

FCC Test Report

Product Name : Dual-band Wireless-AC1300 USB Adapter

Model No. : USB-AC55 , USB-AC55R

FCC ID. : MSQ-USBAC55

Applicant : ASUSTeK COMPUTER INC.

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

Date of Receipt : 2014/06/18

Issued Date : 2014/10/22

Report No. : 1470347R-RFUSP58V00

Report Version : V1.0



The test results relate only to the samples tested.

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Test Report Certification

Issued Date : 2014/10/22

Report No. : 1470347R-RFUSP58V00



Product Name : Dual-band Wireless-AC1300 USB Adapter
 Applicant : ASUSTeK COMPUTER INC.
 Address : 4F, No. 150, Li-Te Rd., Peitou, Taipei, Taiwan
 Manufacturer : ASUSTeK COMPUTER INC.
 Model No. : USB-AC55 , USB-AC55R
 FCC ID. : MSQ-USBAC55
 EUT Voltage : DC 5V (Power by Notebook PC)
 Trade Name : ASUS
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart E Section 15.407: 2013
 ANSI C63.10:2013
 Test Result : Complied

The test results relate only to the samples tested.

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 (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: 3024
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/>

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TABLE OF CONTENTS

Description	Page
1. General Information.....	6
1.1. EUT DESCRIPTION.....	6
1.2. TEST MODE	11
1.3. TESTED SYSTEM DETAILS	12
1.4. CONFIGURATION OF TESTED SYSTEM	13
1.5. EUT EXERCISE SOFTWARE	13
1.6. TEST FACILITY	14
2. Conducted Emission	15
2.1. TEST EQUIPMENT	15
2.2. TEST SETUP	15
2.3. LIMITS	16
2.4. TEST PROCEDURE	16
2.5. TEST SPECIFICATION	16
2.6. UNCERTAINTY	16
2.7. TEST RESULT	17
2.8. TEST PHOTO.....	21
3. 99% & 26dB & DTS Bandwidth	22
3.1. TEST EQUIPMENT	22
3.2. TEST SETUP	22
3.3. LIMITS	22
3.4. TEST PROCEDURE	22
3.5. UNCERTAINTY	22
3.6. TEST RESULT	23
4. Peak Transmit Output.....	95
4.1. TEST EQUIPMENT	95
4.2. TEST SETUP	95
4.3. LIMITS	96
4.4. TEST PROCEDURE	96
4.5. UNCERTAINTY	96
4.6. TEST RESULT	97
5. Peak Power Spectrum Density	157
5.1. TEST EQUIPMENT	157
5.2. TEST SETUP	157
5.3. LIMITS	157

5.4.	TEST PROCEDURE	158
5.5.	UNCERTAINTY	158
5.6.	TEST RESULT.....	159
6.	Radiated Emission.....	215
6.1.	TEST EQUIPMENT.....	215
6.2.	TEST SETUP	215
6.3.	LIMITS	216
6.4.	TEST PROCEDURE	217
6.5.	UNCERTAINTY	217
6.6.	TEST RESULT.....	218
6.7.	TEST PHOTO.....	302
7.	Band Edge.....	306
7.1.	TEST EQUIPMENT.....	306
7.2.	TEST SETUP	306
7.3.	LIMITS	307
7.4.	TEST PROCEDURE	308
7.5.	UNCERTAINTY	308
7.6.	TEST RESULT.....	309
8.	Frequency Stability.....	367
8.1.	TEST EQUIPMENT.....	367
8.2.	TEST SETUP	367
8.3.	LIMITS	367
8.4.	TEST PROCEDURE	367
8.5.	UNCERTAINTY	367
8.6.	TEST RESULT.....	368
	ATTACHEMENT.....	396
	EUT PHOTOGRAPH.....	396

1. General Information

1.1. EUT Description

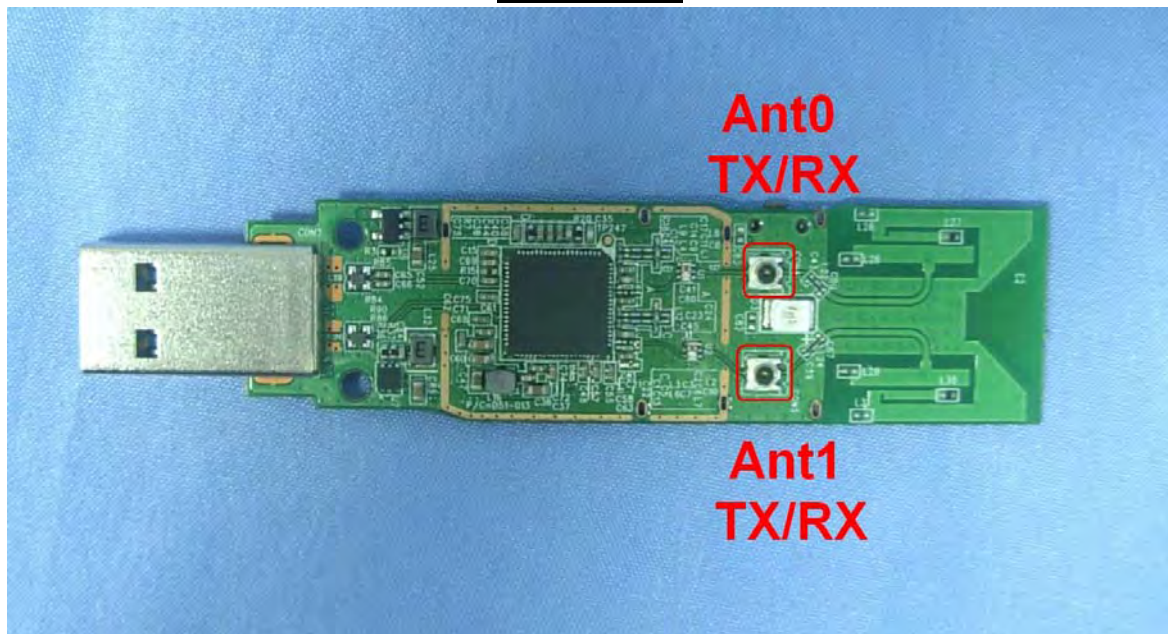
Product Name	Dual-band Wireless-AC1300 USB Adapter	
Product Type	WLAN	
Trade Name	ASUS	
Model No.	USB-AC55 , USB-AC55R	
Frequency Range/ Channel Number	IEEE 802.11a/	5180~5240MHz / 4 Channels
	IEEE 802.11n/ac (20MHz)	5745~5825MHz / 5 Channels
	IEEE 802.11n/ac (40MHz)	5190~5230MHz / 2 Channels 5755~5795MHz / 2 Channels
	IEEE 802.11ac (80MHz)	5210~5210MHz / 1 Channel 5775~5775MHz / 1 Channel
Type of Modulation	IEEE 802.11a/n/ac	Orthogonal Frequency Division Multiplexing
Data Speed	IEEE 802.11a	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 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	5G Band1 : 3.03dBi(2TX, 2RX) 5G Band4 : 3.10dBi(2TX, 2RX)	
Antenna Type	PCB antenna	

Component	
USB Cable	Shielded, 1m

ANT-TX / RX & Bandwidth

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

5G(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 802.11ac 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

Table 3 – MCS parameters

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

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	40	5200MHz	44	5220MHz	48	5240MHz
149	5745 MHz	153	5765 MHz	157	5785 MHz	161	5805 MHz
165	5825 MHz						

IEEE 802.11n/ac (40MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190MHz	46	5230MHz	151	5755MHz	159	5795MHz

IEEE 802.11ac (80MHz)

Working Frequency of Each Channel			
Channel	Frequency	Channel	Frequency
42	5210 MHz	155	5775 MHz

Note:

1. This device is a Dual-band Wireless-AC1300 USB Adapter including 2.4GHz b/g/n(2x2) and 5G Band1,4 a/n/ac (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 E Paragraph 15.407.
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. The function of the 2.4GHz transmitting is measured and makes a test report of the report number: 1470347R-RFUSP27V00.
5. This device has USB and Ethernet ports, which can be connected to computer. The receiving function receiving was tested and its test report number is 1470347R-RFUSP01V00 under Declaration of Conformity.

1.2. 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 (CDD Mode) Mode 2: Transmit (MIMO Mode)
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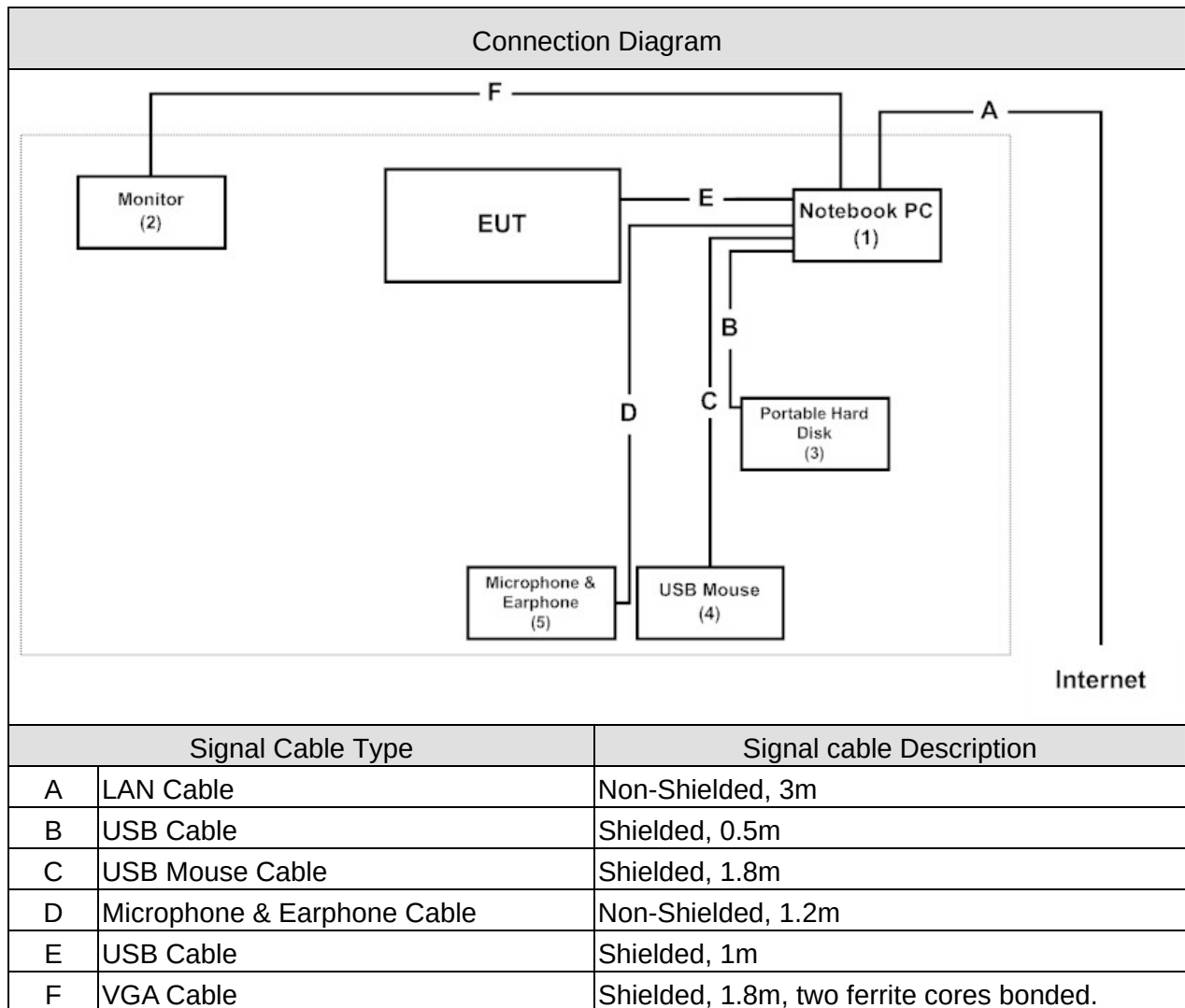
Test Items	Modulation	Channel	Antenna	Result
Conducted Emission	11ac (80MHz)	42/155	0+1	Complies
99 % & 26dB Bandwidth	11a	36/44/48/149/157/165	0/1	Complies
	11n/ac (20MHz)	36/44/48/149/157/ 165	0/1	Complies
	11n/ac (40MHz)	38/46//151/159	0/1	Complies
	11ac (80MHz)	42/155	0/1	Complies
Peak Transmit Output	11a	36/44/48/149/157/165	0+1	Complies
	11n/ac (20MHz)	36/44/48/149/157/ 165	0+1	Complies
	11n/ac (40MHz)	38/46/151/159	0+1	Complies
	11ac (80MHz)	42/155	0+1	Complies
Peak Power Spectrum Density	11a	36/44/48/149/157/165	0+1	Complies
	11n/ac (20MHz)	36/44/48/149/157/165	0+1	Complies
	11n/ac (40MHz)	38/46/151/159	0+1	Complies
	11ac (80MHz)	42/155	0+1	Complies
Radiated Emission	11a	36/44/48/149/157/165	0+1	Complies
	11n/ac (20MHz)	36/44/48/149/157/165	0+1	Complies
	11n/ac (40MHz)	38/46/151/159	0+1	Complies
	11ac (80MHz)	42/155	0+1	Complies
Band Edge	11a	36/149/165	0+1	Complies
	11n/ac (20MHz)	36/149/165	0+1	Complies
	11n/ac (40MHz)	38/151/159	0+1	Complies
	11ac (80MHz)	42/155	0+1	Complies
Frequency Stability	11a	36/44/48/149/165	0/1	Complies
	11n/ac (20MHz)	36/44/48/149/165	0/1	Complies
	11n/ac (40MHz)	38/46/151/159	0/1	Complies
	11ac (80MHz)	42/155	0/1	Complies

1.3. 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	Notebook PC	ASUS	K45VD	K45VD-0343G31 10M	DoC	Non-Shielded, 1.8m
2	Monitor	DELL	U2410f	082WXD-72872- 16R-0V8L	DoC	Non-Shielded, 1.8m
3	Portable Hard Disk	WD	My Passport	WXE1AB0M5632	DoC	--
4	USB Mouse	Logitech	M-UV83	35006065	DoC	--
5	Microphone & Earphone	Fujiei	SBZ-38	N/A	DoC	--

1.4. Configuration of tested System



1.5. EUT Exercise Software

1	Test system is in accord with EUT user manual (refer to 1.4 configuration of tested system)
2	Execute the test program “MT76xx V2.0.5.0 QA” for 5G function on the Notebook.
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.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	FCC PART 15 E 15.407 Conducted Emission	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 E 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 E 15.407 Peak Transmit Power	15 - 35	25
Humidity (%RH)		25 - 75	65
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 E 15.407 Peak Power Spectrum Density	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 E 15.407 Radiated Emission	15 - 35	25
Humidity (%RH)		25 - 75	48
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 E 15.407 Band Edge	15 - 35	25
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 E 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

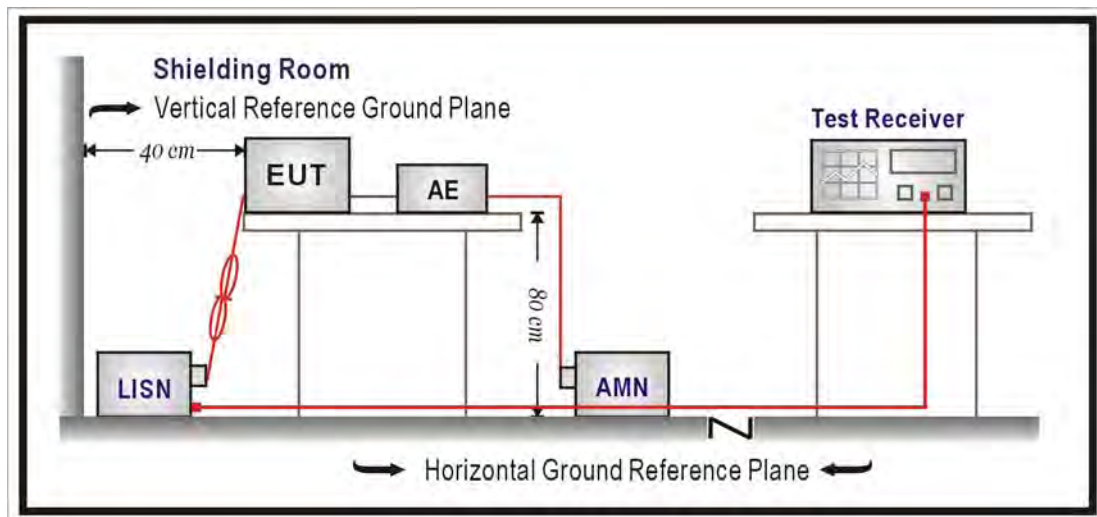
The following test equipments are used during the test:

Conducted Emission / SR2

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2015/02/09
LISN	R&S	ENV216	100092	2015/08/08
Test Receiver	R&S	ESCS 30	825442/014	2015/07/13

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 C63.10:2013. 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

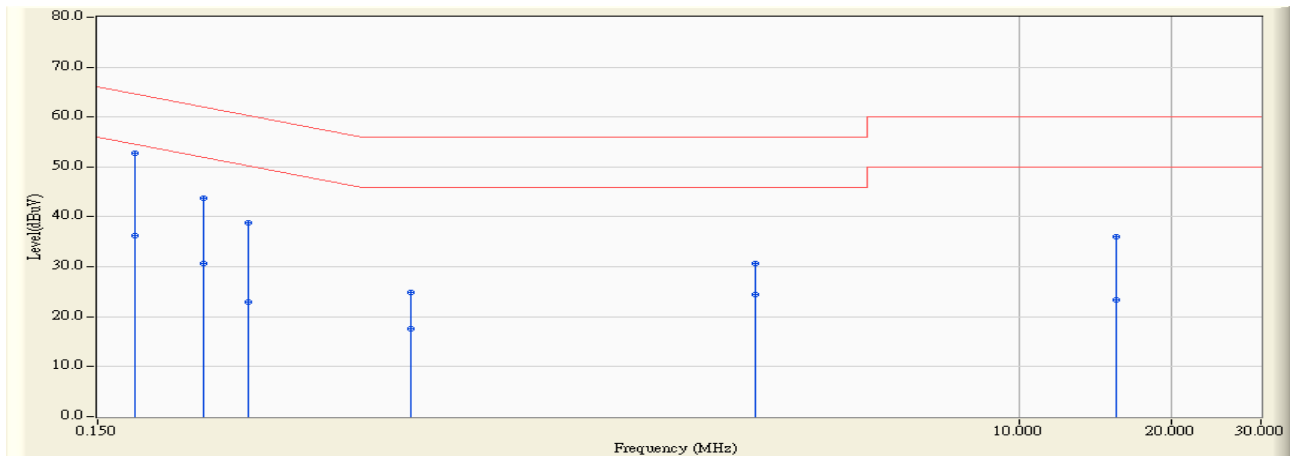
According to FCC Part 15 Subpart C Paragraph 15.207: 2013

2.6. Uncertainty

The measurement uncertainty is defined as ± 2.26 dB.

2.7. Test Result

Site : SR2	Time : 2014/08/11 - 20:11
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2_LISN(16A)-3_0822 - Line1	Power : DC 5V (Power by Notebook PC)
EUT : Dual-band Wireless-AC1300 USB Adapter	Note : Mode 2: Transmit (MIMO Mode) 802.11ac(80M)-5210MHz

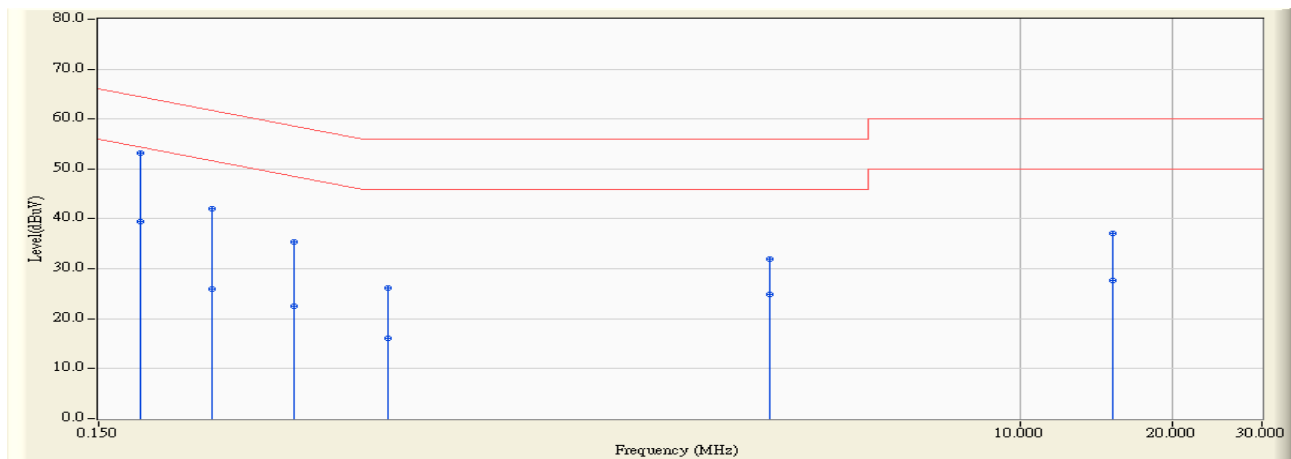


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.177	9.640	43.180	52.820	-11.789	64.609	QUASIPeAK
2		0.177	9.640	26.590	36.230	-18.379	54.609	AVERAGE
3		0.244	9.657	34.130	43.787	-18.181	61.967	QUASIPeAK
4		0.244	9.657	20.960	30.617	-21.351	51.967	AVERAGE
5		0.298	9.672	29.130	38.802	-21.484	60.286	QUASIPeAK
6		0.298	9.672	13.310	22.982	-27.304	50.286	AVERAGE
7		0.627	9.734	15.240	24.974	-31.026	56.000	QUASIPeAK
8		0.627	9.734	7.930	17.664	-28.336	46.000	AVERAGE
9		2.990	9.888	20.780	30.668	-25.332	56.000	QUASIPeAK
10		2.990	9.888	14.460	24.348	-21.652	46.000	AVERAGE
11		15.482	10.221	25.720	35.941	-24.059	60.000	QUASIPeAK
12		15.482	10.221	13.200	23.421	-26.579	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 : 2014/08/11 - 20:15
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2_LISN(16A)-3_0822 - Line2	Power : DC 5V (Power by Notebook PC)
EUT : Dual-band Wireless-AC1300 USB Adapter	Note : Mode 2: Transmit (MIMO Mode) 802.11ac(80M)-5210MHz

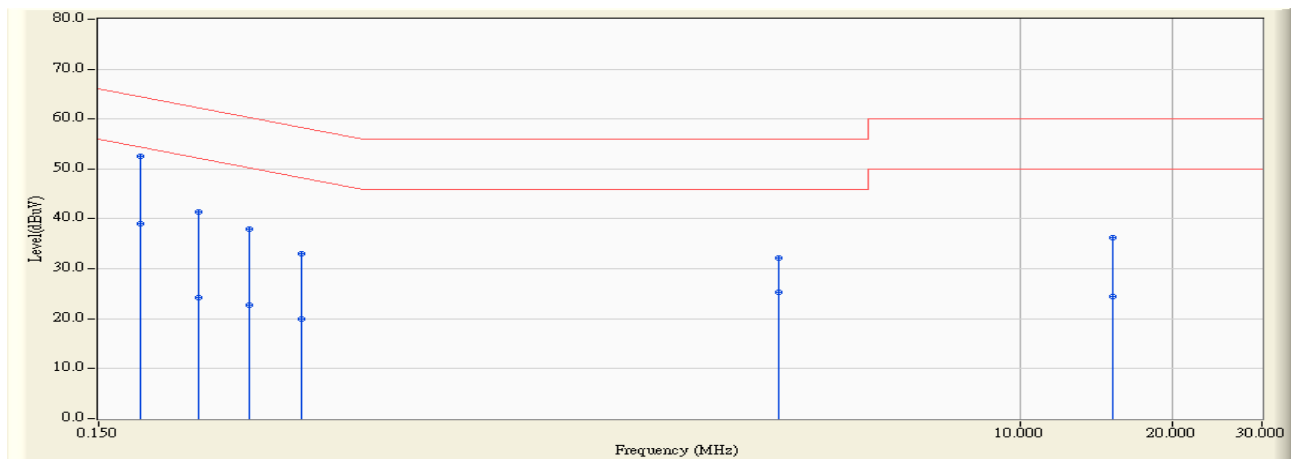


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.181	9.629	43.480	53.109	-11.320	64.428	QUASPEAK
2		0.181	9.629	29.850	39.479	-14.950	54.428	AVERAGE
3		0.252	9.647	32.310	41.956	-19.749	61.705	QUASPEAK
4		0.252	9.647	16.330	25.976	-25.729	51.705	AVERAGE
5		0.365	9.673	25.650	35.323	-23.295	58.617	QUASPEAK
6		0.365	9.673	12.800	22.473	-26.145	48.617	AVERAGE
7		0.560	9.713	16.540	26.253	-29.747	56.000	QUASPEAK
8		0.560	9.713	6.300	16.013	-29.987	46.000	AVERAGE
9		3.185	9.881	22.160	32.041	-23.959	56.000	QUASPEAK
10		3.185	9.881	15.000	24.881	-21.119	46.000	AVERAGE
11		15.173	10.286	26.740	37.026	-22.974	60.000	QUASPEAK
12		15.173	10.286	17.350	27.636	-22.364	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 : 2014/08/11 - 20:19
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2_LISN(16A)-3_0822 - Line1	Power : DC 5V (Power by Notebook PC)
EUT : Dual-band Wireless-AC1300 USB Adapter	Note : Mode 2: Transmit (MIMO Mode) 802.11ac(80M)-5775MHz

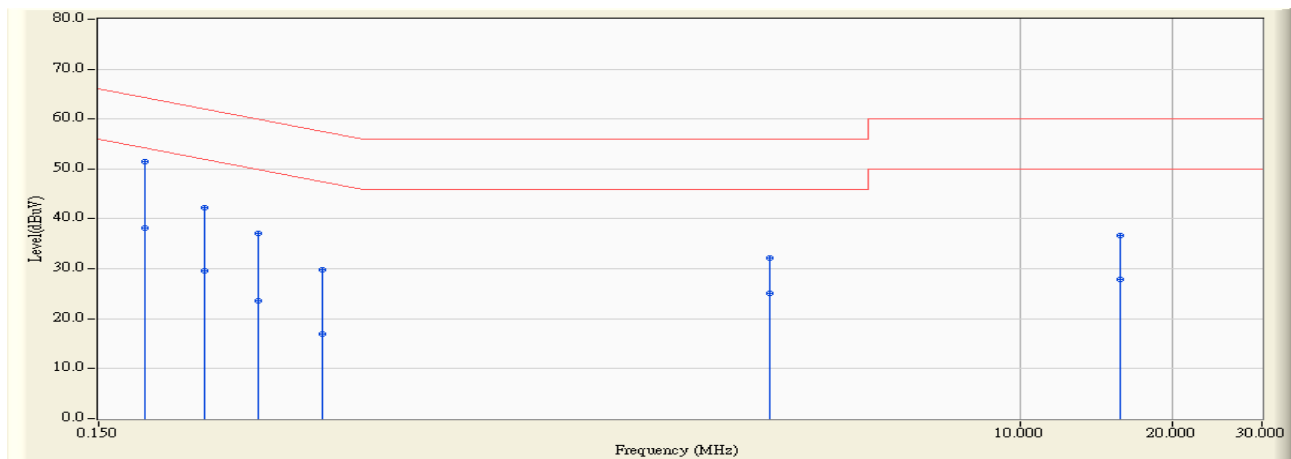


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.181	9.641	42.850	52.491	-11.938	64.428	QUASPEAK
2		0.181	9.641	29.340	38.981	-15.448	54.428	AVERAGE
3		0.236	9.654	31.760	41.414	-20.824	62.238	QUASPEAK
4		0.236	9.654	14.650	24.304	-27.934	52.238	AVERAGE
5		0.298	9.672	28.330	38.002	-22.284	60.286	QUASPEAK
6		0.298	9.672	13.080	22.752	-27.534	50.286	AVERAGE
7		0.377	9.694	23.340	33.034	-25.320	58.355	QUASPEAK
8		0.377	9.694	10.340	20.034	-28.320	48.355	AVERAGE
9		3.322	9.901	22.290	32.191	-23.809	56.000	QUASPEAK
10		3.322	9.901	15.500	25.401	-20.599	46.000	AVERAGE
11		15.240	10.230	25.990	36.220	-23.780	60.000	QUASPEAK
12		15.240	10.230	14.200	24.430	-25.570	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 : 2014/08/11 - 20:26
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR2_LISN(16A)-3_0822 - Line2	Power : DC 5V (Power by Notebook PC)
EUT : Dual-band Wireless-AC1300 USB Adapter	Note : Mode 2: Transmit (MIMO Mode) 802.11ac(80M)-5775MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.185	9.630	41.780	51.410	-12.841	64.251	QUASIPeAK
2		0.185	9.630	28.640	38.270	-15.981	54.251	AVERAGE
3		0.244	9.645	32.560	42.204	-19.763	61.967	QUASIPeAK
4		0.244	9.645	19.920	29.564	-22.403	51.967	AVERAGE
5		0.310	9.660	27.440	37.100	-22.866	59.966	QUASIPeAK
6		0.310	9.660	13.830	23.490	-26.476	49.966	AVERAGE
7		0.416	9.686	20.140	29.826	-27.709	57.535	QUASIPeAK
8		0.416	9.686	7.340	17.026	-30.509	47.535	AVERAGE
9		3.189	9.882	22.200	32.082	-23.918	56.000	QUASIPeAK
10		3.189	9.882	15.310	25.192	-20.808	46.000	AVERAGE
11		15.701	10.273	26.430	36.703	-23.297	60.000	QUASIPeAK
12		15.701	10.273	17.520	27.793	-22.207	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 & DTS Bandwidth

3.1. Test Equipment

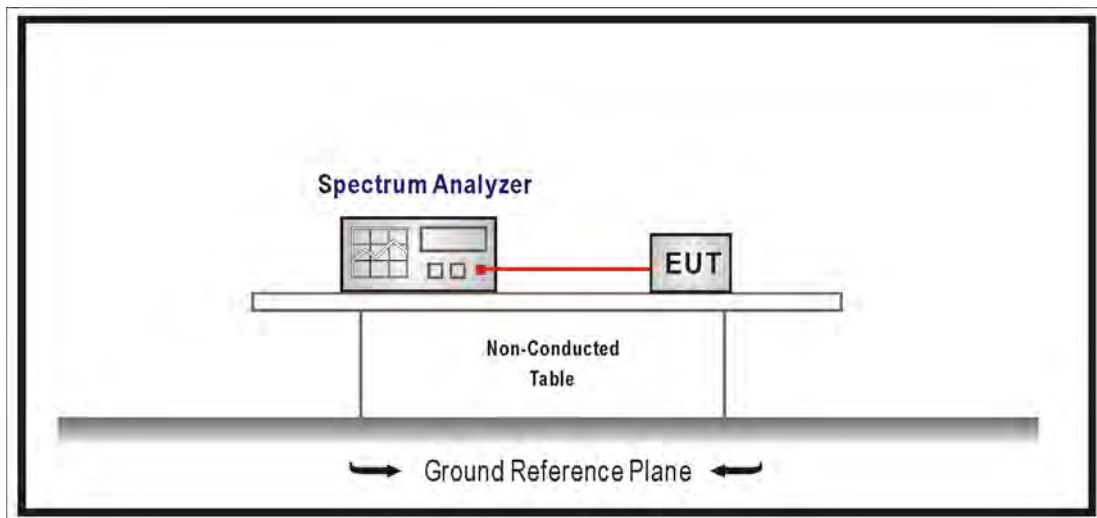
The following test equipments are used during the radiated emission tests:

99% & 26dB & DTS Bandwidth / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2015/07/14

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

3.2. Test Setup



3.3. Limits

99% & 26dB Bandwidth : No Required

DTS Bandwidth : $\geq 500\text{KHz}$

3.4. Test Procedure

99% & 26dB Bandwidth :

The EUT was tested according to U-NII test procedure of KDB 789033.

Set RBW 1% of the emission bandwidth, VBW equal to 3 times the RBW.

DTS Bandwidth :

Set RBW = 100KHz, VBW $\geq 3 \times \text{RBW}$, Sweep time=Auto, Set Peak detector.

3.5. Uncertainty

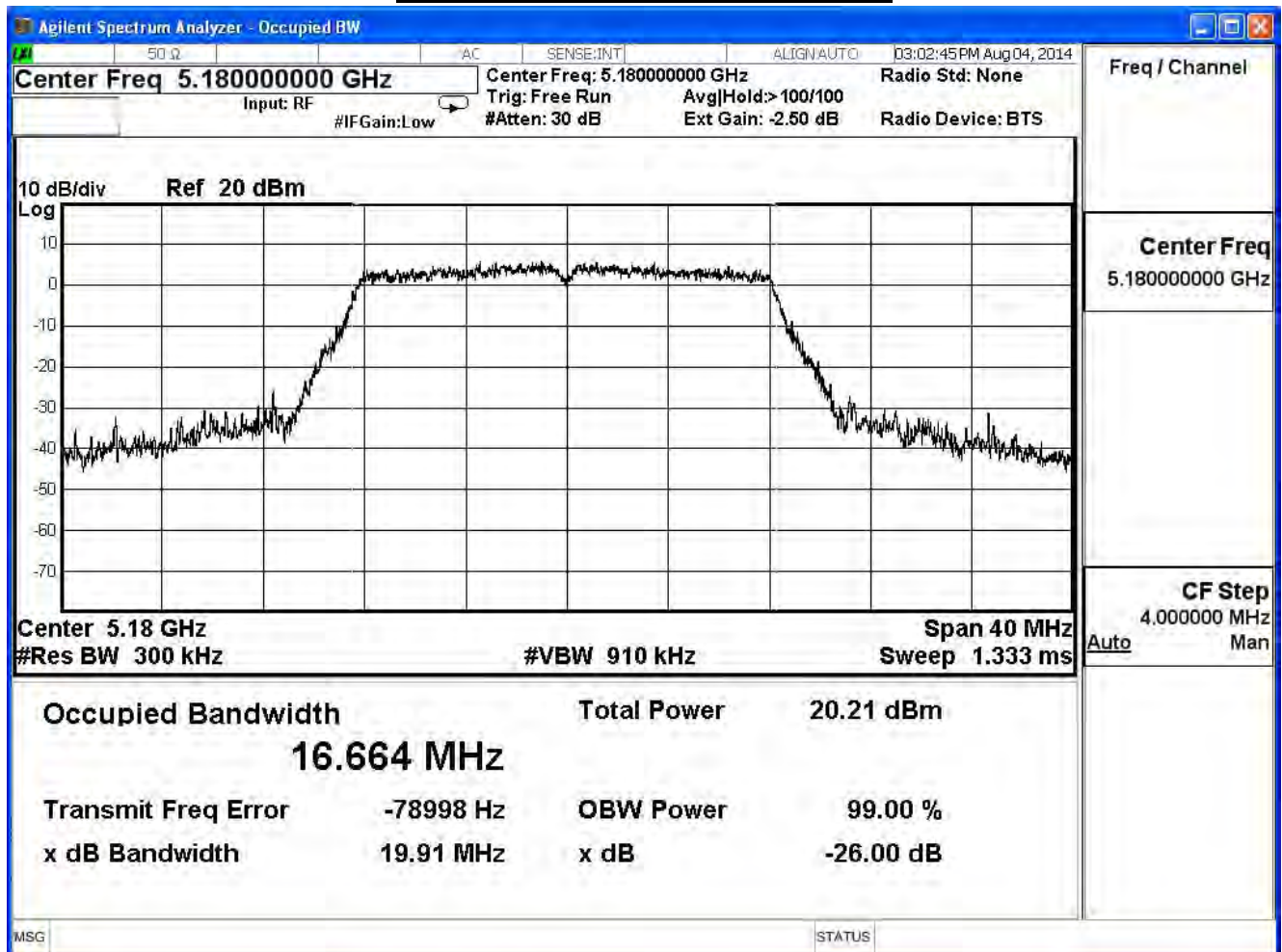
The measurement uncertainty is defined as $\pm 150\text{Hz}$

3.6. Test Result

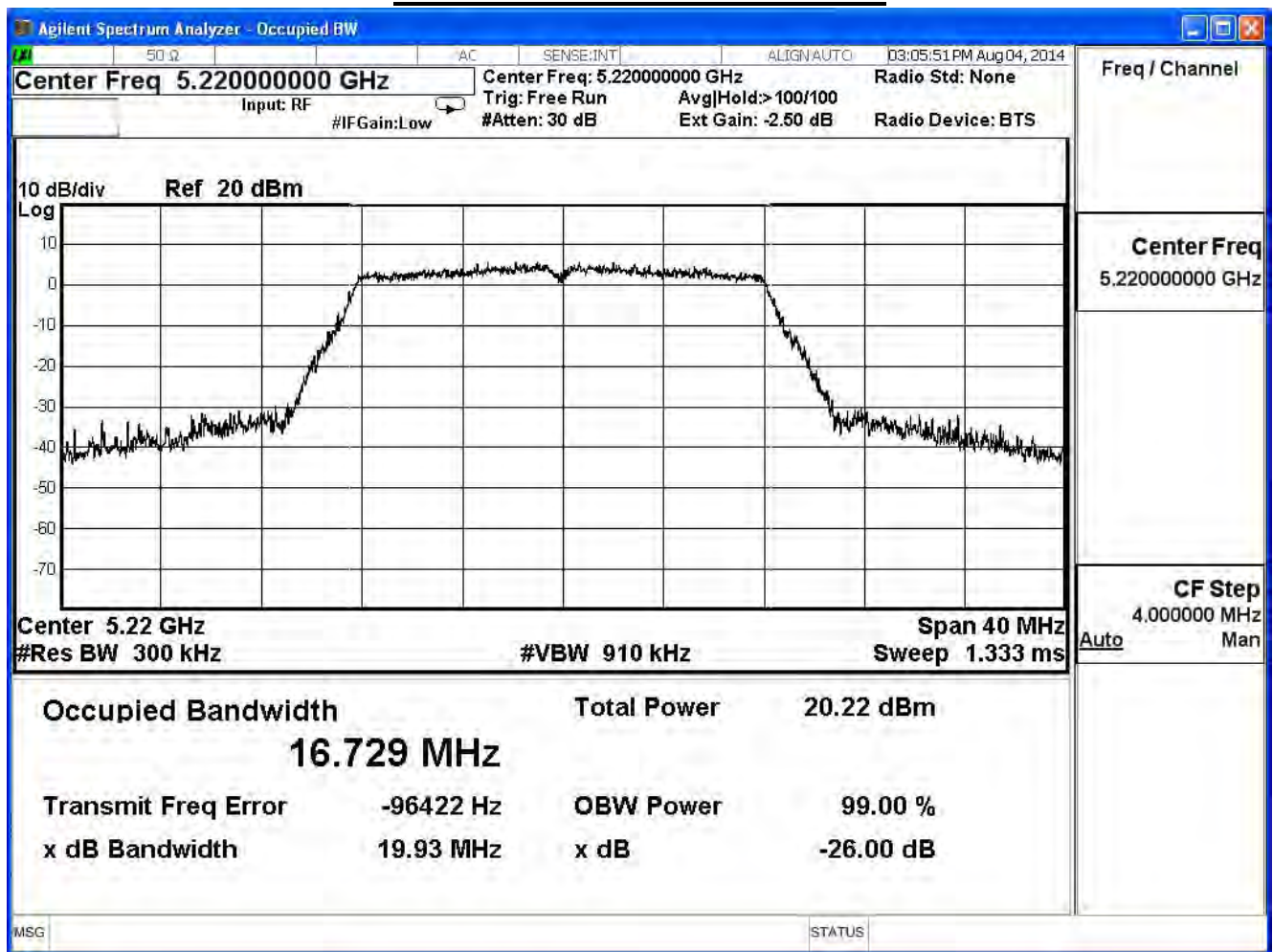
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

802.11a (ANT 0)					
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
36	5180	19.910	16.664	--	Pass
44	5220	19.930	16.729	--	Pass
48	5240	19.940	16.666	--	Pass

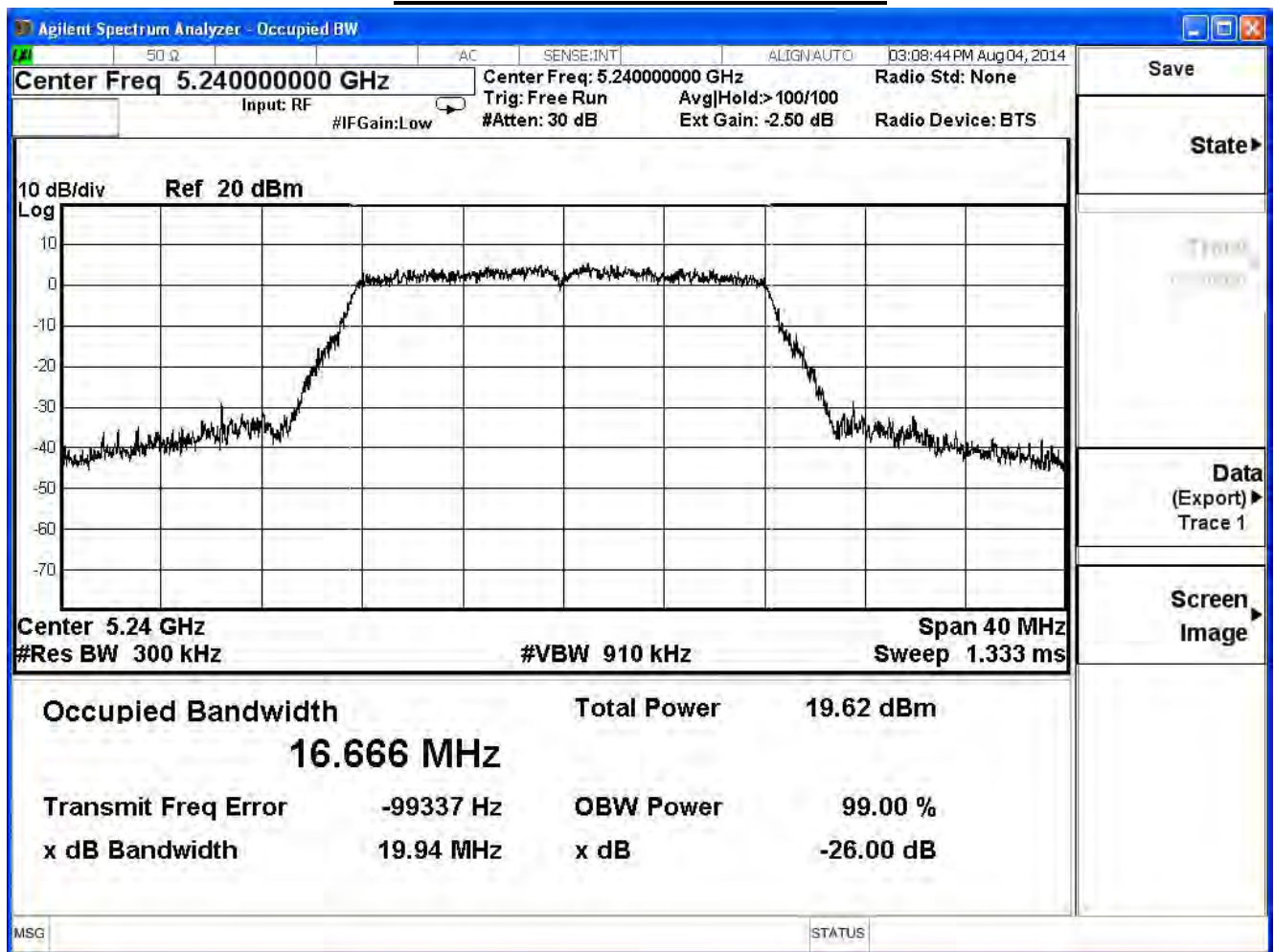
99% & 26dB Bandwidth – Channel 36



99% & 26dB Bandwidth – Channel 44



99% & 26dB Bandwidth – Channel 48

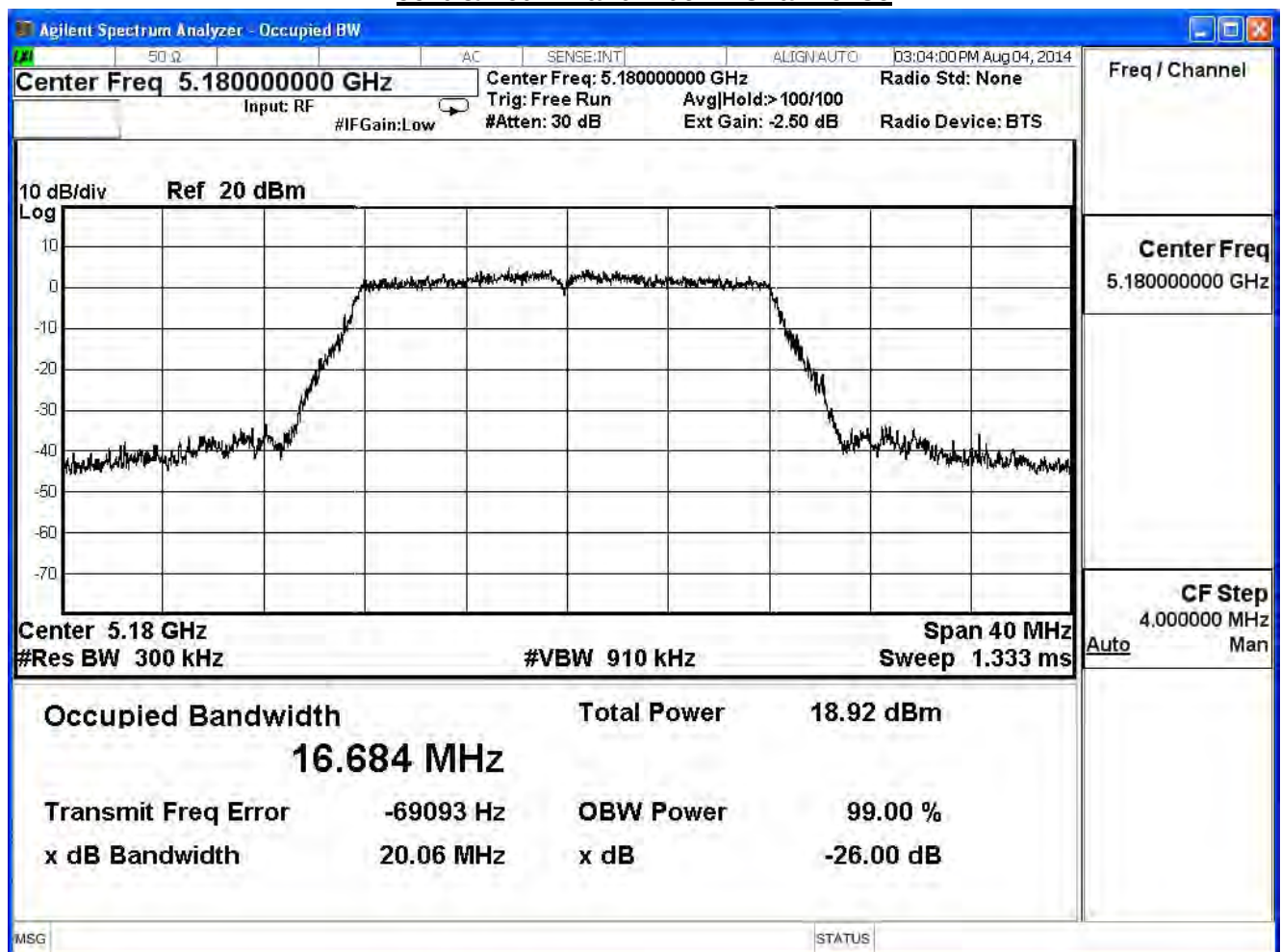


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

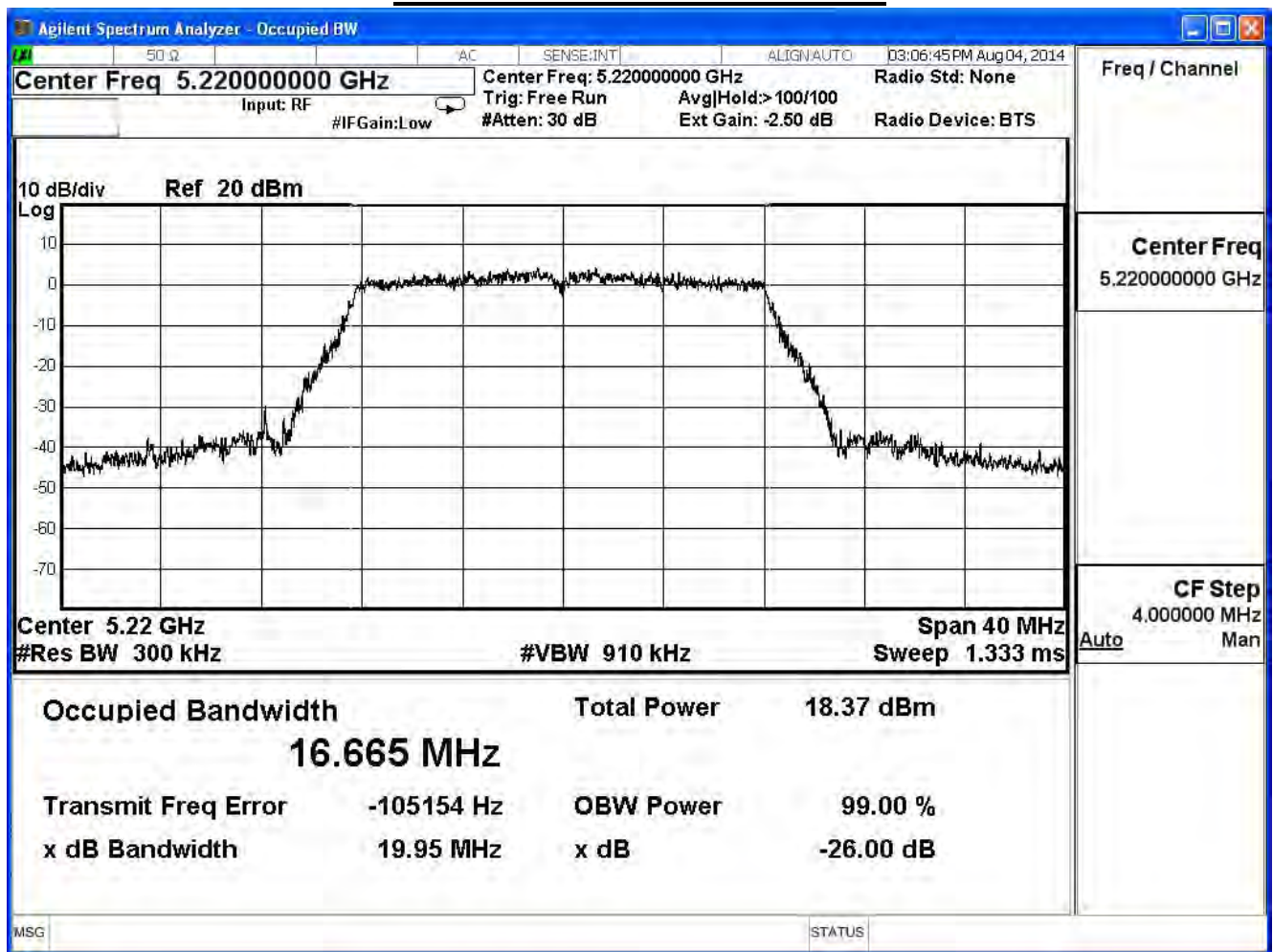
802.11a (ANT 1)

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
36	5180	20.060	16.684	--	Pass
44	5220	19.950	16.665	--	Pass
48	5240	20.010	16.672	--	Pass

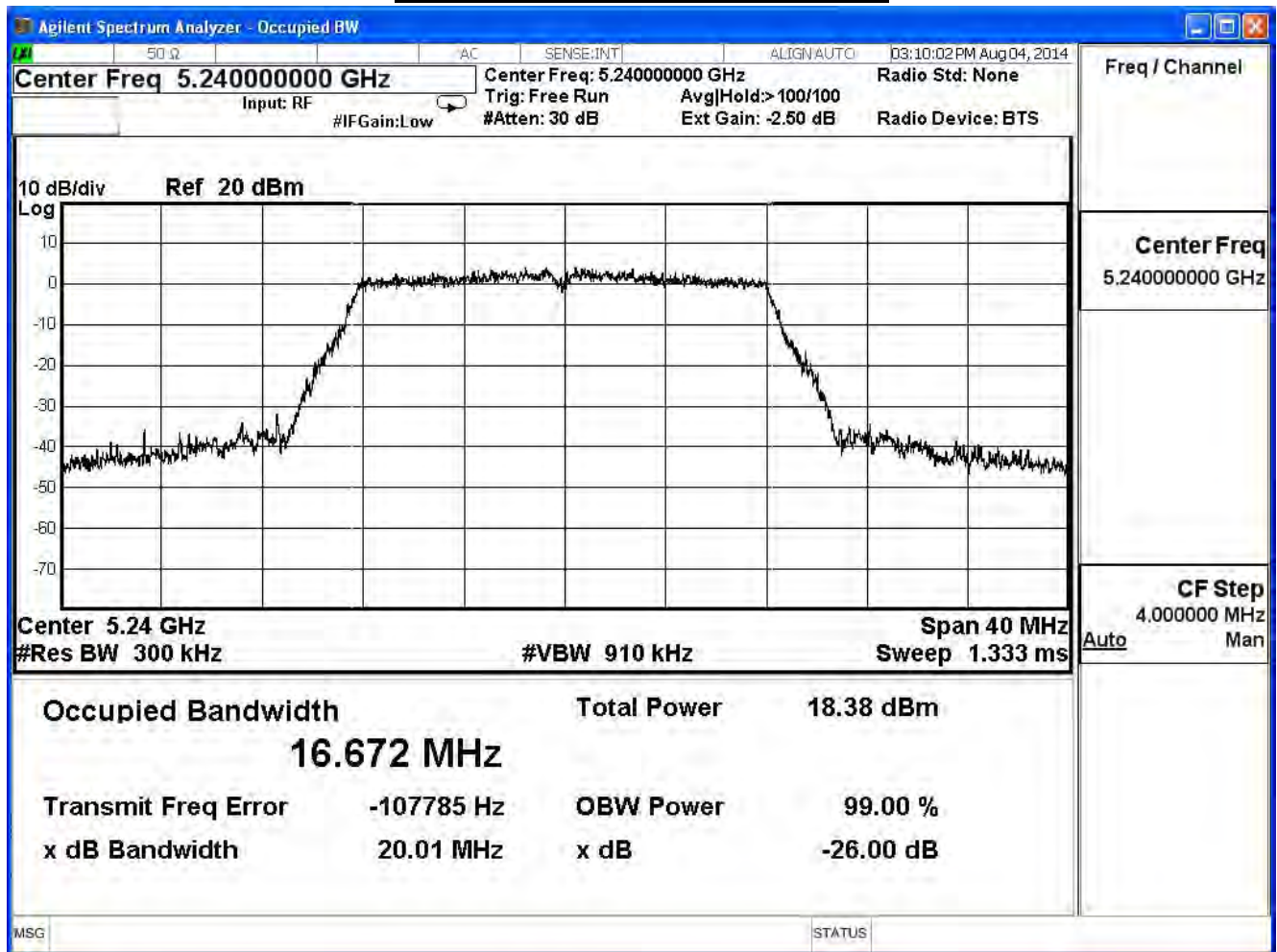
99% & 26dB Bandwidth – Channel 36



99% & 26dB Bandwidth – Channel 44



99% & 26dB Bandwidth – Channel 48

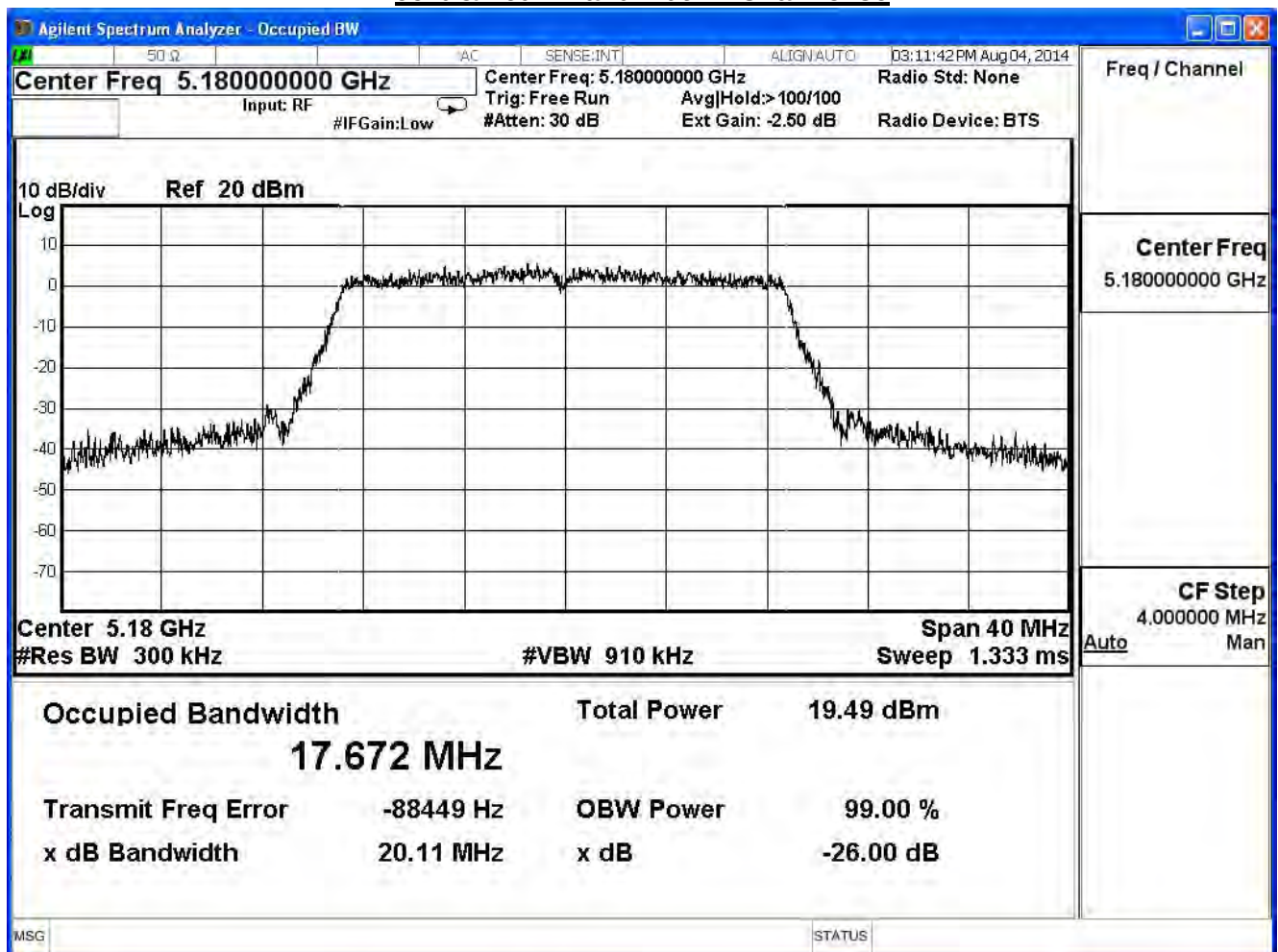


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

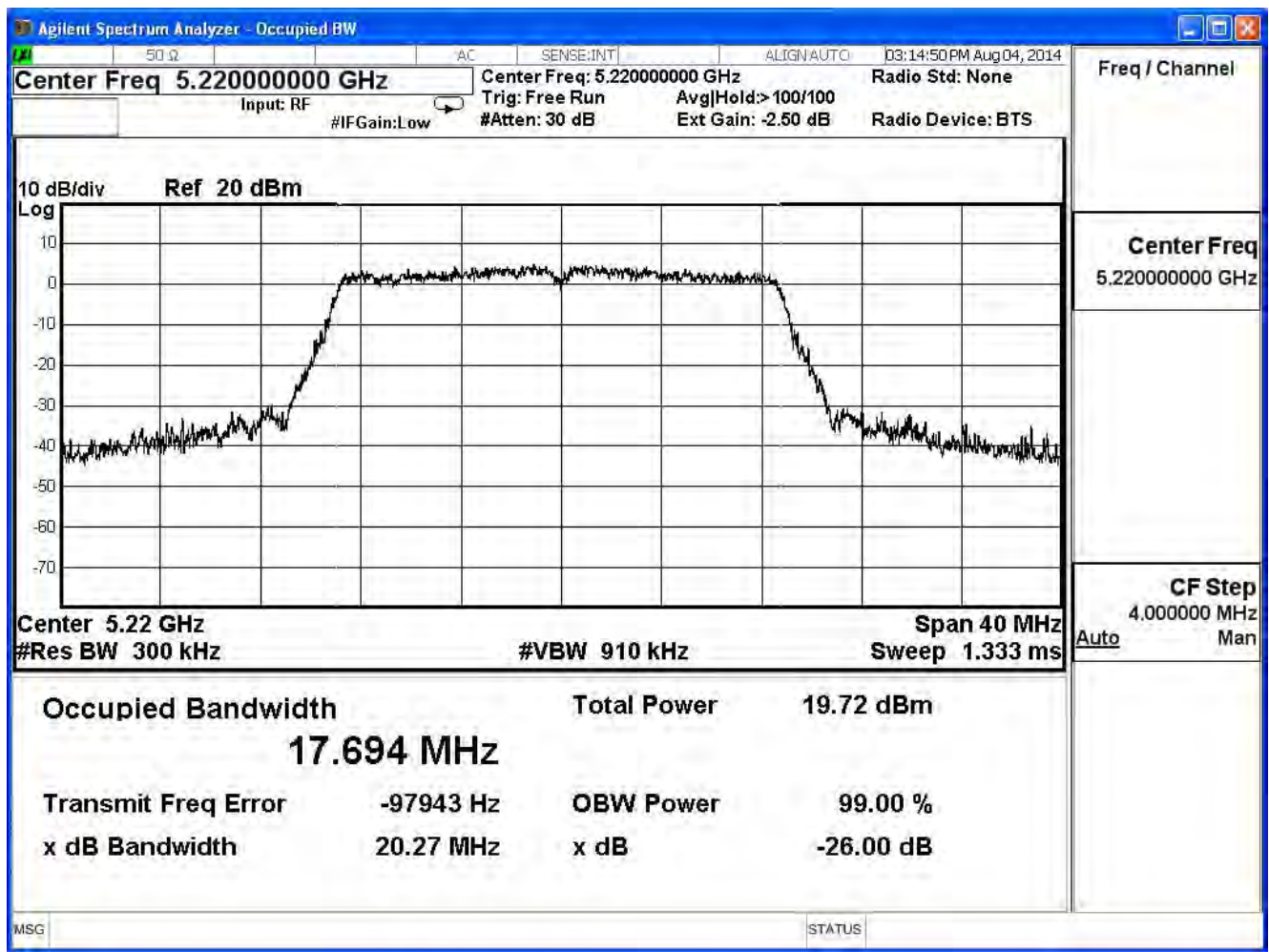
802.11n_20M(ANT 0)

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
36	5180	20.110	17.672	--	Pass
44	5220	20.270	17.694	--	Pass
48	5240	20.240	17.650	--	Pass

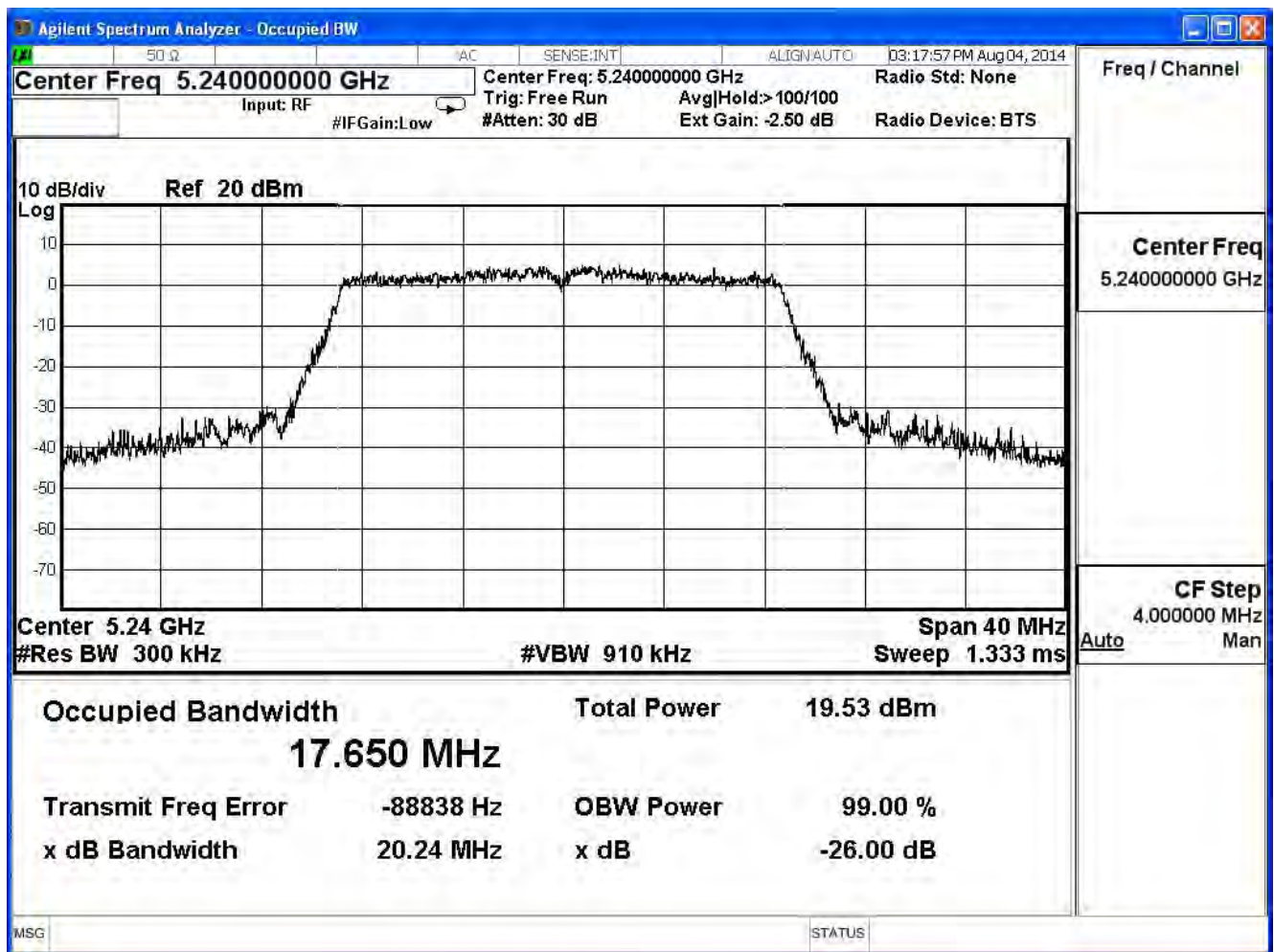
99% & 26dB Bandwidth – Channel 36



99% & 26dB Bandwidth – Channel 44



99% & 26dB Bandwidth – Channel 48

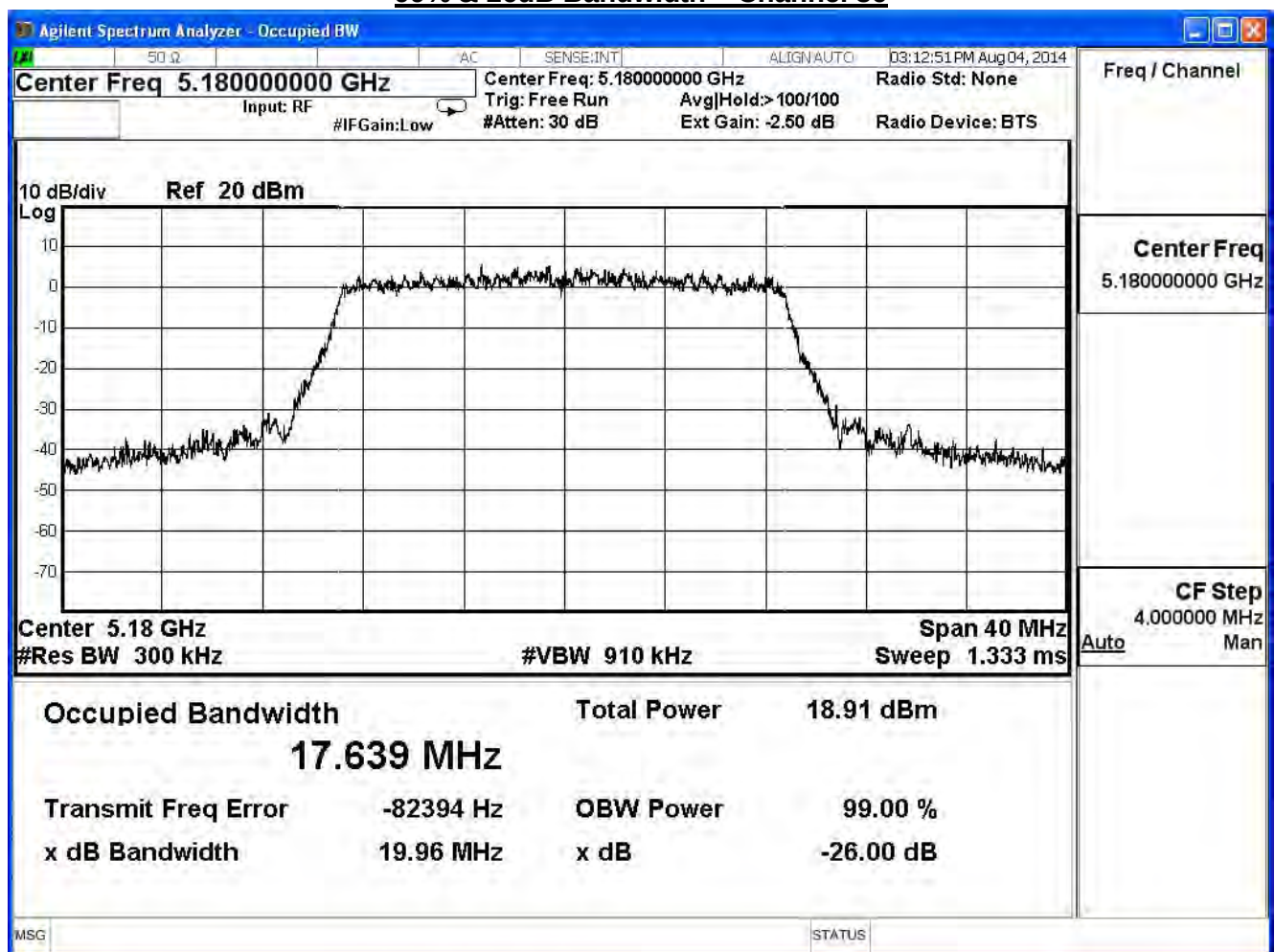


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

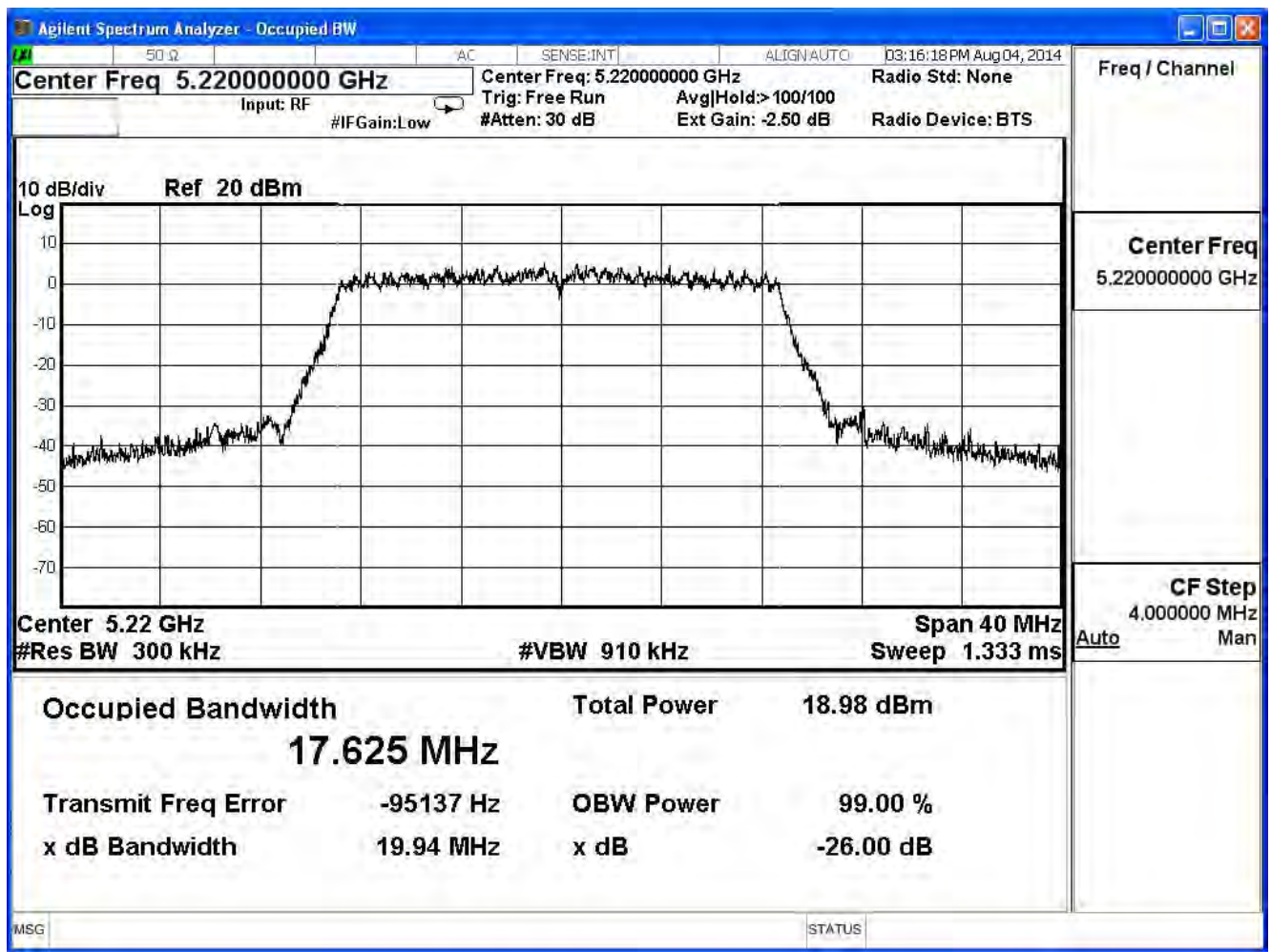
802.11n_20M(ANT 1)

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
36	5180	19.960	17.639	--	Pass
44	5220	19.940	17.625	--	Pass
48	5240	19.950	17.614	--	Pass

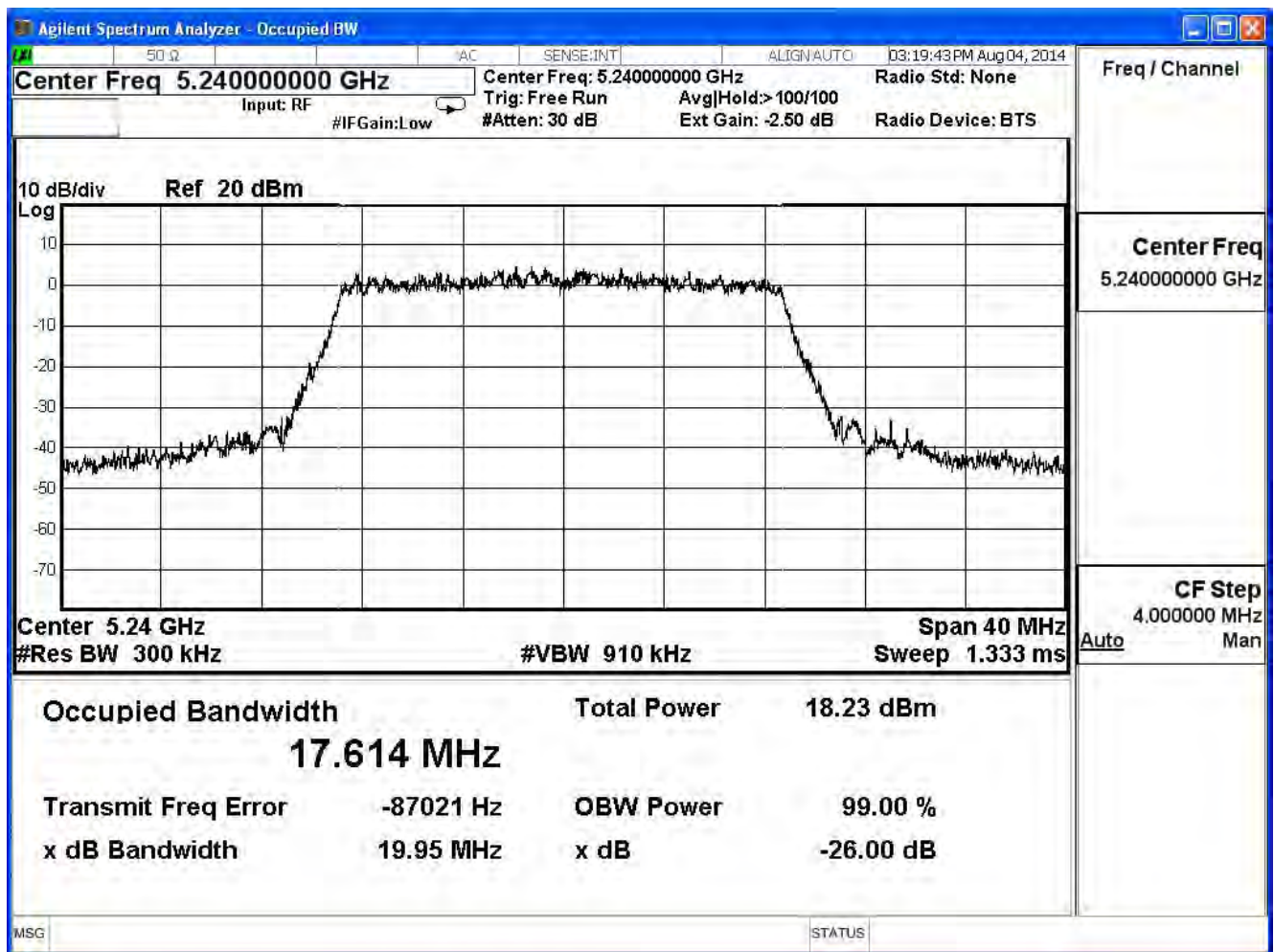
99% & 26dB Bandwidth – Channel 36



99% & 26dB Bandwidth – Channel 44



99% & 26dB Bandwidth – Channel 48

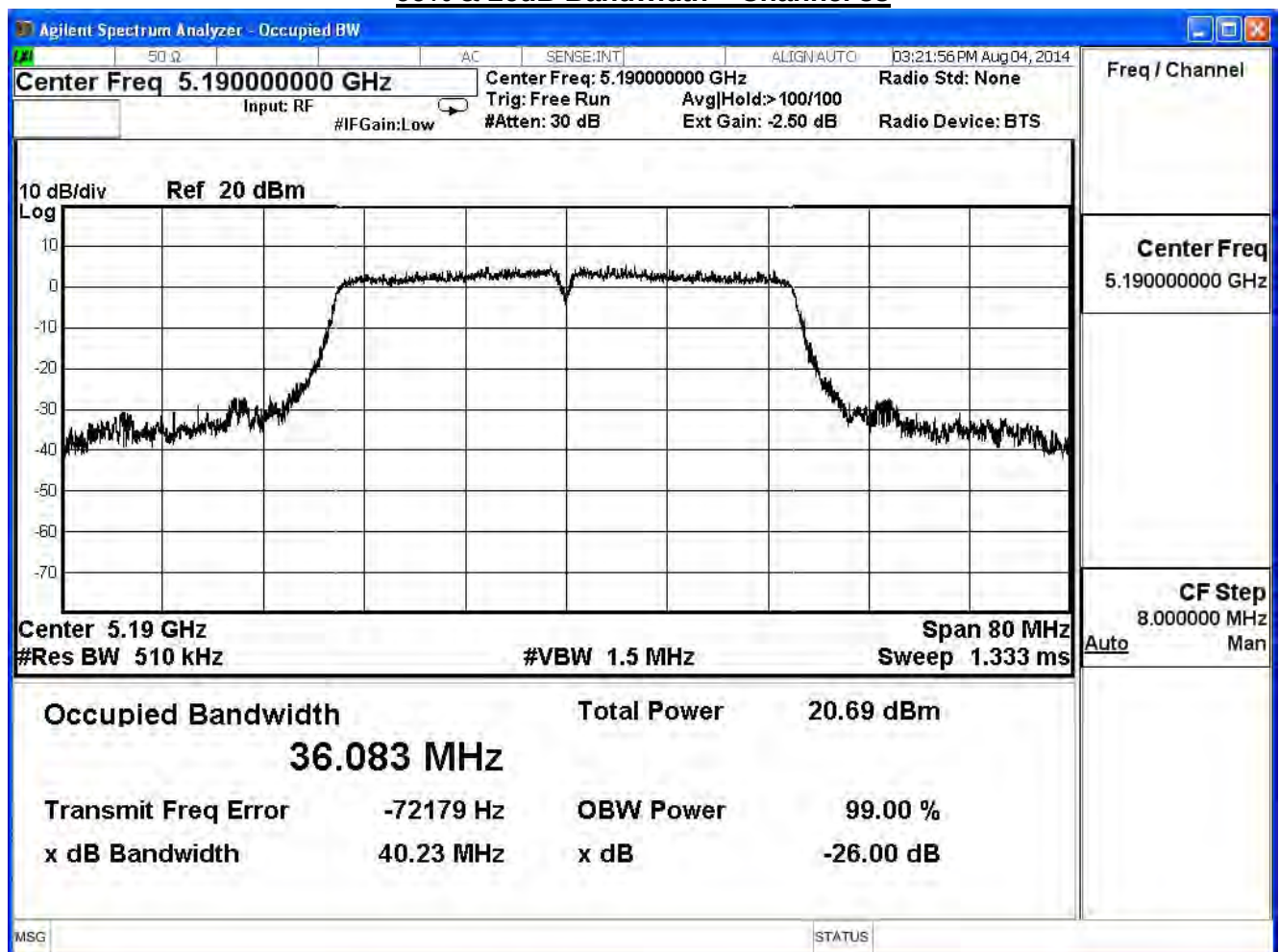


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

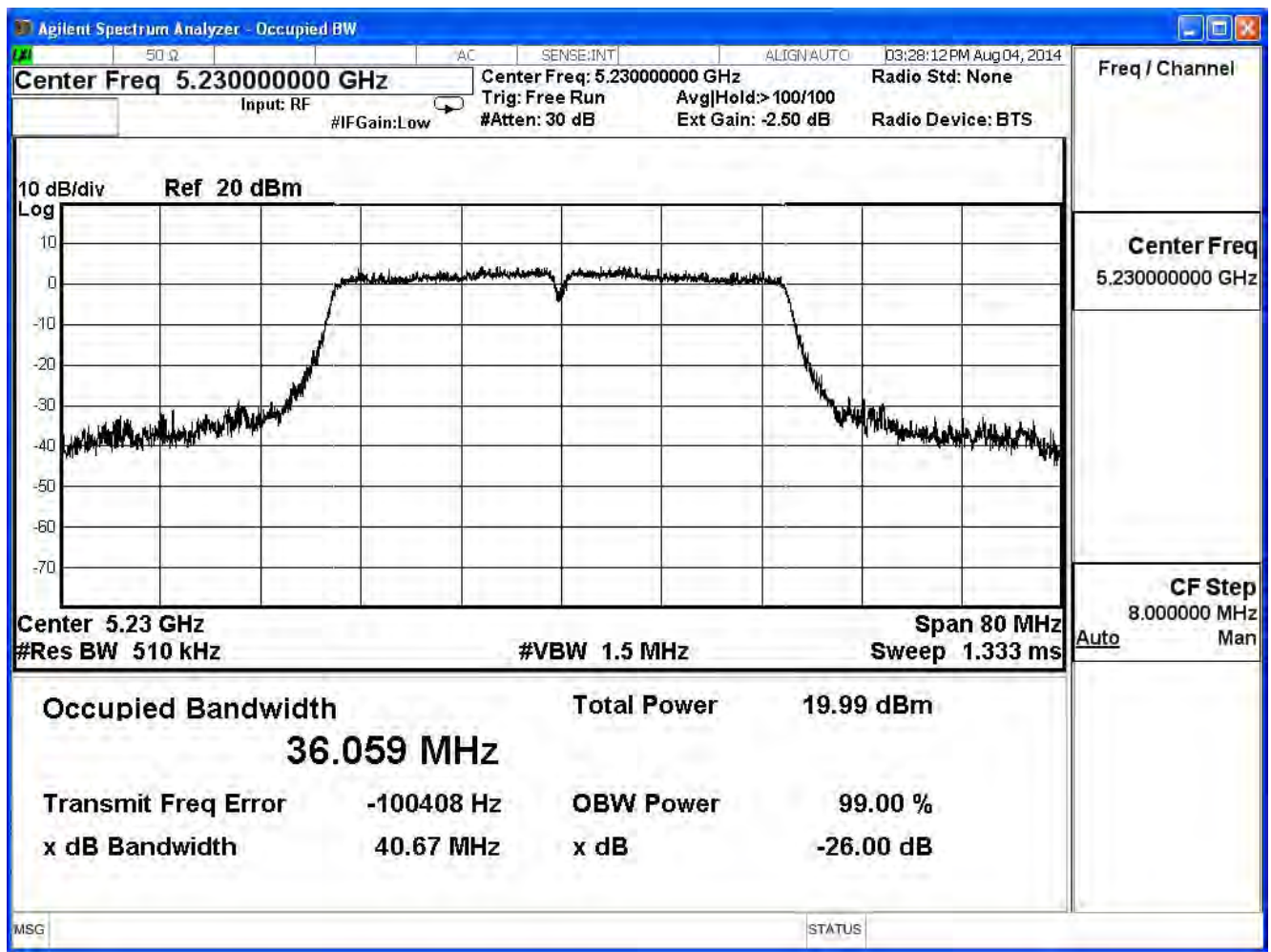
802.11n_40M(ANT 0)

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
38	5190	40.230	36.083	--	Pass
46	5230	40.670	36.059	--	Pass

99% & 26dB Bandwidth – Channel 38



99% & 26dB Bandwidth – Channel 46

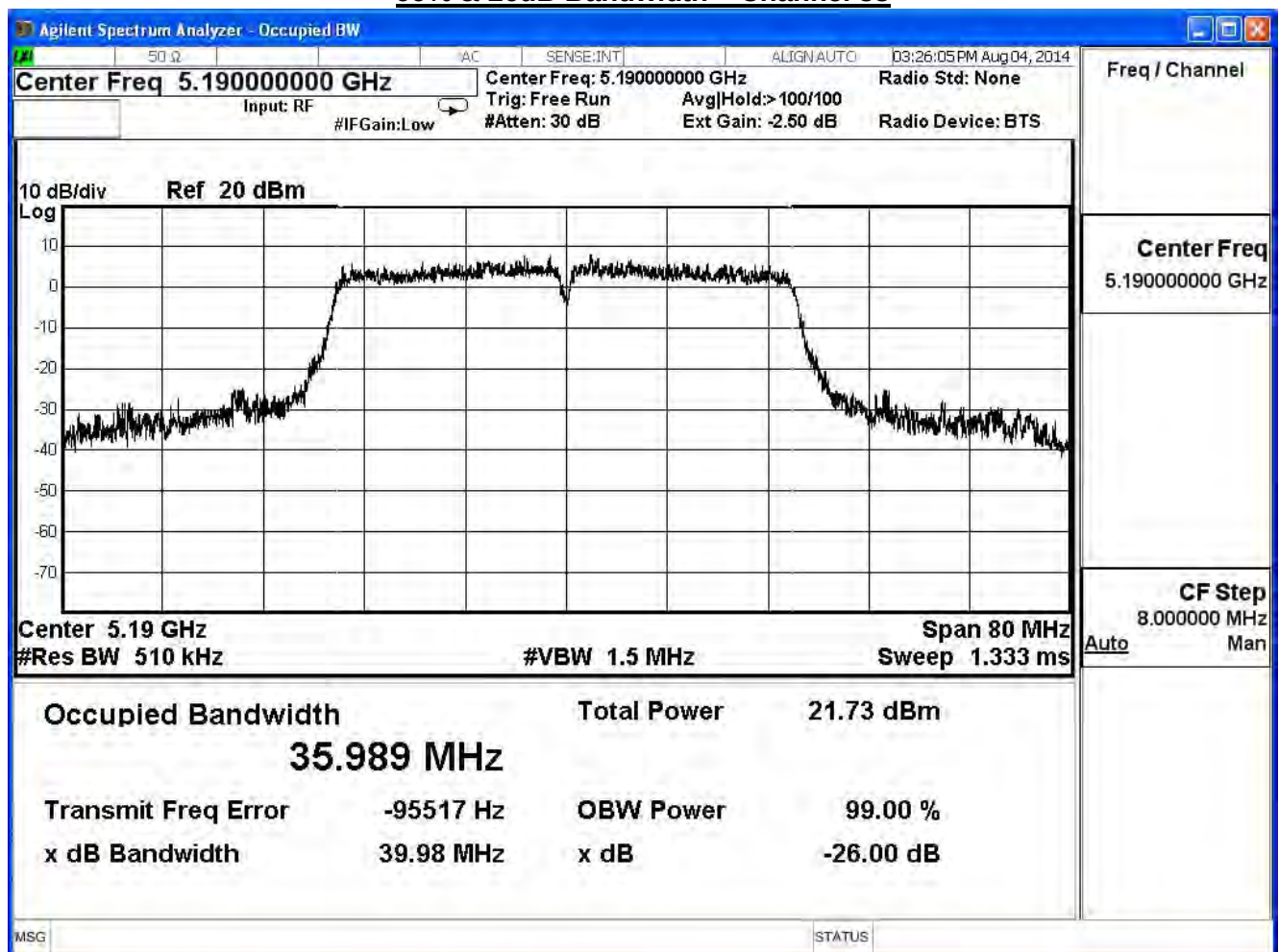


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

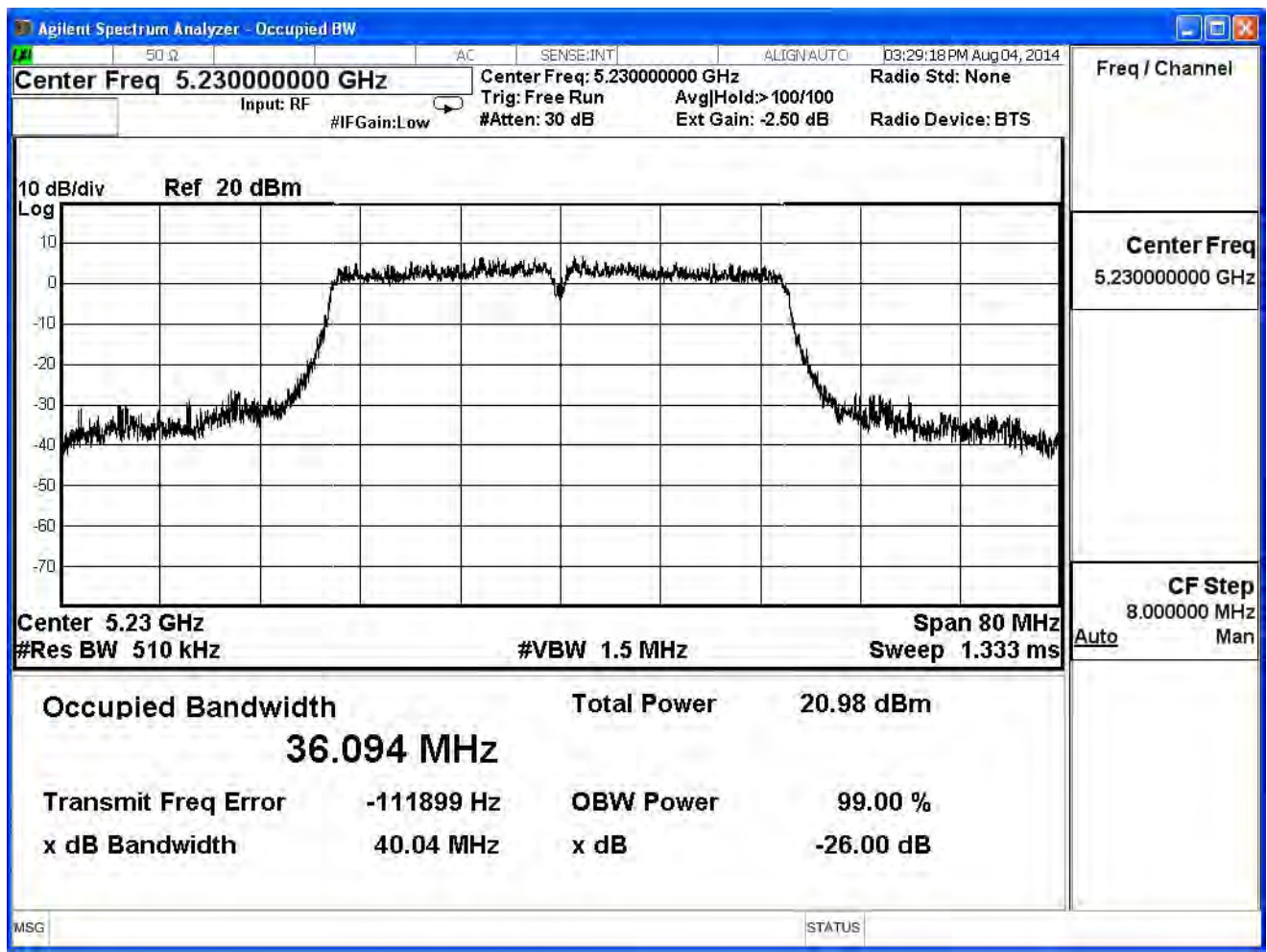
802.11n_40M(ANT 1)

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
38	5190	39.980	35.989	--	Pass
46	5230	40.040	36.094	--	Pass

99% & 26dB Bandwidth – Channel 38



99% & 26dB Bandwidth – Channel 46

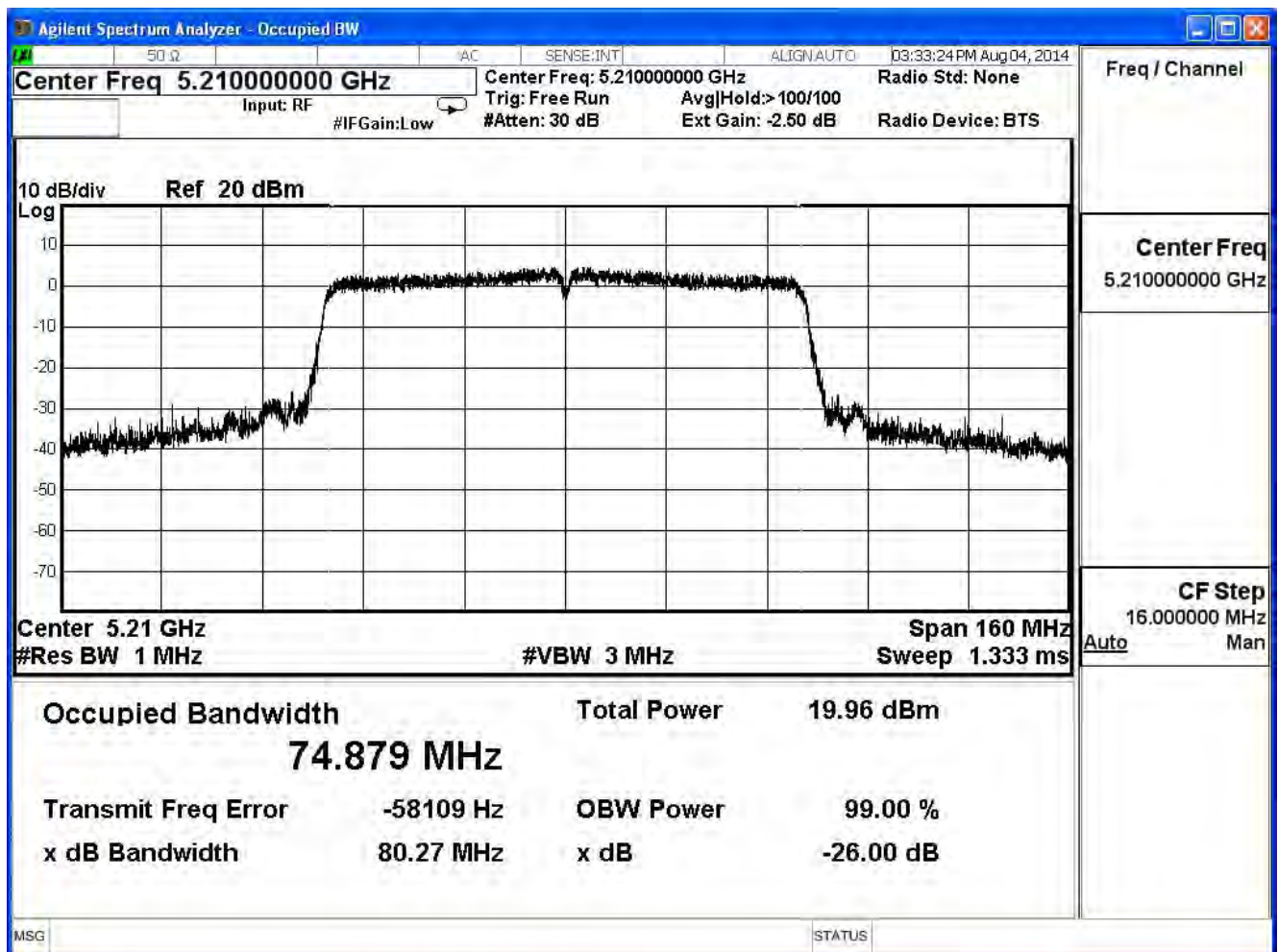


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

802.11ac_80M(ANT 0)

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
42	5210	80.270	74.879	---	Pass

99% & 26dB Bandwidth – Channel 42

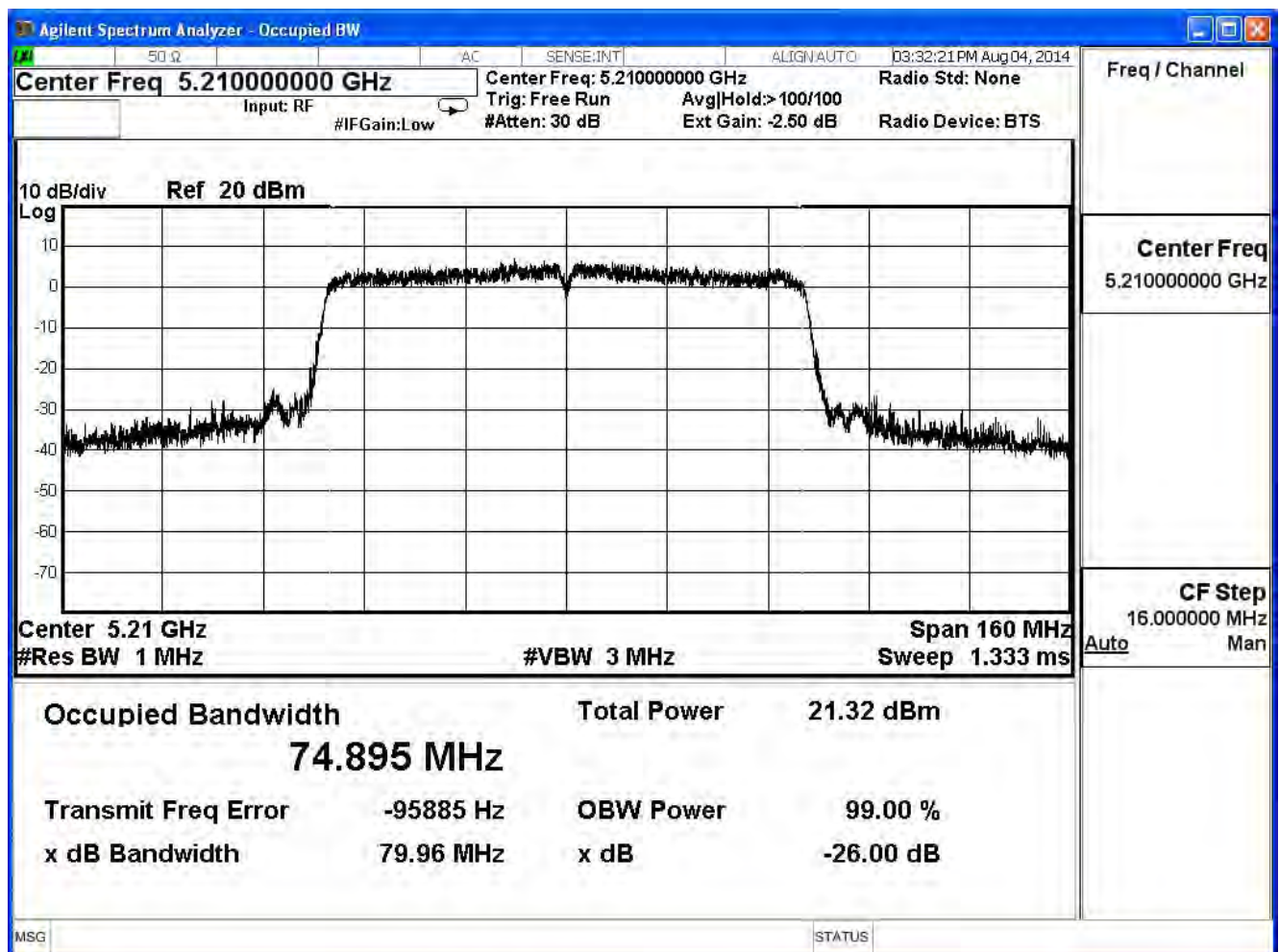


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

802.11ac_80M(ANT 1)

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
42	5210	79.960	74.895	---	Pass

99% & 26dB Bandwidth – Channel 42

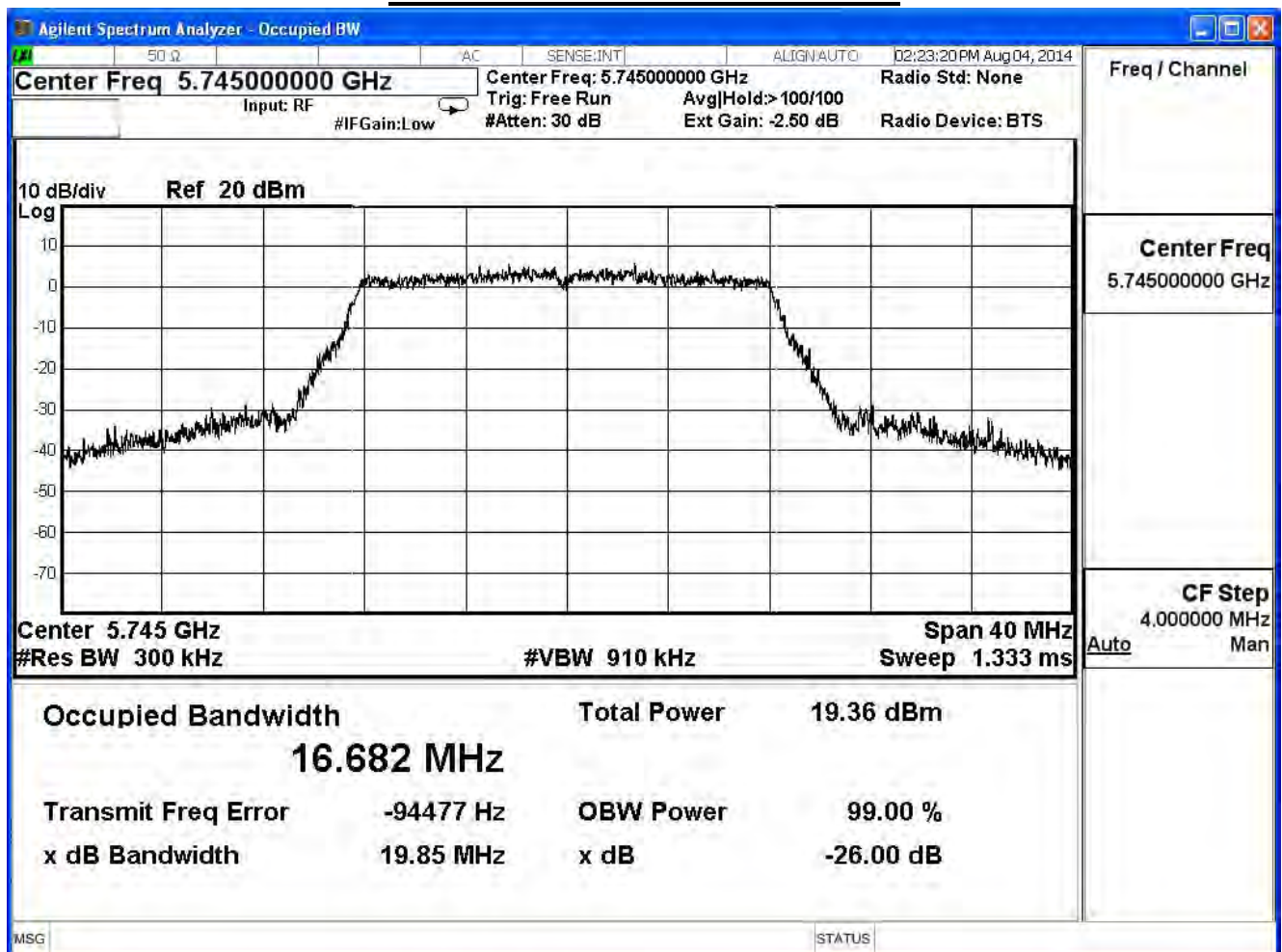


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

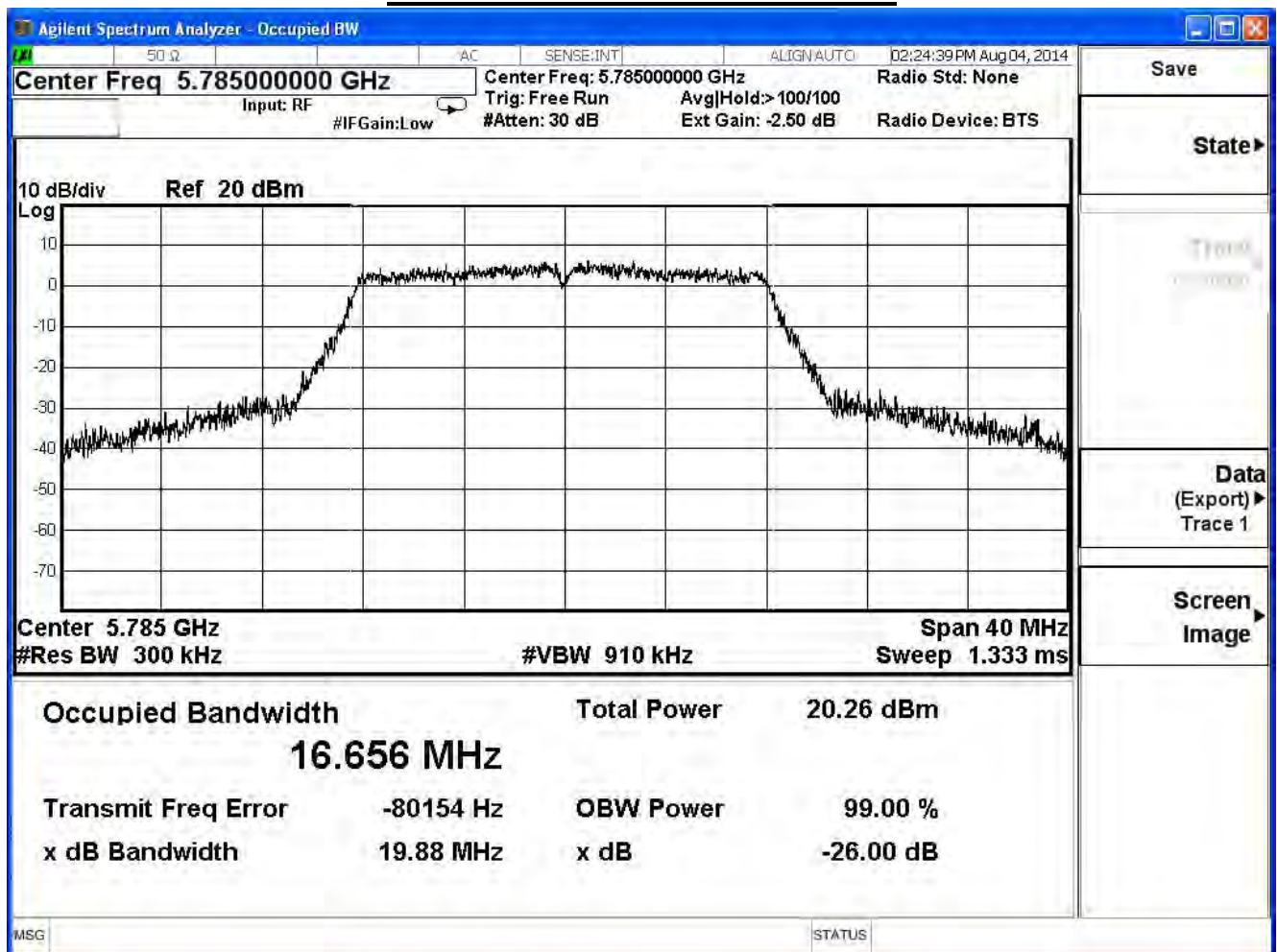
802.11a (ANT 0)

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
149	5745	19.850	16.682	--	Pass
157	5785	19.880	16.656	--	Pass
165	5825	20.000	16.690	--	Pass

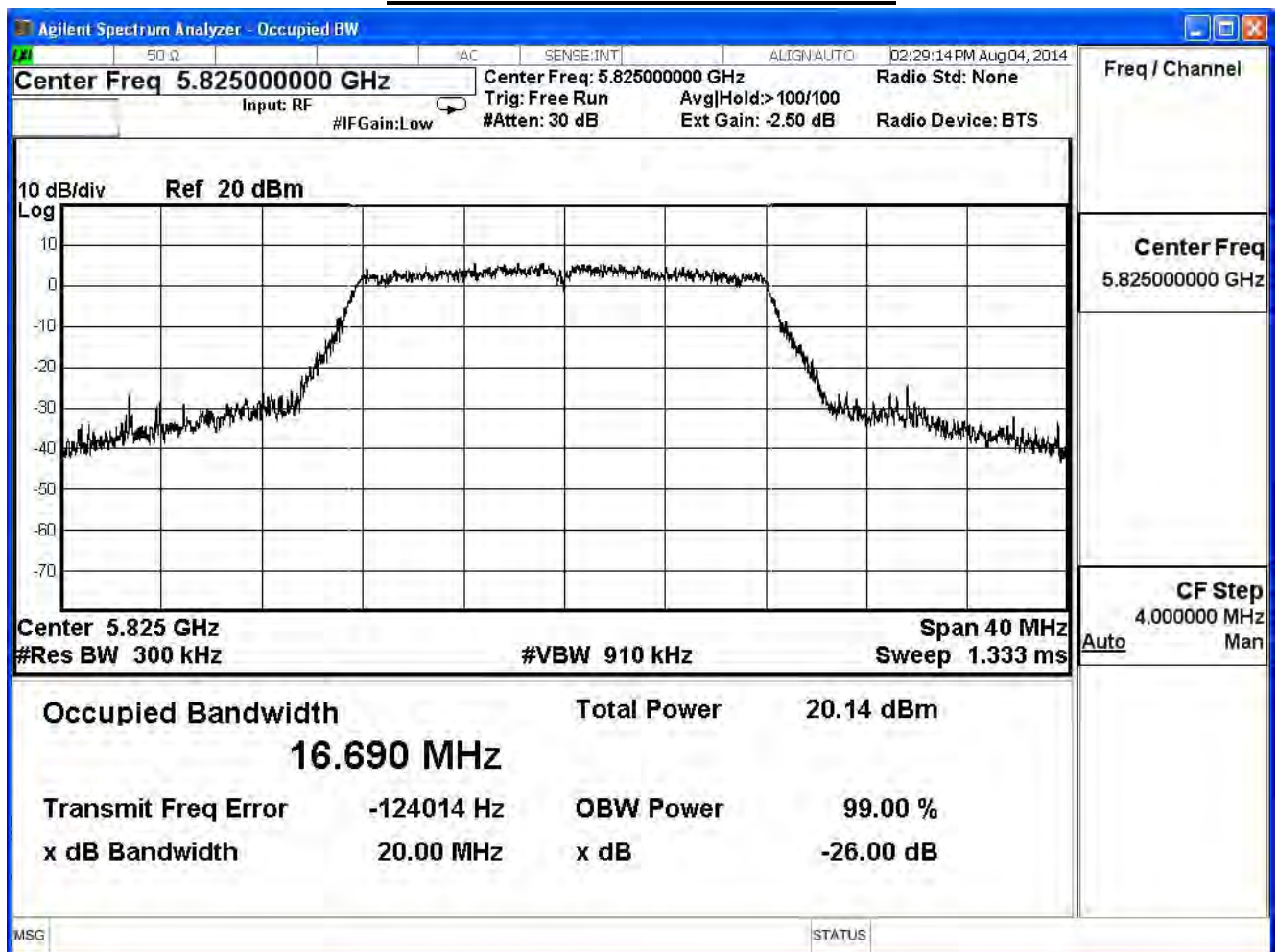
99% & 26dB Bandwidth – Channel 149



99% & 26dB Bandwidth – Channel 157



99% & 26dB Bandwidth – Channel 165

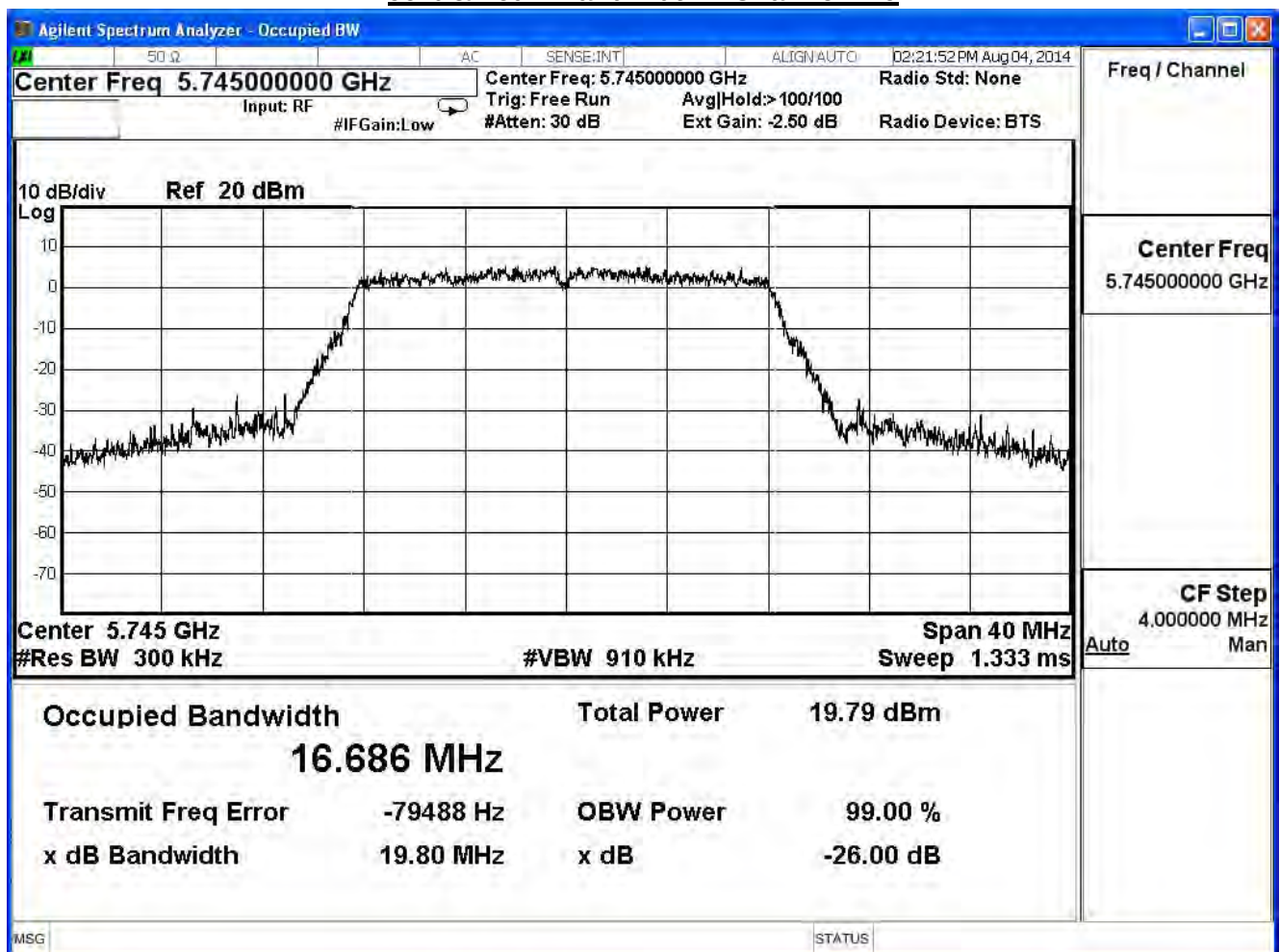


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

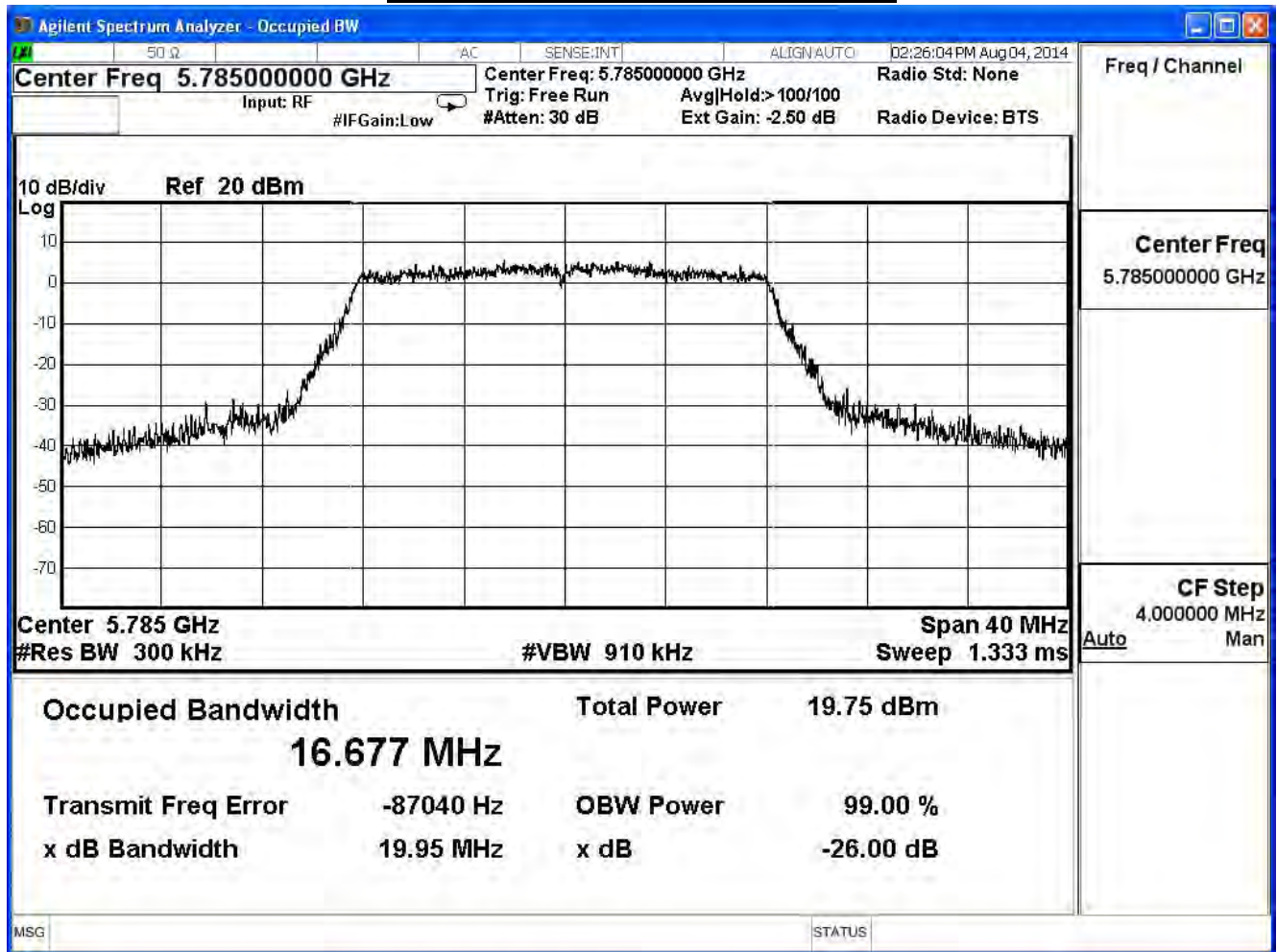
802.11a (ANT 1)

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
149	5745	19.800	16.686	--	Pass
157	5785	19.950	16.677	--	Pass
165	5825	19.920	16.636	--	Pass

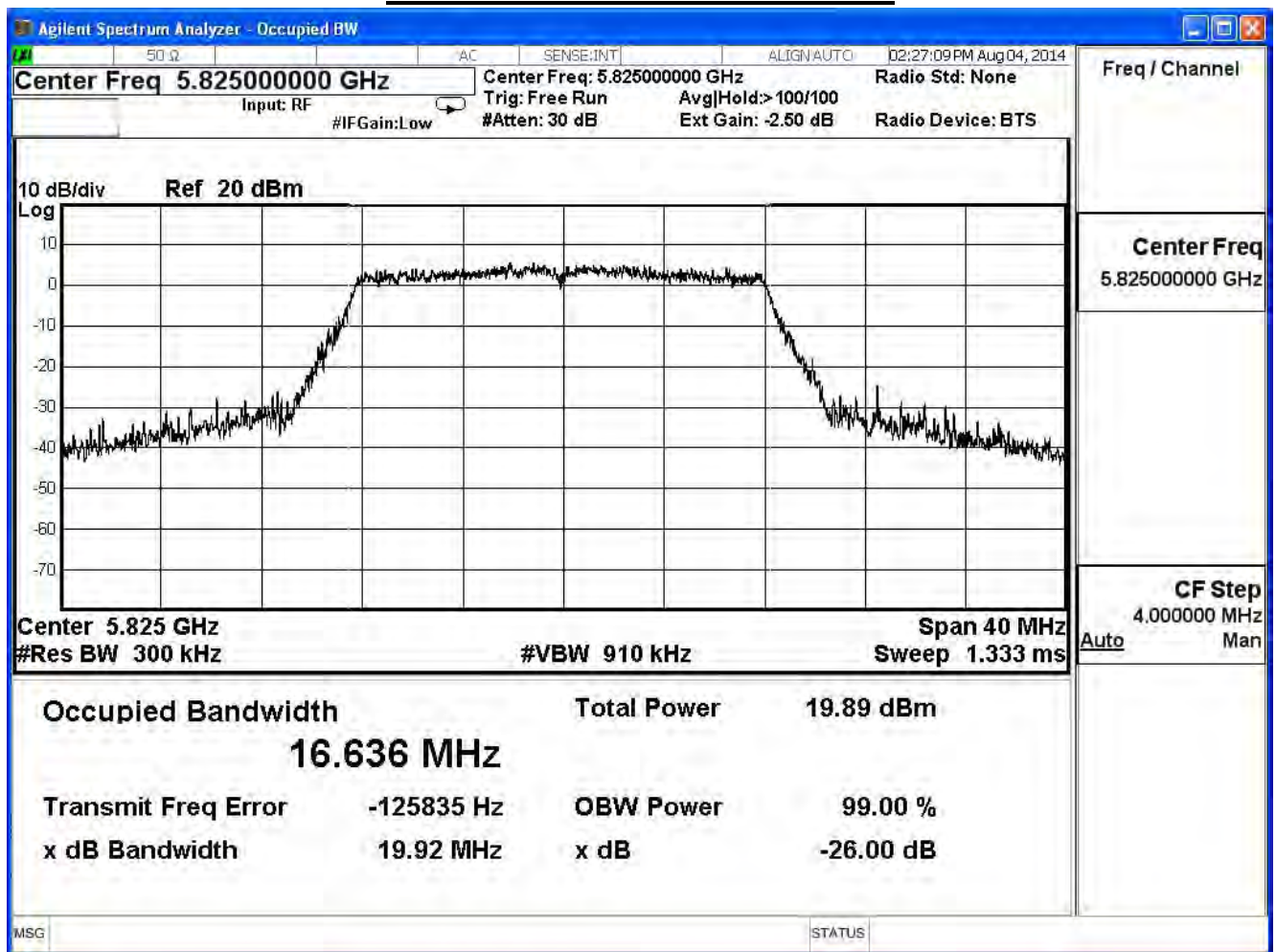
99% & 26dB Bandwidth – Channel 149



99% & 26dB Bandwidth – Channel 157



99% & 26dB Bandwidth – Channel 165

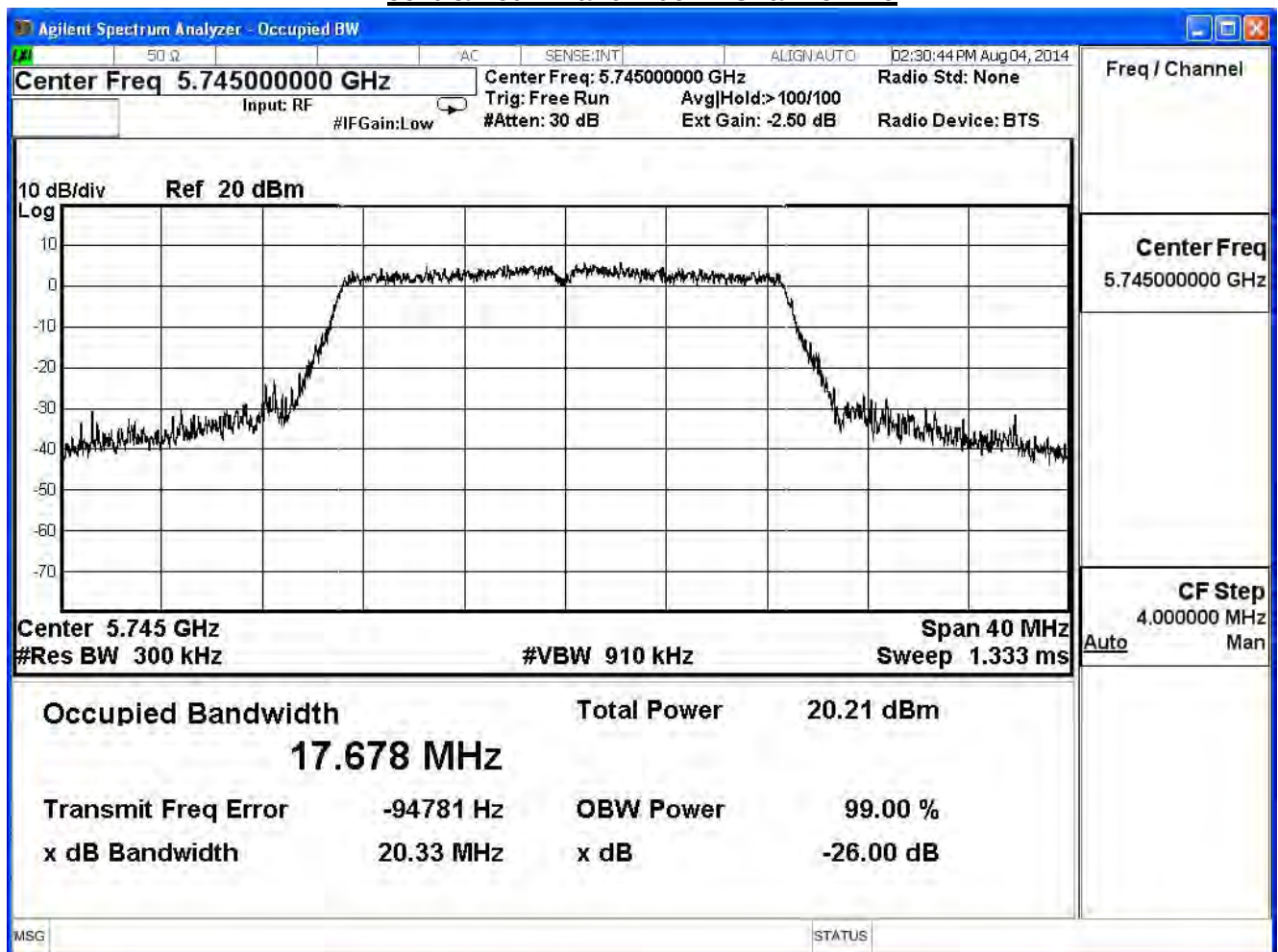


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

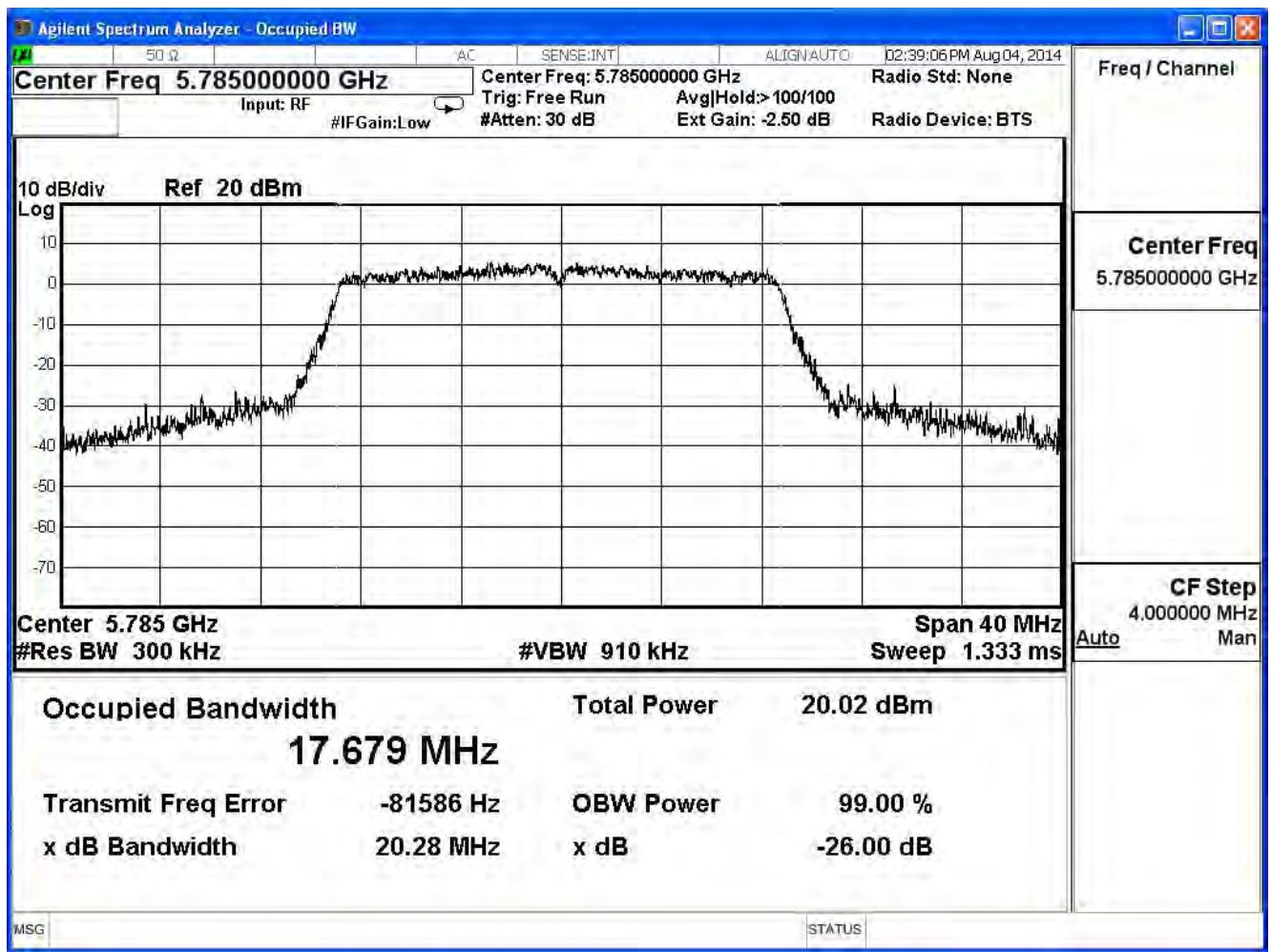
802.11n_20M(ANT 0)

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
149	5745	20.330	17.678	--	Pass
157	5785	20.280	17.679	--	Pass
165	5825	20.420	17.668	--	Pass

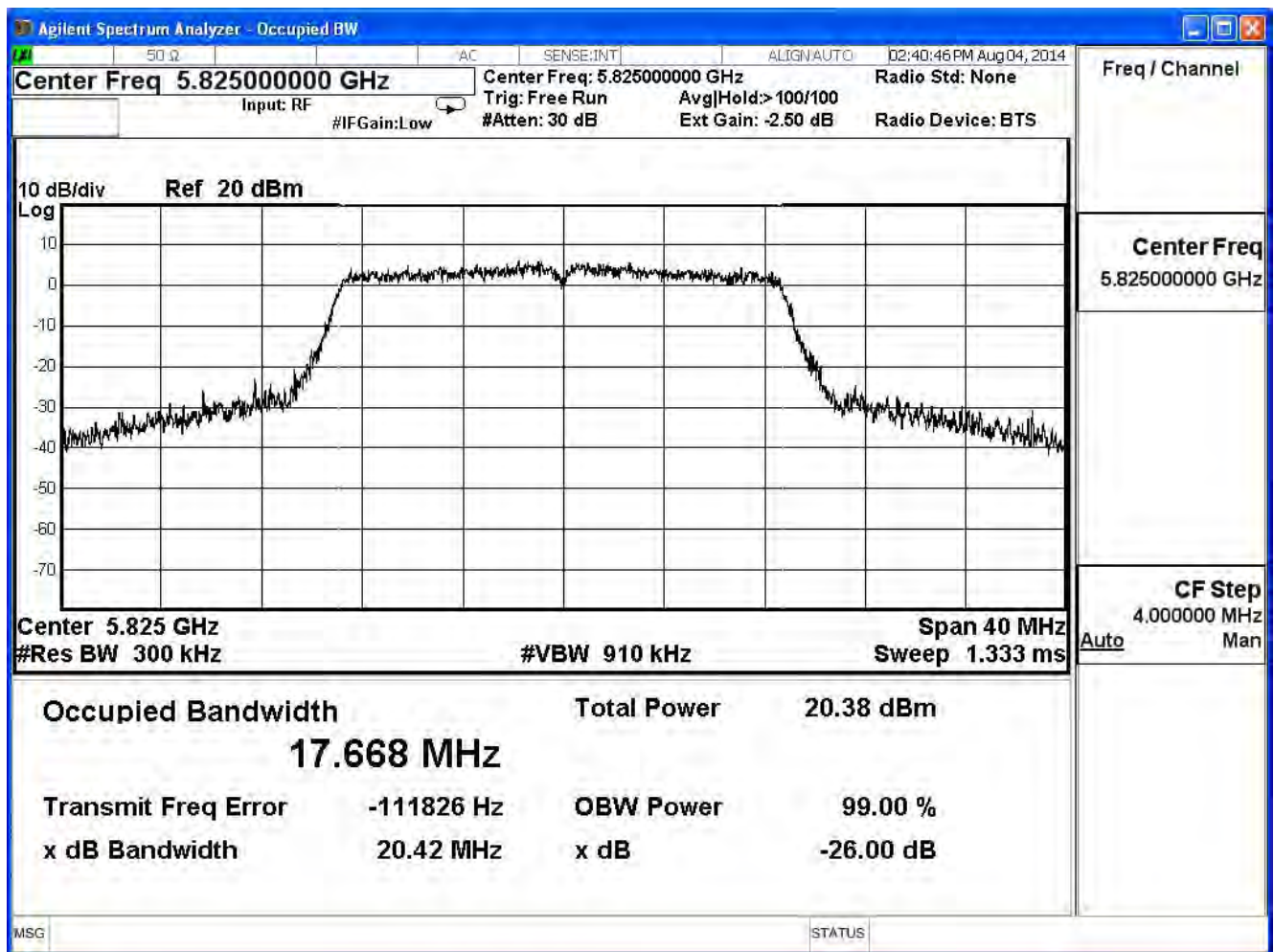
99% & 26dB Bandwidth – Channel 149



99% & 26dB Bandwidth – Channel 157



99% & 26dB Bandwidth – Channel 165



802.11n_20M(ANT 1)					
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
149	5745	20.040	17.654	--	Pass
157	5785	20.020	17.647	--	Pass
165	5825	19.950	17.641	--	Pass

Agilent Spectrum Analyzer - Occupied BW

50 Ω AC SENSE:INT ALIGN: AUTO 03:39:37 PM Aug 04, 2014

Center Freq 5.745000000 GHz Center Freq: 5.745000000 GHz Radio Std: None
Input: RF Trig: Free Run Avg|Hold:>100/100
#IFGain:Low #Atten: 30 dB Ext Gain: -2.50 dB Radio Device: BTS

10 dB/div Ref 20 dBm
Log

Center 5.745 GHz Span 40 MHz
#Res BW 300 kHz #VBW 910 kHz Sweep 1.333 ms

Occupied Bandwidth 17.654 MHz Total Power 21.14 dBm

Transmit Freq Error -106735 Hz OBW Power 99.00 %
x dB Bandwidth 20.04 MHz x dB -26.00 dB

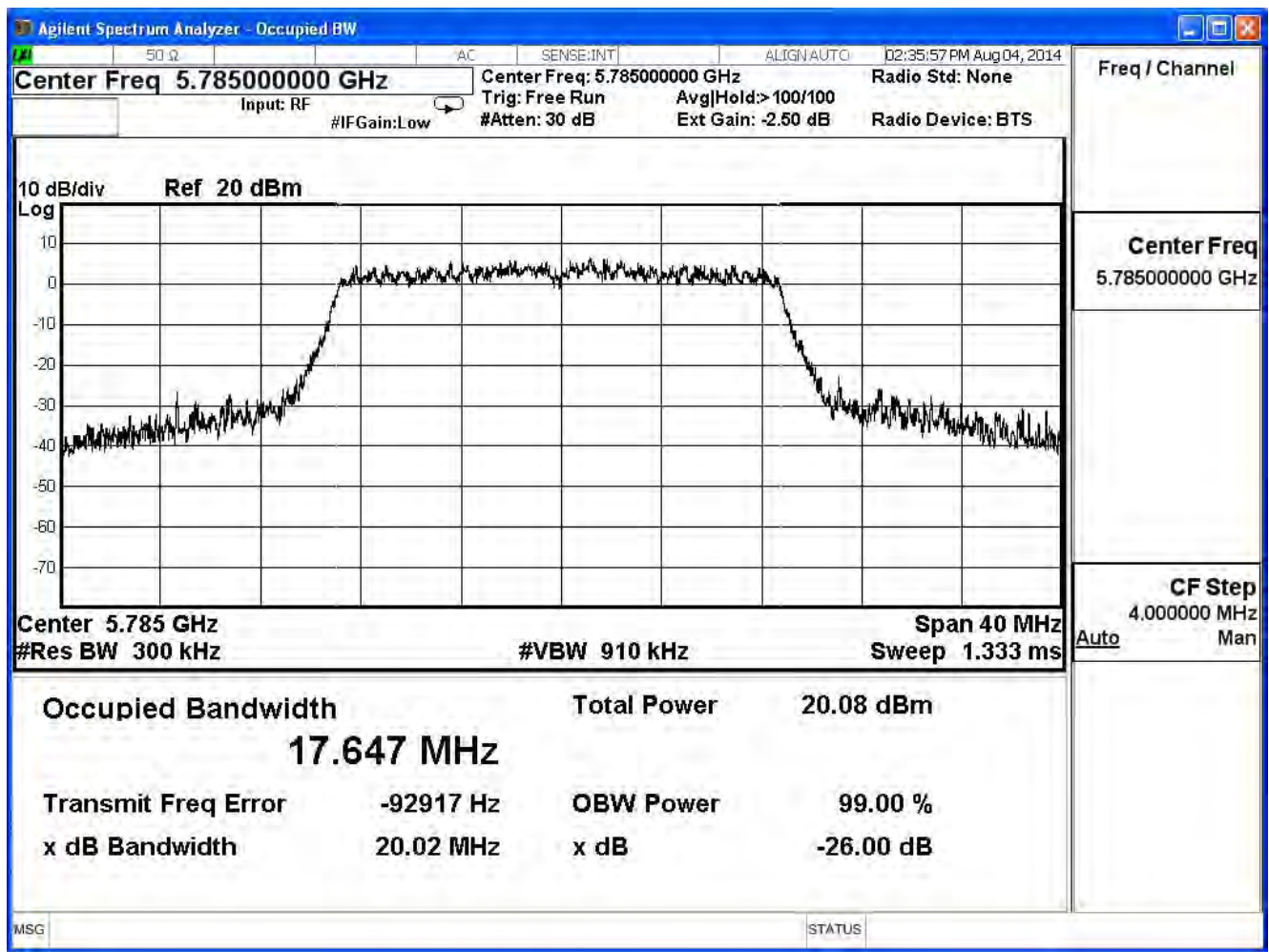
MSG STATUS

Freq / Channel

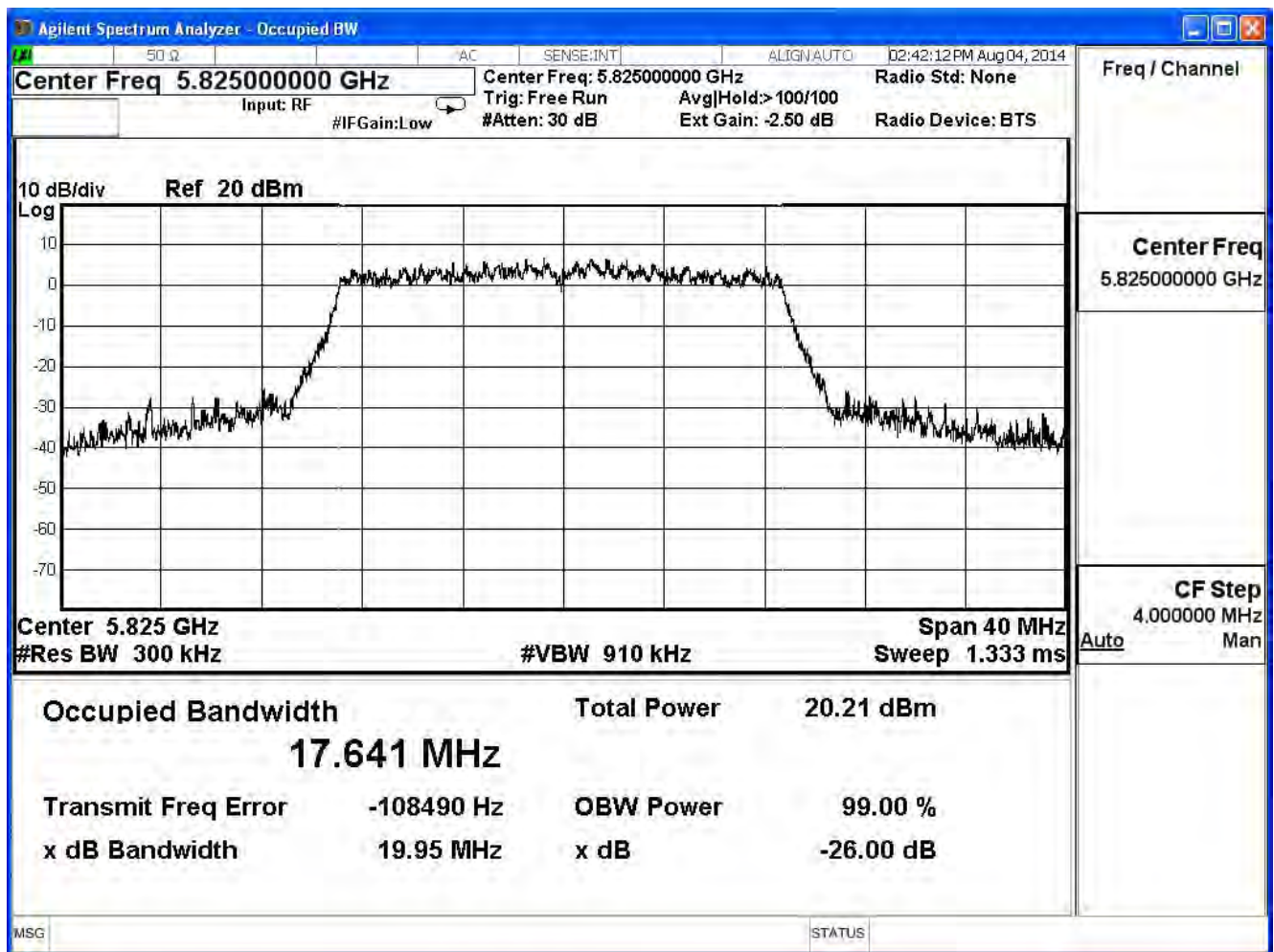
Center Freq
5.745000000 GHz

CF Step
4.000000 MHz
Auto Man

99% & 26dB Bandwidth – Channel 157



99% & 26dB Bandwidth – Channel 165

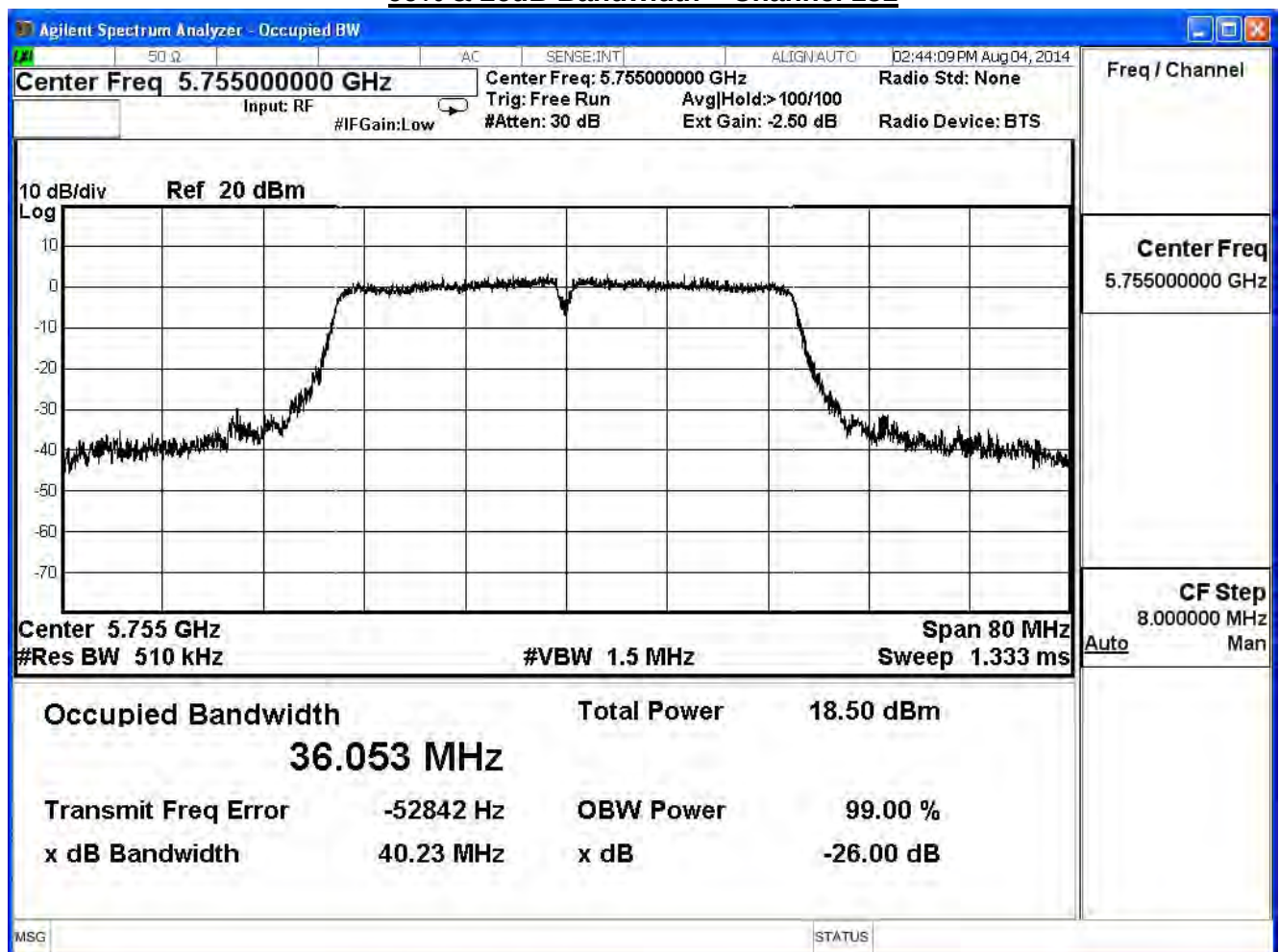


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

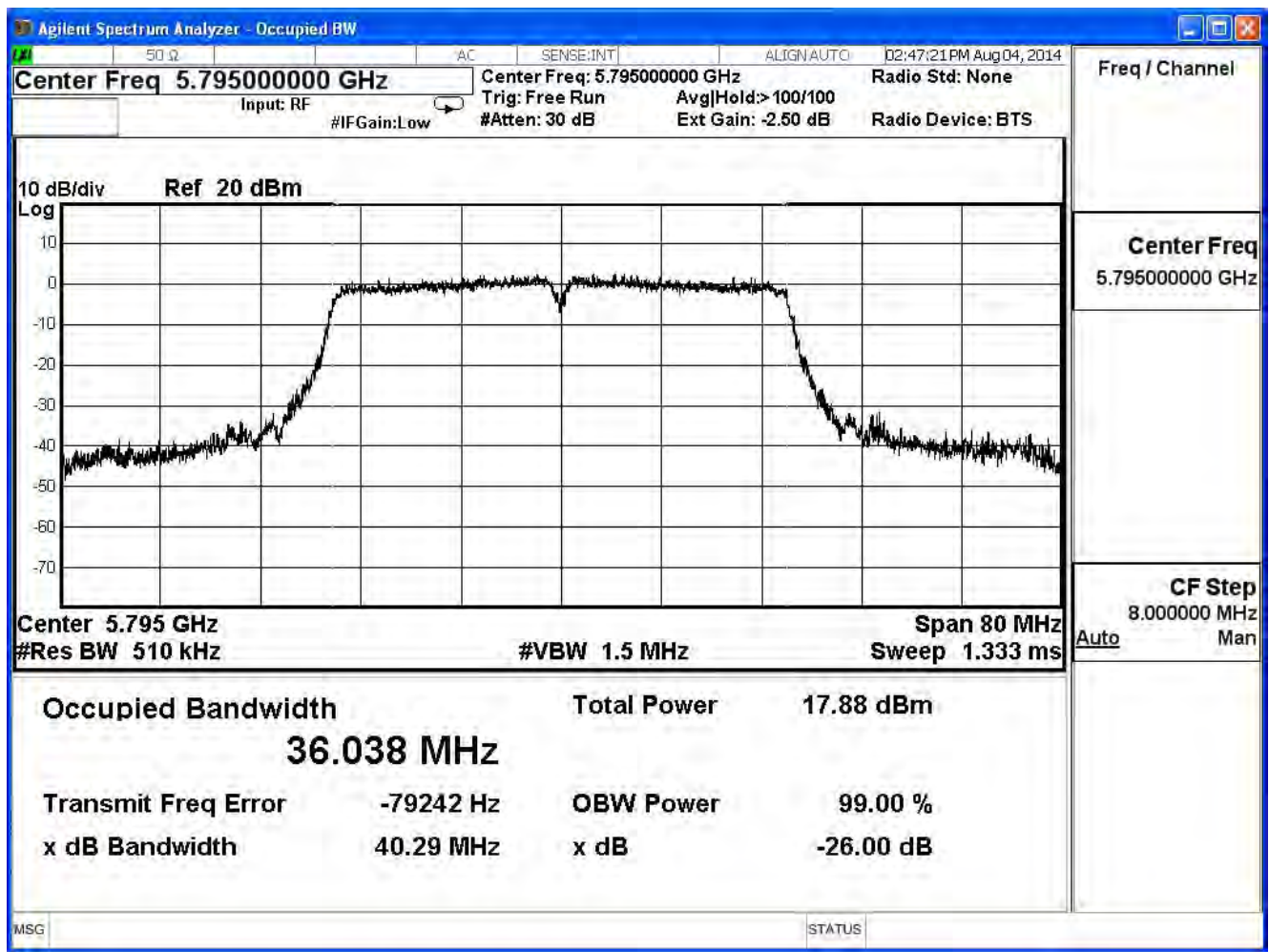
802.11n_40M(ANT 0)

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
151	5755	40.230	36.053	--	Pass
159	5795	40.290	36.038	--	Pass

99% & 26dB Bandwidth – Channel 151



99% & 26dB Bandwidth – Channel 159

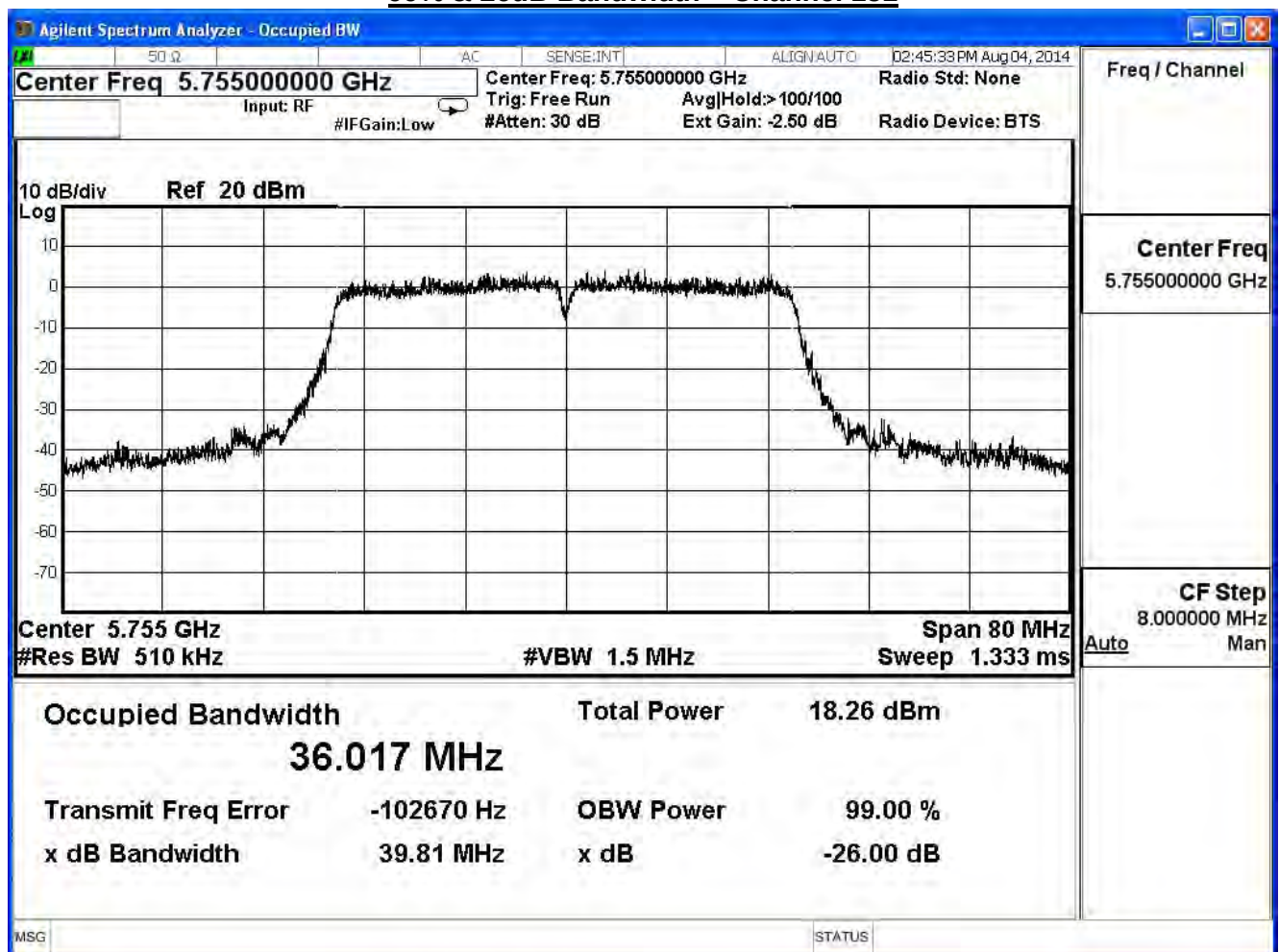


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

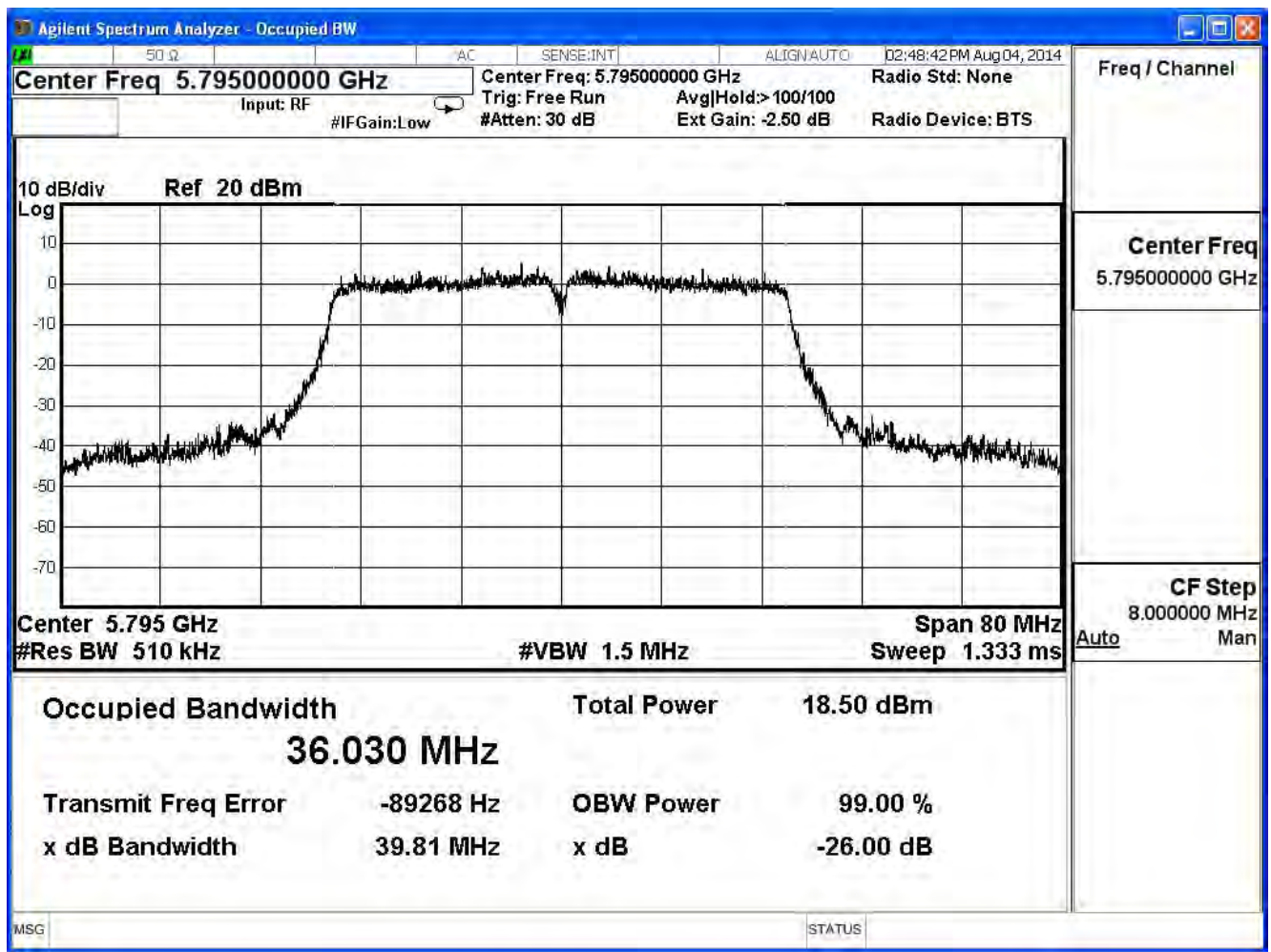
802.11n_40M(ANT 1)

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
151	5755	39.810	36.017	--	Pass
159	5795	39.810	36.030	--	Pass

99% & 26dB Bandwidth – Channel 151



99% & 26dB Bandwidth – Channel 159

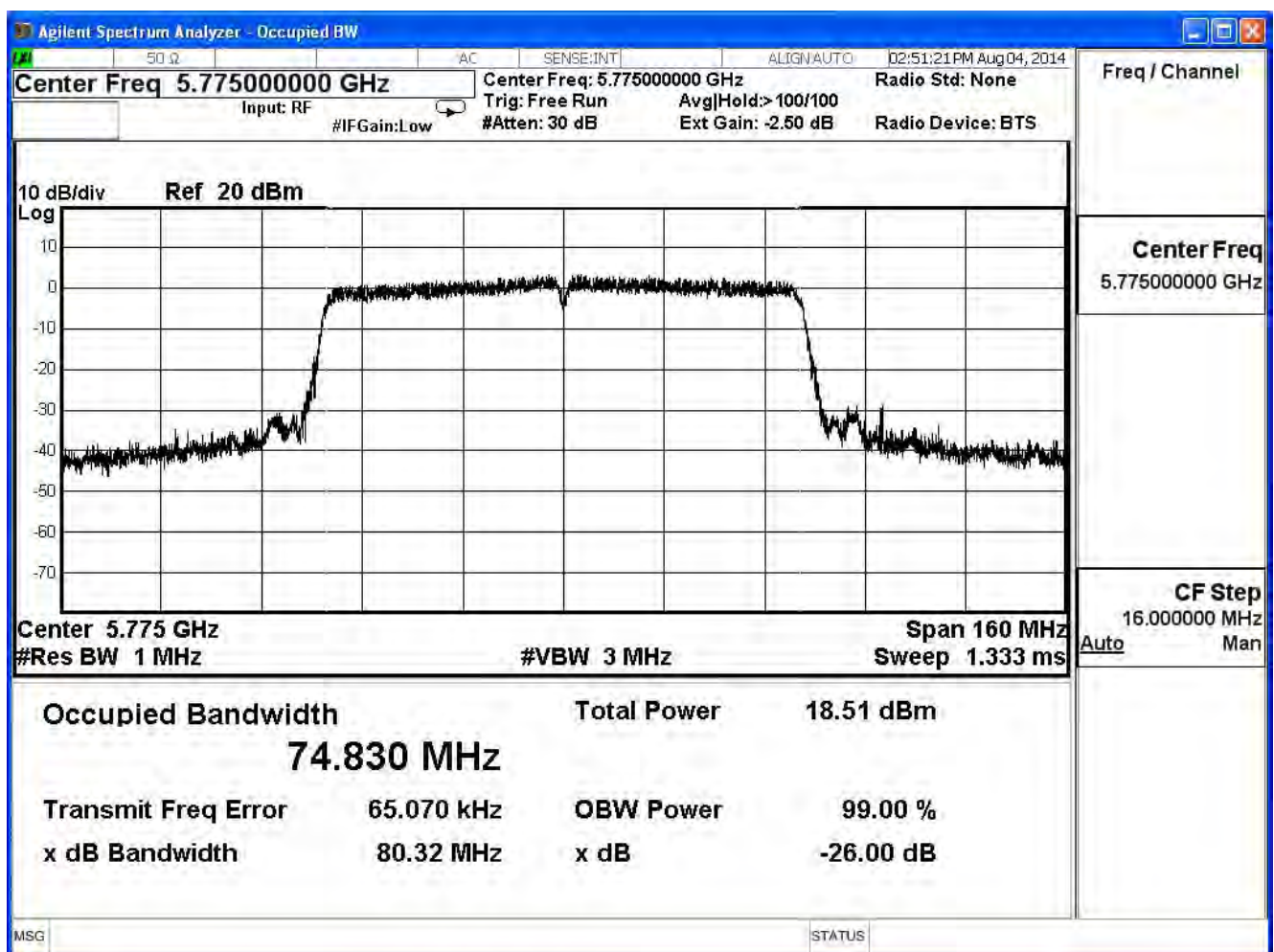


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

802.11ac_80M(ANT 0)

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
155	5775	80.320	74.830	---	Pass

99% & 26dB Bandwidth – Channel 155

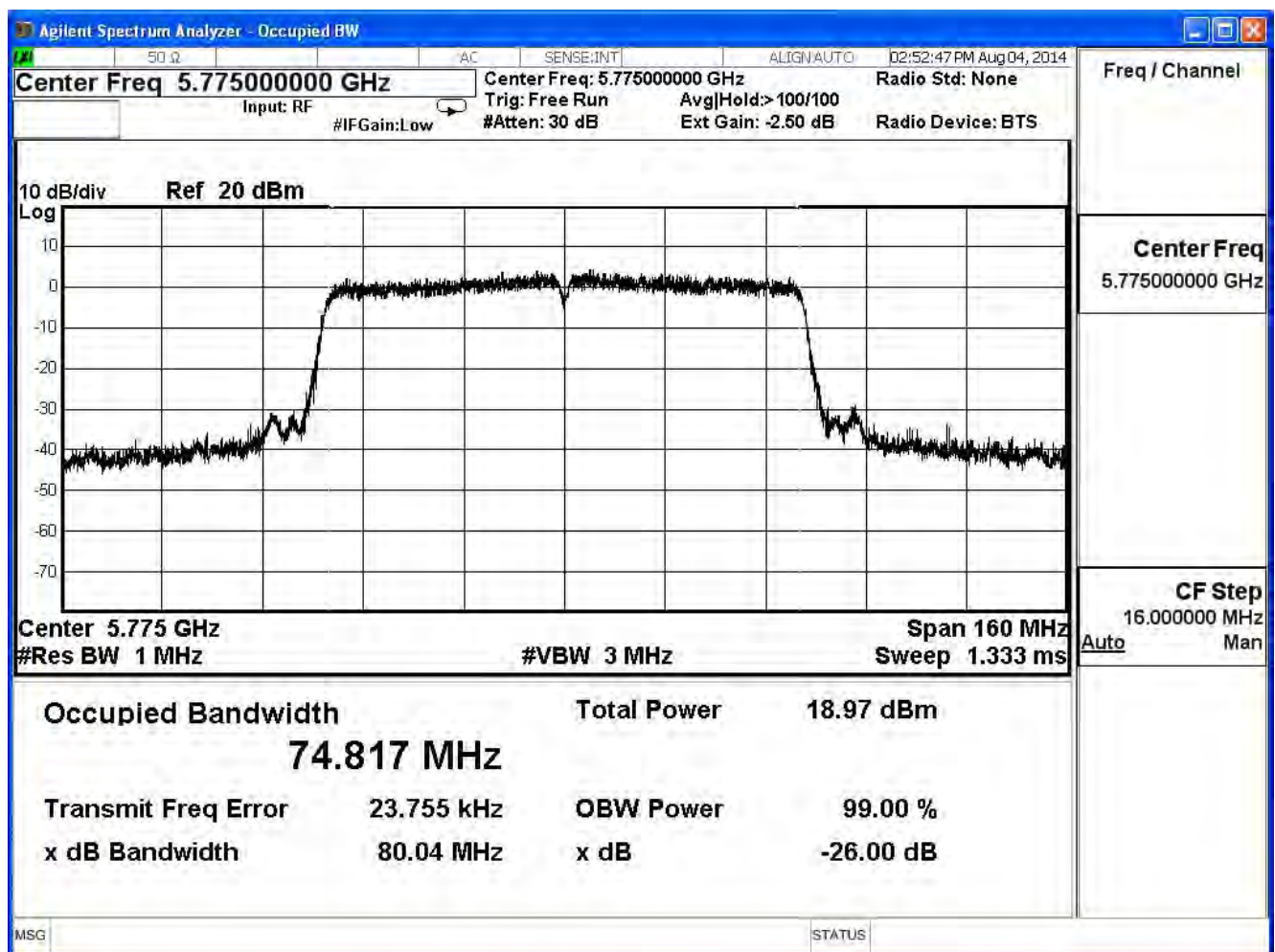


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	99% & 26dB Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

802.11ac_80M(ANT 1)

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)	Result
155	5775	80.040	74.817	---	Pass

99% & 26dB Bandwidth – Channel 155

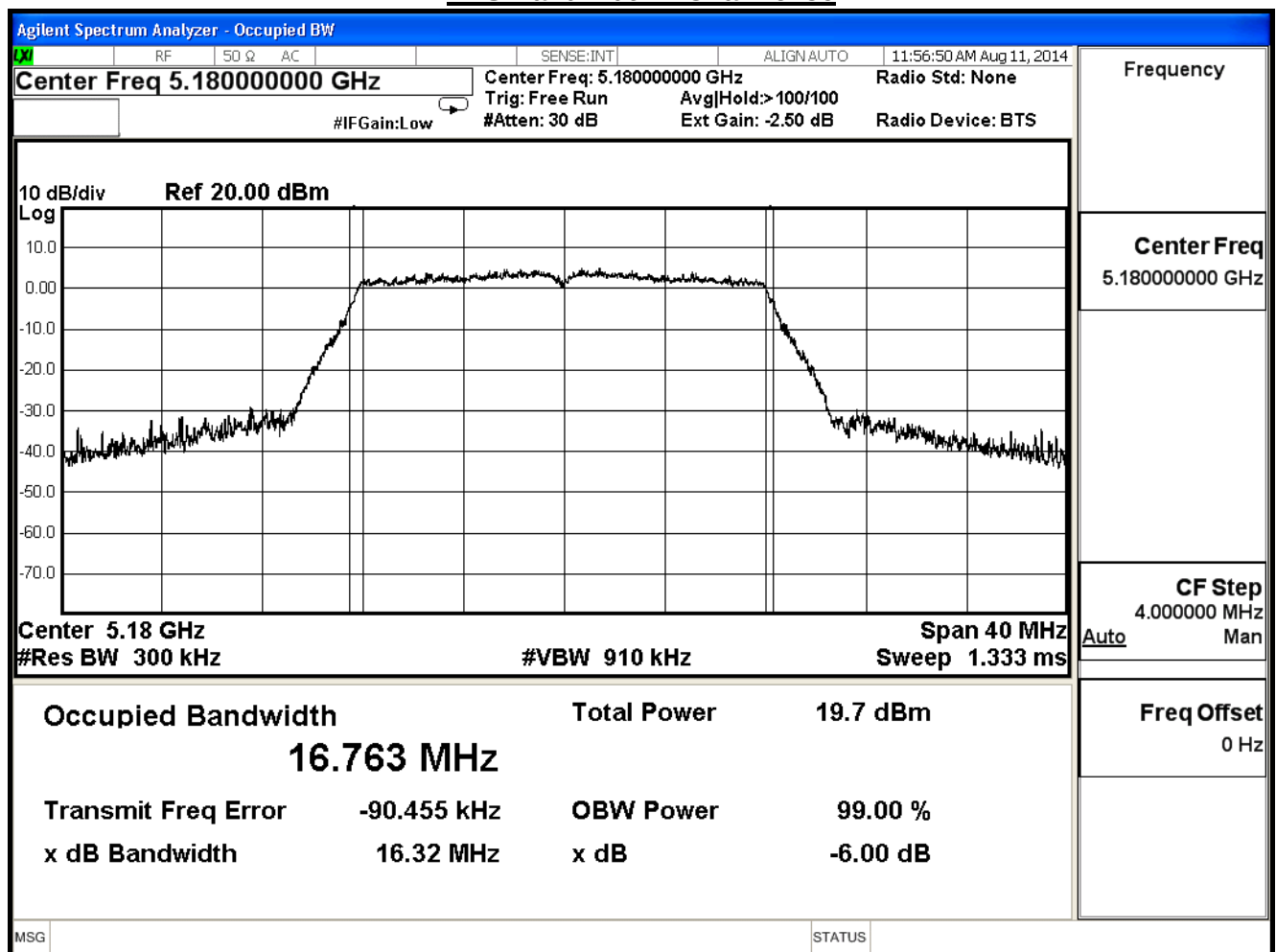


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

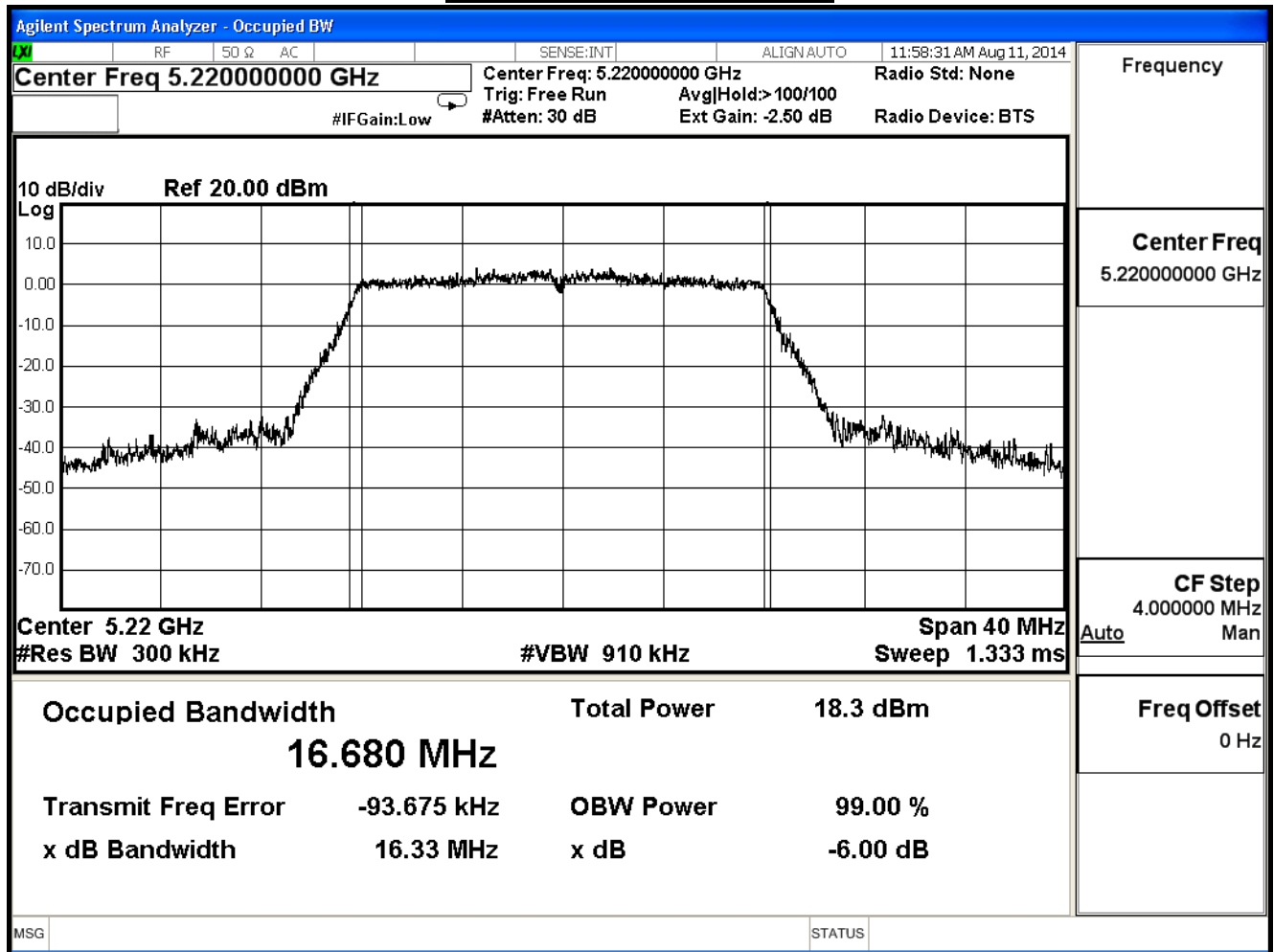
802.11a(ANT 0)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
36	5180	16.320	≥ 0.5	Pass
44	5220	16.330	≥ 0.5	Pass
48	5240	16.330	≥ 0.5	Pass

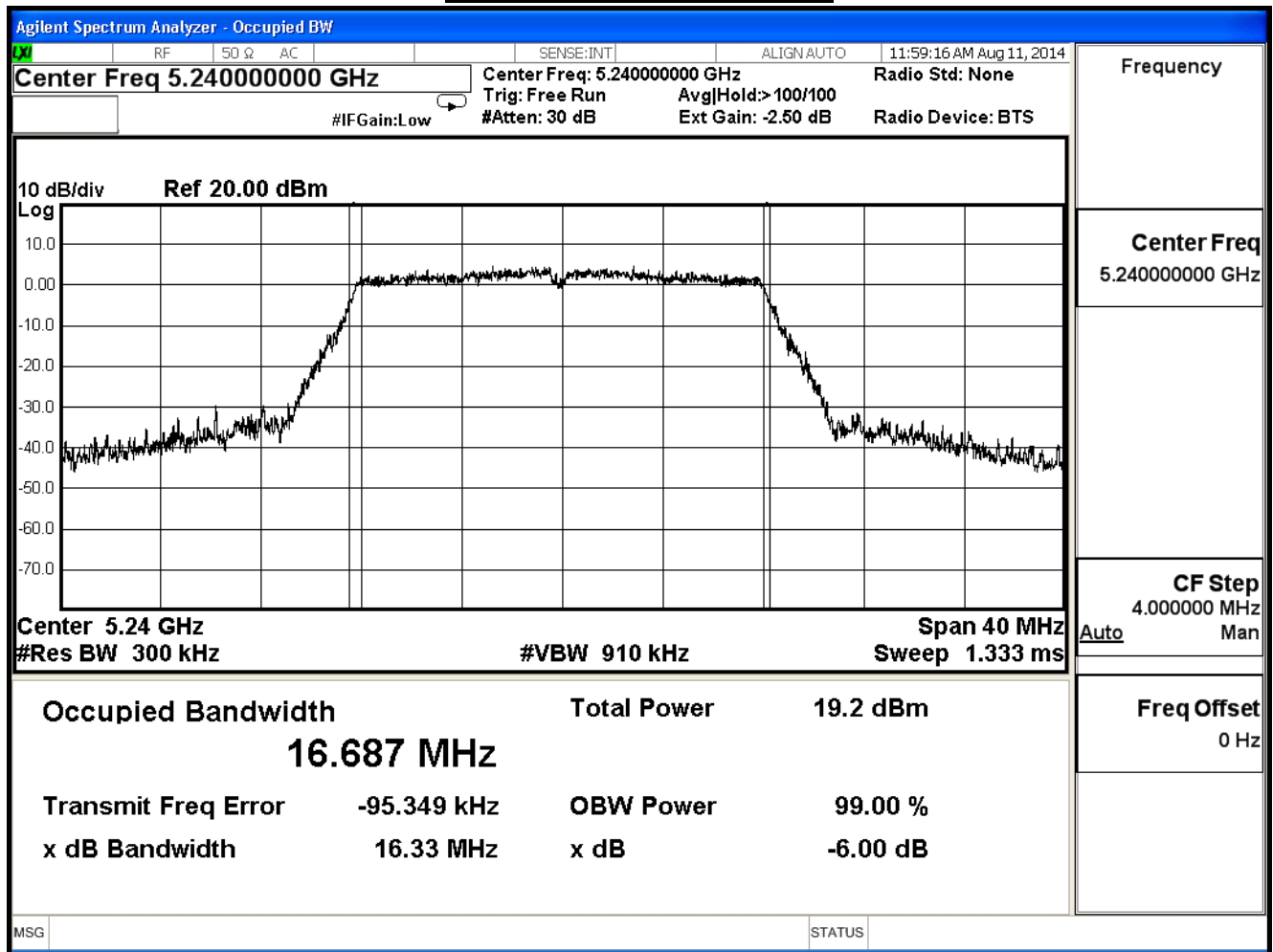
DTS Bandwidth – Channel 36



DTS Bandwidth – Channel 44



DTS Bandwidth – Channel 48

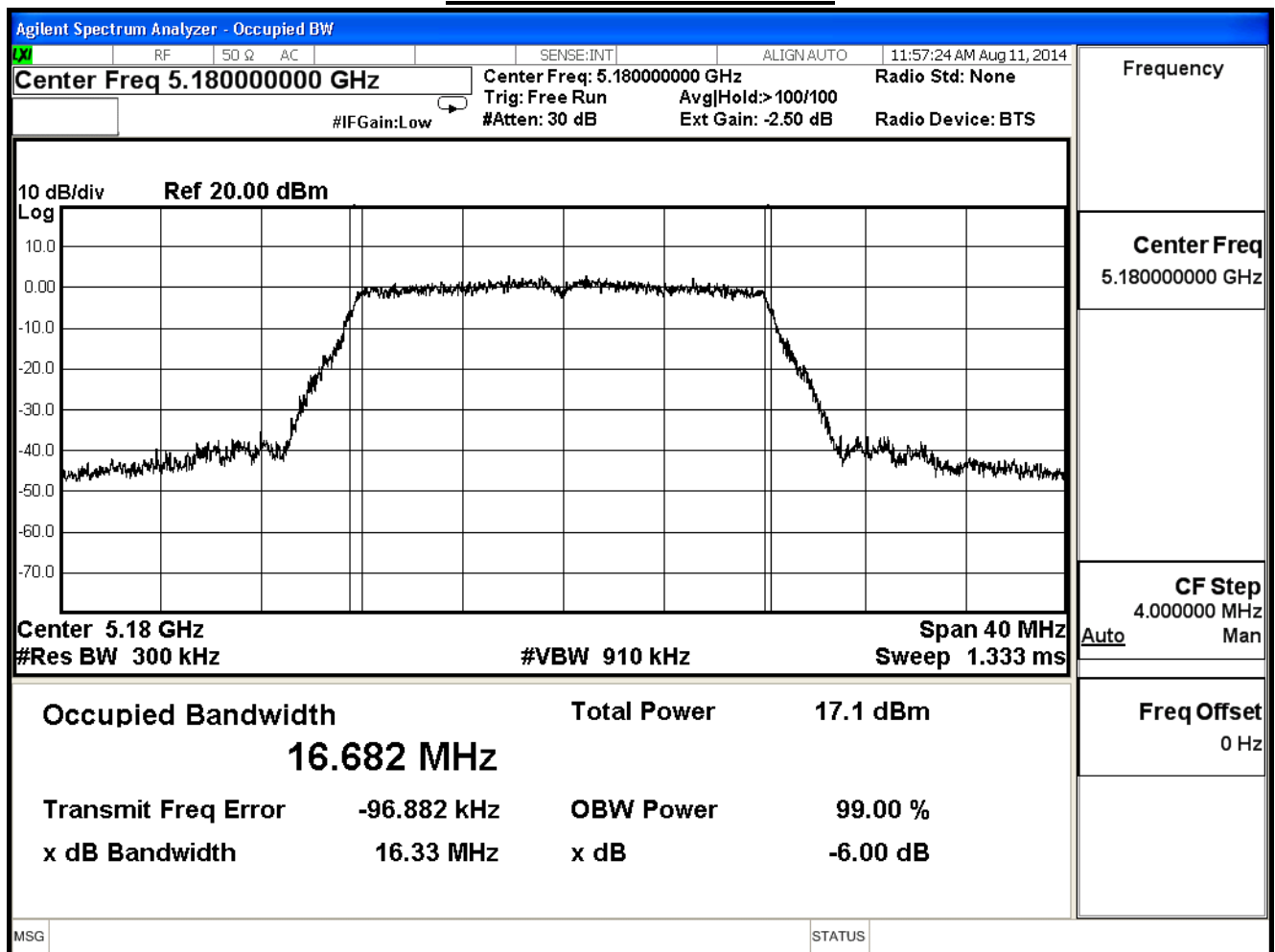


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

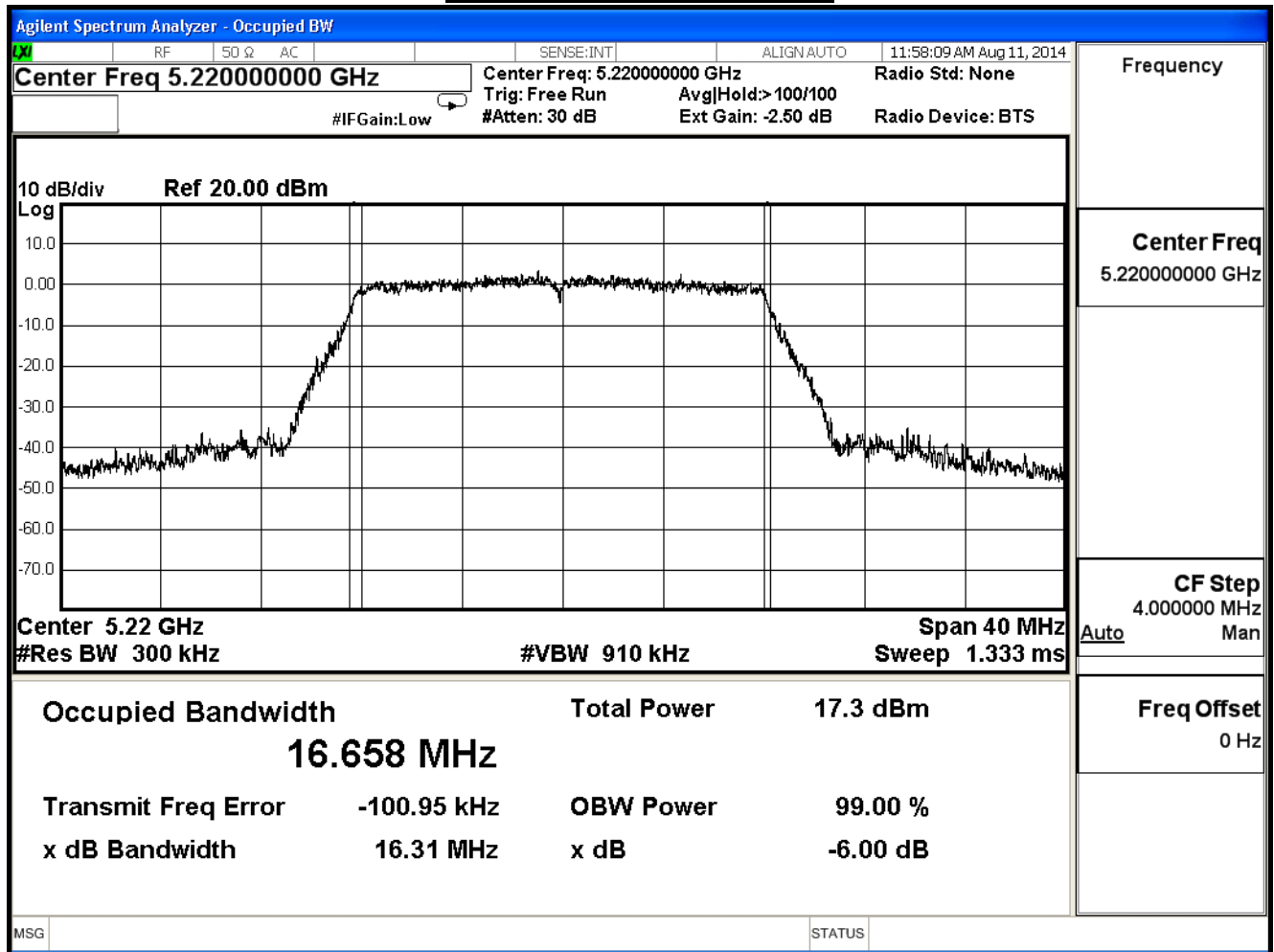
802.11a(ANT 1)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
36	5180	16.330	≥ 0.5	Pass
44	5220	16.310	≥ 0.5	Pass
48	5240	16.320	≥ 0.5	Pass

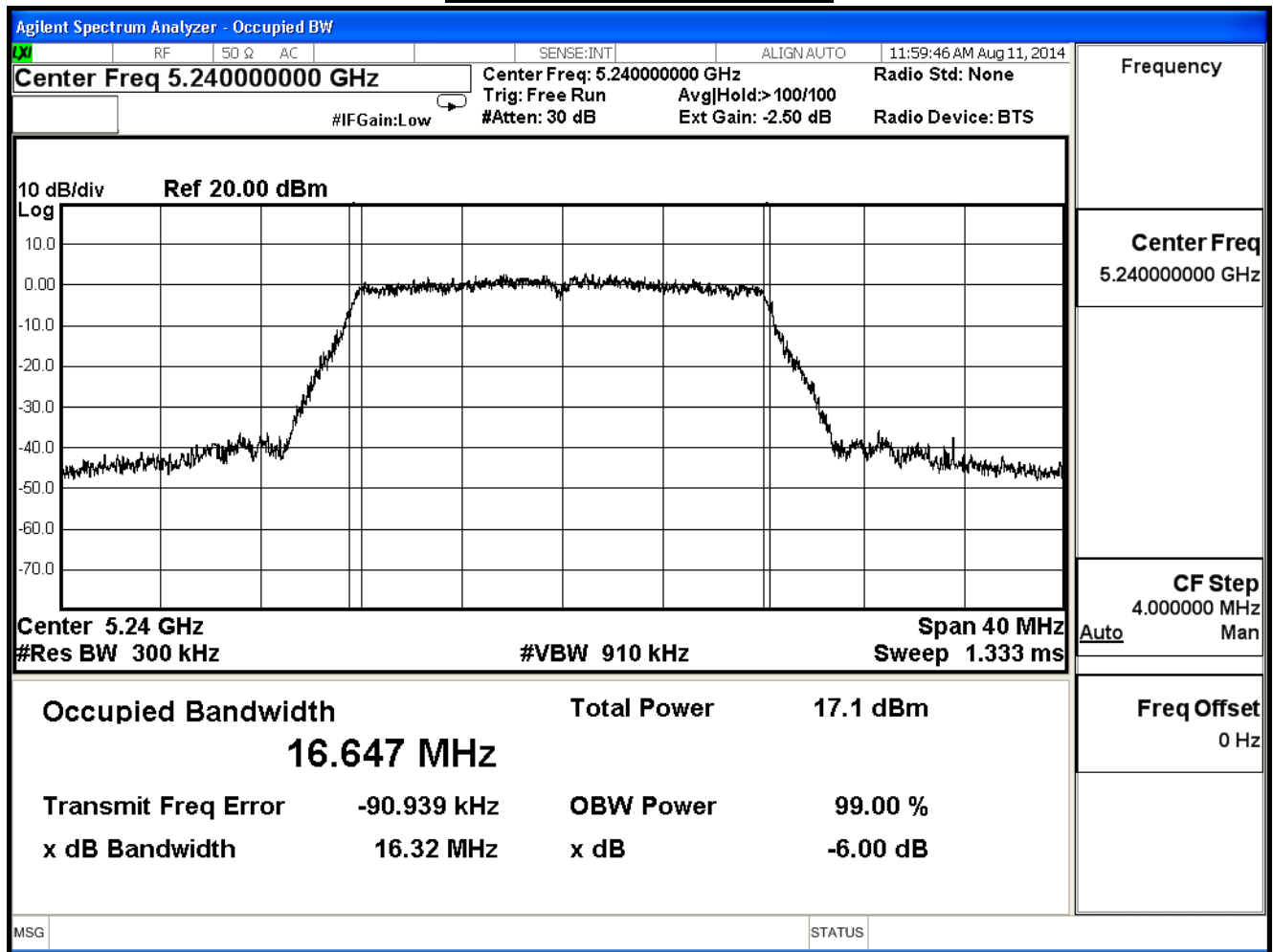
DTS Bandwidth – Channel 36



DTS Bandwidth – Channel 44



DTS Bandwidth – Channel 48

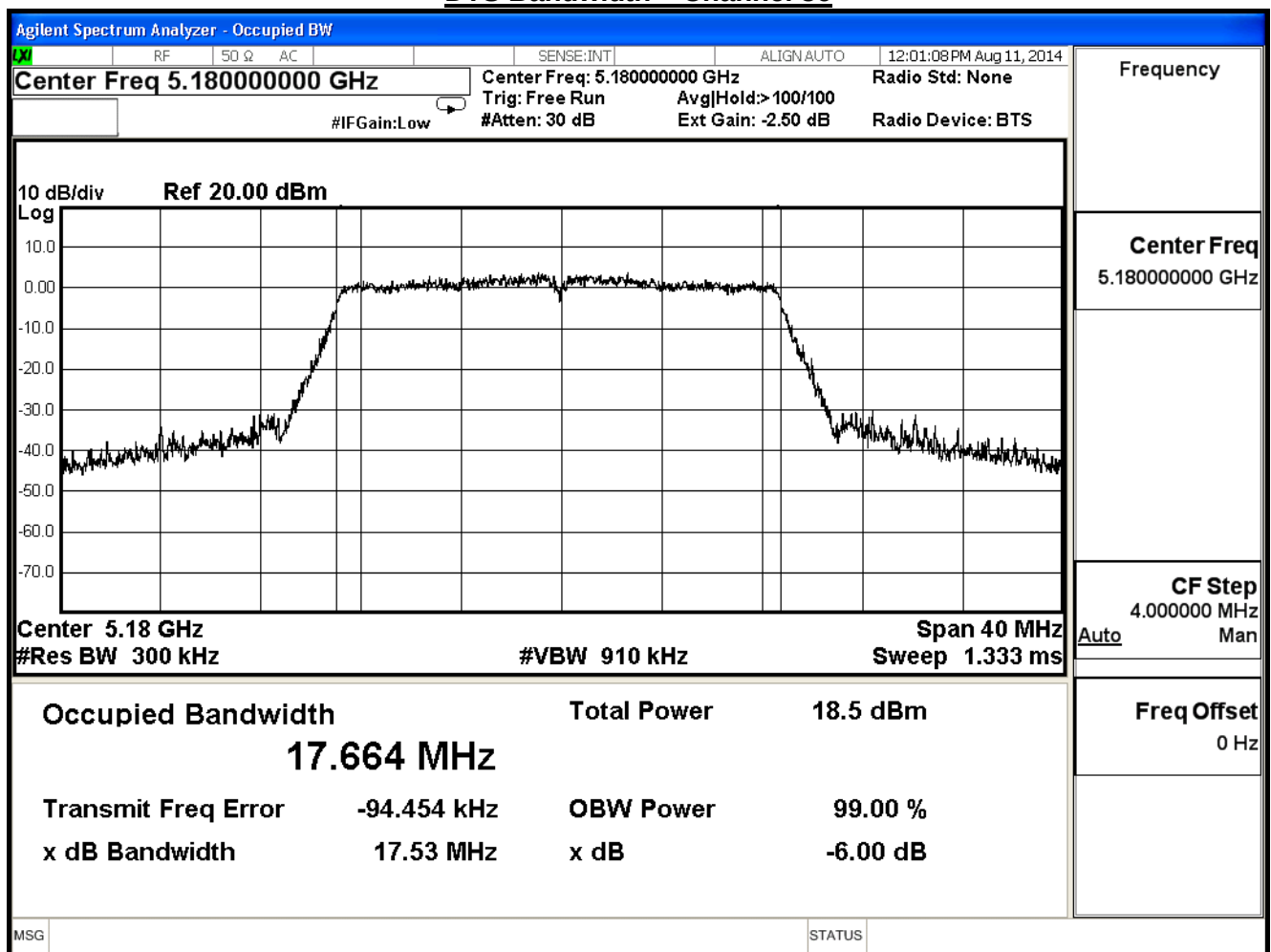


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

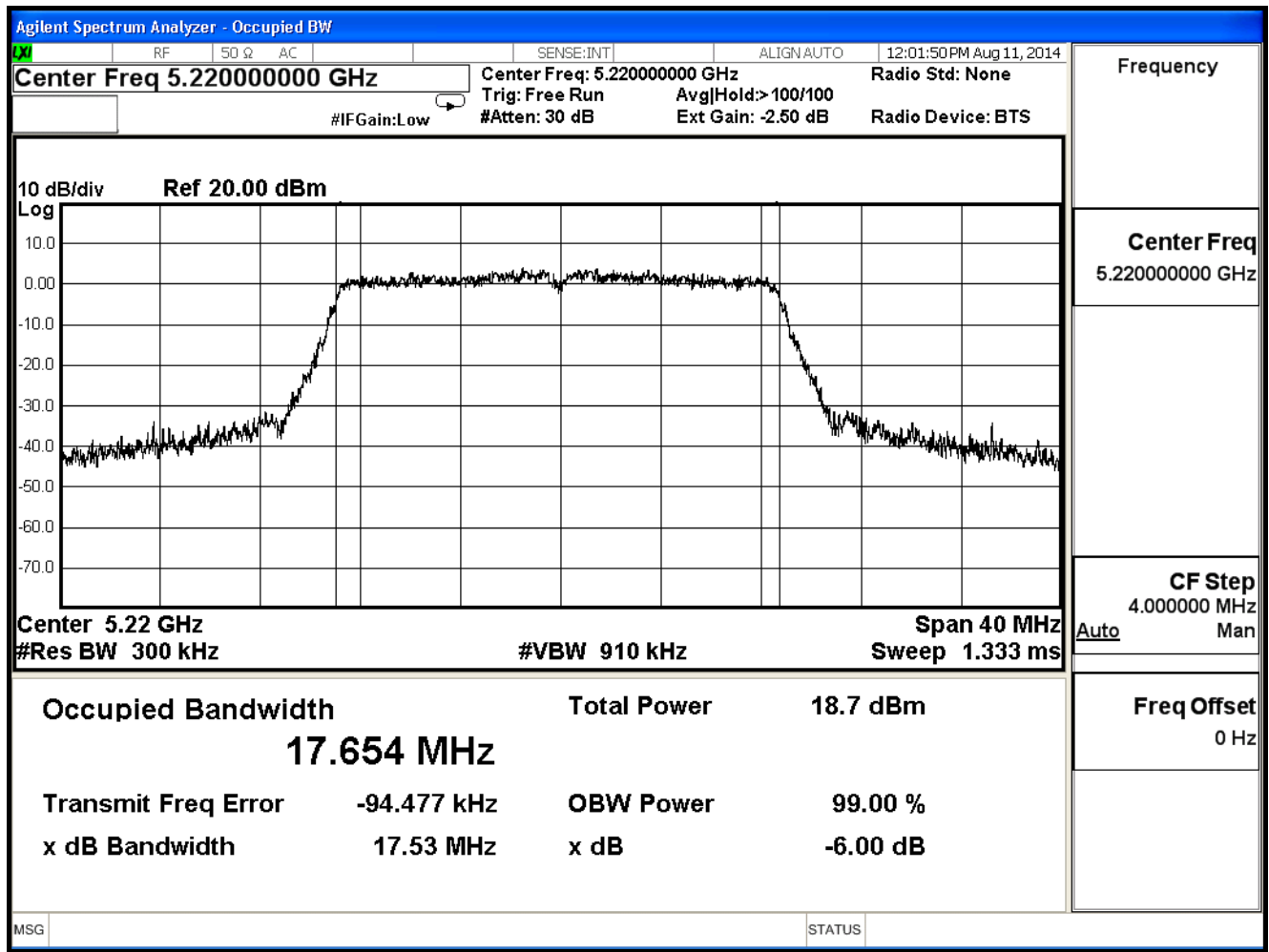
802.11n_20M(ANT 0)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
36	5180	17.530	≥ 0.5	Pass
44	5220	17.530	≥ 0.5	Pass
48	5240	17.430	≥ 0.5	Pass

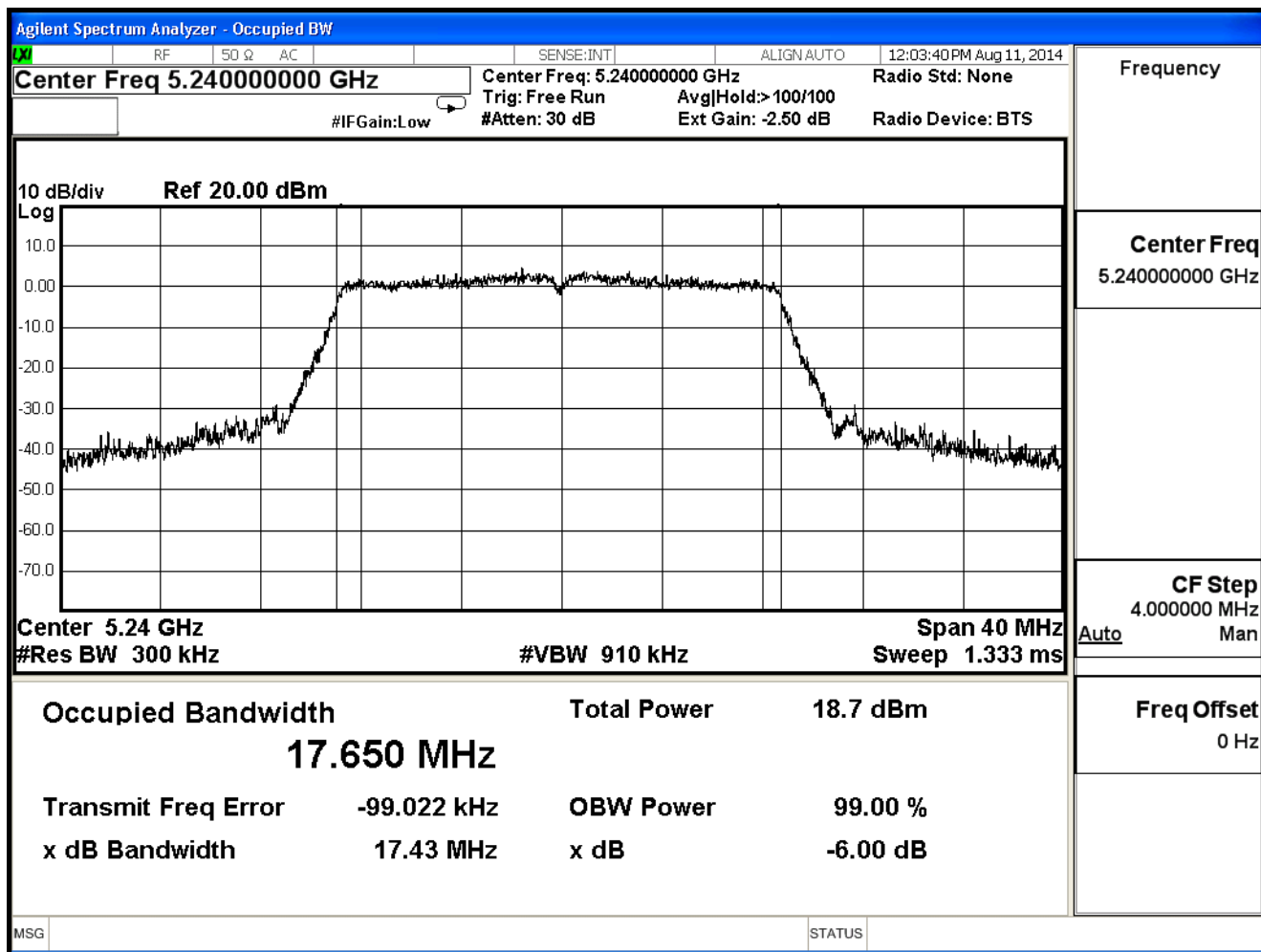
DTS Bandwidth – Channel 36



DTS Bandwidth – Channel 44



DTS Bandwidth – Channel 48

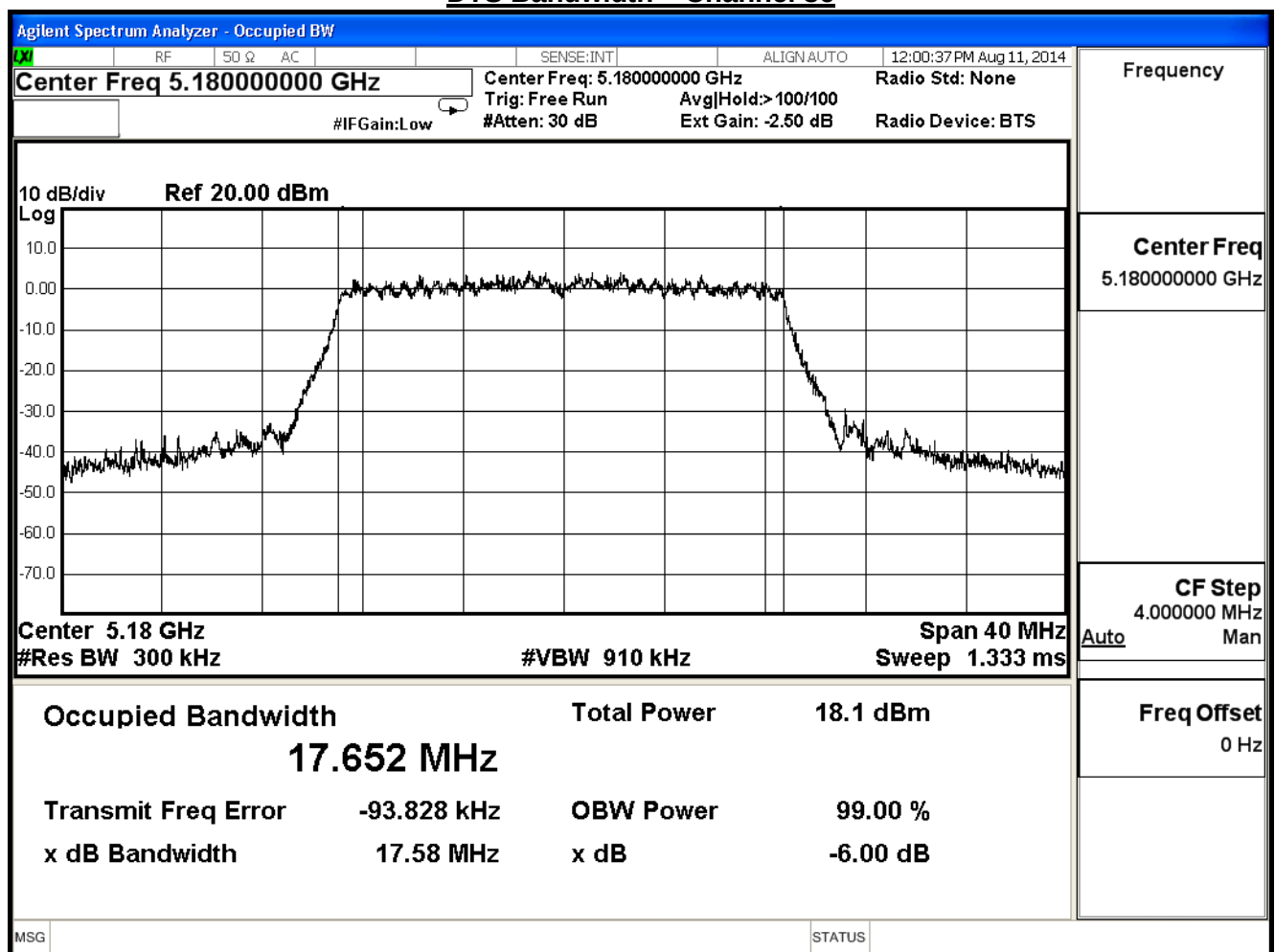


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

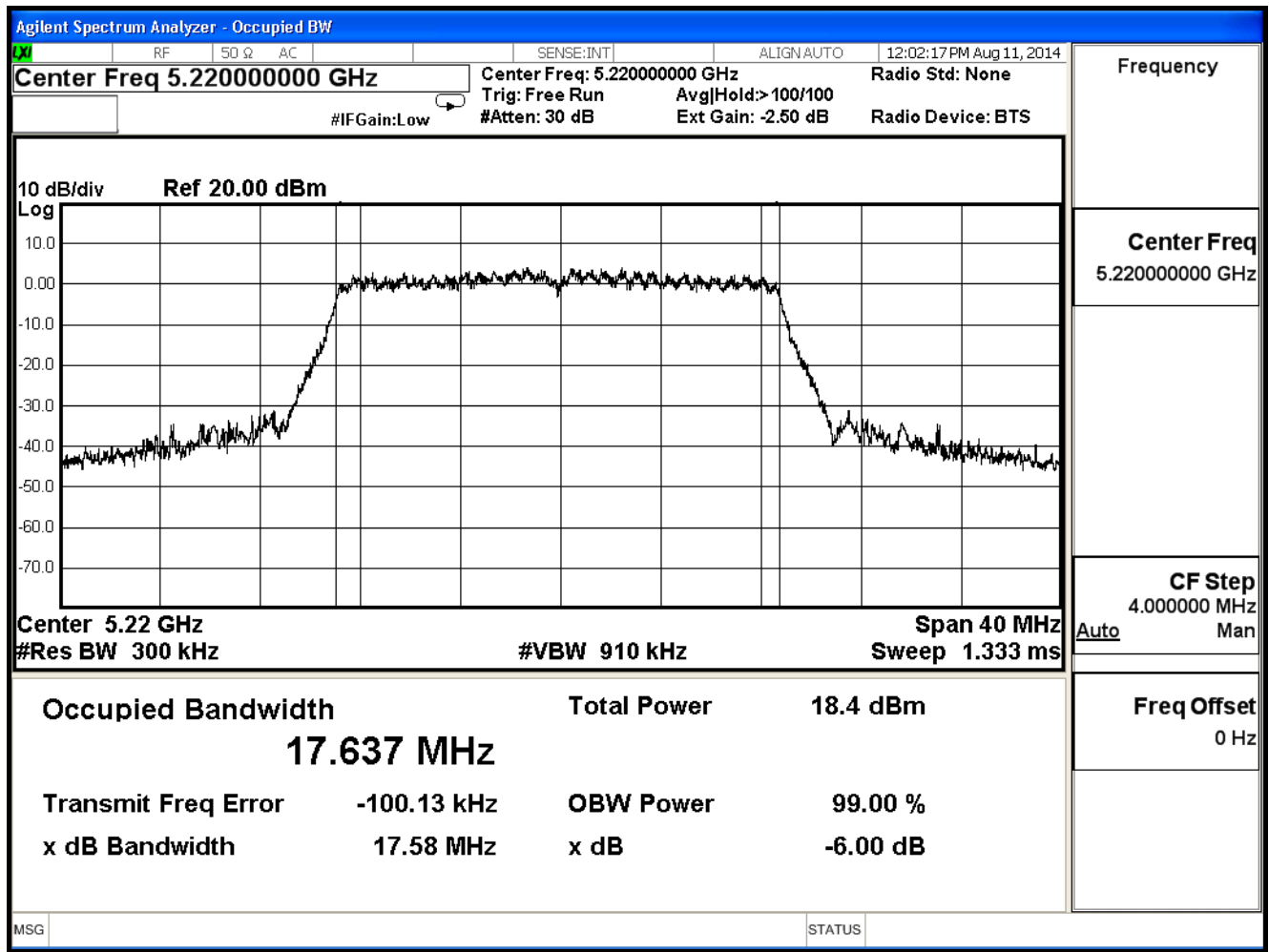
802.11n_20M(ANT 1)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
36	5180	17.580	≥ 0.5	Pass
44	5220	17.580	≥ 0.5	Pass
48	5240	17.600	≥ 0.5	Pass

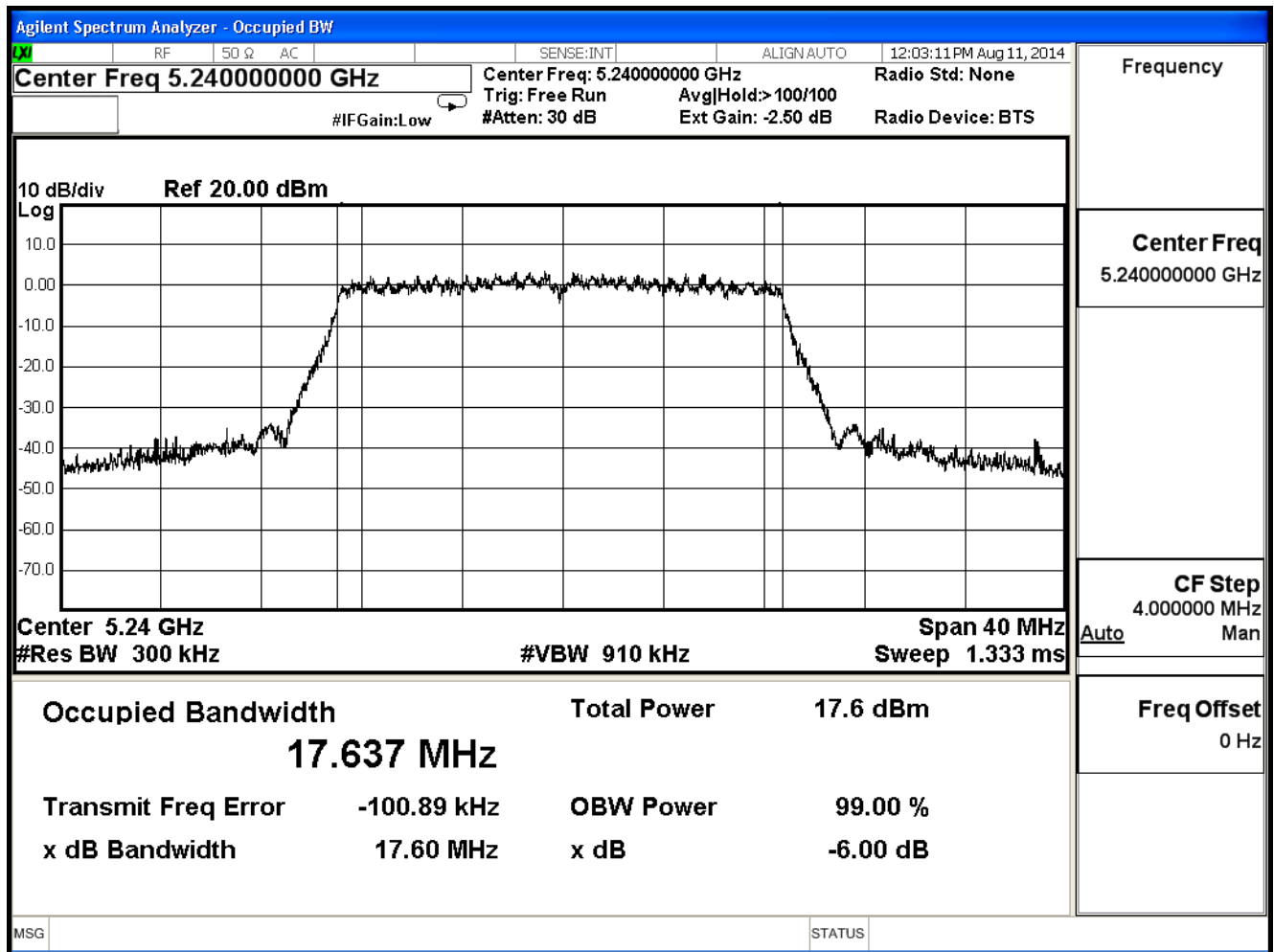
DTS Bandwidth – Channel 36



DTS Bandwidth – Channel 44



DTS Bandwidth – Channel 48

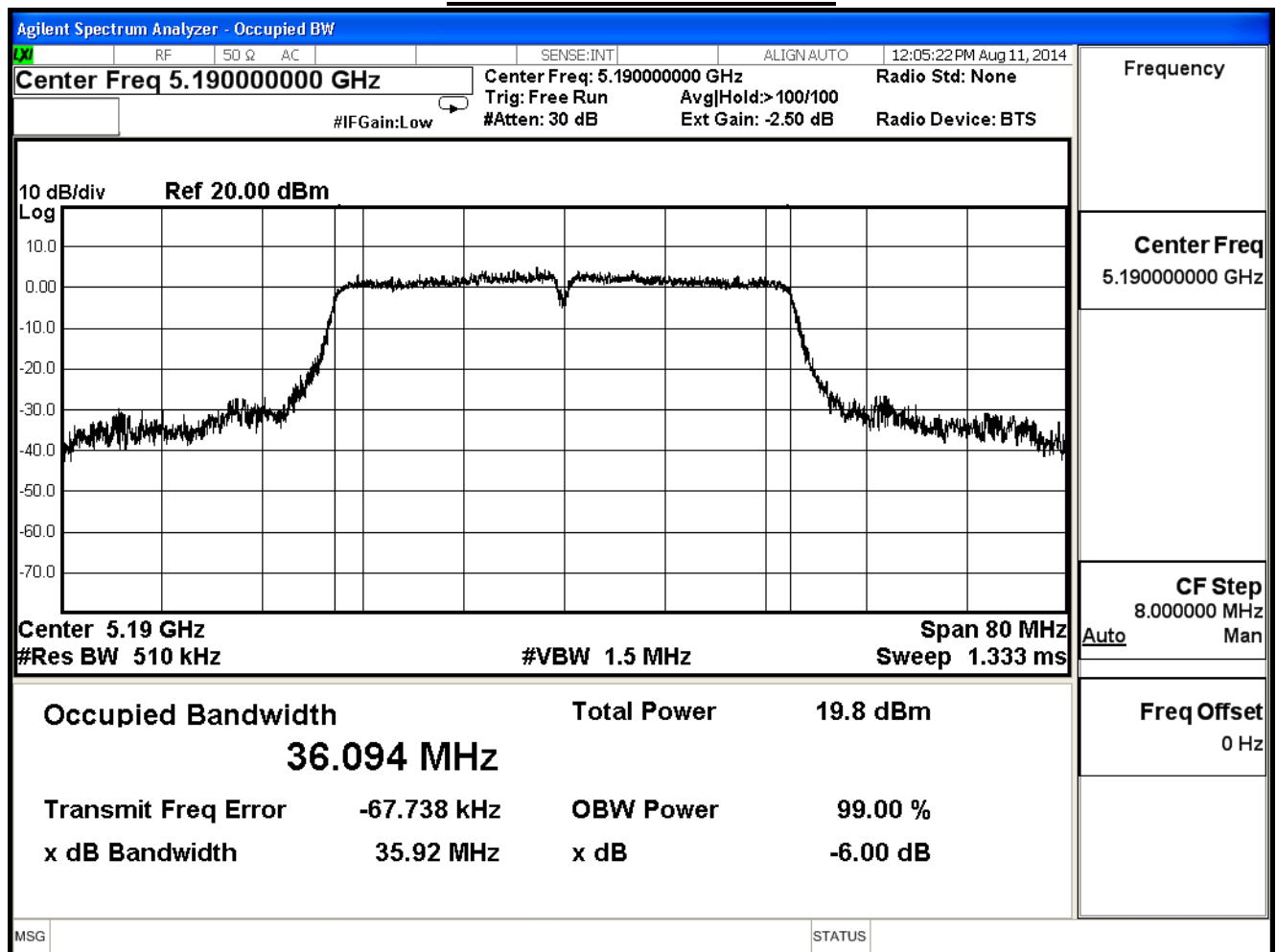


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

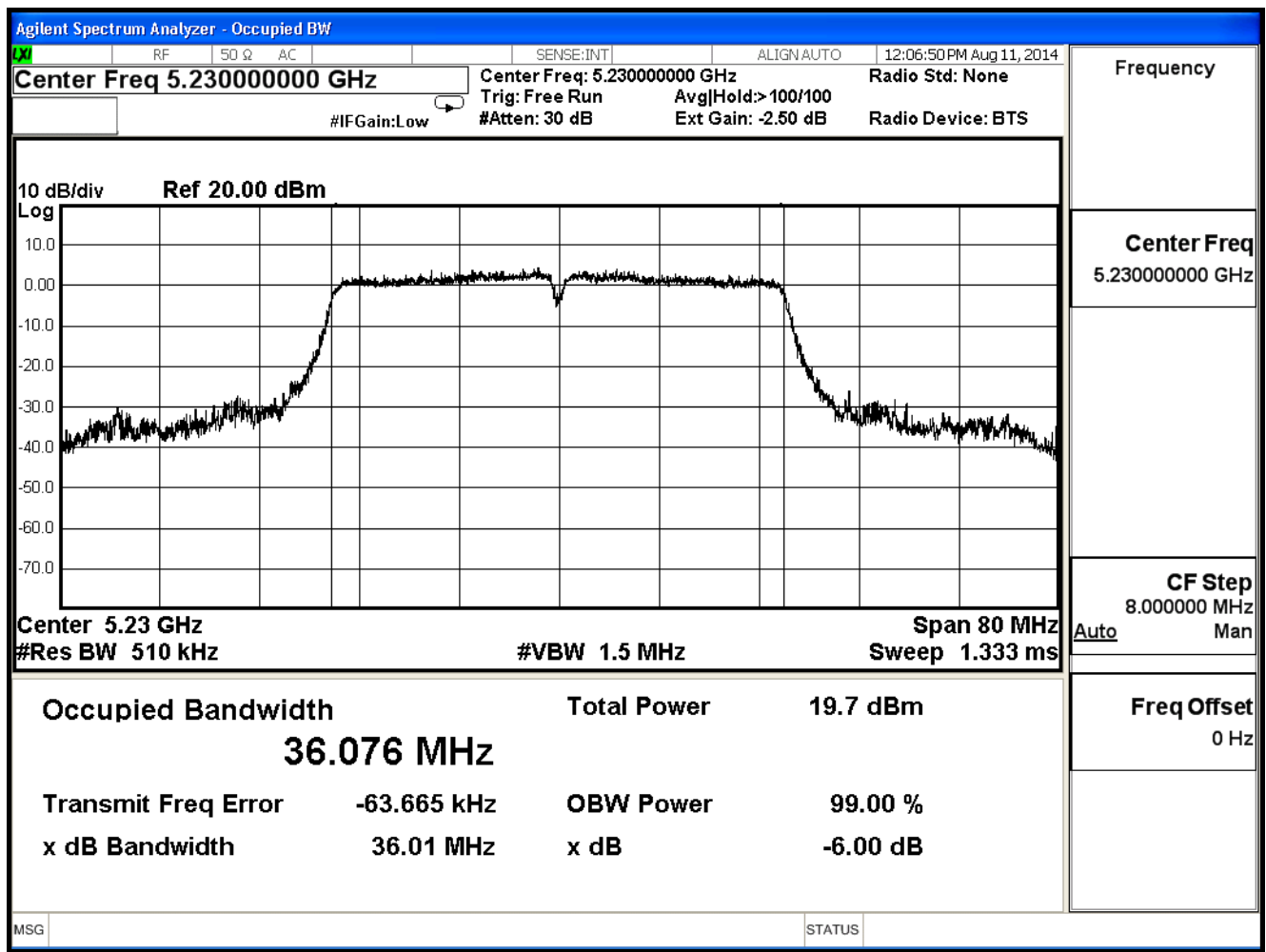
802.11n_40M(ANT 0)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
38	5190	35.920	≥ 0.5	Pass
46	5230	36.010	≥ 0.5	Pass

DTS Bandwidth – Channel 38



DTS Bandwidth – Channel 46

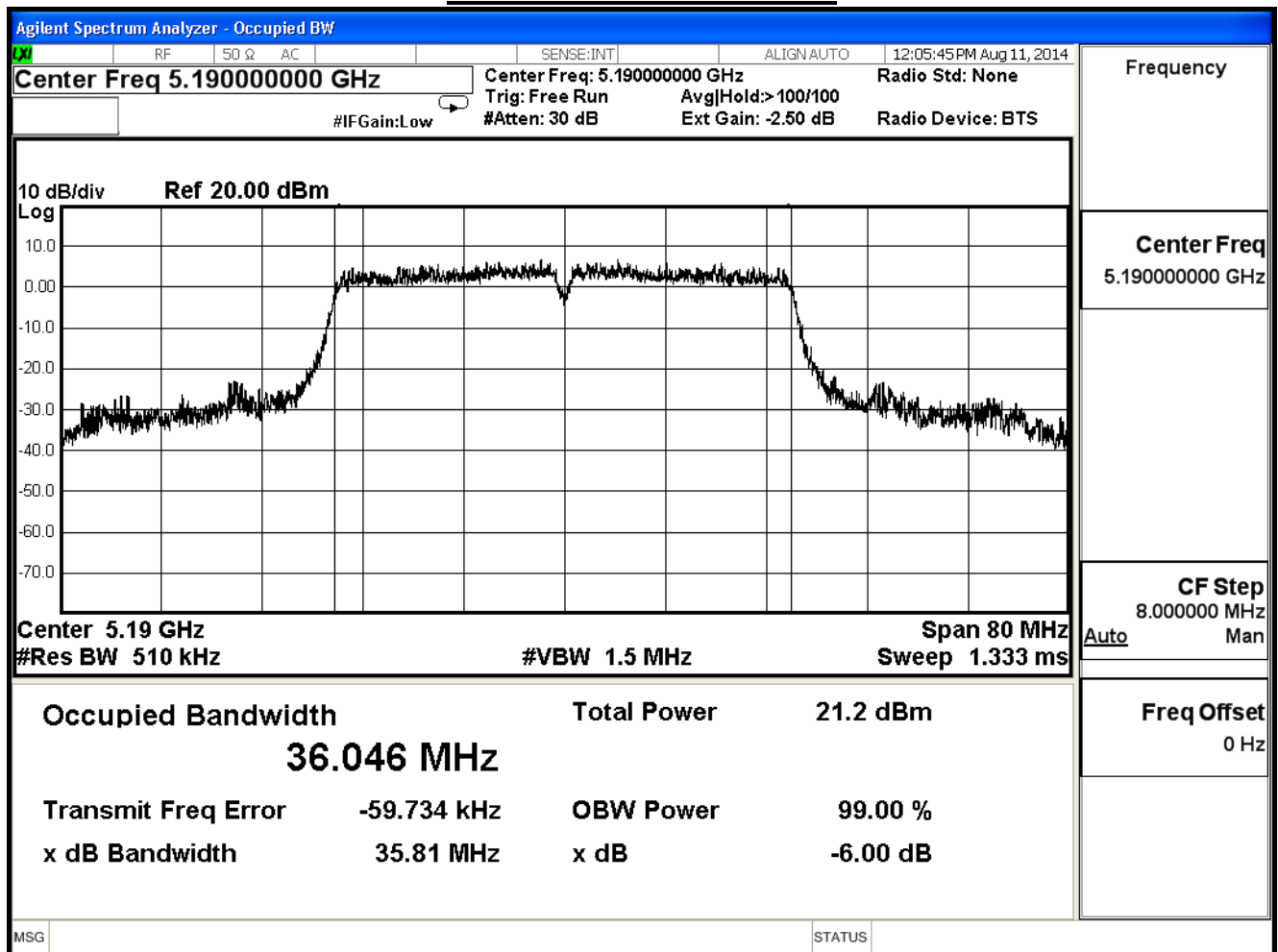


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

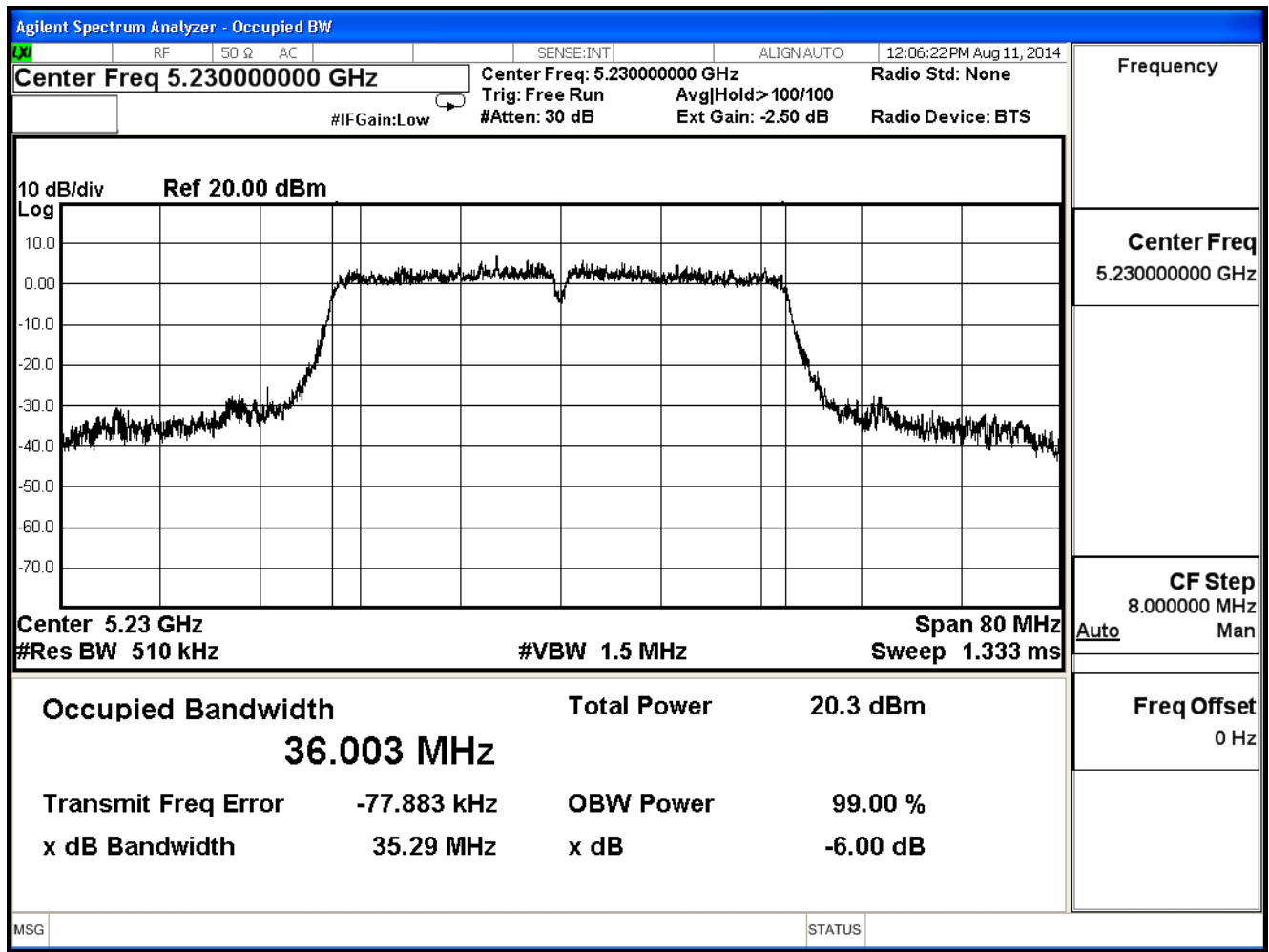
802.11n_40M(ANT 1)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
38	5190	35.810	≥ 0.5	Pass
46	5230	35.290	≥ 0.5	Pass

DTS Bandwidth – Channel 38



DTS Bandwidth – Channel 46

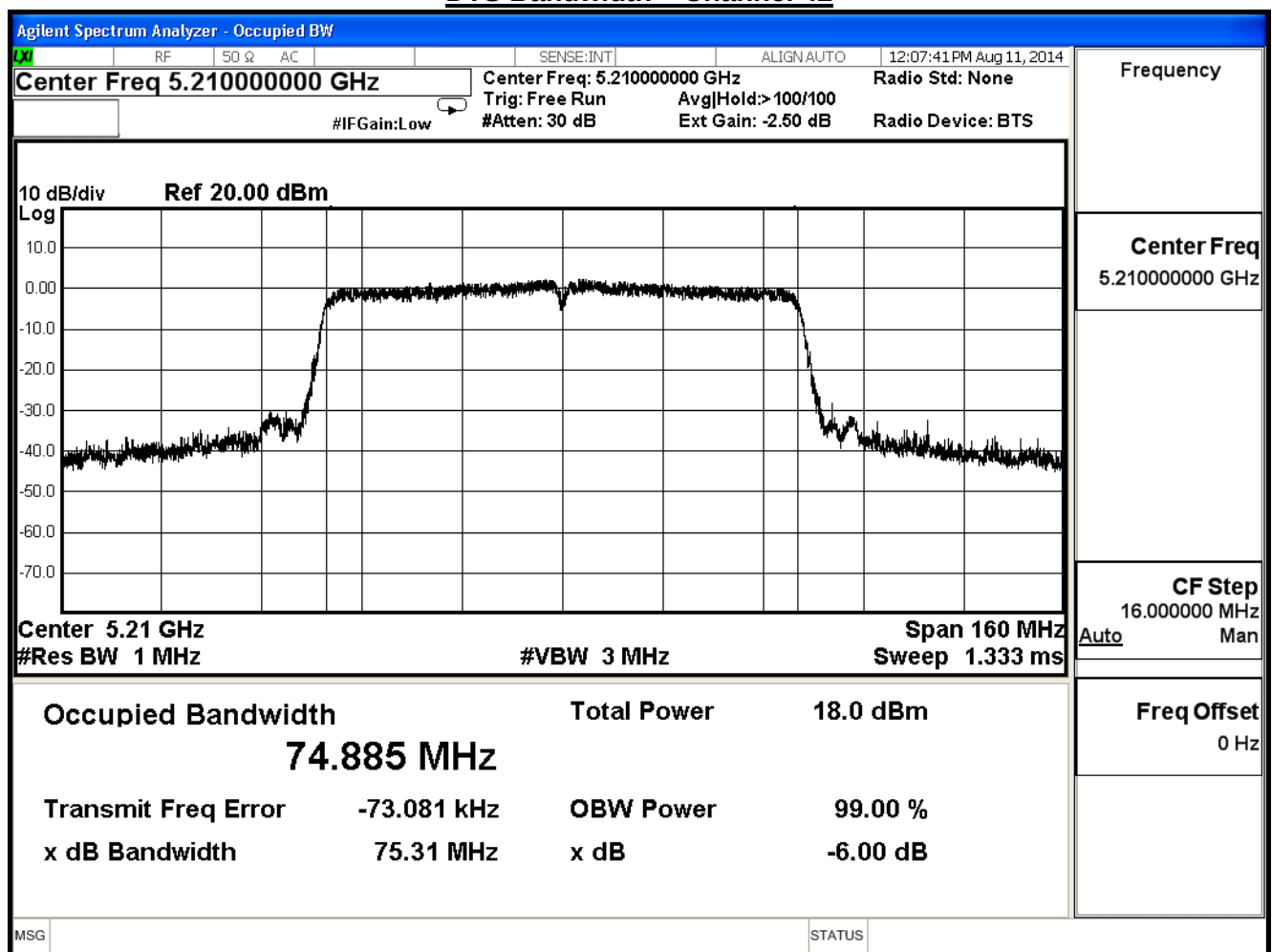


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

802.11n_80M(ANT 0)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
42	5210	75.310	≥ 0.5	Pass

DTS Bandwidth – Channel 42

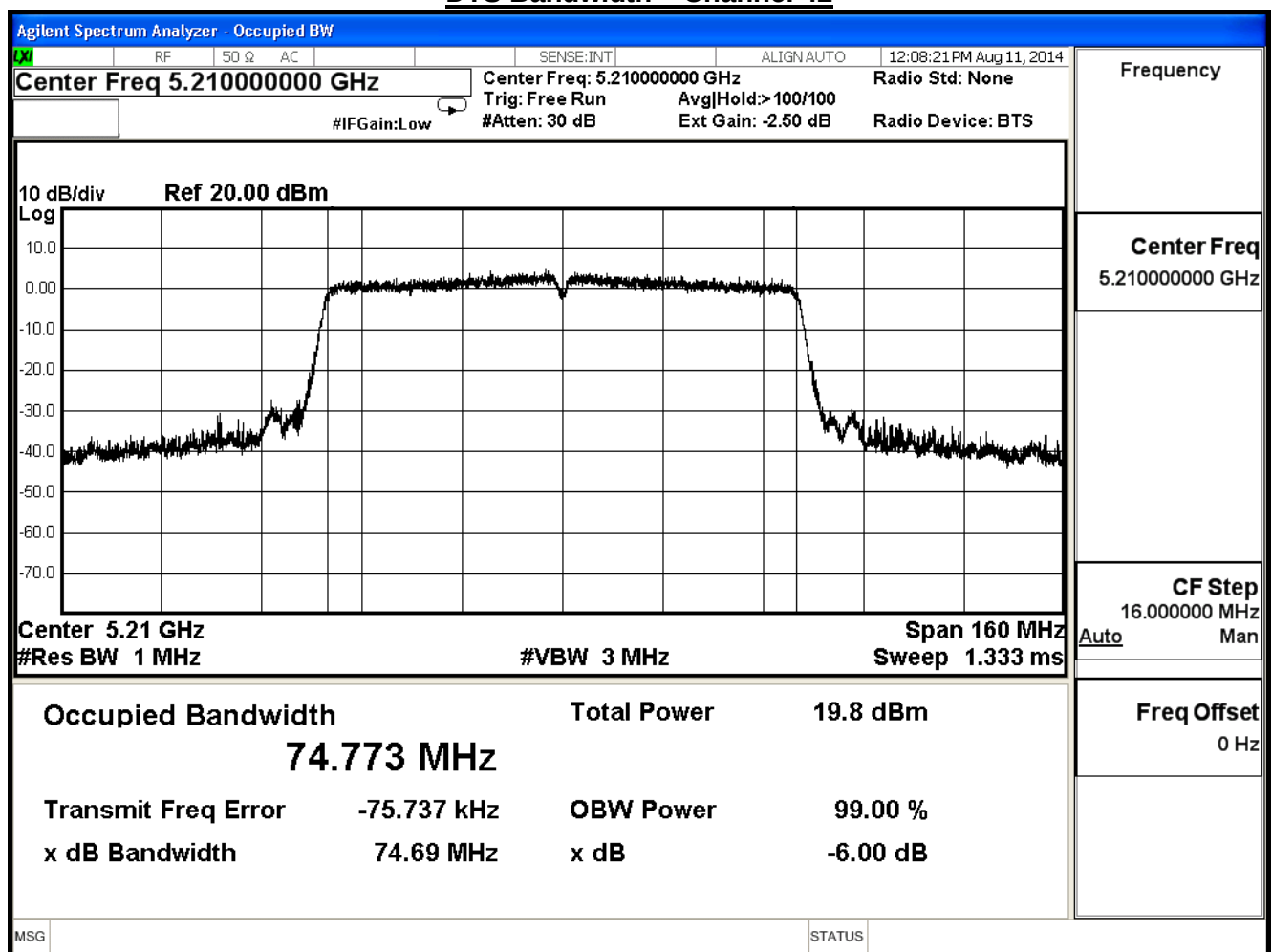


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

802.11n_80M(ANT 1)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
42	5210	74.690	≥ 0.5	Pass

DTS Bandwidth – Channel 42

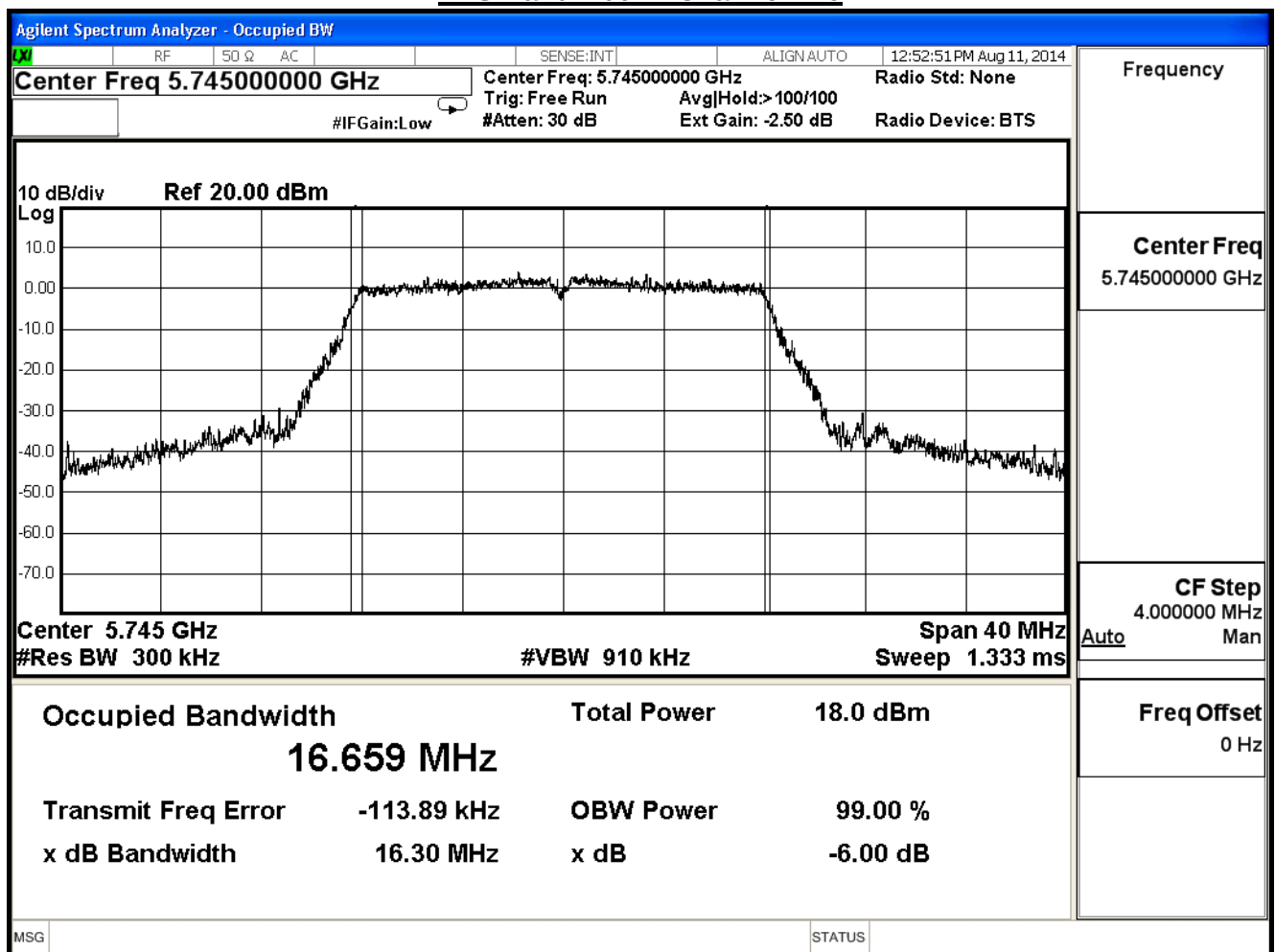


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

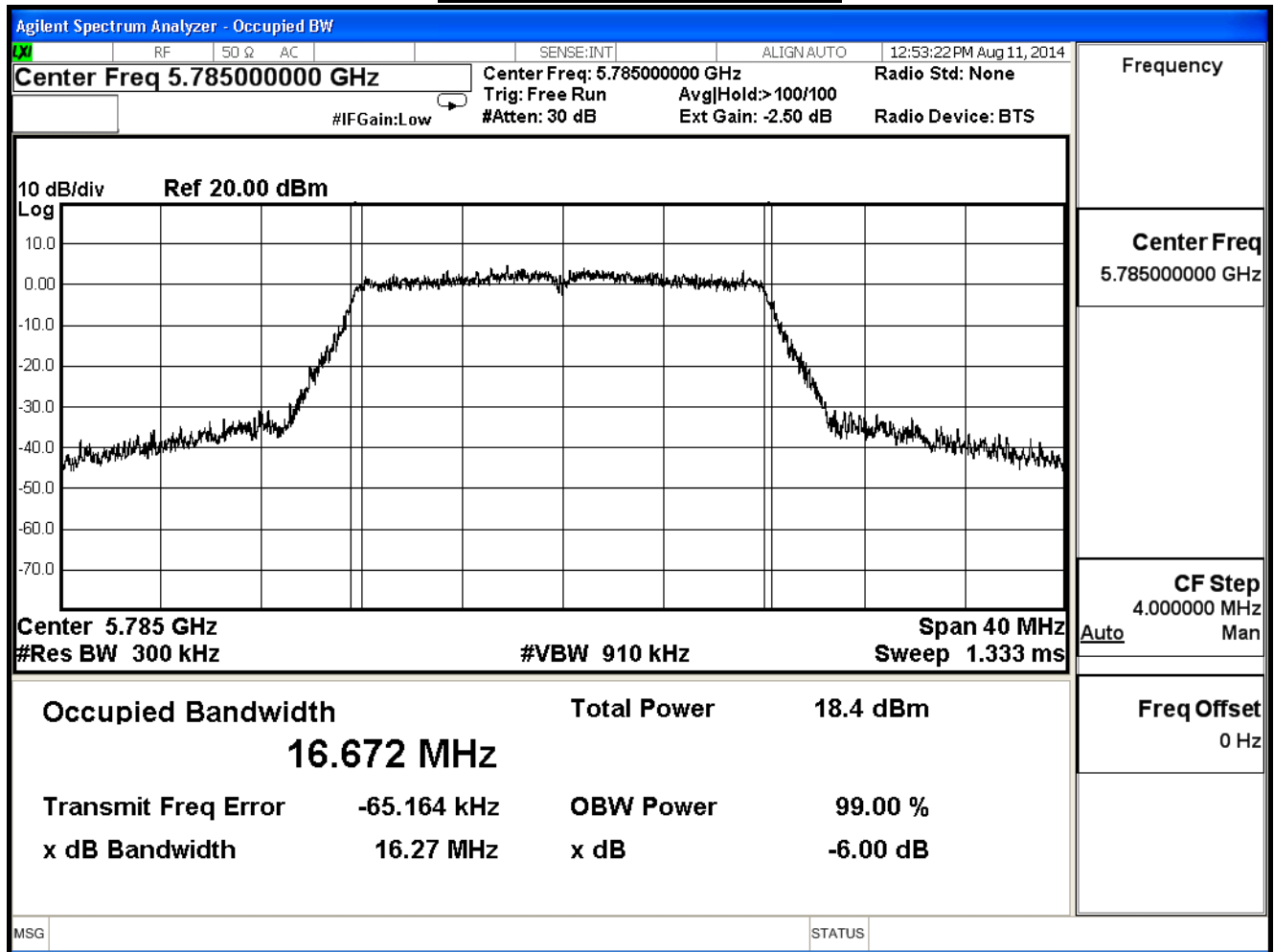
802.11a(ANT 0)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
149	5745	16.300	≥ 0.5	Pass
157	5785	16.270	≥ 0.5	Pass
165	5825	16.280	≥ 0.5	Pass

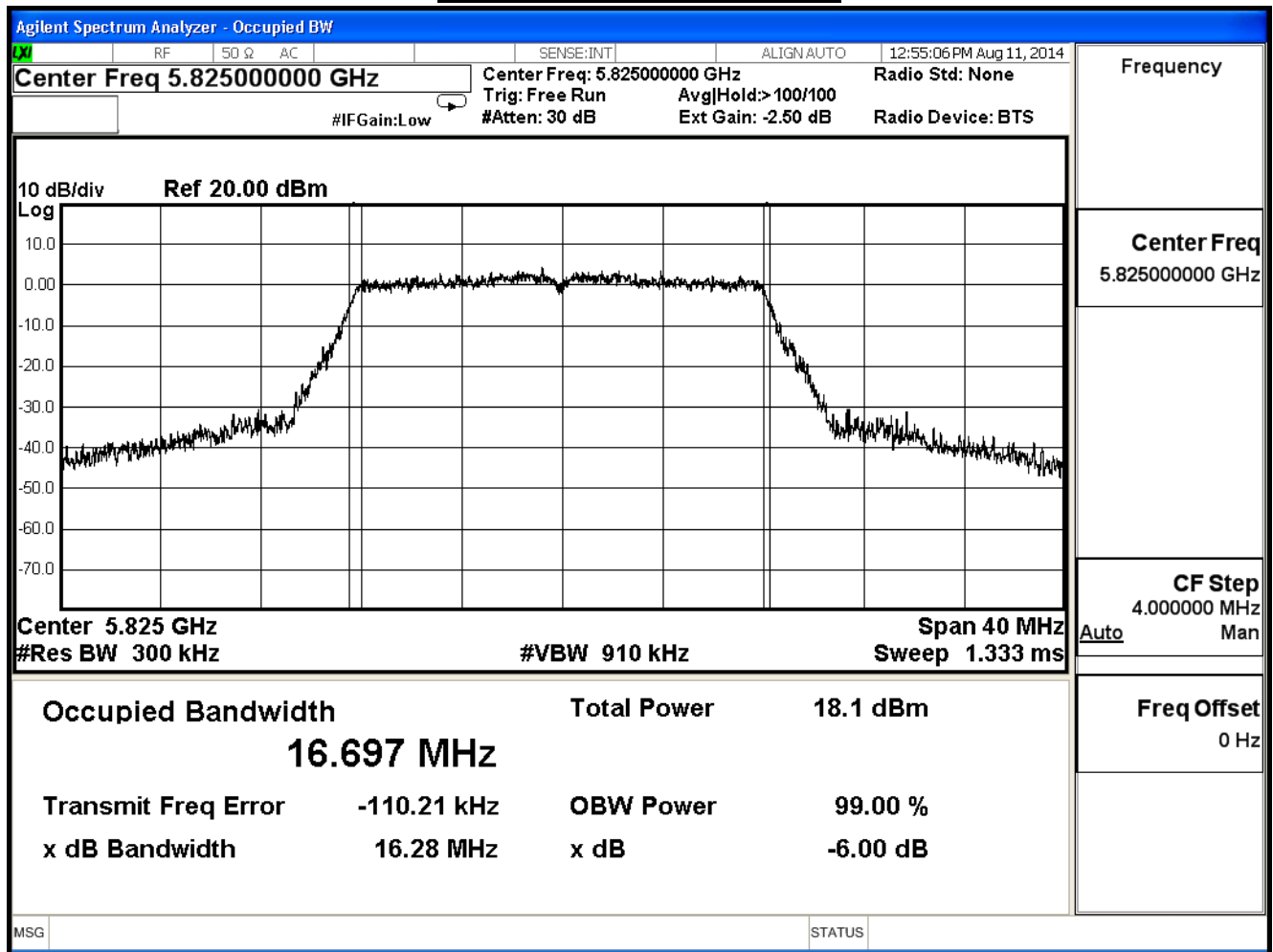
DTS Bandwidth – Channel 149



DTS Bandwidth – Channel 157



DTS Bandwidth – Channel 165

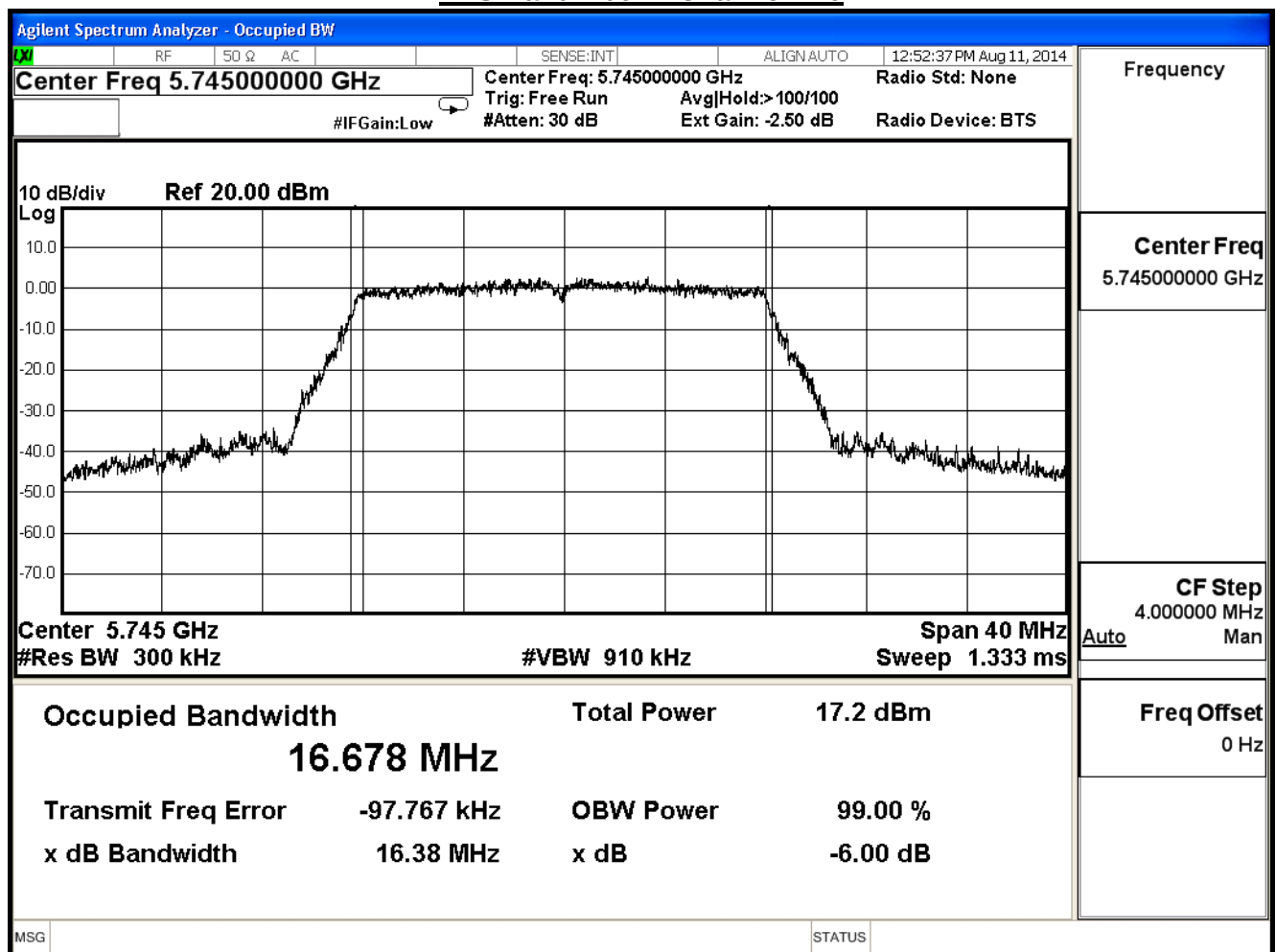


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

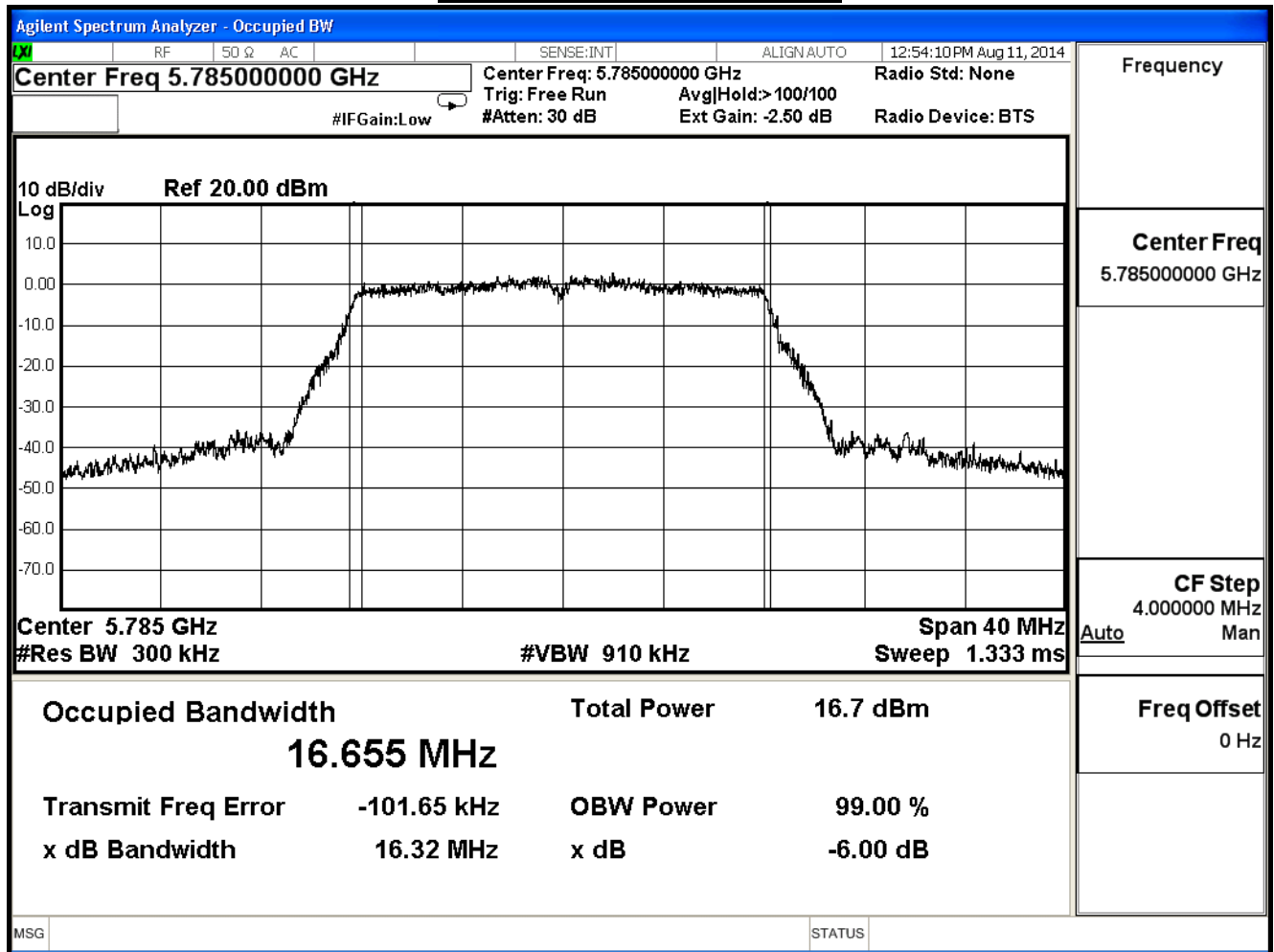
802.11a(ANT 1)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
149	5745	16.380	≥ 0.5	Pass
157	5785	16.320	≥ 0.5	Pass
165	5825	16.380	≥ 0.5	Pass

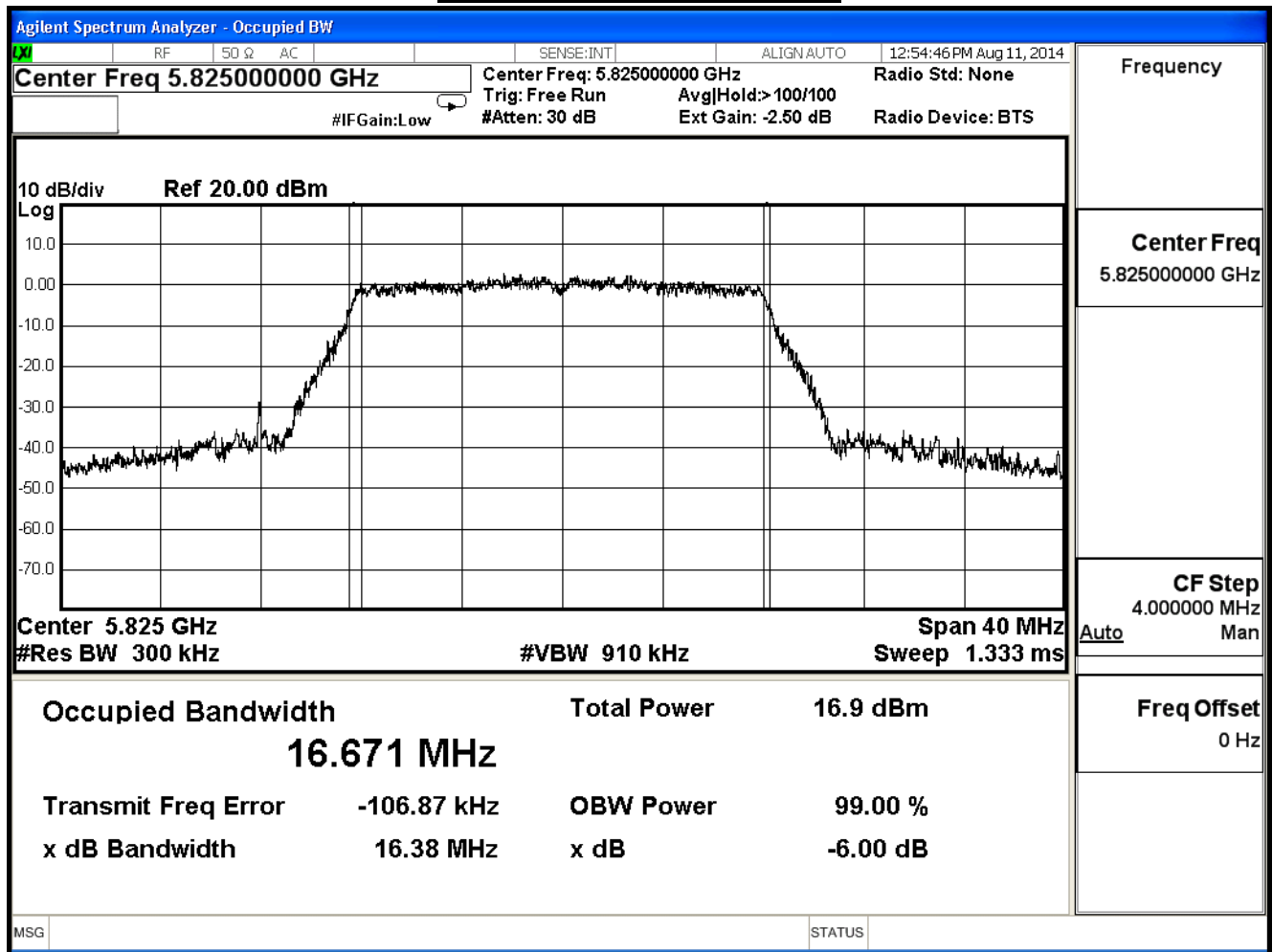
DTS Bandwidth – Channel 149



DTS Bandwidth – Channel 157



DTS Bandwidth – Channel 165

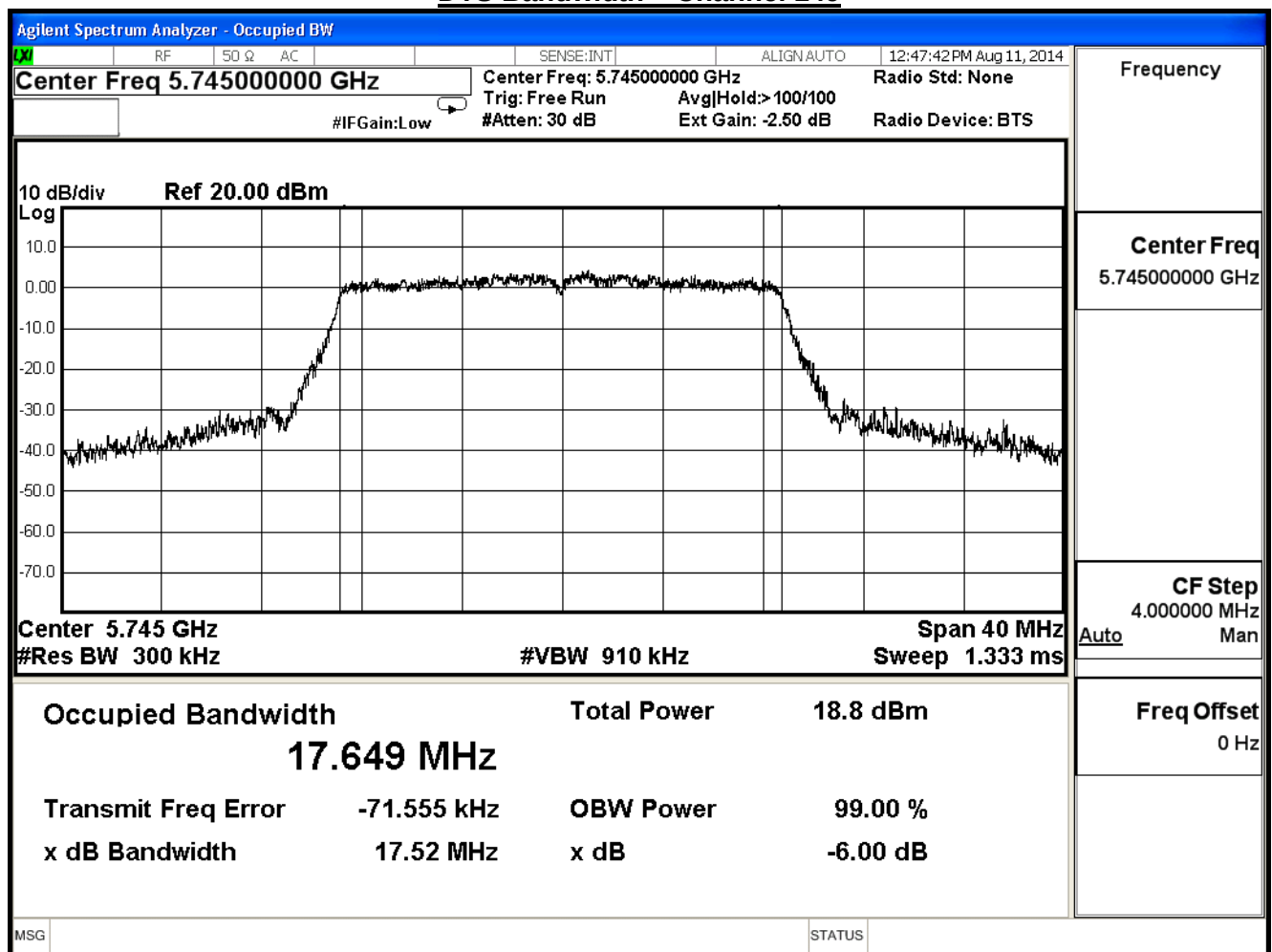


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

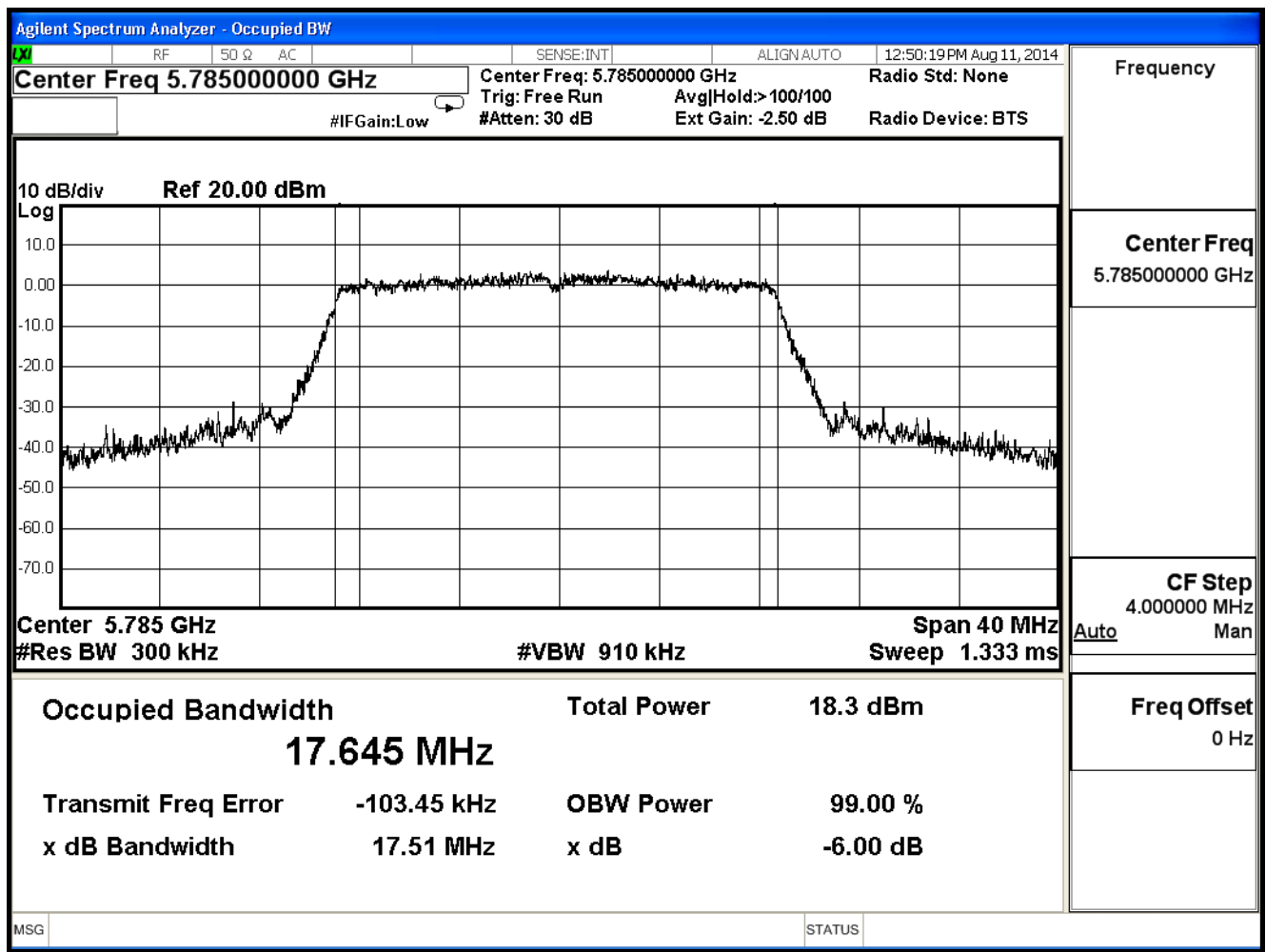
802.11n_20M(ANT 0)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
149	5745	17.520	≥ 0.5	Pass
157	5785	17.510	≥ 0.5	Pass
165	5825	17.570	≥ 0.5	Pass

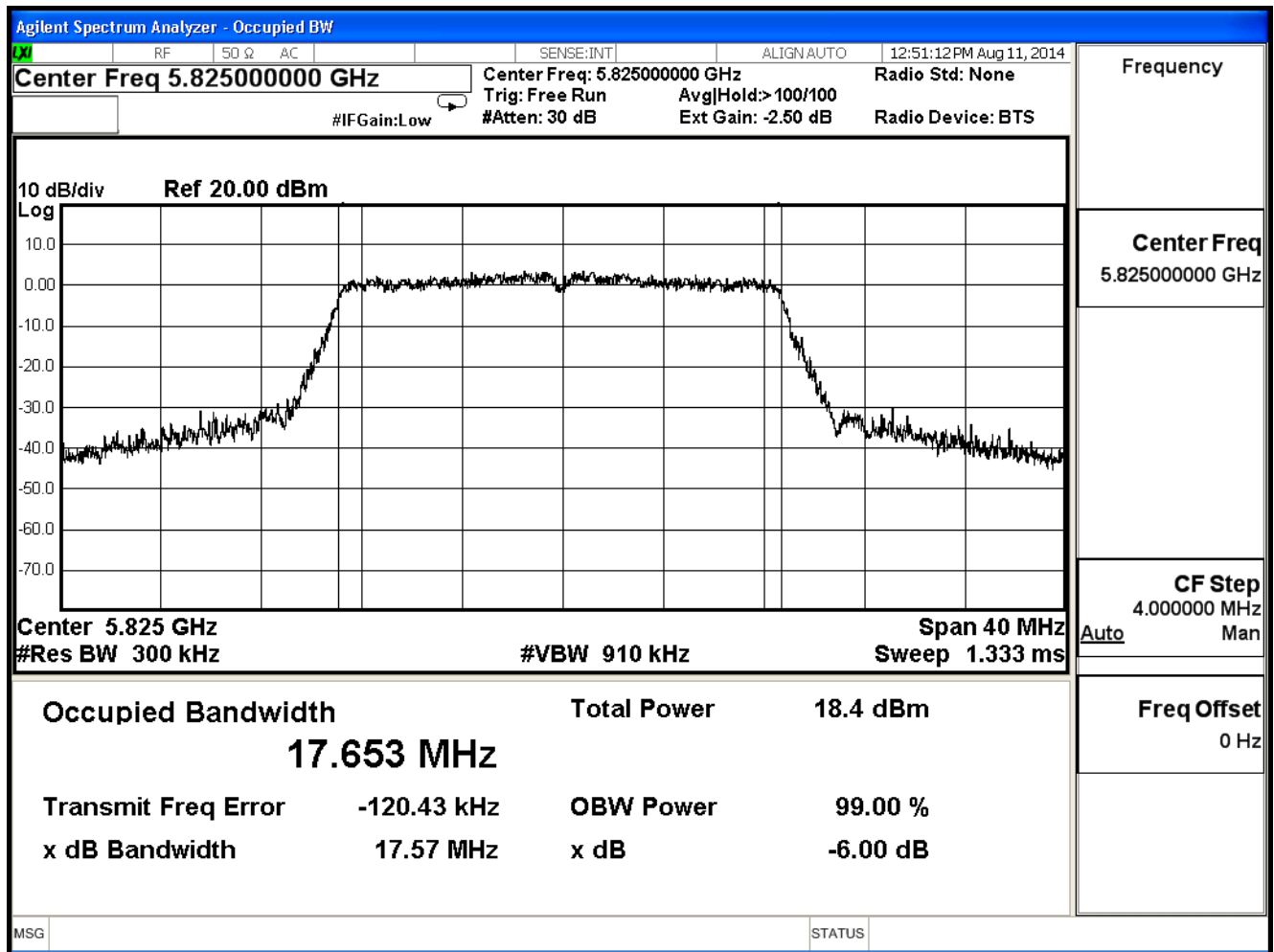
DTS Bandwidth – Channel 149



DTS Bandwidth – Channel 157



DTS Bandwidth – Channel 165

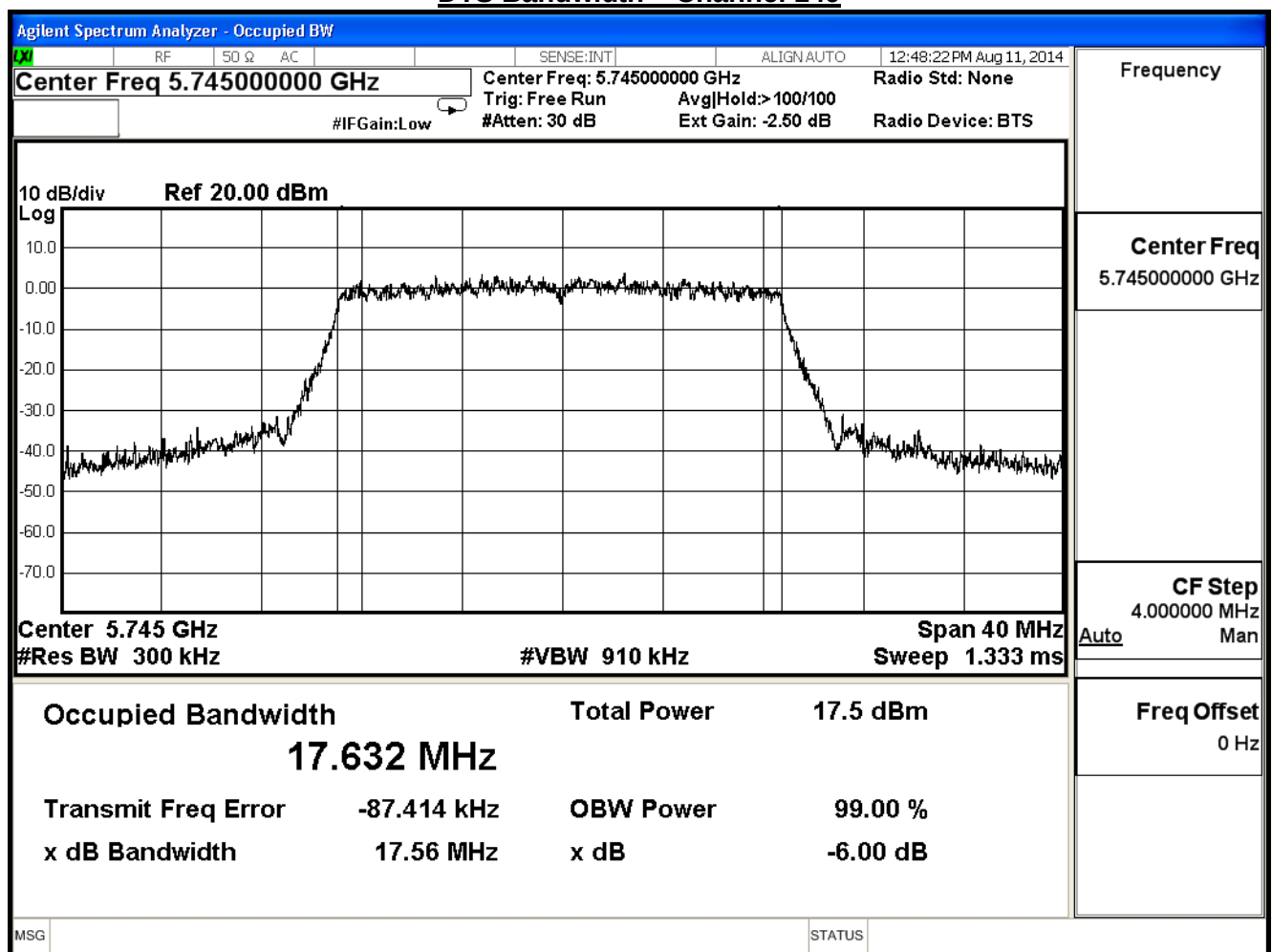


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

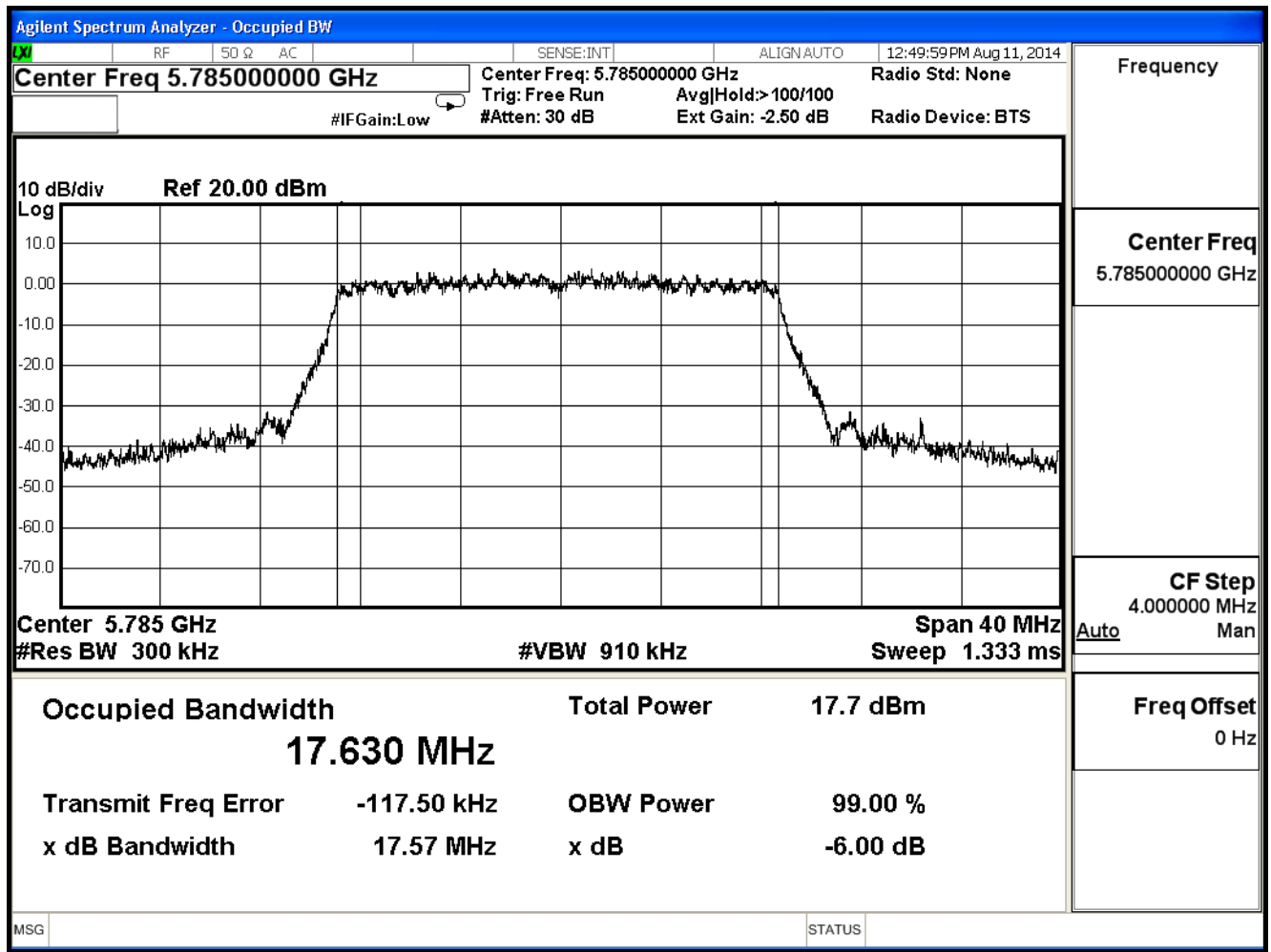
802.11n_20M(ANT 1)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
149	5745	17.560	≥ 0.5	Pass
157	5785	17.570	≥ 0.5	Pass
165	5825	17.440	≥ 0.5	Pass

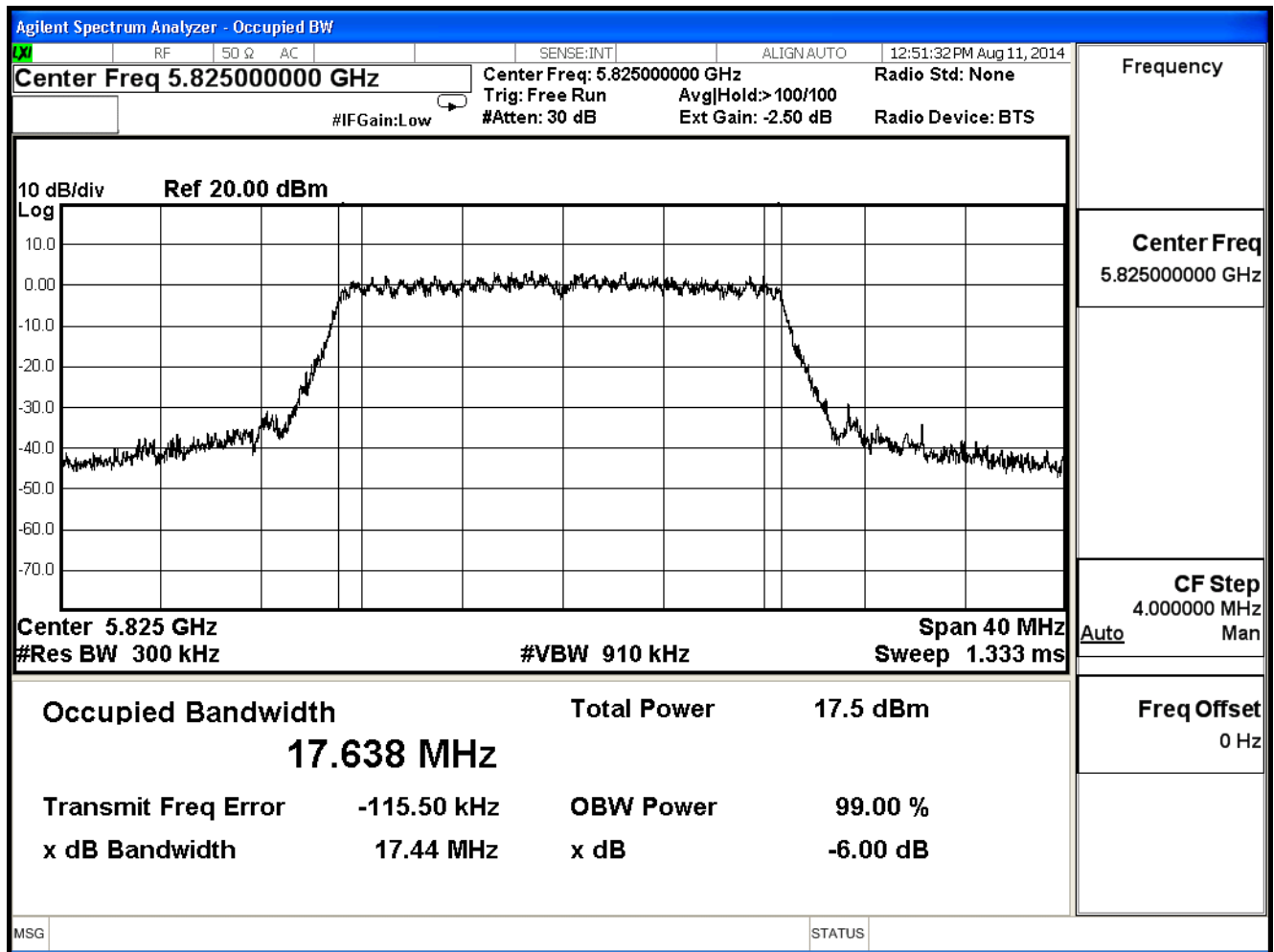
DTS Bandwidth – Channel 149



DTS Bandwidth – Channel 157



DTS Bandwidth – Channel 165

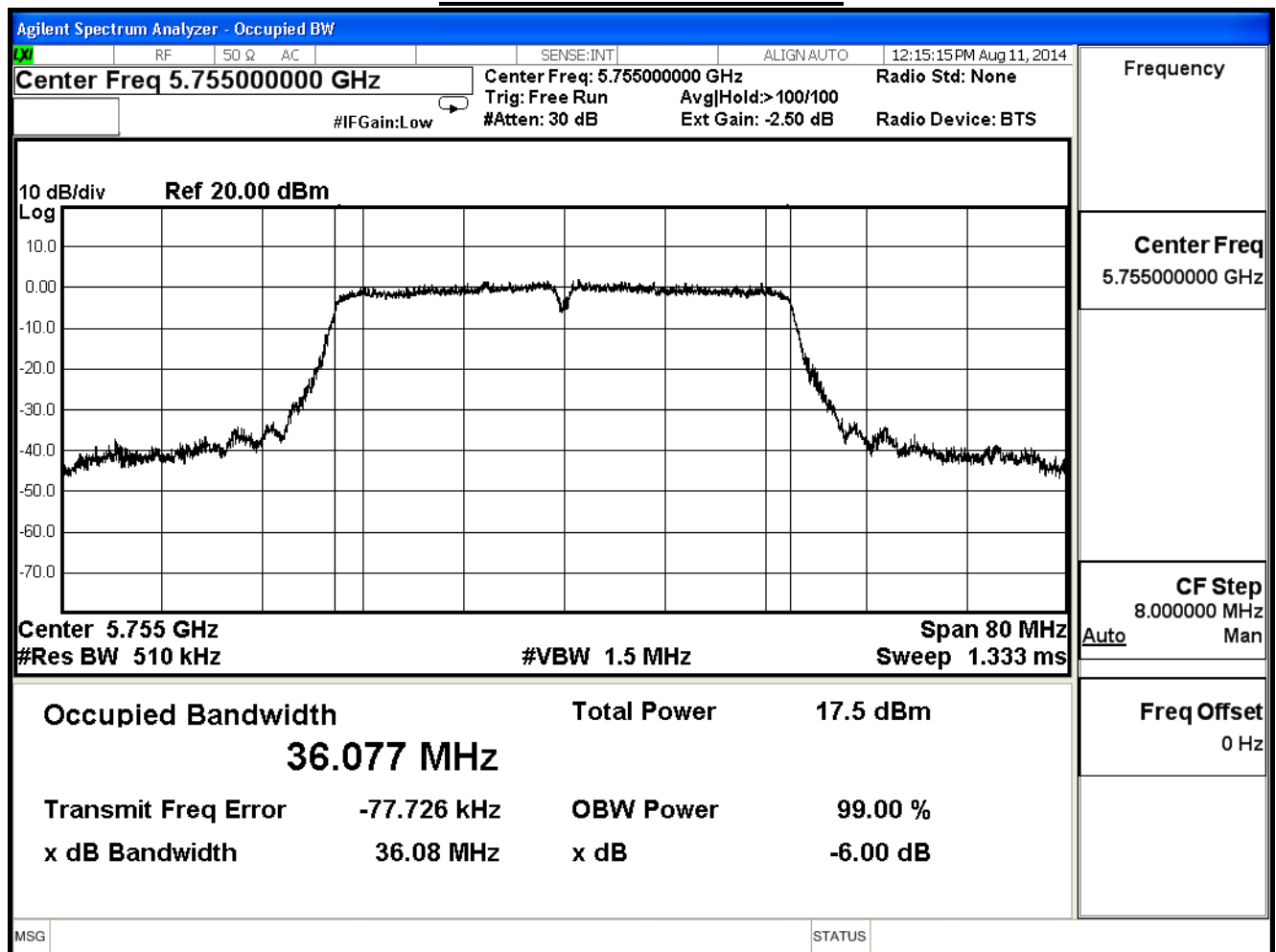


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

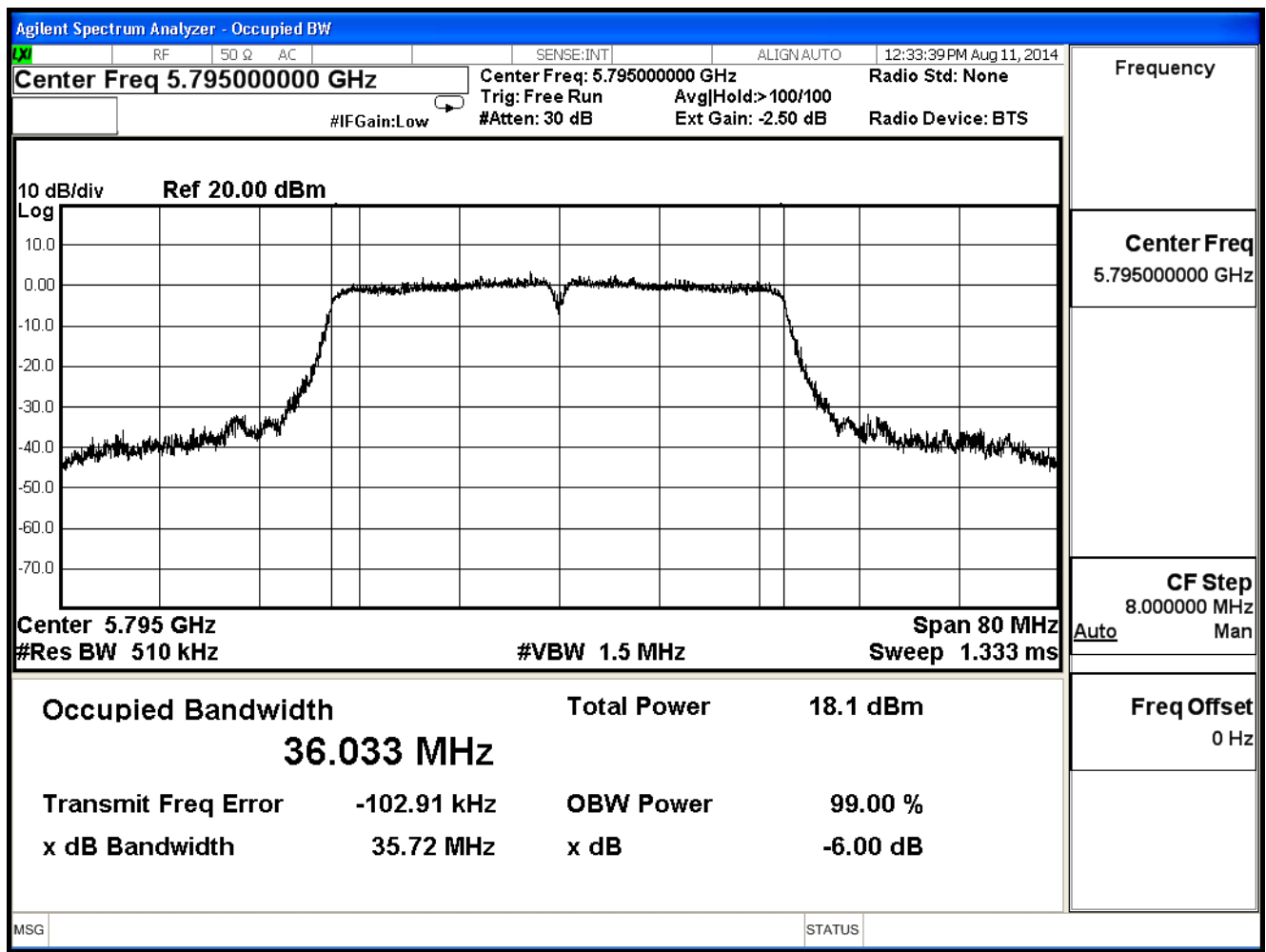
802.11n_40M(ANT 0)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
151	5755	36.080	≥ 0.5	Pass
159	5795	35.720	≥ 0.5	Pass

DTS Bandwidth – Channel 151



DTS Bandwidth – Channel 159

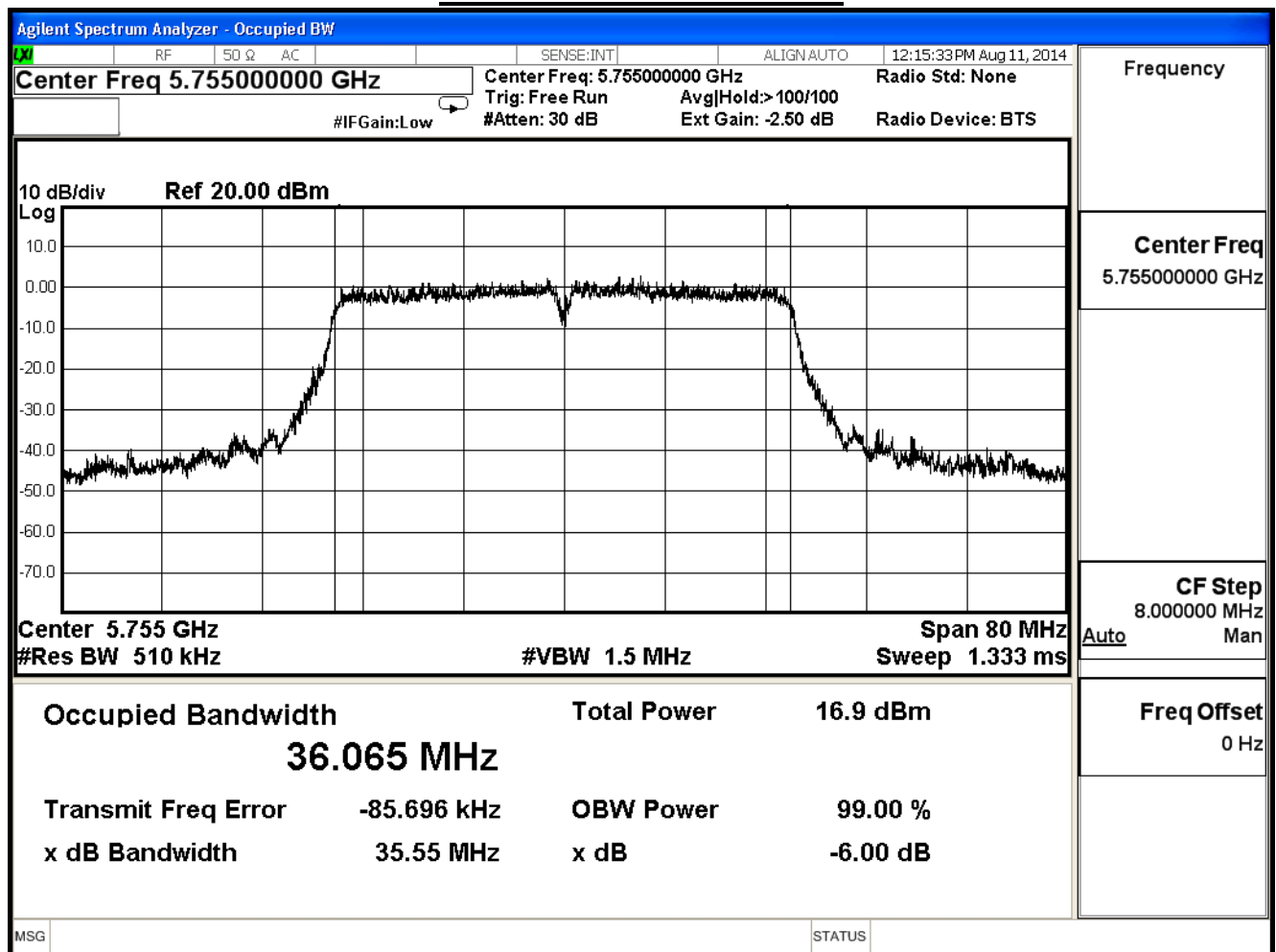


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

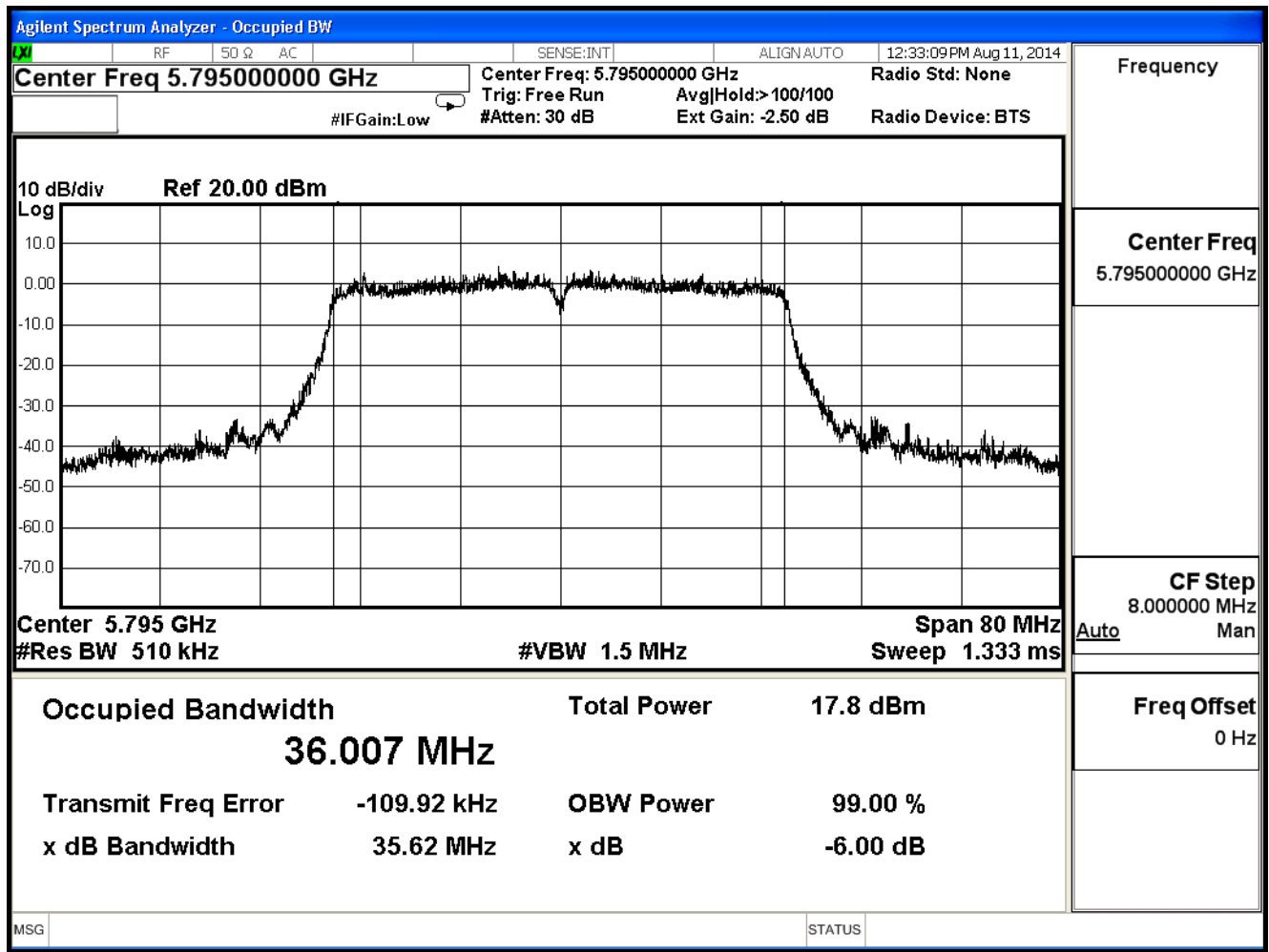
802.11n_40M(ANT 1)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
151	5755	35.550	≥ 0.5	Pass
159	5795	35.620	≥ 0.5	Pass

DTS Bandwidth – Channel 151



DTS Bandwidth – Channel 159

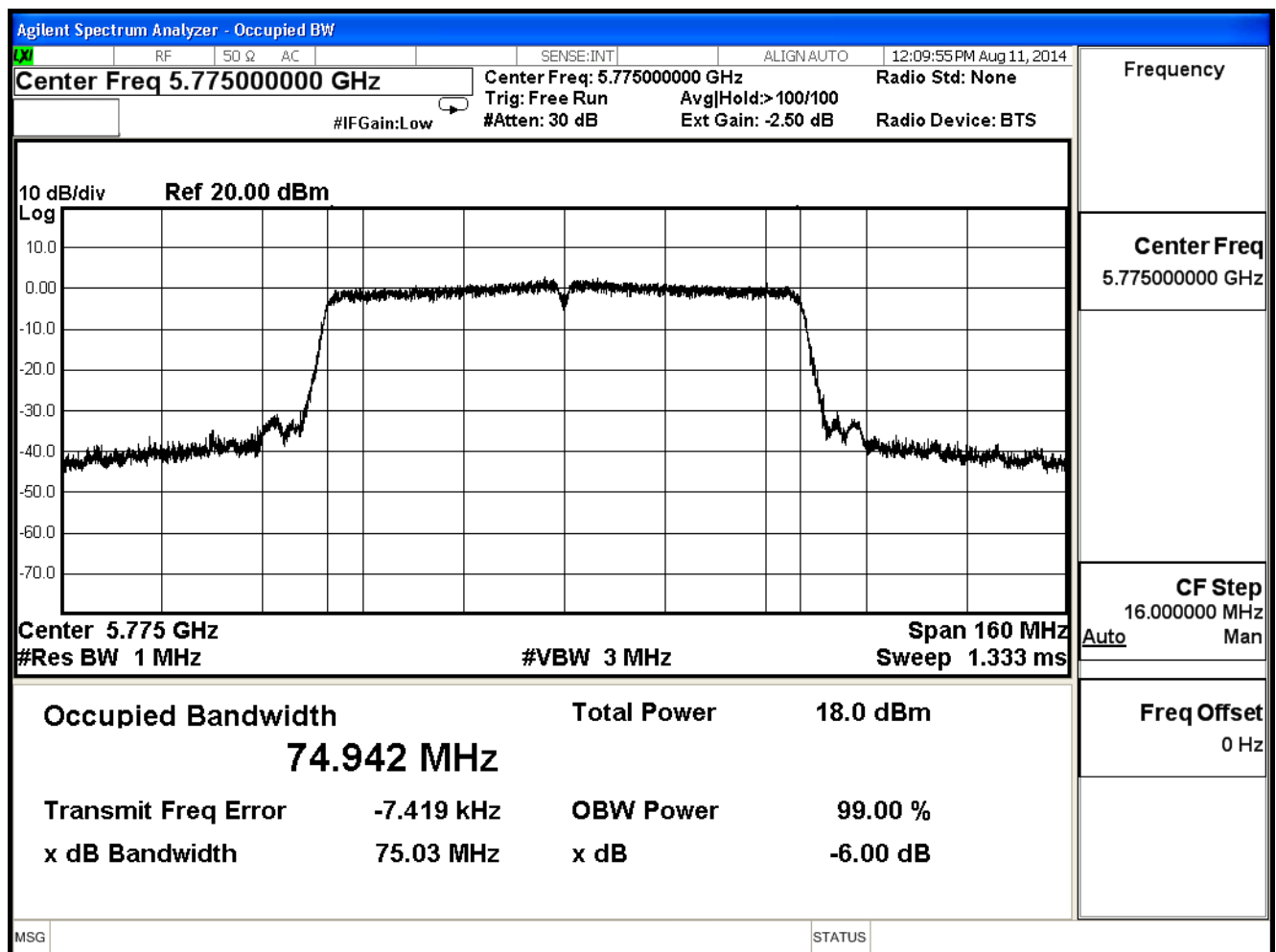


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

802.11ac_80M(ANT 0)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
155	5775	75.030	≥ 0.5	Pass

DTS Bandwidth – Channel 155

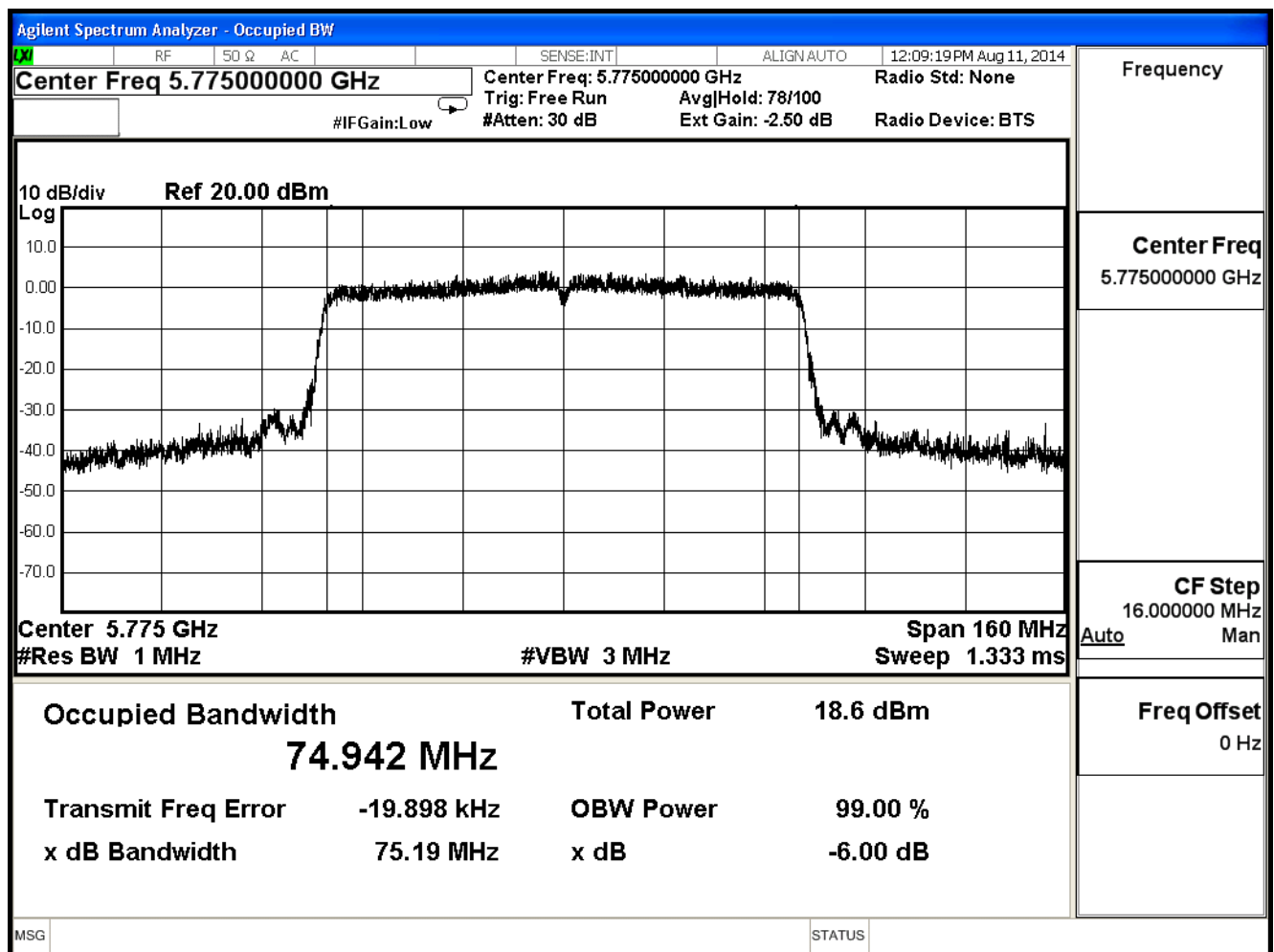


Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	DTS Bandwidth		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

802.11ac_80M(ANT 1)

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
155	5775	75.190	≥ 0.5	Pass

DTS Bandwidth – Channel 155



4. Peak Transmit Output

4.1. Test Equipment

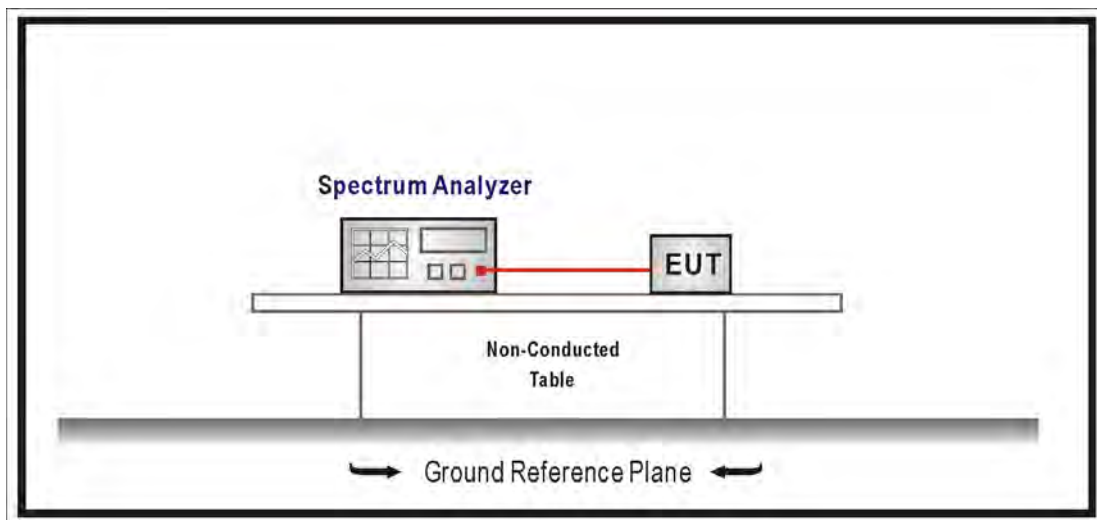
The following test equipments are used during the radiated emission tests:

Peak Transmit Output / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2015/07/14

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 250 mW. 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. 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 5.725-5.850 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 1W. 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 C63.10:2013; tested to U-NII test procedure of 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 ± 1.27 dB

4.6. Test Result

Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

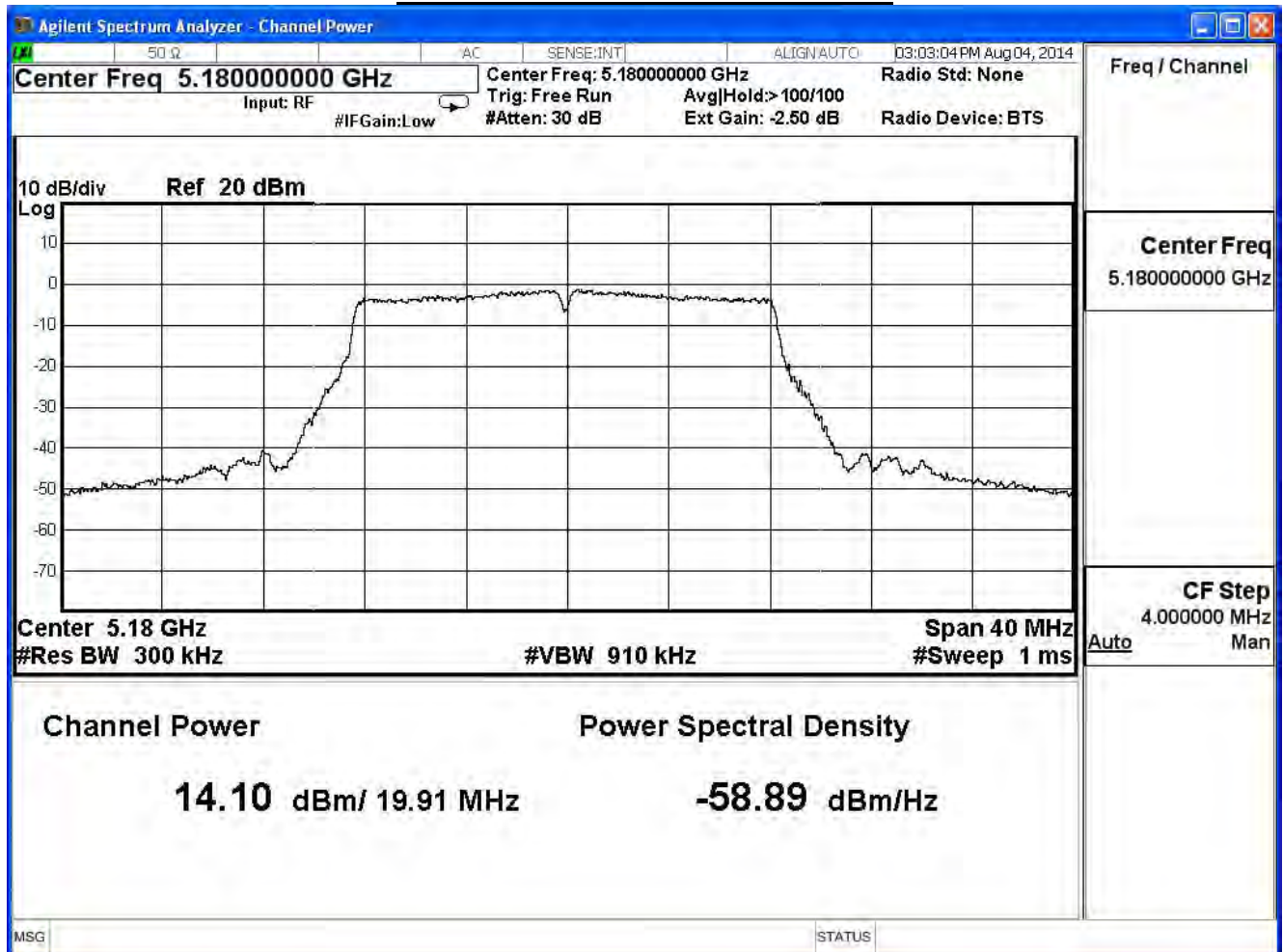
IEEE 802.11a ANT 0

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
36	5180	19.91	14.100	≤24	Pass
44	5220	19.93	13.670	≤24	Pass
48	5240	19.94	13.830	≤24	Pass

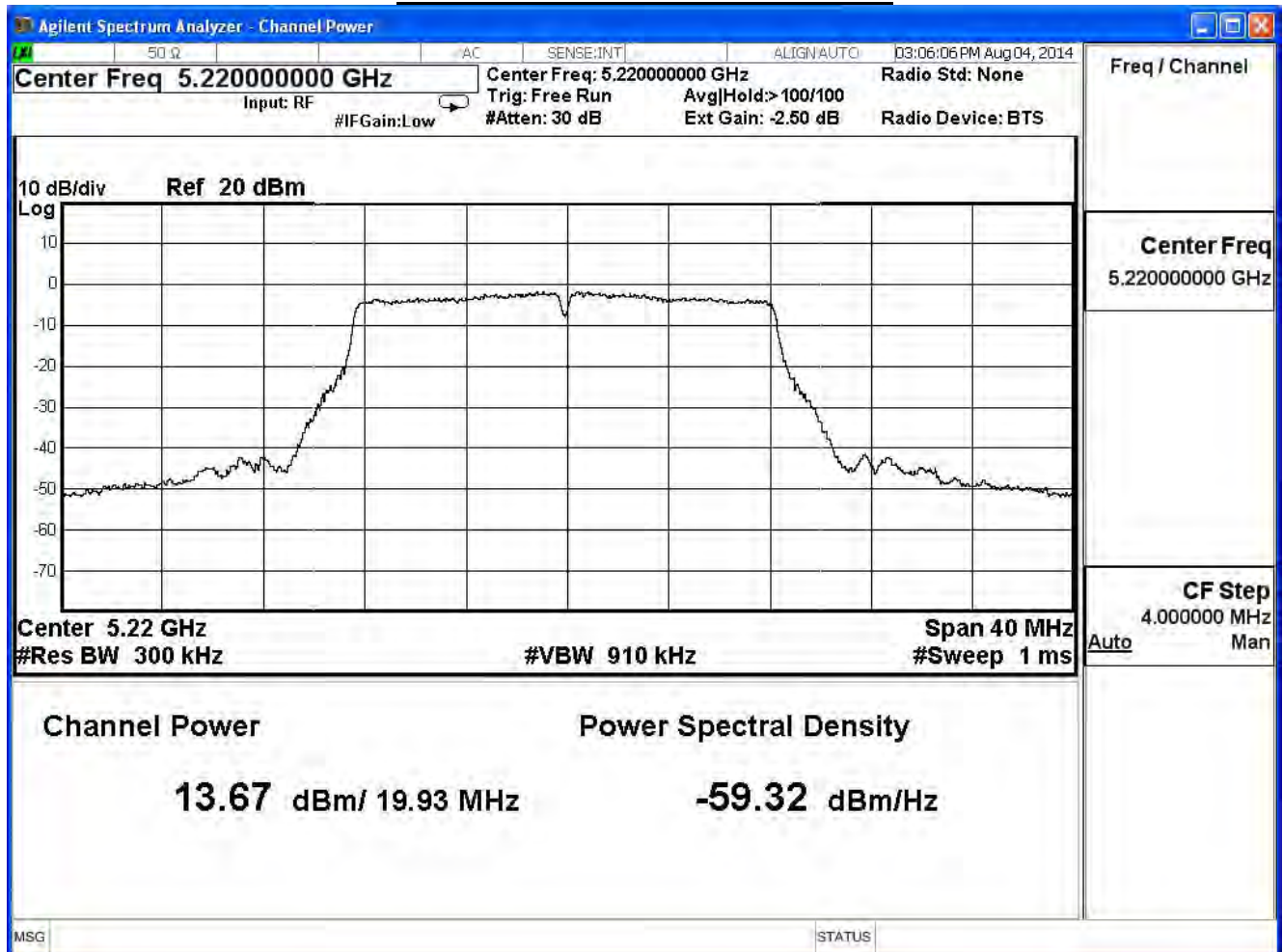
The worst emission of data rate is 6Mbps.

Peak Power Output (dBm)									
Channel No	Frequency (MHz)	Data Rate							Required Limit
		6	12	18	24	36	48	54	
36	5180	14.10	--	--	--	--	--	--	24dBm
44	5220	13.67	13.47	13.37	13.27	13.17	13.05	12.93	
48	5240	13.83	--	--	--	--	--	--	

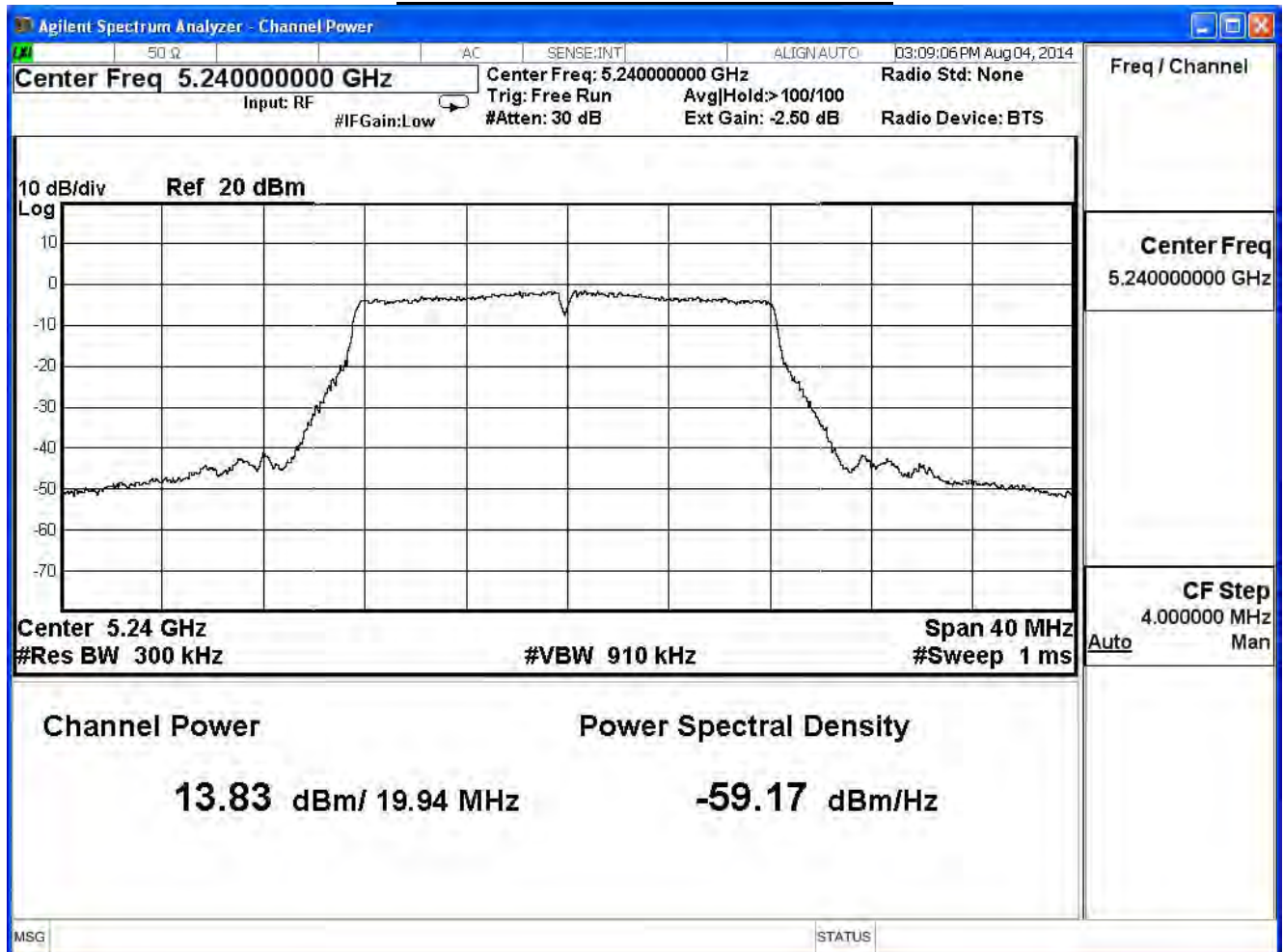
Peak transmit Power - Channel 36



Peak transmit Power - Channel 44



Peak transmit Power - Channel 48



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

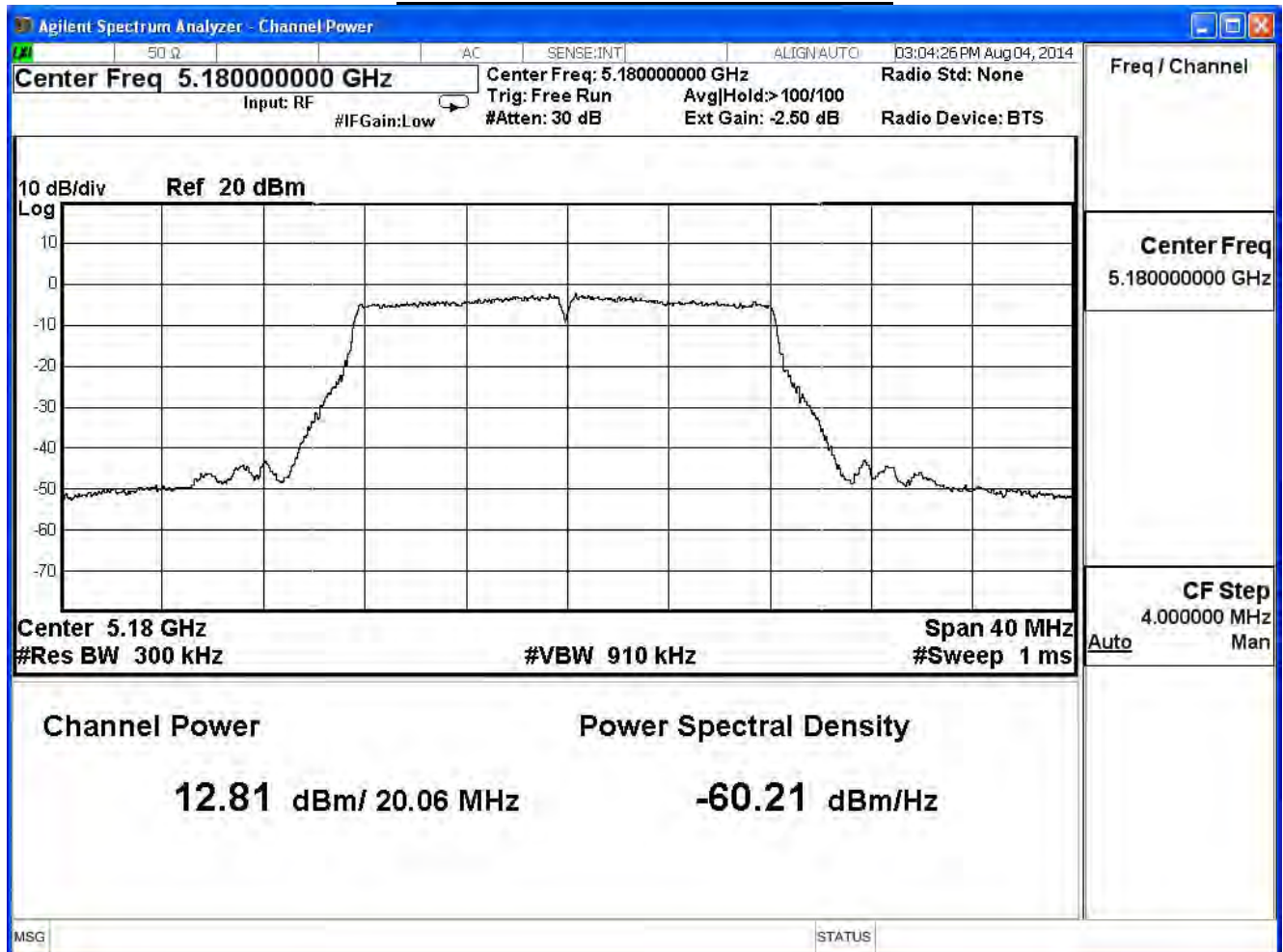
IEEE 802.11a ANT 1

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
36	5180	20.06	12.810	≤24	Pass
44	5220	19.95	12.600	≤24	Pass
48	5240	20.01	12.350	≤24	Pass

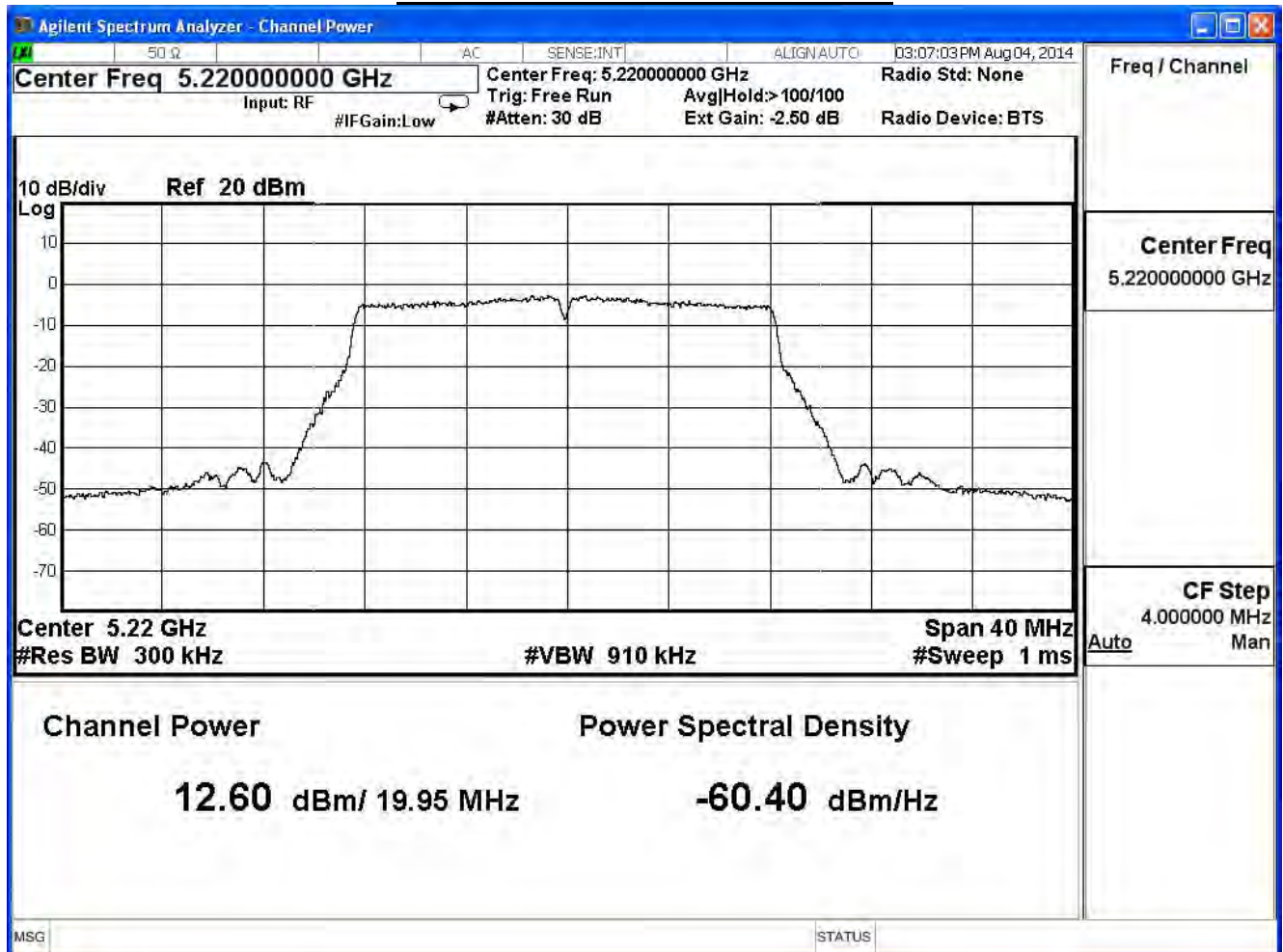
The worst emission of data rate is 6Mbps.

Peak Power Output (dBm)									
Channel No	Frequency (MHz)	Data Rate							Required Limit
		6	12	18	24	36	48	54	
36	5180	12.81	--	--	--	--	--	--	24dBm
44	5220	12.60	12.50	12.30	12.10	11.90	11.66	11.42	
48	5240	12.35	--	--	--	--	--	--	

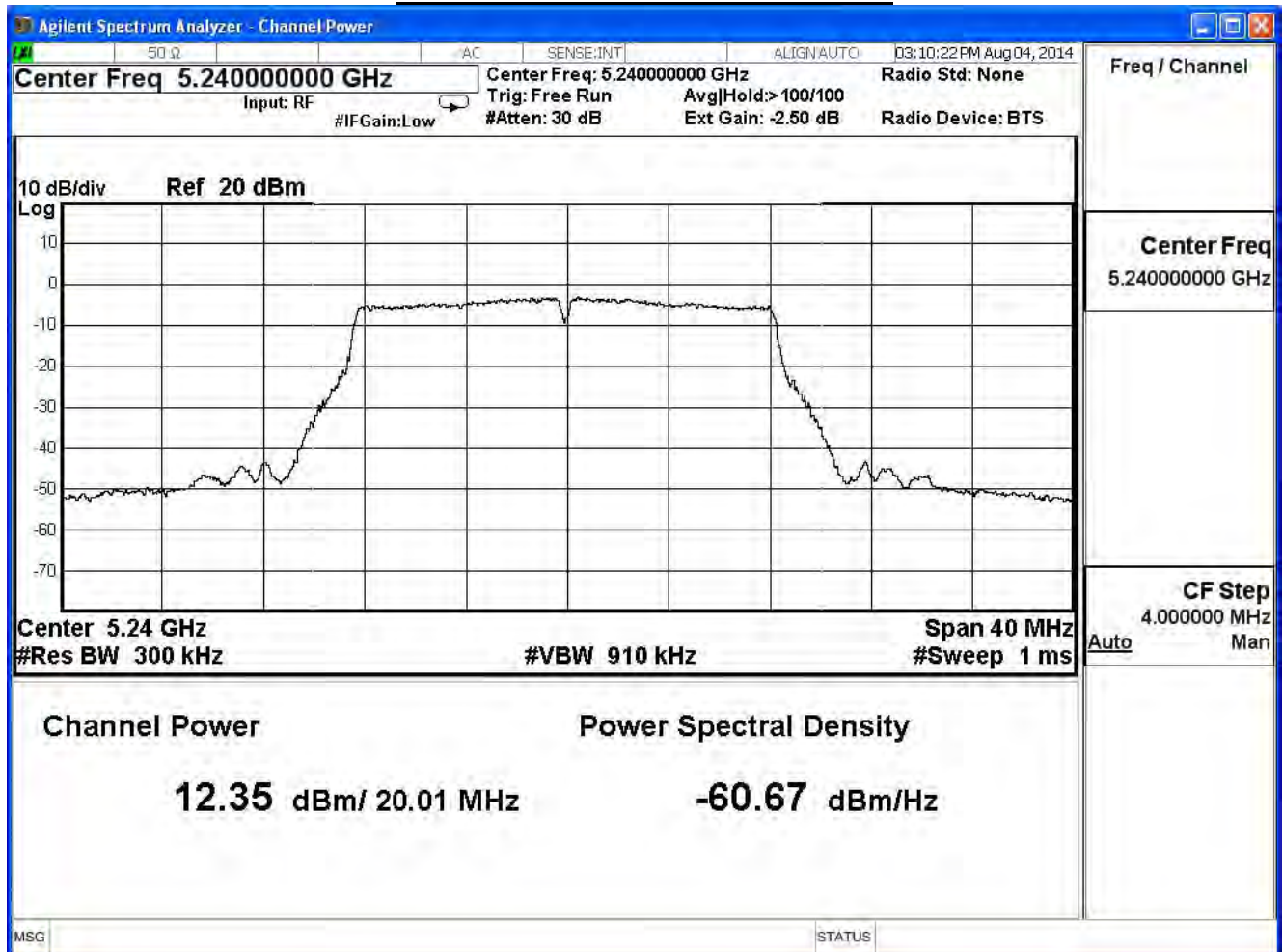
Peak transmit Power - Channel 36



Peak transmit Power - Channel 44



Peak transmit Power - Channel 48



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11a ANT 0+1

Channel No.	Frequency (MHz)	Output Power (mW)	Output Power (dBm)	Required Limit	Result
36	5180	44.802	16.513	≤24	Pass
44	5220	41.478	16.178	≤24	Pass
48	5240	41.334	16.163	≤24	Pass

Peak Power Output (dBm)									
Channel No	Frequency (MHz)	Data Rate							Required Limit
		6	12	18	24	36	48	54	
36	5180	16.51	--	--	--	--	--	--	24dBm
44	5220	16.18	16.02	15.88	15.73	15.59	15.42	15.25	
48	5240	16.16	--	--	--	--	--	--	

Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

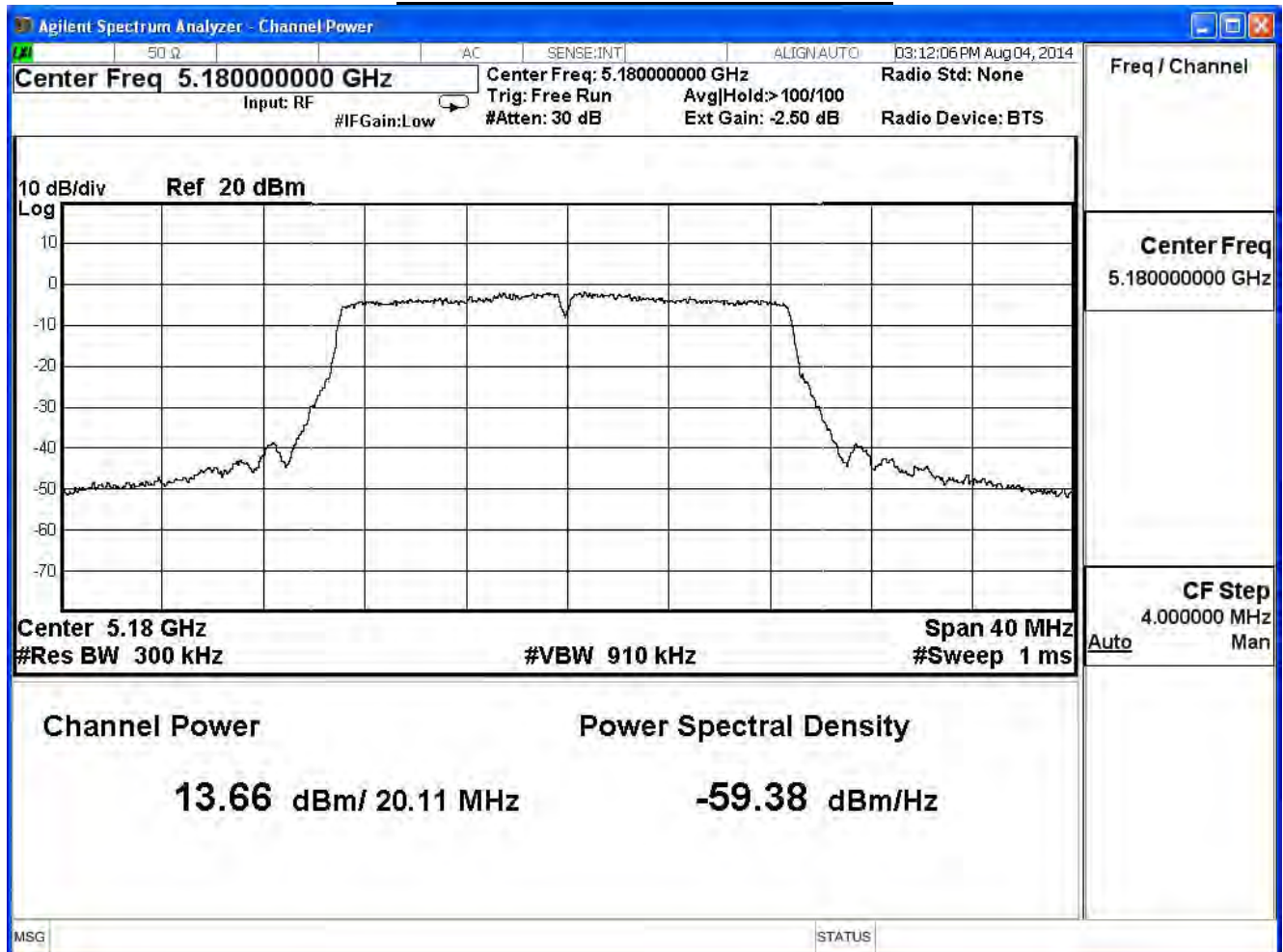
IEEE 802.11n(20MHz)_ANT 0

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
36	5180	20.11	13.660	≤24	Pass
44	5220	20.27	13.500	≤24	Pass
48	5240	20.24	13.510	≤24	Pass

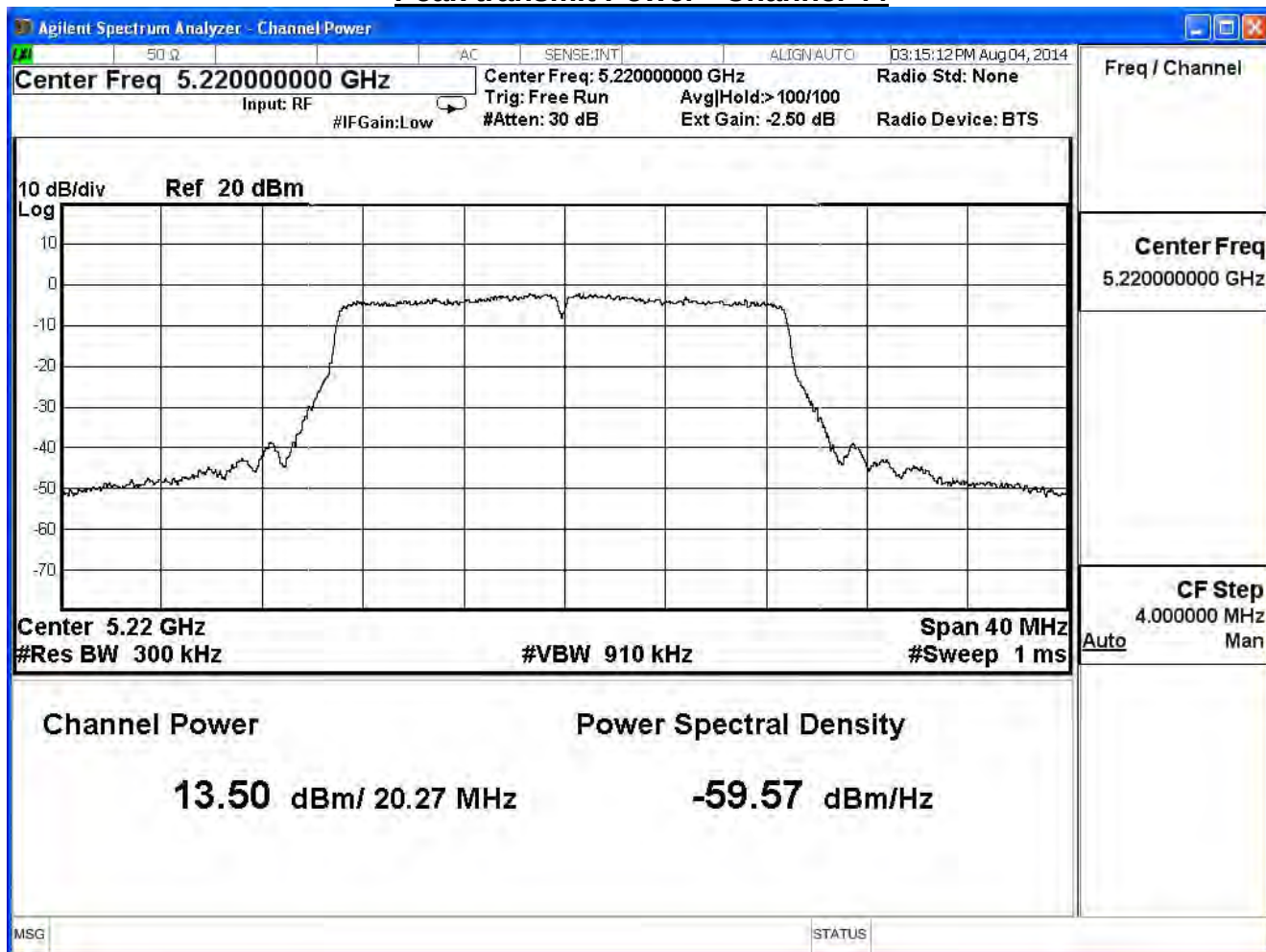
The worst emission of data rate is 6.5 Mbps.

Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	Required Limit
Channel	Frequency	Data Rate								
		No	(MHz)	6.5	13	19.5	26	39	52	
36	5180	13.66	--	--	--	--	--	--	--	24dBm
44	5220	13.50	13.40	13.20	13.10	13.00	12.88	12.64	12.52	
48	5240	13.51	--	--	--	--	--	--	--	

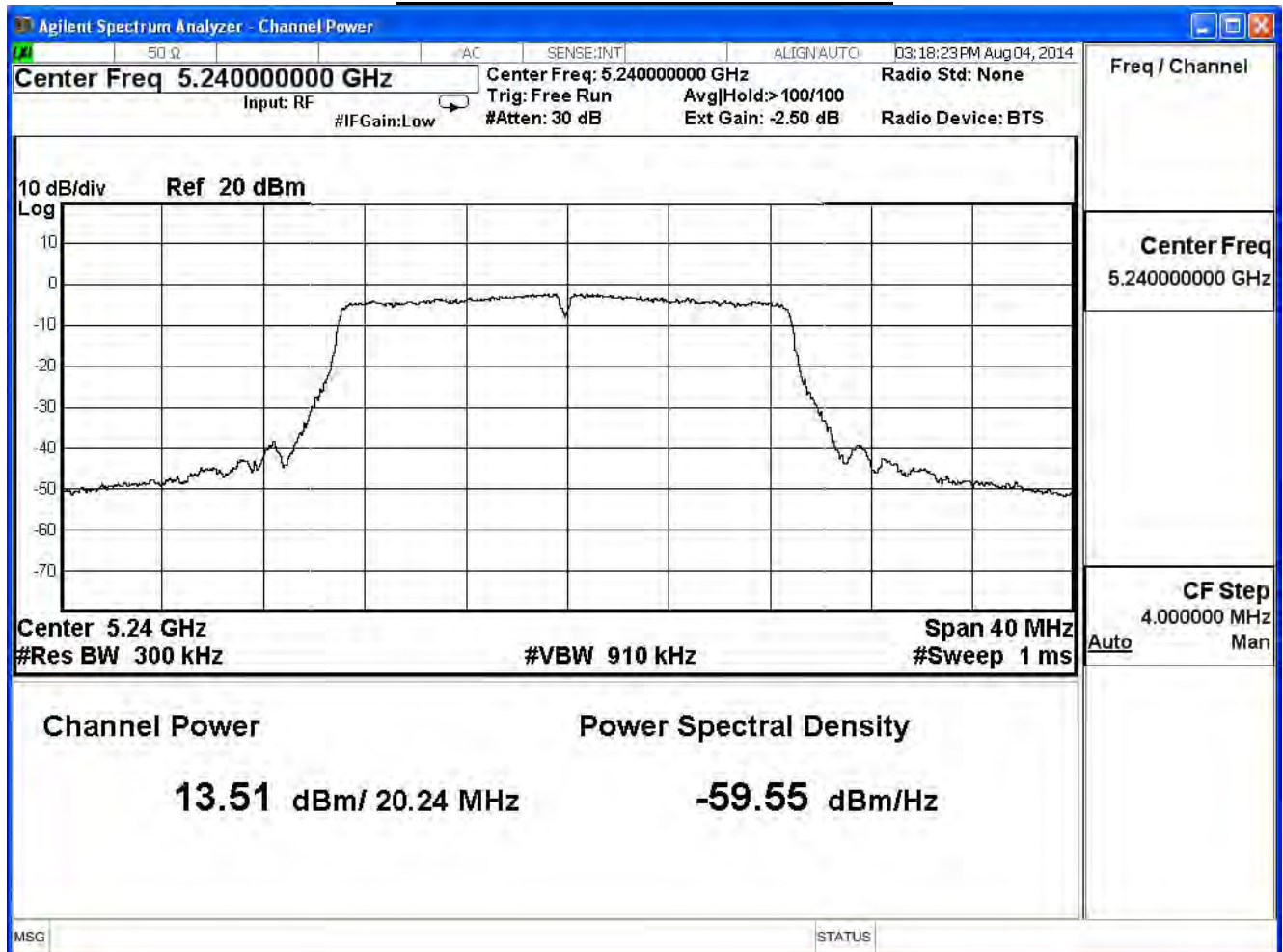
Peak transmit Power - Channel 36



Peak transmit Power - Channel 44



Peak transmit Power - Channel 48



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

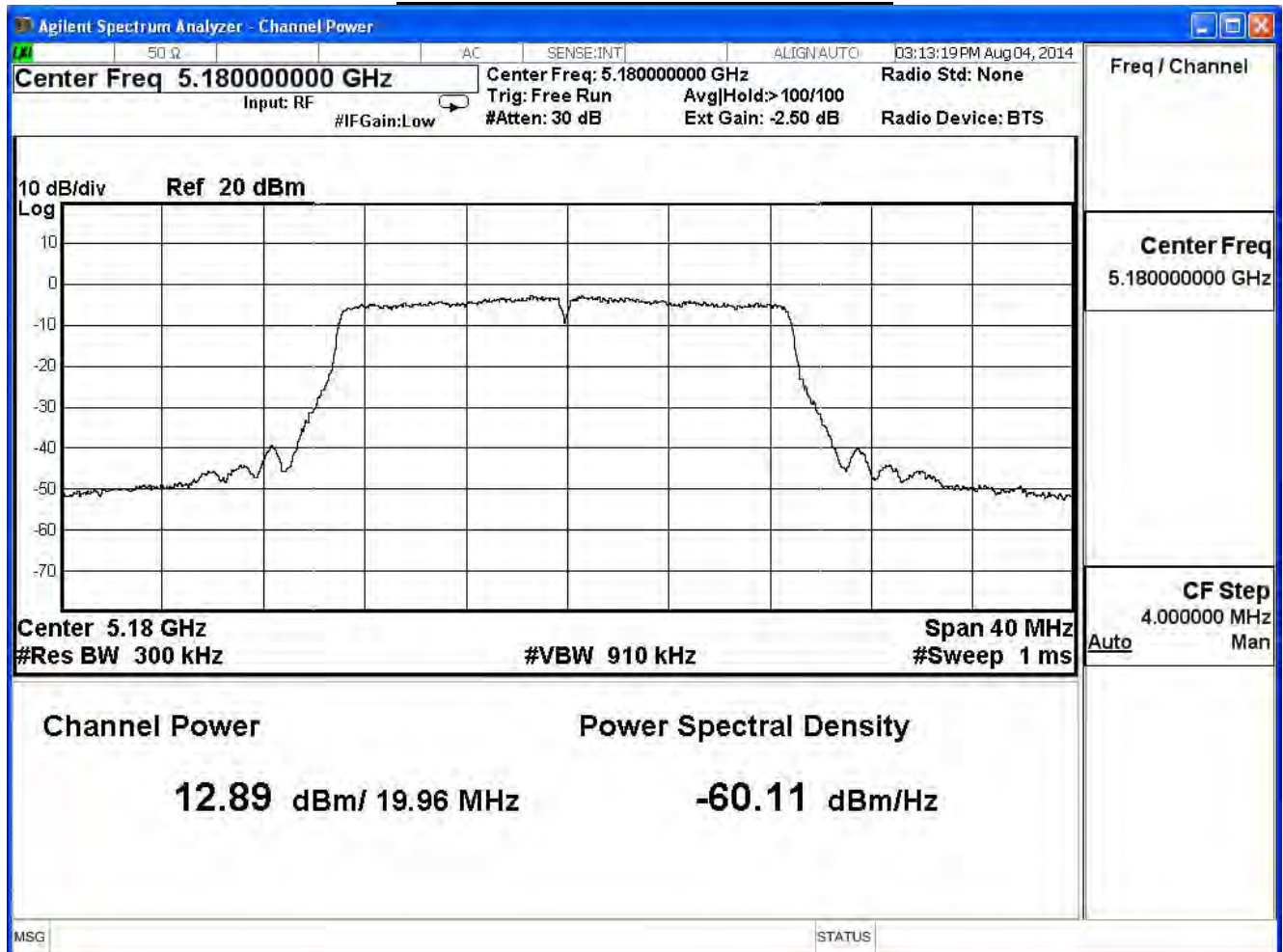
IEEE 802.11n(20MHz)_ANT 1

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
36	5180	19.96	12.890	≤24	Pass
44	5220	19.94	12.860	≤24	Pass
48	5240	19..95	12.320	≤24	Pass

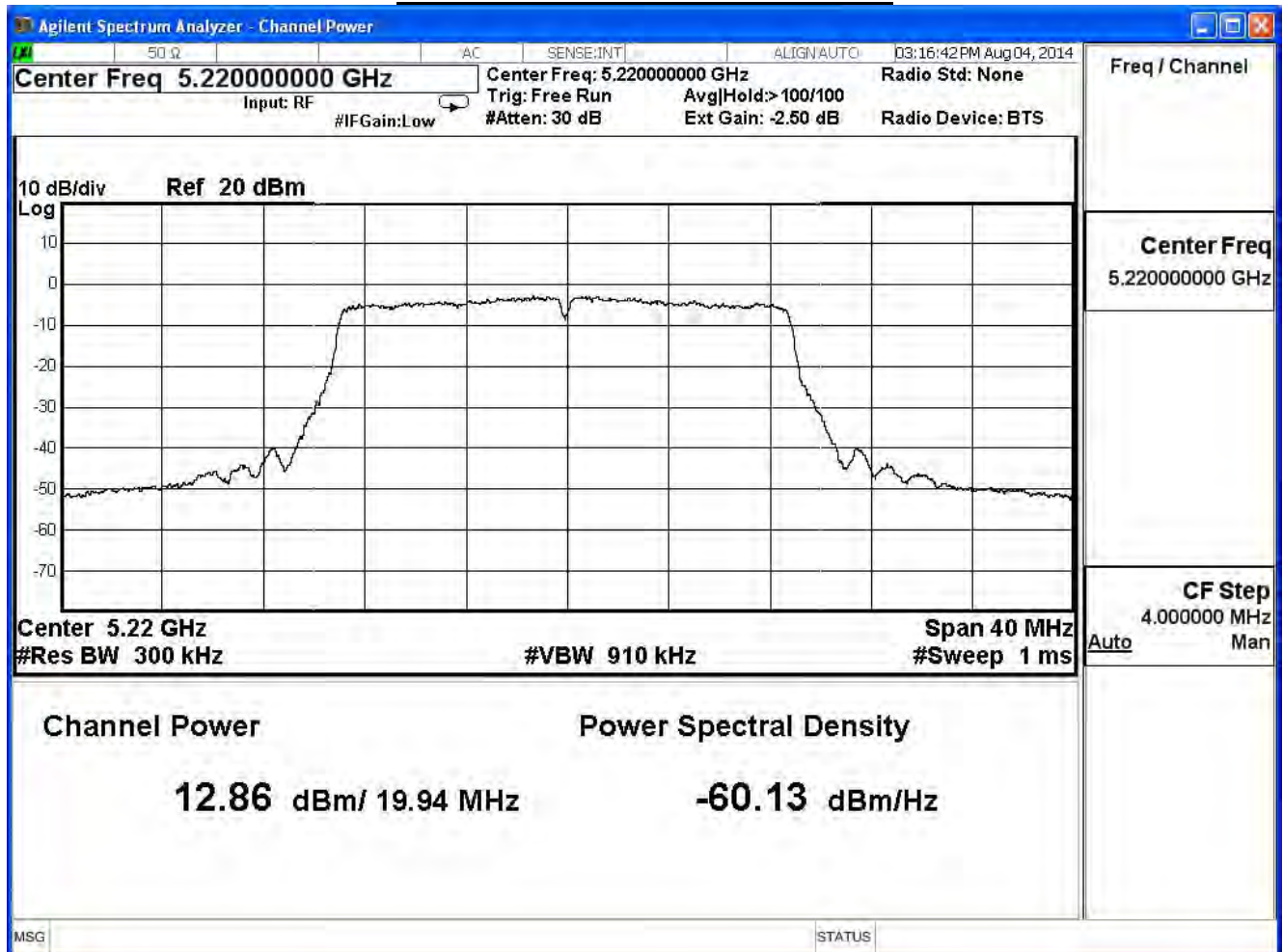
The worst emission of data rate is 6.5 Mbps.

Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		6.5	13	19.5	26	39	52	58.5	65	
36	5180	12.89	--	--	--	--	--	--	--	24dBm
44	5220	12.86	12.76	12.56	12.46	12.26	12.14	11.90	11.78	
48	5240	12.32	--	--	--	--	--	--	--	

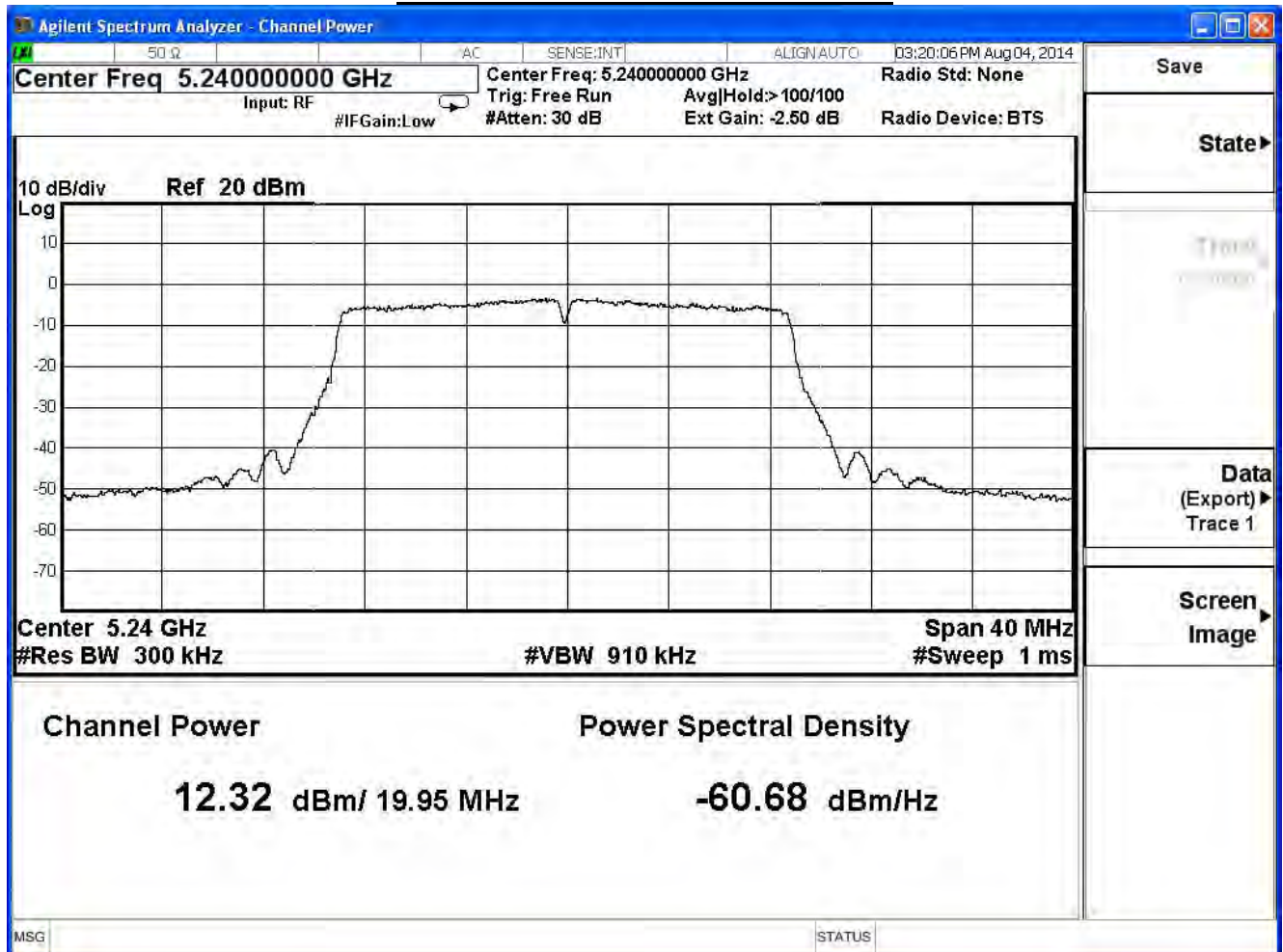
Peak transmit Power - Channel 36



Peak transmit Power - Channel 44



Peak transmit Power - Channel 48



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n(20MHz) ANT 0+1

Channel No.	Frequency (MHz)	Output Power (mW)	Output Power (dBm)	Required Limit	Result
36	5180	42.681	16.302	≤24	Pass
44	5220	41.707	16.202	≤24	Pass
48	5240	39.500	15.966	≤24	Pass

802.11n (20M) , ANT.0+1

Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		6.5	13	19.5	26	39	52	58.5	65	
36	5180	16.30	--	--	--	--	--	--	--	24dBm
44	5220	16.20	16.10	15.90	15.80	15.66	15.54	15.30	15.18	
48	5240	15.97	--	--	--	--	--	--	--	

Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

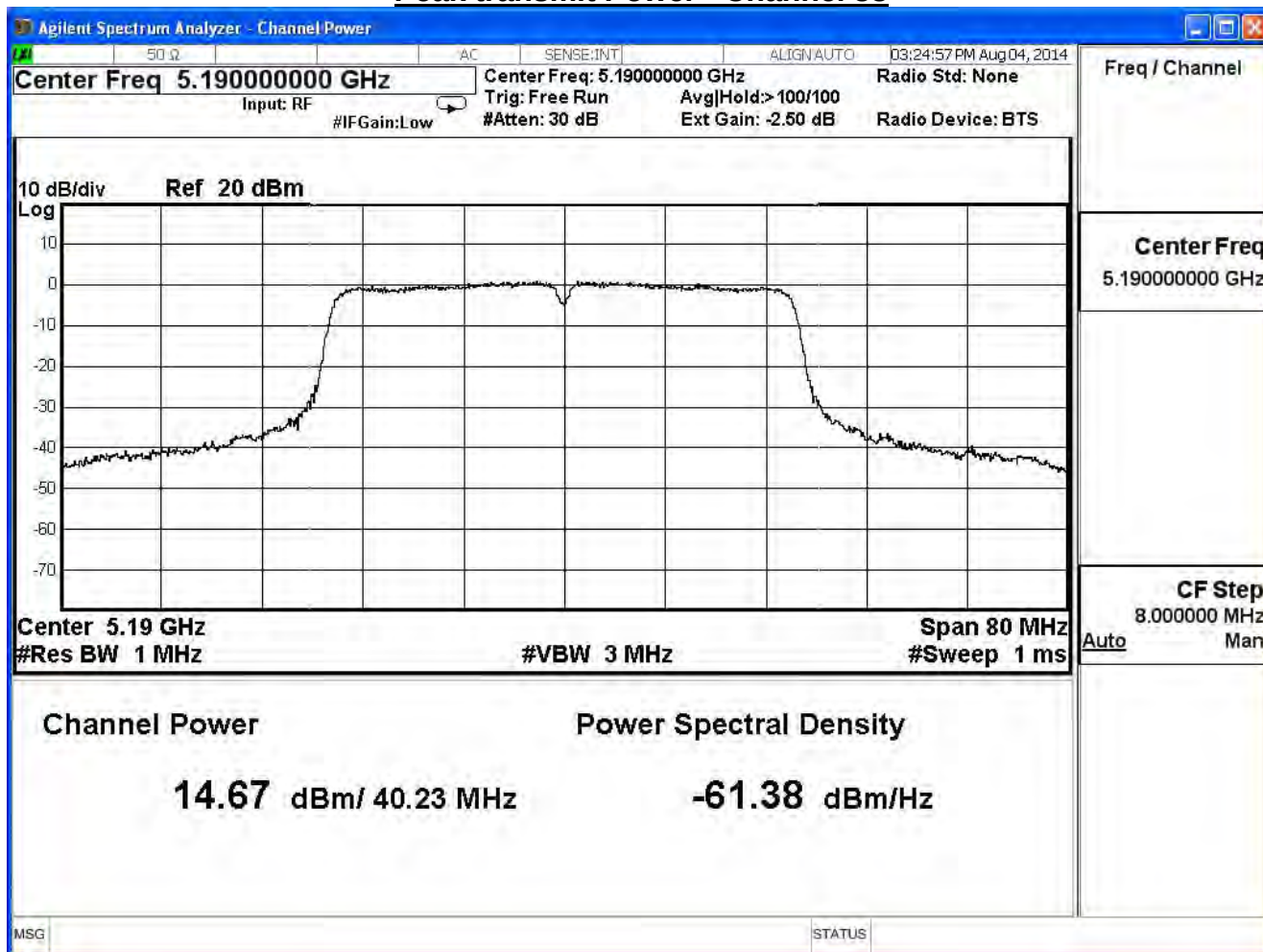
IEEE 802.11n(40MHz)_ANT 0

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
38	5190	40.23	14.670	≤24	Pass
46	5230	40.67	14.280	≤24	Pass

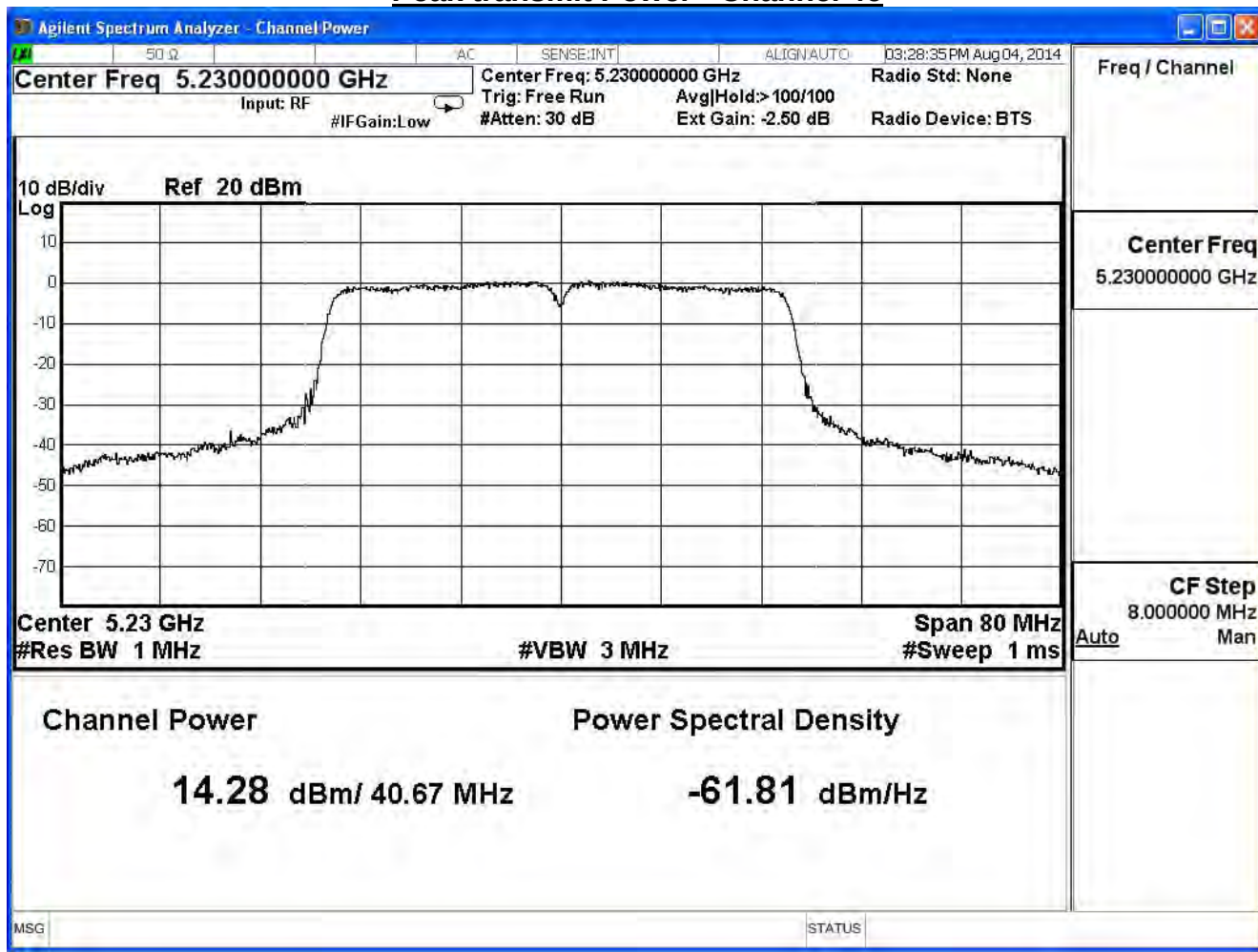
The worst emission of data rate is 13.5 Mbps

Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		13.5	27	40.5	54	81	108	121.5	135	
38	5190	14.67	--	--	--	--	--	--	--	24dBm
46	5230	14.28	14.08	13.98	13.88	13.68	13.44	13.20	13.08	

Peak transmit Power - Channel 38



Peak transmit Power - Channel 46



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

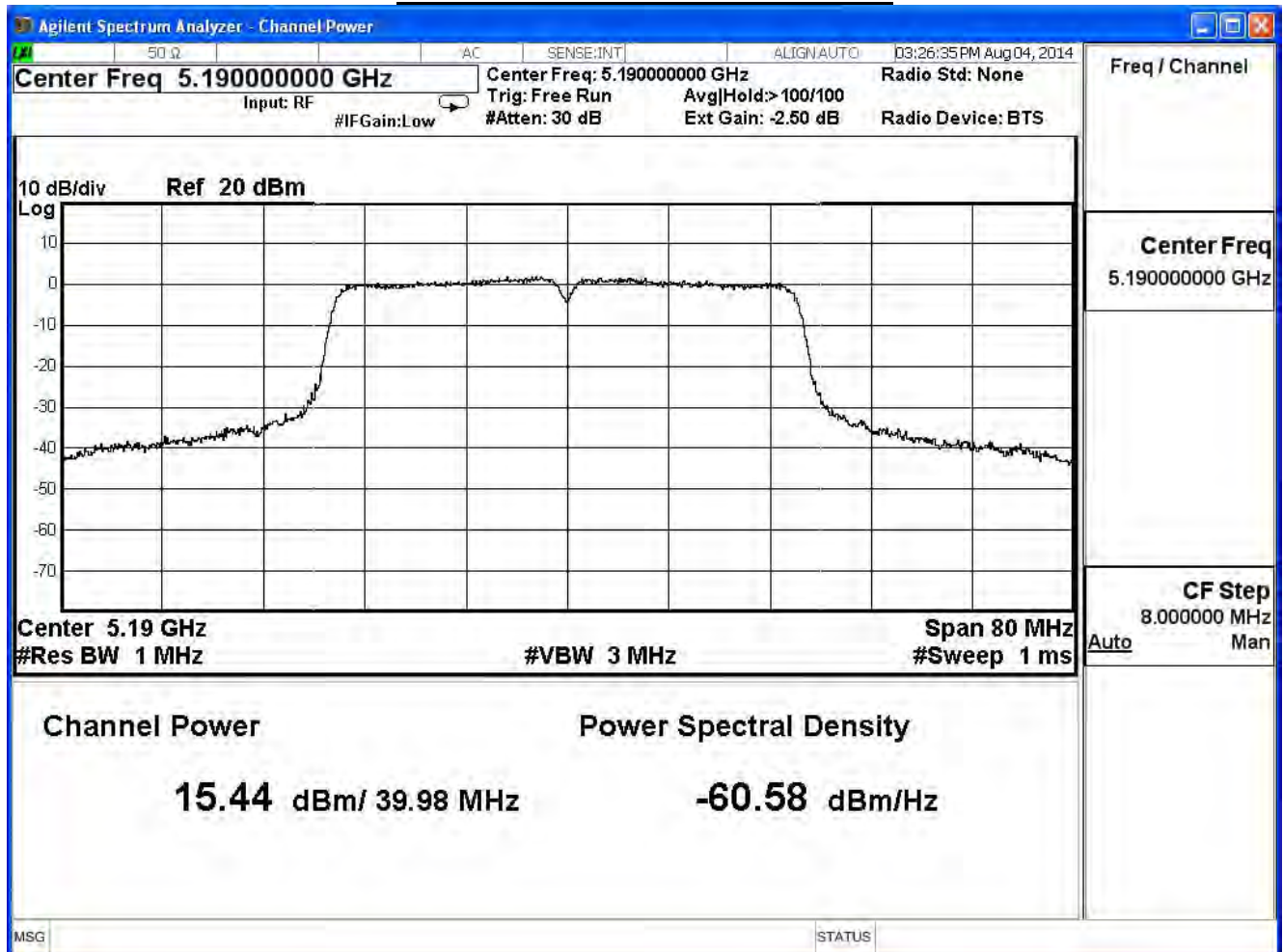
IEEE 802.11n(40MHz)_ANT 1

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
38	5190	39.98	15.440	≤24	Pass
46	5230	40.04	14.870	≤24	Pass

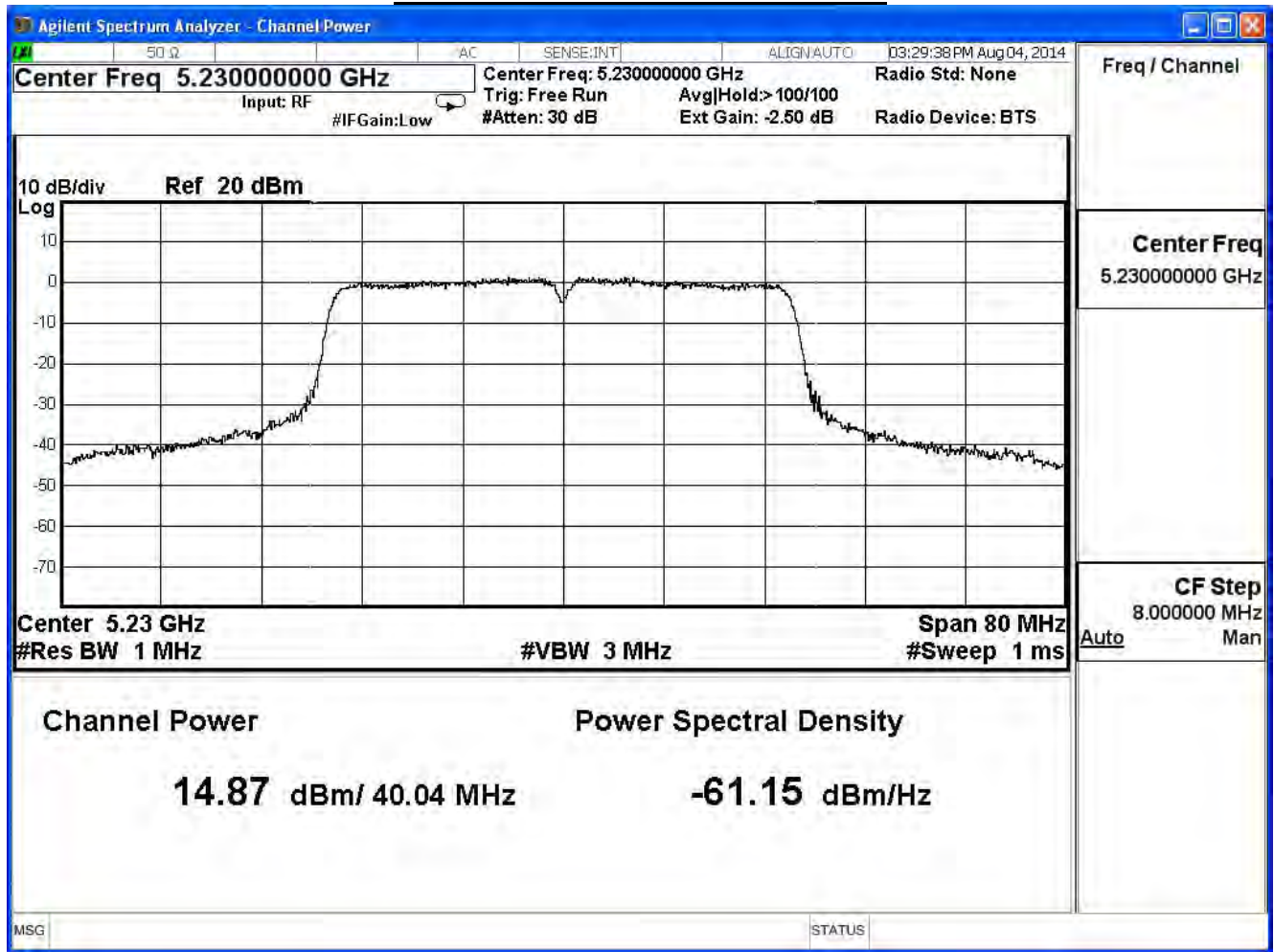
The worst emission of data rate is 13.5 Mbps

Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		13.5	27	40.5	54	81	108	121.5	135	
38	5190	15.44	--	--	--	--	--	--	--	24dBm
46	5230	14.87	14.67	14.57	14.47	14.27	14.15	13.91	13.79	

Peak transmit Power - Channel 38



Peak transmit Power - Channel 46



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n(40MHz)_ANT 0+1

Channel No.	Frequency (MHz)	Output Power (mW)	Output Power (dBm)	Required Limit	Result
38	5190	64.303	18.082	≤24	Pass
46	5230	57.482	17.595	≤24	Pass

Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		13.5	27	40.5	54	81	108	121.5	135	
38	5190	18.08	--	--	--	--	--	--	--	24dBm
46	5230	17.60	17.40	17.30	17.20	17.00	16.82	16.58	16.46	

Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

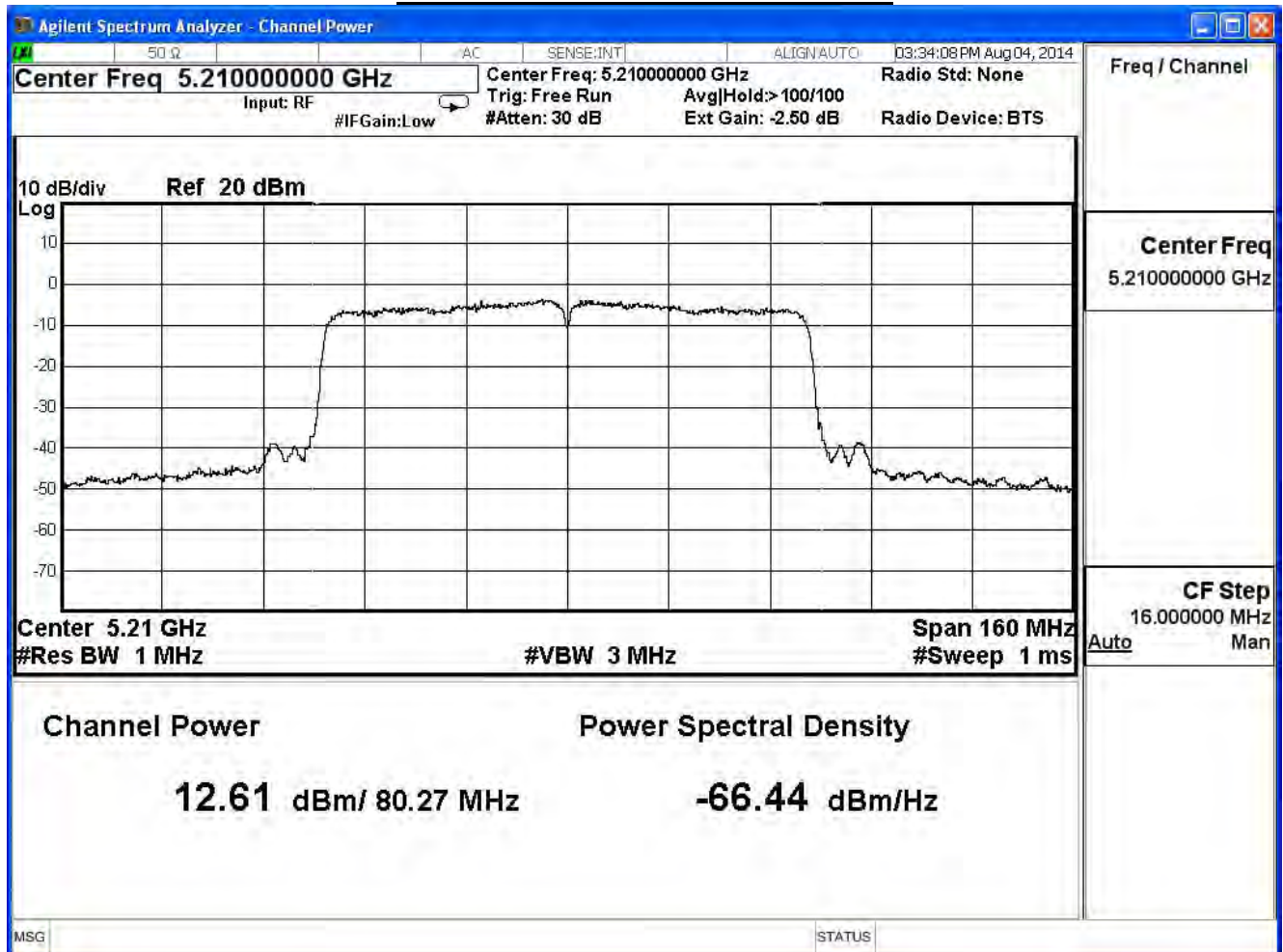
IEEE 802.11ac(80MHz)_ANT 0

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
42	5210	80.270	12.610	≤24	Pass

The worst emission of data rate is 29.3 Mbps

Peak Power Output (dBm)											
MCS Index		0	1	2	3	4	5	6	7	8	9
Channel No	Frequency (MHz)	Data Rate									
		29.3	58.5	87.8	117	175.5	234	263.3	292.5	351	390
42	5210	12.61	12.51	12.31	12.21	12.11	12.01	11.89	11.65	11.53	11.41

Peak transmit Power - Channel 42



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

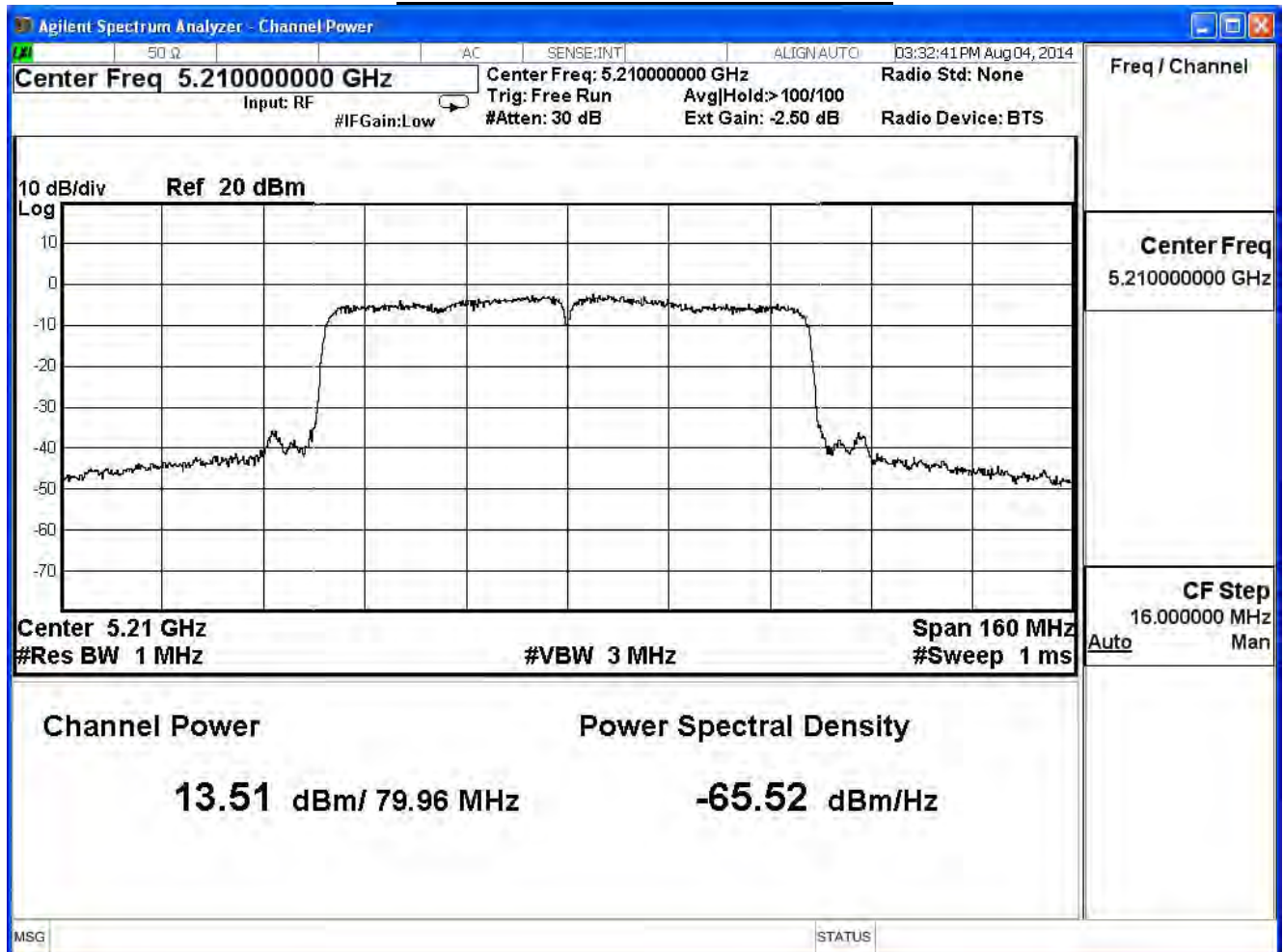
IEEE 802.11ac(80MHz)_ANT 1

Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
42	5210	79.960	13.510	≤24	Pass

The worst emission of data rate is 29.3Mbps

Peak Power Output (dBm)											
MCS Index		0	1	2	3	4	5	6	7	8	9
Channel No	Frequency (MHz)	Data Rate									
		29.3	58.5	87.8	117	175.5	234	263.3	292.5	351	390
42	5210	13.51	13.41	13.31	13.11	13.01	12.91	12.67	12.55	12.31	12.19

Peak transmit Power - Channel 42



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11ac(80MHz)_ANT 0+1

Channel No.	Frequency (MHz)	Output Power (mW)	Output Power (dBm)	Required Limit	Result
42	5210	40.678	16.094	≤24	Pass

The worst emission of data rate is 29.3Mbps

Peak Power Output (dBm)											
MCS Index		0	1	2	3	4	5	6	7	8	9
Channel No	Frequency (MHz)	Data Rate									
		29.3	58.5	87.8	117	175.5	234	263.3	292.5	351	390
42	5210	16.09	17.32	17.19	17.05	16.95	16.86	16.67	16.52	16.35	16.22

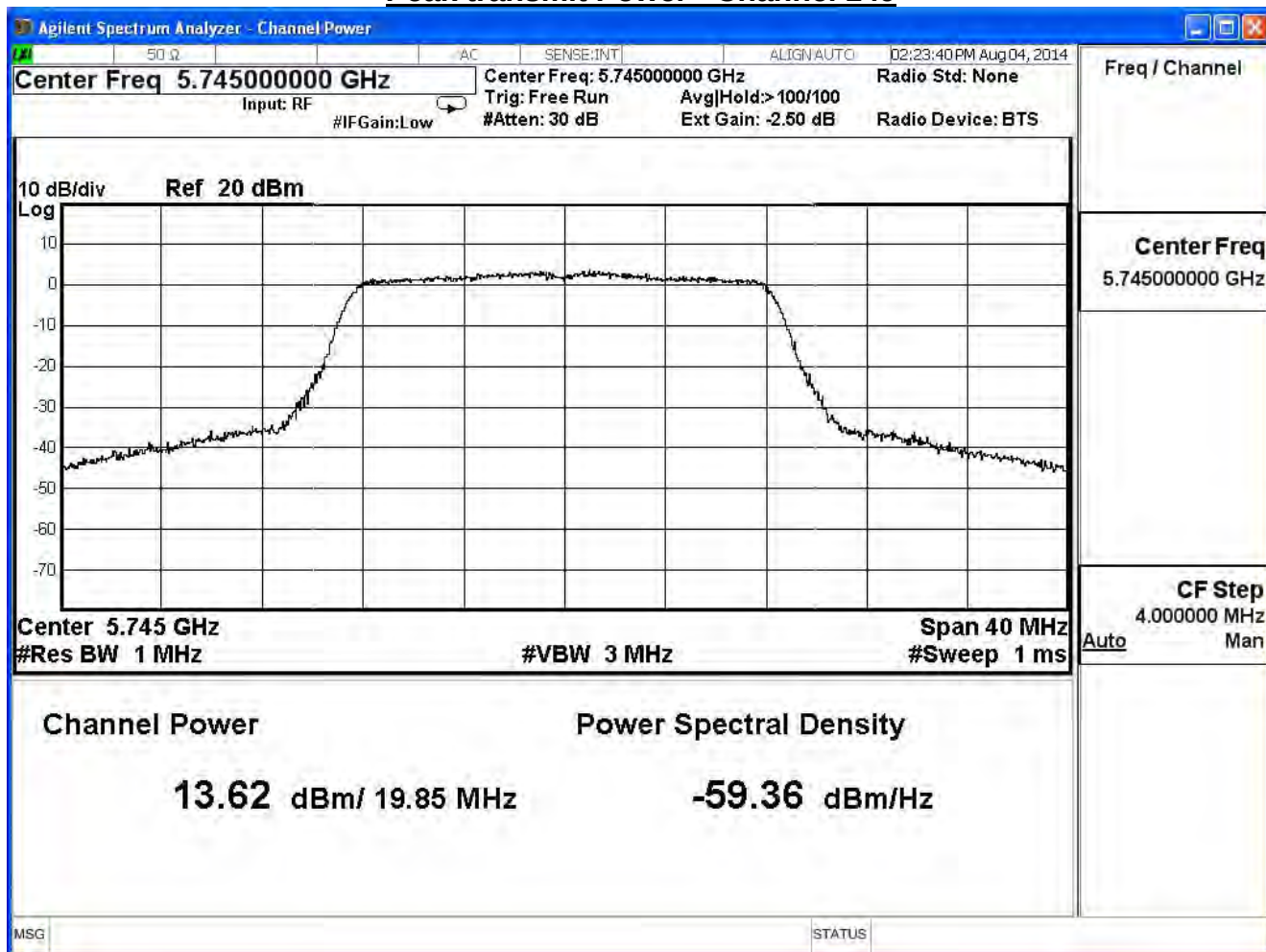
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

802.11a_ANT 0					
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
149	5745	19.85	13.620	≤ 30	Pass
157	5785	19.88	14.320	≤ 30	Pass
165	5825	20.00	14.380	≤ 30	Pass

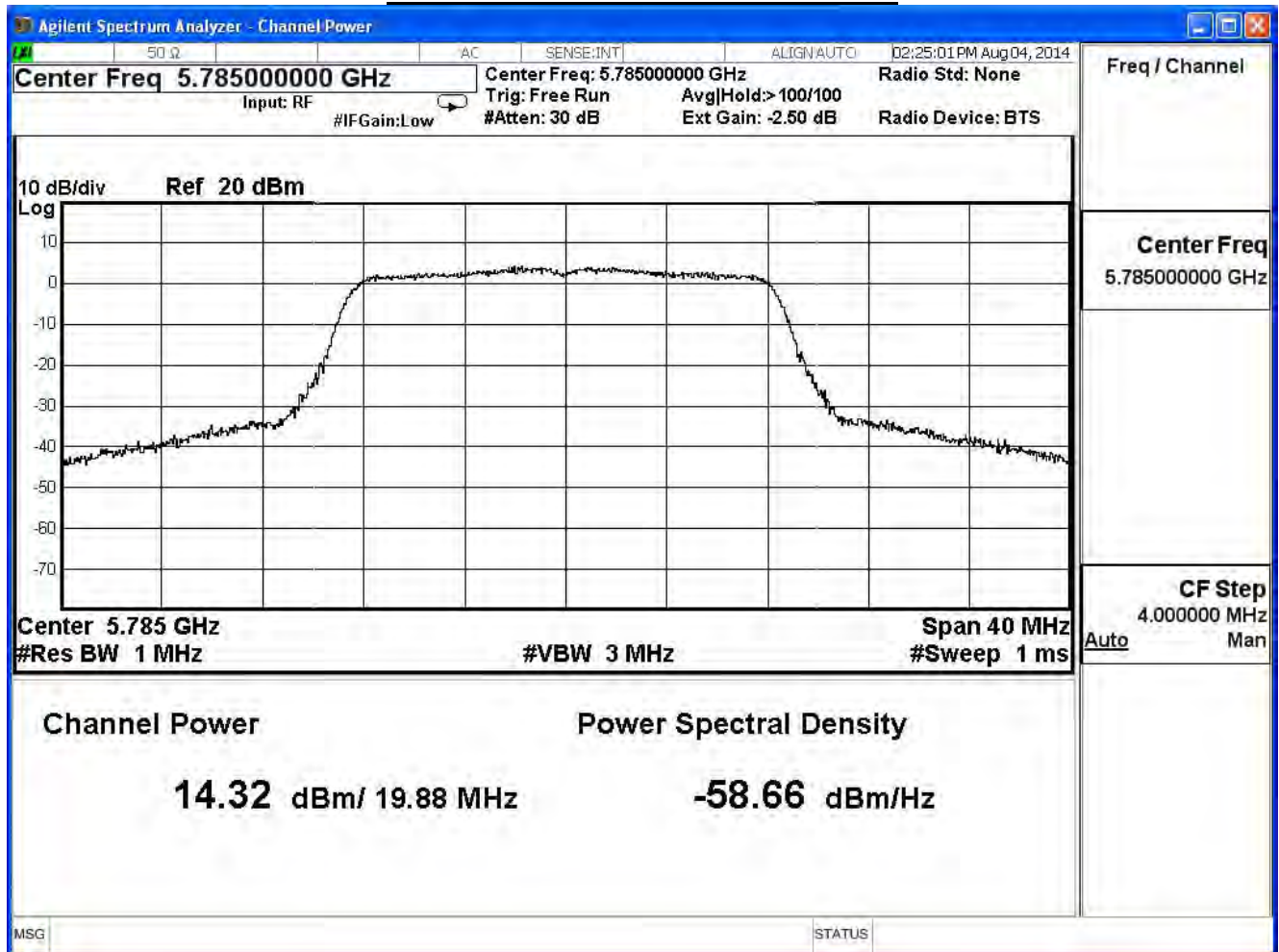
The worst emission of data rate is 6Mbps.

Peak Power Output (dBm)									
Channel No	Frequency (MHz)	Data Rate							Required Limit
		6	12	18	24	36	48	54	
149	5745	13.62	--	--	--	--	--	--	1 Watt=30dBm
157	5785	14.32	14.21	14.06	13.95	13.76	13.54	13.32	1 Watt=30dBm
165	5825	14.38	--	--	--	--	--	--	1 Watt=30dBm

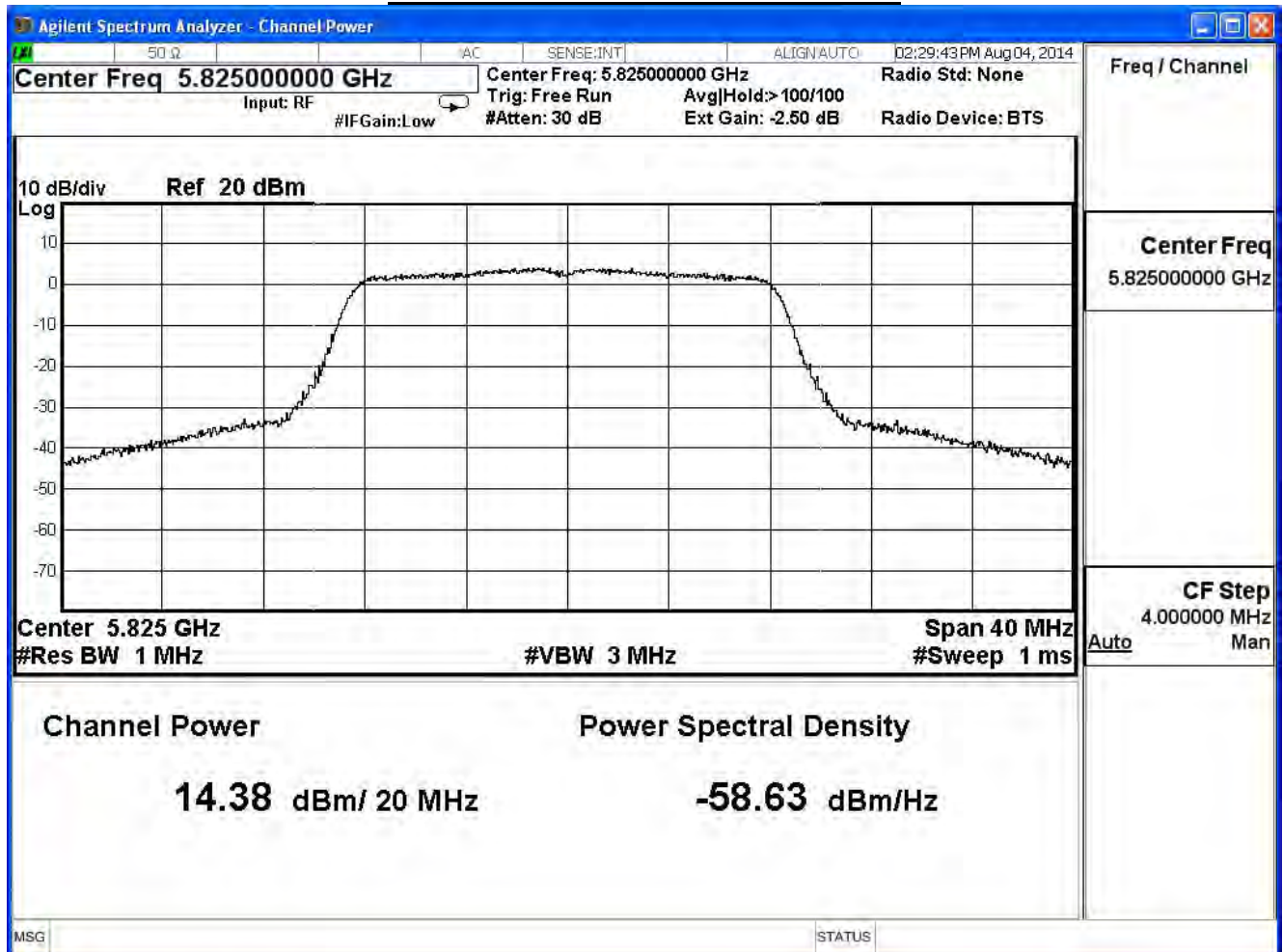
Peak transmit Power - Channel 149



Peak transmit Power - Channel 157



Peak transmit Power - Channel 165



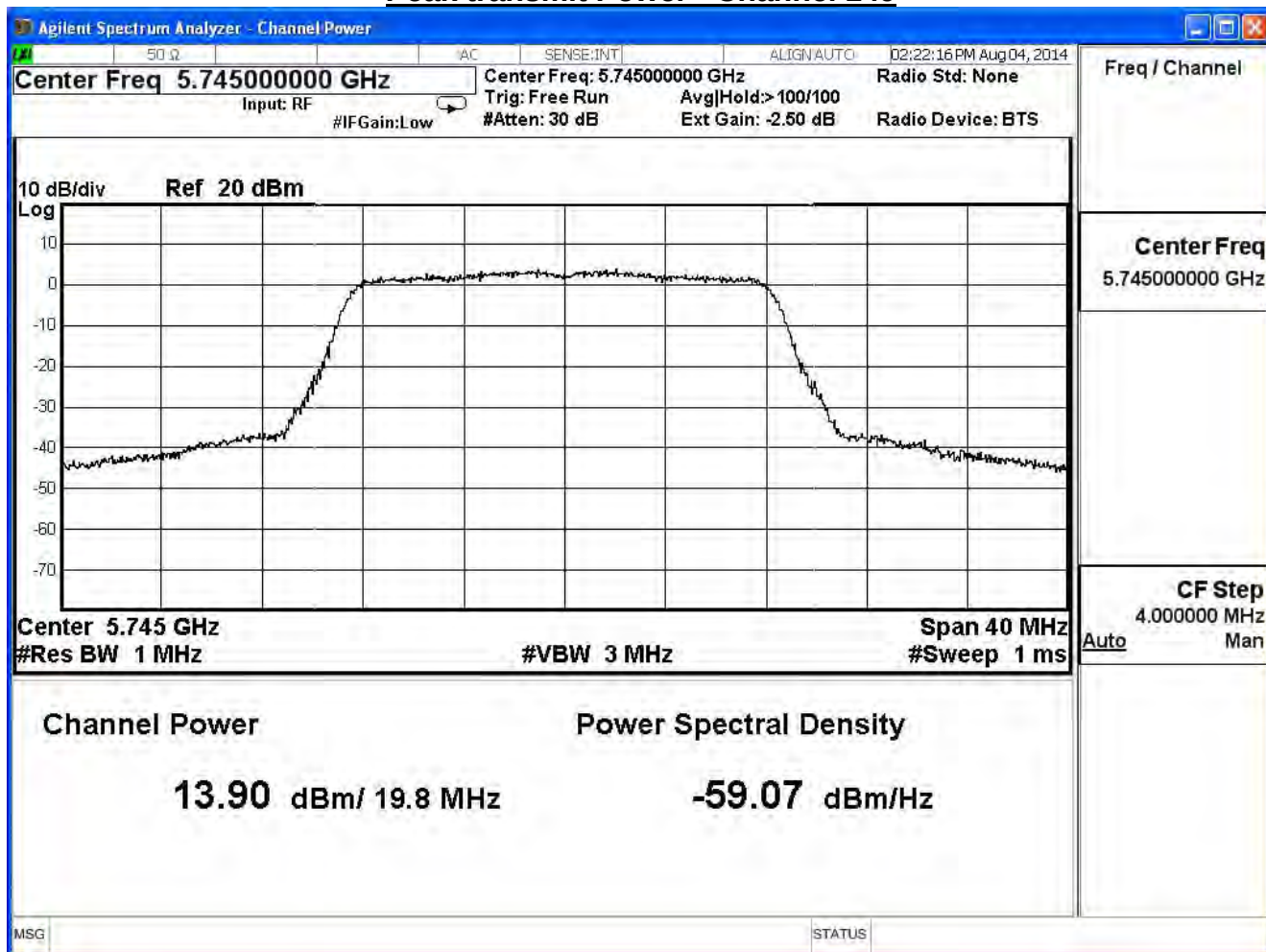
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

802.11a_ANT 1					
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
149	5745	19.80	13.900	≤ 30	Pass
157	5785	19.95	14.060	≤ 30	Pass
165	5825	19.92	13.860	≤ 30	Pass

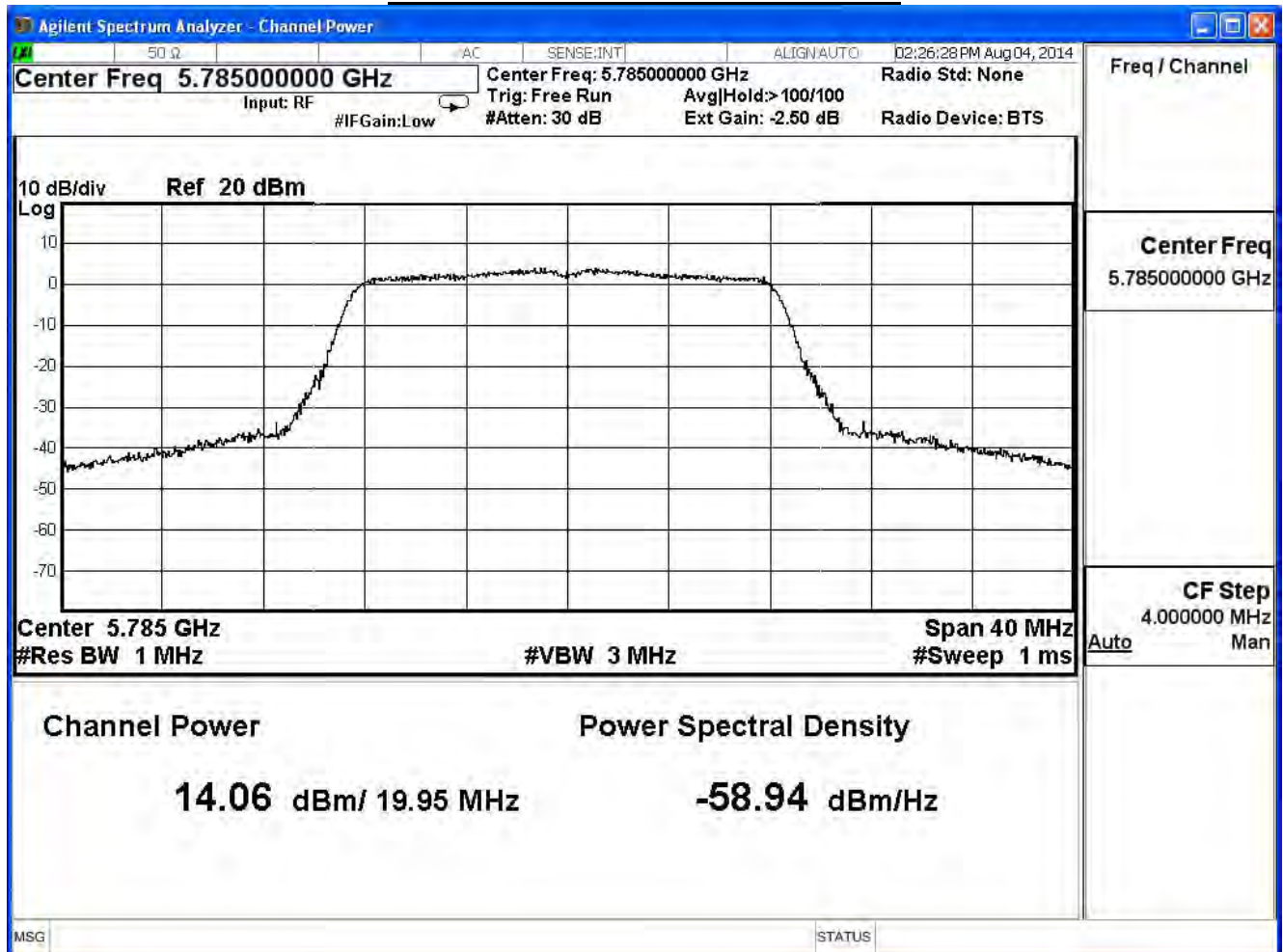
The worst emission of data rate is 6Mbps.

Peak Power Output (dBm)									
Channel No	Frequency (MHz)	Data Rate							Required Limit
		6	12	18	24	36	48	54	
149	5745	13.90	--	--	--	--	--	--	1 Watt=30dBm
157	5785	14.06	13.92	13.81	13.65	13.55	13.41	13.23	1 Watt=30dBm
165	5825	13.86	--	--	--	--	--	--	1 Watt=30dBm

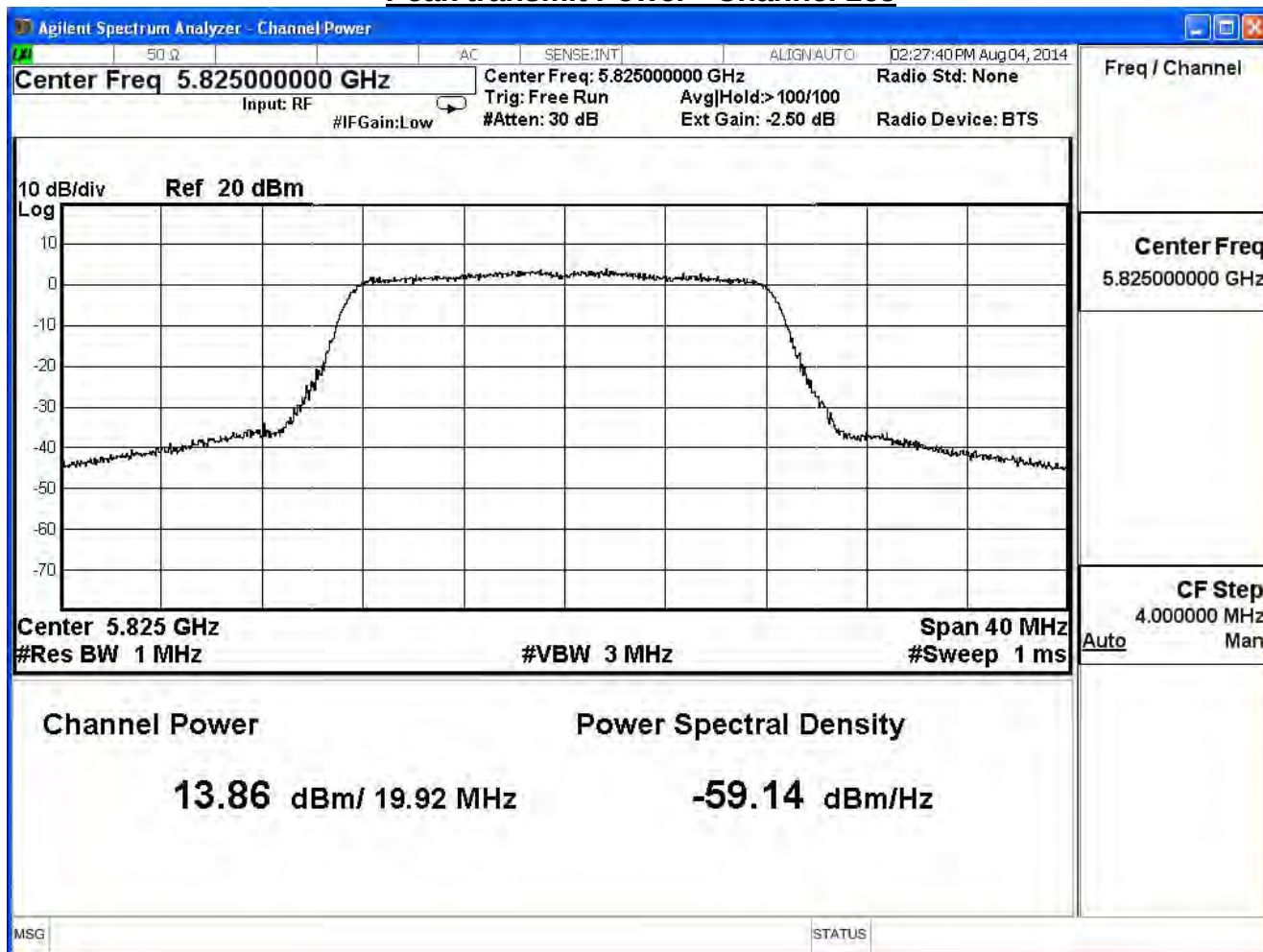
Peak transmit Power - Channel 149



Peak transmit Power - Channel 157



Peak transmit Power - Channel 165



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

802.11a_ANT 0+1					
Channel No.	Frequency (MHz)	Output Power (mW))	Output Power (dBm)	Required Limit	Result
149	5745	47.562	16.773	≤ 30	Pass
157	5785	52.508	17.202	≤ 30	Pass
165	5825	51.738	17.138	≤ 30	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	
149	5745	16.77	--	--	--	--	--	--	1 Watt=30dBm
157	5785	17.20	17.12	17.06	16.95	16.88	16.74	16.36	1 Watt=30dBm
165	5825	17.13	--	--	--	--	--	--	1 Watt=30dBm

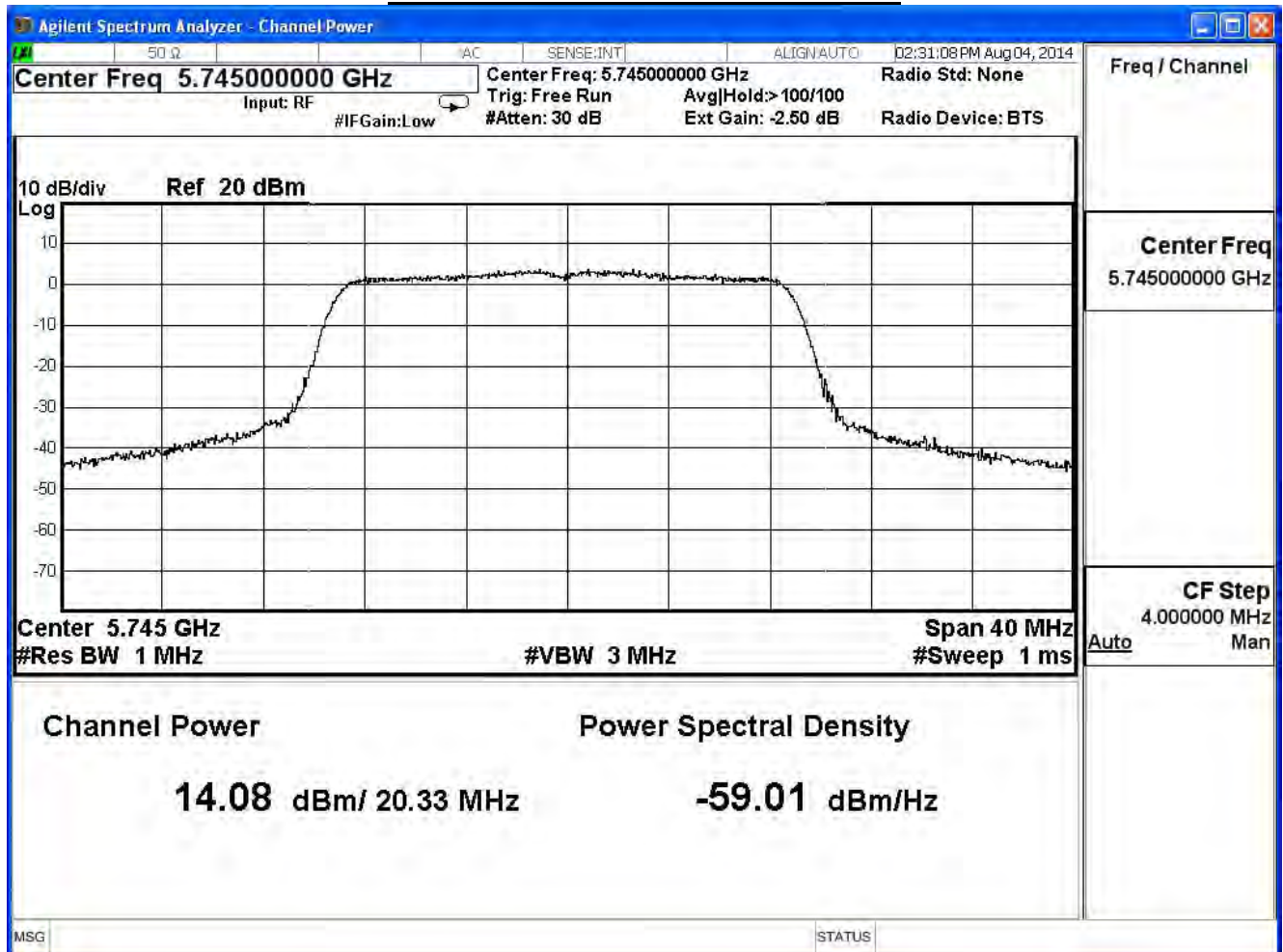
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n(20MHz)_ANT 0					
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
149	5745	20.33	14.080	≤ 30	Pass
157	5785	20.28	14.180	≤ 30	Pass
165	5825	20.42	14.250	≤ 30	Pass

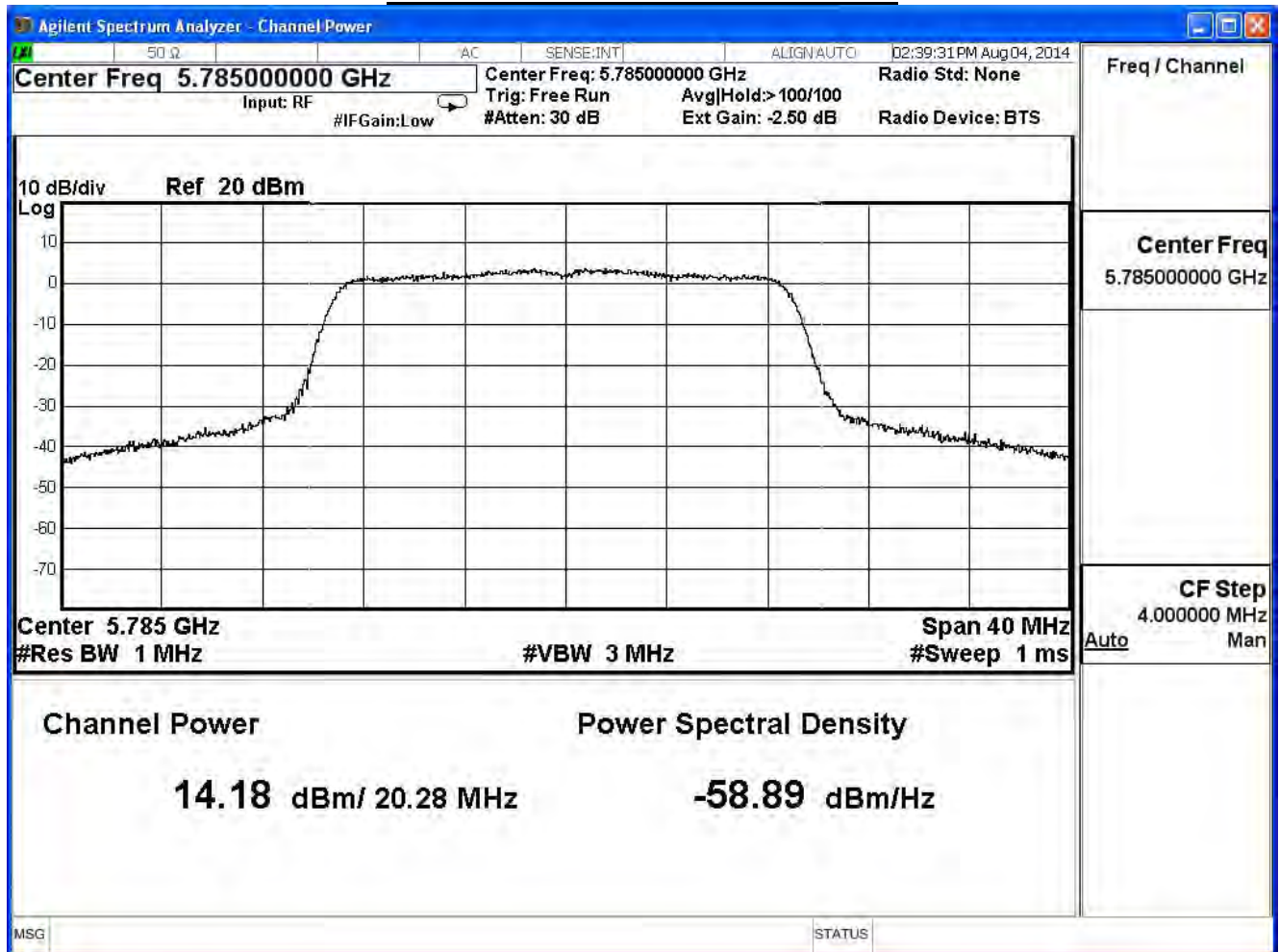
The worst emission of data rate is 6.5 Mbps.

Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		6.5	13	19.5	26	39	52	58.5	65	
149	5745	14.08	--	--	--	--	--	--	--	30dBm
157	5785	14.18	14.09	13.94	13.79	13.61	13.42	13.32	13.21	30dBm
165	5825	14.25	--	--	--	--	--	--	--	30dBm

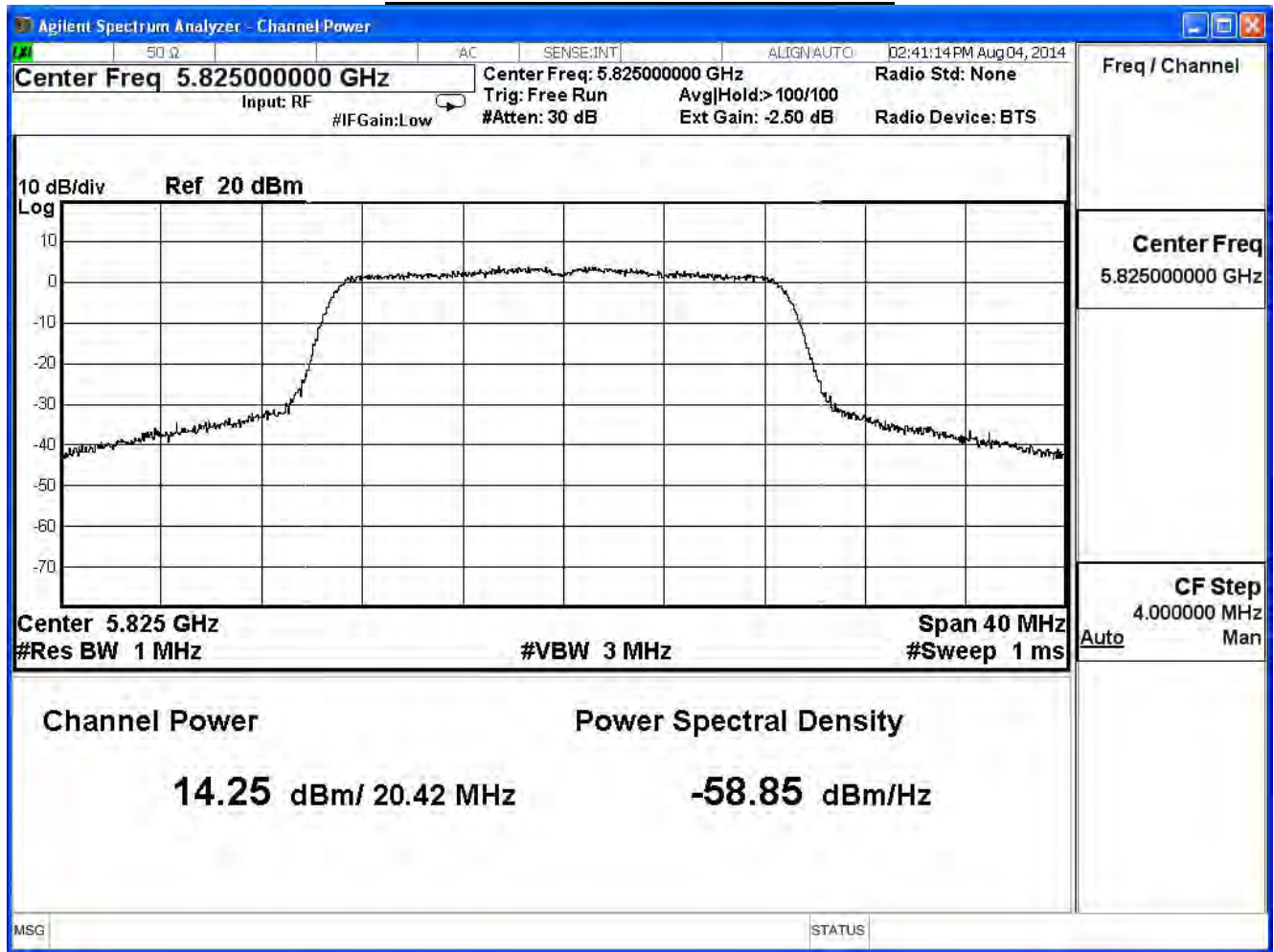
Peak transmit Power - Channel 149



Peak transmit Power - Channel 157



Peak transmit Power - Channel 165



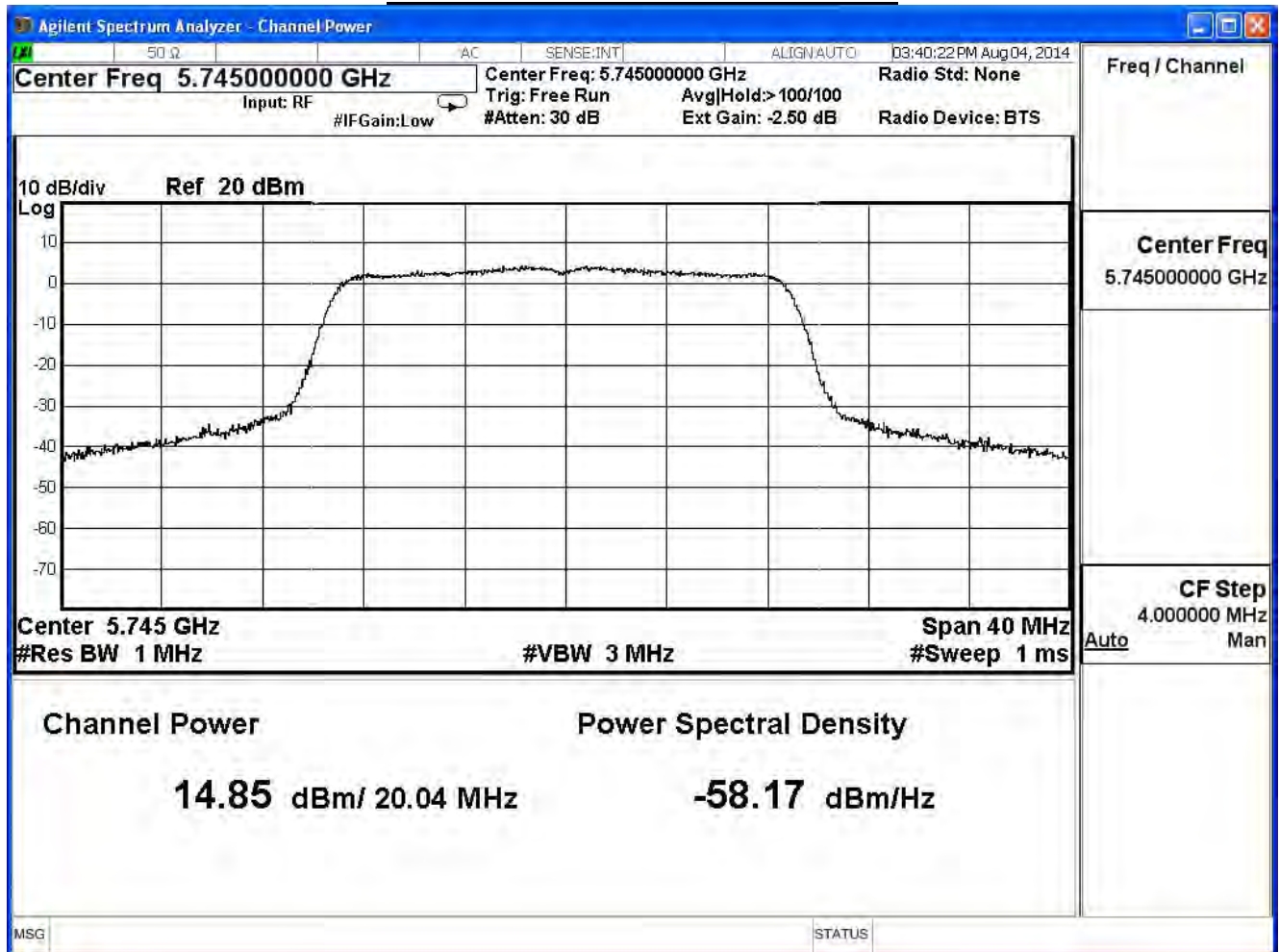
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n(20MHz)_ANT 1					
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
149	5745	20.04	14.850	≤ 30	Pass
157	5785	20.02	14.260	≤ 30	Pass
165	5825	19.95	14.260	≤ 30	Pass

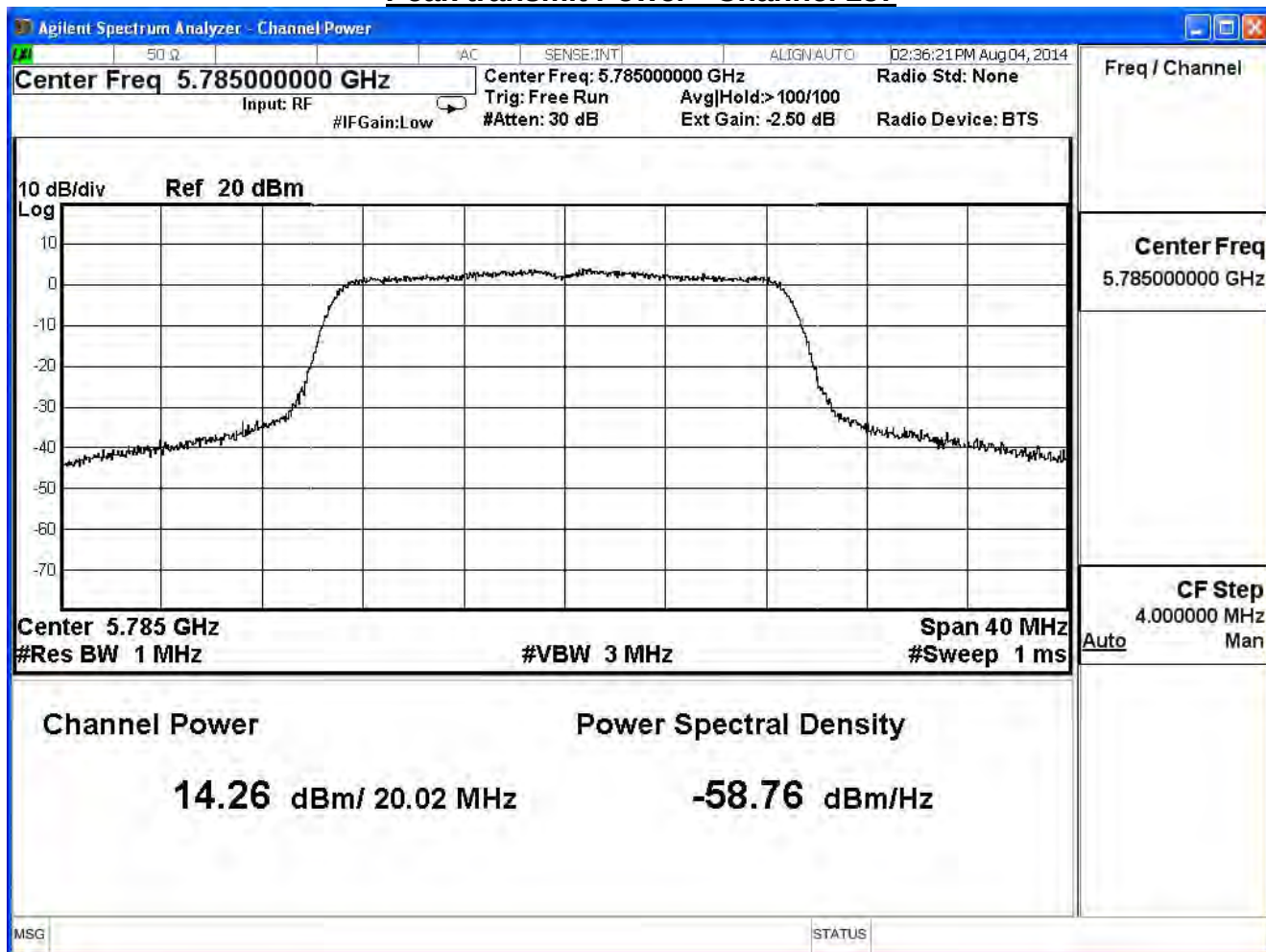
The worst emission of data rate is 6.5Mbps.

Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		6.5	13	19.5	26	39	52	58.5	65	
149	5745	14.85	--	--	--	--	--	--	--	30dBm
157	5785	14.26	14.12	14.09	13.86	13.74	13.64	13.54	13.25	30dBm
165	5825	14.26	--	--	--	--	--	--	--	30dBm

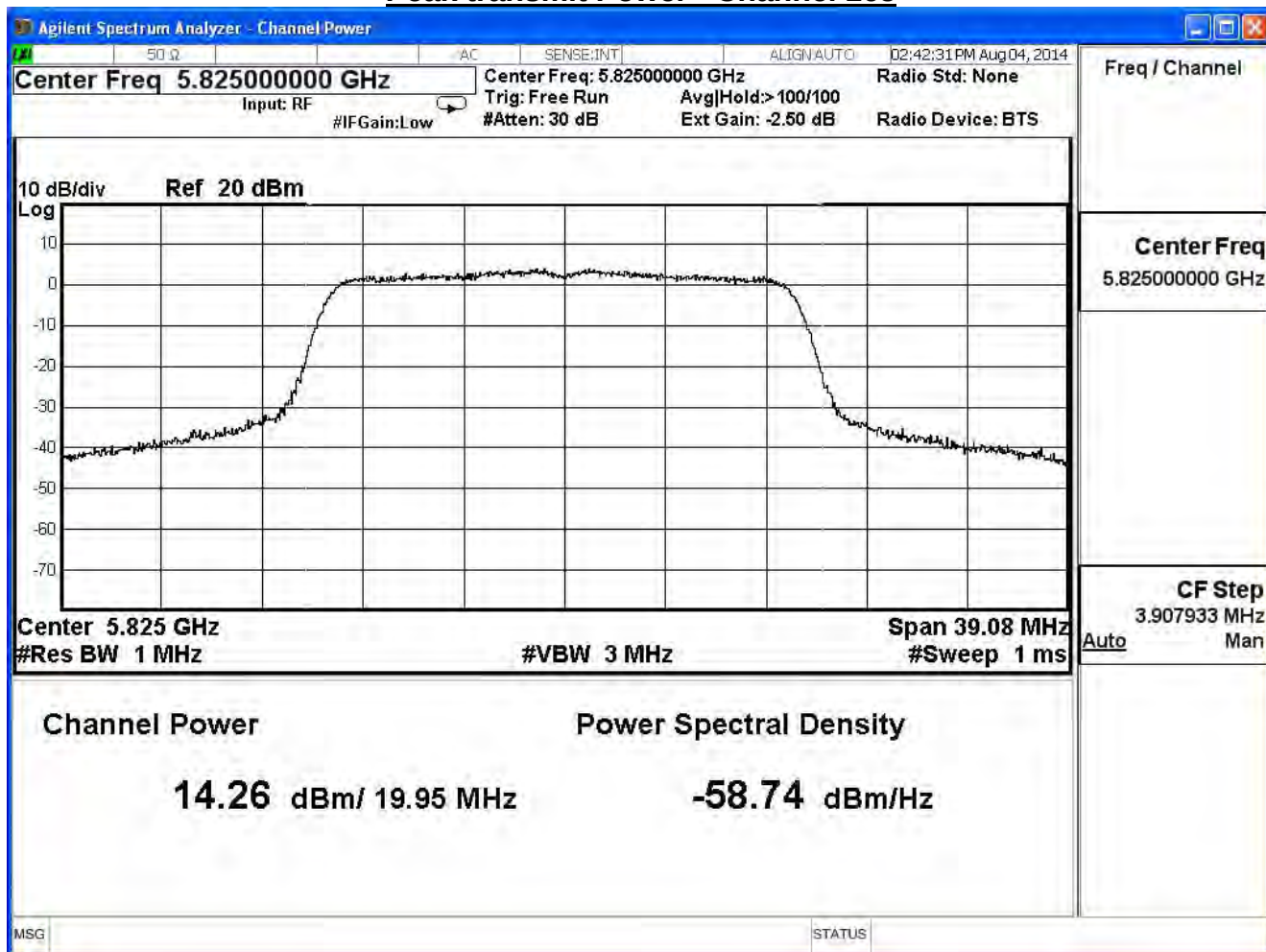
Peak transmit Power - Channel 149



Peak transmit Power - Channel 157



Peak transmit Power - Channel 165



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n(20MHz)_ANT 0+1					
Channel No.	Frequency (MHz)	Output Power (mW)	Output Power (dBm)	Required Limit	Result
149	5745	56.135	17.492	≤ 30	Pass
157	5785	52.850	17.230	≤ 30	Pass
165	5825	53.276	17.265	≤ 30	Pass

Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		6.5	13	19.5	26	39	52	58.5	65	
149	5745	17.49	--	--	--	--	--	--	--	30dBm
157	5785	17.23	17.12	17.03	16.82	13.64	13.49	13.23	13.05	30dBm
165	5825	17.26	--	--	--	--	--	--	--	30dBm

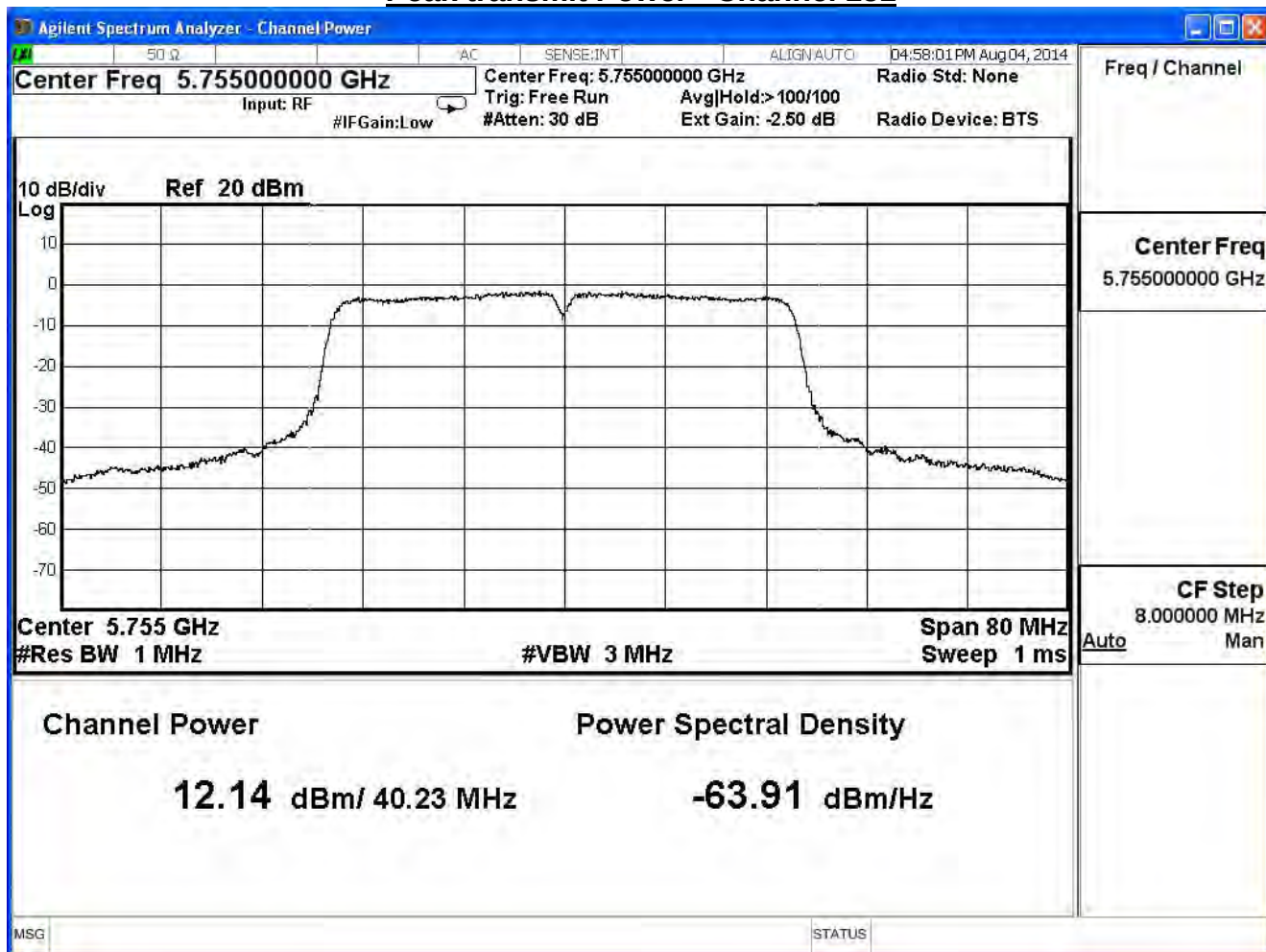
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n(40MHz)_ANT 0					
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
151	5755	40.23	12.140	≤ 30	Pass
159	5795	40.29	11.850	≤ 30	Pass

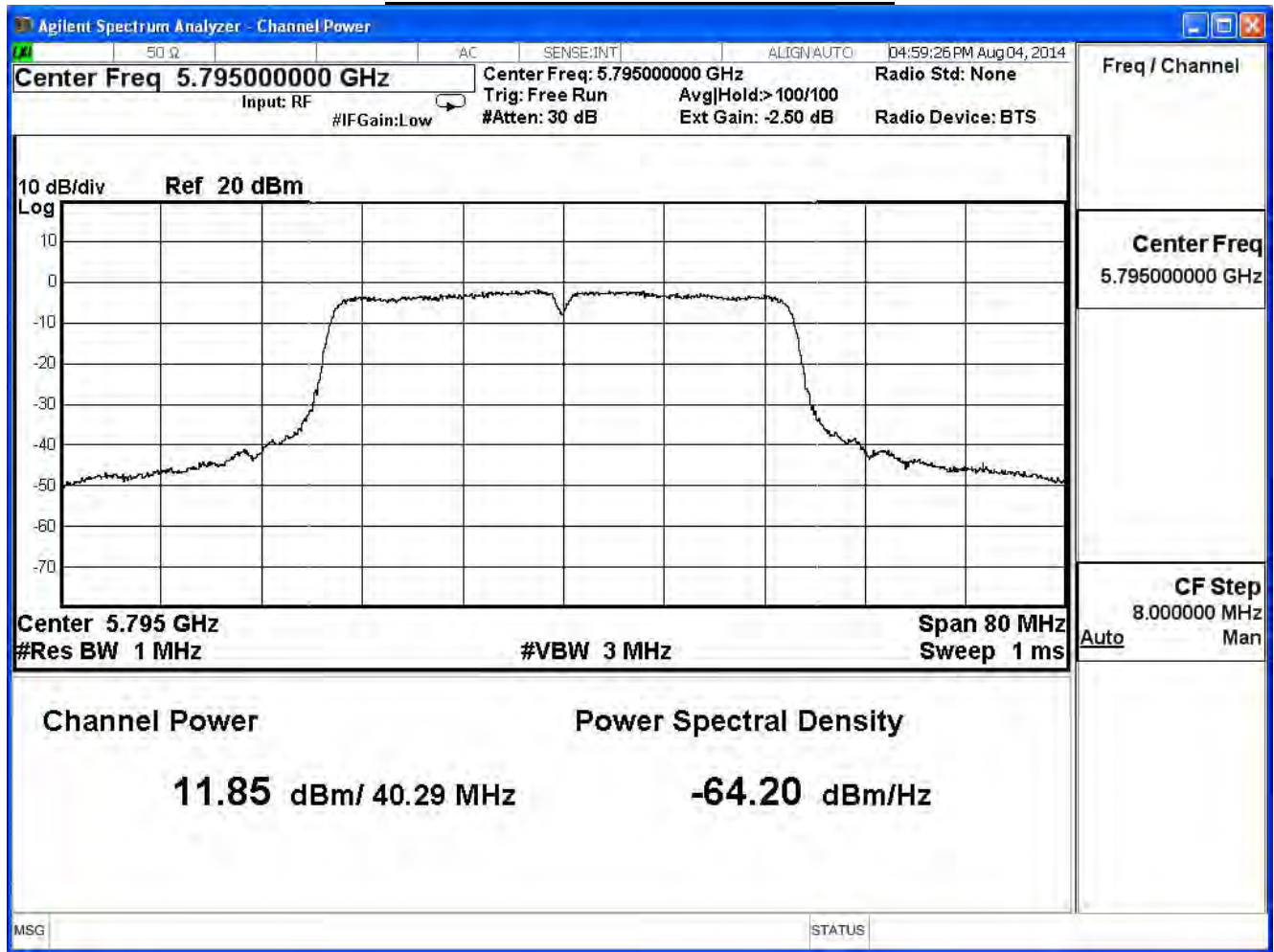
The worst emission of data rate is 13.5 Mbps.

Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		13.5	27	40.5	54	81	108	121.5	135	
151	5755	12.14	--	--	--	--	--	--	--	30dBm
159	5795	11.85	11.74	11.69	11.55	11.36	11.21	11.18	11.06	30dBm

Peak transmit Power - Channel 151



Peak transmit Power - Channel 159



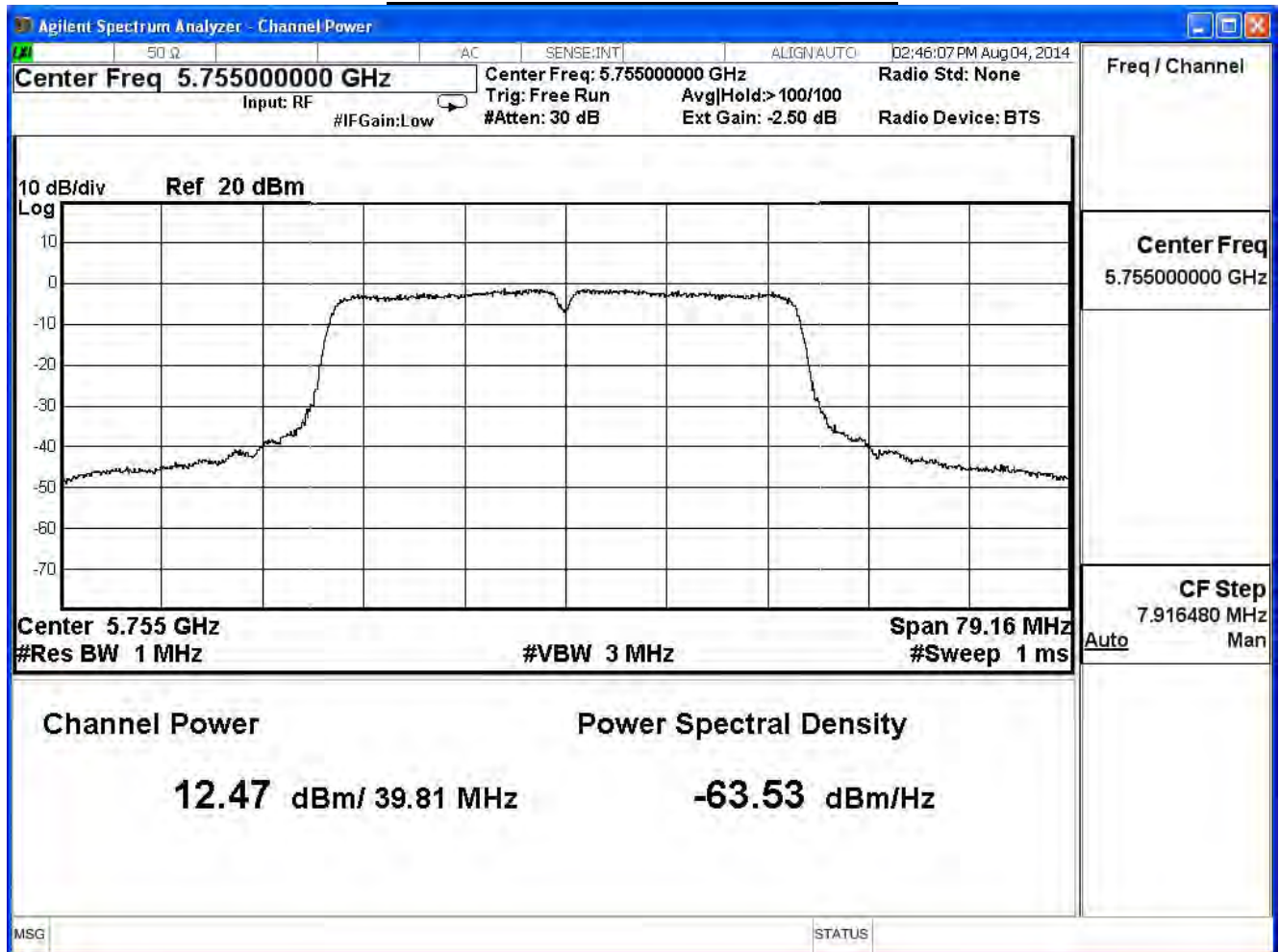
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n(40MHz)_ANT 1					
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
151	5755	39.81	12.470	≤ 30	Pass
159	5795	39.81	12.750	≤ 30	Pass

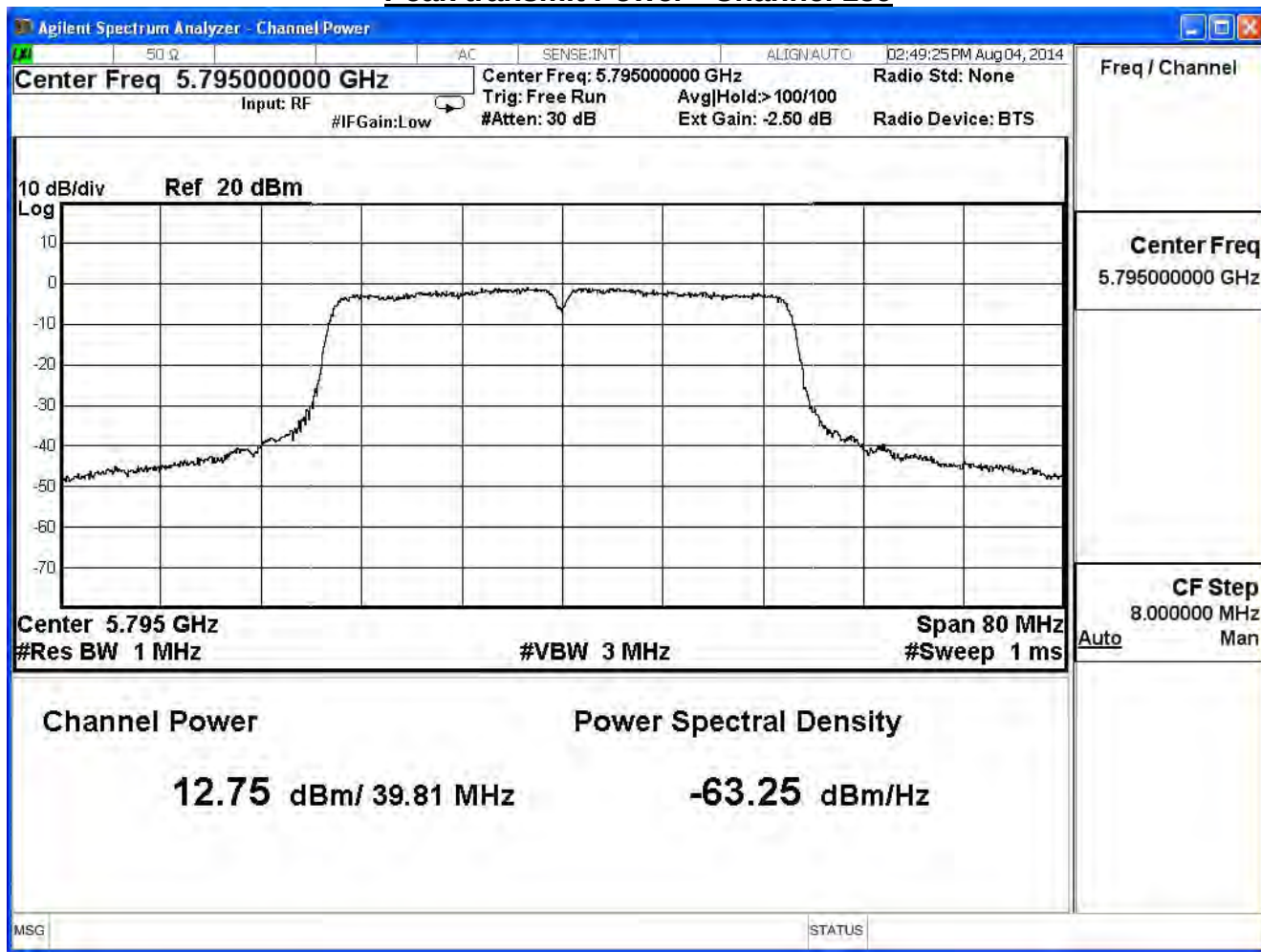
The worst emission of data rate is 13.5 Mbps.

Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		13.5	27	40.5	54	81	108	121.5	135	
151	5755	12.47	--	--	--	--	--	--	--	30dBm
159	5795	12.75	12.71	12.64	12.52	12.41	12.38	12.14	12.06	30dBm

Peak transmit Power - Channel 151



Peak transmit Power - Channel 159



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n(40MHz)_ANT 0+1					
Channel No.	Frequency (MHz)	Output Power (mW)	Output Power (dBm)	Required Limit	Result
151	5755	35.078	15.318	≤ 30	Pass
159	5795	35.017	15.334	≤ 30	Pass

Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		13.5	27	40.5	54	81	108	121.5	135	
151	5755	15.31	--	--	--	--	--	--	--	30dBm
159	5795	15.33	15.23	15.17	15.08	14.94	14.77	14.62	14.54	30dBm

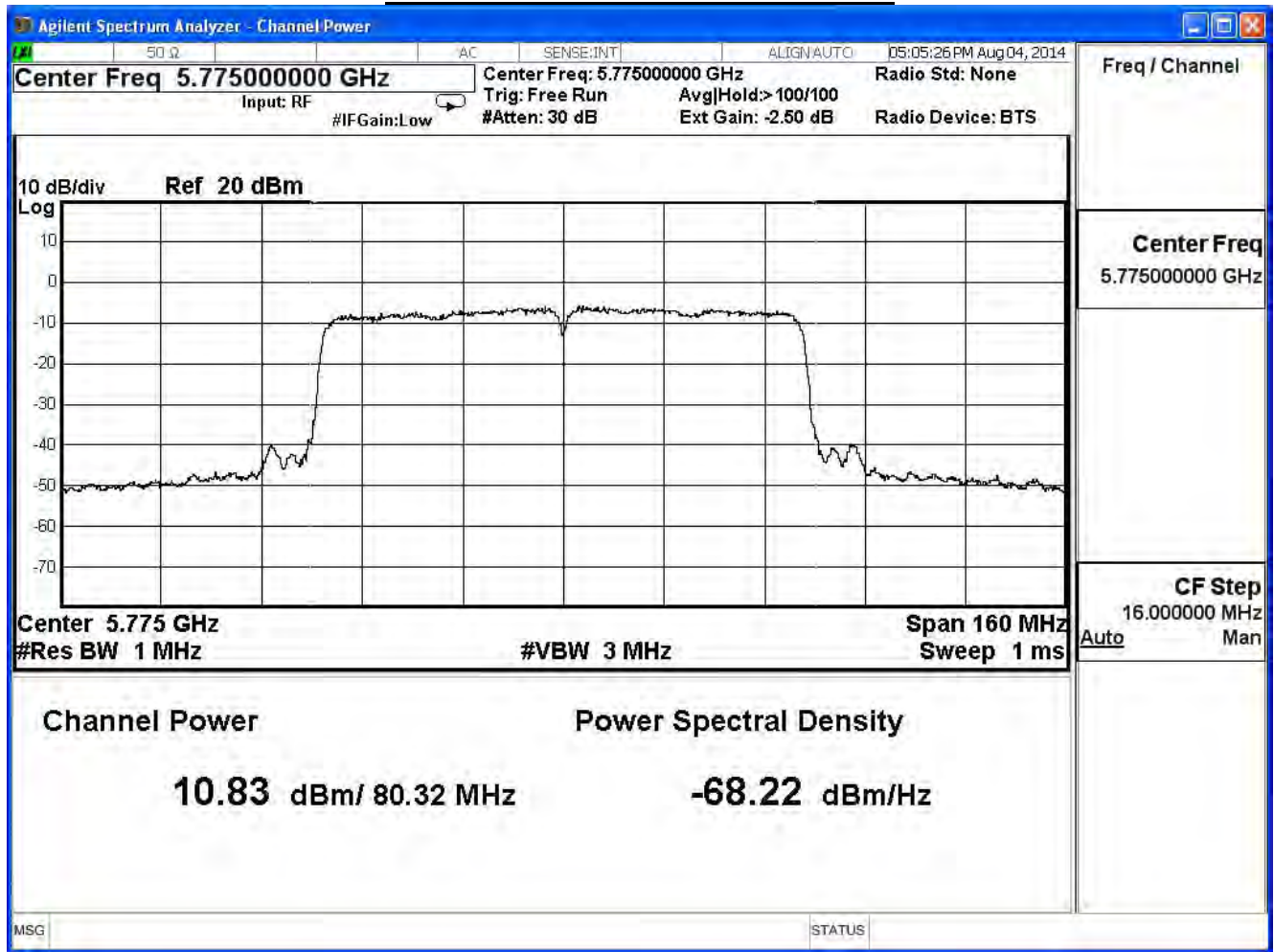
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11ac(80MHz)_ANT 0					
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
155	5775	80.32	10.830	≤ 30	Pass

The worst emission of data rate is 29.3 Mbps.

Peak Power Output (dBm)											
MCS Index		0	1	2	3	4	5	6	7	8	9
Channel No	Frequency (MHz)	Data Rate									
		29.3	58.5	87.8	117	175.5	234	263.3	292.5	351	390
155	5775	10.83	10.74	10.66	10.52	10.34	10.28	10.17	10.11	10.08	9.84

Peak transmit Power - Channel 155



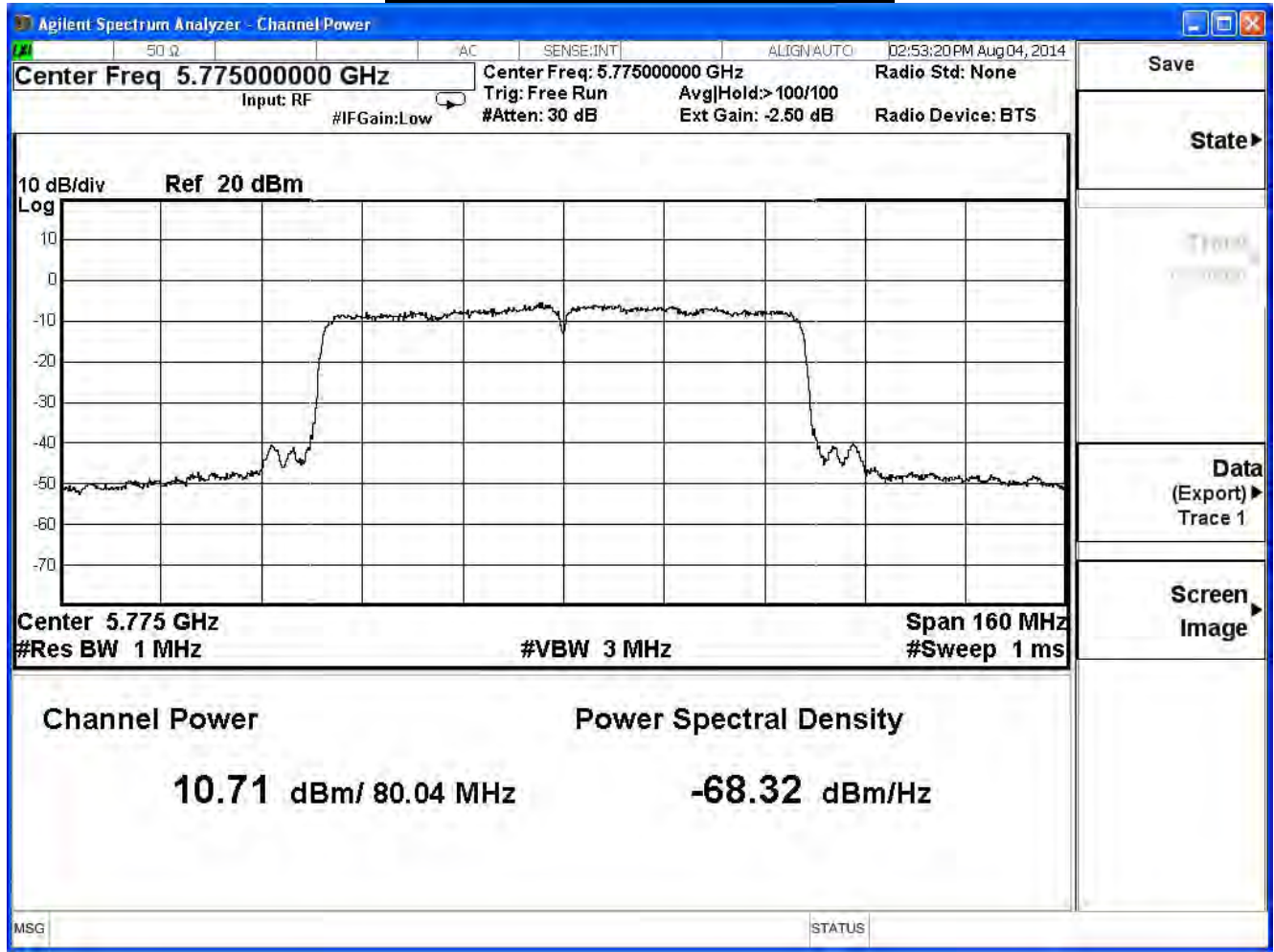
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11ac(80MHz)_ANT 1					
Channel No.	Frequency (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Required Limit	Result
155	5775	80.04	10.710	≤ 30	Pass

The worst emission of data rate is 29.3 Mbps.

Peak Power Output (dBm)											
MCS Index		0	1	2	3	4	5	6	7	8	9
Channel No	Frequency (MHz)	Data Rate									
		29.3	58.5	87.8	117	175.5	234	263.3	292.5	351	390
155	5775	10.71	10.64	10.51	10.36	10.20	10.18	9.81	9.74	9.52	9.41

Peak transmit Power - Channel 155



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Transmit Output		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11ac(80MHz)_ANT 0+1					
Channel No.	Frequency (MHz)	Output Power (mW)	Output Power (dBm)	Required Limit	Result
155	5775	23.743	13.781	≤ 30	Pass

Peak Power Output (dBm)											
MCS Index		0	1	2	3	4	5	6	7	8	9
Channel No	Frequency (MHz)	Data Rate									
		29.3	58.5	87.8	117	175.5	234	263.3	292.5	351	390
155	5775	13.78	13.63	13.53	13.33	13.18	13.03	12.91	12.67	12.49	12.31

5. Peak Power Spectrum Density

5.1. Test Equipment

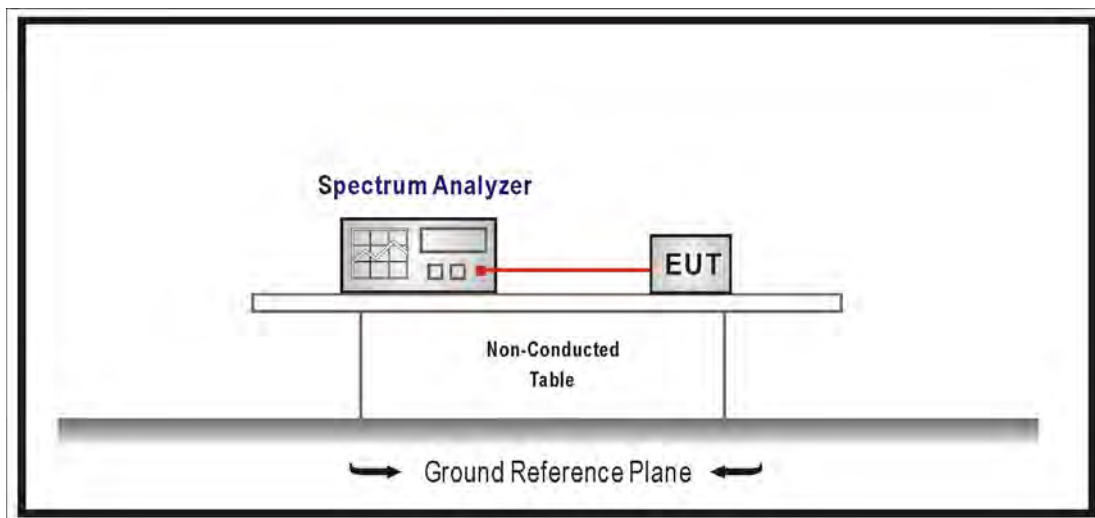
The following test equipments are used during the radiated emission tests:

Peak Power Spectrum Density / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2015/07/14

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

5.2. Test Setup



5.3. Limits

1. For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 11 dBm in any 1MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
2. For the band 5.25-5.35 GHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
3. For the band 5.725-5.850 GHz, the peak power spectral density shall not exceed 30 dBm in any 500KHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

5.4. Test Procedure

The EUT was setup to ANSI C63.10:2013; tested to U-NII test procedure of KDB 789033 for compliance to FCC 47CFR Subpart E requirements.

For Band1 : Set RBW=1MHz, VBW=3MHz with RMS detector. The PPSD is the highest level found across the emission in any 1-MHz band after 100 sweeps of averaging.

For Band4 : Set RBW=500KHz, VBW=1.5MHz with RMS detector. The PPSD is the highest level found across the emission in any 500KHz band after 100 sweeps of averaging.

5.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

5.6. Test Result

Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

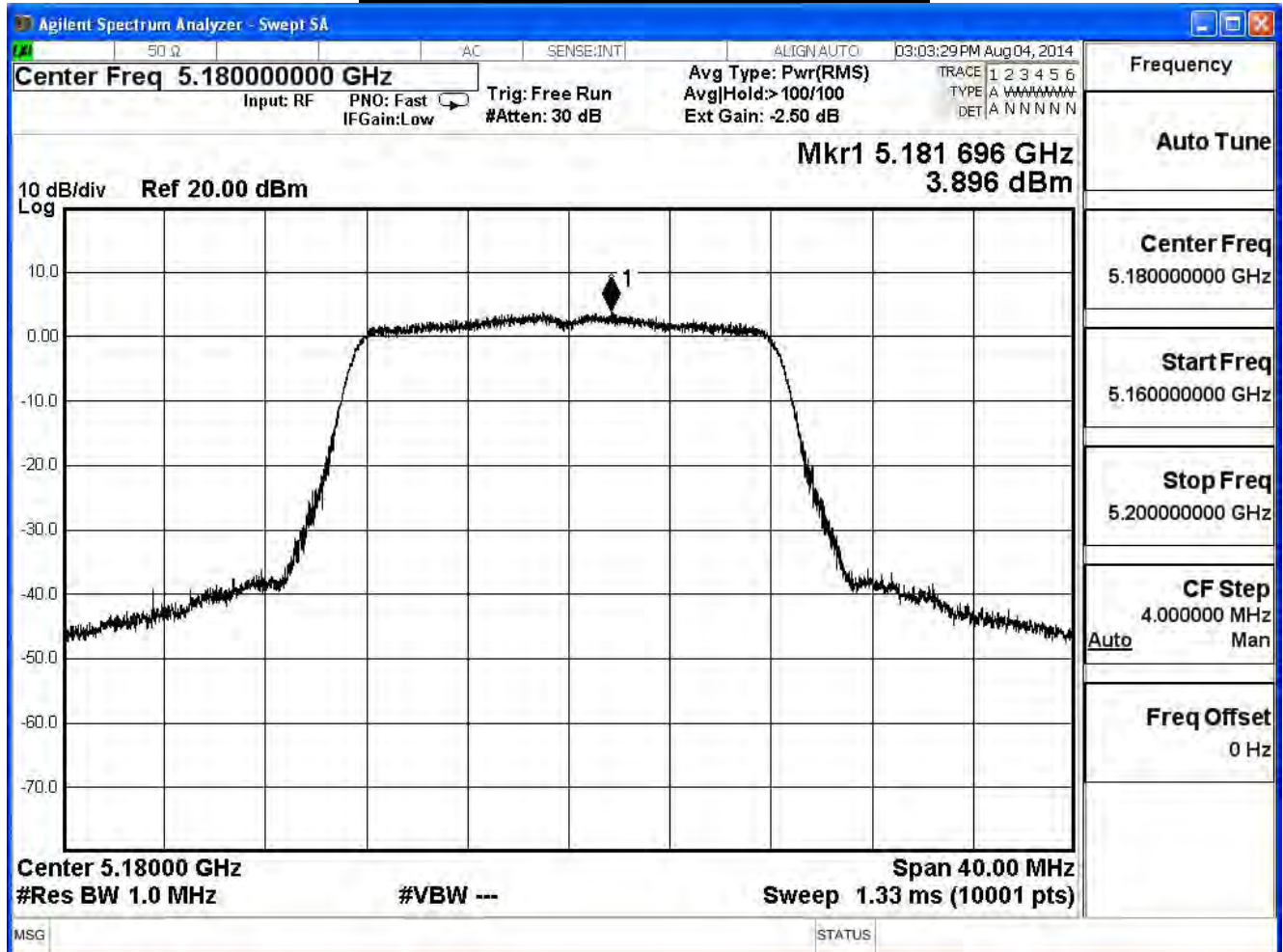
IEEE 802.11a(ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
36	5180	3.896	≤ 10.96	Pass
44	5220	3.564	≤ 10.96	Pass
48	5240	3.994	≤ 10.96	Pass

Note:

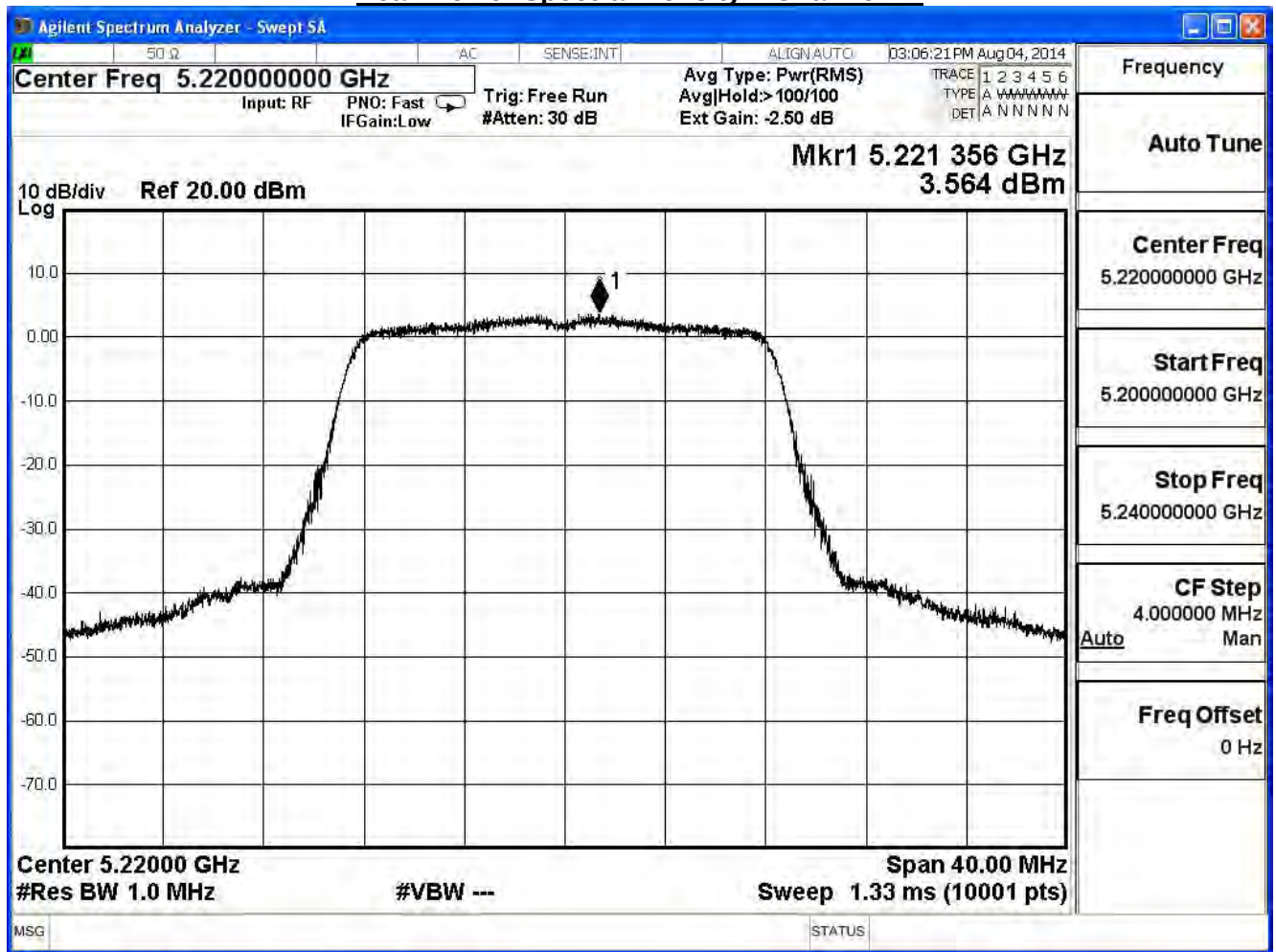
Directional Antenna=10log(N)+Max Gain=6.04dBi

Required Limit=11dBm-(6.04dBi-6dB)=10.96dBm

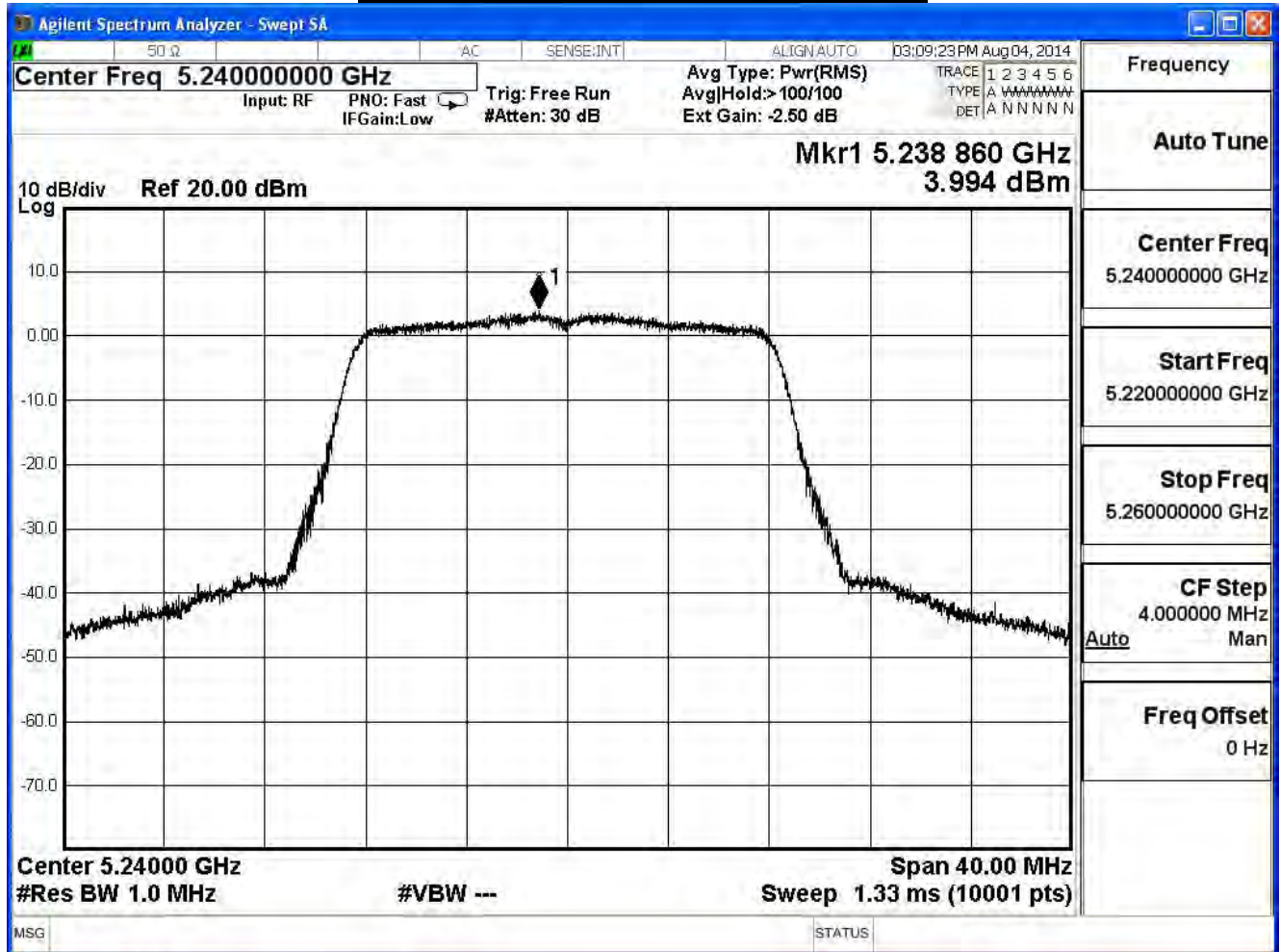
Peak Power Spectral Density – Channel 36



Peak Power Spectral Density – Channel 44



Peak Power Spectral Density – Channel 48



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

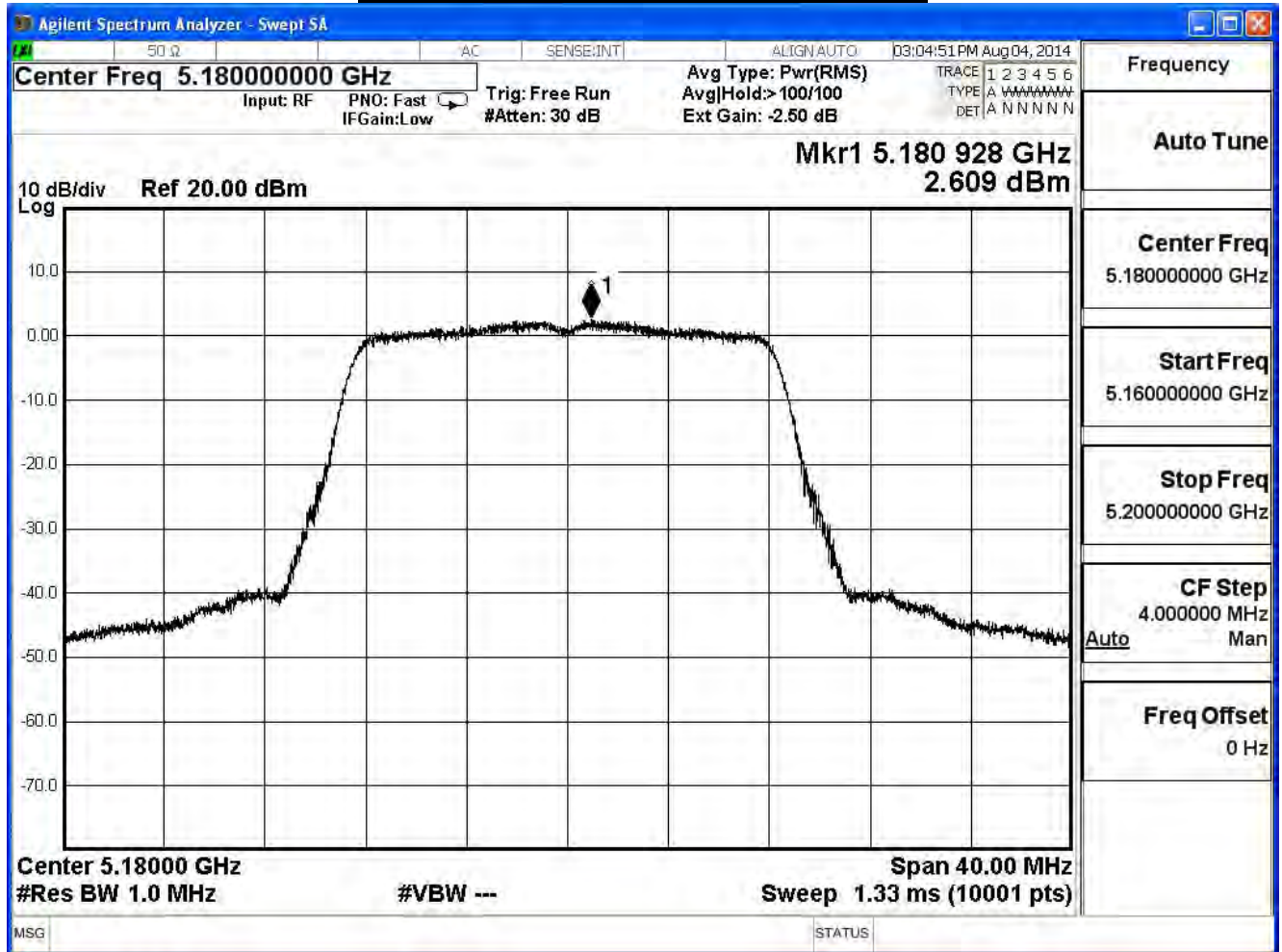
IEEE 802.11a(ANT 1)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
36	5180	2.609	≤ 10.96	Pass
44	5220	2.460	≤ 10.96	Pass
48	5240	2.307	≤ 10.96	Pass

Note:

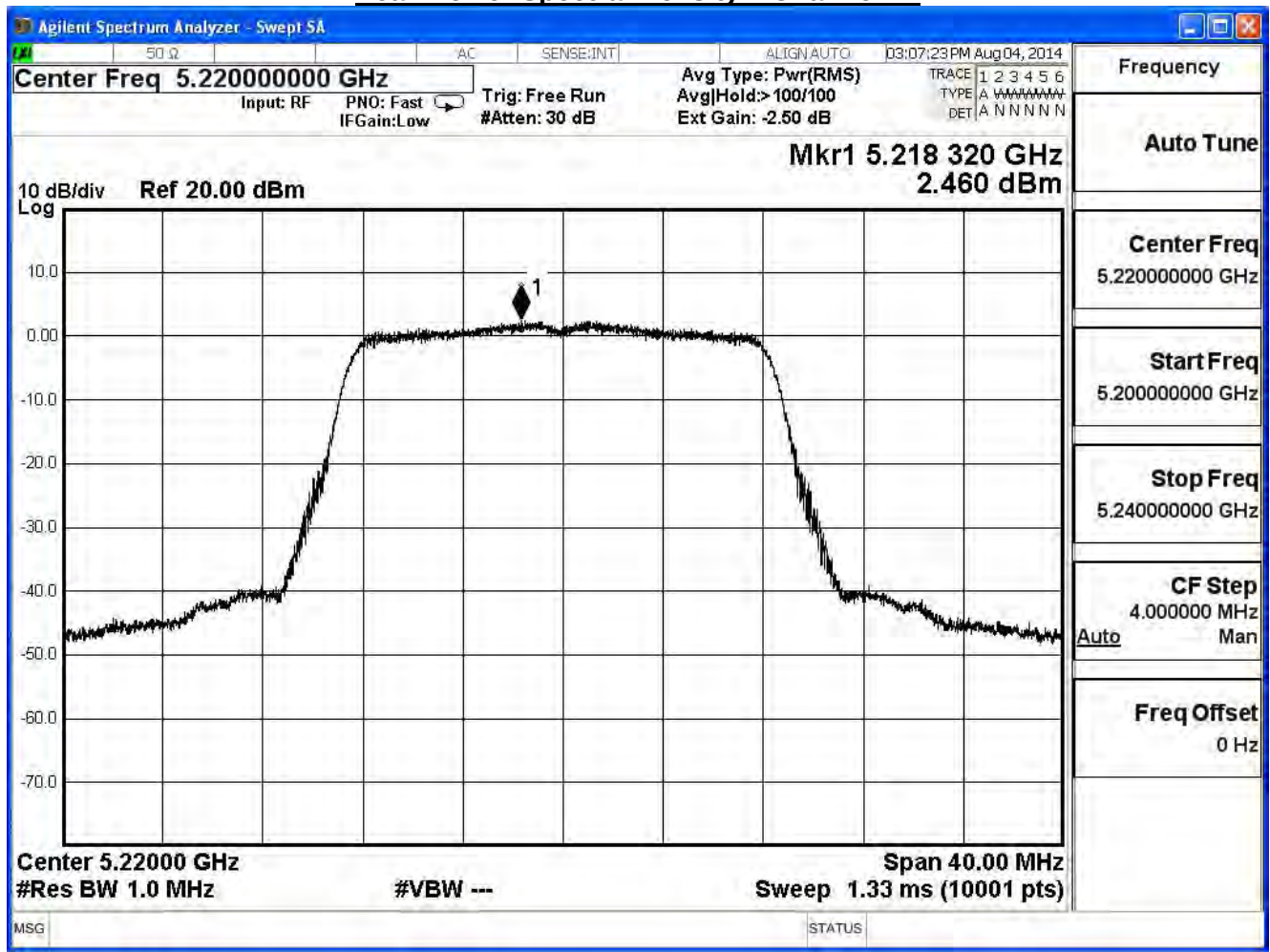
Directional Antenna= $10\log(N)$ +Max Gain=6.04dBi

Required Limit=11dBm-(6.04dBi-6dB)=10.96dBm

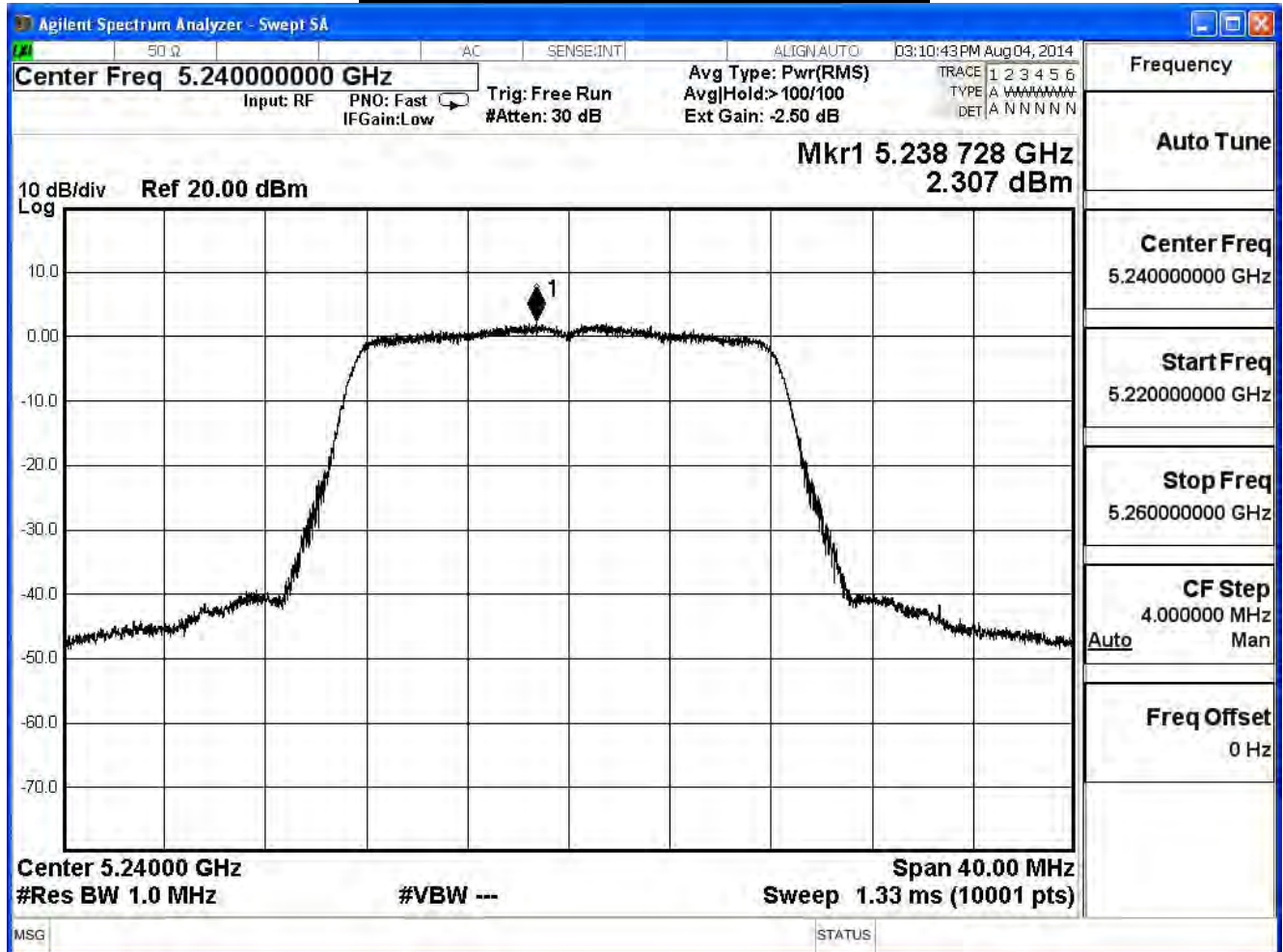
Peak Power Spectral Density – Channel 36



Peak Power Spectral Density – Channel 44



Peak Power Spectral Density – Channel 48



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11a(ANT 0+1)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
36	5180	6.310	≤ 10.96	Pass
44	5220	6.057	≤ 10.96	Pass
48	5240	6.242	≤ 10.96	Pass

Note:

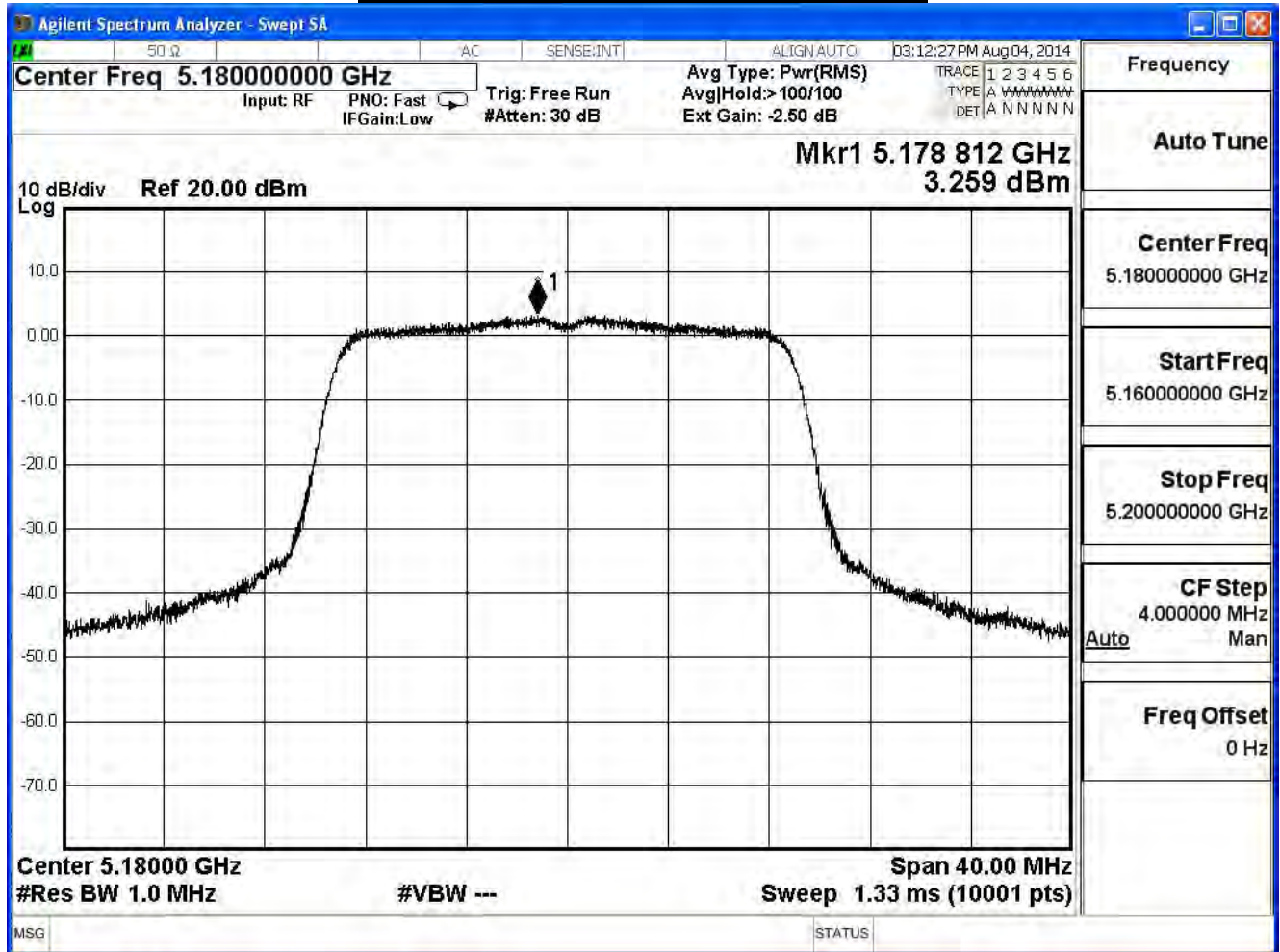
Directional Antenna= $10\log(N)$ +Max Gain=6.04dBi

Required Limit=11dBm-(6.04dBi-6dB)=10.96dBm

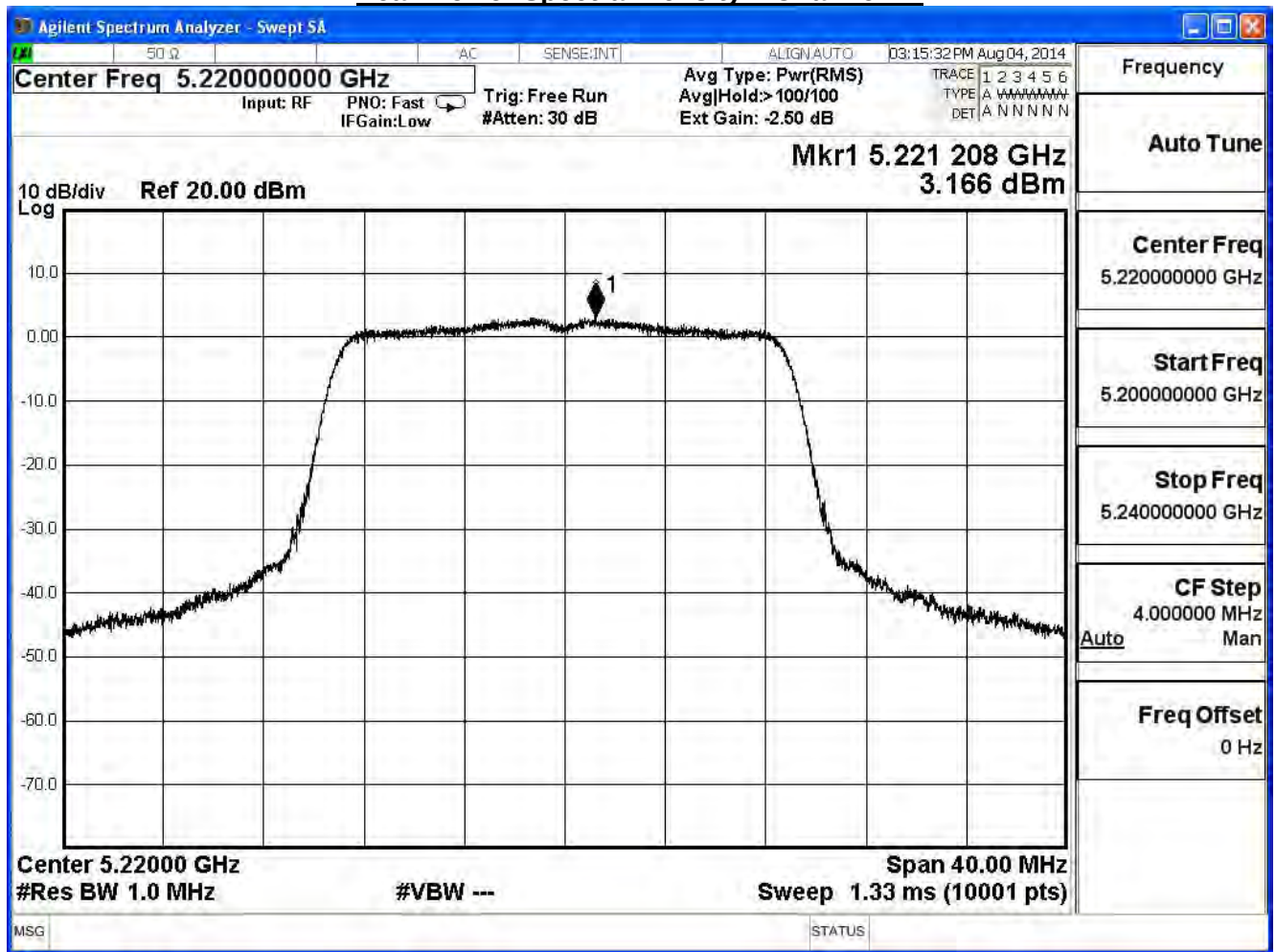
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n_20M(ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
36	5180	3.259	≤ 11	Pass
44	5220	3.166	≤ 11	Pass
48	5240	2.880	≤ 11	Pass

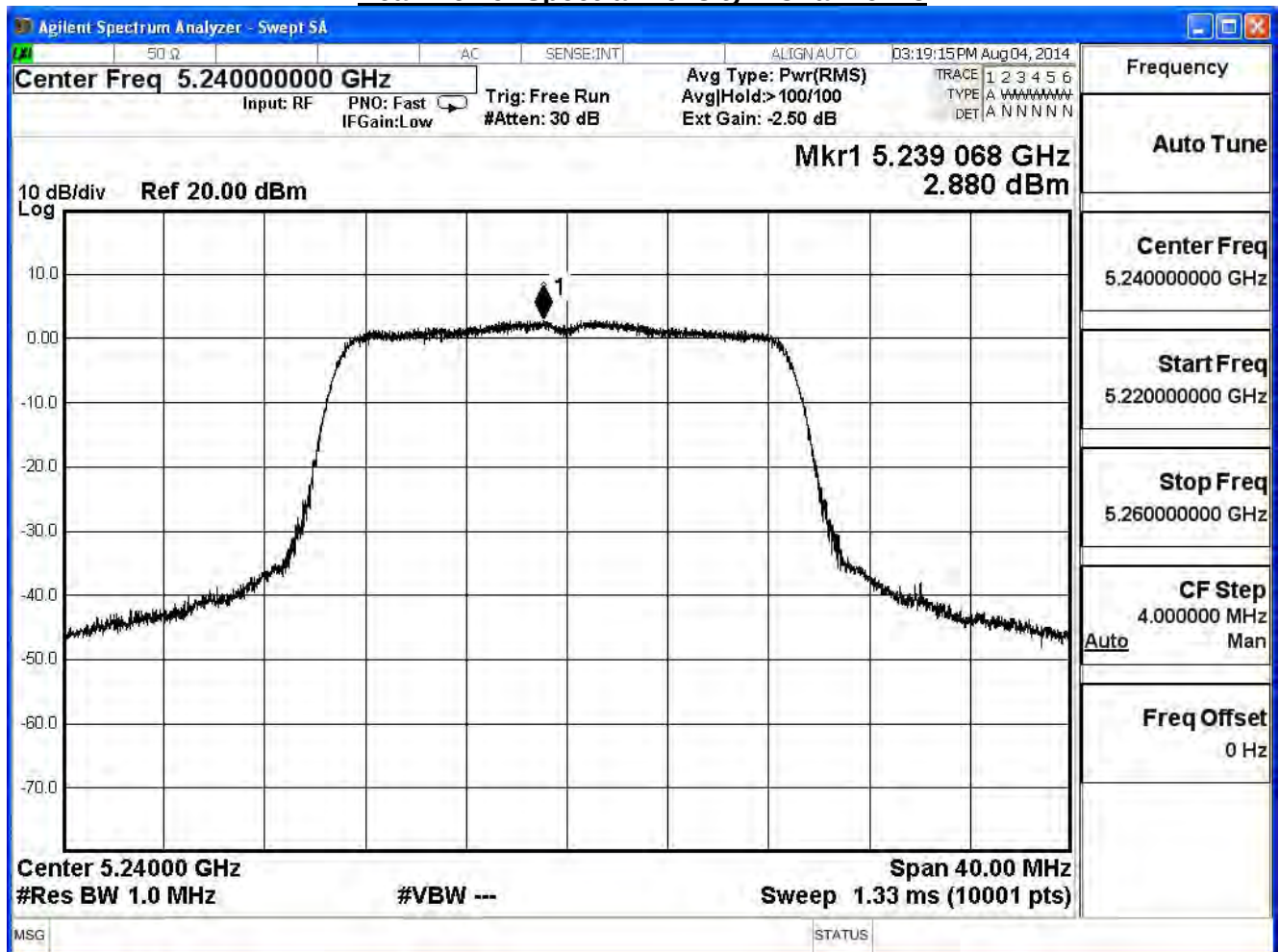
Peak Power Spectral Density – Channel 36



Peak Power Spectral Density – Channel 44



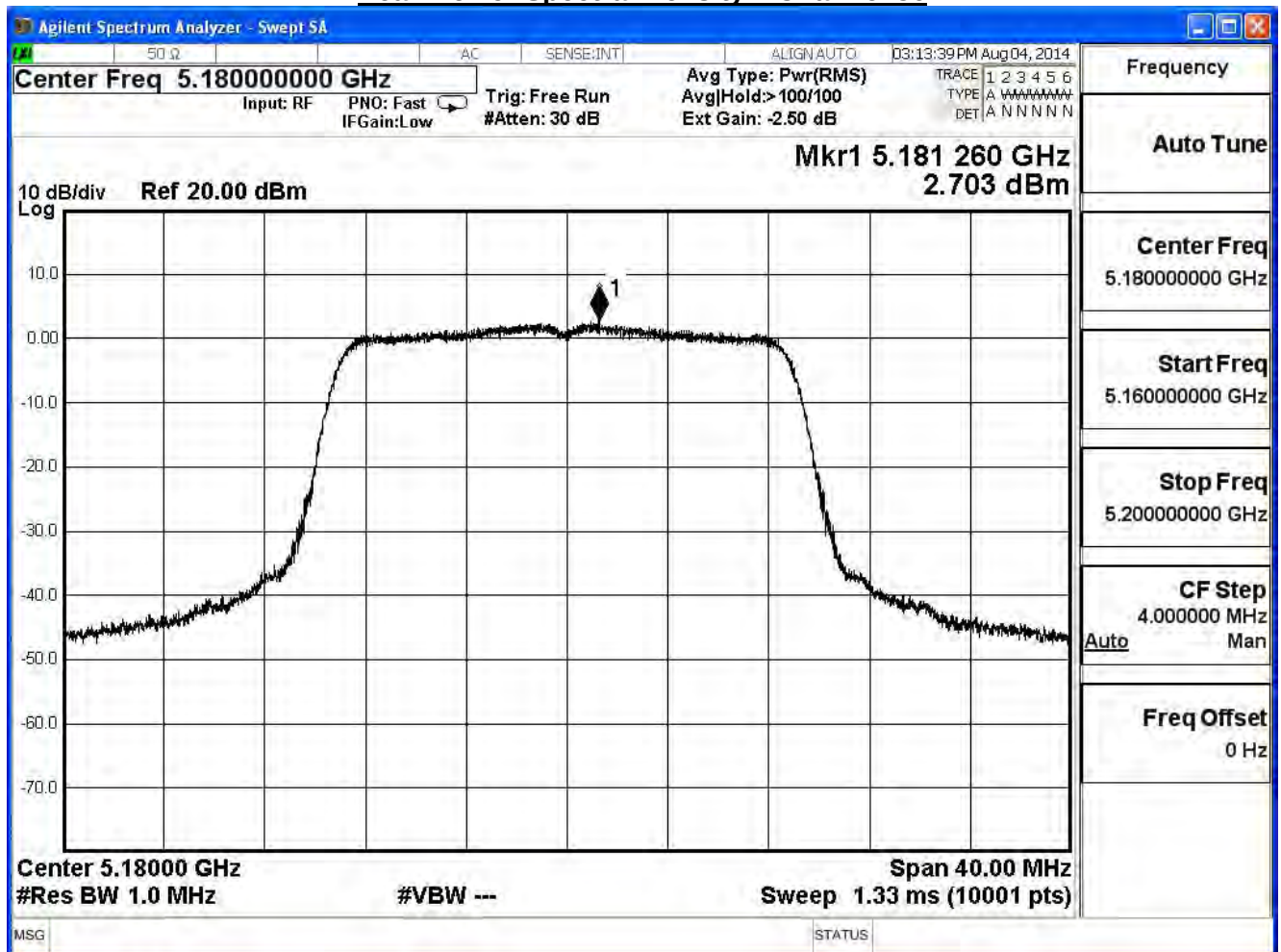
Peak Power Spectral Density – Channel 48



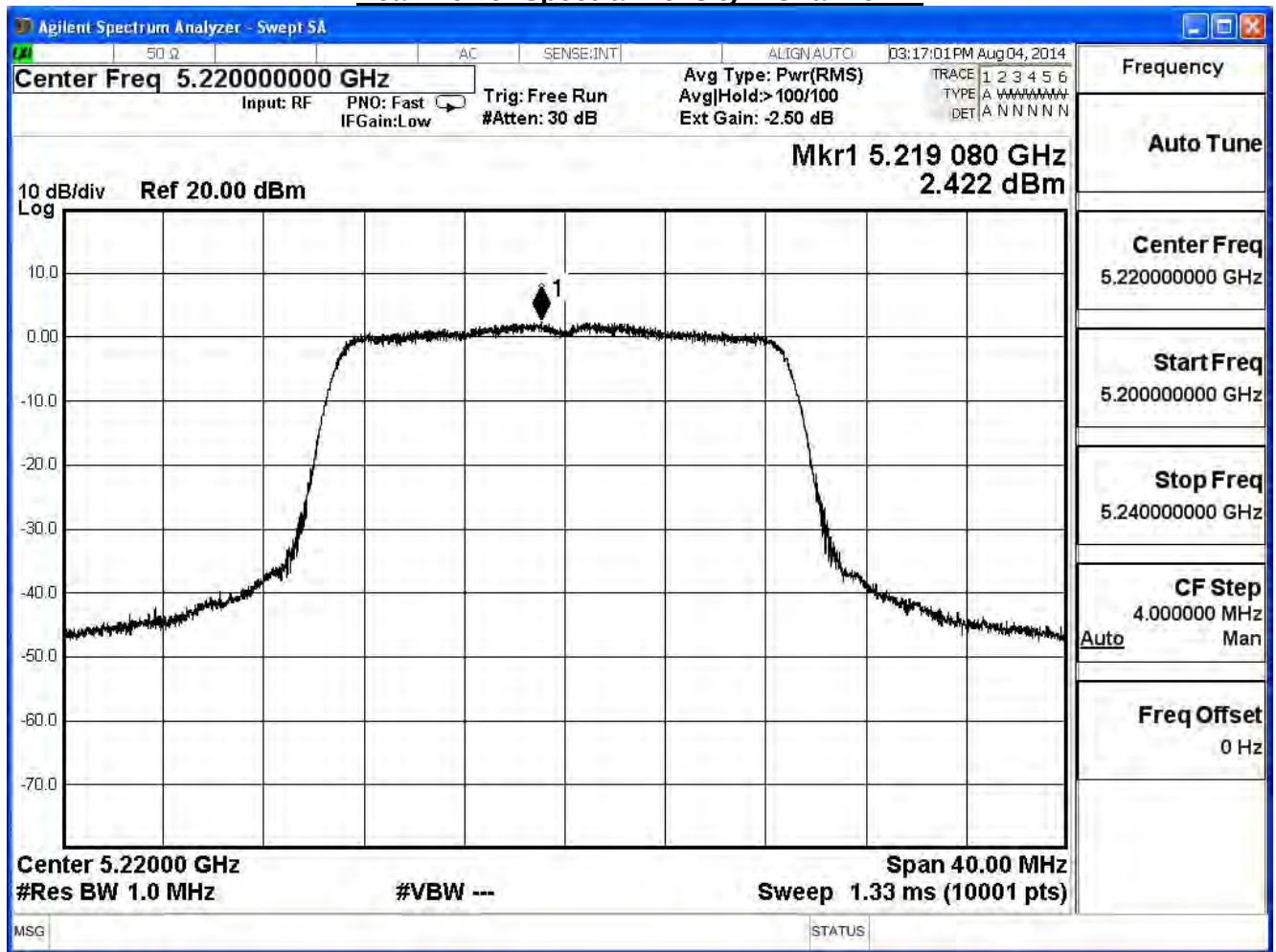
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n_20M(ANT 1)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
36	5180	2.703	≤ 11	Pass
44	5220	2.422	≤ 11	Pass
48	5240	2.024	≤ 11	Pass

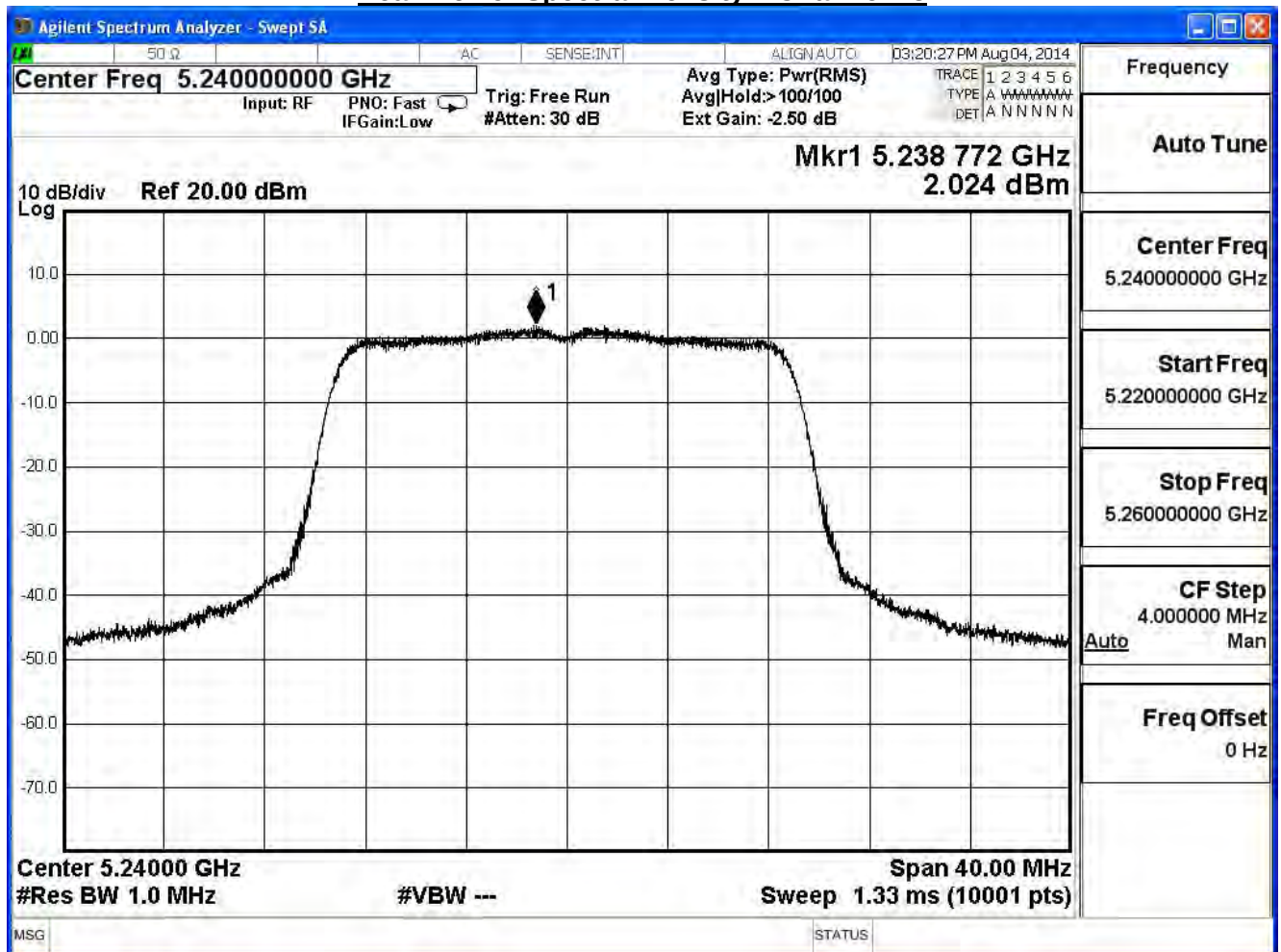
Peak Power Spectral Density – Channel 36



Peak Power Spectral Density – Channel 44



Peak Power Spectral Density – Channel 48



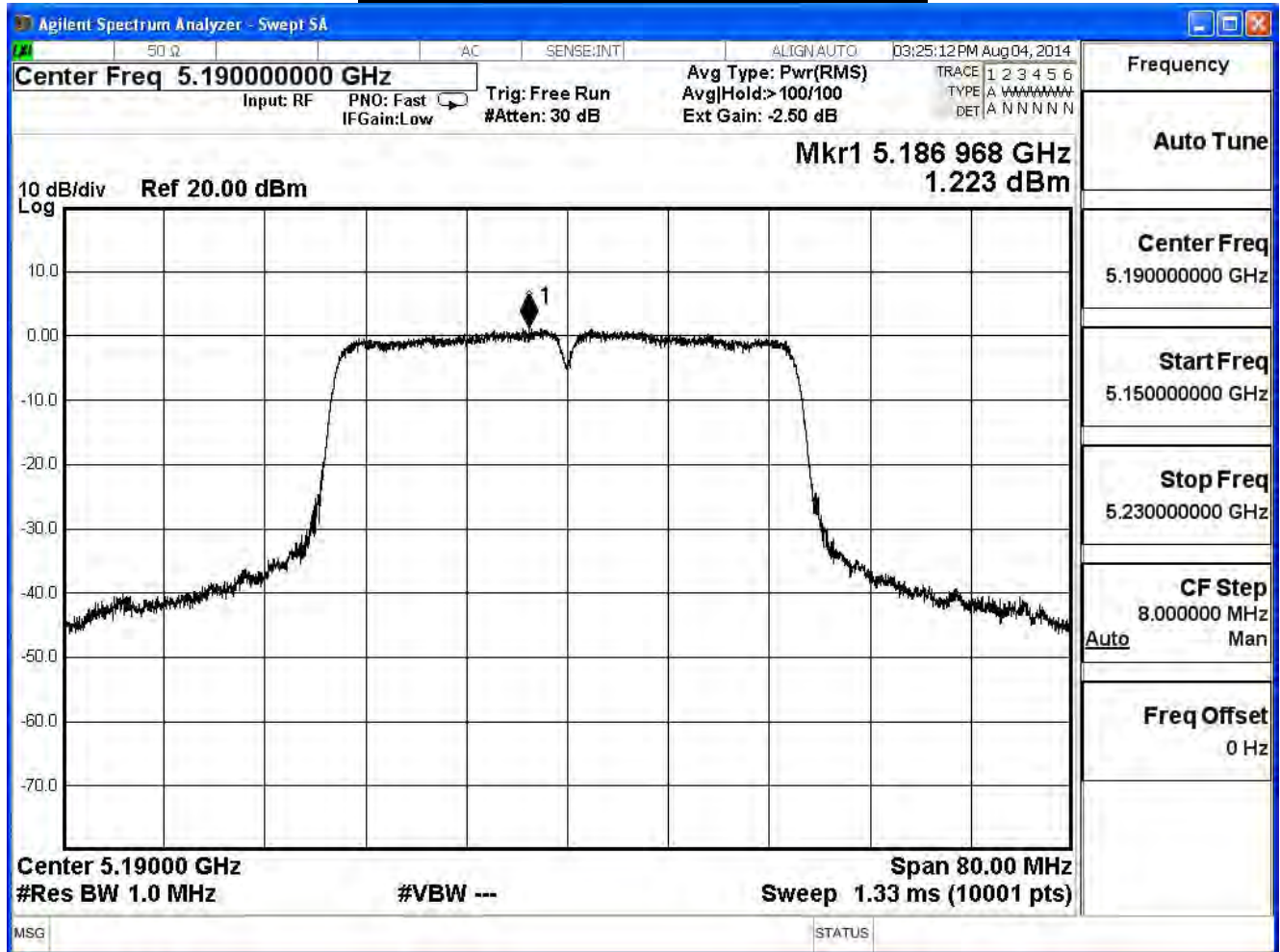
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n_20M(ANT 1)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
36	5180	6.000	≤ 11	Pass
44	5220	5.820	≤ 11	Pass
48	5240	5.483	≤ 11	Pass

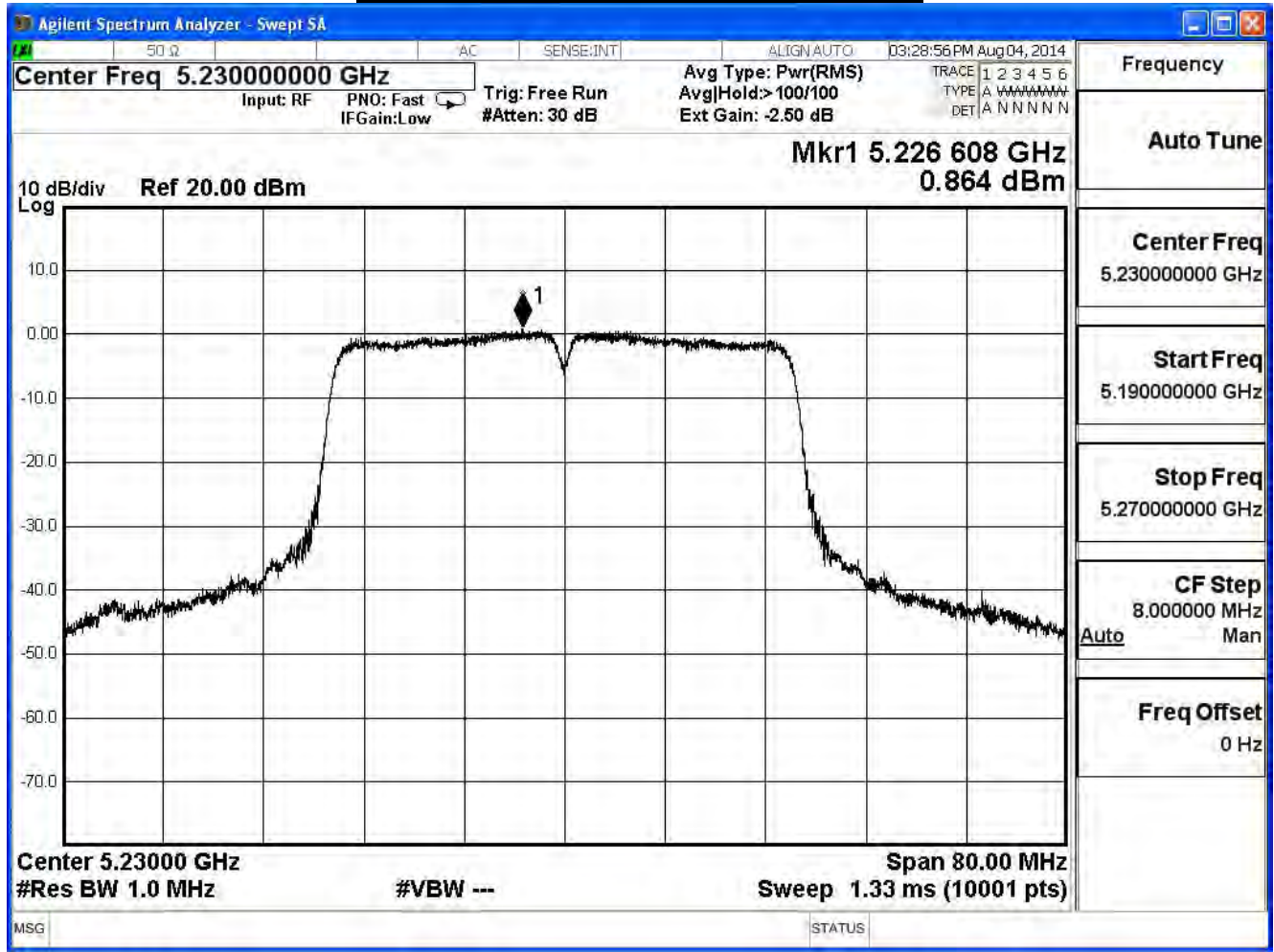
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n_40M(ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
38	5190	1.223	≤ 11	Pass
46	5230	0.864	≤ 11	Pass

Peak Power Spectral Density – Channel 38



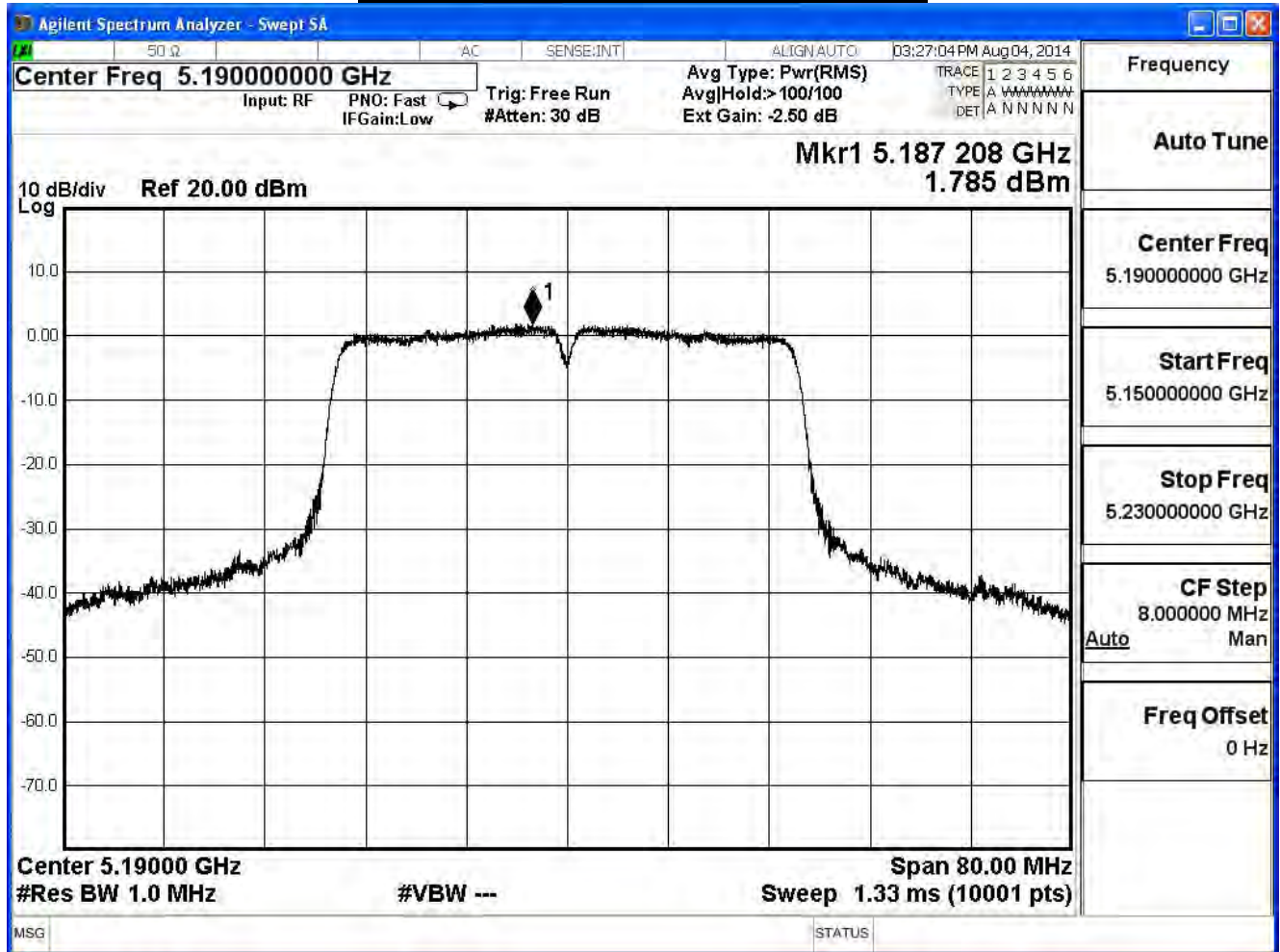
Peak Power Spectral Density – Channel 46



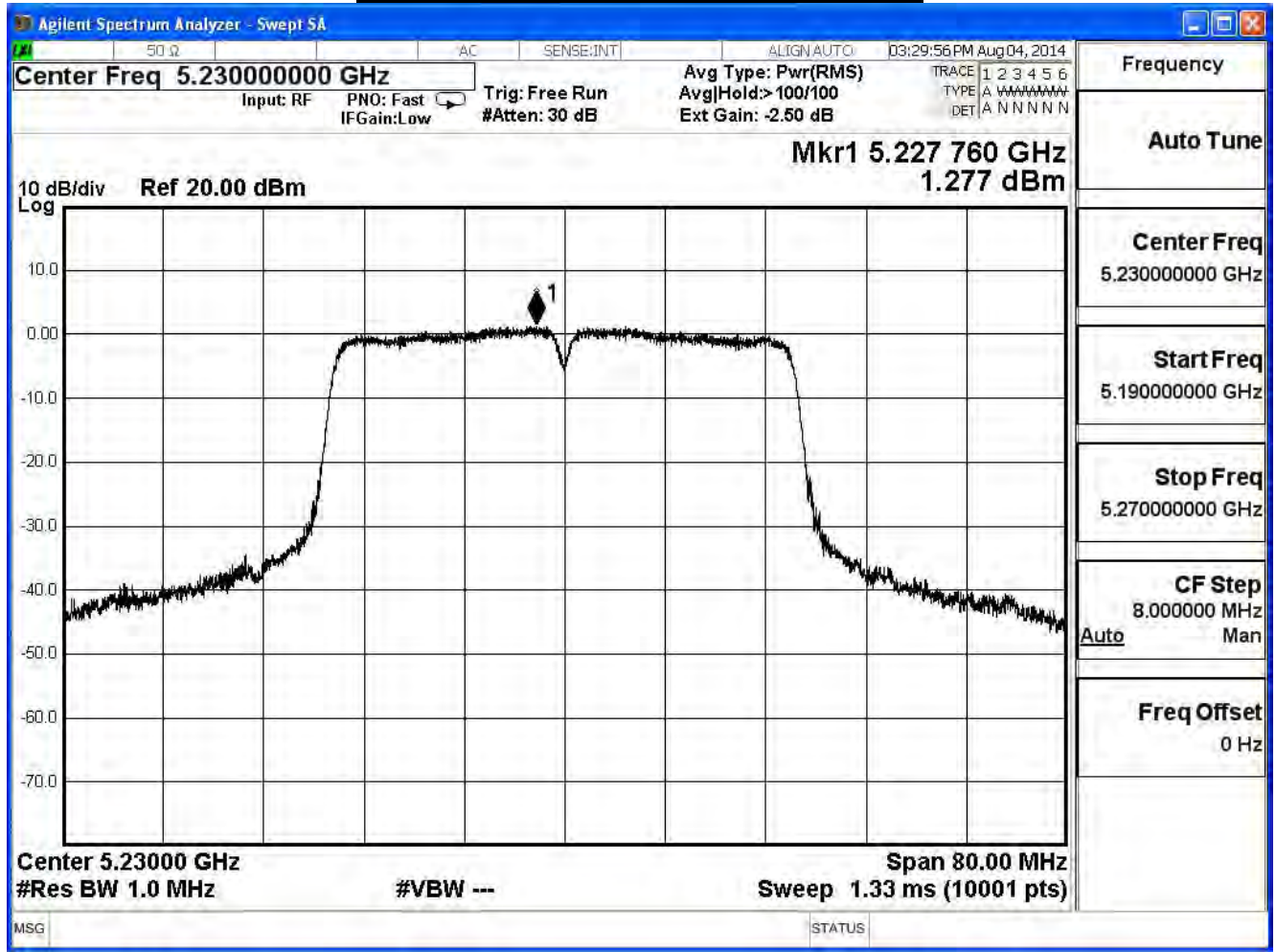
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n_40M(ANT 1)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
38	5190	1.785	≤ 11	Pass
46	5230	1.277	≤ 11	Pass

Peak Power Spectral Density – Channel 38



Peak Power Spectral Density – Channel 46



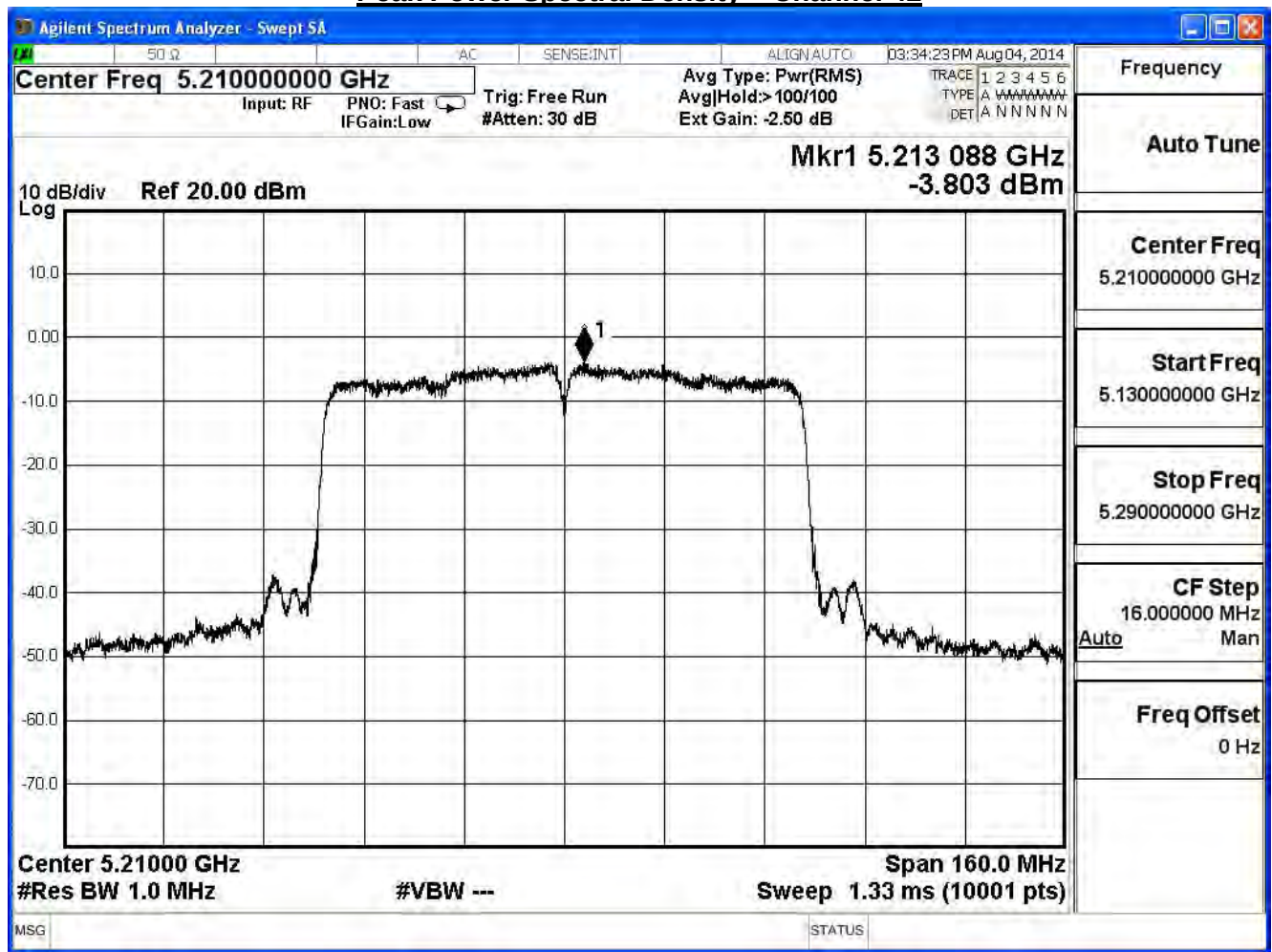
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n_40M(ANT 0+1)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
38	5190	4.523	≤ 11	Pass
46	5230	4.086	≤ 11	Pass

Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11ac_80M(ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
42	5210	-3.803	≤ 11	Pass

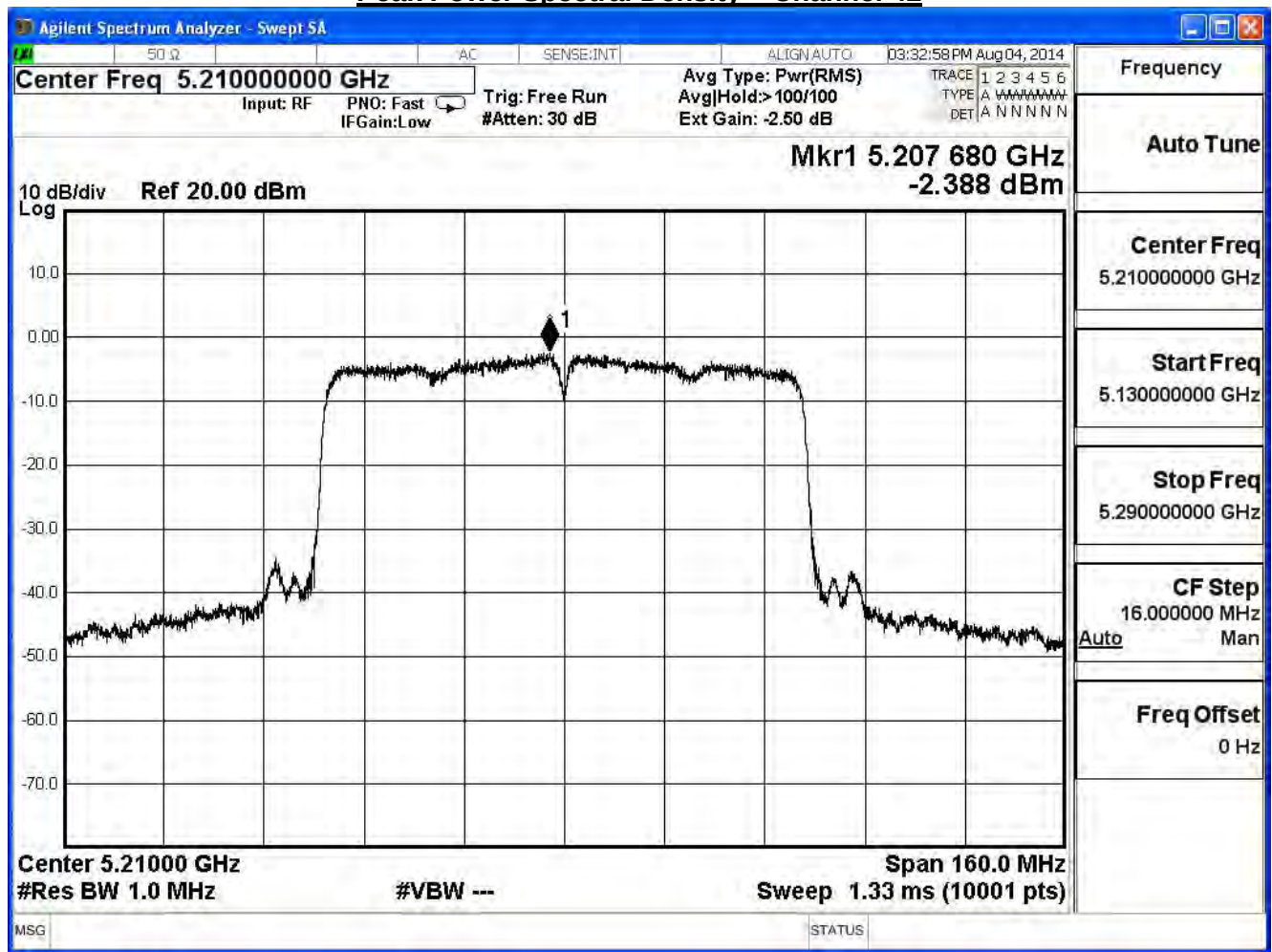
Peak Power Spectral Density – Channel 42



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11ac_80M(ANT 1)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
42	5210	-2.388	≤ 11	Pass

Peak Power Spectral Density – Channel 42



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11ac_80M(ANT 0+1)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
42	5210	-0.028	≤ 11	Pass

Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

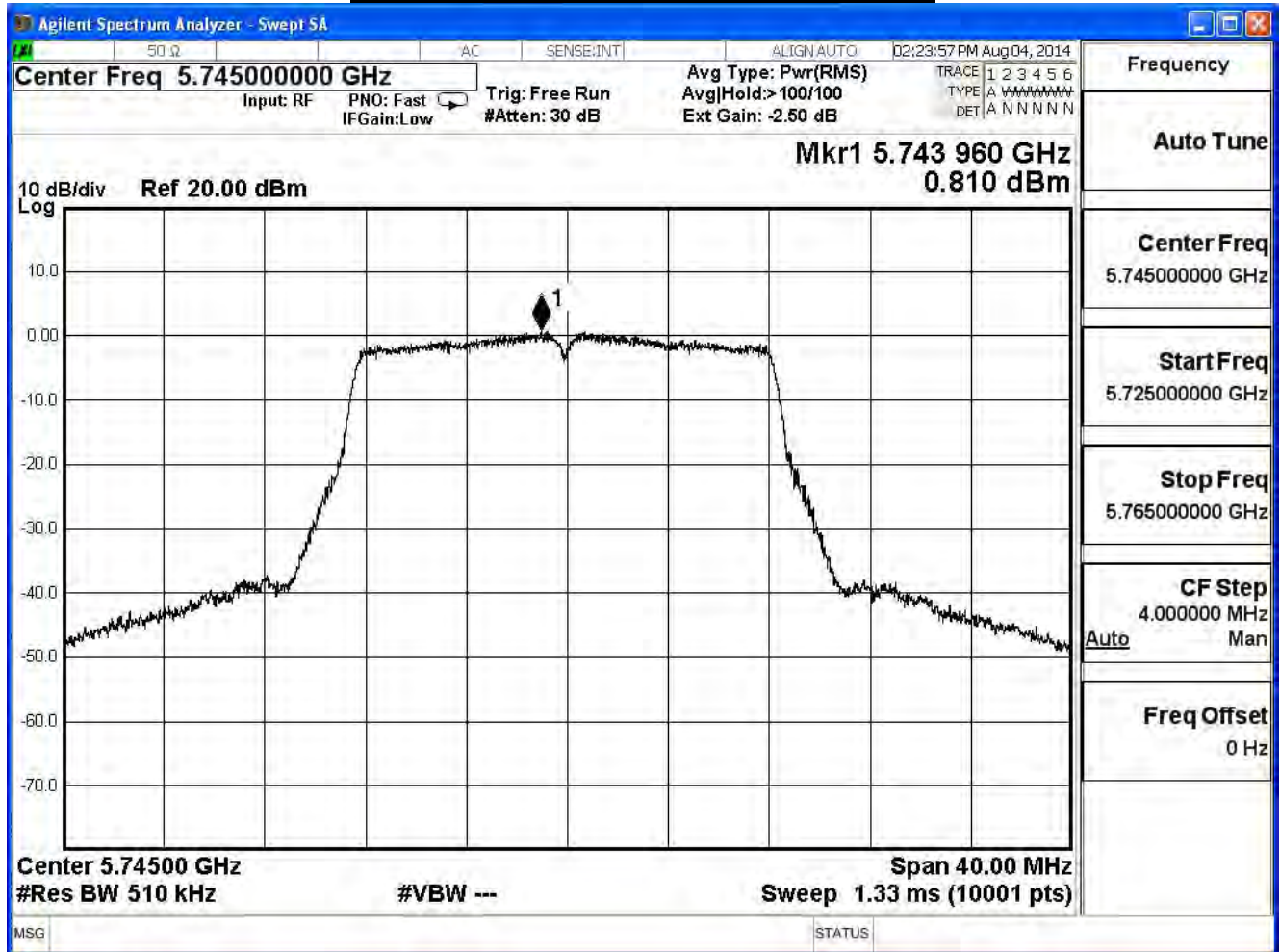
IEEE 802.11a(ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
149	5745	0.810	≤ 29.89	Pass
157	5785	1.315	≤ 29.89	Pass
165	5825	0.536	≤ 29.89	Pass

Note:

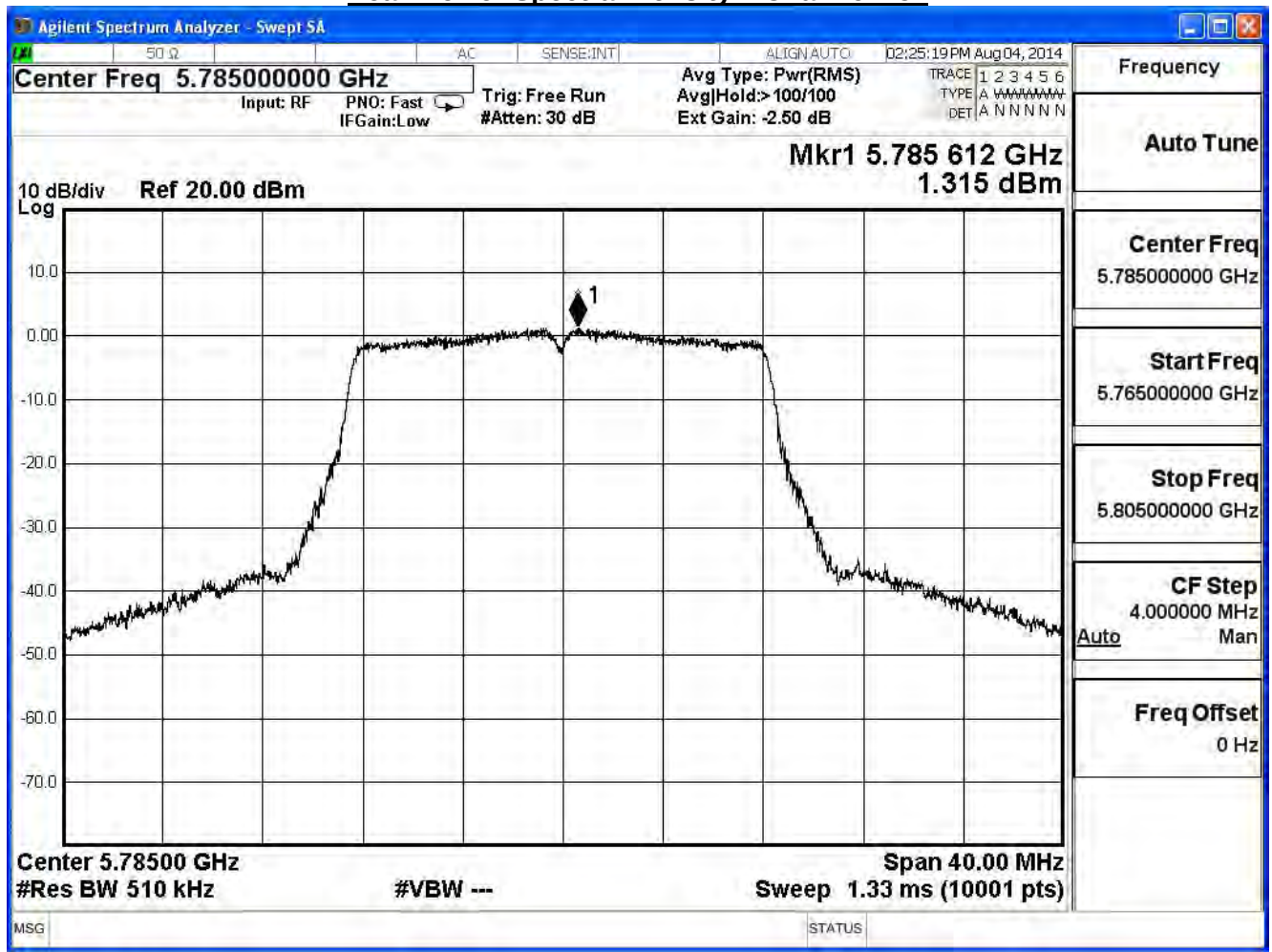
Directional Antenna= $10\log(N)$ +Max Gain=6.11dBi

Required Limit=30dBm-(6.11dBi-6dB)=29.89dBm

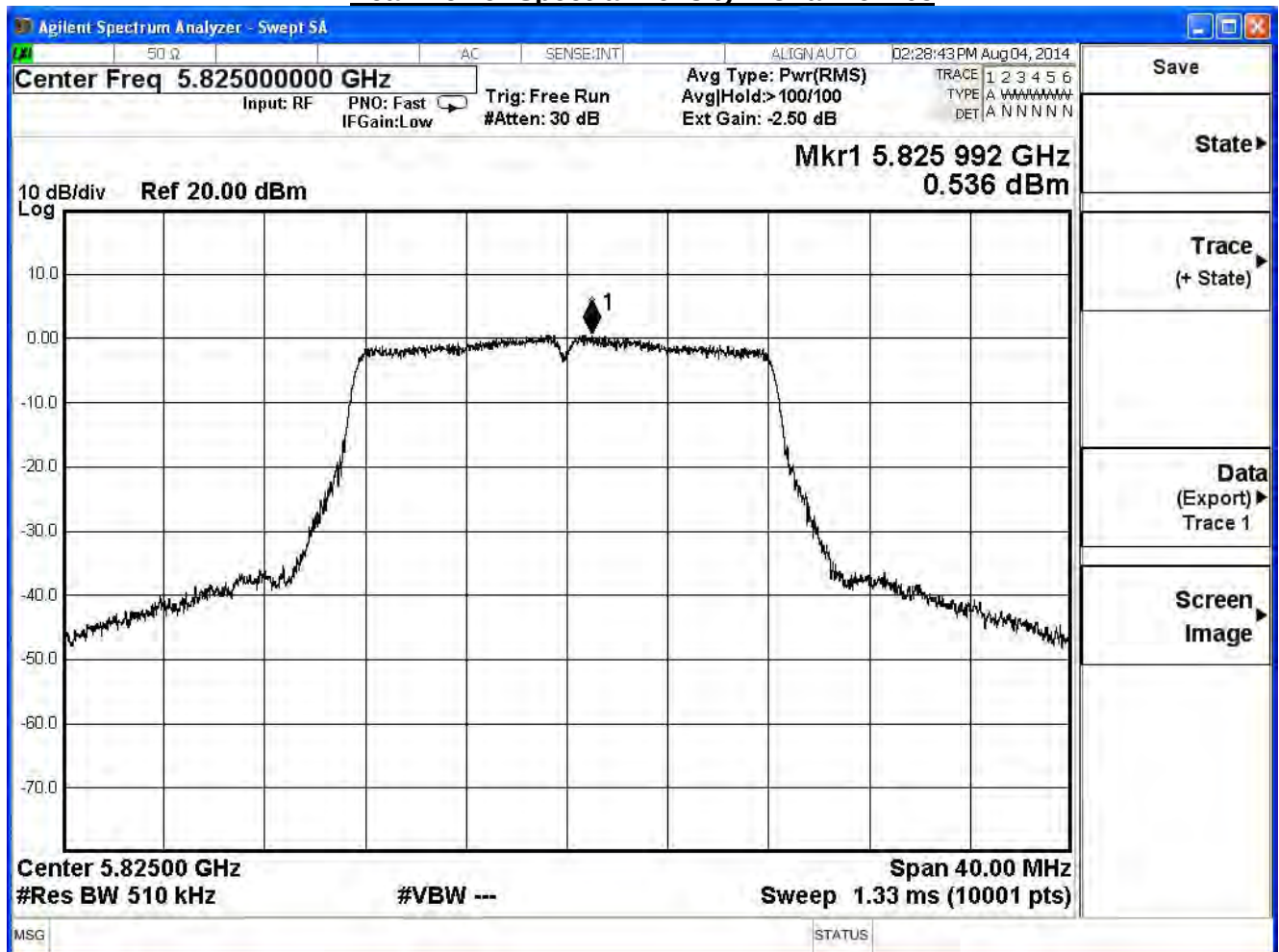
Peak Power Spectral Density – Channel 149



Peak Power Spectral Density – Channel 157



Peak Power Spectral Density – Channel 165



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

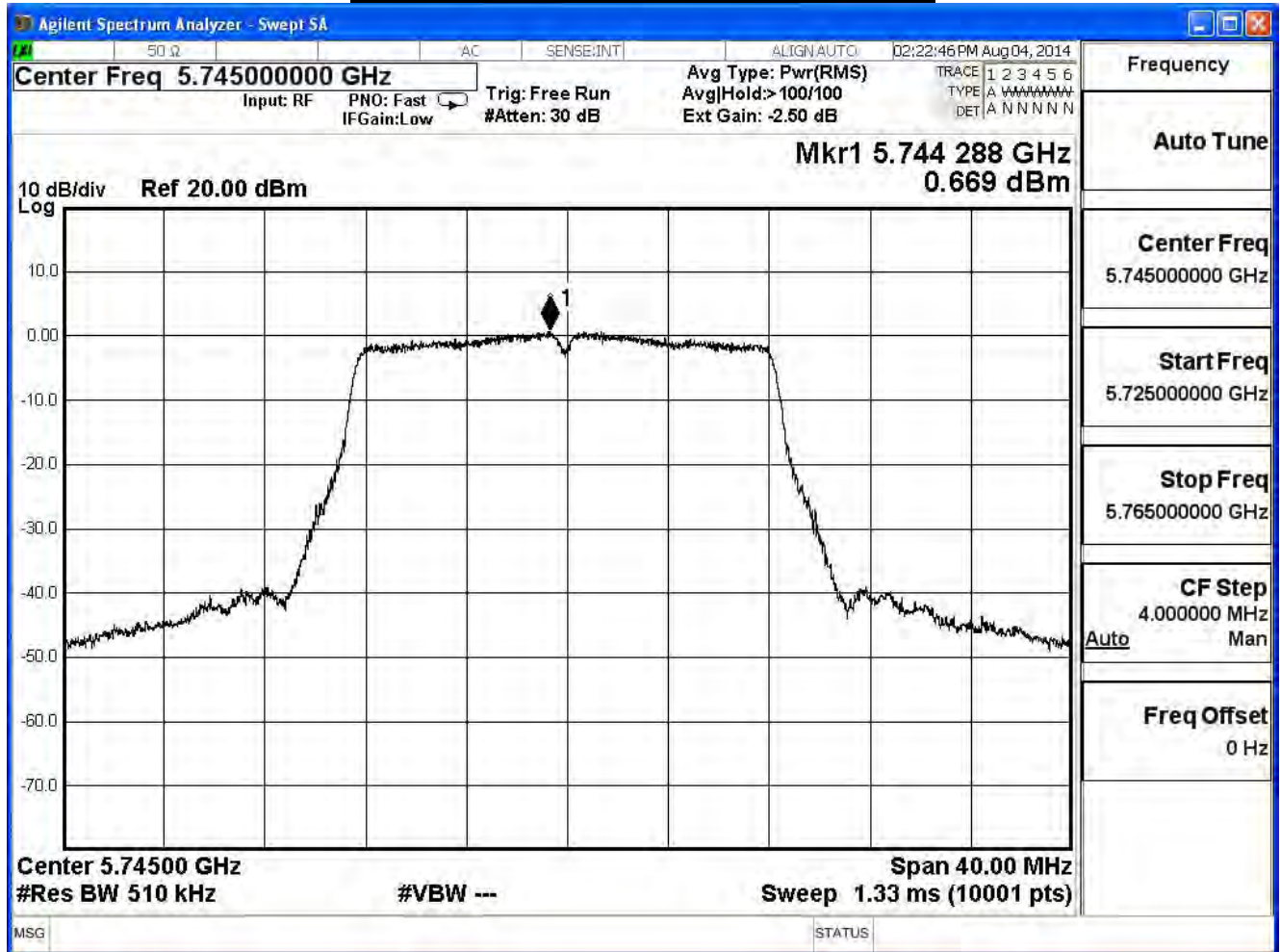
IEEE 802.11a(ANT 1)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
149	5745	0.669	≤ 29.89	Pass
157	5785	1.305	≤ 29.89	Pass
165	5825	0.810	≤ 29.89	Pass

Note:

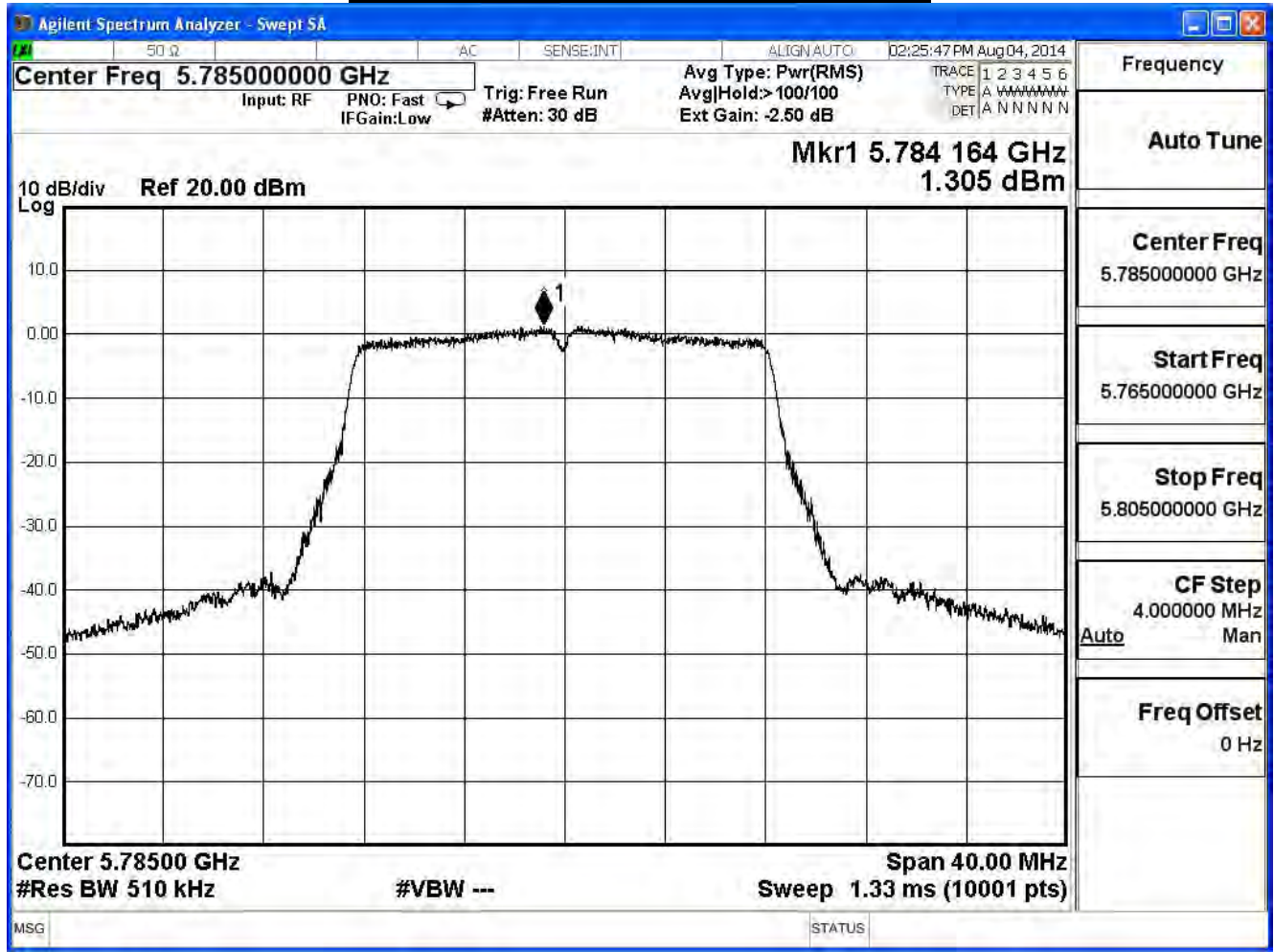
Directional Antenna= $10\log(N)$ +Max Gain=6.11dBi

Required Limit=30dBm-(6.11dBi-6dB)=29.89dBm

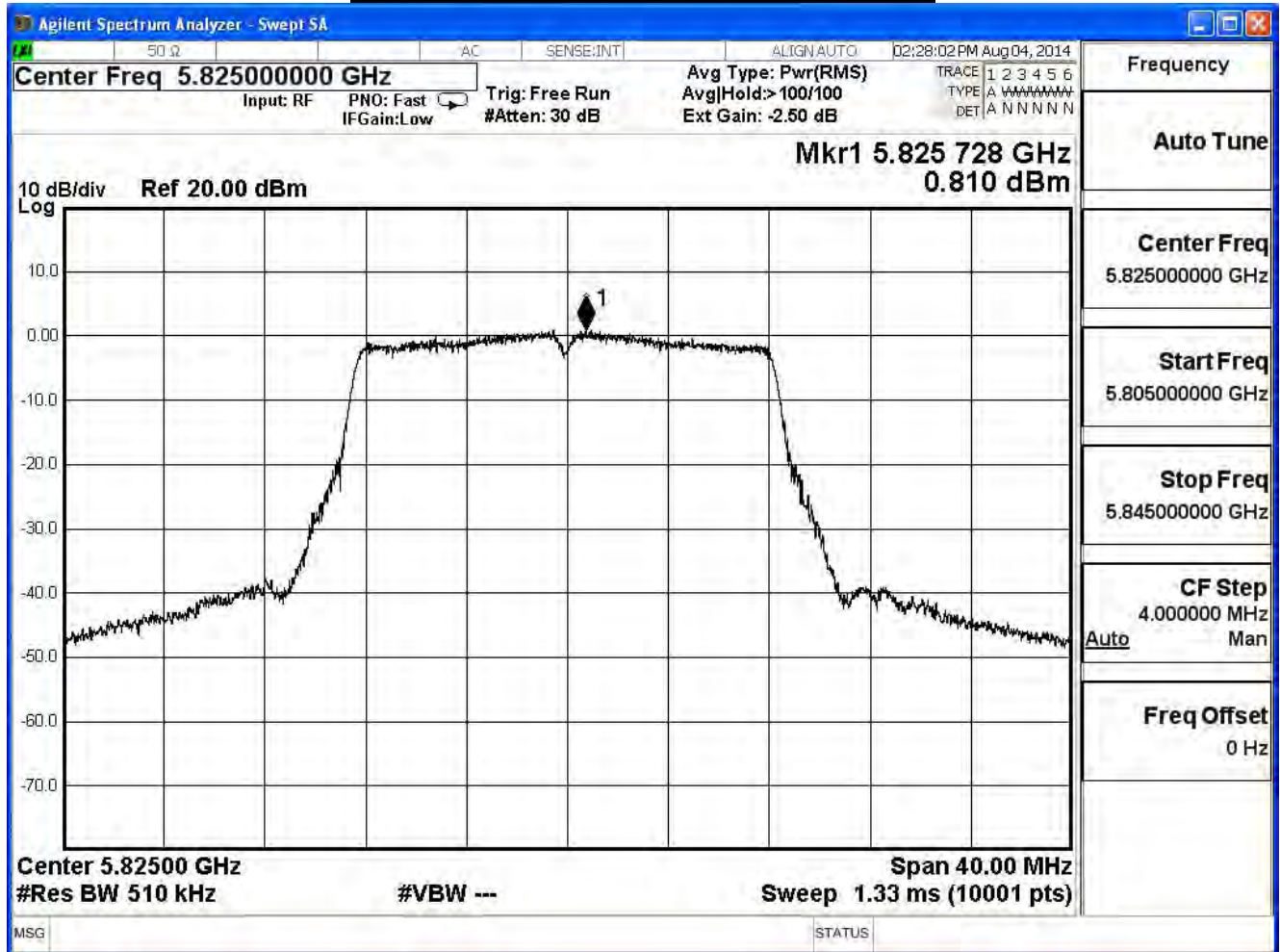
Peak Power Spectral Density – Channel 149



Peak Power Spectral Density – Channel 157



Peak Power Spectral Density – Channel 165



Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 1: Transmit (CDD Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11a(ANT 0+1)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
149	5745	3.750	≤ 29.89	Pass
157	5785	4.320	≤ 29.89	Pass
165	5825	3.685	≤ 29.89	Pass

Note:

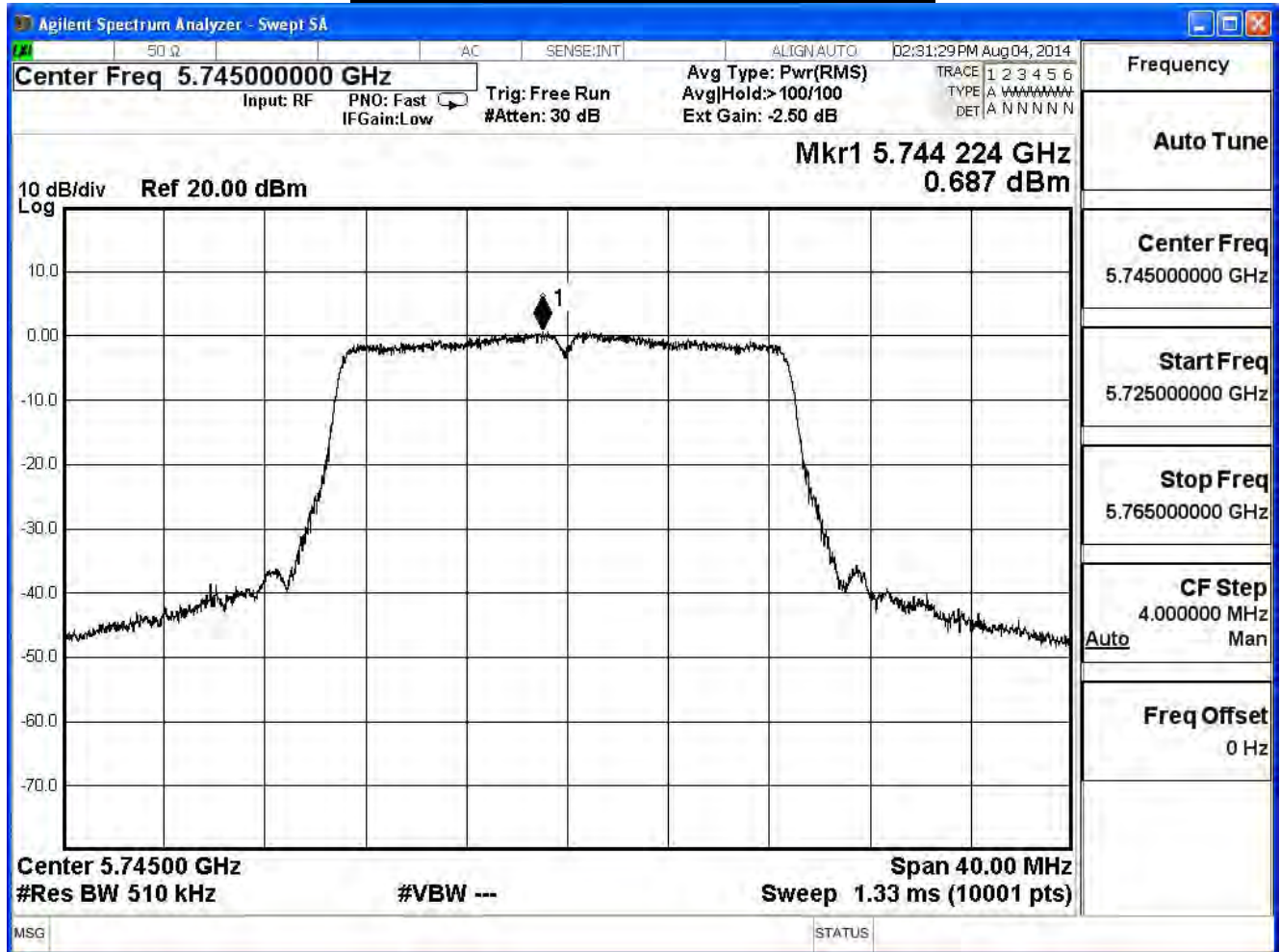
Directional Antenna=10log(N)+Max Gain=6.11dBi

Required Limit=30dBm-(6.11dBi-6dB)=29.89dBm

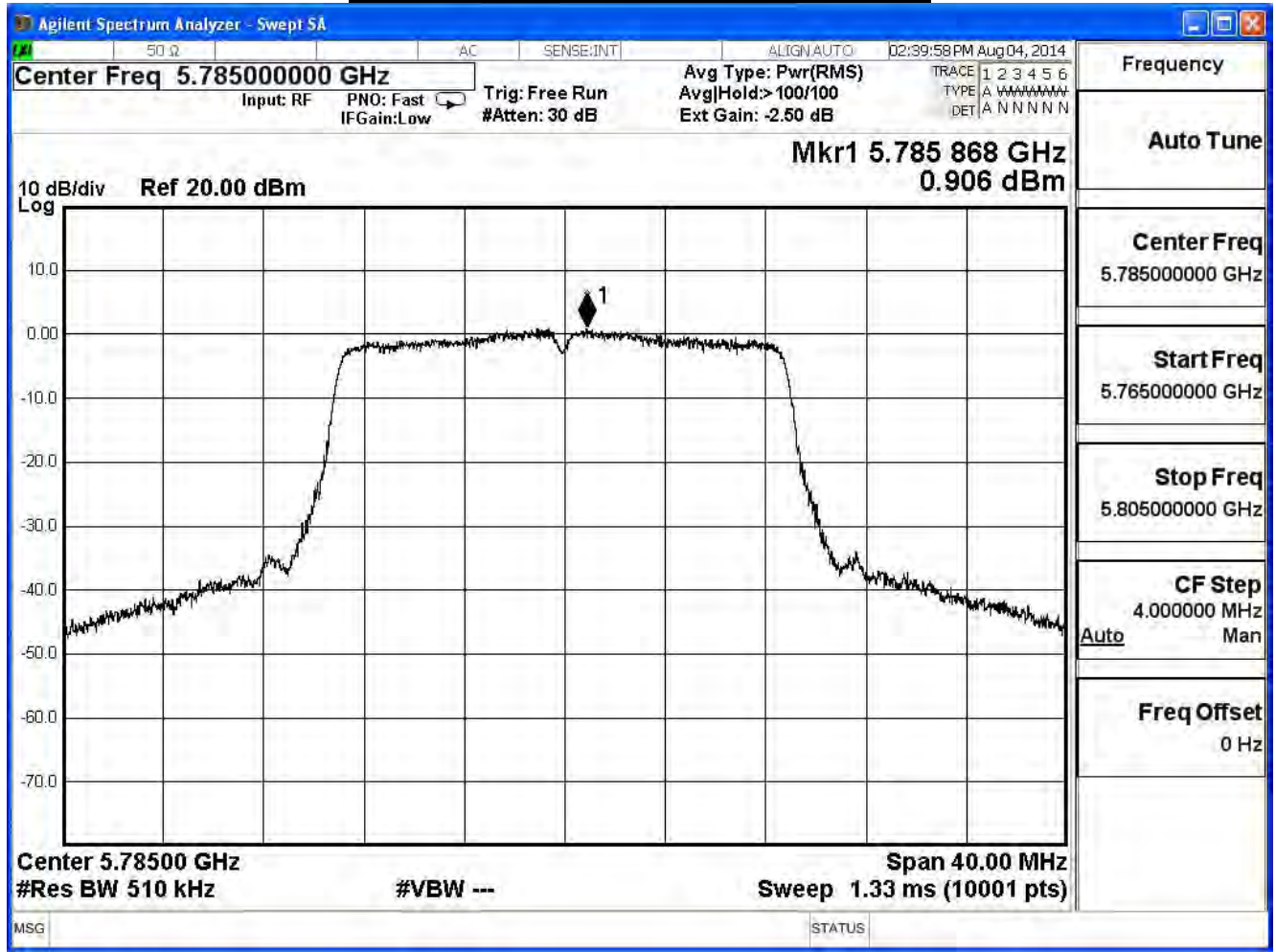
Product	Dual-band Wireless-AC1300 USB Adapter		
Test Item	Peak Power Spectral Density		
Test Mode	Mode 2: Transmit (MIMO Mode)		
Date of Test	2014/08/04	Test Site	SR7

IEEE 802.11n_20M(ANT 0)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Required Limit (dBm)	Result
149	5745	0.687	≤ 30	Pass
157	5785	0.906	≤ 30	Pass
165	5825	0.966	≤ 30	Pass

Peak Power Spectral Density – Channel 149



Peak Power Spectral Density – Channel 157



Peak Power Spectral Density – Channel 165

