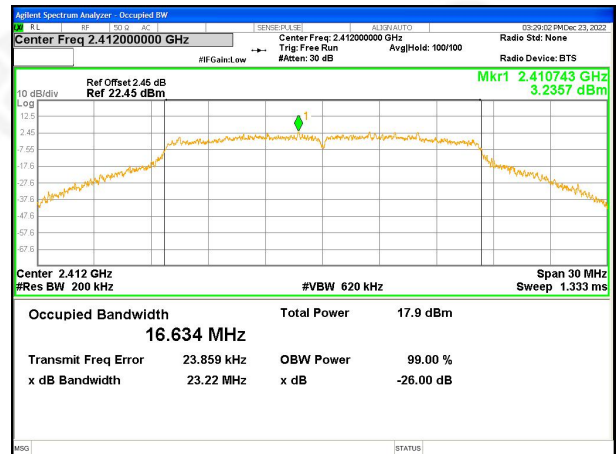
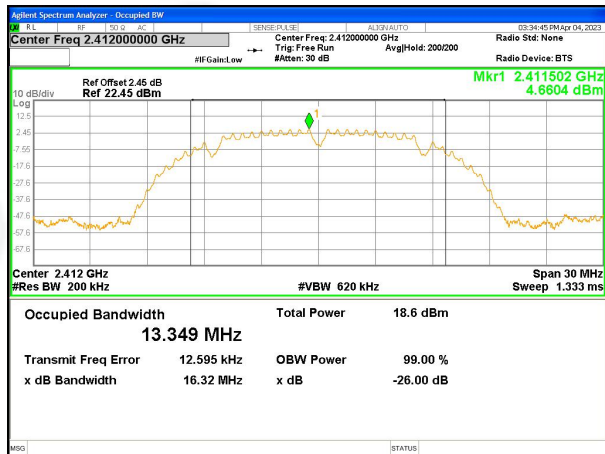




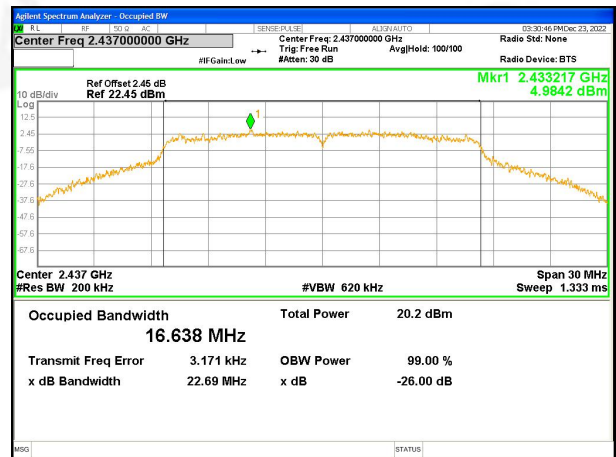
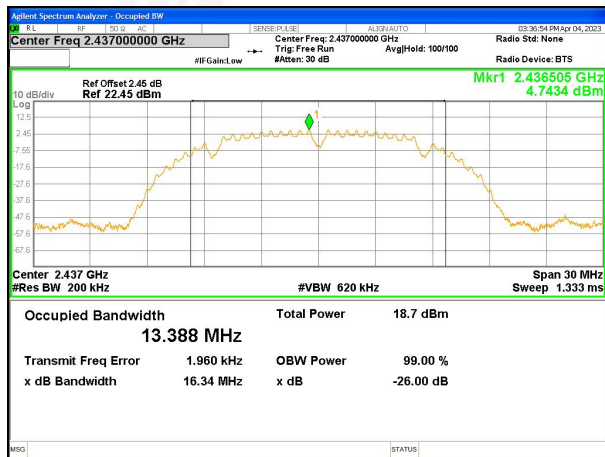
802.11b

802.11g

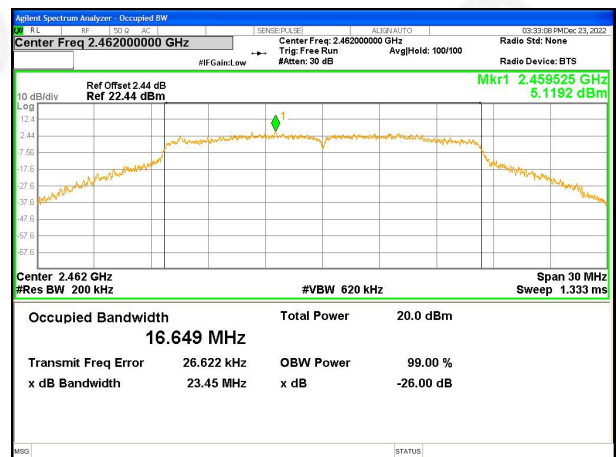
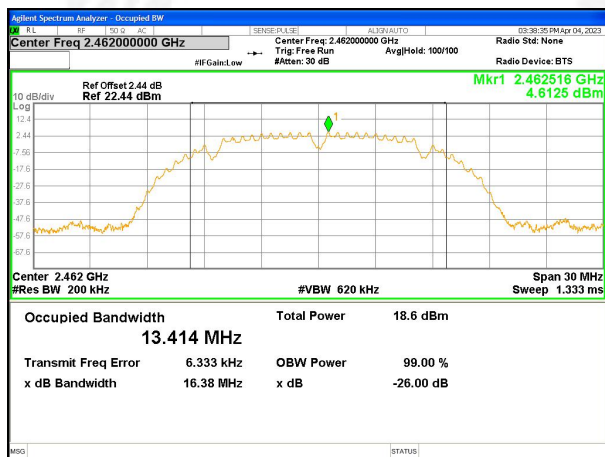
Lowest channel



Middle channel



Highest channel

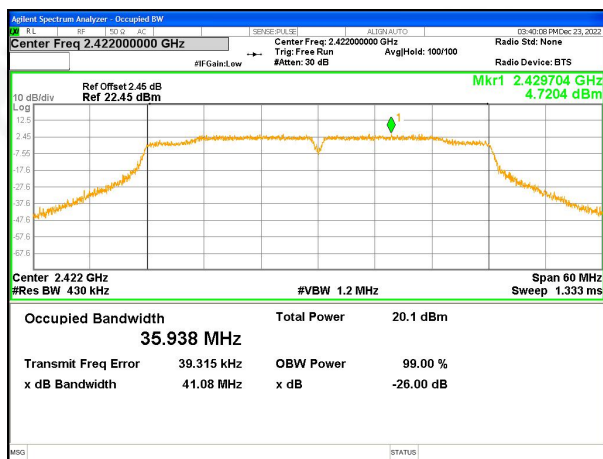
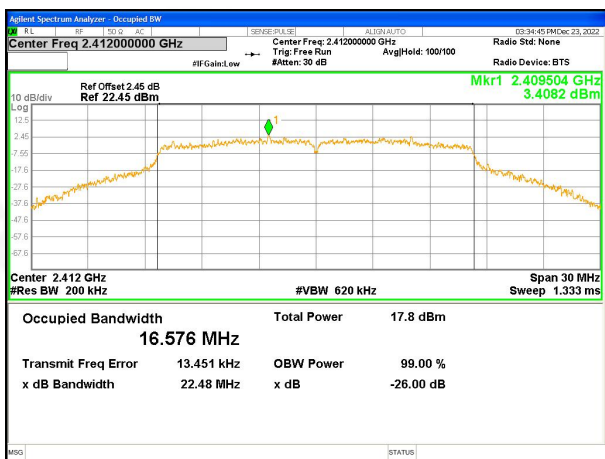




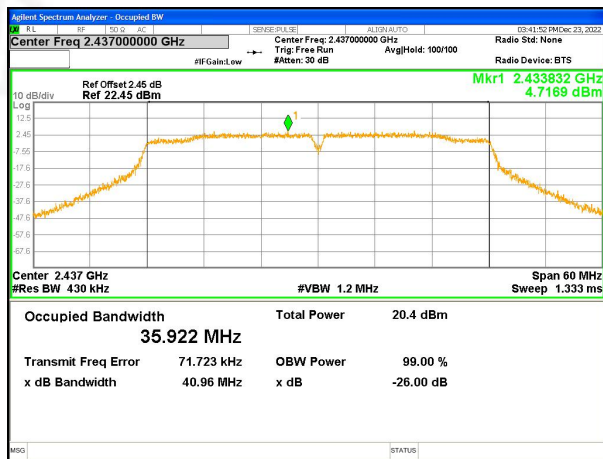
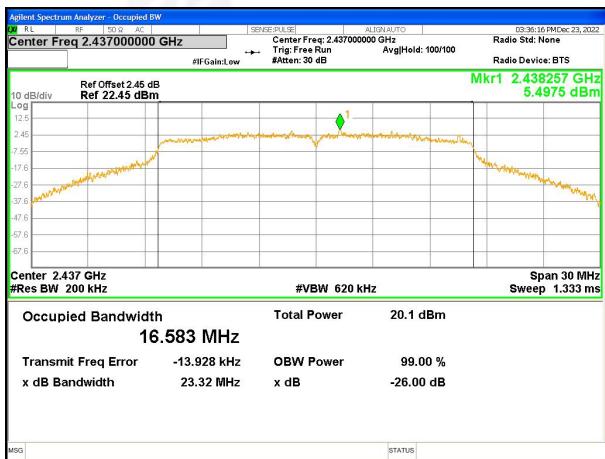
802.11n20

802.11n40

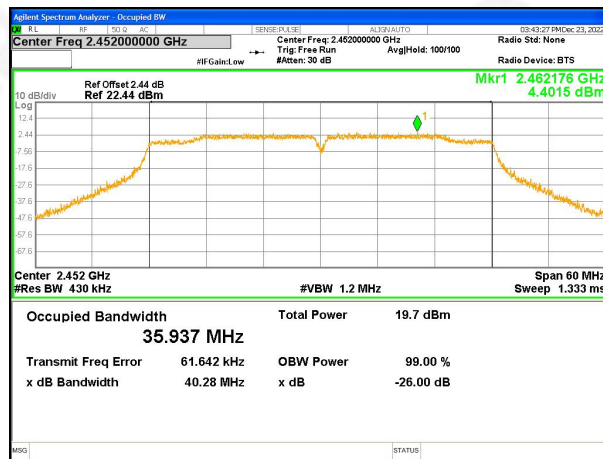
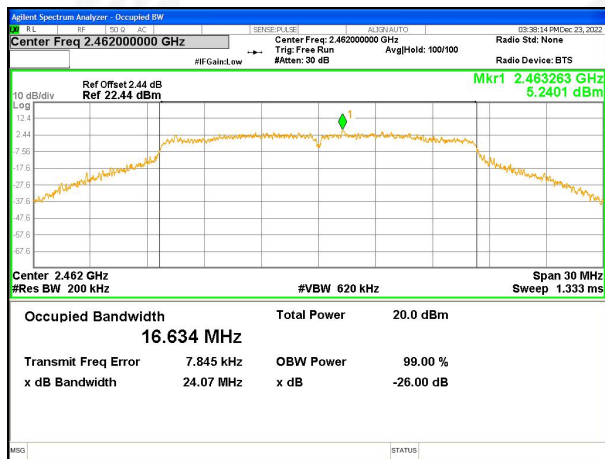
Lowest channel



Middle channel



Highest channel





Antenna 1

Test CH	-6dB Occupy Bandwidth (MHz)					Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)	Limit(KHz)	
Lowest	10.09	15.03	13.77	31.39	>500	Pass
Middle	10.09	14.66	15.02	28.2		
Highest	10.08	16.29	15.09	33.81		

Test CH	99% Occupy Bandwidth (MHz)					Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)	Limit(KHz)	
Lowest	13.354	16.648	16.588	35.948	>500	Pass
Middle	13.397	16.604	16.632	35.96		
Highest	13.405	16.584	16.628	35.936		

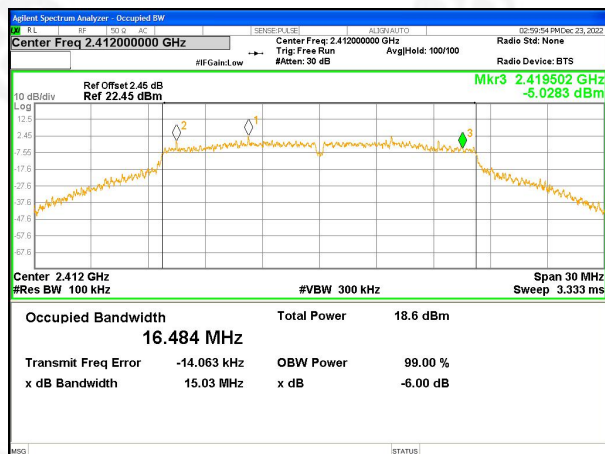
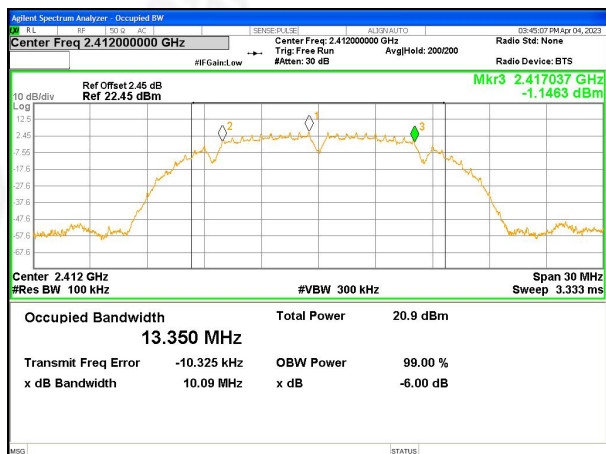


Test plot as follows:

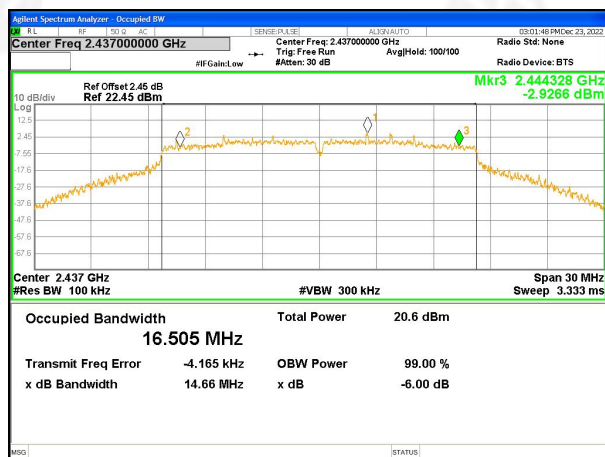
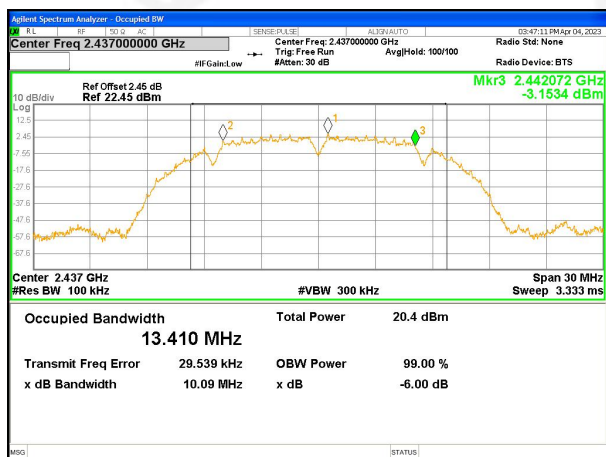
802.11b

802.11g

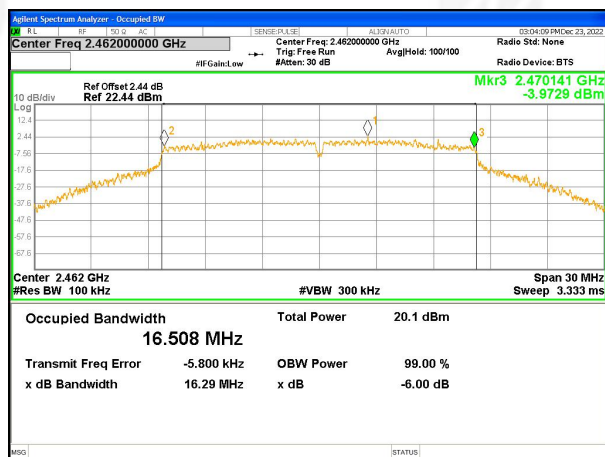
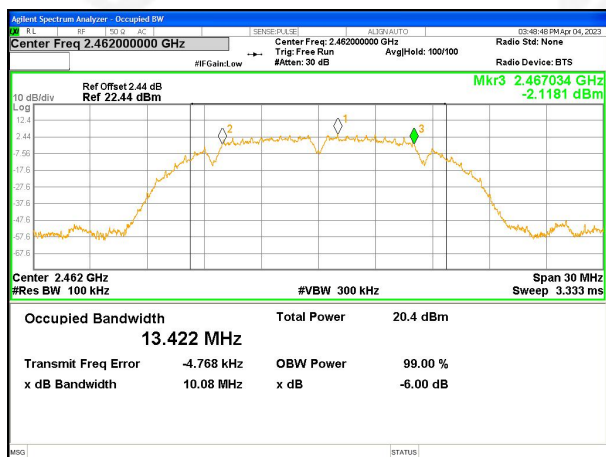
Lowest channel



Middle channel



Highest channel

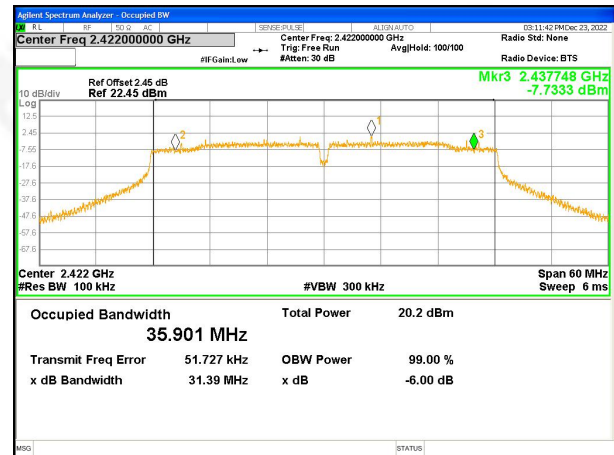
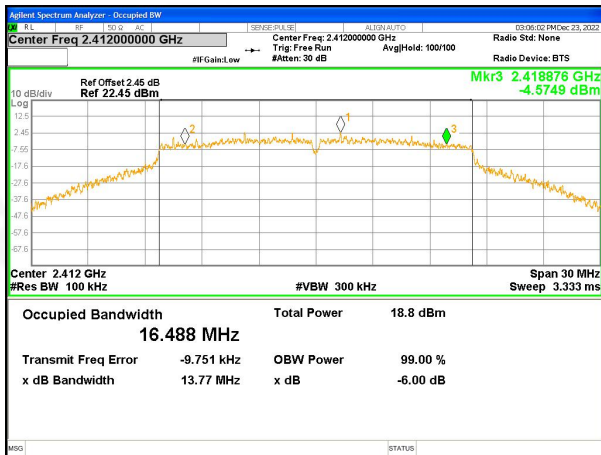




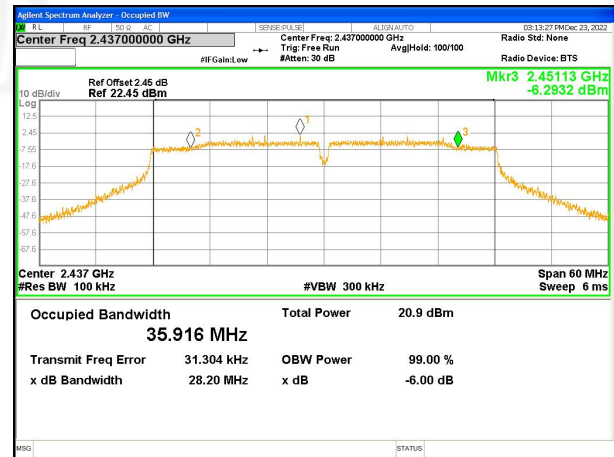
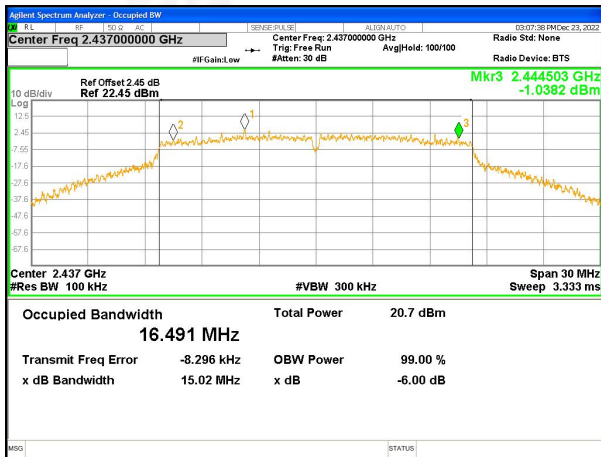
802.11n20

802.11n40

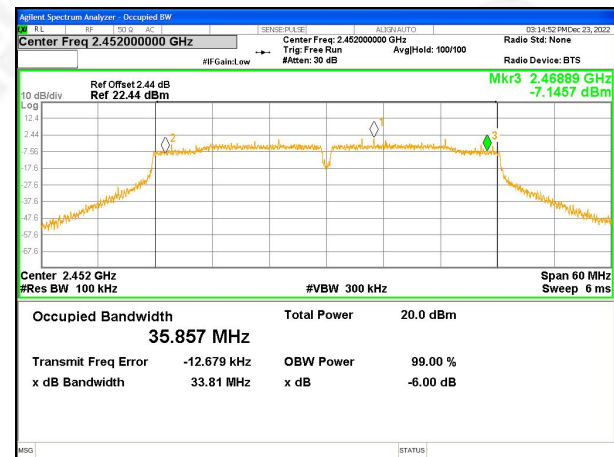
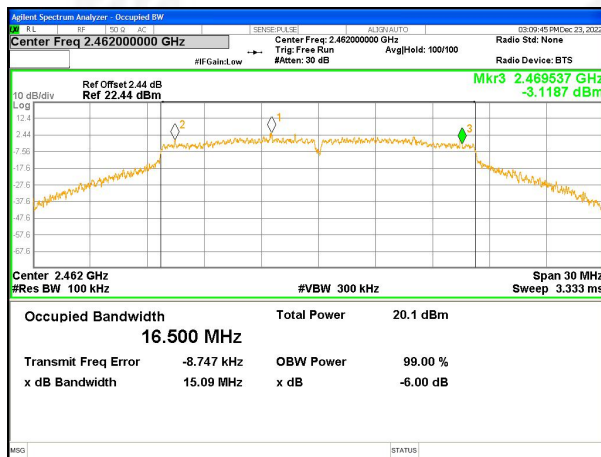
Lowest channel



Middle channel



Highest channel

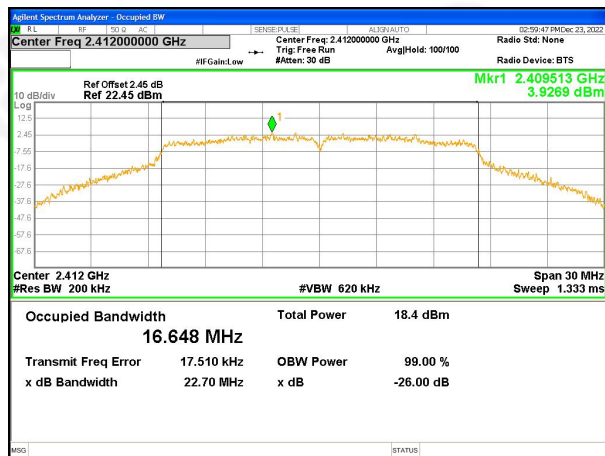
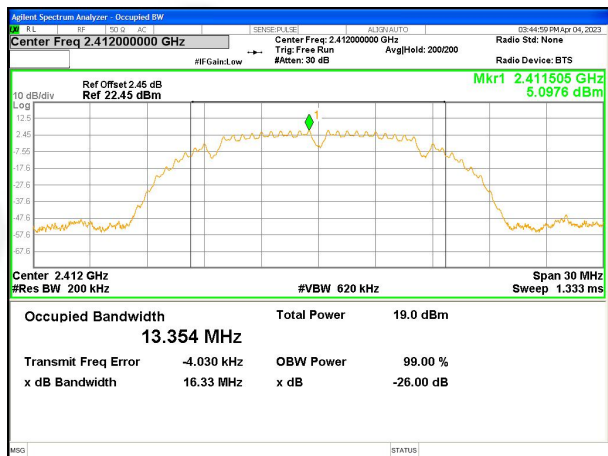




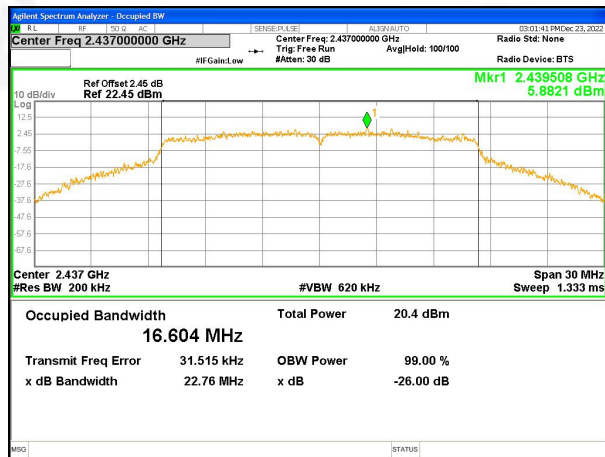
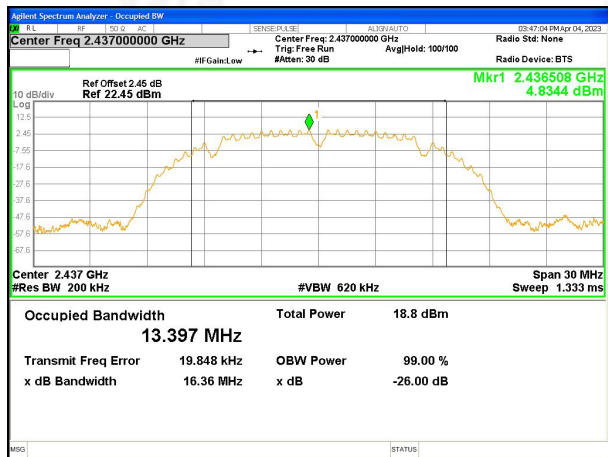
802.11b

802.11g

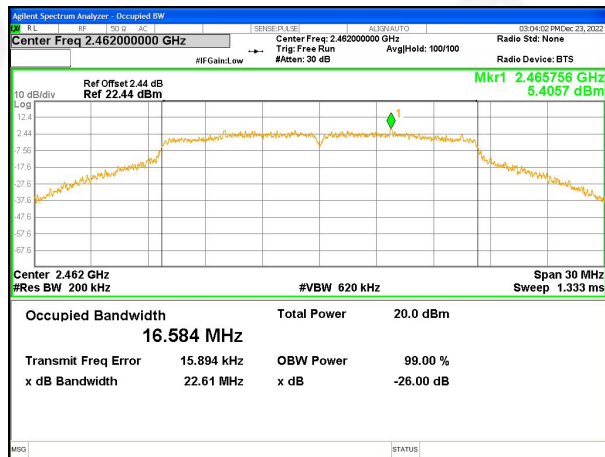
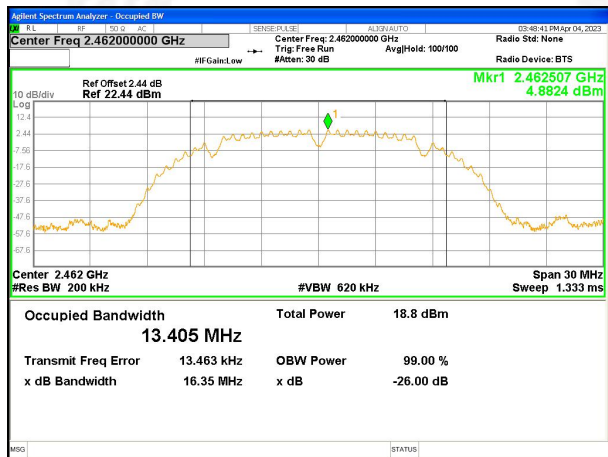
Lowest channel



Middle channel



Highest channel

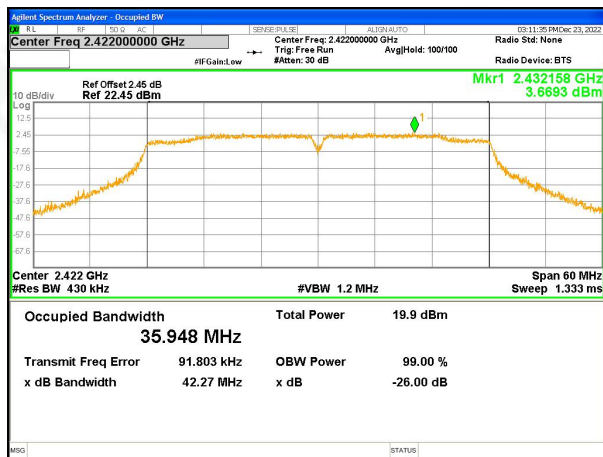
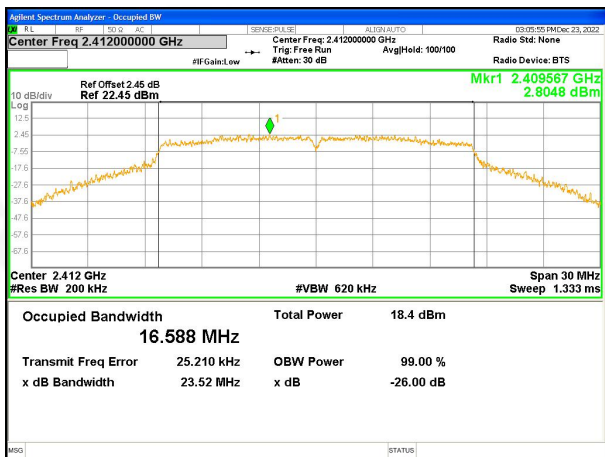




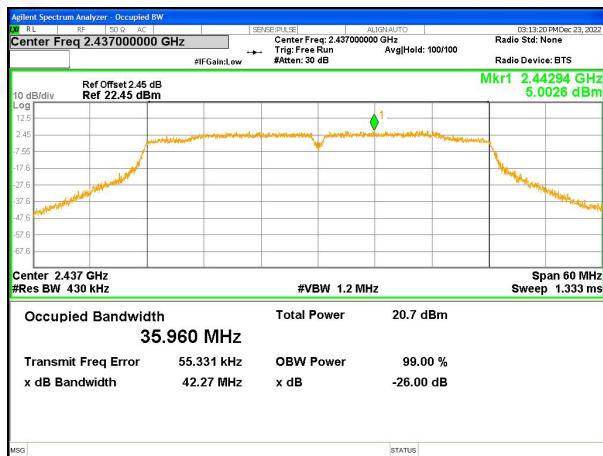
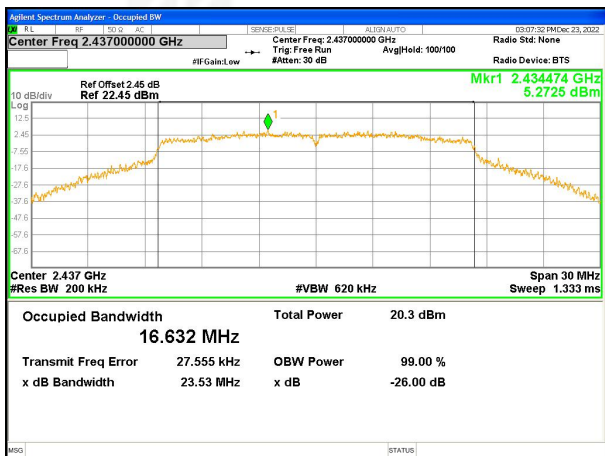
802.11n20

802.11n40

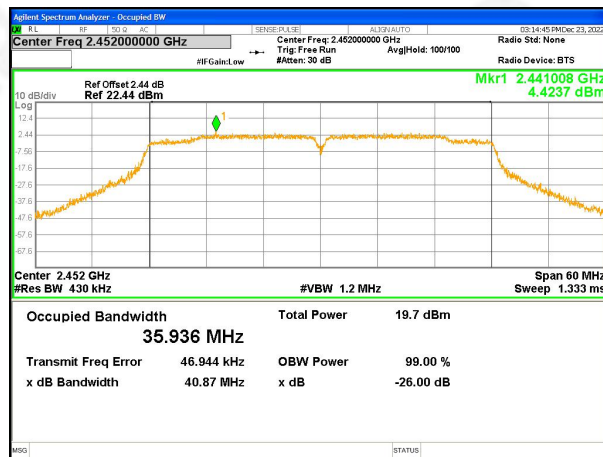
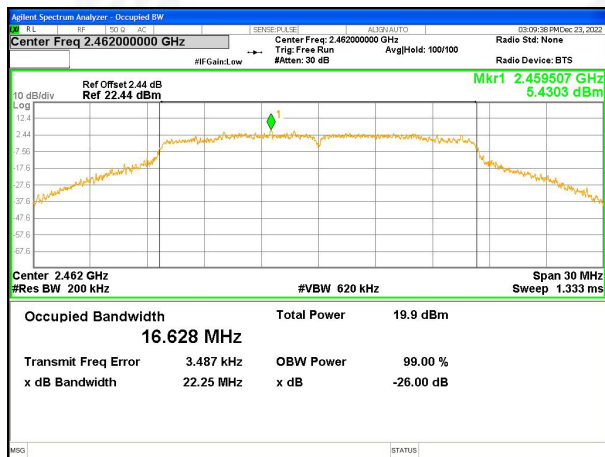
Lowest channel



Middle channel



Highest channel





8. PEAK OUTPUT POWER TEST

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	KDB558074 D0115.247 Meas Guidancev05r02 KDB 662911 D01 Multiple Transmitter Output v02r01

8.1 APPLIED PROCEDURES/LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Peak Output Power(SISO)	1 watt or 30dBm	2400-2483.5	PASS
	Peak Output Power(MIMO)	28dBm		PASS

Note: For 802.11n(MIMO), 30dBm-(8dBi-6dBi)=28dBm

8.2 TEST PROCEDURE

- The EUT was directly connected to the Power meter

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



8.6 TEST RESULT

Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz

Operation mode	CH	Peak Output Power (dBm)		
		ANT0	ANT1	Total
802.11b	Low	12.11	12.62	/
	Middle	14.31	14.56	/
	High	14.17	14.18	/
802.11g	Low	12.14	12.61	/
	Middle	14.32	14.56	/
	High	14.19	14.12	/
802.11n(HT20)	Low	12.12	12.64	15.40
	Middle	14.3	14.55	17.44
	High	14.18	14.13	17.17
802.11n(HT40)	Low	14.34	14.33	17.35
	Middle	14.74	14.99	17.88
	High	13.98	13.99	17.00

Directional Gain Calculations for In-Band Measurements

a) Basic methodology with N_{ANT} transmit antennas, each with the same directional gain G_{ANT} dBi, being driven by N_{ANT} transmitter outputs of equal power. Directional gain is to be computed as follows:

(i) If any transmit signals are correlated with each other,

Directional gain = $G_{ANT} + 10 \log(N_{ANT})$ dBi

(ii) If all transmit signals are completely uncorrelated with each other,

Directional gain = G_{ANT}

802.11b/g is SISO(transmit signals are completely uncorrelated), 802.11n is MIMO(transmit signals are correlated)

Note: EIRP=Peak Output Power+Directional gain



9. CONDUCTED BAND EDGE AND SPURIOUS EMISSION

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D0115.247 Meas Guidancev05r02

9.1 APPLICABLE STANDARD

in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum 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, In addition, radiated emissions which fall in the restricted bands, as defined in§15.205(a), must also comply with the radiated emission limits specified in15.209(a).

9.2 TEST PROCEDURE

Using the following spectrum analyzer setting:

- A) Set the RBW = 100KHz.
- B) Set the VBW = 300KHz.
- C) Sweep time = auto couple.
- D) Detector function = peak.
- E) Trace mode = max hold.
- F) Allow trace to fully stabilize.

9.3 DEVIATION FROM STANDARD

No deviation.

9.4 TEST SETUP



9.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

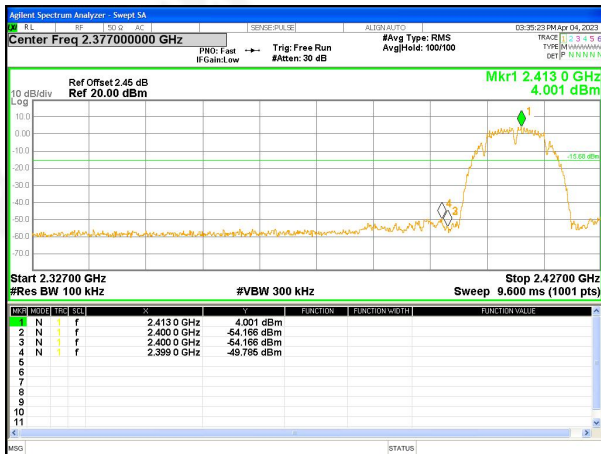
9.6 TEST RESULTS

Note: The limit for 802.11n20/40 mode should be reduced by the additional 3dB ($10 \cdot \log(2) = 3\text{dB}$).

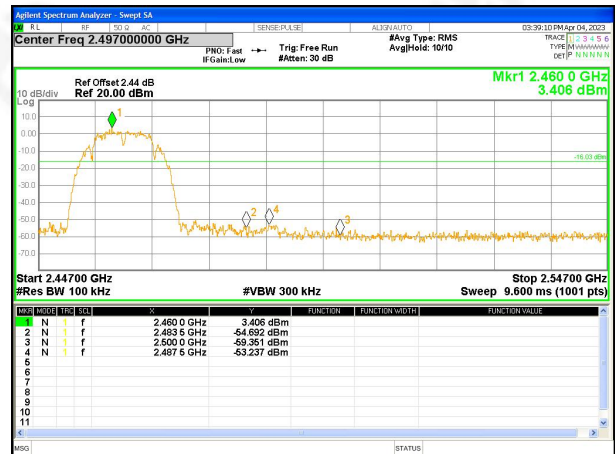


Test plot as follows: Antenna 0

Test mode:802.11b

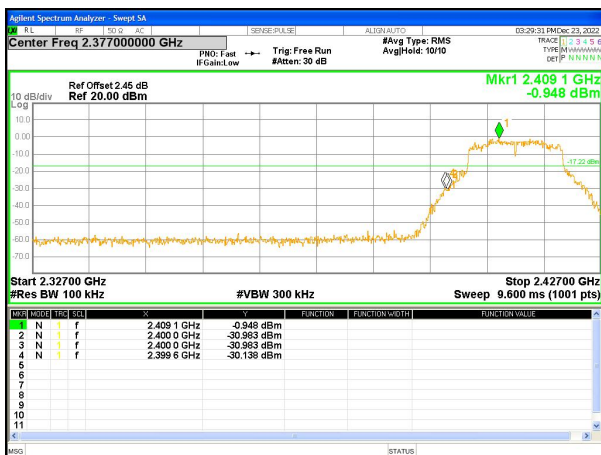


Lowest channel

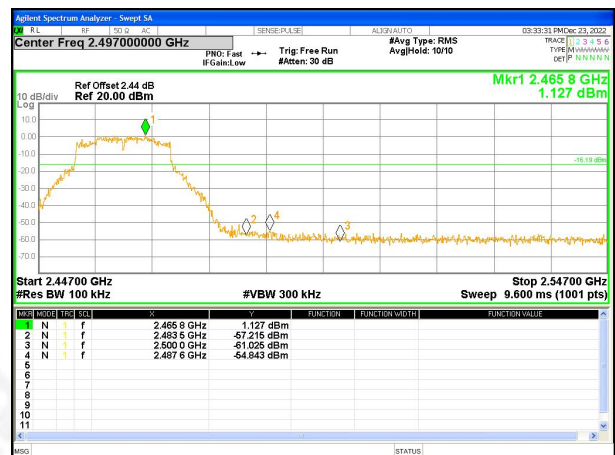


Highest channel

Test mode:802.11g



Lowest channel



Highest channel