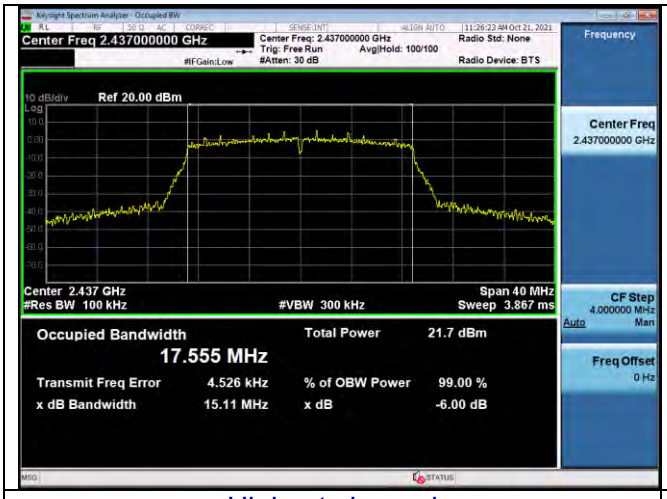
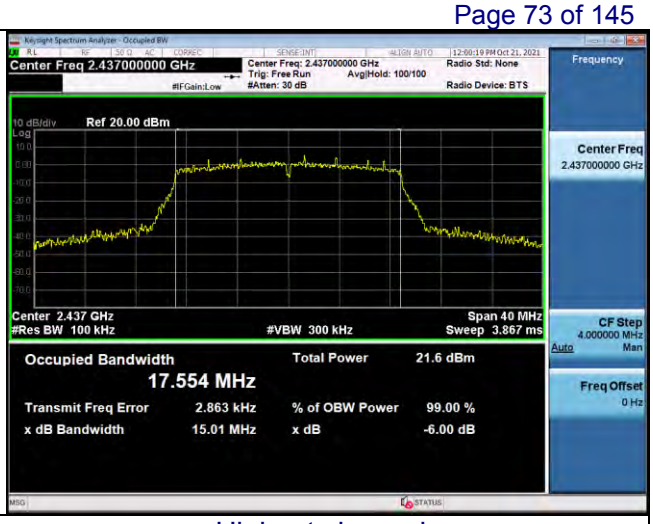
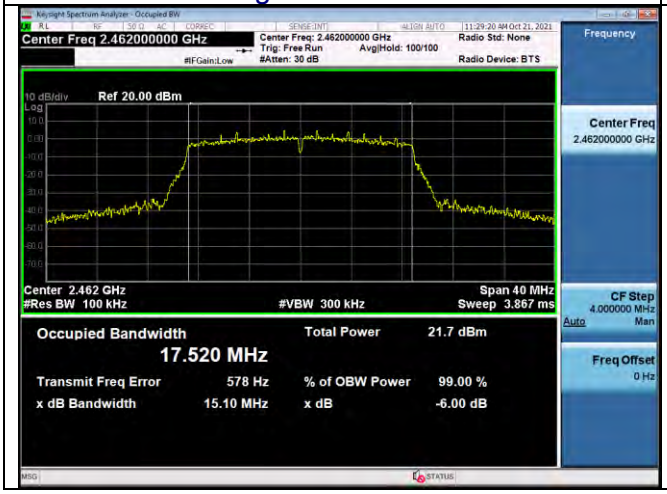
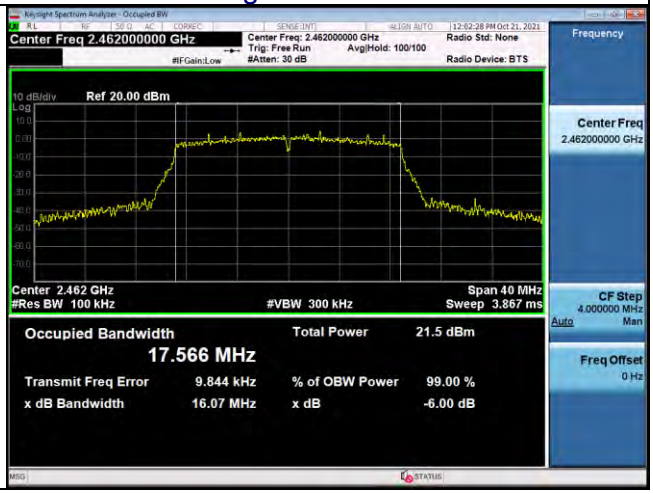


Highest channel

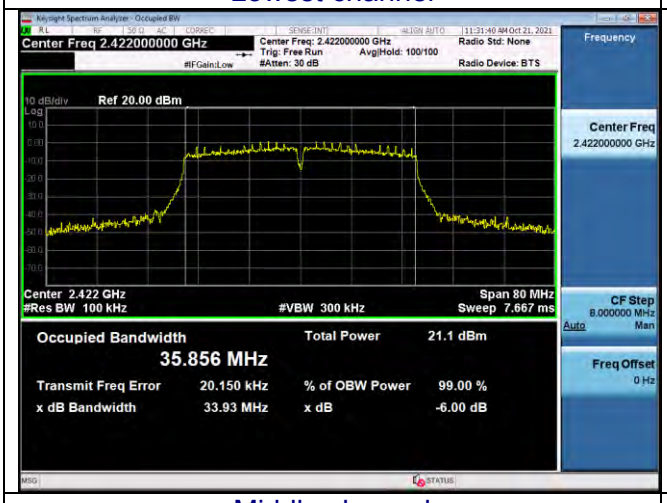


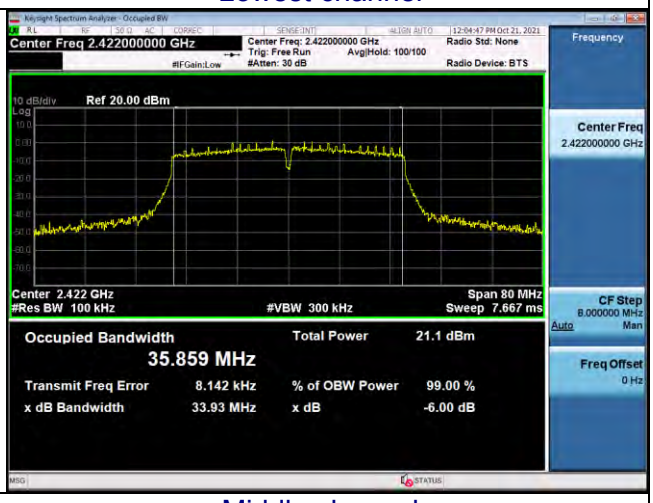
Highest channel





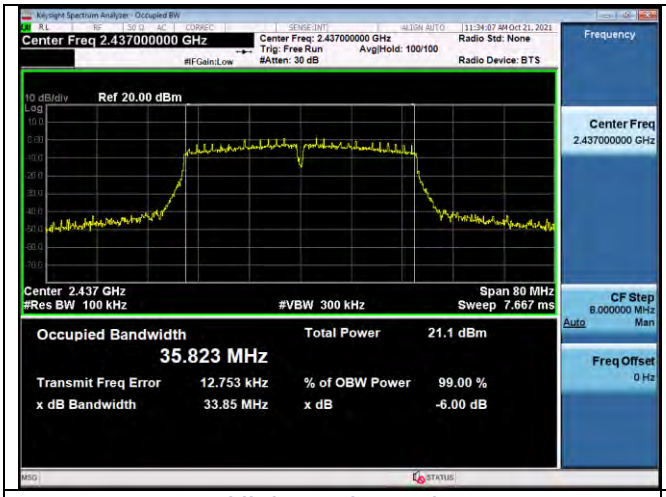
ANT1	ANT2
802.11n(HT40)	802.11n(HT40)
Lowest channel	Lowest channel



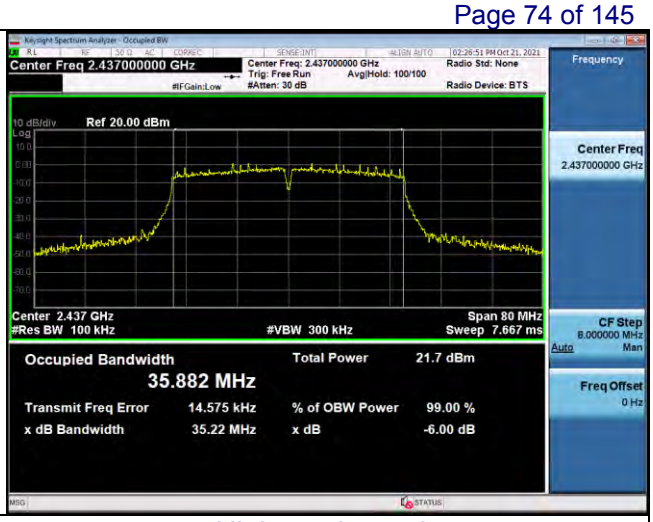


Middle channel

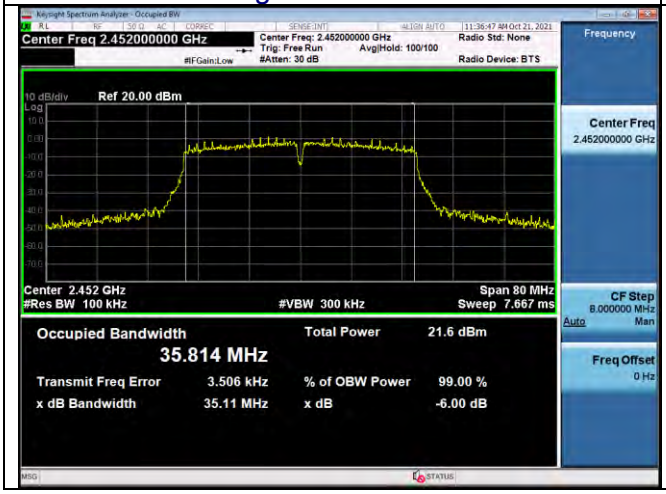
Middle channel

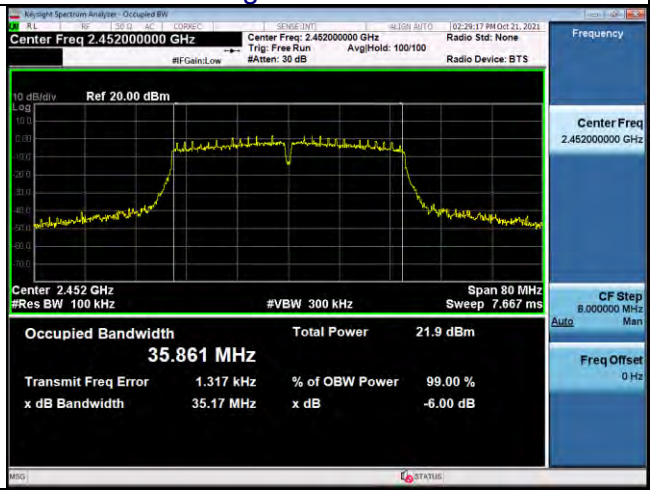


Highest channel



Highest channel





8. OUTPUT POWER TEST

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	KDB558074 D0115.247 Meas Guidance v05r02

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	1 watt or 30dBm	2400-2483.5	PASS

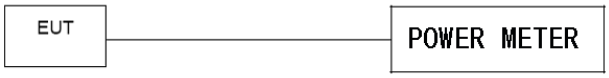
8.2 TEST PROCEDURE

a. 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℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC110V

Module A

Test Channel	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)			LIMIT dBm
		Antenna 1	Antenna 2	MIMO	
TX 802.11b Mode					
CH01	2412	16.35	16.69	/	30
CH06	2437	15.17	16.65	/	30
CH11	2462	16.56	16.07	/	30
TX 802.11g Mode					
CH01	2412	13.57	15.06	/	30
CH06	2437	14.62	15.45	/	30
CH11	2462	14.31	15.37	/	30
TX 802.11n20 Mode					
CH01	2412	13.93	14.28	17.12	27.99
CH06	2437	14.27	13.59	16.95	27.99
CH11	2462	14.14	14.15	17.16	27.99
TX 802.11n40 Mode					
CH03	2422	11.94	11.97	14.97	27.99
CH06	2437	12.43	12.38	15.42	27.99
CH09	2452	12.34	12.34	15.35	27.99
Note: This product supports antenna 1 and antenna 2 launch, but only support 802.11 n for MIMO mode, not support 802.11 b and 802.11 g for MIMO mode.					

Module B

Test Channel	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)			LIMIT dBm
		Antenna 1	Antenna 2	MIMO	
TX 802.11b Mode					
CH01	2412	17.12	17.62	/	30
CH06	2437	17.98	17.50	/	30
CH11	2462	17.97	17.26	/	30
TX 802.11g Mode					
CH01	2412	15.31	15.34	/	30

CH06	2437	15.20	15.26	/	30
CH11	2462	15.11	15.19	/	30
TX 802.11n20 Mode					
CH01	2412	15.21	15.20	18.22	27.99
CH06	2437	15.12	15.08	18.11	27.99
CH11	2462	15.10	15.03	18.08	27.99
TX 802.11n40 Mode					
CH03	2422	13.92	13.94	16.94	27.99
CH06	2437	13.94	14.70	17.35	27.99
CH09	2452	14.42	14.72	17.58	27.99
Note: This product supports antenna 1 and antenna 2 launch, but only support 802.11 n for MIMO mode, not support 802.11 b and 802.11 g for MIMO mode.					

POWER(MIMO)=LIMIT-(8.01-6)=30-2.01=27.99

9. CONDUCTED BAND EDGE AND SPURIOUS EMISSION

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D0115.247 Meas Guidance v05r02

9.1 APPLICABLE STANDARD

in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in 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

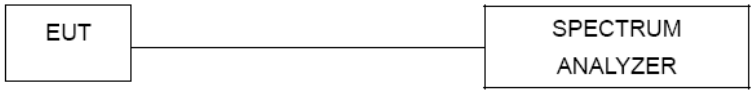
Using the following spectrum analyzer setting:

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.

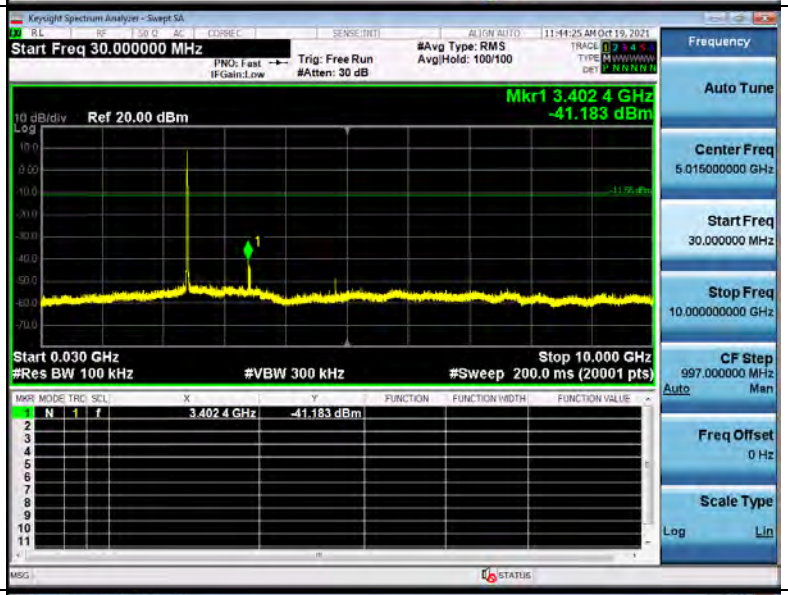
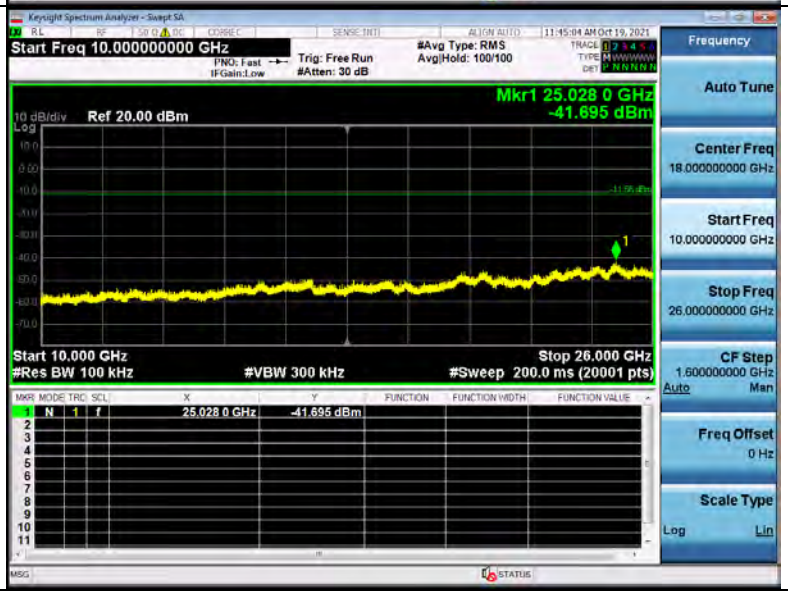
9.6 TEST RESULTS

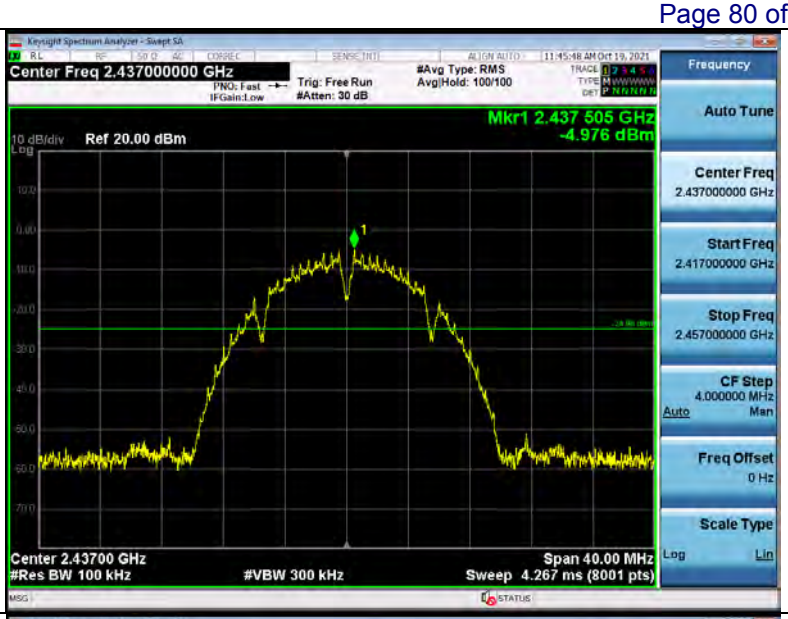
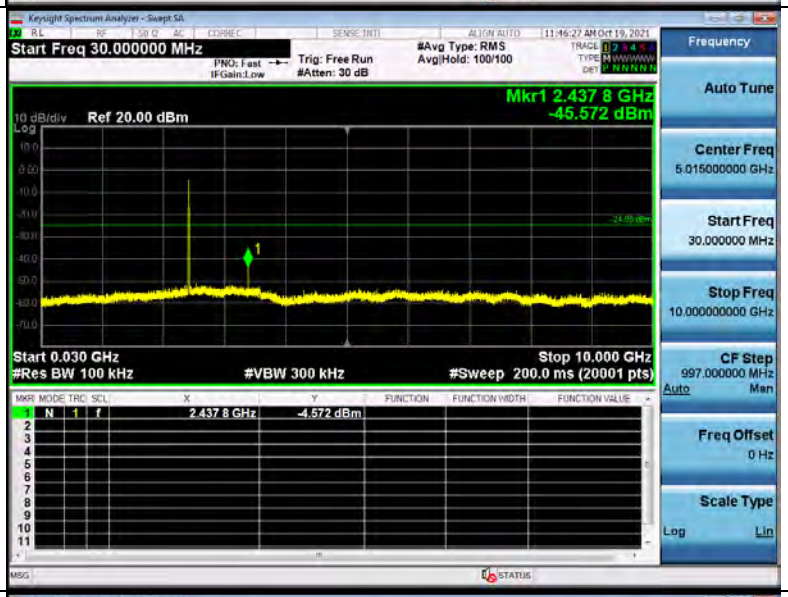
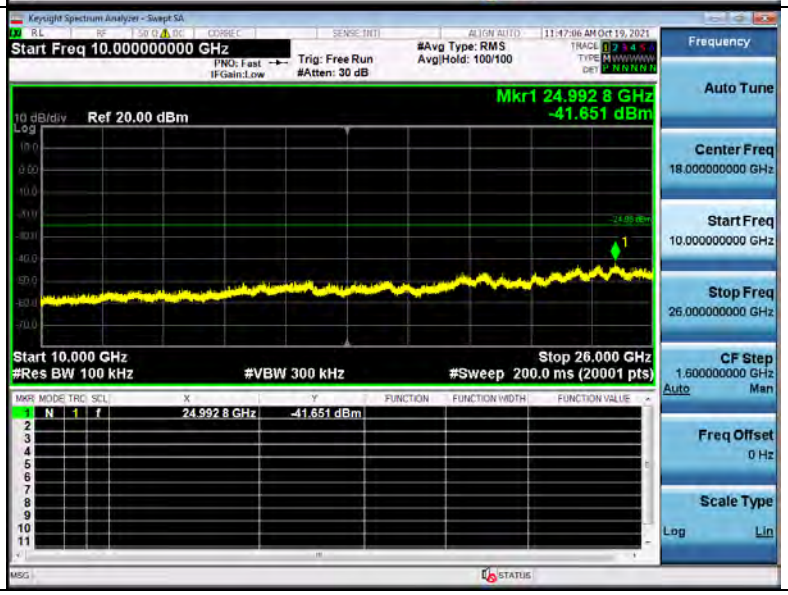
Test plot as follows:

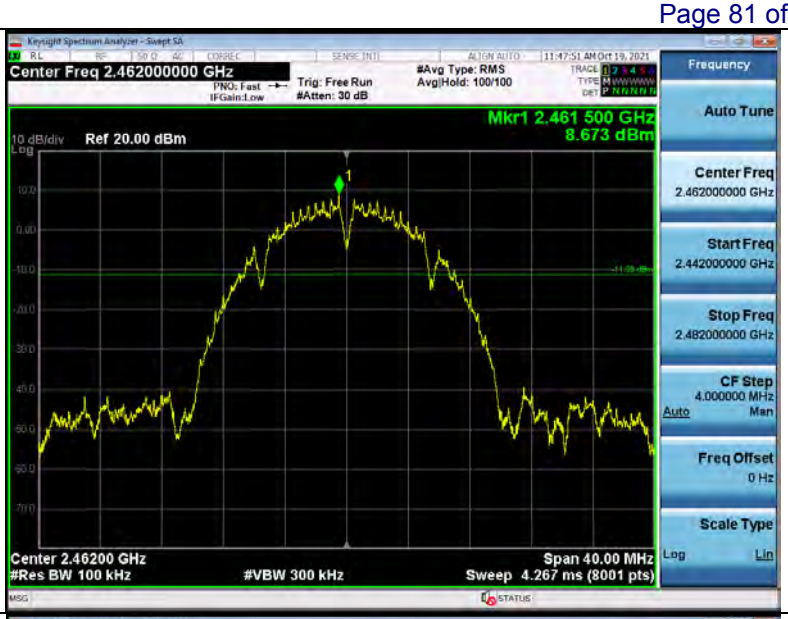
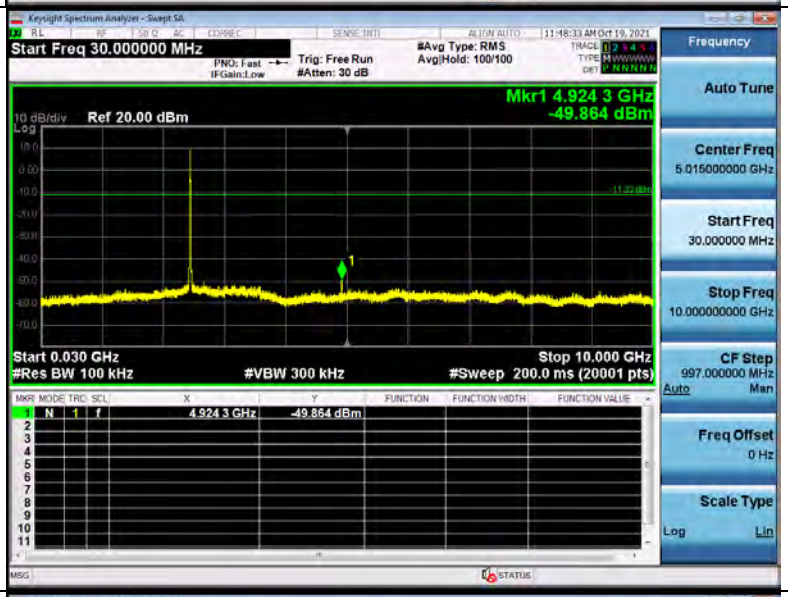
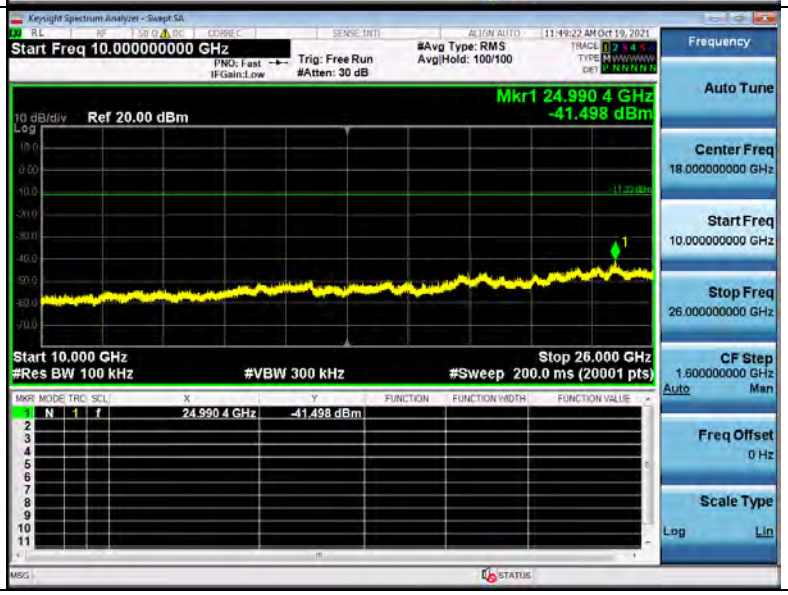
Module A

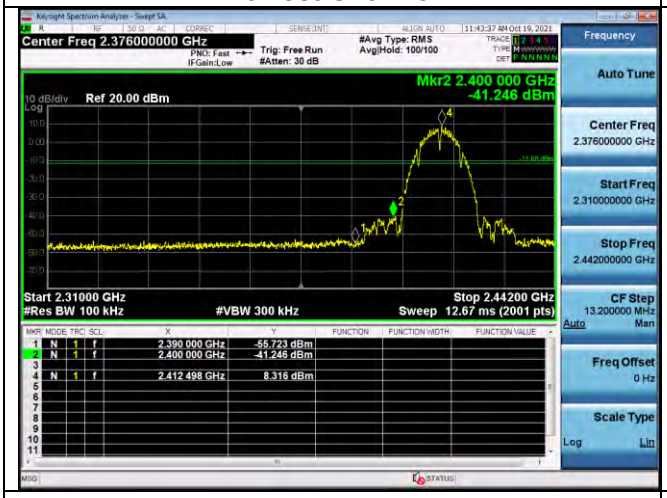
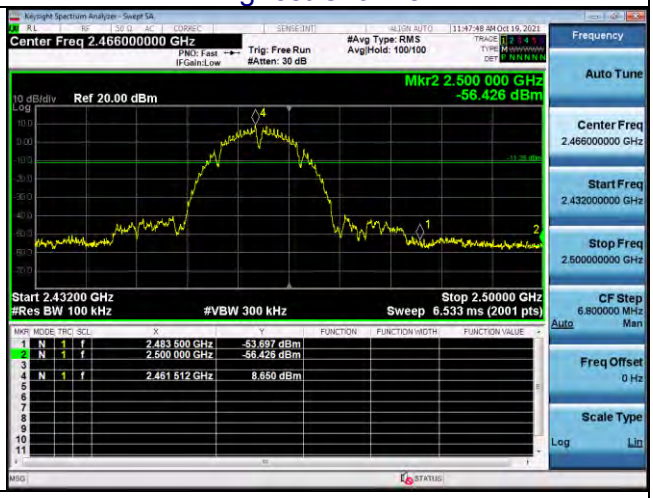
ANT1

802.11b Modulation

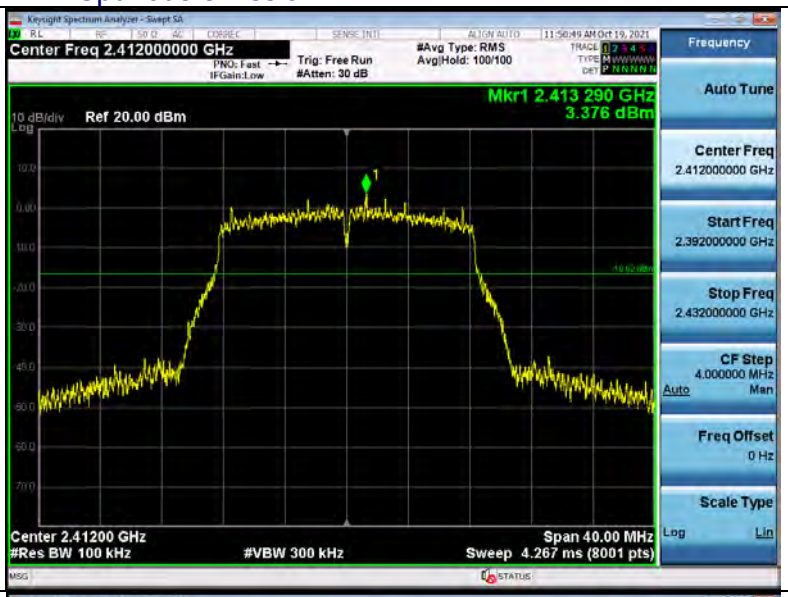
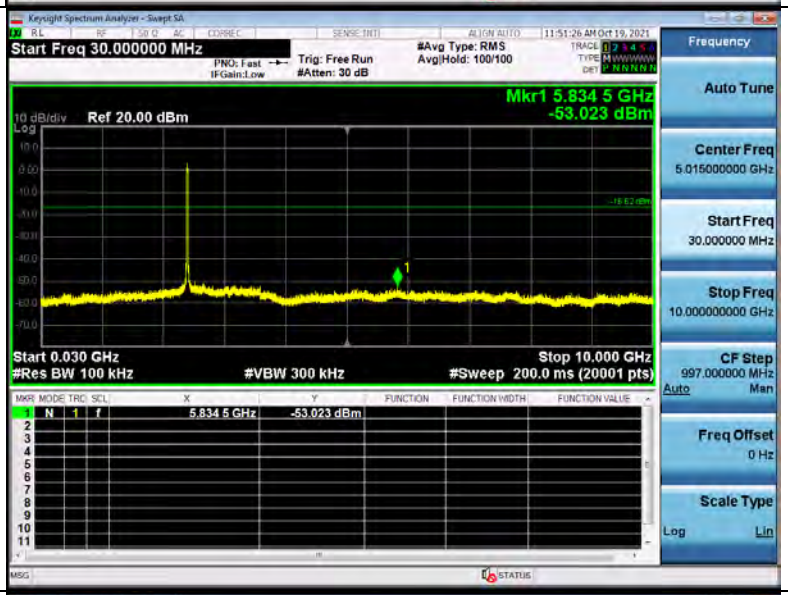
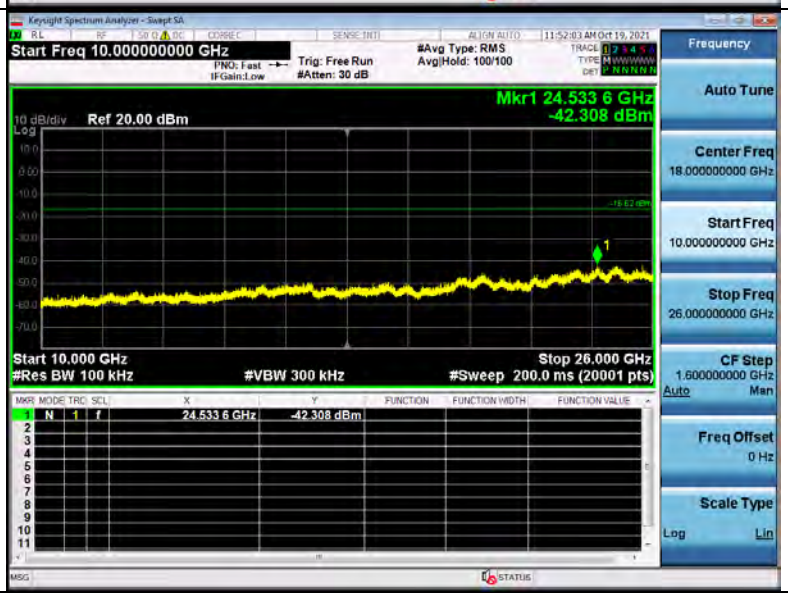
Spurious emission		
Low Channel		
		
		

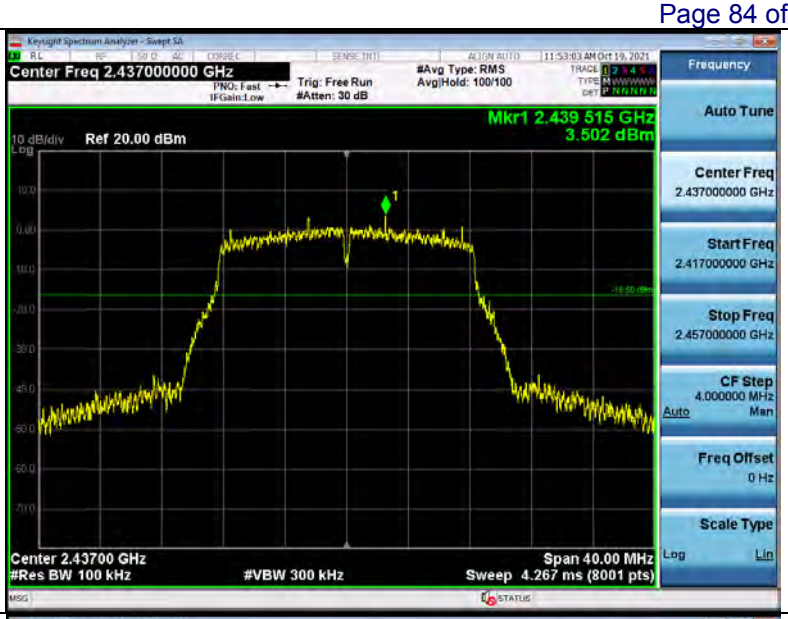
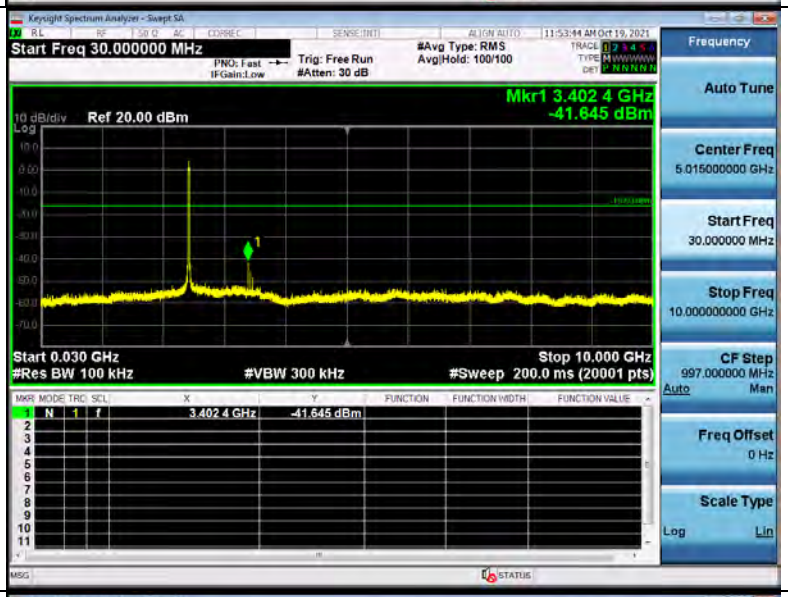
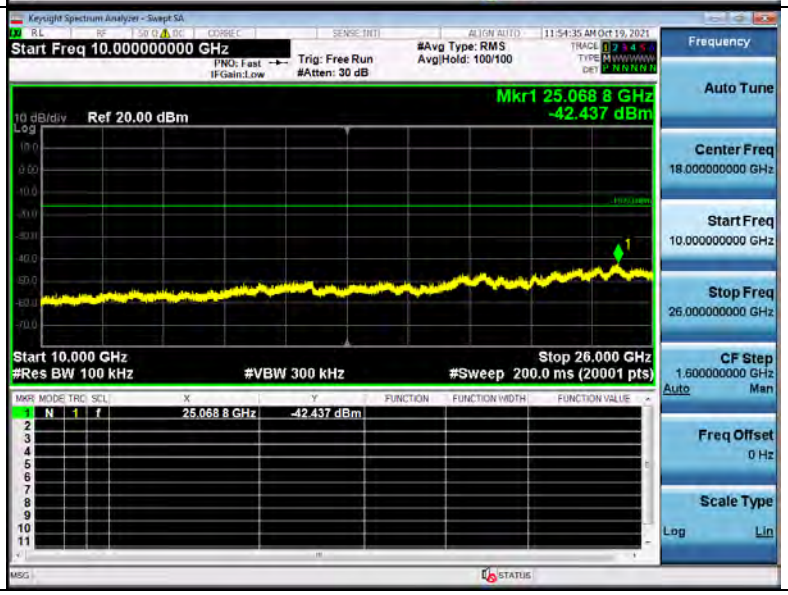
Middle Channel	  

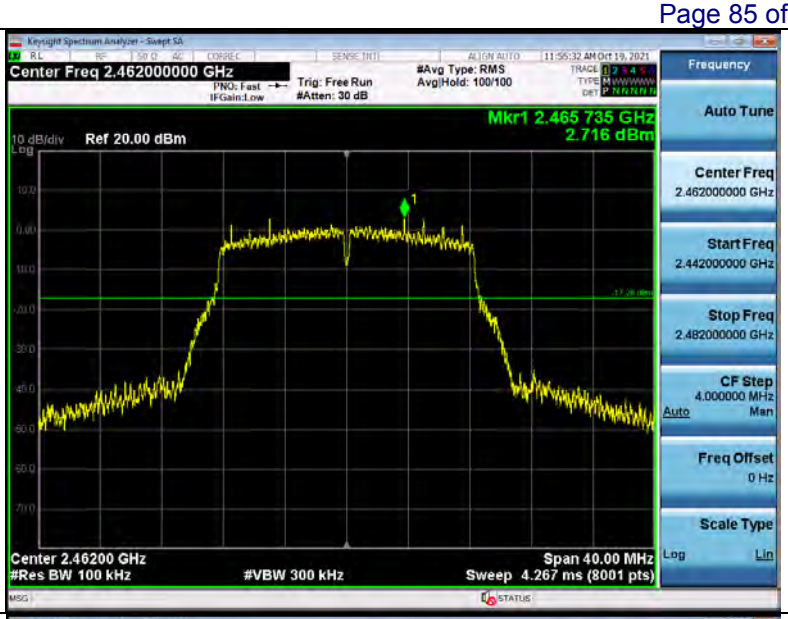
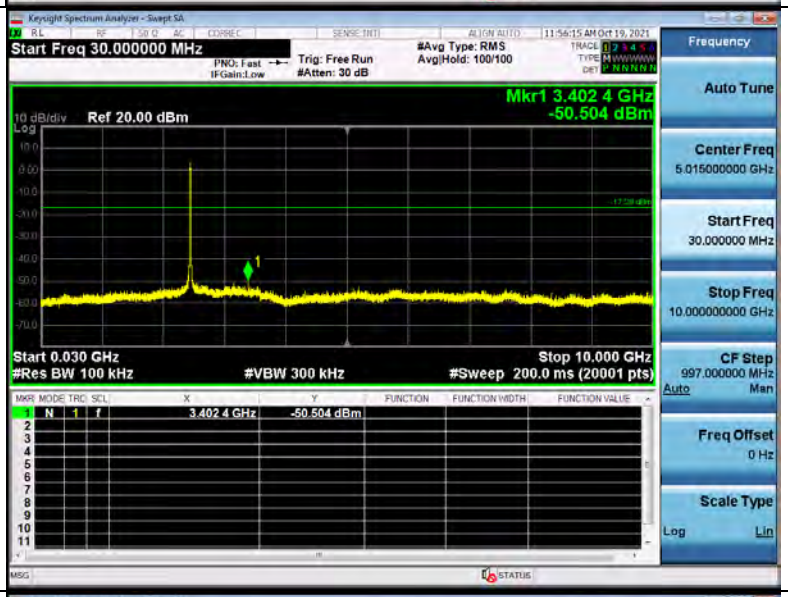
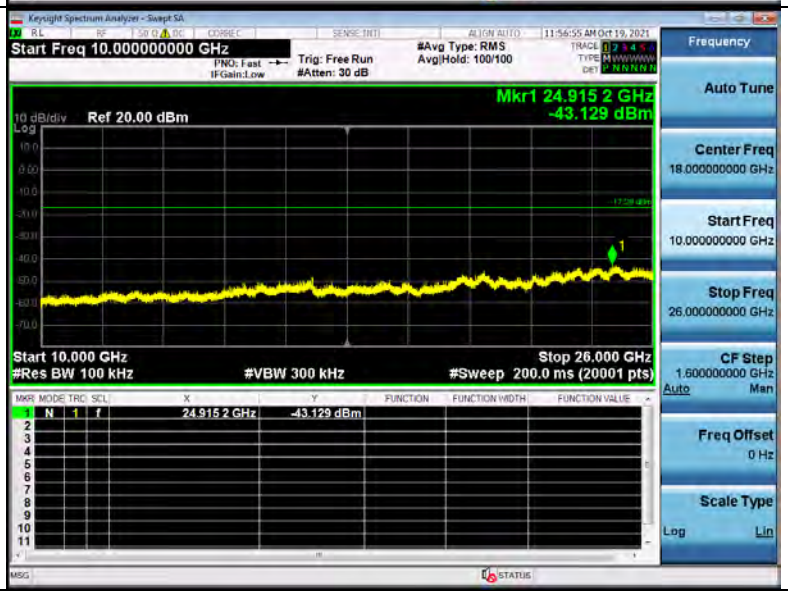
High Channel	  

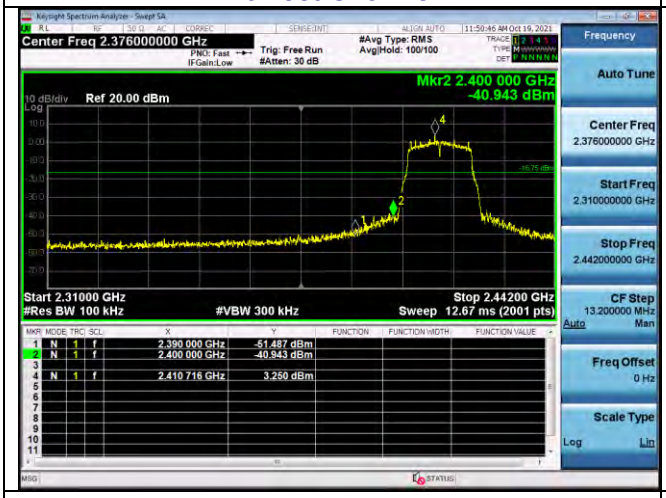
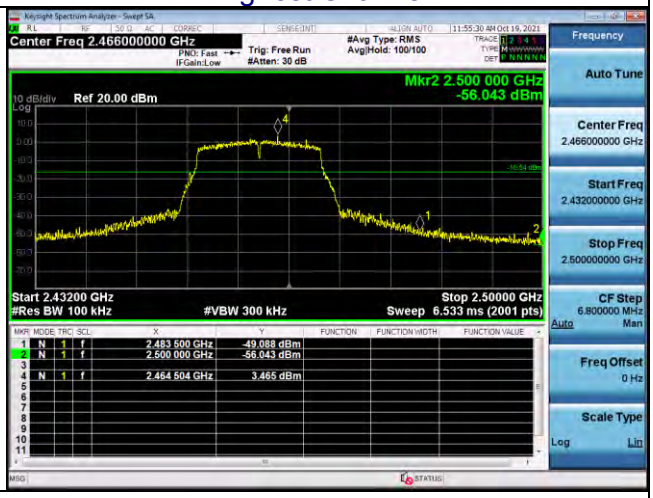
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11g Modulation

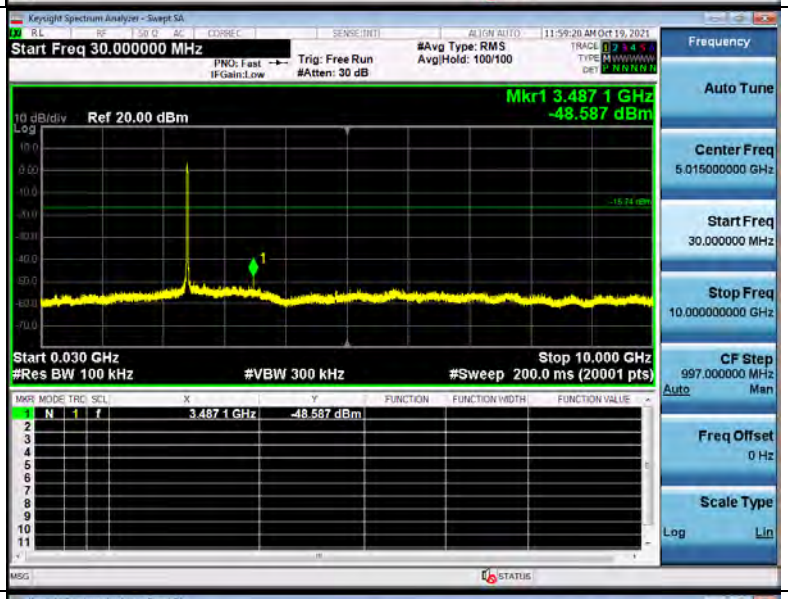
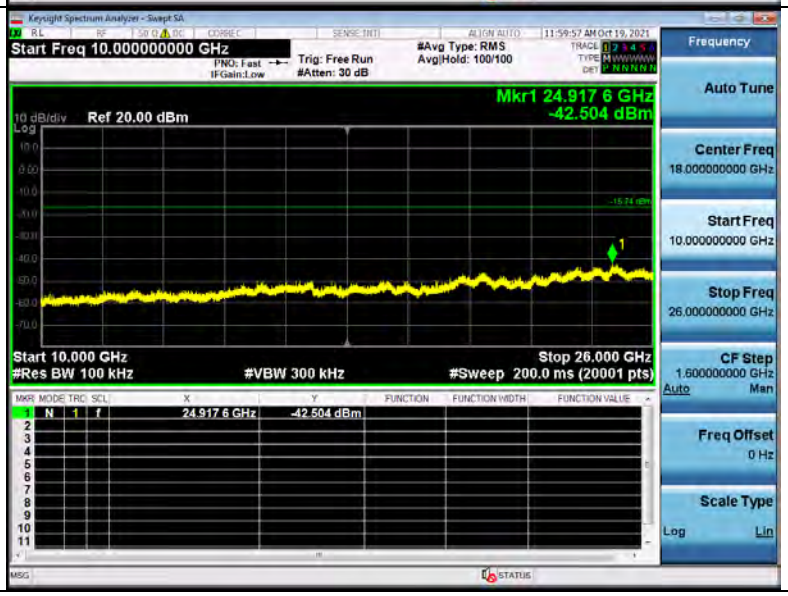
Spurious emission	
Low Channel	
	
	

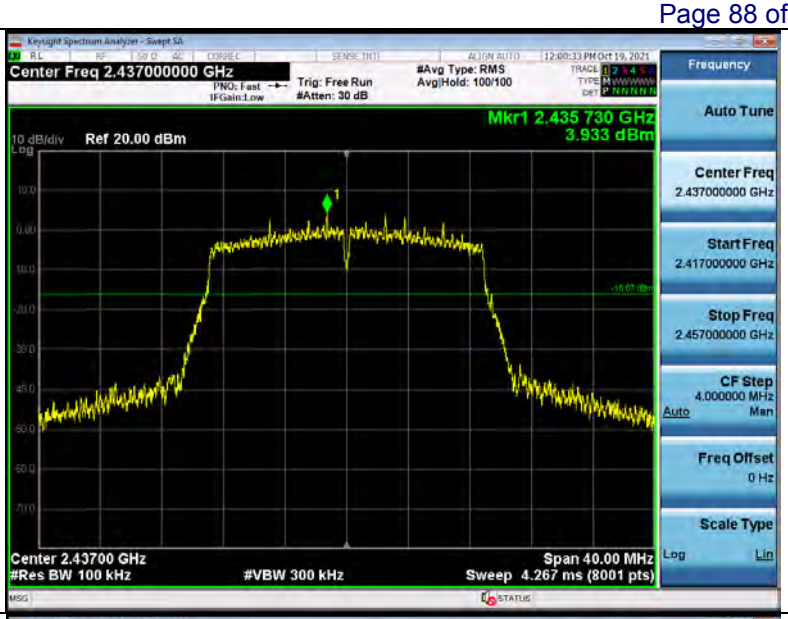
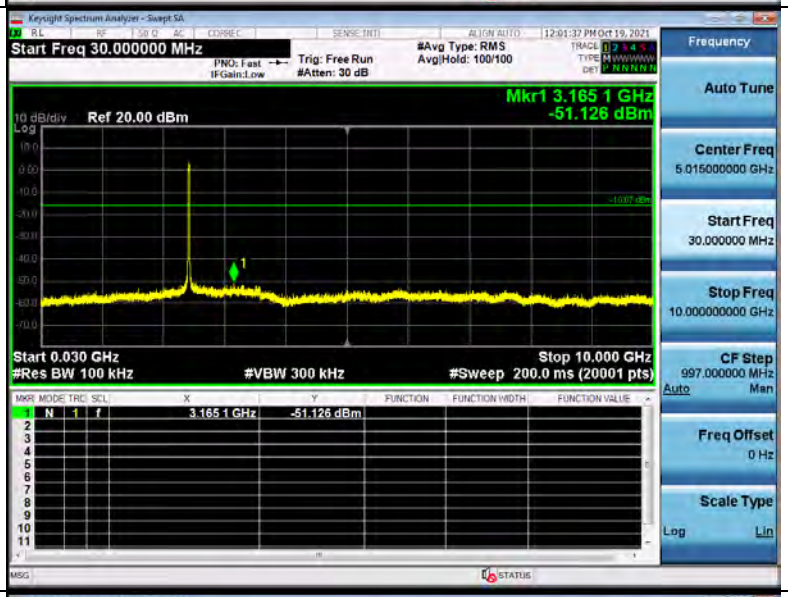
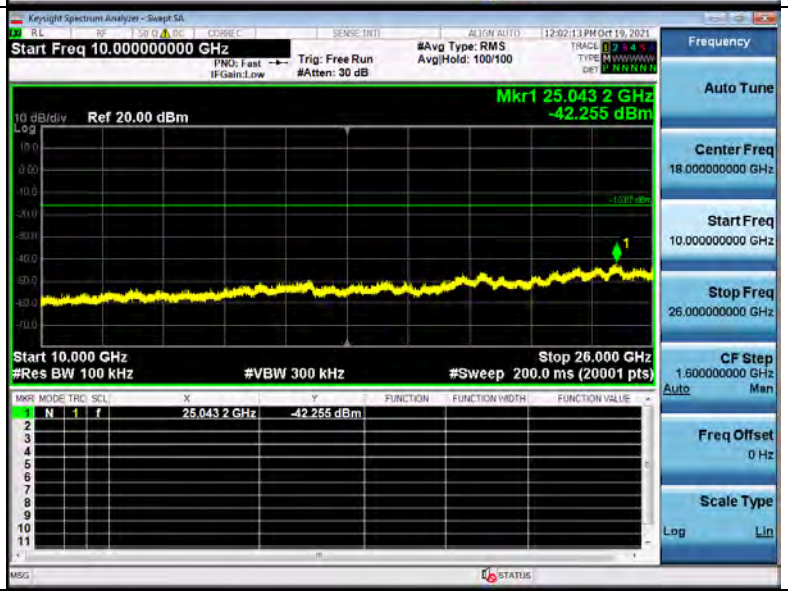
Middle Channel	  

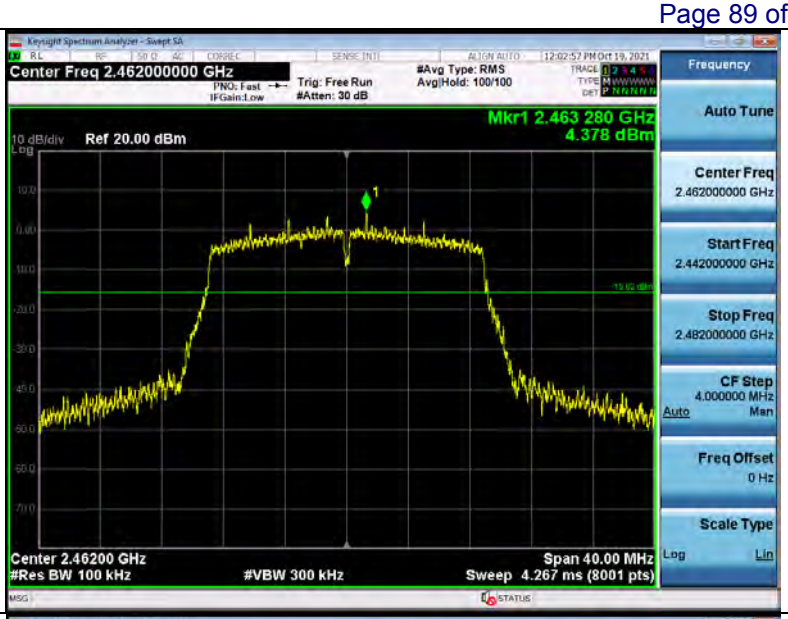
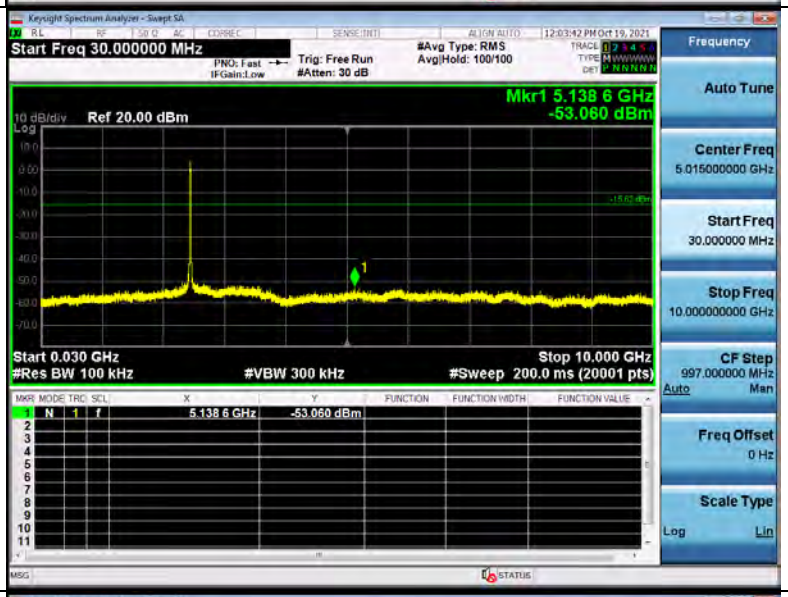
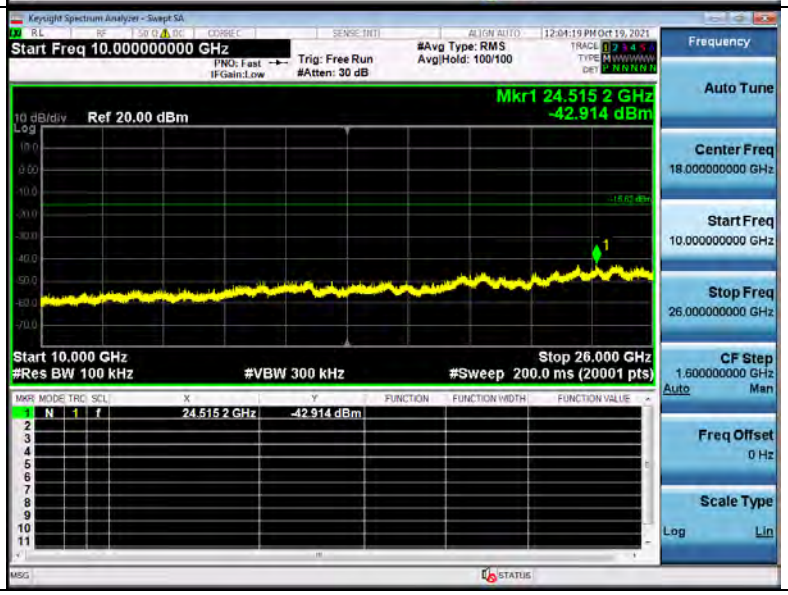
High Channel	  

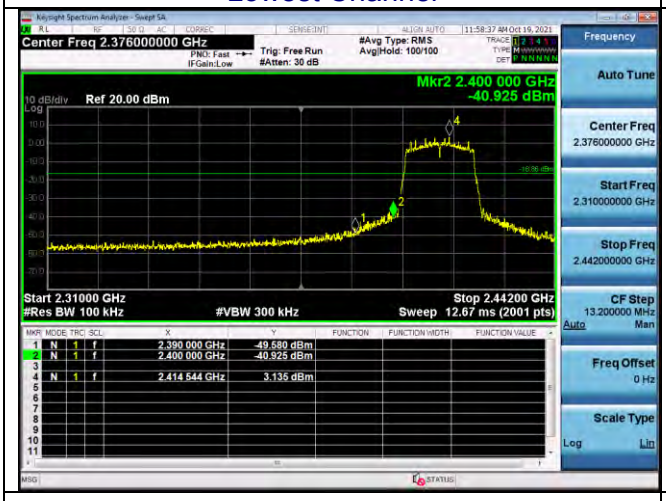
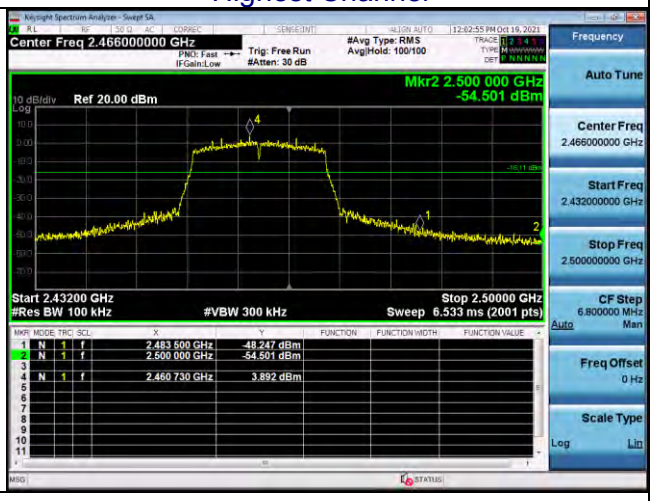
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11n20 Modulation

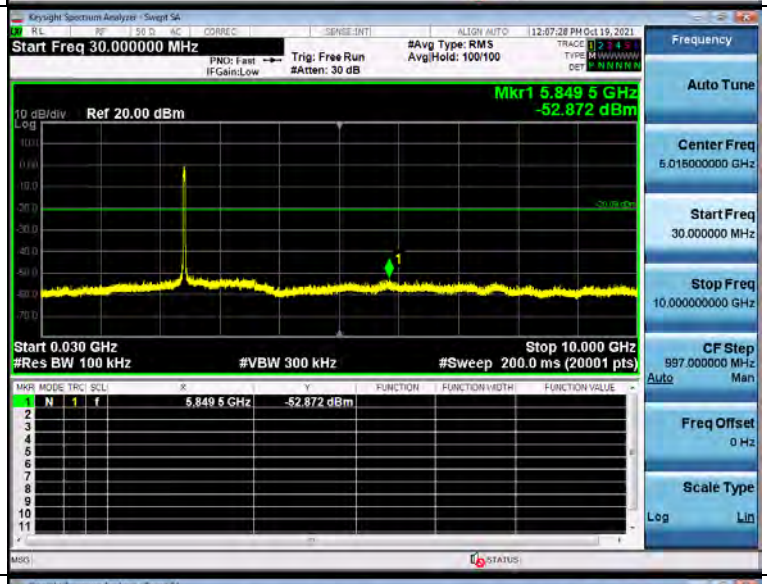
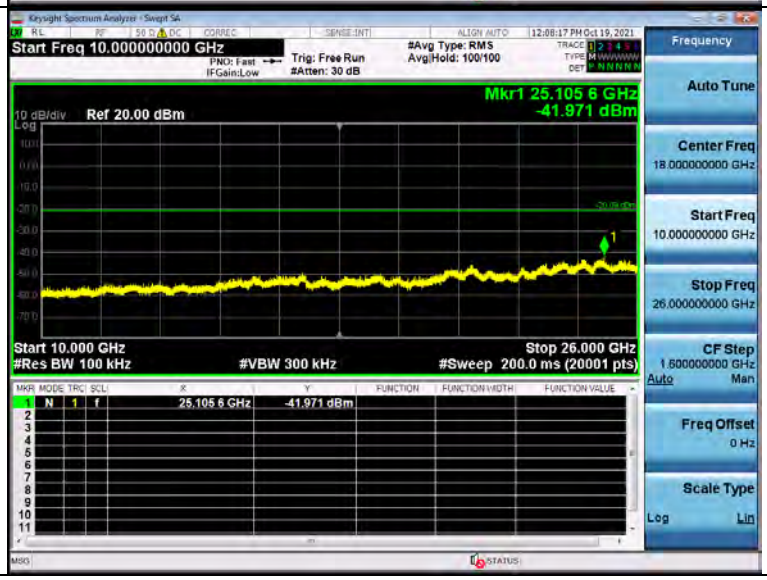
Spurious emission	
Low Channel	
	
	

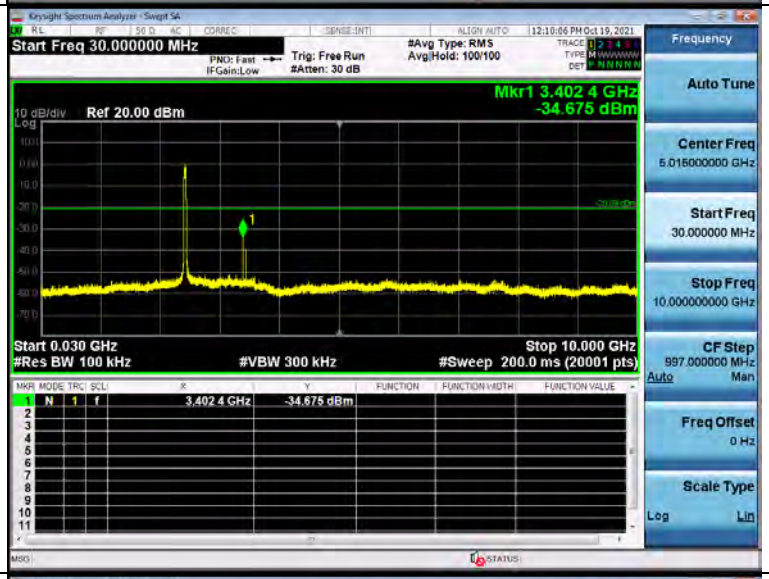
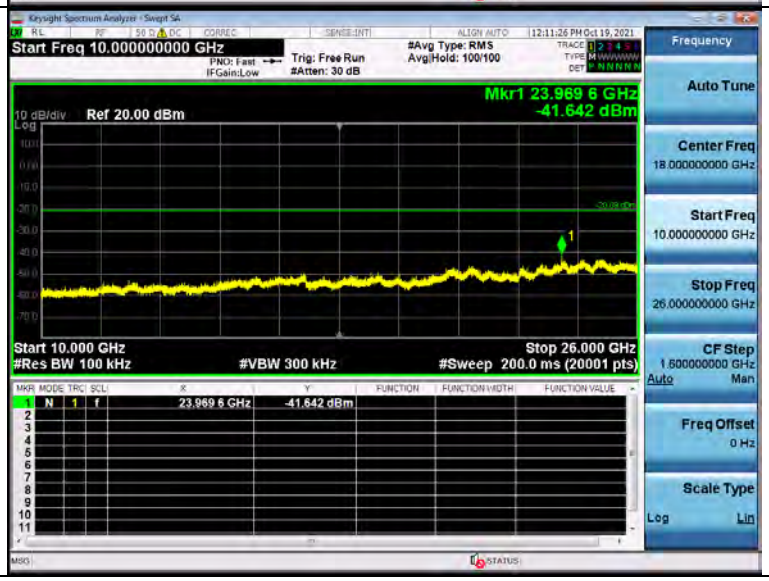
Middle Channel	  

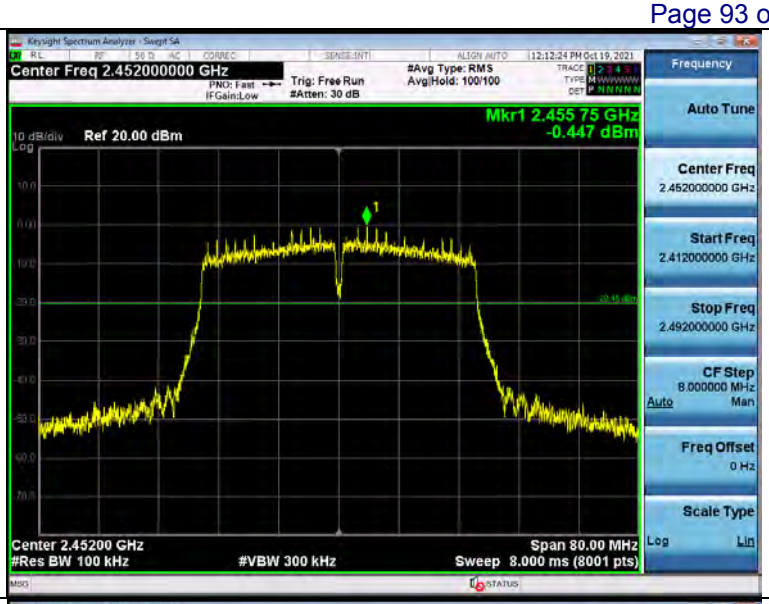
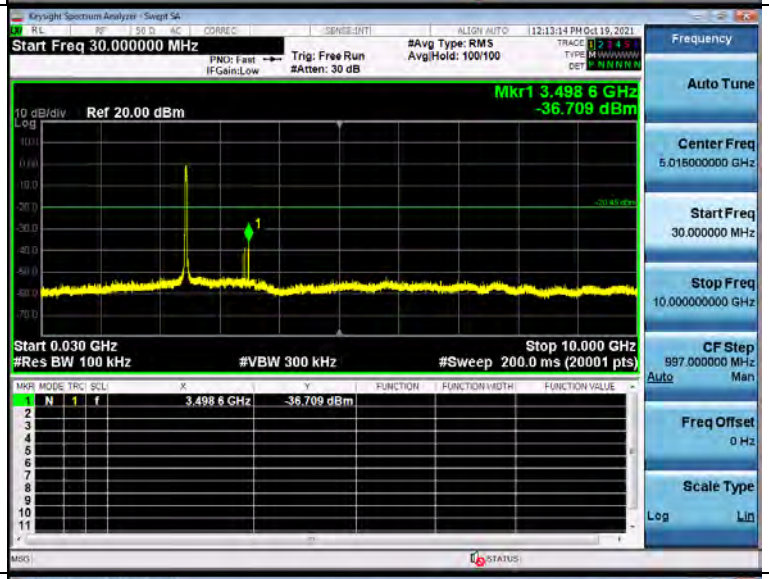
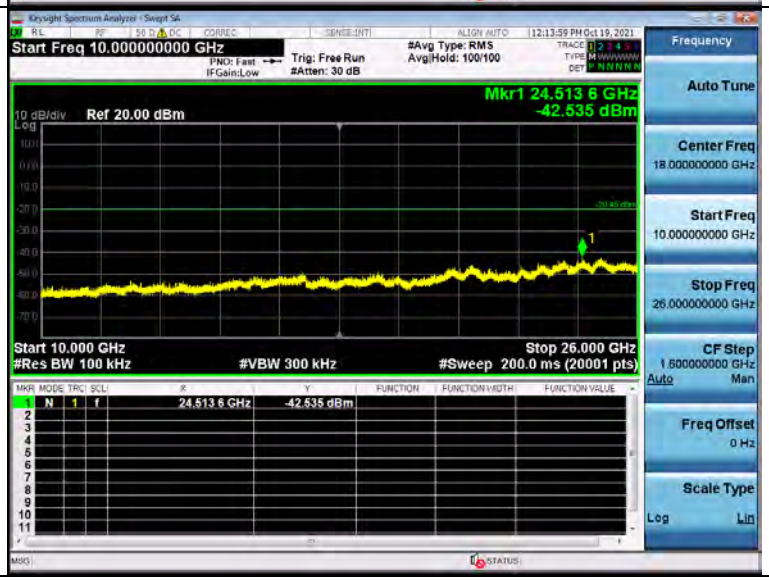
High Channel	  

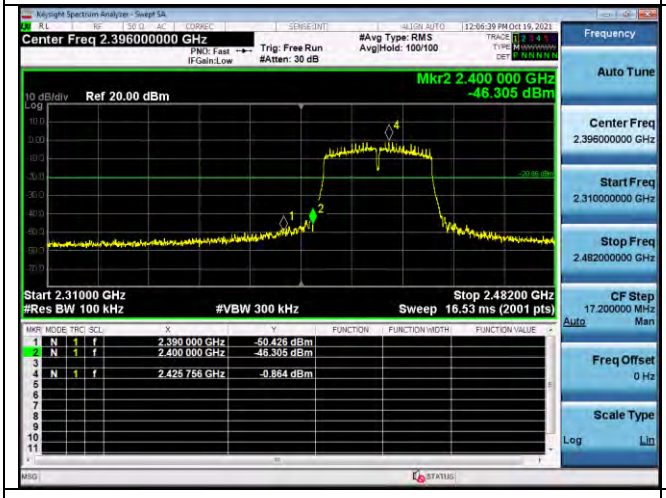
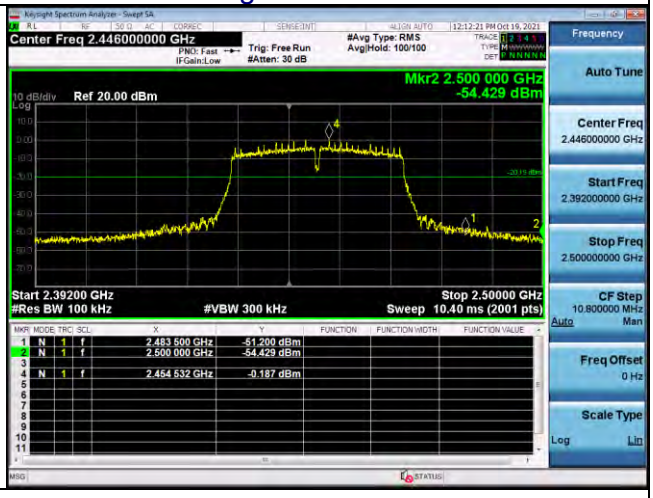
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11n40 Modulation

Spurious emission	
Low Channel	
	
	

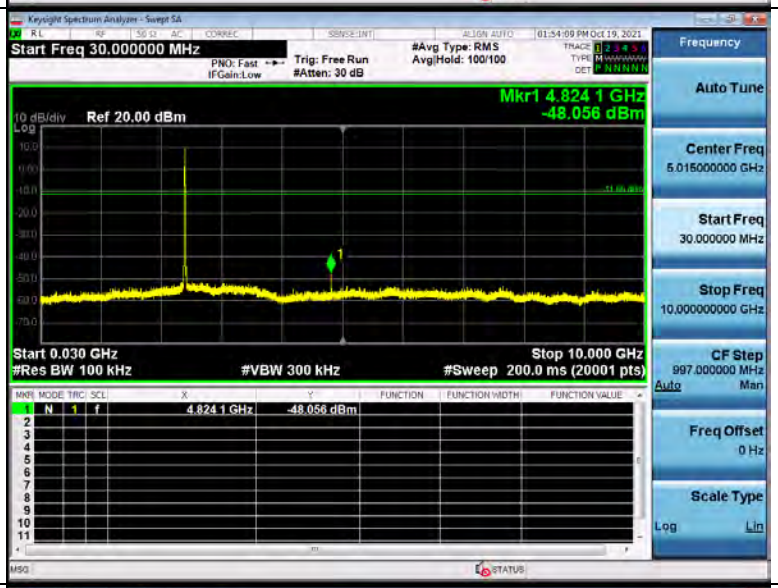
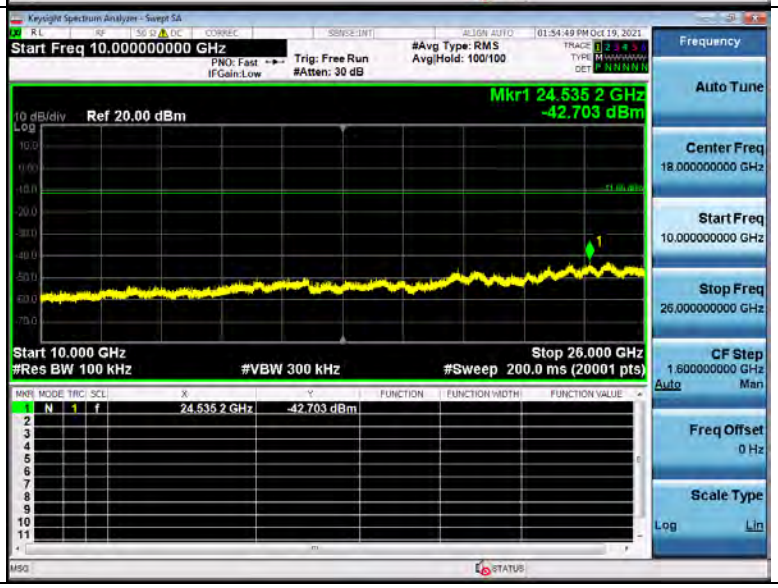
Middle Channel	  

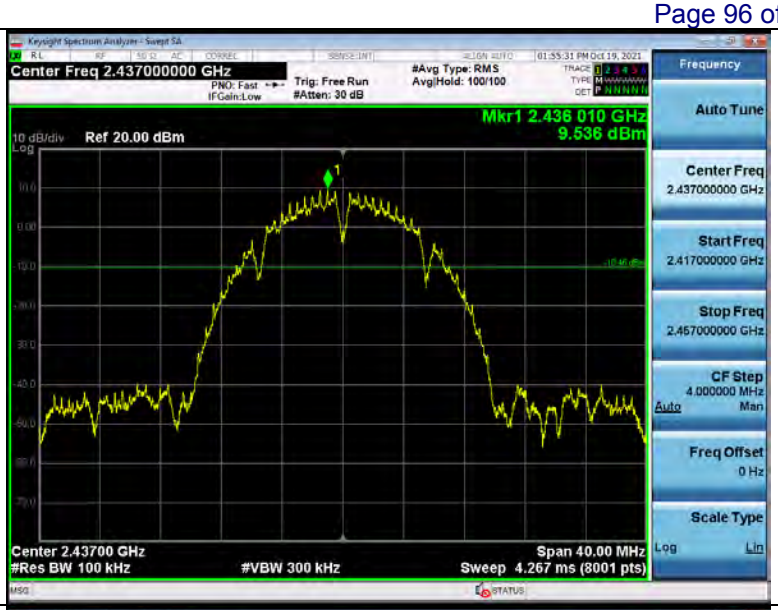
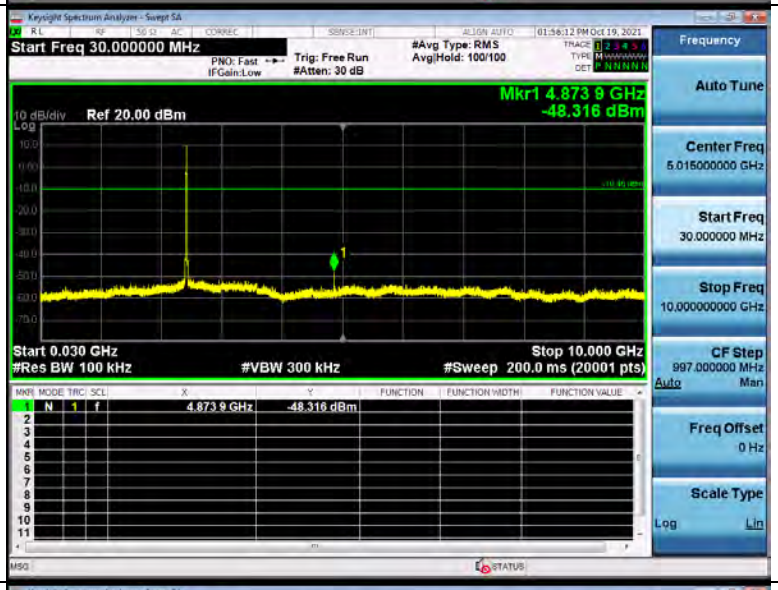
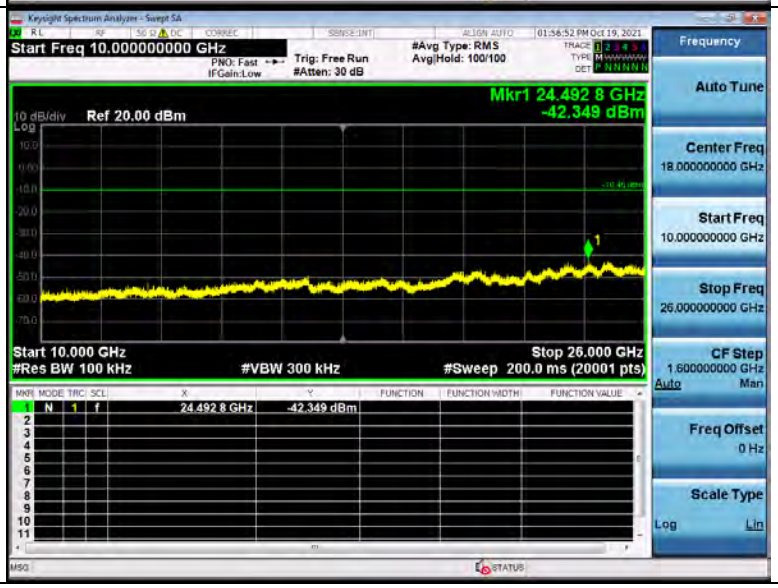
High Channel	  

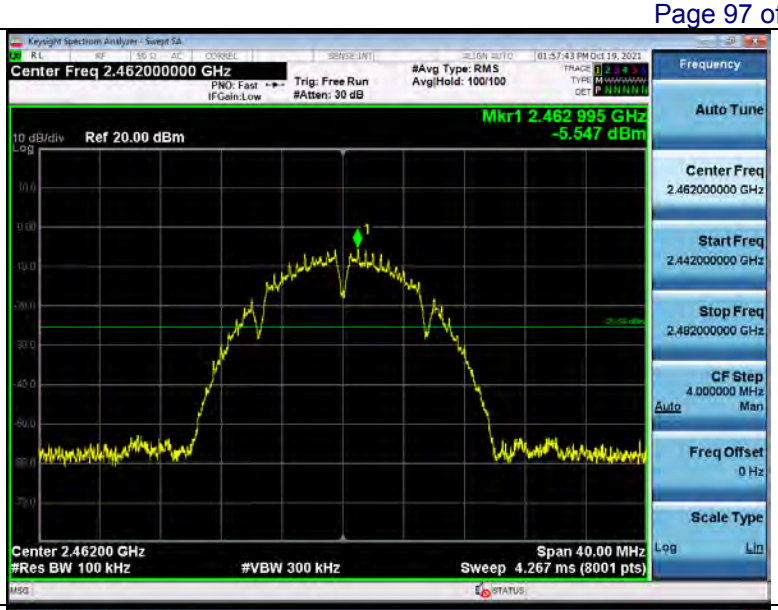
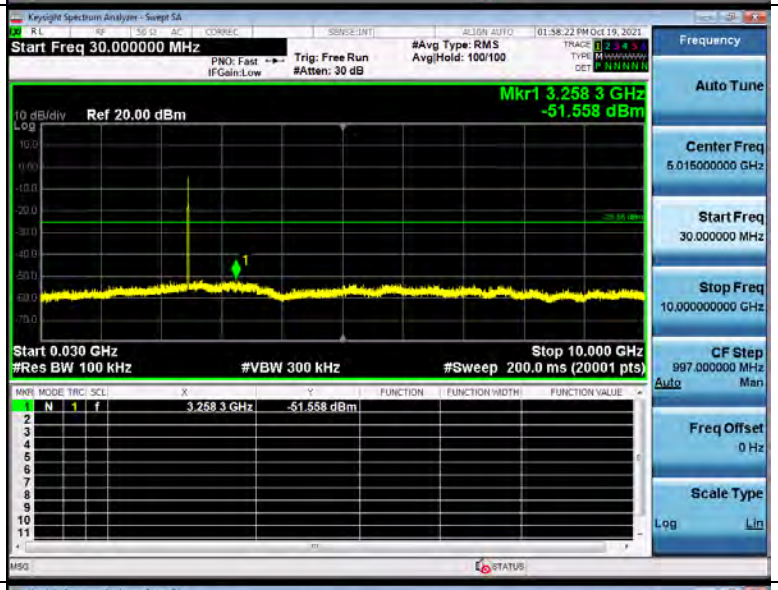
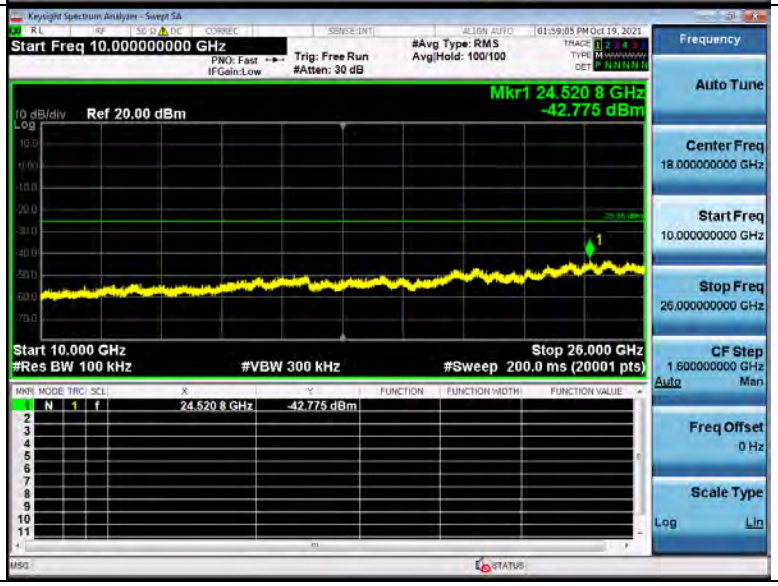
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

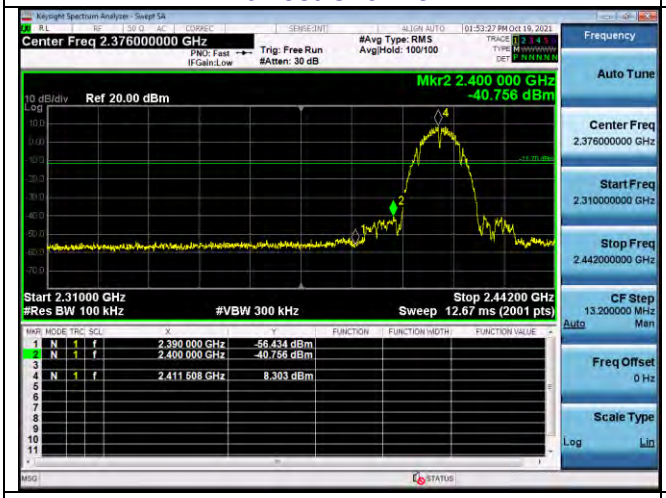
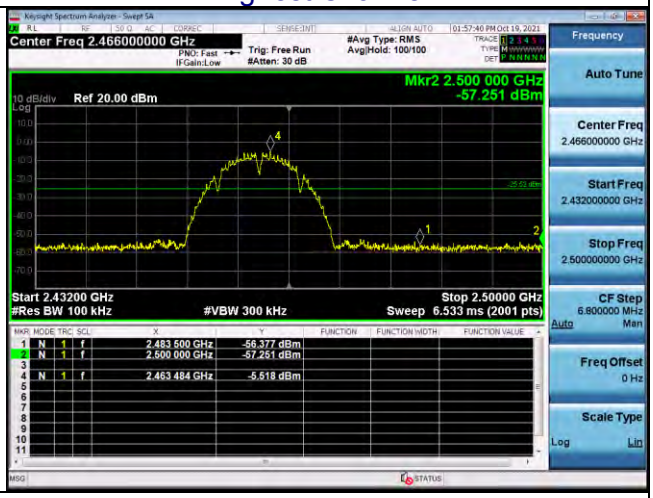
ANT2

802.11b Modulation

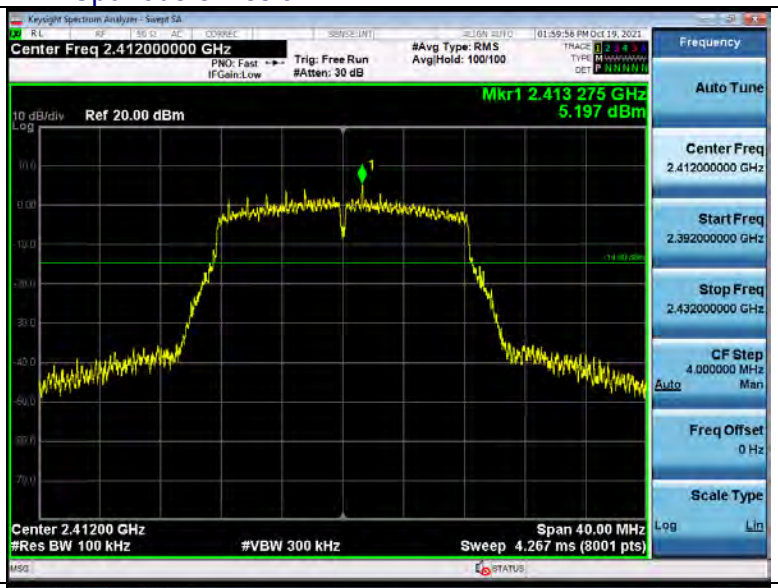
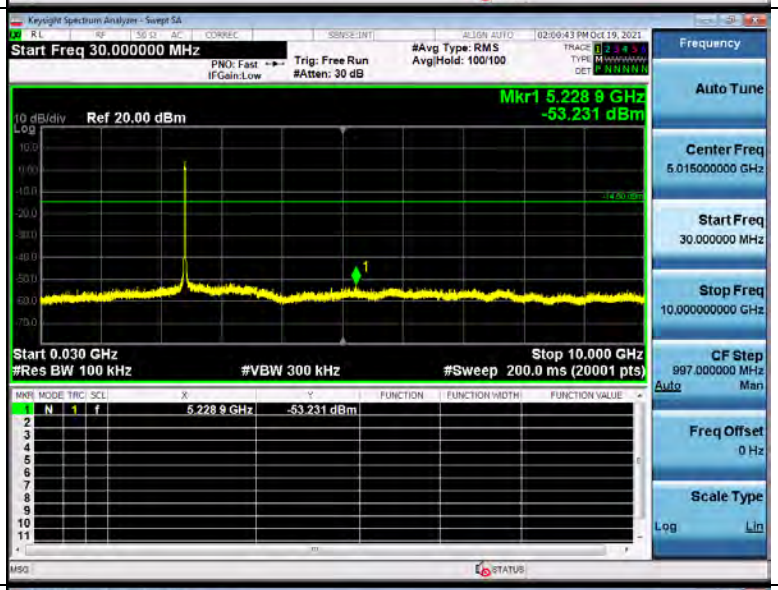
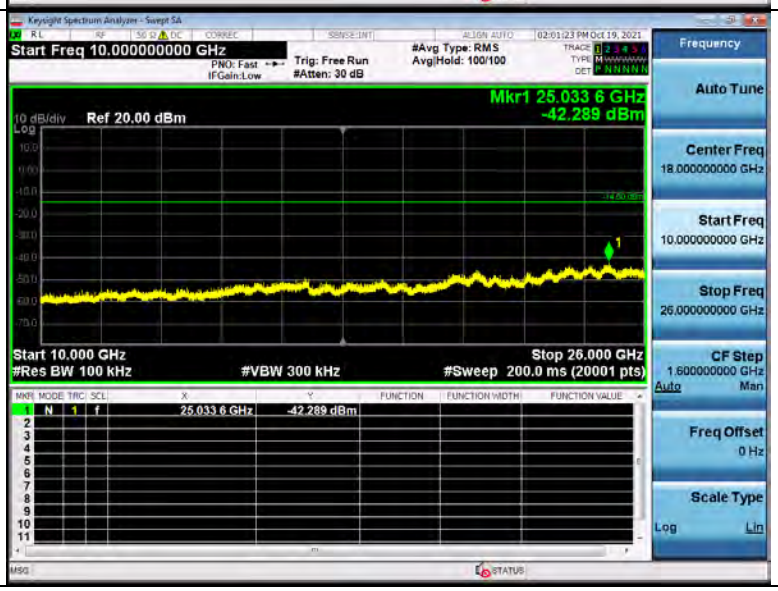
Spurious emission	
Low Channel	
	
	

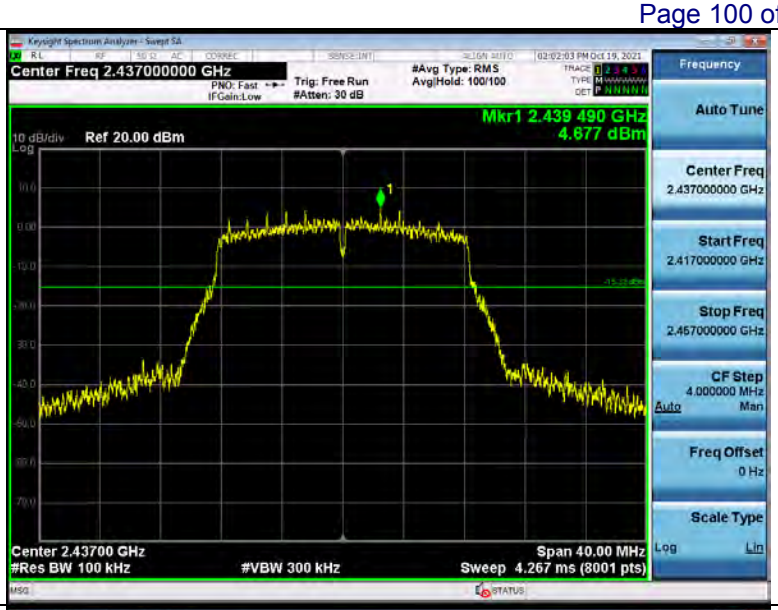
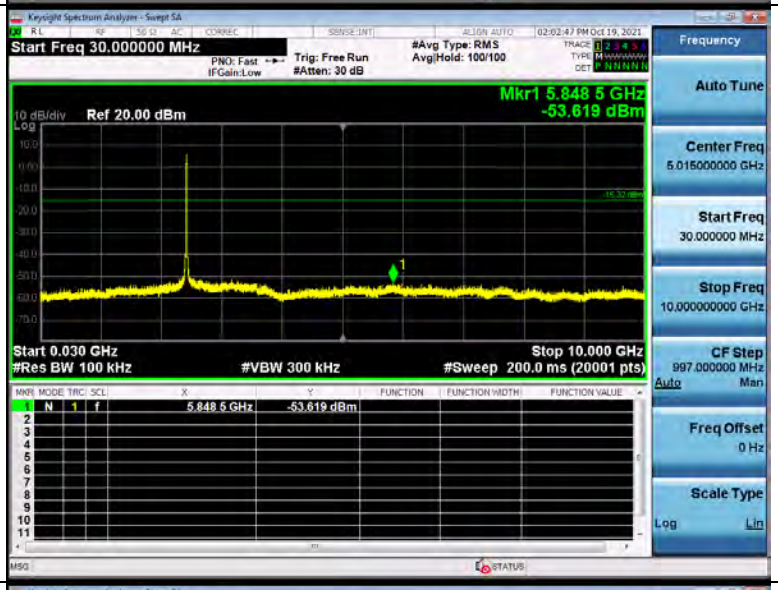
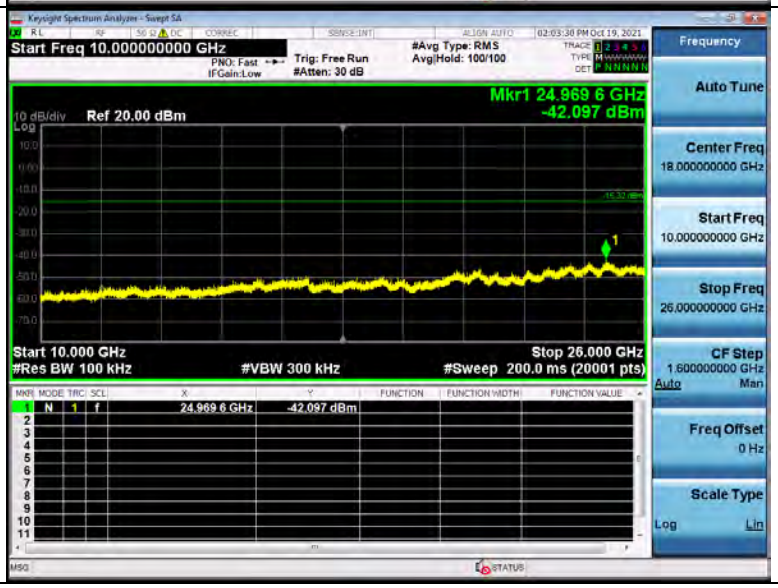
Middle Channel	  

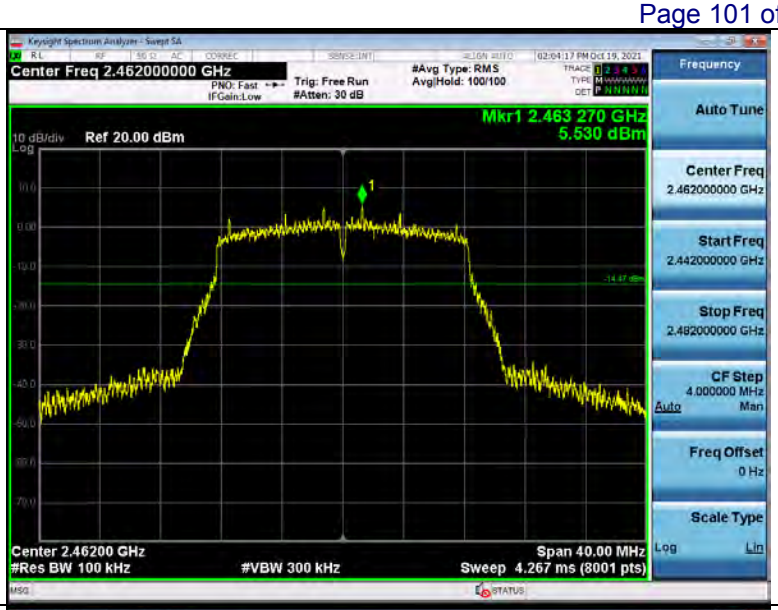
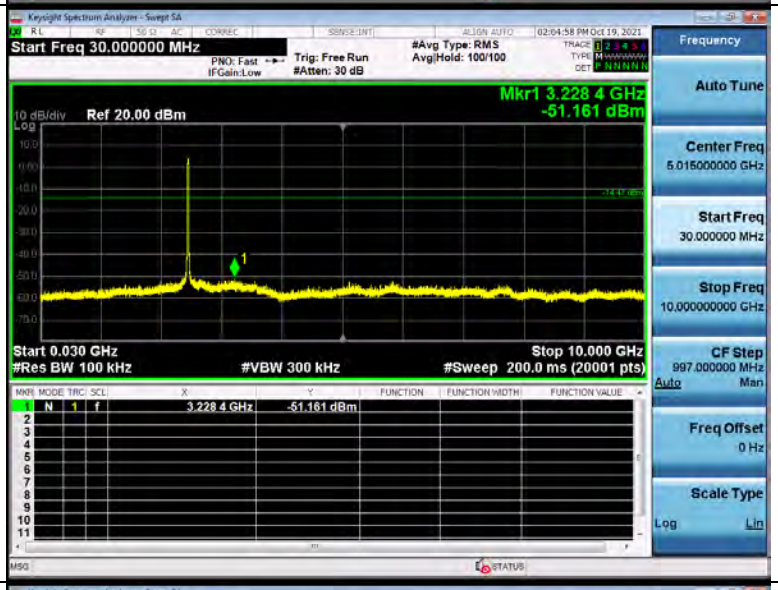
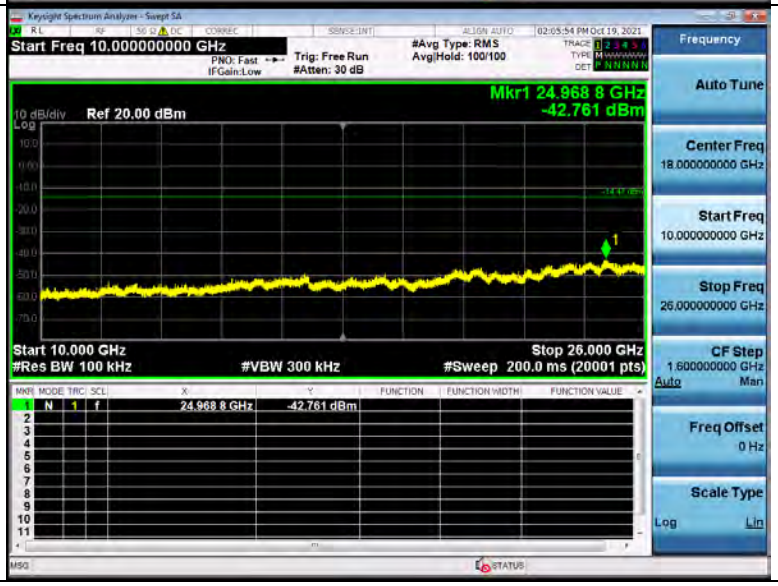
High Channel		
		
		

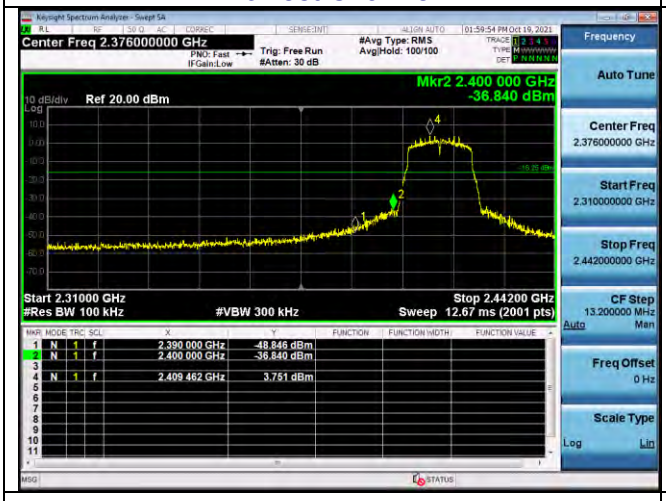
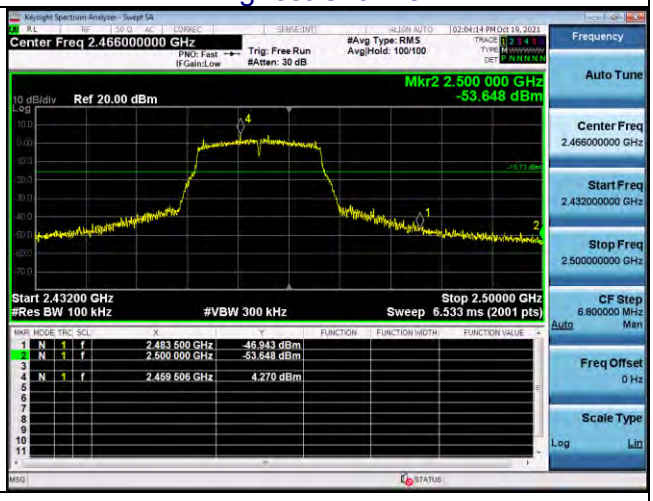
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11g Modulation

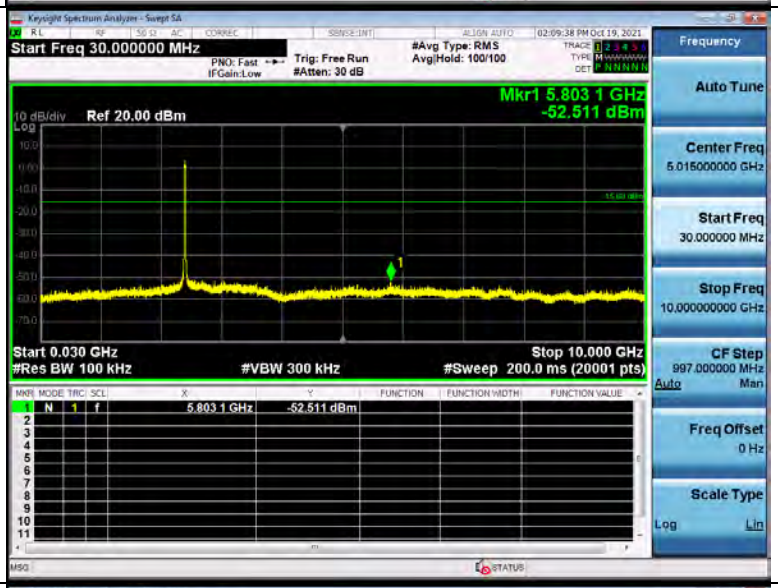
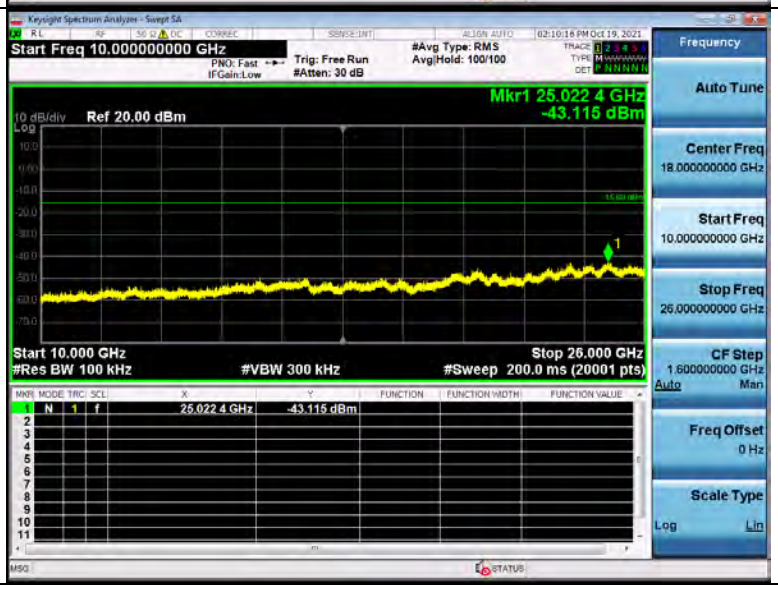
Spurious emission	
Low Channel	
	
	

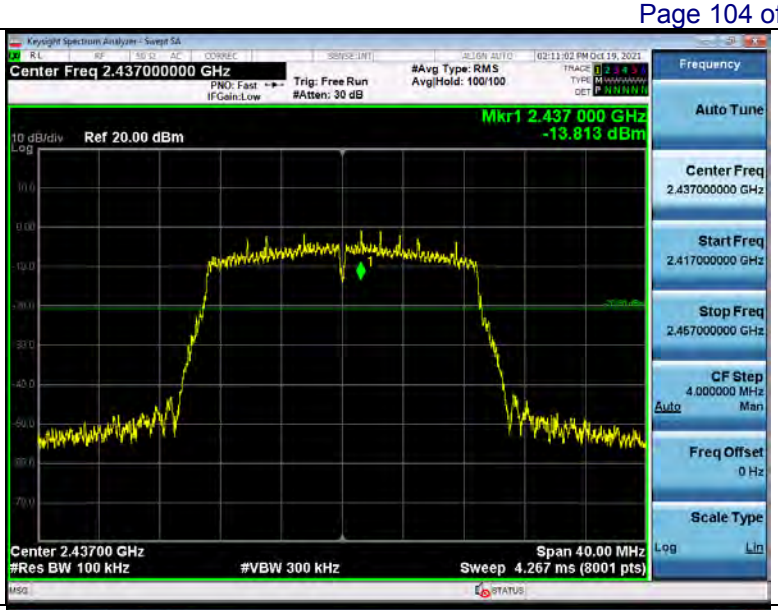
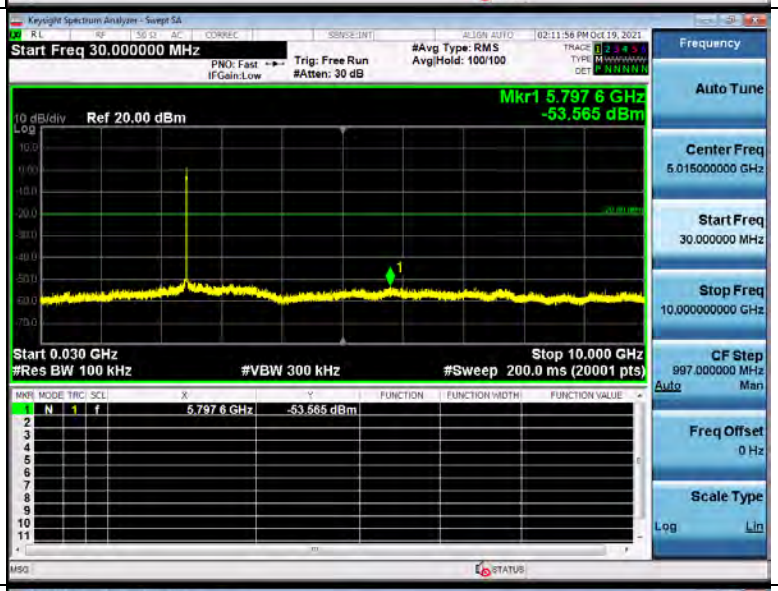
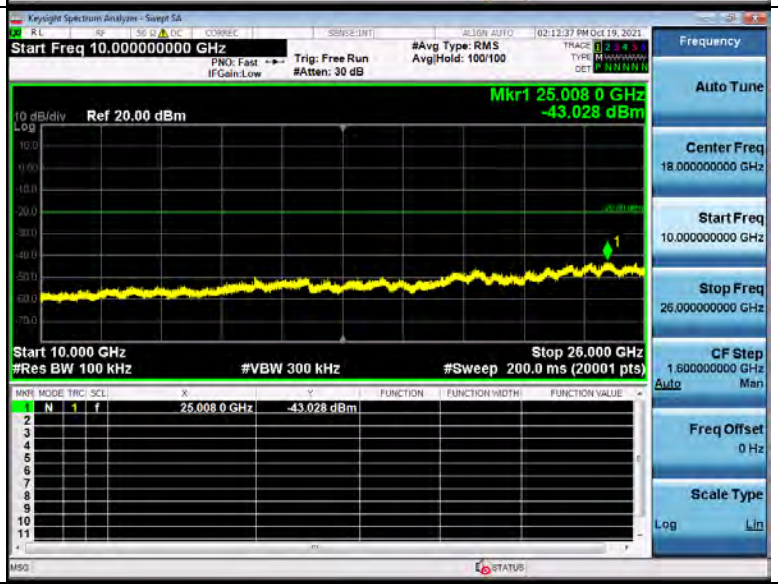
Middle Channel	  

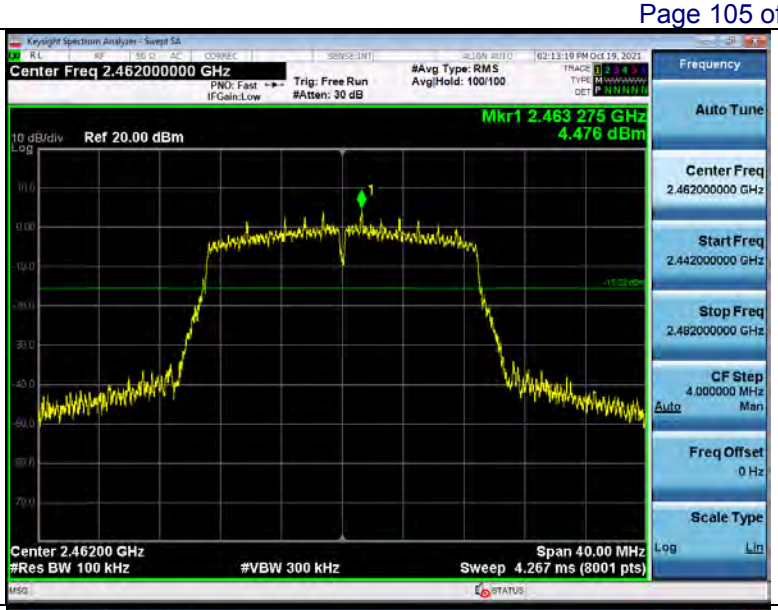
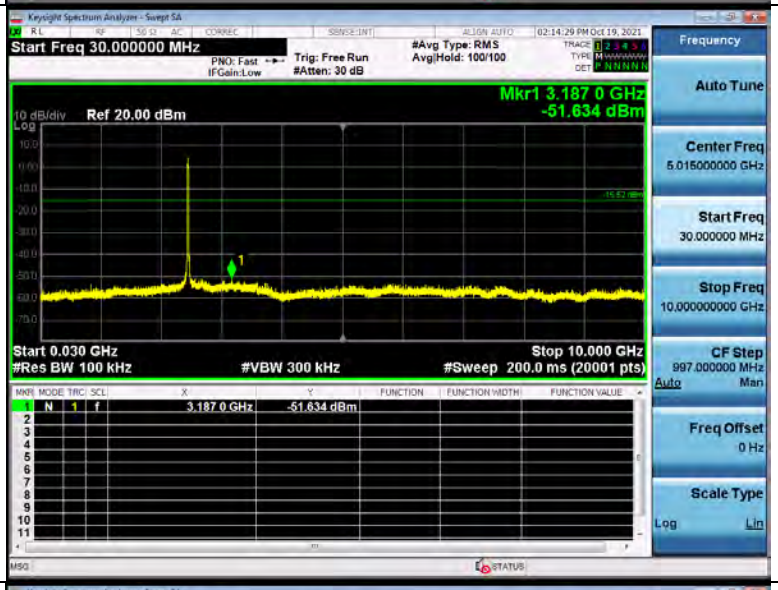
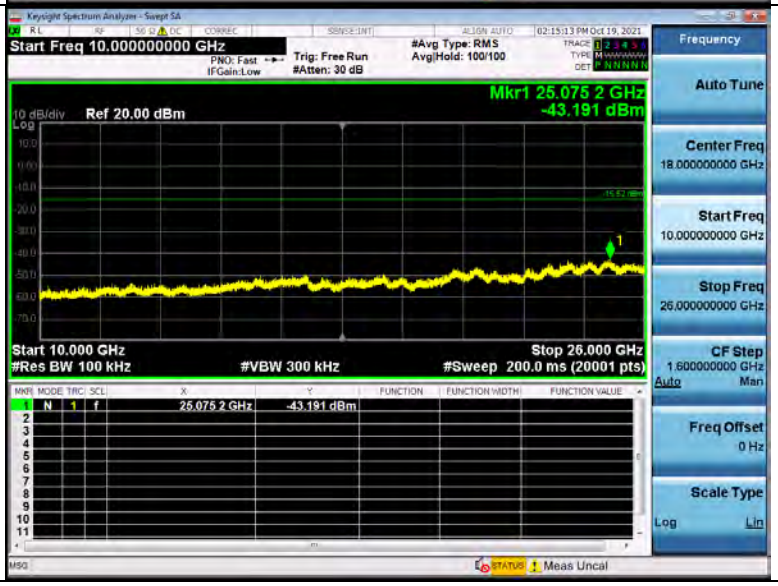
High Channel		
		
		

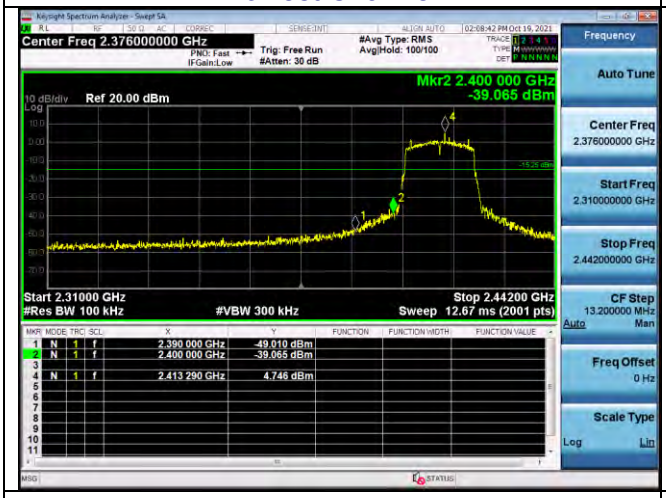
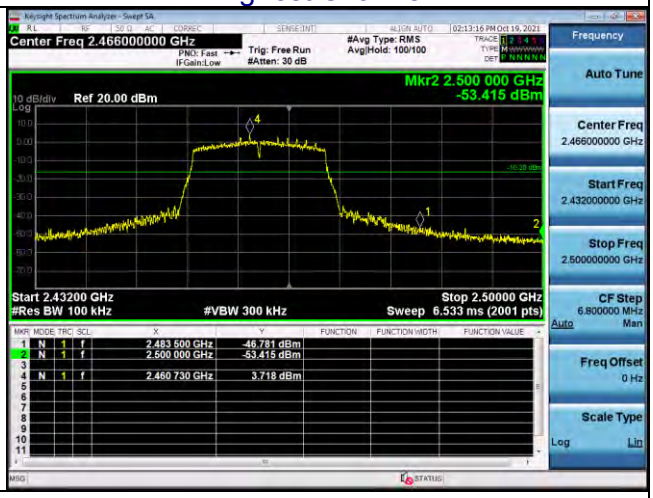
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11n20 Modulation

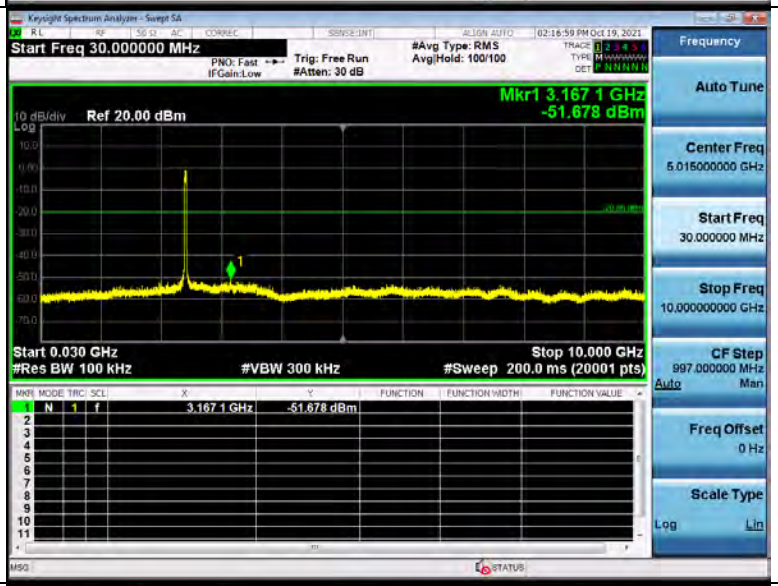
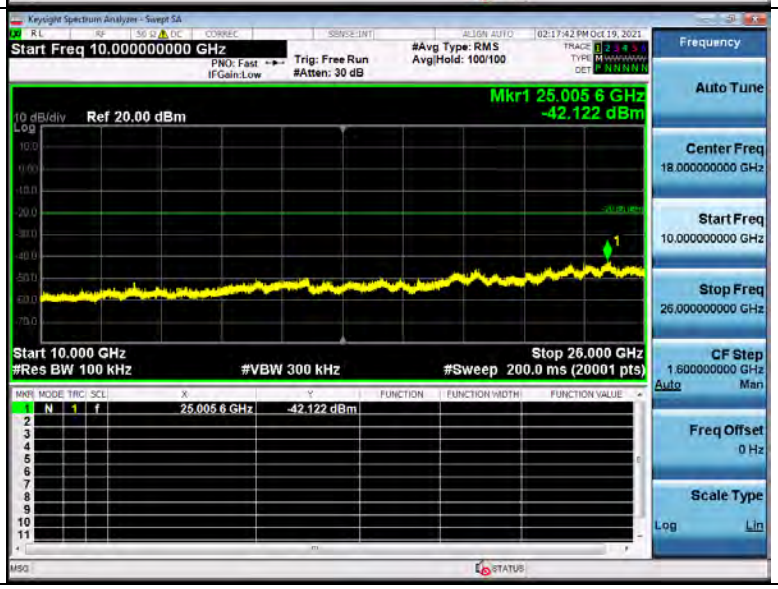
Spurious emission	
Low Channel	
	
	

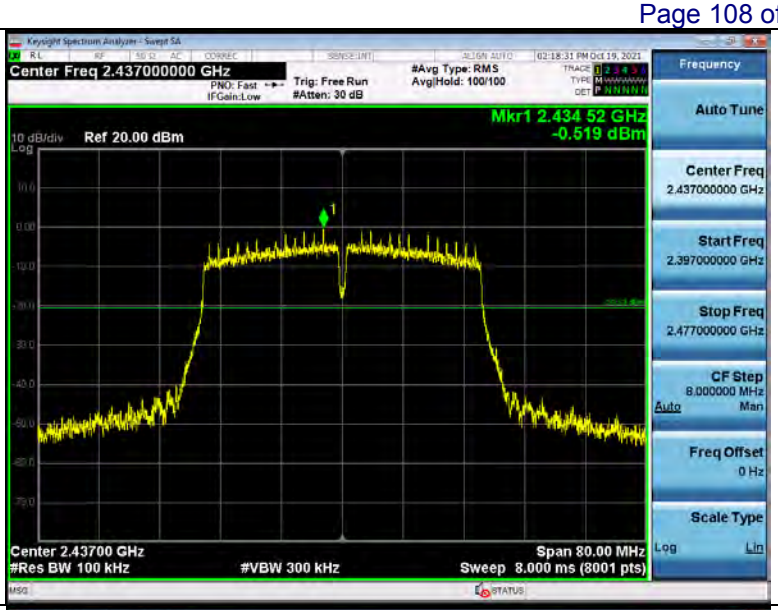
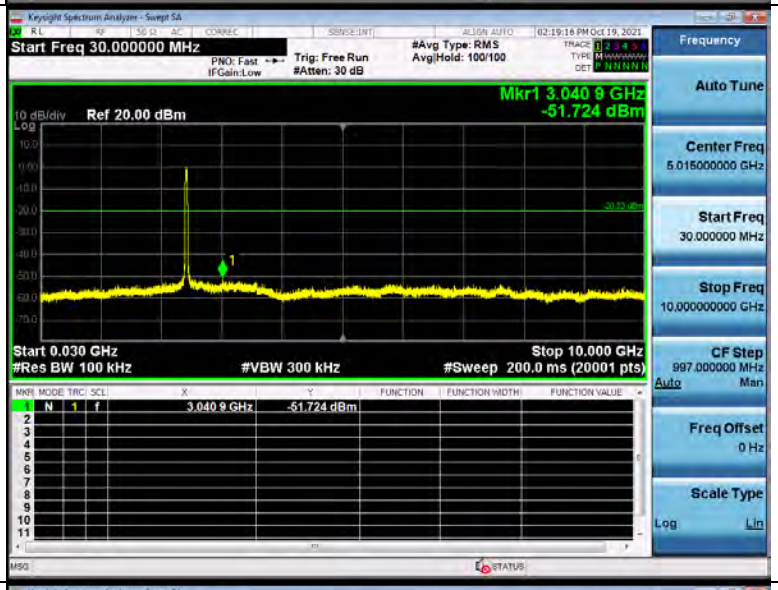
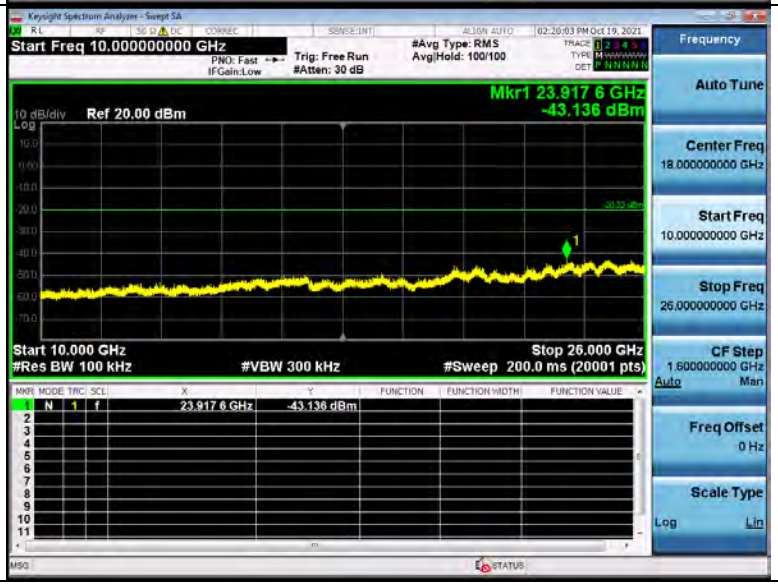
Middle Channel	  

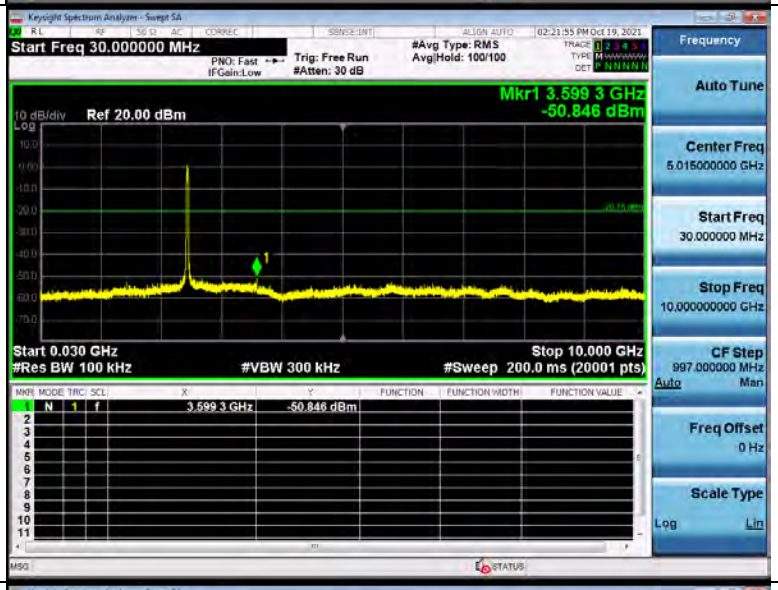
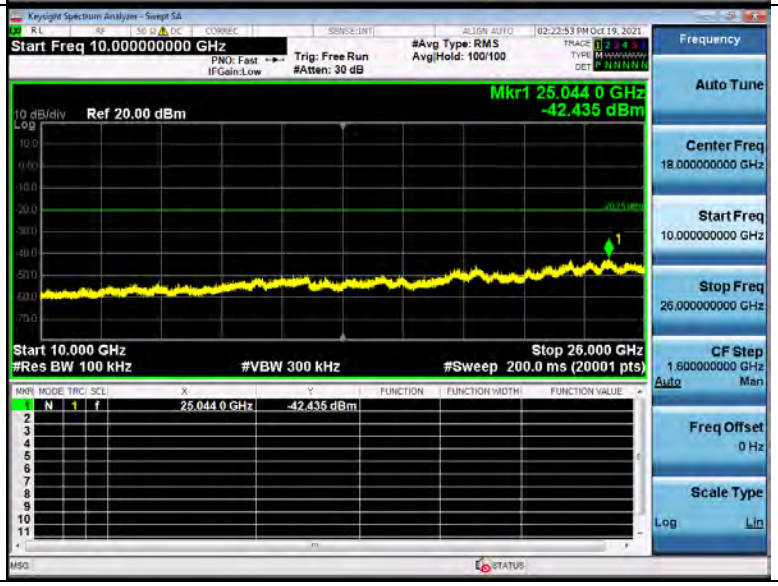
High Channel	  

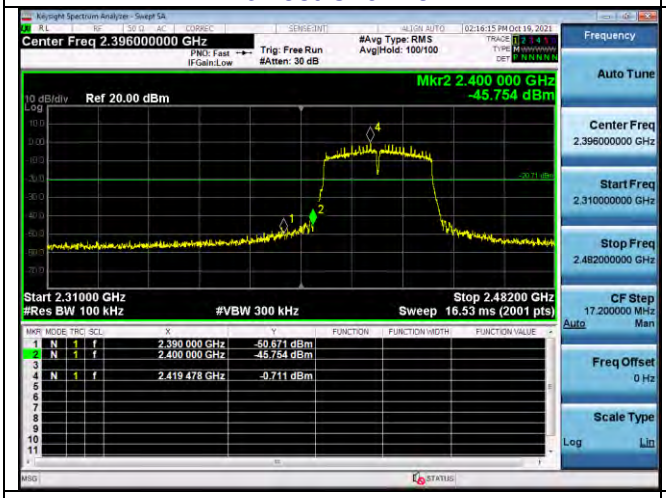
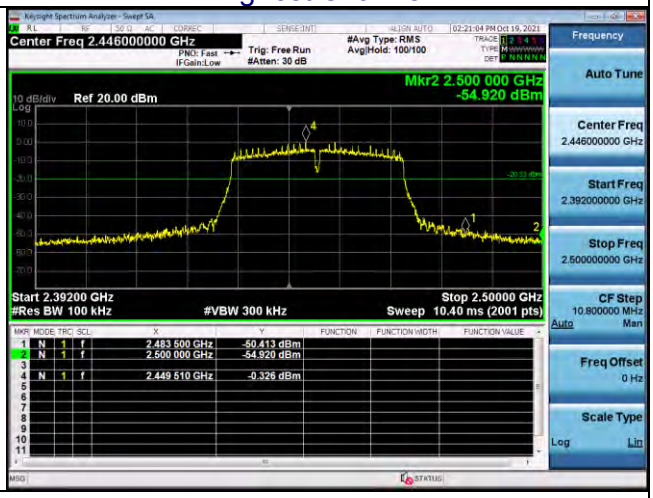
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11n40 Modulation

Spurious emission	
Low Channel	  

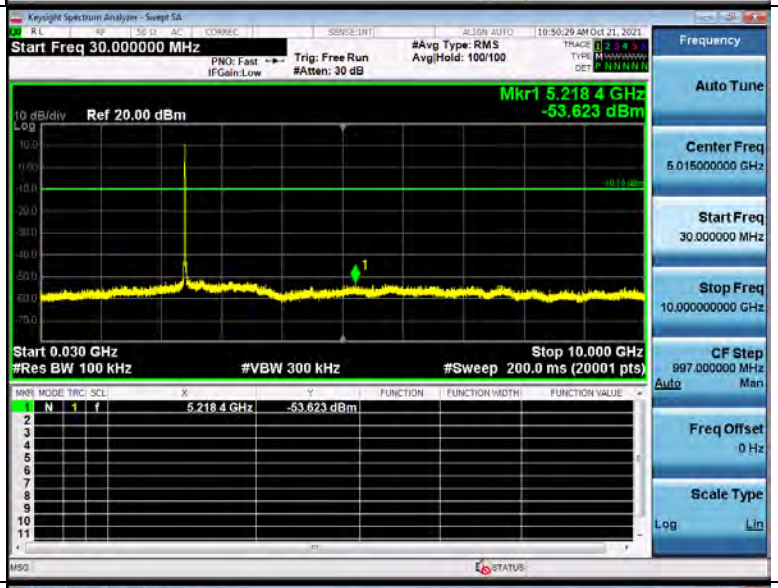
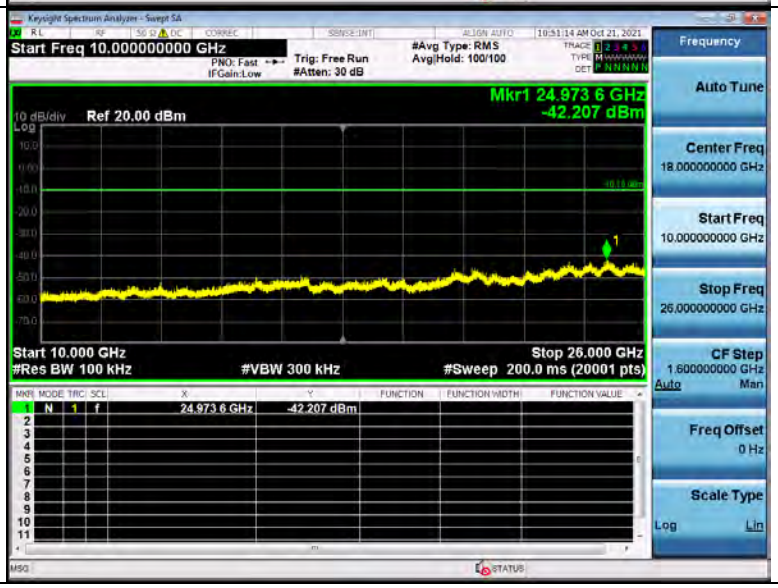
Middle Channel	  

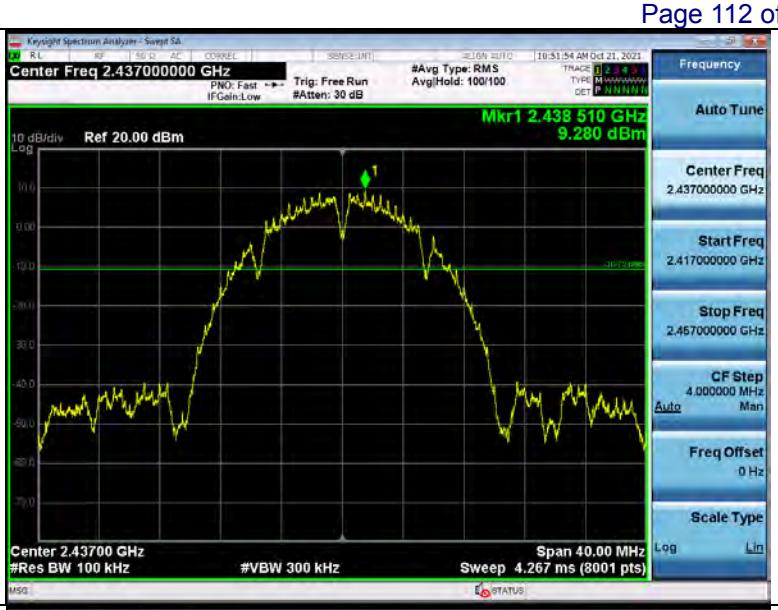
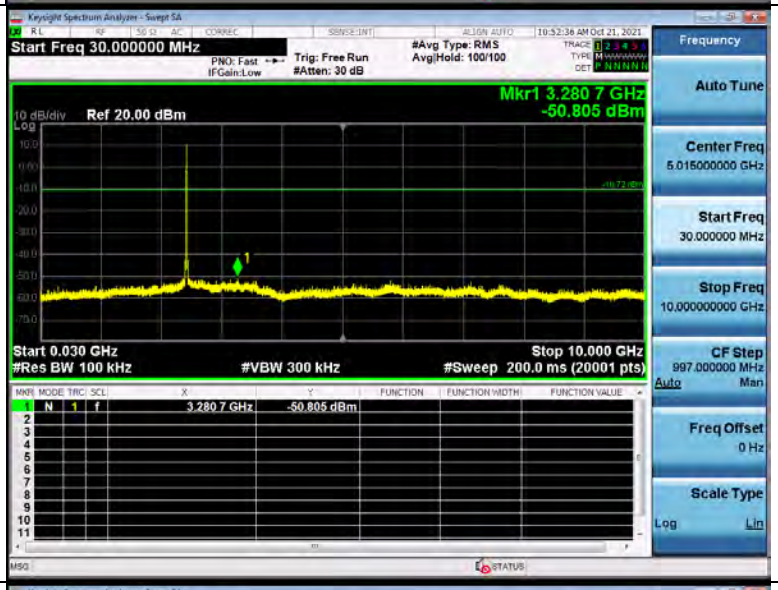
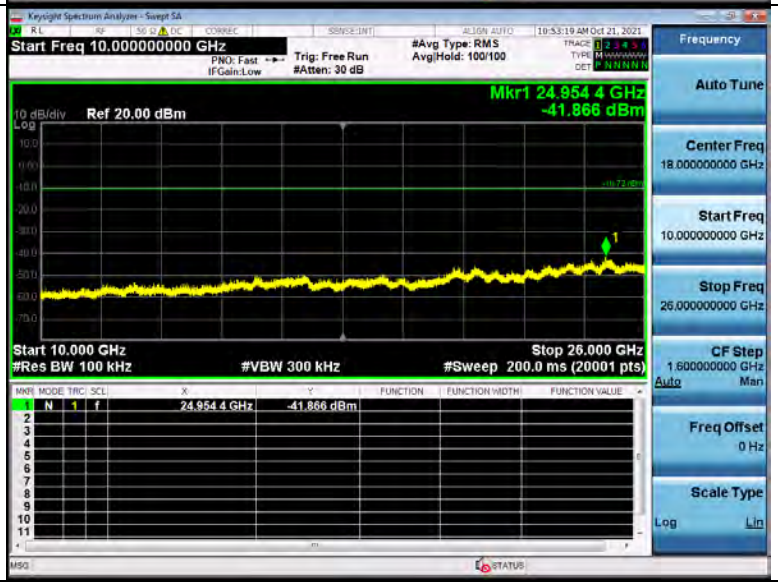
High Channel	
	
	

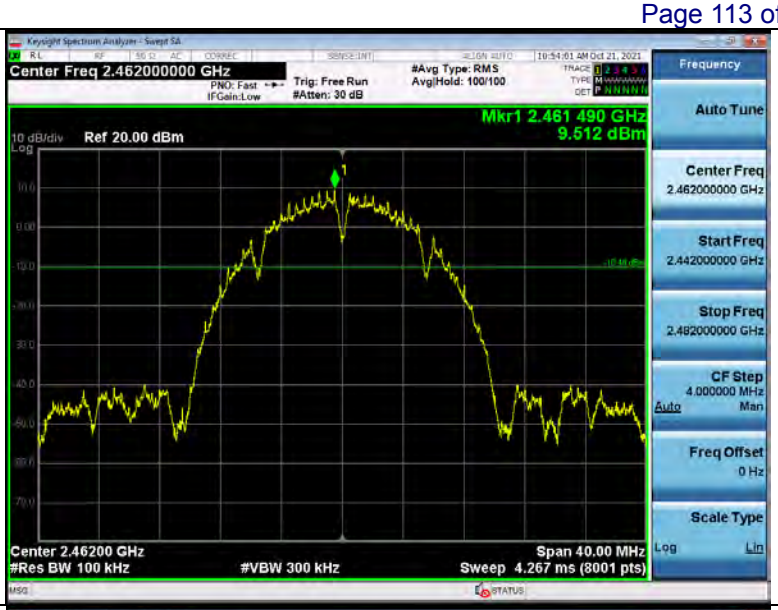
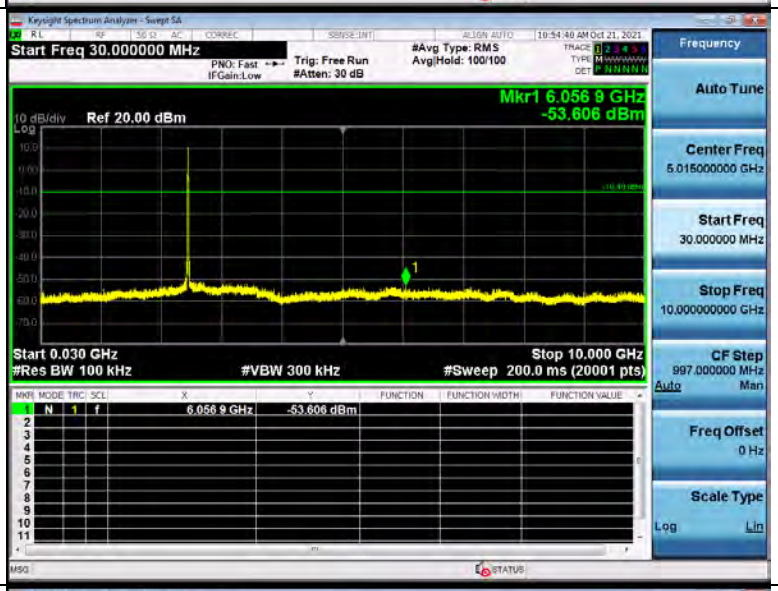
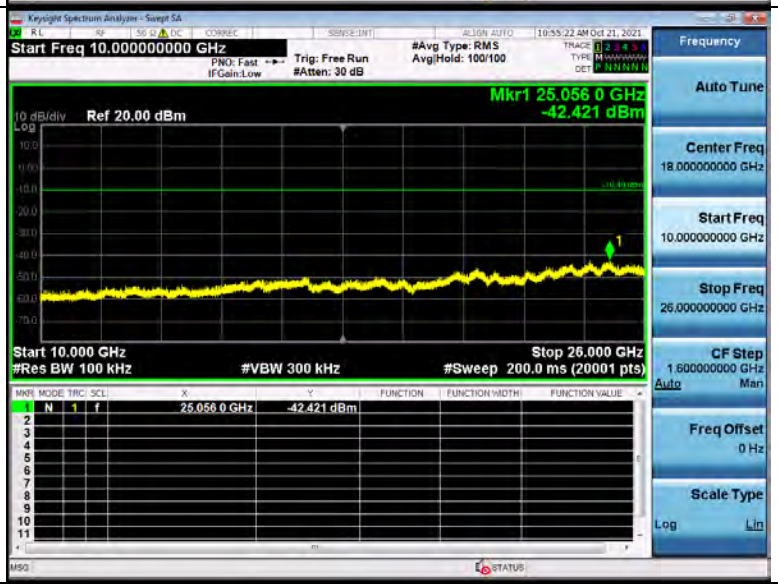
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

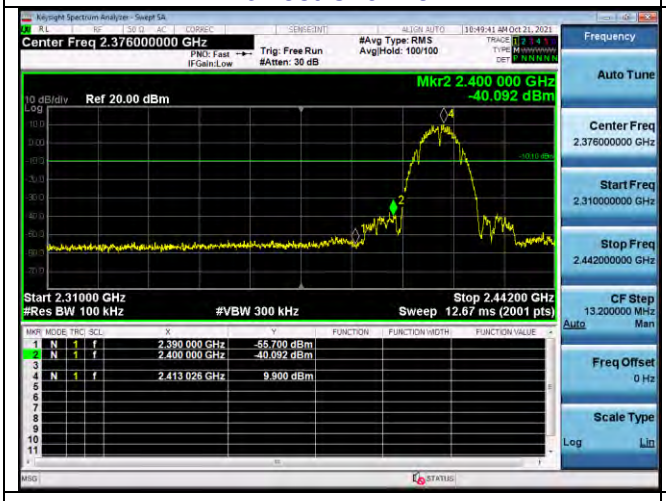
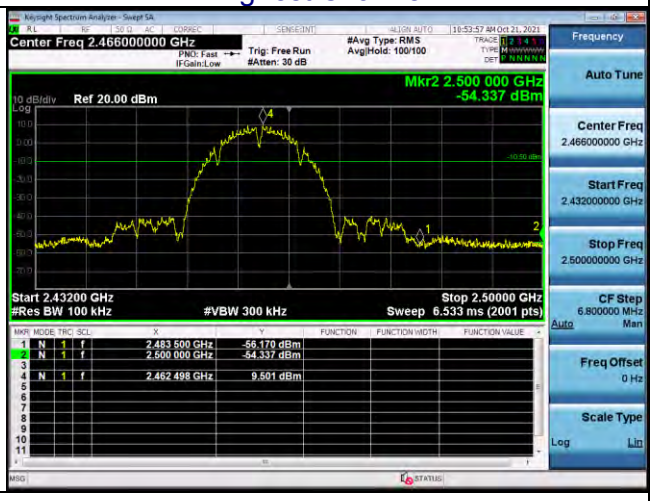
Module B

ANT1
802.11b Modulation

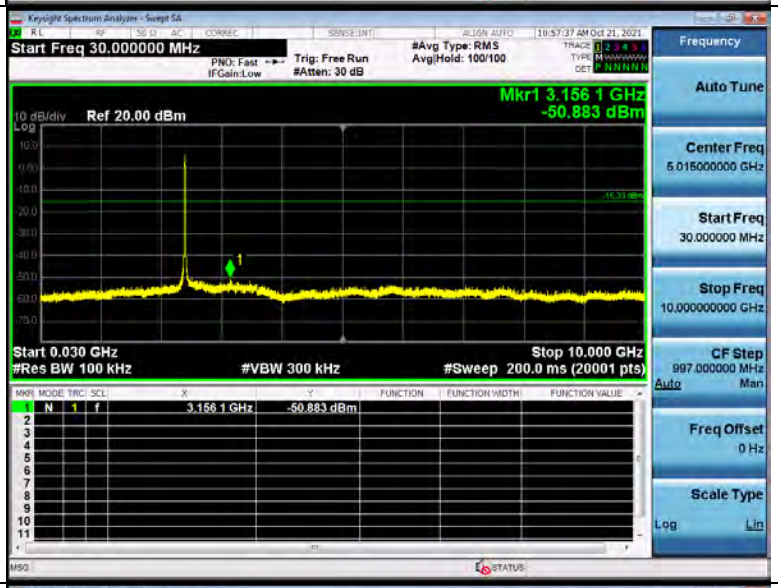
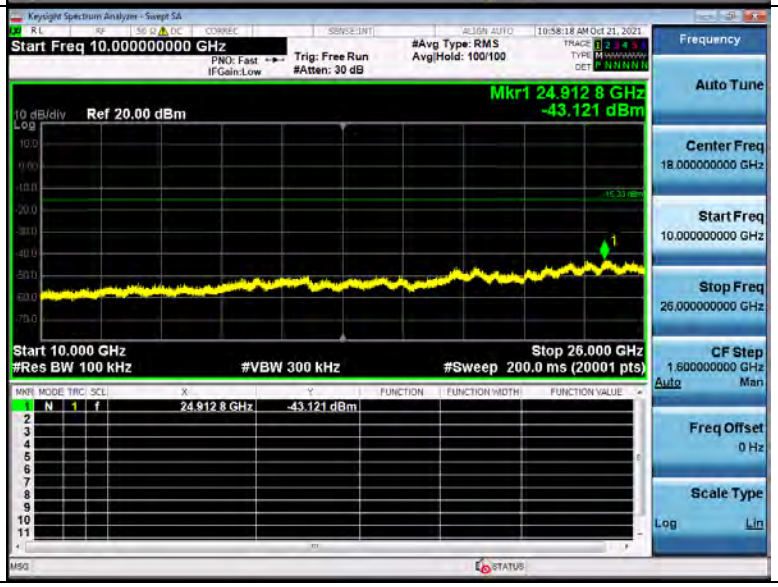
Spurious emission	
Low Channel	
	
	

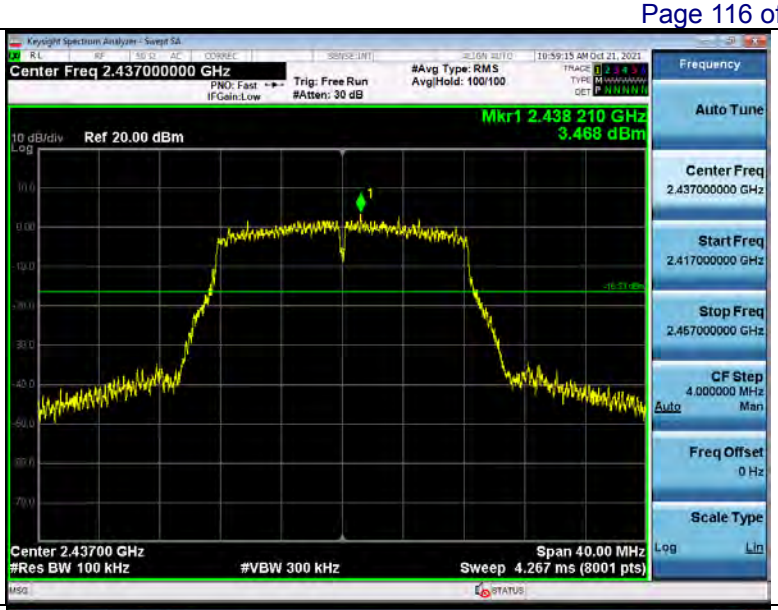
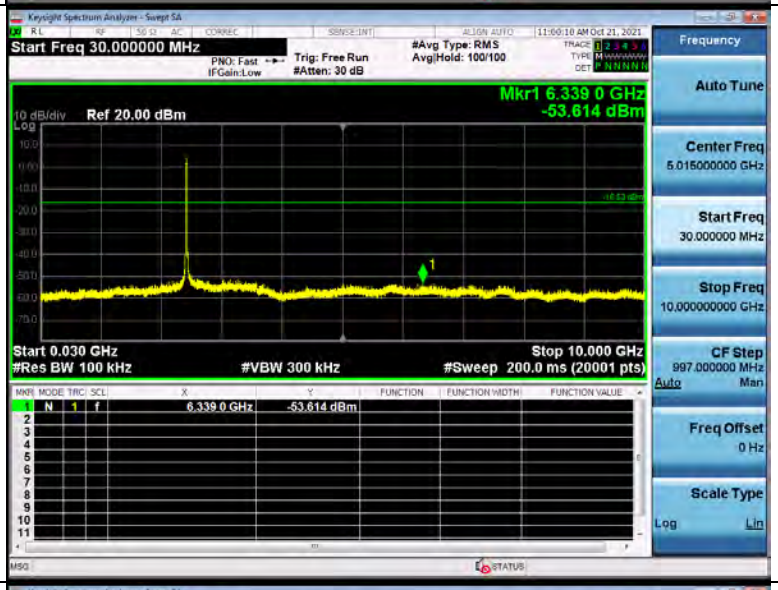
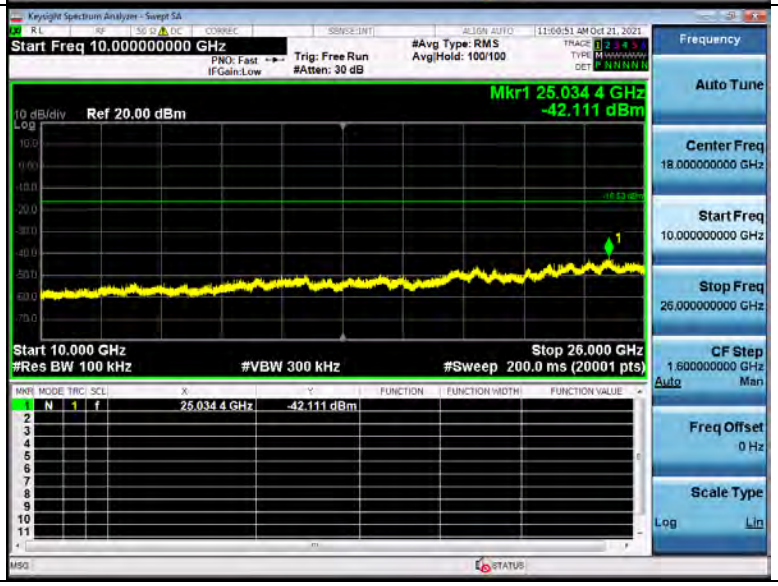
Middle Channel	  

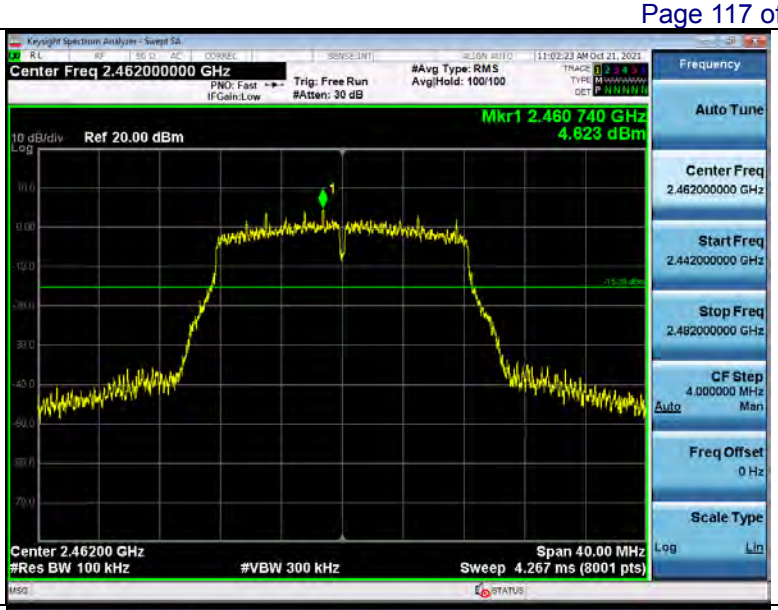
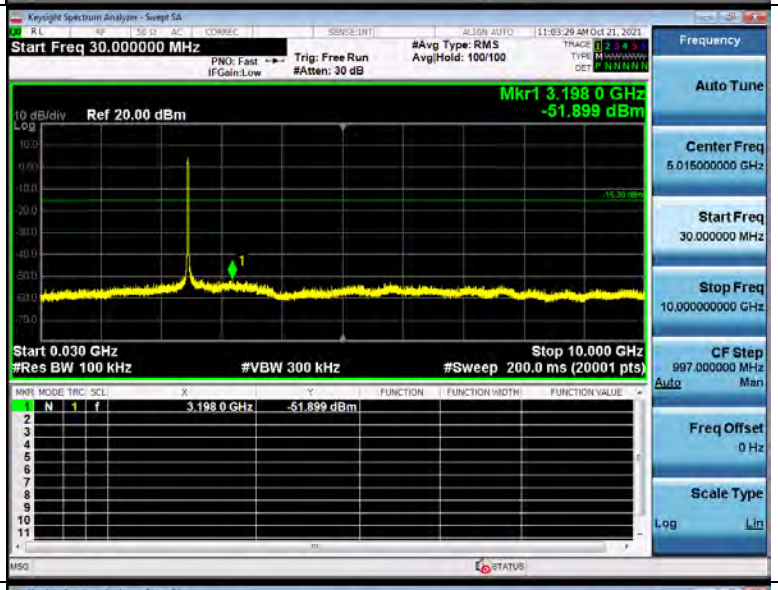
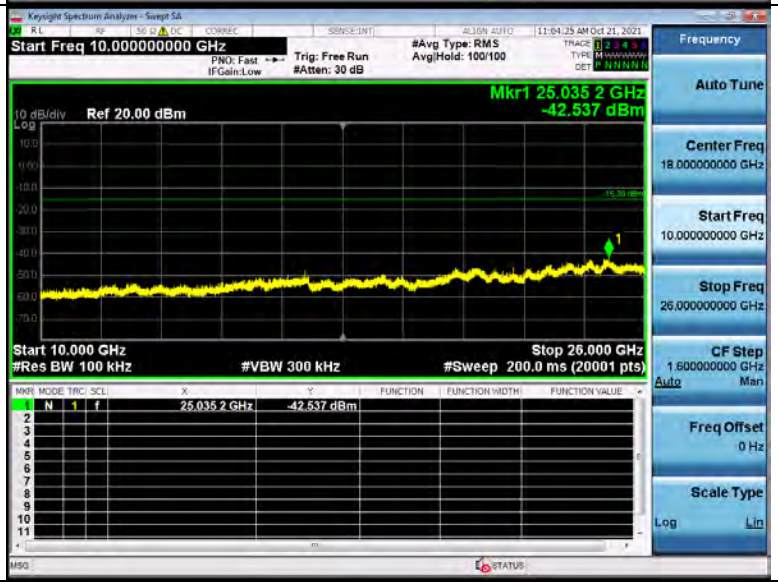
High Channel	
	
	

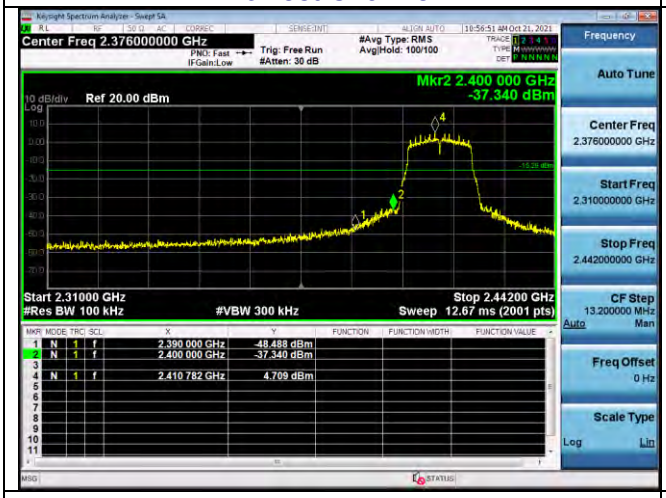
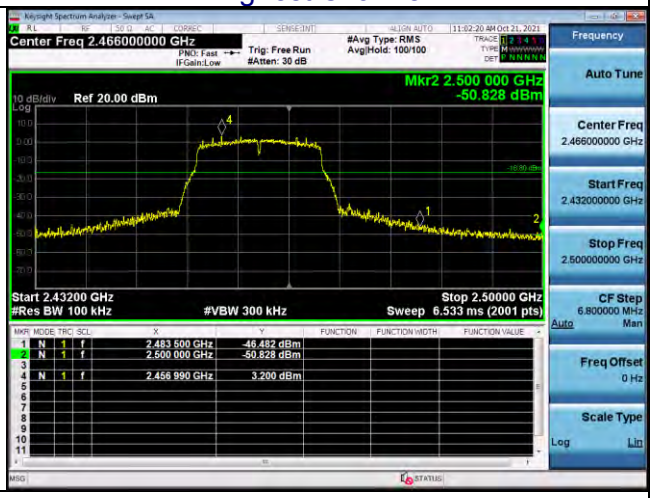
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11g Modulation

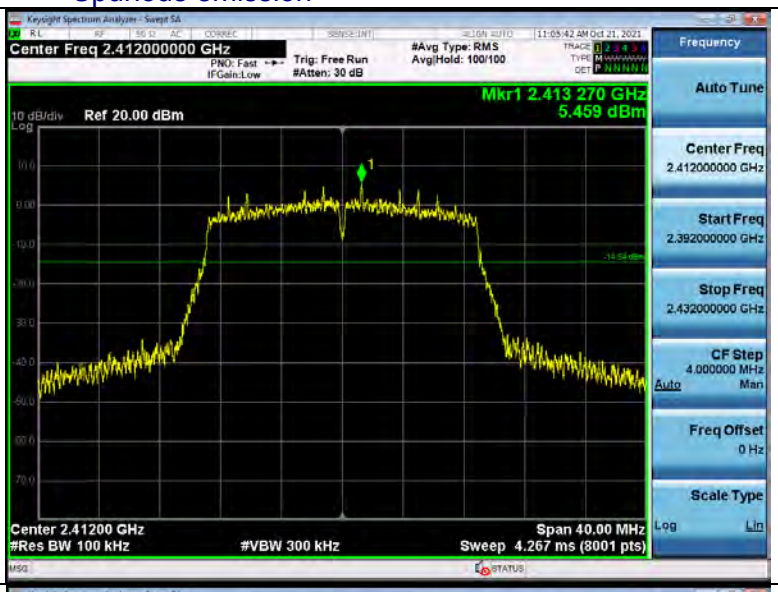
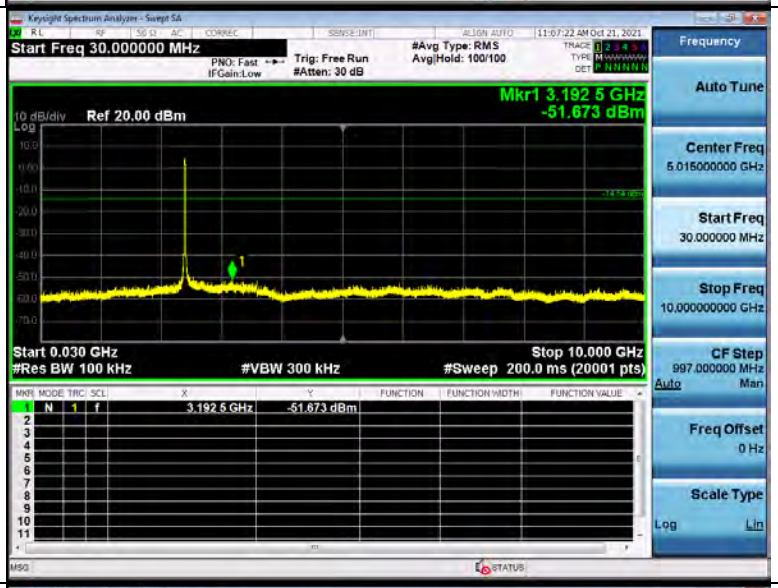
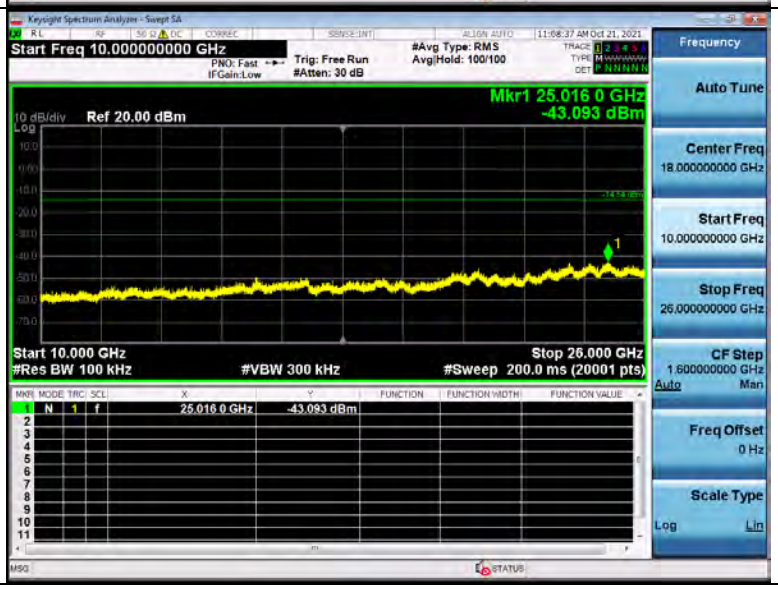
Spurious emission	
Low Channel	
	
	

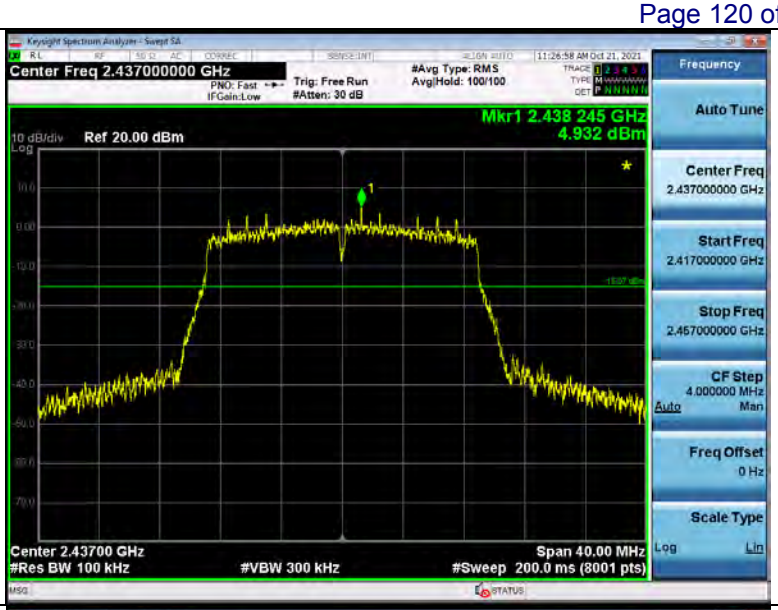
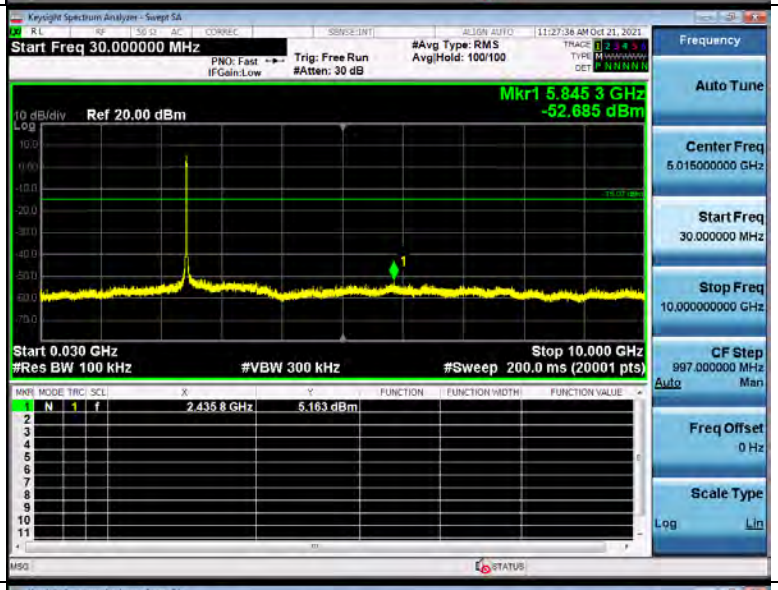
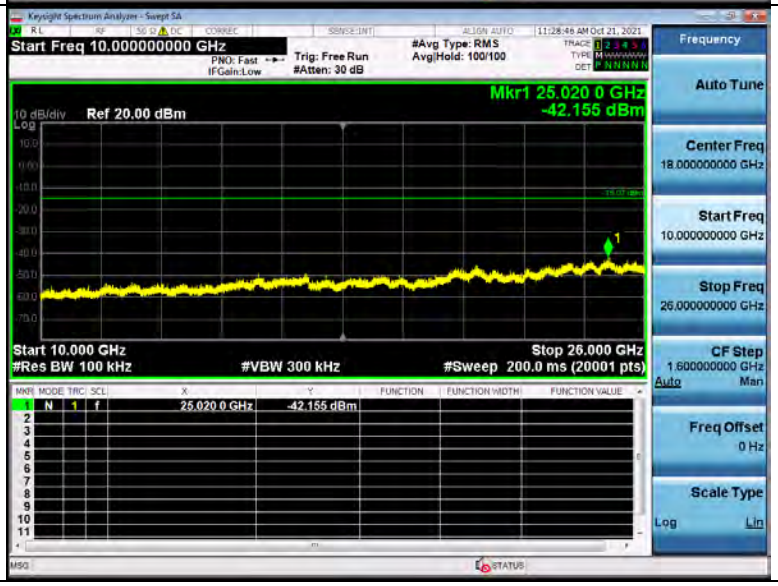
Middle Channel	
	
	

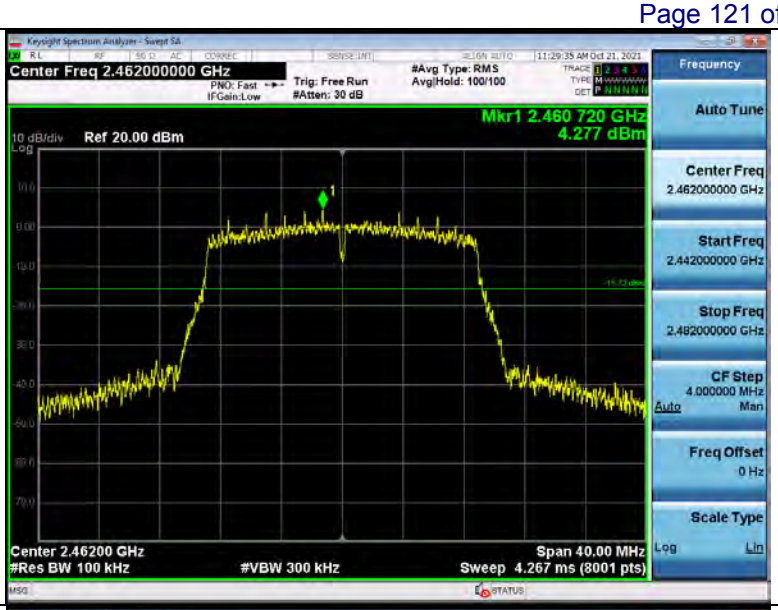
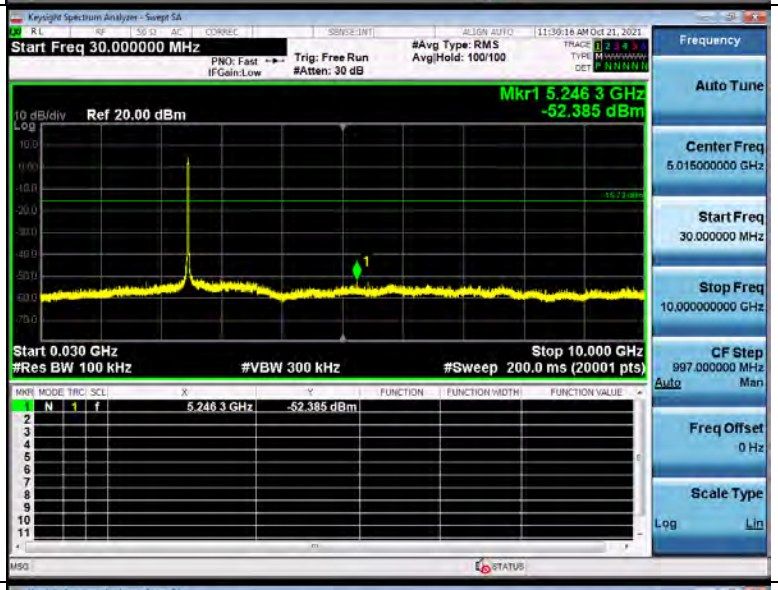
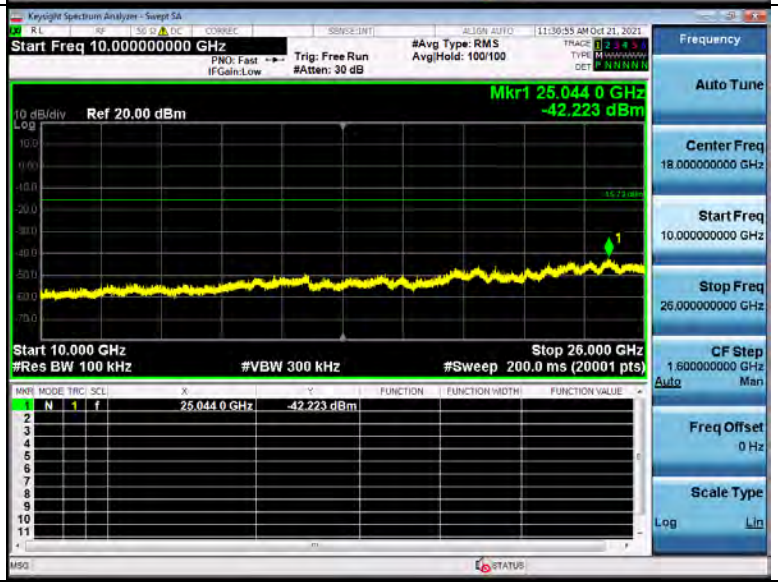
High Channel	  

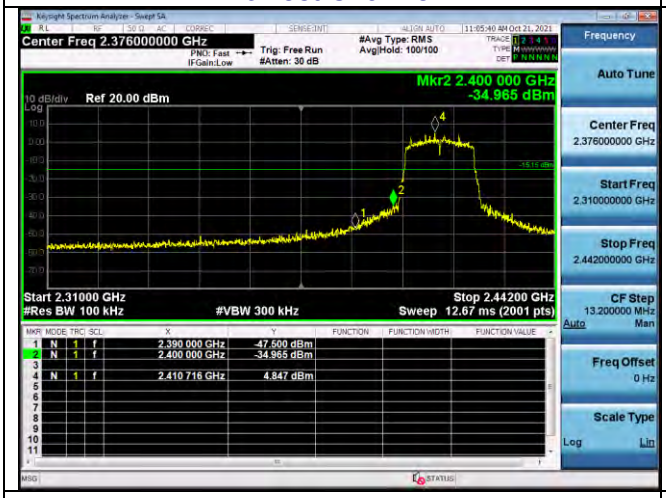
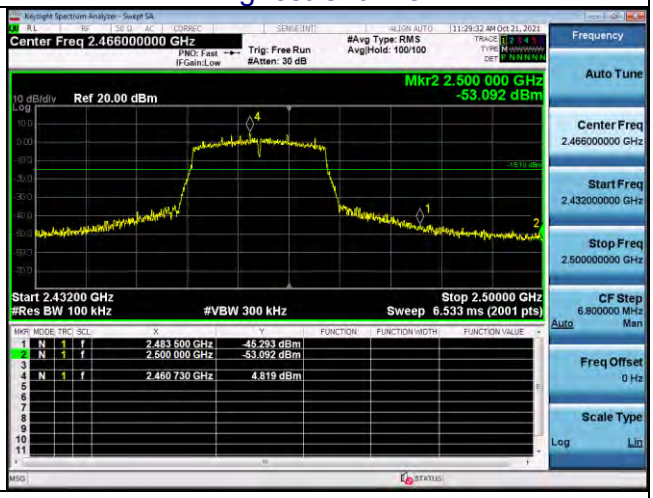
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11n20 Modulation

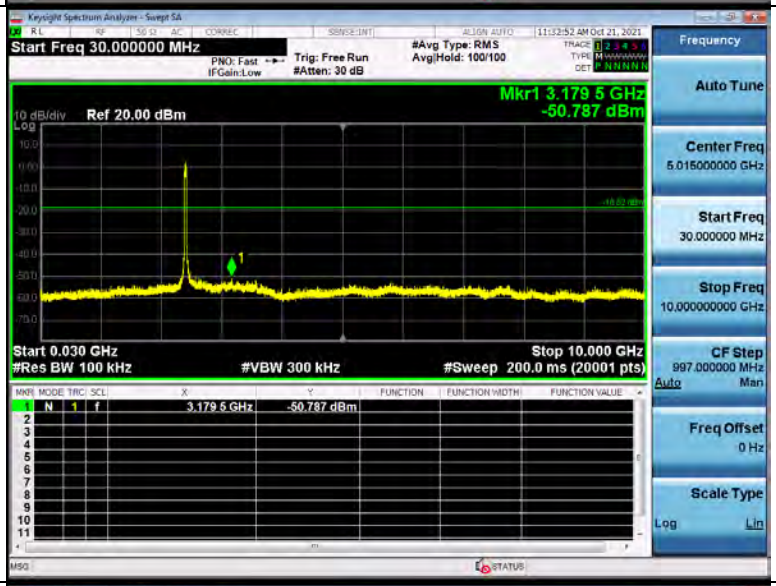
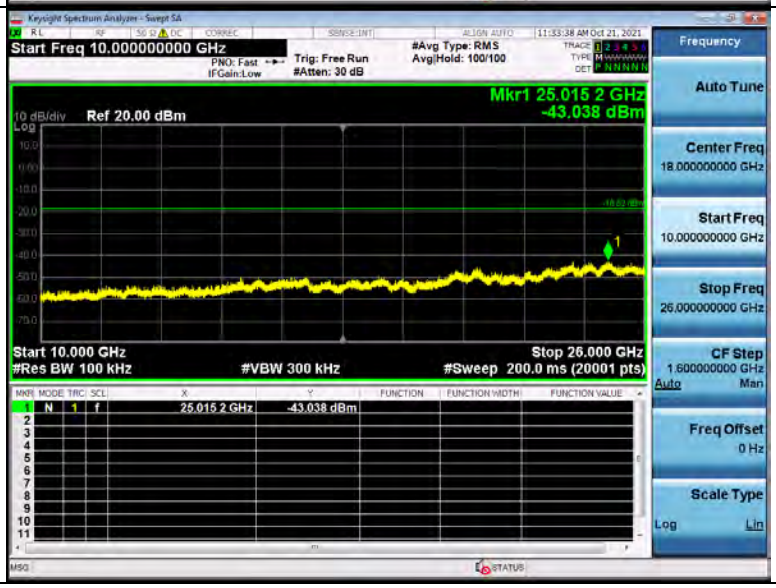
Spurious emission	
Low Channel	
	
	

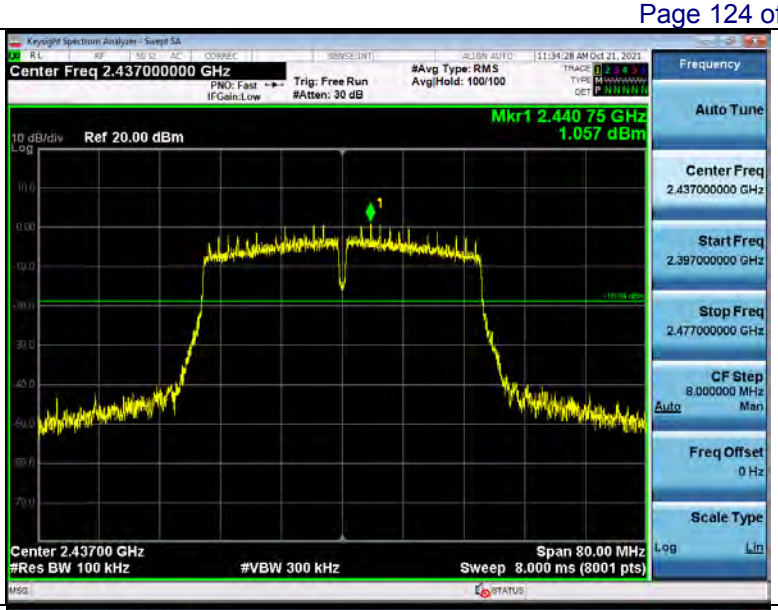
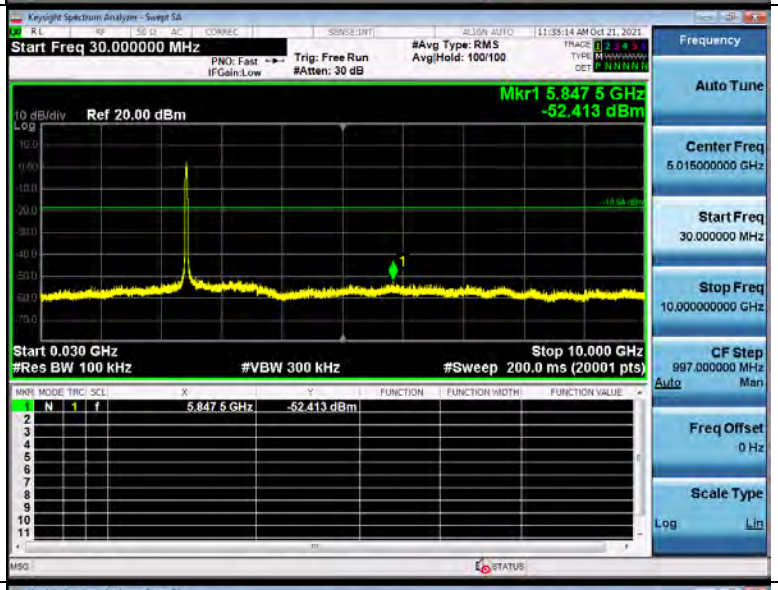
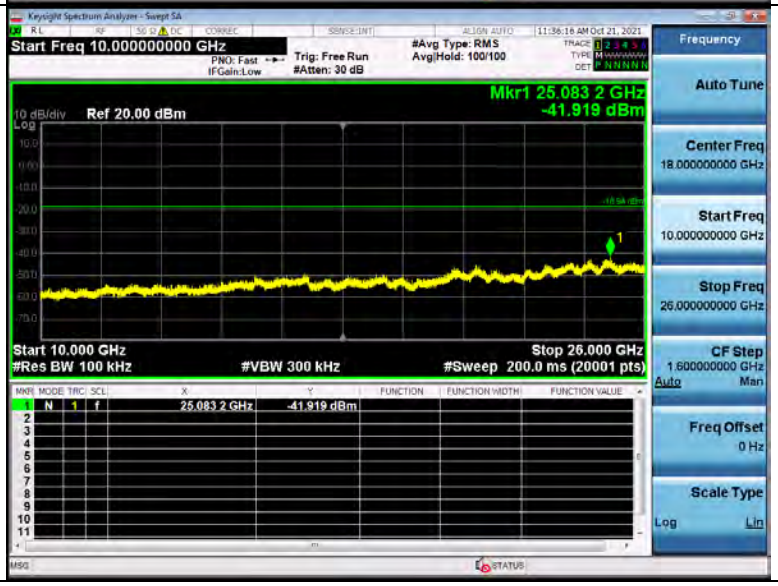
Middle Channel	  

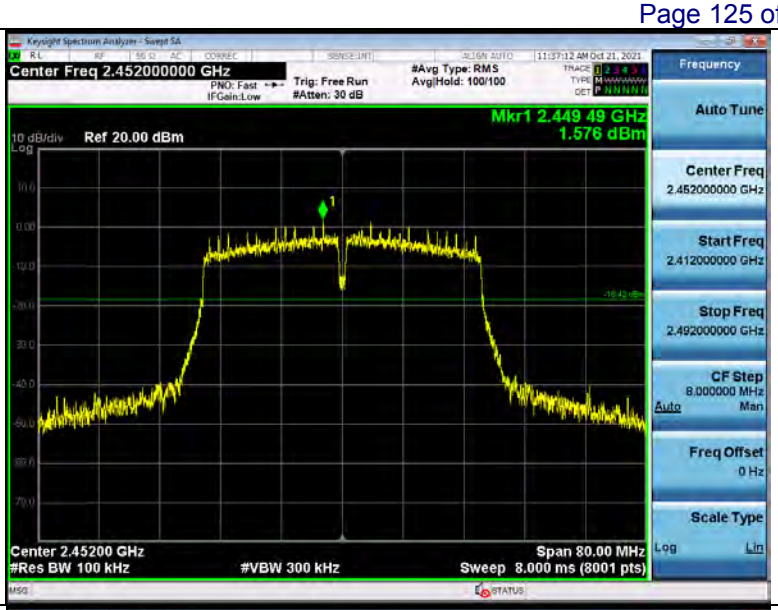
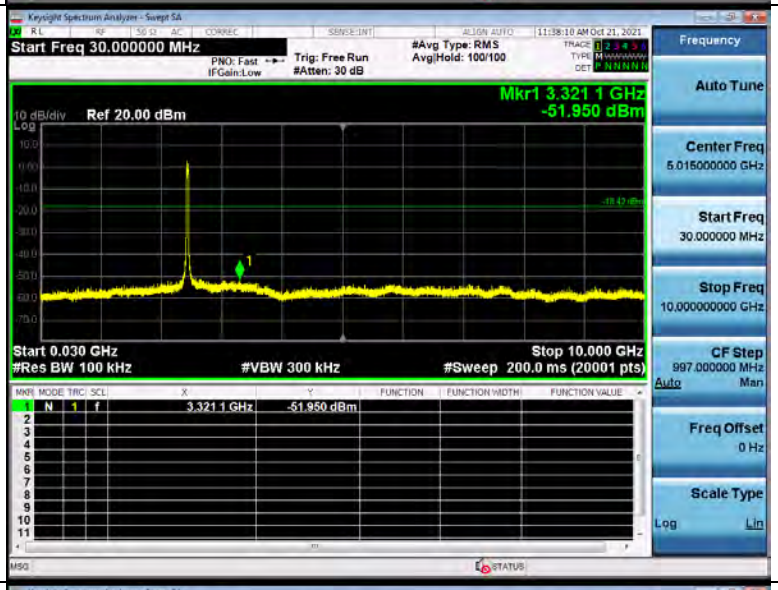
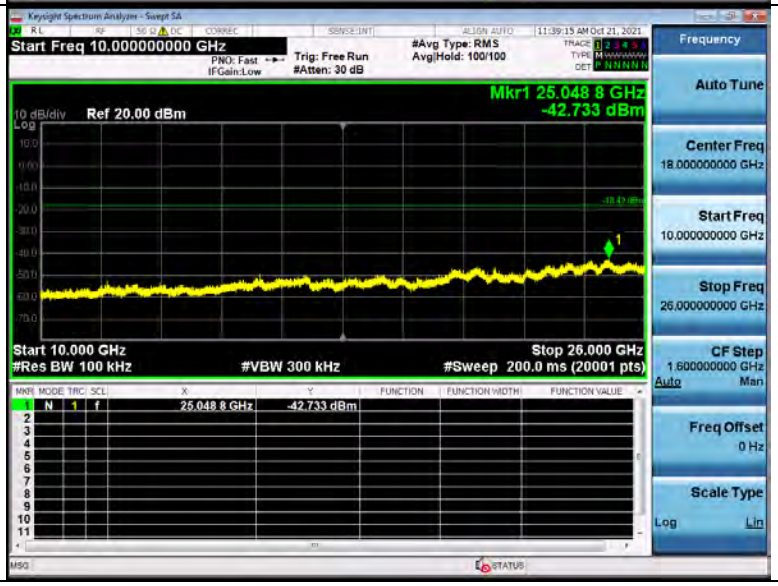
High Channel	  

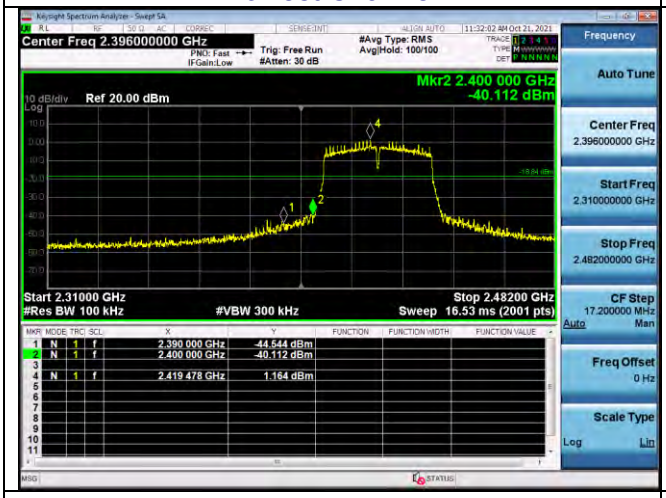
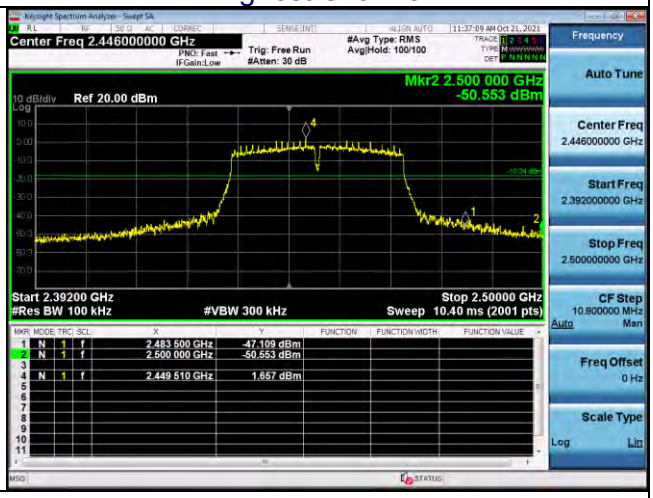
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11n40 Modulation

Spurious emission	
Low Channel	
	
	

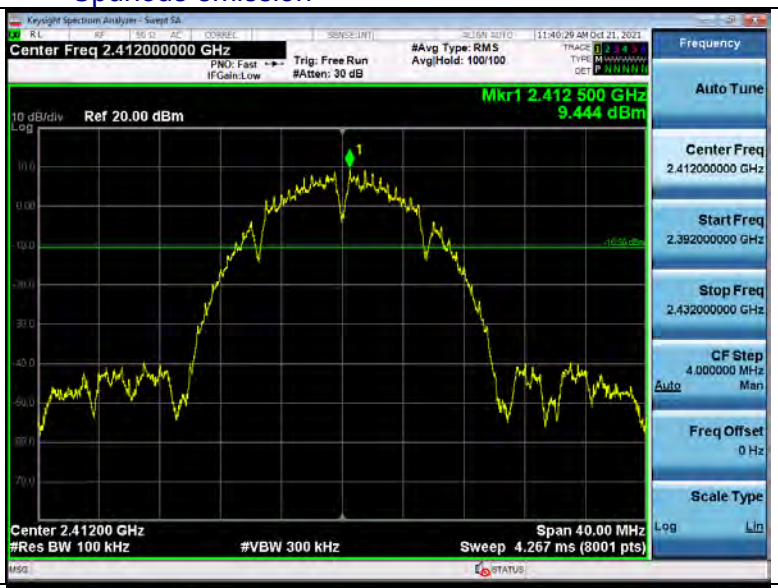
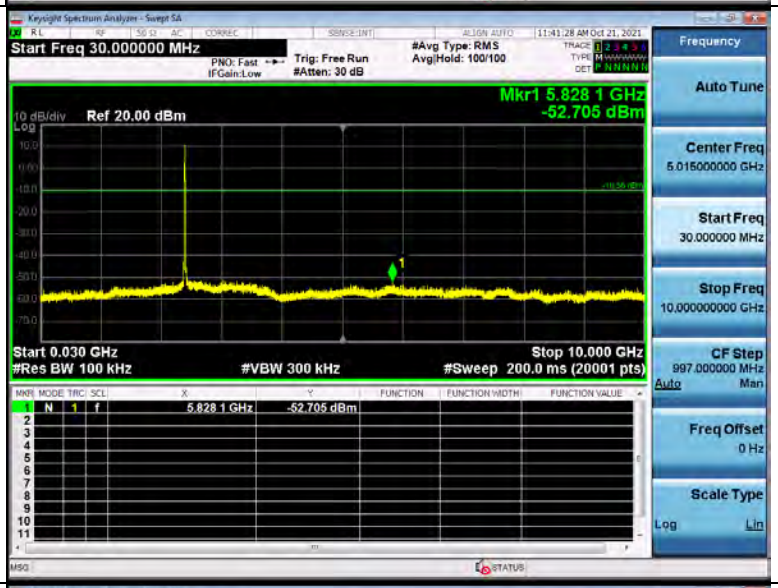
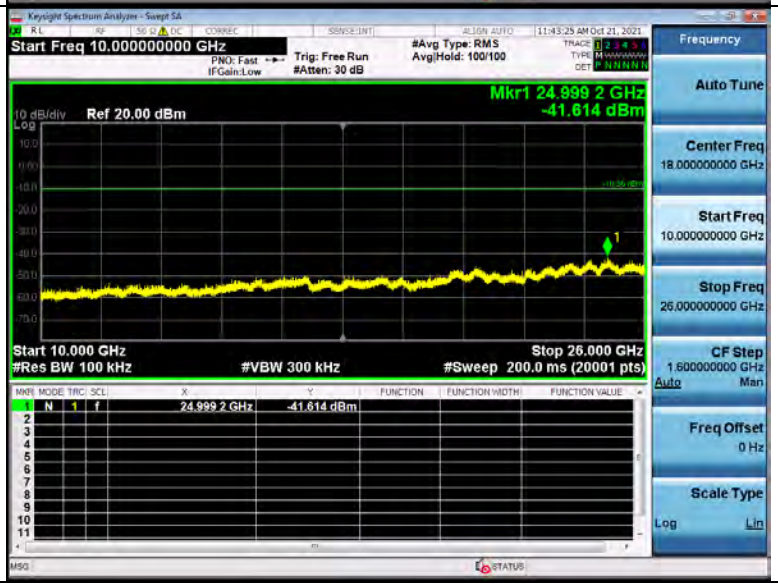
Middle Channel	  

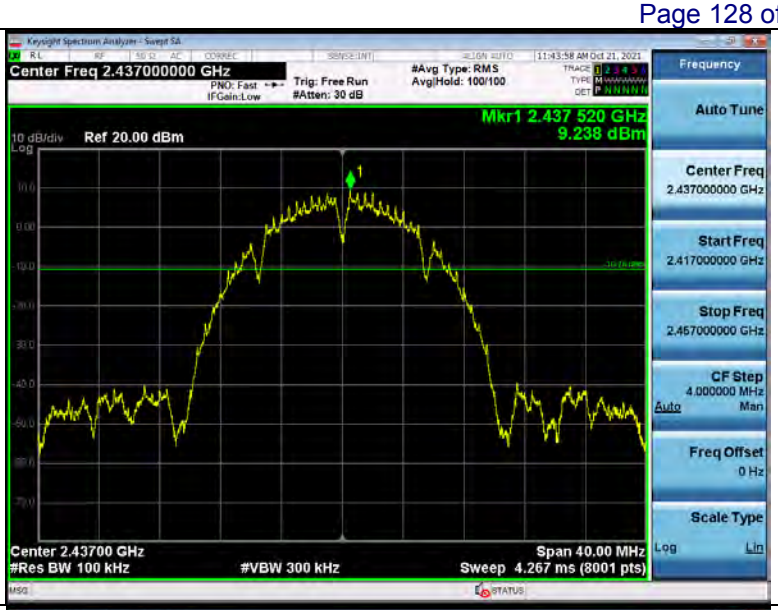
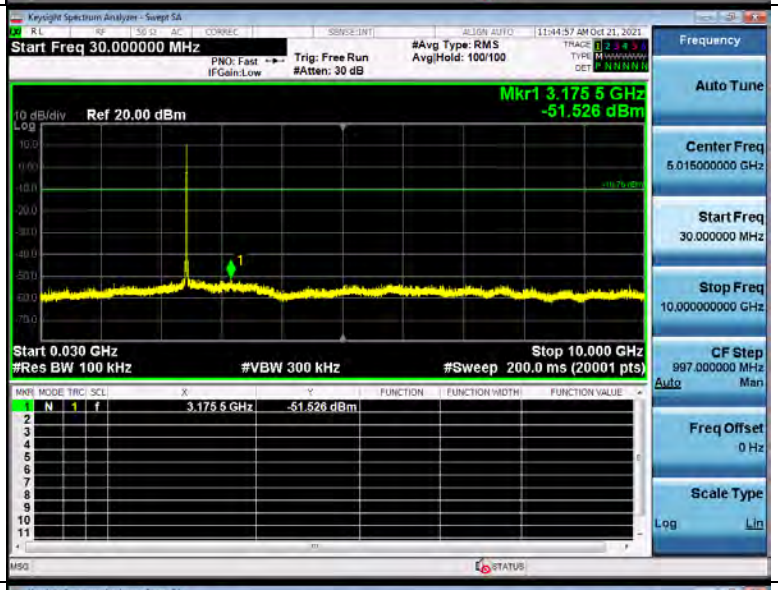
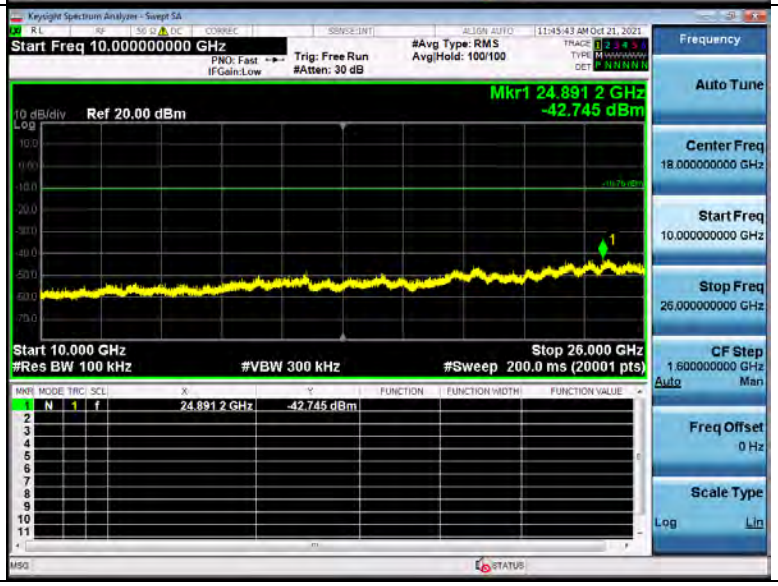
High Channel	  

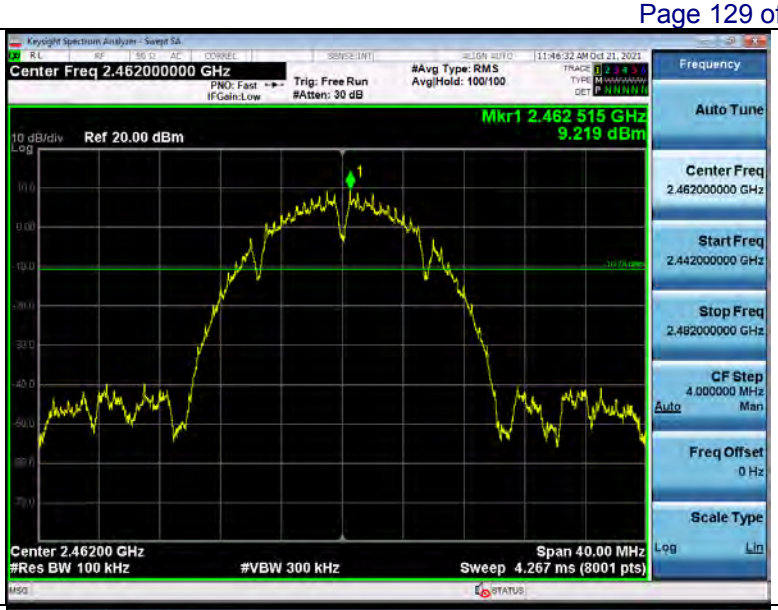
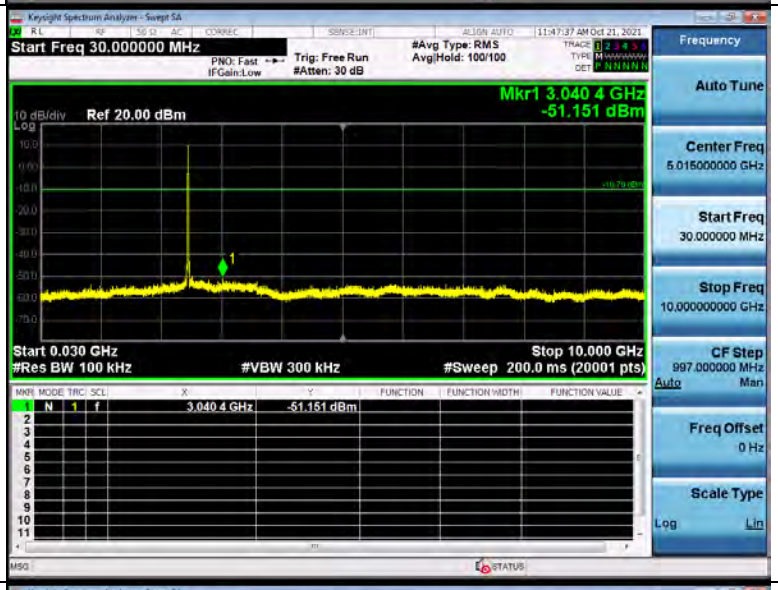
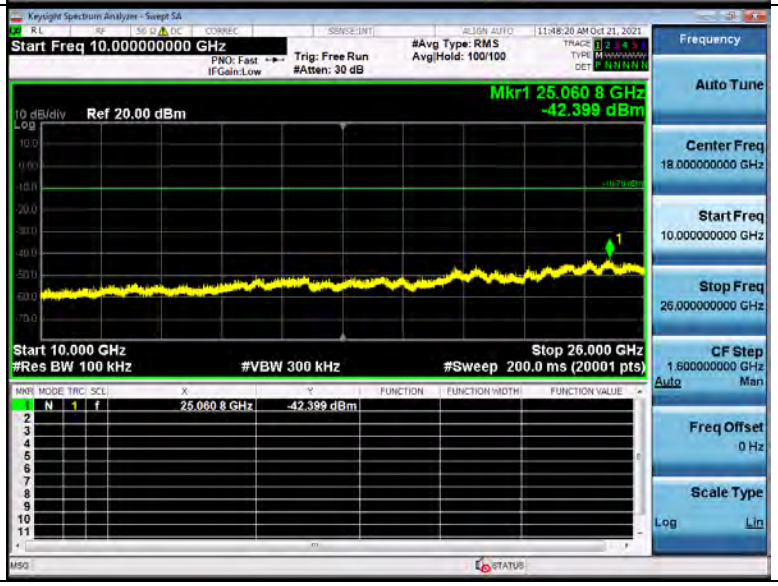
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

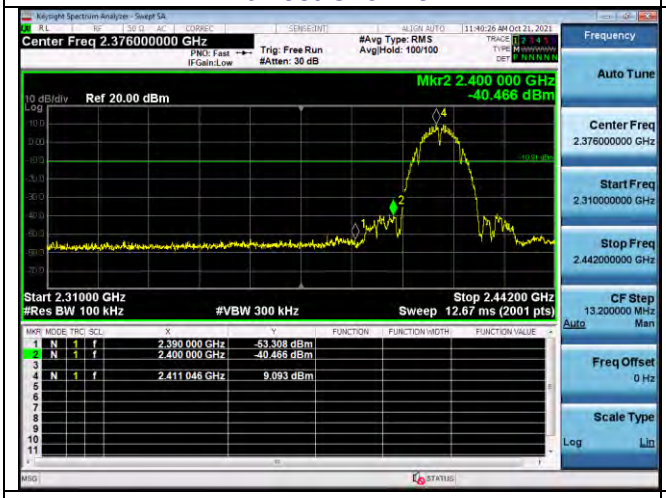
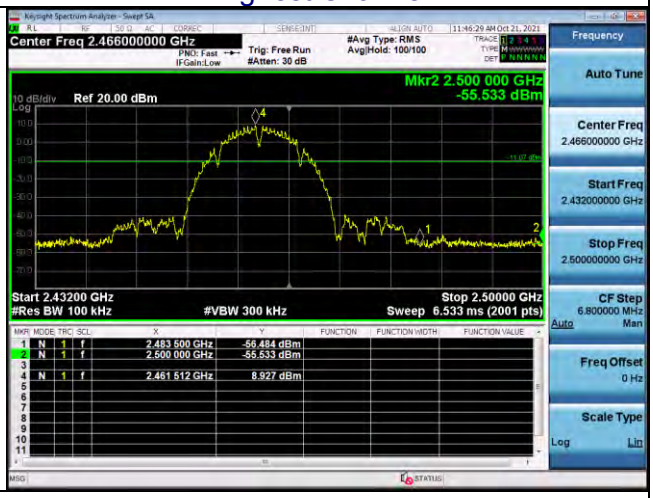
ANT2

802.11b Modulation

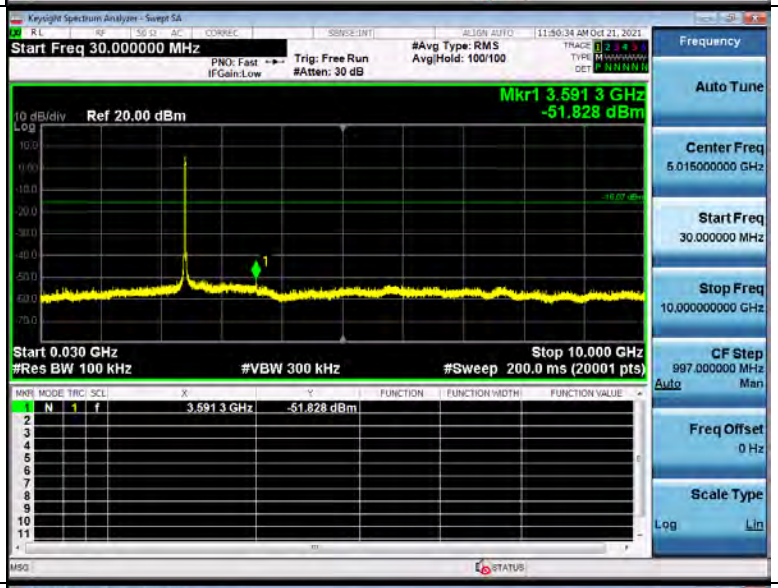
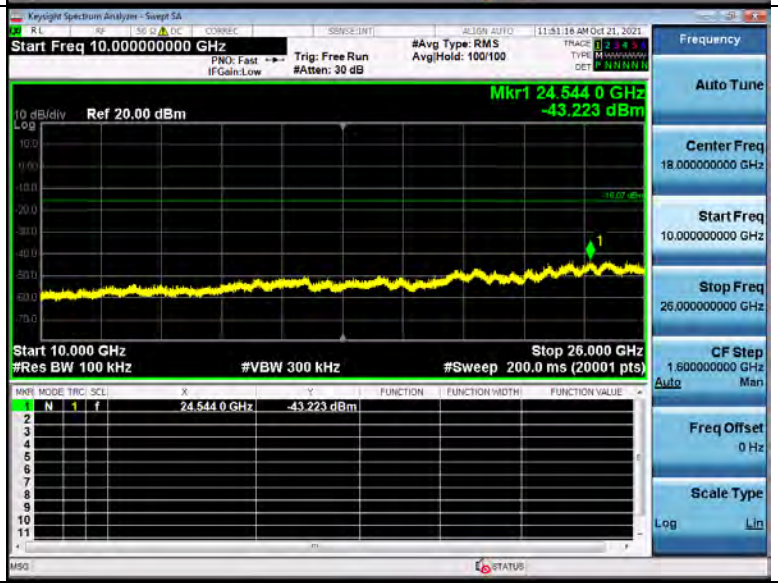
Spurious emission	
Low Channel	
	
	

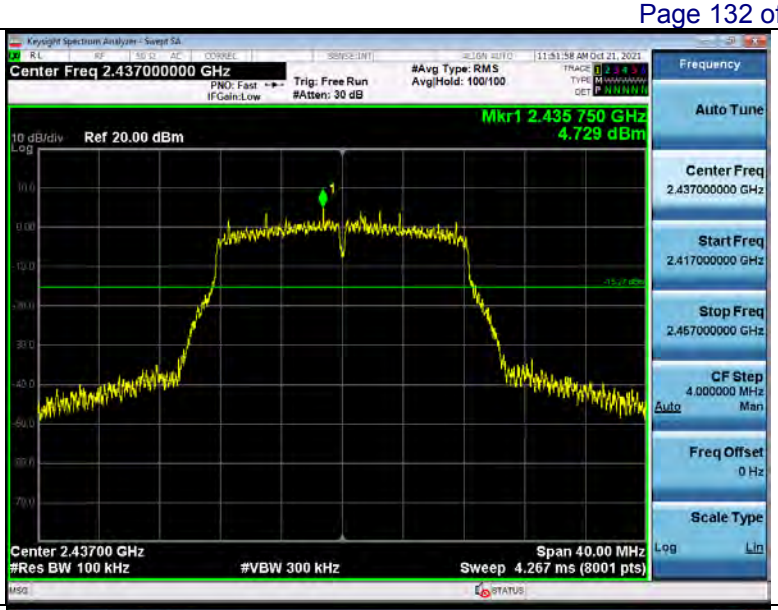
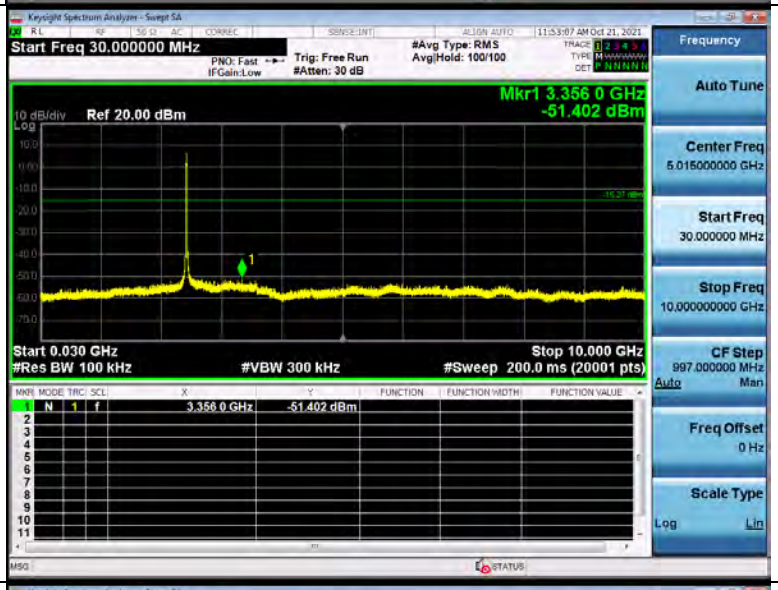
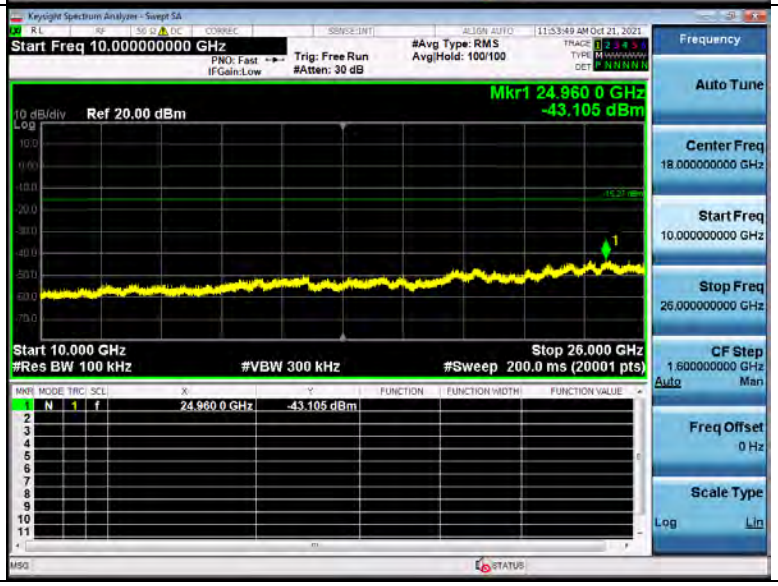
Middle Channel	  

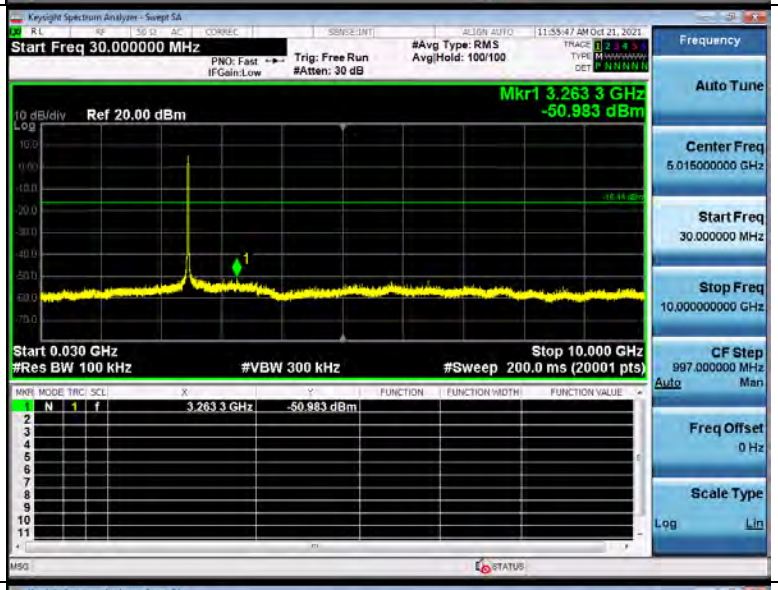
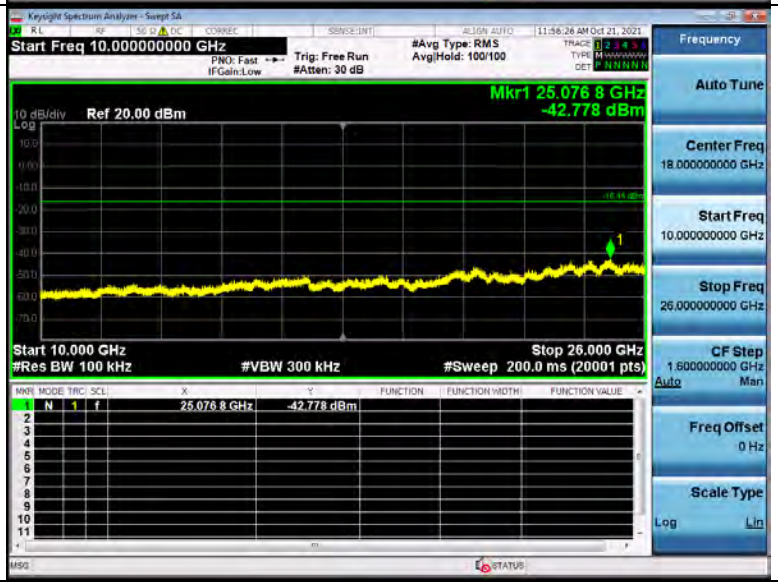
High Channel	  

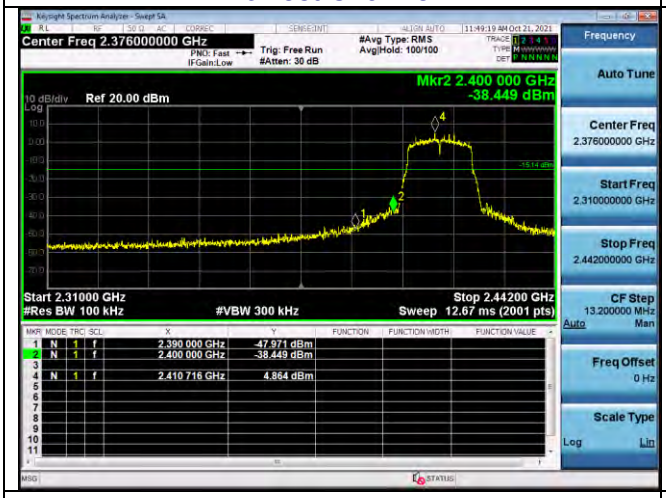
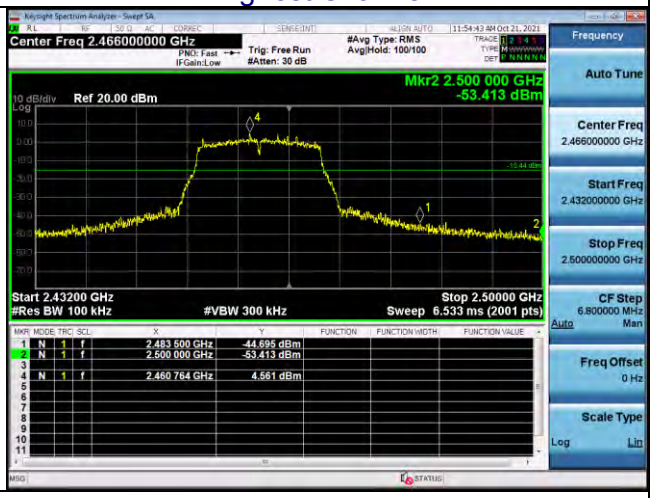
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11g Modulation

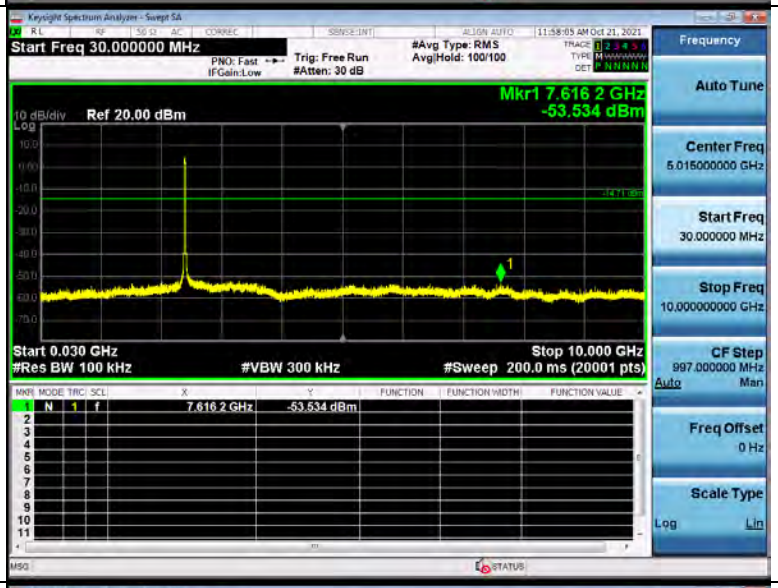
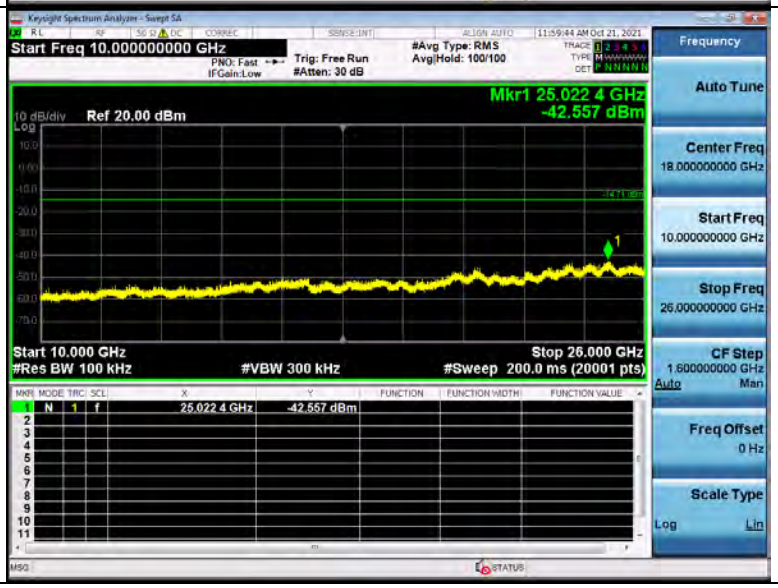
Spurious emission		
Low Channel		
		
		

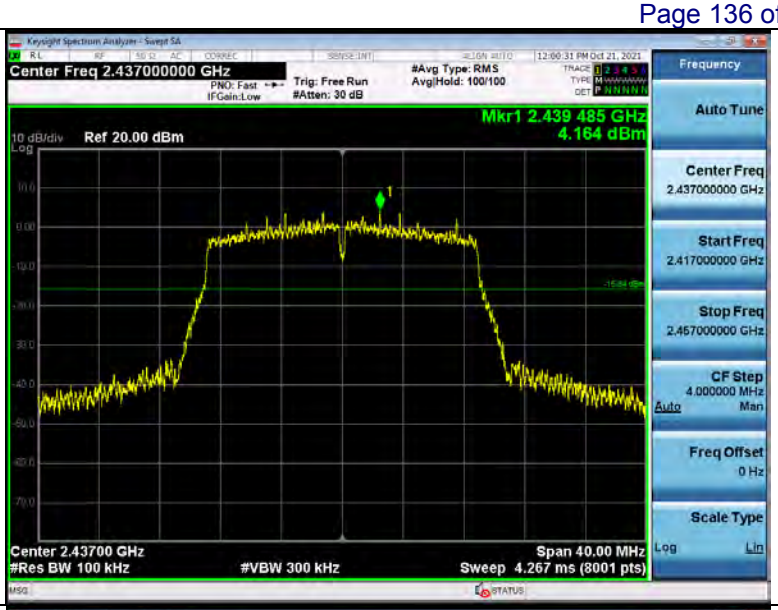
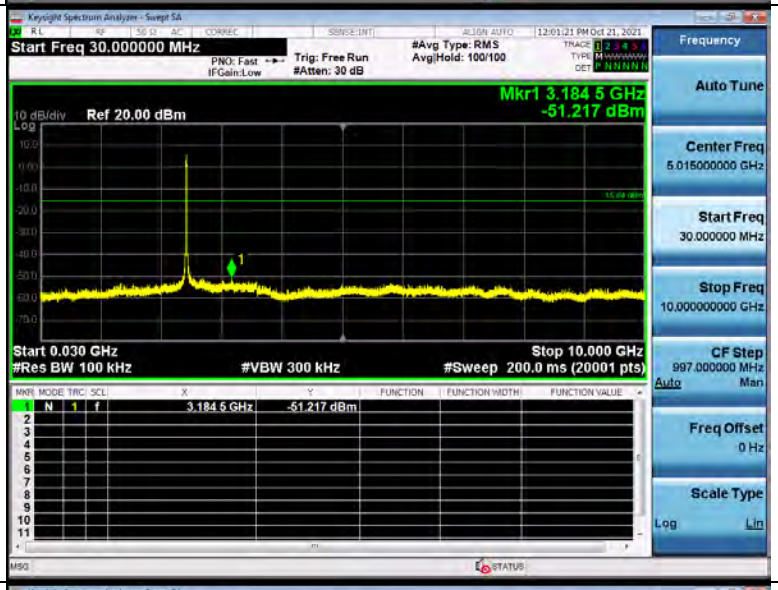
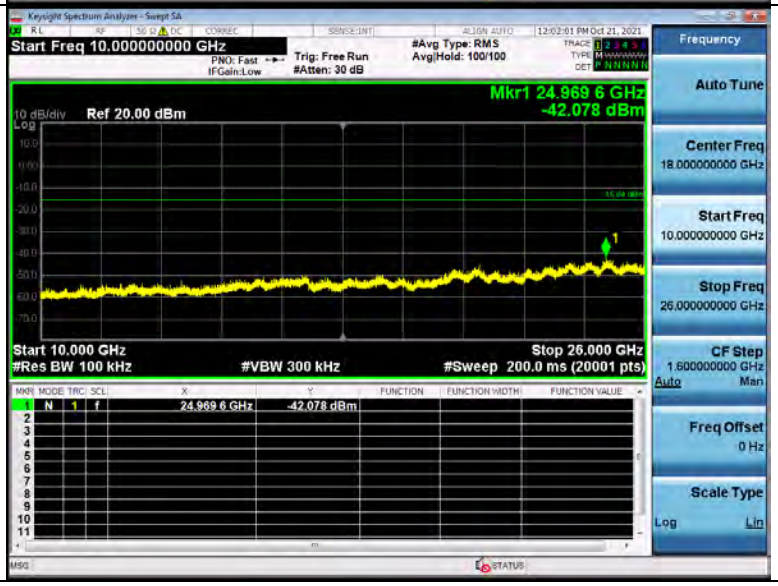
Middle Channel	  

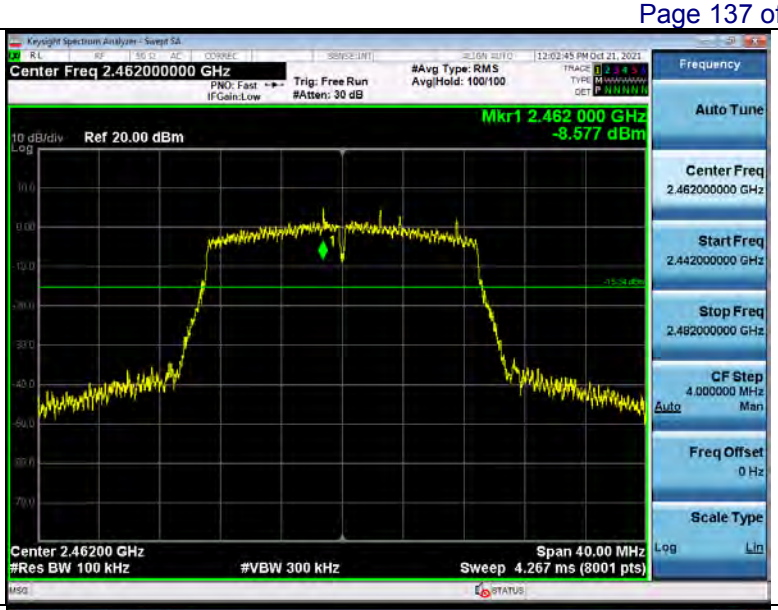
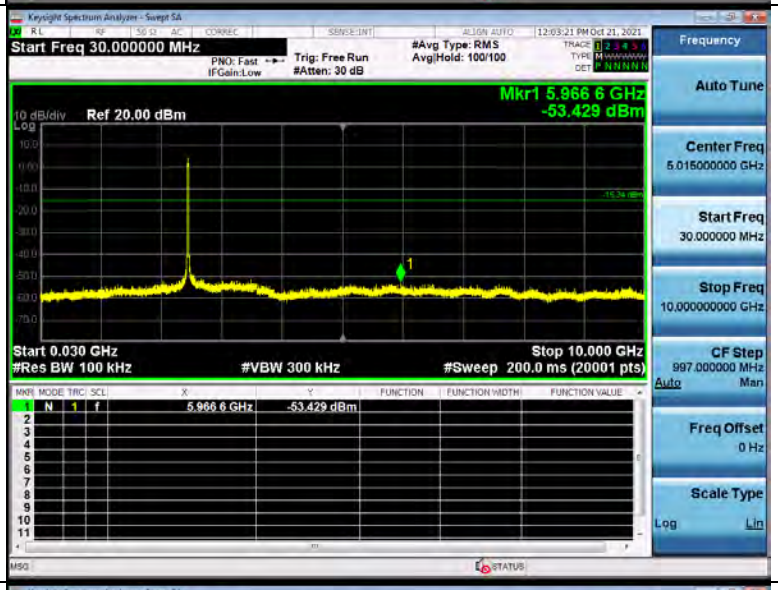
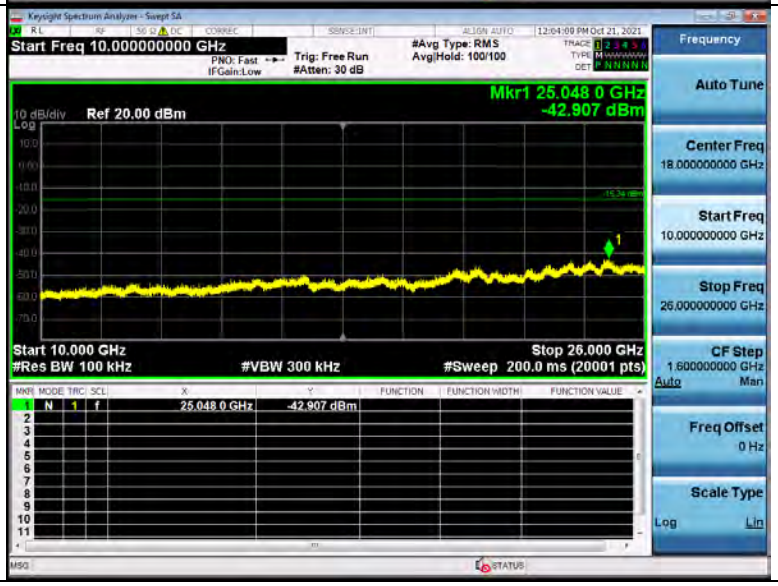
High Channel	  

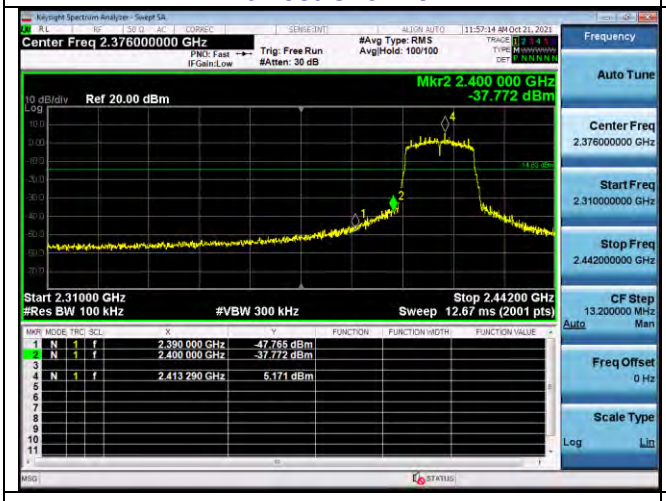
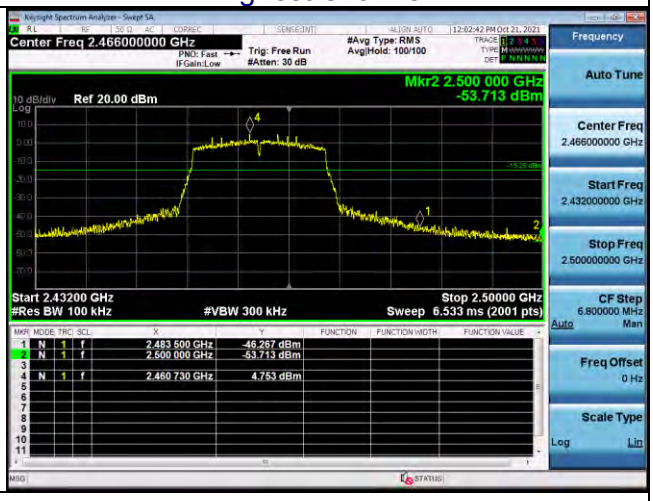
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11n20 Modulation

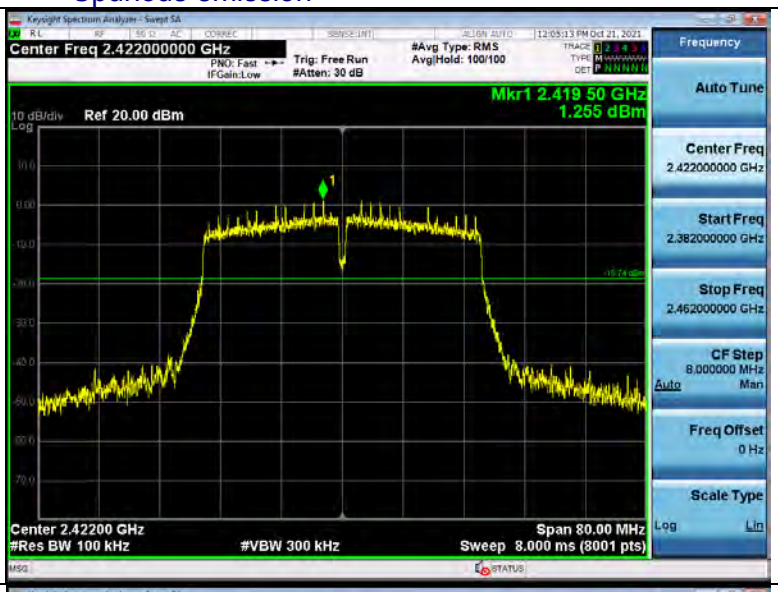
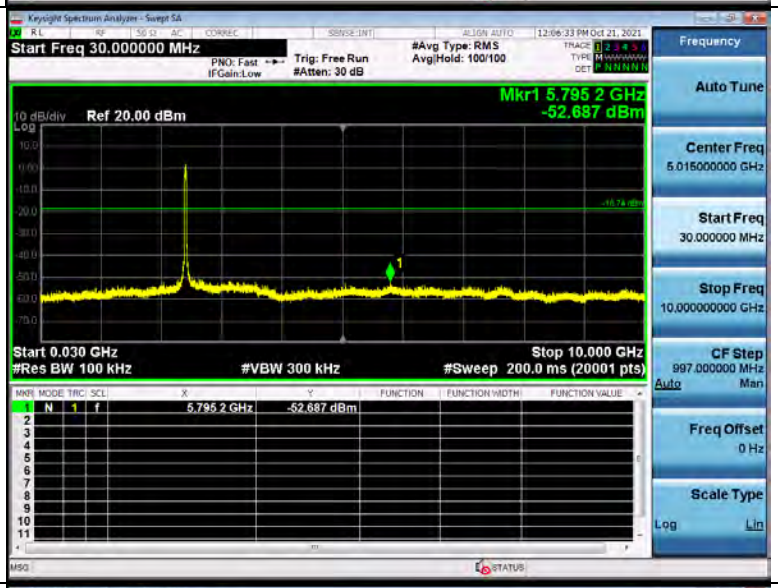
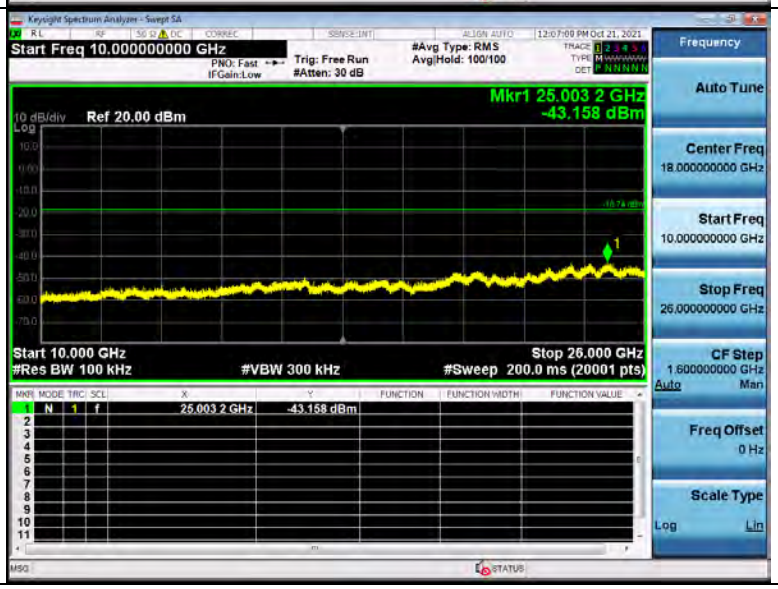
Spurious emission	
Low Channel	
	
	

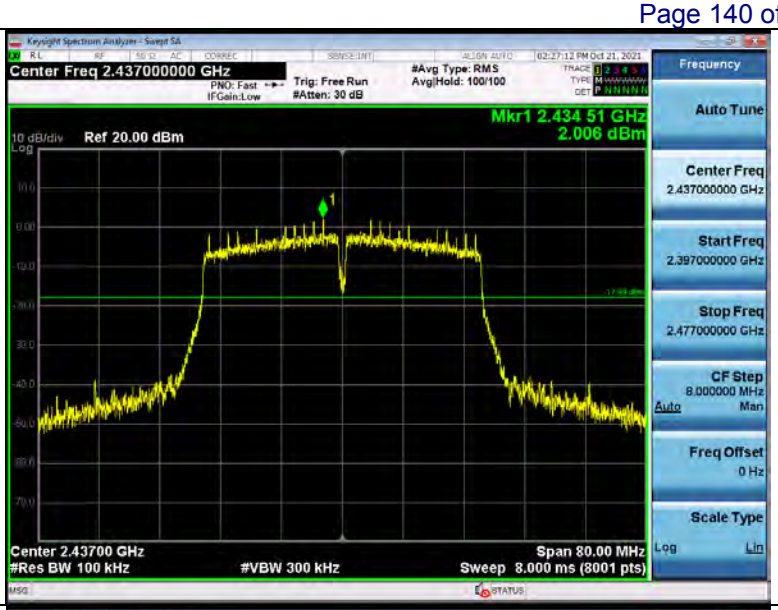
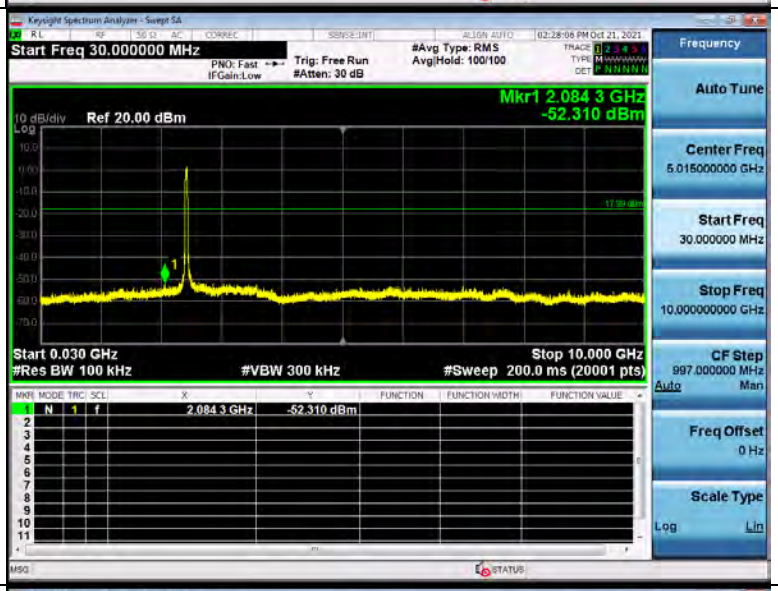
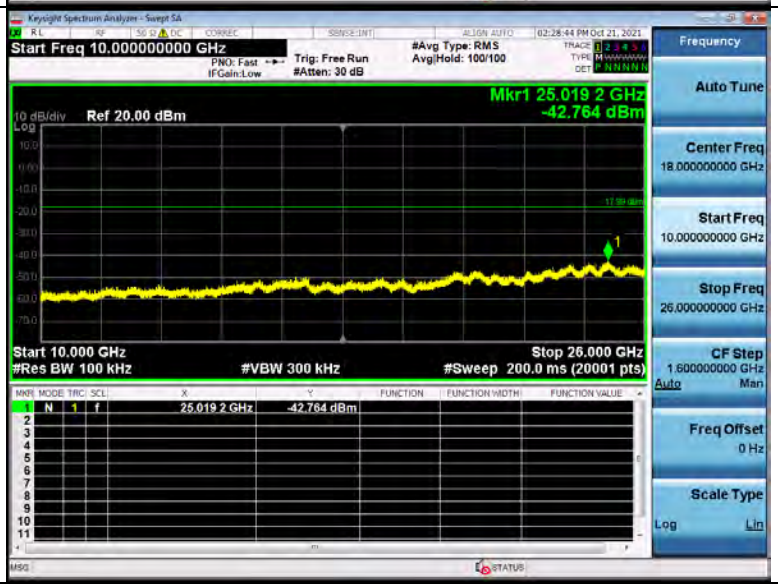
Middle Channel	  

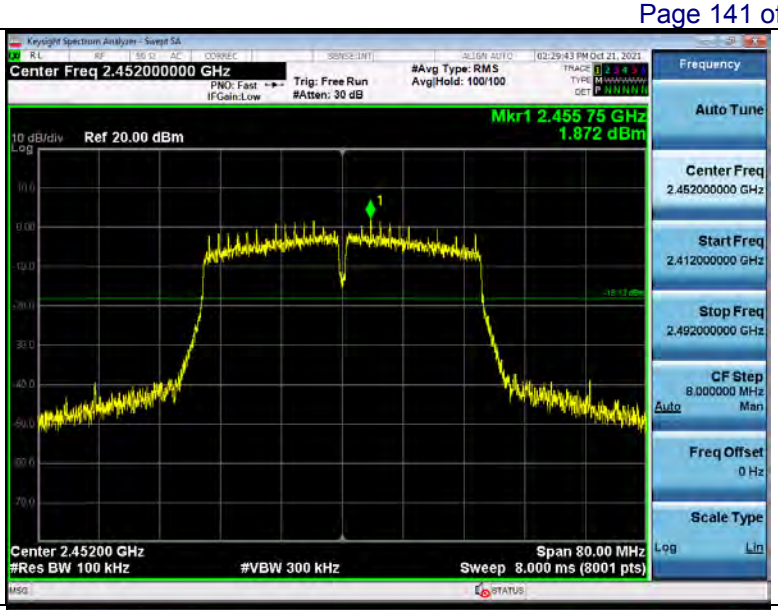
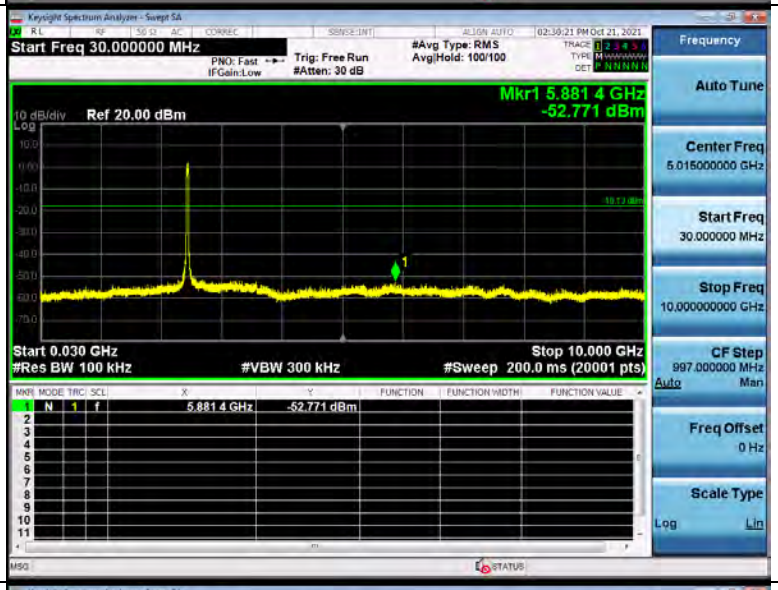
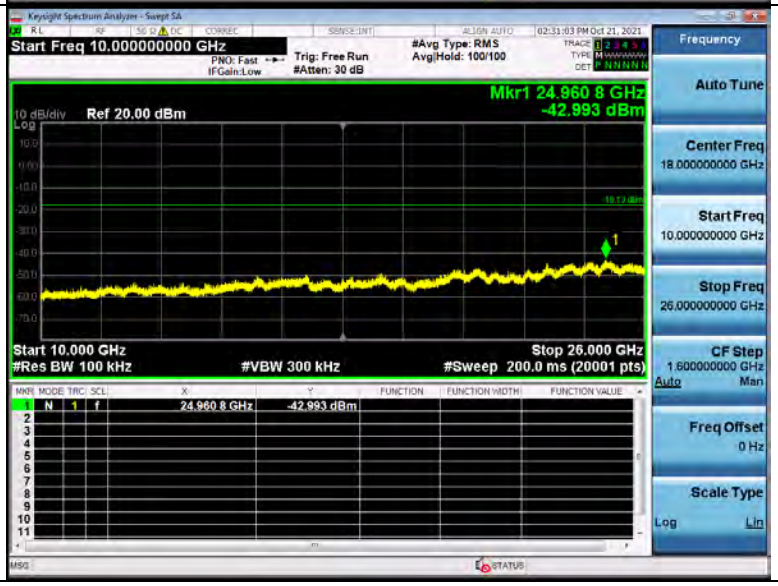
High Channel	  

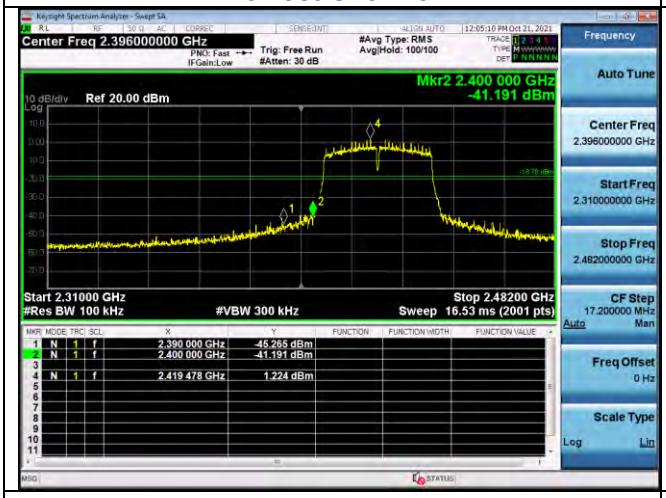
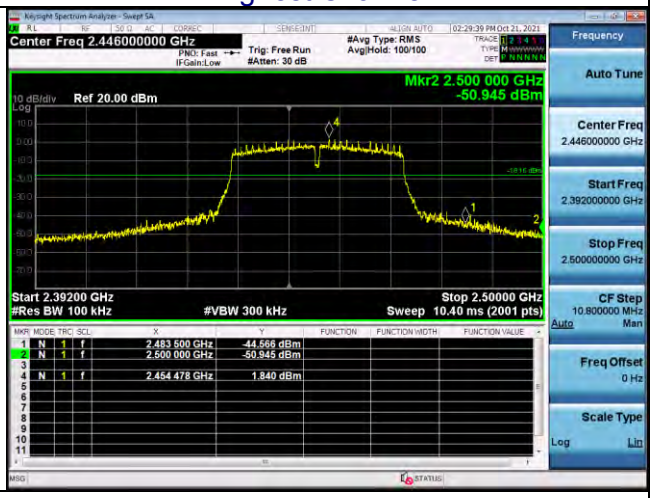
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11n40 Modulation

Spurious emission	
Low Channel	
	
	

Middle Channel	
	
	

High Channel	  

Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

10. ANTENNA REQUIREMENT

Standard requirement:	FCC Part15 C Section 15.203 /247(c)

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction

The antenna used in this product is a Glue stick antenna, and the best case gain of the antenna is antenna port 1:5dBi and Antenna port 2:5dBi.

EUT Antenna:

11. TEST SETUP PHOTO

Please refer to test setup file

12. EUT CONSTRUCTIONAL DETAILS

Reference to the external photos file and internal photos file for details.

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