



**Produkte**  
**Products**

<b>Prüfbericht - Nr.: 19660221 001</b>			<b>Seite 1 von 184</b>		
<i>Test Report No.:</i>			<i>Page 1 of 184</i>		
<b>Auftraggeber:</b> <i>Client:</i>		Camera Vision Solutions, Inc. P.O Box 80249 Austin, TX 78708 United States			
<b>Gegenstand der Prüfung:</b> <i>Test item:</i>		On-board Video Vehicle Recorder			
<b>Bezeichnung:</b> <i>Identification:</i>	SentinelHDx	<b>Serien-Nr.:</b> <i>Serial No.</i>	Engineering Sample		
<b>Wareneingangs-Nr.:</b> <i>Receipt No.:</i>	1803117312	<b>Eingangsdatum:</b> <i>Date of receipt:</i>	13.01.2016		
<b>Prüfart:</b> <i>Testing location:</i>		Refer Page 4 of 184 for test facilities			
<b>Prüfgrundlage:</b> <i>Test specification:</i>		FCC Part 15: Subpart C ANSI C63.10-2013			
<b>Prüfergebnis:</b> <i>Test Result:</i>		Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). <i>The test items passed the test specification(s).</i>			
<b>Prüflaboratorium:</b> <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			
<b>geprüft / tested by:</b>			<b>kontrolliert / reviewed by:</b>		
27.04.2016	Saibaba Siddapur Sr.Engineer		16.05.2016	Raghavendra Kulkarni Sr.Manager	
<b>Datum</b> <i>Date</i>	<b>Name/Stellung</b> <i>Name/Position</i>	<b>Unterschrift</b> <i>Signature</i>	<b>Datum</b> <i>Date</i>	<b>Name/Stellung</b> <i>Name/Position</i>	<b>Unterschrift</b> <i>Signature</i>
<b>Sonstiges / Other Aspects:</b>			<b>FCC ID: 2AFS2-SHDX</b>		
<b>Abkürzungen:</b> P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet			<b>Abbreviations:</b> P(ass) = passed F(ail) = failed N/A = not applicable N/T = not tested		
<p><b>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.</b></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>					

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Tel.: +9180 6723 3500 · Fax: +9180 6723 3542 · Web: [www.tuv.com](http://www.tuv.com)

**Test Result Summary**

Clause	Test Item	Result
FCC 15.247(b) (3)	Maximum conducted (average) output power	Pass
FCC 15.247(a) (2)	DTS Bandwidth	Pass
FCC 15.247(e)	Maximum Power Spectral Density	Pass
FCC 15.247(d)	Emissions in non-restricted frequency bands	Pass
FCC 15.209 / FCC 15.205	Spurious Radiated Emissions and Restricted Bands of Operation	Pass
FCC 15.207	Conducted Emissions on a.c Power Lines	N/A*

**Note:** Conducted measurements are done according to the procedure given in KDB No558074 D01 DTS Meas Guidance v03r05 & 662911 D01 Multiple Transmitter Output v02r01.

\* - > Device exclusively used in vehicle only, It will operates on vehicle battery & internal back up battery only.

# Content

<b>List of Test and Measurement Instruments.....</b>	<b>4</b>
<b>General Product Information .....</b>	<b>5</b>
Product Function and Intended Use .....	5
Ratings and System Details.....	5
<b>Test Set-up and Operation Mode.....</b>	<b>6</b>
Principle of Configuration Selection .....	6
Test Operation and Test Software .....	6
Test Modes – Data Rates and Modulations .....	6
<b>Test Methodology .....</b>	<b>8</b>
Radiated Emission Test .....	8
<b>Test Results .....</b>	<b>9</b>
Maximum Average Conducted Output Power	Section 15.247(b) (3) .....9
Maximum Power Spectral Density	Section 15.247(e).....51
DTS Bandwidth	Section 15.247(a) (2) .....91
Emissions in non-restricted frequency bands	Section 15.247(d).....114
Radiated Spurious Emissions and Restricted Bands of Operation	Section 15.209 and 15.205 .....158
Appendix 1: Test Setup Photo	
Appendix 2: EUT External Photo	
Appendix 3: EUT Internal Photo	
Appendix 4: FCC Label and Label Location	
Appendix 5: Block Diagram	
Appendix 6: Specification of EUT	
Appendix 7: Schematic Diagrams	
Appendix 8: Bill of Material	
Appendix 9: User Manual	
Appendix 10: Maximum Permissible Exposure Calculation	

## List of Test and Measurement Instruments

Equipment	Manufacturer	Model Name	Serial Number	Calibration Due Date	Periodicity	Used for Test Items
EMI Test Receiver	Rohde & Schwarz	ESU 40	100288	023.11.2016	Yearly	Spurious Radiated Emissions
Broadband Antenna	Frankonia	ALX-4000	ALX-4000-806	08.04.2016	Yearly	
Active Loop Antenna	Frankonia	LAX-10	LAX-10-800	22.12.2016	Yearly	
Broadband Horn Antenna	Frankonia	HAX-18	HAX18-802	14.03.2017	Yearly	
Emission Horn Antenna	ETS Lindgren	116706	00107323	02.11.2016	Yearly	
Anechoic Chamber	Frankonia	-	-	-	-	Antenna - Port Conducted Tests
Spectrum Analyser	Agilent Technologies	E4407B	US41192772	23.04.2017	Yearly	
Signal Analyzer	Rohde & Schwarz	FSV7	101644	07.12.1016	Yearly	

### Testing Facilities:

- 1) TUV Rheinland (India) Private Limited  
108 , Beside ISBR Business School,  
Electronic city Phase I  
Bangalore - 560 100.

## General Product Information

### Product Function and Intended Use

Sentinel HDx unit is a Dual Camera Event Recorder and will be installed on the windshield of the vehicle.  
This product is going to be installed inside the vehicles like cars, truck, taxi etc.

### Ratings and System Details

Frequency Range	2400MHz – 2480MHz	
No. of channel	Refer page 5 of 164	
Channel Spacing	5MHz – Wi-Fi 2MHz – BT LE	
Transmitted Power	802.11b	<b>14.82 dBm / 30.338mW</b>
	802.11g	<b>12.74 dBm / 18.793mW</b>
	802.11nHT20	<b>12.81 dBm / 19.098mW</b>
	802.11nHT40	<b>13.33 dBm / 21.527mW</b>
	Bluetooth LE	<b>-2.49 dBm / 0.563mW</b>
Data Rate	802.11b: 1,2, 5.5,11 Mbps 802.11g: 6, 9, 12, 18, 24, 36,48, 54 Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11nHT20,HT40 : MCS0 – MCS7 – MCS15 -> refer page 5 of 184 BT LE – 1 Mbps	
Modulation	802.11b: DSSS with CCK 802.11g: OFDM with BPSK, QPSK, 16-QAM, 64-QAM 802.11n: OFDM with BPSK, QPSK, 16-QAM, 64-QAM	
Number of antenna	Refer Table 1	
Antenna Gain and Antenna type	Refer Table 1	
Supply Voltage	9-17VDC from vehicle Battery & Internal Back-up Battery Voltage: 3.0V to 4.2V DC	
Environmental Condition	Operational : -10°C to +50° C Storage : -20°C to +60° C	

### 802.11n Mode data rate

802.11nHT20: 6.5, 13, 19.5, 26, 39, 52, 58.5,65, 13, 26, 39, 52, 78, 104,117 & 130 Mbps

802.11nHT40: 13.5, 27, 40.5, 54, 81, 108, 121.5, 135, 27, 54, 81, 108, 162, 216, 243, 270 Mbps

### Test Conditions:

Supply Voltage: 12VDC form vehicle Battery & Internal Battery 3.0 -4.2VDC

### Environmental conditions:

Temperature: +25 ° C      RH: 62%

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## Test Set-up and Operation Mode

### Principle of Configuration Selection

Transmission was enabled with continuous transmission on low, mid and high channel.

### Test Operation and Test Software

Test software (Labtool) was used to enable the continuous transmission, 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

- None

### Test Modes – Data Rates and Modulations

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

### Antenna Port measurements are performed on the following paths

Path A – J7 Connector – ANT1

Path B – J8 Connector – ANT2

Bluetooth (EDR+BDR) & Bluetooth LE will transmit only on ANT2 & Wi-Fi (IEEE802.11abgnHT20/HT40) will transmit on both ANT1 & ANT2.

Product also has GPS functionality with operating frequency 1575.42MHz

Sample used for testing as identified with below number.

Sample Serial No.12

Sample Serial No.13

### List of Antenna: Table 1

Manufacturer	Antenna Type	Antenna Part No.	Operating Frequency (GHz)
TAIYO YUDEN	Multilayer Monopole Antenna	AH 104N2450D1	2.4 & 5
Laird	External Two-Way Radio Antenna	WTS 2450	2.4 & 5

**List of Centre Frequencies: Table 2**

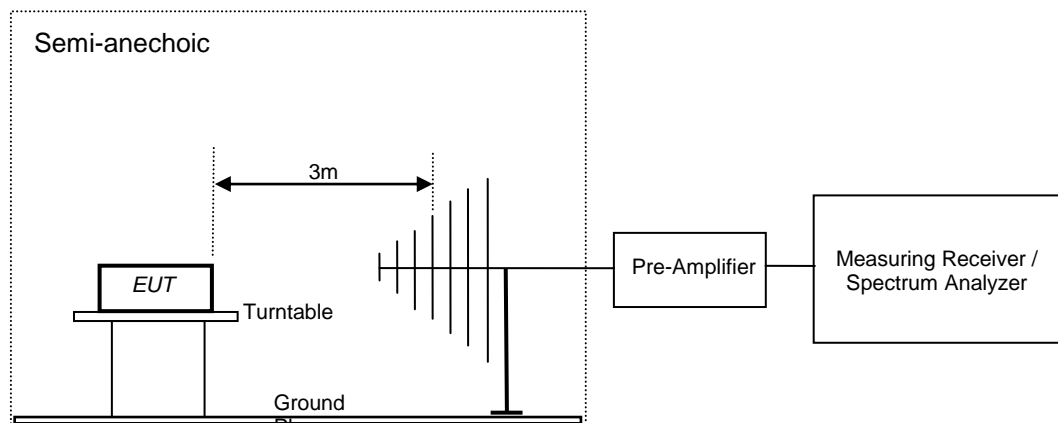
<b>Frequency Band (MHz)</b>	<b>Channel No.</b>	<b>Channel Frequency (MHz)</b>
<b>2400 – 2483.5 (20MHz Bandwidth)_ Wi-Fi</b>	1	2412
	2	2417
	3	2422
	4	2427
	5	2432
	6	2437
	7	2437
	8	2447
	9	2452
	10	2457
	11	2462
<b>2400 – 2483.5 (40MHz Bandwidth)_ Wi-Fi</b>	3	2422
	4	2427
	5	2432
	6	2437
	7	2437
	8	2447
	9	2452
	10	2457
<b>2400 – 2483.5 (2MHz Bandwidth)_BT LE</b>	0	2402
	1	2404
	2	2406
	3	2408
	:	:
	:	:
	18	2438
	19	2440
	20	2437
	:	:
	:	:
	36	2474
	37	2476
	38	2478
	39	2480

## Test Methodology

### Radiated Emission Test

The radiated emission measurement was performed according to the procedures in ANSI C63.10-2013. The equipment under test (EUT) was placed at the middle of the 80 cm high turntable for below 1GHz & 1.5m height for above 1GHz measurement, 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.





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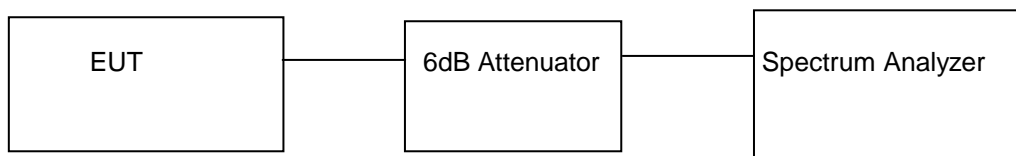
## Test Results

**Maximum Average Conducted Output Power Result**

**Section 15.247(b) (3)  
Pass**

Test Specification	FCC Part 15 Subpart C
Measurement Bandwidth (RBW)	1MHz
Detector Function	Average
Requirement	≤1 watt (30dBm).

### Test Method:



**Note:** For measurement of Maximum Average conducted output power method AVGSA-1 was used

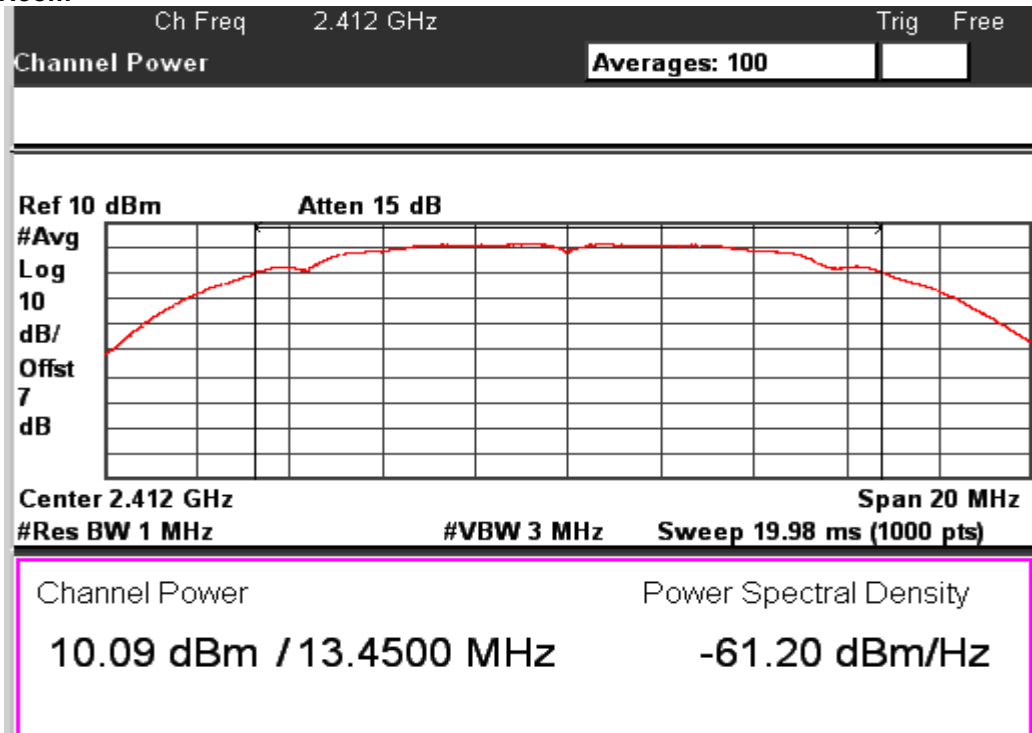
### Test Result: Wi-Fi

#### Test Results for Path A

Attenuator (6dB) + cable loss (1dB) = 7dB Considered in the test result

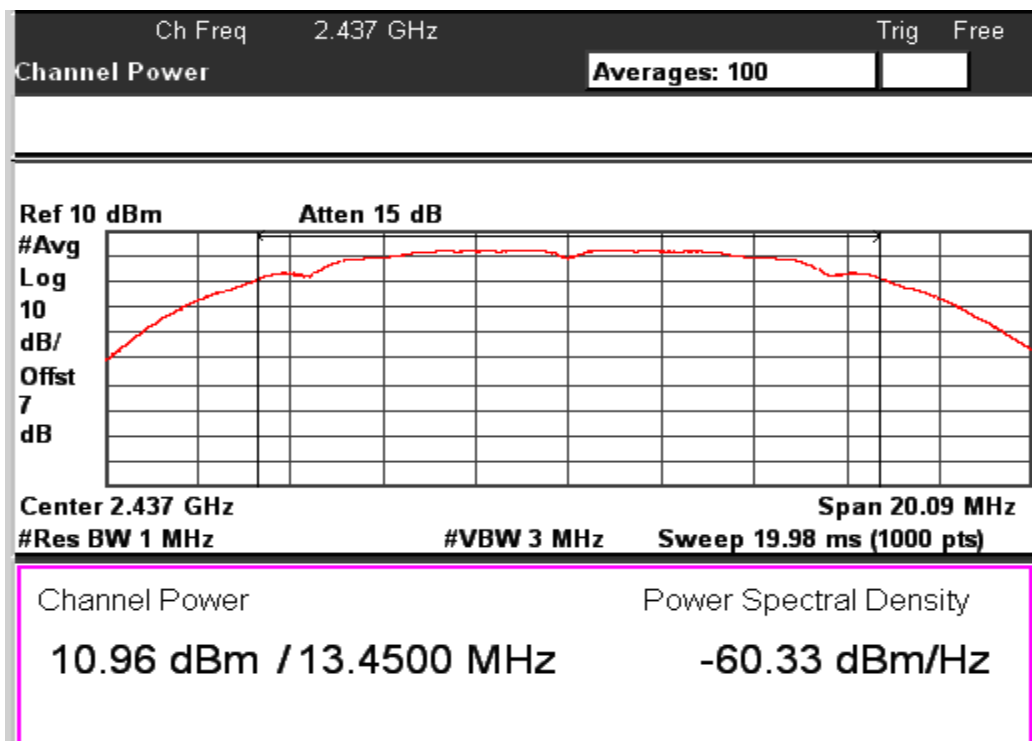
IEEE 802.11b			
Data Rate (Mbps)	Channel Frequency (MHz)	Average Power (dBm)	Average Power (mW)
1	2412	10.09	10.21
	2437	10.96	12.47
	2462	10.65	11.61
11	2412	10.75	11.89
	2437	11.11	12.91
	2462	11.54	14.26

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Data rate: 1 Mbps

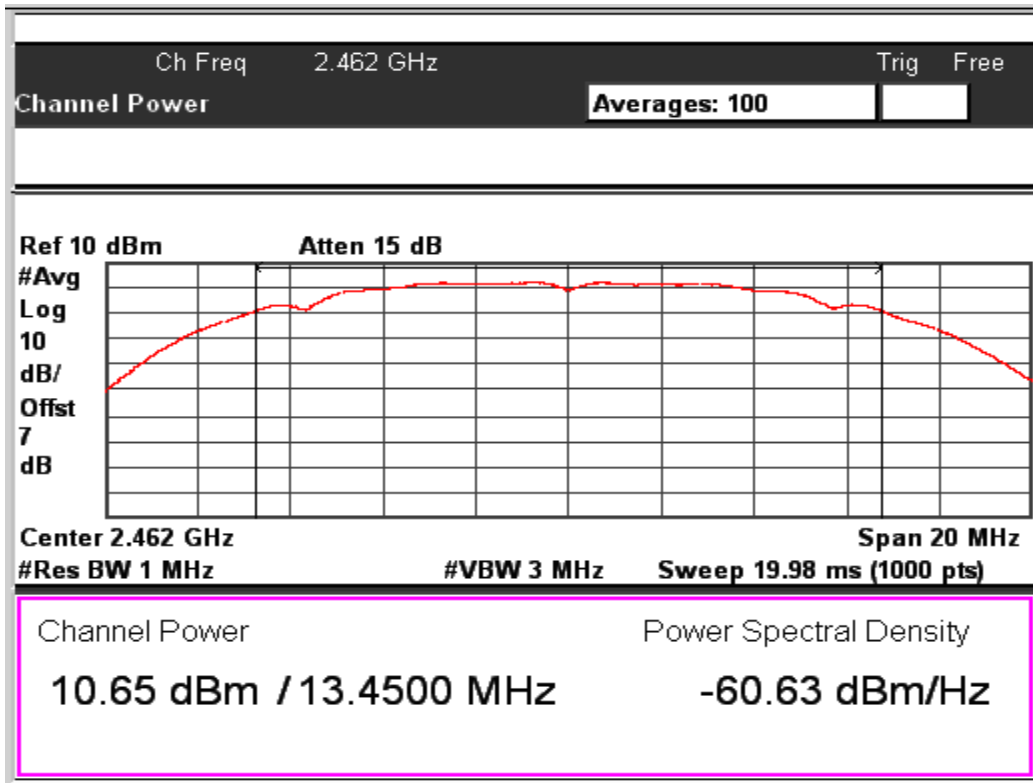
Channel Frequency: 2412 MHz



Data rate: 1 Mbps

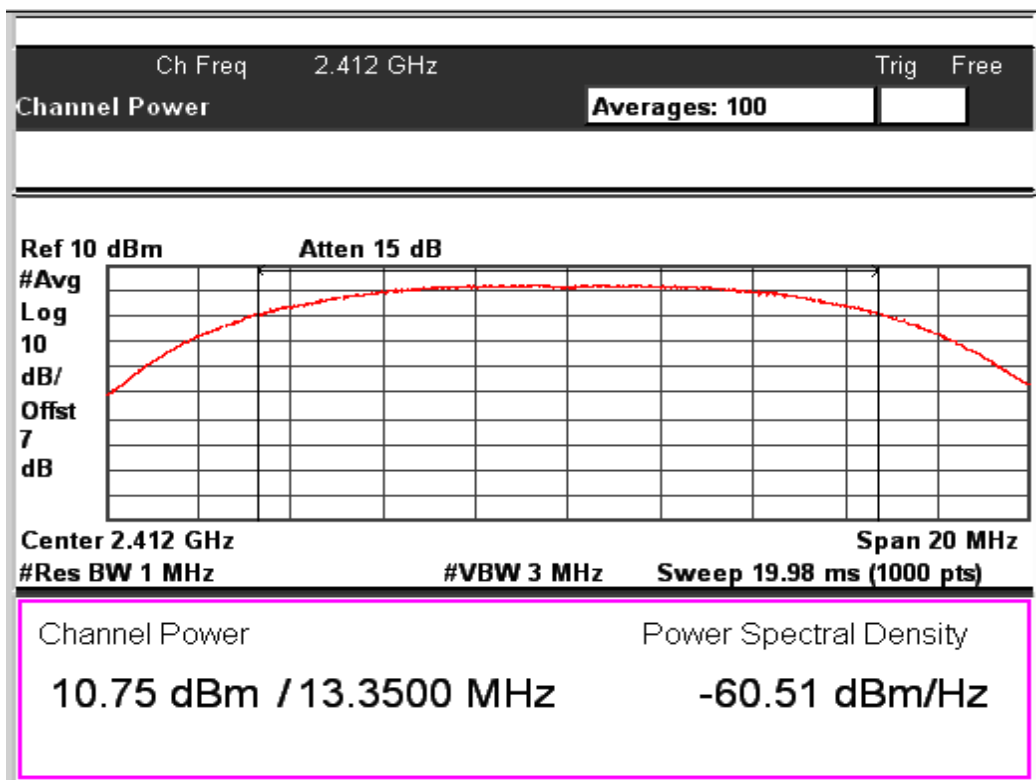
Channel Frequency: 2437 MHz

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Data rate: 1 Mbps

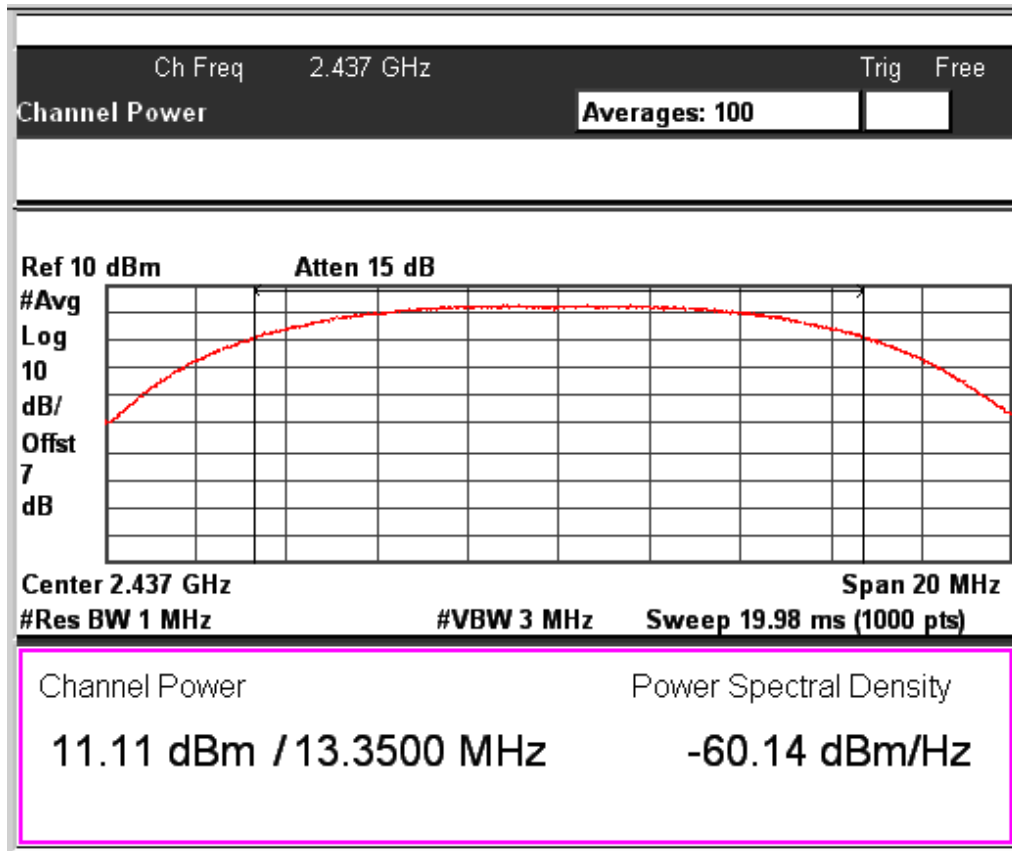
Channel Frequency: 2462 MHz



Data rate: 11 Mbps

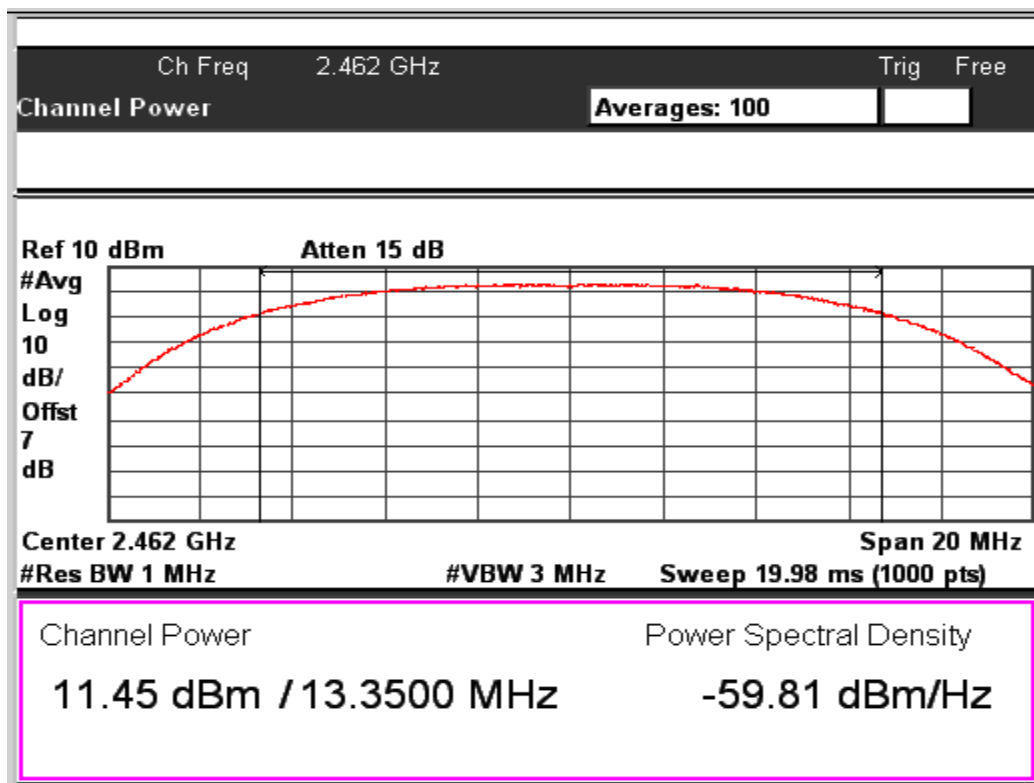
Channel Frequency: 2412 MHz

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Data rate: 11 Mbps

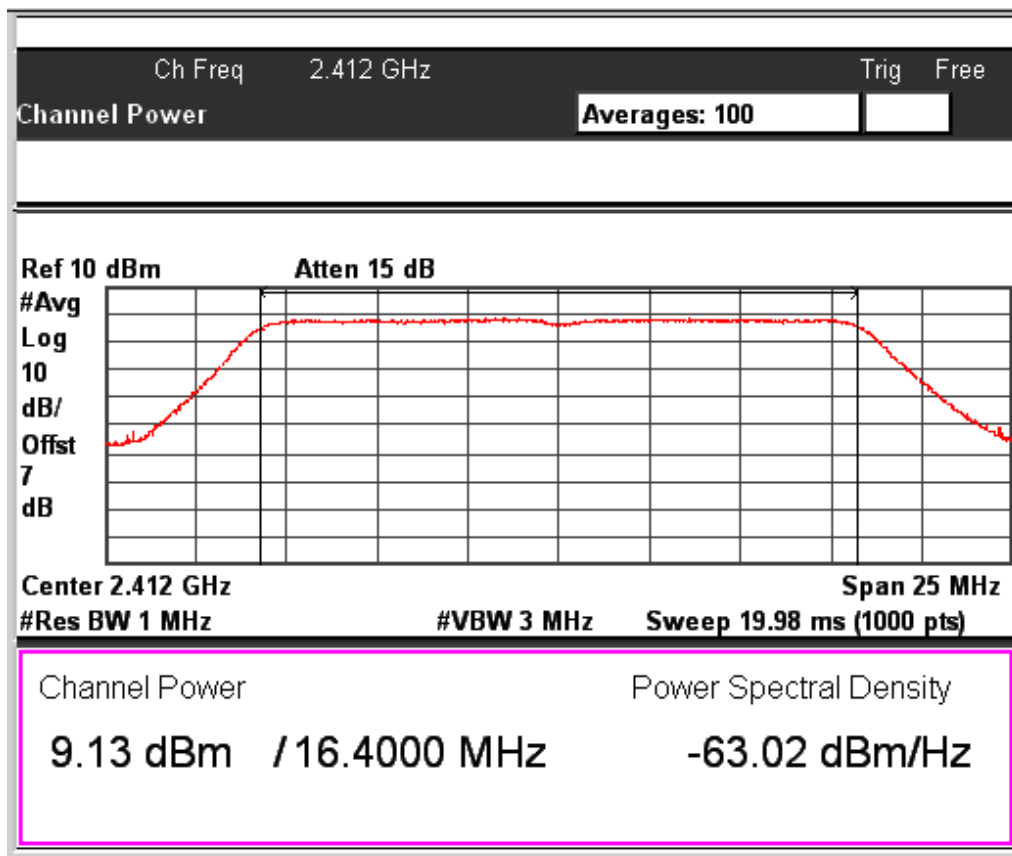
Channel Frequency: 2437 MHz



Data rate: 11 Mbps

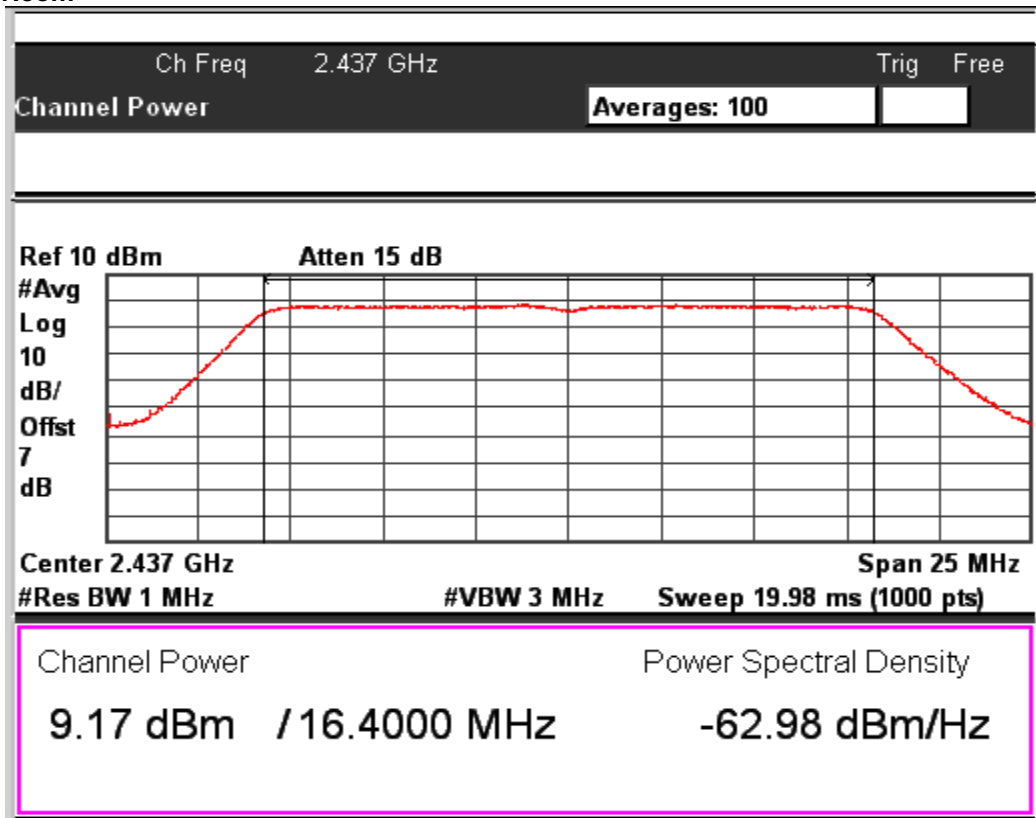
Channel Frequency: 2462 MHz

IEEE 802.11g			
Data Rate (Mbps)	Channel Frequency (MHz)	Average Power (dBm)	Average Power (mW)
6	2412	9.13	8.18
	2437	9.17	8.26
	2462	8.83	7.64
24	2412	8.99	7.93
	2437	9.2	8.32
	2462	9.47	8.85
54	2412	8.84	7.66
	2437	9.25	8.41
	2462	9.38	8.67



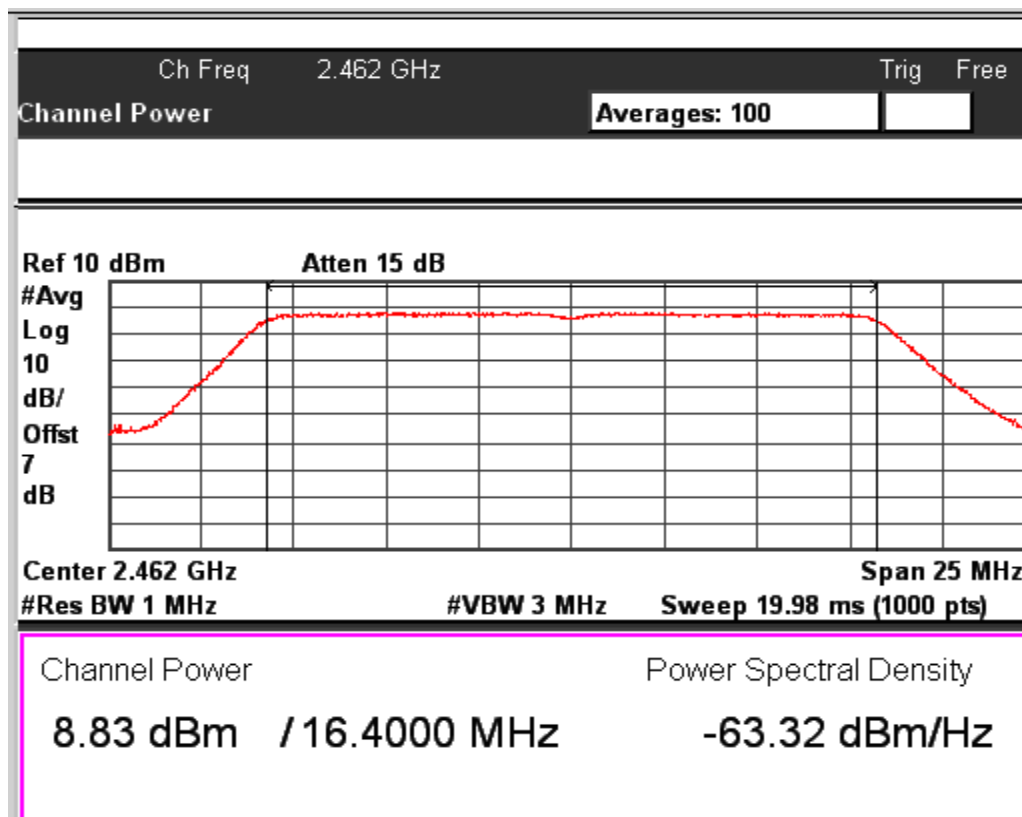
Data rate: 6 Mbps

Channel Frequency: 2412 MHz



Data rate: 6 Mbps

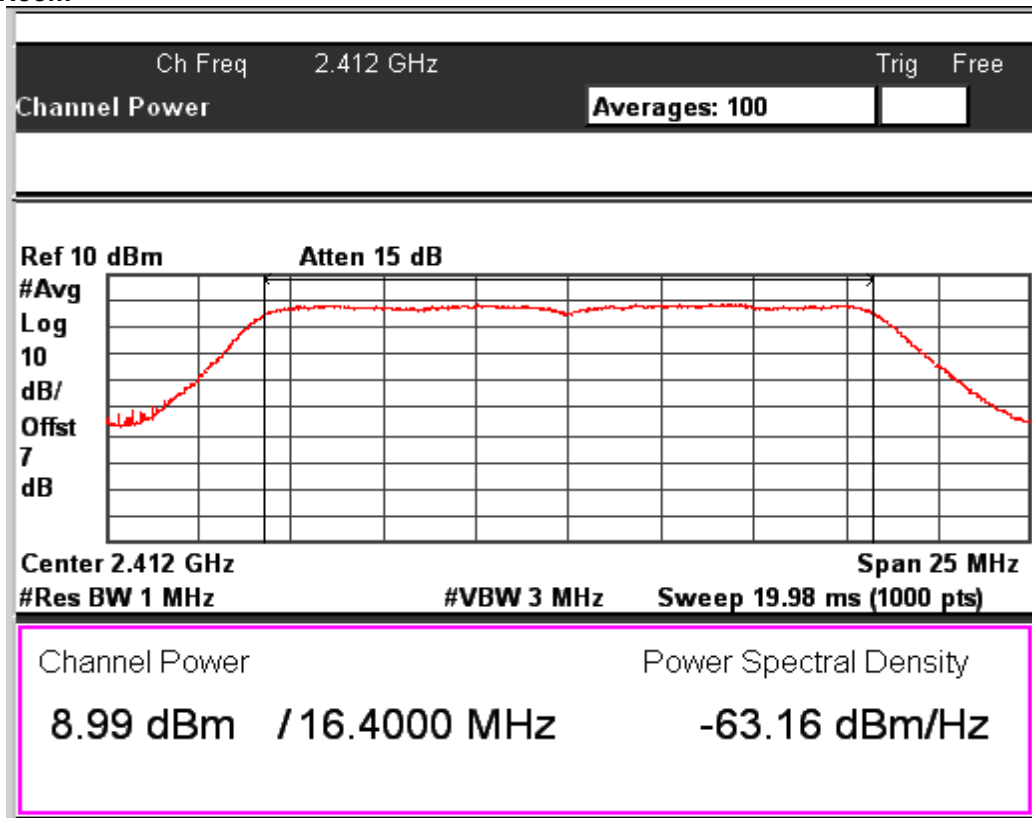
Channel Frequency: 2437 MHz



Data rate: 6 Mbps

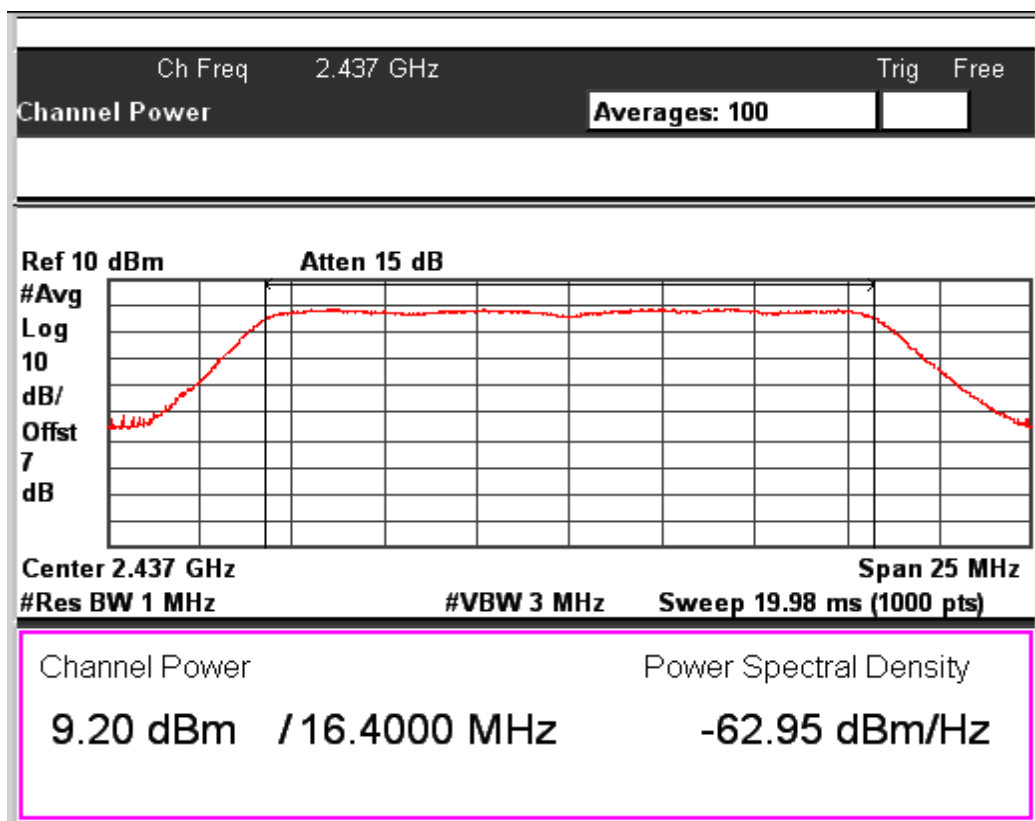
Channel Frequency: 2462 MHz

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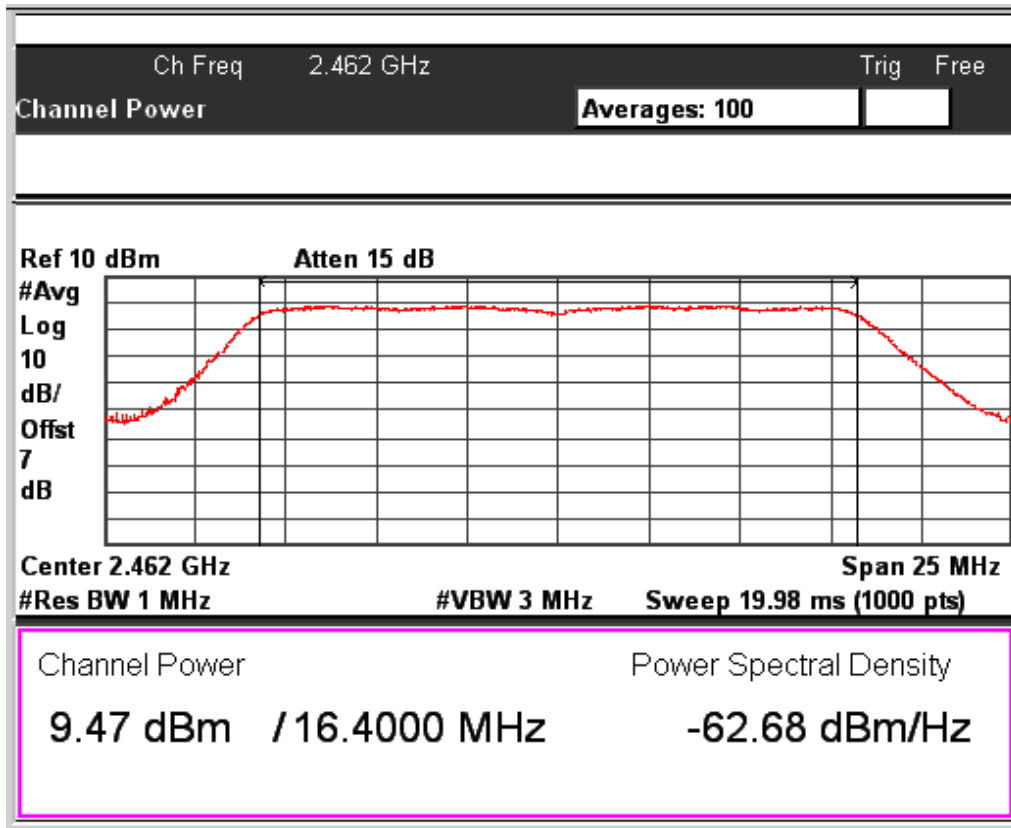
Data rate: 24 Mbps

Channel Frequency: 2412 MHz



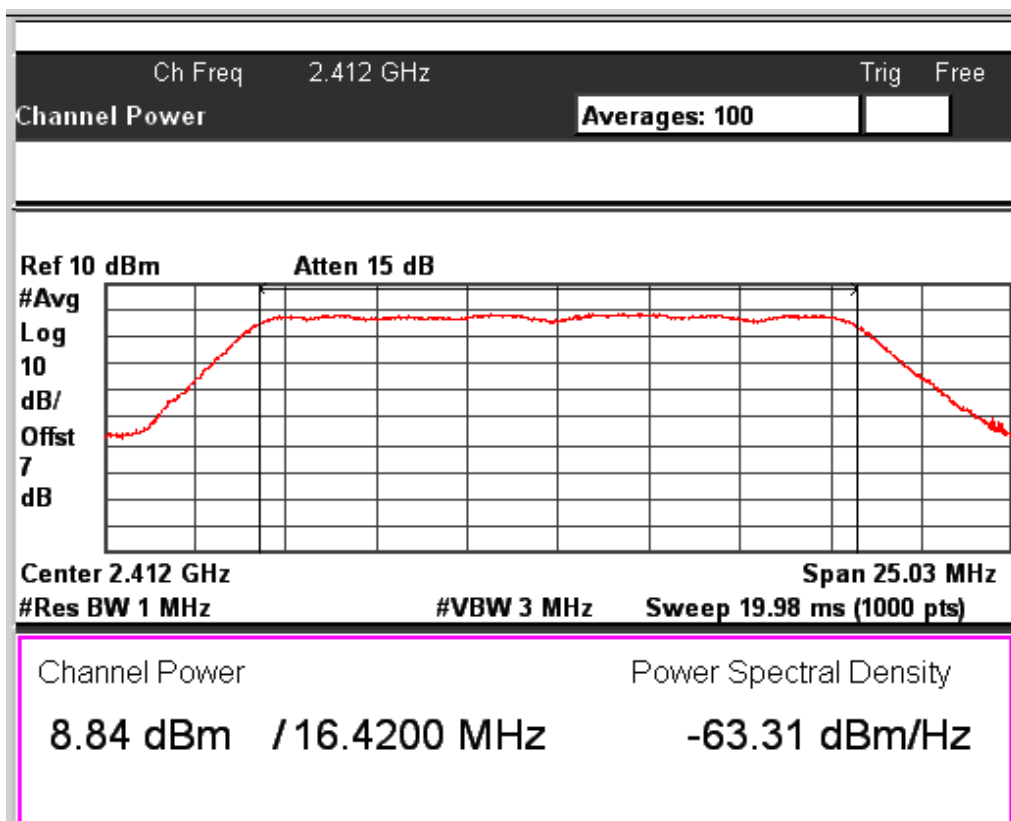
Data rate: 24 Mbps

Channel Frequency: 2437 MHz



Data rate: 24 Mbps

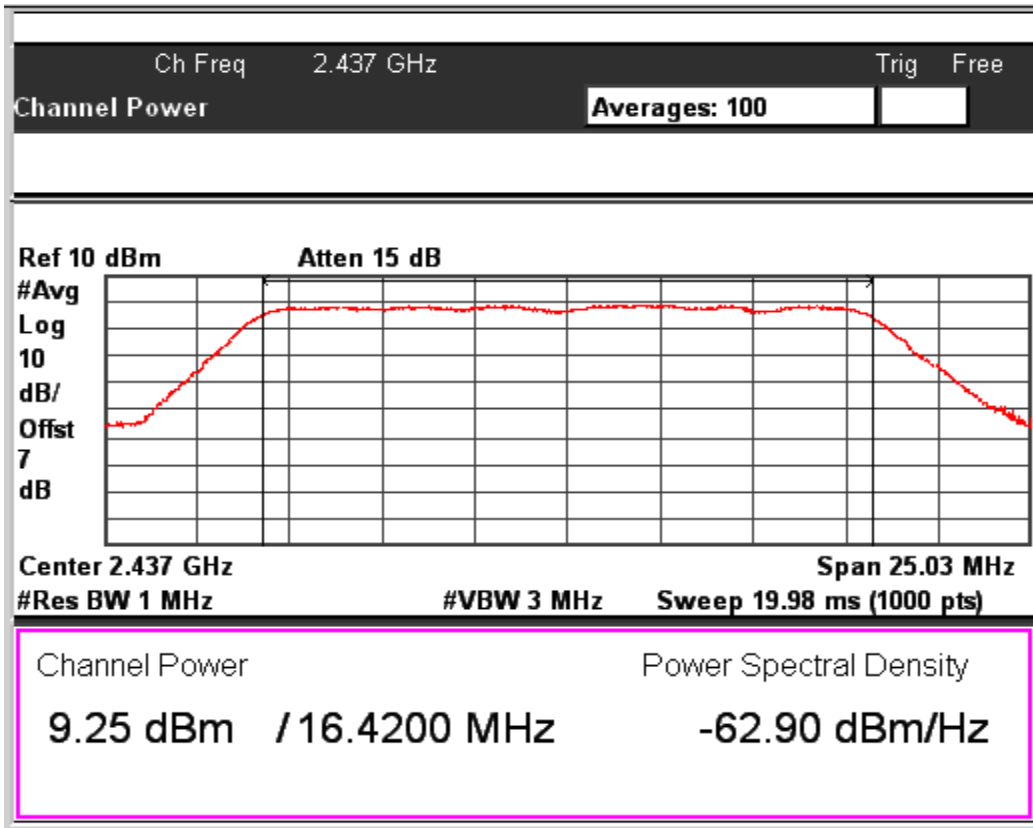
Channel Frequency: 2462 MHz



Data rate: 54 Mbps

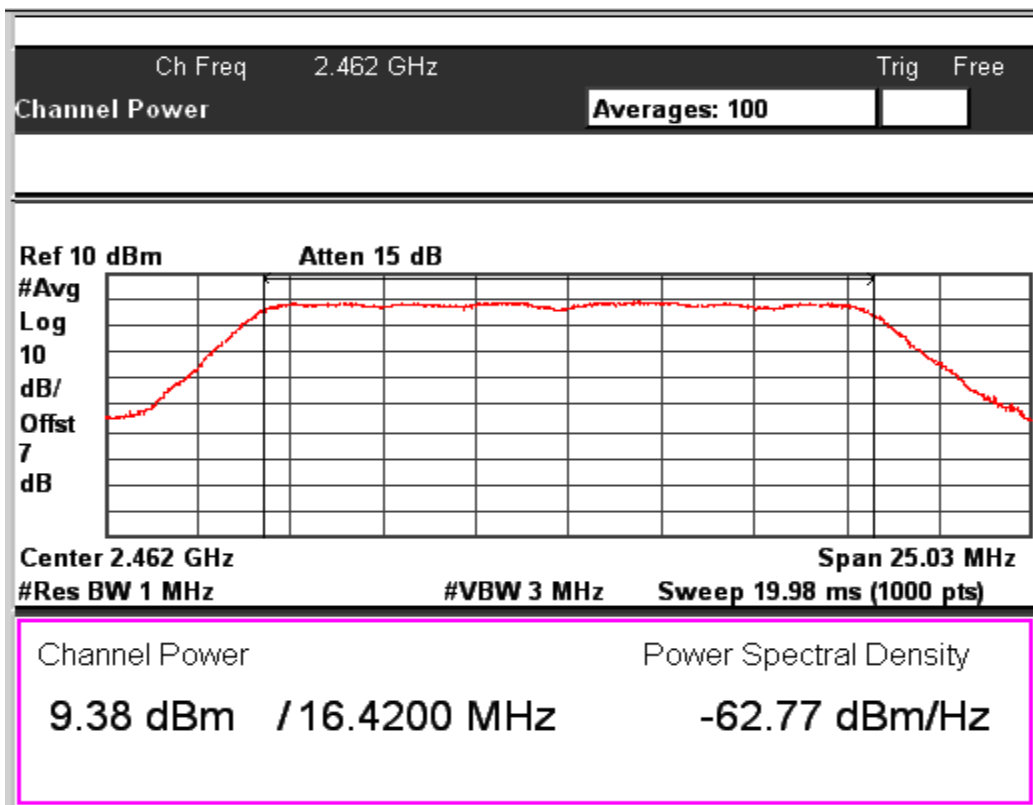
Channel Frequency: 2412 MHz





Data rate: 54 Mbps

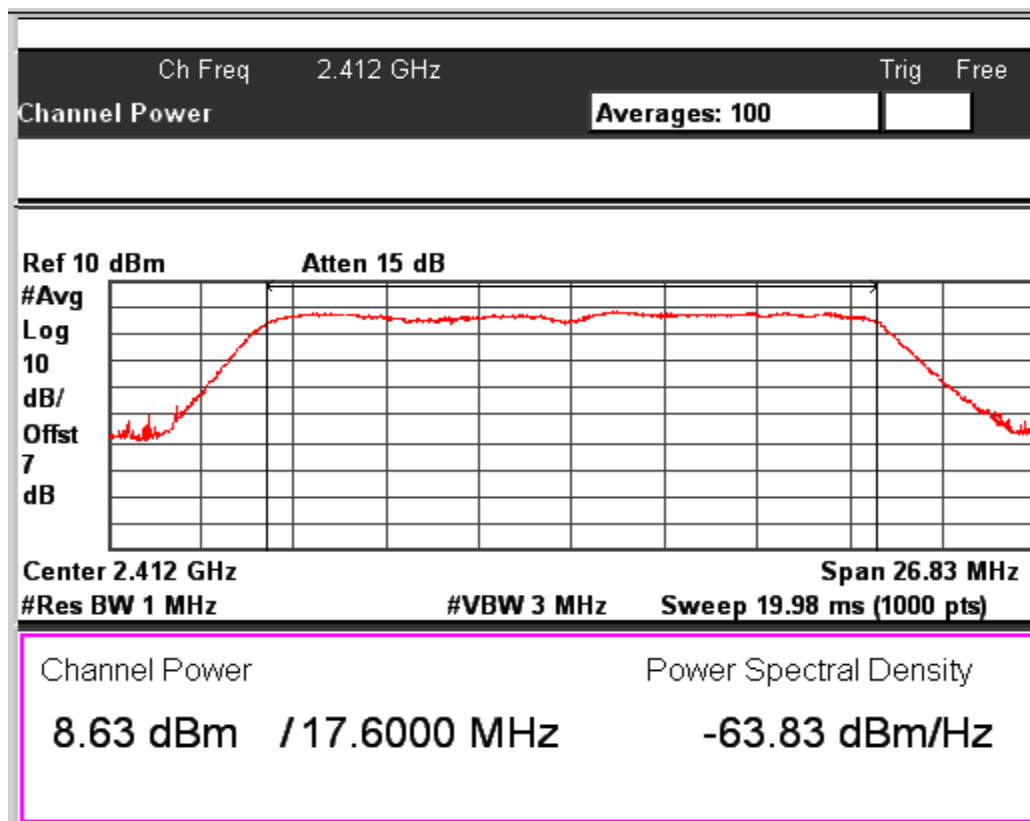
Channel Frequency: 2437 MHz



Data rate: 54 Mbps

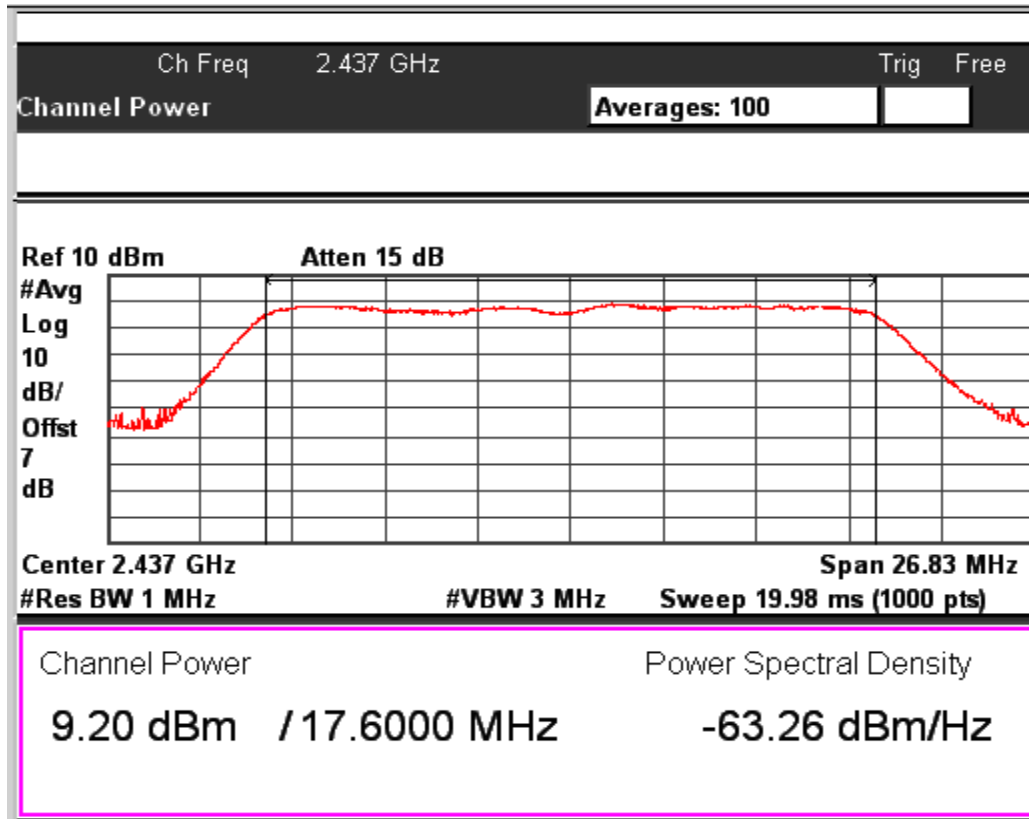
Channel Frequency: 2462 MHz

IEEE802.11nHT20			
Data Rate (Mbps)	Channel Frequency (MHz)	Average Power (dBm)	Average Power (mW)
MCS0	2412	8.63	7.29
	2437	9.20	8.32
	2462	9.03	8.00
MCS7	2412	8.33	6.81
	2437	8.98	7.91
	2462	9.85	9.66
MCS15	2412	8.31	6.78
	2437	8.99	7.93
	2462	9.63	9.18



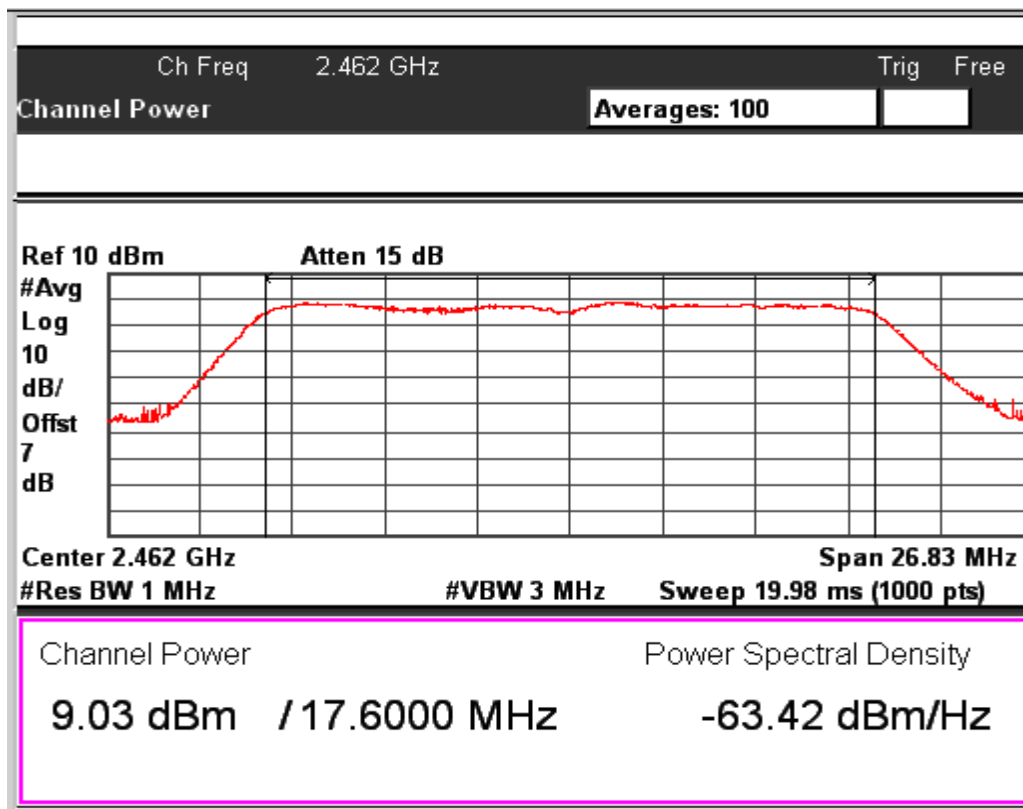
Data Rate: MCS0

Channel Frequency: 2412 MHz



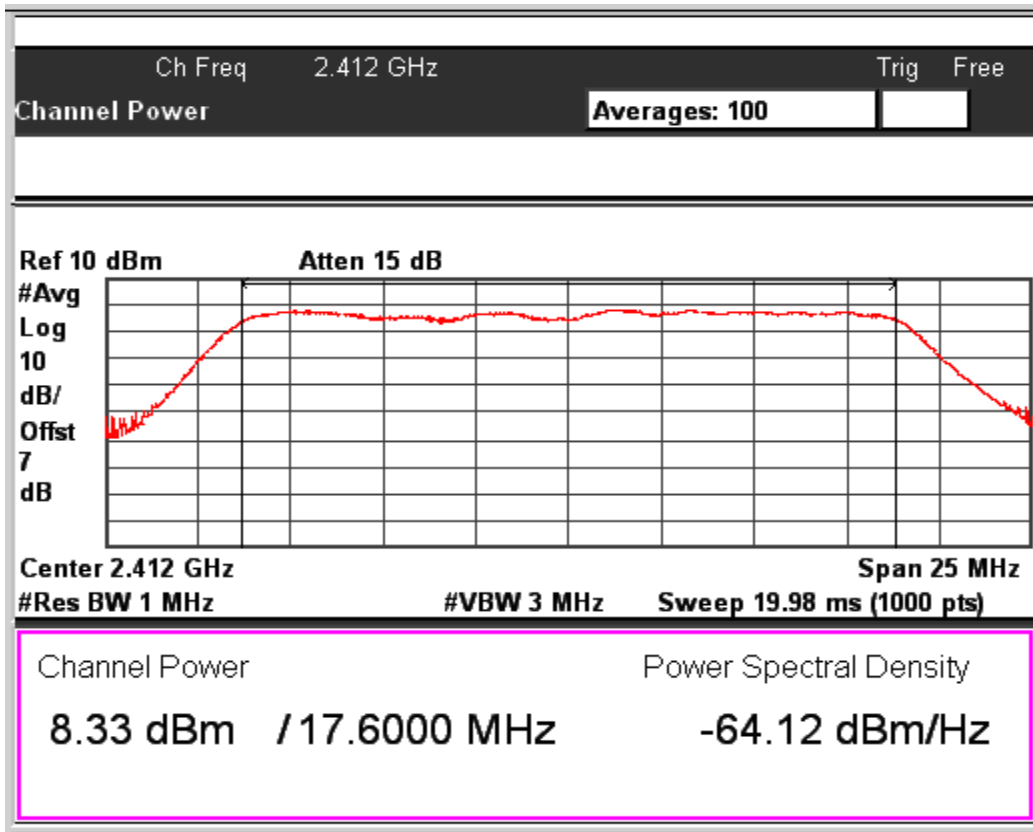
Data Rate: MCS0

Channel Frequency: 2437 MHz



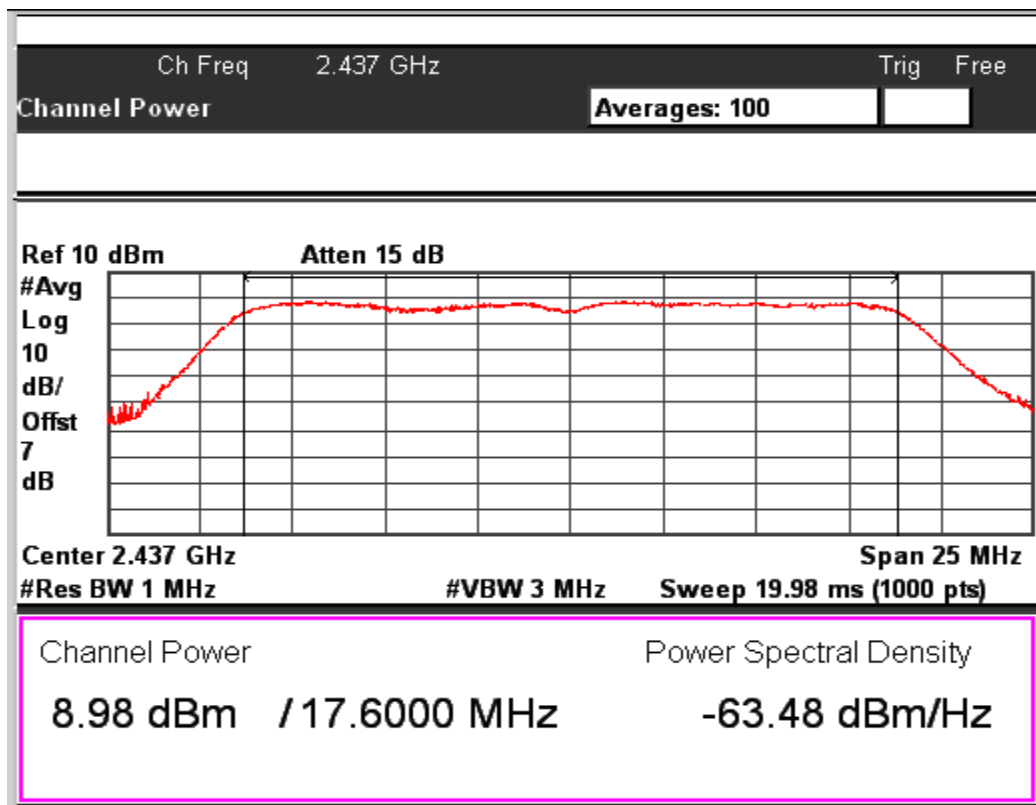
Data Rate: MCS0

Channel Frequency: 2462 MHz



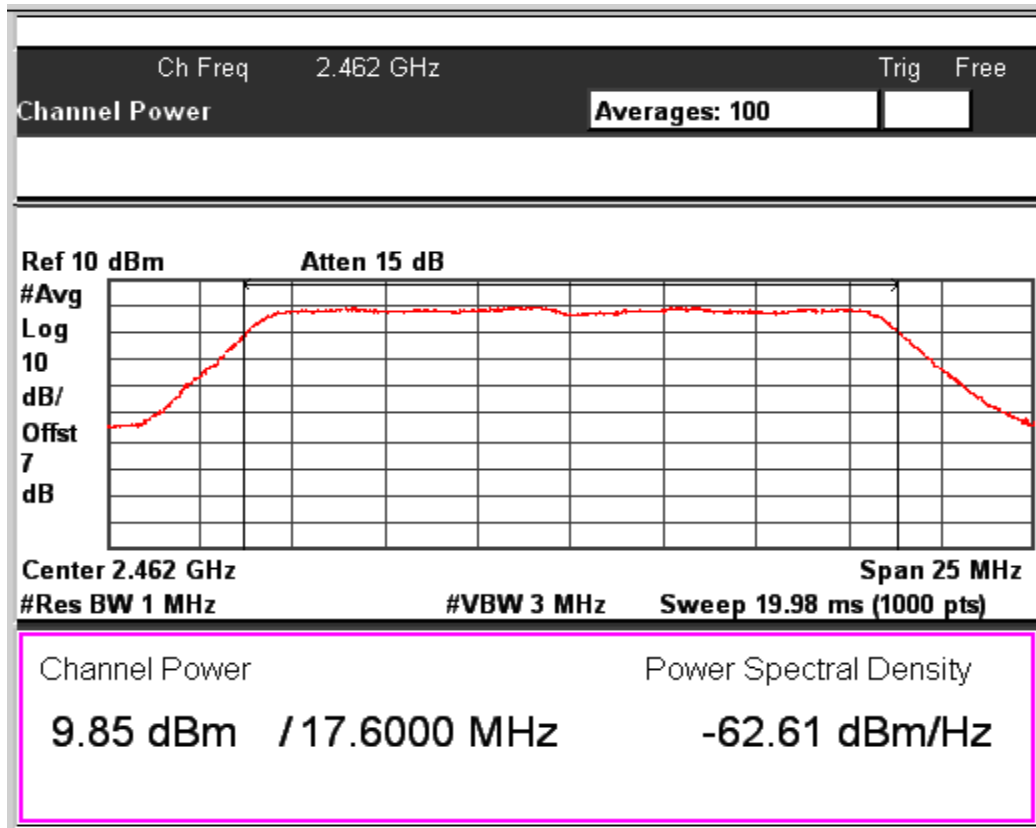
Data Rate: MCS7

Channel Frequency: 2412 MHz



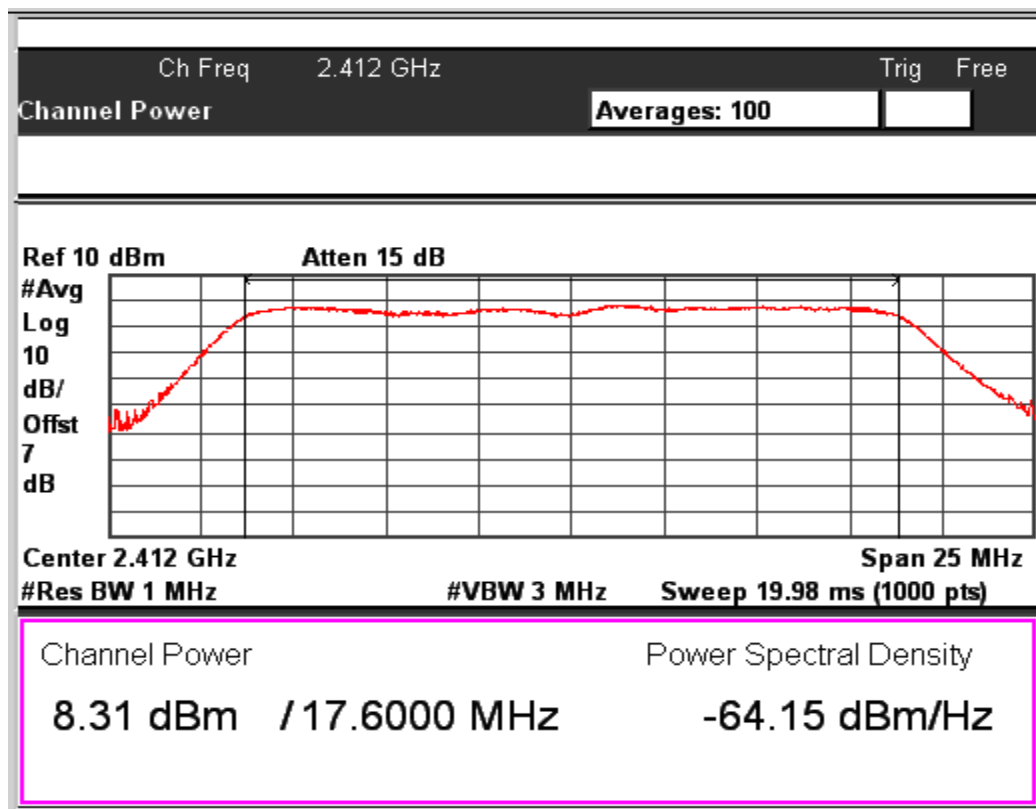
Data Rate: MCS7

Channel Frequency: 2437 MHz



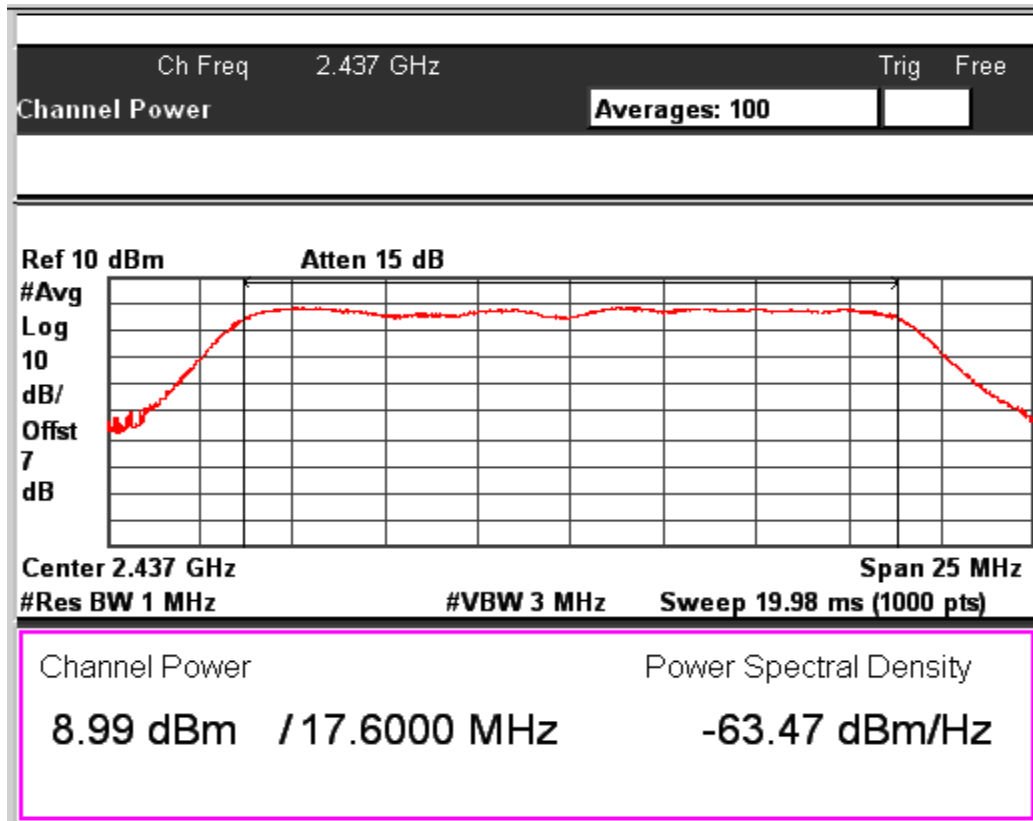
Data Rate: MCS7

Channel Frequency: 2462 MHz



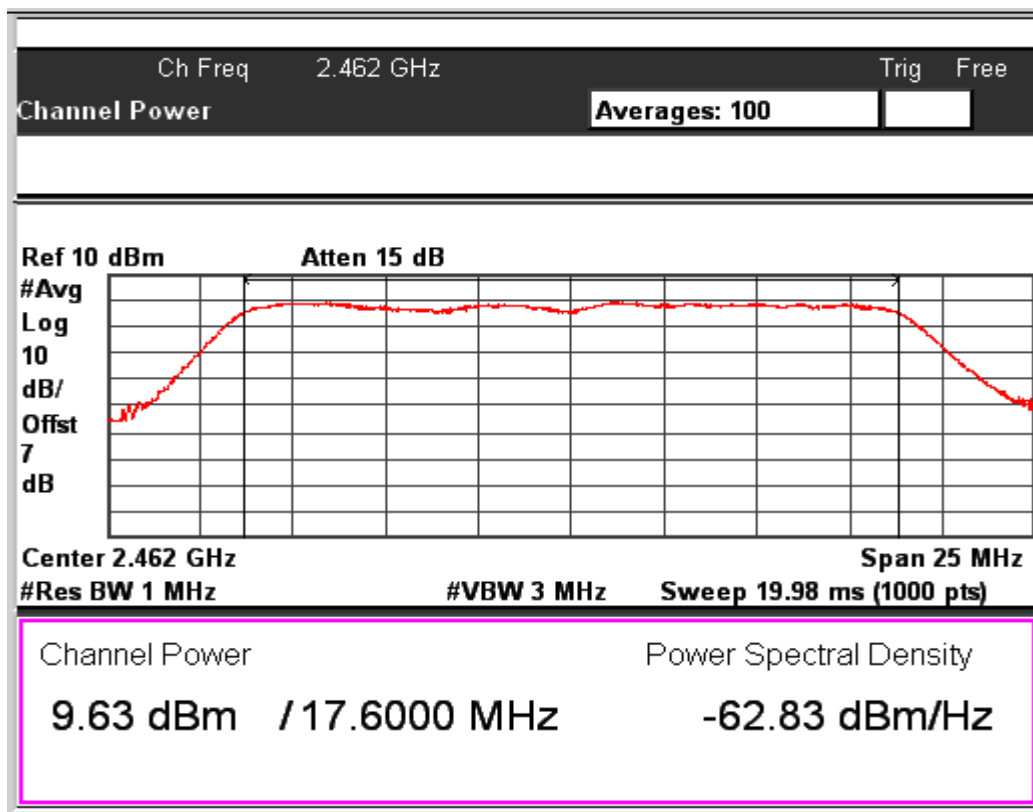
Data Rate: MCS15

Channel Frequency: 2412 MHz



Data Rate: MCS15

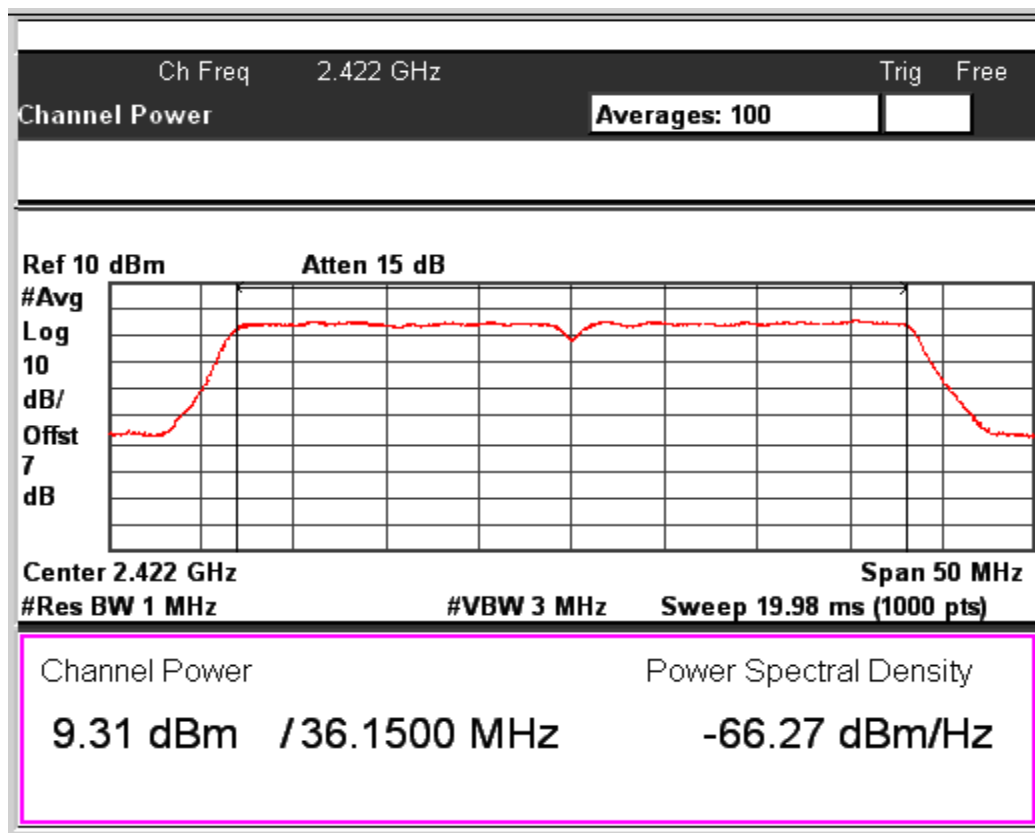
Channel Frequency: 2437 MHz



Data Rate: MCS15

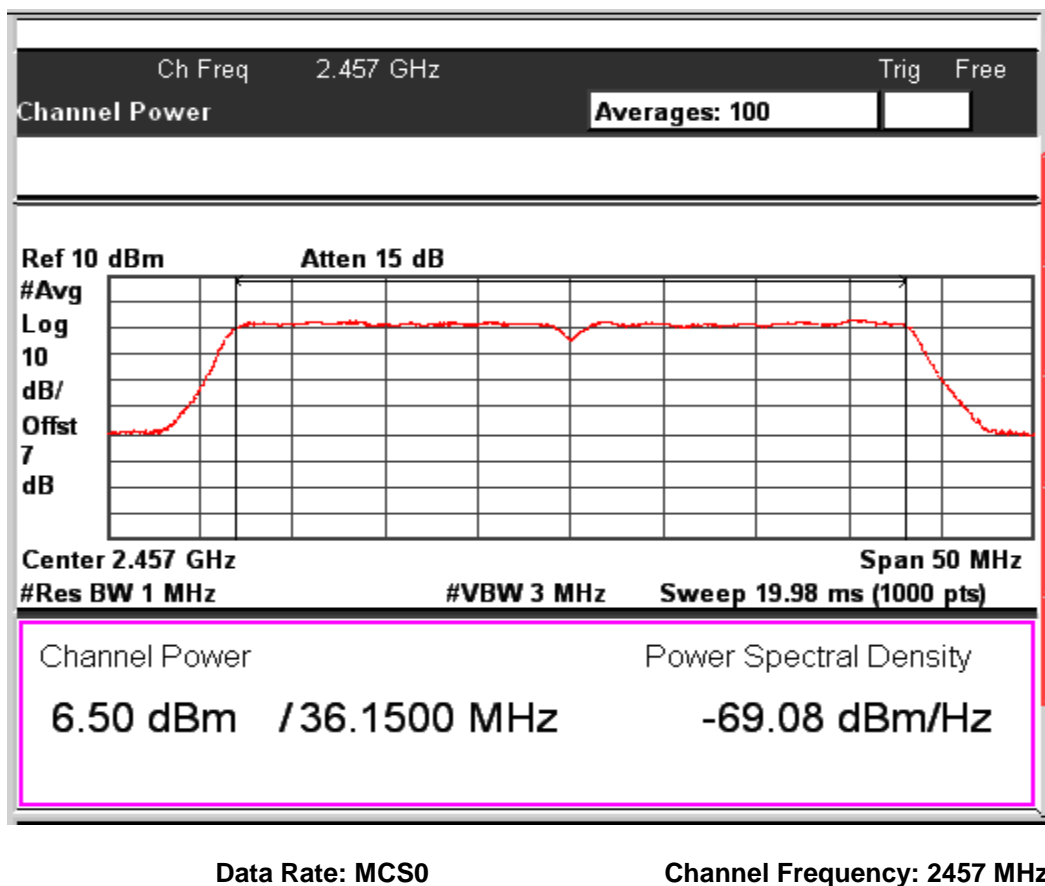
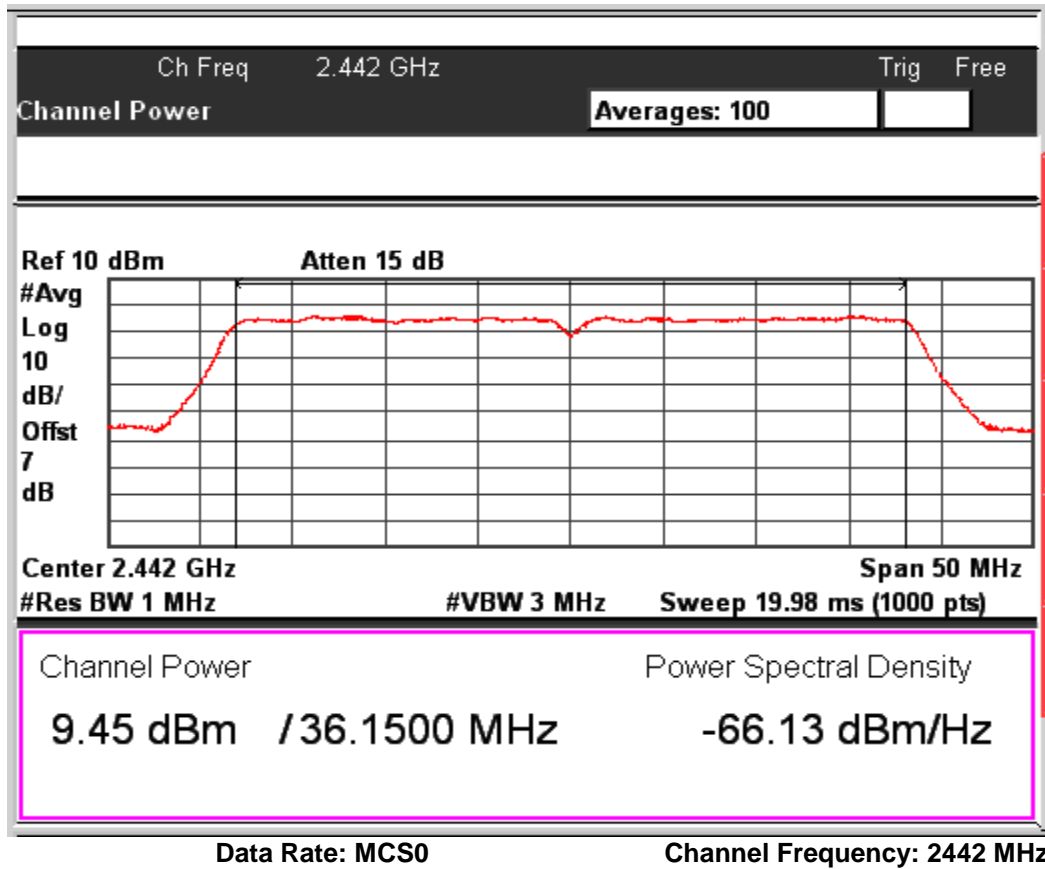
Channel Frequency: 2462 MHz

IEEE802.11n HT40			
Data Rate (Mbps)	Channel Frequency (MHz)	Average Power (dBm)	Average Power (mW)
MCS0	2422	9.31	8.53
	2442	9.45	8.81
	2457	6.50	4.47
65	2422	7.00	5.01
	2442	9.10	8.13
	2457	7.11	5.14
130	2422	6.72	4.70
	2442	9.73	9.40
	2457	10.28	10.67

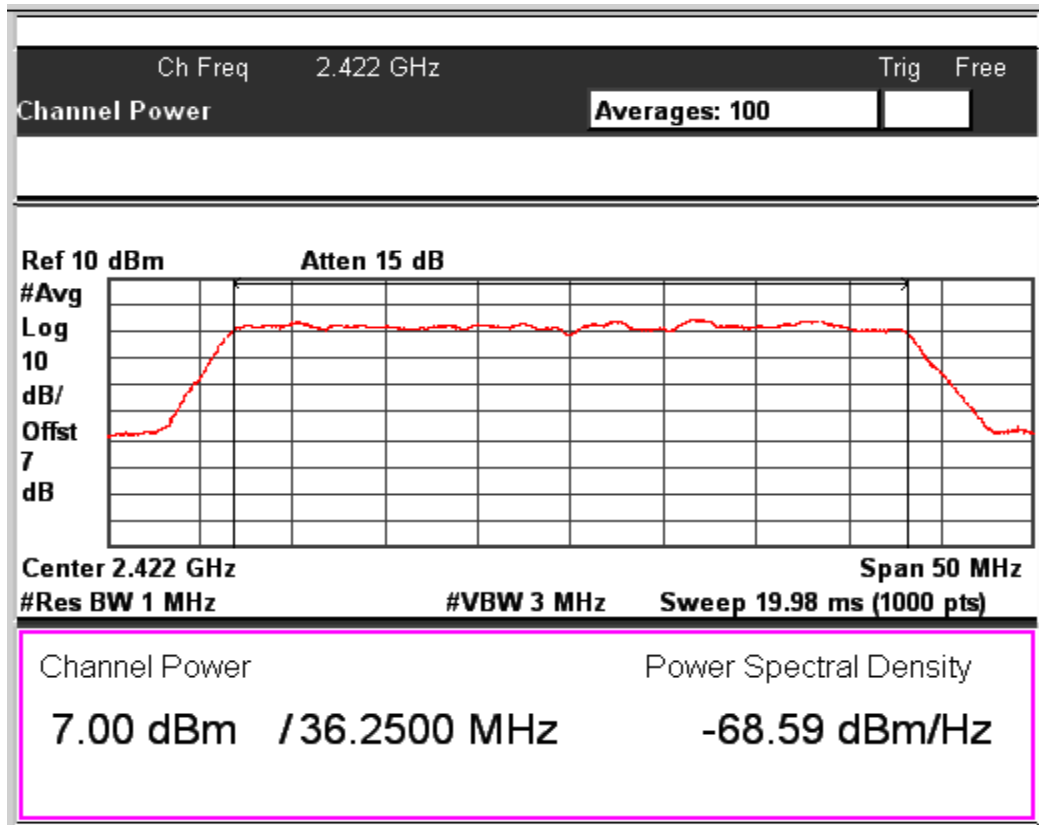


Data Rate: MCS0

Channel Frequency: 2422 MHz

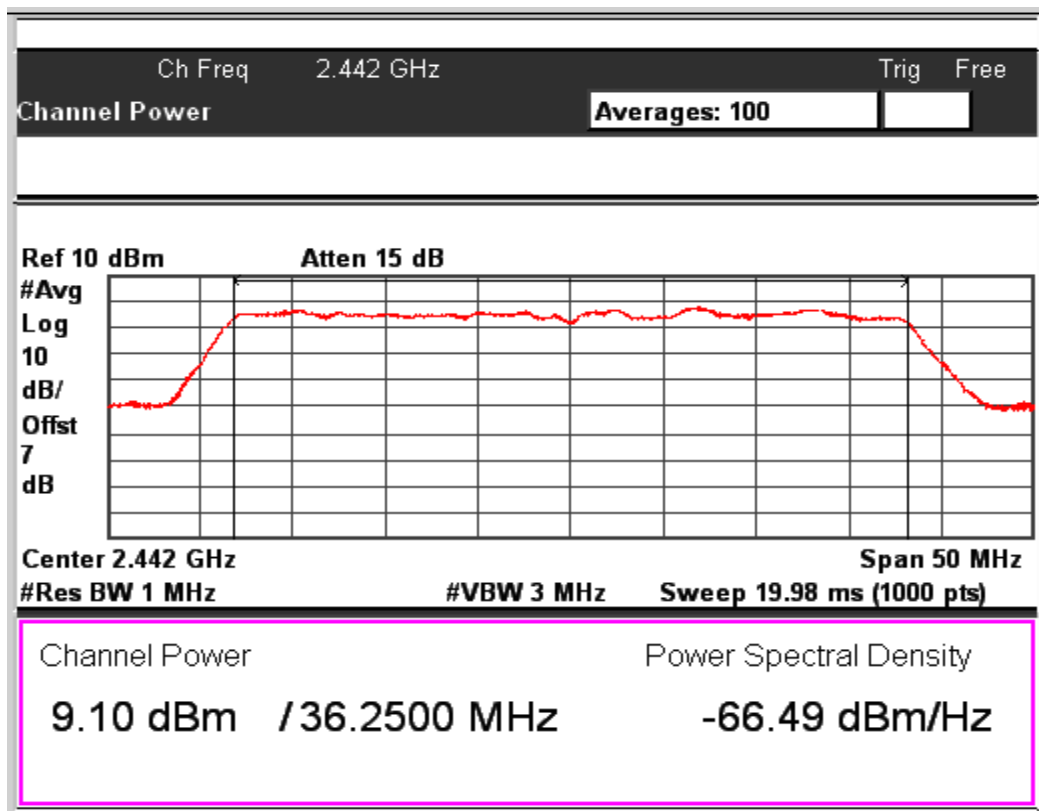






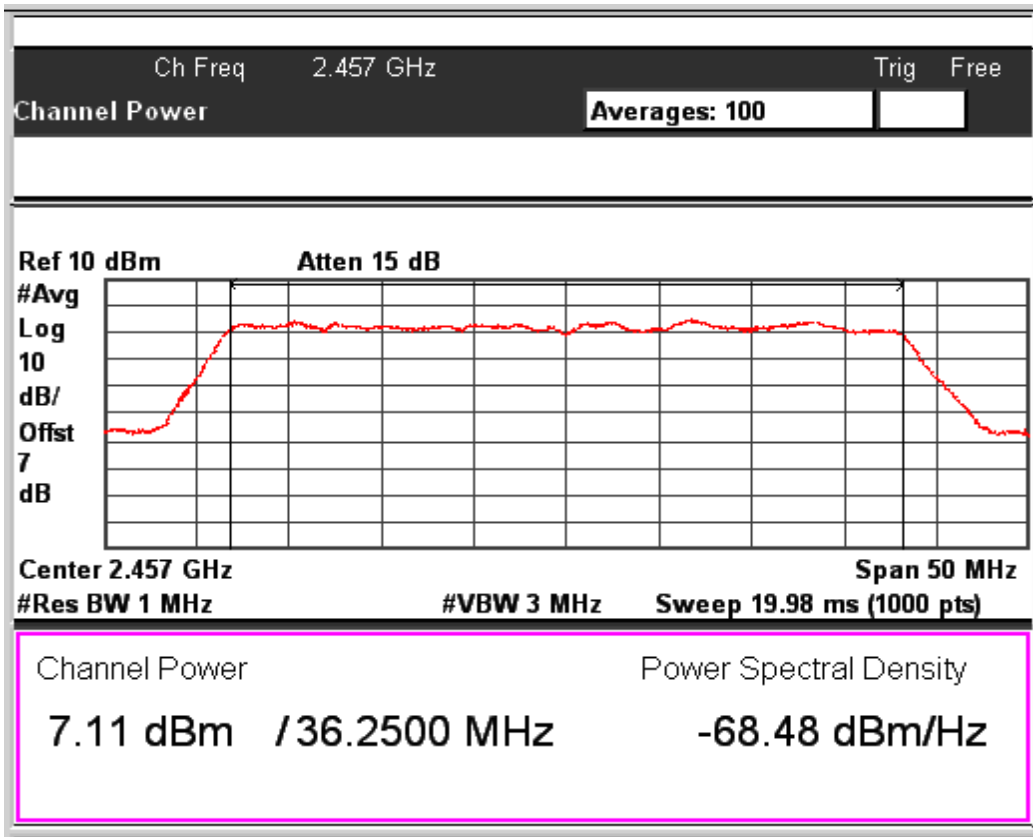
Data Rate: MCS7

Channel Frequency: 2422 MHz



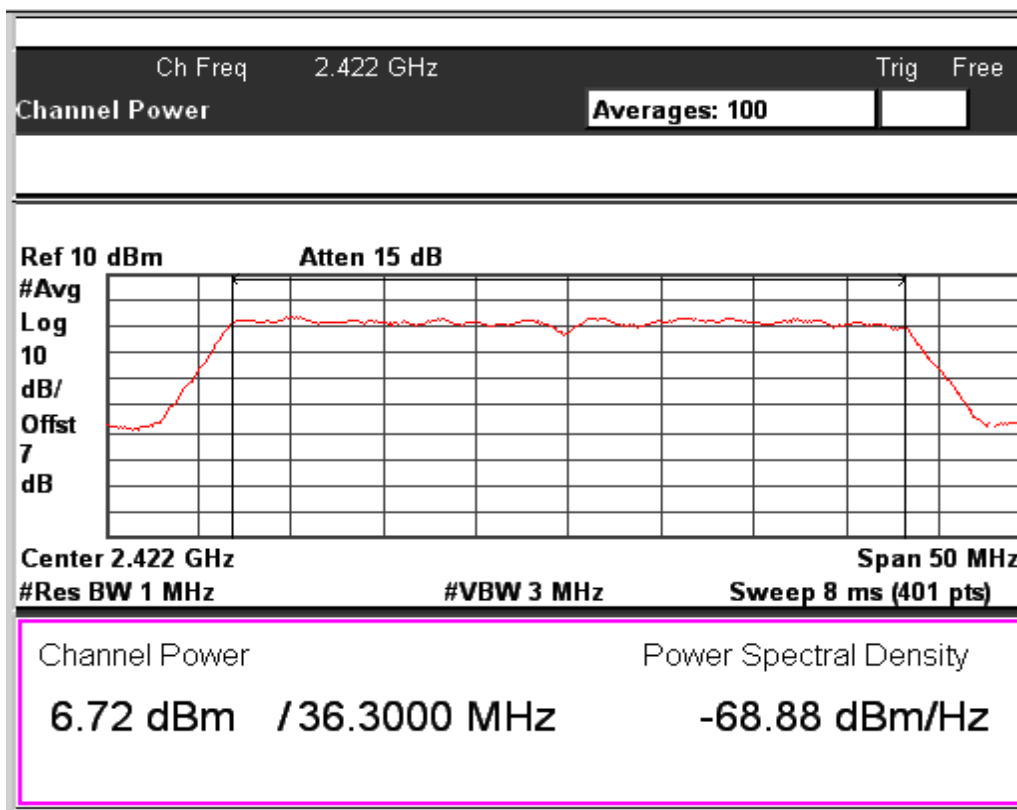
Data Rate: MCS7

Channel Frequency: 2442 MHz



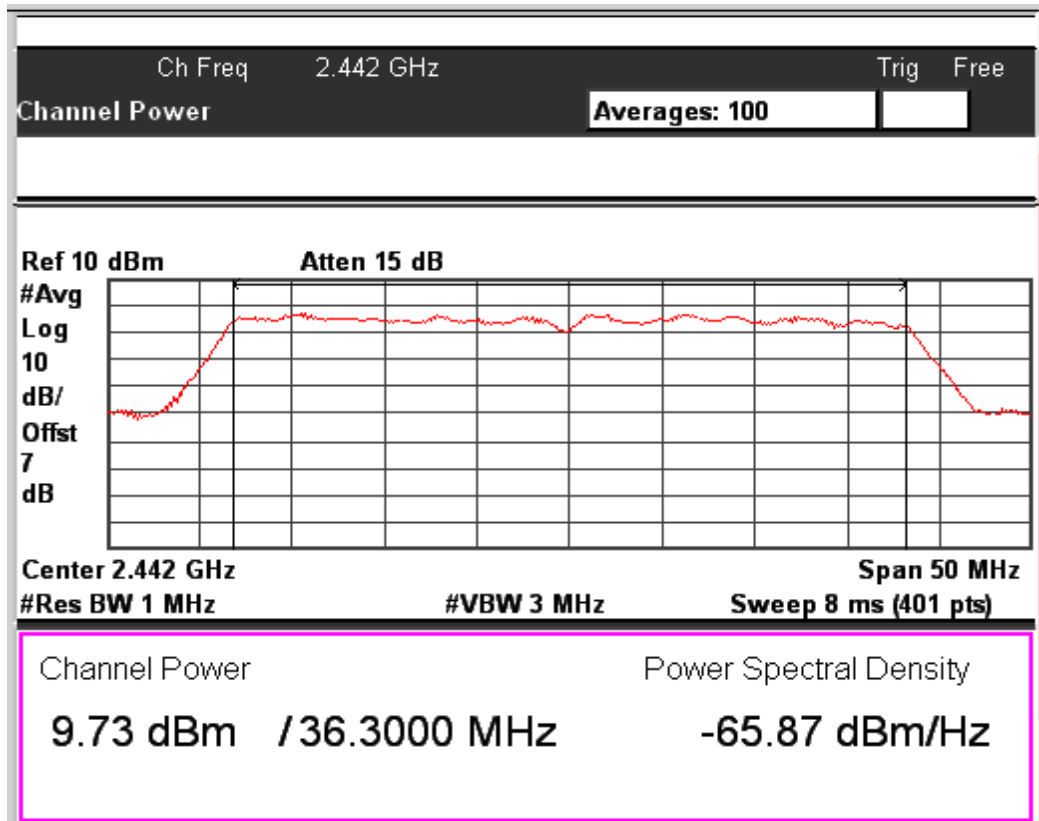
Data Rate: MCS7

Channel Frequency: 2457 MHz



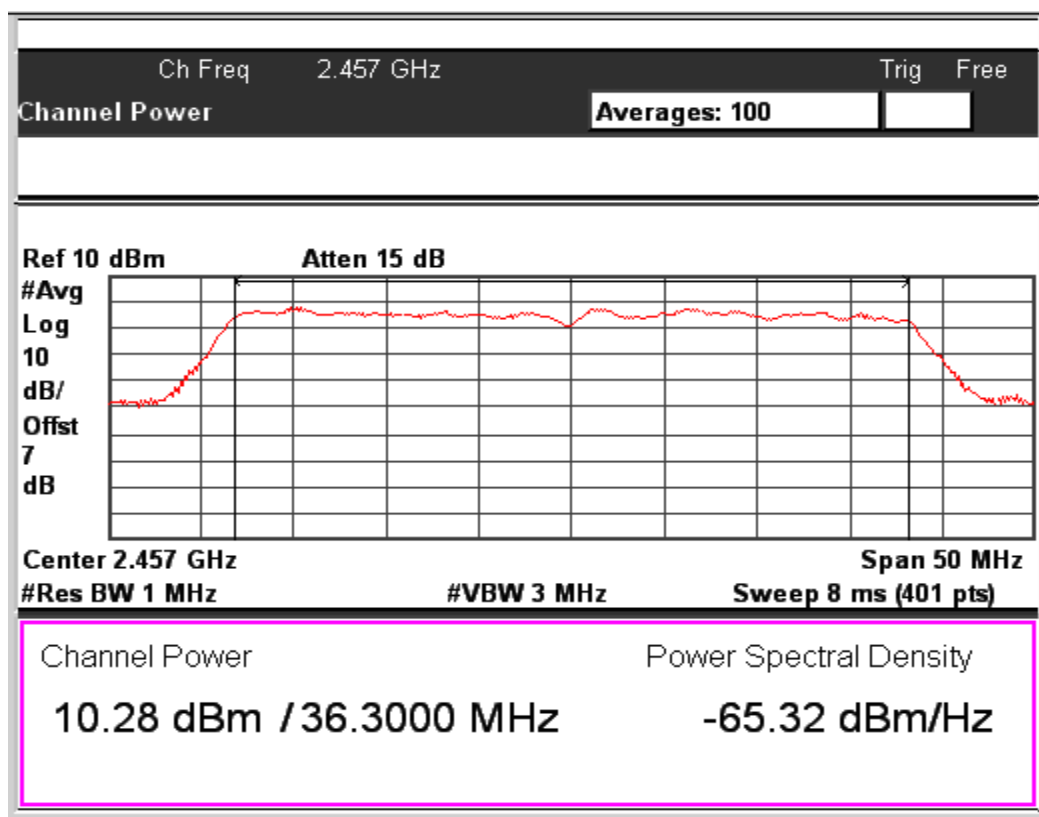
Data Rate: MCS15

Channel Frequency: 2422 MHz



Data Rate: MCS15

Channel Frequency: 2442 MHz



Data Rate: MCS15

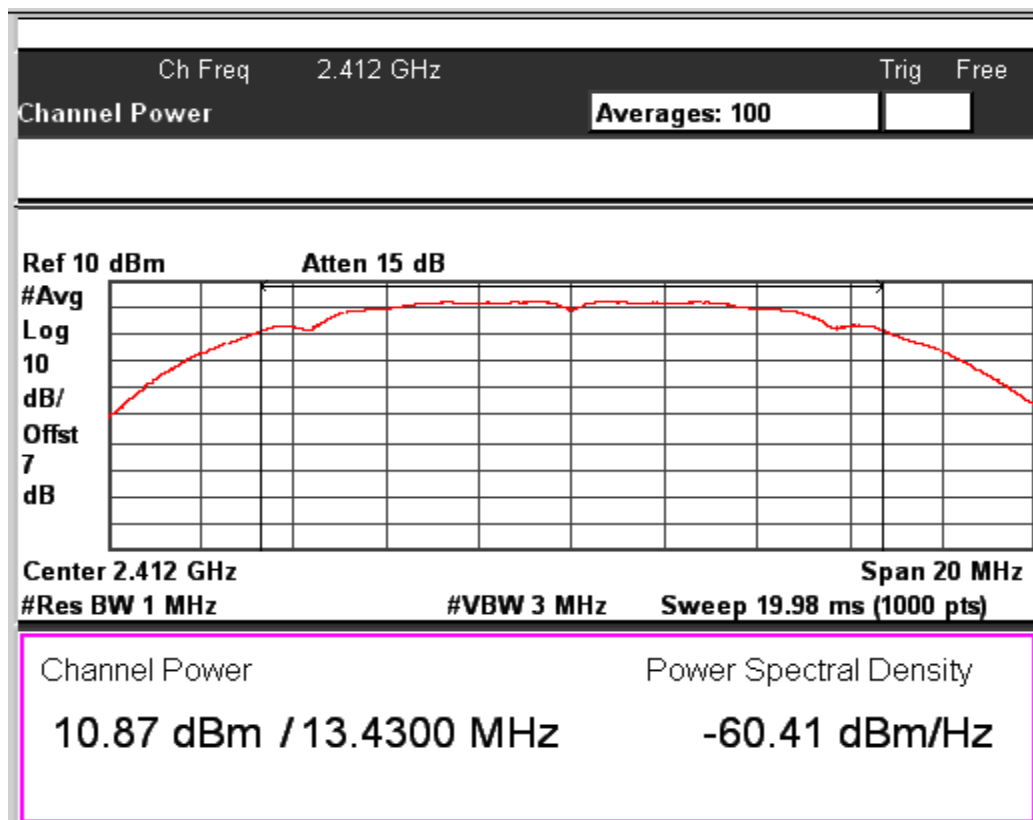
Channel Frequency: 2457 MHz

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### Test Results for Path B

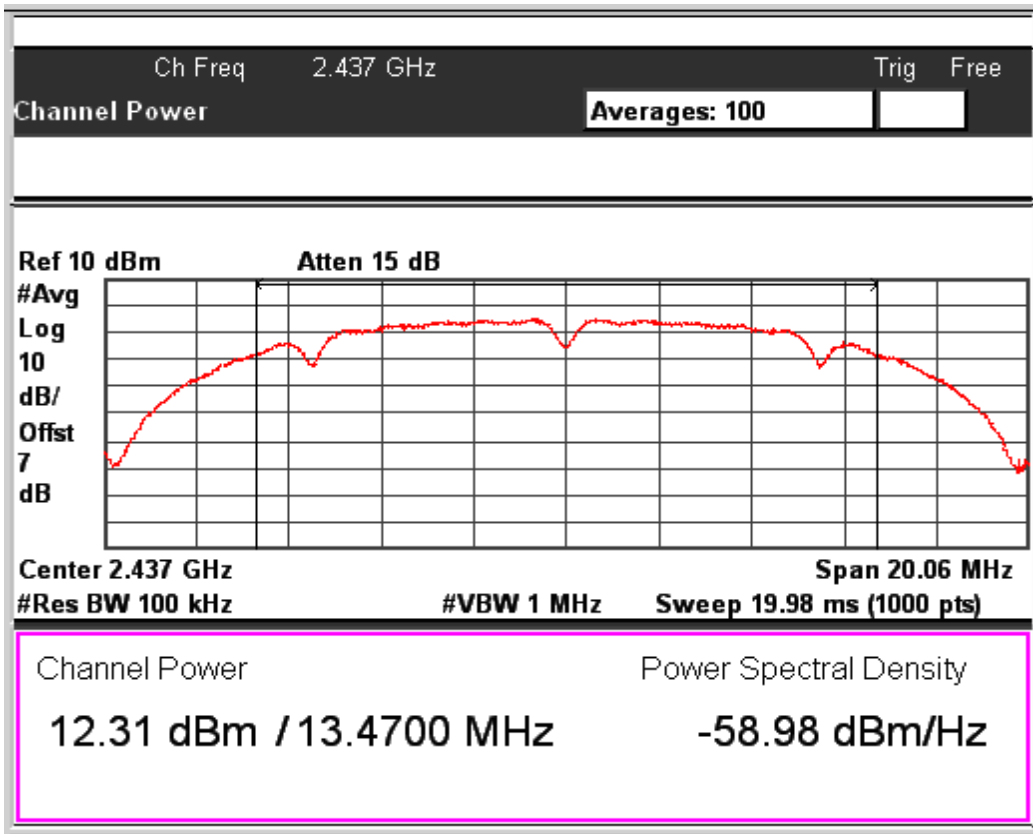
Attenuator + cable loss = 7dB Considered in the test result

IEEE802.11b			
Data Rate (Mbps)	Channel Frequency (MHz)	Average Power (dBm)	Average Power (mW)
1	2412	10.87	12.22
	2437	12.31	17.02
	2462	11.92	15.56
11	2412	11.61	14.49
	2437	11.84	15.28
	2462	12.07	16.11



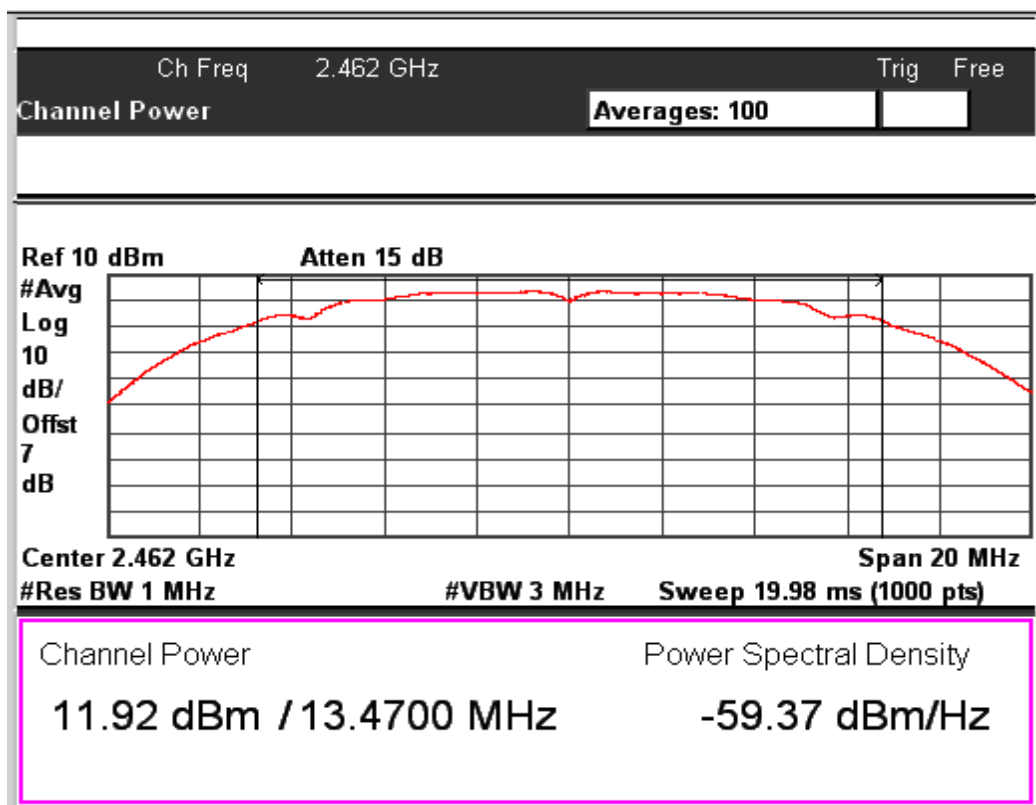
Data rate: 1 Mbps

Channel Frequency: 2412 MHz



Data rate: 1 Mbps

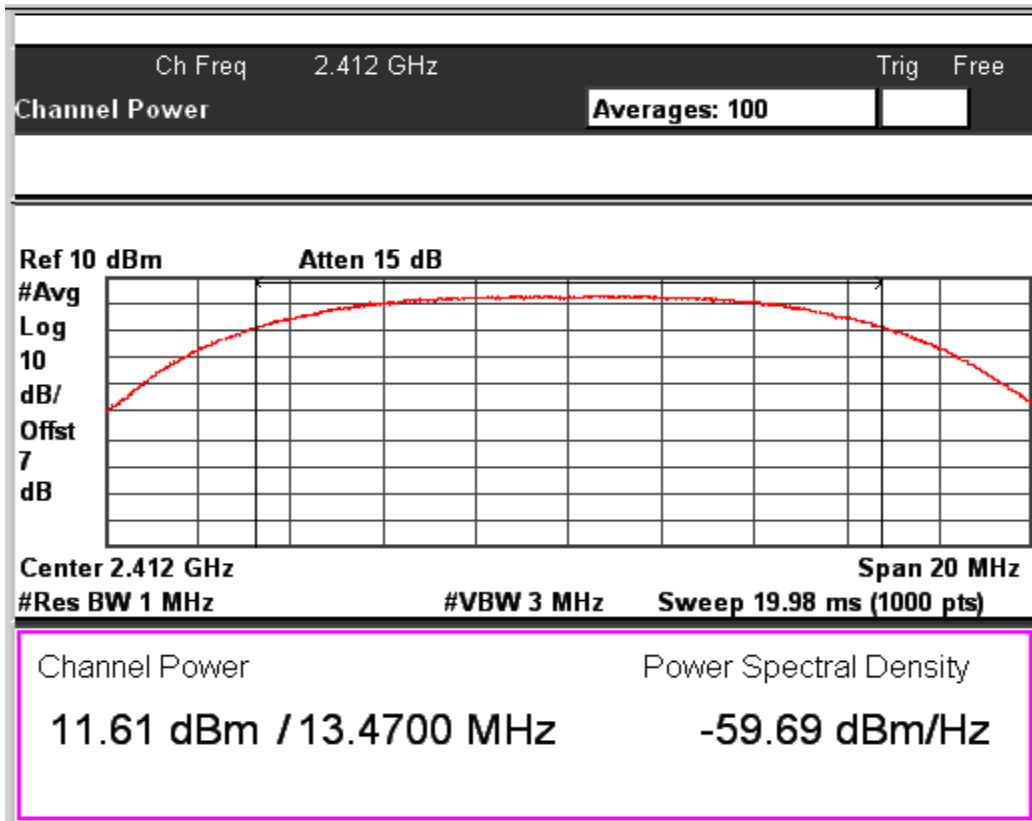
Channel Frequency: 2437 MHz



Data rate: 1 Mbps

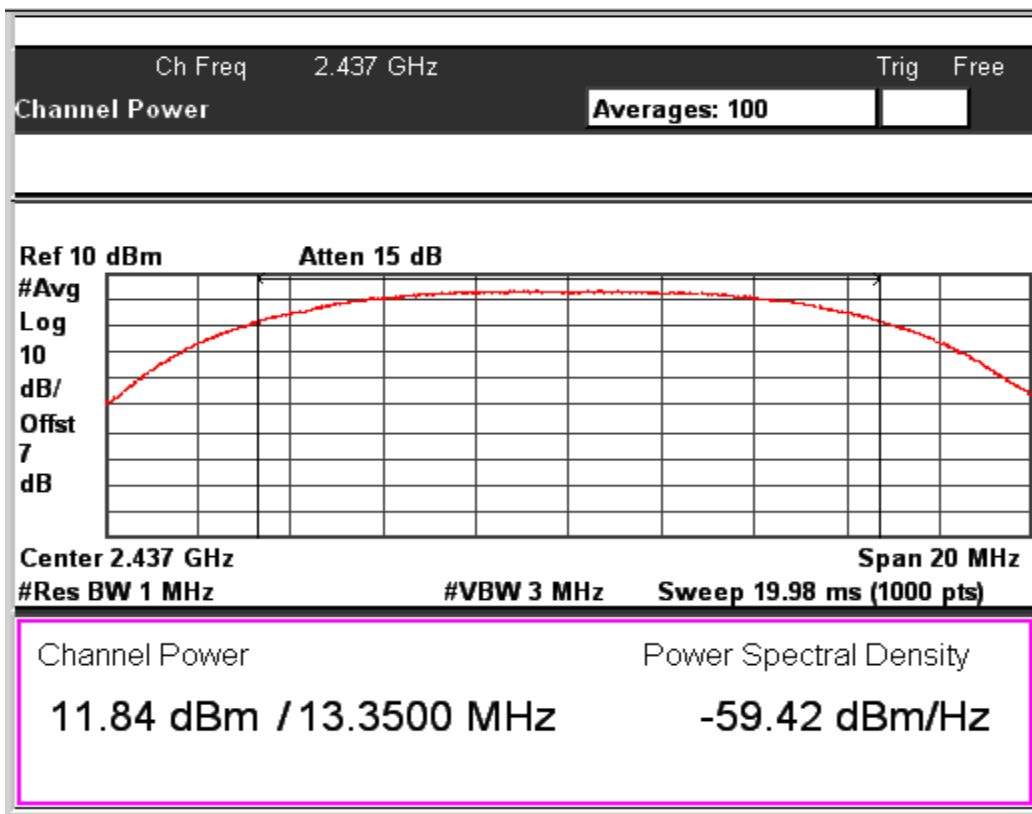
Channel Frequency: 2462 MHz

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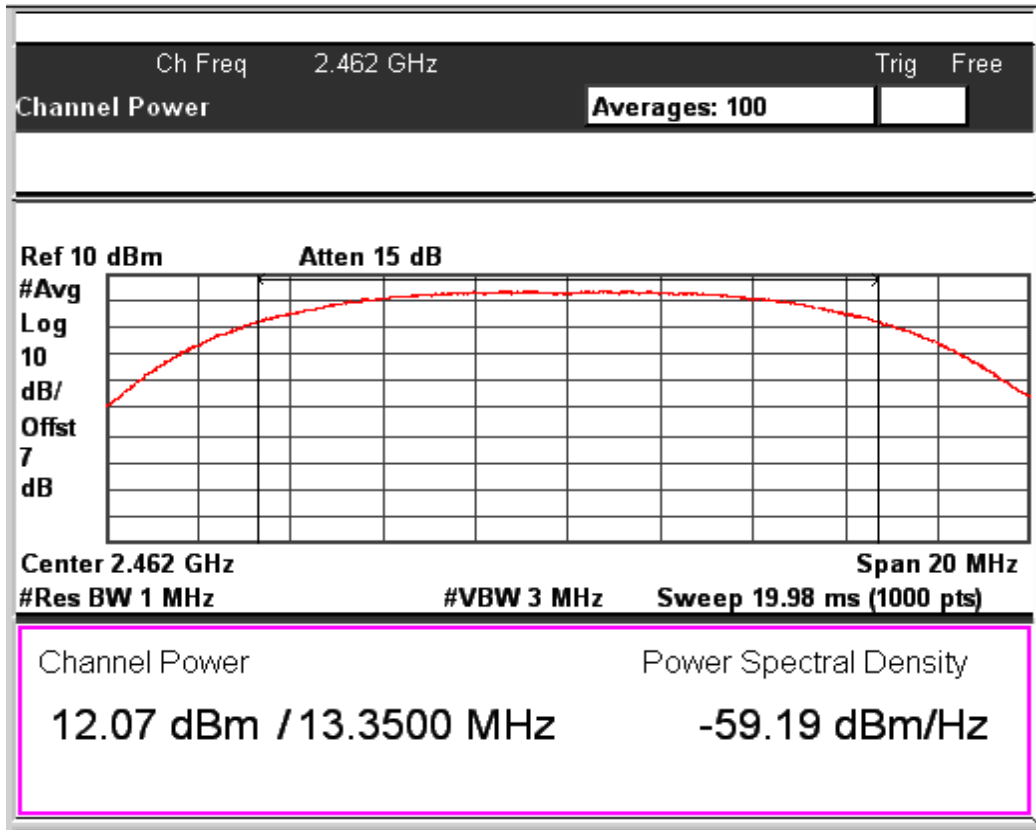
Data rate: 11 Mbps

Channel Frequency: 2412 MHz



Data rate: 11 Mbps

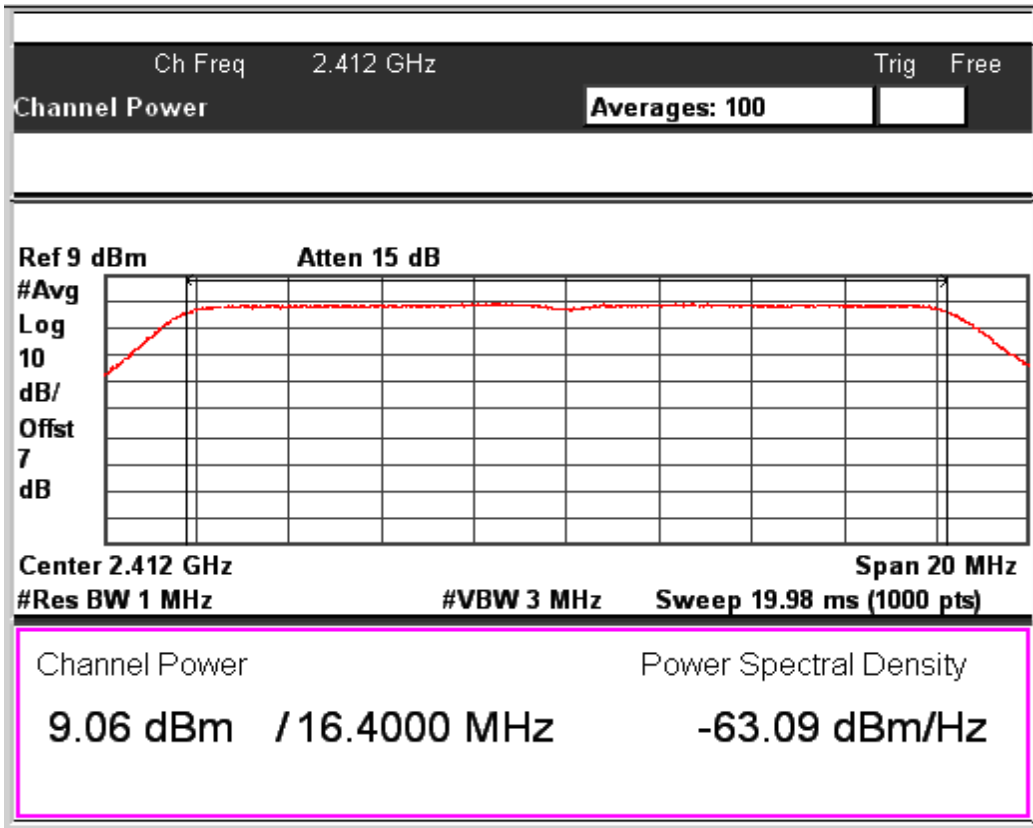
Channel Frequency: 2437 MHz



Data rate: 11 Mbps

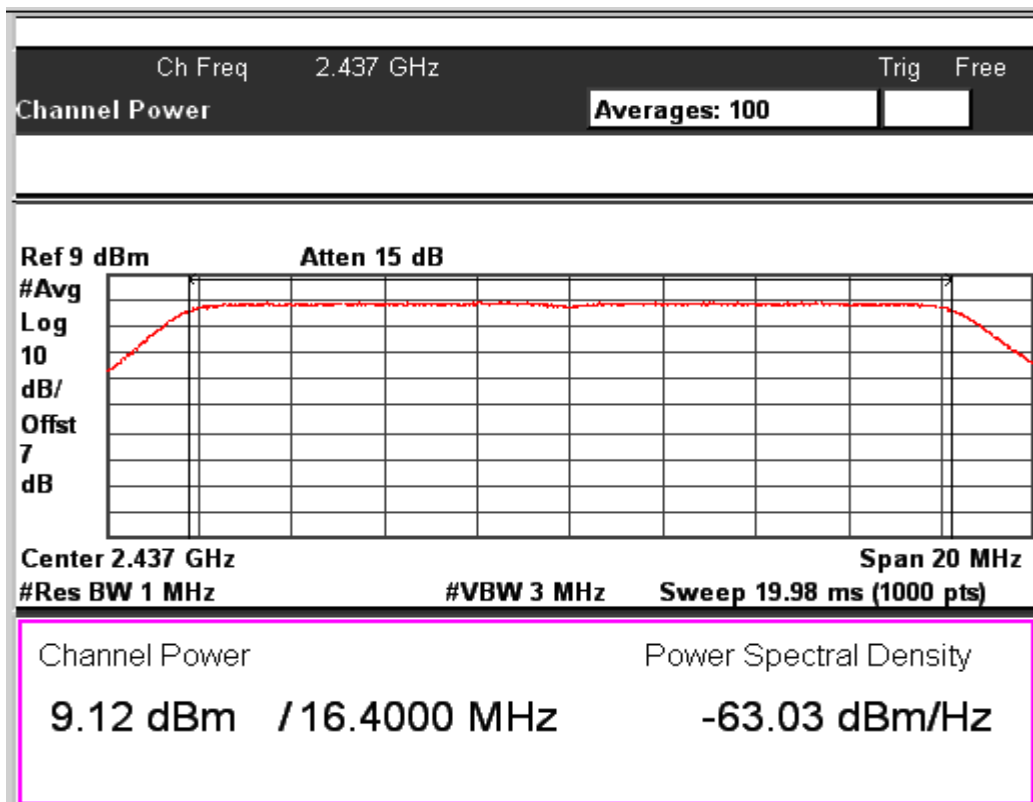
Channel Frequency: 2462 MHz

IEEE802.11g			
Data Rate (Mbps)	Channel Frequency (MHz)	Average Power (dBm)	Average Power (mW)
6	2412	9.06	8.05
	2437	9.12	8.17
	2462	9.5	8.91
24	2412	8.83	7.64
	2437	9.28	8.47
	2462	9.82	9.59
54	2412	9.16	8.24
	2437	9.95	9.89
	2462	10.05	10.12



Data rate: 6 Mbps

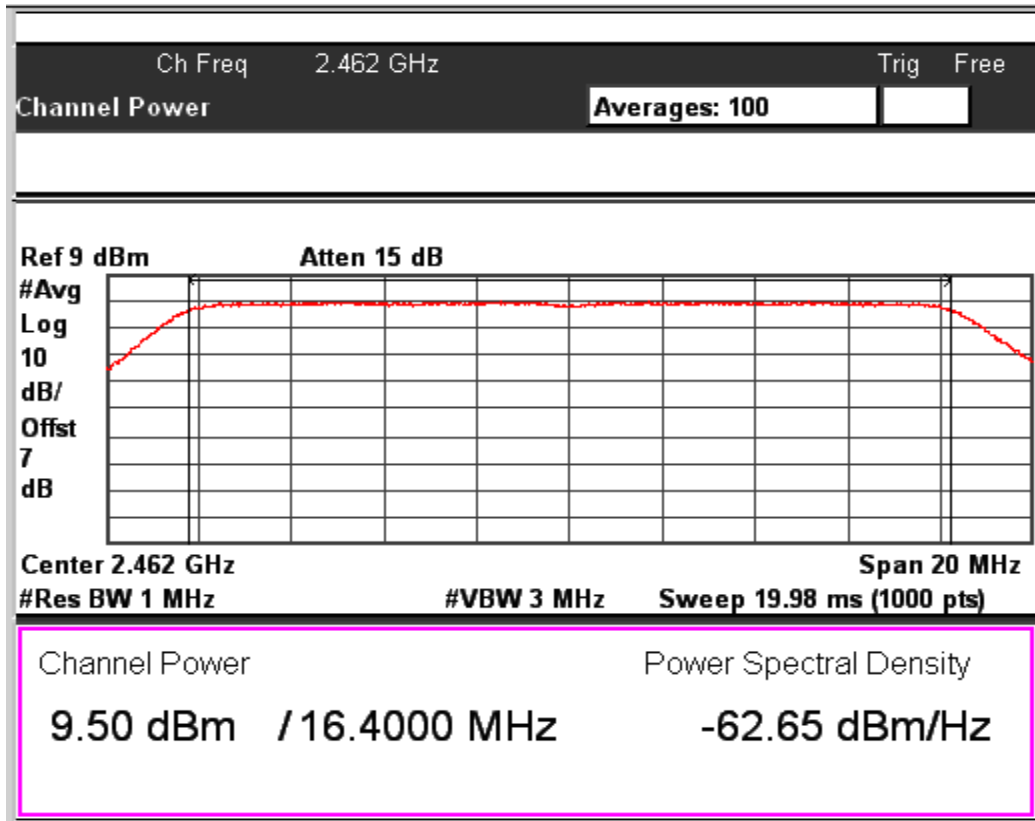
Channel Frequency: 2412 MHz



Data rate: 6 Mbps

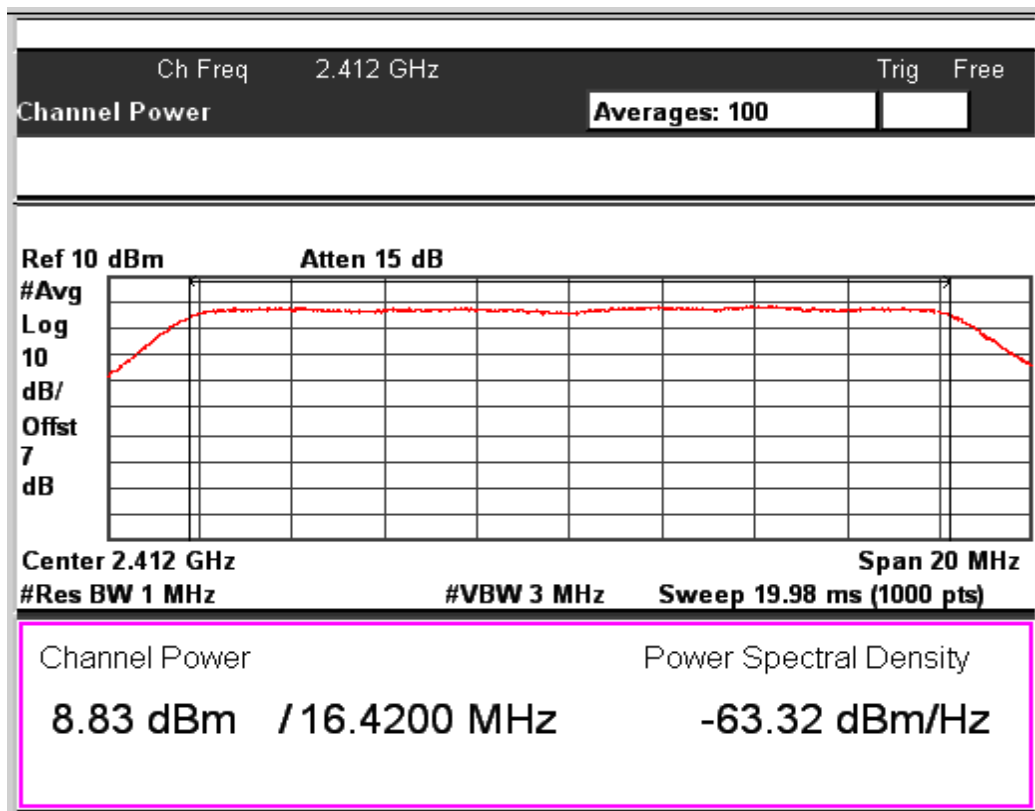
Channel Frequency: 2437 MHz





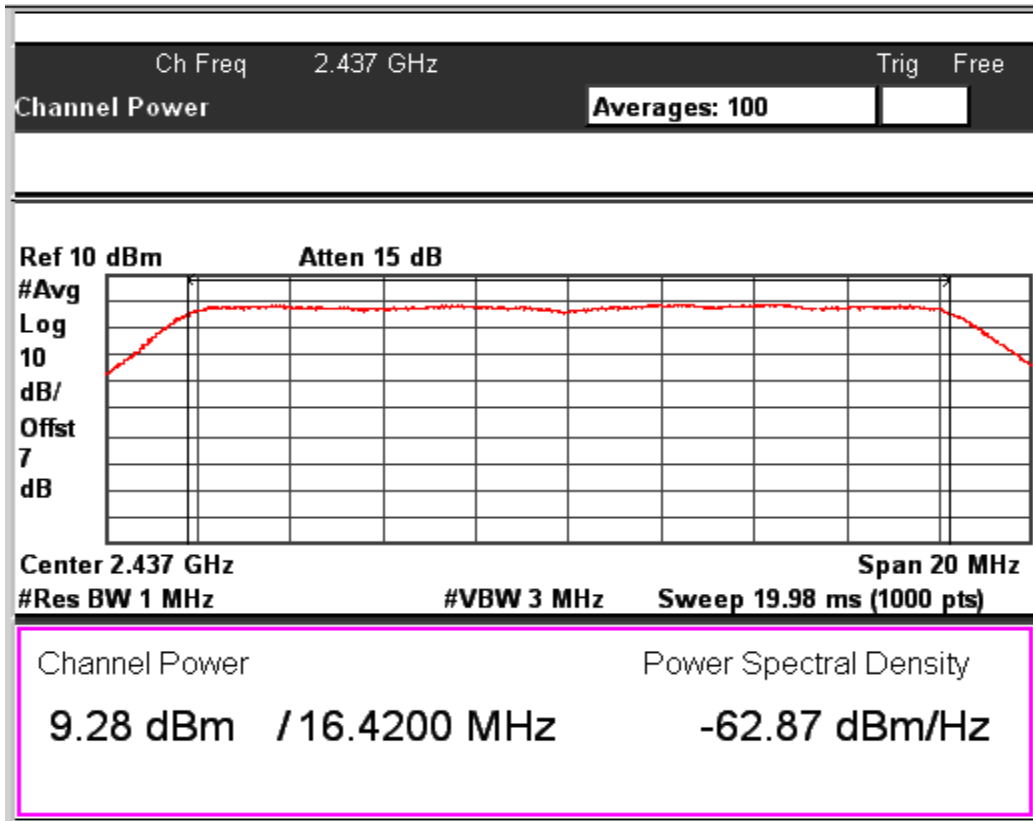
Data rate: 6 Mbps

Channel Frequency: 2462 MHz



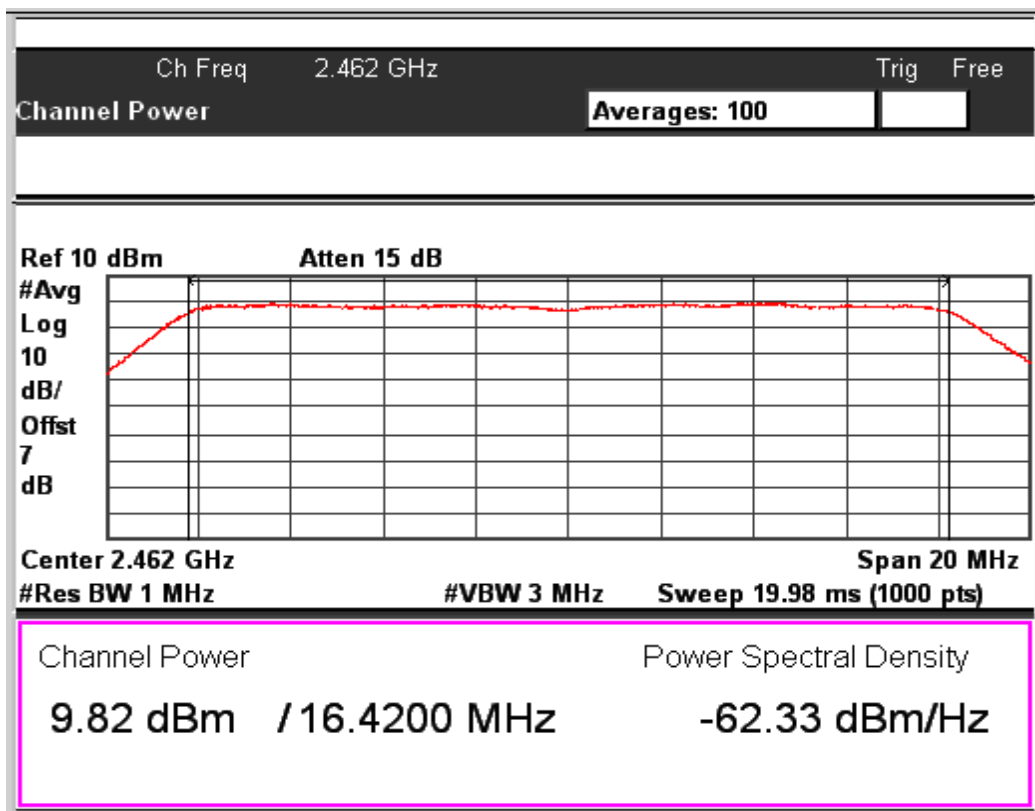
Data rate: 24 Mbps

Channel Frequency: 2412 MHz



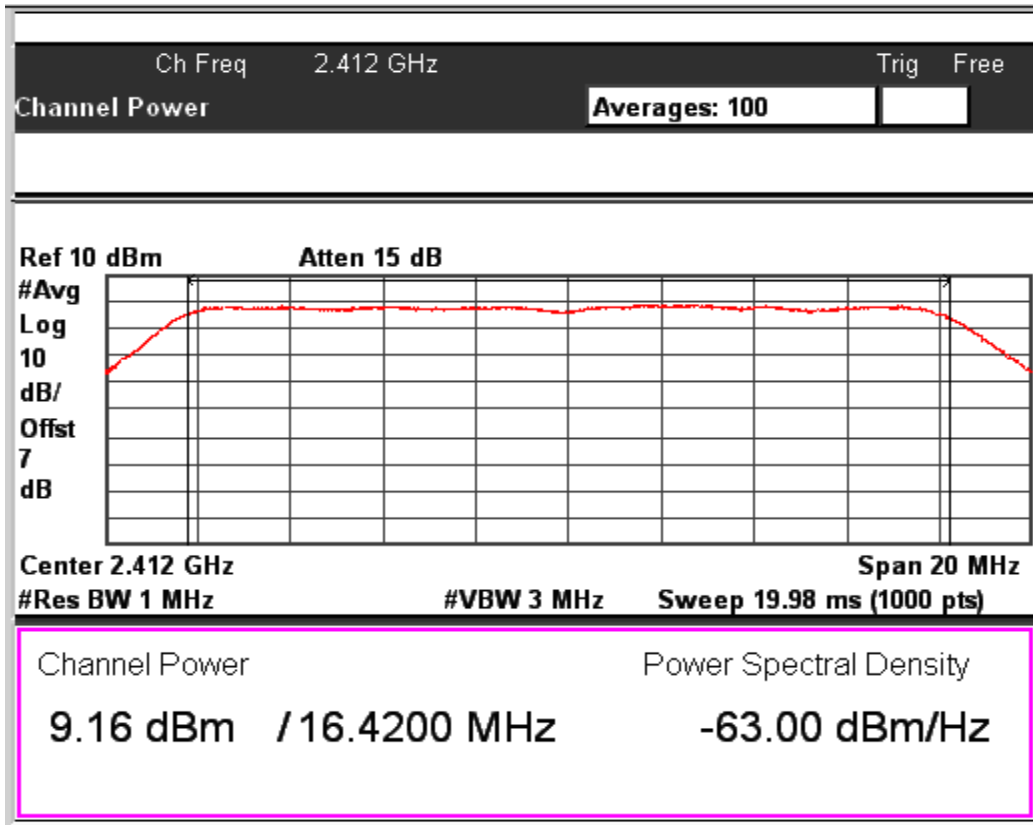
Data rate: 24 Mbps

Channel Frequency: 2437 MHz



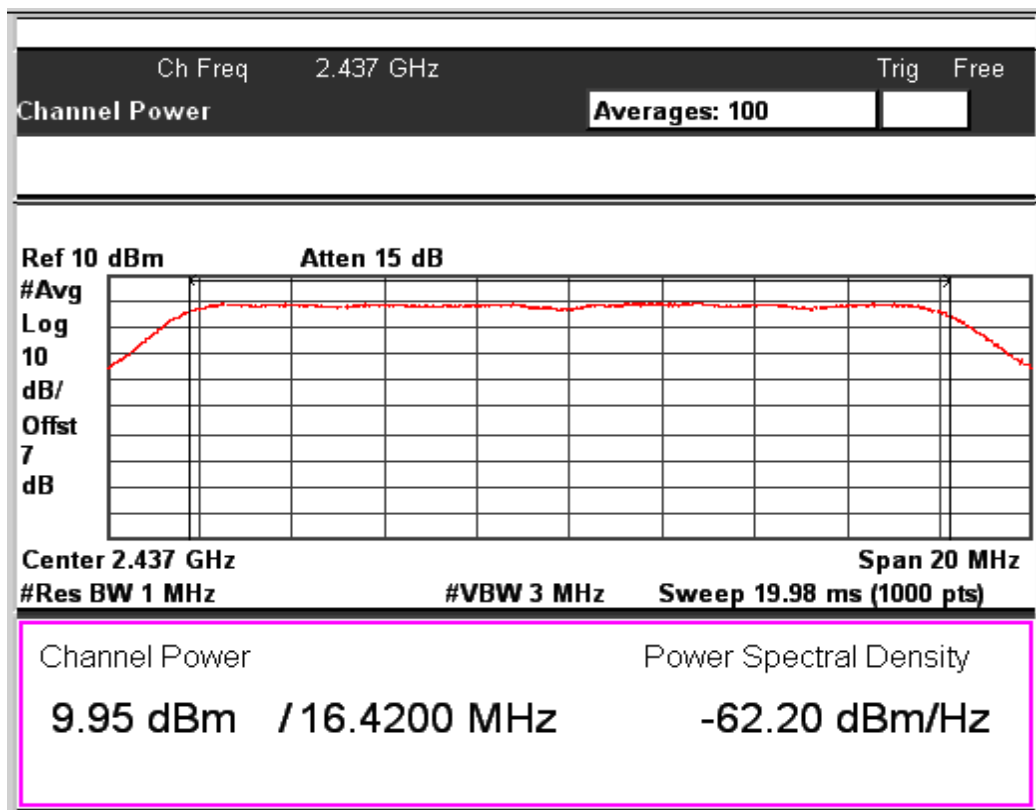
Data rate: 24 Mbps

Channel Frequency: 2462 MHz



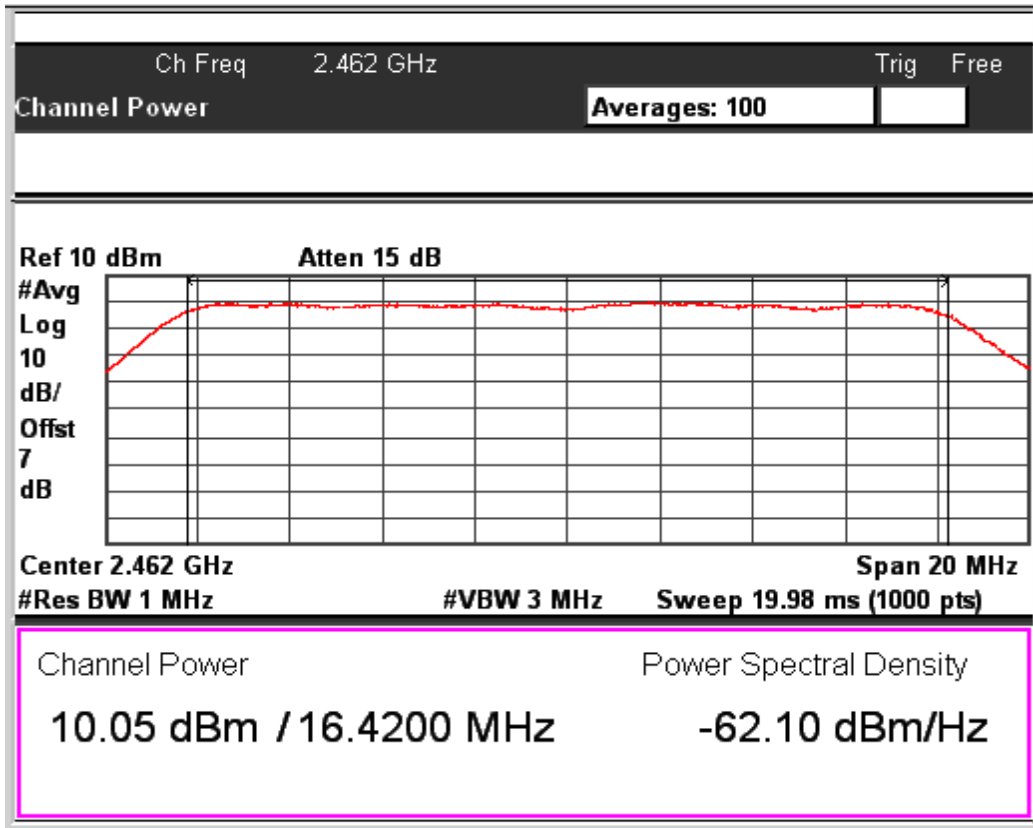
Data rate: 54 Mbps

Channel Frequency: 2412 MHz



Data rate: 54 Mbps

Channel Frequency: 2437 MHz

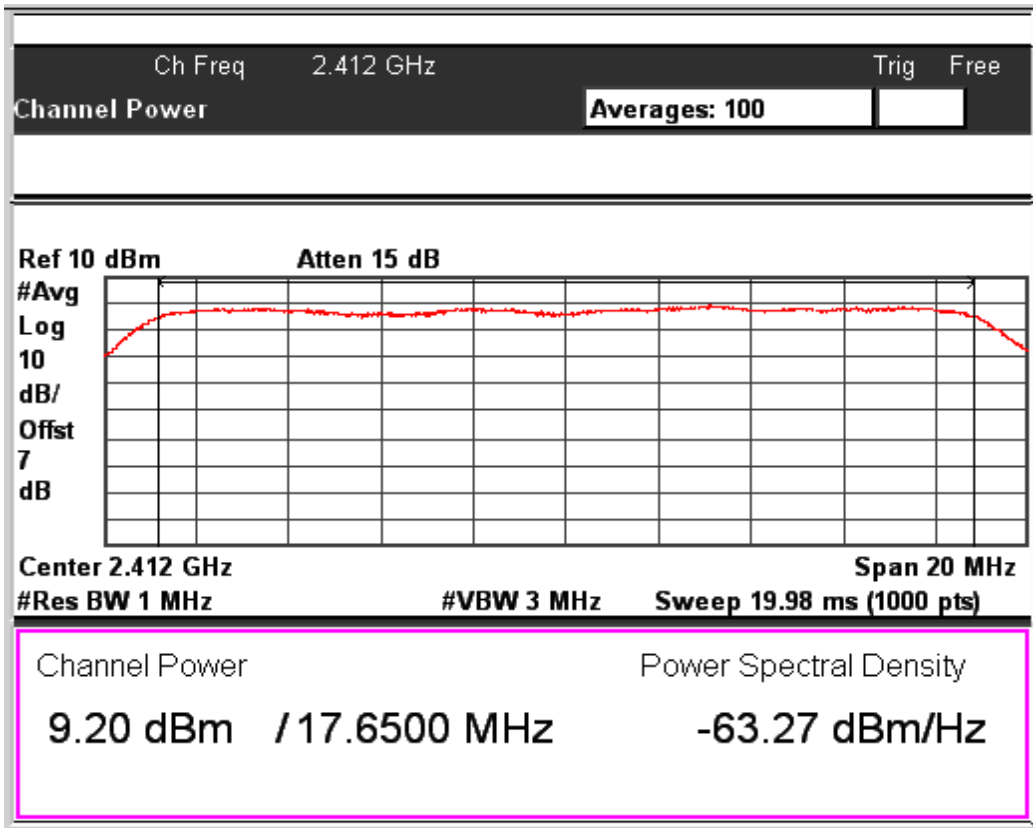


Data rate: 54 Mbps

Channel Frequency: 2462 MHz

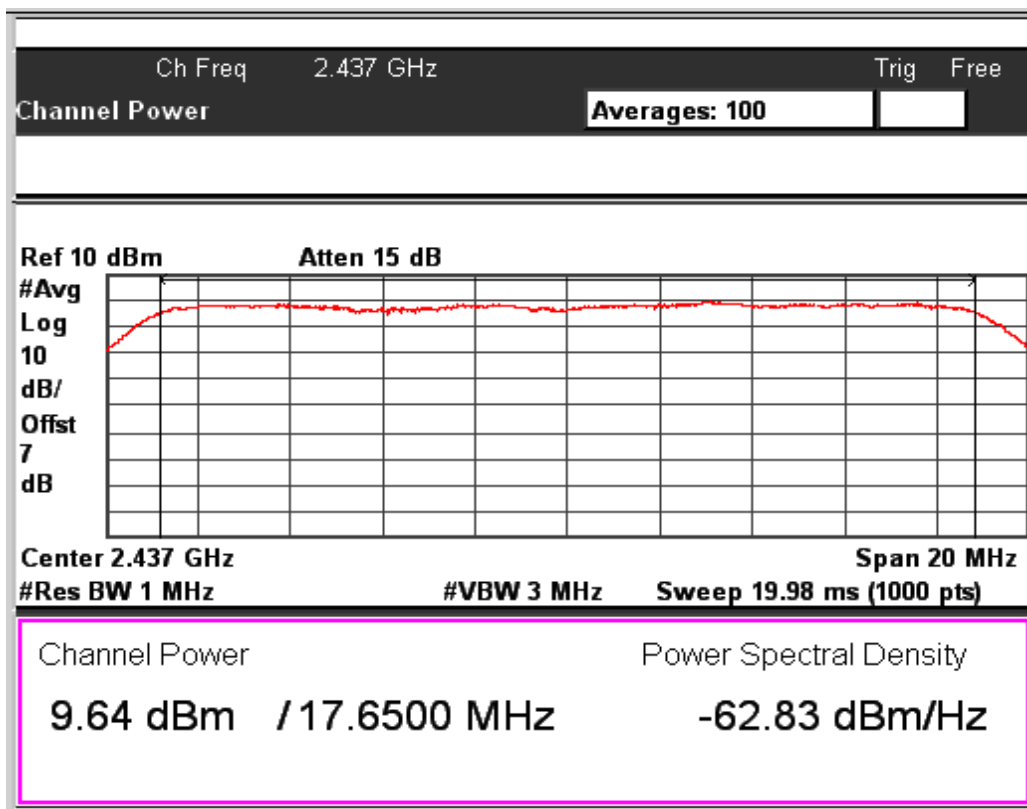
IEEE802.11nHT20			
Data Rate (Mbps)	Channel Frequency (MHz)	Average Power (dBm)	Average Power (mW)
MCS0	2412	9.2	8.32
	2437	9.64	9.20
	2462	9.46	8.83
MCS7	2412	8.94	7.83
	2437	9.6	9.12
	2462	9.74	9.42
MCS15	2412	9.42	8.75
	2437	9.51	8.93
	2462	9.38	8.67

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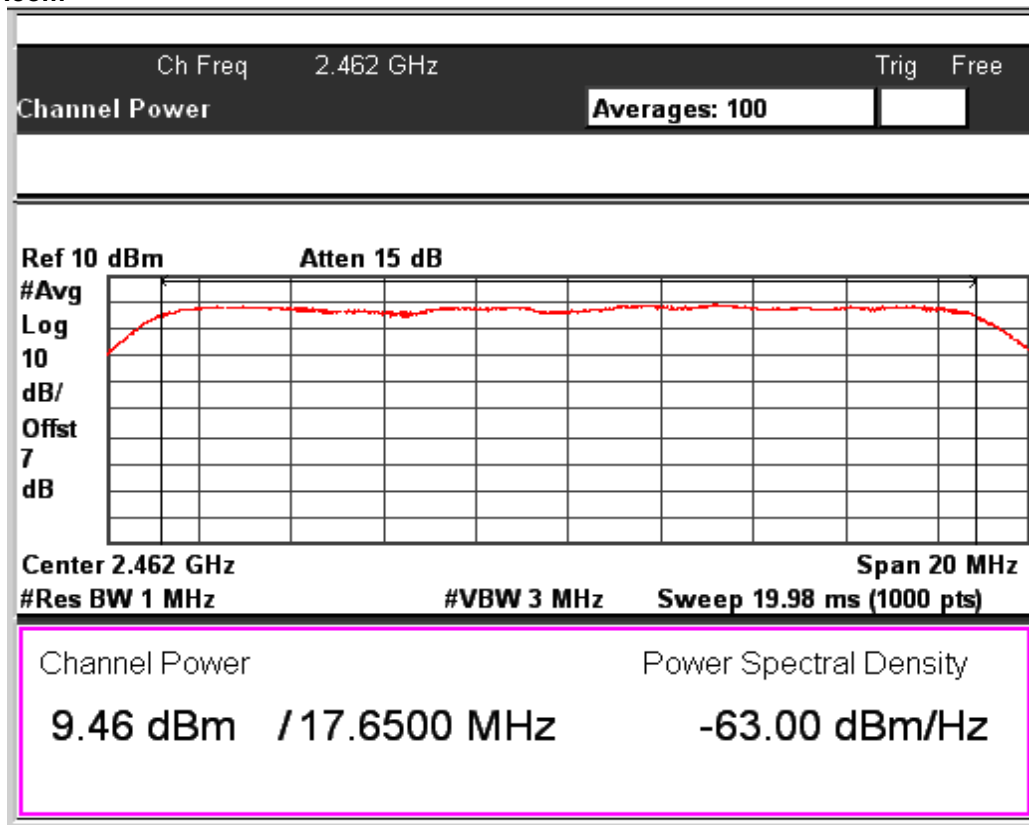
Data Rate: MCS0

Channel Frequency: 2412 MHz



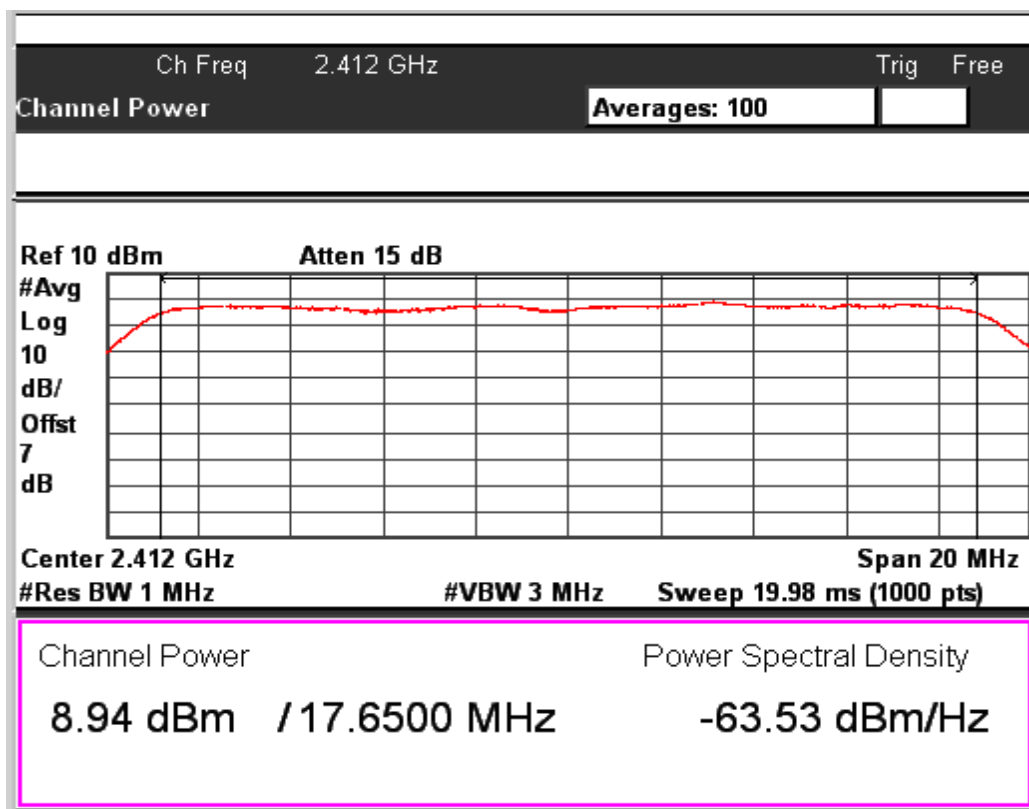
Data Rate: MCS0

Channel Frequency: 2437 MHz



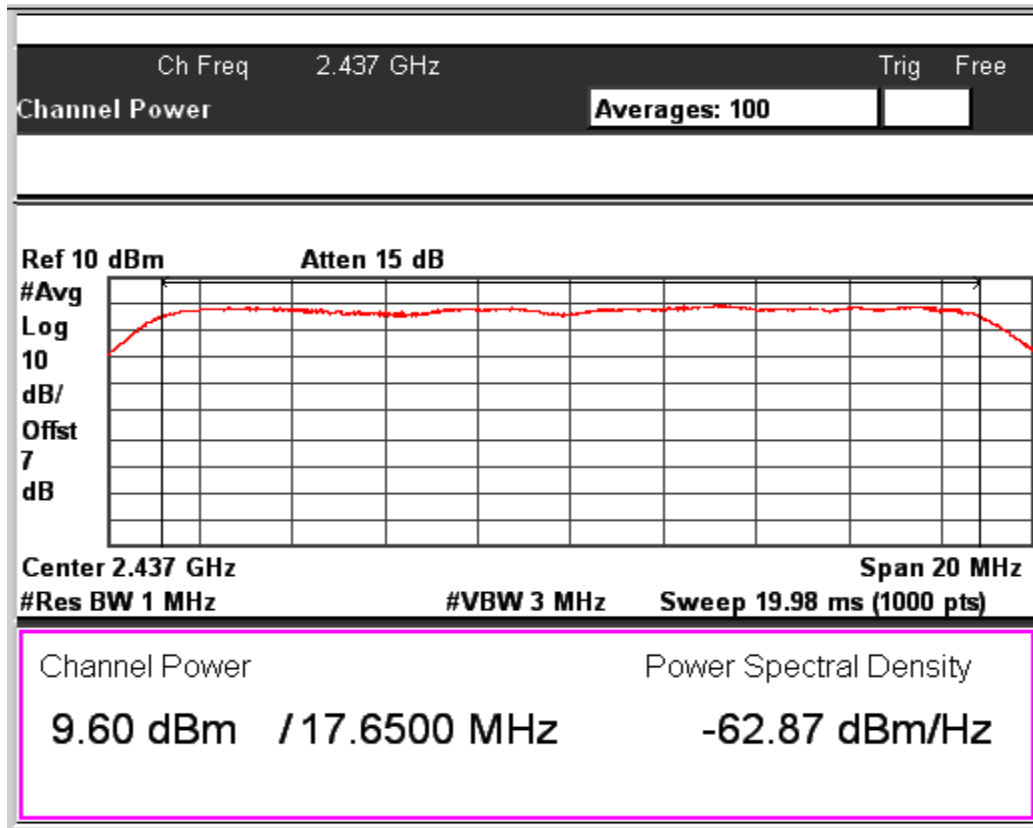
Data Rate: MCS0

Channel Frequency: 2462 MHz



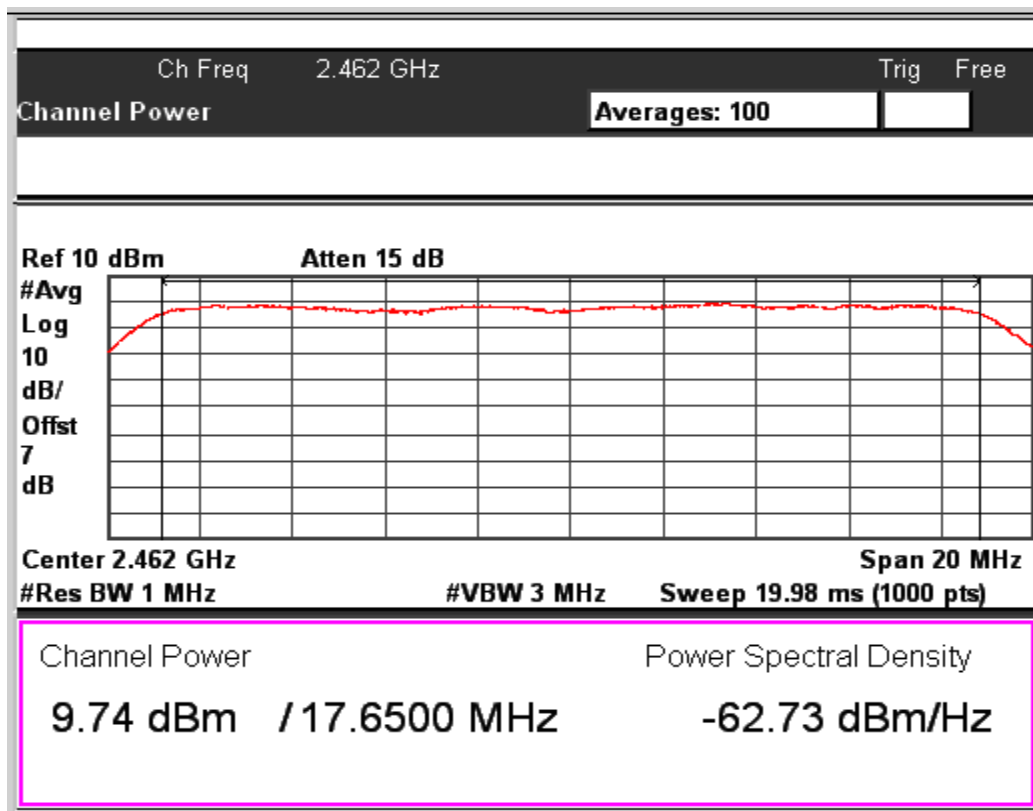
Data Rate: MCS7

Channel Frequency: 2412 MHz



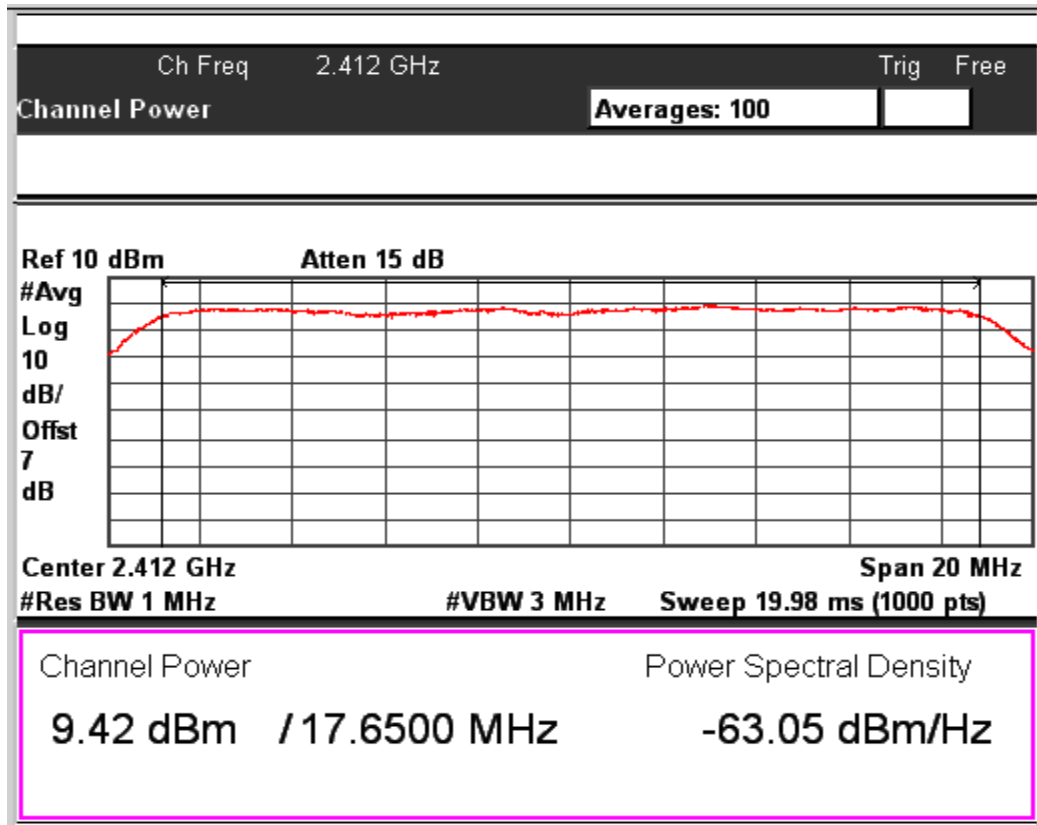
Data Rate: MCS7

Channel Frequency: 2437 MHz



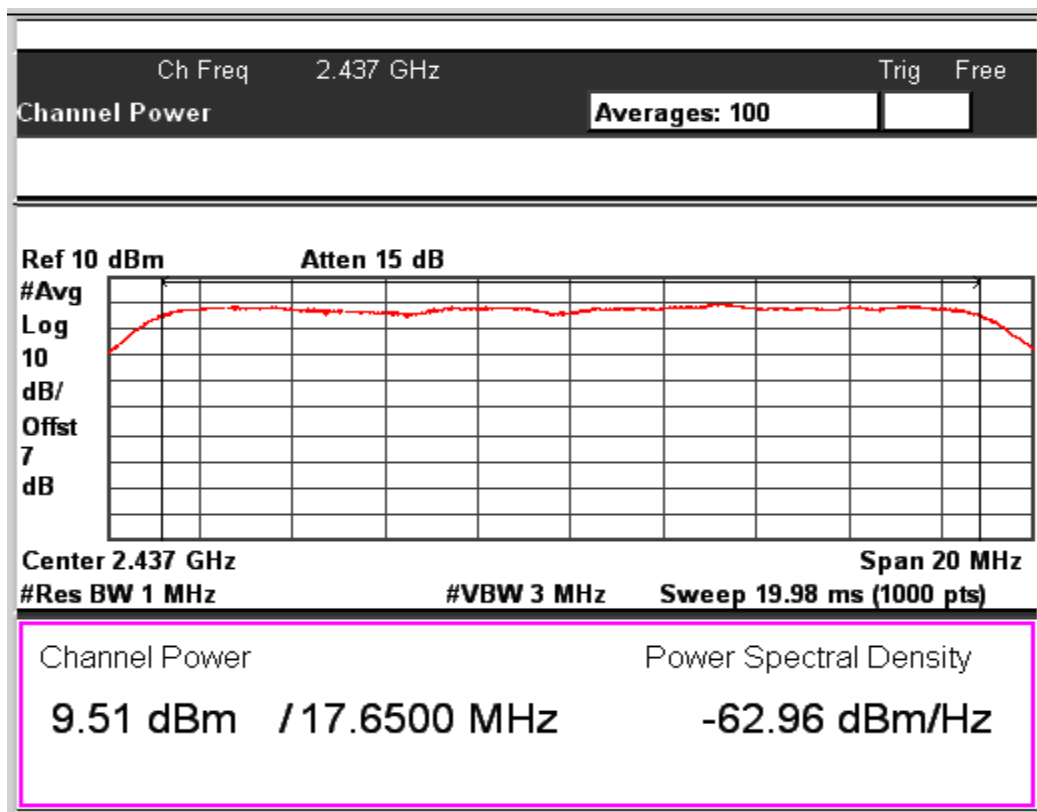
Data Rate: MCS7

Channel Frequency: 2462 MHz



Data Rate: MCS15

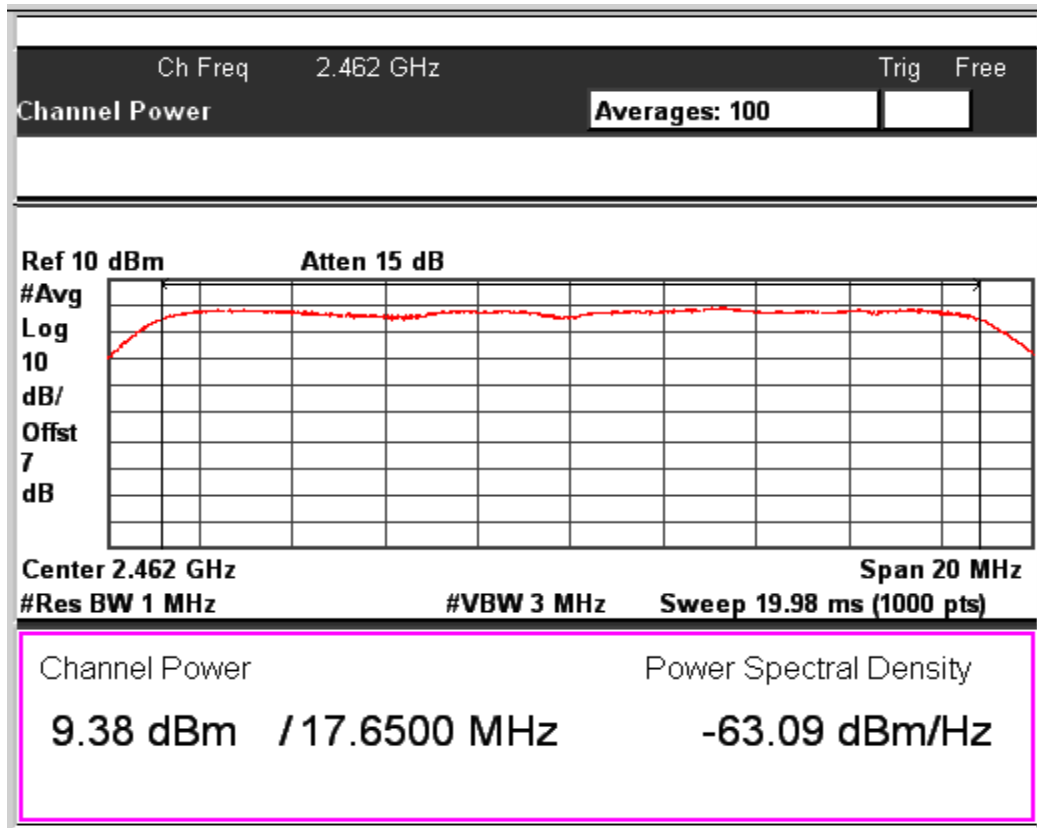
Channel Frequency: 2412 MHz



Data Rate: MCS15

Channel Frequency: 2437 MHz



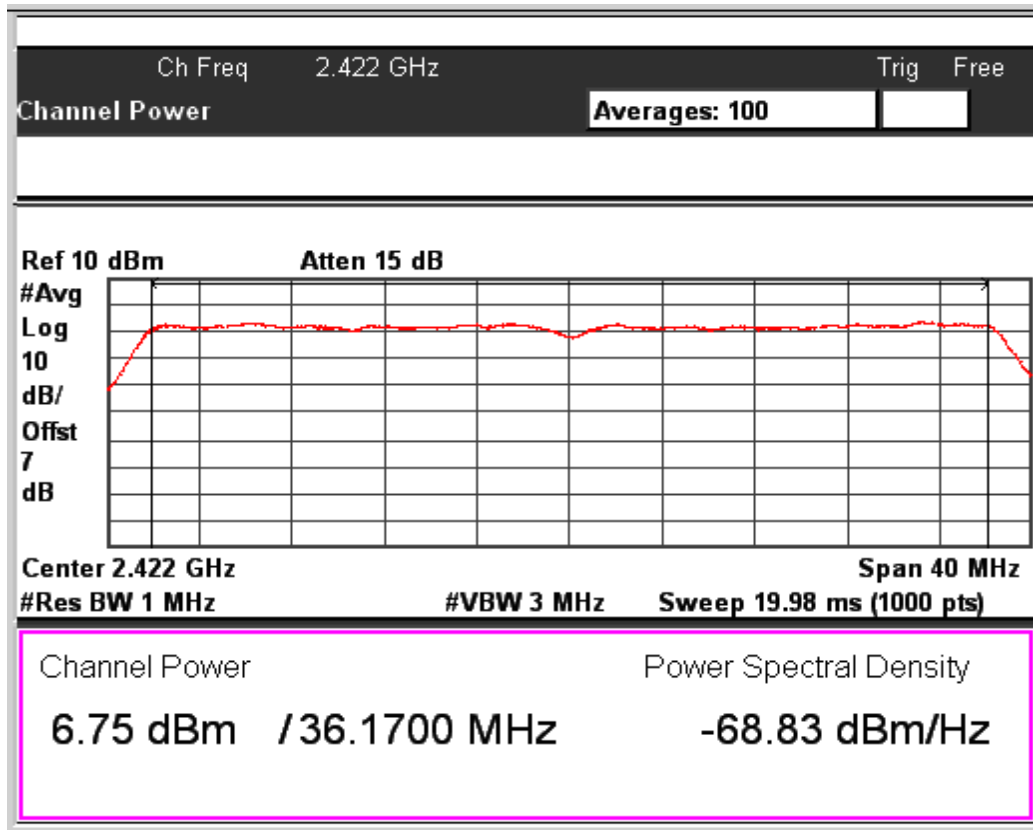


Data Rate: MCS15

Channel Frequency: 2462 MHz

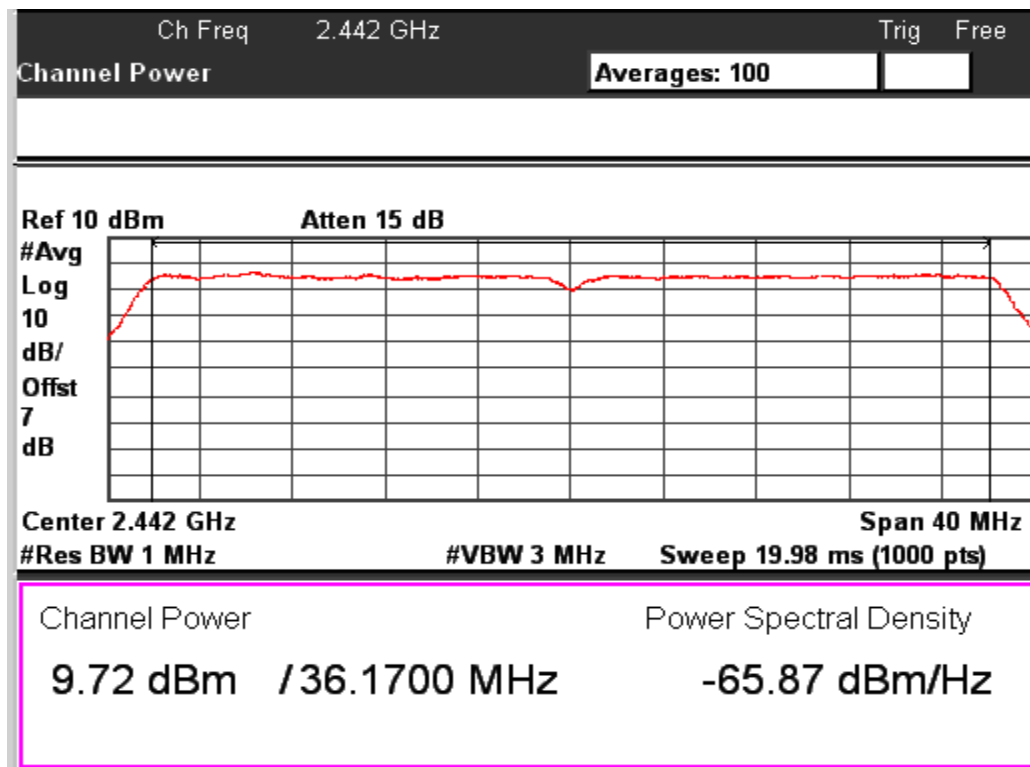
IEEE802.11nHT40			
Data Rate (Mbps)	Channel Frequency (MHz)	Average Power (dBm)	Average Power (mW)
MCS0	2422	6.75	4.73
	2442	9.72	9.38
	2457	6.85	4.84
MCS7	2422	7.79	6.01
	2442	10.19	10.45
	2457	7.74	5.94
MCS15	2422	7.86	6.11
	2442	10.84	12.13
	2457	7.97	6.27

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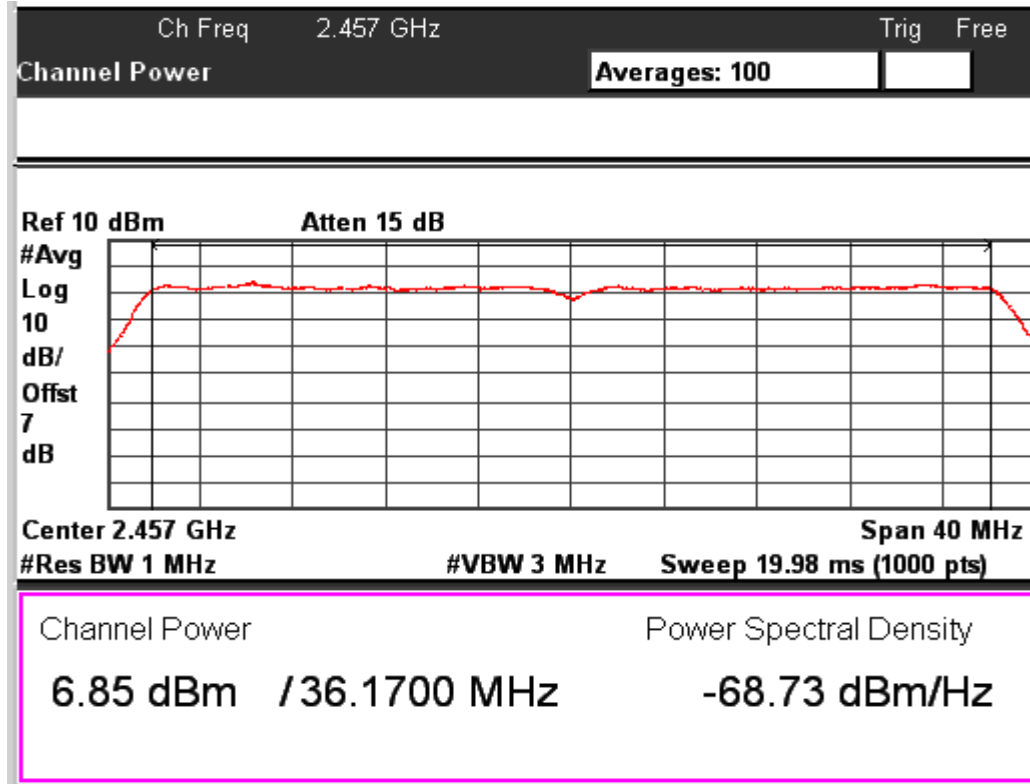
Data Rate: MCS0

Channel Frequency: 2422 MHz



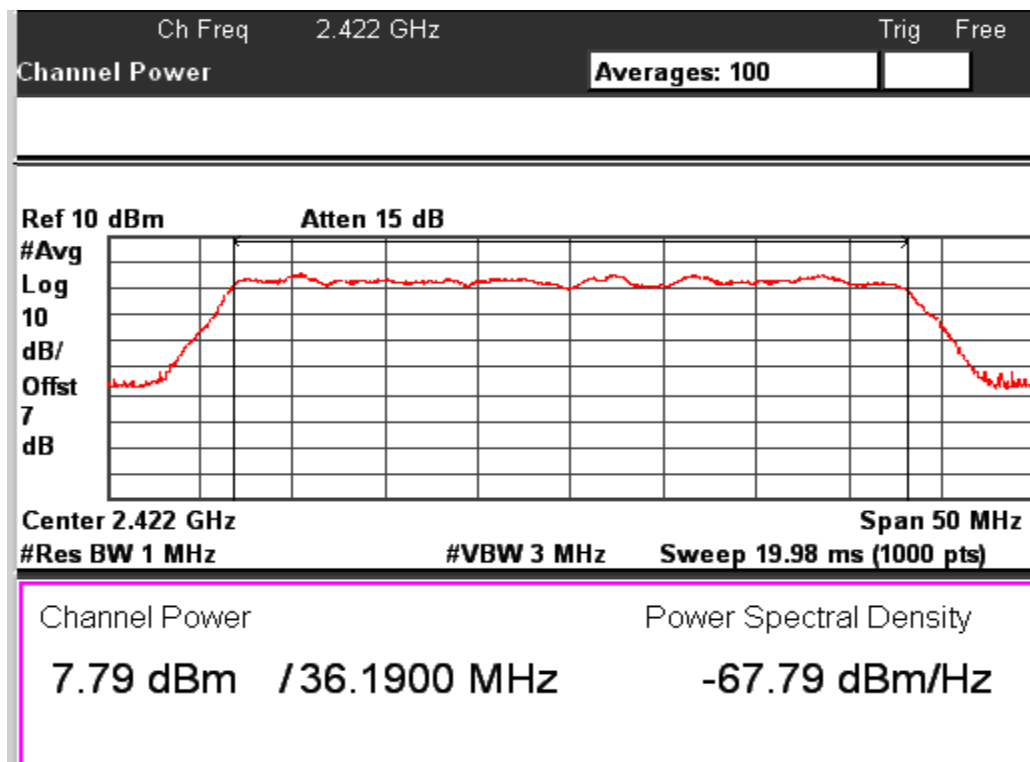
Data Rate: MCS0

Channel Frequency: 2442 MHz



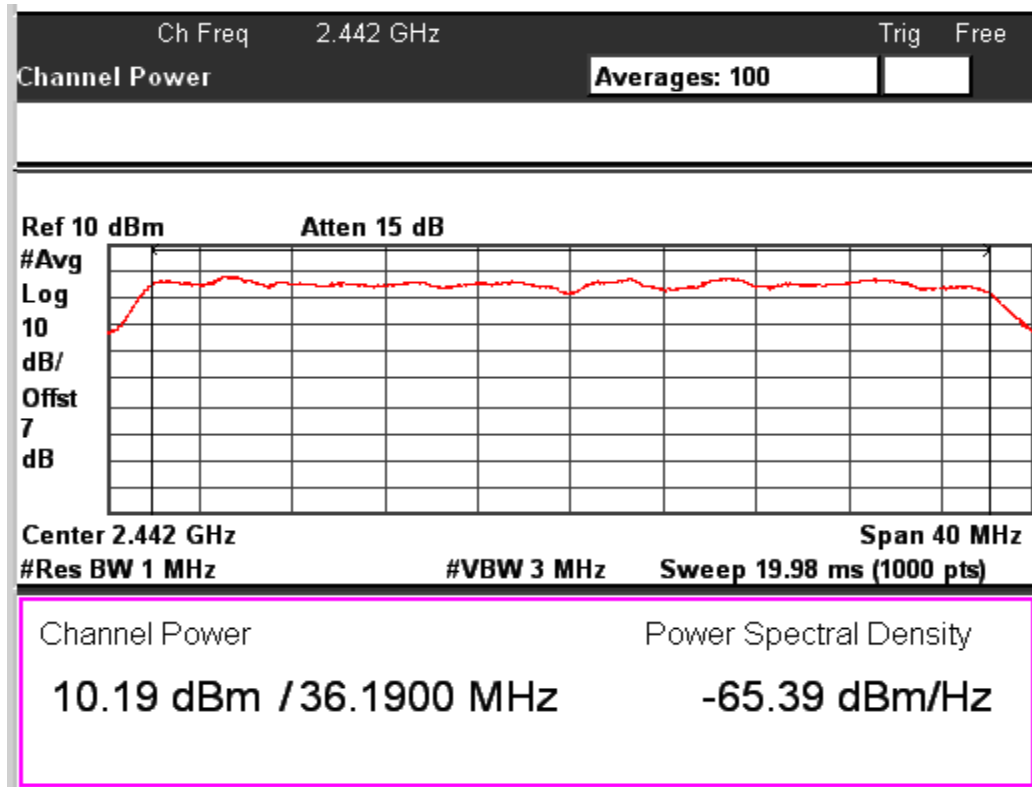
Data Rate: MCS0

Channel Frequency: 2457 MHz



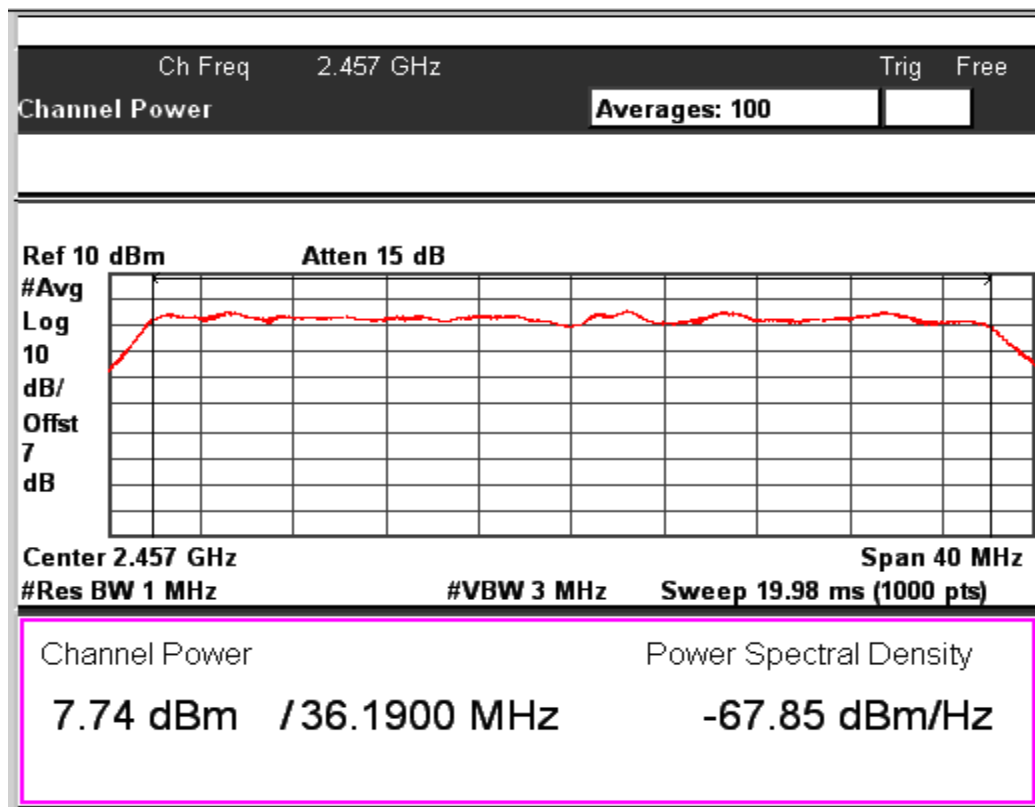
Data Rate: MCS7

Channel Frequency: 2422 MHz



Data Rate: MCS7

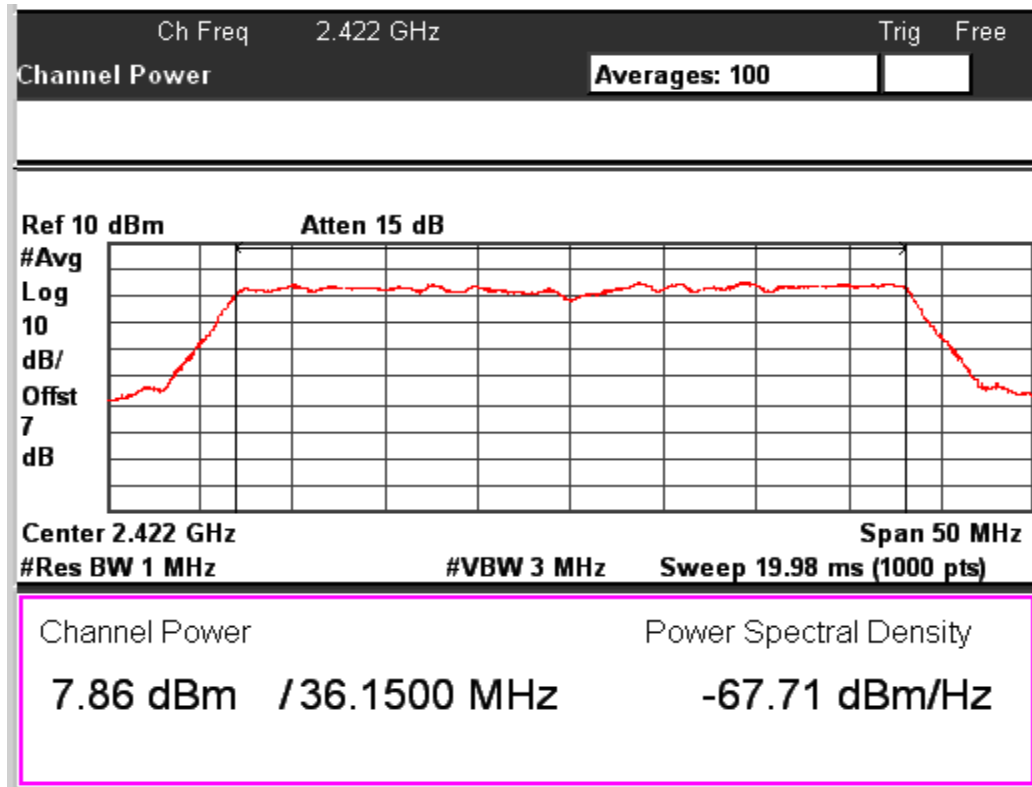
Channel Frequency: 2442 MHz



Data Rate: MCS7

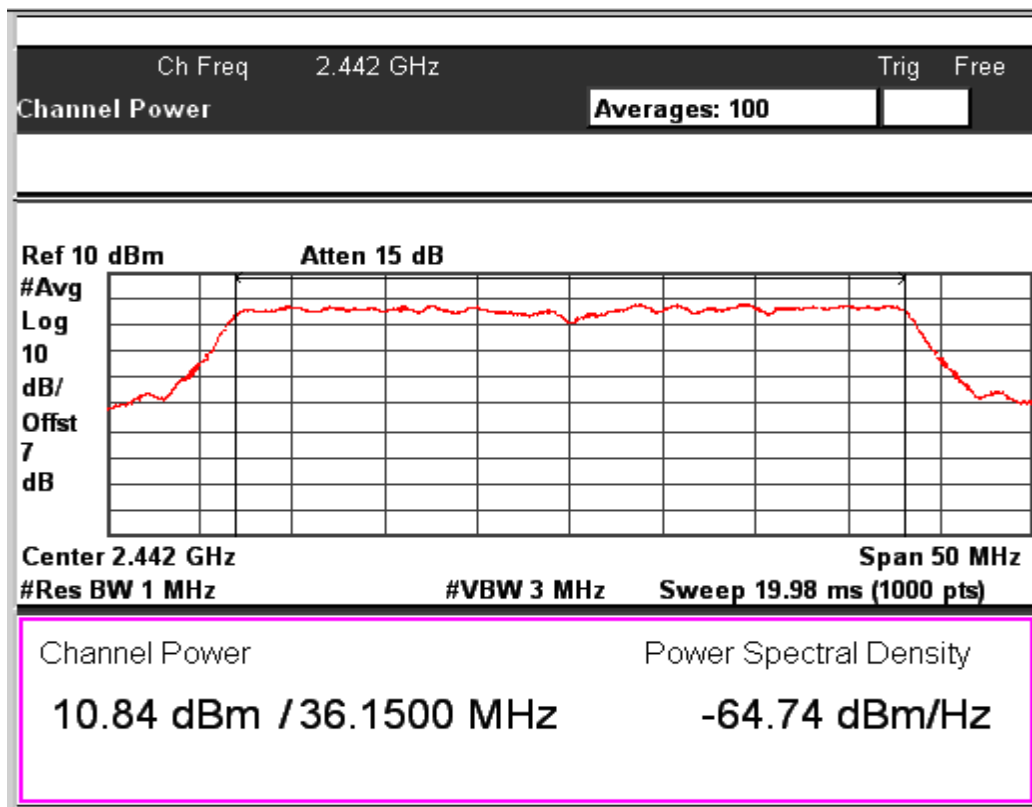
Channel Frequency: 2457 MHz

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Data Rate: MCS15

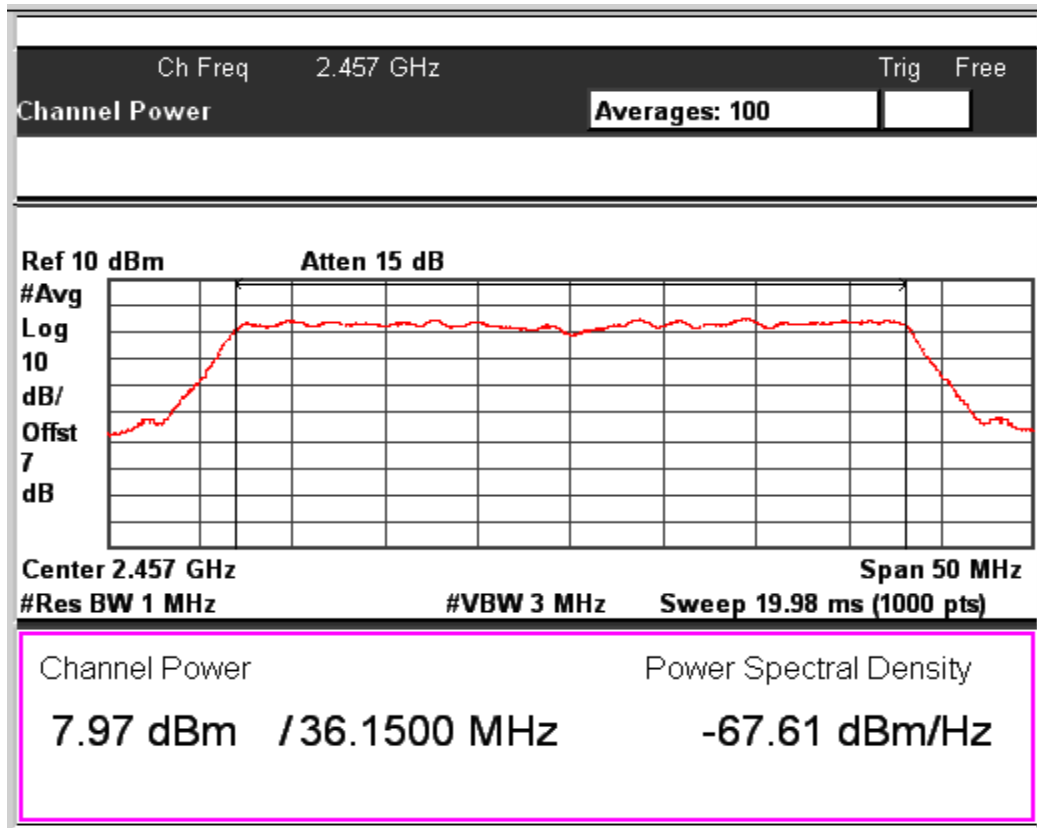
Channel Frequency: 2422 MHz



Data Rate: MCS15

Channel Frequency: 2442 MHz

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Data Rate: MCS15

Channel Frequency: 2457 MHz

### Measure and sum

IEEE 802.11b							
Data Rate (Mbps)	Channel Frequency (MHz)	Average Power (mW) Path A	Average Power (mW) Path B	Total Average Power (mW)	Total Average Power (dBm)	Limit (dBm)	Remarks
1	2412	10.21	12.22	22.43	13.51	30	Pass
	2437	12.47	17.02	29.50	14.70	30	Pass
	2462	11.61	15.56	27.17	14.34	30	Pass
11	2412	11.89	14.49	26.37	14.21	30	Pass
	2437	12.91	15.28	28.19	14.50	30	Pass
	2462	14.26	16.11	30.36	<b>14.82</b>	30	Pass

IEEE 802.11g							
Data Rate (Mbps)	Channel Frequency (MHz)	Average Power (mW) Path A	Average Power (mW) Path B	Total Average Power (mW)	Total Average Power (dBm)	Limit (dBm)	Remarks
6	2412	8.18	8.05	16.24	12.11	30	Pass
	2437	8.26	8.17	16.43	12.16	30	Pass
	2462	7.64	8.91	16.55	12.19	30	Pass
24	2412	7.93	7.64	15.56	11.92	30	Pass
	2437	8.32	8.47	16.79	12.25	30	Pass
	2462	8.85	9.59	18.45	12.66	30	Pass
54	2412	7.66	8.24	15.90	12.01	30	Pass
	2437	8.41	9.89	18.30	12.62	30	Pass
	2462	8.67	10.12	18.79	<b>12.74</b>	30	Pass

IEEE 802.11nHT20							
Data Rate (Mbps)	Channel Frequency (MHz)	Average Power (mW) Path A	Average Power (mW) Path B	Total Average Power (mW)	Total Average Power (dBm)	Limit (dBm)	Remarks
MCS0	2412	7.29	8.32	15.61	11.93	30	Pass
	2437	8.32	9.20	17.52	12.44	30	Pass
	2462	8.00	8.83	16.83	12.26	30	Pass
MCS7	2412	6.81	7.83	14.64	11.66	30	Pass
	2437	7.91	9.12	17.03	12.31	30	Pass
	2462	9.66	9.42	19.08	<b>12.81</b>	30	Pass
MCS15	2412	6.78	8.75	15.53	11.91	30	Pass
	2437	7.93	8.93	16.86	12.27	30	Pass
	2462	9.18	8.67	17.85	12.52	30	Pass

IEEE 802.11nHT40							
Data Rate (Mbps)	Channel Frequency (MHz)	Average Power (mW) Path A	Average Power (mW) Path B	Total Average Power (mW)	Total Average Power (dBm)	Limit (dBm)	Remarks
MCS0	2422	8.53	4.73	13.26	11.23	30	Pass
	2437	8.81	9.38	18.19	12.60	30	Pass
	2457	4.47	4.84	9.31	9.69	30	Pass
MCS7	2422	5.01	6.01	11.02	10.42	30	Pass
	2437	8.13	10.45	18.58	12.69	30	Pass
	2457	5.14	5.94	11.08	10.45	30	Pass
MCS15	2422	4.70	6.11	10.81	10.34	30	Pass
	2437	9.40	12.13	21.53	<b>13.33</b>	30	Pass
	2457	10.67	6.27	16.93	12.29	30	Pass

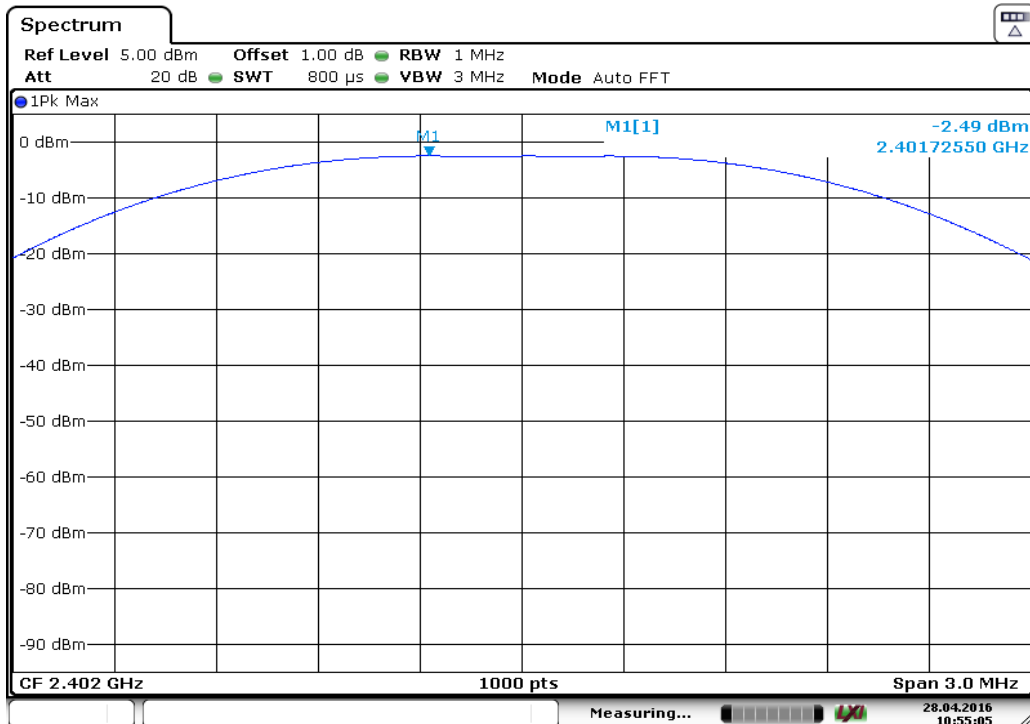
### Test Result: Bluetooth LE

Attenuator (6dB) + cable loss (1dB) = 7dB Considered in the test result

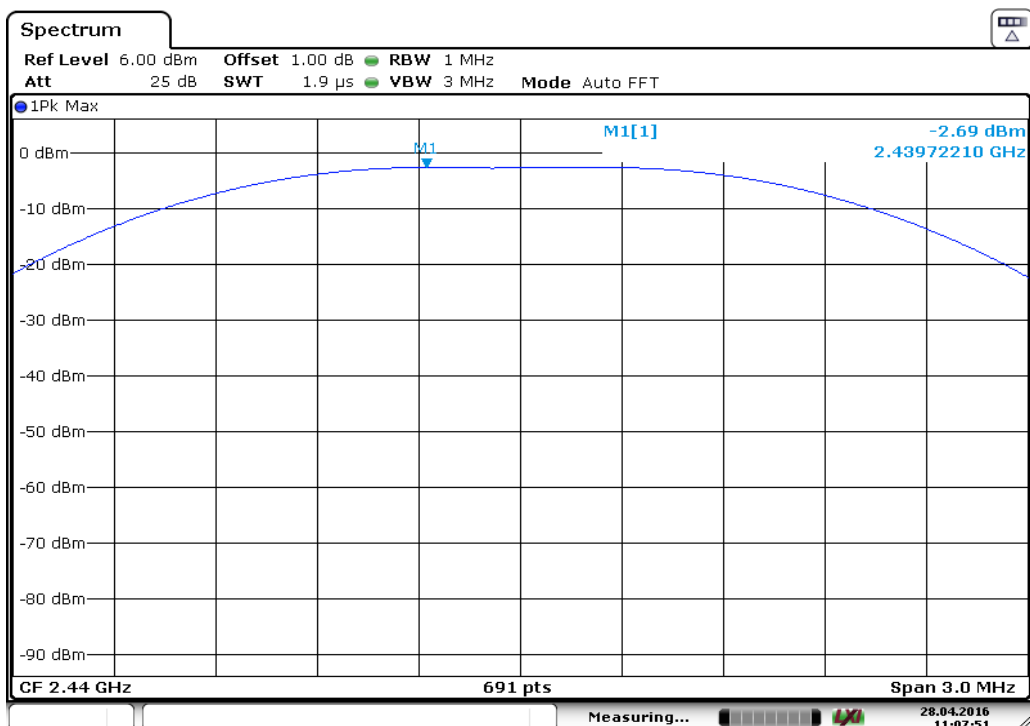
Channel Frequency (MHz)	Total Power (dBm)	Limit (dBm)	Remarks
2402	-2.49	30.00	Pass
2437	-2.69	30.00	Pass
2480	-3.04	30.00	Pass



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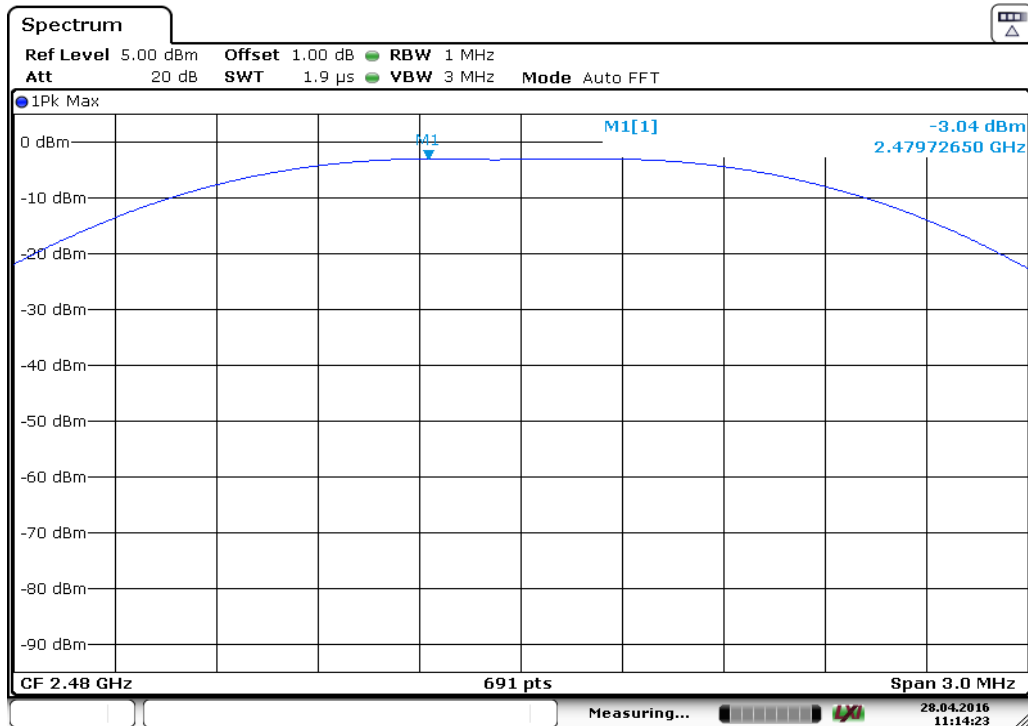


Channel Frequency: 2402 MHz



Channel Frequency: 2440 MHz

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Channel Frequency: 2480 MHz

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**Maximum Power Spectral Density  
Result**

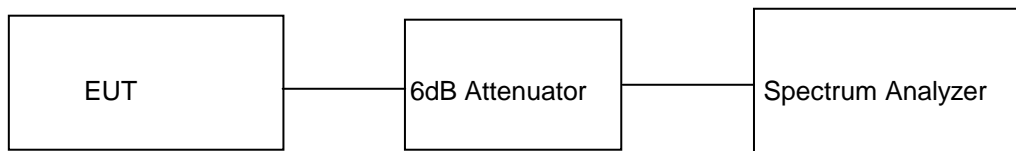
**Section 15.247(e)  
Pass**

Test Specification FCC Part 15 Section 15.247 (e)  
Detector Function Average  
Requirement

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm.

**Note:** For measurement of Maximum power spectral density option 1 was used as mentioned in KDB.

**Test Method:**



**Test Result:**

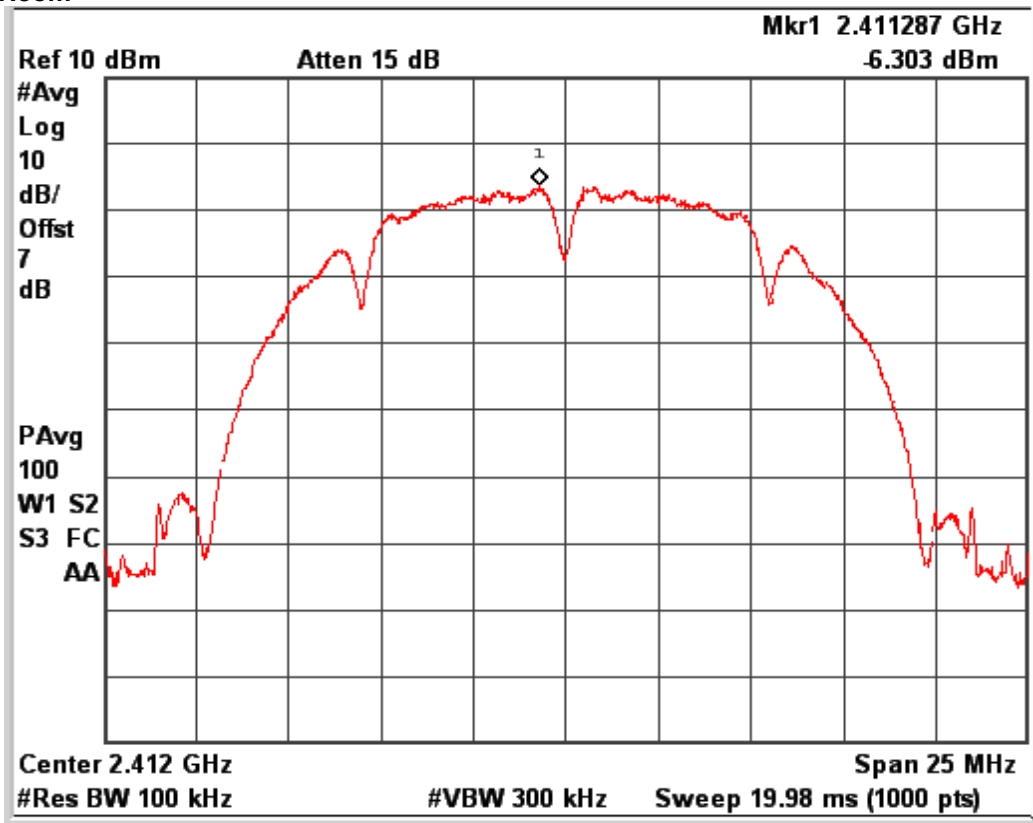
**Test Results for Path A**

Attenuator (6dB) + cable loss (1dB) = 7dB Considered in the test result

Measure and add 10 log (NANT) dB, NANT (Number of antenna port) → 2

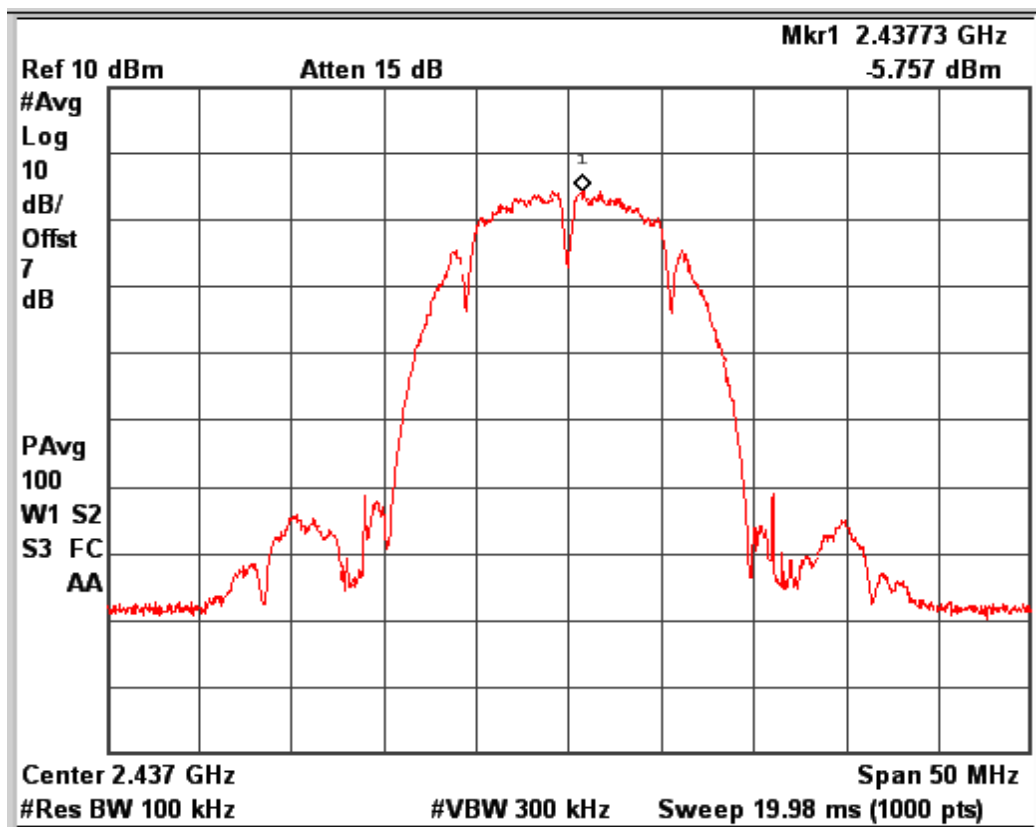
IEEE802.11b					
Data Rate (Mbps)	Channel Frequency (MHz)	Total PSD (dBm)	Measure & Add 10*log(2)	Total PSD (dBm)	Limit (dBm)
1	2412	-6.303	3.01	-3.293	8
	2437	-5.757	3.01	-2.747	8
	2462	-5.435	3.01	-2.425	8
11	2412	-5.793	3.01	-2.783	8
	2437	-5.752	3.01	-2.742	8
	2462	-5.045	3.01	-2.035	8

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Data rate: 1 Mbps

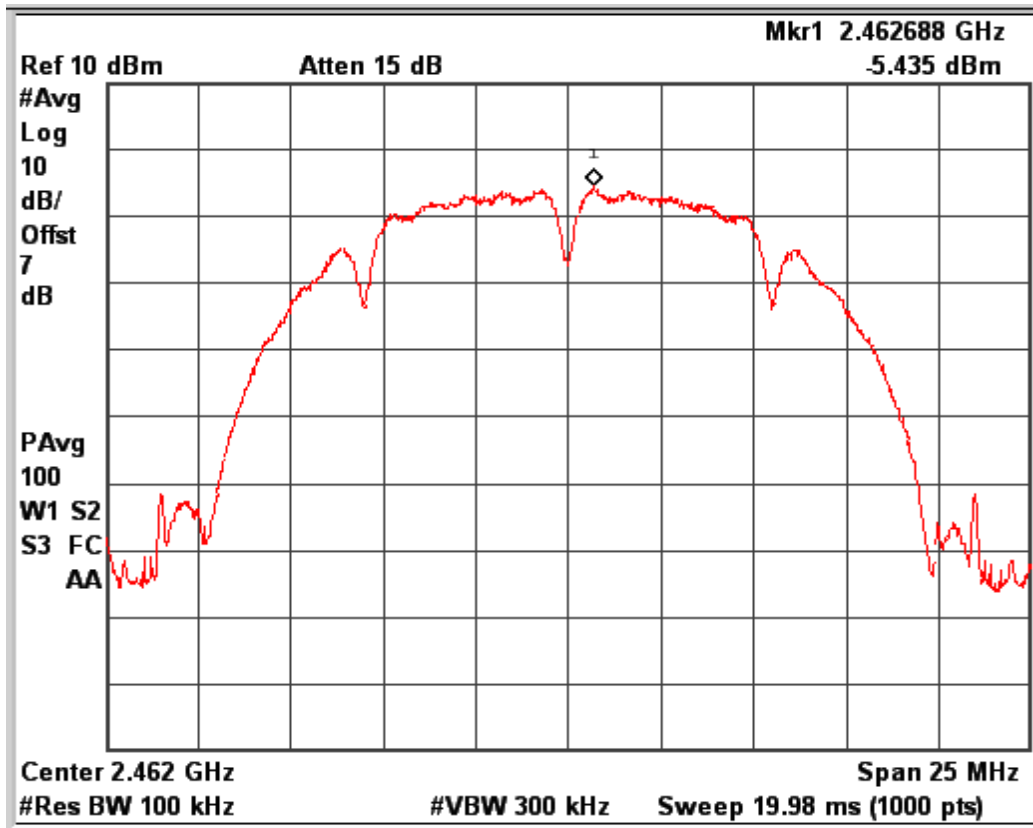
Channel Frequency: 2412 MHz



Data rate: 1 Mbps

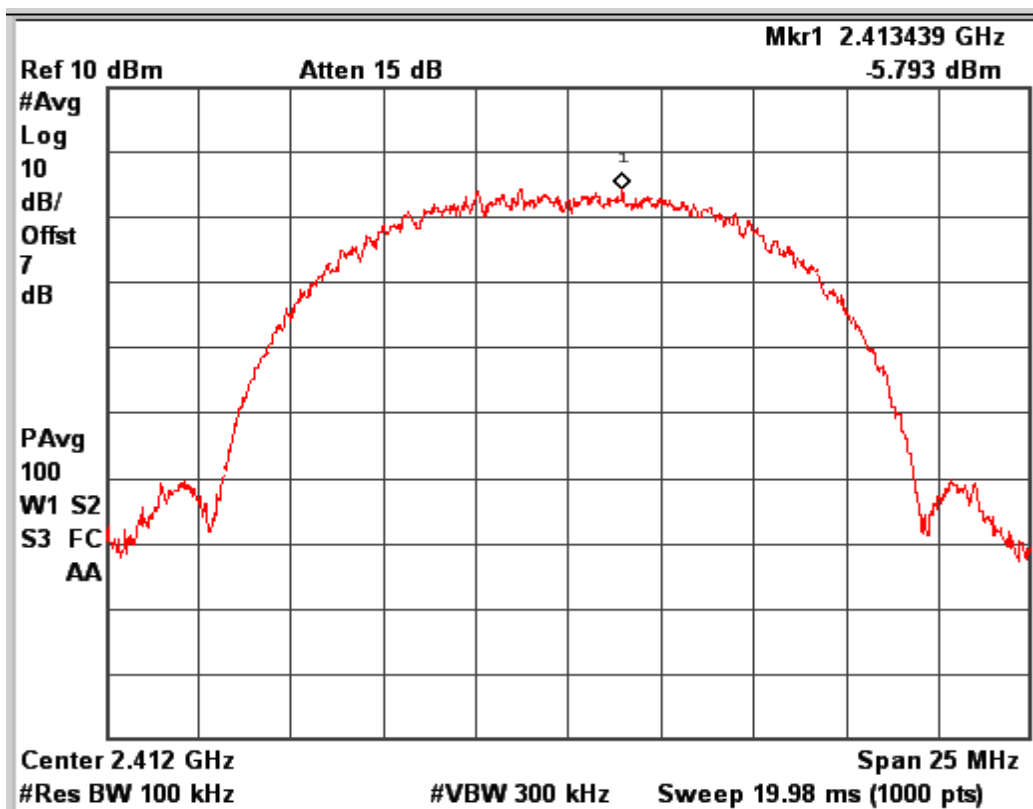
Channel Frequency: 2437 MHz

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Data rate: 1 Mbps

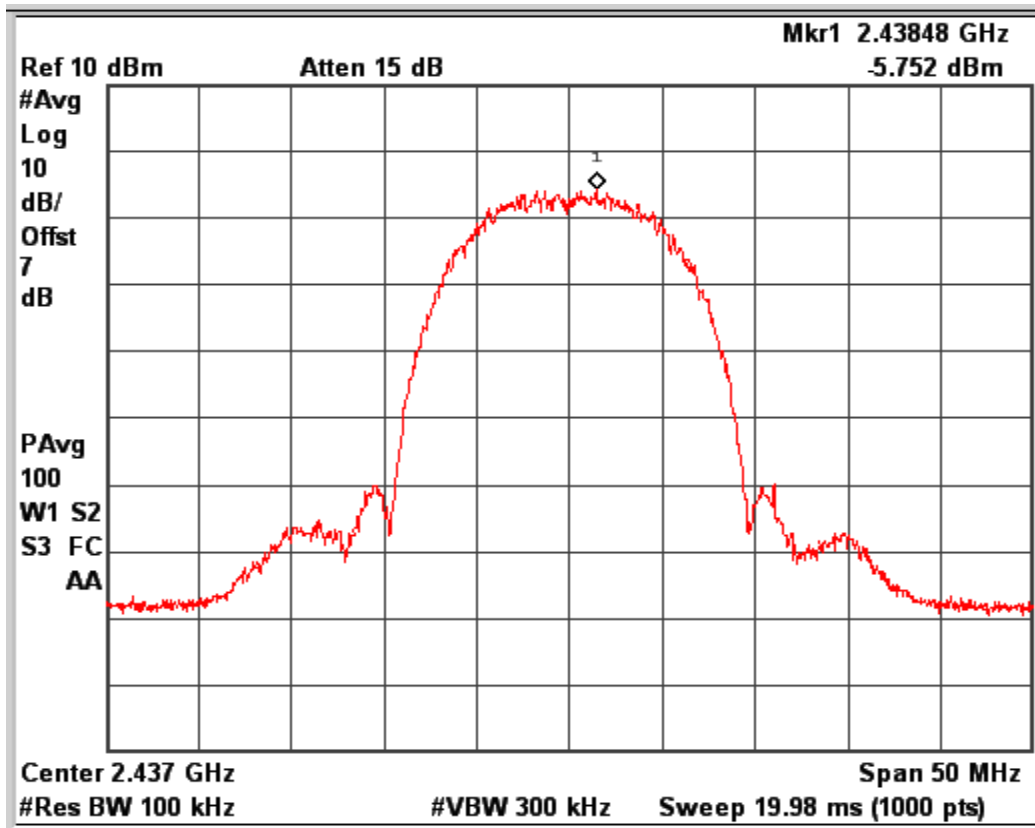
Channel Frequency: 2462 MHz



Data rate: 11 Mbps

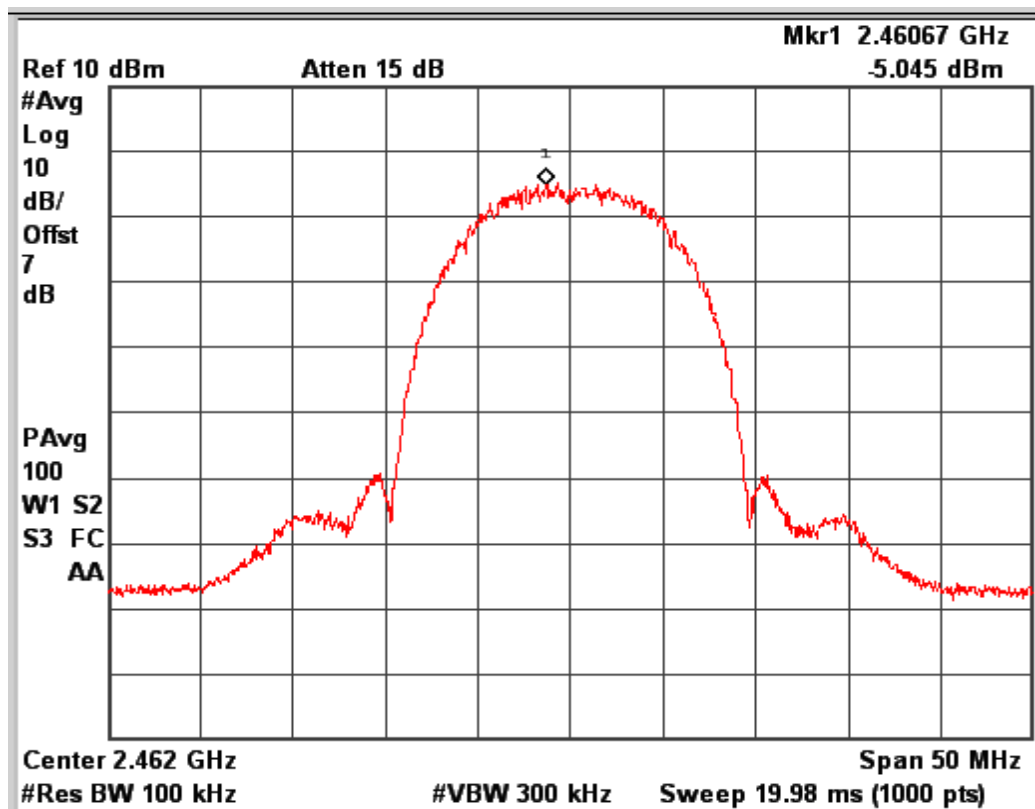
Channel Frequency: 2412 MHz

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Data rate: 11 Mbps

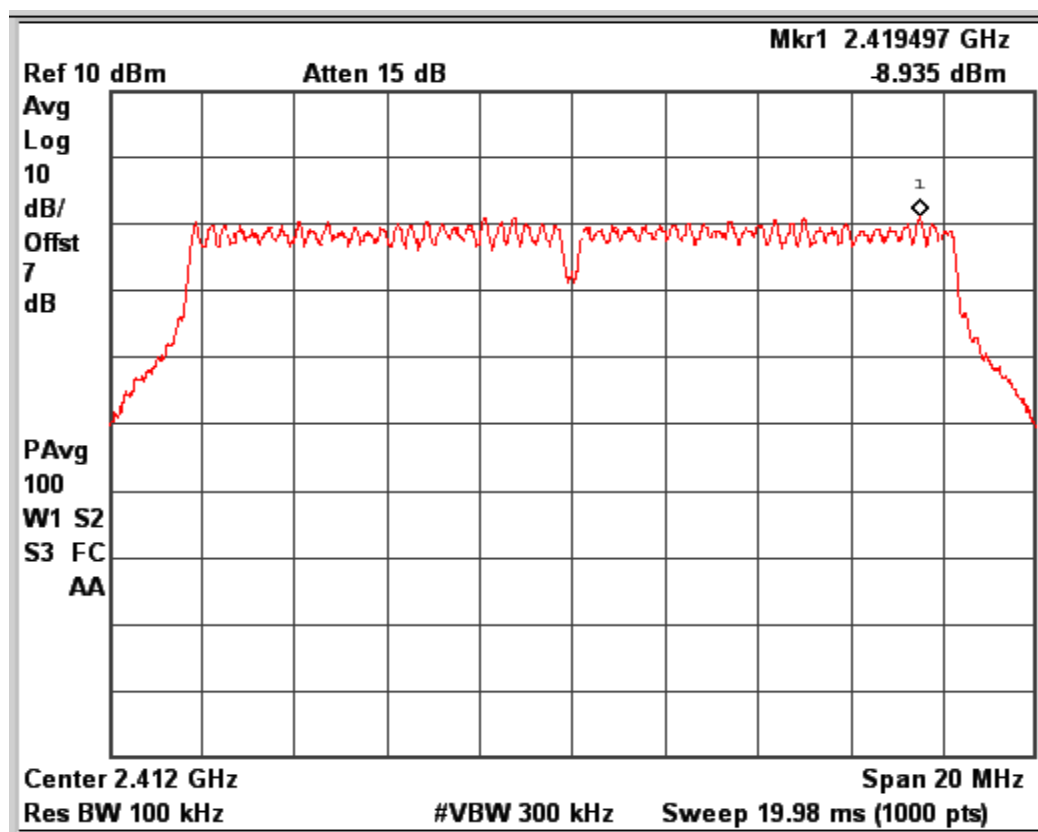
Channel Frequency: 2437 MHz



Data rate: 11 Mbps

Channel Frequency: 2462 MHz

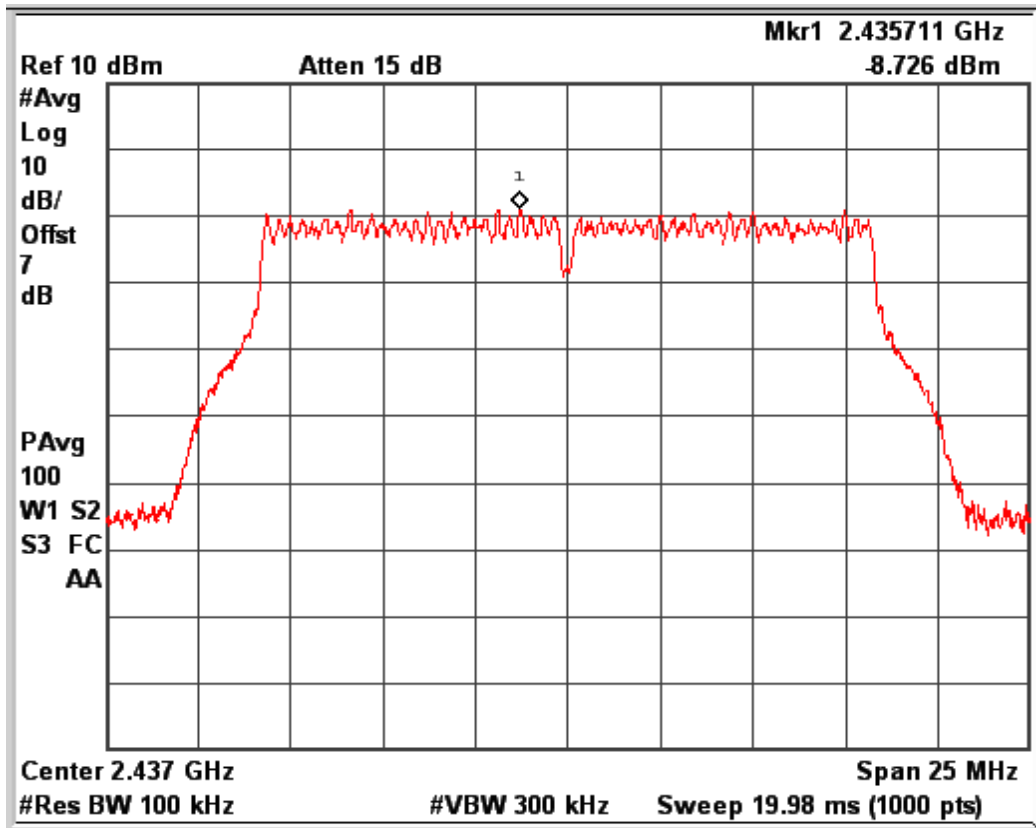
IEEE802.11g					
Data Rate (Mbps)	Channel Frequency (MHz)	Measured PSD (dBm)	Measure & Add $10 \cdot \log(2)$	Total PSD (dBm)	Limit (dBm)
6	2412	-8.935	3.01	-5.925	8
	2437	-8.726	3.01	-5.716	8
	2462	-9.037	3.01	-6.027	8
24	2412	-7.215	3.01	-4.205	8
	2437	-7.139	3.01	-4.129	8
	2462	-6.667	3.01	-3.657	8
54	2412	-5.379	3.01	-2.369	8
	2437	-5.268	3.01	-2.258	8
	2462	-4.956	3.01	-1.946	8



Data rate: 6 Mbps

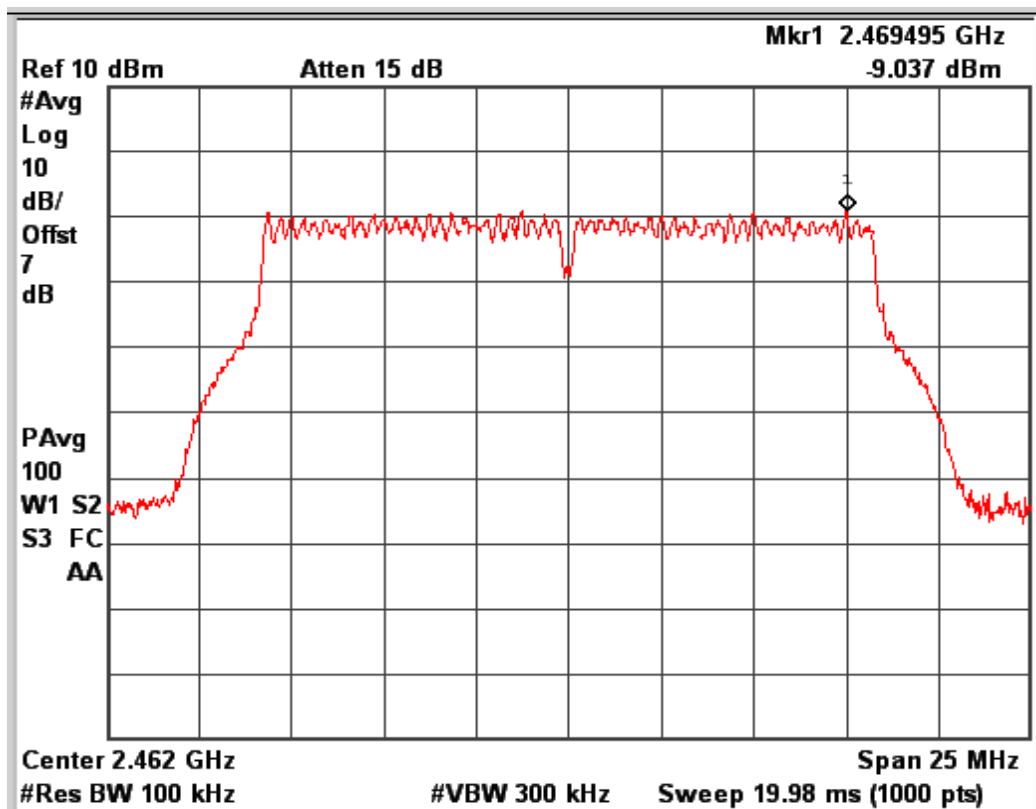
Channel Frequency: 2412 MHz

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Data rate: 6 Mbps

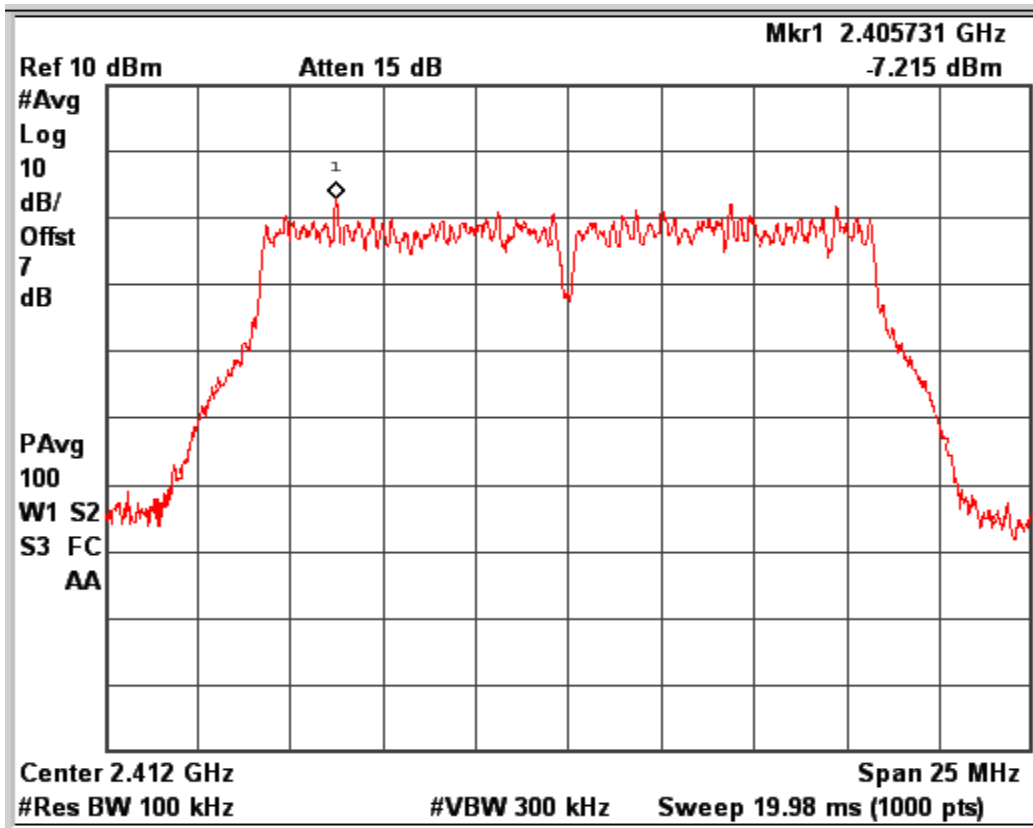
Channel Frequency: 2437 MHz



Data rate: 6 Mbps

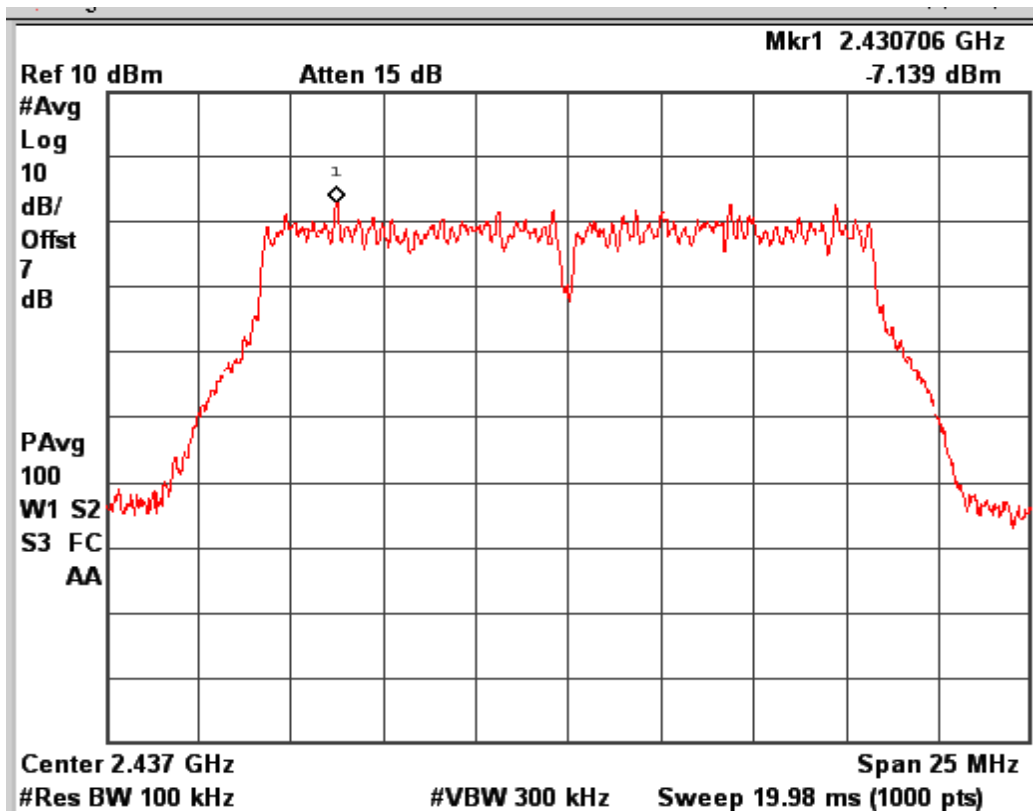
Channel Frequency: 2462 MHz





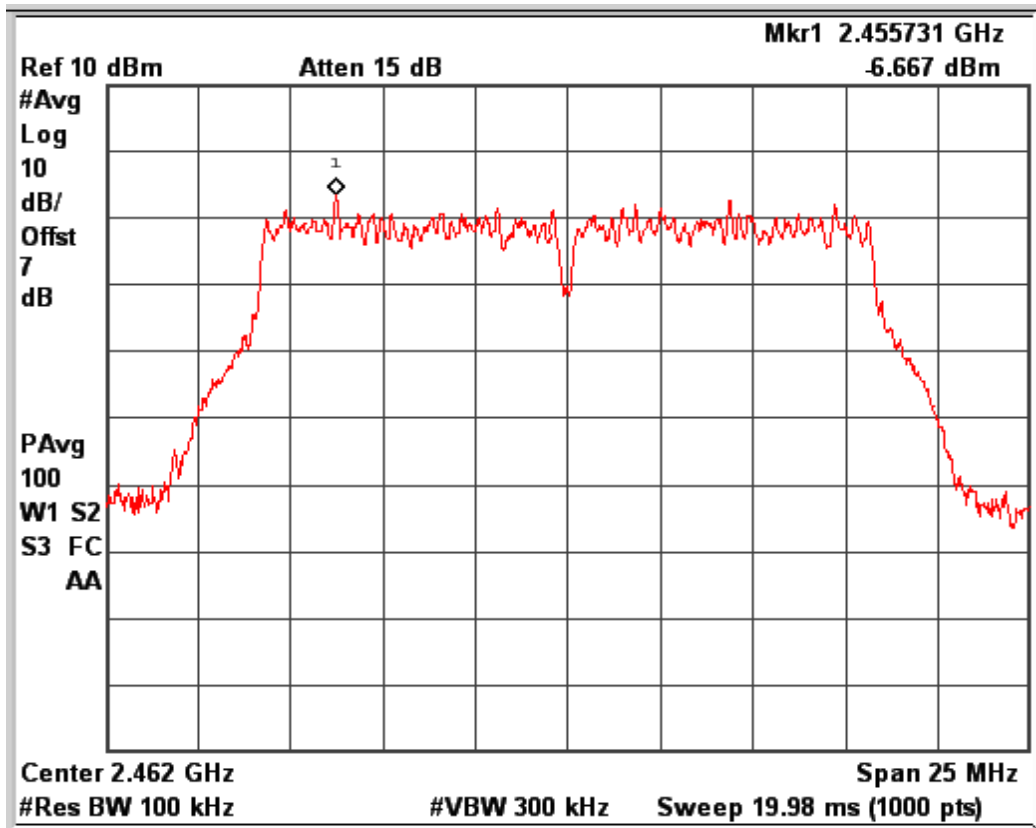
Data rate: 24 Mbps

Channel Frequency: 2412 MHz



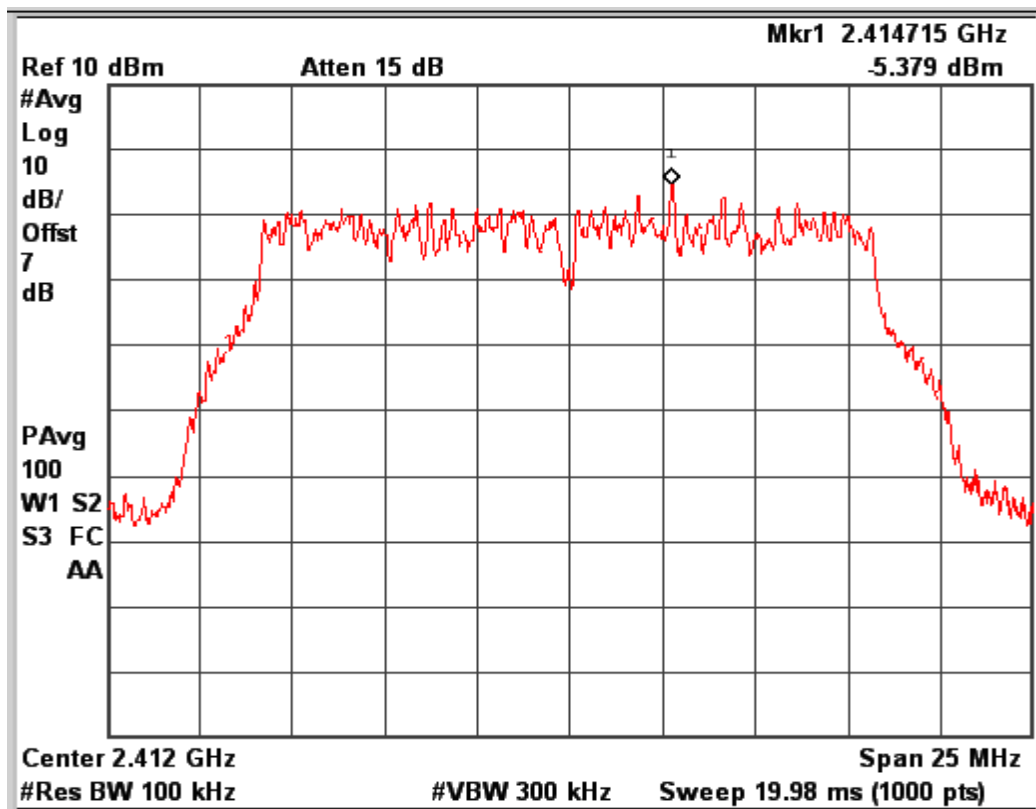
Data rate: 24 Mbps

Channel Frequency: 2437 MHz



Data rate: 24 Mbps

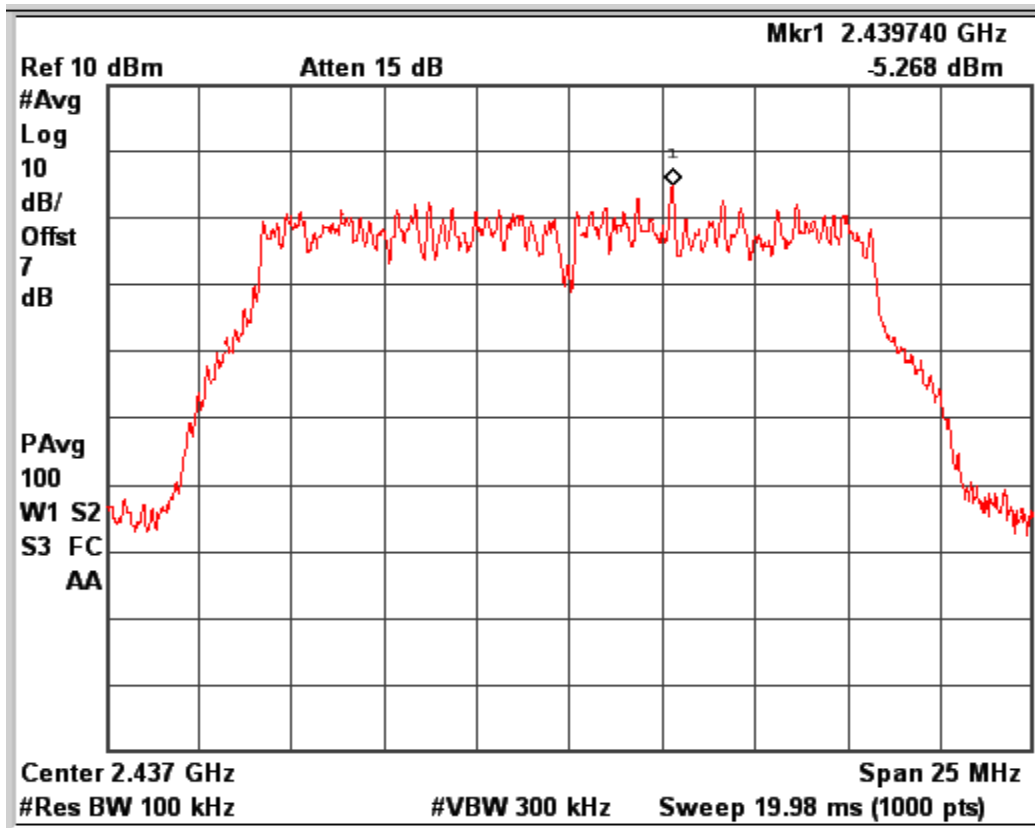
Channel Frequency: 2462 MHz



Data rate: 54 Mbps

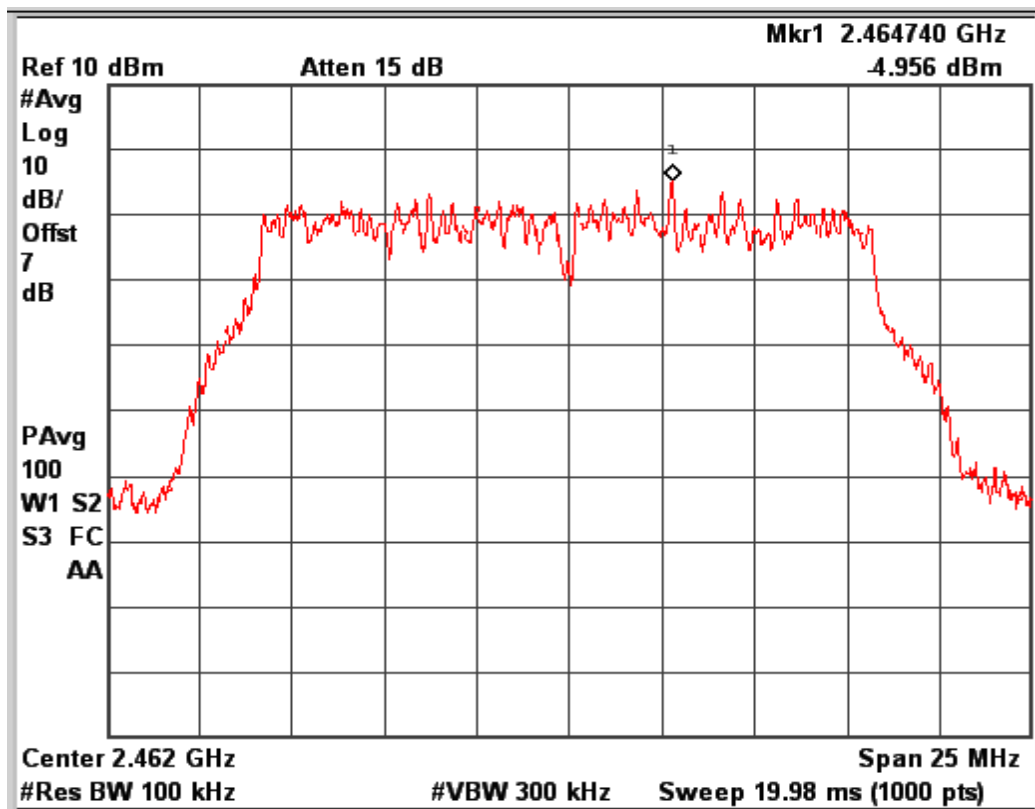
Channel Frequency: 2412 MHz

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Data rate: 54 Mbps

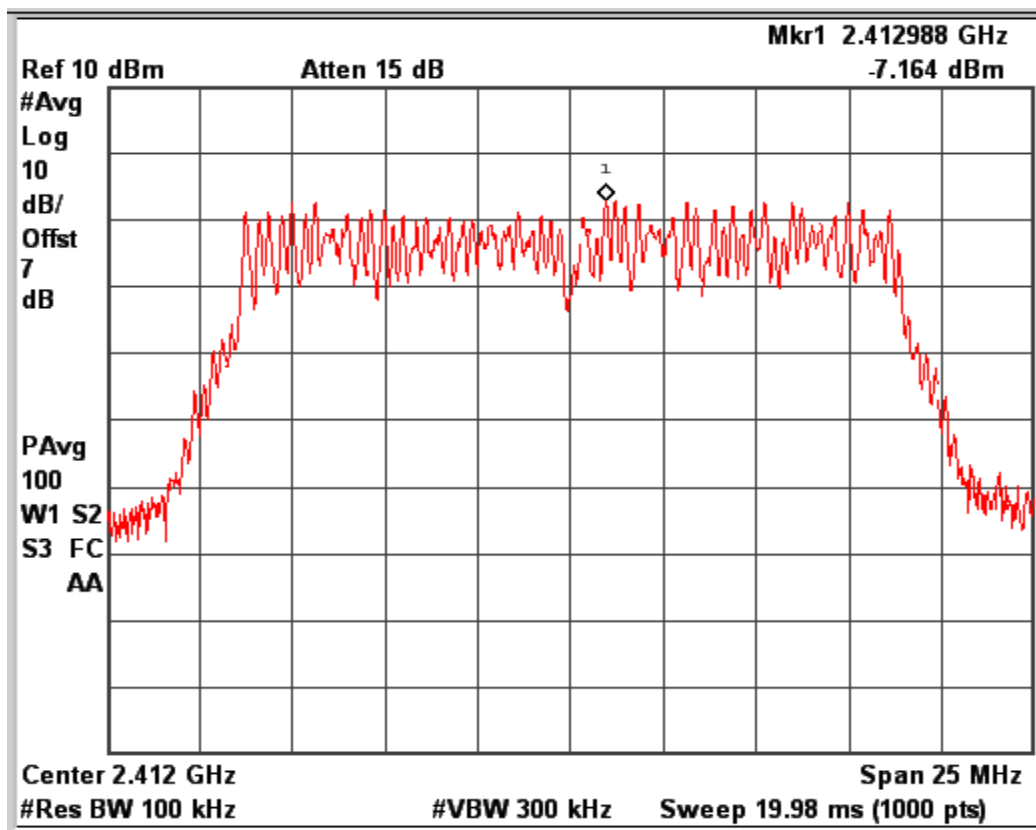
Channel Frequency: 2437 MHz



Data rate: 54 Mbps

Channel Frequency: 2462 MHz

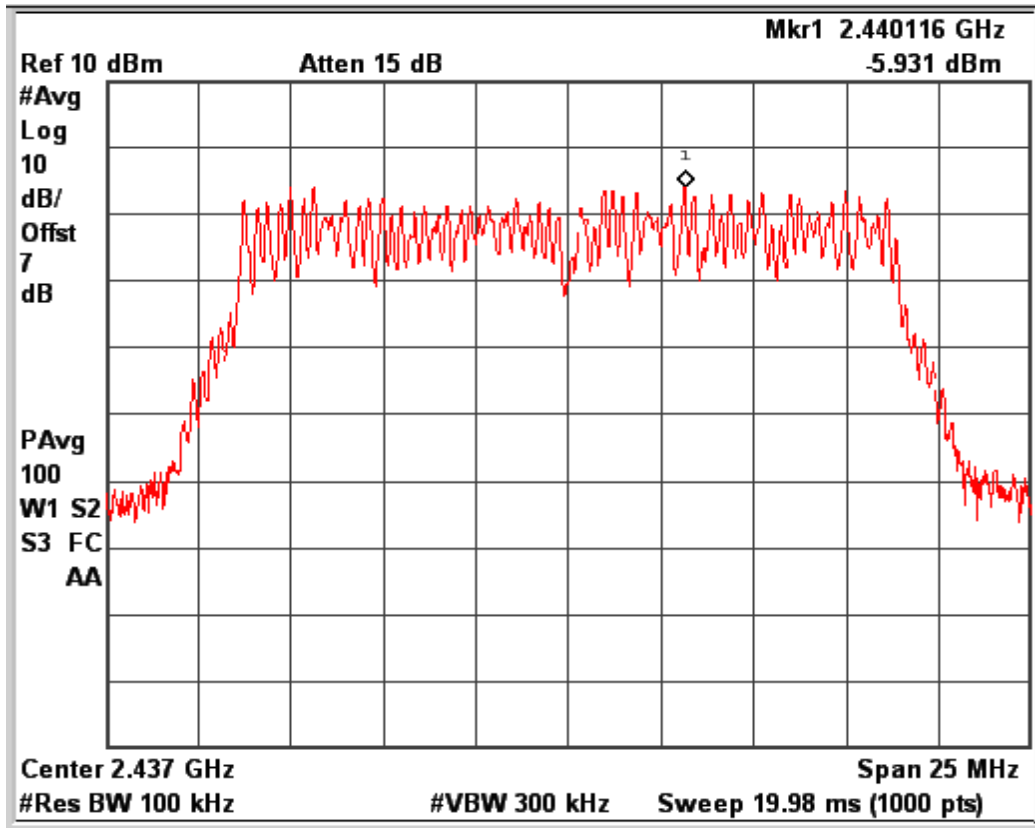
IEEE802.11nHT20					
Data Rate (Mbps)	Channel Frequency (MHz)	Total PSD (dBm)	Measure & Add $10 \cdot \log(2)$	Total PSD (dBm)	Limit (dBm)
MCS0	2412	-7.164	3.01	-4.154	8
	2437	-5.931	3.01	-2.921	8
	2462	-6.029	3.01	-3.019	8
MCS7	2412	-7.043	3.01	-4.033	8
	2437	-6.071	3.01	-3.061	8
	2462	-5.658	3.01	-2.648	8
MCS15	2412	-7.129	3.01	-4.119	8
	2437	-5.87	3.01	-2.86	8
	2462	-6.035	3.01	-3.025	8



Data rate: MCS0

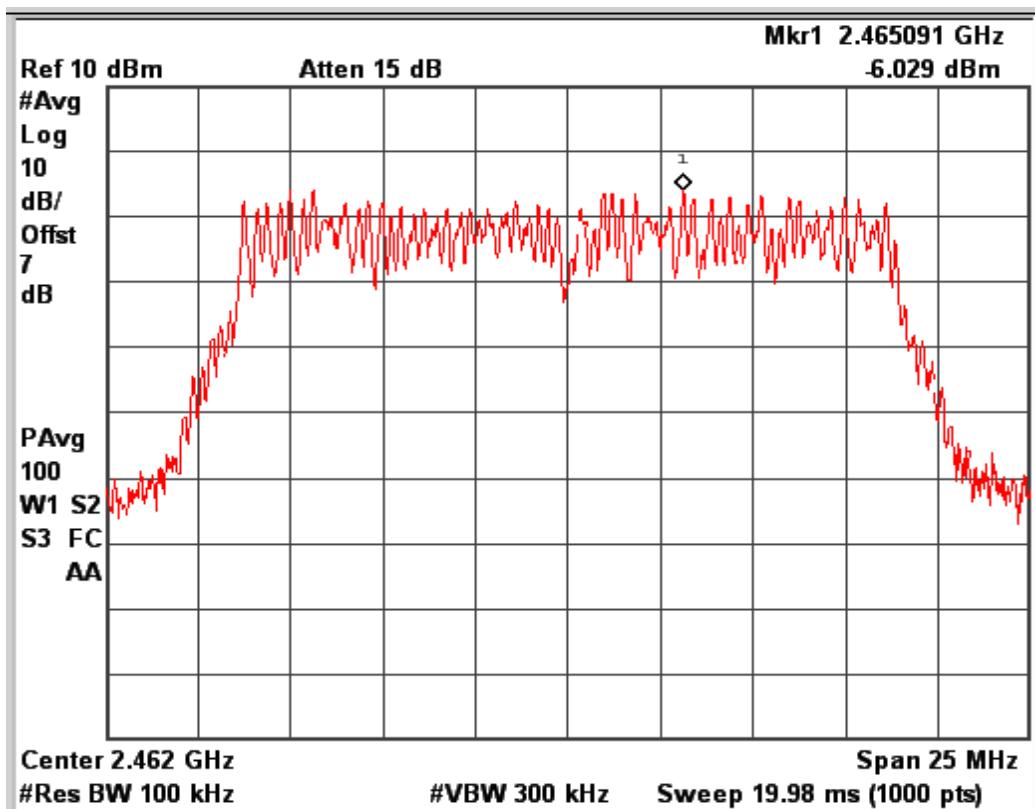
Channel Frequency: 2412 MHz

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Data rate: MCS0

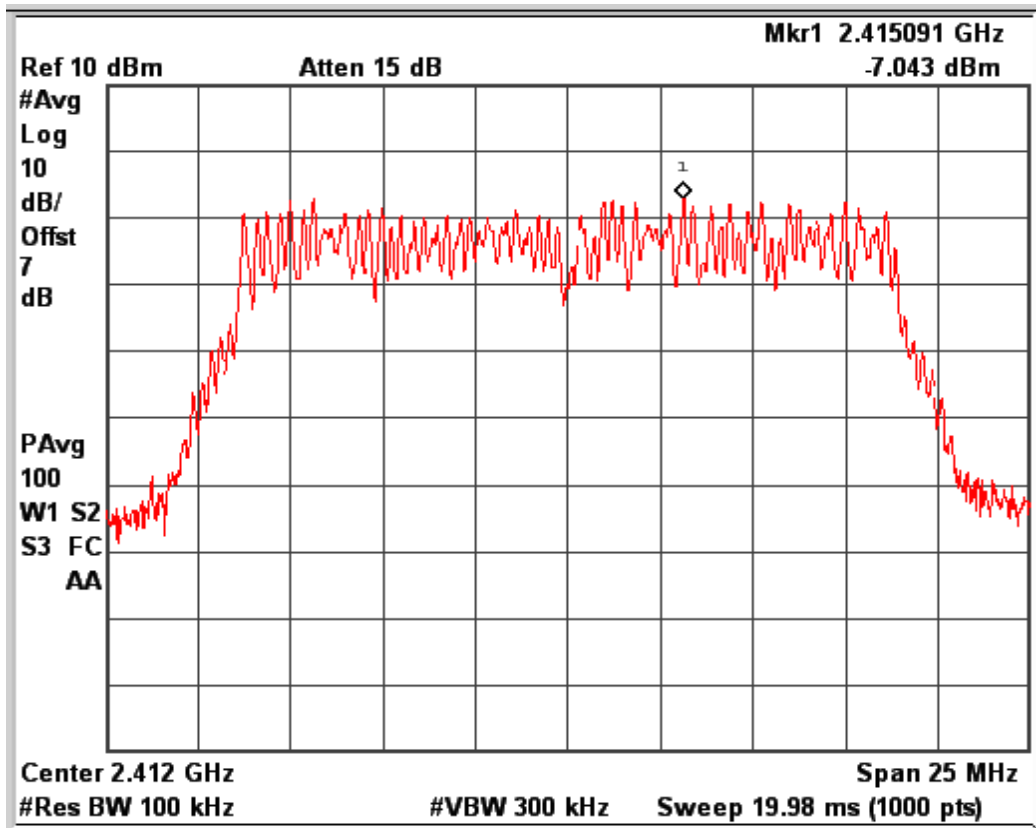
Channel Frequency: 2437 MHz



Data rate: MCS0

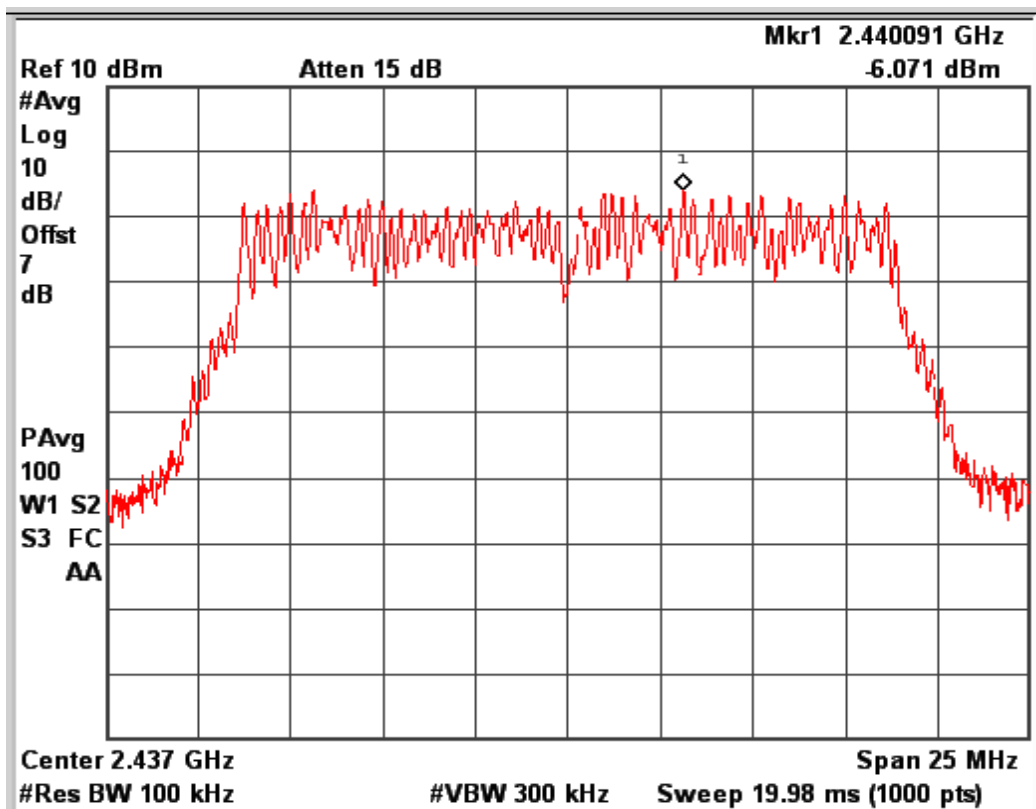
Channel Frequency: 2462 MHz

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Data rate: MCS7

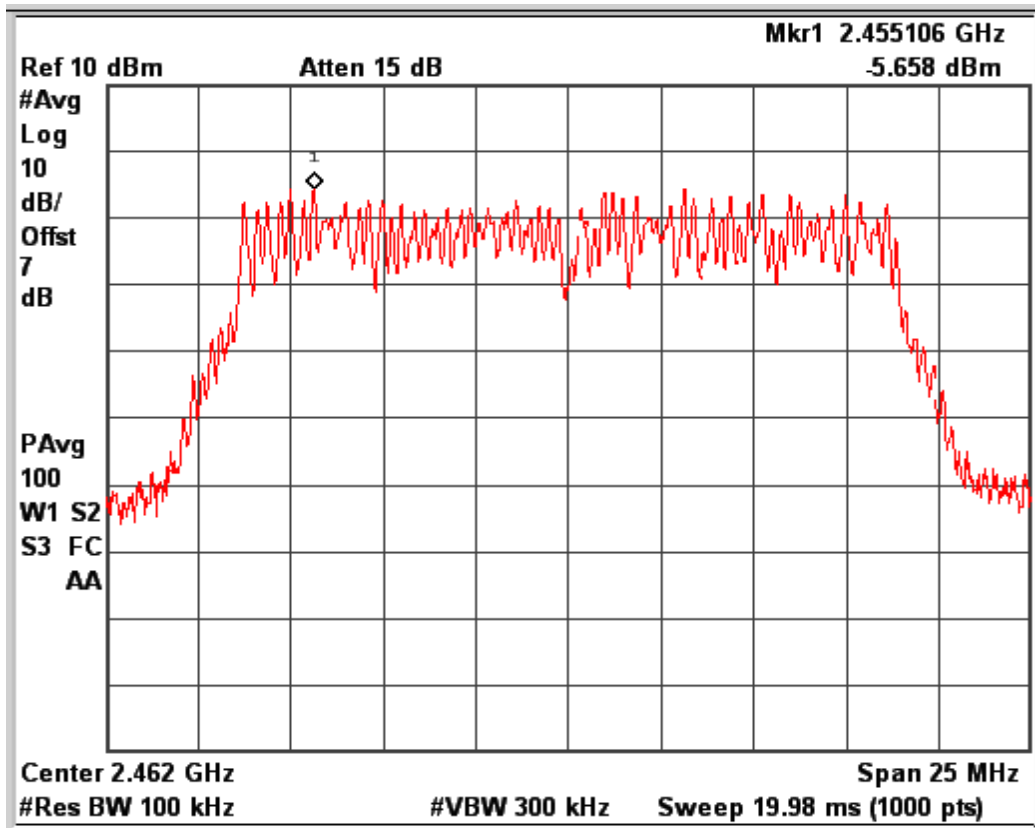
Channel Frequency: 2412 MHz



Data rate: MCS7

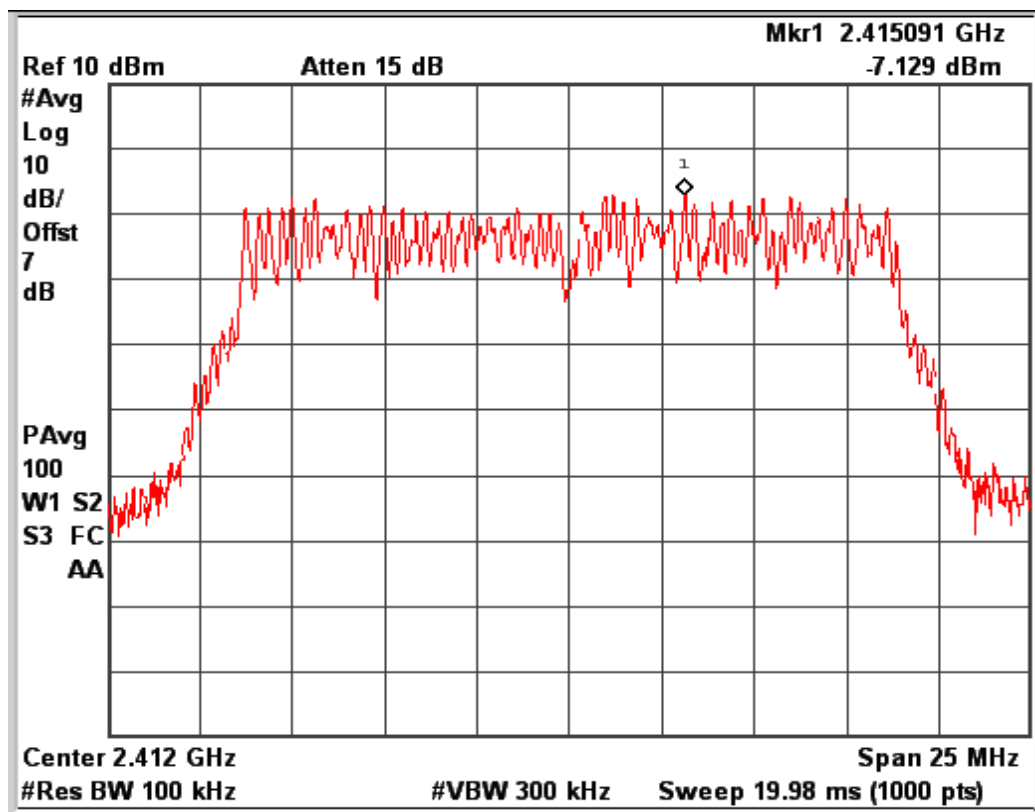
Channel Frequency: 2437 MHz

www.tuv.com



Data rate: MCS7

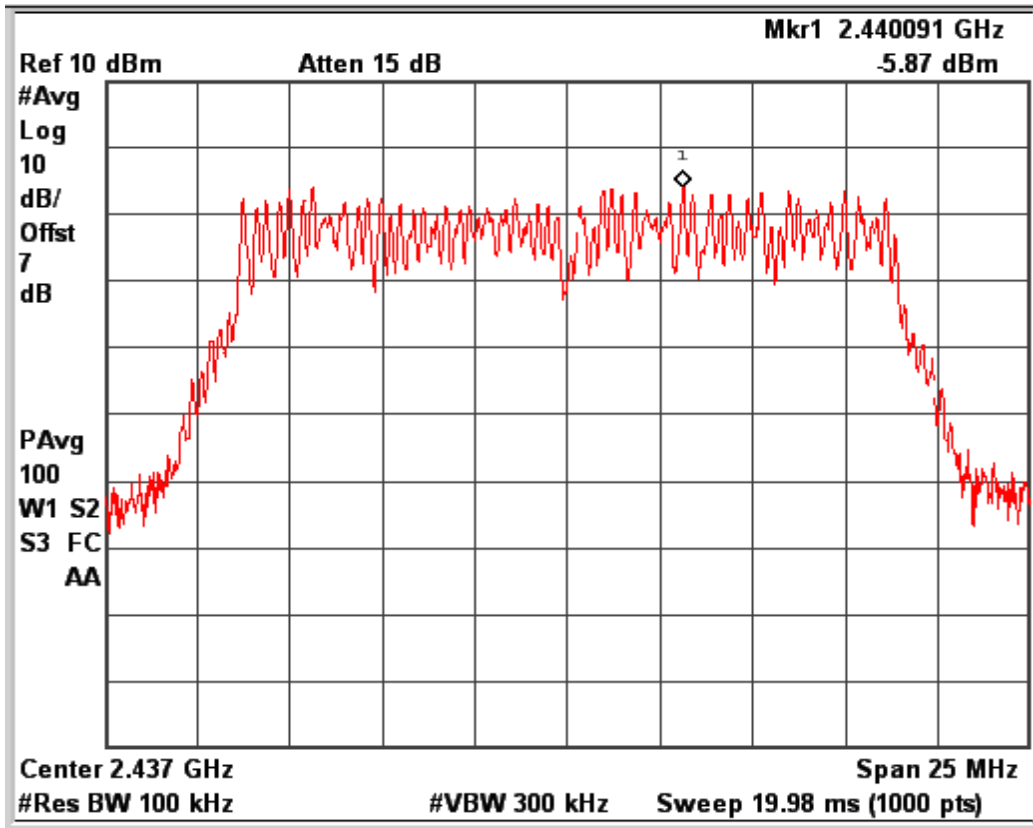
Channel Frequency: 2462 MHz



Data rate: MCS15

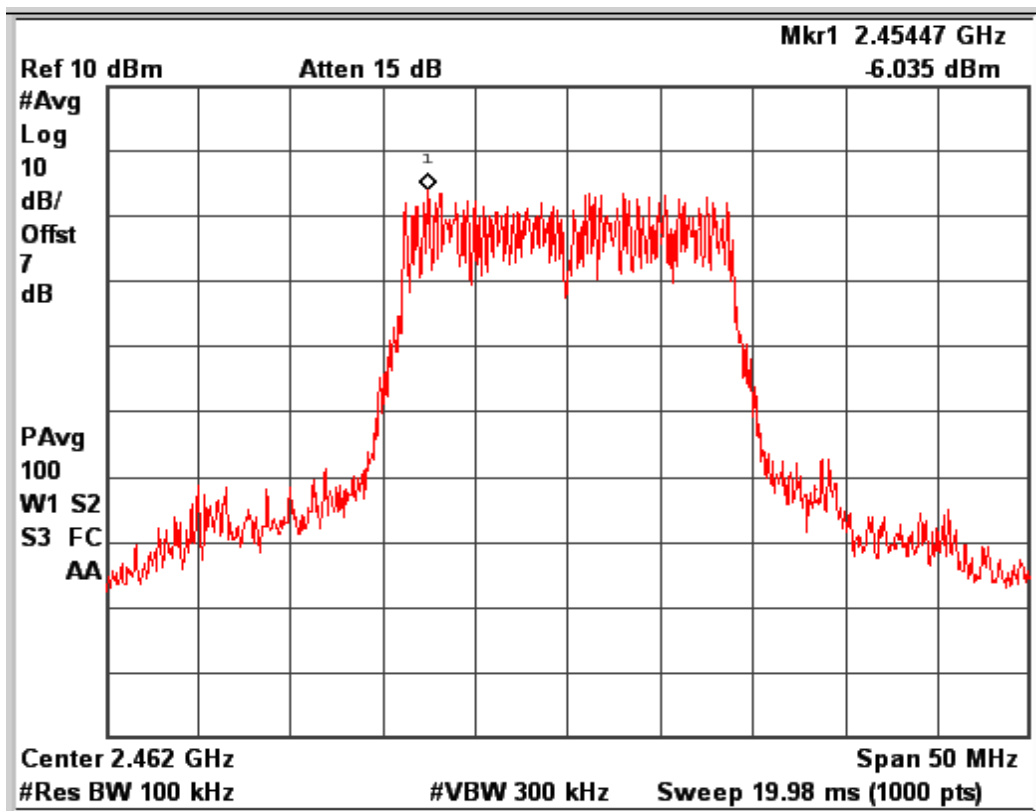
Channel Frequency: 2412 MHz

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Data rate: MCS15

Channel Frequency: 2437 MHz

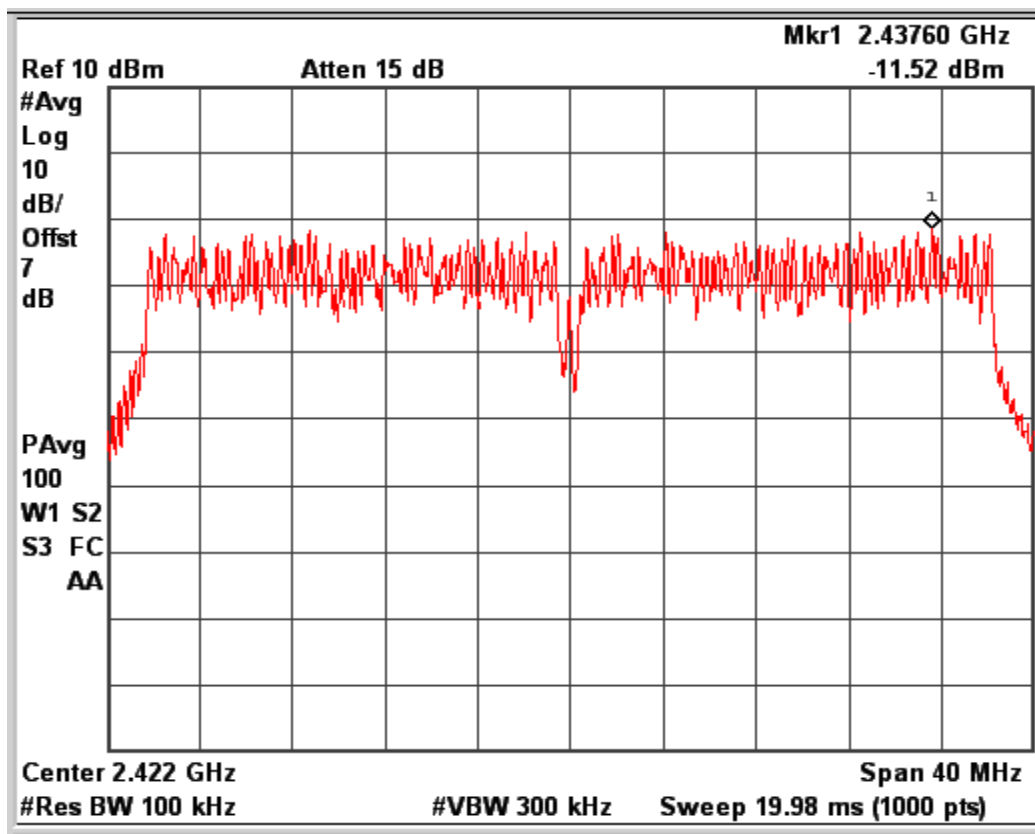


Data rate: MCS15

Channel Frequency: 2462 MHz



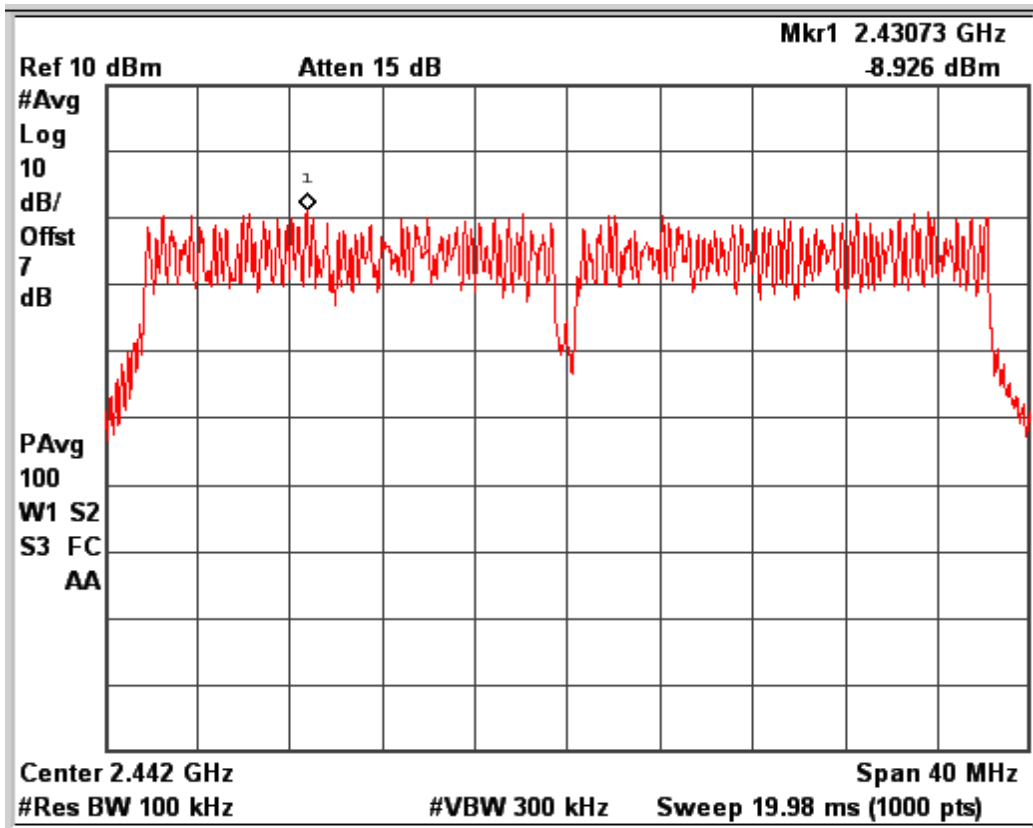
IEEE802.11nHT40					
Data Rate (Mbps)	Channel Frequency (MHz)	Total PSD (dBm)	Measure & Add $10 \cdot \log(2)$	Total PSD (dBm)	Limit (dBm)
MCS0	2422	-11.52	3.01	-8.51	8
	2442	-8.926	3.01	-5.916	8
	2457	-11.82	3.01	-8.81	8
MCS7	2422	-10.57	3.01	-7.56	8
	2442	-7.87	3.01	-4.86	8
	2457	-10.78	3.01	-7.77	8
MCS15	2422	-10.81	3.01	-7.8	8
	2442	-7.269	3.01	-4.259	8
	2457	-10.49	3.01	-7.48	8



Data rate: MCS0

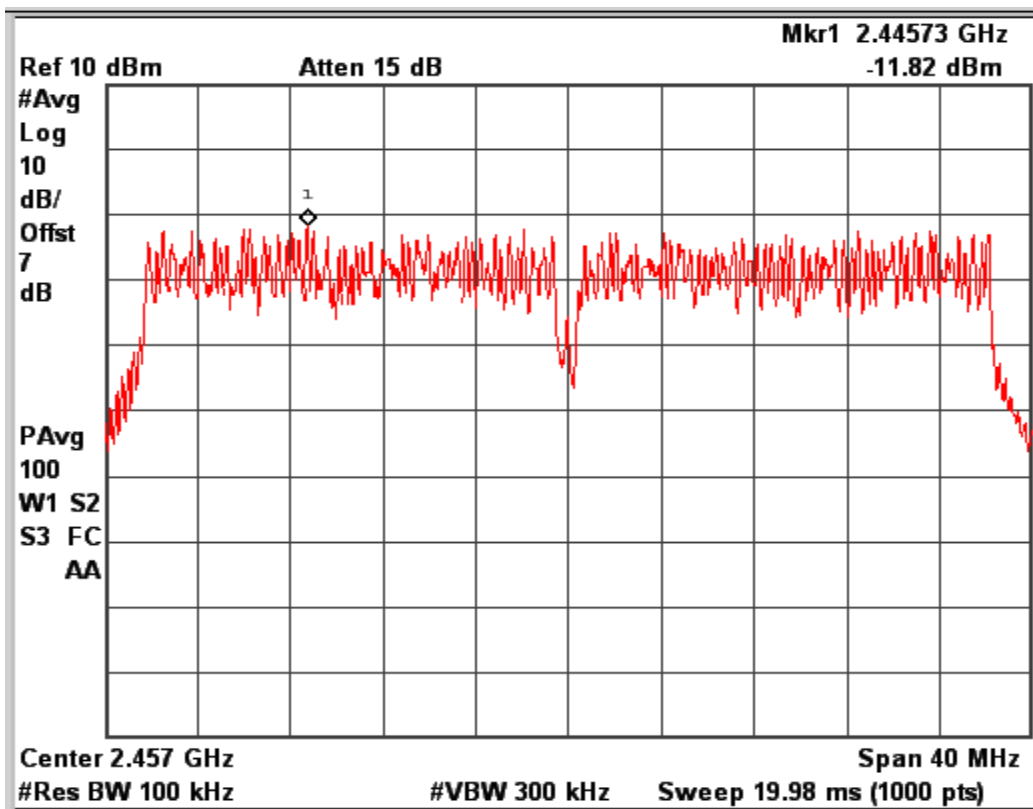
Channel Frequency: 2412 MHz

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Data rate: MCS0

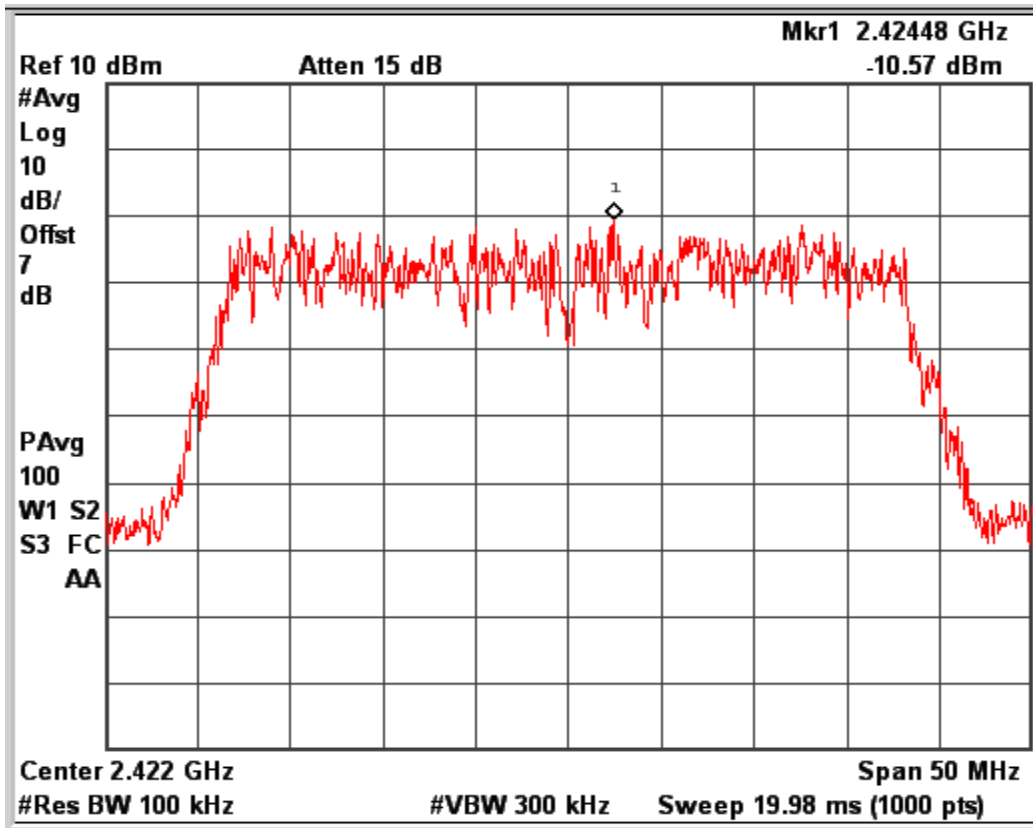
Channel Frequency: 2437 MHz



Data rate: MCS0

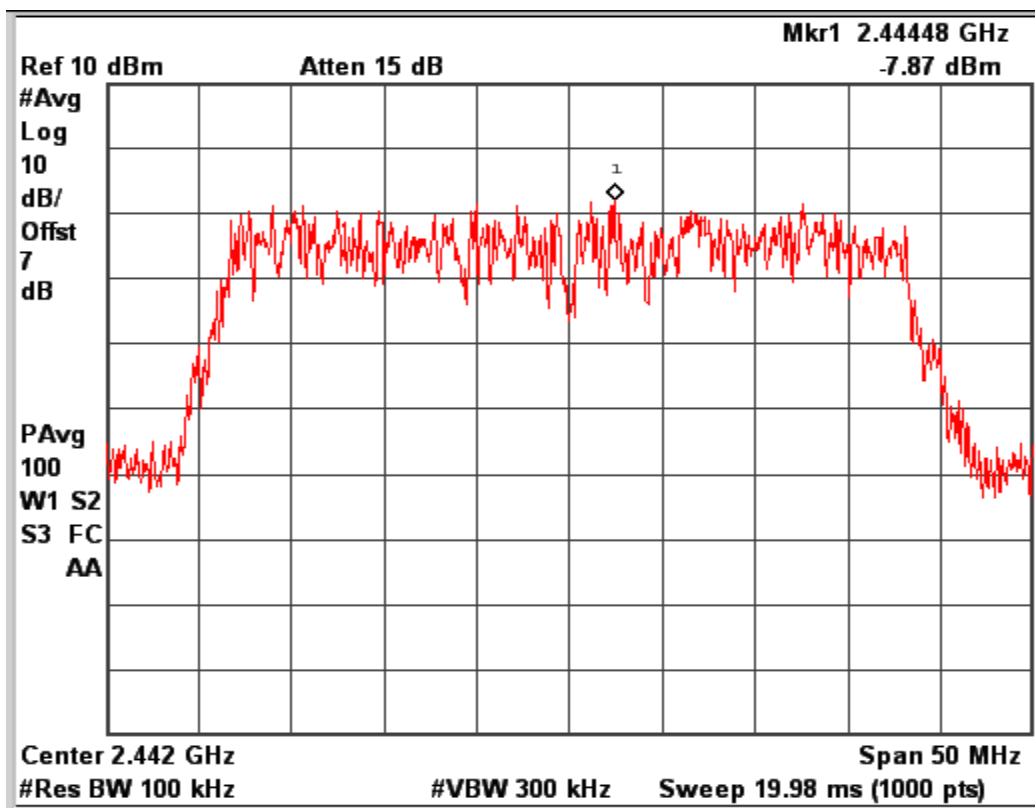
Channel Frequency: 2462 MHz

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Data rate: MCS7

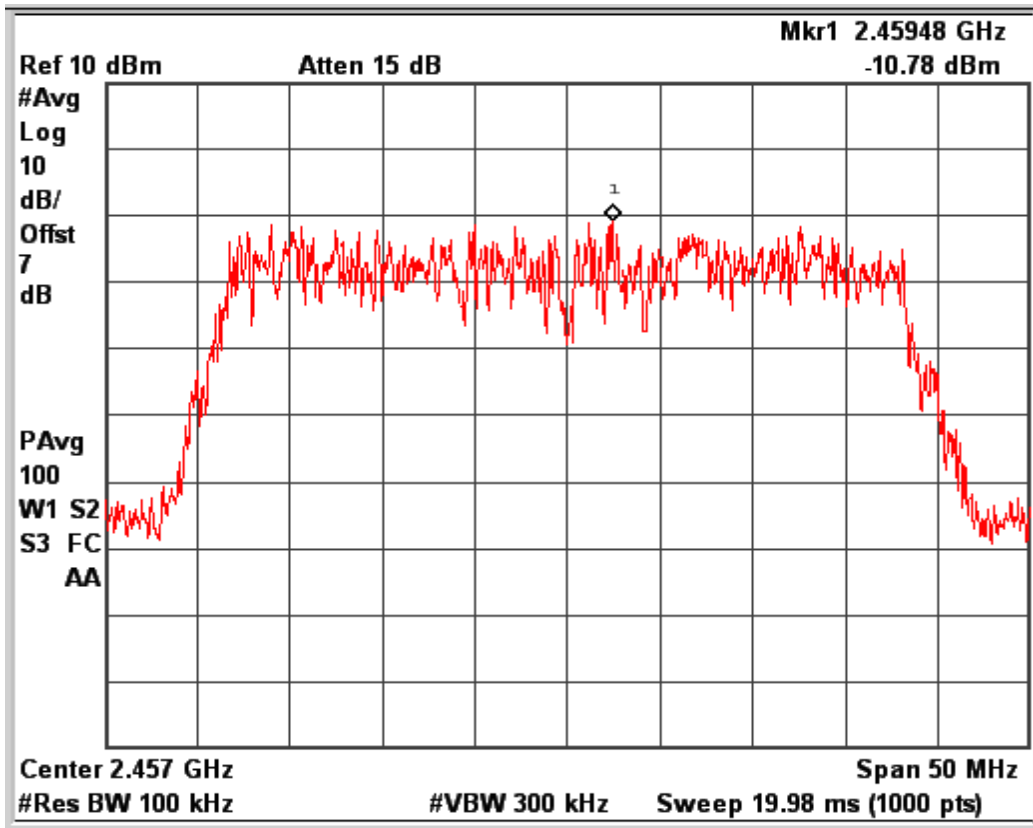
Channel Frequency: 2412 MHz



Data rate: MCS7

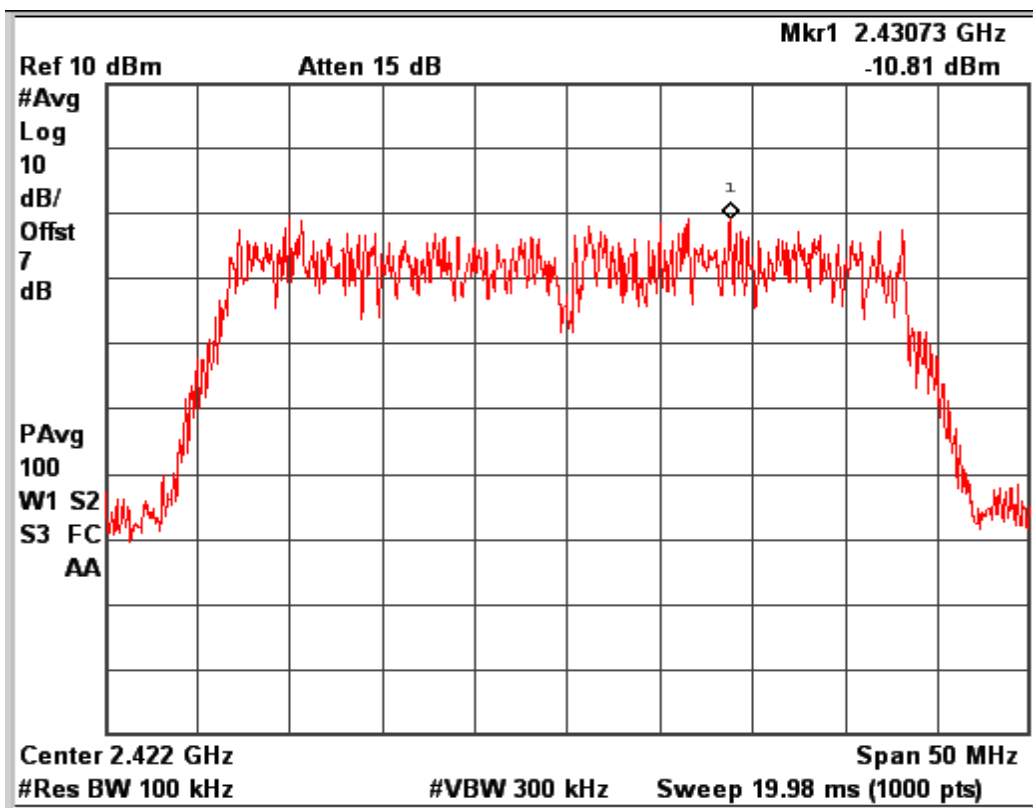
Channel Frequency: 2437 MHz

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Data rate: MCS7

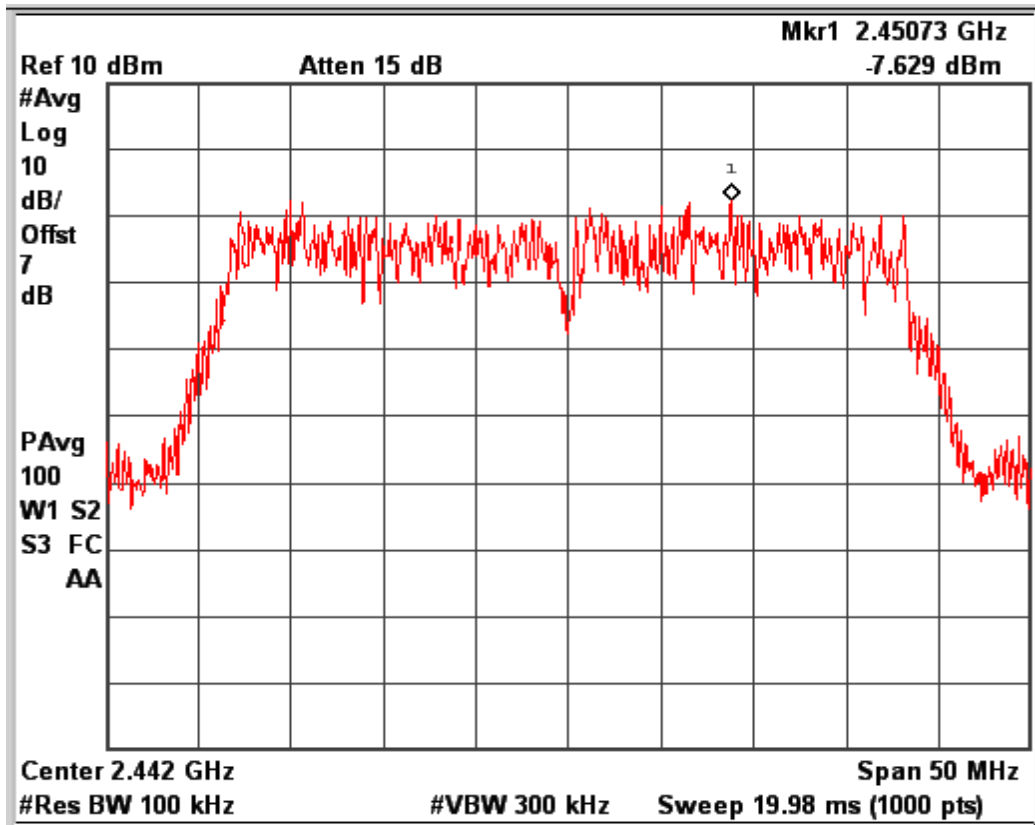
Channel Frequency: 2462 MHz



Data rate: MCS15

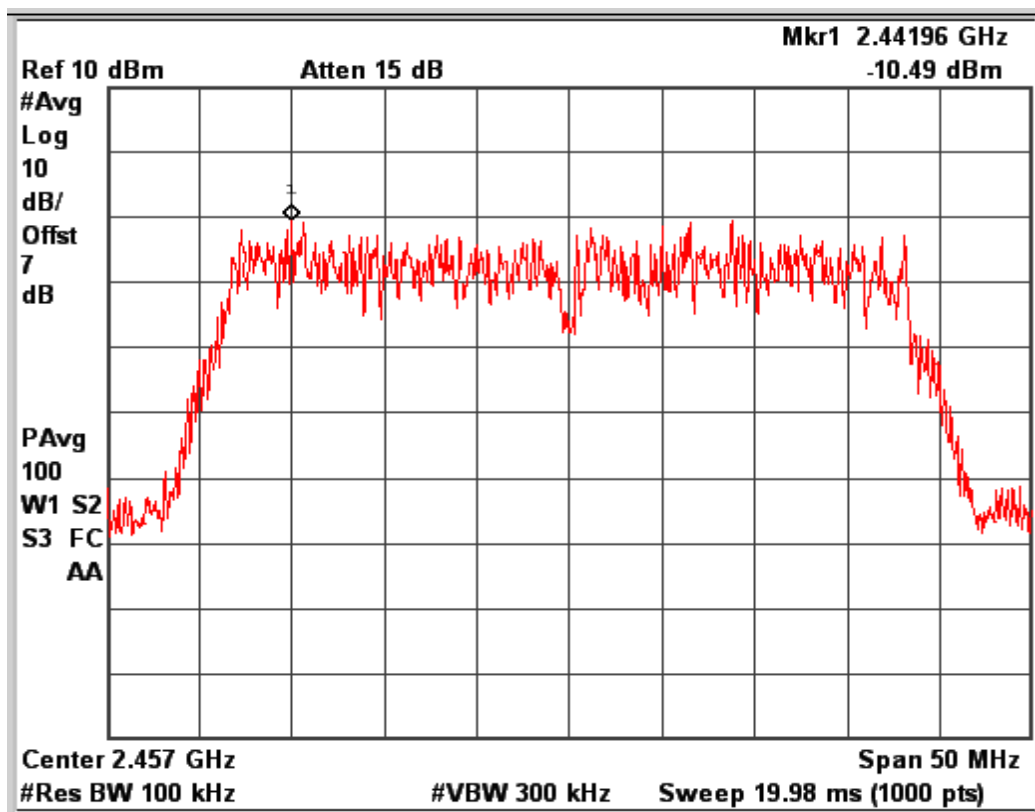
Channel Frequency: 2412 MHz

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Data rate: MCS15

Channel Frequency: 2437 MHz



Data rate: MCS15

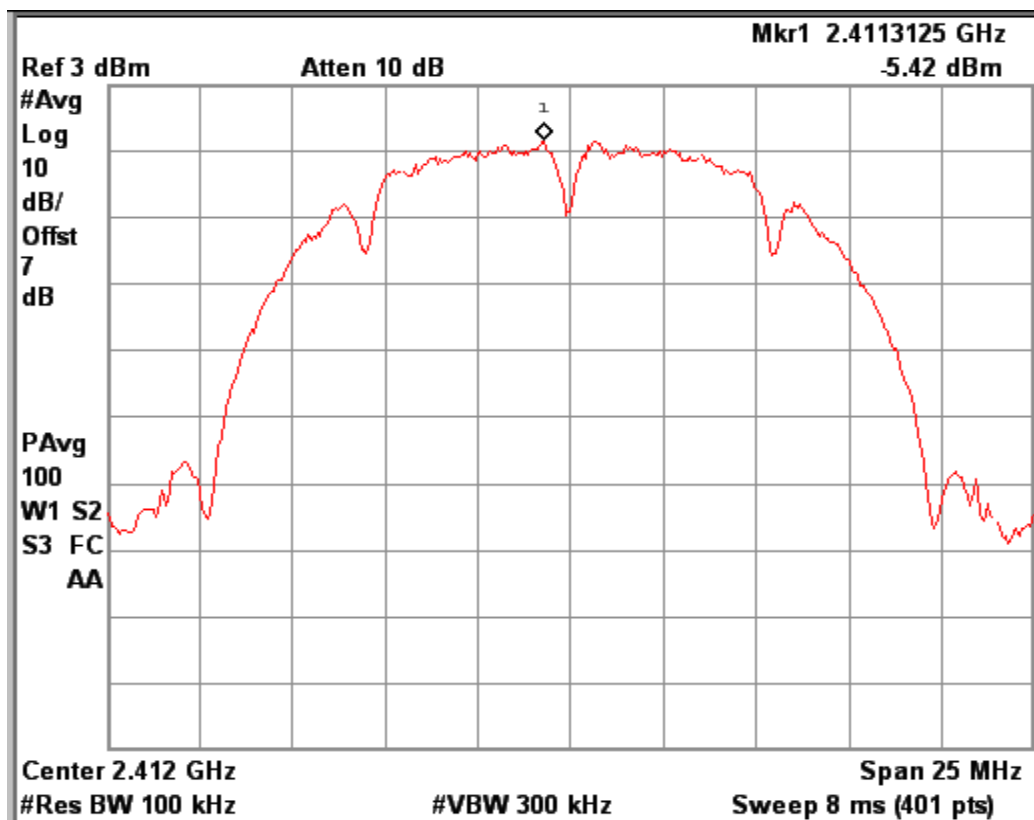
Channel Frequency: 2462 MHz

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### Test Results for Path B

Attenuator (6dB) + cable loss (1dB) = 7dB Considered in the test result

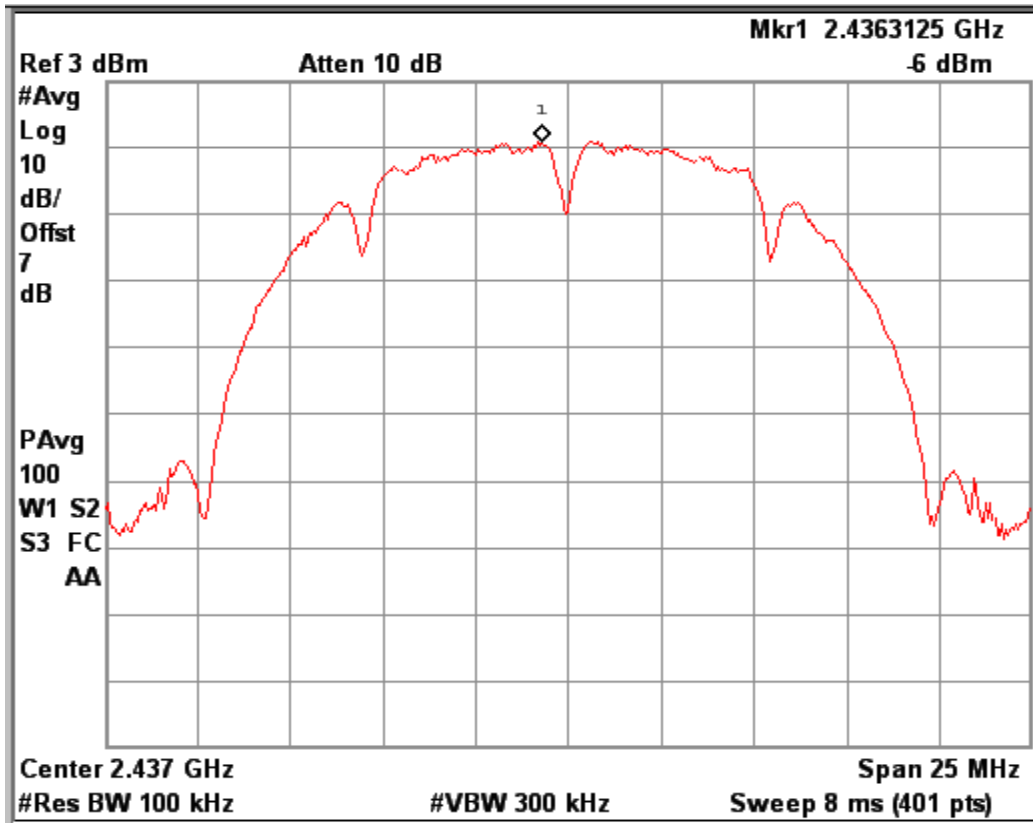
IEEE802.11b					
Data Rate (Mbps)	Channel Frequency (MHz)	Total PSD (dBm)	Measure & Add $10 \cdot \log(2)$	Total PSD (dBm)	Limit (dBm)
1	2412	-5.42	3.01	-2.41	8
	2437	-6.00	3.01	-2.99	8
	2462	-5.06	3.01	-2.05	8
11	2412	-5.24	3.01	-2.23	8
	2437	-5.61	3.01	-2.60	8
	2462	-4.52	3.01	-1.51	8



Data rate: 1 Mbps

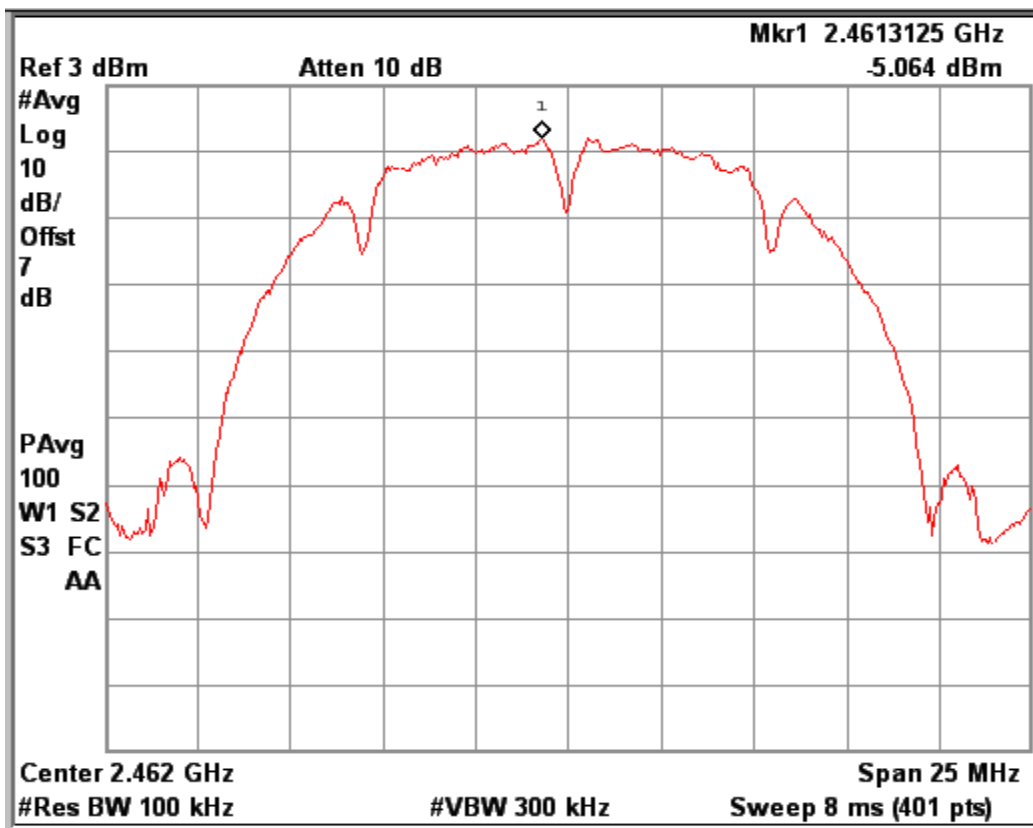
Channel Frequency: 2412 MHz

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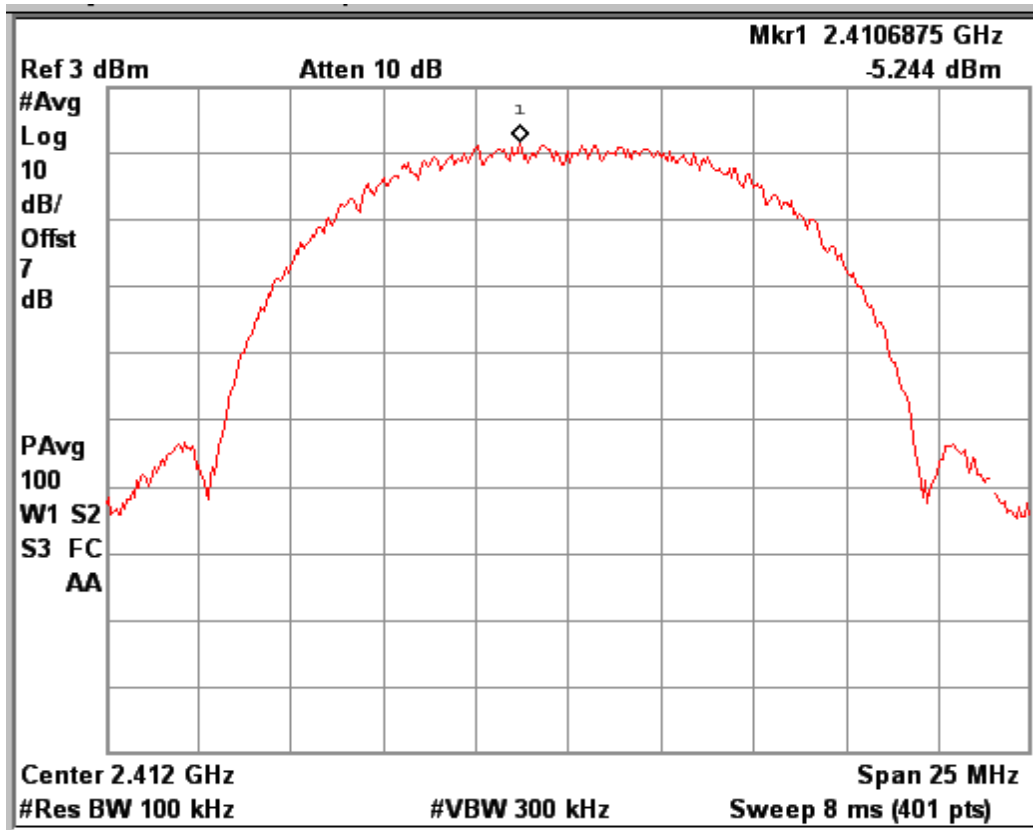
Data rate: 1 Mbps

Channel Frequency: 2437 MHz



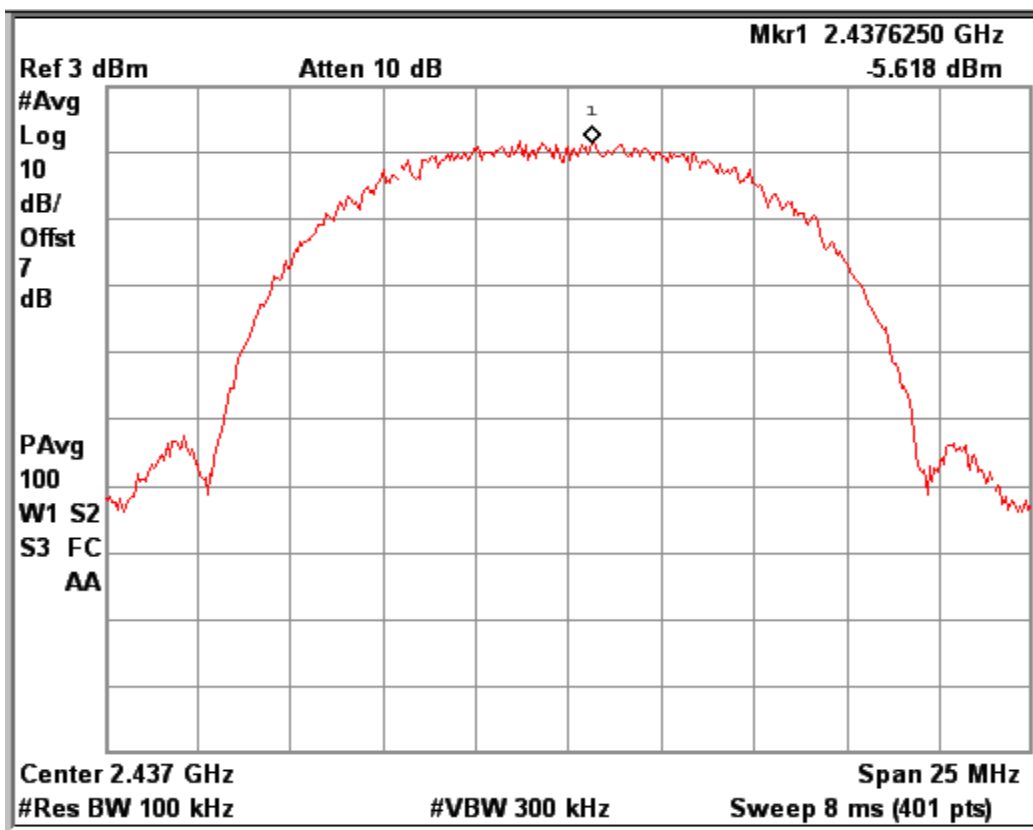
Data rate: 1 Mbps

Channel Frequency: 2462 MHz



Data rate: 11 Mbps

Channel Frequency: 2412 MHz

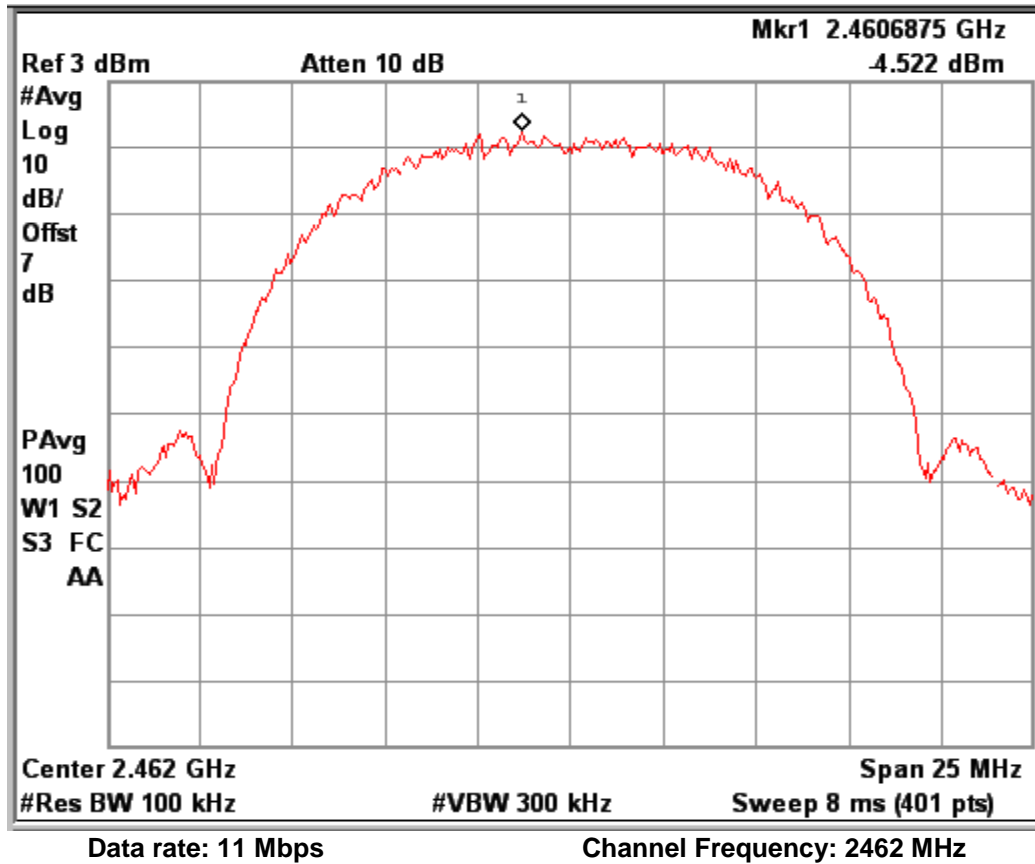


Data rate: 11 Mbps

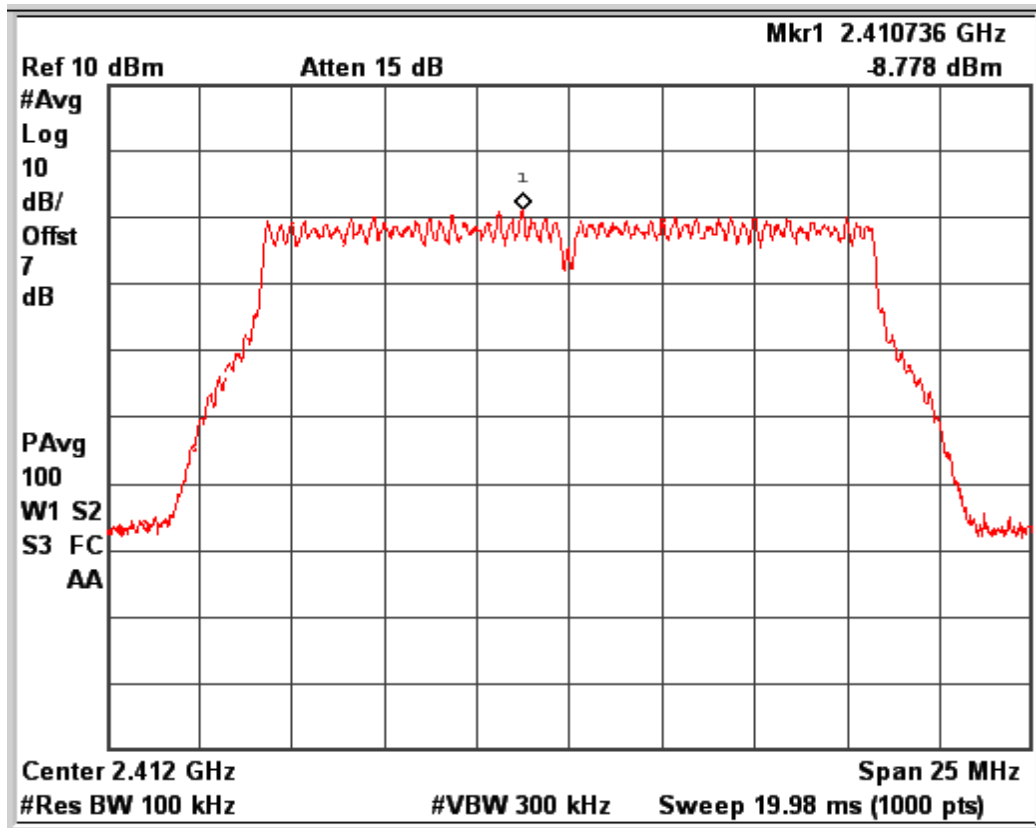
Channel Frequency: 2437 MHz



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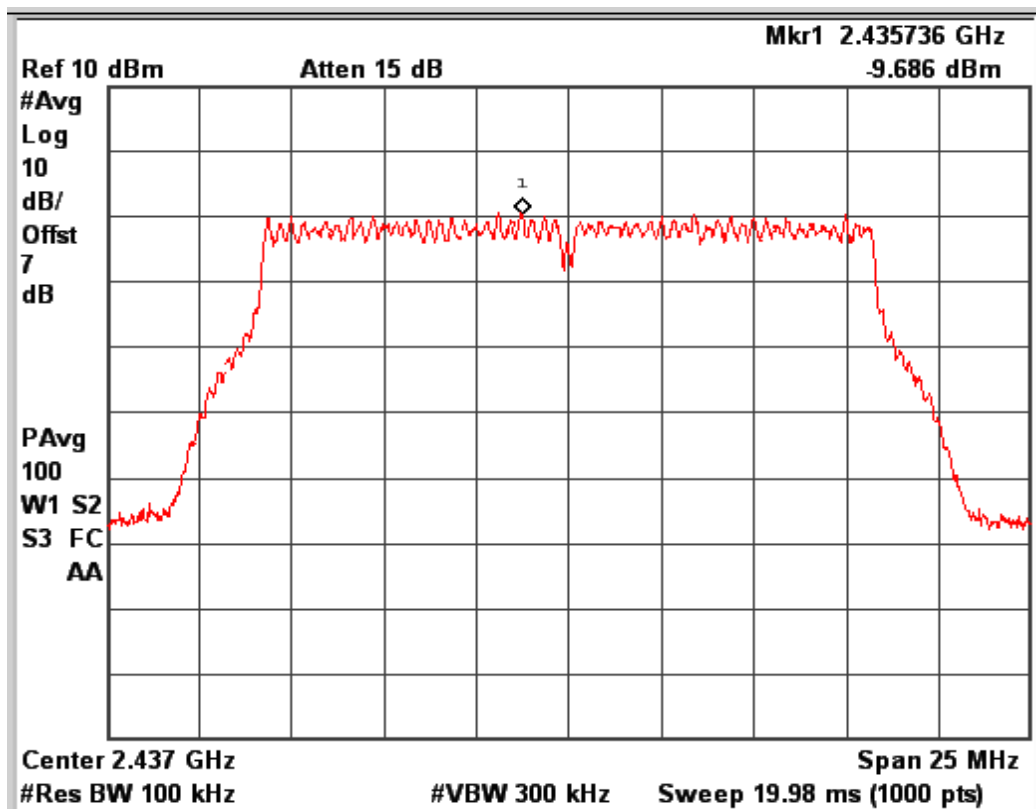


IEEE802.11g					
Data Rate (Mbps)	Channel Frequency (MHz)	Total PSD (dBm)	Measure & Add $10 \cdot \log(2)$	Total PSD (dBm)	Limit (dBm)
6	2412	-8.778	3.01	-5.768	8
	2437	-9.686	3.01	-6.676	8
	2462	-7.873	3.01	-4.863	8
24	2412	-7.312	3.01	-4.302	8
	2437	-7.173	3.01	-4.163	8
	2462	-7.08	3.01	-4.07	8
54	2412	-4.985	3.01	-1.975	8
	2437	-5.15	3.01	-2.14	8
	2462	-5.202	3.01	-2.192	8



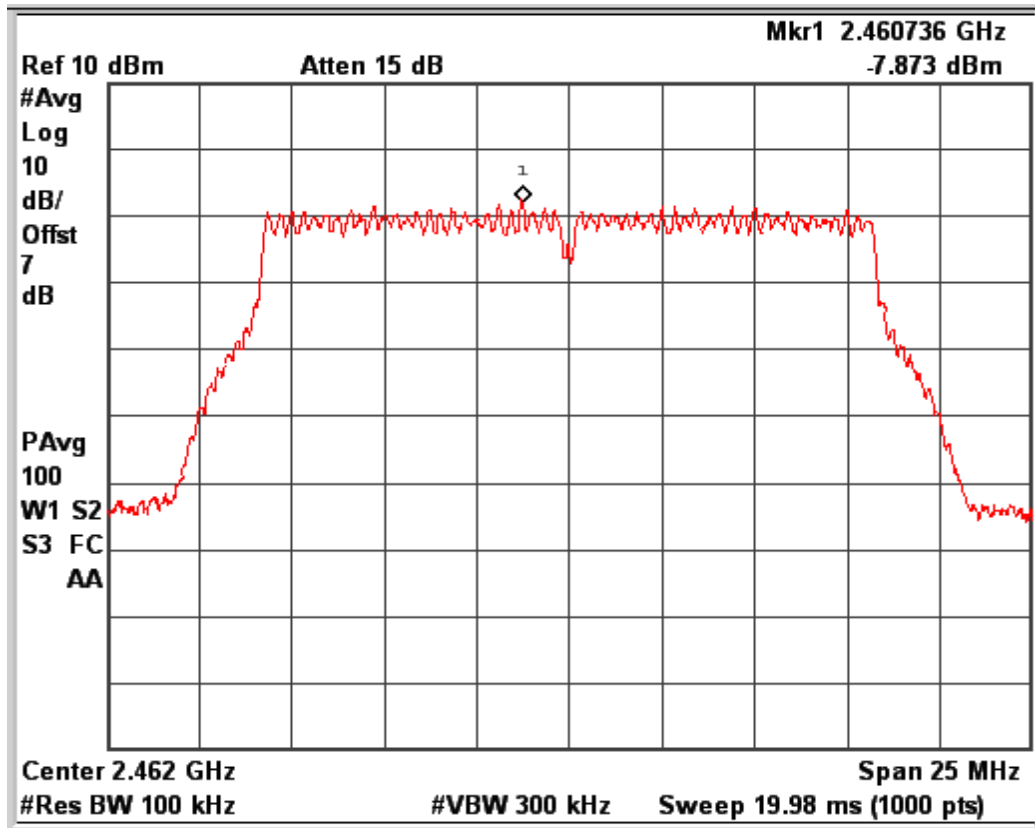
Data rate: 6 Mbps

Channel Frequency: 2412 MHz



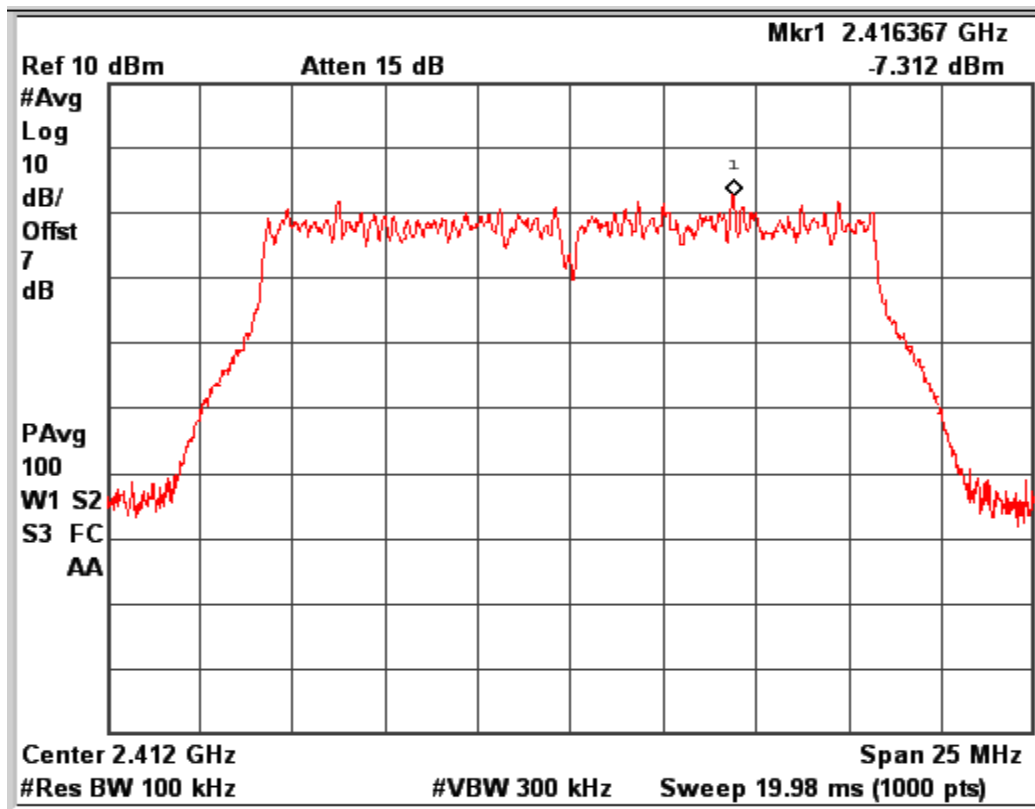
Data rate: 6 Mbps

Channel Frequency: 2437 MHz



Data rate: 6 Mbps

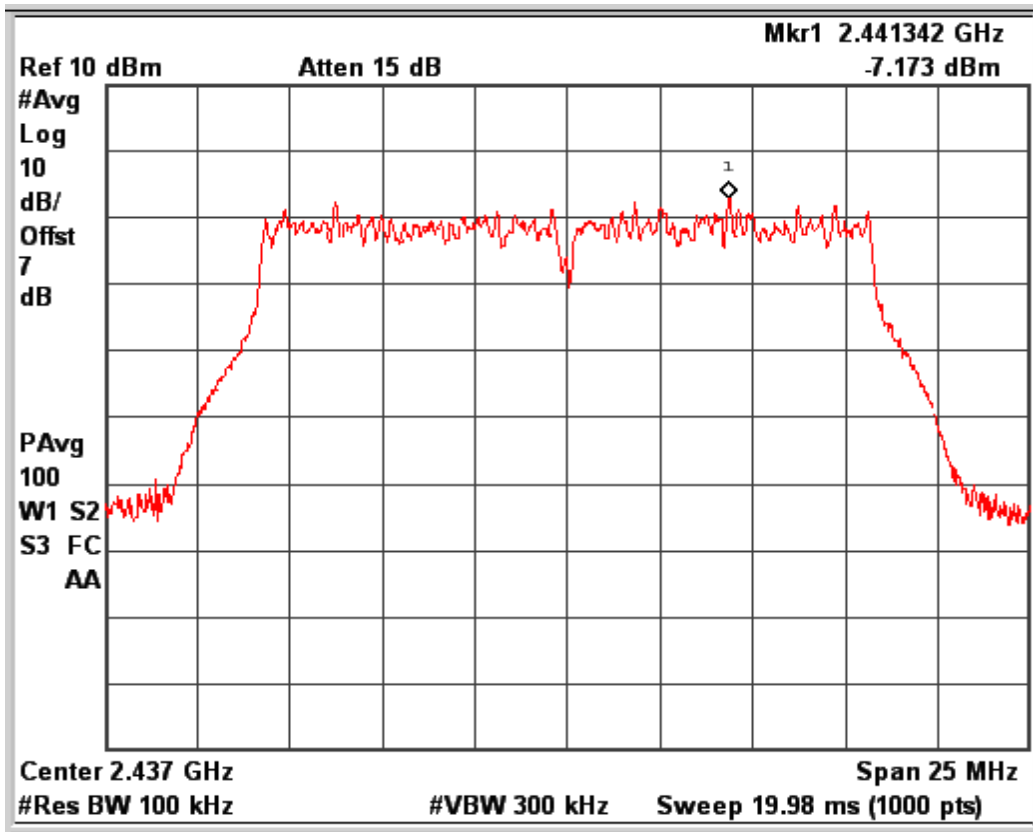
Channel Frequency: 2462 MHz



Data rate: 24 Mbps

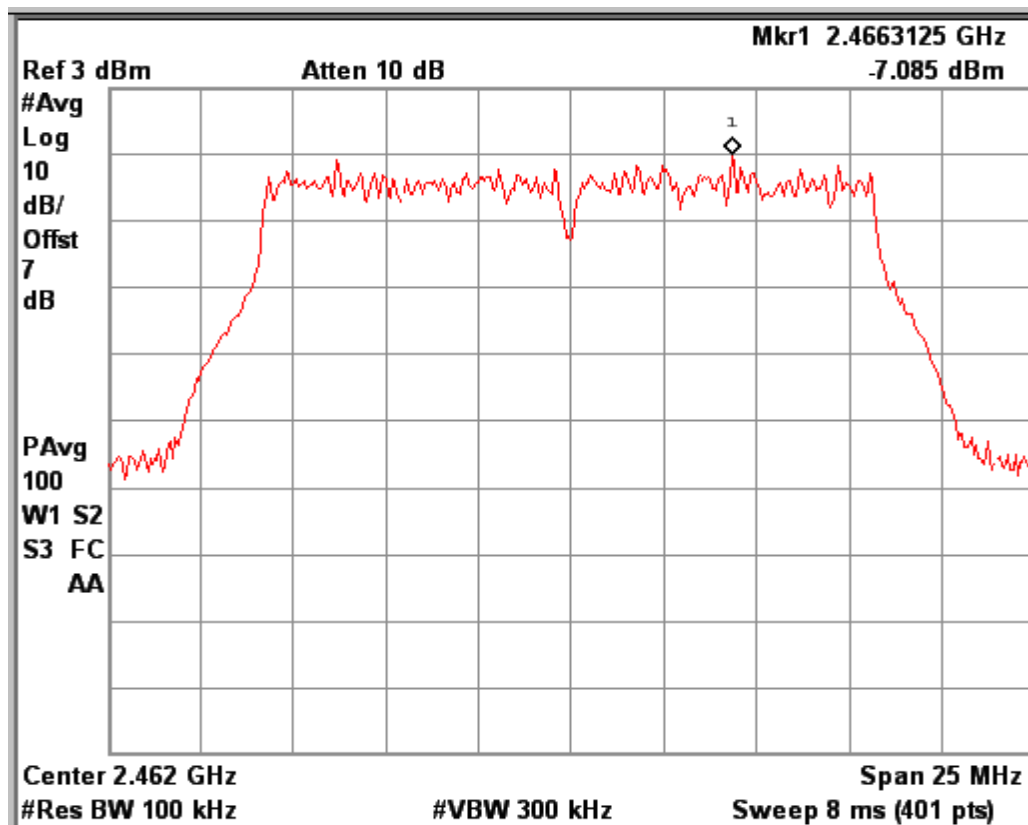
Channel Frequency: 2412 MHz

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Data rate: 24 Mbps

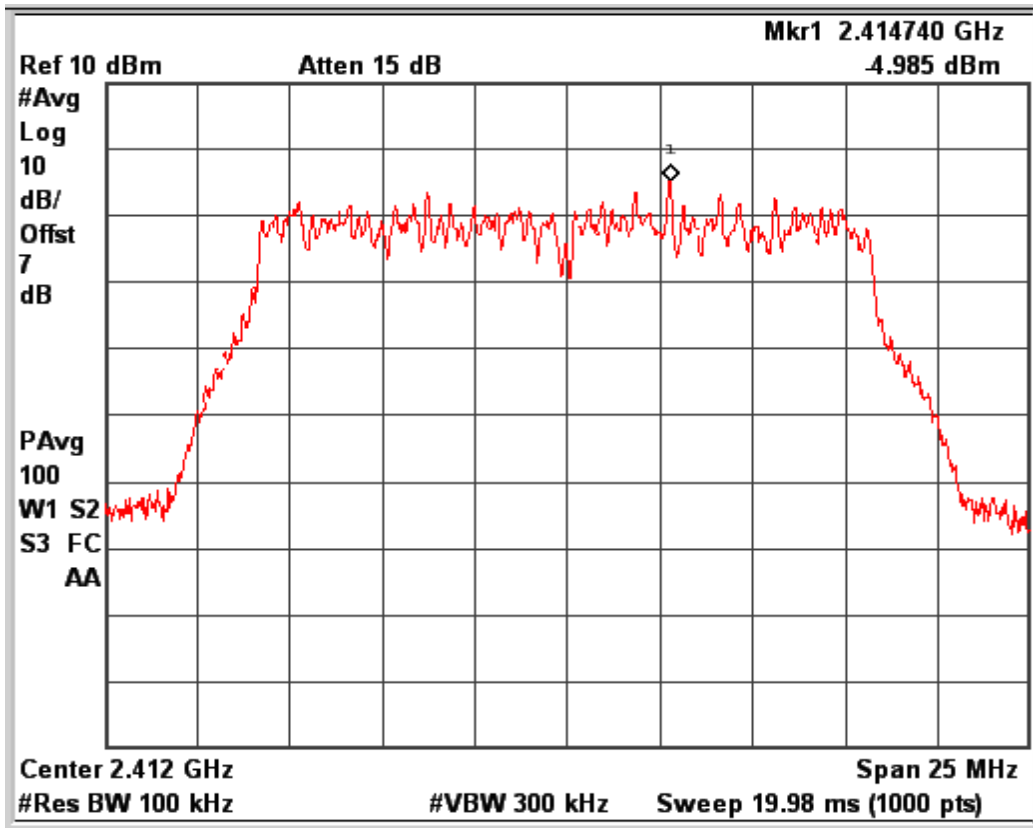
Channel Frequency: 2437 MHz



Data rate: 24 Mbps

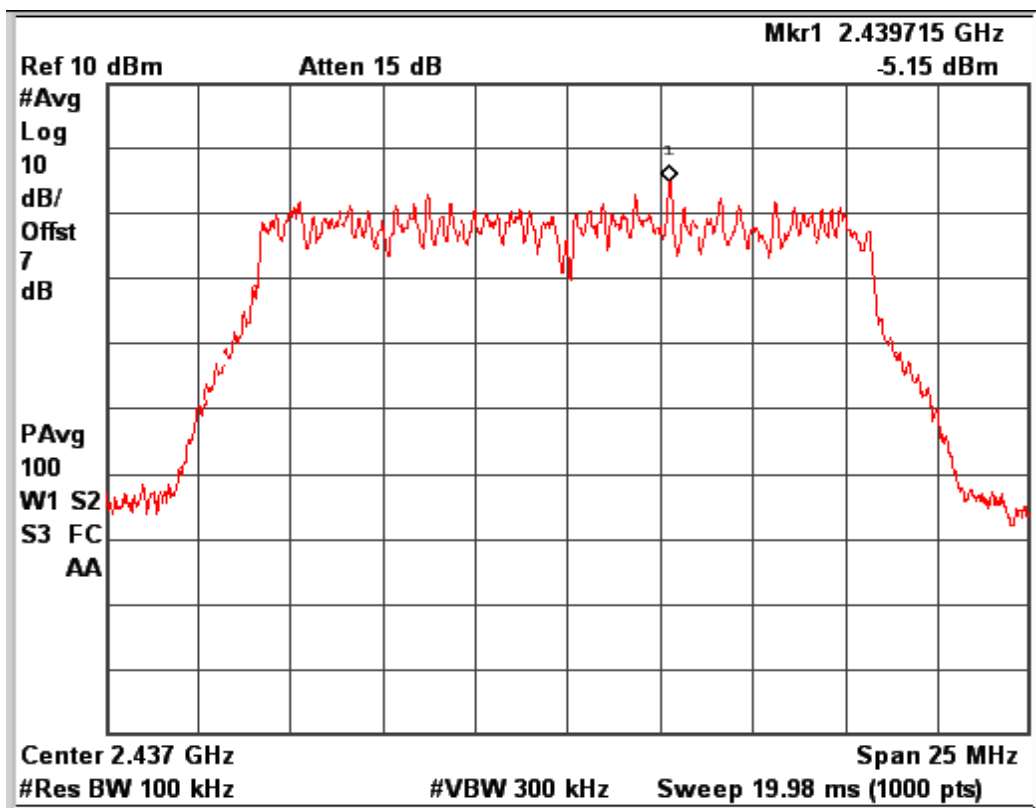
Channel Frequency: 2462 MHz

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Data rate: 54 Mbps

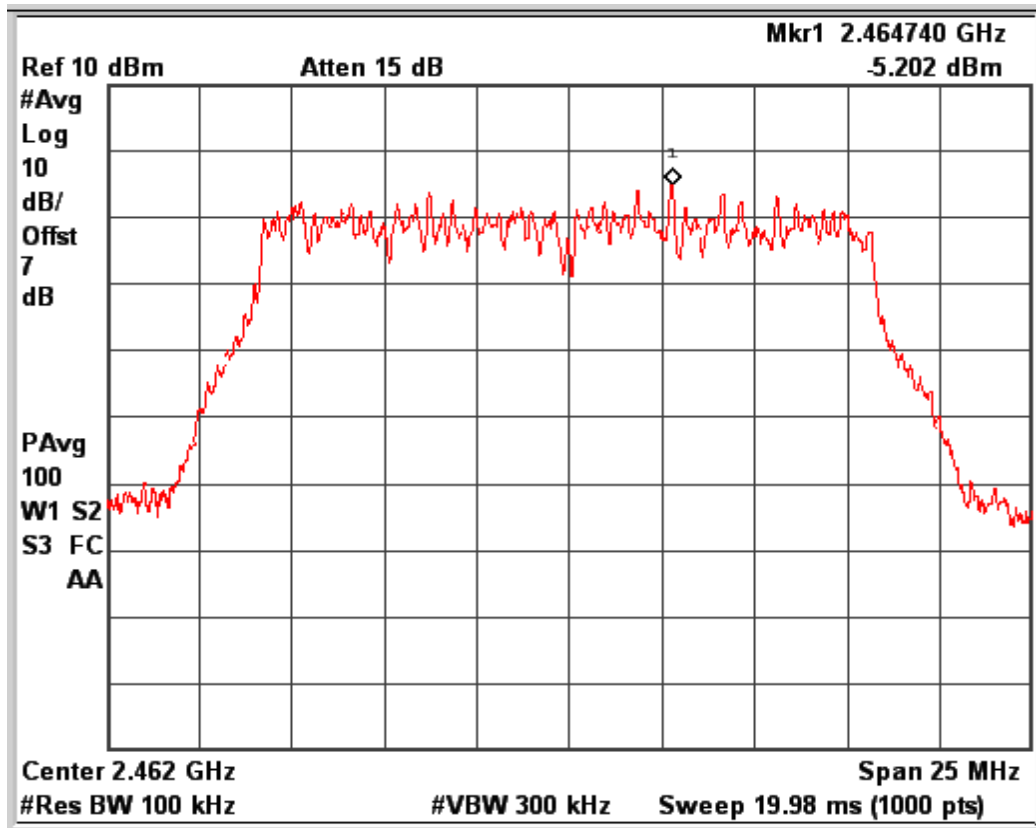
Channel Frequency: 2412 MHz



Data rate: 54 Mbps

Channel Frequency: 2437 MHz

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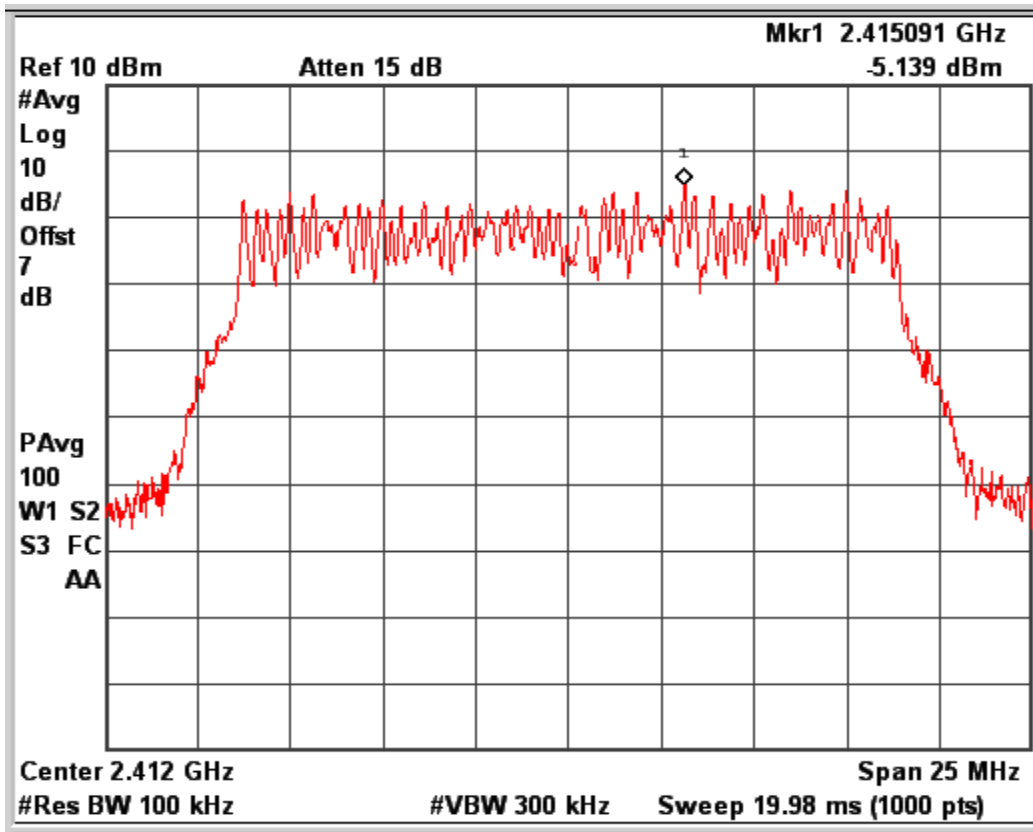


Data rate: 54 Mbps

Channel Frequency: 2462 MHz

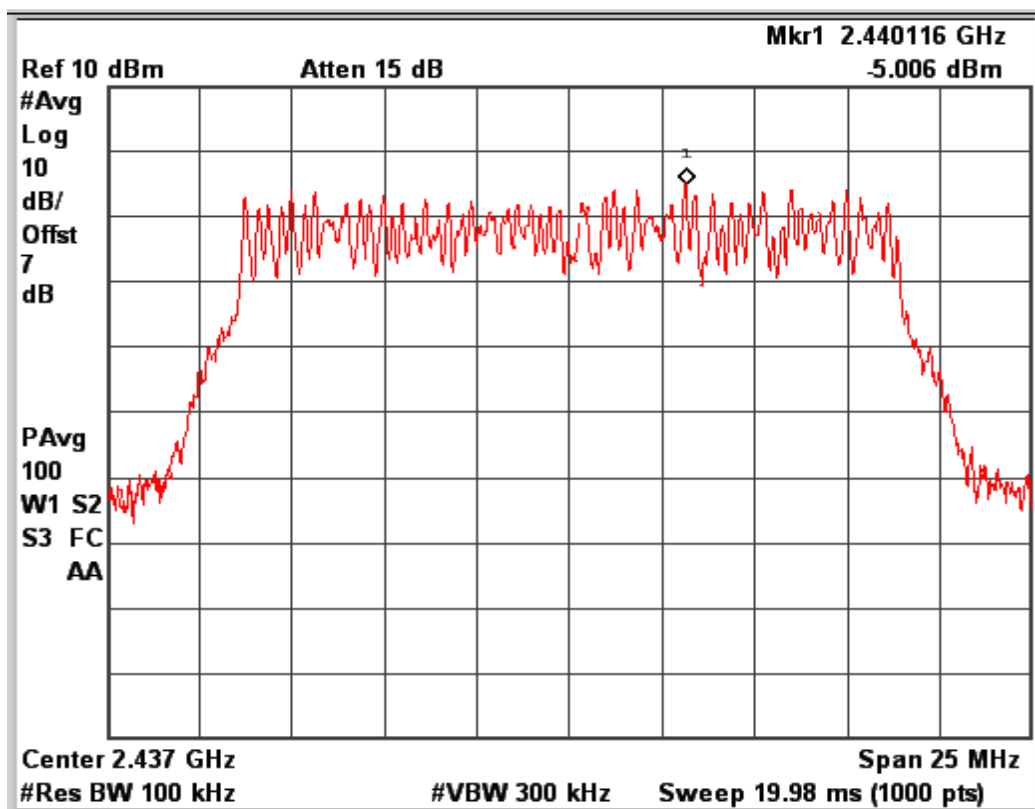
IEEE802.11nHT20					
Data Rate (Mbps)	Channel Frequency (MHz)	Total PSD (dBm)	Measure & Add 10*log(2)	Total PSD (dBm)	Limit (dBm)
MCS0	2412	-5.13	3.01	-2.129	8
	2437	-5.00	3.01	-1.996	8
	2462	-4.82	3.01	-1.81	8
MCS7	2412	-4.99	3.01	-1.985	8
	2437	-5.00	3.01	-1.993	8
	2462	-4.86	3.01	-1.856	8
MCS15	2412	-5.46	3.01	-2.455	8
	2437	-4.82	3.01	-1.815	8
	2462	-4.79	3.01	-1.786	8

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Data rate: MCS0

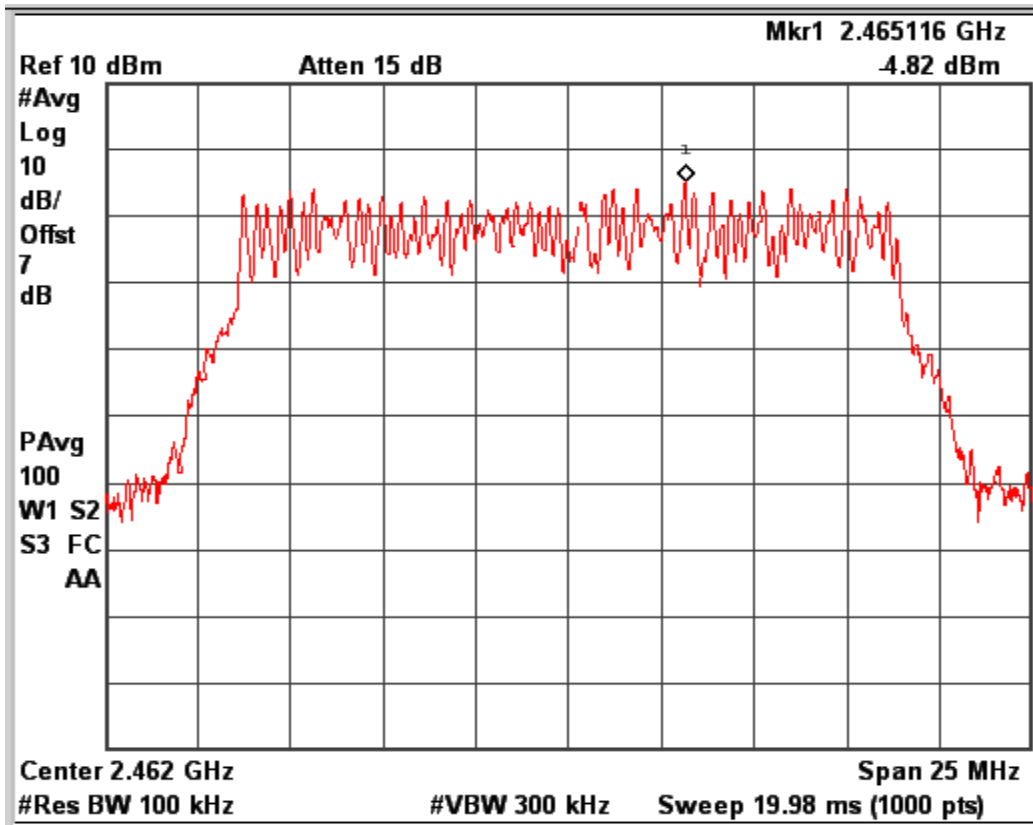
Channel Frequency: 2412 MHz



Data rate: MCS0

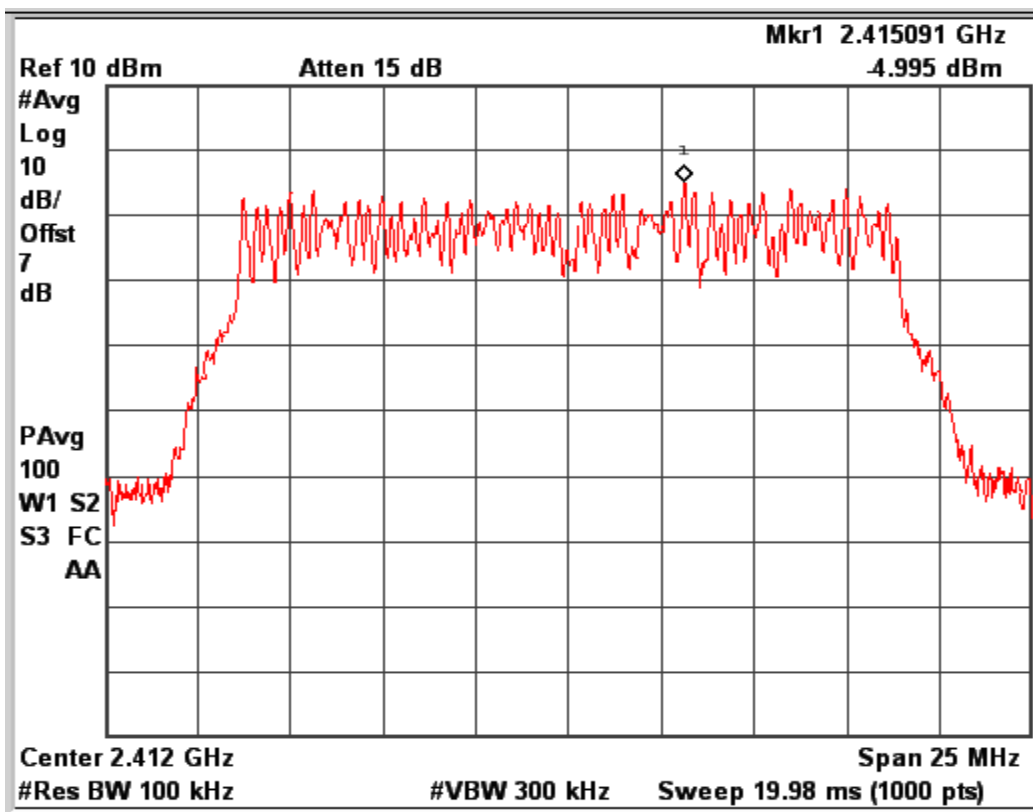
Channel Frequency: 2437 MHz

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Data rate: MCS0

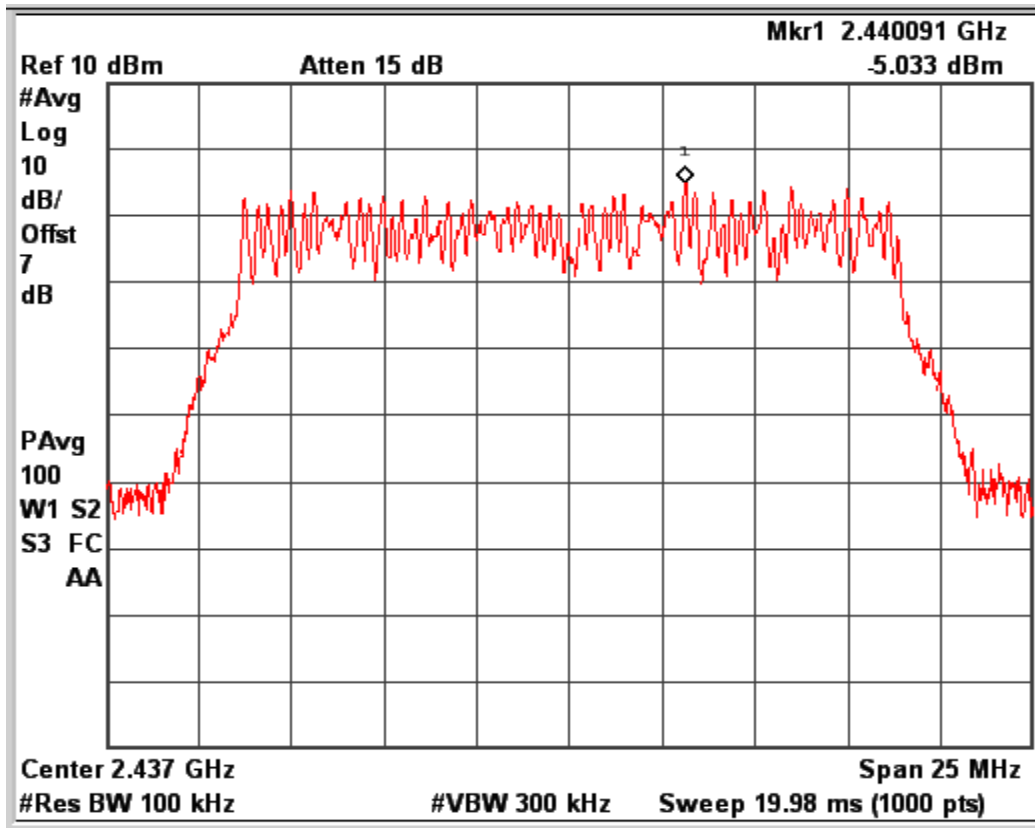
Channel Frequency: 2462 MHz



Data rate: MCS7

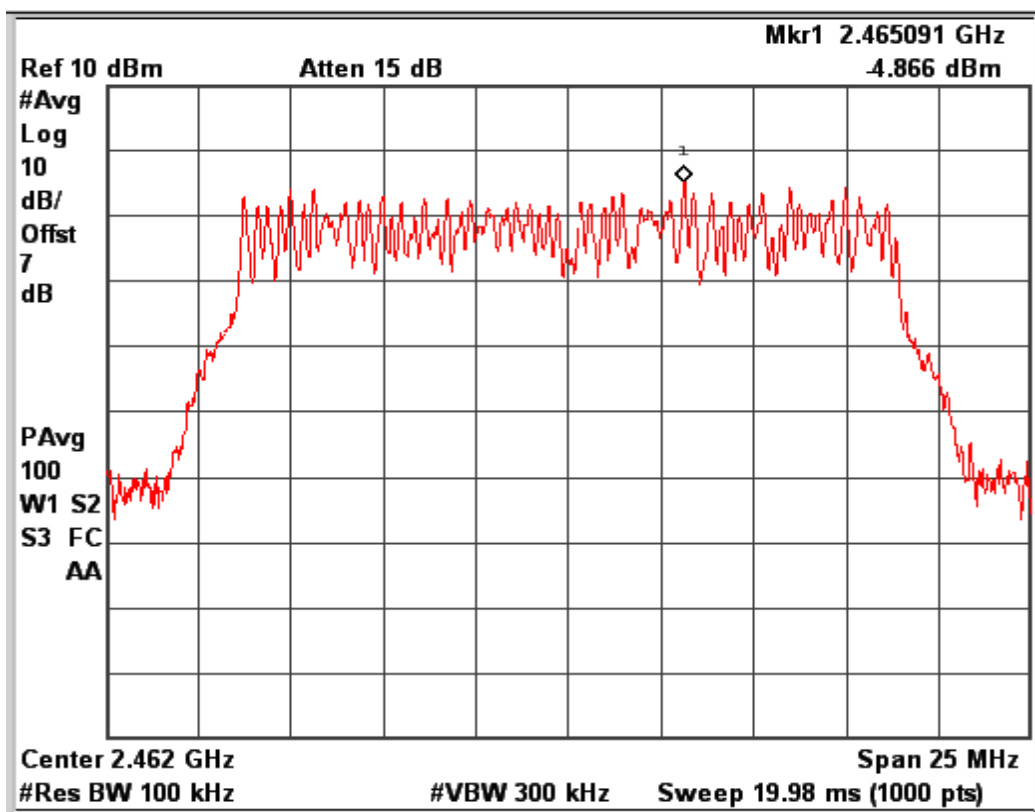
Channel Frequency: 2412 MHz





Data rate: MCS7

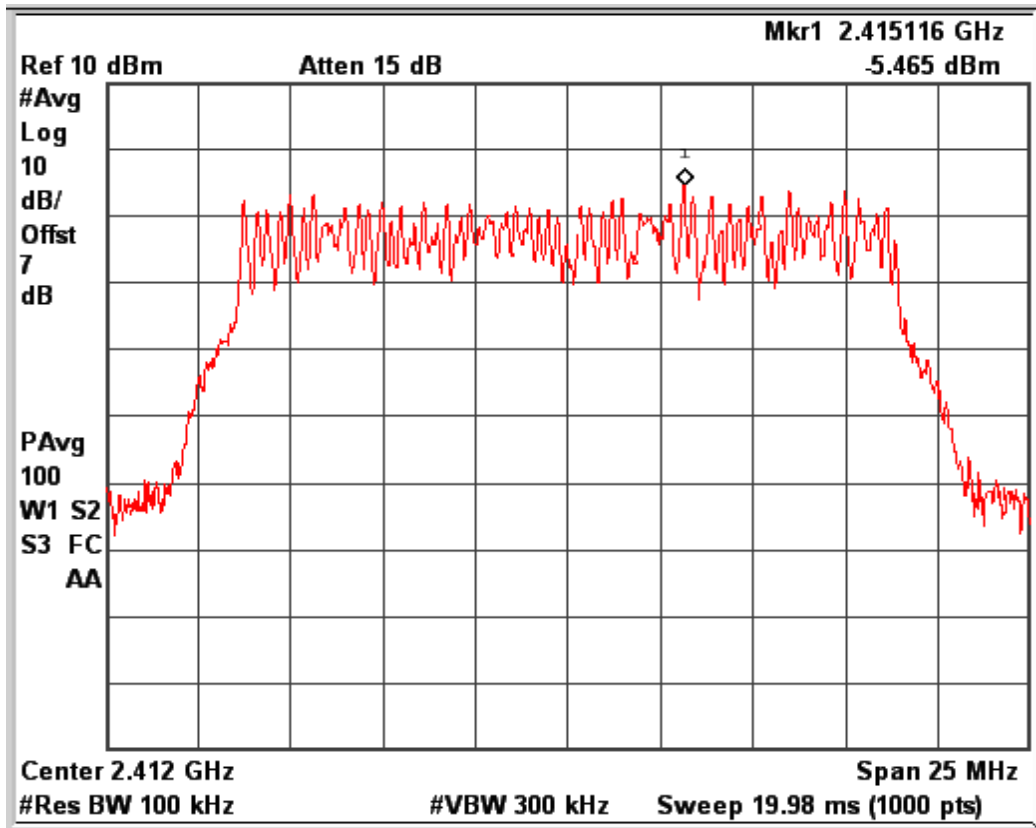
Channel Frequency: 2437 MHz



Data rate: MCS7

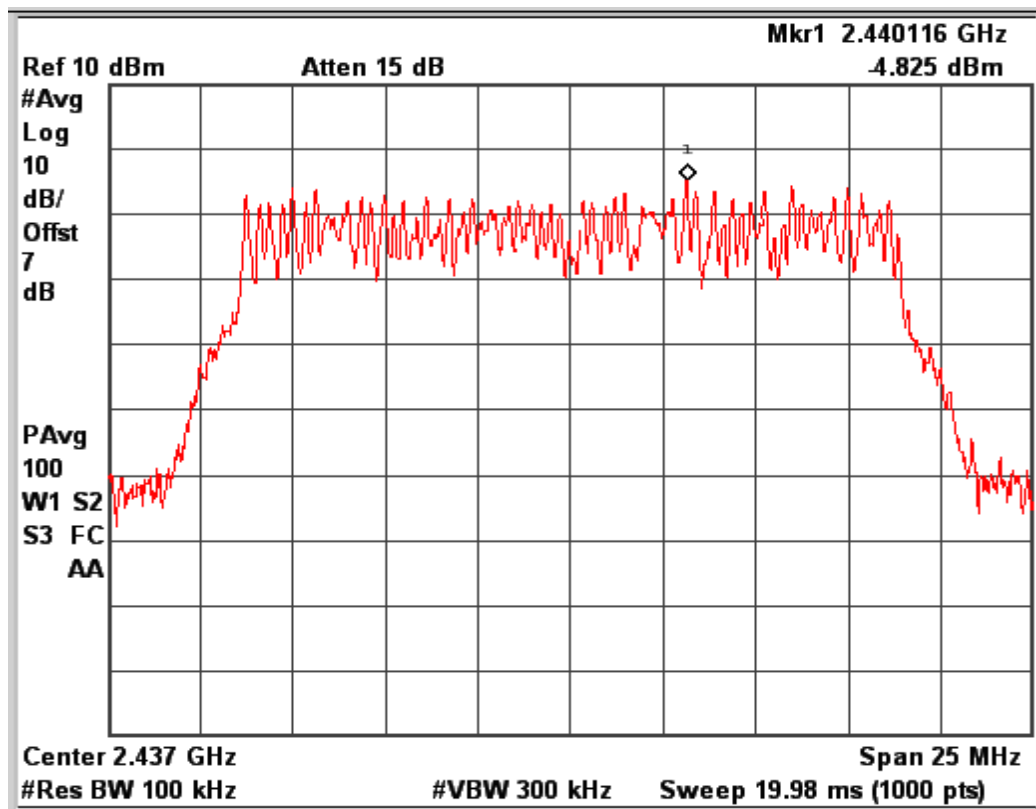
Channel Frequency: 2462 MHz

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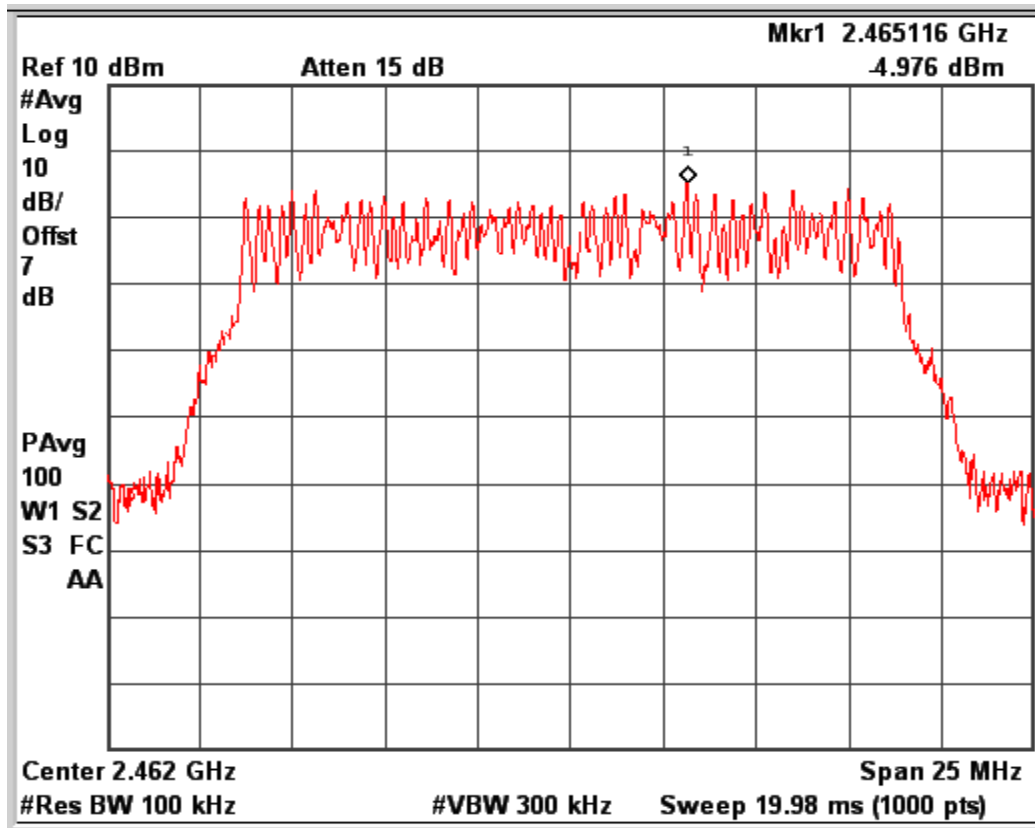
Data rate: MCS15

Channel Frequency: 2412 MHz



Data rate: MCS15

Channel Frequency: 2437 MHz

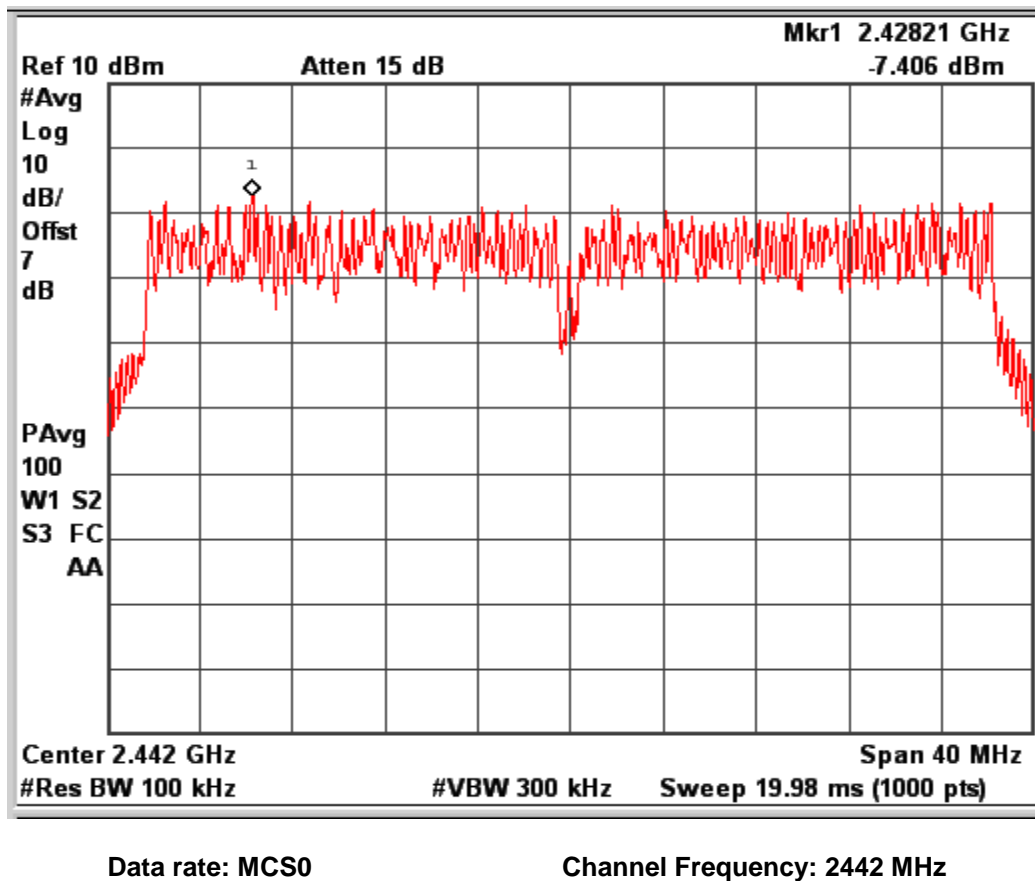
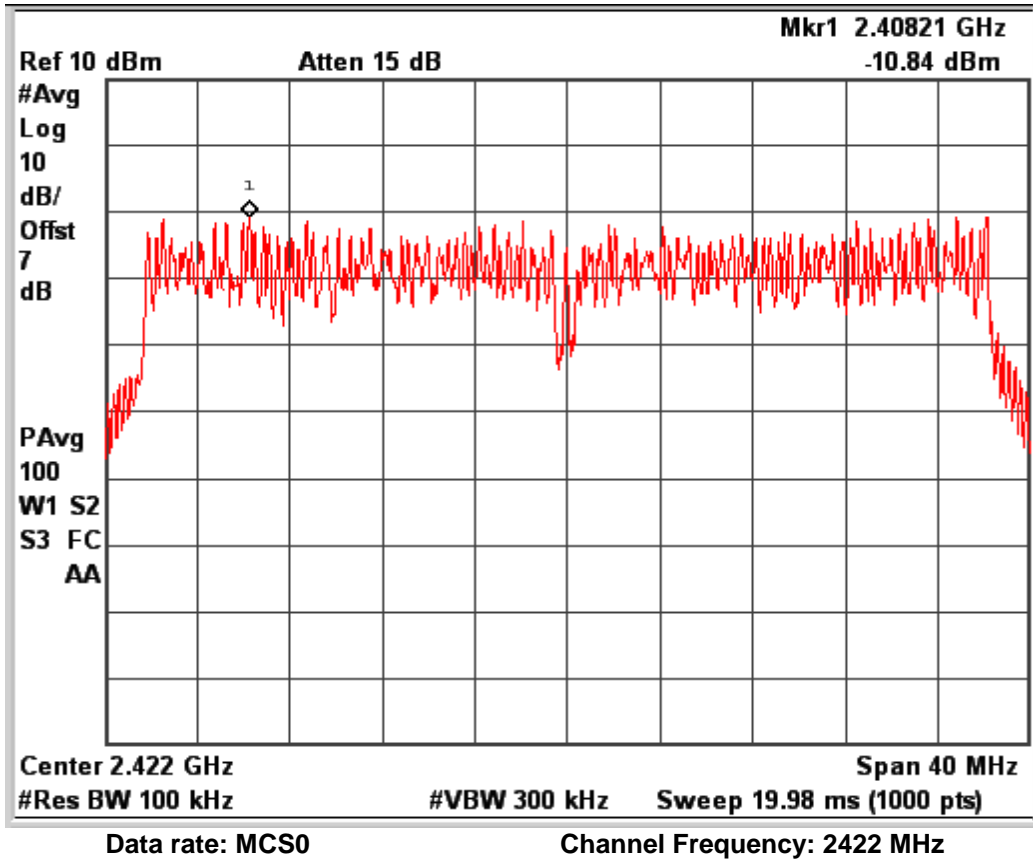


Data rate: MCS15

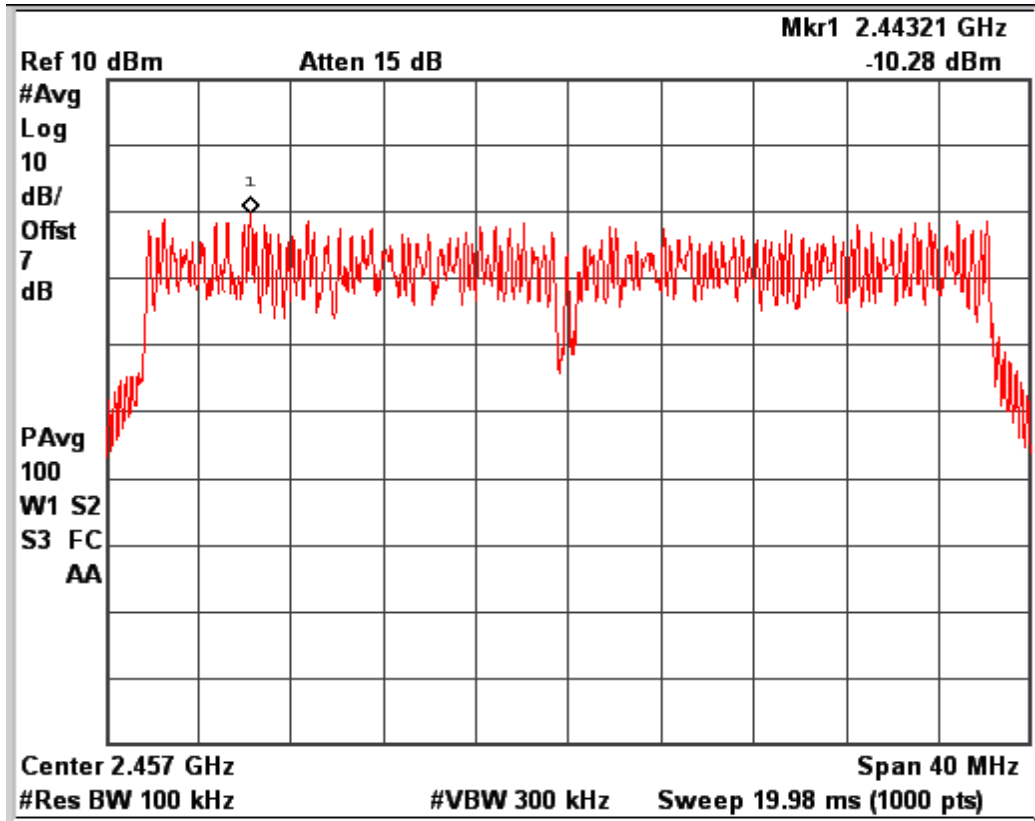
Channel Frequency: 2462 MHz

IEEE802.11nHT40					
Data Rate (Mbps)	Channel Frequency (MHz)	Total PSD (dBm)	Measure & Add $10 \cdot \log(2)$	Total PSD (dBm)	Limit (dBm)
MCS0	2422	-10.84	3.01	-7.83	8
	2442	-7.406	3.01	-4.396	8
	2457	-10.28	3.01	-7.27	8
MCS7	2422	-9.944	3.01	-6.934	8
	2442	-6.795	3.01	-3.785	8
	2457	-9.057	3.01	-6.047	8
MCS15	2422	-8.061	3.01	-5.051	8
	2442	-5.467	3.01	-2.457	8
	2457	-12.63	3.01	-9.62	8

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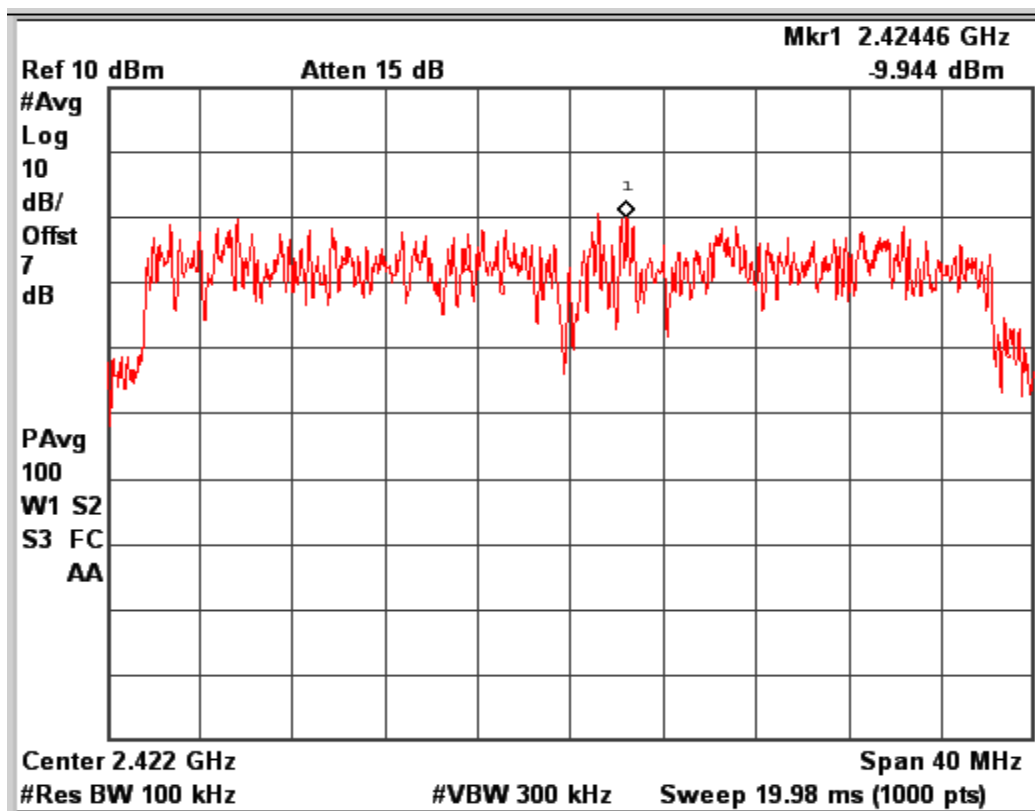


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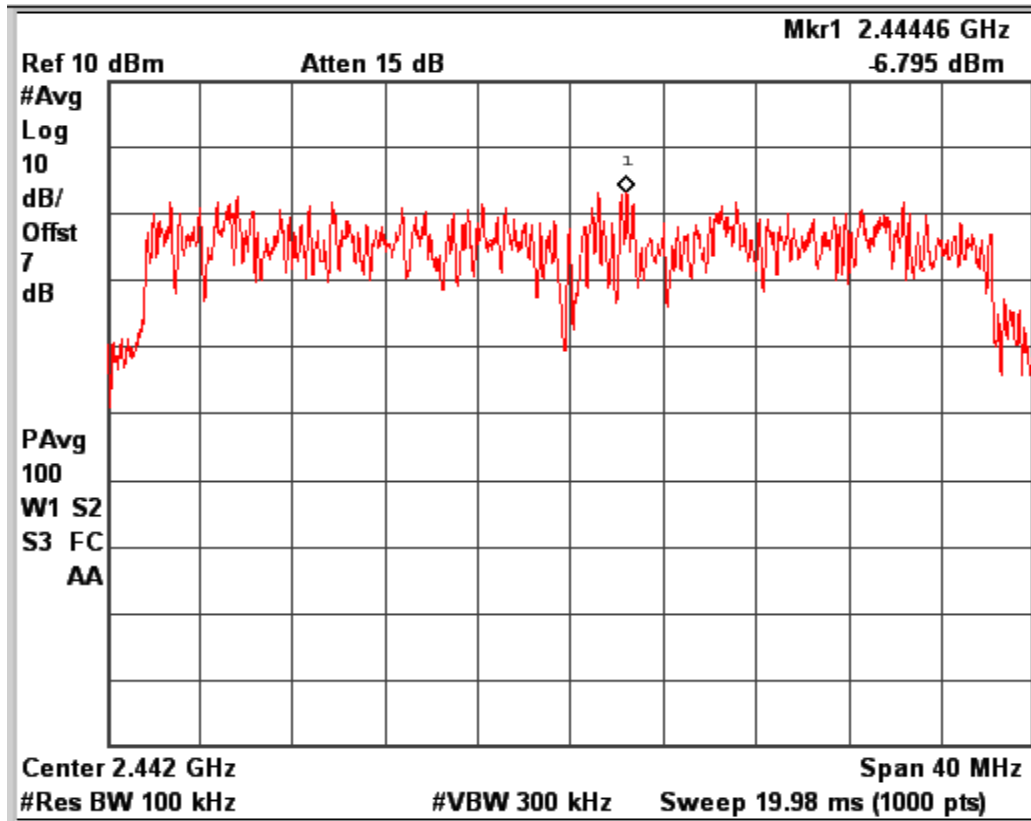
Data rate: MCS0

Channel Frequency: 2457 MHz



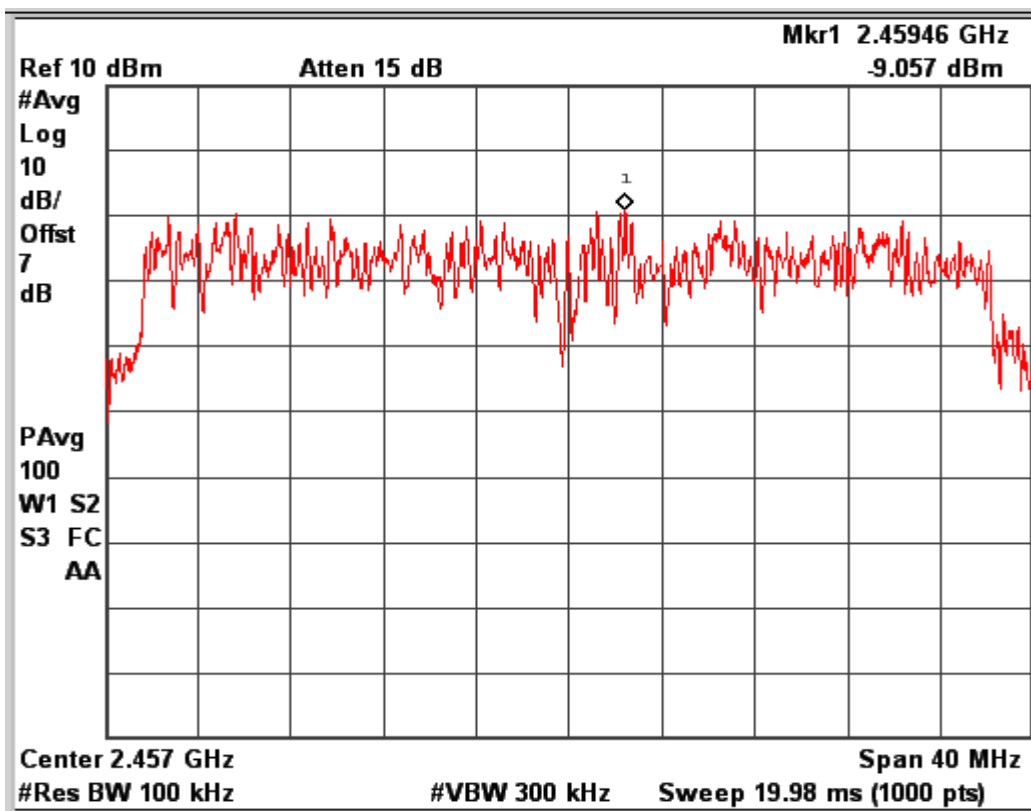
Data rate: MCS7

Channel Frequency: 2422 MHz



Data rate: MCS7

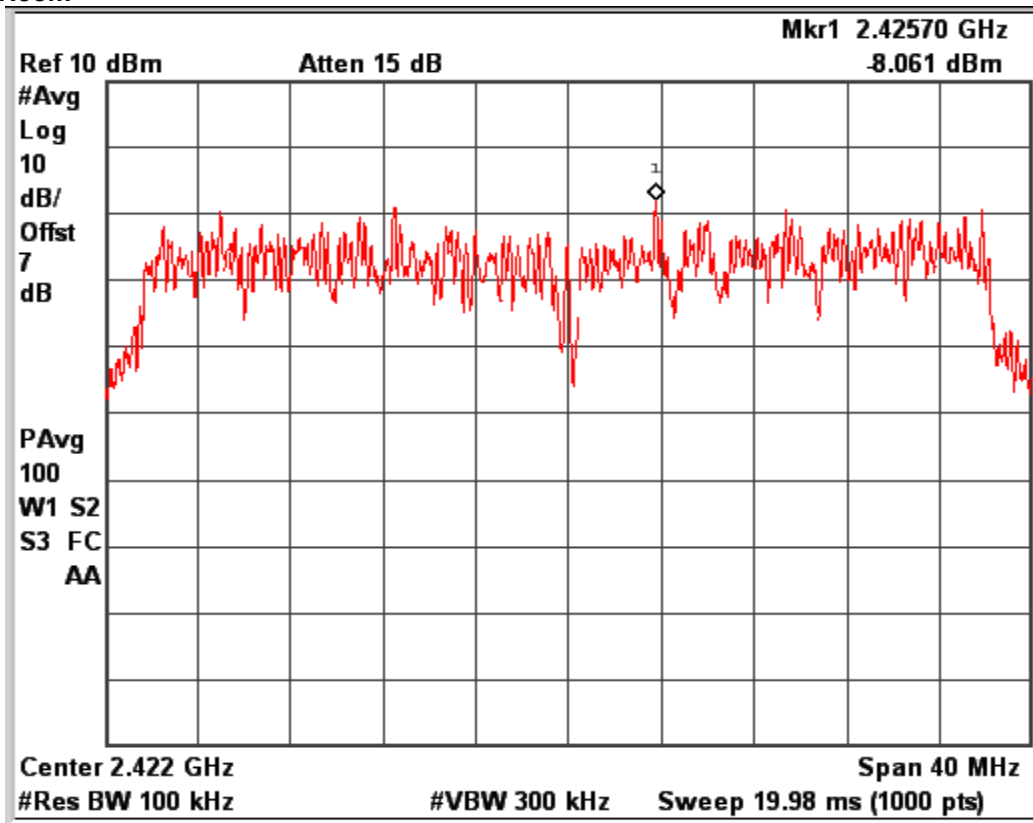
Channel Frequency: 2442 MHz



Data rate: MCS7

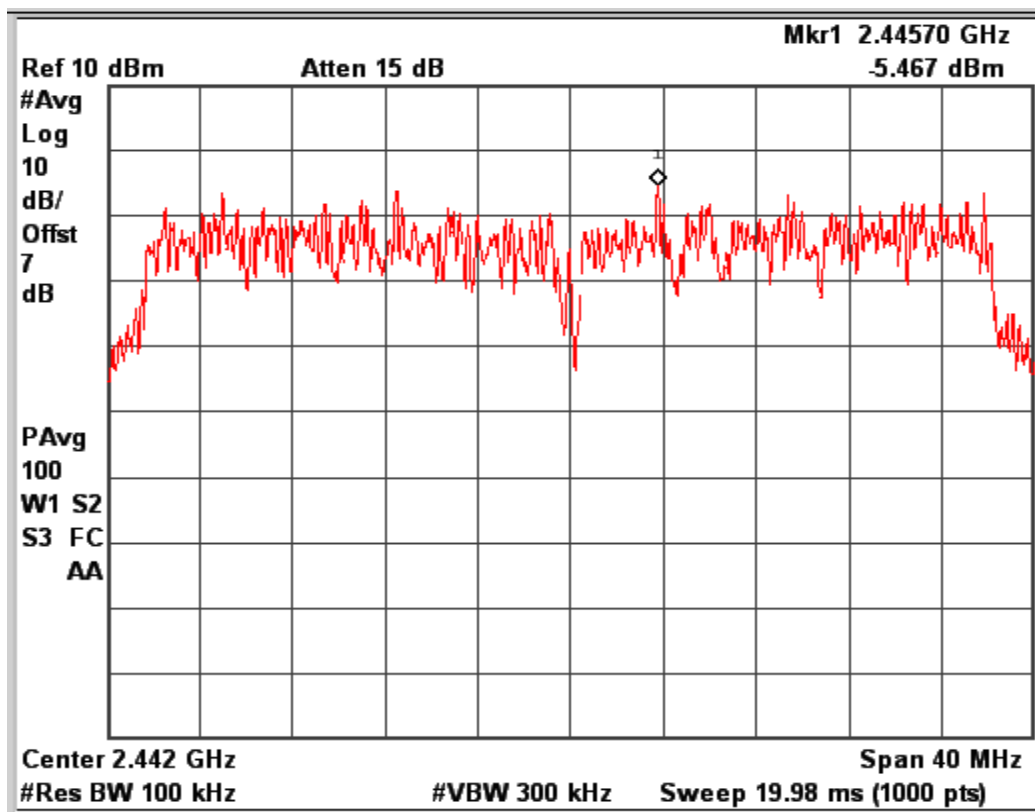
Channel Frequency: 2457 MHz

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Data rate: MCS15

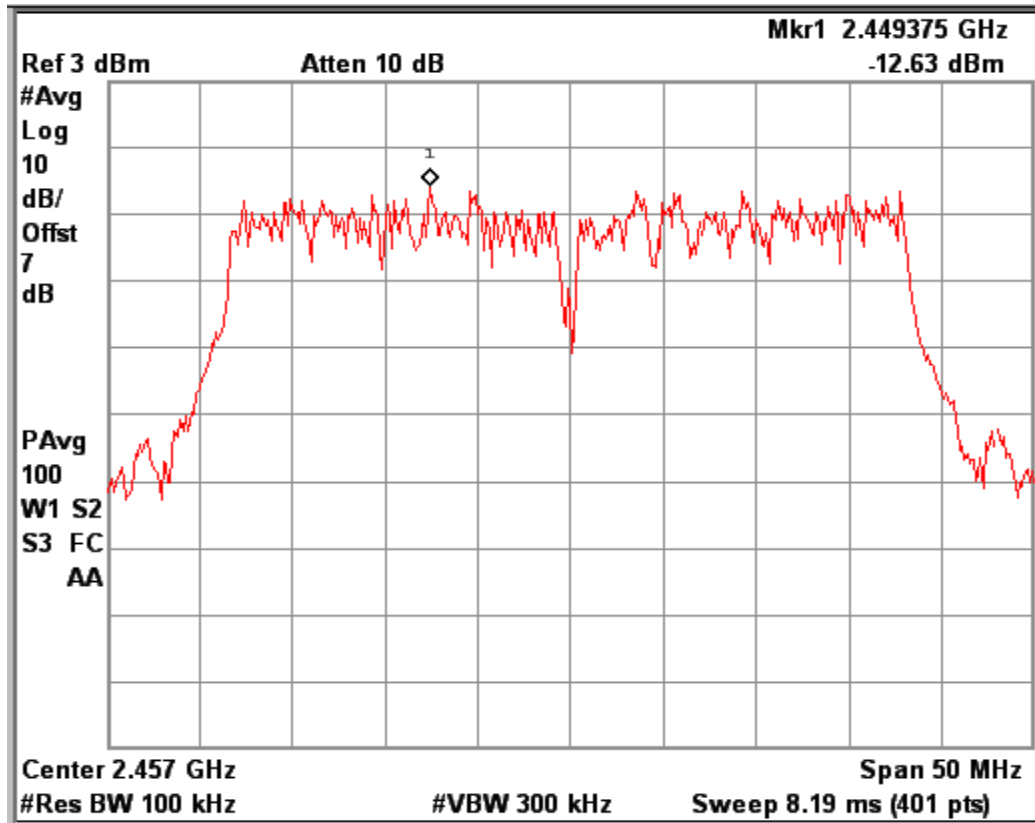
Channel Frequency: 2422 MHz



Data rate: MCS15

Channel Frequency: 2442 MHz

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Data rate: MCS15

Channel Frequency: 2457 MHz

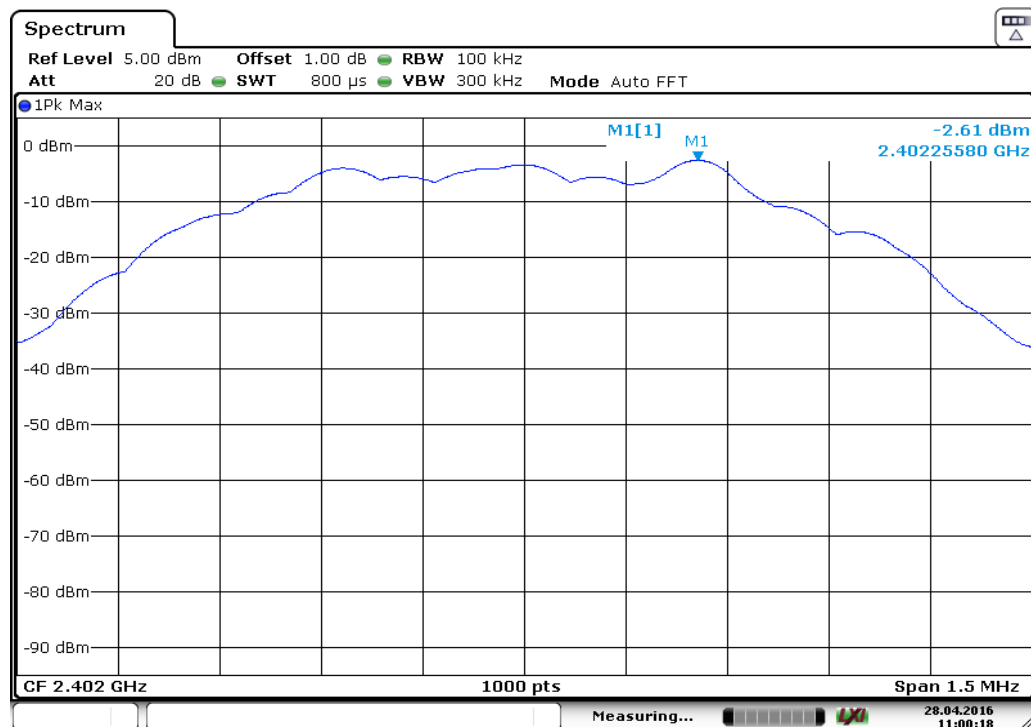


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### Test Result: Bluetooth LE

Attenuator (0dB) + cable loss (1dB) = 1dB Considered in the test result

Channel Frequency (MHz)	Total PSD (dBm)	Limit (dBm)
2402	-2.61	8.00
2437	-2.72	8.00
2480	-3.05	8.00

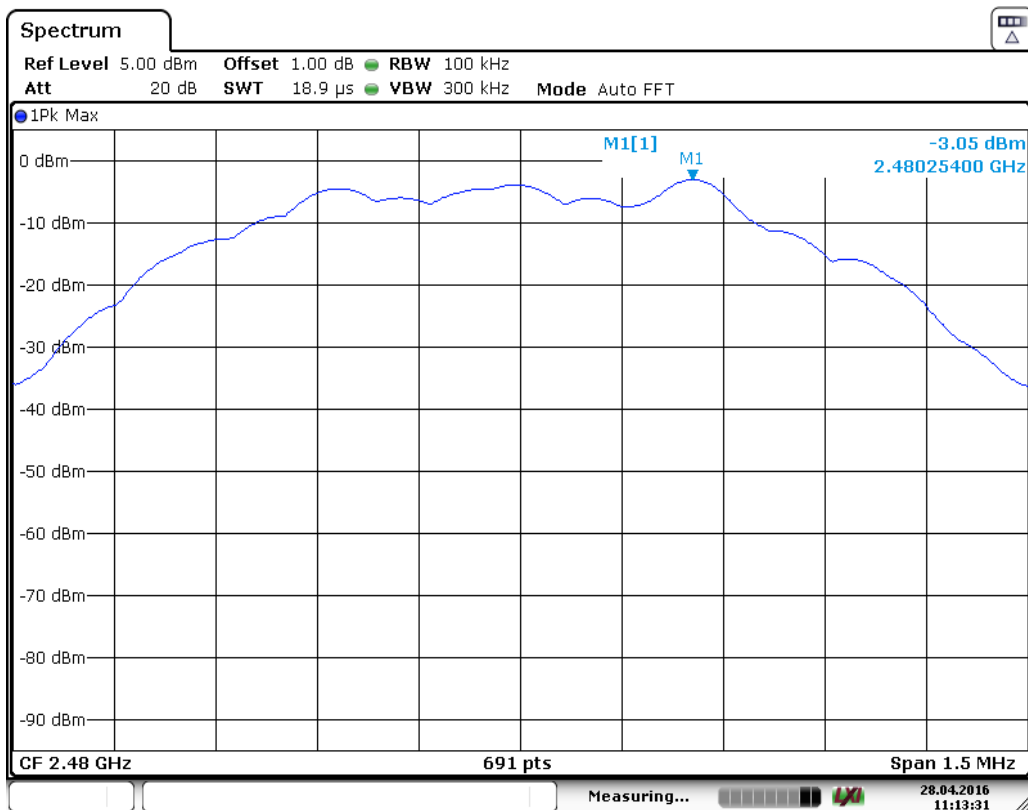


Channel Frequency: 2402 MHz

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Channel Frequency: 2440 MHz



Channel Frequency: 2480 MHz

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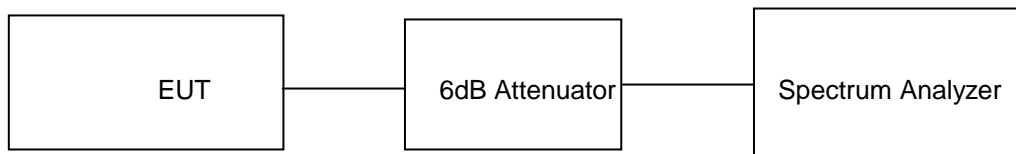
**DTS Bandwidth  
Result**

**Section 15.247(a) (2)  
Pass**

Test Specification  
Detector Function  
Requirement

FCC Part 15 Section 15.247 (a) (2)  
Peak  
The minimum 6 dB bandwidth shall be at least 500 kHz/0.5MHz.

**Test Method:**

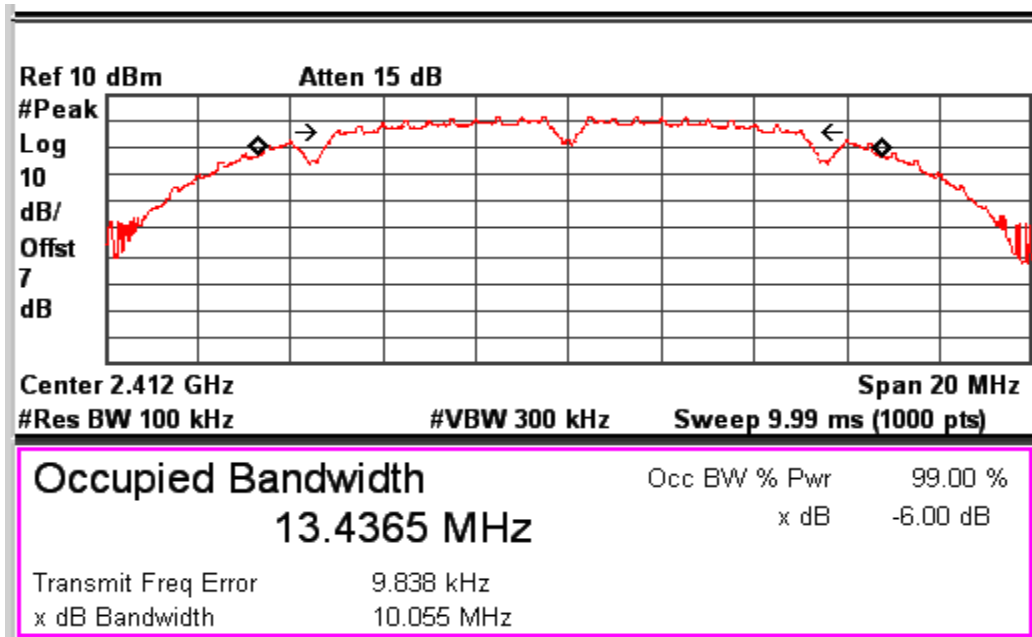


**Test Result:**

Attenuator (6dB) + cable loss (1dB) = 7dB Considered in the test result

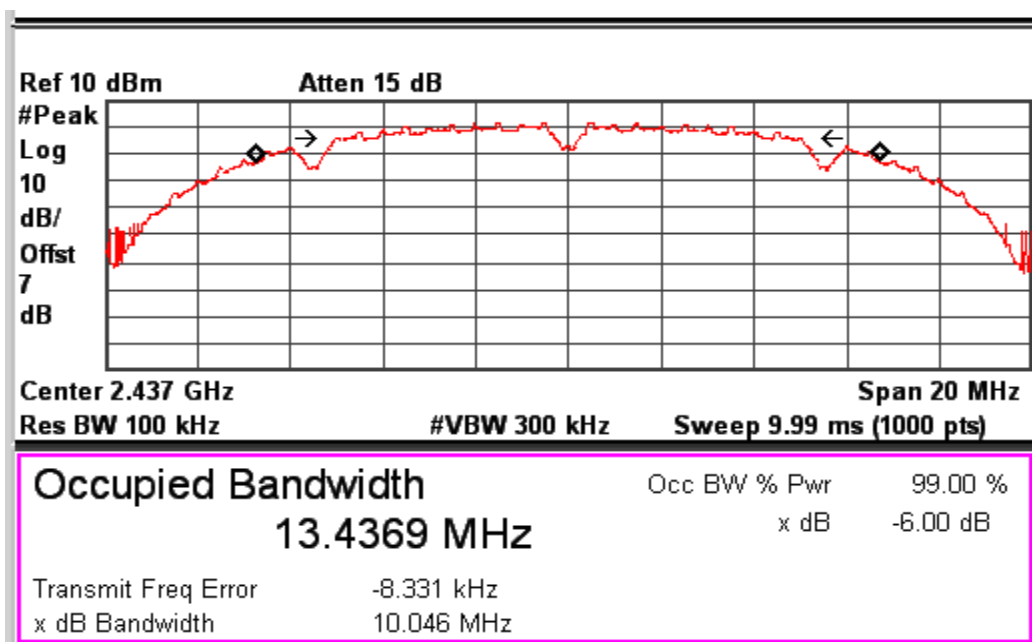
IEEE802.11b			
Data Rate (Mbps)	Channel Frequency (MHz)	6 dB Bandwidth (MHz)	99% OBW (MHz)
1	2412	10.05	13.43
	2437	10.04	13.43
	2462	10.06	<b>13.45</b>
11	2412	9.96	13.34
	2437	9.95	13.34
	2462	9.94	13.34

**Note:** Worst case results are reported



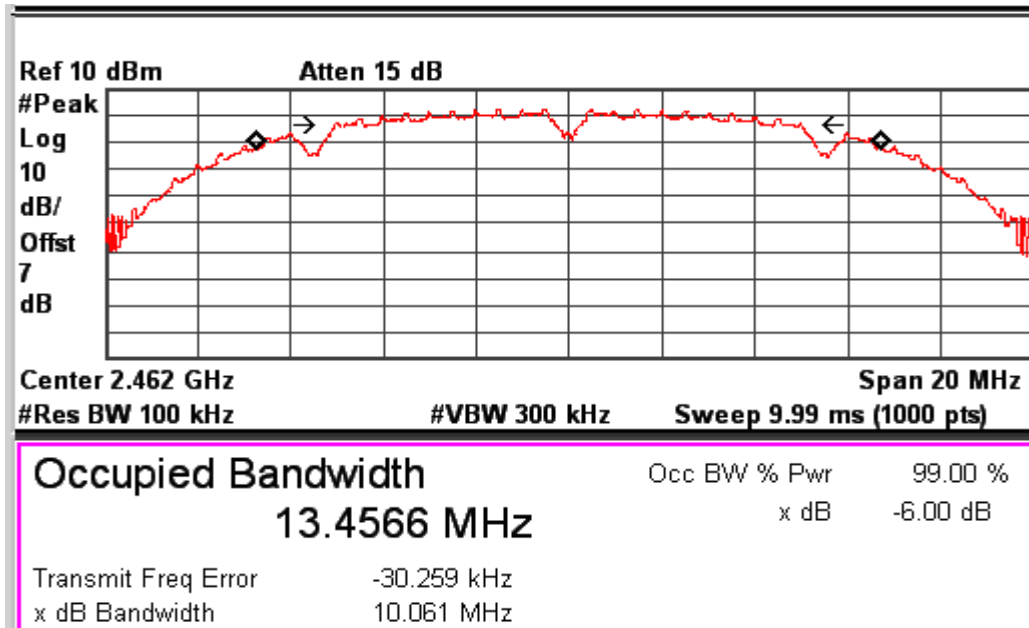
Data Rate: 1 Mbps

Channel frequency: 2412 MHz



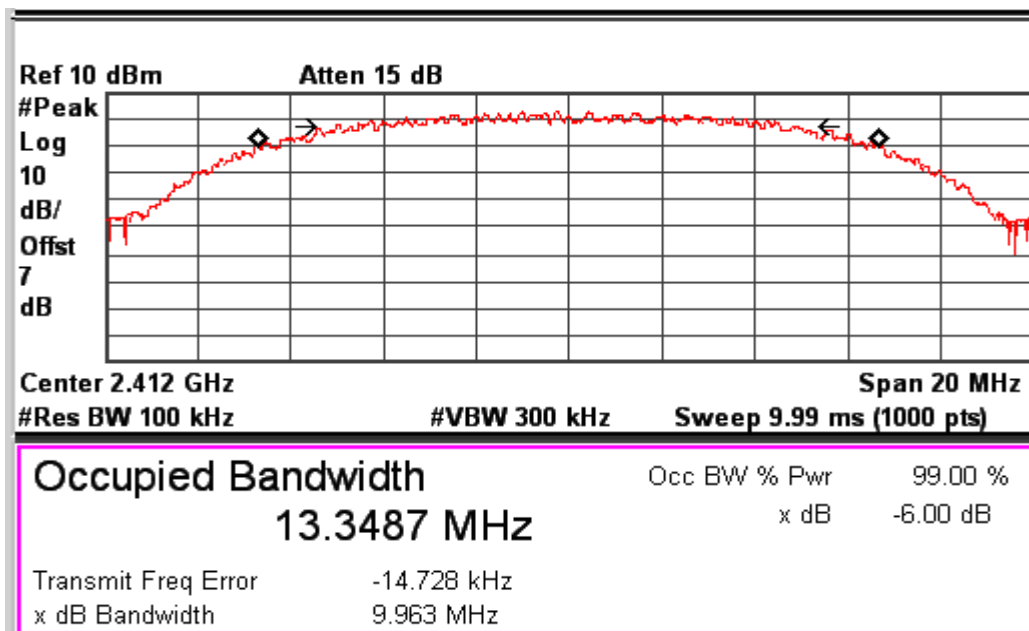
Data Rate: 1 Mbps

Channel frequency: 2437 MHz



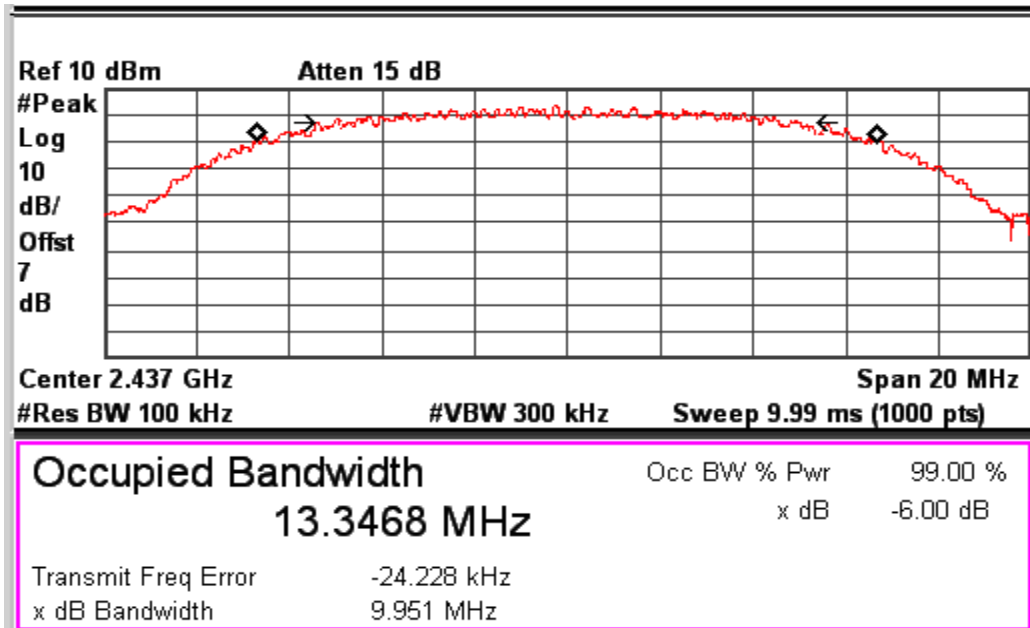
Data Rate: 1 Mbps

Channel frequency: 2462 MHz



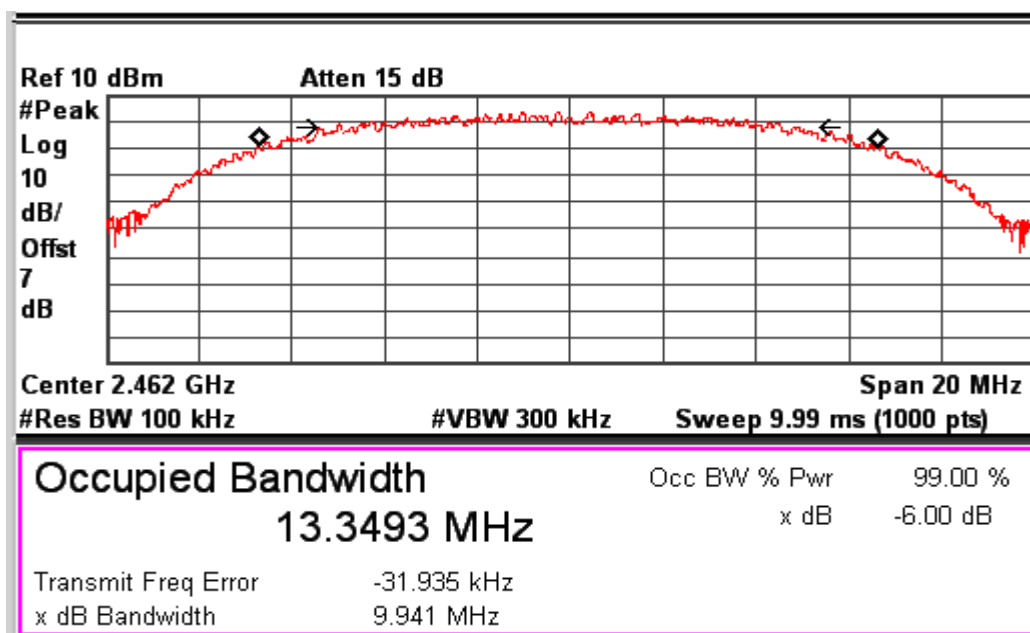
Data Rate: 11 Mbps

Channel frequencies: 2412 MHz



Data Rate: 11 Mbps

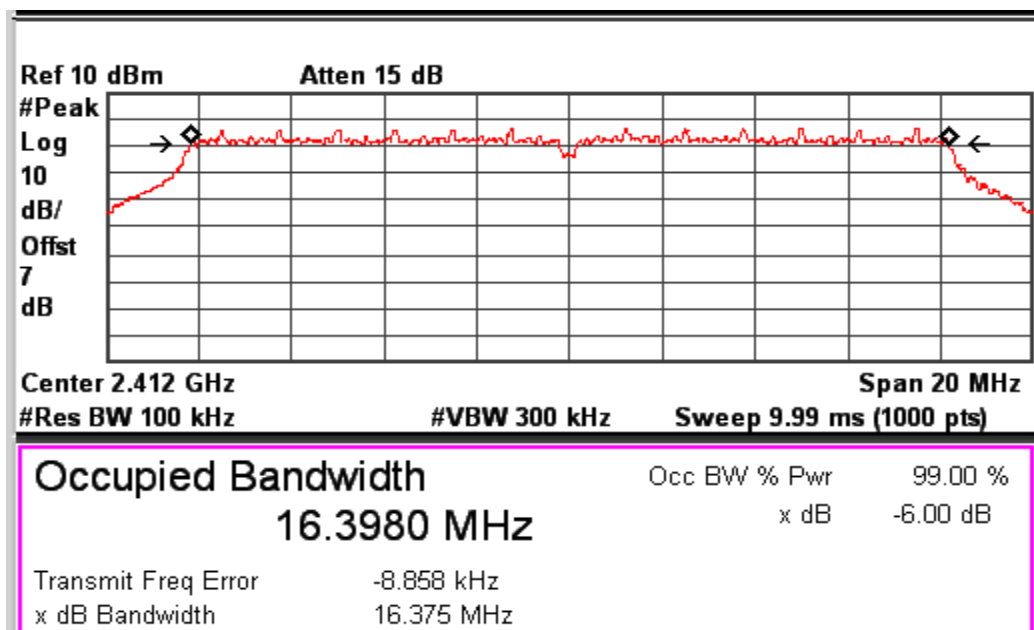
Channel frequency: 2437 MHz



Data Rate: 11 Mbps

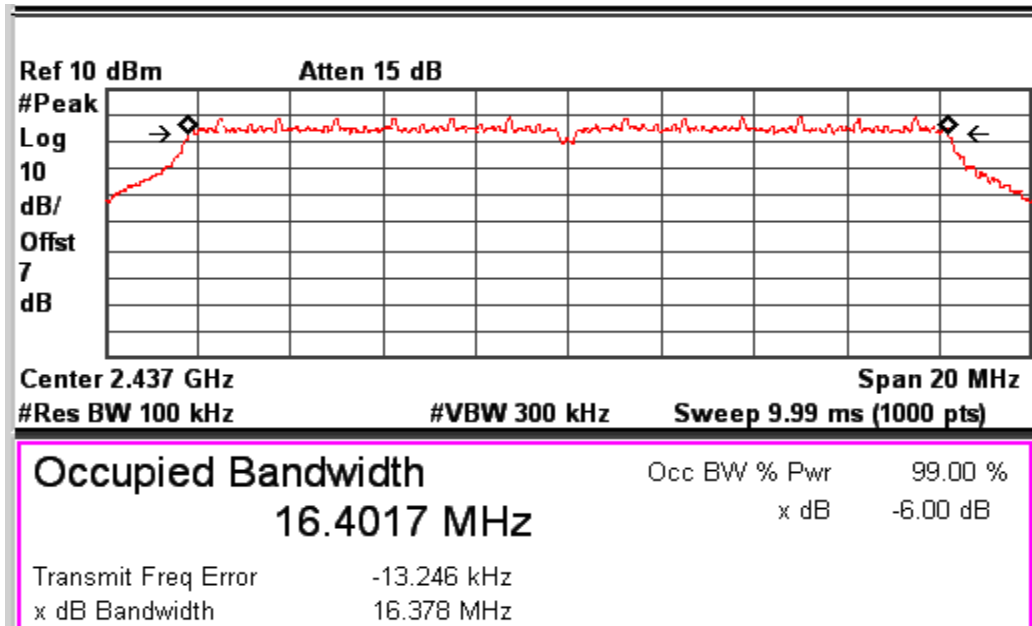
Channel frequency: 2462 MHz

IEEE802.11g			
Data Rate (Mbps)	Channel Frequency (MHz)	6 dB Bandwidth (MHz)	99% OBW (MHz)
6	2412	16.37	16.39
	2437	16.37	16.4
	2462	16.37	16.4
24	2412	16.44	16.4
	2437	16.45	16.4
	2462	16.47	16.41
54	2412	16.48	<b>16.42</b>
	2437	16.46	16.42
	2462	16.47	16.41



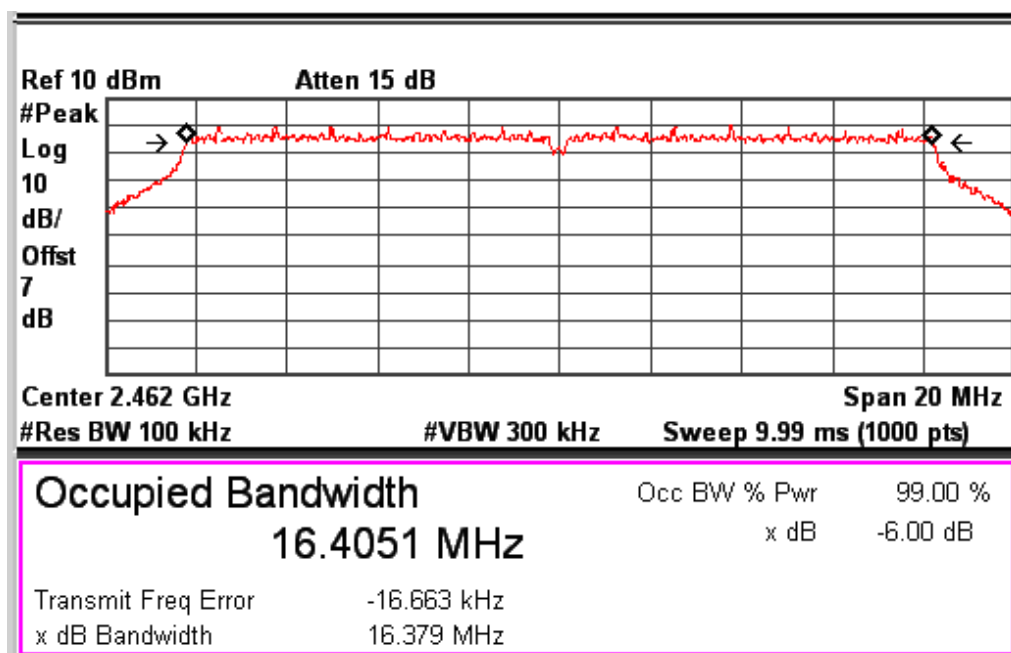
Data Rate: 6 Mbps

Channel frequencies: 2412 MHz



Data Rate: 6 Mbps

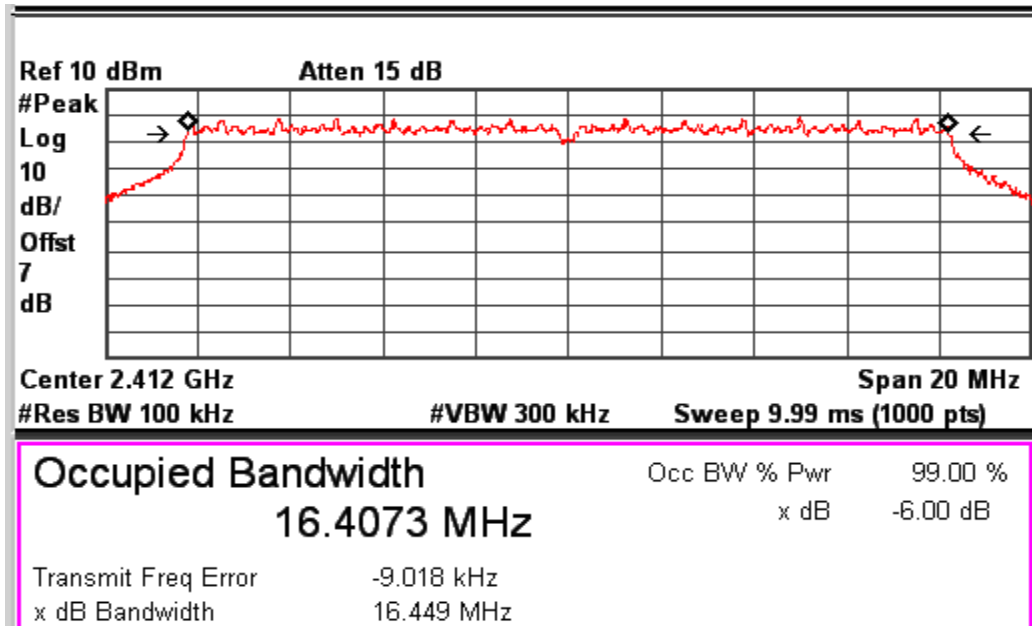
Channel frequencies: 2437 MHz



Data Rate: 6 Mbps

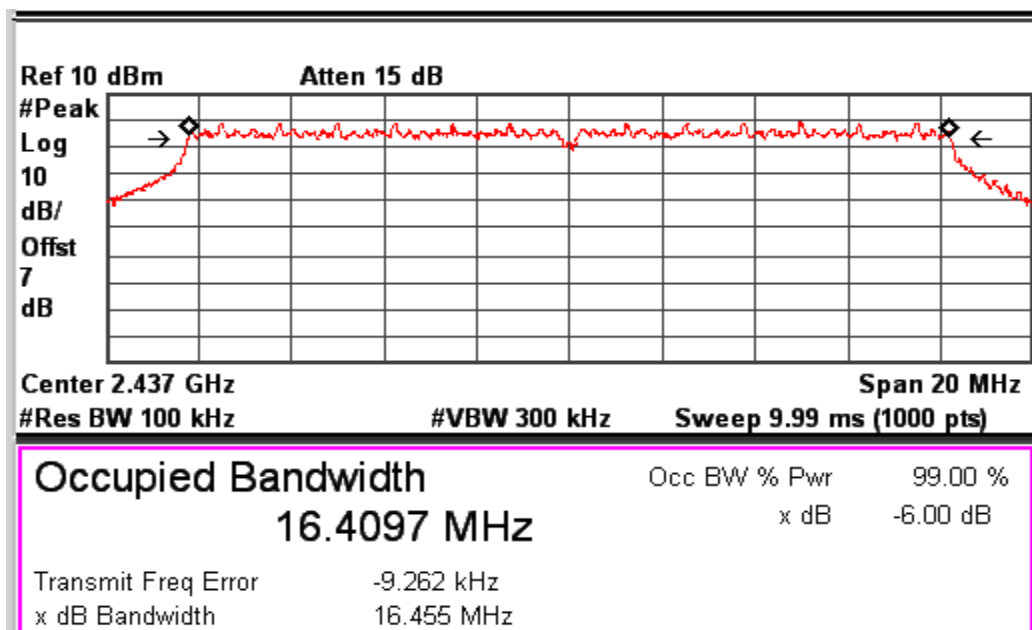
Channel frequencies: 2462 MHz





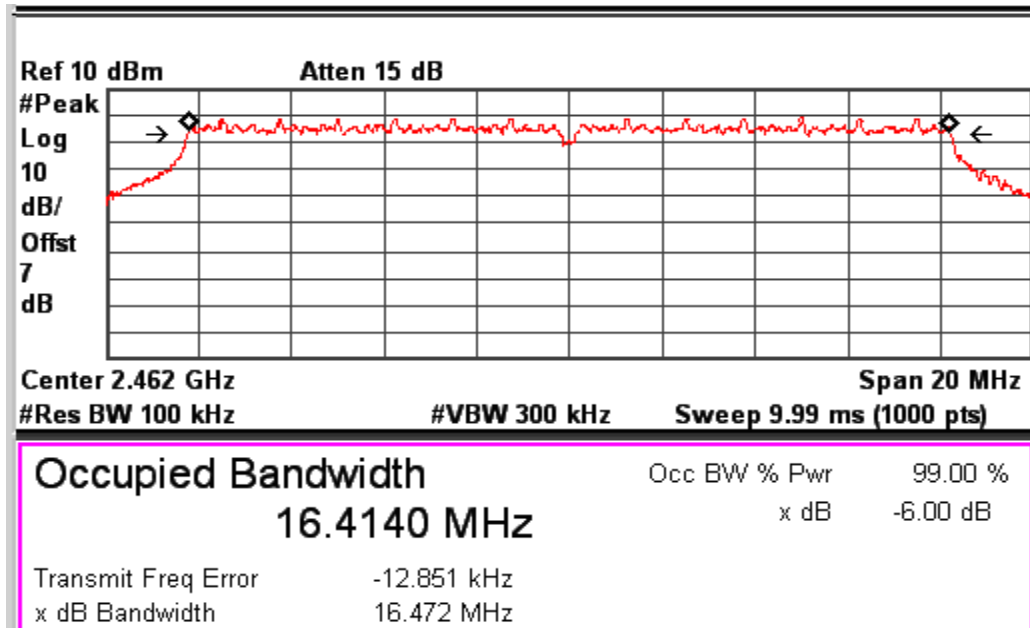
Data Rate: 24 Mbps

Channel frequencies: 2412 MHz



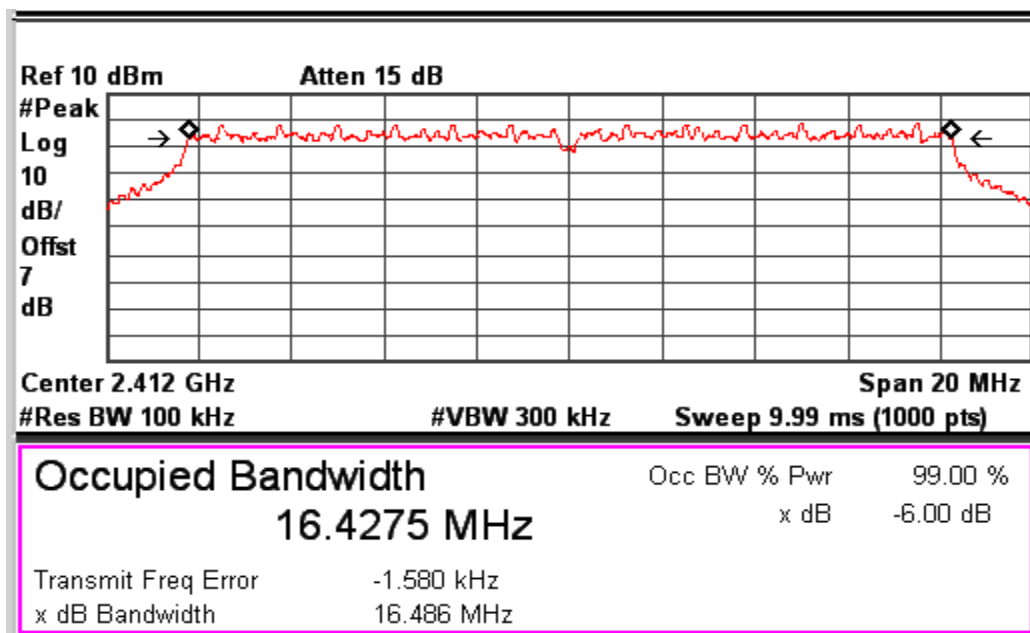
Data Rate: 24 Mbps

Channel frequencies: 2437 MHz



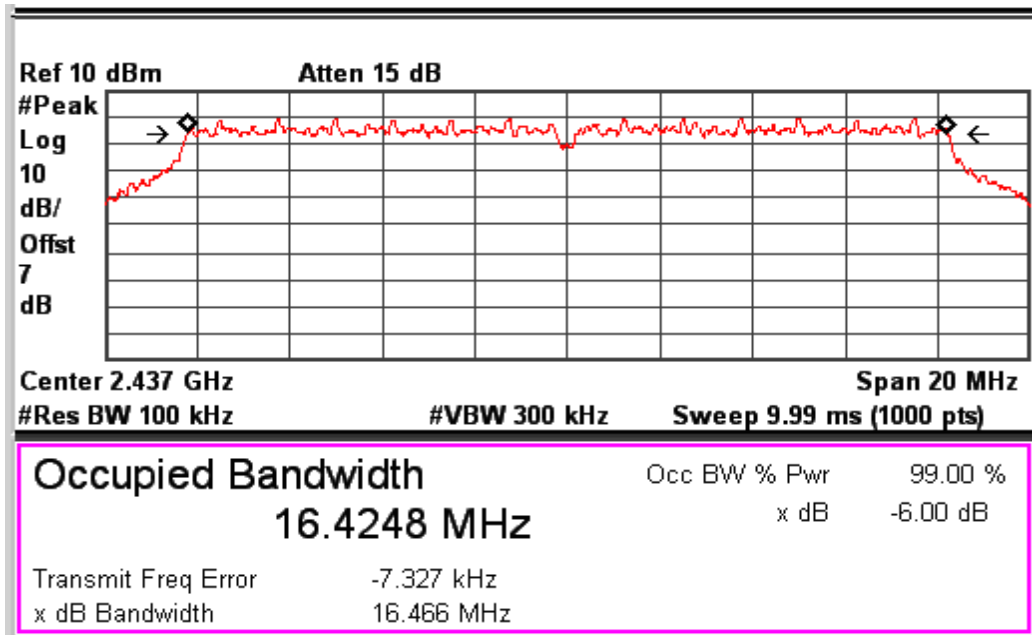
Data Rate: 24 Mbps

Channel frequencies: 2462 MHz



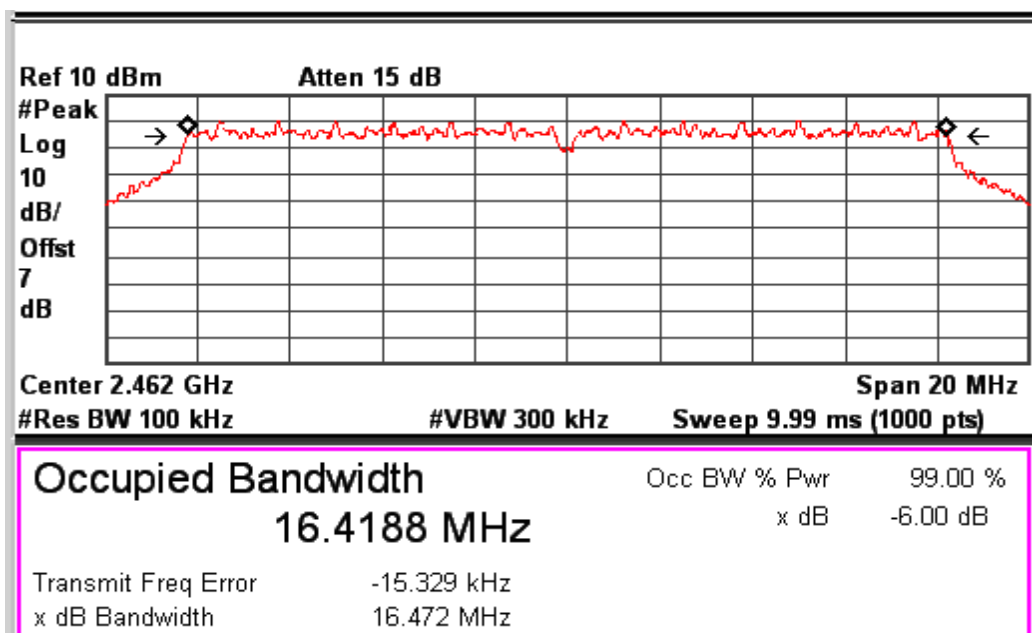
Data Rate: 54 Mbps

Channel frequencies: 2412 MHz



Data Rate: 54 Mbps

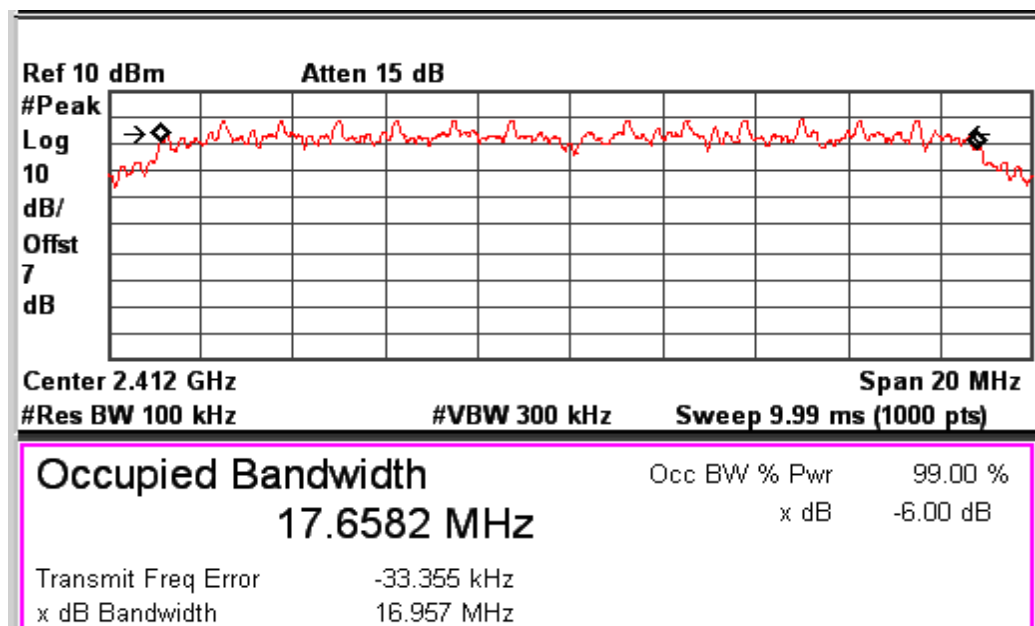
Channel frequencies: 2437MHz



Data Rate: 54 Mbps

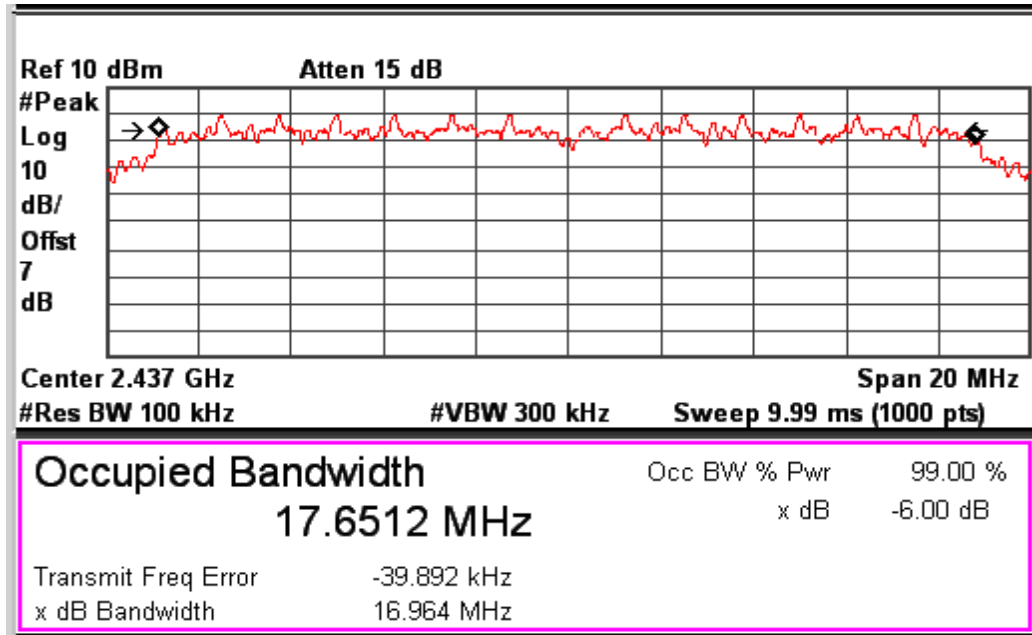
Channel frequencies: 2472 MHz

IEEE802.11nHT20			
Data Rate (Mbps)	Channel Frequency (MHz)	6 dB Bandwidth (MHz)	99% OBW (MHz)
MCS0	2412	16.95	17.65
	2437	16.96	17.64
	2462	16.95	17.64
MCS7	2412	16.95	17.65
	2437	16.95	17.65
	2462	16.94	17.65
MCS15	2412	17.40	17.64
	2437	16.94	17.64
	2462	16.95	17.63



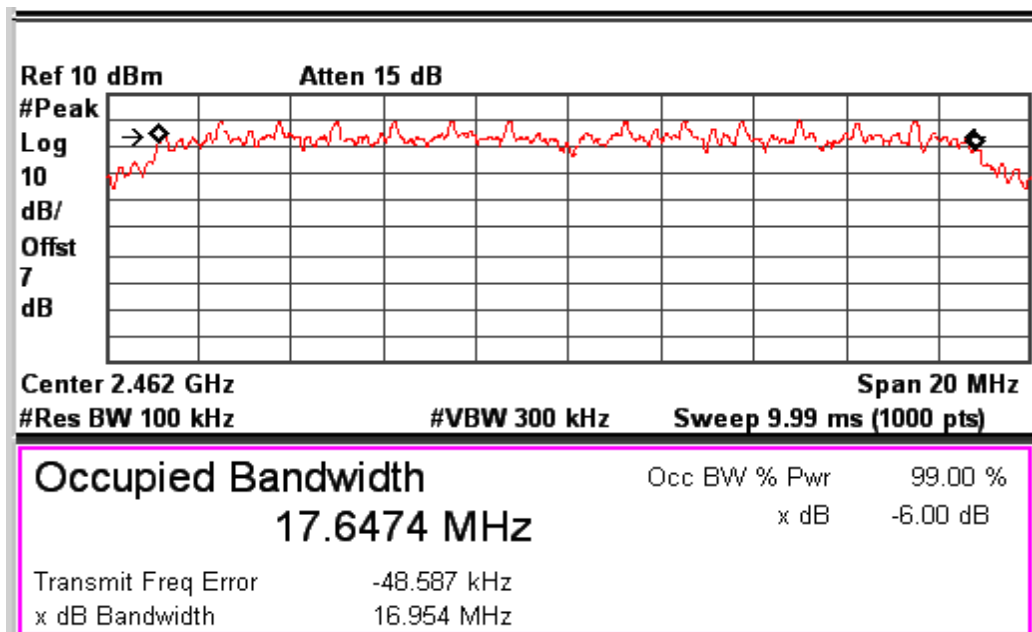
Data Rate: MCS0

Channel: 2412 MHz



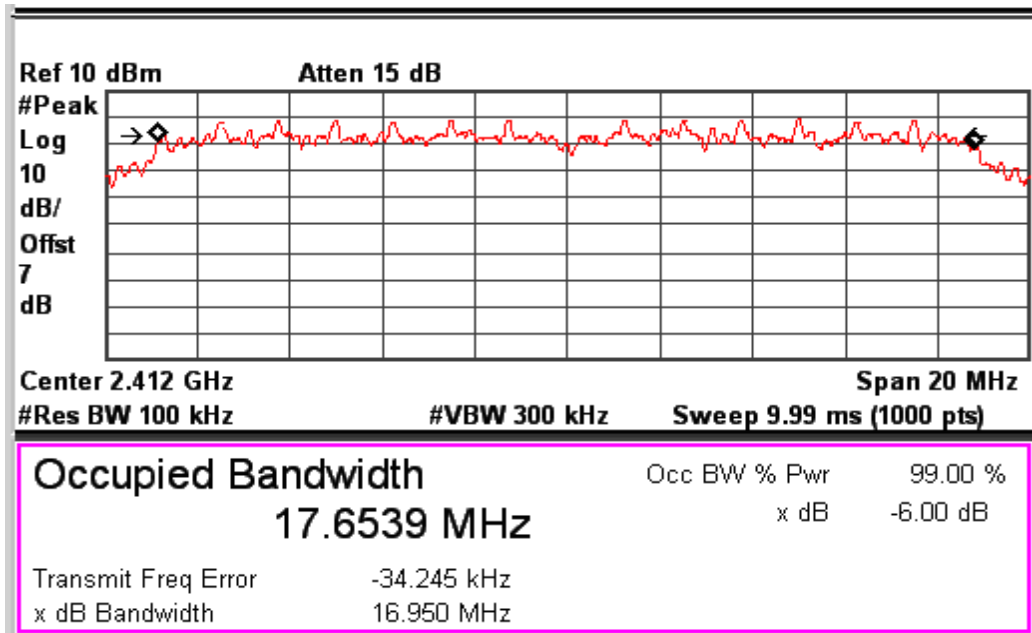
Data Rate: MCS0

Channel: 2437 MHz



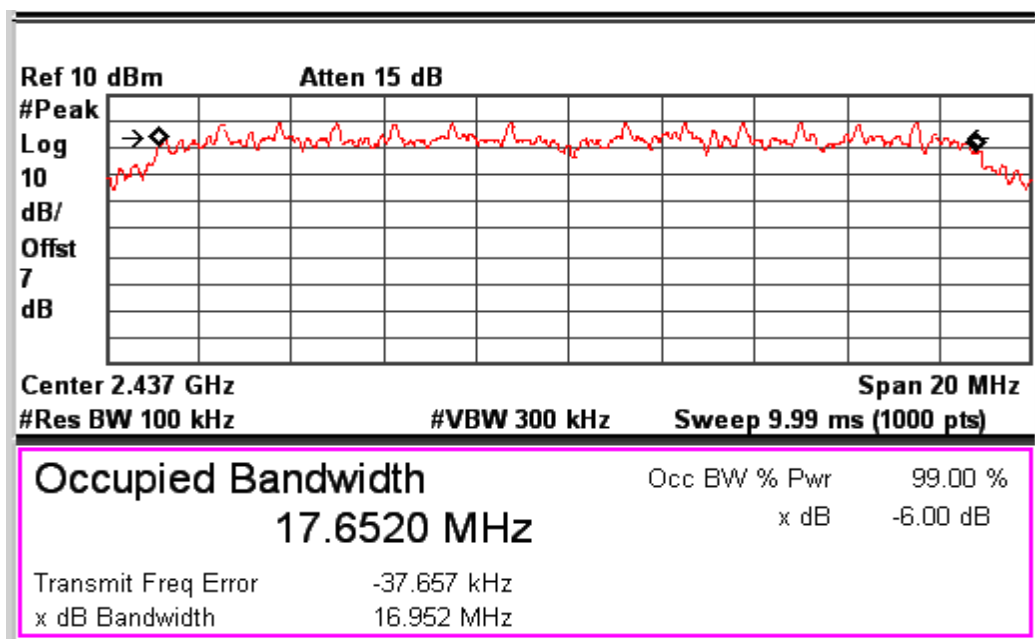
Data Rate: MCS0

Channel: 2462 MHz



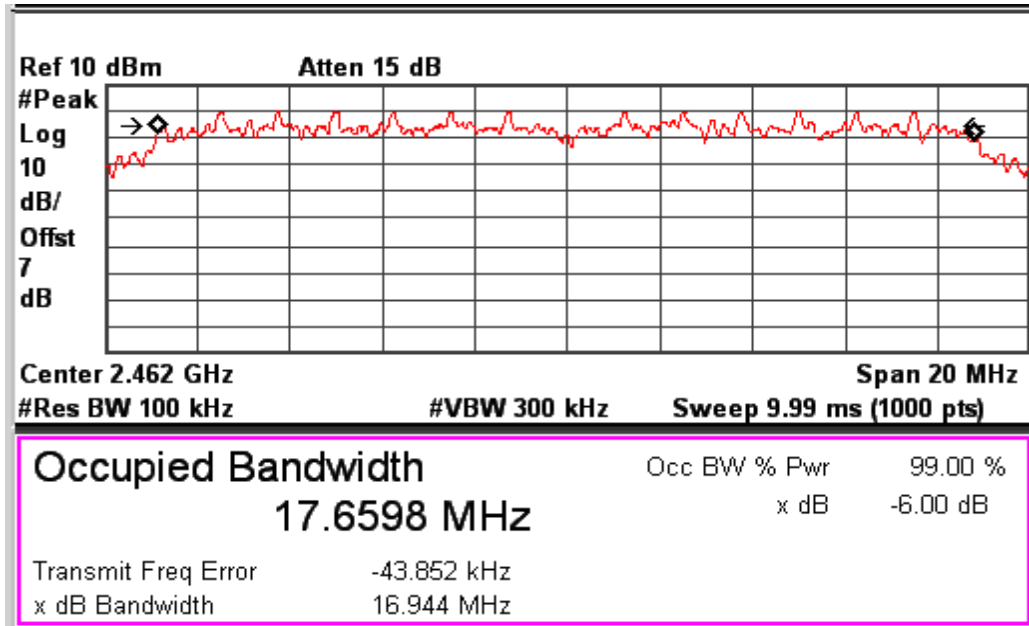
Data Rate: MCS7

Channel: 2412 MHz



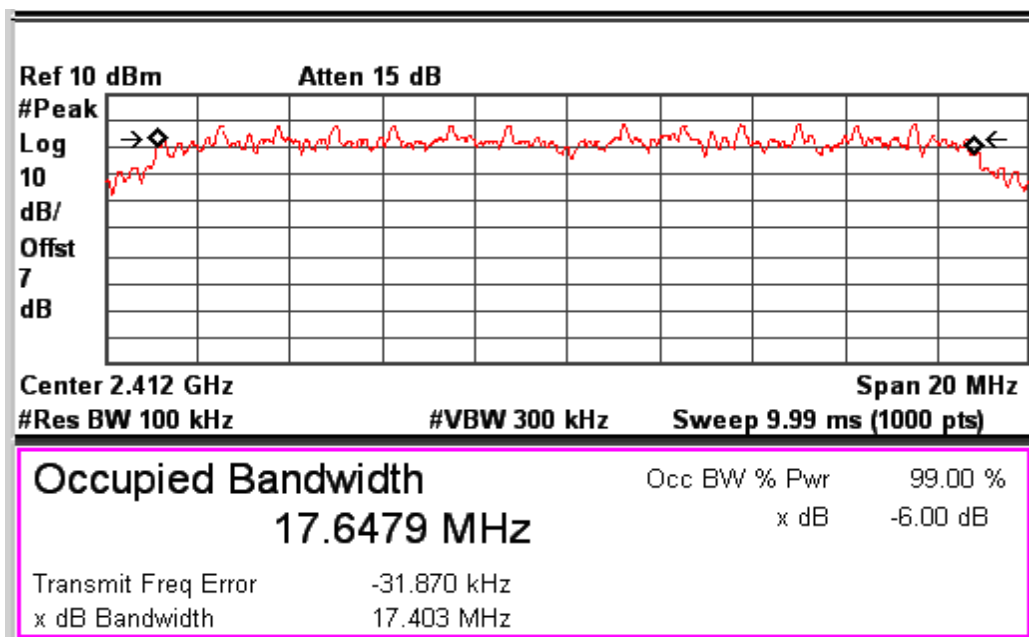
Data Rate: MCS7

Channel: 2437 MHz



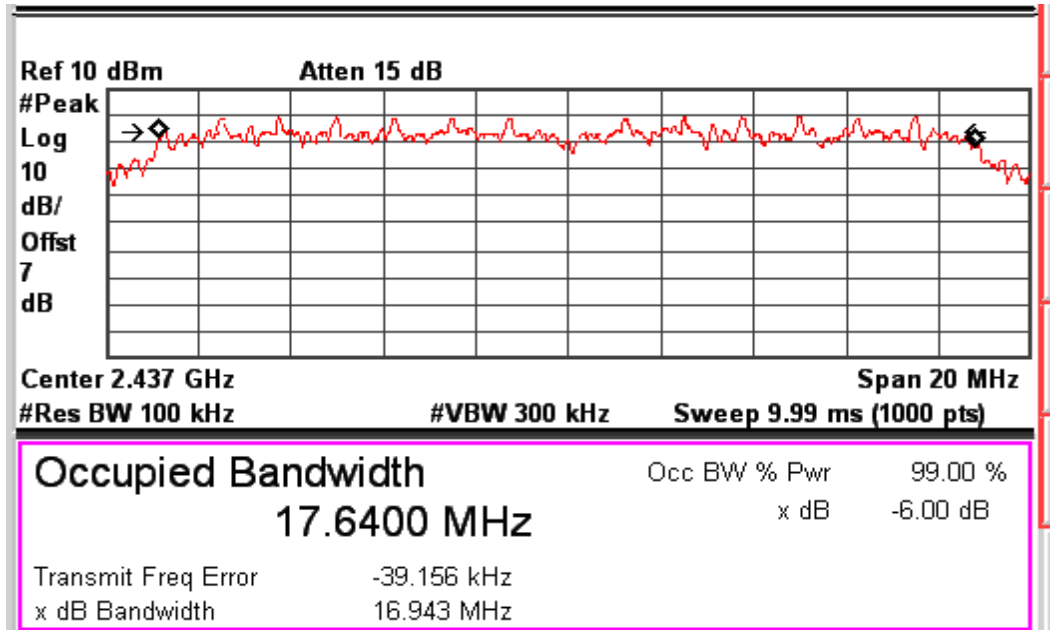
Data Rate: MCS7

Channel: 2462 MHz



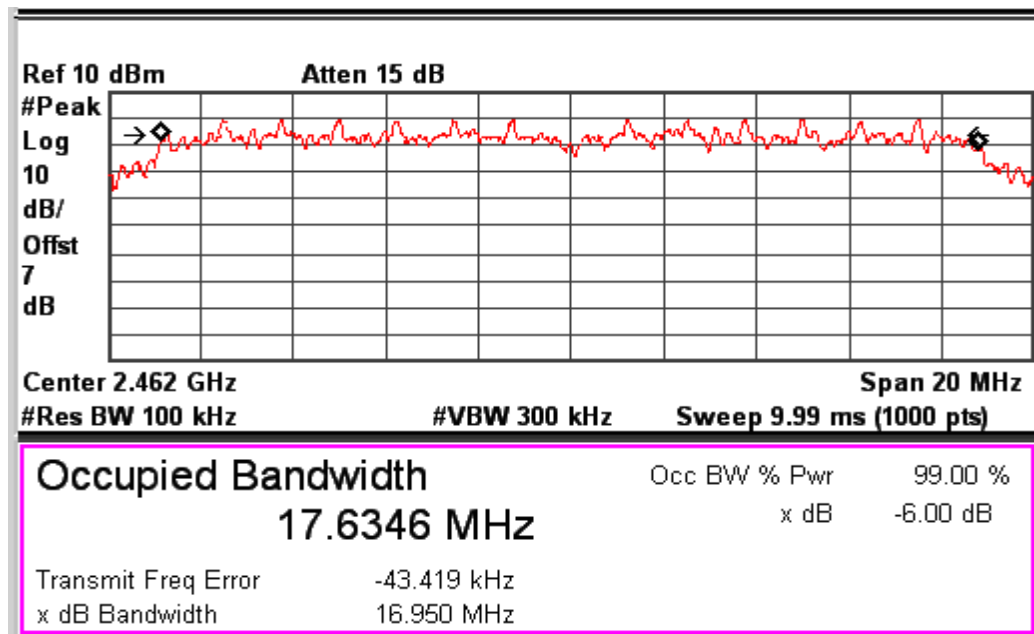
Data Rate: MCS15

Channel: 2412 MHz



Data Rate: MCS15

Channel: 2437MHz

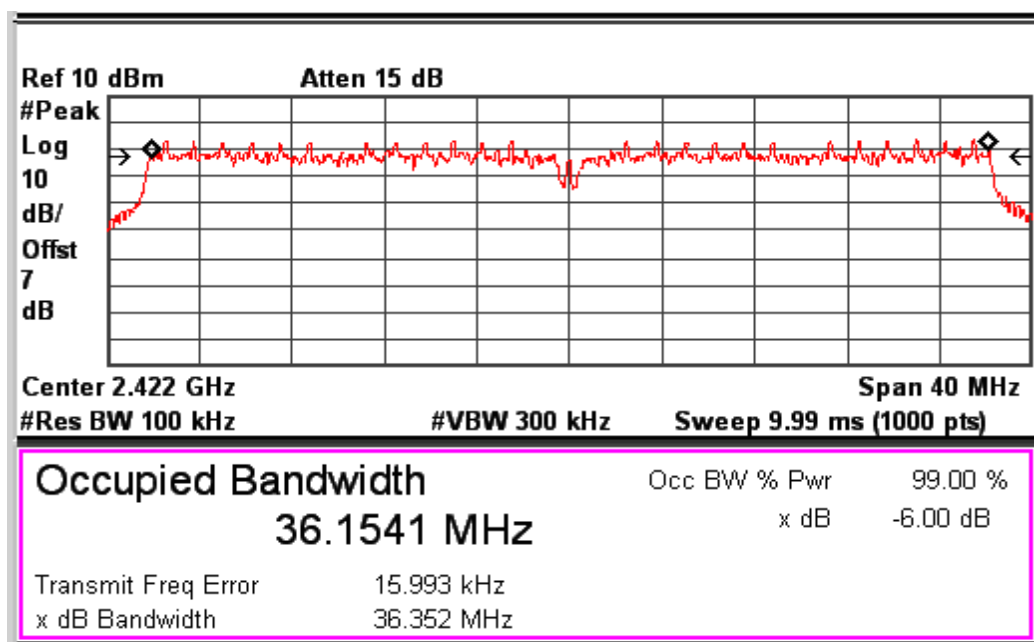


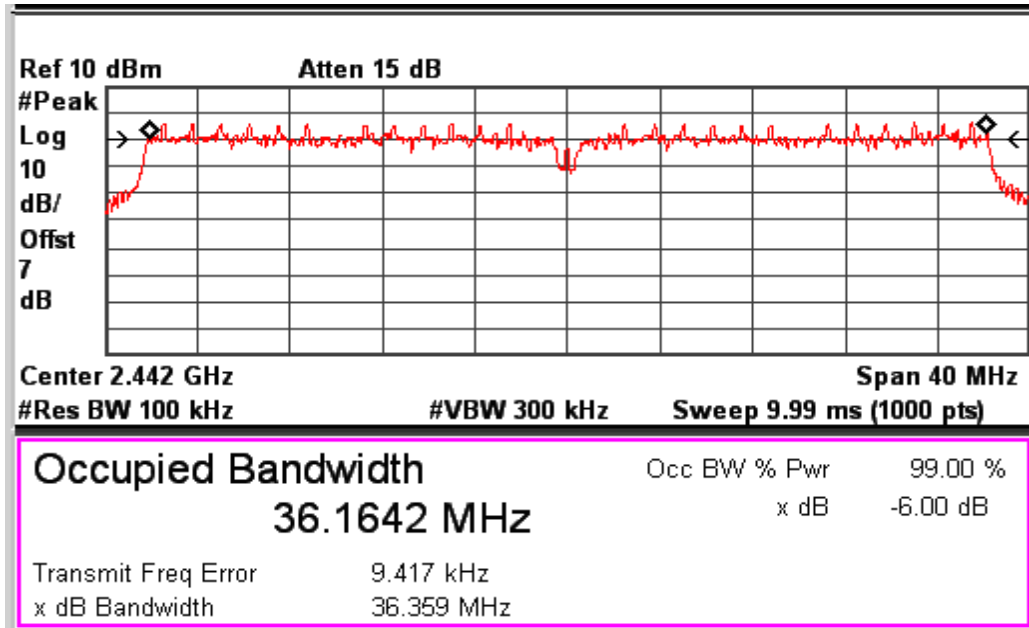
Data Rate: MCS15

Channel: 2462 MHz



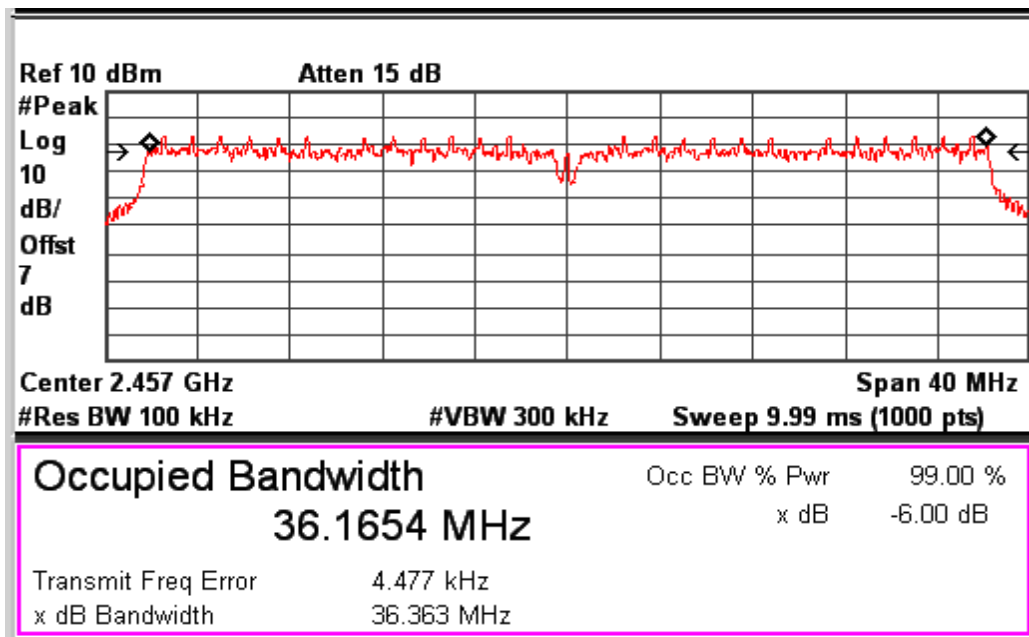
IEEE802.11nHT40			
Data Rate (Mbps)	Channel Frequency (MHz)	6 dB Bandwidth (MHz)	99% OBW (MHz)
MCS0	2422	36.35	36.15
	2442	36.35	36.16
	2457	36.32	36.18
MCS7	2422	36.32	36.18
	2442	36.33	36.18
	2457	36.37	<b>36.19</b>
MCS15	2422	35.80	36.14
	2442	35.80	36.14
	2457	35.80	36.14


**Data Rate: MCS0**
**Channel: 2422 MHz**



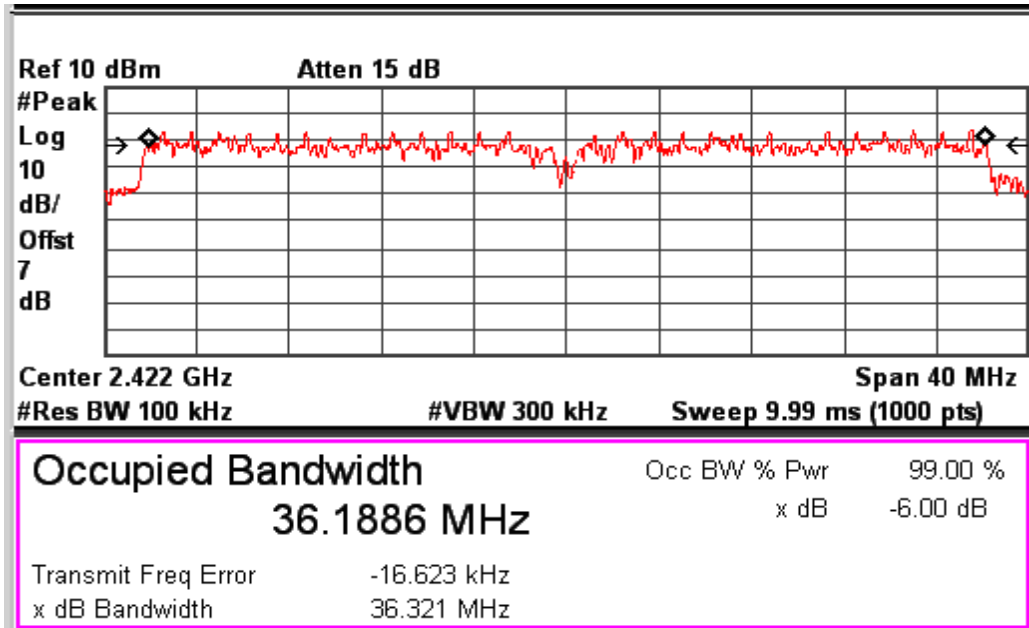
Data Rate: MCS0

Channel: 2442 MHz



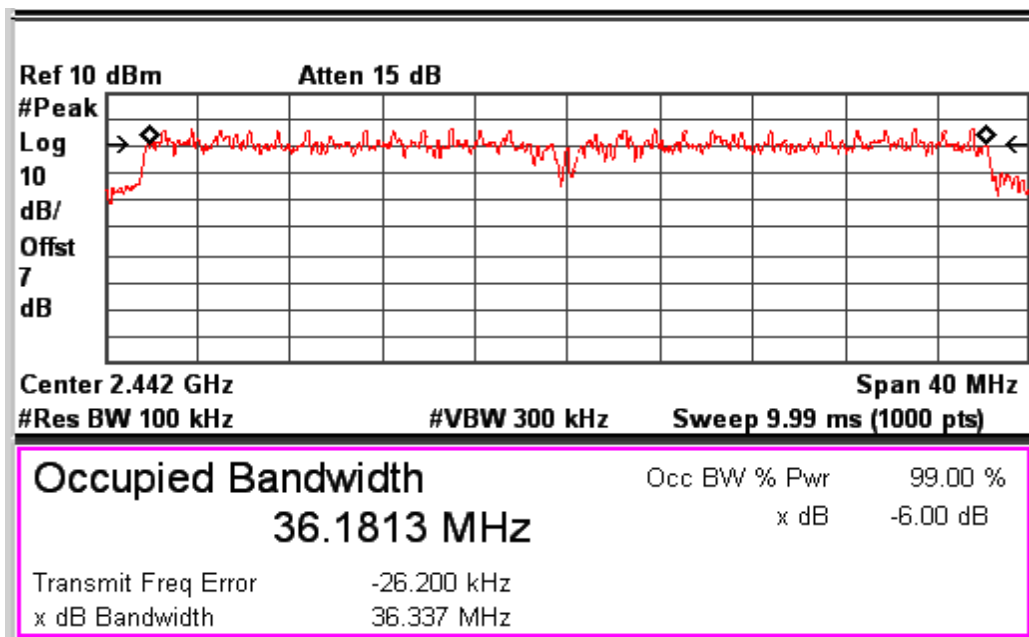
Data Rate: MCS0

Channel: 2457 MHz



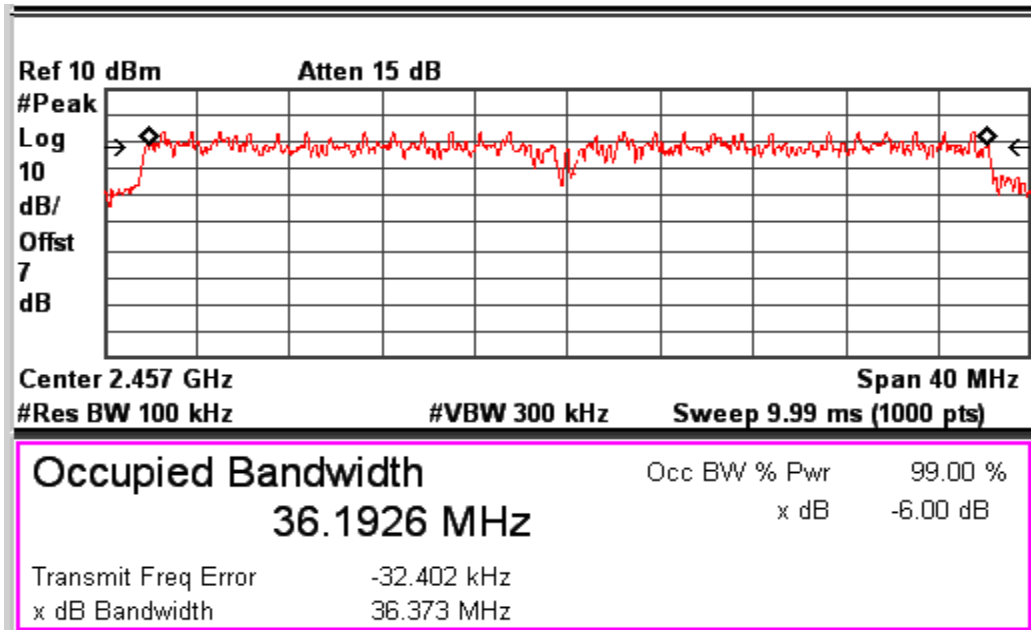
Data Rate: MCS7

Channel: 2422 MHz



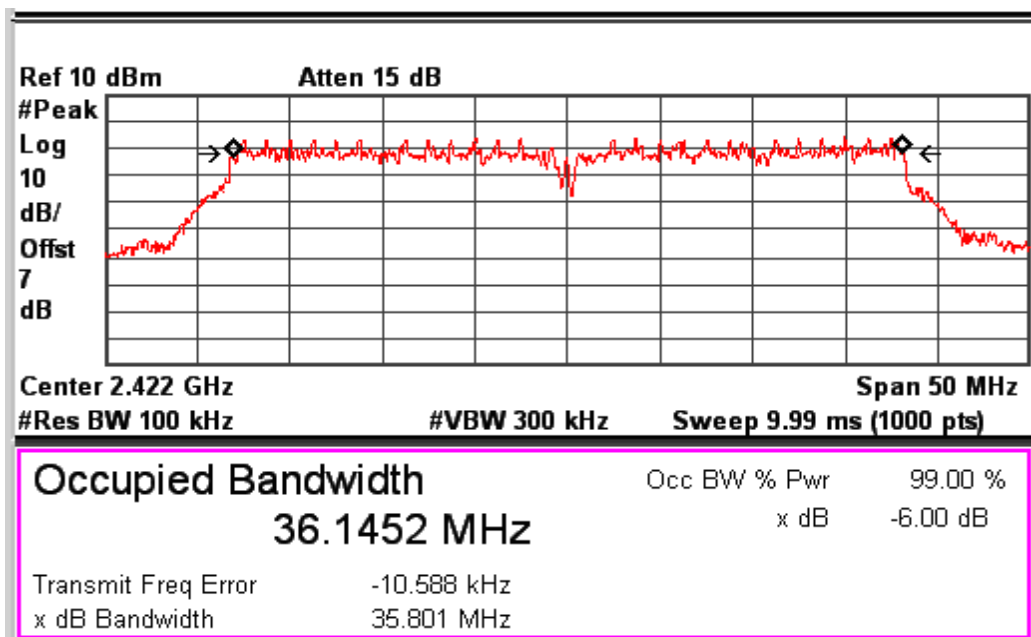
Data Rate: MCS7

Channel: 2442 MHz



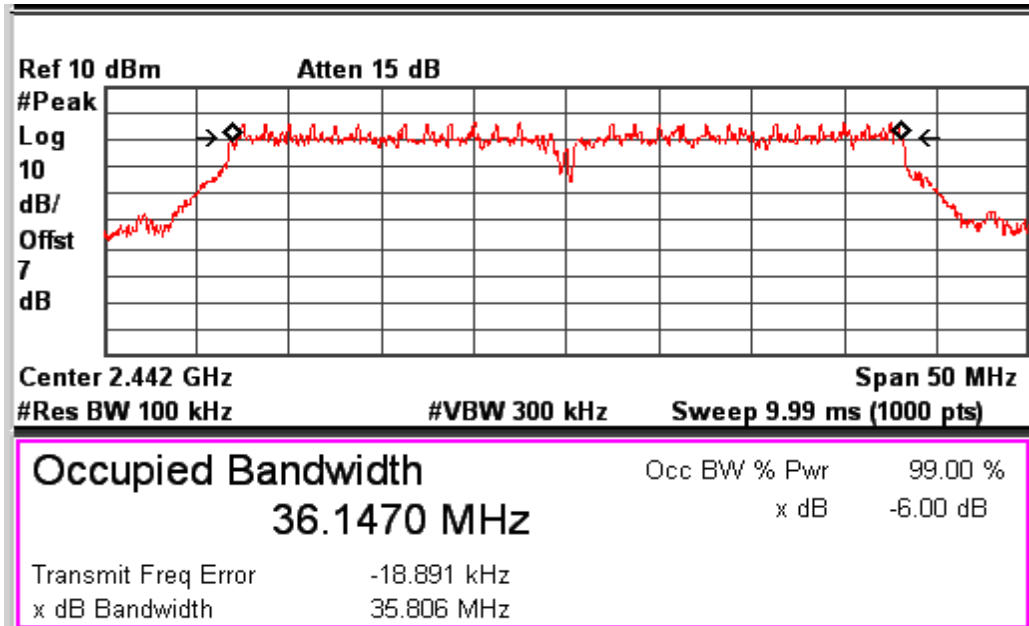
Data Rate: MCS7

Channel: 2457 MHz



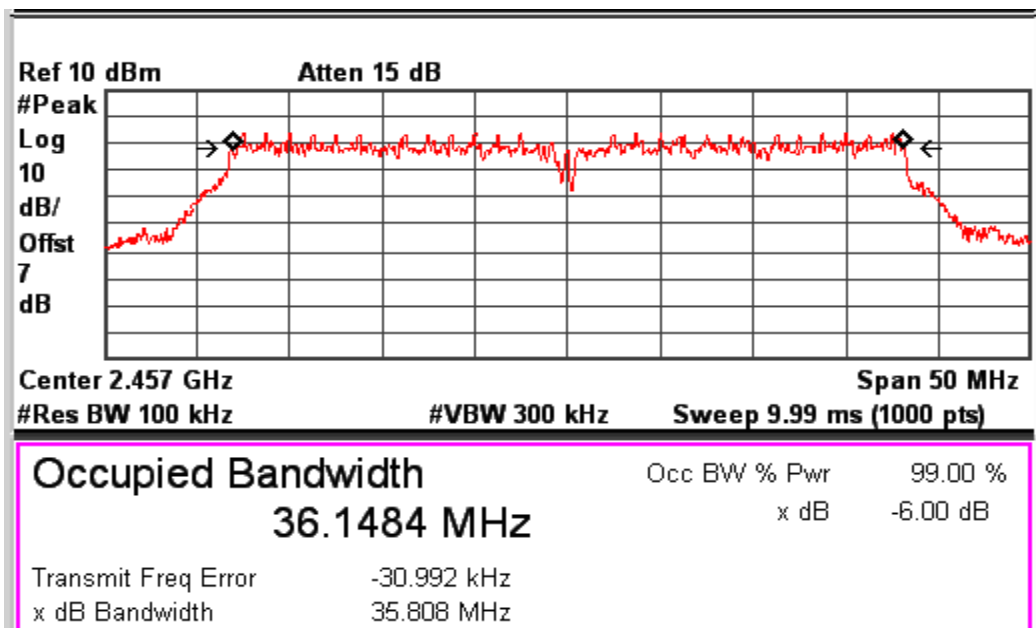
Data Rate: MCS15

Channel: 2422 MHz



Data Rate: MCS15

Channel: 2442MHz



Data Rate: MCS15

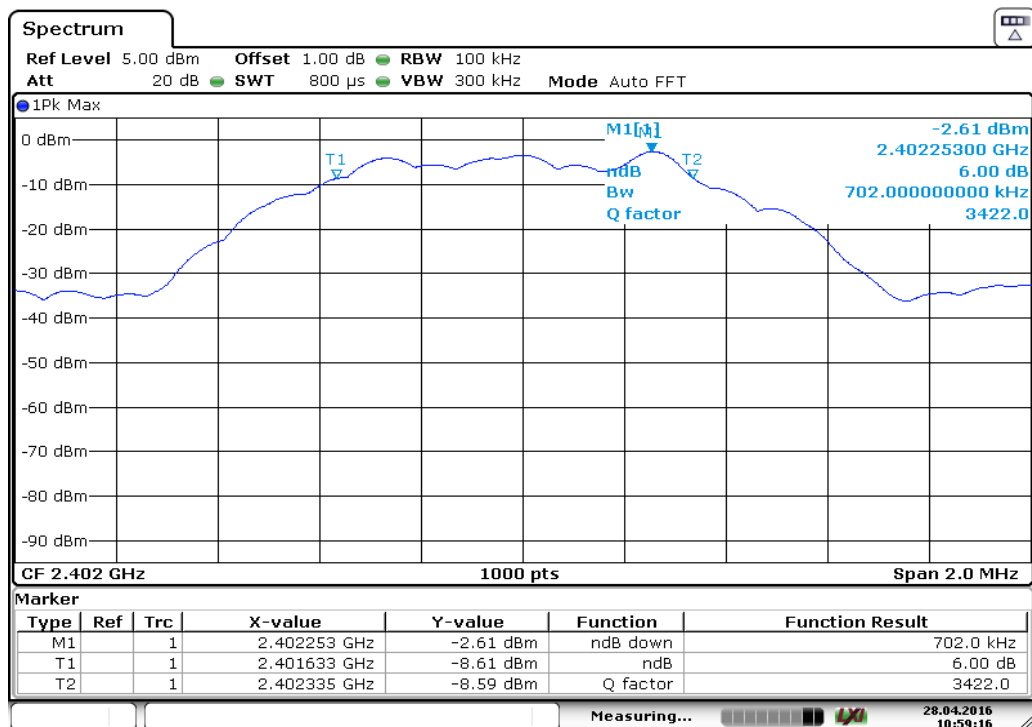
Channel: 2457 MHz

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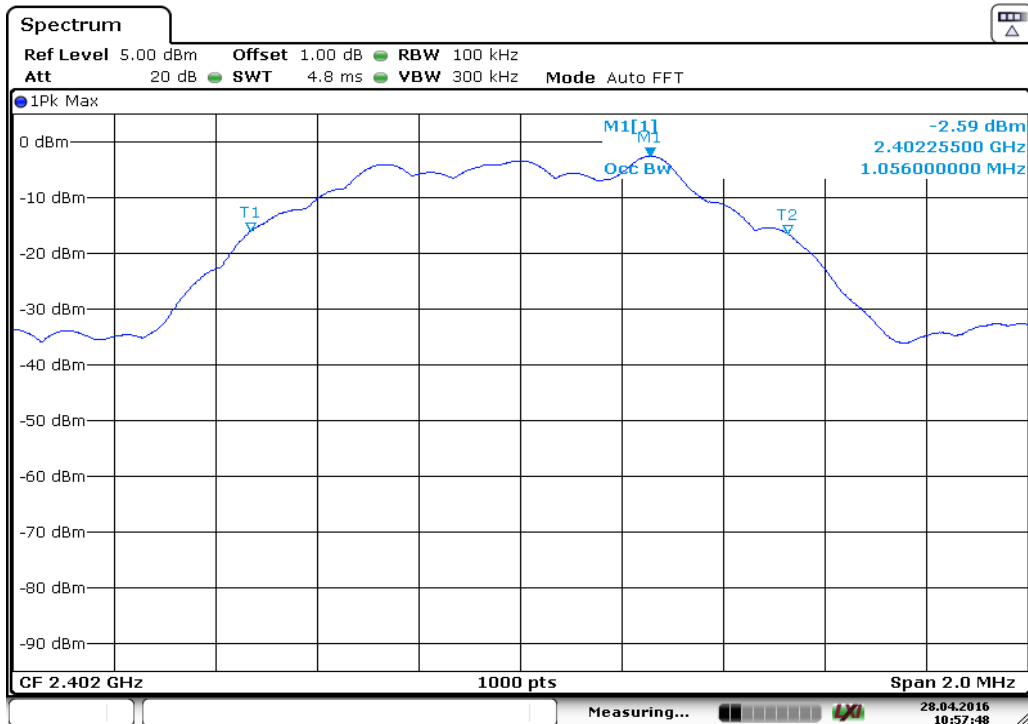
### Test Result: Bluetooth LE

Attenuator (6dB) + cable loss (1dB) = 7dB Considered in the test result

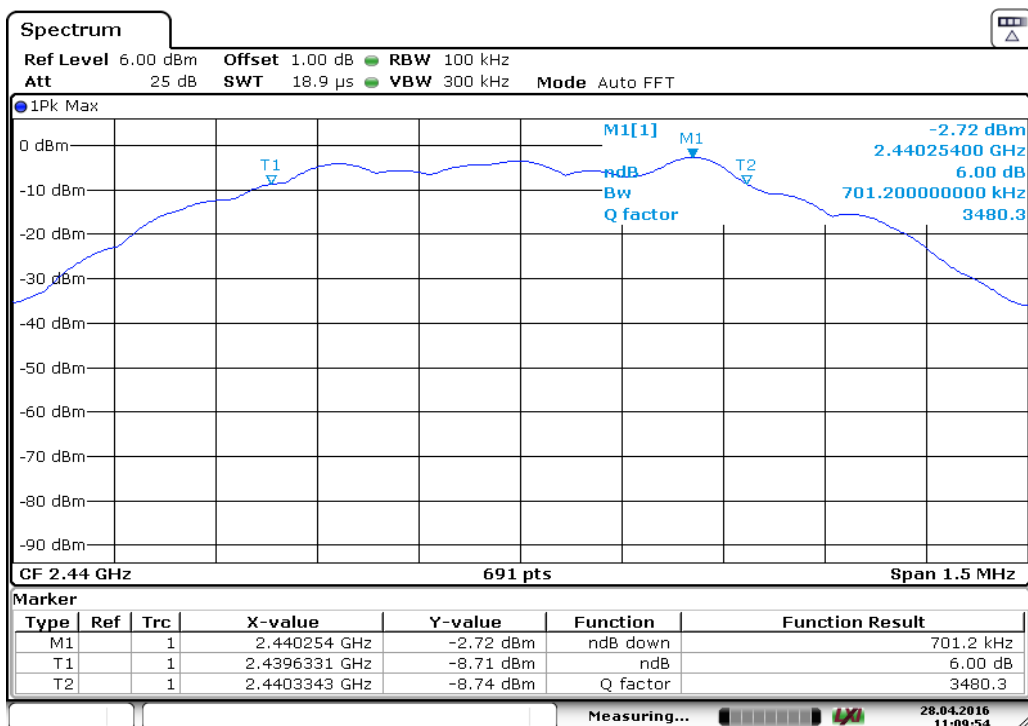
Channel Frequency (MHz)	6 dB Bandwidth (kHz)	99% OBW (MHz)
2402	702.0	1.05
2440	701.2	1.05
2480	701.2	1.05



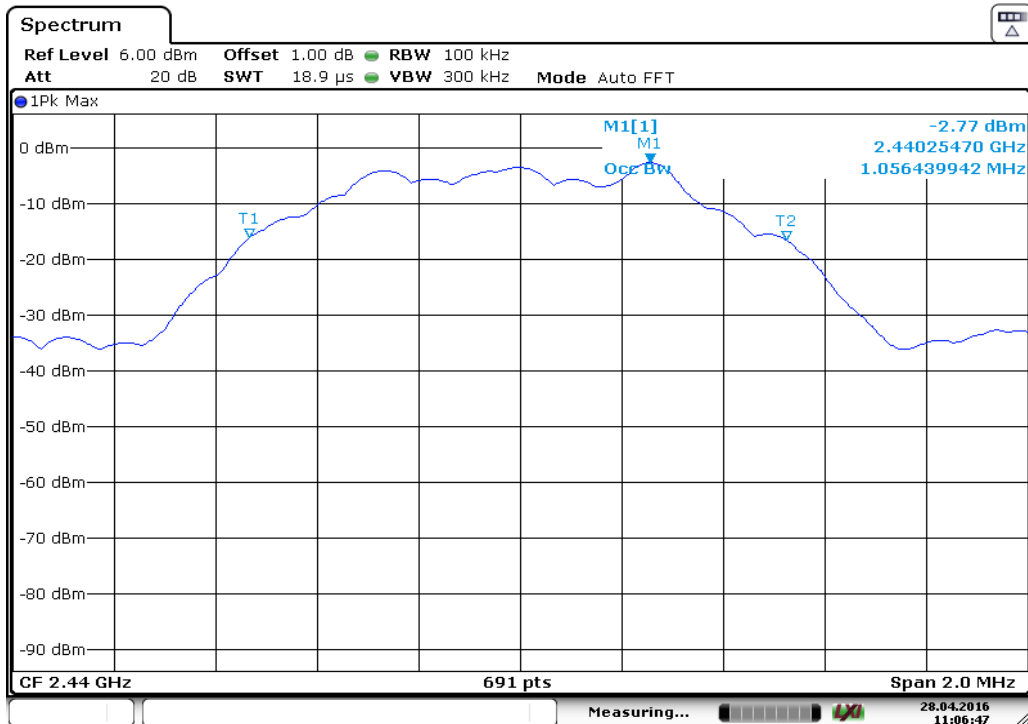
www.tuv.com



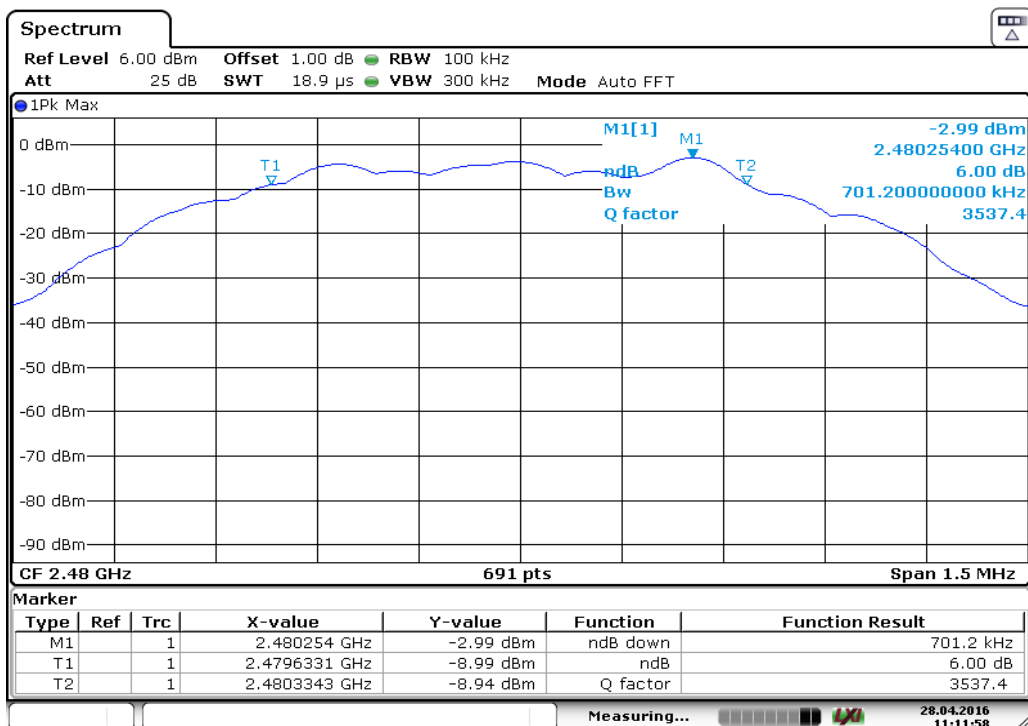
Channel Frequency: 2402 MHz



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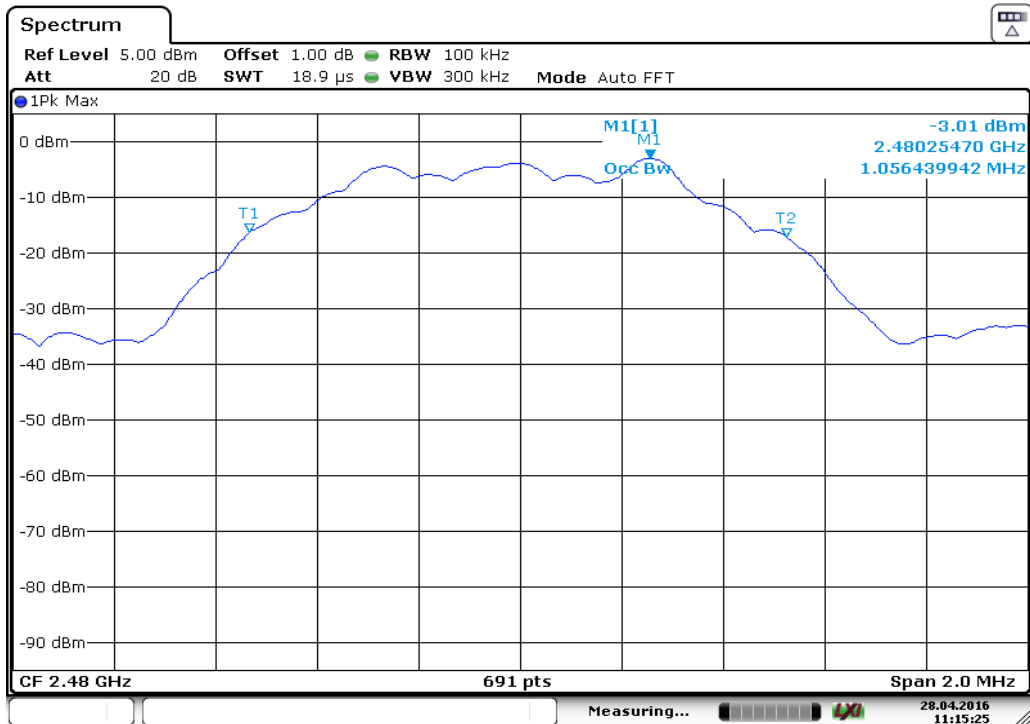


Channel Frequency: 2440 MHz





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Channel Frequency: 2480 MHz

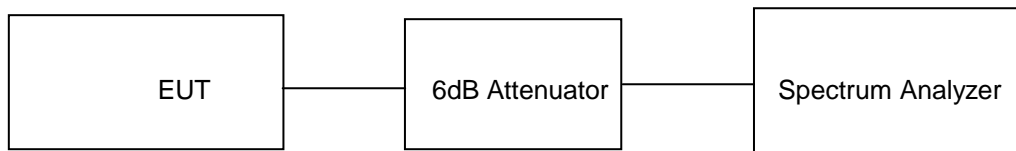
**Emissions in non-restricted frequency bands**  
**Result**
**Section 15.247(d)**  
**Pass**

Test Specification  
Detector Function  
Requirement

FCC Part 15 Section 15.247(d)

Peak

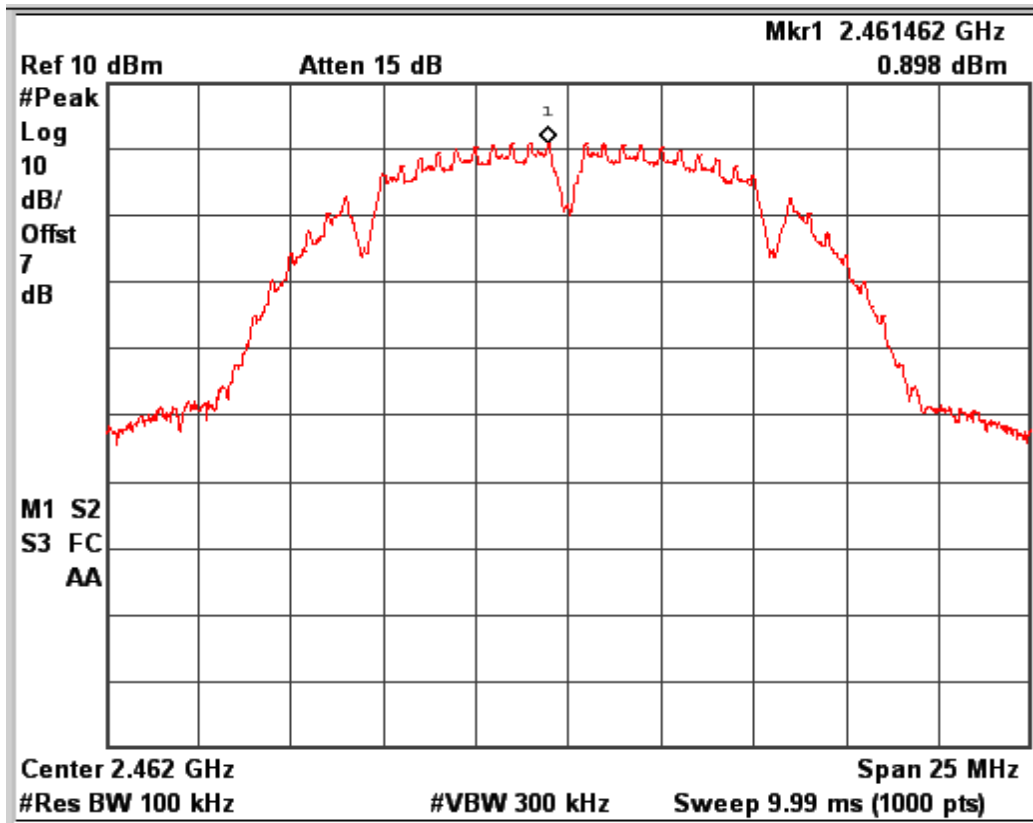
In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

**Test Method:**

**Test Result: Wi-Fi**

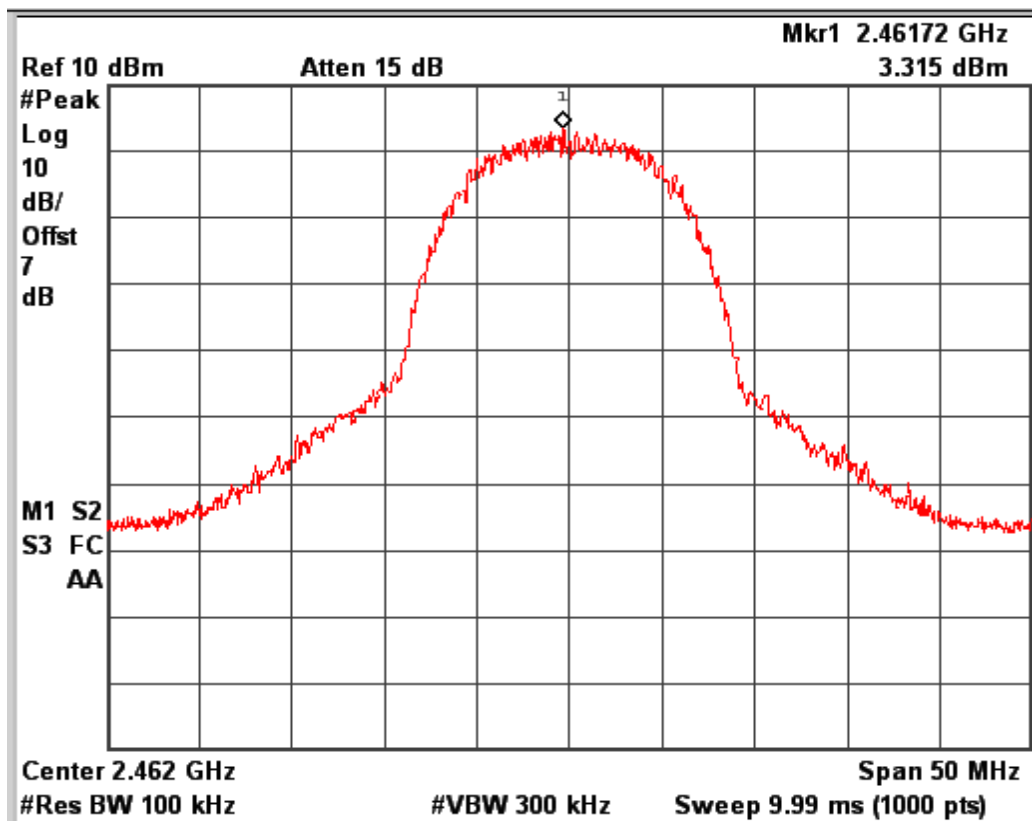
Attenuator (6dB) + cable loss (1dB) = 7dB Considered in the test result

**Test Results for Path A**

IEEE802.11b						
Data Rate (Mbps)	Channel Frequency (MHz)	Value at Band Edge		Reference Value B (dBm)	Band Edge Value A~B (dBc)	Limit (dBc)
		Frequency (MHz)	Value A (dBm)			
1	2412	2400	-42.92	0.89	43.81	30
	2462	2483.5	-57.01	0.89	57.9	30
11	2412	2400	-40.69	3.31	44.00	30
	2462	2483.5	-56.6	3.31	59.91	30

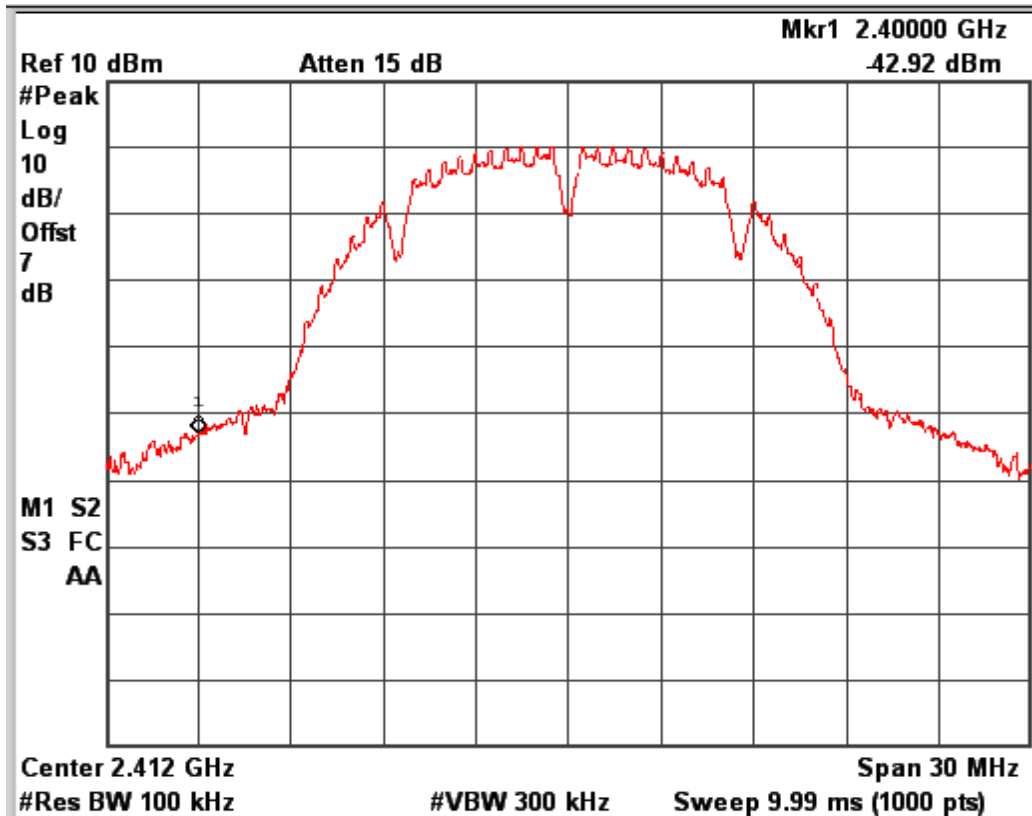


Reference Level Plot: 1Mbps



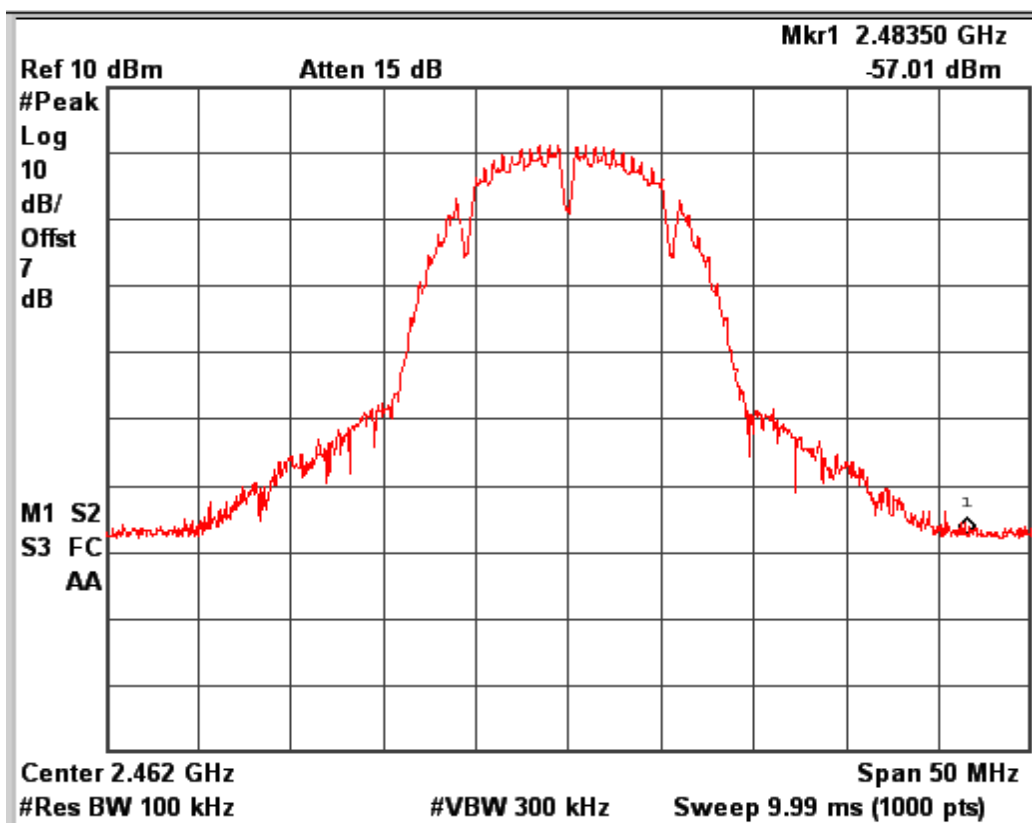
Reference Level Plot: 11Mbps

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Data Rate: 1 Mbps

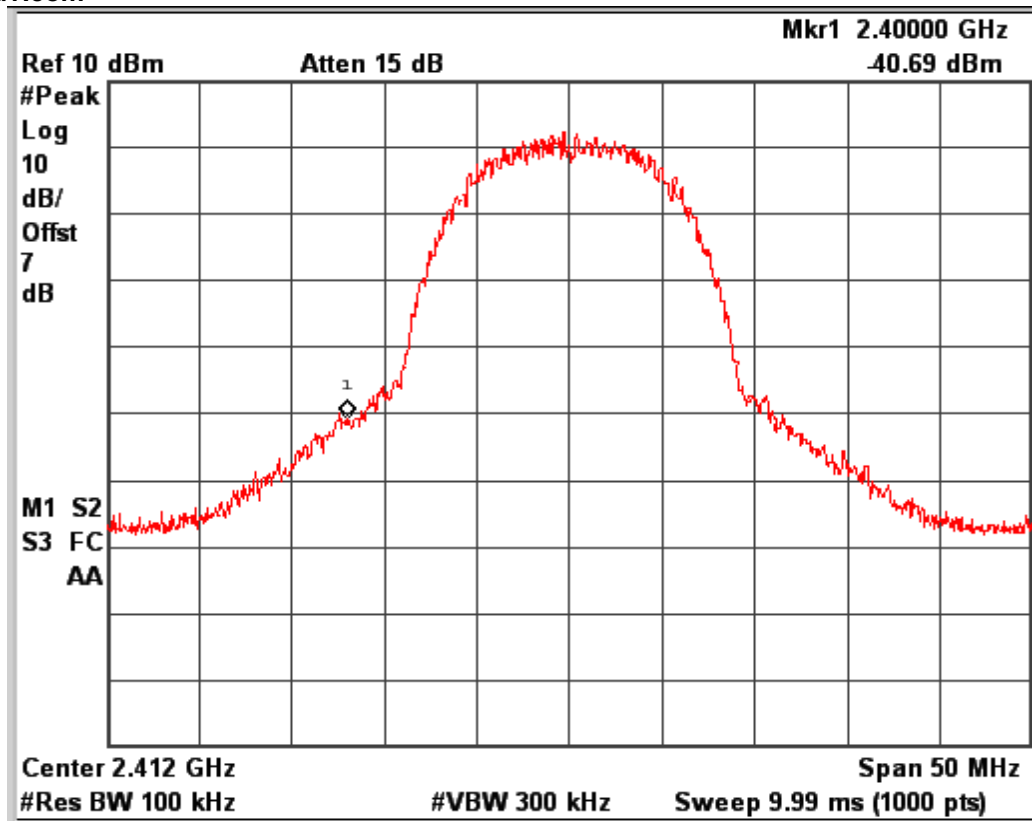
Channel frequency: 2412 MHz



Data Rate: 1 Mbps

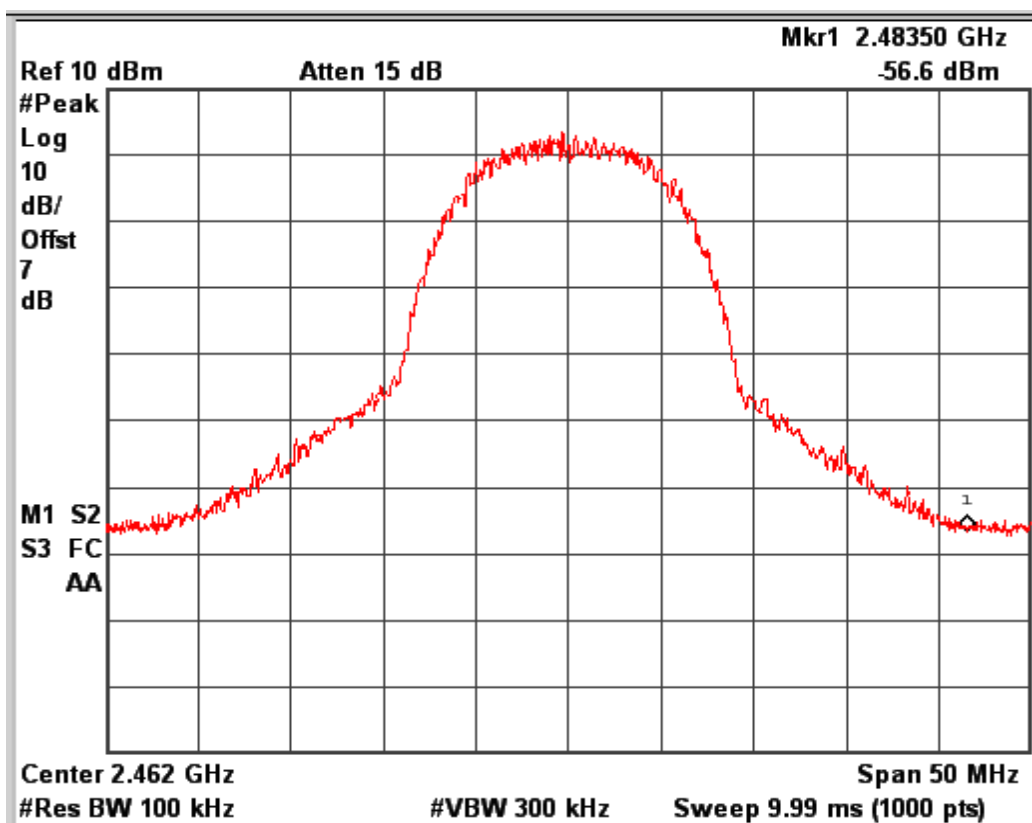
Channel frequency: 2462 MHz

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Data Rate: 11 Mbps

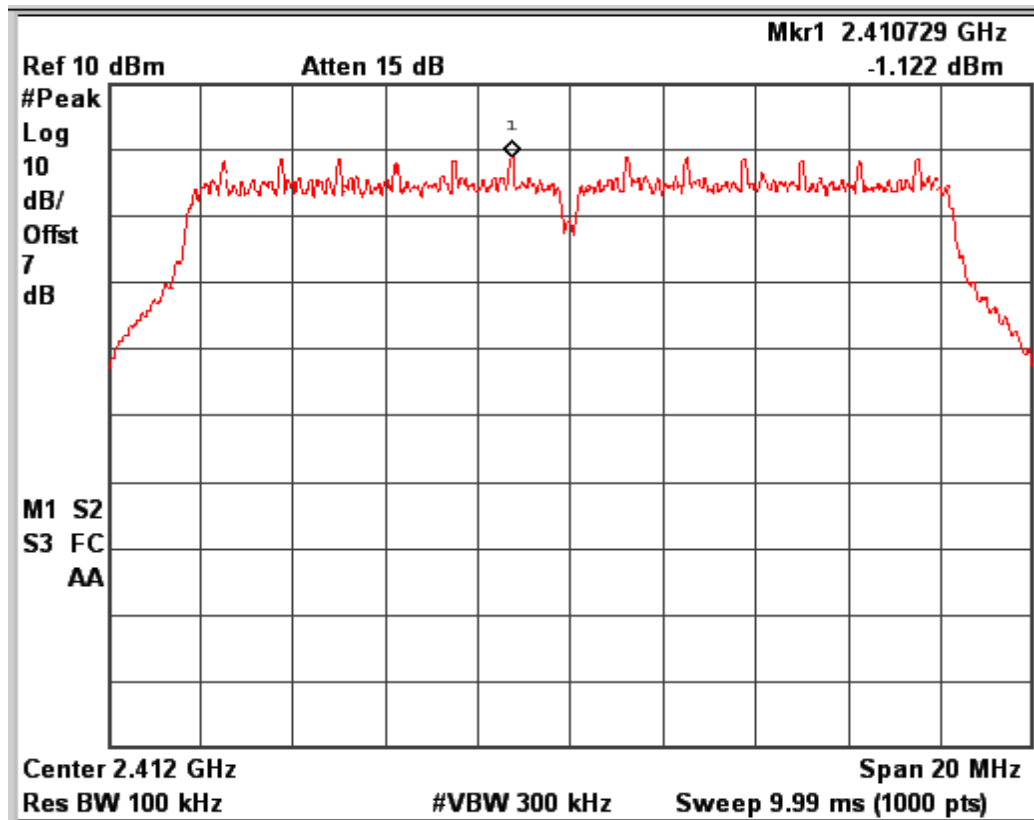
Channel frequency: 2412 MHz



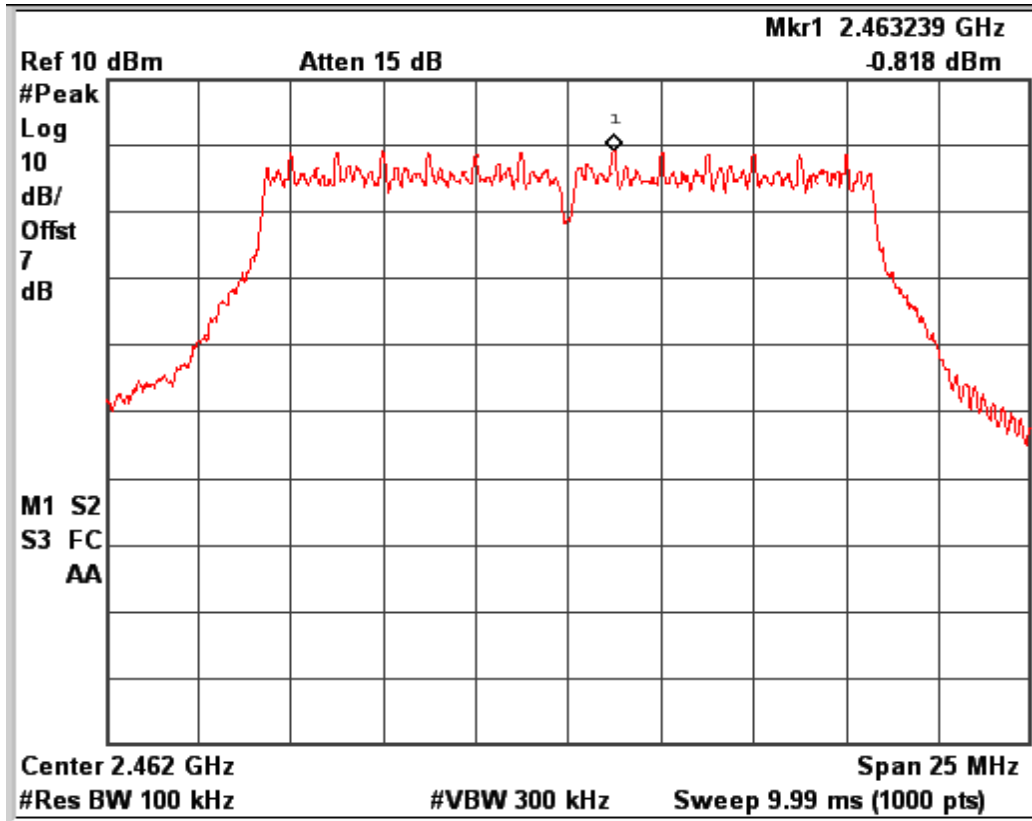
Data Rate: 11 Mbps

Channel frequency: 2462 MHz

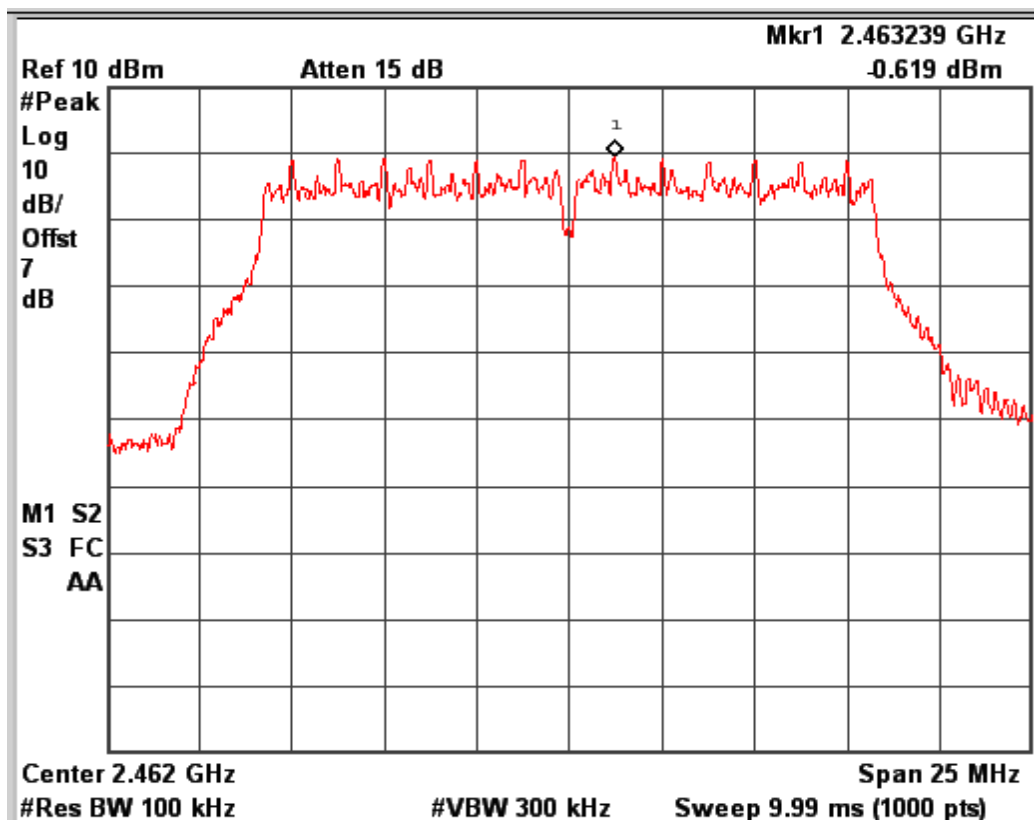
IEEE802.11g						
Data Rate (Mbps)	Channel Frequency (MHz)	Value at Band Edge		Reference Value B (dBm)	Band Edge Value A~B (dBc)	Limit (dBc)
		Frequency (MHz)	Value A (dBm)			
6	2412	2400	-39.39	-1.12	38.27	30
	2462	2483.5	-53.15	-1.12	52.03	30
24	2412	2400	-38.99	-0.81	38.18	30
	2462	2483.5	-54.03	-0.81	53.22	30
54	2412	2400	-43.74	-0.61	43.13	30
	2462	2483.5	-53.28	-0.61	52.67	30



Reference Level Plot: 6 Mbps

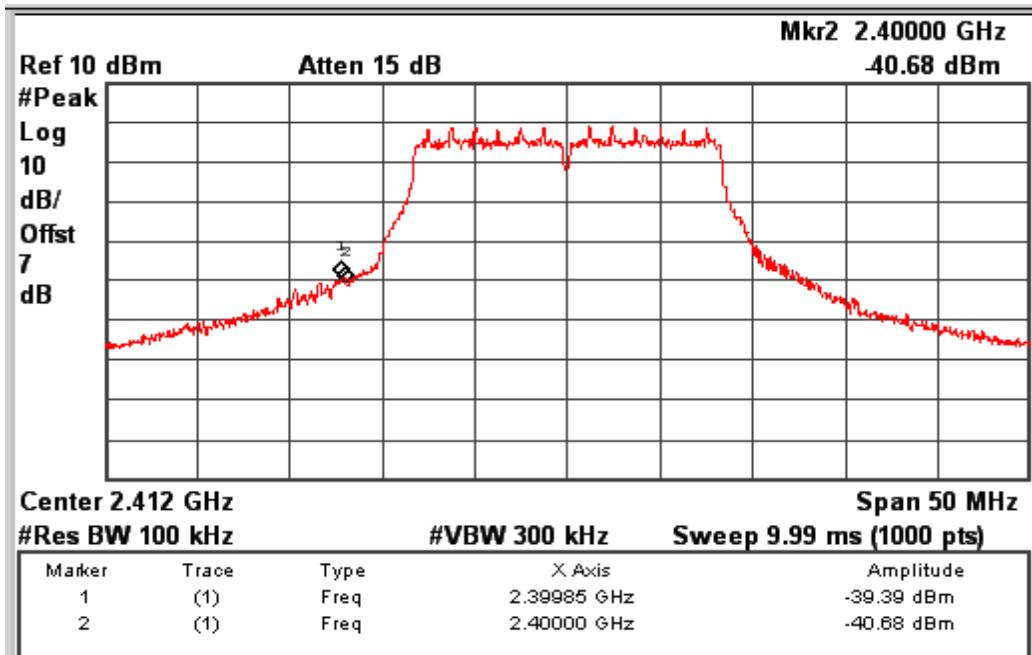


Reference Level Plot: 24 Mbps



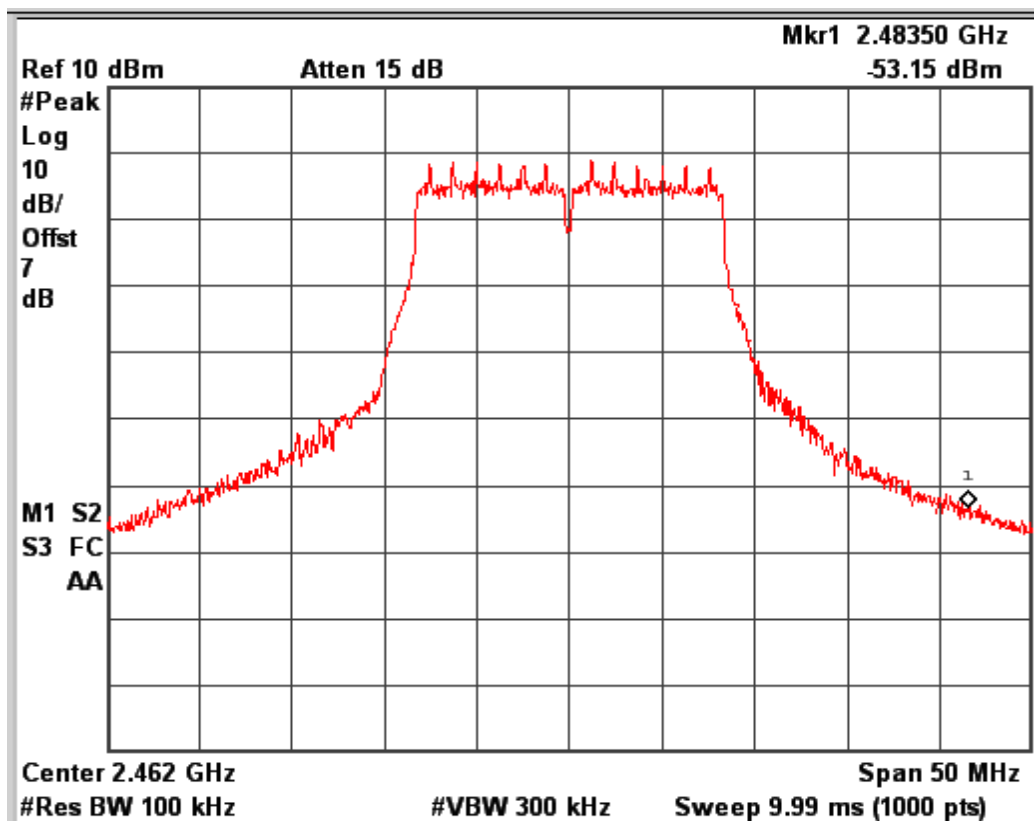
Reference Level Plot: 54 Mbps

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Data Rate: 6 Mbps

Channel frequency: 2412 MHz

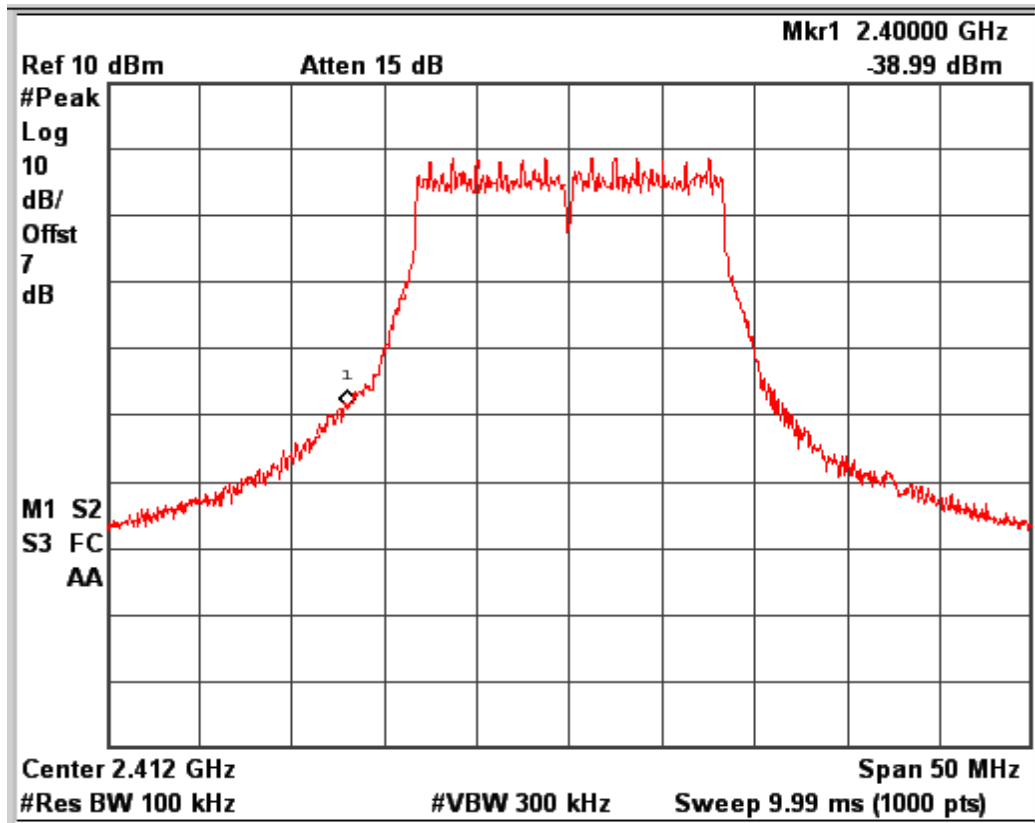


Data Rate: 6 Mbps

Channel frequency: 2462 MHz

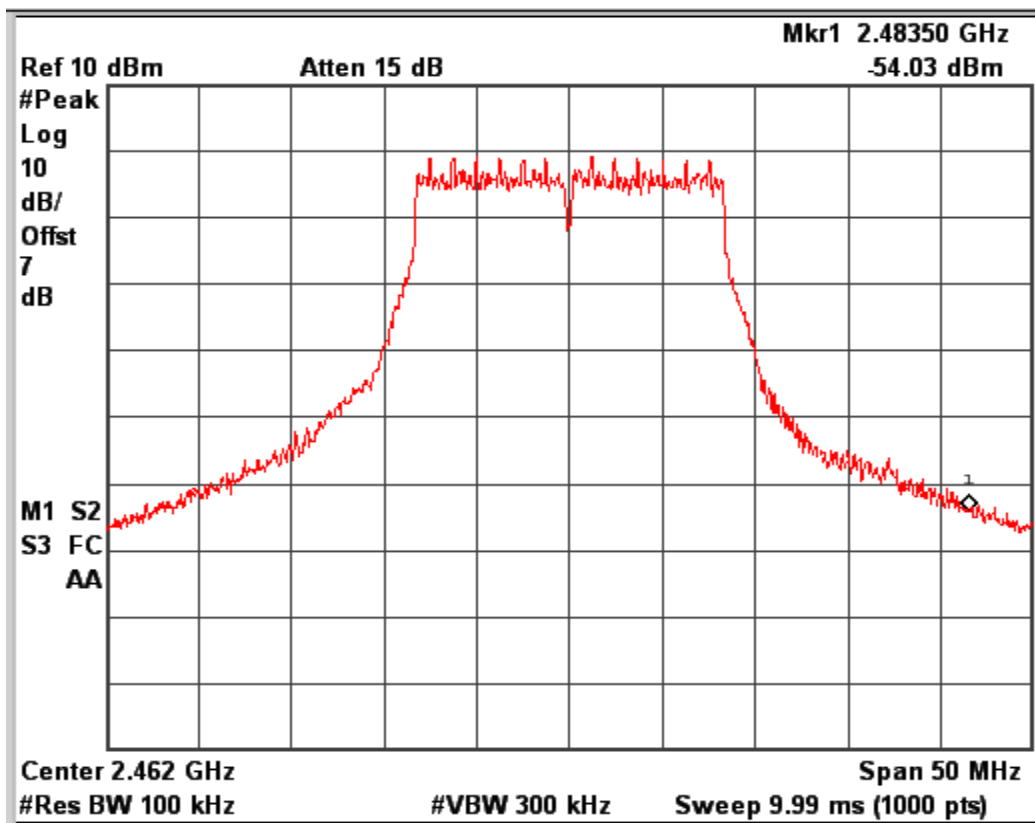


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Data Rate: 24 Mbps

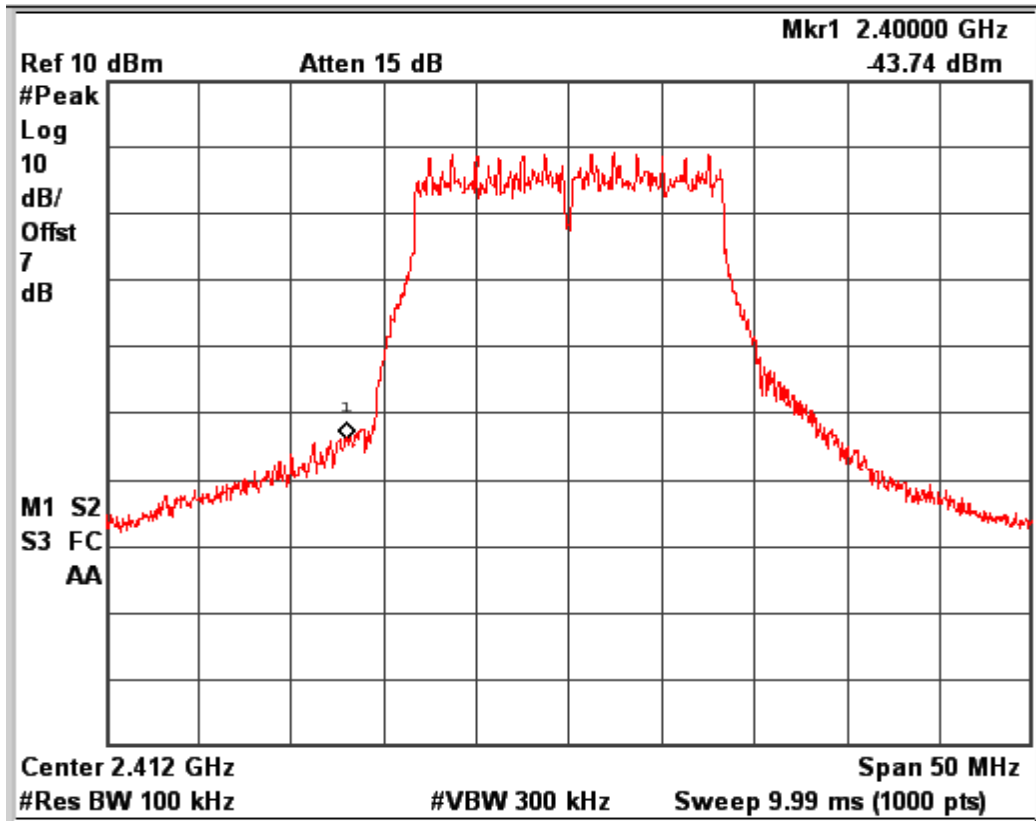
Channel frequency: 2412 MHz



Data Rate: 24 Mbps

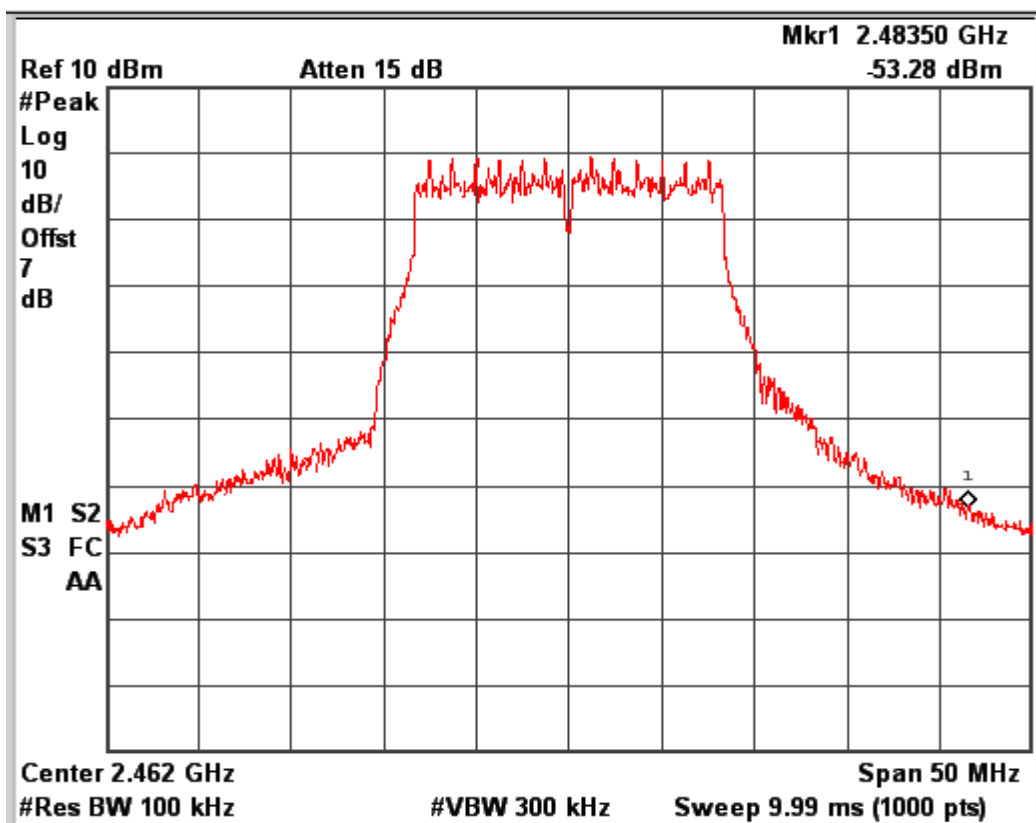
Channel frequency: 2462 MHz

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Data Rate: 54 Mbps

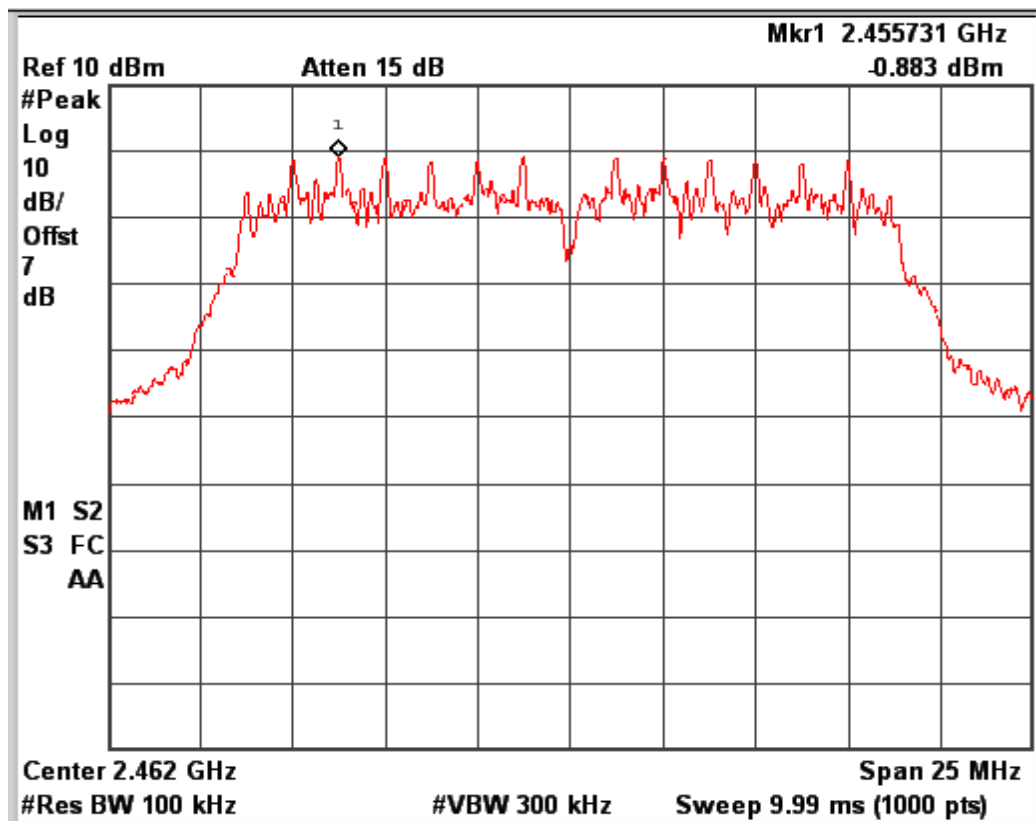
Channel frequency: 2412 MHz



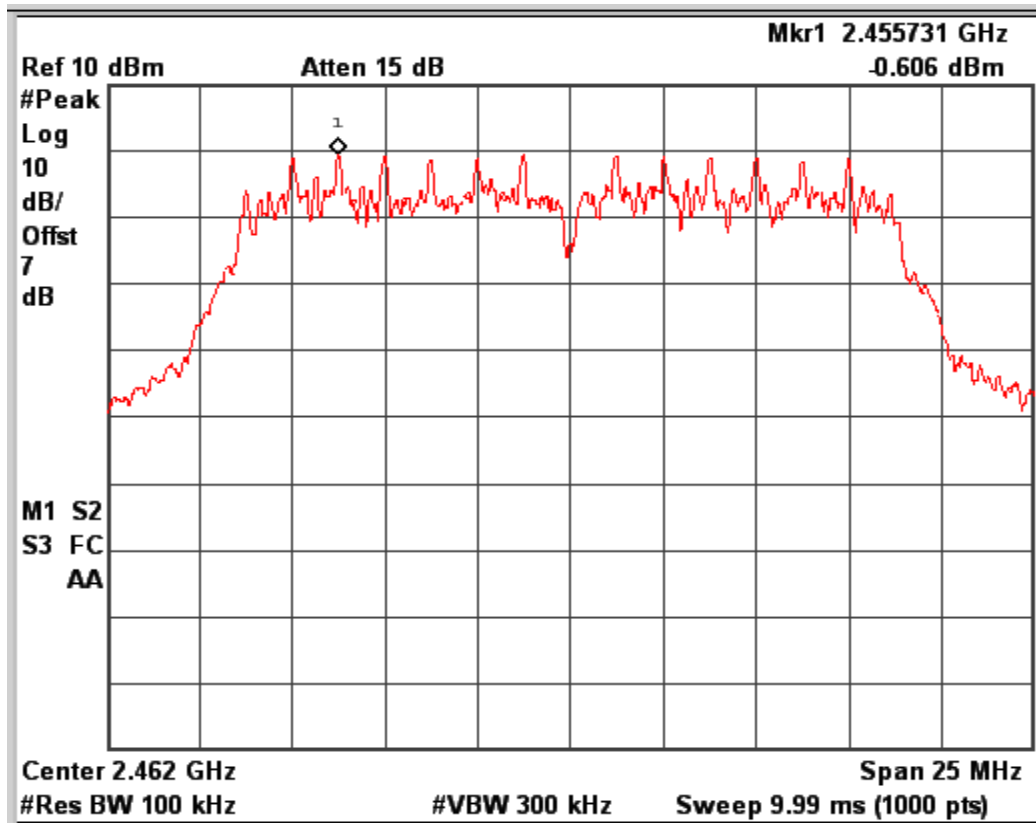
Data Rate: 54 Mbps

Channel frequency: 2462 MHz

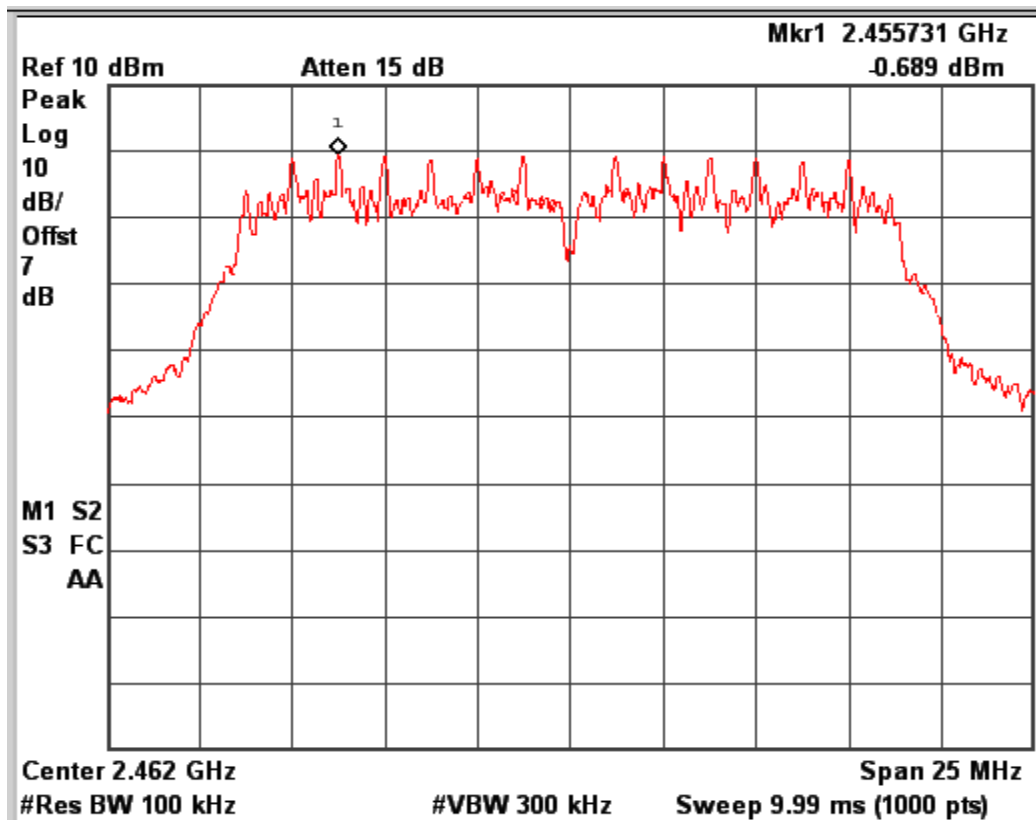
IEEE802.11nHT20						
Data Rate (Mbps)	Channel Frequency (MHz)	Value at Band Edge		Reference Value B (dBm)	Band Edge Value A~B (dBc)	Limit (dBc)
		Frequency (MHz)	Value A (dBm)			
MCS0	2412	2400	-37.74	-0.88	36.86	30
	2462	2483.5	-51.78	-0.88	50.9	30
MCS7	2412	2400	-37.86	-0.6	37.26	30
	2462	2483.5	-50.43	-0.6	49.83	30
MCS15	2412	2400	-37.45	-0.68	36.77	30
	2462	2483.5	-50.84	-0.68	50.16	30



Reference Level Plot: MCS0

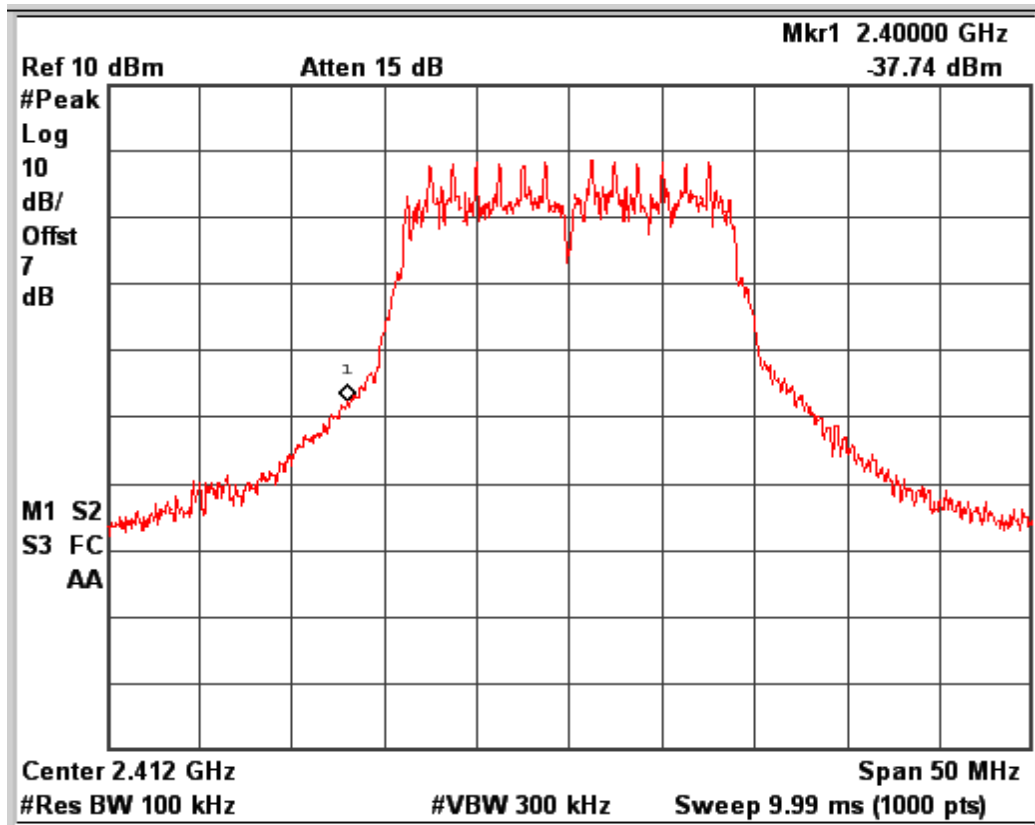


Reference Level Plot: MCS7



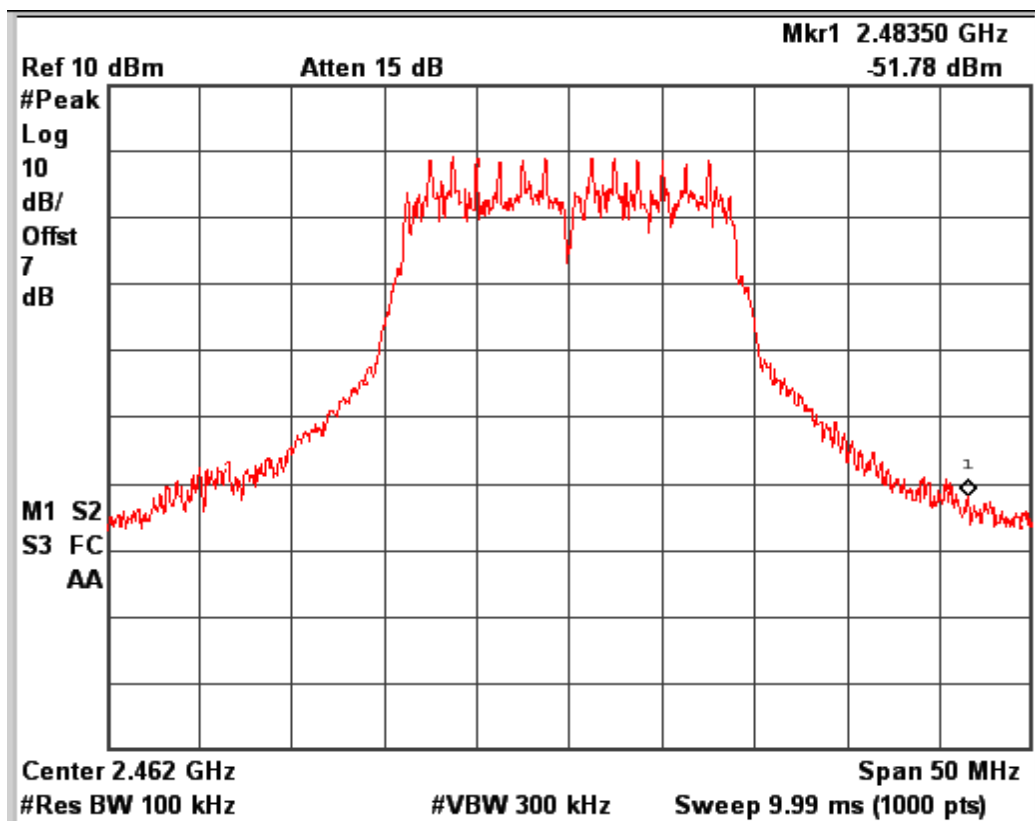
Reference Level Plot: MCS15

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Data Rate: MCS0

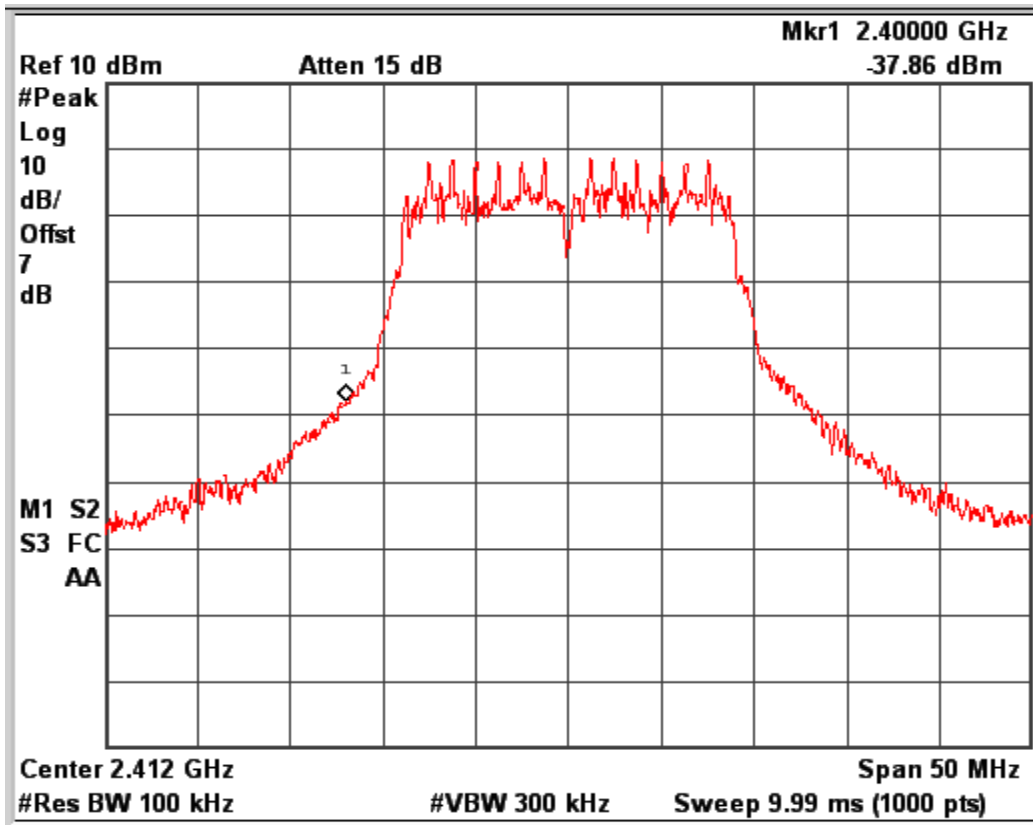
Channel frequency: 2412 MHz



Data Rate: MCS0

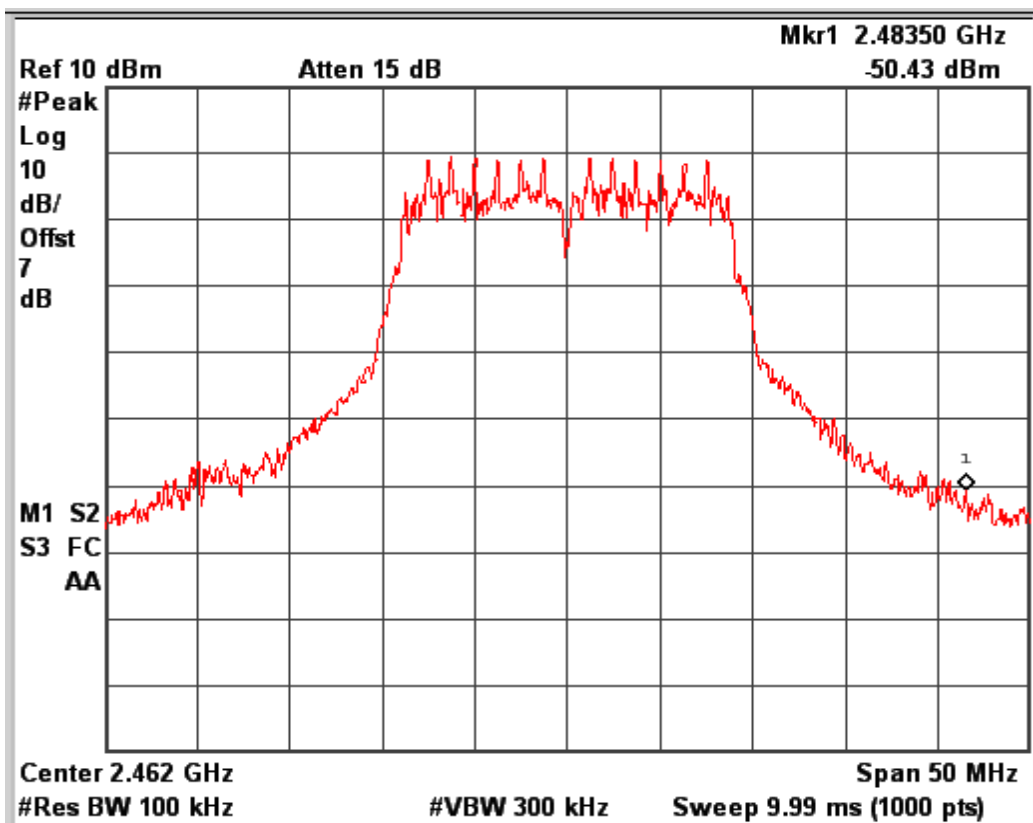
Channel frequency: 2462 MHz

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Data Rate: MCS7

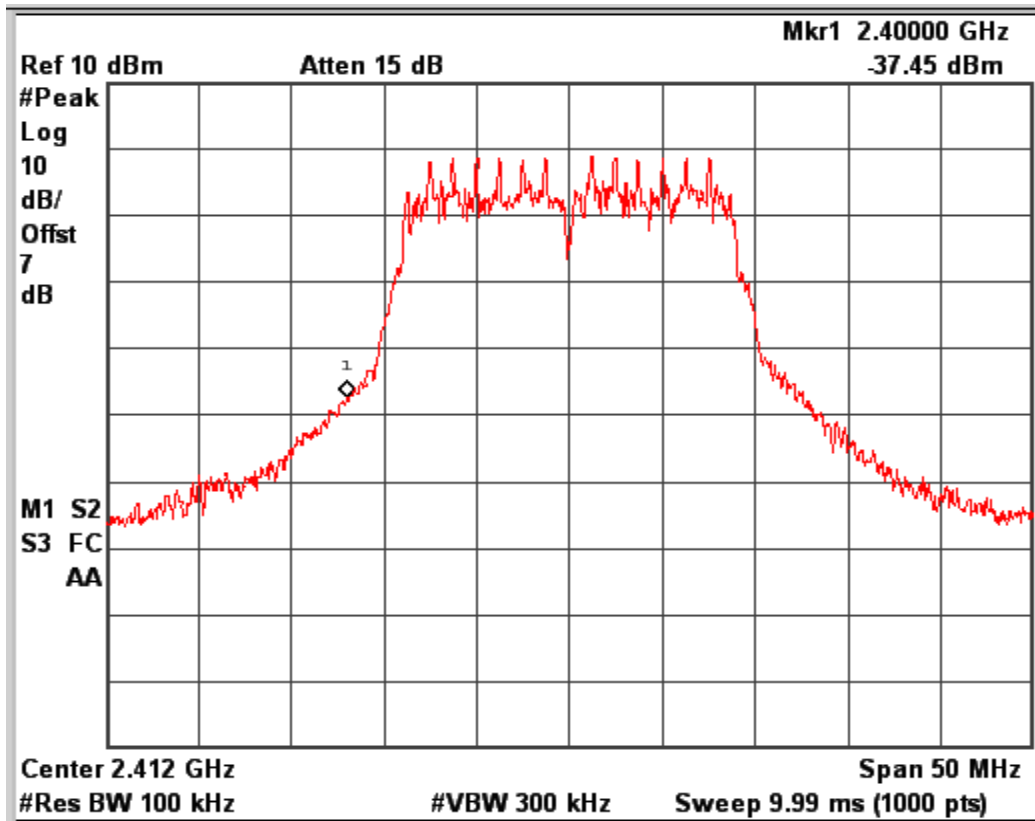
Channel frequency: 2412 MHz



Data Rate: MCS7

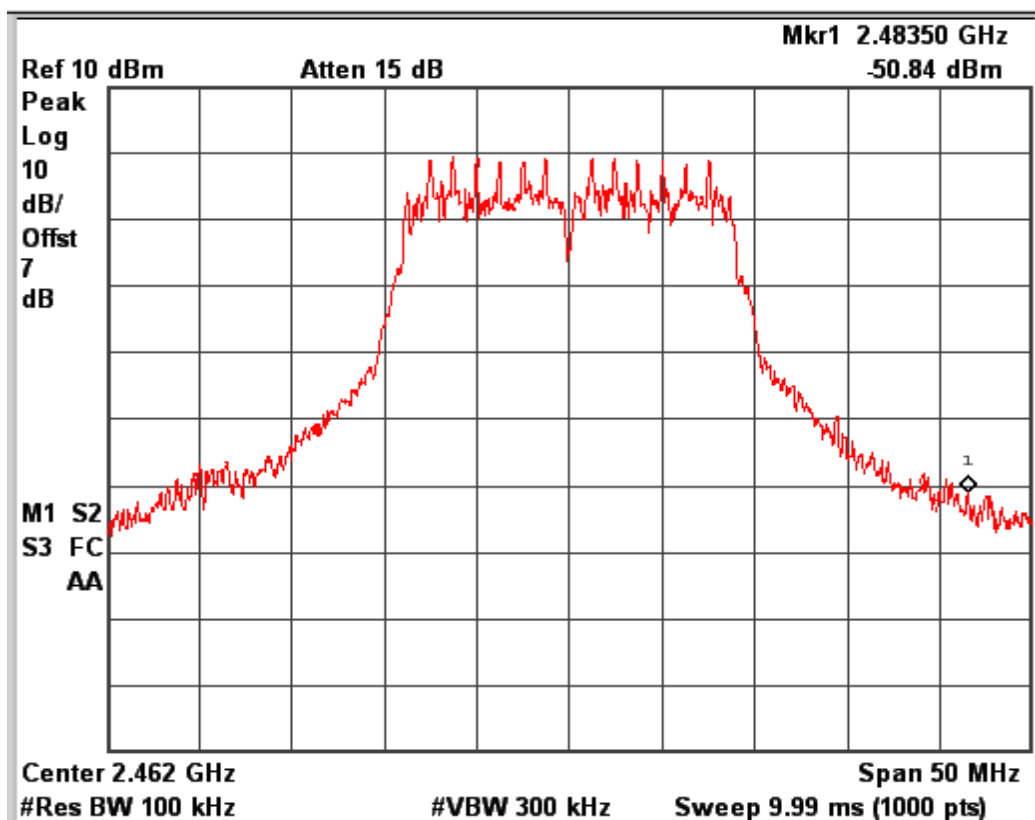
Channel frequency: 2462 MHz

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Data Rate: MCS15

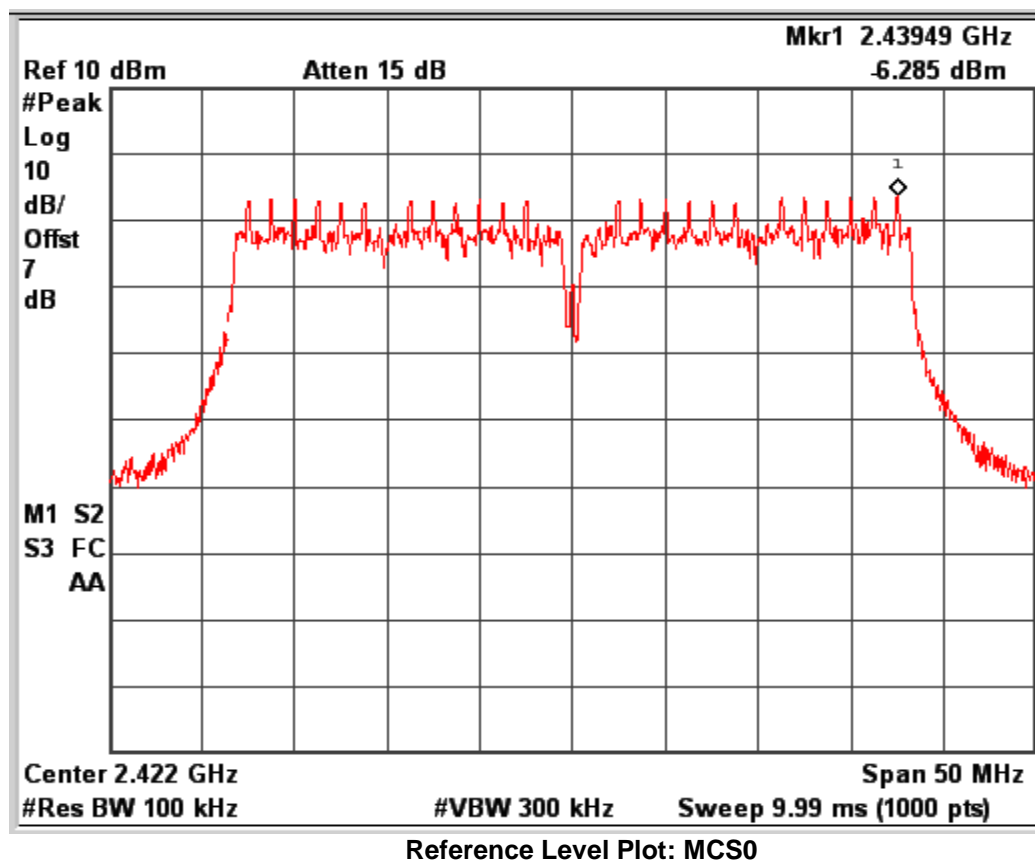
Channel frequency: 2412 MHz



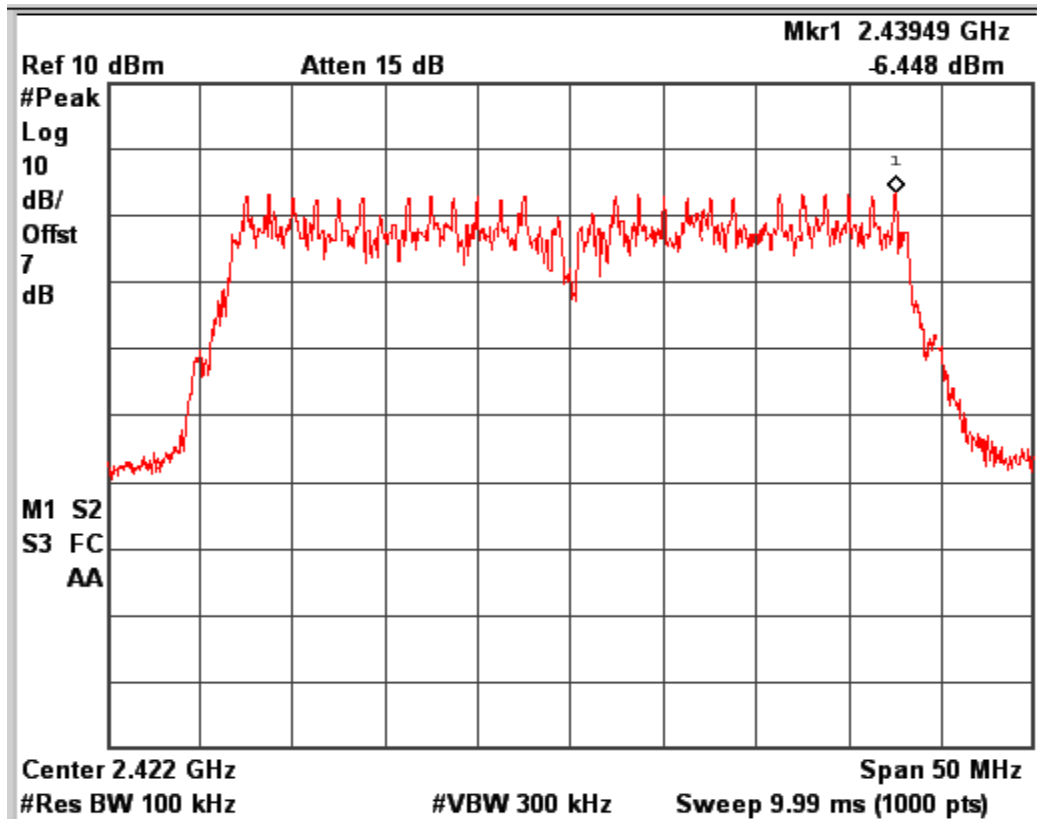
Data Rate: MCS715

Channel frequency: 2462 MHz

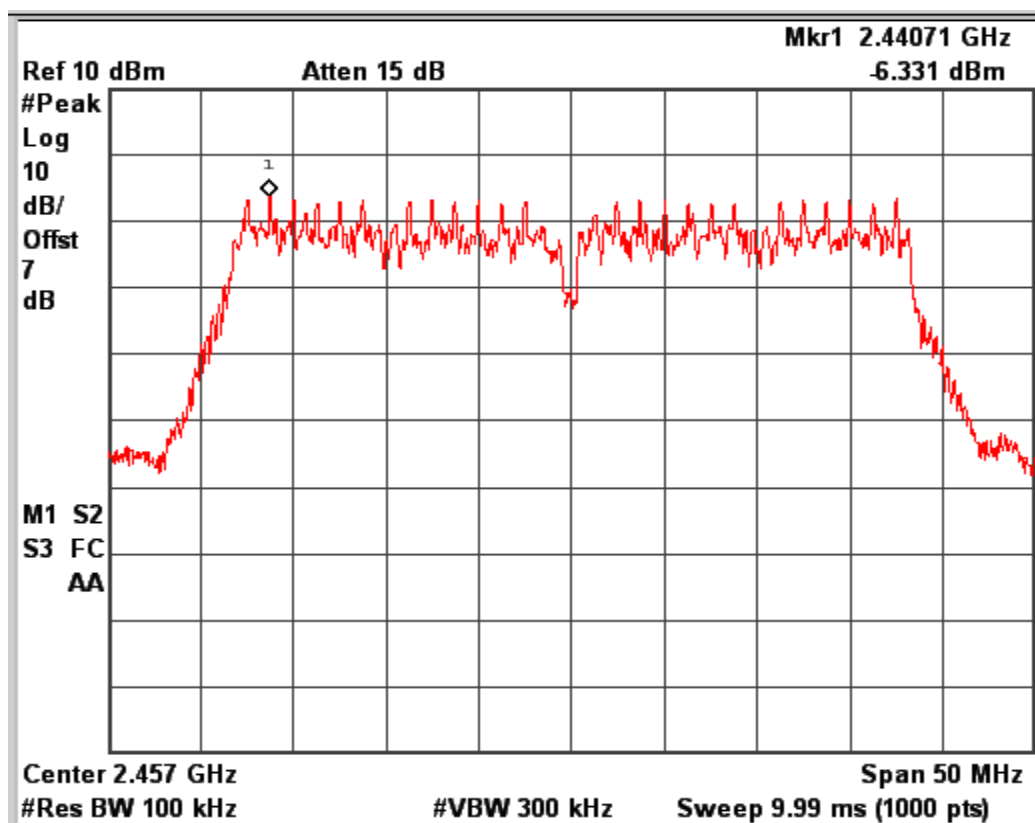
IEEE802.11nHT40						
Data Rate (Mbps)	Channel Frequency (MHz)	Value at Band Edge		Reference Value B (dBm)	Band Edge Value A-B (dBc)	Limit (dBc)
		Frequency (MHz)	Value A (dBm)			
MCS0	2422	2400	-46.93	-6.28	40.65	30
	2457	2483.5	-49.74	-6.28	43.46	30
MCS7	2422	2400	-45.66	-6.44	39.22	30
	2457	2483.5	-47.87	-6.44	41.43	30
MCS15	2422	2400	-44.5	-6.33	38.17	30
	2457	2483.5	-47.38	-6.33	41.05	30





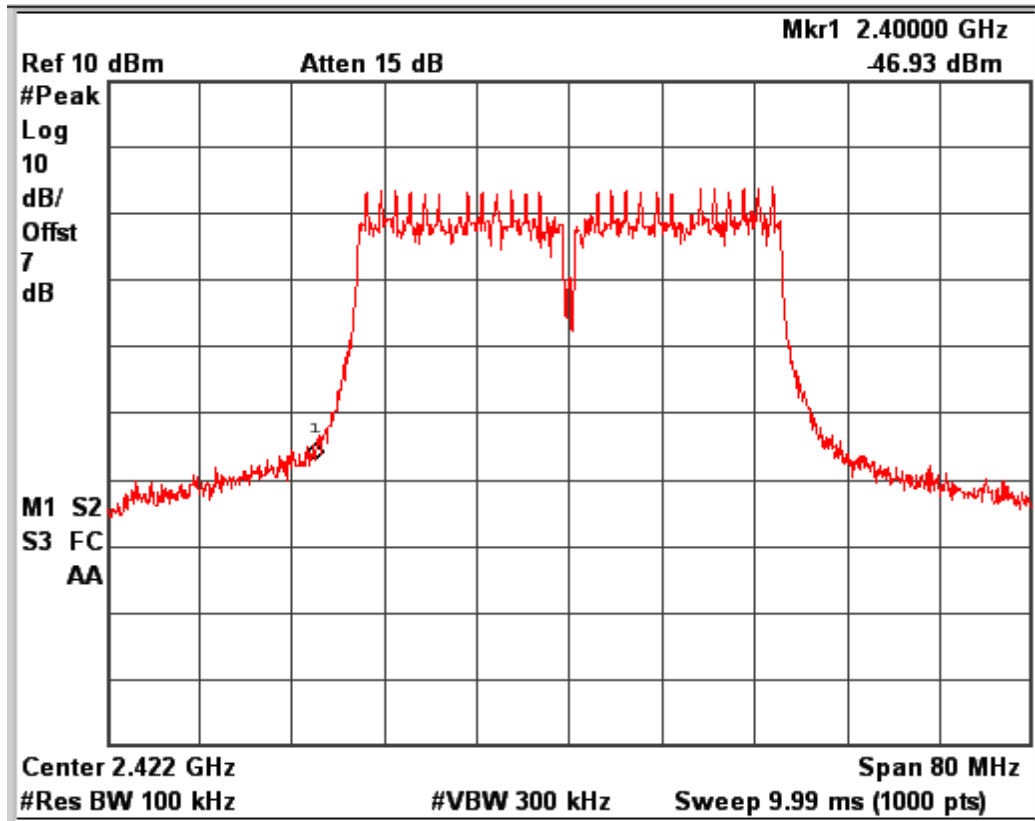


Reference Level Plot: MCS7



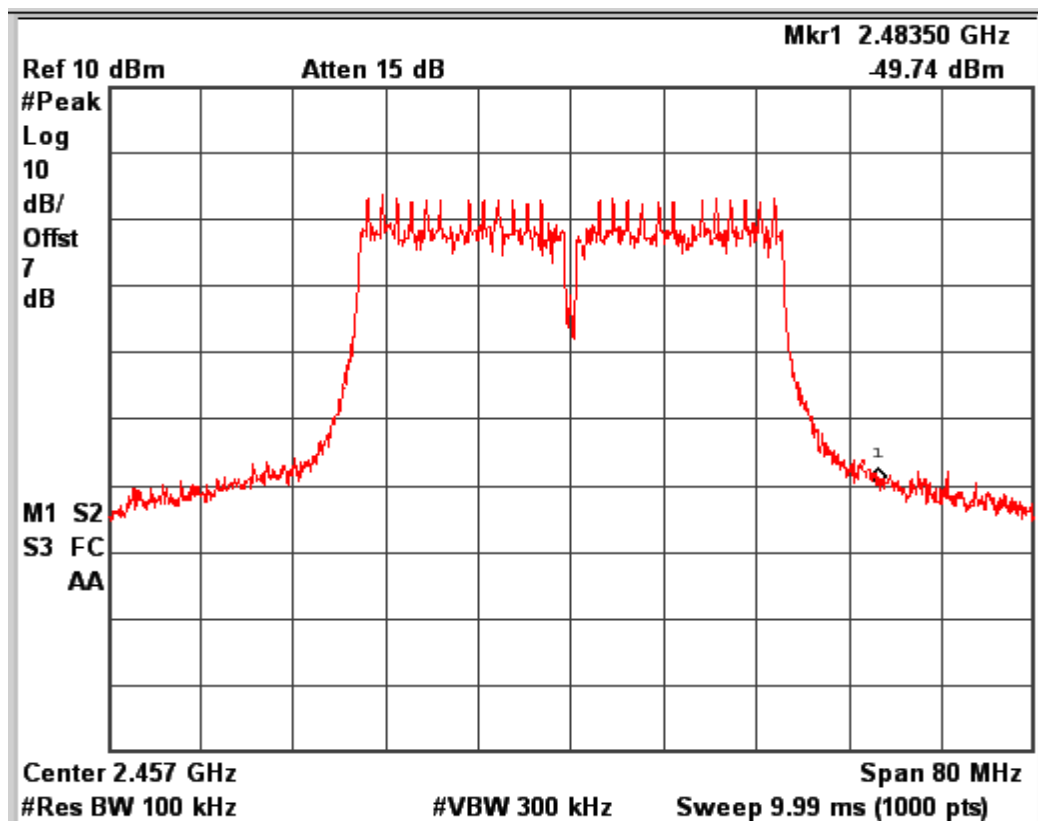
Reference Level Plot: MCS15

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Data Rate: MCS0

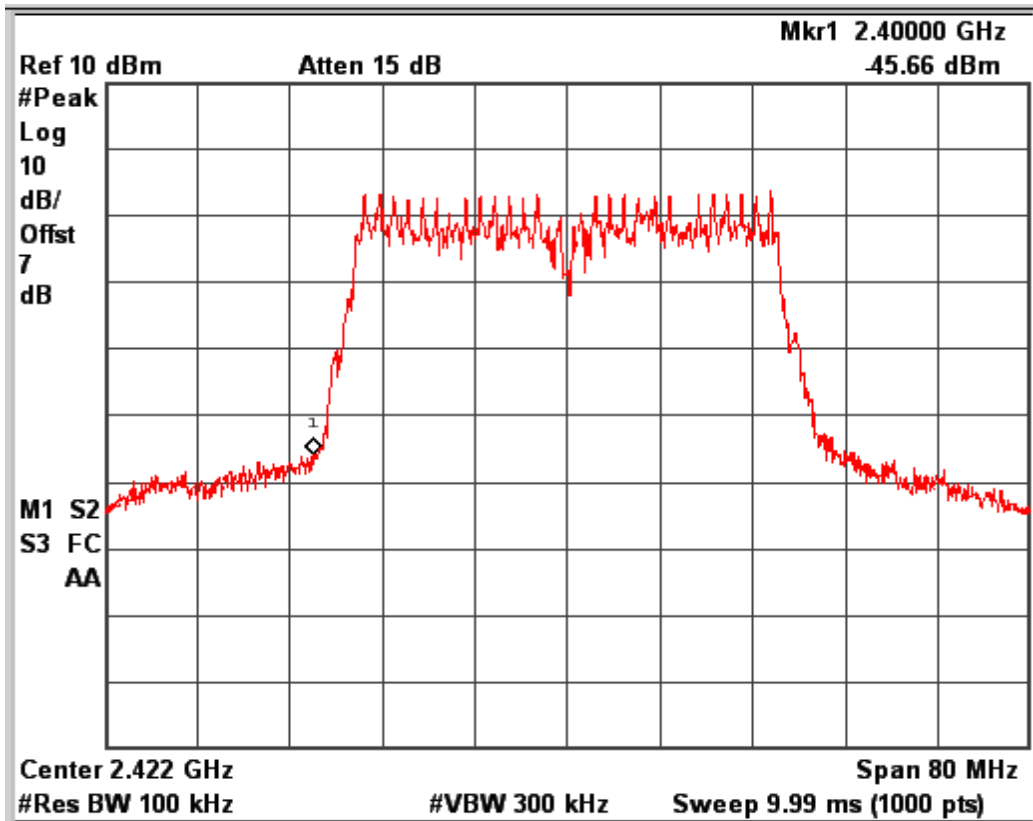
Channel frequency: 2422 MHz



Data Rate: MCS0

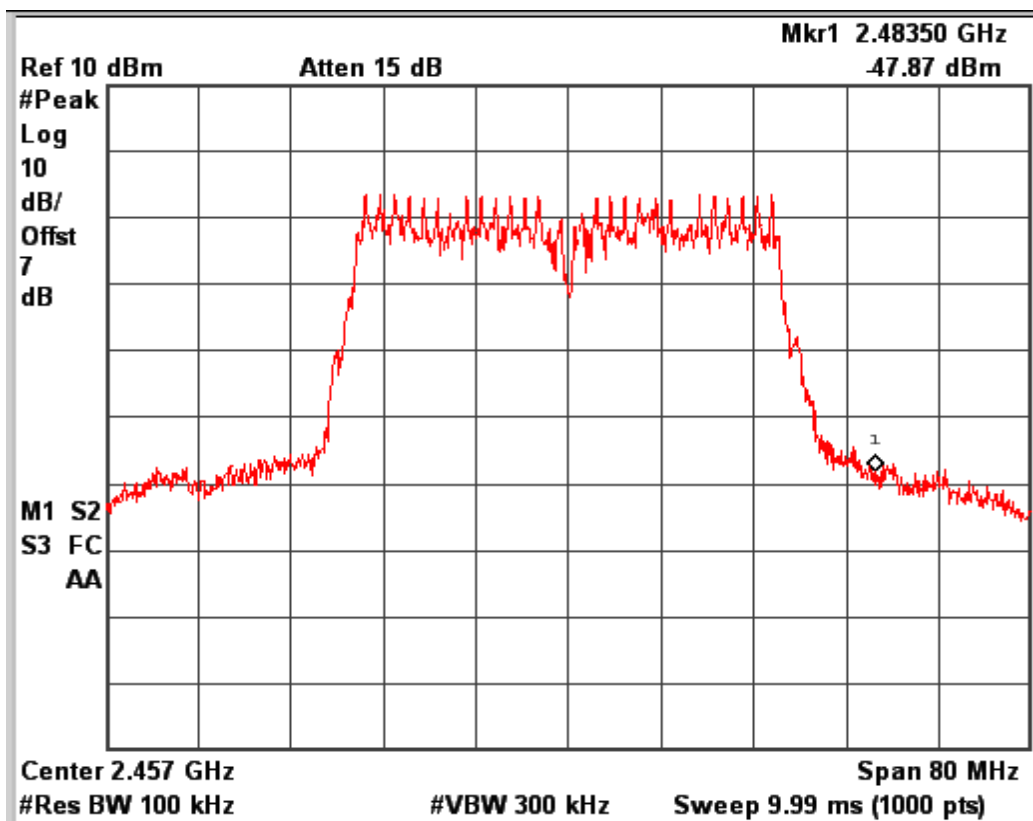
Channel frequency: 2457 MHz

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Data Rate: MCS7

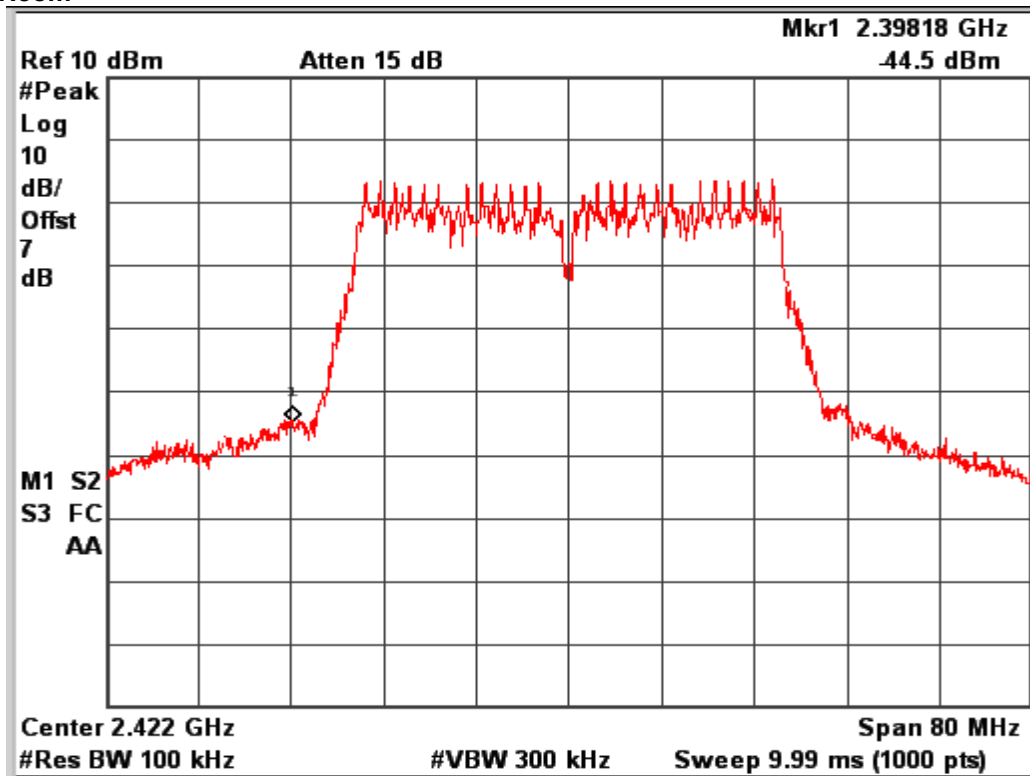
Channel frequency: 2422 MHz



Data Rate: MCS7

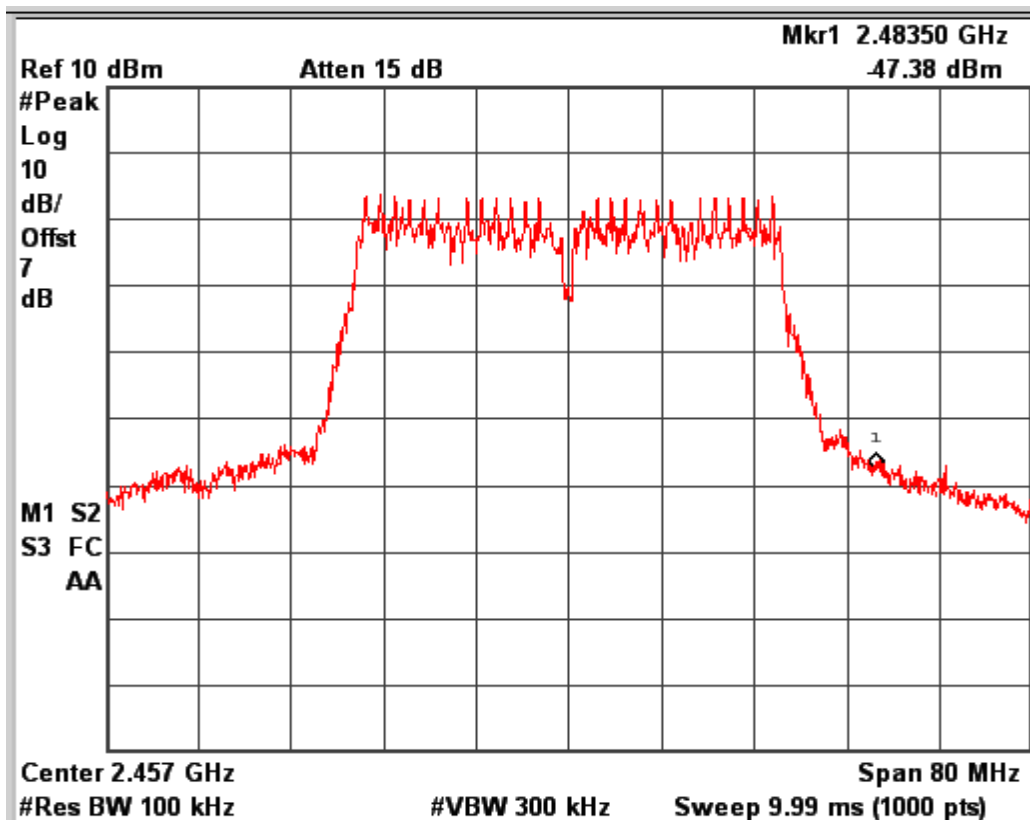
Channel frequency: 2457 MHz

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Data Rate: MCS15

Channel frequency: 2422 MHz

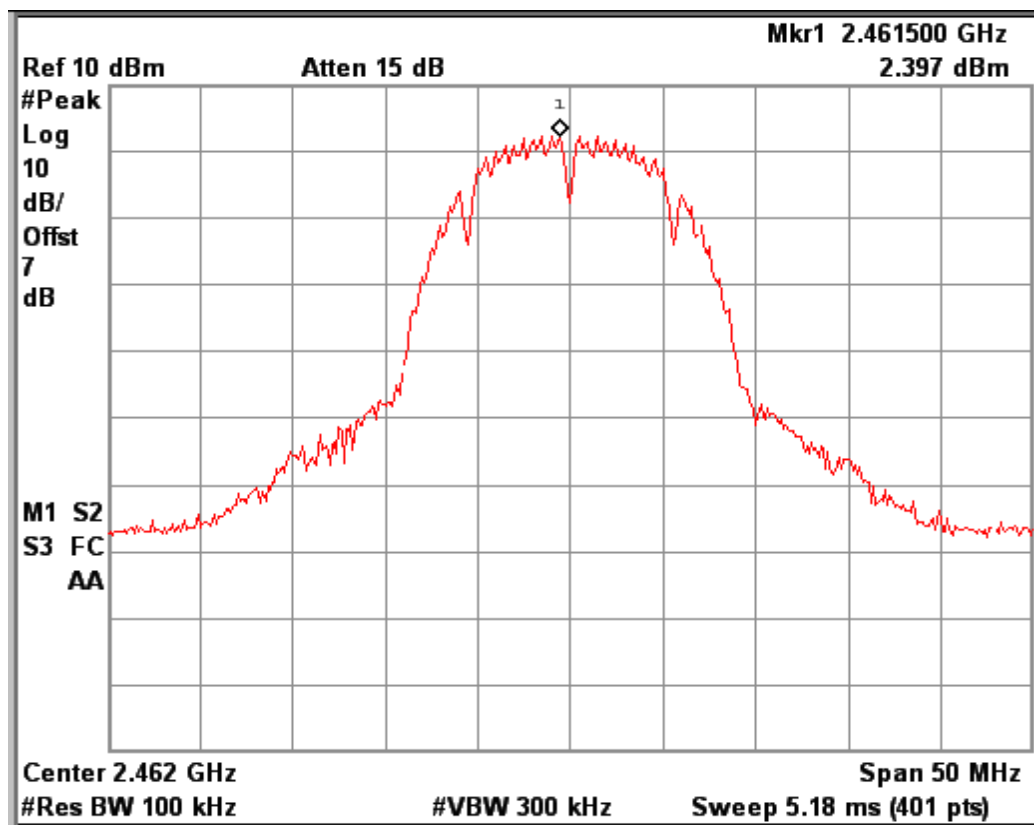


Data Rate: MCS15

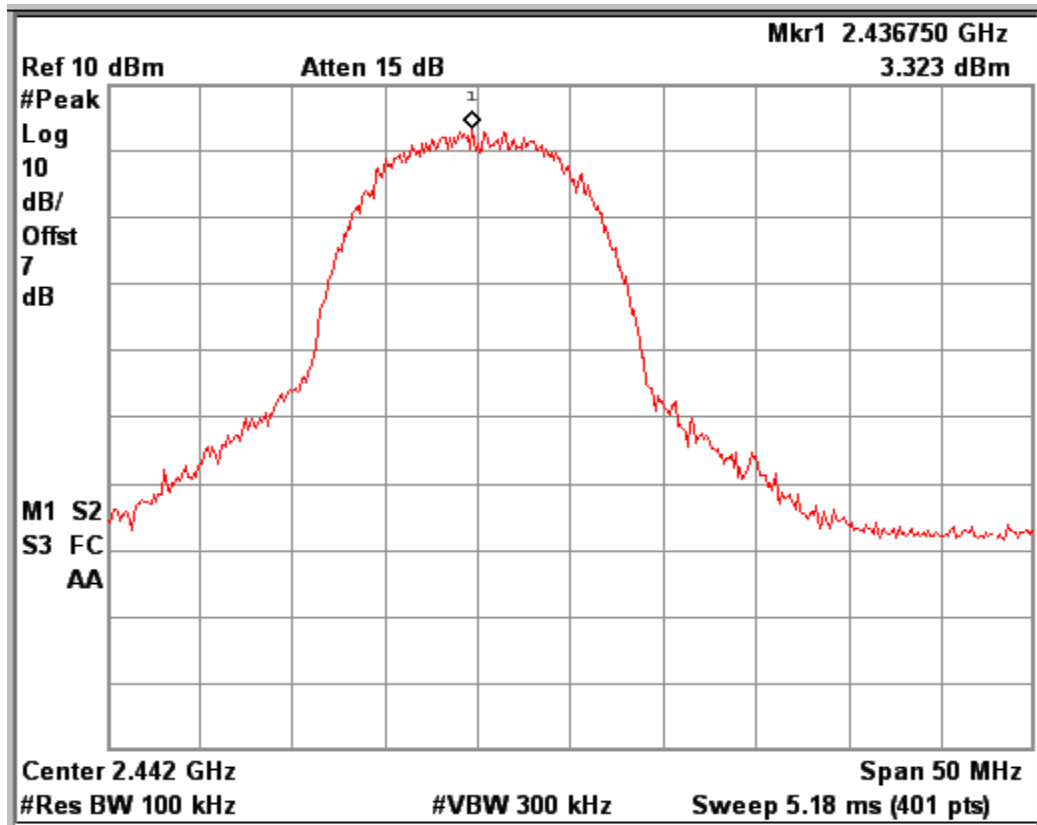
Channel frequency: 2457 MHz

**Test Results for Path B**

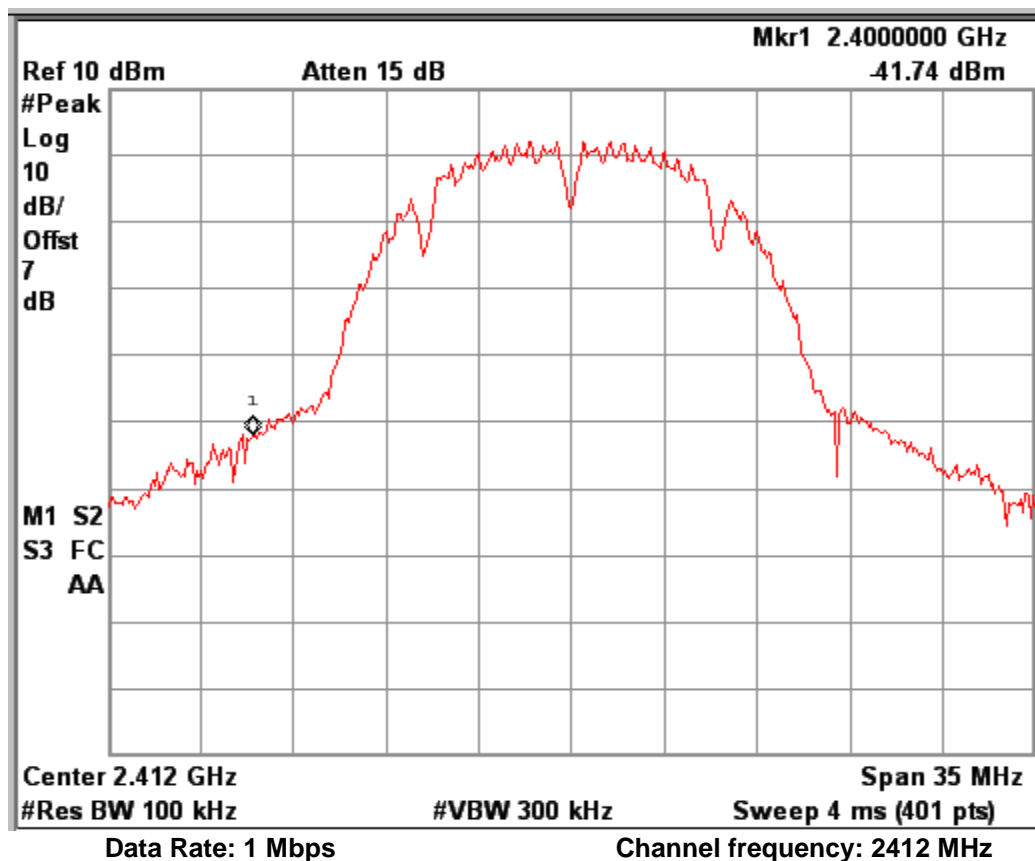
IEEE802.11b						
Data Rate (Mbps)	Channel Frequency (MHz)	Value at Band Edge		Reference Value B (dBm)	Band Edge Value A~B (dBc)	Limit (dBc)
		Frequency (MHz)	Value A (dBm)			
1	2412	2400	-41.74	2.39	44.13	30
	2462	2483.5	-57.19	2.39	59.58	30
11	2412	2400	-40.88	3.32	44.2	30
	2462	2483.5	-56.91	3.32	60.23	30


**Reference Level Plot: 1Mbps**

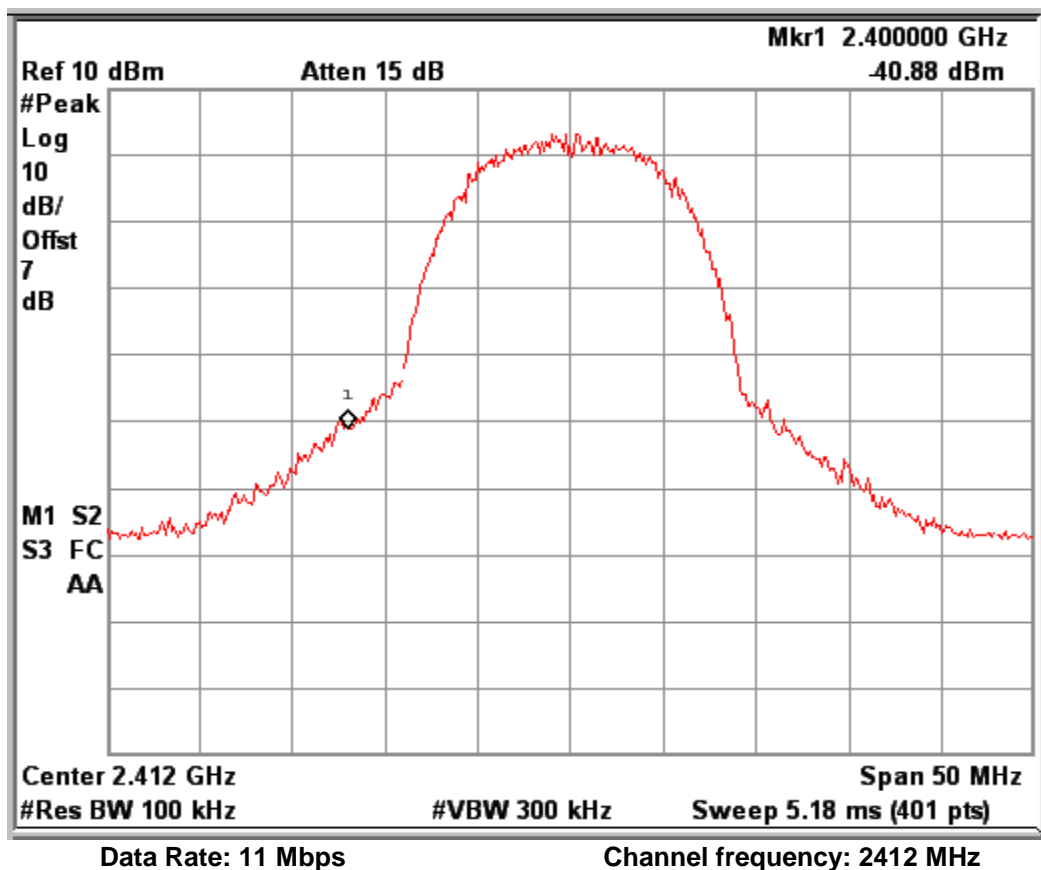
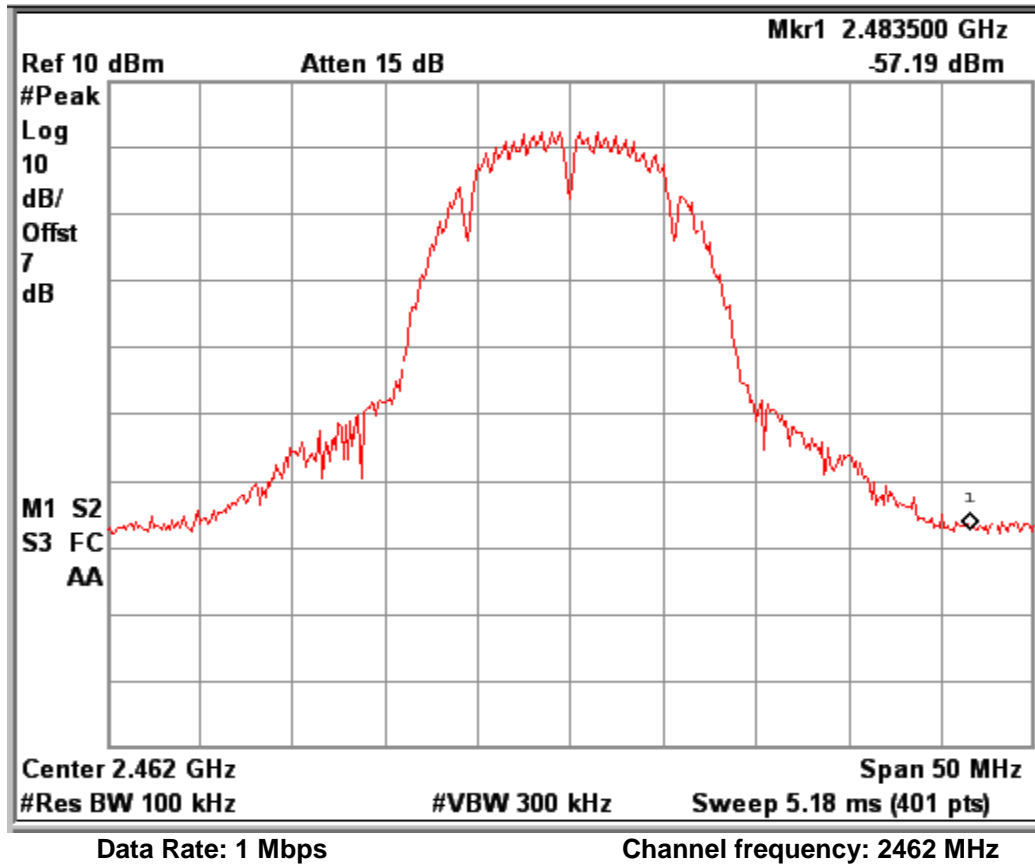
www.tuv.com



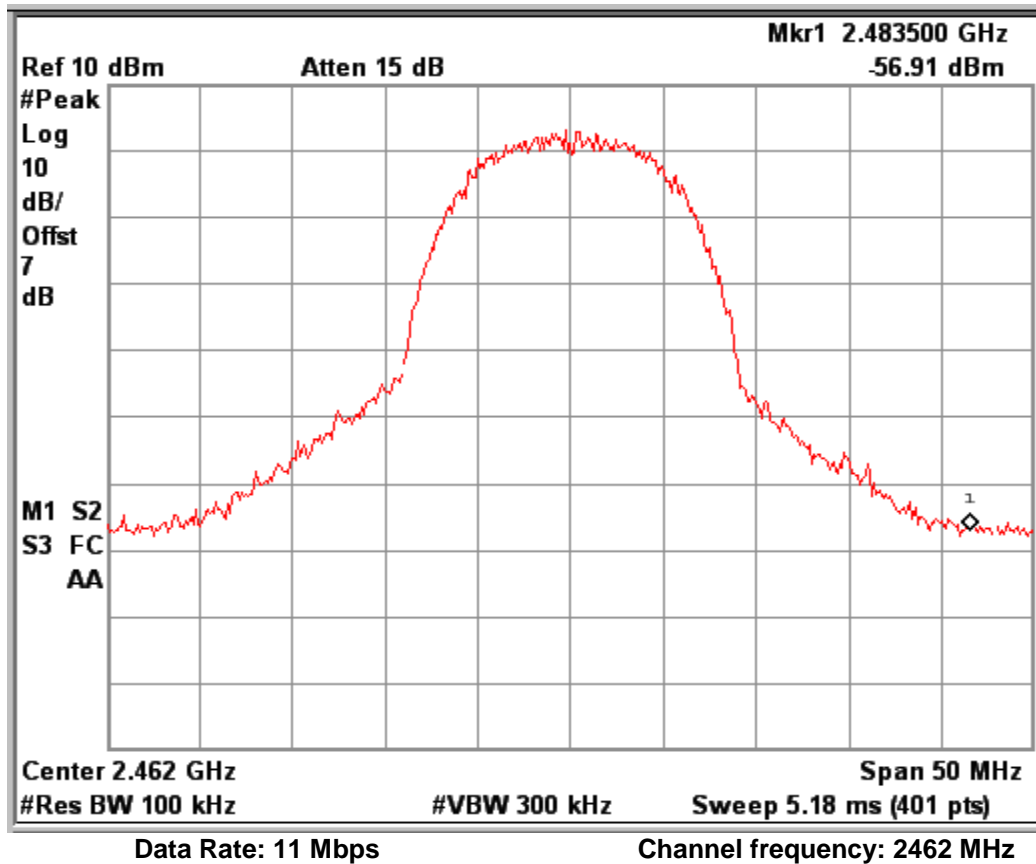
Reference Level Plot: 11Mbps



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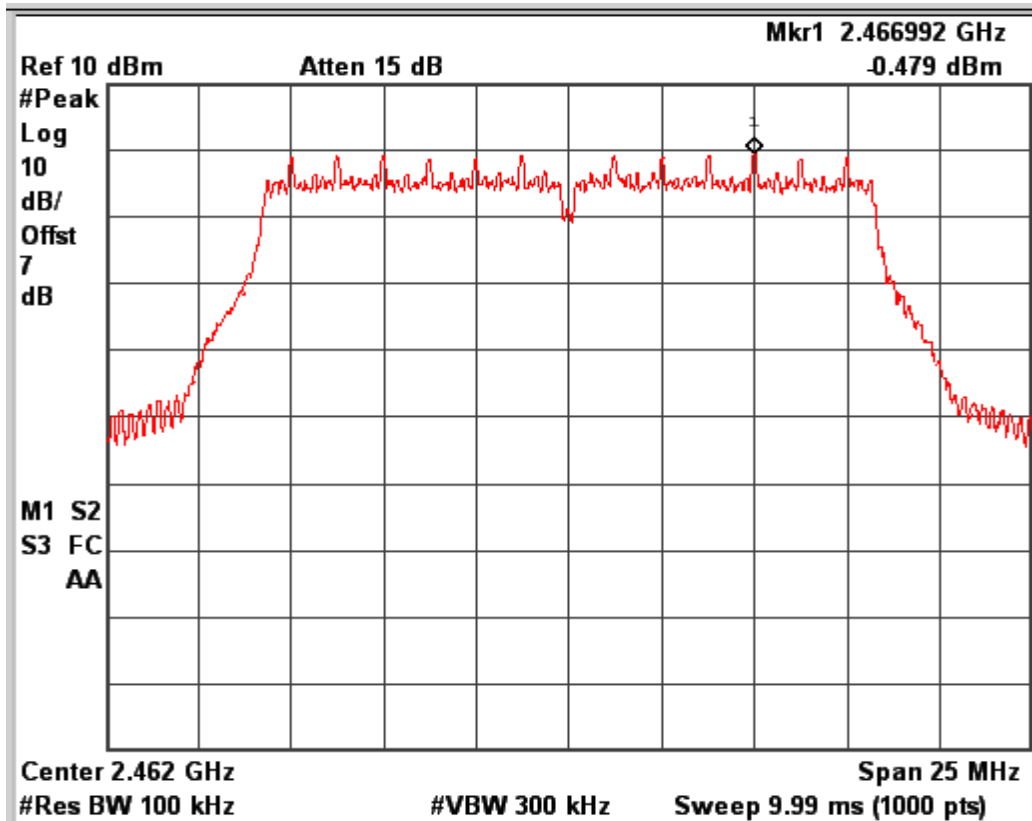


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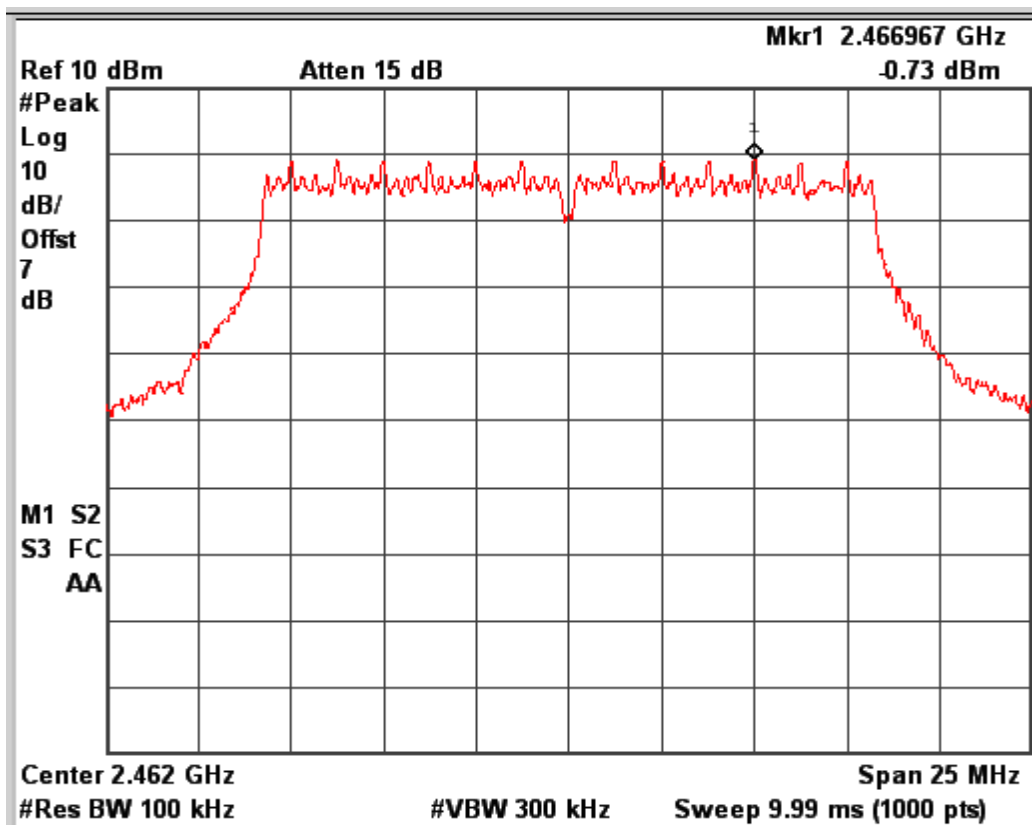


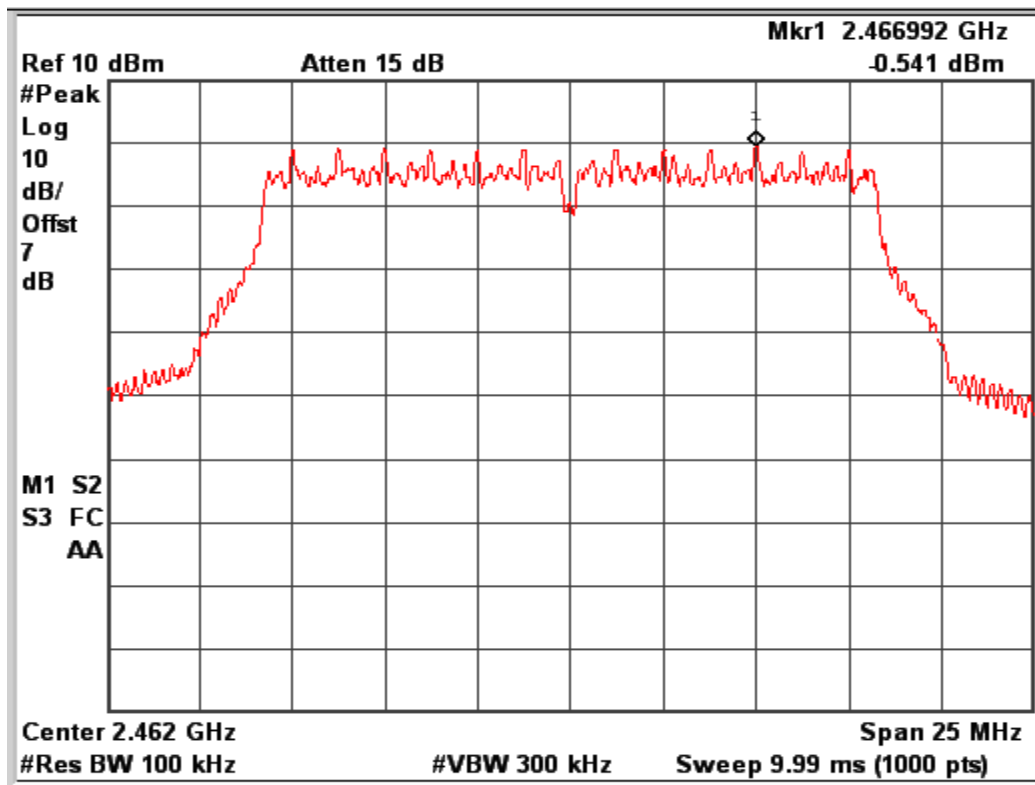
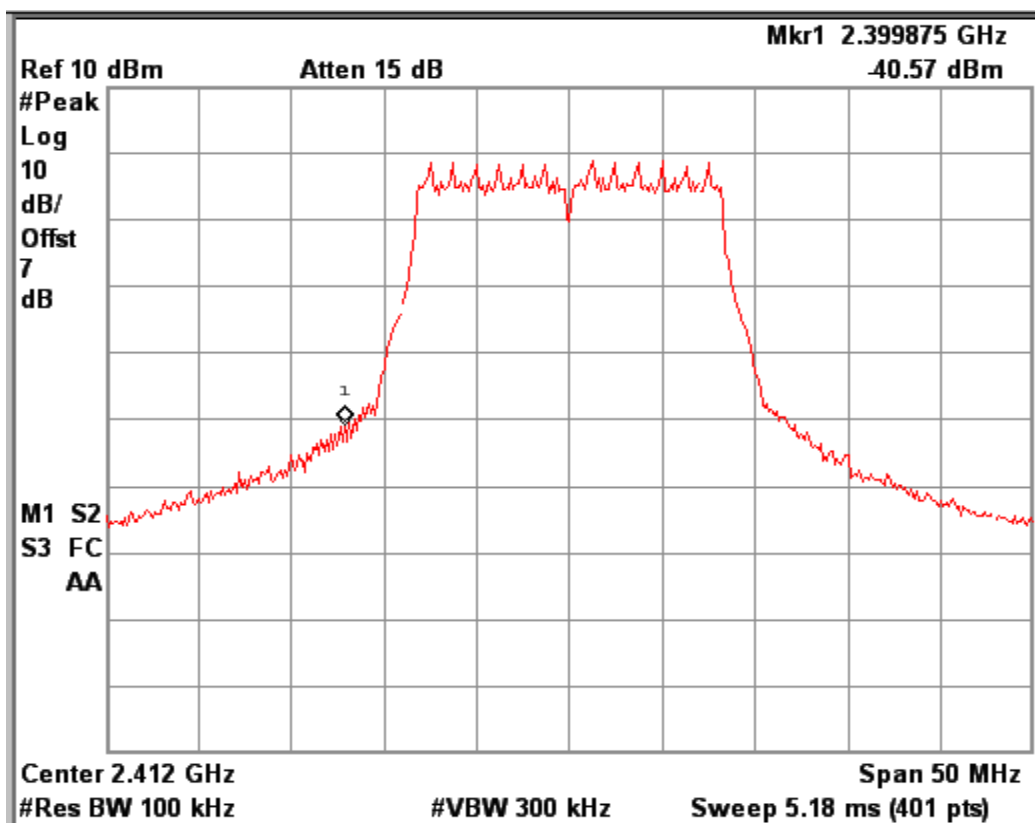
IEEE802.11g						
Data Rate (Mbps)	Channel Frequency (MHz)	Value at Band Edge		Reference Value B (dBm)	Band Edge Value A~B (dBc)	Limit (dBc)
		Frequency (MHz)	Value A (dBm)			
6	2412	2400	-40.57	-0.479	40.09	30
	2462	2483.5	-52.25	-0.479	51.77	30
24	2412	2400	-40.51	-0.73	39.78	30
	2462	2483.5	-53.92	-0.73	53.19	30
54	2412	2400	-38.42	-0.54	37.88	30
	2462	2483.5	-54.31	-0.54	53.77	30





Reference Level Plot: 6 Mbps

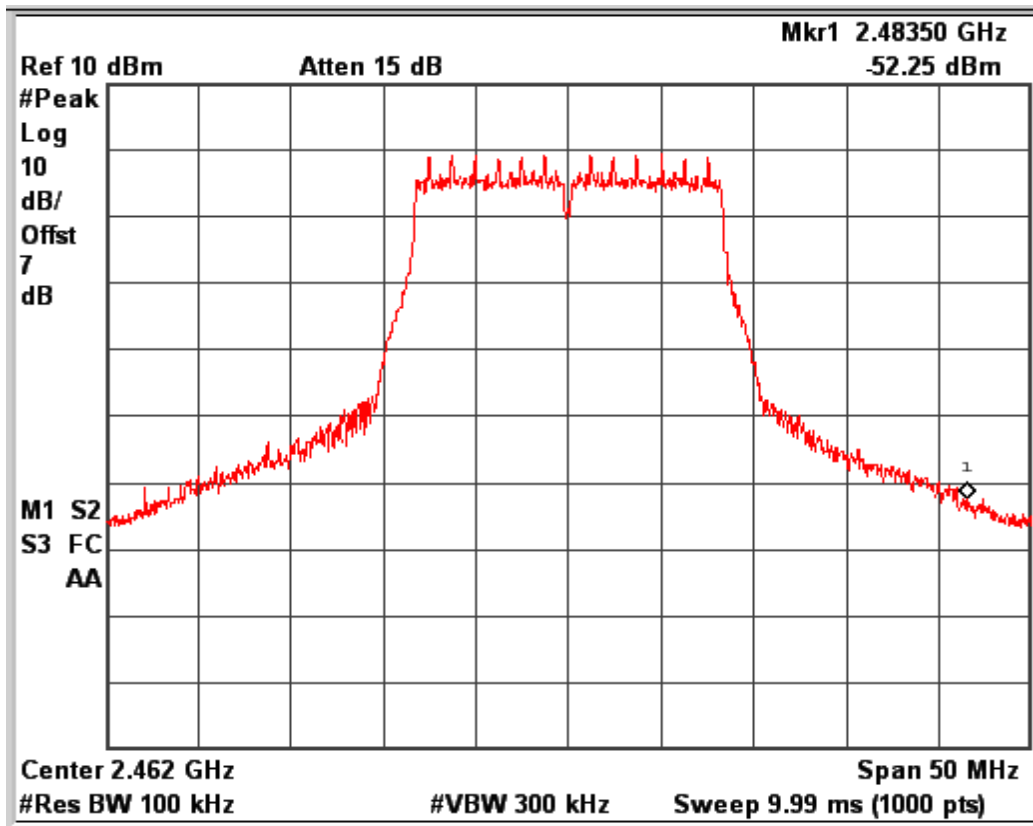


**Reference Level Plot: 24 Mbps**

**Reference Level Plot: 54 Mbps**


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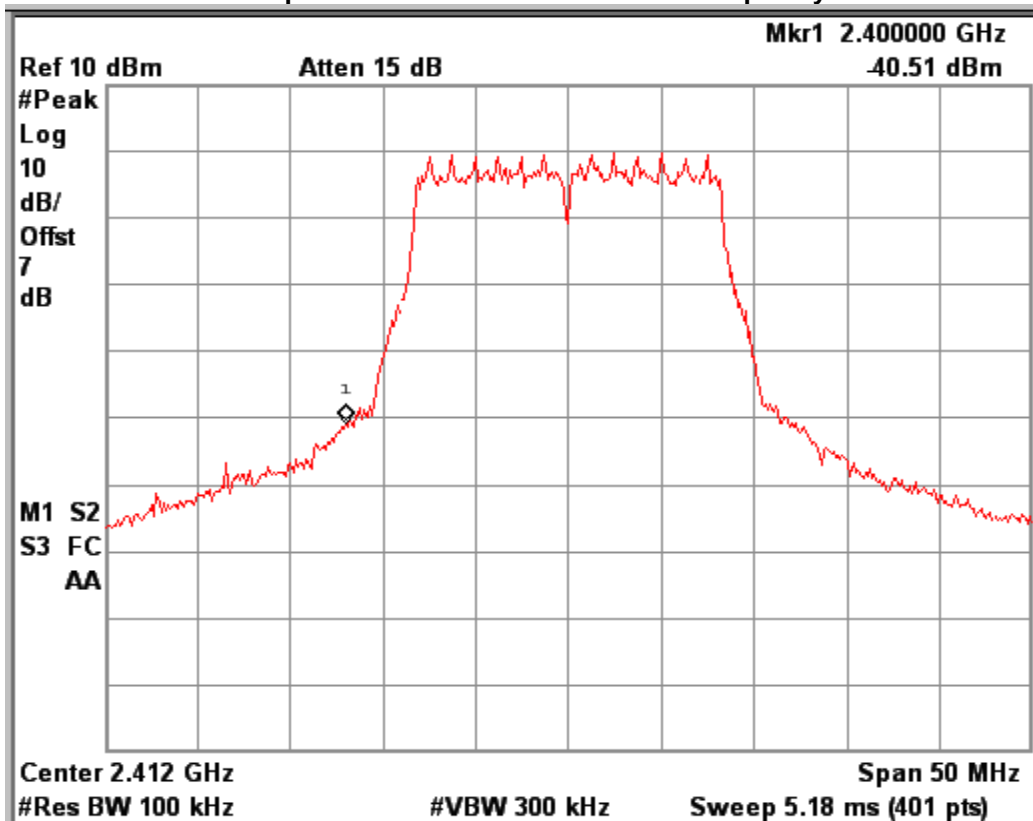
Data Rate: 6 Mbps

Channel frequency: 2412 MHz



Data Rate: 6 Mbps

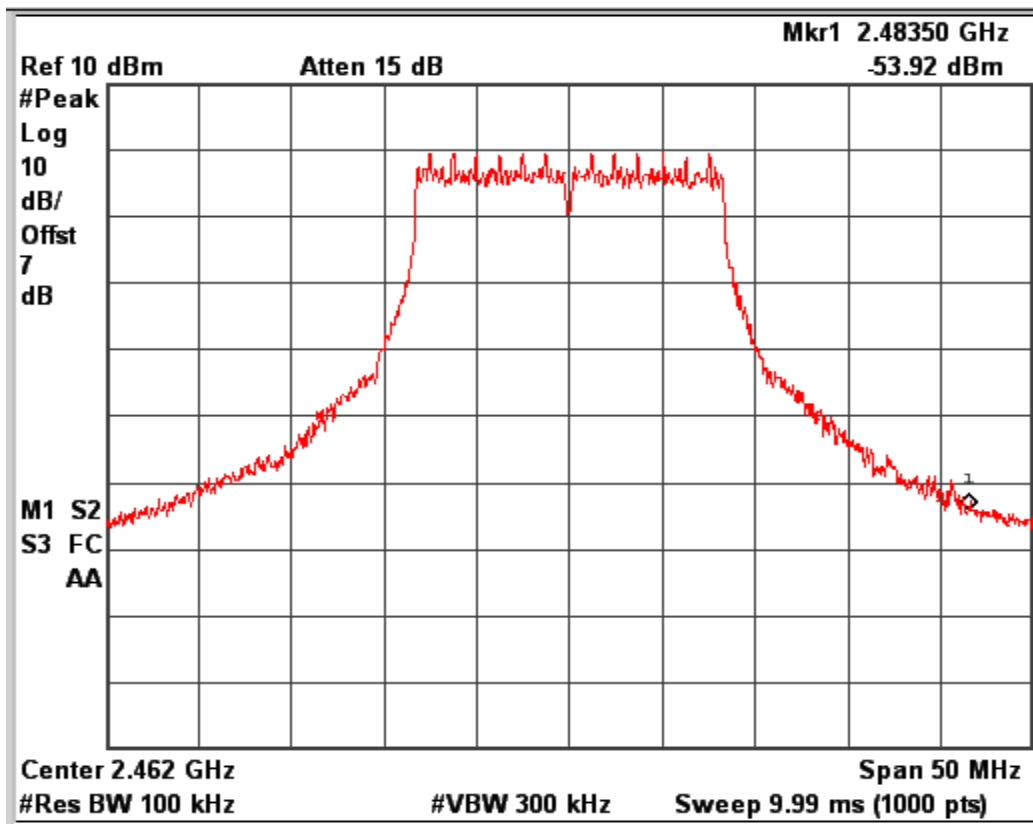
Channel frequency: 2462 MHz



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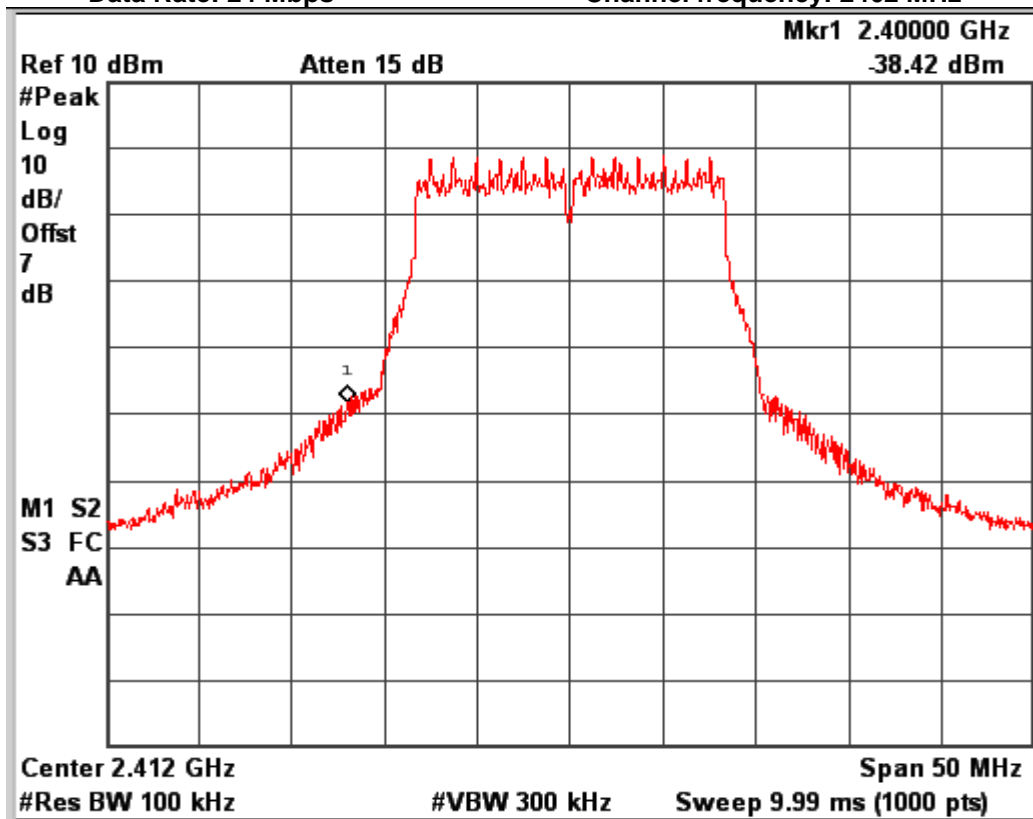
Data Rate: 24 Mbps

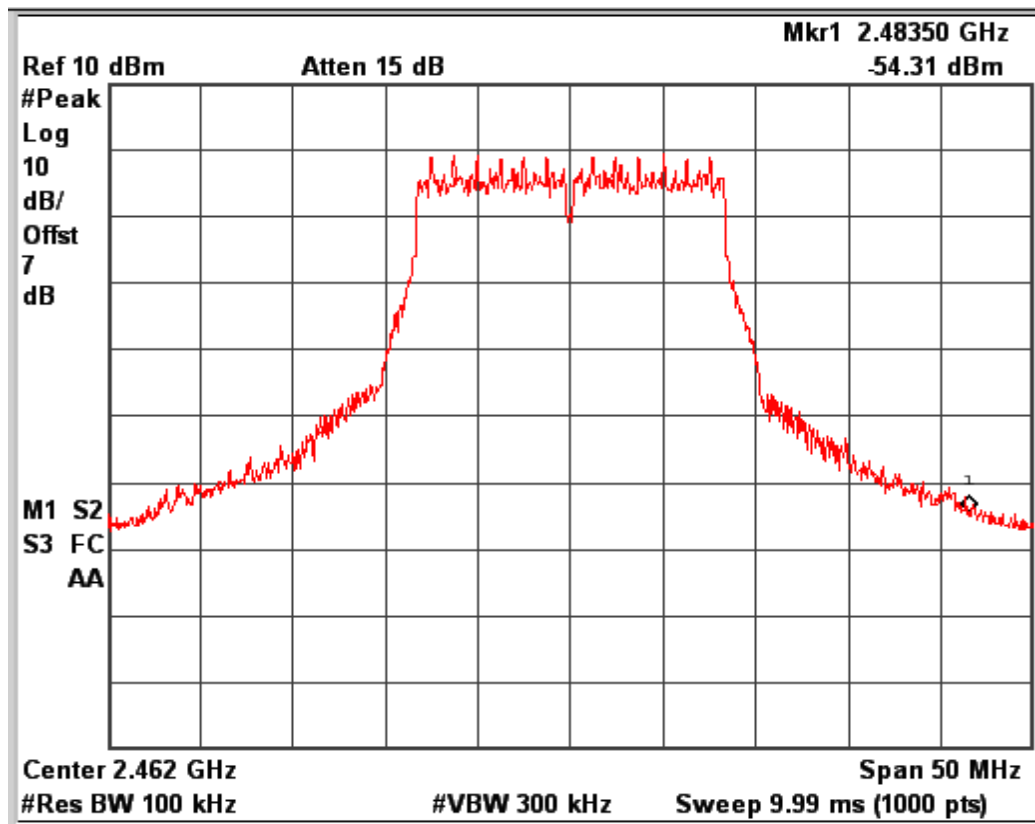
Channel frequency: 2412 MHz



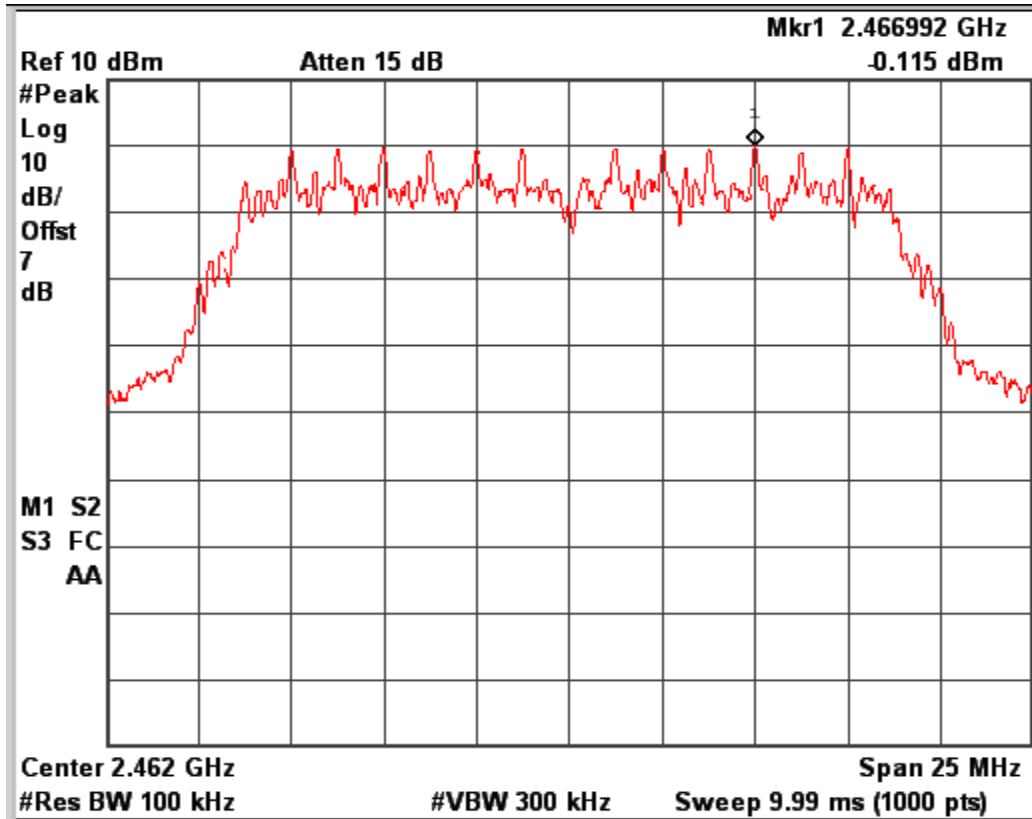
Data Rate: 24 Mbps

Channel frequency: 2462 MHz

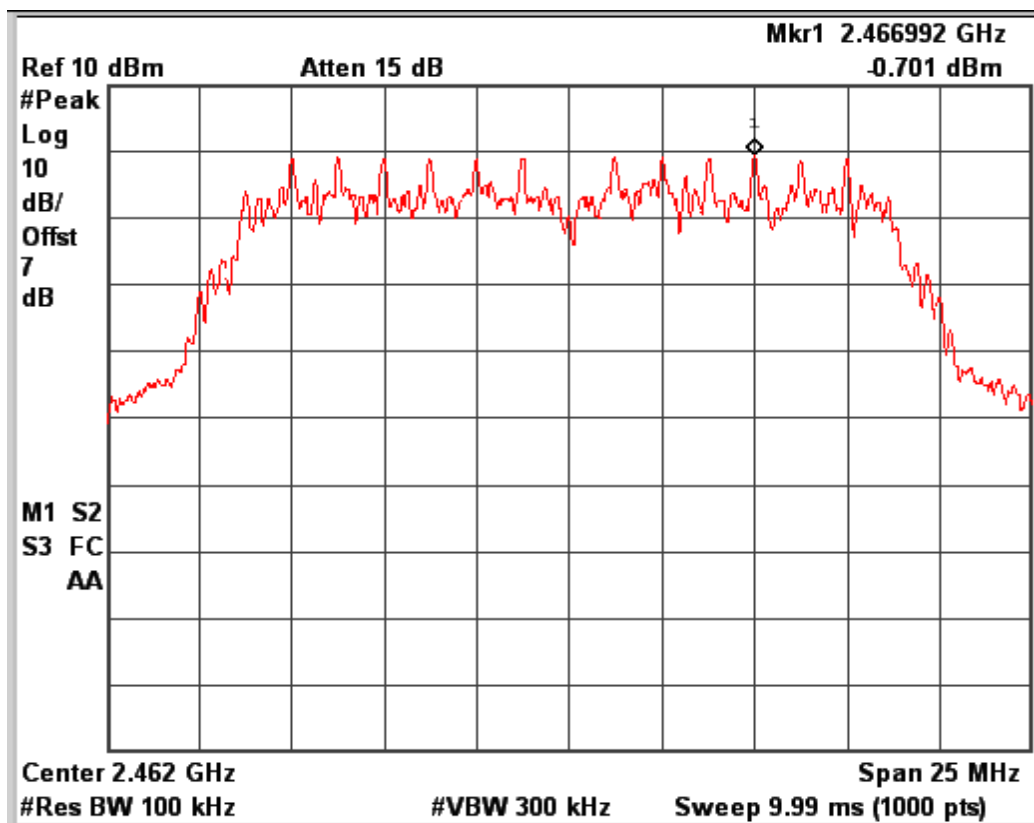




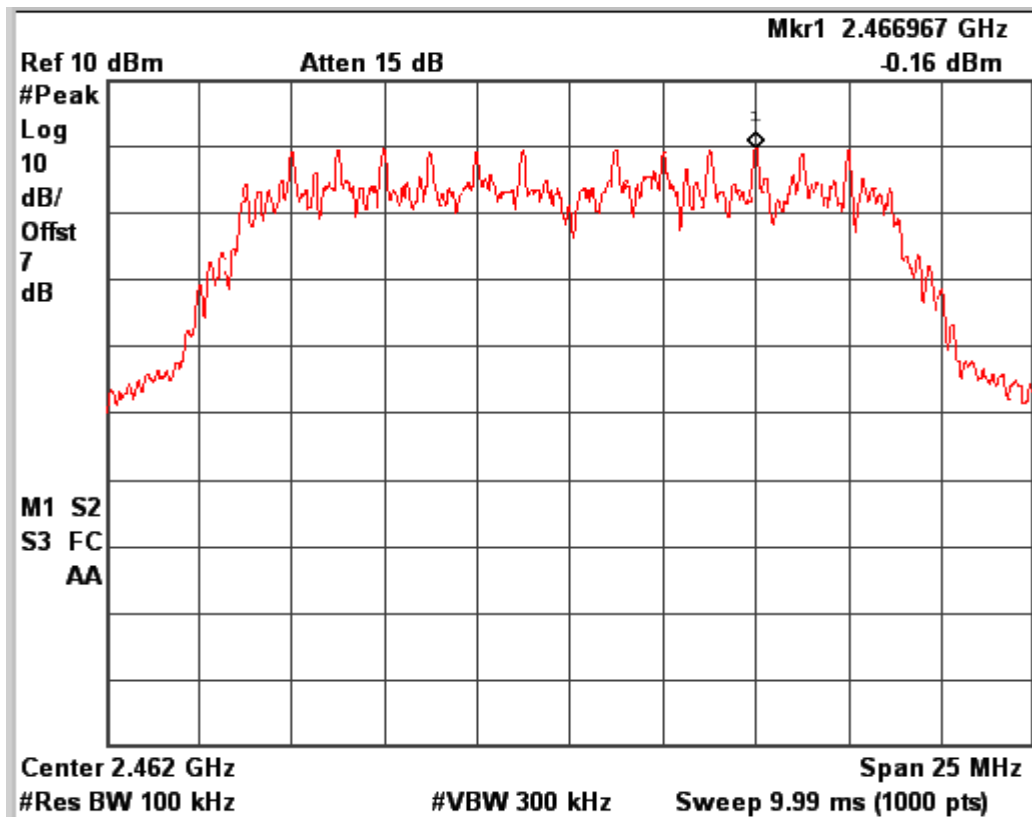
IEEE802.11nHT20						
Data Rate (Mbps)	Channel Frequency (MHz)	Value at Band Edge		Reference Value B (dBm)	Band Edge Value A~B (dBc)	Limit (dBc)
		Frequency (MHz)	Value A (dBm)			
MCS0	2412	2400	-39.06	-0.115	38.94	30
	2462	2483.5	-50.85	-0.115	50.73	30
MCS7	2412	2400	-37.52	-0.701	36.81	30
	2462	2483.5	-51.51	-0.701	50.80	30
MCS15	2412	2400	-38.44	-0.16	38.28	30
	2462	2483.5	-51.08	-0.16	50.92	30



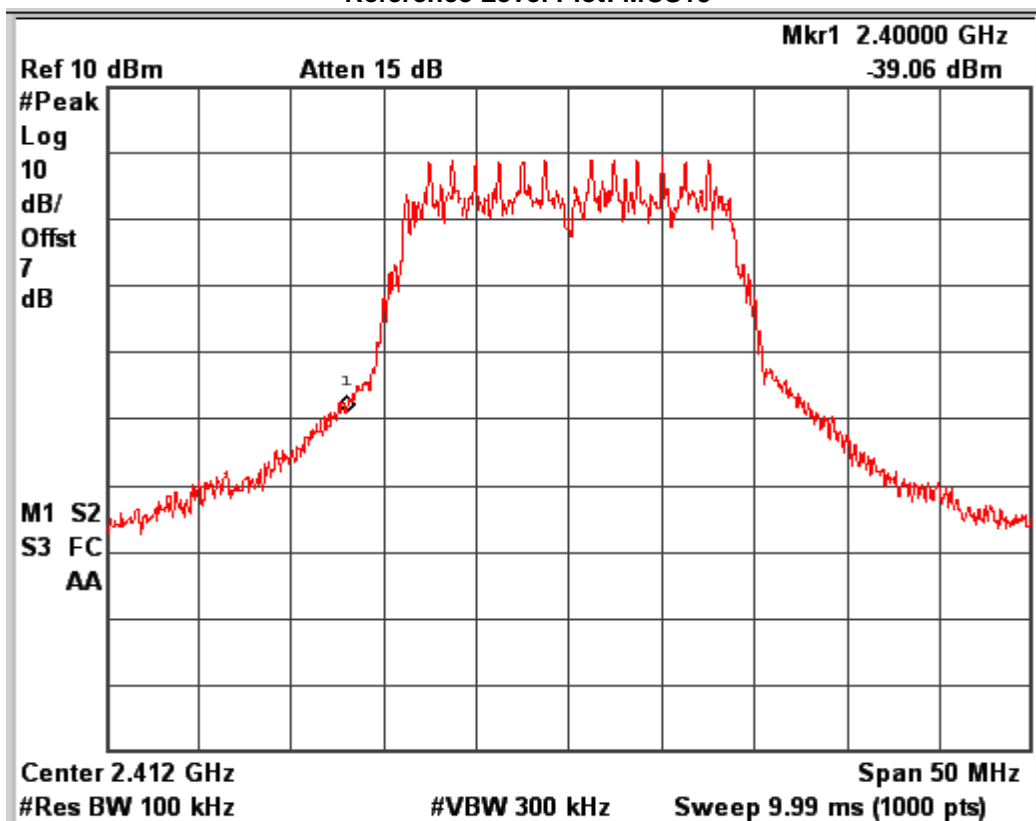
Reference Level Plot: MCS0



Reference Level Plot: MCS7



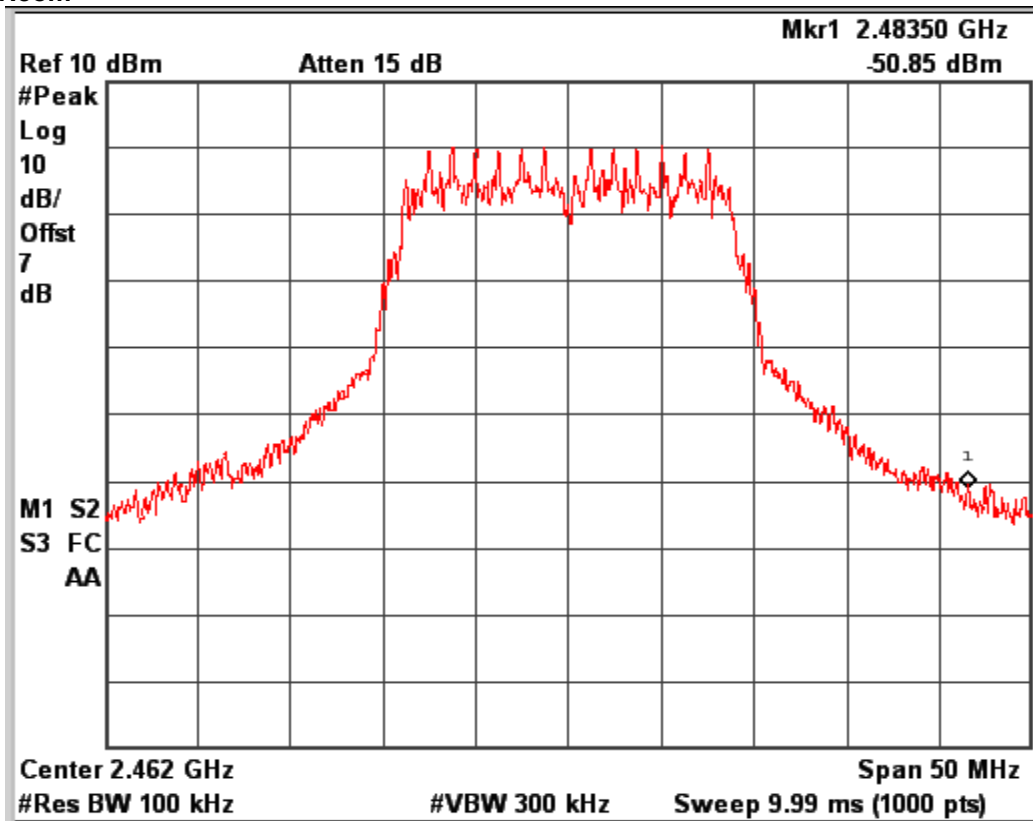
Reference Level Plot: MCS15



Data Rate: MCS0

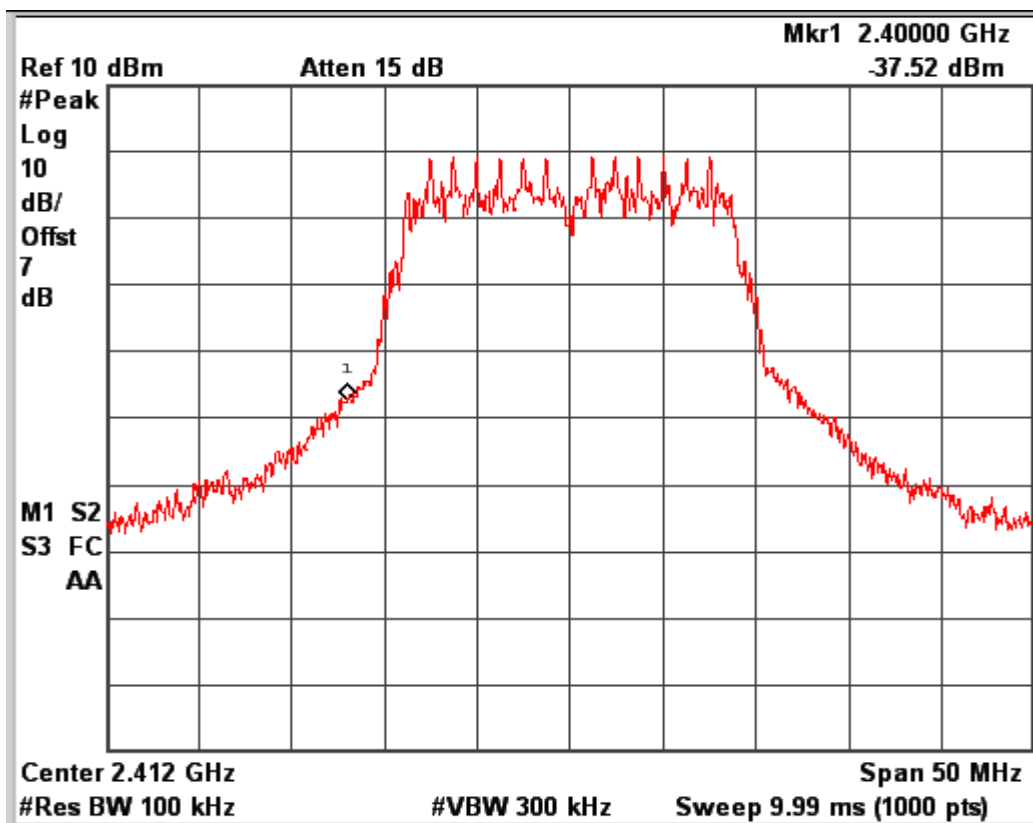
Channel frequency: 2412 MHz

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Data Rate: MCS0

Channel frequency: 2462 MHz

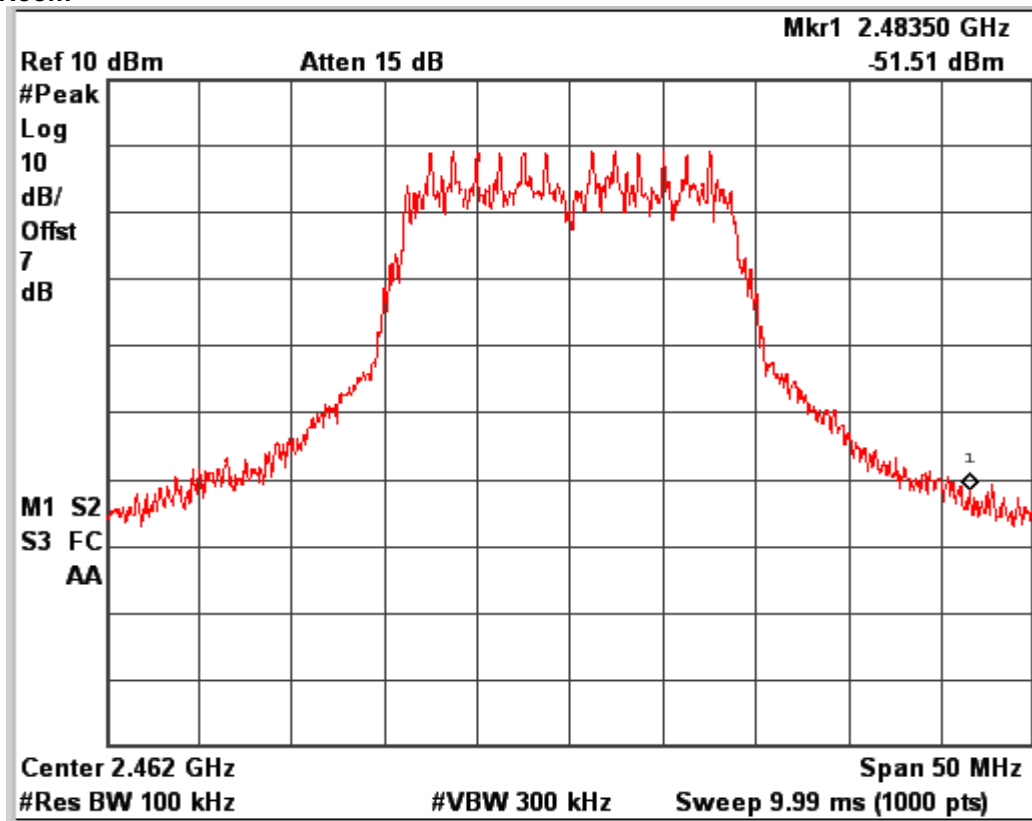


Data Rate: MCS7

Channel frequency: 2412 MHz

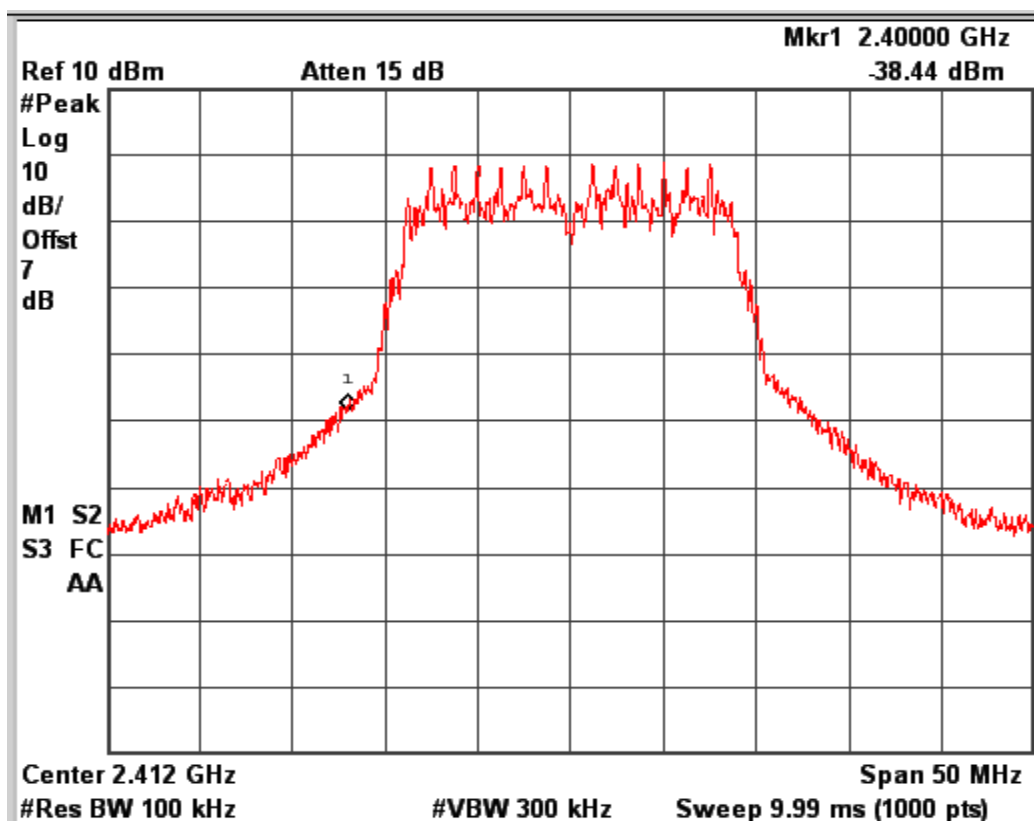


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Data Rate: MCS7

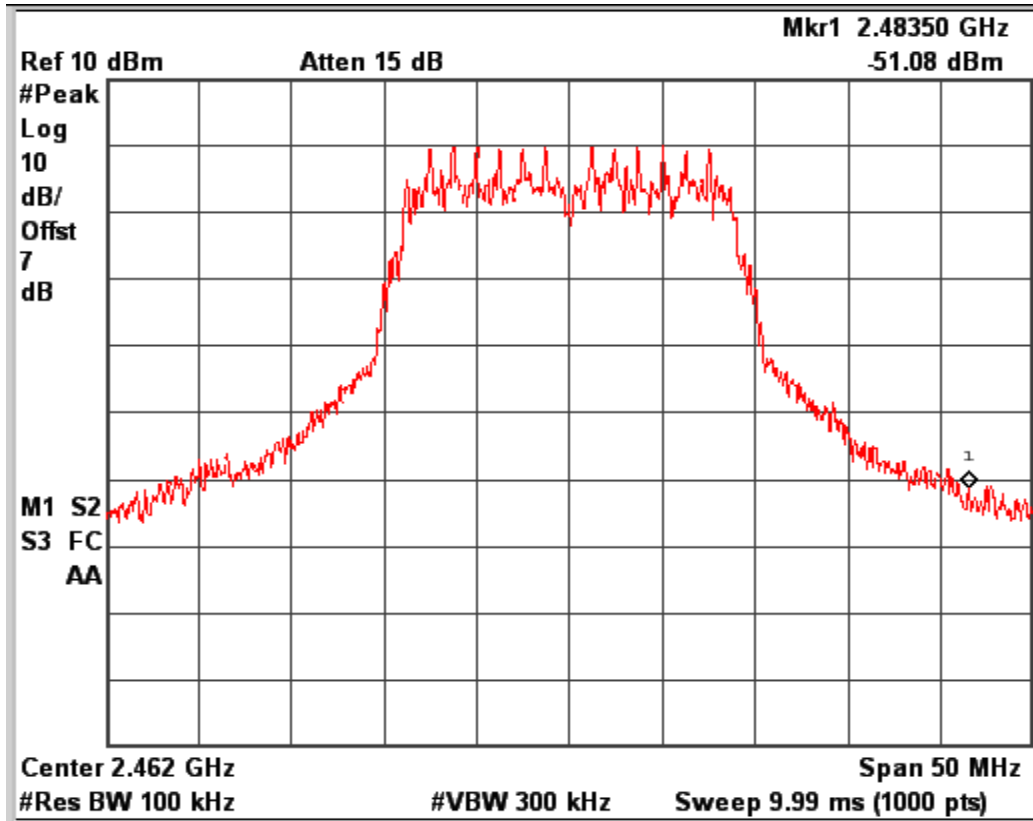
Channel frequency: 2462 MHz



Data Rate: MCS15

Channel frequency: 2412 MHz

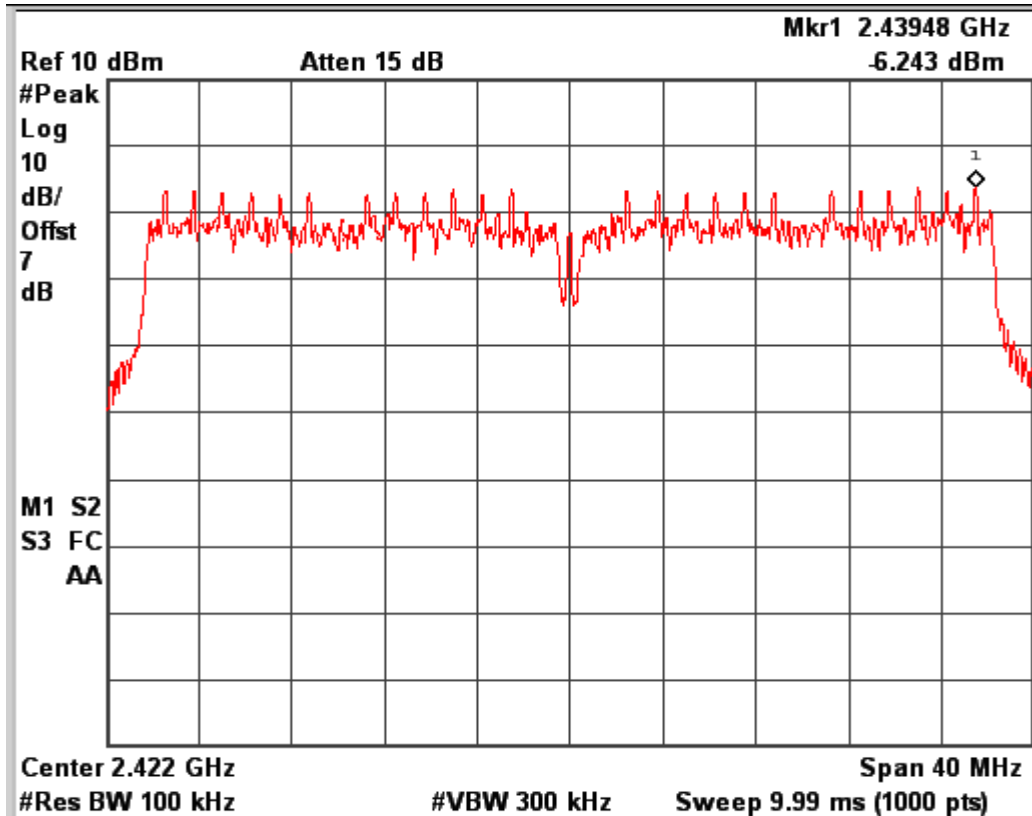
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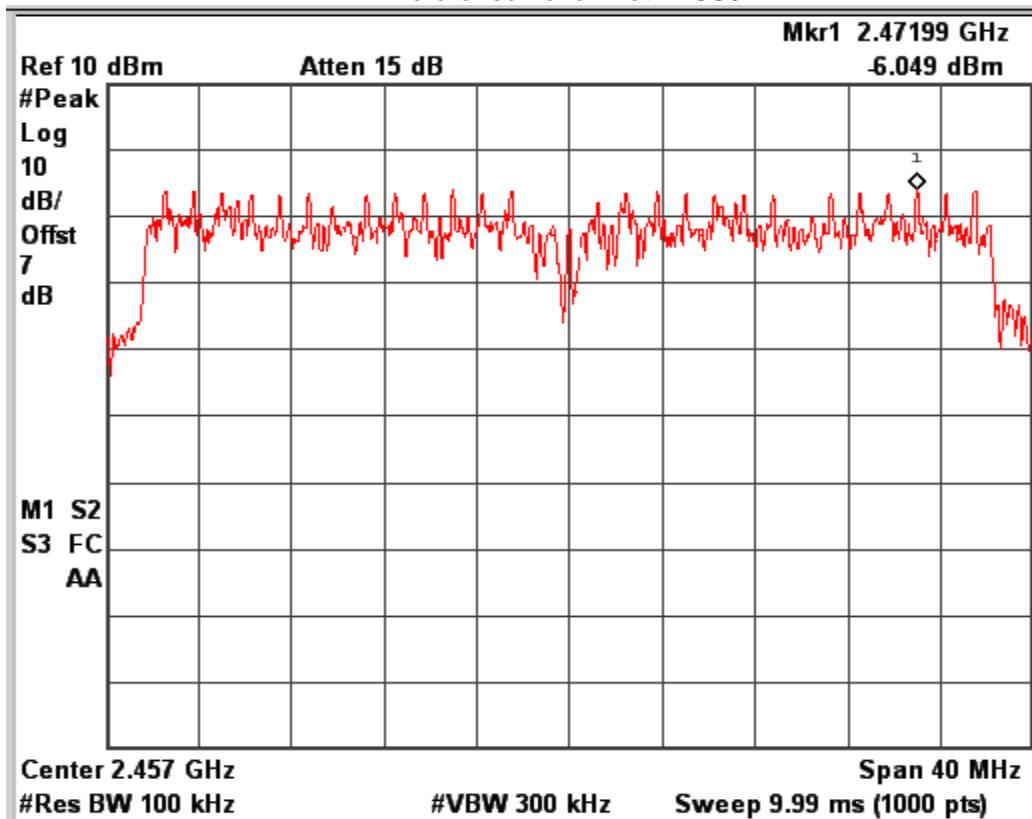
Data Rate: MCS15

Channel frequency: 2462 MHz

IEEE802.11nHT40						
Data Rate (Mbps)	Channel Frequency (MHz)	Value at Band Edge		Reference Value B (dBm)	Band Edge Value A~B (dBc)	Limit (dBc)
		Frequency (MHz)	Value A (dBm)			
MCS0	2422	2400	-42.03	-6.24	35.79	30
	2457	2483.5	-46.66	-6.24	40.42	30
MCS7	2422	2400	-37.19	-6.04	31.15	30
	2457	2483.5	-43.03	-6.04	36.99	30
MCS15	2422	2400	-41.96	-6.18	35.78	30
	2457	2483.5	-45.13	-6.18	38.95	30

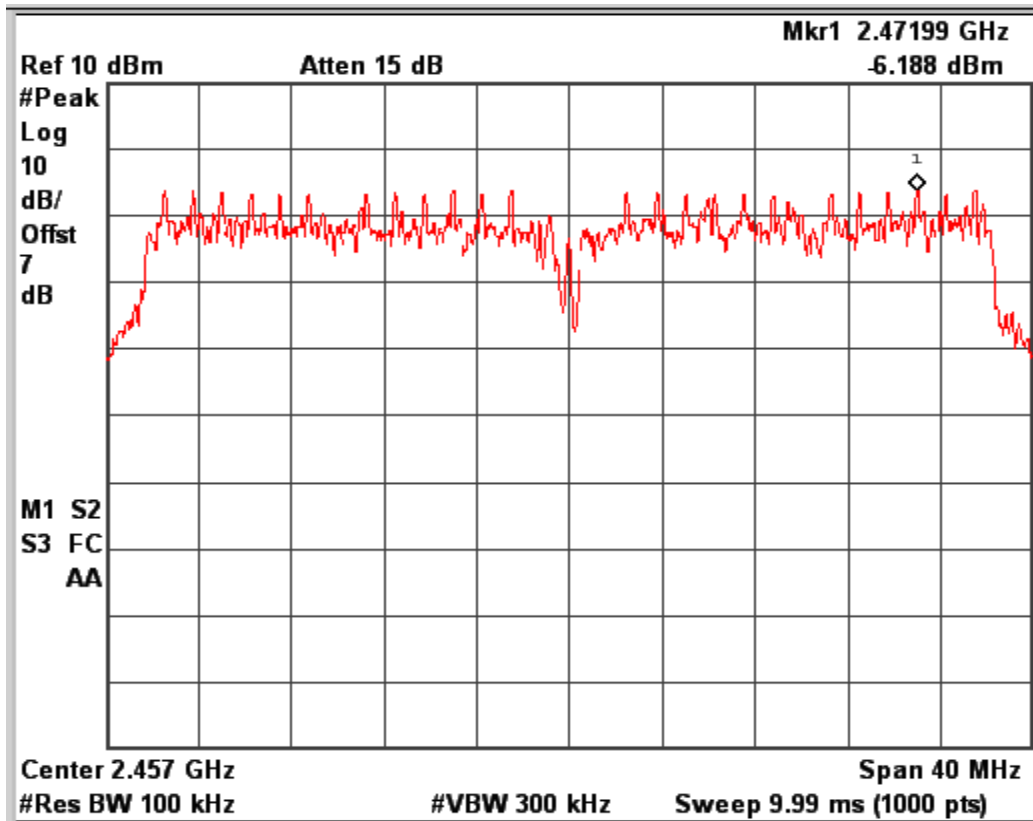


Reference Level Plot: MCS0

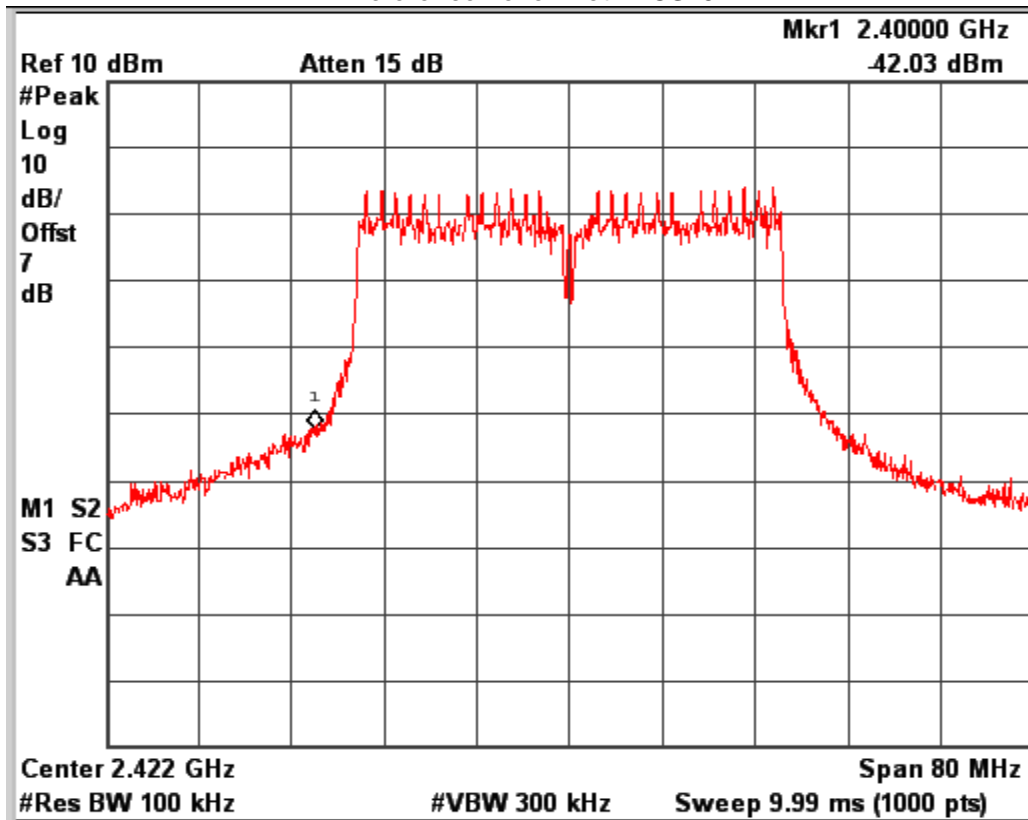


Reference Level Plot: MCS7

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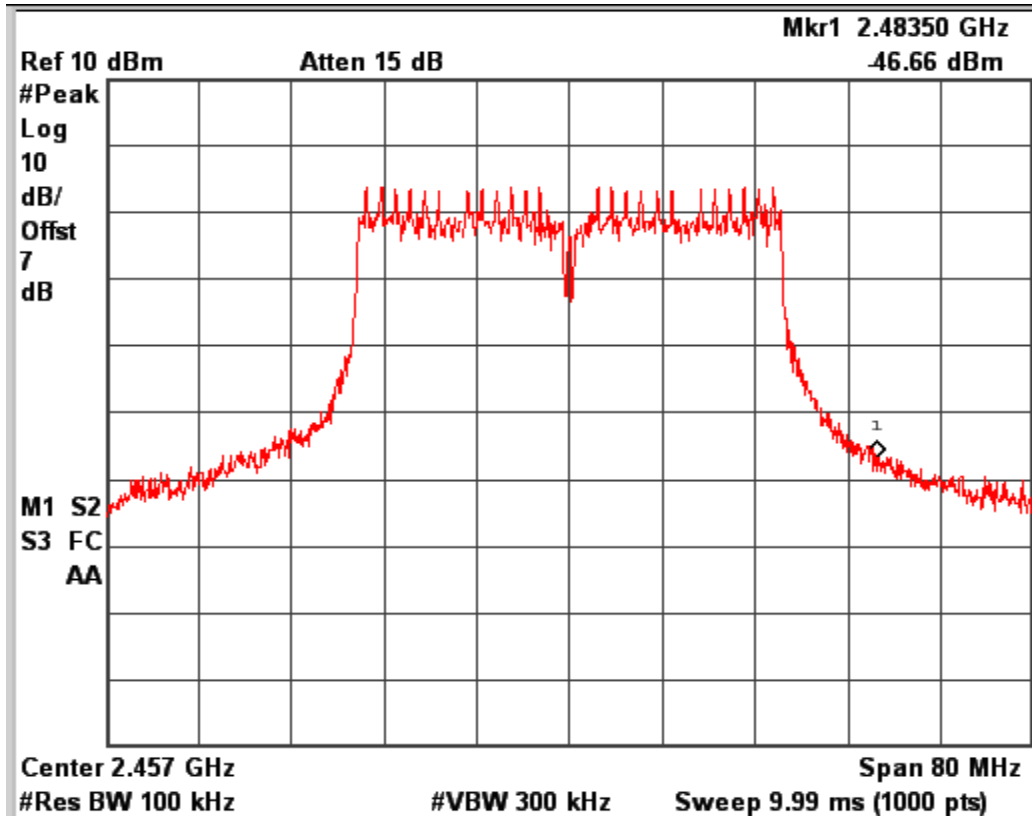
Reference Level Plot: MCS15



Data Rate: MCS0

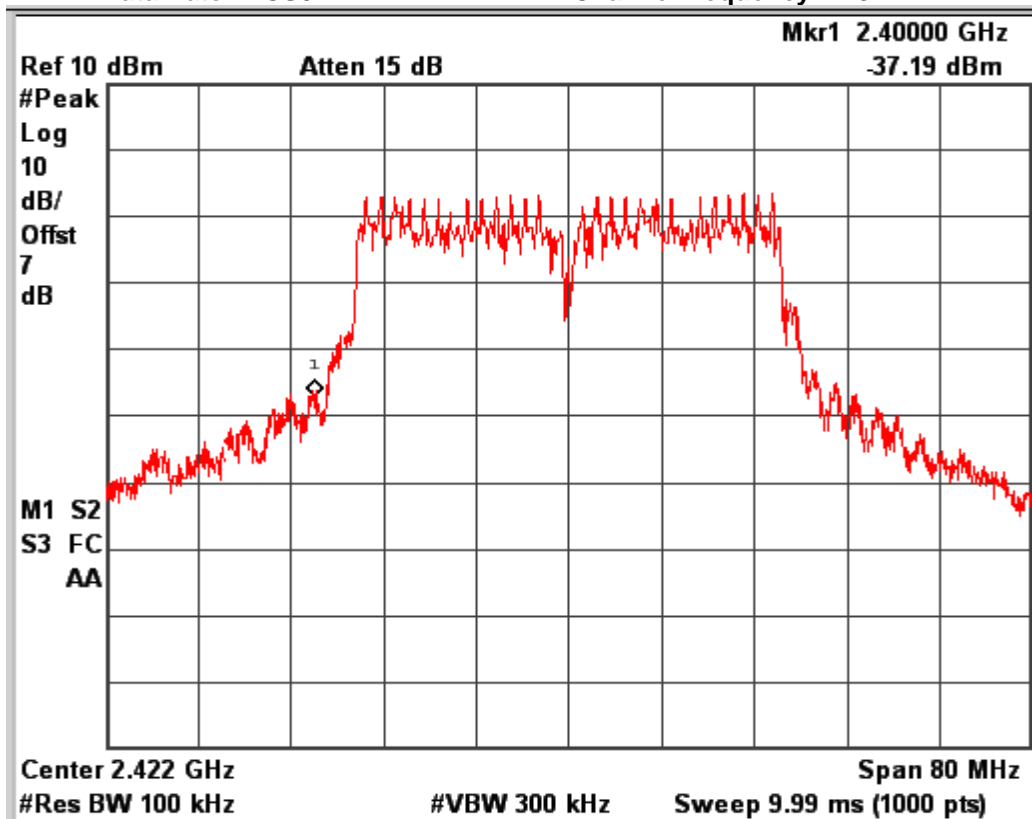
Channel frequency: 2422 MHz

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Data Rate: MCS0

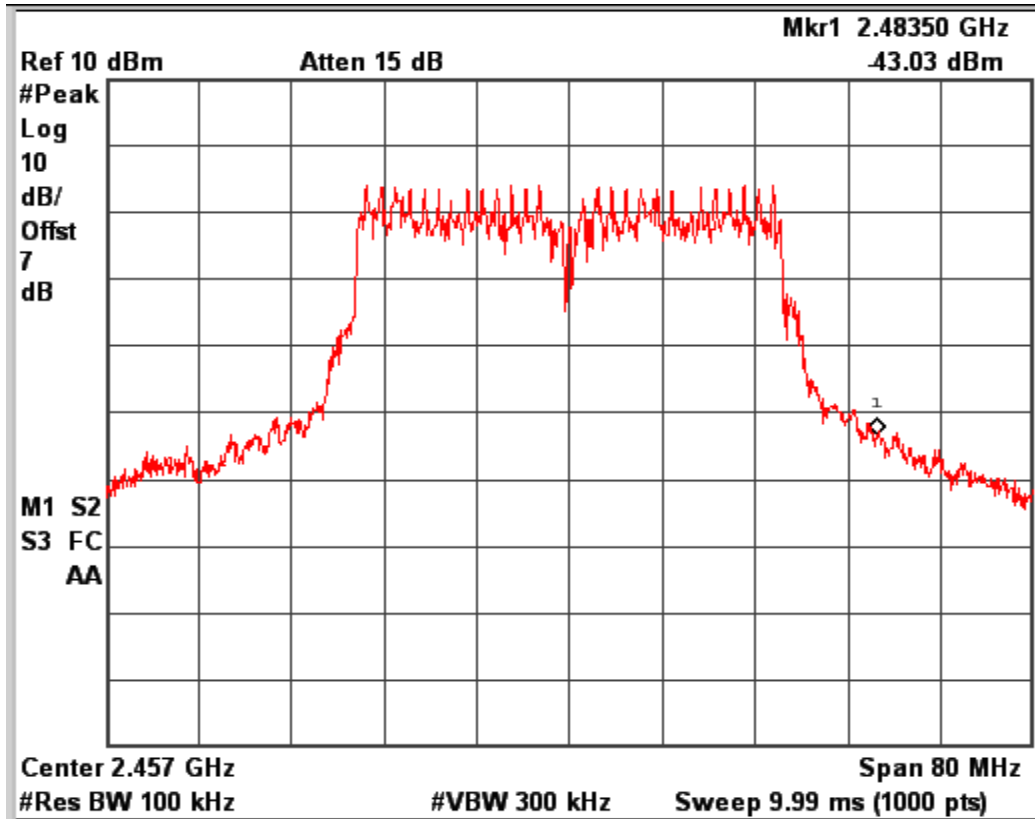
Channel frequency: 2457 MHz



Data Rate: MCS7

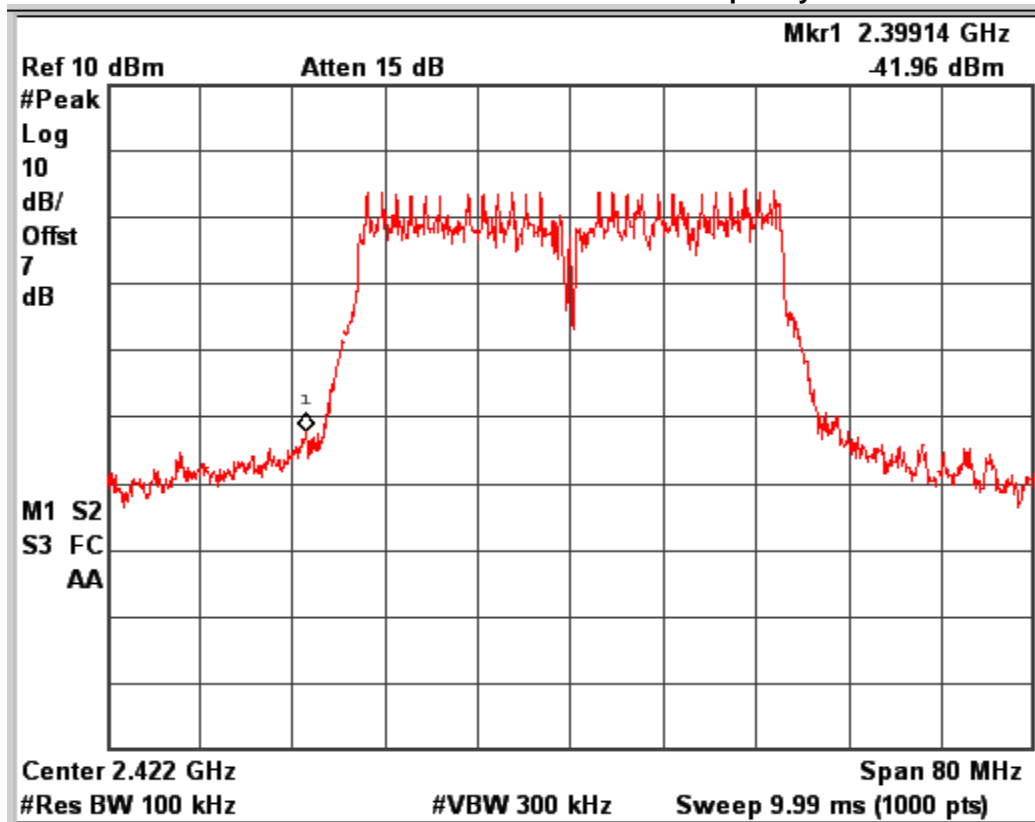
Channel frequency: 2422 MHz

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Data Rate: MCS7

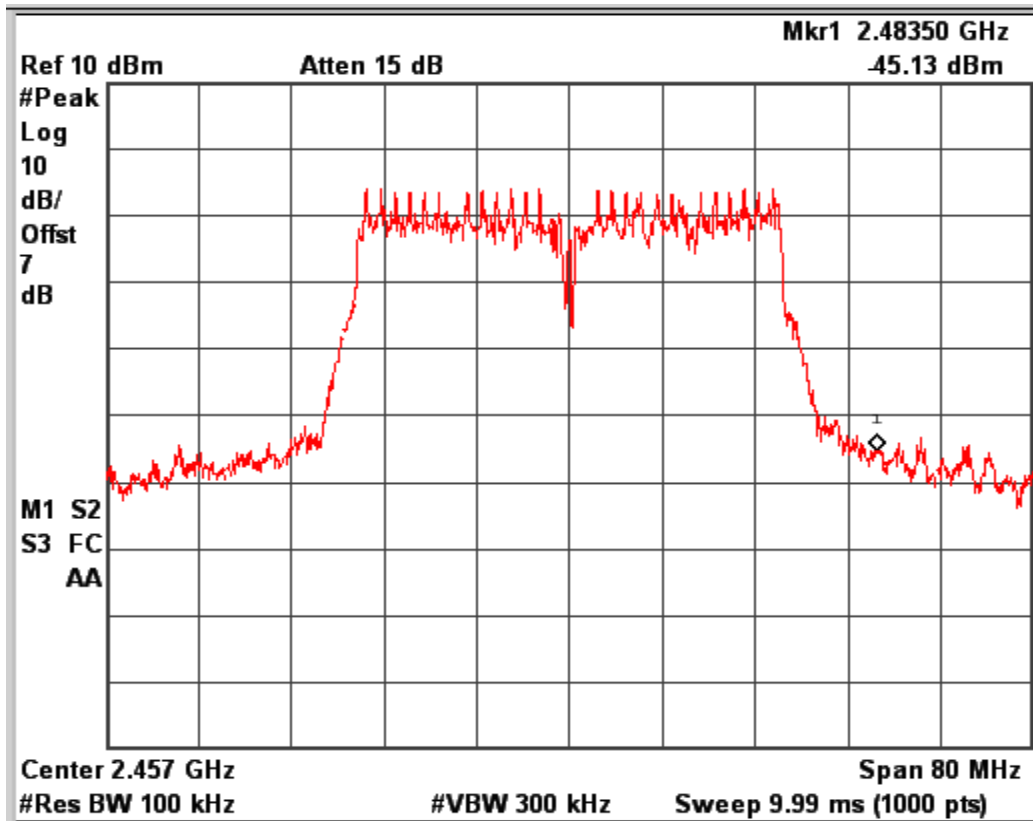
Channel frequency: 2457 MHz



Data Rate: MCS15

Channel frequency: 2422 MHz

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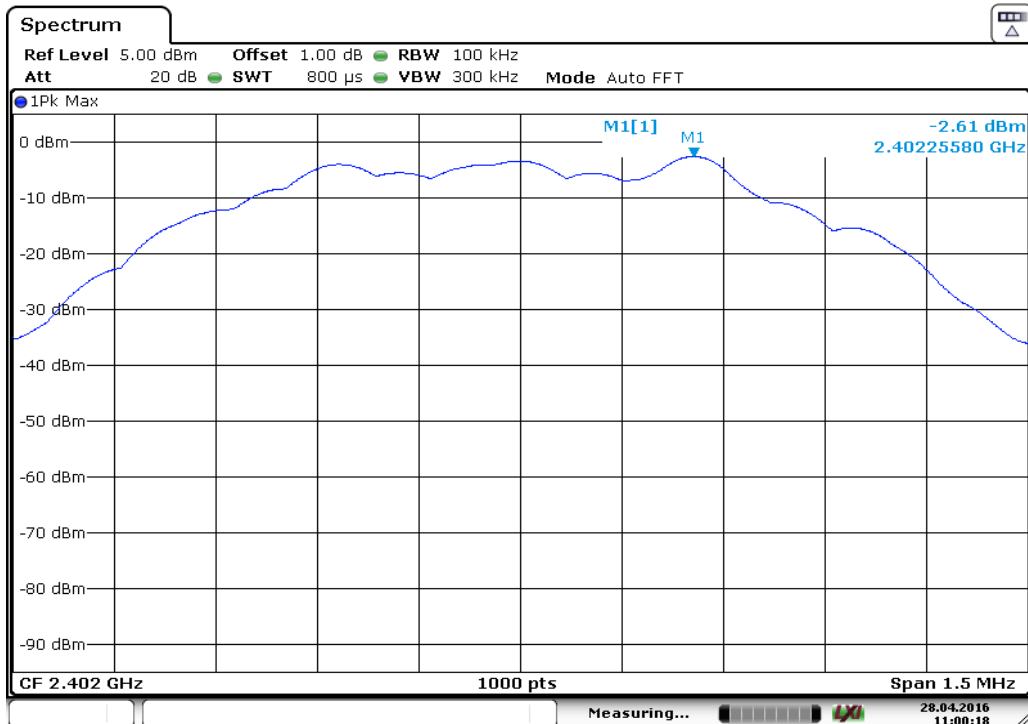
Data Rate: MCS15

Channel frequency: 2457 MHz

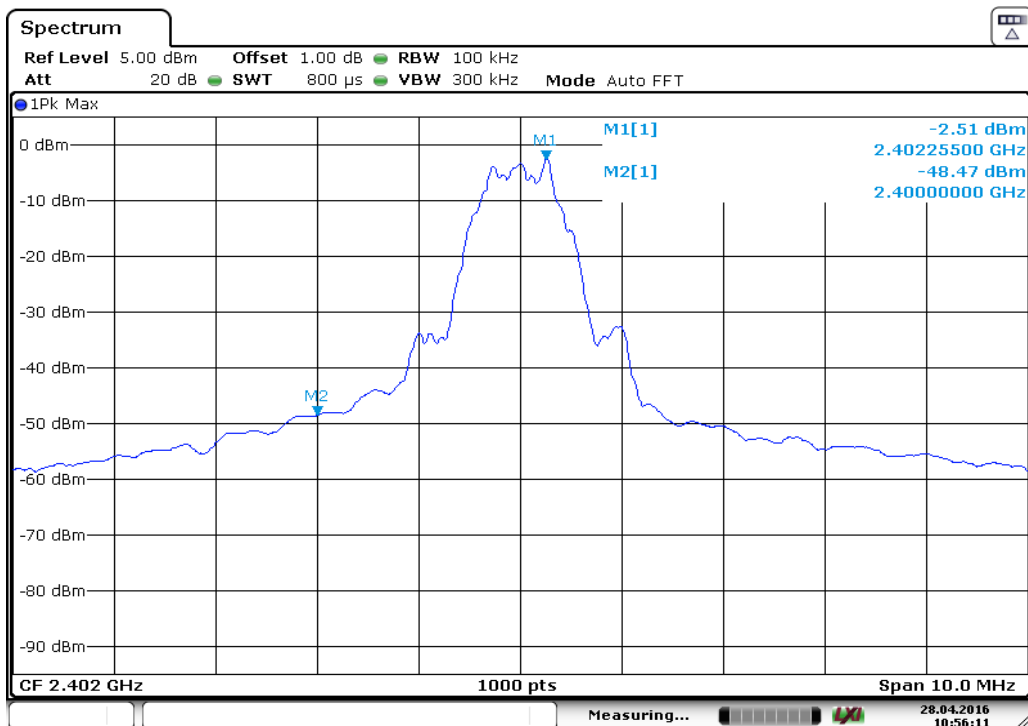
Test Result: Bluetooth LE

Channel Frequency (MHz)	Value at Band Edge		Reference Value B (dBm)	Band Edge Value A-B (dBc)	Limit (dBc)
	Frequency (MHz)	Value A (dBm)			
2402	2399.72	-48.47	-2.61	-45.86	20
2480	2483.50	-55.9	-2.61	-53.29	20

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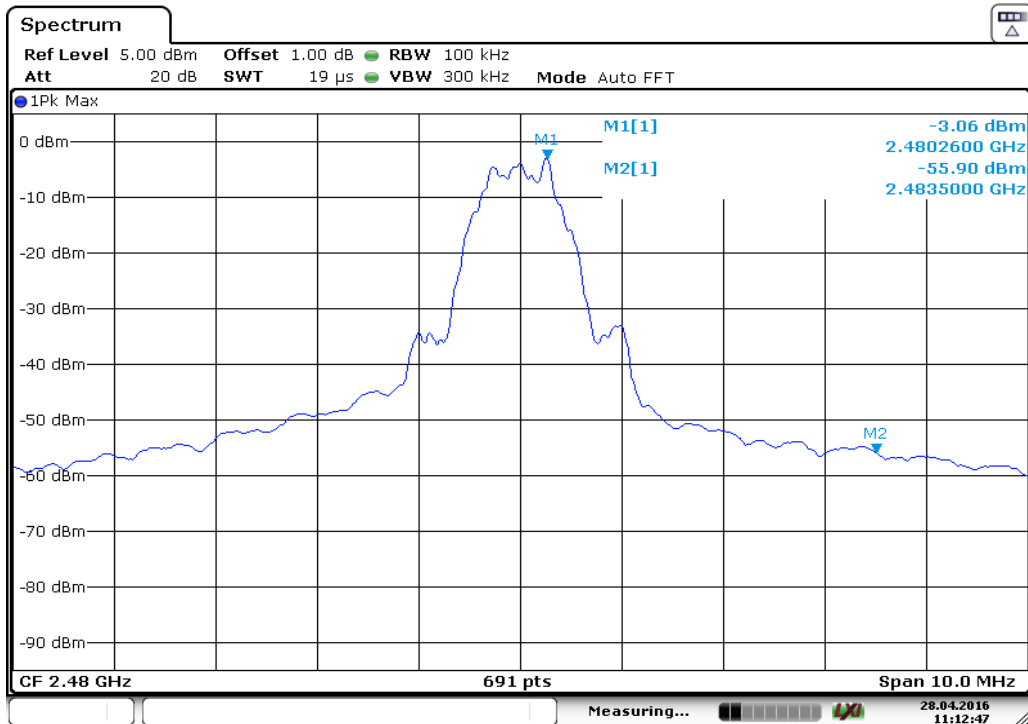
Reference Level Plot



Channel Frequency 2402 MHz



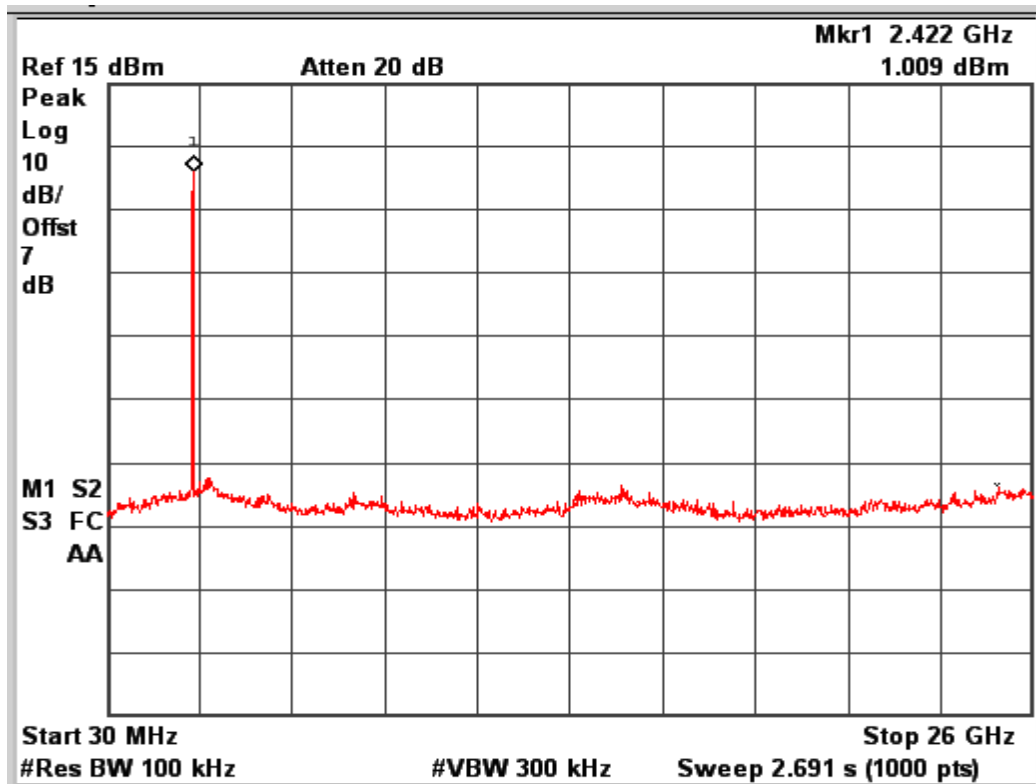
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Channel Frequency 2480 MHz

Conducted Spurious Emission

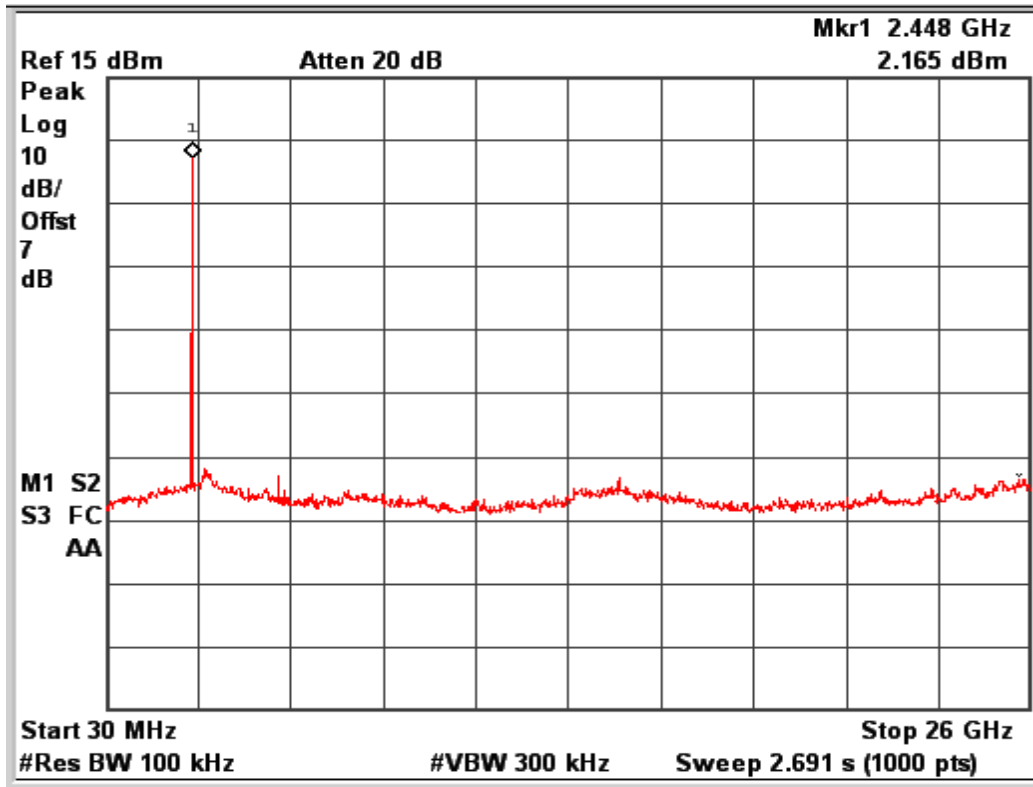
WiFi



Data Rate: 1Mbps

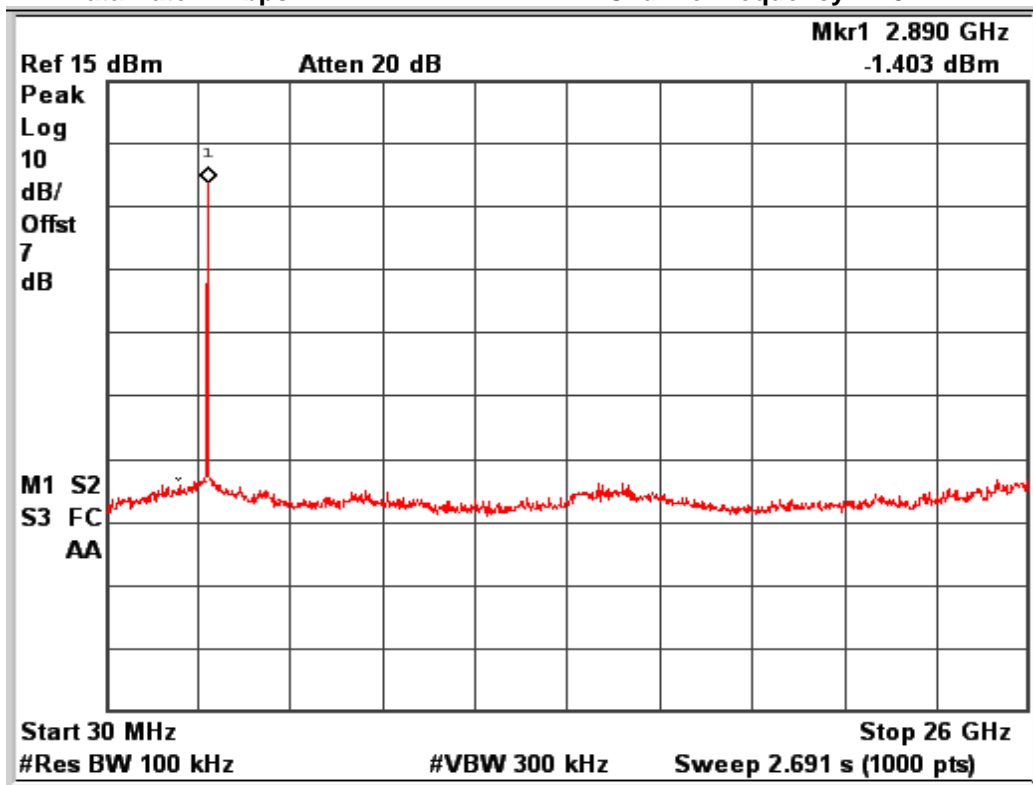
Channel frequency: 2412 MHz

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Data Rate: 1Mbps

Channel frequency: 2437 MHz

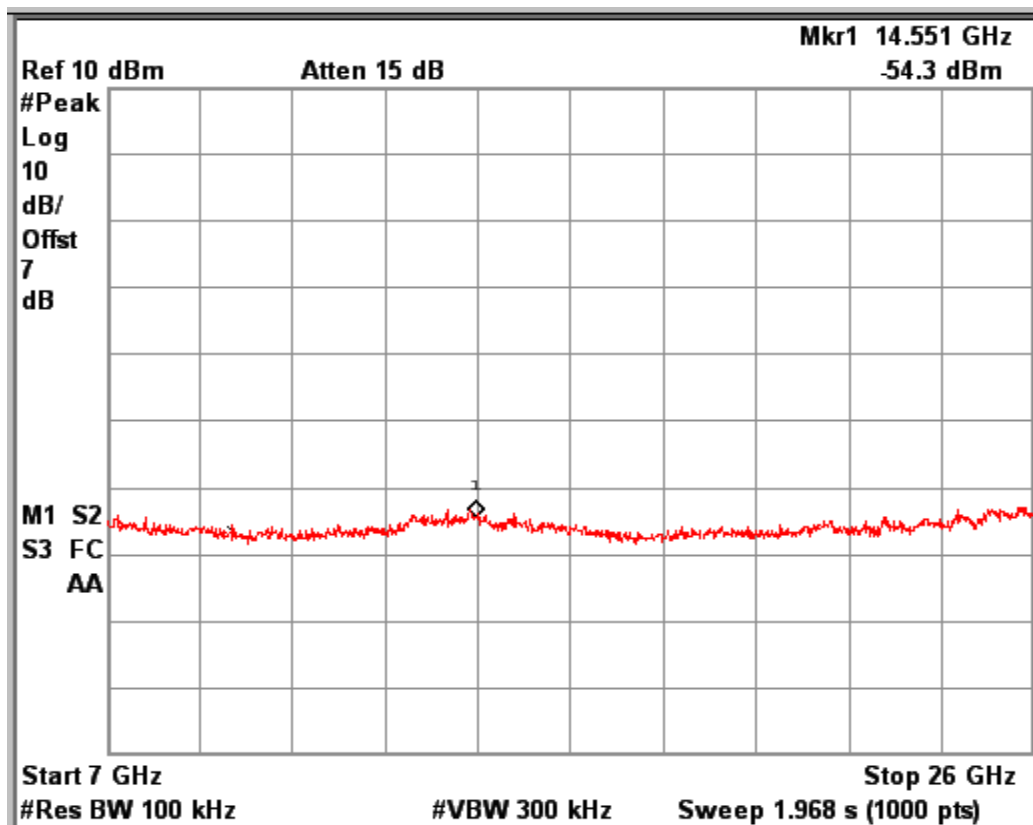
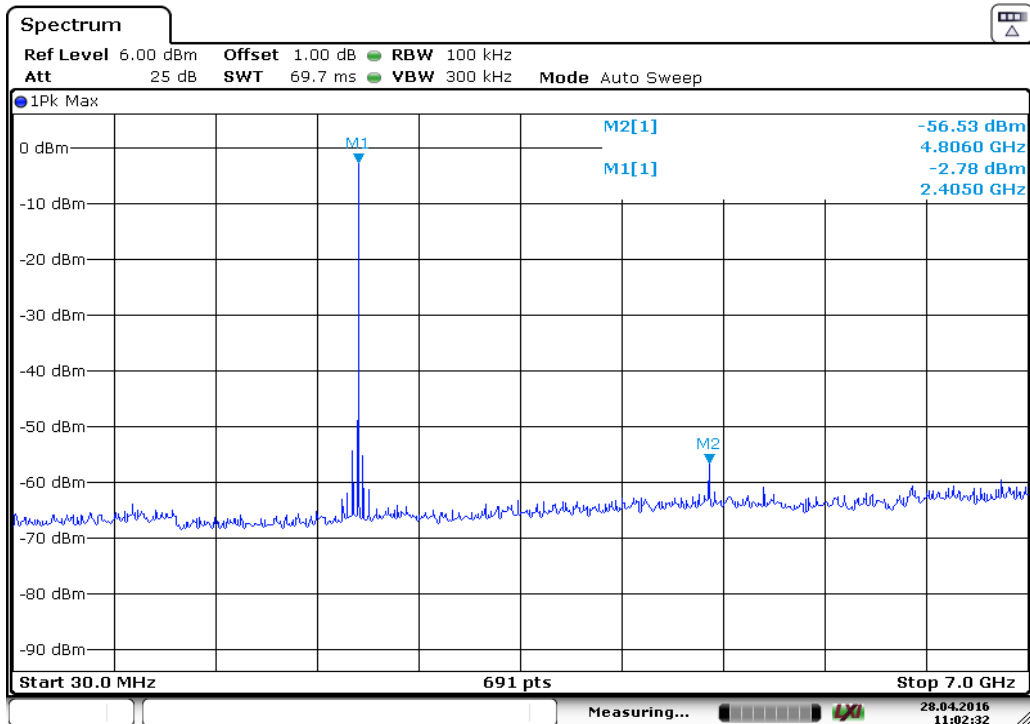


Data Rate: 1Mbps

Channel frequency: 2462 MHz

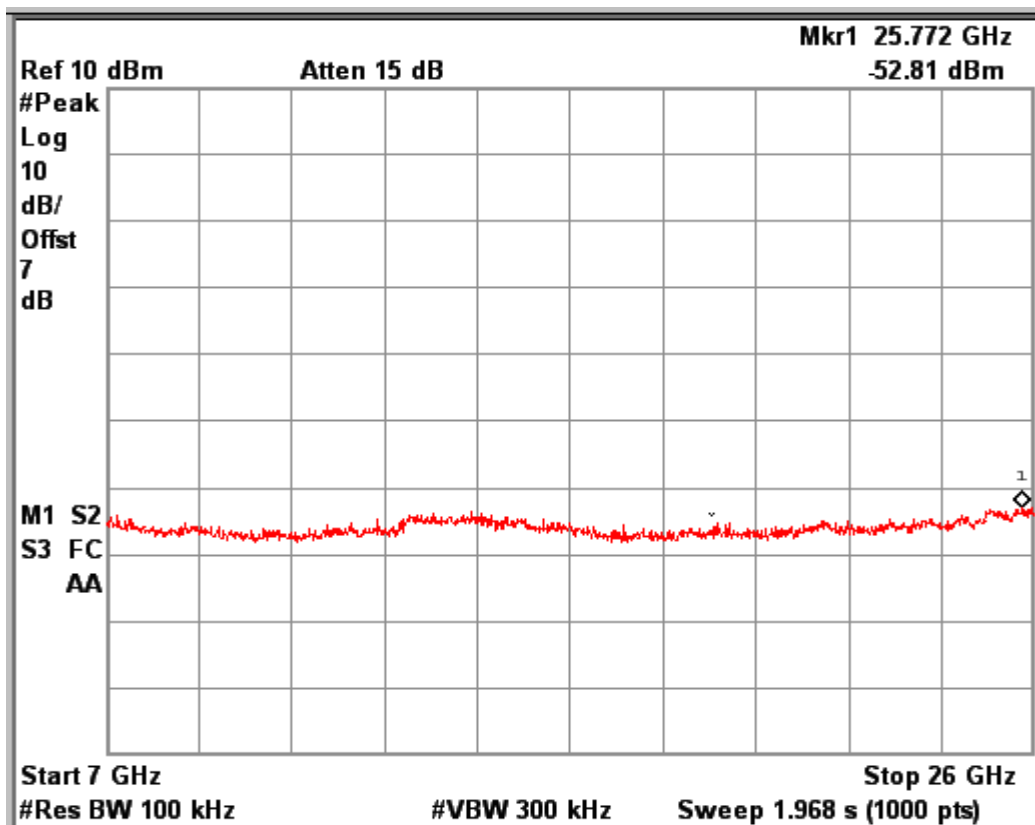
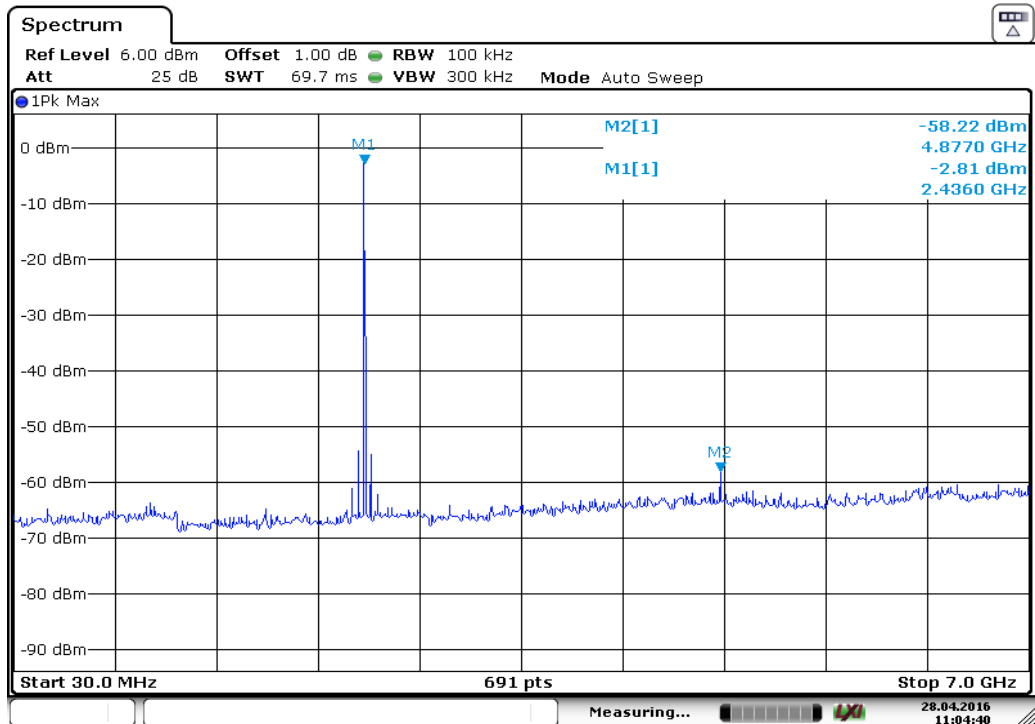
Bluetooth LE

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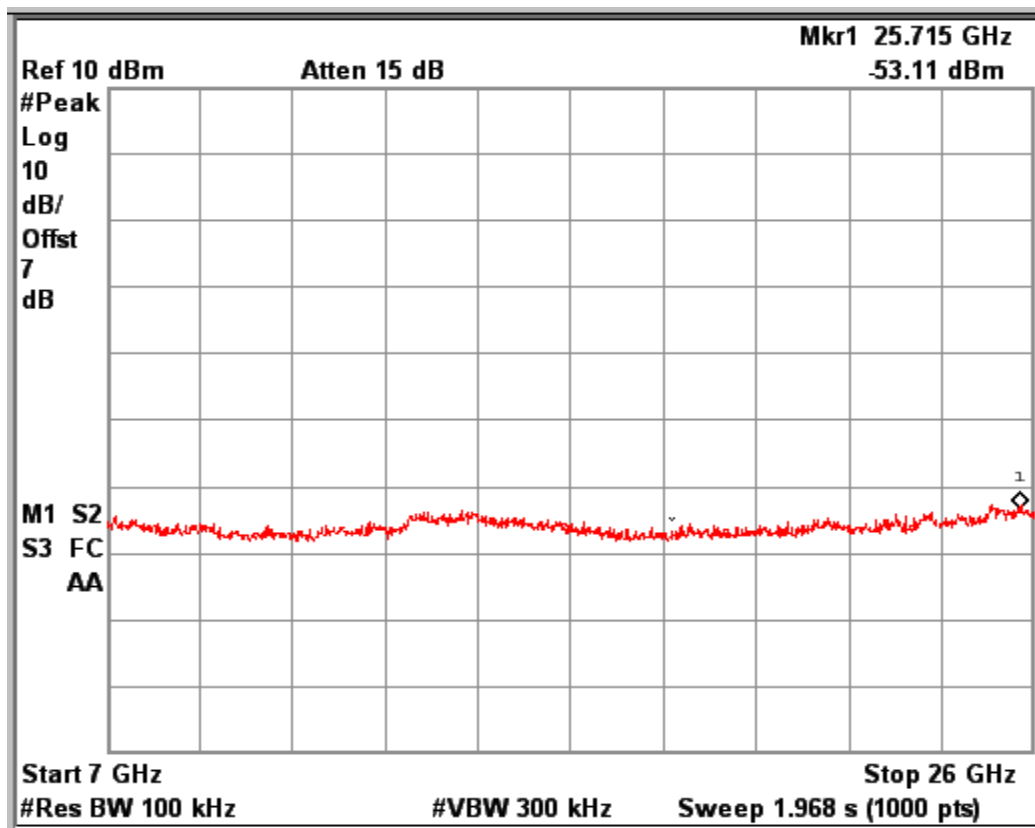
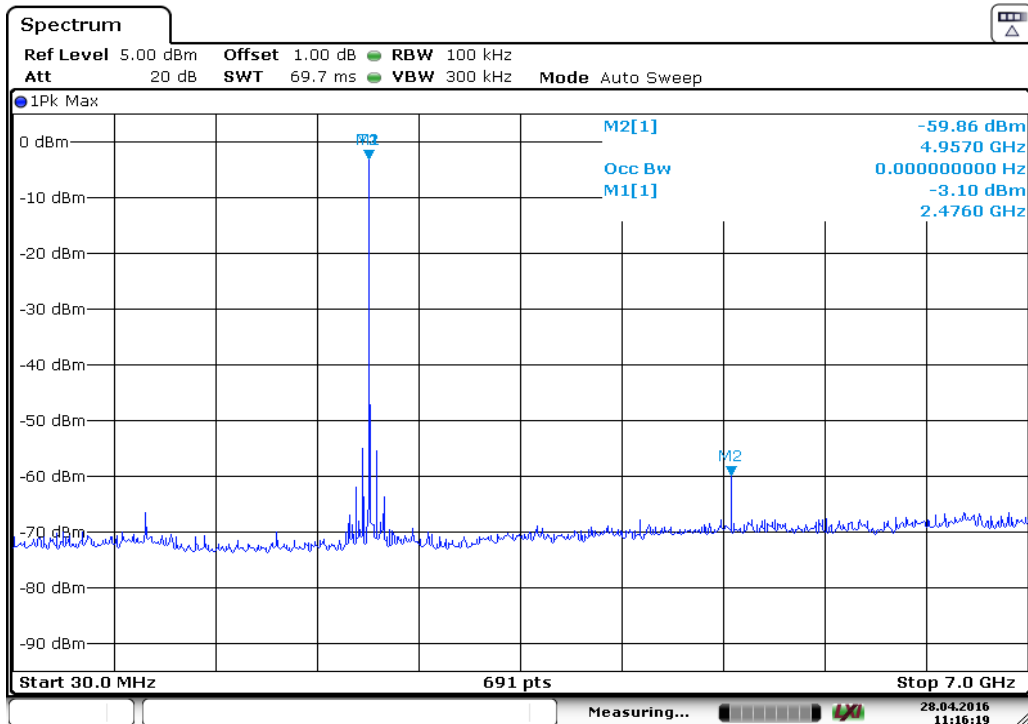
Channel Frequency 2402 MHz

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Channel Frequency 2437 MHz

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Channel Frequency 2480 MHz

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

**Section 15.209 and 15.205  
Pass**

Test Specification	FCC Part 15 Section 15.209 & 15.205
Test Method	ANSI C63.10-2013
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 below 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.

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## Test results:

### For frequency Range 9kHz – 30MHz

No emissions found in this frequency range.

### For the Frequency range 30MHz -1GHz

#### Note:

The product has digital device (Camera interfaces, SD card,USB & GPI external Cable) which cannot control the functions of intentional radiator (Wi-Fi, BT(EDR+BDR),BLE)) in such condition Radiated spurious emission for the frequency range from 30MHz to 1GHz was performed as per FCC part 15 subpart B 15.109, Class A requirement & Product exclusively used in Vehicles. Only worst case test results are reported.

FCC Part 15 Subpart B 15.109 Class A limits

Frequency MHz	Field Strength dBuV/m	Measured Distance (meter)	Field Strength (dBμV/m)
30-88	90.00	10.00	39.08
88-216	150.00	10.00	43.52
216-960	210.00	10.00	46.43
above 960	300.00	10.00	49.54

Worst case test results are reported.

External Battery (Vehicle Battery)

Polarization	Frequency(MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Horizontal	199.99	39.26	43.52	-4.26
	299.95	40.09	46.43	-6.34
	320.02	41.02	46.43	-5.41
	399.95	39.28	46.43	-7.15
	479.98	41.60	46.43	-4.83
	527.99	43.52	46.43	-2.91
	800.08	40.88	46.43	-5.55
	928.22	41.56	46.43	-4.87
Vertical	199.94	33.43	43.52	-10.09
	300.04	32.53	46.43	-13.90
	528.09	40.63	46.43	-5.80
	624.02	39.43	46.43	-7.00
	800.08	44.23	46.43	-2.20

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Internal Battery

Polarization	Frequency(MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Horizontal	199.94	39.47	43.52	-4.05
	300.04	36.3	46.43	-10.13
	379.97	39.35	46.43	-7.08
	399.95	37.99	46.43	-8.44
	528.09	43.47	46.43	-2.96
	928.22	42.91	46.43	-3.52
Vertical	479.98	37.59	46.43	-8.84
	527.99	40.63	46.43	-5.80
	800.08	42.03	46.43	-4.40

30MHz to 1GHz test performed with only Radio modules are turned on at 3m distance with FCC part 15 subparts C 15.209 limits

External Battery

Polarization	Frequency(MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Horizontal	296.97	44.29	46	-1.71
	371.24	44.51	46	-1.49
	631.10	40.01	46	-5.99
	779.66	44.05	46	-1.95
	853.91	42.65	46	-3.35
Vertical	371.24	40.91	46	-5.09
	556.90	40.69	46	-5.31
	928.22	42.15	46	-3.85

Internal Battery

Polarization	Frequency(MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Horizontal	371.24	42.64	46	-3.36
	779.71	43.78	46	-2.22
	853.91	44.28	46	-1.72
	928.12	43.86	46	-2.14
Vertical	556.94	42.97	46	-3.03
	779.61	41.44	46	-4.56
	928.12	42.24	46	-3.76



Worst case test results for the frequencies in the range 1 GHz 26.5 GHz are reported in below table.

### Bluetooth Low Energy Test Results

Bluetooth LE , Data Rate -> 1Mbps, External Antenna					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2402	Vertical	2390 (Pk)	50.37	74	-23.63
		2390 (Av)	34.56	54	-19.44
		2402 (Pk)	92.53	*	-
		2402 (Av)	89.40	*	-
		4804 (Pk)	51.69	74	-22.31
		4804 (Av)	41.49	54	-12.51
		7206 (Pk)	59.13	74	-14.87
		7206 (Av)	47.48	54	-6.52
	Horizontal	2390 (Pk)	44.31	74	-29.69
		2390 (Av)	33.00	54	-21
		2402 (Pk)	88.45	*	-
		2402 (Av)	84.85	*	-
		4804 (Pk)	50.65	74	-23.35
		4804 (Av)	39.03	54	-14.97
		7206 (Pk)	60.55	74	-13.45
		7206 (Av)	50.71	54	-3.29
2440	Vertical	2440 (Pk)	91.24	*	-
		2440 (Av)	89.02	*	-
		4880 (Pk)	51.90	74	-22.1
		4880 (Av)	41.62	54	-12.38
		7320 (Pk)	58.79	74	-15.21
		7320 (Av)	46.57	54	-7.43
	Horizontal	2440 (Pk)	88.31	*	-
		2440 (Av)	83.49	*	-
		4880 (Pk)	50.83	74	-23.17
		4880 (Av)	41.27	54	-12.73
2480	Vertical	2480 (Pk)	93.22	*	-
		2480 (Av)	89.94	*	-
		2483.5 (Pk)	54.86	74	-19.14
		2483.5 (Av)	27.83	54	-26.17
		4960 (Pk)	51.84	74	-22.16
		4060 (Av)	40.30	54	-13.7
		7440 (Pk)	60.36	74	-13.64
		7440 (Av)	48.16	54	-5.84
	Horizontal	2480 (Pk)	87.74	*	-
		2480 (Av)	84.72	*	-
		2483.5 (Pk)	50.09	74	-23.91
		2483.5 (Av)	27.28	54	-26.72
		4960 (Pk)	51.88	74	-22.12

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	4060 (Av)	40.17	54	-13.83
	7440 (Pk)	60.87	74	-13.13
	7440 (Av)	50.82	54	-3.18

Bluetooth LE , Data Rate -> 1Mbps, Chip Antenna					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2402	Vertical	2390 (Pk)	44.31	74	-29.69
		2390 (Av)	33.00	54	-21
		2402 (Pk)	85.72	*	-
		2402 (Av)	81.45	*	-
		4804 (Pk)	52.59	74	-21.41
		4804 (Av)	40.88	54	-13.12
		7206 (Pk)	62.24	74	-11.76
		7206 (Av)	48.71	54	-5.29
	Horizontal	2390 (Pk)	50.37	74	-23.63
		2390 (Av)	34.56	54	-19.44
		2402 (Pk)	87.23	*	-
		2402 (Av)	83.17	*	-
		4804 (Pk)	51.06	74	-22.94
		4804 (Av)	39.15	54	-14.85
		7206 (Pk)	66.84	74	-7.16
		7206 (Av)	53.24	54	-0.76
2440	Vertical	2440 (Pk)	85.55	*	-
		2440 (Av)	81.85	*	-
		4880 (Pk)	51.83	74	-22.17
		4880 (Av)	40.72	54	-13.28
		7320 (Pk)	60.04	74	-13.96
		7320 (Av)	50.35	54	-3.65
	Horizontal	2440 (Pk)	87.04	*	-
		2440 (Av)	83.19	*	-
		4880 (Pk)	51.37	74	-22.63
		4880 (Av)	39.62	54	-14.38
		7320 (Pk)	62.51	74	-11.49
		7320 (Av)	52.12	54	-1.88
2480	Vertical	2480 (Pk)	85.55	*	-
		2480 (Av)	82.71	*	-
		2483.5 (Pk)	49.56	74	-24.44
		2483.5 (Av)	27.37	54	-26.63
		4960 (Pk)	52.82	74	-21.18
		4060 (Av)	40.65	54	-13.35
		7440 (Pk)	60.65	74	-13.35
		7440 (Av)	48.98	54	-5.02
	Horizontal	2480 (Pk)	87.57	*	-
		2480 (Av)	84.52	*	-
		2483.5 (Pk)	48.89	74	-25.11
		2483.5 (Av)	27.54	54	-26.46
		4960 (Pk)	51.36	74	-22.64
		4060 (Av)	39.65	54	-14.35

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		7440 (Pk)	61.39	74	-12.61
		7440 (Av)	50.74	54	-3.26

IEEE802.11b , Data Rate -> 1Mbps, External Antenna					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	53.24	74	-20.76
		2390 (Av)	39.44	54	-14.56
		2412 (Pk)	103.83	*	-
		2412 (Av)	101.37	*	-
		4824 (Pk)	54.46	74	-19.54
		4824 (Av)	49.66	54	-4.34
		7236 (Pk)	57.33	74	-16.67
		7236 (Av)	45.01	54	-8.99
	Horizontal	2390 (Pk)	49.68	74	-24.32
		2390 (Av)	31.45	54	-22.55
		2412 (Pk)	98.41	*	-
		2412 (Av)	95.9	*	-
		4824 (Pk)	52.01	74	-21.99
		4824 (Av)	45.02	54	-8.98
		7236 (Pk)	57.33	74	-16.67
		7236 (Av)	45.01	54	-8.99
2437	Vertical	2437 (Pk)	103.86	*	-
		2437 (Av)	101.35	*	-
		4874 (Pk)	53.35	74	-20.65
		4874 (Av)	47.17	54	-6.83
		7311 (Pk)	58.53	74	-15.47
		7311 (Av)	45.21	54	-8.79
	Horizontal	2437 (Pk)	92.93	*	-
		2437 (Av)	90.6	*	-
		4874 (Pk)	51.72	74	-22.28
		4874 (Av)	44.27	54	-9.73
		7311 (Pk)	58.07	74	-15.93
		7311 (Av)	45.04	54	-8.96
2462	Vertical	2462 (Pk)	109.16	*	-
		2462 (Av)	106.68	*	-
		2483.5 (Pk)	56.32	74	-17.68
		2483.5 (Av)	47.48	54	-6.52
		4924 (Pk)	52.78	74	-21.22
		4924 (Av)	43.25	54	-10.75
		7386 (Pk)	57.21	74	-16.79
		7386(Av)	44.84	54	-9.16
	Horizontal	2462 (Pk)	102.98	*	-
		2462 (Av)	99.73	*	-
		2483.5 (Pk)	54.23	74	-19.77
		2483.5 (Av)	47.98	54	-6.02
		4924 (Pk)	50.9	74	-23.1
		4924 (Av)	40.29	54	-13.71
		7386 (Pk)	56.75	74	-17.25

		7386(Av)	44.92	54	-9.08
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IEEE802.11b , Data Rate -> 11Mbps, External Antenna,					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	54.35	74	-19.65
		2390 (Av)	33.69	54	-20.31
		2412 (Pk)	107.98	*	-
		2412 (Av)	100.17	*	-
		4824 (Pk)	52.11	74	-21.89
		4824 (Av)	40.38	54	-13.62
		7236 (Pk)	56.12	74	-17.88
		7236 (Av)	44.82	54	-9.18
	Horizontal	2390 (Pk)	43.18	74	-30.82
		2390 (Av)	28.6	54	-25.4
		2412 (Pk)	97.03	*	-
		2412 (Av)	89.24	*	-
		4824 (Pk)	50.53	74	-23.47
		4824 (Av)	37.96	54	-16.04
		7236 (Pk)	57.21	74	-16.79
		7236 (Av)	44.02	54	-9.98
2437	Vertical	2437 (Pk)	102.85	*	-
		2437 (Av)	100.92	*	-
		4874 (Pk)	55.05	74	-18.95
		4874 (Av)	43.74	54	-10.26
		7311 (Pk)	57.27	74	-16.73
		7311 (Av)	44.82	54	-9.18
	Horizontal	2437 (Pk)	91.92	*	-
		2437 (Av)	89.28	*	-
		4874 (Pk)	42.76	74	-31.24
		4874 (Av)	40.84	54	-13.16
		7311 (Pk)	57.92	74	-16.08
		7311 (Av)	44.87	54	-9.13
2462	Vertical	2462 (Pk)	107.78	*	-
		2462 (Av)	100.08	*	-
		2483.5 (Pk)	52.57	74	-21.43
		2483.5 (Av)	33.85	54	-20.15
		4924 (Pk)	51.83	74	-22.17
		4924 (Av)	42.37	54	-11.63
		7386 (Pk)	56.38	74	-17.62
		7386(Av)	43.91	54	-10.09
	Horizontal	2462 (Pk)	100.69	*	-
		2462 (Av)	92.98	*	-

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	2483.5 (Pk)	46.82	74	-27.18
	2483.5 (Av)	29.13	54	-24.87
	4924 (Pk)	50.9	74	-23.1
	4924 (Av)	40.29	54	-13.71
	7386 (Pk)	55.38	74	-18.62
	7386(Av)	43.82	54	-10.18

## Wi-Fi Test Results

IEEE802.11g , Data Rate -> 6Mbps, External Antenna					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	57.21	74	-16.79
		2390 (Av)	40.66	54	-13.34
		2412 (Pk)	105.14	*	-
		2412 (Av)	95.51	*	-
		4824 (Pk)	53.84	74	-20.16
		4824 (Av)	40.67	54	-13.33
	Horizontal	2390 (Pk)	47.26	74	-26.74
		2390 (Av)	31.88	54	-22.12
		2412 (Pk)	96.6	*	-
		2412 (Av)	87.01	*	-
		4824 (Pk)	50.79	74	-23.21
		4824 (Av)	38.03	54	-15.97
2437	Vertical	2437 (Pk)	104.47	*	-
		2437 (Av)	95.5	*	-
		4874 (Pk)	53.2	74	-20.8
		4874 (Av)	40.47	54	-13.53
	Horizontal	2437 (Pk)	96.48	*	-
		2437 (Av)	87.32	*	-
		4874 (Pk)	51.64	74	-22.36
		4874 (Av)	38.21	54	-15.79
2462	Vertical	2462 (Pk)	104.85	*	-
		2462 (Av)	96.27	*	-
		2483.5 (Pk)	56.23	74	-17.77
		2483.5 (Av)	42.07	54	-11.93
		4924 (Pk)	53.52	74	-20.48
		4924 (Av)	41.48	54	-12.52
	Horizontal	2462 (Pk)	97.13	*	-
		2462 (Av)	88.89	*	-
		2483.5 (Pk)	46.73	74	-27.27
		2483.5 (Av)	33.66	54	-20.34
		4924 (Pk)	52.41	74	-21.59
		4924 (Av)	39.68	54	-14.32

IEEE802.11g , Data Rate -> 24Mbps, External Antenna					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	53.71	74	-20.29
		2390 (Av)	40.45	54	-13.55
		2412 (Pk)	105.38	*	-
		2412 (Av)	96.43	*	-
		4824 (Pk)	52.28	74	-21.72
		4824 (Av)	40.16	54	-13.84
	Horizontal	2390 (Pk)	45.24	74	-28.76
		2390 (Av)	32.14	54	-21.86
		2412 (Pk)	96.56	*	-
		2412 (Av)	88.07	*	-
		4824 (Pk)	49.95	74	-24.05
		4824 (Av)	37.77	54	-16.23
2437	Vertical	2437 (Pk)	103.72	*	-
		2437 (Av)	94.28	*	-
		4874 (Pk)	51.72	74	-22.28
		4874 (Av)	38.82	54	-15.18
	Horizontal	2437 (Pk)	95.83	*	-
		2437 (Av)	86.28	*	-
		4874 (Pk)	50.12	74	-23.88
		4874 (Av)	37.29	54	-16.71
2462	Vertical	2462 (Pk)	105.27	*	-
		2462 (Av)	96.56	*	-
		2483.5 (Pk)	54.47	74	-19.53
		2483.5 (Av)	40.71	54	-13.29
		4924 (Pk)	52.37	74	-21.63
		4924 (Av)	40.62	54	-13.38
	Horizontal	2462 (Pk)	97.72	*	-
		2462 (Av)	88.88	*	-
		2483.5 (Pk)	46.28	74	-27.72
		2483.5 (Av)	32.94	54	-21.06
		4924 (Pk)	51.73	74	-22.27
		4924 (Av)	38.28	54	-15.72

IEEE802.11g , Data Rate -> 54Mbps, External Antenna					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	54.08	74	-19.92
		2390 (Av)	41.01	54	-12.99
		2412 (Pk)	104.22	*	-
		2412 (Av)	95.63	*	-
		4824 (Pk)	51.8	74	-22.2
		4824 (Av)	40.16	54	-13.84
	Horizontal	2390 (Pk)	45.42	74	-28.58
		2390 (Av)	32.42	54	-21.58
		2412 (Pk)	95.97	*	-
		2412 (Av)	87.21	*	-
		4824 (Pk)	50.27	74	-23.73
		4824 (Av)	37.81	54	-16.19
2437	Vertical	2437 (Pk)	102.28	*	-
		2437 (Av)	93.16	*	-
		4874 (Pk)	50.32	74	-23.68
		4874 (Av)	38.12	54	-15.88
	Horizontal	2437 (Pk)	94.12	*	-
		2437 (Av)	85.28	*	-
		4874 (Pk)	49.29	74	-24.71
		4874 (Av)	37.75	54	-16.25
2462	Vertical	2462 (Pk)	100.03	*	-
		2462 (Av)	91.19	*	-
		2483.5 (Pk)	45.82	74	-28.18
		2483.5 (Av)	32.99	54	-21.01
		4924 (Pk)	50.72	74	-23.28
		4924 (Av)	39.18	54	-14.82
	Horizontal	2462 (Pk)	93.43	*	-
		2462 (Av)	84.46	*	-
		2483.5 (Pk)	43.37	74	-30.63
		2483.5 (Av)	30.28	54	-23.72
		4924 (Pk)	50.28	74	-23.72
		4924 (Av)	37.19	54	-16.81

IEEE802.11n 20MH, Data Rate -> MCS0, External Antenna					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	56.4	74	-17.6
		2390 (Av)	45.14	54	-8.86
		2412 (Pk)	104.47	*	-
		2412 (Av)	95.59	*	-
		4824 (Pk)	53.37	74	-20.63
		4824 (Av)	41.33	54	-12.67
	Horizontal	2390 (Pk)	50.64	74	-23.36
		2390 (Av)	36.07	54	-17.93
		2412 (Pk)	99.38	*	-
		2412 (Av)	90.88	*	-
		4824 (Pk)	51.38	74	-22.62
		4824 (Av)	37.98	54	-16.02
2437	Vertical	2437 (Pk)	103.32	*	-
		2437 (Av)	96.02	*	-
		4874 (Pk)	53.12	74	-20.88
		4874 (Av)	41.37	54	-12.63
	Horizontal	2437 (Pk)	95.11	*	-
		2437 (Av)	87.86	*	-
		4874 (Pk)	51.83	74	-22.17
		4874 (Av)	37.19	54	-16.81
2462	Vertical	2462 (Pk)	102.72	*	-
		2462 (Av)	95.47	*	-
		2483.5 (Pk)	53.4	74	-20.6
		2483.5 (Av)	40.91	54	-13.09
		4924 (Pk)	52.63	74	-21.37
		4924 (Av)	41.29	54	-12.71
	Horizontal	2462 (Pk)	94.59	*	-
		2462 (Av)	86.85	*	-
		2483.5 (Pk)	45.83	74	-28.17
		2483.5 (Av)	32.99	54	-21.01
		4924 (Pk)	51.29	74	-22.71
		4924 (Av)	37.66	54	-16.34



IEEE802.11n 20MHz , Data Rate -> MCS7, External Antenna					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	55.33	74	-18.67
		2390 (Av)	42.68	54	-11.32
		2412 (Pk)	102.94	*	-
		2412 (Av)	95.84	*	-
		4824 (Pk)	53.41	74	-20.59
		4824 (Av)	39.41	54	-14.59
	Horizontal	2390 (Pk)	47.22	74	-26.78
		2390 (Av)	34.34	54	-19.66
		2412 (Pk)	94.5	*	-
		2412 (Av)	87.08	*	-
		4824 (Pk)	49.77	74	-24.23
		4824 (Av)	37.87	54	-16.13
2437	Vertical	2437 (Pk)	101.29	*	-
		2437 (Av)	96.31	*	-
		4874 (Pk)	53.42	74	-20.58
		4874 (Av)	39.19	54	-14.81
	Horizontal	2437 (Pk)	91.28	*	-
		2437 (Av)	86.71	*	-
		4874 (Pk)	51.29	74	-22.71
		4874 (Av)	37.61	54	-16.39
2462	Vertical	2462 (Pk)	103.94	*	-
		2462 (Av)	96.6	*	-
		2483.5 (Pk)	54.78	74	-19.22
		2483.5 (Av)	42.79	54	-11.21
		4924 (Pk)	52.27	74	-21.73
		4924 (Av)	40.91	54	-13.09
	Horizontal	2462 (Pk)	96	*	-
		2462 (Av)	89.42	*	-
		2483.5 (Pk)	48.89	74	-25.11
		2483.5 (Av)	35.82	54	-18.18
		4924 (Pk)	51.25	74	-22.75
		4924 (Av)	37.17	54	-16.83

IEEE802.11n 20MH, Data Rate -> MCS15, External Antenna					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	55.23	74	-18.77
		2390 (Av)	42.81	54	-11.19
		2412 (Pk)	102.83	*	-
		2412 (Av)	95.25	*	-
		4824 (Pk)	53.42	74	-20.58
		4824 (Av)	41.44	54	-12.56
	Horizontal	2390 (Pk)	46.32	74	-27.68
		2390 (Av)	33.92	54	-20.08
		2412 (Pk)	93.72	*	-
		2412 (Av)	86.28	*	-
		4824 (Pk)	49.66	74	-24.34
		4824 (Av)	37.66	54	-16.34
2437	Vertical	2437 (Pk)	101.2	*	-
		2437 (Av)	96.25	*	-
		4874 (Pk)	53.15	74	-20.85
		4874 (Av)	39.63	54	-14.37
	Horizontal	2437 (Pk)	90.17	*	-
		2437 (Av)	85.27	*	-
		4874 (Pk)	50.54	74	-23.46
		4874 (Av)	36.72	54	-17.28
2462	Vertical	2462 (Pk)	103.68	*	-
		2462 (Av)	96.39	*	-
		2483.5 (Pk)	54.45	74	-19.55
		2483.5 (Av)	42.54	54	-11.46
		4924 (Pk)	52.21	74	-21.79
		4924 (Av)	40.9	54	-13.1
	Horizontal	2462 (Pk)	95.46	*	-
		2462 (Av)	88.91	*	-
		2483.5 (Pk)	46.21	74	-27.79
		2483.5 (Av)	34.11	54	-19.89
		4924 (Pk)	50.42	74	-23.58
		4924 (Av)	36.82	54	-17.18

IEEE 802.11n 40MHz, Data Rate -> MCS0, External Antenna					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2422	Vertical	2390 (Pk)	60.09	74	-13.91
		2390 (Av)	44.97	54	-9.03
		2422 (Pk)	98.34	*	-
		2422 (Av)	89.77	*	-
		4844 (Pk)	51.13	74	-22.87
		4844 (Av)	37.83	54	-16.17
	Horizontal	2390 (Pk)	51.54	74	-22.46
		2390 (Av)	36.41	54	-17.59
		2422 (Pk)	89.19	*	-
		2422 (Av)	81.46	*	-
		4844 (Pk)	49.76	74	-24.24
		4844 (Av)	36.8	54	-17.2
2442	Vertical	2442 (Pk)	101.4	*	-
		2442 (Av)	92.61	*	-
		4884 (Pk)	51.01	74	-22.99
		4884 (Av)	37.02	54	-16.98
	Horizontal	2442 (Pk)	93.67	*	-
		2442 (Av)	85.23	*	-
		4884 (Pk)	49.71	74	-24.29
		4884 (Av)	37.86	54	-16.14
2457	Vertical	2457 (Pk)	99.12	*	-
		2457 (Av)	90.95	*	-
		2483.5 (Pk)	63.45	74	-10.55
		2483.5 (Av)	47.82	54	-6.18
		4914 (Pk)	51.02	74	-22.98
		4914 (Av)	36.29	54	-17.71
	Horizontal	2462 (Pk)	91.35	*	-
		2462 (Av)	83.6	*	-
		2483.5 (Pk)	54.81	74	-19.19
		2483.5 (Av)	38.96	54	-15.04
		4914 (Pk)	49.27	74	-24.73
		4914 (Av)	36.82	54	-17.18

IEEE 802.11n 40MHz , Data Rate -> MCS7, External Antenna					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2422	Vertical	2390 (Pk)	62.67	74	
		2390 (Av)	49.16	54	
		2422 (Pk)	100.04	*	-
		2422 (Av)	91.52	*	-
		4844 (Pk)	52.01	74	-21.99
		4844 (Av)	39.57	54	-14.43
	Horizontal	2390 (Pk)	53.59	74	
		2390 (Av)	39.78	54	
		2422 (Pk)	91.3	*	-
		2422 (Av)	83.66	*	-
		4844 (Pk)	49.14	74	-24.86
		4844 (Av)	36.64	54	-17.36
2442	Vertical	2442 (Pk)	102.67	*	-
		2442 (Av)	95.01	*	-
		4884 (Pk)	52.19	74	-21.81
		4884 (Av)	39.9	54	-14.1
	Horizontal	2442 (Pk)	94.62	*	-
		2442 (Av)	86.94	*	-
		4884 (Pk)	50.21	74	-23.79
		4884 (Av)	36.28	54	-17.72
2457	Vertical	2457 (Pk)	101.52	*	-
		2457 (Av)	92.72	*	-
		2483.5 (Pk)	69.53	74	-4.47
		2483.5 (Av)	50.62	54	-3.38
		4914 (Pk)	52.27	74	-21.73
		4914 (Av)	39.2	54	-14.8
	Horizontal	2462 (Pk)	93.07	*	-
		2462 (Av)	85	*	-
		2483.5 (Pk)	61.27	74	-12.73
		2483.5 (Av)	41.01	54	-12.99
		4914 (Pk)	50.41	74	-23.59
		4914 (Av)	35.84	54	-18.16

IEEE 802.11n 40MHz, Data Rate - > MCS15, External Antenna					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2422	Vertical	2390 (Pk)	62.44	74	
		2390 (Av)	51.14	54	
		2422 (Pk)	99.68	*	-
		2422 (Av)	91.93	*	-
		4844 (Pk)	52.93	74	28.25
		4844 (Av)	39.65	54	40.58
	Horizontal	2390 (Pk)	52.71	74	
		2390 (Av)	41.18	54	
		2422 (Pk)	91.27	*	-
		2422 (Av)	83.53	*	-
		4844 (Pk)	49.02	74	20.27
		4844 (Av)	36.47	54	32.45
2442	Vertical	2442 (Pk)	102.25	*	-
		2442 (Av)	94.58	*	-
		4884 (Pk)	52.18	74	-21.82
		4884 (Av)	39.74	54	-14.26
	Horizontal	2442 (Pk)	94.27	*	-
		2442 (Av)	86.45	*	-
		4884 (Pk)	50.29	74	-23.71
		4884 (Av)	36.01	54	-17.99
2457	Vertical	2457 (Pk)	100.18	*	-
		2457 (Av)	92.52	*	-
		2483.5 (Pk)	63.22	74	-10.78
		2483.5 (Av)	51.36	54	-2.64
		4914 (Pk)	52.19	74	-21.81
		4914 (Av)	39.36	54	-14.64
	Horizontal	2462 (Pk)	91.91	*	-
		2462 (Av)	84.23	*	-
		2483.5 (Pk)	55.31	74	-18.69
		2483.5 (Av)	41.74	54	-12.26
		4914 (Pk)	50.26	74	-23.74
		4914 (Av)	36.01	54	-17.99

802.11b 20MHz , Data Rate -1Mbps, Internal Antenna					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	50.28	74	
		2390 (Av)	39.38	54	
		2412 (Pk)	98.93	*	-
		2412 (Av)	96.45	*	-
		4824 (Pk)	56.68	74	-17.32
		4824 (Av)	53.08	54	-0.92
		7236 (Pk)	58.3	74	-15.7
		7236 (Av)	46.32	54	-7.68
	Horizontal	2390 (Pk)	52.22	74	
		2390 (Av)	41.12	54	
		2412 (Pk)	99.72	*	-
		2412 (Av)	97.32	*	-
		4824 (Pk)	53.76	74	-20.24
		4824 (Av)	48.89	54	-5.11
		7236 (Pk)	58.23	74	-15.77
		7236 (Av)	46.11	54	-7.89
2437	Vertical	2437 (Pk)	99.84	*	-
		2437 (Av)	95.38	*	-
		4874 (Pk)	51.92	74	-22.08
		4874 (Av)	44.93	54	-9.07
		7311 (Pk)	57.29	74	-16.71
		7311 (Av)	45.84	54	-8.16
	Horizontal	2437 (Pk)	99.02	*	-
		2437 (Av)	96.44	*	-
		4874 (Pk)	50.86	74	-23.14
		4874 (Av)	41.54	54	-12.46
		7311 (Pk)	58.23	74	-15.77
		7311 (Av)	46.19	54	-7.81
2462	Vertical	2462 (Pk)	102.22	*	-
		2462 (Av)	99.76	*	-
		2483.5 (Pk)	50.51	74	-23.49
		2483.5 (Av)	40.66	54	-13.34
		4924 (Pk)	55.93	74	-18.07
		4924 (Av)	52.65	54	-1.35
		7386 (Pk)	57.23	74	-16.77
		7386(Av)	45.92	54	-8.08
	Horizontal	2462 (Pk)	103.97	*	-
		2462 (Av)	101.39	*	-
		2483.5 (Pk)	54.32	74	-19.68

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		2483.5 (Av)	43.95	54	-10.05
		4924 (Pk)	49.83	74	-24.17
		4924 (Av)	40.31	54	-13.69
		7386 (Pk)	56.33	74	-17.67
		7386(Av)	45.9	54	-8.1

802.11b 20MHz, Data Rate - > 11Mbps, Internal Antenna,					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	49.28	74	
		2390 (Av)	39.11	54	
		2412 (Pk)	100.23	*	-
		2412 (Av)	94.72	*	-
		4824 (Pk)	52	74	-22
		4824 (Av)	39.93	54	-14.07
		7236 (Pk)	58.2	74	-15.8
		7236 (Av)	43.92	54	-10.08
	Horizontal	2390 (Pk)	52.01	74	-21.99
		2390 (Av)	40.86	54	-13.14
		2412 (Pk)	98.45	*	-
		2412 (Av)	93.82	*	-
		4824 (Pk)	50.98	74	-23.02
		4824 (Av)	38.34	54	-15.66
		7236 (Pk)	57.33	74	-16.67
		7236 (Av)	45.54	54	-8.46
2437	Vertical	2437 (Pk)	99.74	*	-
		2437 (Av)	93.27	*	-
		4874 (Pk)	52.13	74	-21.87
		4874 (Av)	38.6	54	-15.4
		7311 (Pk)	57.26	74	-16.74
		7311 (Av)	42.85	54	-11.15
	Horizontal	2437 (Pk)	97.93	*	-
		2437 (Av)	92.76	*	-
		4874 (Pk)	50.41	74	-23.59
		4874 (Av)	37.35	54	-16.65
		7311 (Pk)	56.82	74	-17.18
		7311 (Av)	44.29	54	-9.71
2462	Vertical	2462 (Pk)	103.25	*	-
		2462 (Av)	95.55	*	-
		2483.5 (Pk)	49.39	74	-24.61
		2483.5 (Av)	31.09	54	-22.91
		4924 (Pk)	51.98	74	-22.02

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		4924 (Av)	38.29	54	-15.71
		7386 (Pk)	56.29	74	-17.71
		7386(Av)	41.9	54	-12.1
	Horizontal	2462 (Pk)	105.05	*	-
		2462 (Av)	97.23	*	-
		2483.5 (Pk)	50.47	74	-23.53
		2483.5 (Av)	33.68	54	-20.32
		4924 (Pk)	49.89	74	-24.11
		4924 (Av)	36.29	54	-17.71
		7386 (Pk)	55.29	74	-18.71
		7386(Av)	43.19	54	-10.81

802.11g 20MHz, Data Rate - > 6Mbps, Internal Antenna,					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	51.39	74	
		2390 (Av)	36.22	54	
		2412 (Pk)	98.96	*	-
		2412 (Av)	91.34	*	-
		4824 (Pk)	54.12	74	-19.88
		4824 (Av)	38.76	54	-15.24
	Horizontal	2390 (Pk)	51.89	74	
		2390 (Av)	37.61	54	
		2412 (Pk)	100.72	*	-
		2412 (Av)	92.35	*	-
		4824 (Pk)	52.01	74	-21.99
		4824 (Av)	39.84	54	-14.16
2437	Vertical	2437 (Pk)	97.23	*	-
		2437 (Av)	89.45	*	-
		4874 (Pk)	52.13	74	-21.87
		4874 (Av)	39.83	54	-14.17
	Horizontal	2437 (Pk)	101.32	*	-
		2437 (Av)	93.45	*	-
		4874 (Pk)	51.67	74	-22.33
		4874 (Av)	38.05	54	-15.95
2462	Vertical	2462 (Pk)	99.78	*	-
		2462 (Av)	91.58	*	-
		2483.5 (Pk)	49.1	74	-24.9
		2483.5 (Av)	34.41	54	-19.59
		4924 (Pk)	51.73	74	-22.27
		4924 (Av)	37.29	54	-16.71
	Horizontal	2462 (Pk)	102.4	*	-



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		2462 (Av)	94.58	*	-
		2483.5 (Pk)	50.68	74	-23.32
		2483.5 (Av)	36.79	54	-17.21
		4924 (Pk)	52.72	74	-21.28
		4924 (Av)	40.63	54	-13.37

802.11g 20MHz, Data Rate ->24Mbps, Internal Antenna,					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	48.92	74	
		2390 (Av)	36.33	54	
		2412 (Pk)	97.65	*	-
		2412 (Av)	90.47	*	-
		4824 (Pk)	53.23	74	-20.77
		4824 (Av)	37.9	54	-16.1
	Horizontal	2390 (Pk)	48.29	74	
		2390 (Av)	38.84	54	
		2412 (Pk)	100.92	*	-
		2412 (Av)	91.89	*	-
2437	Vertical	2437 (Pk)	96.35	*	-
		2437 (Av)	88.28	*	-
		4874 (Pk)	51.02	74	-22.98
		4874 (Av)	38.62	54	-15.38
	Horizontal	2437 (Pk)	100.73	*	-
		2437 (Av)	92.83	*	-
		4874 (Pk)	49.52	74	-24.48
		4874 (Av)	36.12	54	-17.88
2462	Vertical	2462 (Pk)	100.36	*	-
		2462 (Av)	91.47	*	-
		2483.5 (Pk)	49.31	74	-24.69
		2483.5 (Av)	37.04	54	-16.96
		4924 (Pk)	50.28	74	-23.72
		4924 (Av)	36.19	54	-17.81
	Horizontal	2462 (Pk)	103.46	*	-
		2462 (Av)	94.23	*	-
		2483.5 (Pk)	52.65	74	-21.35
		2483.5 (Av)	40.53	54	-13.47
		4924 (Pk)	51.93	74	-22.07
		4924 (Av)	39.74	54	-14.26

802.11g 20MHz, Data Rate ->54Mbps, Internal Antenna,					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	48.22	74	
		2390 (Av)	36.76	54	
		2412 (Pk)	96.82	*	-
		2412 (Av)	89.46	*	-
		4824 (Pk)	53.01	74	-20.99
		4824 (Av)	36.81	54	-17.19
	Horizontal	2390 (Pk)	49.11	74	
		2390 (Av)	39.46	54	
		2412 (Pk)	99.89	*	-
		2412 (Av)	90.63	*	-
		4824 (Pk)	50.62	74	-23.38
		4824 (Av)	38.41	54	-15.59
2437	Vertical	2437 (Pk)	95.23	*	-
		2437 (Av)	87.41	*	-
		4874 (Pk)	50.22	74	-23.78
		4874 (Av)	38.21	54	-15.79
	Horizontal	2437 (Pk)	99.02	*	-
		2437 (Av)	91.42	*	-
		4874 (Pk)	48.18	74	-25.82
		4874 (Av)	36.22	54	-17.78
2462	Vertical	2462 (Pk)	100.53	*	-
		2462 (Av)	92.58	*	-
		2483.5 (Pk)	49.46	74	-24.54
		2483.5 (Av)	35.31	54	-18.69
		4924 (Pk)	49.22	74	-24.78
		4924 (Av)	35.82	54	-18.18
	Horizontal	2462 (Pk)	103.25	*	-
		2462 (Av)	95.39	*	-
		2483.5 (Pk)	52.44	74	-21.56
		2483.5 (Av)	37.18	54	-16.82
		4924 (Pk)	50.29	74	-23.71
		4924 (Av)	38.12	54	-15.88

802.11n 20MHz, Data Rate -> MCS0, Internal Antenna,					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	50.11	74	
		2390 (Av)	36.9	54	
		2412 (Pk)	100.18	*	-
		2412 (Av)	94.18	*	-
		4824 (Pk)	53.63	74	-20.37
		4824 (Av)	39.4	54	-14.6
	Horizontal	2390 (Pk)	50.72	74	
		2390 (Av)	37.84	54	
		2412 (Pk)	101.57	*	-
		2412 (Av)	95.2	*	-
		4824 (Pk)	51.74	74	-22.26
		4824 (Av)	38.51	54	-15.49
2437	Vertical	2437 (Pk)	98.43	*	-
		2437 (Av)	93.28	*	-
		4874 (Pk)	52.3	74	-21.7
		4874 (Av)	38.91	54	-15.09
	Horizontal	2437 (Pk)	100.83	*	-
		2437 (Av)	96.26	*	-
		4874 (Pk)	52.34	74	-21.66
		4874 (Av)	40.73	54	-13.27
2462	Vertical	2462 (Pk)	95.18	*	-
		2462 (Av)	87.22	*	-
		2483.5 (Pk)	54.26	74	-19.74
		2483.5 (Av)	41.22	54	-12.78
		4924 (Pk)	50.22	74	-23.78
		4924 (Av)	36.84	54	-17.16
	Horizontal	2462 (Pk)	99.21	*	-
		2462 (Av)	94.74	*	-
		2483.5 (Pk)	54.21	74	-19.79
		2483.5 (Av)	41.92	54	-12.08
		4924 (Pk)	51.43	74	-22.57
		4924 (Av)	40.11	54	-13.89

802.11n 20MHz, Data Rate -> MCS7, Internal Antenna					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	50.21	74	
		2390 (Av)	36.91	54	
		2412 (Pk)	97.32	*	-
		2412 (Av)	92.12	*	-
		4824 (Pk)	52.32	74	-21.68
		4824 (Av)	37.12	54	-16.88
	Horizontal	2390 (Pk)	48.12	74	
		2390 (Av)	36.01	54	
		2412 (Pk)	100.01	*	-
		2412 (Av)	93.21	*	-
		4824 (Pk)	51.22	74	-22.78
		4824 (Av)	38.91	54	-15.09
2437	Vertical	2437 (Pk)	96.21	*	-
		2437 (Av)	91.83	*	-
		4874 (Pk)	52.12	74	-21.88
		4874 (Av)	38.01	54	-15.99
	Horizontal	2437 (Pk)	99.34	*	-
		2437 (Av)	96.11	*	-
		4874 (Pk)	52.13	74	-21.87
		4874 (Av)	39.02	54	-14.98
2462	Vertical	2462 (Pk)	96.7	*	-
		2462 (Av)	89.69	*	-
		2483.5 (Pk)	50.39	74	-23.61
		2483.5 (Av)	34.63	54	-19.37
		4924 (Pk)	51.3	74	-22.7
		4924 (Av)	36.82	54	-17.18
	Horizontal	2462 (Pk)	98.99	*	-
		2462 (Av)	92.4	*	-
		2483.5 (Pk)	52.74	74	-21.26
		2483.5 (Av)	37.03	54	-16.97
		4924 (Pk)	51.92	74	-22.08
		4924 (Av)	39.62	54	-14.38

802.11n 20MHz, Data Rate -> MCS15, Internal Antenna,					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2412	Vertical	2390 (Pk)	50.7	74	-23.3
		2390 (Av)	36.69	54	-17.31
		2412 (Pk)	98.7	*	-
		2412 (Av)	92.88	*	-
		4824 (Pk)	51.02	74	-22.98
		4824 (Av)	37.11	54	-16.89
	Horizontal	2390 (Pk)	48.76	74	-25.24
		2390 (Av)	35.75	54	-18.25
		2412 (Pk)	100.3	*	-
		2412 (Av)	93.61	*	-
		4824 (Pk)	51.23	74	-22.77
		4824 (Av)	38.76	54	-15.24
2437	Vertical	2437 (Pk)	96.92	*	-
		2437 (Av)	91.37	*	-
		4874 (Pk)	52.84	74	-21.16
		4874 (Av)	38.29	54	-15.71
	Horizontal	2437 (Pk)	99.54	*	-
		2437 (Av)	96.72	*	-
		4874 (Pk)	52.04	74	-21.96
		4874 (Av)	39.64	54	-14.36
2462	Vertical	2462 (Pk)	94.37	*	-
		2462 (Av)	89.63	*	-
		2483.5 (Pk)	51.83	74	-22.17
		2483.5 (Av)	40.28	54	-13.72
		4924 (Pk)	50.44	74	-23.56
		4924 (Av)	36.93	54	-17.07
	Horizontal	2462 (Pk)	98.73	*	-
		2462 (Av)	93.72	*	-
		2483.5 (Pk)	52.84	74	-21.16
		2483.5 (Av)	39.02	54	-14.98
		4924 (Pk)	51.47	74	-22.53
		4924 (Av)	38.92	54	-15.08

802.11n 40MHz, Data Rate -> MCS0, Internal Antenna,					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2422	Vertical	2390 (Pk)	59.62	74	
		2390 (Av)	45.39	54	
		2422 (Pk)	97.43	*	-
		2422 (Av)	89.46	*	-
		4844 (Pk)	51.33	74	-22.67
		4844 (Av)	39.63	54	-14.37
	Horizontal	2390 (Pk)	60.84	74	
		2390 (Av)	47.83	54	
		2422 (Pk)	98.74	*	-
		2422 (Av)	90.34	*	-
		4844 (Pk)	51.53	74	-22.47
		4844 (Av)	39.65	54	-14.35
2442	Vertical	2442 (Pk)	96.24	*	-
		2442 (Av)	88.66	*	-
		4884 (Pk)	51.25	74	-22.75
		4884 (Av)	38.13	54	-15.87
	Horizontal	2442 (Pk)	98.25	*	-
		2442 (Av)	91.12	*	-
		4884 (Pk)	49.31	74	-24.69
		4884 (Av)	37.08	54	-16.92
2457	Vertical	2457 (Pk)	97.32	*	-
		2457 (Av)	88.63	*	-
		2483.5 (Pk)	60.64	74	-13.36
		2483.5 (Av)	45.38	54	-8.62
		4914 (Pk)	51.01	74	-22.99
		4914 (Av)	37.85	54	-16.15
	Horizontal	2462 (Pk)	99.23	*	-
		2462 (Av)	90.72	*	-
		2483.5 (Pk)	66.82	74	-7.18
		2483.5 (Av)	48.45	54	-5.55
		4914 (Pk)	49.28	74	-24.72
		4914 (Av)	37.03	54	-16.97

802.11n 40MHz, Data Rate -> MCS7, Internal Antenna,					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2422	Vertical	2390 (Pk)	59.11	74	
		2390 (Av)	45.54	54	
		2422 (Pk)	96.09	*	-
		2422 (Av)	89.37	*	-
		4844 (Pk)	50.32	74	-23.68
		4844 (Av)	39.54	54	-14.46
	Horizontal	2390 (Pk)	60.85	74	
		2390 (Av)	46.93	54	
		2422 (Pk)	97.68	*	-
		2422 (Av)	89.78	*	-
		4844 (Pk)	50.45	74	-23.55
		4844 (Av)	38.9	54	-15.1
2442	Vertical	2442 (Pk)	96.23	*	-
		2442 (Av)	88.25	*	-
		4884 (Pk)	50.12	74	-23.88
		4884 (Av)	37.24	54	-16.76
	Horizontal	2442 (Pk)	98.1	*	-
		2442 (Av)	90.13	*	-
		4884 (Pk)	48.29	74	-25.71
		4884 (Av)	36.17	54	-17.83
2457	Vertical	2457 (Pk)	96.29	*	-
		2457 (Av)	87.33	*	-
		2483.5 (Pk)	59.38	74	-14.62
		2483.5 (Av)	44.82	54	-9.18
		4914 (Pk)	51.28	74	-22.72
		4914 (Av)	37.29	54	-16.71
	Horizontal	2462 (Pk)	97.23	*	-
		2462 (Av)	89.45	*	-
		2483.5 (Pk)	65.28	74	-8.72
		2483.5 (Av)	47.28	54	-6.72
		4914 (Pk)	48.92	74	-25.08
		4914 (Av)	37.28	54	-16.72

802.11n 40MHz, Data Rate -> MCS15, Internal Antenna,					
Channel Frequency (MHz)	Polarization	Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2422	Vertical	2390 (Pk)	58.83	74	
		2390 (Av)	44.37	54	
		2422 (Pk)	96.02	*	-
		2422 (Av)	88.65	*	-
		4844 (Pk)	49.76	74	21.23
		4844 (Av)	38.56	54	33.34
	Horizontal	2390 (Pk)	59.74	74	
		2390 (Av)	45.37	54	
		2422 (Pk)	96.65	*	-
		2422 (Av)	88.93	*	-
		4844 (Pk)	49.387	74	23.22
		4844 (Av)	37.82	54	34.73
2442	Vertical	2442 (Pk)	95.23	*	-
		2442 (Av)	87.34	*	-
		4884 (Pk)	49.27	74	-24.73
		4884 (Av)	36.27	54	-17.73
	Horizontal	2442 (Pk)	97.22	*	-
		2442 (Av)	88.73	*	-
		4884 (Pk)	47.65	74	-26.35
		4884 (Av)	36.27	54	-17.73
2457	Vertical	2457 (Pk)	95.32	*	-
		2457 (Av)	86.49	*	-
		2483.5 (Pk)	58.99	74	-15.01
		2483.5 (Av)	43.67	54	-10.33
		4914 (Pk)	51.33	74	-22.67
		4914 (Av)	36.92	54	-17.08
	Horizontal	2462 (Pk)	96.71	*	-
		2462 (Av)	88.82	*	-
		2483.5 (Pk)	64.09	74	-9.91
		2483.5 (Av)	46.77	54	-7.23
		4914 (Pk)	48.98	74	-25.02
		4914 (Av)	36.21	54	-17.79

\* - -> Fundamental Frequency  
P-->Peak detector  
AV-->Average Detector

\*\*\*END OF TEST REPORT\*\*\*