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Prüfbericht - Nr.: *Test Report No.:*	**19660146 001**		**Seite 1 von 66** *Page 1 of 66*
Auftraggeber: *Client:*	**Redpine Signals Inc.** **2107 N.First Street,** **Suite 680** **San Jose, CA 95131-2019** **U.S.A**		
Gegenstand der Prüfung: *Test item:*	**Dual Band Combo Module**		
Bezeichnung: *Identification:*	**RS9113DB**	**Serien-Nr.:** *Serial No.*	**Engineering Sample**
Wareneingangs-Nr.: *Receipt No.:*	**1803055286**	**Eingangsdatum:** *Date of receipt:*	**11.11.2014**
Prüfort: *Testing location:*	**Refer Page 4 of 66 for test facilities**		
Prüfgrundlage: *Test specification:*	**FCC Part 15, Subpart E** **ANSI C63.4-2009**		
Prüfergebnis: *Test Result:*	**Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n).** *The tests item passed the test specification(s).*		
Prüflaboratorium: *Testing Laboratory:*	**TÜV Rheinland (India) Pvt. Ltd.** 82/A, 3rd Main, West Wing, Electronic City Phase 1 Hosur Road, Bangalore – 560 100. India **FCC Registration No.: 176555**		

geprüft / *tested by:*			**kontrolliert** / *reviewed by:*		
17.12.2014	Vinay.N Sr. Engineer	Vinay.N	18.12.2014	Raghavendra Kulkarni Sr. Manager	Kulkarni
Datum *Date*	**Name/Stellung** *Name/Position*	**Unterschrift** *Signature*	**Datum** *Date*	**Name/Stellung** *Name/Position*	**Unterschrift** *Signature*

Sonstiges /*Other Aspects:* **FCC ID: XF6-RS9113DB**

Abkürzungen:				***Abbreviations:***			
	P(ass)	=	***entspricht Prüfgrundlage***		***P(ass)***	=	***passed***
	F(ail)	=	***entspricht nicht Prüfgrundlage***		***F(ail)***	=	***failed***
	N/A	=	***nicht anwendbar***		***N/A***	=	***not applicable***
	N/T	=	***nicht getestet***		***N/T***	=	***not tested***

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.

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.

Test Result Summary

Clause	Test Item	Result
15.407 (a)	Emission Bandwidth	Pass
15.407 (a)	Maximum Conducted Output Power	Pass
15.407 (a)	Power Spectral Density	Pass
15.407 (a)	Peak Excursion	Pass
15.407 (b)	Unwanted Emissions	Pass
15.209/15.205/15.407	Radiated Spurious Emissions and Restricted bands of operation	Pass

Note: Conducted measurements are done according to the procedure given in KDB No. **789033 D01 General UNII Test Procedures v01r04**

Content

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List of Test and Measurement Instruments

TUV Rheinland (India) Pvt. Ltd., Bangalore

Equipment	Manufacturer	Model	S/N	Calibration Due Date
EMI Test Receiver	Rohde &Schwarz	ESU 40	100288	04.10.2015
Hybrid Log Periodic antenna	ETS Lindgren	3142D	00081354	26.07.2015
Broadband Horn Antenna	Frankonia	HAX-18	HAX18-802	23.03.2015
Double-Ridged Waveguide Horn Antenna	ETS Lindgren	116794	00133356	01.09.2015
Emission Horn Antenna	ETS Lindgren	116706	00107323	24.08.2015
Active Loop Antenna	Frankonia	LAX-10	LAX-10-800	11.04.2015
Spectrum Analyser	Agilent Technologies	E4407B	US41192772	27.03.2015

Testing Facilities

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

General Product Information

Product Function and Intended Use

The RS9113 module integrates a multi-threaded MAC processor with integrated analog peripherals and support for digital peripherals, baseband digital signal processor, analog front-end, crystal oscillator, calibration OTP memory, Dual band RF transceiver, Dual-band high-power amplifiers, baluns, diplexers, diversity switch and Quad-SPI Flash thus providing a fully-integrated solution for embedded wireless applications. The RS9113 based chips and modules leverage and improve upon Redpine's proven low power innovations from Lite-FTM products (RS9110) and provide WLAN 802.11n, BT4.0 and ZigBee convergence solution for integration into mobile and M2M communication devices. It can connect to a host processor through SDIO, USB, SPI or UART interfaces.

Ratings and System Details

Operating Frequency	5150 - 5250 MHz	
No. of channel	Refer page 6, Table 1	
Channel Spacing	20 MHz	
Transmitted Power	802.11a	11.35dBm
	802.11n	11.86dBm
Modulation	802.11a	OFDM with BPSK,QPSK, 16-QAM, 64-QAM
	802.11n	BPSK,QPSK,16-QAM,64-QAM
Data Rate	802.11n: 6.5, 13, 19.5, 26, 39, 52, 58.5, 65 Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps	
Antenna Type	PCB Trace	
Number of antenna	One	
Antenna Gain	0.5 dBi	
Supply Voltage	3.1-3.6 V DC	
Environmental	-40ºC to +85ºC	

Test Conditions:

Supply Voltage: 5V DC from USB

Environmental conditions:

Temperature: +23 º C **RH:** 62%

Test Set-up and Operation Mode

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

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

Special Accessories and Auxiliary Equipment
- None

Countermeasures to achieve EMC Compliance
- 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.

Table of Carrier frequencies

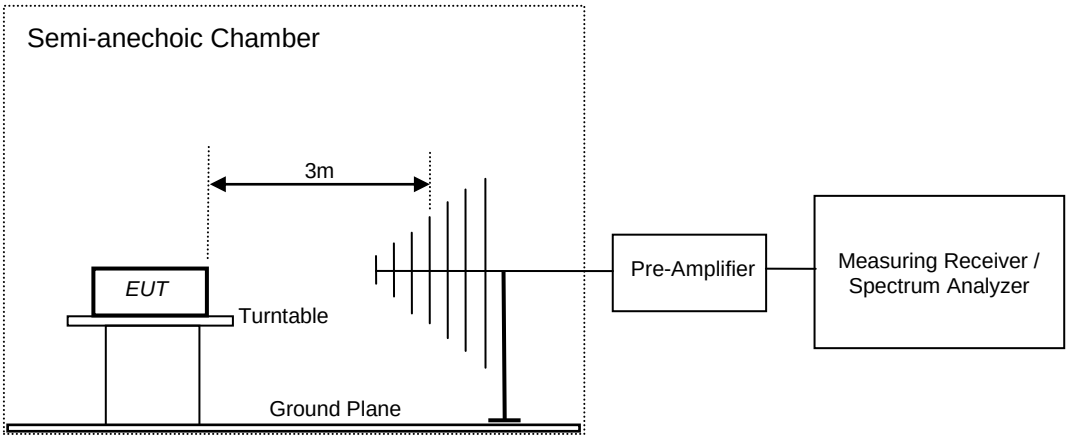
Frequency Band	Channel No.	Frequency (MHz)
5150 – 5250 MHz	36	5180
	40	5200
	44	5220
	48	5240

Table 1

Test Methodology

Radiated Emission Test

The radiated emission measurement was performed according to the procedures in ANSI C63.4-2009. The equipment under test (EUT) was placed at the middle of the 80 cm high turntable, and the EUT is 3 meters far from the measuring antenna. The turntable was rotated 360˚ for obtaining the maximum emission. The height of the measuring antennas was scanned between 1m and 4m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained. The measurement above 1000MHz was performed by horn antenna. The measurement below 30MHz was performed by loop antenna.
The EUT was rotated around the X-, Y-, and Z-Axis and the results from worst case axis are recorded.



Test Results

Emission Bandwidth **Section 15.407 (a)**
Result **Pass**

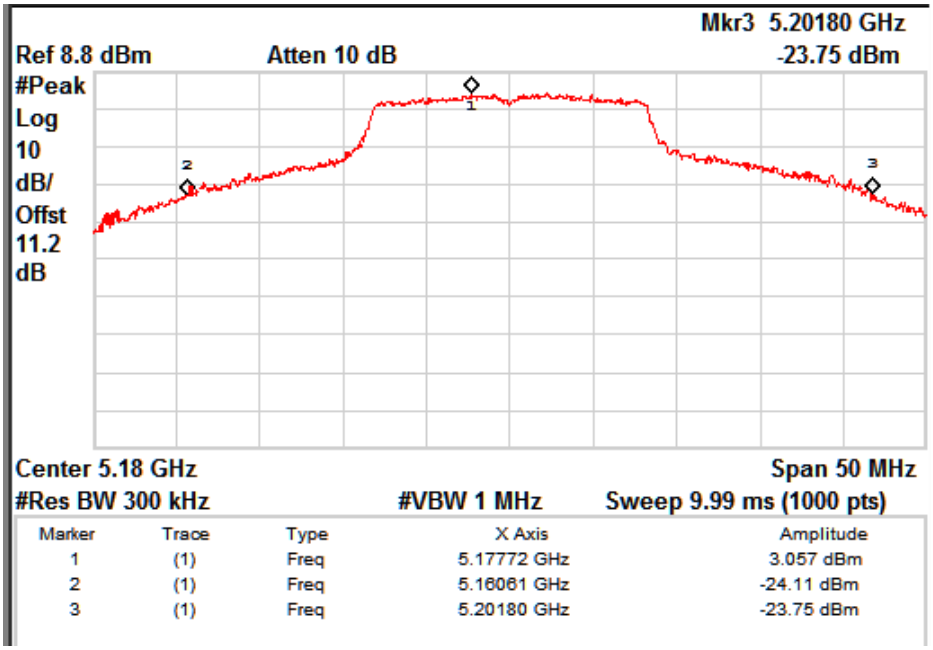
Test Specification	FCC Part 15 Section 15.407(a)
Measurement Bandwidth (RBW)	300 kHz

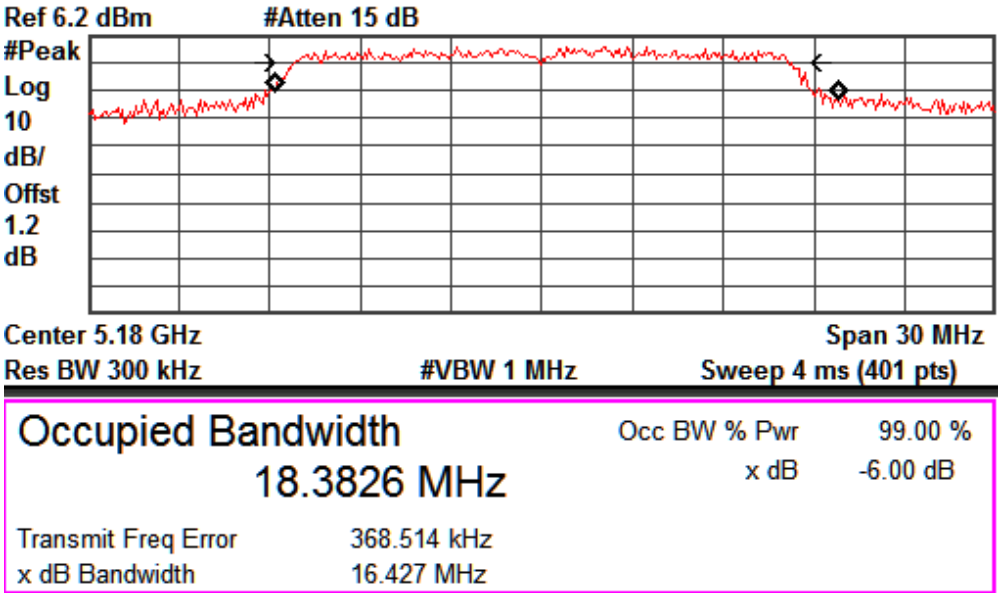
Test Method:

Test Result:

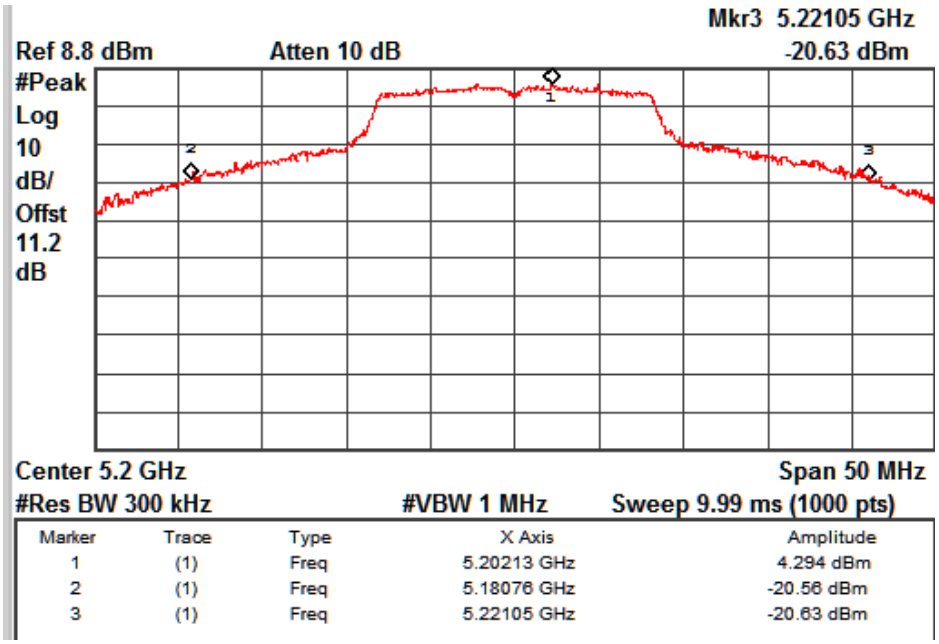
Modulation: 802.11a

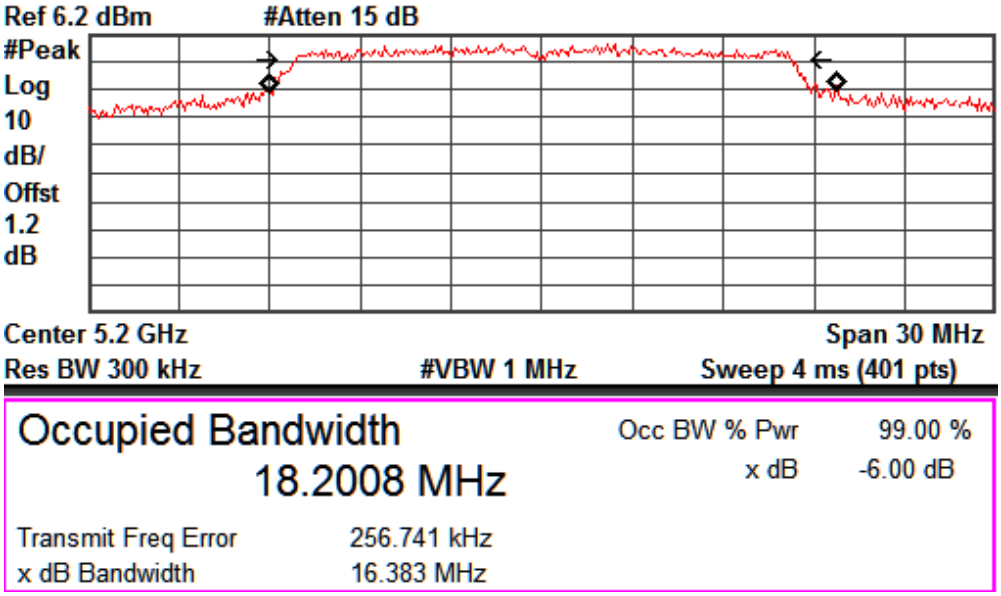
Data Rate (Mbps)	Channel. No	Frequency (MHz)	EBW (MHz)	OBW (MHz)
6	36	5180	41.19	18.38
	40	5200	40.29	18.20
	48	5240	39.54	18.00
24	36	5180	37.83	18.18
	40	5200	37.39	18.46
	48	5240	39.14	18.37
54	36	5180	37.39	18.27
	40	5200	39.09	18.42
	48	5240	38.84	18.10



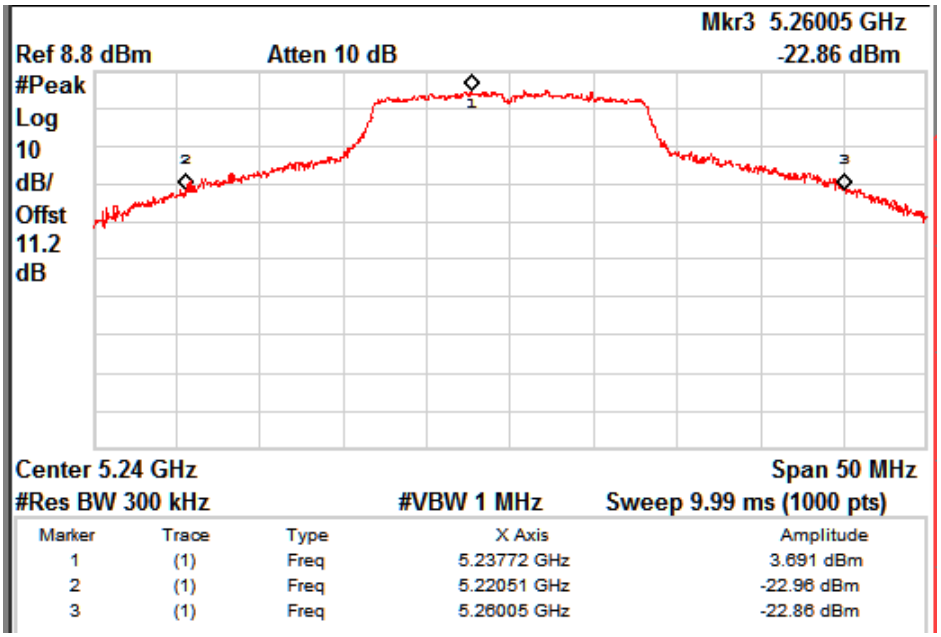


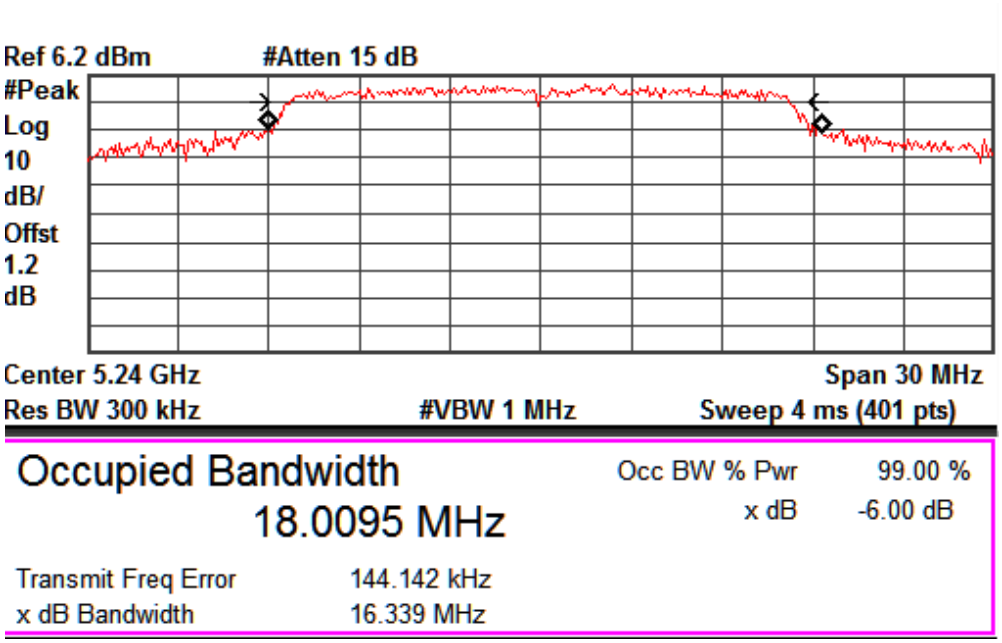
Data Rate: 6Mbps **Channel Frequency: 5180MHz**



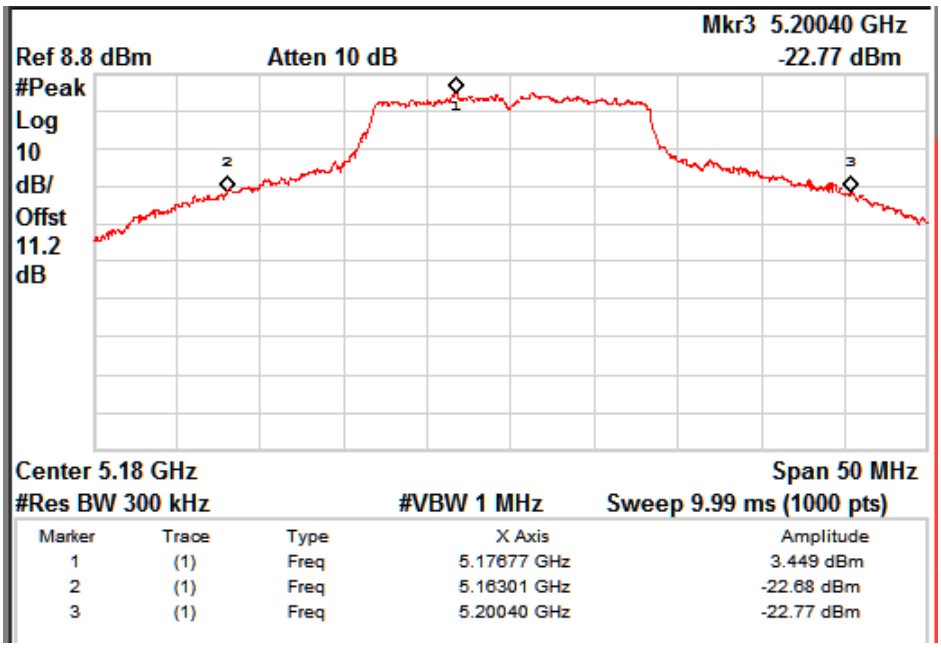


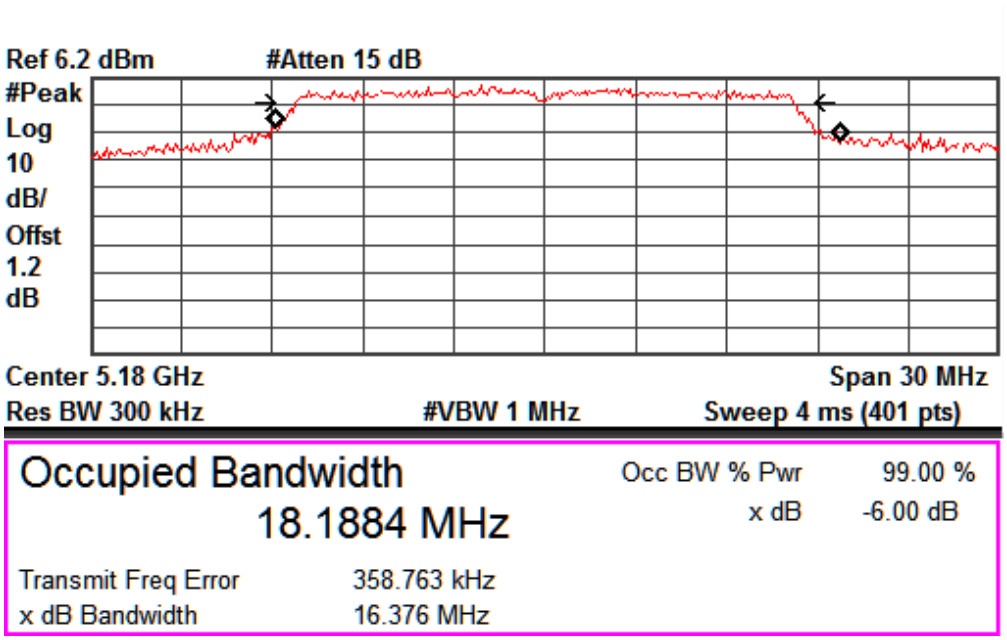
Data Rate: 6Mbps **Channel Frequency: 5200MHz**



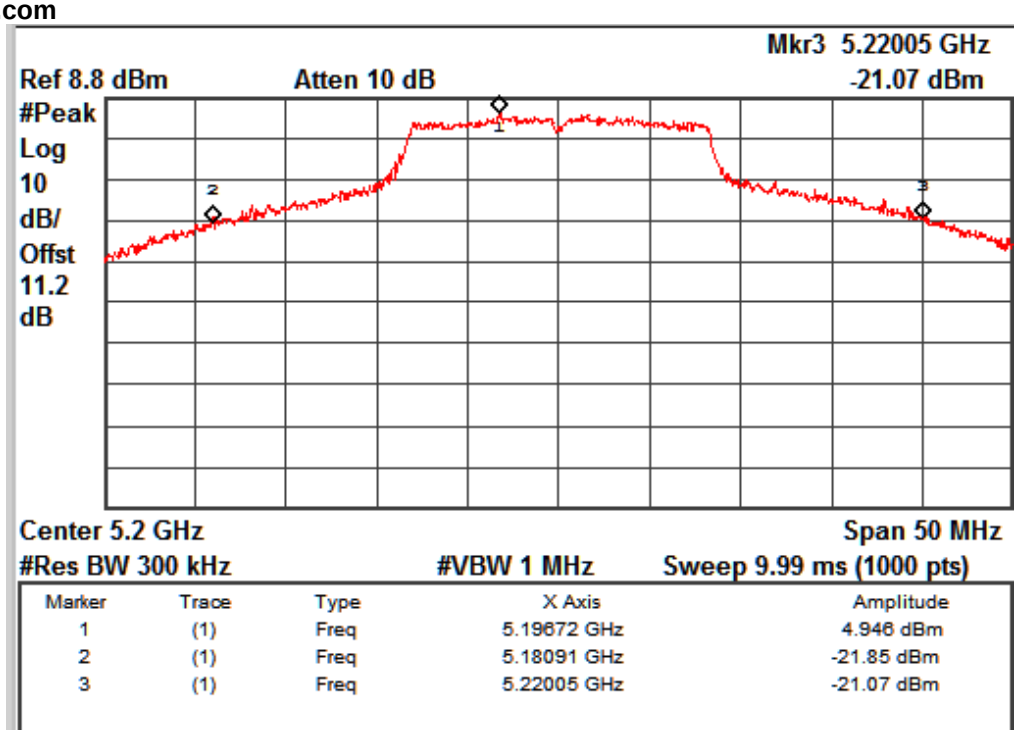


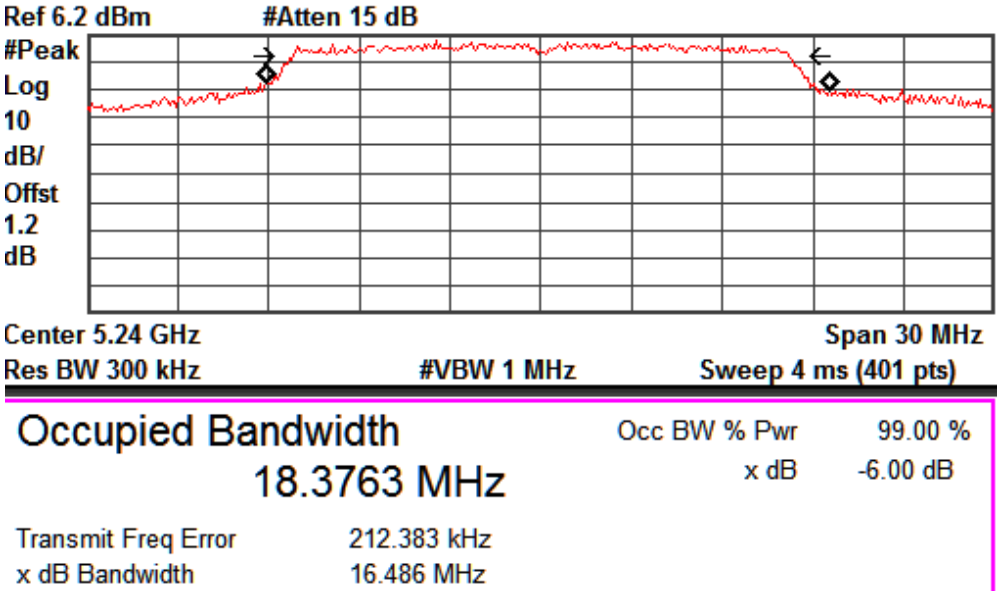
Data Rate: 6Mbps **Channel Frequency: 5240MHz**



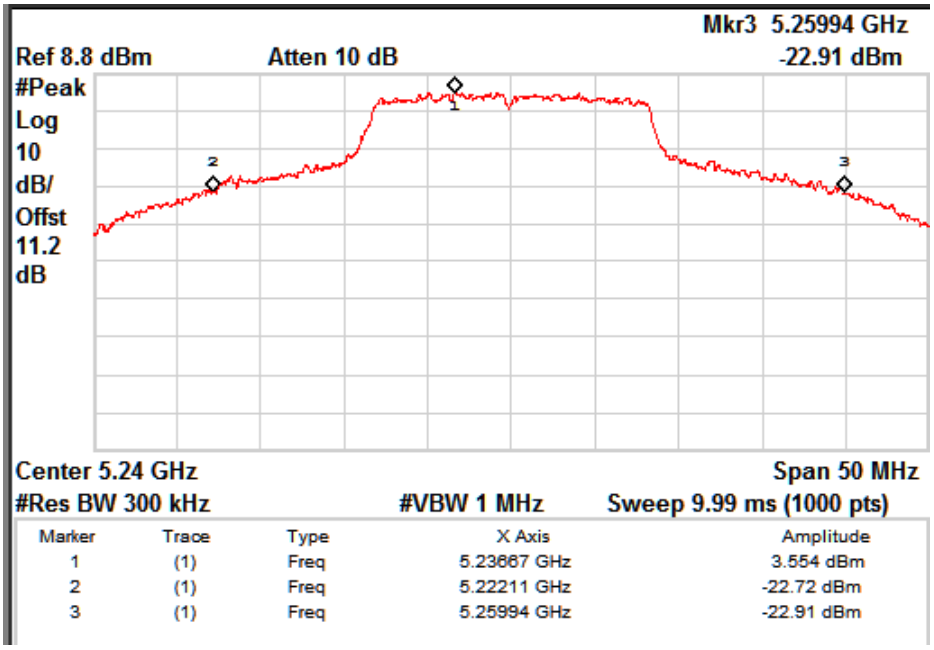


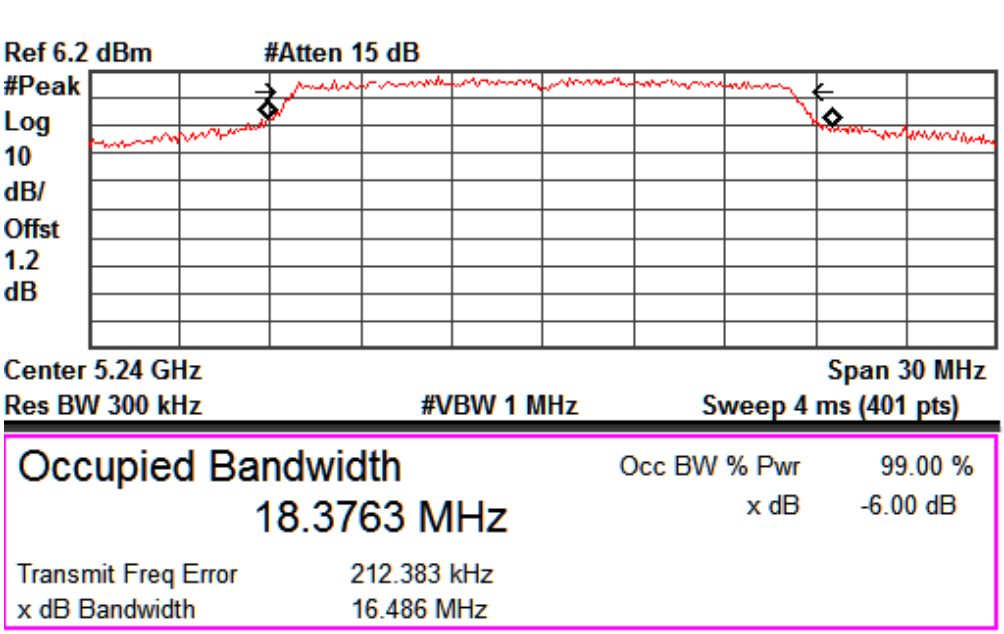
Data Rate: 24Mbps **Channel Frequency: 5180MHz**



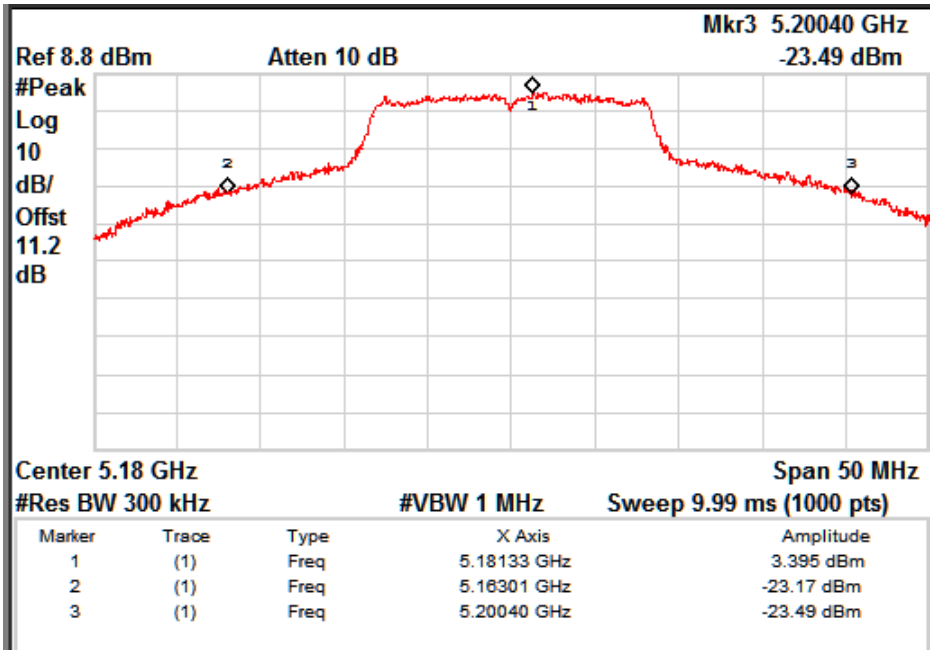


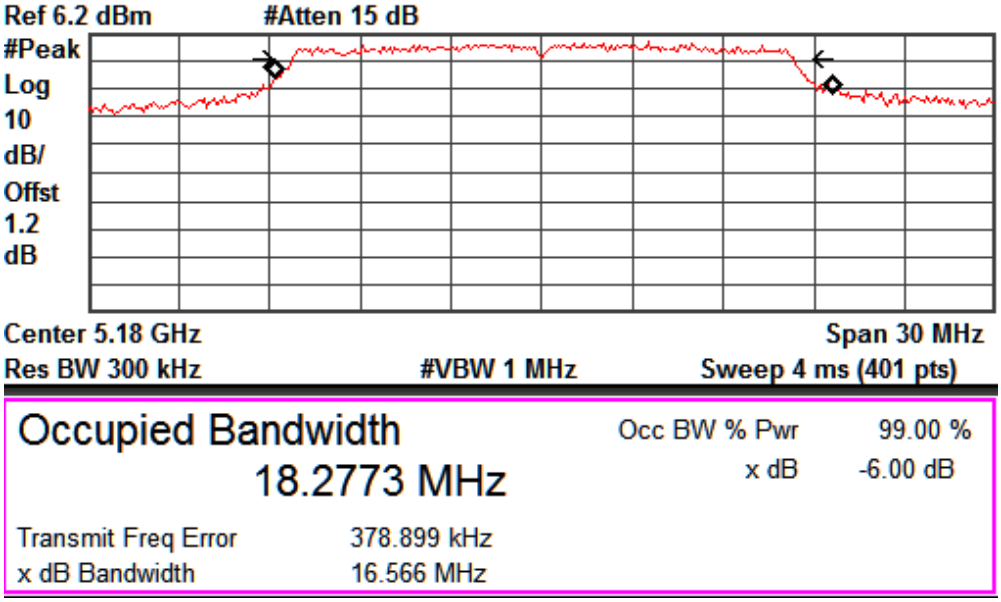
Data Rate: 24Mbps **Channel Frequency: 5200MHz**



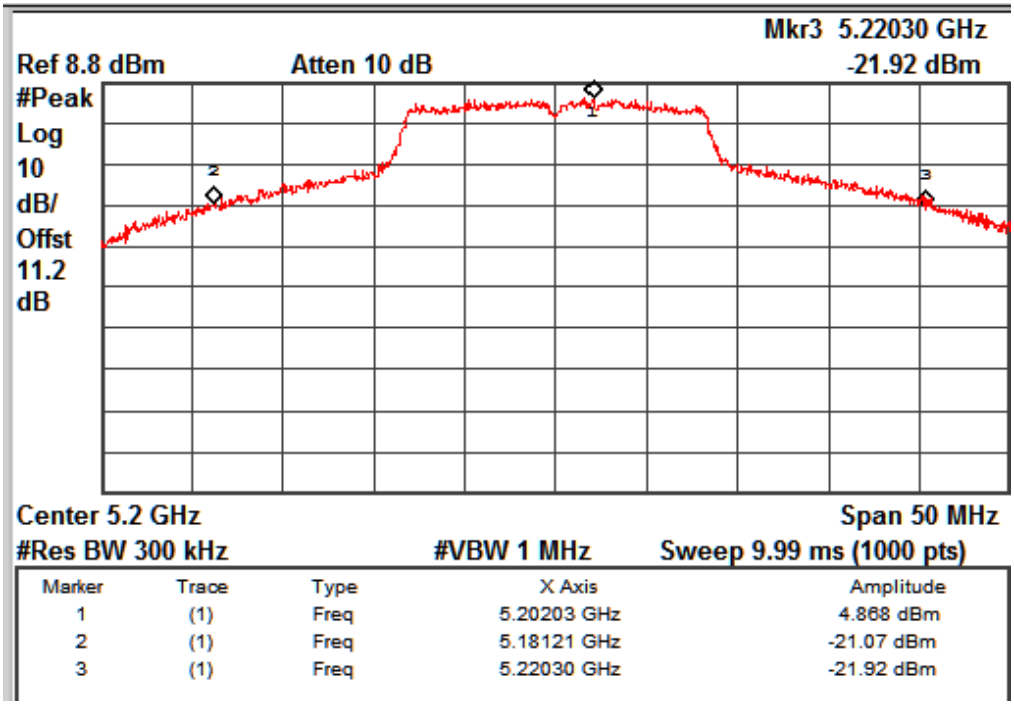


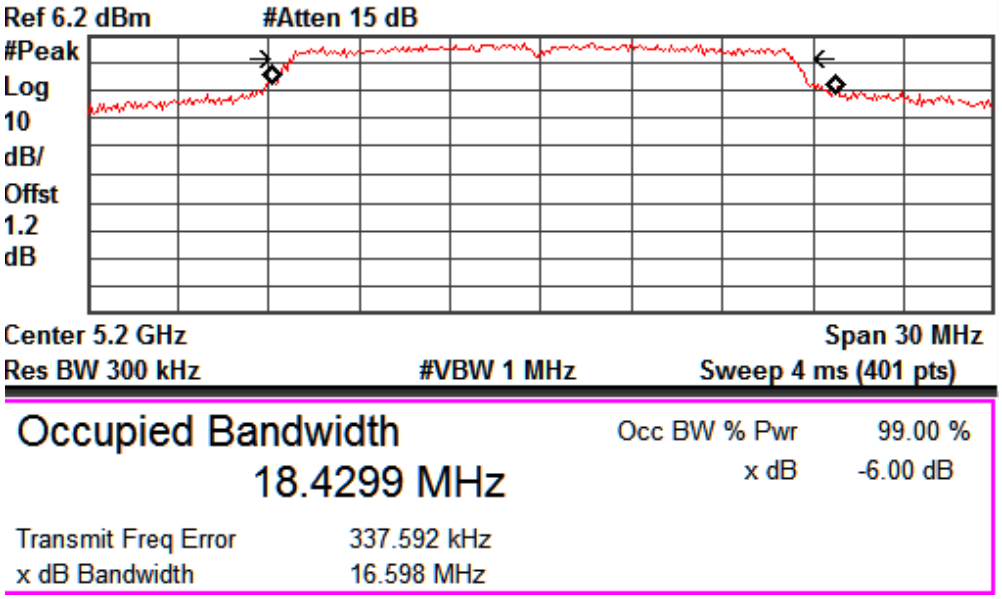
Data Rate: 24Mbps **Channel Frequency: 5240MHz**



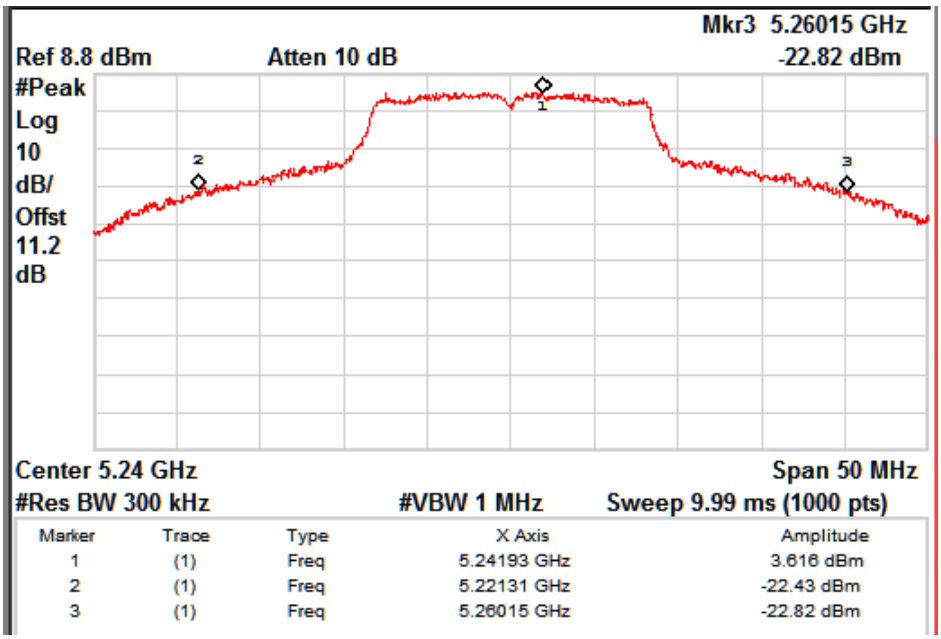


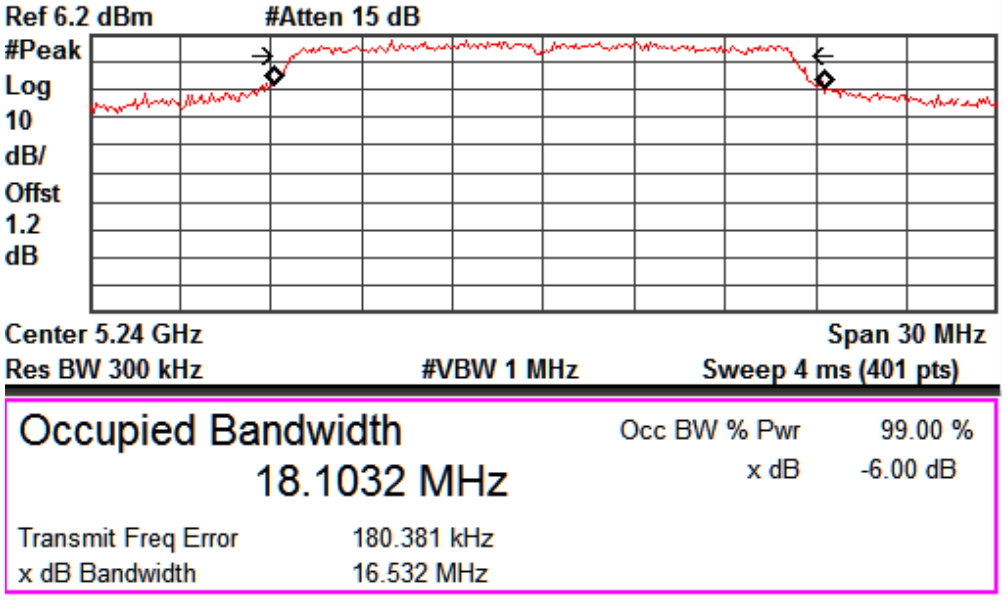
Data Rate: 54Mbps **Channel Frequency: 5180MHz**





Data Rate: 54Mbps **Channel Frequency: 5200MHz**

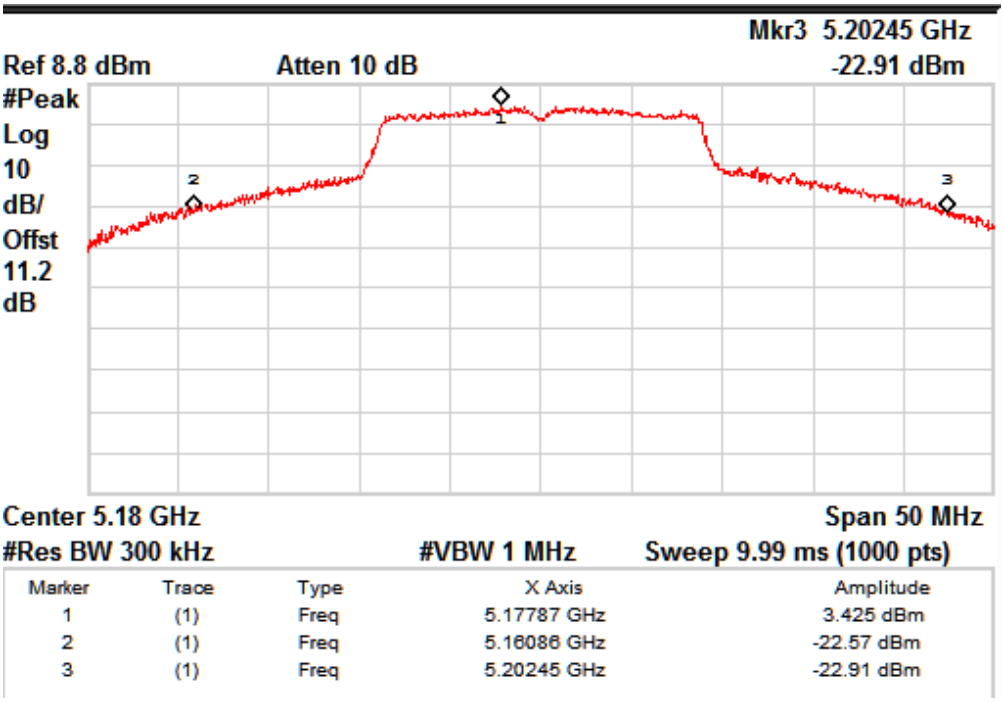


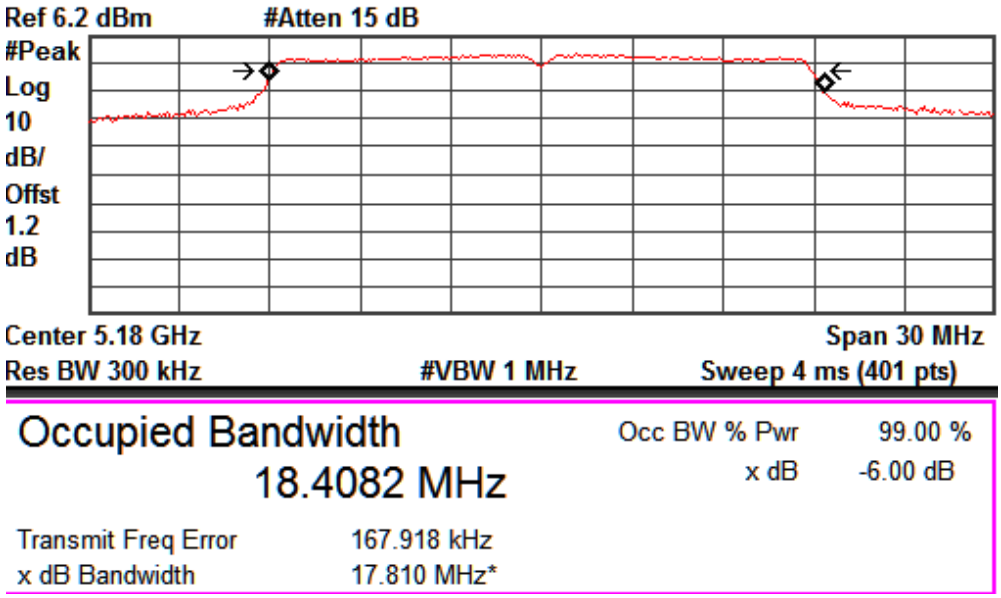


Data Rate: 54Mbps **Channel Frequency: 5240MHz**

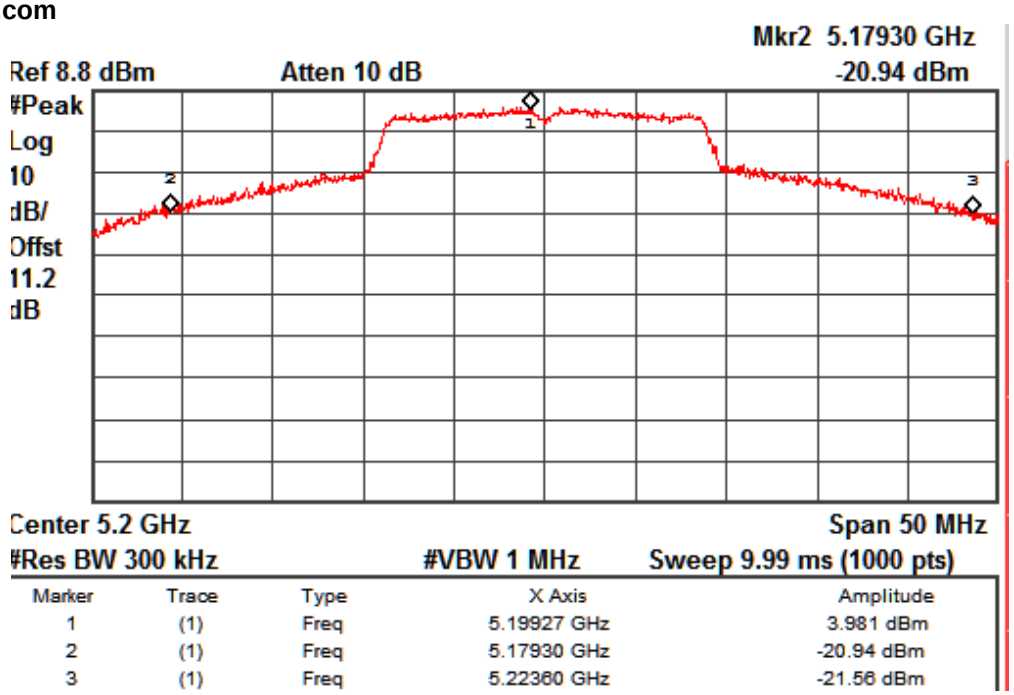
Modulation: 802.11n

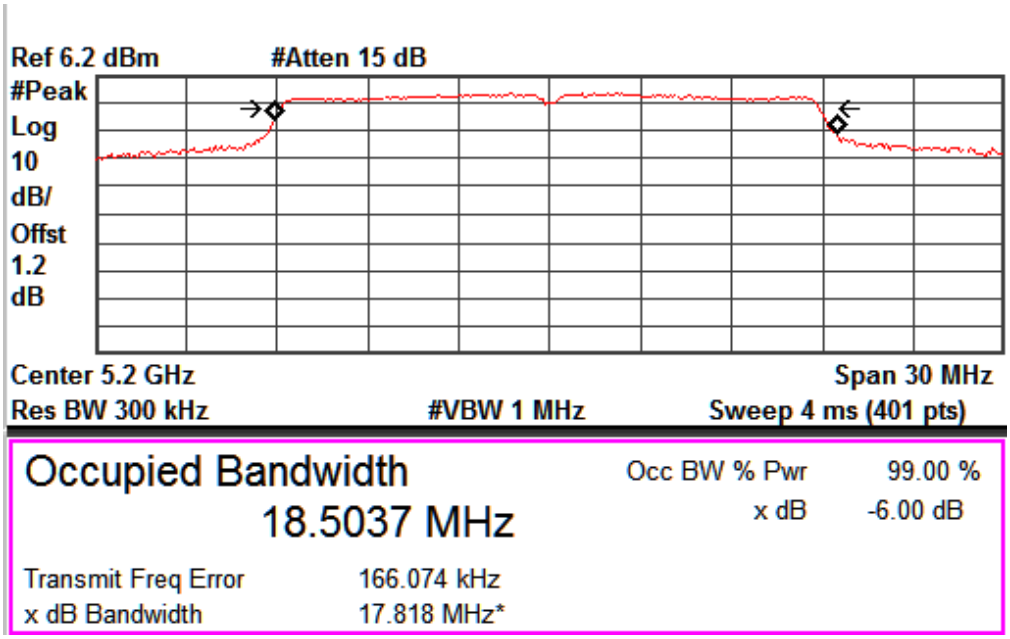
Data Rate (Mbps)	Channel. No	Frequency (MHz)	EBW (MHz)	OBW (MHz)
6.5	36	5180	41.59	18.40
	40	5200	44.30	18.50
	48	5240	43.52	18.31
39	36	5180	42.35	18.37
	40	5200	43.35	18.43
	48	5240	41.40	18.26
65	36	5180	40.49	18.44
	40	5200	43.30	18.34
	48	5240	42.00	18.18



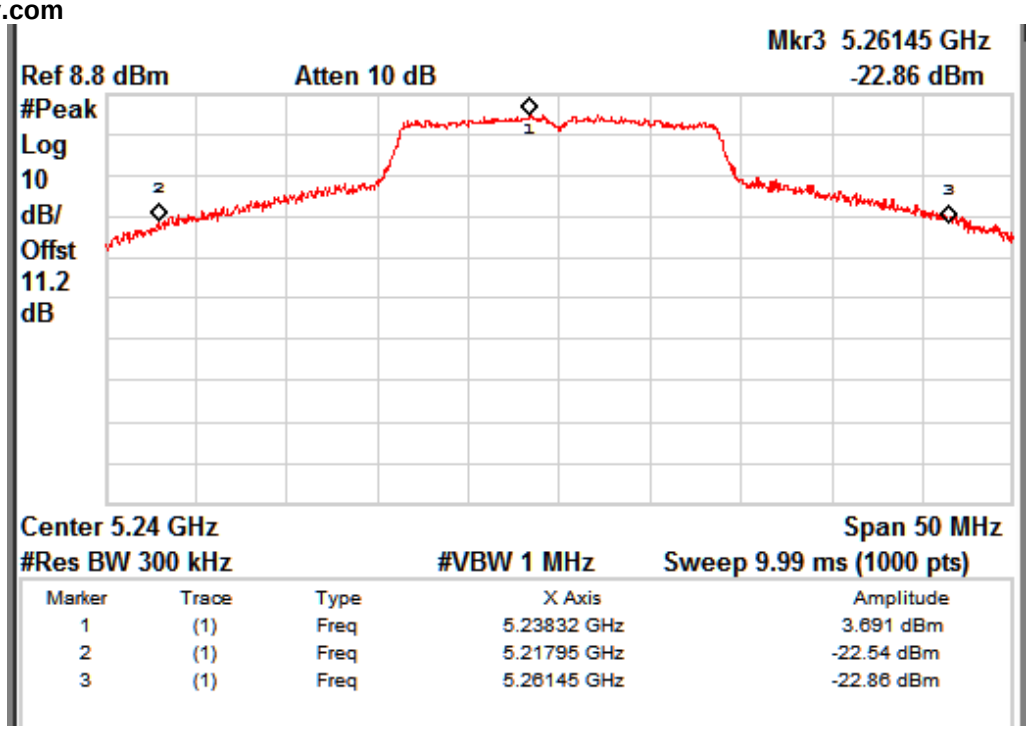


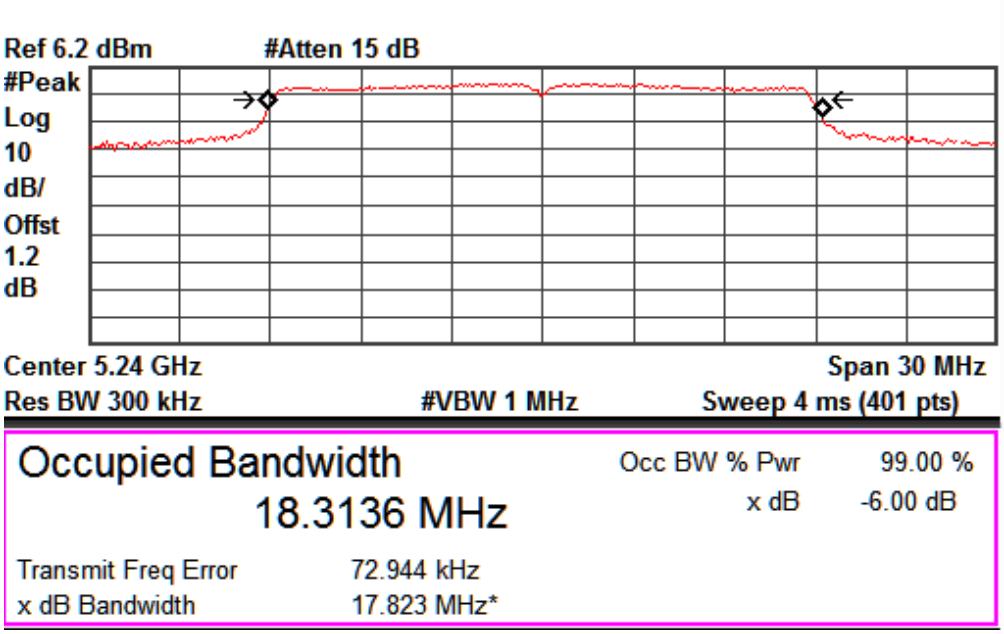
Data Rate: 6.5Mbps **Channel Frequency: 5180MHz**



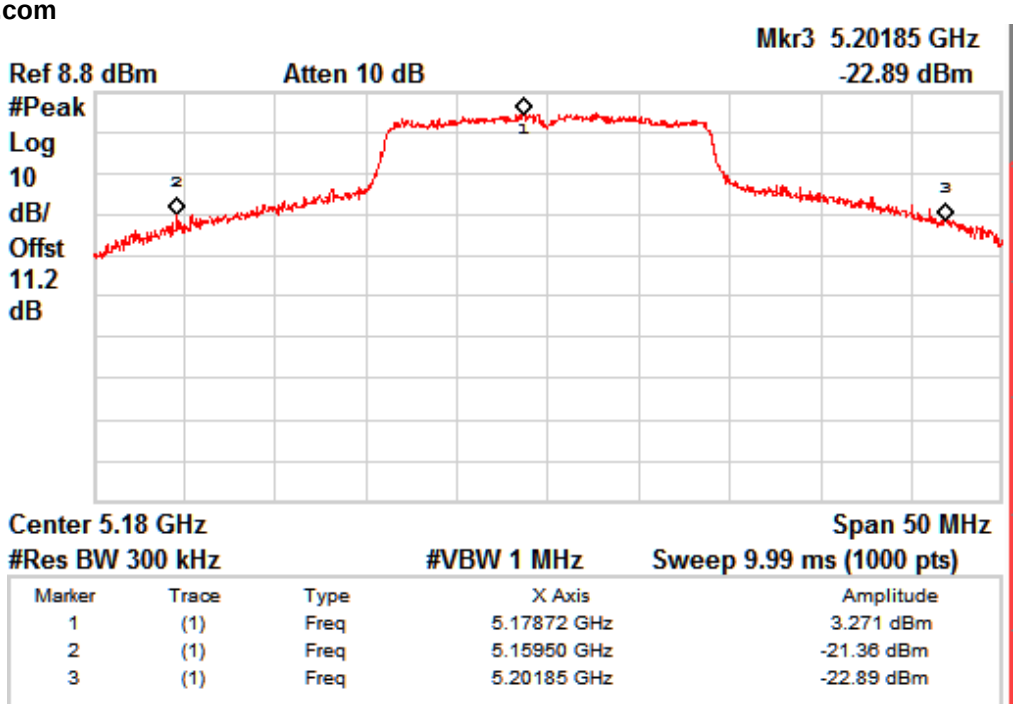


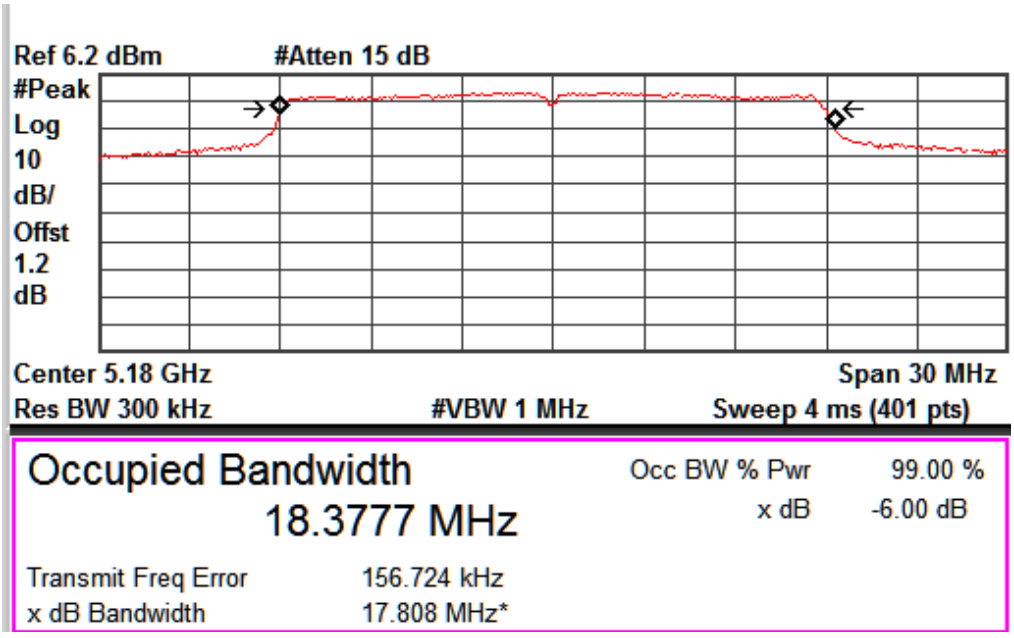
Data Rate: 6.5Mbps **Channel Frequency: 5200MHz**



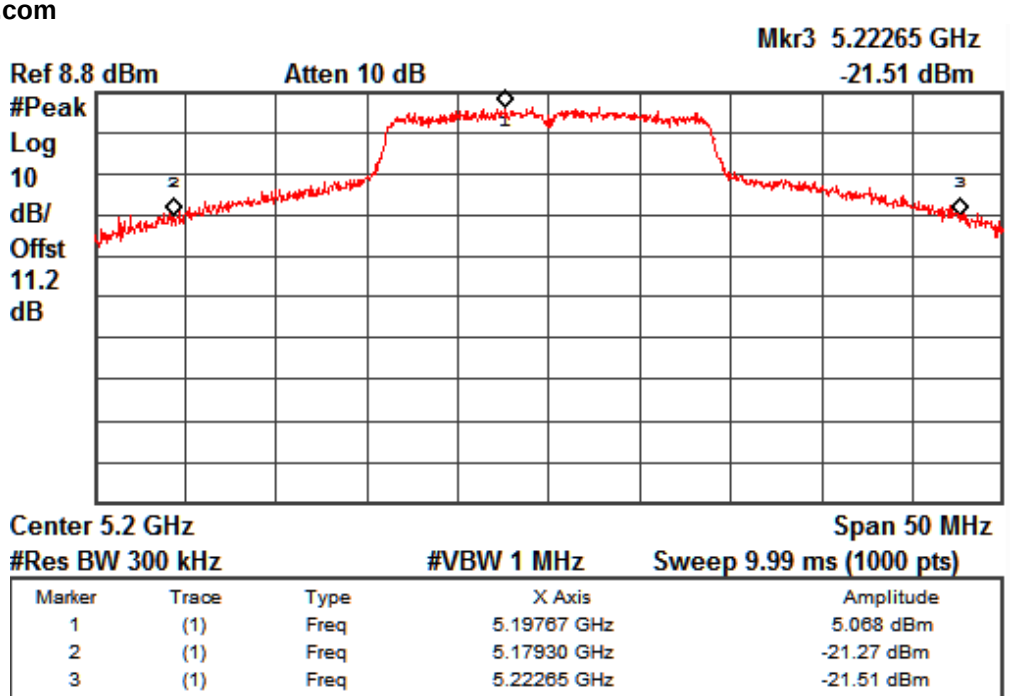


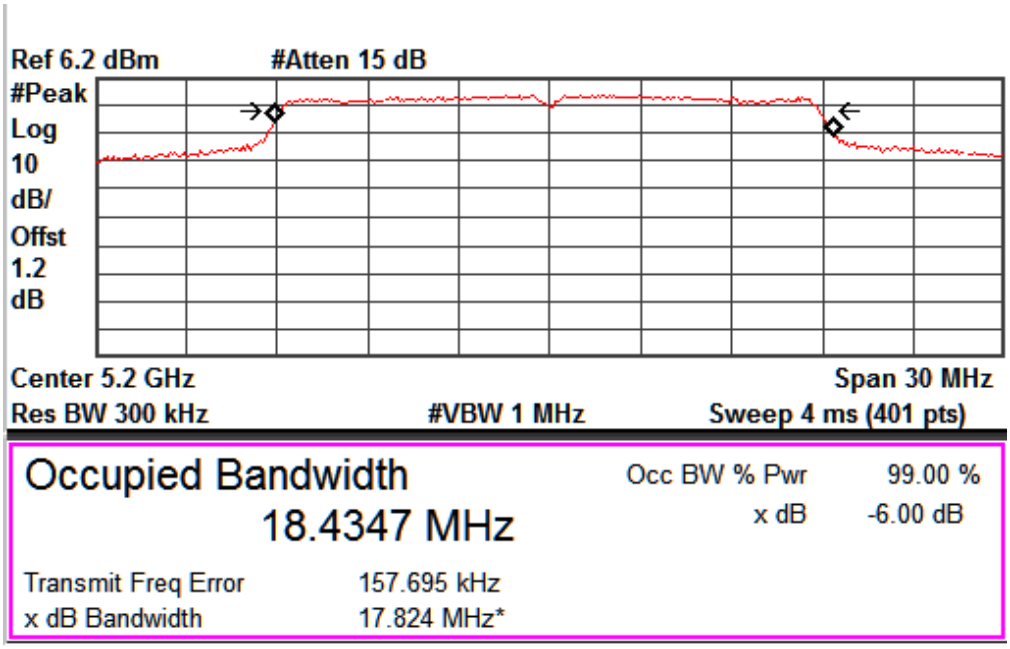
Data Rate: 6.5Mbps **Channel Frequency: 5240MHz**



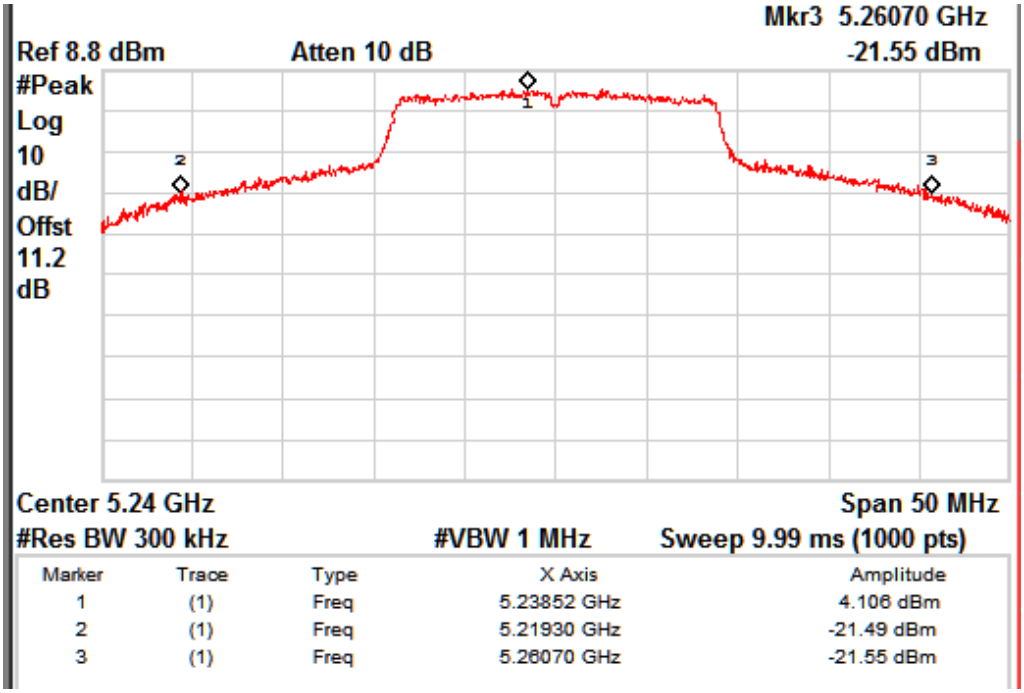


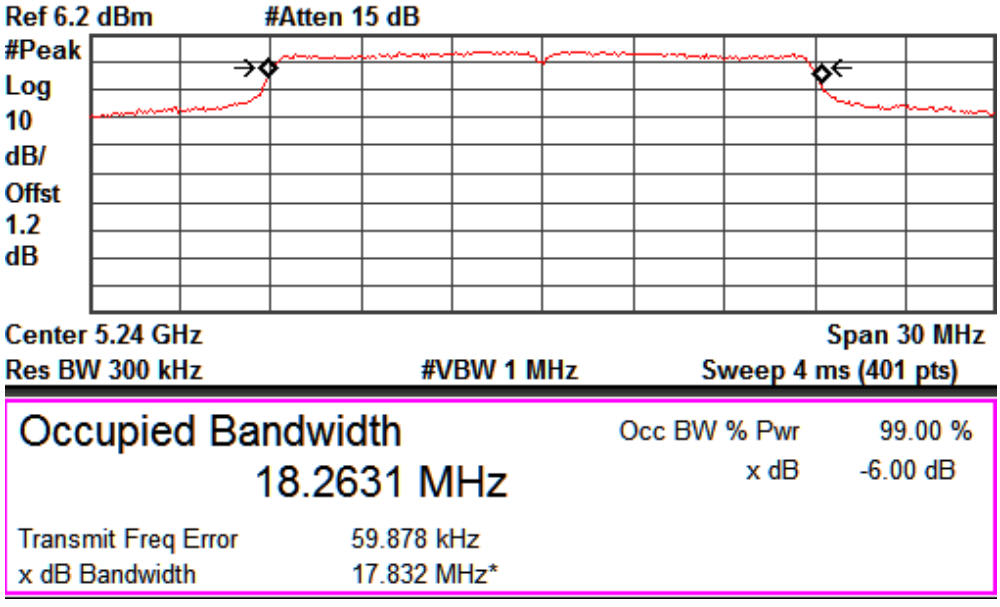
Data Rate: 39Mbps **Channel Frequency: 5180MHz**



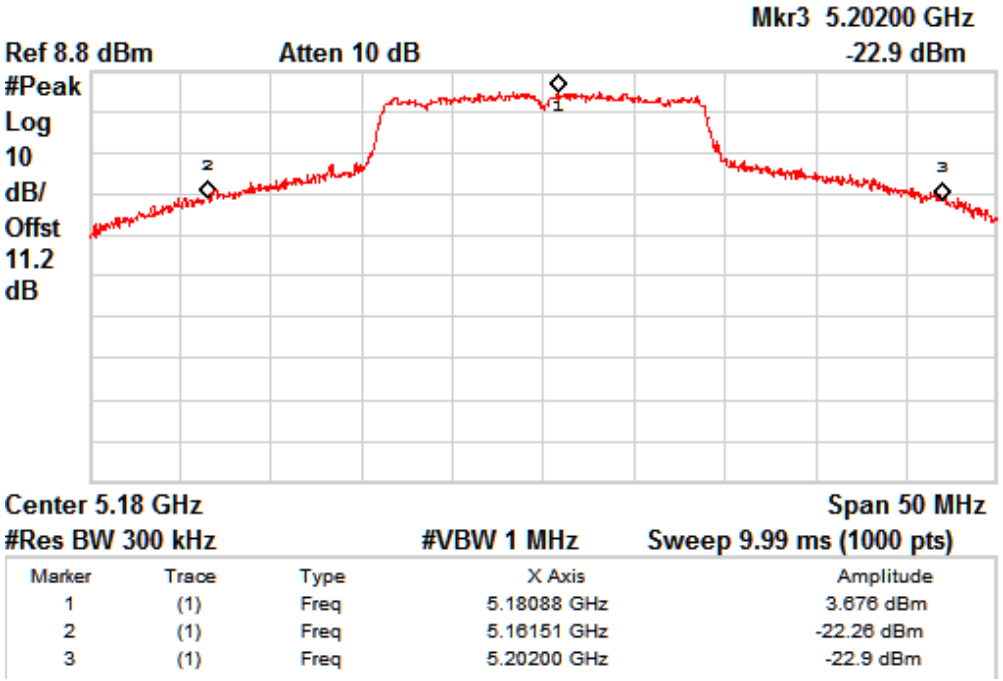


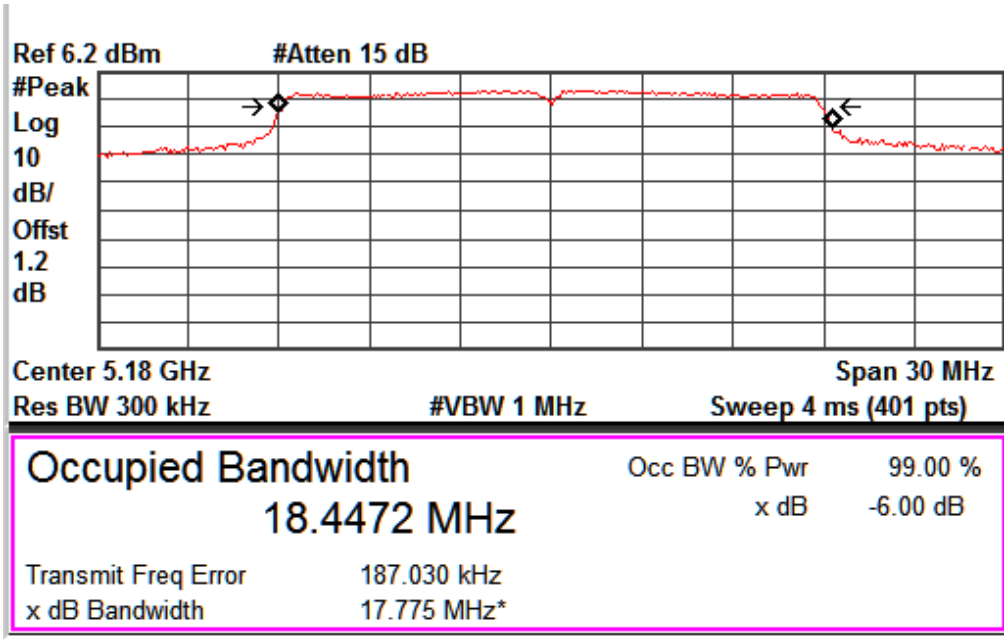
Data Rate: 39Mbps **Channel Frequency: 5200MHz**



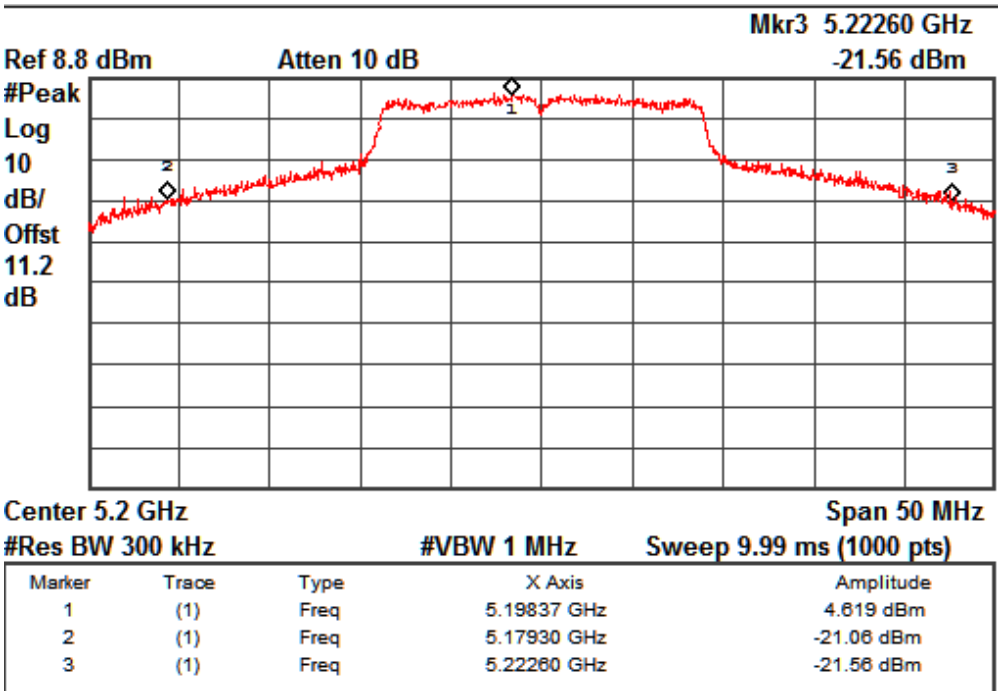


Data Rate: 39Mbps **Channel Frequency: 5240MHz**

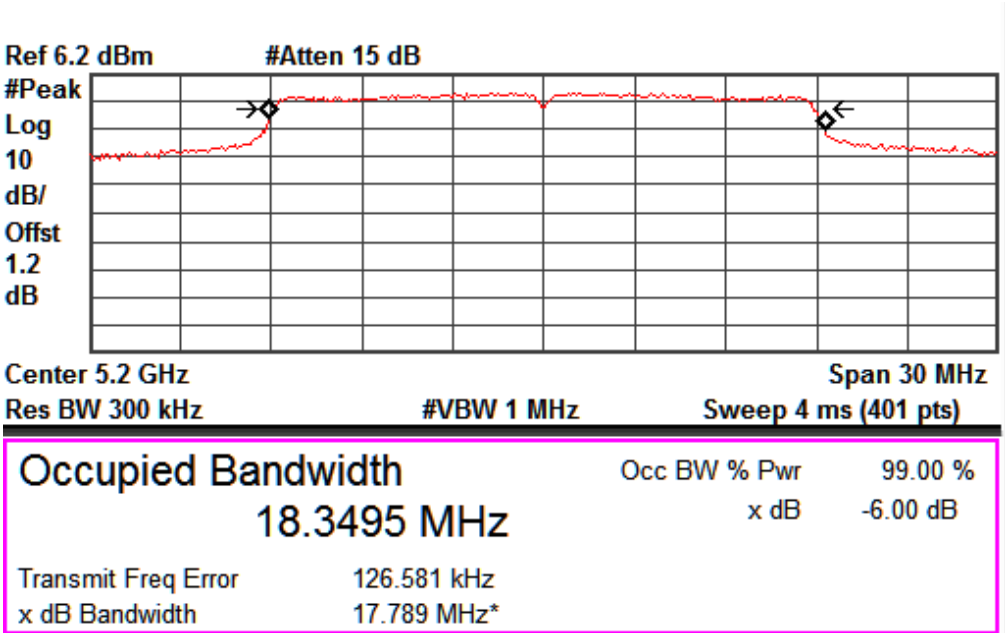




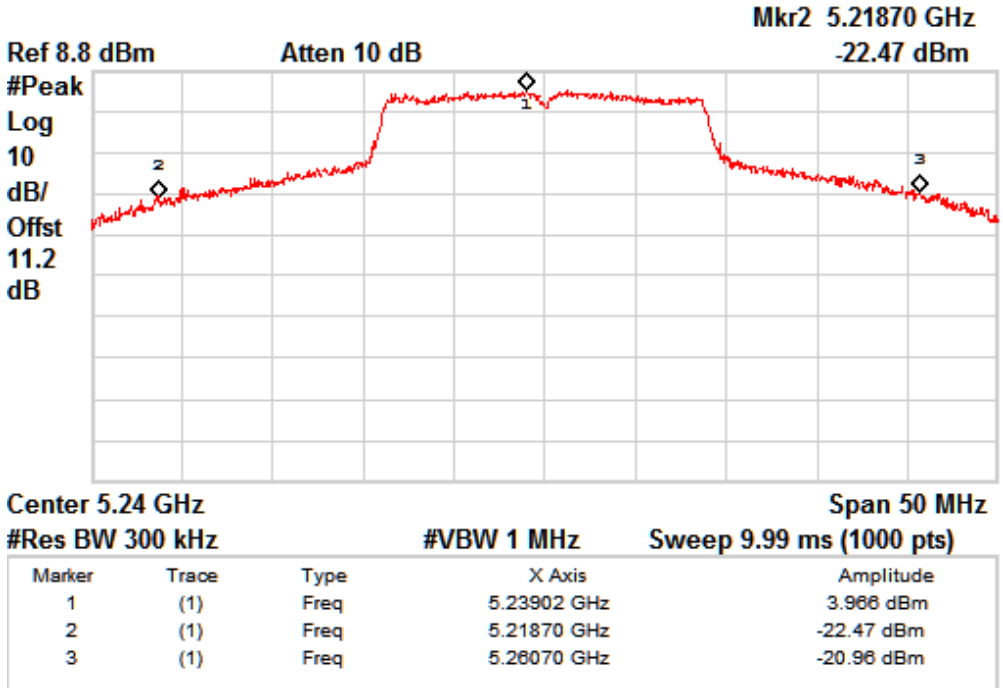
Data Rate: 65Mbps **Channel Frequency: 5180MHz**



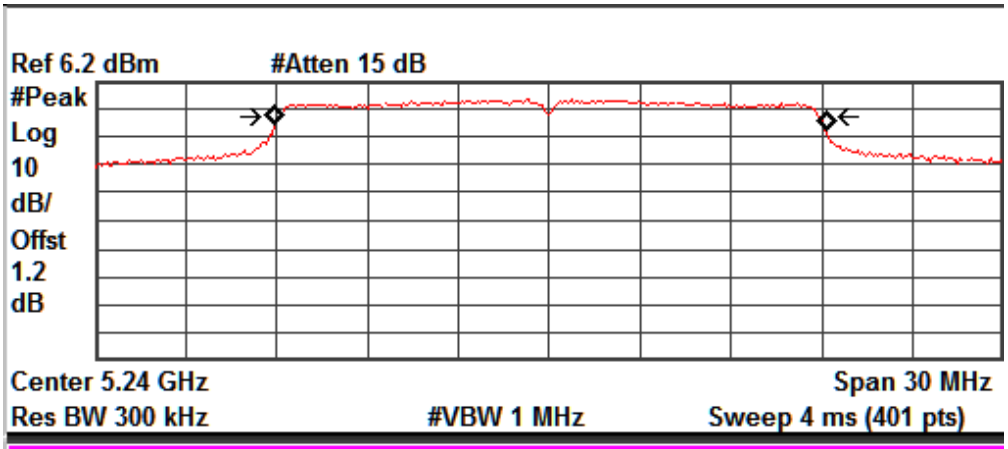
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.19837 GHz	4.619 dBm
2	(1)	Freq	5.17930 GHz	-21.06 dBm
3	(1)	Freq	5.22260 GHz	-21.56 dBm



Data Rate: 65Mbps **Channel Frequency: 5200MHz**



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.23902 GHz	3.966 dBm
2	(1)	Freq	5.21870 GHz	-22.47 dBm
3	(1)	Freq	5.26070 GHz	-20.96 dBm



Occupied Bandwidth
18.1853 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error 33.266 kHz
x dB Bandwidth 17.764 MHz*

Data Rate: 65Mbps **Channel Frequency: 5240MHz**

Maximum conducted output power **Section 15.407(a)**
Result **Pass**

Test Specification	FCC Part 15 Subpart E
Measurement Bandwidth (RBW)	1 MHz
Requirement	For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or 4dBm + 10log B, where B is the 26- dB emission bandwidth in MHz

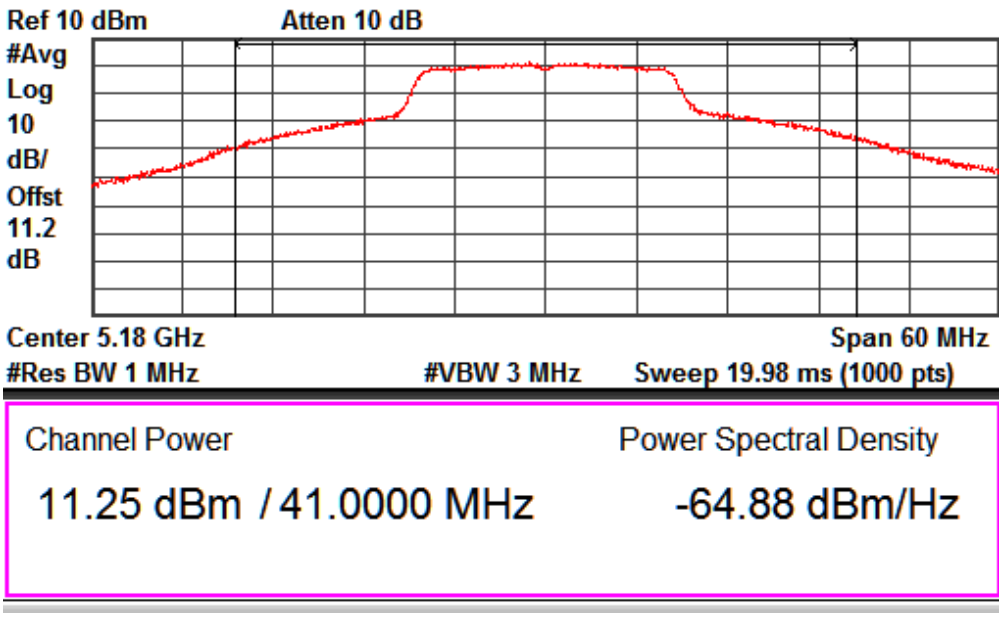
Test Method:

Test Result:

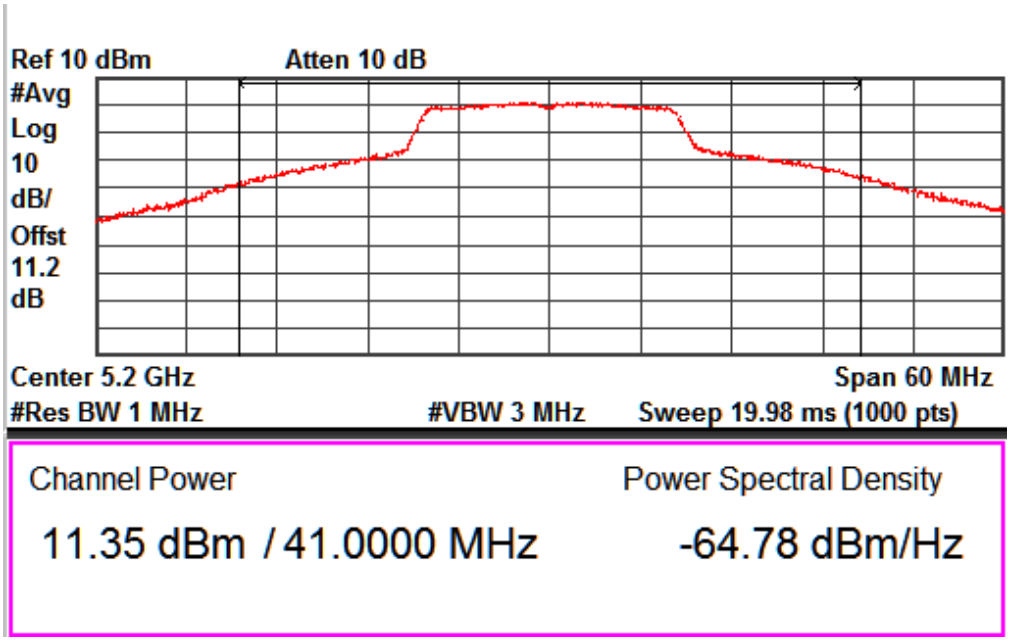
5150 MHz – 5250MHz Band

Modulation: 802.11a

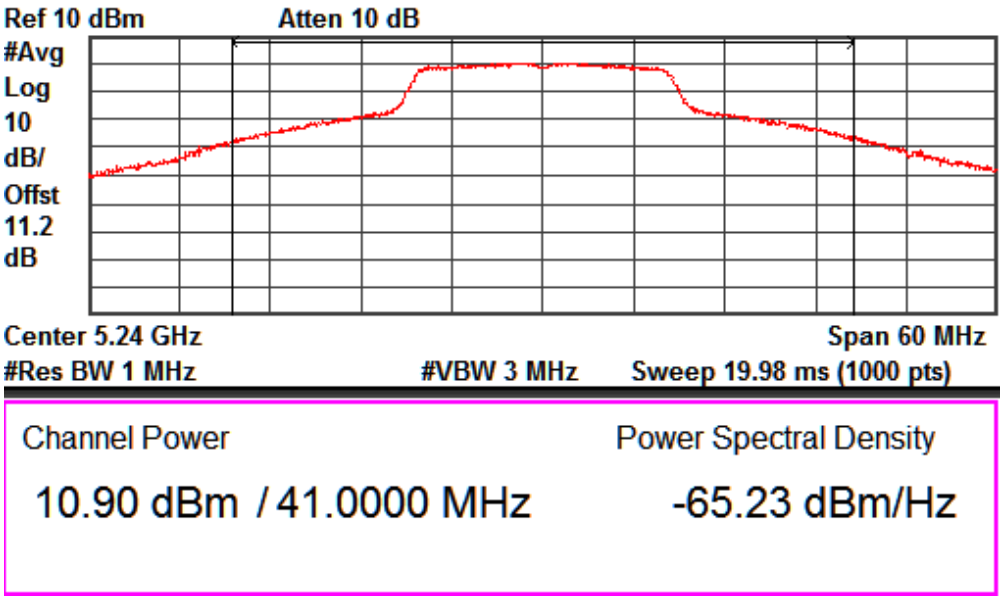
Data Rate (Mbps)	Channel No.	Frequency (MHz)	Output power (dBm)	Limit (dBm)	Margin (dB)
6	36	5180	11.25	17.00	-5.75
	40	5200	11.35	17.00	-5.65
	48	5240	10.90	17.00	-6.10
24	36	5180	10.96	17.00	-6.04
	40	5200	11.06	17.00	-5.94
	48	5240	10.87	17.00	-6.13
54	36	5180	10.86	17.00	-6.14
	40	5200	11.00	17.00	-6.00
	48	5240	10.80	17.00	-6.20



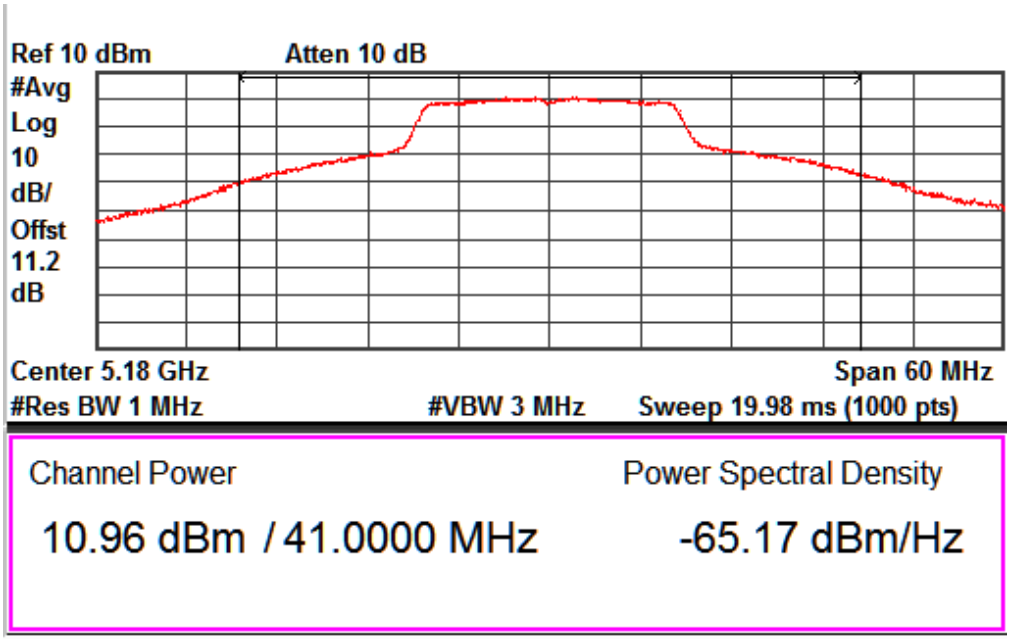
Data Rate: 6Mbps **Channel Frequency: 5180MHz**



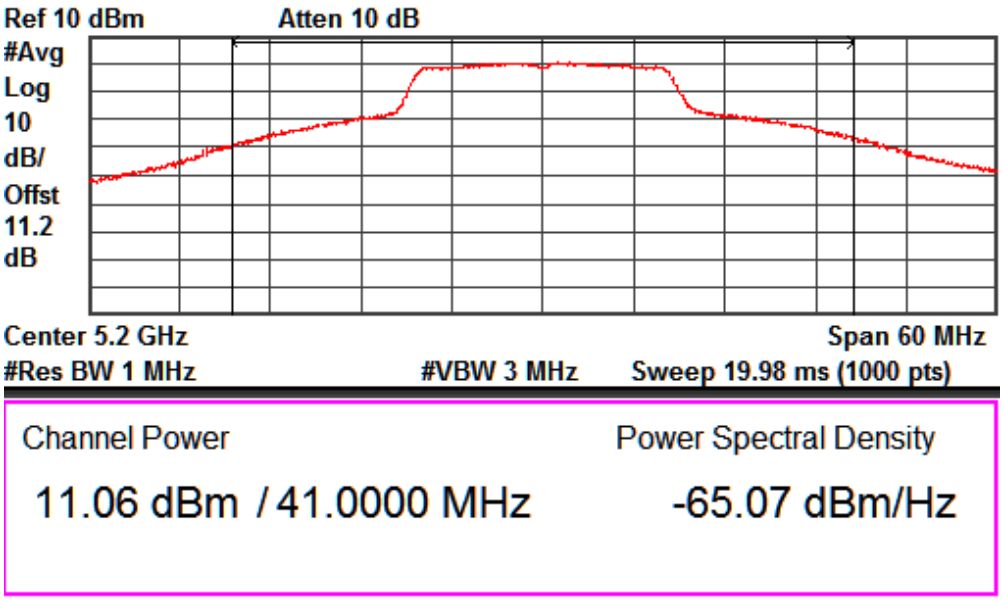
Data Rate: 6Mbps **Channel Frequency: 5200MHz**



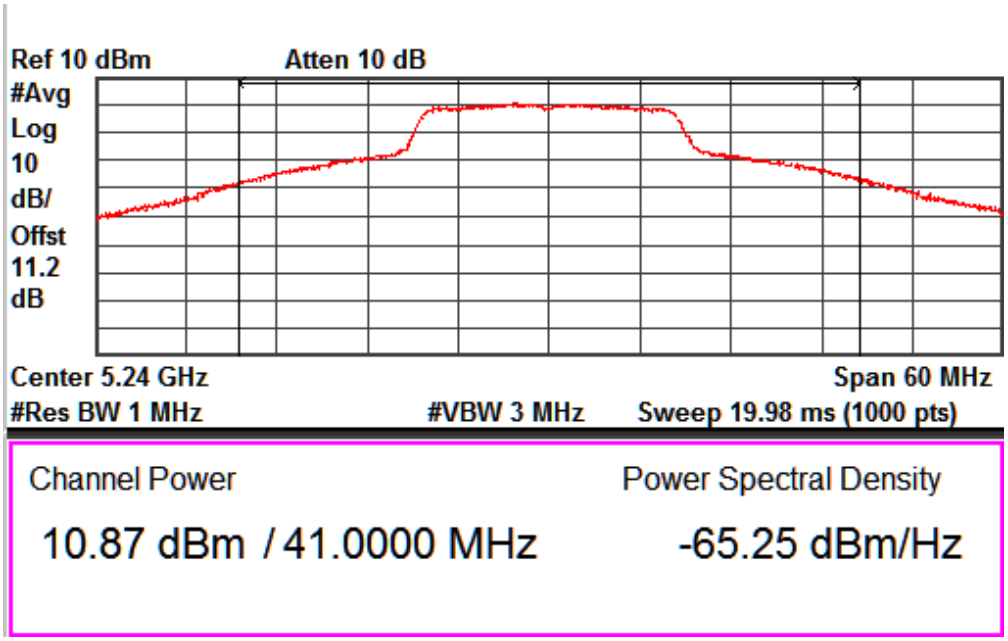
Data Rate: 6Mbps **Channel Frequency: 5240MHz**



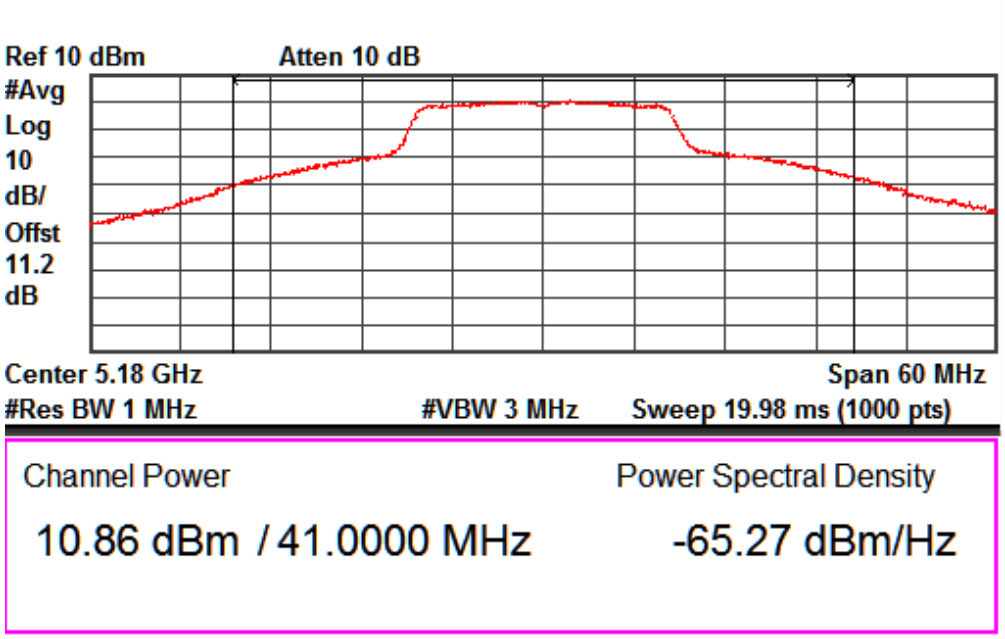
Data Rate: 24Mbps **Channel Frequency: 5180MHz**



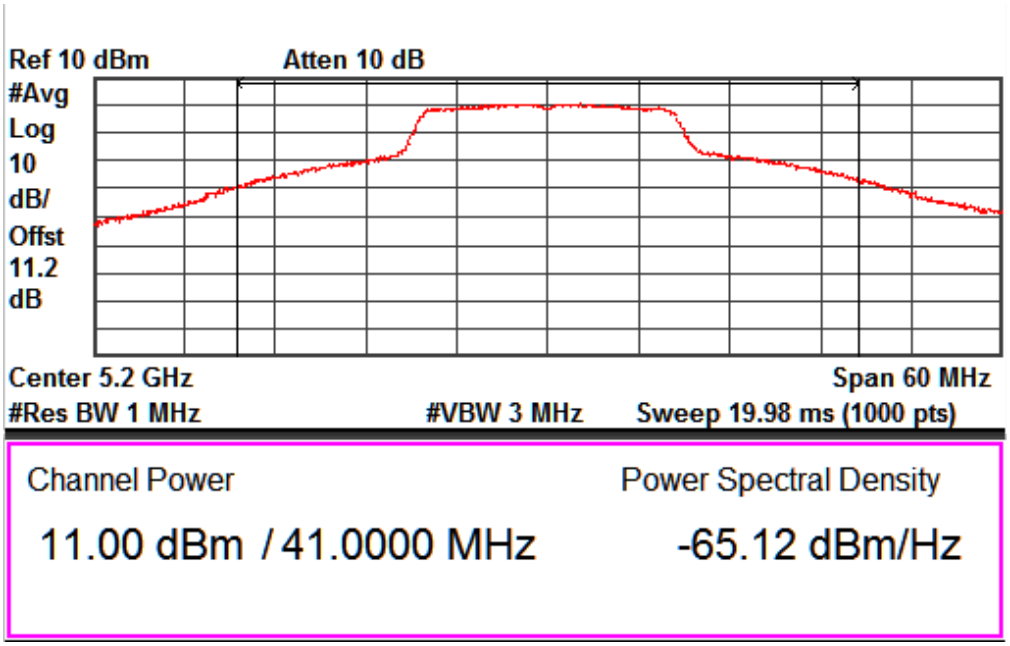
Data Rate: 24Mbps **Channel Frequency: 5200MHz**



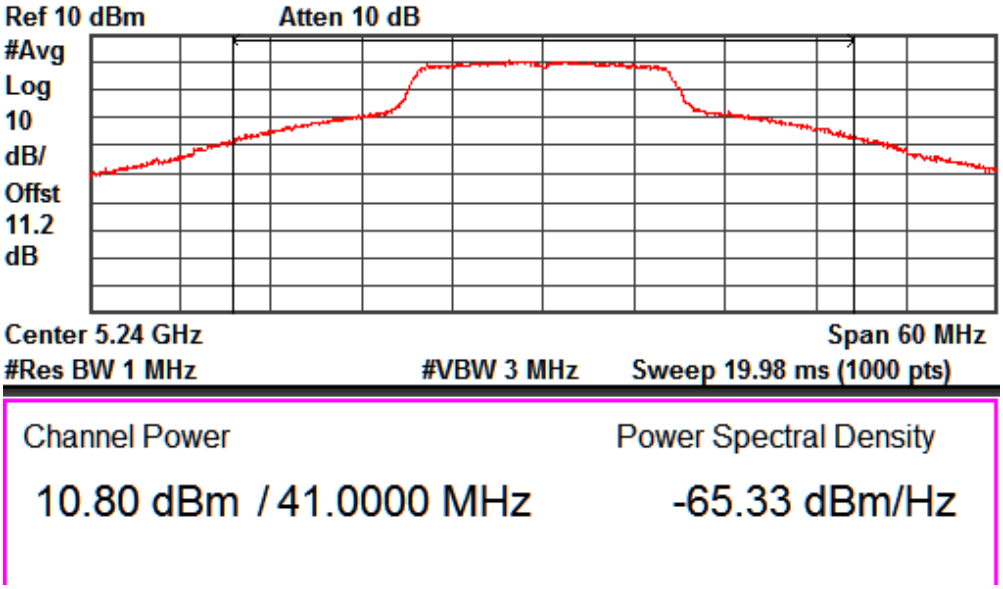
Data Rate: 24Mbps **Channel Frequency: 5240MHz**



Data Rate: 54Mbps **Channel Frequency: 5180MHz**



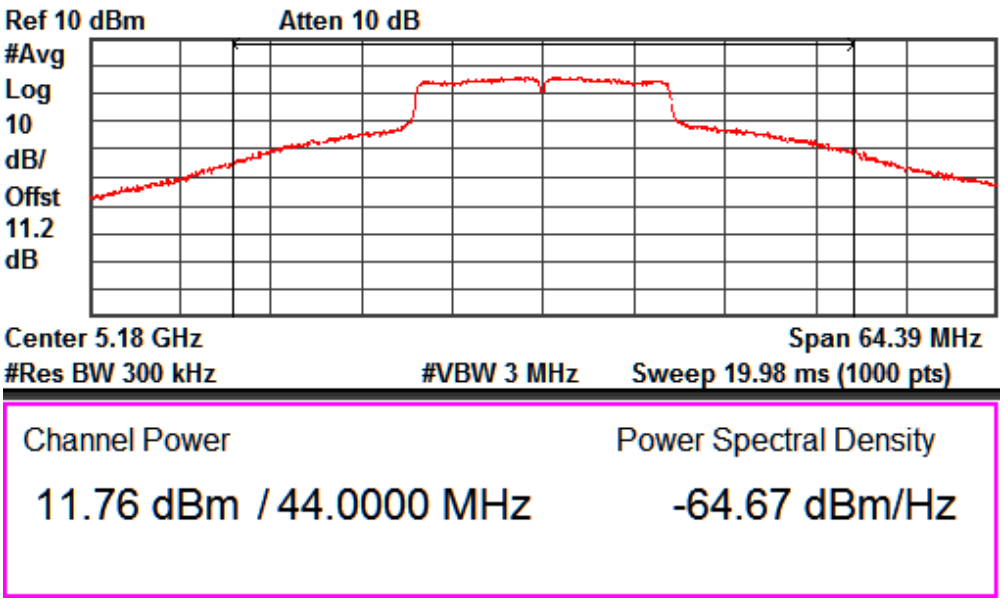
Data Rate: 54Mbps **Channel Frequency: 5200MHz**



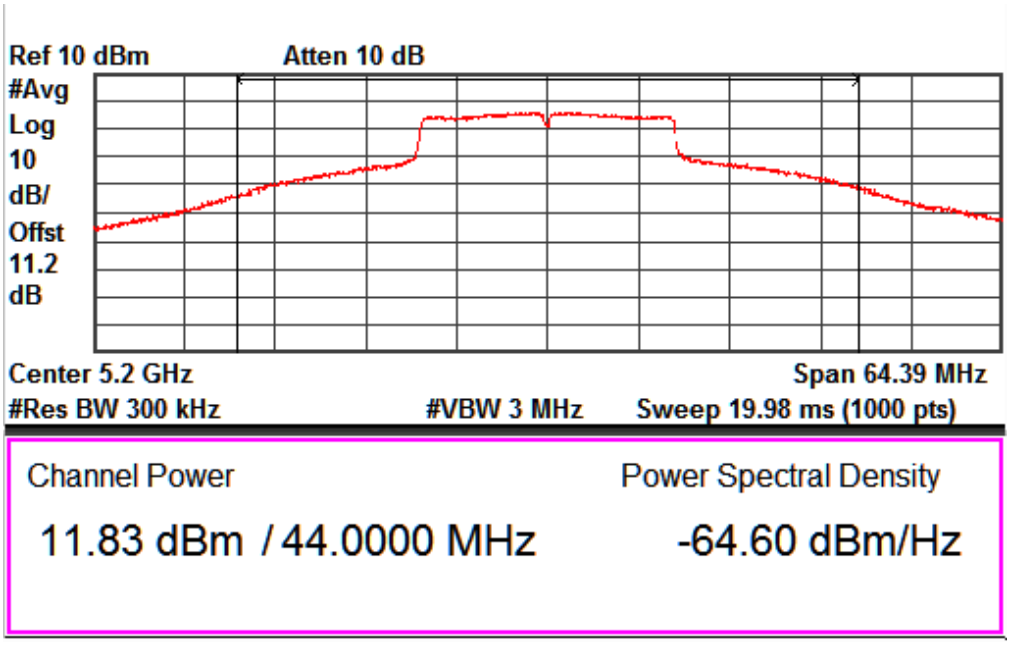
Data Rate: 54Mbps **Channel Frequency: 5240MHz**

Modulation: 802.11n

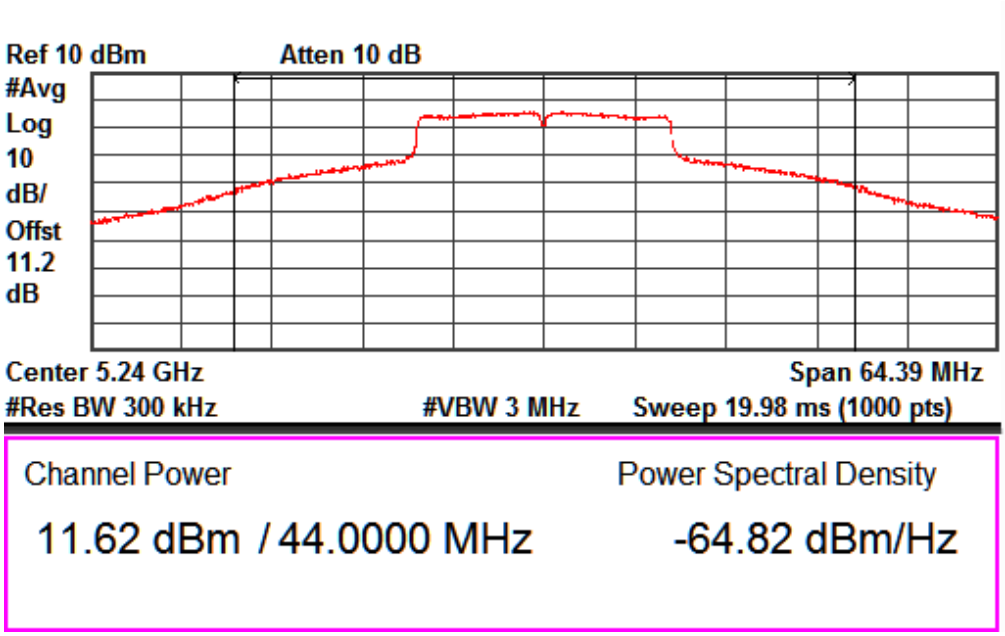
Data Rate (Mbps)	Channel No.	Frequency (MHz)	Output power (dBm)	Limit (dBm)	Margin (dB)
6.5	36	5180	11.76	17.00	-5.24
	40	5200	11.83	17.00	-5.17
	48	5240	11.62	17.00	-5.38
39	36	5180	11.63	17.00	-5.37
	40	5200	11.77	17.00	-5.23
	48	5240	11.60	17.00	-5.40
65	36	5180	11.65	17.00	-5.35
	40	5200	11.86	17.00	-5.14
	48	5240	11.53	17.00	-5.47



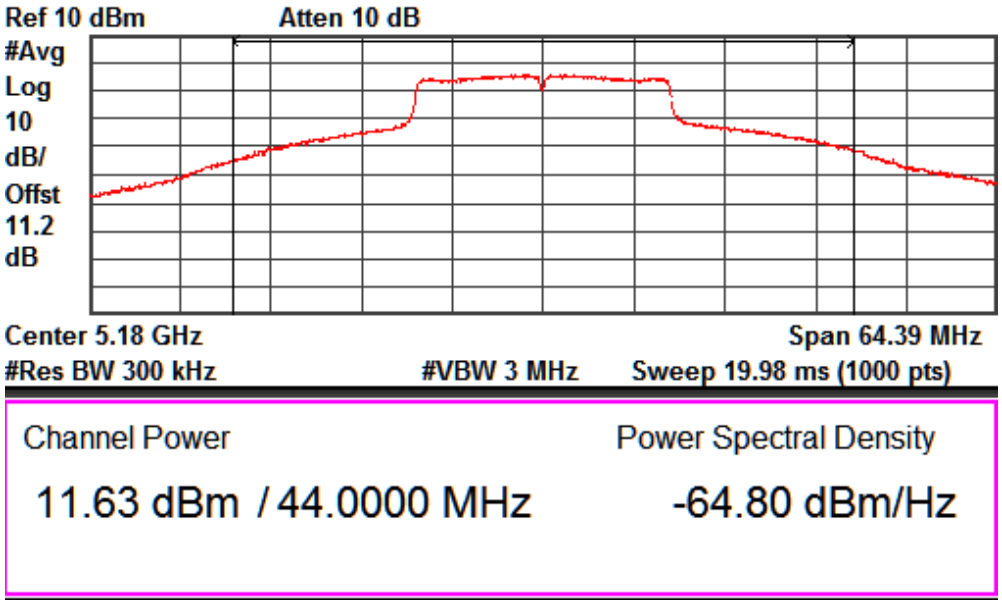
Data Rate: 6.5Mbps **Channel Frequency: 5180MHz**



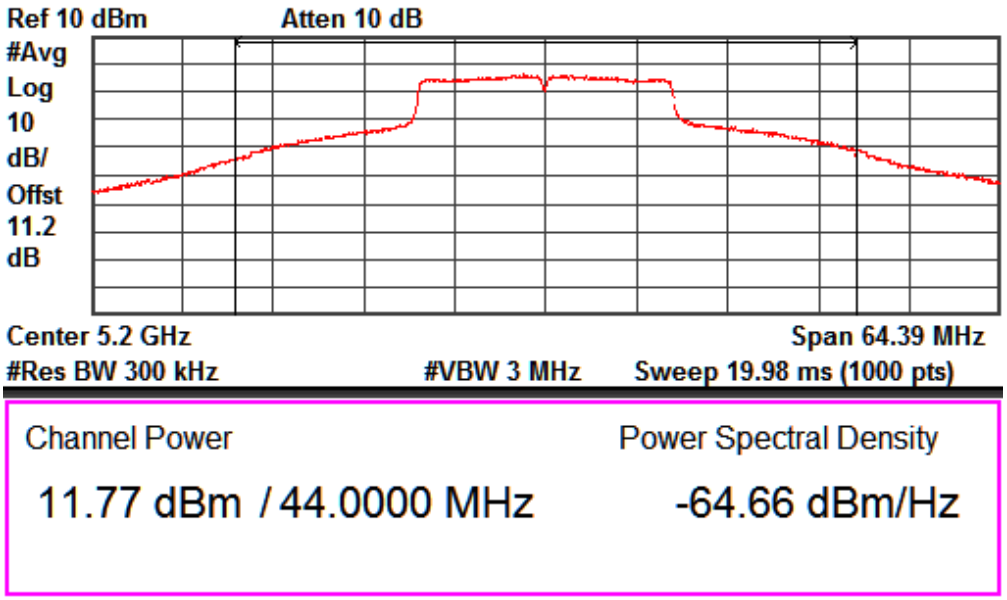
Data Rate: 6.5Mbps **Channel Frequency: 5200MHz**



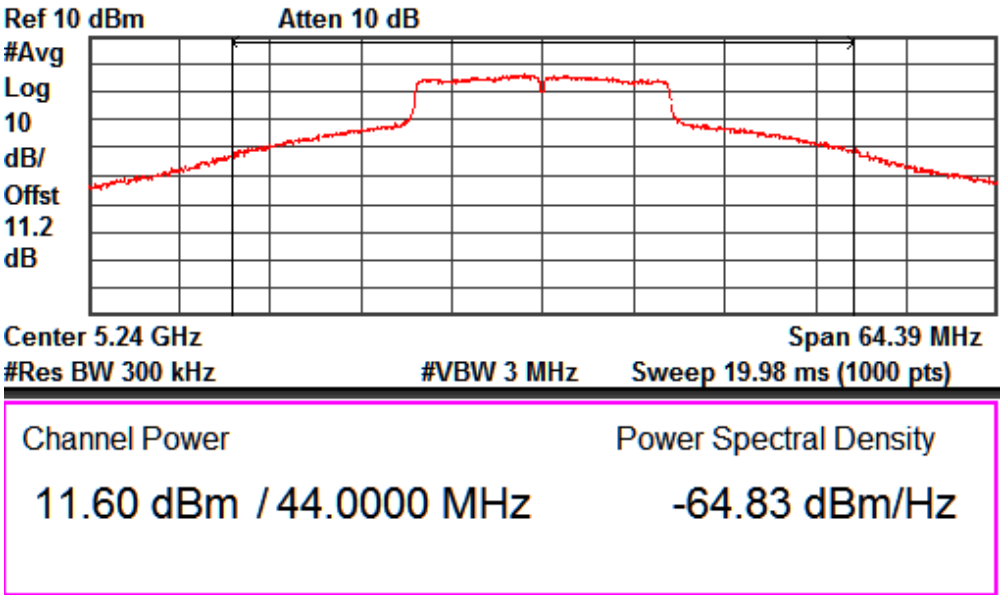
Data Rate: 6.5Mbps **Channel Frequency: 5240MHz**



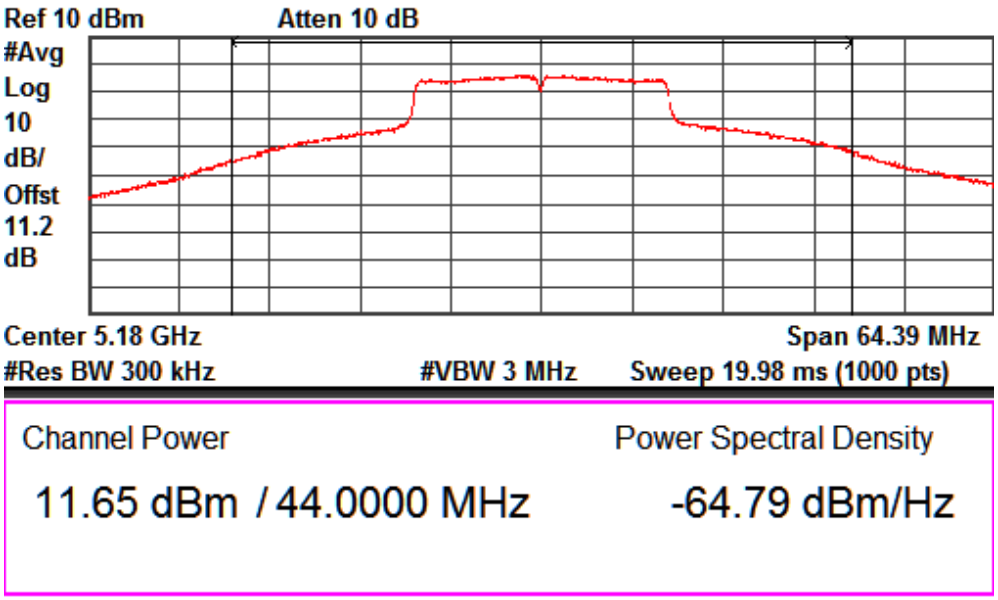
Data Rate: 39Mbps **Channel Frequency: 5180MHz**



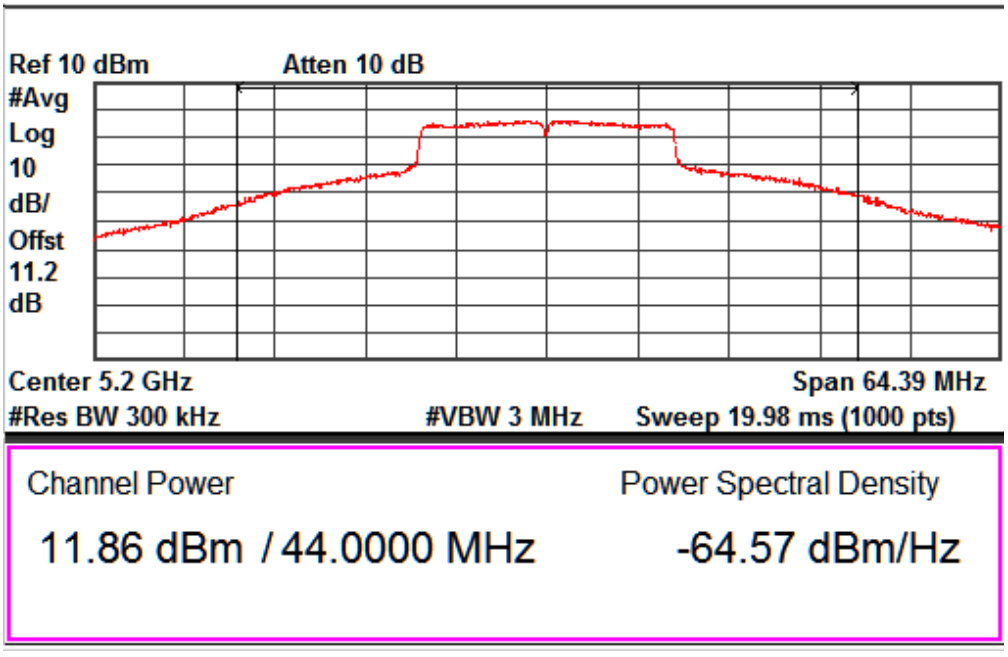
Data Rate: 39Mbps **Channel Frequency: 5200MHz**



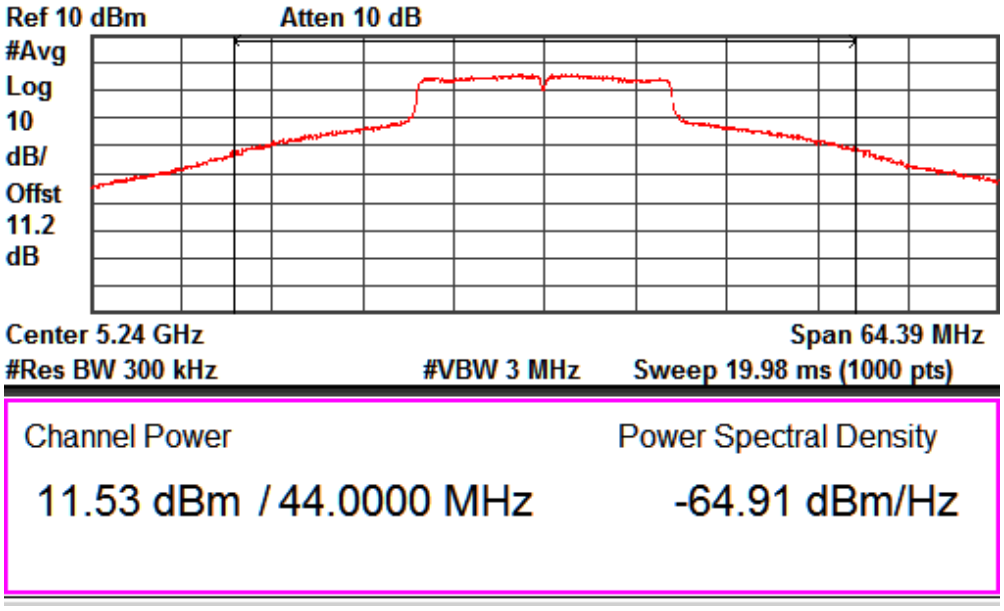
Data Rate: 39Mbps **Channel Frequency: 5240MHz**



Data Rate: 65Mbps **Channel Frequency: 5180MHz**



Data Rate: 65Mbps **Channel Frequency: 5200MHz**



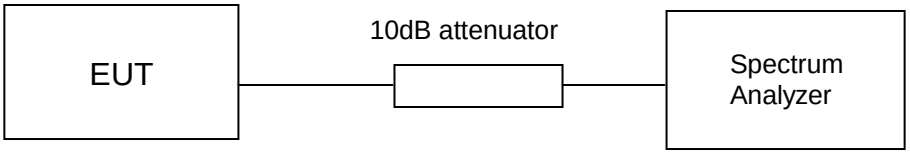
Data Rate: 65Mbps **Channel Frequency: 5240MHz**

Peak power spectral density **Section 15.407 (a)**
Result **Pass**

Test Specification FCC Part 15 Section 15.407 (a)
Requirement the peak power spectral density shall not exceed 4 dBm in any 1-MHz band

Note: Though the rule refers to “peak power spectral density”, the intent is to measure the maximum value of the time average of the power spectral density measured during a period of continuous transmission.

Test Method:

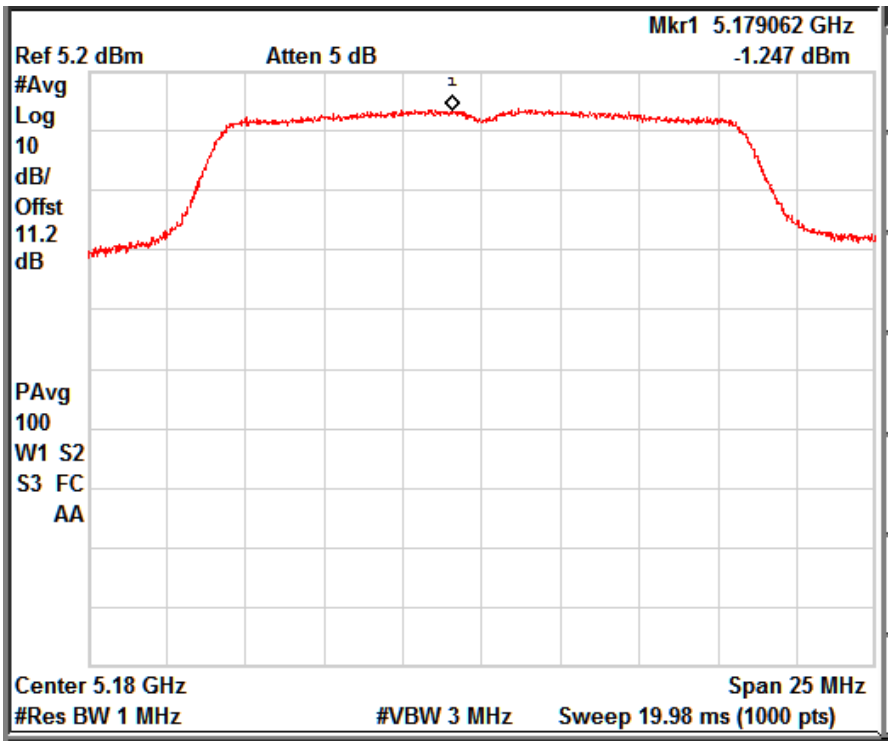


Test Result:

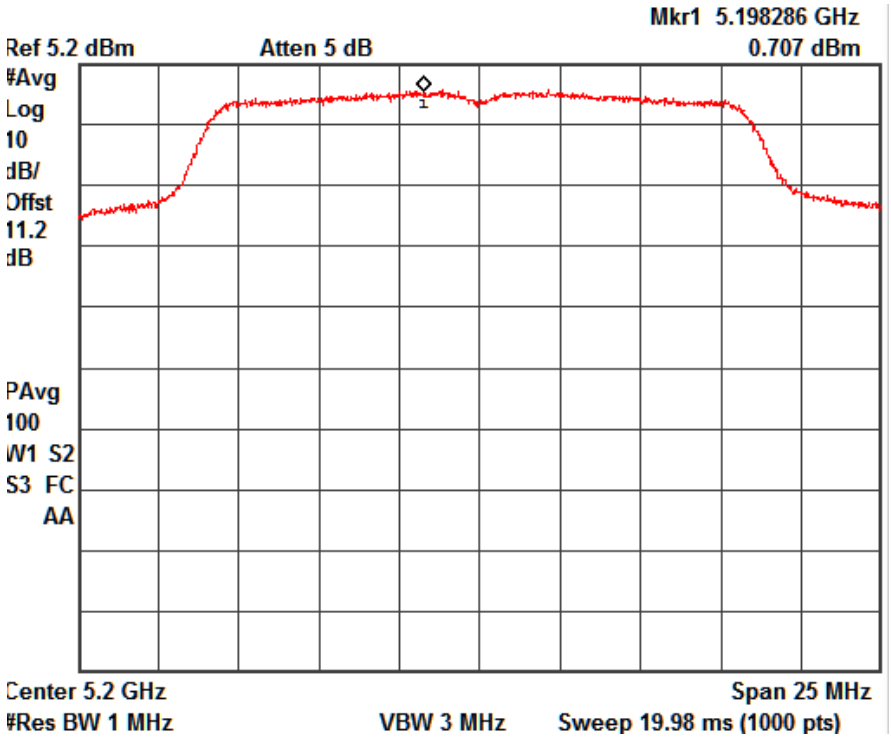
5150 MHz – 5250MHz Band

Modulation: 802.11a

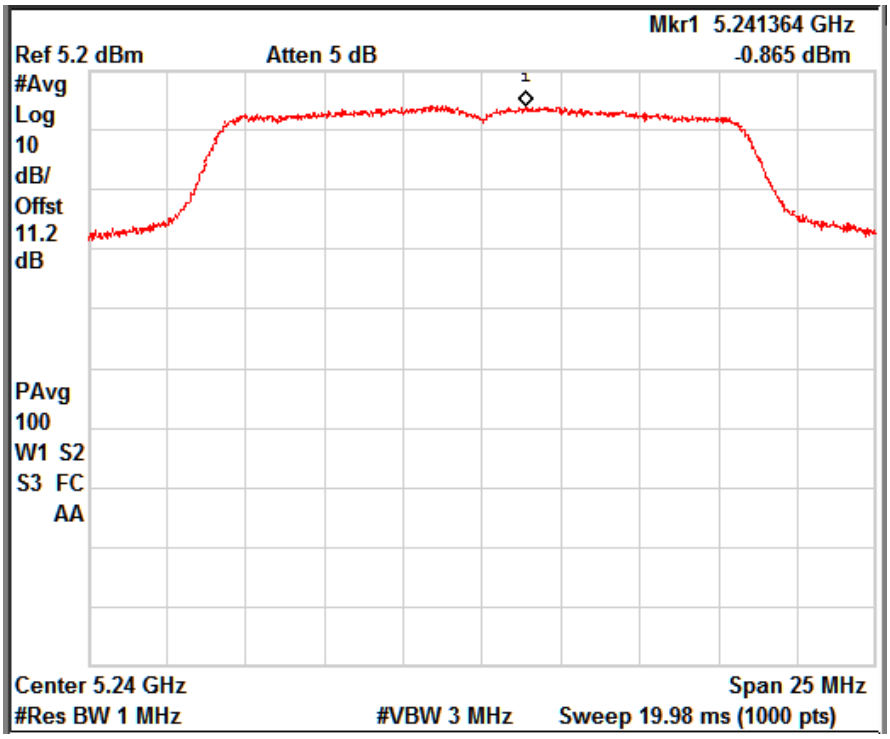
Data Rate (Mbps)	Channel No.	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
6	36	5180	-1.24	4.00	-5.24
	40	5200	0.70	4.00	-3.30
	48	5240	-0.85	4.00	-4.85
24	36	5180	-1.07	4.00	-5.07
	40	5200	0.57	4.00	-3.43
	48	5240	-1.38	4.00	-5.38
54	36	5180	-1.19	4.00	-5.19
	40	5200	0.51	4.00	-3.49
	48	5240	-1.16	4.00	-5.16



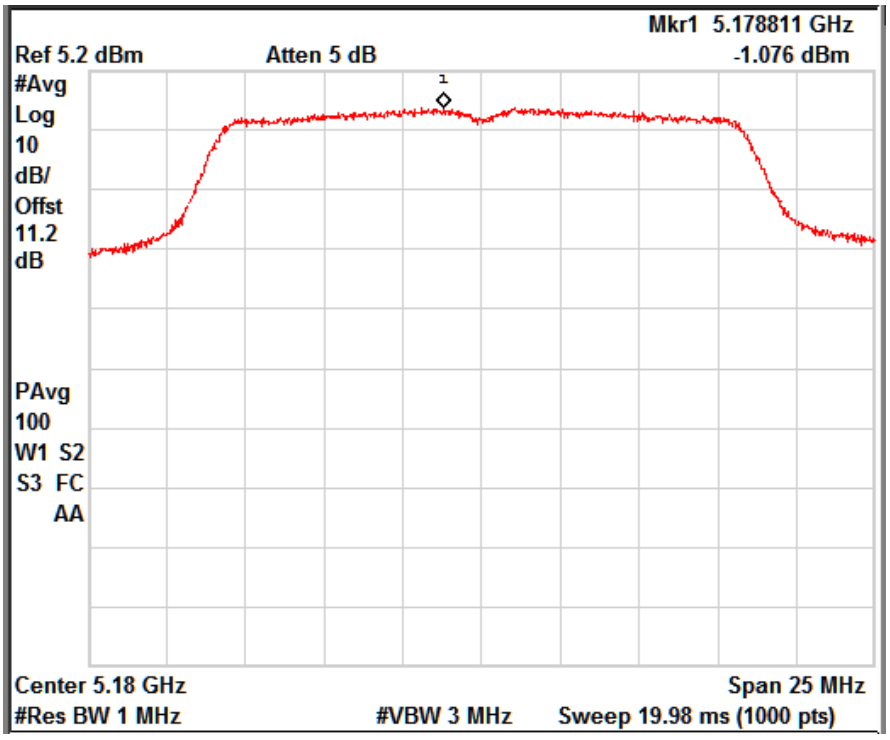
Data Rate: 6Mbps **Channel Frequency: 5180MHz**



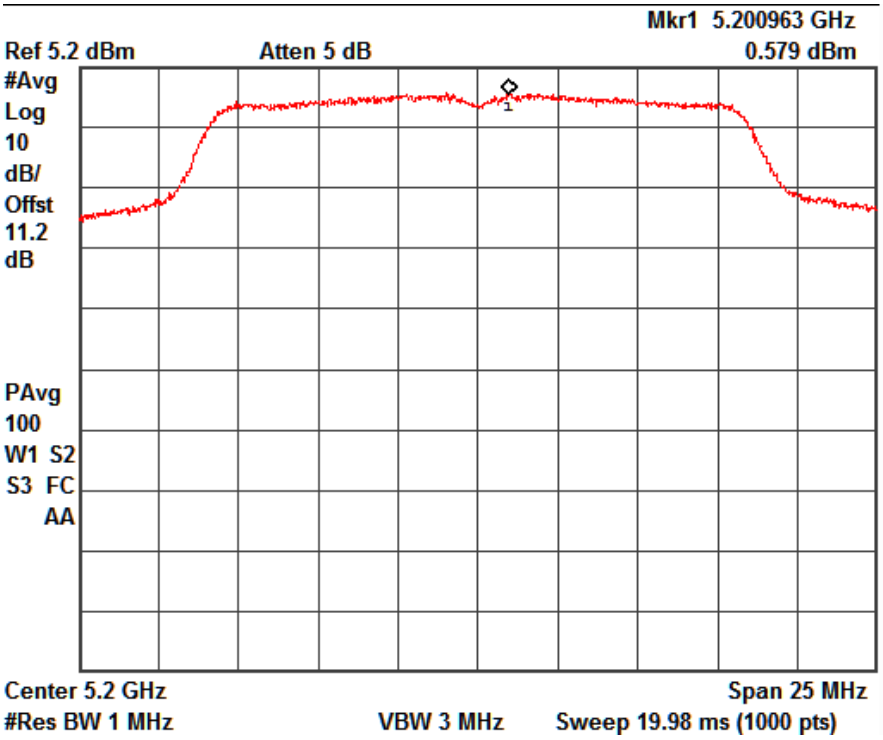
Data Rate: 6Mbps **Channel Frequency: 5200MHz**



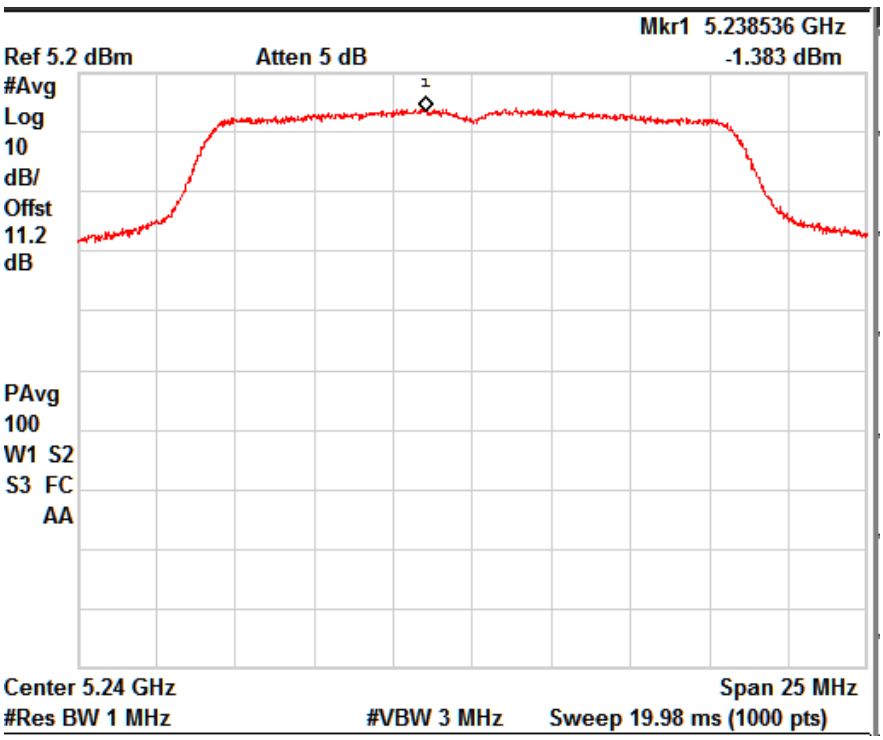
Data Rate: 6Mbps **Channel Frequency: 5240MHz**



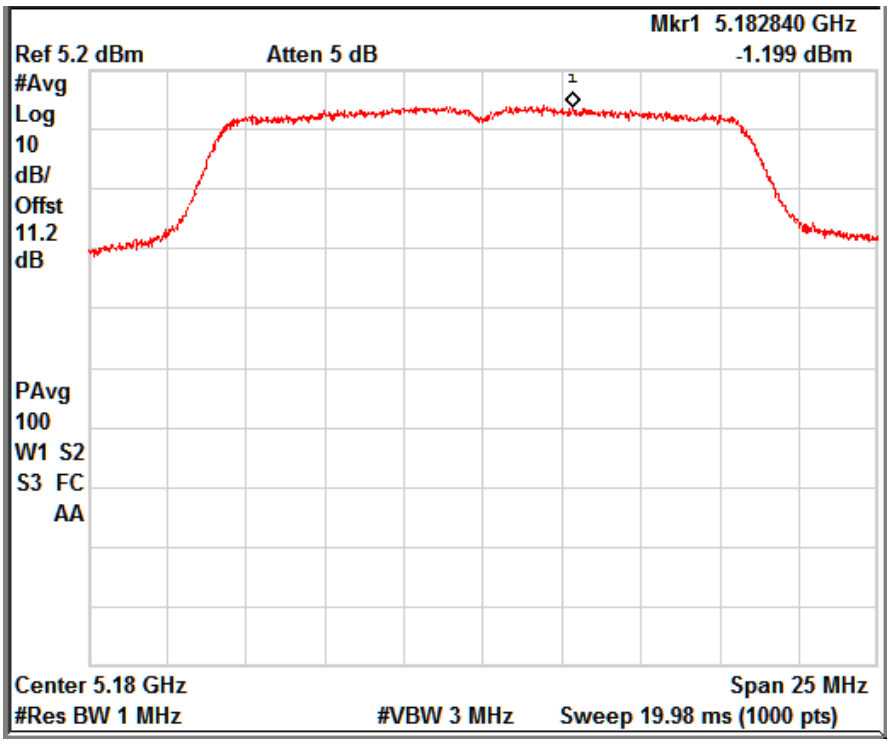
Data Rate: 24Mbps **Channel Frequency: 5180MHz**



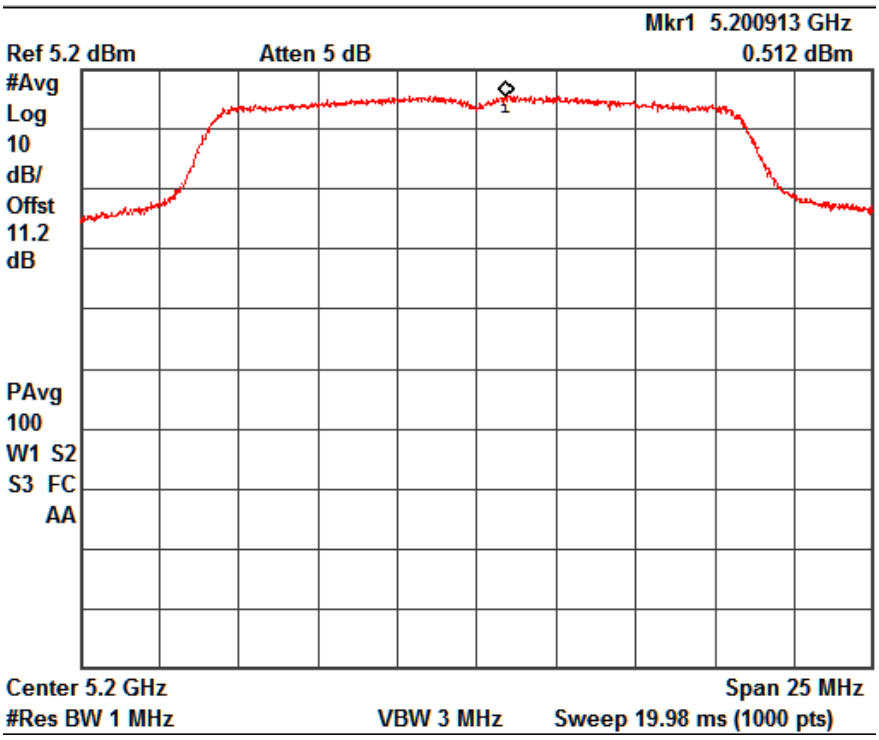
Data Rate: 24Mbps **Channel Frequency: 5200MHz**



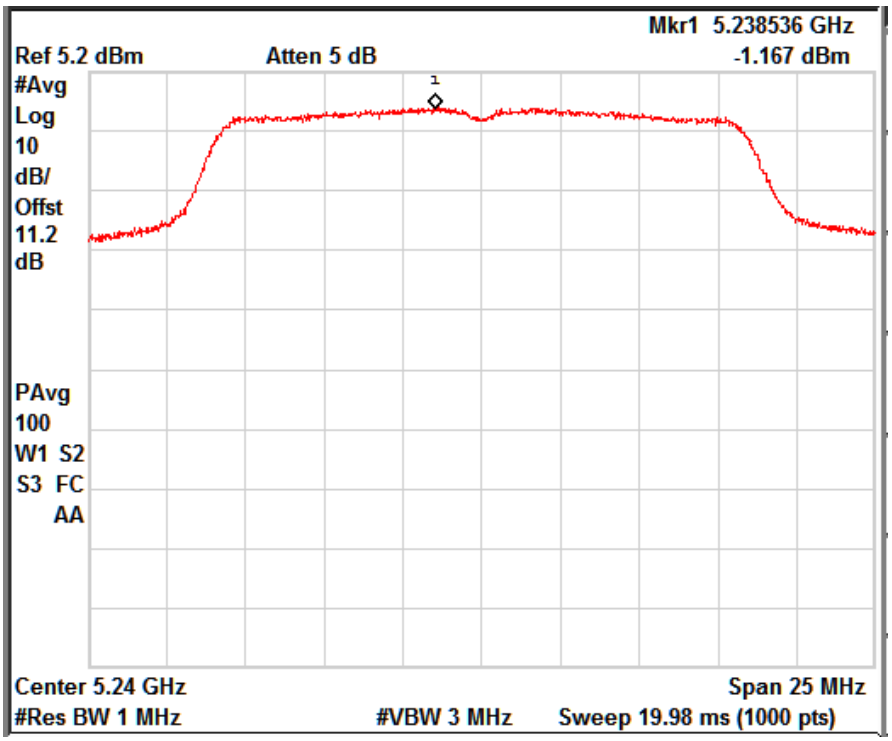
Data Rate: 24Mbps **Channel Frequency: 5240MHz**



Data Rate: 54Mbps **Channel Frequency: 5180MHz**



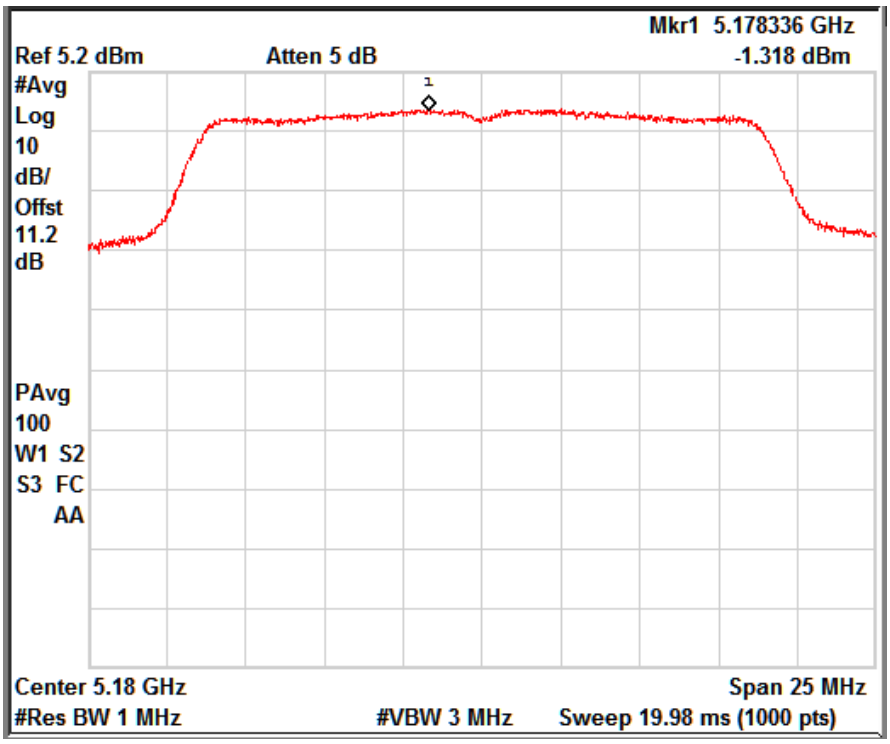
Data Rate: 54Mbps **Channel Frequency: 5200MHz**



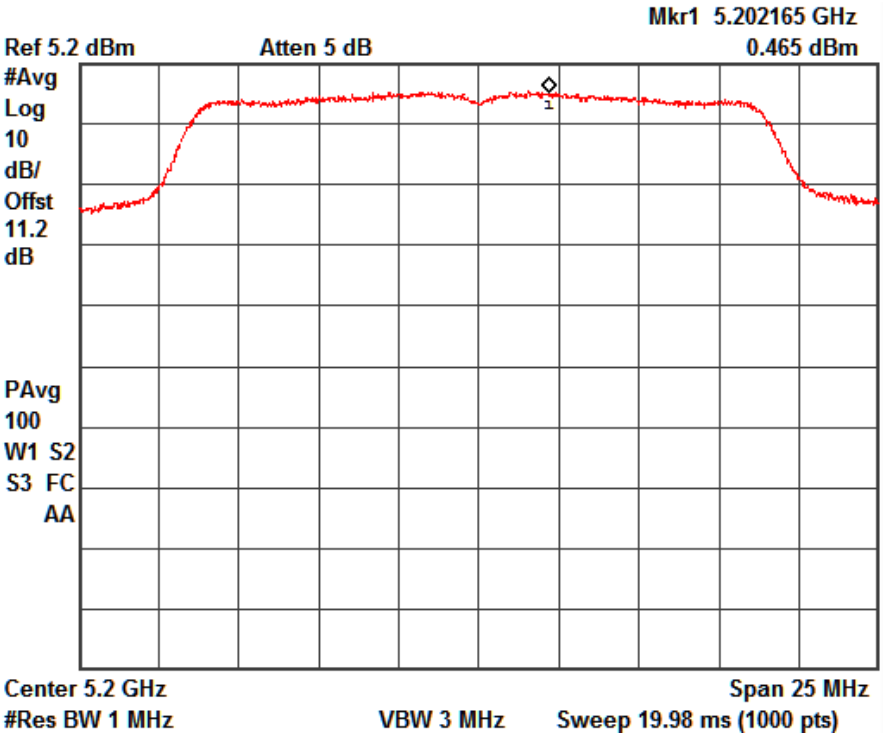
Data Rate: 54Mbps **Channel Frequency: 5240MHz**

Modulation: 802.11n

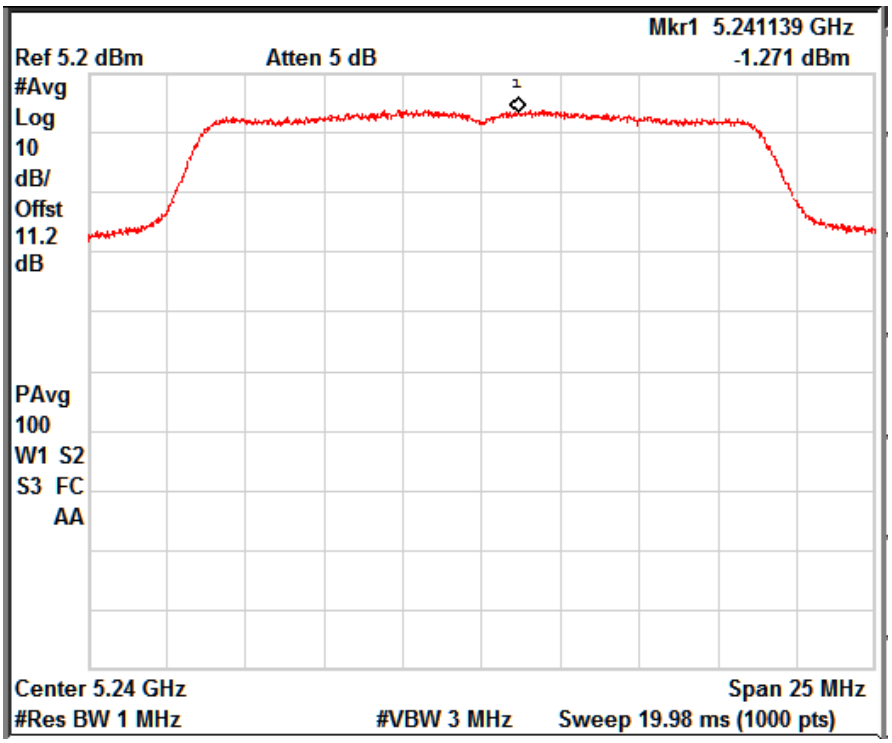
Data Rate (Mbps)	Channel No.	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
6.5	36	5180	-1.31	4.00	-5.31
	40	5200	0.46	4.00	-3.54
	48	5240	-1.27	4.00	-5.27
39	36	5180	-1.19	4.00	-5.19
	40	5200	0.17	4.00	-3.83
	48	5240	-1.54	4.00	-5.54
65	36	5180	-0.89	4.00	-4.89
	40	5200	0.32	4.00	-3.68
	48	5240	-1.51	4.00	-5.51



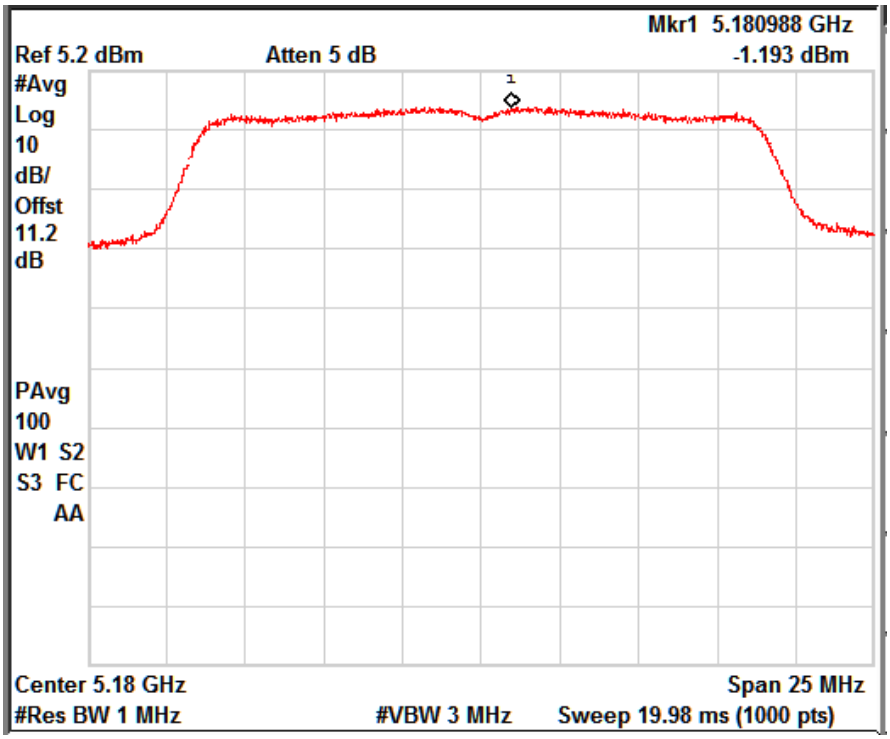
Data Rate: 6.5Mbps **Channel Frequency: 5180MHz**



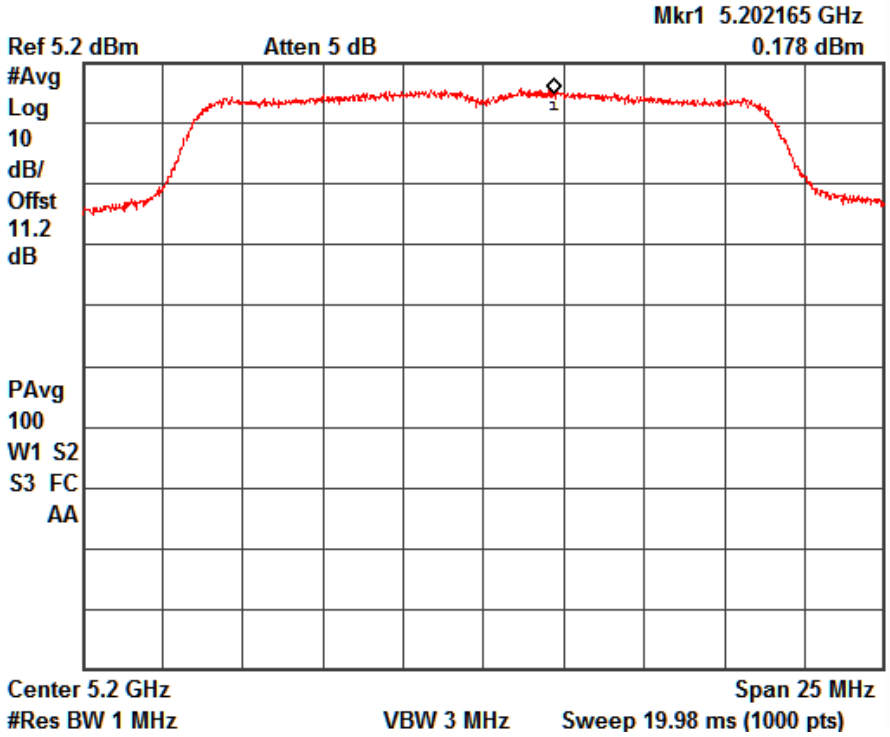
Data Rate: 6.5Mbps **Channel Frequency: 5200MHz**



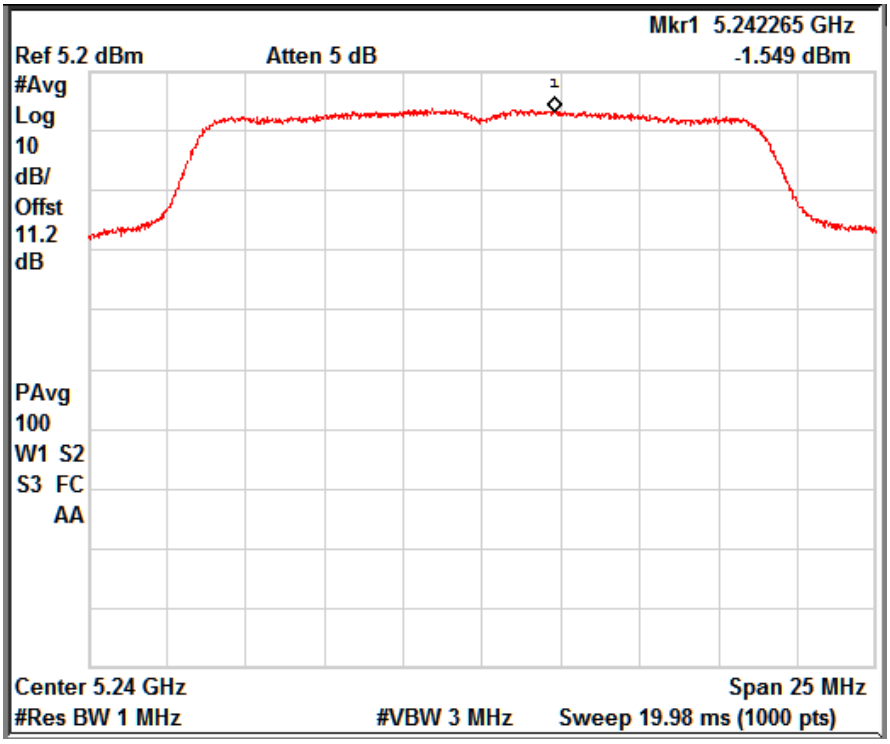
Data Rate: 6.5Mbps **Channel Frequency: 5240MHz**



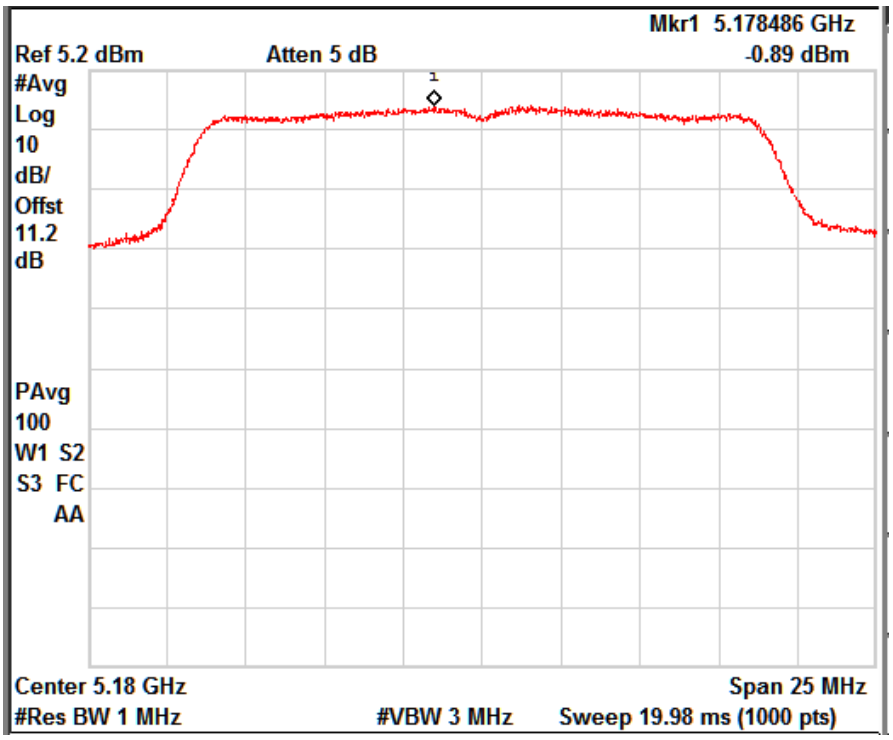
Data Rate: 39Mbps **Channel Frequency: 5180MHz**



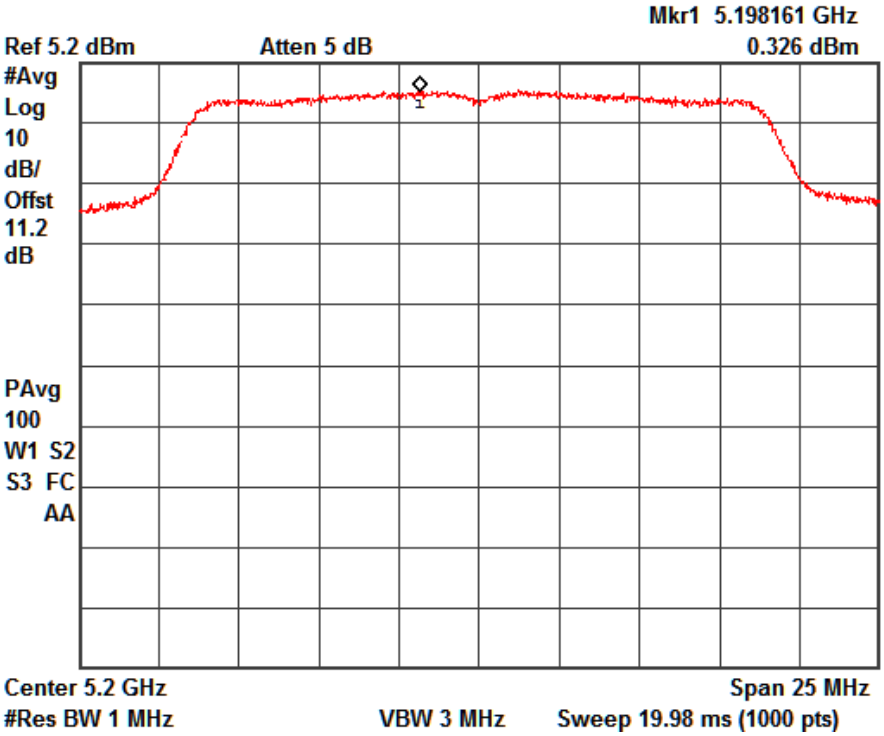
Data Rate: 39Mbps **Channel Frequency: 5180MHz**



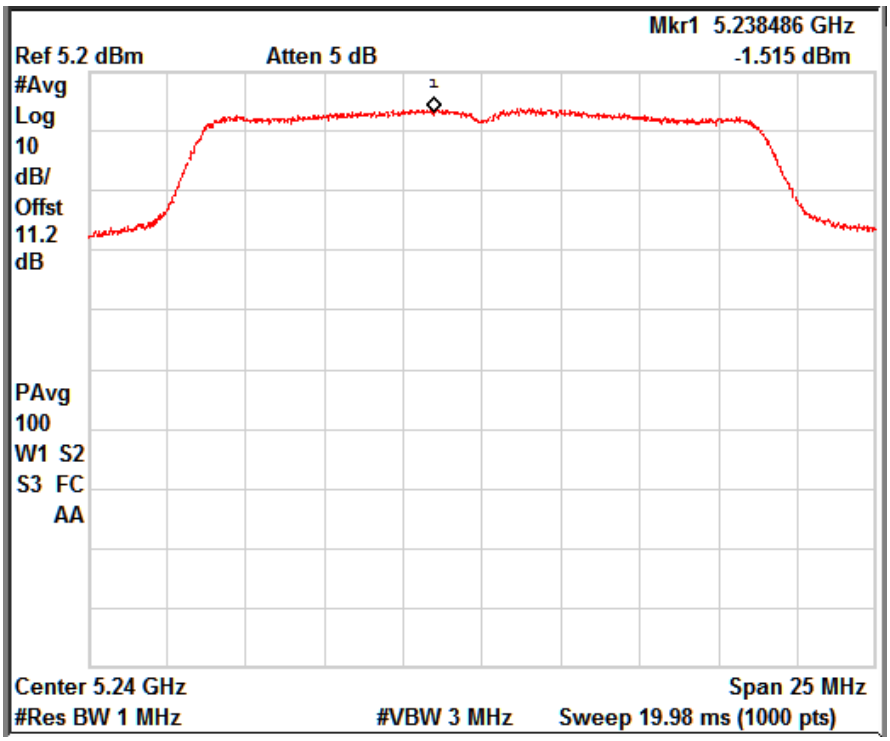
Data Rate: 39Mbps **Channel Frequency: 5240MHz**



Data Rate: 65Mbps **Channel Frequency: 5180MHz**



Data Rate: 65Mbps **Channel Frequency: 5180MHz**

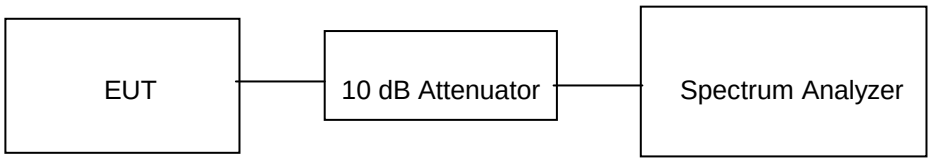


Data Rate: 65Mbps **Channel Frequency: 5240MHz**

Peak Excursion **Section 15.407 (a)**
Result **Pass**

Test Specification: FCC Part 15 Section 15.407 (a)
Requirement: The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

Test Method:

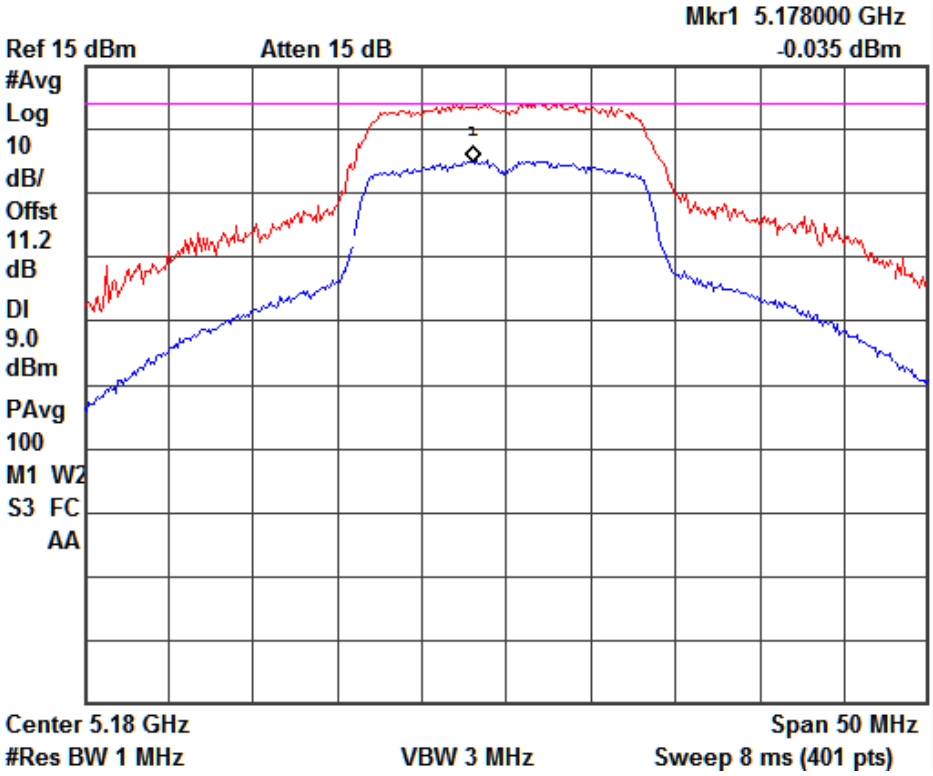


Test Result:

Note: For peak excursion measurement 2nd trace created using settings as described in method Peak power spectral density (PPSD) and testing each modulation mode on a single channel is sufficient to demonstrate compliance with the peak excursion requirement

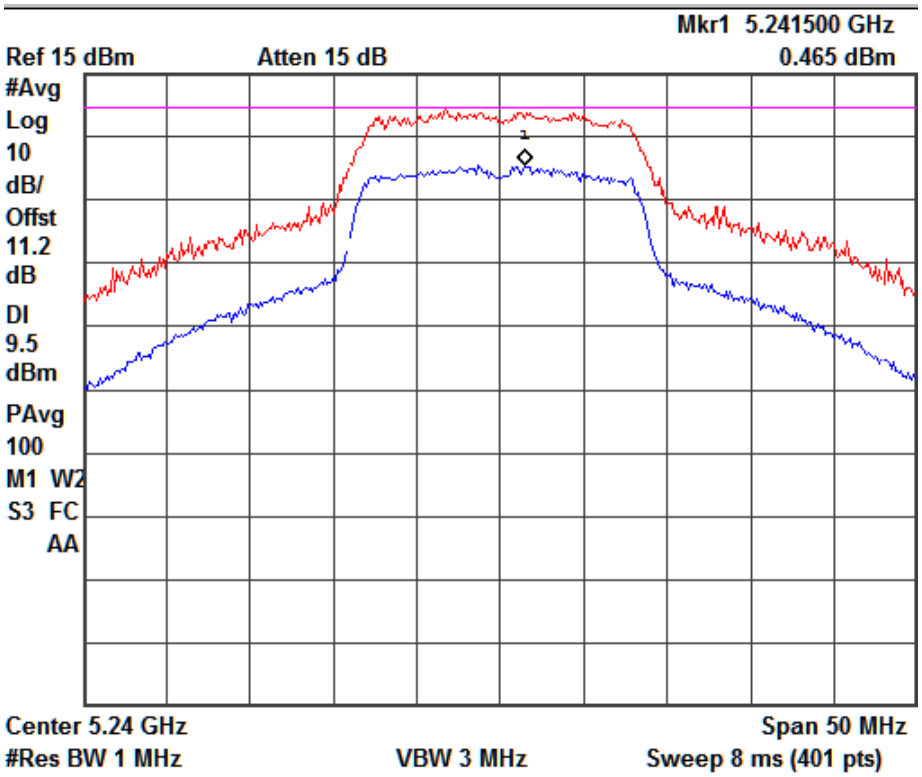
Modulation: 802.11a

Data Rate (Mbps)	Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
6	36	5180	9.03	13.00	-3.97
	40	5200	8.48	13.00	-4.52
	48	5240	9.04	13.00	-3.96
24	36	5180	8.99	13.00	-4.01
	40	5200	9.09	13.00	-3.91
	48	5240	9.33	13.00	-3.67
54	36	5180	9.39	13.00	-3.61
	40	5200	9.25	13.00	-3.75
	48	5240	0.27	13.00	-12.73

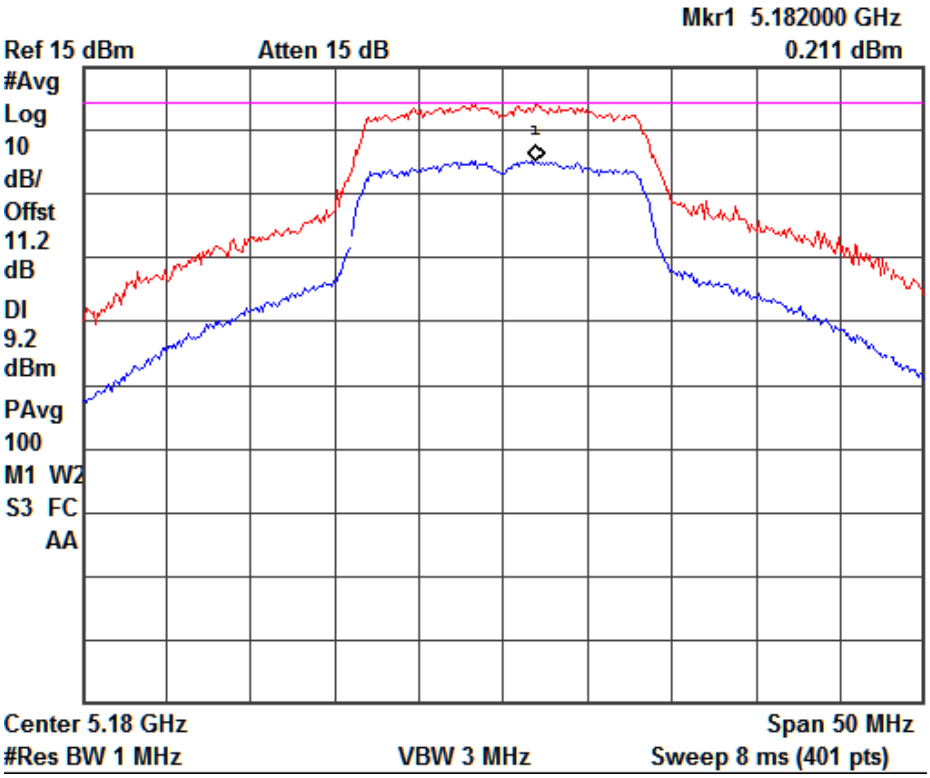


Data Rate: 6Mbps **Channel Frequency: 5180MHz**

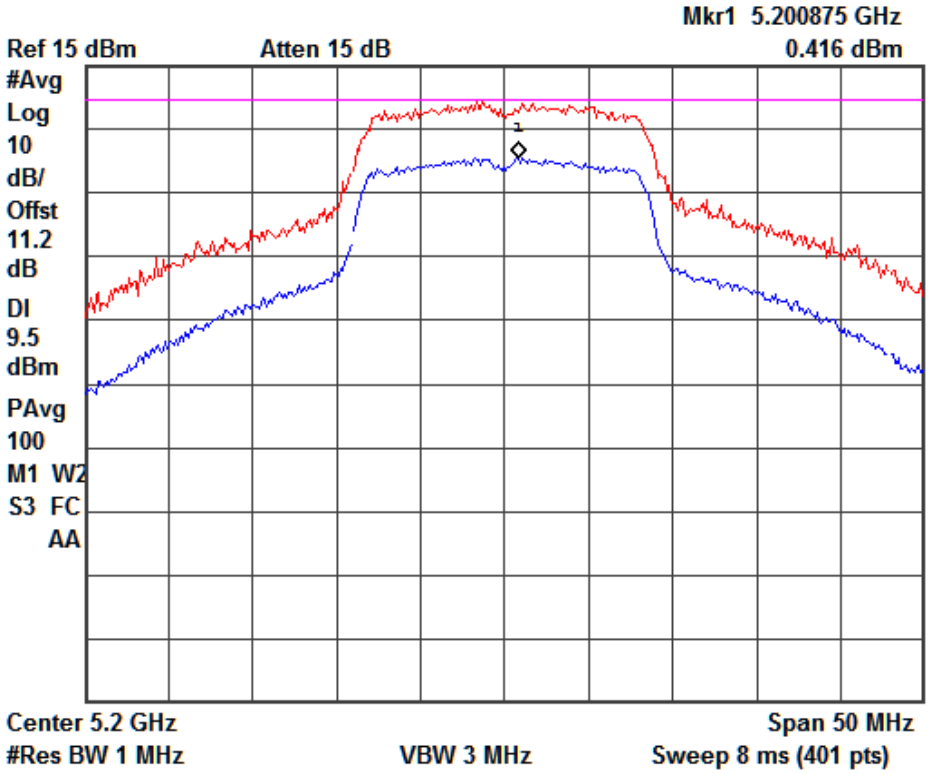
Data Rate: 6Mbps **Channel Frequency: 5200MHz**



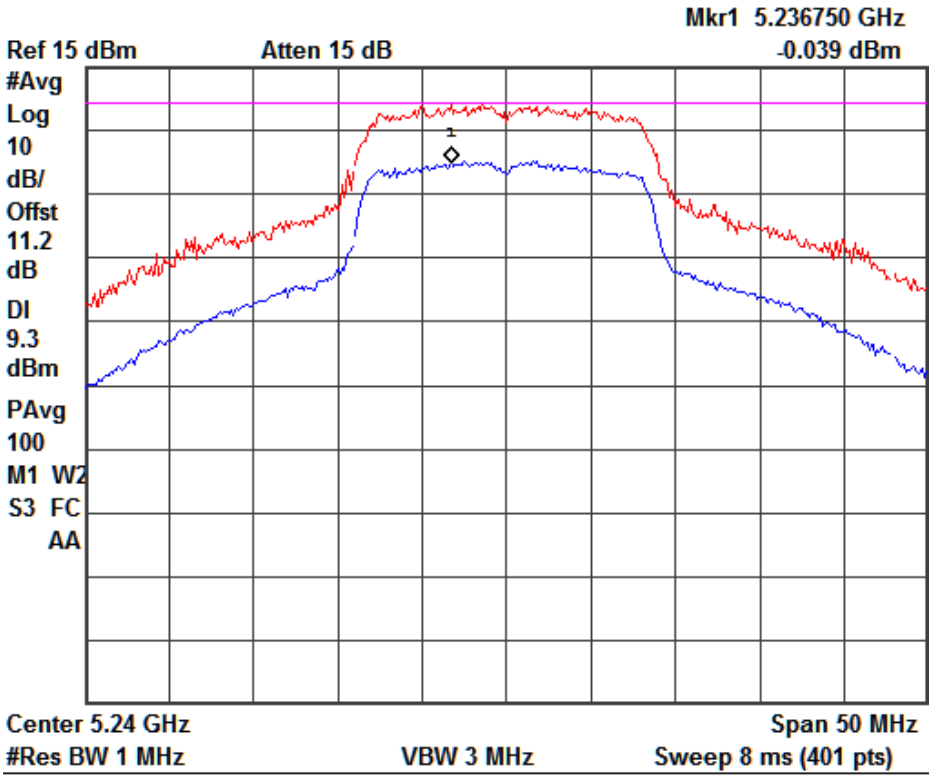
Data Rate: 6Mbps **Channel Frequency: 5240MHz**



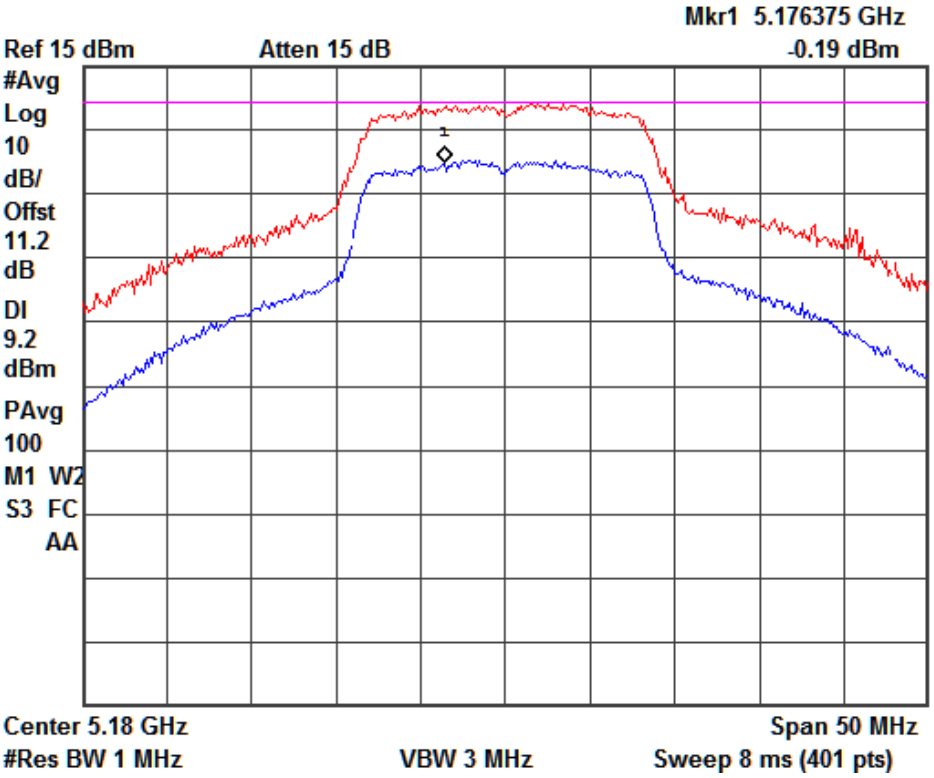
Data Rate: 24Mbps **Channel Frequency: 5180MHz**



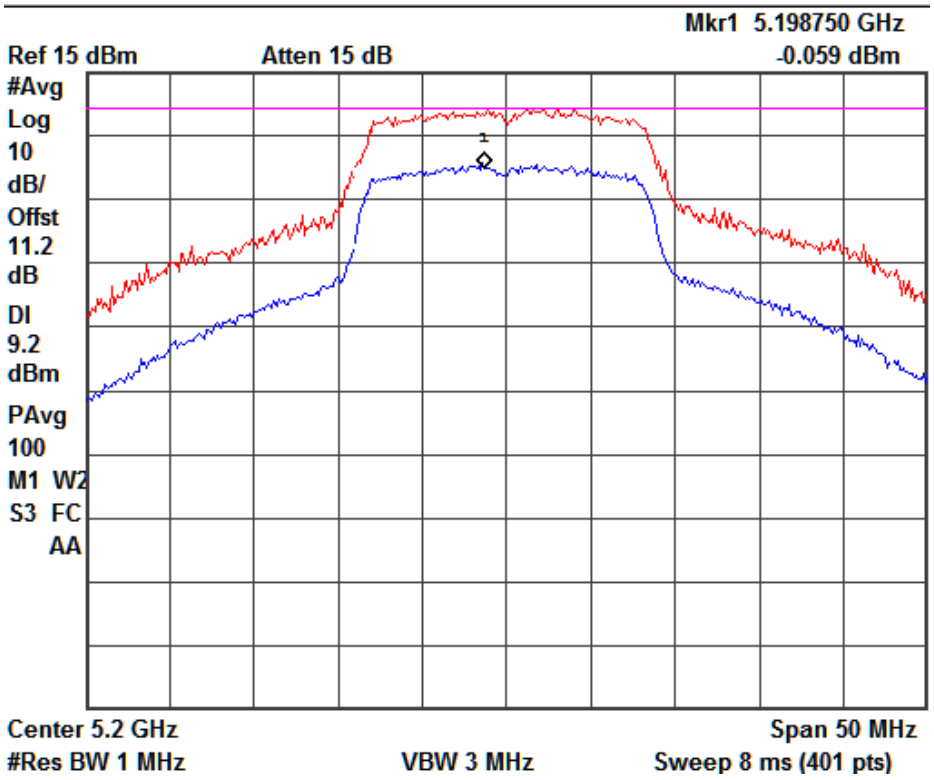
Data Rate: 24Mbps **Channel Frequency: 5200MHz**



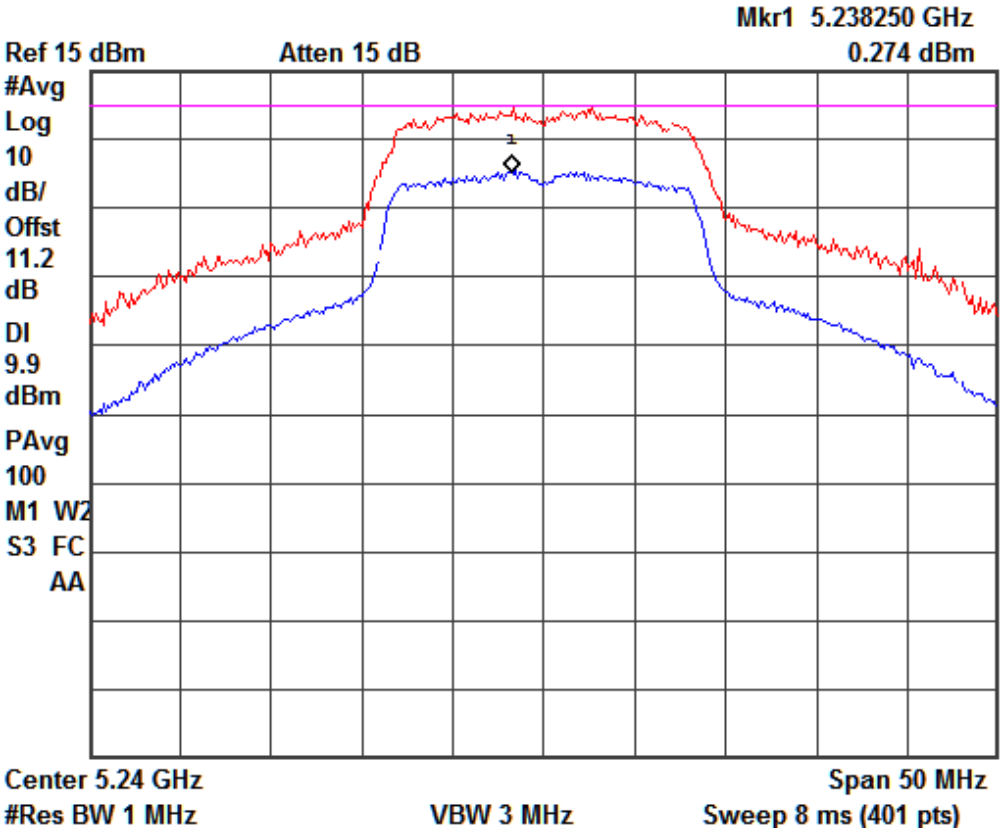
Data Rate: 24Mbps **Channel Frequency: 5240MHz**



Data Rate: 54Mbps **Channel Frequency: 5180MHz**



Data Rate: 54Mbps **Channel Frequency: 5200MHz**

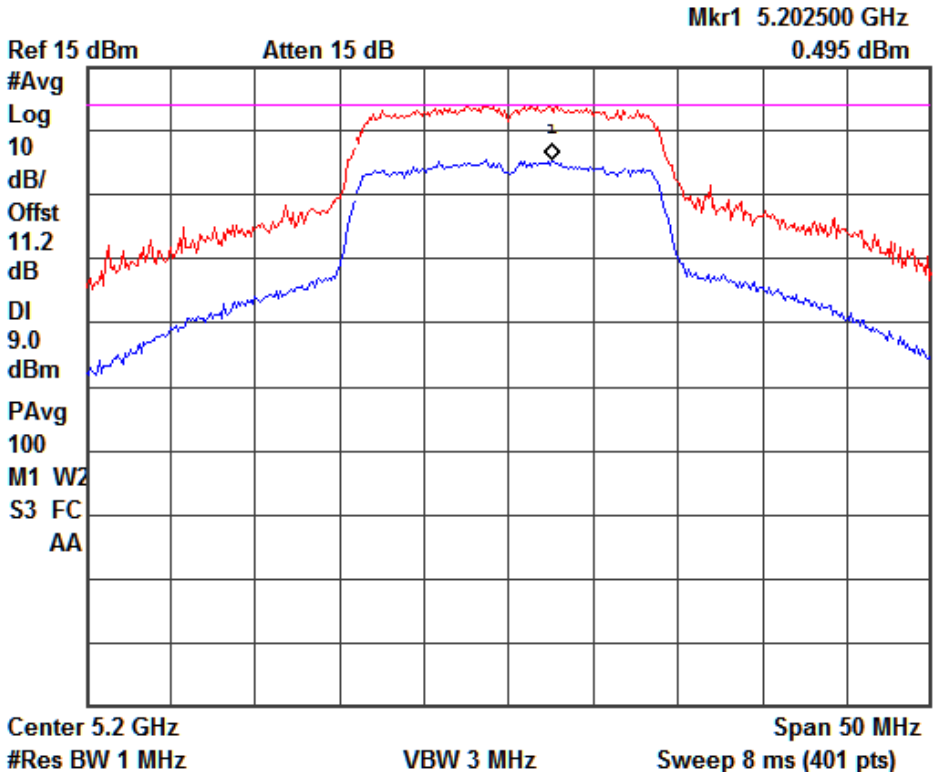


Data Rate: 54Mbps **Channel Frequency: 5240MHz**

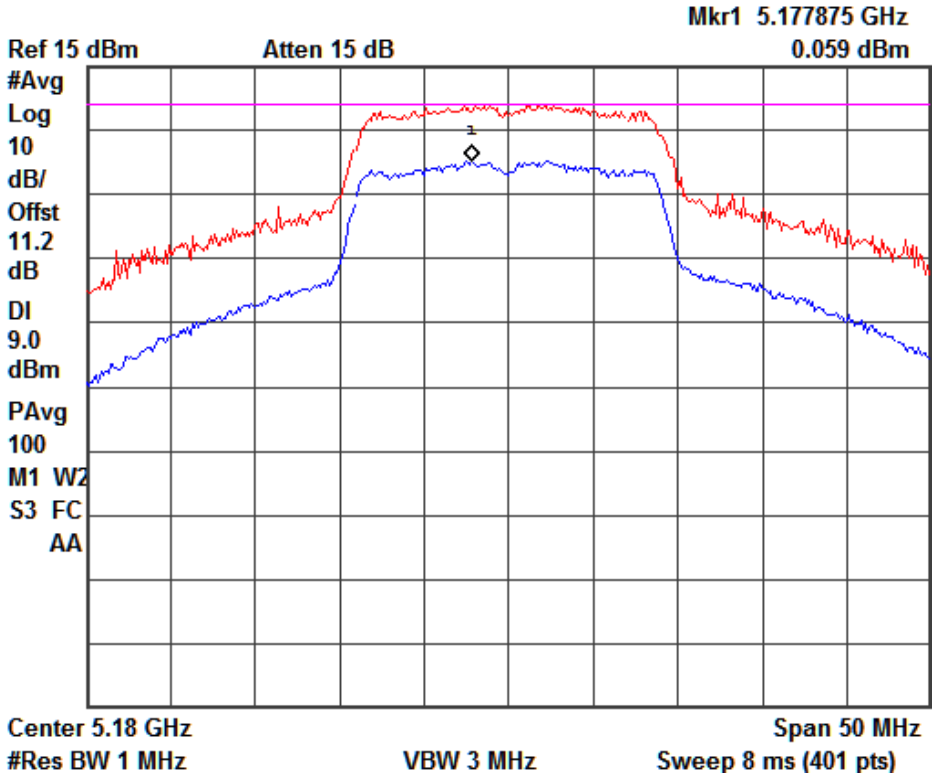
Modulation: 802.11n

Data Rate (Mbps)	Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
6.5	36	5180	8.84	13.00	-4.16
	40	5200	8.51	13.00	-4.49
	48	5240	8.95	13.00	-4.05
39	36	5180	9.02	13.00	-3.98
	40	5200	9.33	13.00	-3.67
	48	5240	9.07	13.00	-3.93
65	36	5180	9.63	13.00	-3.37
	40	5200	9.53	13.00	-3.47
	48	5240	9.80	13.00	-3.20

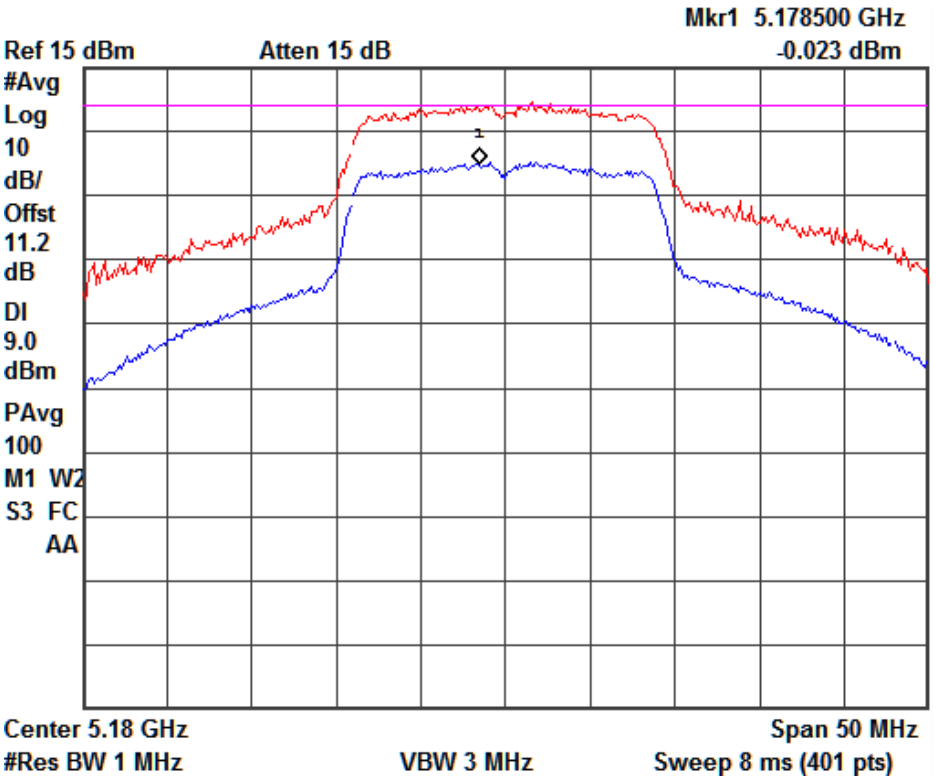
Data Rate: 6.5Mbps **Channel Frequency: 5180MHz**



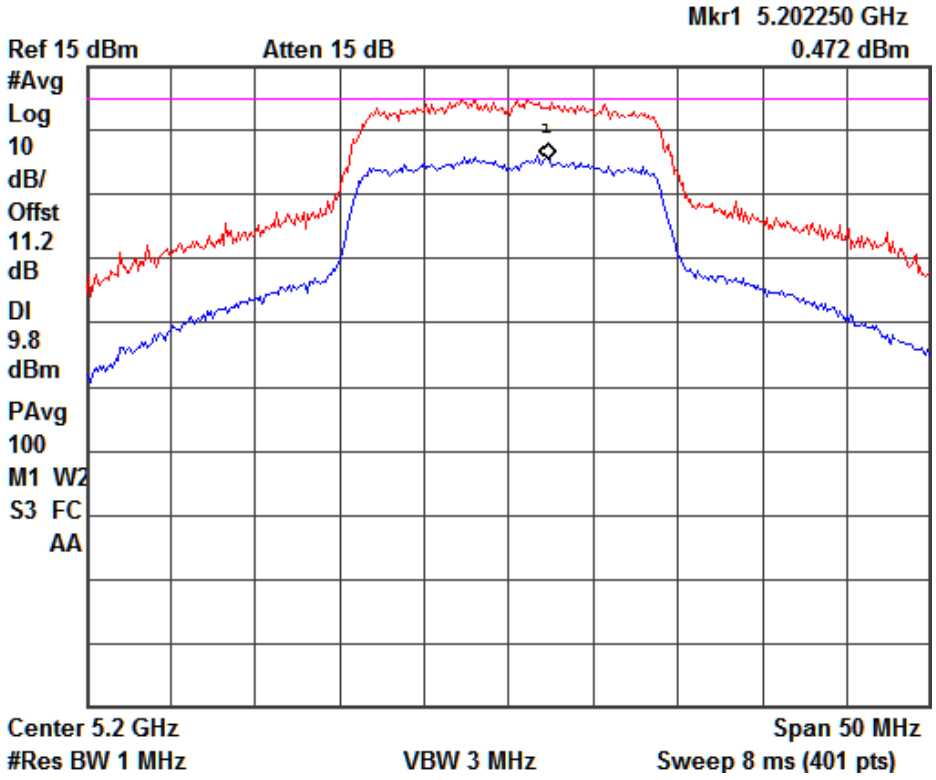
Data Rate: 6.5Mbps **Channel Frequency: 5200MHz**



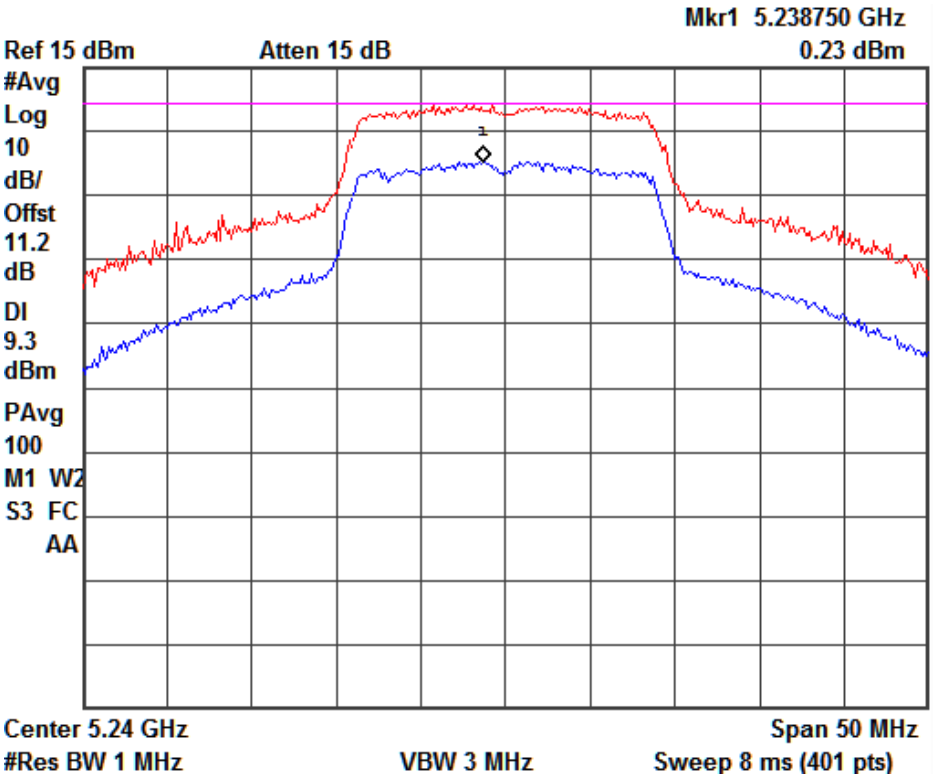
Data Rate: 6.5Mbps **Channel Frequency: 5240MHz**



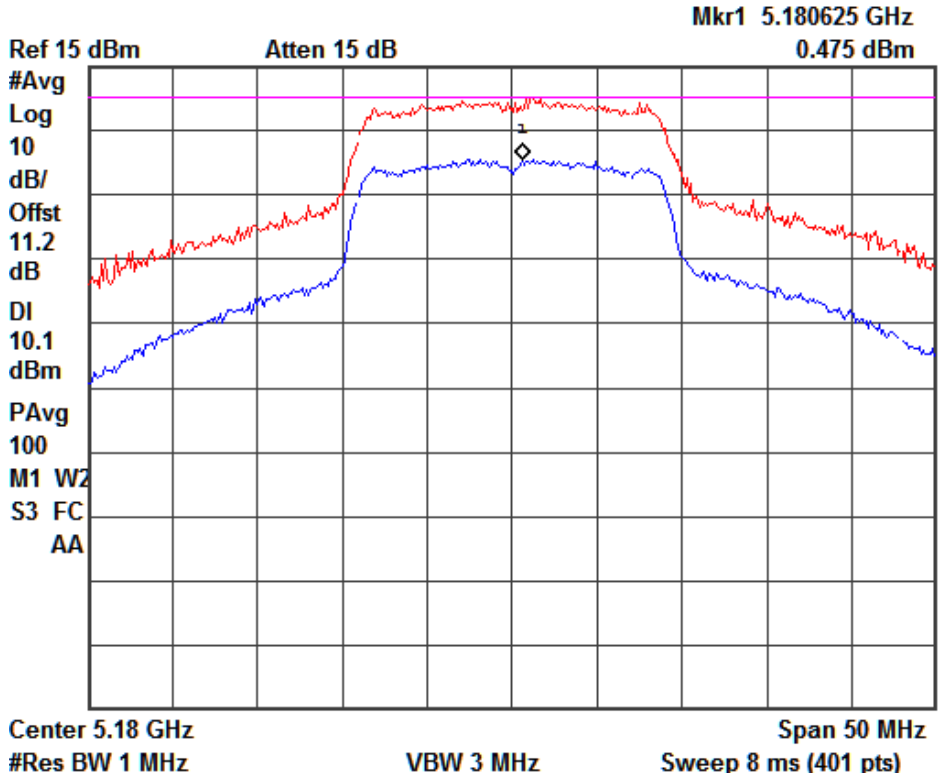
Data Rate: 39Mbps **Channel Frequency: 5180MHz**



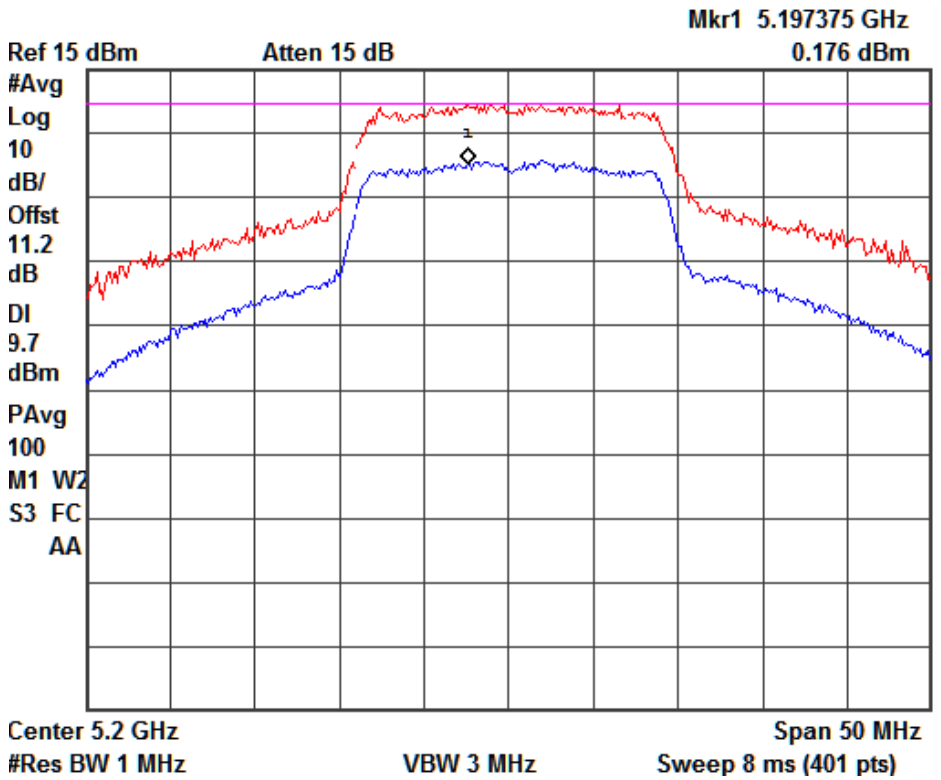
Data Rate: 39Mbps **Channel Frequency: 5200MHz**



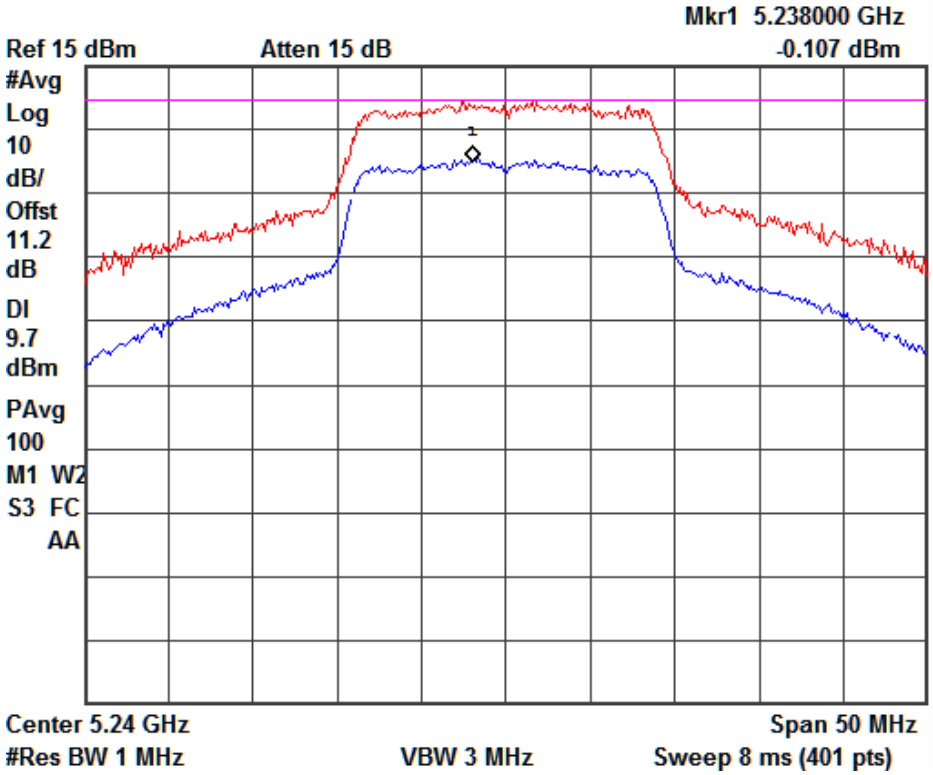
Data Rate: 39Mbps **Channel Frequency: 5240MHz**



Data Rate: 65Mbps **Channel Frequency: 5180MHz**



Data Rate: 65Mbps **Channel Frequency: 5200MHz**



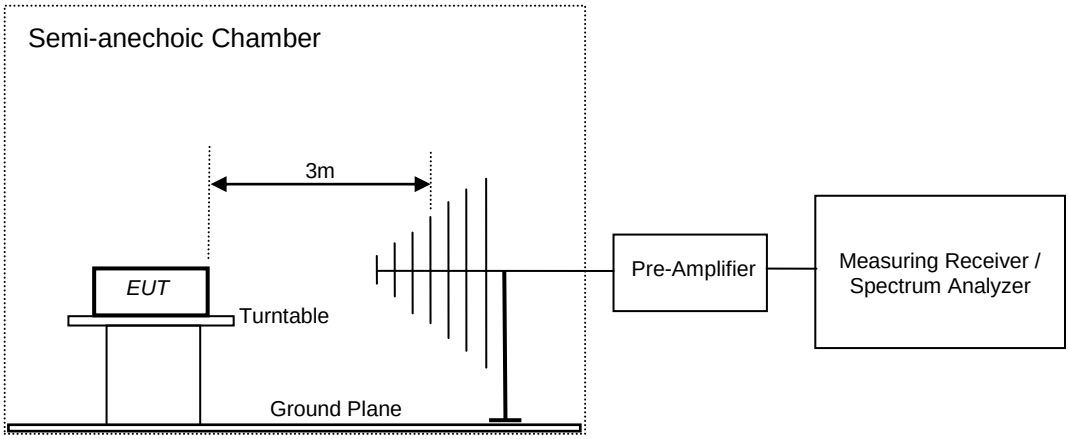
Data Rate: 65Mbps **Channel Frequency: 5240MHz**

Unwanted Emissions **Section 15.407 (b)**

Result **Pass**

Test Specification	FCC Part 15 Subpart E
Detector Function	Peak and average
Requirement	For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27dBm/MHz (68.23dBµV/m at 3m).

Test Method:



Test Results

Protocol	Data Rate (Mbps)	Fundamental Frequency (MHz)	Value at Band Edge		Limit (dBµV/m)	Margin (dB)
			Frequency (MHz)	Value (dBµV/m)		
802.11a	6	5180	5150(Pk)	65.67	68.23	-2.56
		5180	5150(Av)	51.45	54.00	-2.55
	24	5180	5150(Pk)	66.61	68.23	-1.62
		5180	5150(Av)	52.94	54.00	-1.06
	54	5180	5150(Pk)	66.35	68.23	-1.88
		5180	5150(Av)	52.37	54.00	-1.63
802.11n	6.5	5180	5150(Pk)	65.05	68.23	-3.18
		5180	5150(Av)	51.63	54.00	-2.37
	39	5180	5150(Pk)	66.21	68.23	-2.02
		5180	5150(Av)	52.19	54.00	-1.81
	65	5180	5150(Pk)	65.98	68.23	-2.25
		5180	5150(Av)	51.69	54.00	-2.31

Radiated Spurious Emissions and Restricted bands of operation

Section 15.209 /15.205/15.407 (b) (6)

Result **Pass**

Test Specification	FCC Part 15 Section 15.209
Test Method	ANSI C63.4-2009
Measurement Location	Semi Anechoic Chamber
Measuring Distance	3m
Detection	QP for frequency below 1GHz, Peak/Average for frequency above 1GHz
Requirement	Should Comply with the limits stated in the below table.

Limit for Radiated Emission of Section 15.209:

Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/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 49.5dBμV/m at 3m range by extrapolation calculation and The measurement of loop antenna

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

Test results:

For frequencies Range 9 kHz - 1 GHz

No emissions were found in this frequency range.

For Frequencies above 1 GHz

5150 MHz – 5250 MHz Band

Test results for worst case data rate are listed below.

Note: No Harmonics were found

Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Polarization	Frequency (MHz)	Measured field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11a	6	5180	V	5150 (Pk)	59.99	74.00	-14.01
				5150 (Av)	46.83	54.00	-7.17
				5180 (Pk)	96.98	-	*
				5180 (Av)	87.91	-	*
				10360 (Pk)	No Harmonic Found		
				10360 (Av)			
			H	5150 (Pk)	65.67	74.00	-8.33
				5150 (Av)	51.45	54.00	-2.55
				5180 (Pk)	109.28	-	*
				5180 (Av)	100.11	-	*
				10360 (Pk)	No Harmonic Found		
				10360 (Av)			
		5240	V	5240 (Pk)	97.03	-	*
				5240 (Av)	88.45	-	*
				10480 (Pk)	No Harmonic Found		
				10480 (Av)			
			H	5240 (Pk)	108.87	-	*
				5240 (Av)	99.96	-	*
				10480 (Pk)	No Harmonic Found		
				10480 (Av)			

Protocol	Data Rate (Mbps)	Channel Frequency (MHz)	Polarization	Frequency (MHz)	Measured field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
802.11n	6.5	5180	V	5150 (Pk)	59.16	74.00	-14.84
				5150 (Av)	46.76	54.00	-7.24
				5180 (Pk)	95.60	-	*
				5180 (Av)	87.21	-	*
				10360 (Pk)	No Harmonic Found		
				10360 (Av)			
			H	5150 (Pk)	65.05	74.00	-8.95
				5150 (Av)	51.63	54.00	-2.37
				5180 (Pk)	109.67	-	*
				5180 (Av)	100.43	-	*
				10360 (Pk)	No Harmonic Found		
				10360 (Av)			
		5240	V	5240 (Pk)	96.01	-	*
				5240 (Av)	88.23	-	*
				10480 (Pk)	No Harmonic Found		
				10480 (Av)			
			H	5240 (Pk)	108.34	-	*
				5240 (Av)	98.89	-	*
				10480 (Pk)	No Harmonic Found		
				10480 (Av)			

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

Power level Settings used during testing:

		Channels		
Mode	**Data Rate (Mbps)**	**Low**	**Mid**	**High**
802.11 b	1	18	20	18
	11	19	20	19
802.11 g	6	13	20	12
	24	13	20	12
	54	13	20	12
802.11 n	MCS0	11	20	10
	MCS4	11	20	10
	MCS7	11	20	10
802.11 a (5 GHz)	6	20	20	20
	24	20	20	20
	54	20	20	20
802.11 n (5 GHz)	MCS0	20	20	20
	MCS4	20	20	20
	MCS7	20	20	20
Bluetooth	1	15	15	15
	2	15	15	15
	3	15	15	15
	LE	15	15	15
Zigbee	250kbps	16	16	16