



FCC PART 15.407 TEST AND MEASUREMENT REPORT

For

Ruckus Wireless, Inc.

350 West Java Drive,
Sunnyvale, CA 94089, USA

FCC ID: S9GR300

Report Type: Class II Permissive Change	Product Type: 802.11 a/b/g/n Wireless Access Point
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Report Number: R1603116-407	
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* This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "*" (Rev.3)

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	R1603116-407	Initial	2016-04-07

1 General Description

1.1 Product Description for Equipment under Test (EUT)

This test and measurement report was prepared on behalf of *Ruckus Wireless, Inc.*, and their product model: *ZoneFlex R300*, FCC ID: *S9GR300* or the “EUT” as referred to in this report. The EUT is a 2x2 MIMO 802.11 a/b/g/n Wireless Access Point.

1.2 Mechanical Description of EUT

The EUT measures approximately 13 cm (L) x 13 cm (W) x 2.8 cm (H) and weighs 198 g.

The test data gathered are from typical production sample, serial number: 461302004678 provided by the manufacturer

1.3 Objective

This report is prepared on behalf of *Ruckus Wireless, Inc.*, in accordance with FCC CFR47 §15.407.

The objective is to determine compliance with FCC rules for Antenna Requirements, Conducted Emissions, Occupied Bandwidth, Output Power, Power Spectral Density, Radiated and Conducted Spurious Emissions, and Band Edge. Please refer to the detail antenna list in the antenna requirement section.

1.4 Related Submittal(s)/Grant(s)

FCC Part 15.247 DTS with FCC ID: S9GR300

FCC Part 15.407 UII with FCC ID: S9GR300

1.5 Test Methodology

FCC CFR 47 Part2, Part15.407

1.6 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in the field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on CISPR16-4-2:2003, The Treatment of Uncertainty in EMC Measurements, the values ranging from ± 2.0 dB for Conducted Emissions tests and ± 4.0 dB for Radiated Emissions tests are the most accurate estimates pertaining to uncertainty of EMC measurements at BACL Corp.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratory, Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

1.7 Test Facility

Bay area compliance Laboratories Corp. (BACL) is:

1- An independent Commercial Test Laboratory accredited to **ISO 17025:2005** by **A2LA**, in the fields of: Electromagnetic Compatibility & Telecommunications covering Emissions, Immunity, Radio, RF Exposure, Safety and Telecom. This includes NEBS (Network Equipment Building System), Wireless RF, Telecommunications Terminal Equipment (TTE); Network Equipment; Information Technology Equipment (ITE); Medical Electrical Equipment; Industrial, Commercial, and Medical Test Equipment; Professional Audio and Video Equipment; Electronic (Digital) Products; Industrial and Scientific Instruments; Cabled Distribution Systems and Energy Efficiency Lighting.

2- An ENERGY STAR Recognized Laboratory, for the LM80 Testing, a wide variety of Luminaires and Computers.

3- A NIST Designated Phase-I and Phase-II CAB including: ACMA (Australian Communication and Media Authority), BSMI (Bureau of Standards, Metrology and Inspection of Taiwan), IDA (Infocomm Development Authority of Singapore), IC(Industry Canada), Korea (Ministry of Communications Radio Research Laboratory), NCC (Formerly DGT; Directorate General of Telecommunication of Chinese Taipei) OFTA (Office of the Telecommunications Authority of Hong Kong), Vietnam, VCCI - Voluntary Control Council for Interference of Japan and a designated EU CAB (Conformity Assessment Body) (Notified Body) for the EMC and R&TTE Directives.

4- A Product Certification Body accredited to **ISO Guide 65:1996** by **A2LA** to certify:

2. Radio Standards Specifications (RSS) in the Category I Equipment Standards List and All Broadcasting Technical Standards (BETS) in Category I Equipment Standards List for Industry Canada.

3. Radio Communication Equipment for Singapore.

4. Radio Equipment Specifications, GMDSS Marine Radio Equipment Specifications, and Fixed Network Equipment Specifications for Hong Kong.

5. Japan MIC Telecommunication Business Law (A1, A2) and Radio Law (B1, B2 and B3).

6. Audio/Video, Battery Charging Systems, Computers, Displays, Enterprise Servers, Imaging Equipment, Set-Top Boxes, Telephony, Televisions, Ceiling Fans, CFLs (Including GU24s), Decorative Light Strings, Integral LED Lamps, Luminaires, Residential Ventilating Fans.

The test site used by BACL Corp. to collect radiated and conducted emissions measurement data is located at its facility in Sunnyvale, California, USA.

The test site at BACL Corp. has been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11 and December 10, 1997, and Article 8 of the VCCI regulations on December 25, 1997. The test site also complies with the test methods and procedures set forth in CISPR 22:2008 §10.4 for measurements below 1 GHz and §10.6 for measurements above 1 GHz as well as ANSI C63.4-2014, ANSI C63.10-2013, TIA/EIA-603 & CISPR 24:2010.

The Federal Communications Commission and Voluntary Control Council for Interference have the reports on file and they are listed under FCC registration number: 90464 and VCCI Registration No.: A-0027. The test site has been approved by the FCC and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, BACL Corp. is an American Association for Laboratory Accreditation (A2LA) accredited laboratory (Lab Code 3297-02). The current scope of accreditations can be found at

<http://www.a2la.org/scopepdf/3297-02.pdf?CFID=1132286&CFTOKEN=e42a3240dac3f6ba-6DE17DCB-1851-9E57-477422F667031258&jsessionid=8430d44f1f47cf2996124343c704b367816b>

2 EUT Test Configuration

2.1 Justification

The EUT was configured for testing according to ANSI C63.10-2013.

The EUT was tested in a testing mode to represent worst-case results during the final qualification test.

The worst-case data rates are determined to be as follows for each mode based upon investigation by measuring the average power, peak power and PPSD across all data rates bandwidths, and modulations.

2.2 EUT Exercise Software

The test utility used was *R300 ART* was provided by Ruckus Wireless Inc., and was verified by Jin Yang to comply with the standard requirements being tested against.

2.3 Equipment Modifications

No modifications were made to the EUT.

2.4 Special Accessories

There were no special accessories were required, included, or intended for use with EUT during these tests.

2.5 Local Support Equipment

Manufacturer	Description	Model	Serial Number
DELL	Laptop	Latitude E5420	-

2.6 EUT Internal Configuration Details

Manufacturer	Description	Model	Serial Number
Ruckus	Motherboard	ASM 120-11255 REV A	-
Ruckus	Antenna	ASM 120-11258 REV 6	-
Ruckus	Antenna	ASM 120-11259 REV 2	-

2.7 Interface Ports and Cables

Cable Description	Length (m)	To	From
RF Cable	<1.0	PSA	EUT
RJ 45 Cable	<1.0	LAPTOP	EUT

2.8 Power Supply List and Details

Manufacturer	Description	Model	Part Number
Ruckus	Power Supply	HK-AD-120A100-US	740-64190-001
Ruckus	POE	NPE-5818	-
Ruckus	POE Power Adapter	8A-201WU48	740-64125-010

3 Summary of Test Results

FCC Rules	Description of Test	Result
§15.407(f), §2.1091	RF Exposure	Compliant
§15.203	Antenna Requirement	Compliant
§15.207 (a)	AC Power Line Conducted Emissions	Compliant
§15.209(a), 15.407(b)	Spurious Radiated Emissions	Compliant
§15.407(a)&(e)	Emission Bandwidth	Compliant
§15.407(a)(1), (a)(3)	Output Power Measurement	Compliant
§2.1051, §15.407	Band Edge	Compliant
§15.407(a)(1),(a)(3)	Power Spectral Density	Compliant
§2.1051, §15.407(b)	Spurious Emissions at Antenna Terminals	Compliant

4 FCC §15.407(f) & §2.1091 - RF Exposure

4.1 Applicable Standard

According to FCC §15.407(f) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	* (100)	30
1.34-30	824/f	2.19/f	* (180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

4.2 MPE Prediction

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

Where: S = power density

P = power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

4.3 MPE Results

W52 Band:

<u>Maximum peak output power at antenna input terminal (dBm):</u>	<u>22.51</u>
<u>Maximum peak output power at antenna input terminal (mW):</u>	<u>178.238</u>
<u>Prediction distance (cm):</u>	<u>20</u>
<u>Prediction frequency (MHz):</u>	<u>5230</u>
<u>Maximum Antenna Gain, typical (dBi):</u>	<u>3</u>
<u>Maximum Antenna Gain (numeric):</u>	<u>1.995</u>
<u>Power density of prediction frequency at 20.0 cm (mW/cm²):</u>	<u>0.071</u>
<u>MPE limit for uncontrolled exposure at prediction frequency (mW/cm²):</u>	<u>1</u>

W58 Band:

<u>Maximum peak output power at antenna input terminal (dBm):</u>	<u>22.77</u>
<u>Maximum peak output power at antenna input terminal (mW):</u>	<u>189.234</u>
<u>Prediction distance (cm):</u>	<u>20</u>
<u>Prediction frequency (MHz):</u>	<u>5785</u>
<u>Maximum Antenna Gain, typical (dBi):</u>	<u>3</u>
<u>Maximum Antenna Gain (numeric):</u>	<u>1.995</u>
<u>Power density of prediction frequency at 20.0 cm (mW/cm²):</u>	<u>0.0751</u>
<u>MPE limit for uncontrolled exposure at prediction frequency (mW/cm²):</u>	<u>1</u>

The device meets FCC MPE requirement for uncontrolled exposure environment at 20 cm distance.

5 FCC §15.203 - Antenna Requirements

5.1 Applicable Standard

According to FCC §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

5.2 Antenna List

Manufacturers	Models/Name	Antenna Gain (dBi) @ 5 GHz
Ruckus	Omni	3

The antenna consists of non-standard (UFL) connectors with less 6 dBi gain; therefore, it complies with the antenna requirement. Please refer to the internal photos.

6 FCC §15.207 - AC Power Line Conducted Emissions

6.1 Applicable Standards

As per FCC §15.207 Conducted limits:

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequencies ranges.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 Note 1	56 to 46 Note 1
0.5-5	56	46
5-30	60	50

Note 1 Decreases with the logarithm of the frequency.

6.2 Test Setup

The measurement was performed at shield room, using the setup per ANSI C63.4-2014 measurement procedure. The specification used was FCC §15.207 limits.

External I/O cables were draped along the edge of the test table and bundle when necessary.

The AC/DC power adapter of the test support board was connected with LISN-1 which provided 120 V / 60 Hz AC power.

6.3 Test Procedure

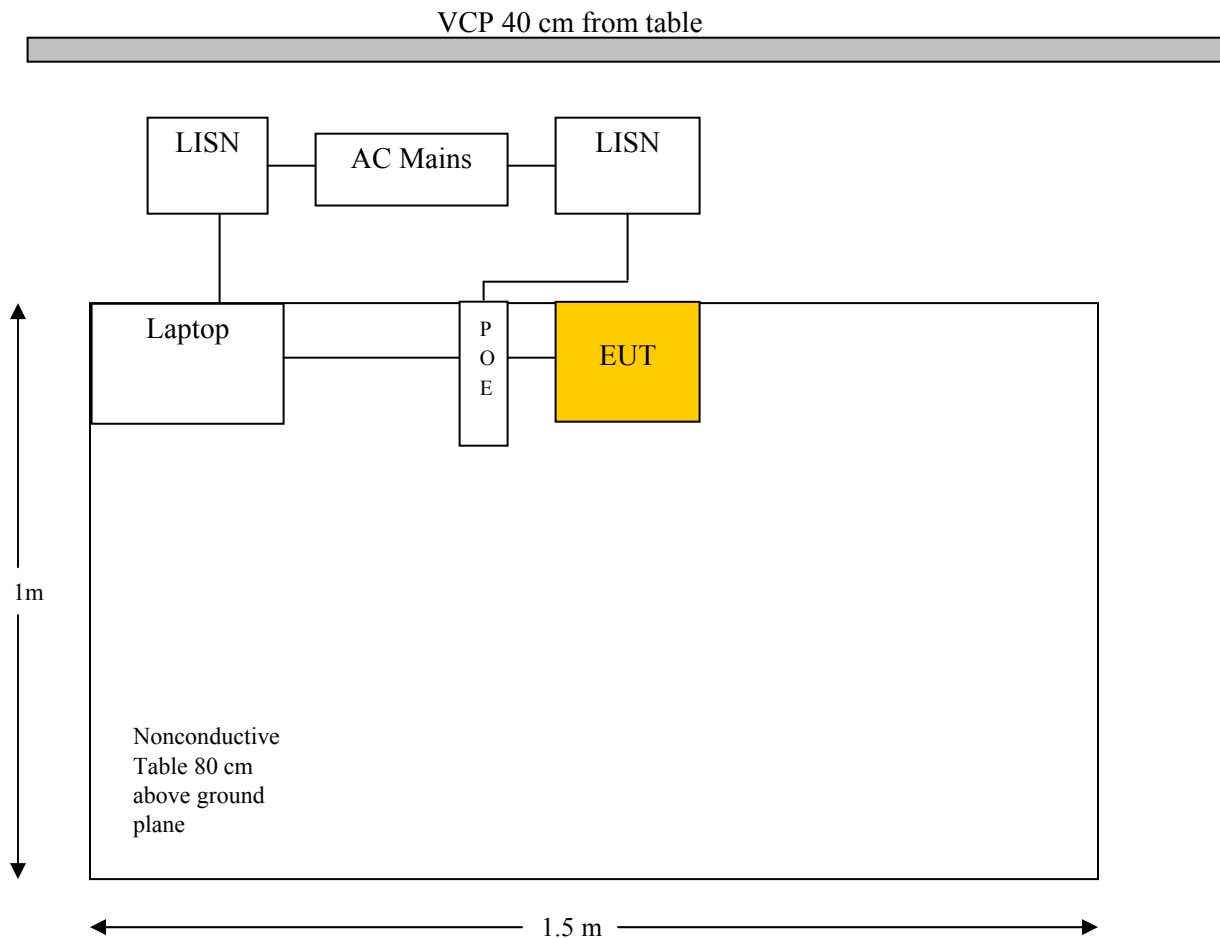
During the conducted emissions test, the power cord of the EUT host system was connected to the mains outlet of the LISN-2.

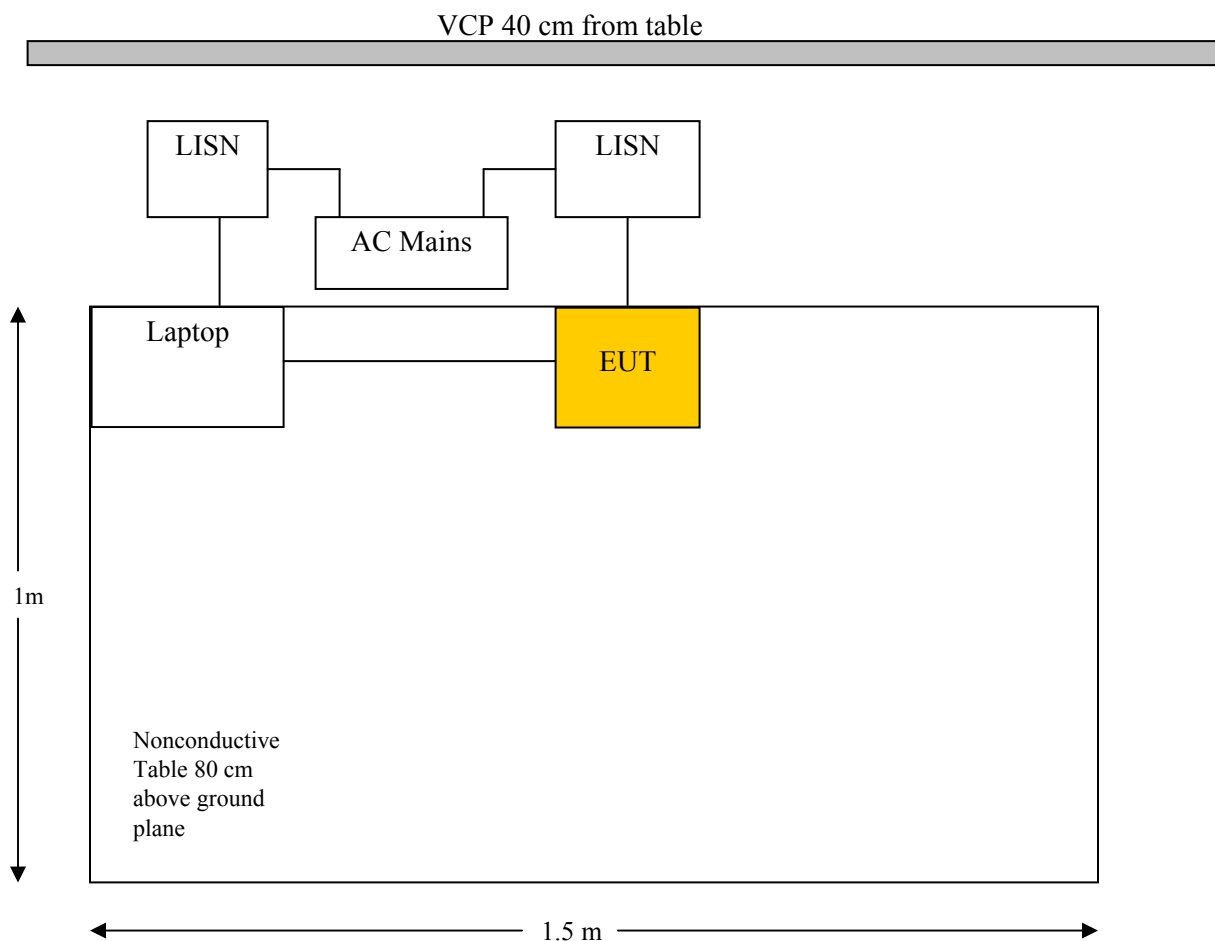
Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the peak detection mode, quasi-peak and average. Quasi-Peak readings are distinguished with a "QP." Average readings are distinguished with an "Ave".

6.4 Test Setup Block Diagram

POE:



AC/DC Adapter:**6.5 Corrected Amplitude & Margin Calculation**

The Corrected Amplitude (CA) is calculated by adding the Cable Loss (CL), the Attenuator Factor (Atten) to indicated Amplitude (A_i) reading. The basic equation is as follows:

$$CA = A_i + CL + \text{Atten}$$

For example, a corrected amplitude of 46.2 dBuV = Indicated Reading (32.5 dBuV) + Cable Loss (3.7 dB) + Attenuator (10 dB)

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the maximum limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corrected Amplitude} - \text{Limit}$$

6.6 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Rohde & Schwarz	EMI Test Receiver	ESCI 1166.5950K03	100337	2015-09-28	1 year
FCC	LISN	FCC-LISN-50-25-2- 10-CISPR16	160129	2015-04-07	1 year
FCC	LISN	FCC-LISN-50-25-2- 10-CISPR16	160130	2015-04-07	1 year
Solar Electronics Company	High Pass Filter	Type 7930-100	7930150202	2016-03-16	1 year
Suirong	30 ft conductive emission cable	LMR 400	-	2015-07-02	1 year
Hewlett-Packard	5 ft RF cable	-	1268	2015-07-29	1 year
Rohde & Schwarz	Impulse Limiter	ESH3-Z2	101963	2015-07-15	1 year

Statement of Traceability: *BACL Corp. attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.*

6.7 Test Environmental Conditions

Temperature:	21 °C
Relative Humidity:	51%
ATM Pressure:	101.42 kPa

The testing was performed by Jin Yang on 2016-03-29.

6.8 Summary of Test Results

According to the recorded data in following table, the EUT complied with the FCC standard's conducted emissions limits, with the margin reading of:

POE

Transmitting Mode: Worst case 5.2GHz operating: 802.11n40, 5230 MHz

Connection: 120 V/60 Hz			
Margin (dB)	Frequency (MHz)	Conductor (Line/Neutral)	Range (MHz)
-10.09	0.15006	Line	0.15-30

AC/DC Adapter

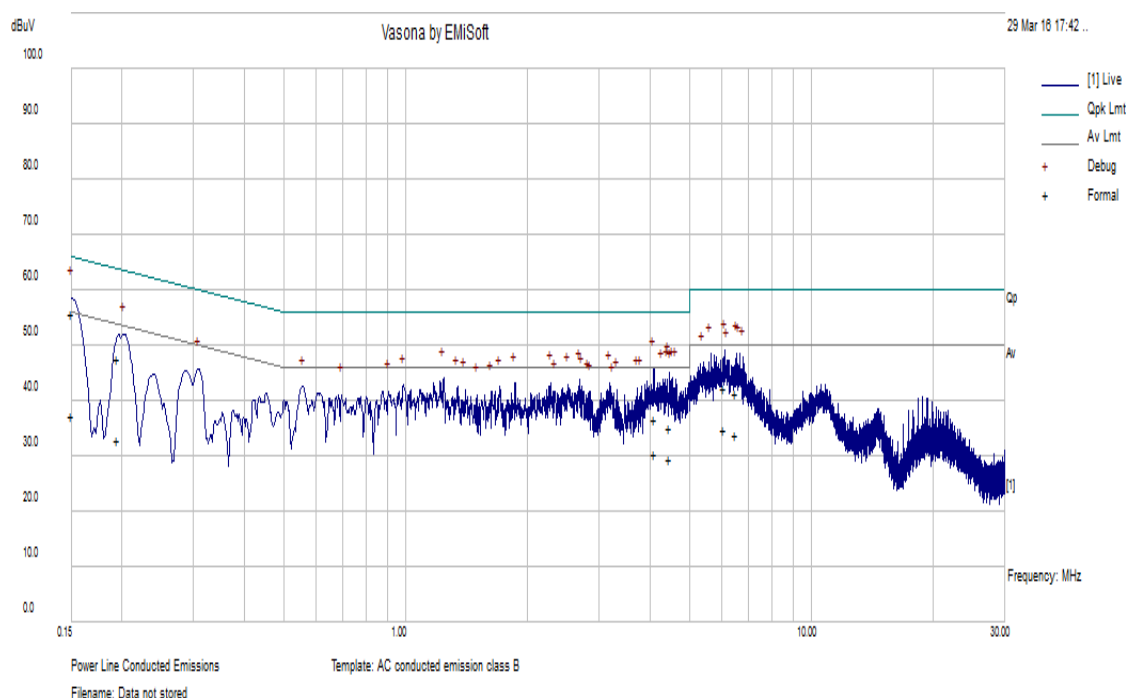
Transmitting Mode: Worst case 5.2GHz operating: 802.11n40, 5230 MHz

Connection: 120 V/60 Hz			
Margin (dB)	Frequency (MHz)	Conductor (Line/Neutral)	Range (MHz)
-0.27	1.936889	Line	0.15-30

6.9 Conducted Emissions Test Plots and Data

Transmitting Mode: 5.2 GHz operating: 802.11n40, 5230 MHz

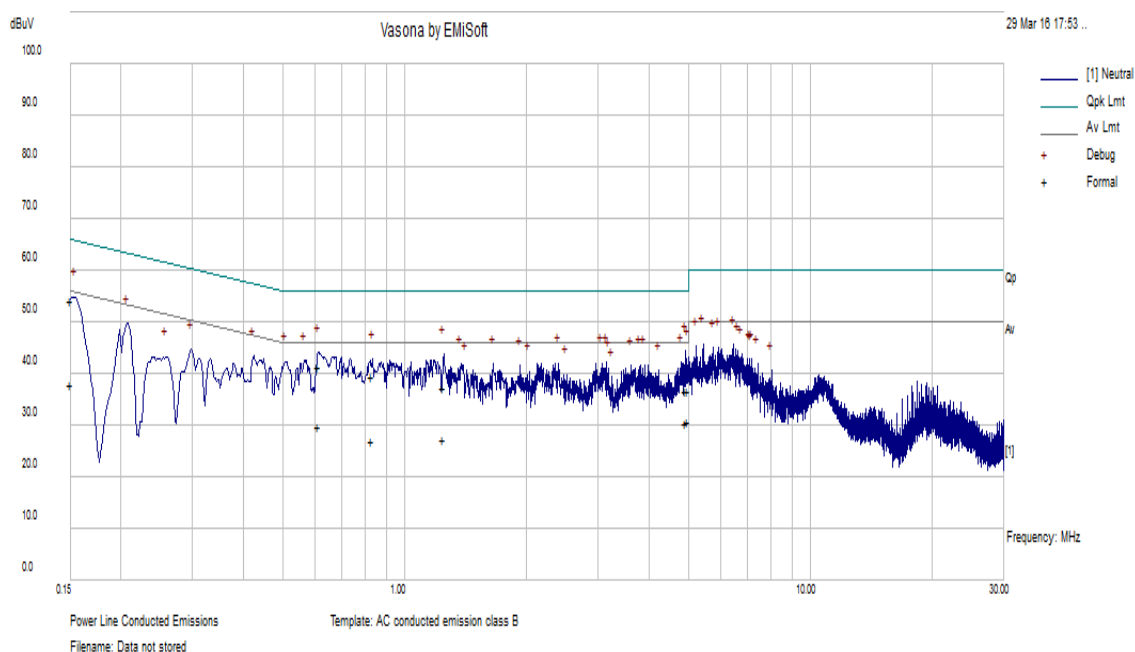
120 V, 60 Hz – Line, POE



Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Line/Neutral)	Limit (dBμV)	Margin (dB)	Detector (QP/Ave.)
0.15006	55.91	Line	66	-10.09	QP
4.100186	36.97	Line	56	-19.03	QP
6.09725	42.31	Line	60	-17.69	QP
4.46885	35.18	Line	56	-20.82	QP
6.52631	41.42	Line	60	-18.58	QP
0.195124	47.86	Line	63.82	-15.96	QP

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Line/Neutral)	Limit (dBμV)	Margin (dB)	Detector (QP/Ave.)
0.15006	37.38	Line	56	-18.62	Ave.
4.100186	30.61	Line	46	-15.39	Ave.
6.09725	35.06	Line	50	-14.94	Ave.
4.46885	29.77	Line	46	-16.23	Ave.
6.52631	34.07	Line	50	-15.93	Ave.
0.195124	33.19	Line	53.82	-20.63	Ave.

120 V, 60 Hz – Neutral, POE

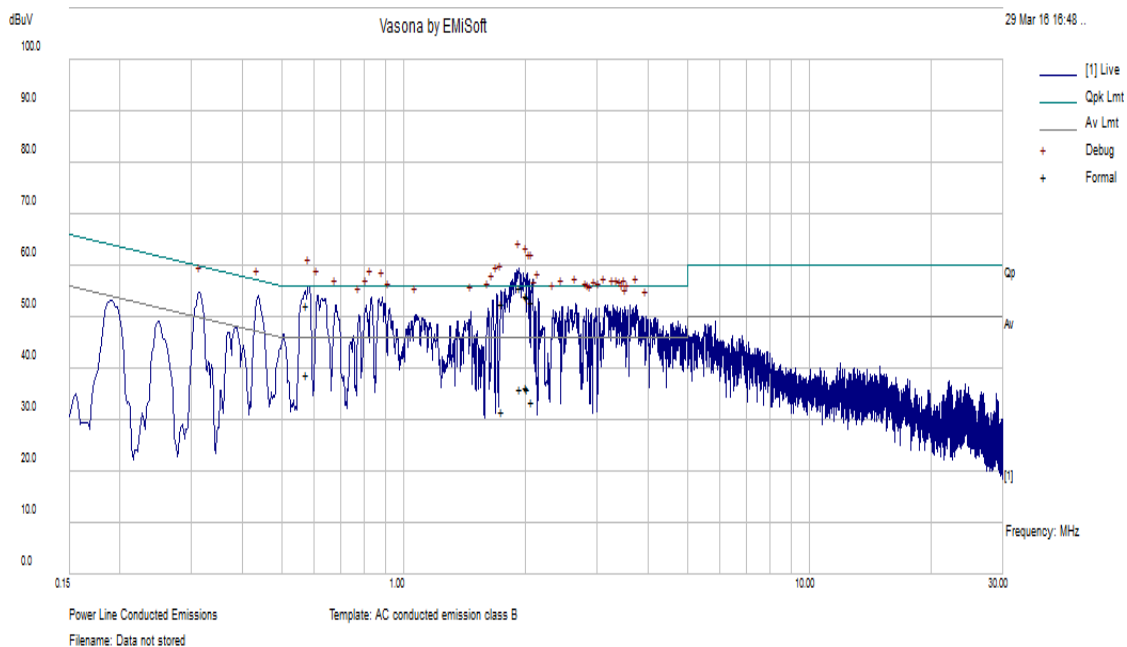


Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Line/Neutral)	Limit (dBμV)	Margin (dB)	Detector (QP/Ave.)
0.150347	54.33	Neutral	65.98	-11.65	QP
4.93604	36.91	Neutral	56	-19.09	QP
0.612608	41.47	Neutral	56	-14.53	QP
1.24554	37.48	Neutral	56	-18.52	QP
4.984082	36.9	Neutral	56	-19.1	QP
0.831783	39.73	Neutral	56	-16.27	QP

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Line/Neutral)	Limit (dBμV)	Margin (dB)	Detector (QP/Ave.)
0.150347	38.03	Neutral	55.98	-17.95	Ave.
4.93604	30.53	Neutral	46	-15.47	Ave.
0.612608	29.87	Neutral	46	-16.13	Ave.
1.24554	27.54	Neutral	46	-18.46	Ave.
4.984082	30.75	Neutral	46	-15.25	Ave.
0.831783	27.3	Neutral	46	-18.7	Ave.

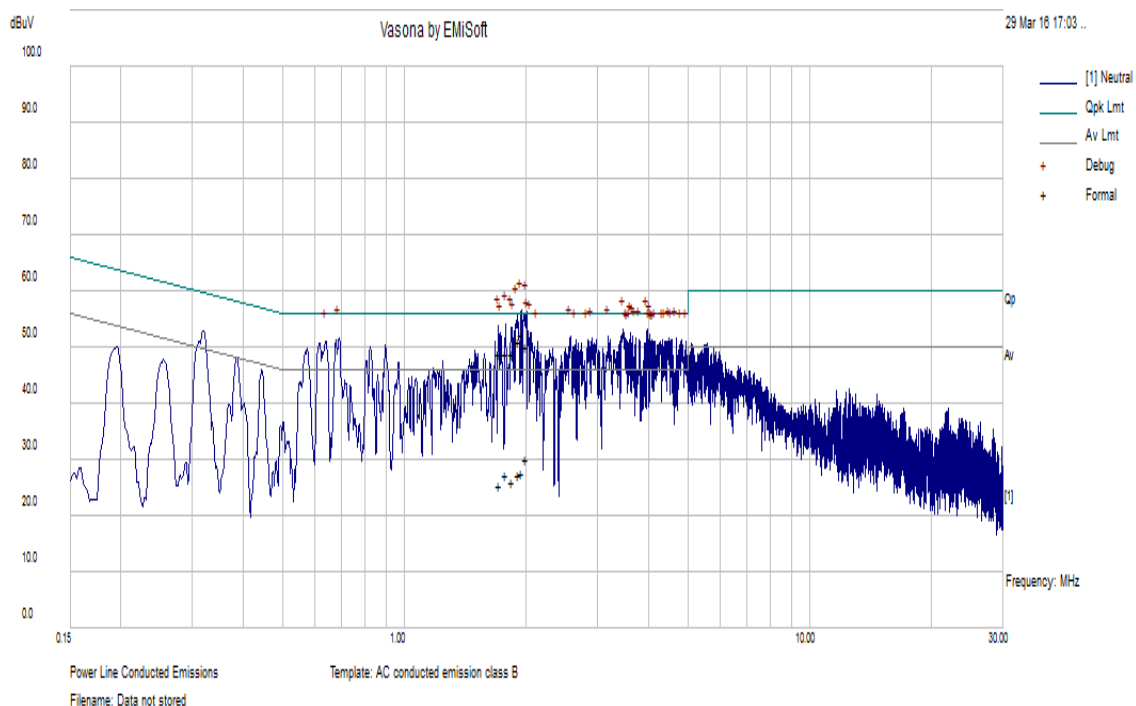
Transmitting Mode: 5.2 GHz operating: 802.11n40, 5230 MHz

120 V, 60 Hz – Line, AC/DC Adapter



Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Line/Neutral)	Limit (dBμV)	Margin (dB)	Detector (QP/Ave.)
1.936889	55.73	Line	56	-0.27	QP
2.007911	54.28	Line	56	-1.72	QP
2.069556	53.09	Line	56	-2.91	QP
2.027055	54.07	Line	56	-1.93	QP
0.577666	52.57	Line	56	-3.43	QP
1.75143	52.63	Line	56	-3.37	QP

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Line/Neutral)	Limit (dBμV)	Margin (dB)	Detector (QP/Ave.)
1.936889	36.3	Line	46	-9.7	Ave.
2.007911	36.62	Line	46	-9.38	Ave.
2.069556	33.64	Line	46	-12.36	Ave.
2.027055	36.08	Line	46	-9.92	Ave.
0.577666	38.96	Line	46	-7.04	Ave.
1.75143	31.8	Line	46	-14.2	Ave.

120 V, 60 Hz – Neutral, AC/DC Adapter

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Line/Neutral)	Limit (dBμV)	Margin (dB)	Detector (QP/Ave.)
1.951302	52.38	Neutral	56	-3.62	QP
2.004194	50.29	Neutral	56	-5.71	QP
1.912506	51.15	Neutral	56	-4.85	QP
1.785014	48.91	Neutral	56	-7.09	QP
1.713772	49	Neutral	56	-7	QP
1.844422	49.04	Neutral	56	-6.96	QP

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Line/Neutral)	Limit (dBμV)	Margin (dB)	Detector (QP/Ave.)
1.951302	27.69	Neutral	46	-18.31	Ave.
2.004194	30.26	Neutral	46	-15.74	Ave.
1.912506	27.35	Neutral	46	-18.65	Ave.
1.785014	27.54	Neutral	46	-18.46	Ave.
1.713772	25.64	Neutral	46	-20.36	Ave.
1.844422	26.27	Neutral	46	-19.73	Ave.

7 FCC §15.209 & §15.407(b) - Spurious Radiated Emissions

7.1 Applicable Standard

As per FCC §15.35(d): Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000 MHz shall be performed using a minimum resolution bandwidth of 1 MHz.

As per FCC §15.209(a): Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table

Frequency (MHz)	Field Strength (micro volts/meter)	Measurement Distance (meters)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100 Note 1	3
88 - 216	150 Note 1	3
216 - 960	200 Note 1	3
Above 960	500	3

Note 1: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

As Per FCC §15.205(a) except as show in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 – 0.110	16.42 – 16.423	960 – 1240	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	1300 – 1427	5.35 – 5.46
2.1735 – 2.1905	25.5 – 25.67	1435 – 1626.5	7.25 – 7.75
4.125 – 4.128	37.5 – 38.25	1645.5 – 1646.5	8.025 – 8.5
4.17725 – 4.17775	73 – 74.6	1660 – 1710	9.0 – 9.2
4.20725 – 4.20775	74.8 – 75.2	1718.8 – 1722.2	9.3 – 9.5
6.215 – 6.218	108 – 121.94	2200 – 2300	10.6 – 12.7
6.26775 – 6.26825	123 – 138	2310 – 2390	13.25 – 13.4
6.31175 – 6.31225	149.9 – 150.05	2483.5 – 2500	14.47 – 14.5
8.291 – 8.294	156.52475 – 156.52525	2690 – 2900	15.35 – 16.2
8.362 – 8.366	156.7 – 156.9	3260 – 3267	17.7 – 21.4
8.37625 – 8.38675	162.0125 – 167.17	3.332 – 3.339	22.01 – 23.12
8.41425 – 8.41475	167.72 – 173.2	3.3458 – 3.358	23.6 – 24.0
12.29 – 12.293	240 – 285	3.600 – 4.400	31.2 – 31.8
12.51975 – 12.52025	322 – 335.4		36.43 – 36.5
12.57675 – 12.57725	399.9 – 410		Above 38.6
13.36 – 13.41	608 – 614		

As per FCC §15.407(b): Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

7.2 Test Setup

The radiated emissions tests were performed in the 5-meter Chamber, using the setup in accordance with ANSI C63.10-2013. The specification used was the FCC 15C/15E limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle when necessary.

7.3 Test Procedure

For the radiated emissions test, the EUT host, and all support equipment power cords was connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The EUT is set 3 meter away from the testing antenna, which is varied from 1-4 meter, and the EUT is placed on a turntable, which is 0.8 or 1.5 meter above ground plane, the table shall be rotated for 360 degrees to find out the highest emission. The receiving antenna should be changed the polarization both of horizontal and vertical.

The spectrum analyzer or receiver is set as:

Below 1000 MHz:

RBW = 100 kHz / VBW = 300 kHz / Sweep = Auto

Above 1000 MHz:

- (1) Peak: RBW = 1MHz / VBW = 1MHz / Sweep = Auto
- (2) Average: RBW = 1MHz / VBW = 10Hz / Sweep = Auto

7.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude (CA) is calculated by adding the Cable Loss (CL), the Attenuator Factor (Atten) to indicated Amplitude (Ai) reading. The basic equation is as follows:

$$CA = Ai + CL + Atten$$

For example, a corrected amplitude of 46.2 dBuV = Indicated Reading (32.5 dBuV) + Cable Loss (3.7 dB) + Attenuator (10 dB)

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the maximum limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corrected Amplitude} - \text{Limit}$$

7.5 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Rohde & Schwarz	Receiver, EMI Test	ESCI 1166.5950K03	100044	2015-07-23	1 year
Agilent	Spectrum Analyzer	E4440A	MY44303352	2015-06-22	1 year
Sunol Science Corp	System Controller	SC99V	011003-1	N/R	N/R
Sunol Sciences	Antenna, Biconi-Log	JB1	A013105-3	2015-07-11	2 year
A.R.A	Antenna, Horn	DRG-118/A	1132	2015-09-21	2 year
HP	Pre-Amplifier	8447D	2944A06639	2015-06-08	1 year
Suirong	30 ft conductive emission cable	LMR 400	-	2015-07-02	1 year
-	SMA cable	-	C0001	Each time ¹	N/A
IW Microwave	High Frequency Cable	DC-1531	KPS- 1501A3960KPS	2015-08-10	1 year
Agilent	Pre-Amplifier	8449B	3008A01978	2015-09-02	1year

Statement of Traceability: *BACL Corp. attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.*

7.6 Test Environmental Conditions

Temperature:	21-22 °C
Relative Humidity:	42-44 %
ATM Pressure:	101-102.1 kPa

The testing was performed by Jin Yang from 2016-03-27 to 2016-04-01 in 5 meter chamber 3.

7.7 Summary of Test Results

According to the data hereinafter, the EUT complied with the FCC Part 15.205, 15.209 and 15.407 radiated emissions limits, and had the worst margin of:

5150-5250 MHz

Mode: Transmitting			
Margin (dB)	Frequency (MHz)	Polarization (Horizontal/Vertical)	Channel, Range
-0.93	5150	Vertical	802.11n20 5180 MHz, Above 1 GHz

5725-5850 MHz

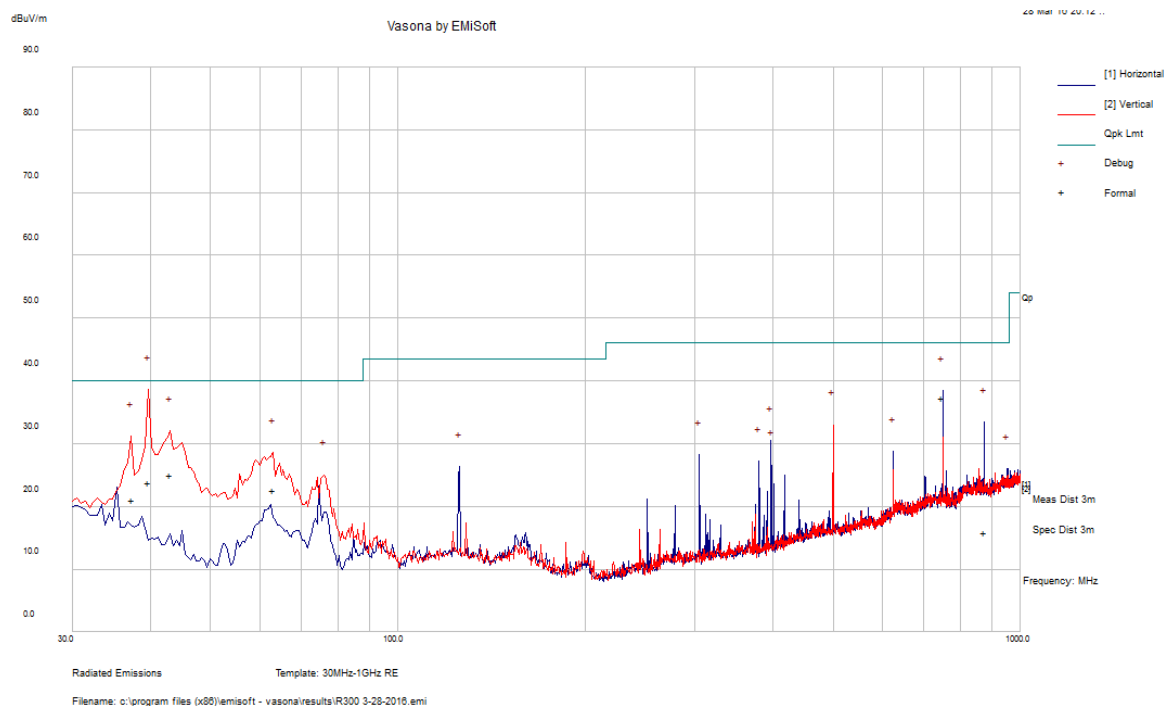
Mode: Transmitting			
Margin (dB)	Frequency (MHz)	Polarization (Horizontal/Vertical)	Channel, Range
-0.18	17475	Harazontal	802.11a 5825 MHz, Above 1 GHz

Note: Spurious emissions above 18GHz are all nosie floor.

7.8 Radiated Emissions Test Result Data

1) 30 – 1000 MHz:

Worst Case: 5.2 GHz Band, Transmitting 802.11n40, 5230 MHz



Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)	Comments (PK/QP/Ave.)
39.776	23.91	117	V	189	40	-9.7	QP
749.9755	37.35	100	V	156	46	-10.73	QP
43.029	24.98	132	V	146	40	-14.5	QP
37.4625	21.06	119	V	165	40	-20.7	QP
62.984	22.69	147	H	39	40	-20.71	QP
875.3078	15.91	165	V	180	46	-21.11	QP

2) Above 1000 MHz:**Radiated Emission at 3 meters, 5150-5250 MHz Band**

802.11a

Frequency (MHz)	S.A. Reading (dBμV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre- Amp. (dB)	Cord. Reading (dBμV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)	
Low Channel 5180 MHz, measured at 3 meters											
5180	73.82	63	217	V	34.03	5.26	0.00	113.11	-	-	Peak
5180	68.09	78	120	H	34.03	5.26	0.00	107.38	-	-	Peak
5180	63.67	63	217	V	34.03	5.26	0.00	102.96	-	-	Ave
5180	59.01	78	120	H	34.03	5.26	0.00	98.30	-	-	Ave
5150	66.59	78	230	V	34.03	5.91	36.51	70.02	74.00	-3.98	Peak
5150	61.83	342	175	H	34.03	5.91	36.51	65.26	74.00	-8.74	Peak
5150	48.55	78	230	V	34.03	5.91	36.51	51.98	54.00	-2.02	Ave
5150	43.36	342	175	H	34.03	5.91	36.51	46.79	54.00	-7.21	Ave
10360	50.55	113	273	V	39.71	9.72	36.68	63.30	68.26	-4.96	Peak
10360	44.37	359	270	H	39.71	9.72	36.68	57.12	68.26	-11.14	Peak
15540	45.34	34	201	V	39.05	11.86	36.01	60.24	74.00	-13.76	Peak
15540	45.84	352	150	H	39.05	11.86	36.01	60.74	74.00	-13.26	Peak
15540	33.91	34	201	V	39.05	11.86	36.01	48.81	54.00	-5.19	Ave
15540	33.53	352	150	H	39.05	11.86	36.01	48.43	54.00	-5.57	Ave
Middle Channel 5200 MHz, measured at 3 meters											
5200	76.02	86	251	V	34.03	5.26	0.00	115.31	-	-	Peak
5200	68.89	87	143	H	34.03	5.26	0.00	108.18	-	-	Peak
5200	67.61	86	251	V	34.03	5.26	0.00	106.90	-	-	Ave
5200	59.95	87	143	H	34.03	5.26	0.00	99.24	-	-	Ave
10400	51.95	78	246	V	39.71	9.72	36.63	64.75	68.26	-3.51	Peak
10400	45.23	360	273	H	39.71	9.72	36.63	58.03	68.26	-10.23	Peak
15600	45.16	34	201	V	39.05	11.86	36.01	60.06	74.00	-13.94	Peak
15600	45.68	352	150	H	39.05	11.86	36.01	60.58	74.00	-13.42	Peak
15600	33.56	34	201	V	39.05	11.86	36.01	48.46	54.00	-5.54	Ave
15600	33.37	352	150	H	39.05	11.86	36.01	48.27	54.00	-5.73	Ave

Frequency (MHz)	S.A. Reading (dBμV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre- Amp. (dB)	Cord. Reading (dBμV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)	
High Channel 5240 MHz, measured at 3 meters											
5240	75.22	71	238	V	34.03	5.26	0.00	114.51	-	-	Peak
5240	67.66	89	129	H	34.03	5.26	0.00	106.95	-	-	Peak
5240	66.76	71	238	V	34.03	5.26	0.00	106.05	-	-	Ave
5240	58.85	89	129	H	34.03	5.26	0.00	98.14	-	-	Ave
5350	56.44	360	257	V	33.98	5.60	36.51	59.51	74.00	-14.49	Peak
5350	55.32	352	223	H	33.98	5.60	36.51	58.39	74.00	-15.61	Peak
5350	44.38	360	257	V	33.98	5.60	36.51	47.45	54.00	-6.55	Ave
5350	44.19	352	223	H	33.98	5.60	36.51	47.26	54.00	-6.74	Ave
10480	52.43	81	244	V	39.62	9.72	36.63	65.14	68.26	-3.12	Peak
10480	45.16	360	231	H	39.62	9.72	36.63	57.87	68.26	-10.39	Peak
15720	45.23	34	201	V	38.70	12.00	35.97	59.96	74.00	-14.04	Peak
15720	45.33	352	150	H	38.70	12.00	35.97	60.06	74.00	-13.94	Peak
15720	33.89	34	201	V	38.70	12.00	35.97	48.62	54.00	-5.38	Ave
15720	33.52	352	150	H	38.70	12.00	35.97	48.25	54.00	-5.75	Ave

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Frequency (MHz)	S.A. Reading (dBμV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre- Amp. (dB)	Cord. Reading (dBμV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)	
Low Channel 5180 MHz, measured at 3 meters											
5180	73.16	64	216	V	34.03	5.26	0.00	112.45	-	-	Peak
5180	66.62	52	123	H	34.03	5.26	0.00	105.91	-	-	Peak
5180	64.04	64	216	V	34.03	5.26	0.00	103.33	-	-	Ave
5180	57.71	52	123	H	34.03	5.26	0.00	97.00	-	-	Ave
5150	69.86	12	237	V	34.03	5.91	36.73	73.07	74.00	-0.93	Peak
5150	64.35	346	219	H	34.03	5.91	36.73	67.56	74.00	-6.44	Peak
5150	48.55	12	237	V	34.03	5.91	36.73	51.76	54.00	-2.24	Ave
5150	40.85	346	219	H	34.03	5.91	36.73	44.06	54.00	-9.94	Ave
10360	50.66	85	221	V	39.71	9.72	36.68	63.41	68.26	-4.85	Peak
10360	43.76	360	209	H	39.71	9.72	36.68	56.51	68.26	-11.75	Peak
15540	44.9	34	201	V	39.05	11.86	36.01	59.80	74.00	-14.20	Peak
15540	44.63	352	150	H	39.05	11.86	36.01	59.53	74.00	-14.47	Peak
15540	34.12	34	201	V	39.05	11.86	36.01	49.02	54.00	-4.98	Ave
15540	33.89	352	150	H	39.05	11.86	36.01	48.79	54.00	-5.21	Ave
Middle Channel 5200 MHz, measured at 3 meters											
5200	75.96	358	228	V	34.03	5.26	0.00	115.25	-	-	Peak
5200	68.54	45	154	H	34.03	5.26	0.00	107.83	-	-	Peak
5200	67.79	358	228	V	34.03	5.26	0.00	107.08	-	-	Ave
5200	60.26	45	154	H	34.03	5.26	0.00	99.55	-	-	Ave
10400	51.51	81	200	V	39.71	9.72	36.63	64.31	68.26	-3.95	Peak
10400	51.53	218	280	H	39.71	9.72	36.63	64.33	68.26	-3.93	Peak
15600	45.96	34	201	V	39.05	11.86	36.01	60.86	74.00	-13.14	Peak
15600	46.65	352	150	H	39.05	11.86	36.01	61.55	74.00	-12.45	Peak
15600	34.22	34	201	V	39.05	11.86	36.01	49.12	54.00	-4.88	Ave
15600	34.3	352	150	H	39.05	11.86	36.01	49.20	54.00	-4.80	Ave

Frequency (MHz)	S.A. Reading (dBμV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre- Amp. (dB)	Cord. Reading (dBμV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)	
High Channel 5240 MHz, measured at 3 meters											
5240	75.17	72	235	V	34.03	5.26	0.00	114.46	-	-	Peak
5240	67.77	59	152	H	34.03	5.26	0.00	107.06	-	-	Peak
5240	66.64	72	235	V	34.03	5.26	0.00	105.93	-	-	Ave
5240	59.36	59	152	H	34.03	5.26	0.00	98.65	-	-	Ave
5350	56.68	360	257	V	33.98	5.60	36.51	59.75	74.00	-14.25	Peak
5350	55.59	352	223	H	33.98	5.60	36.51	58.66	74.00	-15.34	Peak
5350	44.32	360	257	V	33.98	5.60	36.51	47.39	54.00	-6.61	Ave
5350	44.38	352	223	H	33.98	5.60	36.51	47.45	54.00	-6.55	Ave
10480	52.08	85	232	V	39.62	9.72	36.63	64.79	68.26	-3.47	Peak
10480	45.31	360	209	H	39.62	9.72	36.63	58.02	68.26	-10.24	Peak
15720	46.46	34	201	V	38.70	12.00	35.97	61.19	74.00	-12.81	Peak
15720	46.5	352	150	H	38.70	12.00	35.97	61.23	74.00	-12.77	Peak
15720	34.66	34	201	V	38.70	12.00	35.97	49.39	54.00	-4.61	Ave
15720	34.72	352	150	H	38.70	12.00	35.97	49.45	54.00	-4.55	Ave

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Frequency (MHz)	S.A. Reading (dBμV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre- Amp. (dB)	Cord. Reading (dBμV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)	
Low Channel 5190 MHz, measured at 3 meters											
5190	65.36	211	148	V	34.03	5.26	0.00	104.65	-	-	Peak
5190	60.02	46	123	H	34.03	5.26	0.00	99.31	-	-	Peak
5190	55.67	211	148	V	34.03	5.26	0.00	94.96	-	-	Ave
5190	50.61	46	123	H	34.03	5.26	0.00	89.90	-	-	Ave
5150	62.36	80	262	V	34.03	5.91	36.73	65.57	74.00	-8.43	Peak
5150	58.39	344	203	H	34.03	5.91	36.73	61.60	74.00	-12.40	Peak
5150	47.86	80	262	V	34.03	5.91	36.73	51.07	54.00	-2.93	Ave
5150	42.57	344	203	H	34.03	5.91	36.73	45.78	54.00	-8.22	Ave
10380	49.86	85	236	V	39.71	9.72	36.63	62.66	68.26	-5.60	Peak
10380	45.16	360	225	H	39.71	9.72	36.63	57.96	68.26	-10.30	Peak
15570	46.22	34	201	V	39.05	11.86	36.01	61.12	74.00	-12.88	Peak
15570	45.93	352	150	H	39.05	11.86	36.01	60.83	74.00	-13.17	Peak
15570	34.59	34	201	V	39.05	11.86	36.01	49.49	54.00	-4.51	Ave
15570	34.63	352	150	H	39.05	11.86	36.01	49.53	54.00	-4.47	Ave
High Channel 5230 MHz, measured at 3 meters											
5230	73.63	344	232	V	34.03	5.26	0.00	112.92	-	-	Peak
5230	65.15	40	169	H	34.03	5.26	0.00	104.44	-	-	Peak
5230	64.94	344	232	V	34.03	5.26	0.00	104.23	-	-	Ave
5230	56.17	40	169	H	34.03	5.26	0.00	95.46	-	-	Ave
5350	56.38	360	257	V	33.98	5.60	36.51	59.45	74.00	-14.55	Peak
5350	55.16	352	223	H	33.98	5.60	36.51	58.23	74.00	-15.77	Peak
5350	44.25	360	257	V	33.98	5.60	36.51	47.32	54.00	-6.68	Ave
5350	44.08	352	223	H	33.98	5.60	36.51	47.15	54.00	-6.85	Ave
10460	50.79	87	256	V	39.62	9.72	36.63	63.50	68.26	-4.76	Peak
10460	45.26	360	235	H	39.62	9.72	36.63	57.97	68.26	-10.29	Peak
15690	46.02	34	201	V	38.70	11.86	35.97	60.61	74.00	-13.39	Peak
15690	46.85	352	150	H	38.70	11.86	35.97	61.44	74.00	-12.56	Peak
15690	34.81	34	201	V	38.70	11.86	35.97	49.40	54.00	-4.60	Ave
15690	34.91	352	150	H	38.70	11.86	35.97	49.50	54.00	-4.50	Ave

Radiated Emission at 3 meters, 5725-5850 MHz Band

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Frequency (MHz)	S.A. Reading (dBμV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre- Amp. (dB)	Cord. Reading (dBμV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)	
Low Channel 5745 MHz, measured at 3 meters											
5745	69.21	338	201	V	33.76	5.60	0.00	108.57	-	-	Peak
5745	61.8	152	140	H	33.76	5.60	0.00	101.16	-	-	Peak
5745	60.12	338	201	V	33.76	5.60	0.00	99.48	-	-	Ave
5745	52.71	152	140	H	33.76	5.60	0.00	92.07	-	-	Ave
5725	70.16	346	218	V	33.76	5.60	36.41	73.11	78.23	-5.12	Peak
5725	62.9	25	187	H	33.76	5.60	36.41	65.85	78.23	-12.38	Peak
5715	62.8	359	210	V	33.76	5.60	36.41	65.75	68.23	-2.48	Peak
5715	43.22	25	187	H	33.76	5.60	36.41	46.17	68.23	-22.06	Peak
11490	47.85	67	258	V	40.11	10.54	36.94	61.56	74.00	-12.44	Peak
11490	45.96	360	221	H	40.11	10.54	36.94	59.67	74.00	-14.33	Peak
11490	37.25	67	258	V	40.11	10.54	36.94	50.96	54.00	-3.04	Ave
11490	34.19	360	221	H	40.11	10.54	36.94	47.90	54.00	-6.10	Ave
17235	43.29	34	201	V	44.08	12.05	35.61	63.81	68.23	-4.42	Peak
17235	42.86	352	150	H	44.08	12.05	35.61	63.38	68.23	-4.85	Peak
Middle Channel 5785 MHz, measured at 3 meters											
5785	73.29	352	221	V	33.92	5.60	0.00	112.81	-	-	Peak
5785	66.14	91	200	H	33.92	5.60	0.00	105.66	-	-	Peak
5785	64.47	352	221	V	33.92	5.60	0.00	103.99	-	-	Ave
5785	56.66	91	200	H	33.92	5.60	0.00	96.18	-	-	Ave
11570	49.38	53	221	V	40.11	10.71	36.94	63.26	74.00	-10.74	Peak
11570	45.68	360	205	H	40.11	10.71	36.94	59.56	74.00	-14.44	Peak
11570	37.22	53	221	V	40.11	10.71	36.94	51.10	54.00	-2.90	Ave
11570	34.05	360	205	H	40.11	10.71	36.94	47.93	54.00	-6.07	Ave
17355	42.32	34	201	V	46.93	12.01	35.61	65.65	68.23	-2.58	Peak
17355	43.73	352	150	H	46.93	12.01	35.61	67.06	68.23	-1.17	Peak

Frequency (MHz)	S.A. Reading (dBμV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre- Amp. (dB)	Cord. Reading (dBμV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)	
High Channel 5825 MHz, measured at 3 meters											
5825	70.96	77	201	V	33.92	5.60	0.00	110.48	-	-	Peak
5825	66.46	149	145	H	33.92	5.60	0.00	105.98	-	-	Peak
5825	61.77	77	201	V	33.92	5.60	0.00	101.29	-	-	Ave
5825	56.18	149	145	H	33.92	5.60	0.00	95.70	-	-	Ave
5850	69.93	350	211	V	34.16	5.60	36.41	73.28	78.23	-4.95	Peak
5850	59.85	0	236	H	34.16	5.60	36.41	63.20	78.23	-15.03	Peak
5860	63.93	352	218	V	34.16	5.60	36.41	67.28	68.23	-0.95	Peak
5860	53.03	0	236	H	34.16	5.60	36.41	56.38	68.23	-11.85	Peak
11650	51.33	60	226	V	40.14	10.71	37.46	64.72	74.00	-9.28	Peak
11650	48.36	360	209	H	40.14	10.71	37.46	61.75	74.00	-12.25	Peak
11650	39.86	60	226	V	40.14	10.71	37.46	53.25	54.00	-0.75	Ave
11650	36.67	360	209	H	40.14	10.71	37.46	50.06	54.00	-3.94	Ave
17475	43.06	34	201	V	48.39	12.01	35.50	67.96	68.23	-0.27	Peak
17475	43.15	352	150	H	48.39	12.01	35.50	68.05	68.23	-0.18	Peak

802.11n-HT20

Frequency (MHz)	S.A. Reading (dBμV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre- Amp. (dB)	Cord. Reading (dBμV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)	
Low Channel 5745 MHz, measured at 3 meters											
5745	67.35	330	201	V	33.76	5.60	0.00	106.71	-	-	Peak
5745	64.19	151	140	H	33.76	5.60	0.00	103.55	-	-	Peak
5745	58.75	330	201	V	33.76	5.60	0.00	98.11	-	-	Ave
5745	51.31	151	140	H	33.76	5.60	0.00	90.67	-	-	Ave
5725	70.68	343	221	V	33.76	5.60	36.41	73.63	78.23	-4.60	Peak
5725	63.36	344	215	H	33.76	5.60	36.41	66.31	78.23	-11.92	Peak
5715	63.35	343	221	V	33.76	5.60	36.41	66.30	68.23	-1.93	Peak
5715	55.85	344	215	H	33.76	5.60	36.41	58.80	68.23	-9.43	Peak
11490	48.36	66	218	V	40.11	10.54	36.94	62.07	74.00	-11.93	Peak
11490	46.53	360	223	H	40.11	10.54	36.94	60.24	74.00	-13.76	Peak
11490	37.19	66	218	V	40.11	10.54	36.94	50.90	54.00	-3.10	Ave
11490	34.68	360	223	H	40.11	10.54	36.94	48.39	54.00	-5.61	Ave
17235	41.06	34	201	V	44.08	12.05	35.61	61.58	68.23	-6.65	Peak
17235	42.17	352	150	H	44.08	12.05	35.61	62.69	68.23	-5.54	Peak
Middle Channel 5785 MHz, measured at 3 meters											
5785	73.35	360	200	V	33.92	5.60	0.00	112.87	-	-	Peak
5785	67.03	66	116	H	33.92	5.60	0.00	106.55	-	-	Peak
5785	64.66	360	200	V	33.92	5.60	0.00	104.18	-	-	Ave
5785	58.05	66	116	H	33.92	5.60	0.00	97.57	-	-	Ave
11570	49.53	60	236	V	40.11	10.71	36.94	63.41	74.00	-10.59	Peak
11570	45.19	360	219	H	40.11	10.71	36.94	59.07	74.00	-14.93	Peak
11570	37.26	60	236	V	40.11	10.71	36.94	51.14	54.00	-2.86	Ave
11570	33.96	360	219	H	40.11	10.71	36.94	47.84	54.00	-6.16	Ave
17355	42.38	34	201	V	46.93	12.01	35.61	65.71	68.23	-2.52	Peak
17355	42.85	352	150	H	46.93	12.01	35.61	66.18	68.23	-2.05	Peak

Frequency (MHz)	S.A. Reading (dBμV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre- Amp. (dB)	Cord. Reading (dBμV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)	
High Channel 5825 MHz, measured at 3 meters											
5825	70.98	77	211	V	33.92	5.60	0.00	110.50	-	-	Peak
5825	64.99	150	143	H	33.92	5.60	0.00	104.51	-	-	Peak
5825	63.19	77	211	V	33.92	5.60	0.00	102.71	-	-	Ave
5825	57.15	150	143	H	33.92	5.60	0.00	96.67	-	-	Ave
5850	69.27	345	192	V	34.16	5.60	36.41	72.62	78.23	-5.61	Peak
5850	65.51	0	146	H	34.16	5.60	36.41	68.86	78.23	-9.37	Peak
5860	62.79	0	221	V	34.16	5.60	36.41	66.14	68.23	-2.09	Peak
5860	55.65	336	198	H	34.16	5.60	36.41	59.00	68.23	-9.23	Peak
11650	50.21	53	278	V	40.14	10.71	37.46	63.60	74.00	-10.40	Peak
11650	46.69	360	231	H	40.14	10.71	37.46	60.08	74.00	-13.92	Peak
11650	38.89	53	278	V	40.14	10.71	37.46	52.28	54.00	-1.72	Ave
11650	35.36	360	231	H	40.14	10.71	37.46	48.75	54.00	-5.25	Ave
17475	41.57	34	201	V	48.39	12.01	35.50	66.47	68.23	-1.76	Peak
17475	42.72	352	150	H	48.39	12.01	35.50	67.62	68.23	-0.61	Peak

802.11n-HT40

Frequency (MHz)	S.A. Reading (dBμV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre- Amp. (dB)	Cord. Reading (dBμV/m)	FCC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBμV/m)	Margin (dB)	
Low Channel 5755 MHz, measured at 3 meters											
5755	60.61	334	201	V	33.76	5.60	0.00	99.97	-	-	Peak
5755	53.26	151	140	H	33.76	5.60	0.00	92.62	-	-	Peak
5755	51.66	334	201	V	33.76	5.60	0.00	91.02	-	-	Ave
5755	44.69	151	140	H	33.76	5.60	0.00	84.05	-	-	Ave
5725	70.79	343	210	V	33.76	5.60	36.41	73.74	78.23	-4.49	Peak
5725	63.53	21	211	H	33.76	5.60	36.41	66.48	78.23	-11.75	Peak
5715	63.85	0	211	V	33.76	5.60	36.41	66.80	68.23	-1.43	Peak
5715	55.56	21	211	H	33.76	5.60	36.41	58.51	68.23	-9.72	Peak
11510	45.89	83	236	V	40.11	10.71	36.94	59.77	74.00	-14.23	Peak
11510	45.91	360	225	H	40.11	10.71	36.94	59.79	74.00	-14.21	Peak
11510	34.56	83	236	V	40.11	10.71	36.94	48.44	54.00	-5.56	Ave
11510	34.39	360	225	H	40.11	10.71	36.94	48.27	54.00	-5.73	Ave
17265	43.27	34	201	V	45.27	12.05	35.61	64.98	68.23	-3.25	Peak
17265	43.71	352	150	H	45.27	12.05	35.61	65.42	68.23	-2.81	Peak
High Channel 5795 MHz, measured at 3 meters											
5795	70.39	335	205	V	33.92	5.60	0.00	109.91	-	-	Peak
5795	62.24	150	143	H	33.92	5.60	0.00	101.76	-	-	Peak
5795	61.57	335	205	V	33.92	5.60	0.00	101.09	-	-	Ave
5795	52.83	150	143	H	33.92	5.60	0.00	92.35	-	-	Ave
5850	64.56	342	219	V	34.16	5.60	36.41	67.91	78.23	-10.32	Peak
5850	47.69	360	149	H	34.16	5.60	36.41	51.04	78.23	-27.19	Peak
5860	59.86	0	187	V	34.16	5.60	36.41	63.21	68.23	-5.02	Peak
5860	42.16	360	149	H	34.16	5.60	36.41	45.51	68.23	-22.72	Peak
11590	49.35	68	202	V	40.11	10.71	36.94	63.23	74.00	-10.77	Peak
11590	47.16	360	238	H	40.11	10.71	36.94	61.04	74.00	-12.96	Peak
11590	38.06	68	202	V	40.11	10.71	36.94	51.94	54.00	-2.06	Ave
11590	36.85	360	238	H	40.11	10.71	36.94	50.73	54.00	-3.27	Ave
17385	43.54	34	201	V	46.93	12.01	35.50	66.98	68.23	-1.25	Peak
17385	44.08	352	150	H	46.93	12.01	35.50	67.52	68.23	-0.71	Peak

8 FCC §15.407(a) & §15.407(e) - Emission Bandwidth

8.1 Applicable Standard

FCC §15.407(a)

26 dB emission bandwidth is measured as reference for power and PSD measurement.

FCC §15.407(e)

Within the 5.725-5.85 GHz band, the minimum 6 dB Bandwidth of U-NII devices shall be at least 500 kHz.

8.2 Measurement Procedure

The measurements are based on FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r01: Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E, section C: Emission bandwidth and section D: 99 Percent Occupied Bandwidth

8.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Agilent	Spectrum Analyzer	E4440A	US42221851	2015-06-23	1 year
-	SMA Cable	-	C0001	Each Time ¹	N/A
Mini-Circuits	Attenuator	BW-S20W5	1430	Each Time ¹	N/A

Statement of Traceability: *BACL Corp.* attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.

8.4 Test Environmental Conditions

Temperature:	22 °C
Relative Humidity:	43 %
ATM Pressure:	101.1 kPa

The testing was performed by Jin Yang from 2016-03-29 to 2016-04-06 in RF site.

8.5 Test Results

5150-5250 MHz Band

802.11a mode

Channel	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Emission Bandwidth (MHz)
Chain J0			
Low	5180	21.91	16.55
Middle	5200	35.89	17.39
High	5240	25.84	17.06
Chain J1			
Low	5180	22.61	16.52
Middle	5200	37.91	19.76
High	5240	37.10	18.21

802.11n HT20 mode

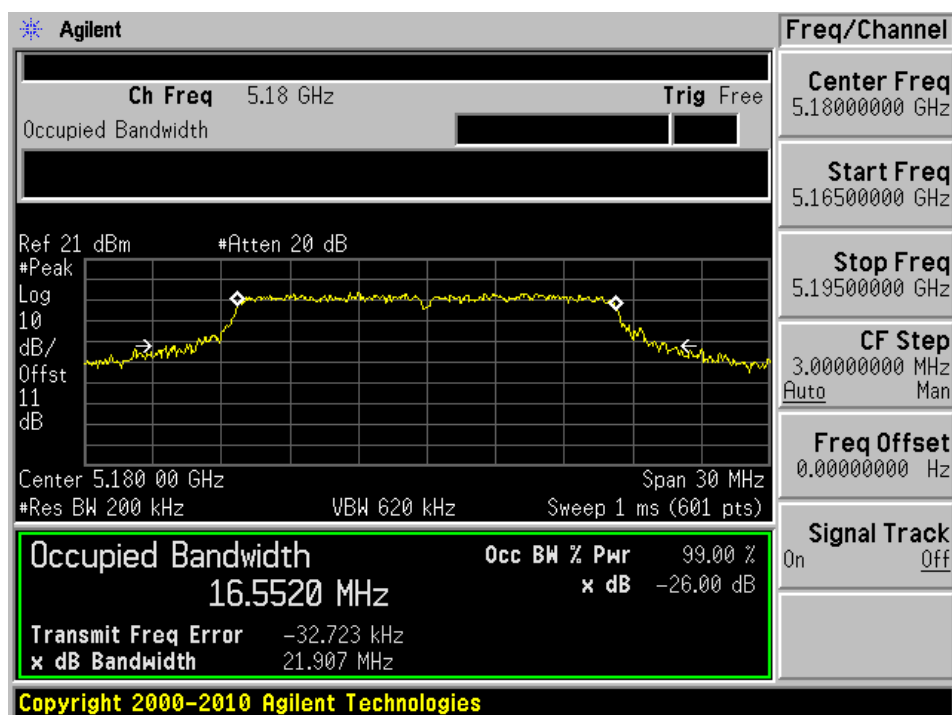
Channel	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Emission Bandwidth (MHz)
Chain J0			
Low	5180	22.59	17.70
Middle	5200	25.28	18.03
High	5240	28.31	18.02
Chain J1			
Low	5180	22.23	17.66
Middle	5200	42.48	21.03
High	5240	33.29	18.31

802.11n HT40 mode

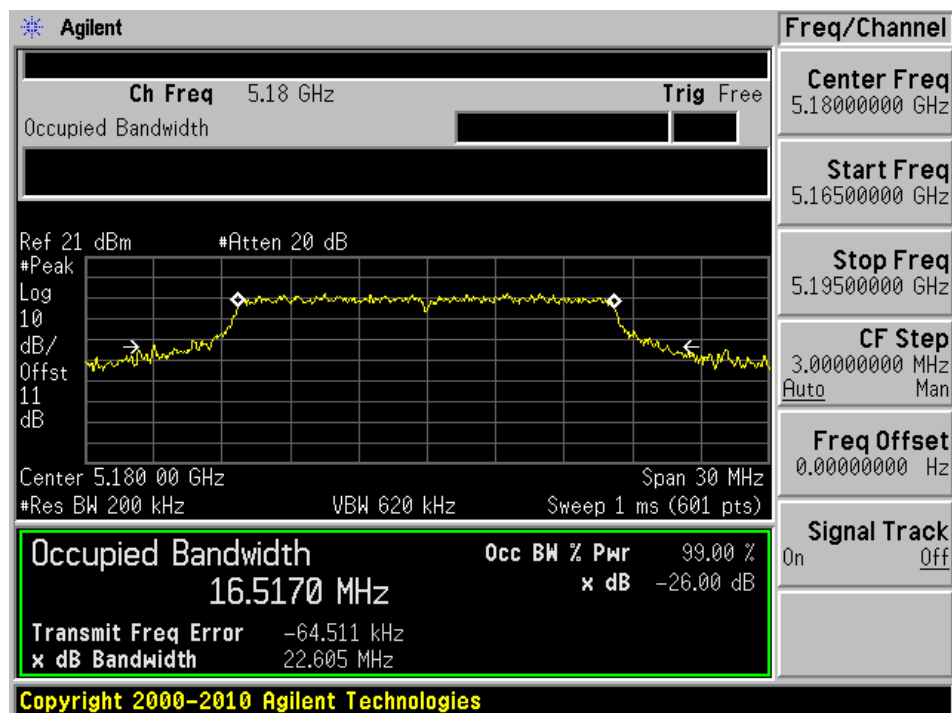
Channel	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Emission Bandwidth (MHz)
Chain J0			
Low	5190	44.66	36.20
High	5230	72.51	37.62
Chain J1			
Low	5190	42.66	36.19
High	5230	79.04	39.45

5150-5250 MHz Band

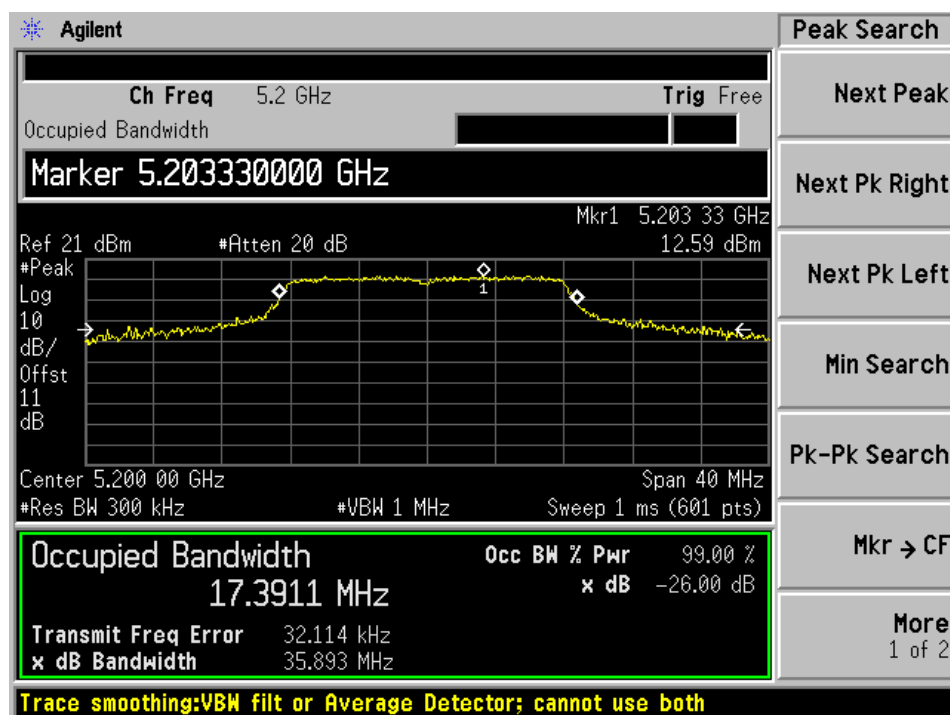
802.11a mode, 5180 MHz, Chain J0



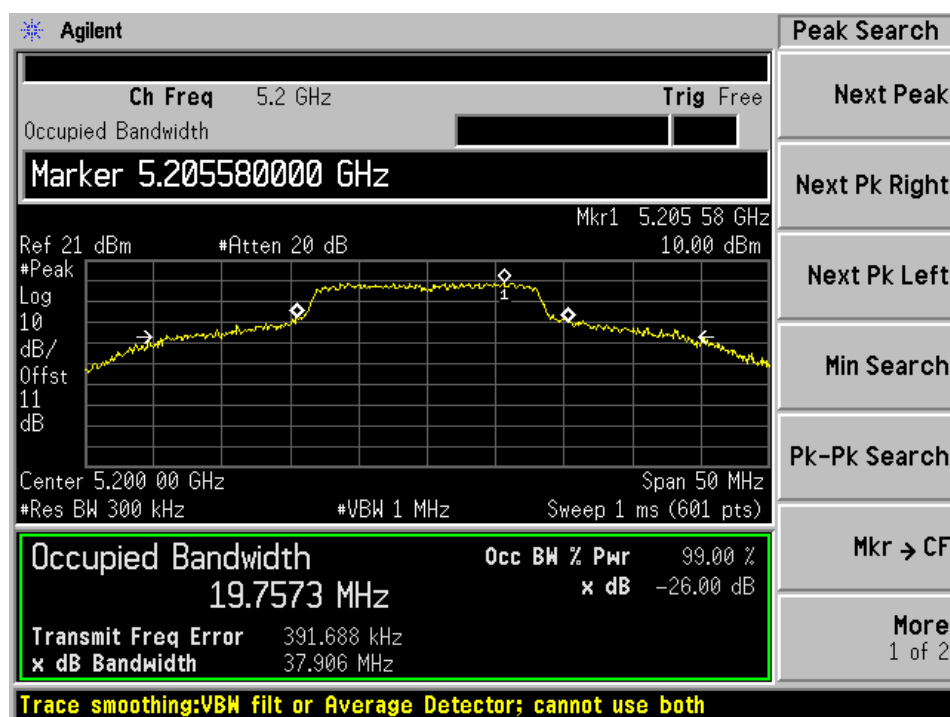
802.11a mode, 5180 MHz, Chain J1



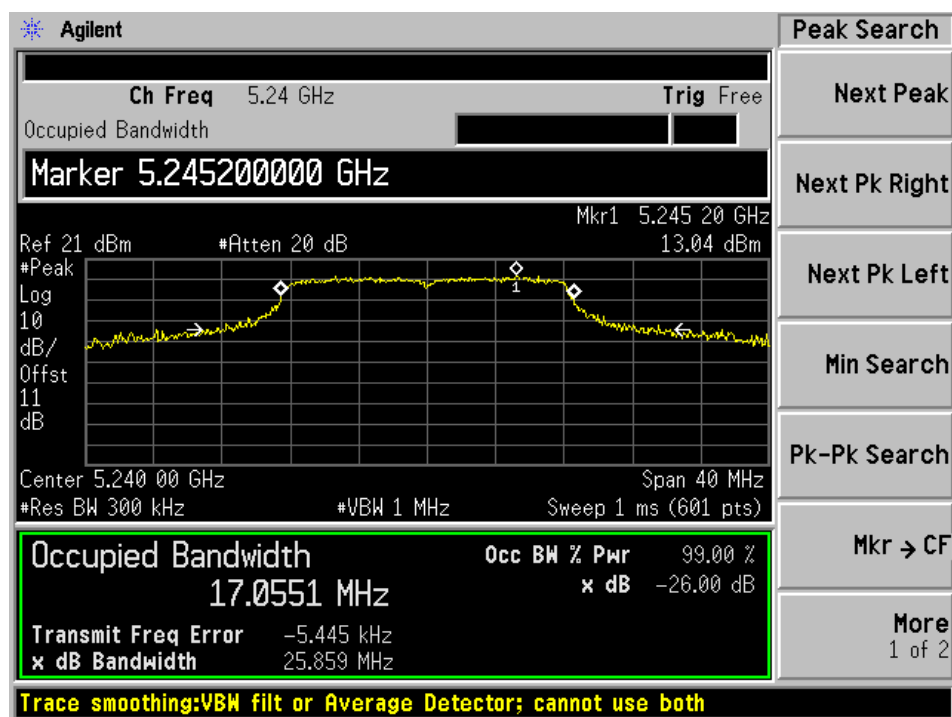
802.11a mode, 5200 MHz, Chain J0



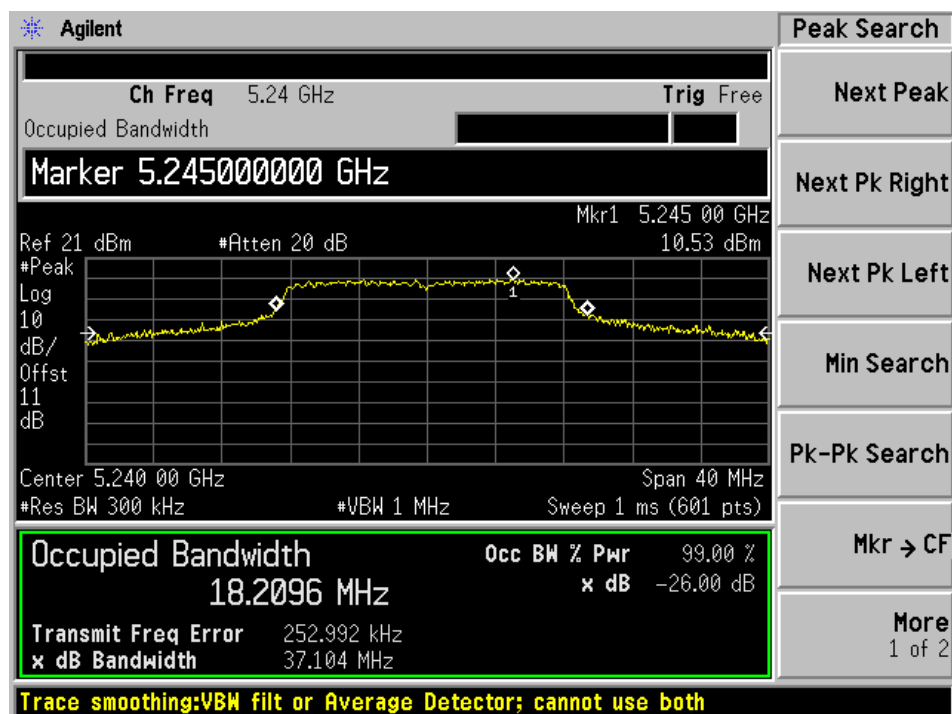
802.11a mode, 5200 MHz, Chain J1



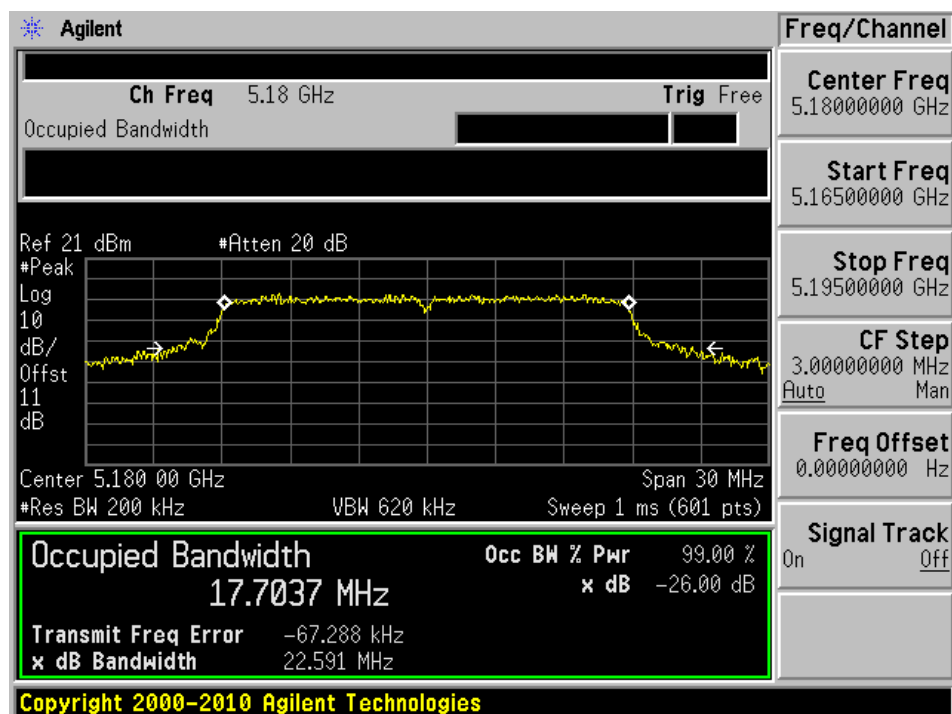
802.11a mode, 5240 MHz, Chain J0



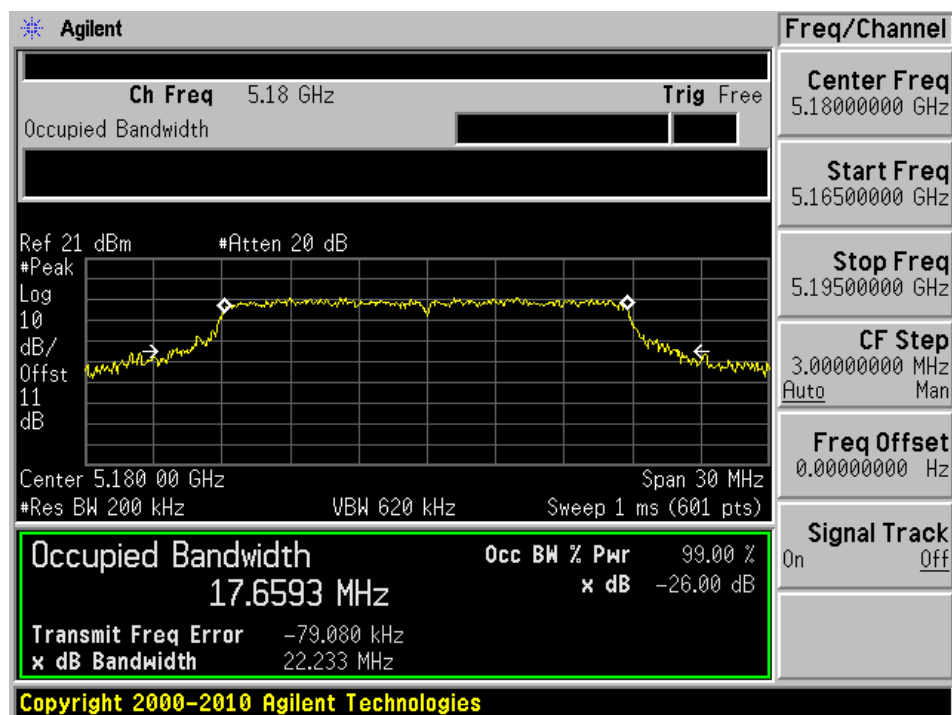
802.11a mode, 5240 MHz, Chain J1



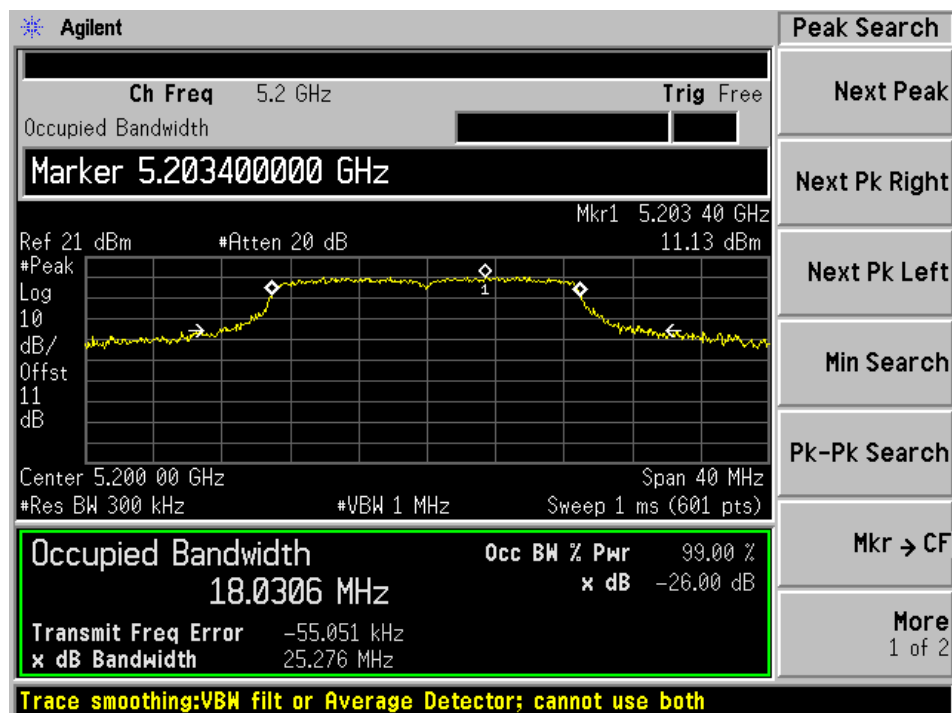
802.11n HT20 mode, 5180 MHz, Chain J0



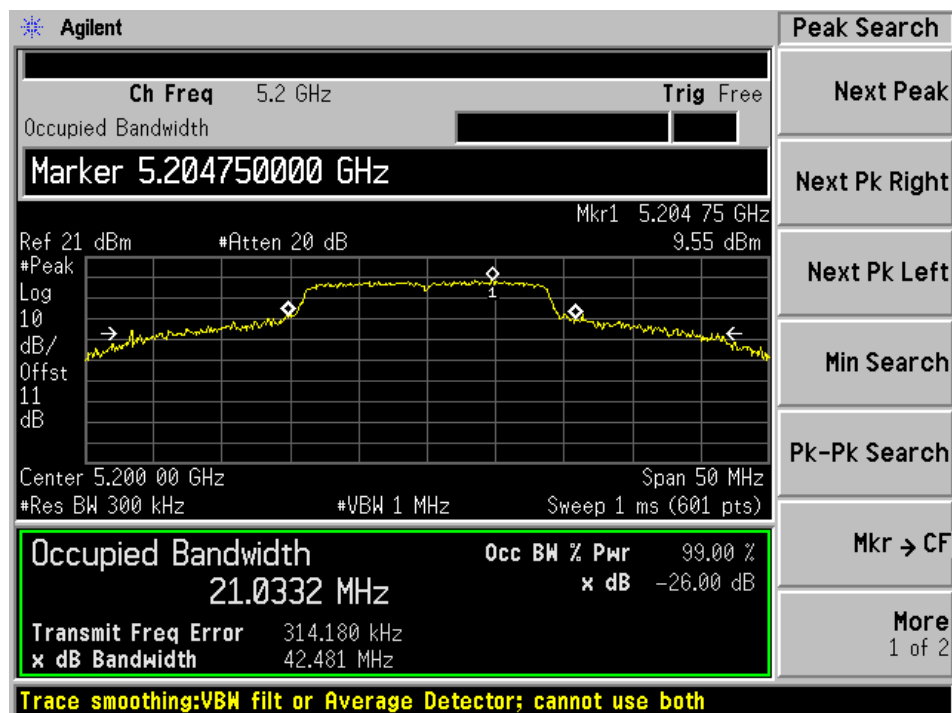
802.11n HT20 mode, 5180 MHz, Chain J1



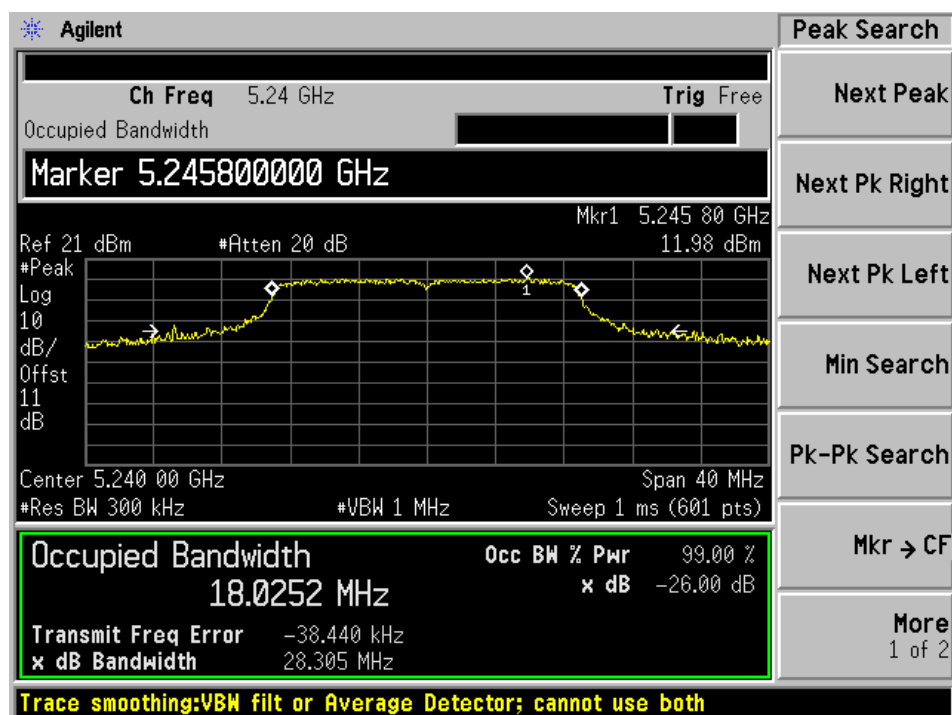
802.11n HT20 mode, 5200 MHz, Chain J0



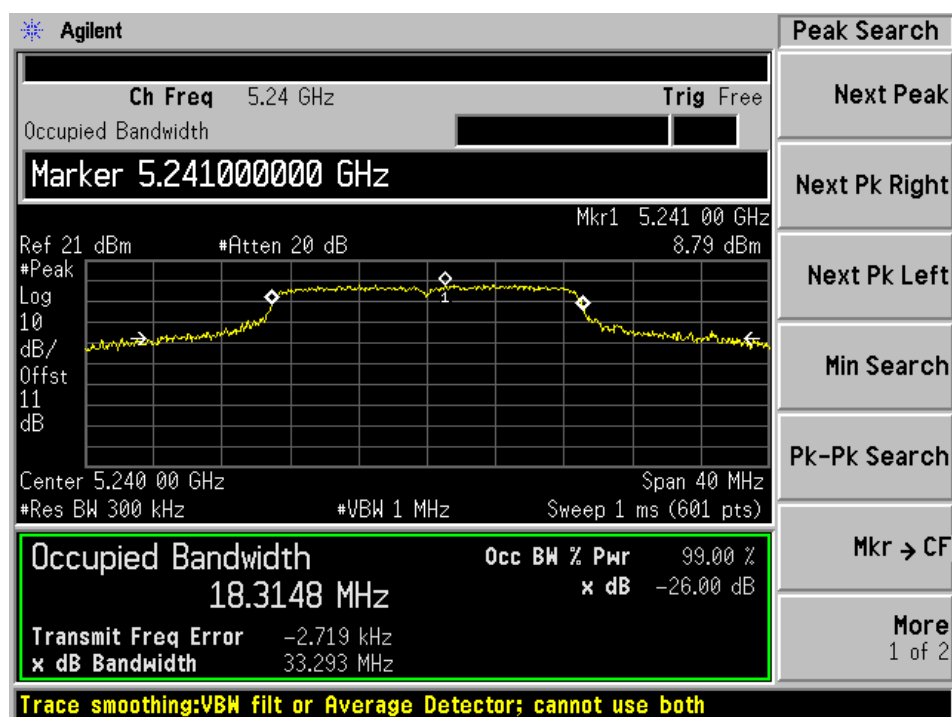
802.11n HT20 mode, 5200 MHz, Chain J1



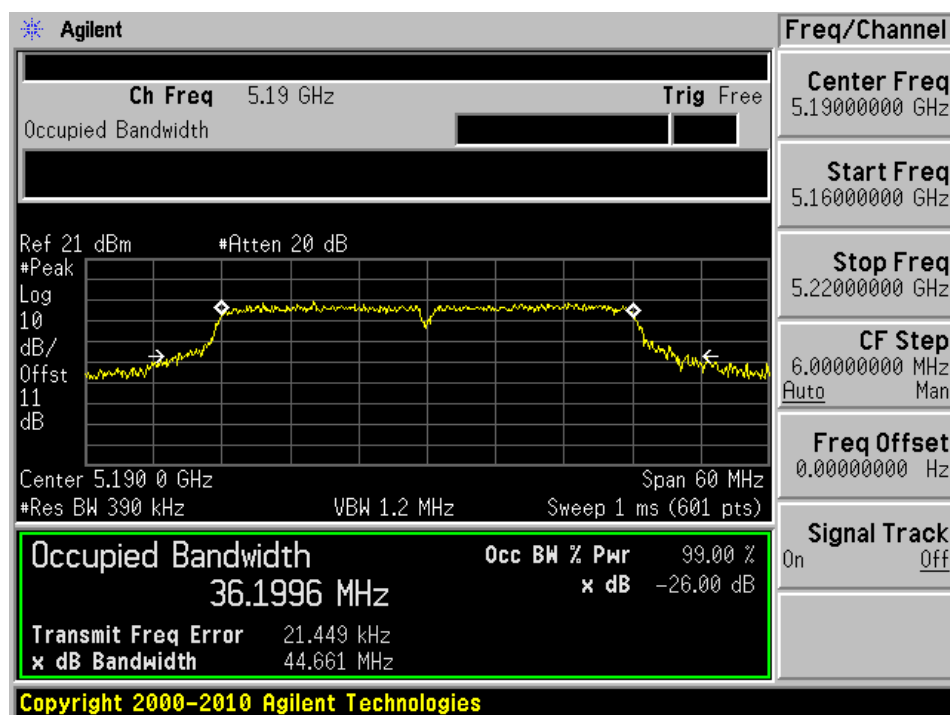
802.11n HT20 mode, 5240 MHz, Chain J0



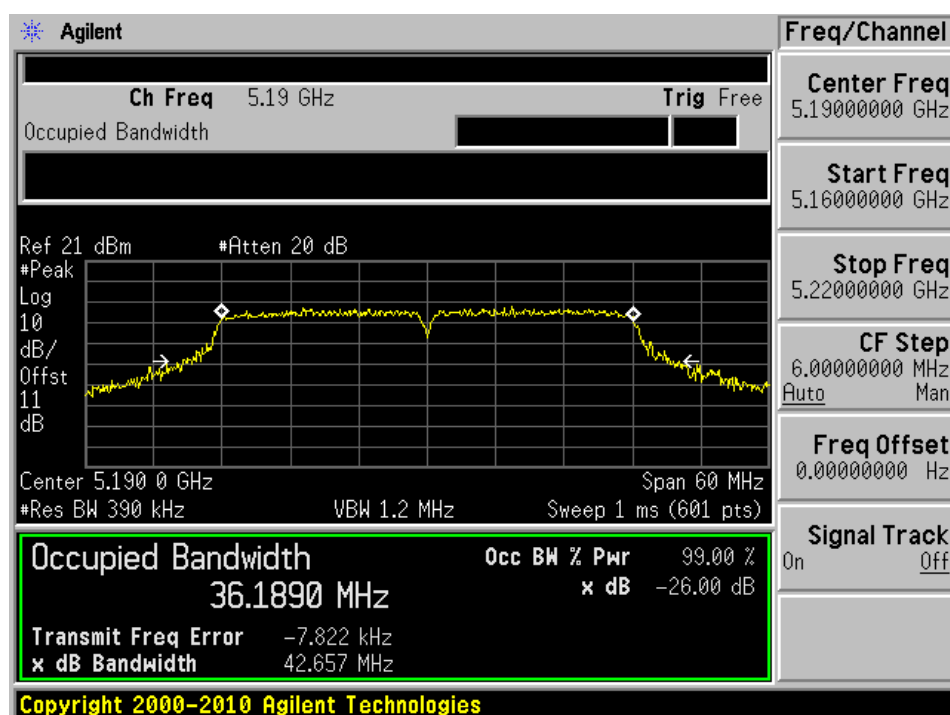
802.11n HT20 mode, 5240 MHz, Chain J1



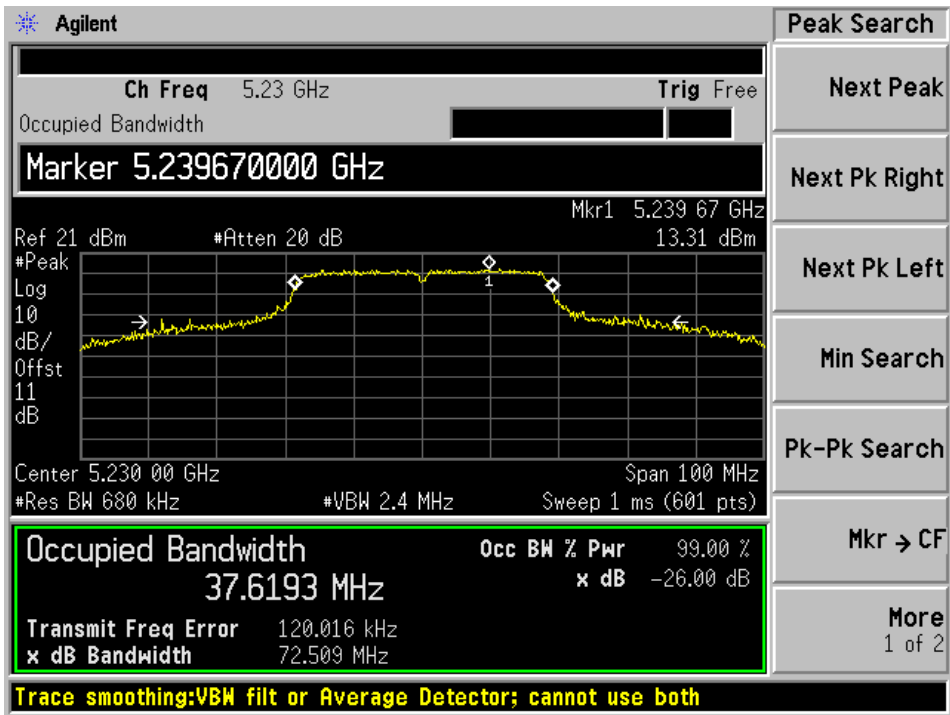
802.11n HT40 mode, 5190 MHz, Chain J0



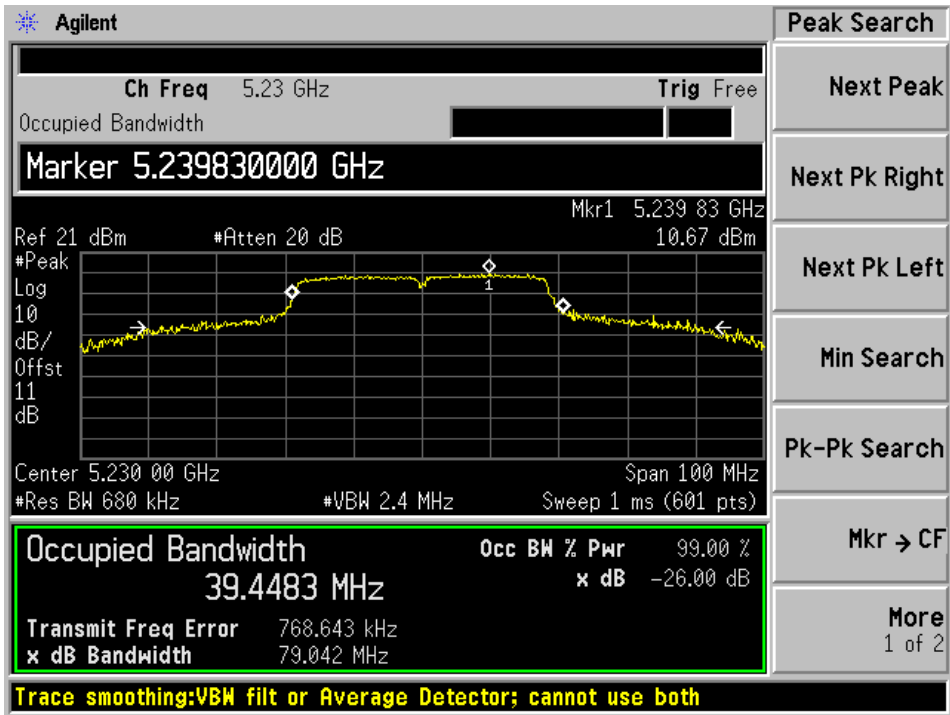
802.11n HT40 mode, 5190 MHz, Chain J1



802.11n HT40 mode, 5230 MHz, Chain J0



802.11n HT40 mode, 5230 MHz, Chain J1



5725-5850 MHz Band

802.11a mode

Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	99% Emission Bandwidth (MHz)	Limit (kHz)	Results
Chain J0					
Low	5745	16.44	16.42	> 500	Compliant
Middle	5785	16.58	16.62	> 500	Compliant
High	5825	16.53	16.47	> 500	Compliant
Chain J1					
Low	5745	16.46	16.41	> 500	Compliant
Middle	5785	16.53	17.42	> 500	Compliant
High	5825	16.46	16.49	> 500	Compliant

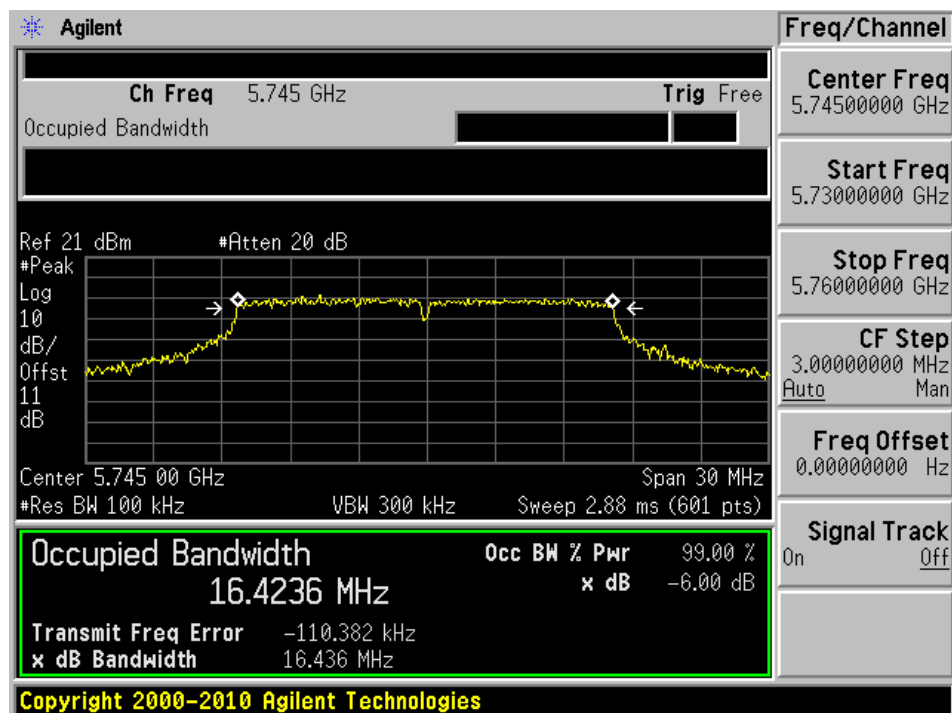
802.11n HT20 mode

Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	99% Emission Bandwidth (MHz)	Limit (kHz)	Results
Chain J0					
Low	5745	17.68	17.61	> 500	Compliant
Middle	5785	17.76	17.79	> 500	Compliant
High	5825	17.71	17.61	> 500	Compliant
Chain J1					
Low	5745	17.71	17.61	> 500	Compliant
Middle	5785	17.76	18.01	> 500	Compliant
High	5825	17.69	17.67	> 500	Compliant

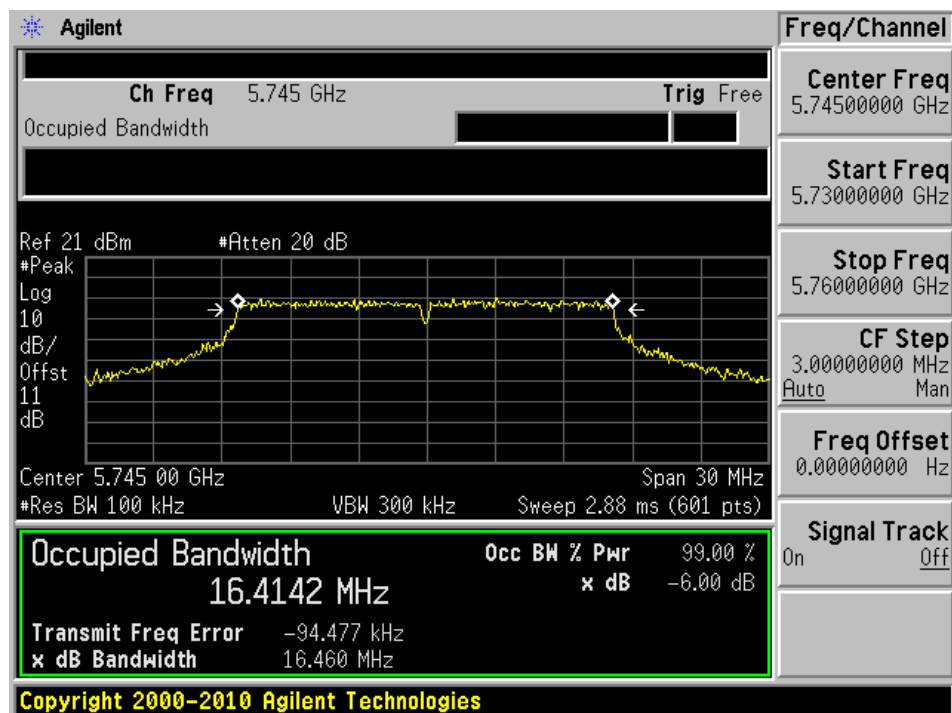
802.11n HT40 mode

Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	99% Emission Bandwidth (MHz)	Limit (kHz)	Results
Chain J0					
Low	5755	36.52	36.13	> 500	Compliant
High	5795	36.45	36.15	> 500	Compliant
Chain J1					
Low	5755	36.52	36.12	> 500	Compliant
High	5795	36.53	36.26	> 500	Compliant

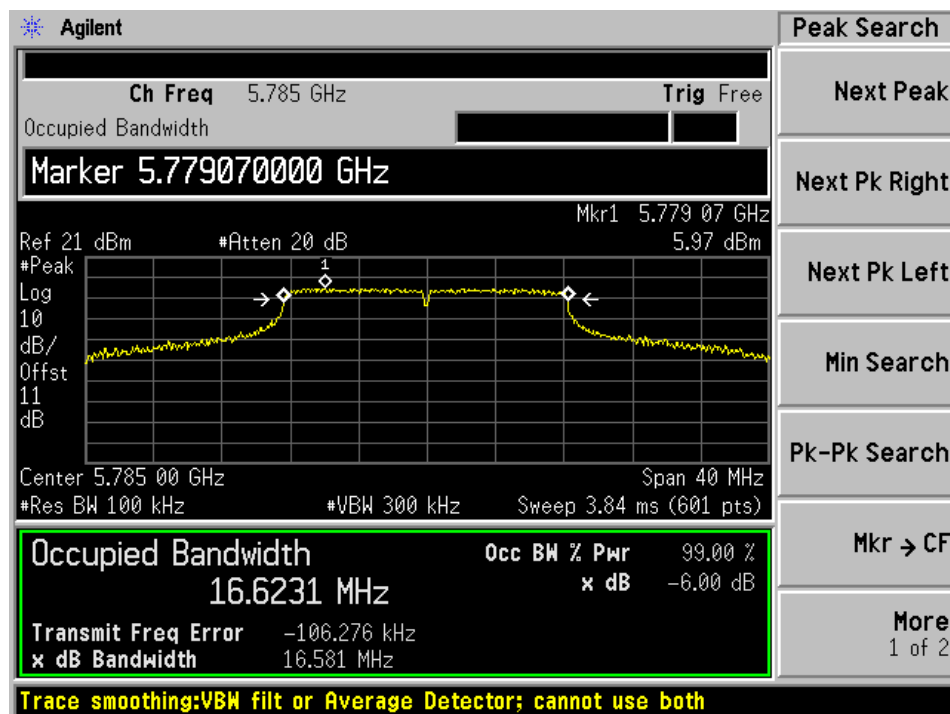
802.11a mode, 5745 MHz, Chain J0



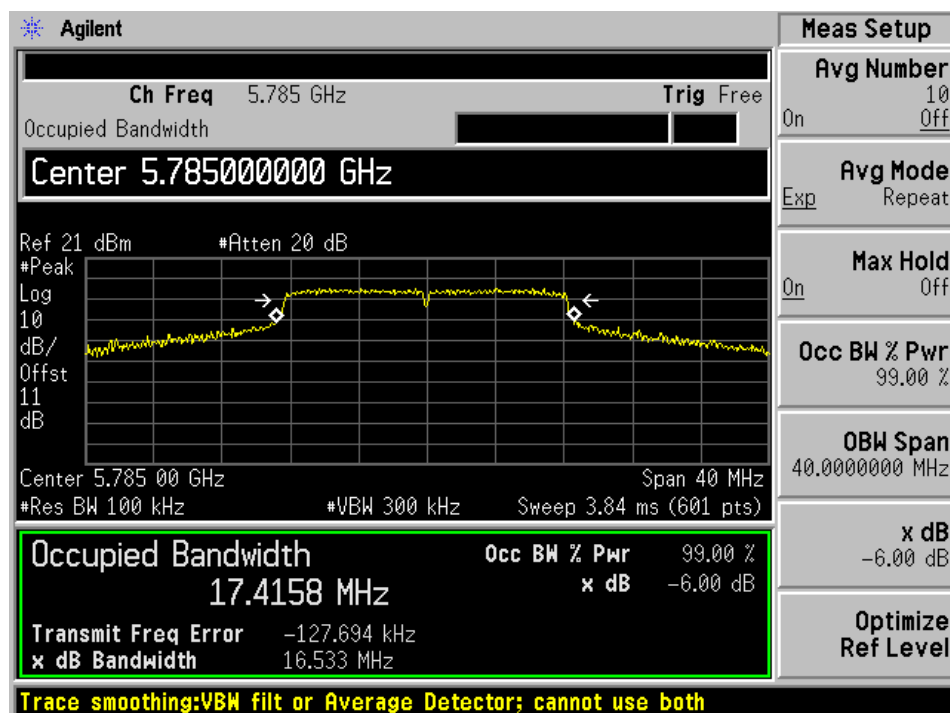
802.11a mode, 5745 MHz, Chain J1



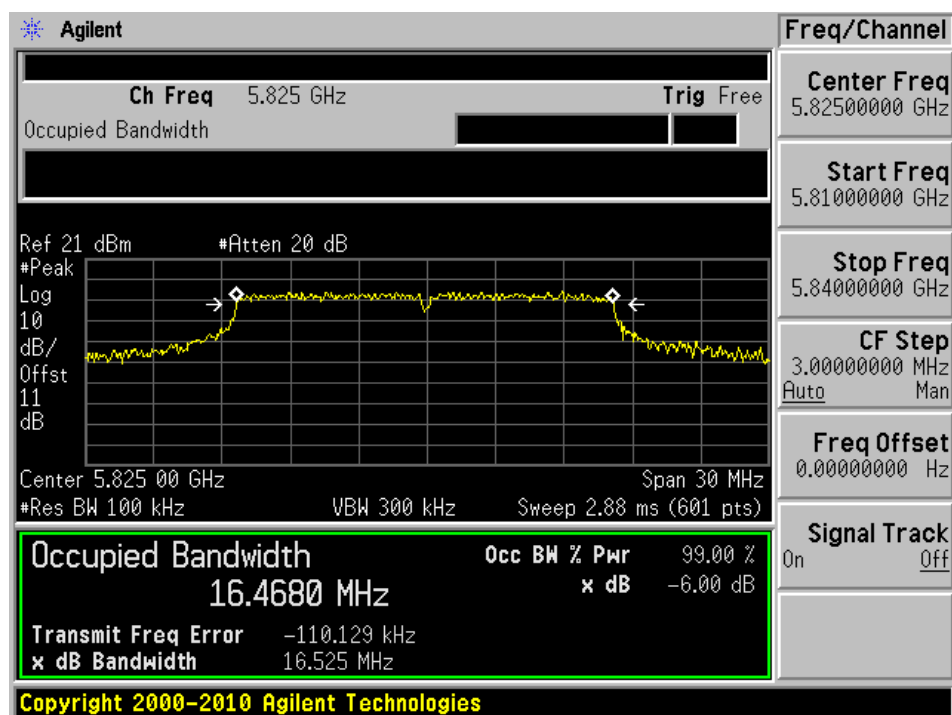
802.11a mode, 5785 MHz, Chain J0



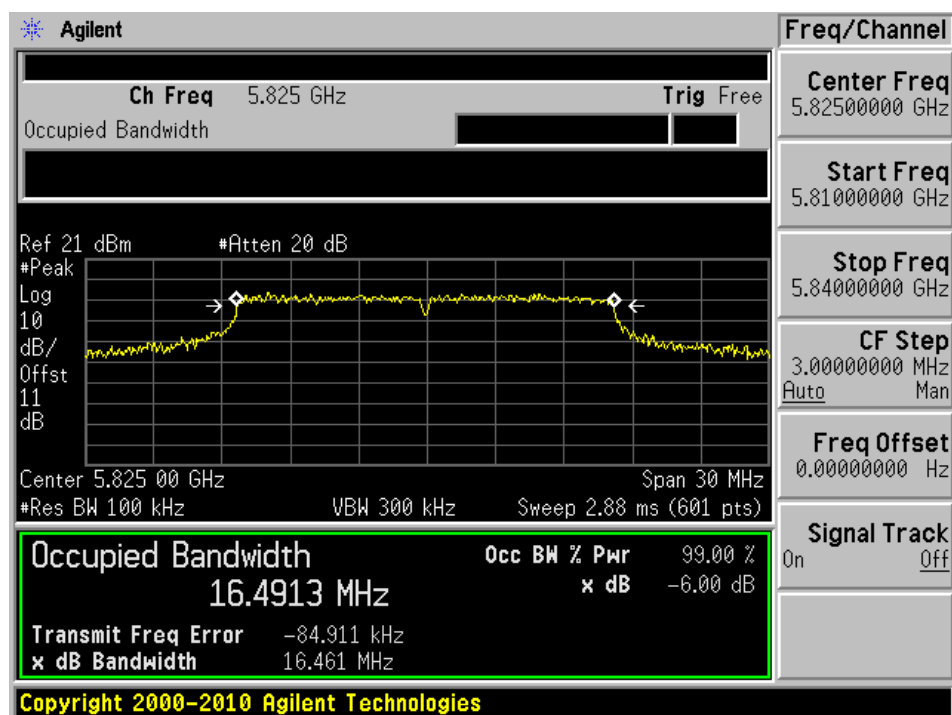
802.11a mode, 5785 MHz, Chain J1



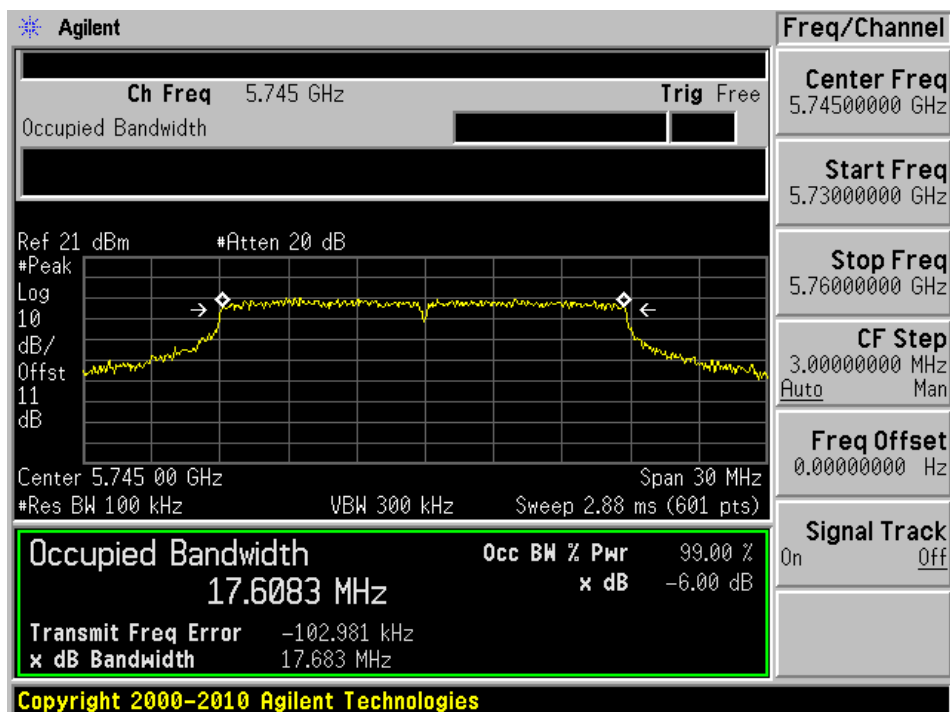
802.11a mode, 5825 MHz, Chain J0



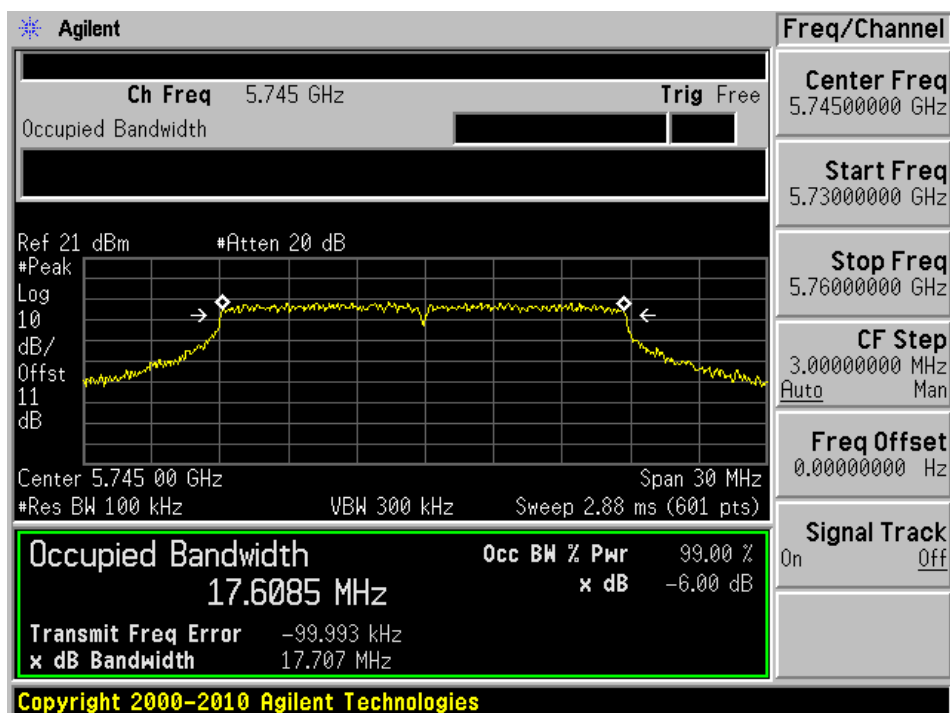
802.11a mode, 5825 MHz, Chain J1



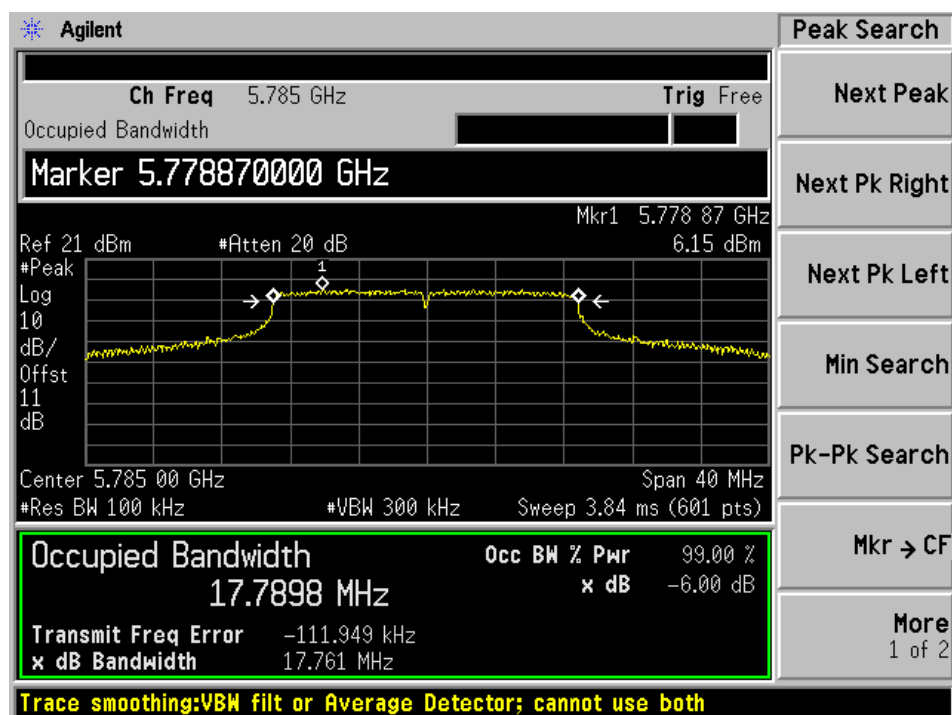
802.11n HT20 mode, 5745 MHz, Chain J0



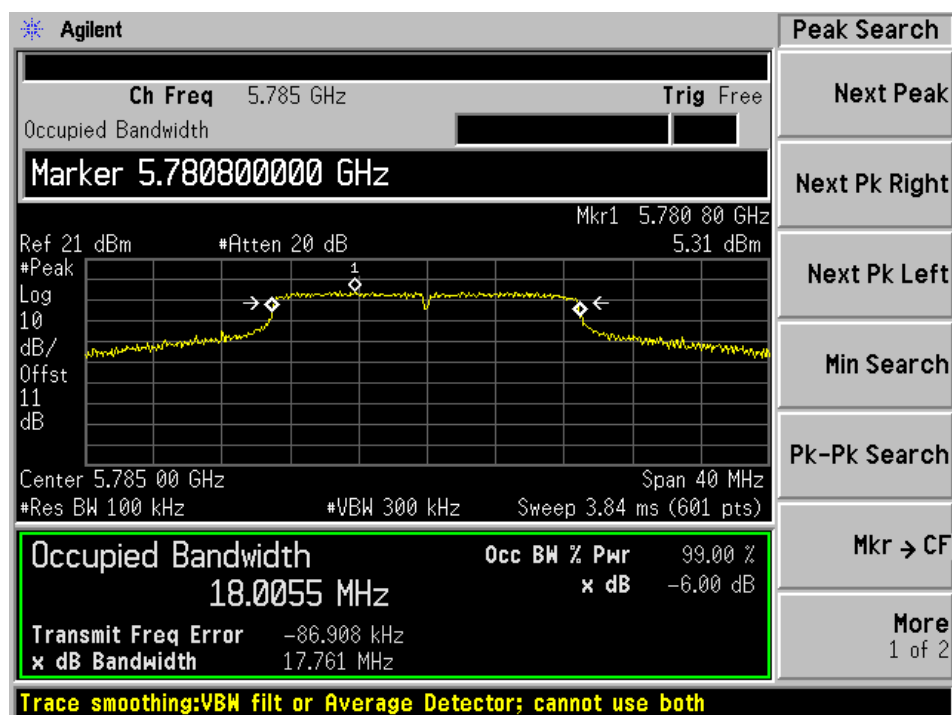
802.11n HT20 mode, 5745 MHz, Chain J1



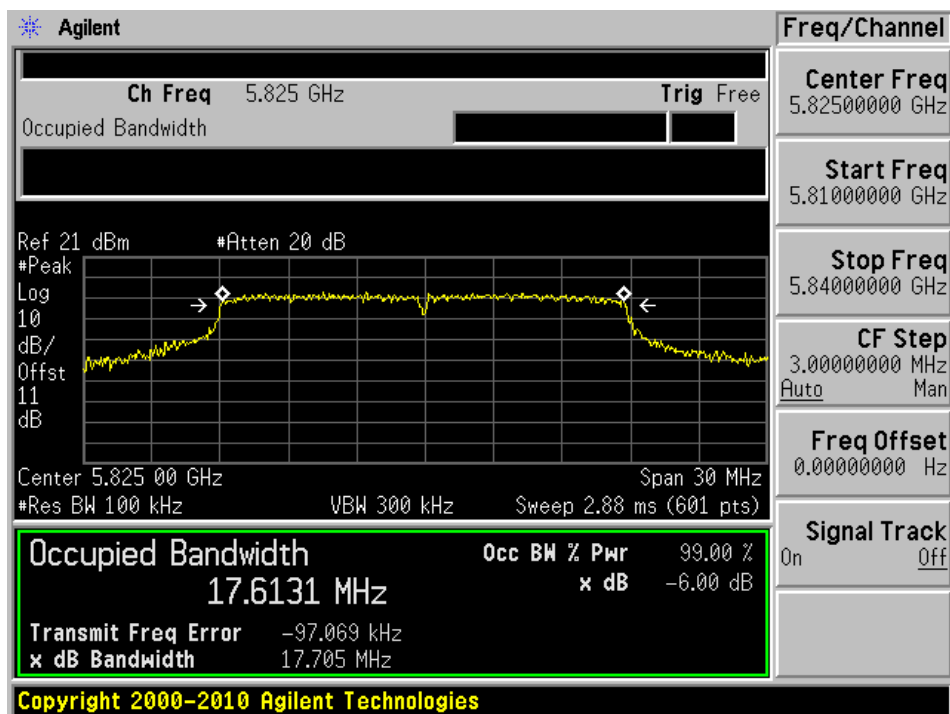
802.11n HT20 mode, 5785 MHz, Chain J0



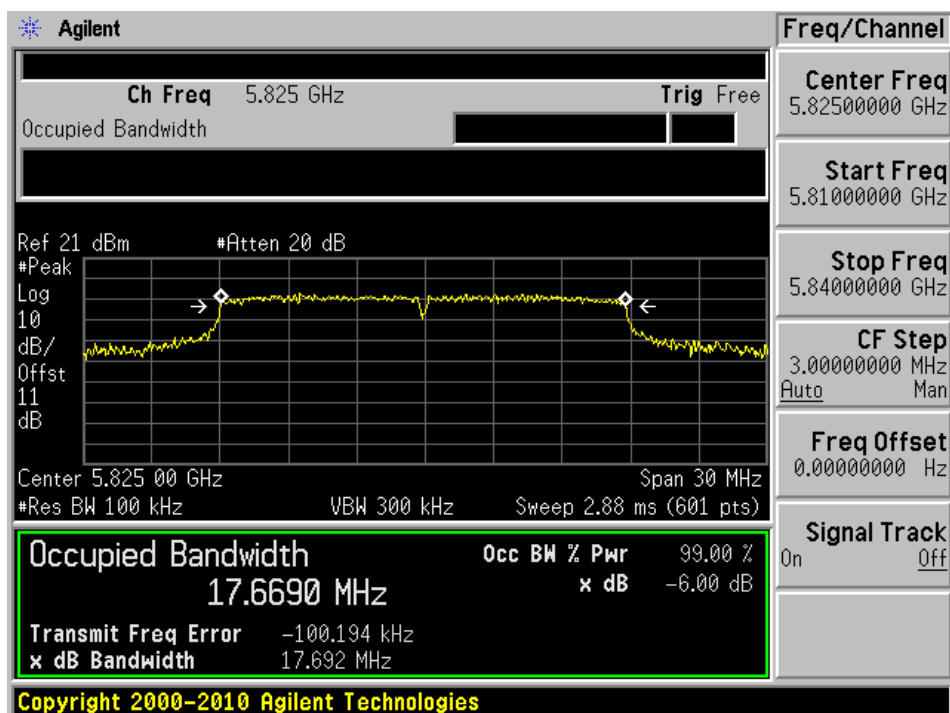
802.11n HT20 mode, 5785 MHz, Chain J1



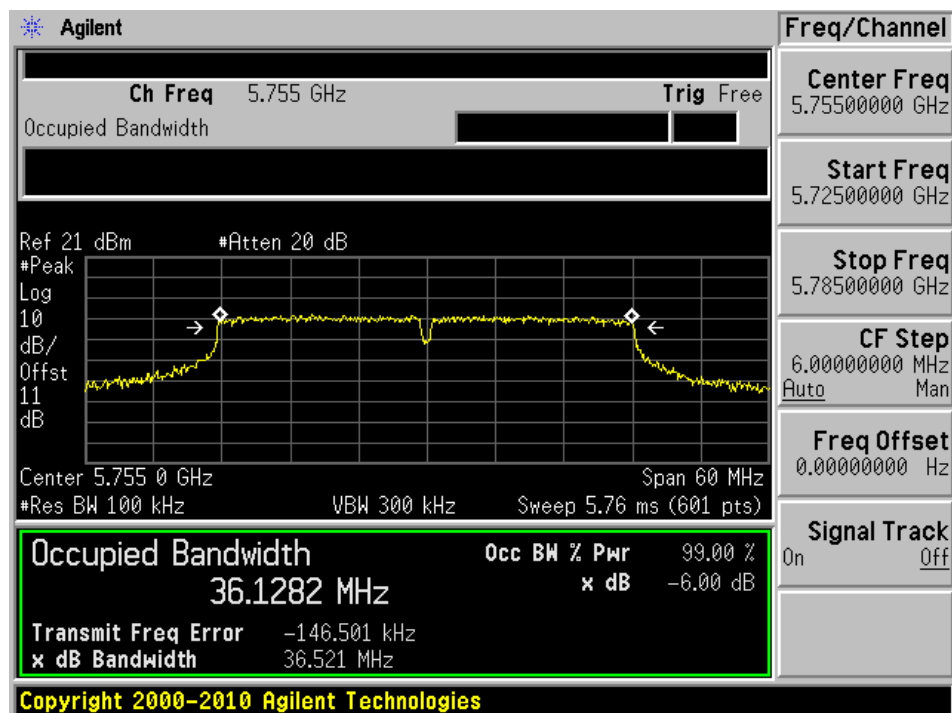
802.11n HT20 mode, 5825 MHz, Chain J0



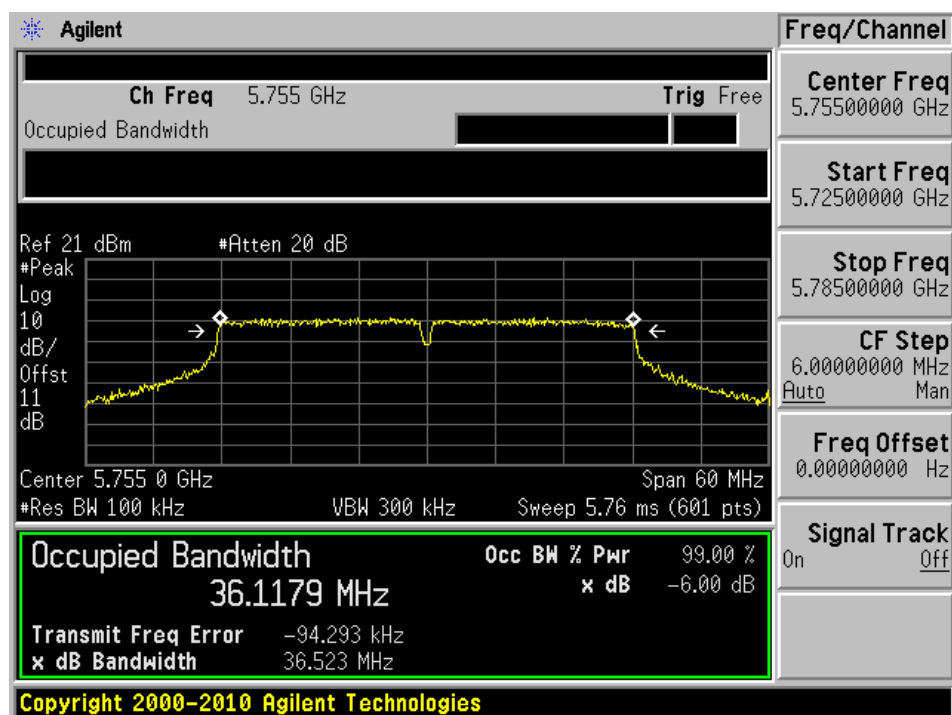
802.11n HT20 mode, 5825 MHz, Chain J1



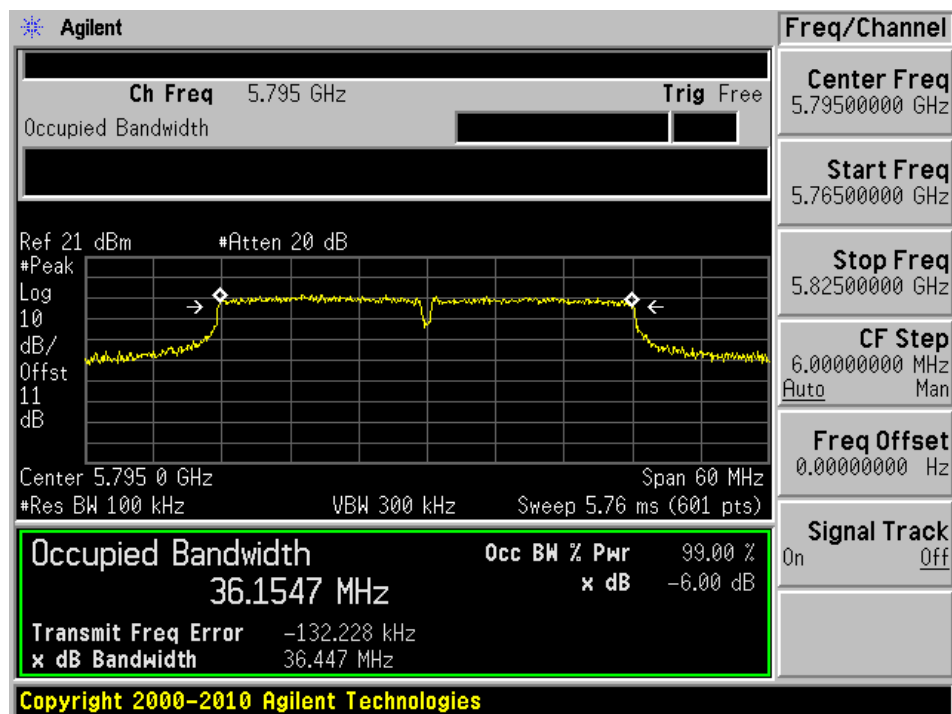
802.11n HT40 mode, 5755 MHz, Chain J0



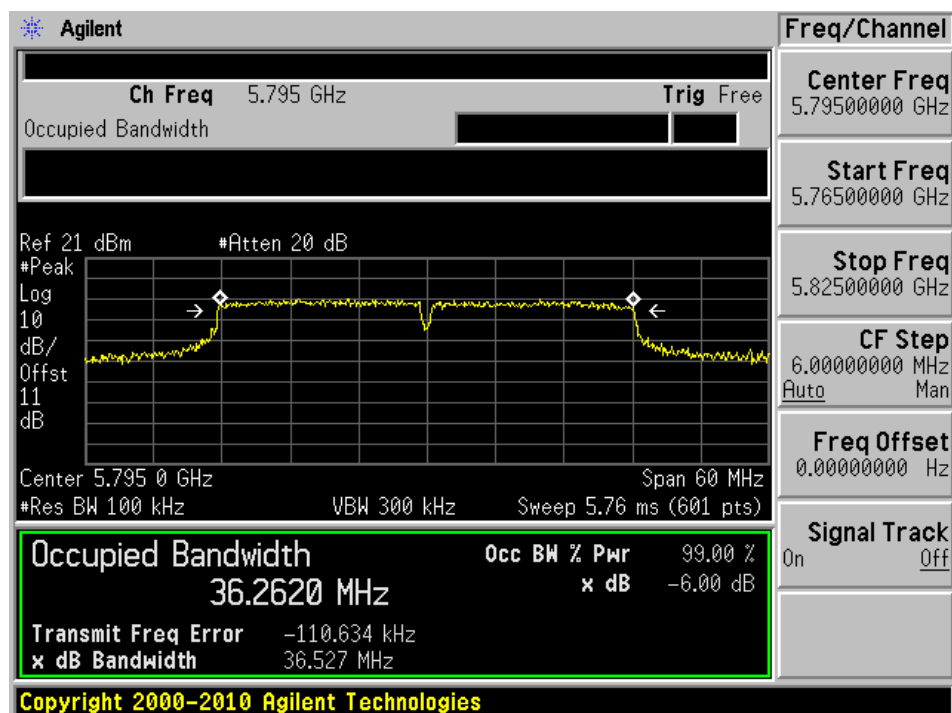
802.11n HT40 mode, 5755 MHz, Chain J1



802.11n HT40 mode, 5795 MHz, Chain J0



802.11n HT40 mode, 5795 MHz, Chain J1



9 FCC §15.407(a) - Output Power Measurement

9.1 Applicable Standard

According to FCC §15.407(a)

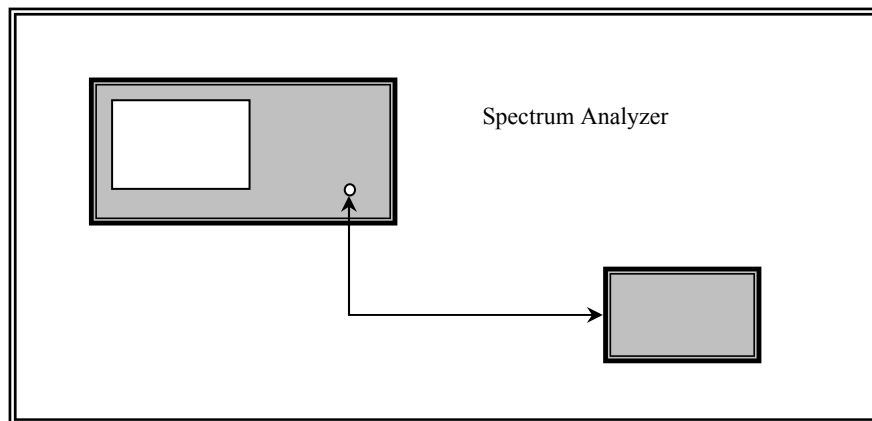
(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

9.2 Measurement Procedure

Test measurements are based on FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r01, GUIDELINES FOR COMPLIANCE TESTING OF UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE (U-NII) DEVICES PART 15, SUBPART E



9.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Agilent	Spectrum Analyzer	E4440A	US42221851	2015-06-23	1 year
-	SMA Cable	-	C0001	Each Time ¹	N/A
Mini-Circuits	Attenuator	BW-S20W5	1430	Each Time ¹	N/A

Statement of Traceability: *BACL Corp.* attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.

9.4 Test Environmental Conditions

Temperature:	23 °C
Relative Humidity:	43 %
ATM Pressure:	101.5 kPa

The testing was performed by Jin Yang from 2016-03-29 to 2016-04-06 in RF site.

9.5 Test Results

5150-5250 MHz Band:

802.11a mode

Channel	Frequency (MHz)	TX Chain J0 Power (dBm)	TX Chain J1 Power (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)	Power Setting
Low	5180	15.94	14.45	18.27	30	-11.73	17
Middle	5200	20.39	18.2	22.44	30	-7.56	Target
High	5240	20.28	17.78	22.22	30	-7.78	Target

802.11n HT20 mode

Channel	Frequency (MHz)	TX Chain J0 Power (dBm)	TX Chain J1 Power (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)	Power Setting
Low	5180	15.15	13.78	17.53	30	-12.47	16.5
Middle	5200	19.75	18.32	22.1	30	-7.9	Target
High	5240	20.01	17.58	21.97	30	-8.03	Target

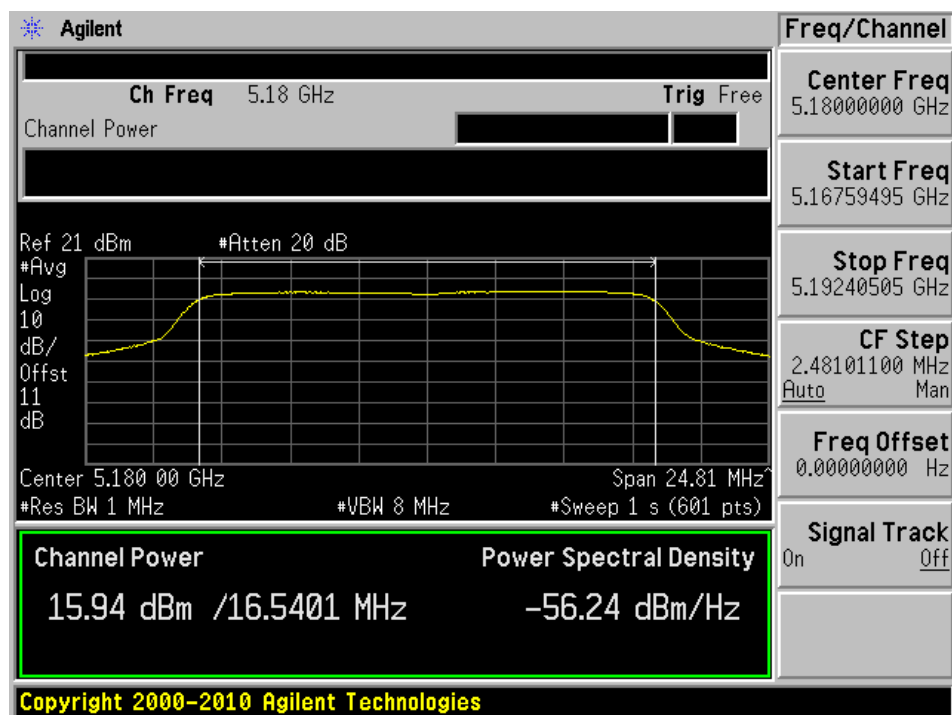
802.11n HT40 mode

Channel	Frequency (MHz)	TX Chain J0 Power (dBm)	TX Chain J1 Power (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)	Power Setting
Low	5190	11.11	9.61	13.43	30	-16.57	12
High	5230	20.74	17.75	22.51	30	-7.49	Target

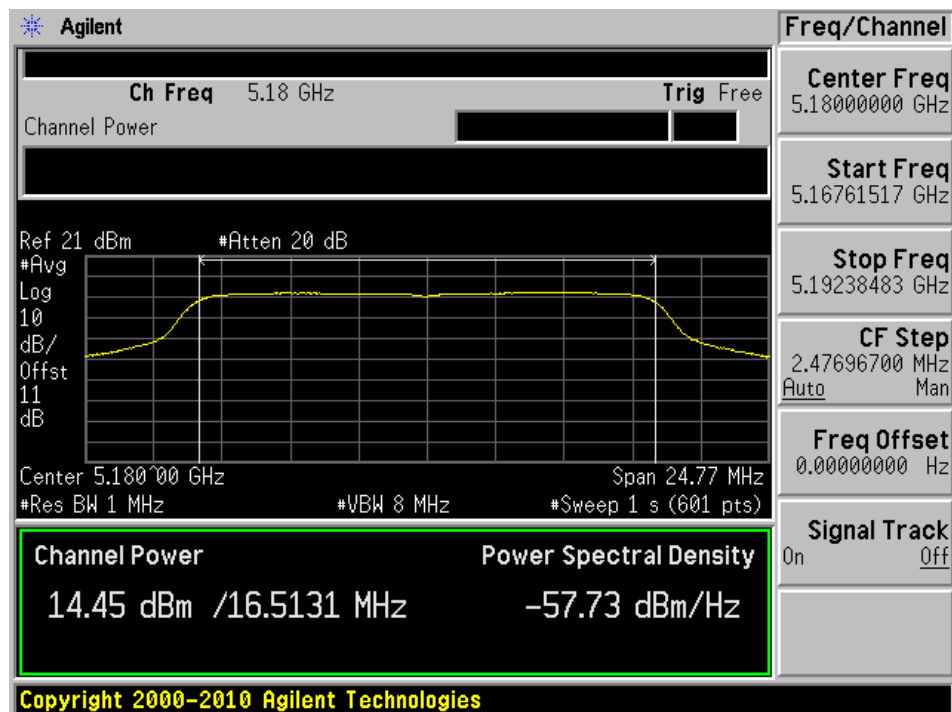
5150-5250 MHz Band

802.11a mode

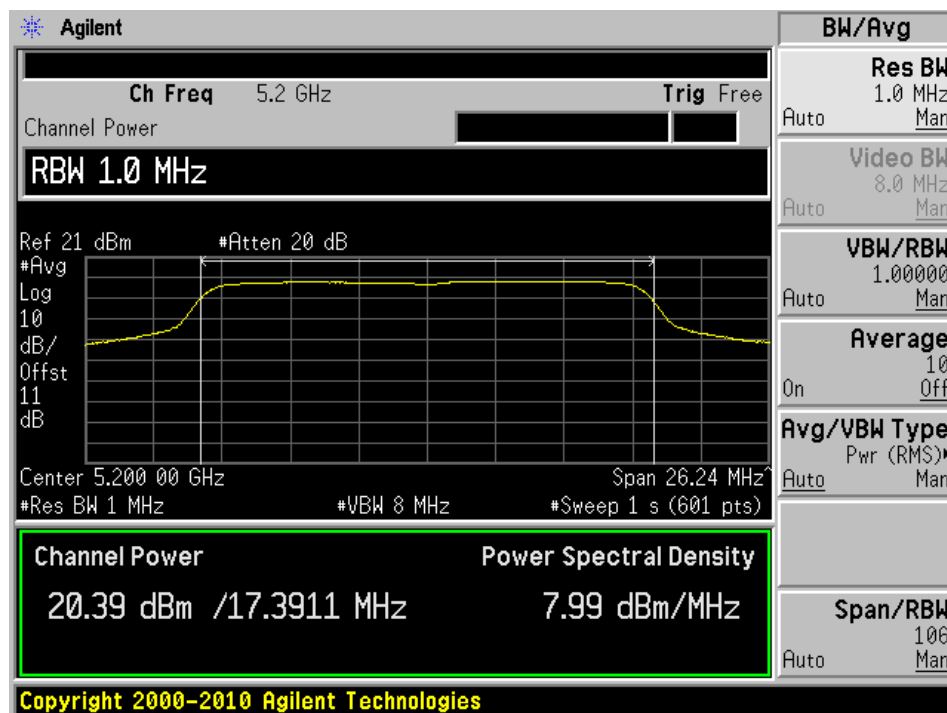
802.11a mode, 5180 MHz, Chain J0



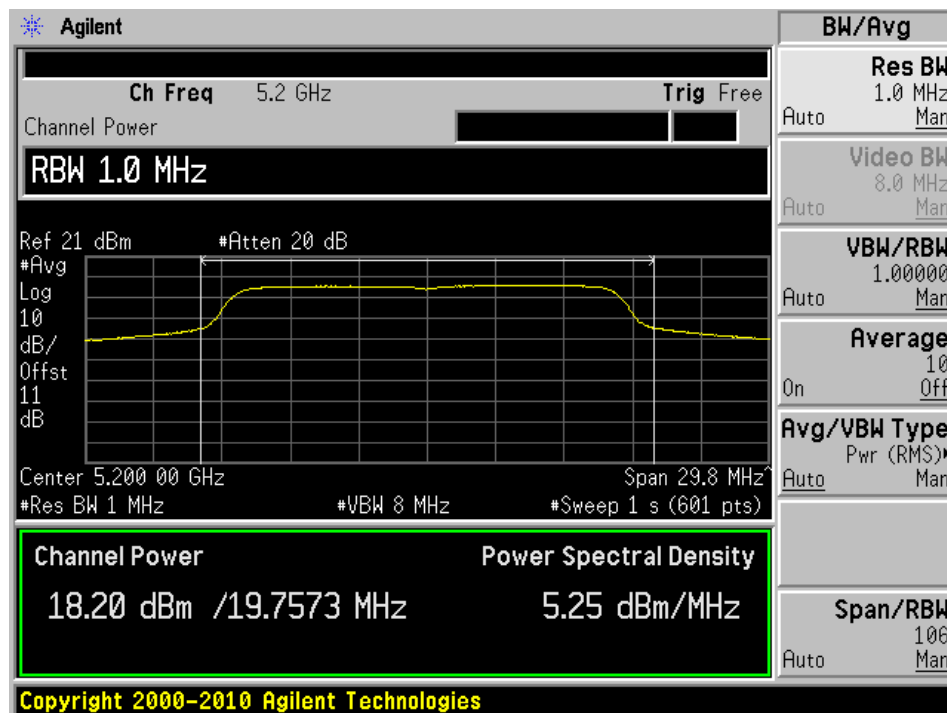
802.11a mode, 5180 MHz, Chain J1



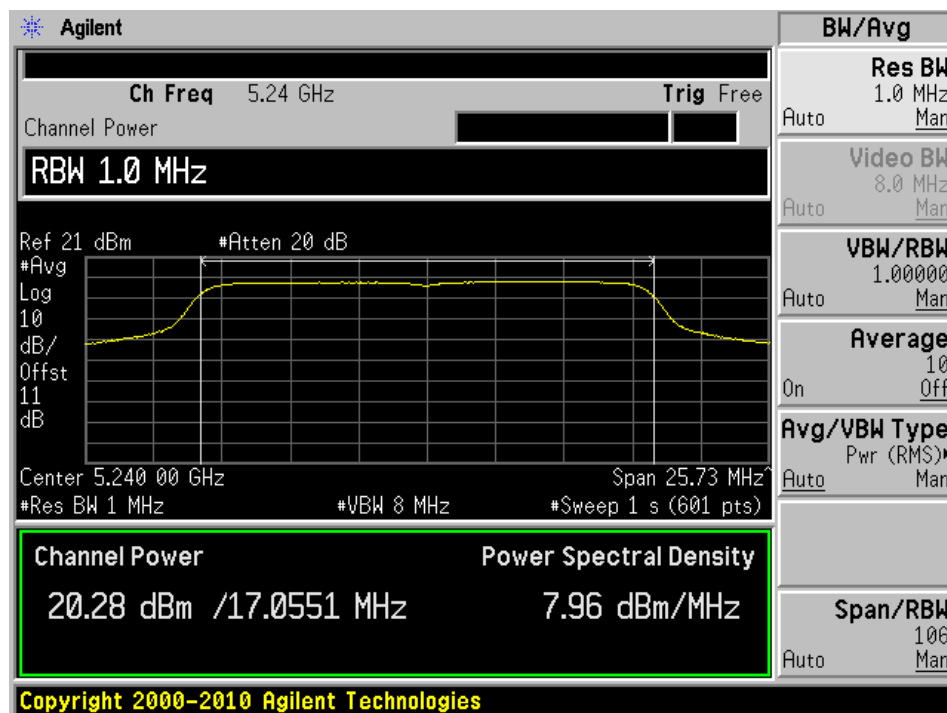
802.11a mode, 5200 MHz, Chain J0



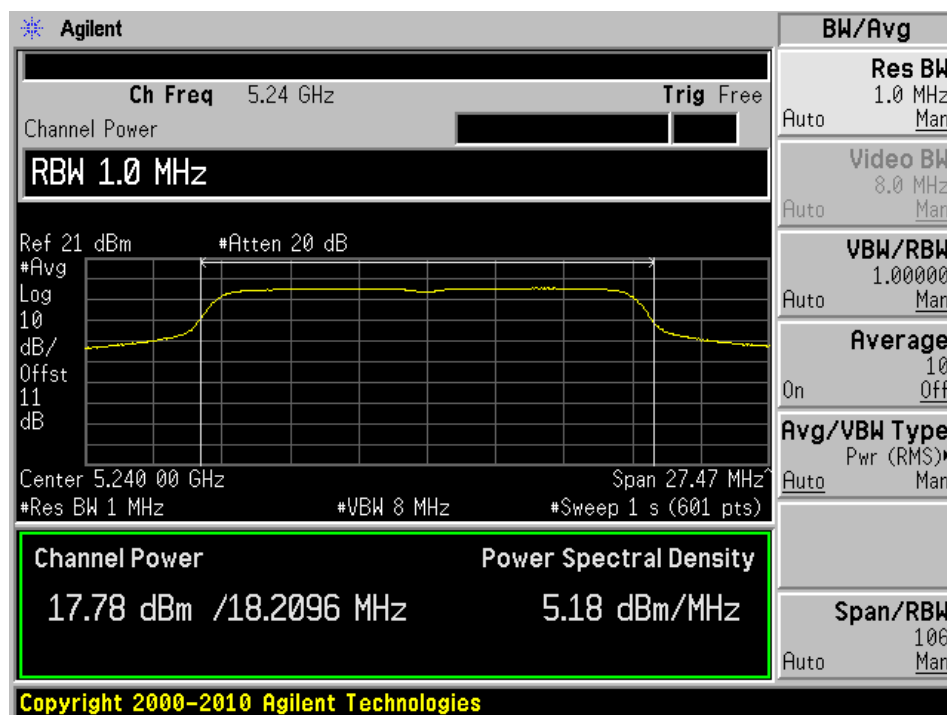
802.11a mode, 5200 MHz, Chain J1



802.11a mode, 5240 MHz, Chain J0

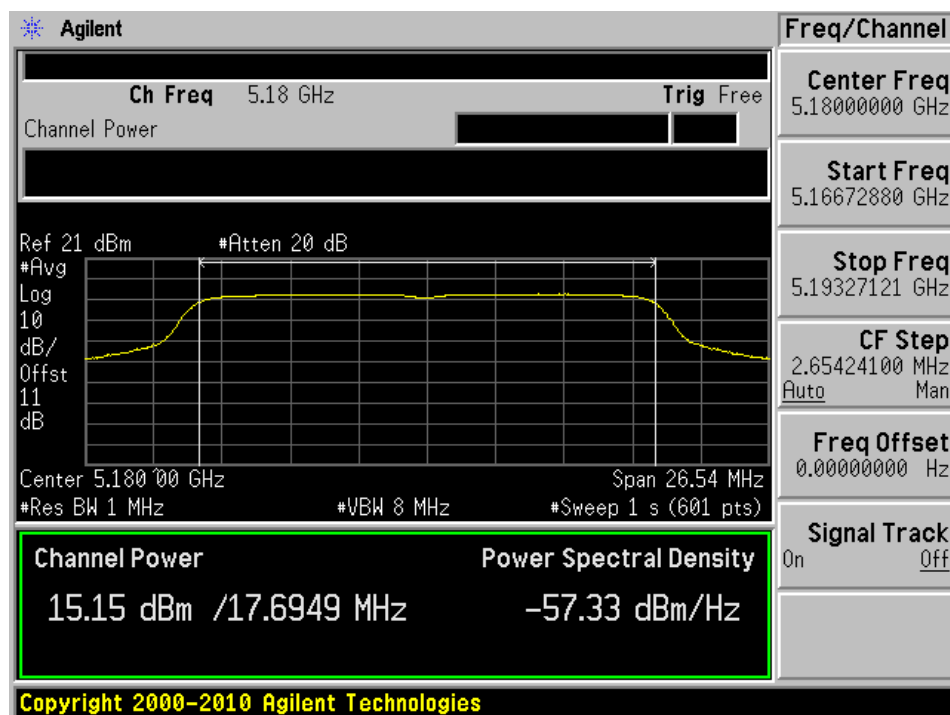


802.11a mode, 5240 MHz, Chain J1

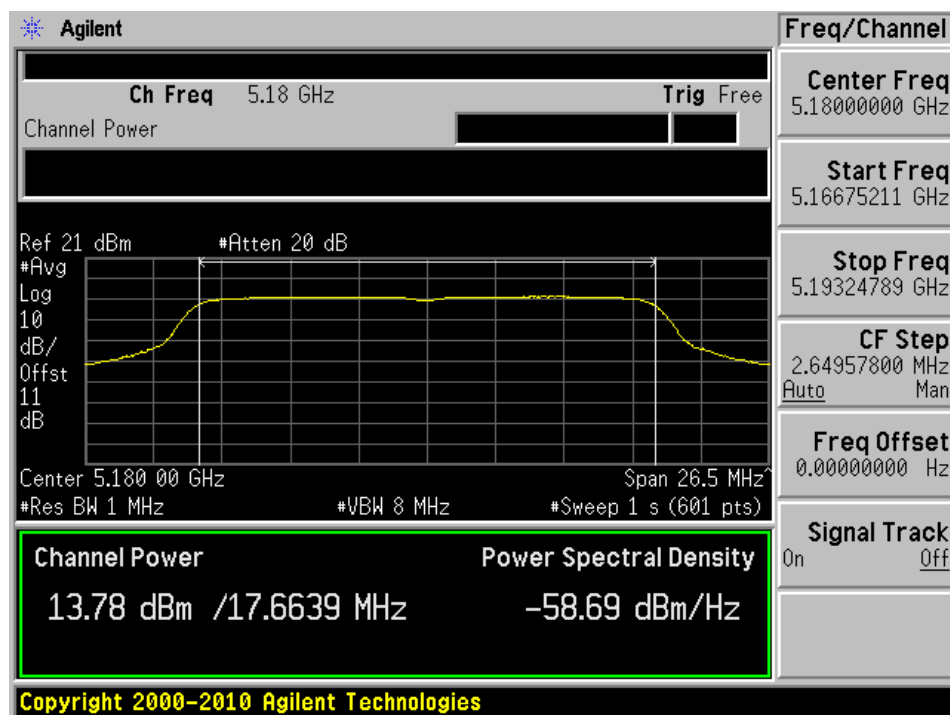


802.11n HT20 mode

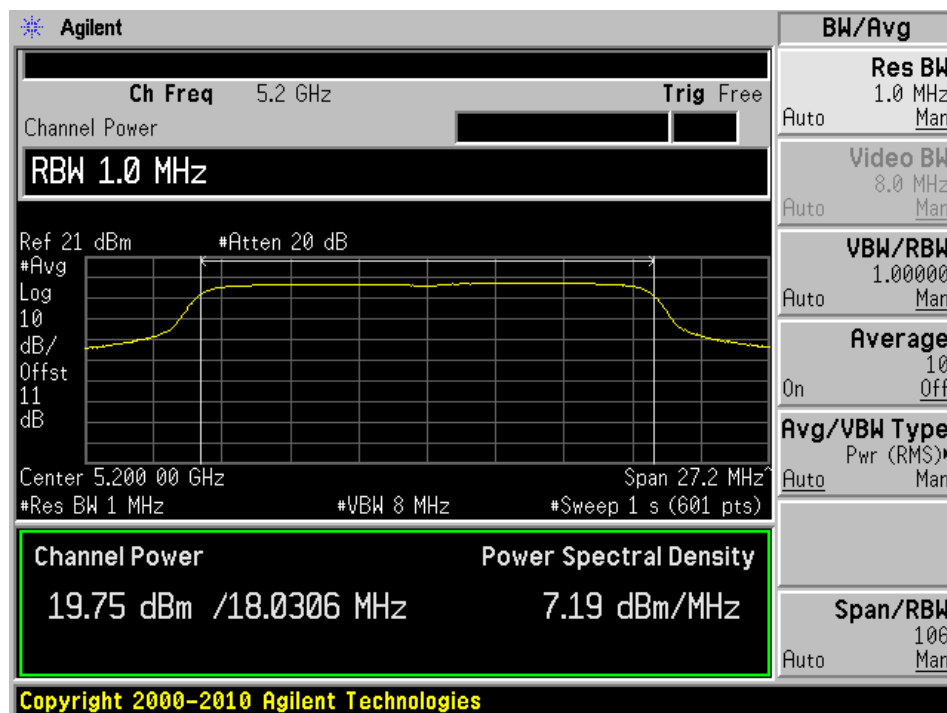
802.11n HT20 mode, 5180 MHz, Chain J0



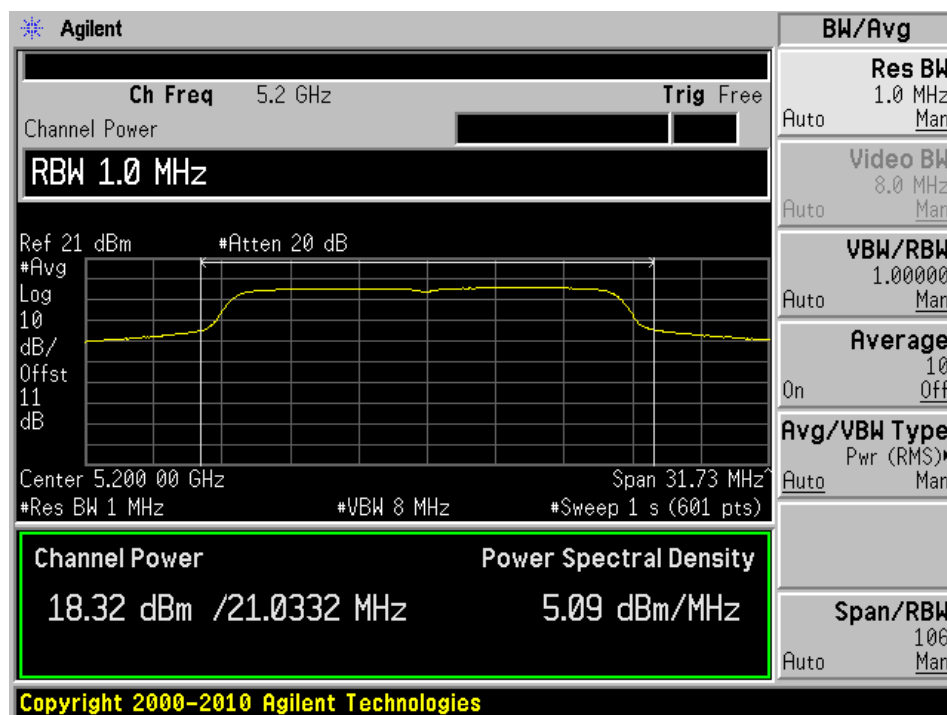
802.11n HT20 mode, 5180 MHz, Chain J1



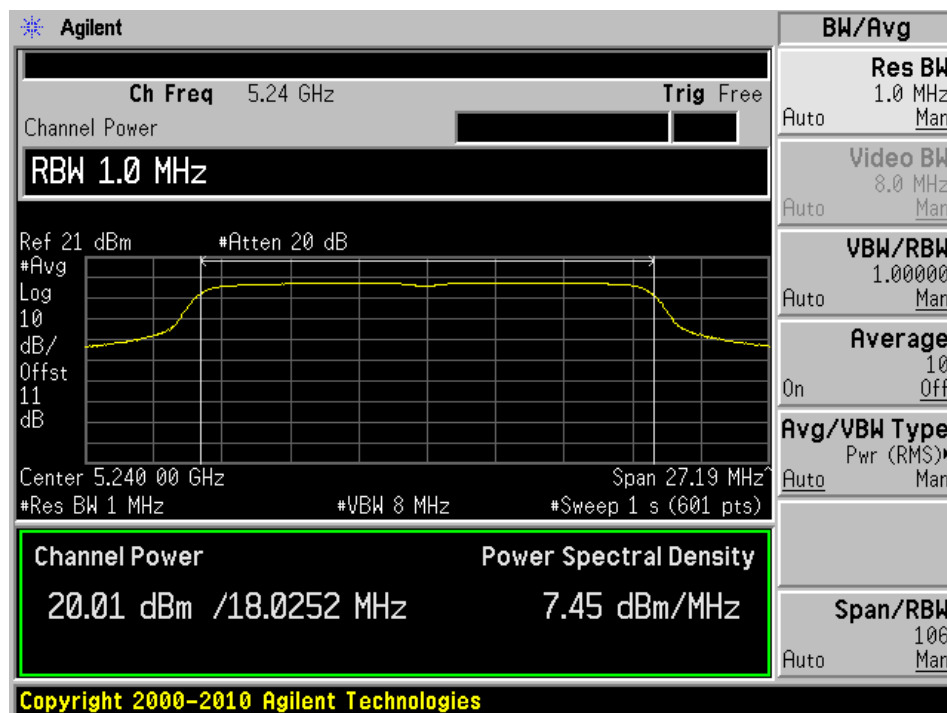
802.11n HT20 mode, 5200 MHz, Chain J0



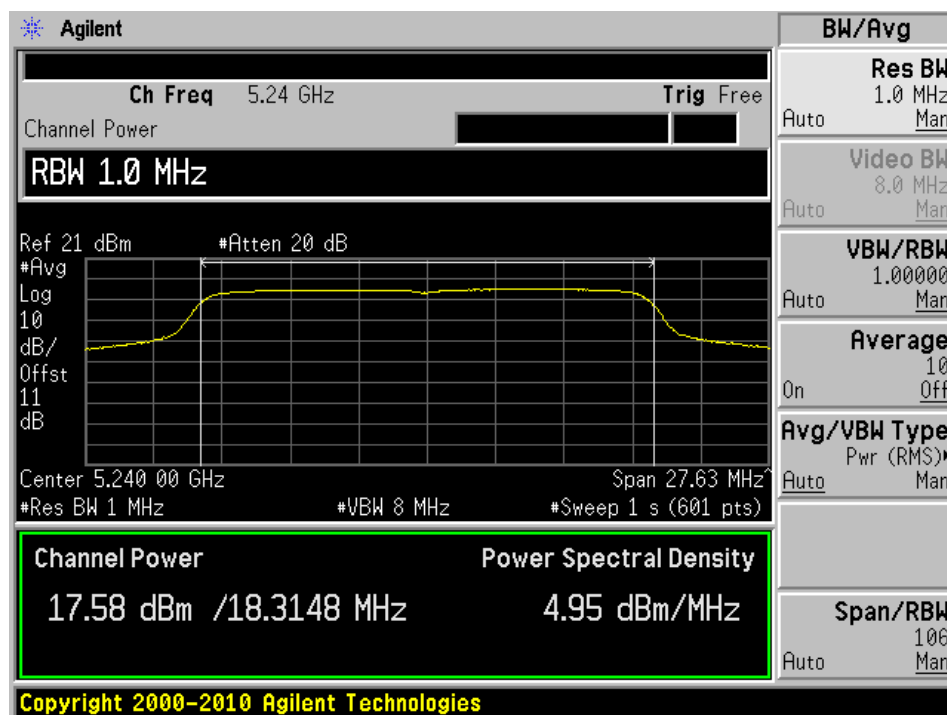
802.11n HT20 mode, 5200 MHz, Chain J1



802.11n HT20 mode, 5240 MHz, Chain J0

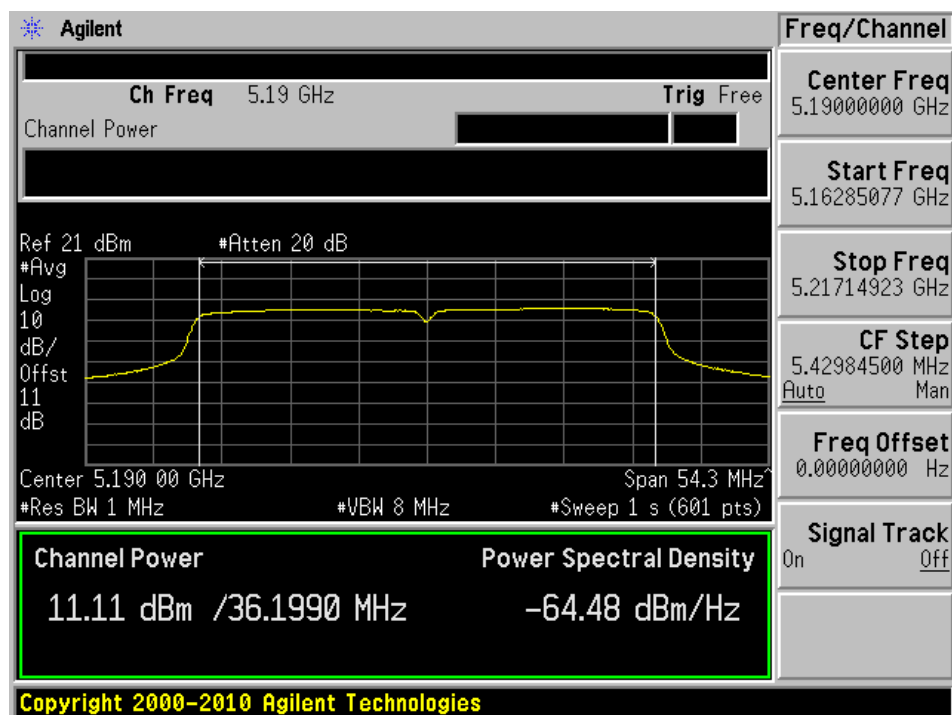


802.11n HT20 mode, 5240 MHz, Chain J1

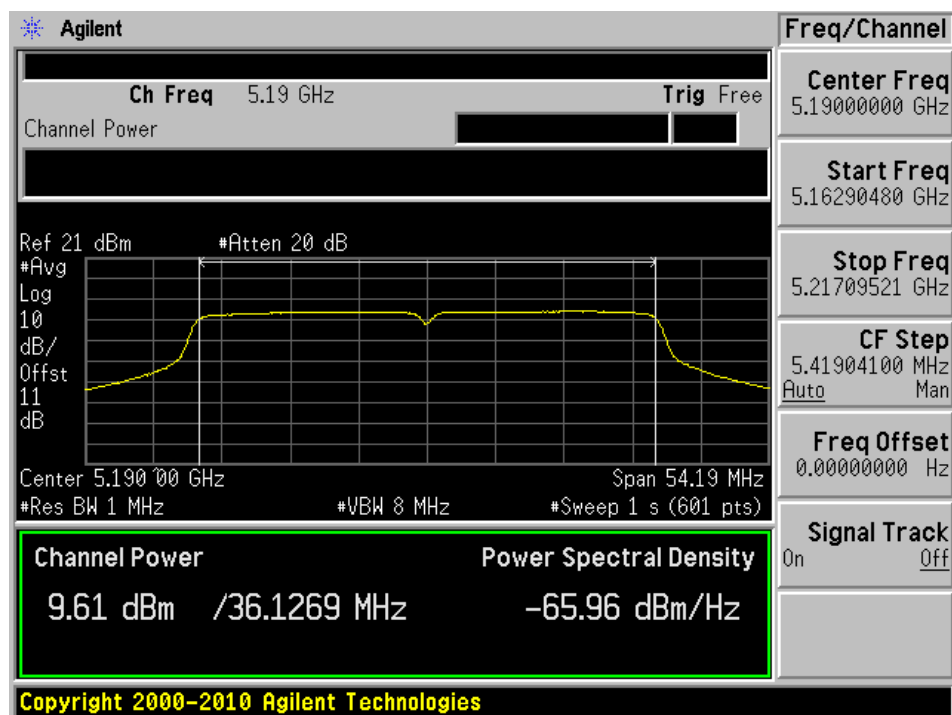


802.11n HT40 mode

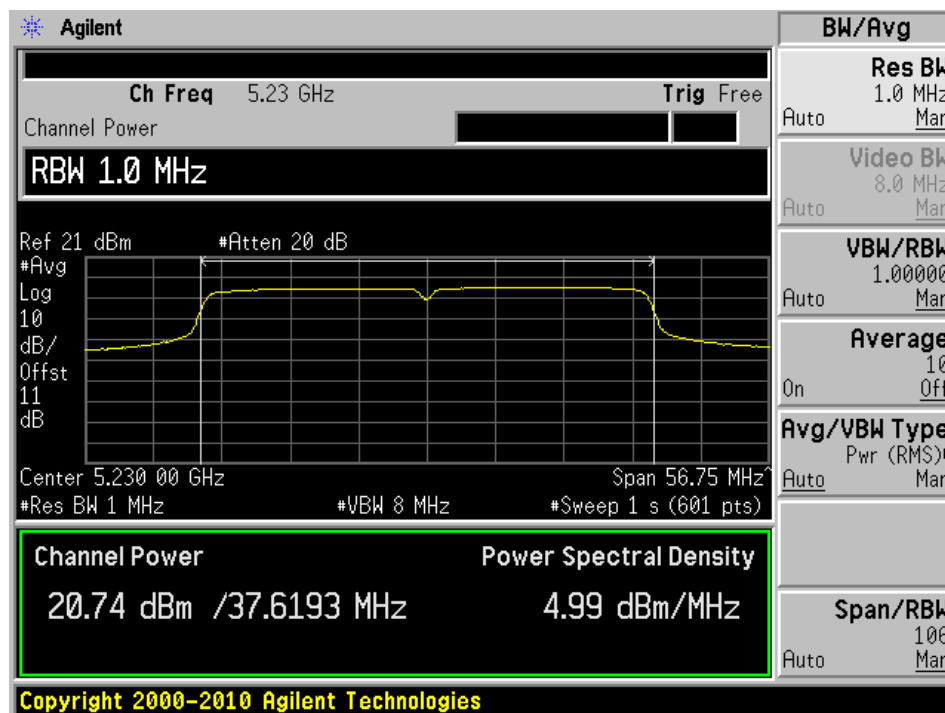
802.11n HT40 mode, 5190 MHz, Chain J0



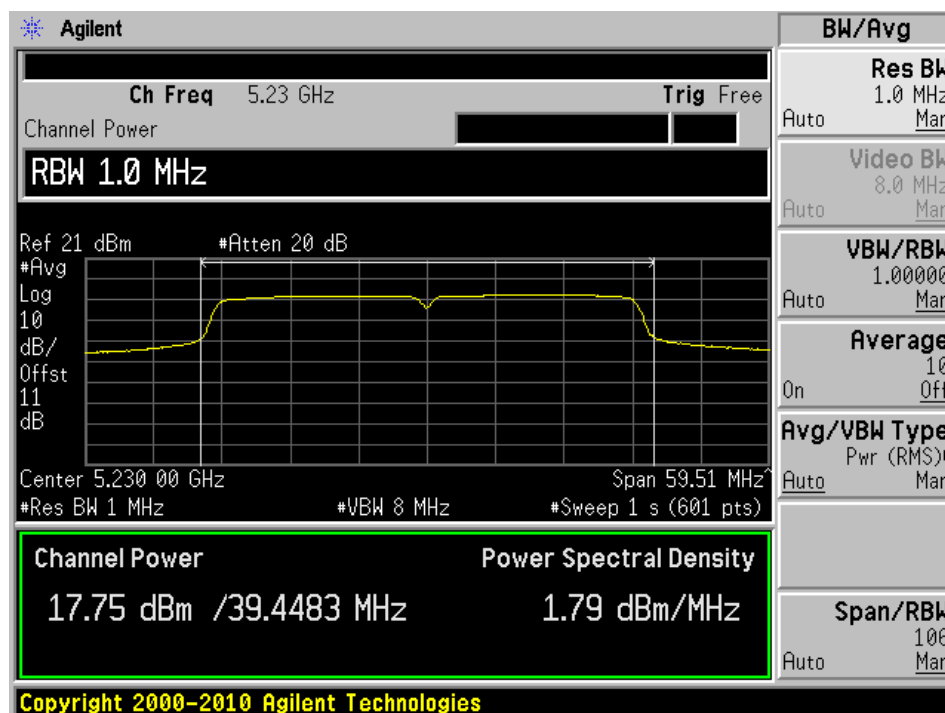
802.11n HT40 mode, 5190 MHz, Chain J1



802.11n HT40 mode, 5230 MHz, Chain J0



802.11n HT40 mode, 5230 MHz, Chain J1



5725-5850 MHz Band:

802.11a mode

Channel	Frequency (MHz)	TX Chain J0 Power (dBm)	TX Chain J1 Power (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)	Power Setting
Low	5745	15.72	14.58	18.2	30	-11.8	15
Middle	5785	19.98	19.52	22.77	30	-7.23	Target
High	5825	19.11	18.2	21.69	30	-8.31	19.5

802.11n HT20 mode

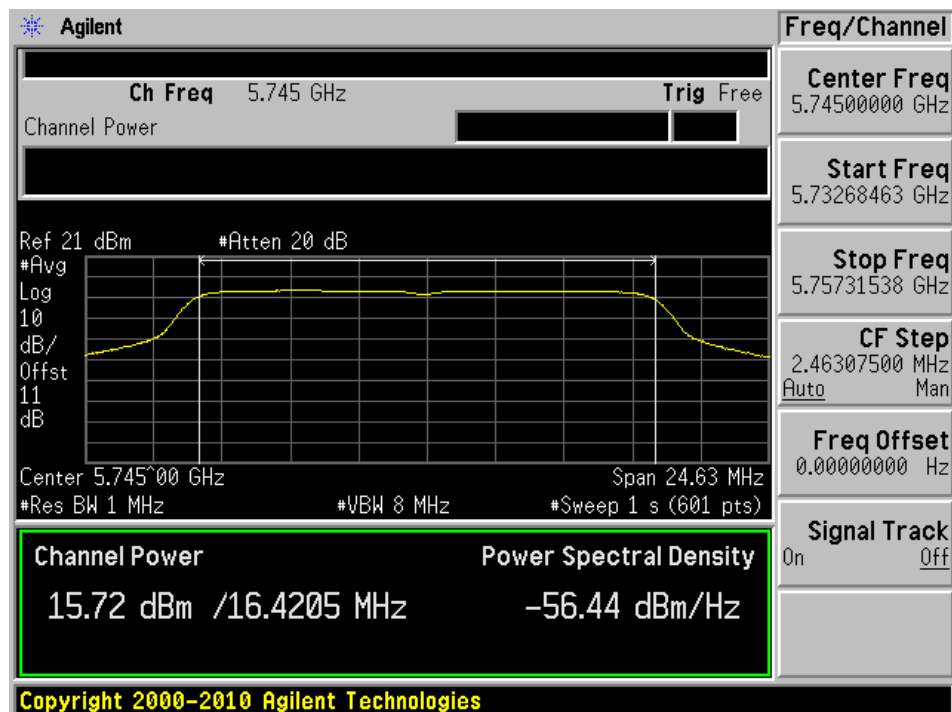
Channel	Frequency (MHz)	TX Chain J0 Power (dBm)	TX Chain J1 Power (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)	Power Setting
Low	5745	15.1	13.84	17.53	30	-12.47	14.5
Middle	5785	20.23	19.12	22.72	30	-7.28	Target
High	5825	18.1	18.02	21.07	30	-8.93	19

802.11n HT40 mode

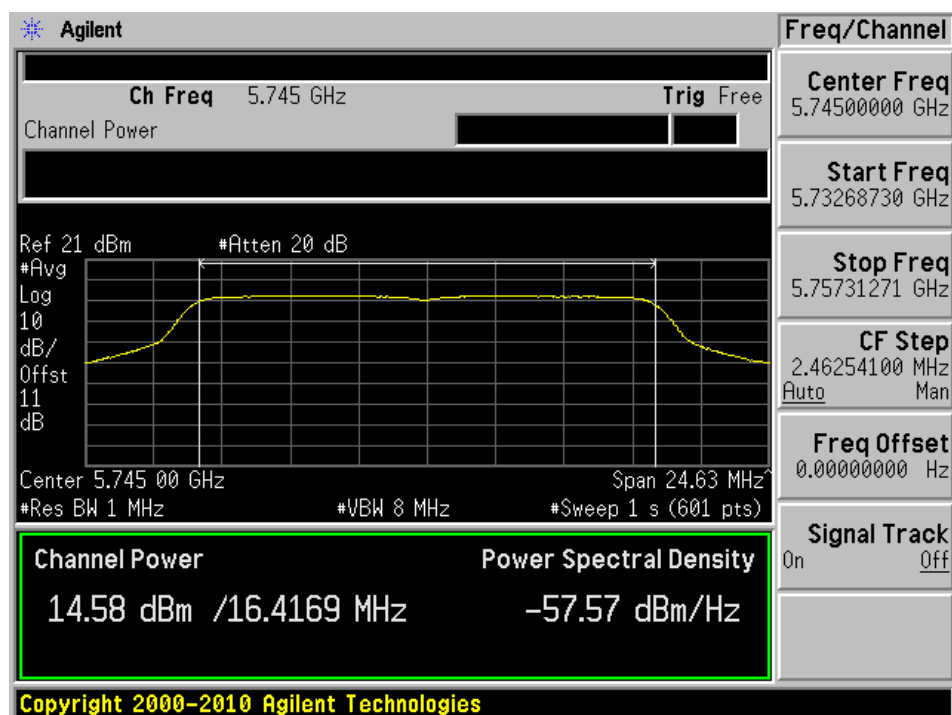
Channel	Frequency (MHz)	TX Chain J0 Power (dBm)	TX Chain J1 Power (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)	Power Setting
Low	5755	10.32	9.83	13.09	30	-16.91	9
High	5795	19.4	18.1	21.81	30	-8.19	20

802.11a mode

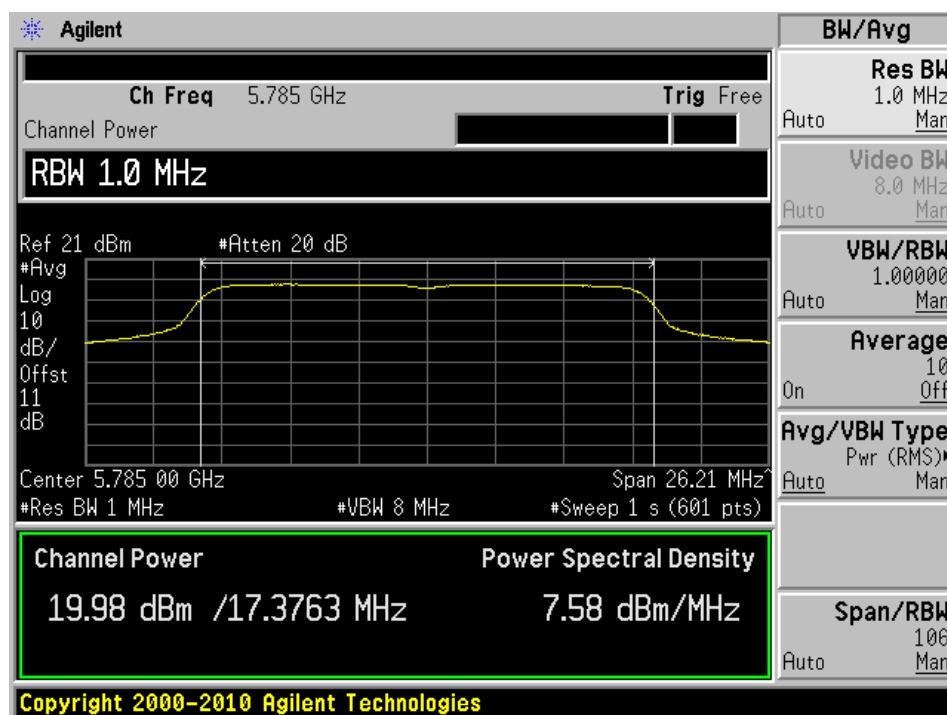
802.11a mode, 5745 MHz, Chain J0



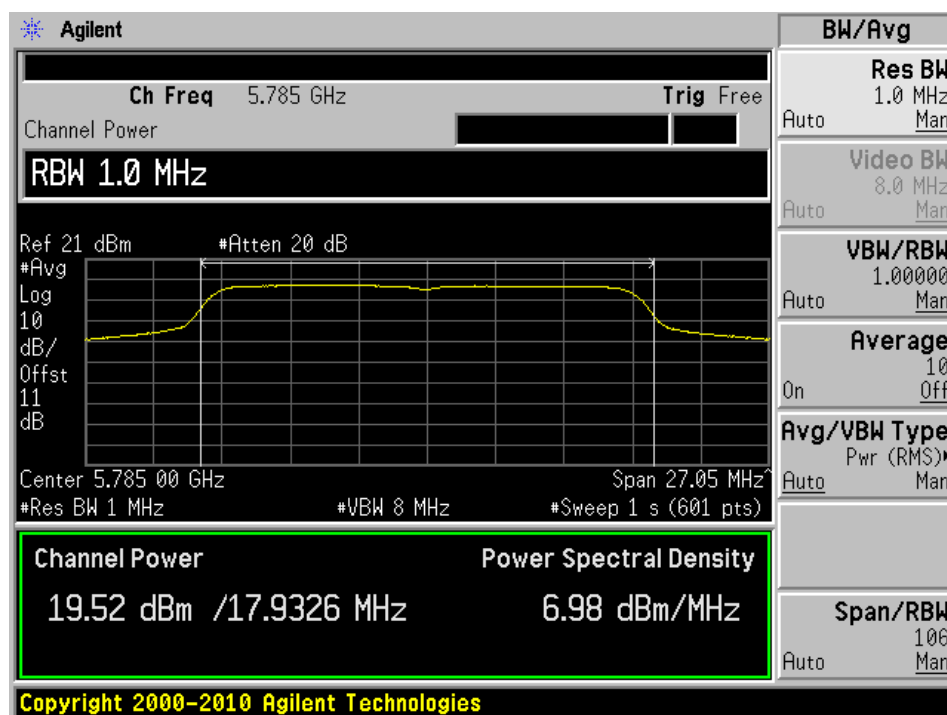
802.11a mode, 5745 MHz, Chain J1



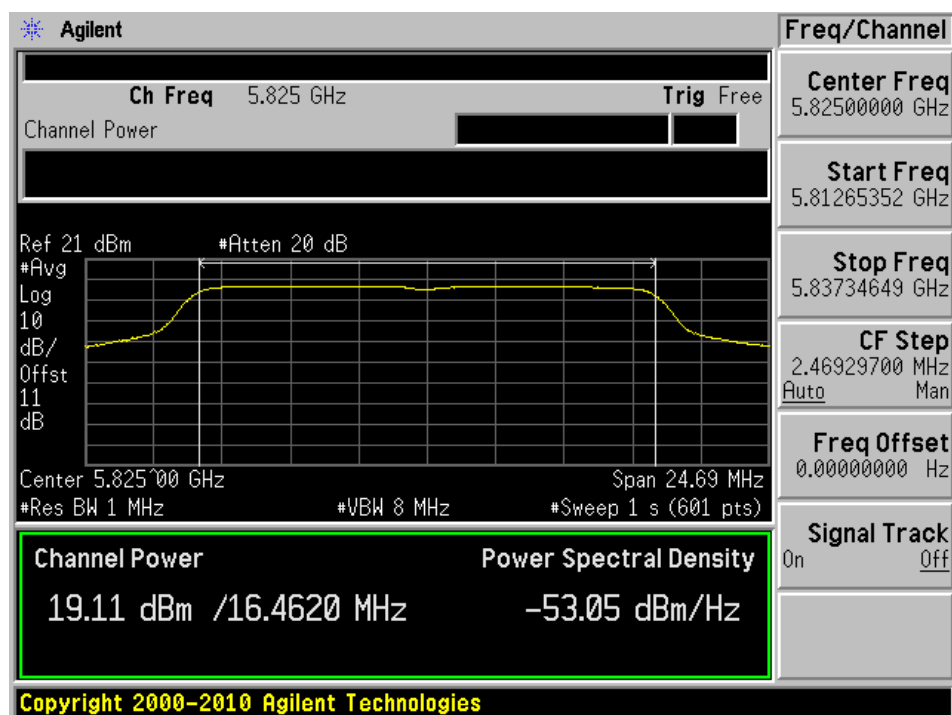
802.11a mode, 5785 MHz, Chain J0



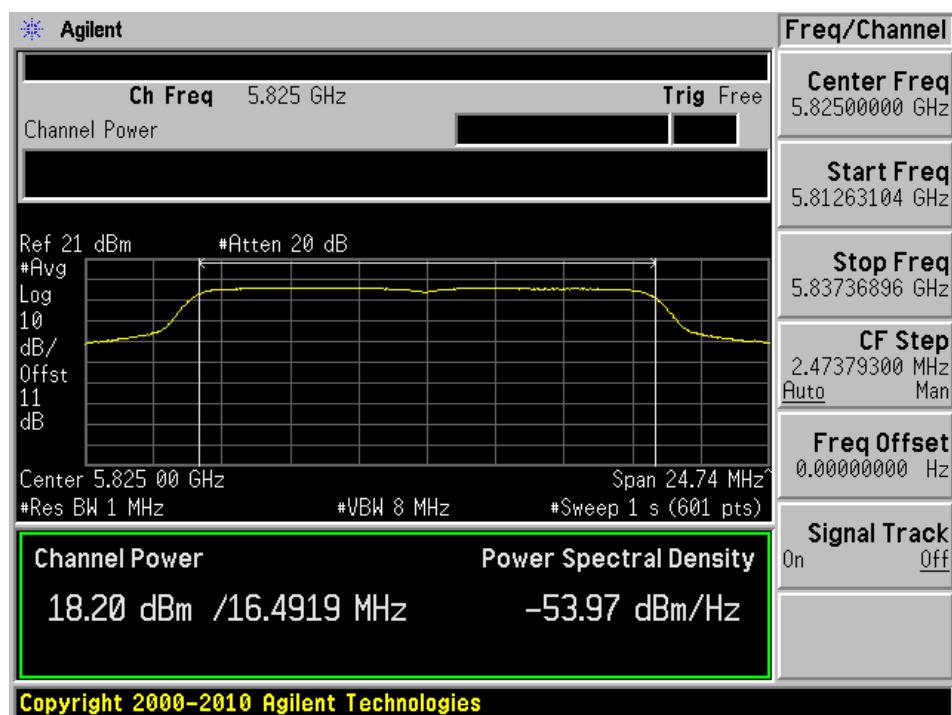
802.11a mode, 5785 MHz, Chain J1



802.11a mode, 5825 MHz, Chain J0

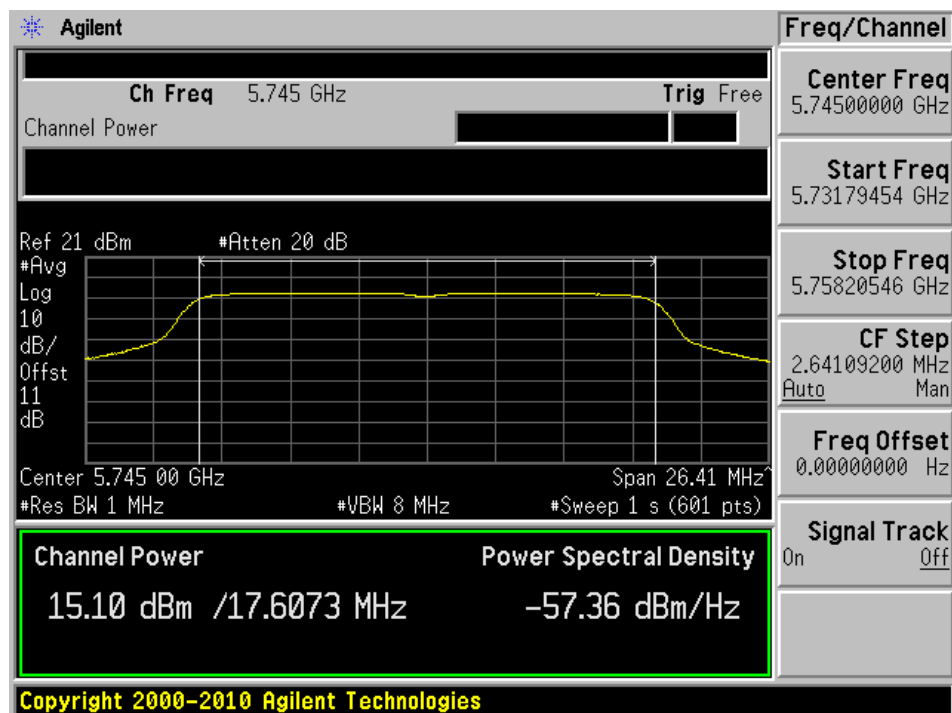


802.11a mode, 5825 MHz, Chain J1

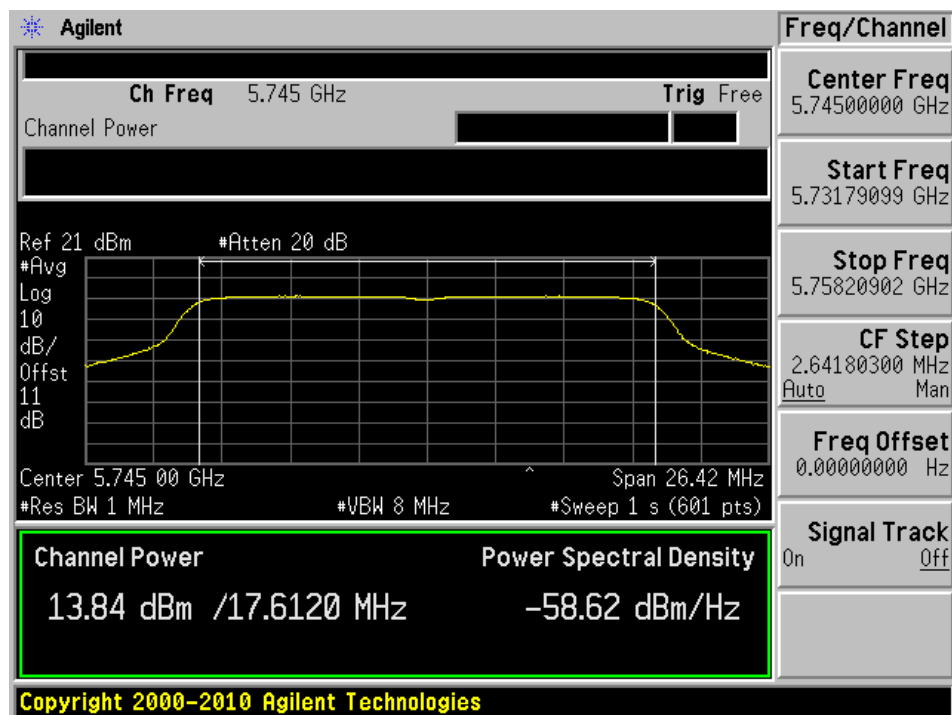


802.11n HT20 mode

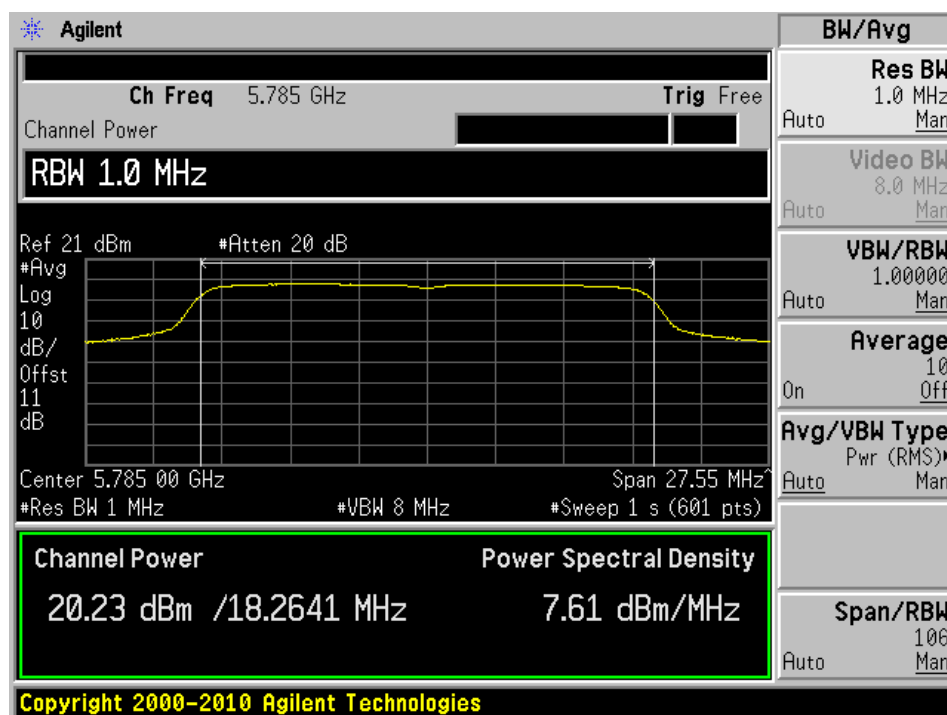
802.11n HT20 mode, 5745 MHz, Chain J0



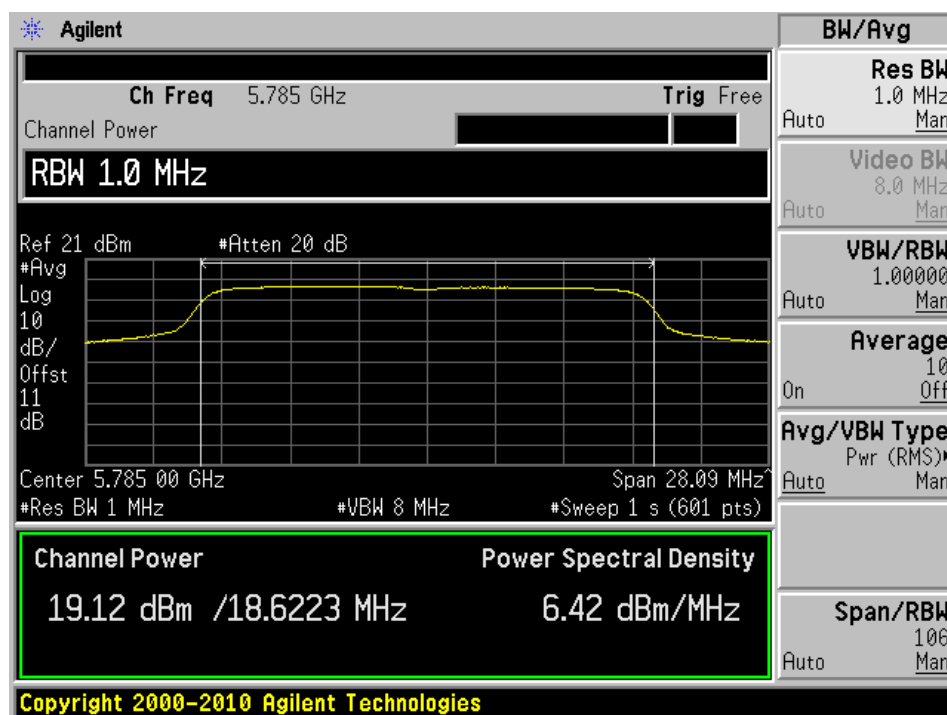
802.11n HT20 mode, 5745 MHz, Chain J1



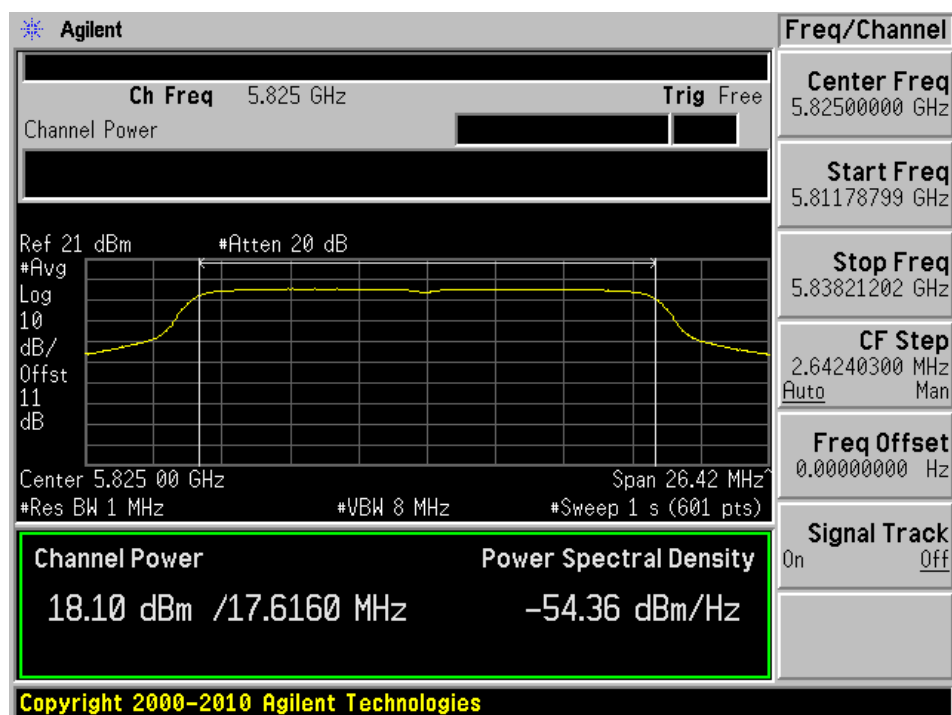
802.11n HT20 mode, 5785 MHz, Chain J0



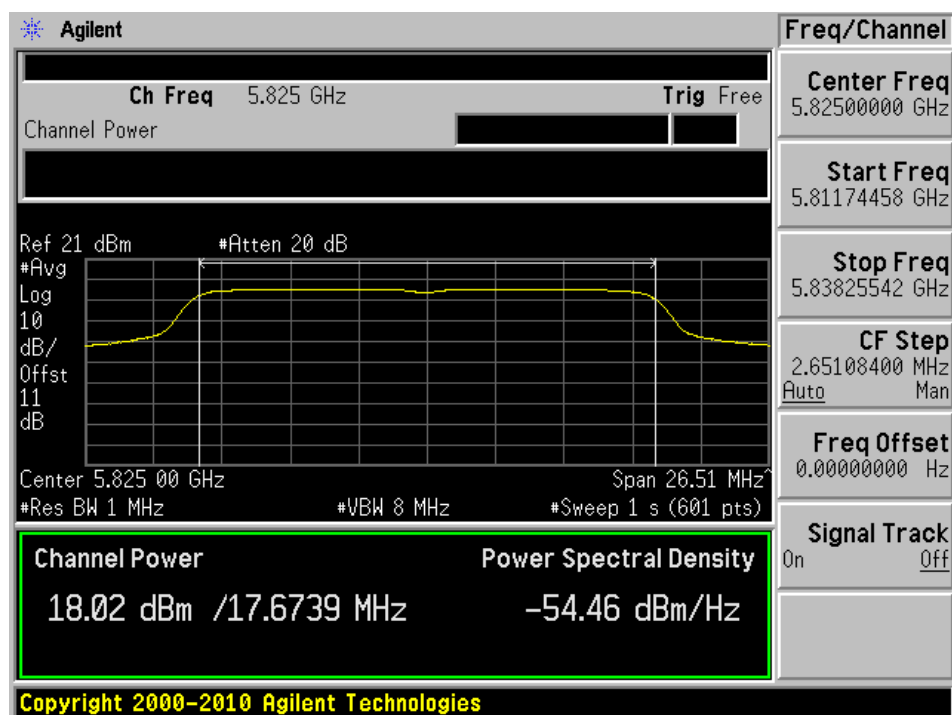
802.11n HT20 mode, 5785 MHz, Chain J1



802.11n HT20 mode, 5825 MHz, Chain J0

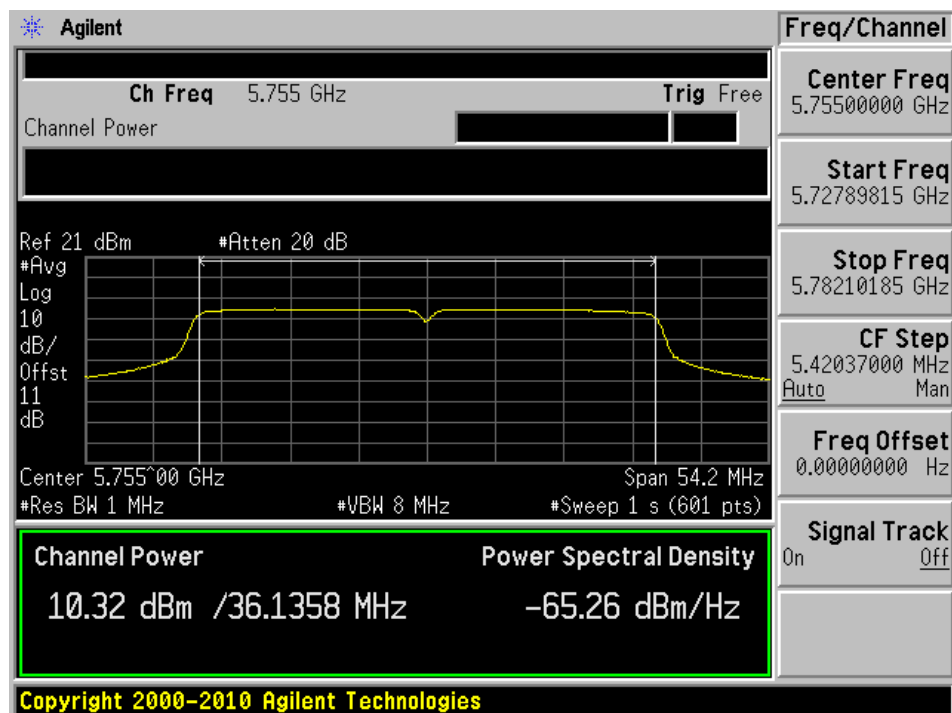


802.11n HT20 mode, 5825 MHz, Chain J1

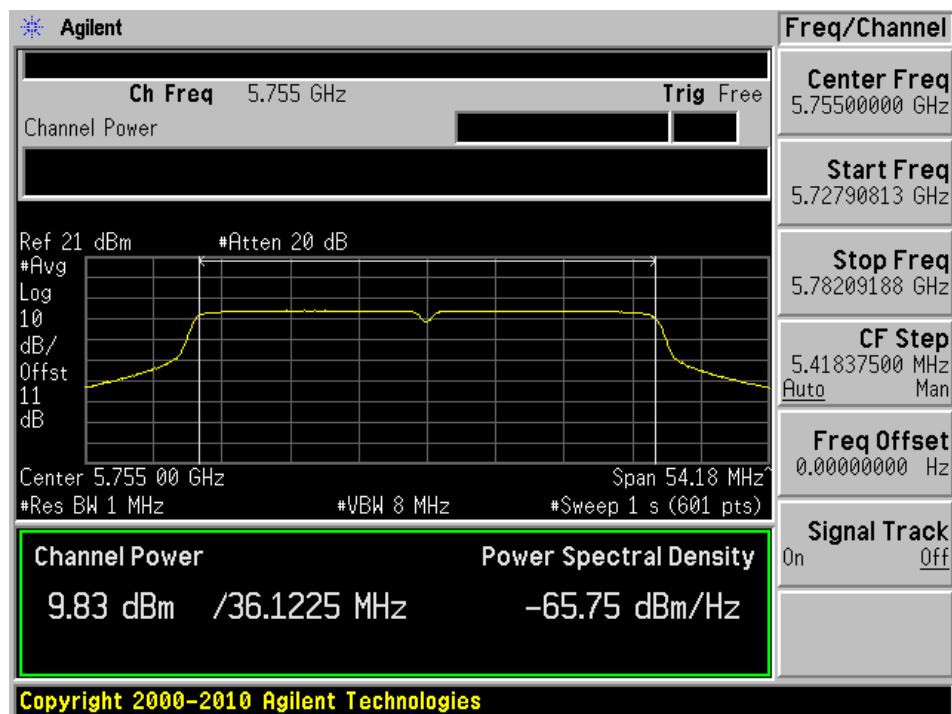


802.11n HT40 mode

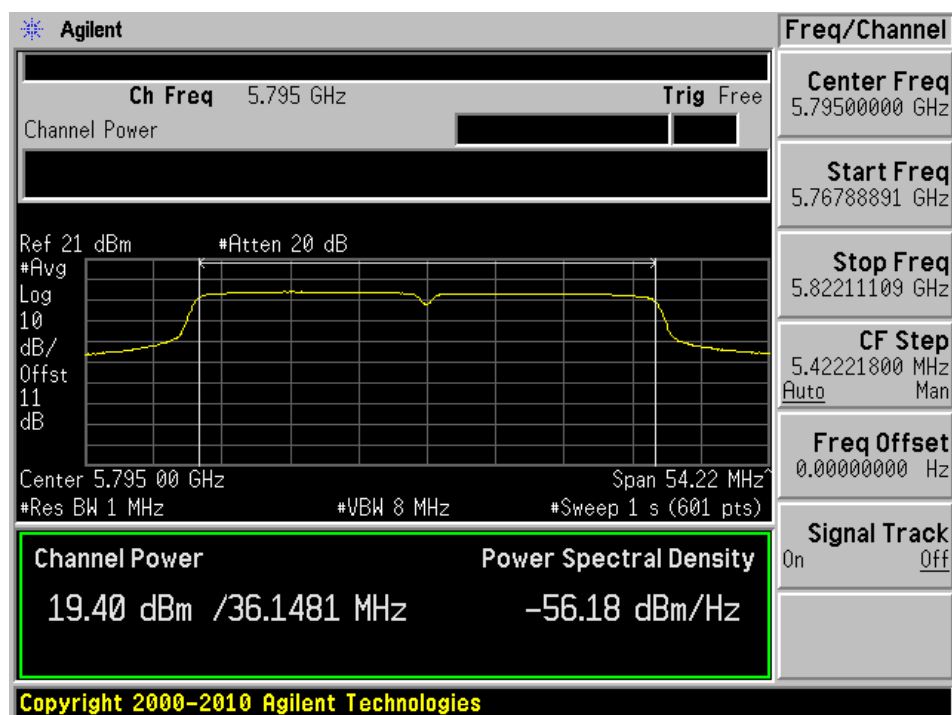
802.11n HT40 mode, 5755 MHz, Chain J0



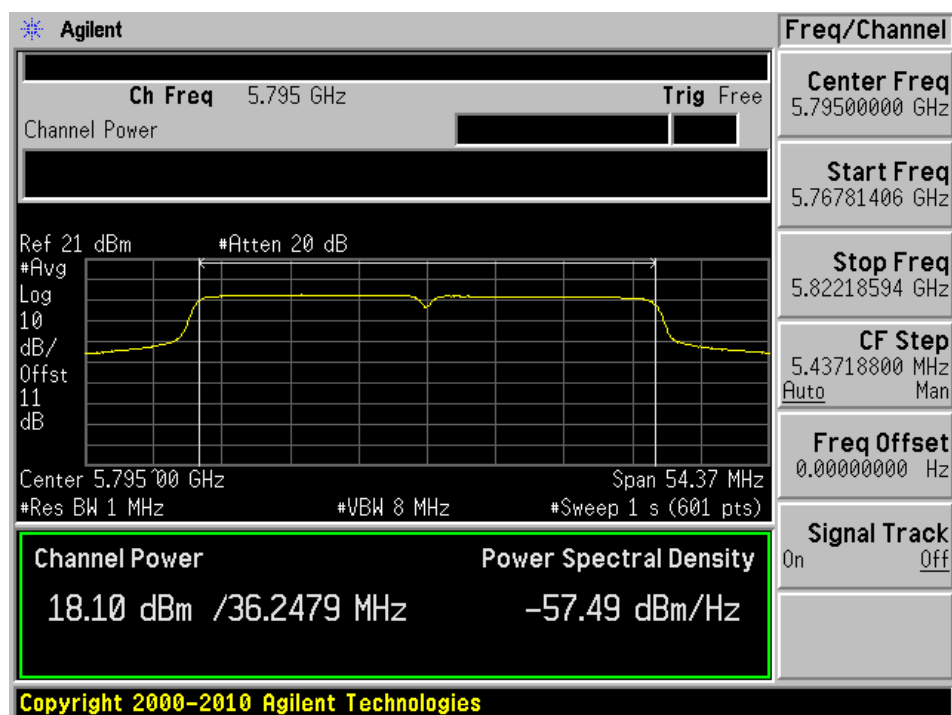
802.11n HT40 mode, 5755 MHz, Chain J1



802.11n HT40 mode, 5795 MHz, Chain J0



802.11n HT40 mode, 5795 MHz, Chain J1



10 FCC §15.407(b) - Band Edge

10.1 Applicable Standard

According to FCC §15.407(b)

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

10.2 Measurement Procedure

The measurements are base on FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r01: Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices section G: Unwanted emissions measurement

10.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Rohde & Schwarz	Signal Analyzer	FSQ26	200749	2016-03-24	1year
-	SMA Cable	-	C0001	Each Time ¹	N/A
Mini-Circuits	Attenuator	BW-S20W5	1430	Each Time ¹	N/A

Statement of Traceability: *BACL Corp.* attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.

10.4 Test Environmental Conditions

Temperature:	23 °C
Relative Humidity:	44 %
ATM Pressure:	101.2 kPa

The testing was performed by Jin Yang from 2016-03-29 to 2016-04-06 in RF site.

10.5 Test Results

Please refer to following pages for plots of band edge.

5150-5250 MHz Band

802.11a mode

Channel	Frequency (MHz)	E.I.R.P J0 (dBm/MHz)	E.I.R.P J1 (dBm/MHz)	Total E.I.R.P (dBm/MHz)	Limit E.I.R.P (dBm/MHz)	Result
Low	5180	-30.67	-33.95	-29.00	-27	Compliant
High	5240	-37.17	-37.62	-34.38	-27	Compliant

802.11n HT20 mode

Channel	Frequency (MHz)	E.I.R.P J0 (dBm/MHz)	E.I.R.P J1 (dBm/MHz)	Total E.I.R.P (dBm/MHz)	Limit E.I.R.P (dBm/MHz)	Result
Low	5180	-31.58	-34.50	-29.79	-27	Compliant
High	5240	-37.29	-37.99	-34.62	-27	Compliant

802.11n HT40 mode

Channel	Frequency (MHz)	E.I.R.P J0 (dBm/MHz)	E.I.R.P J1 (dBm/MHz)	Total E.I.R.P (dBm/MHz)	Limit E.I.R.P (dBm/MHz)	Result
Low	5190	-30.43	-37.38	-29.63	-27	Compliant
High	5230	-35.61	-37.61	-33.49	-27	Compliant

5725-5850 MHz Band

(1) Emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz

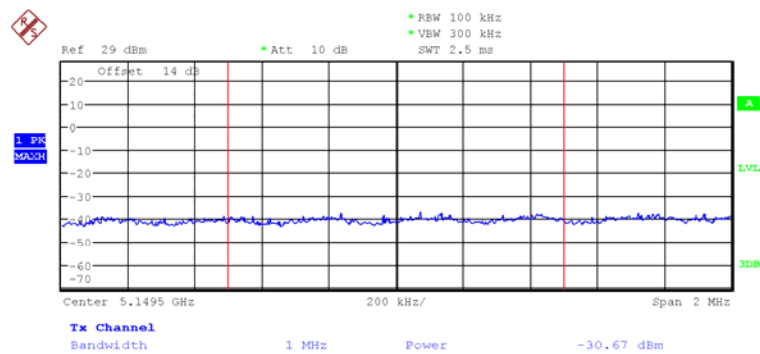
Channel	Frequency (MHz)	E.I.R.P J0 (dBm/MHz)	E.I.R.P J1 (dBm/MHz)	Total E.I.R.P (dBm/MHz)	Limit E.I.R.P (dBm/MHz)	Result
802.11a mode						
Low	5745	-23.06	-26.86	-21.55	-17	Compliant
High	5825	-24.12	-25.11	-21.58	-17	Compliant
802.11n-HT20 mode						
Low	5745	-23.57	-27.32	-22.04	-17	Compliant
High	5825	-24.25	-24.11	-21.17	-17	Compliant
802.11n-HT40 mode						
Low	5745	-26.78	-33.36	-25.92	-17	Compliant
High	5825	-28.42	-28.03	-25.21	-17	Compliant

(2) For frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

Channel	Frequency (MHz)	E.I.R.P J0 (dBm/MHz)	E.I.R.P J1 (dBm/MHz)	Total E.I.R.P (dBm/MHz)	Limit E.I.R.P (dBm/MHz)	Result
802.11a mode						
Low	5745	-30.60	-35.25	-29.32	-27	Compliant
High	5825	-31.32	-32.58	-28.89	-27	Compliant
802.11n-HT20 mode						
Low	5745	-30.85	-35.29	-29.52	-27	Compliant
High	5825	-30.59	-31.43	-27.98	-27	Compliant
802.11n-HT40 mode						
Low	5745	-30.61	-36.94	-29.70	-27	Compliant
High	5825	-30.82	-31.73	-28.24	-27	Compliant

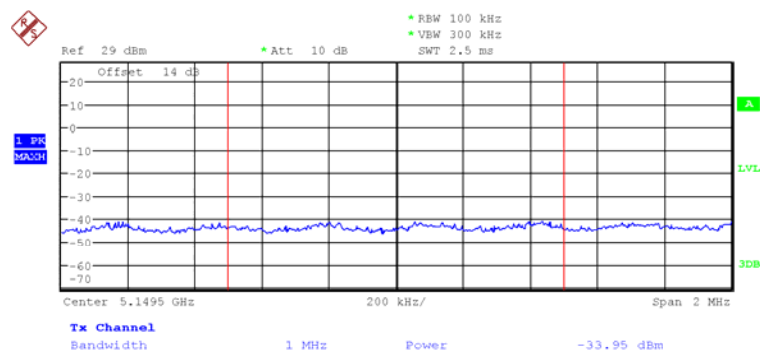
5150-5250 MHz Band

802.11a mode, Lowest Channel, Chain J0



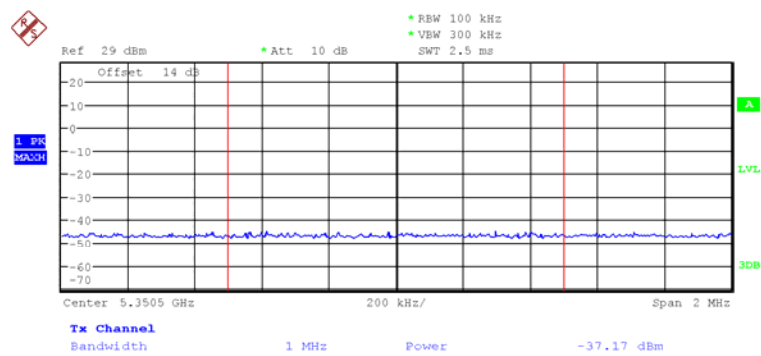
Date: 6.APR.2016 14:31:24

802.11a mode, Lowest Channel, Chain J1



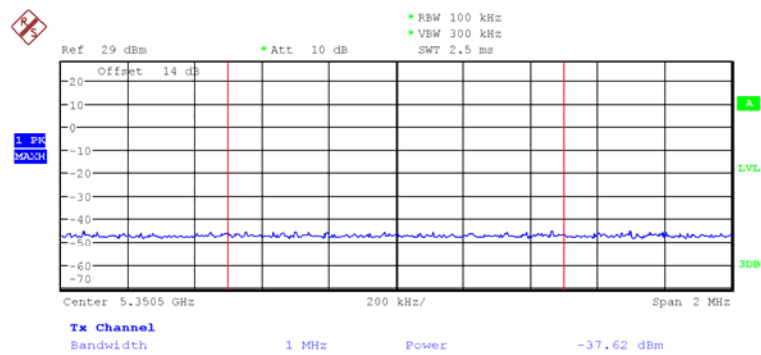
Date: 6.APR.2016 14:32:55

802.11a mode, Highest Channel, Chain J0



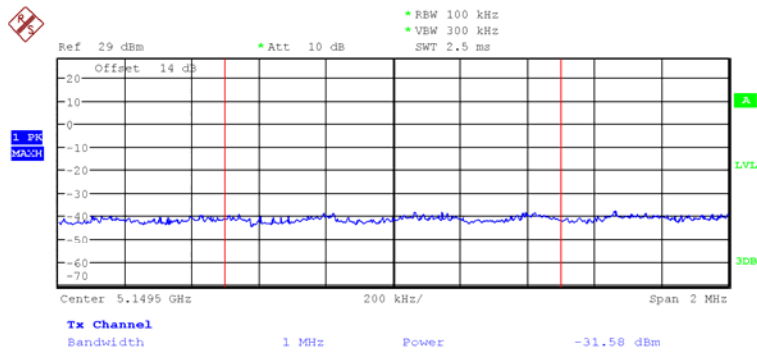
Date: 6.APR.2016 14:50:13

802.11a mode, Highest Channel, Chain J1



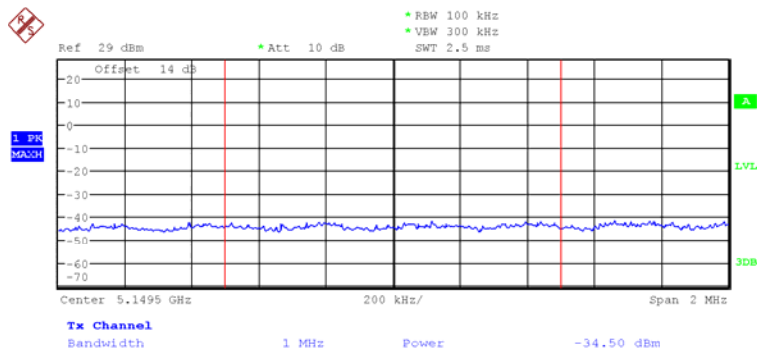
Date: 6.APR.2016 14:48:01

802.11n20 mode, Lowest Channel, Chain J0



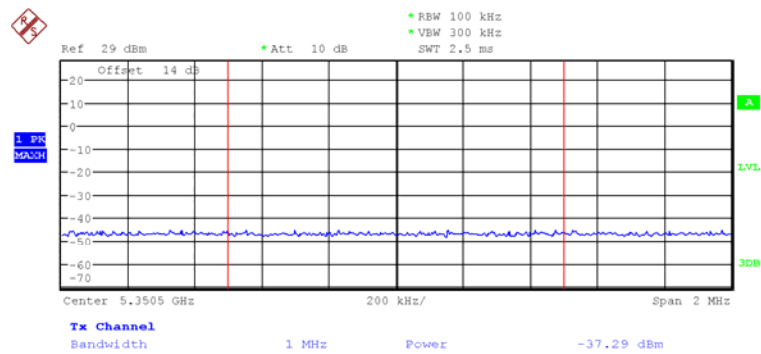
Date: 6.APR.2016 14:41:00

802.11n20 mode, Lowest Channel, Chain J1



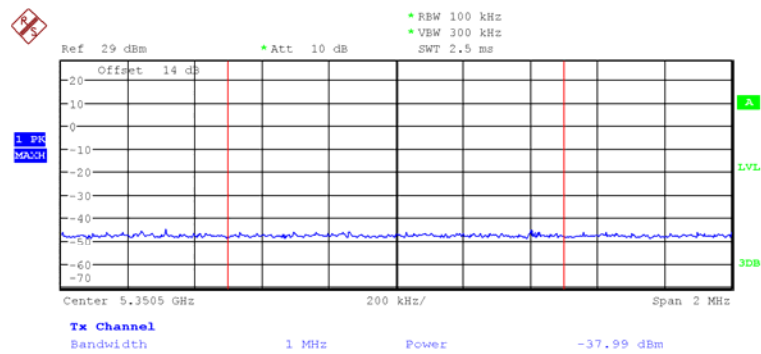
Date: 6.APR.2016 14:44:58

802.11n20 mode, Highest Channel, Chain J0



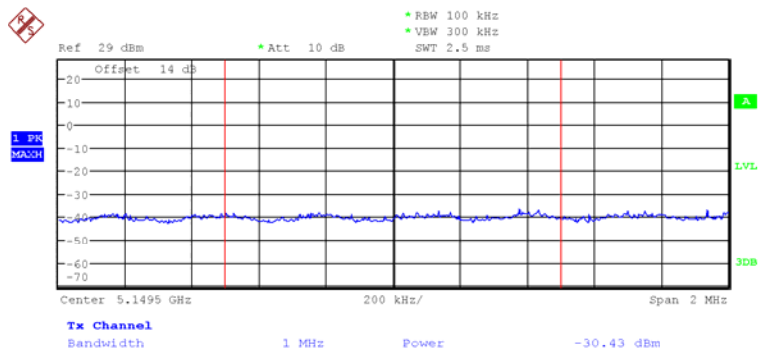
Date: 6.APR.2016 14:51:16

802.11n20 mode, Highest Channel, Chain J1



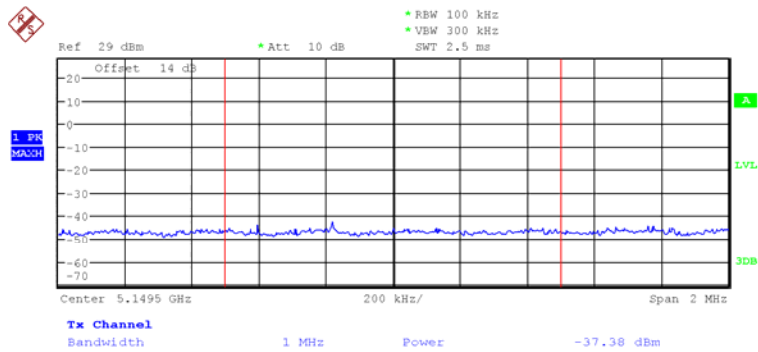
Date: 6.APR.2016 14:46:35

802.11n40 mode, Lowest Channel, Chain J0



Date: 6.APR.2016 14:42:29

802.11n40 mode, Lowest Channel, Chain J1



Date: 6.APR.2016 14:43:42

Ref 29 dBm * Att 10 dB RBW 100 kHz
 Offset 14 dB VEW 300 kHz
 SWT 2.5 ms

1 PK
 MA:0H

Center 5.3505 GHz 200 kHz/ Span 2 MHz

Tx Channel
 Bandwidth 1 MHz Power -35.61 dBm

10
 0
 -10
 -20
 -30
 -40
 -50
 -60
 -70

Offset 14 dB

Att 10 dB

RBW 100 kHz

VEW 300 kHz

SWT 2.5 ms

1 PK

MA:0H

Center 5.3505 GHz

200 kHz/

Span 2 MHz

Tx Channel

Bandwidth 1 MHz

Power -35.61 dBm

Ref 29 dBm * Att. 10 dB * BW 100 kHz
 * View 300 kHz * SWT 2.5 ms

Offset 14 dB

1 Pk
 MAGN

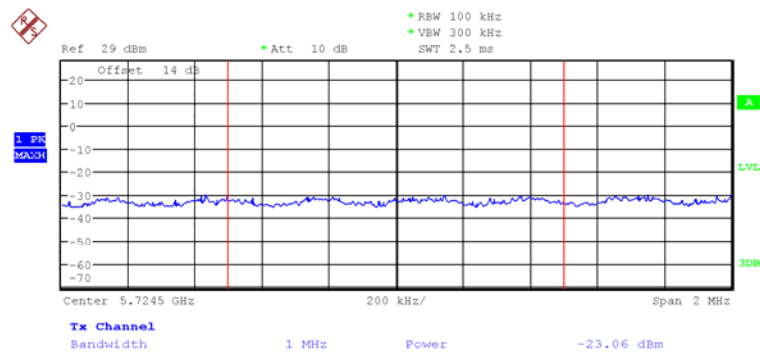
Center 5.3505 GHz 200 kHz/ Span 2 MHz

Tx Channel
 Bandwidth 1 MHz Power -37.61 dBm

FCC Part 15.407 Test Report

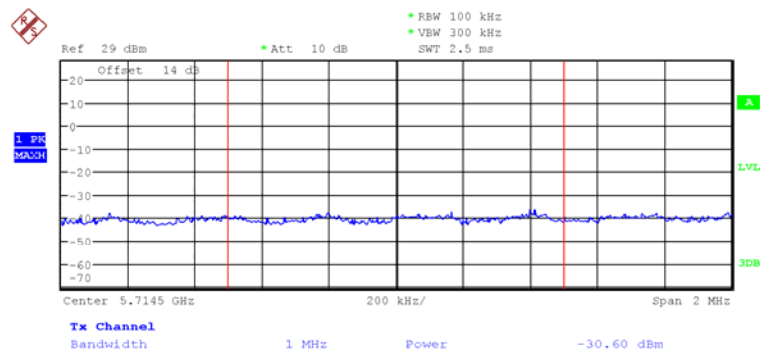
5725-5850 MHz Band

802.11a mode, Lowest Channel, Chain J0, 5724.5 MHz



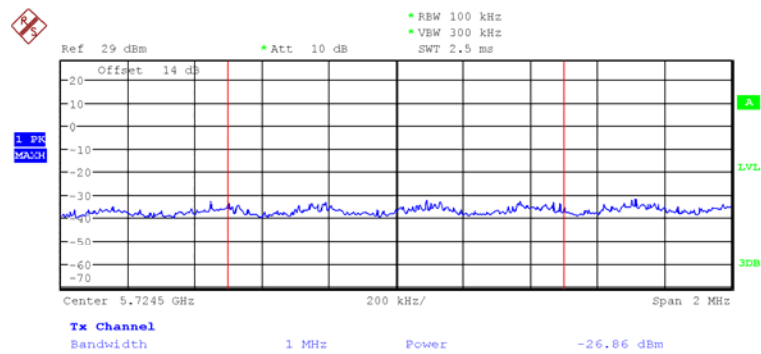
Date: 6.APR.2016 15:23:37

802.11a mode, Lowest Channel, Chain J0, 5714.5 MHz



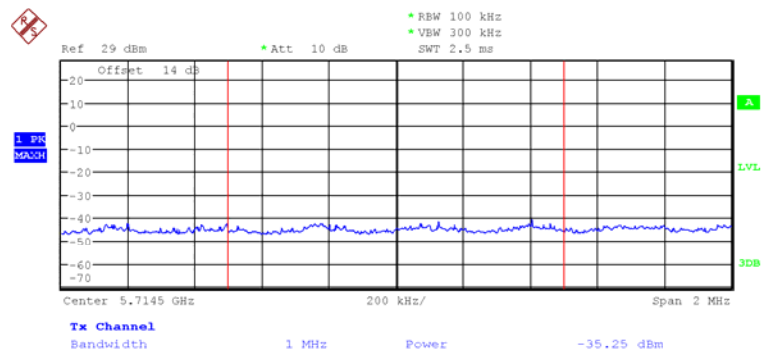
Date: 6.APR.2016 15:23:18

802.11a mode, Lowest Channel, Chain J1, 5724.5 MHz



Date: 6.APR.2016 15:33:41

802.11a mode, Lowest Channel, Chain J1, 5714.5 MHz



Date: 6.APR.2016 15:34:33

Ref 29 dBm
 Offset 14 dB
 Att 10 dB
 RBW 100 kHz
 VIEW 300 kHz
 SWT 2.5 ms

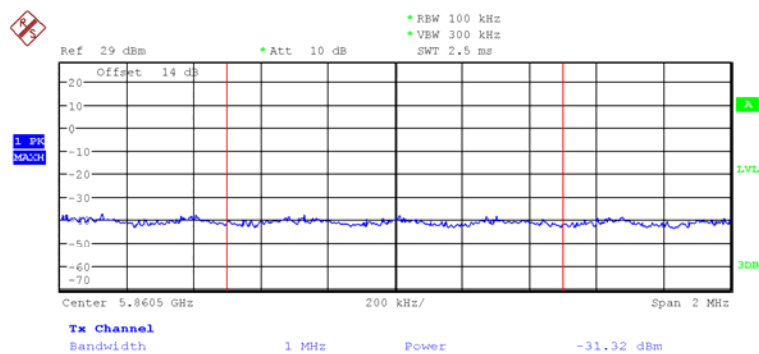
1 PK
 MAG

-20
 -10
 0
 -10
 -20
 -30
 -40
 -50
 -60
 -70

Center 5.8505 GHz
 200 kHz/
 Span 2 MHz

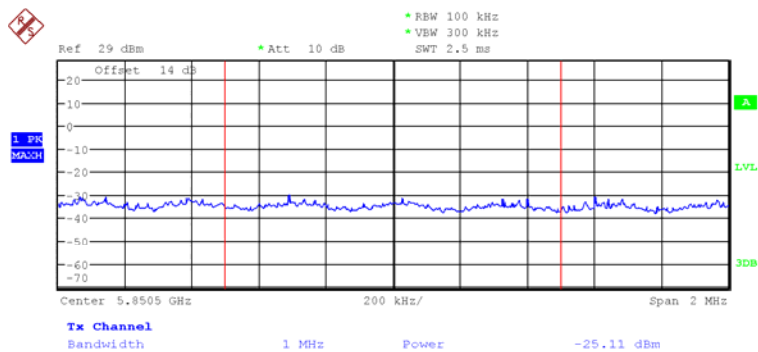
Tx Channel
 Bandwidth 1 MHz
 Power -24.12 dBm

802.11a mode, Highest Channel, Chain J0, 5860.5 MHz



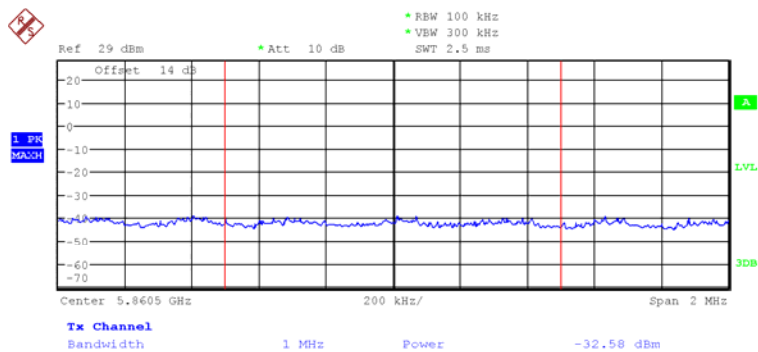
FCC Part 15.407 Test Report

802.11a mode, Highest Channel, Chain J1, 5850.5 MHz



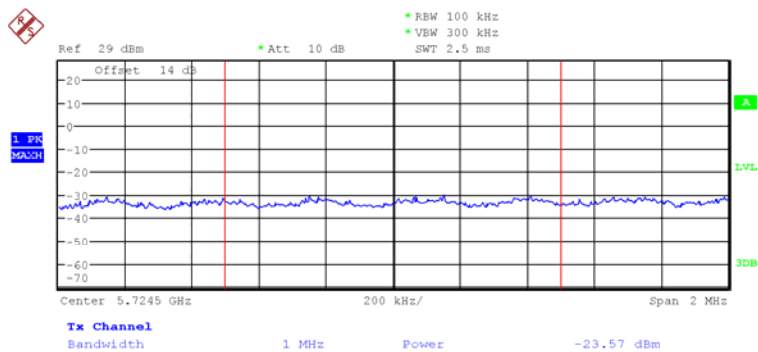
Date: 6.APR.2016 15:14:41

802.11a mode, Highest Channel, Chain J1, 5860.5 MHz



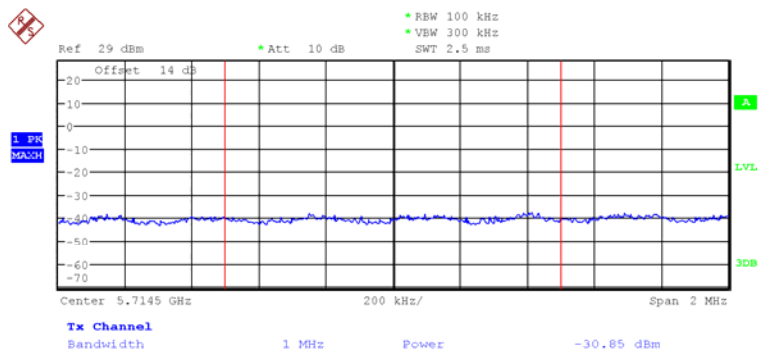
Date: 6.APR.2016 15:15:07

802.11n20 mode, Lowest Channel, Chain J0, 5724.5 MHz



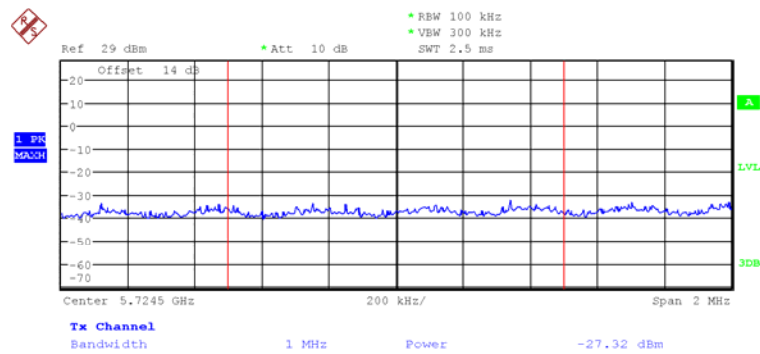
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802.11n20 mode, Lowest Channel, Chain J0, 5714.5 MHz



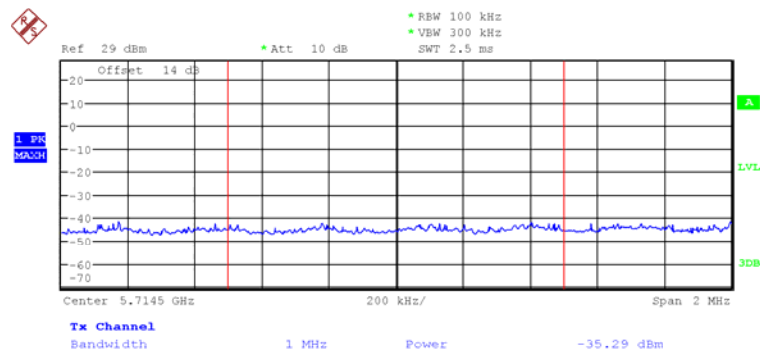
Date: 6.APR.2016 15:24:58

802.11n20 mode, Lowest Channel, Chain J1, 5724.5 MHz



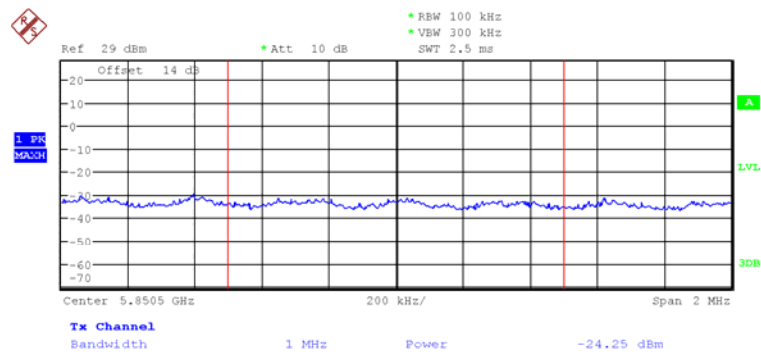
Date: 6.APR.2016 15:33:03

802.11n20 mode, Lowest Channel, Chain J1, 5714.5 MHz



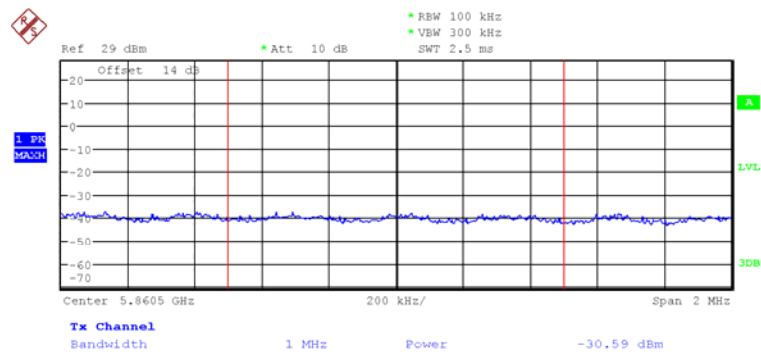
Date: 6.APR.2016 15:32:28

802.11n20 mode, Highest Channel, Chain J0, 5850.5 MHz



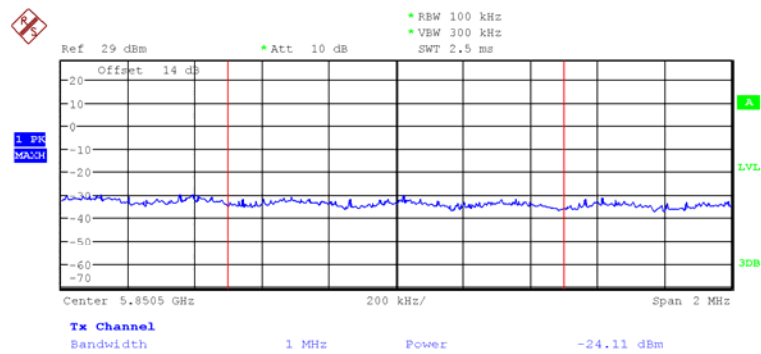
Date: 6.APR.2016 15:08:42

802.11n20 mode, Highest Channel, Chain J0, 5860.5 MHz



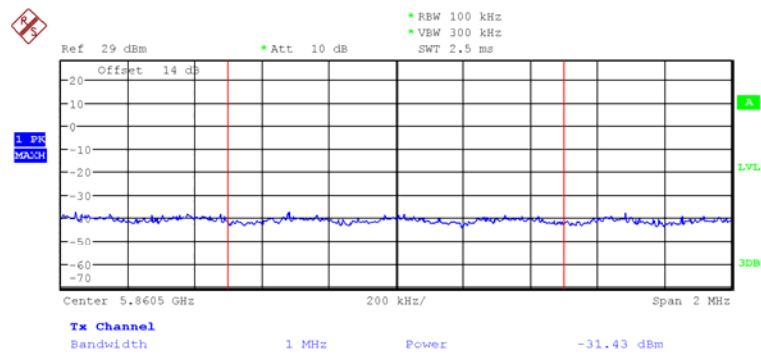
Date: 6.APR.2016 15:08:22

802.11n20 mode, Highest Channel, Chain J1, 5850.5 MHz



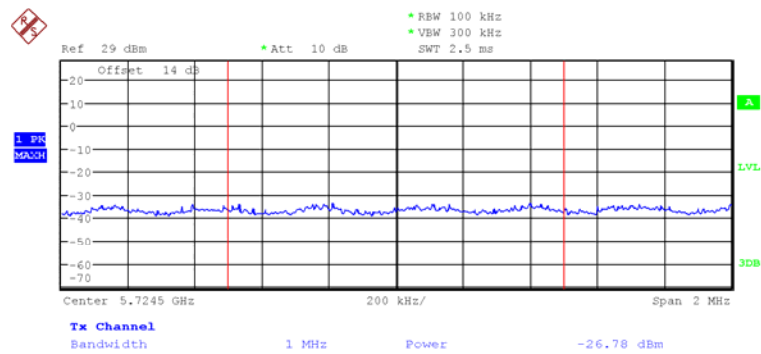
Date: 6.APR.2016 15:14:14

802.11n20 mode, Highest Channel, Chain J1, 5860.5 MHz



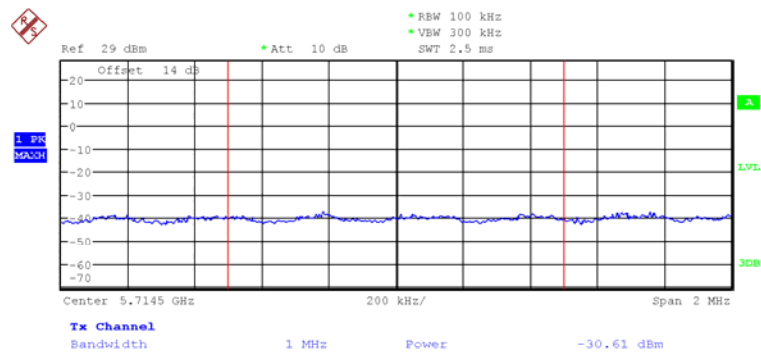
Date: 6.APR.2016 15:13:52

802.11n40 mode, Lowest Channel, Chain J0, 5724.5 MHz



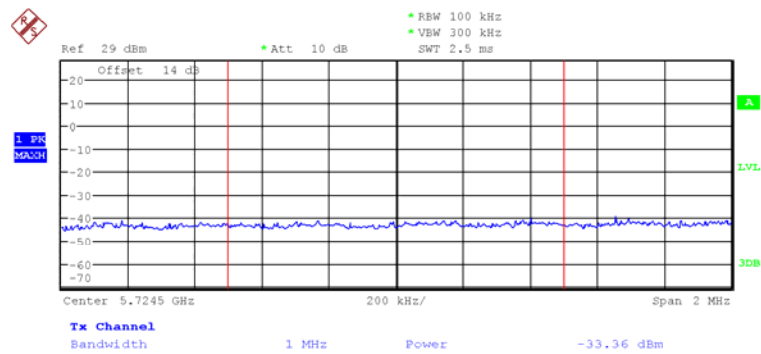
Date: 6.APR.2016 15:27:59

802.11n40 mode, Lowest Channel, Chain J0, 5714.5 MHz



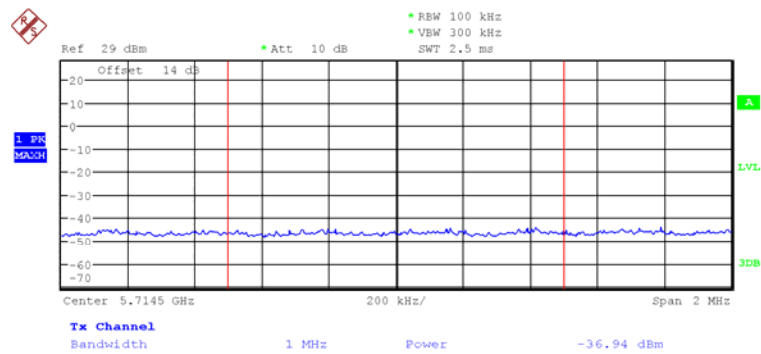
Date: 6.APR.2016 15:27:38

802.11n40 mode, Lowest Channel, Chain J1, 5724.5 MHz



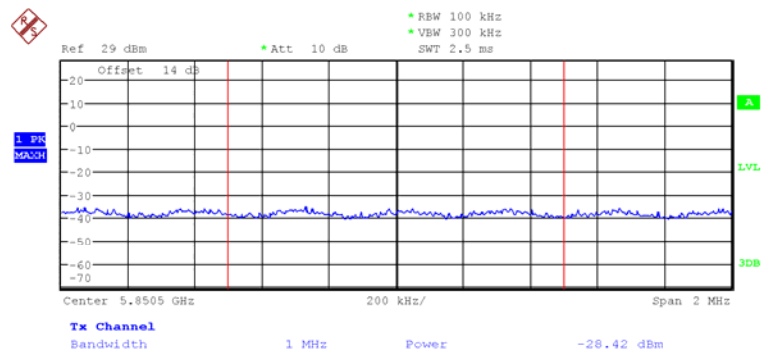
Date: 6.APR.2016 15:30:35

802.11n40 mode, Lowest Channel, Chain J1, 5714.5 MHz



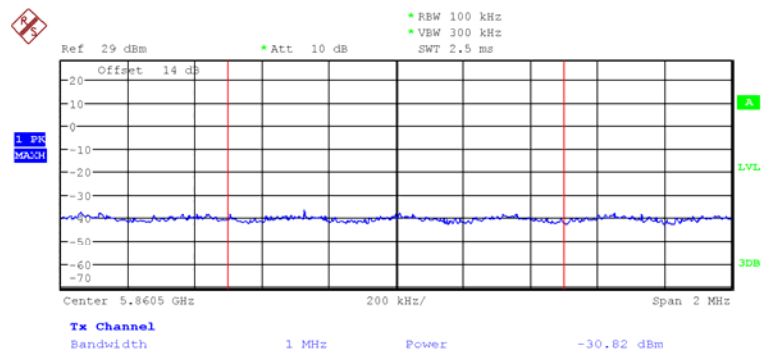
Date: 6.APR.2016 15:31:47

802.11n40 mode, Highest Channel, Chain J0, 5850.5 MHz



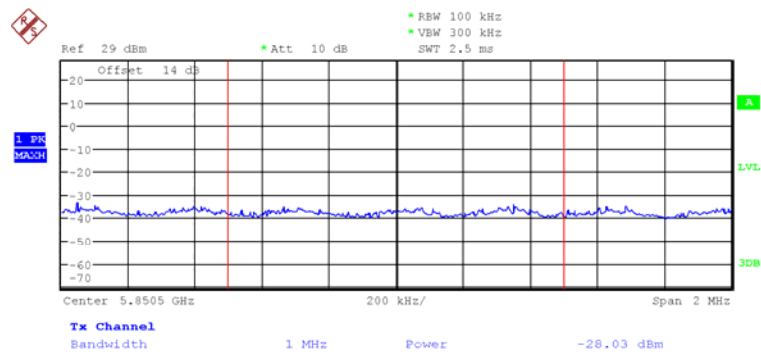
Date: 6.APR.2016 15:10:46

802.11n40 mode, Highest Channel, Chain J0, 5860.5 MHz



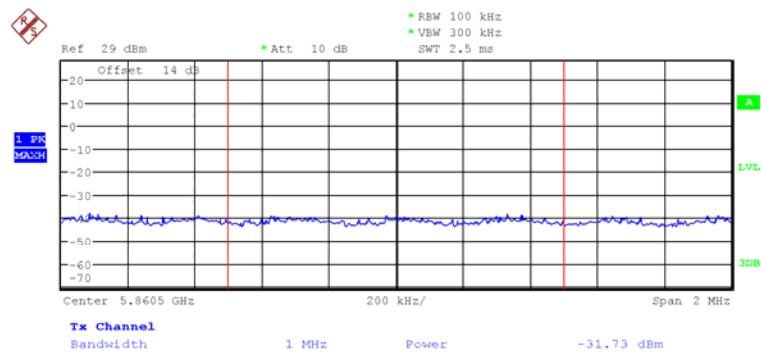
Date: 6.APR.2016 15:10:27

802.11n40 mode, Highest Channel, Chain J1, 5850.5 MHz



Date: 6.APR.2016 15:12:51

802.11n40 mode, Highest Channel, Chain J1, 5860.5 MHz



Date: 6.APR.2016 15:13:16

11 FCC §15.407(a) - Power Spectral Density

11.1 Applicable Standard

According to FCC §15.407(a)

(1) For the band 5.15-5.25 GHz.

For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

11.2 Measurement Procedure

The measurements are base on FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r01: Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices section F: Peak power spectral density (PPSD)

11.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Agilent	Spectrum Analyzer	E4440A	US42221851	2015-06-23	1 year
-	SMA Cable	-	C0001	Each Time ¹	N/A
Mini-Circuits	Attenuator	BW-S20W5	1430	Each Time ¹	N/A

Statement of Traceability: *BACL Corp.* attests that all calibrations have been performed according to A2LA requirements, traceable to the NIST.

11.4 Test Environmental Conditions

Temperature:	23 °C
Relative Humidity:	43 %
ATM Pressure:	101.5 kPa

The testing was performed by Jin Yang from 2016-03-29 to 2016-04-06 in RF site.

11.5 Test Results

5150-5250 MHz Band

802.11a mode

Channel	Frequency (MHz)	TX Chain J0 Power (dBm/MHz)	TX Chain J1 Power (dBm/MHz)	Total Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)
Low	5180	5.135	2.682	7.090	17	-9.91
Middle	5200	8.944	7.424	11.260	17	-5.74
High	5240	8.961	6.739	11.001	17	-5.999

802.11n HT20 mode

Channel	Frequency (MHz)	TX Chain J0 Power (dBm/MHz)	TX Chain J1 Power (dBm/MHz)	Total Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)
Low	5180	3.957	2.669	6.371	17	-10.629
Middle	5200	8.174	6.108	10.273	17	-6.727
High	5240	8.152	5.194	9.930	17	-7.07

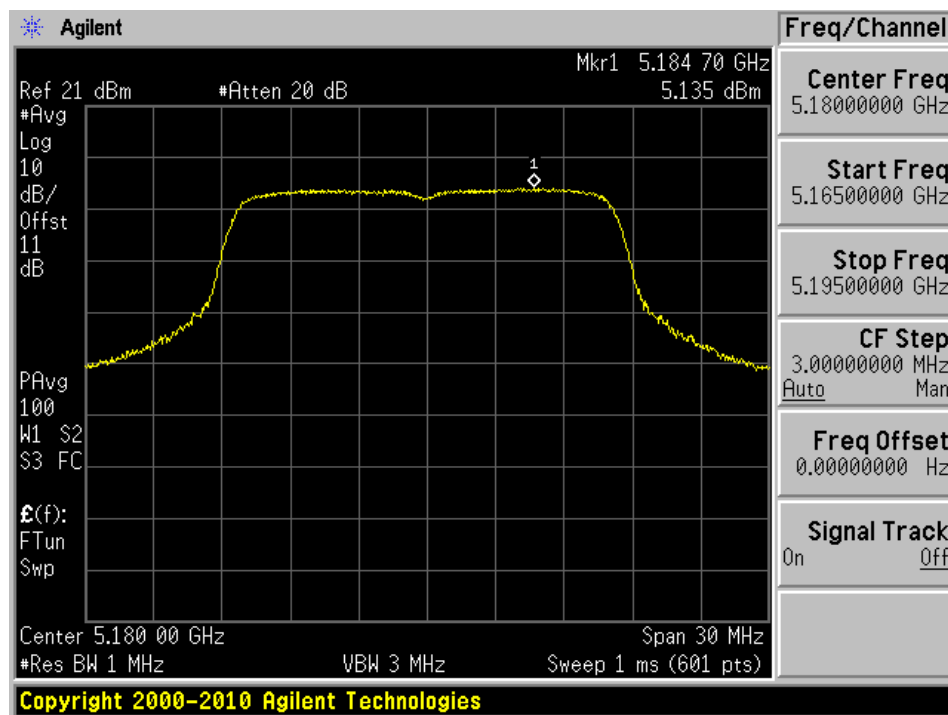
802.11n HT40 mode

Channel	Frequency (MHz)	TX Chain J0 Power (dBm/MHz)	TX Chain J8 Power (dBm/MHz)	Total Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)
Low	5190	-2.894	-4.486	-0.607	17	-17.607
High	5230	6.288	4.07	8.329	17	-8.671

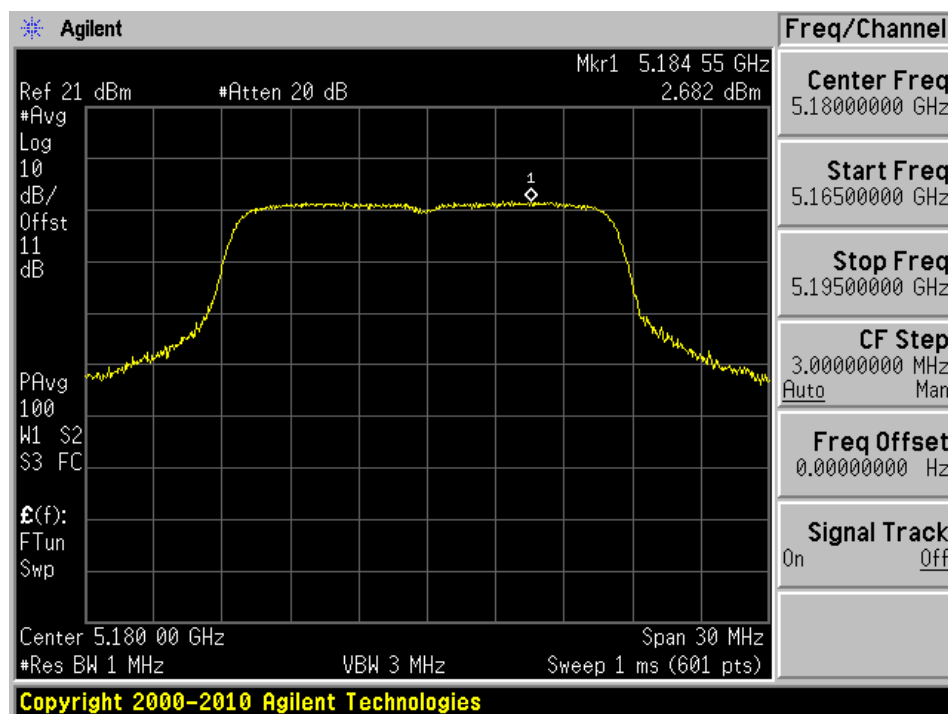
Please refer to the following plots.

802.11a mode

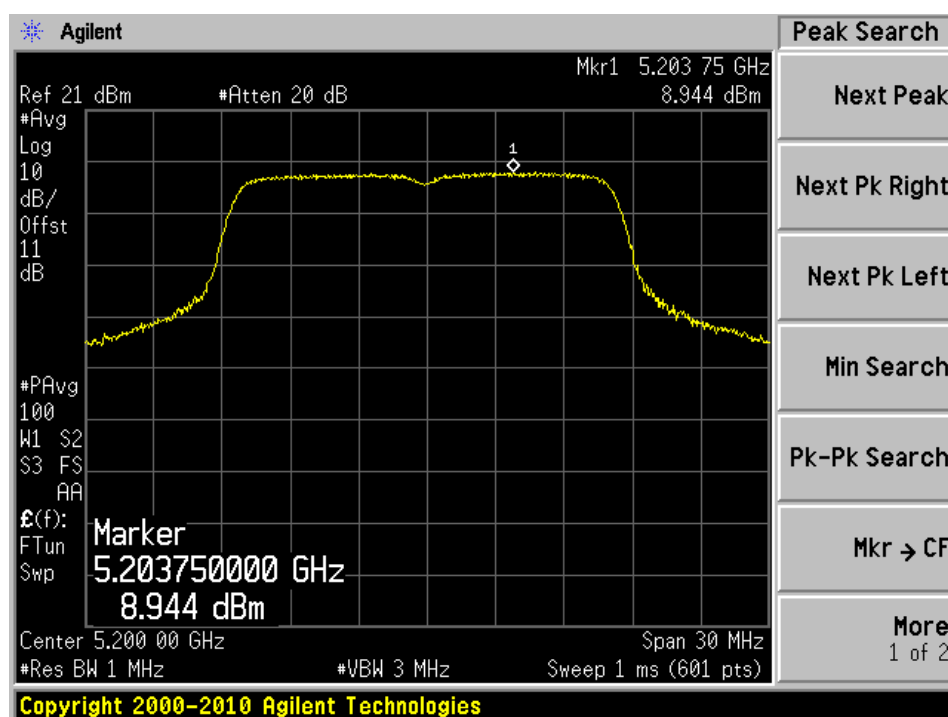
802.11a mode, 5180 MHz, Chain J0



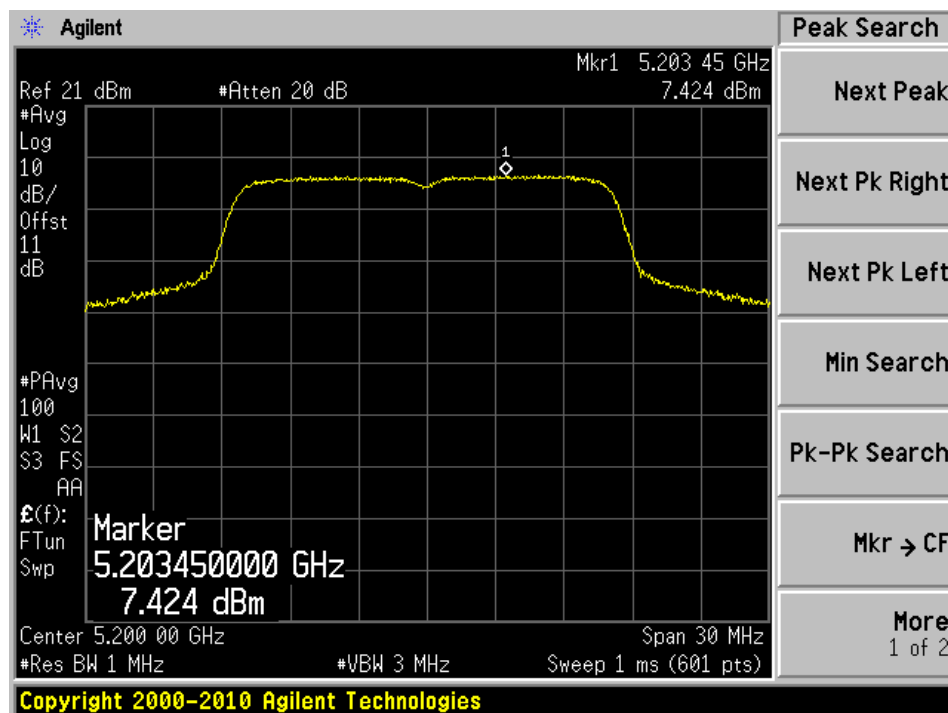
802.11a mode, 5180 MHz, Chain J1



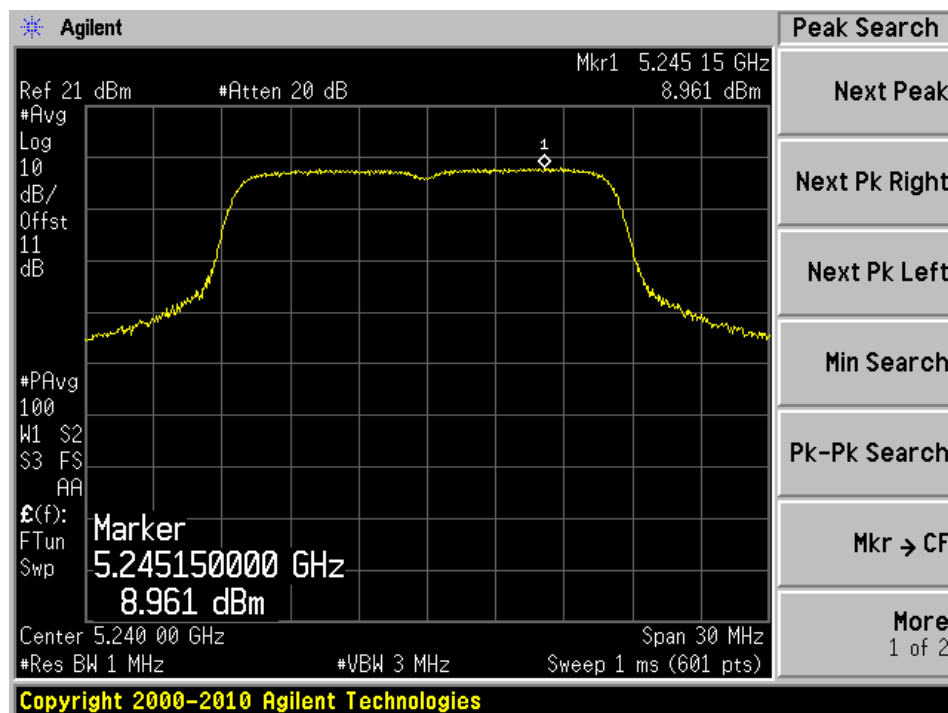
802.11a mode, 5200 MHz, Chain J0



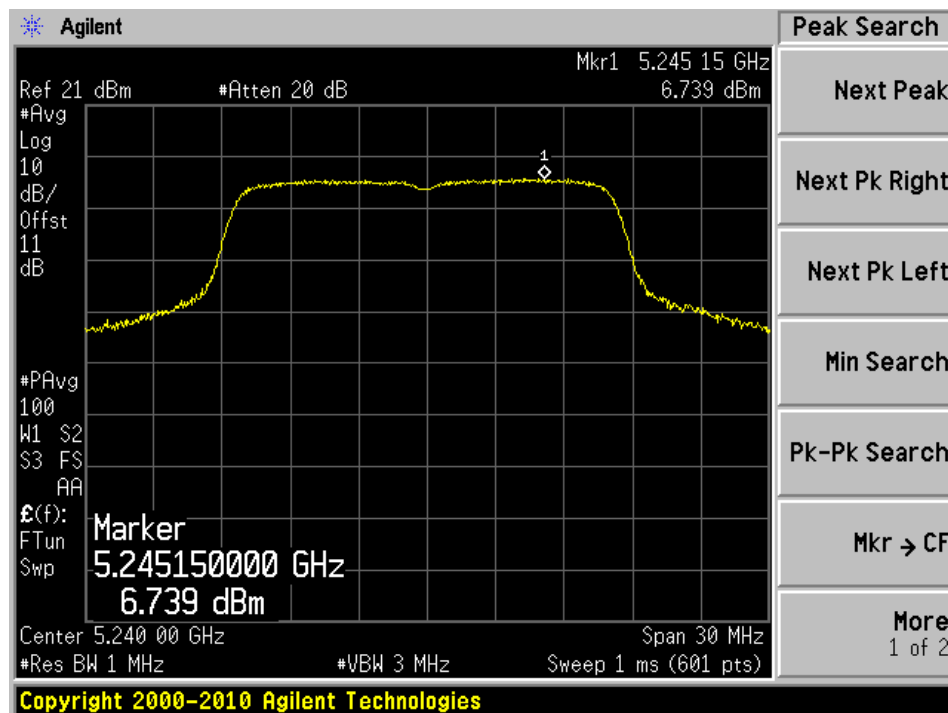
802.11a mode, 5200 MHz, Chain J1



802.11a mode, 5240 MHz, Chain J0

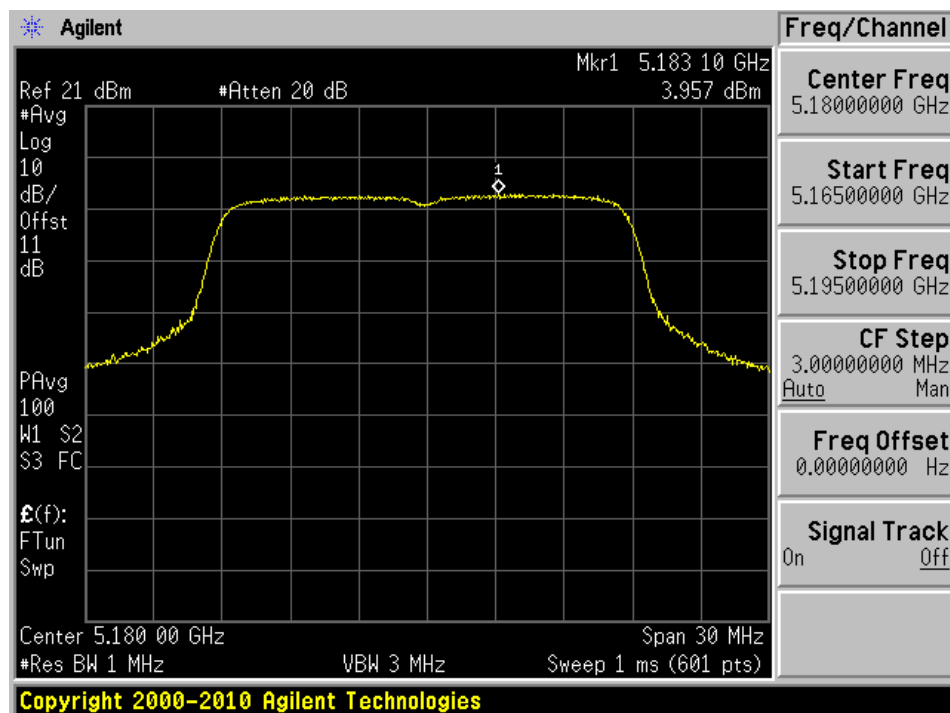


802.11a mode, 5240 MHz, Chain J1

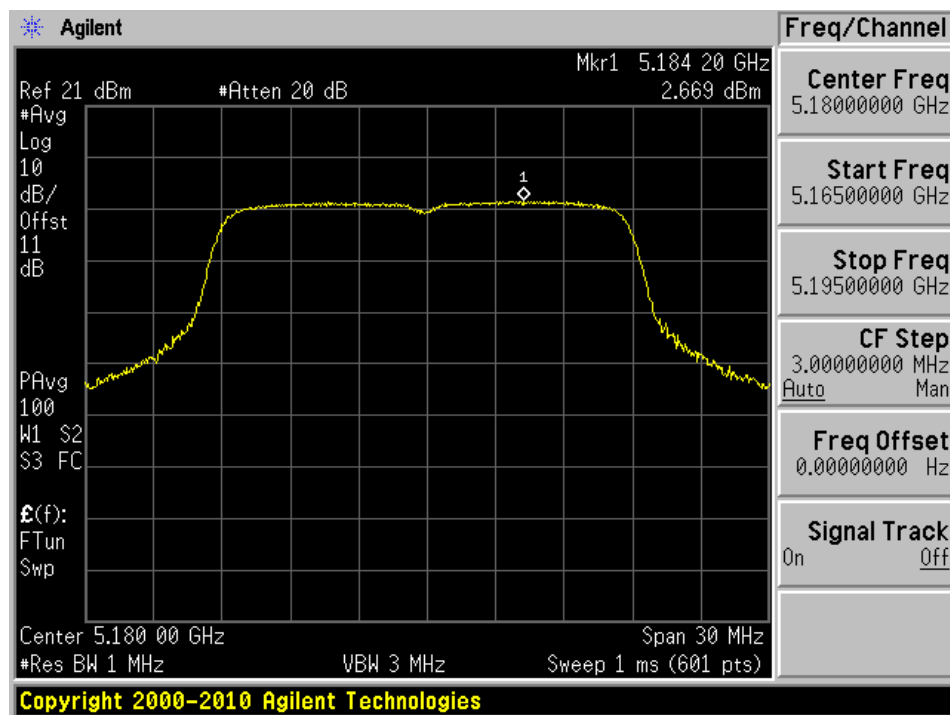


802.11n HT20 mode

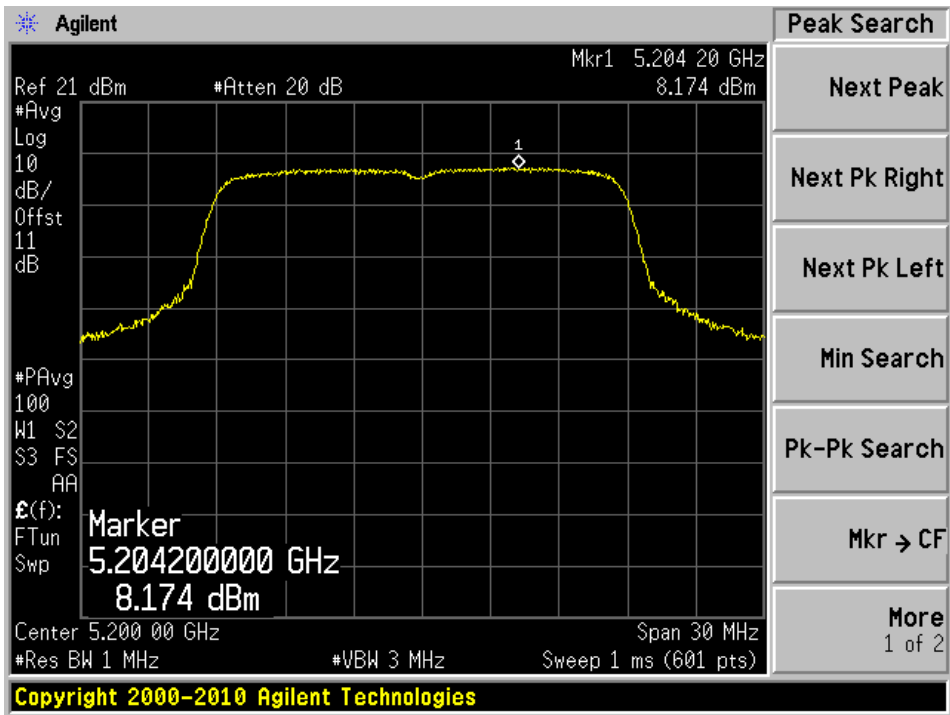
802.11n HT20 mode, 5180 MHz, Chain J0



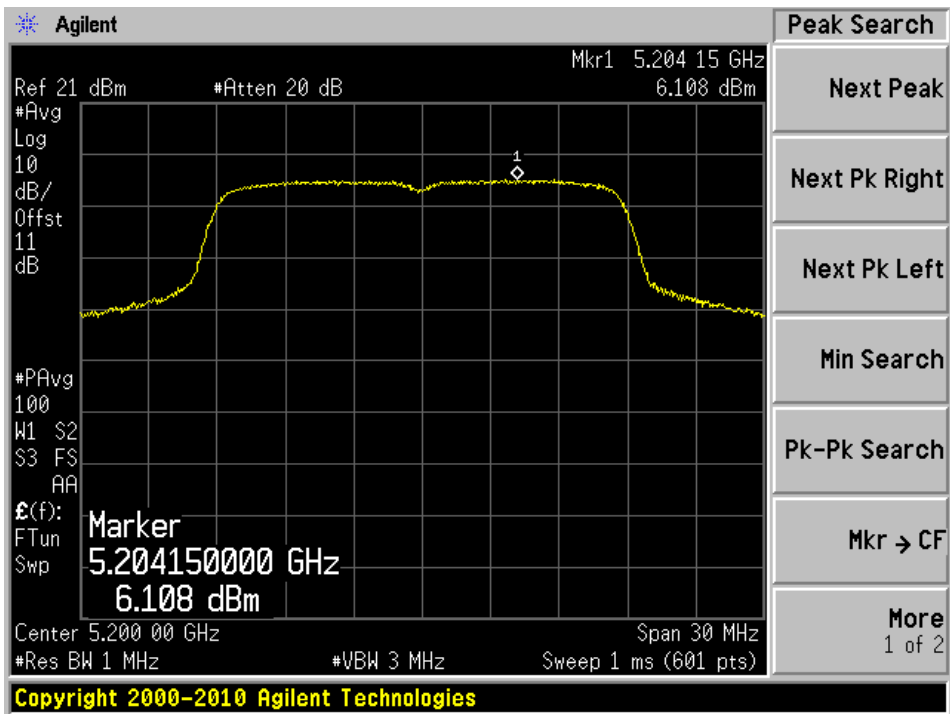
802.11n HT20 mode, 5180 MHz, Chain J1



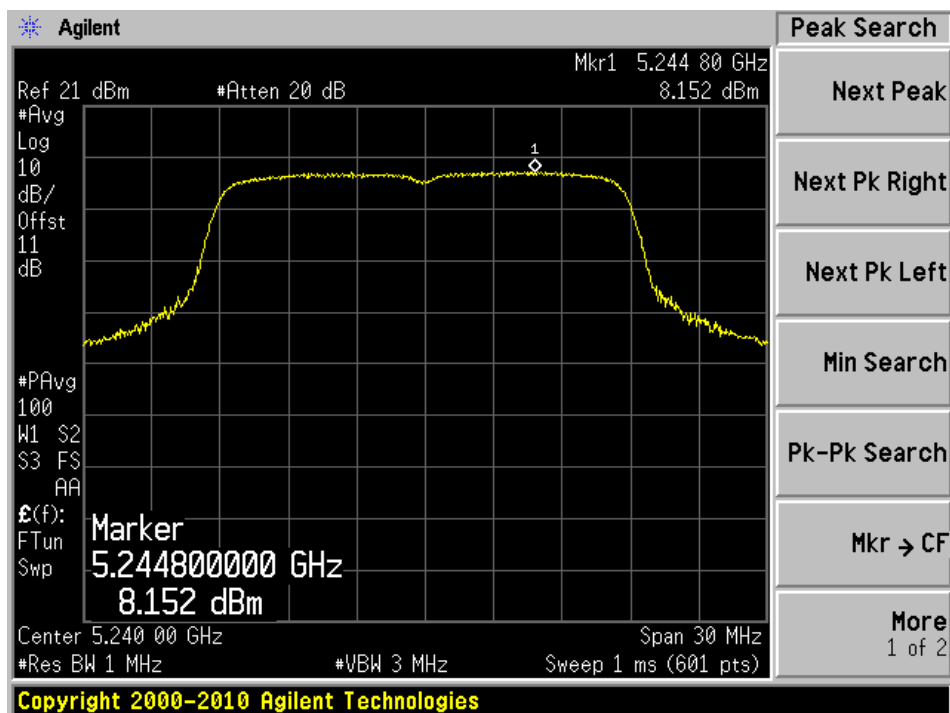
802.11n HT20 mode, 5200 MHz, Chain J0



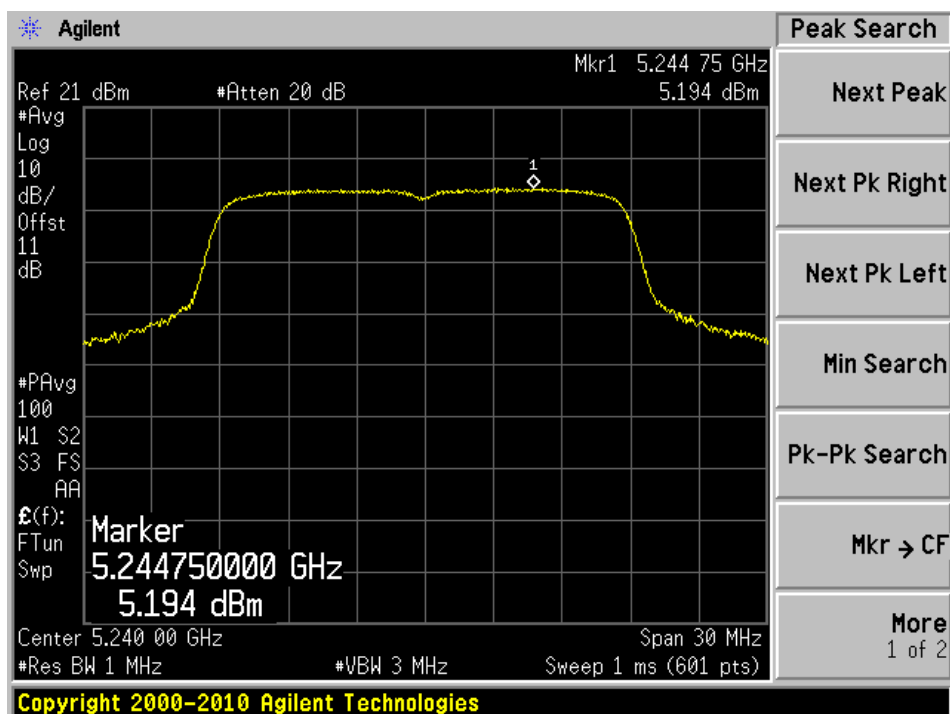
802.11n HT20 mode, 5200 MHz, Chain J1



802.11n HT20 mode, 5240 MHz, Chain J0

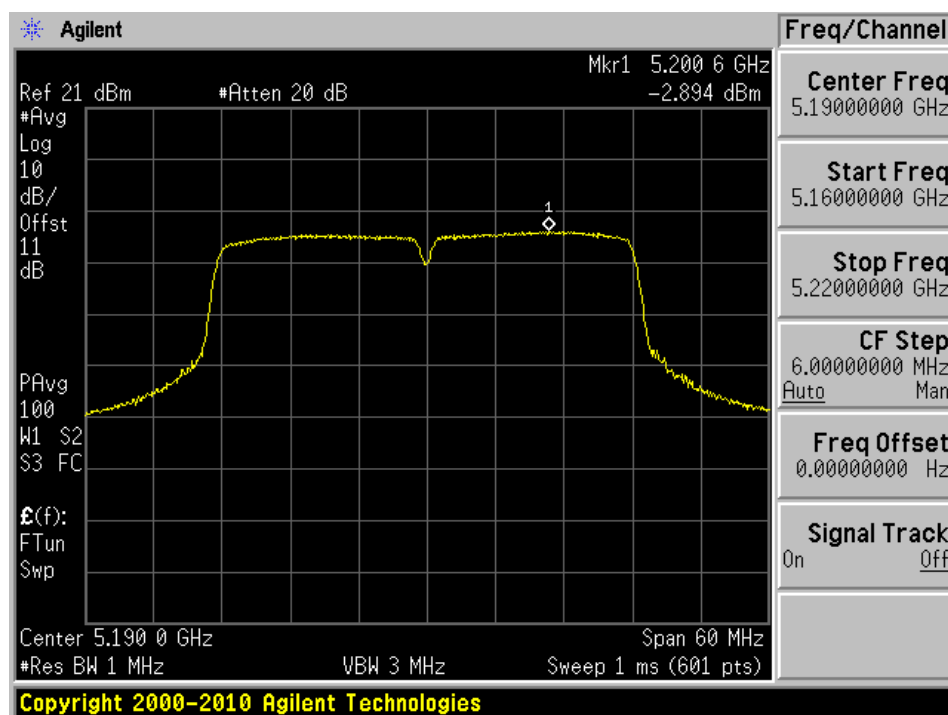


802.11n HT20 mode, 5240 MHz, Chain J1

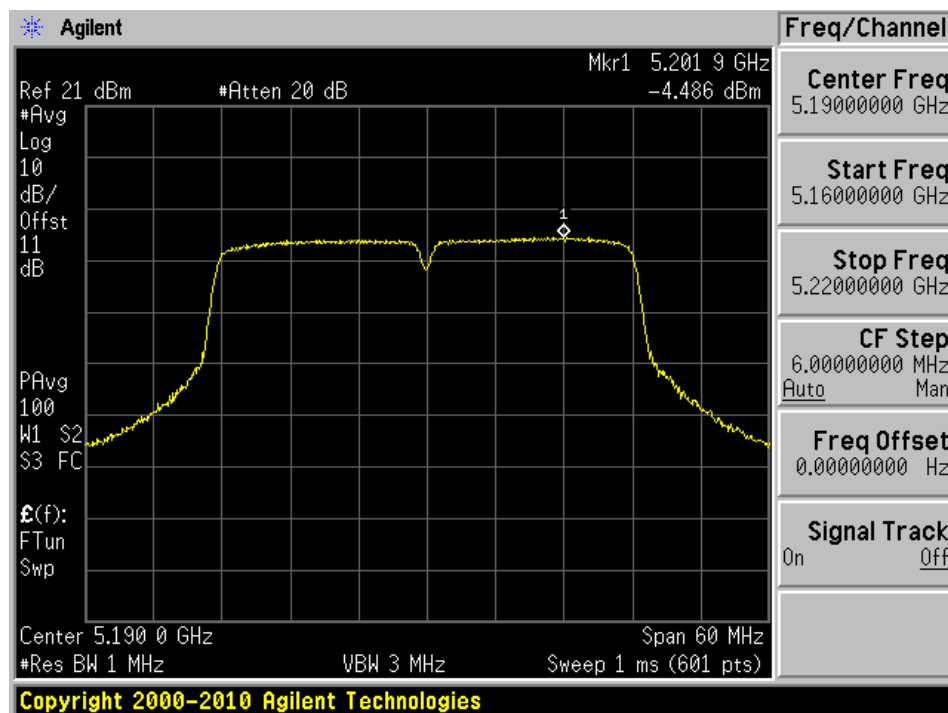


802.11n HT40 mode

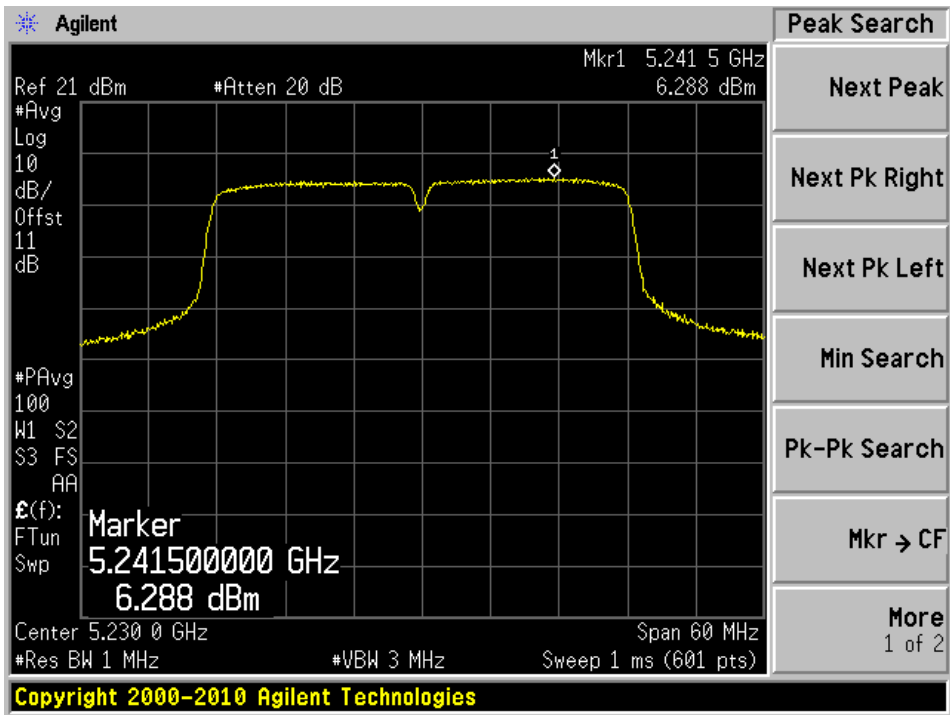
802.11n HT40 mode, 5190 MHz, Chain J0



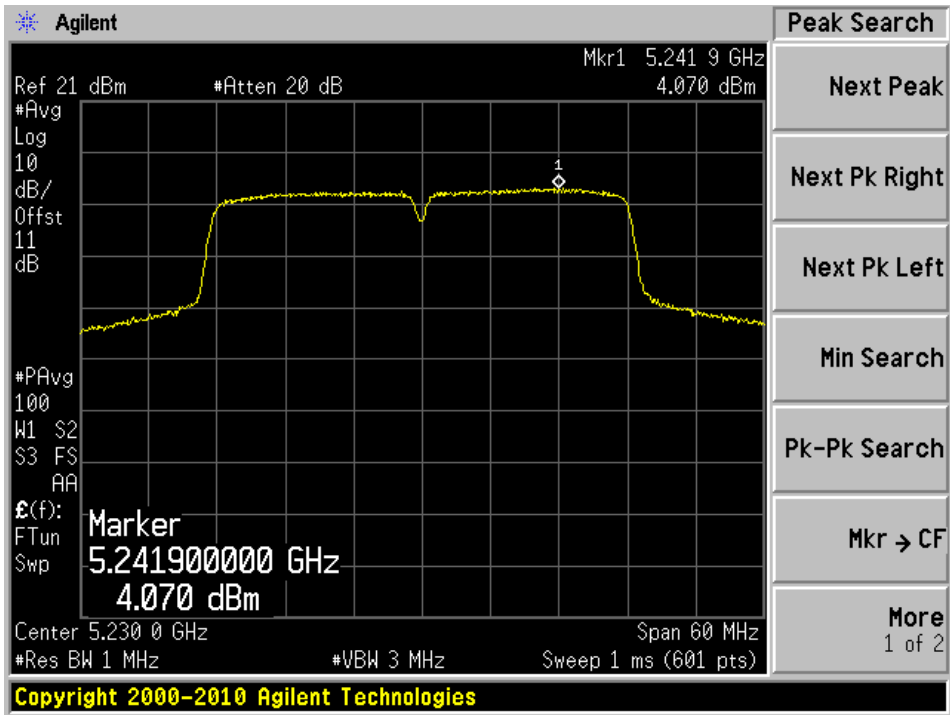
802.11n HT40 mode, 5190 MHz, Chain J1



802.11n HT40 mode, 5230 MHz, Chain J0



802.11n HT40 mode, 5230 MHz, Chain J1



5725-5850 MHz Band

802.11a mode

Channel	Frequency (MHz)	TX Chain J0 PSD After add RBW factor (dBm/500kHz)	TX Chain J1 PSD After add RBW factor (dBm/500kHz)	Total PSD After add RBW factor (dBm/500kHz)	Limit (dBm/500kHz)	Margin (dB)
Low	5745	2.550	1.275	4.969	30	-25.031
Middle	5785	7.134	6.041	9.632	30	-20.368
High	5825	5.596	4.879	8.263	30	-21.737

802.11n HT20 mode

Channel	Frequency (MHz)	TX Chain J0 PSD After add RBW factor (dBm/500kHz)	TX Chain J1 PSD After add RBW factor (dBm/500kHz)	Total PSD After add RBW factor (dBm/500kHz)	Limit (dBm/500kHz)	Margin (dB)
Low	5745	1.674	0.400	4.094	30	-25.906
Middle	5785	6.714	5.755	9.271	30	-20.729
High	5825	4.504	4.543	7.534	30	-22.466

802.11n HT40 mode

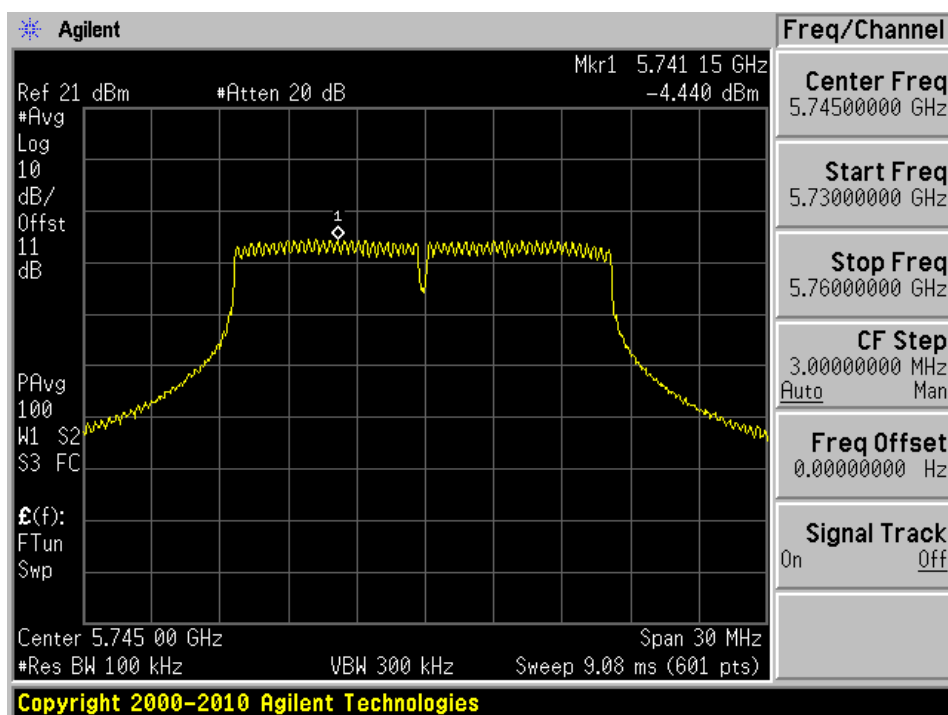
Channel	Frequency (MHz)	TX Chain J0 PSD After add RBW factor (dBm/500kHz)	TX Chain J1 PSD After add RBW factor (dBm/500kHz)	Total PSD After add RBW factor (dBm/500kHz)	Limit (dBm/500kHz)	Margin (dB)
Low	5755	-6.226	-7.082	-3.623	30	-33.623
High	5795	3.009	1.514	5.336	30	-24.664

Please refer to the following plots.

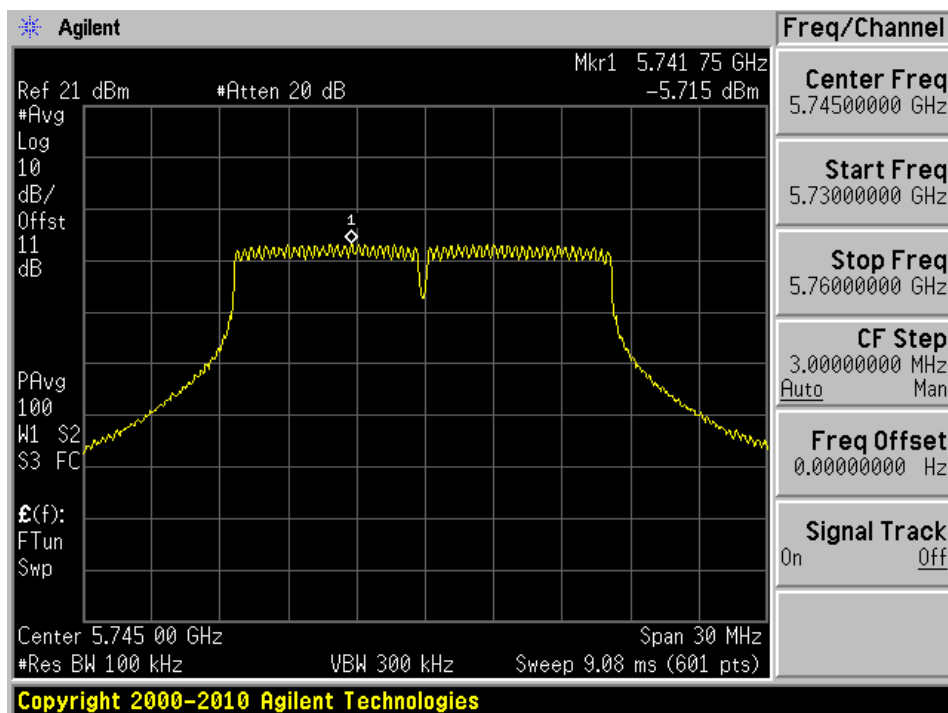
Note: A RBW Factor of $10\log(500\text{kHz}/100\text{kHz})$ was added to the results to account for the correct bandwidth.

802.11a mode

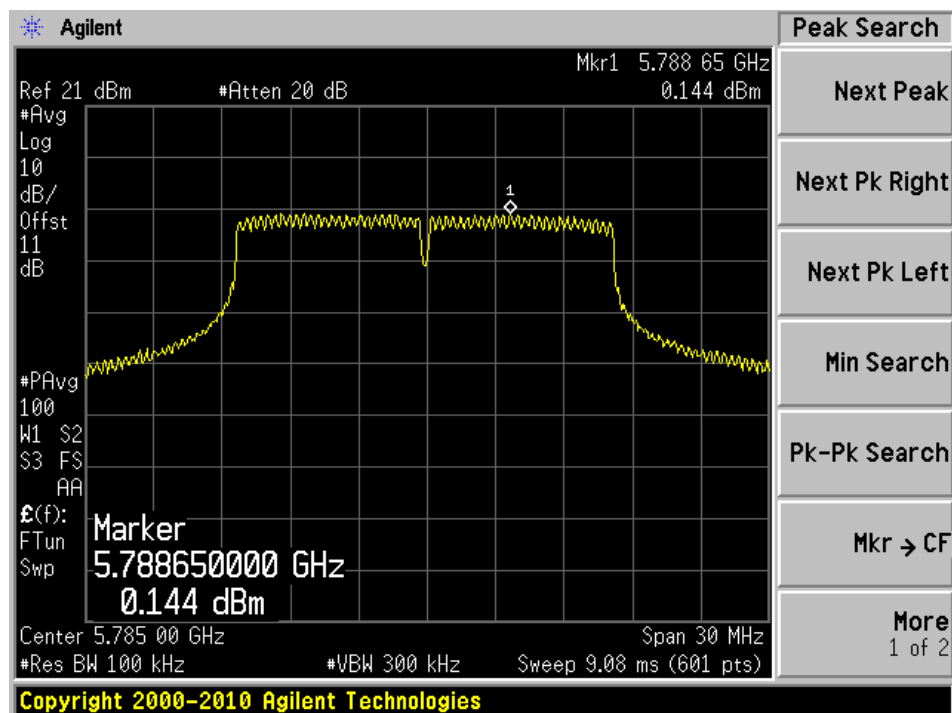
802.11a mode, 5745 MHz, Chain J0



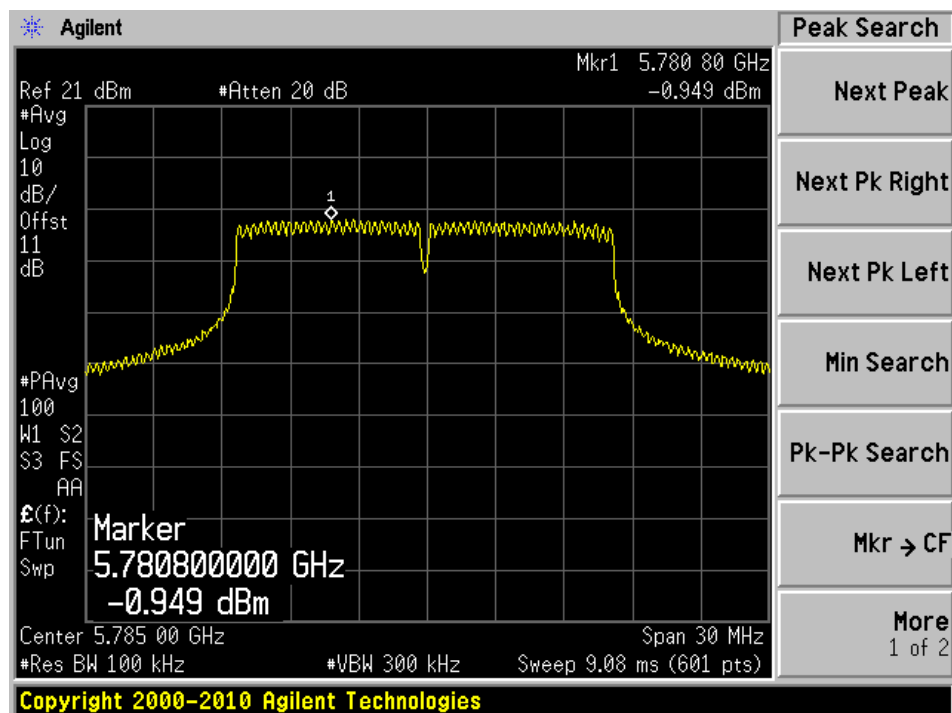
802.11a mode, 5745 MHz, Chain J1



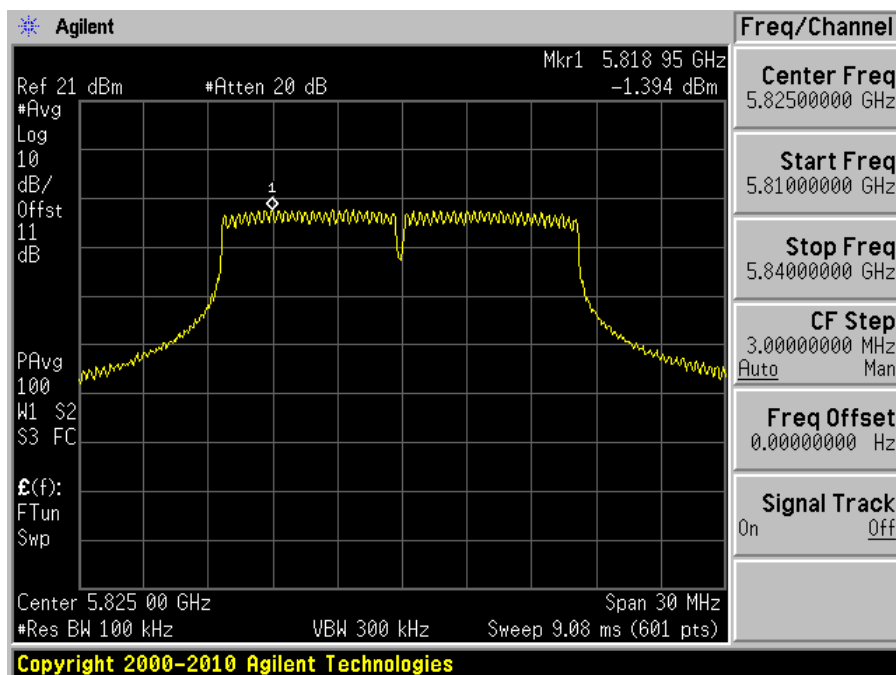
802.11a mode, 5785 MHz, Chain J0



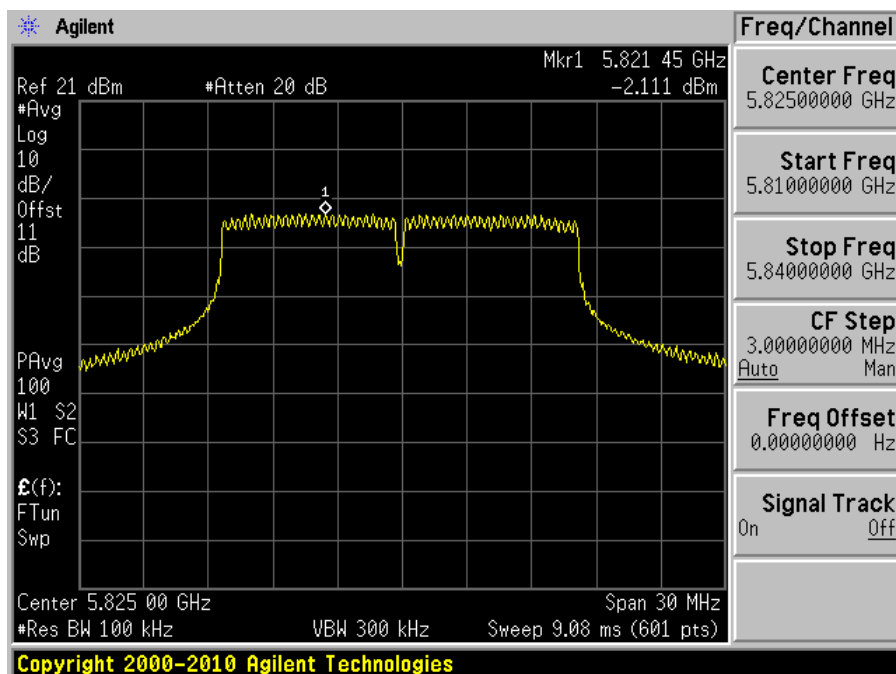
802.11a mode, 5785 MHz, Chain J1



802.11a mode, 5825 MHz, Chain J0

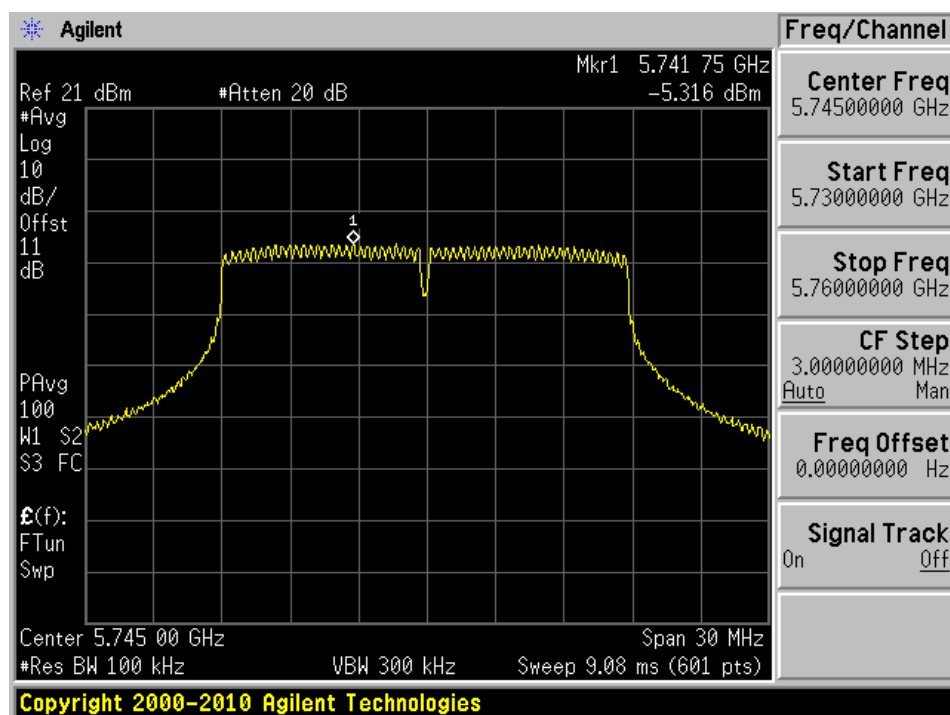


802.11a mode, 5825 MHz, Chain J1

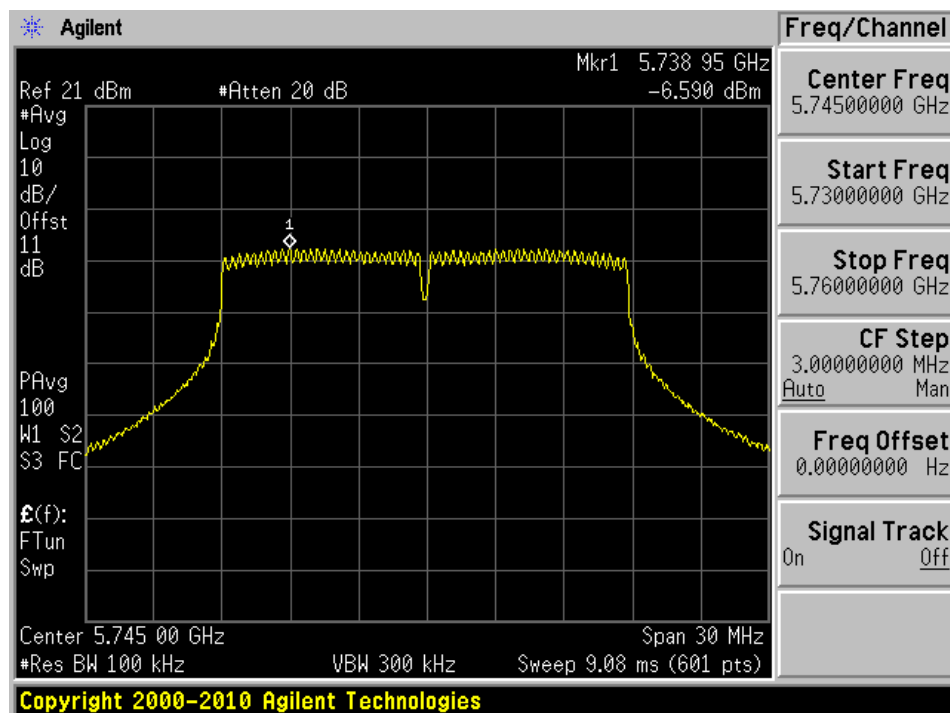


802.11n20 mode

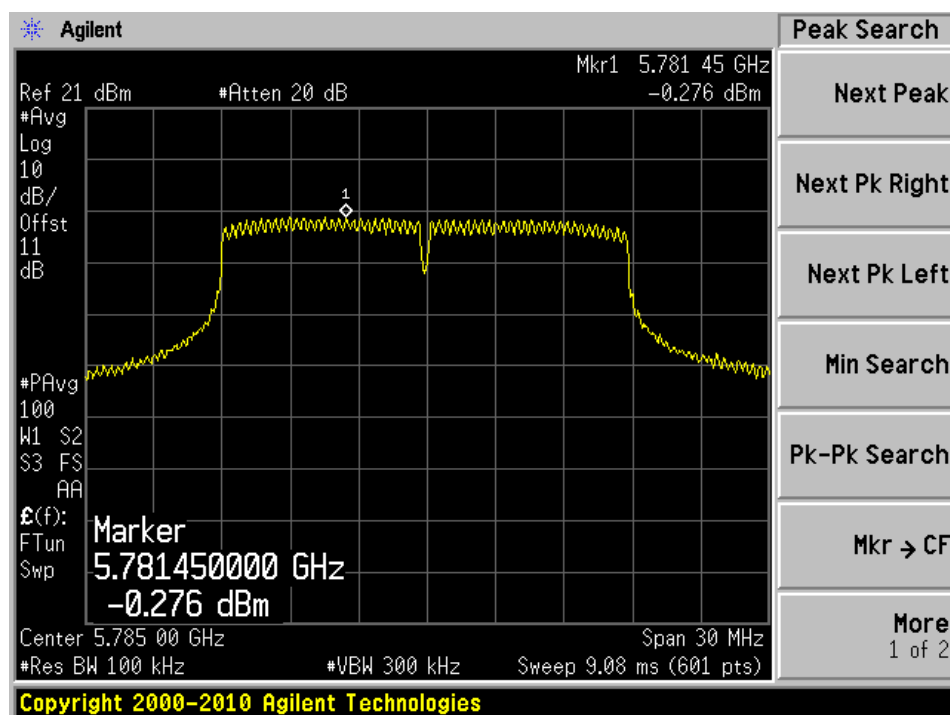
802.11n20 mode, 5745 MHz, Chain J0



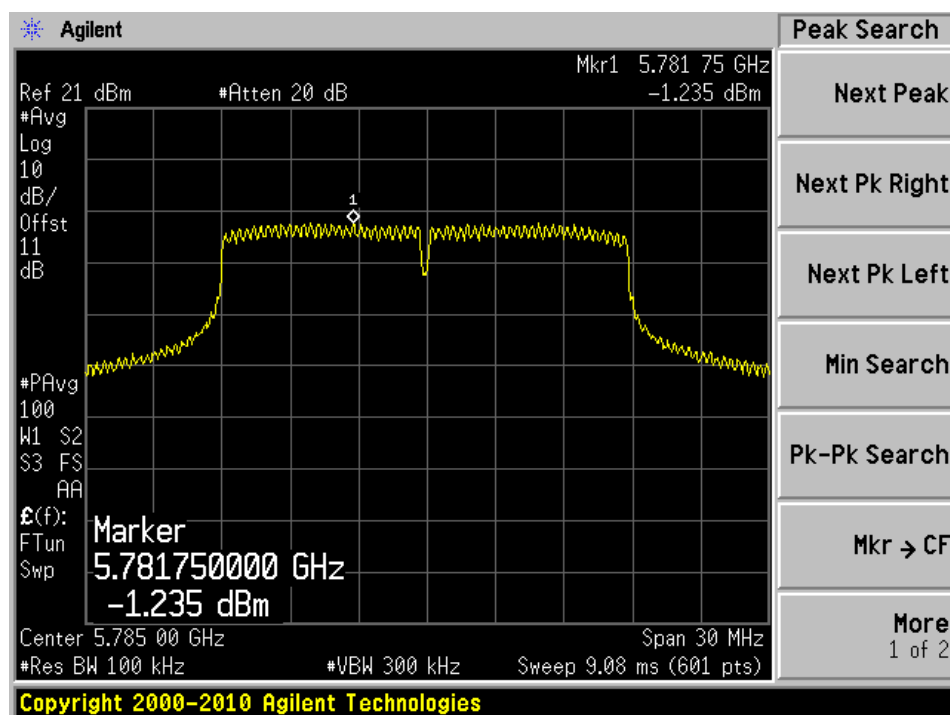
802.11n20 mode, 5745 MHz, Chain J1



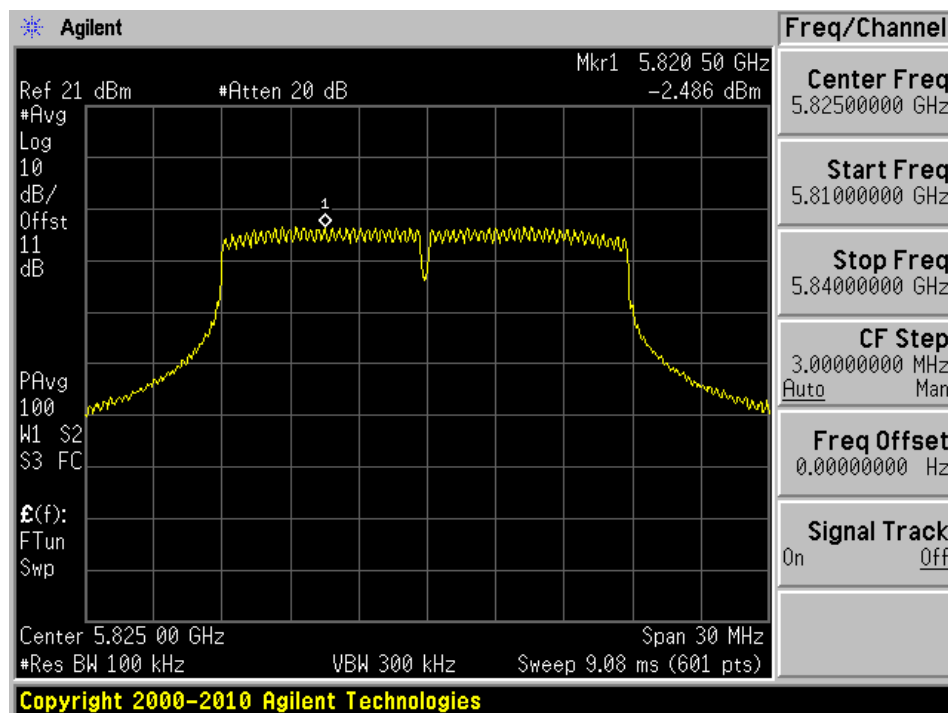
802.11n20 mode, 5785 MHz, Chain J0



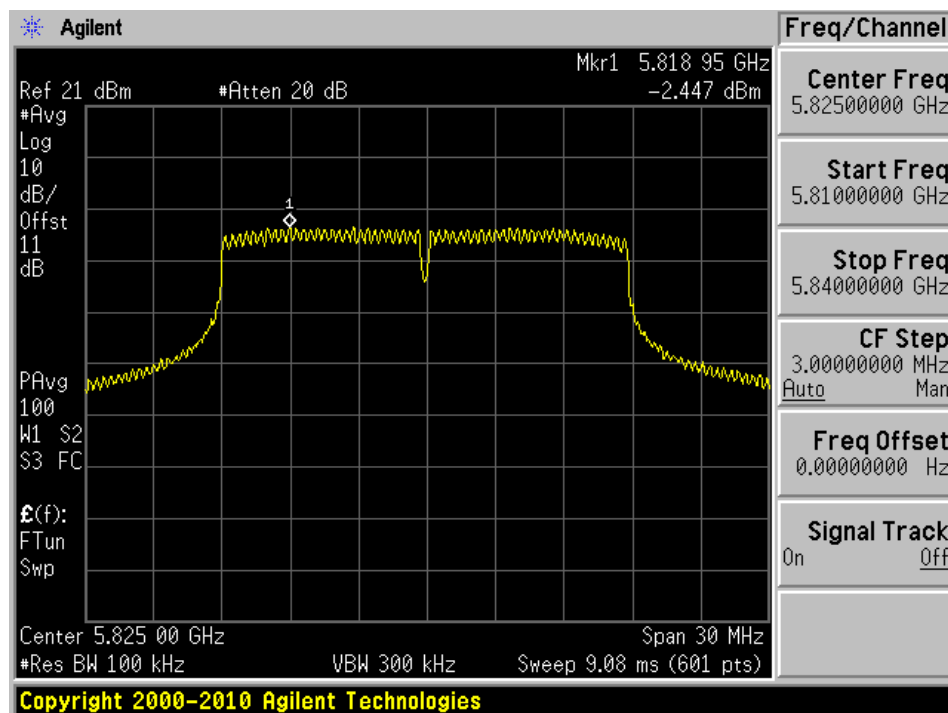
802.11n20 mode, 5785 MHz, Chain J1



802.11n20 mode, 5825 MHz, Chain J0

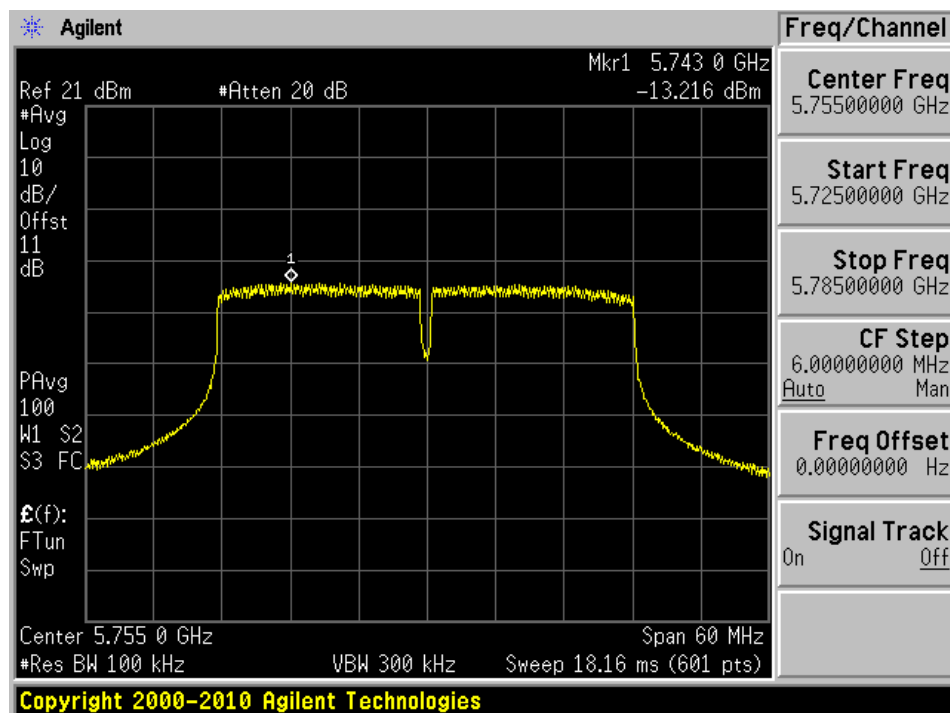


802.11n20 mode, 5825 MHz, Chain J1

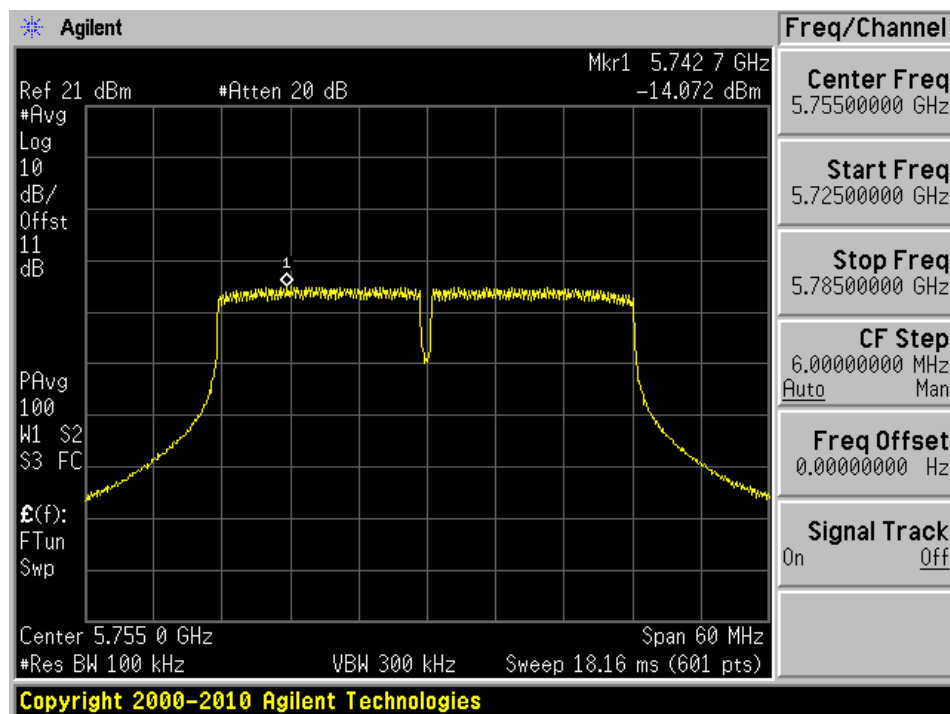


802.11n40 mode

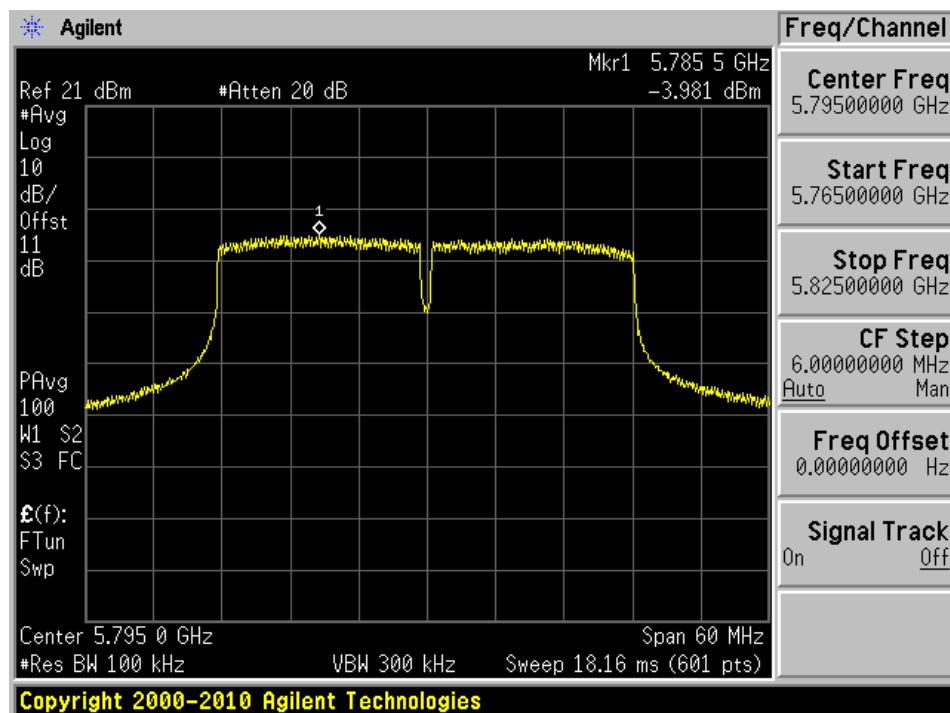
802.11n40 mode, 5755 MHz, Chain J0



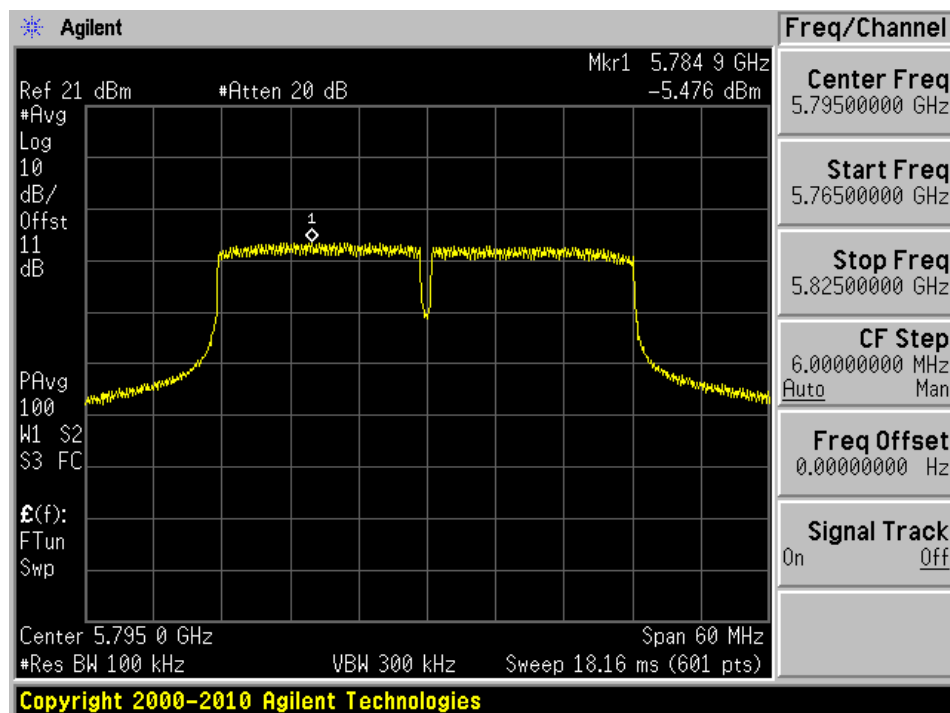
802.11n40 mode, 5755 MHz, Chain J1



802.11n40 mode, 5795 MHz, Chain J0



802.11n40 mode, 5795 MHz, Chain J1



12 FCC §15.407(b) - Spurious Emissions at Antenna Terminals

12.1 Applicable Standard

According to FCC §15.407(b)

(b) (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(b) (4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz

12.2 Measurement Procedure

The measurements are base on FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r01: Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices section G: Unwanted emissions measurement

12.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Agilent	Spectrum Analyzer	E4440A	US42221851	2015-06-23	1 year
-	SMA Cable	-	C0001	Each Time ¹	N/A
Mini-Circuits	Attenuator	BW-S20W5	1430	Each Time ¹	N/A

Statement of Traceability: *BACL Corp.* attests that all calibrations have been performed per the A2LA requirements, traceable to the NIST.

12.4 Test Environmental Conditions

Temperature:	24 °C
Relative Humidity:	44 %
ATM Pressure:	101.3kPa

The testing was performed by Jin Yang from 2016-03-29 to 2016-04-06 in RF site.

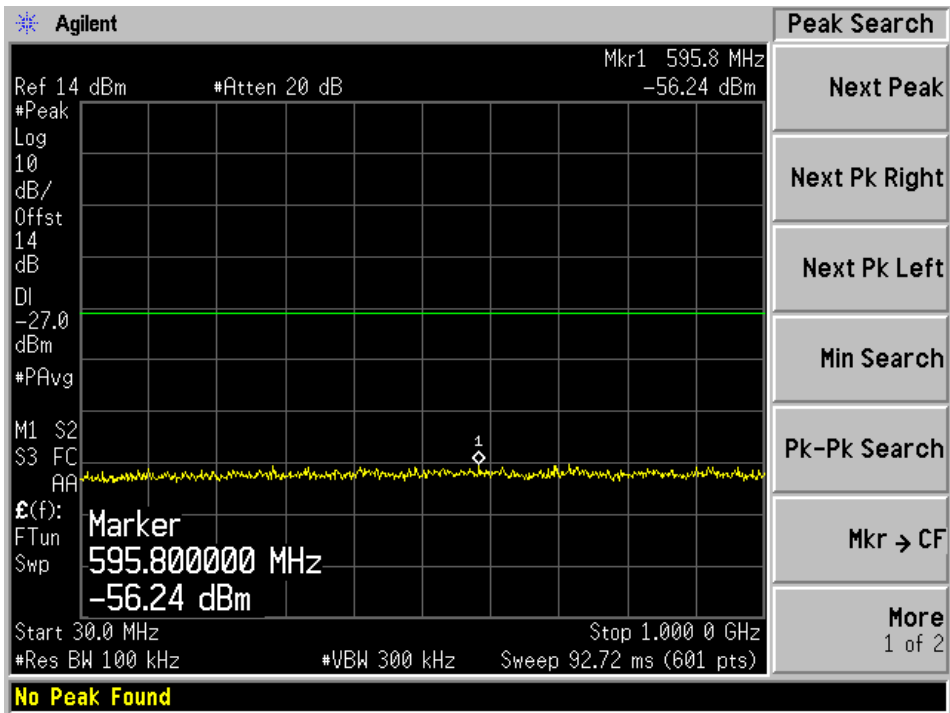
12.5 Test Results

Please refer to following plots of spurious emissions.

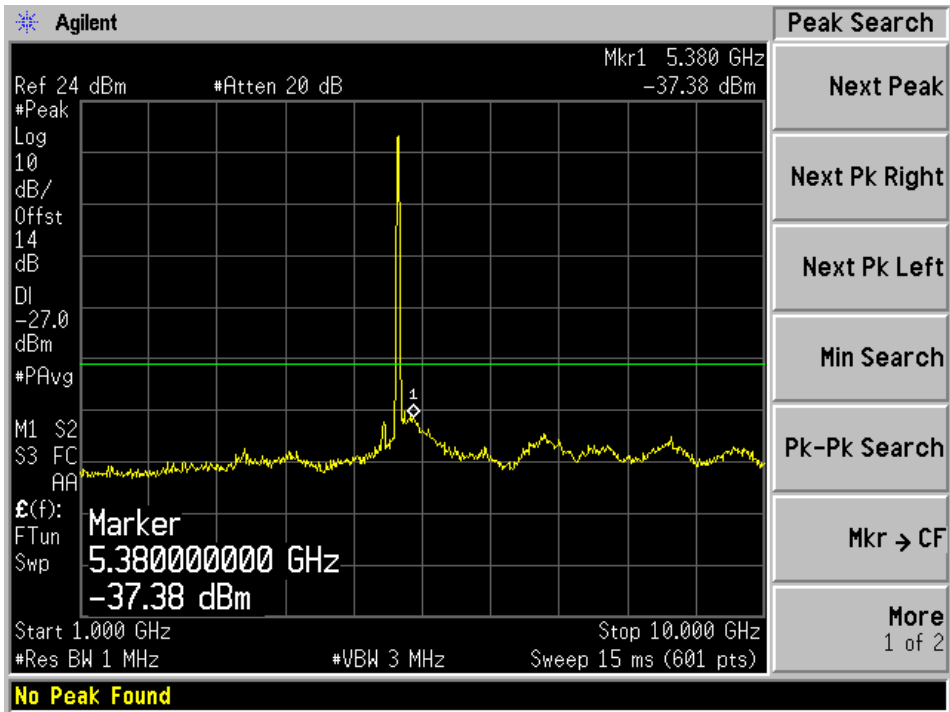
5150-5250 MHz Band

802.11a mode, Low Channel

802.11a mode, 5180MHz, Chain J0 1



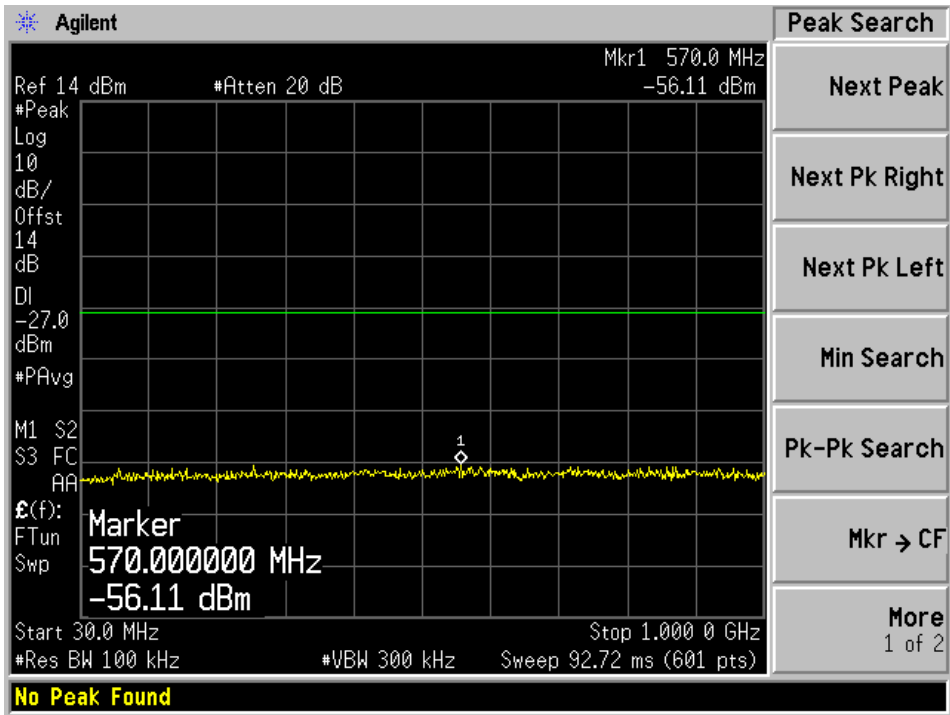
802.11a mode, 5180 MHz, Chain J0 2



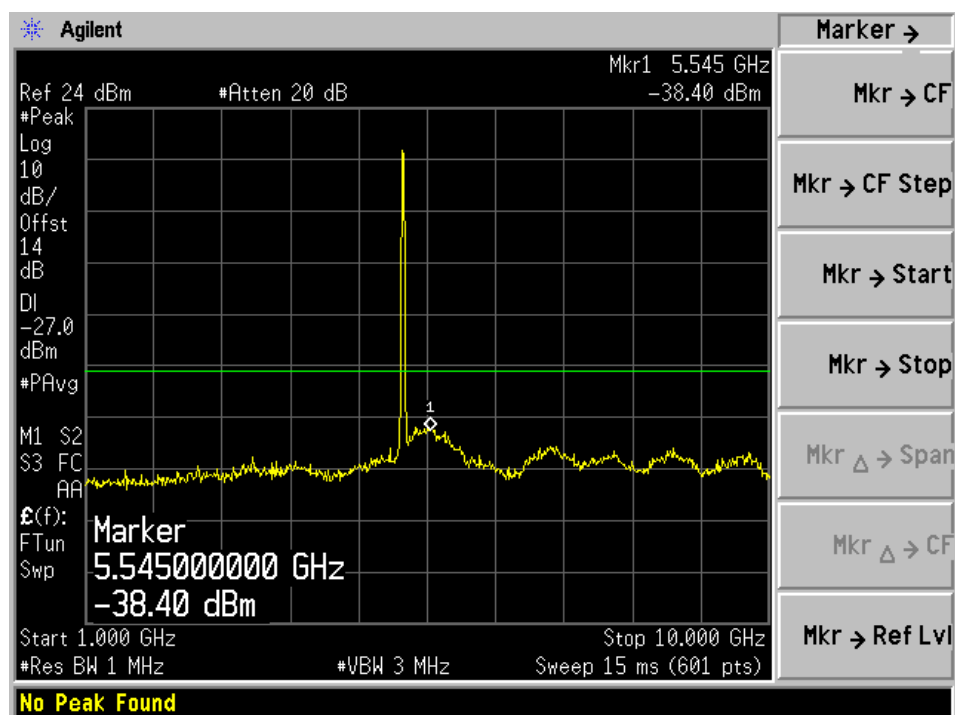
802.11a mode, 5180 MHz, Chain J0 3



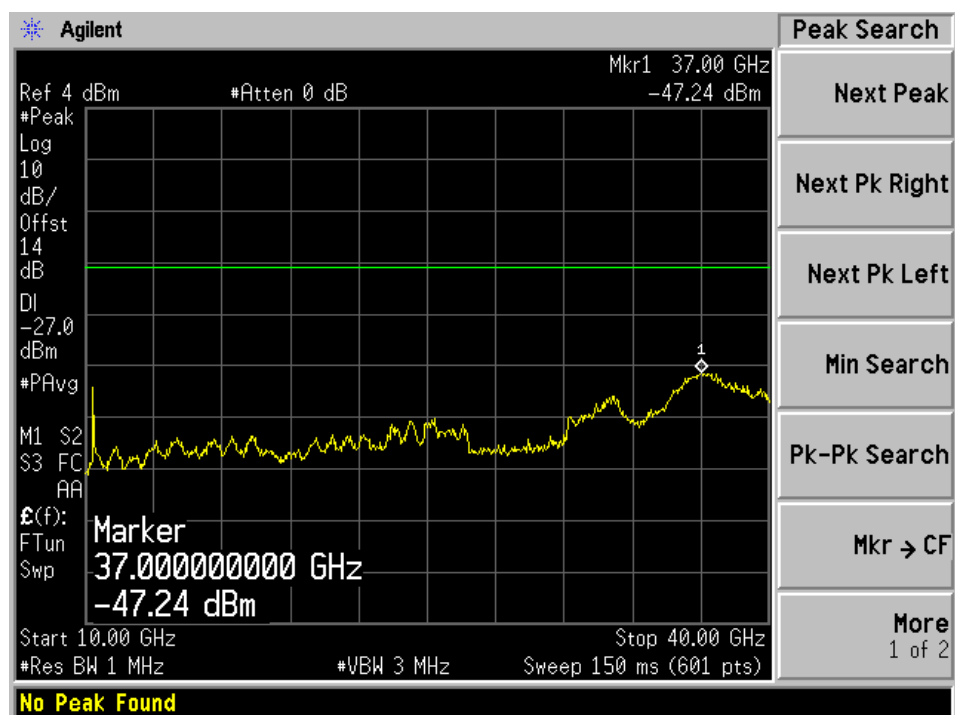
802.11a mode, 5180 MHz, Chain J1 1



802.11a mode, 5180 MHz, Chain J1 2

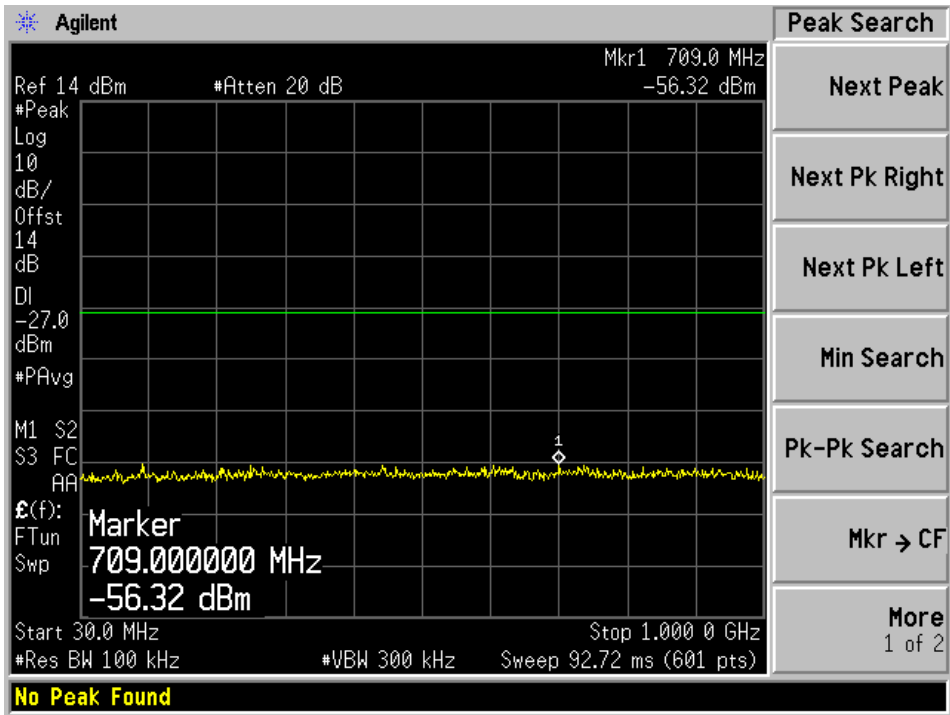


802.11a mode, 5180 MHz, Chain J1 3

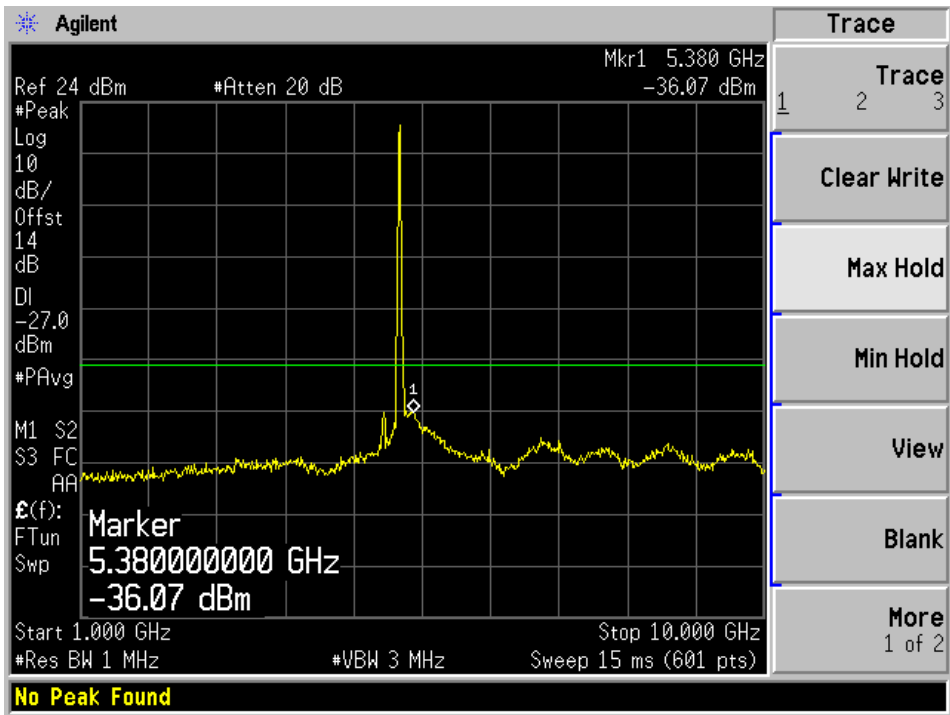


802.11a mode, Middle Channel

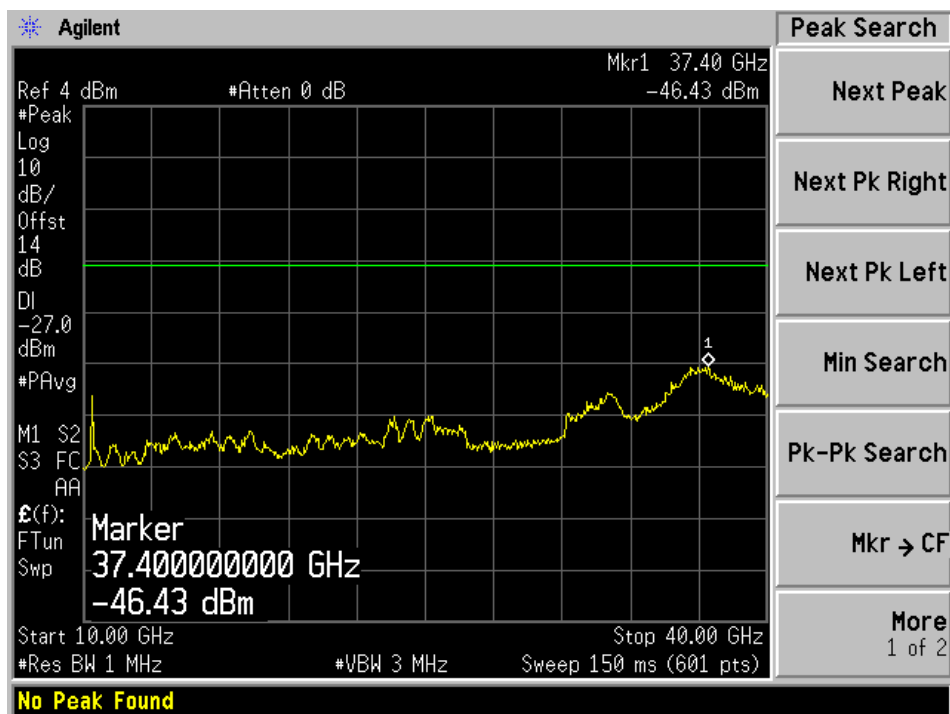
802.11a mode, 5200 MHz, Chain J0 1



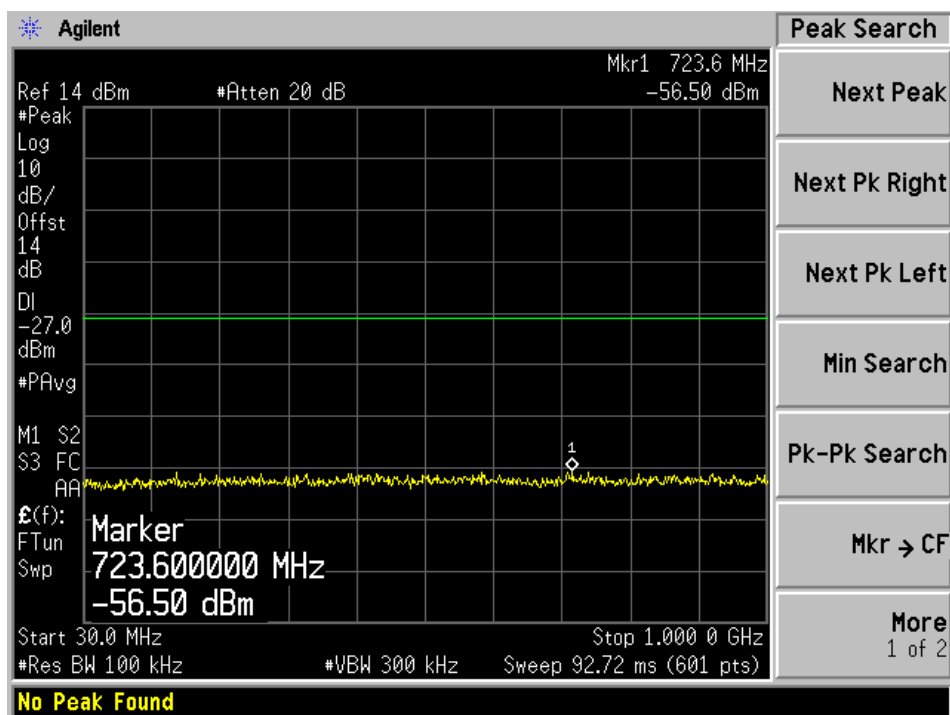
802.11a mode, 5200 MHz, Chain J0 2



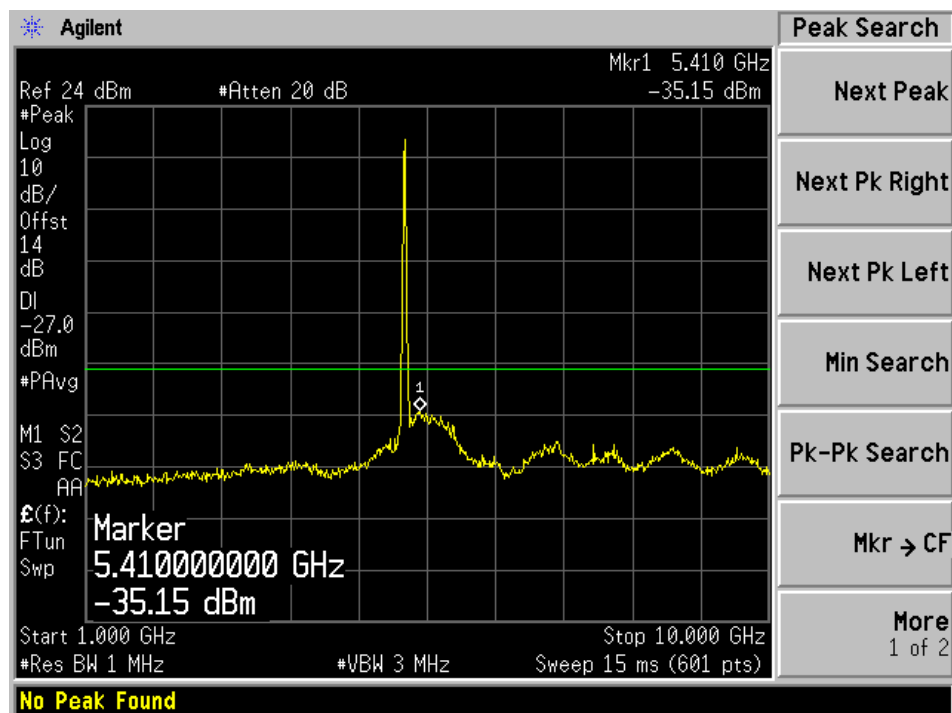
802.11a mode, 5200 MHz, Chain J0 3



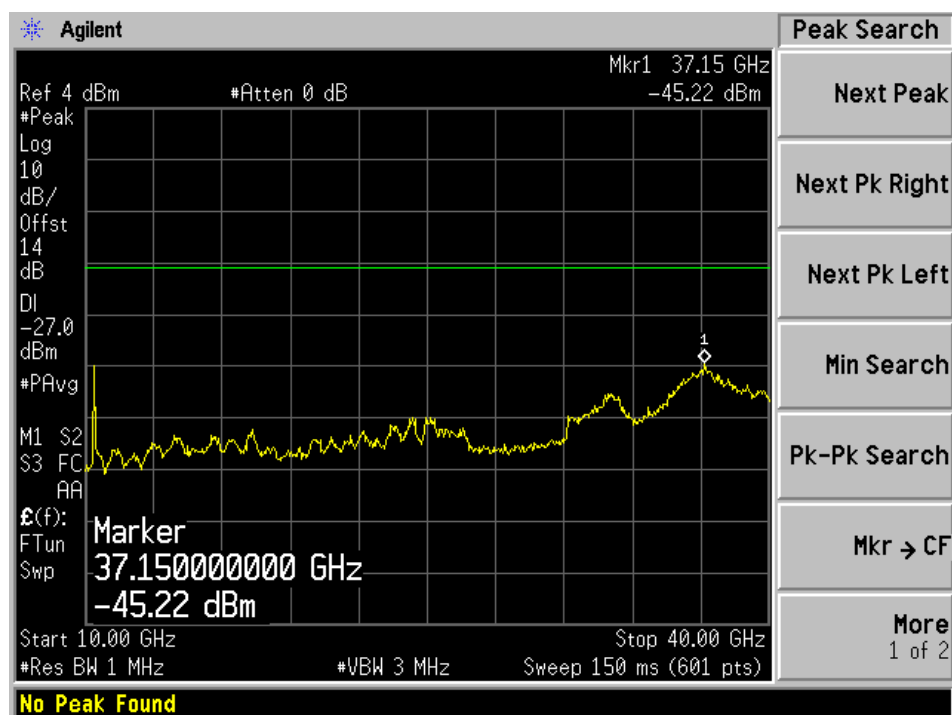
802.11a mode, 5200 MHz, Chain J1 1



802.11a mode, 5200 MHz, Chain J1 2

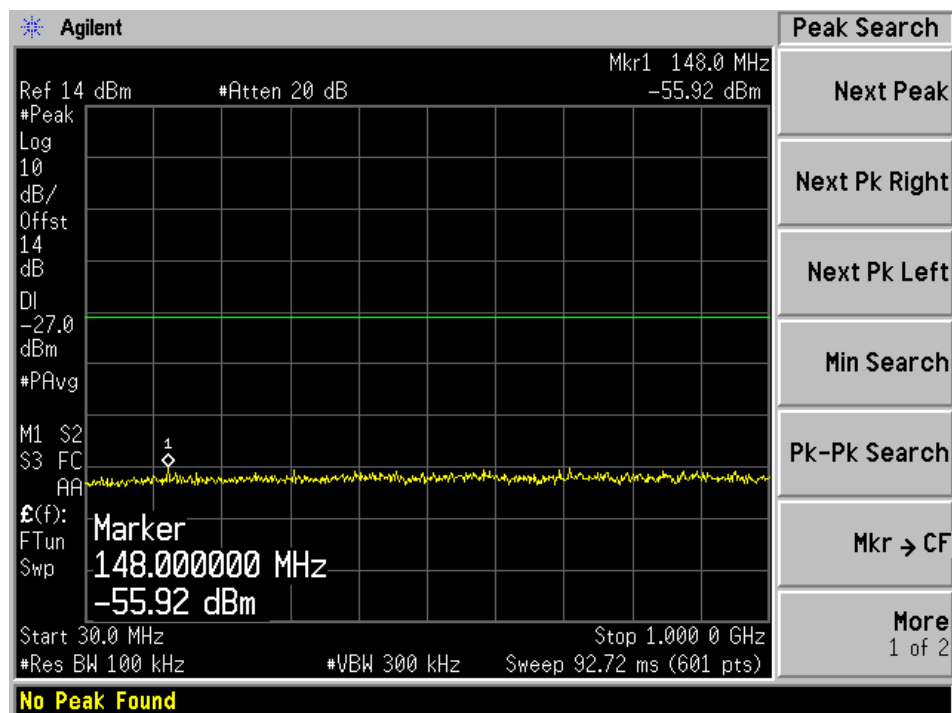


802.11a mode, 5200 MHz, Chain J1 3

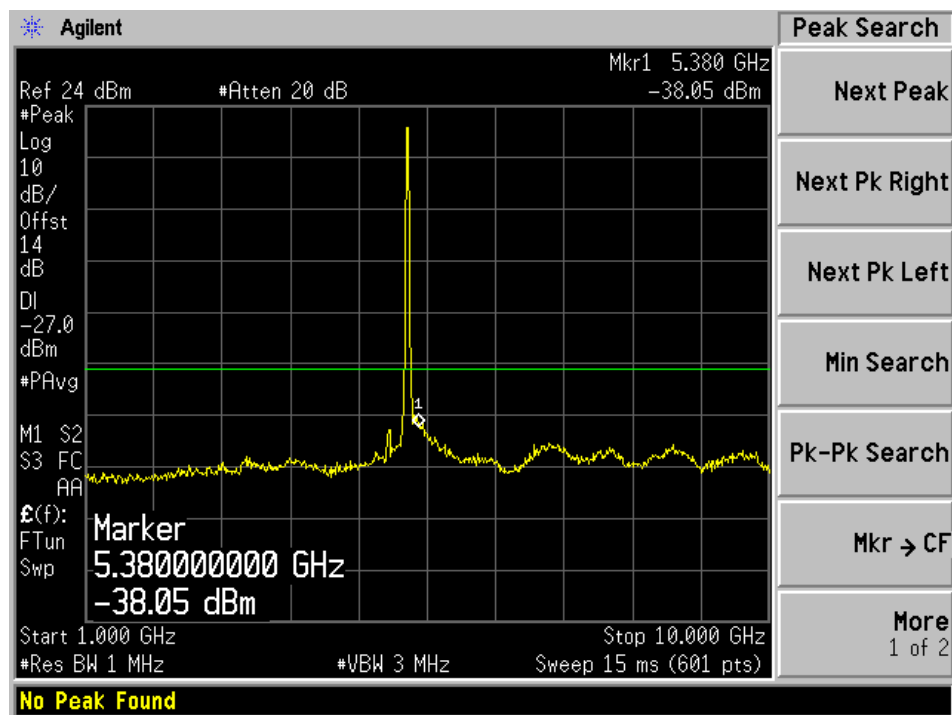


802.11a mode, High Channel

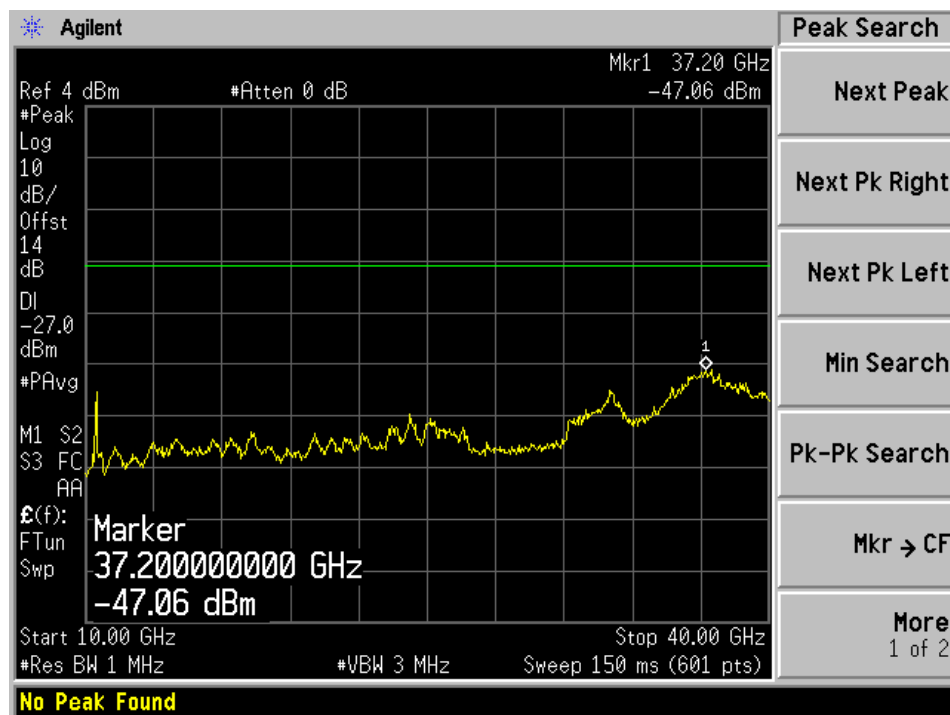
802.11a mode, 5240 MHz, Chain J0 1



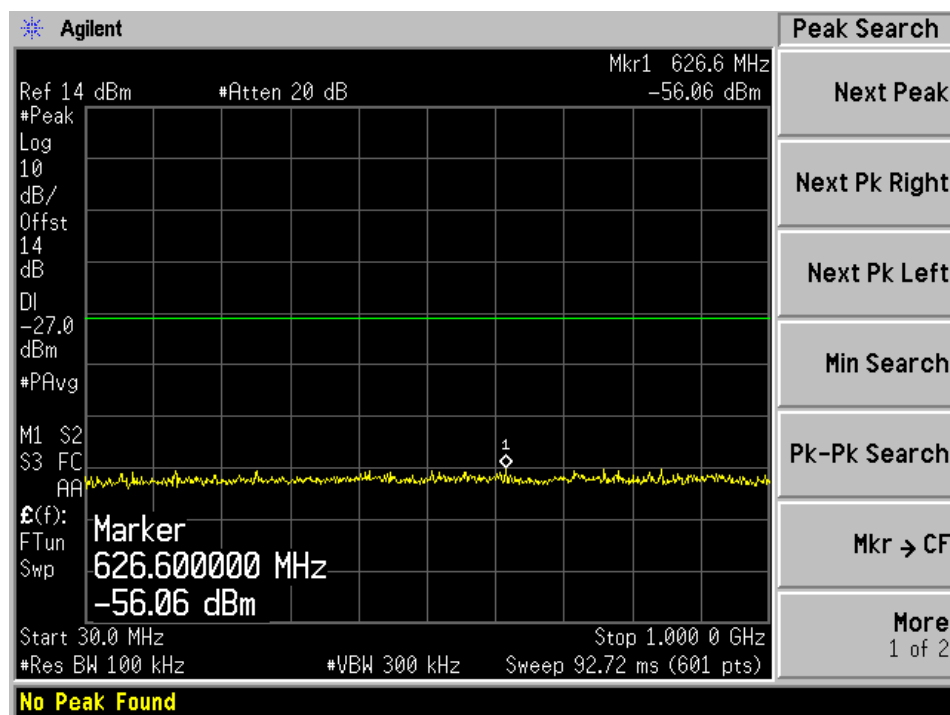
802.11a mode, 5240 MHz, Chain J0 2



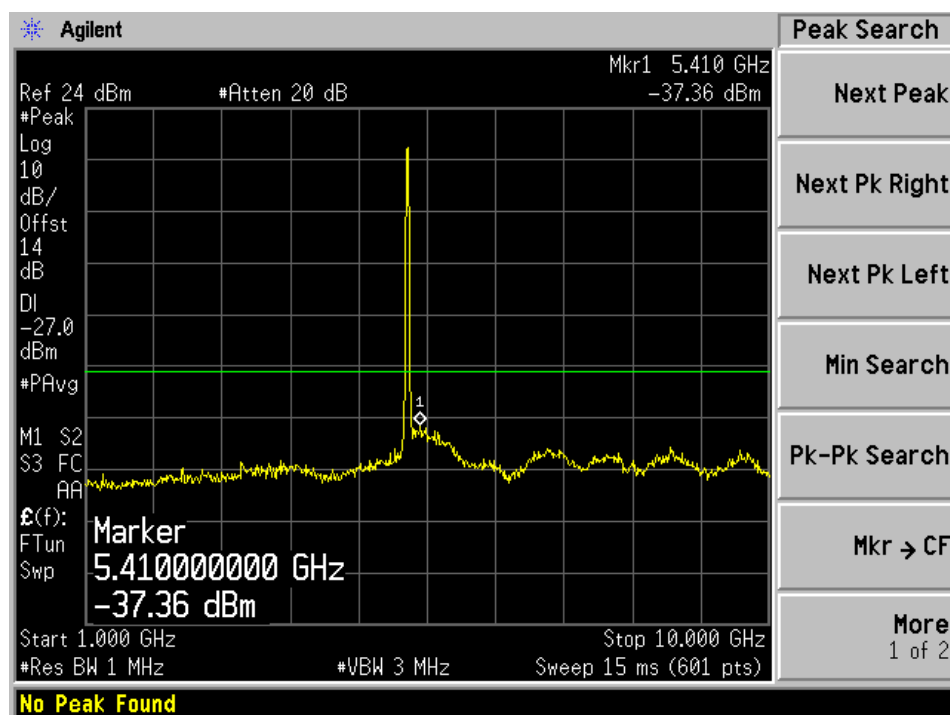
802.11a mode, 5240 MHz, Chain J0 3



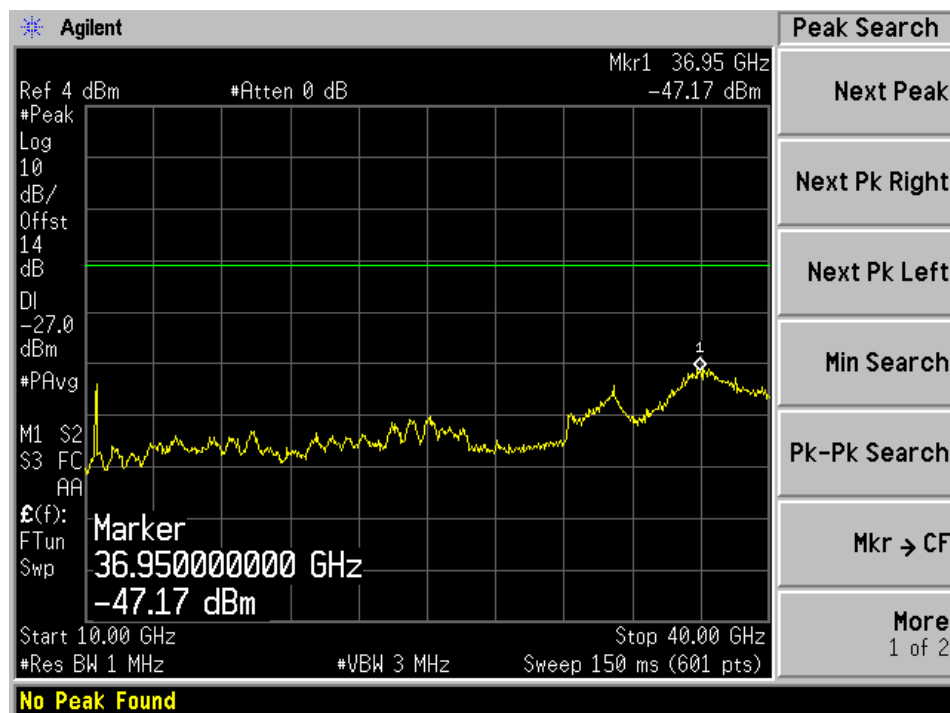
802.11a mode, 5240 MHz, Chain J1 1



802.11a mode, 5240 MHz, Chain J1 2

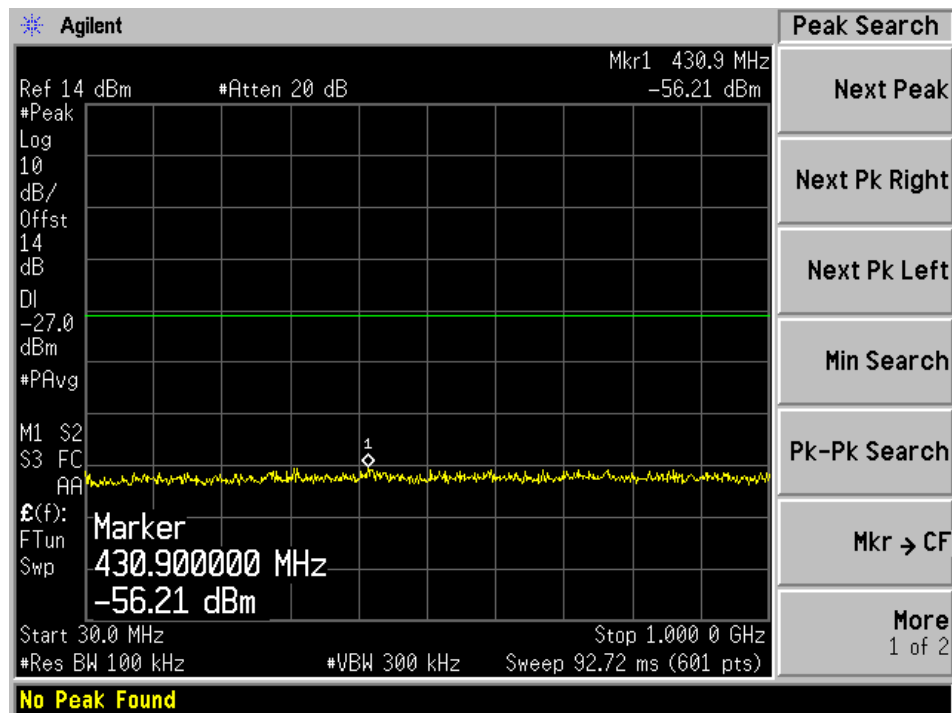


802.11a mode, 5240 MHz, Chain J1 3

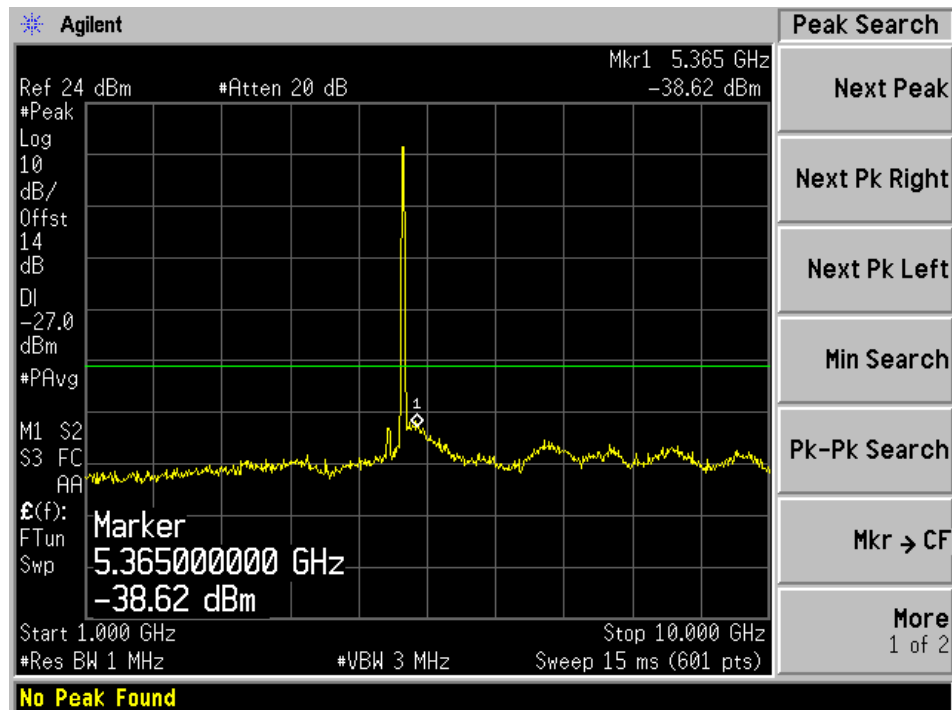


802.11 n HT20 mode, Low channel

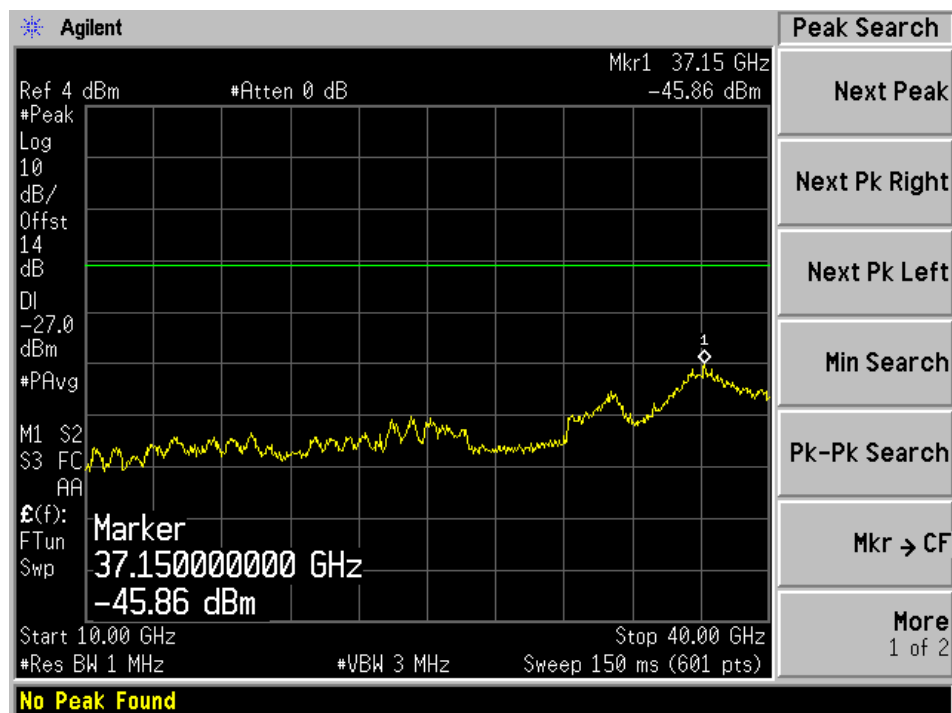
802.11n HT20 mode, 5180 MHz, Chain J0 1



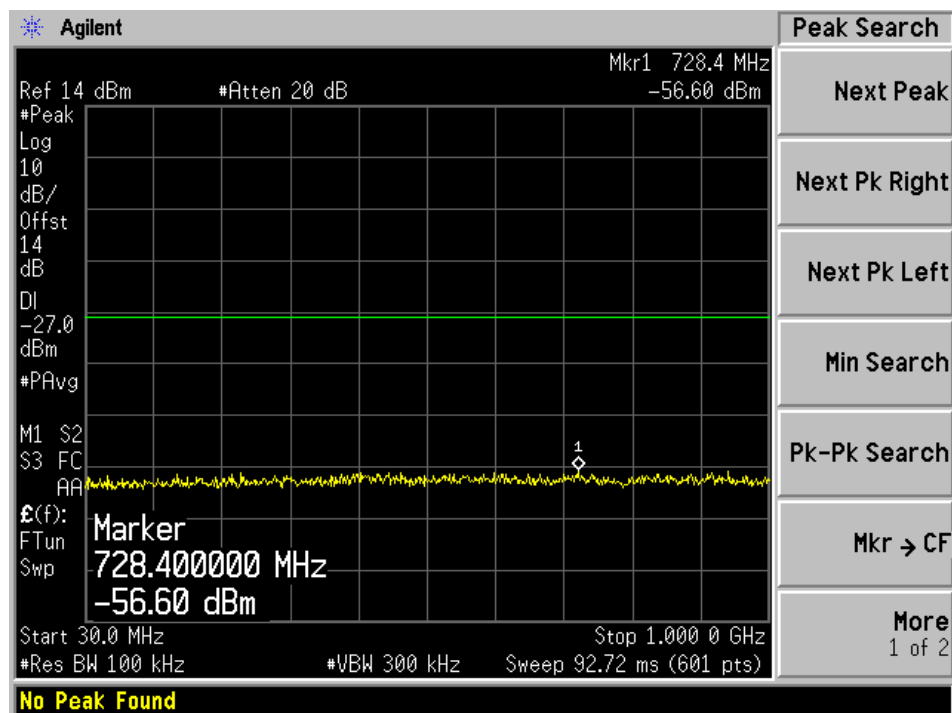
802.11n HT20 mode, 5180 MHz, Chain J0 2



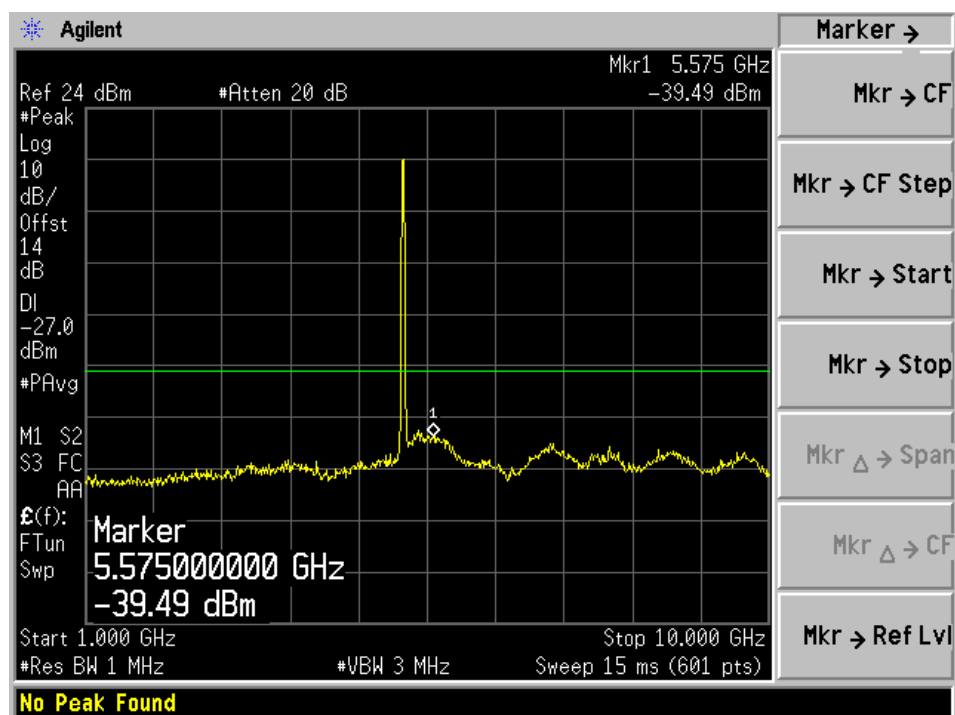
802.11n HT20 mode, 5180 MHz, Chain J0 3



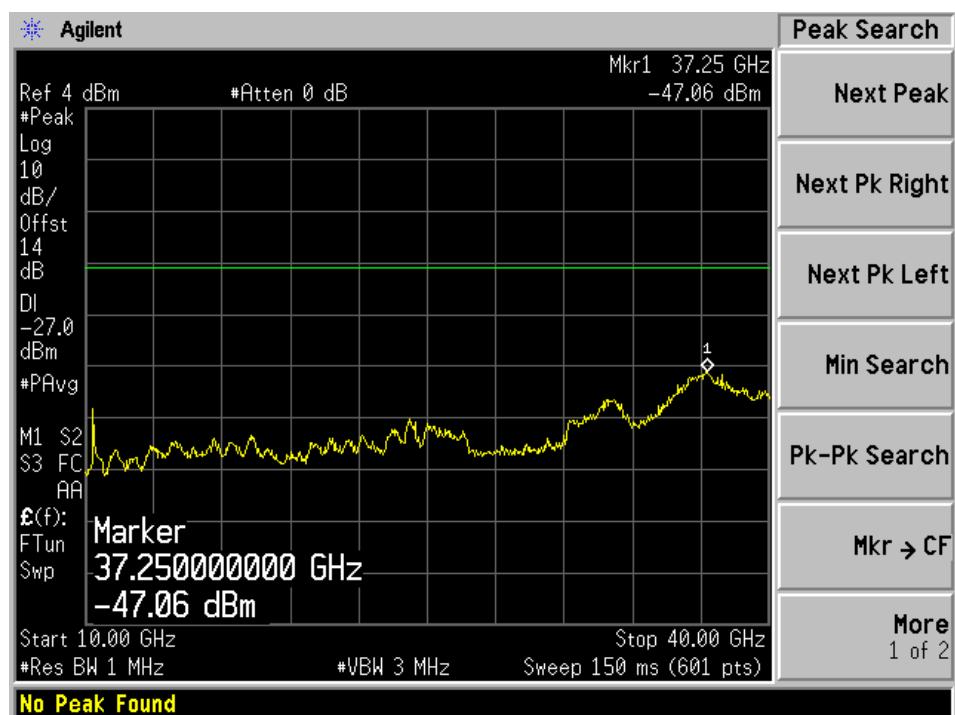
802.11n HT20 mode, 5180 MHz, Chain J1 1



802.11n HT20 mode, 5180 MHz, Chain J1 2

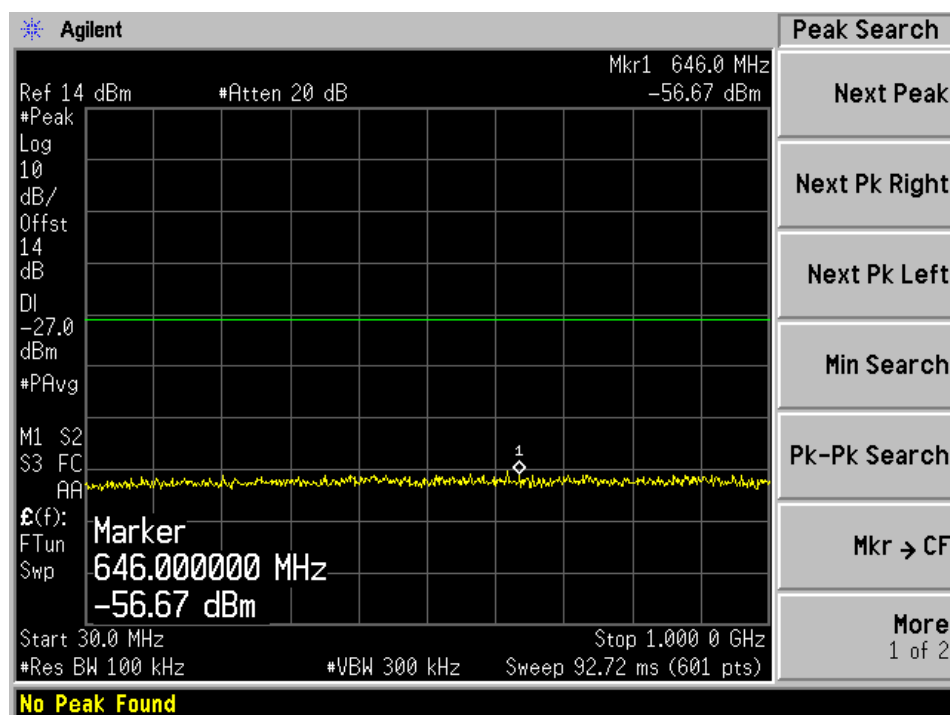


802.11n HT20 mode, 5180 MHz, Chain J1 3

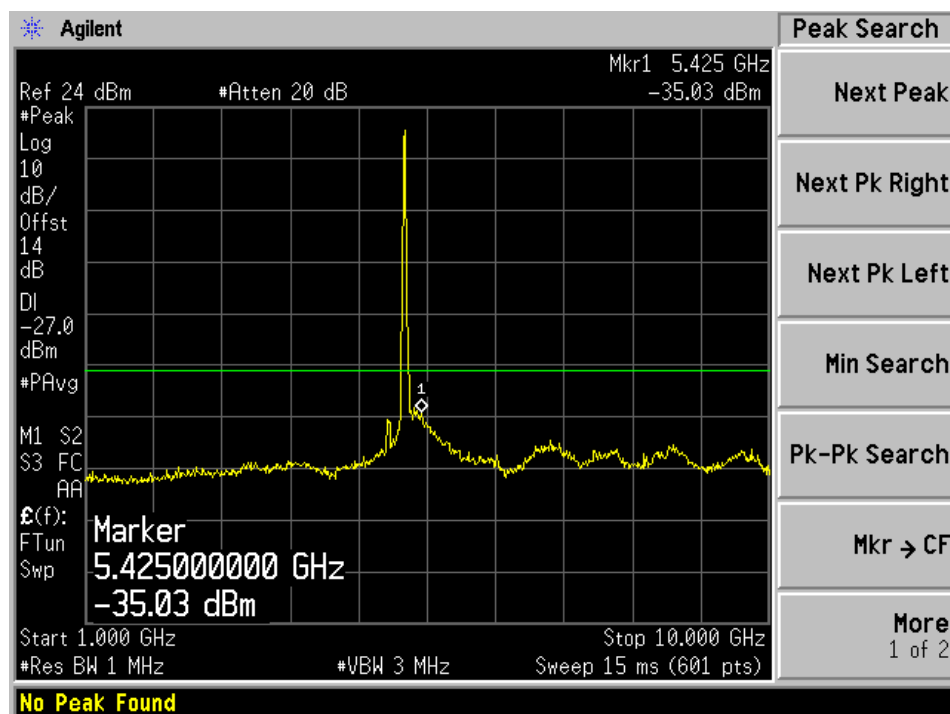


802.11 n HT20 mode, Middle Channel

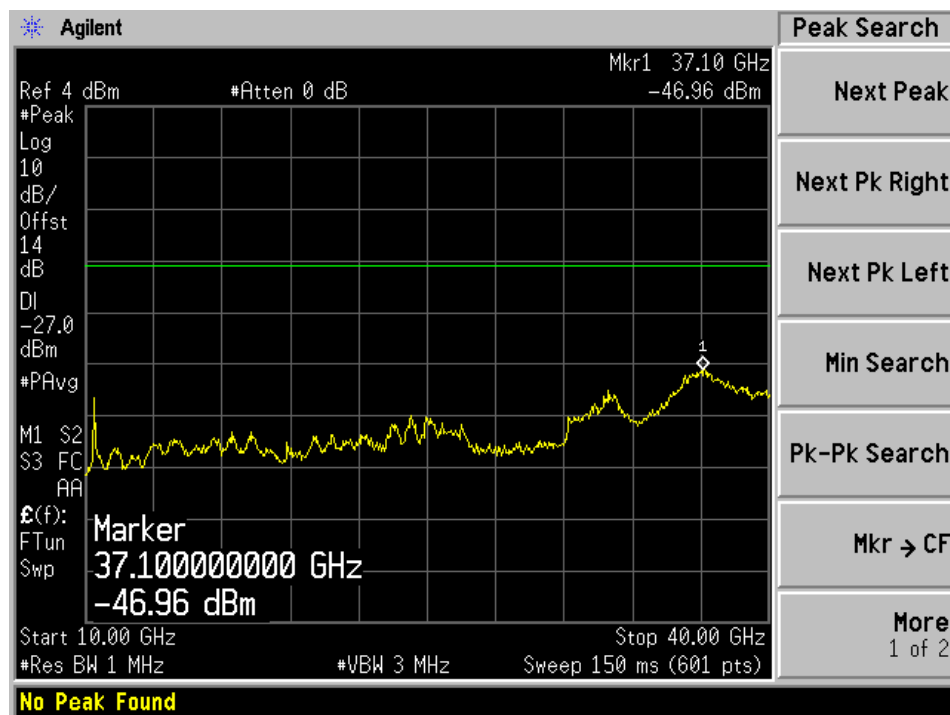
802.11n HT20 mode, 5200 MHz, Chain J0 1



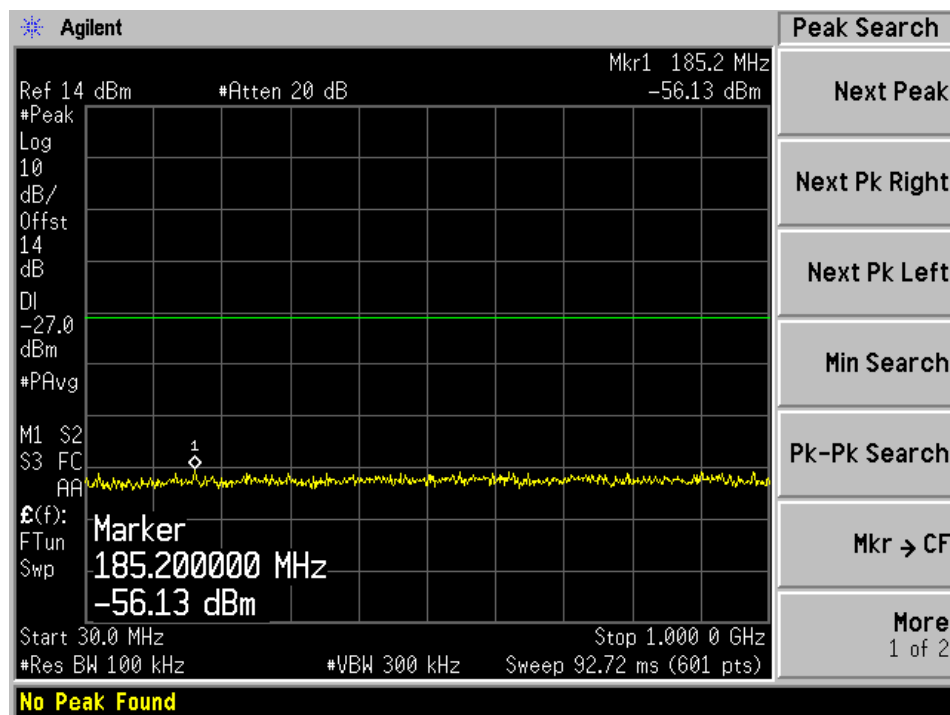
802.11n HT20 mode, 5200 MHz, Chain J0 2



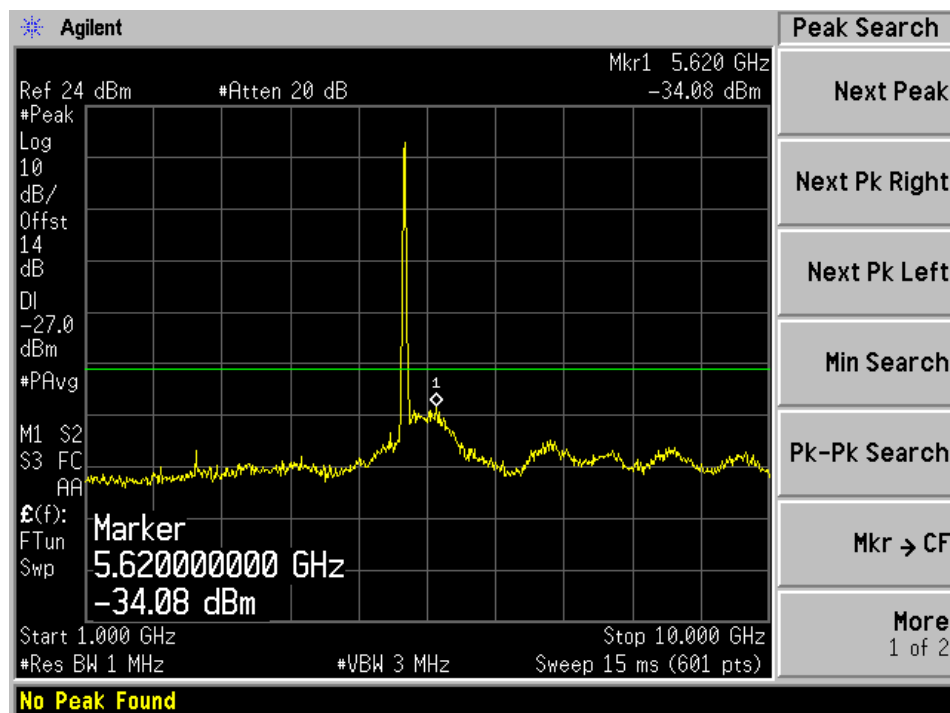
802.11n HT20 mode, 5200 MHz, Chain J0 3



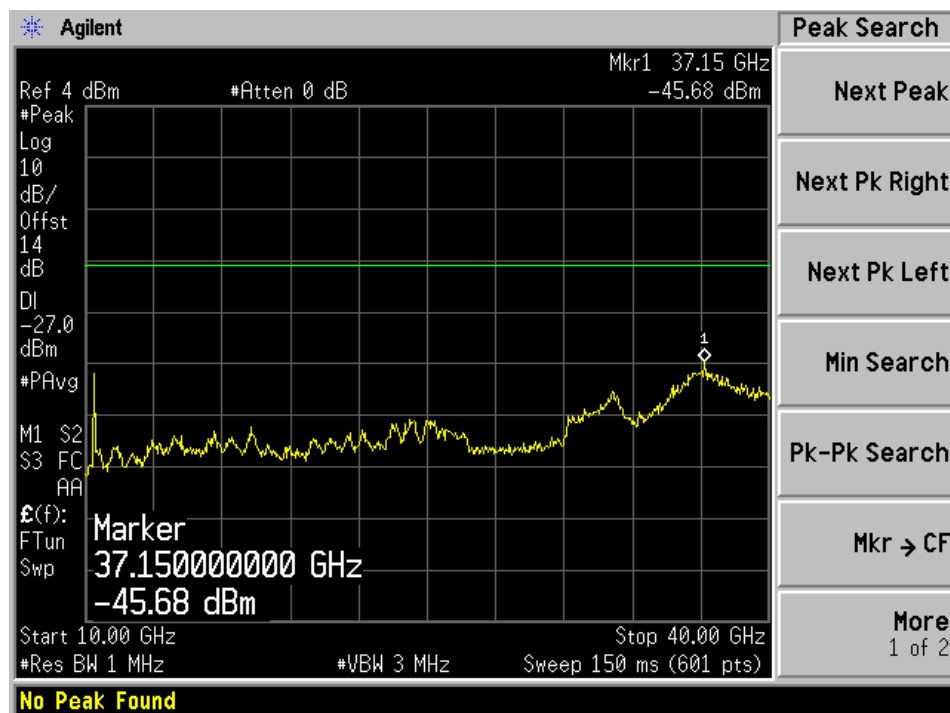
802.11n HT20 mode, 5200 MHz, Chain J1 1



802.11n HT20 mode, 5200 MHz, Chain J1 2

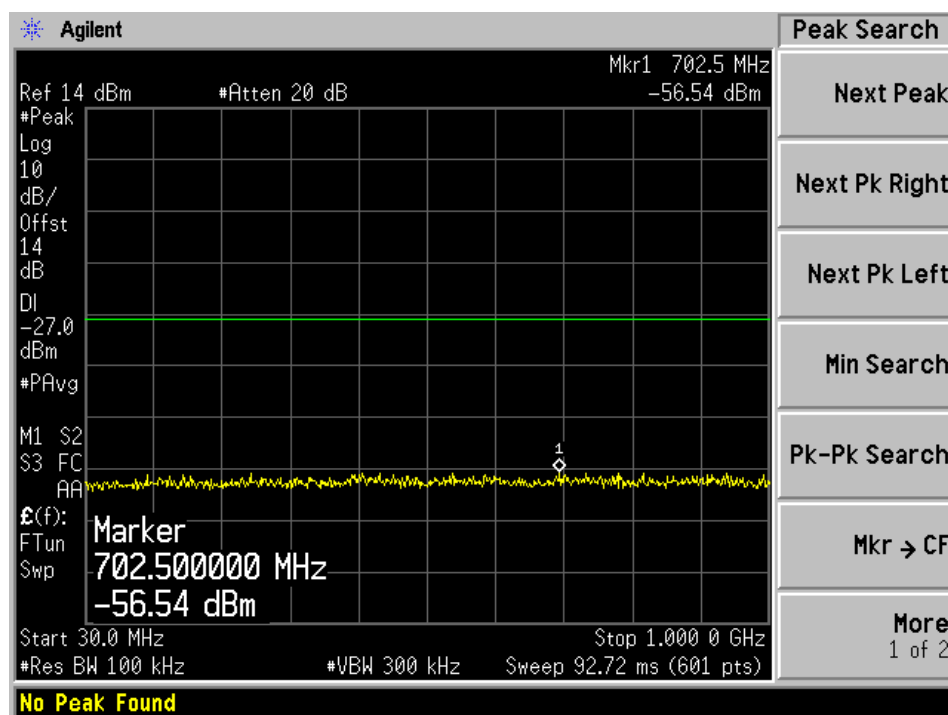


802.11n HT20 mode, 5200 MHz, Chain J1 3

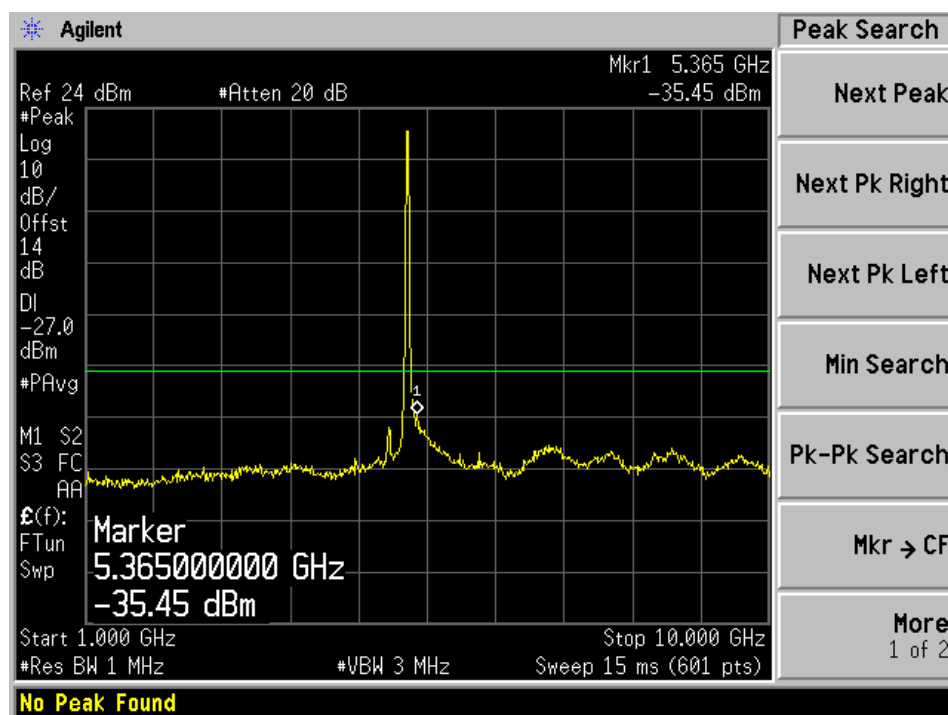


802.11n HT20 mode, High Channel

802.11n HT20 mode, 5240 MHz, Chain J0 1



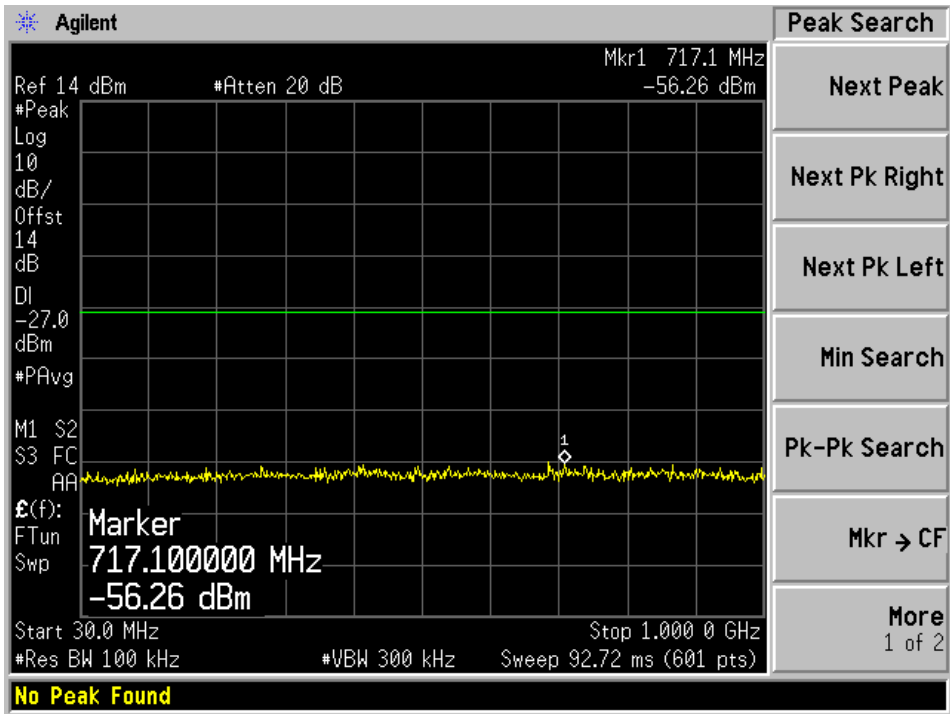
802.11n HT20 mode, 5240 MHz, Chain J0 2



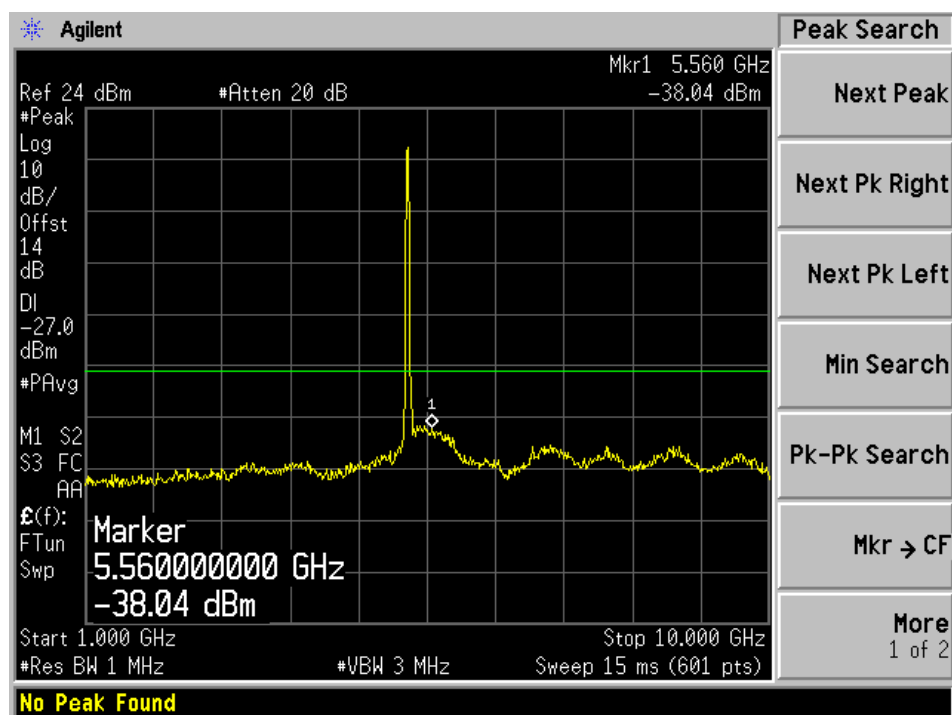
802.11n HT20 mode, 5240 MHz, Chain J0 3



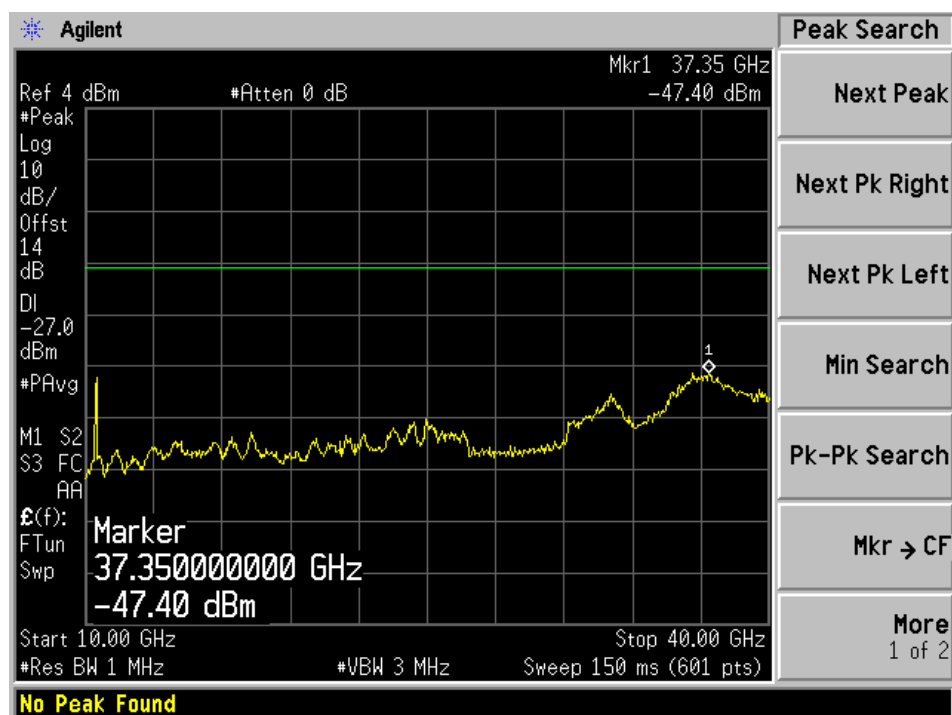
802.11n HT20 mode, 5240 MHz, Chain J1 1



802.11n HT20 mode, 5240 MHz, Chain J1 2

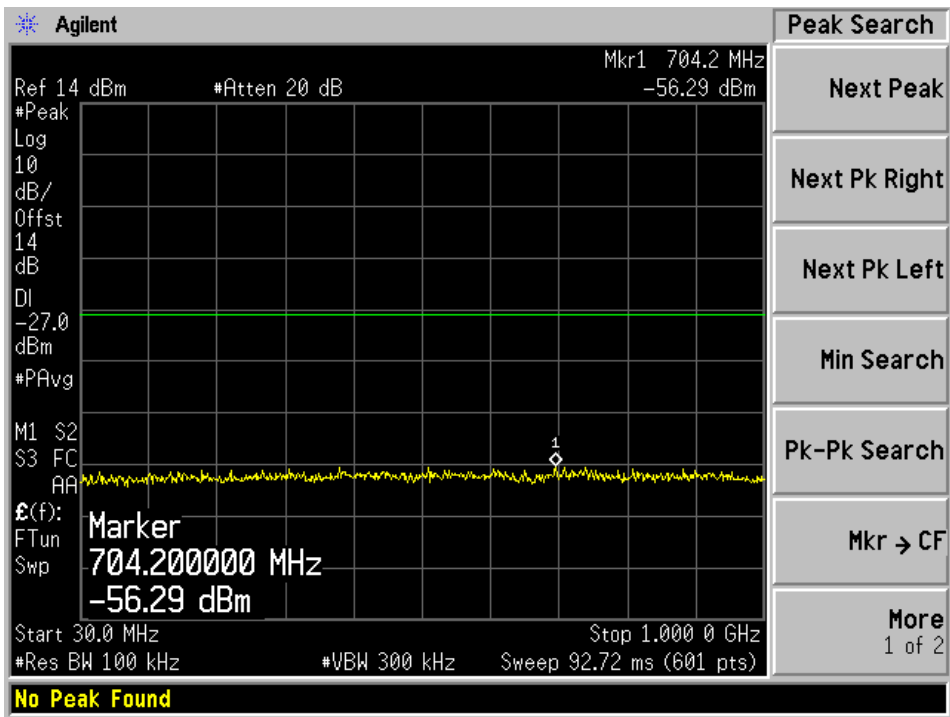


802.11n HT20 mode, 5240 MHz, Chain J1 3

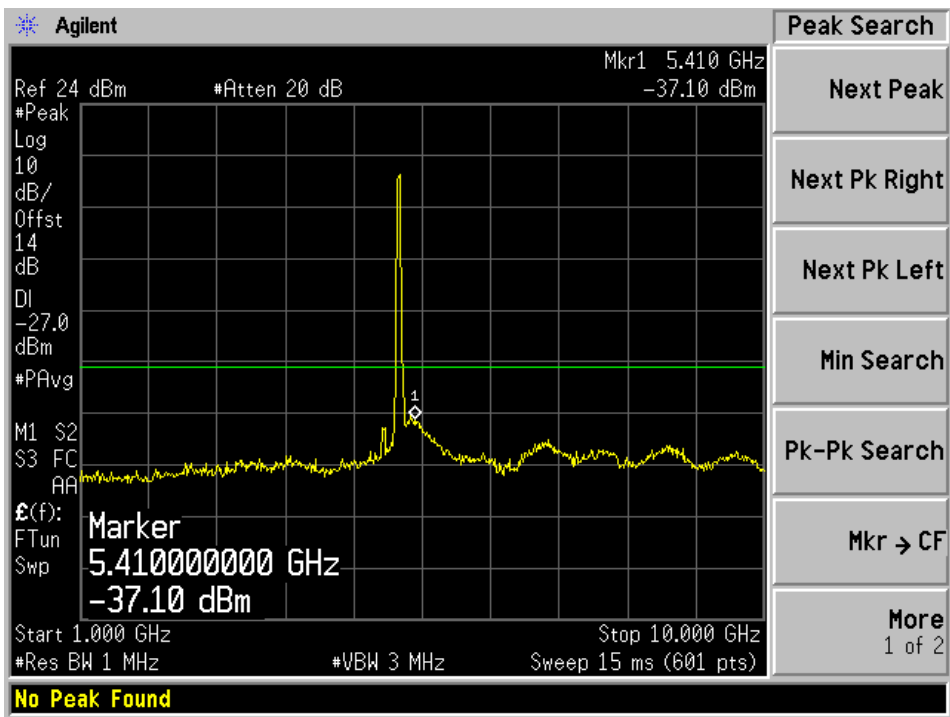


802.11n HT40 mode, Low channel

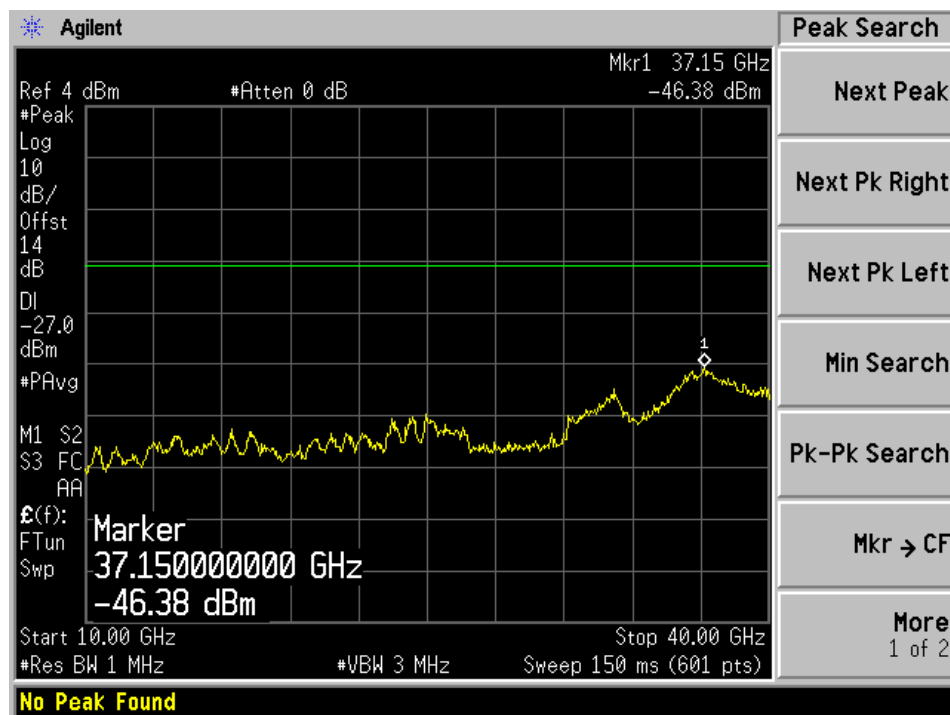
802.11n HT40 mode, 5190 MHz, Chain J0 1



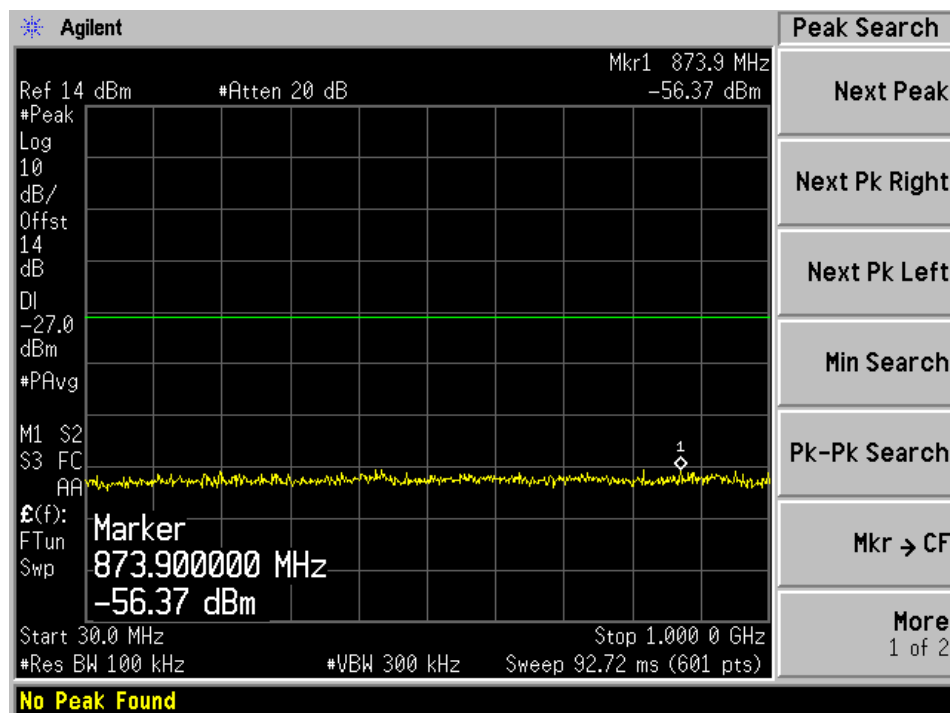
802.11n HT40 mode, 5190 MHz, Chain J0 2



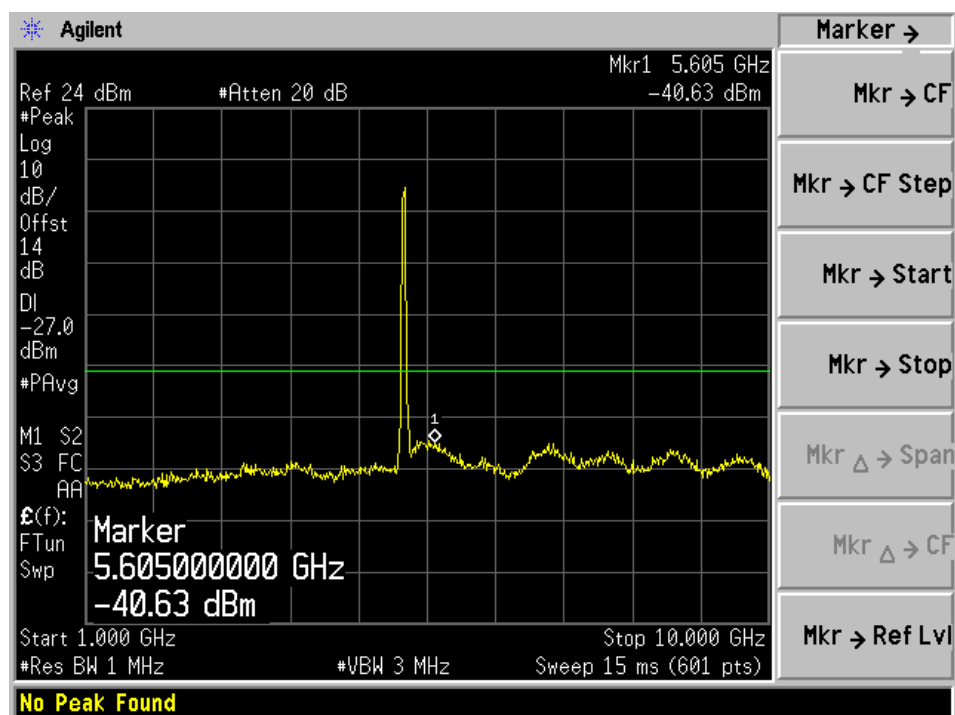
802.11n HT40 mode, 5190 MHz, Chain J0 3



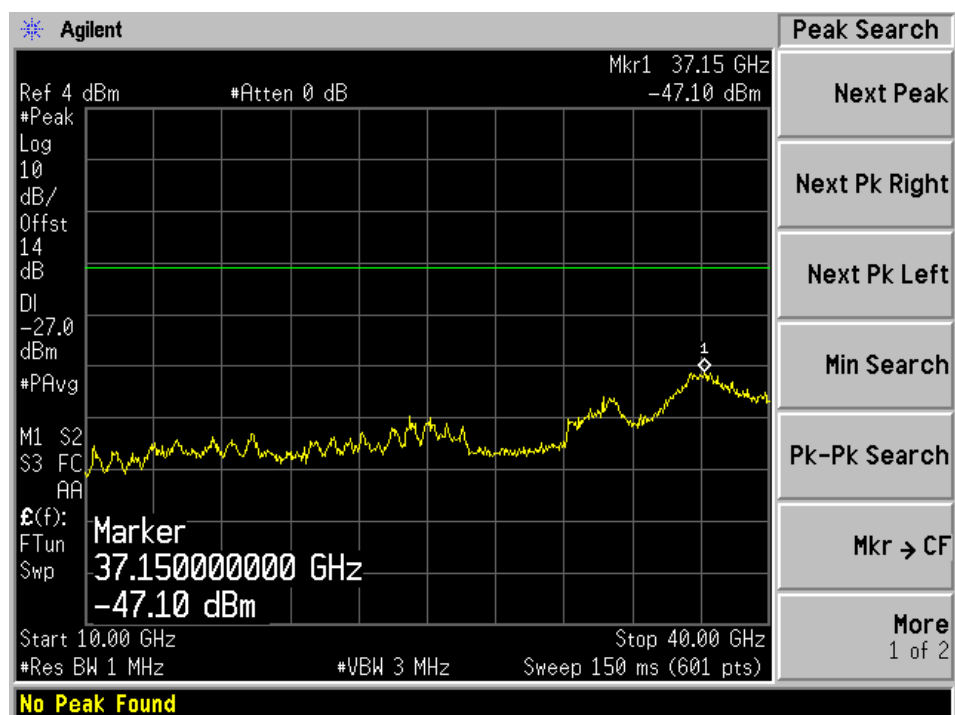
802.11n HT40 mode, 5190 MHz, Chain J1 1



802.11n HT40 mode, 5190 MHz, Chain J1 2

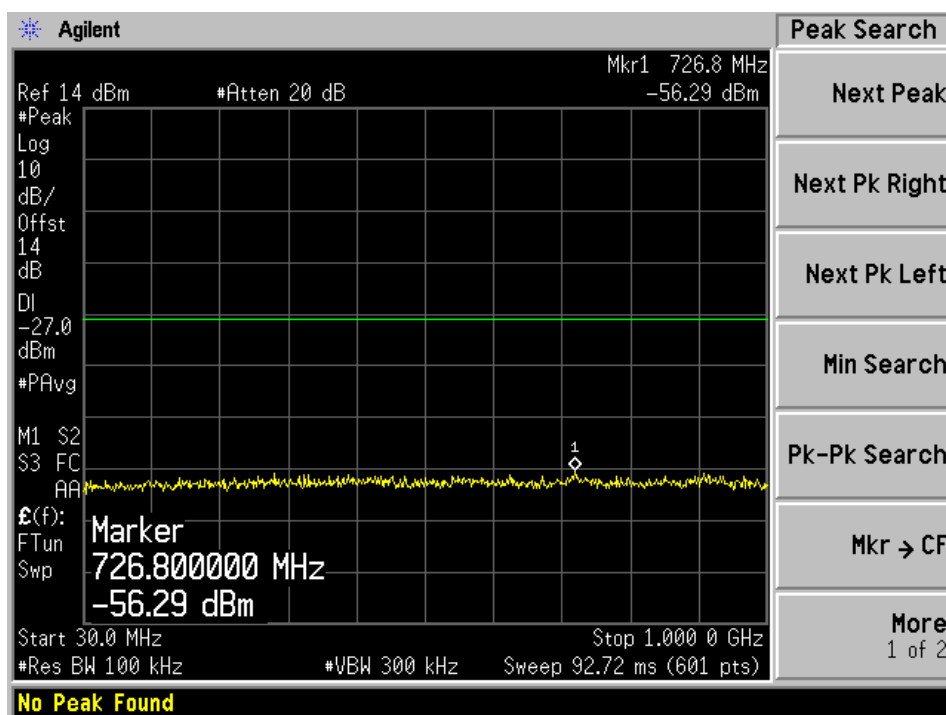


802.11n HT40 mode, 5190 MHz, Chain J1 3

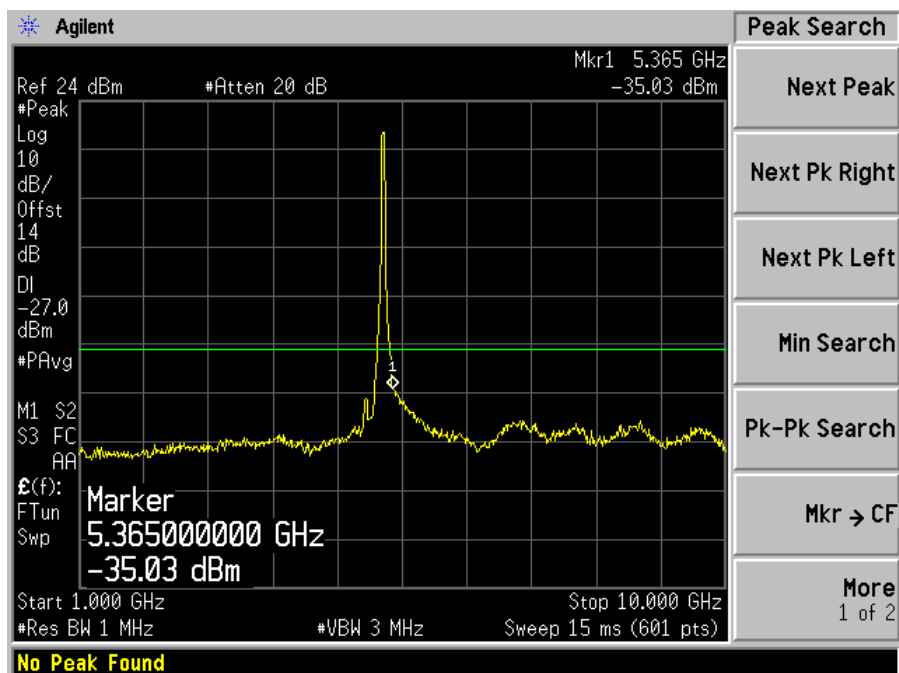


802.11n HT40 mode, High Channel

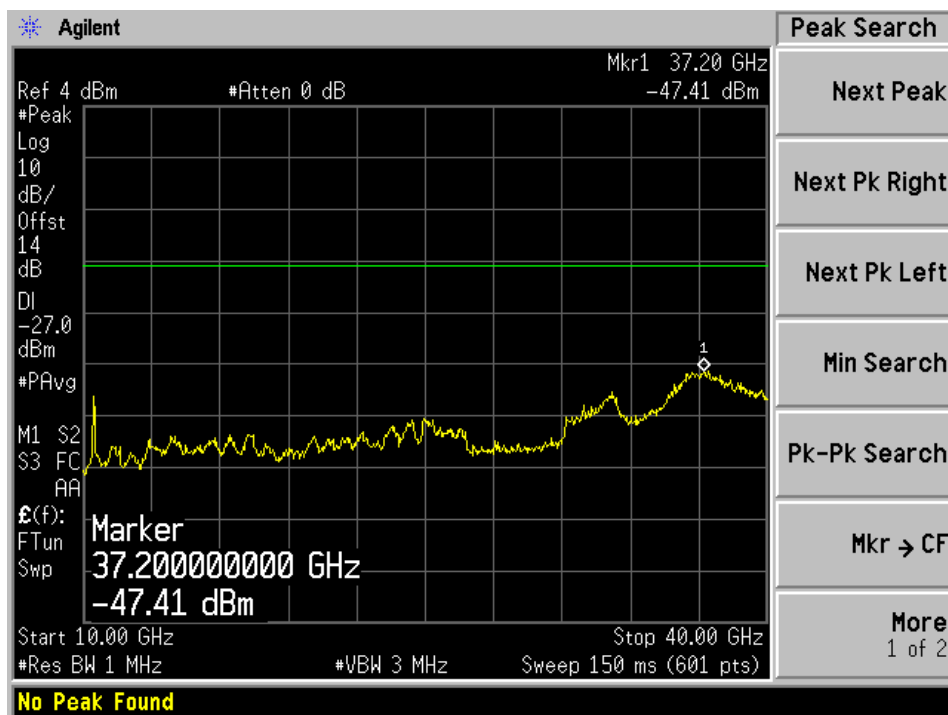
802.11n HT40 mode, 5230 MHz, Chain J0 1



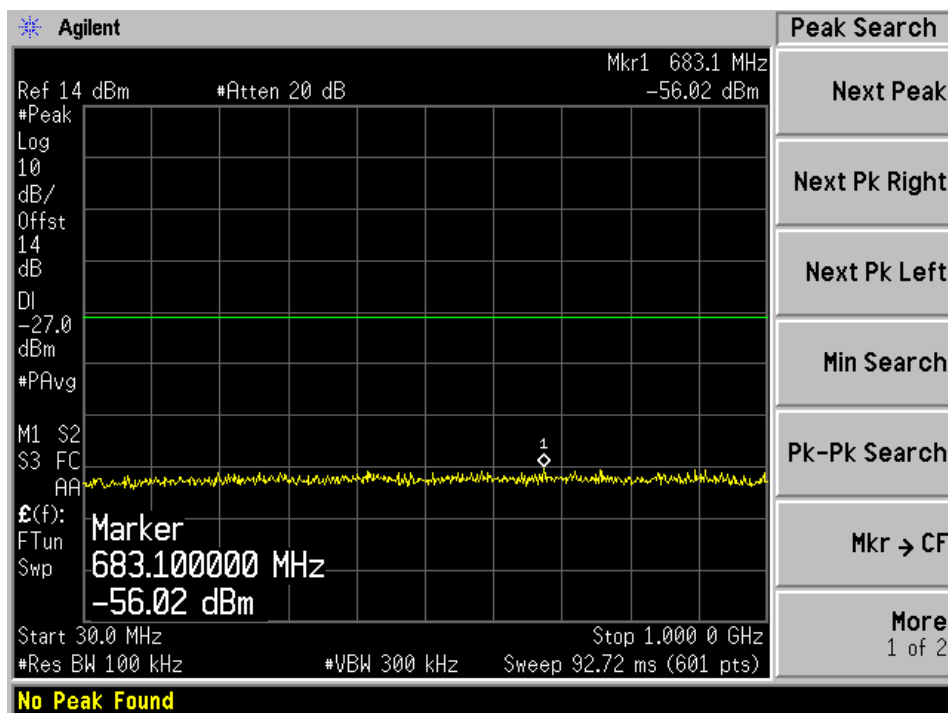
802.11n HT40 mode, 5230 MHz, Chain J0 2



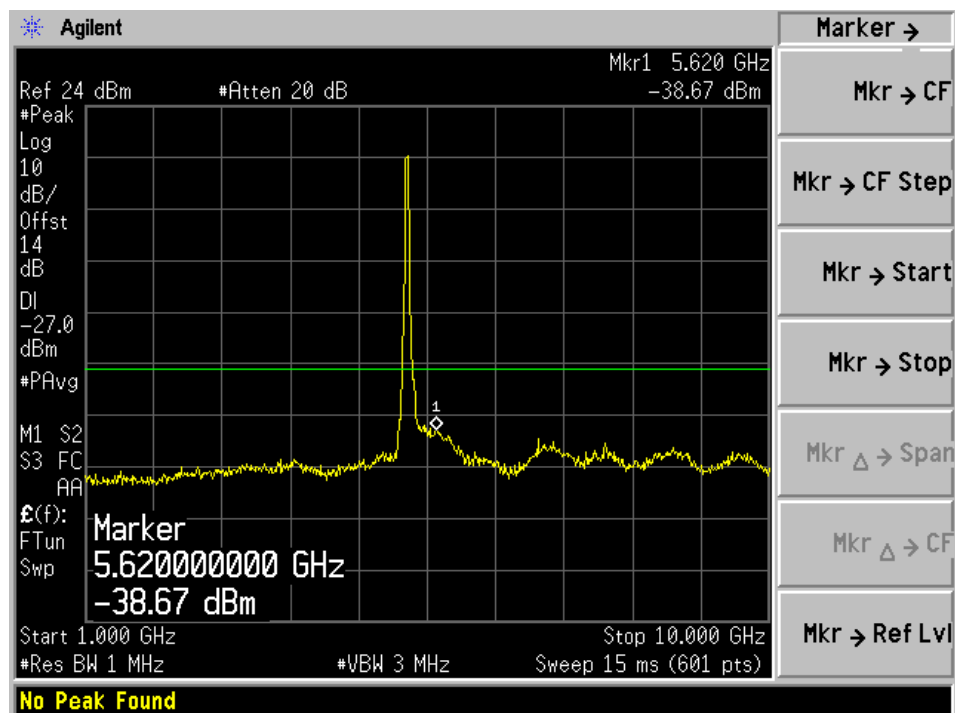
802.11n HT40 mode, 5230 MHz, Chain J0 3



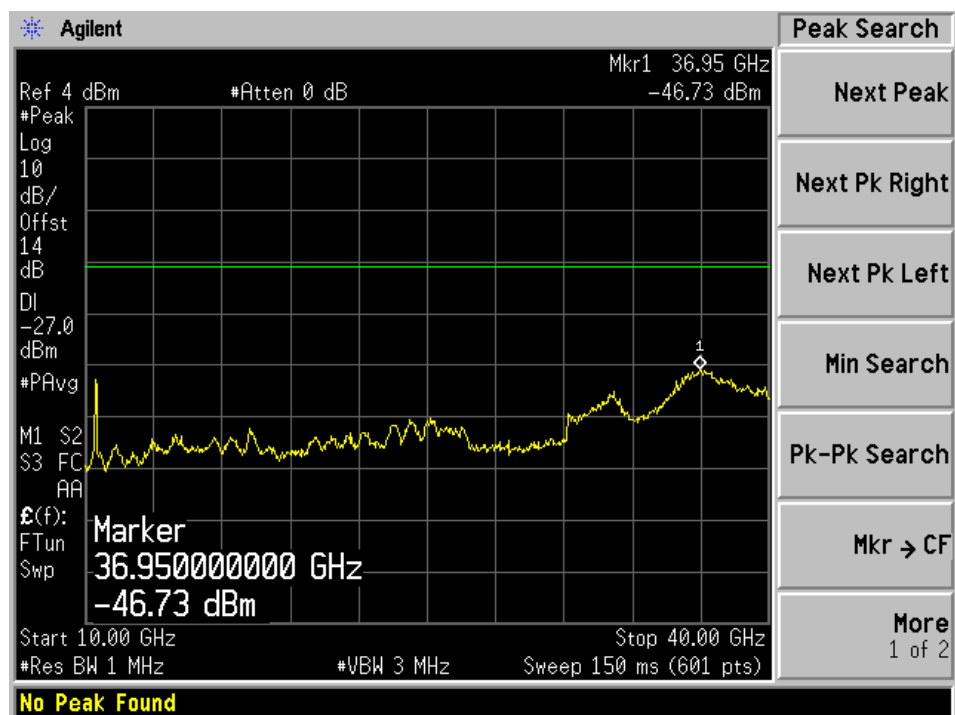
802.11n HT40 mode, 5230 MHz, Chain J1 1



802.11n HT40 mode, 5230 MHz, Chain J1 2



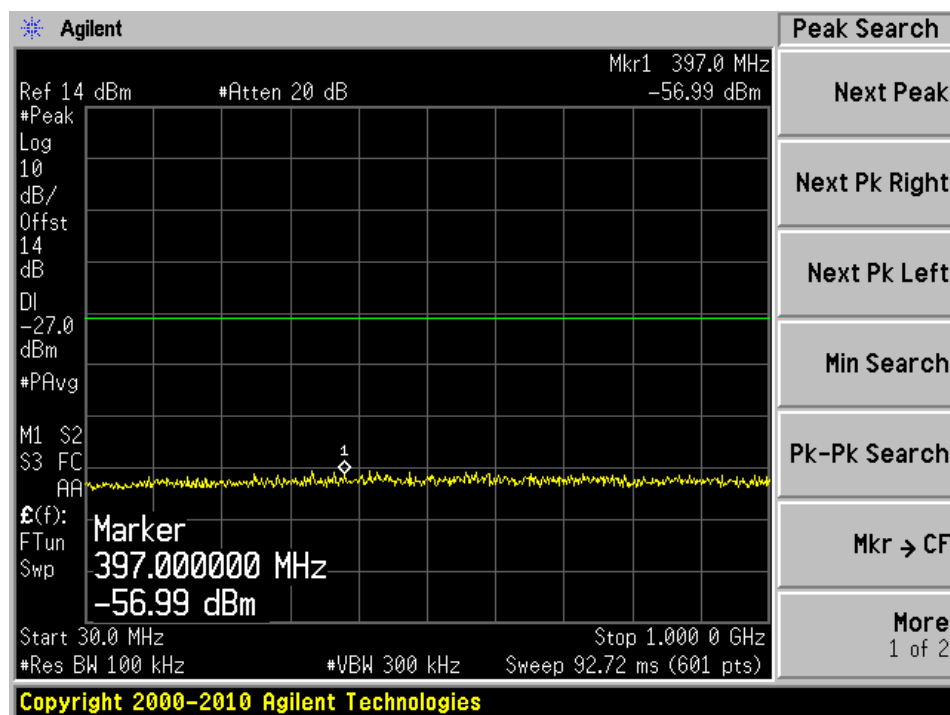
802.11n HT40 mode, 5230 MHz, Chain J1 3



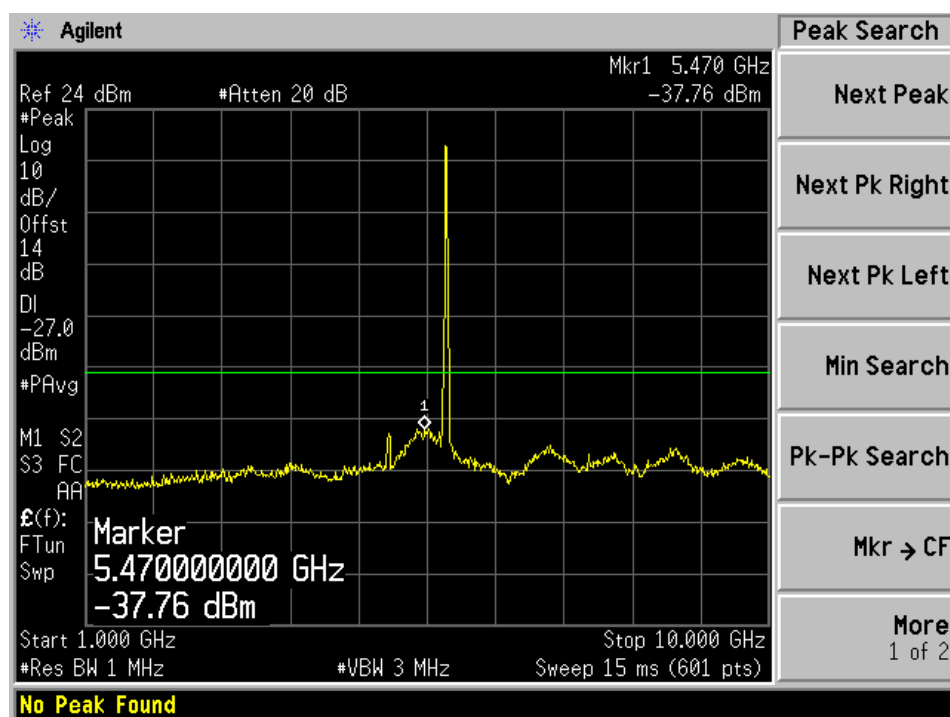
5725-5850 MHz Band

802.11a mode, Low Channel

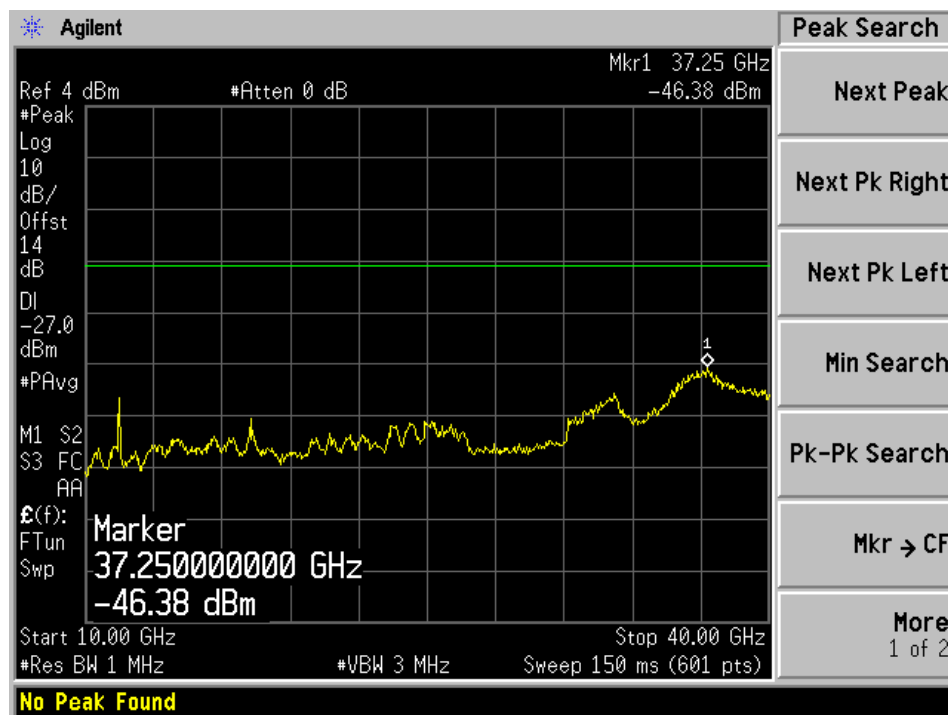
802.11a mode, 5745MHz, Chain J0 1



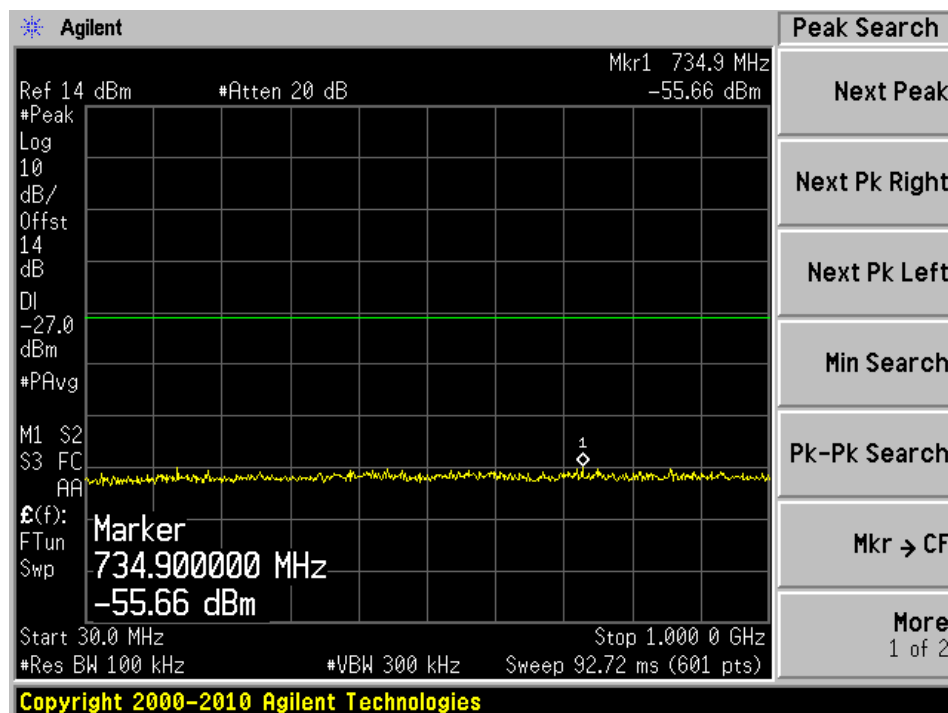
802.11a mode, 5745 MHz, Chain J0 2



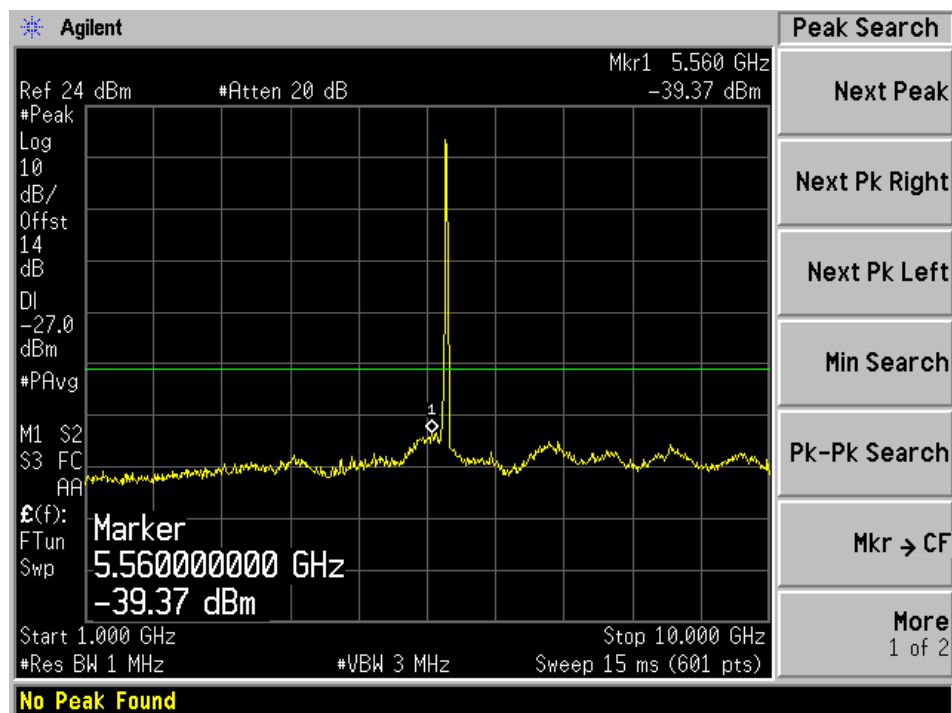
802.11a mode, 5745 MHz, Chain J0 3



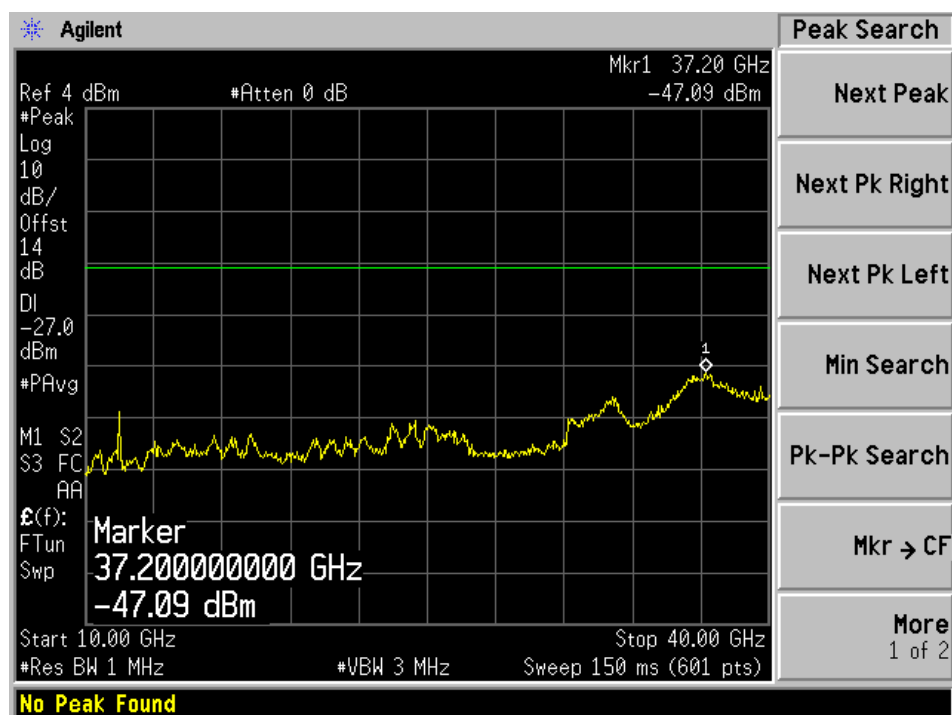
802.11a mode, 5745MHz, Chain J1 1



802.11 a mode, 5745 MHz, Chain J1 2

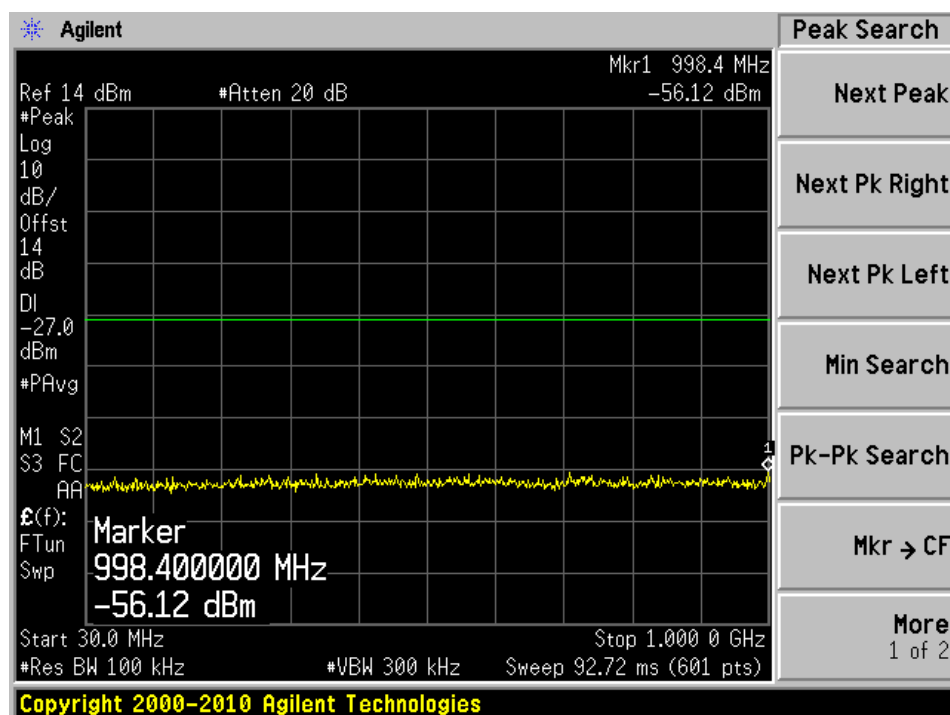


802.11 a mode, 5745 MHz, Chain J1 3

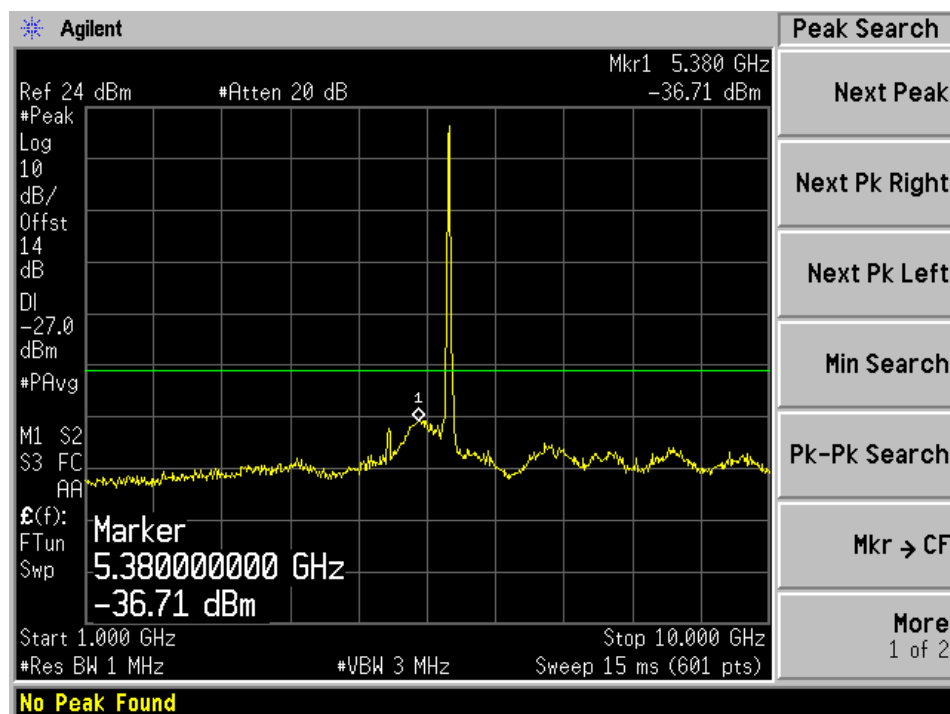


802.11a mode, Middle Channel

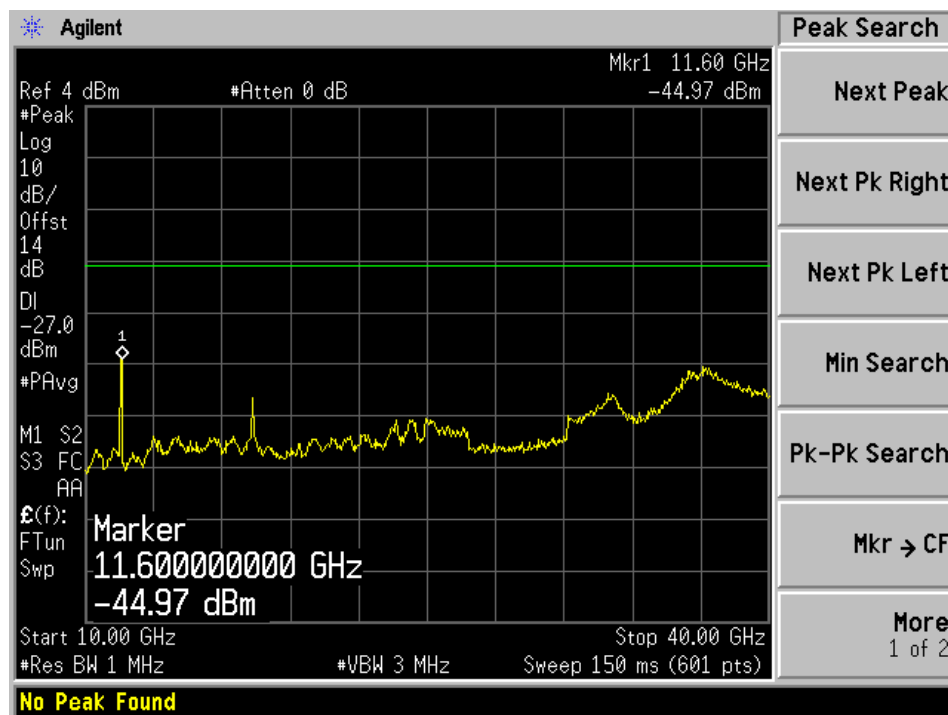
802.11a mode, 5785MHz, Chain J0 1



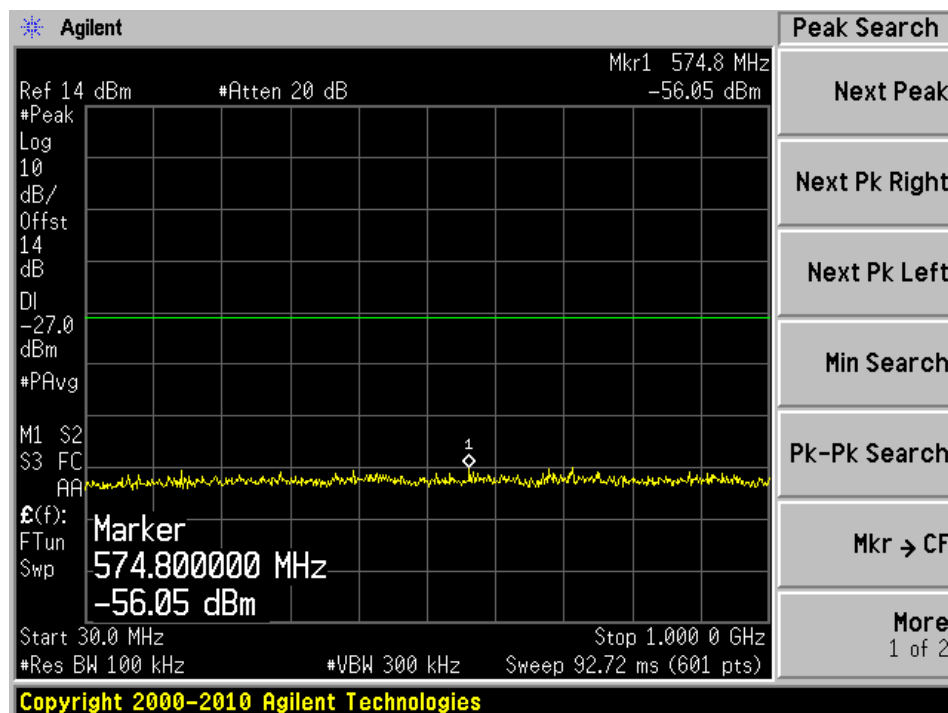
802.11a mode, 5785 MHz, Chain J0 2



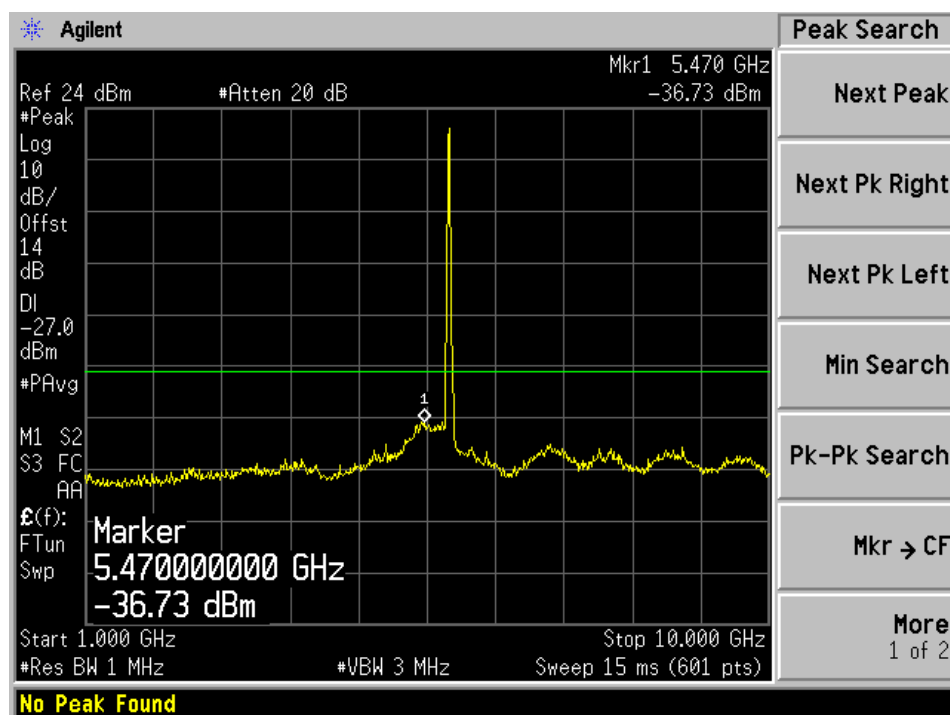
802.11a mode, 5785 MHz, Chain J0 3



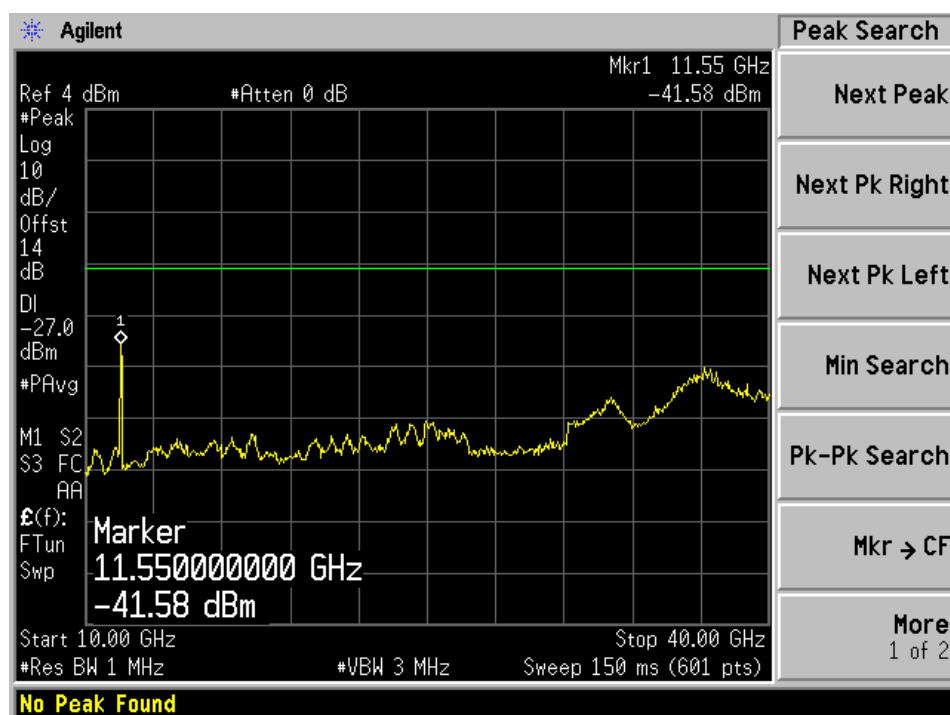
802.11a mode, 5785MHz, Chain J1 1



802.11a mode, 5785 MHz, Chain J1 2

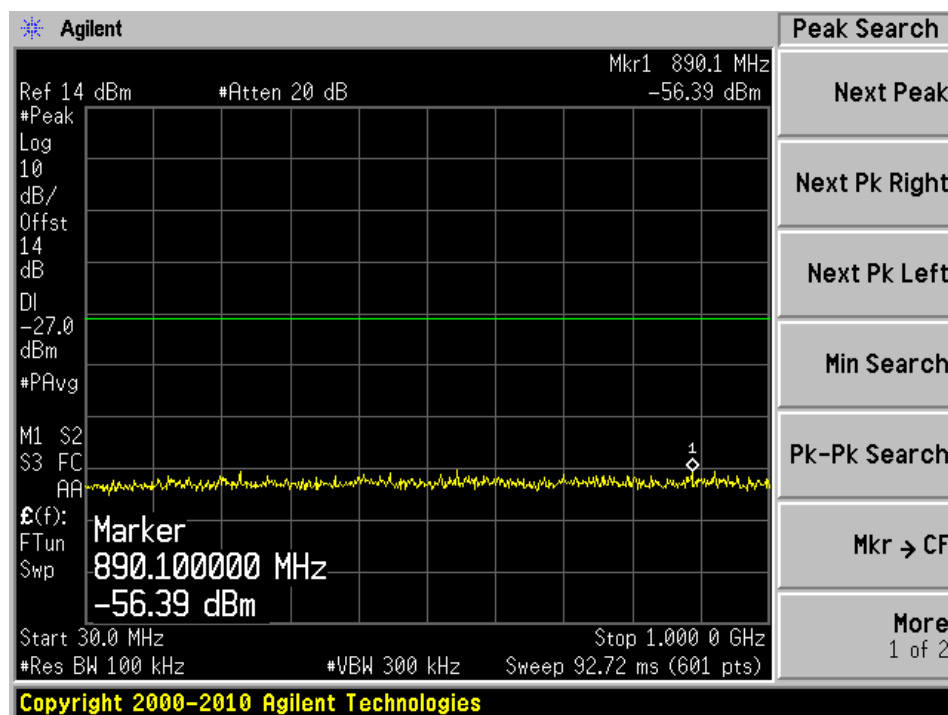


802.11a mode, 5785 MHz, Chain J1 3

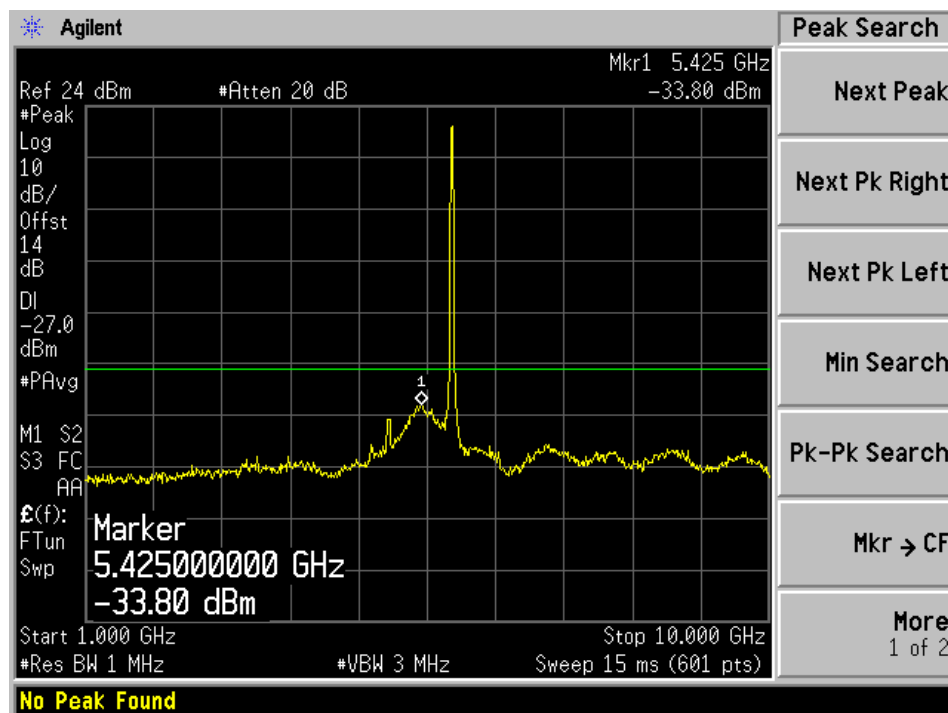


802.11a mode, High Channel

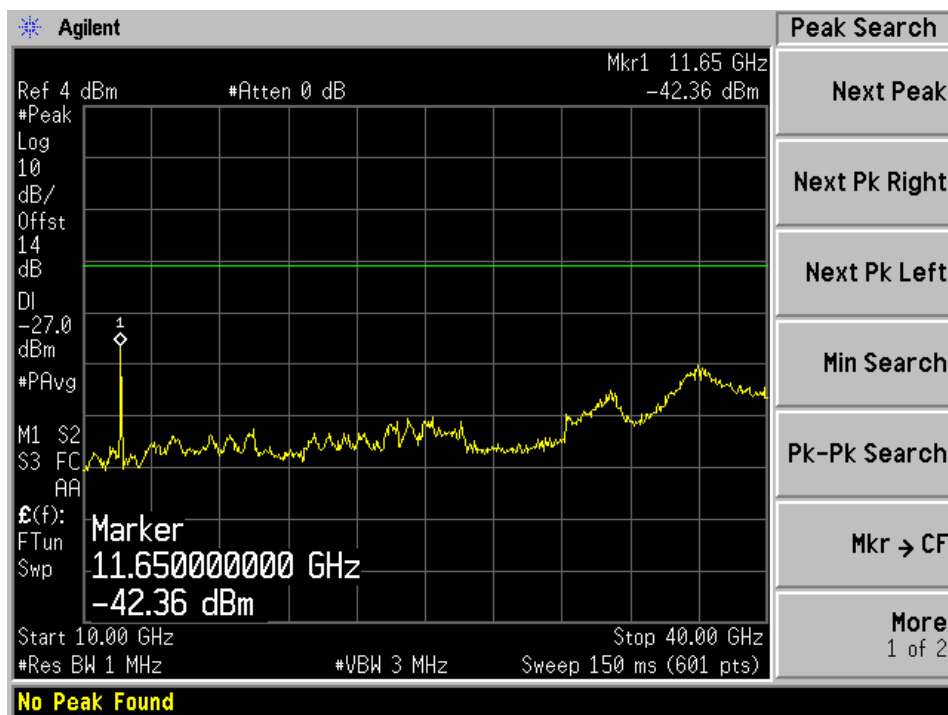
802.11a mode, 5825MHz, Chain J0 1



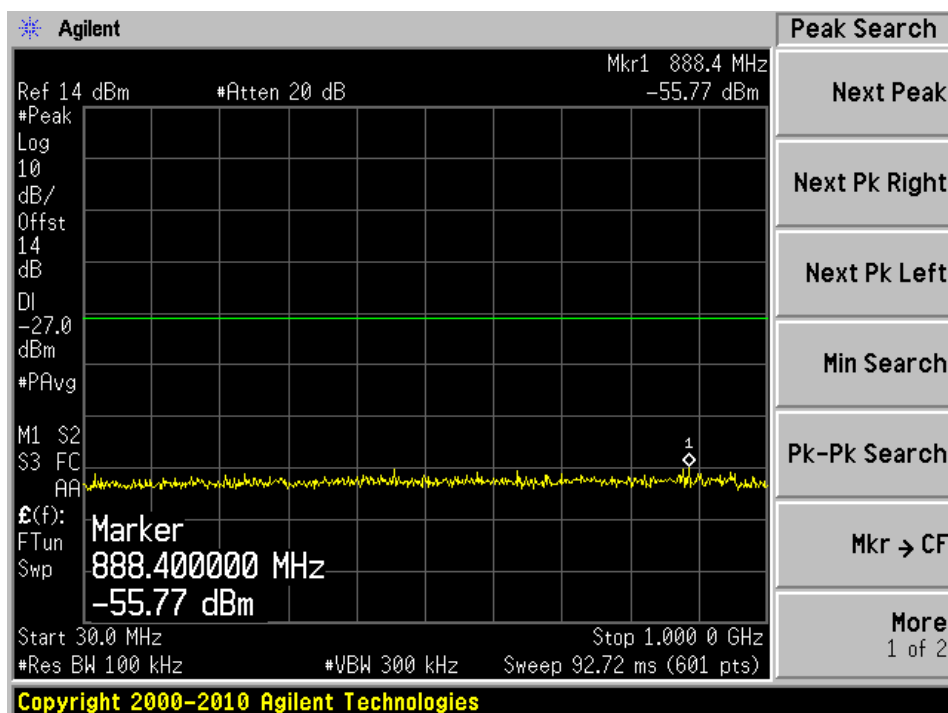
802.11a mode, 5825 MHz, Chain J0 2



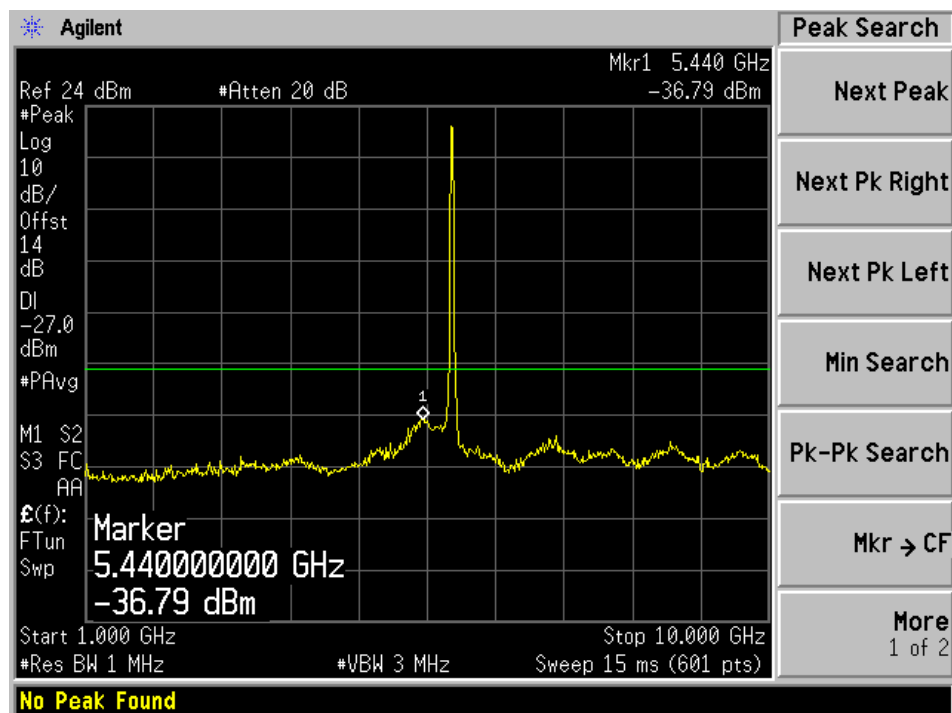
802.11a mode, 5825 MHz, Chain J0 3



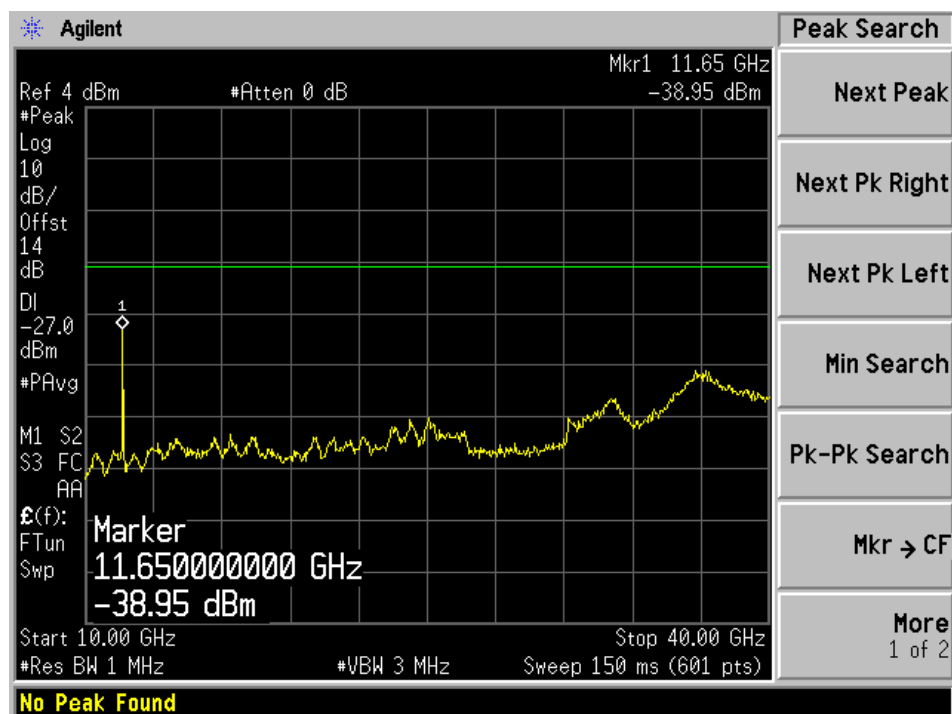
802.11a mode, 5825MHz, Chain J1 1



802.11a mode, 5825 MHz, Chain J1 2

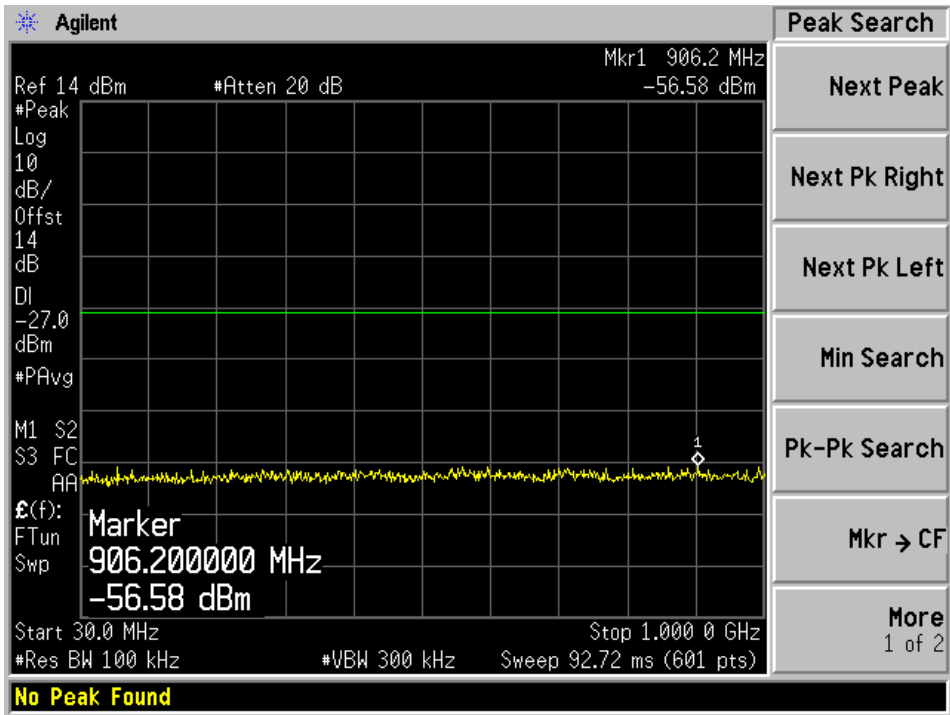


802.11a mode, 5825 MHz, Chain J1 3

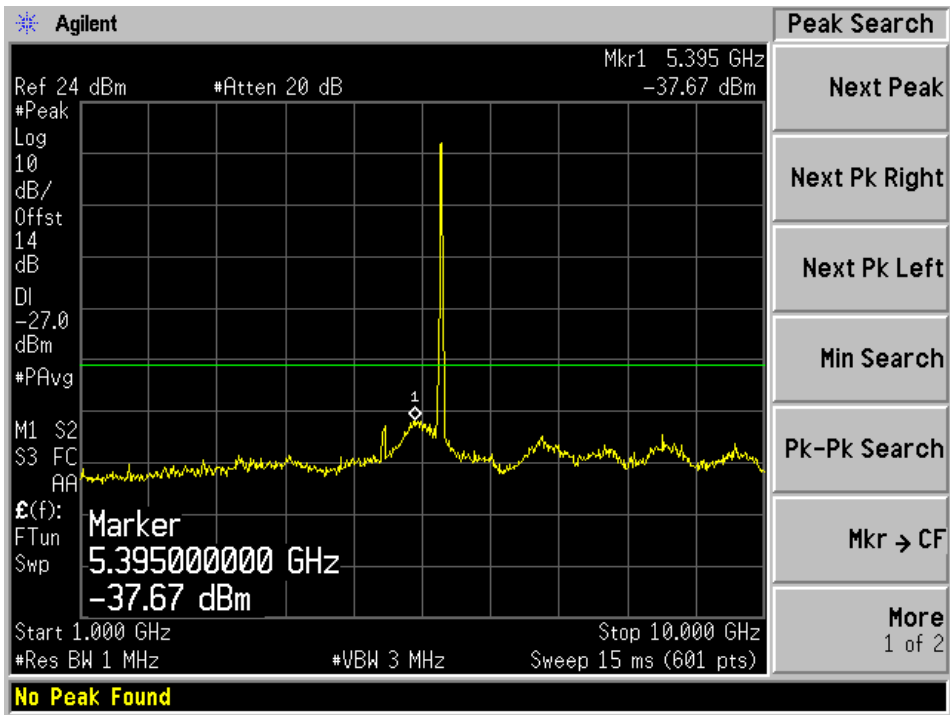


802.11n HT20 mode, Low channel

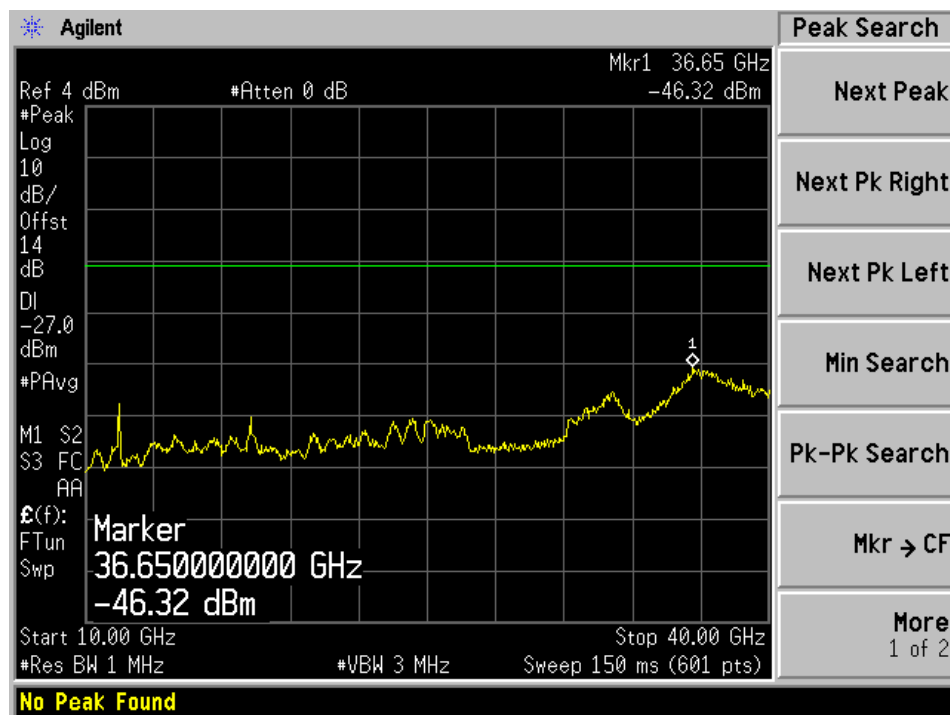
802.11n HT20 mode, 5745 MHz, Chain J0 1



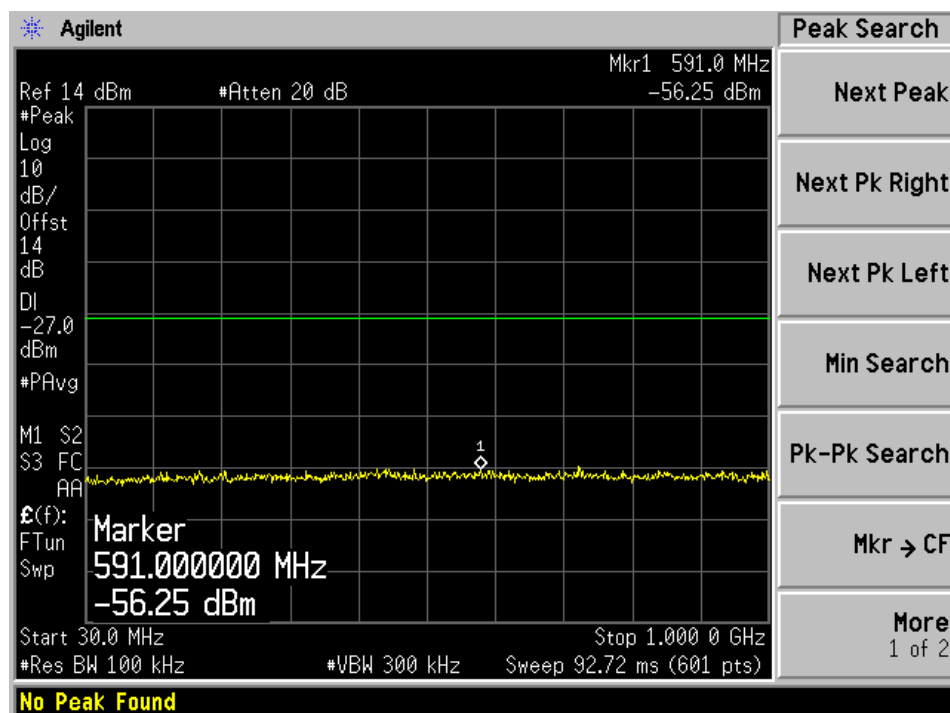
802.11n HT20 mode, 5745 MHz, Chain J0 2



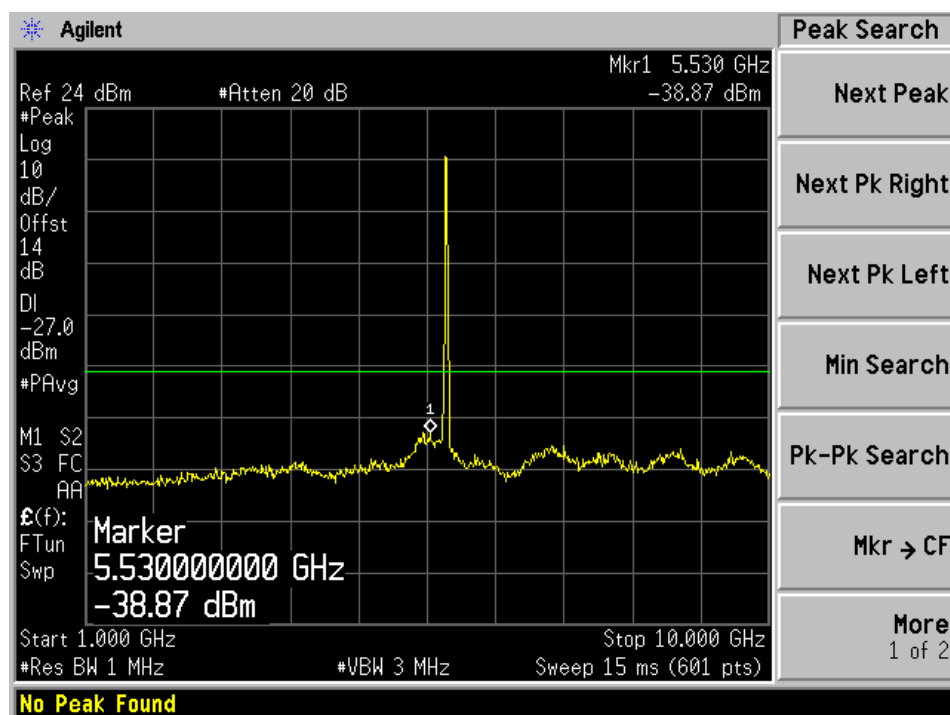
802.11n HT20 mode, 5745 MHz, Chain J0 3



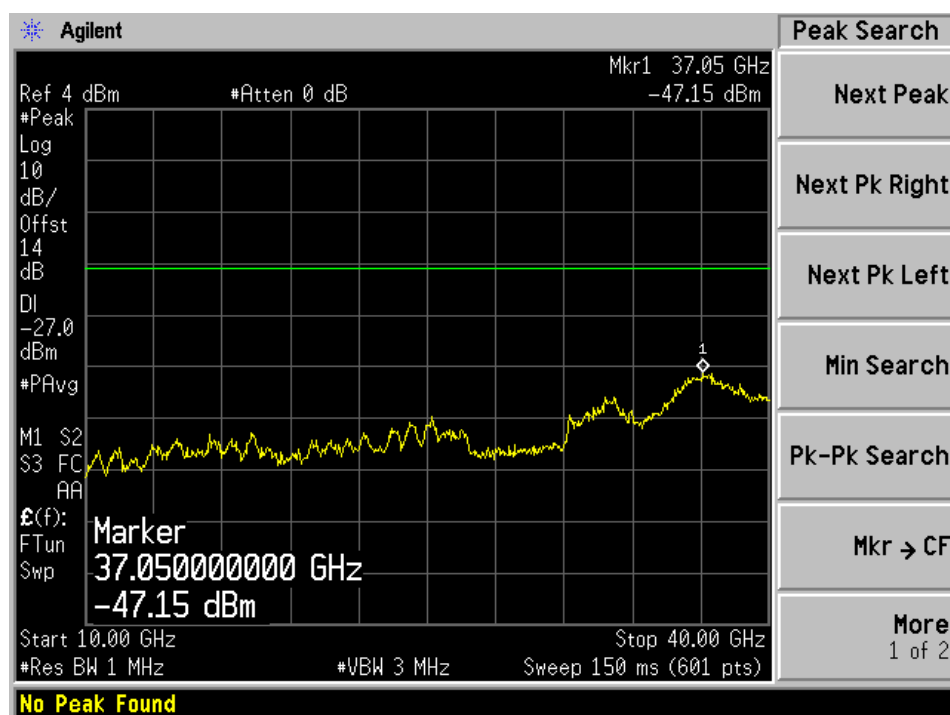
802.11n HT20 mode, 5745 MHz, Chain J1 1



802.11n HT20 mode, 5745 MHz, Chain J1 2

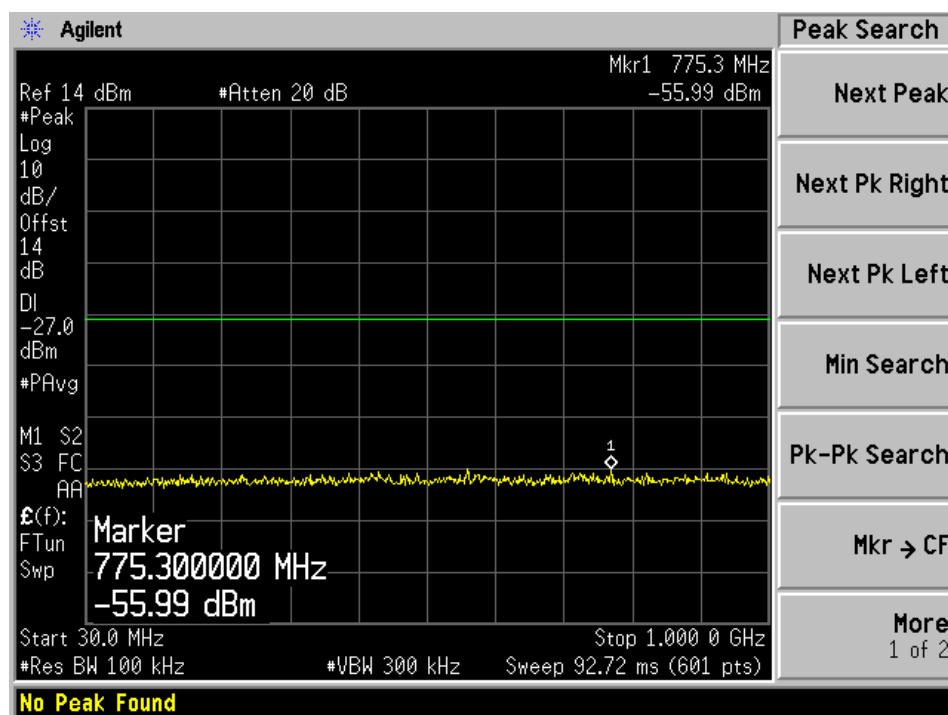


802.11n HT20 mode, 5745 MHz, Chain J1 3

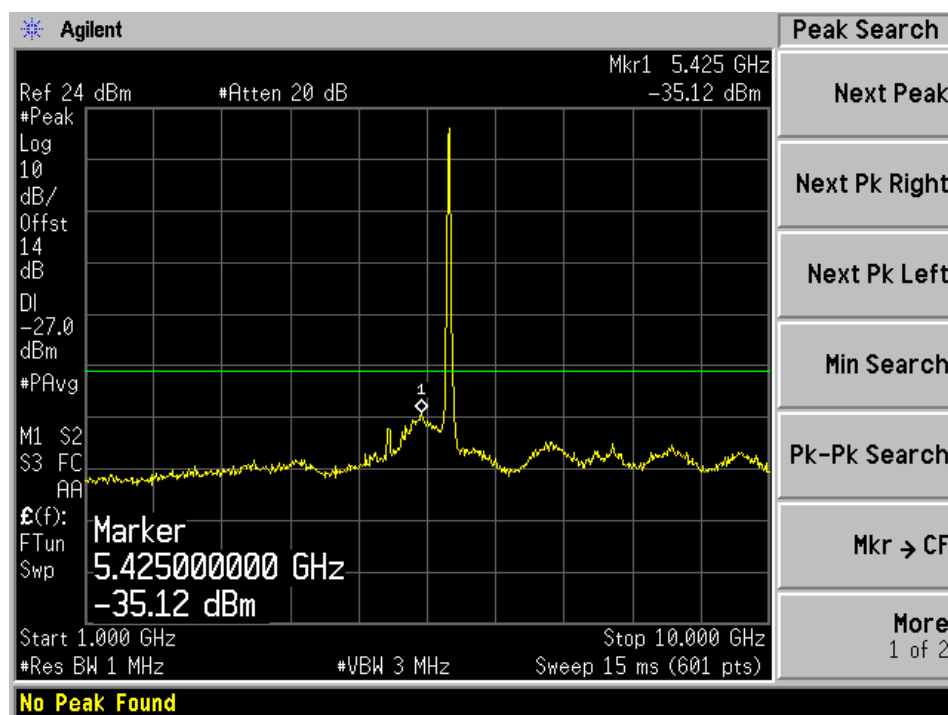


802.11n HT20 mode, Middle Channel

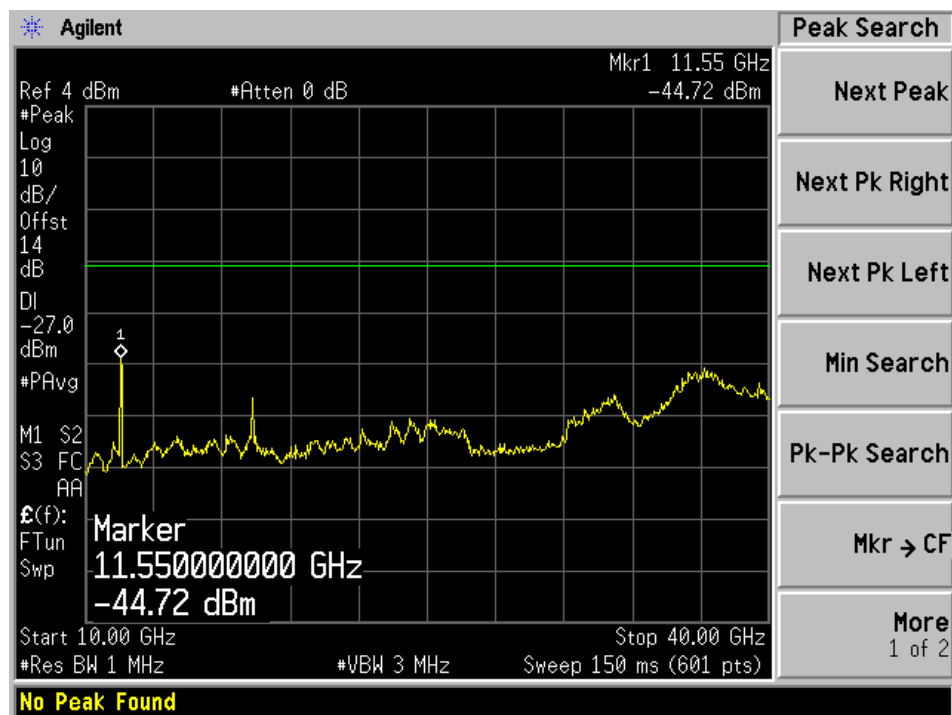
802.11n HT20 mode, 5785 MHz, Chain J0 1



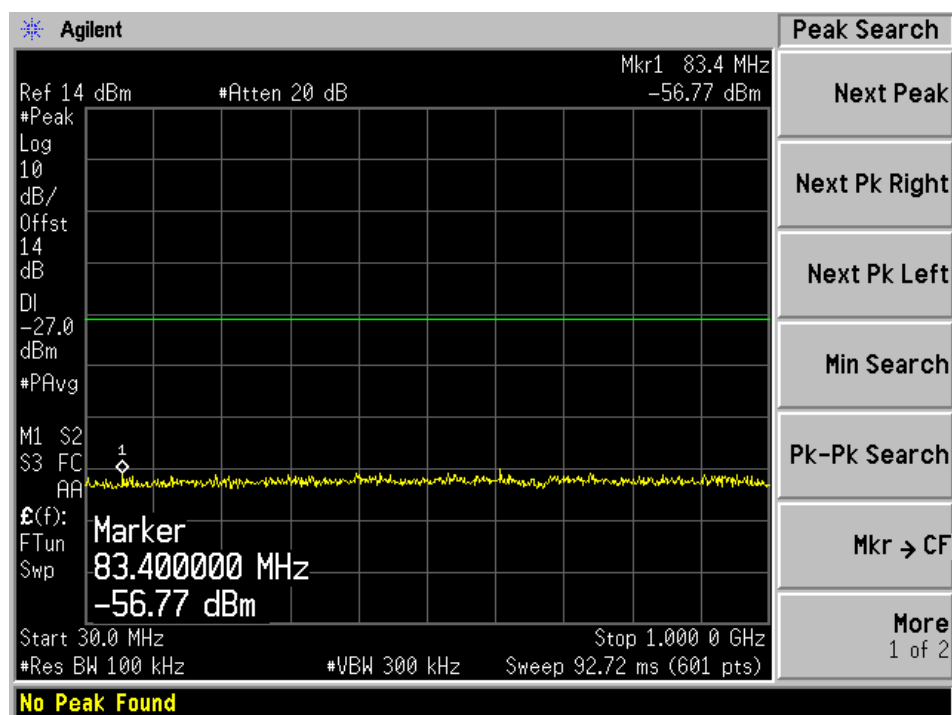
802.11n HT20 mode, 5785 MHz, Chain J0 2



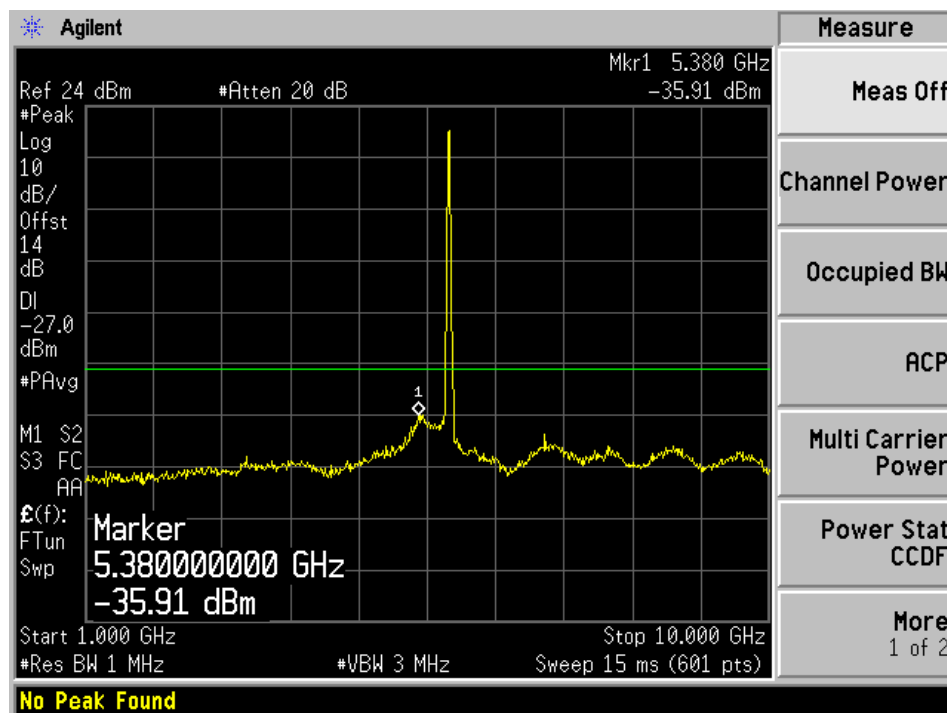
802.11n HT20 mode, 5785 MHz, Chain J0 3



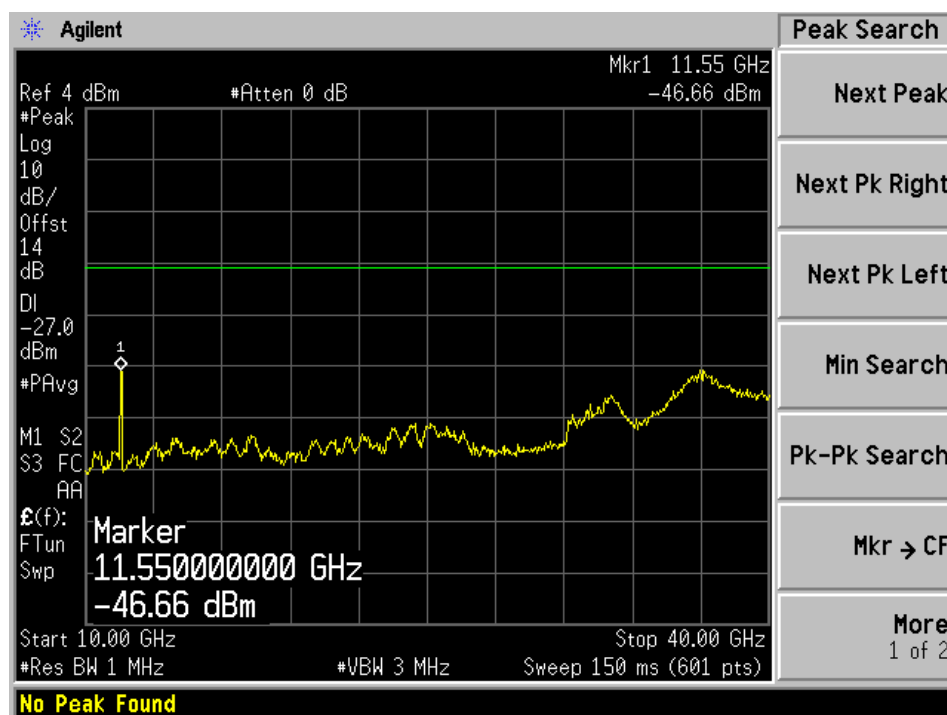
802.11n HT20 mode, 5785 MHz, Chain J1 1



802.11n HT20 mode, 5785 MHz, Chain J1 2

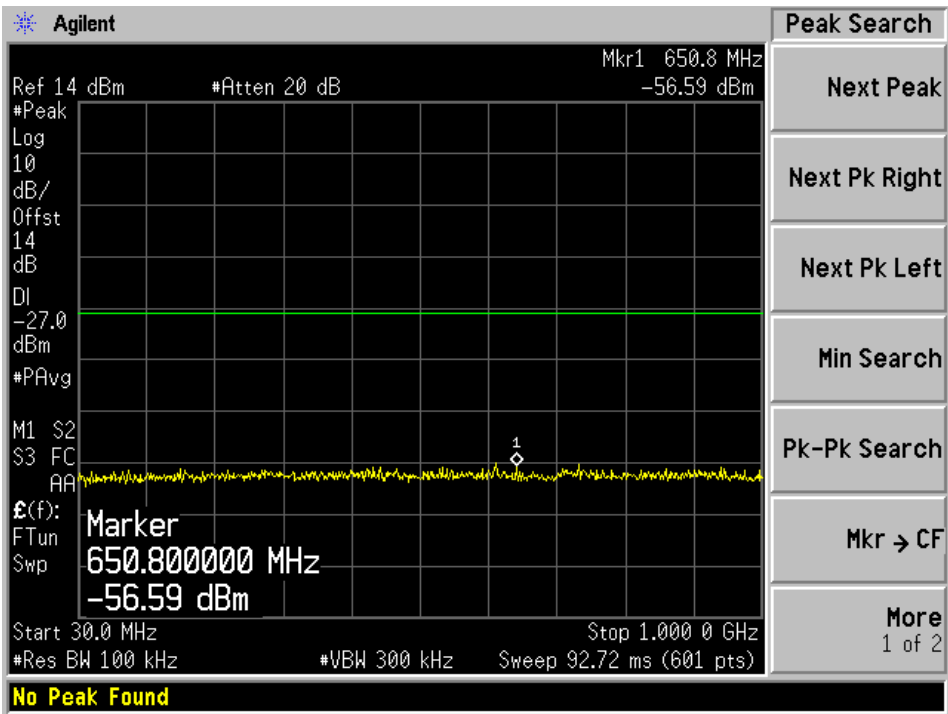


802.11n HT20 mode, 5785 MHz, Chain J1 3

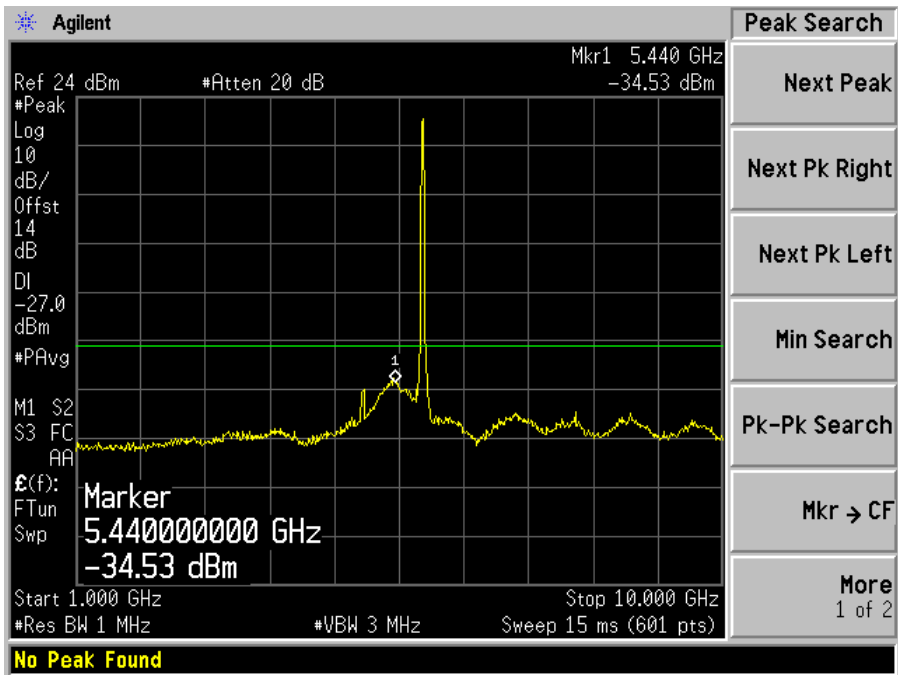


802.11n HT20 mode, High Channel

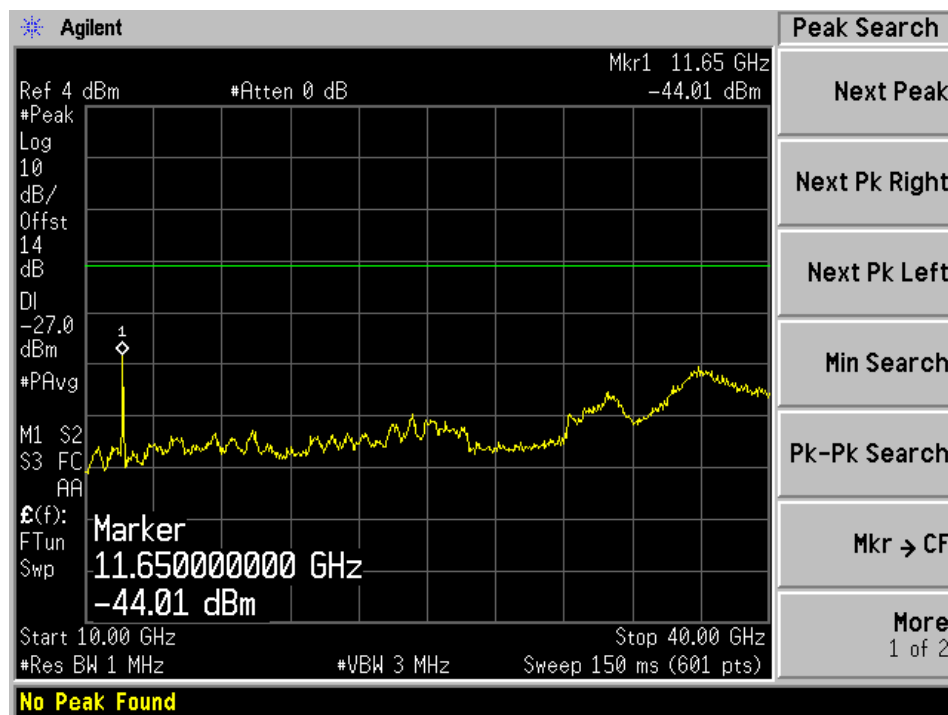
802.11n HT20 mode, 5825 MHz, Chain J0 1



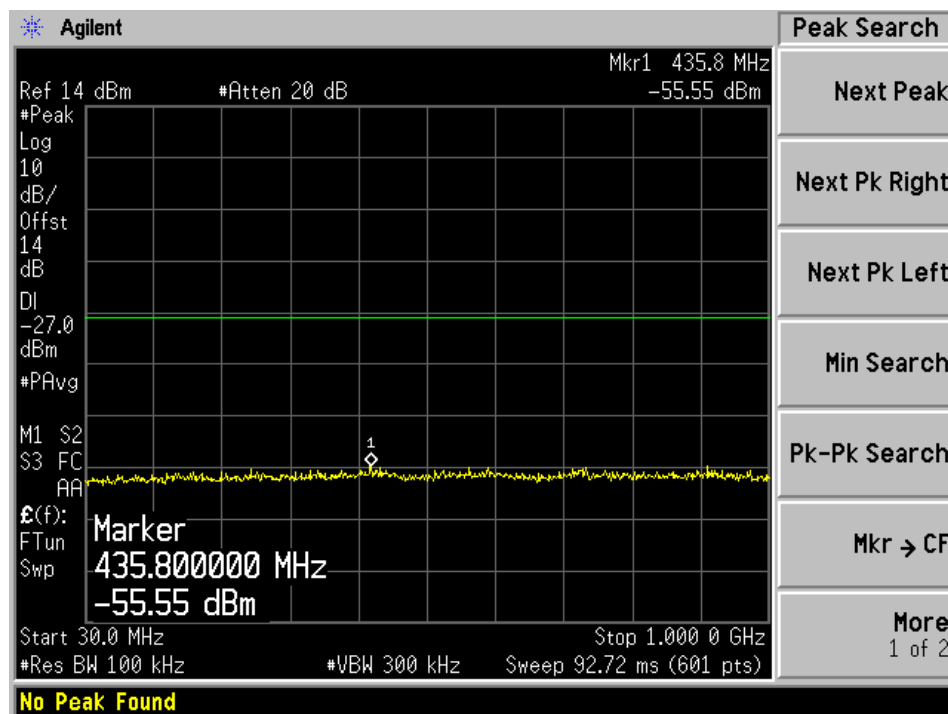
802.11n HT20 mode, 5825 MHz, Chain J0 2



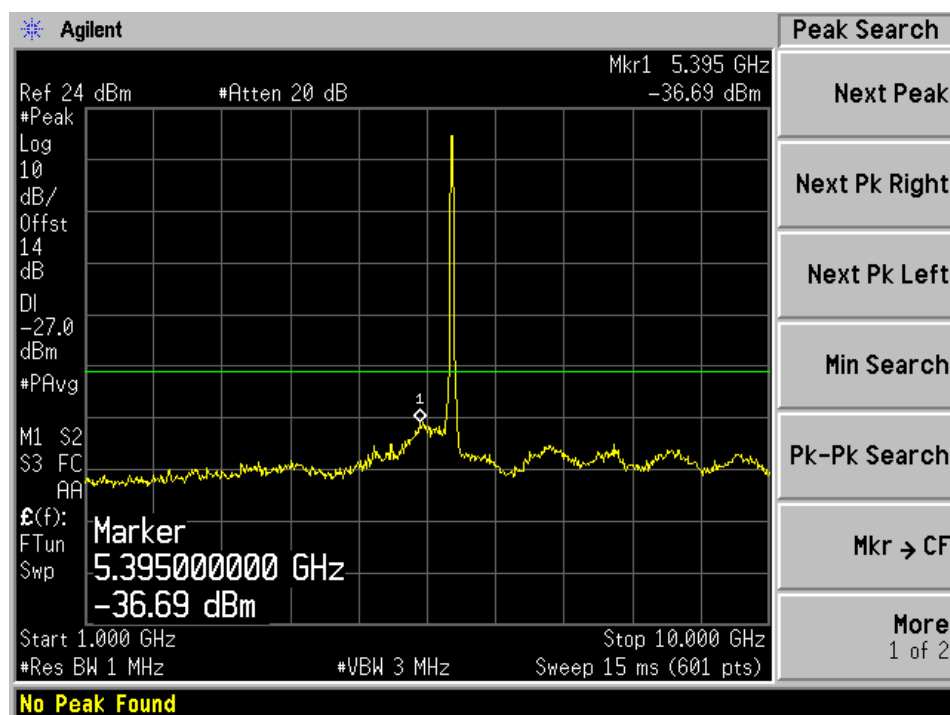
802.11n HT20 mode, 5825 MHz, Chain J0 3



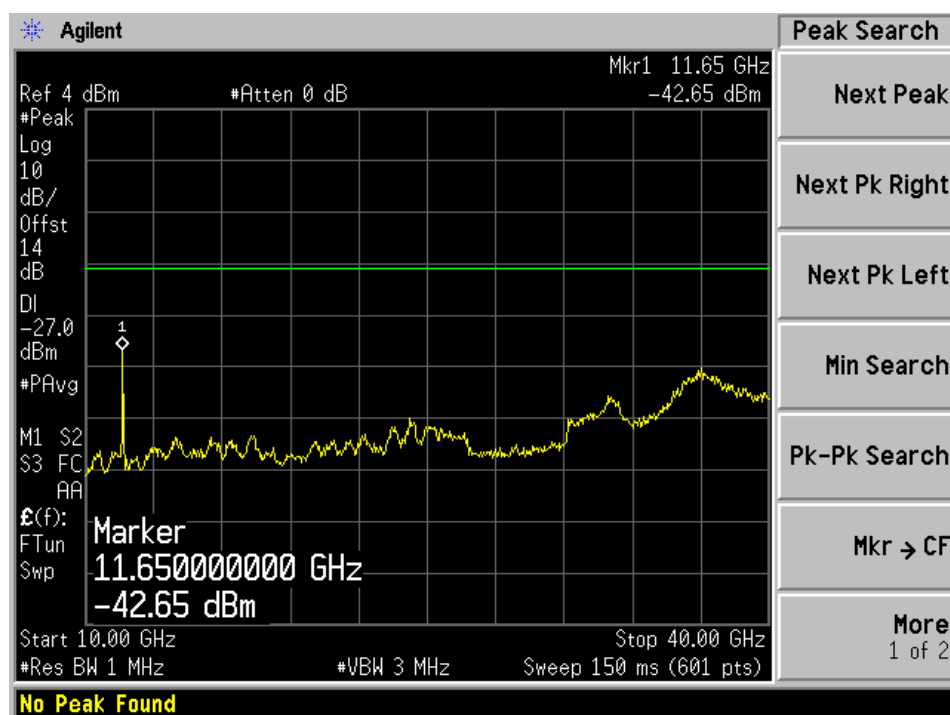
802.11n HT20 mode, 5825 MHz, Chain J1 1



802.11n HT20 mode, 5825 MHz, Chain J1 2

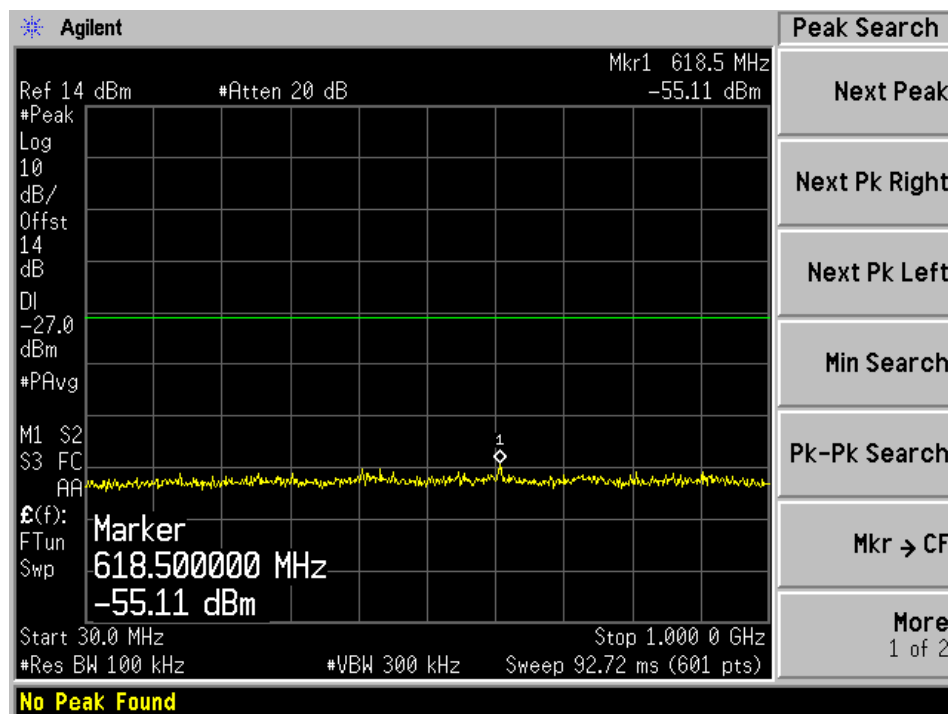


802.11n HT20 mode, 5825 MHz, Chain J1 3

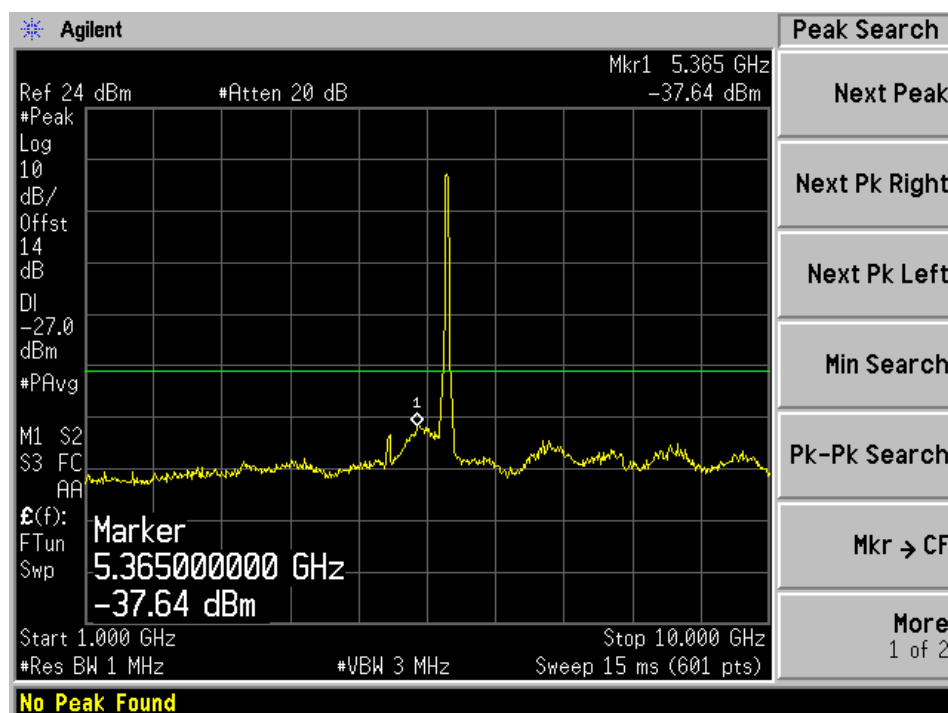


802.11n HT40 mode, Low Channel

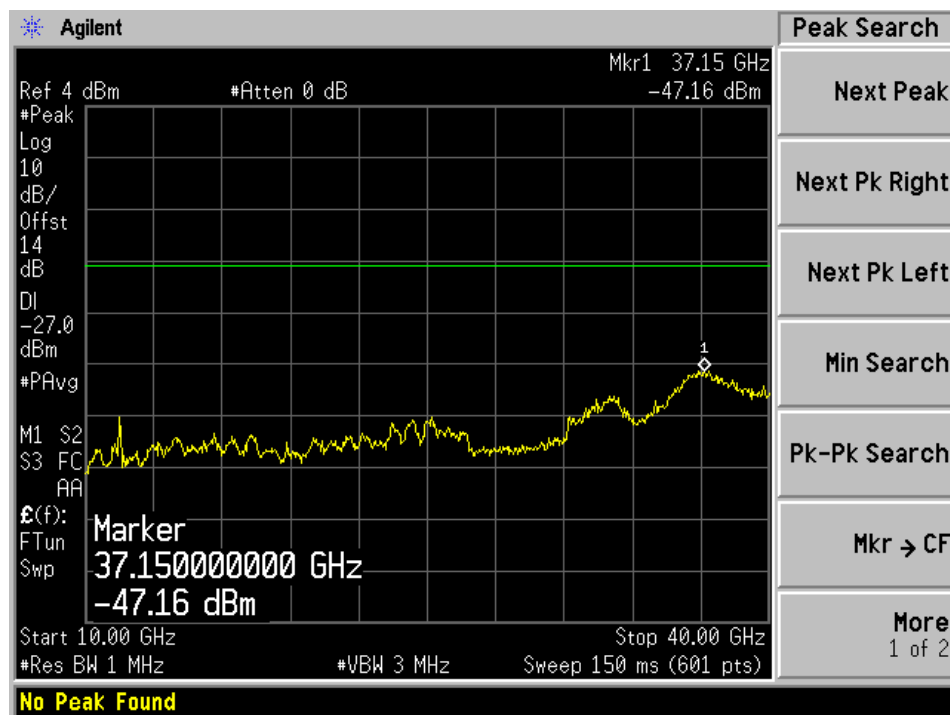
802.11n HT40 mode, 5755 MHz, Chain J0 1



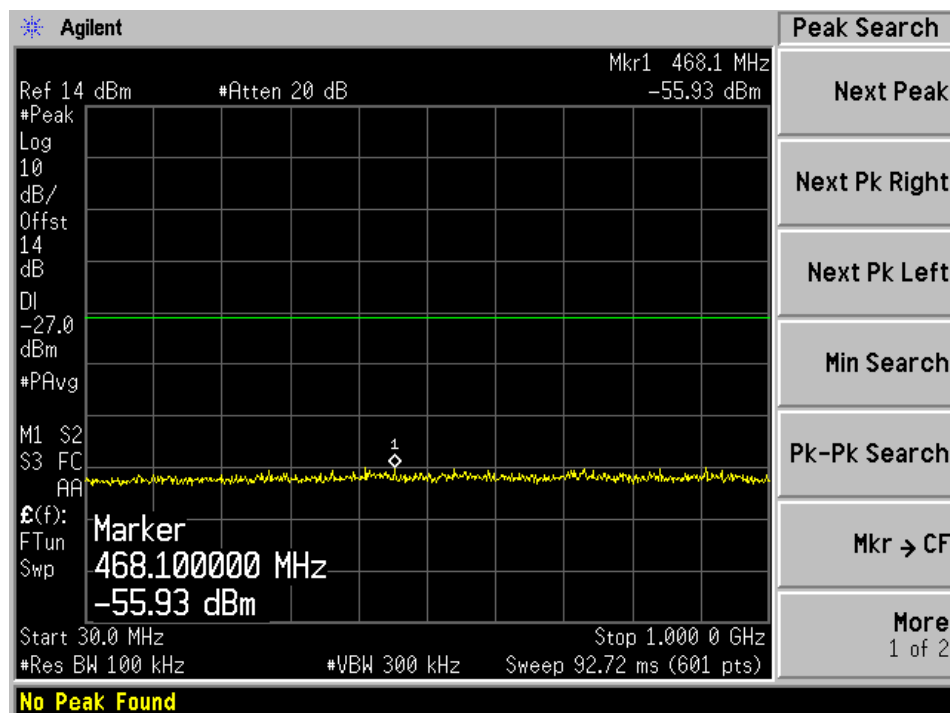
802.11n HT40 mode, 5755 MHz, Chain J0 2



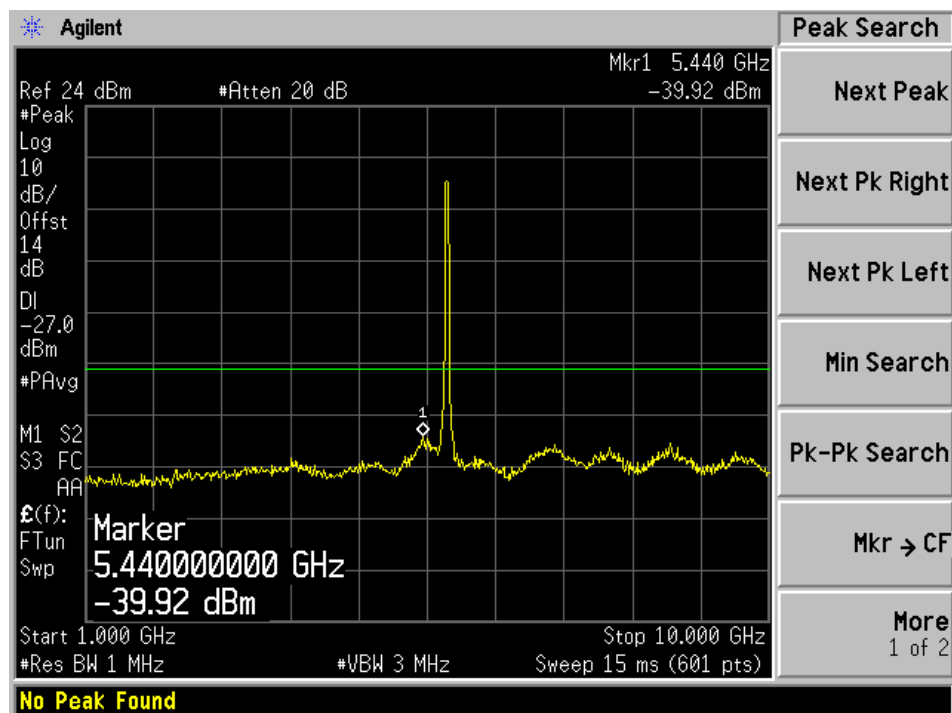
802.11n HT40 mode, 5755 MHz, Chain J0 3



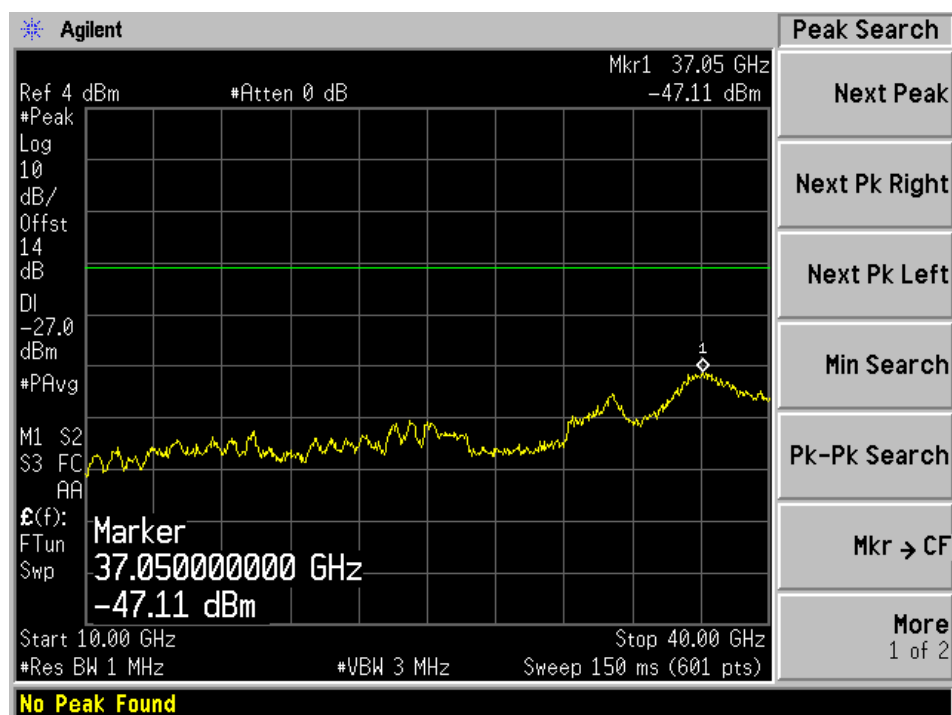
802.11n HT40 mode, 5755 MHz, Chain J1 1



802.11n HT40 mode, 5755 MHz, Chain J1 2

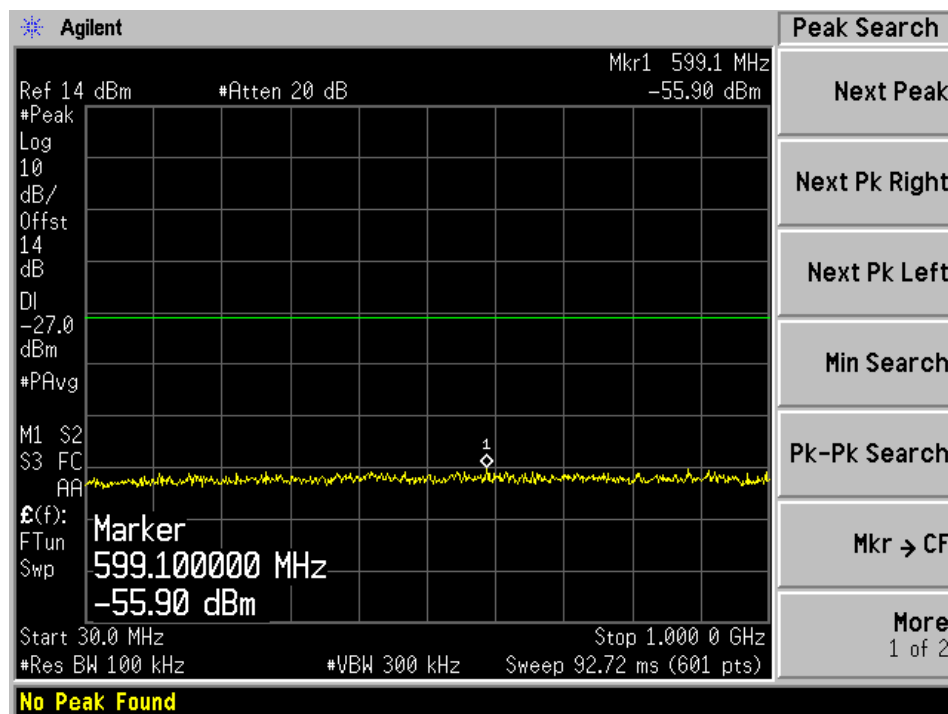


802.11n HT40 mode, 5755 MHz, Chain J1 3

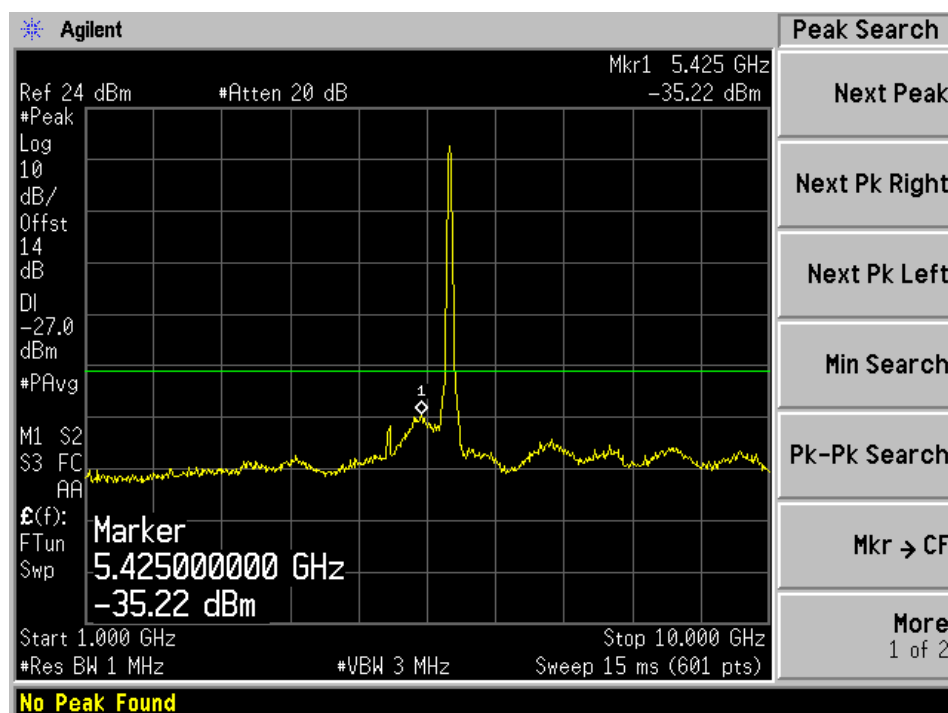


802.11n HT40 mode, High Channel

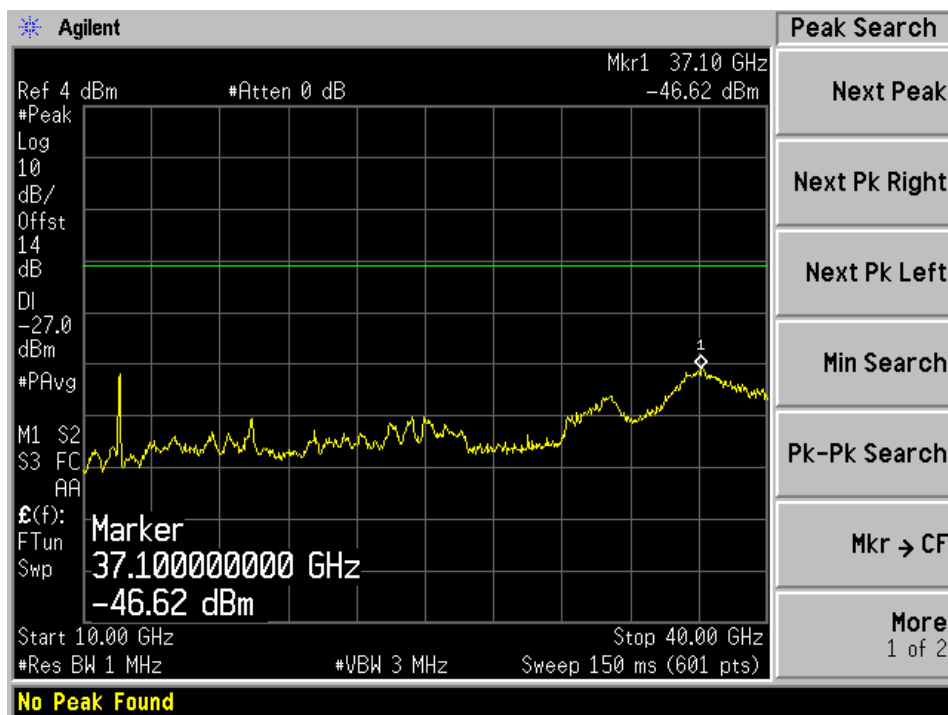
802.11n HT40 mode, 5795 MHz, Chain J0 1



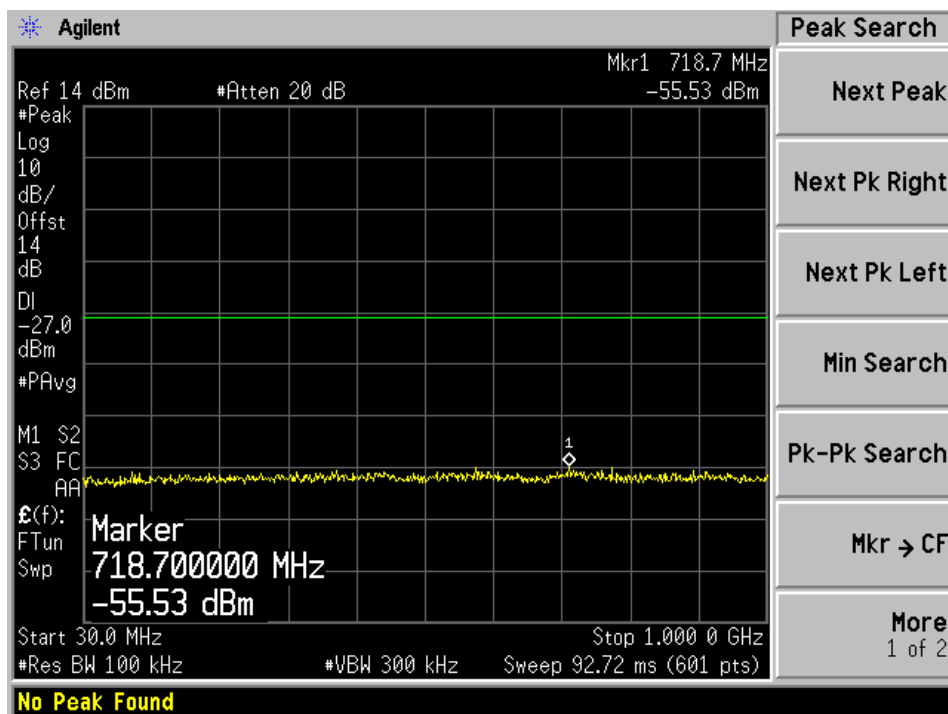
802.11n HT40 mode, 5795 MHz, Chain J0 2



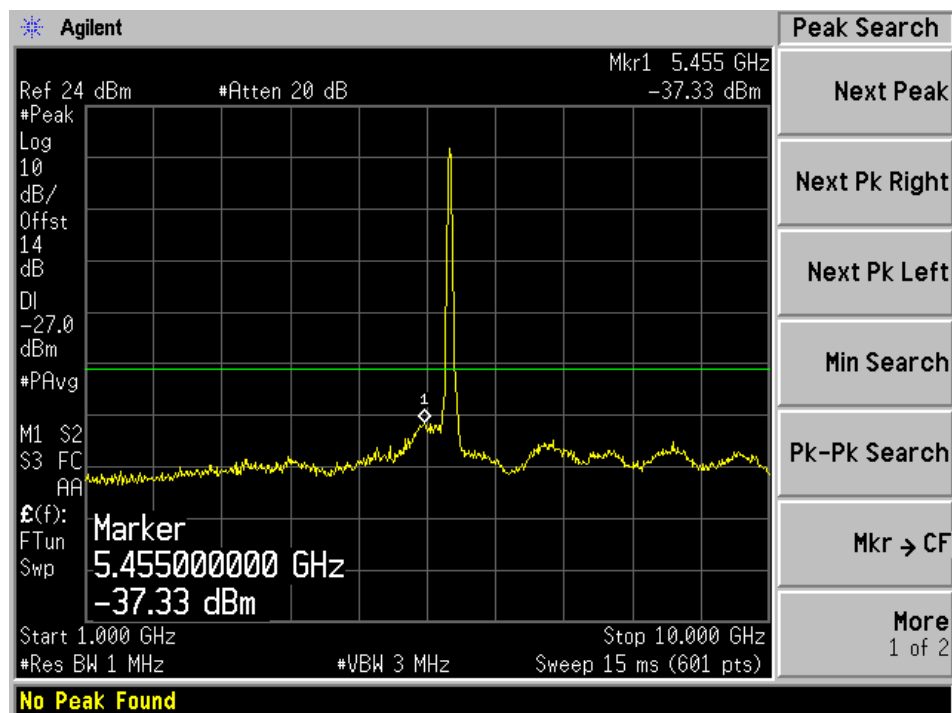
802.11n HT40 mode, 5795 MHz, Chain J0 3



802.11n HT40 mode, 5795 MHz, Chain J1 1



802.11n HT40 mode, 5795 MHz, Chain J1 2



802.11n HT40 mode, 5795 MHz, Chain J1 3

