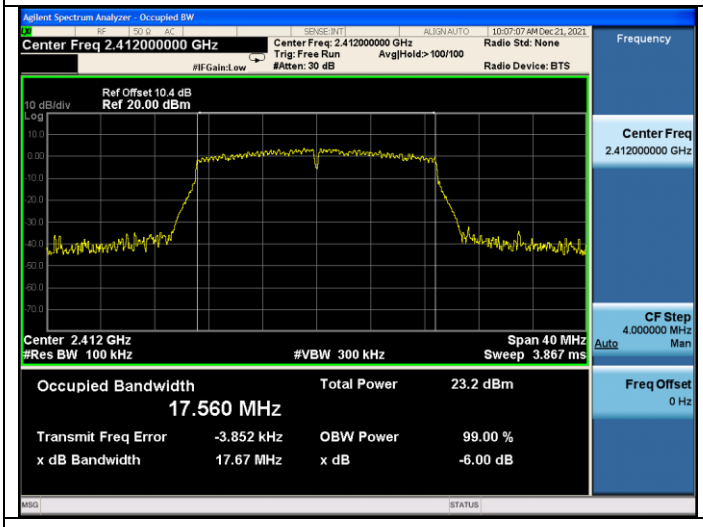
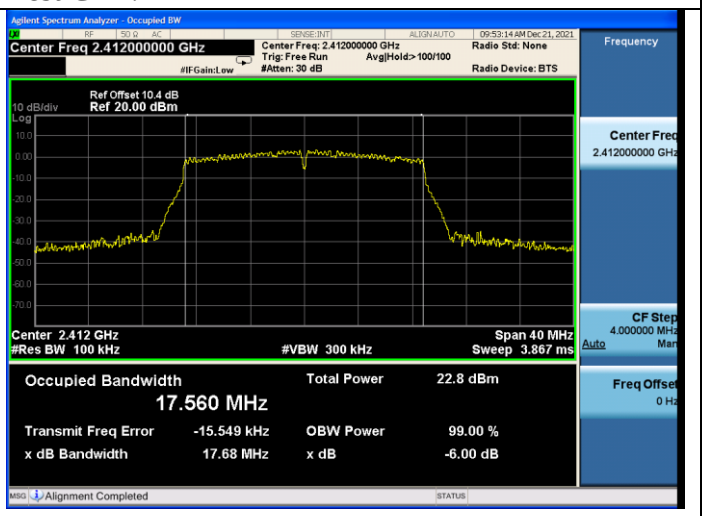
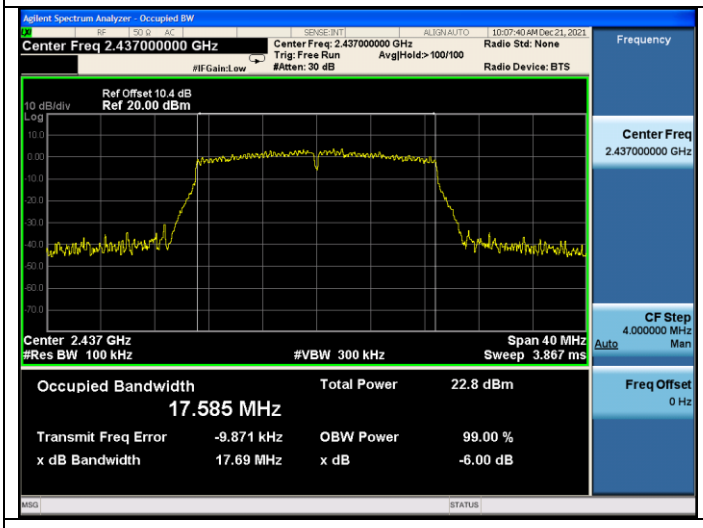
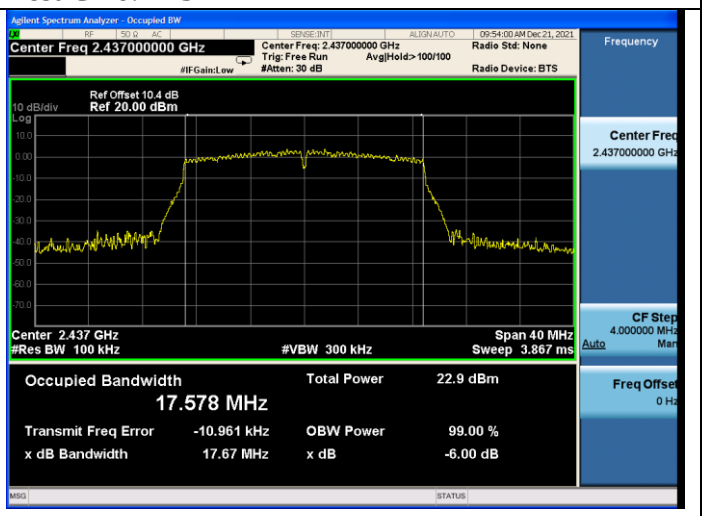
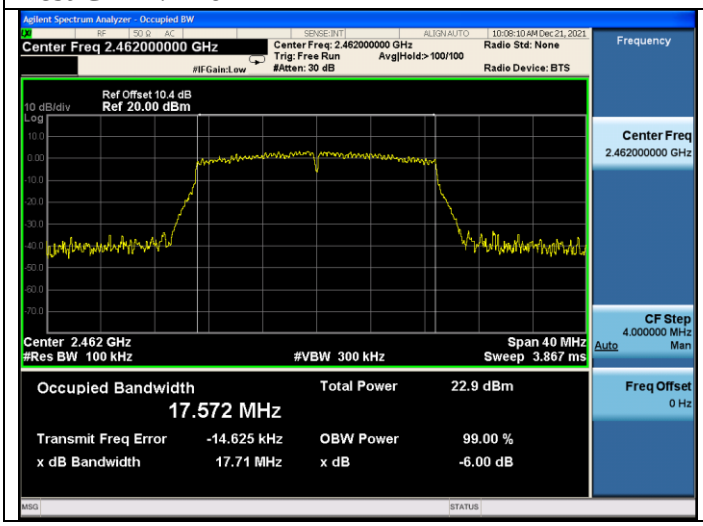
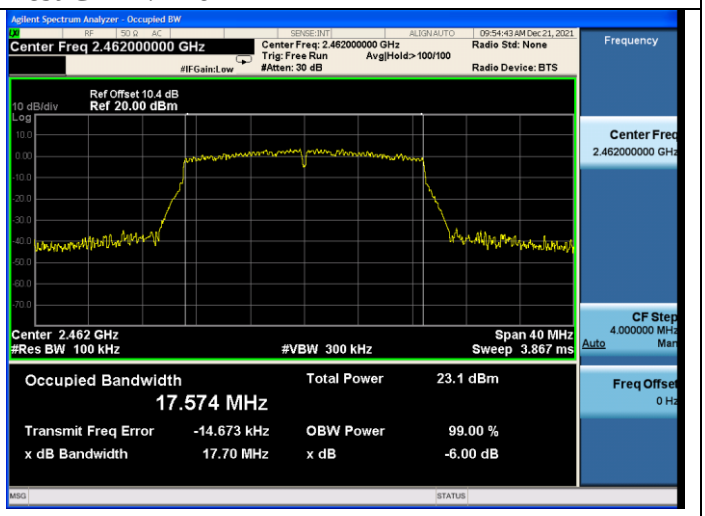
ANTA:	**ANTB:**
Test Mode: IEEE 802.11n HT20 Test CH1: 2412MHz	Test Mode: IEEE 802.11n HT20 Test CH1: 2412MHz
	
Test CH6: 2437MHz	Test CH6: 2437MHz
	
Test CH11: 2462MHz	Test CH11: 2462MHz
	

ANTA:	**ANTB:**
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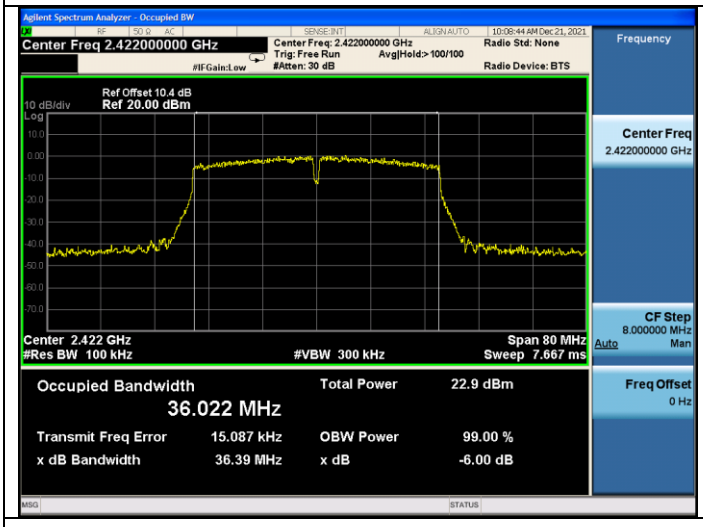
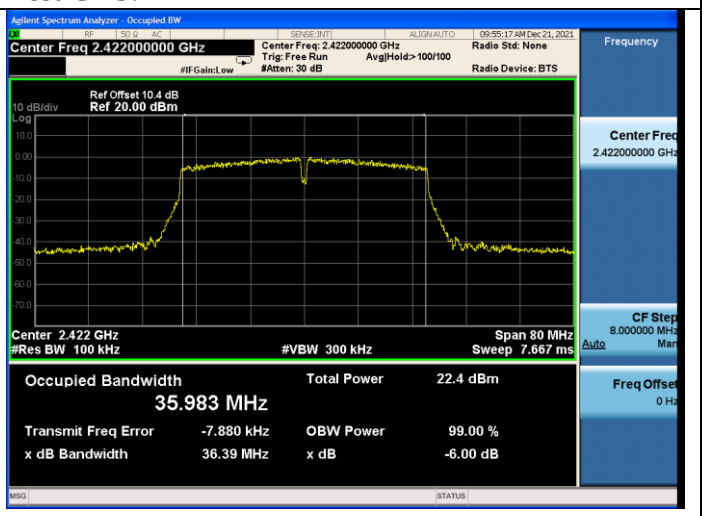
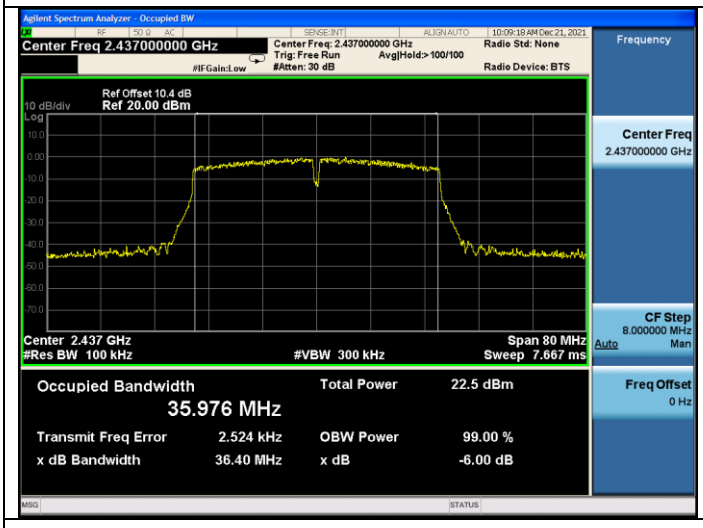
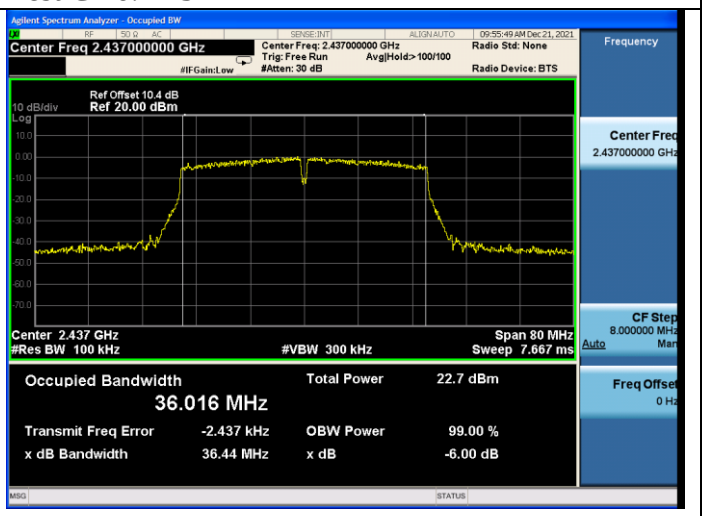
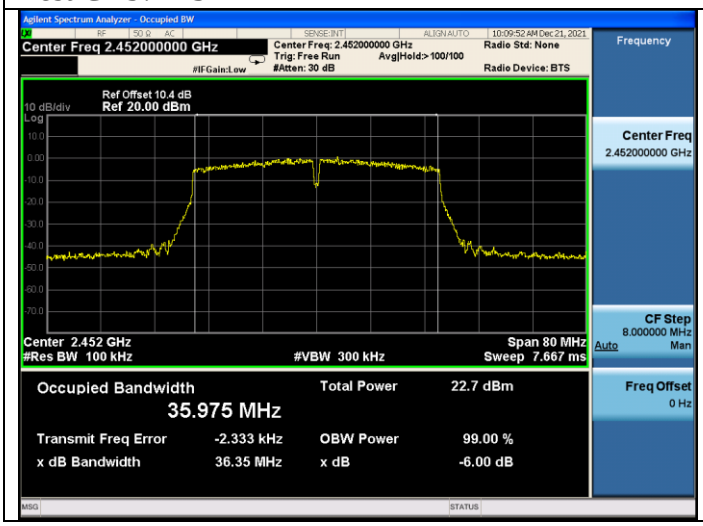
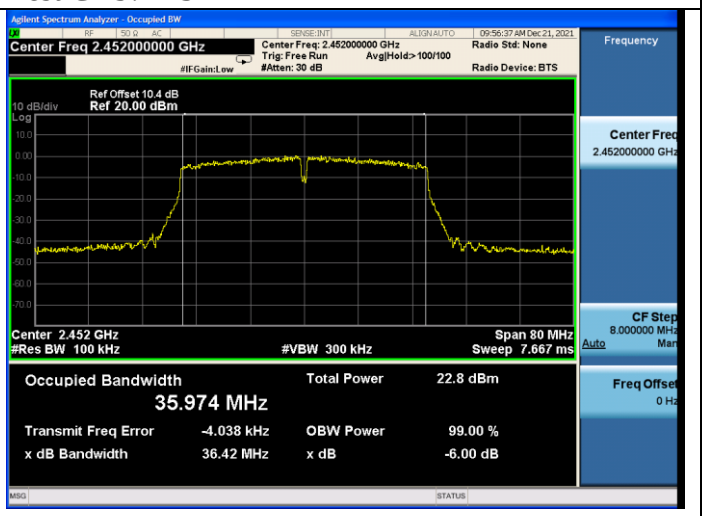
	
Test CH6: 2437MHz	Test CH6: 2437MHz
	
Test CH9: 2452MHz	Test CH9: 2452MHz
	

8. OUTPUT POWER TEST

8.1.Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Apr.07,21	1 Year
2.	Power meter	Anritsu	ML2487A	6K00002472	Apr.07,21	1 Year
3.	Power sensor	Anritsu	MA2491A	033005	Apr.06,21	1 Year
4.	RF Cable	HUBER+SUHNER	SUCOFLE X-106	505238/6	Apr.07,21	1 Year

8.2.Limit (FCC Part 15C 15.247 b(3))

For systems using digital modulation in the 2400—2483.5MHz, The Peak output Power shall not exceed 1W(30dBm), As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level.

8.3.Test Procedure

1, Connected the EUT's antenna port to measure device by 20dB attenuator.

2, Use the test method descried in ANSI C63.10-2013 clause 11.9.2.2.2 Method AVGSA-1.

1) Set span to at least 1.5 times the OBW.
2) Set RBW = 1% to 5% of the OBW, not to exceed 1 MHz.
3) Set VBW ≥ [3 × RBW].
4) Number of points in sweep ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)
5) Sweep time = auto.
6) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
7) If transmit duty cycle < 98%, use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at the maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no OFF intervals) or at duty cycle ≥ 98%, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run."
8) Trace average at least 100 traces in power averaging (rms) mode.
9) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

8.4.Test Results

EUT: WiFi module		
M/N: U9W43		
Test date: 2021-12-09	Pressure: 102.1±1.0 kpa	Humidity: 51.1±3.0%
Tested by: Winter	Test site: RF site	Temperature:22.8±0.6 ℃

SISO:

Test Mode	CH	output Power (dBm)		Limit (dBm)
		ANTA	ANTB	
11b	CH1	18.29	17.75	30
	CH6	18.44	18.24	
	CH11	18.26	18.26	
11g	CH1	17.78	17.16	30
	CH6	17.27	17.33	
	CH11	17.41	17.51	
11n HT20	CH1	16.54	16.13	30
	CH6	16.22	16.13	
	CH11	16.58	16.29	
11n HT40	CH3	16.41	16.03	30
	CH6	16.44	16.13	
	CH9	16.40	16.39	
Conclusion: PASS				

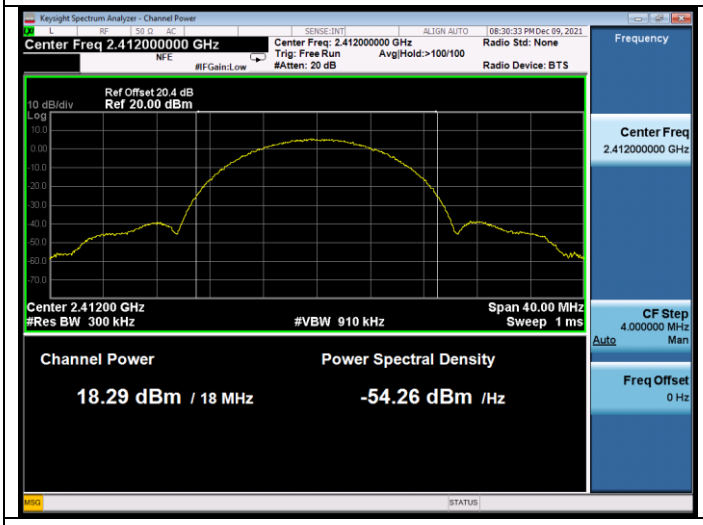
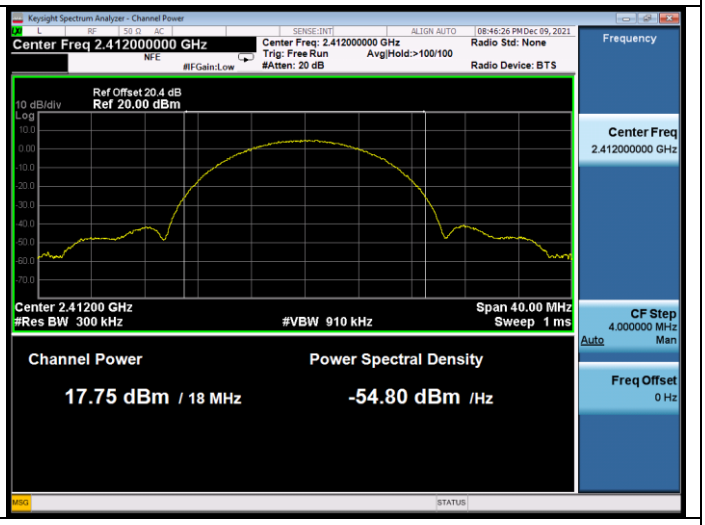
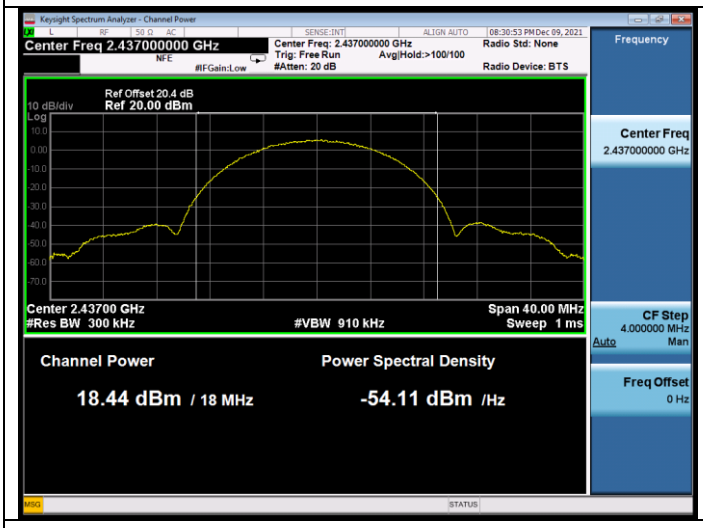
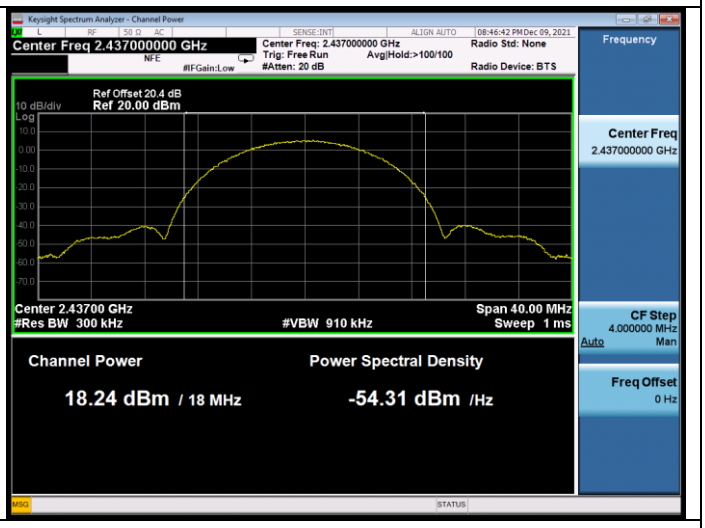
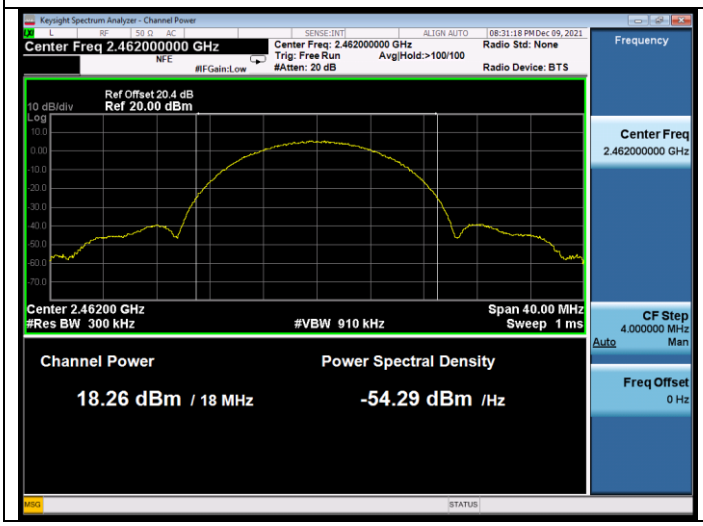
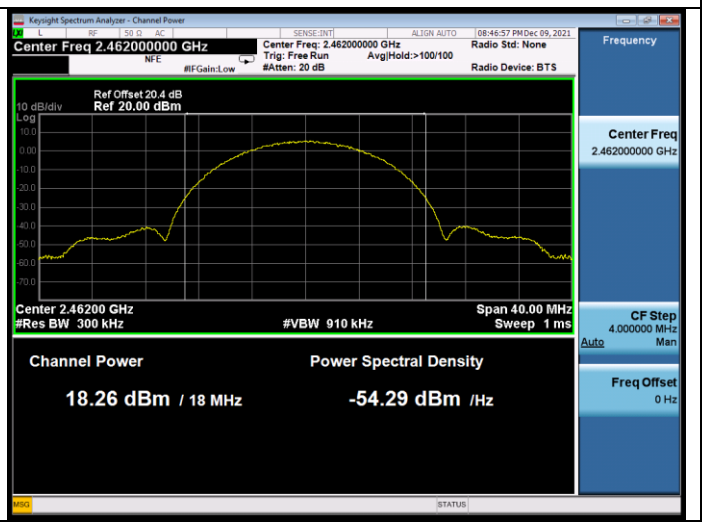
MIMO:

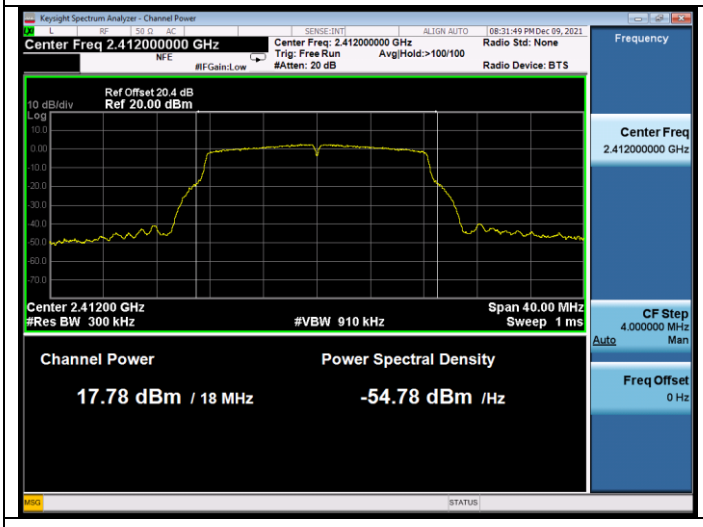
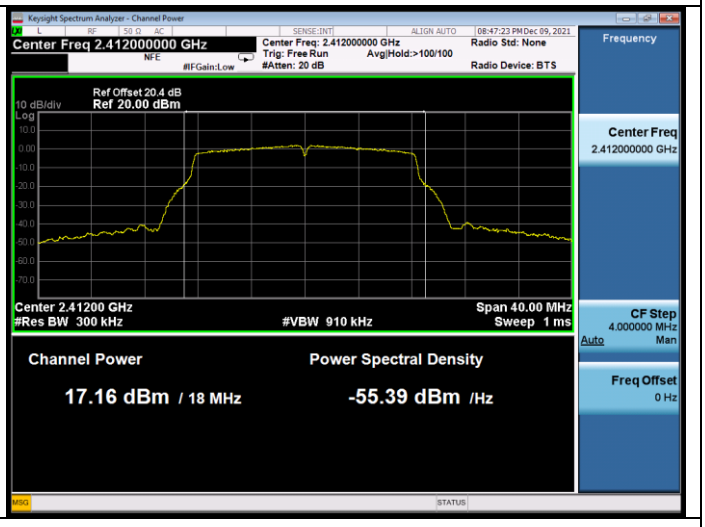
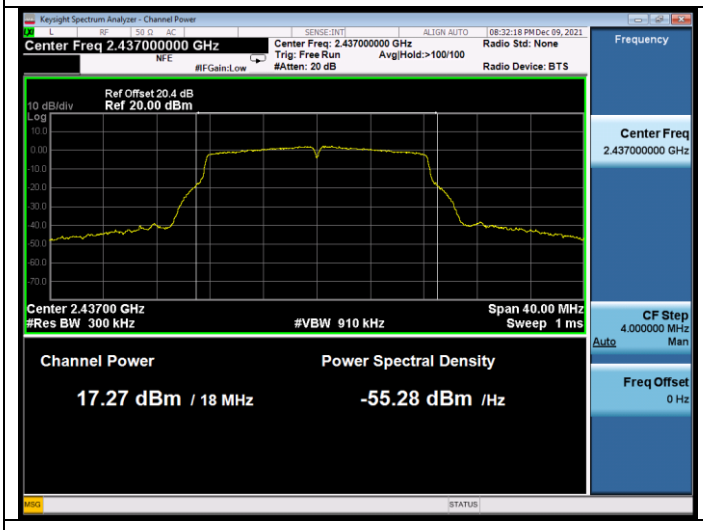
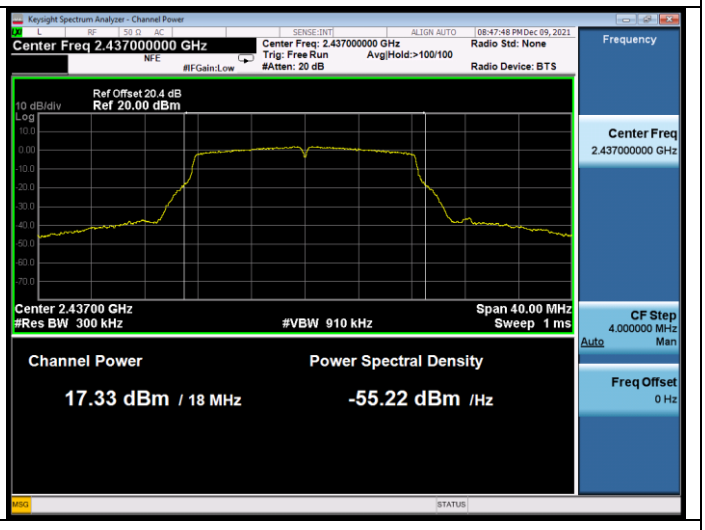
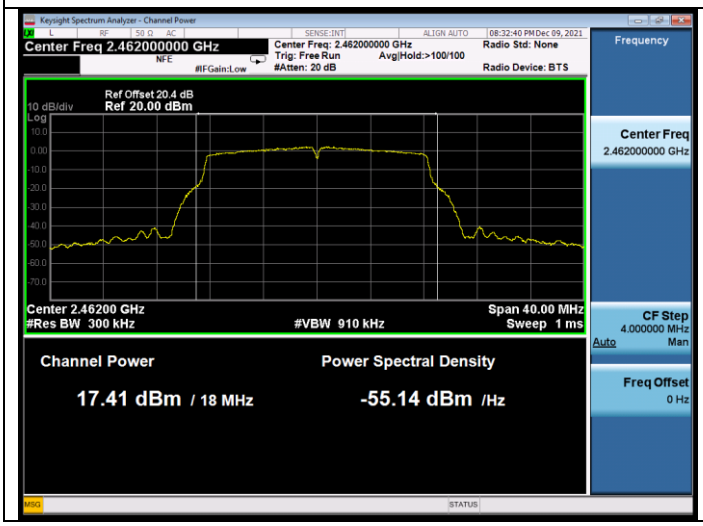
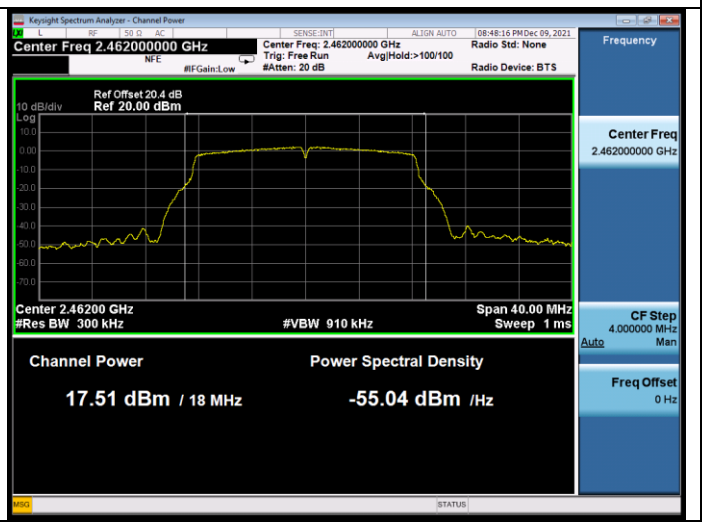
Test Mode	CH	Output Power (dBm)			Limit (dBm)
		ANTA	ANTB	Total	
11n HT20	CH1	19.17	15.59	20.749	30
	CH6	16.26	18.12	20.299	
	CH11	18.35	16.27	20.444	
11n HT40	CH3	16.26	17.95	20.194	30
	CH6	18.67	16.12	20.590	
	CH9	16.36	18.12	20.339	
Conclusion: PASS					

Note: 1. For 11n HT20/11n HT40 Mode

Directional Gain= $10 \log[(10^{-1.04/20}+10^{-2.61/20})^2/2]$dBi= 1.22dB < 6dBi.

2. The transmit signals are correlated.

ANTA:	**ANTB:**
Test Mode: IEEE 802.11b Test CH1: 2412MHz	Test Mode: IEEE 802.11b Test CH1: 2412MHz
	
Test CH6: 2437MHz	Test CH6: 2437MHz
	
Test CH11: 2462MHz	Test CH11: 2462MHz
	

ANTA:	**ANTB:**
Test Mode: IEEE 802.11g Test CH1: 2412MHz	Test Mode: IEEE 802.11g Test CH1: 2412MHz
	
Test CH6: 2437MHz	Test CH6: 2437MHz
	
Test CH11: 2462MHz	Test CH11: 2462MHz
	

ANTA:	**ANTB:**
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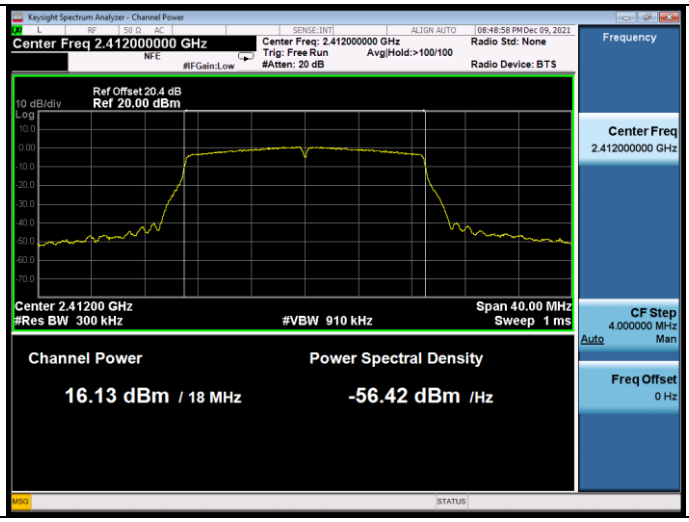
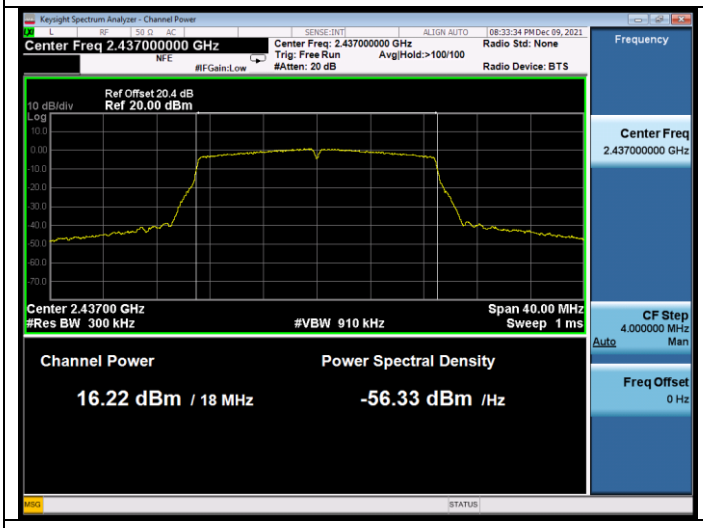
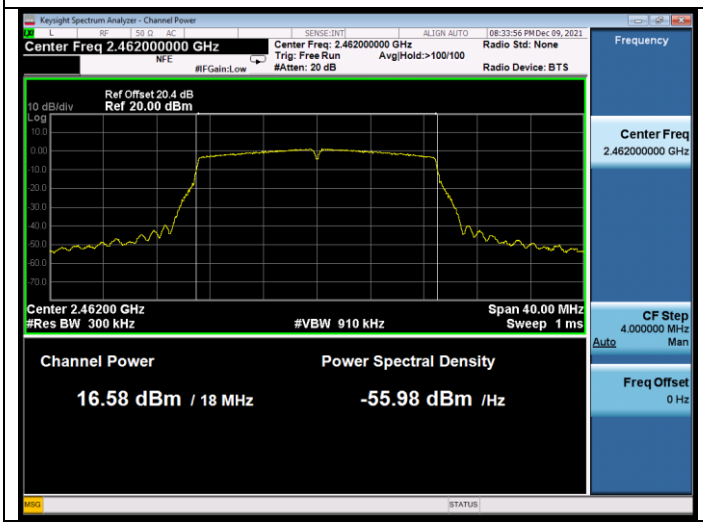
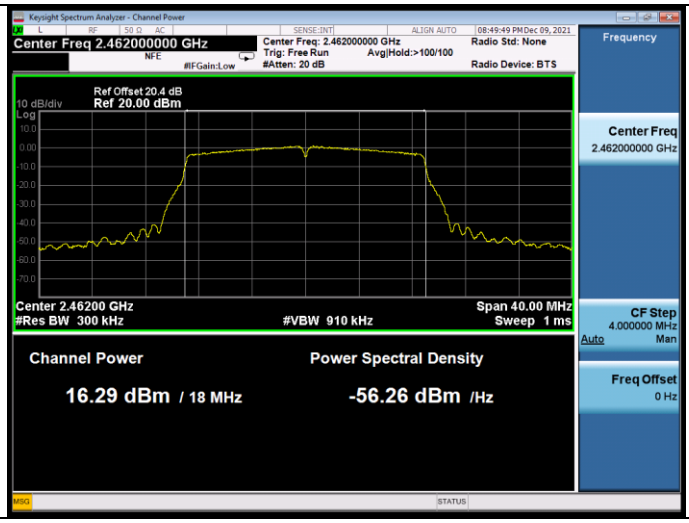
	
Test CH6: 2437MHz	Test CH6: 2437MHz
	
Test CH11: 2462MHz	Test CH11: 2462MHz
	

ANTA:	**ANTB:**
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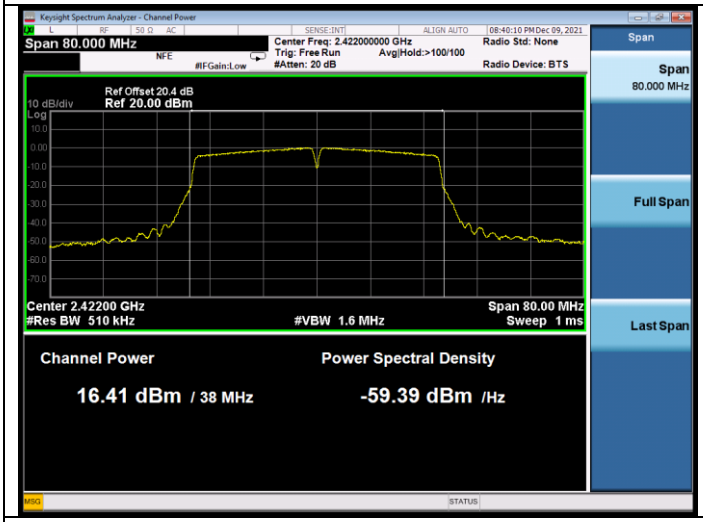
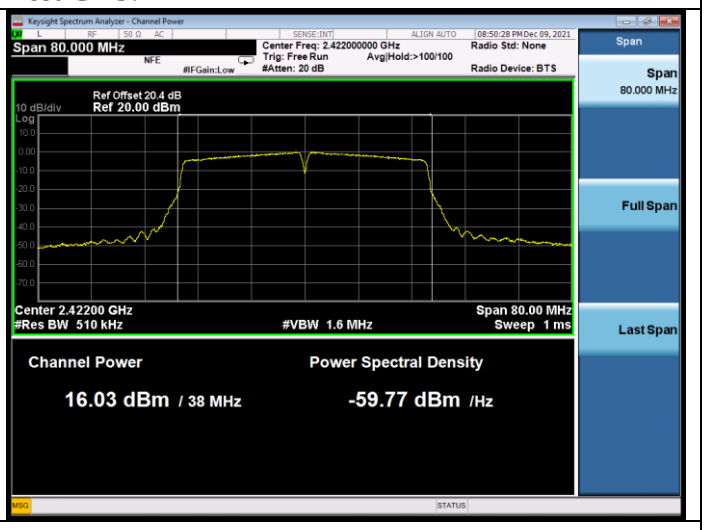
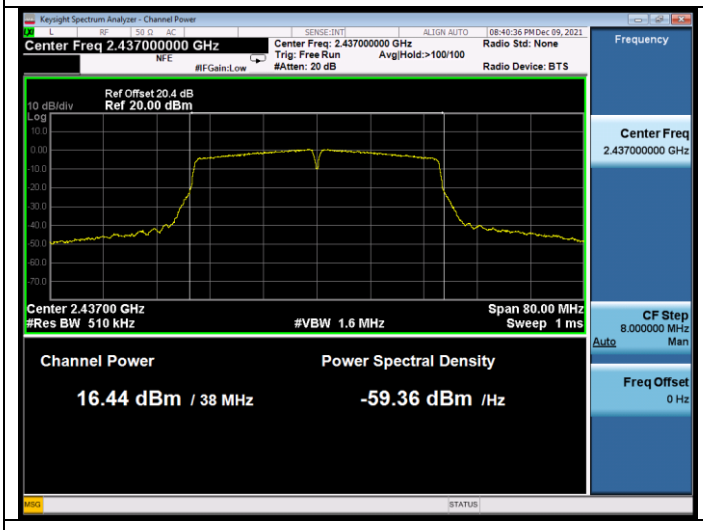
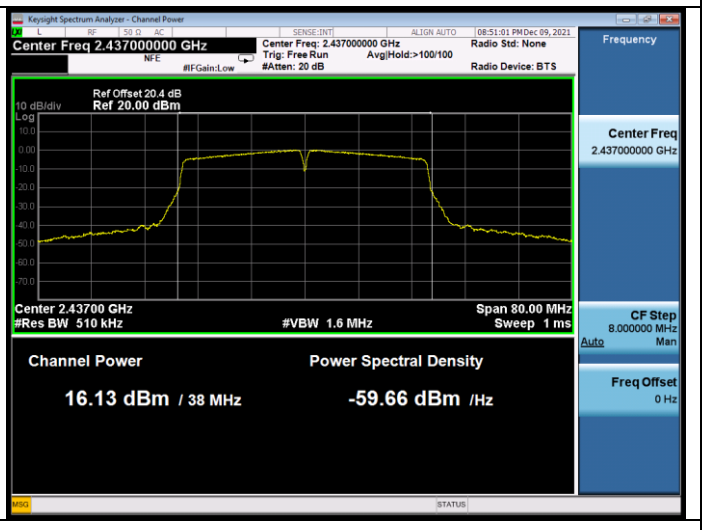
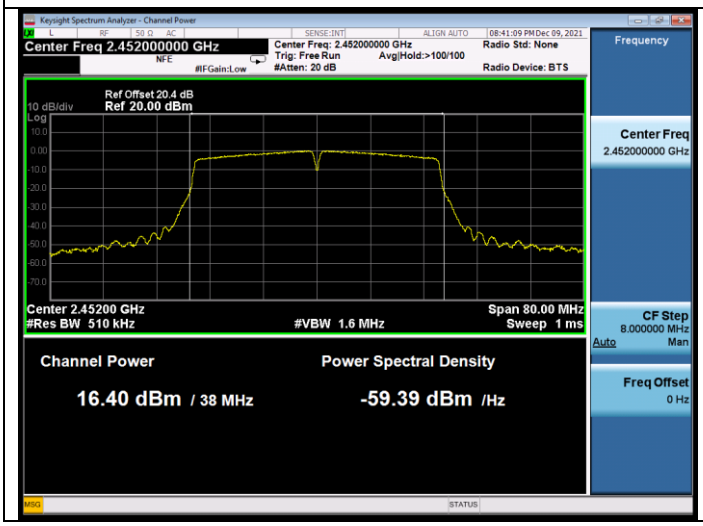
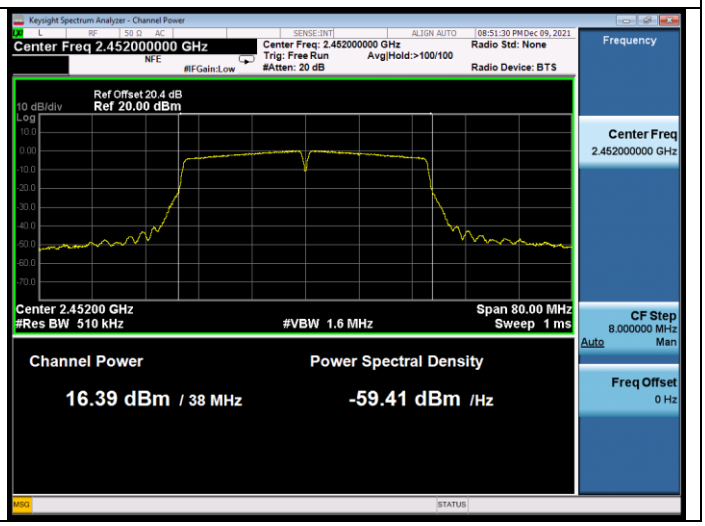
	
Test CH6: 2437MHz	Test CH6: 2437MHz
	
Test CH9: 2452MHz	Test CH9: 2452MHz
	

ANTA:	**ANTB:**
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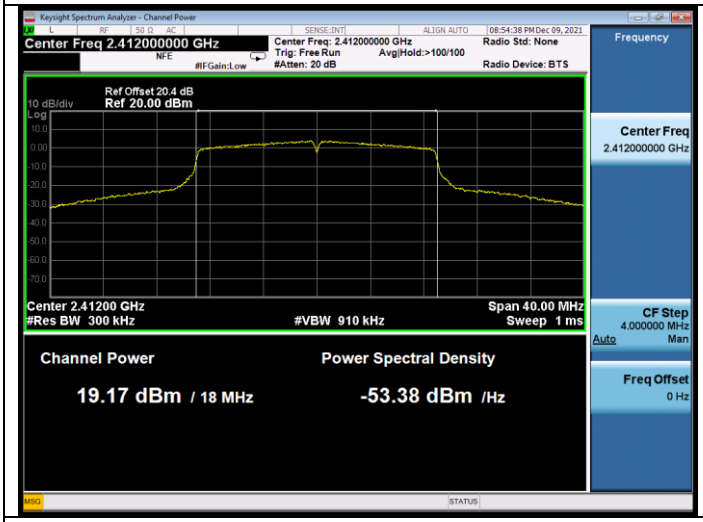
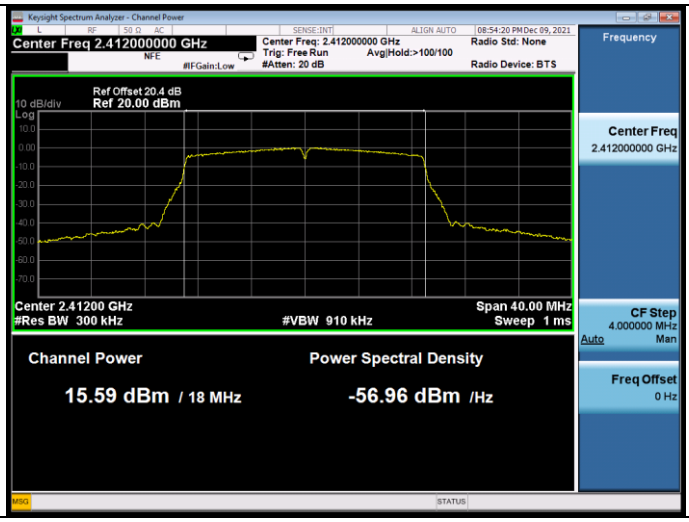
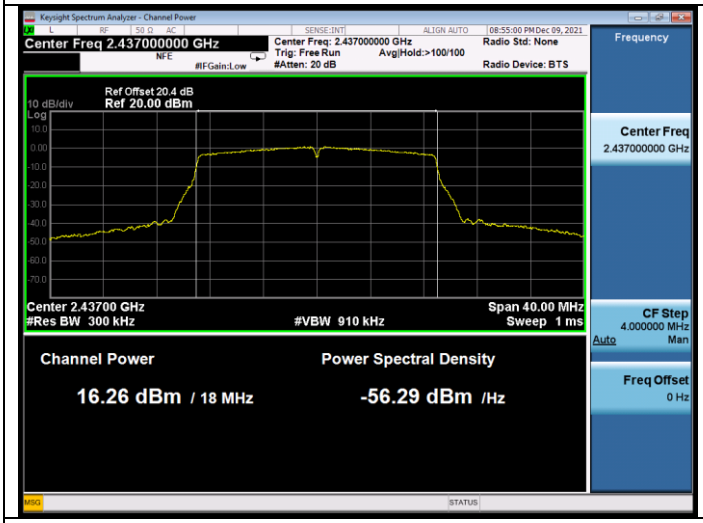
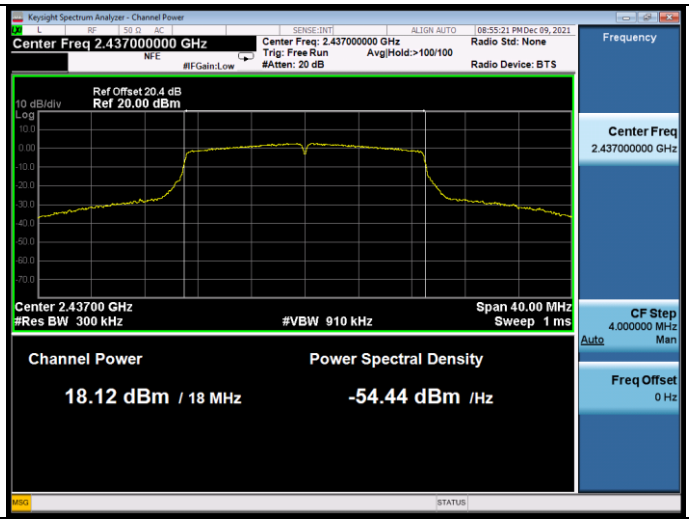
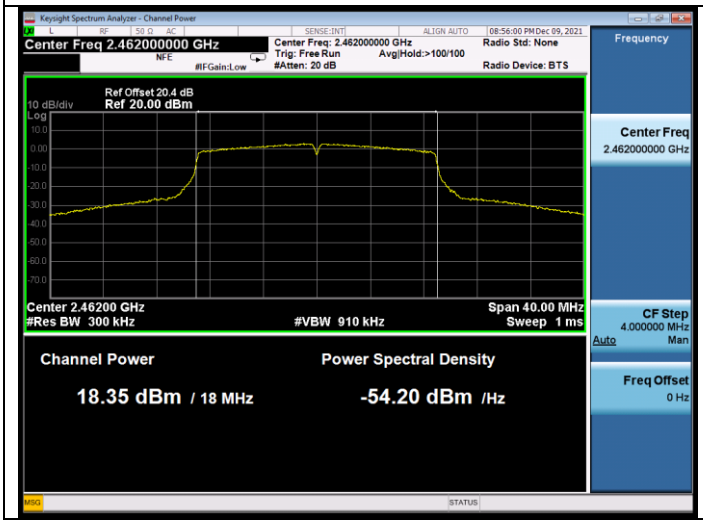
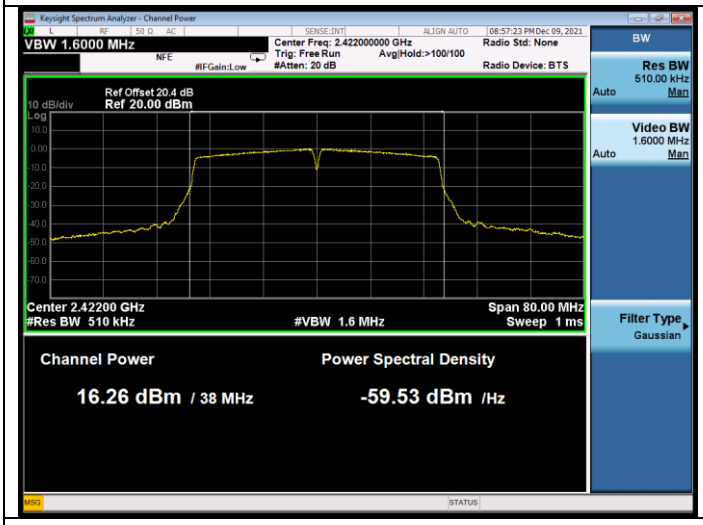
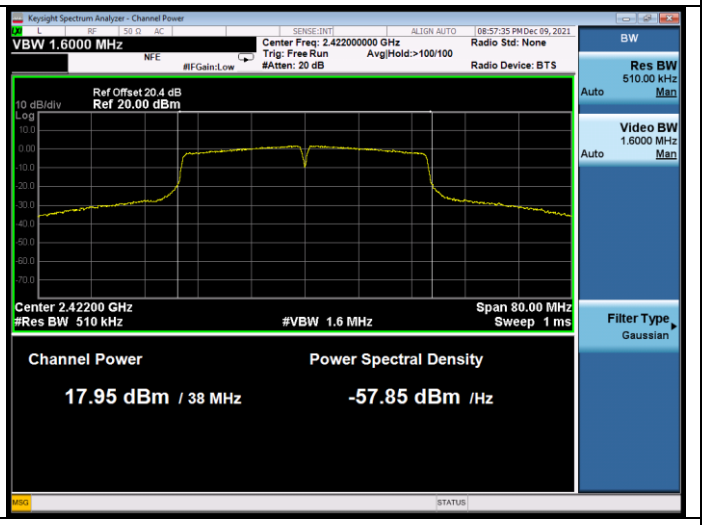
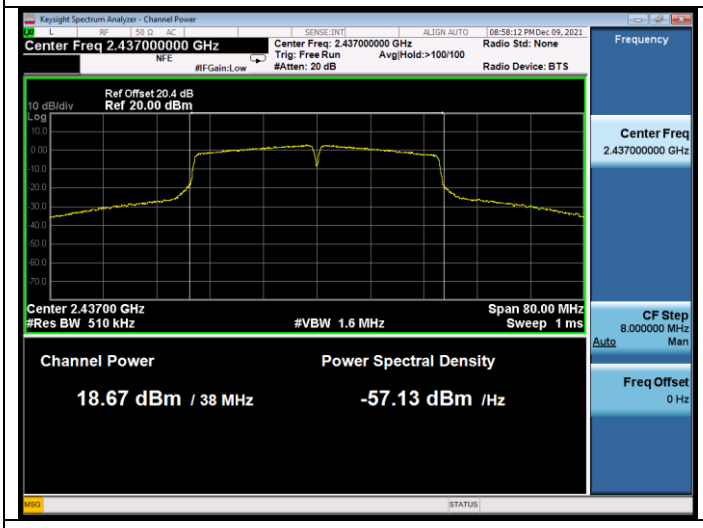
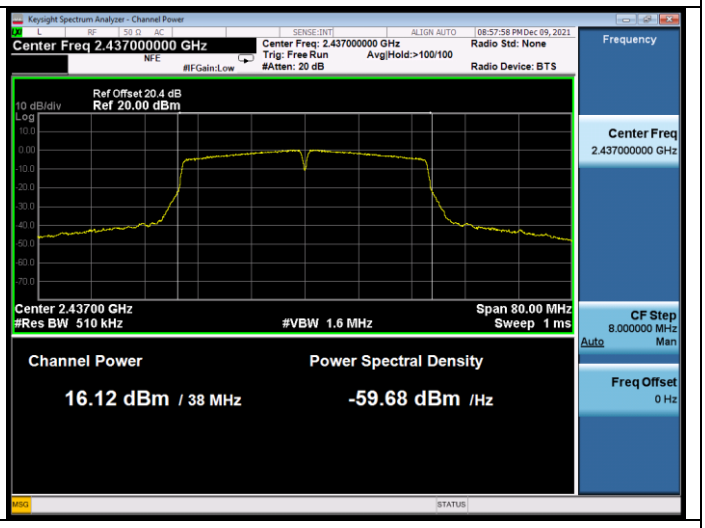
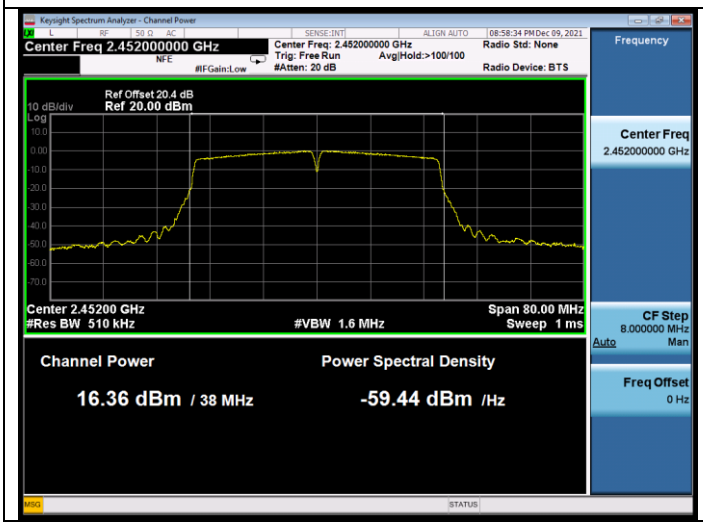
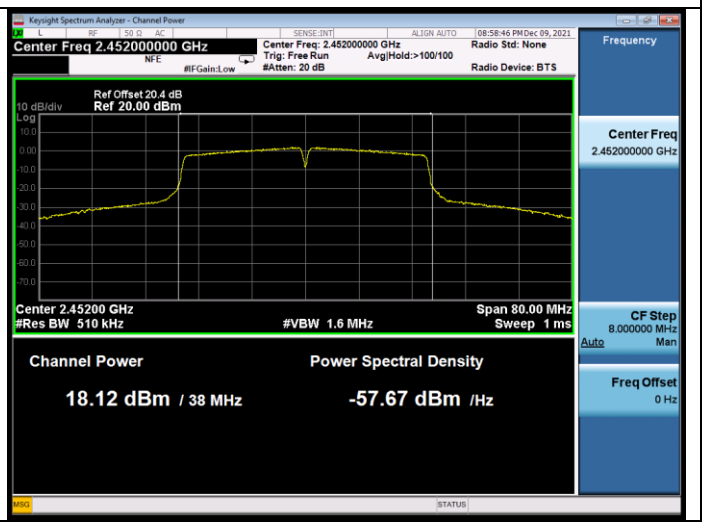
	
Test CH6: 2437MHz	Test CH6: 2437MHz
	
Test CH11: 2462MHz	Test CH11: 2462MHz
	

ANTA:	**ANTB:**
Test Mode: IEEE 802.11n HT40 Test CH3: 2422MHz	Test Mode: IEEE 802.11n HT40 Test CH3: 2422MHz
	
Test CH6: 2437MHz	Test CH6: 2437MHz
	
Test CH9: 2452MHz	Test CH9: 2452MHz