FCC Test Report

Product Name ： Dual-WAN Security Router

Model No. ： Vigor2912n, Vigor2913n, Vigor2915n

FCC ID. ： VGYV2912N

Applicant ： DrayTek Corp.

Address ： No.26 Fu Shing Rd., HuKou County, Hsin-Chu Industrial Park, Hsin-Chu,Taiwan 303 R.O.C.

Date of Receipt ： 2013/08/06

Issued Date ： 2014/01/28

Report No. ： 138169R-RFUSP42V01

Report Version ： V1.0

Test Report Certification

Issued Date : 2014/01/28
Report No. : 138169R-RFUSP42V01

QuieTek

Product Name	:	Dual-WAN Security Router
Applicant	:	DrayTek Corp.
Address	:	No.26 Fu Shing Rd., HuKou County, Hsin-Chu Industrial Park, Hsin-Chu,Taiwan 303 R.O.C.
Model No.	:	Vigor2912n, Vigor2913n, Vigor2915n
FCC ID.	:	VGYV2912N
EUT Test Voltage	:	AC 100-240V, 50/60Hz
Trade Name	:	DrayTek
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2012 ANSI C63.4: 2009
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.

Documented By :

(Demi Chang / Engineering Adm. Specialist)

Reviewed By :

(Bruno Tsai / Assistant Engineer)

Approved By :

(Roy Wang / Director)

Laboratory Information

We, **QuieTek Corporation**, are an independent RF consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted (audited or listed) by the following related bodies in compliance with ISO 17025 specified testing scopes:

Taiwan R.O.C.	**:**	**TAF, Accreditation Number: 1313** **NCC, Certificate No : NCC-RCB-07**
USA	**:**	**FCC, Registration Number: 365520**
Canada	**:**	**IC, Submission No: 150981**

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/
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

HsinChu Testing Laboratory:
No.75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C.
TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : service@quietek.com

LinKou Testing Laboratory:
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

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1. General Information

1.1. EUT Description

Product Name	Dual-WAN Security Router
Product Type	WLAN (2TX, 2RX)
Trade Name	DrayTek
Model No.	Vigor2912n, Vigor2913n, Vigor2915n
Frequency Range/Channel Number -IEEE 802.11b/g & IEEE 802.11n (20MHz)	2412~2462MHz / 11 Channels
Frequency Range/Channel Number - IEEE 802.11n (40MHz)	2422~2452MHz / 7 Channels
Type of Modulation (IEEE 802.11b)	Direct Sequence Spread Spectrum (DSSS)
Type of Modulation (IEEE 802.11g/n)	Orthogonal Frequency Division Multiplexing (OFDM)
Data Speed (IEEE 802.11b)	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data Speed (IEEE 802.11g)	6Mbps,9Mbps,12Mbps,18Mbps,24Mbps,36Mbps,48Mbps,54Mbps
Data Speed (IEEE 802.11n)	Support a subset of the combination of GI, MCS 0~MCS 15 and bandwidth defined in 802.11n
Antenna Gain	Ant0: 2dBi, Ant1: 2dBi
Antenna Type	Dipole Antenna

Component	
Antenna	MAG. LAYERS, EDA-1313-25GR2-A2, 2 PCS
LAN Cable	Non-Shielded, 3m
Power Adatper	Channel Well Technology, CAP012121 I/P : 100-240V~47-63Hz 0.35A O/P : 12V⎓1.0A Cable Out: Non-Shielded, 1.5m

ANT-TX / RX & Bandwidth

ANT-TX / RX	TX		RX	
Mode/ Channel Bandwidth	20MHz	40MHz	20MHz	40MHz
IEEE802.11b	✓		✓	
IEEE802.11g	✓		✓	
IEEE802.11n	✓	✓	✓	✓

(2TX /2RX)

IEEE 802.11n

MCS Index	Modulation	R	N_{BPSCS}	N_{CBPS}		N_{DBPS}		Data Rate(Mb/s)			
				20MHz	40MHz	20MHz	40MHz	800ns GI		400ns GI	
								20MHz	40MHz	20MHz	40MHz
0	BPSK	1/2	1	52	108	26	54	6.5	13.5	7.2	15.0
1	QPSK	1/2	2	104	216	52	108	13.0	27.0	14.4	30.0
2	QPSK	3/4	2	104	216	78	162	19.5	40.5	21.7	45.0
3	16-QAM	1/2	4	208	432	104	216	26.0	54.0	28.9	60.0
4	16-QAM	3/4	4	208	432	156	324	39.0	81.0	43.3	90.0
5	64-QAM	2/3	6	312	648	208	432	52.0	108.0	57.8	120.0
6	64-QAM	3/4	6	312	648	234	486	58.5	121.5	65.0	135.0
7	64-QAM	5/6	6	312	648	260	540	65.0	135.0	72.2	150.0
Note 1: Support of 400ns GI is optional on transmit and receive.											

Table 1 – MCS parameters for TX Antenna number = 1

MCS Index	Modulation	R	N_{BPSCS}	N_{CBPS}		N_{DBPS}		Data Rate(Mb/s)			
				20MHz	40MHz	20MHz	40MHz	800ns GI		400ns GI	
								20MHz	40MHz	20MHz	40MHz
8	BPSK	1/2	1	104	216	52	108	13.0	27.0	14.4	30.0
9	QPSK	1/2	2	208	432	104	216	26.0	54.0	28.9	60.0
10	QPSK	3/4	2	208	432	156	324	39.0	81.0	43.3	90.0
11	16-QAM	1/2	4	416	864	208	432	52.0	108.0	57.8	120.0
12	16-QAM	3/4	4	416	864	312	648	78.0	162.0	86.7	180.0
13	64-QAM	2/3	6	624	1296	416	864	104.0	216.0	115.6	240.0
14	64-QAM	3/4	6	624	1296	468	972	117.0	243.0	130.0	270.0
15	64-QAM	5/6	6	624	1296	520	1080	130.0	270.0	144.4	300.0
Note 1: Support of 400ns GI is optional on transmit and receive.											

Table 2 – MCS parameters for TX Antenna number = 2

Symbol	Explanation
R	Code rate
N_{BPSC}	Number of coded bits per single carrier
N_{CBPS}	Number of coded bits per symbol
N_{DBPS}	Number of data bits per symbol
GI	guard interval

IEEE 802.11b/g & IEEE 802.11n (20MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
001	2412 MHz	002	2417 MHz	003	2422 MHz	004	2427 MHz
005	2432 MHz	006	2437 MHz	007	2442 MHz	008	2447 MHz
009	2452 MHz	010	2457 MHz	011	2462 MHz		

IEEE 802.11n (40MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
003	2422 MHz	004	2427 MHz	005	2432 MHz	006	2437 MHz
007	2442 MHz	008	2447 MHz	009	2452 MHz		

Note:

1. This device is a Dual-WAN Security Router including 2.4GHz b/g/n (2x2) transmitting and receiving function.
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with Part 15 Subpart C Paragraph 15.247.
3. Regards to the frequency band operation; the lowest、middle and highest frequency of channel were selected to perform the test, and then shown on this report.
4. This device is a composite device in accordance with Part 15 regulations. The receiving function receiving was tested and its test report number is 138169R-RFUSP37V02 under Declaration of Conformity.
5. The different of the each model is shown as below:

	WLAN-1	WAN1-RJ45-giga	WAN1-RJ45-100M	LAN-RJ45-giga	LAN-RJ45-100M
Vigor2912n	V (2.4G)		V		V
Vigor2913n	V (2.4G)	V			V
Vigor2915n	V (2.4G)	V		V	

1.3. Test Mode

QuieTek has verified the construction and function in typical operation. The preliminary tests were performed in different data rate, and to find the worst condition, which was shown in this test report. The following table is the final test mode.

TX	Mode 1: Transmit

Test Items	Mode	Modulation	Channel	Antenna	Result
Conducted Emission	1	11n(40MHz)	6	0	Complies
Peak Power Output	1	b/g	1/ 6/ 11	0	Complies
	1	11n(20MHz)	1/ 6/ 11	0+1	Complies
	1	11n(40MHz)	3/ 6/ 9	0+1	Complies
Radiated Emission	1	b/g	1/ 6/ 11	0	Complies
	1	11n(20MHz)	1/ 6/ 11	0+1	Complies
	1	11n(40MHz)	3/ 6/ 9	0+1	Complies
RF antenna conducted test	1	b/g	1/ 11	0	Complies
	1	11n(20MHz)	1/ 11	0/1	Complies
	1	11n(40MHz)	3/ 9	0/1	Complies
Radiated Emission Band Edge	1	b/g	1/ 11	0	Complies
	1	11n(20MHz)	1/ 11	0+1	Complies
	1	11n(40MHz)	3/ 9	0+1	Complies
Occupied Bandwidth	1	b/g	1/ 6/ 11	0	Complies
	1	11n(20MHz)	1/ 6/ 11	0/1	Complies
	1	11n(40MHz)	3/ 6/ 9	0/1	Complies
Power Density	1	b/g	1/ 6/ 11	0	Complies
	1	11n(20MHz)	1/ 6/ 11	0+1	Complies
	1	11n(40MHz)	3/ 6/ 9	0+1	Complies

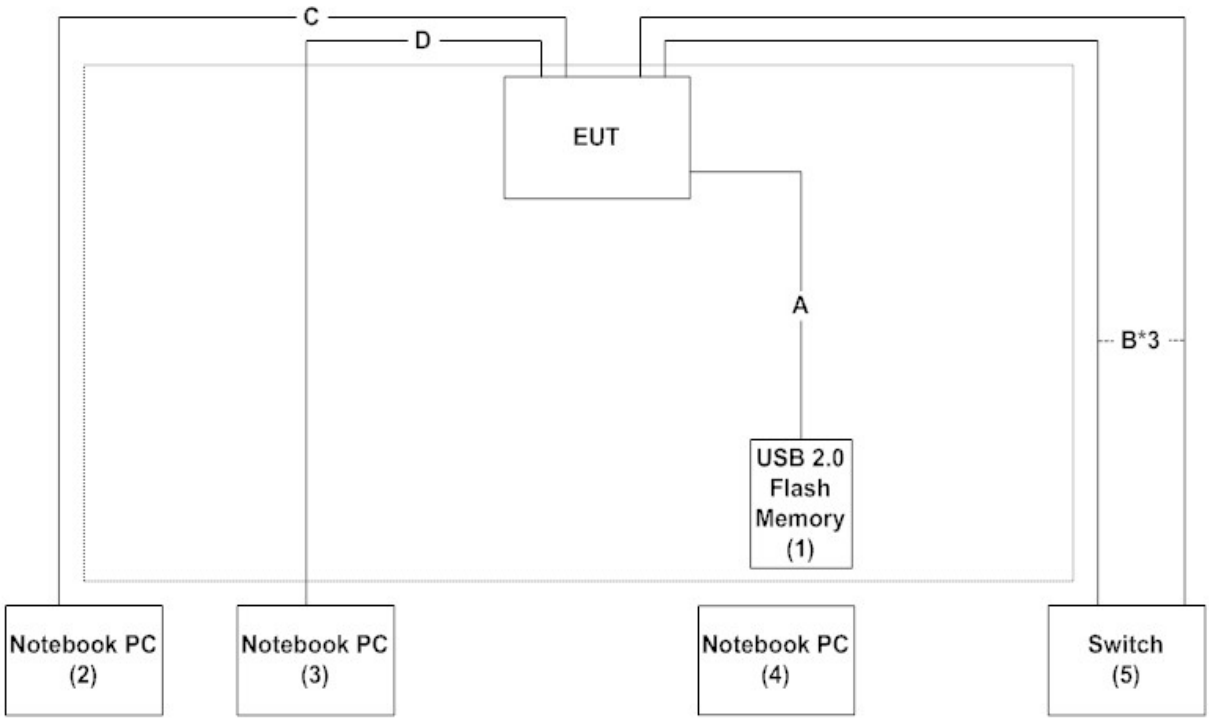
1.4. Tested System Details

The types for all equipments, 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 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
2	Notebook PC	HP	HSTNN-146C	CNU8253S1X	DoC	Non-Shielded, 1.8m
3	Notebook PC	DELL	Vostro3400	7F808N1	DoC	Non-Shielded, 1.8m
4	Notebook PC	DELL	PP26L	66TLZ1S	DoC	Non-Shielded, 1.8m
5	Switch	D-Link	DGS-1224TP	F3WB1A000003	DoC	Non-Shielded, 1.8m

1.5. Configuration of tested System

EMI Connection Diagram



Signal Cable Type		Signal cable Description
A	USB 2.0 Flash Memory Cable	Shielded, 1m
B	LAN Cable	Non-Shielded, 10m, 3PCS
C	LAN Cable	Non-Shielded, 3m
D	LAN Cable	Non-Shielded, 10m

1.6. EUT Exercise Software

1	Setup the EUT as shown in Section 1.5.
2	Execute the telnet command on the notebook.
3	Configure the test mode, the test channel, and the data rate.
4	Make the EUT to start the continuous transmitting.
5	Verify that the EUT works properly.

1.7. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	FCC PART 15 C 15.207 Conducted Emission	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Peak Power Output	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 RF antenna conducted test	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Band Edge	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Occupied Bandwidth	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Power Density	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000

2. Conducted Emission

2.1. Test Equipment

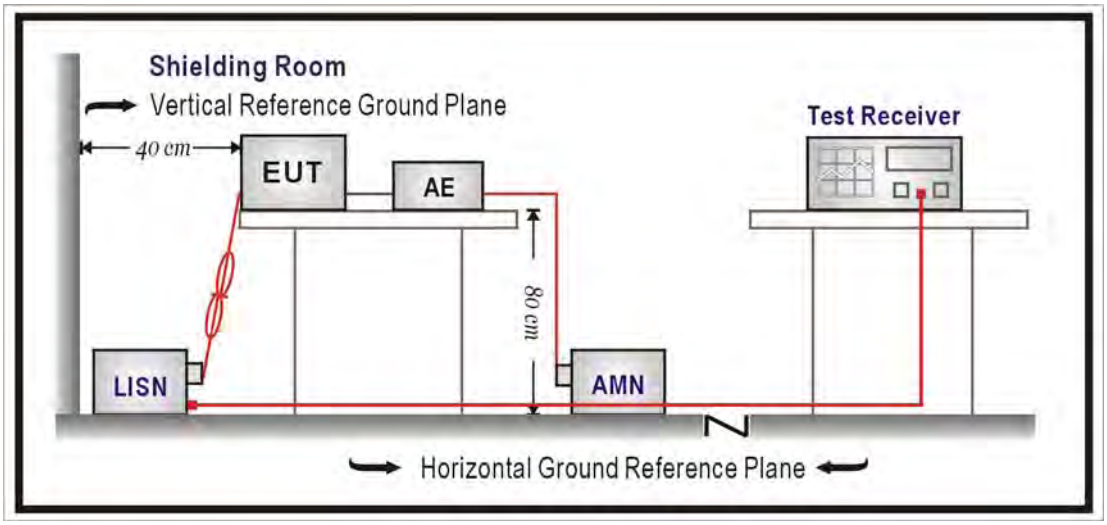
The following test equipments are used during the test:

Conducted Emission / SR3

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
LISN	R&S	ENV216	100096	2014/08/01
LISN	R&S	ESH3-Z5	836679/022	2014/01/20
Test Receiver	R&S	ESCS 30	825442/017	2014/01/01

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency MHz	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 was setup according to ANSI C63.4: 2009 and tested according to DTS test procedure of KDB558074 v03r01 for compliance to FCC 47CFR 15.247 requirements.
The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)
Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

2.5. Test Specification

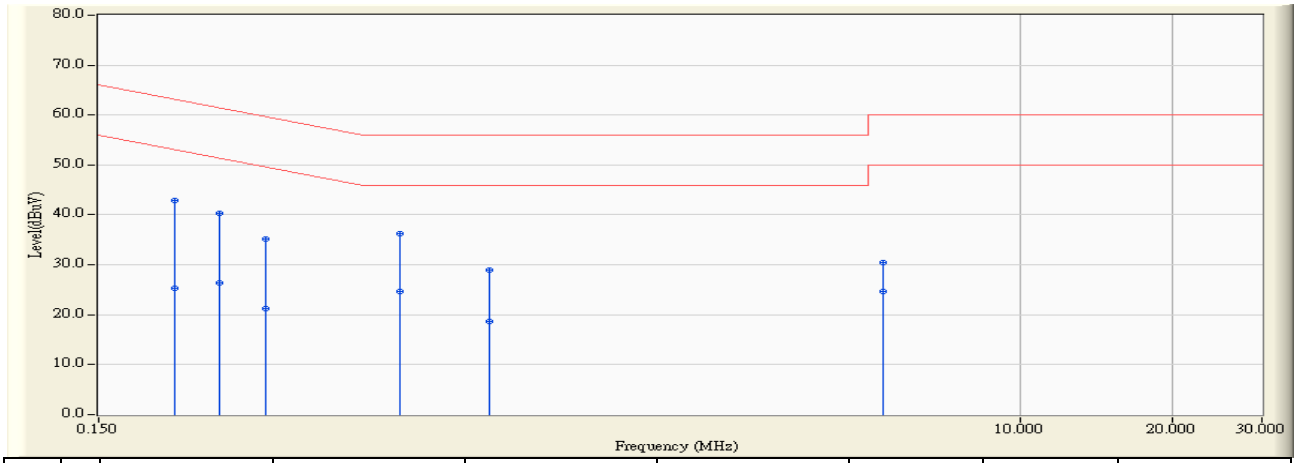
According to FCC Part 15 Subpart C Paragraph 15.207: 2012

2.6. Uncertainty

The measurement uncertainty is defined as ± 2.26 dB.

2.7. Test Result

Site : SR3	**Time : 2014/01/24 - 19:43**
Limit : CISPR_802.11b_00M_QP	**Margin : 10**
Probe : SR3_LISN(16A)-3_0813 - Line1	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n 40MHz_2437MHz**

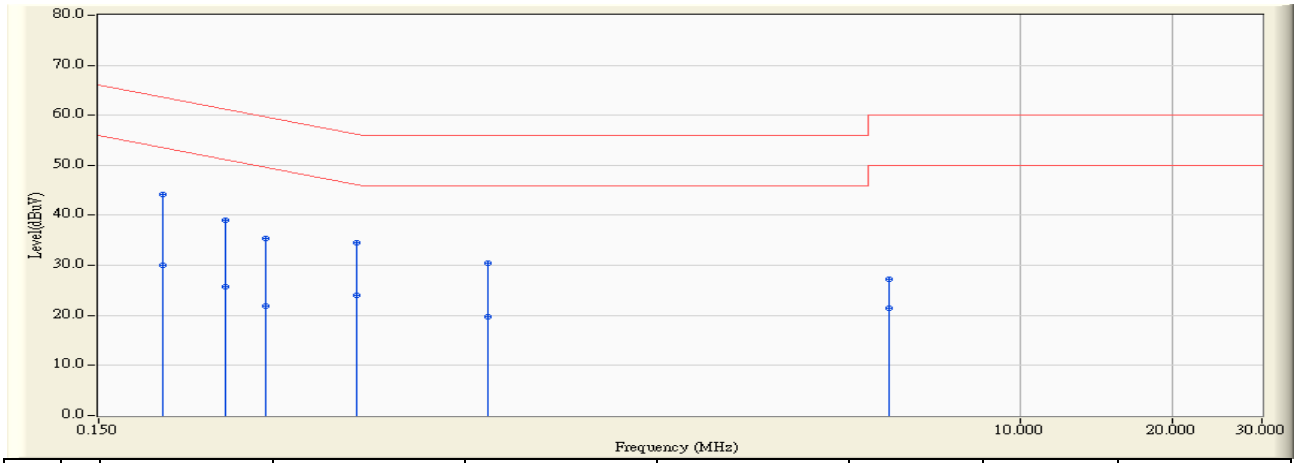


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.213	9.666	33.140	42.806	-20.296	63.102	QUASIPEAK
2		0.213	9.666	15.650	25.316	-27.786	53.102	AVERAGE
3		0.259	9.693	30.660	40.353	-21.098	61.451	QUASIPEAK
4		0.259	9.693	16.640	26.333	-25.118	51.451	AVERAGE
5		0.322	9.729	25.420	35.149	-24.510	59.658	QUASIPEAK
6		0.322	9.729	11.610	21.339	-28.320	49.658	AVERAGE
7	*	0.591	9.850	26.380	36.230	-19.770	56.000	QUASIPEAK
8		0.591	9.850	14.720	24.570	-21.430	46.000	AVERAGE
9		0.892	9.920	19.100	29.020	-26.980	56.000	QUASIPEAK
10		0.892	9.920	8.830	18.750	-27.250	46.000	AVERAGE
11		5.338	10.110	20.300	30.410	-29.590	60.000	QUASIPEAK
12		5.338	10.110	14.650	24.760	-25.240	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : SR3	**Time : 2014/01/24 - 19:53**
Limit : CISPR_802.11b_00M_QP	**Margin : 10**
Probe : SR3_LISN(16A)-3_0813 - Line2	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n 40MHz_2437MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.201	9.658	34.480	44.138	-19.440	63.578	QUASIPEAK
2		0.201	9.658	20.400	30.058	-23.520	53.578	AVERAGE
3		0.267	9.696	29.400	39.096	-22.109	61.205	QUASIPEAK
4		0.267	9.696	15.990	25.686	-25.519	51.205	AVERAGE
5		0.322	9.719	25.680	35.399	-24.260	59.658	QUASIPEAK
6		0.322	9.719	12.070	21.789	-27.870	49.658	AVERAGE
7		0.486	9.809	24.760	34.569	-21.668	56.237	QUASIPEAK
8		0.486	9.809	14.180	23.989	-22.248	46.237	AVERAGE
9		0.880	9.910	20.520	30.430	-25.570	56.000	QUASIPEAK
10		0.880	9.910	9.740	19.650	-26.350	46.000	AVERAGE
11		5.505	10.080	17.140	27.220	-32.780	60.000	QUASIPEAK
12		5.505	10.080	11.370	21.450	-28.550	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

3. Peak Power Output

3.1. Test Equipment

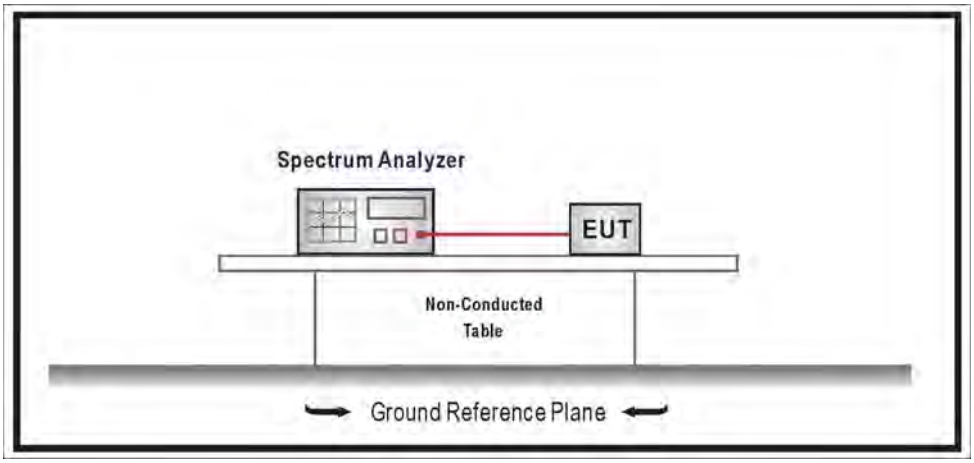
The following test equipments are used during the test:

Peak Power / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2014/08/05

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

3.2. Test Setup



3.3. Test procedures

The EUT was tested according to DTS test procedure section 9.1.2 of KDB558074 v03r01 measurement to FCC 47CFR 15.247 requirements. Set the RBW=1MHz, Set the VBW≧ 3xRBW, Sweep Time=Auto, Set Peak Detector.

3.4. Limits

The maximum peak power shall be less 1 Watt.

3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2012

3.6. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB.

3.7. Test Result

Product	Dual-WAN Security Router		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2014/01/24	Test Site	SR7

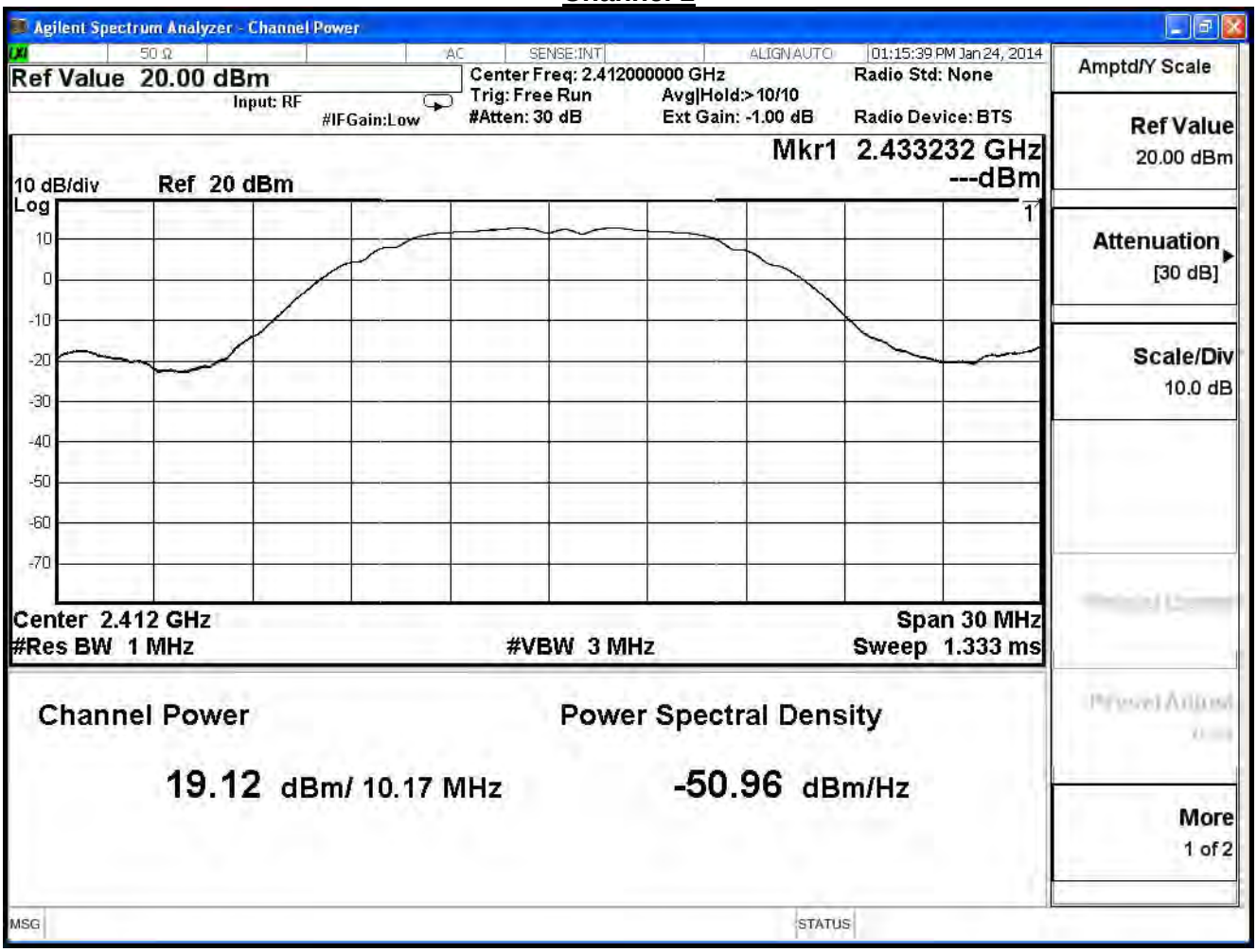
IEEE 802.11b				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	19.120	1Watt= 30 dBm	Pass
6	2437	18.260	1Watt= 30 dBm	Pass
11	2462	17.110	1Watt= 30 dBm	Pass

The worst emission of data rate is 1Mbps.

Peak Power Output Value (dBm)						
Channel No.	Frequency (MHz)	Data Rate				Required Limit
		1	2	5.5	11	
1	2412	19.120	--	--	--	30 dBm
6	2437	18.260	18.16	18.04	17.93	30 dBm
11	2462	17.110	--	--	--	30 dBm

Note: Measure Level =Reading value + cable loss

Channel 1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Ext Gain: -1.00 dB
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Radio Device: BTS
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10 dB/div
Log
Ref 20 dBm
Center 2.412 GHz
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#VBW 3 MHz
Span 30 MHz
Sweep 1.333 ms
Channel Power
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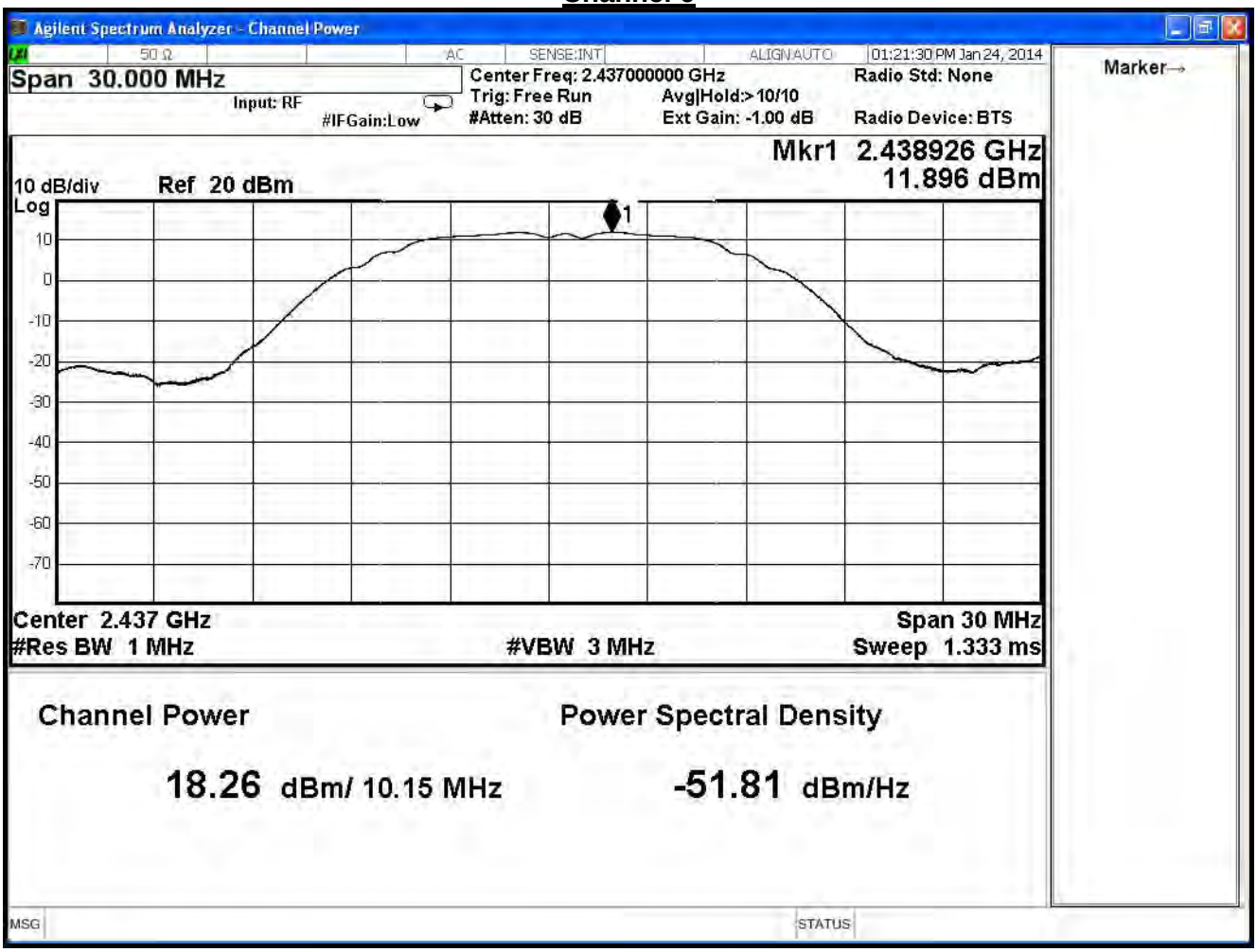
1 of 2
MSG
STATUS

Channel 6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ALIGN AUTO
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Span 30.000 MHz
Input: RF
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Trig: Free Run
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Avg|Hold:>10/10
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Marker→
Mkr1 2.438926 GHz
11.896 dBm
10 dB/div
Log
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10
0
-10
-20
-30
-40
-50
-60
-70
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Center 2.437 GHz
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#VBW 3 MHz
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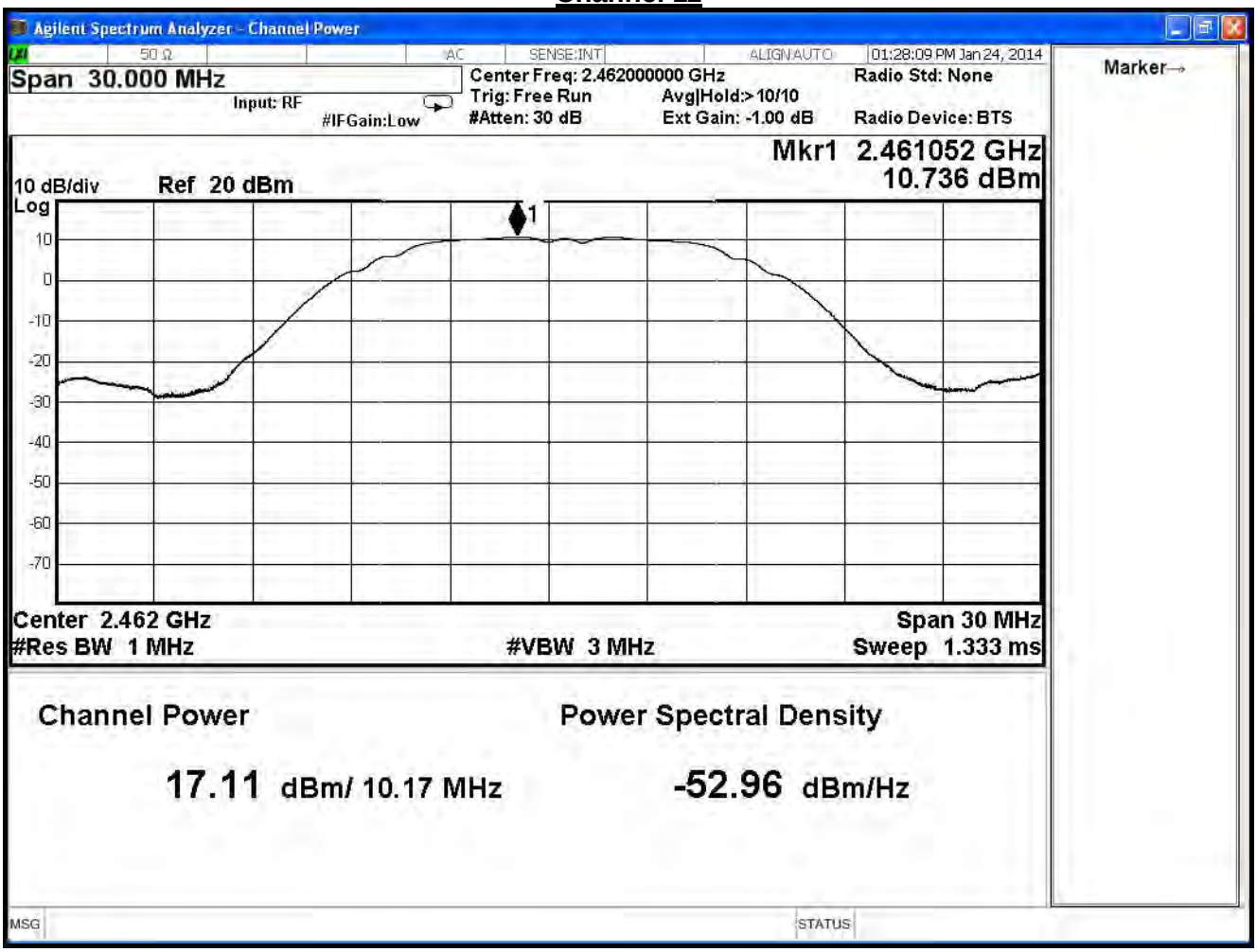
STATUS

Channel 11


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
01:28:09 PM Jan 24, 2014
Span 30.000 MHz
Input: RF
#IFGain:Low
Center Freq: 2.462000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Marker→
Mkr1 2.461052 GHz
10.736 dBm
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
1
Center 2.462 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 30 MHz
Sweep 1.333 ms
Channel Power
17.11 dBm/ 10.17 MHz
Power Spectral Density
-52.96 dBm/Hz
MSG
STATUS

Product	Dual-WAN Security Router		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2014/01/24	Test Site	SR7

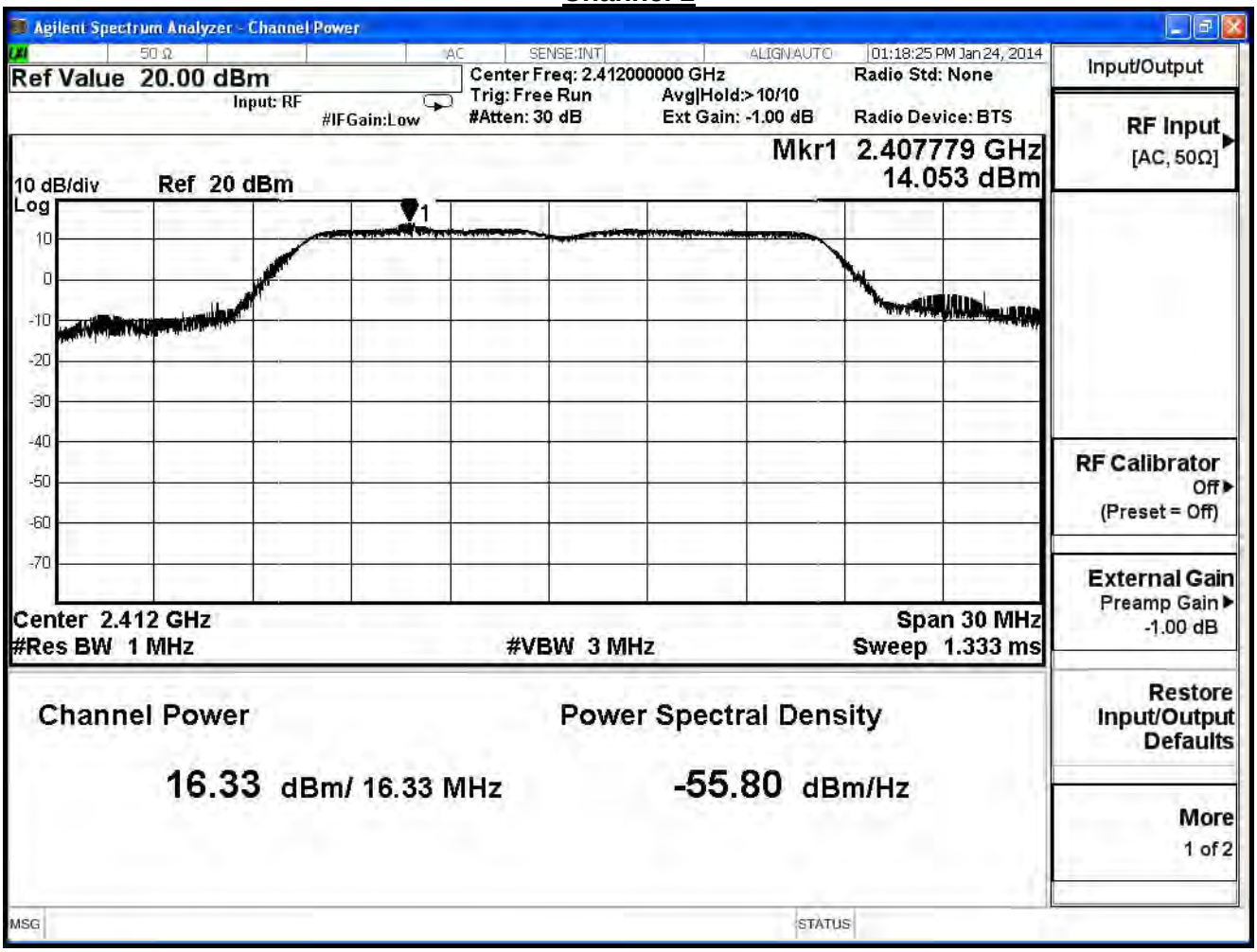
IEEE 802.11g				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	16.330	1Watt= 30 dBm	Pass
6	2437	15.640	1Watt= 30 dBm	Pass
11	2462	10.590	1Watt= 30 dBm	Pass

The worst emission of data rate is 6Mbps.

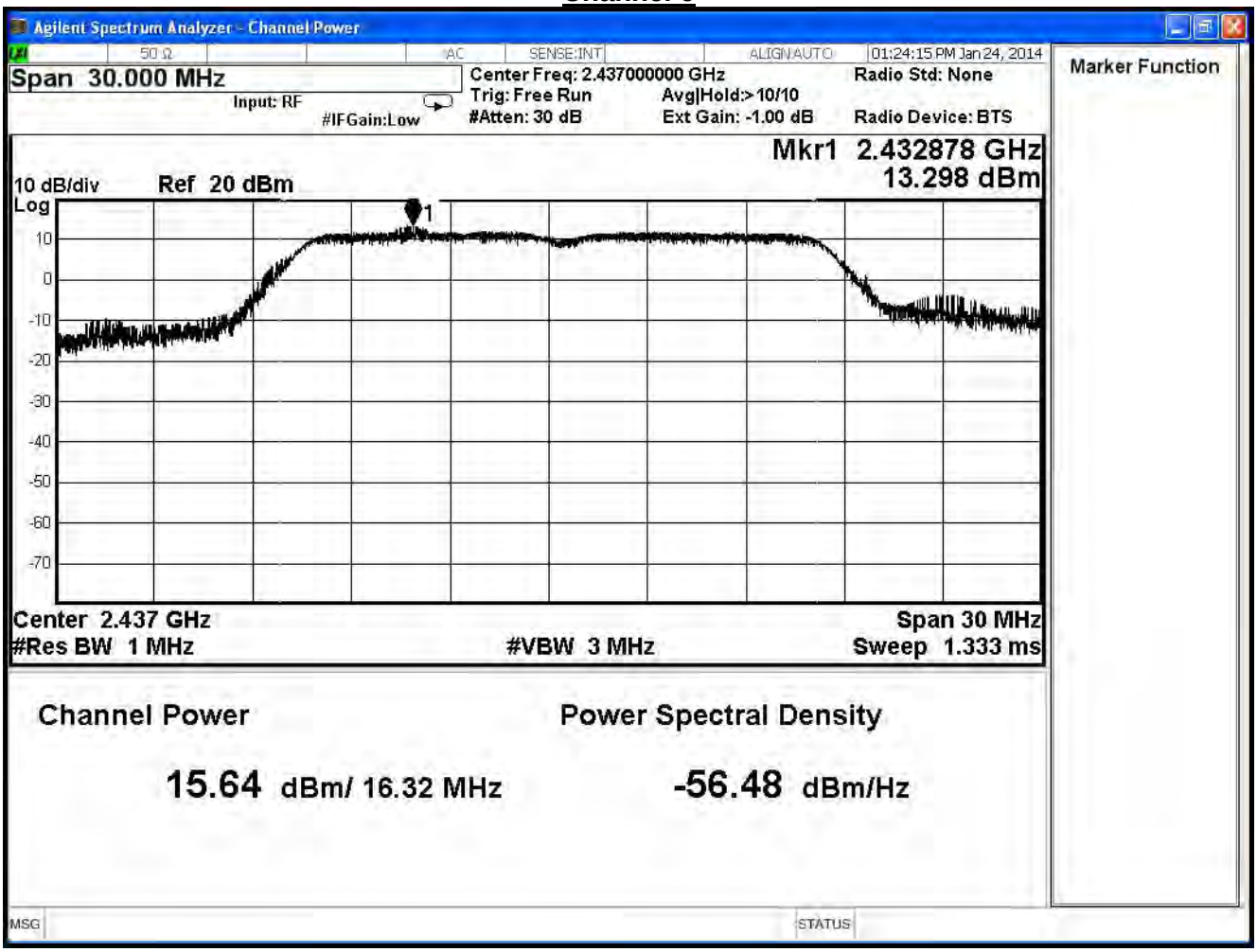
Peak Power Output (dBm)									
Channel No	Frequency (MHz)	Data Rate							Required Limit
		6	12	18	24	36	48	54	
1	2412	16.330	--	--	--	--	--	--	1 Watt=30dBm
6	2437	15.640	15.54	15.32	15.19	15.07	14.85	14.73	1 Watt=30dBm
11	2462	10.590	--	--	--	--	--	--	1 Watt=30dBm

Note: Measure Level =Reading value + cable loss

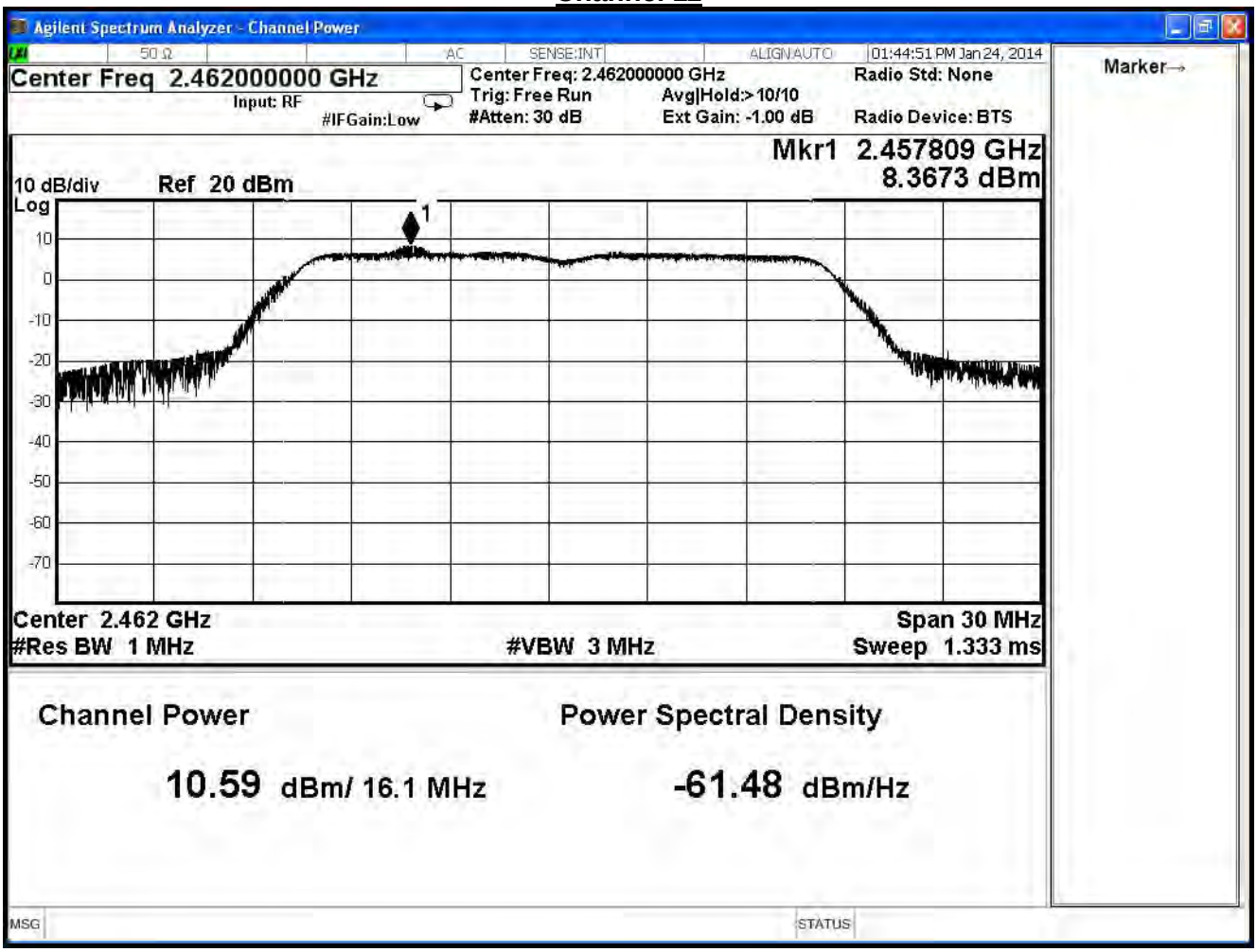
Channel 1


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
01:18:25 PM Jan 24, 2014
Ref Value 20.00 dBm
Input: RF
#IFGain:Low
Center Freq: 2.412000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Mkr1 2.407779 GHz
14.053 dBm
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.412 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 30 MHz
Sweep 1.333 ms
Channel Power
16.33 dBm/ 16.33 MHz
Power Spectral Density
-55.80 dBm/Hz
MSG
STATUS
Input/Output
RF Input
[AC, 50Ω]
RF Calibrator
Off
(Preset = Off)
External Gain
Preamp Gain
-1.00 dB
Restore Input/Output Defaults
More
1 of 2

Channel 6


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
01:24:15 PM Jan 24, 2014
Span 30.000 MHz
Input: RF
#IFGain:Low
Center Freq: 2.437000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Marker Function
Mkr1 2.432878 GHz
13.298 dBm
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.437 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 30 MHz
Sweep 1.333 ms
Channel Power
15.64 dBm/ 16.32 MHz
Power Spectral Density
-56.48 dBm/Hz
MSG
STATUS

Channel 11


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
01:44:51 PM Jan 24, 2014
Center Freq 2.462000000 GHz
Input: RF
#IFGain:Low
Center Freq: 2.462000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Marker→
Mkr1 2.457809 GHz
8.3673 dBm
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.462 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 30 MHz
Sweep 1.333 ms
Channel Power
10.59 dBm/ 16.1 MHz
Power Spectral Density
-61.48 dBm/Hz
MSG
STATUS

Product	Dual-WAN Security Router		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2014/01/24	Test Site	SR7

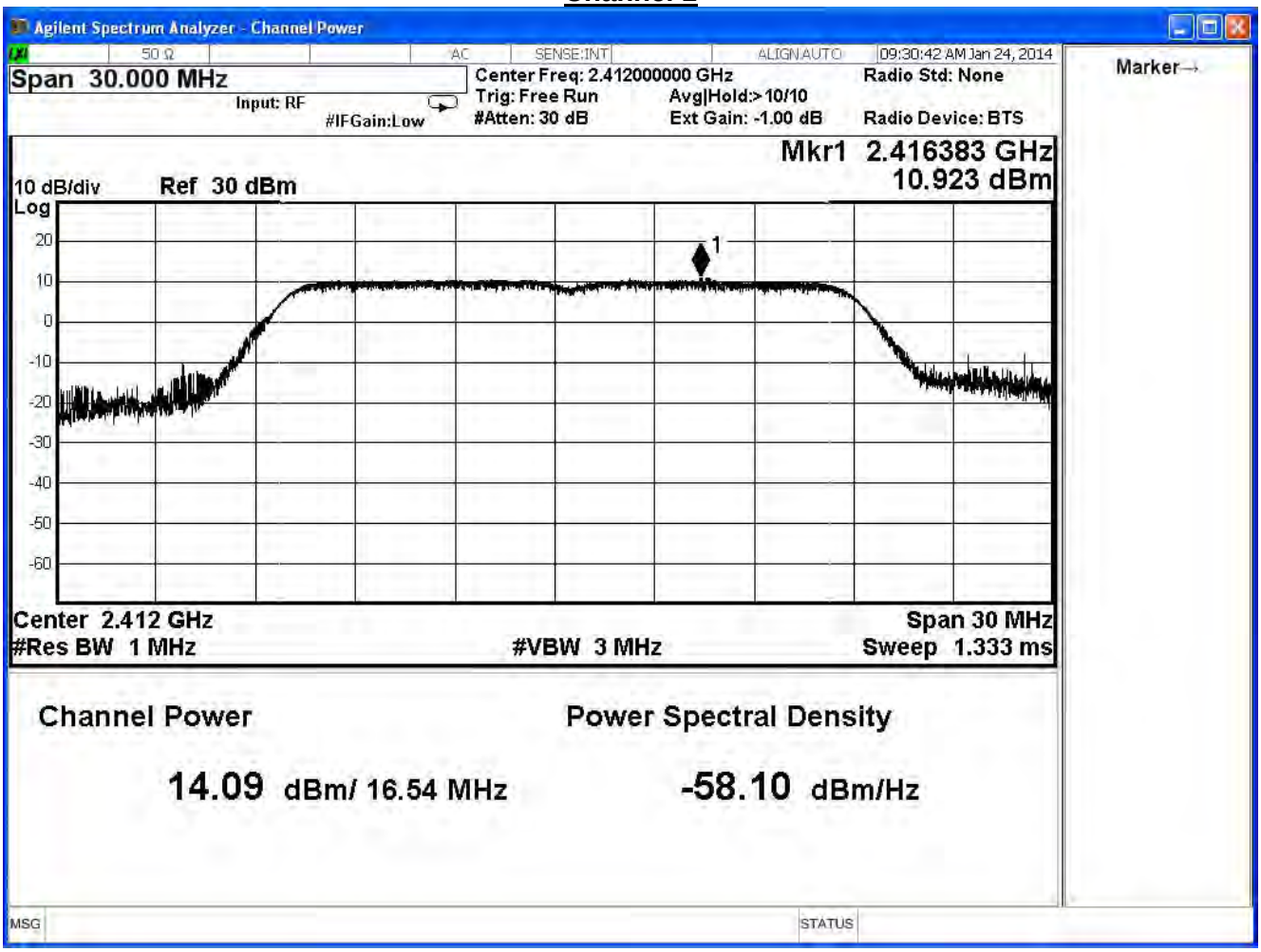
IEEE 802.11n 20MHz (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	14.090	1Watt= 30 dBm	Pass
6	2437	13.220	1Watt= 30 dBm	Pass
11	2462	12.350	1Watt= 30 dBm	Pass

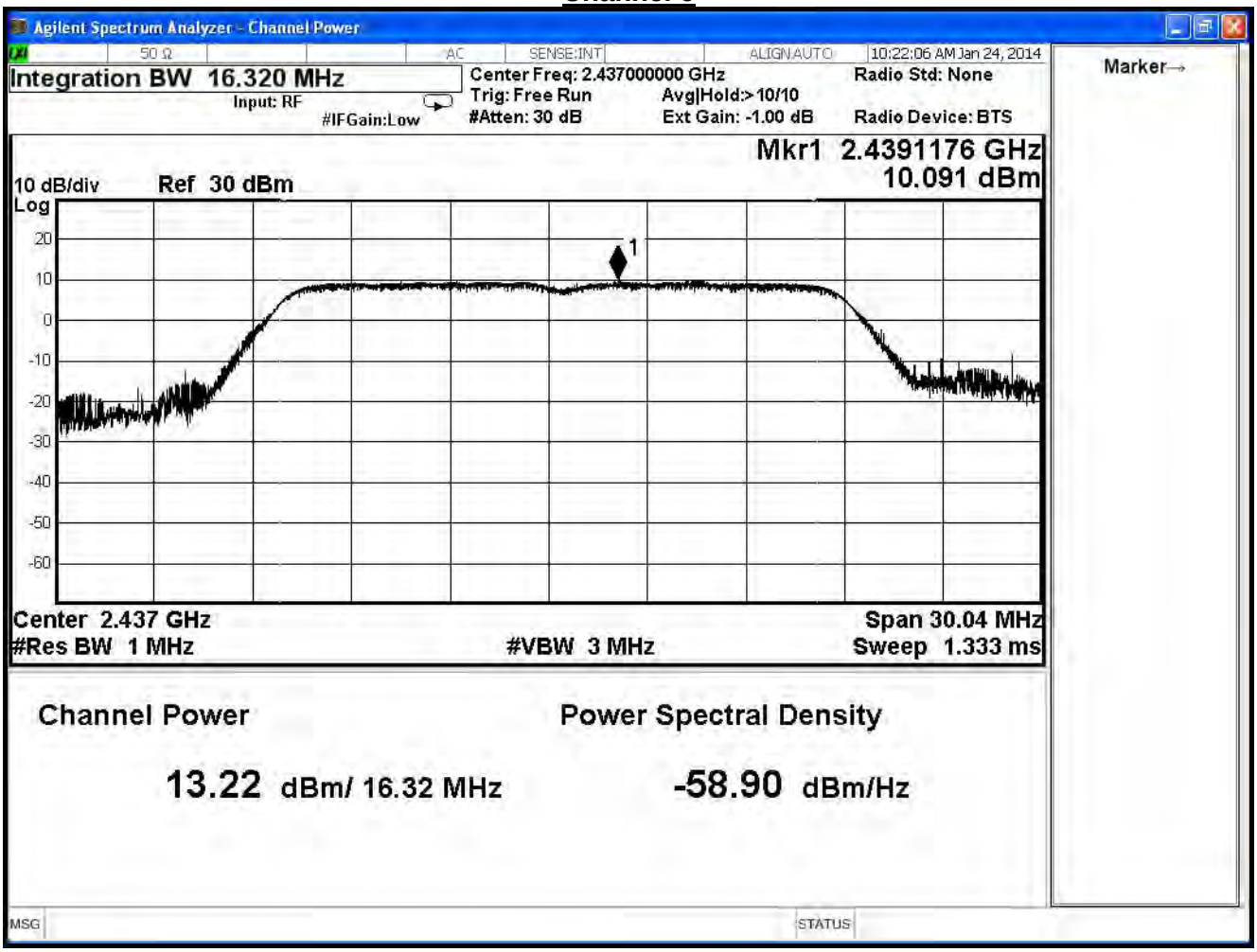
The worst emission of data rate is 13 Mbps.

Peak Power Output (dBm)										
MCS Index		8	9	10	11	12	13	14	15	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		13	26	39	52	78	104	117	130	
1	2412	14.090	--	--	--	--	--	--	--	30dBm
6	2437	13.220	12.98	12.88	12.77	12.51	12.27	12.03	11.92	30dBm
11	2462	12.350	--	--	--	--	--	--	--	30dBm

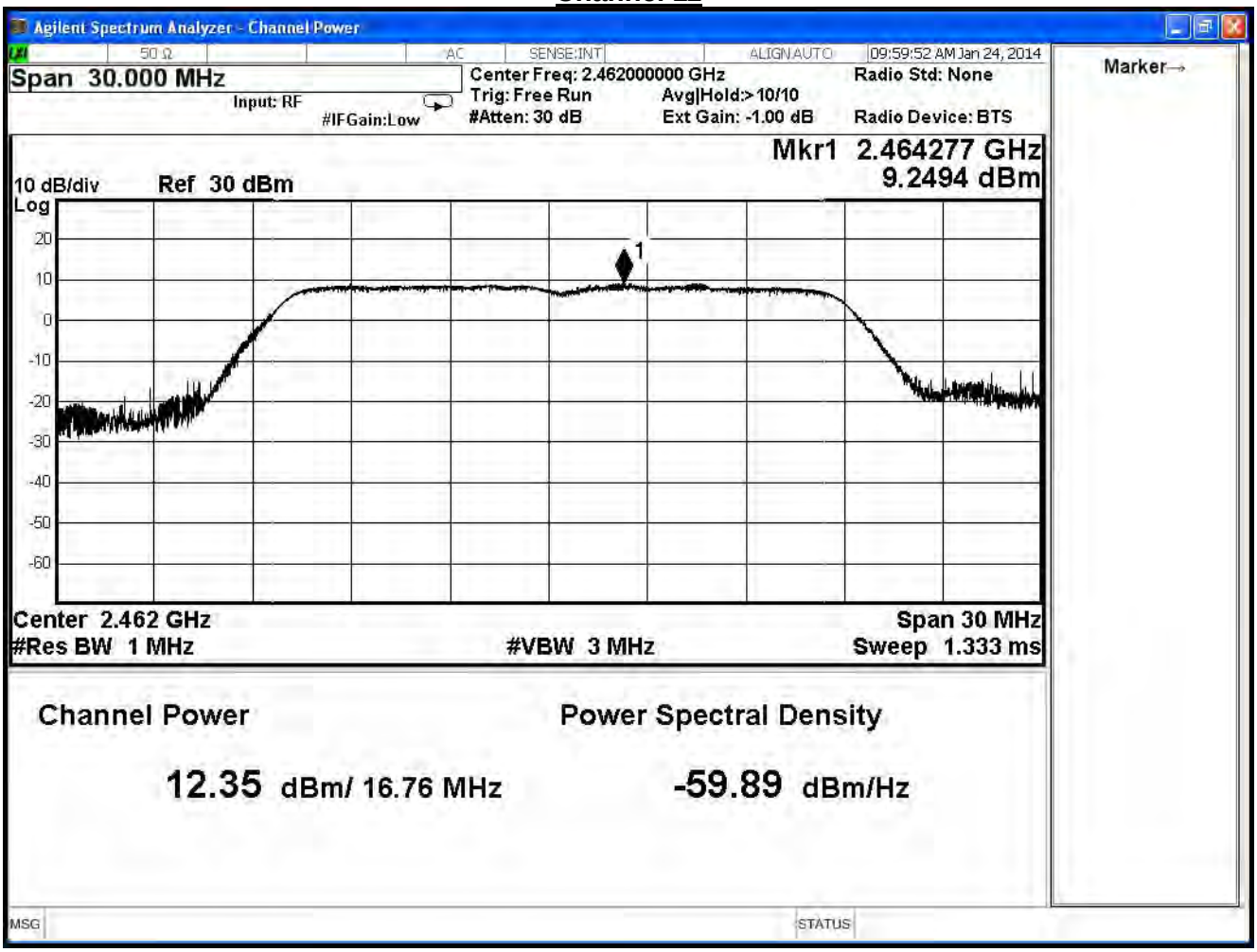
Channel 1


Agilent Spectrum Analyzer - Channel Power
Span 30.000 MHz
Input: RF
#IFGain:Low
Center Freq: 2.412000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
09:30:42 AM Jan 24, 2014
Marker
Mkr1 2.416383 GHz
10.923 dBm
10 dB/div
Ref 30 dBm
Log
20
10
0
-10
-20
-30
-40
-50
-60
Center 2.412 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 30 MHz
Sweep 1.333 ms
Channel Power
14.09 dBm/ 16.54 MHz
Power Spectral Density
-58.10 dBm/Hz
MSG
STATUS

Channel 6


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:22:06 AM Jan 24, 2014
Integration BW 16.320 MHz
Input: RF
#IFGain:Low
Center Freq: 2.437000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Marker→
Mkr1 2.4391176 GHz
10.091 dBm
10 dB/div
Ref 30 dBm
Log
20
10
0
-10
-20
-30
-40
-50
-60
1
Center 2.437 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 30.04 MHz
Sweep 1.333 ms
Channel Power
13.22 dBm/ 16.32 MHz
Power Spectral Density
-58.90 dBm/Hz
MSG
STATUS

Channel 11


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
09:59:52 AM Jan 24, 2014
Span 30.000 MHz
Input: RF
#IFGain:Low
Center Freq: 2.462000000 GHz
Trig: Free Run
#Atten: 30 dB
Avg|Hold:>10/10
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Marker→
Mkr1 2.464277 GHz
9.2494 dBm
10 dB/div
Log
Ref 30 dBm
20
10
0
-10
-20
-30
-40
-50
-60
1
Center 2.462 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 30 MHz
Sweep 1.333 ms
Channel Power
12.35 dBm/ 16.76 MHz
Power Spectral Density
-59.89 dBm/Hz
MSG
STATUS

Product	Dual-WAN Security Router		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2014/01/24	Test Site	SR7

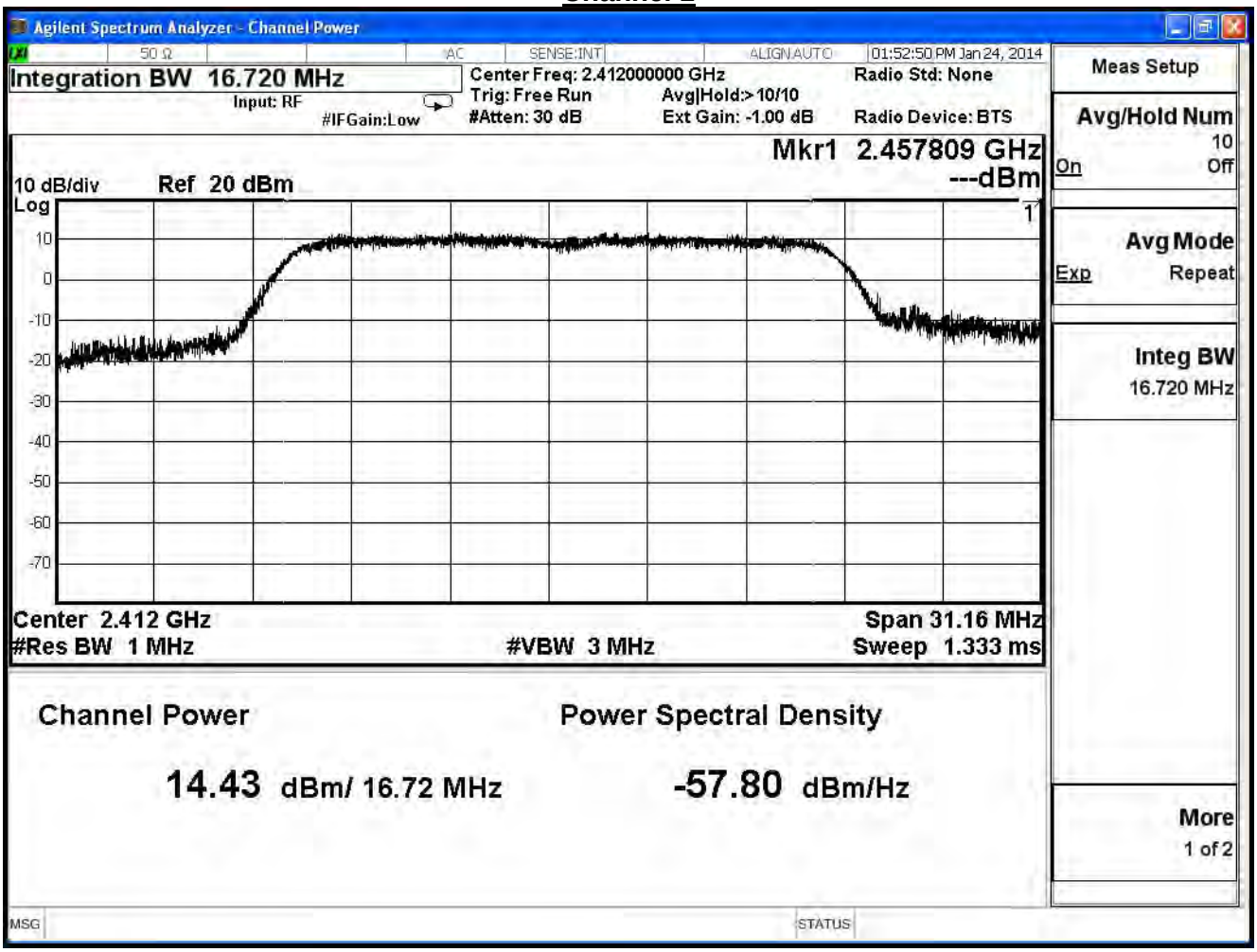
IEEE 802.11n 20MHz (ANT 1)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	14.430	1Watt= 30 dBm	Pass
6	2437	13.450	1Watt= 30 dBm	Pass
11	2462	10.140	1Watt= 30 dBm	Pass

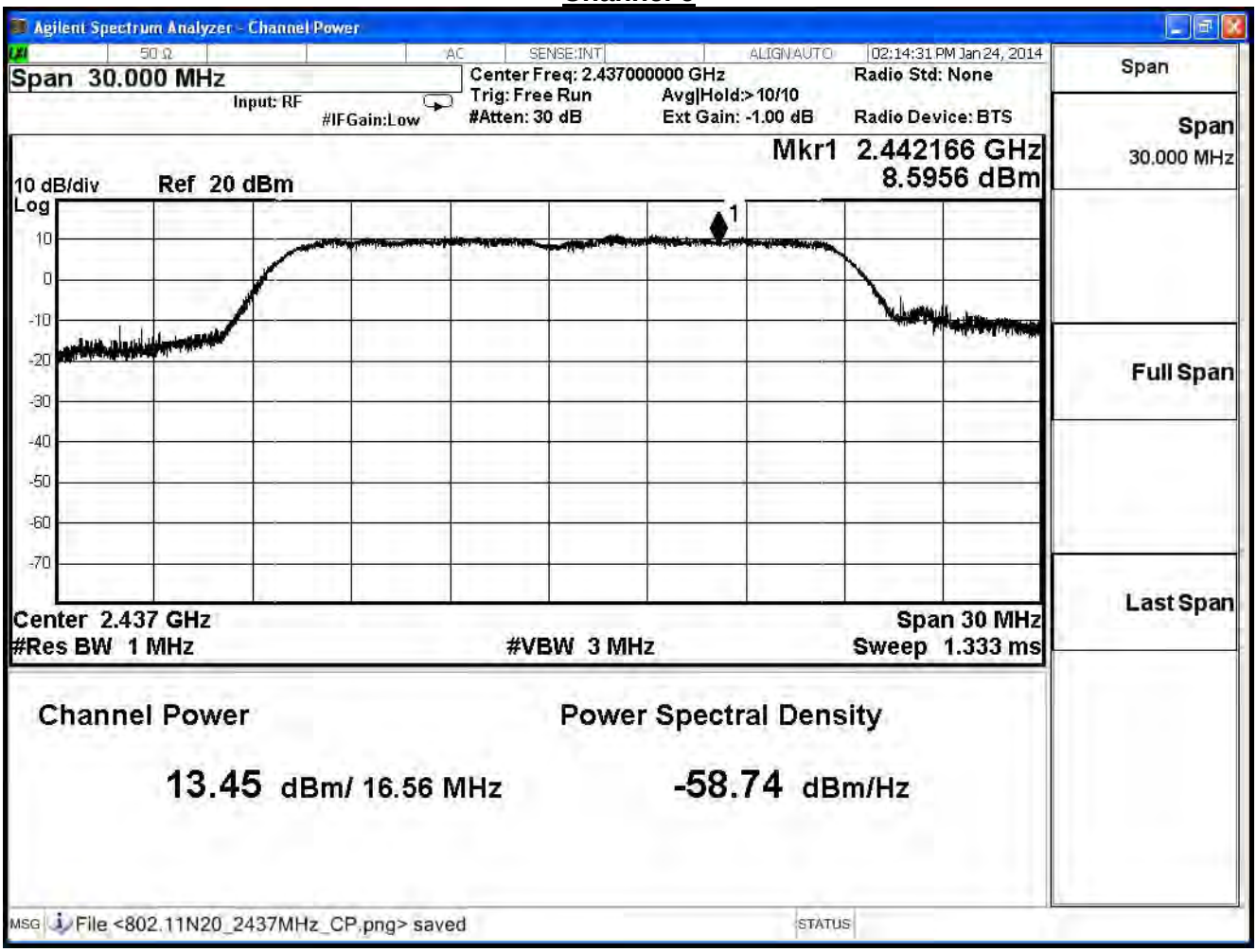
The worst emission of data rate is 13 Mbps.

Peak Power Output (dBm)										
MCS Index		8	9	10	11	12	13	14	15	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		13	26	39	52	78	104	117	130	
1	2412	14.430	--	--	--	--	--	--	--	30dBm
6	2437	13.450	13.35	13.11	13.01	12.89	12.65	12.53	12.40	30dBm
11	2462	10.140	--	--	--	--	--	--	--	30dBm

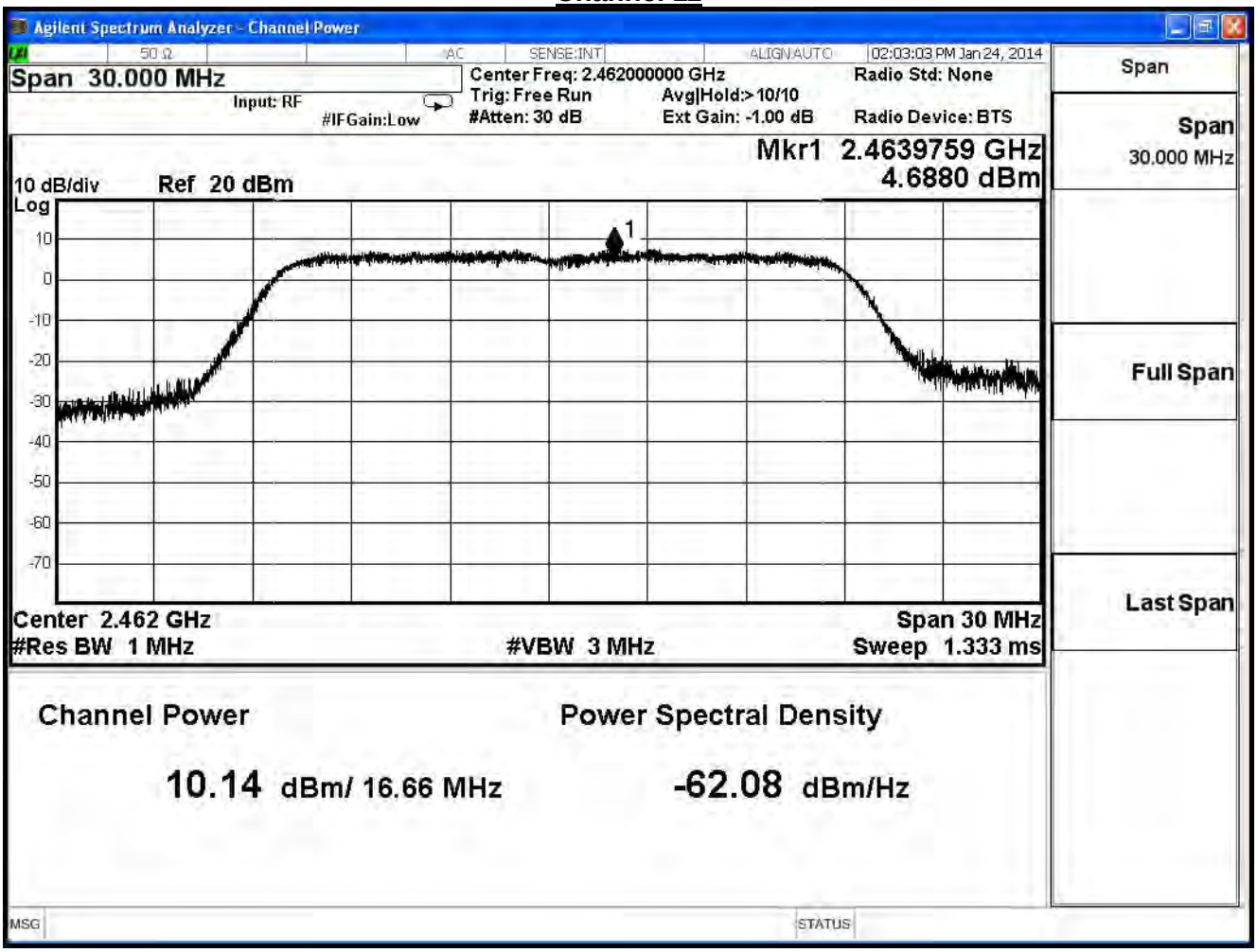
Channel 1


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
01:52:50 PM Jan 24, 2014
Integration BW 16.720 MHz
Input: RF
#IFGain:Low
Center Freq: 2.412000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Mkr1 2.457809 GHz
---dBm
10 dB/div
Ref 20 dBm
Log
10
0
-10
-20
-30
-40
-50
-60
-70
1
Center 2.412 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 31.16 MHz
Sweep 1.333 ms
Channel Power
14.43 dBm/ 16.72 MHz
Power Spectral Density
-57.80 dBm/Hz
Meas Setup
Avg/Hold Num
10
On
Off
Avg Mode
Exp
Repeat
Integ BW
16.720 MHz
More
1 of 2
MSG
STATUS

Channel 6


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:14:31 PM Jan 24, 2014
Span 30.000 MHz
Input: RF
#IFGain:Low
Center Freq: 2.437000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Mkr1 2.442166 GHz
8.5956 dBm
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.437 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 30 MHz
Sweep 1.333 ms
Channel Power
13.45 dBm/ 16.56 MHz
Power Spectral Density
-58.74 dBm/Hz
MSG
File <802.11N20_2437MHz_CP.png> saved
STATUS
Span
Span
30.000 MHz
Full Span
Last Span

Channel 11


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:03:03 PM Jan 24, 2014
Span 30.000 MHz
Input: RF
#IFGain:Low
Center Freq: 2.462000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Mkr1 2.4639759 GHz
4.6880 dBm
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
1
Center 2.462 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 30 MHz
Sweep 1.333 ms
Channel Power
10.14 dBm/ 16.66 MHz
Power Spectral Density
-62.08 dBm/Hz
MSG
STATUS
Span
Span
30.000 MHz
Full Span
Last Span

Product	Dual-WAN Security Router		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2014/01/24	Test Site	SR7

IEEE 802.11n 20MHz (ANT 0+1)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	17.274	1Watt= 30 dBm	Pass
6	2437	16.347	1Watt= 30 dBm	Pass
11	2462	14.394	1Watt= 30 dBm	Pass

The worst emission of data rate is 13 Mbps.

Peak Power Output (dBm)										
MCS Index		8	9	10	11	12	13	14	15	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		26	39	52	78	104	117	130	195	
1	2412	17.274	--	--	--	--	--	--	--	30dBm
6	2437	16.347	16.15	16.02	15.92	15.79	15.55	15.43	15.19	30dBm
11	2462	14.394	--	--	--	--	--	--	--	30dBm

Product	Dual-WAN Security Router		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2014/01/24	Test Site	SR7

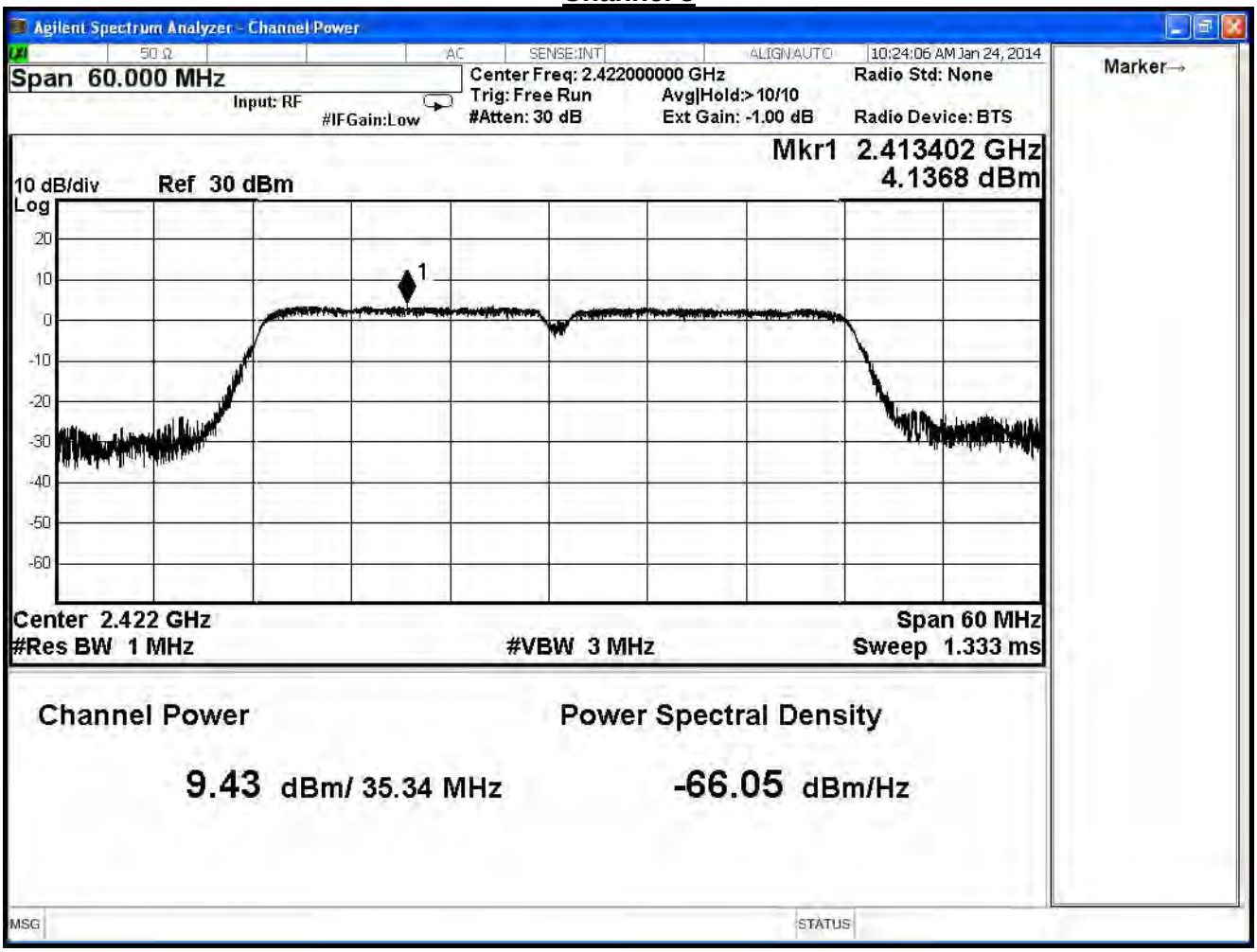
IEEE 802.11n 40MHz (ANT 0)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
3	2422	9.430	1Watt= 30 dBm	Pass
6	2437	9.460	1Watt= 30 dBm	Pass
9	2452	9.020	1Watt= 30 dBm	Pass

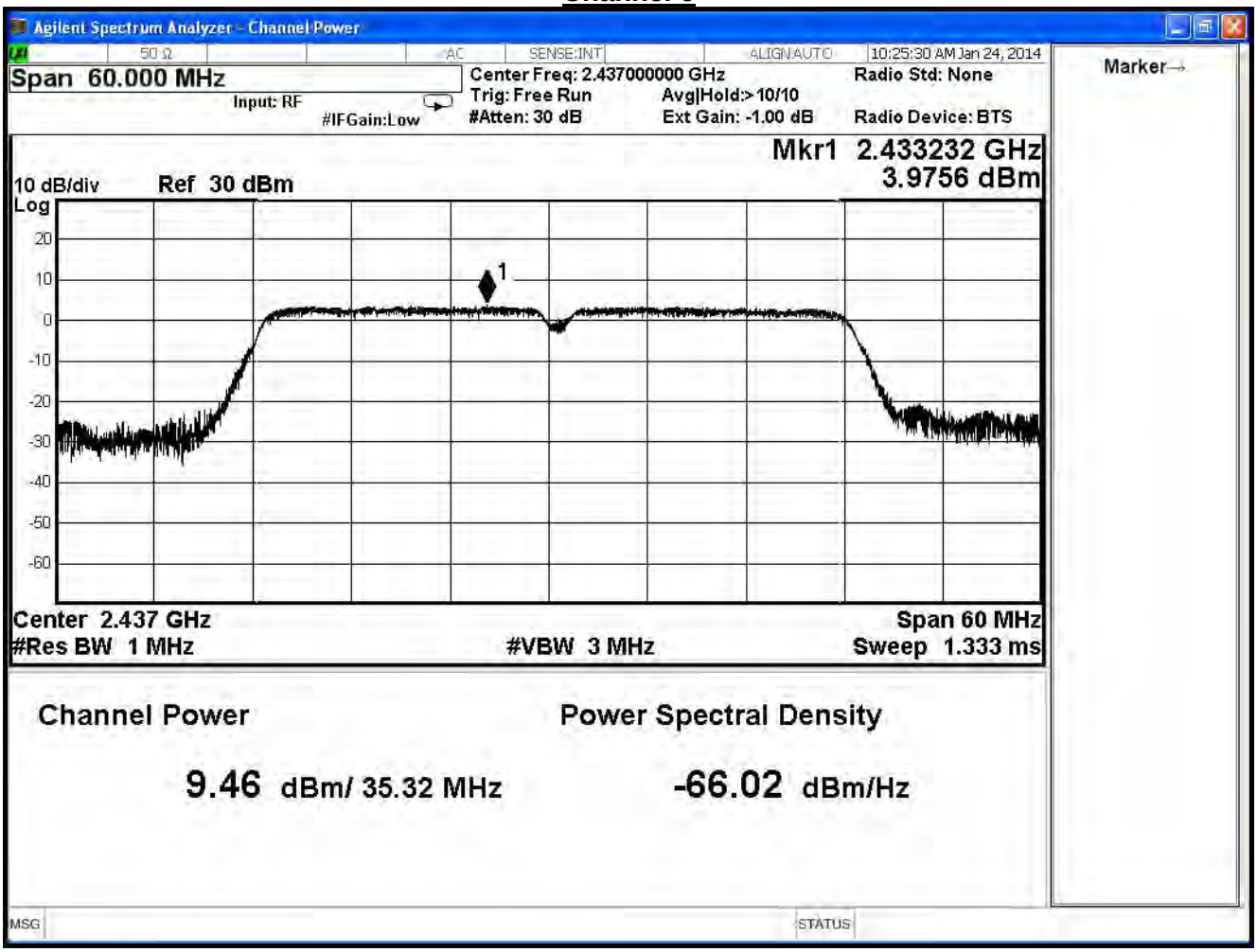
The worst emission of data rate is 27 Mbps.

Peak Power Output (dBm)										
MCS Index		8	9	10	11	12	13	14	15	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		27	54	81	106	162	216	243	270	
3	2422	9.43	--	--	--	--	--	--	--	30dBm
6	2437	9.46	9.36	9.25	9.05	8.95	8.83	8.70	8.46	30dBm
9	2452	9.02	--	--	--	--	--	--	--	30dBm

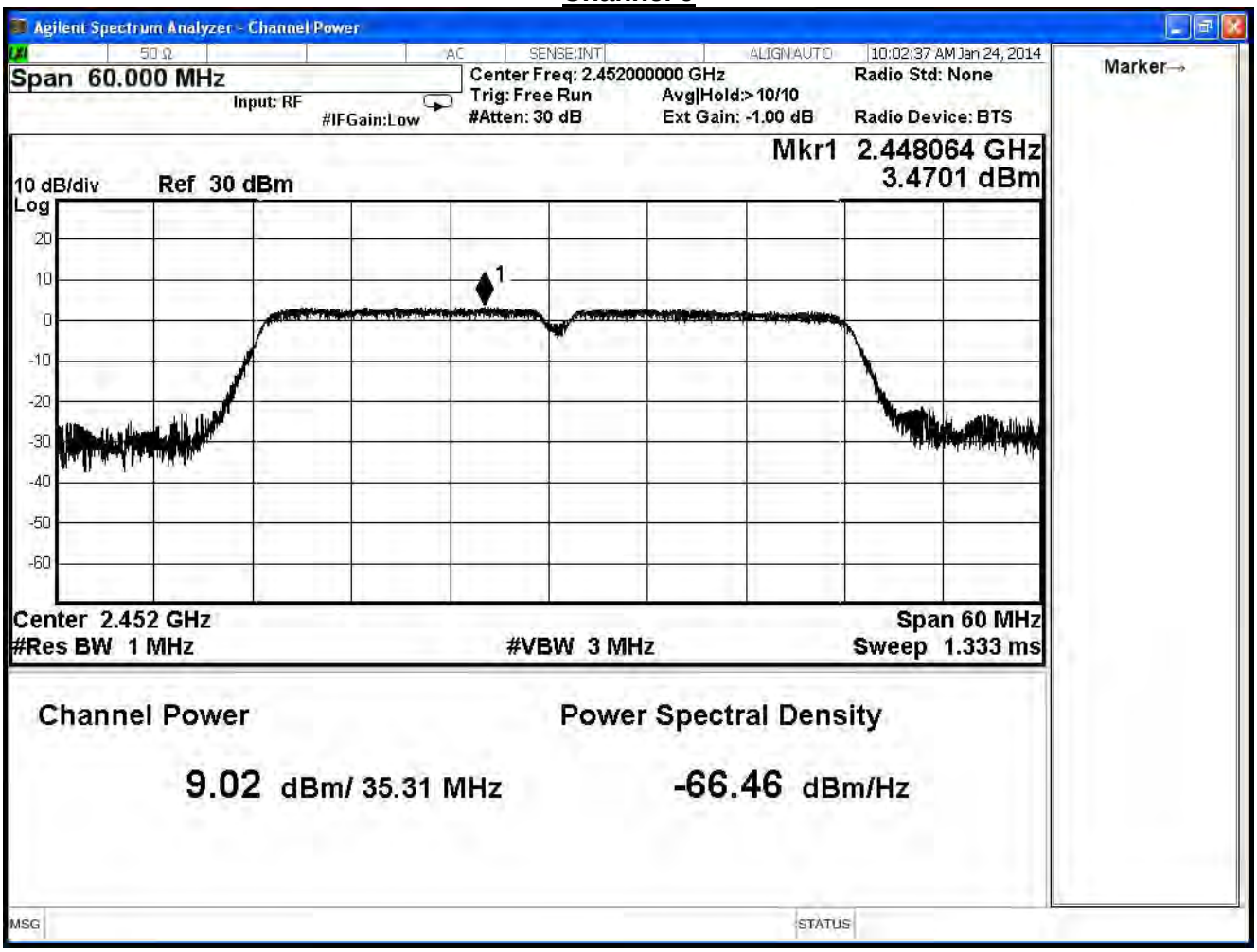
Channel 3


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:24:06 AM Jan 24, 2014
Span 60.000 MHz
Input: RF
#IFGain:Low
Center Freq: 2.422000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Marker→
Mkr1 2.413402 GHz
4.1368 dBm
10 dB/div
Log
Ref 30 dBm
20
10
0
-10
-20
-30
-40
-50
-60
1
Center 2.422 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 60 MHz
Sweep 1.333 ms
Channel Power
9.43 dBm/ 35.34 MHz
Power Spectral Density
-66.05 dBm/Hz
MSG
STATUS

Channel 6


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:25:30 AM Jan 24, 2014
Span 60.000 MHz
Input: RF
#IFGain:Low
Center Freq: 2.437000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Marker
Mkr1 2.433232 GHz
3.9756 dBm
10 dB/div
Log
Ref 30 dBm
20
10
0
-10
-20
-30
-40
-50
-60
1
Center 2.437 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 60 MHz
Sweep 1.333 ms
Channel Power
9.46 dBm/ 35.32 MHz
Power Spectral Density
-66.02 dBm/Hz
MSG
STATUS

Channel 9


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
10:02:37 AM Jan 24, 2014
Span 60.000 MHz
Input: RF
#IFGain:Low
Center Freq: 2.452000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Marker→
Mkr1 2.448064 GHz
3.4701 dBm
10 dB/div
Log
Ref 30 dBm
20
10
0
-10
-20
-30
-40
-50
-60
1
Center 2.452 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 60 MHz
Sweep 1.333 ms
Channel Power
9.02 dBm/ 35.31 MHz
Power Spectral Density
-66.46 dBm/Hz
MSG
STATUS

Product	Dual-WAN Security Router		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2014/01/24	Test Site	SR7

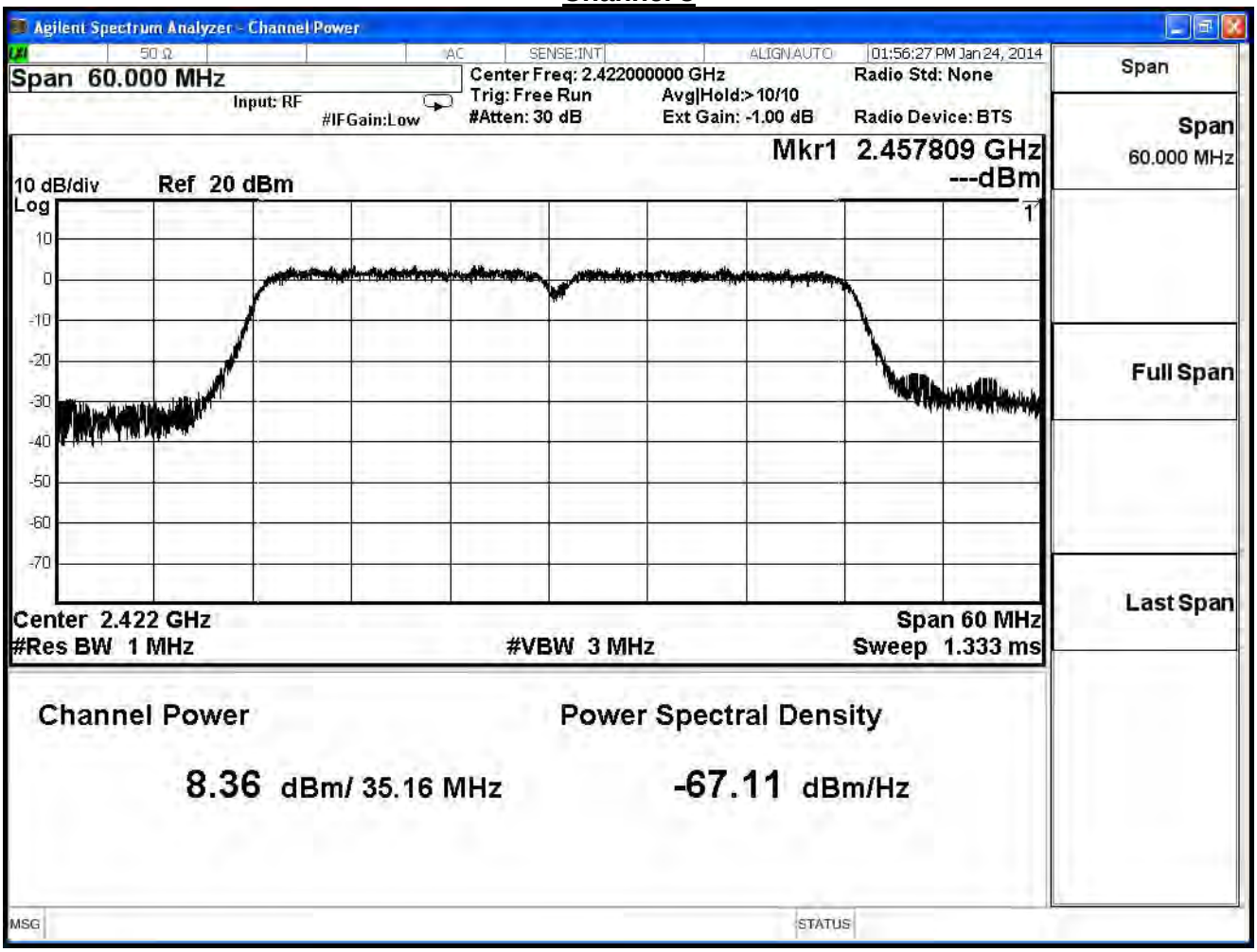
IEEE 802.11n 40MHz (ANT 1)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
3	2422	8.360	1Watt= 30 dBm	Pass
6	2437	8.340	1Watt= 30 dBm	Pass
9	2452	8.000	1Watt= 30 dBm	Pass

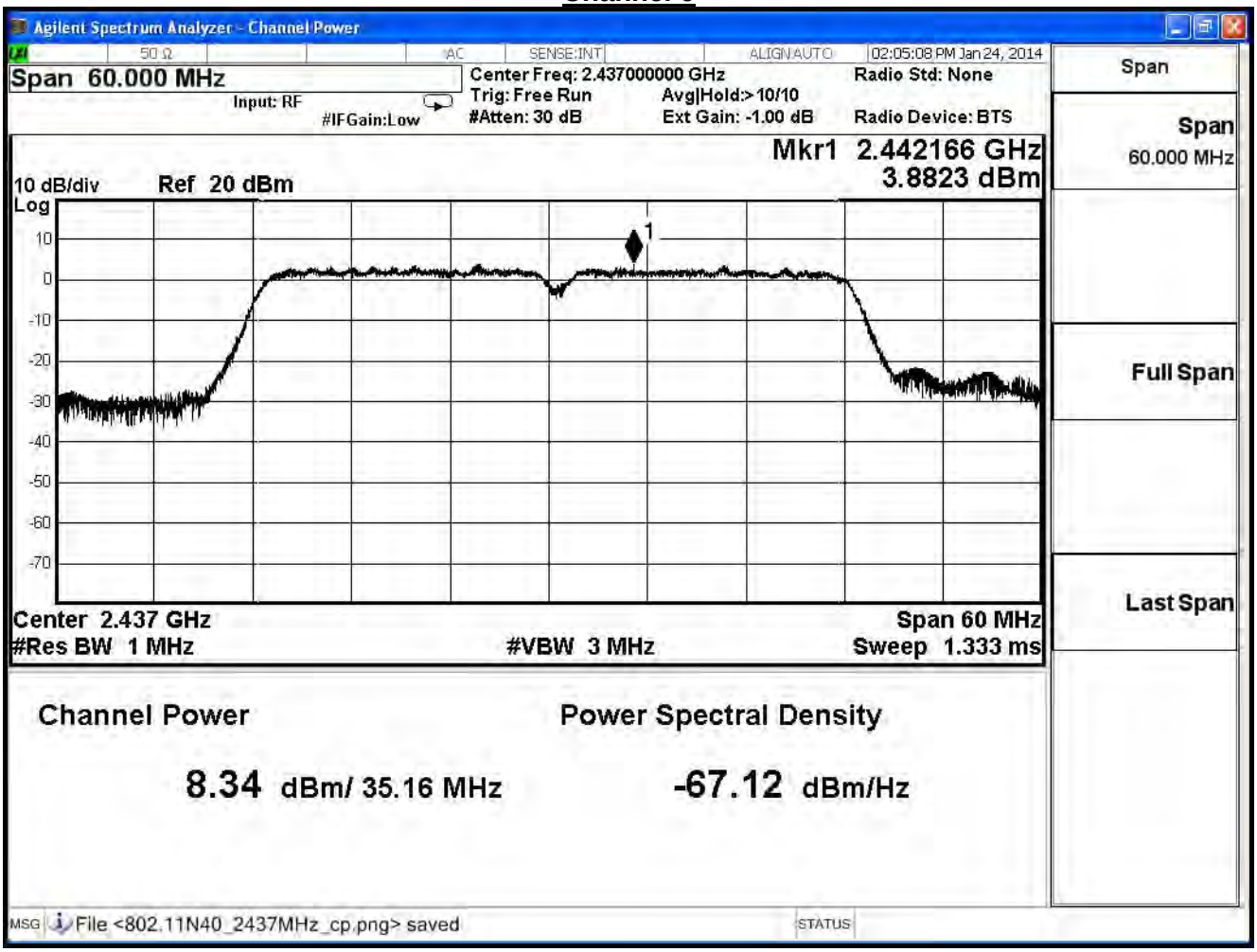
The worst emission of data rate is 27 Mbps.

Peak Power Output (dBm)										
MCS Index		8	9	10	11	12	13	14	15	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		27	54	81	106	162	216	243	270	
3	2422	8.360	--	--	--	--	--	--	--	30dBm
6	2437	8.340	8.14	7.94	7.68	7.48	7.36	7.12	7.00	30dBm
9	2452	8.000	--	--	--	--	--	--	--	30dBm

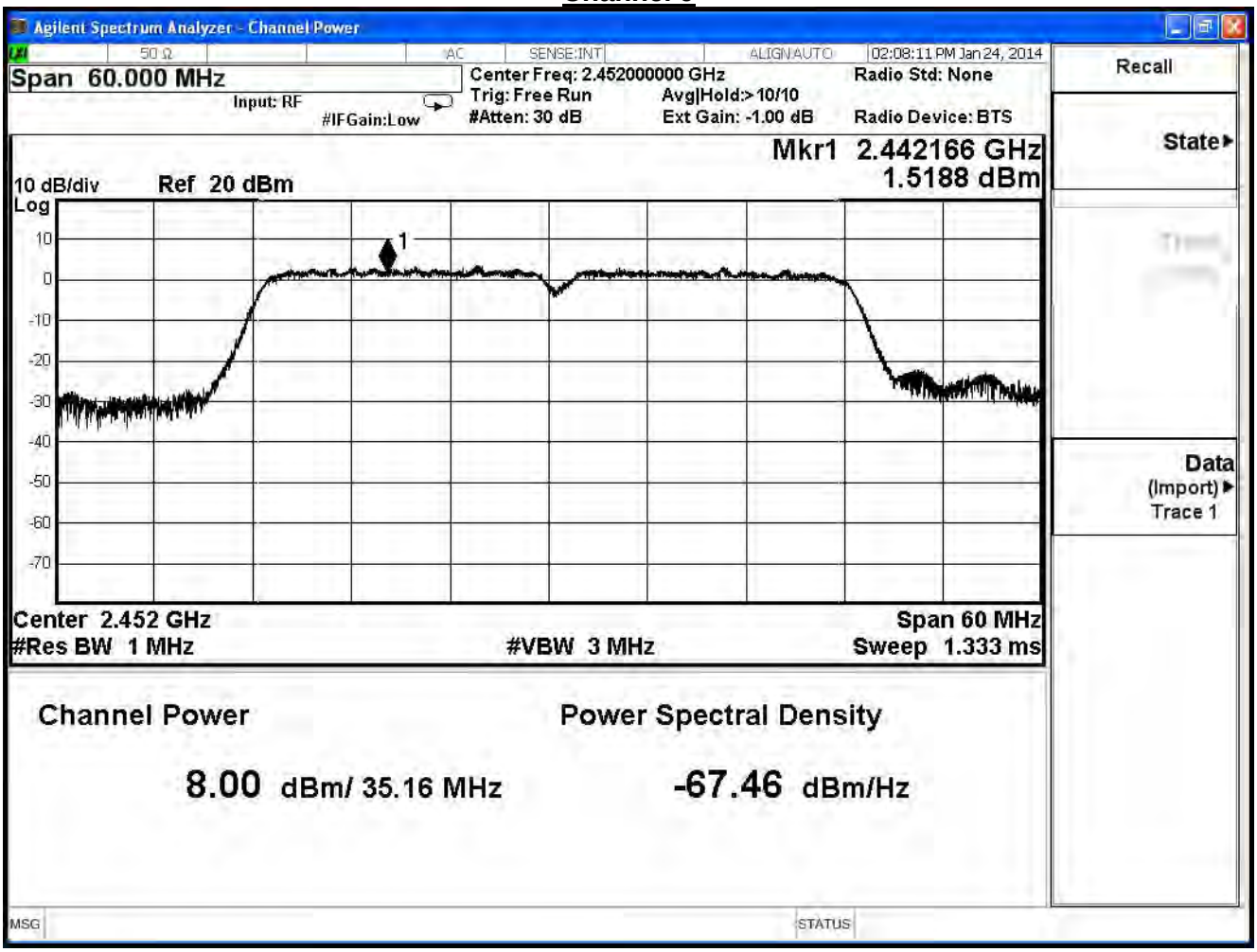
Channel 3


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
01:56:27 PM Jan 24, 2014
Span 60.000 MHz
Input: RF
#IFGain:Low
Center Freq: 2.422000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Mkr1 2.457809 GHz
---dBm
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.422 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 60 MHz
Sweep 1.333 ms
Channel Power
8.36 dBm/ 35.16 MHz
Power Spectral Density
-67.11 dBm/Hz
MSG
STATUS
Span
Span
60.000 MHz
Full Span
Last Span

Channel 6


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:05:08 PM Jan 24, 2014
Span 60.000 MHz
Input: RF
#IFGain:Low
Center Freq: 2.437000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Mkr1 2.442166 GHz
3.8823 dBm
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
1
Center 2.437 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 60 MHz
Sweep 1.333 ms
Channel Power
8.34 dBm/ 35.16 MHz
Power Spectral Density
-67.12 dBm/Hz
MSG
File <802.11N40_2437MHz_cp.png> saved
STATUS
Span
Span
60.000 MHz
Full Span
Last Span

Channel 9


Agilent Spectrum Analyzer - Channel Power
50 Ω
AC
SENSE:INT
ALIGN AUTO
02:08:11 PM Jan 24, 2014
Span 60.000 MHz
Input: RF
#IFGain:Low
Center Freq: 2.452000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Ext Gain: -1.00 dB
Radio Std: None
Radio Device: BTS
Recall
State
Mkr1 2.442166 GHz
1.5188 dBm
10 dB/div
Log
Ref 20 dBm
10
0
-10
-20
-30
-40
-50
-60
-70
1
Data
(Import)
Trace 1
Center 2.452 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 60 MHz
Sweep 1.333 ms
Channel Power
8.00 dBm/ 35.16 MHz
Power Spectral Density
-67.46 dBm/Hz
MSG
STATUS

Product	Dual-WAN Security Router		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2014/01/24	Test Site	SR7

IEEE 802.11n 40MHz (ANT 0+1)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
3	2422	11.938	1Watt= 30 dBm	Pass
6	2437	11.946	1Watt= 30 dBm	Pass
9	2452	11.550	1Watt= 30 dBm	Pass

The worst emission of data rate is 27 Mbps.

Peak Power Output (dBm)										
MCS Index		8	9	10	11	12	13	14	15	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		27	54	81	106	162	216	243	270	
3	2422	11.938	--	--	--	--	--	--	--	30dBm
6	2437	11.946	11.75	11.64	11.54	11.30	11.18	10.94	10.70	30dBm
9	2452	11.550	--	--	--	--	--	--	--	30dBm

4. Radiated Emission

4.1. Test Equipment

The following test equipments are used during the test:

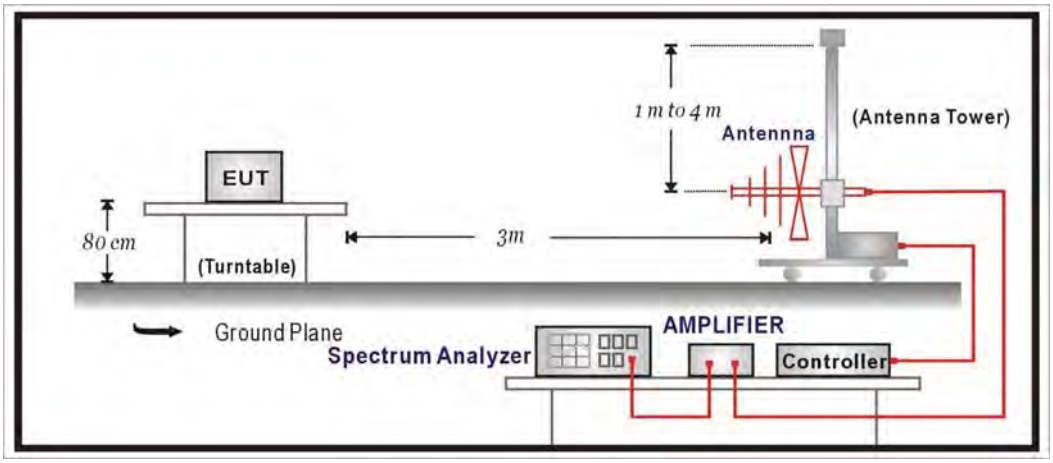
Radiated Emission / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	SCHAFFNER	CBL6112B	2895(CB1)	2014/08/14
Double Ridged Guide Horn Antenna	Schwarzback	BBHA 9120	D743	2014/02/17
Pre-Amplifier	MITEQ	AMF-4D	888003	2014/06/09
Pre-Amplifier	QuieTek	AP-025C	CHM-0706049	2014/02/19
Spectrum Analyzer	Agilent	E4440A	MY46187335	2015/01/12
k Type Cable	Huber Suhner	Sucoflex 102	25623/2	2014/02/21

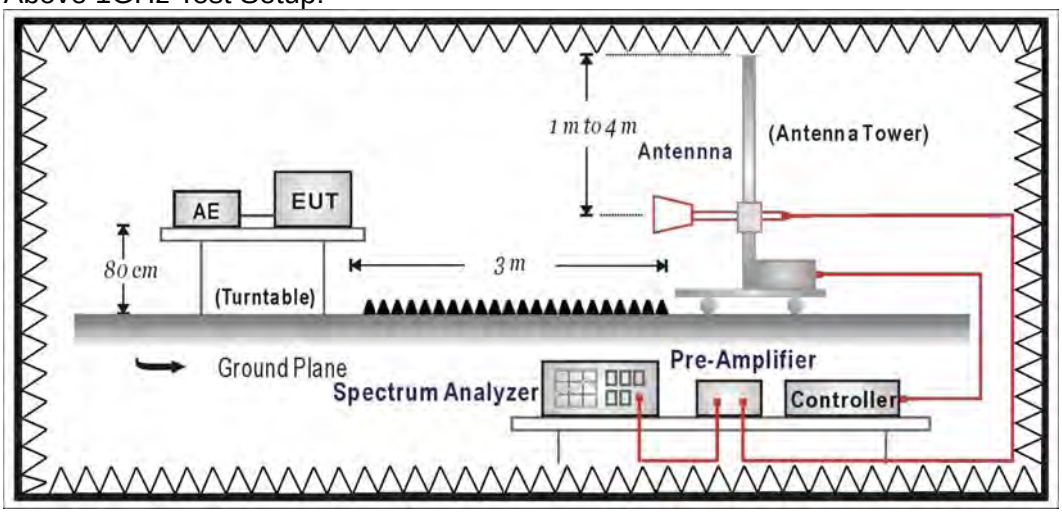
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. 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 Limits		
Frequency MHz	dBuV/m	dBuV/m
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)

4.4. Test Procedure

The EUT was setup according to ANSI C63.4: 2009 and tested according to DTS test procedure of KDB558074 v03r01 for compliance to FCC 47CFR 15.247 requirements.
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 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 C63.4: 2009 on radiated measurement.
On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.
The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

4.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2012

4.6. Uncertainty

The measurement uncertainty

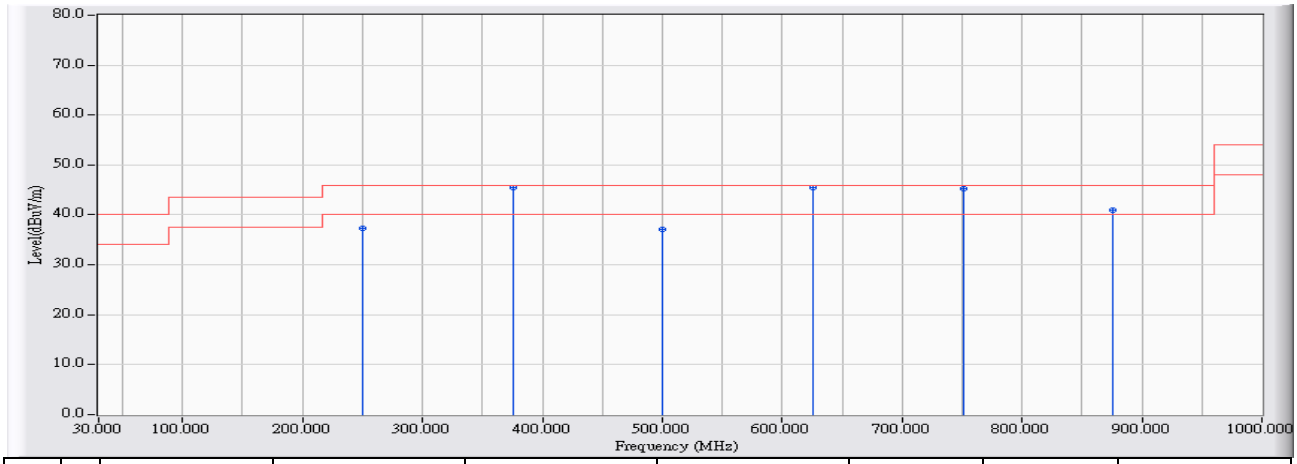
30MHz～1GHz as ±3.43dB

1GHz～26.5Ghz as ±3.65dB

4.7. Test Result

30MHz-1GHz Spurious

Site : CB1	**Time : 2013/11/13 - 16:19**
Limit : FCC_CLASS_802.11b_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Wireless N ADSL2 + Modem Router	**Note : Mode 1: Transmit_802.11b_2437MHz**

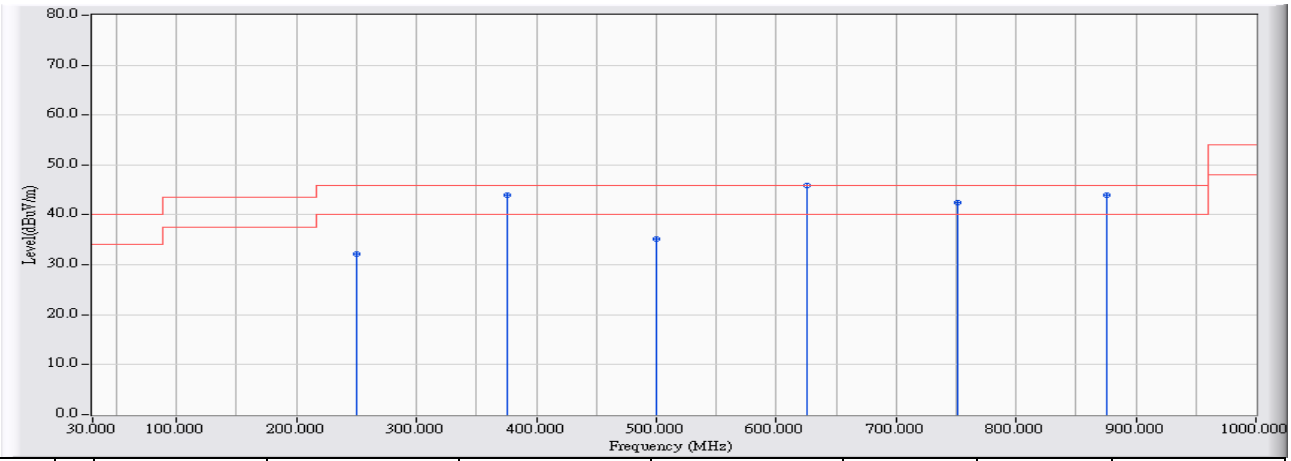


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		250.190	-21.013	58.345	37.332	-8.668	46.000	QUASIPEAK
2		375.320	-18.163	63.634	45.471	-0.529	46.000	QUASIPEAK
3		500.450	-15.617	52.658	37.041	-8.959	46.000	QUASIPEAK
4	*	625.580	-15.386	60.943	45.557	-0.443	46.000	QUASIPEAK
5		750.710	-14.287	59.634	45.347	-0.653	46.000	QUASIPEAK
6		875.840	-13.390	54.461	41.071	-4.929	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2013/11/13 - 16:25**
Limit : FCC_CLASS_802.11b_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Wireless N ADSL2 + Modem Router	**Note : Mode 1: Transmit_802.11b_2437MHz**

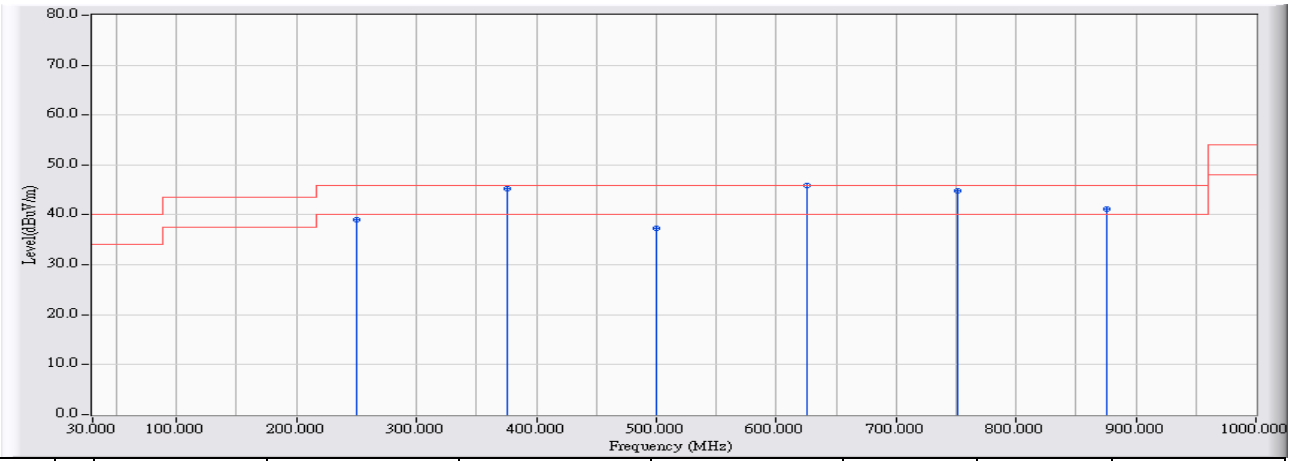


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		250.190	-21.013	53.139	32.126	-13.874	46.000	QUASIPEAK
2		375.320	-18.163	62.029	43.866	-2.134	46.000	QUASIPEAK
3		500.450	-15.617	50.706	35.089	-10.911	46.000	QUASIPEAK
4	*	625.580	-15.386	61.241	45.855	-0.145	46.000	QUASIPEAK
5		750.710	-14.287	56.680	42.393	-3.607	46.000	QUASIPEAK
6		875.840	-13.390	57.429	44.039	-1.961	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2013/11/13 - 16:29**
Limit : FCC_CLASS_802.11b_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Wireless N ADSL2 + Modem Router	**Note : Mode 1: Transmit_802.11g_2437MHz**

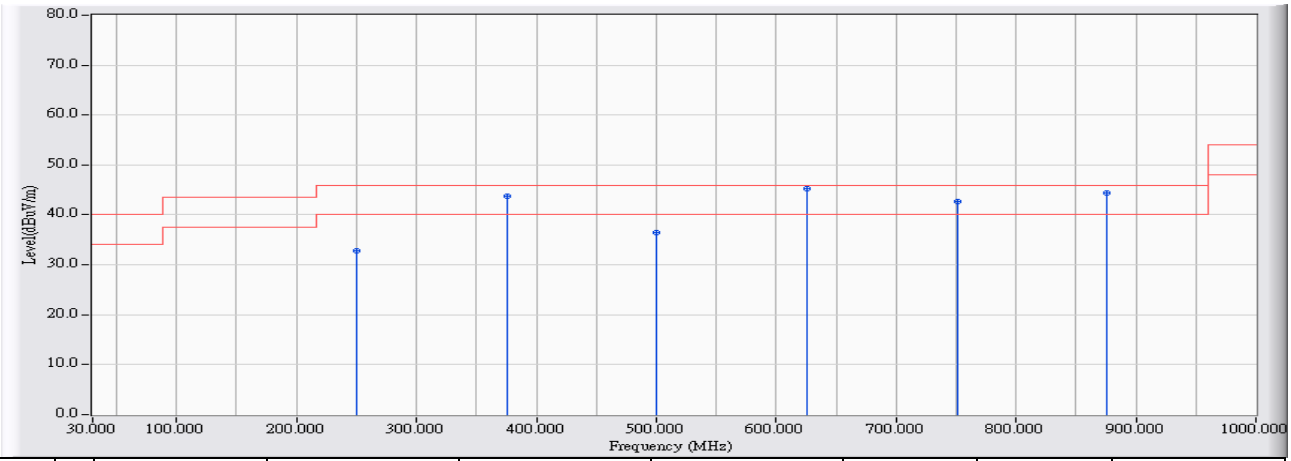


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		250.190	-21.013	60.035	39.022	-6.978	46.000	QUASIPEAK
2		375.320	-18.163	63.505	45.342	-0.658	46.000	QUASIPEAK
3		500.450	-15.617	52.897	37.280	-8.720	46.000	QUASIPEAK
4	*	625.580	-15.386	61.253	45.867	-0.133	46.000	QUASIPEAK
5		750.710	-14.287	59.142	44.855	-1.145	46.000	QUASIPEAK
6		875.840	-13.390	54.625	41.235	-4.765	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2013/11/13 - 16:38**
Limit : FCC_CLASS_802.11b_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Wireless N ADSL2 + Modem Router	**Note : Mode 1: Transmit_802.11g_2437MHz**

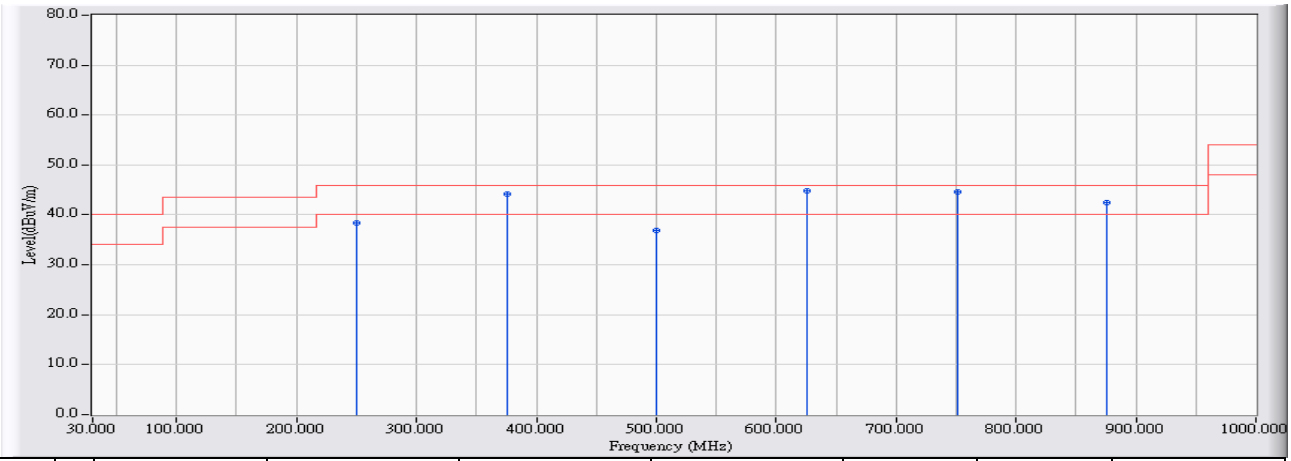


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		250.190	-21.013	53.818	32.805	-13.195	46.000	QUASIPEAK
2		375.320	-18.163	61.889	43.726	-2.274	46.000	QUASIPEAK
3		500.450	-15.617	52.010	36.393	-9.607	46.000	QUASIPEAK
4	*	625.580	-15.386	60.573	45.187	-0.813	46.000	QUASIPEAK
5		750.710	-14.287	56.867	42.580	-3.420	46.000	QUASIPEAK
6		875.840	-13.390	57.864	44.474	-1.526	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2013/11/13 - 16:46**
Limit : FCC_CLASS_802.11b_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Wireless N ADSL2 + Modem Router	**Note : Mode 1: Transmit_802.11n20MHz_2437MHz**

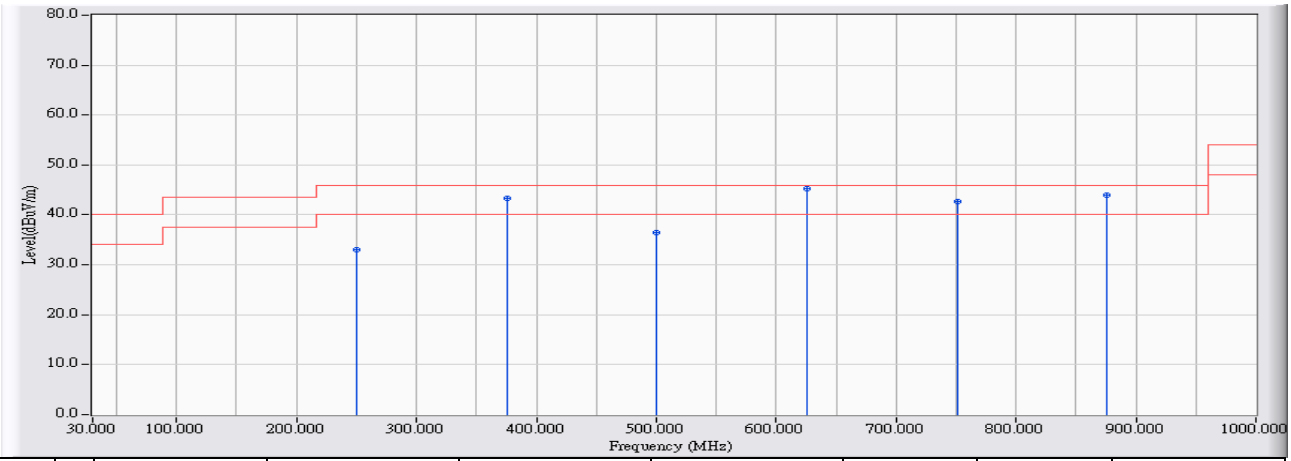


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		250.190	-21.013	59.447	38.434	-7.566	46.000	QUASIPEAK
2		375.320	-18.163	62.255	44.092	-1.908	46.000	QUASIPEAK
3		500.450	-15.617	52.560	36.943	-9.057	46.000	QUASIPEAK
4	*	625.580	-15.386	60.150	44.764	-1.236	46.000	QUASIPEAK
5		750.710	-14.287	58.980	44.693	-1.307	46.000	QUASIPEAK
6		875.840	-13.390	55.941	42.551	-3.449	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2013/11/13 - 16:53**
Limit : FCC_CLASS_802.11b_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Wireless N ADSL2 + Modem Router	**Note : Mode 1: Transmit_802.11n20MHz_2437MHz**

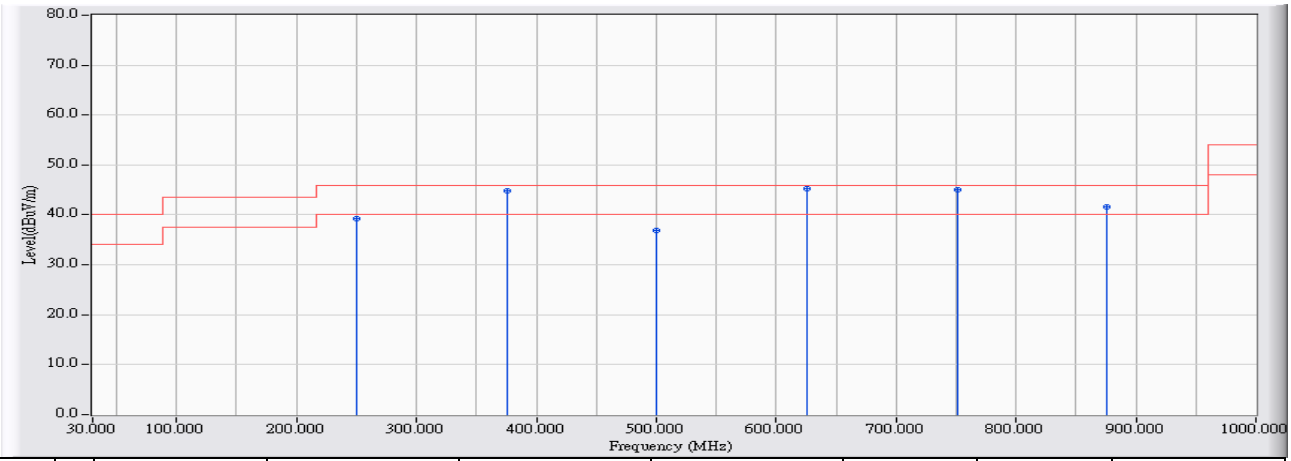


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		250.190	-21.013	54.087	33.074	-12.926	46.000	QUASIPEAK
2		375.320	-18.163	61.567	43.404	-2.596	46.000	QUASIPEAK
3		500.450	-15.617	52.161	36.544	-9.456	46.000	QUASIPEAK
4	*	625.580	-15.386	60.713	45.327	-0.673	46.000	QUASIPEAK
5		750.710	-14.287	57.043	42.756	-3.244	46.000	QUASIPEAK
6		875.840	-13.390	57.311	43.921	-2.079	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2013/11/13 - 17:12**
Limit : FCC_CLASS_802.11b_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Wireless N ADSL2 + Modem Router	**Note : Mode 1: Transmit_802.11n40MHz_2437MHz**

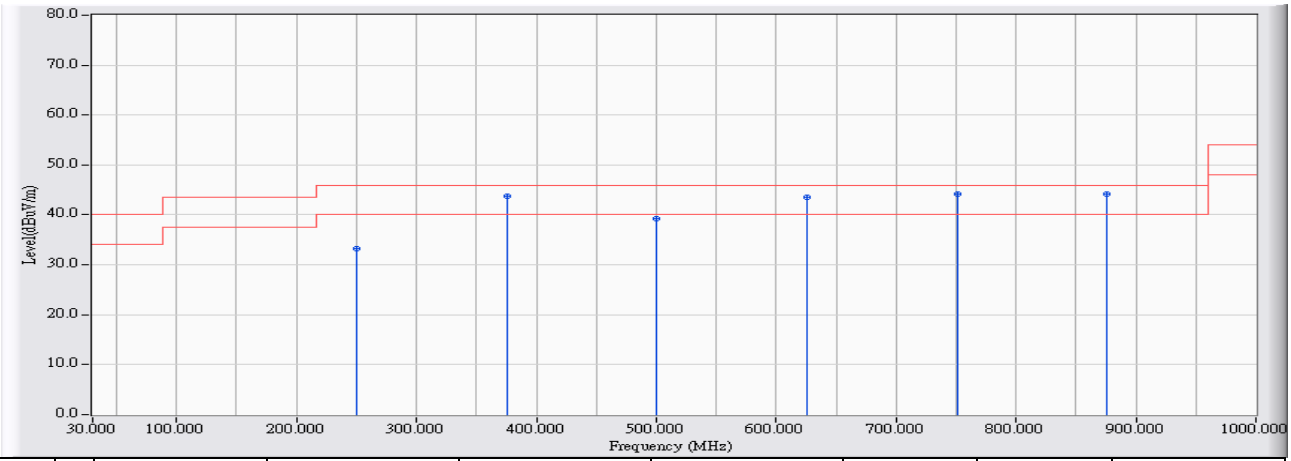


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		250.190	-21.013	60.346	39.333	-6.667	46.000	QUASIPEAK
2		375.320	-18.163	62.994	44.831	-1.169	46.000	QUASIPEAK
3		500.450	-15.617	52.561	36.944	-9.056	46.000	QUASIPEAK
4	*	625.580	-15.386	60.696	45.310	-0.690	46.000	QUASIPEAK
5		750.710	-14.287	59.251	44.964	-1.036	46.000	QUASIPEAK
6		875.840	-13.390	54.914	41.524	-4.476	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2013/11/13 - 17:18**
Limit : FCC_CLASS_802.11b_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Wireless N ADSL2 + Modem Router	**Note : Mode 1: Transmit_802.11n40MHz_2437MHz**



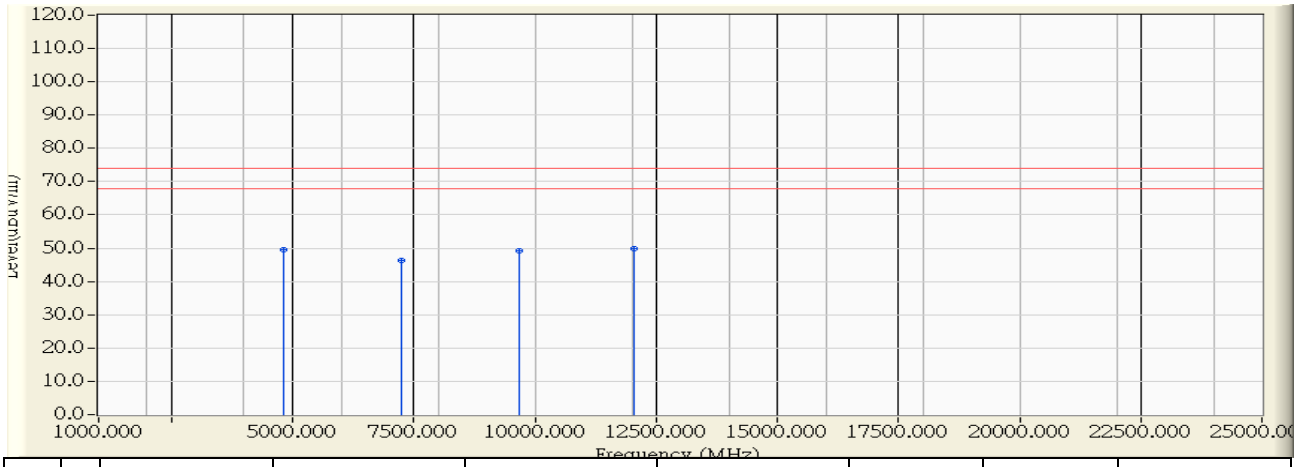
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		250.190	-21.013	54.244	33.231	-12.769	46.000	QUASIPEAK
2		375.320	-18.163	61.962	43.799	-2.201	46.000	QUASIPEAK
3		500.450	-15.617	54.827	39.210	-6.790	46.000	QUASIPEAK
4		625.580	-15.386	58.914	43.528	-2.472	46.000	QUASIPEAK
5		750.710	-14.287	58.421	44.134	-1.866	46.000	QUASIPEAK
6	*	875.840	-13.390	57.626	44.236	-1.764	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Above 1GHz Spurious

Site : CB1	**Time : 2013/10/16 - 19:03**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11b_2412MHz**

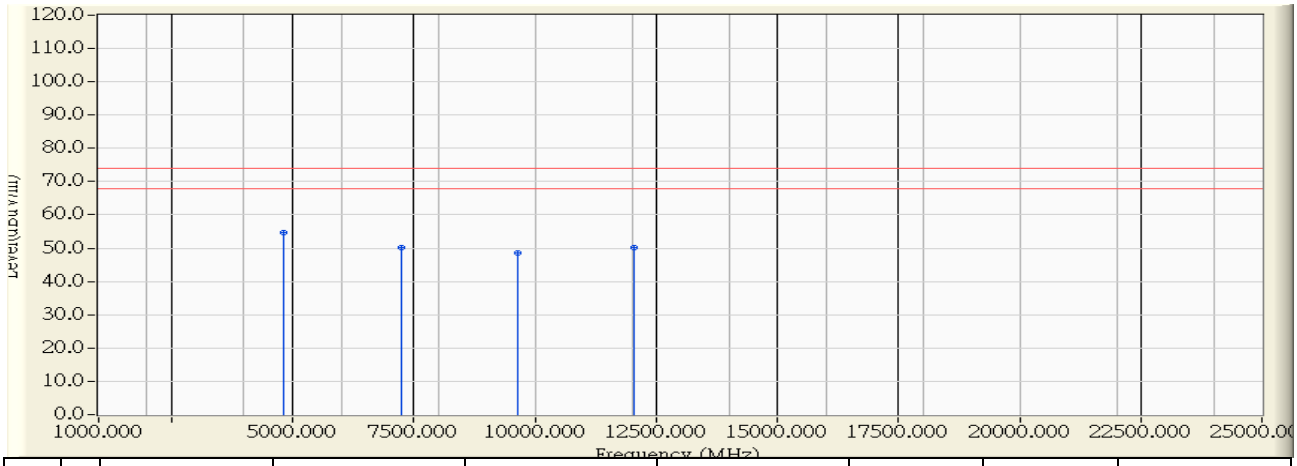


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.950	-0.614	50.090	49.476	-24.524	74.000	PEAK
2		7233.750	5.441	40.770	46.210	-27.790	74.000	PEAK
3		9673.910	9.393	39.870	49.264	-24.736	74.000	PEAK
4	*	12057.830	11.116	38.770	49.886	-24.114	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/10/16 - 18:44**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11b_2412MHz**

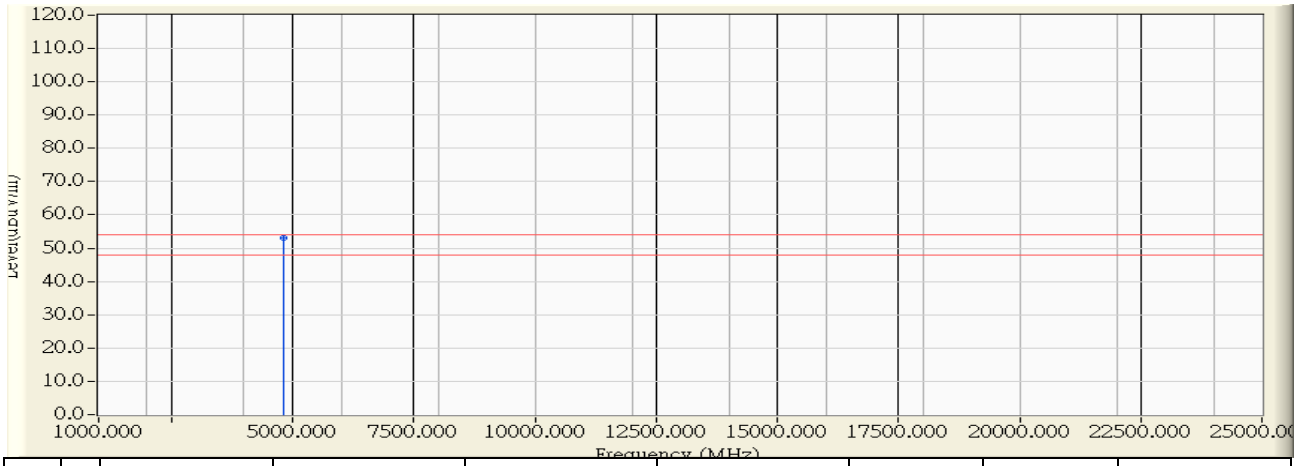


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4824.950	-0.614	55.400	54.786	-19.214	74.000	PEAK
2		7237.130	5.448	44.680	50.128	-23.872	74.000	PEAK
3		9657.360	9.286	39.420	48.706	-25.294	74.000	PEAK
4		12048.470	11.121	39.090	50.211	-23.789	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/10/16 - 18:45**
Limit : FCC_SpartC_15.247_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11b_2412MHz**

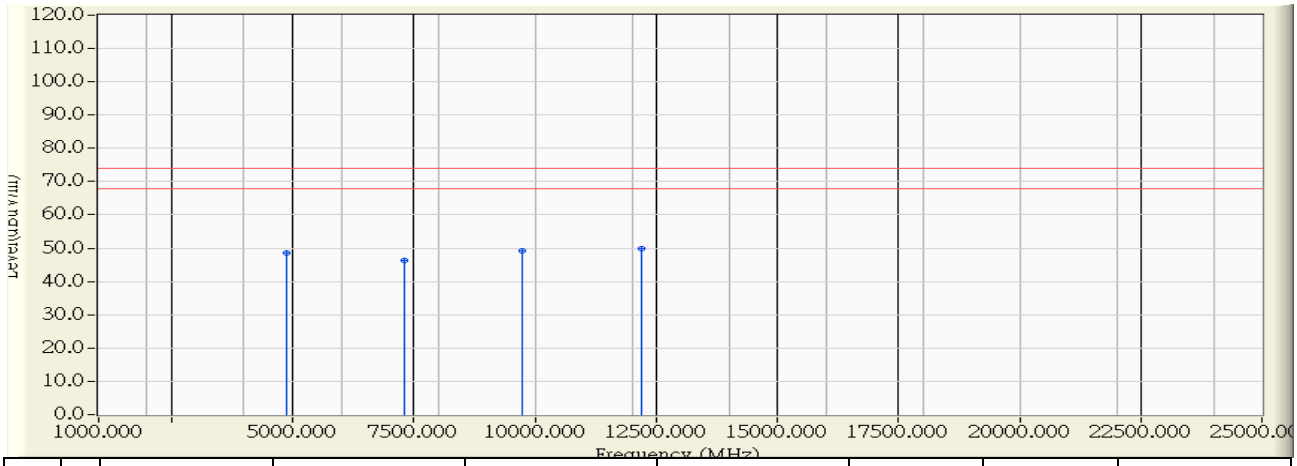


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4824.950	-0.614	53.540	52.926	-1.074	54.000	AVERAGE

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/10/16 - 19:40**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11b_2437MHz**

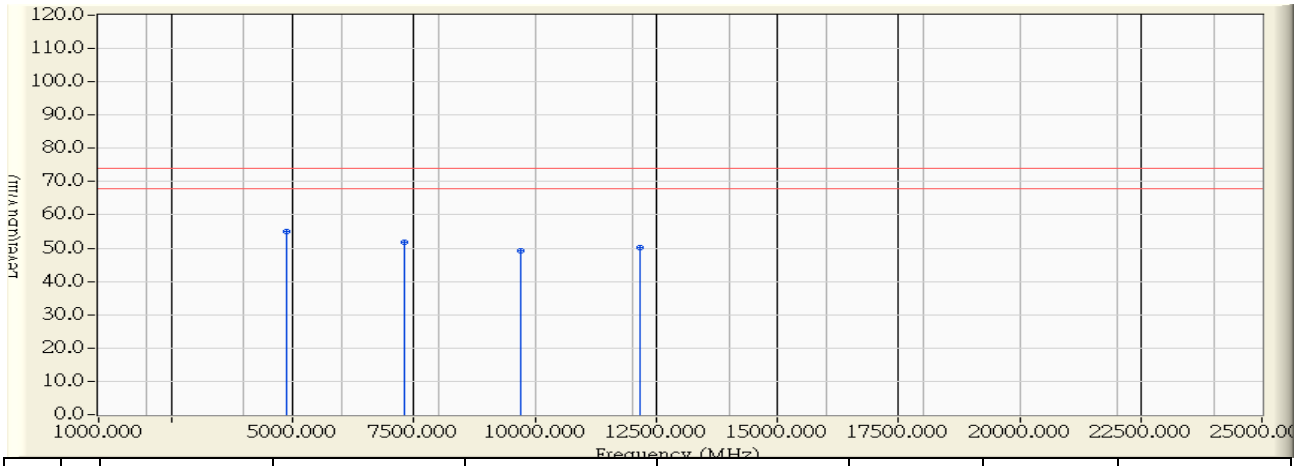


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4874.870	-0.492	48.960	48.468	-25.532	74.000	PEAK
2		7314.120	5.614	40.700	46.314	-27.686	74.000	PEAK
3		9733.960	9.783	39.530	49.312	-24.688	74.000	PEAK
4	*	12187.510	11.057	38.920	49.977	-24.023	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/10/16 - 19:11**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11b_2437MHz**

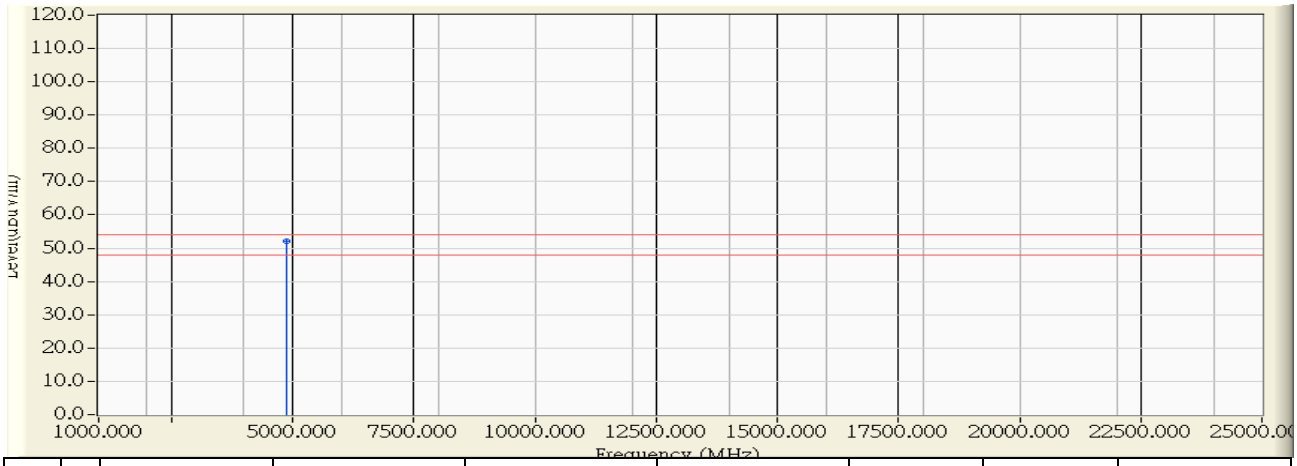


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4875.040	-0.492	55.570	55.078	-18.922	74.000	PEAK
2		7312.300	5.611	46.060	51.670	-22.330	74.000	PEAK
3		9722.780	9.710	39.590	49.300	-24.700	74.000	PEAK
4		12168.000	11.066	39.000	50.066	-23.934	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/10/16 - 19:12**
Limit : FCC_SpartC_15.247_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11b_2437MHz**

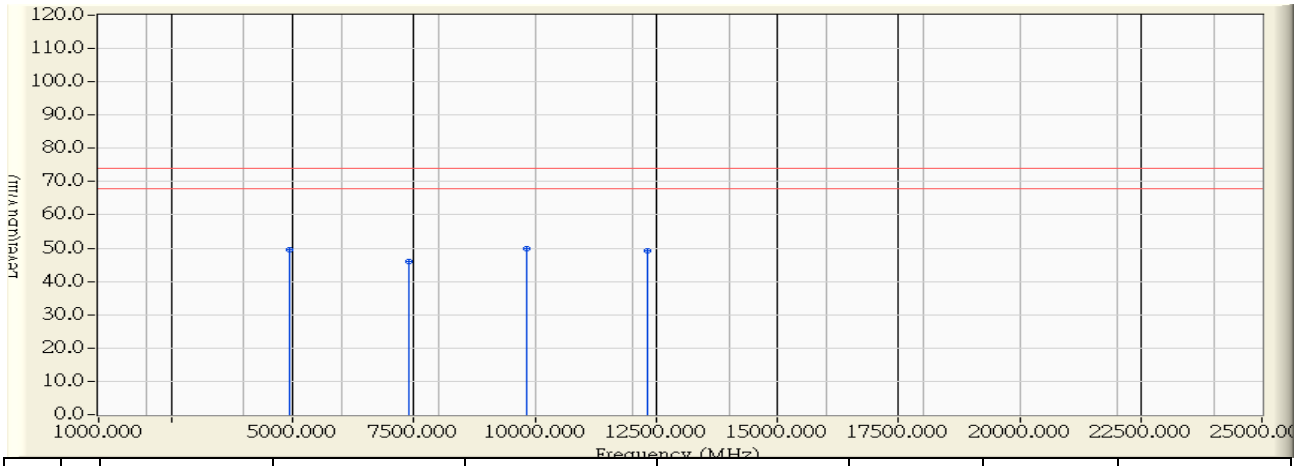


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4874.950	-0.492	52.530	52.038	-1.962	54.000	AVERAGE

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/10/16 - 20:00**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11b_2462MHz**

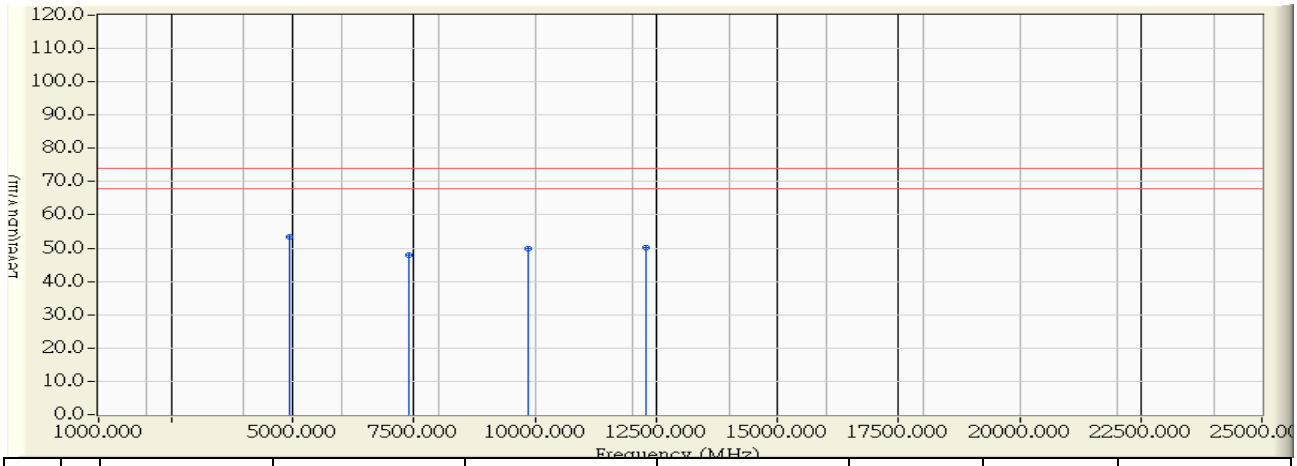


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4925.040	-0.370	49.910	49.540	-24.460	74.000	PEAK
2		7404.290	5.810	40.040	45.849	-28.151	74.000	PEAK
3	*	9833.960	10.430	39.510	49.940	-24.060	74.000	PEAK
4		12331.580	10.991	38.270	49.261	-24.739	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/10/16 - 19:51**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11b_2462MHz**

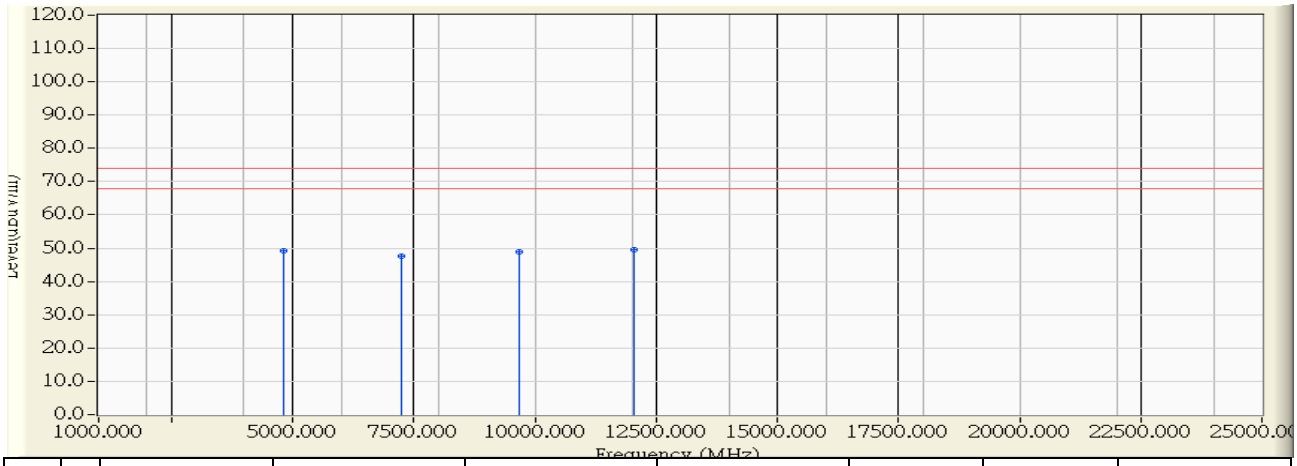


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4925.040	-0.370	53.620	53.250	-20.750	74.000	PEAK
2		7387.910	5.774	42.210	47.984	-26.016	74.000	PEAK
3		9851.550	10.544	39.460	50.004	-23.996	74.000	PEAK
4		12296.740	11.007	39.100	50.107	-23.893	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/10/16 - 20:39**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11g_2412MHz**

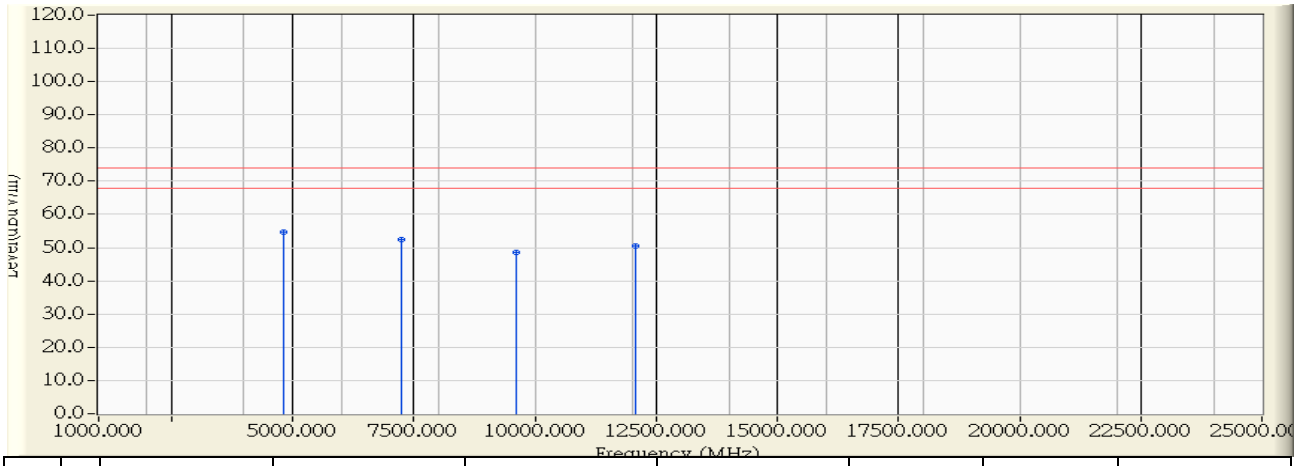


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4824.000	-0.617	49.810	49.193	-24.807	74.000	PEAK
2		7239.470	5.453	42.010	47.463	-26.537	74.000	PEAK
3		9665.510	9.339	39.600	48.939	-25.061	74.000	PEAK
4	*	12044.050	11.122	38.580	49.703	-24.297	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/10/16 - 20:04**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11g_2412MHz**

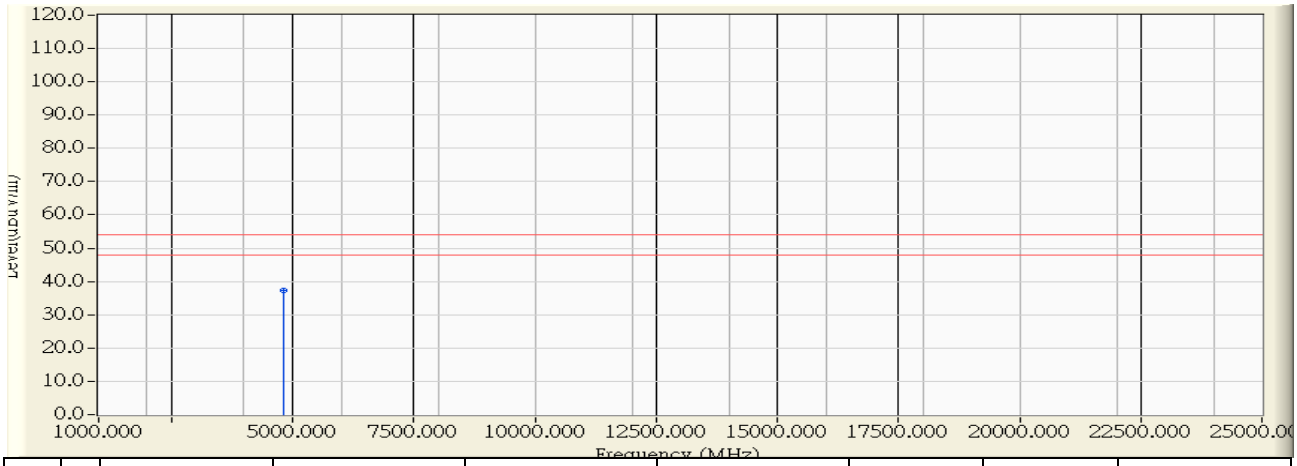


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4823.910	-0.617	55.330	54.713	-19.287	74.000	PEAK
2		7239.120	5.452	47.130	52.582	-21.418	74.000	PEAK
3		9625.470	9.080	39.380	48.460	-25.540	74.000	PEAK
4		12062.770	11.114	39.270	50.384	-23.616	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/10/16 - 20:05**
Limit : FCC_SpartC_15.247_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11g_2412MHz**

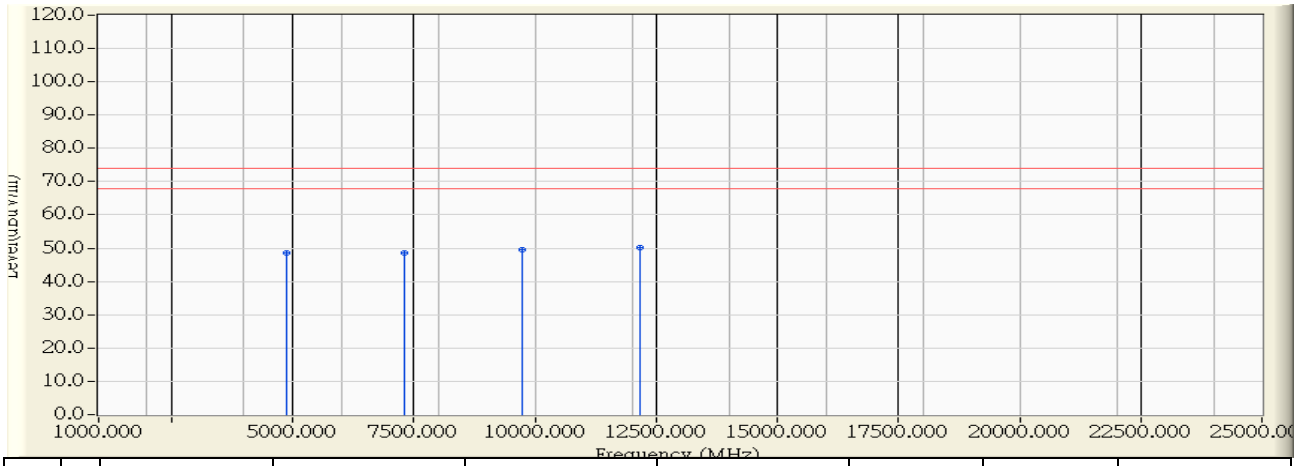


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4826.170	-0.612	38.000	37.389	-16.611	54.000	AVERAGE

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/10/16 - 20:49**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11g_2437MHz**

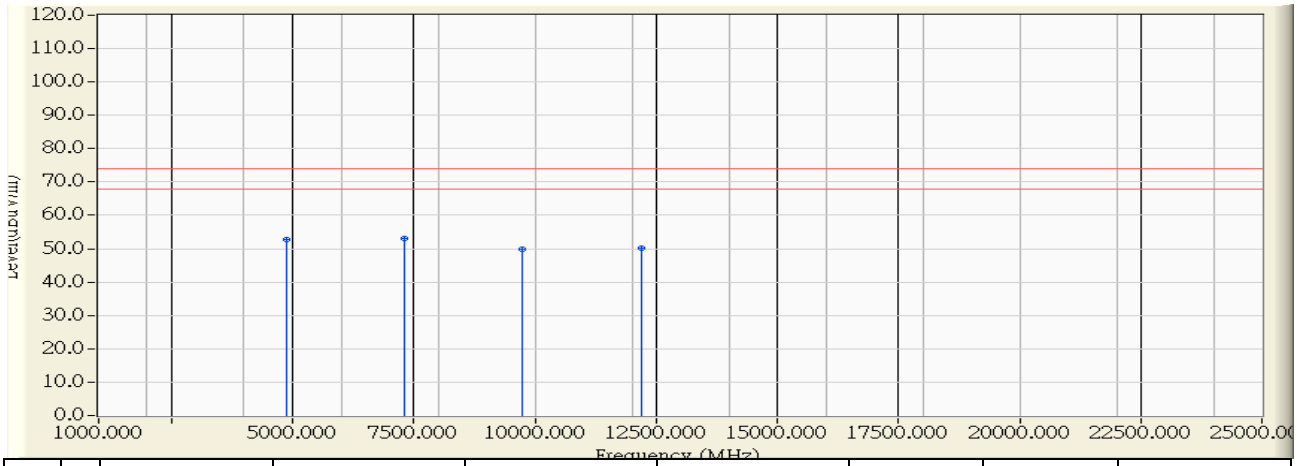


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4873.740	-0.495	48.950	48.455	-25.545	74.000	PEAK
2		7312.110	5.610	42.970	48.580	-25.420	74.000	PEAK
3		9731.270	9.766	39.810	49.575	-24.425	74.000	PEAK
4	*	12168.360	11.066	39.250	50.316	-23.684	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/10/16 - 20:44**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11g_2437MHz**

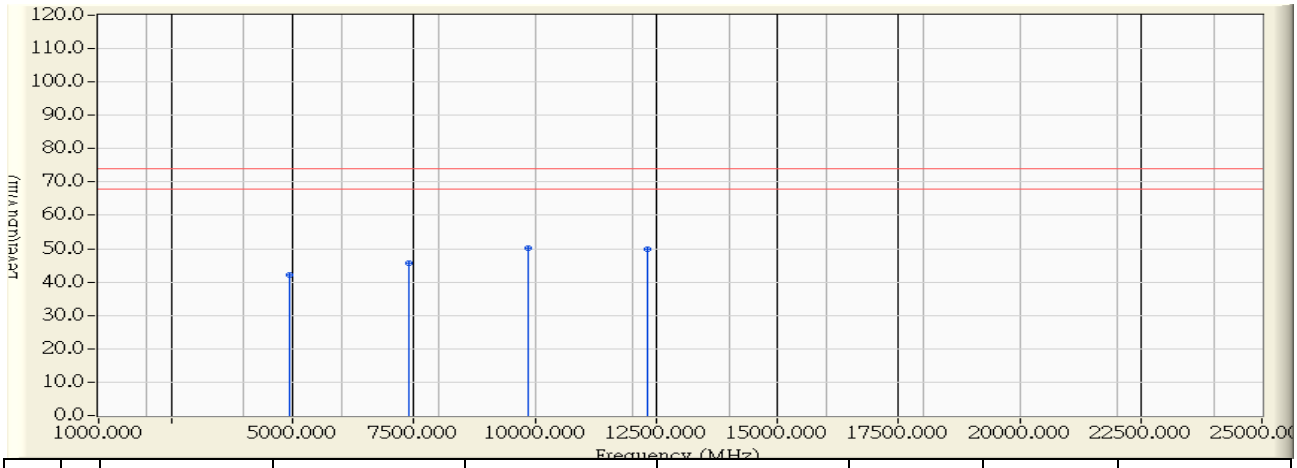


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4873.910	-0.495	53.110	52.615	-21.385	74.000	PEAK
2	*	7312.130	5.610	47.550	53.160	-20.840	74.000	PEAK
3		9749.910	9.885	39.960	49.846	-24.154	74.000	PEAK
4		12186.730	11.058	39.040	50.098	-23.902	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/10/16 - 21:05**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11g_2462MHz**

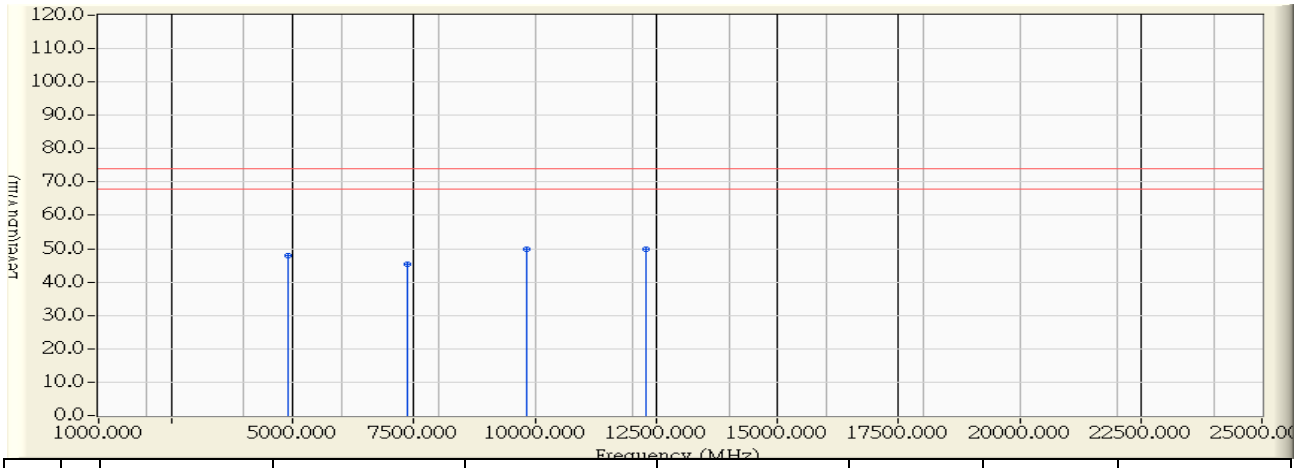


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4931.020	-0.356	42.540	42.184	-31.816	74.000	PEAK
2		7410.530	5.823	39.820	45.643	-28.357	74.000	PEAK
3	*	9873.740	10.686	39.420	50.107	-23.893	74.000	PEAK
4		12314.940	10.999	38.950	49.949	-24.051	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/10/16 - 21:01**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11g_2462MHz**

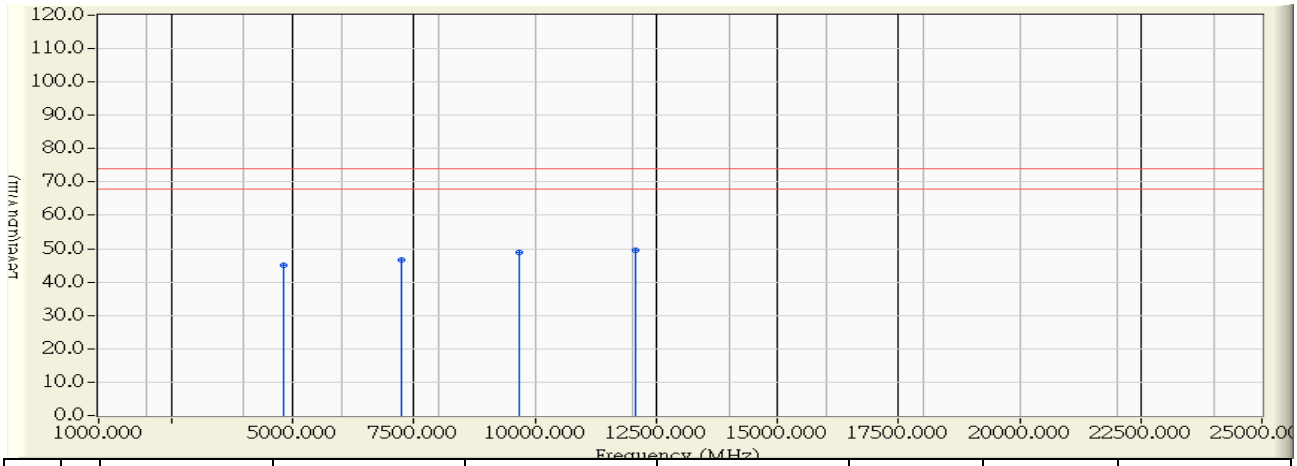


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4920.270	-0.382	48.420	48.038	-25.962	74.000	PEAK
2		7371.530	5.739	39.570	45.308	-28.692	74.000	PEAK
3		9835.090	10.438	39.430	49.867	-24.133	74.000	PEAK
4	*	12287.120	11.012	38.890	49.902	-24.098	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/11/08 - 10:25**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n20MHz_2412MHz**

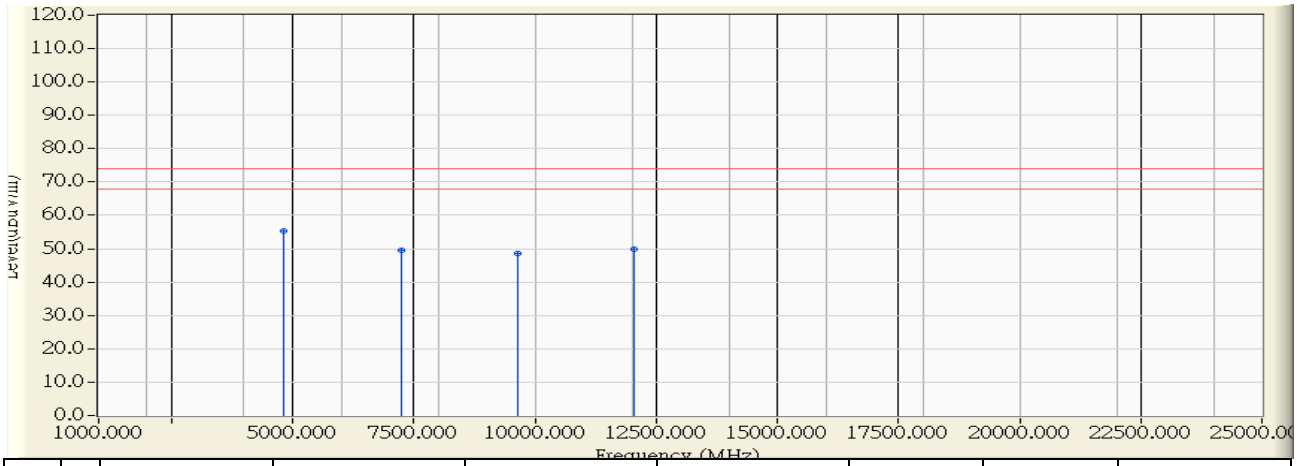


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4827.360	-0.609	45.740	45.132	-28.868	74.000	PEAK
2		7238.460	5.450	41.160	46.611	-27.389	74.000	PEAK
3		9672.600	9.385	39.440	48.825	-25.175	74.000	PEAK
4	*	12076.000	11.109	38.460	49.568	-24.432	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/11/08 - 09:48**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n20MHz_2412MHz**

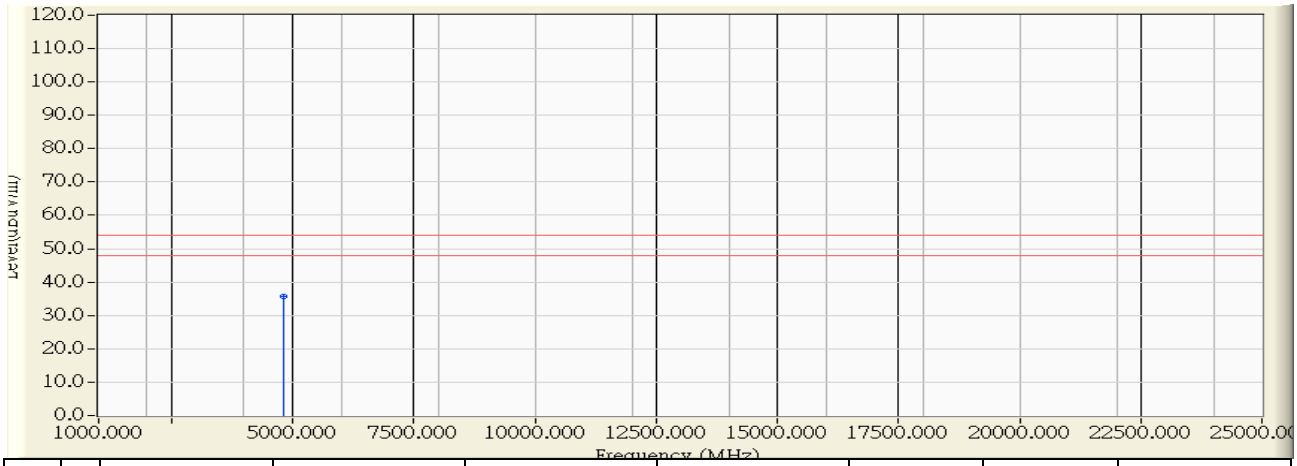


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4827.000	-0.609	55.940	55.331	-18.669	74.000	PEAK
2		7232.340	5.438	44.020	49.457	-24.543	74.000	PEAK
3		9660.000	9.303	39.230	48.533	-25.467	74.000	PEAK
4		12032.940	11.127	38.860	49.988	-24.012	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/11/08 - 09:48**
Limit : FCC_SpartC_15.247_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n20MHz_2412MHz**

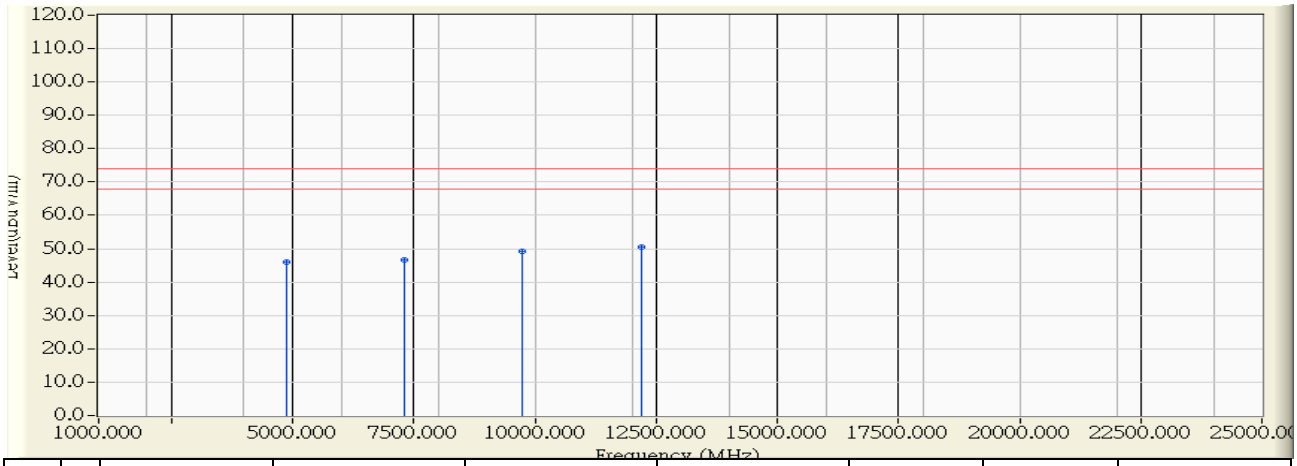


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4823.320	-0.618	36.240	35.622	-18.378	54.000	AVERAGE

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/11/08 - 11:07**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n20MHz_2437MHz**

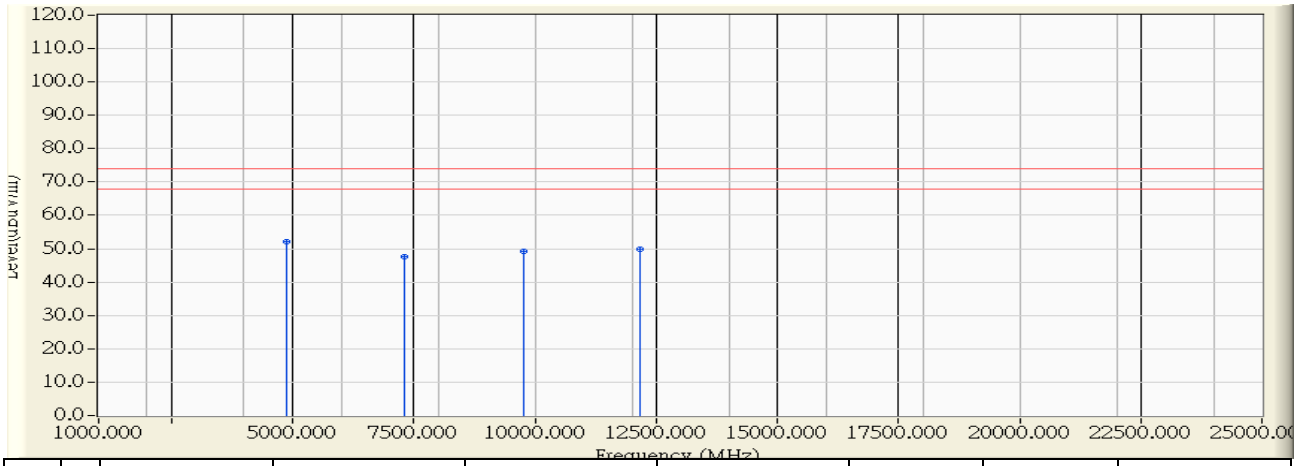


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4872.000	-0.499	46.440	45.941	-28.059	74.000	PEAK
2		7303.000	5.590	41.080	46.670	-27.330	74.000	PEAK
3		9746.000	9.860	39.290	49.150	-24.850	74.000	PEAK
4	*	12212.000	11.046	39.440	50.486	-23.514	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/11/08 - 10:37**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n20MHz_2437MHz**

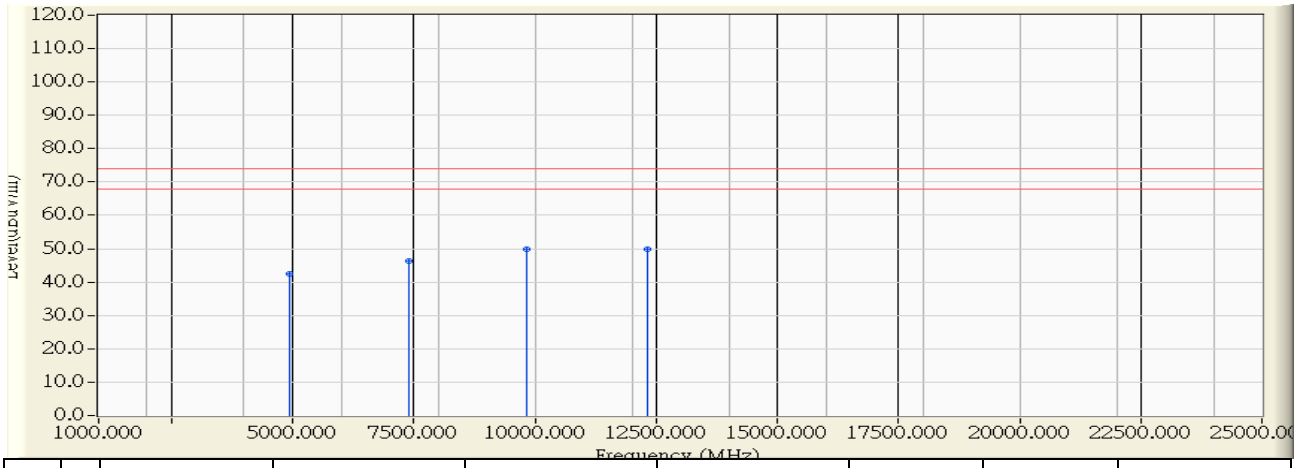


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	4871.200	-0.502	52.500	51.999	-22.001	74.000	PEAK
2		7299.120	5.581	42.070	47.652	-26.348	74.000	PEAK
3		9769.180	10.011	39.290	49.300	-24.700	74.000	PEAK
4		12168.860	11.066	38.690	49.756	-24.244	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/11/08 - 11:32**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n20MHz_2462MHz**

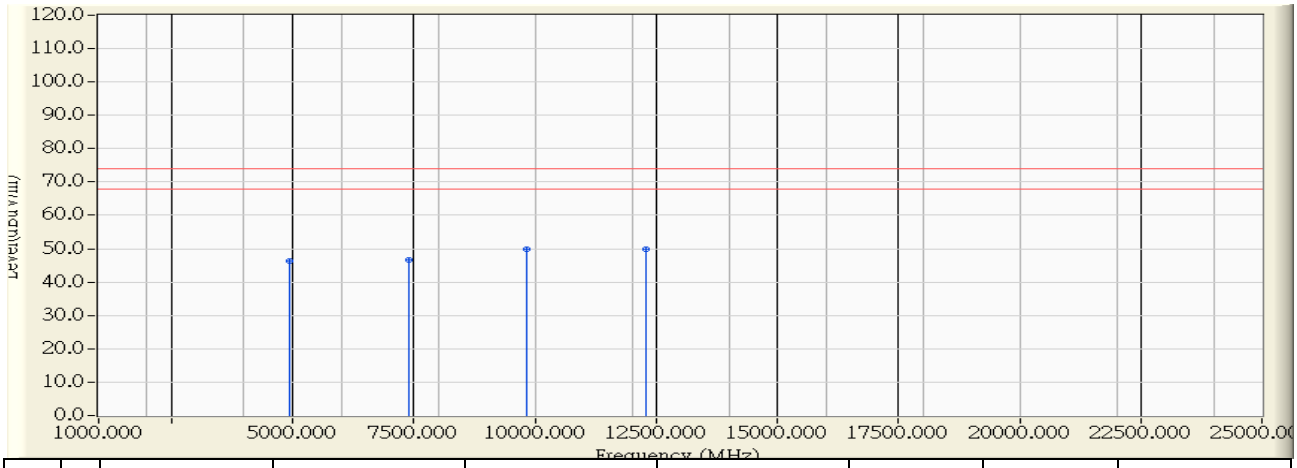


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4929.000	-0.361	42.740	42.379	-31.621	74.000	PEAK
2		7401.840	5.805	40.610	46.414	-27.586	74.000	PEAK
3	*	9827.000	10.385	39.590	49.975	-24.025	74.000	PEAK
4		12308.320	11.002	38.880	49.882	-24.118	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/11/08 - 11:19**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n20MHz_2462MHz**

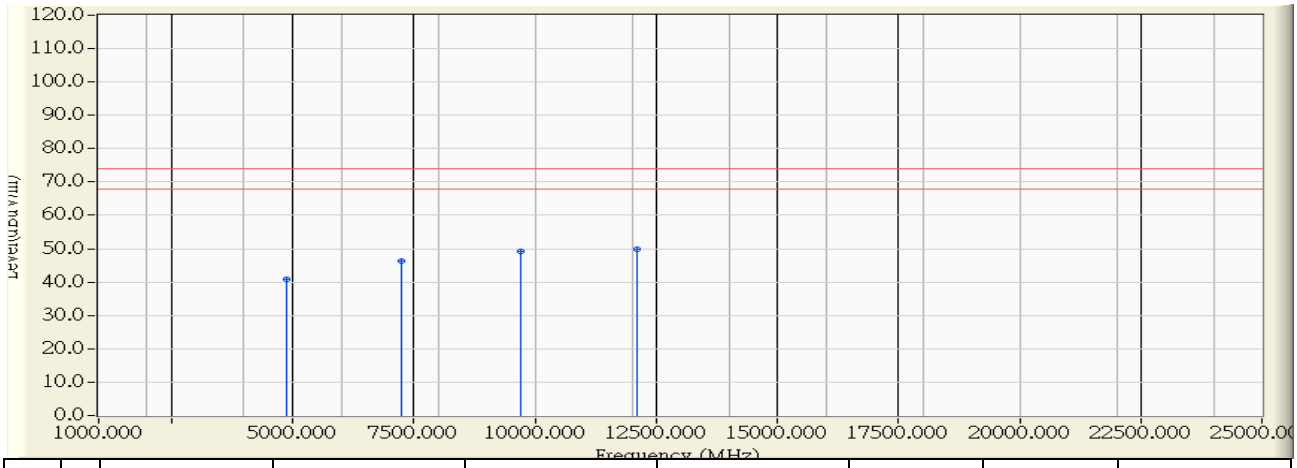


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4923.280	-0.374	46.780	46.406	-27.594	74.000	PEAK
2		7407.000	5.816	40.680	46.495	-27.505	74.000	PEAK
3		9839.420	10.466	39.400	49.865	-24.135	74.000	PEAK
4	*	12297.880	11.007	38.890	49.897	-24.103	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/11/08 - 11:44**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n40MHz_2422MHz**

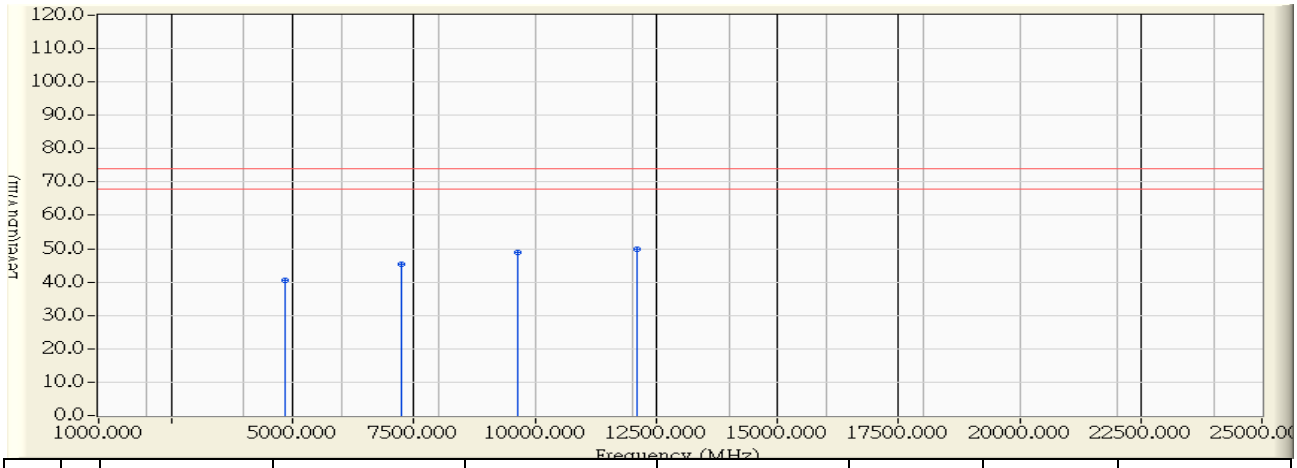


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4871.540	-0.501	41.470	40.969	-33.031	74.000	PEAK
2		7252.620	5.480	40.740	46.221	-27.779	74.000	PEAK
3		9698.000	9.549	39.530	49.080	-24.920	74.000	PEAK
4	*	12106.000	11.095	38.880	49.974	-24.026	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/11/08 - 11:38**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n40MHz_2422MHz**

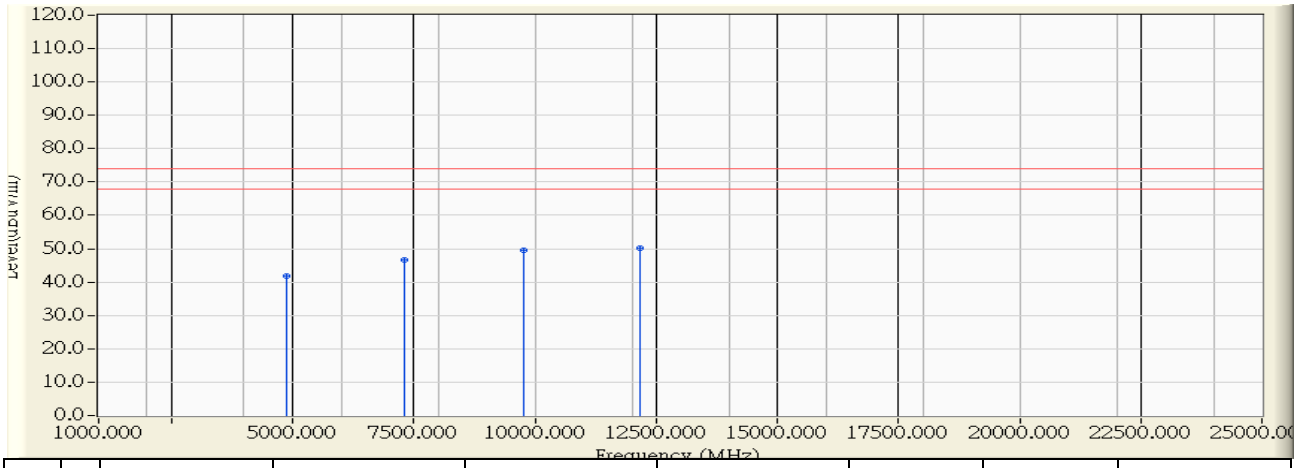


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4838.000	-0.582	41.190	40.608	-33.392	74.000	PEAK
2		7251.000	5.478	39.770	45.248	-28.752	74.000	PEAK
3		9661.000	9.310	39.470	48.780	-25.220	74.000	PEAK
4	*	12101.000	11.097	38.870	49.967	-24.033	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/11/08 - 11:58**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n40MHz_2437MHz**

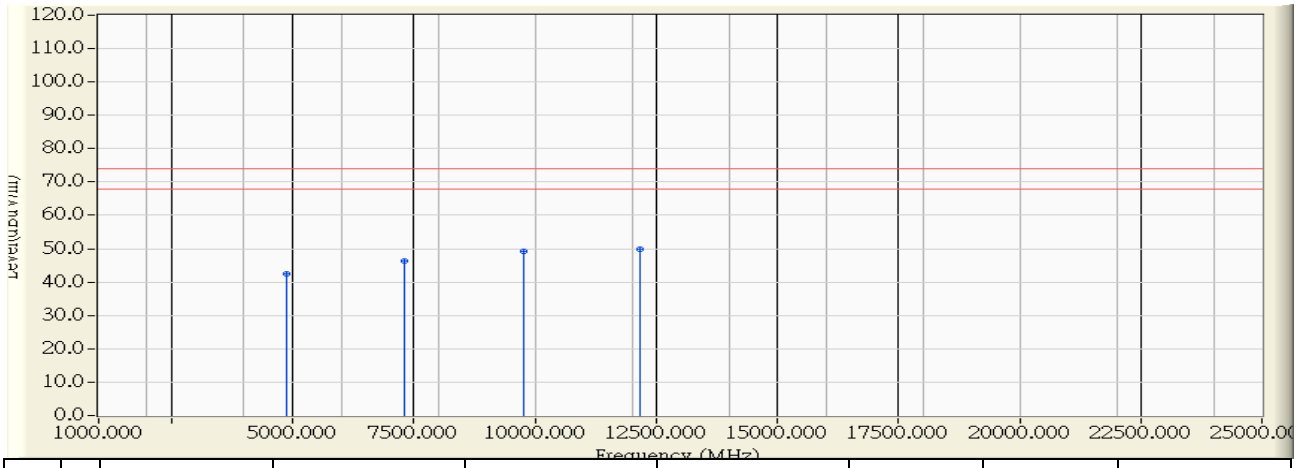


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4871.360	-0.502	42.310	41.809	-32.191	74.000	PEAK
2		7300.500	5.585	40.970	46.555	-27.445	74.000	PEAK
3		9757.000	9.932	39.560	49.492	-24.508	74.000	PEAK
4	*	12163.000	11.068	39.170	50.238	-23.762	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/11/08 - 11:51**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n40MHz_2437MHz**

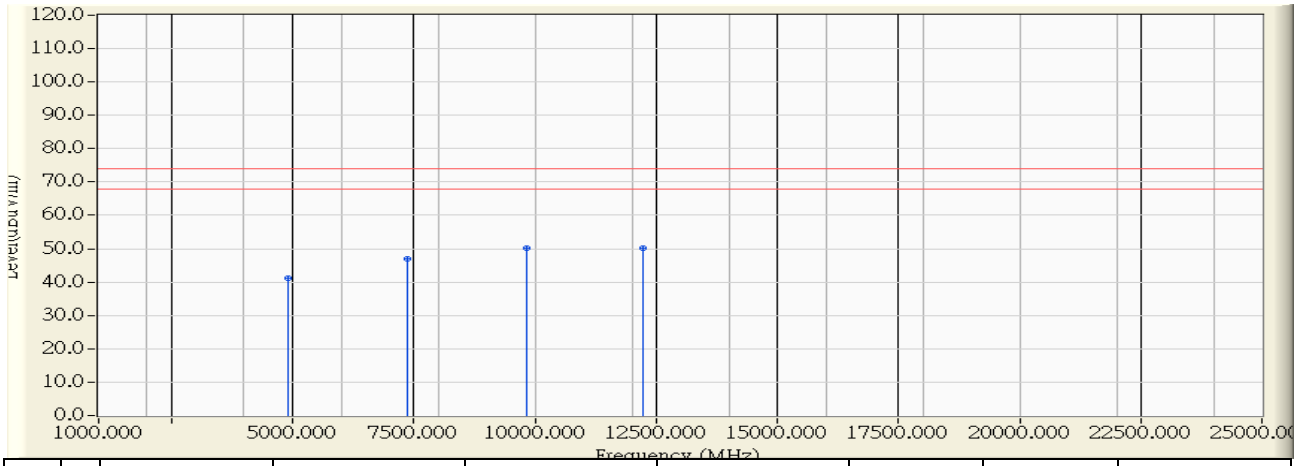


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4868.000	-0.509	42.940	42.431	-31.569	74.000	PEAK
2		7299.540	5.583	40.750	46.333	-27.667	74.000	PEAK
3		9774.000	10.042	39.260	49.302	-24.698	74.000	PEAK
4	*	12181.000	11.061	38.920	49.980	-24.020	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/11/08 - 13:10**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n40MHz_2452MHz**

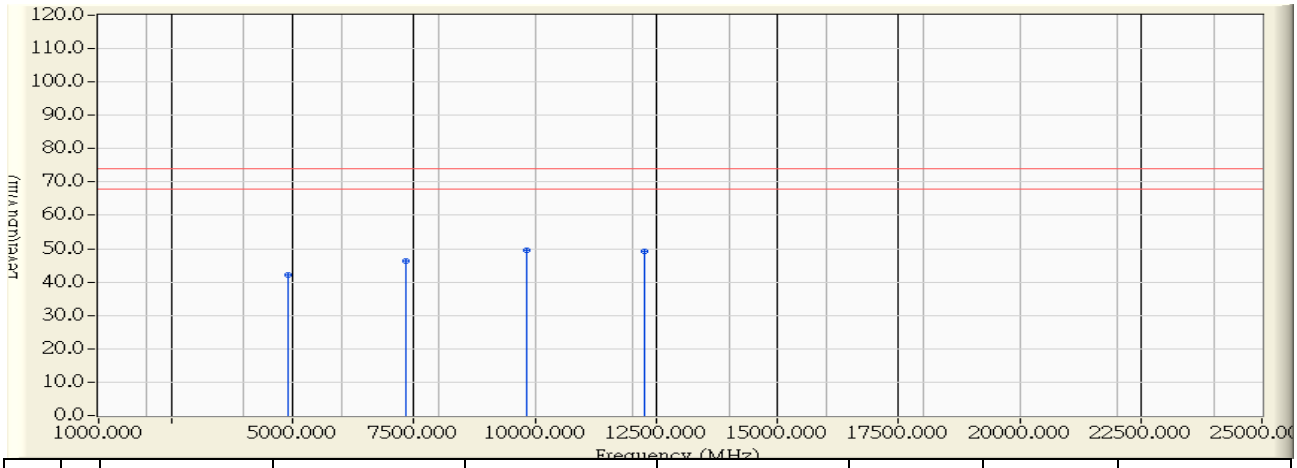


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4906.000	-0.417	41.500	41.083	-32.917	74.000	PEAK
2		7364.160	5.722	41.210	46.933	-27.067	74.000	PEAK
3		9836.000	10.443	39.640	50.083	-23.917	74.000	PEAK
4	*	12234.000	11.035	39.060	50.096	-23.904	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

Site : CB1	**Time : 2013/11/08 - 12:03**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	**Power : AC 120V/60Hz**
EUT : Dual-WAN Security Router	**Note : Mode 1: Transmit_802.11n40MHz_2452MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4908.140	-0.411	42.410	41.999	-32.001	74.000	PEAK
2		7351.140	5.694	40.520	46.214	-27.786	74.000	PEAK
3	*	9833.000	10.423	39.250	49.674	-24.326	74.000	PEAK
4		12265.820	11.022	38.320	49.341	-24.659	74.000	PEAK

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.
7. The Emission above 18GHz were not included is because their levels are too low.

5. RF antenna conducted test

5.1. Test Equipment

The following test equipments are used during the test:

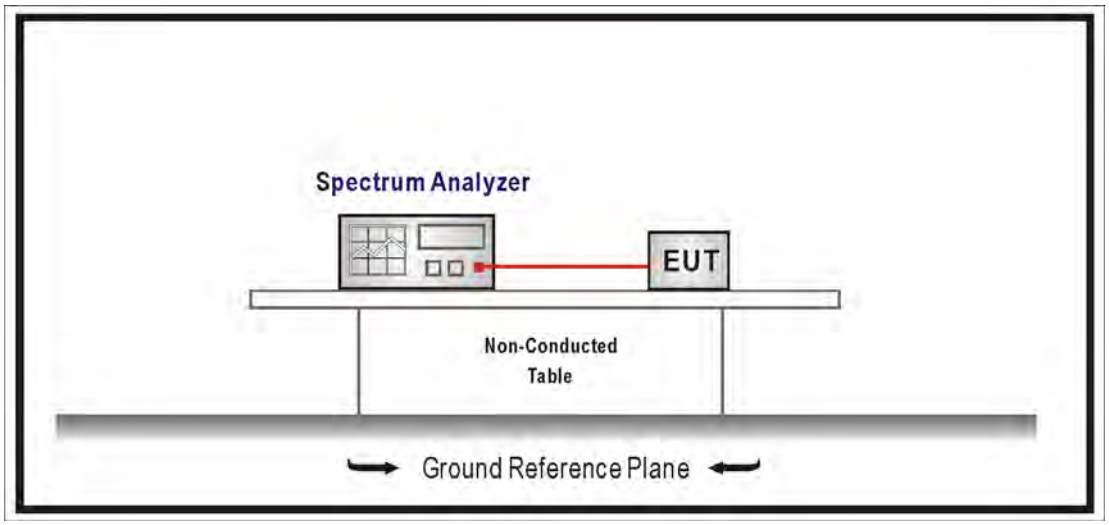
RF antenna conducted test / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2014/08/05

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

5.2. Test Setup

RF Antenna Conducted Measurement:



5.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on an RF conducted or radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.4. Test Procedure

The EUT was setup according to ANSI C63.4: 2009 and tested according to DTS test procedure of KDB558074 v03r01 for compliance to FCC 47CFR 15.247 requirements
Set RBW = 100 kHz, Set VBW≧3xRBW, scan up through 10th harmonic.

5.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2012

5.6. Uncertainty

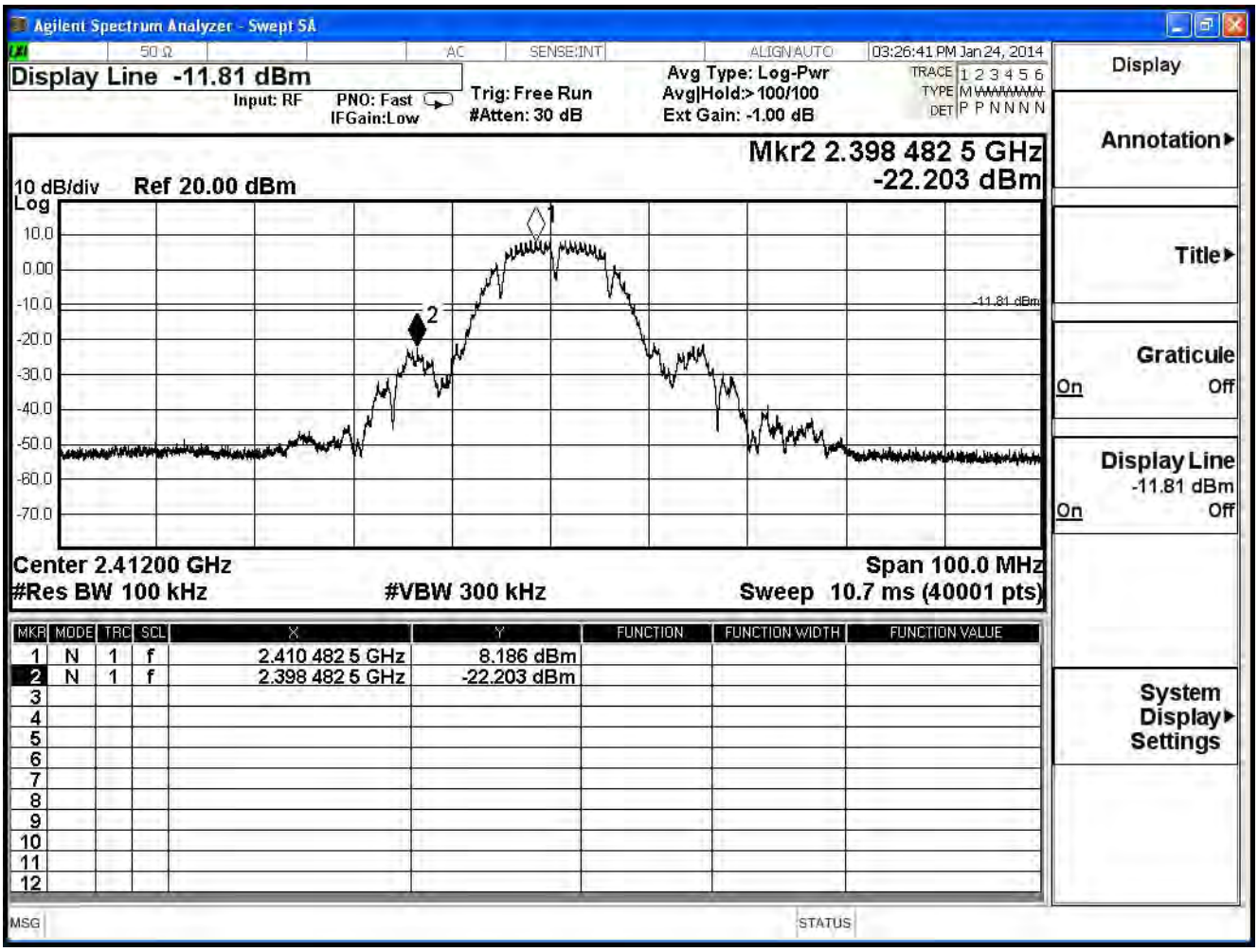
Conducted is defined as ± 1.27dB

5.7. Test Result

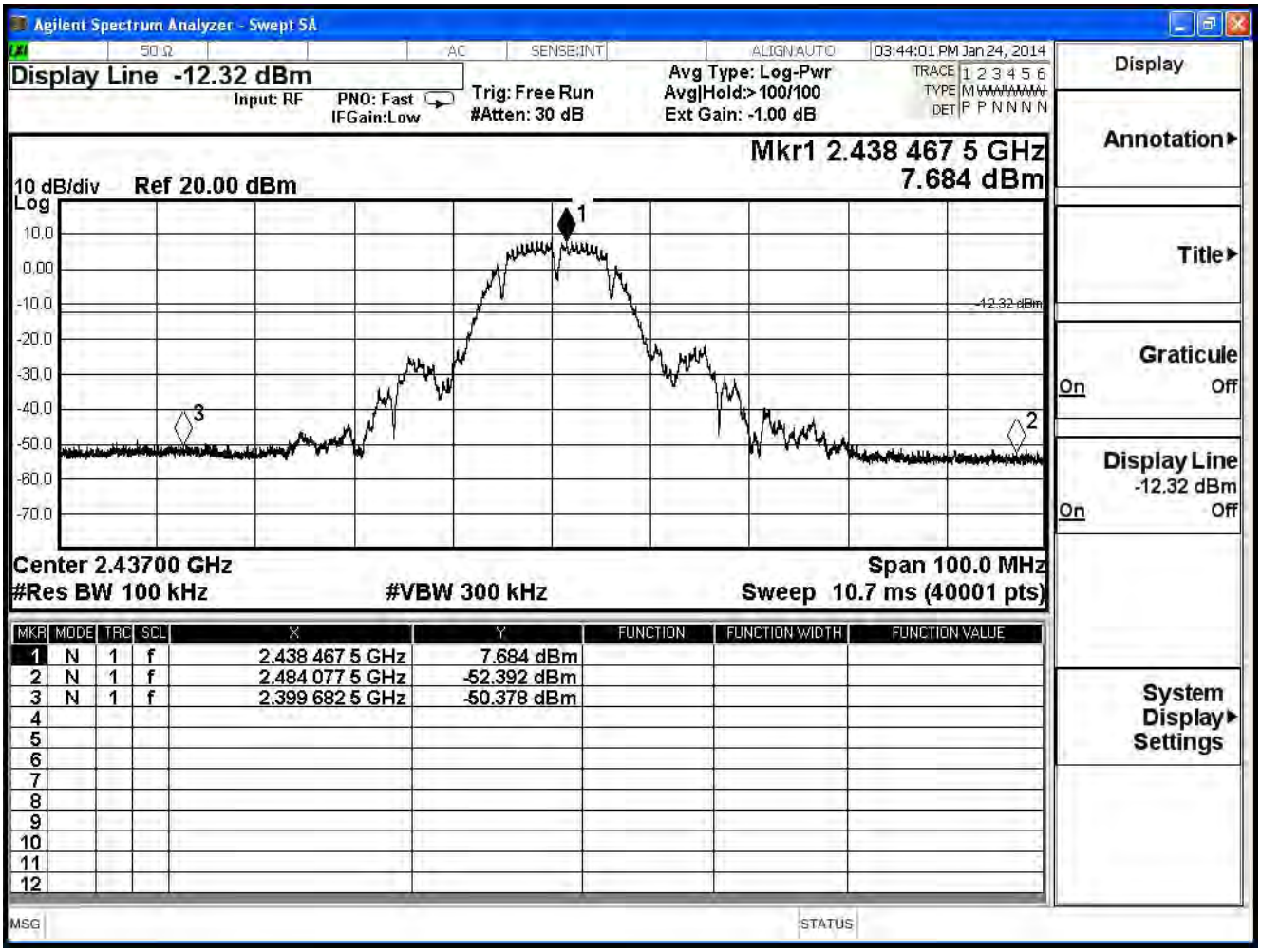
Product	Dual-WAN Security Router		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2014/01/24	Test Site	SR7

IEEE 802.11b, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	30.389	≧20	Pass
6	2437	58.062	≧20	Pass
11	2462	53.530	≧20	Pass

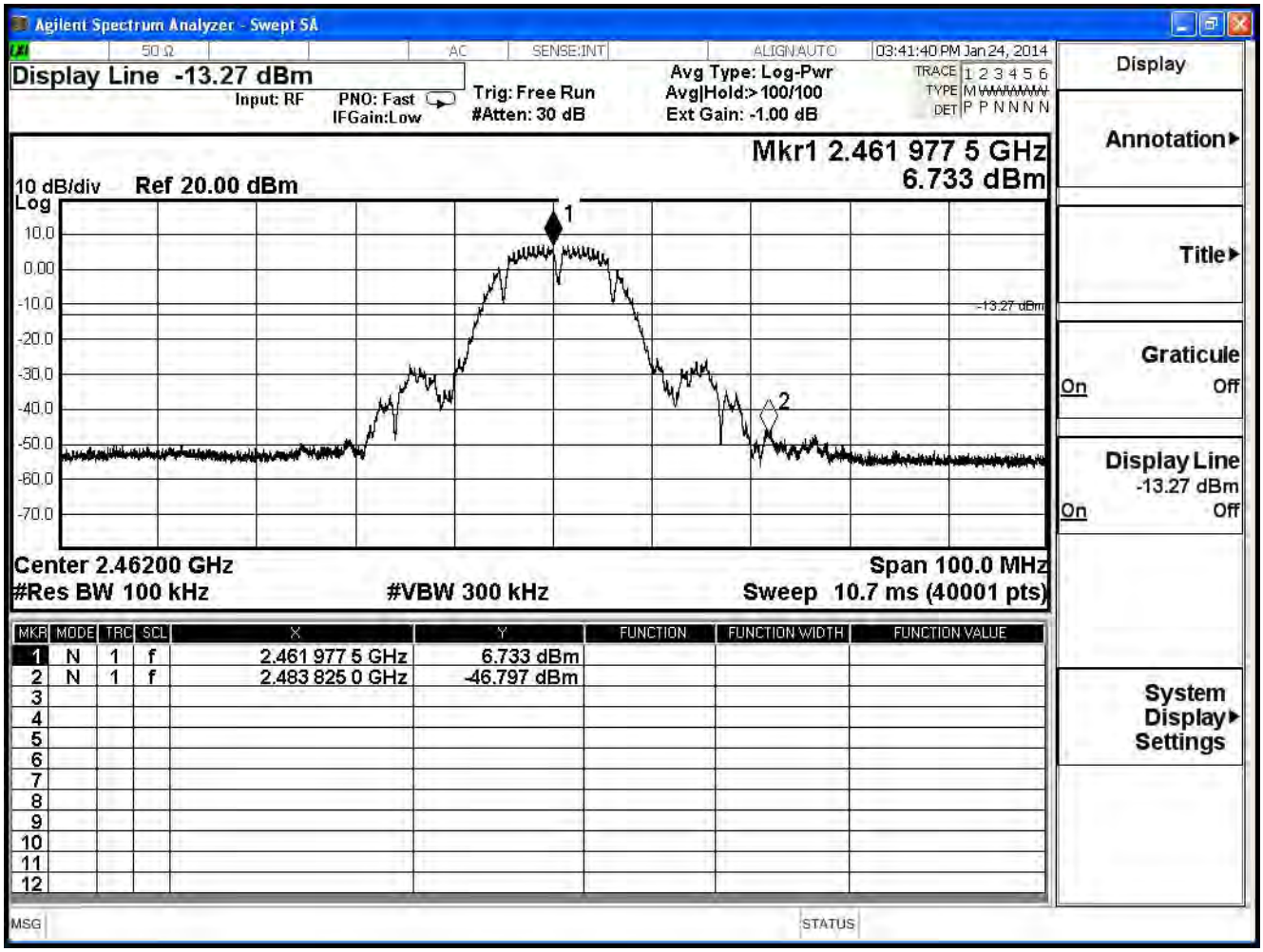
Channel 01 (2412MHz)



Channel 06 (2437MHz)



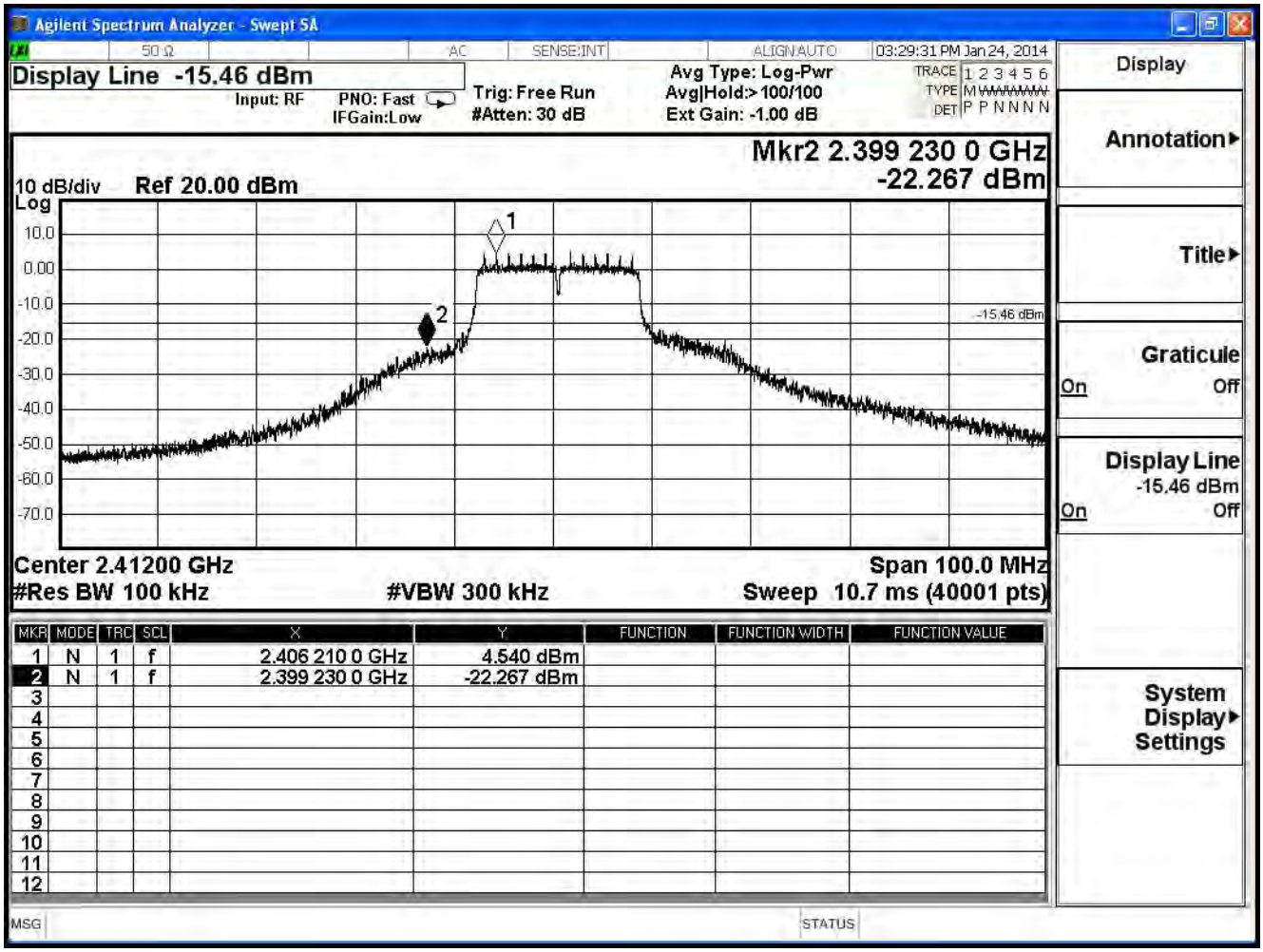
Channel 11 (2462MHz)



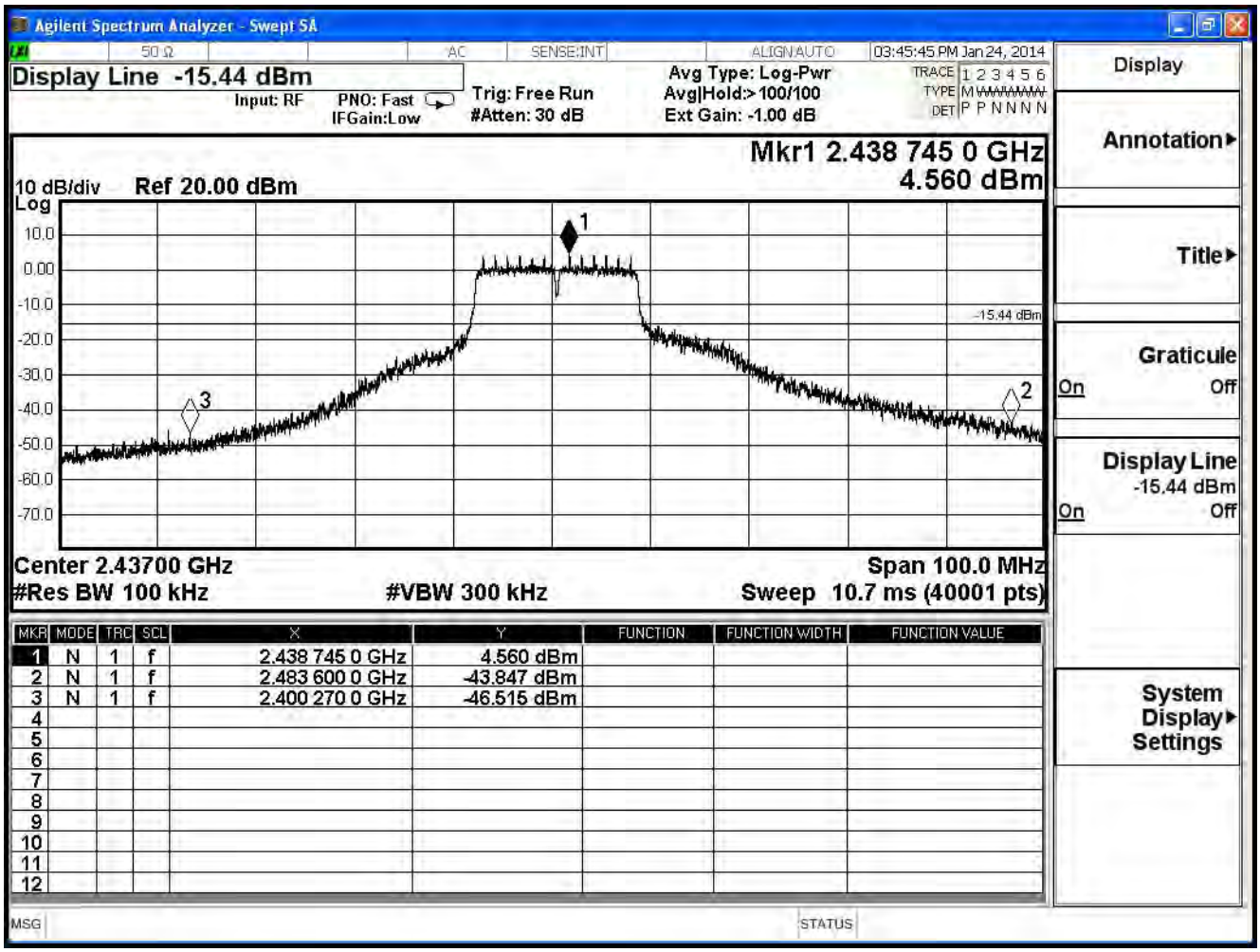
Product	Dual-WAN Security Router		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2014/01/24	Test Site	SR7

IEEE 802.11g, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	26.807	≧20	Pass
6	2437	48.407	≧20	Pass
11	2462	43.558	≧20	Pass

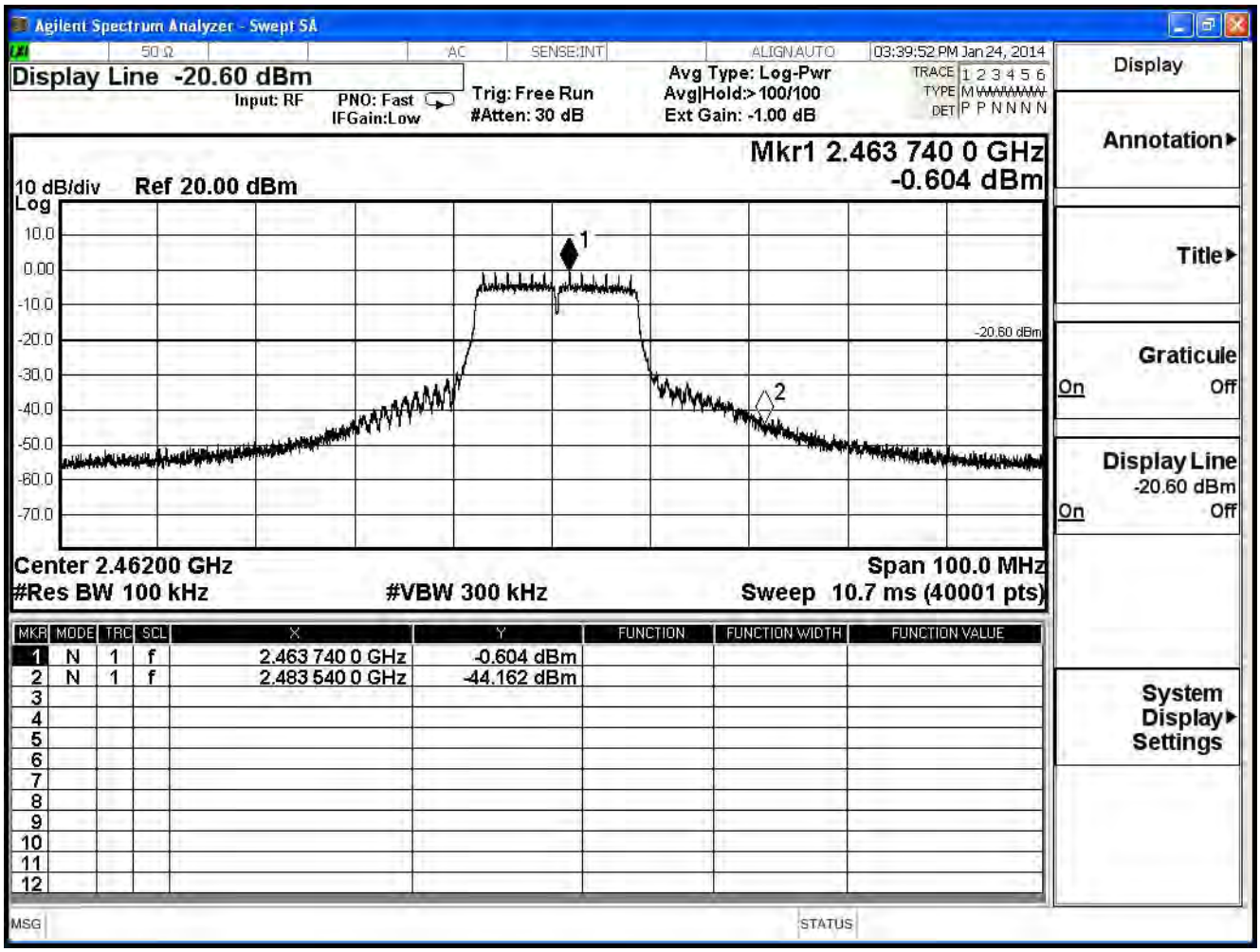
Channel 01 (2412MHz)



Channel 06 (2437MHz)



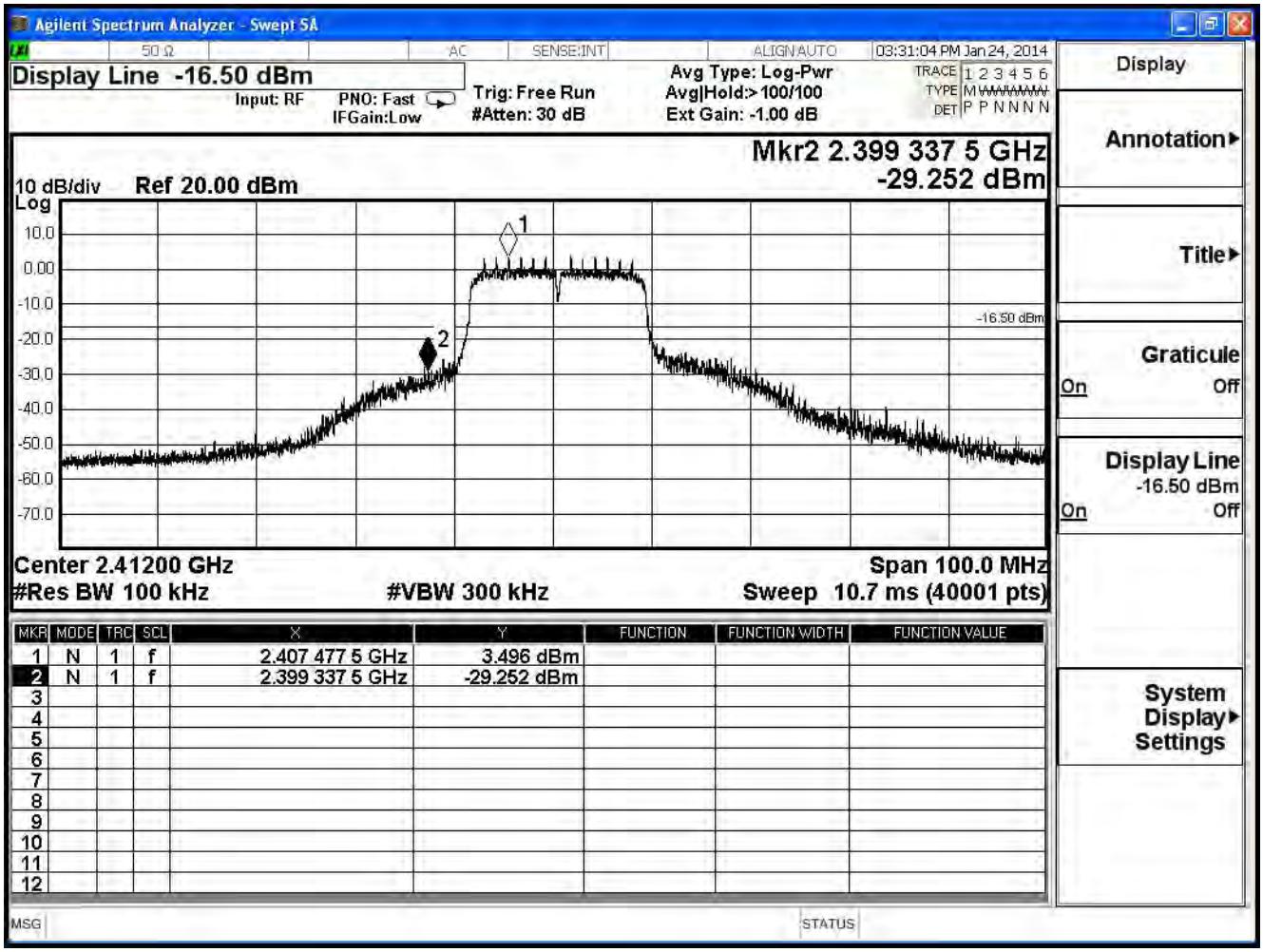
Channel 11 (2462MHz)



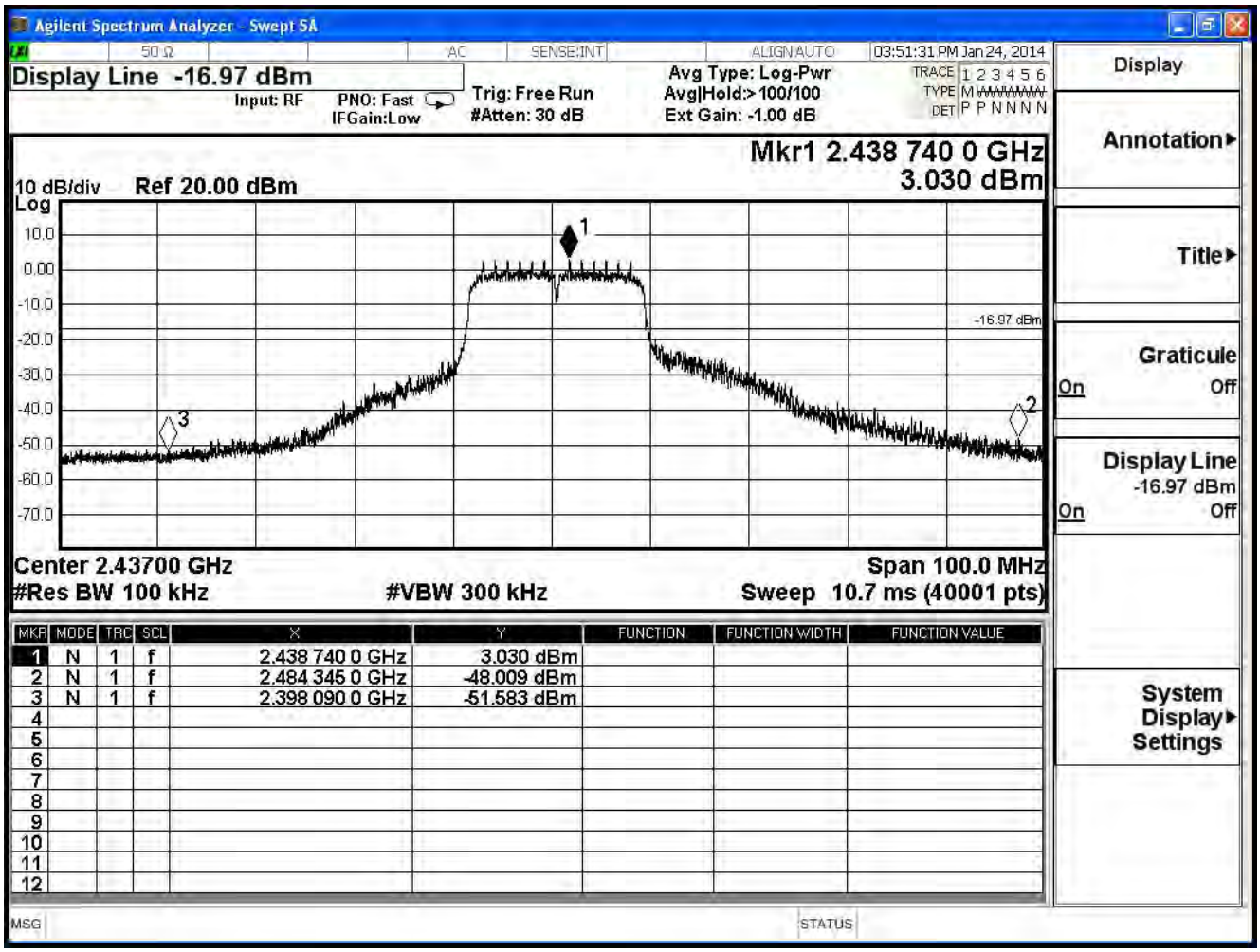
Product	Dual-WAN Security Router		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2014/01/24	Test Site	SR7

IEEE 802.11n (20MHz), ANT 0, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	32.748	≧20	Pass
6	2437	51.039	≧20	Pass
11	2462	43.469	≧20	Pass

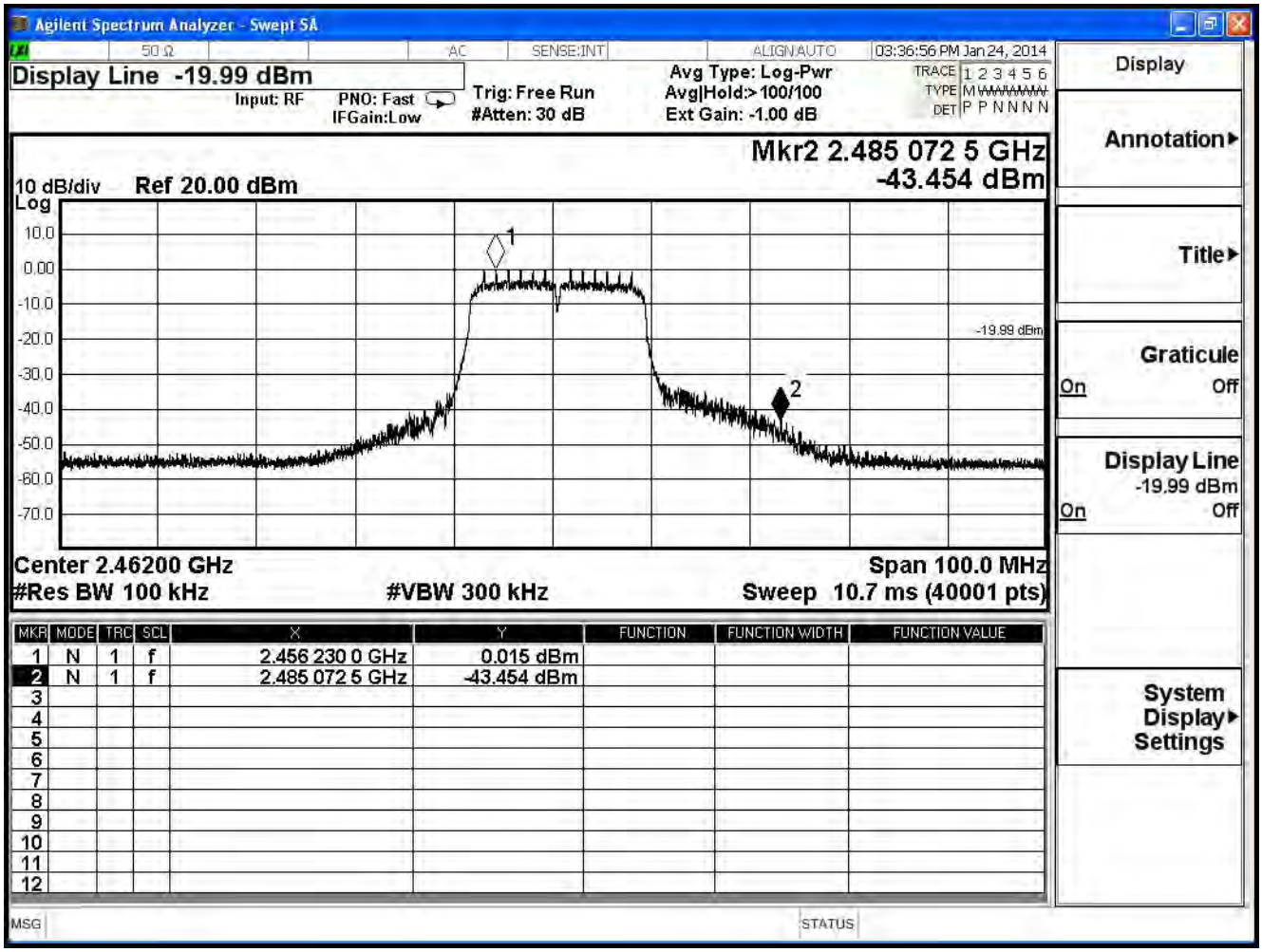
Channel 1 (2412MHz)



Channel 6 (2437MHz)



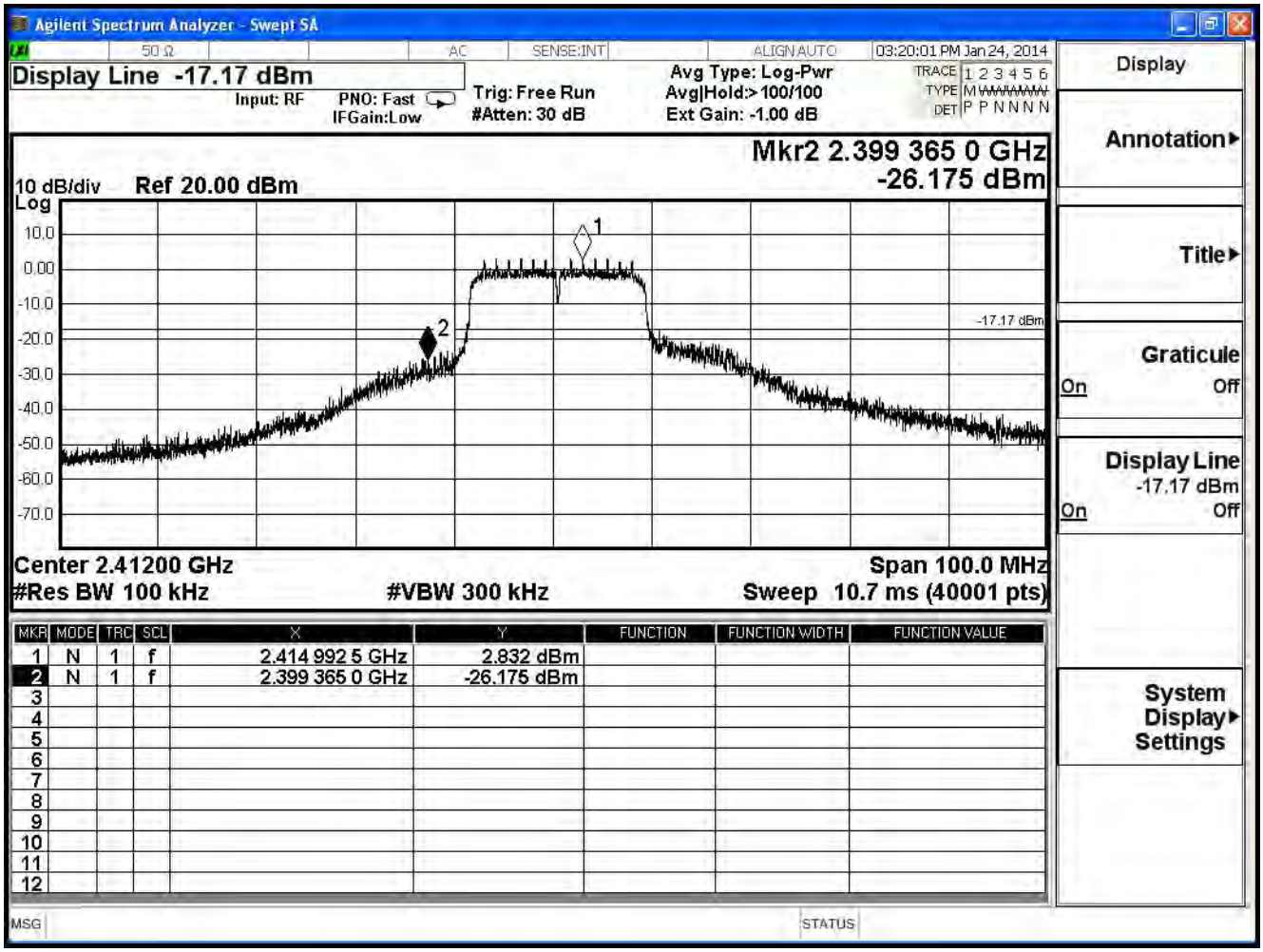
Channel 11 (2462MHz)



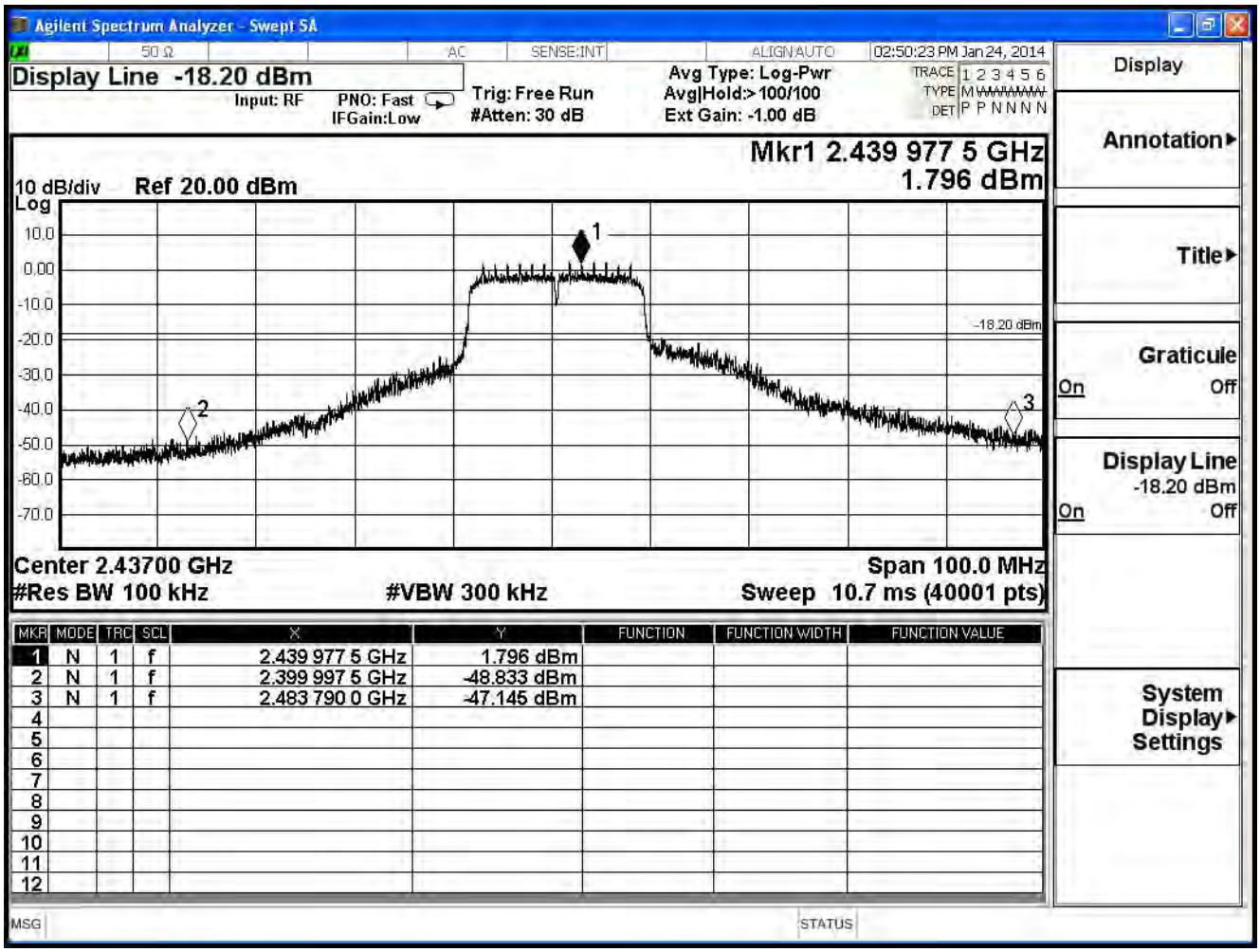
Product	Dual-WAN Security Router		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2014/01/24	Test Site	SR7

IEEE 802.11n (20MHz), ANT 1, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	29.007	≧20	Pass
6	2437	48.941	≧20	Pass
11	2462	41.525	≧20	Pass

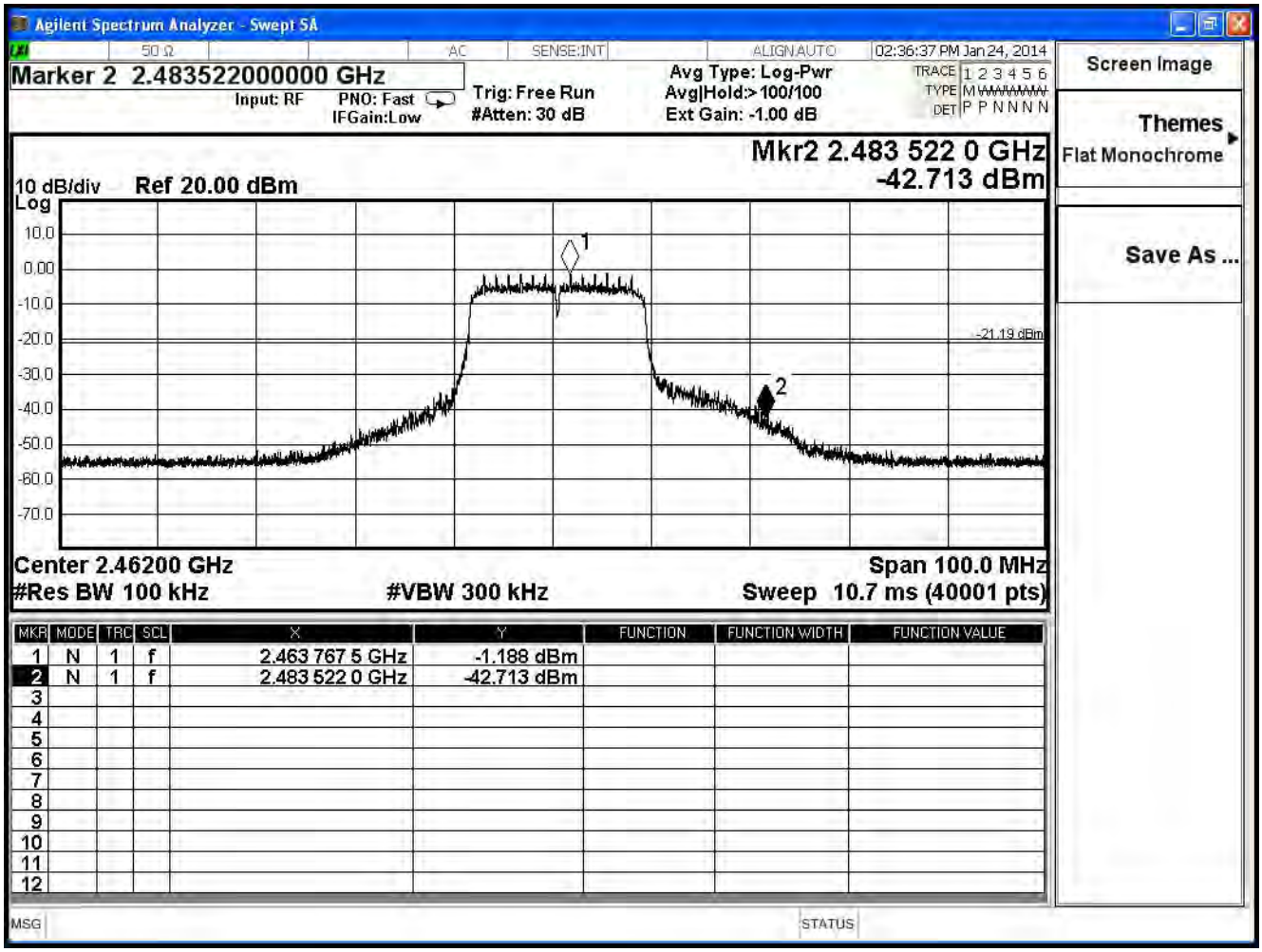
Channel 1 (2412MHz)



Channel 6 (2437MHz)



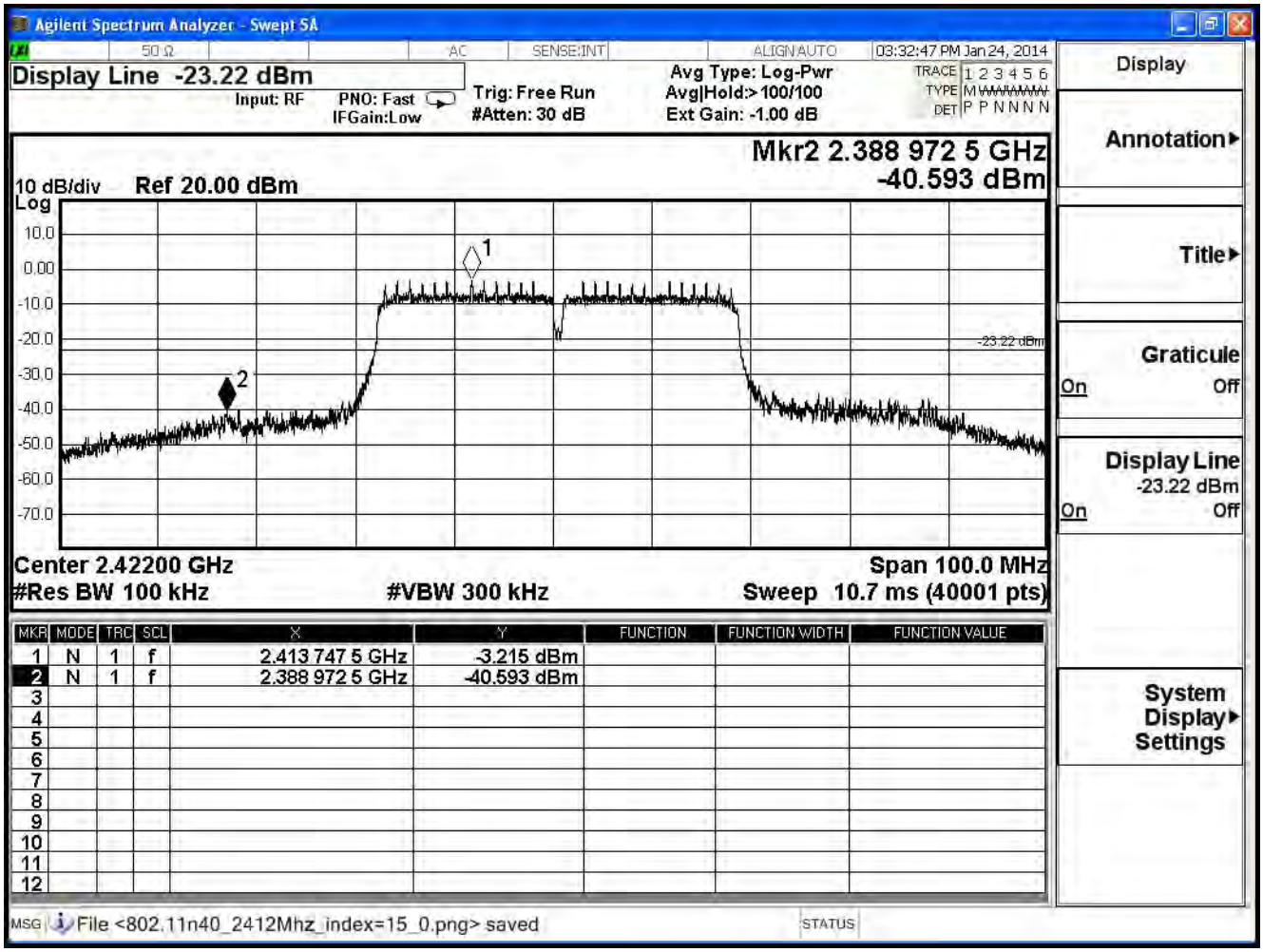
Channel 11 (2462MHz)



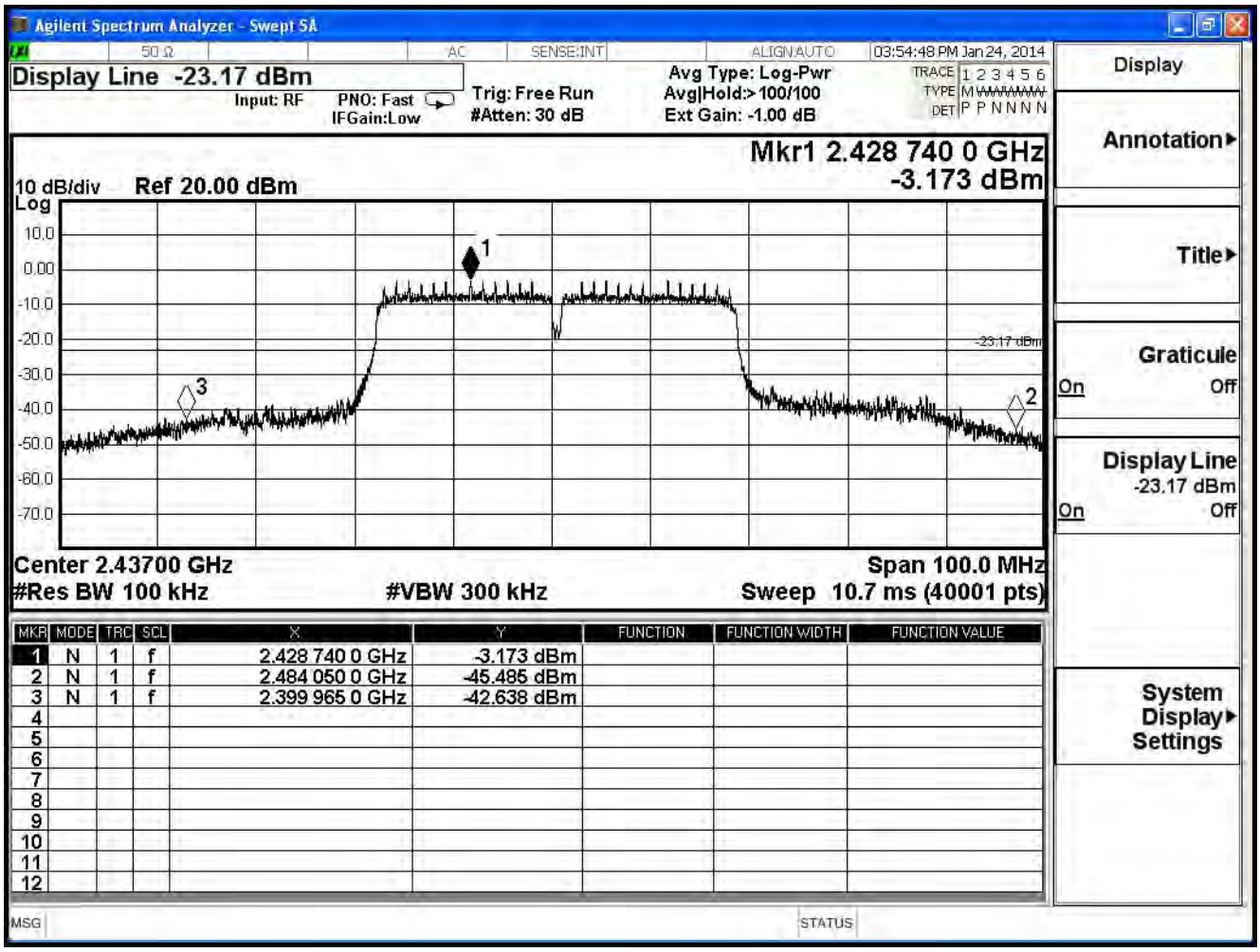
Product	Dual-WAN Security Router		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2014/01/24	Test Site	SR7

IEEE 802.11n (40MHz), ANT 0, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
3	2422	37.378	≧20	Pass
6	2437	39.465	≧20	Pass
9	2452	33.910	≧20	Pass

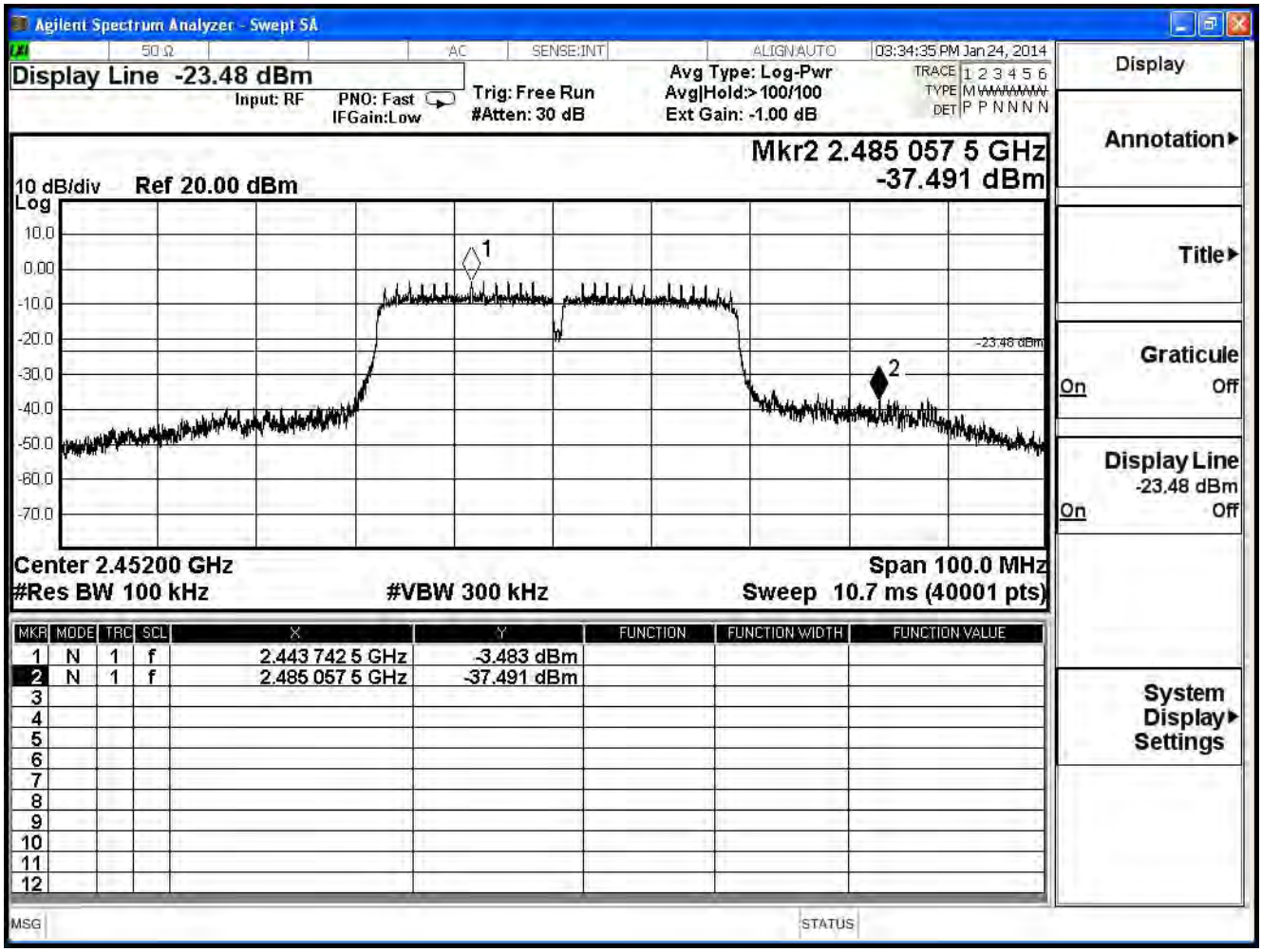
Channel 3 (2422MHz)



Channel 6 (2437MHz)



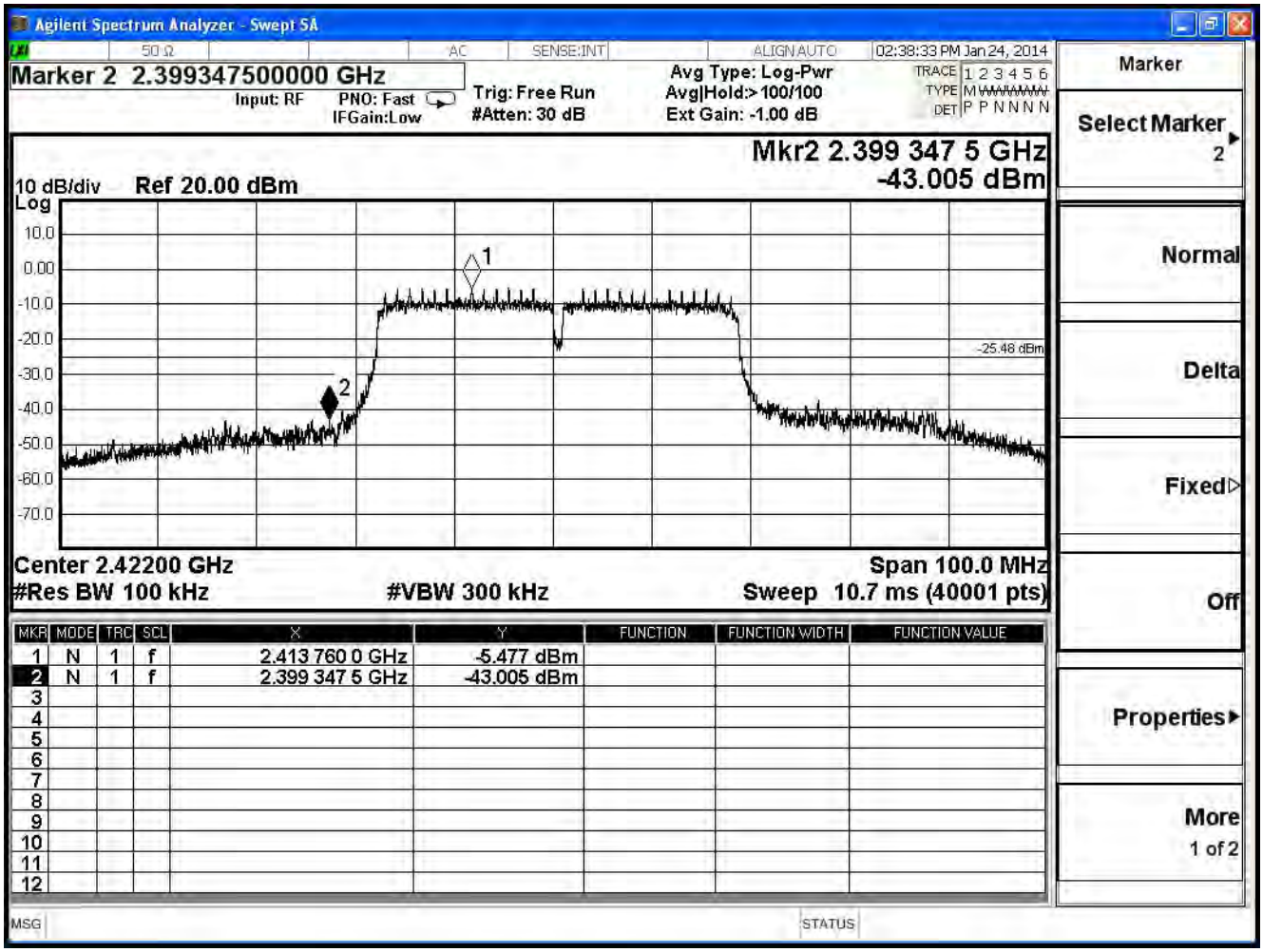
Channel 9 (2452MHz)



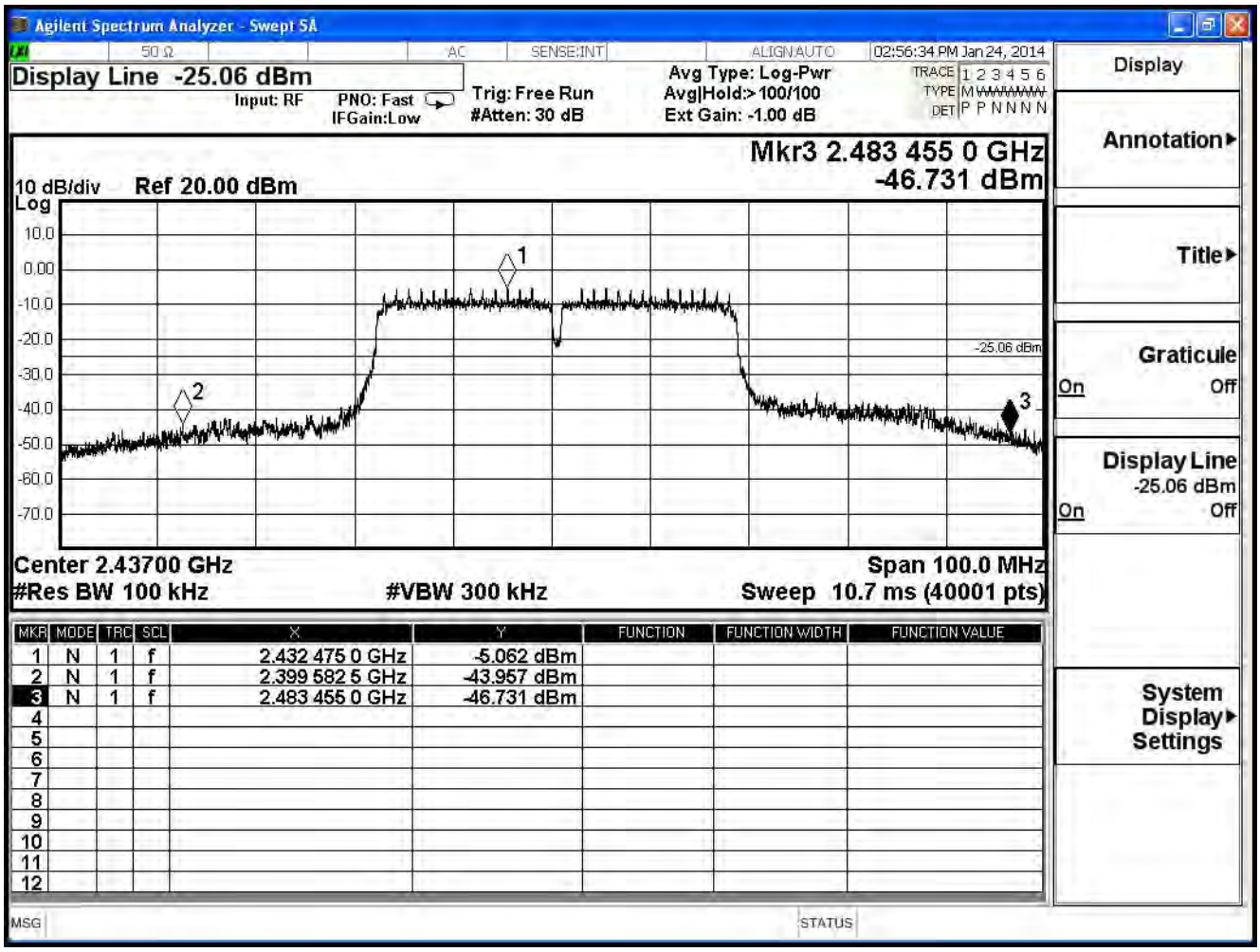
Product	Dual-WAN Security Router		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2014/01/24	Test Site	SR7

IEEE 802.11n (40MHz), ANT 1, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
3	2422	37.528	≧20	Pass
6	2437	38.895	≧20	Pass
9	2452	34.008	≧20	Pass

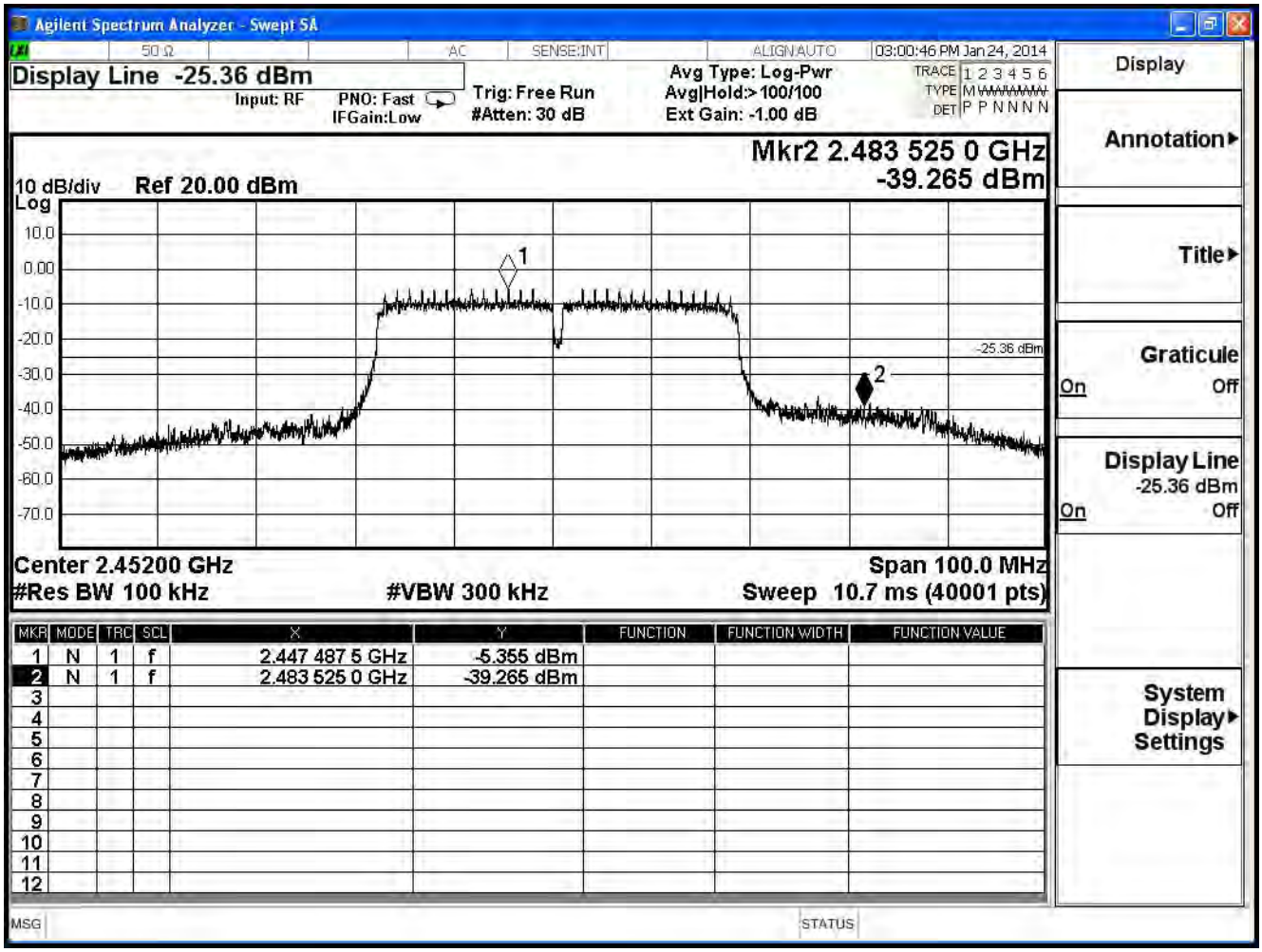
Channel 3 (2422MHz)



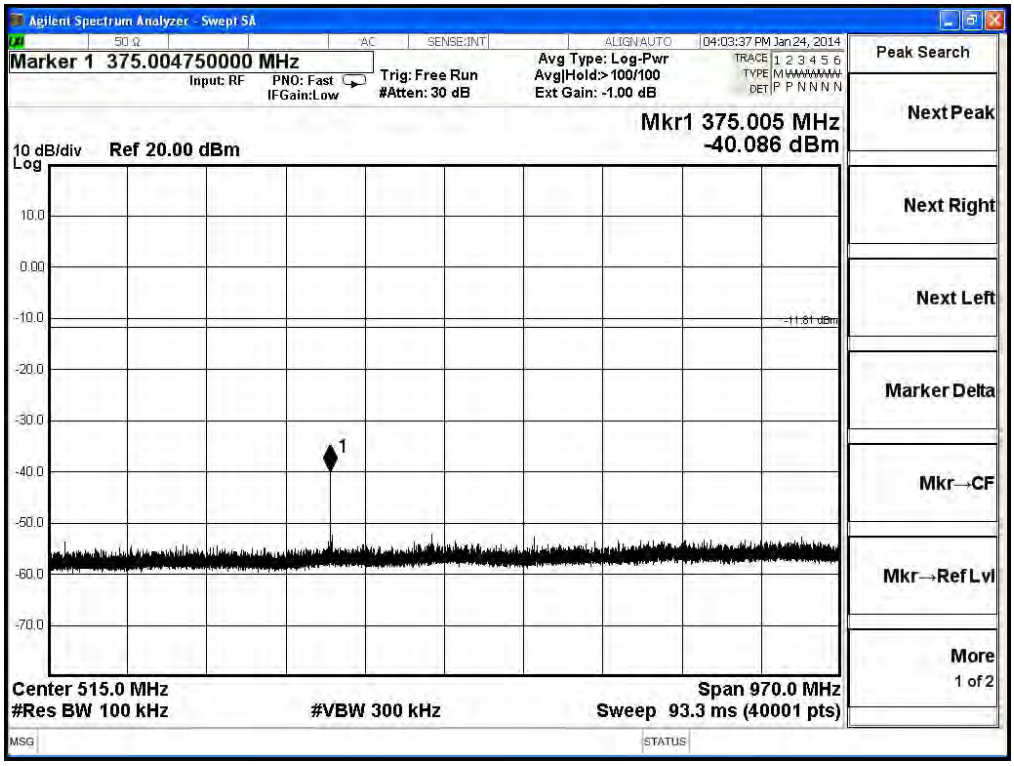
Channel 6 (2437MHz)



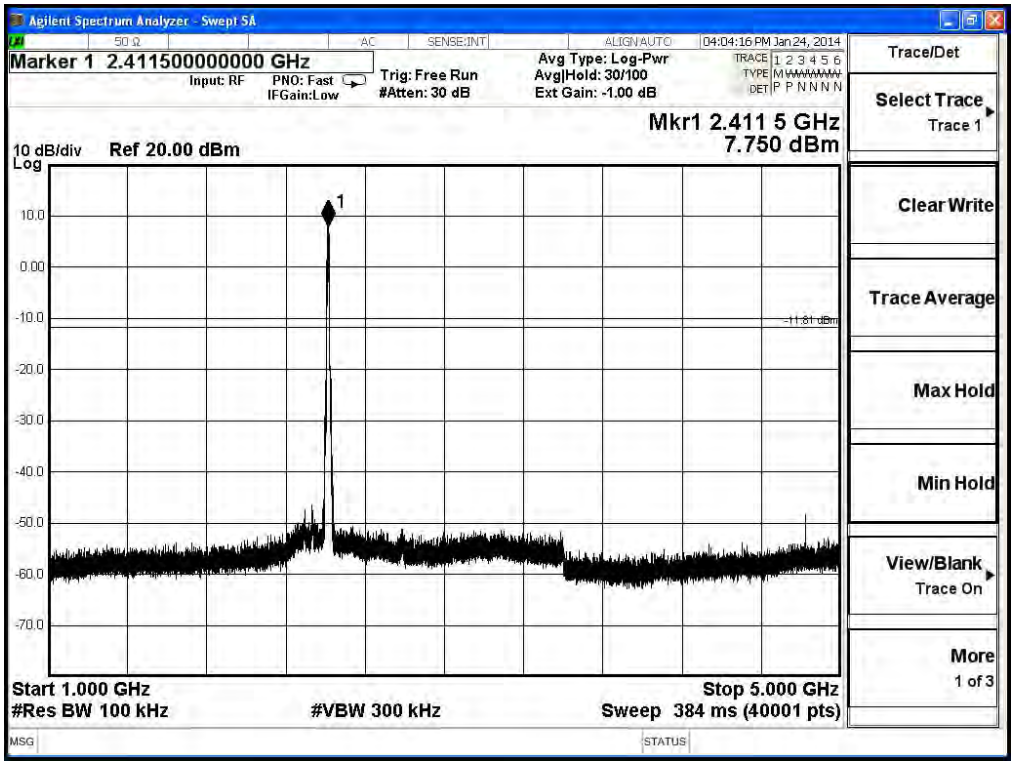
Channel 9 (2452MHz)



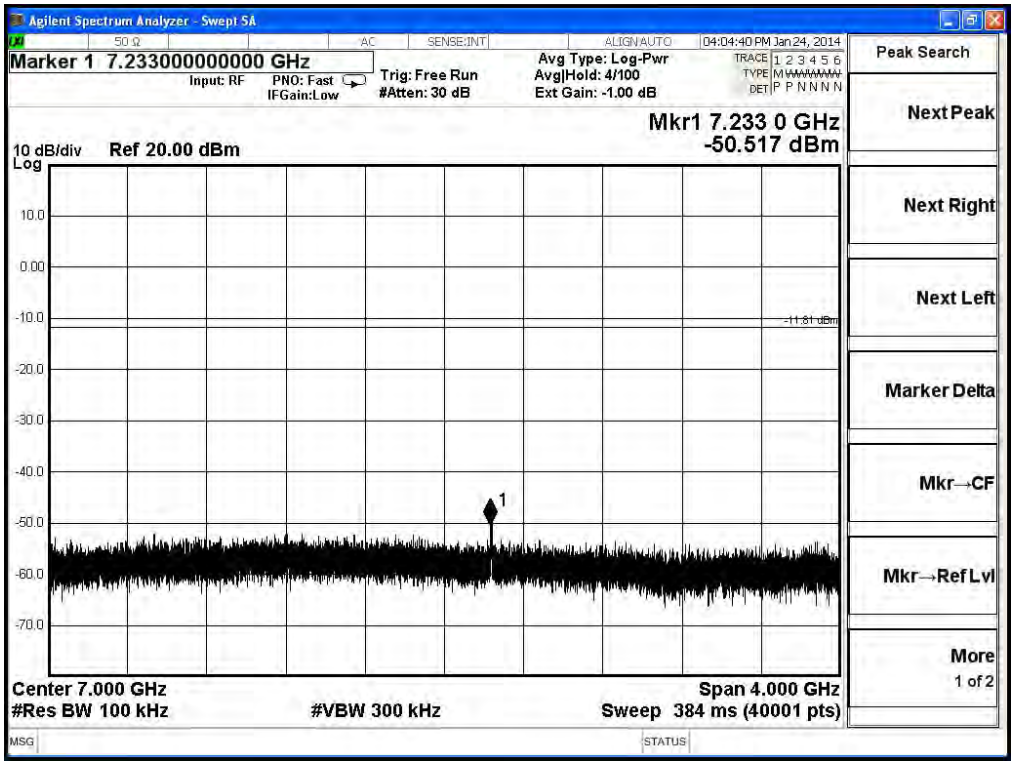
2412MHz (30MHz-1GHz)-802.11b



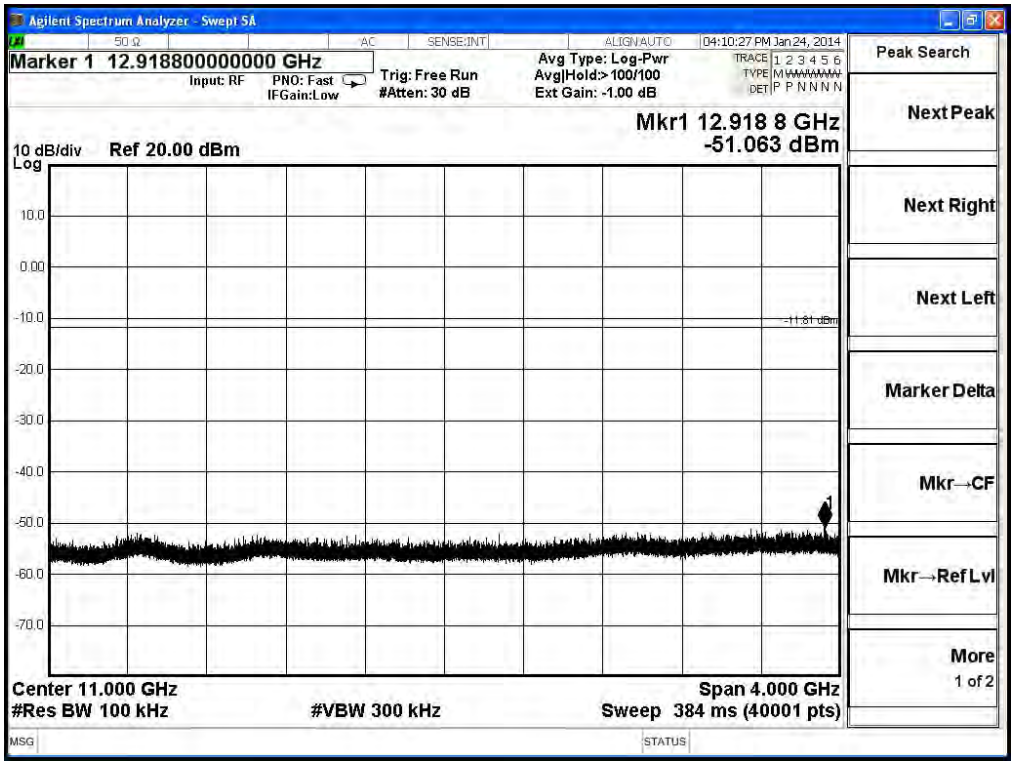
2412MHz (1GHz-5GHz) -802.11b



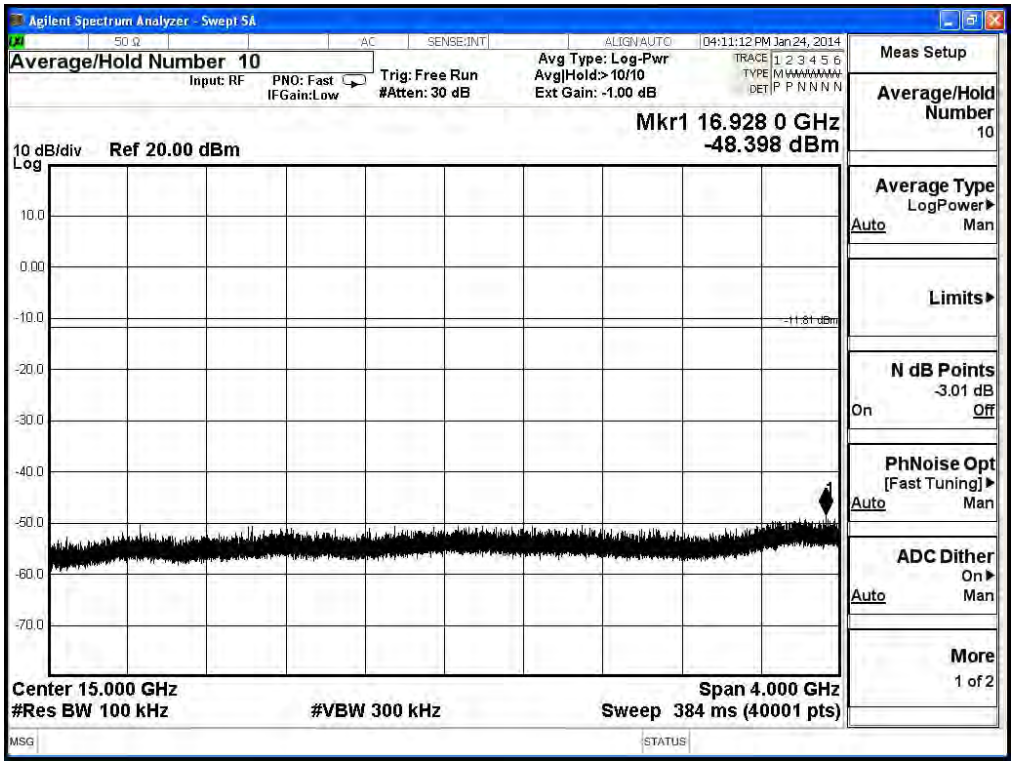
2412MHz (5GHz-9GHz)-802.11b



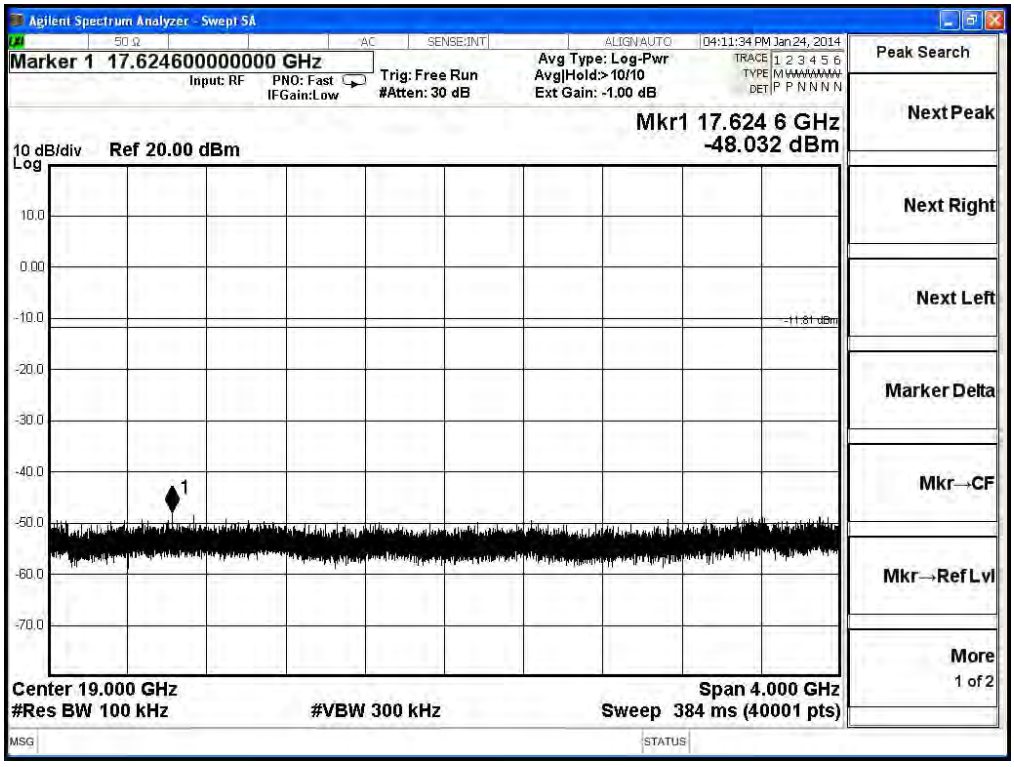
2412MHz (9GHz-13GHz) -802.11b



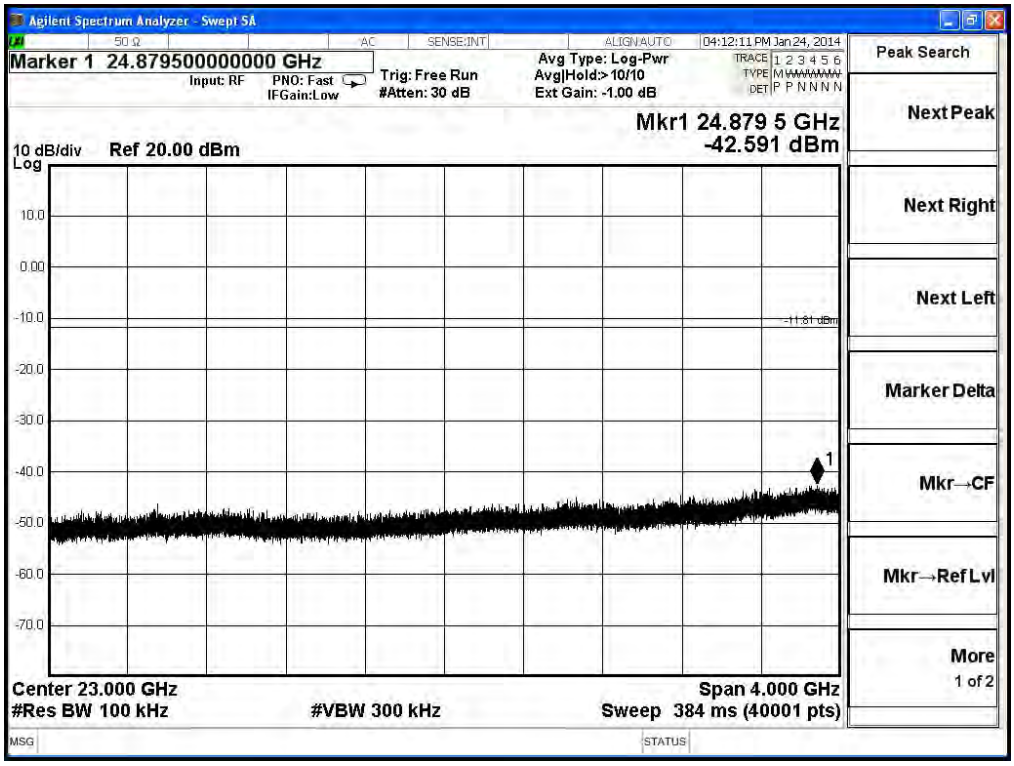
2412MHz (13GHz-17GHz)-802.11b



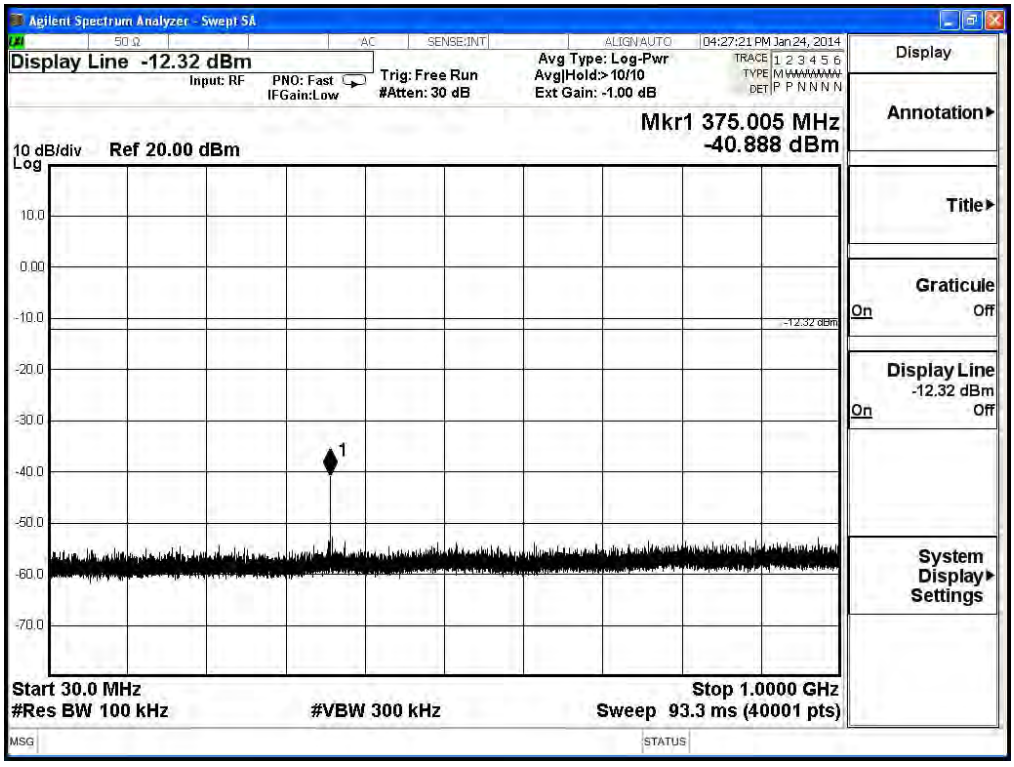
2412MHz (17GHz-21GHz) -802.11b



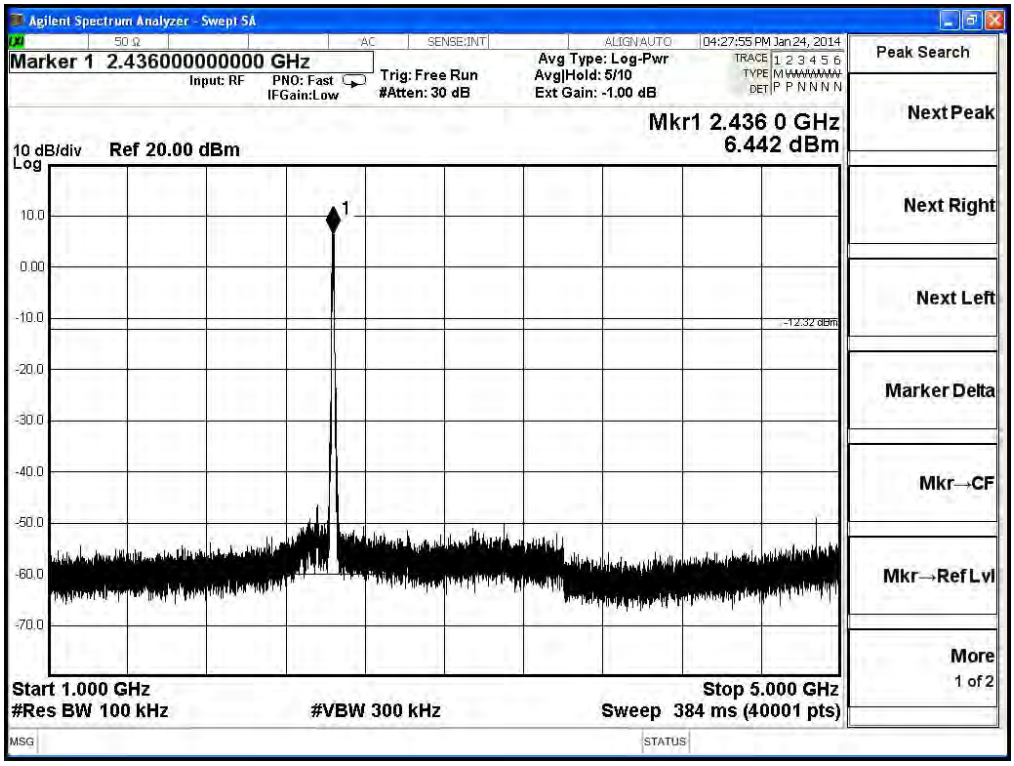
2412MHz (21GHz-25GHz)-802.11b



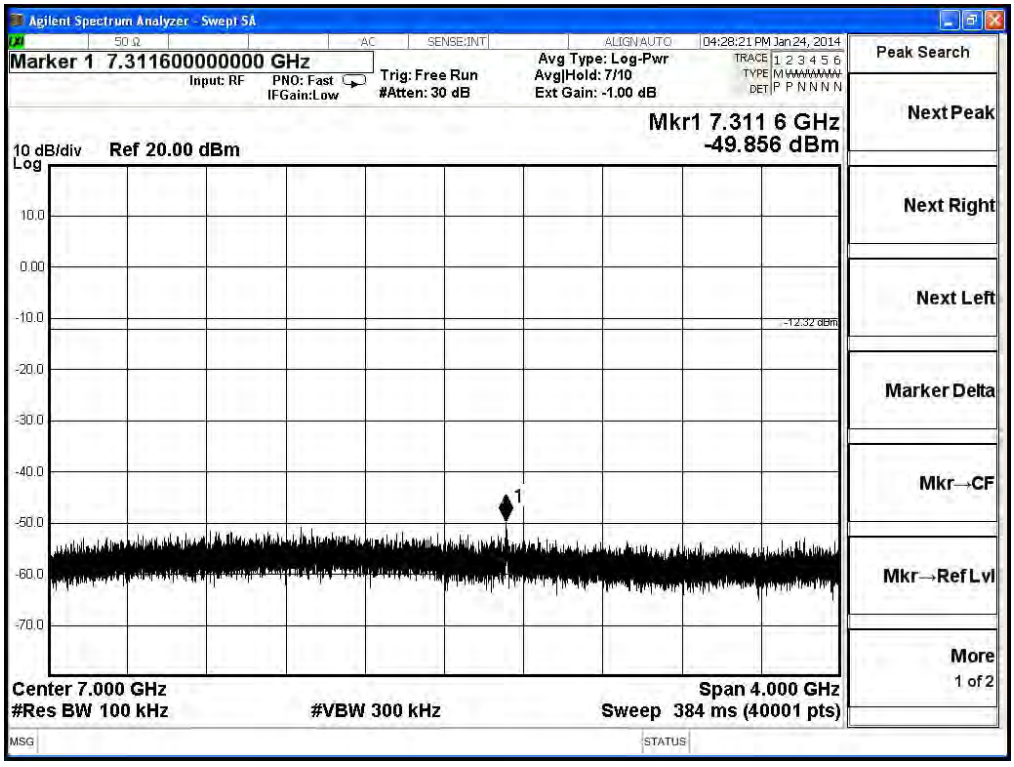
2437MHz (30MHz-1GHz) -802.11b



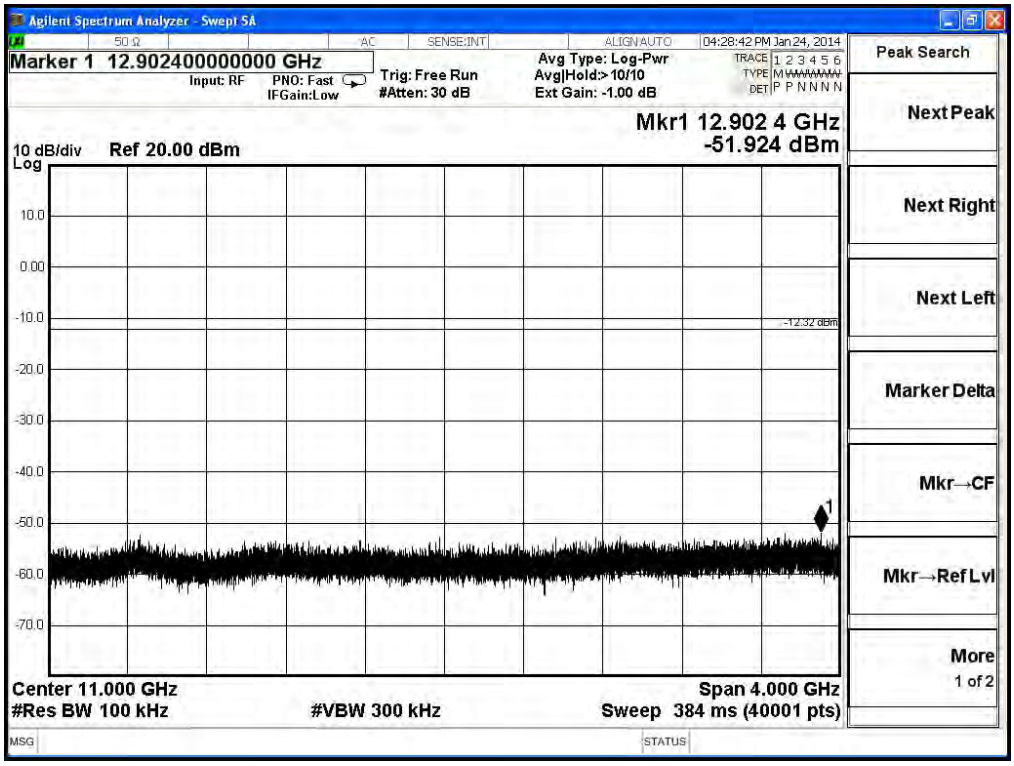
2437MHz (1GHz-5GHz)-802.11b



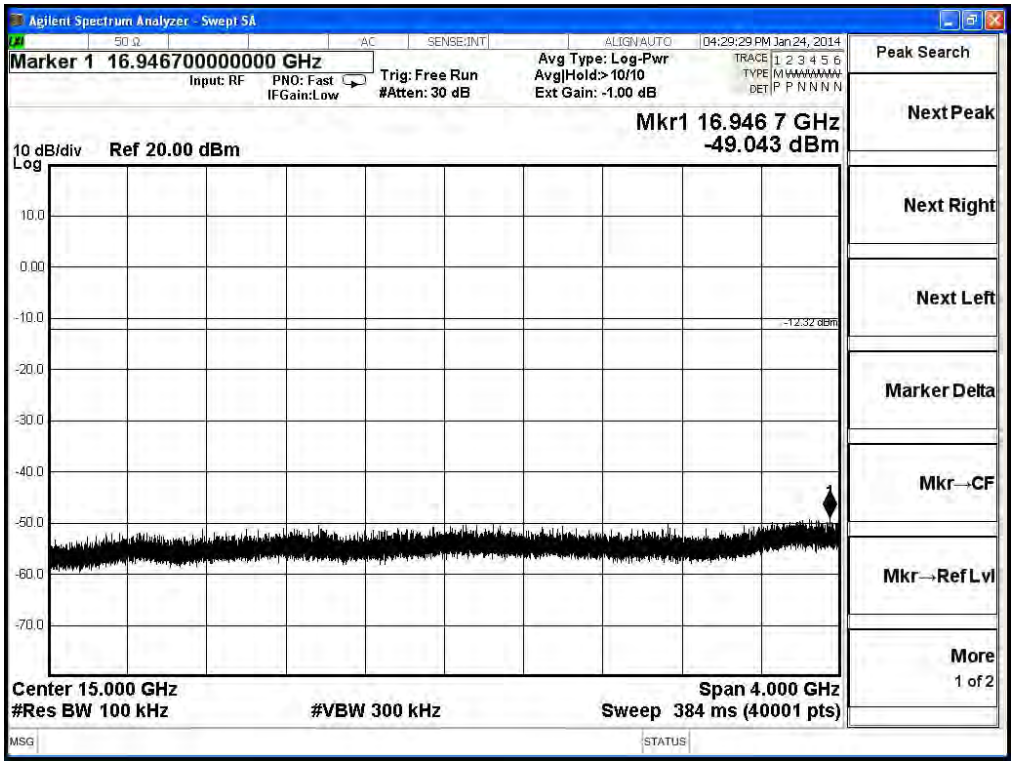
2437MHz (5GHz-9GHz) -802.11b



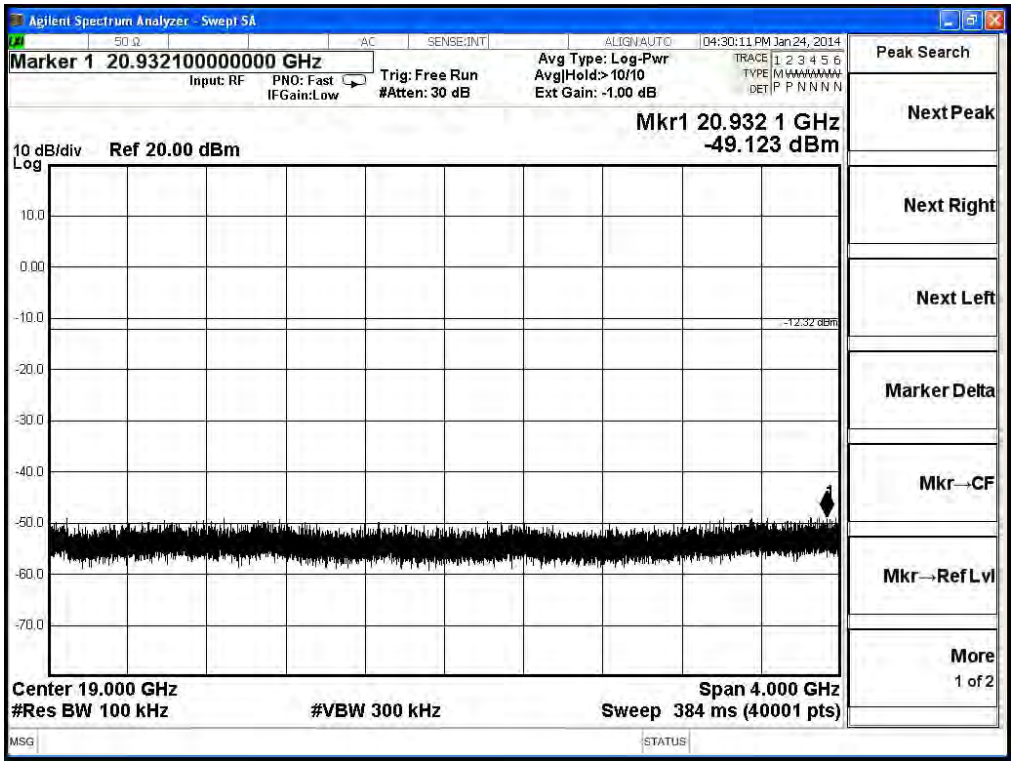
2437MHz (9GHz-13GHz)-802.11b



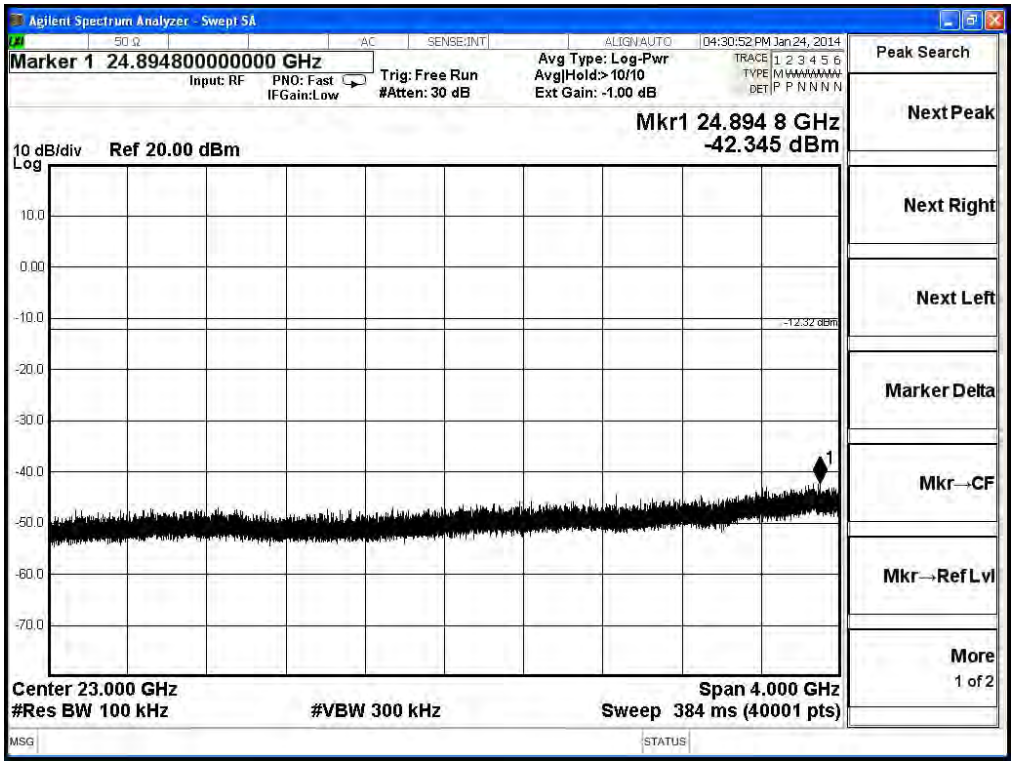
2437MHz (13GHz-17GHz) -802.11b



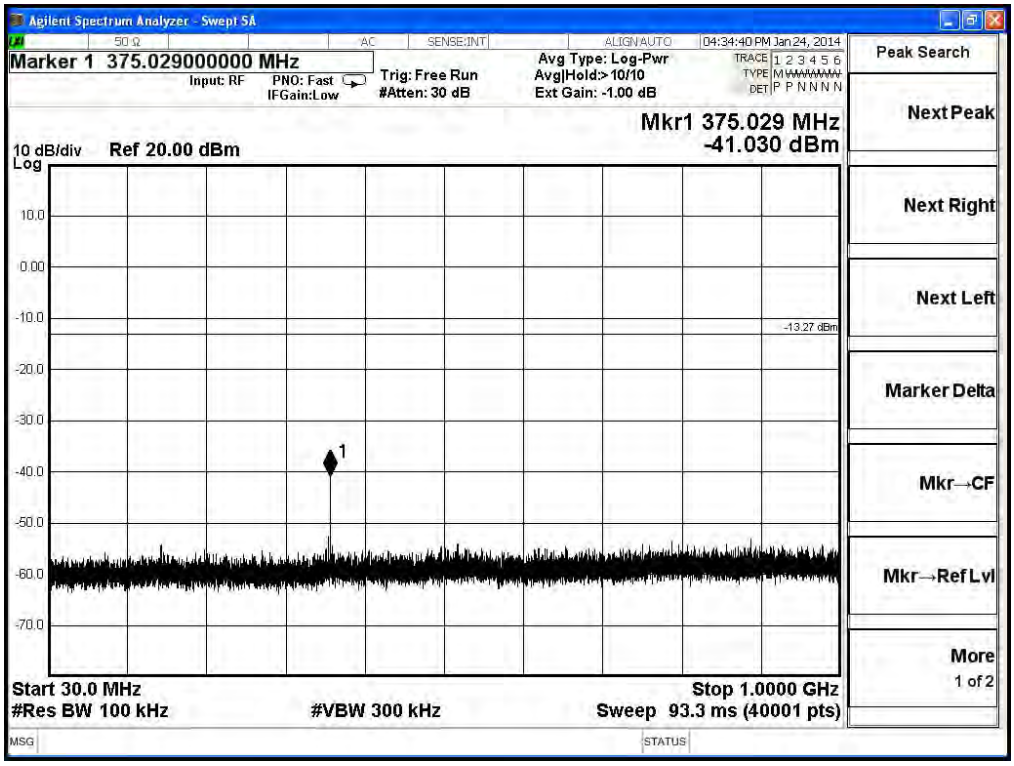
2437MHz (17GHz-21GHz)-802.11b



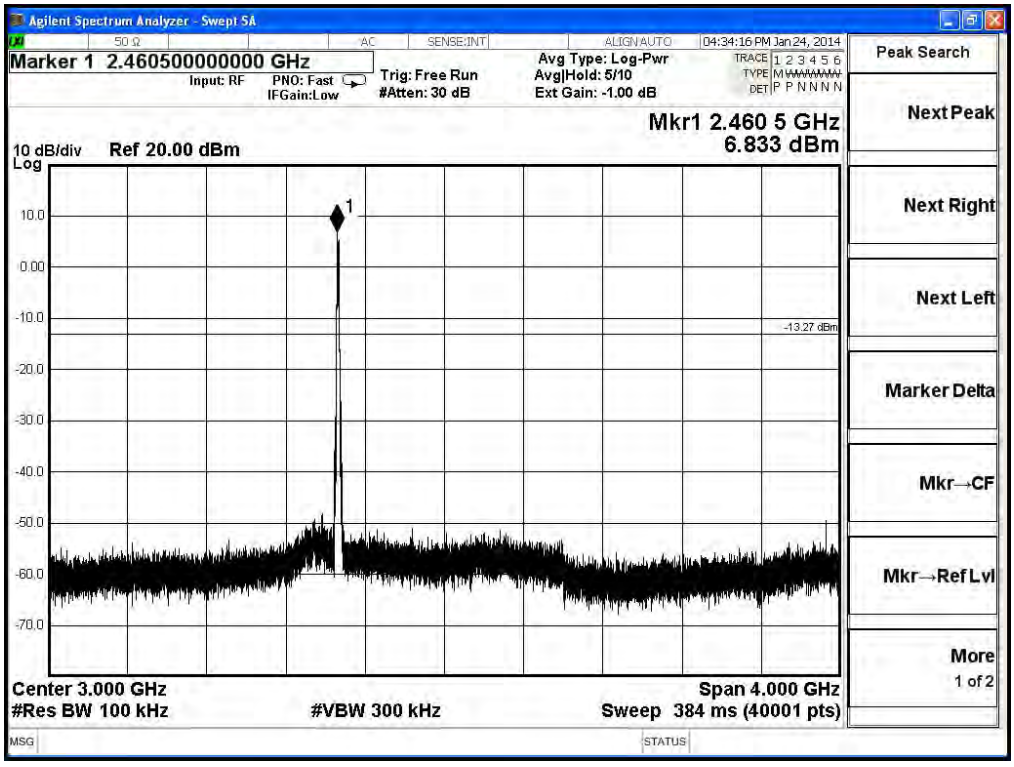
2437MHz (21GHz-25GHz) -802.11b



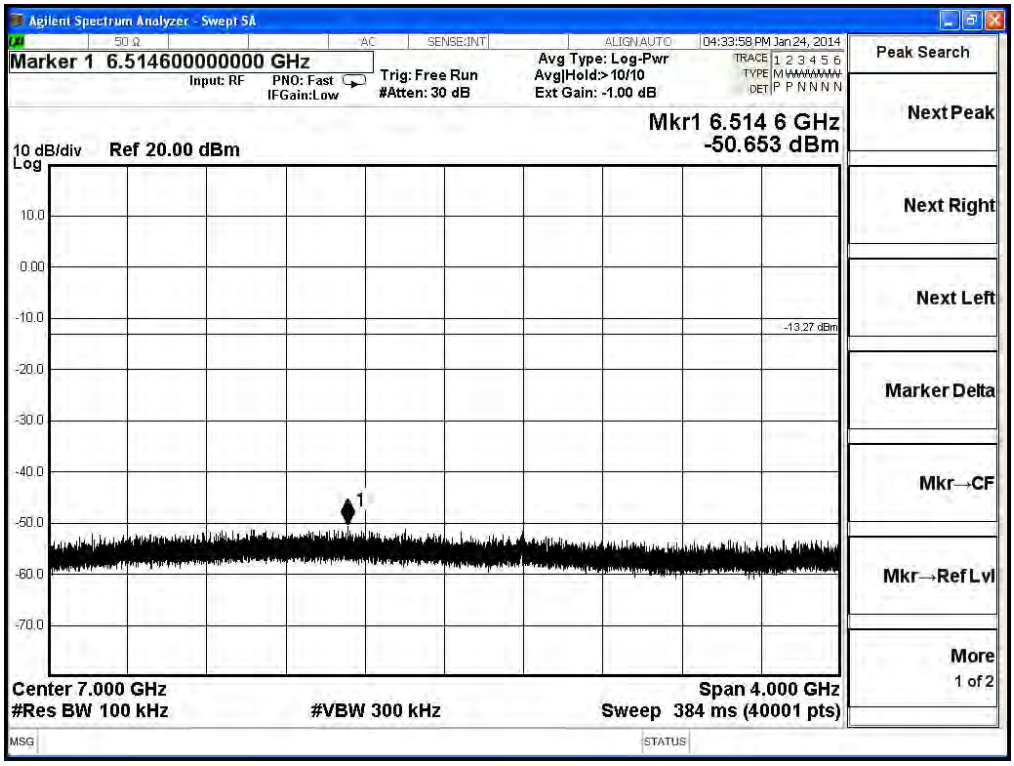
2462MHz (30MHz-1GHz)-802.11b



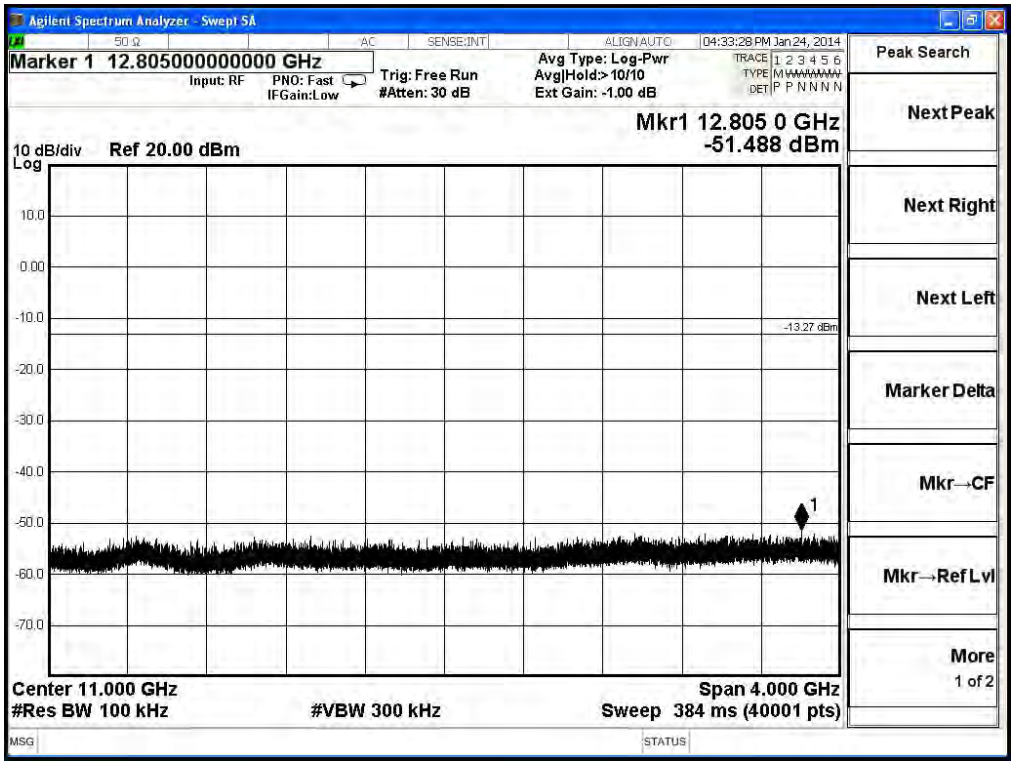
2462MHz (1GHz-5GHz) -802.11b



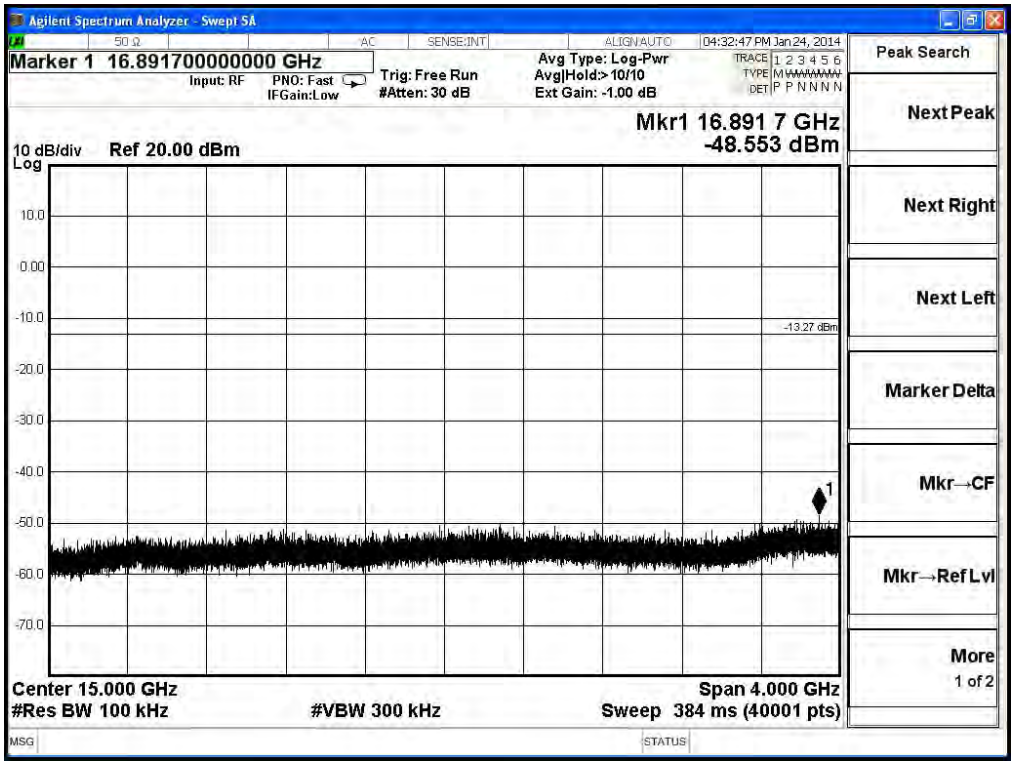
2462MHz (5GHz-9GHz)-802.11b



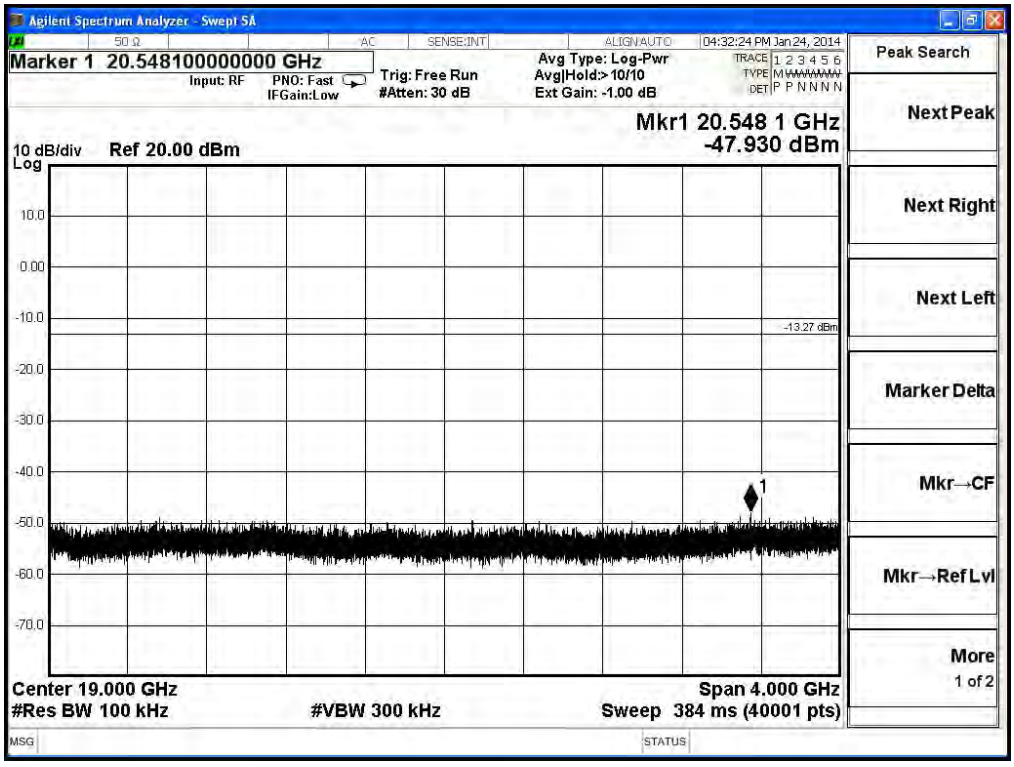
2462MHz (9GHz-13GHz) -802.11b



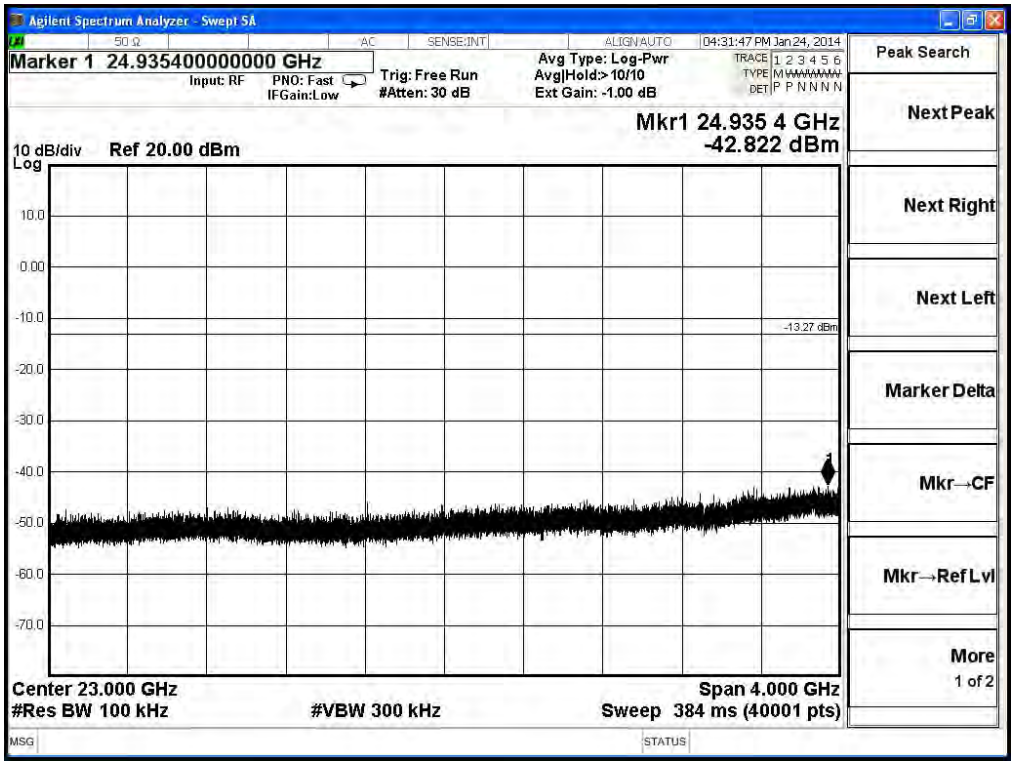
2462MHz (13GHz-17GHz)-802.11b



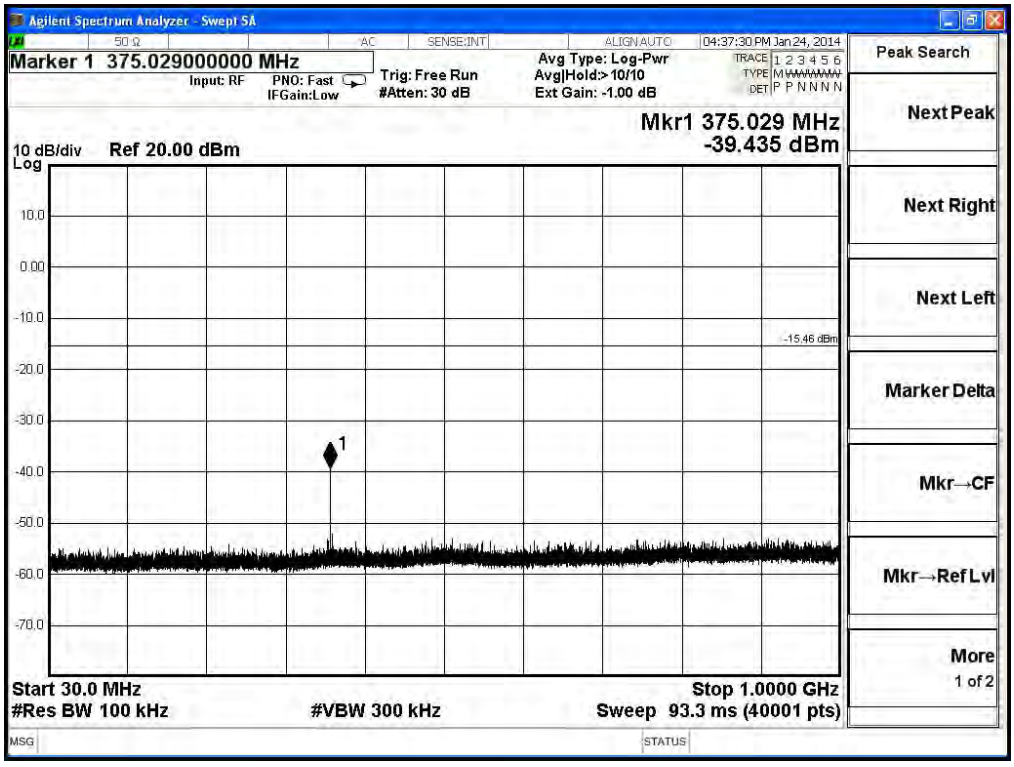
2462MHz (17GHz-21GHz) -802.11b



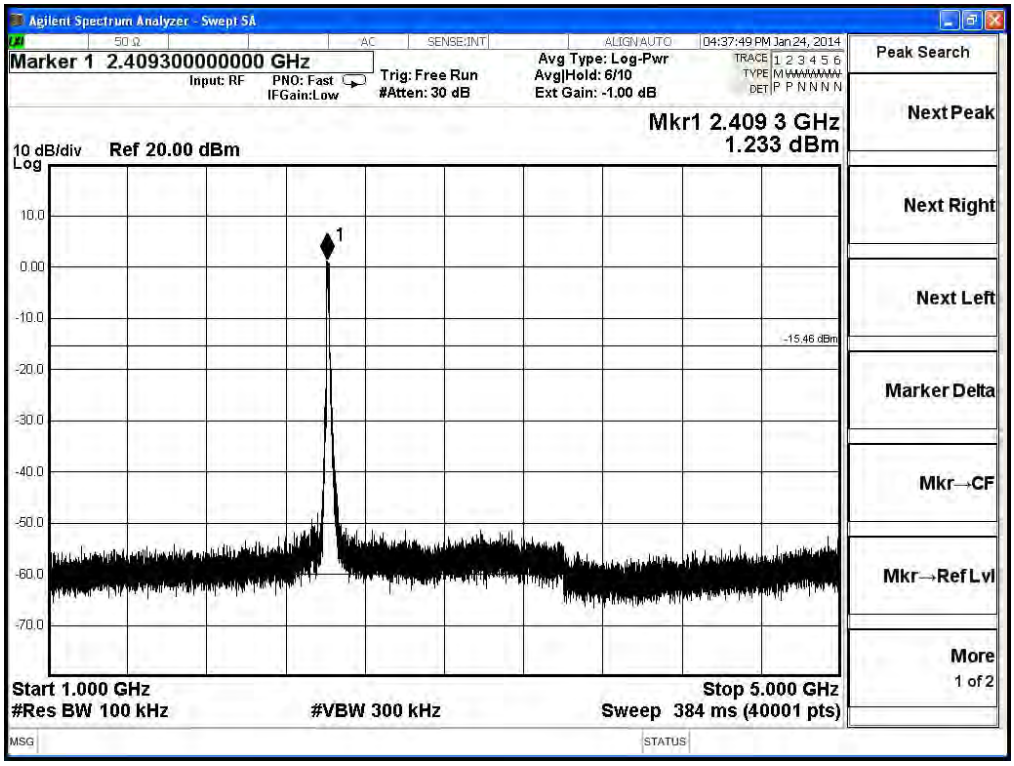
2462MHz (21GHz-25GHz)-802.11b



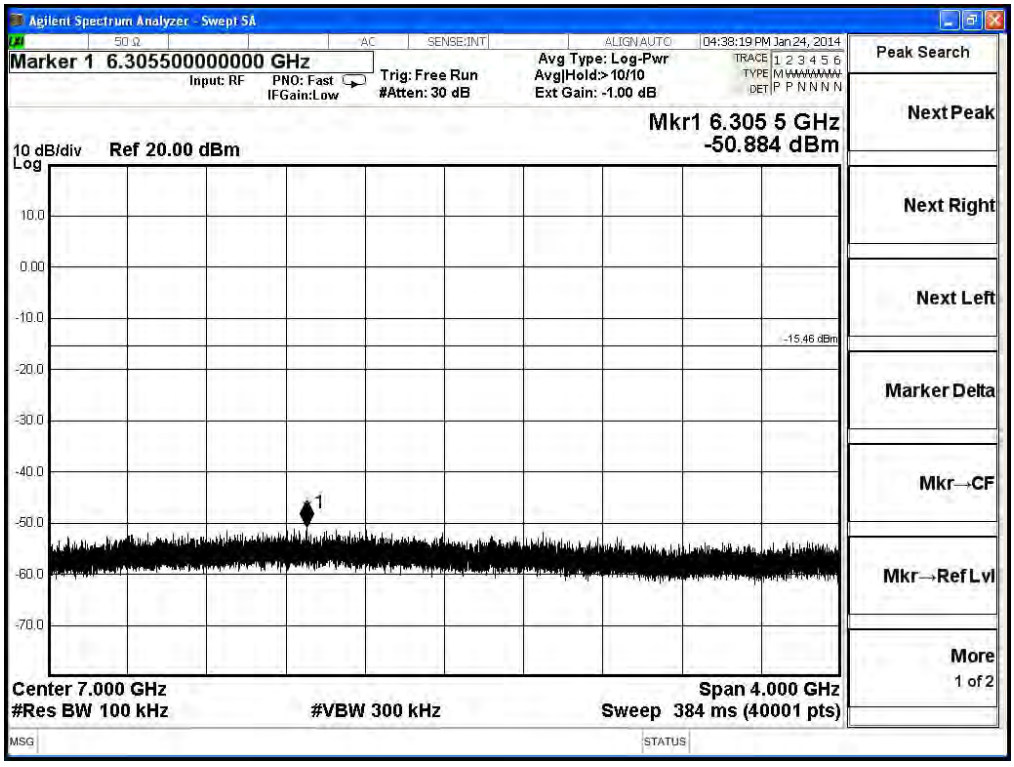
2412MHz (30MHz-1GHz) -802.11g



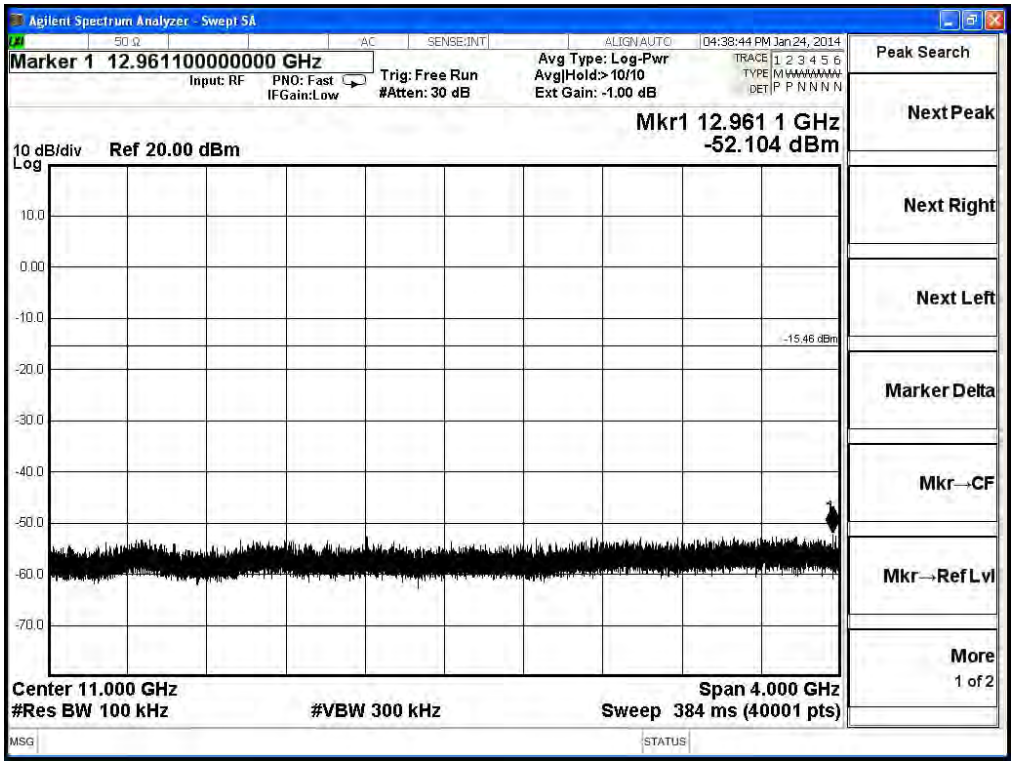
2412MHz (1GHz-5GHz)-802.11g



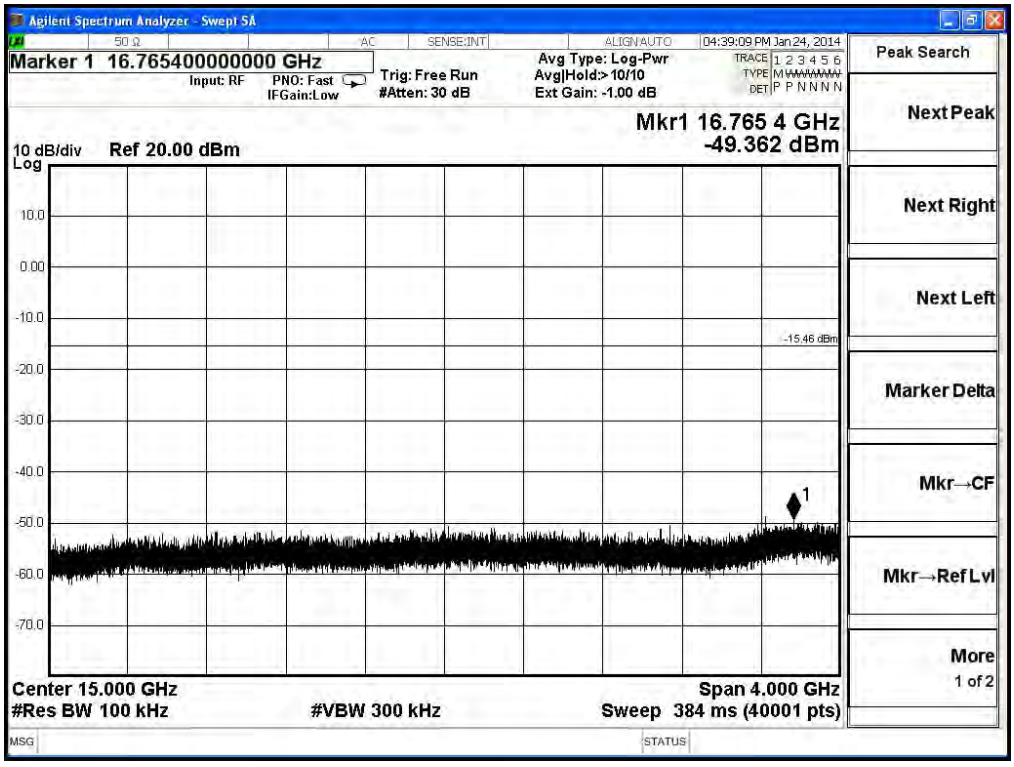
2412MHz (5GHz-9GHz) -802.11g



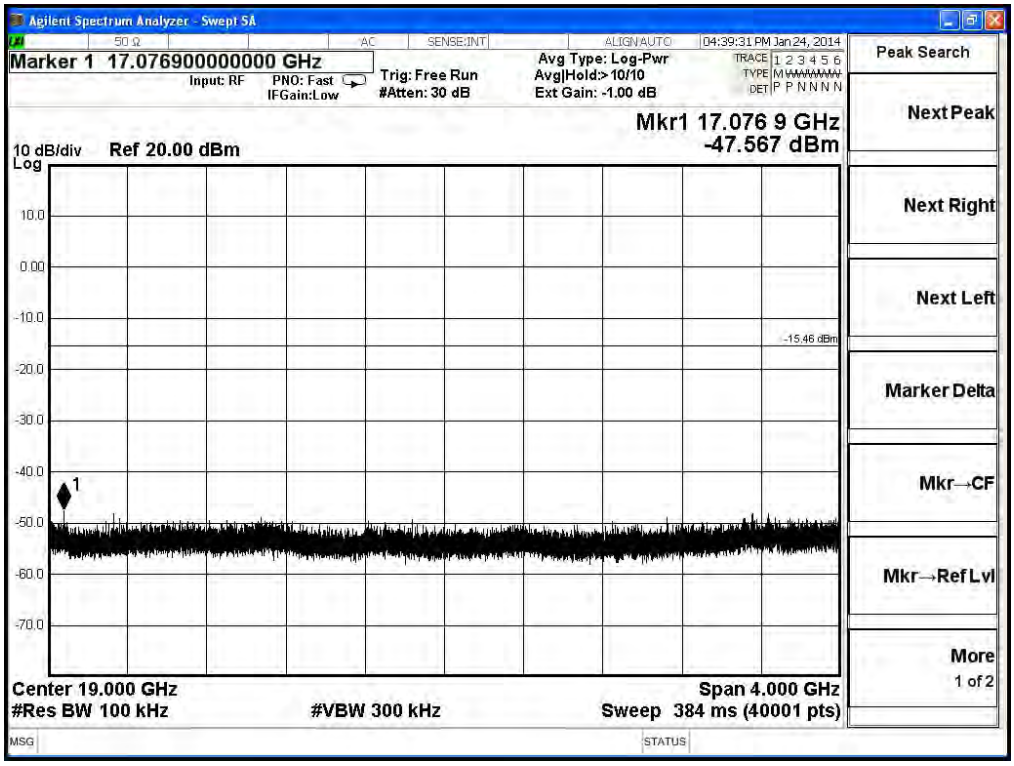
2412MHz (9GHz-13GHz)-802.11g



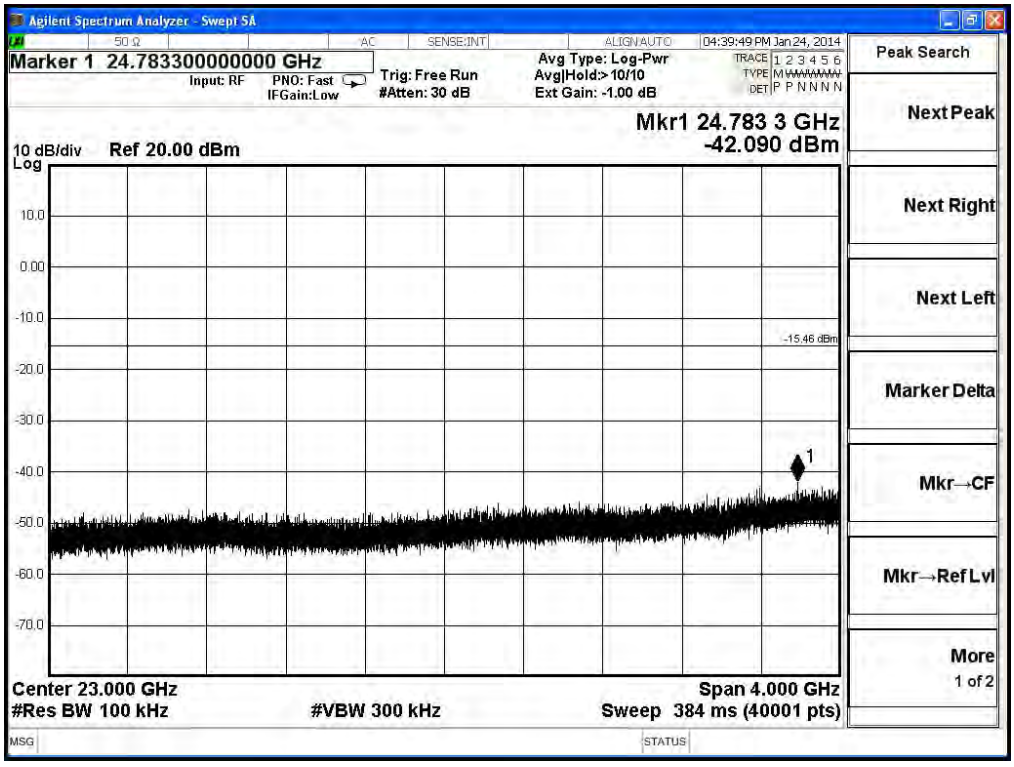
2412MHz (13GHz-17GHz) -802.11g



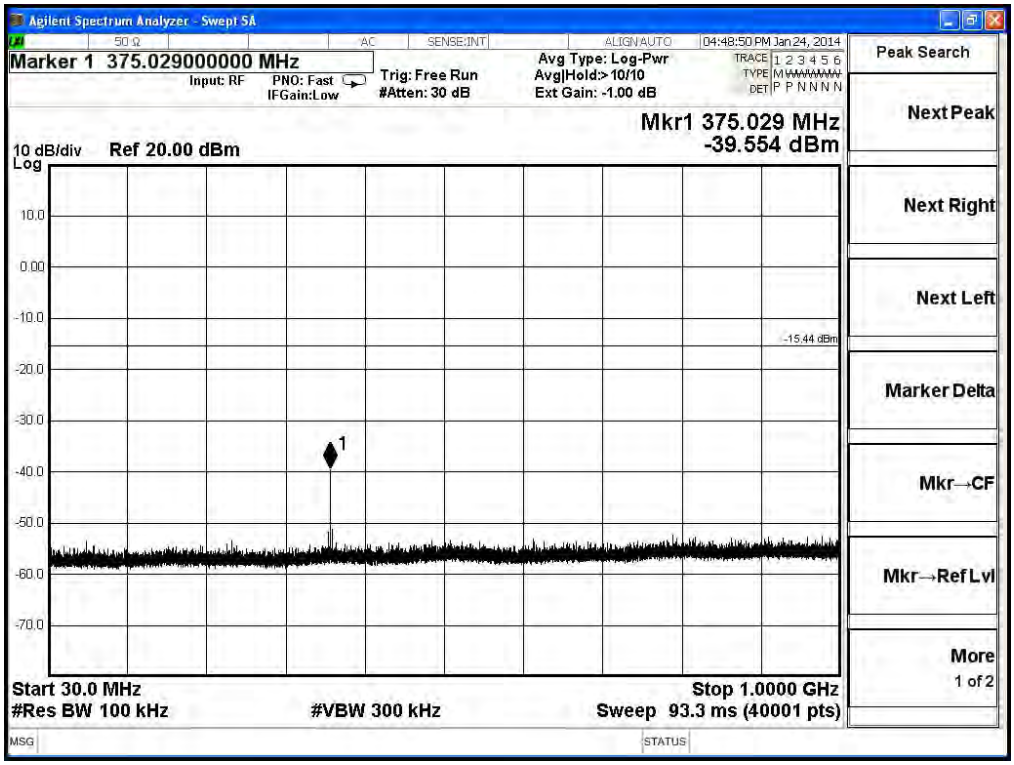
2412MHz (17GHz-21GHz)-802.11g



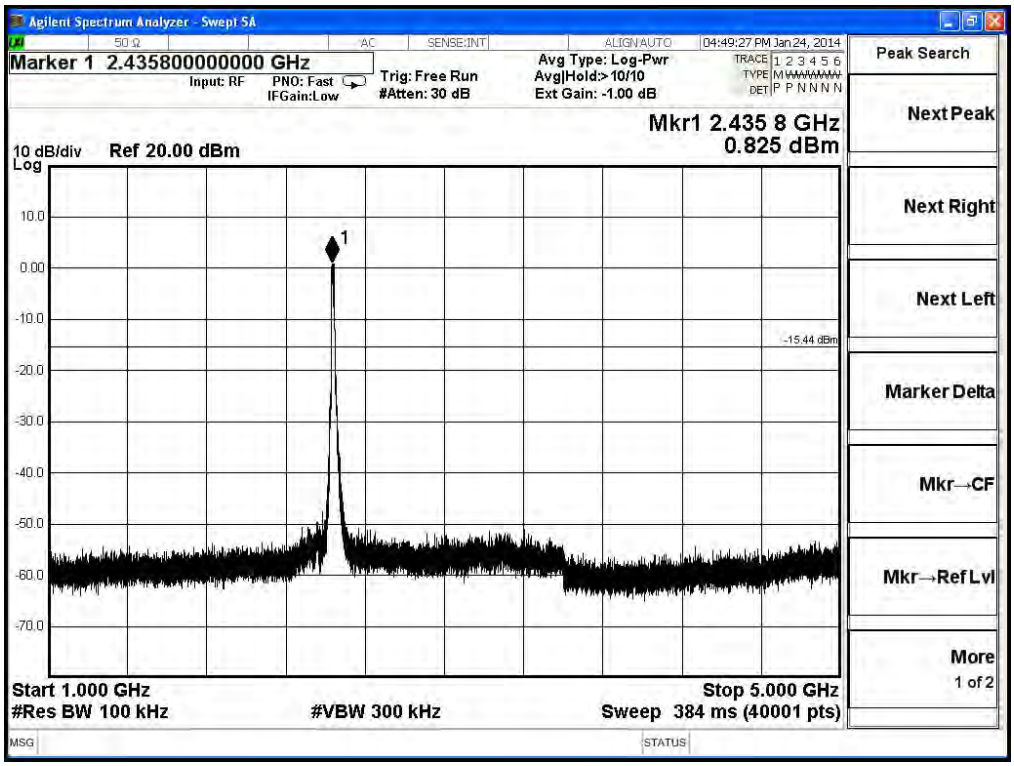
2412MHz (21GHz-25GHz) -802.11g



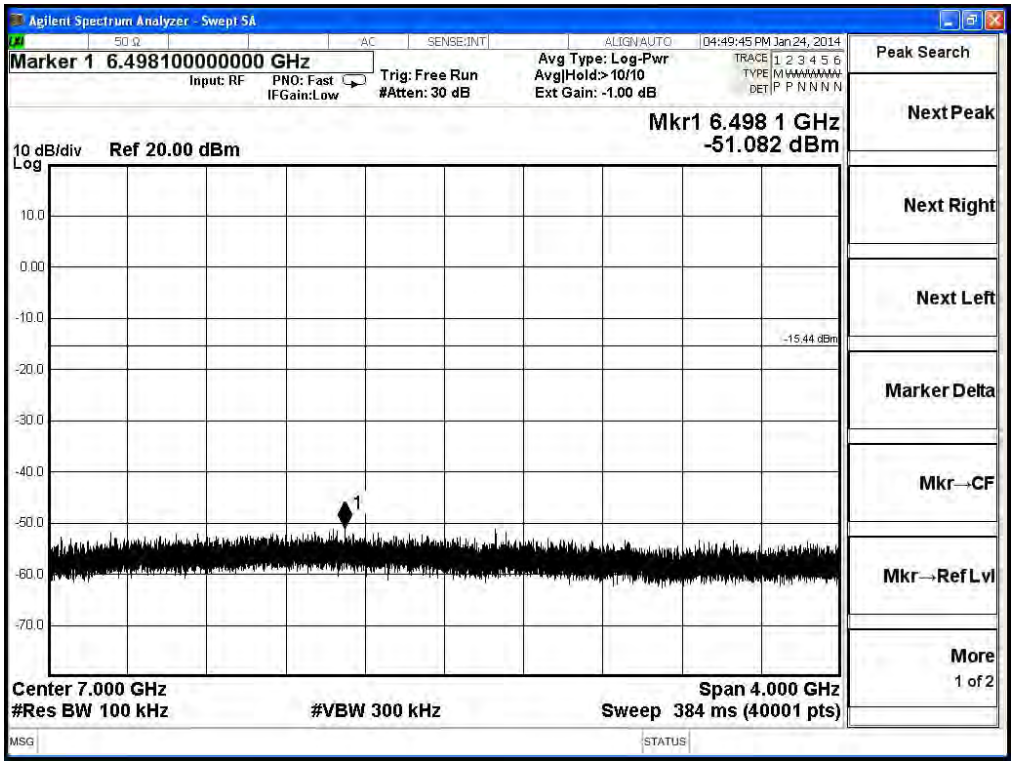
2437MHz (30MHz-1GHz)-802.11g



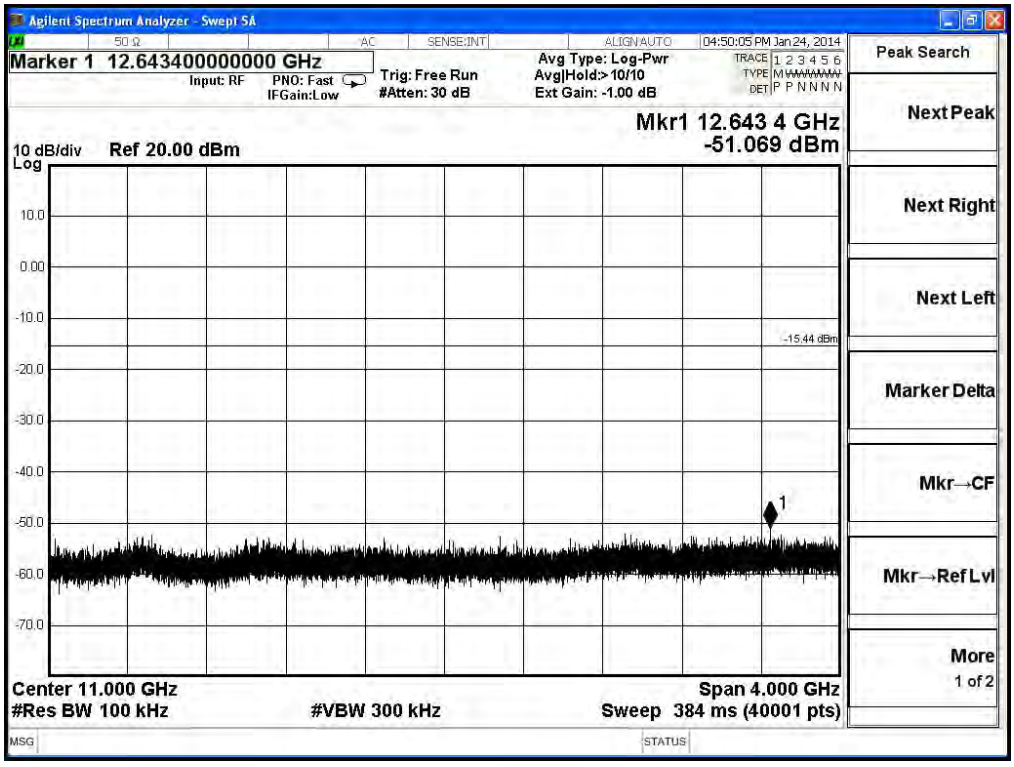
2437MHz (1GHz-5GHz) -802.11g



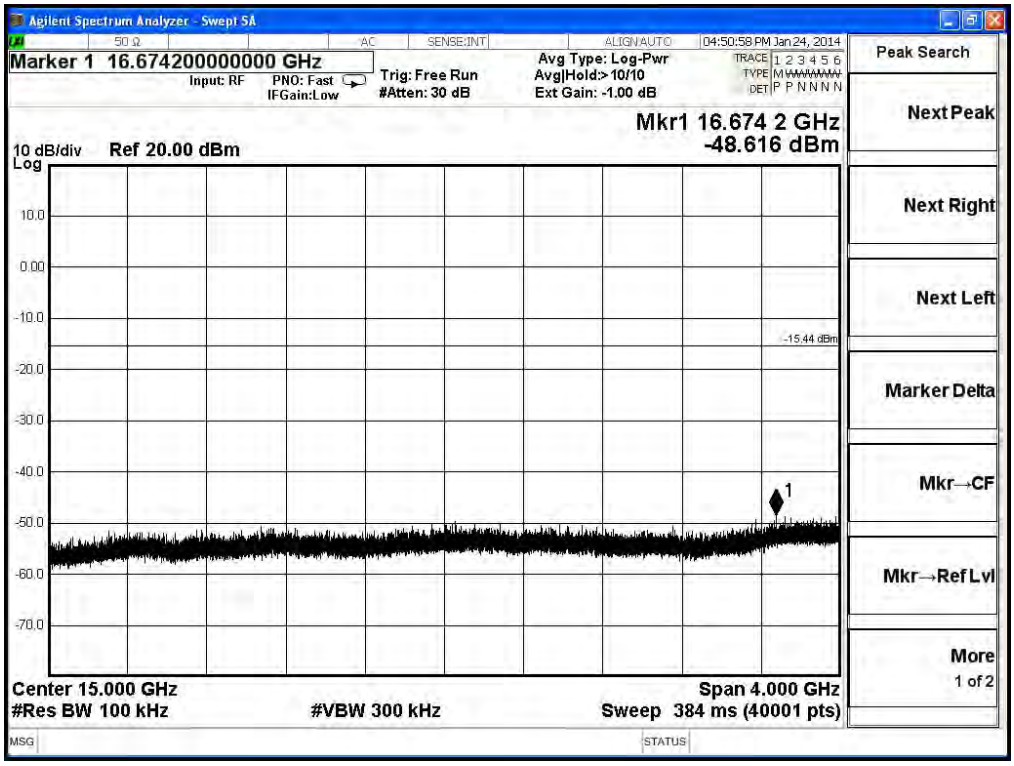
2437MHz (5GHz-9GHz)-802.11g



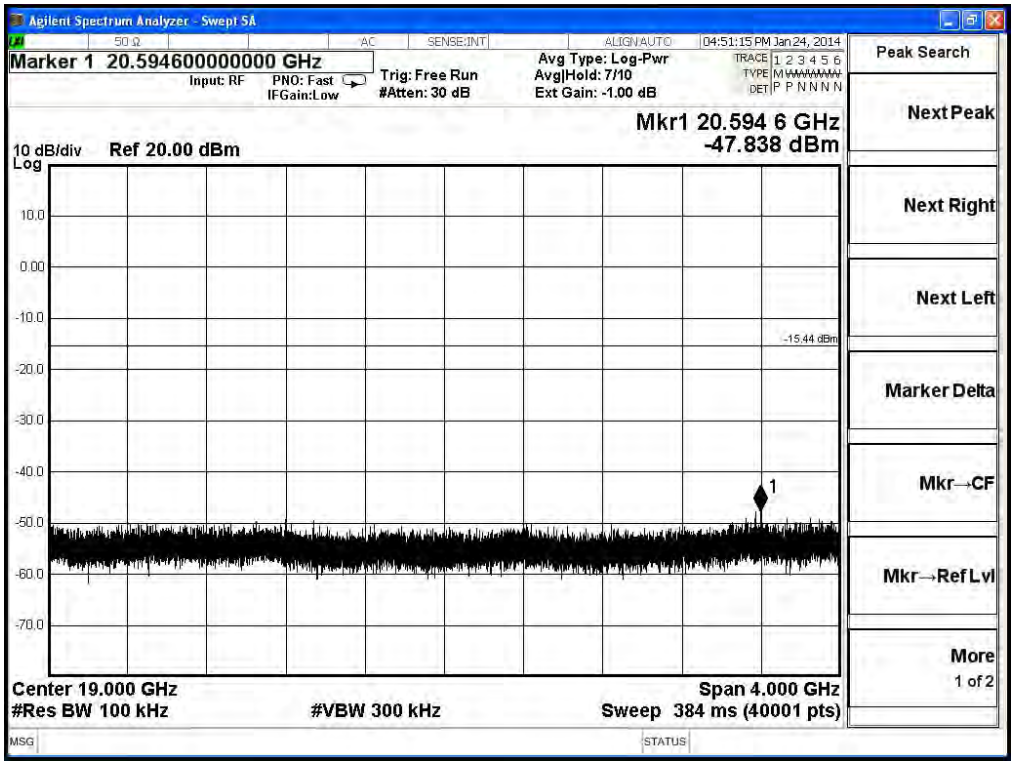
2437MHz (9GHz-13GHz) -802.11g



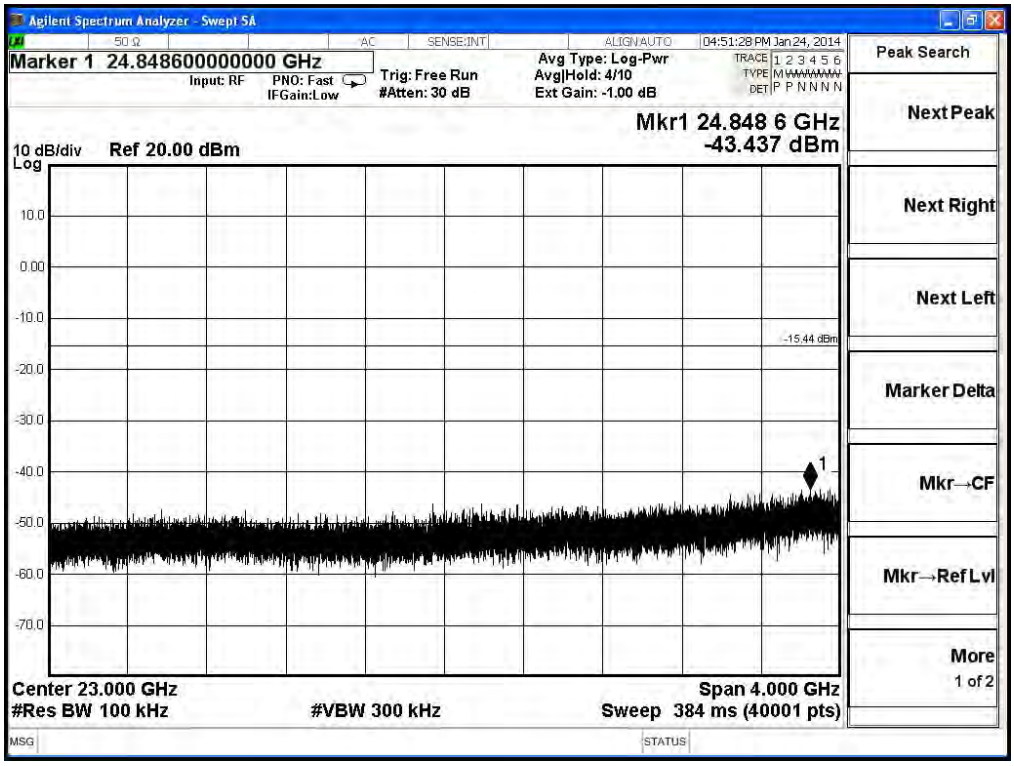
2437MHz (13GHz-17GHz)-802.11g



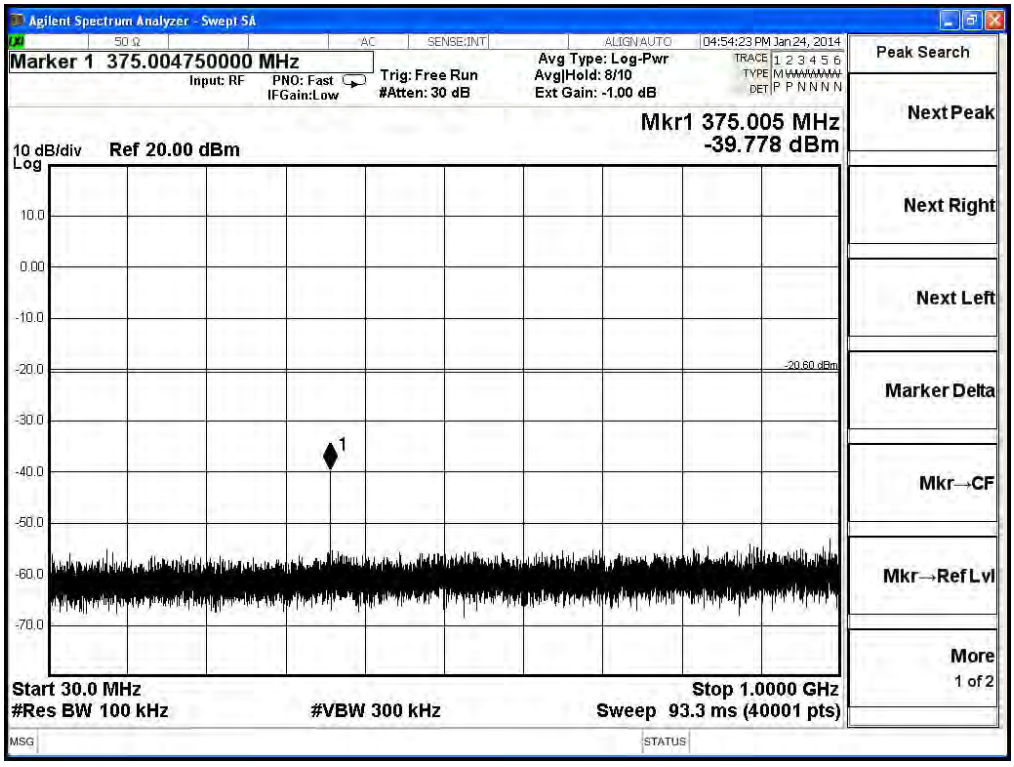
2437MHz (17GHz-21GHz) -802.11g



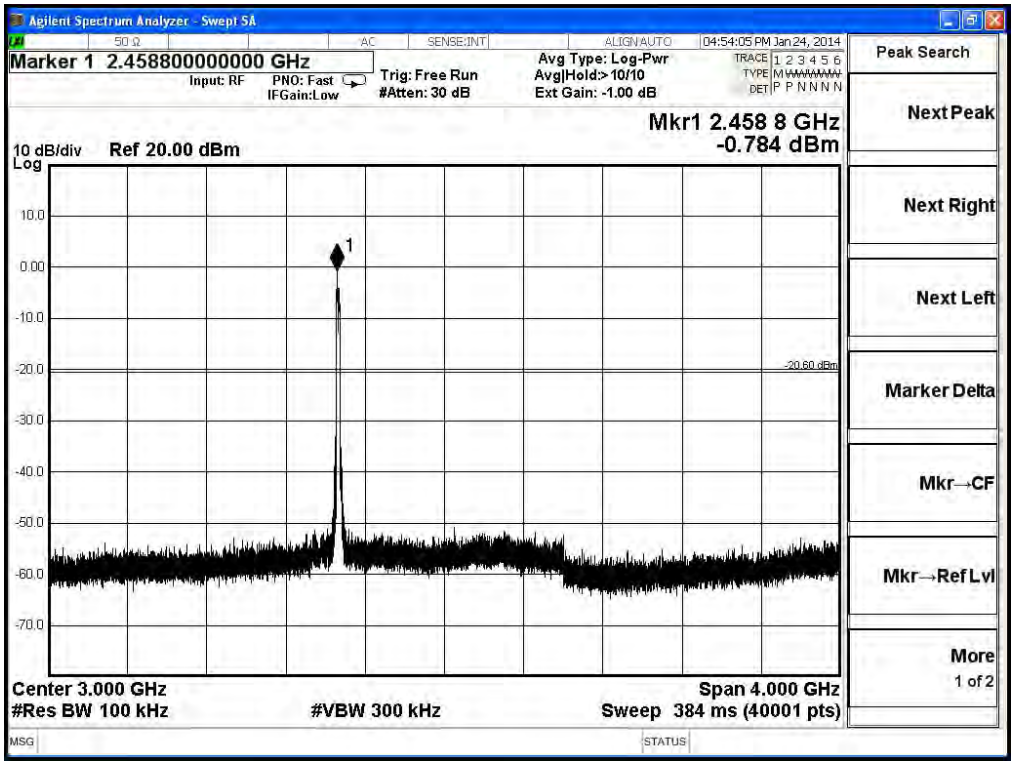
2437MHz (21GHz-25GHz)-802.11g



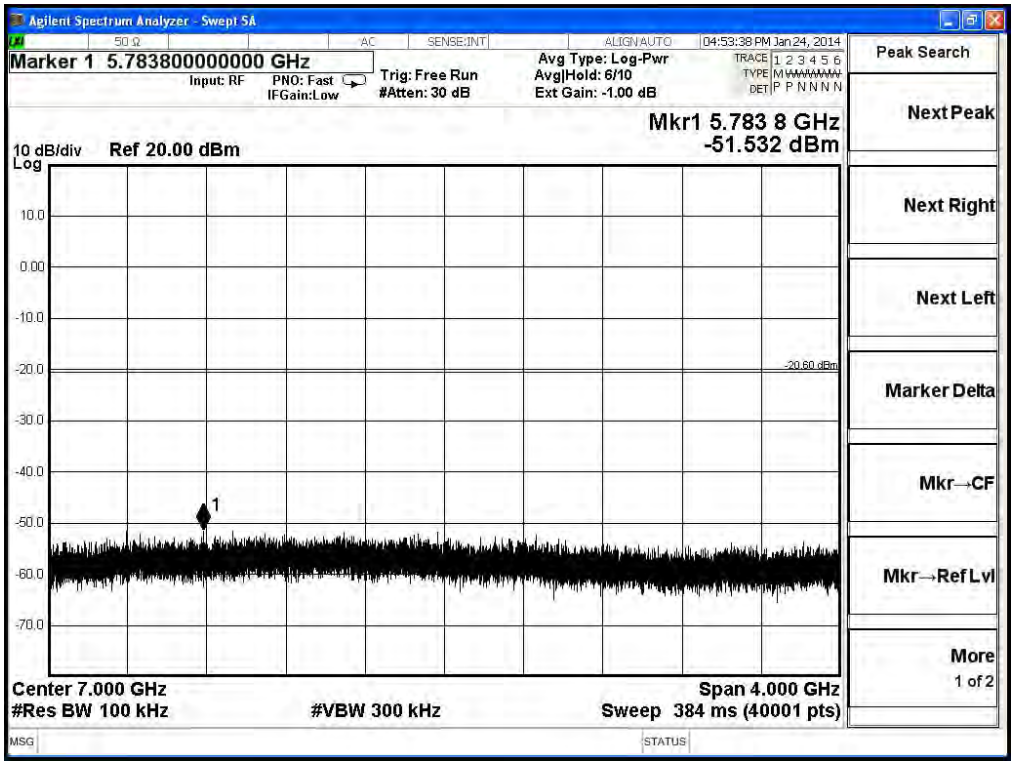
2462MHz (30MHz-1GHz) -802.11g



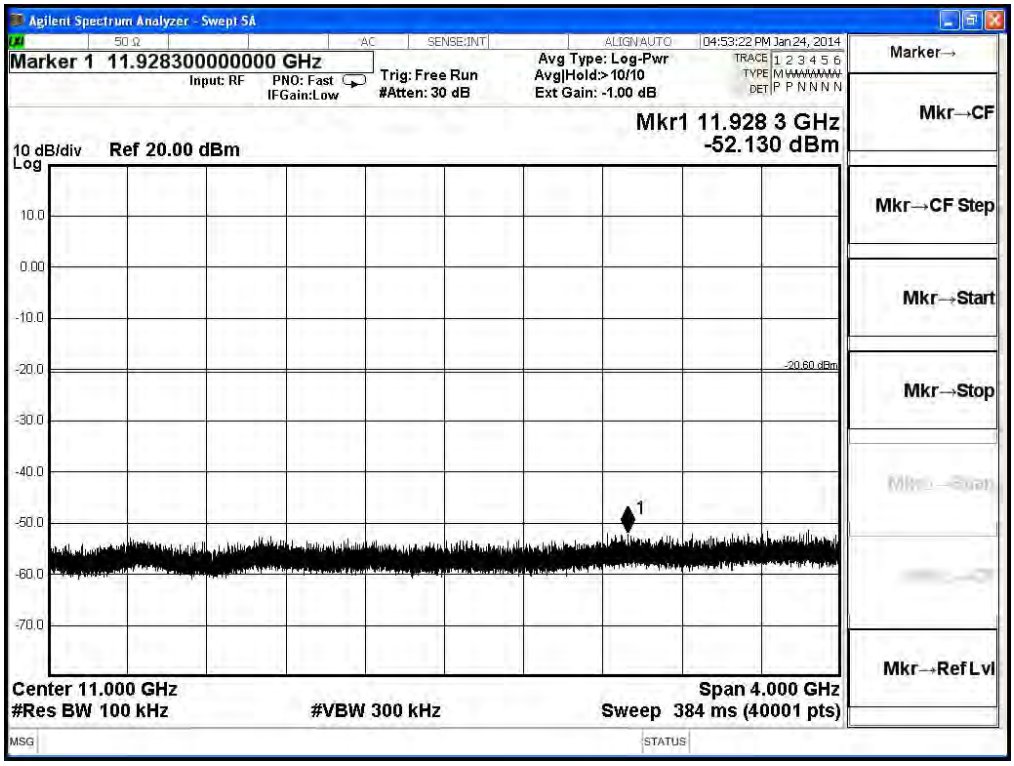
2462MHz (1GHz-5GHz)-802.11g



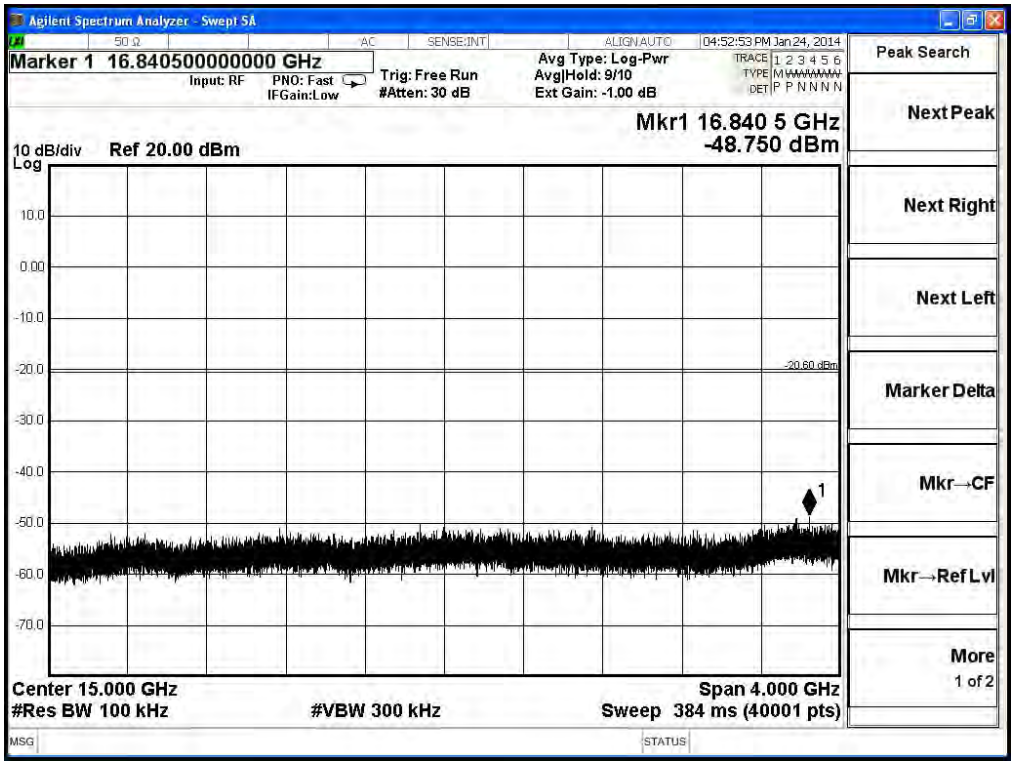
2462MHz (5GHz-9GHz) -802.11g



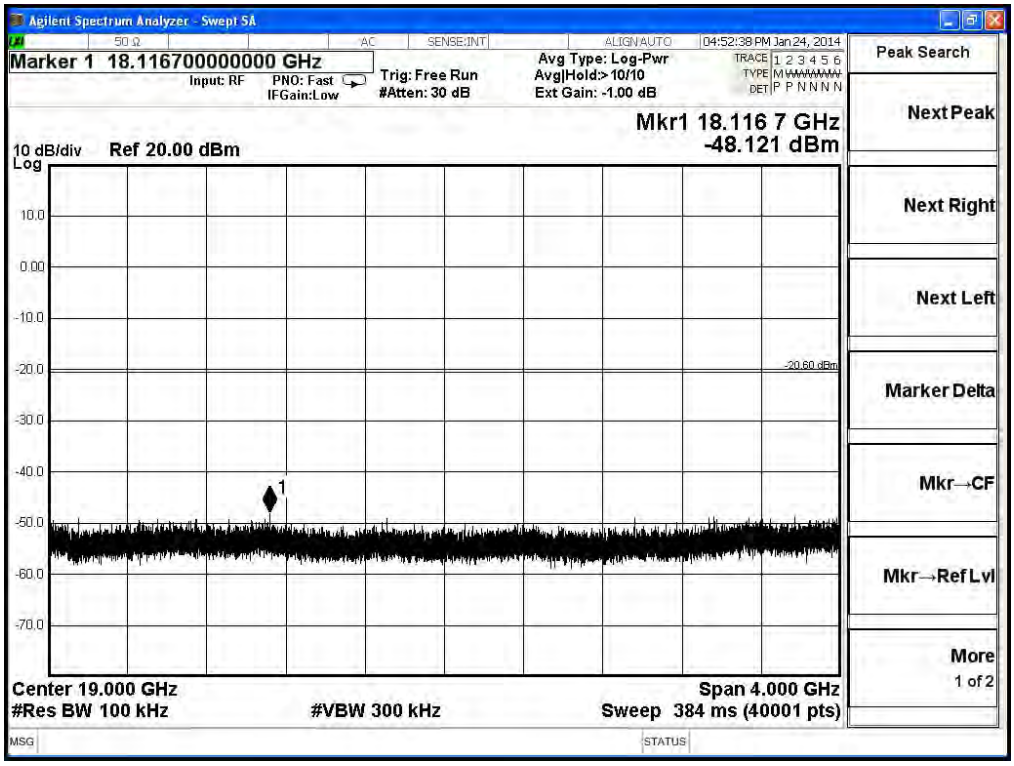
2462MHz (9GHz-13GHz)-802.11g



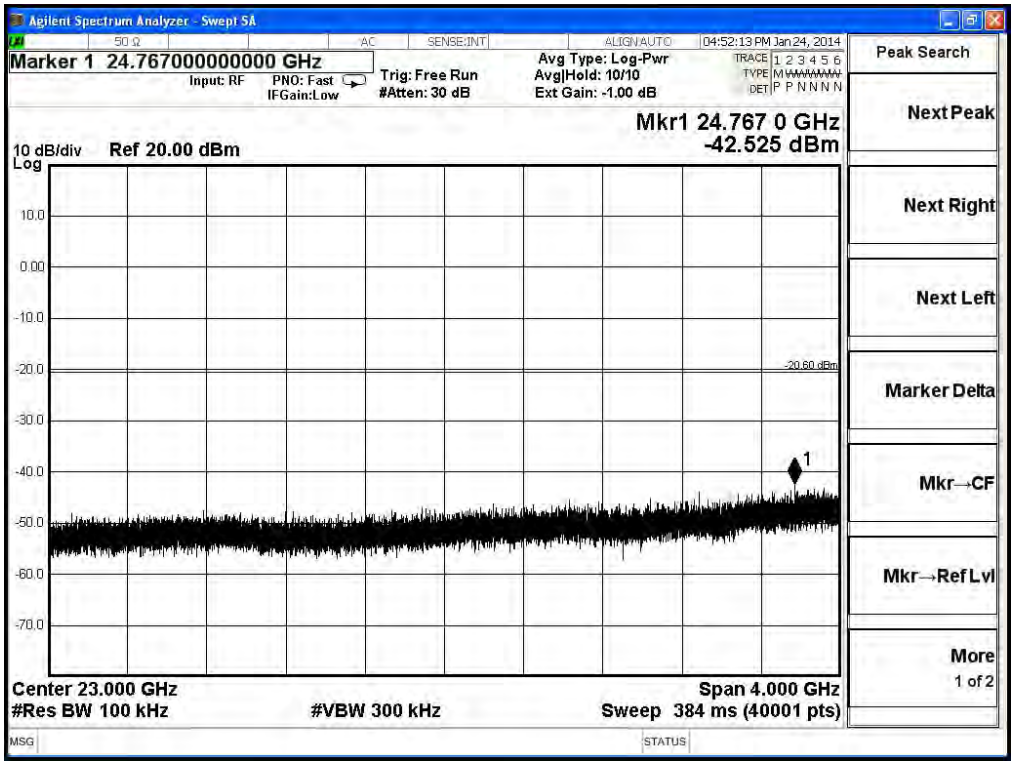
2462MHz (13GHz-17GHz) -802.11g



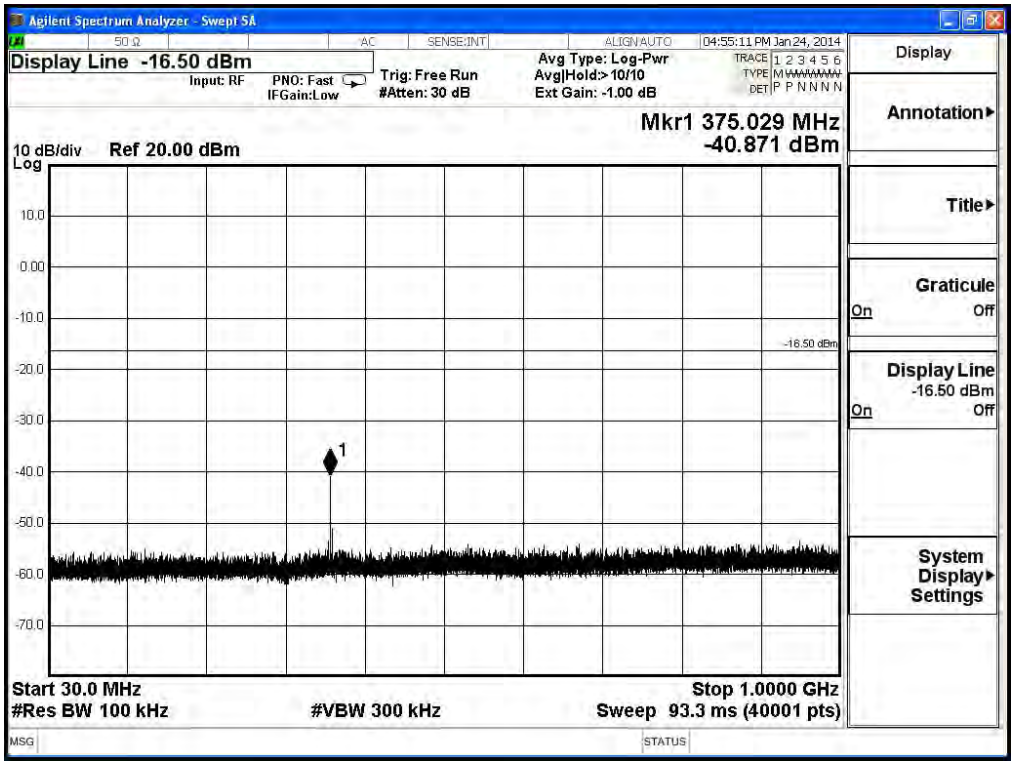
2462MHz (17GHz-21GHz)-802.11g



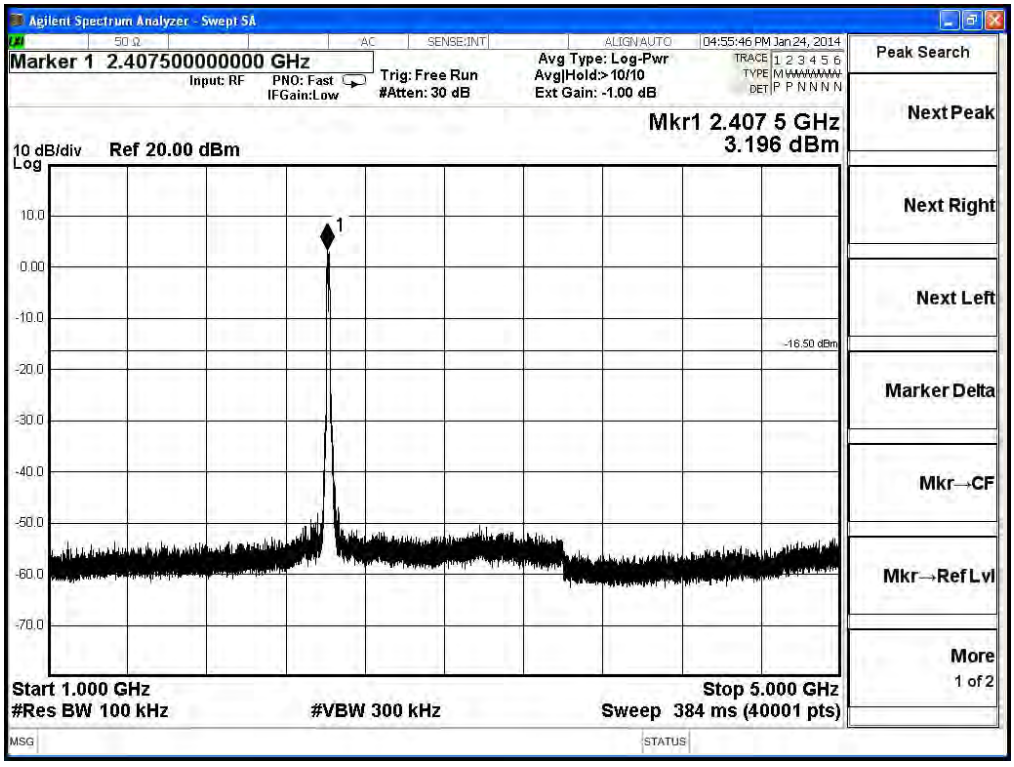
2462MHz (21GHz-25GHz) -802.11g



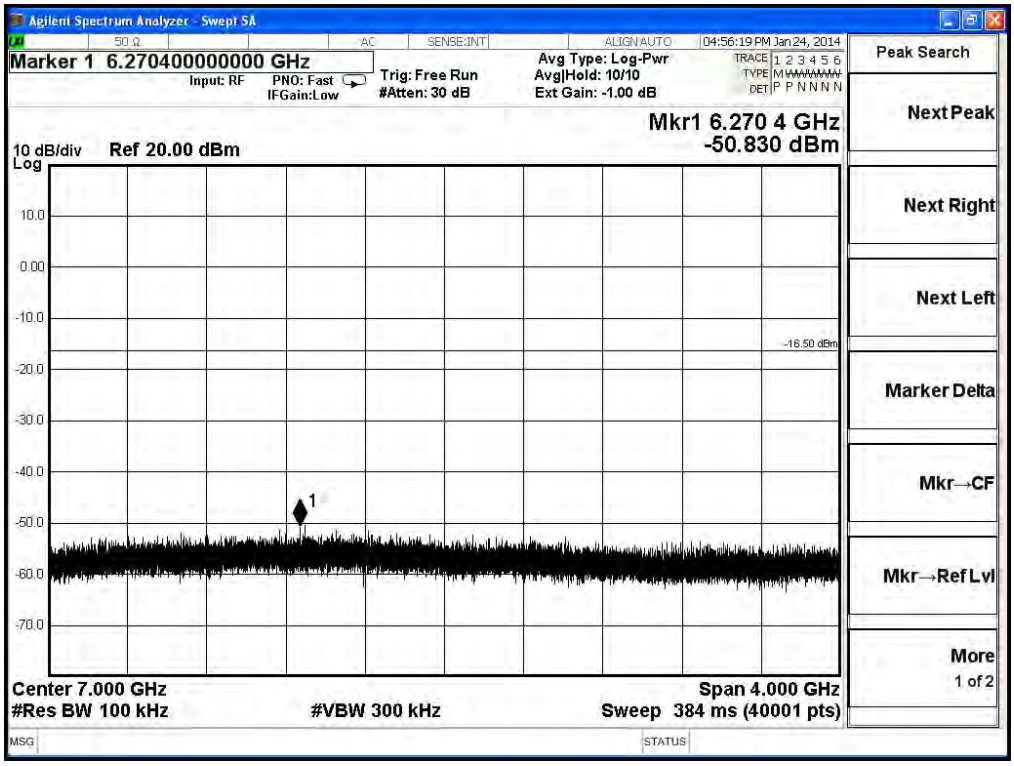
2412MHz (30MHz-1GHz)-802.11n(20MHz) (Ant 0)



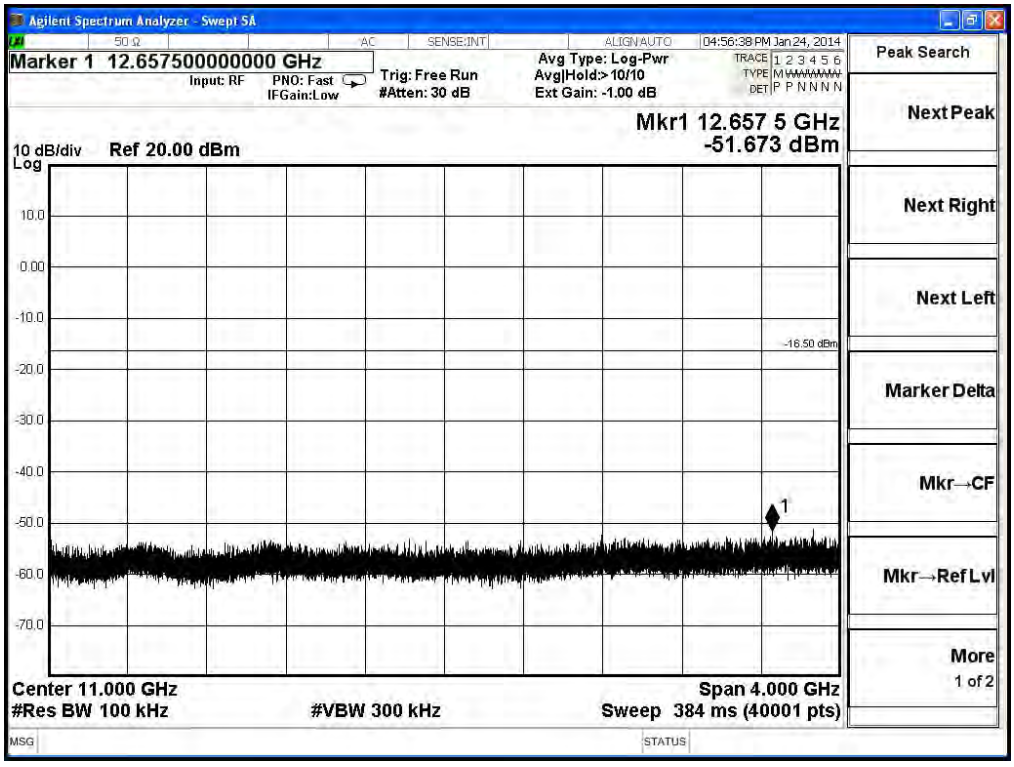
2412MHz (1GHz-5GHz) -802.11n(20MHz) (Ant 0)



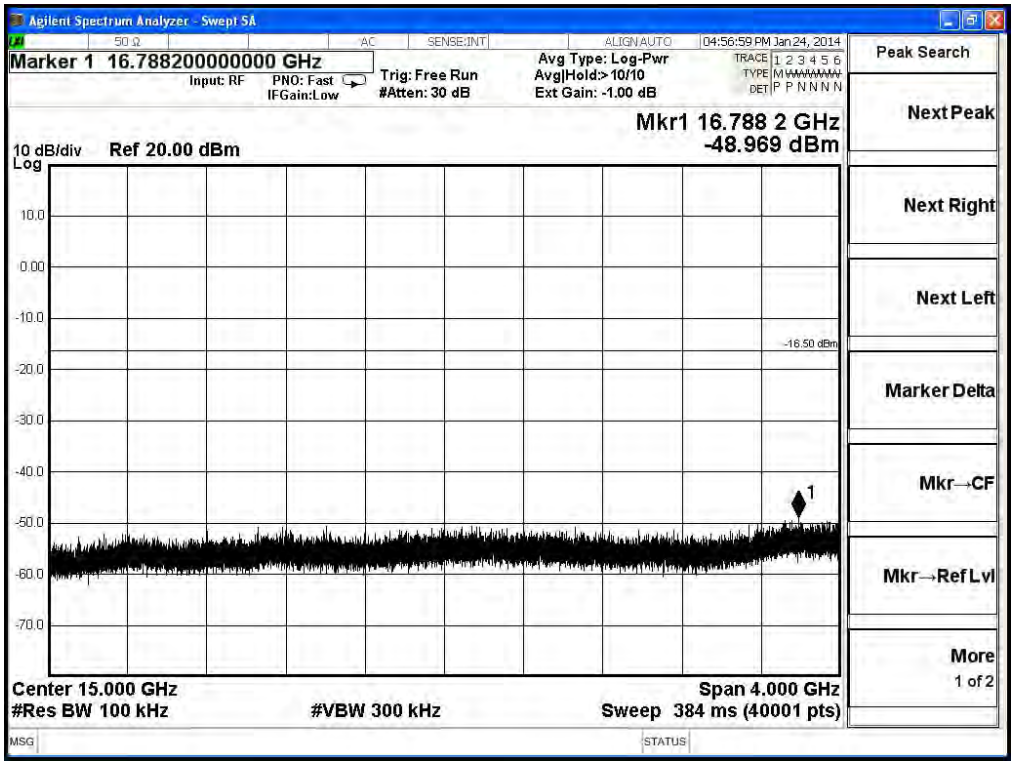
2412MHz (5GHz-9GHz)-802.11n(20MHz) (Ant 0)



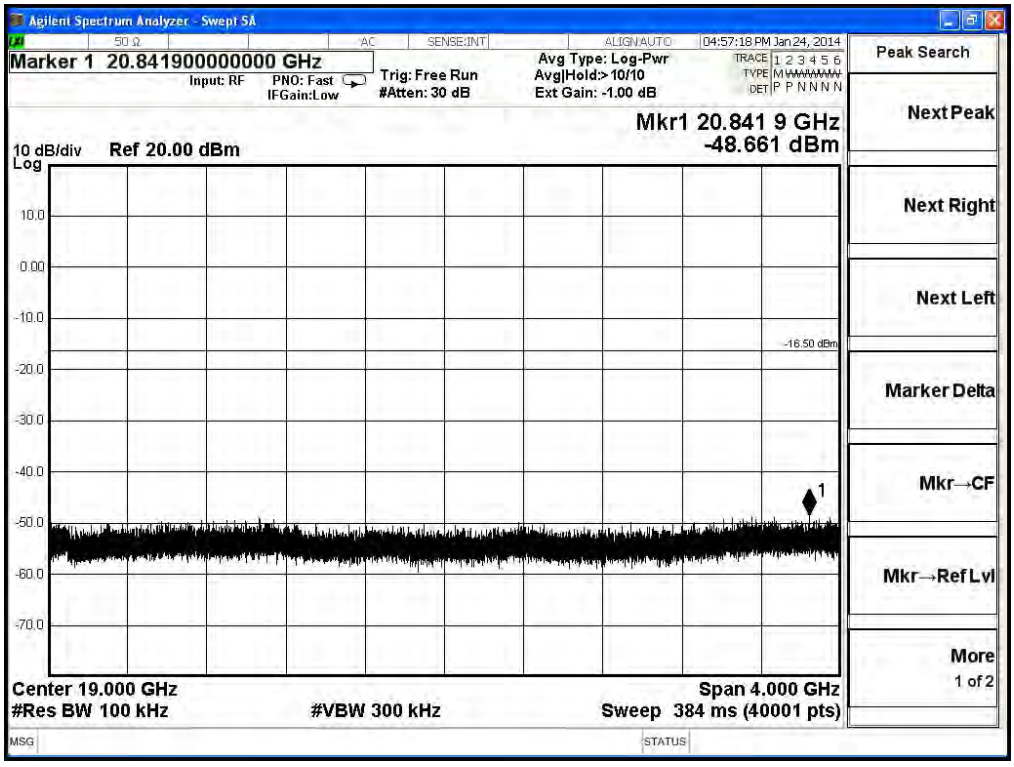
2412MHz (9GHz-13GHz) -802.11n(20MHz) (Ant 0)



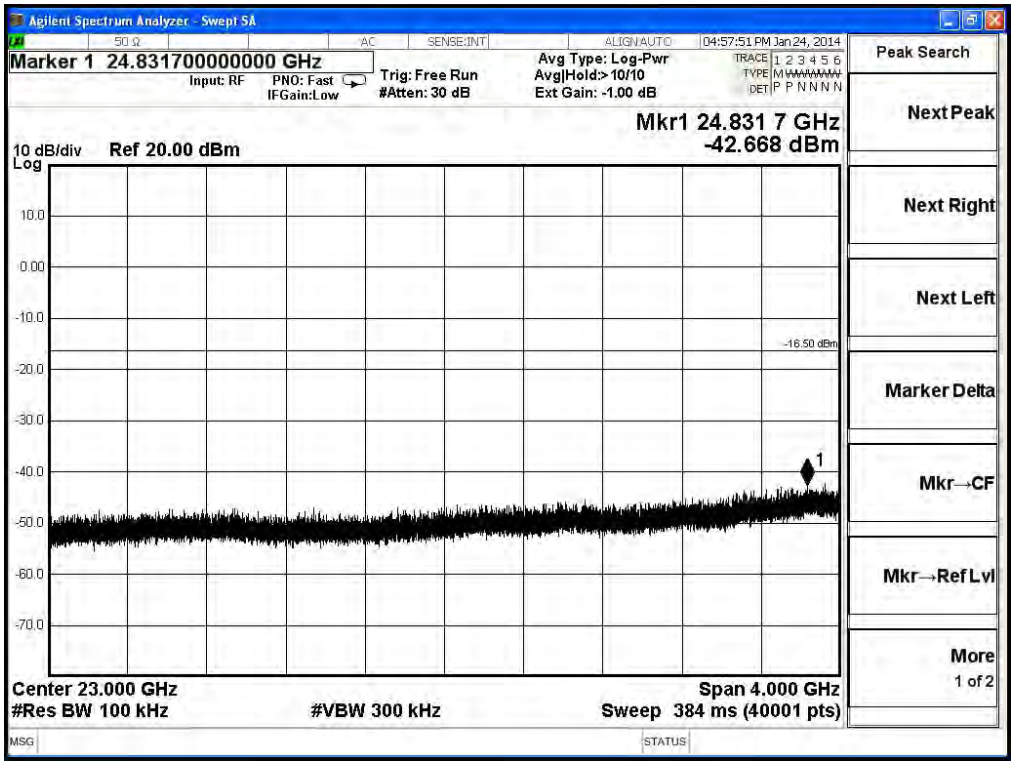
2412MHz (13GHz-17GHz)-802.11n(20MHz) (Ant 0)



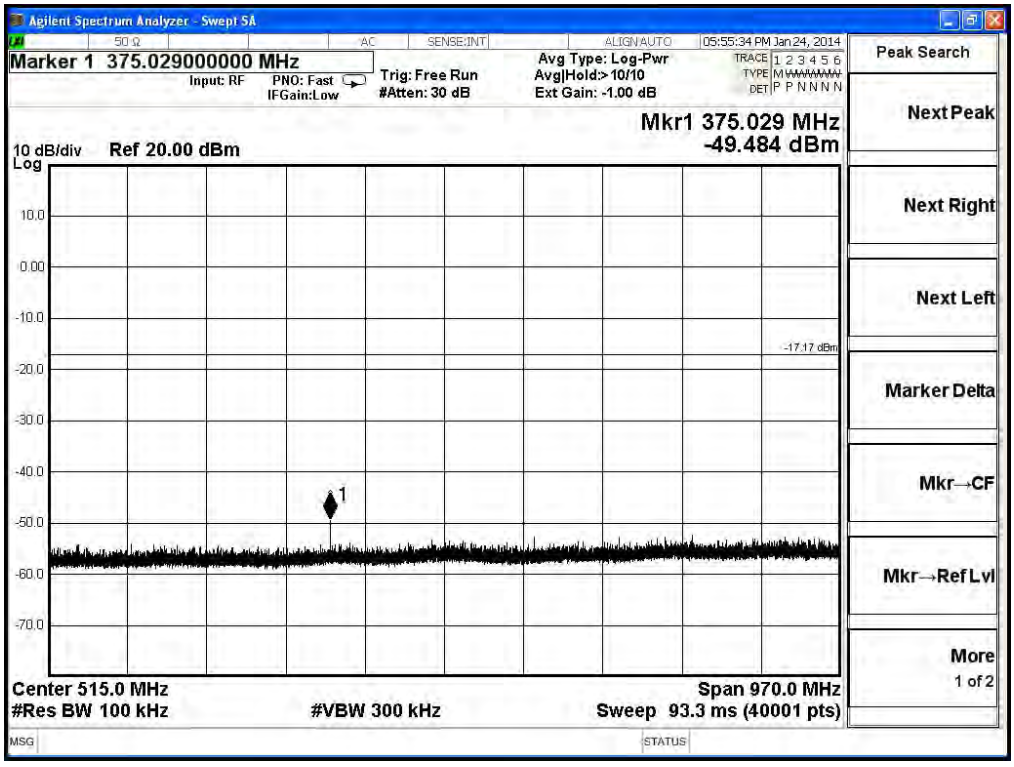
2412MHz (17GHz-21GHz) -802.11n(20MHz) (Ant 0)



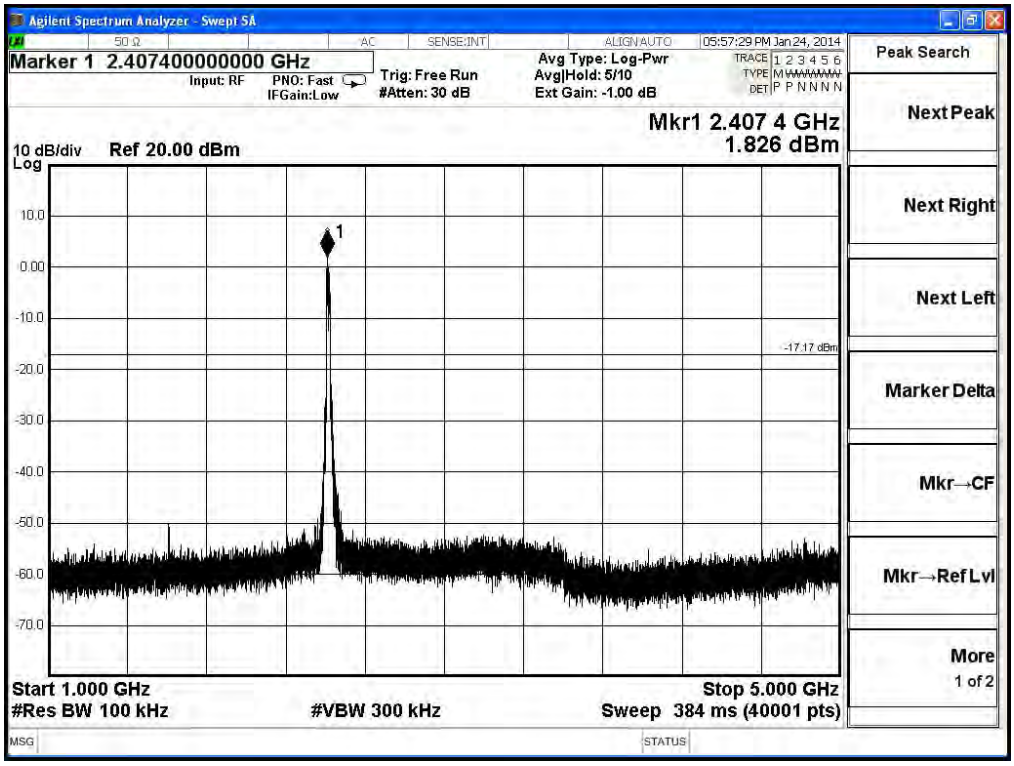
2412MHz (21GHz-25GHz)-802.11n(20MHz) (Ant 0)



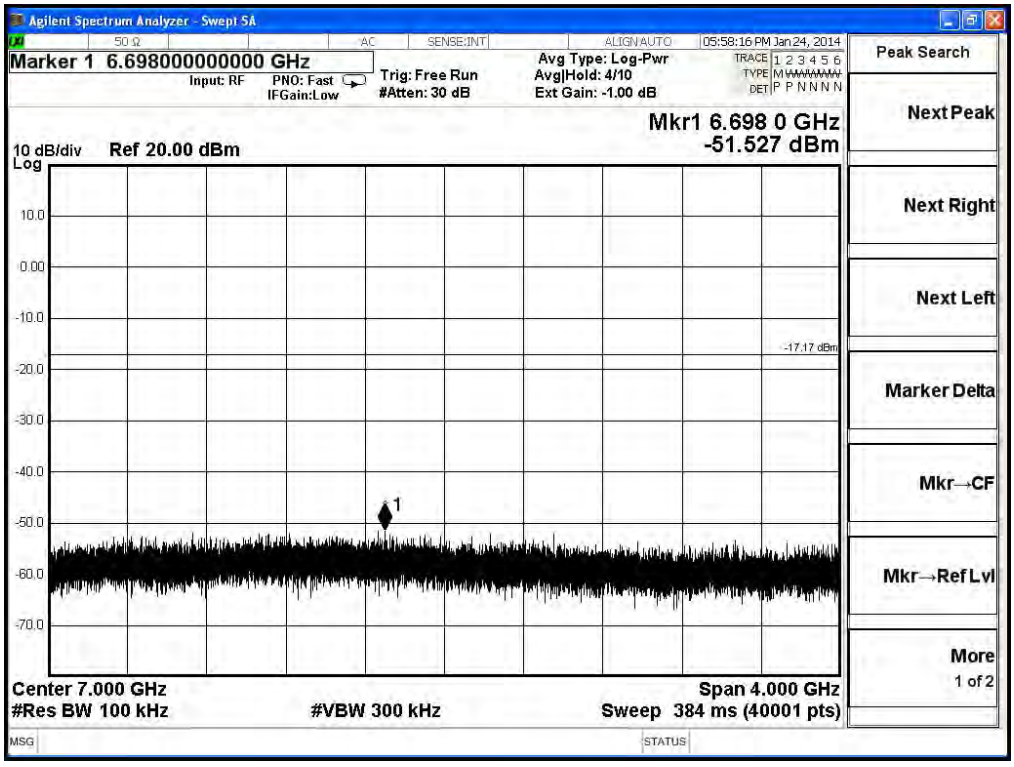
2412MHz (30MHz-1GHz)-802.11n(20MHz) (Ant 1)



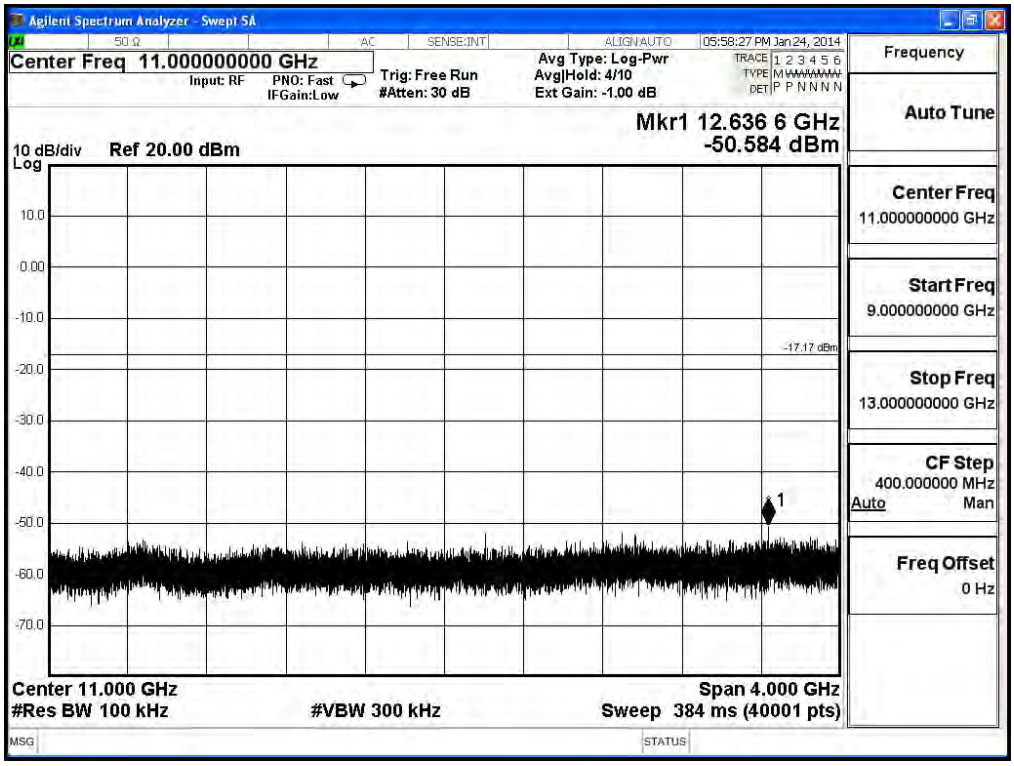
2412MHz (1GHz-5GHz) -802.11n(20MHz) (Ant 1)



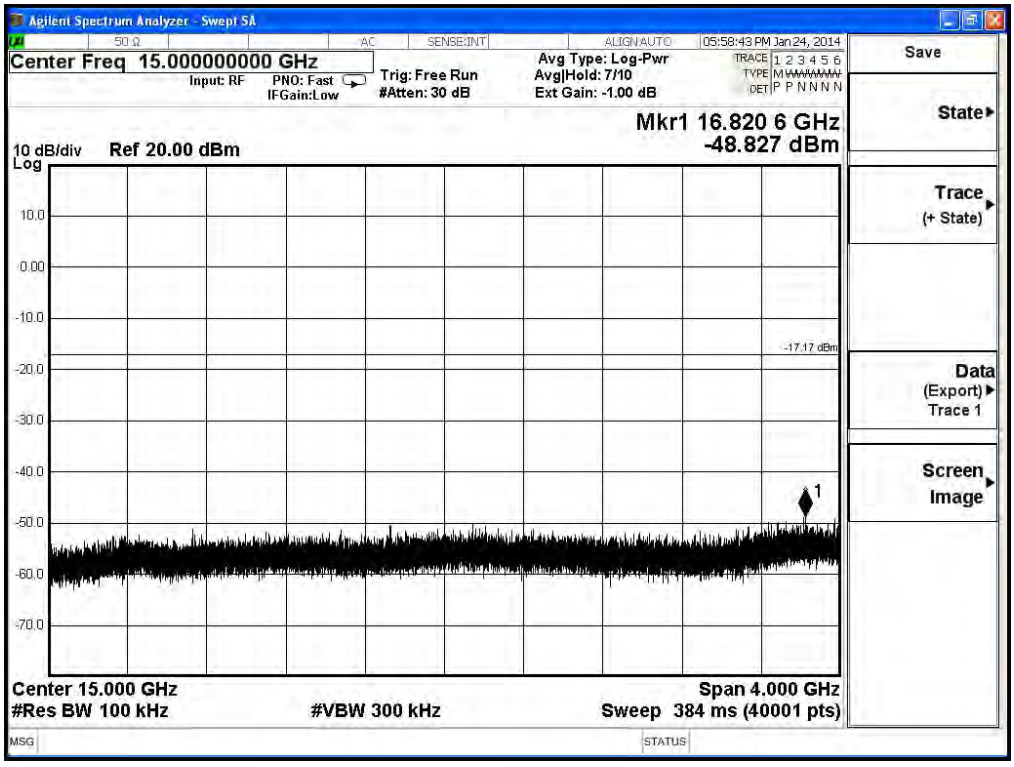
2412MHz (5GHz-9GHz)-802.11n(20MHz) (Ant 1)



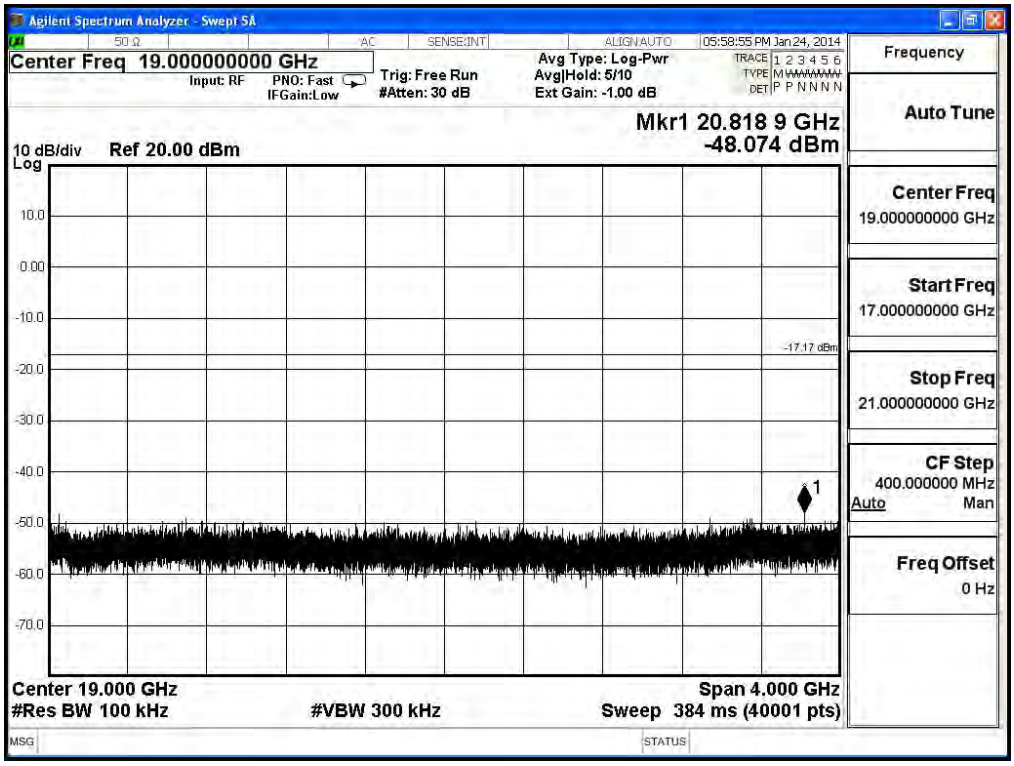
2412MHz (9GHz-13GHz) -802.11n(20MHz) (Ant 1)



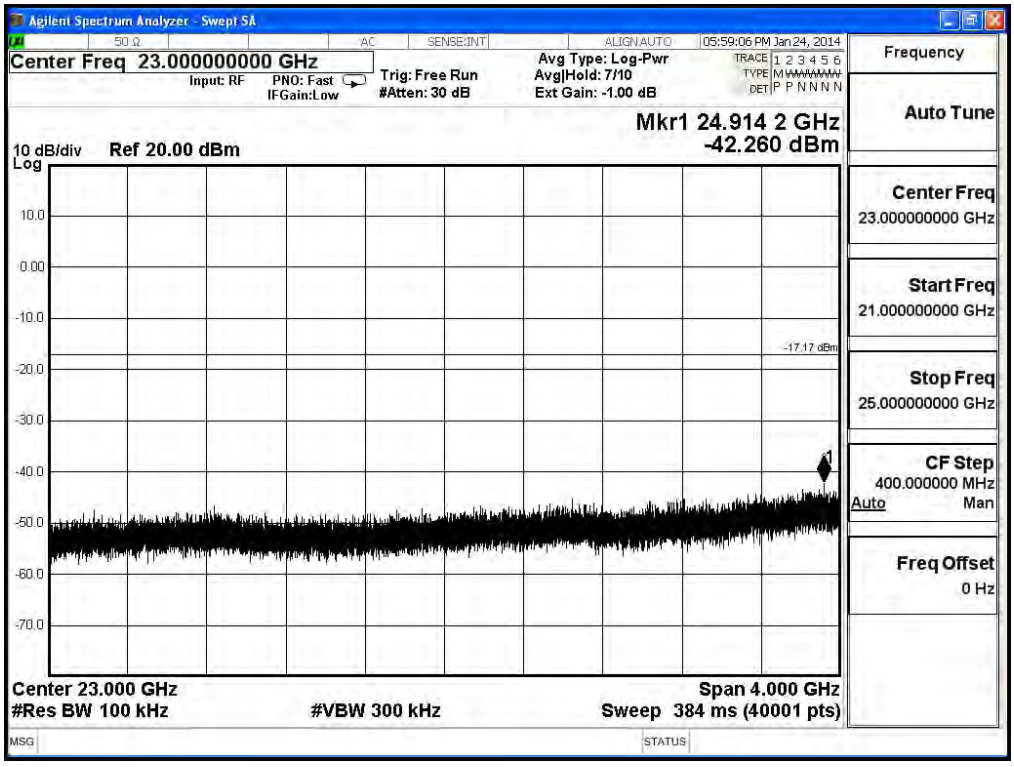
2412MHz (13GHz-17GHz)-802.11n(20MHz) (Ant 1)



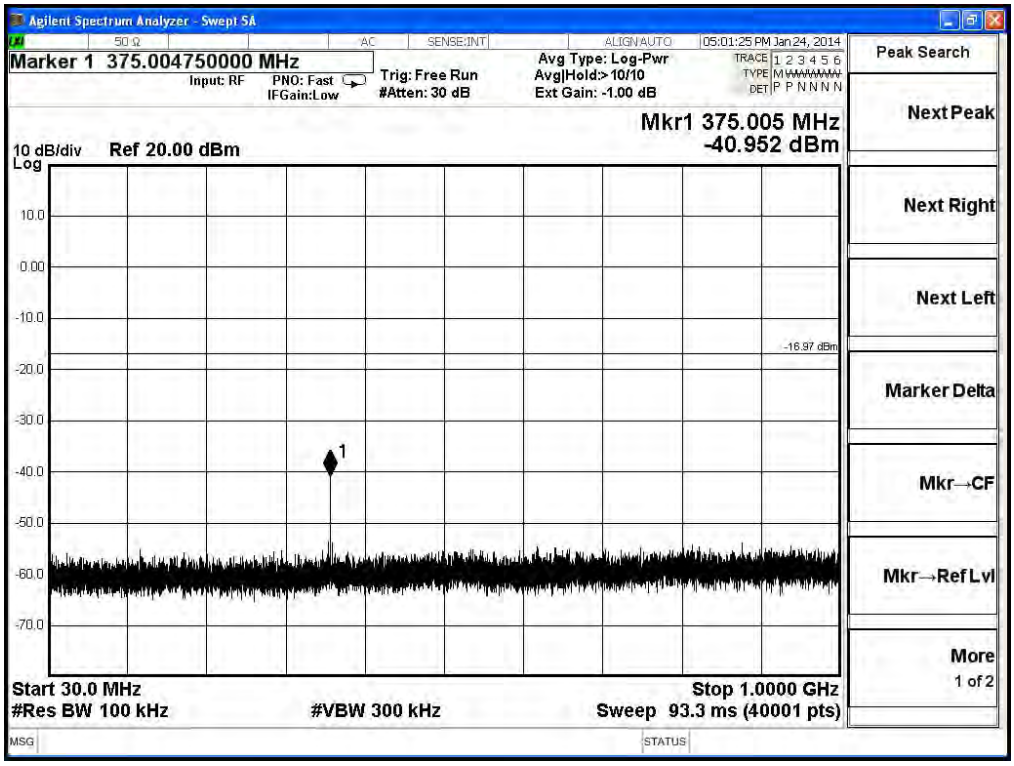
2412MHz (17GHz-21GHz) -802.11n(20MHz) (Ant 1)



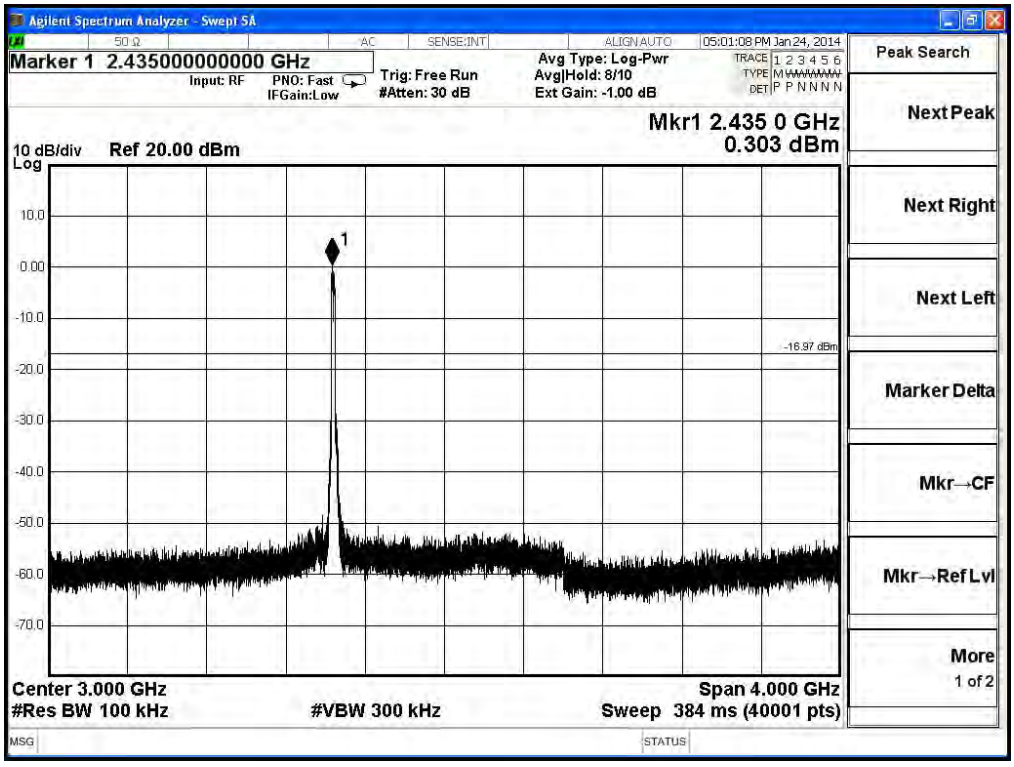
2412MHz (21GHz-25GHz)-802.11n(20MHz) (Ant 1)



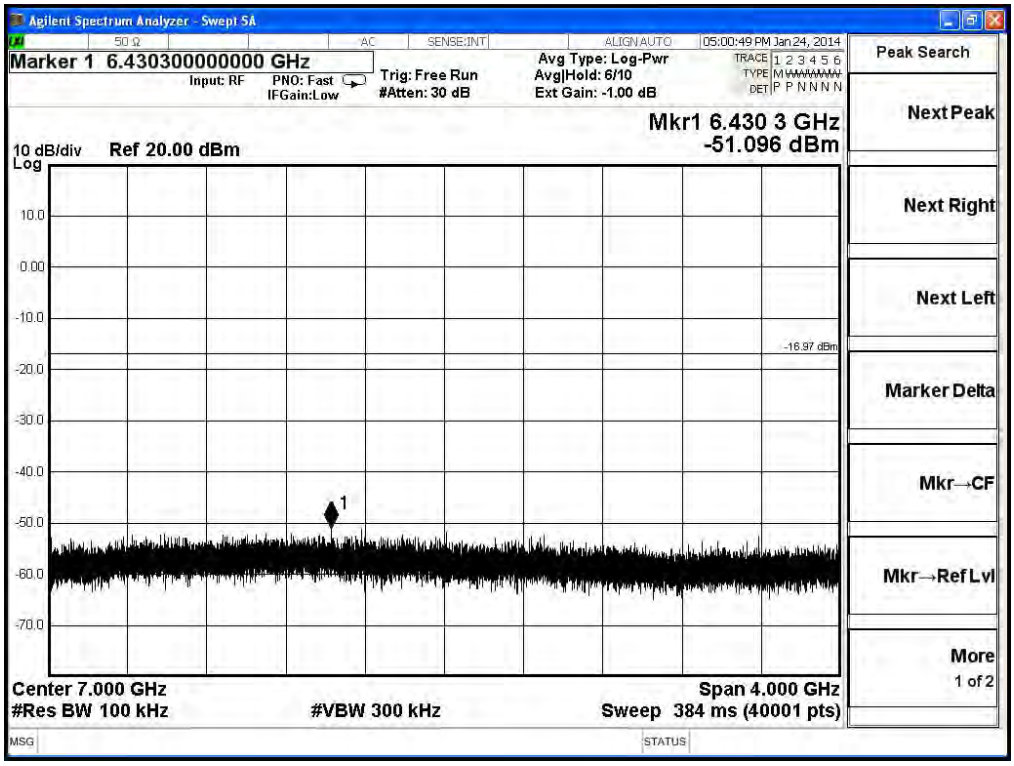
2437MHz (30MHz-1GHz) -802.11n(20MHz) (Ant 0)



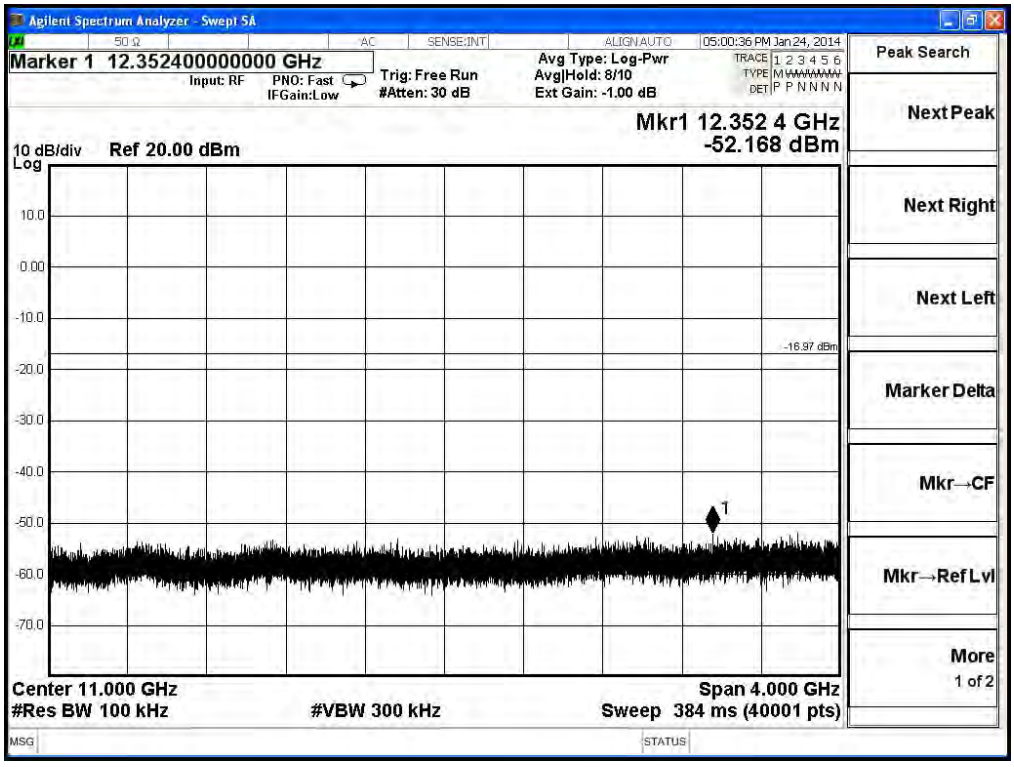
2437MHz (1GHz-5GHz) -802.11n(20MHz) (Ant 0)



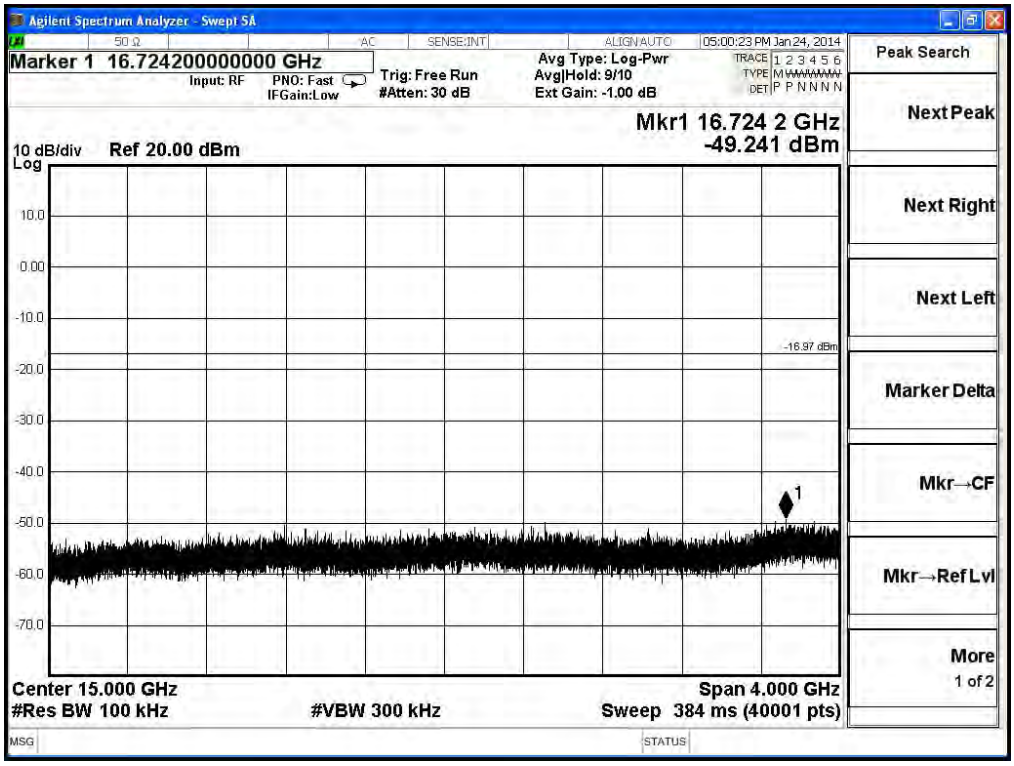
2437MHz (5GHz-9GHz) -802.11n(20MHz) (Ant 0)



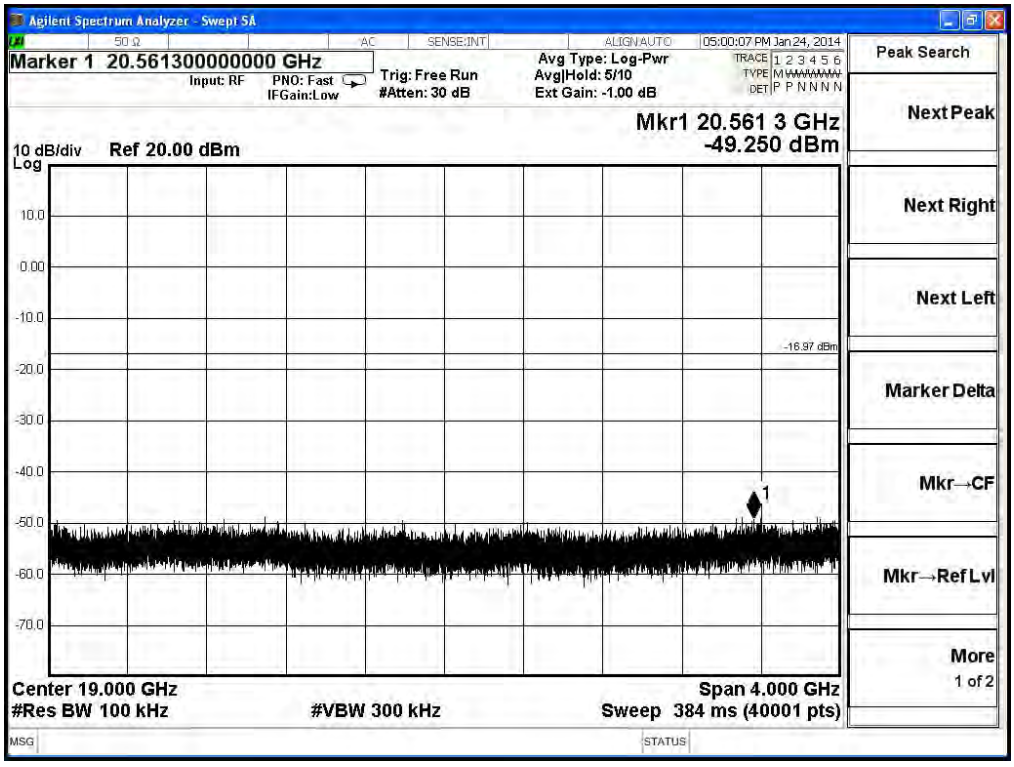
2437MHz (9GHz-13GHz) -802.11n(20MHz) (Ant 0)



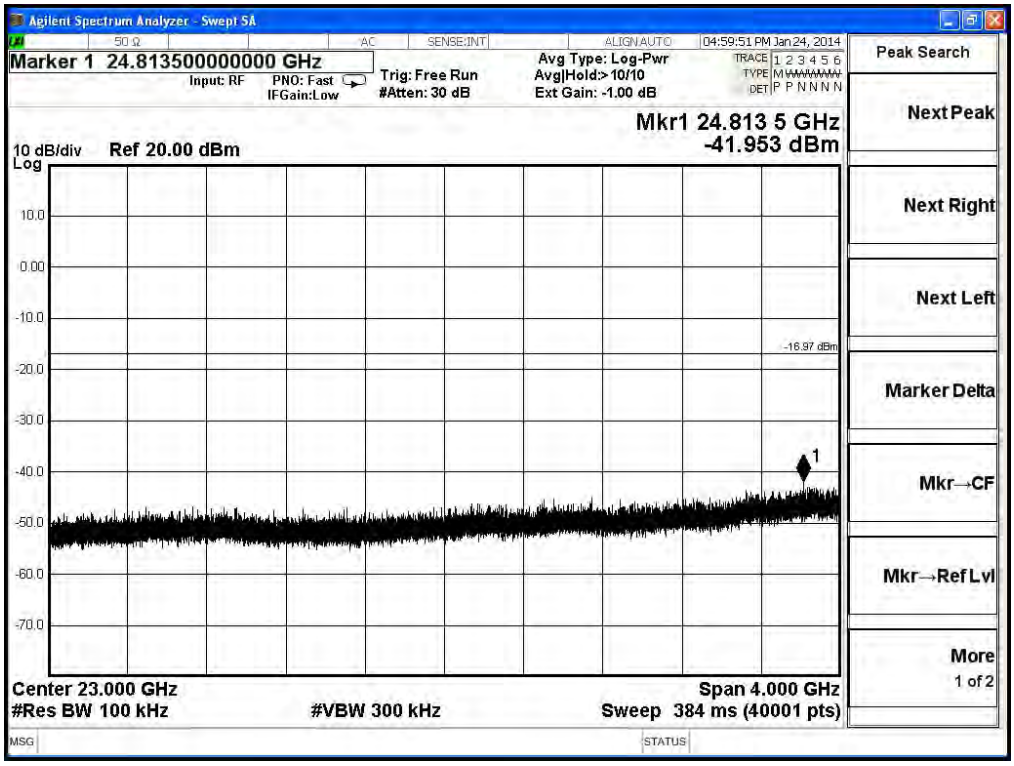
2437MHz (13GHz-17GHz) -802.11n(20MHz) (Ant 0)



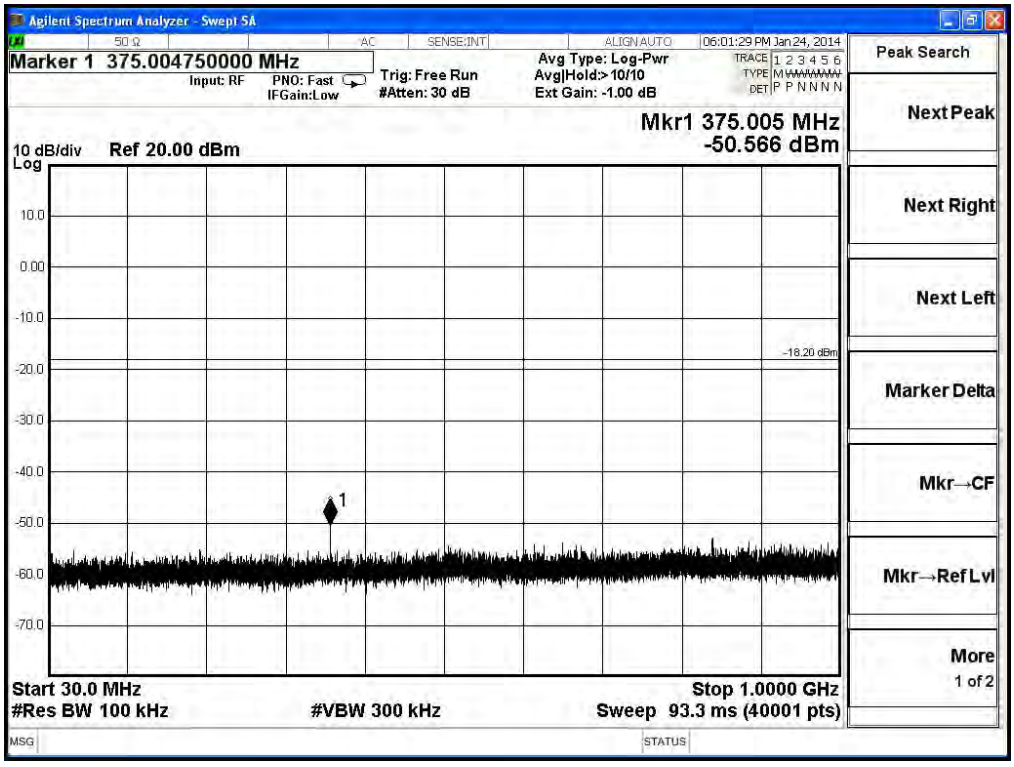
2437MHz (17GHz-21GHz) -802.11n(20MHz) (Ant 0)



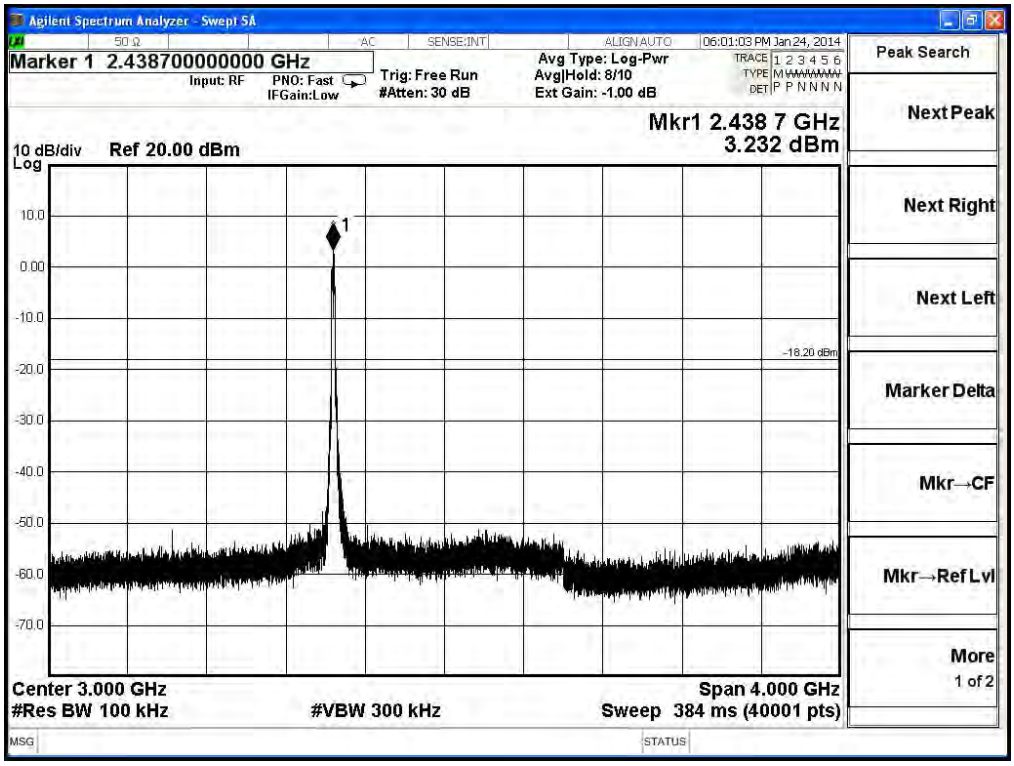
2437MHz (21GHz-25GHz) -802.11n(20MHz) (Ant 0)



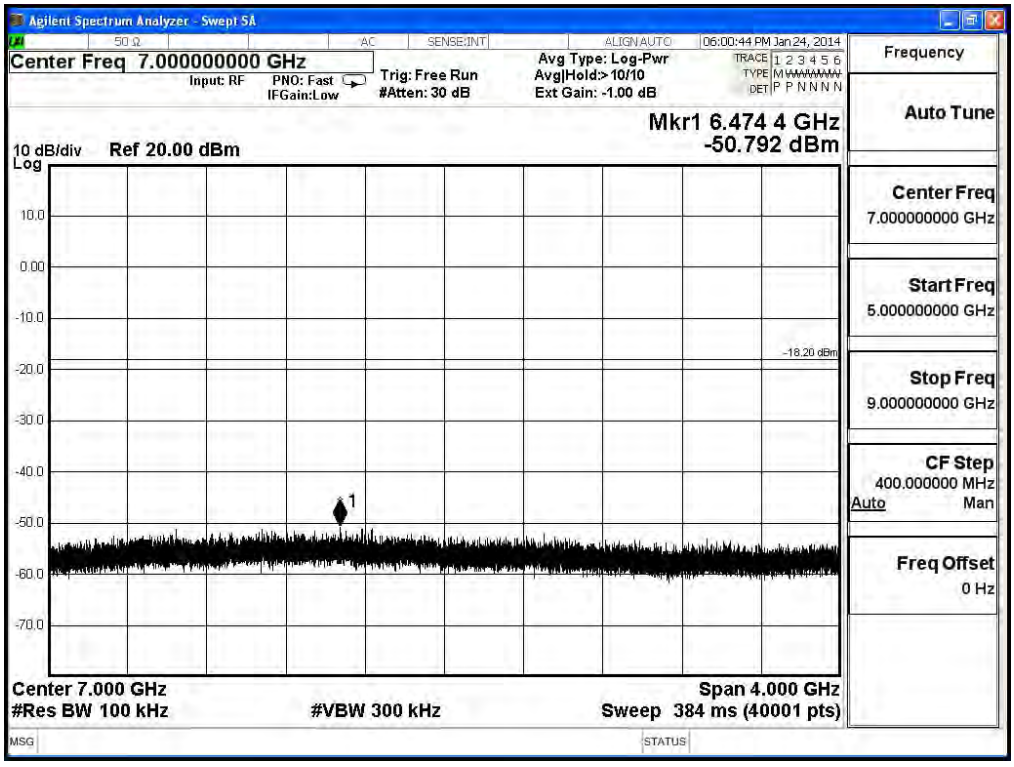
2437MHz (30MHz-1GHz) -802.11n(20MHz) (Ant 1)



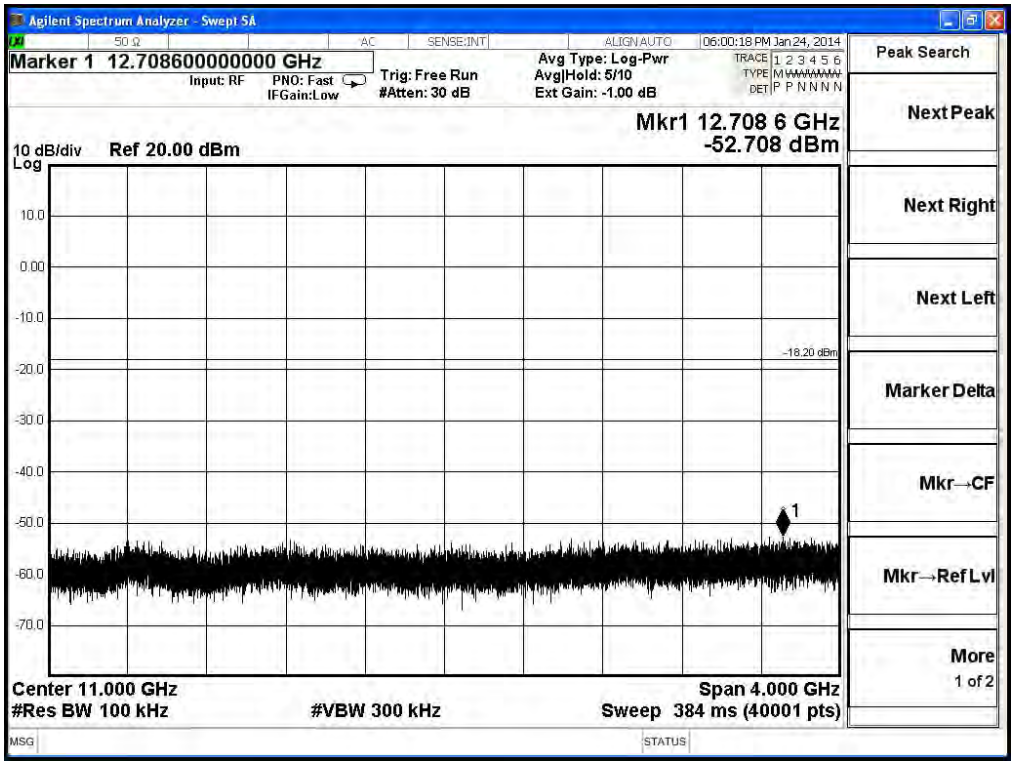
2437MHz (1GHz-5GHz) -802.11n(20MHz) (Ant 1)



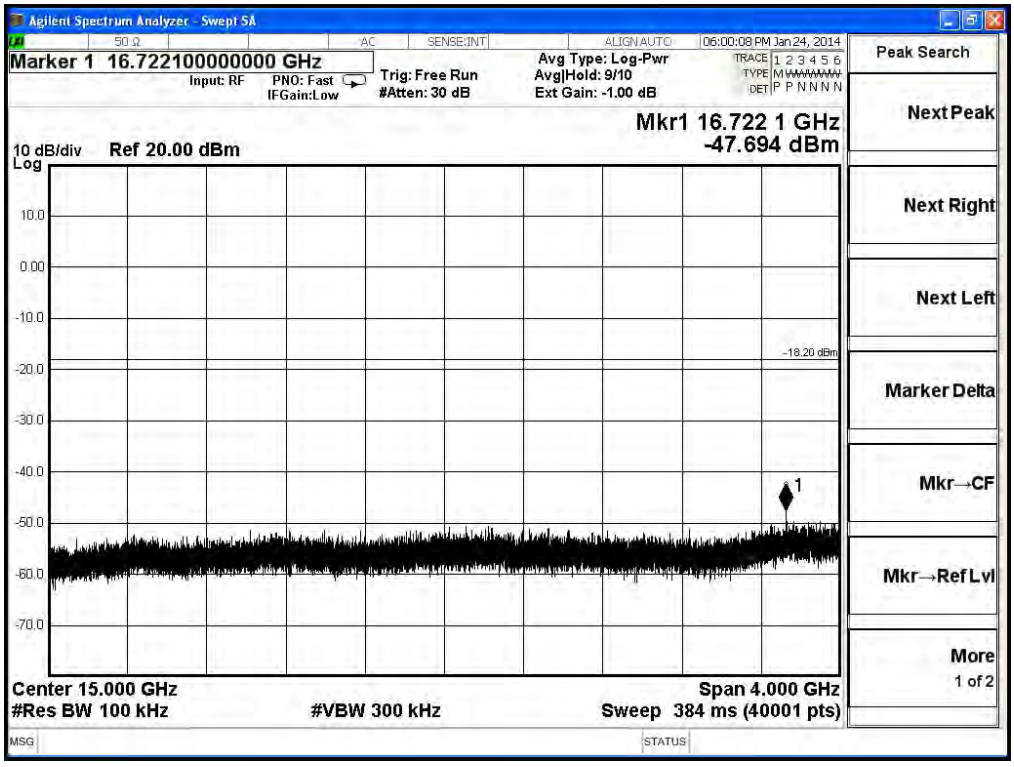
2437MHz (5GHz-9GHz) -802.11n(20MHz) (Ant 1)



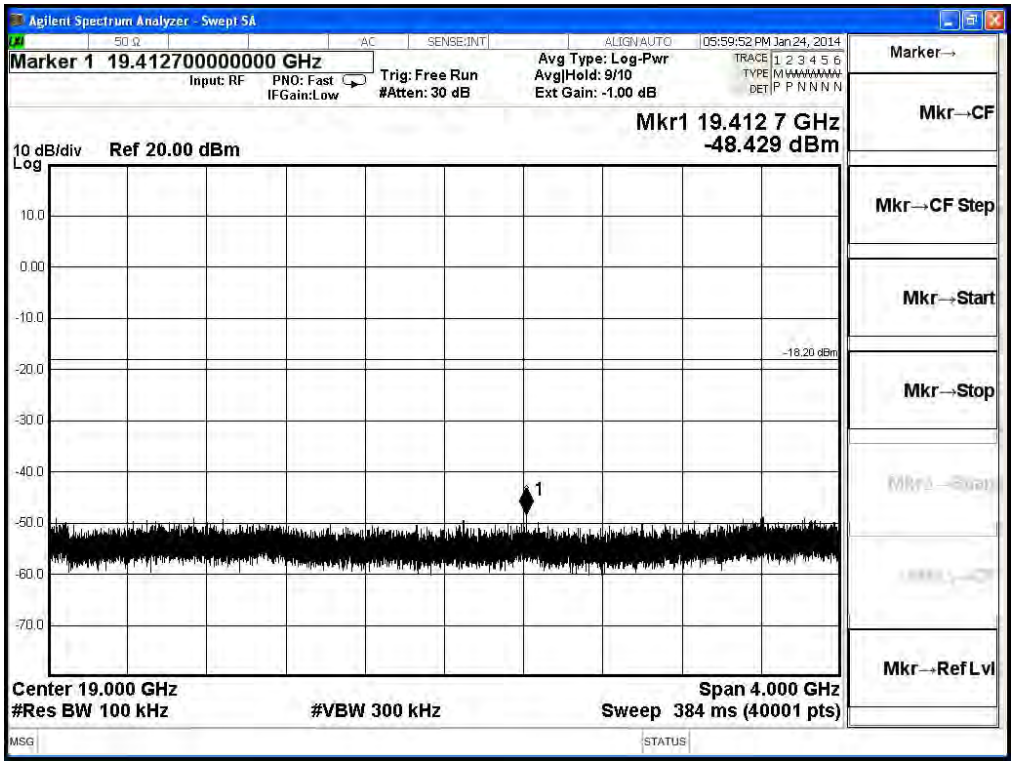
2437MHz (9GHz-13GHz) -802.11n(20MHz) (Ant 1)



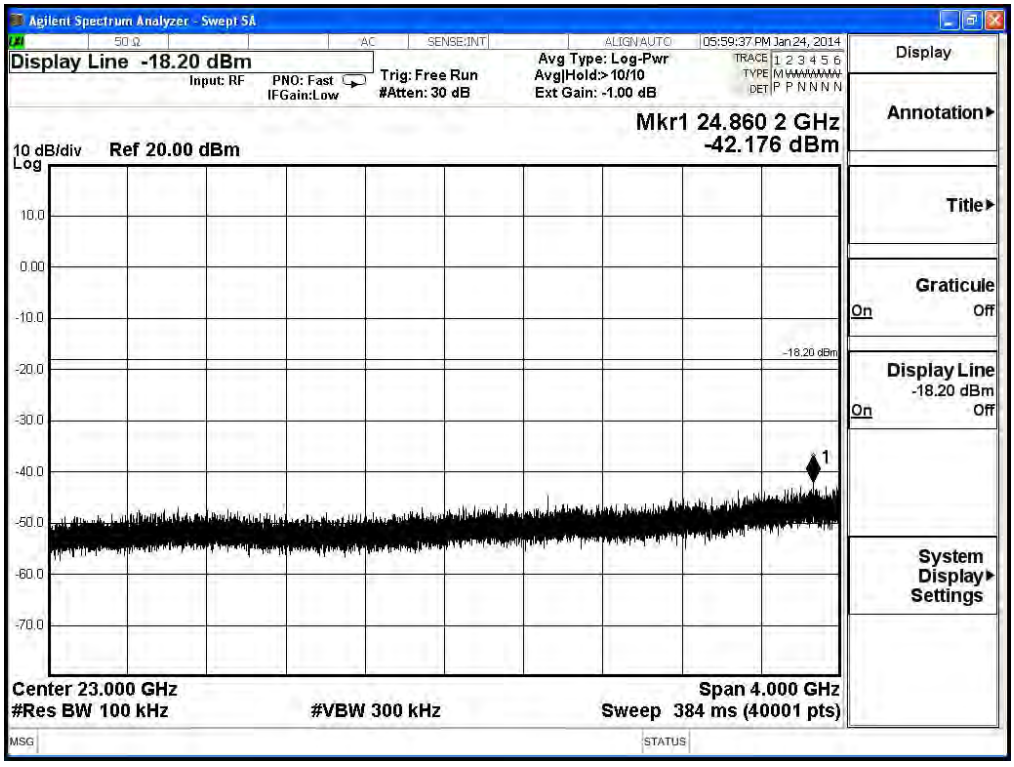
2437MHz (13GHz-17GHz) -802.11n(20MHz) (Ant 1)



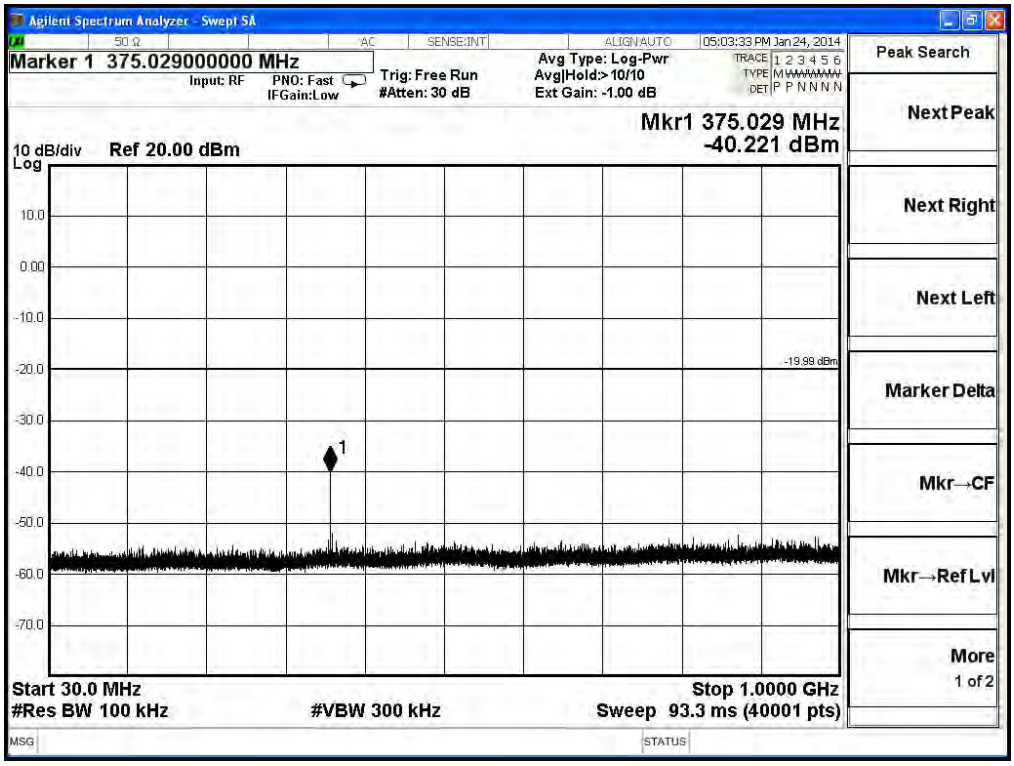
2437MHz (17GHz-21GHz) -802.11n(20MHz) (Ant 1)



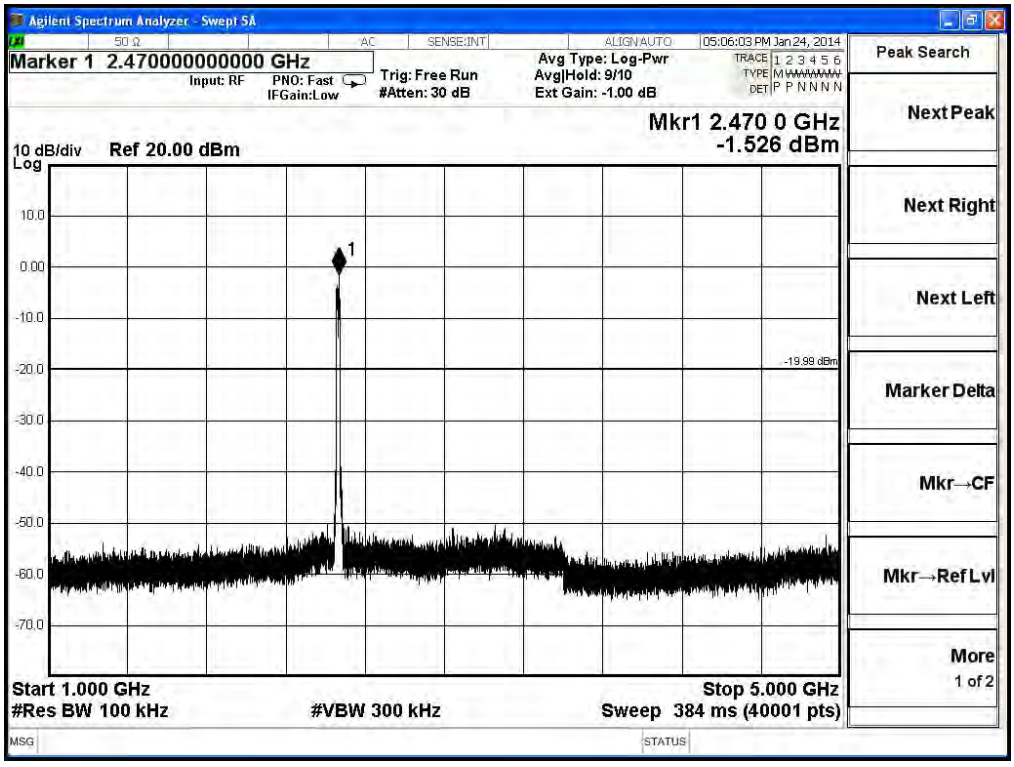
2437MHz (21GHz-25GHz) -802.11n(20MHz) (Ant 1)



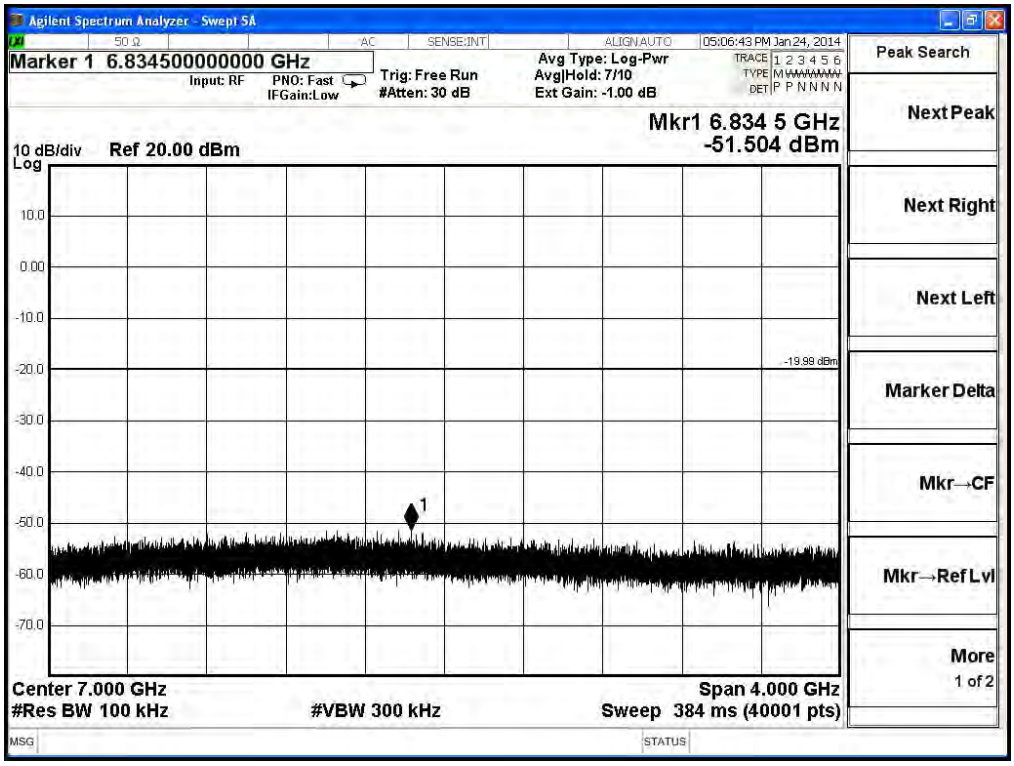
2462MHz (30MHz-1GHz)-802.11n(20MHz) (Ant 0)



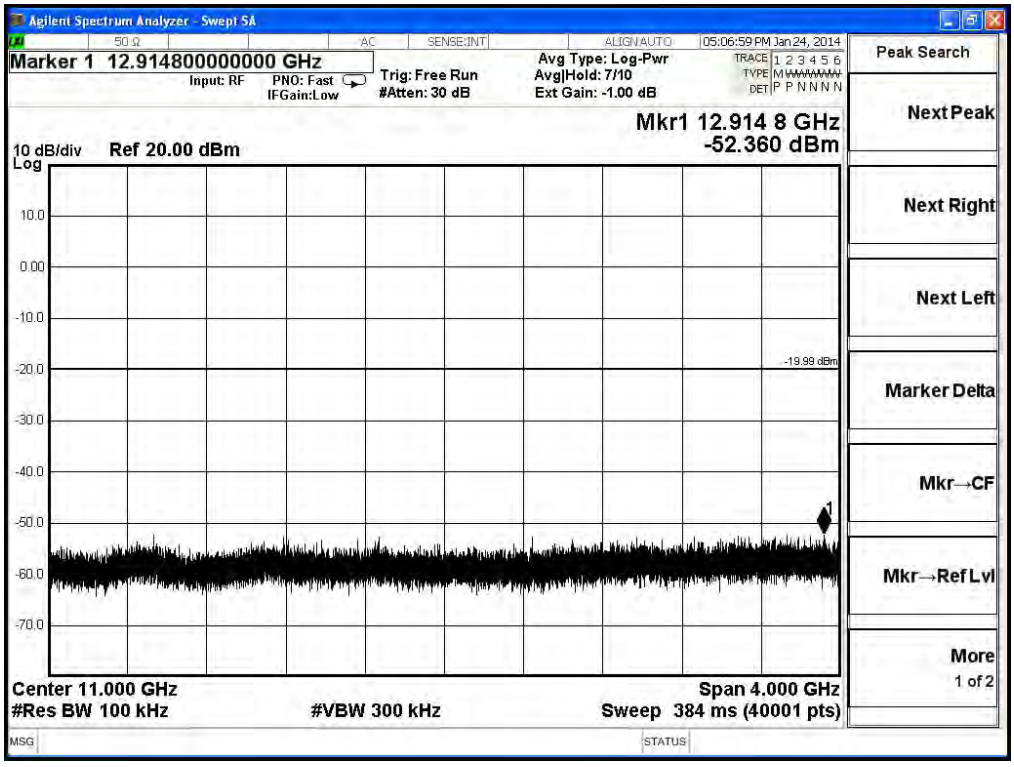
2462MHz (1GHz-5GHz) -802.11n(20MHz) (Ant 0)



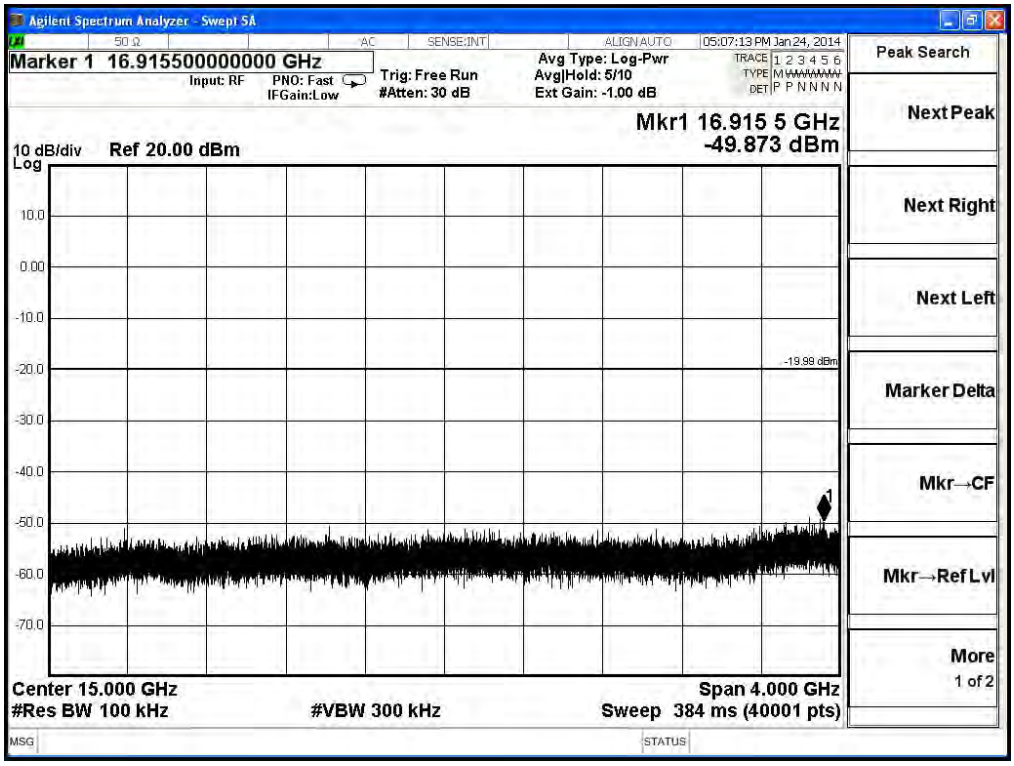
2462MHz (5GHz-9GHz)-802.11n(20MHz) (Ant 0)



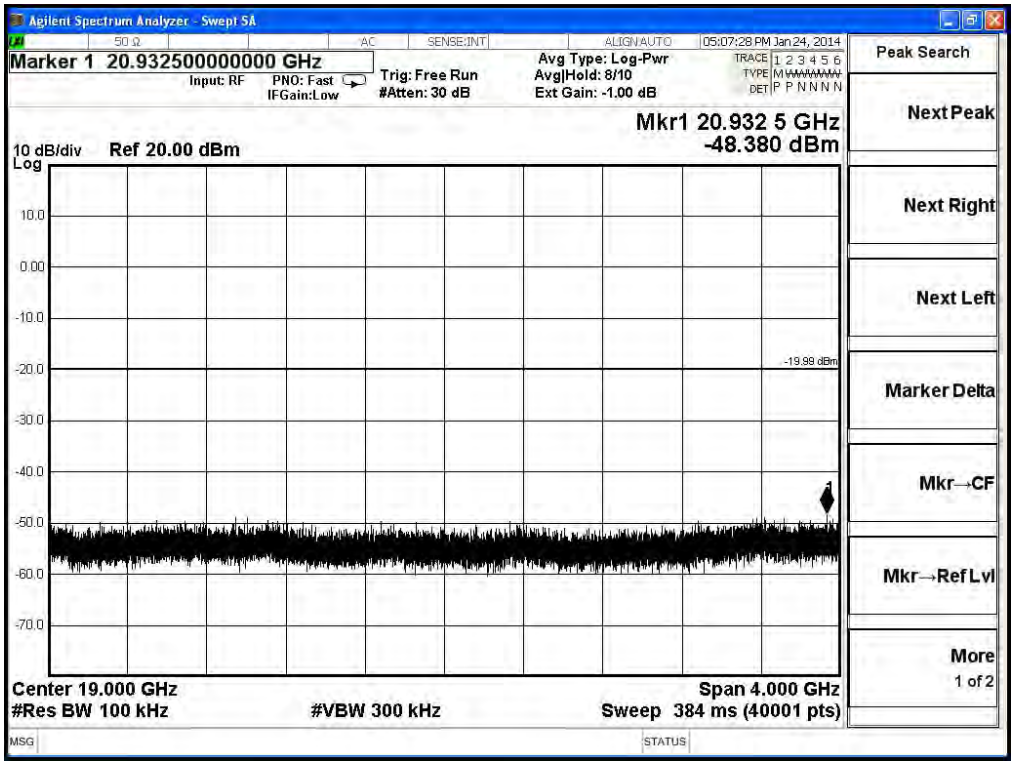
2462MHz (9GHz-13GHz) -802.11n(20MHz) (Ant 0)



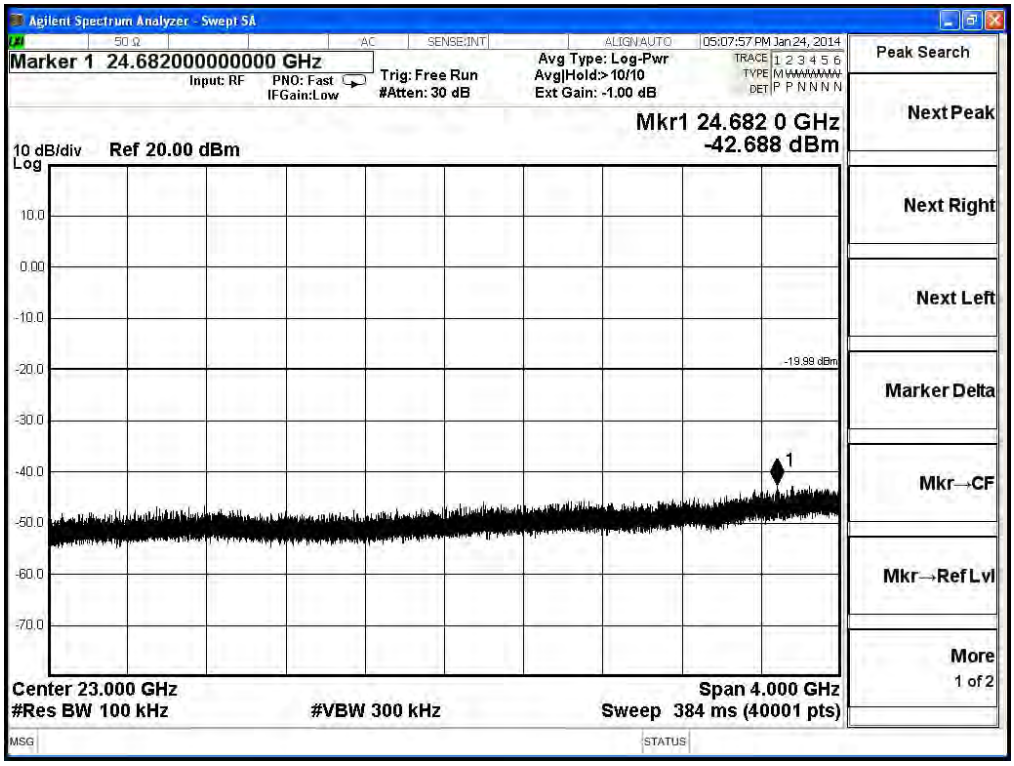
2462MHz (13GHz-17GHz)-802.11n(20MHz) (Ant 0)



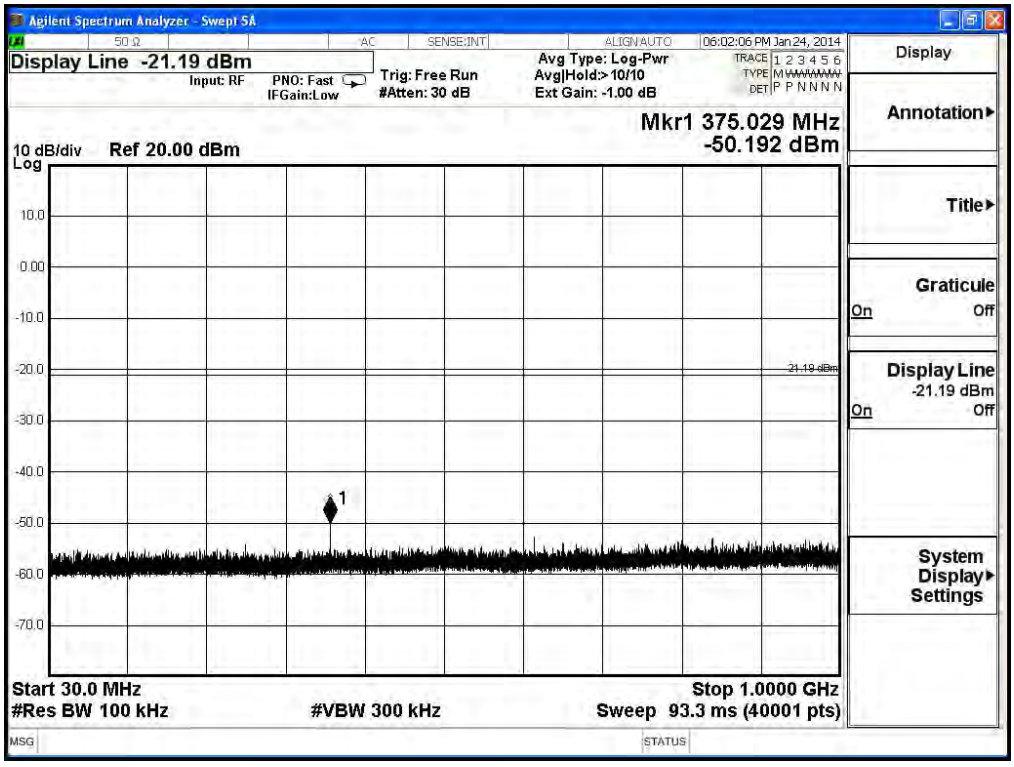
2462MHz (17GHz-21GHz) -802.11n(20MHz) (Ant 0)



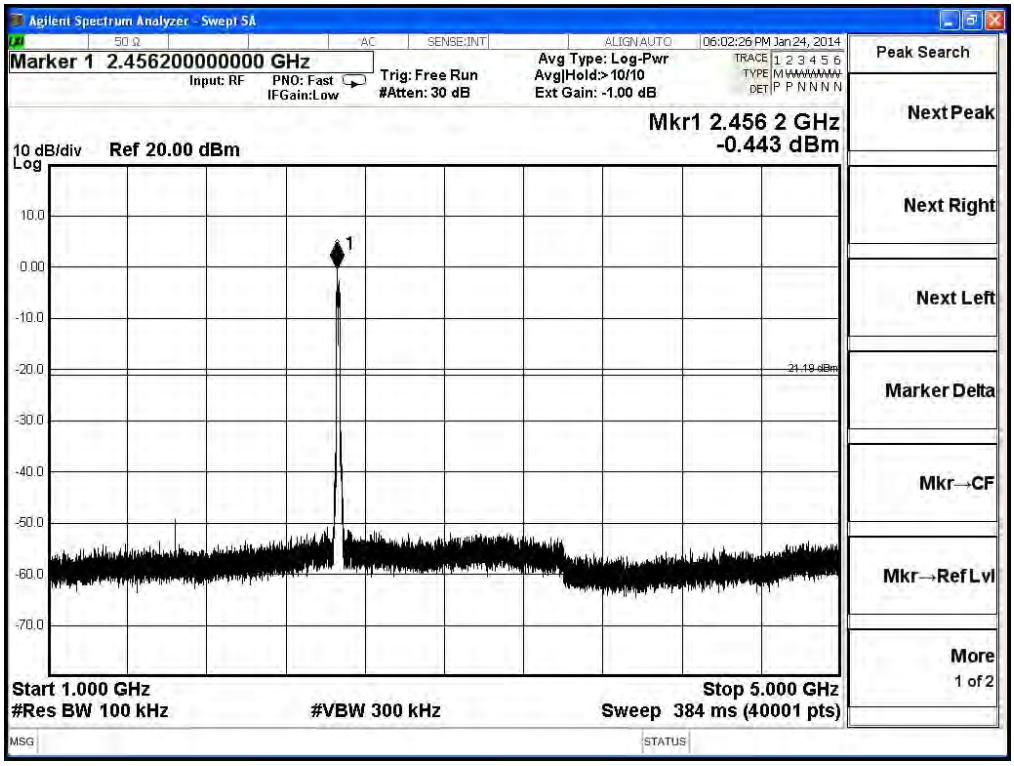
2462MHz (21GHz-25GHz)-802.11n(20MHz) (Ant 0)



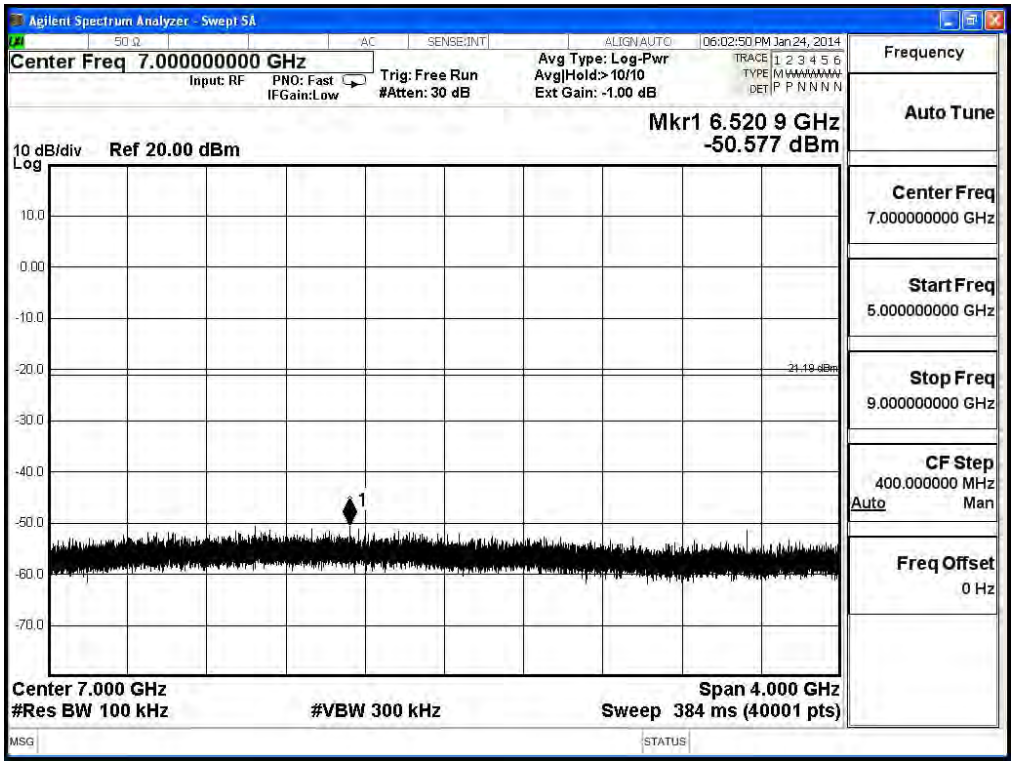
2462MHz (30MHz-1GHz)-802.11n(20MHz) (Ant 1)



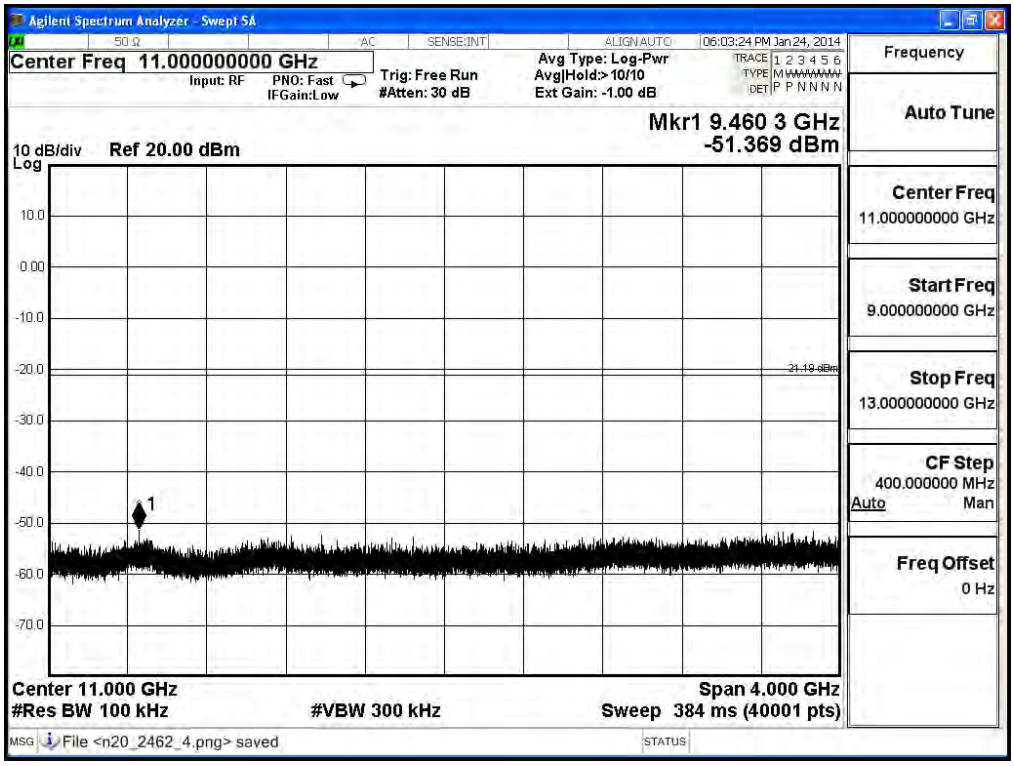
2462MHz (1GHz-5GHz) -802.11n(20MHz) (Ant 1)



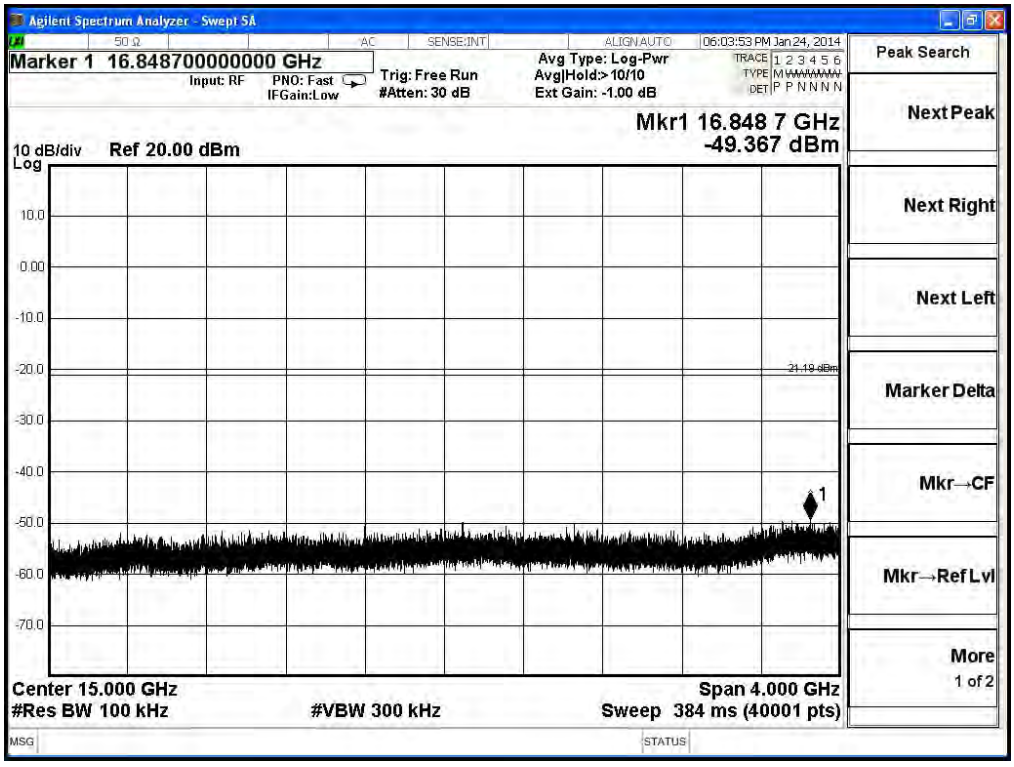
2462MHz (5GHz-9GHz)-802.11n(20MHz) (Ant 1)



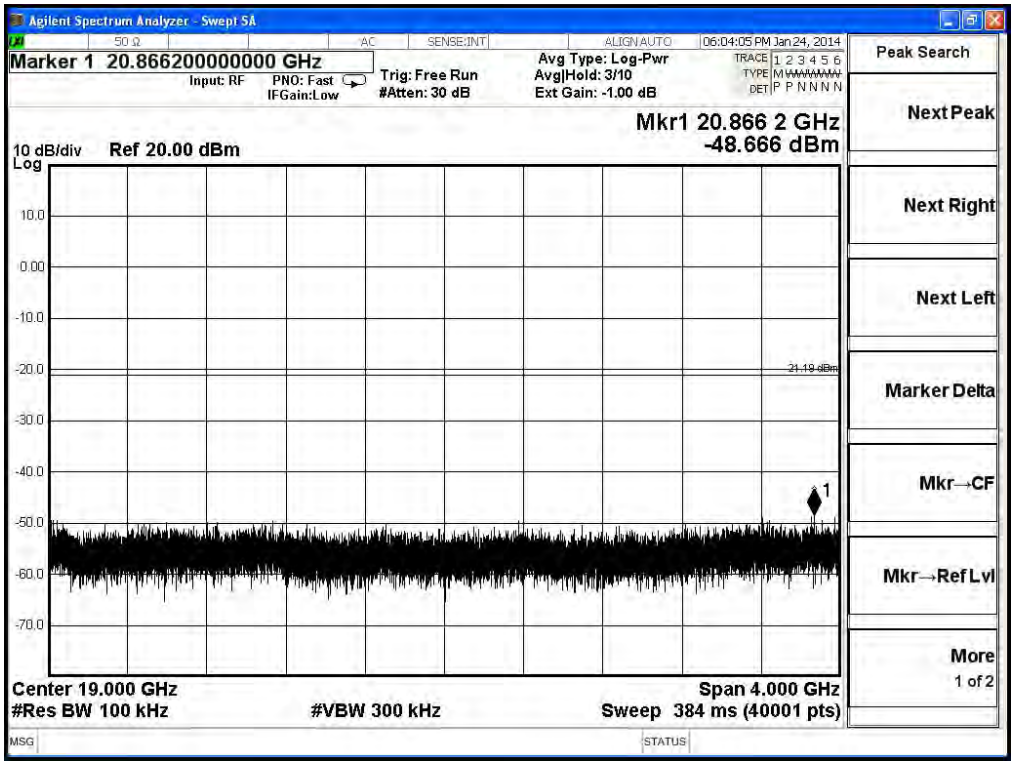
2462MHz (9GHz-13GHz) -802.11n(20MHz) (Ant 1)



2462MHz (13GHz-17GHz)-802.11n(20MHz) (Ant 1)



2462MHz (17GHz-21GHz) -802.11n(20MHz) (Ant 1)



2462MHz (21GHz-25GHz)-802.11n(20MHz) (Ant 1)