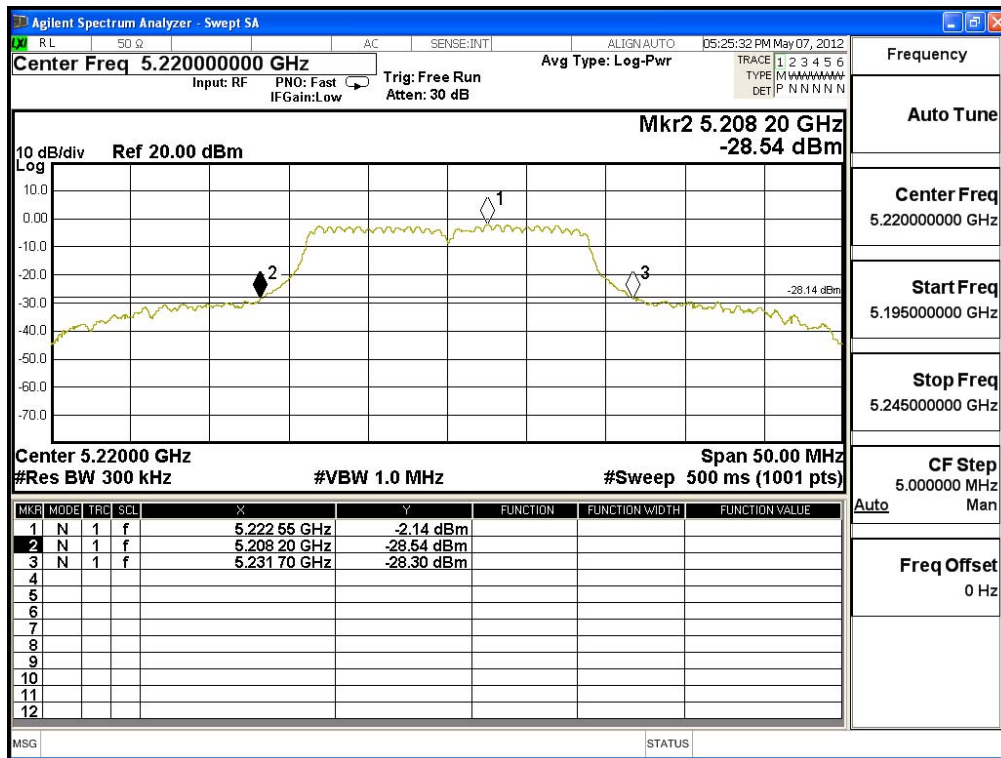
Note:

1. Power Output Value = Reading value on peak power meter + cable loss
2. Output Power (dBm) = 10*LOG (Chain A Power (mW)+ Chain B Power (mW))
3. 26 dB Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

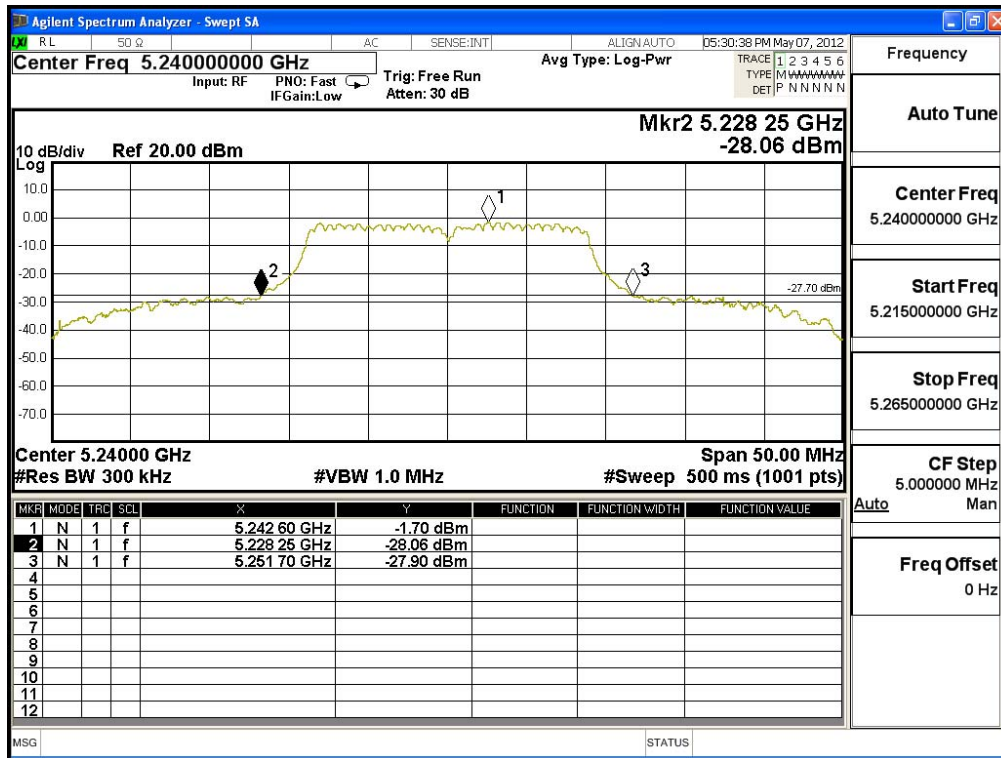
26dBc Occupied Bandwidth: Channel 36 -Chain A



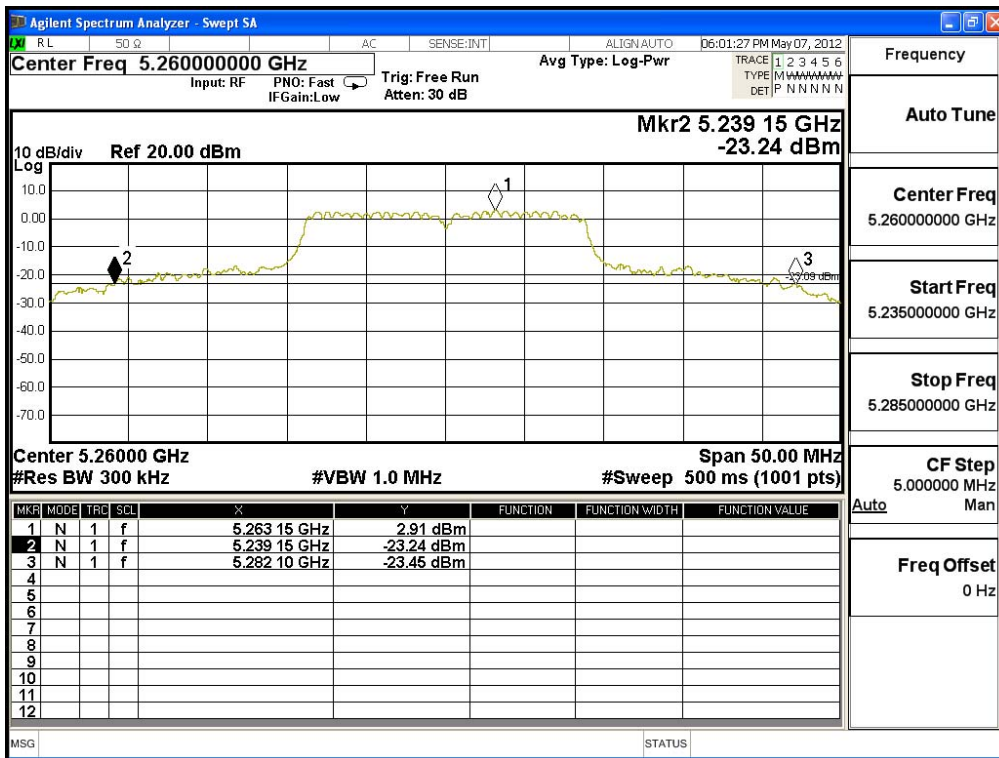
Channel 44 -Chain A



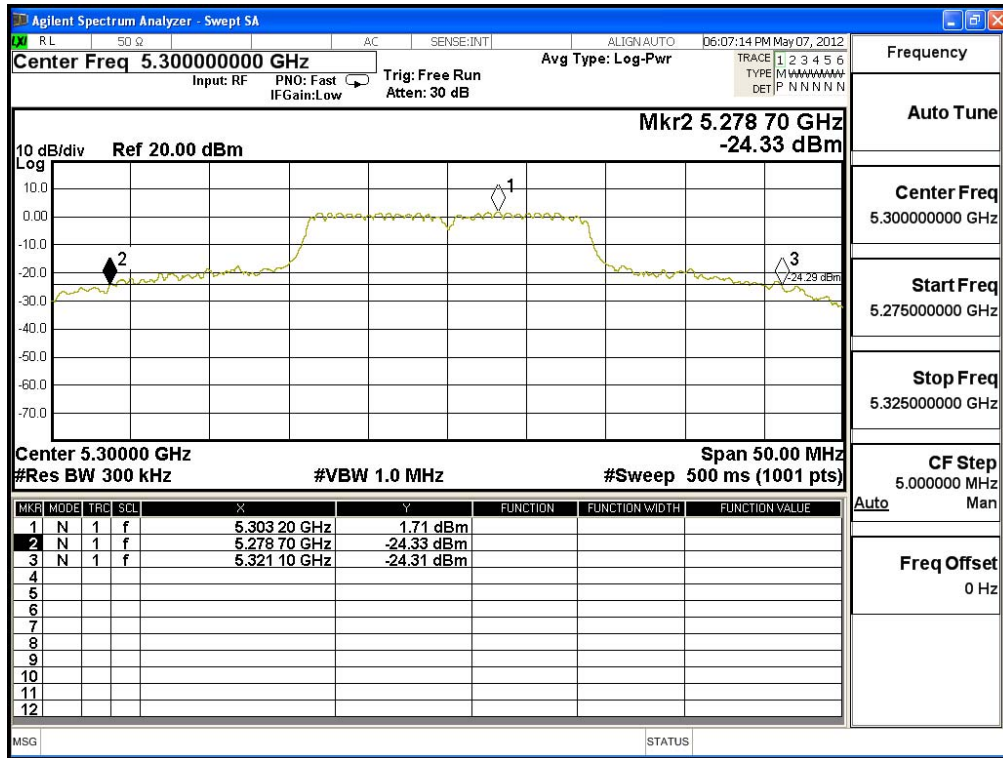
Channel 48 -Chain A



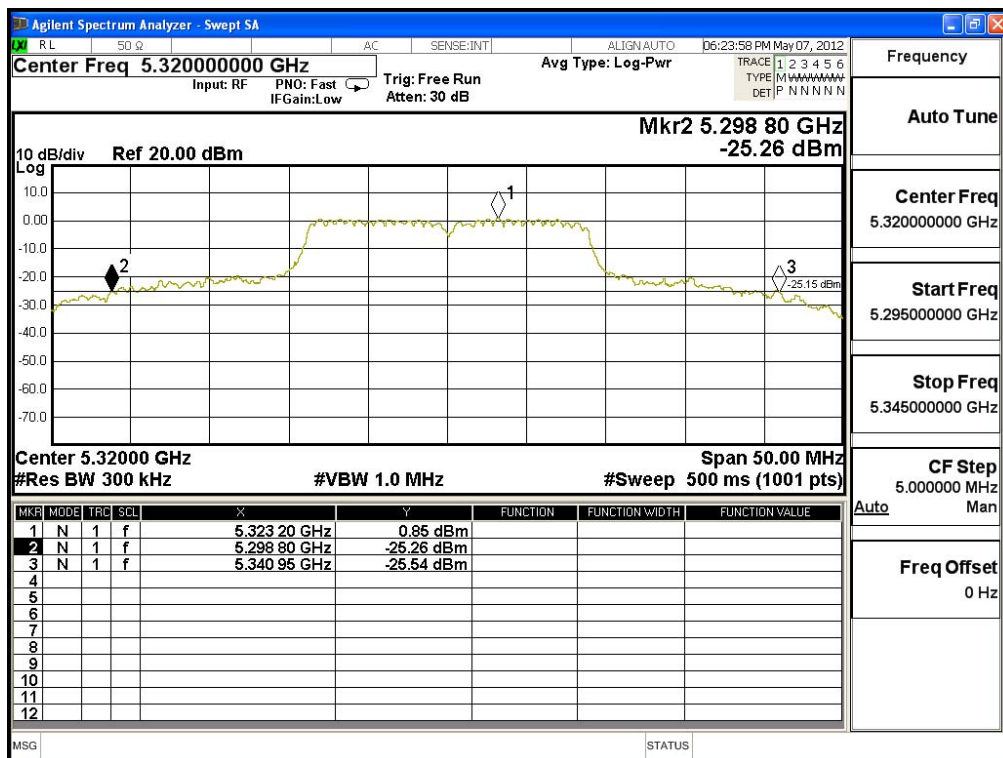
Channel 52 -Chain A



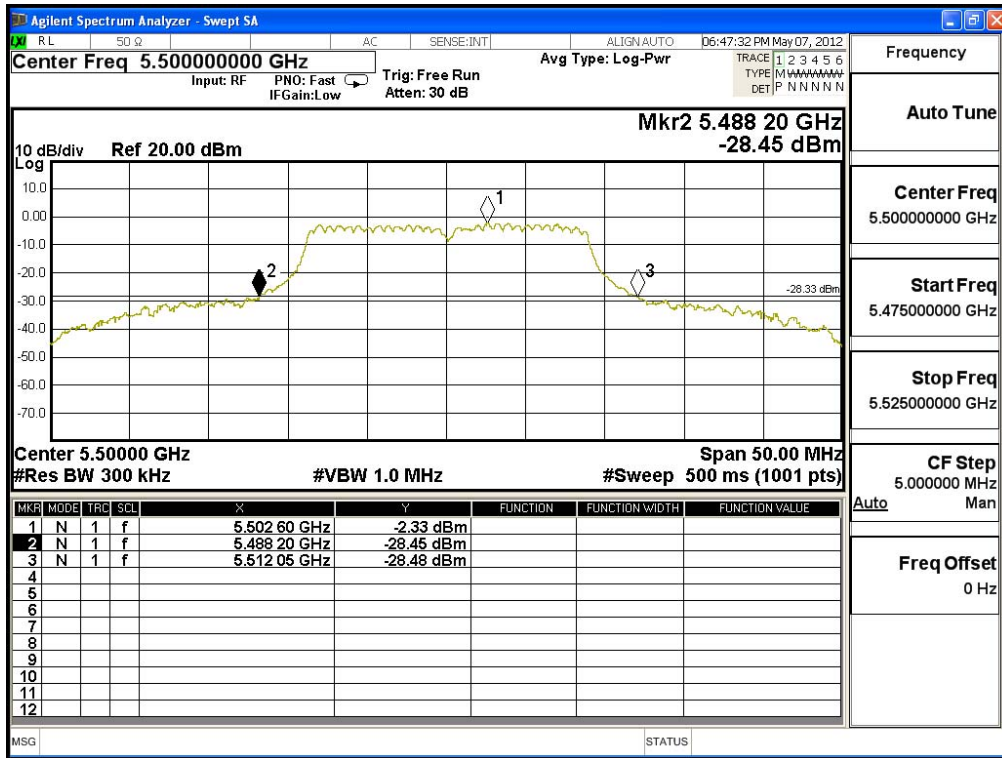
Channel 60 -Chain A



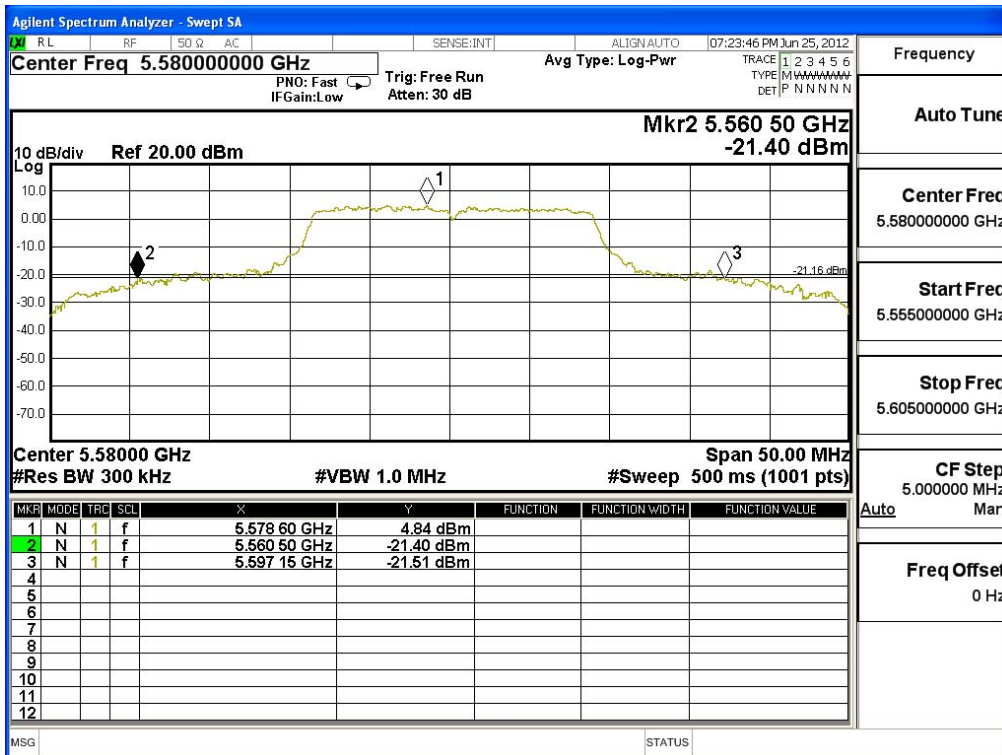
Channel 64 -Chain A



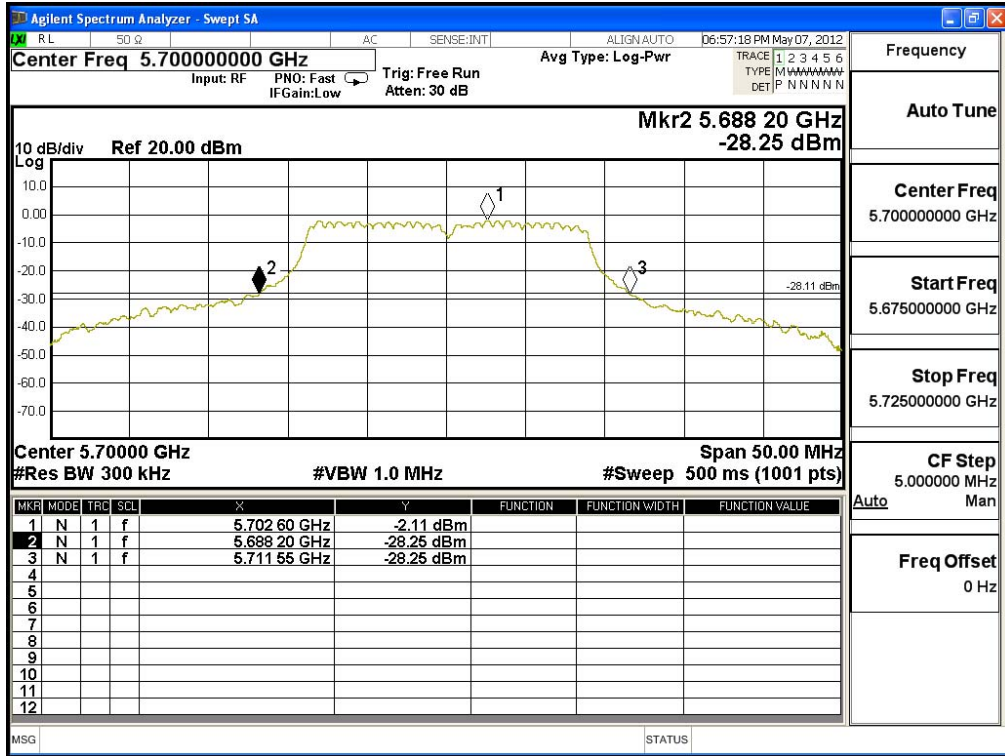
Channel 100 -Chain A



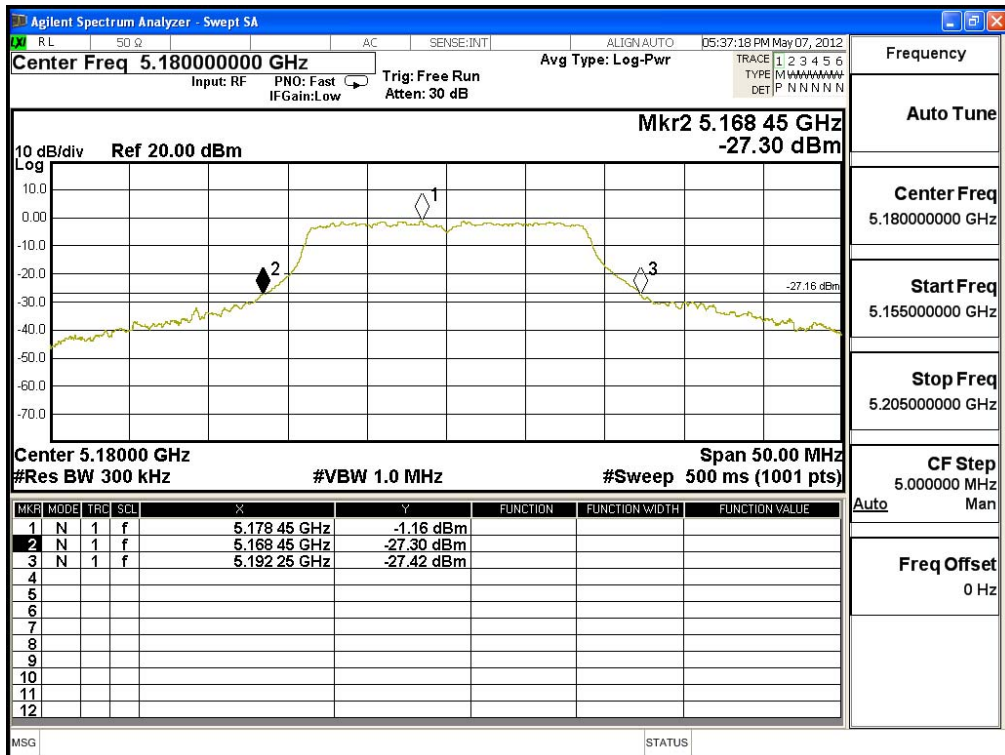
Channel 116 -Chain A



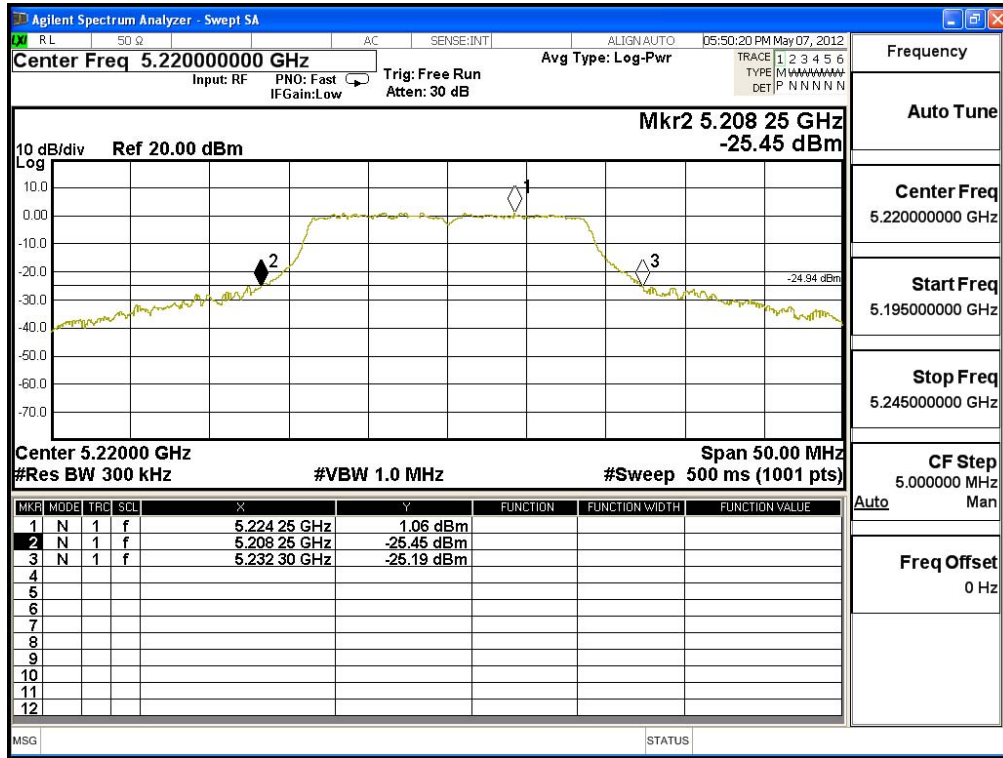
Channel 140 -Chain A



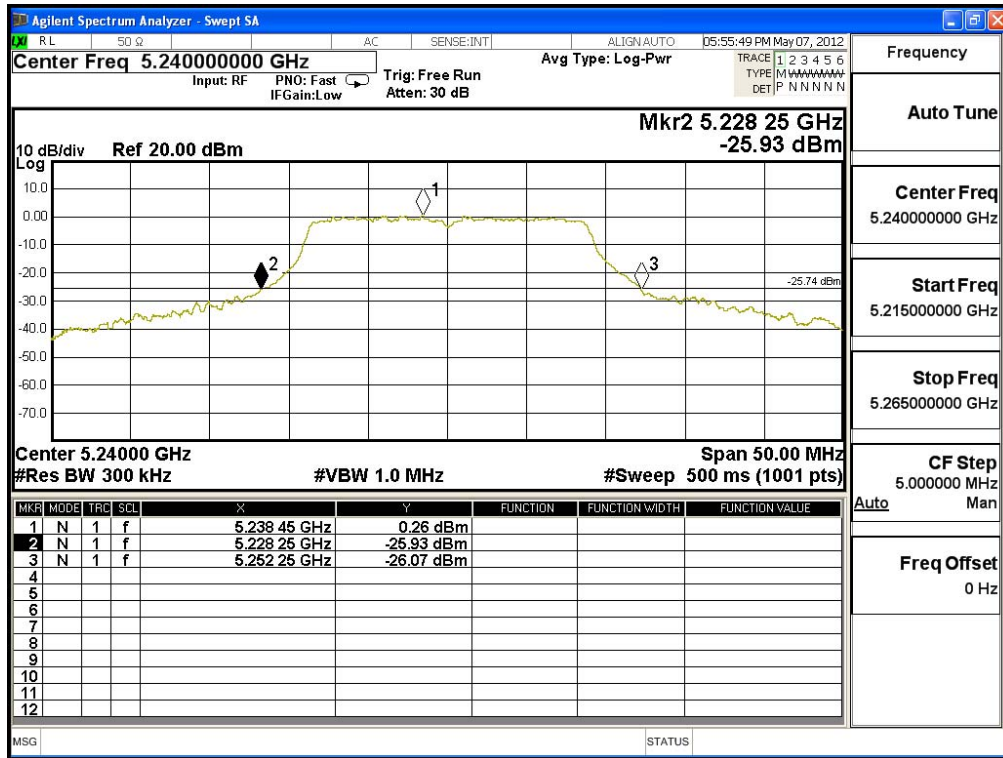
Channel 36 -Chain B



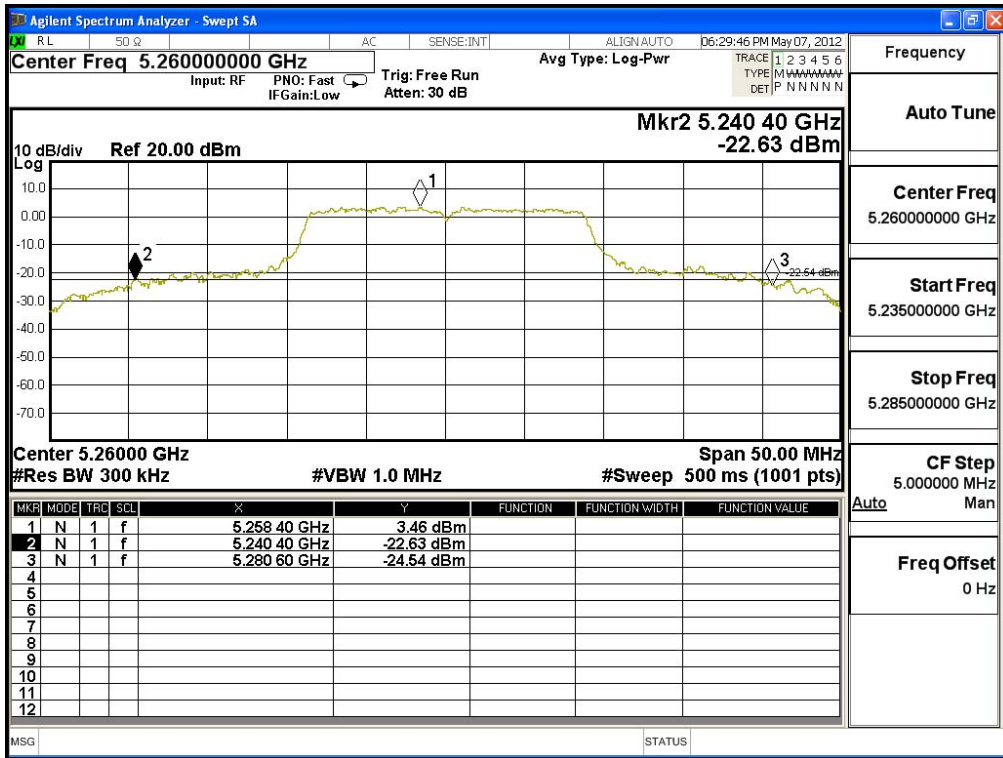
Channel 44 -Chain B



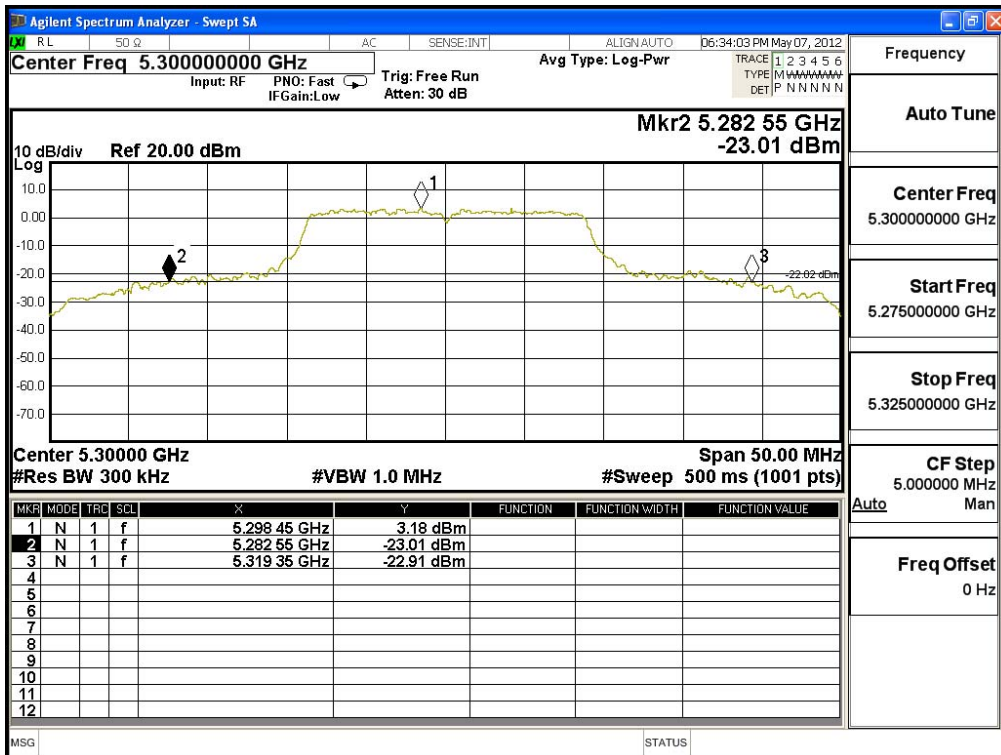
Channel 48 -Chain B



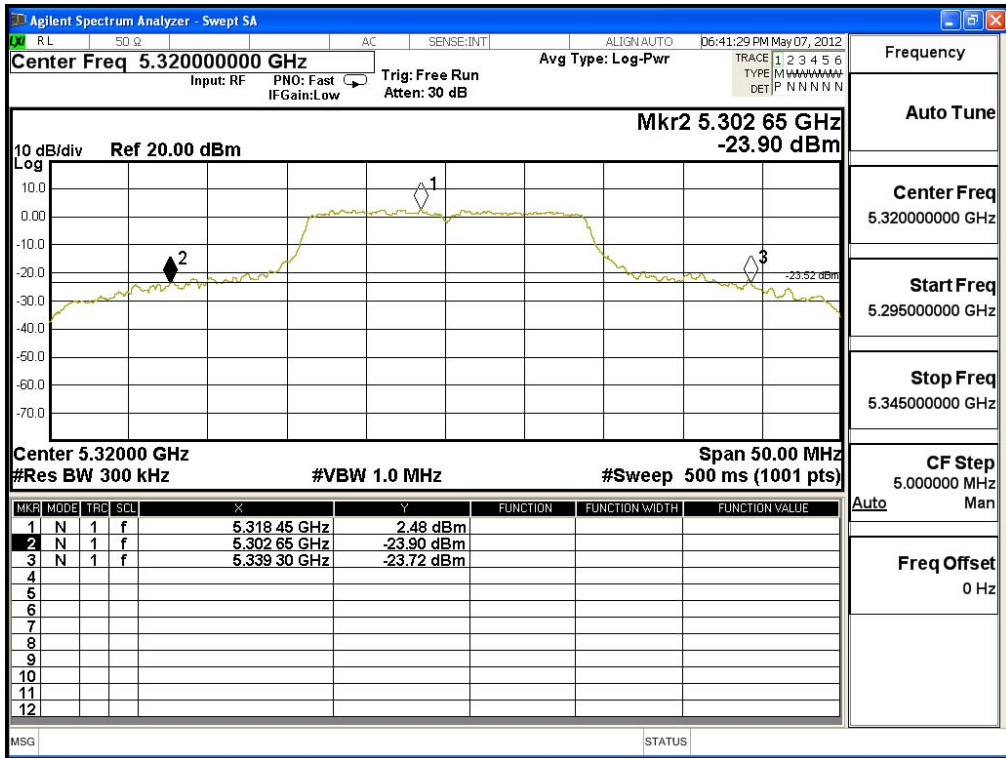
Channel 52 -Chain B



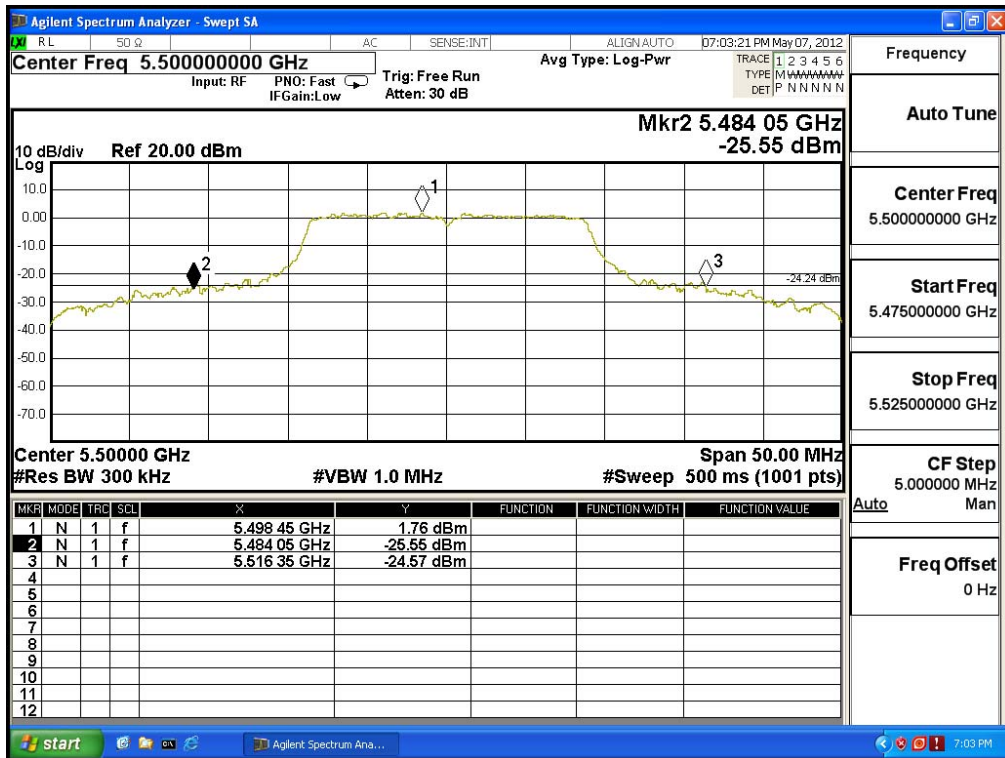
Channel 60 -Chain B



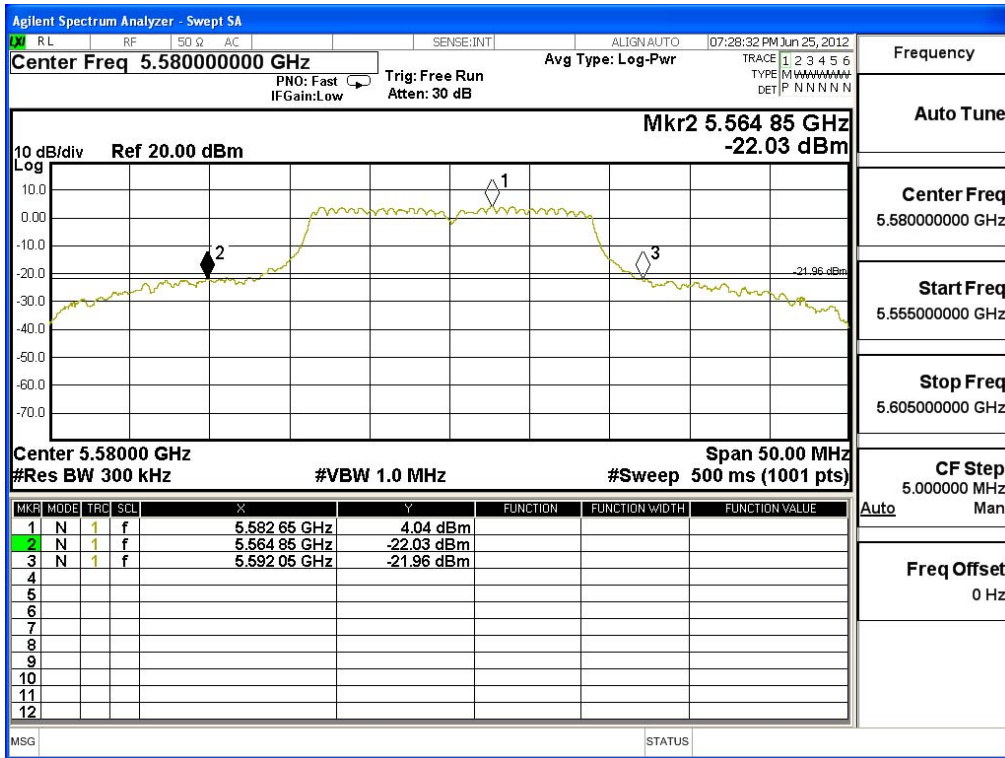
Channel 64 -Chain B



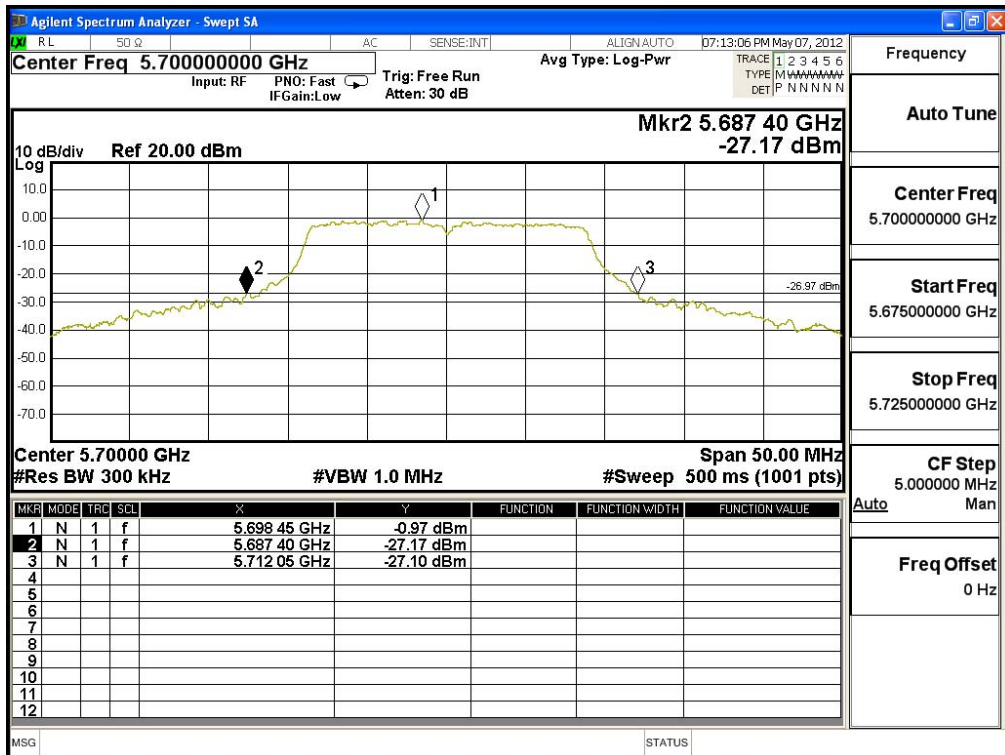
Channel 100 -Chain B



Channel 116 -Chain B



Channel 140 -Chain B



Product : 802.11 a/b/g/n RTL8192DU Module
 Test Item : Peak Transmit Power
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)

CHAIN A

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		30	60	90	120	180	240	270	300	
		Measurement Level (dBm)								
38	5190	6.75	--	--	--	--	--	--	--	<17dBm
46	5230	7.32	7.31	7.31	7.3	7.28	7.27	7.25	7.23	<17dBm
54	5270	11.94	--	--	--	--	--	--	--	<17dBm
62	5310	12.11	12.09	12.08	12.08	12.06	12.05	12.03	12	<24dBm
102	5510	14.75	--	--	--	--	--	--	--	<24dBm
110	5550	12.89	12.88	12.88	12.86	12.85	12.84	12.83	12.81	<24dBm
134	5670	11.32	--	--	--	--	--	--	--	<24dBm

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

CHAIN B

Cable loss=1dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		30	60	90	120	180	240	270	300	
		Measurement Level (dBm)								
38	5190	9.73	--	--	--	--	--	--	--	<17dBm
46	5230	9.35	9.34	9.32	9.31	9.31	9.29	9.28	9.26	<17dBm
54	5270	13.48	--	--	--	--	--	--	--	<17dBm
62	5310	11.53	11.52	11.52	11.5	11.49	11.47	11.45	11.44	<24dBm
102	5510	13.98	--	--	--	--	--	--	--	<24dBm
110	5550	12.35	12.34	12.33	12.33	12.31	12.28	12.27	12.25	<24dBm
134	5670	10.85	--	--	--	--	--	--	--	<24dBm

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

Peak Transmit Power Measurement:

CHAIN A+B

Channel Number	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit	
						(dBm)	dBm+10log(BW)
38	5190	40.500	6.75	9.73	11.50	17	20.07
46	5230	40.700	7.32	9.35	11.46	17	20.10
54	5270	44.100	11.94	13.48	15.79	24	27.44
62	5310	40.500	12.11	11.53	14.84	24	27.07
102	5510	41.050	14.75	13.98	17.39	24	27.13
110	5550	48.200	12.89	12.35	15.64	24	27.83
134	5670	40.700	11.32	10.85	14.10	24	27.10

Note:

1. Power Output Value = Reading value on peak power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW))
3. 26 dB Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.