

Produkte
Products

Prüfbericht - Nr.: 01200177 001		Seite 1 von 156	
<i>Test Report No.:</i>		<i>Page 1 of 156</i>	
Auftraggeber: <i>Client:</i>		Redpine Signals Inc. 2107 N.First Street, Suite 680 San Jose, CA 95131-2019 U.S.A	
Gegenstand der Prüfung: <i>Test item:</i>		802.11 abgn WiSeConnect MODULE	
Bezeichnung: <i>Identification:</i>	RS-WC-301	Serien-Nr.: <i>Serial No.</i>	Engineering Sample
Wareneingangs-Nr.: <i>Receipt No.:</i>	1403023191	Eingangsdatum: <i>Date of receipt:</i>	19.12.2012
Prüfort: <i>Testing location:</i>		Refer Page 4 of 156 for test facilities	
Prüfgrundlage: <i>Test specification:</i>		FCC Part 15, Subpart C	
Prüfergebnis: <i>Test Result:</i>		Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). <i>The tests item passed the test specification(s).</i>	
Prüflaboratorium: <i>Testing Laboratory:</i>		TÜV Rheinland (India) Pvt. Ltd. 82/A, 3rd Main, West Wing, Electronic City Phase 1 Hosur Road, Bangalore – 560 100. India FCC Registration No.: 176555	
geprüft / tested by:		kontrolliert / reviewed by:	
<div style="display: flex; justify-content: space-between;"> <div> 21.01.2013 Vinay.N Engineer  </div> <div> 01.02.2013 Raghavendra Kulkarni Manager  </div> </div>			
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>
Sonstiges / Other Aspects:		FCC ID :XF6-RSWC301	
Abkürzungen: P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet		Abbreviations: P(ass) = passed F(ail) = failed N/A = not applicable N/T = not tested	
<p>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</p> <p><i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i></p>			

Test Result Summary

Clause	Test Item	Result
FCC 15.247(b) (3)	Maximum Peak Conducted Output Power	Pass
FCC 15.247(e)	Maximum Power Spectral Density	Pass
FCC 15.247(a) (2)	6dB Bandwidth	Pass
FCC 15.247(d)	Band-edge compliance	Pass
FCC 15.209 / FCC 15.205	Spurious Radiated Emissions and Restricted Bands of Operation	Pass

Note: FCC part 15 subpart E Test results are covered in Test Report: 01200178 001

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List of Test and Measurement Instruments

TUV Rheinland (India) Pvt. Ltd. , Bangalore

Equipment	Manufacturer	Model	S/N	Calibration Due Date
EMI Test Receiver	Rohde &Schwarz	ESU 40	100288	21.06.2013
Hybrid Log Periodic antenna	ETS Lindgren	3142D	00081354	26.06.2013
Broadband Horn Antenna	Frankonia	HAX-18	HAX18-802	23.03.2013
Emission Horn Antenna	ETS Lindgren	116706	00107323	24-08-2013
Active Loop Antenna	Frankonia	LAX-10	LAX-10-800	11.04.2013
Spectrum Analyzer	Agilent Technologies	E4407B	US41192772	17.03.2013

Testing Facilities:

- 1) TUV Rheinland (India) Private Limited
No. 108, West Wing
Electronic city Phase I
Bangalore – 560100

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General Product Information

Product Function and Intended Use

The RS-WC-301 module is a complete IEEE 802.11a/b/g/n wireless device server that provides a Wireless interface to any equipment having a UART, SPI or USB interface. The module integrates a MAC, baseband processor, RF transceiver with power amplifier; and all WLAN protocol and networking stack functionality in embedded firmware to make a fully self-contained 802.11n WLAN solution for a variety of applications. The module integrates an antenna and a U.FL connector for external antenna with an option to select either one of them.

Ratings and System Details

Operating Frequency	2400 – 2483.5 MHz		
	5725 – 5850 MHz		
No. of channel	2400 – 2483.5 MHz	13 (Refer Table 1) Page 7 of 156	
	5725 – 5850 MHz	5 (Refer Table 1) Page 7 of 156	
Channel Spacing	2400 – 2483.5 MHz	5 MHz	
	5725 – 5850 MHz	20 MHz	
Transmitted Power	2400 – 2483.5 MHz	802.11b	18.87 dBm
		802.11g	19.13 dBm
		802.11n	18.90 dBm
	5725 – 5850 MHz	802.11a	10.37 dBm
		802.11n	10.83 dBm
Modulation	802.11a	OFDM with BPSK,QPSK, 16-QAM, 64-QAM	
	802.11b	DSSS with DBPSK,DQPSK	
	802.11g	OFDM with BPSK,QPSK, 16-QAM, 64-QAM	
	802.11n	BPSK,QPSK,16-QAM,64-QAM	
Data Rate	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b:1,2, 5.5,11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 6.5, 13, 19.5, 26, 39, 52, 58.5, 65 Mbps		
Number of antenna	Two Alternative		
Antenna Gain &Type	(Refer Table 2) Page 8 of 156		
Supply Voltage	3.1-3.6 V DC from host device		
Dimensions	40 mm x 22 mm		
Environmental	-40°C to +85°C		

Test Conditions:

Voltage: 5V DC from USB

Environmental conditions:

Temperature: +23 °C **RH:** 62%

Test Set-up and Operation Mode

Principle of Configuration Selection

Transmission was enabled with 100% duty cycle duty on low, mid and high channel.

Test Operation and Test Software

Hyper terminal in the computer was used to enable the transmission with 100% duty cycle, changing channels (low/mid/high) and data rates on the EUT for the tests in this report.

Special Accessories and Auxiliary Equipment

- None

Countermeasures to achieve EMC Compliance

-The channels 11, 12 and 13 were tested with reduced power levels to achieve the compliance. The detailed GC values with respect to data rates are tabulated in page 155 and 156 of 156 of this report.

Test Modes – Data Rates and Modulations

For Radiated spurious emissions, the tests were performed for all data rates and only worst results are reported in this report.

Table of frequencies

Frequency Band	Channel No.	Frequency (MHz)
2400 – 2483.5 MHz	1	2412
	2	2417
	3	2422
	4	2427
	5	2432
	6	2437
	7	2442
	8	2447
	9	2452
	10	2457
	11	2462
	12	2467
	13	2472
5725 – 5850 MHz	149	5745
	153	5765
	157	5785
	161	5805
	165	5825

Table 1

"The channels 11, 12 and 13 use 4.5 dB and 5.88dB power reductions to achieve band edge compliance for 802.11 g mode and 802.11n modes respectively. The detailed GC values with respect to data rates are tabulated in page 155 and 156 of 156 of this report"

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Antennas Used

Antenna Number	Make	Model/Part #	Antenna Gain (dBi)	Type of Antenna
Antenna 1	RainSun	AN1003	1 dBi	Multilayer Chip antenna
Antenna 2	Pulse	W1043	2 dBi	External antenna

Table 2

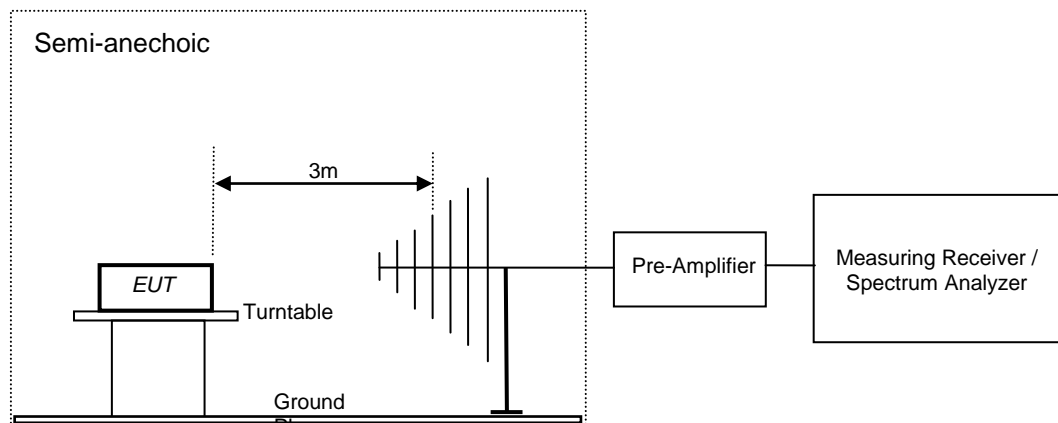
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Test Methodology

Radiated Emission Test

The radiated emission measurement was performed according to the procedures in ANSI C63.4-2003. The equipment under test (EUT) was placed at the middle of the 80 cm high turntable, and the EUT is 3 meters far from the measuring antenna. The turntable was rotated 360° for obtaining the maximum emission. The height of the measuring antennas was scanned between 1m and 4m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained. The measurement above 1000MHz was performed by horn antenna. The measurement below 30MHz was performed by loop antenna.

The EUT was rotated around the X-, Y-, and Z-Axis and the results from worst case axis are recorded.



Test Results:

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Maximum Peak Conducted Output Power

Section 15.247(b) (3)

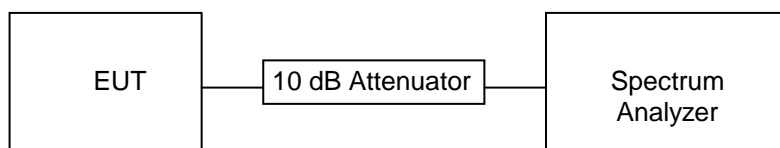
Result

Pass

Test Specification FCC Part 15 Subpart C
 Measurement Bandwidth (RBW) 3 MHz
 Requirement <1 watt (30dBm) for Digital Transmission System.

Note: Power option 2 Is used for Measuring Maximum Peak Conducted output Power.

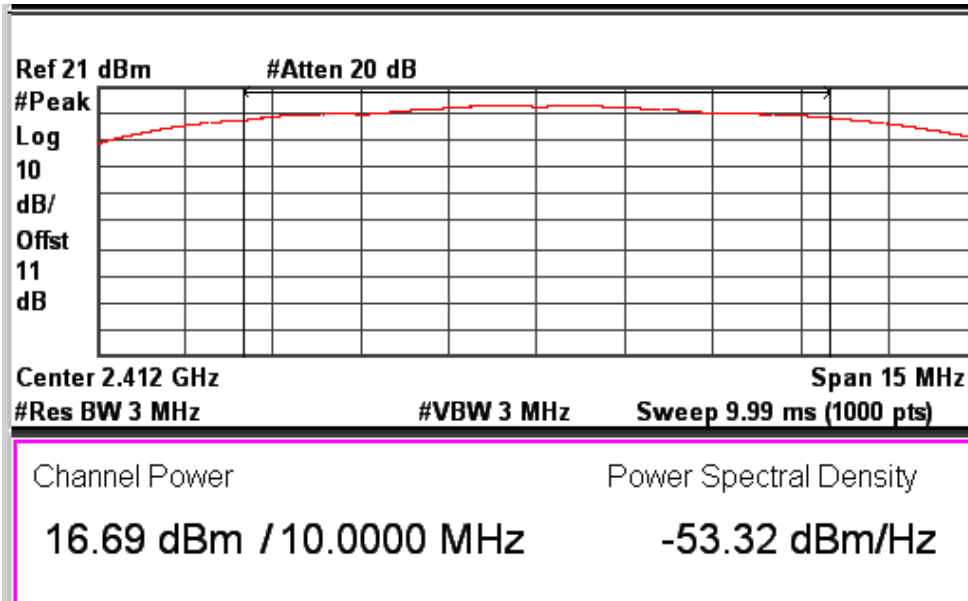
Test Method:



Test Result:

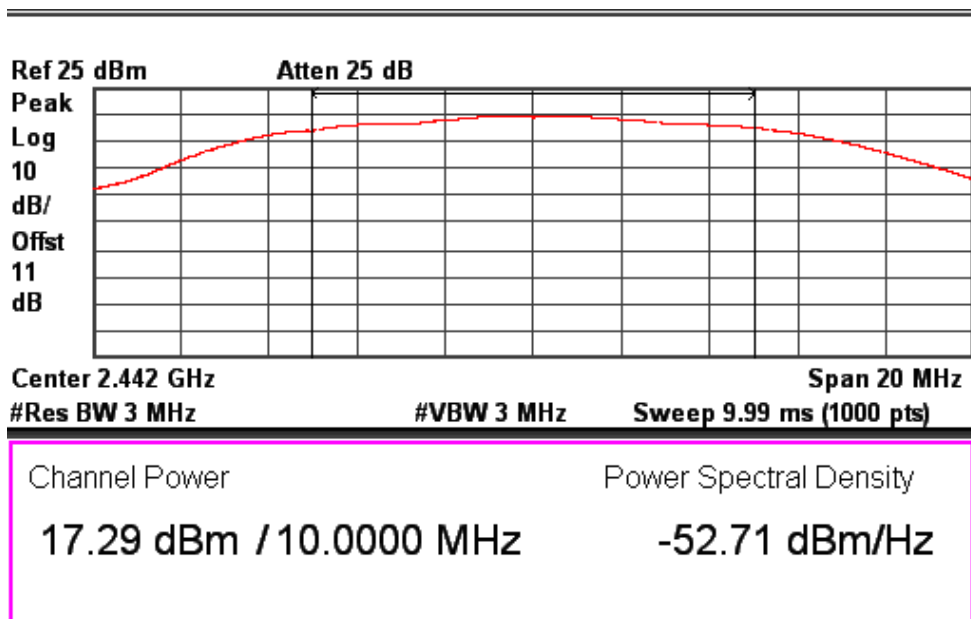
802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Total Power (dBm)	Limit (dBm)	Margin (dB)
b	1	2412.00	16.69	30.00	-13.31
		2442.00	17.29	30.00	-12.71
		2472.00	14.47	30.00	-15.53
	11	2412.00	18.87	30.00	-11.13
		2442.00	18.58	30.00	-11.42
		2472.00	15.57	30.00	-14.43

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Data Rate: 1 Mbps

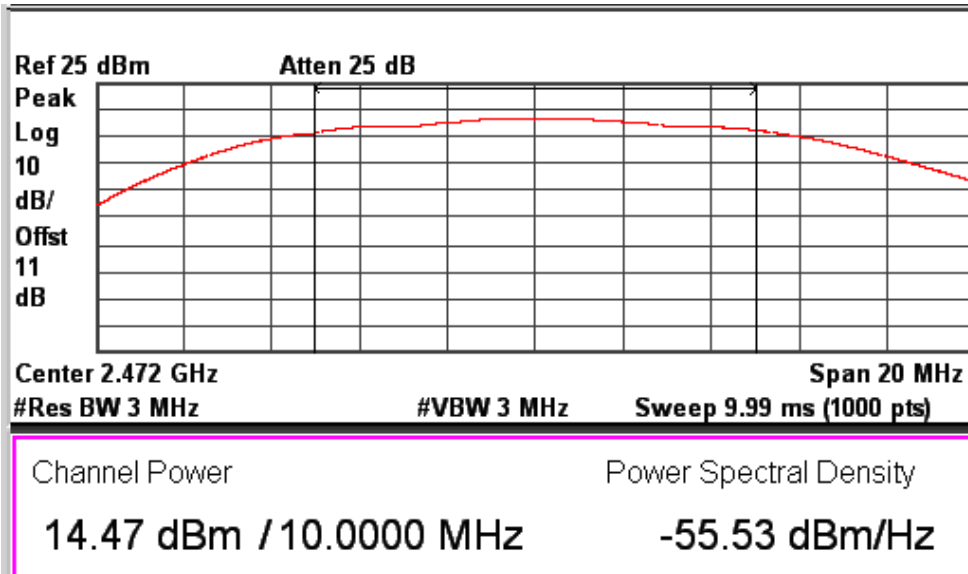
Channel Frequency: 2412 MHz



Data Rate: 1 Mbps

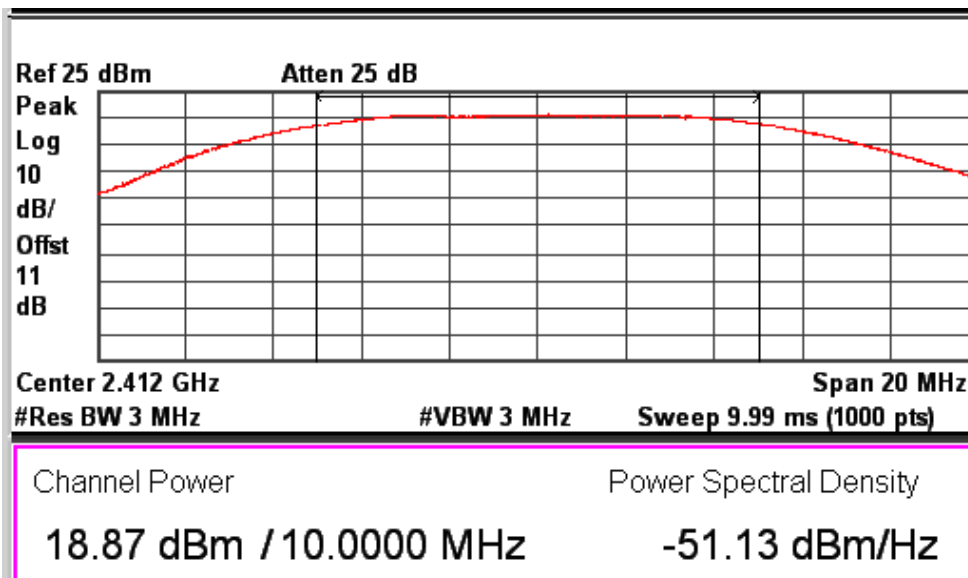
Channel Frequency: 2442 MHz

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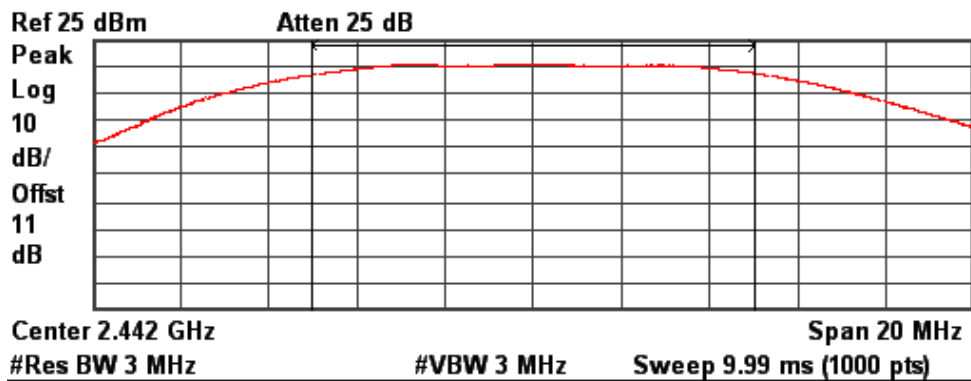
Data Rate: 1 Mbps

Channel Frequency: 2472 MHz



Data Rate: 11 Mbps

Channel Frequency: 2412 MHz



Channel Power

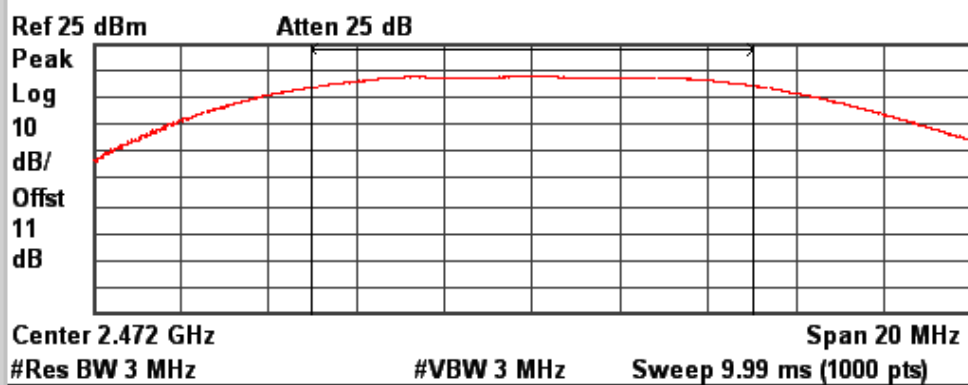
18.58 dBm / 10.0000 MHz

Power Spectral Density

-51.42 dBm/Hz

Data Rate: 11 Mbps

Channel Frequency: 2442 MHz



Channel Power

15.57 dBm / 10.0000 MHz

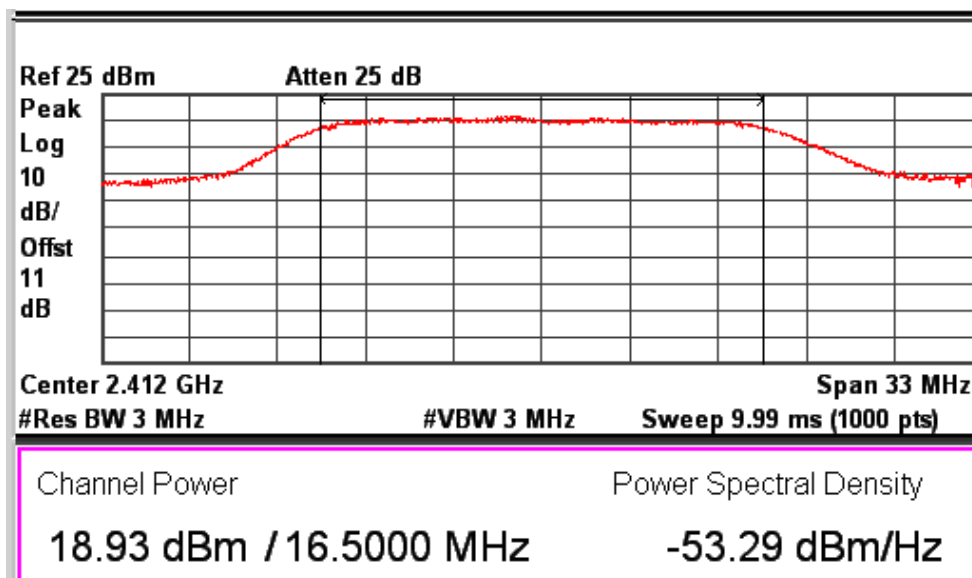
Power Spectral Density

-54.43 dBm/Hz

Data Rate: 11 Mbps

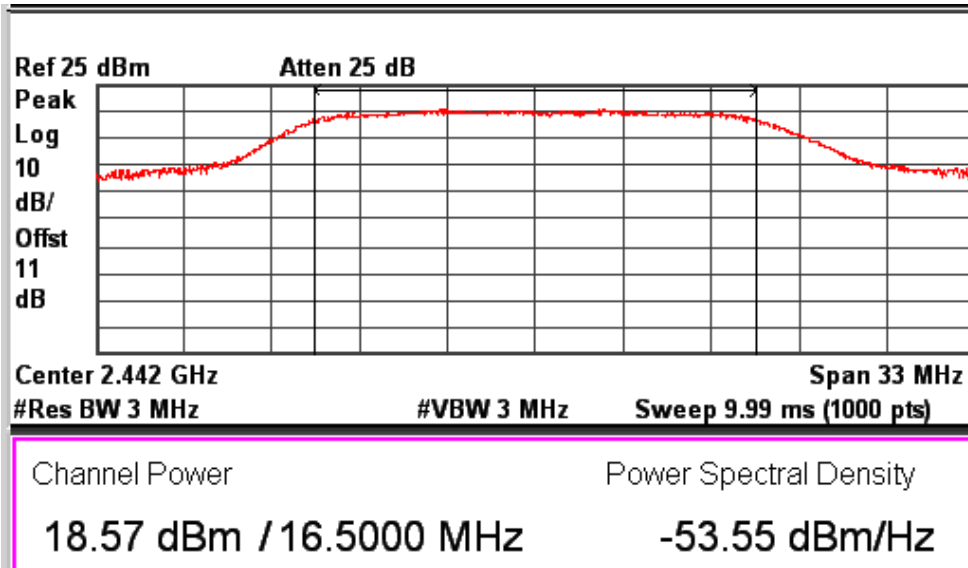
Channel Frequency: 2472 MHz

802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Total Power (dBm)	Limit (dBm)	Margin (dB)
g	6	2412.00	18.93	30.00	-11.07
		2442.00	18.57	30.00	-11.43
		2472.00	14.59	30.00	-15.41
	24	2412.00	19.13	30.00	-10.87
		2442.00	18.88	30.00	-11.12
		2472.00	15.01	30.00	-14.99
	54	2412.00	18.31	30.00	-11.69
		2442.00	18.33	30.00	-11.67
		2472.00	14.98	30.00	-15.02



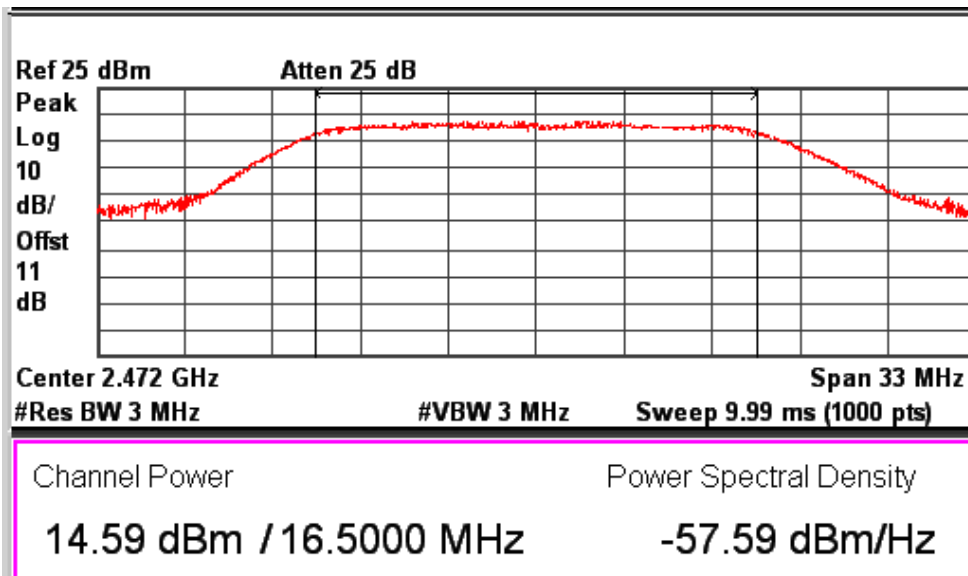
Data Rate: 6 Mbps

Channel Frequency: 2412 MHz



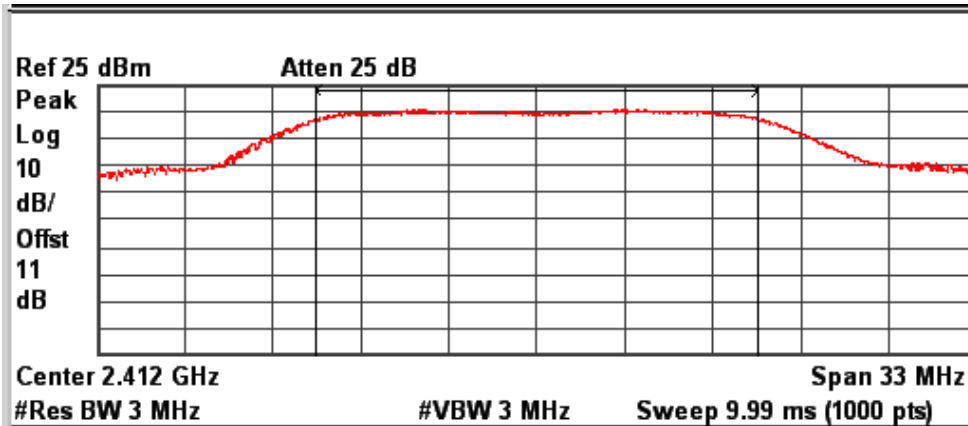
Data Rate: 6 Mbps

Channel Frequency: 2442 MHz



Data Rate: 6 Mbps

Channel Frequency: 2472 MHz



Channel Power

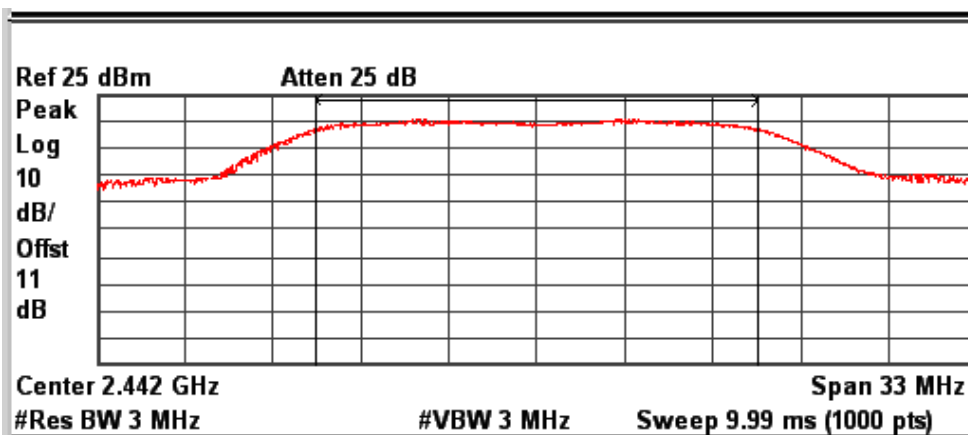
Power Spectral Density

19.13 dBm / 16.5000 MHz

-53.04 dBm/Hz

Data Rate: 24 Mbps

Channel Frequency: 2412 MHz



Channel Power

Power Spectral Density

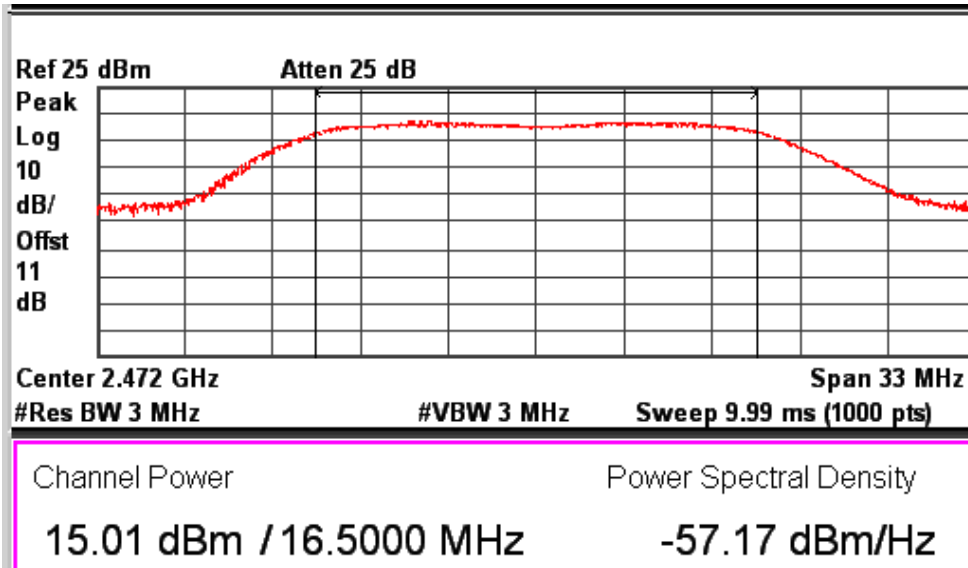
18.88 dBm / 16.5000 MHz

-53.29 dBm/Hz

Data Rate: 24 Mbps

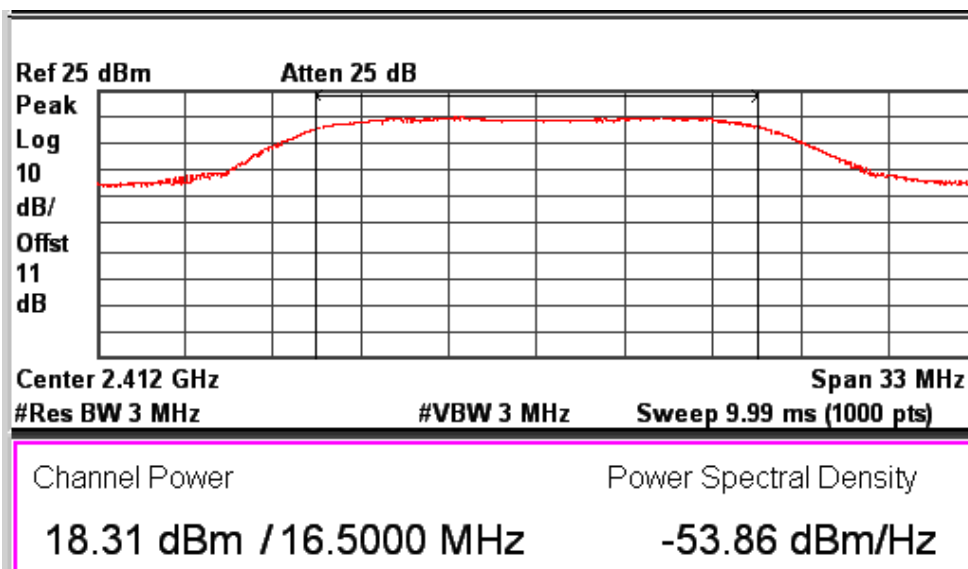
Channel Frequency: 2442 MHz

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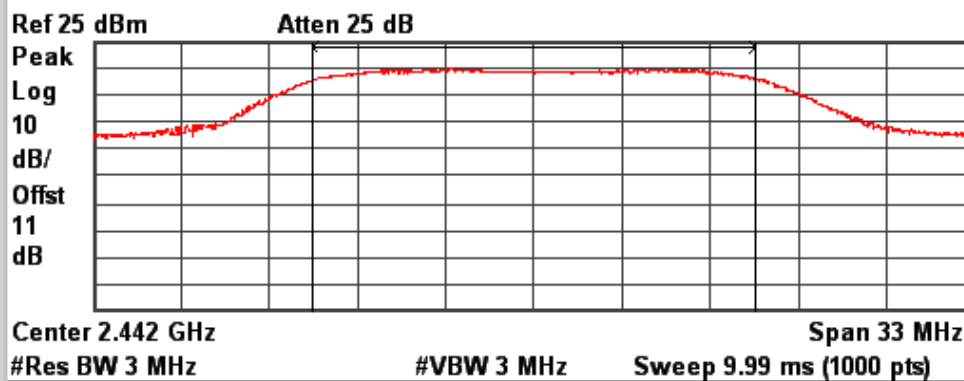
Data Rate: 24 Mbps

Channel Frequency: 2472 MHz



Data Rate: 54 Mbps

Channel Frequency: 2412 MHz



Channel Power

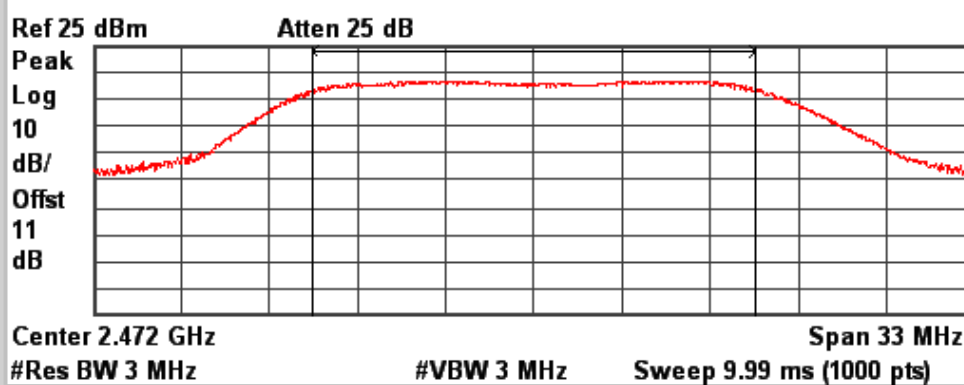
Power Spectral Density

18.33 dBm / 16.5000 MHz

-53.84 dBm/Hz

Data Rate: 54 Mbps

Channel Frequency: 2442 MHz



Channel Power

Power Spectral Density

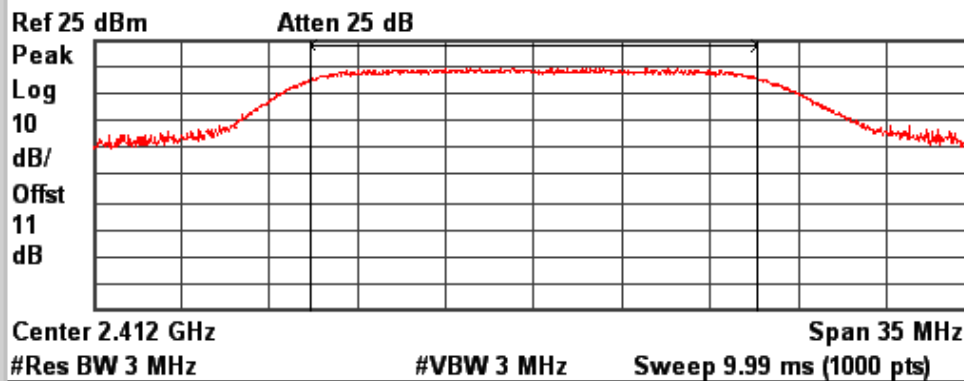
14.98 dBm / 16.5000 MHz

-57.19 dBm/Hz

Data Rate: 54 Mbps

Channel Frequency: 2472 MHz

802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Total Power (dBm)	Limit (dBm)	Margin (dB)
n	6.5	2412.00	17.45	30.00	-12.55
		2442.00	18.79	30.00	-11.21
		2472.00	14.50	30.00	-15.50
		5745.00	10.60	30.00	-19.40
		5785.00	10.05	30.00	-19.95
		5825.00	8.62	30.00	-21.38
	39	2412.00	17.52	30.00	-12.48
		2442.00	18.90	30.00	-11.10
		2472.00	14.66	30.00	-15.34
		5745.00	10.83	30.00	-19.17
		5785.00	10.20	30.00	-19.80
		5825.00	8.80	30.00	-21.20
	65	2412.00	17.43	30.00	-12.57
		2442.00	18.54	30.00	-11.46
		2472.00	14.73	30.00	-15.27
		5745.00	10.71	30.00	-19.29
		5785.00	10.22	30.00	-19.78
		5825.00	8.79	30.00	-21.21



Channel Power

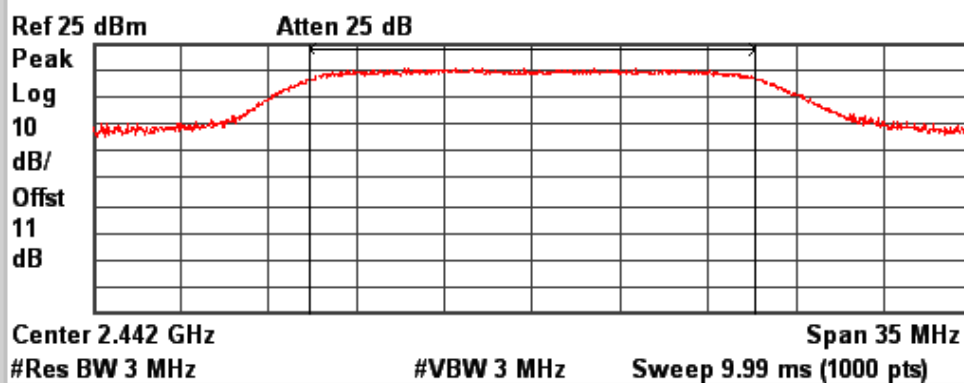
Power Spectral Density

17.45 dBm / 17.7000 MHz

-55.03 dBm/Hz

Data Rate: 6.5 Mbps

Channel Frequency: 2412 MHz



Channel Power

Power Spectral Density

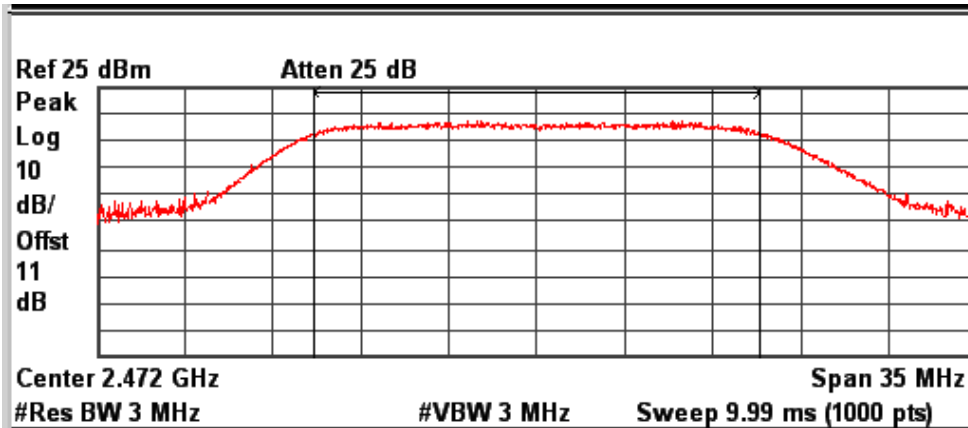
18.79 dBm / 17.7000 MHz

-53.69 dBm/Hz

Data Rate: 6.5 Mbps

Channel Frequency: 2442 MHz

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Channel Power

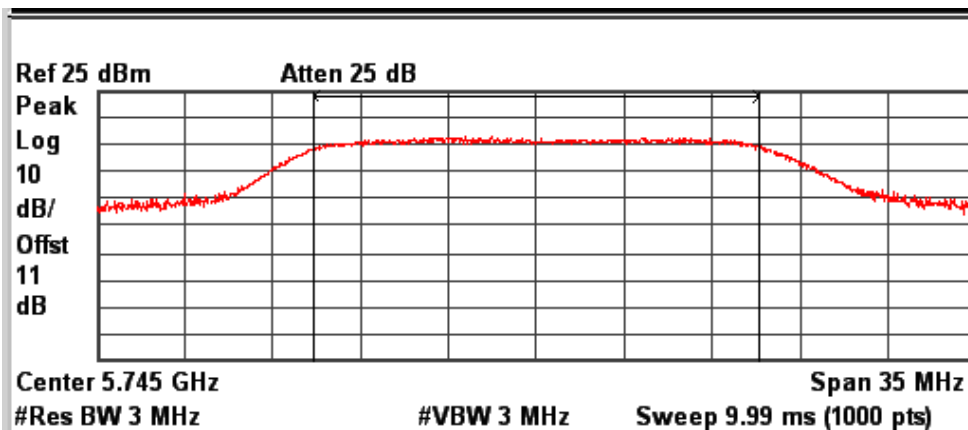
Power Spectral Density

14.50 dBm / 17.7000 MHz

-57.98 dBm/Hz

Data Rate: 6.5 Mbps

Channel Frequency: 2472 MHz



Channel Power

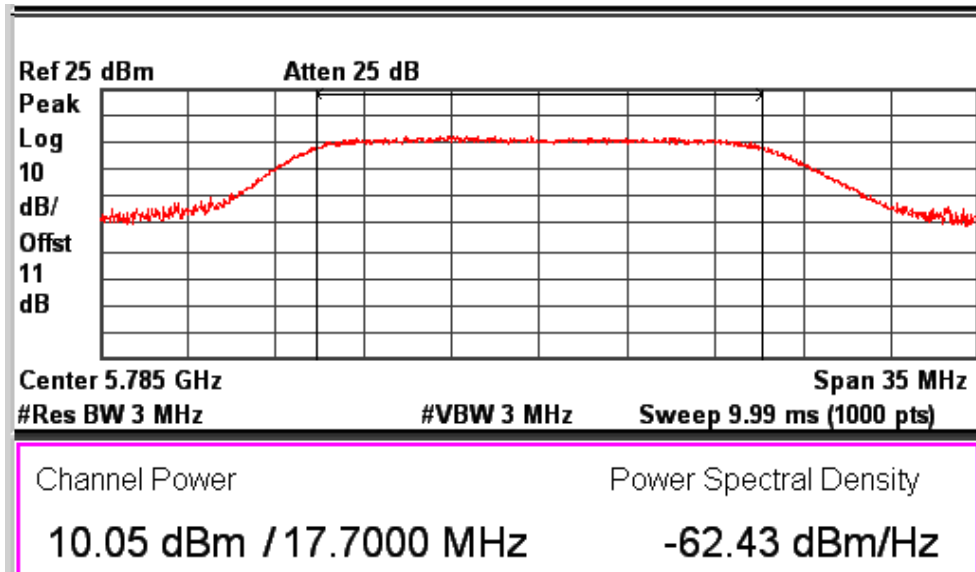
Power Spectral Density

10.60 dBm / 17.7000 MHz

-61.88 dBm/Hz

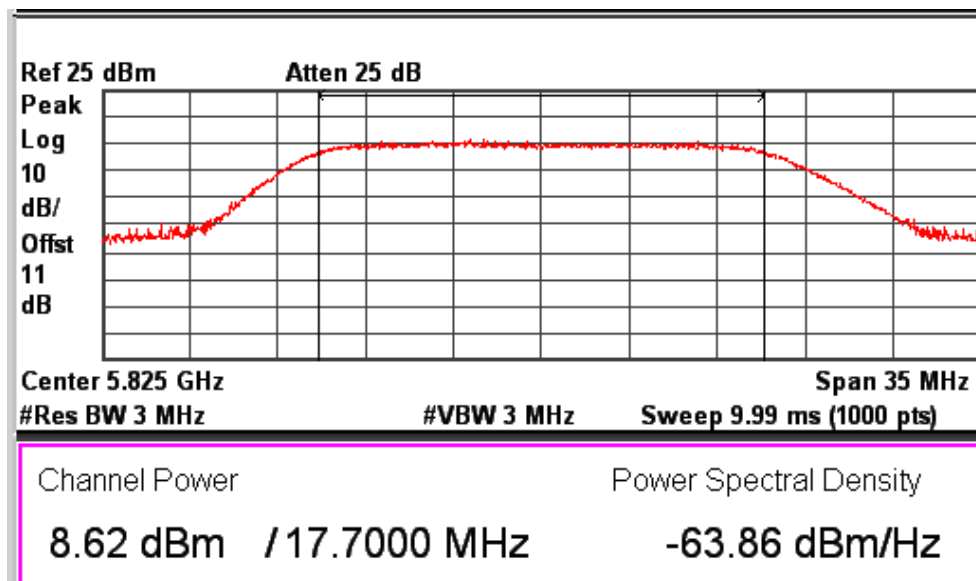
Data Rate: 6.5 Mbps

Channel Frequency: 5745 MHz



Data Rate: 6.5 Mbps

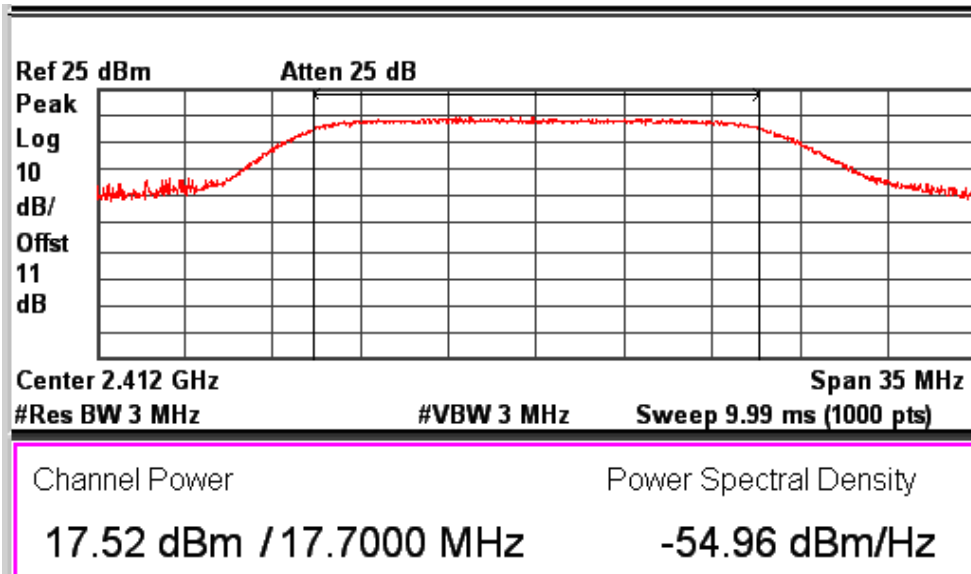
Channel Frequency: 5785 MHz



Data Rate: 6.5 Mbps

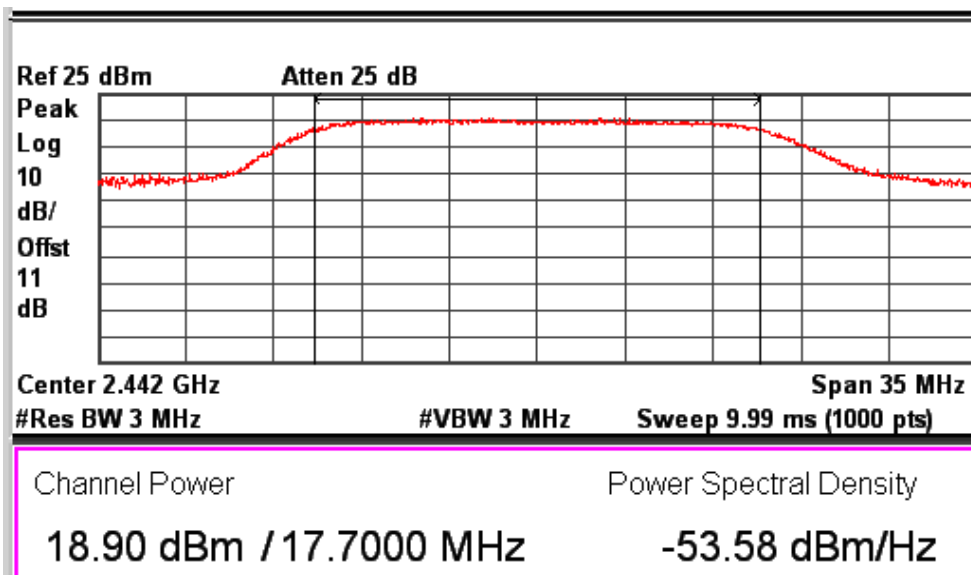
Channel Frequency: 5825 MHz

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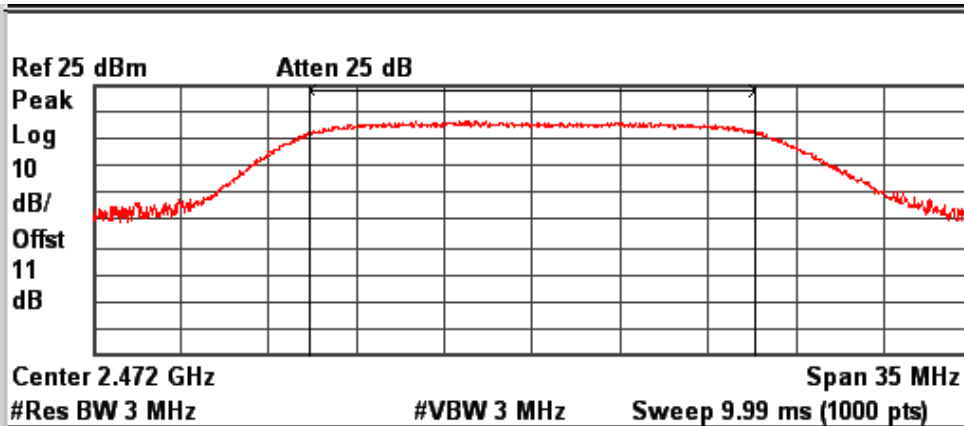
Data Rate: 39 Mbps

Channel Frequency: 2412 MHz



Data Rate: 39 Mbps

Channel Frequency: 2442 MHz



Channel Power

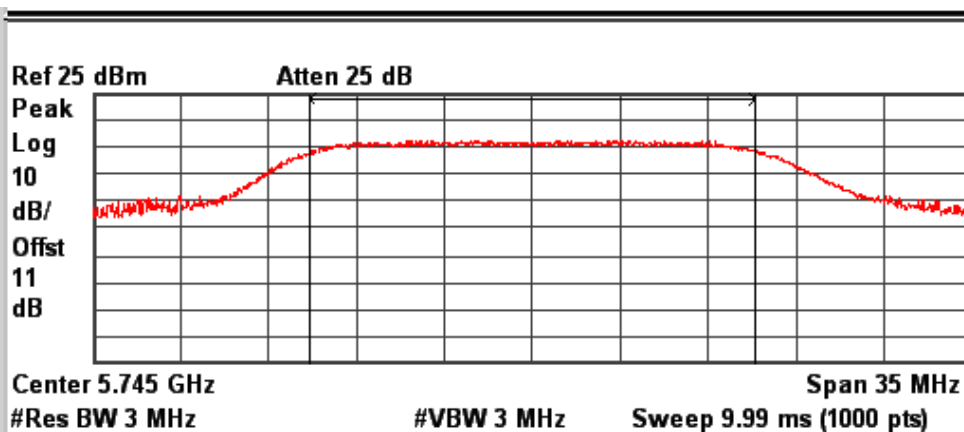
Power Spectral Density

14.66 dBm / 17.7000 MHz

-57.80 dBm/Hz

Data Rate: 39 Mbps

Channel Frequency: 2472 MHz



Channel Power

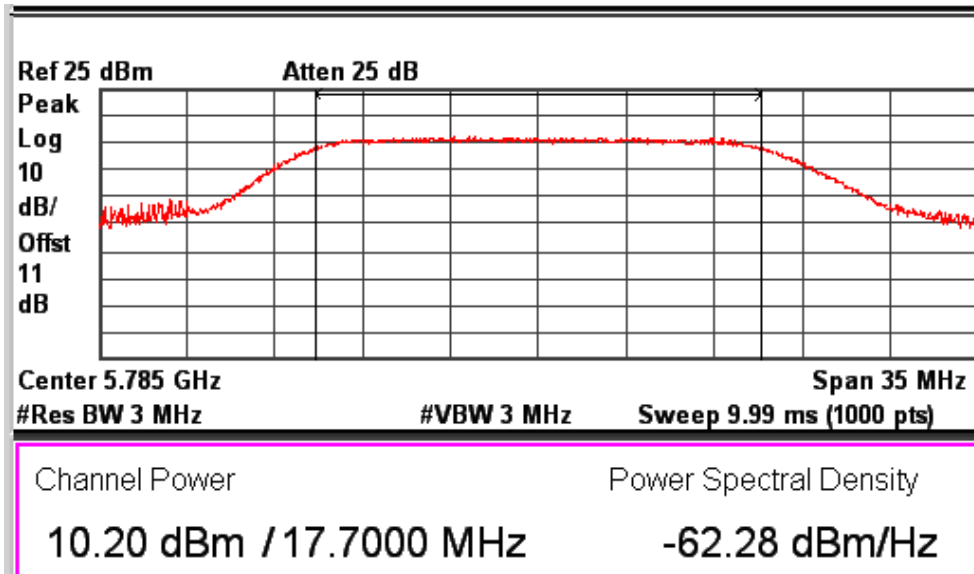
Power Spectral Density

10.83 dBm / 17.7000 MHz

-61.65 dBm/Hz

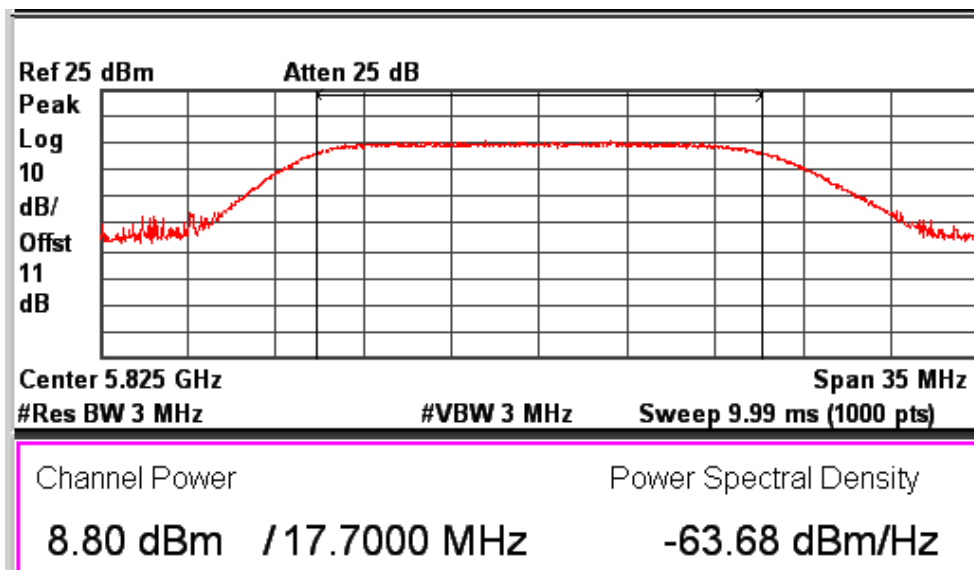
Data Rate: 39 Mbps

Channel Frequency: 5745 MHz



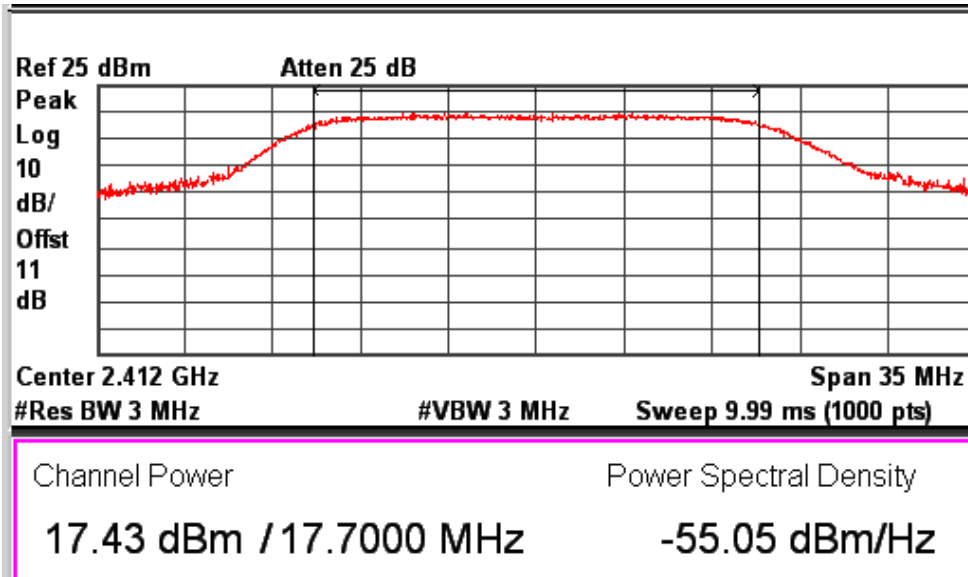
Data Rate: 39 Mbps

Channel Frequency: 5785 MHz



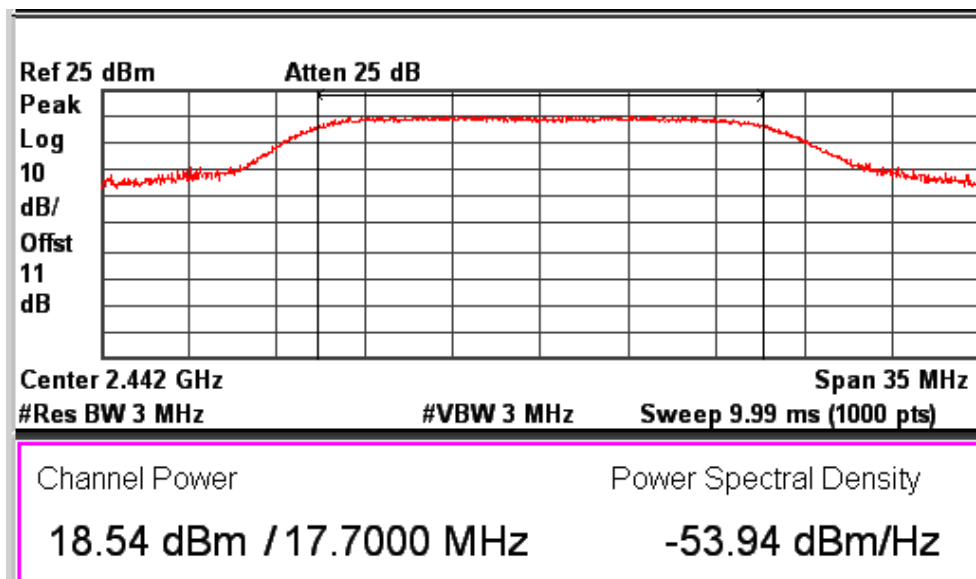
Data Rate: 39 Mbps

Channel Frequency: 5825 MHz



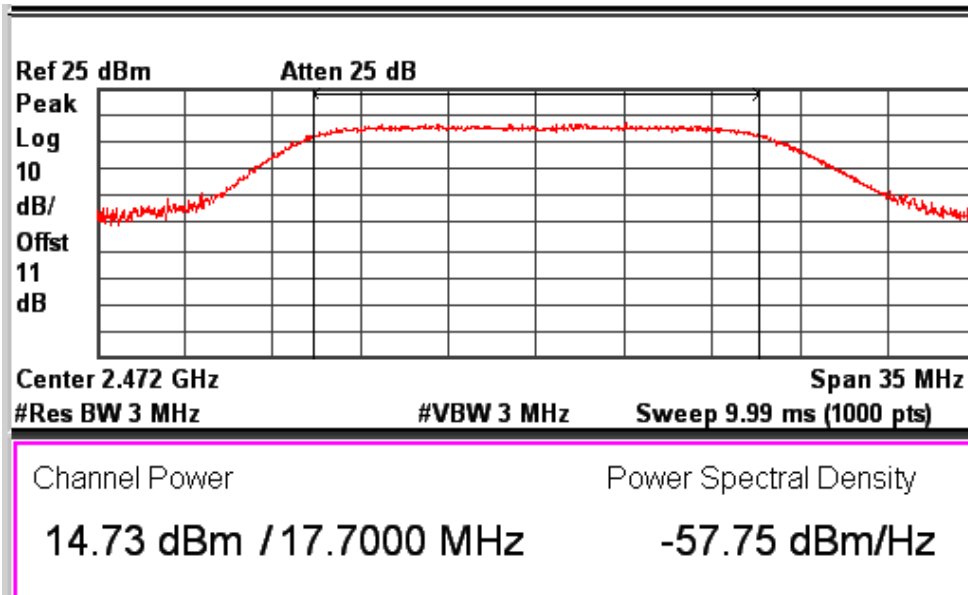
Data Rate: 65 Mbps

Channel Frequency: 2412 MHz



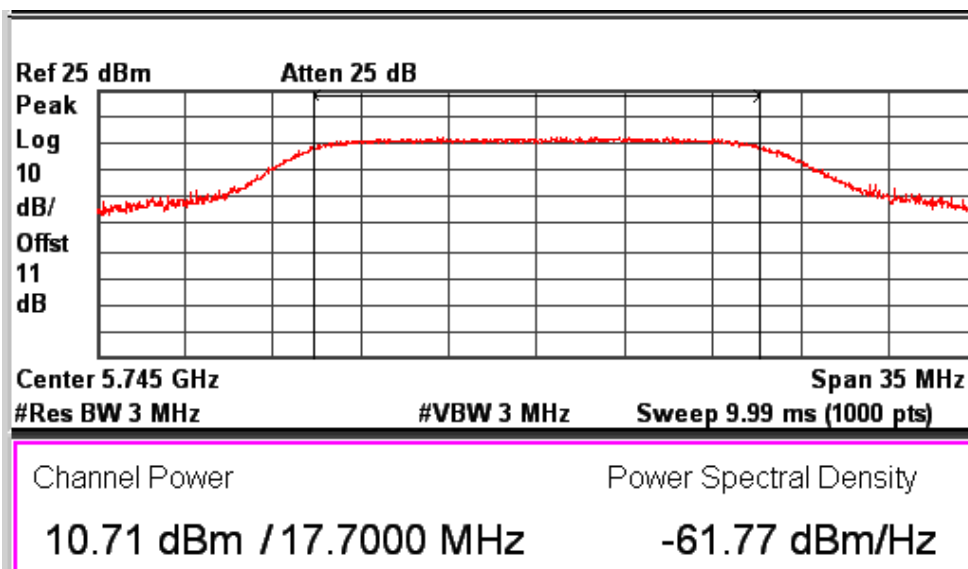
Data Rate: 65 Mbps

Channel Frequency: 2442 MHz



Data Rate: 65 Mbps

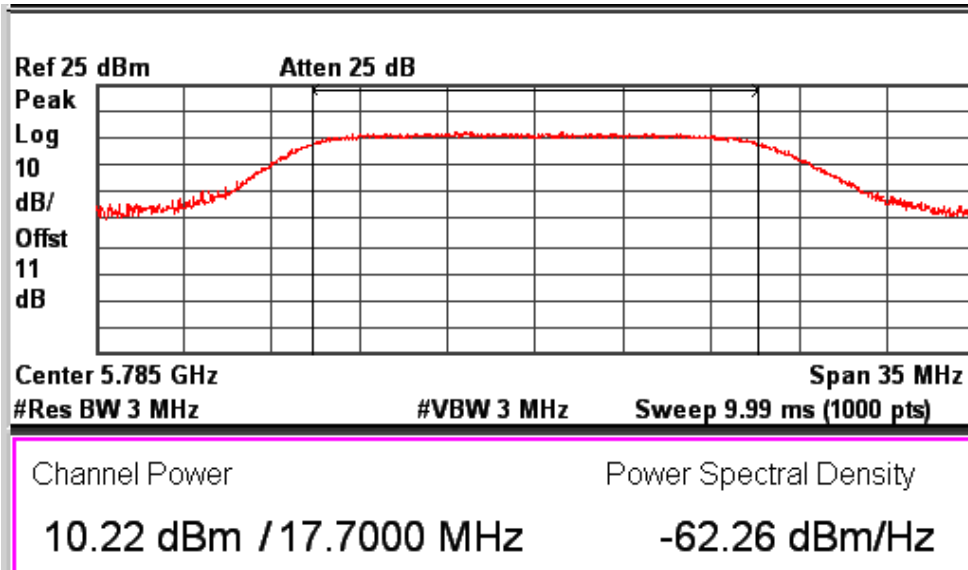
Channel Frequency: 2472 MHz



Data Rate: 65 Mbps

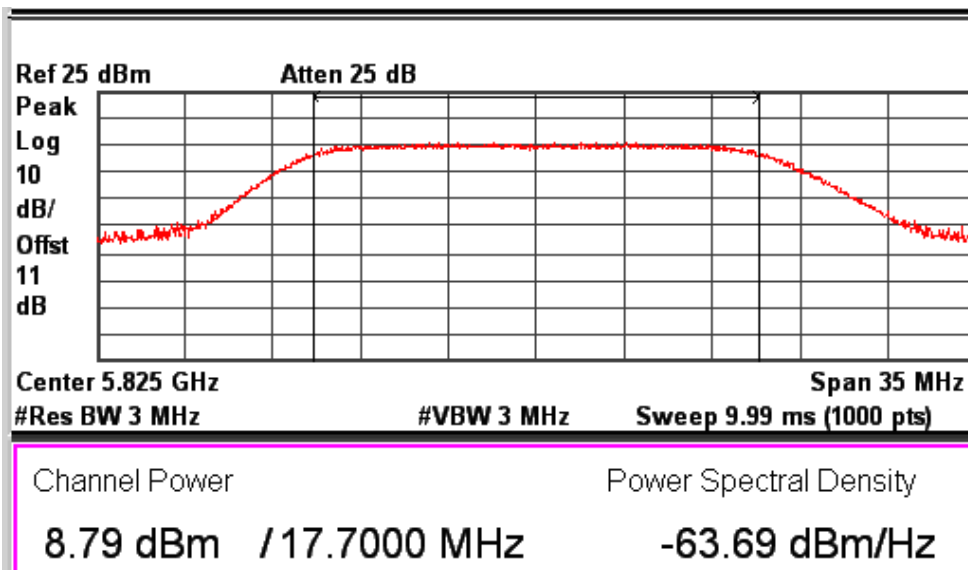
Channel Frequency: 5745 MHz

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Data Rate: 65 Mbps

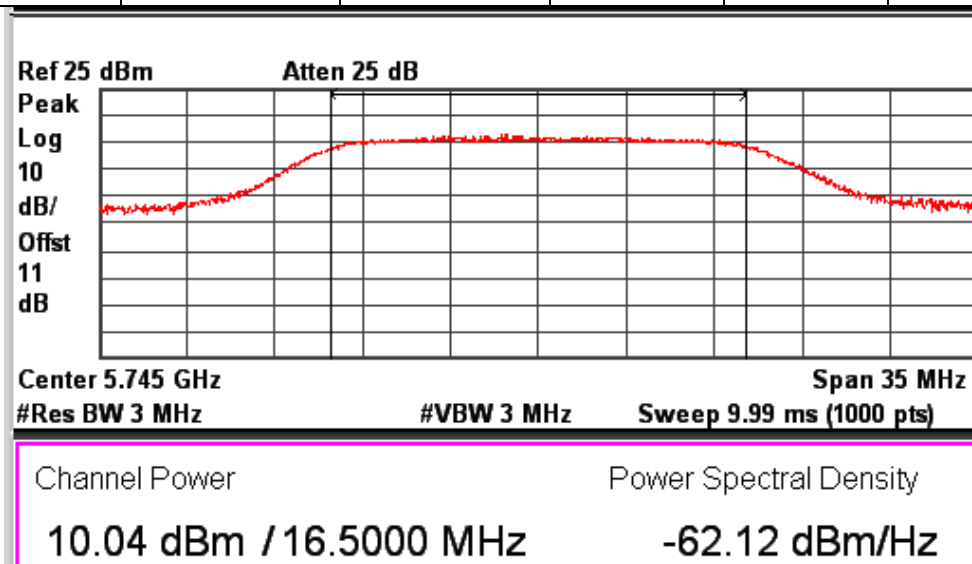
Channel Frequency: 5785 MHz



Data Rate: 65 Mbps

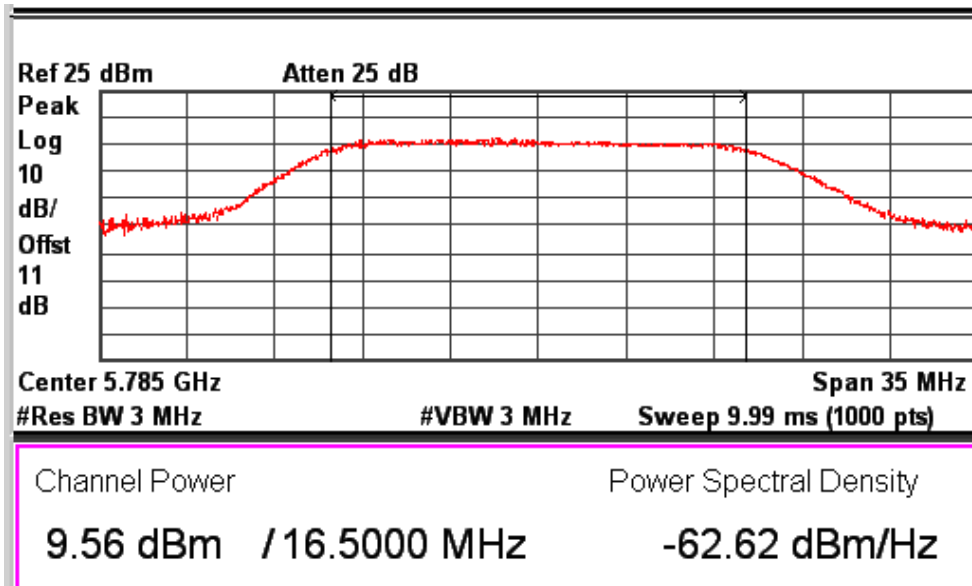
Channel Frequency: 5825 MHz

802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Total Power (dBm)	Limit (dBm)	Margin (dB)
a	6	5745.00	10.04	30.00	-19.96
		5785.00	9.56	30.00	-20.44
		5825.00	8.29	30.00	-21.71
	24	5745.00	10.18	30.00	-19.82
		5785.00	9.74	30.00	-20.26
		5825.00	8.60	30.00	-21.40
	54	5745.00	10.37	30.00	-19.63
		5785.00	9.98	30.00	-20.02
		5825.00	8.49	30.00	-21.51



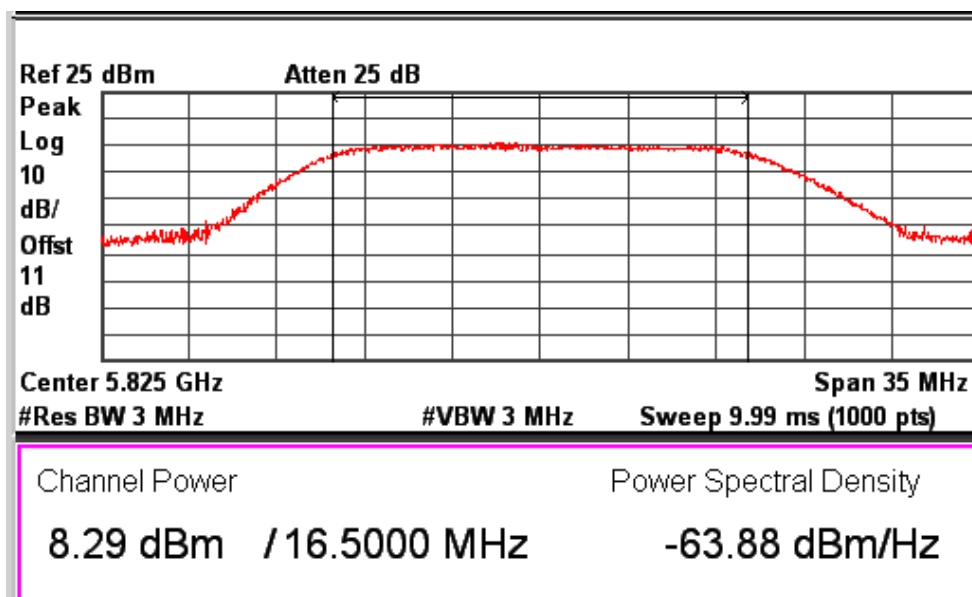
Data Rate: 6 Mbps

Channel Frequency: 5745 MHz



Data Rate: 6 Mbps

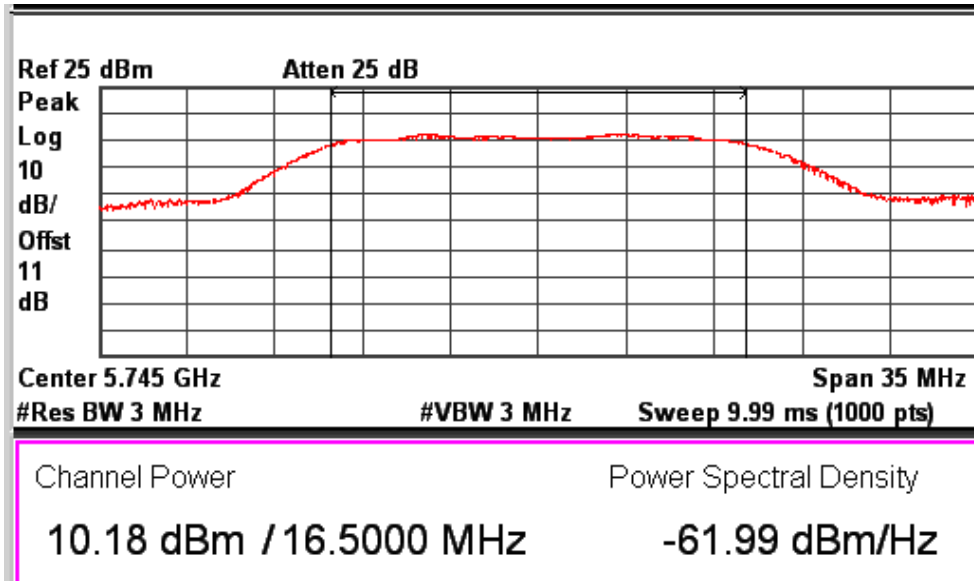
Channel Frequency: 5785 MHz



Data Rate: 6 Mbps

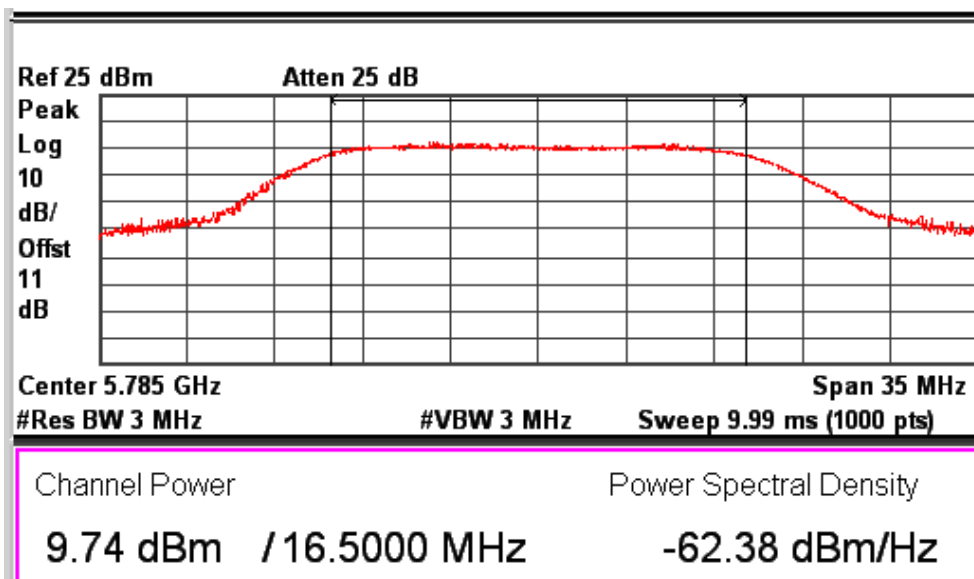
Channel Frequency: 5825 MHz

www.tuv.com



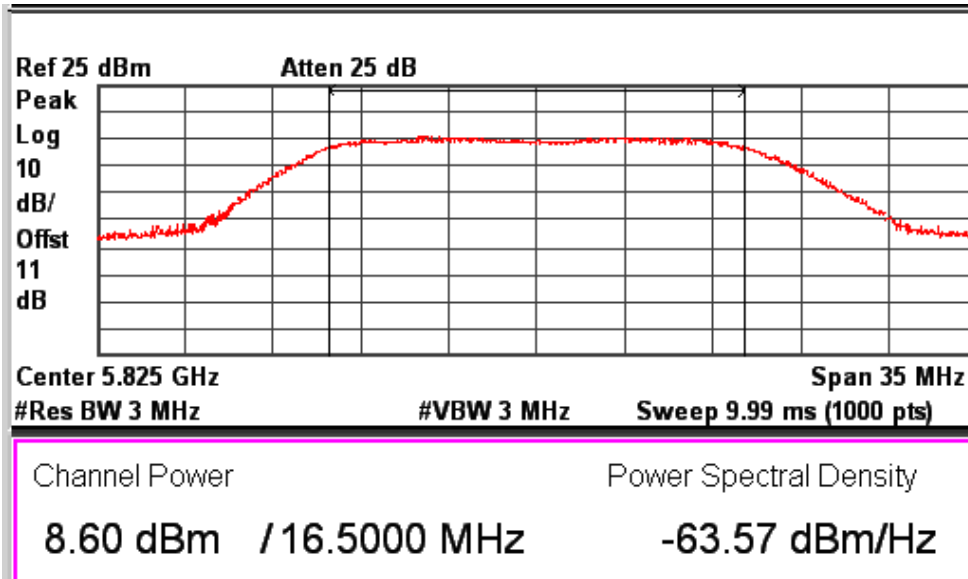
Data Rate: 24 Mbps

Channel Frequency: 5745 MHz



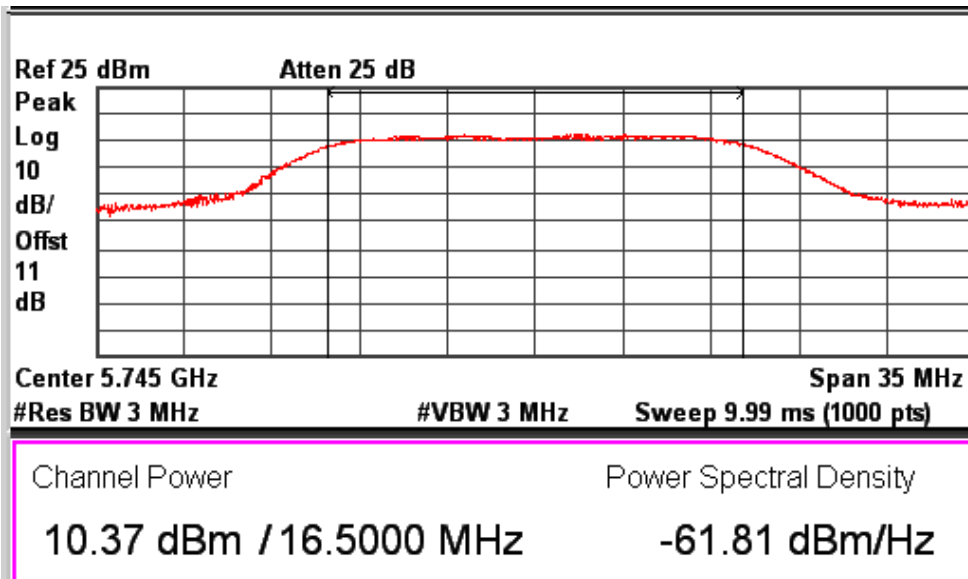
Data Rate: 24 Mbps

Channel Frequency: 5785 MHz



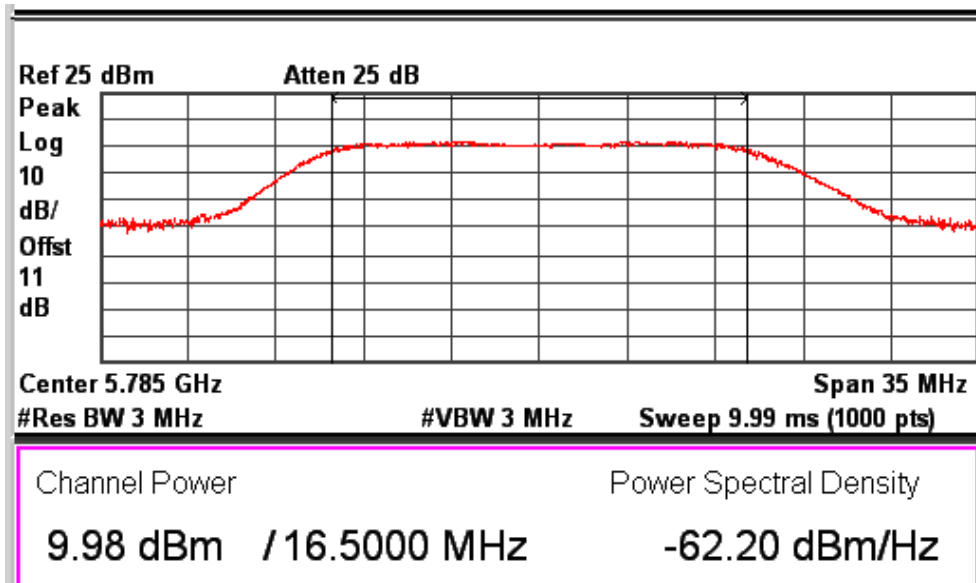
Data Rate: 24 Mbps

Channel Frequency: 5825 MHz



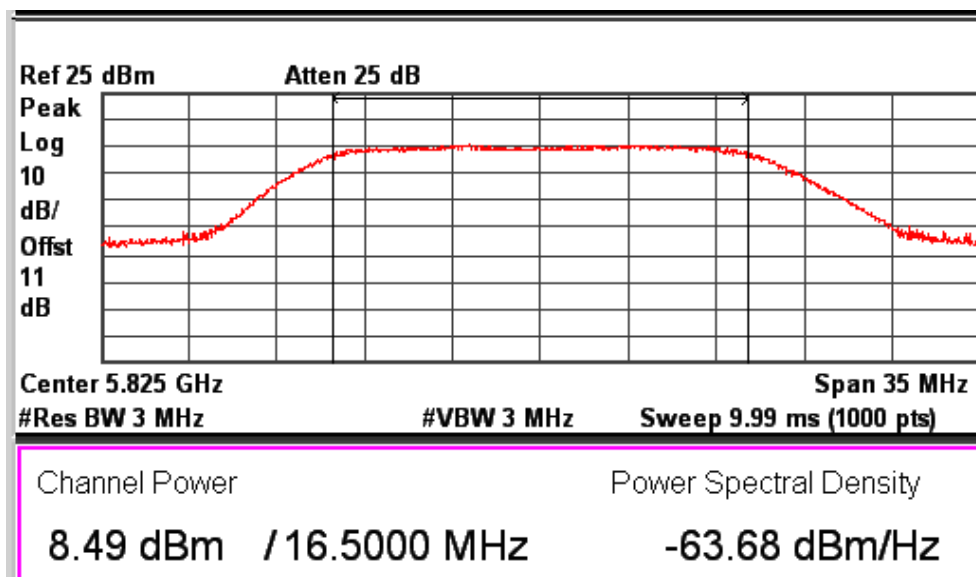
Data Rate: 54 Mbps

Channel Frequency: 5745 MHz



Data Rate: 54 Mbps

Channel Frequency: 5785 MHz



Data Rate: 54 Mbps

Channel Frequency: 5825 MHz

www.tuv.com

Maximum Power Spectral Density

Section 15.247(e)

Result

Pass

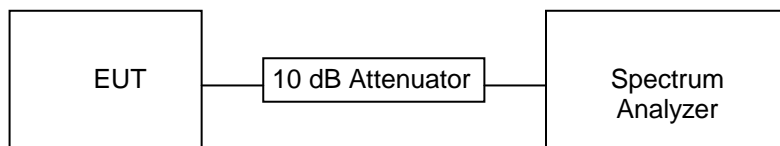
Test Specification
Detector Function
Requirement

FCC Part 15 Section 15.247 (e)

Peak

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

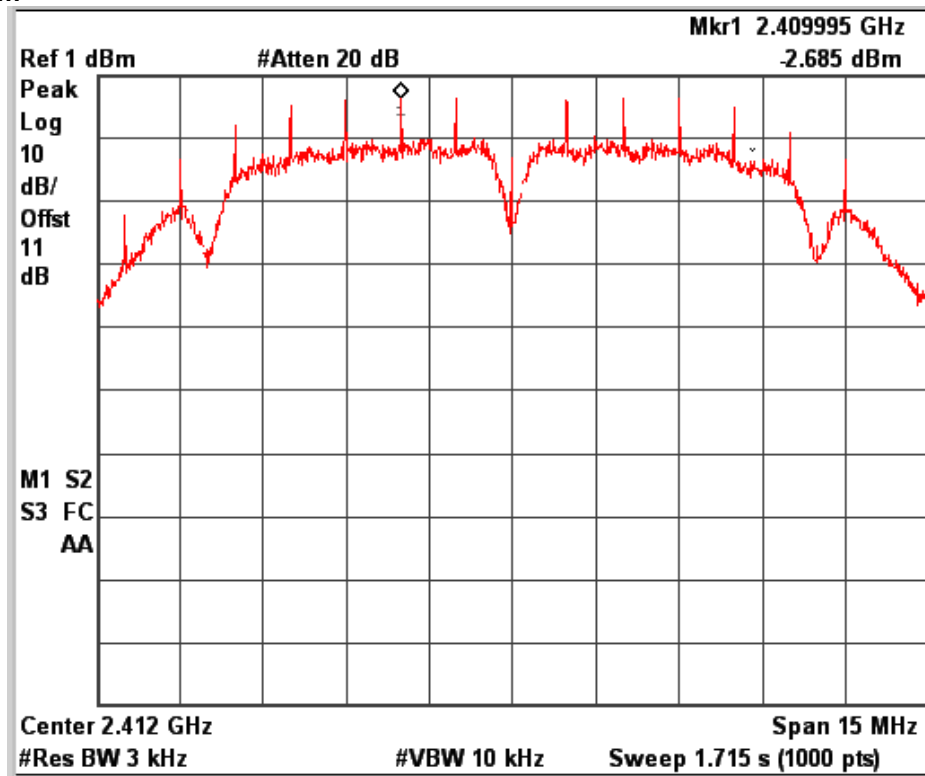
Test Method:



Test Result:

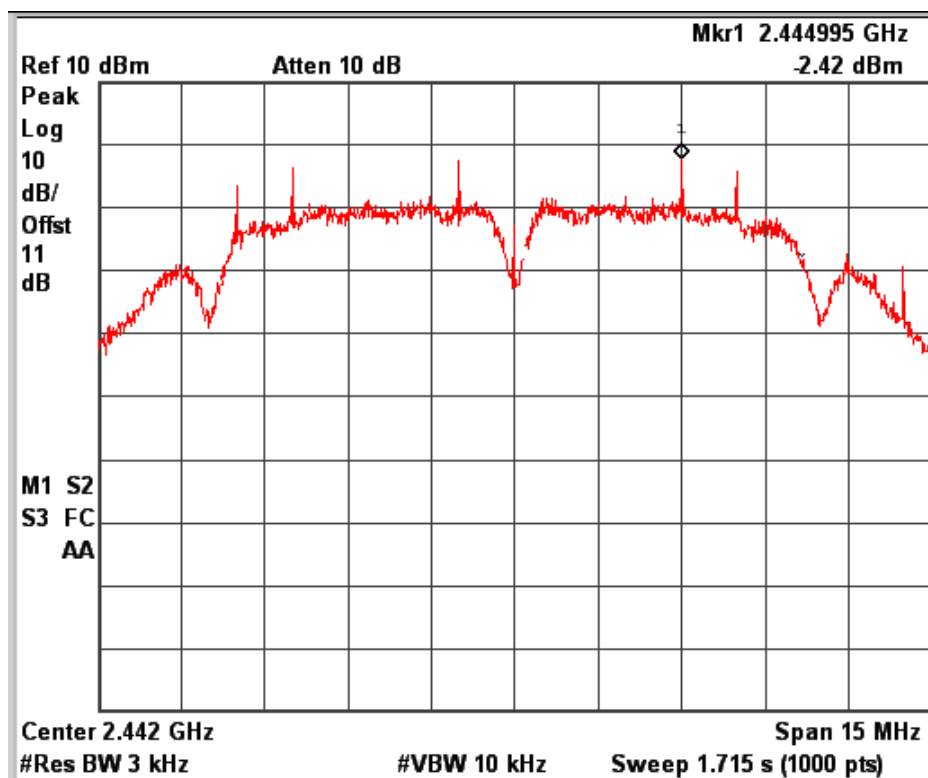
802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
b	1	2412.00	-1.55	8.00	-9.55
		2442.00	-2.42	8.00	-10.42
		2472.00	-5.05	8.00	-13.05
	11	2412.00	-6.97	8.00	-14.97
		2442.00	-7.55	8.00	-15.55
		2472.00	-10.69	8.00	-18.69

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Data Rate: 1 Mbps

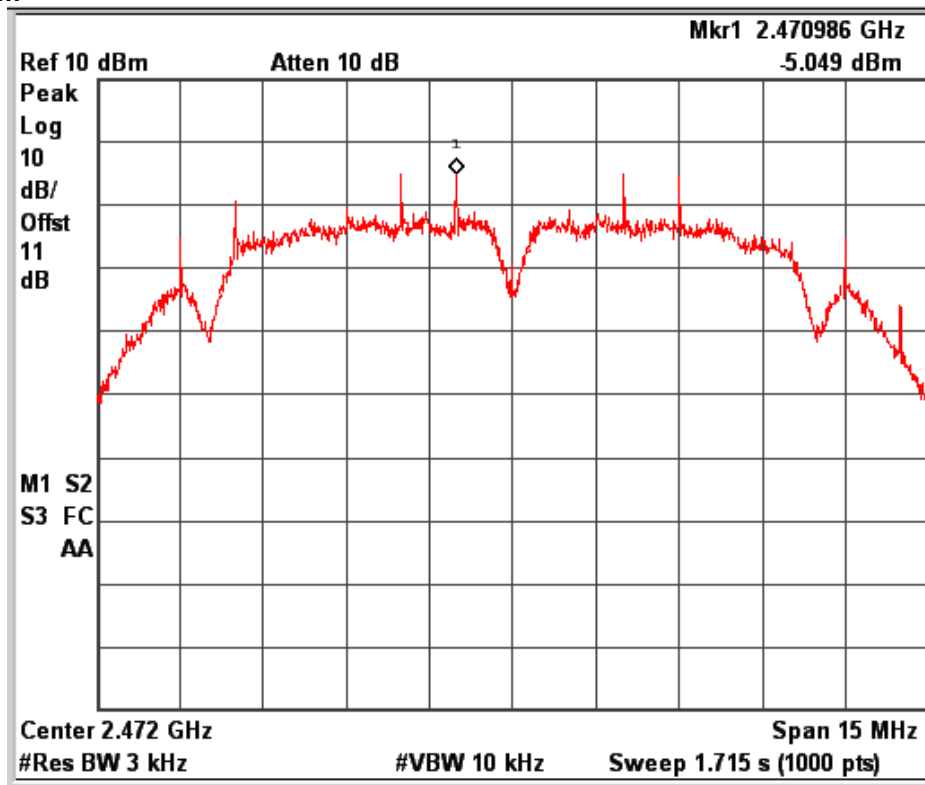
Channel Frequency: 2412 MHz



Data Rate: 1 Mbps

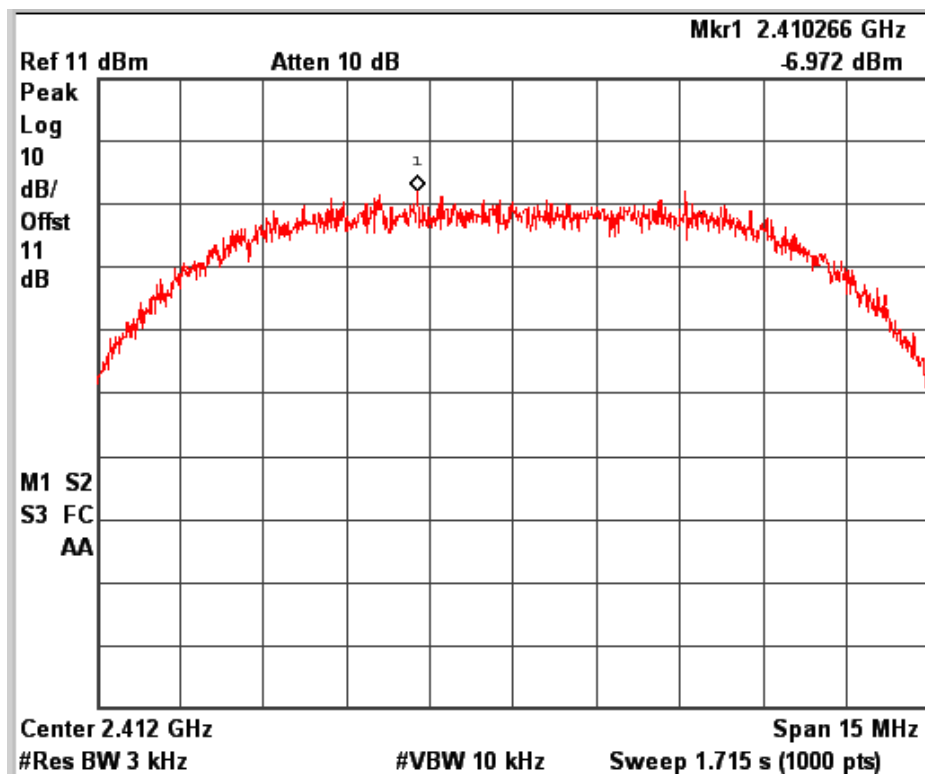
Channel Frequency: 2442 MHz

www.tuv.com



Data Rate: 1 Mbps

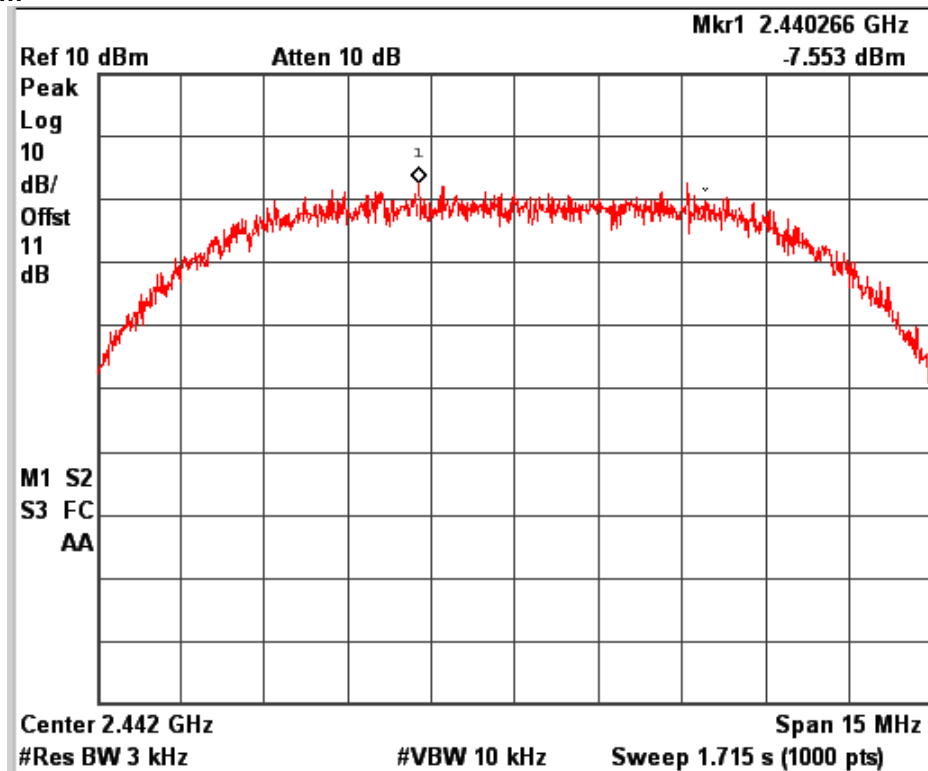
Channel Frequency: 2472 MHz



Data Rate: 11 Mbps

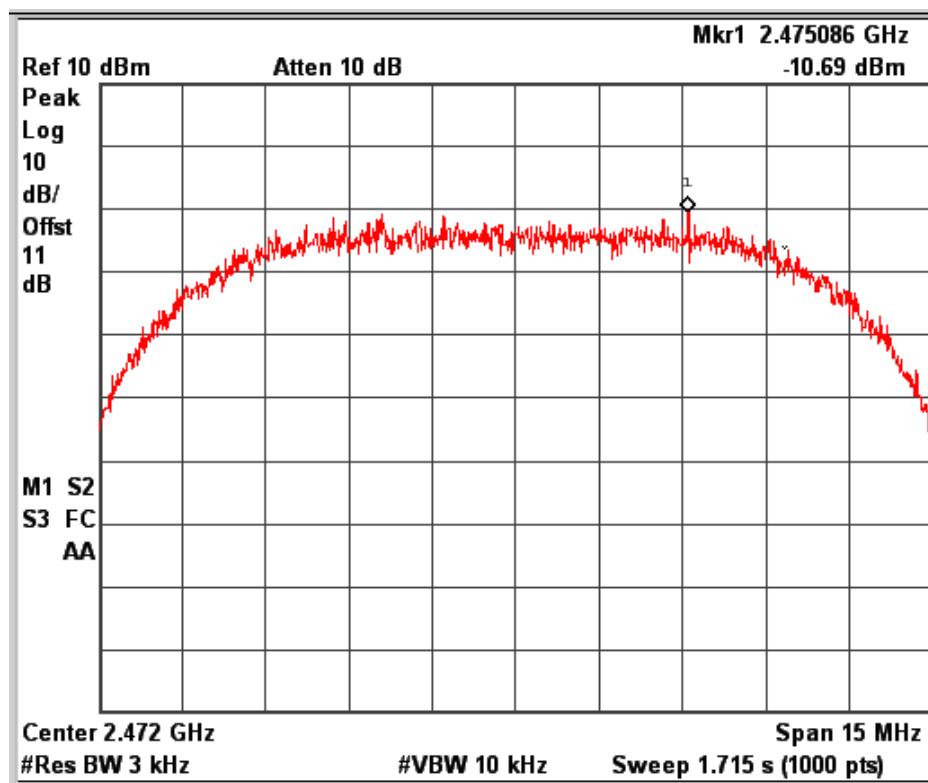
Channel Frequency: 2412 MHz

www.tuv.com



Data Rate: 11 Mbps

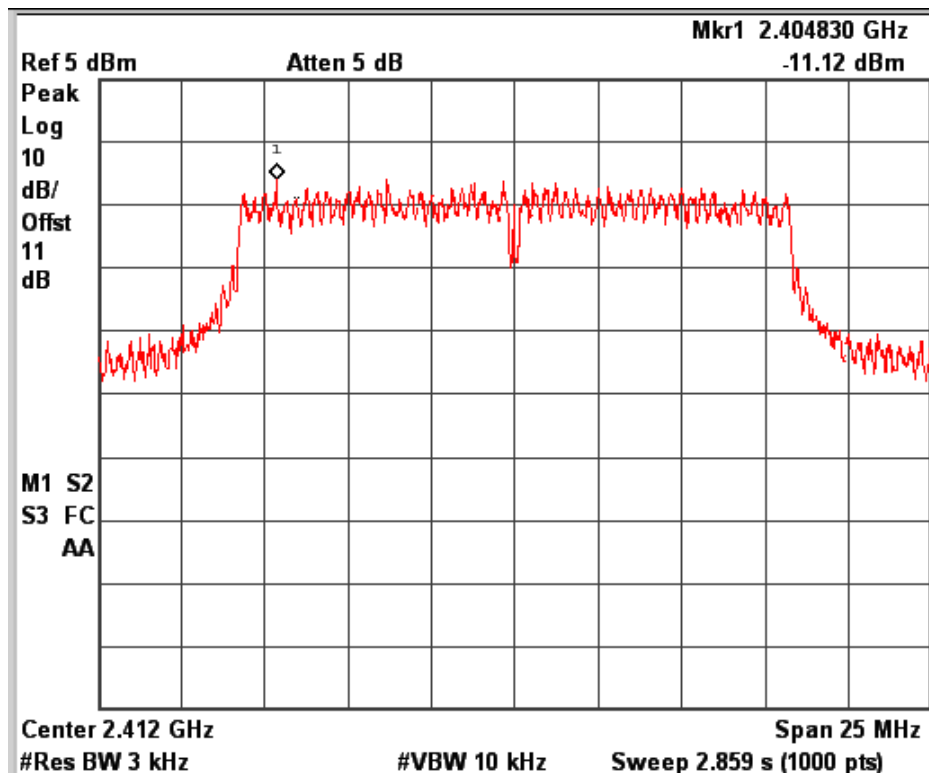
Channel Frequency: 2442 MHz



Data Rate: 11 Mbps

Channel Frequency: 2472 MHz

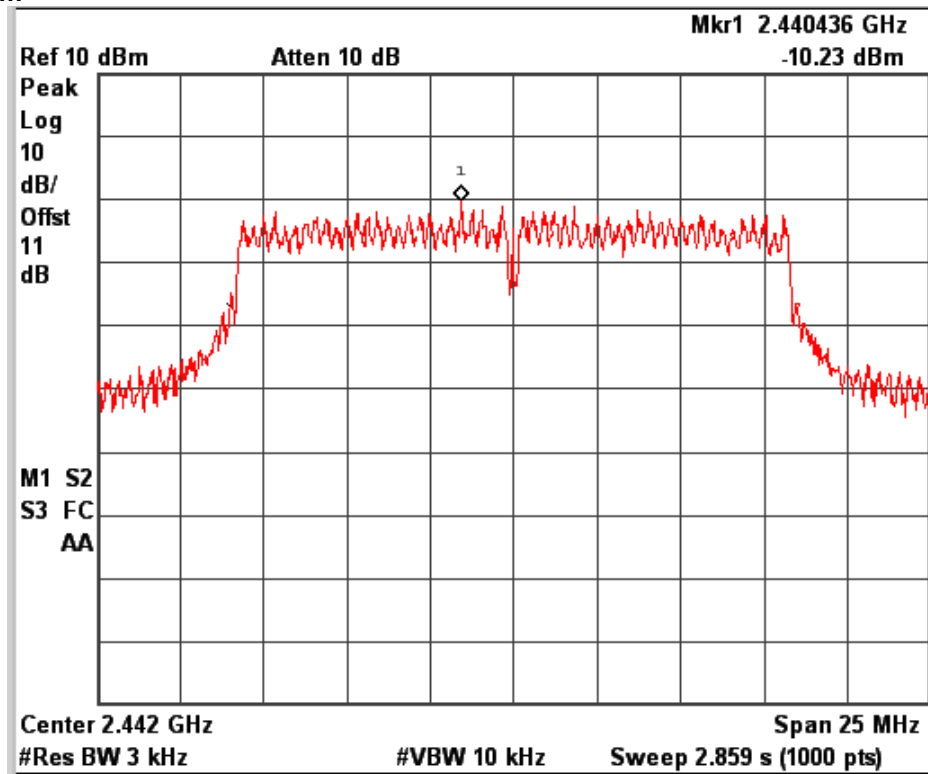
802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
g	6	2412.00	-11.12	8.00	-19.12
		2442.00	-10.23	8.00	-18.23
		2472.00	-14.32	8.00	-22.32
	24	2412.00	-11.36	8.00	-19.36
		2442.00	-11.69	8.00	-19.69
		2472.00	-15.26	8.00	-23.26
	54	2412.00	-12.97	8.00	-20.97
		2442.00	-12.77	8.00	-20.77
		2472.00	-16.43	8.00	-24.43



Data Rate: 6 Mbps

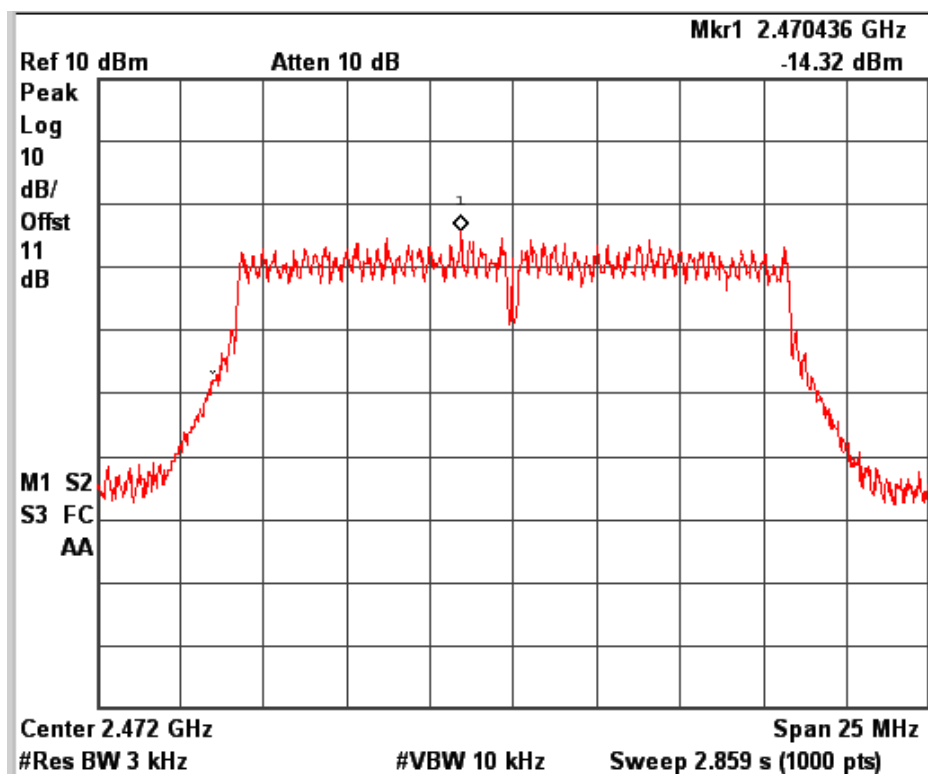
Channel Frequency: 2412 MHz

www.tuv.com



Data Rate: 6 Mbps

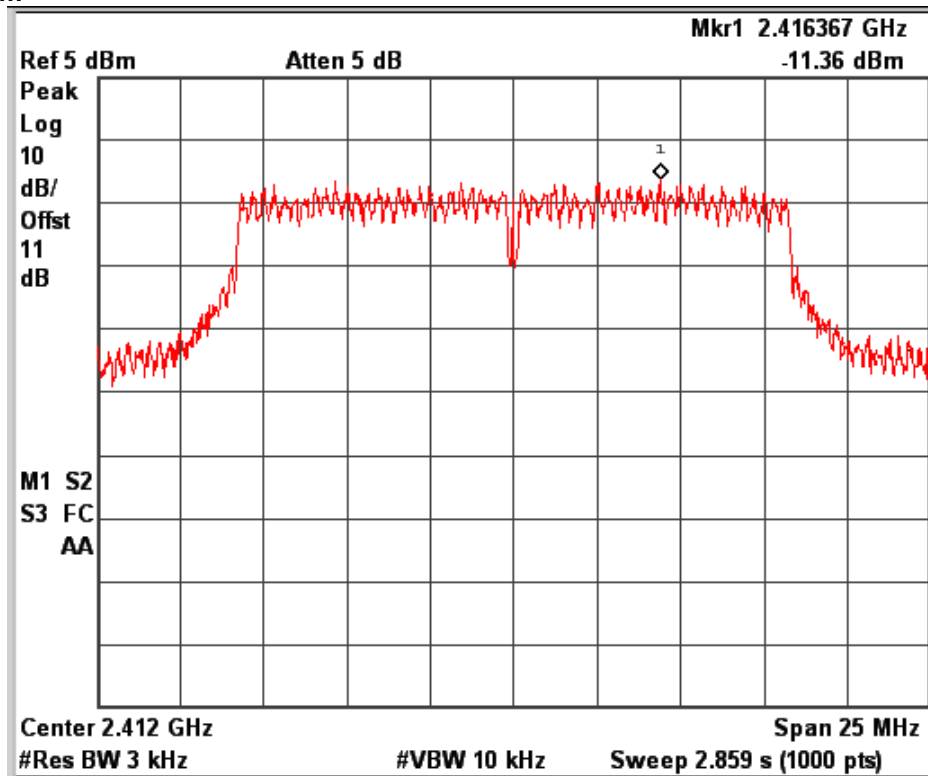
Channel Frequency: 2442 MHz



Data Rate: 6 Mbps

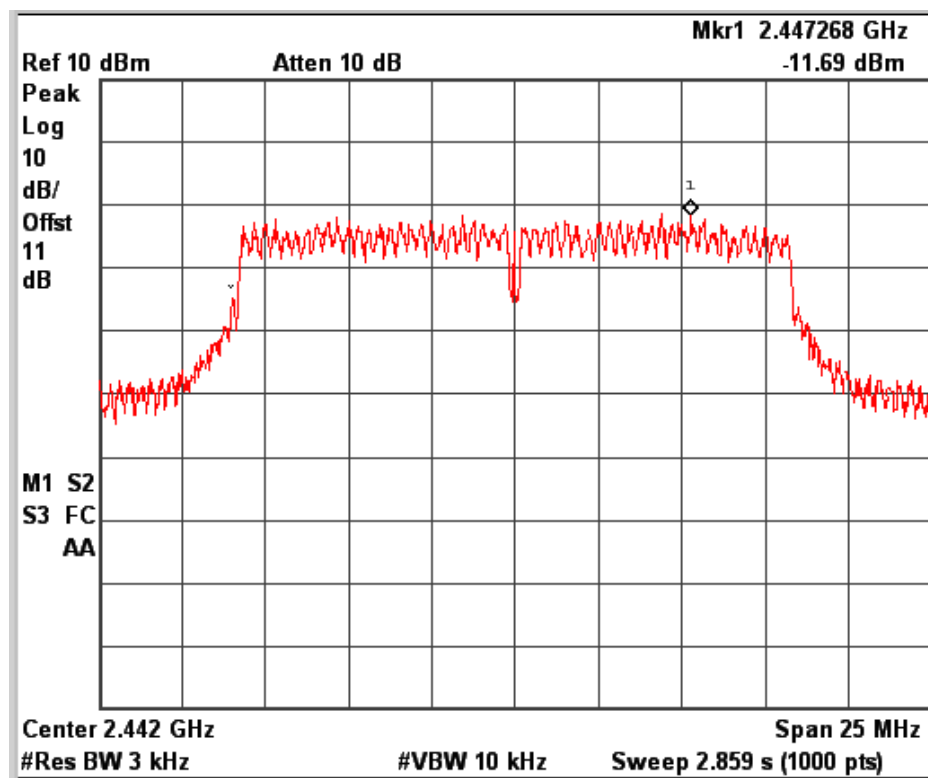
Channel Frequency: 2472 MHz

www.tuv.com



Data Rate: 24 Mbps

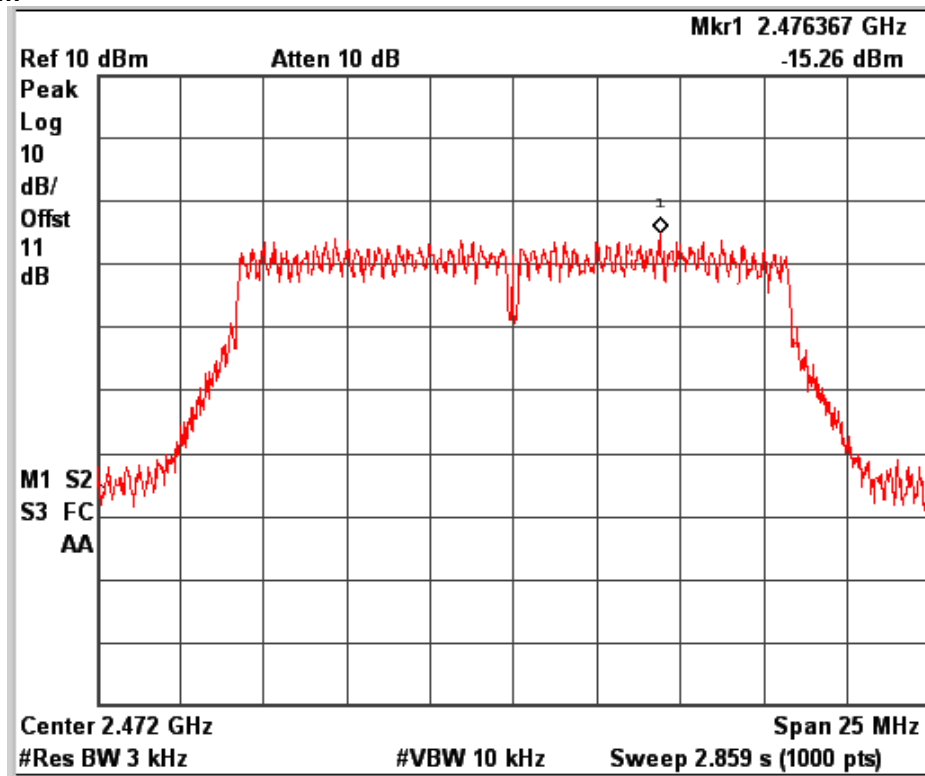
Channel Frequency: 2412 MHz



Data Rate: 24 Mbps

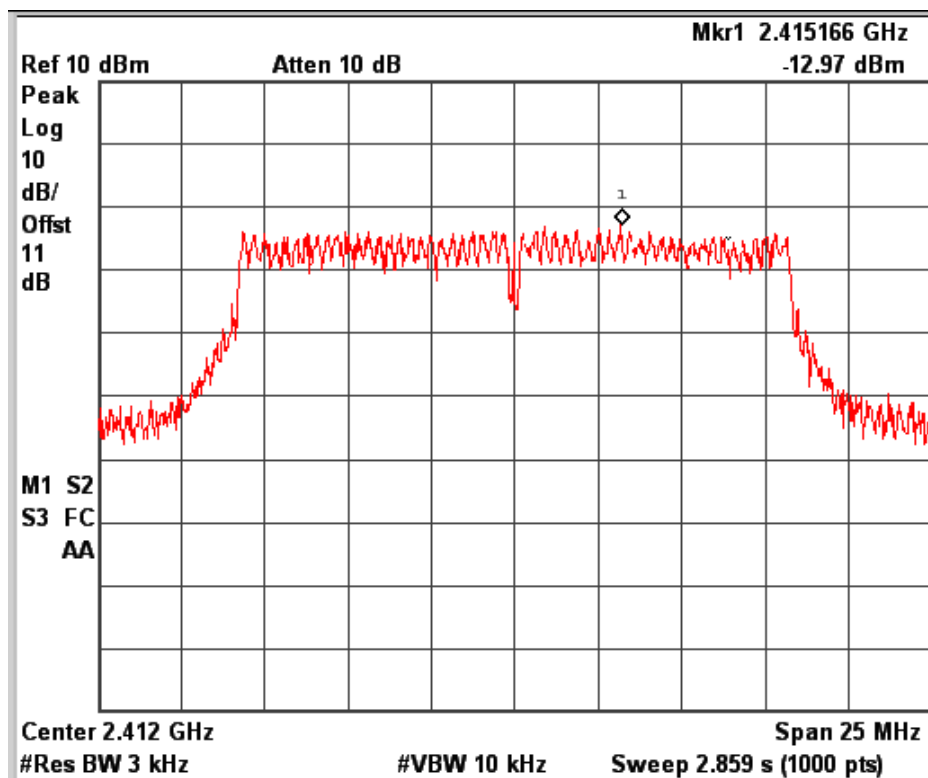
Channel Frequency: 2442 MHz

www.tuv.com



Data Rate: 24 Mbps

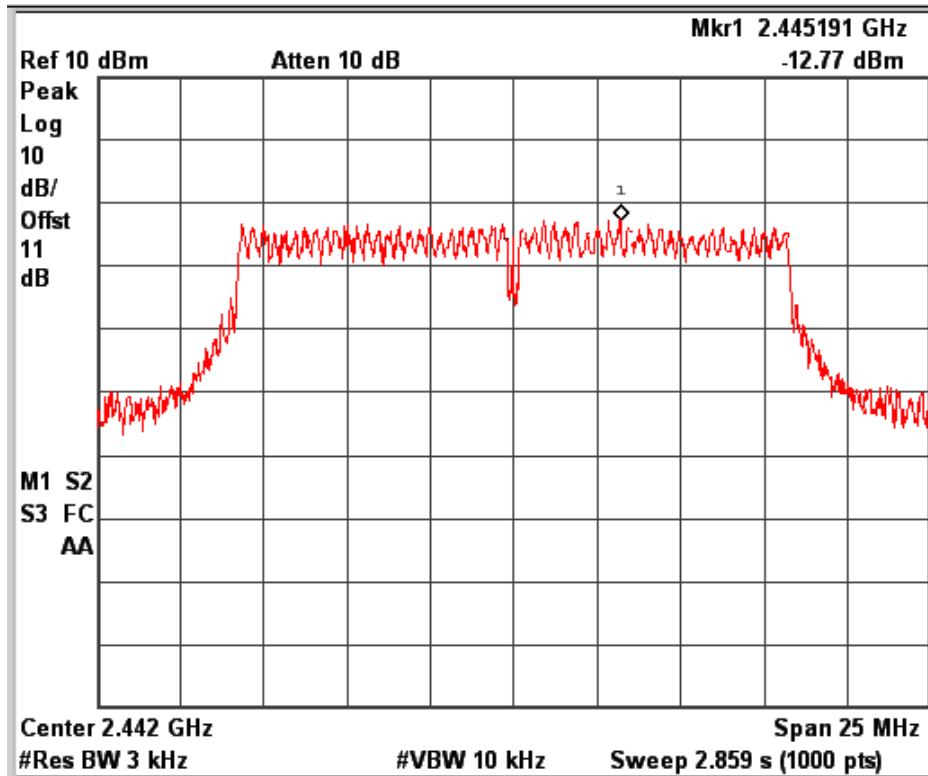
Channel Frequency: 2472 MHz



Data Rate: 54 Mbps

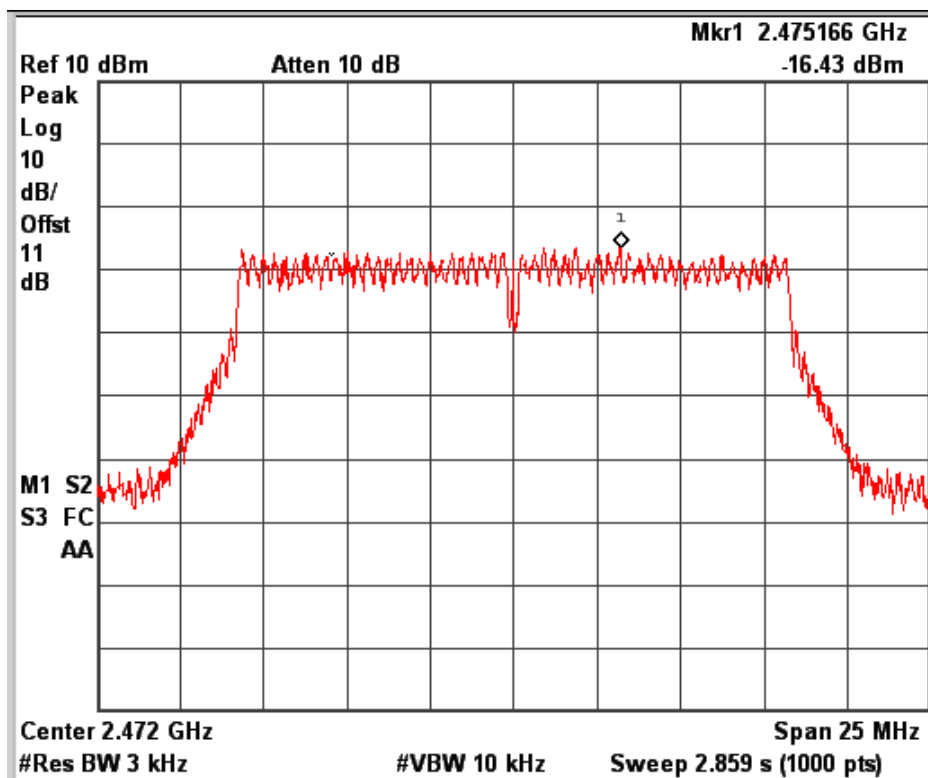
Channel Frequency: 2412 MHz

www.tuv.com



Data Rate: 54 Mbps

Channel Frequency: 2442 MHz

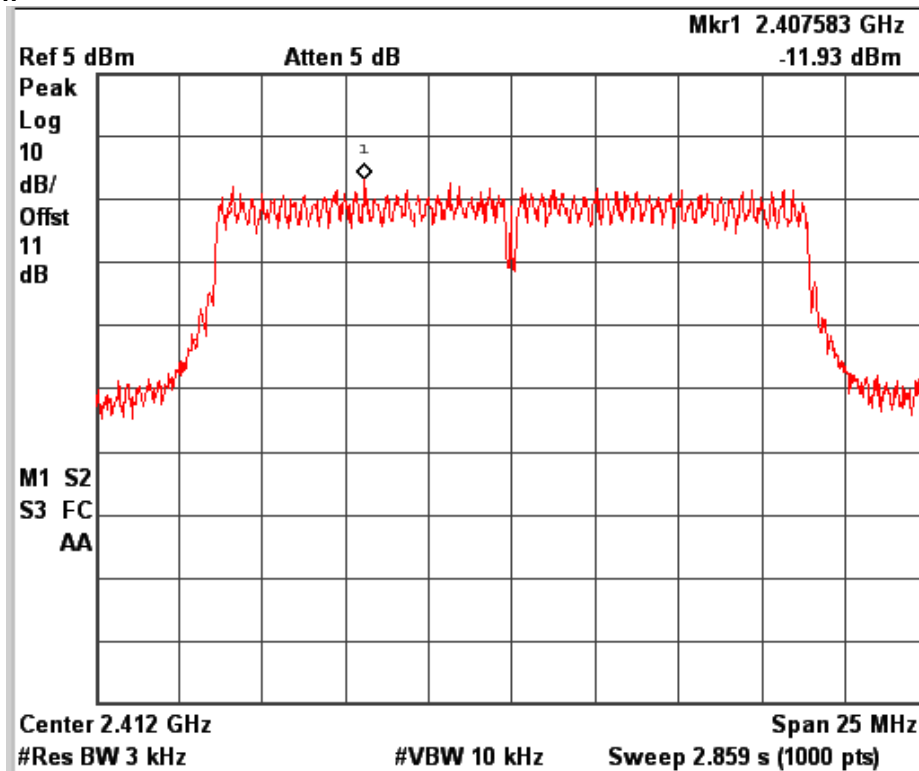


Data Rate: 54 Mbps

Channel Frequency: 2472 MHz

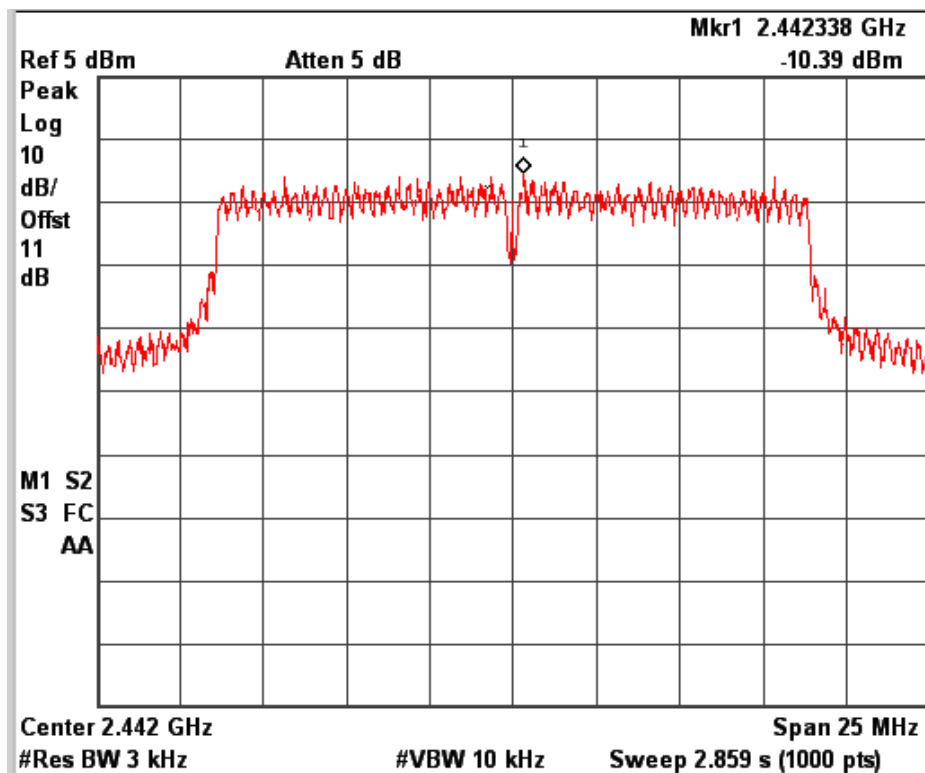
802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
n	6.5	2412.00	-11.93	8.00	-19.93
		2442.00	-10.39	8.00	-18.39
		2472.00	-13.85	8.00	-21.85
		5745.00	-16.07	8.00	-24.07
		5785.00	-16.96	8.00	-24.96
		5825.00	-18.51	8.00	-26.51
	39	2412.00	-12.29	8.00	-20.29
		2442.00	-10.29	8.00	-18.29
		2472.00	-15.41	8.00	-23.41
		5745.00	-16.19	8.00	-24.19
		5785.00	-17.00	8.00	-25.00
		5825.00	-19.45	8.00	-27.45
	65	2412.00	-12.30	8.00	-20.30
		2442.00	-10.67	8.00	-18.67
		2472.00	-15.81	8.00	-23.81
		5745.00	-16.08	8.00	-24.08
		5785.00	-17.56	8.00	-25.56
		5825.00	-18.58	8.00	-26.58

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Data Rate: 6.5 Mbps

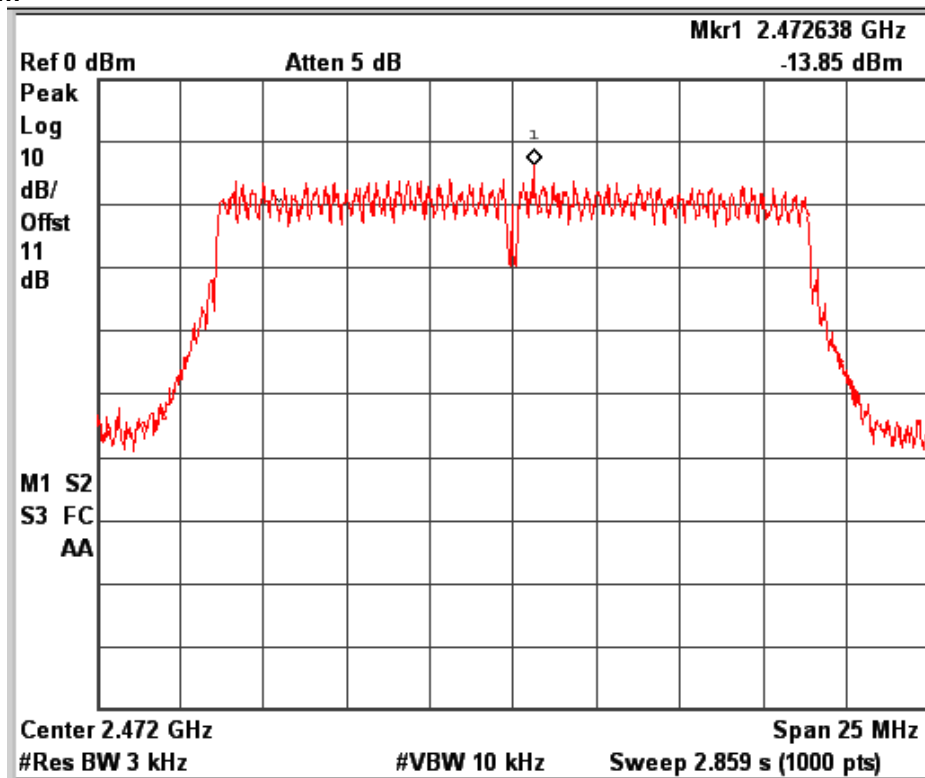
Channel Frequency: 2412 MHz



Data Rate: 6.5 Mbps

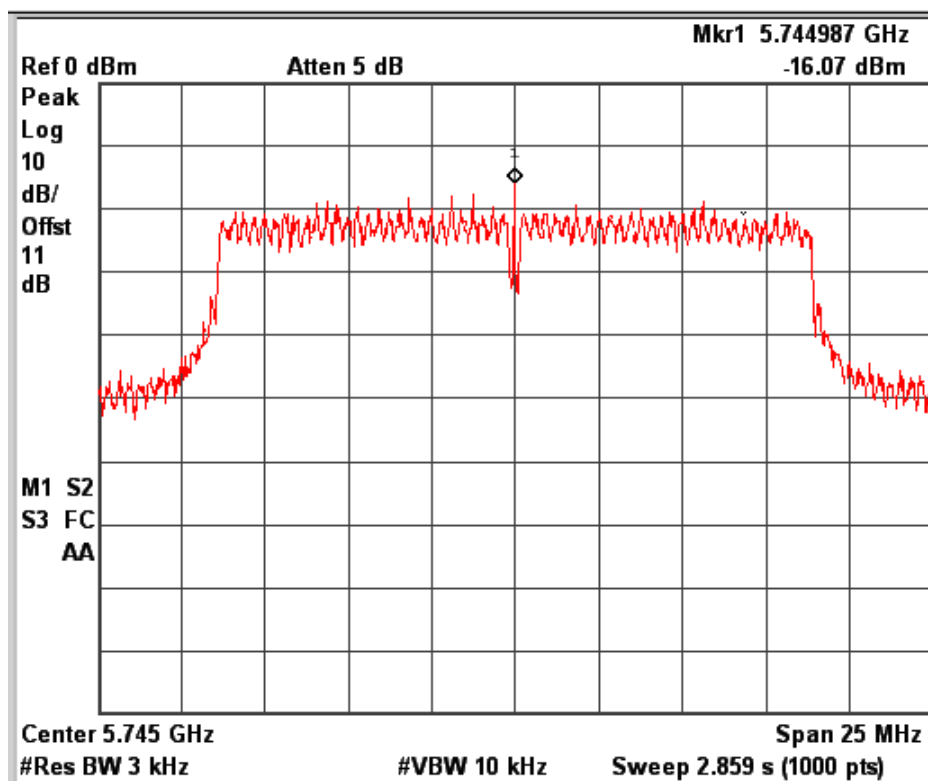
Channel Frequency: 2442 MHz

www.tuv.com



Data Rate: 6.5 Mbps

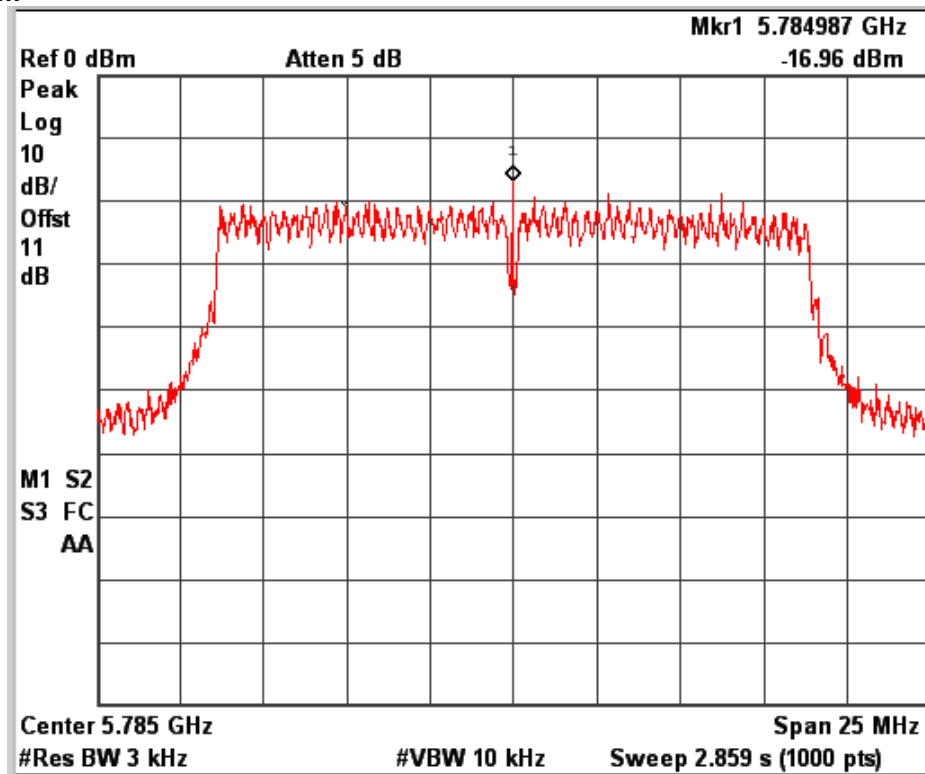
Channel Frequency: 2472 MHz



Data Rate: 6.5 Mbps

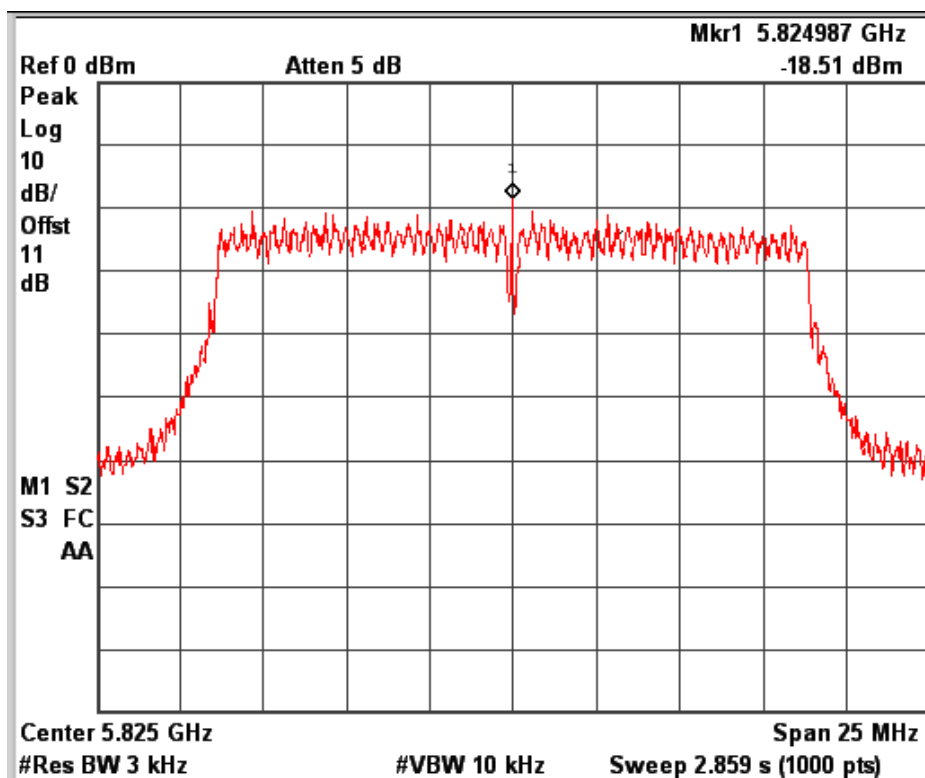
Channel Frequency: 5745 MHz

www.tuv.com



Data Rate: 6.5 Mbps

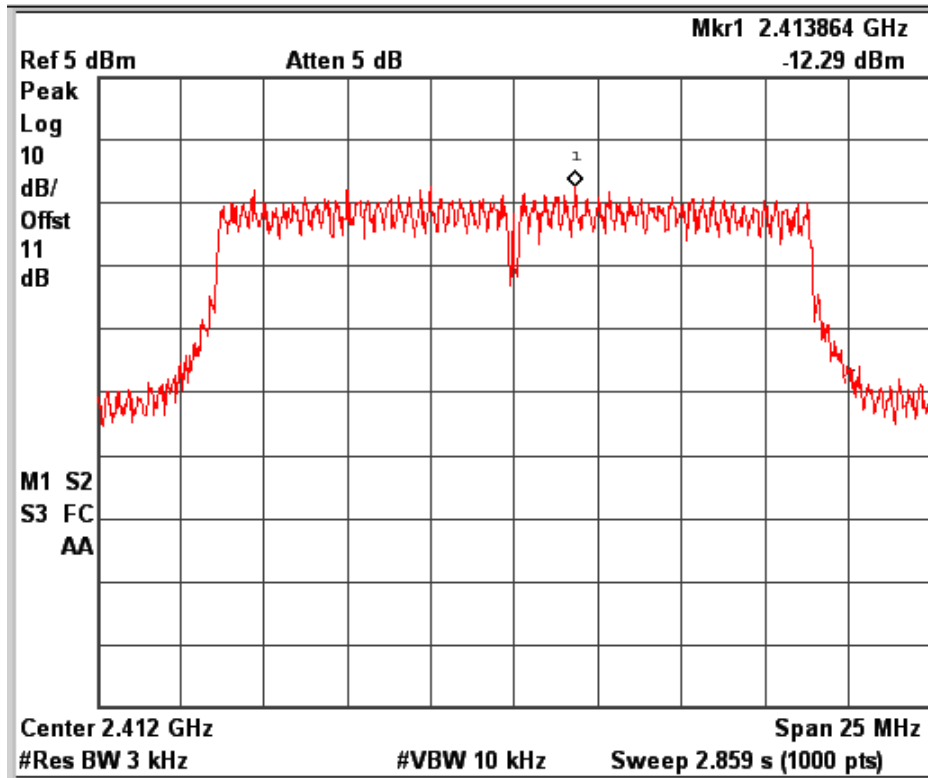
Channel Frequency: 5785 MHz



Data Rate: 6.5 Mbps

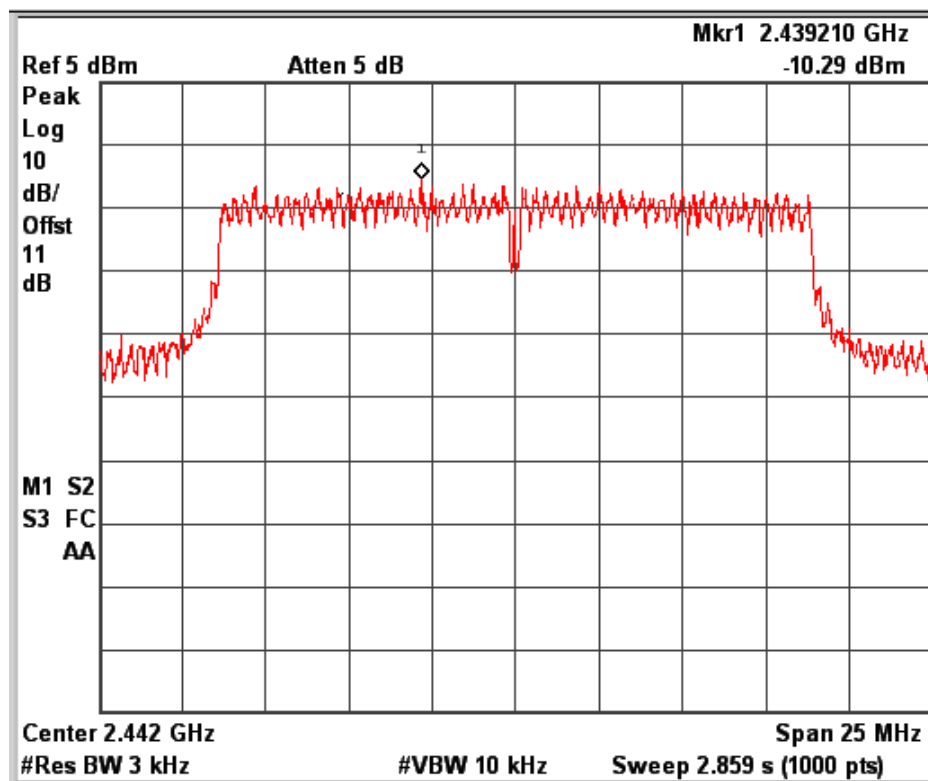
Channel Frequency: 5825 MHz

www.tuv.com



Data Rate: 39 Mbps

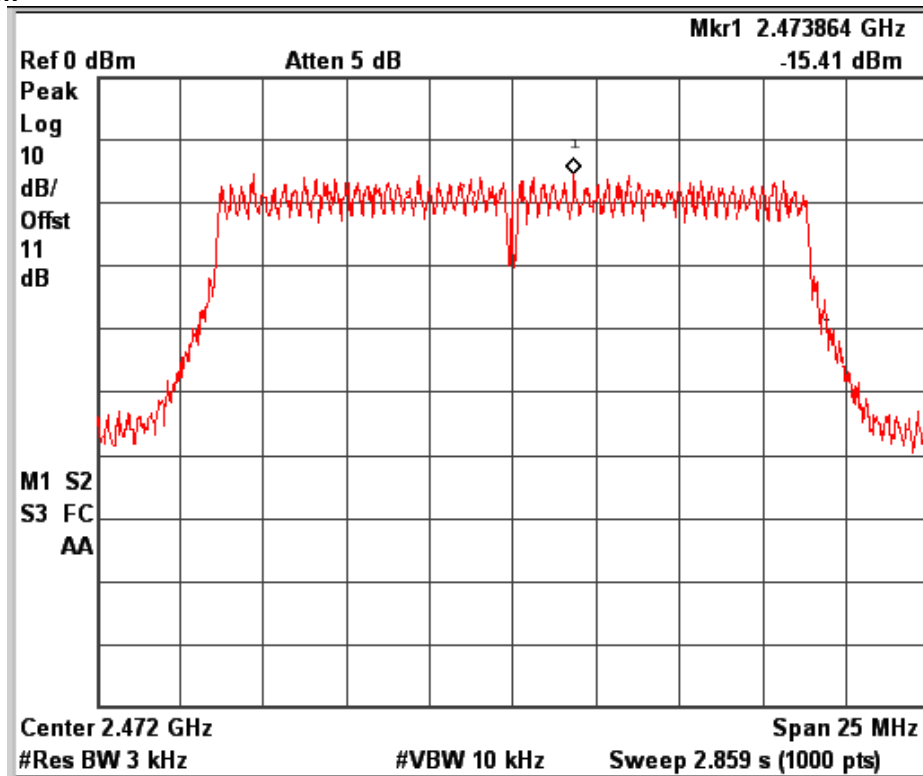
Channel Frequency: 2412 MHz



Data Rate: 39 Mbps

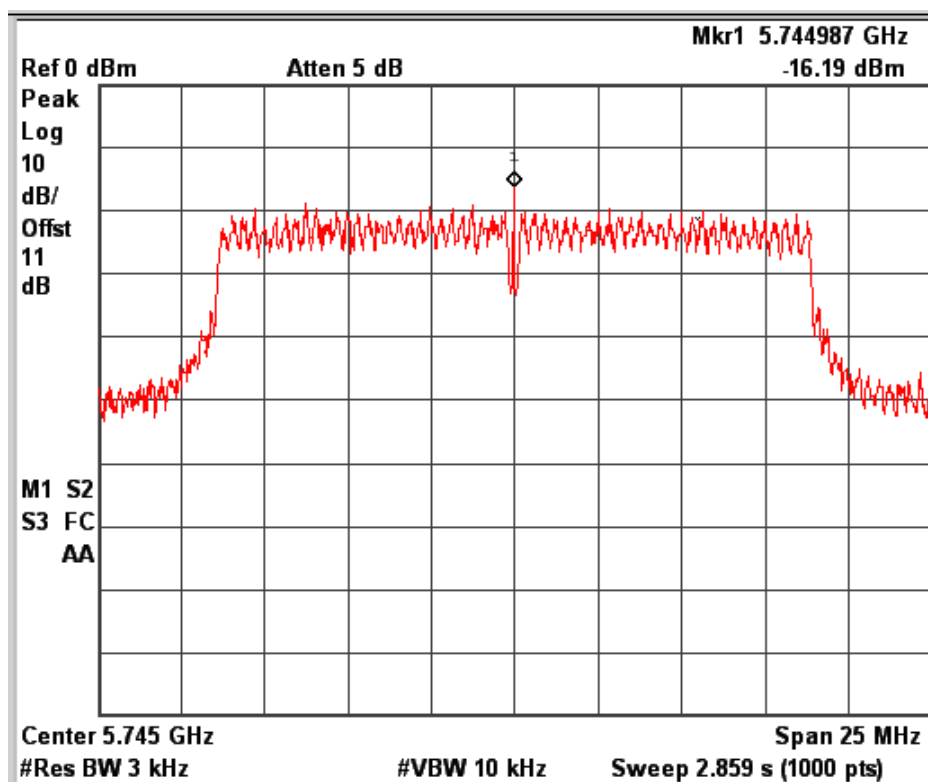
Channel Frequency: 2442 MHz

www.tuv.com



Data Rate: 39 Mbps

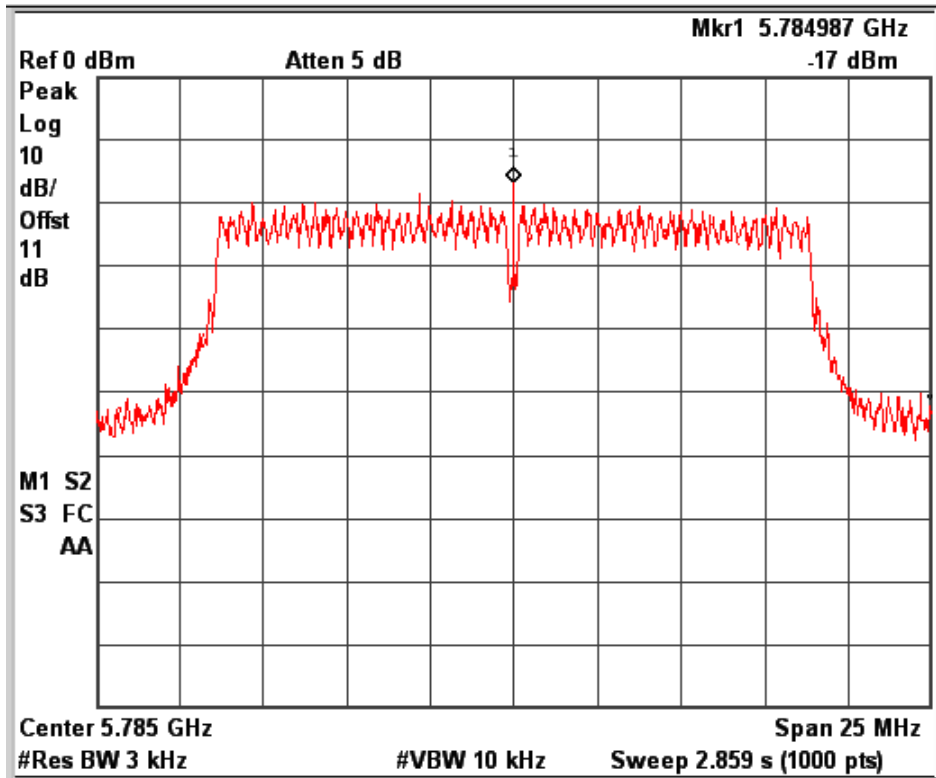
Channel Frequency: 2472 MHz



Data Rate: 39 Mbps

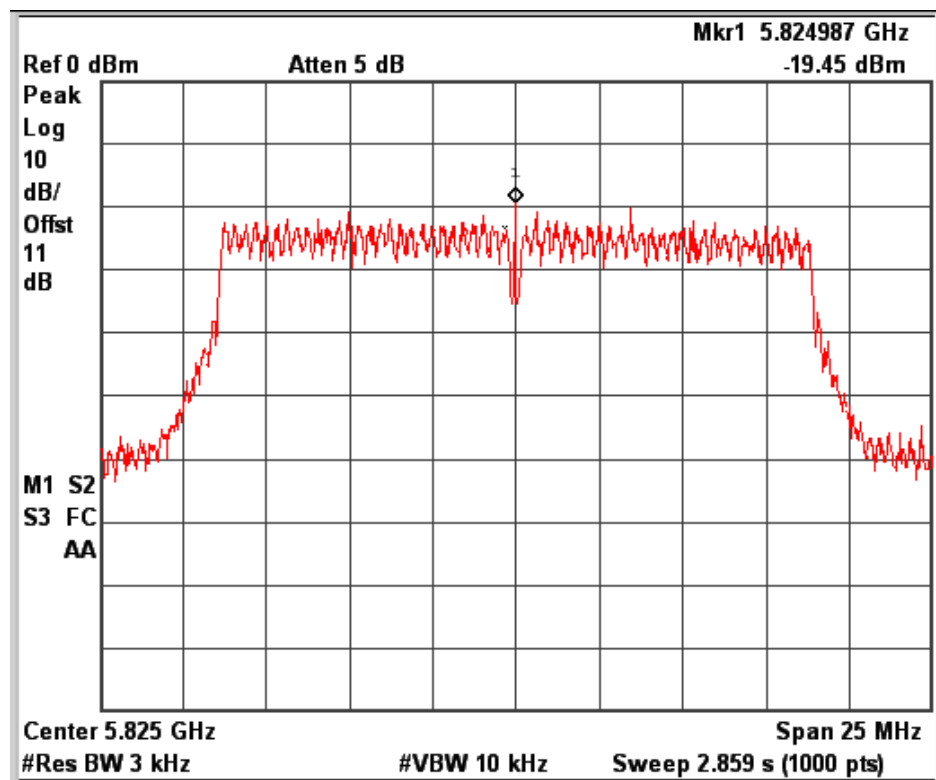
Channel Frequency: 5745 MHz

www.tuv.com



Data Rate: 39 Mbps

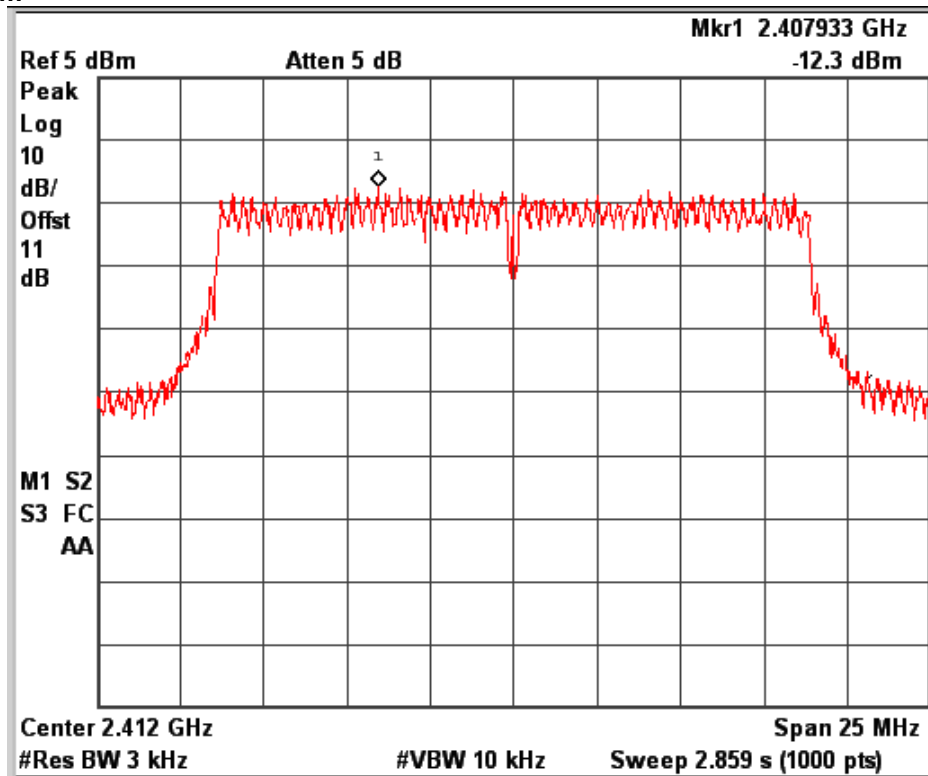
Channel Frequency: 5785 MHz



Data Rate: 39 Mbps

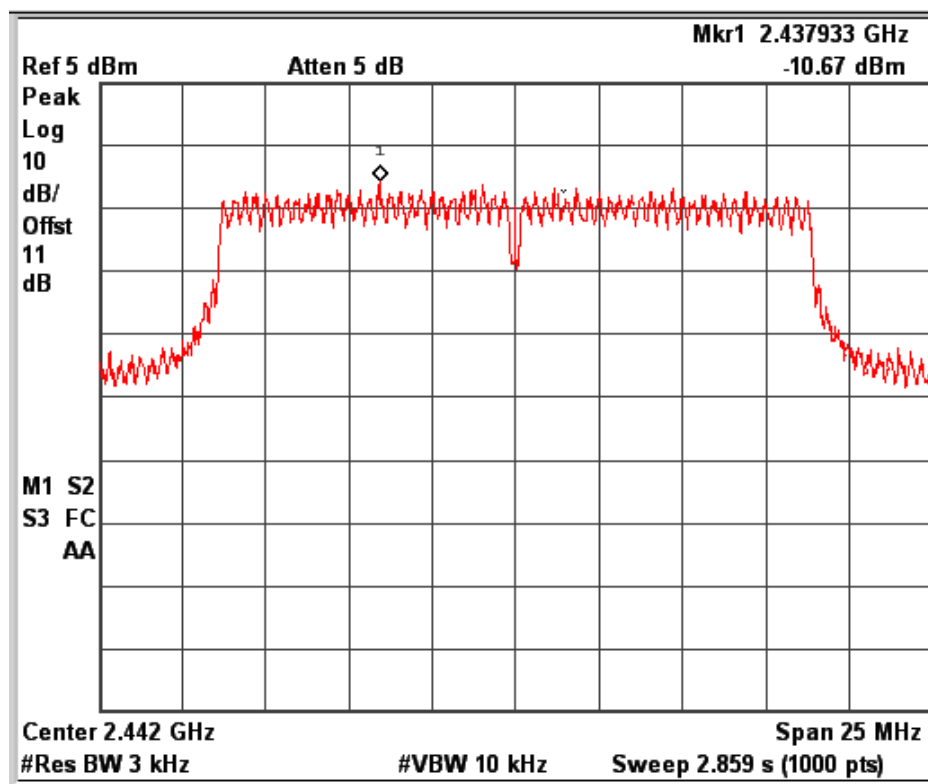
Channel Frequency: 5825 MHz

www.tuv.com



Data Rate: 65 Mbps

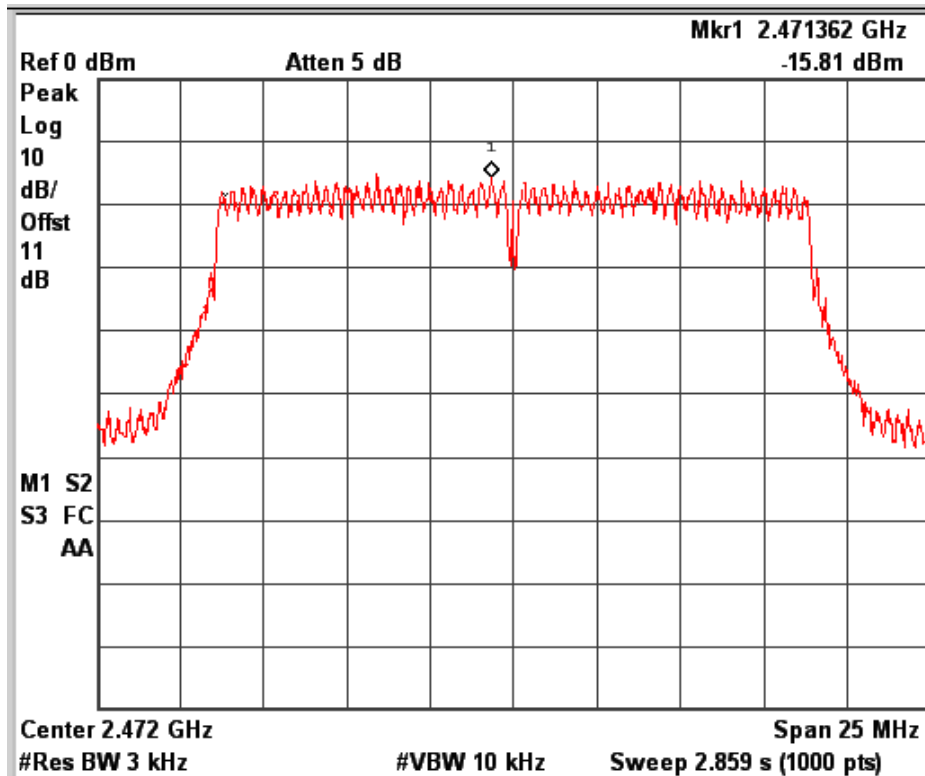
Channel Frequency: 2412 MHz



Data Rate: 65 Mbps

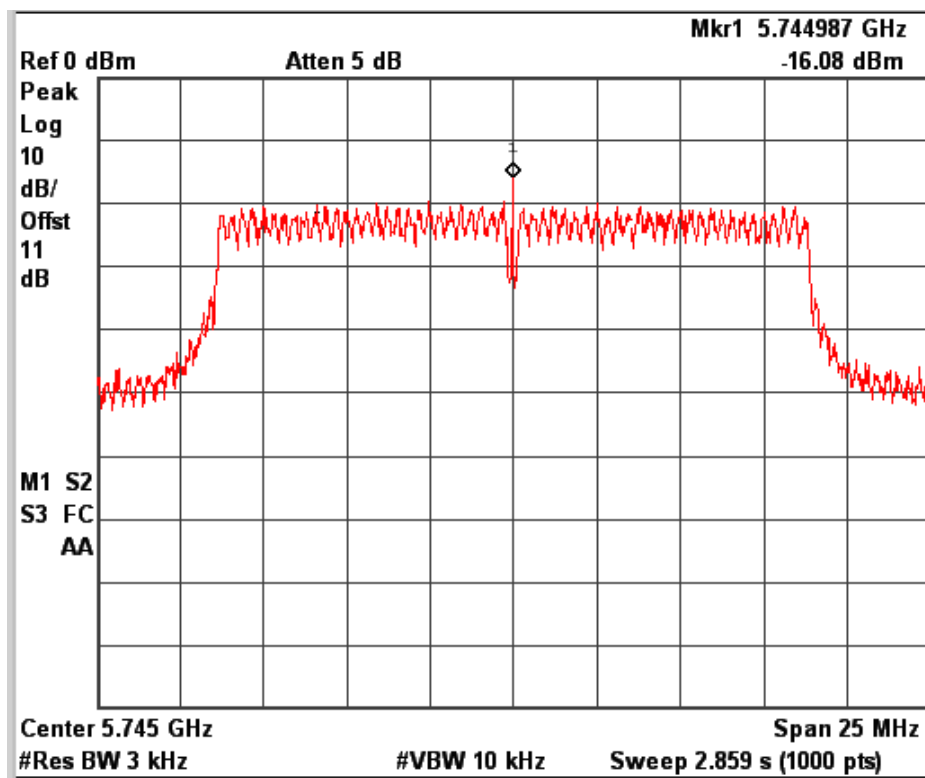
Channel Frequency: 2442 MHz

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Data Rate: 65 Mbps

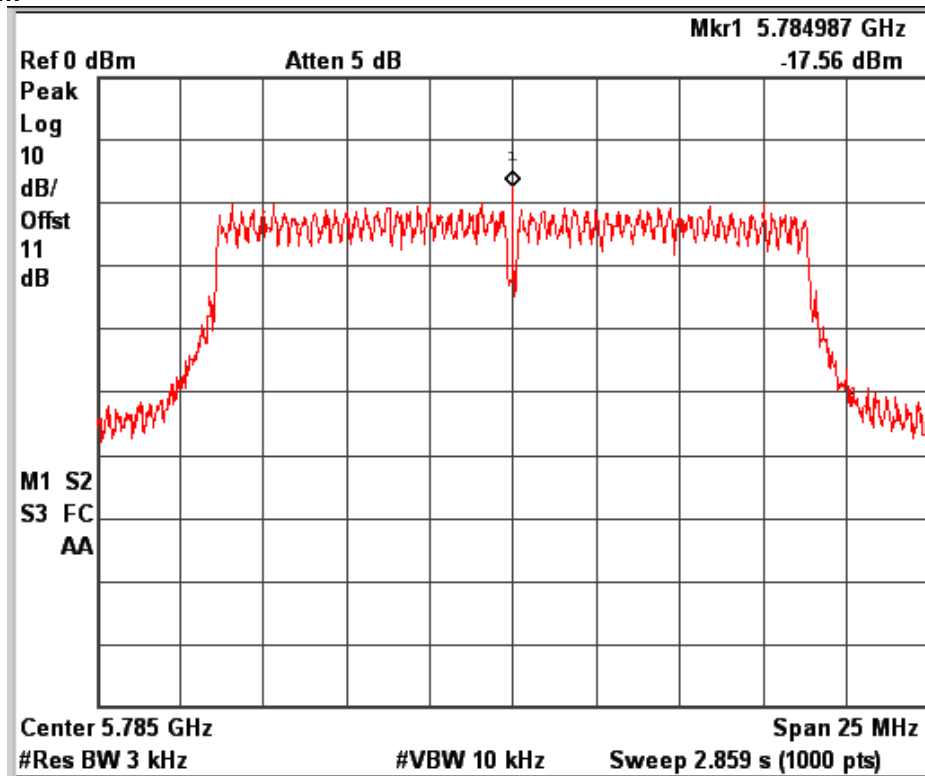
Channel Frequency: 2472 MHz



Data Rate: 65 Mbps

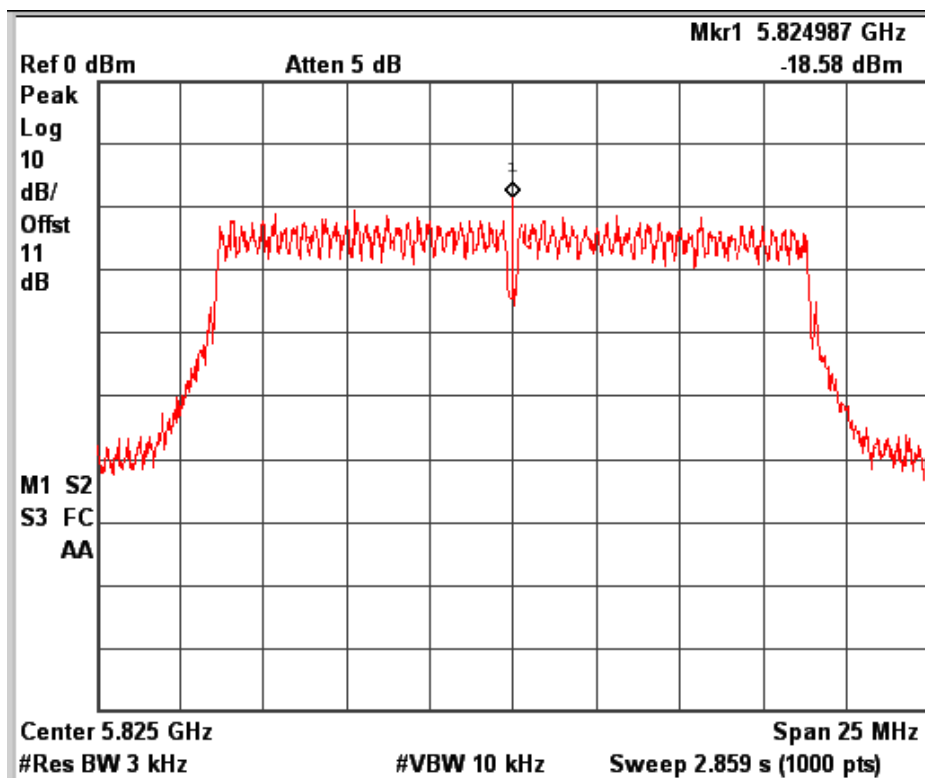
Channel Frequency: 5745 MHz

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Data Rate: 65 Mbps

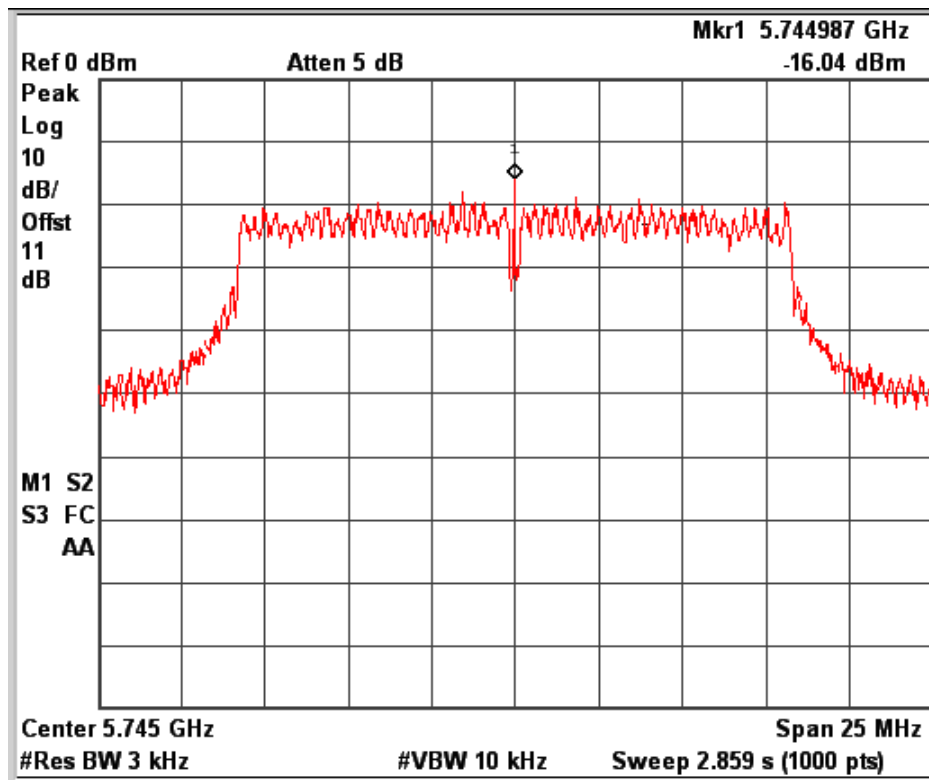
Channel Frequency: 5785 MHz



Data Rate: 65 Mbps

Channel Frequency: 5825 MHz

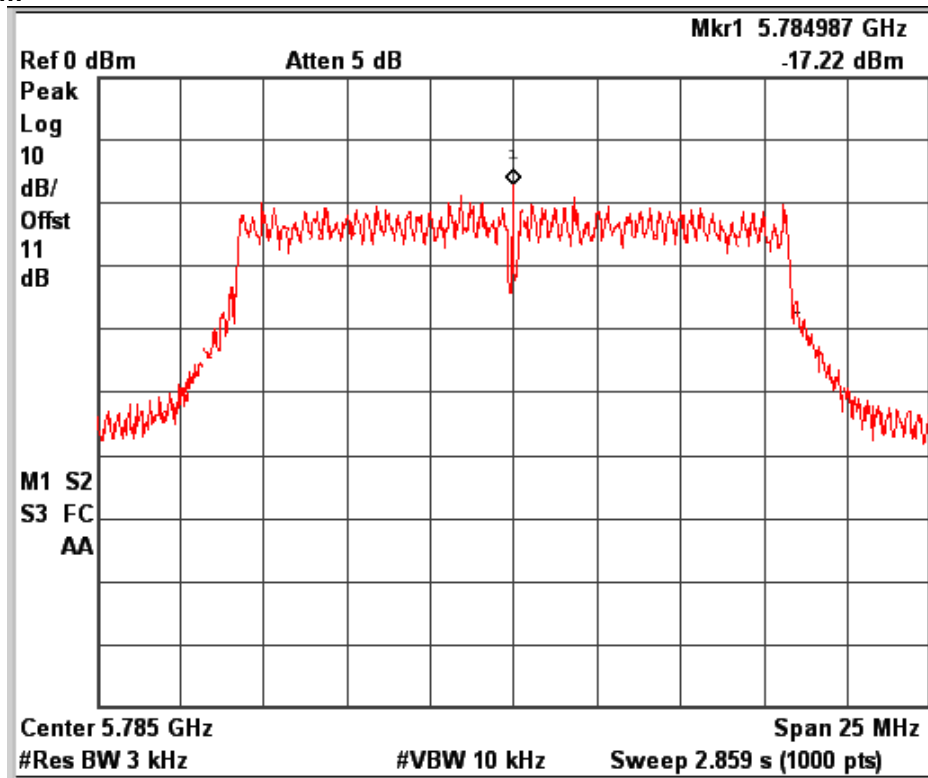
802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
a	6	5745.00	-16.04	8.00	-24.04
		5785.00	-17.22	8.00	-25.22
		5825.00	-18.77	8.00	-26.77
	24	5745.00	-16.63	8.00	-24.63
		5785.00	-16.87	8.00	-24.87
		5825.00	-18.98	8.00	-26.98
	54	5745.00	-16.17	8.00	-24.17
		5785.00	-17.22	8.00	-25.22
		5825.00	-19.10	8.00	-27.10



Data Rate: 6.5 Mbps

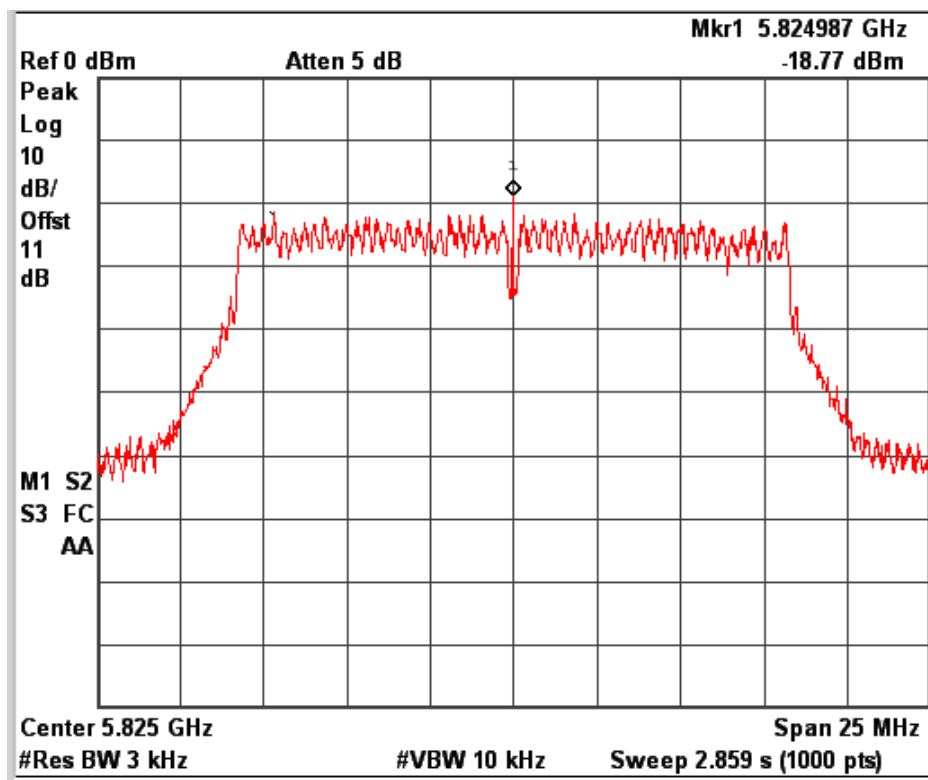
Channel Frequency: 5745 MHz

www.tuv.com



Data Rate: 6.5 Mbps

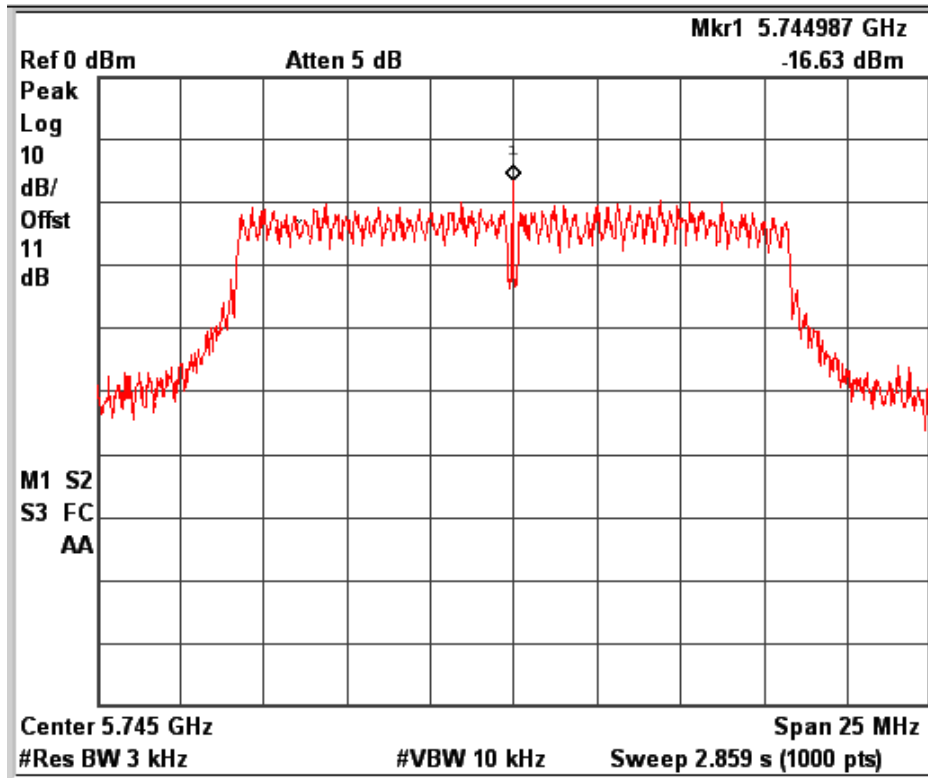
Channel Frequency: 5785 MHz



Data Rate: 6.5 Mbps

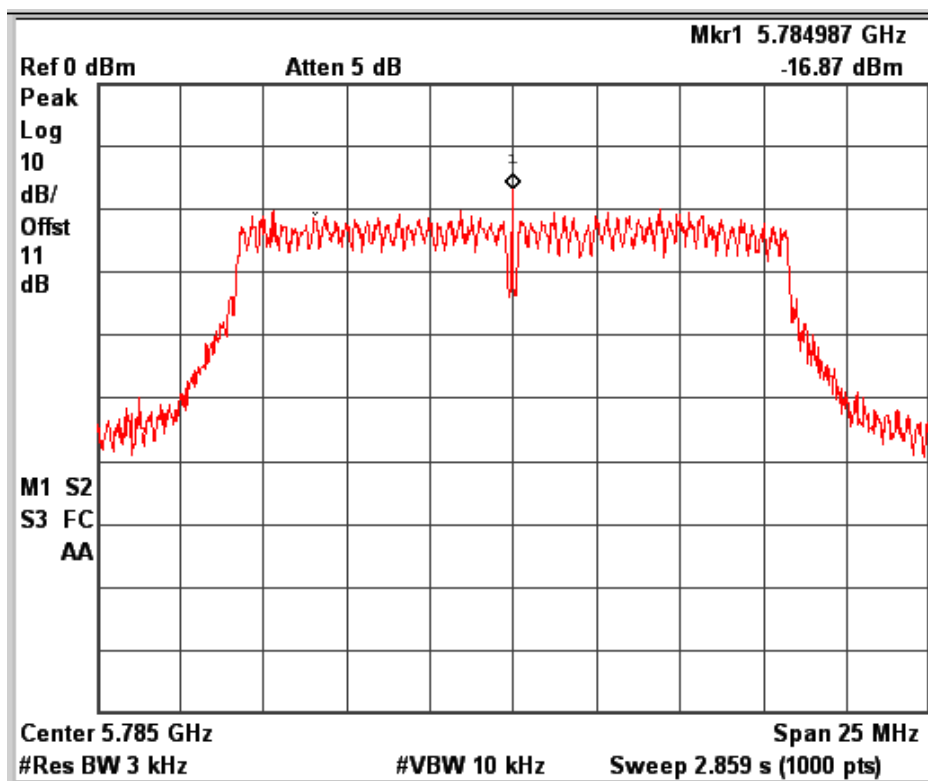
Channel Frequency: 5825 MHz

www.tuv.com



Data Rate: 39 Mbps

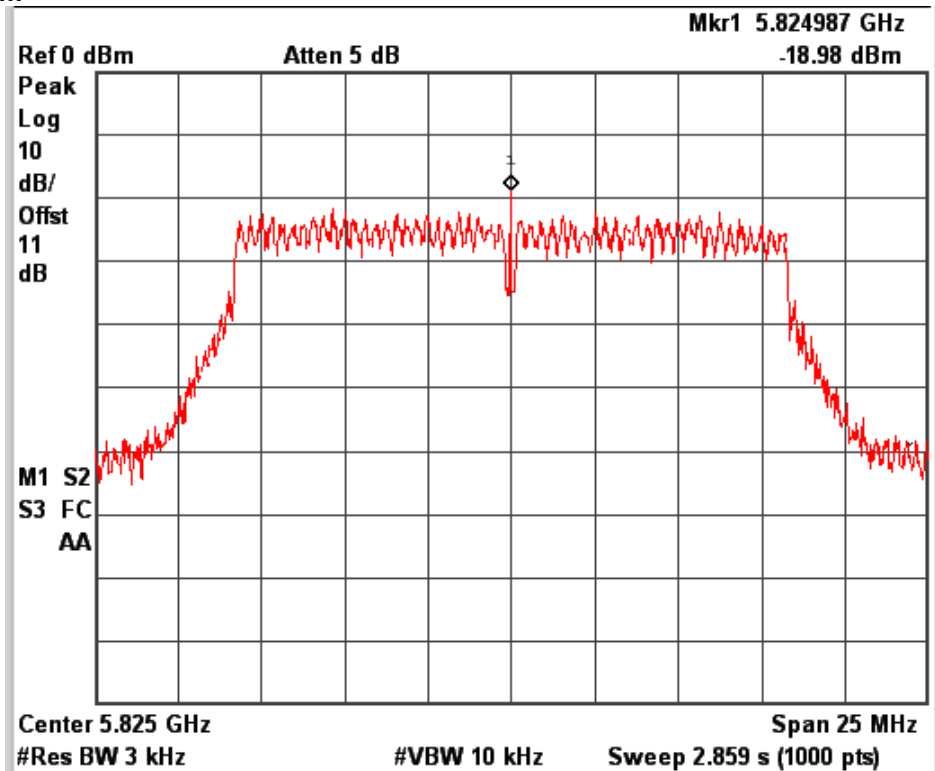
Channel Frequency: 5745 MHz



Data Rate: 39 Mbps

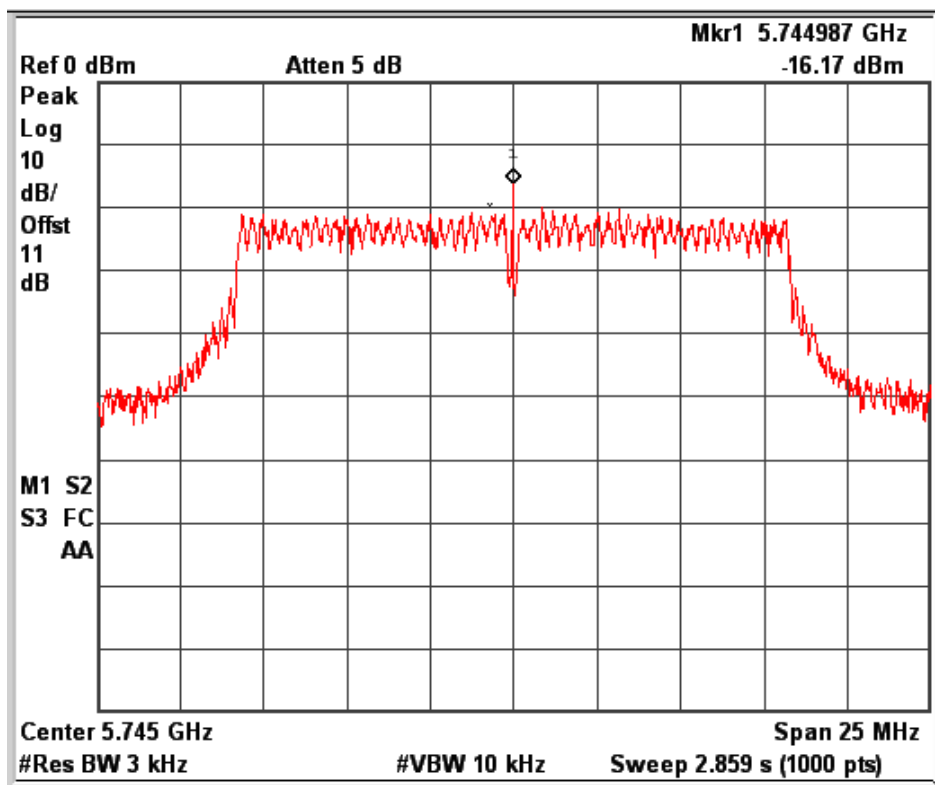
Channel Frequency: 5785 MHz

www.tuv.com



Data Rate: 39 Mbps

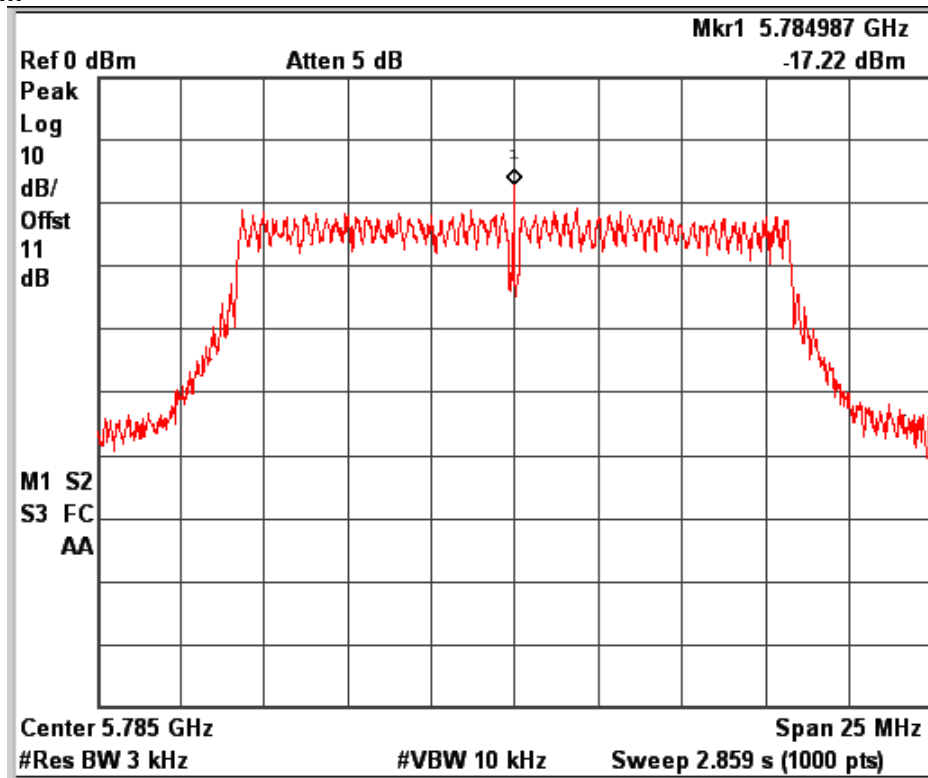
Channel Frequency: 5825 MHz



Data Rate: 65 Mbps

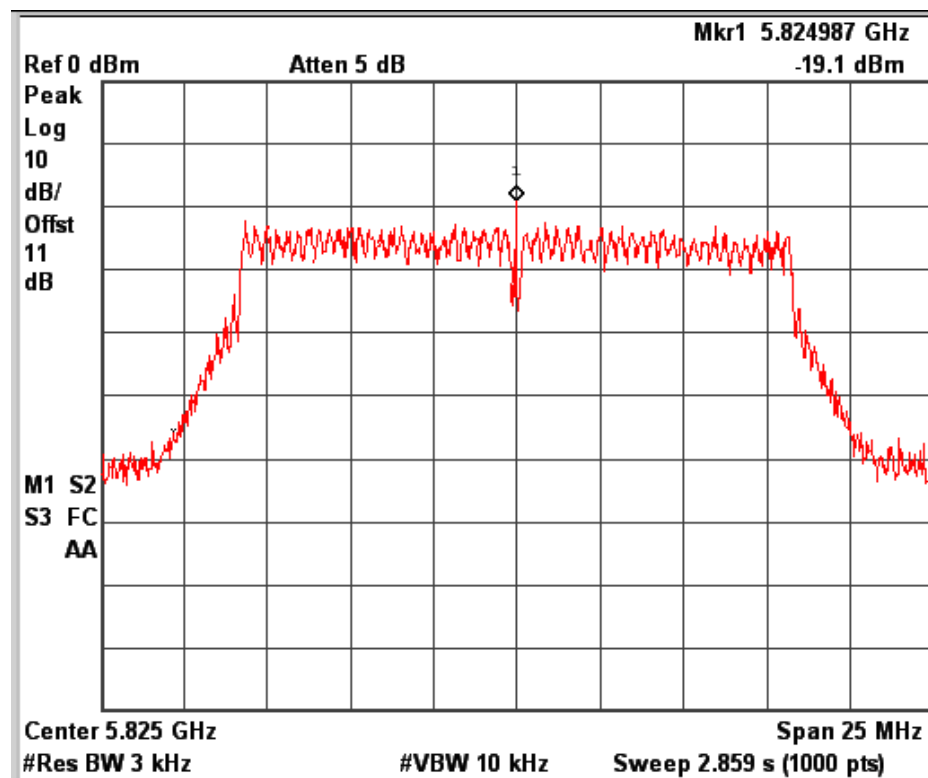
Channel Frequency: 5745 MHz

www.tuv.com



Data Rate: 65 Mbps

Channel Frequency: 5785 MHz



Data Rate: 65 Mbps

Channel Frequency: 5825 MHz

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6 dB Bandwidth

Section 15.247(a)(2)

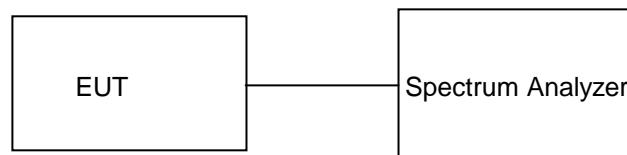
Result

Pass

Test Specification
Requirement

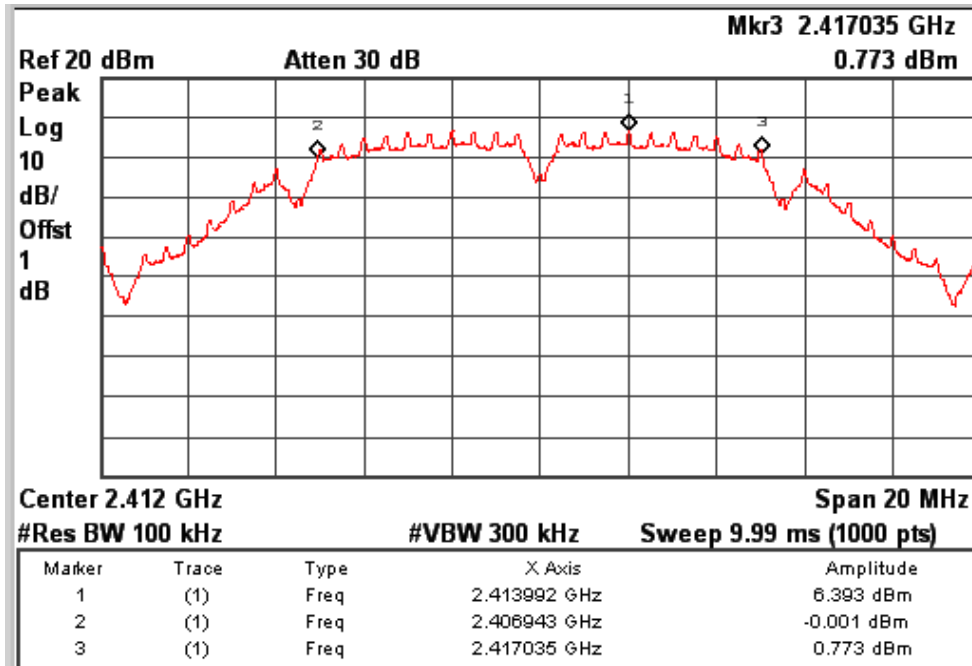
FCC Part 15 Section 15.247 (a) (2)
The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Method:



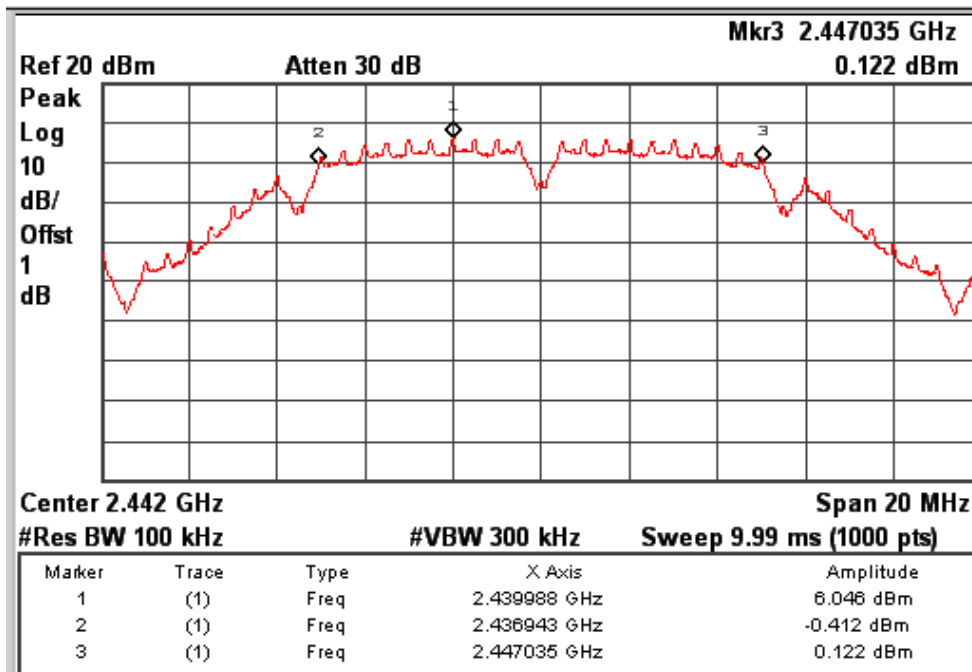
Test Result:

802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Lower Frequency (MHz)	Upper Frequency (MHz)	6 dB Bandwidth (MHz)	99% OBW (MHz)
b	1	2412.00	2406.94	2417.04	10.09	12.78
		2442.00	2436.94	2447.04	10.10	12.69
		2472.00	2466.94	2477.04	10.09	12.24
	11	2412.00	2406.98	2416.94	9.95	12.22
		2442.00	2436.80	2446.86	10.05	12.20
		2472.00	2466.98	2476.94	9.95	12.23



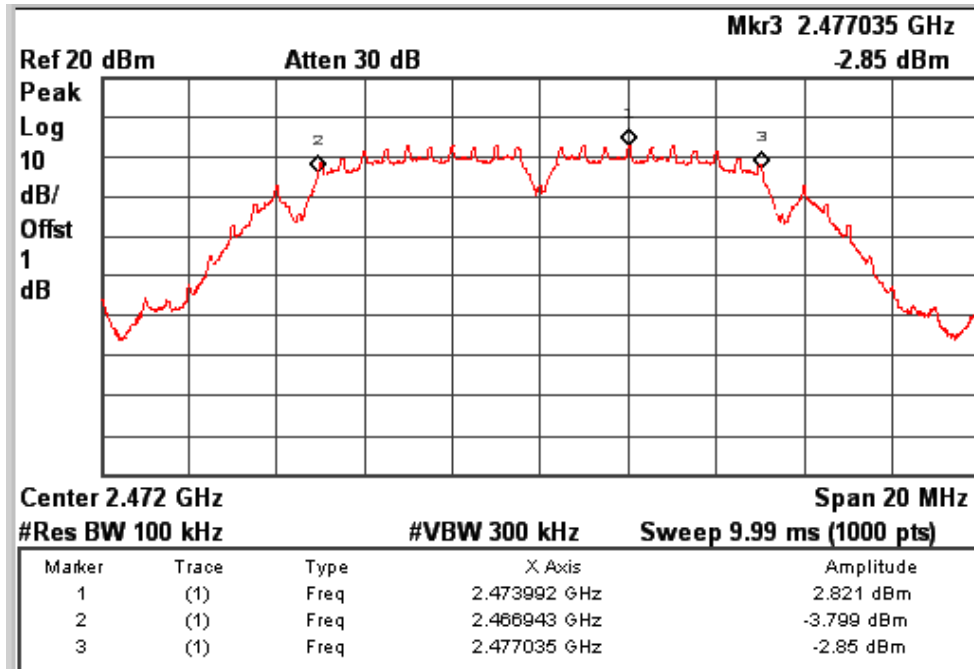
Data Rate: 1 Mbps

Channel Frequency: 2412 MHz



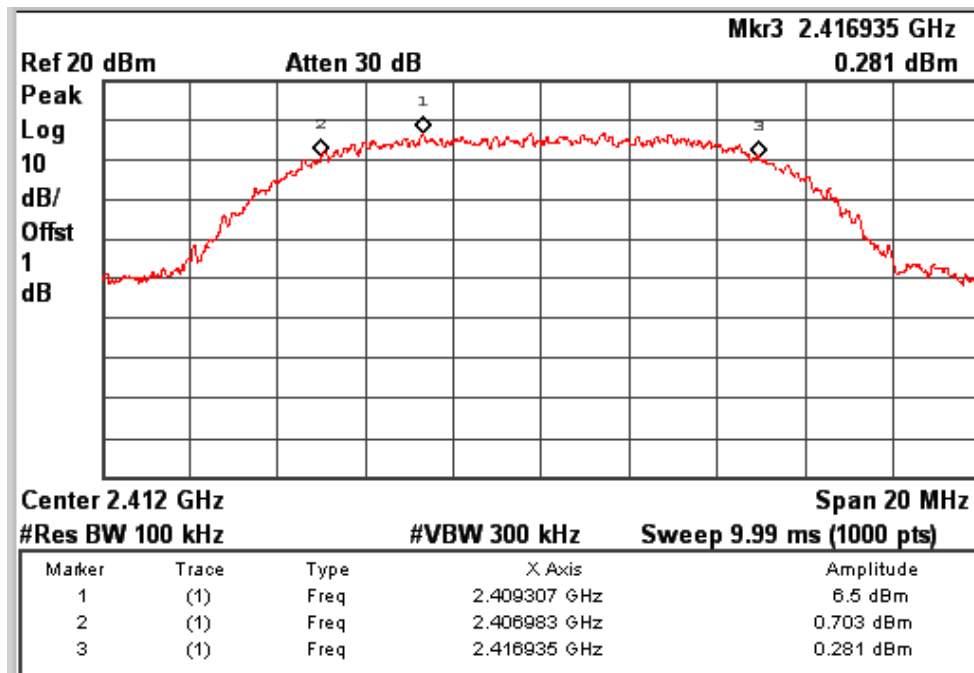
Data Rate: 1 Mbps

Channel Frequency: 2442 MHz



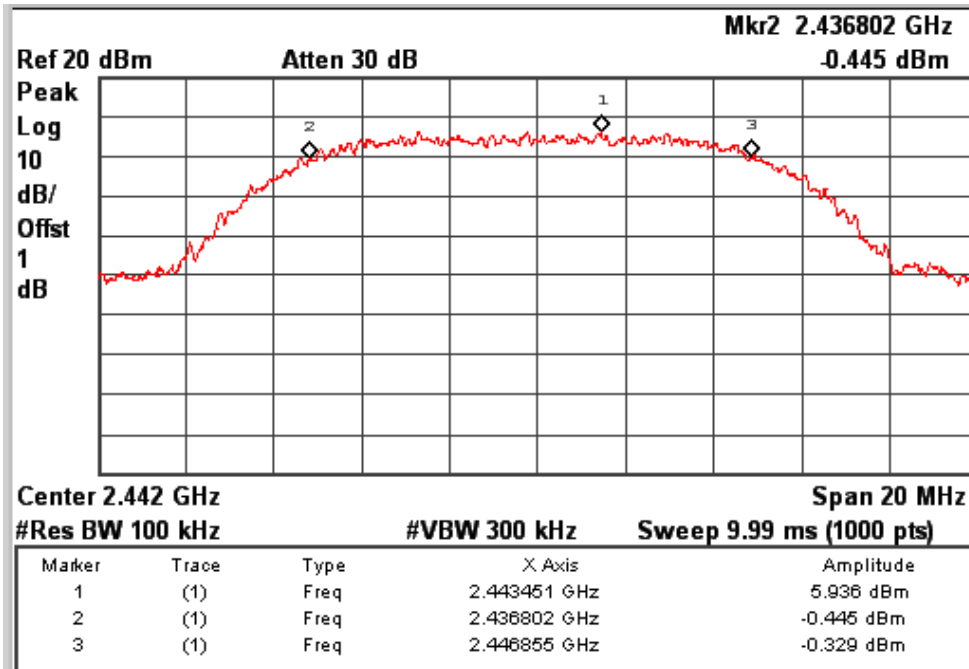
Data Rate: 1 Mbps

Channel Frequency: 2472 MHz



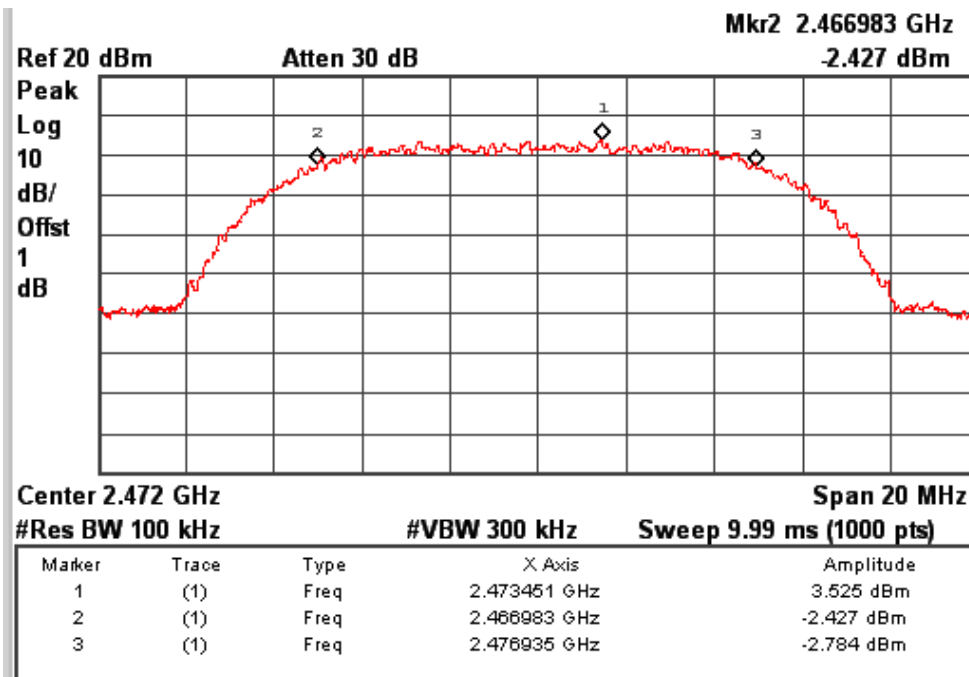
Data Rate: 11 Mbps

Channel Frequency: 2412 MHz



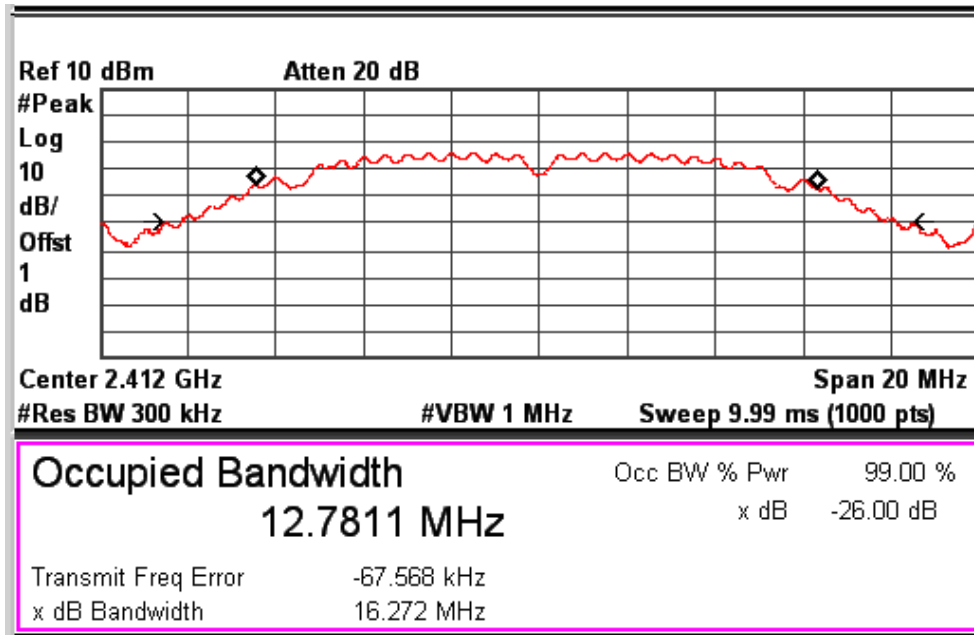
Data Rate: 11 Mbps

Channel Frequency: 2442 MHz



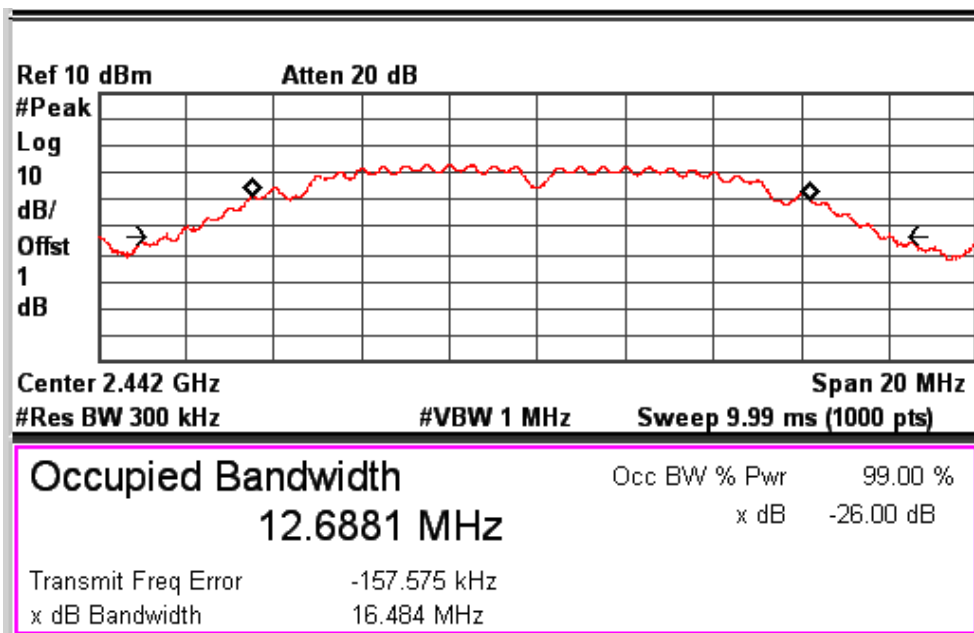
Data Rate: 11 Mbps

Channel Frequency: 2472 MHz



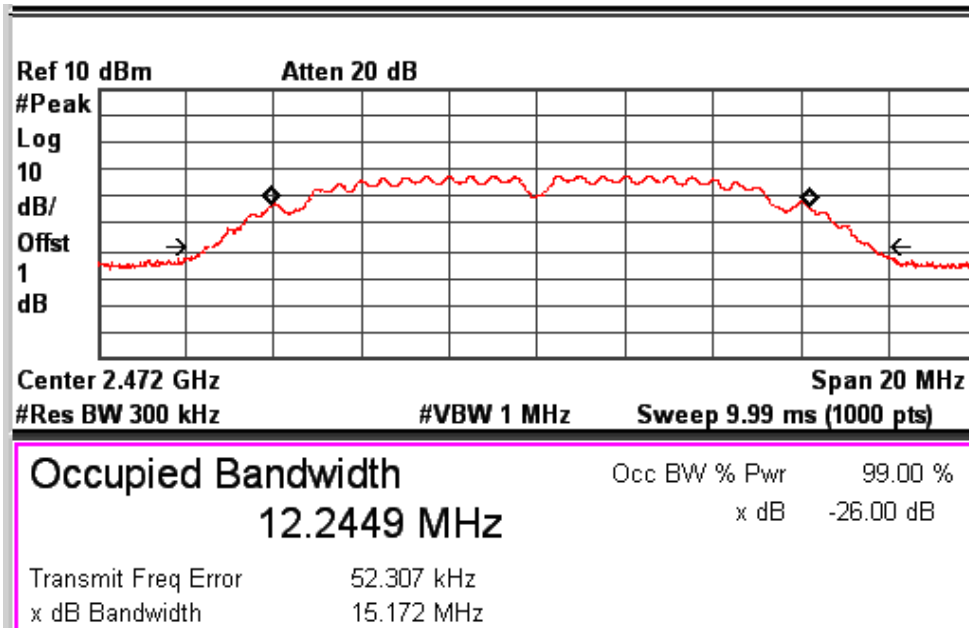
Data Rate: 1 Mbps

Channel Frequency: 2412 MHz



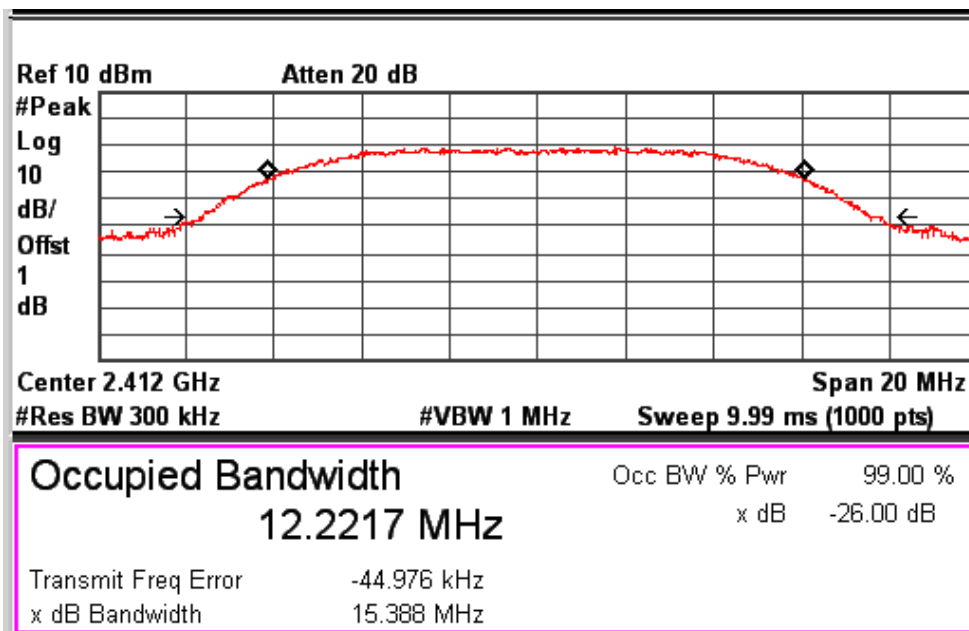
Data Rate: 1 Mbps

Channel Frequency: 2442 MHz



Data Rate: 1 Mbps

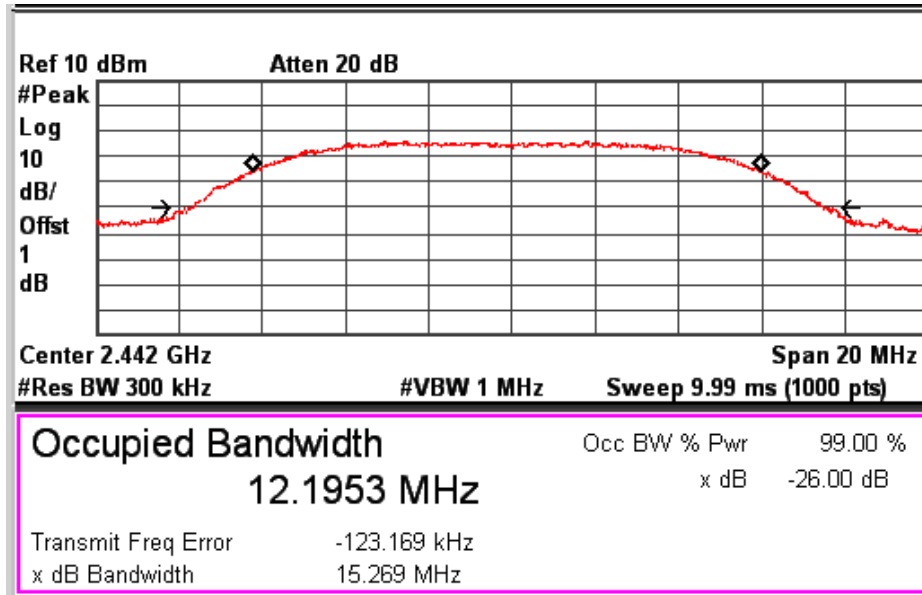
Channel Frequency: 2472 MHz



Data Rate: 11 Mbps

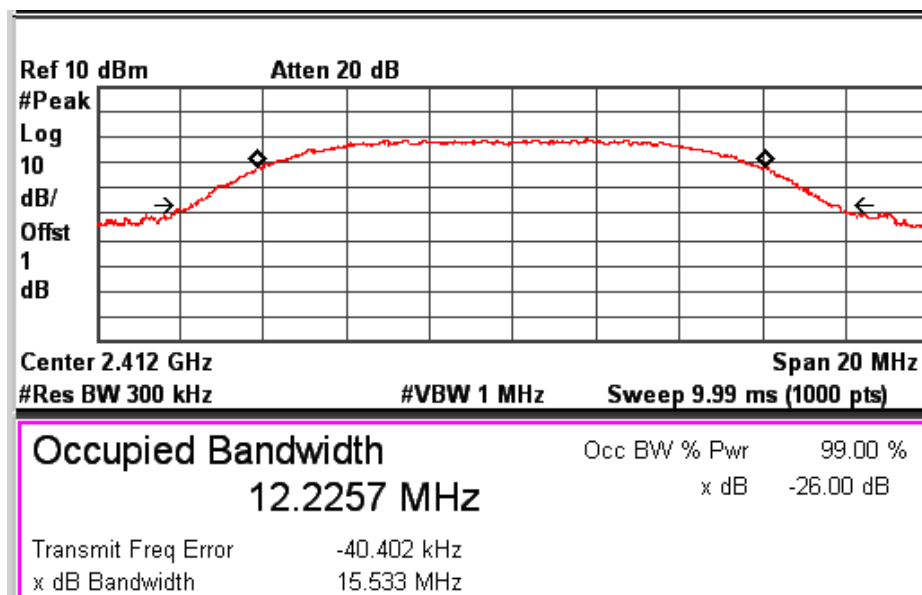
Channel Frequency: 2412 MHz

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Data Rate: 11 Mbps

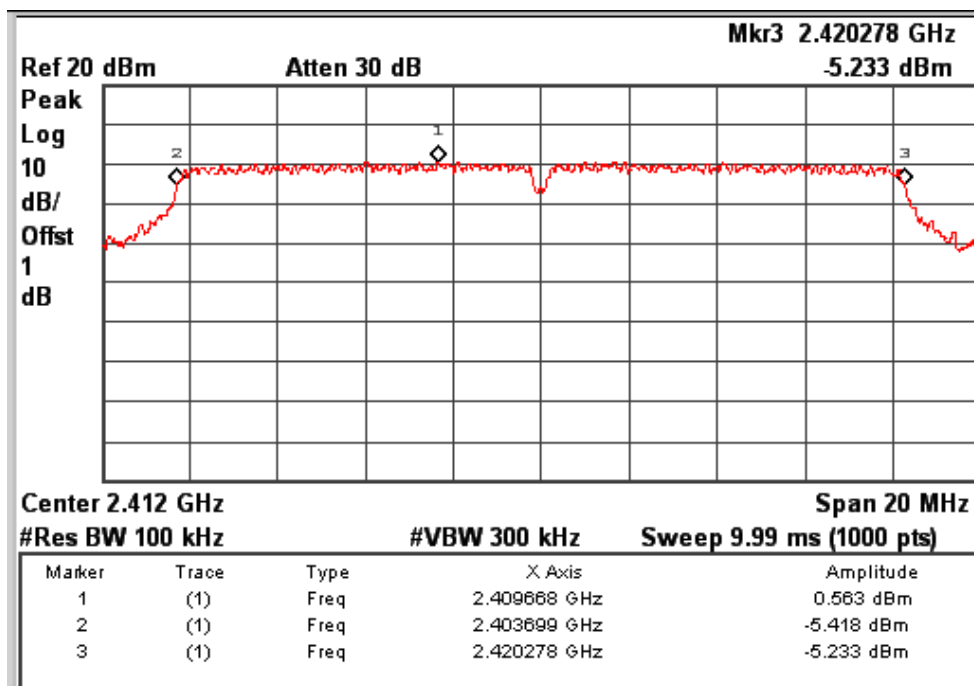
Channel Frequency: 2442 MHz



Data Rate: 11 Mbps

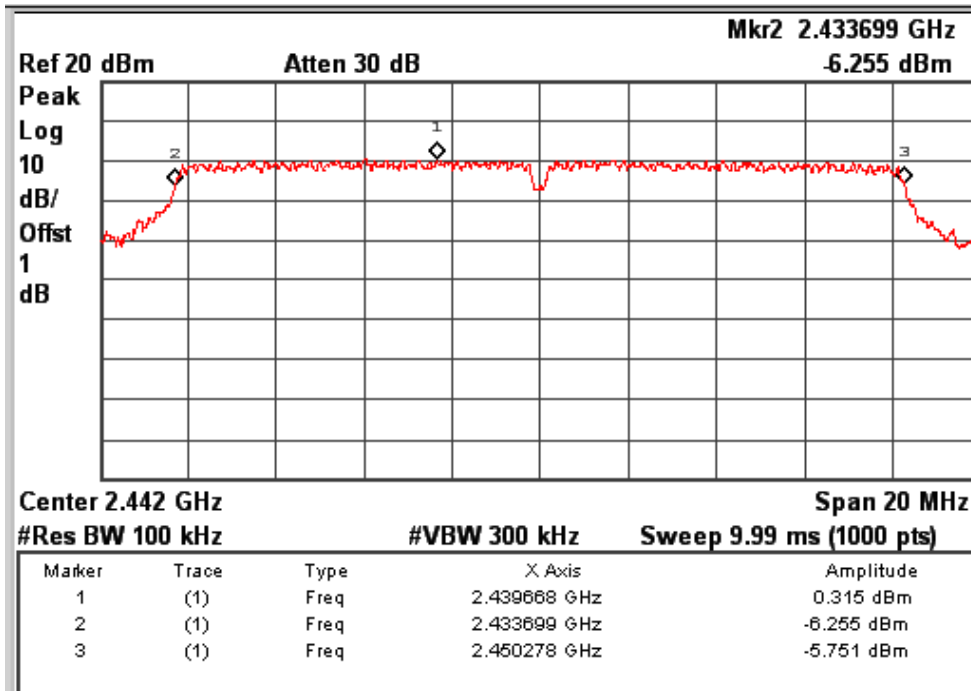
Channel Frequency: 2472 MHz

802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Lower Frequency (MHz)	Upper Frequency (MHz)	6 dB Bandwidth (MHz)	99% OBW (MHz)
g	6	2412.00	2403.70	2420.28	16.58	17.65
		2442.00	2433.70	2450.28	16.58	17.77
		2472.00	2463.72	2480.28	16.56	17.02
	24	2412.00	2403.72	2420.26	16.54	17.23
		2442.00	2433.72	2450.26	16.54	17.30
		2472.00	2463.72	2480.28	16.56	16.86
	54	2412.00	2403.72	2420.26	16.54	17.19
		2442.00	2433.72	2450.26	16.54	17.39
		2472.00	2463.72	2480.26	16.54	17.03



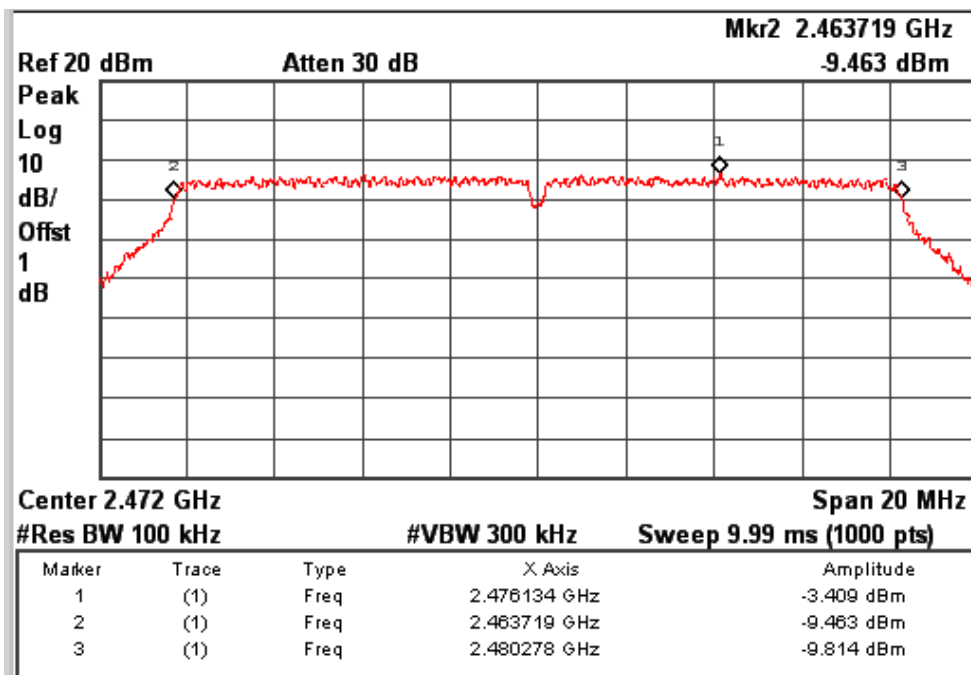
Data Rate: 6 Mbps

Channel Frequency: 2412 MHz



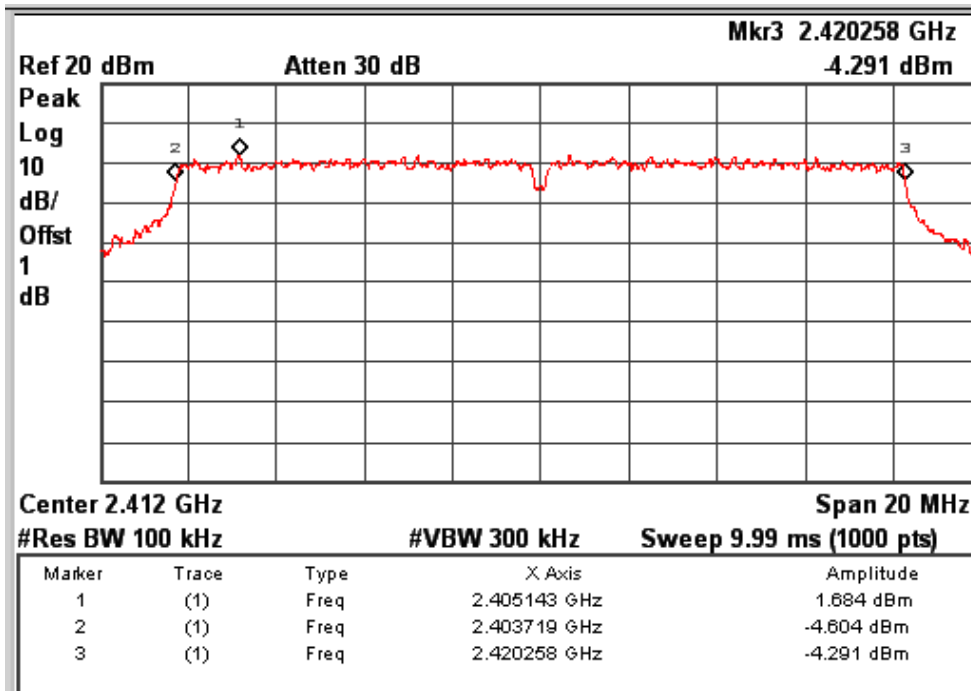
Data Rate: 6 Mbps

Channel Frequency: 2442 MHz



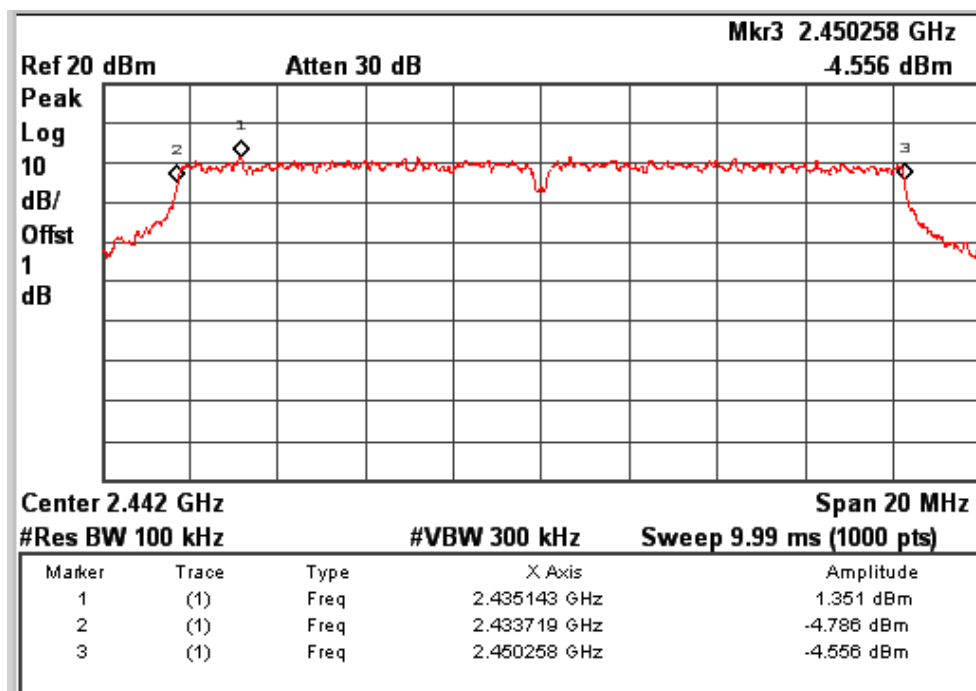
Data Rate: 6 Mbps

Channel Frequency: 2472 MHz



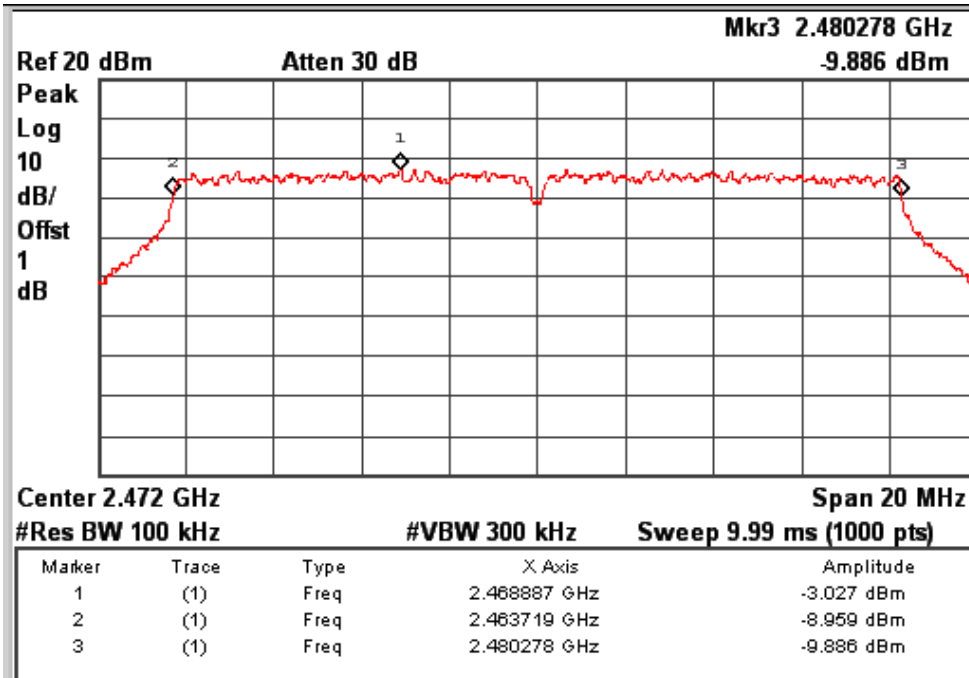
Data Rate: 24 Mbps

Channel Frequency: 2412 MHz



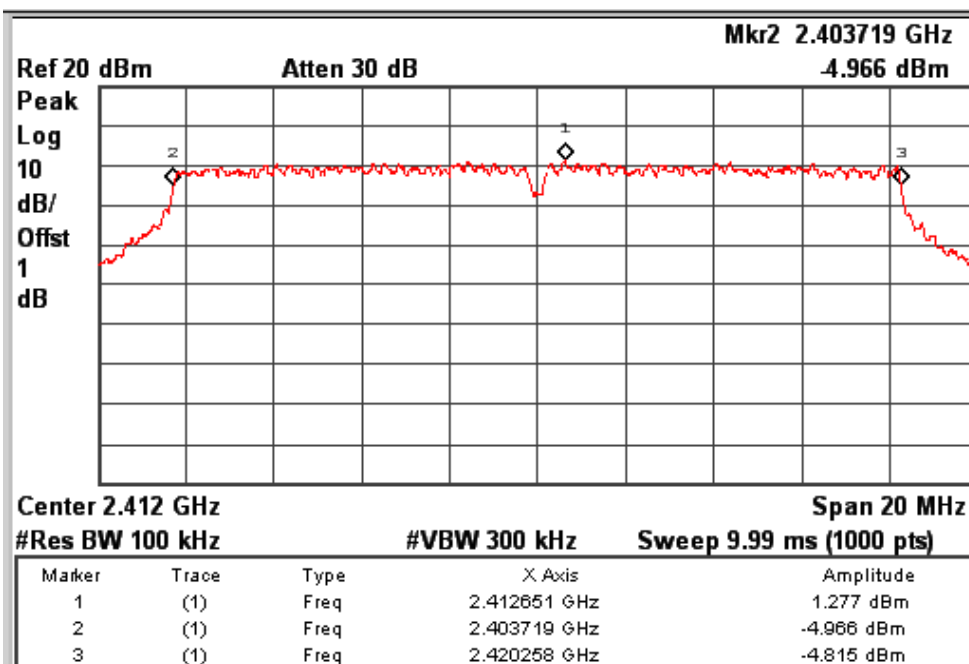
Data Rate: 24 Mbps

Channel Frequency: 2442 MHz



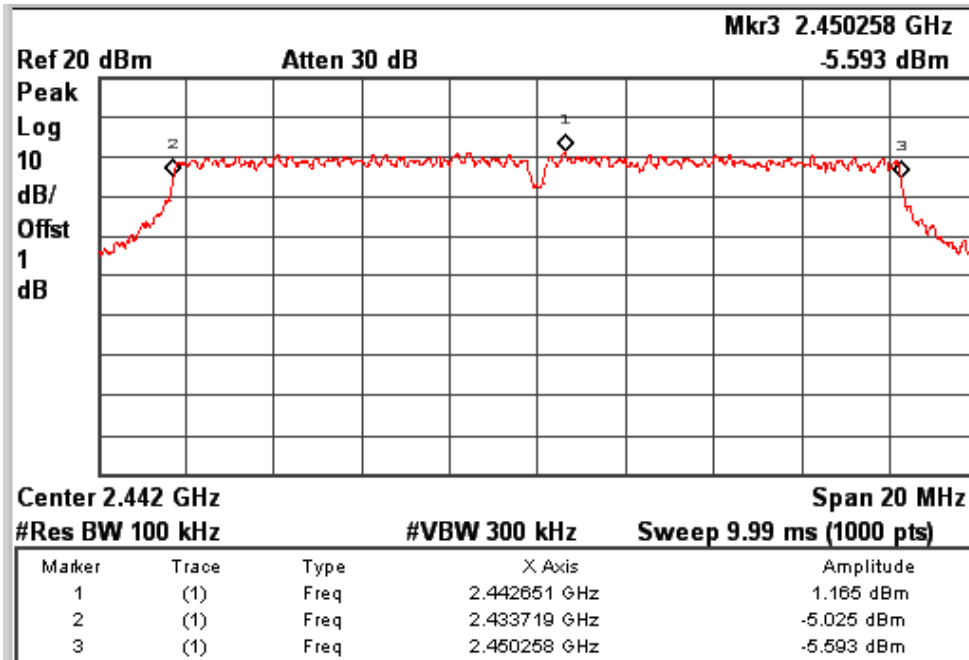
Data Rate: 24 Mbps

Channel Frequency: 2472 MHz



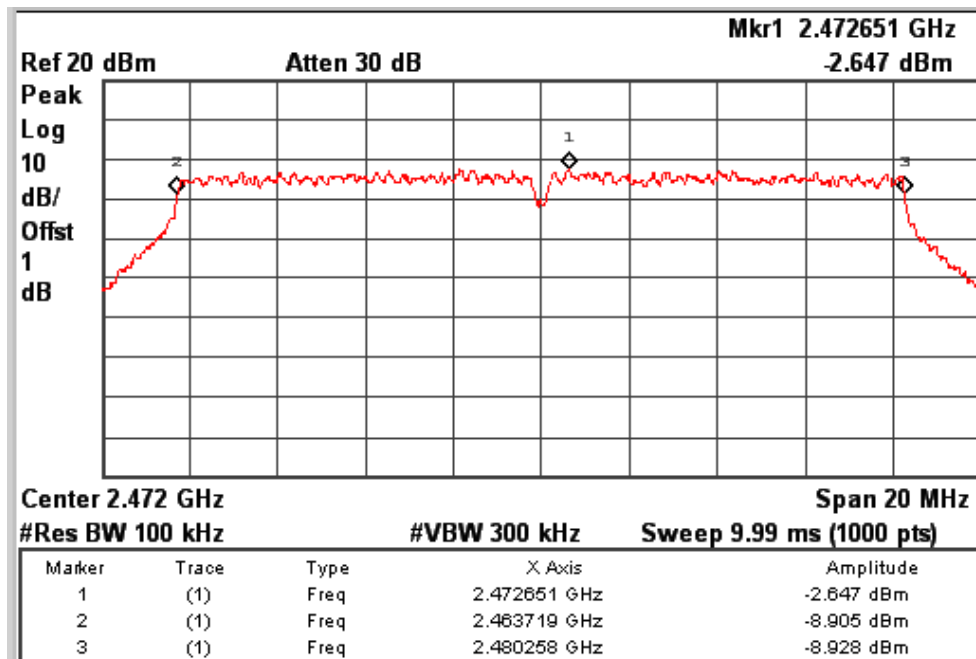
Data Rate: 54 Mbps

Channel Frequency: 2412 MHz



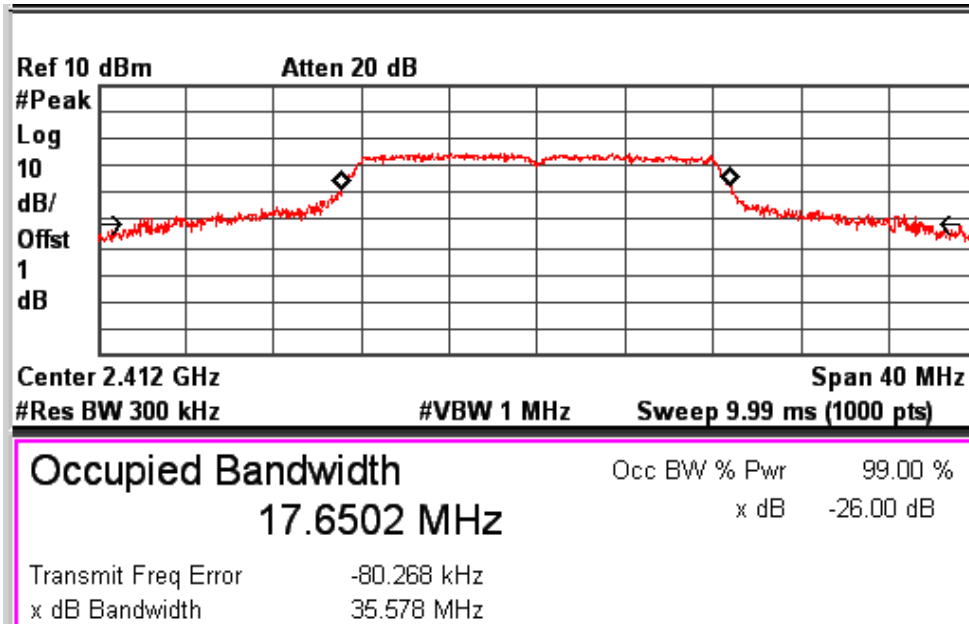
Data Rate: 54 Mbps

Channel Frequency: 2442 MHz



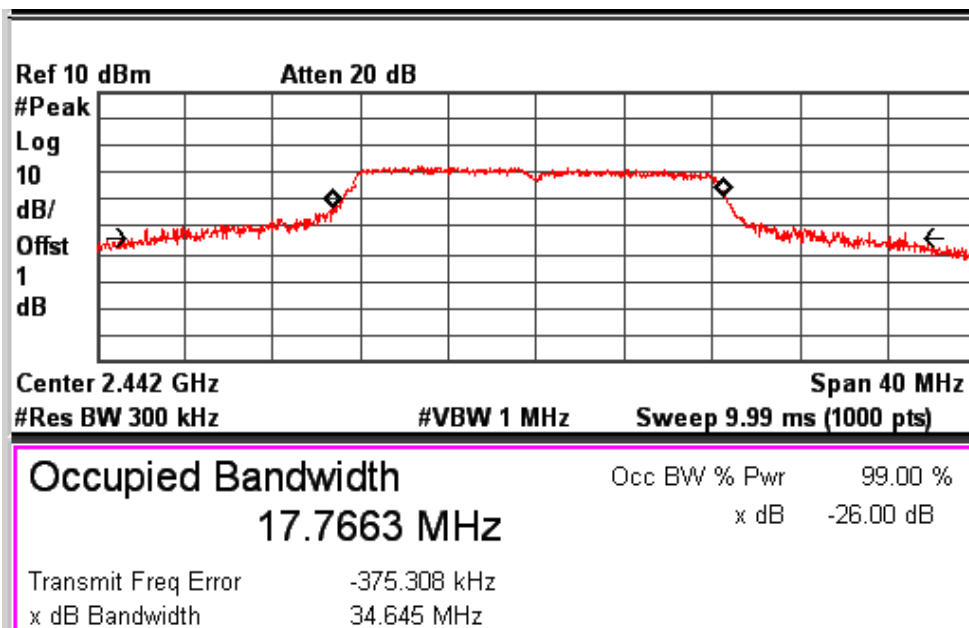
Data Rate: 54 Mbps

Channel Frequency: 2472 MHz



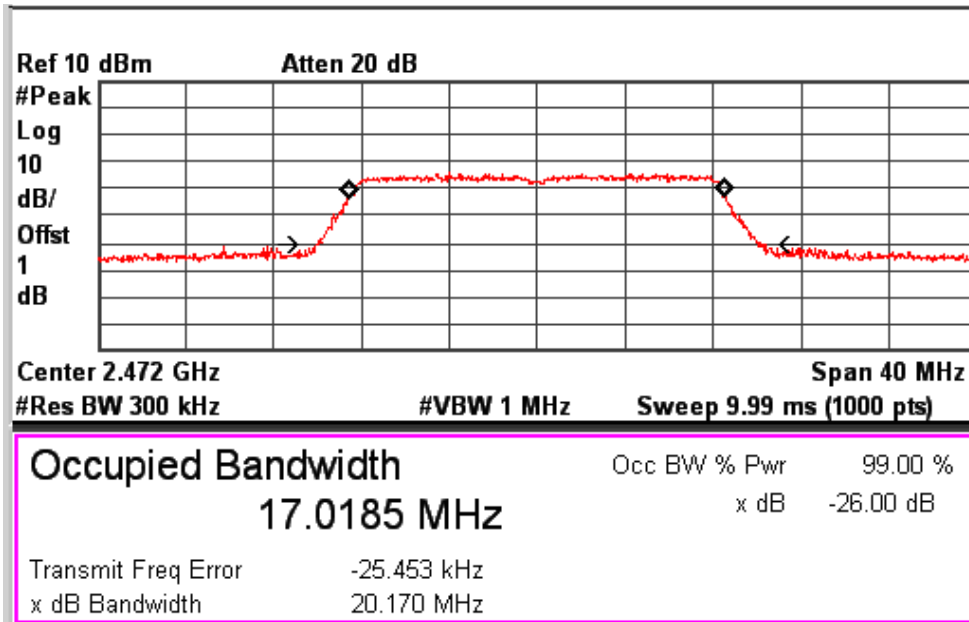
Data Rate: 6 Mbps

Channel Frequency: 2412 MHz



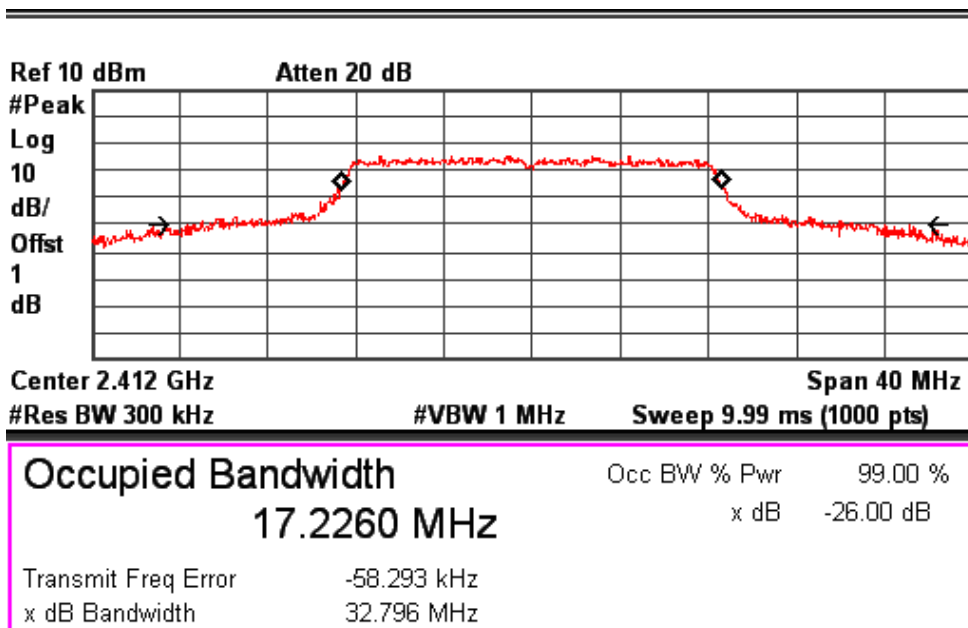
Data Rate: 6 Mbps

Channel Frequency: 2442 MHz



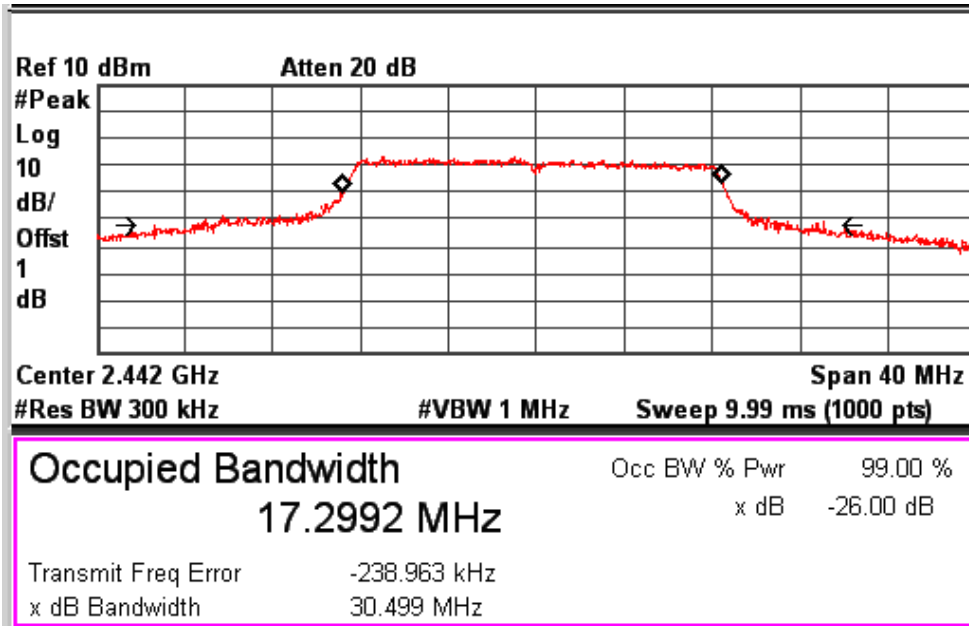
Data Rate: 6 Mbps

Channel Frequency: 2472 MHz



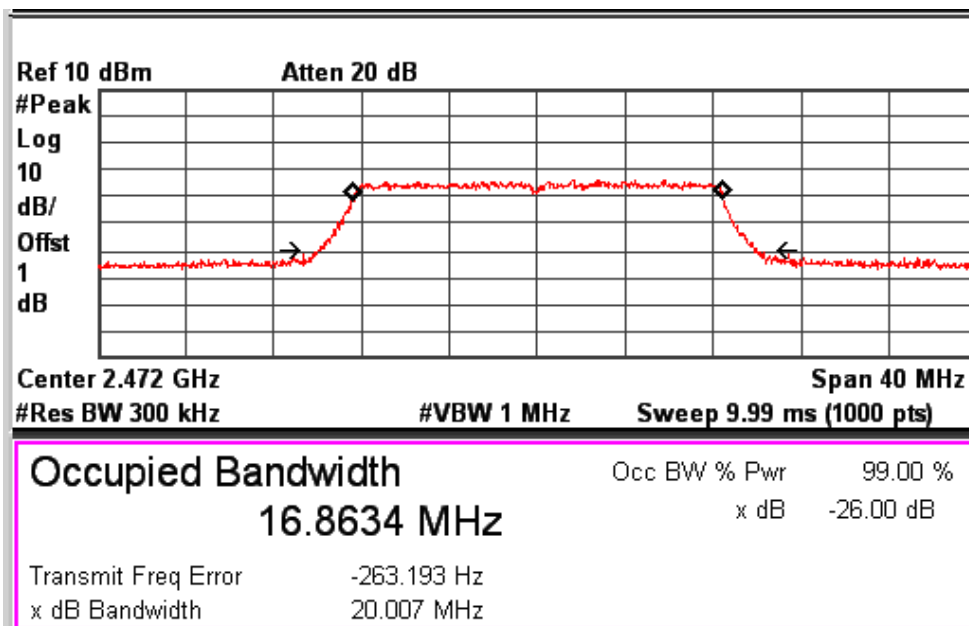
Data Rate: 24 Mbps

Channel Frequency: 2412 MHz



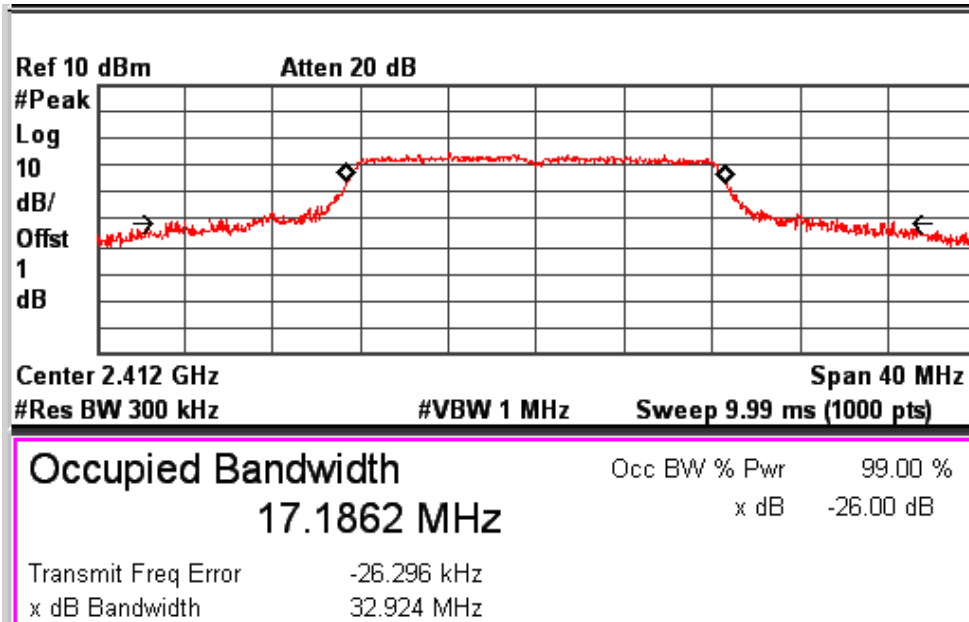
Data Rate: 24 Mbps

Channel Frequency: 2442 MHz



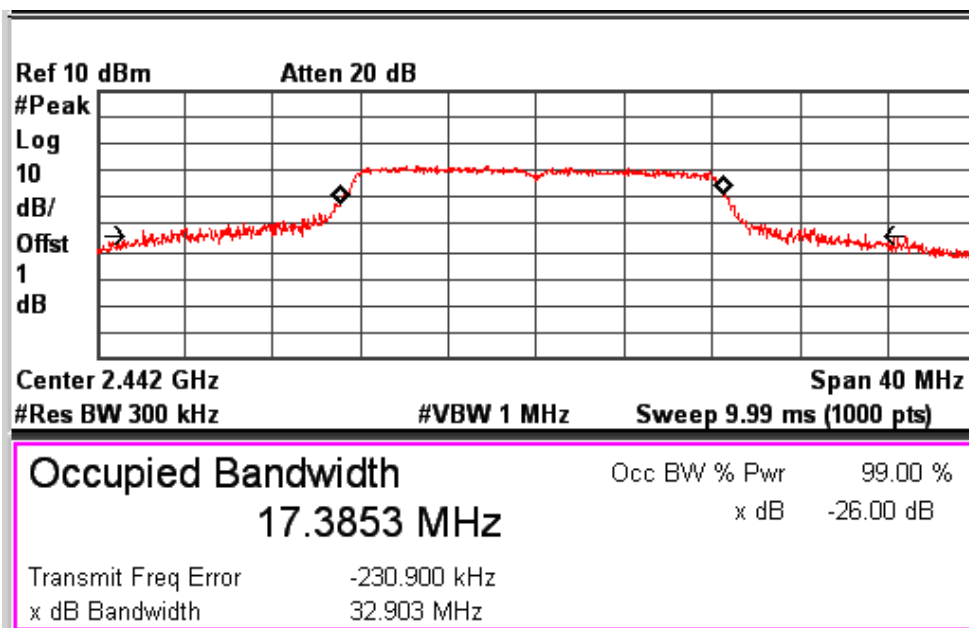
Data Rate: 24 Mbps

Channel Frequency: 2472 MHz



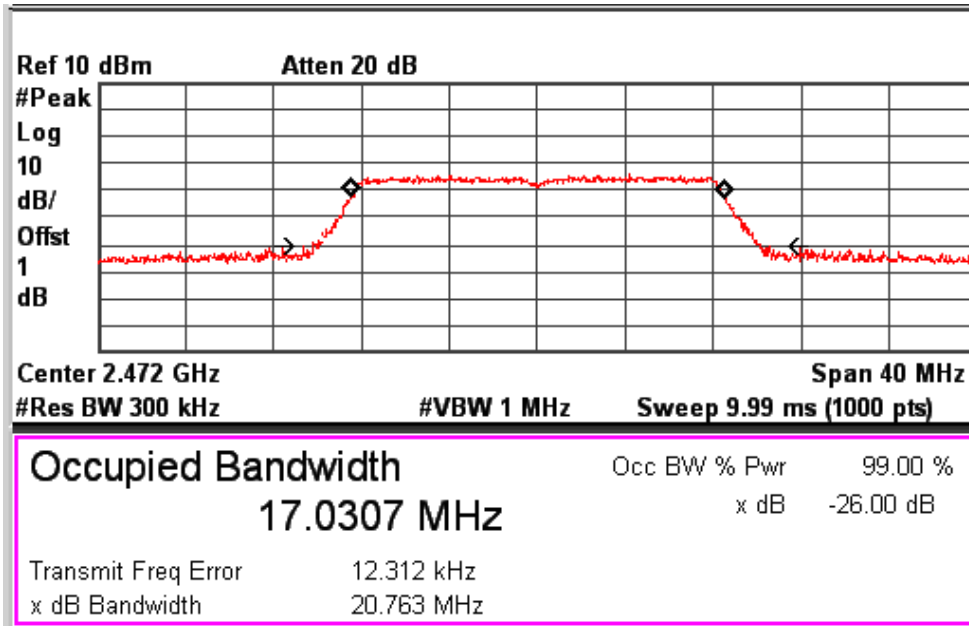
Data Rate: 54 Mbps

Channel Frequency: 2412 MHz



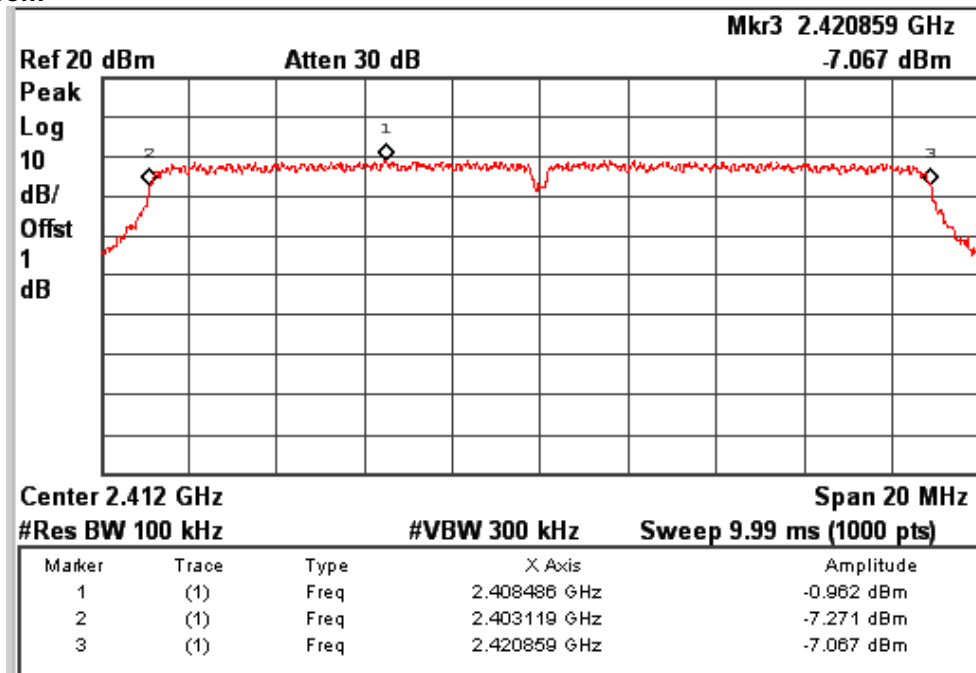
Data Rate: 54 Mbps

Channel Frequency: 2442 MHz


Data Rate: 54 Mbps
Channel Frequency: 2472 MHz

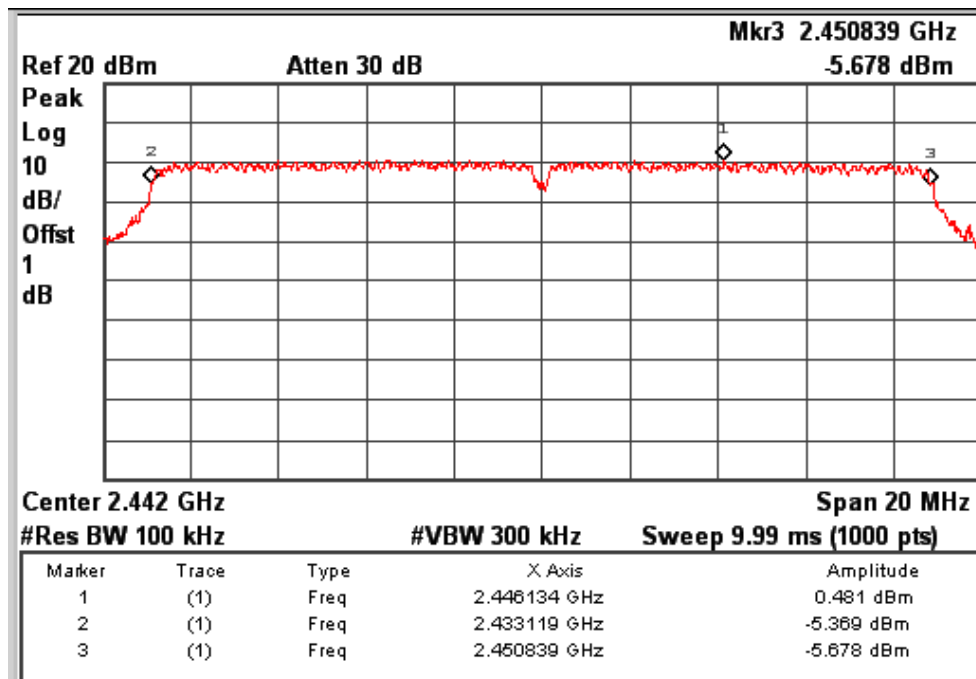
802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Lower Frequency (MHz)	Upper Frequency (MHz)	6 dB Bandwidth (MHz)	99% OBW (MHz)
n	6.5	2412.00	2403.12	2420.86	17.74	17.78
		2442.00	2433.12	2450.84	17.72	17.82
		2472.00	2463.12	2480.90	17.78	17.78
		5745.00	5736.10	5753.86	17.76	18.04
		5785.00	5776.06	5793.88	17.82	17.82
		5825.00	5816.10	5833.88	17.78	17.75
	39	2412.00	2403.12	2420.88	17.76	17.79
		2442.00	2433.10	2450.92	17.82	17.78
		2472.00	2463.12	2480.90	17.78	17.77
		5745.00	5736.10	5753.86	17.76	17.95
		5785.00	5776.08	5793.86	17.78	17.78
		5825.00	5816.10	5833.88	17.78	17.79
	65	5745.00	2403.10	2420.88	17.78	17.84
		5785.00	2433.10	2450.86	17.76	17.86
		5825.00	2463.10	2480.86	17.76	17.81
		2412.00	5736.10	5753.86	17.76	17.91
		2442.00	5776.08	5793.86	17.78	17.78
		2472.00	5816.08	5833.88	17.80	17.73

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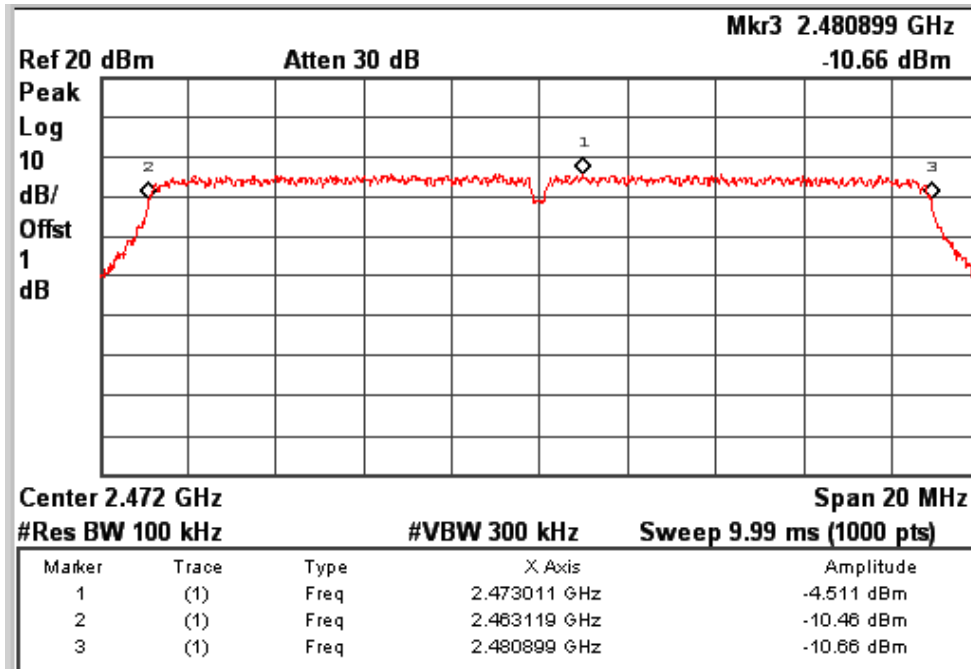
Data Rate: 6.5 Mbps

Channel Frequency: 2412 MHz



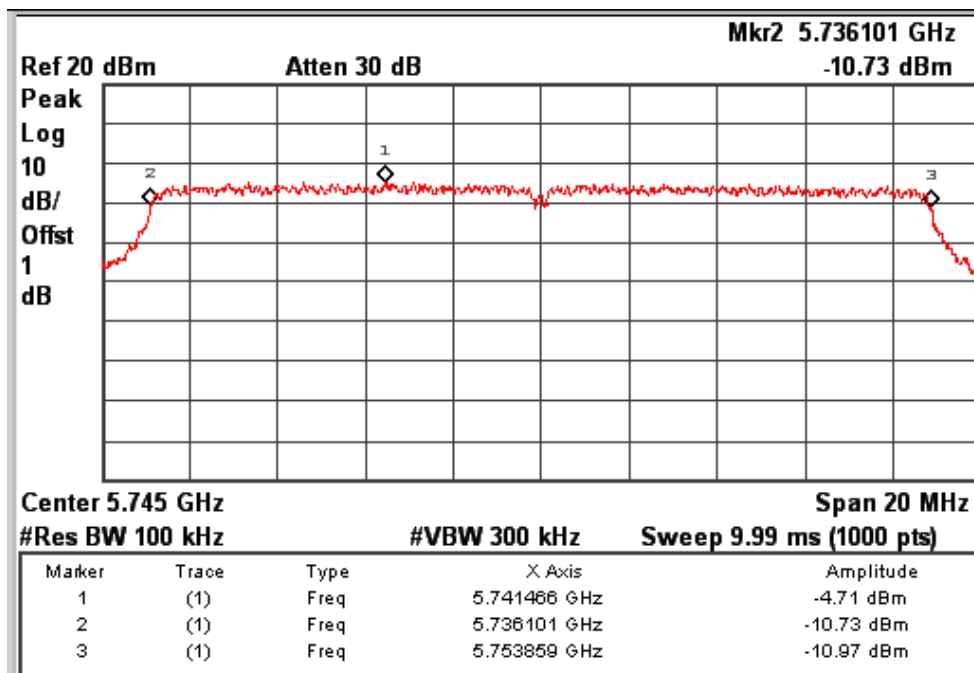
Data Rate: 6.5 Mbps

Channel Frequency: 2442 MHz



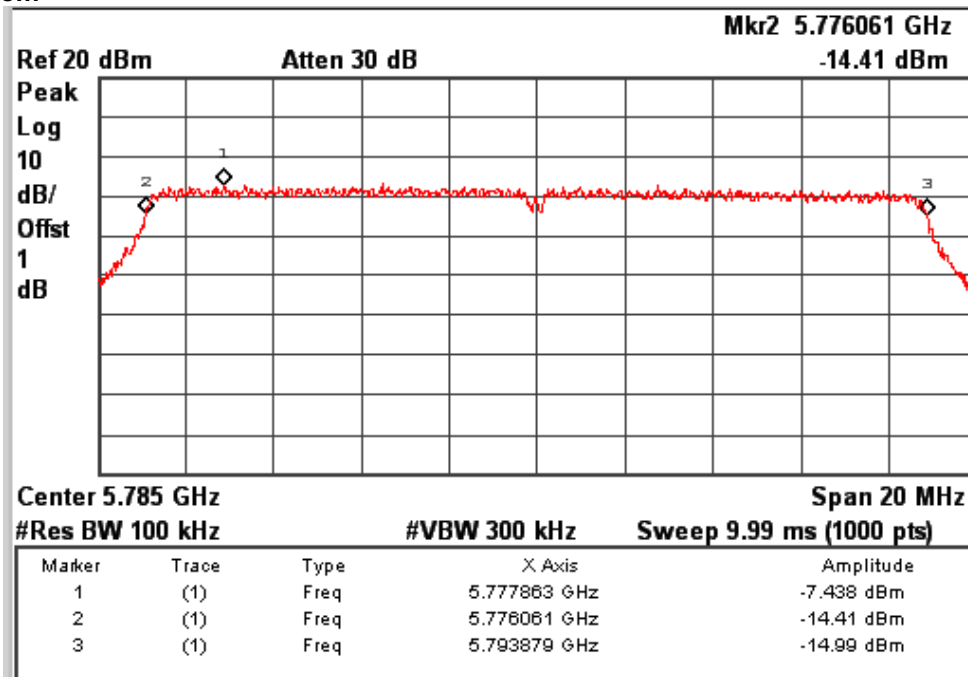
Data Rate: 6.5 Mbps

Channel Frequency: 2472 MHz



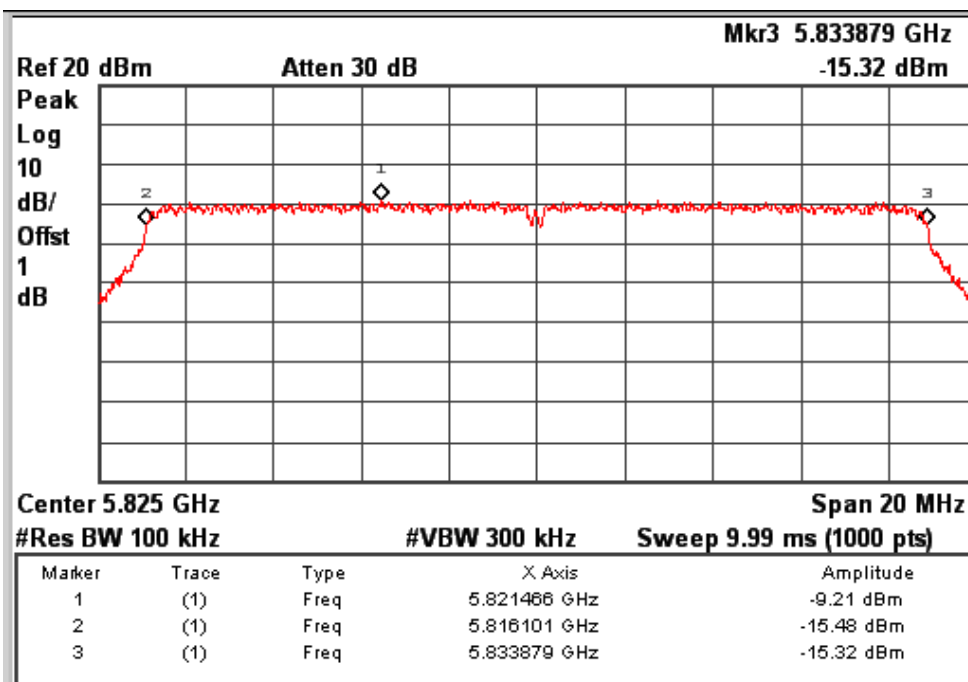
Data Rate: 6.5 Mbps

Channel Frequency: 5745 MHz



Data Rate: 6.5 Mbps

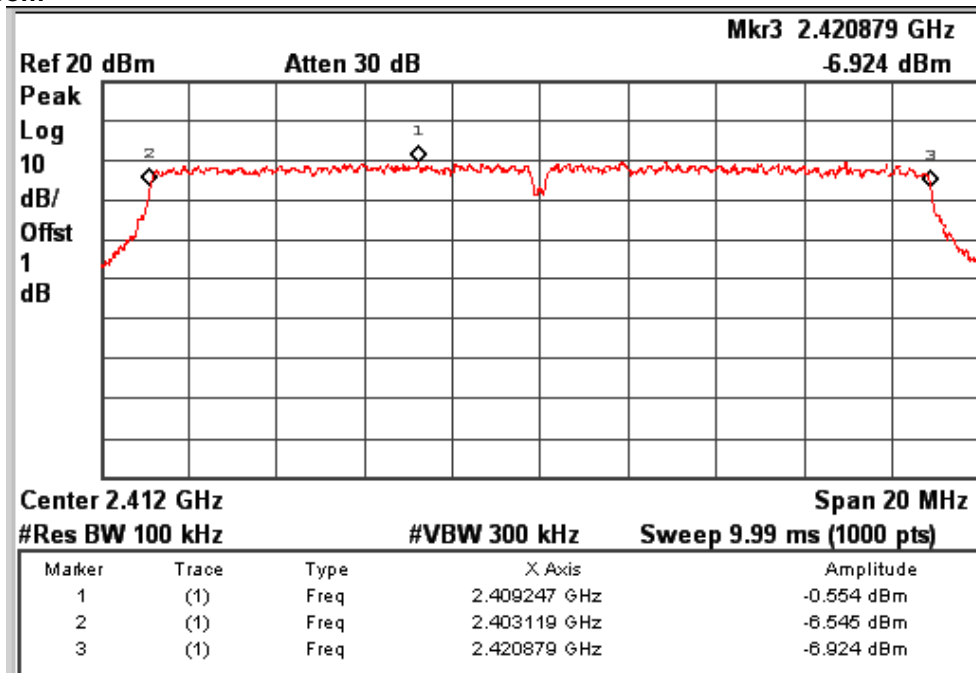
Channel Frequency: 5785 MHz



Data Rate: 6.5 Mbps

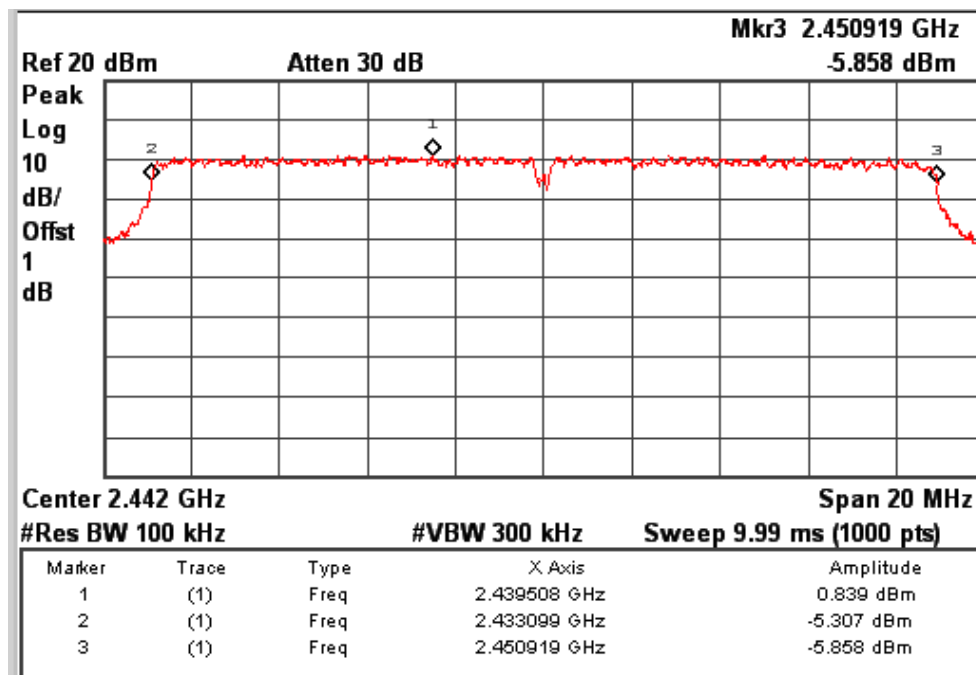
Channel Frequency: 5825 MHz

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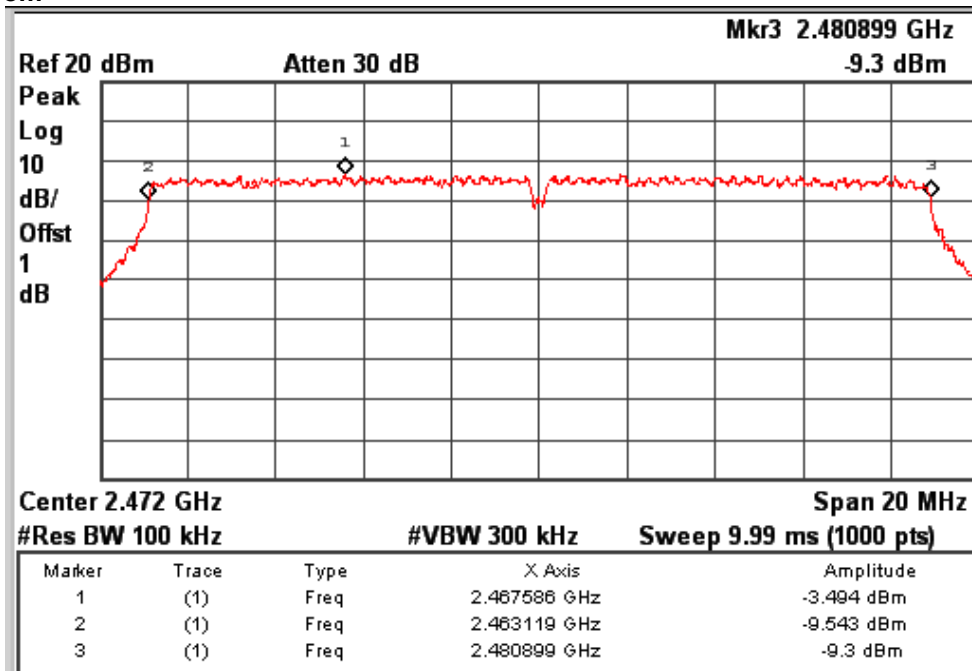
Data Rate: 39 Mbps

Channel Frequency: 2412 MHz



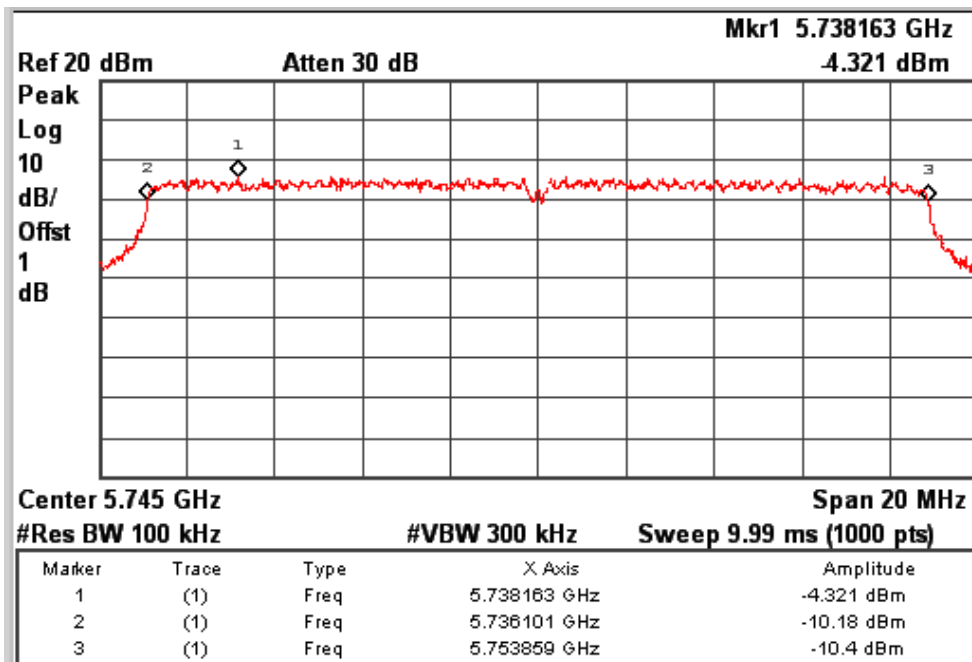
Data Rate: 39 Mbps

Channel Frequency: 2442 MHz



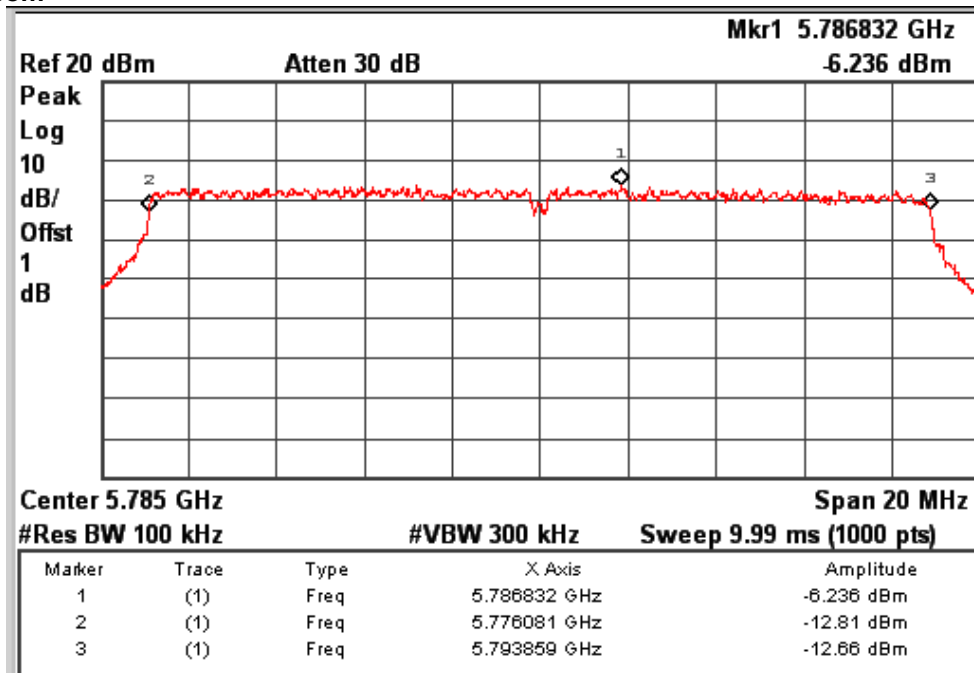
Data Rate: 39 Mbps

Channel Frequency: 2472 MHz



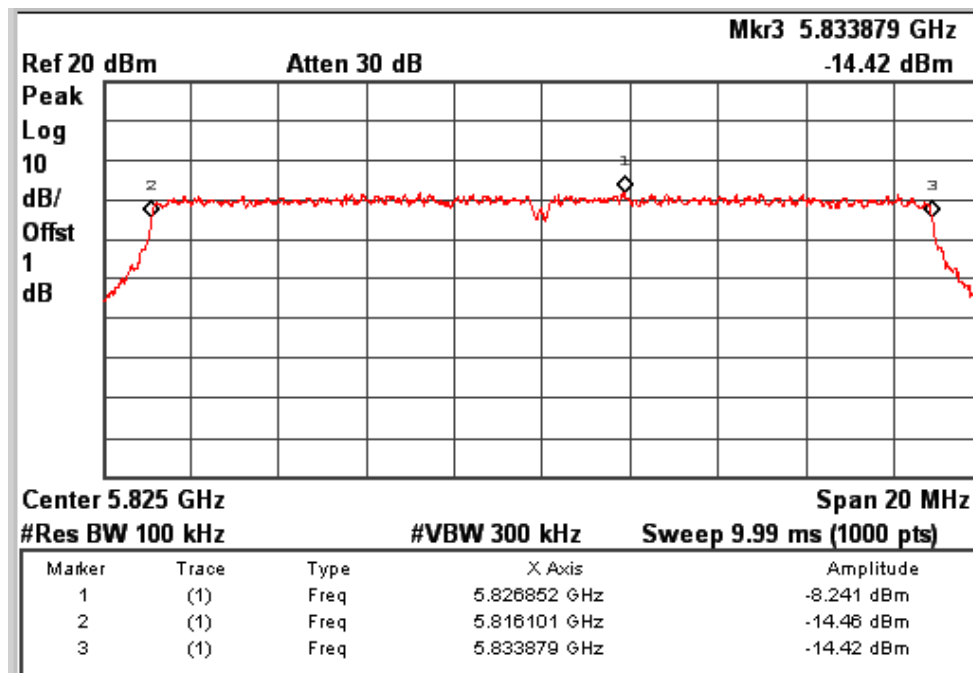
Data Rate: 39 Mbps

Channel Frequency: 5745 MHz



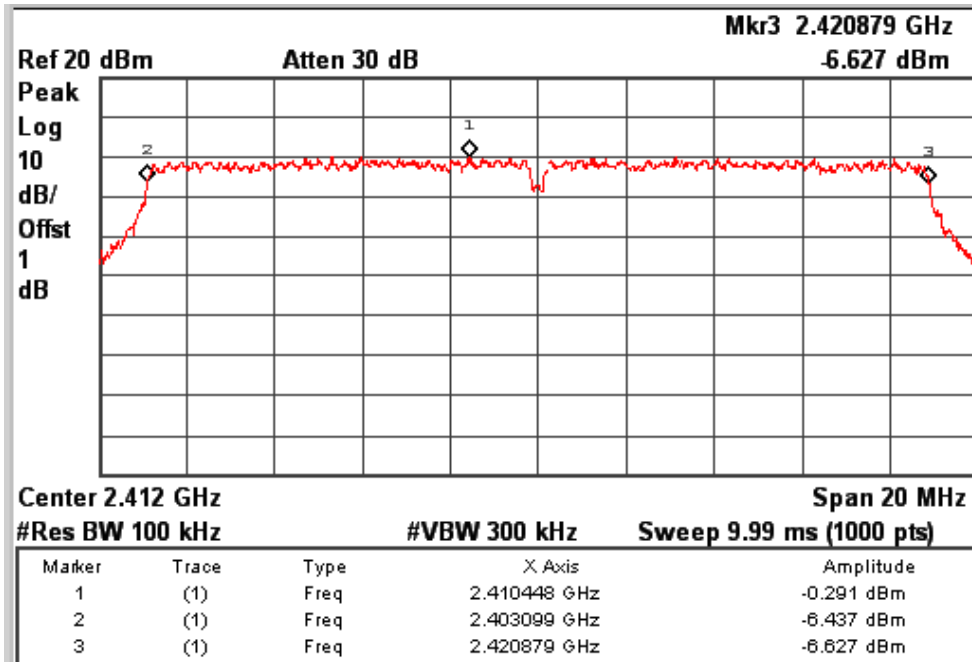
Data Rate: 39 Mbps

Channel Frequency: 5785 MHz



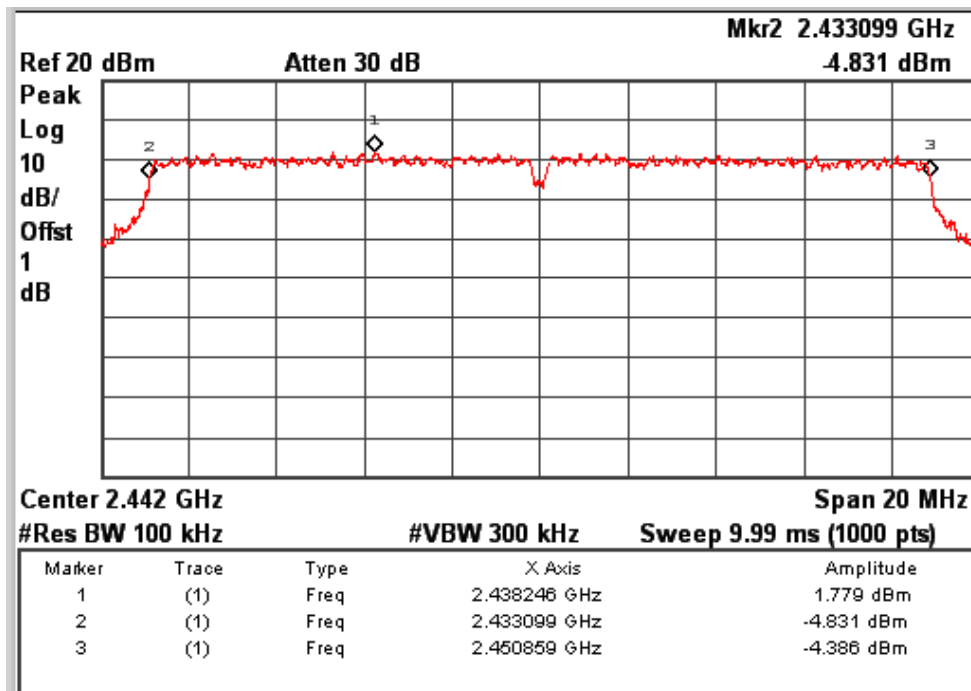
Data Rate: 39 Mbps

Channel Frequency: 5825 MHz



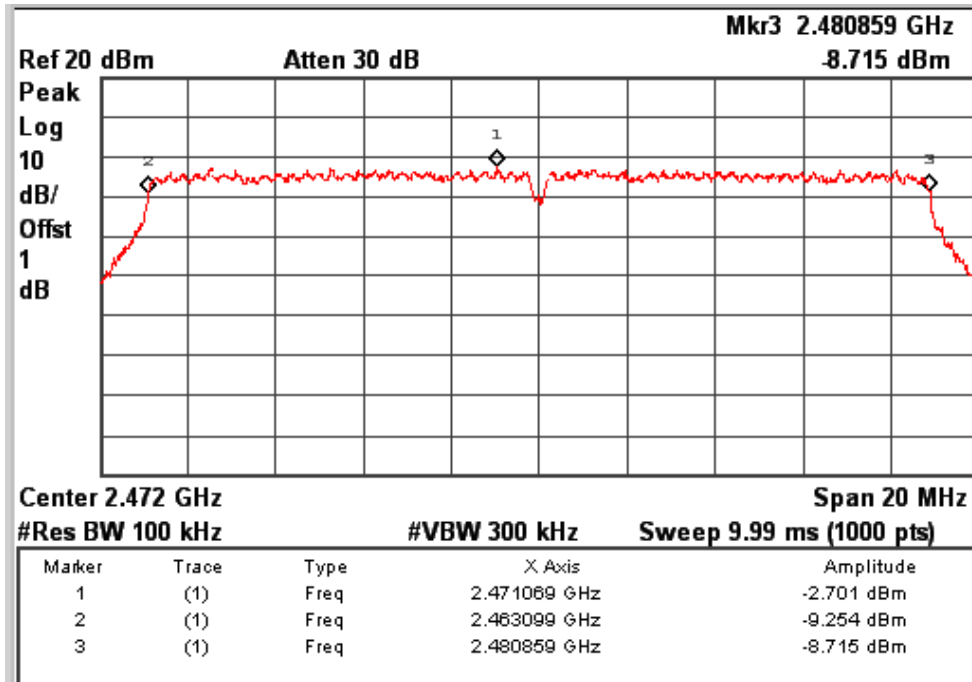
Data Rate: 65 Mbps

Channel Frequency: 2412 MHz



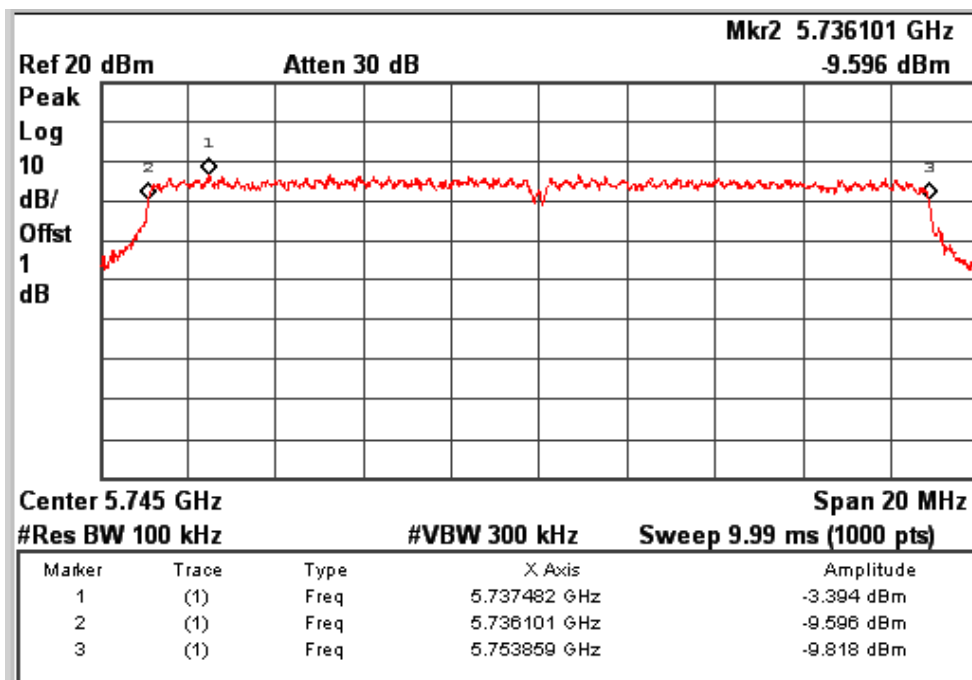
Data Rate: 65 Mbps

Channel Frequency: 2442 MHz



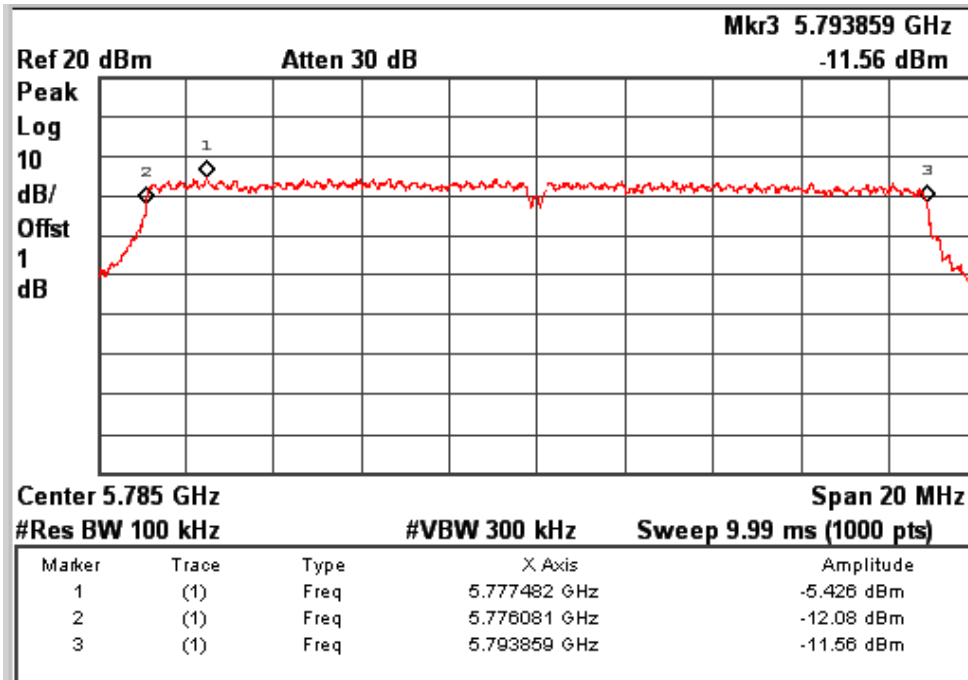
Data Rate: 65 Mbps

Channel Frequency: 2472 MHz



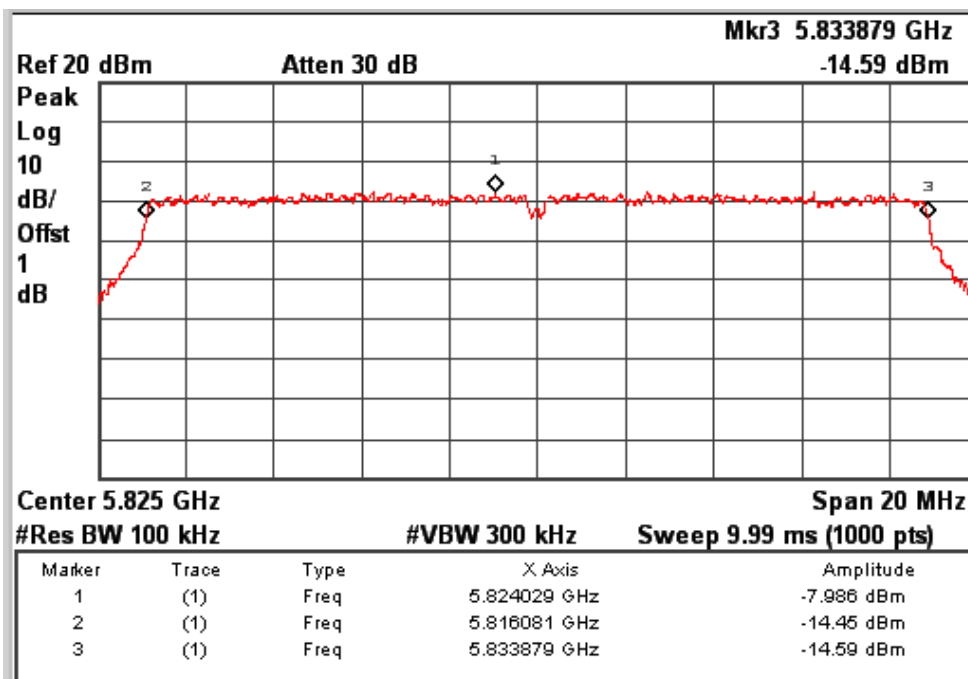
Data Rate: 65 Mbps

Channel Frequency: 5745 MHz



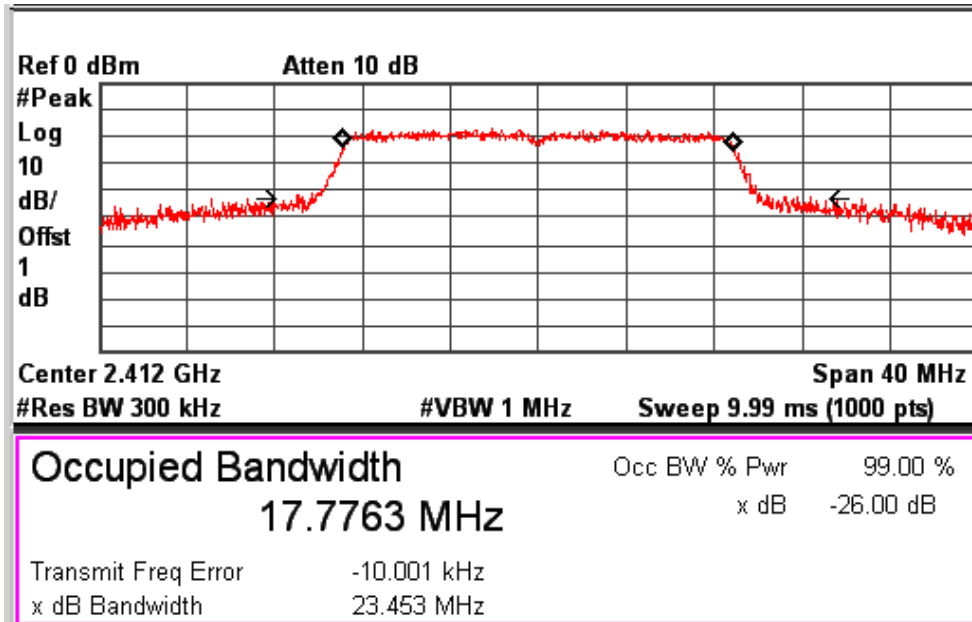
Data Rate: 65 Mbps

Channel Frequency: 5785 MHz



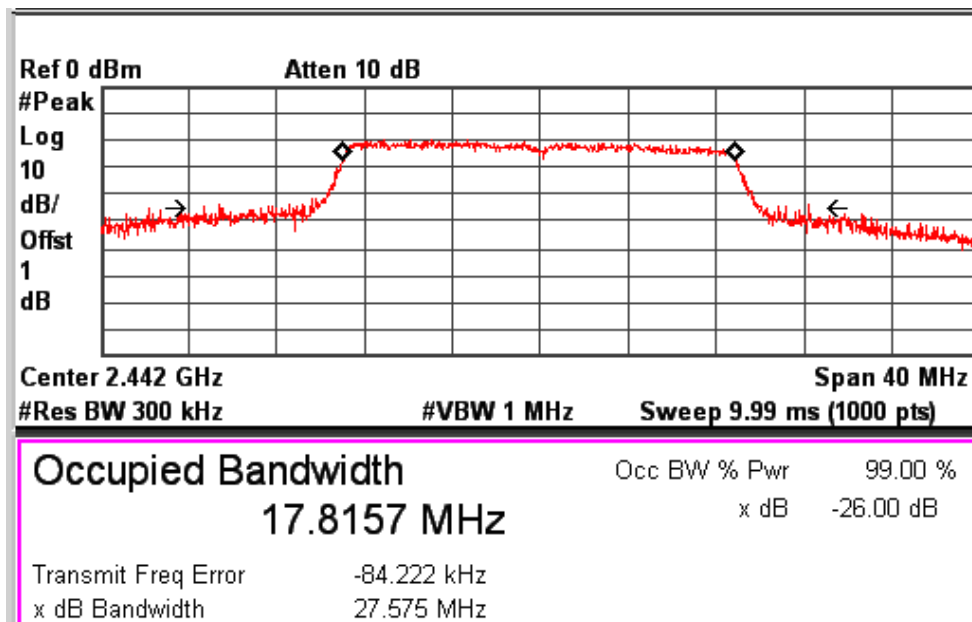
Data Rate: 65 Mbps

Channel Frequency: 5825 MHz



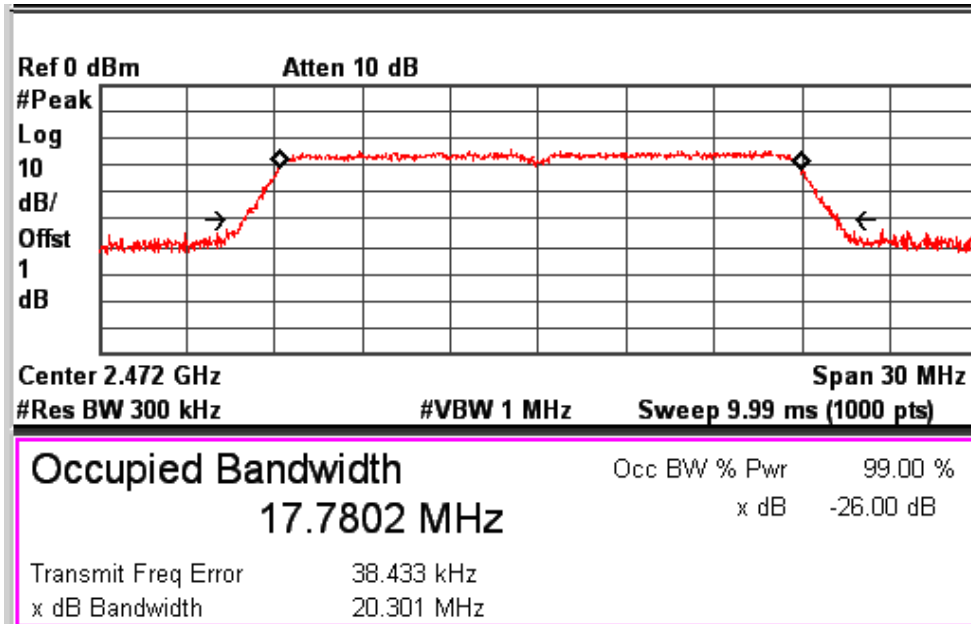
Data Rate: 6.5 Mbps

Channel Frequency: 2412 MHz



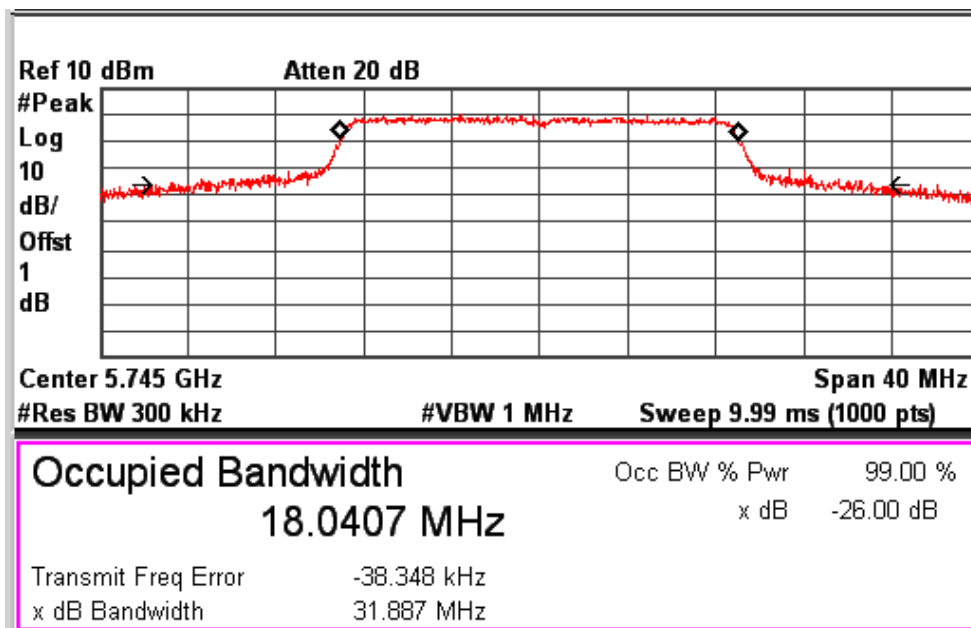
Data Rate: 6.5 Mbps

Channel Frequency: 2442 MHz



Data Rate: 6.5 Mbps

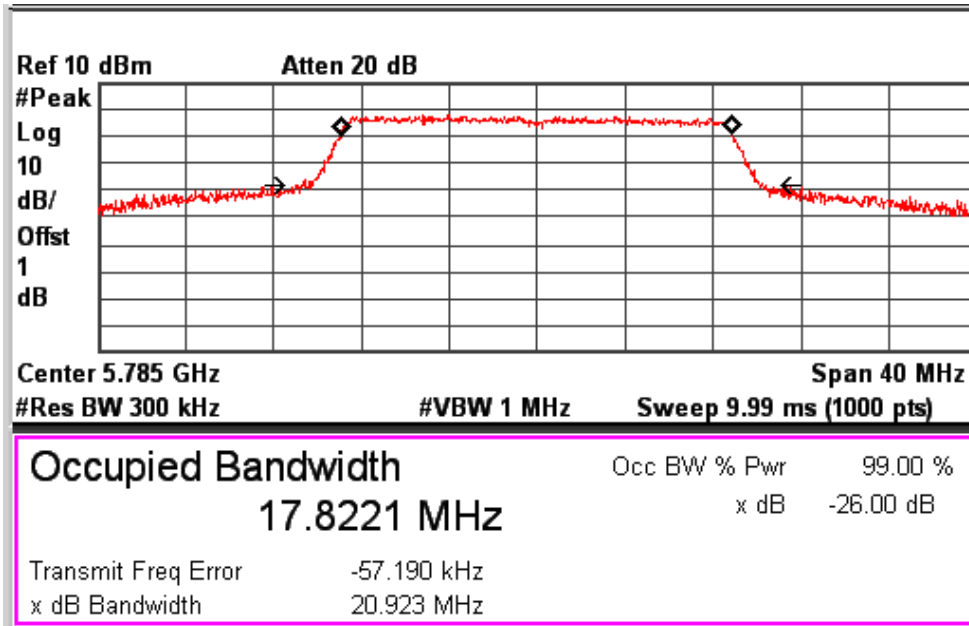
Channel Frequency: 2472 MHz



Data Rate: 6.5 Mbps

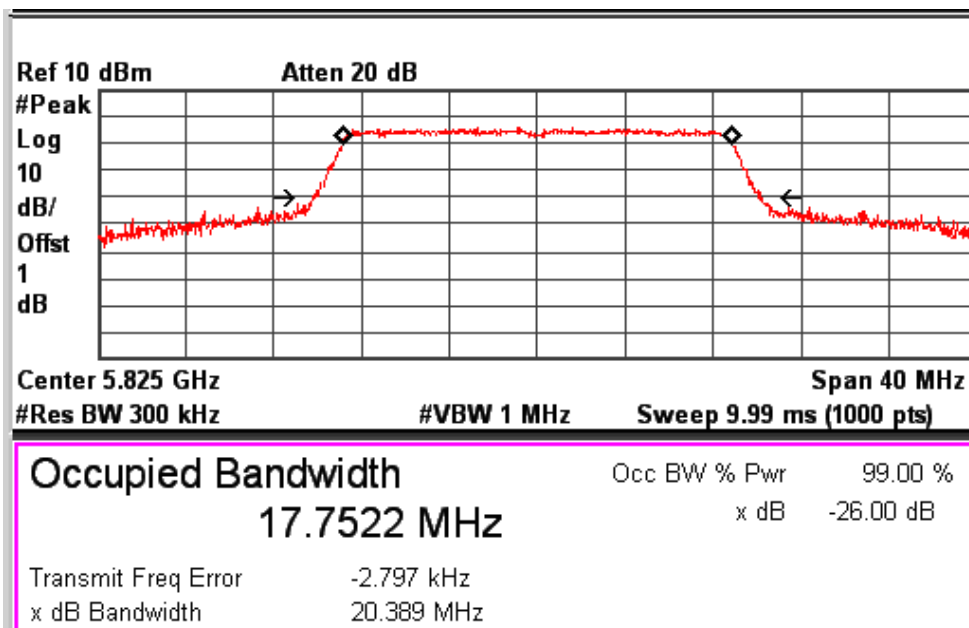
Channel Frequency: 5745 MHz

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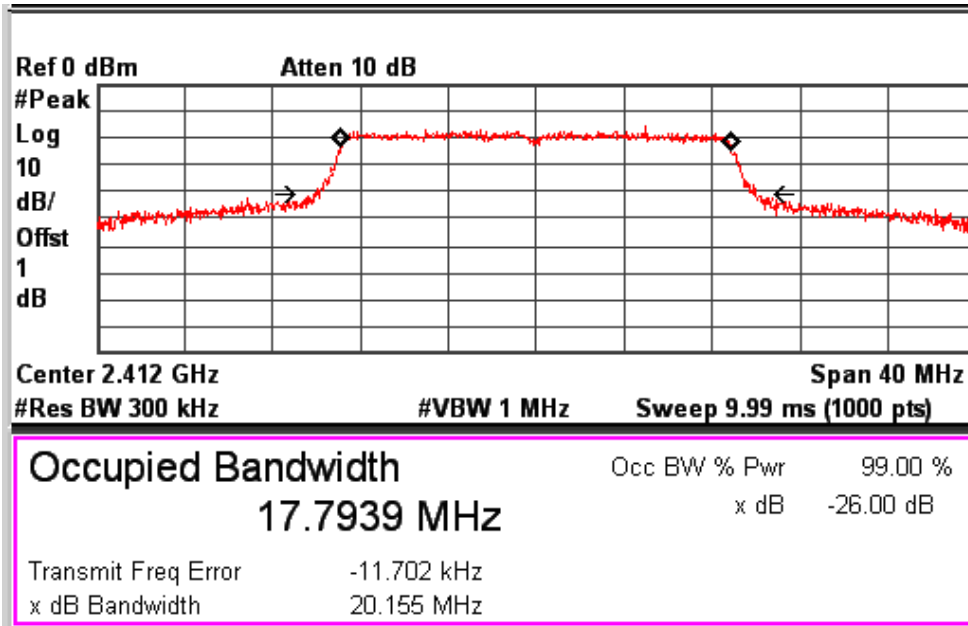
Data Rate: 6.5 Mbps

Channel Frequency: 5785 MHz



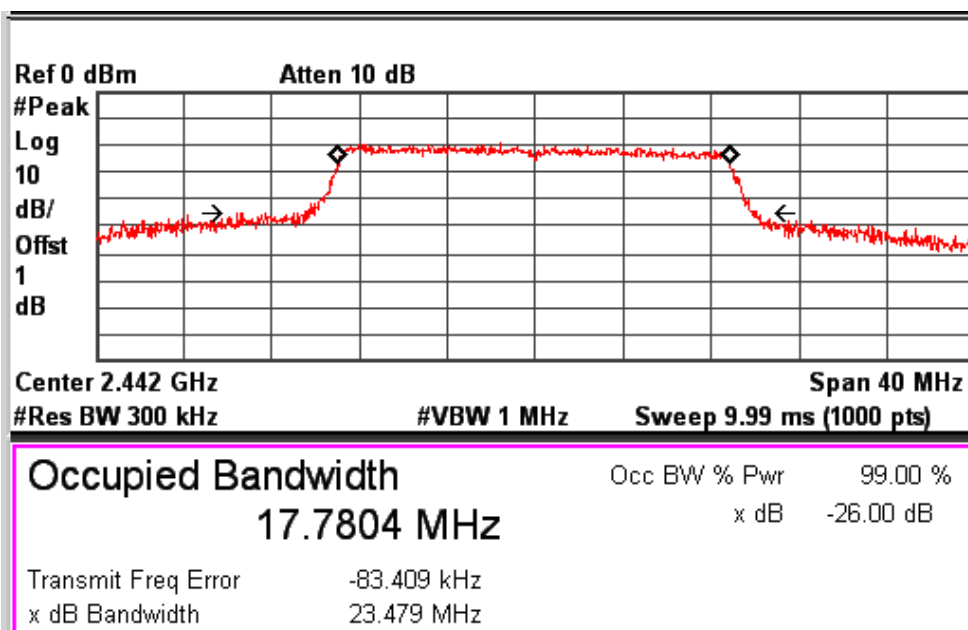
Data Rate: 6.5 Mbps

Channel Frequency: 5825 MHz



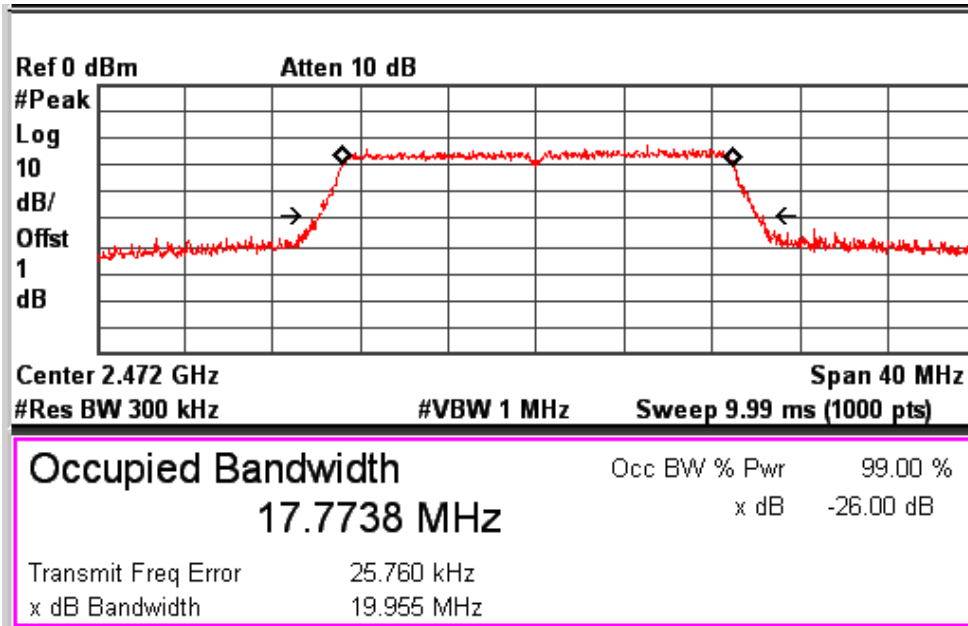
Data Rate: 39 Mbps

Channel Frequency: 2412 MHz



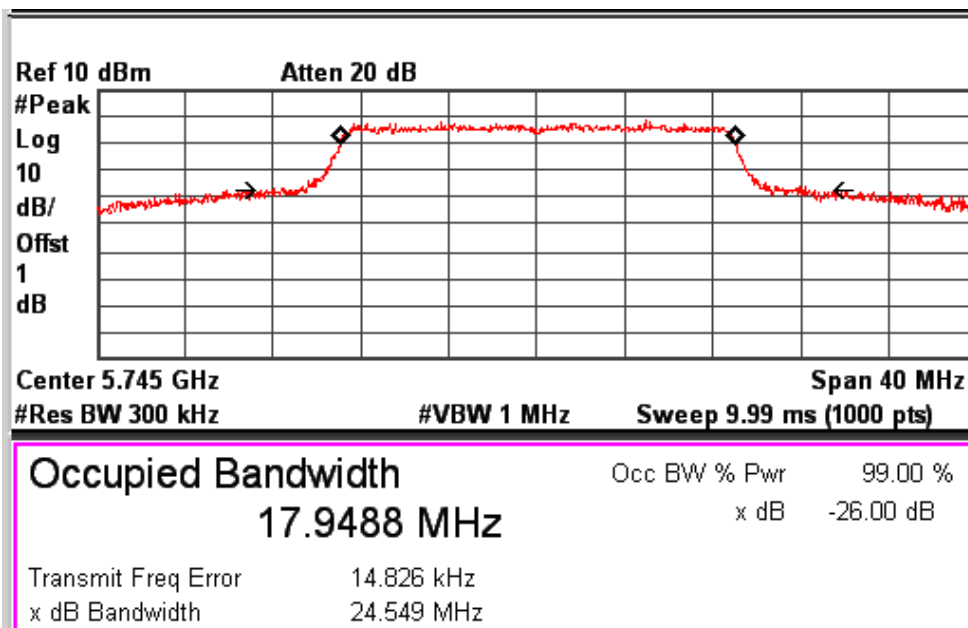
Data Rate: 39 Mbps

Channel Frequency: 2442 MHz



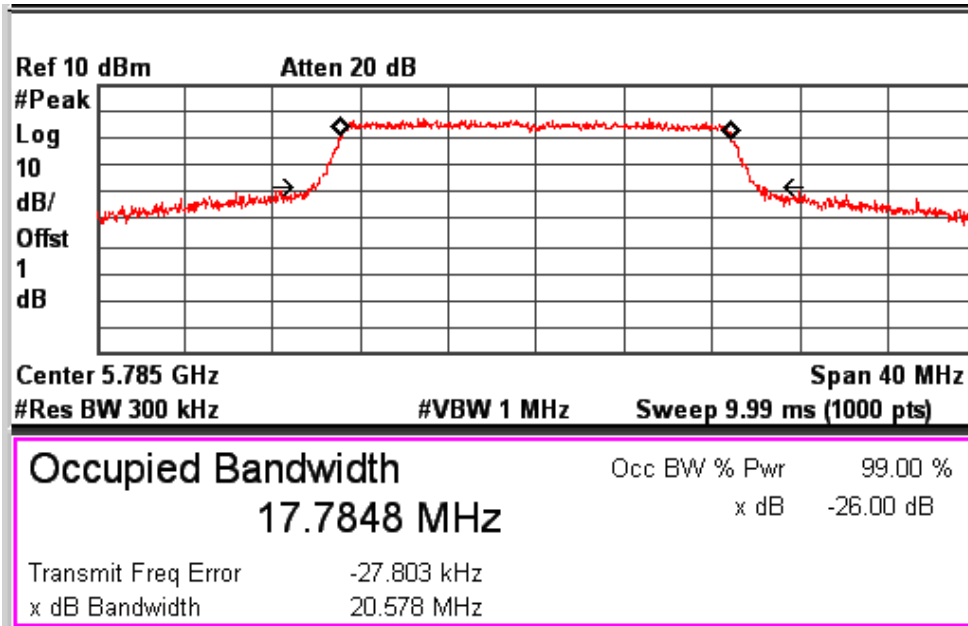
Data Rate: 39 Mbps

Channel Frequency: 2472 MHz



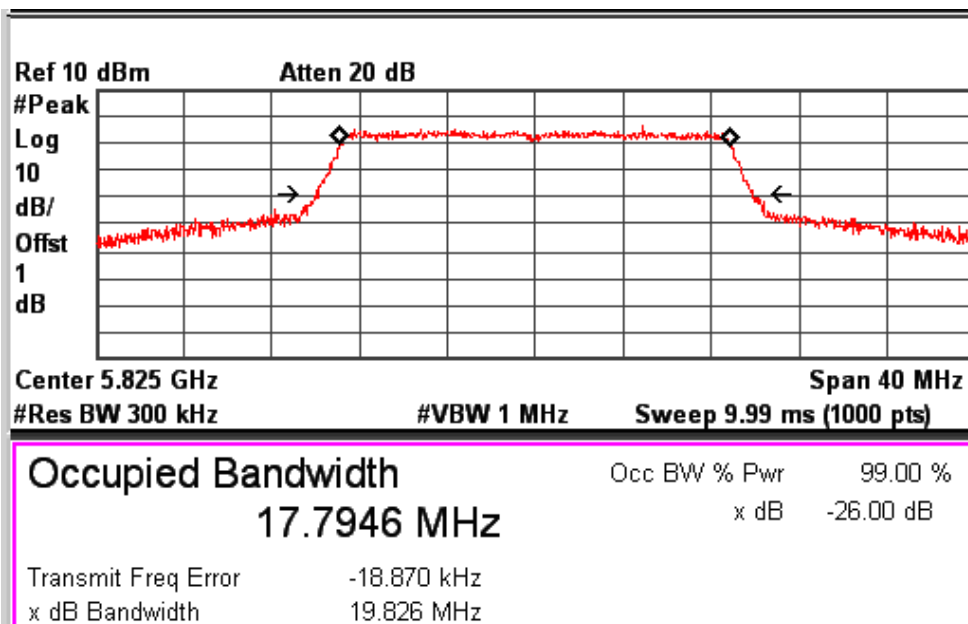
Data Rate: 39 Mbps

Channel Frequency: 5745 MHz



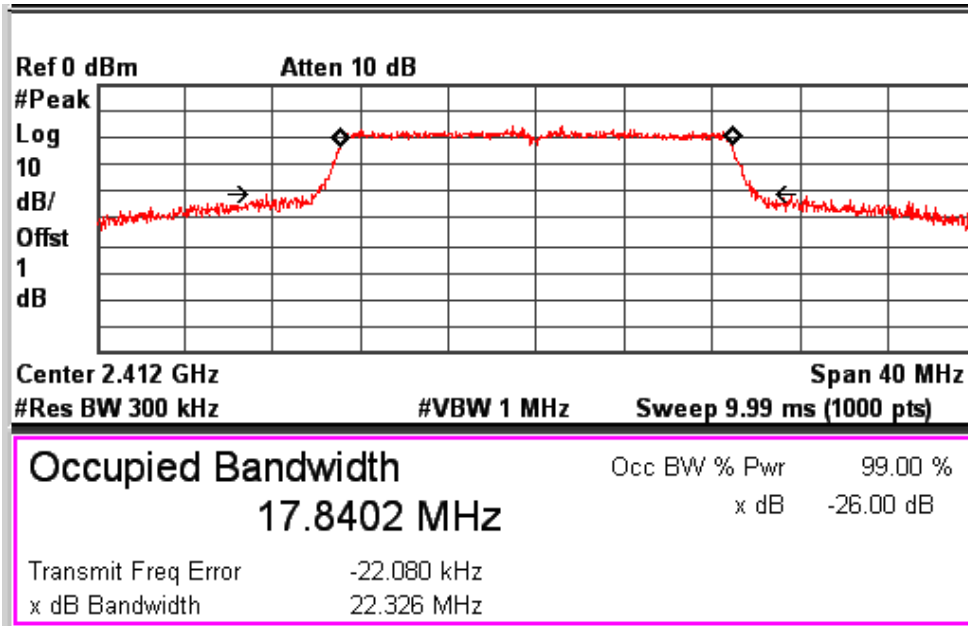
Data Rate: 39 Mbps

Channel Frequency: 5785 MHz



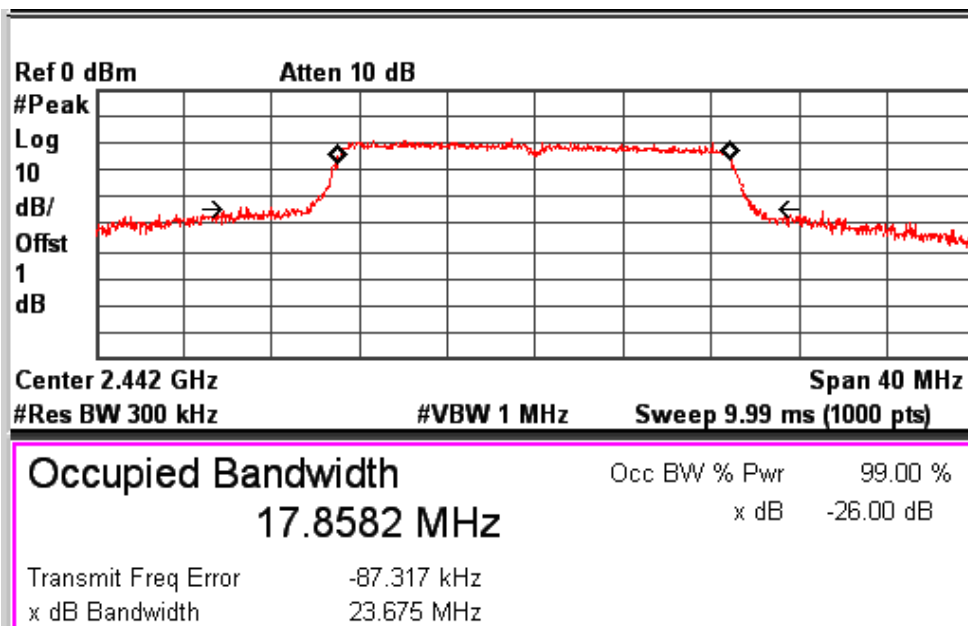
Data Rate: 39 Mbps

Channel Frequency: 5825 MHz



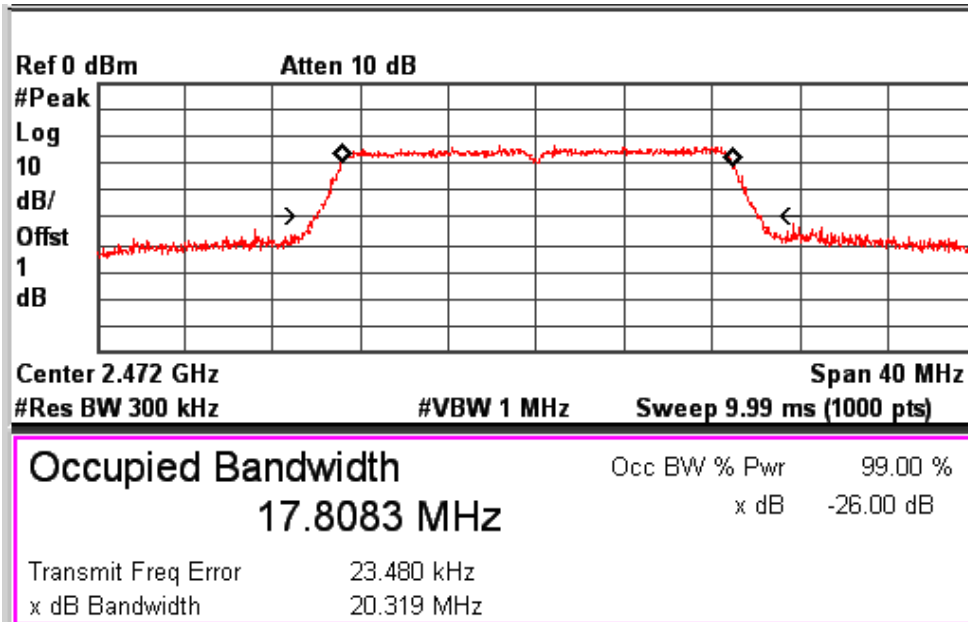
Data Rate: 65 Mbps

Channel Frequency: 2412 MHz



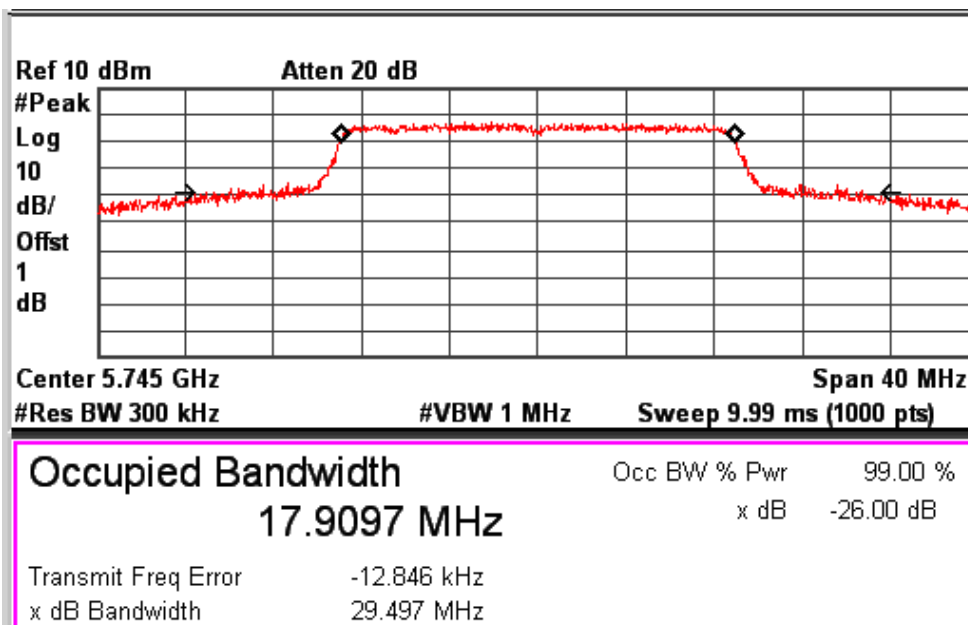
Data Rate: 65 Mbps

Channel Frequency: 2442 MHz



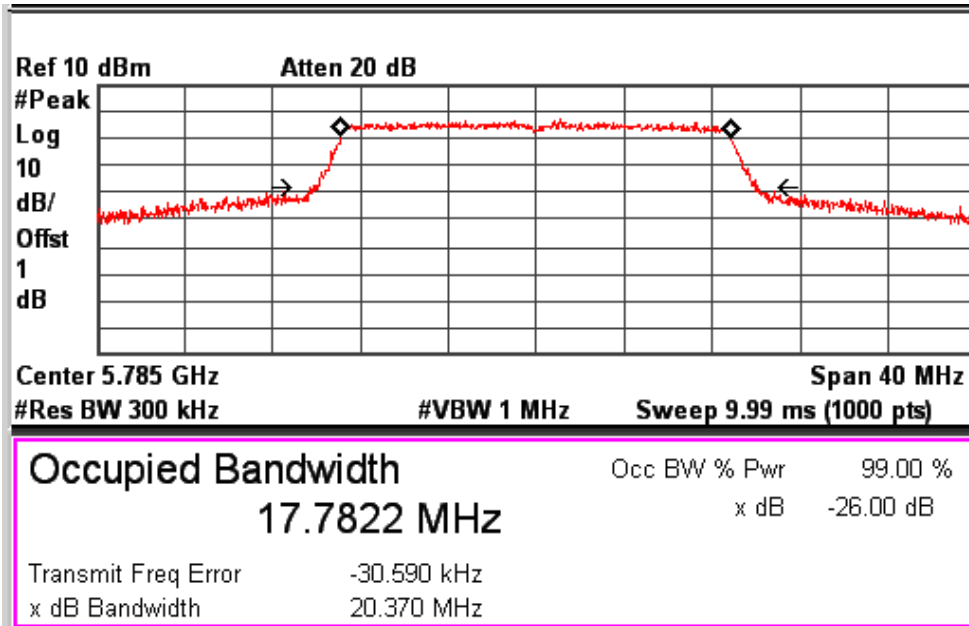
Data Rate: 65 Mbps

Channel Frequency: 2472 MHz



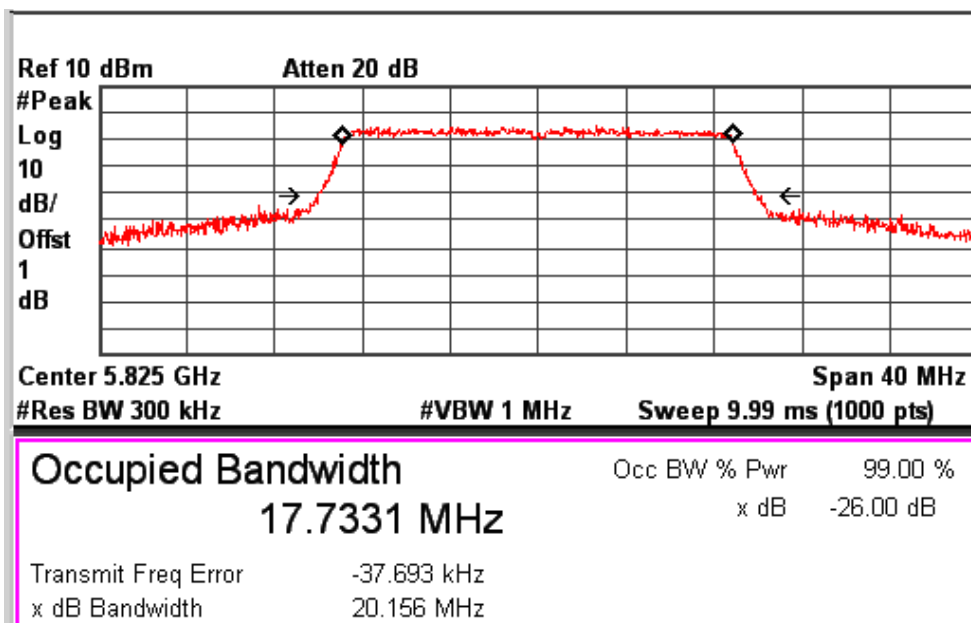
Data Rate: 65 Mbps

Channel Frequency: 5745 MHz



Data Rate: 65 Mbps

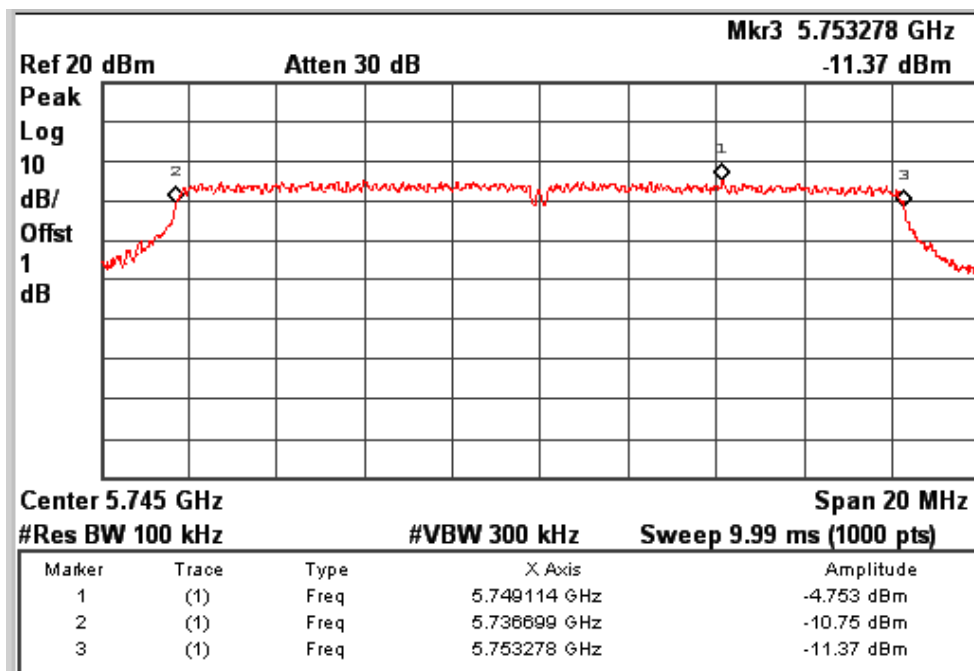
Channel Frequency: 5785 MHz



Data Rate: 65 Mbps

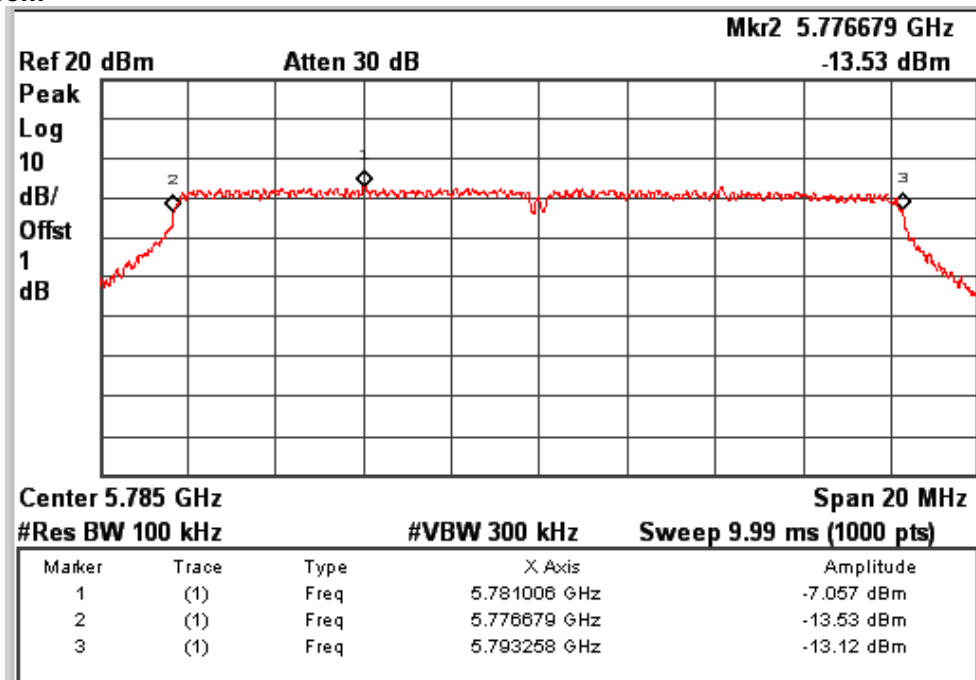
Channel Frequency: 5825 MHz

802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Lower Frequency (MHz)	Upper Frequency (MHz)	6 dB Bandwidth (MHz)	99% OBW (MHz)
a	6	5745.00	5736.67	5753.28	16.61	17.28
		5785.00	5776.68	5793.26	16.58	16.90
		5825.00	5816.67	5833.28	16.61	16.89
	24	5745.00	5736.67	5753.26	16.59	17.05
		5785.00	5776.67	5793.26	16.59	16.84
		5825.00	5816.70	5833.26	16.56	16.79
	54	5745.00	5736.68	5753.26	16.58	16.95
		5785.00	5776.72	5793.22	16.50	16.81
		5825.00	5816.70	5833.24	16.54	16.76



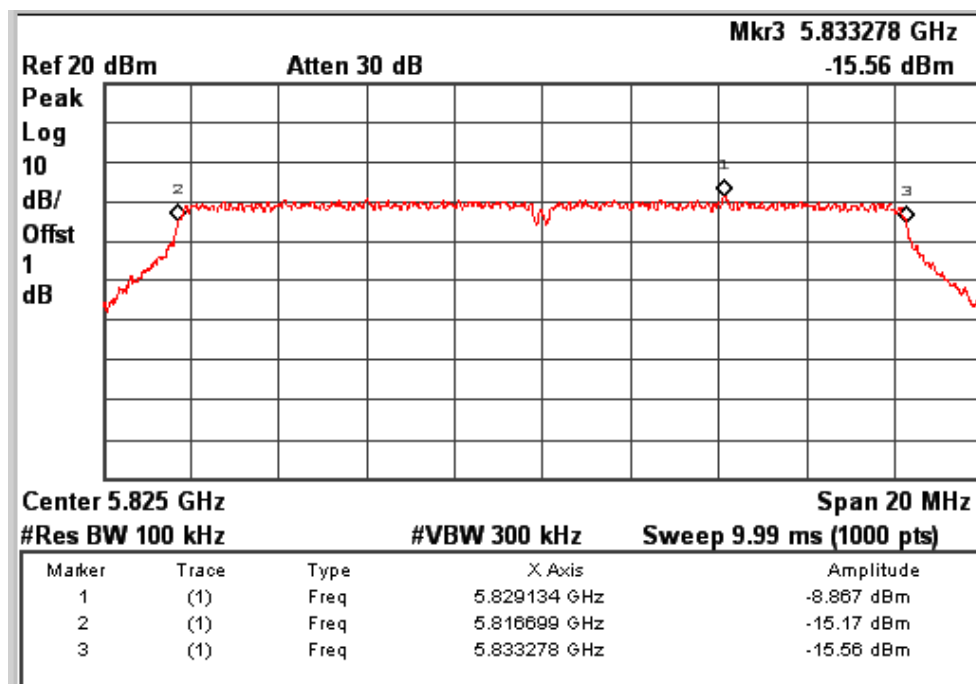
Data Rate: 6 Mbps

Channel Frequency: 5745 MHz



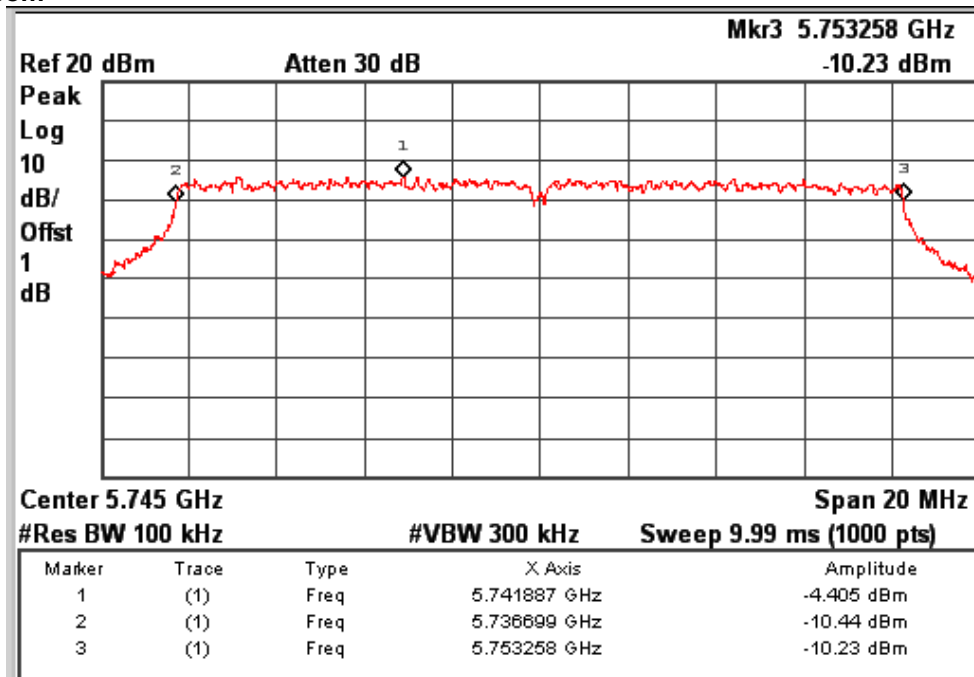
Data Rate: 6 Mbps

Channel Frequency: 5785 MHz



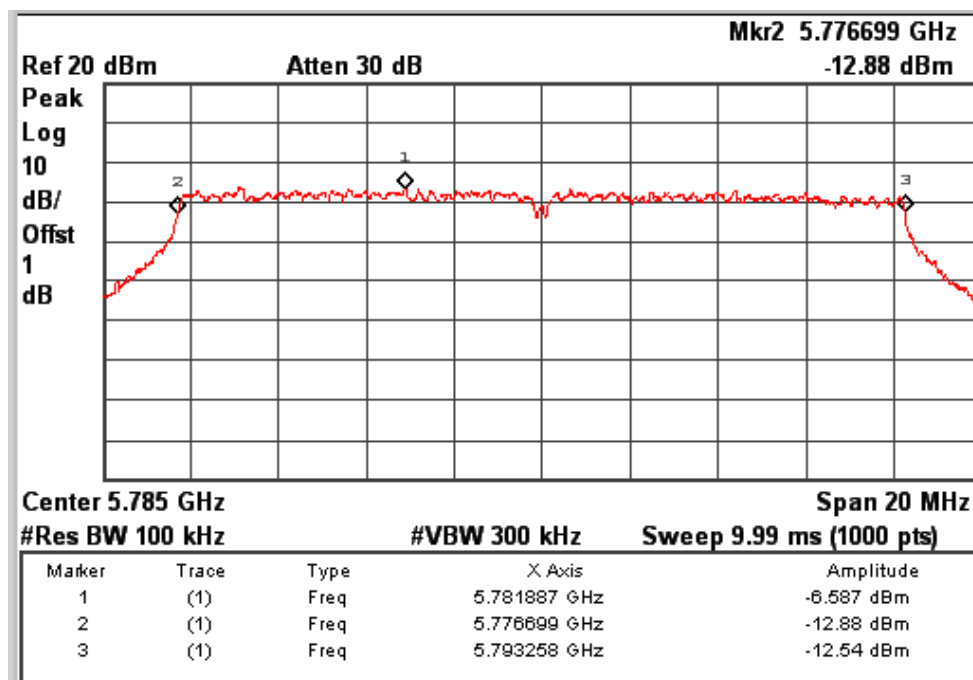
Data Rate: 6 Mbps

Channel Frequency: 5825 MHz



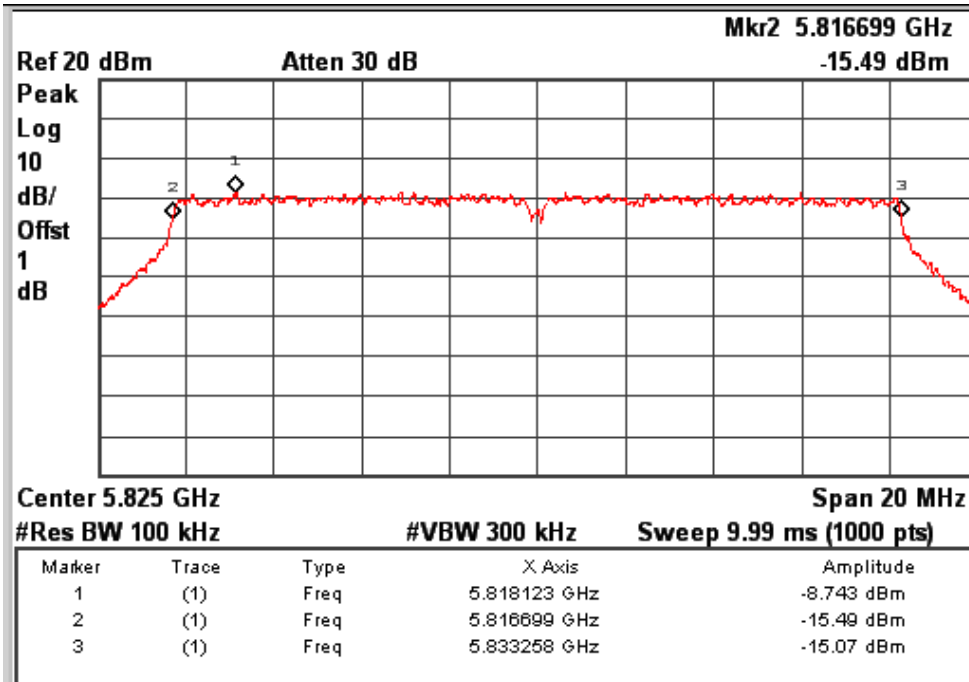
Data Rate: 24 Mbps

Channel Frequency: 5745 MHz



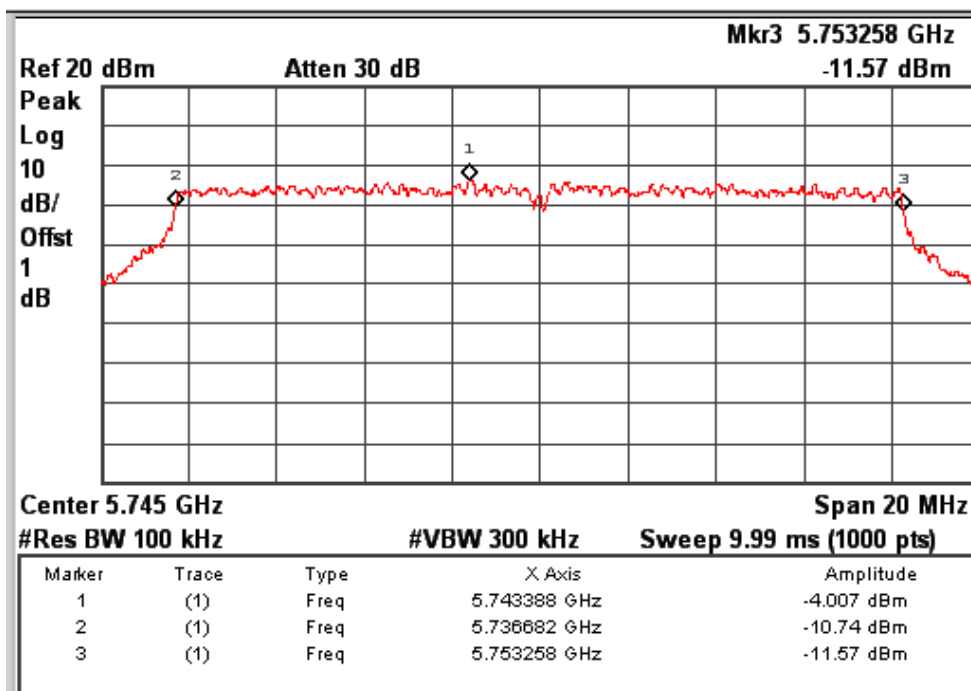
Data Rate: 24 Mbps

Channel Frequency: 5785 MHz



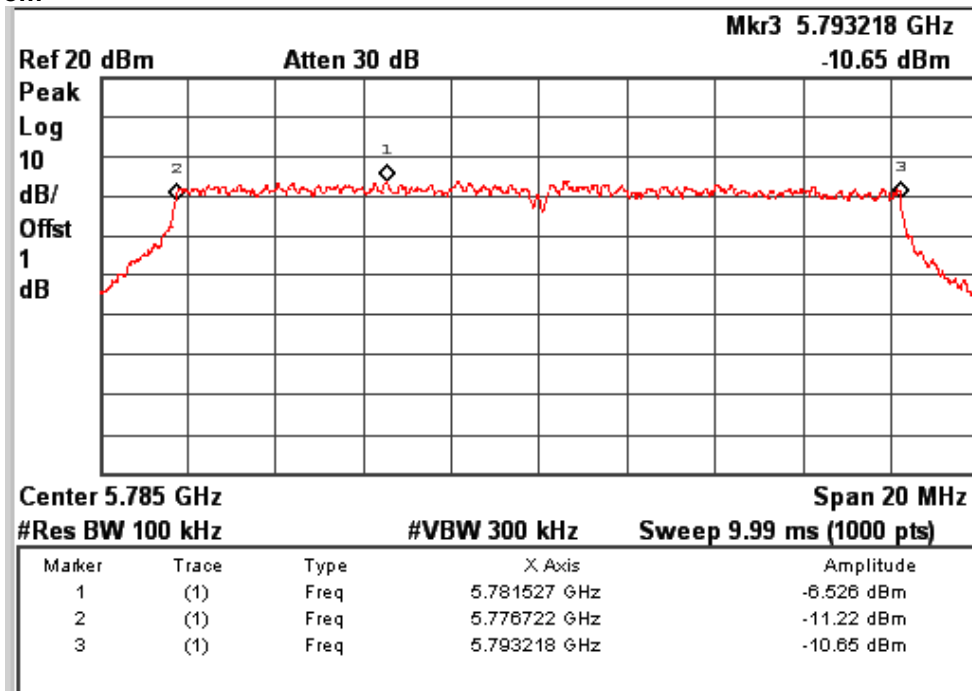
Data Rate: 24 Mbps

Channel Frequency: 5825 MHz



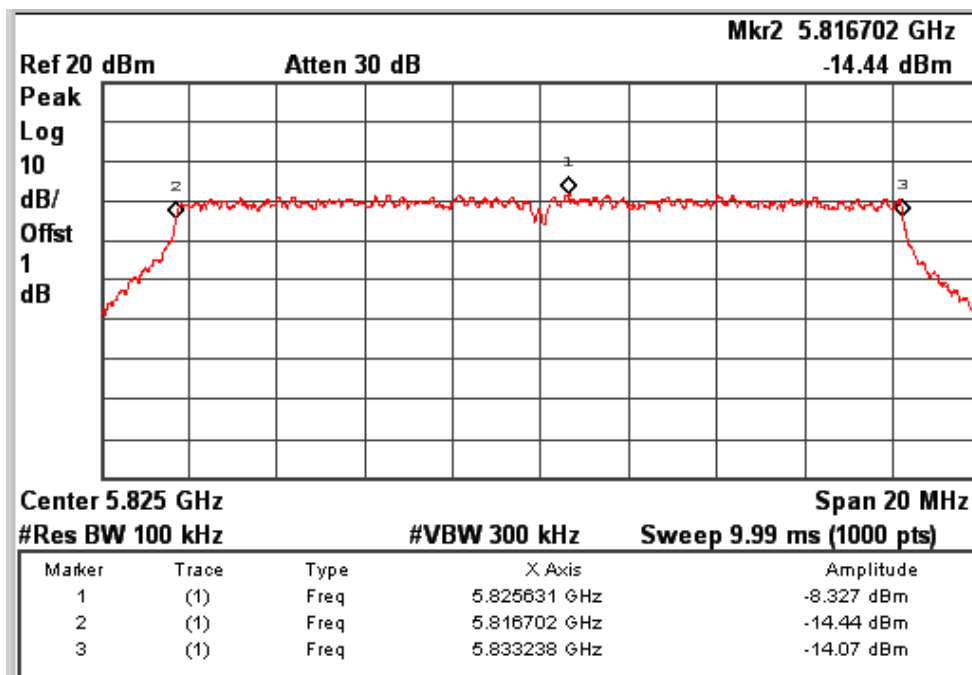
Data Rate: 54 Mbps

Channel Frequency: 5745 MHz



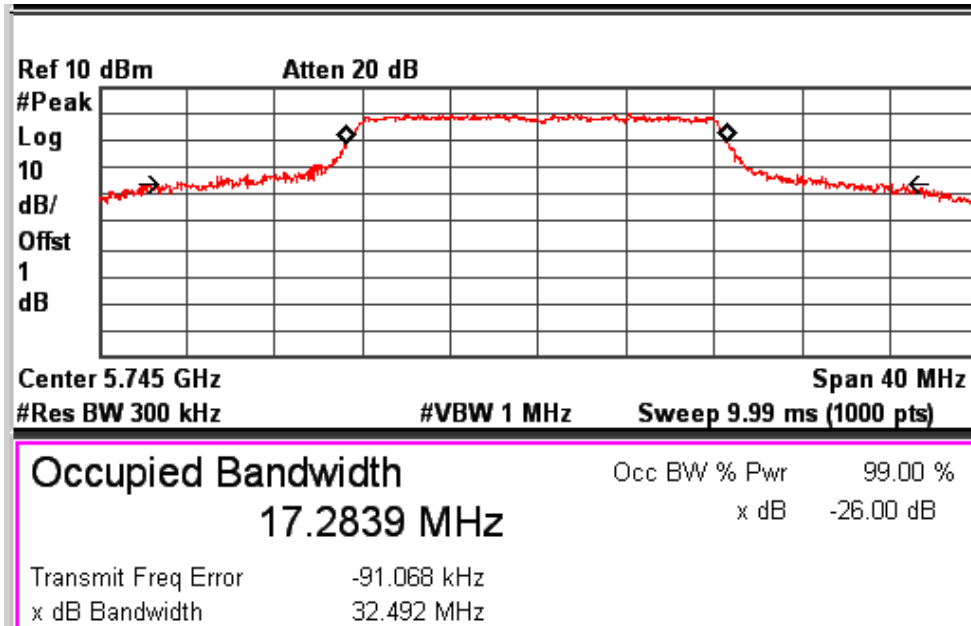
Data Rate: 54 Mbps

Channel Frequency: 5785 MHz



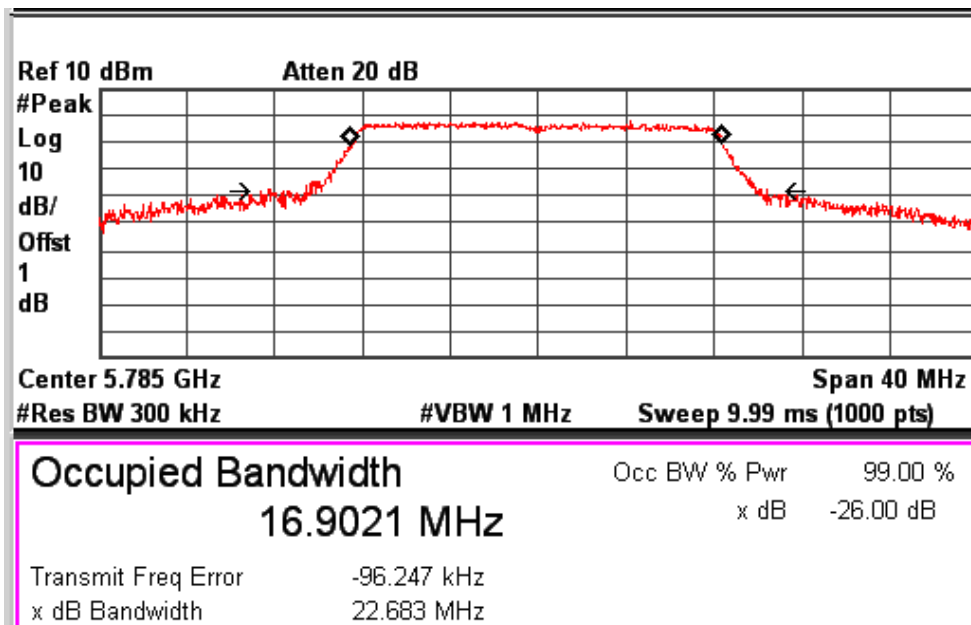
Data Rate: 54 Mbps

Channel Frequency: 5825 MHz



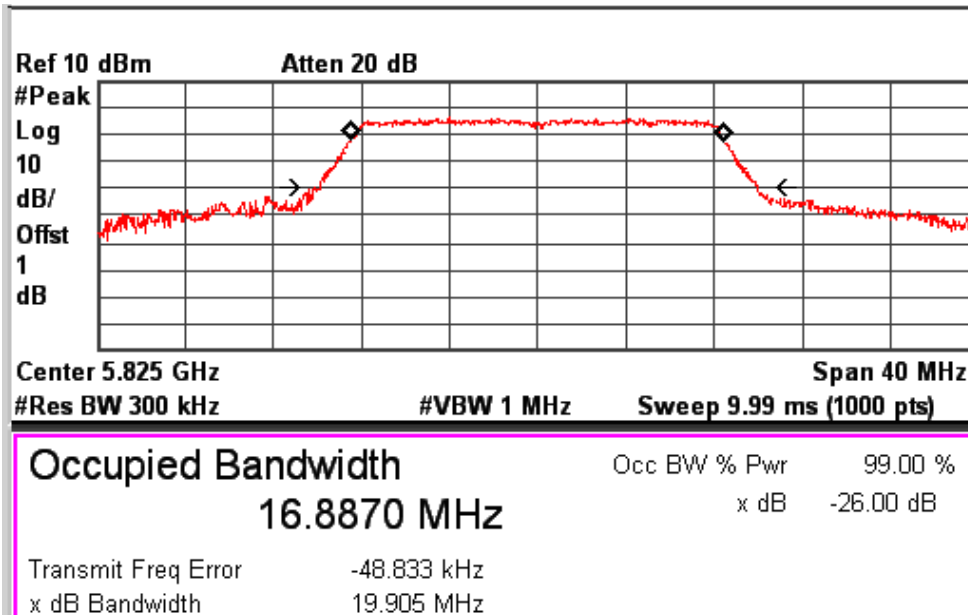
Data Rate: 6 Mbps

Channel Frequency: 5745 MHz



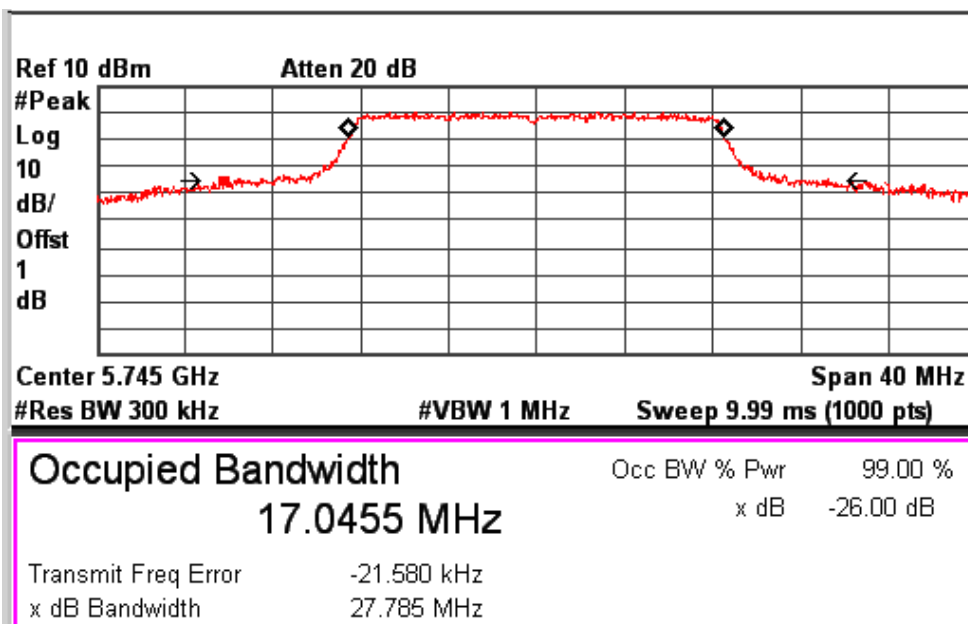
Data Rate: 6 Mbps

Channel Frequency: 5785 MHz



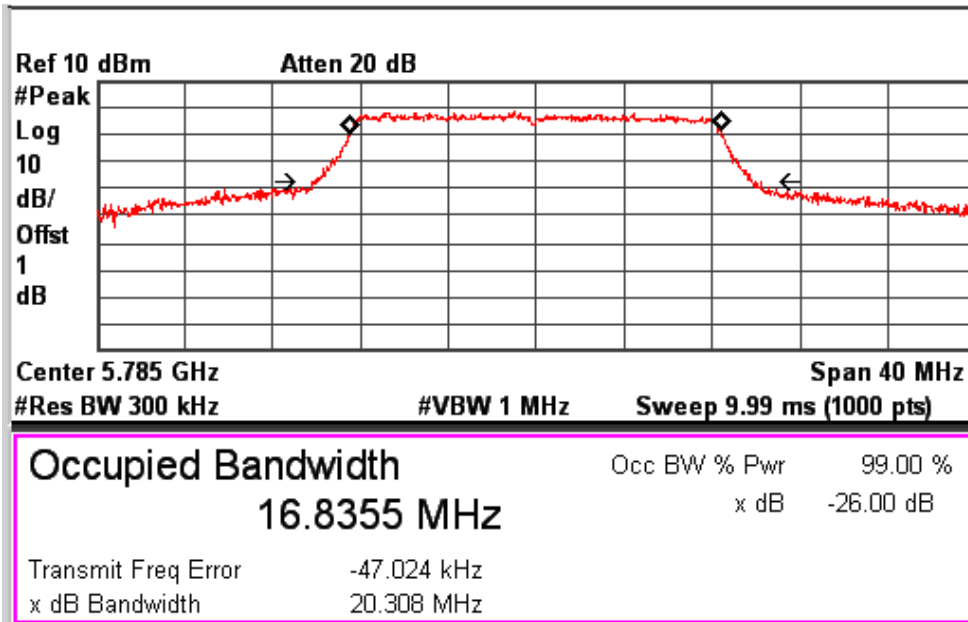
Data Rate: 6 Mbps

Channel Frequency: 5825 MHz



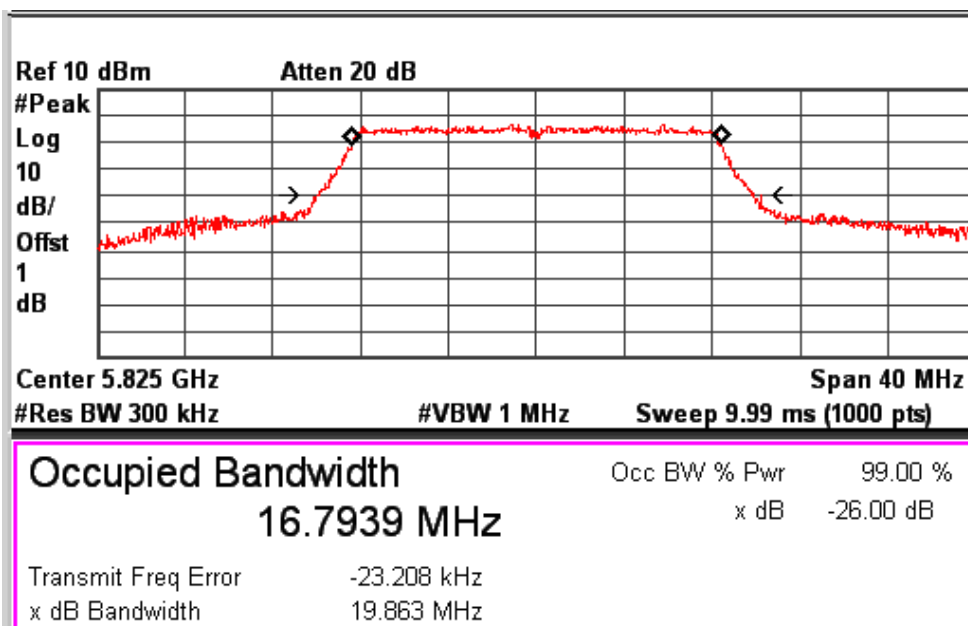
Data Rate: 24 Mbps

Channel Frequency: 5745 MHz



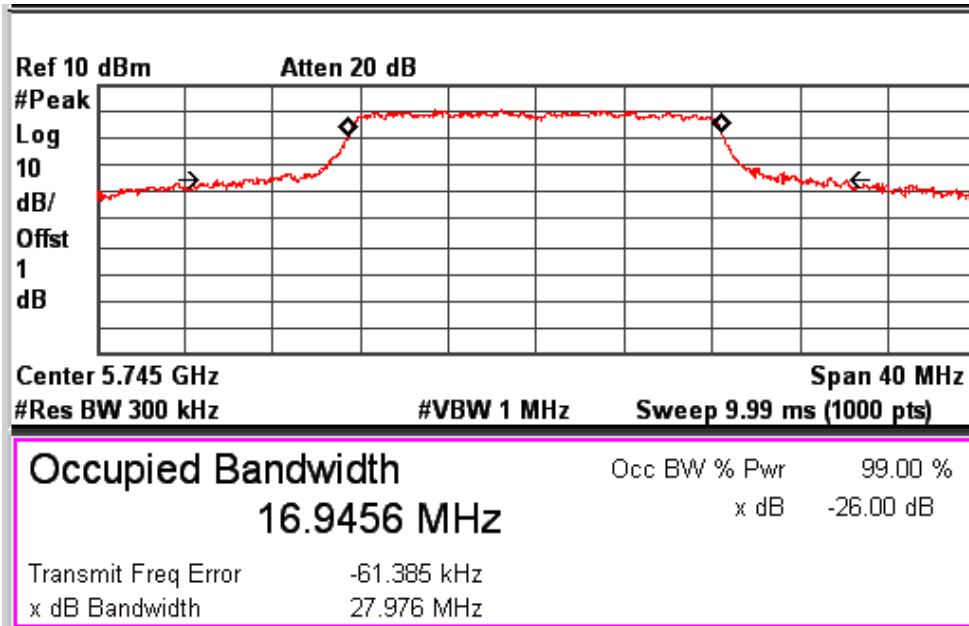
Data Rate: 24 Mbps

Channel Frequency: 5785 MHz



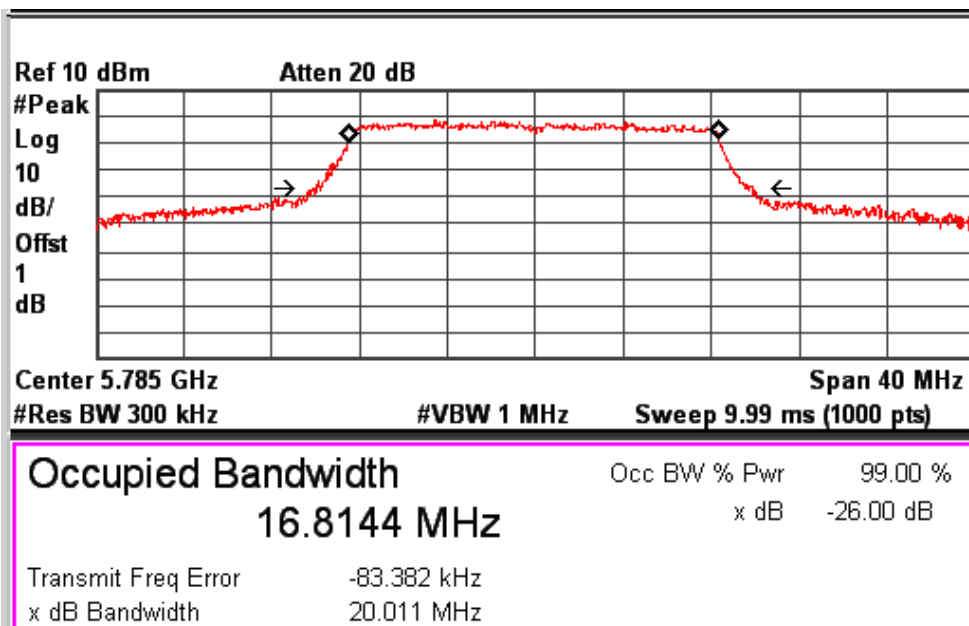
Data Rate: 24 Mbps

Channel Frequency: 5825 MHz



Data Rate: 54 Mbps

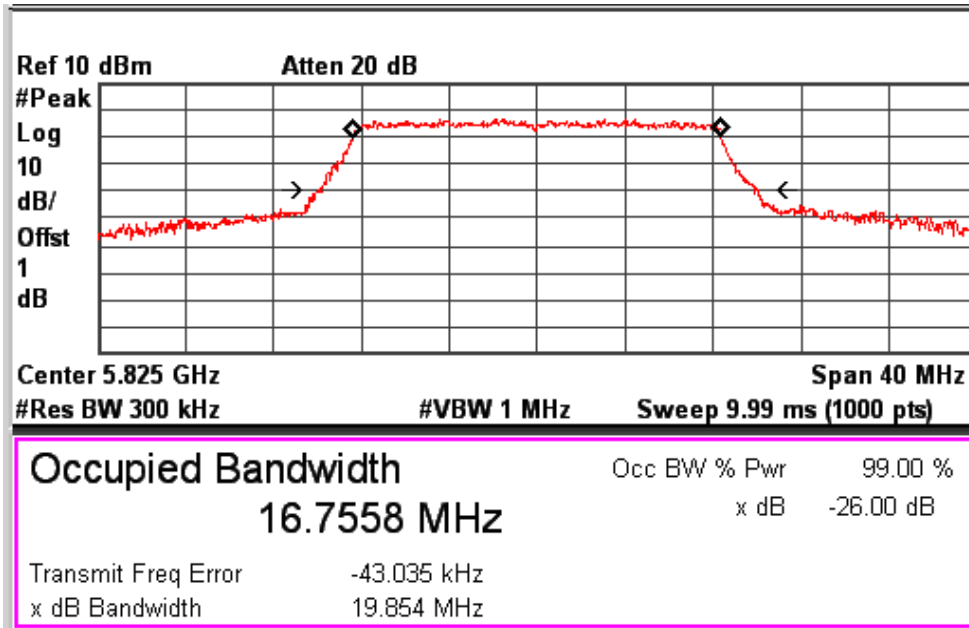
Channel Frequency: 5745 MHz



Data Rate: 54 Mbps

Channel Frequency: 5785 MHz

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Data Rate: 54 Mbps

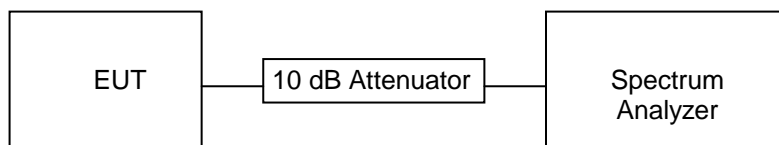
Channel Frequency: 5825 MHz

Band-edge Compliance
Section 15.247(d)
Result
Pass

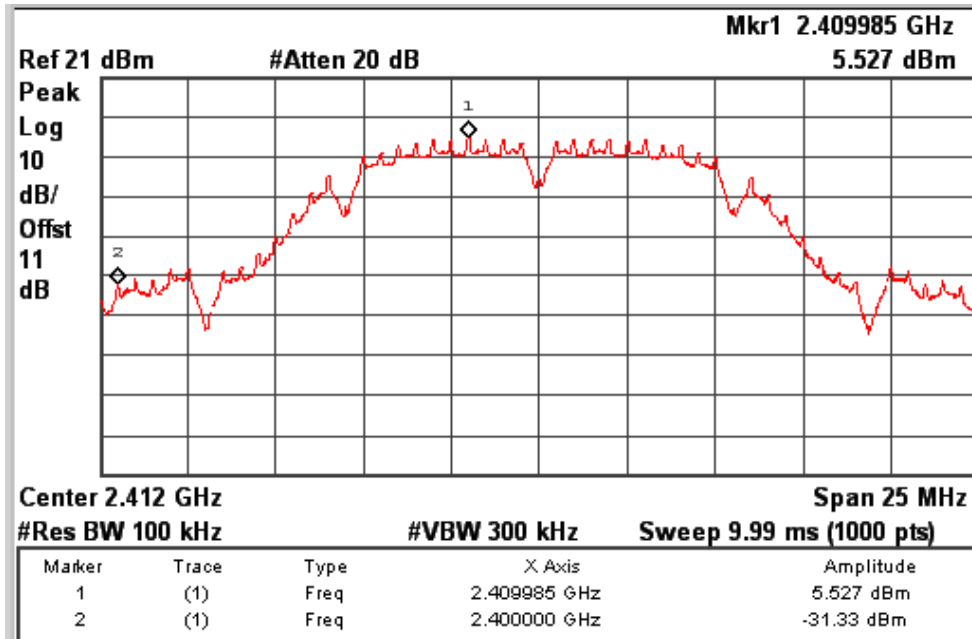
Test Specification
Detector Function
Requirement

FCC Part 15 C
Peak

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, and provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB..

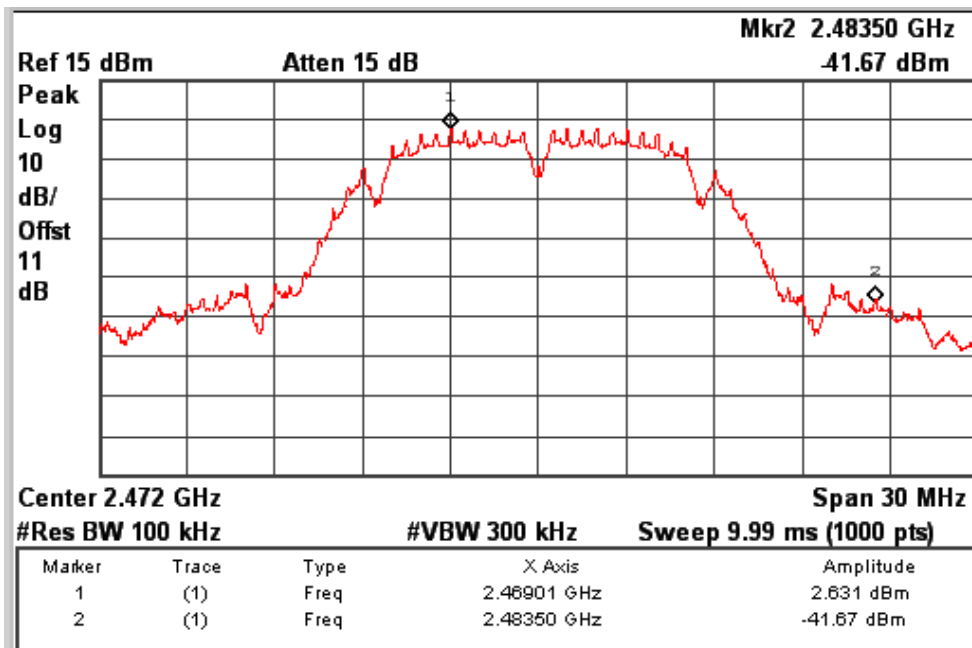
Test Method:

Test Result:

802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Value at Band Edge		Limit (dBc)
			Frequency (MHz)	Value (dBc)	
b	1	2412.00	2400.00	36.86	20.00
		2472.00	2483.50	44.30	20.00
	11	2412.00	2400.00	38.87	20.00
		2472.00	2483.50	46.58	20.00



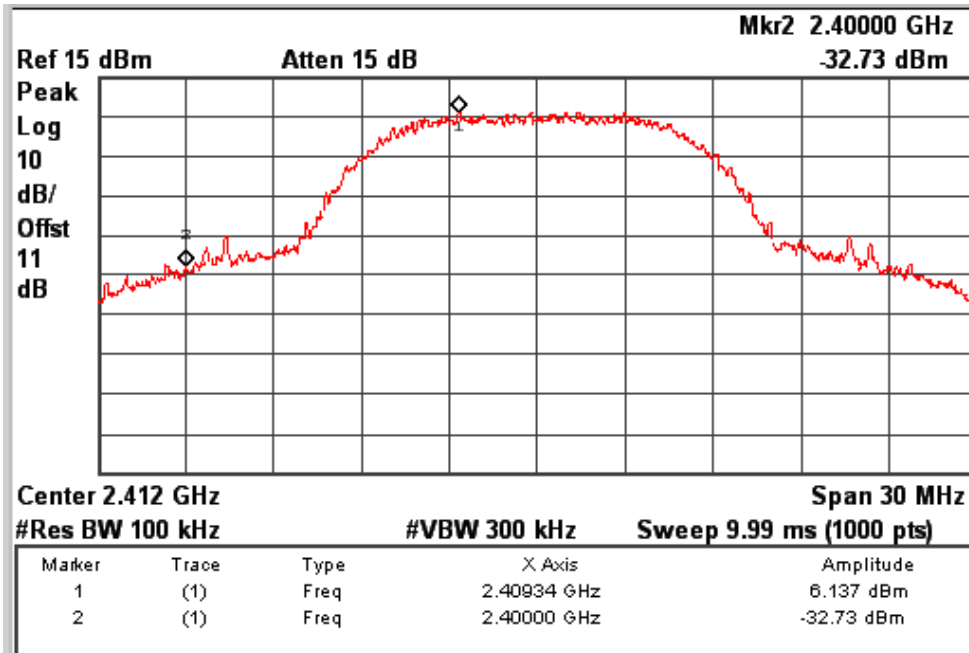
Data Rate: 1 Mbps

Channel Frequency: 2412 MHz



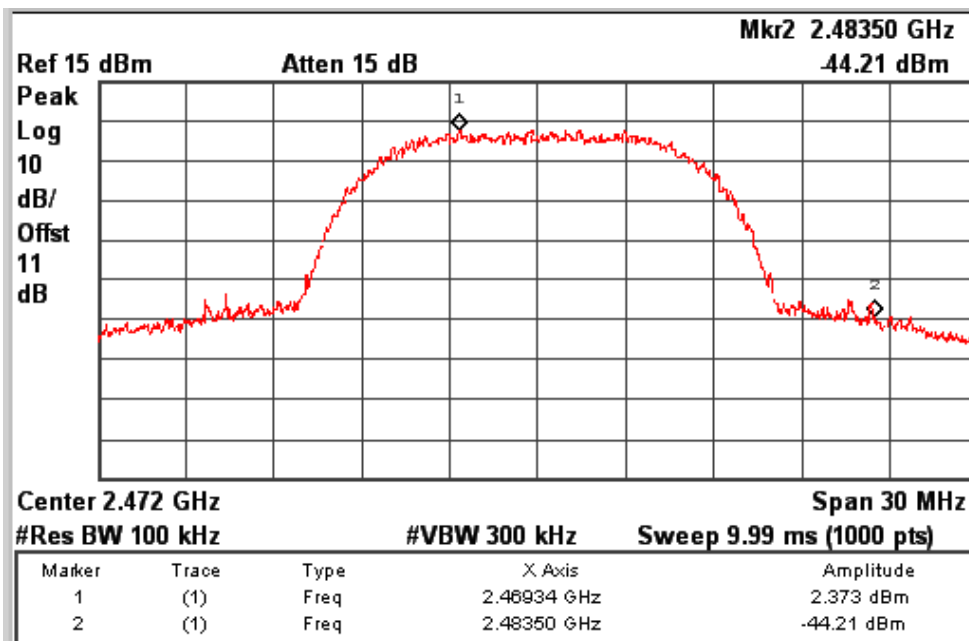
Data Rate: 1 Mbps

Channel Frequency: 2472 MHz



Data Rate: 11 Mbps

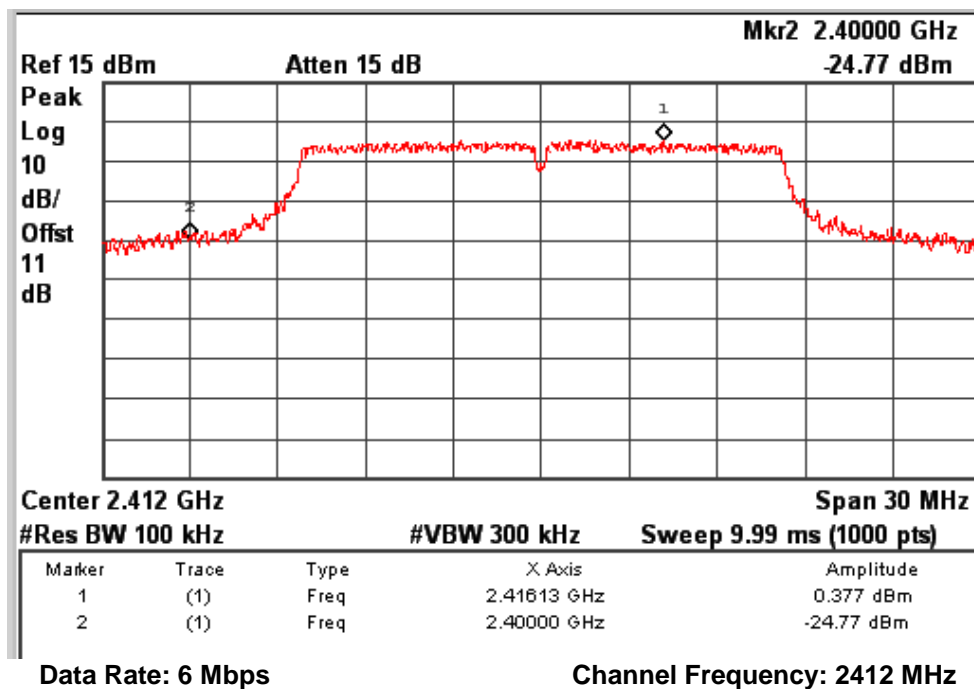
Channel Frequency: 2412 MHz

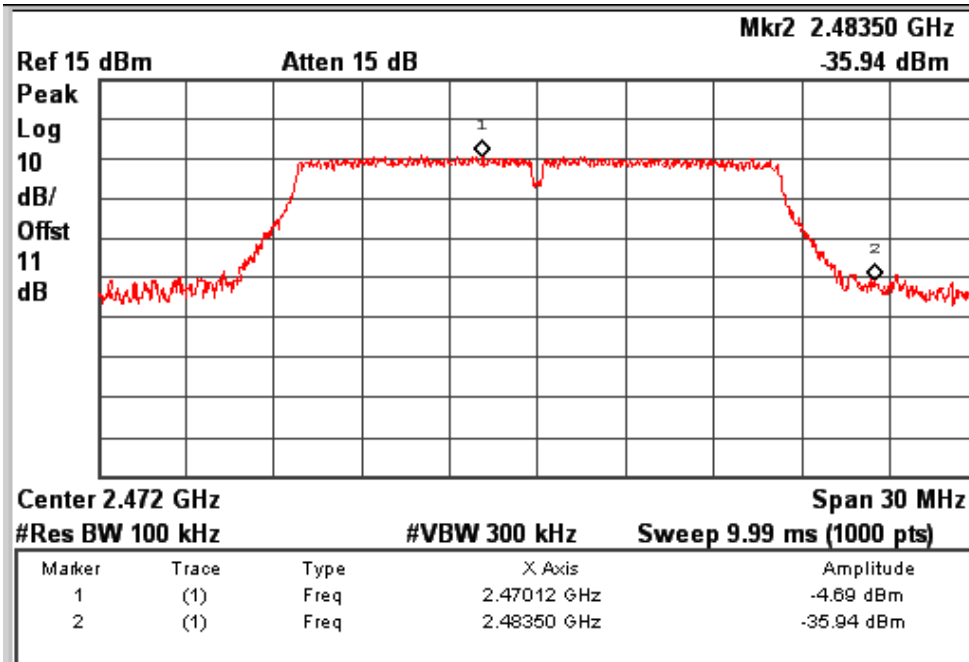


Data Rate: 11 Mbps

Channel Frequency: 2472 MHz

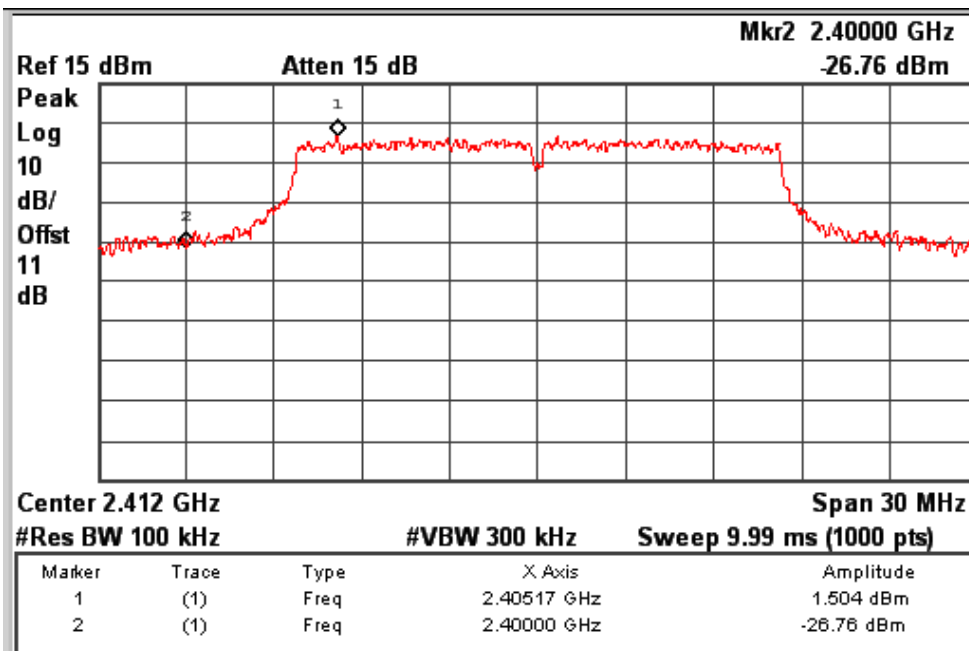
802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Value at Band Edge		Limit (dBc)
			Frequency (MHz)	Value (dBc)	
g	6	2412.00	2400.00	25.15	20.00
		2472.00	2483.50	31.25	20.00
	24	2412.00	2400.00	28.26	20.00
		2472.00	2483.50	32.06	20.00
	54	2412.00	2400.00	26.31	20.00
		2472.00	2483.50	35.85	20.00





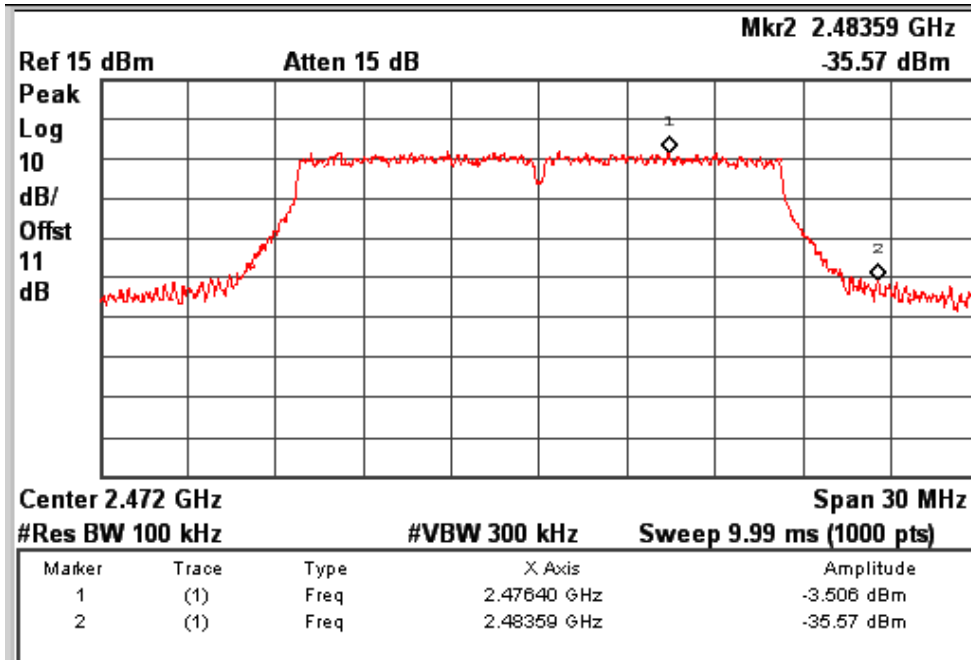
Data Rate: 6 Mbps

Channel Frequency: 2472 MHz



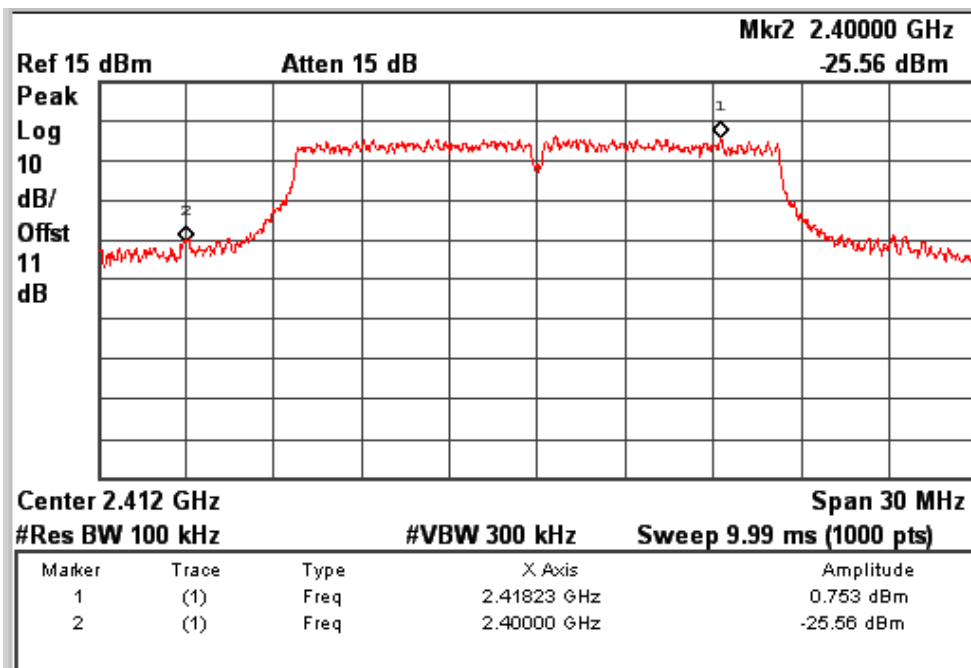
Data Rate: 24 Mbps

Channel Frequency: 2412 MHz



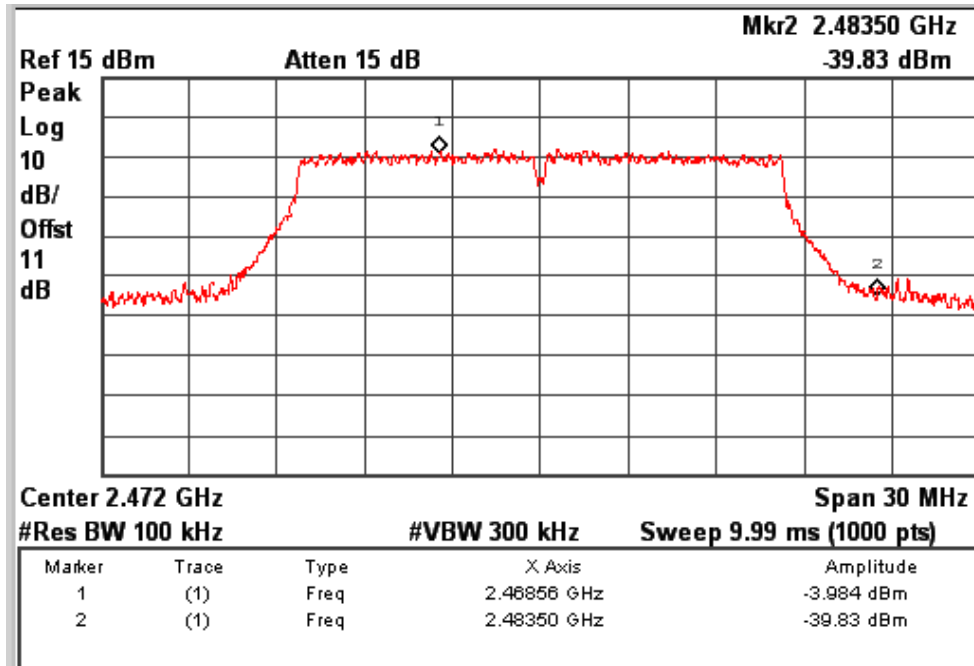
Data Rate: 24 Mbps

Channel Frequency: 2472 MHz



Data Rate: 54 Mbps

Channel Frequency: 2412 MHz

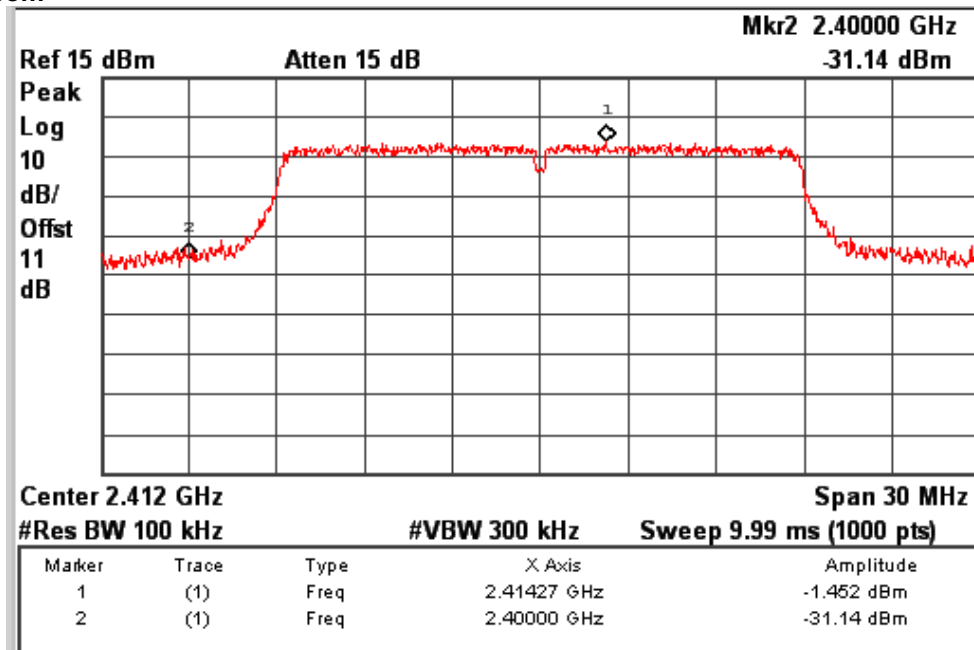


Data Rate: 54 Mbps

Channel Frequency: 2472 MHz

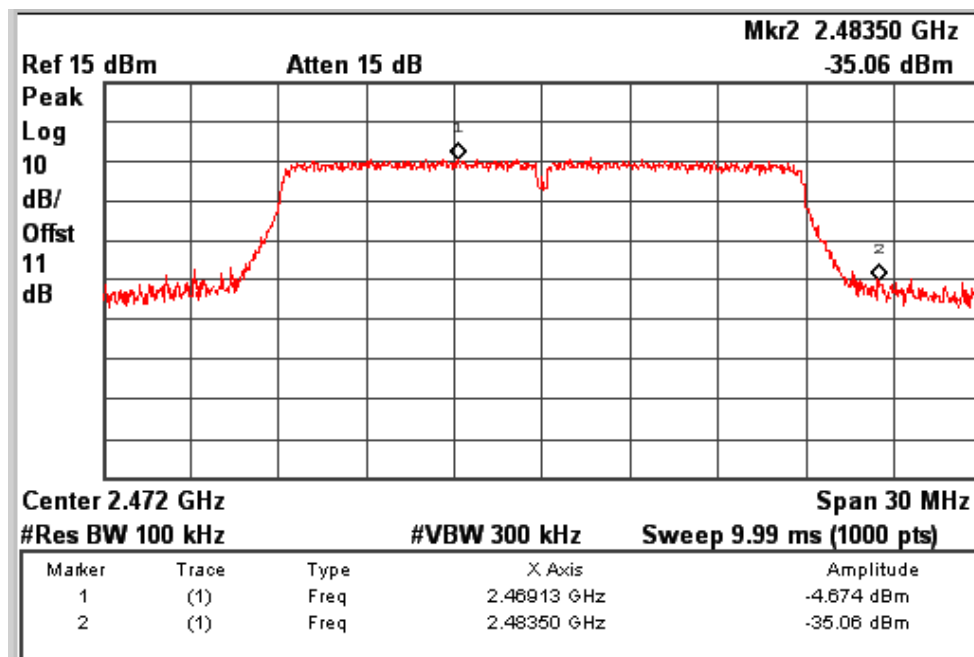
802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Value at Band Edge		Limit (dBc)
			Frequency (MHz)	Value (dBc)	
n	6.5	2412.00	2400.00	29.69	20.00
		2472.00	2483.50	30.39	20.00
		5745.00	5725.00	28.95	20.00
		5825.00	5850.00	42.80	20.00
	39	2412.00	2400.00	32.13	20.00
		2472.00	2483.50	35.49	20.00
		5745.00	5725.00	32.08	20.00
		5825.00	5850.00	42.10	20.00
	65	2412.00	2400.00	30.56	20.00
		2472.00	2483.50	33.06	20.00
		5745.00	5725.00	32.84	20.00
		5825.00	5850.00	41.56	20.00

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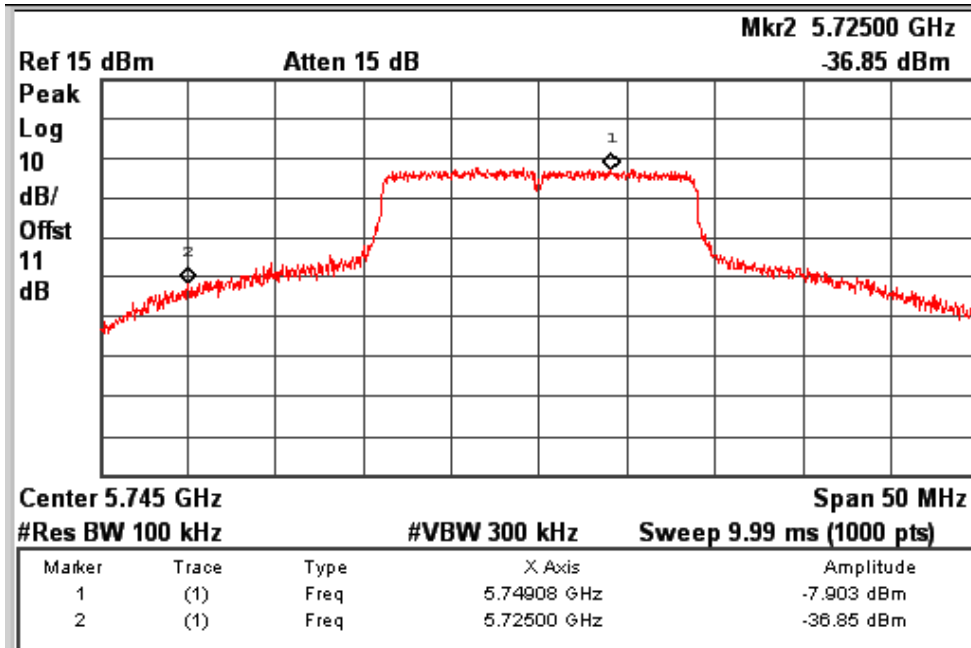
Data Rate: 6.5 Mbps

Channel Frequency: 2412 MHz



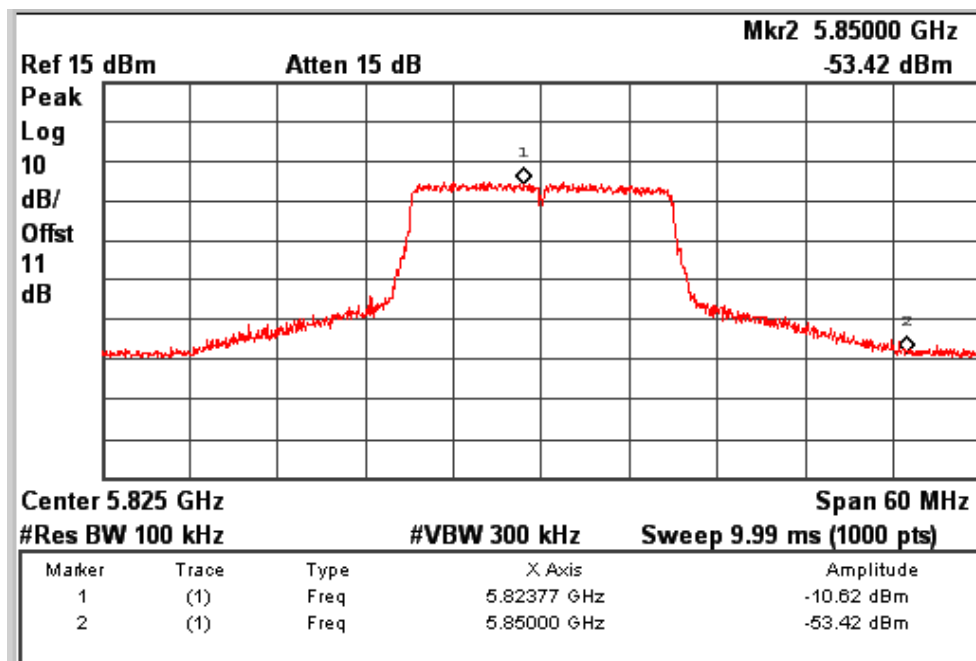
Data Rate: 6.5 Mbps

Channel Frequency: 2472 MHz



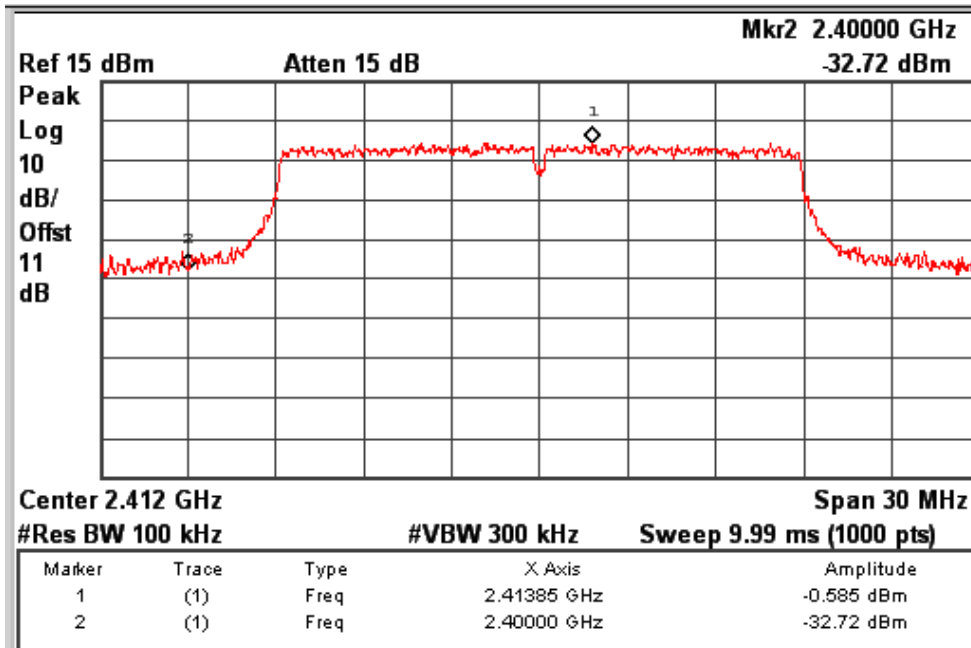
Data Rate: 6.5 Mbps

Channel Frequency: 5745 MHz



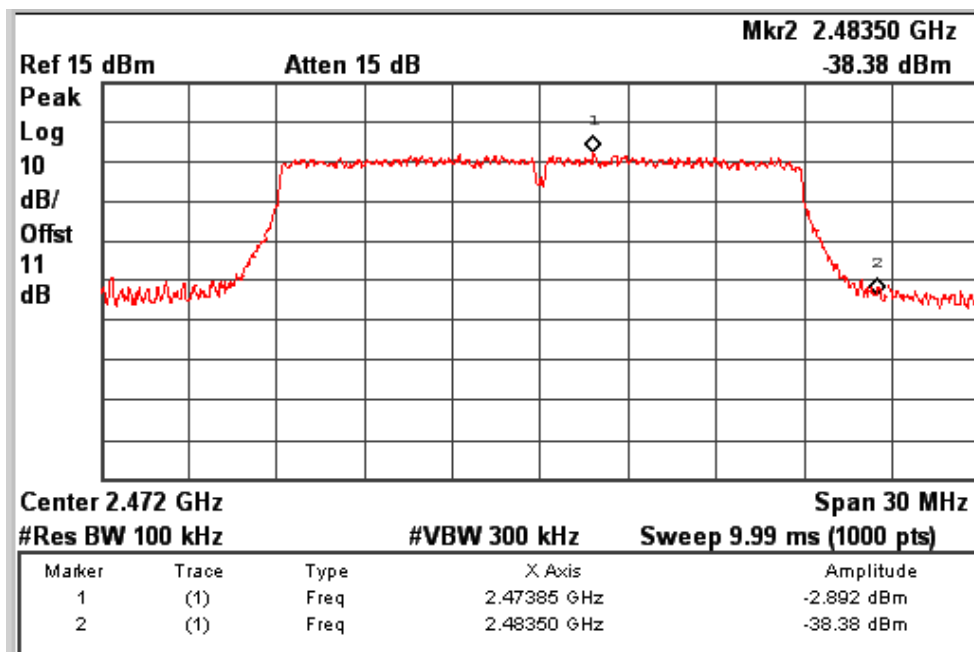
Data Rate: 6.5 Mbps

Channel Frequency: 2825 MHz



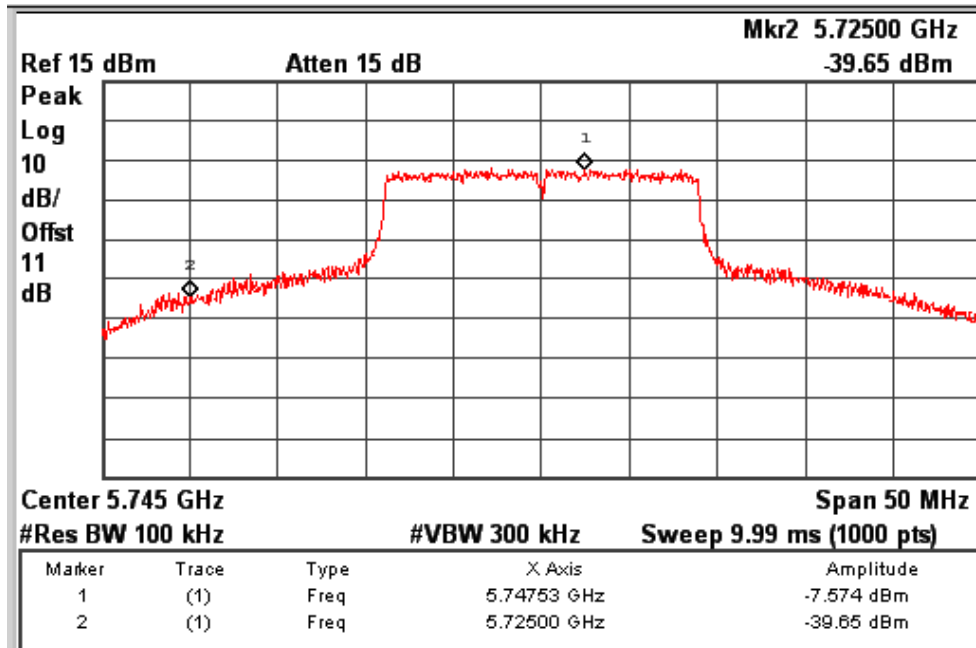
Data Rate: 39 Mbps

Channel Frequency: 2412 MHz



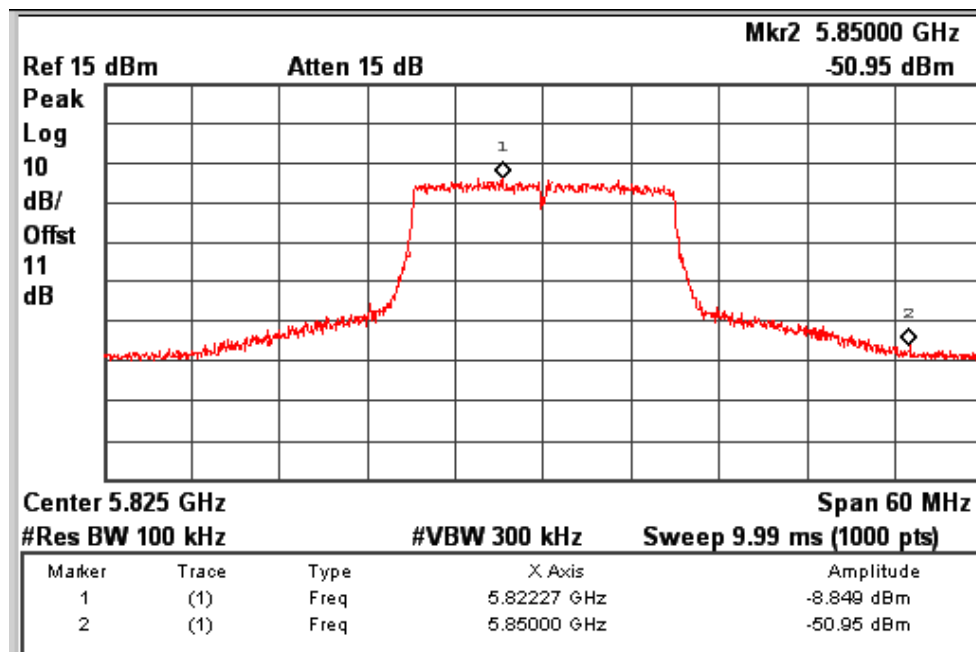
Data Rate: 39 Mbps

Channel Frequency: 2472 MHz



Data Rate: 39Mbps

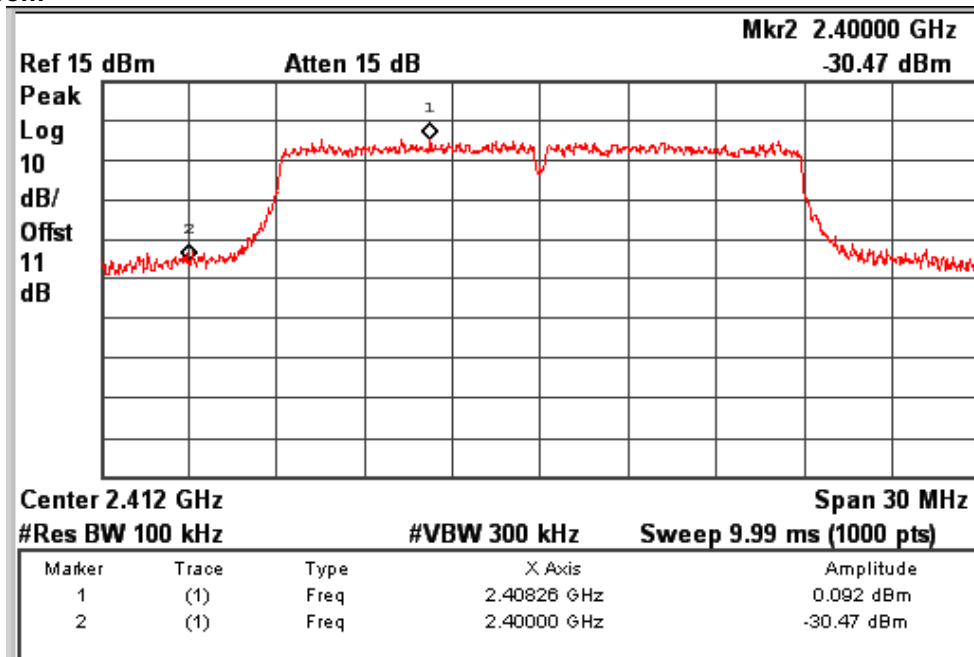
Channel Frequency: 5745 MHz



Data Rate: 39Mbps

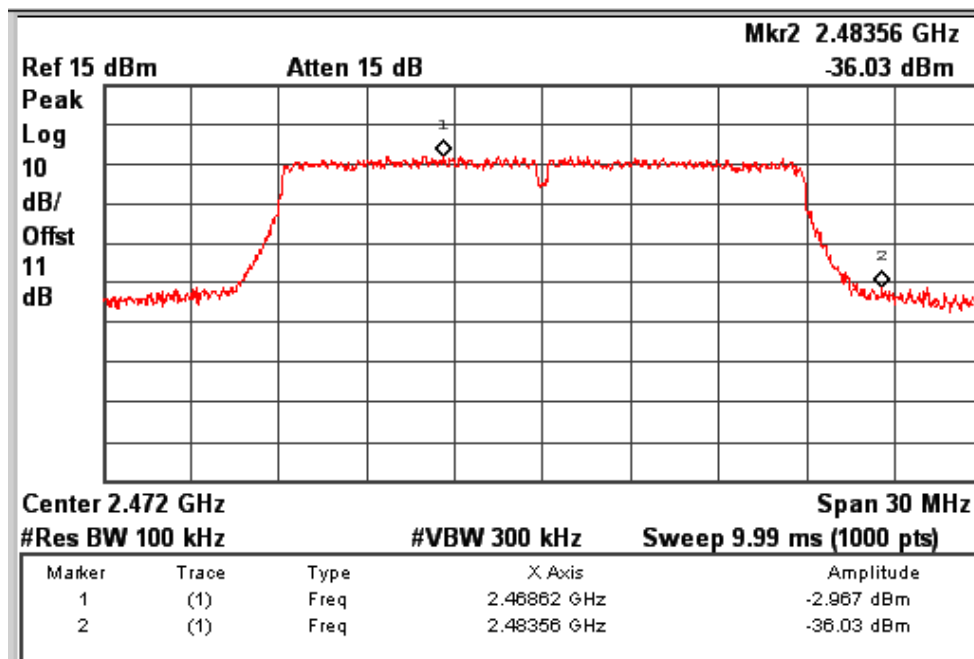
Channel Frequency: 5825 MHz

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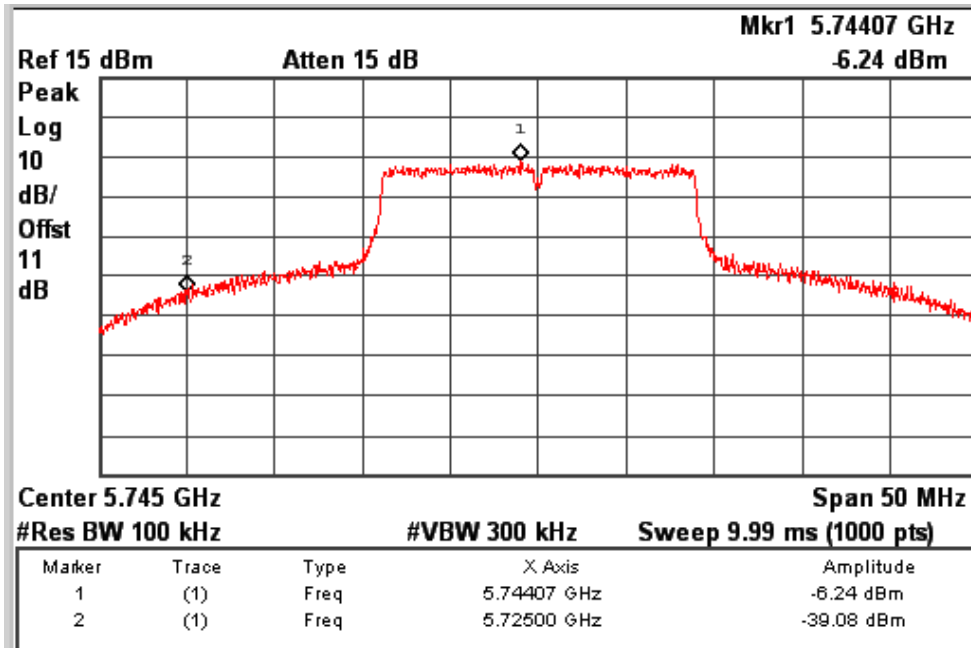
Data Rate: 65 Mbps

Channel Frequency: 2412 MHz



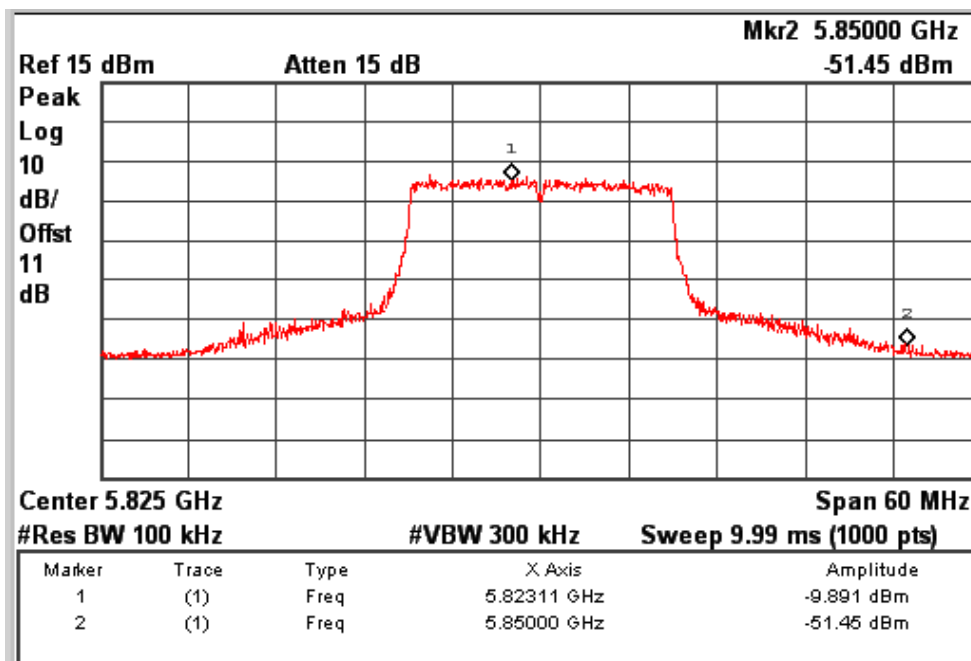
Data Rate: 65 Mbps

Channel Frequency: 2472 MHz



Data Rate: 65 Mbps

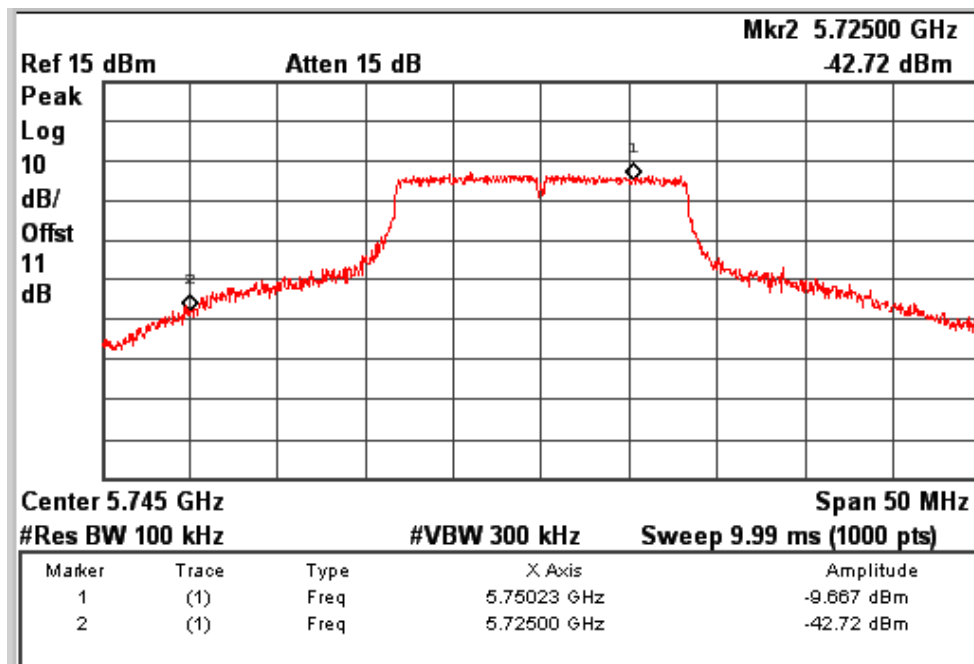
Channel Frequency: 5745 MHz



Data Rate: 65Mbps

Channel Frequency: 5825 MHz

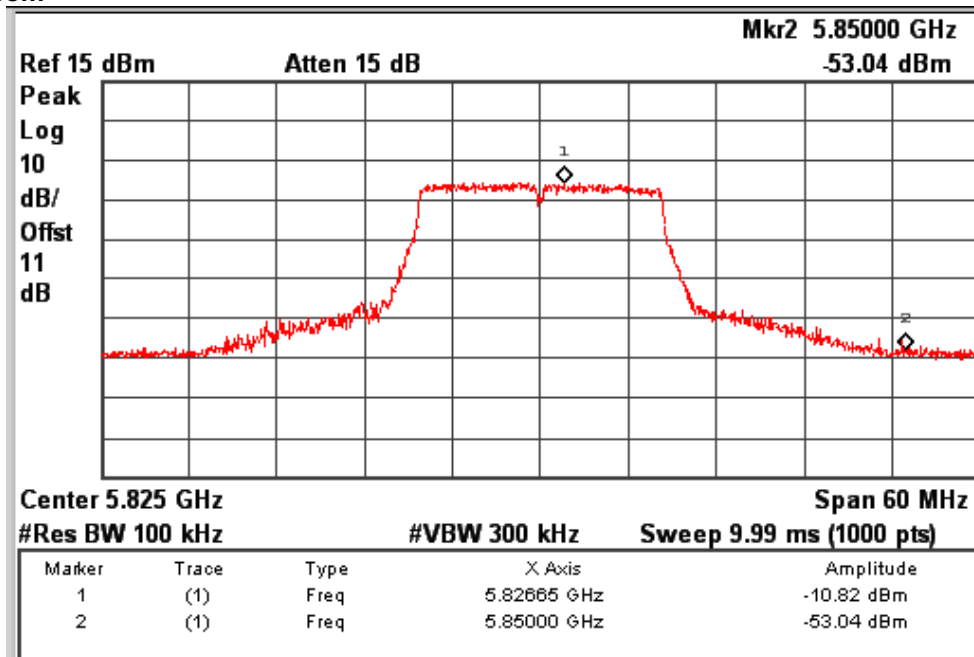
802.11 Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Value at Band Edge		Limit (dBc)
			Frequency (MHz)	Value (dBc)	
a	6	5745.00	5725.00	33.05	20.00
		5825.00	5850.00	42.22	20.00
	24	5745.00	5725.00	35.85	20.00
		5825.00	5850.00	44.51	20.00
	54	5745.00	5725.00	36.26	20.00
		5825.00	5850.00	46.04	20.00



Data Rate: 6 Mbps

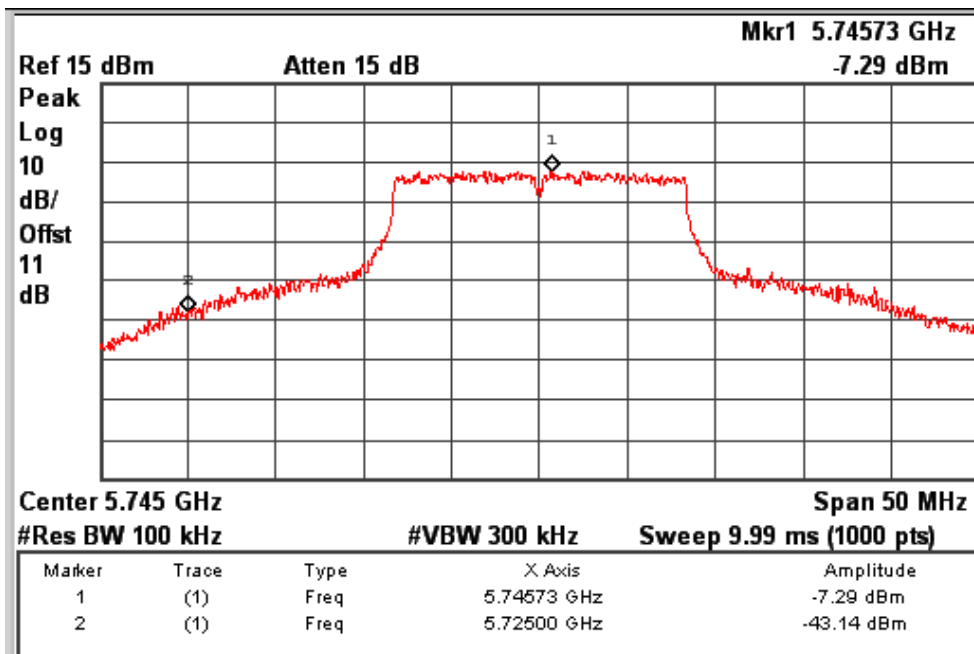
Channel Frequency: 5745 MHz

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Data Rate: 6 Mbps

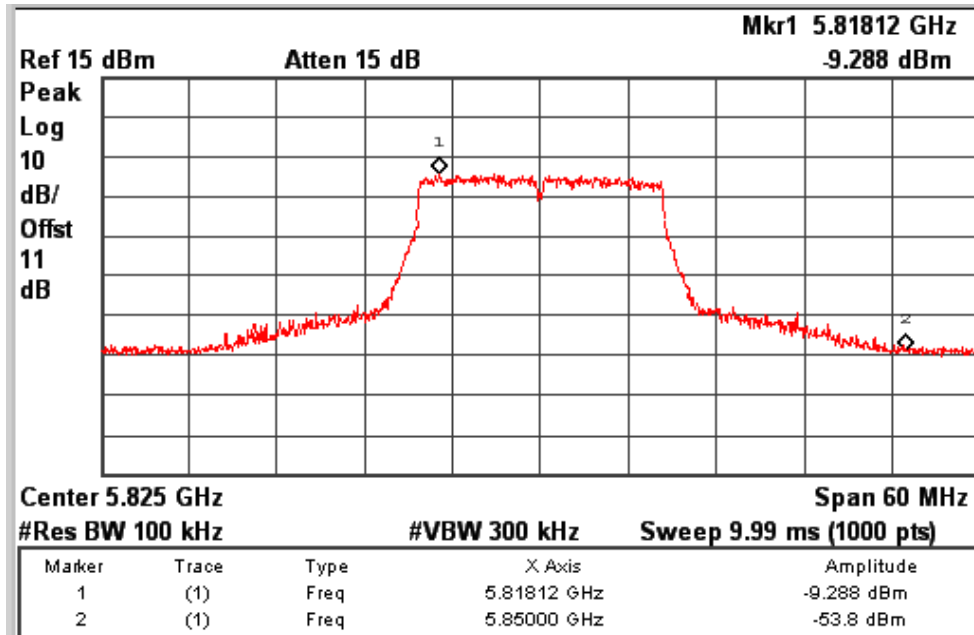
Channel Frequency: 2825 MHz



Data Rate: 24 Mbps

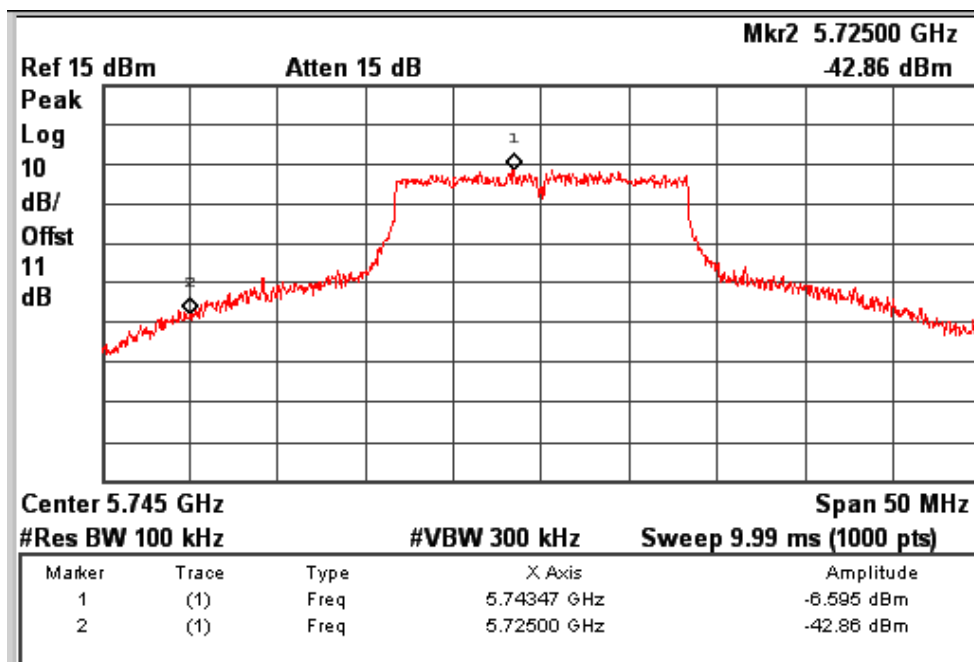
Channel Frequency: 5745 MHz

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Data Rate: 24 Mbps

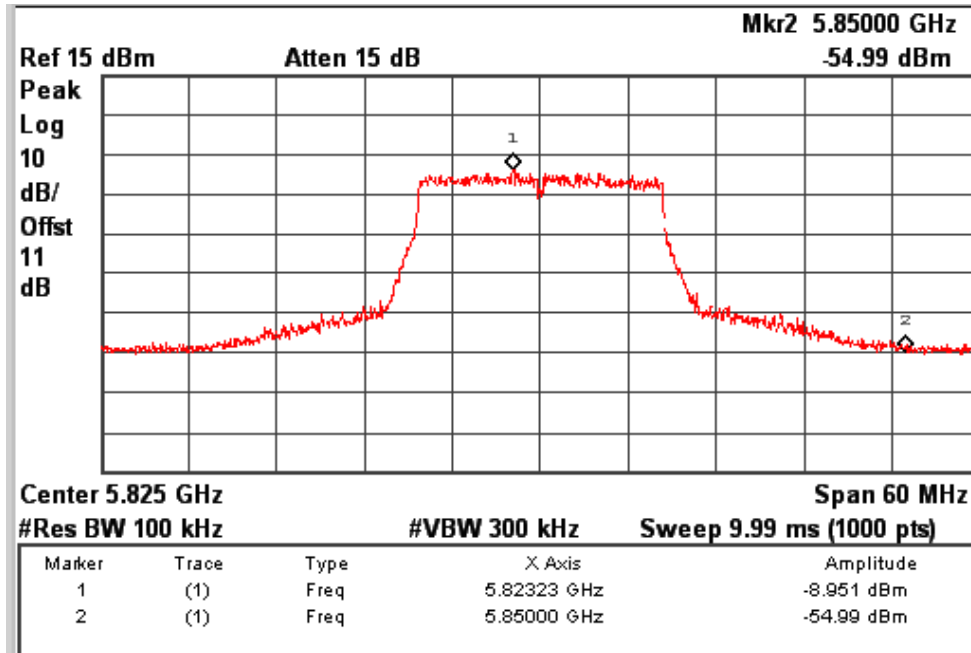
Channel Frequency: 2825 MHz



Data Rate: 54 Mbps

Channel Frequency: 5745 MHz

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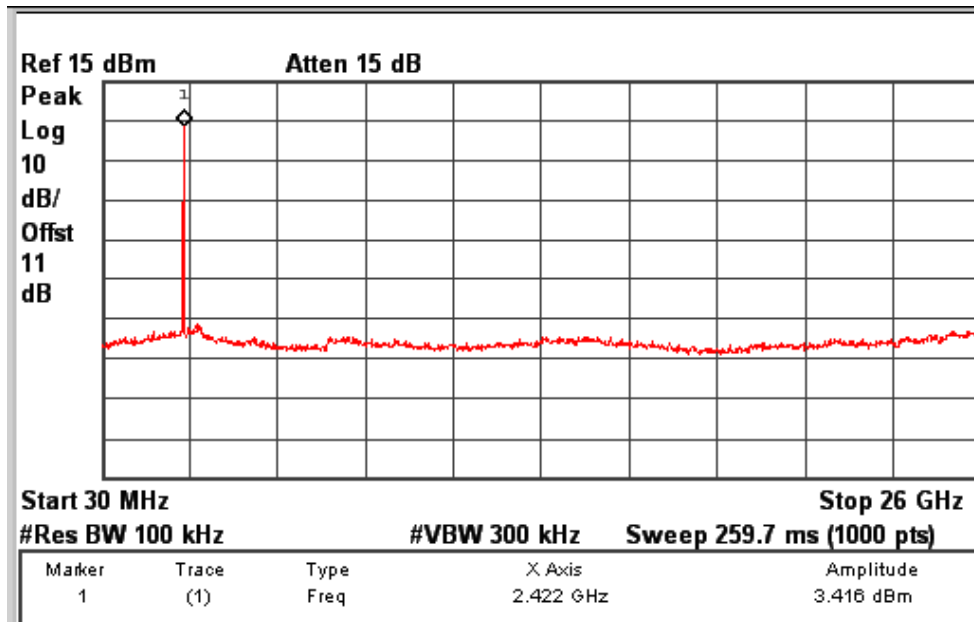


Data Rate: 54 Mbps

Channel Frequency: 2825 MHz

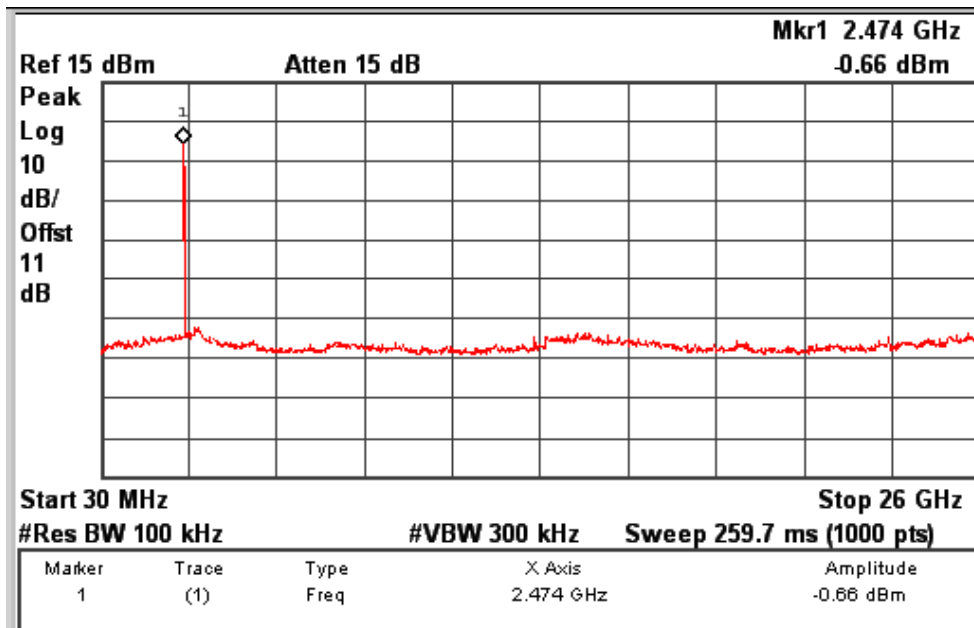
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Conducted Spurious Emission



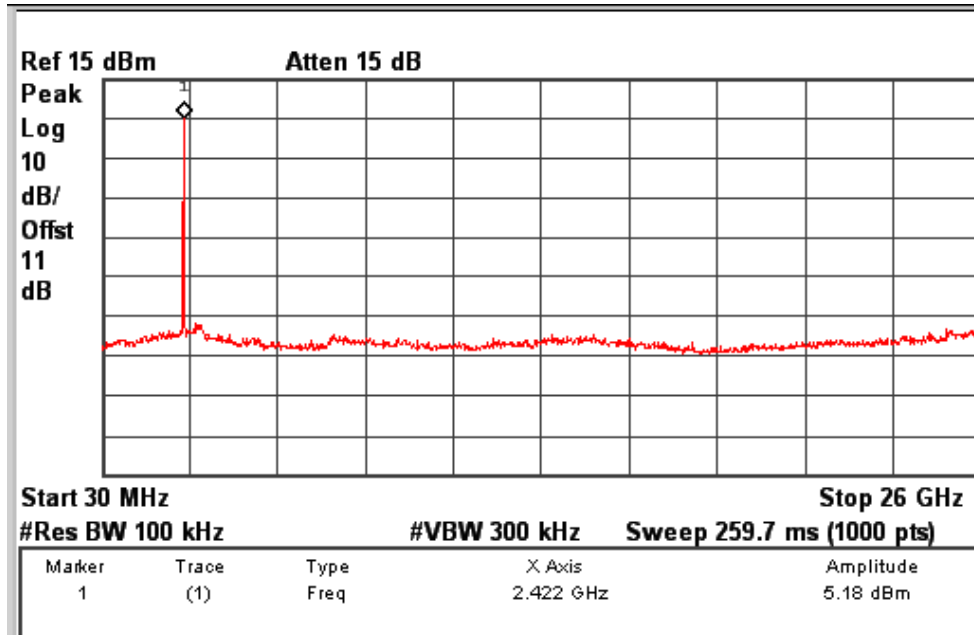
Data Rate: 1 Mbps

Channel Frequency 2412 MHz



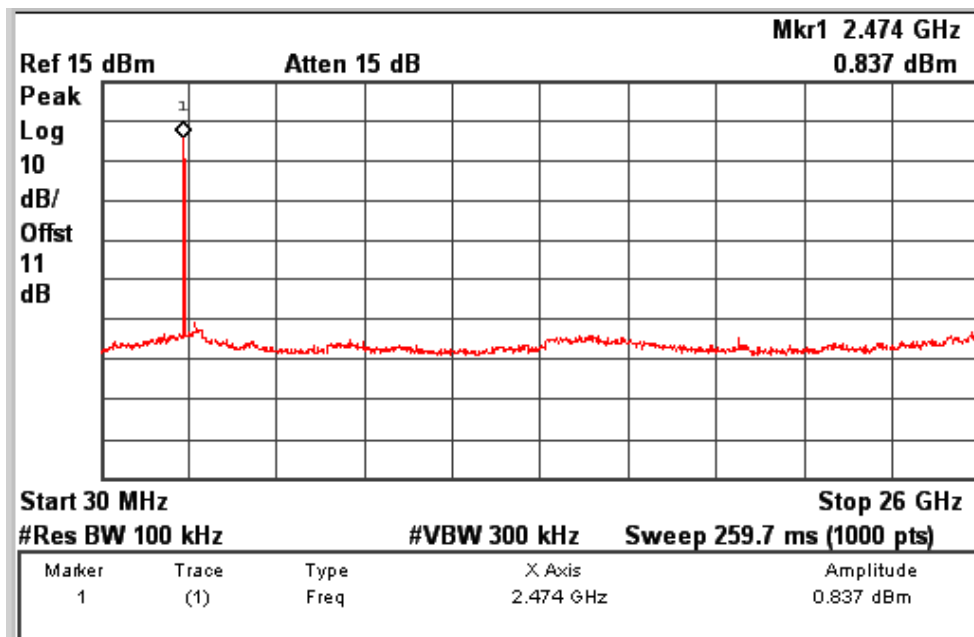
Data Rate: 1 Mbps

Channel Frequency 2472 MHz



Data Rate: 11 Mbps

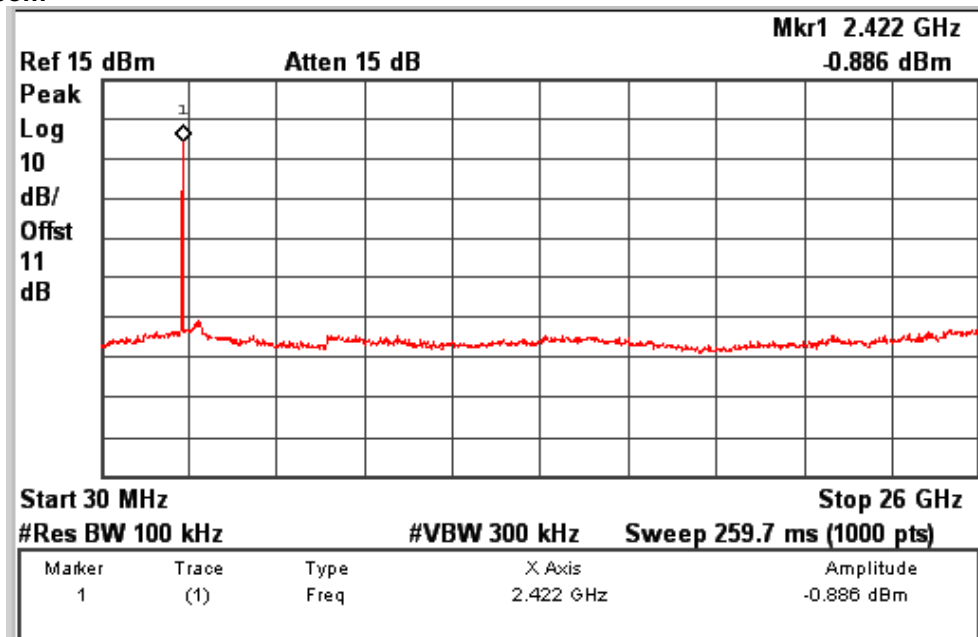
Channel Frequency 2412 MHz



Data Rate: 11 Mbps

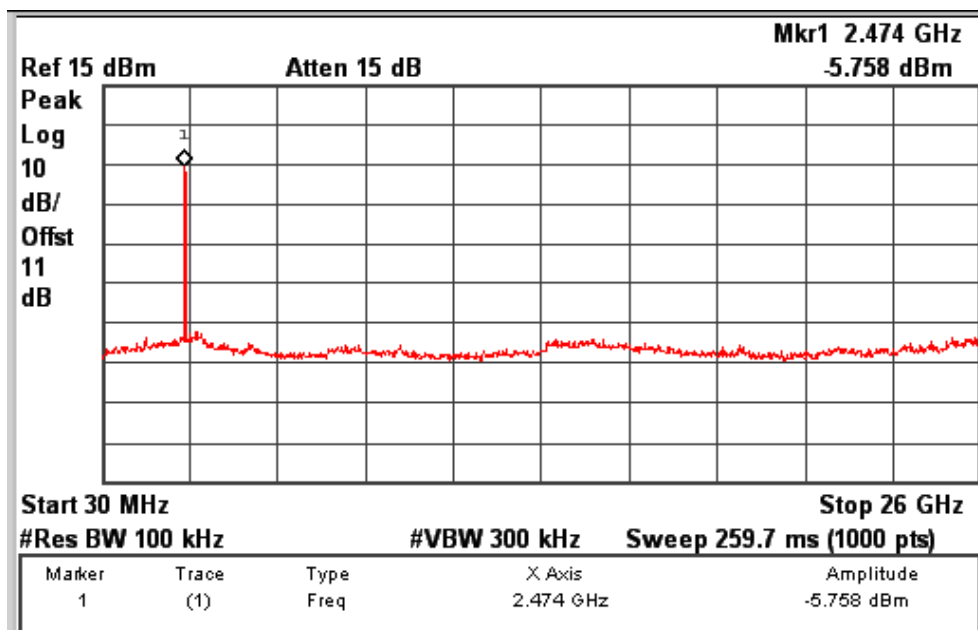
Channel Frequency 2472 MHz

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Data Rate: 6 Mbps

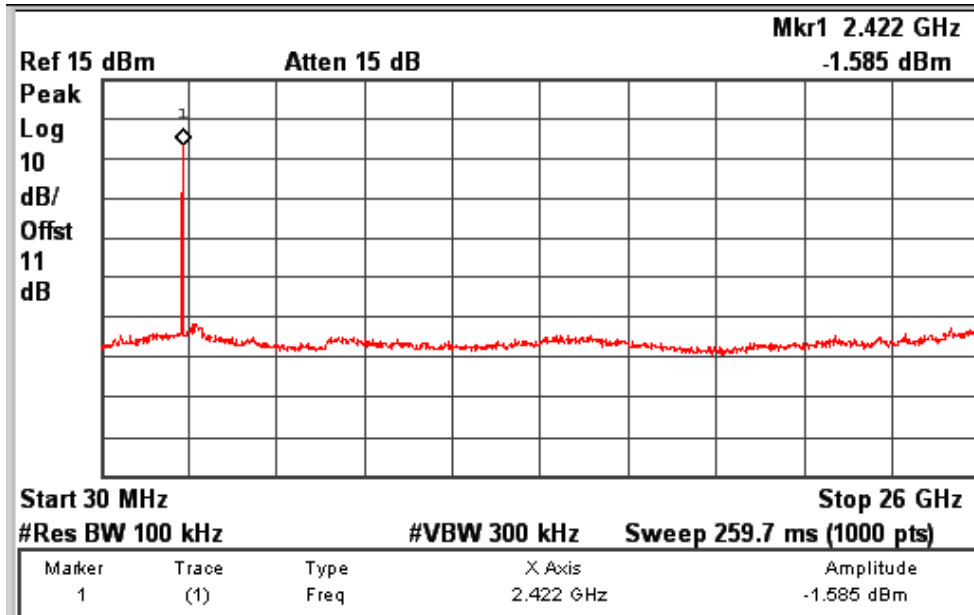
Channel Frequency 2412 MHz



Data Rate: 6 Mbps

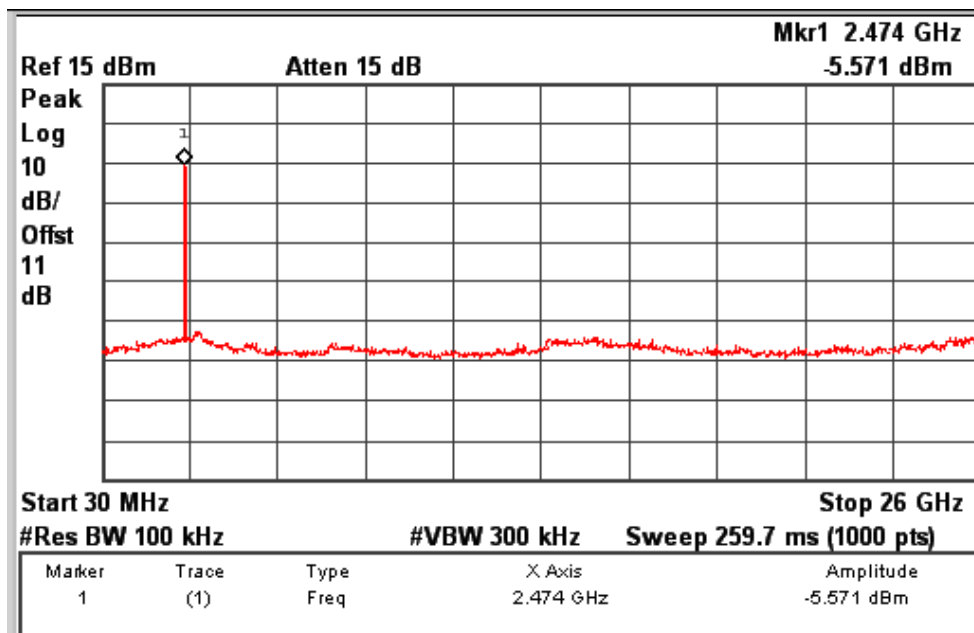
Channel Frequency 2472 MHz

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Data Rate: 24 Mbps

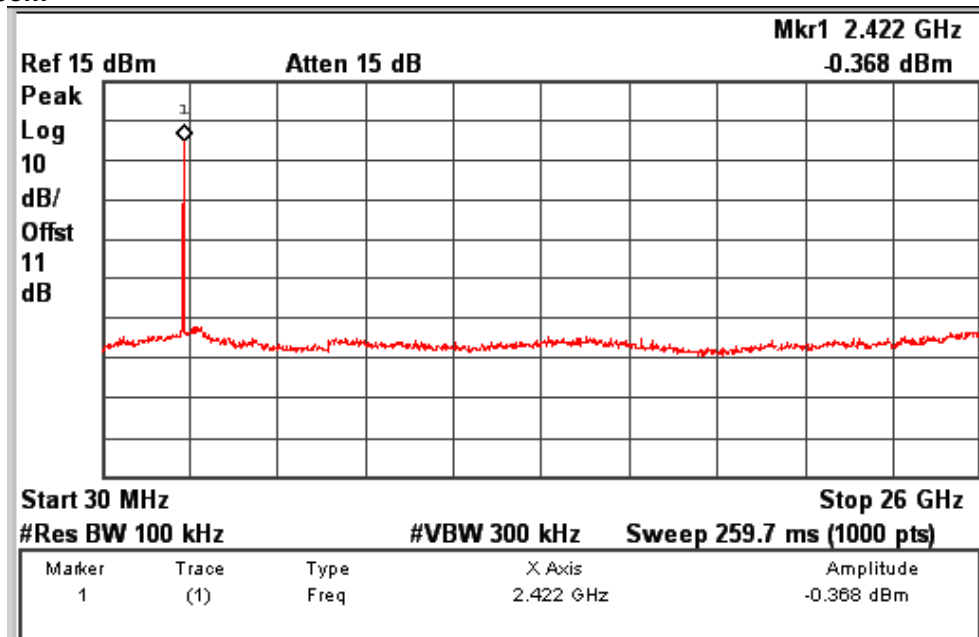
Channel Frequency 2412 MHz



Data Rate: 24 Mbps

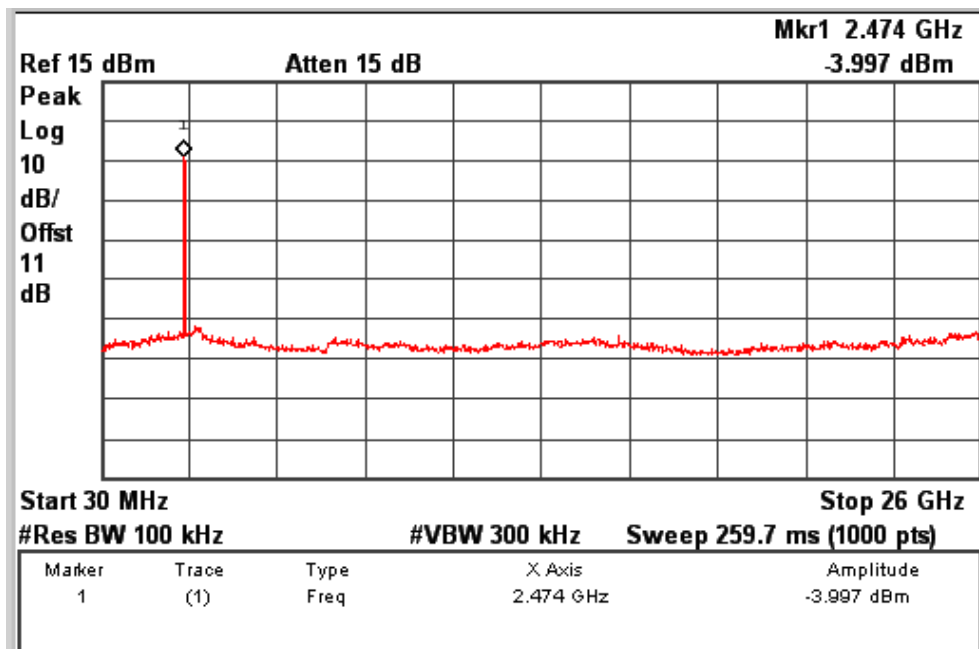
Channel Frequency 2472 MHz

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Data Rate: 54 Mbps

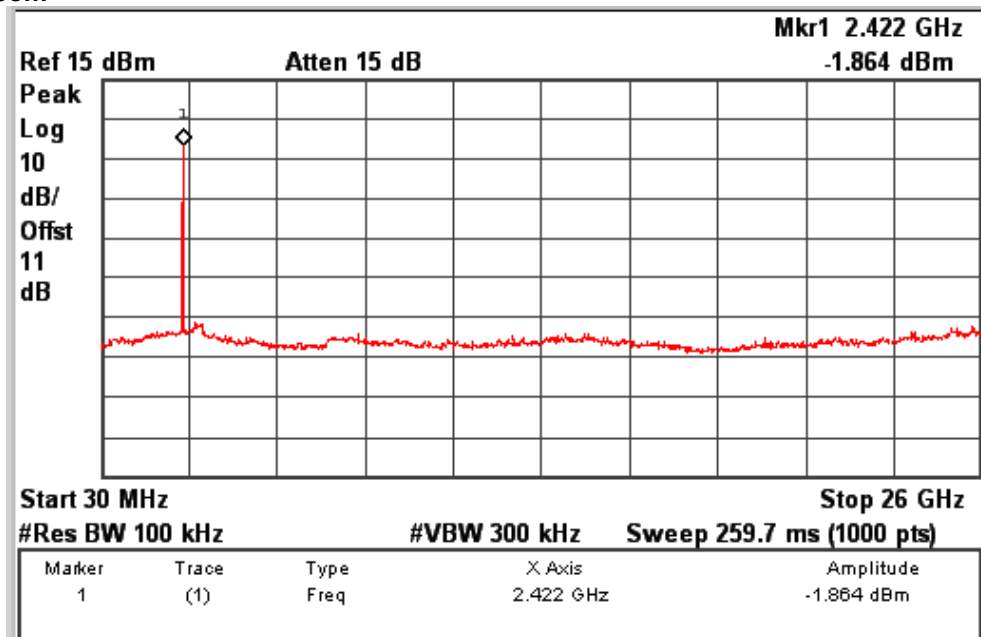
Channel Frequency 2412 MHz



Data Rate: 54 Mbps

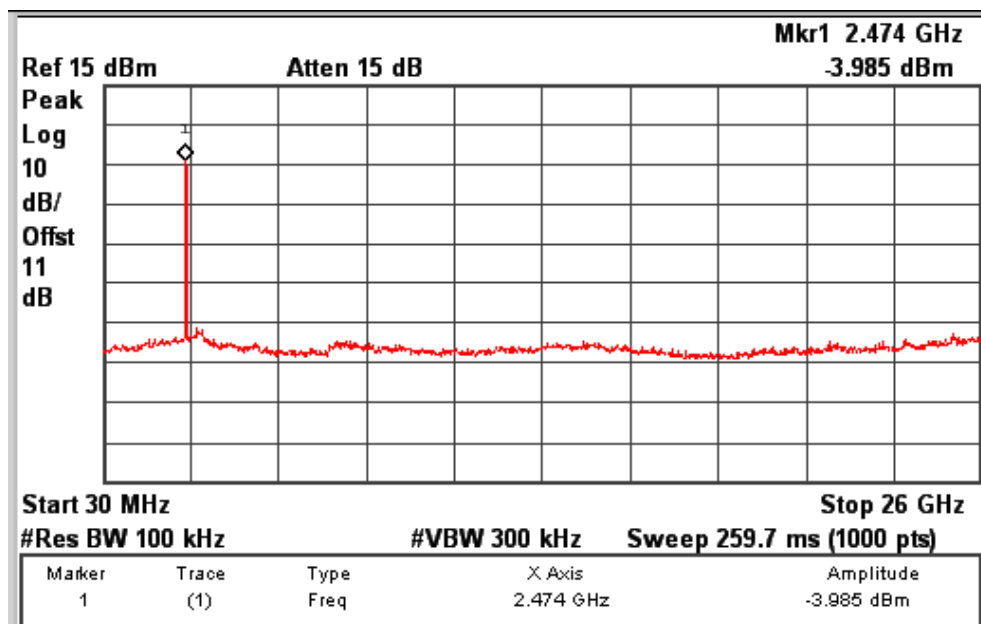
Channel Frequency 2472 MHz

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Data Rate: 6.5 Mbps

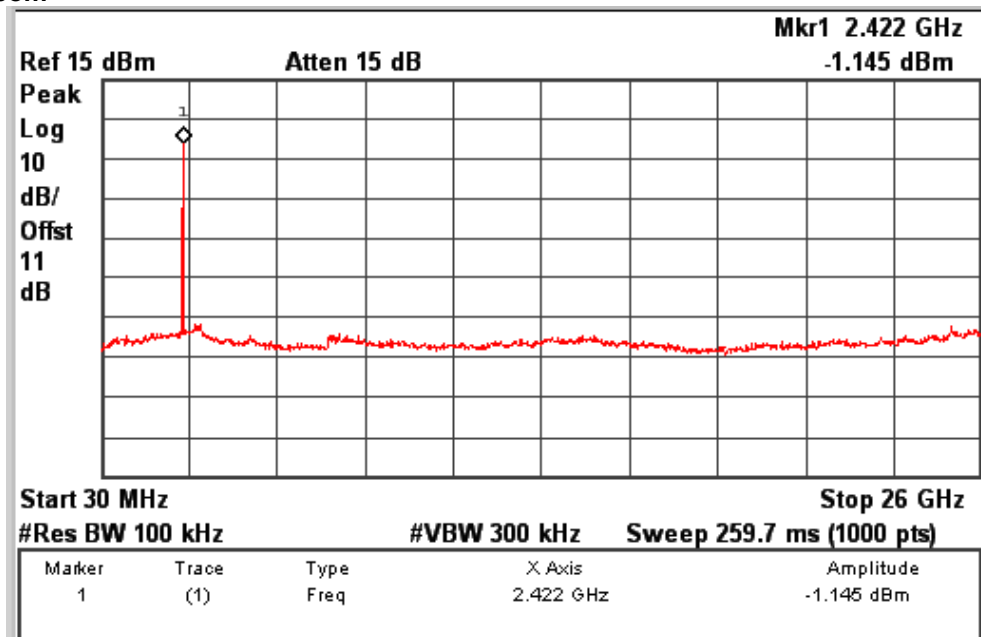
Channel Frequency 2412 MHz



Data Rate: 6.5Mbps

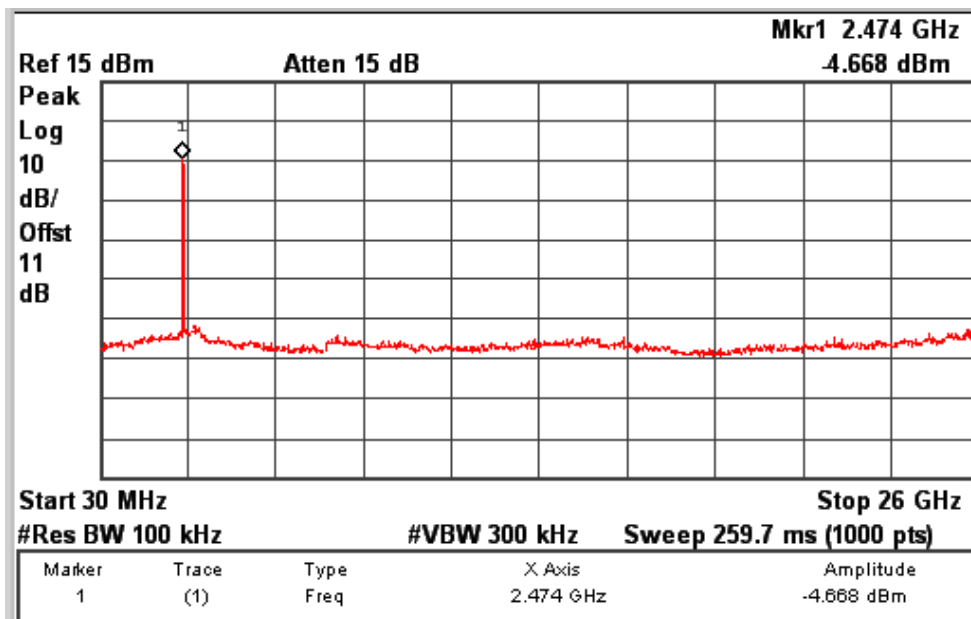
Channel Frequency 2472 MHz

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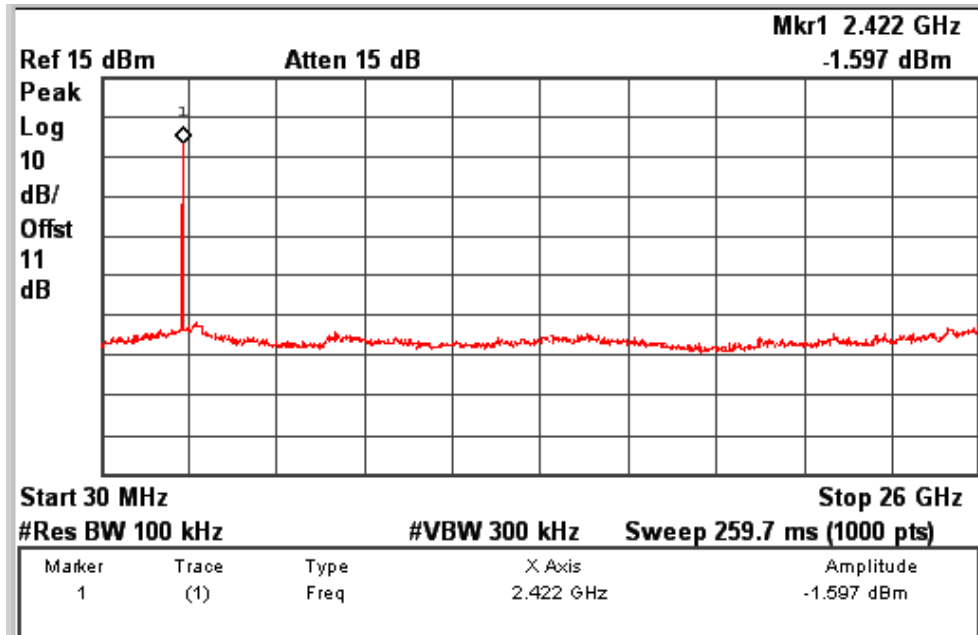
Data Rate: 39 Mbps

Channel Frequency 2412 MHz



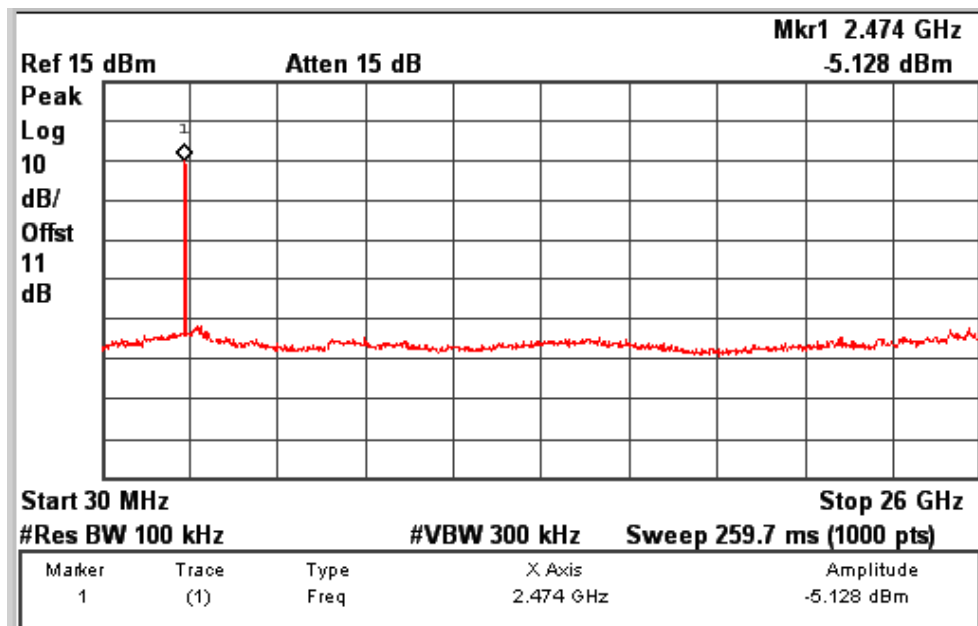
Data Rate: 39 Mbps

Channel Frequency 2472 MHz



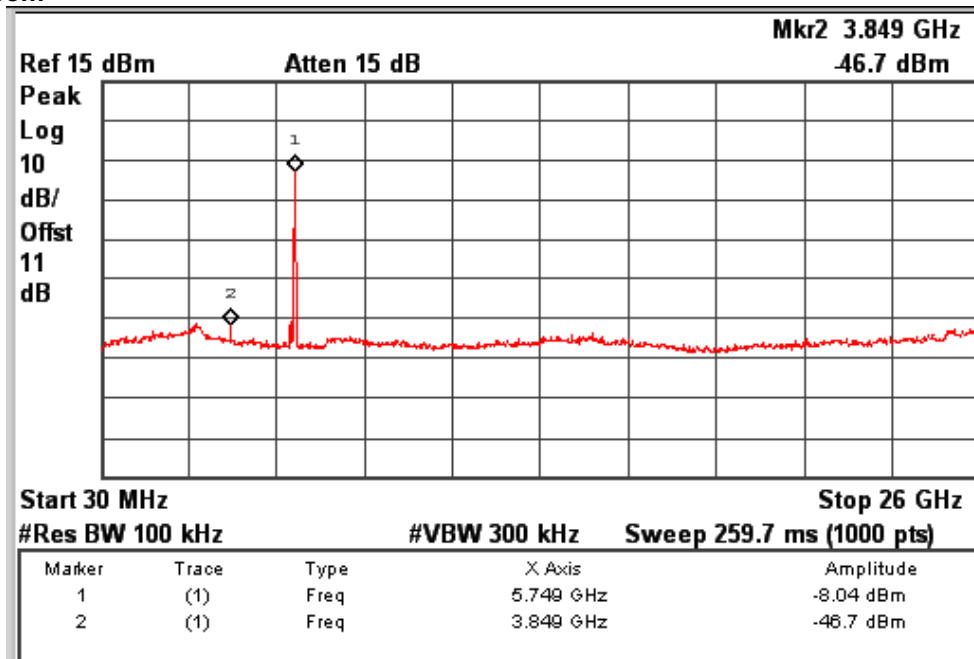
Data Rate: 65 Mbps

Channel Frequency 2412 MHz



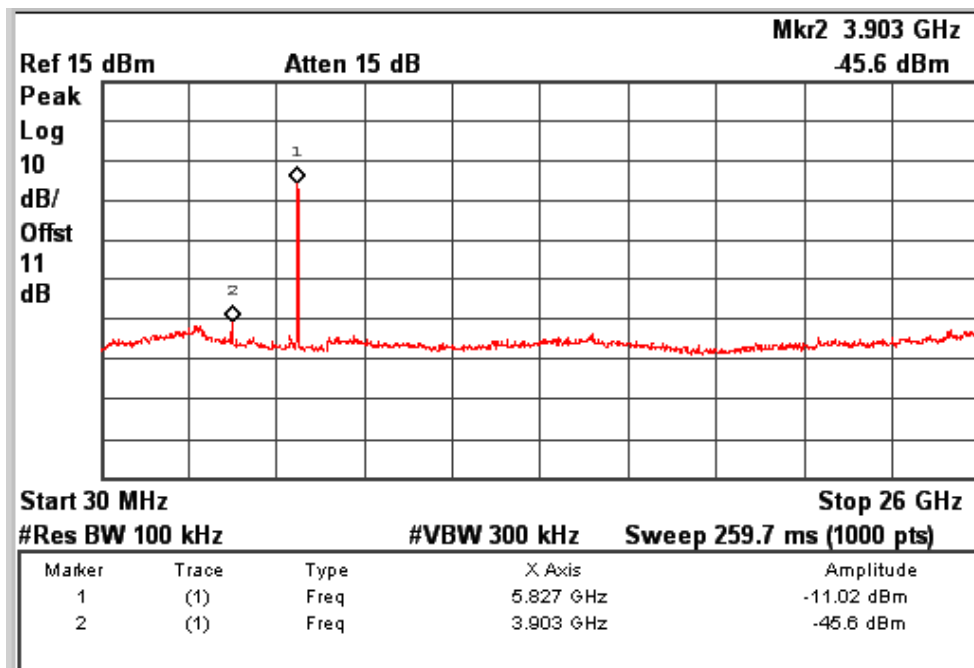
Data Rate: 65 Mbps

Channel Frequency 2472 MHz



Data Rate: 6.5 Mbps

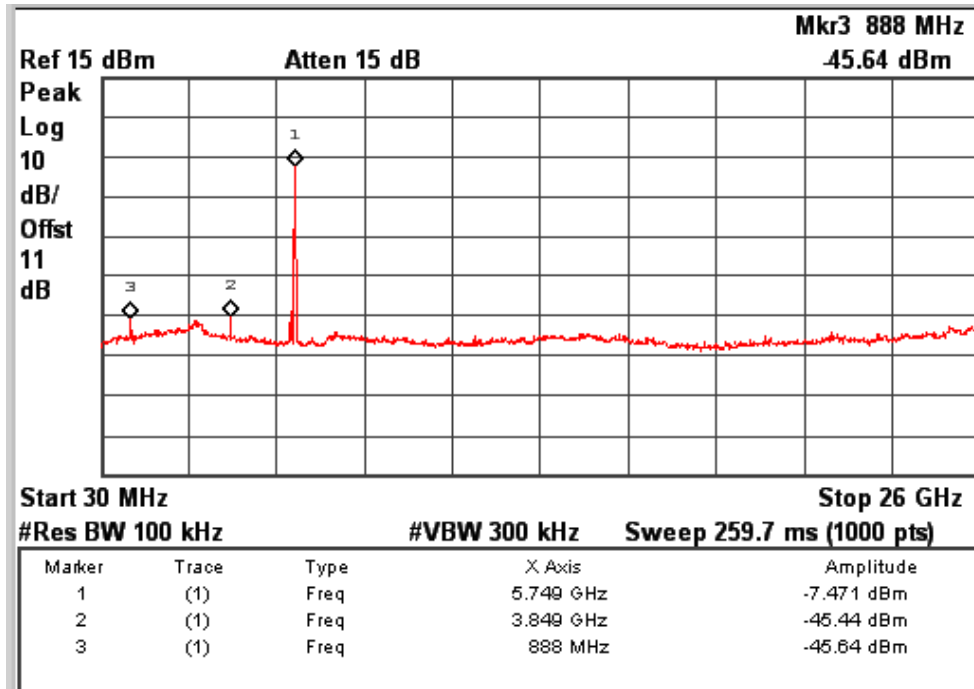
Channel Frequency 5745 MHz



Data Rate: 6.5 Mbps

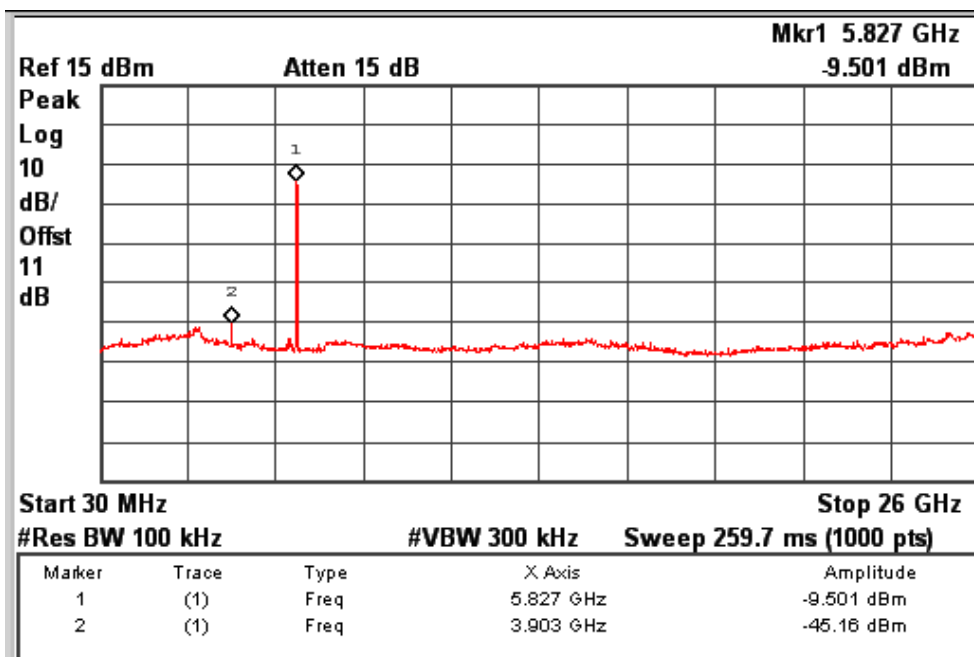
Channel Frequency 5825 MHz

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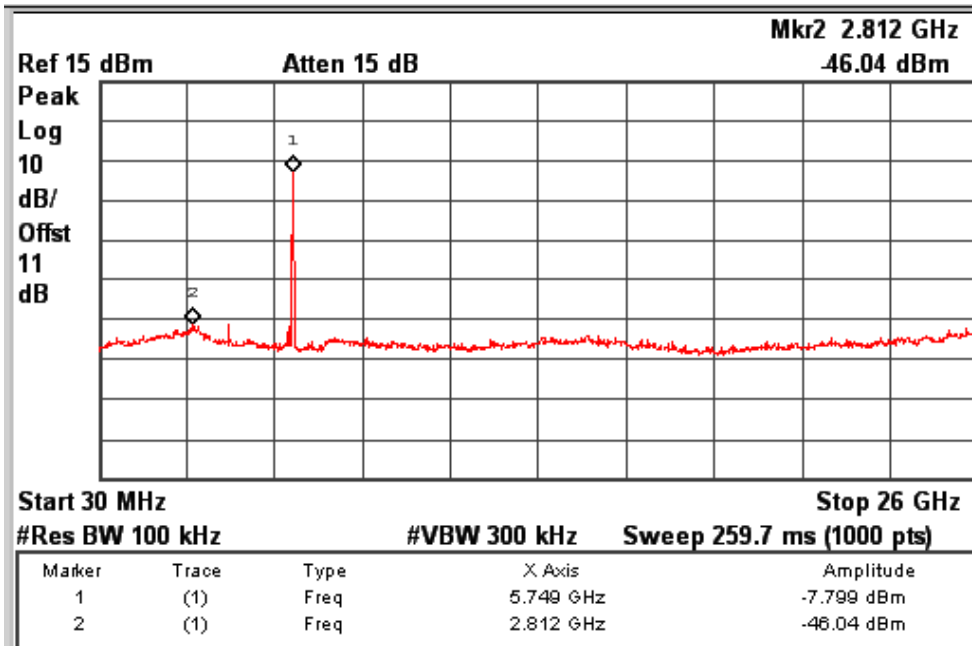
Data Rate: 39 Mbps

Channel Frequency 5745 MHz



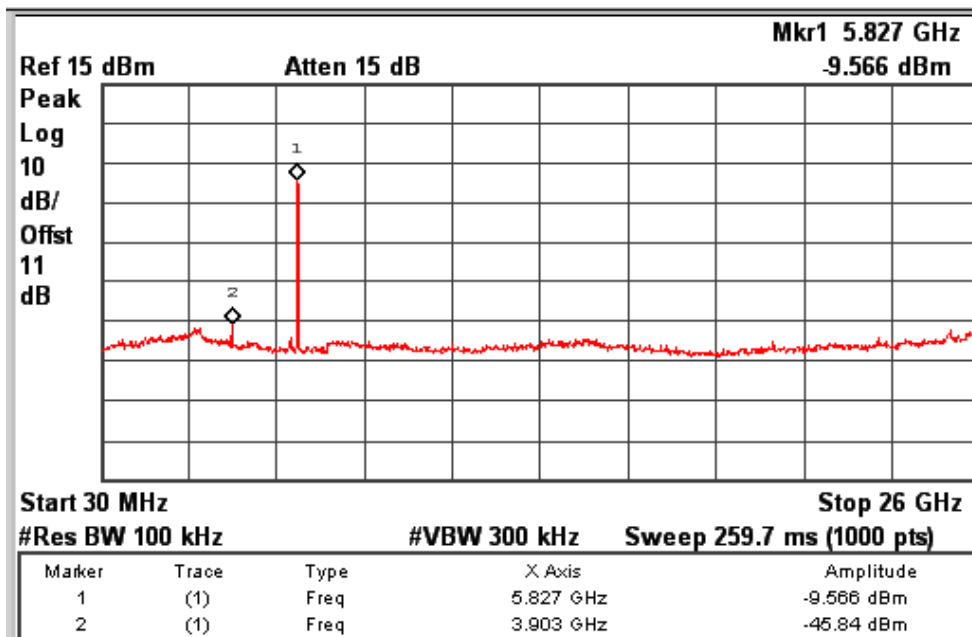
Data Rate: 39 Mbps

Channel Frequency 5825 MHz



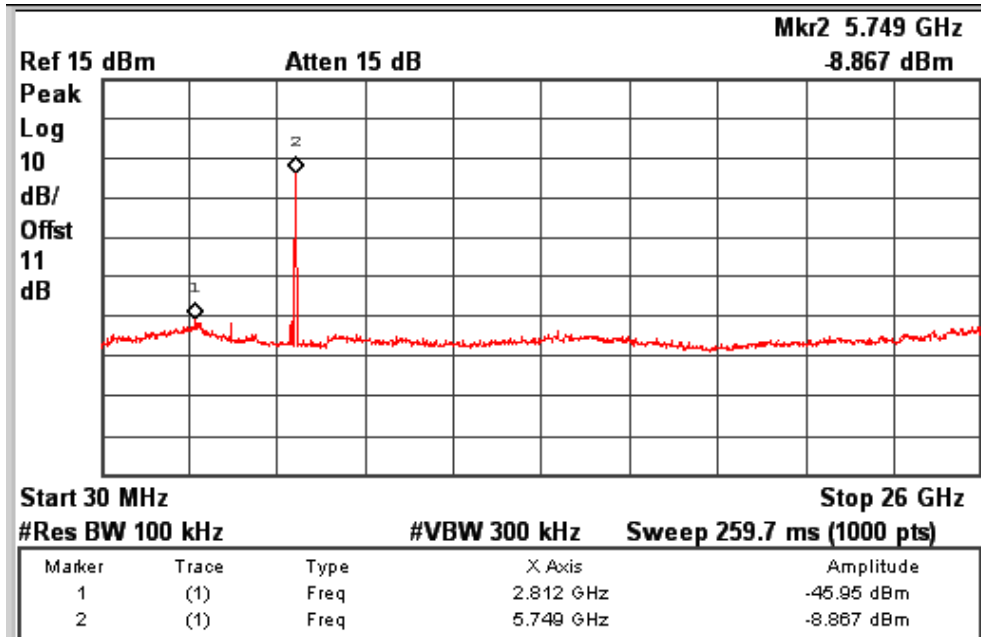
Data Rate: 65 Mbps

Channel Frequency 5745 MHz



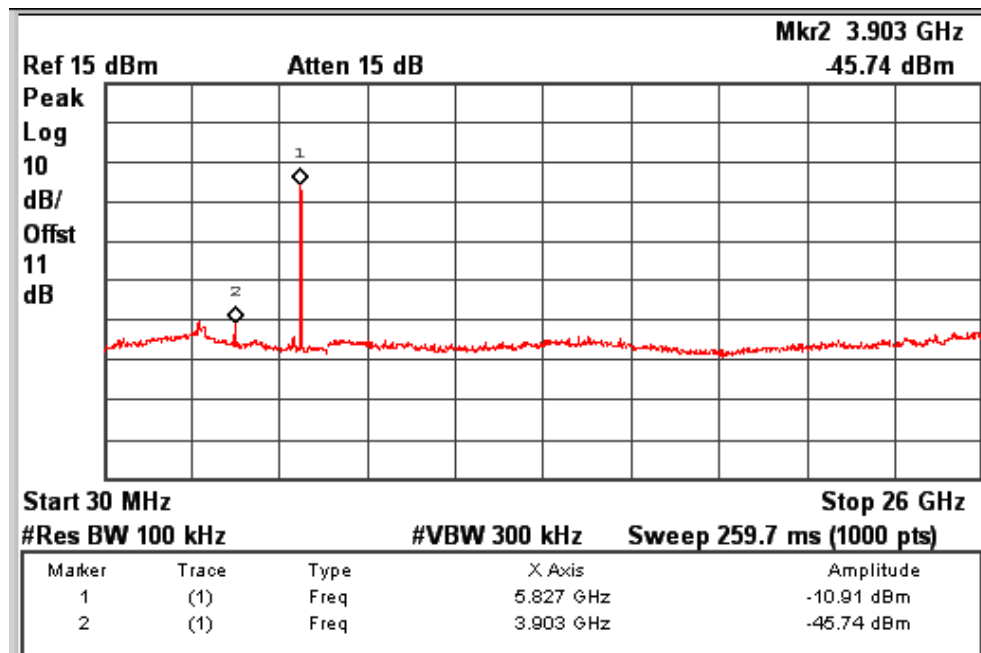
Data Rate: 65 Mbps

Channel Frequency 5825 MHz



Data Rate: 6 Mbps

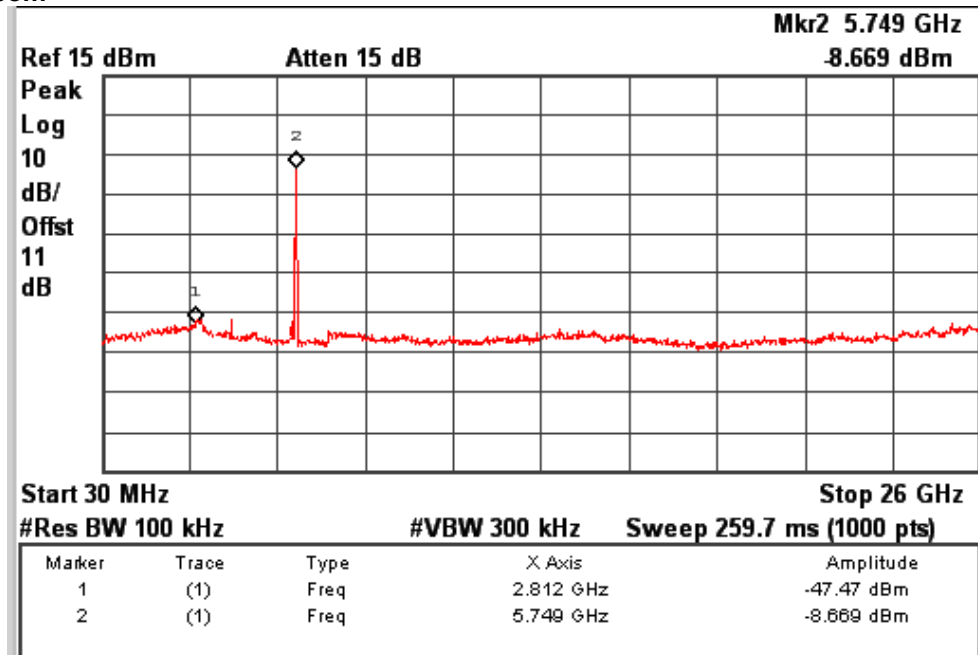
Channel Frequency 5745 MHz



Data Rate: 6 Mbps

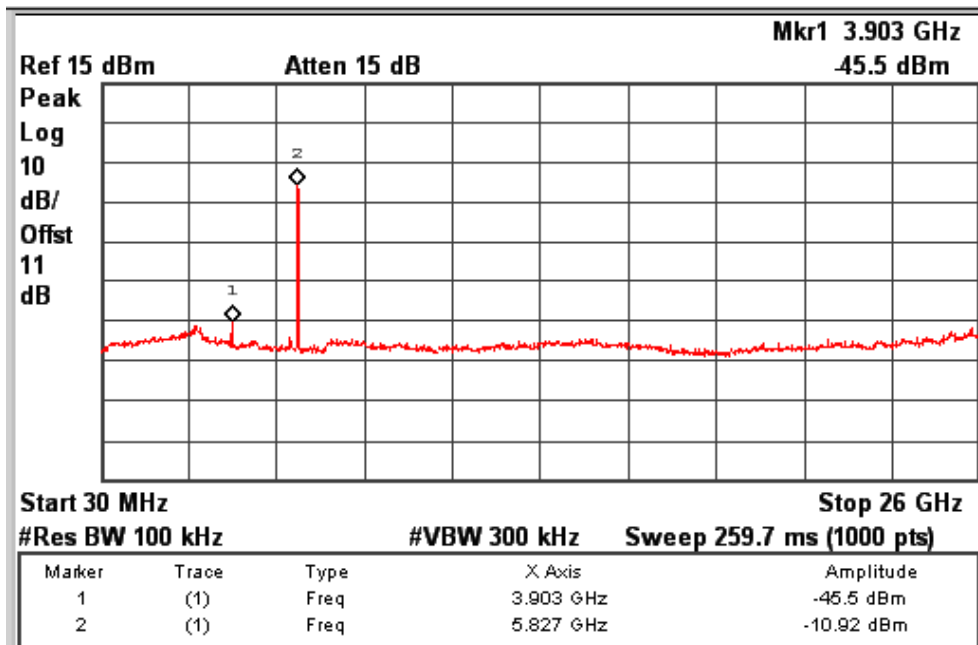
Channel Frequency 5825 MHz

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Data Rate: 24 Mbps

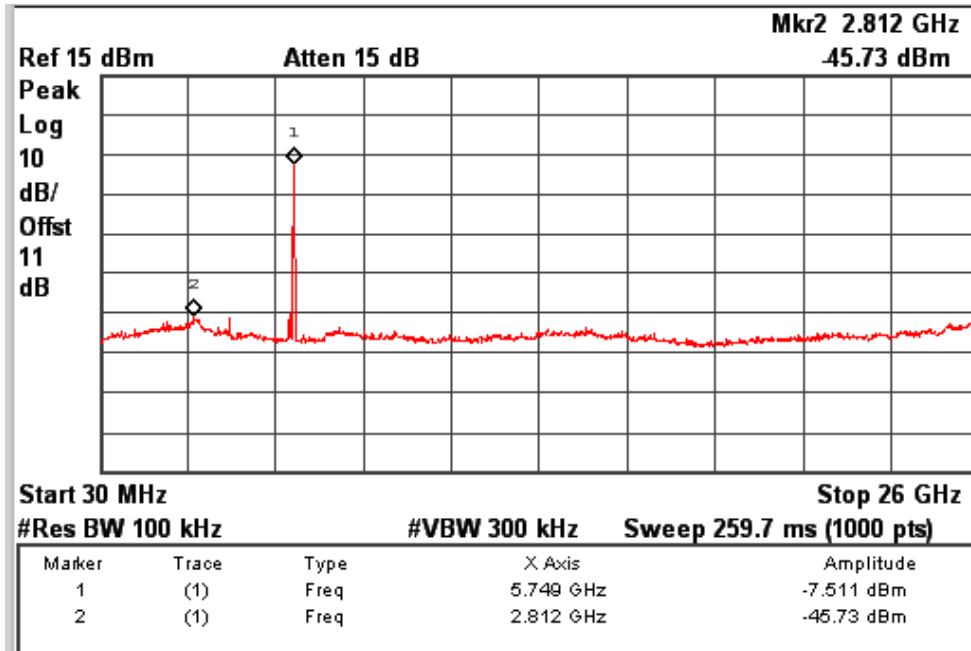
Channel Frequency 5745 MHz



Data Rate: 24 Mbps

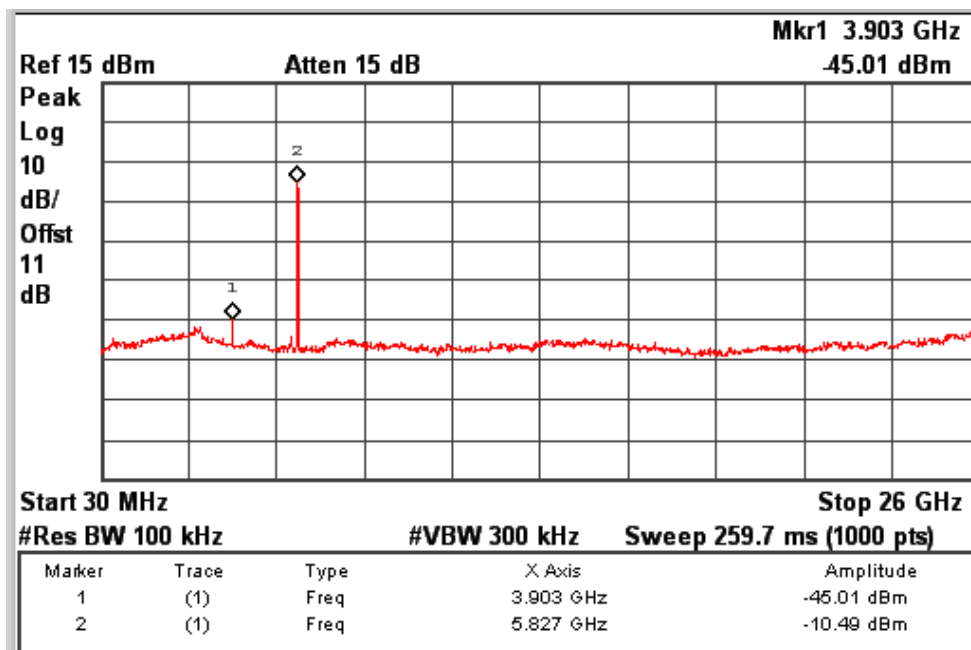
Channel Frequency 5825 MHz

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Data Rate: 54 Mbps

Channel Frequency 5745 MHz



Data Rate: 54 Mbps

Channel Frequency 5825 MHz

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**Spurious Radiated Emissions and
Restricted Bands of Operation**

Section 15.209 and 15.205

Result

Pass

Test Specification	FCC Part 15 Section 15.209
Test Method	ANSI C63.4-2003
Measurement Location	Semi Anechoic Chamber
Measuring Distance	3m
Detection	QP for frequency below 1GHz, Average for frequency above 1GHz
Requirement	As per the limits mentioned in the bellow table

Limit for Radiated Emission of Section 15.209:

Frequency (MHz)	Field strength ($\mu\text{V/m}$)	Field strength (dB $\mu\text{V/m}$)	Distance of Measurement (m)
0.009 – 0.490	2400/F(kHz)	48.50 – 13.80	300*
0.490 – 1.705	24000/F(kHz)	33.80 – 23.00	30*
1.705 -30	30	29.54	30*
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Remark: * the limit shows in the table above of frequency range 0.009 – 0.490, 0.490 – 1.705 MHz and 1.705-30MHz is at 300 meter, 30 meter and 30 meter range respectively, which corresponds to 88,50 – 53.80, 53.80 – 43.00 and 49.5dB $\mu\text{V/m}$ at 3m range by extrapolation calculation and the measurement of loop antenna.

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.

Test result:

For frequency Range 30 MHz - 1 GHz

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Worst case emissions observed are listed below.

Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
Vertical	45.94	31.25	40.00	-8.75
	47.90	30.54	40.00	-9.46
	64.82	26.42	40.00	-13.58
	98.64	30.78	43.50	-12.72
	100.64	32.83	43.50	-10.67
	144.70	24.13	43.50	-19.37
	200.46	28.67	43.50	-14.83
	220.64	30.64	43.50	-12.86
Horizontal	48.26	27.90	40.00	-12.10
	279.96	28.67	46.00	-17.33
	355.00	32.30	46.00	-13.70
	452.01	34.49	46.00	-11.51

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For frequency above 1GHz

Antenna 1-Chip Antenna

Protocol: 802.11 b

Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1	Low	Vertical	2390(Pk)	53.06	74	-20.94
			2390(Av)	37.21	54	-16.79
			2412(Pk)	85.72	*	-
			2412(Av)	81.36	*	-
			4824(Pk)	55.24	74	-18.76
			4824(Av)	50.56	54	-03.44
		Horizontal	2390(Pk)	67.8	74	-06.20
			2390(Av)	49.58	54	-04.42
			2412(Pk)	98.33	*	-
			2412(Av)	93.38	*	-
			4824(Pk)	59.08	74	-14.92
			4824(Av)	52.67	54	-01.33
	Mid	Vertical	2442(Pk)	85.92	*	-
			2442(Av)	80.89	*	-
			4884(Pk)	56.13	74.00	-17.87
			4884(Av)	49.90	54.00	-04.10
		Horizontal	2442(Pk)	98.01	*	-
			2442(Av)	92.98	*	-
			4884(Pk)	57.68	74.00	-16.32
			4884(Av)	50.89	54.00	-03.11
	High	Vertical	2472(Pk)	86.4	*	-
			2472(Av)	83.69	*	-
			2483.5(Pk)	48.67	74	-25.33
			2483.5(Av)	40.03	54	-13.97
			4944(Pk)	50.81	74	-23.19
			4944(Av)	41.54	54	-12.46
		Horizontal	2472(Pk)	97.86	*	
			2472(Av)	95.36	*	
			2483.5(Pk)	57.13	74	-16.87
			2483.5(Av)	51.33	54	-02.67
			4944(Pk)	55.99	74	-18.01
			4944(Av)	52.16	54	-01.84

* - --> Fundamental Frequency

Pk--> Peak Detector

Av--> Average Detector

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Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
11	Low	Vertical	2390(Pk)	46.96	74.00	-27.04
			2390(Av)	35.02	54.00	-18.98
			2412(Pk)	85.87	*	-
			2412(Av)	78.18	*	-
			4824(Pk)	54.25	74.00	-19.75
			4824(Av)	40.47	54.00	-13.53
		Horizontal	2390(Pk)	55.33	74.00	-18.67
			2390(Av)	43.32	54.00	-10.68
			2412(Pk)	101.53	*	-
			2412(Av)	93.64	*	-
			4824(Pk)	59.23	74.00	-14.77
			4824(Av)	46.13	54.00	-07.87
	Mid	Vertical	2442(Pk)	87.65	*	-
			2442(Av)	81.22	*	-
			4884(Pk)	56.23	74.00	-17.77
			4884(Av)	43.25	54.00	-10.75
		Horizontal	2442(Pk)	103.21	*	-
			2442(Av)	95.62	*	-
			4884(Pk)	53.59	74.00	-20.41
			4884(Av)	44.58	54.00	-09.42
	High	Vertical	2472(Pk)	90.31	*	-
			2472(Av)	82.33	*	-
			2483.5(Pk)	50.47	74.00	-23.53
			2483.5(Av)	37.82	54.00	-16.18
			4944(Pk)	49.19	74.00	-24.81
			4944(Av)	37.43	54.00	-16.57
		Horizontal	2472(Pk)	102.87	*	
			2472(Av)	95.20	*	
			2483.5(Pk)	61.47	74.00	-12.53
			2483.5(Av)	49.25	54.00	-04.75
			4944(Pk)	52.02	74.00	-21.98
			4944(Av)	43.61	54.00	-10.39

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Protocol: 802.11 g

Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBμV/m)	Limit (dBμV/m)	Margin (dB)
6	Low	Vertical	2390(Pk)	53.01	74.00	-20.99
			2390(Av)	39.41	54.00	-14.59
			2412(Pk)	83.17	*	-
			2412(Av)	73.85	*	-
			4824(Pk)	52.63	74.00	-21.37
			4824(Av)	38.96	54.00	-15.04
		Horizontal	2390(Pk)	69.21	74.00	-4.79
			2390(Av)	49.99	54.00	-4.01
			2412(Pk)	99.15	*	-
			2412(Av)	89.88	*	-
			4824(Pk)	58.32	74.00	-15.68
			4824(Av)	45.16	54.00	-8.84
	Mid	Vertical	2442(Pk)	85.26	*	-
			2442(Av)	79.58	*	-
			4884(Pk)	57.69	74.00	-16.31
			4884(Av)	46.25	54.00	-7.75
		Horizontal	2442(Pk)	99.42	*	-
			2442(Av)	90.10	*	-
			4884(Pk)	53.12	74.00	-20.88
			4884(Av)	45.16	54.00	-8.84
	High	Vertical	2472(Pk)	88.00	*	-
			2472(Av)	78.36	*	-
			2483.5(Pk)	58.54	74.00	-15.46
			2483.5(Av)	40.48	54.00	-13.52
			4944(Pk)	49.28	74.00	-24.72
			4944(Av)	37.41	54.00	-16.59
		Horizontal	2472(Pk)	98.90	*	
			2472(Av)	89.47	*	
			2483.5(Pk)	71.11	74.00	-2.89
			2483.5(Av)	52.32	54.00	-01.68
			4944(Pk)	51.69	74.00	-22.31
			4944(Av)	44.21	54.00	-09.79

* - --> Fundamental Frequency
Pk--> Peak Detector
Av--> Average Detector

Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
24	Low	Vertical	2390(Pk)	54.60	74.00	-19.40
			2390(Av)	39.77	54.00	-14.23
			2412(Pk)	85.07	*	-
			2412(Av)	75.63	*	-
			4824(Pk)	51.69	74.00	-22.31
			4824(Av)	39.08	54.00	-14.92
		Horizontal	2390(Pk)	69.02	74.00	-4.98
			2390(Av)	53.42	54.00	-0.58
			2412(Pk)	99.01	*	-
			2412(Av)	89.15	*	-
			4824(Pk)	56.47	74.00	-17.53
			4824(Av)	45.21	54.00	-8.79
	Mid	Vertical	2442(Pk)	87.62	*	-
			2442(Av)	79.02	*	-
			4884(Pk)	51.08	74.00	-22.92
			4884(Av)	38.21	54.00	-15.79
		Horizontal	2442(Pk)	100.02	*	-
			2442(Av)	89.98	*	-
			4884(Pk)	52.36	74.00	-21.64
			4884(Av)	44.58	54.00	-09.42
	High	Vertical	2472(Pk)	87.04	*	-
			2472(Av)	78.04	*	-
			2483.5(Pk)	58.29	74.00	-15.71
			2483.5(Av)	40.49	54.00	-13.51
			4944(Pk)	50.05	74.00	-23.95
			4944(Av)	37.48	54.00	-16.52
		Horizontal	2472(Pk)	99.50	*	
			2472(Av)	89.45	*	
			2483.5(Pk)	70.96	74.00	-3.04
			2483.5(Av)	52.53	54.00	-1.47
			4944(Pk)	51.43	74.00	-22.57
			4944(Av)	44.08	54.00	-9.92

* - --> Fundamental Frequency

Pk--> Peak Detector

Av--> Average Detector

Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
54	Low	Vertical	2390(Pk)	51.58	74.00	-22.42
			2390(Av)	38.39	54.00	-15.61
			2412(Pk)	83.70	*	-
			2412(Av)	74.31	*	-
			4824(Pk)	51.73	74.00	-22.27
			4824(Av)	38.27	54.00	-15.73
		Horizontal	2390(Pk)	65.16	74.00	-8.84
			2390(Av)	51.38	54.00	-2.62
			2412(Pk)	97.68	*	-
			2412(Av)	88.18	*	-
			4824(Pk)	55.32	74.00	-18.68
			4824(Av)	44.47	54.00	-9.53
	Mid	Vertical	2442(Pk)	86.98	*	-
			2442(Av)	79.12	*	-
			4884(Pk)	50.10	74.00	-23.90
			4884(Av)	36.25	54.00	-17.75
		Horizontal	2442(Pk)	100.14	*	-
			2442(Av)	89.32	*	-
			4884(Pk)	52.16	74.00	-21.84
			4884(Av)	43.98	54.00	-10.02
	High	Vertical	2472(Pk)	87.34	*	-
			2472(Av)	78.07	*	-
			2483.5(Pk)	57.61	74.00	-16.39
			2483.5(Av)	41.01	54.00	-12.99
			4944(Pk)	49.72	74.00	-24.28
			4944(Av)	37.39	54.00	-16.61
		Horizontal	2472(Pk)	99.78	*	
			2472(Av)	89.47	*	
			2483.5(Pk)	70.60	74.00	-03.40
			2483.5(Av)	52.44	54.00	-01.56
			4944(Pk)	52.44	74.00	-21.56
			4944(Av)	44.29	54.00	-09.71

* - --> Fundamental Frequency
 Pk--> Peak Detector
 Av--> Average Detector

Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
6.5	Low	Vertical	2390(Pk)	50.57	74.00	-23.43
			2390(Av)	37.93	54.00	-16.07
			2412(Pk)	83.21	*	-
			2412(Av)	73.18	*	-
			4824(Pk)	50.90	74.00	-23.10
			4824(Av)	37.32	54.00	-16.68
		Horizontal	2390(Pk)	70.53	74.00	-03.47
			2390(Av)	50.83	54.00	-03.17
			2412(Pk)	96.61	*	-
			2412(Av)	87.15	*	-
			4824(Pk)	55.29	74.00	-18.71
			4824(Av)	43.37	54.00	-10.63
	Mid	Vertical	2442(Pk)	88.02	*	-
			2442(Av)	78.84	*	-
			4884(Pk)	52.11	74.00	-21.89
			4884(Av)	38.62	54.00	-15.38
		Horizontal	2442(Pk)	98.78	*	-
			2442(Av)	89.32	*	-
			4884(Pk)	50.86	74.00	-23.14
			4884(Av)	43.56	54.00	-10.44
	High	Vertical	2472(Pk)	87.63	*	-
			2472(Av)	77.45	*	-
			2483.5(Pk)	58.22	74.00	-15.78
			2483.5(Av)	40.18	54.00	-13.82
			4944(Pk)	50.22	74.00	-23.78
			4944(Av)	37.51	54.00	-16.49
		Horizontal	2472(Pk)	98.28	*	
			2472(Av)	89.04	*	
			2483.5(Pk)	71.61	74.00	-02.39
			2483.5(Av)	51.64	54.00	-02.36
			4944(Pk)	51.08	74.00	-22.92
			4944(Av)	43.88	54.00	-10.12

* - --> Fundamental Frequency

Pk--> Peak Detector

Av--> Average Detector

Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
39	Low	Vertical	2390(Pk)	58.18	74.00	-15.82
			2390(Av)	38.25	54.00	-15.75
			2412(Pk)	84.81	*	-
			2412(Av)	73.37	*	-
			4824(Pk)	50.32	74.00	-23.68
			4824(Av)	37.76	54.00	-16.24
		Horizontal	2390(Pk)	66.64	74.00	-07.36
			2390(Av)	51.08	54.00	-02.92
			2412(Pk)	97.82	*	-
			2412(Av)	87.02	*	-
			4824(Pk)	54.41	74.00	-19.59
			4824(Av)	43.11	54.00	-10.89
	Mid	Vertical	2442(Pk)	88.98	*	-
			2442(Av)	78.23	*	-
			4884(Pk)	51.32	74.00	-22.68
			4884(Av)	39.43	54.00	-14.57
		Horizontal	2442(Pk)	99.89	*	-
			2442(Av)	90.65	*	-
			4884(Pk)	51.86	74.00	-22.14
			4884(Av)	45.53	54.00	-8.47
	High	Vertical	2472(Pk)	88.34	*	-
			2472(Av)	77.07	*	-
			2483.5(Pk)	58.69	74.00	-15.31
			2483.5(Av)	40.29	54.00	-13.71
			4944(Pk)	50.07	74.00	-23.93
			4944(Av)	37.43	54.00	-16.57
		Horizontal	2472(Pk)	99.38	*	
			2472(Av)	89.03	*	
			2483.5(Pk)	71.99	74.00	-02.01
			2483.5(Av)	51.86	54.00	-02.14
			4944(Pk)	50.95	74.00	-23.05
			4944(Av)	43.36	54.00	-10.64

* - --> Fundamental Frequency

Pk--> Peak Detector

Av--> Average Detector

Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
65	Low	Vertical	2390(Pk)	53.53	74.00	-20.47
			2390(Av)	38.17	54.00	-15.83
			2412(Pk)	84.81	*	-
			2412(Av)	73.65	*	-
			4824(Pk)	50.99	74.00	-23.01
			4824(Av)	37.39	54.00	-16.61
		Horizontal	2390(Pk)	69.37	74.00	-04.63
			2390(Av)	50.85	54.00	-03.15
			2412(Pk)	98.07	*	
			2412(Av)	87.26	-	
			4824(Pk)	54.43	74.00	-19.57
			4824(Av)	43.25	54.00	-10.75
	Mid	Vertical	2442(Pk)	88.26	*	-
			2442(Av)	77.56	*	-
			4884(Pk)	51.23	74.00	-22.77
			4884(Av)	37.21	54.00	-16.79
		Horizontal	2442(Pk)	99.01	*	-
			2442(Av)	90.36	*	-
			4884(Pk)	52.58	74.00	-21.42
			4884(Av)	42.37	54.00	-11.63
	High	Vertical	2472(Pk)	87.57	*	-
			2472(Av)	77.10	*	-
			2483.5(Pk)	58.38	74.00	-15.62
			2483.5(Av)	40.29	54.00	-13.71
			4944(Pk)	50.05	74.00	-23.95
			4944(Av)	37.42	54.00	-16.58
		Horizontal	2472(Pk)	99.30	*	
			2472(Av)	89.09	*	
			2483.5(Pk)	71.26	74.00	-02.74
			2483.5(Av)	52.29	54.00	-01.71
			4944(Pk)	51.85	74.00	-22.15
			4944(Av)	43.58	54.00	-10.42

* - --> Fundamental Frequency

Pk--> Peak Detector

Av--> Average Detector

Protocol: 802.11 a

Data Rate (Mbps)	Channel Frequency (MHz)	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
6	5745	Vertical	5745(Pk)	93.12	*	-
			5745(Av)	83.94	*	-
		Horizontal	5745(Pk)	102.44	*	-
			5745(Av)	93.33	*	-
	5745	Vertical	5785(Pk)	92.46	*	-
			5785(Av)	81.35	*	-
		Horizontal	5785(Pk)	100.56	*	-
			5785(Av)	92.36	*	-
	5825	Vertical	5825(Pk)	87.64	*	-
			5825(Av)	78.70	*	-
		Horizontal	5825(Pk)	99.31	*	-
			5825(Av)	90.36	*	-
24	5745	Vertical	5745(Pk)	93.93	*	-
			5745(Av)	84.13	*	-
		Horizontal	5745(Pk)	105.24	*	-
			5745(Av)	95.41	*	-
	5785	Vertical	5785(Pk)	92.89	*	-
			5785(Av)	83.96	*	-
		Horizontal	5785(Pk)	103.58	*	-
			5785(Av)	95.02	*	-
	5825	Vertical	5825(Pk)	87.67	*	-
			5825(Av)	77.90	*	-
		Horizontal	5825(Pk)	99.60	*	-
			5825(Av)	89.90	*	-
54	5745	Vertical	5745(Pk)	93.58	*	-
			5745(Av)	83.58	*	-
		Horizontal	5745(Pk)	105.02	*	-
			5745(Av)	94.85	*	-
	5785	Vertical	5785(Pk)	92.10	*	-
			5785(Av)	80.86	*	-
		Horizontal	5785(Pk)	102.85	*	-
			5785(Av)	92.35	*	-
	5825	Vertical	5825(Pk)	88.32	*	-
			5825(Av)	78.40	*	-
		Horizontal	5825(Pk)	100.19	*	-
			5825(Av)	90.28	*	-

* - --> Fundamental Frequency

Pk--> Peak Detector

Av--> Average Detector

Note: No harmonics were found.

Protocol: 802.11 n

Data Rate (Mbps)	Channel Frequency (MHz)	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
6.5	5745	Vertical	5745(Pk)	93.29	*	-
			5745(Av)	83.24	*	-
		Horizontal	5745(Pk)	102.61	*	-
			5745(Av)	93.54	*	-
	5745	Vertical	5785(Pk)	91.25	*	-
			5785(Av)	81.36	*	-
		Horizontal	5785(Pk)	100.32	*	-
			5785(Av)	91.56	*	-
	5825	Vertical	5825(Pk)	88.70	*	-
			5825(Av)	78.90	*	-
		Horizontal	5825(Pk)	98.91	*	-
			5825(Av)	88.98	*	-
39	5745	Vertical	5745(Pk)	94.21	*	-
			5745(Av)	84.08	*	-
		Horizontal	5745(Pk)	104.19	*	-
			5745(Av)	93.55	*	-
	5785	Vertical	5785(Pk)	92.78	*	-
			5785(Av)	81.95	*	-
		Horizontal	5785(Pk)	102.59	*	-
			5785(Av)	83.01	*	-
	5825	Vertical	5825(Pk)	89.93	*	-
			5825(Av)	78.34	*	-
		Horizontal	5825(Pk)	101.46	*	-
			5825(Av)	90.24	*	-
65	5745	Vertical	5745(Pk)	94.38	*	-
			5745(Av)	84.11	*	-
		Horizontal	5745(Pk)	104.14	*	-
			5745(Av)	93.75	*	-
	5785	Vertical	5785(Pk)	92.74	*	-
			5785(Av)	82.47	*	-
		Horizontal	5785(Pk)	102.73	*	-
			5785(Av)	92.10	*	-
	5825	Vertical	5825(Pk)	88.79	*	-
			5825(Av)	77.80	*	-
		Horizontal	5825(Pk)	100.14	*	-
			5825(Av)	89.86	*	-

* - --> Fundamental Frequency

Pk--> Peak Detector

Av--> Average Detector

Note: No harmonics were found.

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Antenna 2 - External Whip Antenna

Protocol: 802.11b

Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1	Low	Vertical	2390(Pk)	52.16	74.00	-21.84
			2390(Av)	44.43	54.00	-9.57
			2412(Pk)	98.97	*	-
			2412(Av)	96.11	*	-
			4824(Pk)	55.15	74.00	-18.85
			4824(Av)	50.55	54.00	-3.45
		Horizontal	2390(Pk)	49.08	74.00	-24.92
			2390(Av)	39.00	54.00	-15.00
			2412(Pk)	90.15	*	-
			2412(Av)	87.38	*	-
			4824(Pk)	52.89	74.00	-21.11
			4824(Av)	46.95	54.00	-7.05
	Mid	Vertical	2442(Pk)	98.76	*	-
			2442(Av)	93.48	*	-
			4884(Pk)	57.68	74.00	-16.32
			4884(Av)	50.47	54.00	-03.53
		Horizontal	2442(Pk)	86.12	*	-
			2442(Av)	81.18	*	-
			4884(Pk)	56.13	74.00	-17.87
			4884(Av)	48.05	54.00	-5.95
	High	Vertical	2472(Pk)	96.63	*	-
			2472(Av)	94.56	*	-
			2483.5(Pk)	58.24	74.00	-16.76
			2483.5(Av)	50.22	54.00	-3.78
			4944(Pk)	54.25	74.00	-19.75
			4944(Av)	52.30	54.00	-01.70
		Horizontal	2472(Pk)	85.74	*	-
			2472(Av)	82.87	*	-
			2483.5(Pk)	47.45	74.00	-26.55
			2483.5(Av)	39.39	54.00	-14.61
			4944(Pk)	52.63	74.00	-21.37
			4944(Av)	46.52	54.00	-07.48

* - --> Fundamental Frequency

Pk--> Peak Detector

Av--> Average Detector

Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
11	Low	Vertical	2390(Pk)	56.87	74.00	-17.13
			2390(Av)	42.56	54.00	-11.44
			2412(Pk)	103.35	*	-
			2412(Av)	94.58	*	-
			4824(Pk)	60.25	74.00	-13.75
			4824(Av)	47.58	54.00	-06.42
		Horizontal	2390(Pk)	48.57	74.00	-25.43
			2390(Av)	36.21	54.00	-17.79
			2412(Pk)	88.69	*	-
			2412(Av)	81.57	*	-
			4824(Pk)	53.69	74.00	-20.31
			4824(Av)	41.54	54.00	-12.46
	Mid	Vertical	2442(Pk)	103.58	*	-
			2442(Av)	96.42	*	-
			4884(Pk)	54.12	74.00	-19.88
			4884(Av)	43.98	54.00	-10.02
		Horizontal	2442(Pk)	88.34	*	-
			2442(Av)	80.98	*	-
			4884(Pk)	57.01	74.00	-16.99
			4884(Av)	44.21	54.00	-09.79
	High	Vertical	2472(Pk)	101.51	*	-
			2472(Av)	93.74	*	-
			2483.5(Pk)	57.25	74.00	-16.75
			2483.5(Av)	45.22	54.00	-08.78
			4944(Pk)	51.23	74.00	-22.77
			4944(Av)	41.46	54.00	-12.54
		Horizontal	2472(Pk)	89.80	*	-
			2472(Av)	82.13	*	-
			2483.5(Pk)	47.63	74.00	-26.37
			2483.5(Av)	36.33	54.00	-17.67
			4944(Pk)	50.25	74.00	-23.75
			4944(Av)	38.51	54.00	-15.49

* - --> Fundamental Frequency
 Pk--> Peak Detector
 Av--> Average Detector

Protocol: 802.11g

Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
6	Low	Vertical	2390(Pk)	67.89	74.00	-06.11
			2390(Av)	50.21	54.00	-03.79
			2412(Pk)	99.57	*	-
			2412(Av)	88.58	*	-
			4824(Pk)	52.40	74.00	-21.60
			4824(Av)	38.01	54.00	-15.99
		Horizontal	2390(Pk)	54.21	74.00	-19.79
			2390(Av)	38.95	54.00	-15.05
			2412(Pk)	88.56	*	-
			2412(Av)	78.69	*	-
			4824(Pk)	54.09	74.00	-19.91
			4824(Av)	40.82	54.00	-13.18
	Mid	Vertical	2442(Pk)	100.14	*	-
			2442(Av)	90.78	*	-
			4884(Pk)	54.69	74.00	-19.31
			4884(Av)	44.21	54.00	-09.79
		Horizontal	2442(Pk)	86.36	*	-
			2442(Av)	80.25	*	-
			4884(Pk)	57.69	74.00	-16.31
			4884(Av)	44.58	54.00	-9.42
	High	Vertical	2472(Pk)	97.91	*	-
			2472(Av)	88.70	*	-
			2483.5(Pk)	69.92	74.00	-04.08
			2483.5(Av)	50.00	54.00	-04.00
			4944(Pk)	50.58	74.00	-23.42
			4944(Av)	40.25	54.00	-13.75
		Horizontal	2472(Pk)	87.35	*	-
			2472(Av)	78.45	*	-
			2483.5(Pk)	60.32	74.00	-13.68
			2483.5(Av)	40.74	54.00	-13.26
			4944(Pk)	51.89	74.00	-22.11
			4944(Av)	29.35	54.00	-24.65

* - --> Fundamental Frequency

Pk--> Peak Detector

Av--> Average Detector

Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
24	Low	Vertical	2390(Pk)	68.56	74.00	-05.44
			2390(Av)	53.19	54.00	-00.81
			2412(Pk)	100.22	*	-
			2412(Av)	90.21	*	-
			4824(Pk)	54.69	74.00	-19.31
			4824(Av)	44.25	54.00	-09.75
		Horizontal	2390(Pk)	55.36	74.00	-18.64
			2390(Av)	38.97	54.00	-15.03
			2412(Pk)	89.64	*	-
			2412(Av)	78.69	*	-
			4824(Pk)	52.31	74.00	-21.69
			4824(Av)	38.98	54.00	-15.02
	Mid	Vertical	2442(Pk)	101.25	*	-
			2442(Av)	90.36	*	-
			4884(Pk)	53.21	74.00	-20.79
			4884(Av)	44.01	54.00	-09.99
		Horizontal	2442(Pk)	88.14	*	-
			2442(Av)	79.56	*	-
			4884(Pk)	52.22	74.00	-21.78
			4884(Av)	39.02	54.00	-14.98
	High	Vertical	2472(Pk)	98.10	*	-
			2472(Av)	88.70	*	-
			2483.5(Pk)	68.58	74.00	-05.42
			2483.5(Av)	50.52	54.00	-03.48
			4944(Pk)	48.69	74.00	-25.31
			4944(Av)	40.25	54.00	-13.75
		Horizontal	2472(Pk)	85.80	*	-
			2472(Av)	76.80	*	-
			2483.5(Pk)	55.99	74.00	-18.01
			2483.5(Av)	39.12	54.00	-14.88
			4944(Pk)	51.26	74.00	-22.74
			4944(Av)	38.25	54.00	-15.75

* - --> Fundamental Frequency

Pk--> Peak Detector

Av--> Average Detector

Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBμV/m)	Limit (dBμV/m)	Margin (dB)
54	Low	Vertical	2390(Pk)	64.62	74.00	-9.38
			2390(Av)	48.99	54.00	-5.01
			2412(Pk)	100.41	*	-
			2412(Av)	90.65	*	-
			4824(Pk)	50.07	74.00	-23.93
			4824(Av)	37.65	54.00	-16.35
		Horizontal	2390(Pk)	58.55	74.00	-15.45
			2390(Av)	42.72	54.00	-11.28
			2412(Pk)	93.13	*	-
			2412(Av)	82.88	*	-
			4824(Pk)	52.08	74.00	-21.92
			4824(Av)	40.23	54.00	-13.77
	Mid	Vertical	2442(Pk)	100.98	*	-
			2442(Av)	90.35	*	-
			4884(Pk)	53.21	74.00	-20.79
			4884(Av)	42.98	54.00	-11.02
		Horizontal	2442(Pk)	87.65	*	-
			2442(Av)	80.24	*	-
			4884(Pk)	51.65	74.00	-22.35
			4884(Av)	37.54	54.00	-16.46
	High	Vertical	2472(Pk)	98.32	*	-
			2472(Av)	88.67	*	-
			2483.5(Pk)	68.96	74.00	-05.04
			2483.5(Av)	50.27	54.00	-03.73
			4944(Pk)	51.45	74.00	-22.55
			4944(Av)	45.22	54.00	-08.78
		Horizontal	2472(Pk)	87.48	*	-
			2472(Av)	78.10	*	-
			2483.5(Pk)	58.78	74.00	-15.22
			2483.5(Av)	40.58	54.00	-13.42
			4944(Pk)	50.14	74.00	-23.86
			4944(Av)	36.15	54.00	-17.85

* - --> Fundamental Frequency
 Pk--> Peak Detector
 Av--> Average Detector

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Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
6.5	Low	Vertical	2390(Pk)	68.33	74.00	-05.67
			2390(Av)	48.41	54.00	-05.59
			2412(Pk)	98.58	*	-
			2412(Av)	88.87	*	-
			4824(Pk)	54.89	74.00	-19.11
			4824(Av)	40.25	54.00	-13.75
		Horizontal	2390(Pk)	61.10	74.00	-12.90
			2390(Av)	42.54	54.00	-11.46
			2412(Pk)	91.07	*	-
			2412(Av)	81.81	*	-
			4824(Pk)	53.68	74.00	-20.32
			4824(Av)	39.87	54.00	-14.13
	Mid	Vertical	2442(Pk)	99.68	*	-
			2442(Av)	90.71	*	-
			4884(Pk)	51.78	74.00	-22.22
			4884(Av)	44.62	54.00	-09.38
		Horizontal	2442(Pk)	87.84	*	-
			2442(Av)	79.65	*	-
			4884(Pk)	53.12	74.00	-20.88
			4884(Av)	39.21	54.00	-14.79
	High	Vertical	2472(Pk)	98.39	*	-
			2472(Av)	88.10	*	-
			2483.5(Pk)	72.31	74.00	-01.69
			2483.5(Av)	49.94	54.00	-04.06
			4944(Pk)	54.87	74.00	-19.13
			4944(Av)	41.58	54.00	-12.42
		Horizontal	2472(Pk)	86.04	*	-
			2472(Av)	77.10	*	-
			2483.5(Pk)	61.12	74.00	-12.88
			2483.5(Av)	39.78	54.00	-14.22
			4944(Pk)	52.69	74.00	-21.31
			4944(Av)	38.78	54.00	-15.22

* - --> Fundamental Frequency
Pk--> Peak Detector
Av--> Average Detector

Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
39	Low	Vertical	2390(Pk)	67.36	74.00	-06.64
			2390(Av)	52.31	54.00	-01.69
			2412(Pk)	97.02	*	-
			2412(Av)	86.98	*	-
			4824(Pk)	53.97	74.00	-20.03
			4824(Av)	42.54	54.00	-11.46
		Horizontal	2390(Pk)	58.92	74.00	-15.08
			2390(Av)	41.23	54.00	-12.77
			2412(Pk)	86.35	*	-
			2412(Av)	75.24	*	-
			4824(Pk)	51.26	74.00	-22.74
			4824(Av)	37.84	54.00	-16.16
	Mid	Vertical	2442(Pk)	100.36	*	-
			2442(Av)	91.54	*	-
			4884(Pk)	50.69	74.00	-23.31
			4884(Av)	44.98	54.00	-09.02
		Horizontal	2442(Pk)	89.64	*	-
			2442(Av)	78.87	*	-
			4884(Pk)	52.32	74.00	-21.68
			4884(Av)	39.87	54.00	-14.13
	High	Vertical	2472(Pk)	98.71	*	-
			2472(Av)	88.00	*	-
			2483.5(Pk)	68.47	74.00	-05.53
			2483.5(Av)	49.69	54.00	-04.31
			4944(Pk)	52.23	74.00	-21.77
			4944(Av)	40.58	54.00	-13.42
		Horizontal	2472(Pk)	88.90	*	-
			2472(Av)	78.28	*	-
			2483.5(Pk)	57.61	74.00	-16.39
			2483.5(Av)	40.63	54.00	-13.37
			4944(Pk)	54.62	74.00	-19.38
			4944(Av)	38.47	54.00	-15.53

* - --> Fundamental Frequency
 Pk--> Peak Detector
 Av--> Average Detector

Data Rate (Mbps)	Channel	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
65	Low	Vertical	2390(Pk)	69.87	74.00	-04.13
			2390(Av)	51.49	54.00	-02.51
			2412(Pk)	97.24	*	-
			2412(Av)	86.54	*	-
			4824(Pk)	53.64	74.00	-20.36
			4824(Av)	42.56	54.00	-11.44
		Horizontal	2390(Pk)	54.25	74.00	-19.75
			2390(Av)	37.87	54.00	-16.13
			2412(Pk)	89.64	*	-
			2412(Av)	77.89	-	-
			4824(Pk)	51.99	74.00	-22.01
			4824(Av)	36.54	54.00	-17.46
	Mid	Vertical	2442(Pk)	98.58	*	-
			2442(Av)	89.78	*	-
			4884(Pk)	52.36	74.00	-21.64
			4884(Av)	43.56	54.00	-10.44
		Horizontal	2442(Pk)	89.65	*	-
			2442(Av)	78.54	*	-
			4884(Pk)	52.14	74.00	-21.86
			4884(Av)	38.79	54.00	-15.21
	High	Vertical	2472(Pk)	99.22	*	-
			2472(Av)	88.19	*	-
			2483.5(Pk)	69.75	74.00	-04.25
			2483.5(Av)	50.06	54.00	-03.94
			4944(Pk)	52.14	74.00	-21.86
			4944(Av)	43.01	54.00	-10.99
		Horizontal	2472(Pk)	89.01	*	-
			2472(Av)	80.87	*	-
			2483.5(Pk)	59.64	74.00	-14.36
			2483.5(Av)	40.96	54.00	-13.04
			4944(Pk)	52.32	74.00	-21.68
			4944(Av)	35.68	54.00	-18.32

* - --> Fundamental Frequency
 Pk--> Peak Detector
 Av--> Average Detector

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Data Rate (Mbps)	Channel Frequency (MHz)	Antenna Polarization	Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
6	5745	Vertical	5745(Pk)	102.24	*	-
			5745(Av)	92.33	*	-
		Horizontal	5745(Pk)	92.52	*	-
			5745(Av)	83.44	*	-
	5745	Vertical	5785(Pk)	100.96	*	-
			5785(Av)	92.56	*	-
		Horizontal	5785(Pk)	91.96	*	-
			5785(Av)	81.45	*	-
	5825	Vertical	5825(Pk)	98.82	*	-
			5825(Av)	89.74	*	-
		Horizontal	5825(Pk)	86.94	*	-
			5825(Av)	78.70	*	-
24	5745	Vertical	5745(Pk)	105.54	*	-
			5745(Av)	94.81	*	-
		Horizontal	5745(Pk)	92.98	*	-
			5745(Av)	84.10	*	-
	5785	Vertical	5785(Pk)	102.88	*	-
			5785(Av)	94.62	*	-
		Horizontal	5785(Pk)	92.23	*	-
			5785(Av)	83.16	*	-
	5825	Vertical	5825(Pk)	98.86	*	-
			5825(Av)	88.92	*	-
		Horizontal	5825(Pk)	87.67	*	-
			5825(Av)	77.58	*	-
54	5745	Vertical	5745(Pk)	104.92	*	-
			5745(Av)	94.65	*	-
		Horizontal	5745(Pk)	94.08	*	-
			5745(Av)	82.80	*	-
	5785	Vertical	5785(Pk)	103.05	*	-
			5785(Av)	91.75	*	-
		Horizontal	5785(Pk)	92.18	*	-
			5785(Av)	81.86	*	-
	5825	Vertical	5825(Pk)	100.72	*	-
			5825(Av)	90.08	*	-
		Horizontal	5825(Pk)	87.38	*	-
			5825(Av)	78.21	*	-

* - --> Fundamental Frequency

Pk--> Peak Detector

Av--> Average Detector

Note: No harmonics were found.

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Protocol: 802.11 n

Data Rate (Mbps)	Channel Frequency (MHz)	Antenna Polarization	Frequency (MHz)	Measured Value (dBμV/m)	Limit (dBμV/m)	Margin (dB)
6.5	5745	Vertical	5745(Pk)	101.98	*	-
			5745(Av)	92.54	*	-
		Horizontal	5745(Pk)	93.79	*	-
			5745(Av)	82.26	*	-
	5745	Vertical	5785(Pk)	100.82	*	-
			5785(Av)	90.54	*	-
		Horizontal	5785(Pk)	91.85	*	-
			5785(Av)	81.06	*	-
	5825	Vertical	5825(Pk)	99.20	*	-
			5825(Av)	88.58	*	-
		Horizontal	5825(Pk)	89.08	*	-
			5825(Av)	78.45	*	-
39	5745	Vertical	5745(Pk)	104.19	*	-
			5745(Av)	93.55	*	-
		Horizontal	5745(Pk)	94.42	*	-
			5745(Av)	83.24	*	-
	5785	Vertical	5785(Pk)	102.08	*	-
			5785(Av)	82.71	*	-
		Horizontal	5785(Pk)	92.12	*	-
			5785(Av)	81.17	*	-
	5825	Vertical	5825(Pk)	100.96		-
			5825(Av)	99.84		-
		Horizontal	5825(Pk)	90.23	*	-
			5825(Av)	77.93	*	-
65	5745	Vertical	5745(Pk)	104.51	*	-
			5745(Av)	92.71	*	-
		Horizontal	5745(Pk)	93.78	*	-
			5745(Av)	83.72	*	-
	5785	Vertical	5785(Pk)	102.33	*	-
			5785(Av)	91.82	*	-
		Horizontal	5785(Pk)	92.35	*	-
			5785(Av)	81.67	*	-
	5825	Vertical	5825(Pk)	100.44	*	-
			5825(Av)	90.42	*	-
		Horizontal	5825(Pk)	89.19	*	-
			5825(Av)	77.82	*	-

* - --> Fundamental Frequency

Pk--> Peak Detector

Av--> Average Detector

Note: No harmonics were found.

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GC value for 2.4GHz Band and 5725MHz – 5850MHz Bands

Data Rate	GC 2412 MHz	GC 2417 MHz	GC 2422 MHz	GC 2427 MHz	GC 2432 MHz	GC 2437 MHz	GC 2442 MHz	GC 2447 MHz	GC 2452 MHz	GC 2457 MHz	GC 2462 MHz	GC 2467 MHz	GC 2472 MHz
11-b													
1-mbps	53	56	56	56	56	56	56	56	56	56	56	56	48
2-mbps	53	56	56	56	56	56	56	56	56	56	56	56	48
5.5-mbps	56	56	56	56	56	56	56	56	56	56	56	56	48
11-mbps	56	56	56	56	56	56	56	56	56	56	56	56	48
11-g													
6-mbps	56	59	59	59	57	57	57	57	57	57	56	47	45
9-mbps	56	59	59	59	57	57	57	57	57	57	56	47	45
12-mbps	56	59	59	59	57	57	57	57	57	57	56	47	45
18-mbps	56	59	59	59	57	57	57	57	57	57	56	47	45
24-mbps	56	56	56	56	54	54	54	54	54	54	53	44	42
36-mbps	56	56	56	56	54	54	54	54	54	54	53	44	42
48-mbps	52	52	52	52	52	52	52	52	52	52	51	42	40
54-mbps	52	52	52	52	52	52	52	52	52	52	51	42	40
11-n													
MCS-0(6.5-mbps)	50	59	59	59	57	57	57	57	57	57	50	45	43
MCS-1(13-mbps)	50	59	59	59	57	57	57	57	57	57	50	45	43
MCS-2(19.5-mbps)	50	59	59	59	57	57	57	57	57	57	50	45	43
MCS-3(26-mbps)	50	59	59	59	57	57	57	57	57	57	50	45	43
MCS-4(39-mbps)	50	56	56	56	54	54	54	54	54	54	47	42	40
MCS-5(52-mbps)	50	56	56	56	54	54	54	54	54	54	47	42	40
MCS-6(58.5-mbps)	50	52	52	52	52	52	52	52	52	52	45	40	38
MCS-7(65-mbps)	50	52	52	52	52	52	52	52	52	52	45	40	38

Data Rate	GC 5745 MHz	GC 5765 MHz	GC 5785 MHz	GC 5805 MHz	GC 5825 MHz
802.11 a					
6-mbps	59	59	59	59	59
9-mbps	59	59	59	59	59
12-mbps	59	59	59	59	59
18-mbps	59	59	59	59	59
24-mbps	59	59	59	59	59
36-mbps	59	59	59	59	59
48-mbps	59	59	59	59	59
54-mbps	59	59	59	59	59
802.11n					
MCS-0(6.5-mbps)	59	59	59	59	59
MCS-1(13-mbps)	59	59	59	59	59
MCS-2(19.5-mbps)	59	59	59	59	59
MCS-3(26-mbps)	59	59	59	59	59
MCS-4(39-mbps)	59	59	59	59	59
MCS-5(52-mbps)	59	59	59	59	59
MCS-6(58.5-mbps)	59	59	59	59	59
MCS-7(65-mbps)	59	59	59	59	59