

FCC Test Report

Product Name : Dual-band Wireless-AC1200 Gigabit Router

Model No. : RT-AC56U/ RT-AC56R

FCC ID. : MSQ-RTAC56U

Applicant : ASUSTeK COMPUTER INC.

Address : 4F, No. 150, Li-Te Rd., Peitou, Taipei, Taiwan

Date of Receipt : 2012/12/26

Issued Date : 2013/03/06

Report No. : 131015R-RFUSP46V01

Report Version : V1.0



The test results relate only to the samples tested.

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

Test Report Certification

Issued Date : 2013/03/06

Report No. : 131015R-RFUSP46V01



Product Name : Dual-band Wireless-AC1200 Gigabit Router
 Applicant : ASUSTeK COMPUTER INC.
 Address : 4F, No. 150, Li-Te Rd., Peitou, Taipei, Taiwan
 Manufacturer : Compal Networking (KunShan) Co.,Ltd
 Model No. : RT-AC56U/ RT-AC56R
 FCC ID. : MSQ-RTAC66U
 EUT Voltage : AC 100-240V, 50-60Hz
 Trade Name : ASUS
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart C Section 15.407:2011
 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

:

(Carol Tsai / Adm. Specialist)

Tested By

:

(Sabrina Tsai / Assistant Engineer)

Approved By

:

(Roy Wang / Manager)

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

TABLE OF CONTENTS

Description	Page
1. General Information.....	6
1.1. EUT Description	6
1.2. Operational Description.....	13
1.3. Test Mode.....	14
1.4. Tested System Details.....	16
1.5. Configuration of tested System	17
1.6. EUT Exercise Software	18
1.7. Test Facility	19
2. Conducted Emission	20
2.1. Test Equipment	20
2.2. Test Setup	20
2.3. Limits	21
2.4. Test Procedure	21
2.5. Test Specification	21
2.6. Uncertainty	21
2.7. Test Result	22
2.8. Test Photo	26
3. 99% & 26dB Bandwidth.....	28
3.1. Test Equipment	28
3.2. Test Setup	28
3.3. Limits.....	28
3.4. Test Procedure	28
3.5. Uncertainty	28
3.6. Test Result	29
4. Peak Transmit Output.....	44
4.1. Test Equipment	44
4.2. Test Setup	44
4.3. Limits.....	45
4.4. Test Procedure	45
4.5. Uncertainty	45
4.6. Test Result	46
5. Peak Power Spectrum Density	69
5.1. Test Equipment	69

5.2.	Test Setup	69
5.3.	Limits	69
5.4.	Test Procedure	70
5.5.	Uncertainty	70
5.6.	Test Result	71
6.	Peak Excursion	89
6.1.	Test Equipment	89
6.2.	Test Setup	89
6.3.	Limits	89
6.4.	Test Procedure	89
6.5.	Uncertainty	89
6.6.	Test Result	90
7.	Radiated Emission.....	105
7.1.	Test Equipment	105
7.2.	Test Setup	105
7.3.	Limits	106
7.4.	Test Procedure	107
7.5.	Uncertainty	107
7.6.	Test Result	108
7.7.	Test Photo	174
8.	Band Edge	181
8.1.	Test Equipment	181
8.2.	Test Setup	181
8.3.	Limits	182
8.4.	Test Procedure	183
8.5.	Uncertainty	183
8.6.	Test Result	184
9.	Frequency Stability.....	200
9.1.	Test Equipment	200
9.2.	Test Setup	200
9.3.	Limits	200
9.4.	Test Procedure	200
9.5.	Uncertainty	200
9.6.	Test Result	201
	Attachment	213
	EUT Photograph	213

1. General Information

1.1. EUT Description

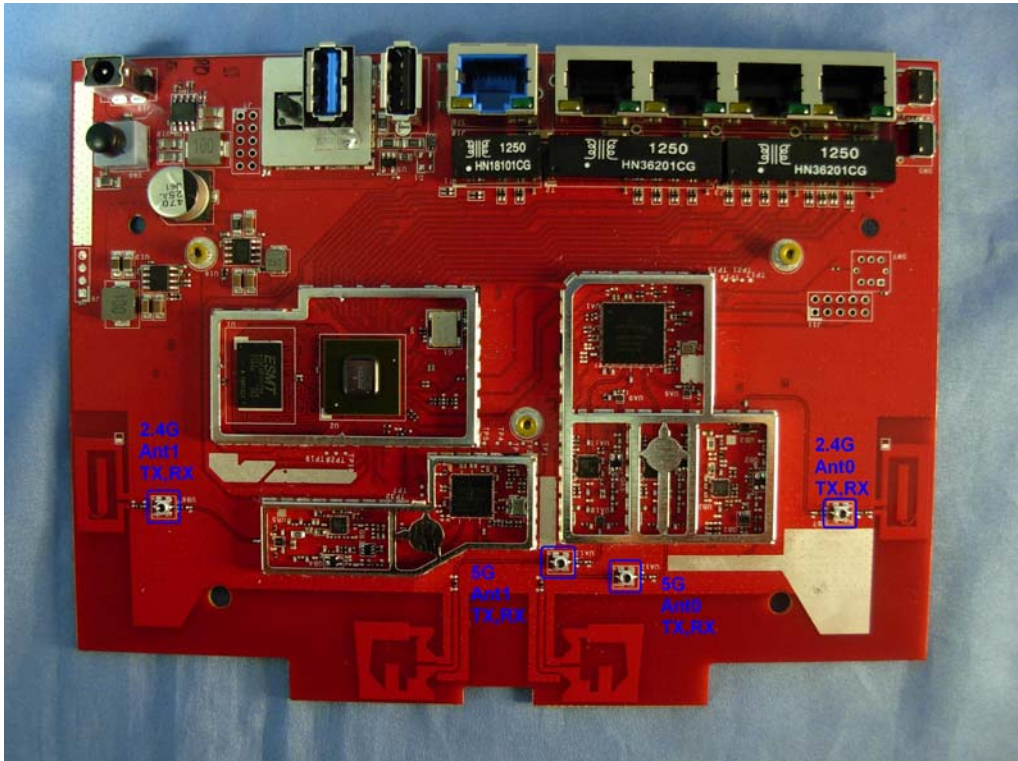
Product Name	Dual-band Wireless-AC1200 Gigabit Router	
Product Type	WLAN (2TX, 2RX)	
Trade Name	ASUS	
Model No.	RT-AC56U/ RT-AC56R	
Frequency Range	IEEE 802.11a/ IEEE 802.11n (20MHz) / IEEE 802.11ac (20MHz)	5180~5240MHz
	IEEE 802.11n (40MHz) / IEEE 802.11ac (40MHz)	5190~5230MHz
	IEEE 802.11ac (80MHz)	5210MHz
Channel Number	IEEE 802.11a/ IEEE 802.11n (20MHz) / IEEE 802.11ac (20MHz)	4
	IEEE 802.11n (40MHz) / IEEE 802.11ac (40MHz)	2
	IEEE 802.11ac (80MHz)	1
Type of Modulation	IEEE 802.11a/n/ac	Orthogonal Frequency Division Multiplexing (OFDM)
Data Speed	IEEE 802.11a	6, 9, 18, 24, 36, 48, 54Mbps
	IEEE 802.11n	Support a subset of the combination of GI, MCS 0~MCS 15 and bandwidth defined in 802.11n
	IEEE 802.11ac	Support a subset of the combination of GI, MCS 0~MCS 9 and bandwidth defined in 802.11ac
Antenna Gain	3.07dBi	
Beamforming Gain	3dB	
Channel Control	Auto	
Antenna Type	PCB on Antenna	

Component	
LAN Cable	YFC-BONEAGLE , Non-Shielded, 1.5m
LAN Cable	Cablex Electronics , Non-Shielded, 1.5m
LAN Cable	SHENZHEN , Non-Shielded, 1.5m
Power Adatper	PIE, AD890326 I/P : 100-240V~50/60Hz 0.8A O/P : 19V $\approx$ 1.75A Cable Out: Non-Shielded, 2.3m
Power Adatper	Enertronix, EXA1206UH I/P : AC 100-240V~50-60Hz, 1.0A O/P : 19Vdc $\approx$ 1.75A Cable Out: Non-Shielded, 2.3m

ANT-TX / Rx & Bandwidth

ANT-TX / RX	SINGLE-TX	TWO-TX			RX		
Mode/ Channel Bandwidth	20MHz	20MHz	40MHz	80MHz	20MHz	40MHz	80MHz
IEEE802.11a	✓				✓		
IEEE802.11n		✓	✓		✓	✓	
IEEE802.11ac		✓	✓	✓	✓	✓	✓

TX / RX



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 (Note1)	
								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 (Note1)	
								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

MCS Index	Modulation	R	N _{BPSCS}	N _{CBPS}		N _{DBPS}		Data Rate(Mb/s)			
				20MHz	40MHz	20MHz	40MHz	800ns GI		400ns GI (Note1)	
								20MHz	40MHz	20MHz	40MHz
16	BPSK	1/2	1	156	324	78	162	19.5	40.5	21.7	45.0
17	QPSK	1/2	2	312	648	156	324	39.0	81.0	43.3	90.0
18	QPSK	3/4	2	312	648	234	486	58.5	121.5	65.0	135.0
19	16-QAM	1/2	4	624	1296	312	648	78.0	162.0	86.7	180.0
20	16-QAM	3/4	4	624	1296	468	972	117.0	243.0	130.0	270.0
21	64-QAM	2/3	6	936	1944	624	1296	156.0	324.0	173.3	360.0
22	64-QAM	3/4	6	936	1944	702	1458	175.5	364.5	195.0	405.0
23	64-QAM	5/6	6	936	1944	780	1620	195.0	405.0	216.7	450.0

Note 1: Support of 400ns GI is optional on transmit and receive.

Table 3 – MCS parameters for TX Antenna number = 3

Symbol	Explanation
R	Code rate
N _{BPSCS}	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

Draft IEEE 802.11ac Data Rate

Spatial Streams (Note1)	MCS Index	Modulation type	Coding rate	Data Rate(Mb/s)							
				20 MHz		40 MHz		80 MHz		160 MHz	
				Guard Interval		Guard Interval		Guard Interval		Guard Interval	
				800ns	400ns	800ns	400ns	800ns	400ns	800ns	400ns
1	0	BPSK	1/2	6.5	7.2	13.5	15	29.3	32.5	58.5	65
	1	QPSK	1/2	13	14.4	27	30	58.5	65	117	130
	2	QPSK	3/4	19.5	21.7	40.5	45	87.8	97.5	175.5	195
	3	16-QAM	1/2	26	28.9	54	60	117	130	234	260
	4	16-QAM	3/4	39	43.3	81	90	175.5	195	351	390
	5	64-QAM	2/3	52	57.8	108	120	234	260	468	520
	6	64-QAM	3/4	58.5	65	121.5	135	263.3	292.5	526.5	585
	7	64-QAM	5/6	65	72.2	135	150	292.5	325	585	650
	8	256-QAM	3/4	78	86.7	162	180	351	390	702	780
	9	256-QAM	5/6	N/A	N/A	180	200	390	433.3	780	866.7
2	0	BPSK	1/2	13	14.4	27	30	58.6	65	117	130
	1	QPSK	1/2	26	28.8	54	60	117	130	234	260
	2	QPSK	3/4	39	43.4	81	90	175.6	195	351	390
	3	16-QAM	1/2	52	57.8	108	120	234	260	468	520
	4	16-QAM	3/4	78	86.6	162	180	351	390	702	780
	5	64-QAM	2/3	104	115.6	216	240	468	520	936	1040
	6	64-QAM	3/4	117	130	243	270	526.6	585	1053	1170
	7	64-QAM	5/6	130	144.4	270	300	585	650	1170	1300
	8	256-QAM	3/4	156	173.4	324	360	702	780	1404	1560
	9	256-QAM	5/6	N/A	N/A	360	400	780	866.6	1560	1733.4
3	0	BPSK	1/2	19.5	21.6	40.5	45	87.9	97.5	175.5	195
	1	QPSK	1/2	39	43.2	81	90	175.5	195	351	390
	2	QPSK	3/4	58.5	65.1	121.5	135	263.4	292.5	526.5	585
	3	16-QAM	1/2	78	86.7	162	180	351	390	702	780
	4	16-QAM	3/4	117	129.9	243	270	526.5	585	1053	1170
	5	64-QAM	2/3	156	173.4	324	360	702	780	1404	1560
	6	64-QAM	3/4	175.5	195	364.5	405	789.9	877.5	1579.5	1755
	7	64-QAM	5/6	195	216.6	405	450	877.5	975	1755	1950
	8	256-QAM	3/4	234	260.1	486	540	1053	1170	2106	2340
	9	256-QAM	5/6	N/A	N/A	540	600	1170	1299.9	2340	2600.1

IEEE 802.11a & IEEE 802.11n (20MHz) & IEEE 802.11ac (20MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	40	5200MHz	44	5220MHz	48	5240MHz

IEEE 802.11n (40MHz) & IEEE 802.11ac (40MHz)

Working Frequency of Each Channel			
Channel	Frequency	Channel	Frequency
38	5190MHz	46	5230MHz

IEEE 802.11ac (80MHz)

Working Frequency of Each Channel	
Channel	Frequency
42	5210 MHz

Note:

1. This device is a Dual-band Wireless-AC1200 Gigabit Router including 2.4GHz b/g/n and 5GHz a/n (2x2) transmitting and receiving function.
2. The variation of model number is for different strategy of marketing.
3. These test results on a sample of the device are for the purpose of demonstrating Compliance with Part 15 Subpart C Paragraph 15.407.
4. 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.
5. The function of the 2.4GHz & 5.8GHz transmitting is measured and makes a test report of the report number: 131015R-RFUSP42V01.
6. This device is a composite device in accordance with Part 15 regulations. The receiving function receiving was tested and its test report number is 131015R-RFUSP37V02 under Declaration of Conformity.

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_EXA1206UH_LAN1 Mode 2: Transmit_EXA1206UH_LAN2 Mode 3: Transmit_EXA1206UH_LAN3 Mode 4: Transmit_AD890326_LAN1 Mode 5: Transmit_AD890326_LAN2 Mode 6: Transmit_AD890326_LAN3
----	---

Test Items	Mode	Channel	Antenna	Result
Conducted Emission	11ac (80MHz)	42	0+1+2	Complies
99 % & 26dB Bandwidth	a	36/44/48	0	Complies
	11n (20MHz)	36/44/48	0/1/2	Complies
	11n (40MHz)	38/46	0/1/2	Complies
	11ac (20MHz)	36/44/48	0/1/2	Complies
	11ac (40MHz)	38/46	0/1/2	Complies
	11ac (80MHz)	42	0/1/2	Complies
Peak Transmit Output	a	36/44/48	0	Complies
	11n (20MHz)	36/44/48	0+1+2	Complies
	11n (40MHz)	38/46	0+1+2	Complies
	11ac (20MHz)	36/44/48	0+1+2	Complies
	11ac (40MHz)	38/46	0+1+2	Complies
	11ac (80MHz)	42	0+1+2	Complies
Peak Power Spectrum Density	a	36/44/48	0	Complies
	11n (20MHz)	36/44/48	0+1+2	Complies
	11n (40MHz)	38/46	0+1+2	Complies
	11ac (20MHz)	36/44/48	0+1+2	Complies
	11ac (40MHz)	38/46	0+1+2	Complies
	11ac (80MHz)	42	0+1+2	Complies

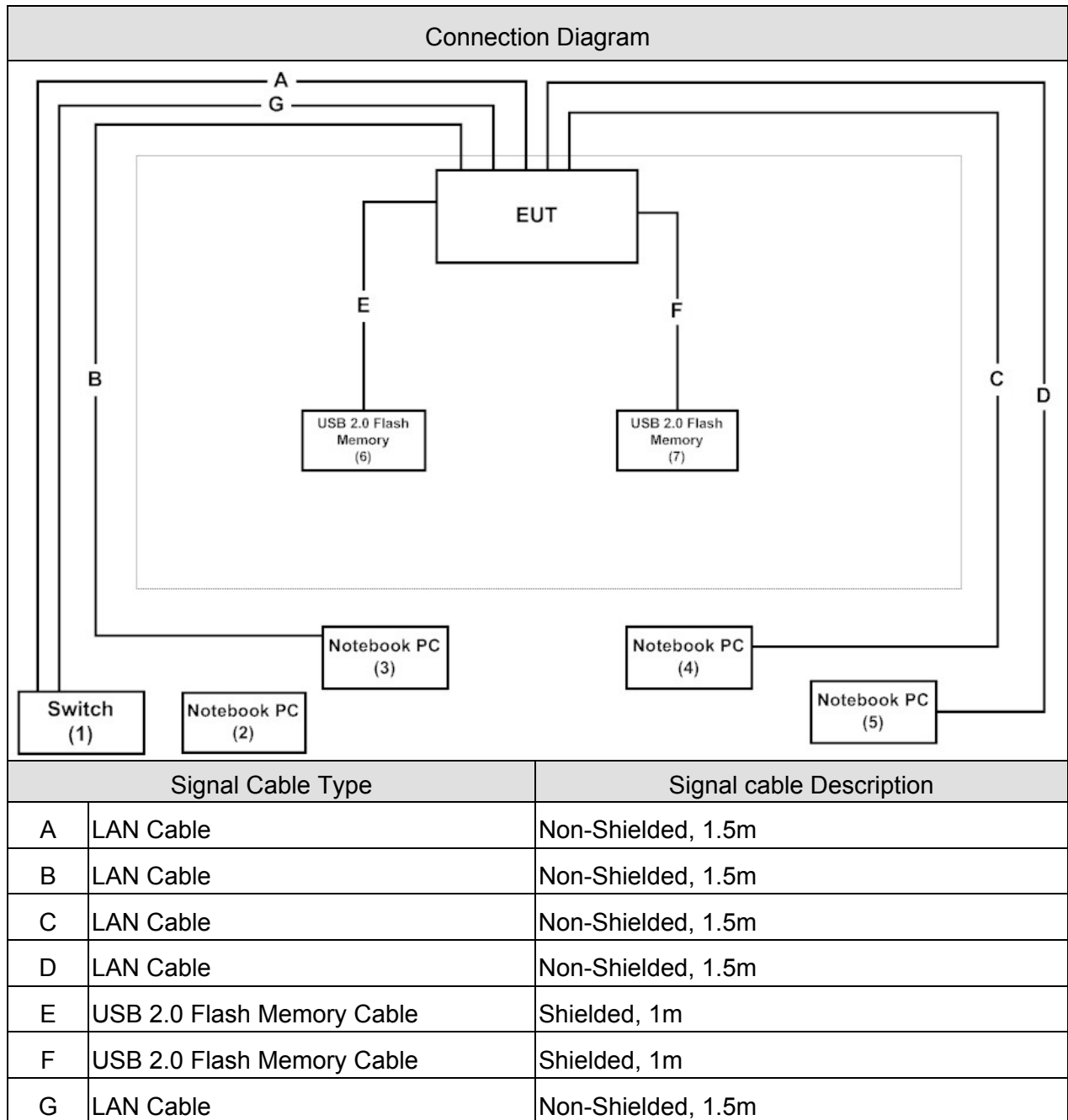
Test Items	Mode	Channel	Antenna	Result
Power Excursion	a	36/44/48	0	Complies
	11n (20MHz)	36/44/48	0/1/2	Complies
	11n (40MHz)	38/46	0/1/2	Complies
	11ac (20MHz)	36/44/48	0/1/2	Complies
	11ac (40MHz)	38/46	0/1/2	Complies
	11ac (80MHz)	42	0/1/2	Complies
Radiated Emission	a	36/44/48	0	Complies
	11n (20MHz)	36/44/48	0+1+2	Complies
	11n (40MHz)	38/46	0+1+2	Complies
	11ac (20MHz)	36/44/48	0+1+2	Complies
	11ac (40MHz)	38/46	0+1+2	Complies
	11ac (80MHz)	42	0+1+2	Complies
Band Edge	a	36	0	Complies
	11n (20MHz)	36	0+1+2	Complies
	11n (40MHz)	38	0+1+2	Complies
	11ac (20MHz)	36/44/48	0+1+2	Complies
	11ac (40MHz)	38/46	0+1+2	Complies
	11ac (80MHz)	42	0+1+2	Complies
Frequency Stability	a	36/44/48	0	Complies
	11n (20MHz)	36/44/48	0/1/2	Complies
	11n (40MHz)	38/46	0/1/2	Complies
	11ac (20MHz)	36/44/48	0/1/2	Complies
	11ac (40MHz)	38/46	0/1/2	Complies
	11ac (80MHz)	42	0/1/2	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	Switch	D-Link	DGS1216T	F360298000042	DoC	Non-Shielded, 1.8m
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	ACER	MS2296	LUSCV02139115 0332C2000	DoC	Non-Shielded, 2.5m one ferrite core bonded
5	Notebook PC	ACER	PAV70	LUSEW0D03711 05FE221601	DoC	Non-Shielded, 2.5m one ferrite core bonded
6	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
7	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--

1.5. Configuration of tested System



1.6. EUT Exercise Software

1	Setup the EUT as shown in Section 1.5.
2	Execute the "MFG_UI_AC56" on the EUT.
3	Configure the test mode, the test channel, and the data rate.
4	Press "Start TX" 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 15.407 Conducted Emission	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.407 99 % & 26dB Bandwidth	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.407 Peal Transmit Power	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.407 Peak Power Spectrum	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.407 Power Excursion	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.407 Radiated Emission	15 - 35	25
Humidity (%RH)		25 - 75	65
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.407 Band Edge	15 - 35	25
Humidity (%RH)		25 - 75	58
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.407 Frequency Stability	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000

2. Conducted Emission

2.1. Test Equipment

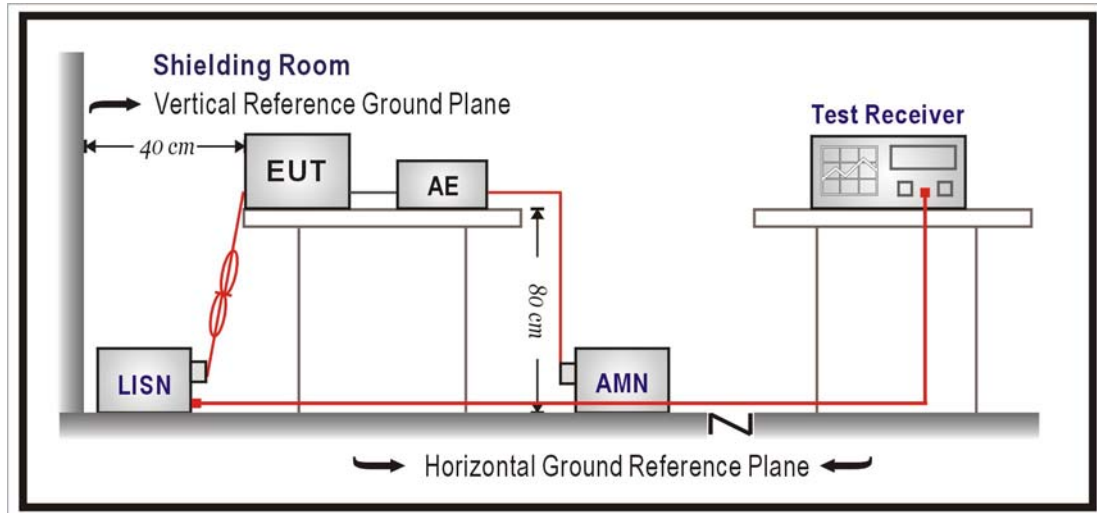
The following test equipments are used during the test:

Conducted Emission / SR2

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2014/01/24
LISN	R&S	ENV216	100092	2013/08/21
Test Receiver	R&S	ESCS 30	825442/014	2013/08/07

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. 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

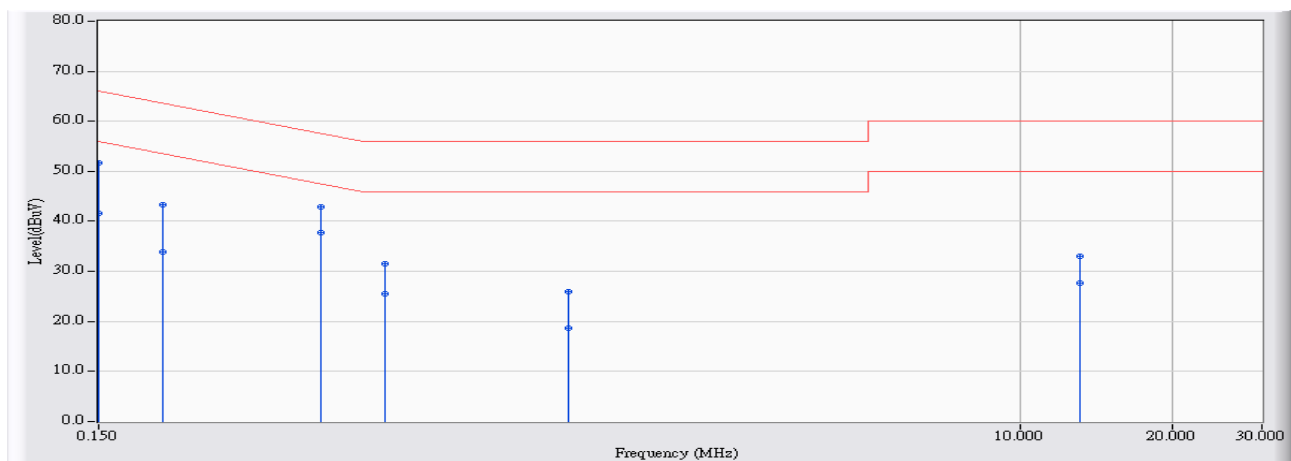
According to FCC Part 15 Subpart C Paragraph 15.207:2011

2.6. Uncertainty

The measurement uncertainty is defined as ± 2.26 dB.

2.7. Test Result

Site : SR2	Time : 2013/02/26 - 19:16
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2_LISN(16A)-3_0822 - Line1	Power : AC 120V/60Hz
EUT : Dual-band Wireless-AC1200 Gigabit Router	Note : Mode 1: Transmit_EXA1206UH_LAN1 802.11ac80M 5210MHz

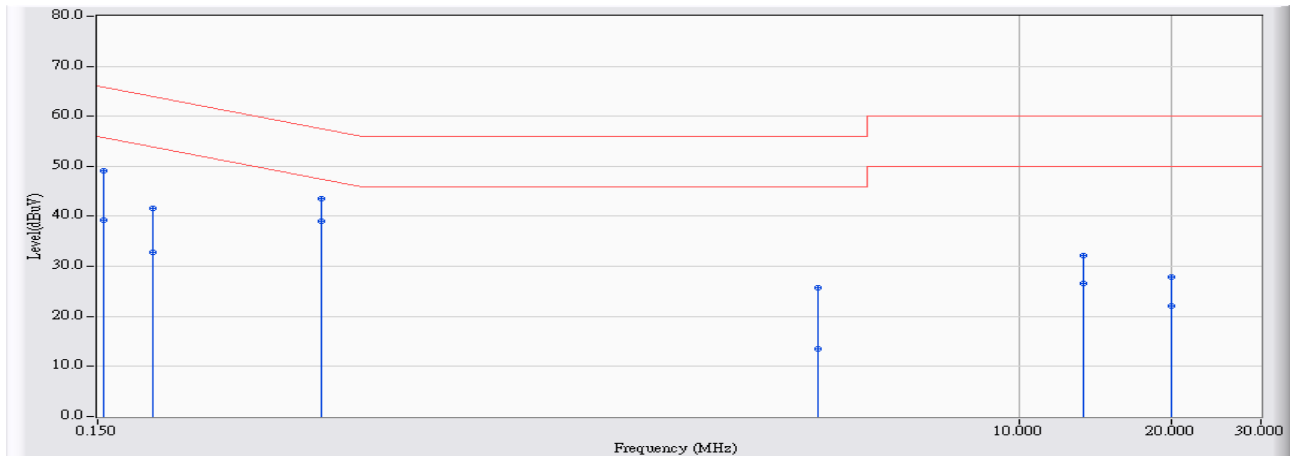


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.150	9.663	41.920	51.583	-14.417	66.000	QUASIPeAK
2		0.150	9.663	31.970	41.633	-14.367	56.000	AVERAGE
3		0.201	9.664	33.680	43.344	-20.238	63.581	QUASIPeAK
4		0.201	9.664	33.580	43.244	-20.335	63.578	QUASIPeAK
5		0.201	9.664	24.200	33.864	-19.715	53.578	AVERAGE
6		0.412	9.675	33.290	42.965	-14.648	57.614	QUASIPeAK
7	*	0.412	9.675	28.040	37.715	-9.898	47.614	AVERAGE
8		0.552	9.689	21.900	31.589	-24.411	56.000	QUASIPeAK
9		0.552	9.689	15.860	25.549	-20.451	46.000	AVERAGE
10		1.271	9.766	16.190	25.956	-30.044	56.000	QUASIPeAK
11		1.271	9.766	8.950	18.716	-27.284	46.000	AVERAGE
12		13.142	10.042	23.060	33.102	-26.898	60.000	QUASIPeAK
13		13.142	10.042	17.630	27.672	-22.328	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 : SR2	Time : 2013/02/26 - 19:21
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2_LISN(16A)-3_0822 - Line2	Power : AC 120V/60Hz
EUT : Dual-band Wireless-AC1200 Gigabit Router	Note : Mode 1: Transmit_EXA1206UH_LAN1 802.11ac80M 5210MHz

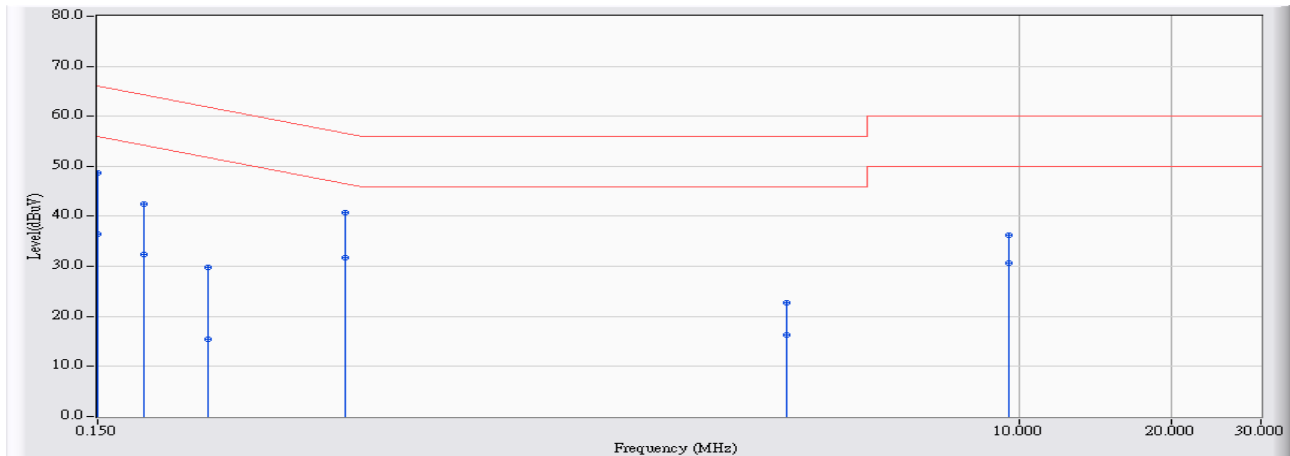


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.154	9.649	39.370	49.019	-16.768	65.786	QUASIPeAK
2		0.154	9.649	29.540	39.189	-16.598	55.786	AVERAGE
3		0.193	9.652	32.010	41.662	-22.246	63.908	QUASIPeAK
4		0.193	9.652	23.130	32.782	-21.126	53.908	AVERAGE
5		0.416	9.655	33.820	43.475	-14.042	57.518	QUASIPeAK
6	*	0.416	9.655	29.320	38.975	-8.542	47.518	AVERAGE
7		3.986	9.836	15.930	25.766	-30.234	56.000	QUASIPeAK
8		3.986	9.836	3.700	13.536	-32.464	46.000	AVERAGE
9		13.404	10.094	22.080	32.173	-27.827	60.000	QUASIPeAK
10		13.404	10.094	16.530	26.623	-23.377	50.000	AVERAGE
11		19.990	10.270	17.590	27.860	-32.140	60.000	QUASIPeAK
12		19.990	10.270	11.910	22.180	-27.820	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 : SR2	Time : 2013/02/26 - 20:23
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2_LISN(16A)-3_0822 - Line1	Power : AC 120V/60Hz
EUT : Dual-band Wireless-AC1200 Gigabit Router	Note : Mode 4: Transmit_AD890326_LAN1 802.11ac80M 5210MHz

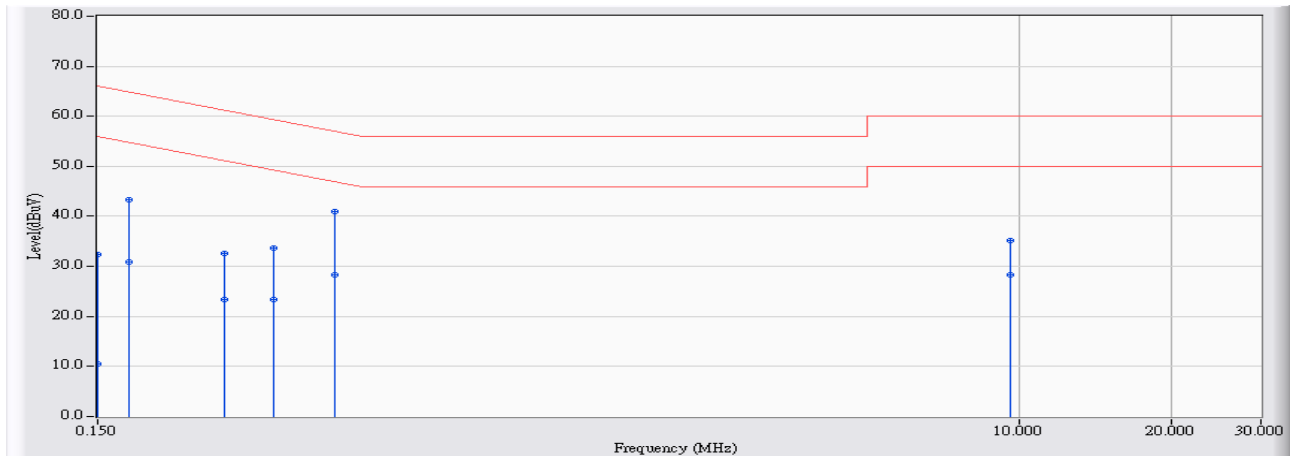


		Frequency (MHz)	Correct Factor (dB)	ReAD8900326in g Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.150	9.663	39.130	48.793	-17.207	66.000	QUASIPeAK
2		0.150	9.663	26.740	36.403	-19.597	56.000	AVERAGE
3		0.185	9.664	32.870	42.534	-21.718	64.251	QUASIPeAK
4		0.185	9.664	22.630	32.294	-21.958	54.251	AVERAGE
5		0.248	9.666	20.170	29.836	-32.000	61.835	QUASIPeAK
6		0.248	9.666	5.850	15.516	-36.320	51.835	AVERAGE
7		0.463	9.679	31.010	40.689	-15.959	56.648	QUASIPeAK
8	*	0.463	9.679	22.020	31.699	-14.949	46.648	AVERAGE
9		3.462	9.836	12.910	22.747	-33.253	56.000	QUASIPeAK
10		3.462	9.836	6.540	16.377	-29.623	46.000	AVERAGE
11		9.525	9.906	26.380	36.286	-23.714	60.000	QUASIPeAK
12		9.525	9.906	20.700	30.606	-19.394	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 : SR2	Time : 2013/02/26 - 20:30
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2_LISN(16A)-3_0822 - Line2	Power : AC 120V/60Hz
EUT : Dual-band Wireless-AC1200 Gigabit Router	Note : Mode 4: Transmit_AD890326_LAN1 802.11ac80M 5210MHz



		Frequency (MHz)	Correct Factor (dB)	ReAD8900326in g Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.150	9.648	22.730	32.378	-33.622	66.000	QUASIPeAK
2		0.150	9.648	0.920	10.568	-45.432	56.000	AVERAGE
3		0.173	9.651	33.640	43.291	-21.503	64.794	QUASIPeAK
4		0.173	9.651	21.170	30.821	-23.973	54.794	AVERAGE
5		0.267	9.654	22.980	32.633	-28.571	61.205	QUASIPeAK
6		0.267	9.654	13.620	23.273	-27.931	51.205	AVERAGE
7		0.334	9.653	24.000	33.654	-25.707	59.361	QUASIPeAK
8		0.334	9.653	13.720	23.374	-25.987	49.361	AVERAGE
9	*	0.443	9.658	31.280	40.937	-16.069	57.006	QUASIPeAK
10		0.443	9.658	18.670	28.327	-18.679	47.006	AVERAGE
11		9.580	9.924	25.200	35.124	-24.876	60.000	QUASIPeAK
12		9.580	9.924	18.290	28.214	-21.786	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. 99% & 26dB Bandwidth

3.1. Test Equipment

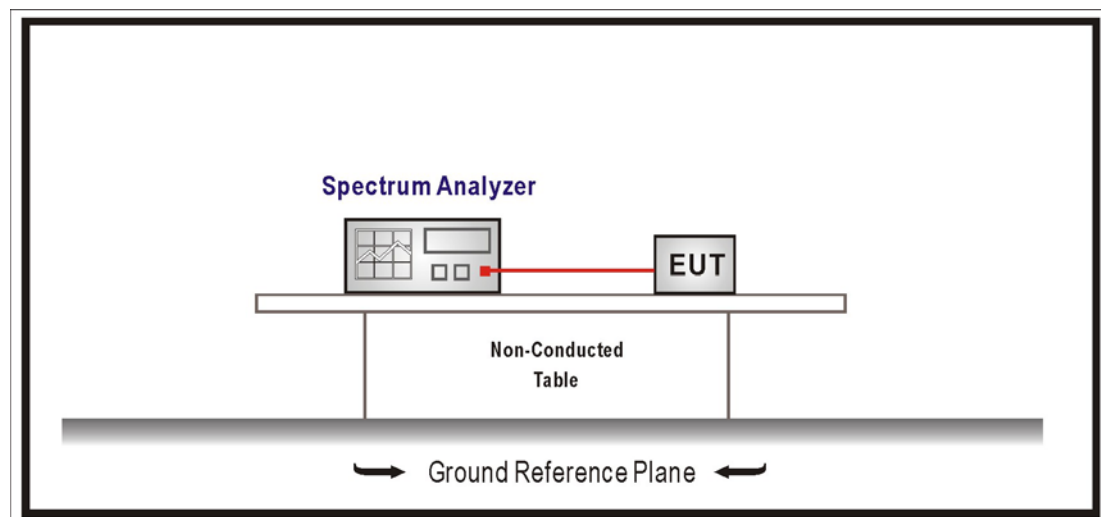
The following test equipments are used during the radiated emission tests:

99% & 26dB Bandwidth / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2014/02/03

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

3.2. Test Setup



3.3. Limits

No Required

3.4. Test Procedure

The EUT was tested according to U-NII test procedure of March 2012 KDB 789033. Set RBW 1% of the emission bandwidth, VBW equal to 3 times the RBW.

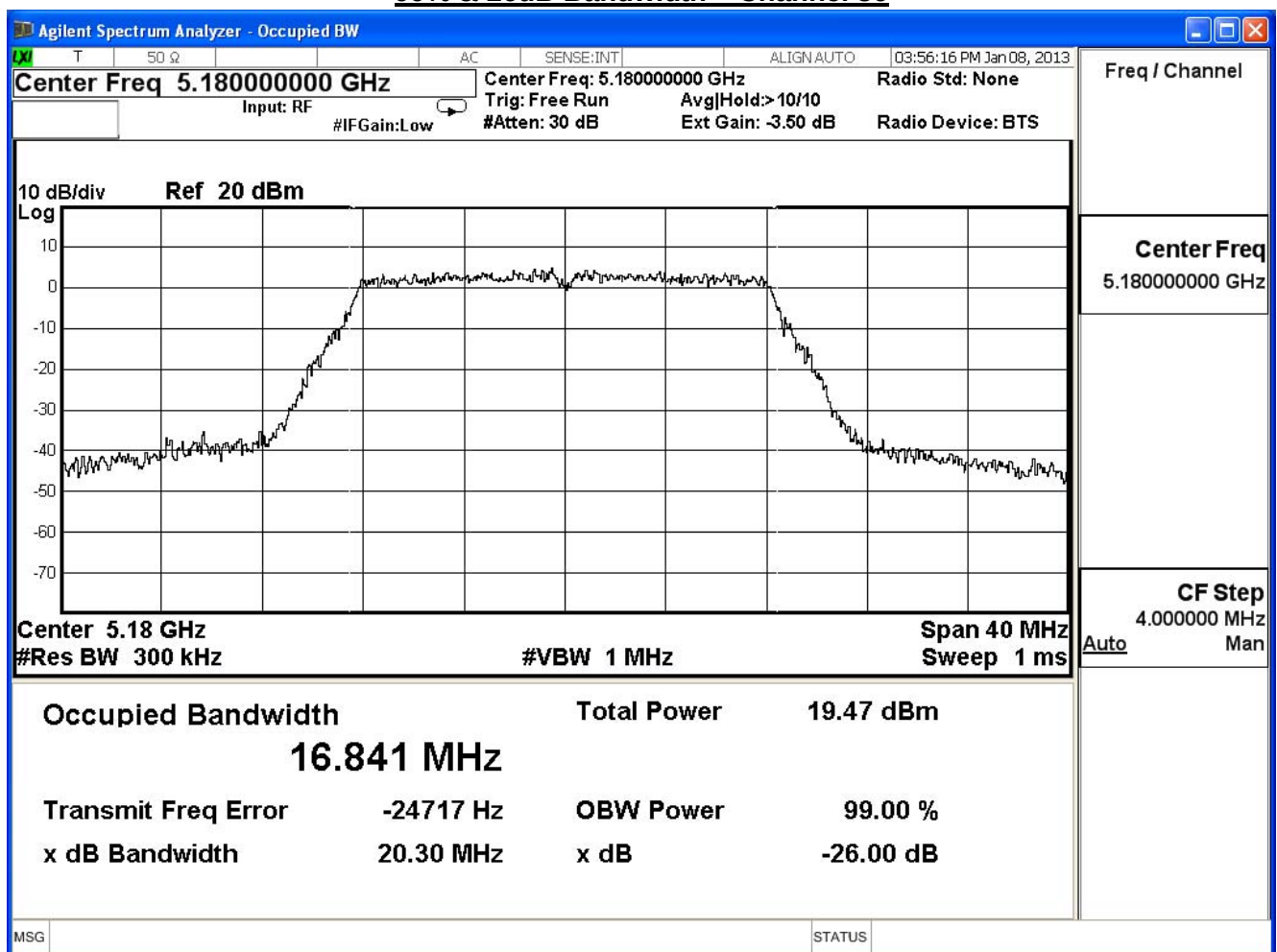
3.5. Uncertainty

The measurement uncertainty is defined as $\pm 150\text{Hz}$

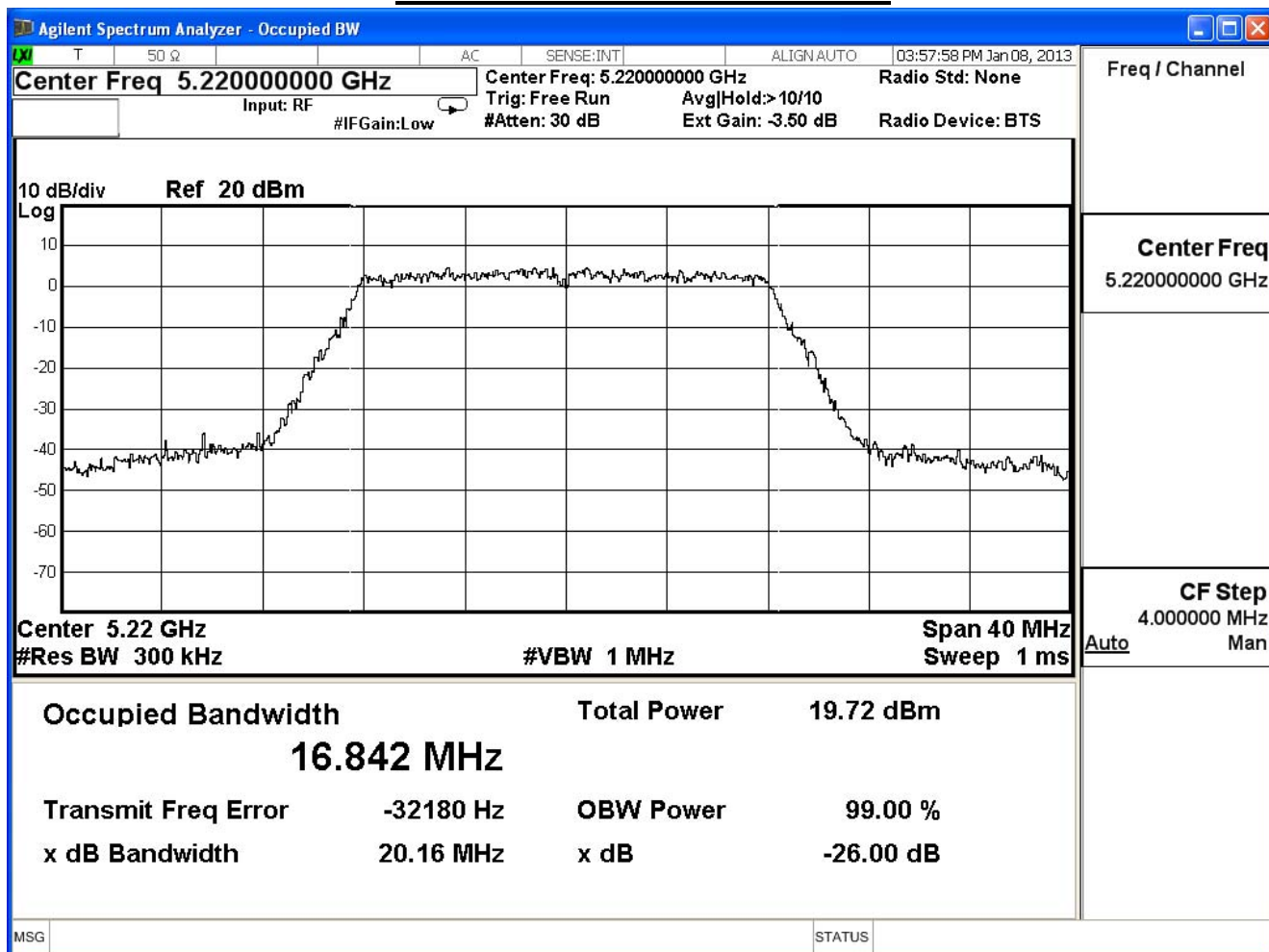
Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	99% & 26dB Bandwidth		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

802.11a					
Channel No.	Frequency (MHz)	26dB BW (MHz)	99 % OBW (MHz)	Required Limit (MHz)	Result
36	5180	20.30	16.841	--	PASS
44	5220	20.16	16.842	--	PASS
48	5240	20.34	16.842	--	PASS

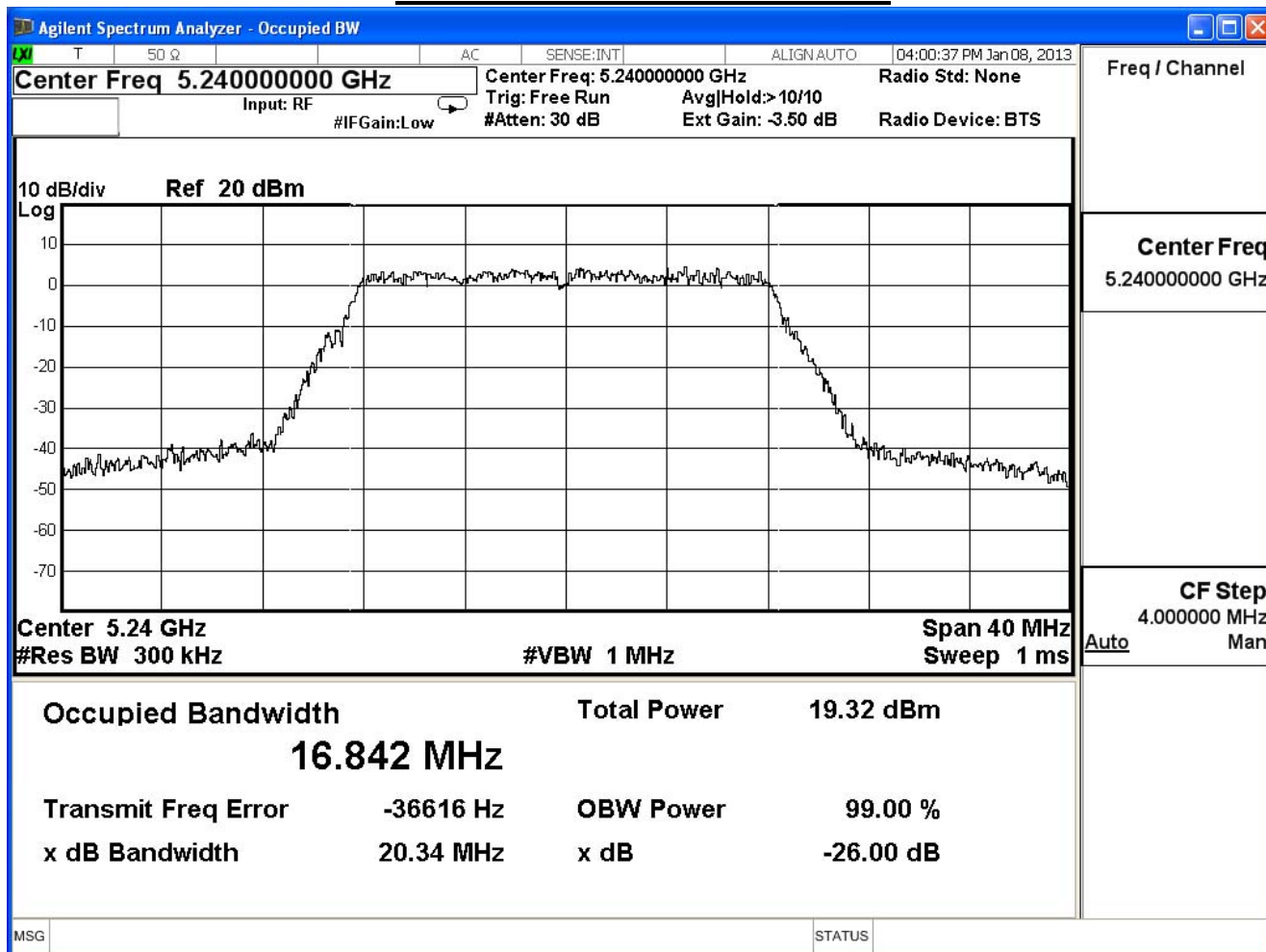
99% & 26dB Bandwidth – Channel 36



99% & 26dB Bandwidth – Channel 44



99% & 26dB Bandwidth – Channel 48

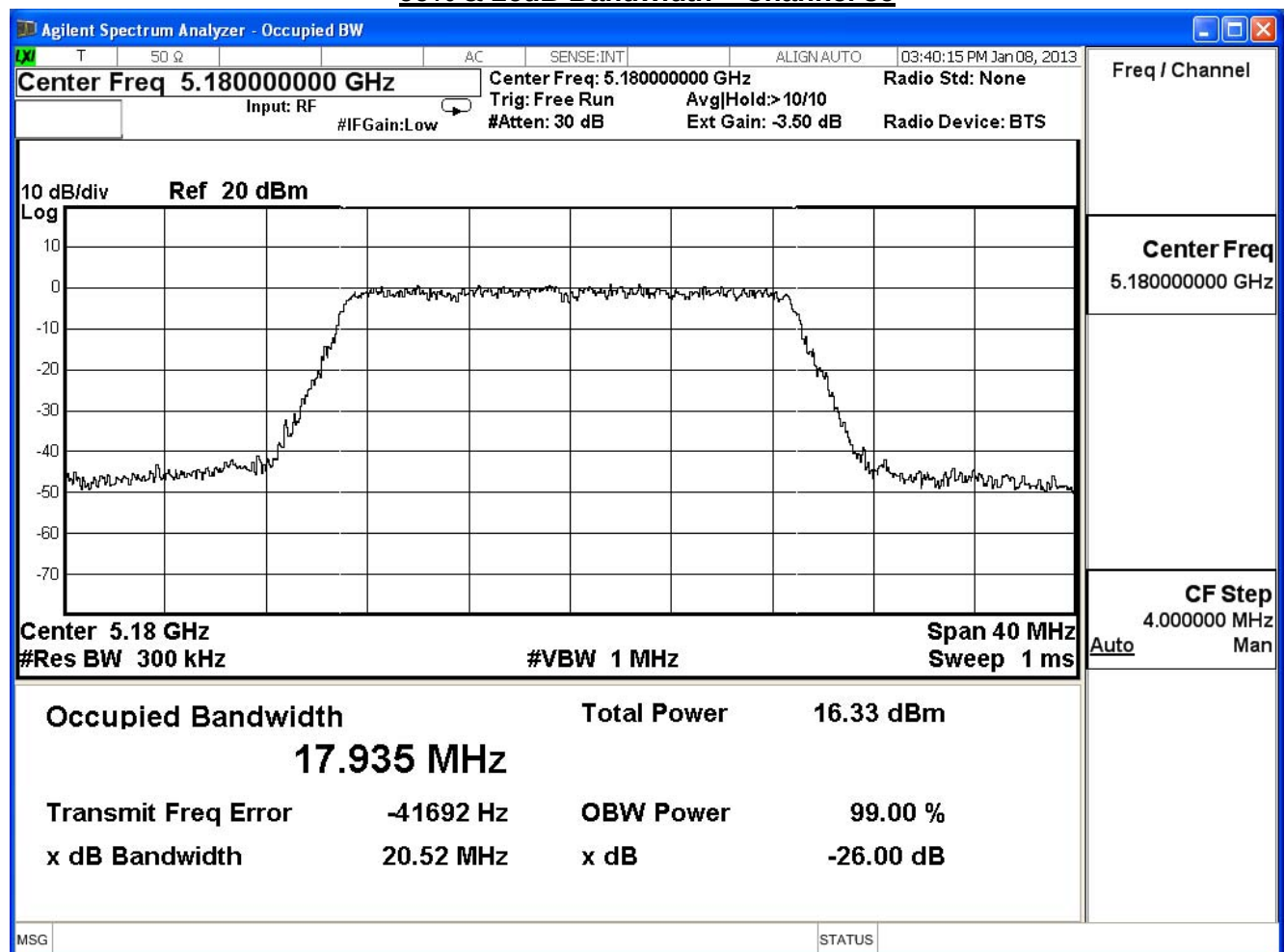


Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	99% & 26dB Bandwidth		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

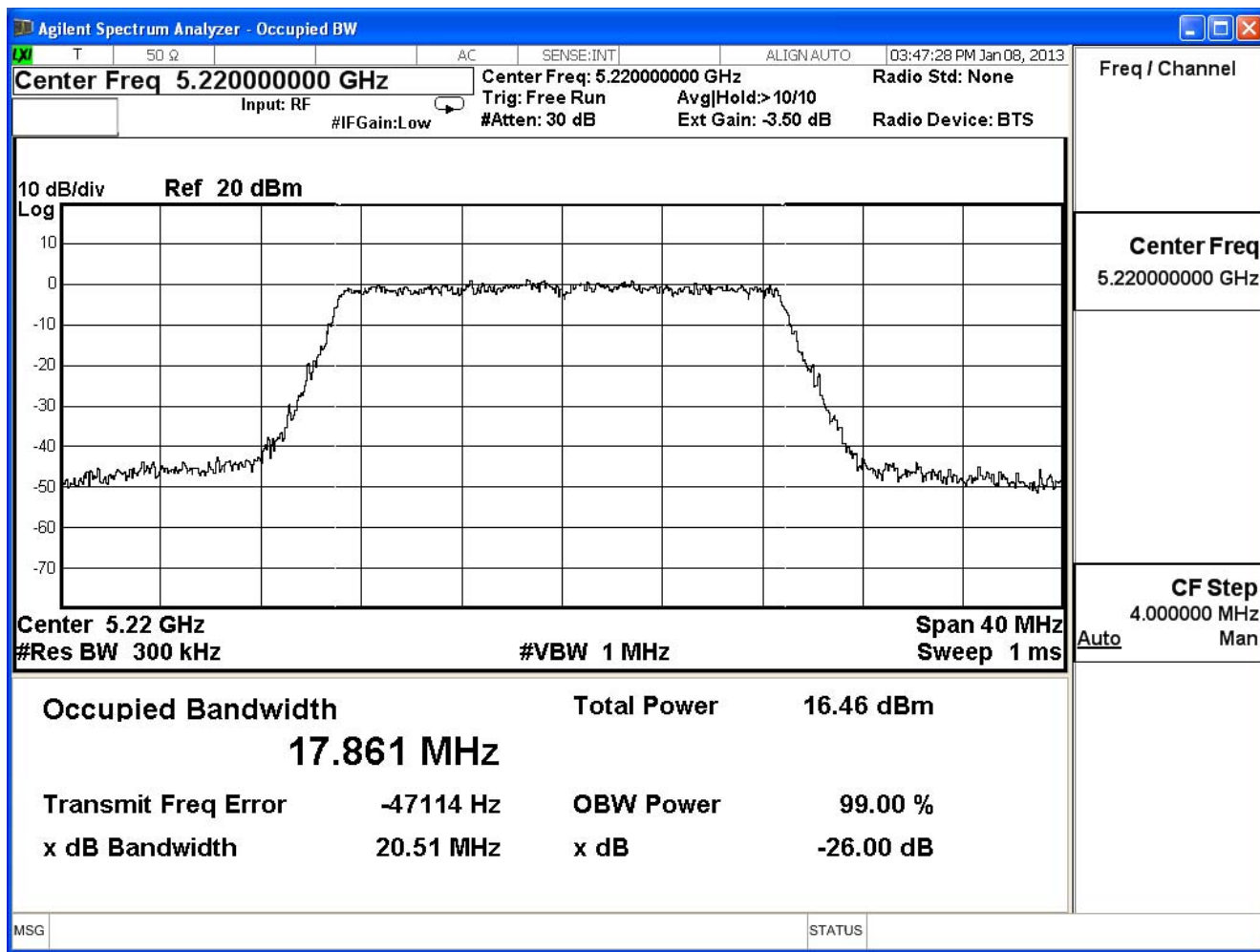
802.11n_20M(ANT 0)

Channel No.	Frequency (MHz)	26dB BW (MHz)	99 % OBW (MHz)	Required Limit (MHz)	Result
36	5180	20.52	17.935	--	PASS
44	5220	20.51	17.861	--	PASS
48	5240	20.53	17.846	--	PASS

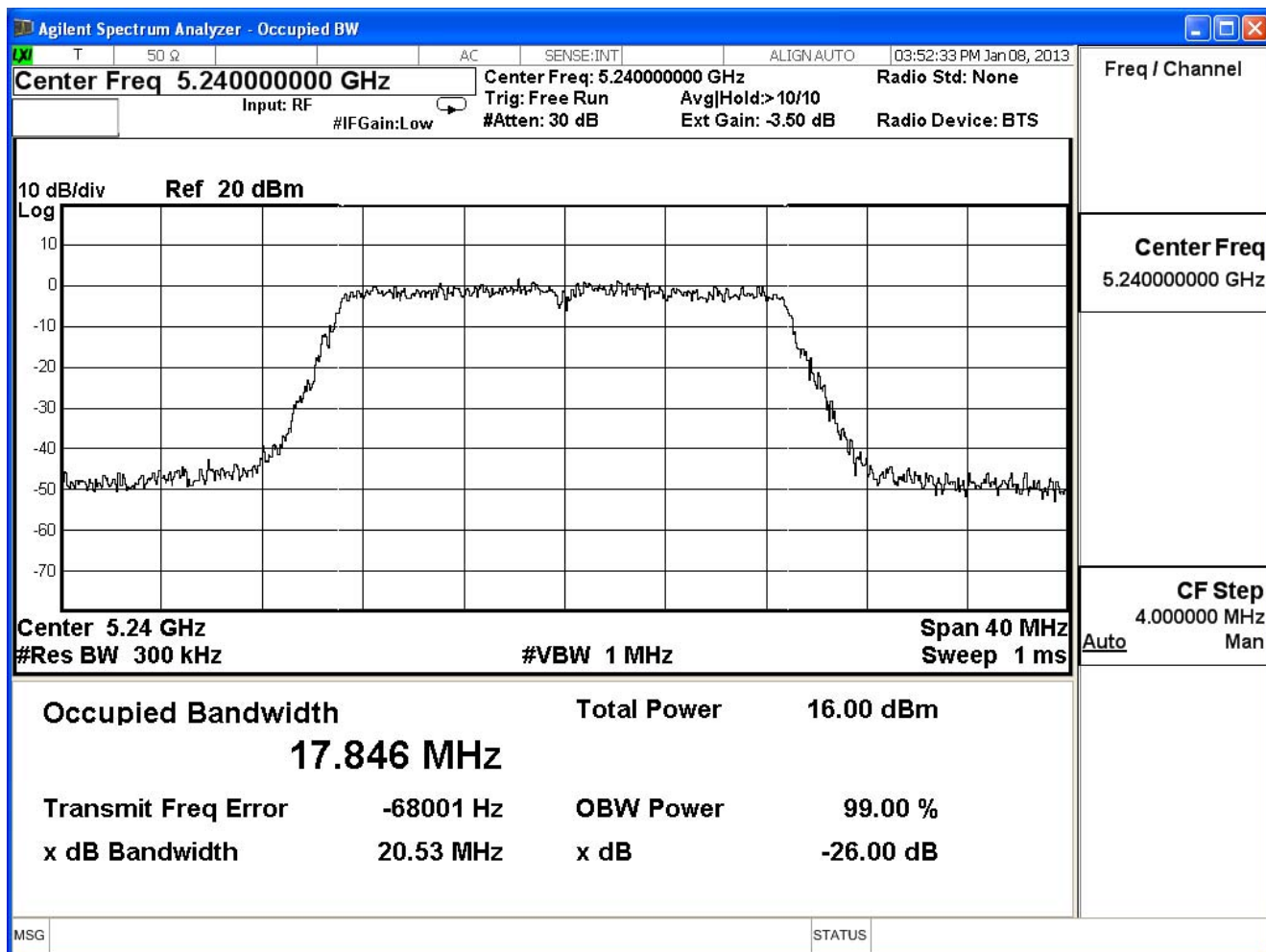
99% & 26dB Bandwidth – Channel 36



99% & 26dB Bandwidth – Channel 44



99% & 26dB Bandwidth – Channel 48

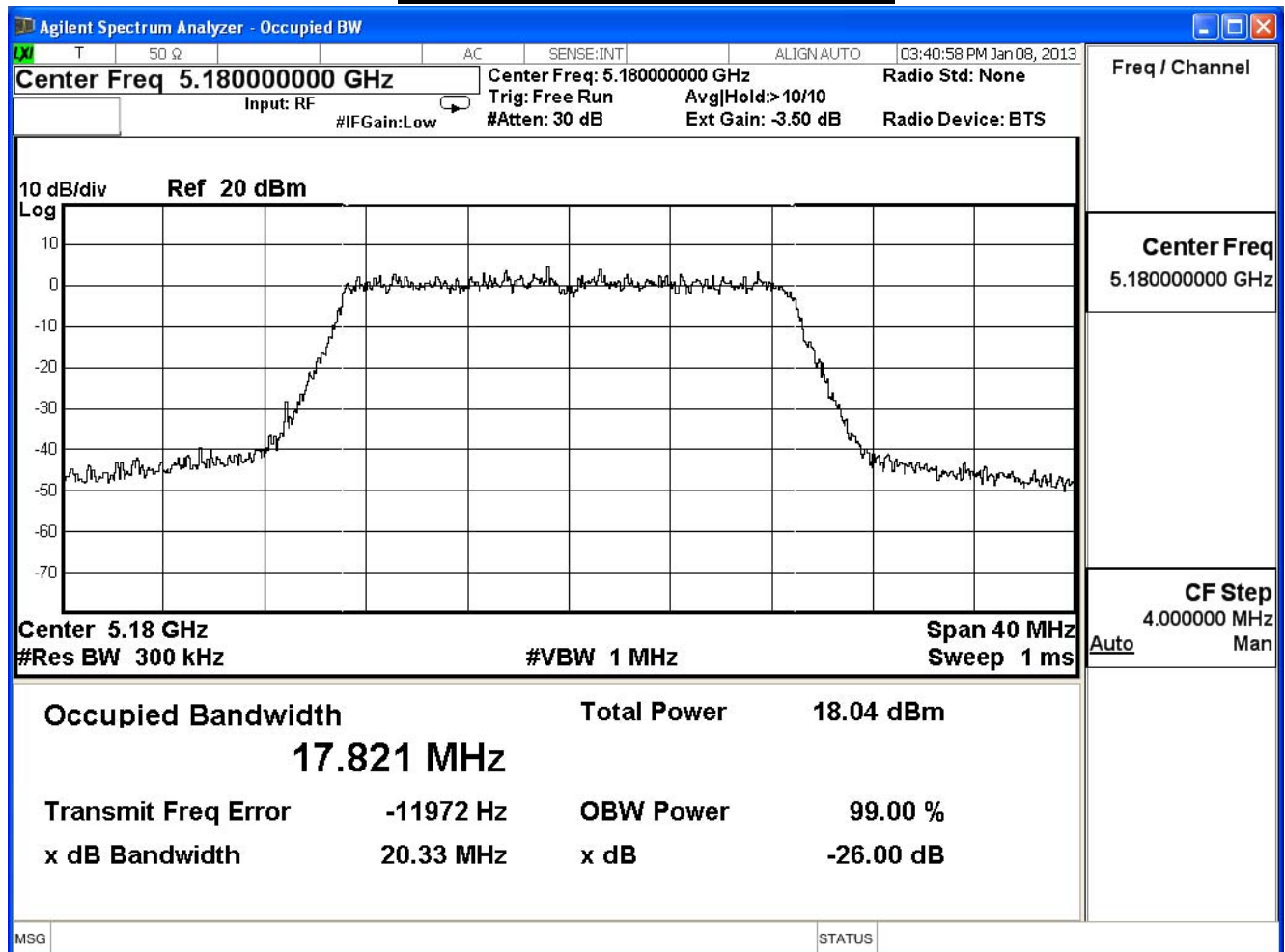


Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	99% & 26dB Bandwidth		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

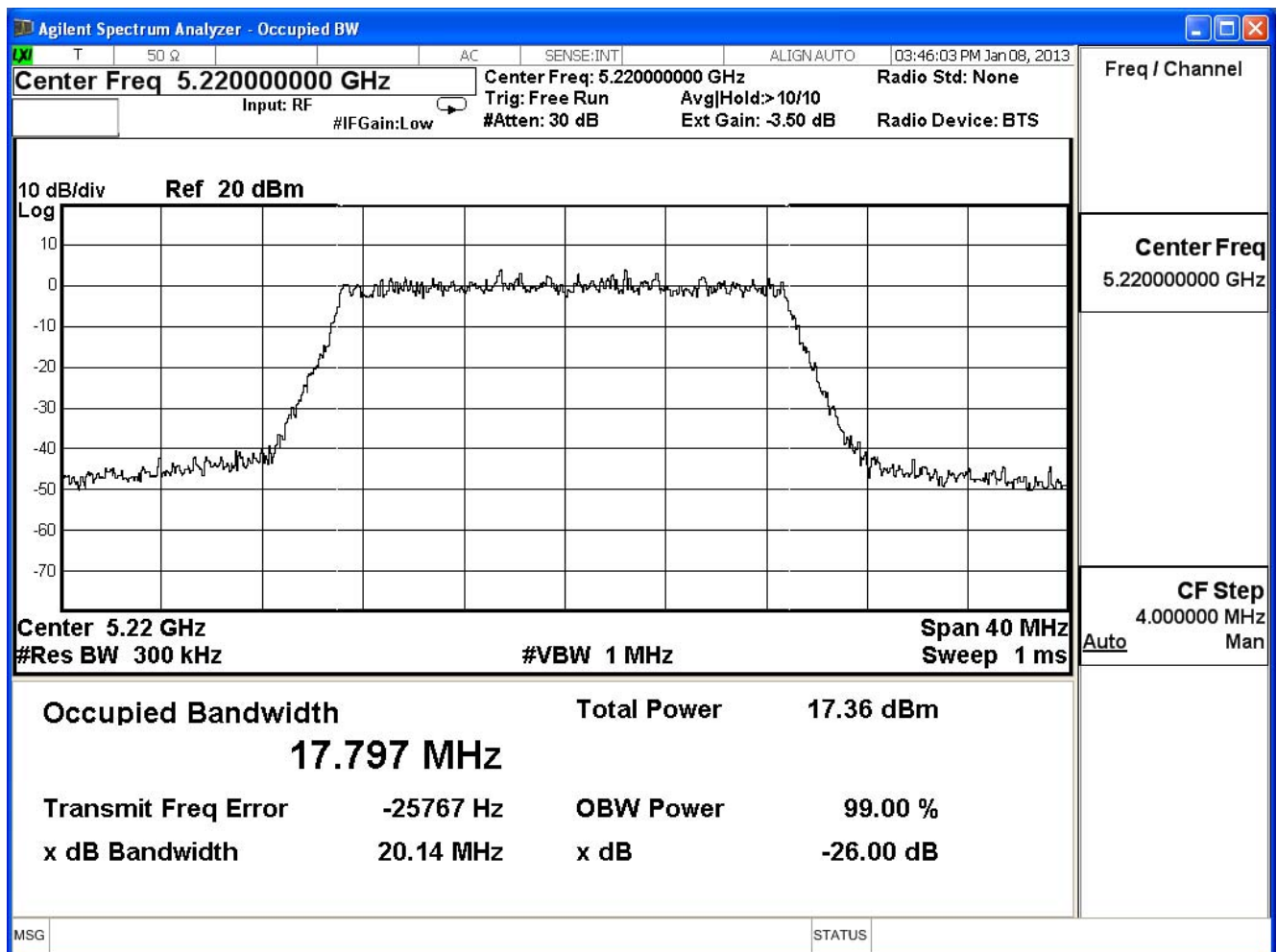
802.11n_20M(ANT 1)

Channel No.	Frequency (MHz)	26dB BW (MHz)	99 % OBW (MHz)	Required Limit (MHz)	Result
36	5180	20.33	17.821	--	PASS
44	5220	20.14	17.797	--	PASS
48	5240	20.02	17.793	--	PASS

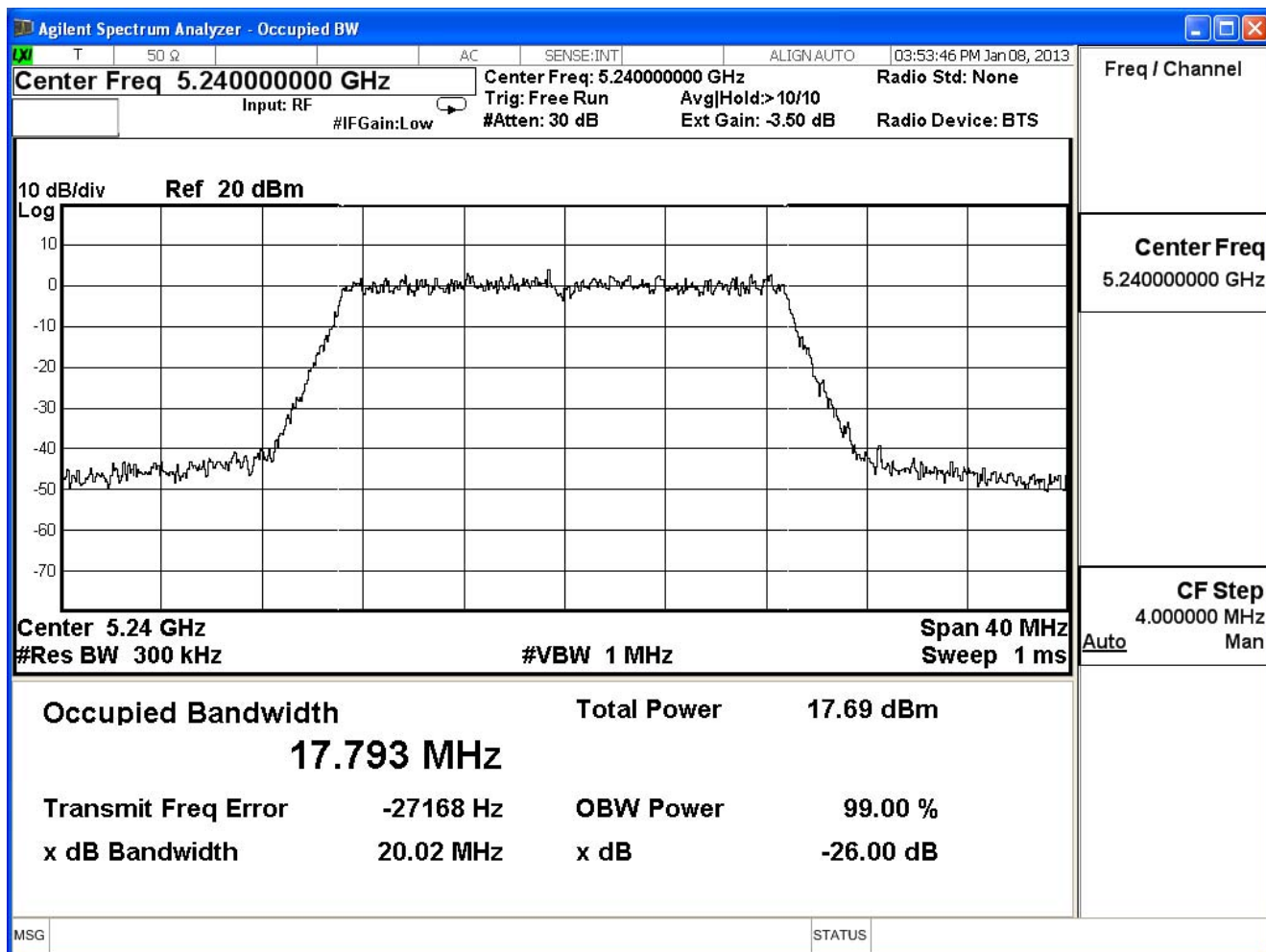
99% & 26dB Bandwidth – Channel 36



99% & 26dB Bandwidth – Channel 44



99% & 26dB Bandwidth – Channel 48

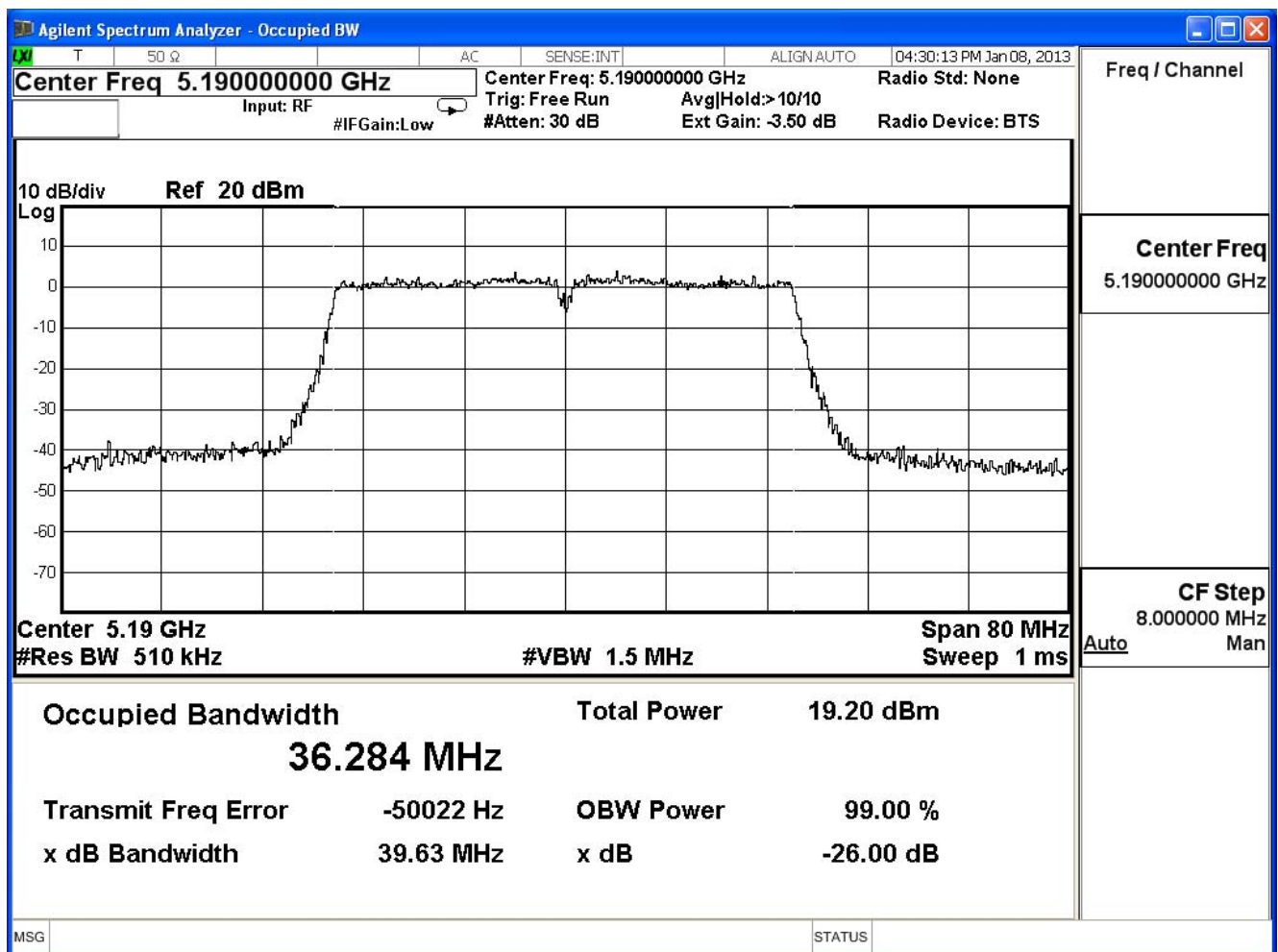


Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	99% & 26dB Bandwidth		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

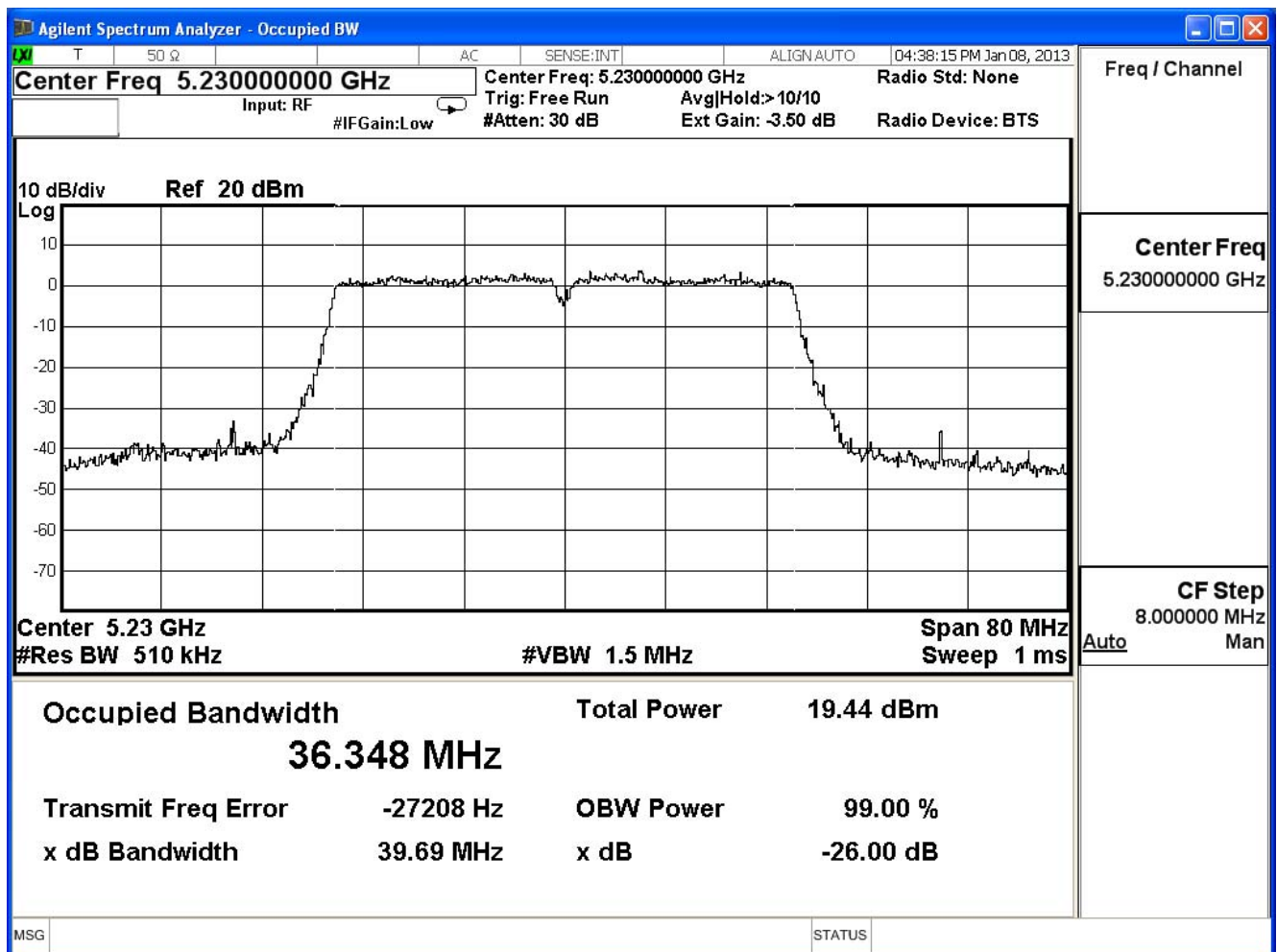
802.11n_40M(ANT 0)

Channel No.	Frequency (MHz)	26dB BW (MHz)	99 % OBW (MHz)	Required Limit (MHz)	Result
38	5190	39.63	36.284	--	PASS
46	5230	39.69	36.348	--	PASS

99% & 26dB Bandwidth – Channel 38



99% & 26dB Bandwidth – Channel 46

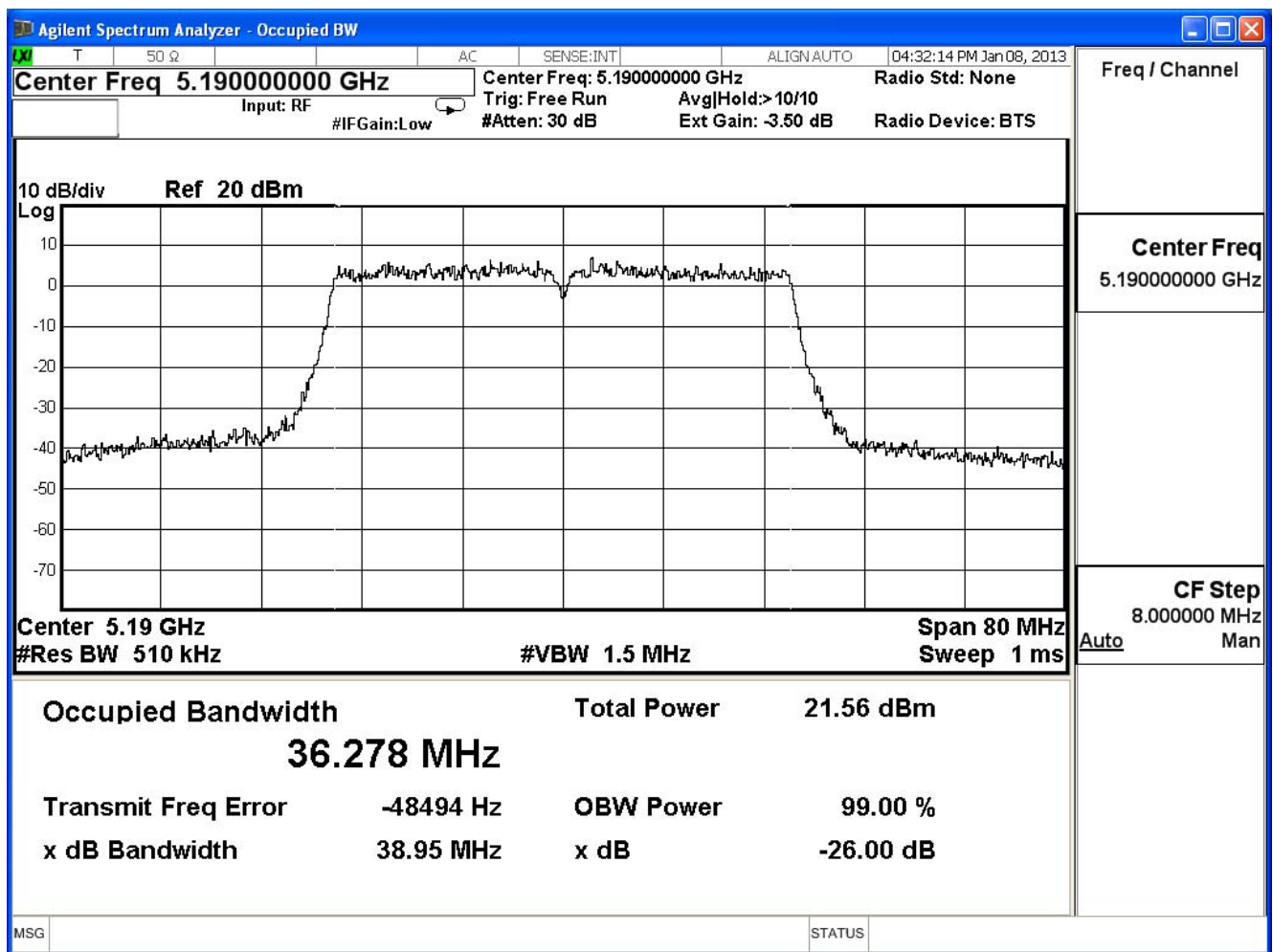


Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	99% & 26dB Bandwidth		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

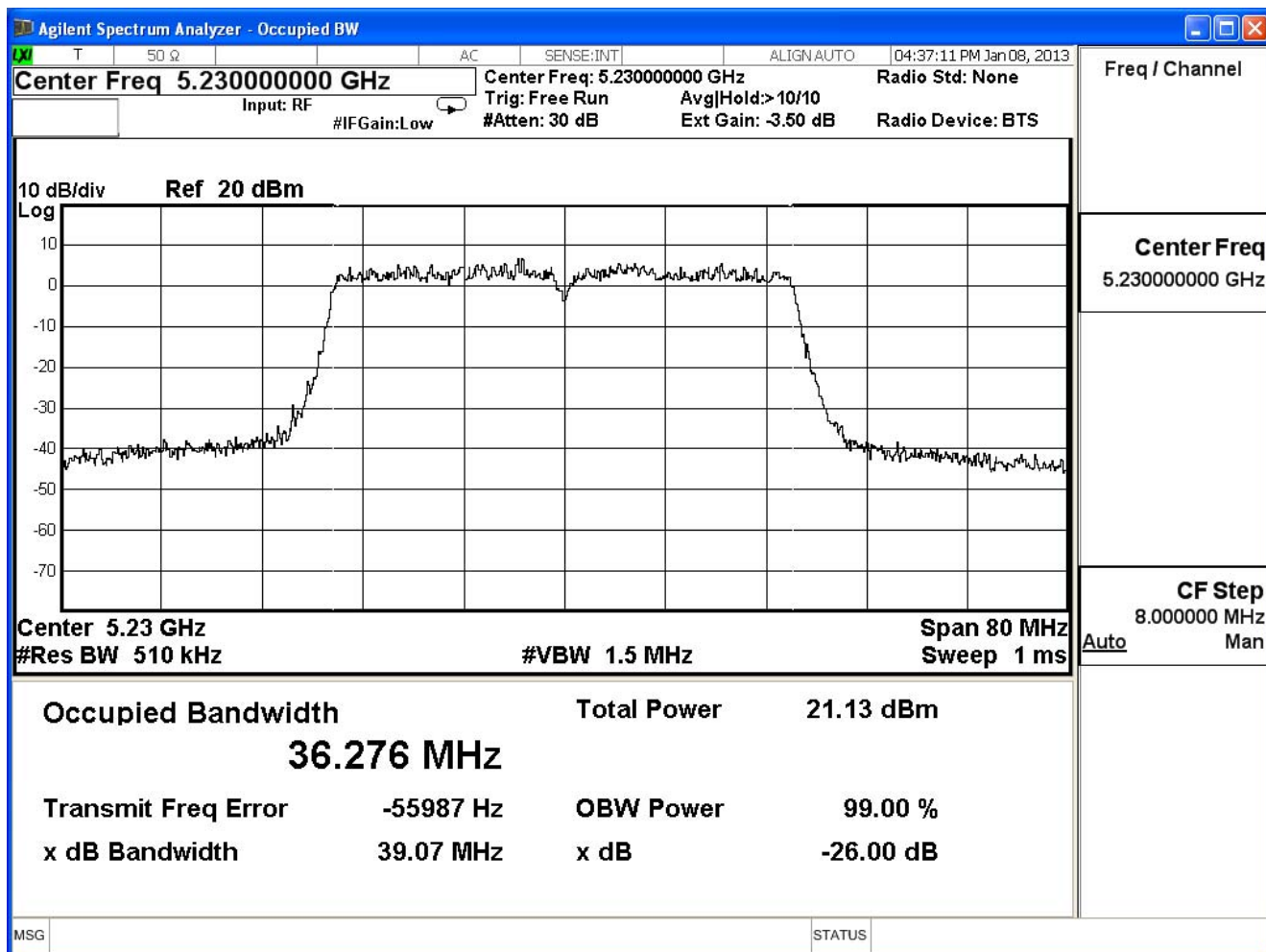
802.11n_40M(ANT 1)

Channel No.	Frequency (MHz)	26dB BW (MHz)	99 % OBW (MHz)	Required Limit (MHz)	Result
38	5190	38.95	36.278	--	PASS
46	5230	39.07	36.276	--	PASS

99% & 26dB Bandwidth – Channel 38



99% & 26dB Bandwidth – Channel 46

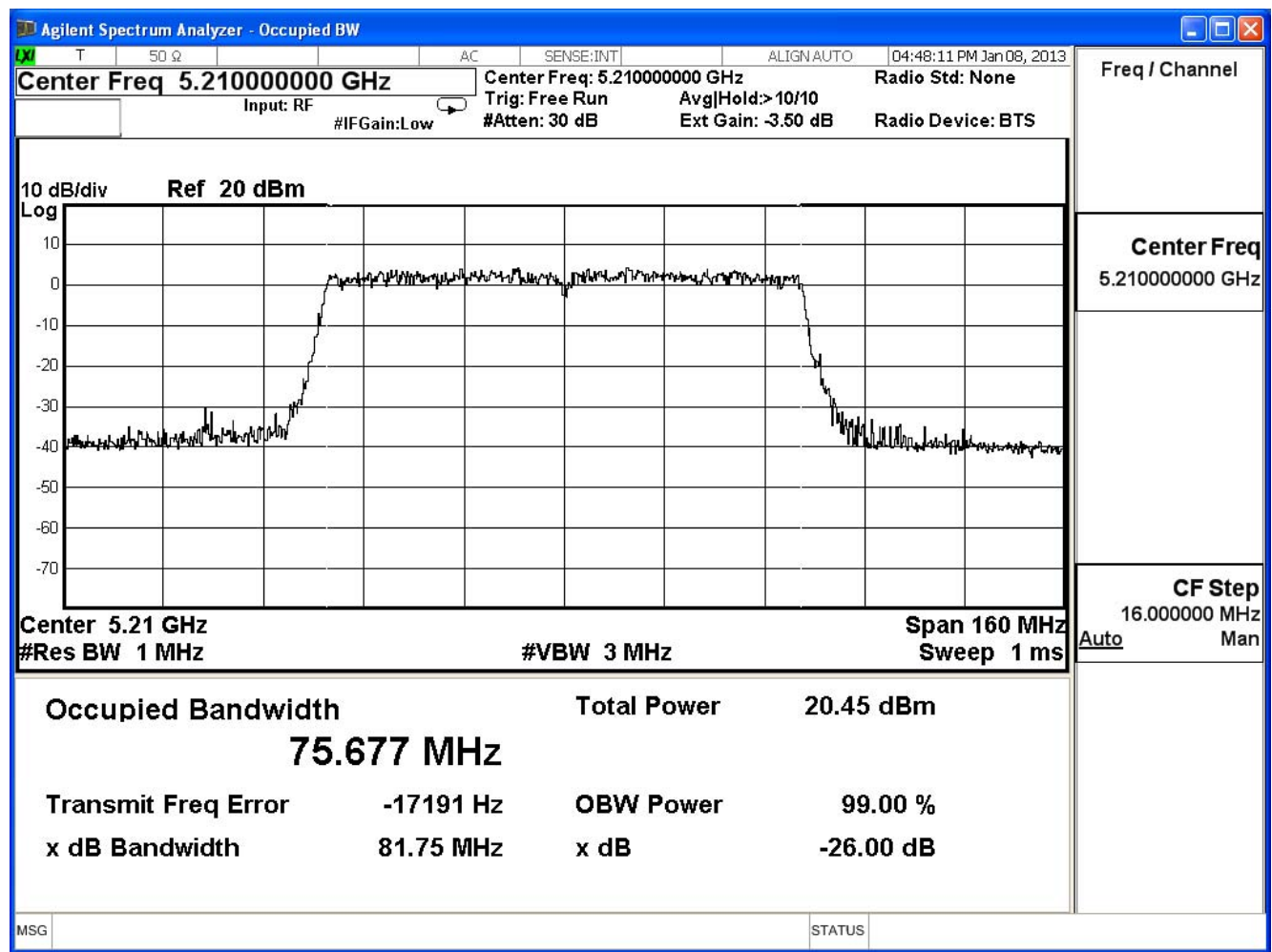


Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	99% & 26dB Bandwidth		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

802.11ac_80M(ANT 0)

Channel No.	Frequency (MHz)	26dB BW (MHz)	99 % OBW (MHz)	Required Limit (MHz)	Result
42	5210	81.75	75.677	--	PASS

99% & 26dB Bandwidth – Channel 42

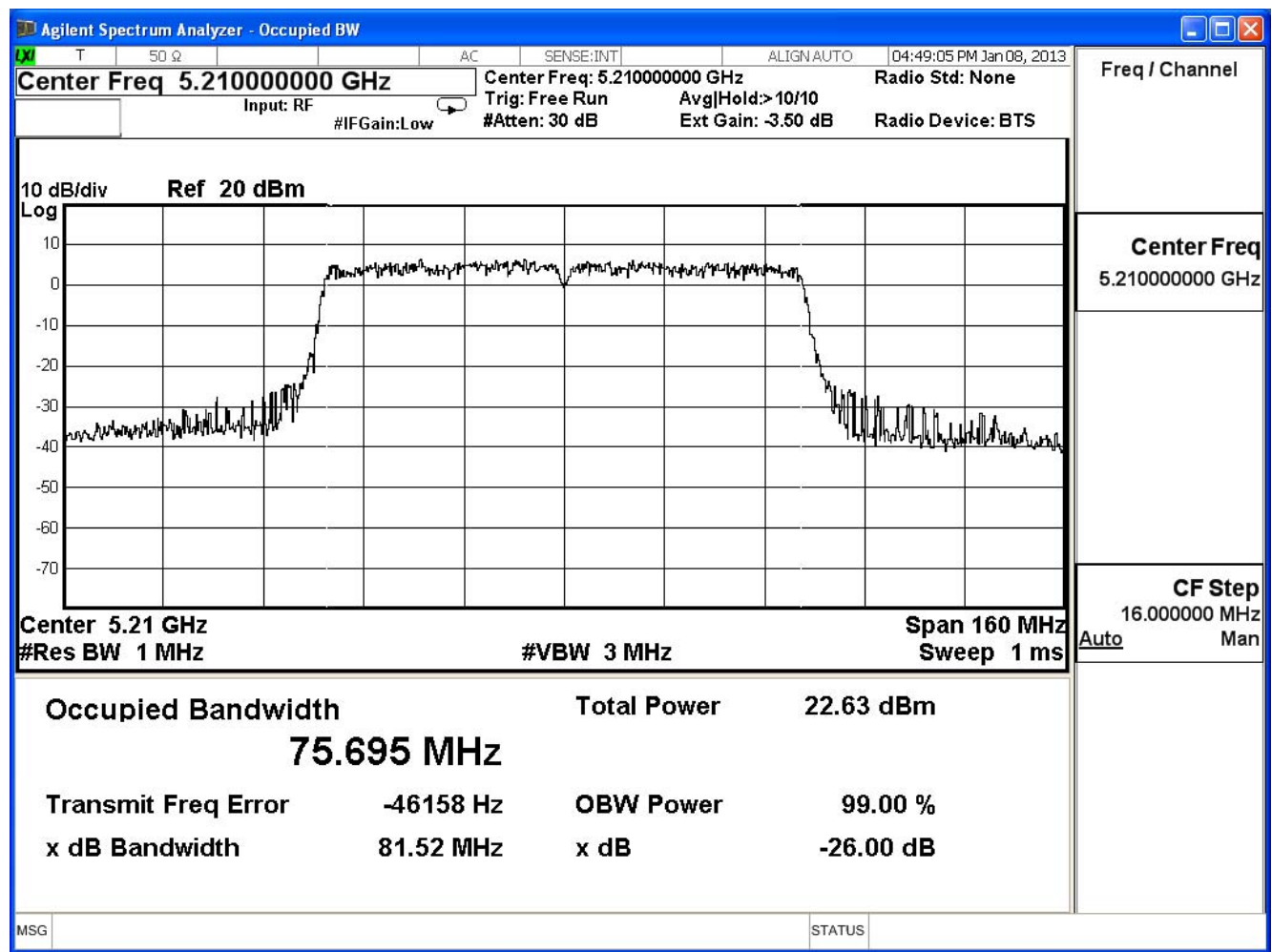


Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	99% & 26dB Bandwidth		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

802.11ac_80M(ANT 1)

Channel No.	Frequency (MHz)	26dB BW (MHz)	99 % OBW (MHz)	Required Limit (MHz)	Result
42	5210	81.52	75.695	--	PASS

99% & 26dB Bandwidth – Channel 42



4. Peak Transmit Output

4.1. Test Equipment

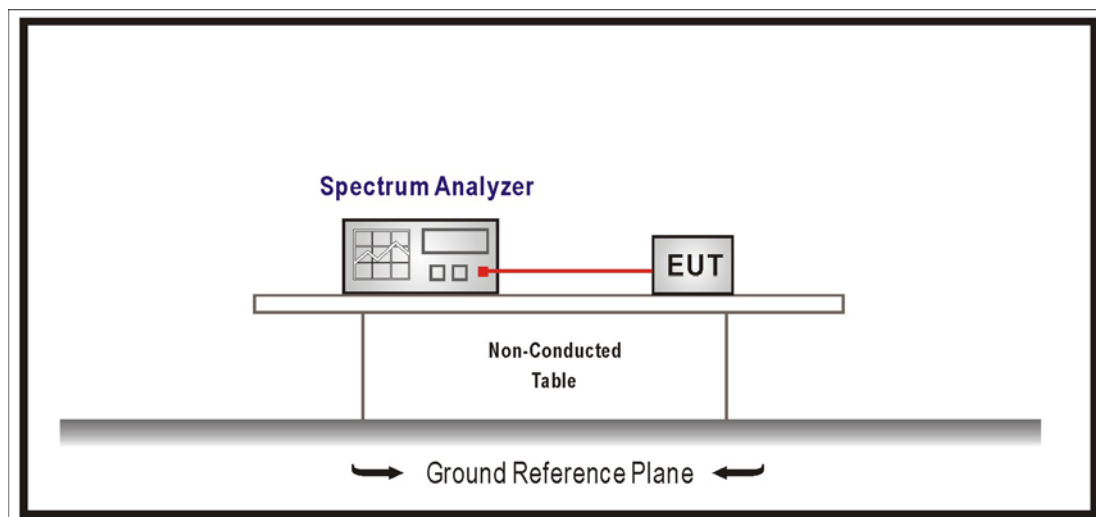
The following test equipments are used during the radiated emission tests:

Peak Transmit Output / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2014/02/03

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

4.2. Test Setup



4.3. Limits

1. For the band 5.15-5.25 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 50 mW or $4 \text{ dBm} + 10\log B$, where B is the 26dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
2. For the band 5.25-5.35 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10\log B$, where B is the 26dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
3. For the band 5.725-5.825 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 1W or $17 \text{ dBm} + 10\log B$, where B is the 26dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

4.4. Test Procedure

The EUT was setup to ANSI C63.4, 2009; tested to U-NII test procedure of March 2012 KDB 789033 for compliance to FCC 47CFR Subpart E requirements. The Method SA-1 of the Maximum conducted output power was used.

Set RBW=1MHz, VBW=3MHz with RMS detector and trace average 100 traces in power averaging mode. Set span to encompass the entire emission bandwidth (EBW) of the signal. Compute power by integrating the spectrum across the 26 dB EBW of the signal.

4.5. Uncertainty

The measurement uncertainty is defined as $\pm 1.27 \text{ dB}$

4.6. Test Result

Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	Peak Transmit Output		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

802.11a						
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit		Result
				Fixed Limit (dBm)	4+10logB Limit (dBm)	
36	5180	20.30	13.73	≤ 16.83	≤17.07	Pass
44	5220	20.16	13.67	≤ 16.83	≤17.04	Pass
48	5240	20.34	13.60	≤ 16.83	≤17.08	Pass

The worst emission of data rate is 6 Mbps.

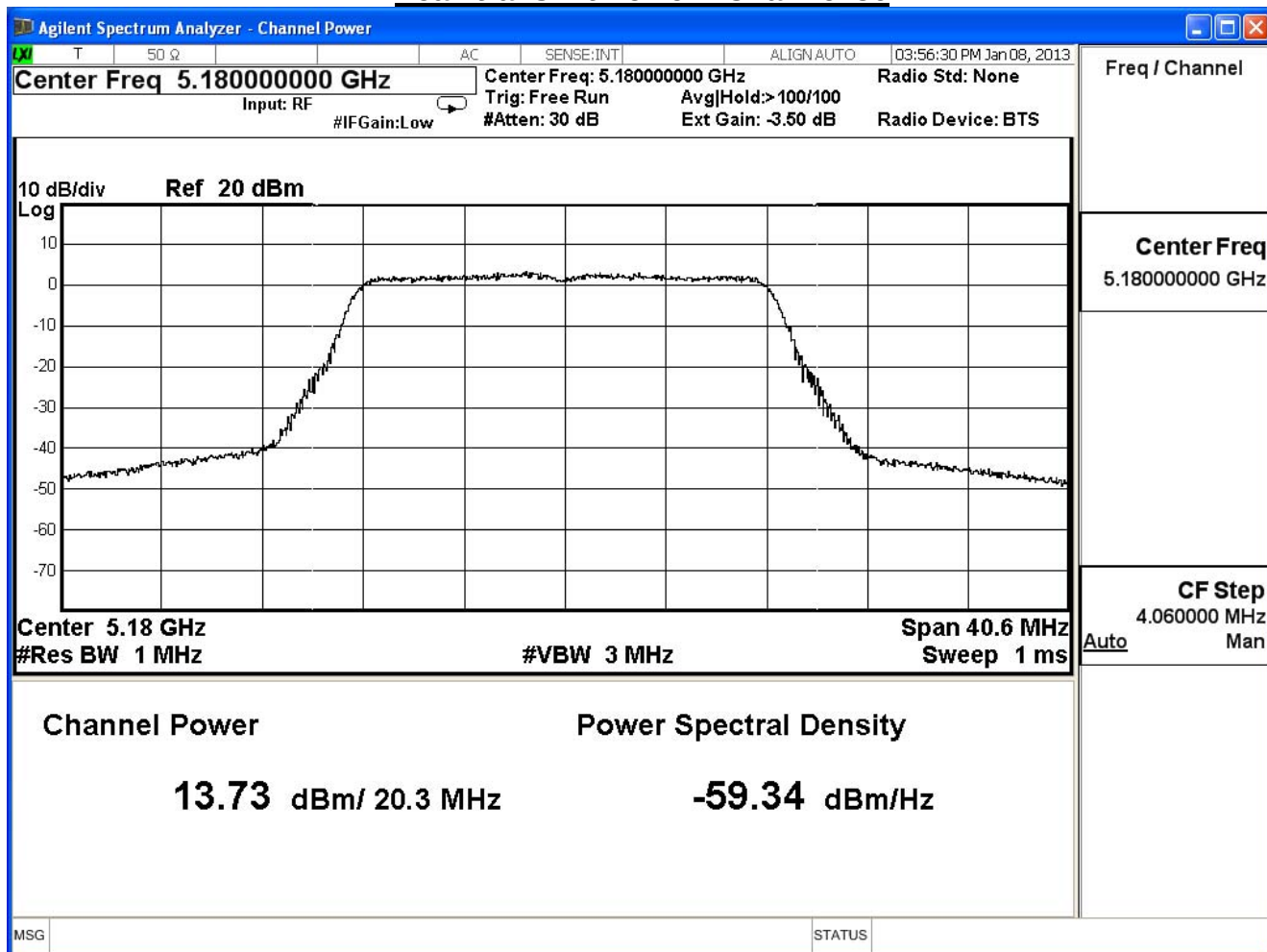
Peak Power Output (dBm)									
Channel No	Frequency (MHz)	Data Rate							Required Limit
		6	12	18	24	36	48	54	
36	5180	13.73	--	--	--	--	--	--	17dBm or 4dBm+10logB
44	5220	13.67	13.66	13.65	13.62	13.61	13.59	13.58	
48	5240	13.60	--	--	--	--	--	--	

Note:

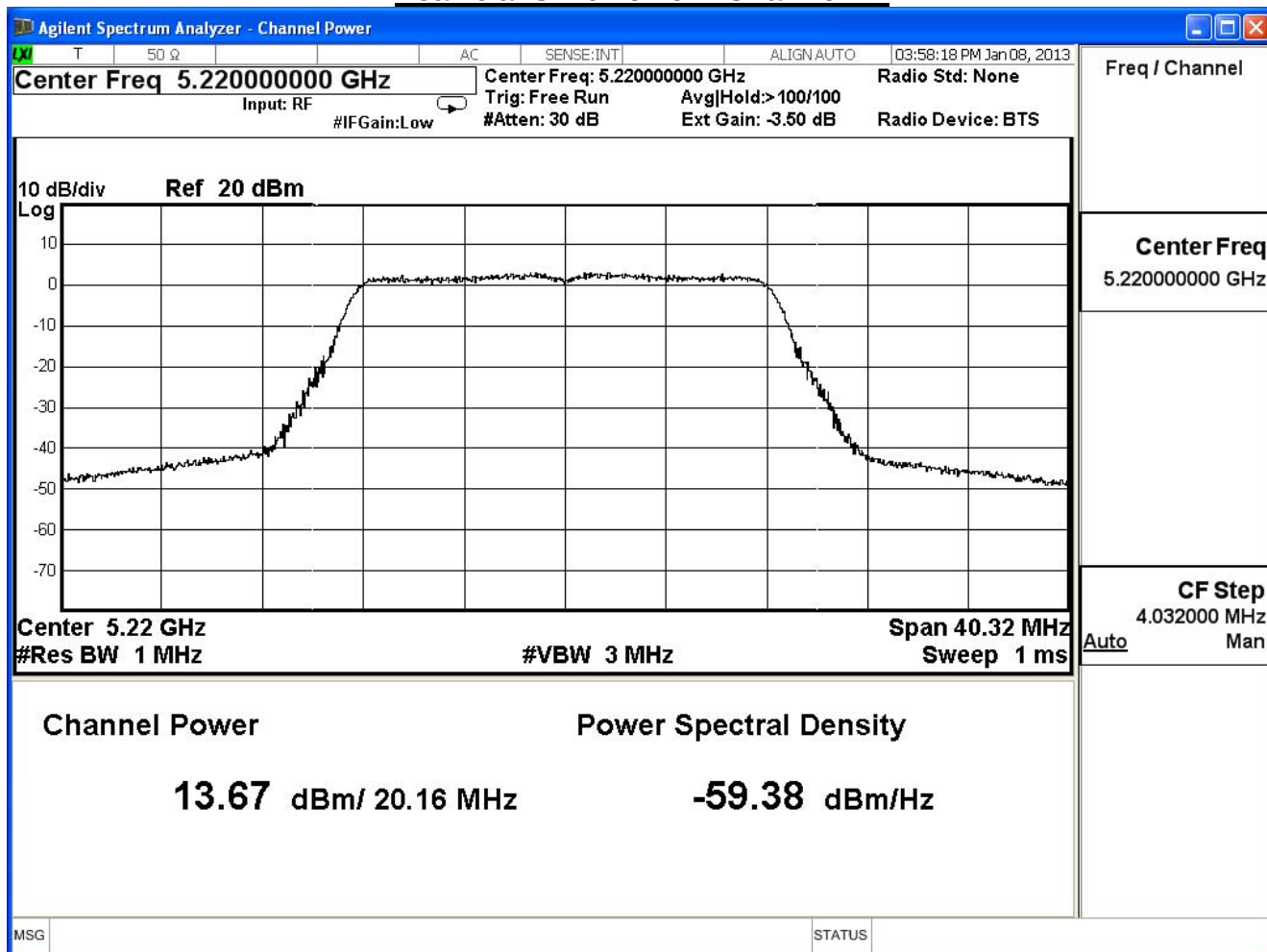
$10\log(\text{Ant N}) + \text{max Gain} = 10\log(2) + 3.07 = 6.17\text{dBi}$

Required Limit = $17\text{dBm} - (6.17\text{dBi} - 6\text{dBi}) = 17 - 0.17 = 16.83\text{ dBm}$

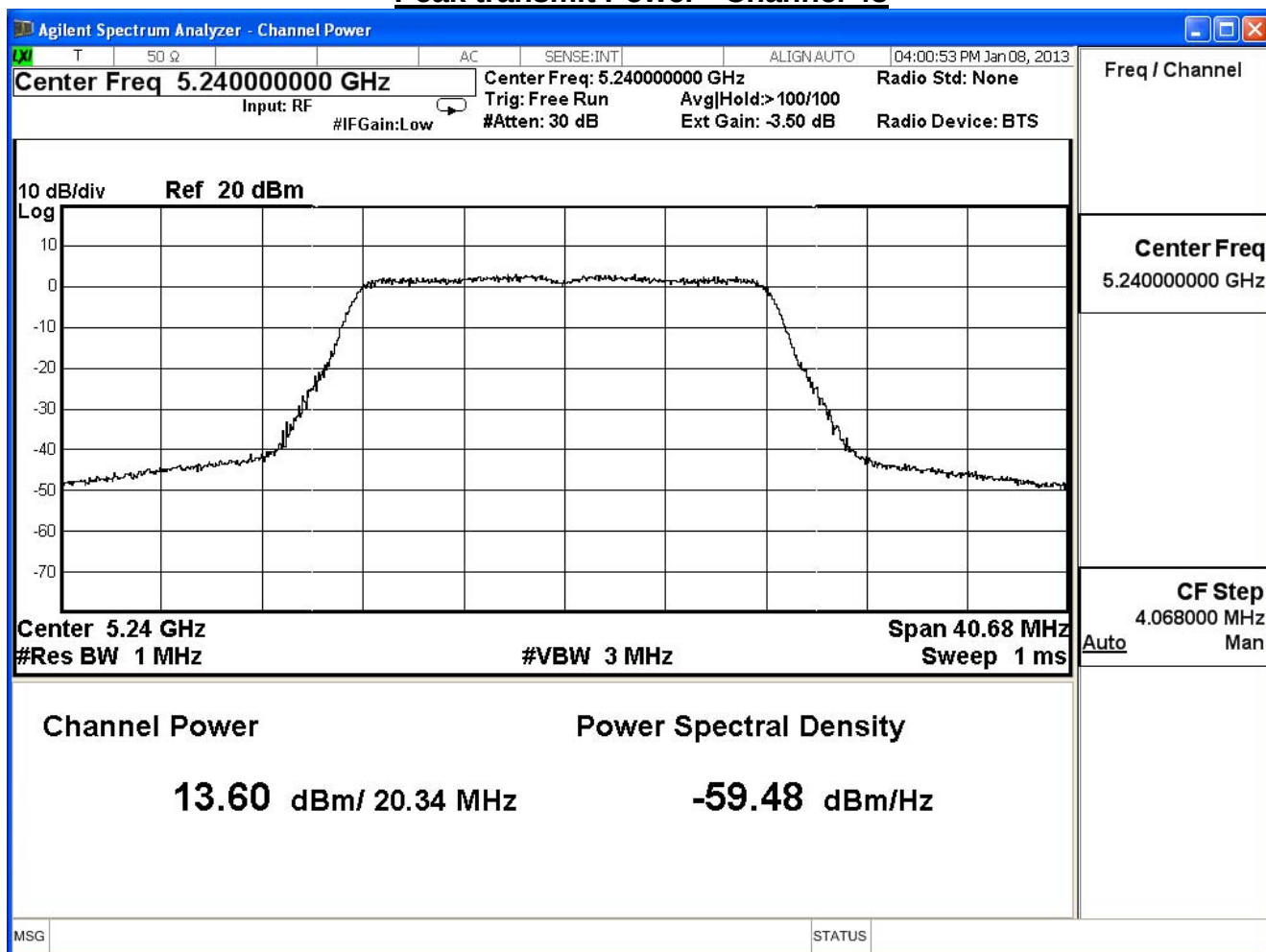
Peak transmit Power - Channel 36



Peak transmit Power - Channel 44



Peak transmit Power - Channel 48



Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	Peak Transmit Output		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

IEEE 802.11n(20MHz)_ANT 0						
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit		Result
				Fixed Limit (dBm)	4+10logB Limit (dBm)	
36	5180	20.52	9.99	≤ 16.83	≤17.12	Pass
44	5220	20.51	10.18	≤ 16.83	≤17.11	Pass
48	5240	20.53	10.49	≤ 16.83	≤17.12	Pass

The worst emission of data rate is 19.5Mbps.

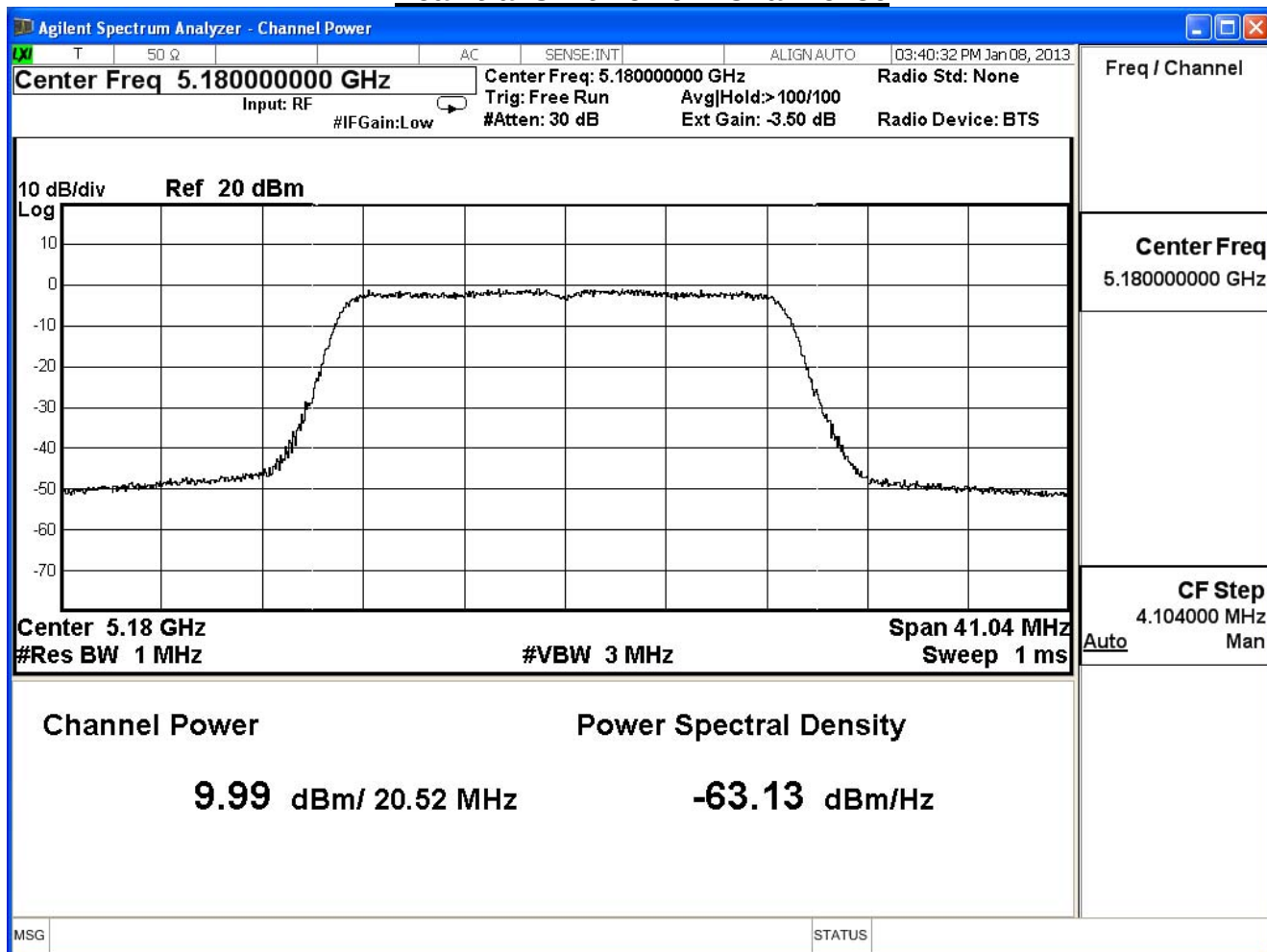
Peak Power Output (dBm)										
MCS Index		16	17	18	19	20	21	22	23	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		19.5	39	58.5	78	117	156	175.5	195	
36	5180	9.99	--	--	--	--	--	--	--	17dBm or 4dBm+10logB
44	5220	10.18	10.17	10.15	10.14	10.12	10.13	10.11	10.10	
48	5240	10.49	--	--	--	--	--	--	--	

Note:

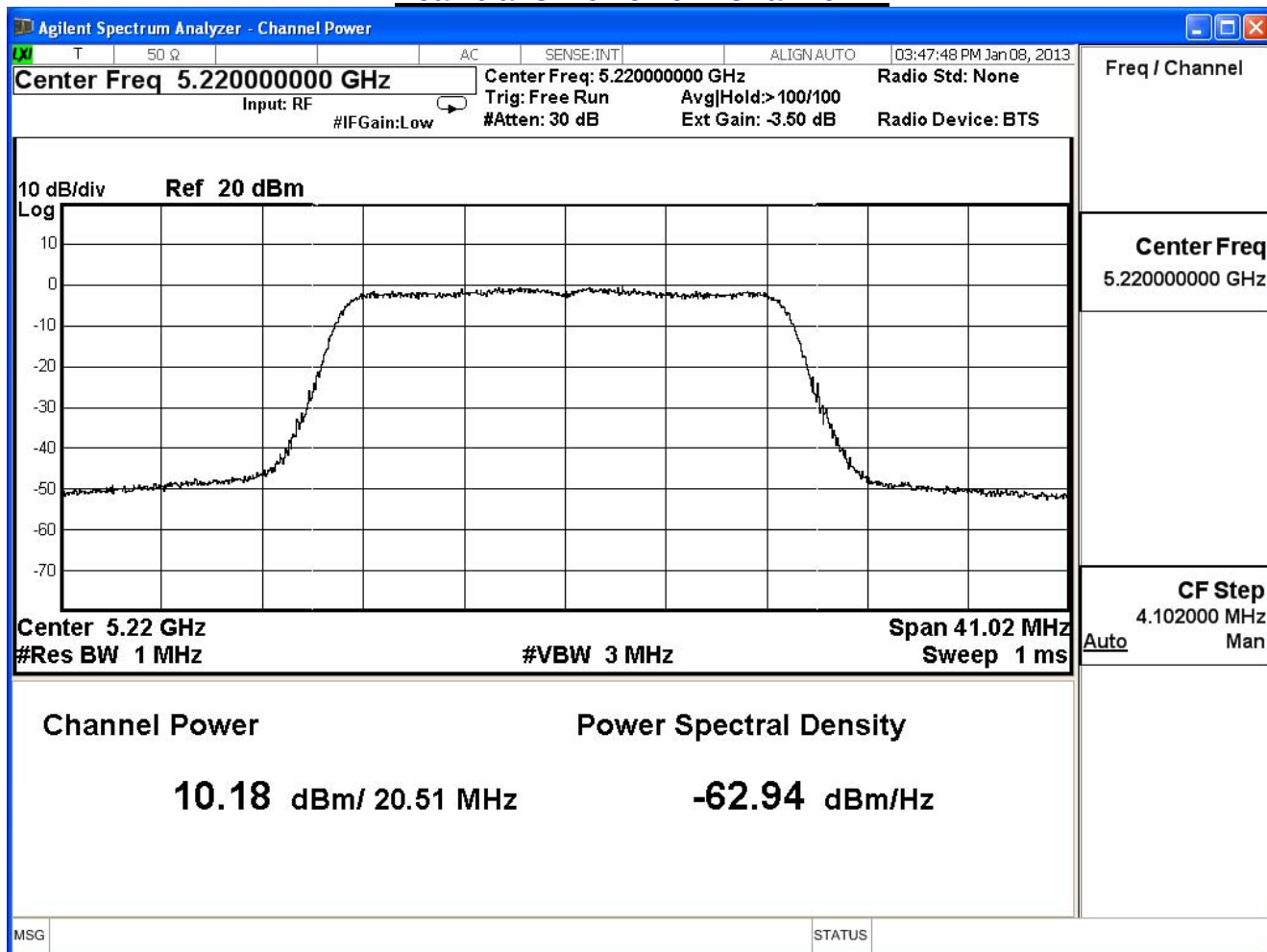
$10\log(\text{Ant N}) + \text{max Gain} = 10\log(2) + 3.07 = 6.17\text{dBi}$

Required Limit = 17dBm - (6.17dBi – 6dBi) = 17 – 0.17 = 16.83 dBm

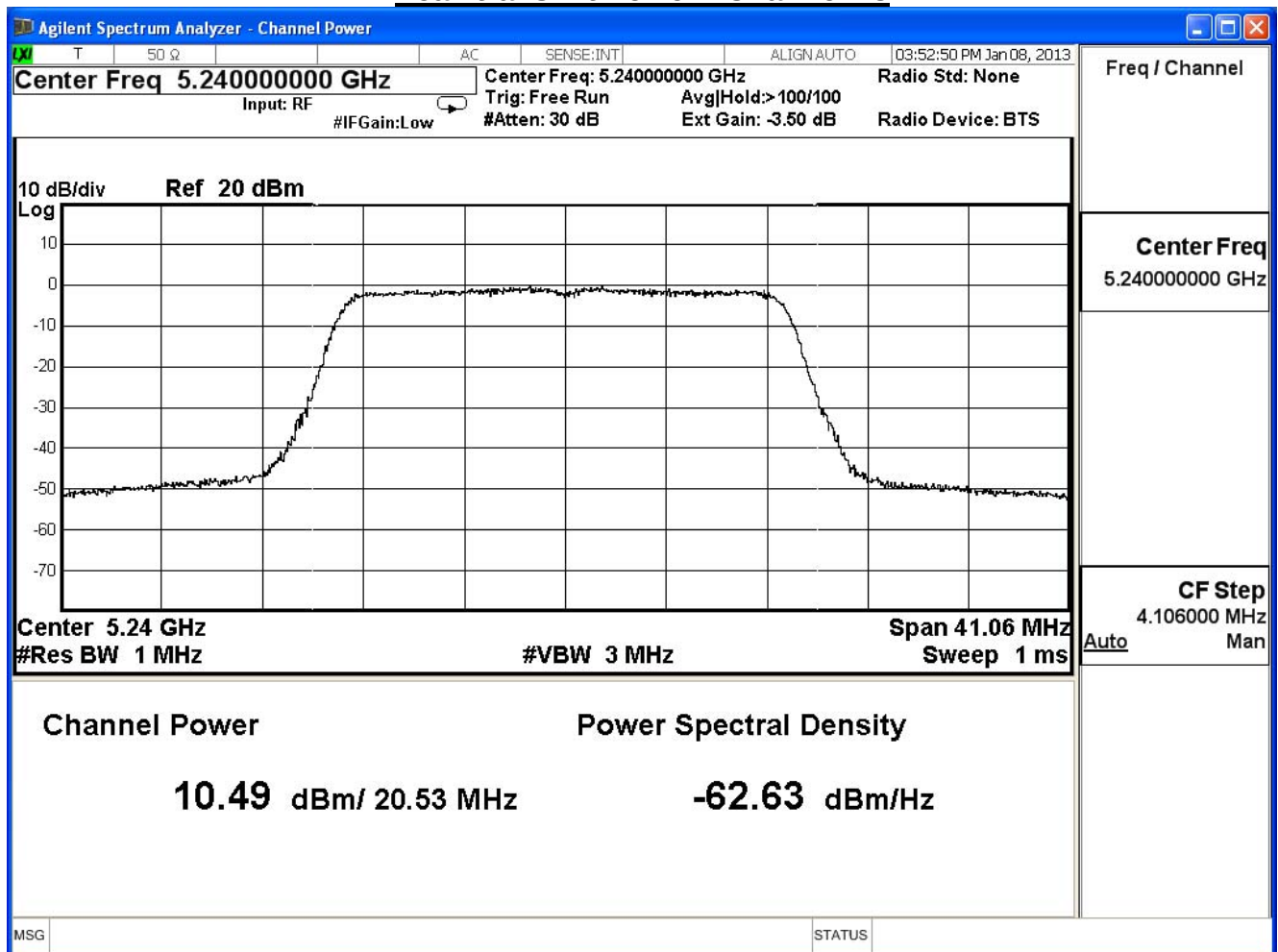
Peak transmit Power - Channel 36



Peak transmit Power - Channel 44



Peak transmit Power - Channel 48



Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	Peak Transmit Output		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

IEEE 802.11n(20MHz)_ANT 1						
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit		Result
				Fixed Limit (dBm)	4+10logB Limit (dBm)	
36	5180	20.33	11.79	≤ 16.83	≤17.08	Pass
44	5220	20.14	11.46	≤ 16.83	≤17.04	Pass
48	5240	20.02	11.68	≤ 16.83	≤17.01	Pass

The worst emission of data rate is 19.5Mbps.

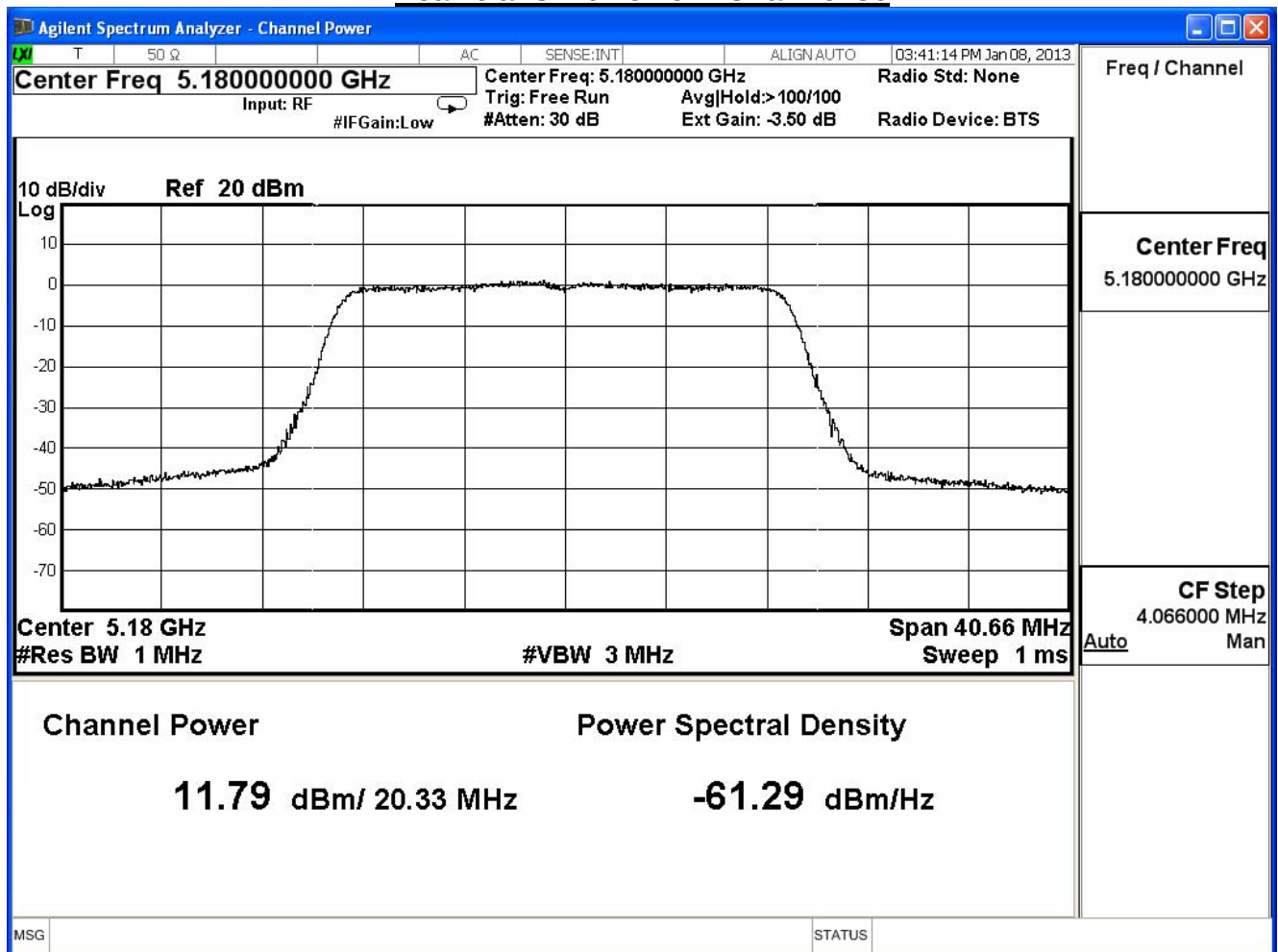
Peak Power Output (dBm)										
MCS Index		16	17	18	19	20	21	22	23	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		19.5	39	58.5	78	117	156	175.5	195	
36	5180	11.79	--	--	--	--	--	--	--	17dBm or 4dBm+10logB
44	5220	11.46	11.45	11.42	11.41	11.40	11.39	11.38	11.37	
48	5240	11.68	--	--	--	--	--	--	--	

Note:

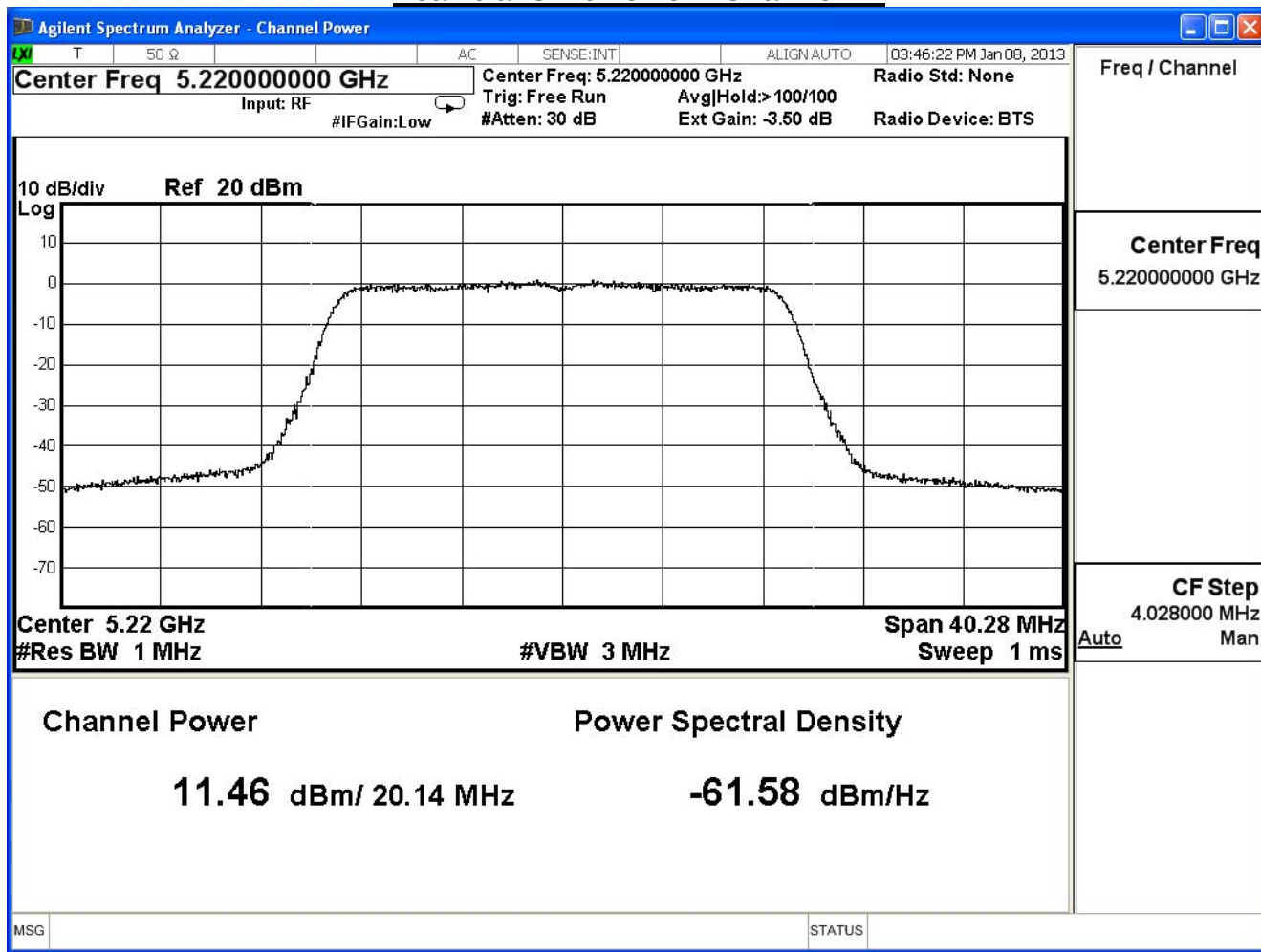
$10\log(\text{Ant N}) + \text{max Gain} = 10\log(2) + 3.07 = 6.17\text{dBi}$

Required Limit = 17dBm - (6.17dBi – 6dBi) = 17 – 0.17 = 16.83 dBm

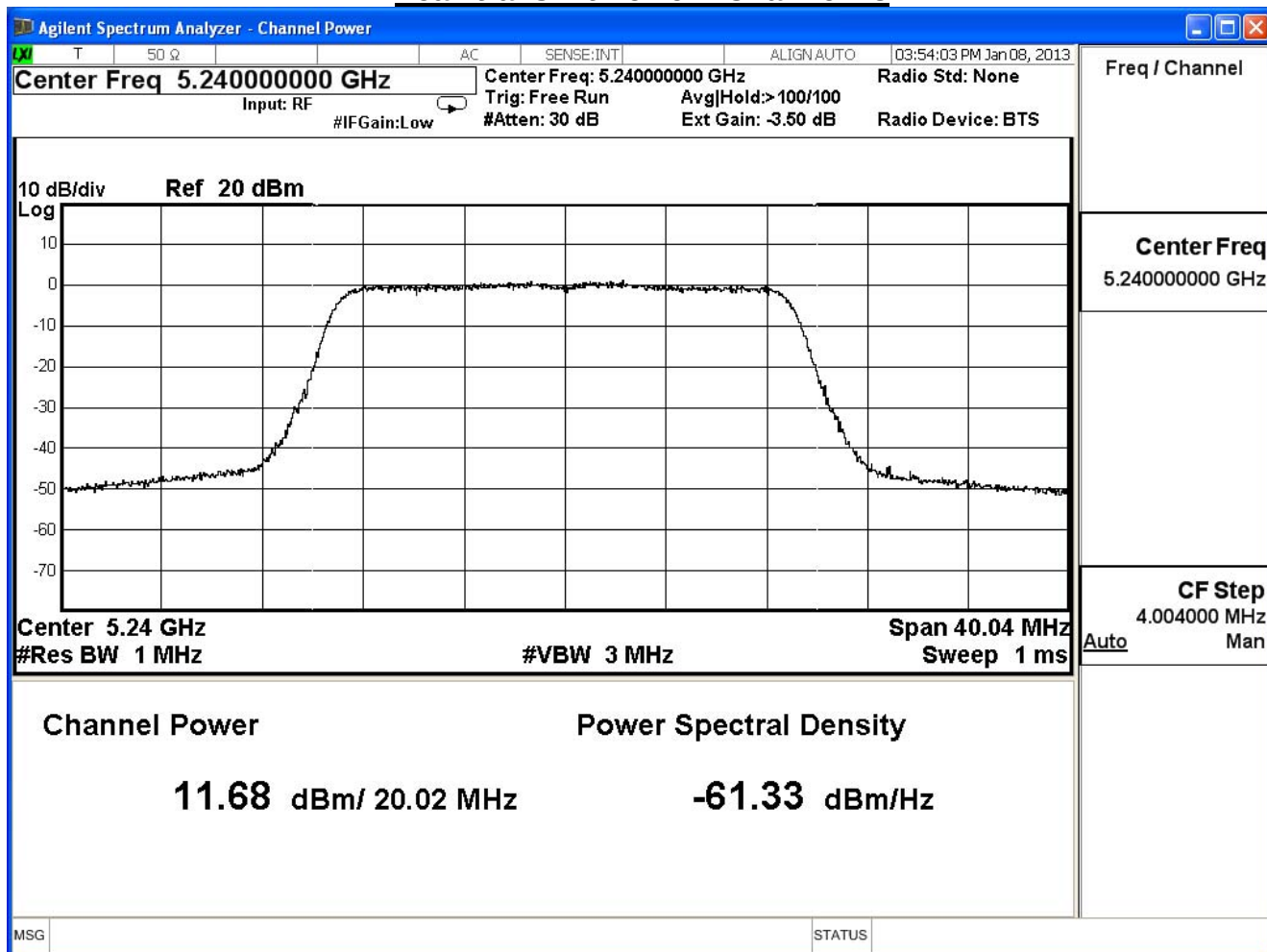
Peak transmit Power - Channel 36



Peak transmit Power - Channel 44



Peak transmit Power - Channel 48



Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	Peak Transmit Output		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

IEEE 802.11n(20MHz)_ANT 0+1					
Channel No.	Frequency (MHz)	Total Output Power		Required Limit (dBm)	Result
		(mW)	(dBm)		
36	5180	25.08	13.99	≤ 16.83	Pass
44	5220	24.42	13.88	≤ 16.83	Pass
48	5240	25.92	14.14	≤ 16.83	Pass

Note:

$10\log(\text{Ant N}) + \text{max Gain} = 10\log(2) + 3.07 = 6.17\text{dBi}$

$\text{Required Limit} = 17\text{dBm} - (6.17\text{dBi} - 6\text{dBi}) = 17 - 0.17 = 16.83\text{ dBm}$

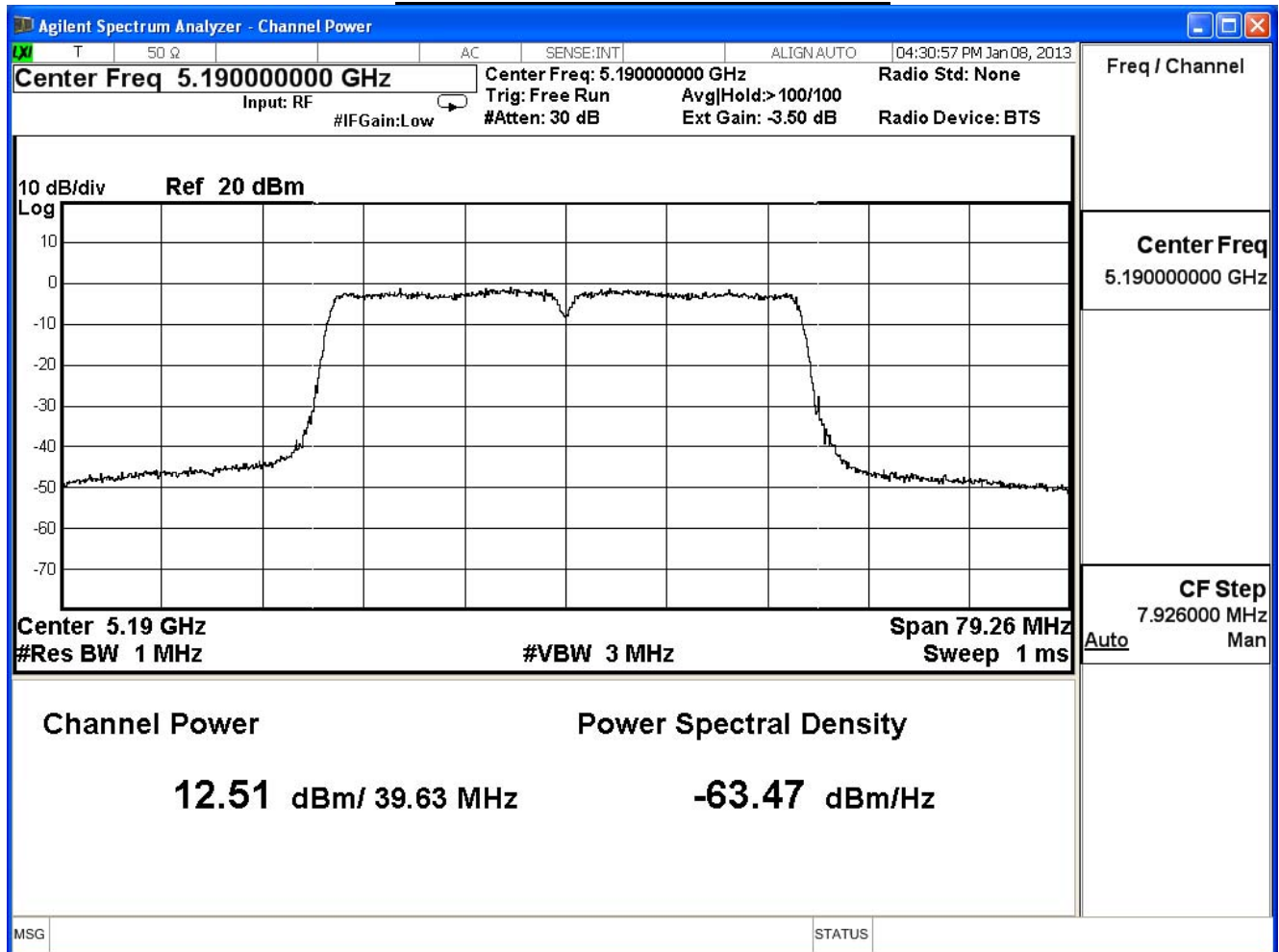
Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	Peak Transmit Output		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

IEEE 802.11n(40MHz)_ANT 0						
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit		Result
				Fixed Limit (dBm)	4+10logB Limit (dBm)	
38	5190	39.63	12.51	≤ 16.83	≤19.98	Pass
46	5230	39.69	12.52	≤ 16.83	≤19.98	Pass

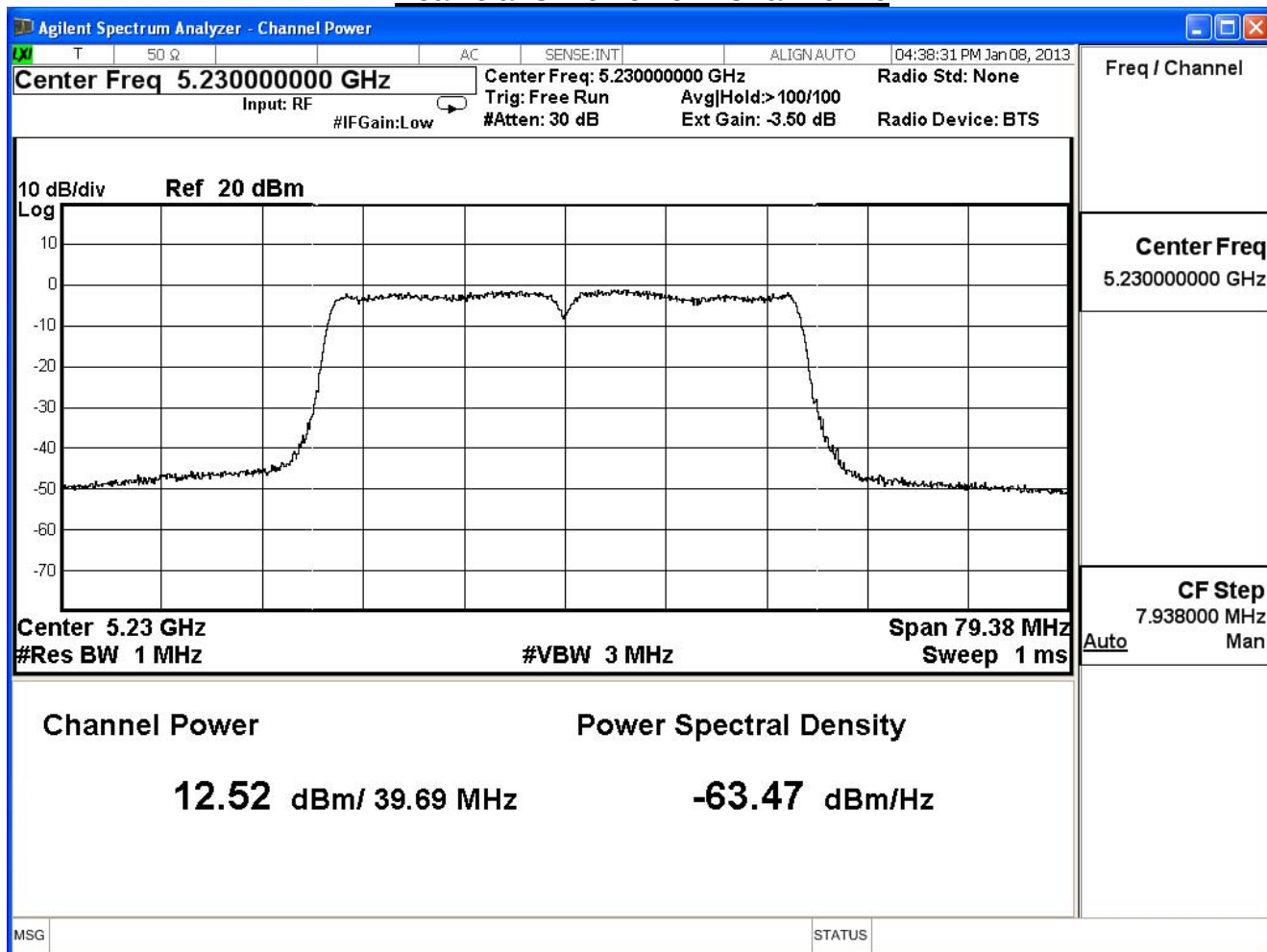
The worst emission of data rate is 40.5 Mbps

Peak Power Output (dBm)										
MCS Index		16	17	18	19	20	21	22	23	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		40.5	81.0	121.5	162.0	243.0	324.0	364.5	405.0	
38	5190	12.51	12.50	12.48	12.47	12.45	12.43	12.41	12.40	17dBm or
46	5230	12.52	--	--	--	--	--	--	--	4dBm+10logB

Peak transmit Power - Channel 38



Peak transmit Power - Channel 46



Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	Peak Transmit Output		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

IEEE 802.11n(40MHz)_ANT 1						
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit		Result
				Fixed Limit (dBm)	4+10logB Limit (dBm)	
38	5190	38.95	13.96	≤ 16.83	≤19.90	Pass
46	5230	39.07	13.68	≤ 16.83	≤19.88	Pass

The worst emission of data rate is 40.5 Mbps

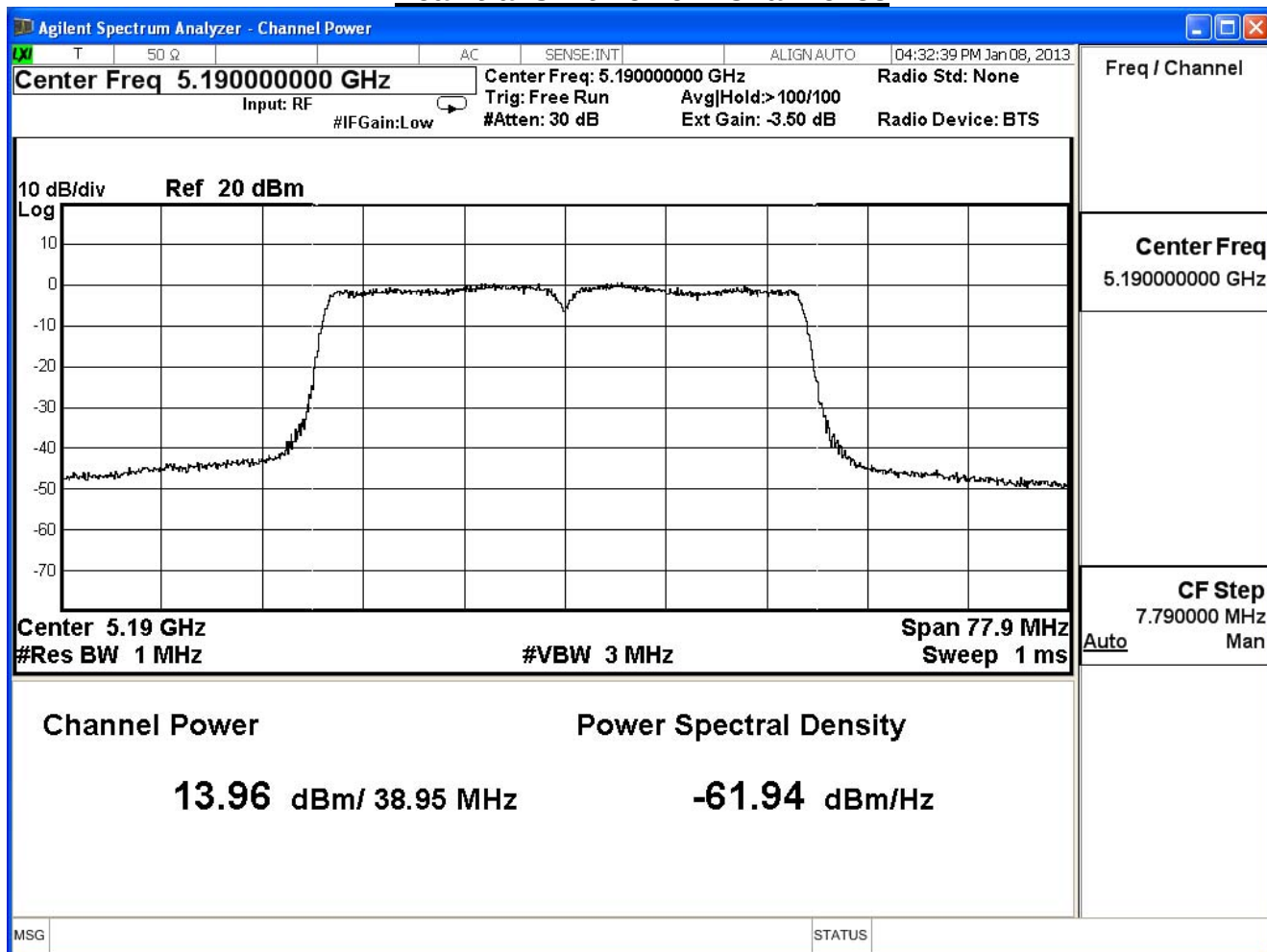
Peak Power Output (dBm)										
MCS Index		16	17	18	19	20	21	22	23	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		40.5	81.0	121.5	162.0	243.0	324.0	364.5	405.0	
38	5190	13.96	13.95	13.94	13.93	13.91	13.90	13.89	13.87	17dBm or
46	5230	13.68	--	--	--	--	--	--	--	4dBm+10logB

Note:

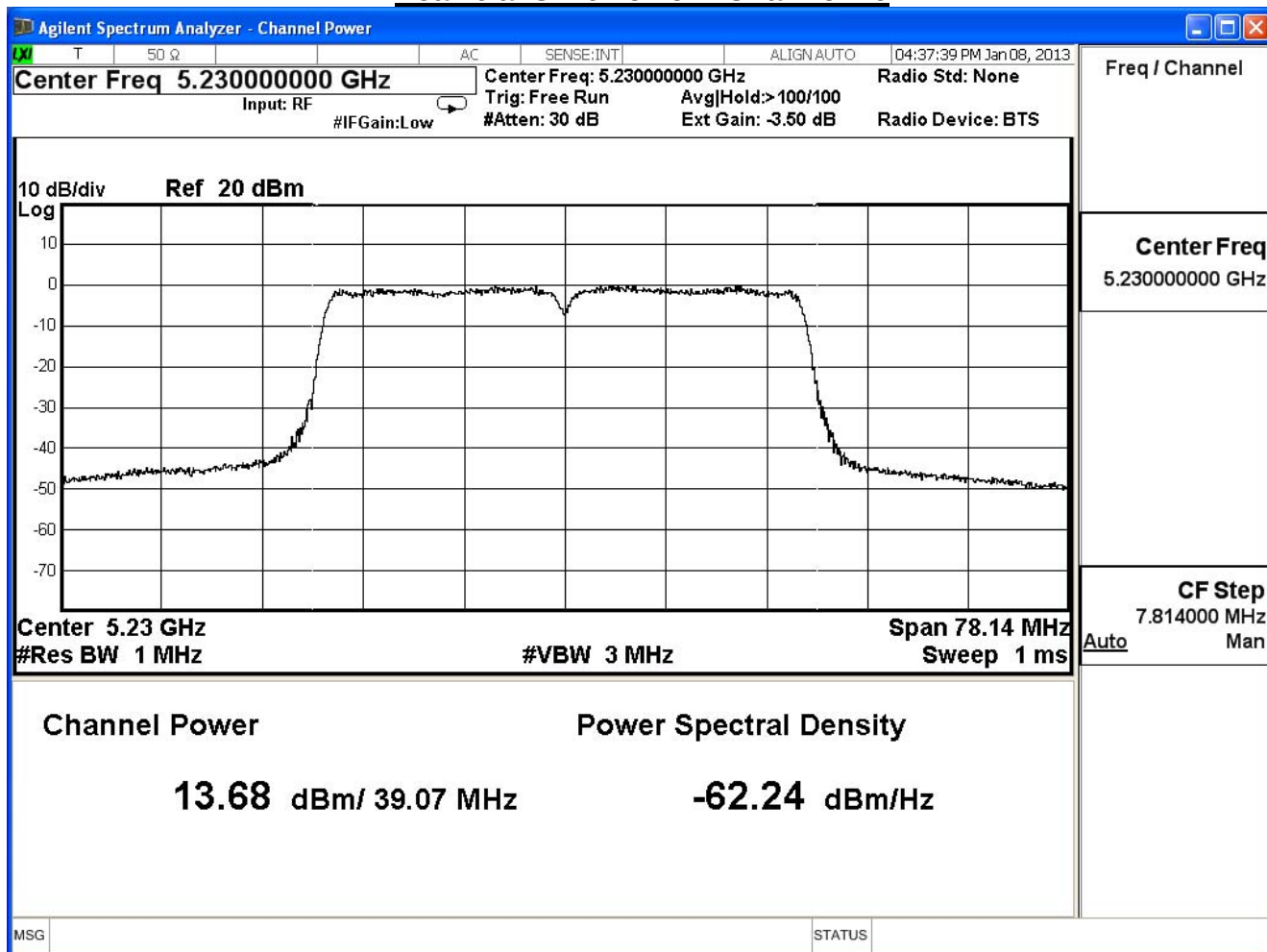
$10\log(\text{Ant N}) + \text{max Gain} = 10\log(2) + 3.07 = 6.17\text{dBi}$

Required Limit = 17dBm - (6.17dBi – 6dBi) = 17 – 0.17 = 16.83 dBm

Peak transmit Power - Channel 38



Peak transmit Power - Channel 46



Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	Peak Transmit Output		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

IEEE 802.11n(40MHz)_ANT 0+1					
Channel No.	Frequency (MHz)	Total Output Power		Required Limit (dBm)	Result
		(mW)	(dBm)		
38	5190	42.71	16.31	≤ 16.83	Pass
46	5230	41.20	16.15	≤ 16.83	Pass

Note:

$10\log(\text{Ant N}) + \text{max Gain} = 10\log(2) + 3.07 = 6.17\text{dBi}$

Required Limit = $17\text{dBm} - (6.17\text{dBi} - 6\text{dBi}) = 17 - 0.17 = 16.83\text{ dBm}$

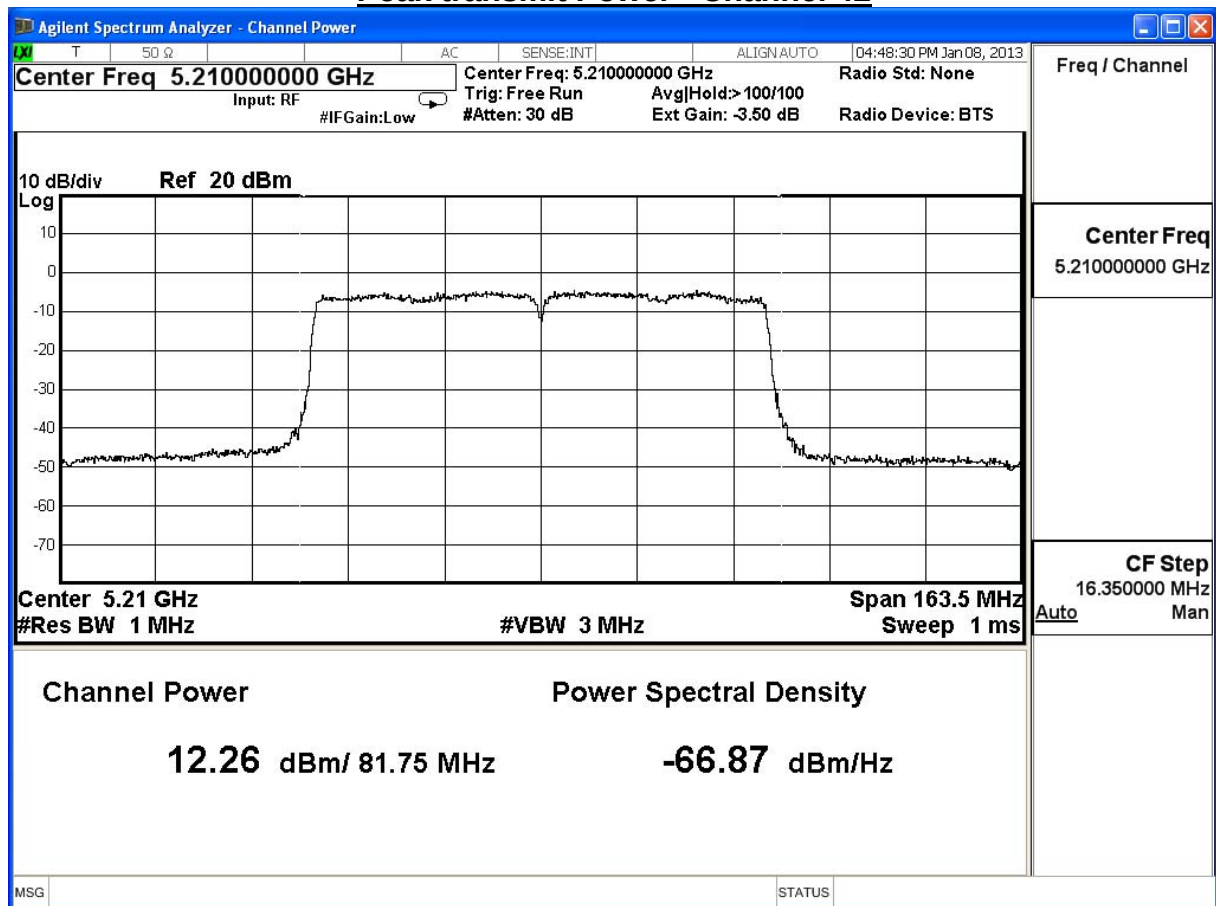
Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	Peak Transmit Output		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

IEEE 802.11ac(80MHz)_ANT 0						
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit		Result
				Fixed Limit (dBm)	4+10logB Limit (dBm)	
42	5210	81.75	12.26	≤ 16.83	≤ 22.99	Pass

The worst emission of data rate is 293. Mbps.

Peak Power Output (dBm)										
MCS Index		16	17	18	19	20	21	22	23	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		29.3	58.5	121.5	162.0	243.0	324.0	364.5	405.0	
42	5210	12.26	12.25	12.24	12.23	12.22	12.20	11.19	11.17	☐ 17

Peak transmit Power - Channel 42



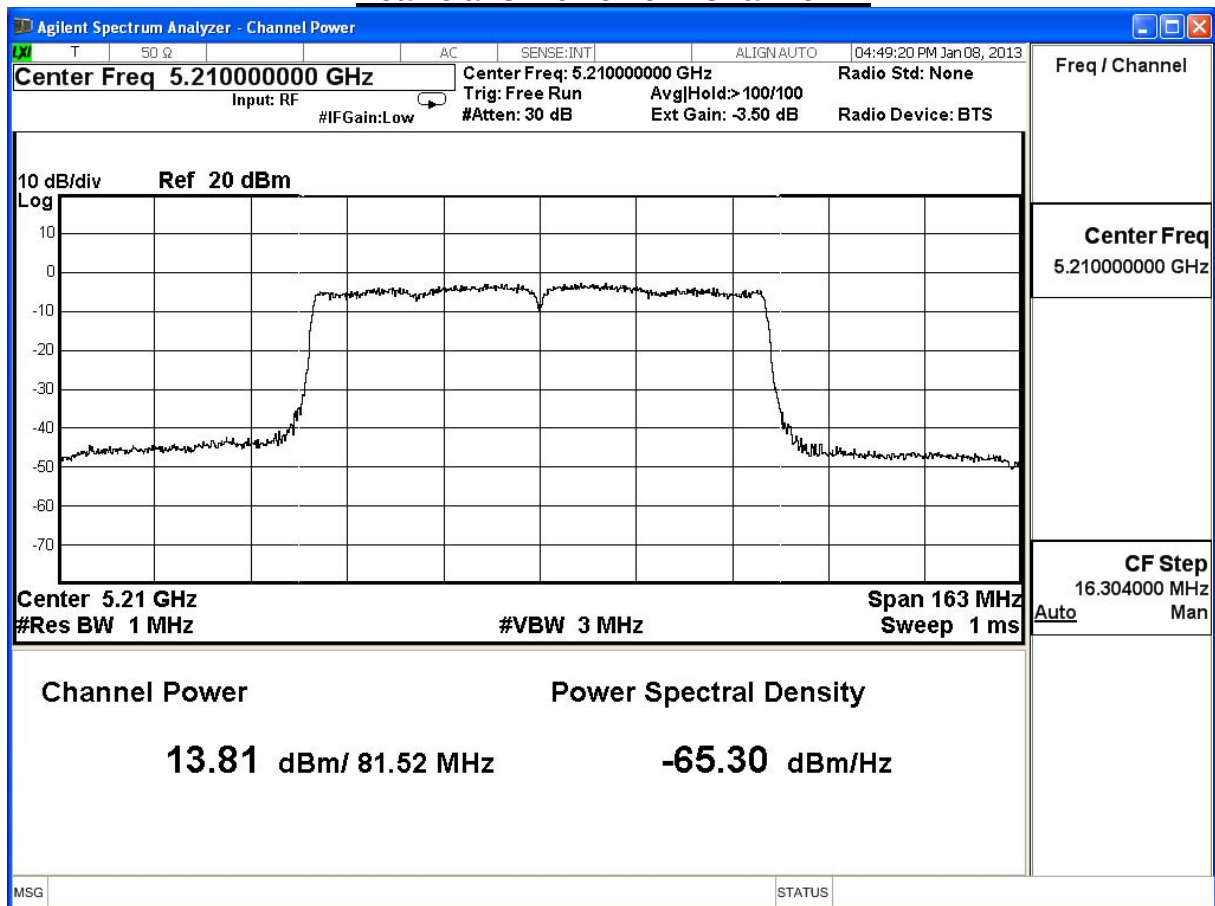
Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	Peak Transmit Output		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

IEEE 802.11ac(80MHz)_ANT 1						
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit		Result
				Fixed Limit (dBm)	4+10logB Limit (dBm)	
42	5210	81.52	13.81	≤ 16.83	≤ 23.01	Pass

The worst emission of data rate is 29.3Mbps.

Peak Power Output (dBm)										
MCS Index		16	17	18	19	20	21	22	23	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		29.3	58.5	121.5	162.0	243.0	324.0	364.5	405.0	
42	5210	13.81	13.79	13.78	13.76	13.75	13.74	13.73	13.71	16.83

Peak transmit Power - Channel 42



Product	Dual-band Wireless-AC1200 Gigabit Router		
Test Item	Peak Transmit Output		
Test Mode	Transmit		
Date of Test	2013/01/08	Test Site	SR7

IEEE 802.11ac(80MHz)_ANT 0+1					
Channel No.	Frequency (MHz)	Total Output Power		Required Limit (dBm)	Result
		(mW)	(dBm)		
42	5210	40.83	16.11	≤ 16.83	Pass

Note:

$10\log(\text{Ant N}) + \text{max Gain} = 10\log(2) + 3.07 = 6.17\text{dBi}$

Required Limit = $17\text{dBm} - (6.17\text{dBi} - 6\text{dBi}) = 17 - 0.17 = 16.83\text{ dBm}$