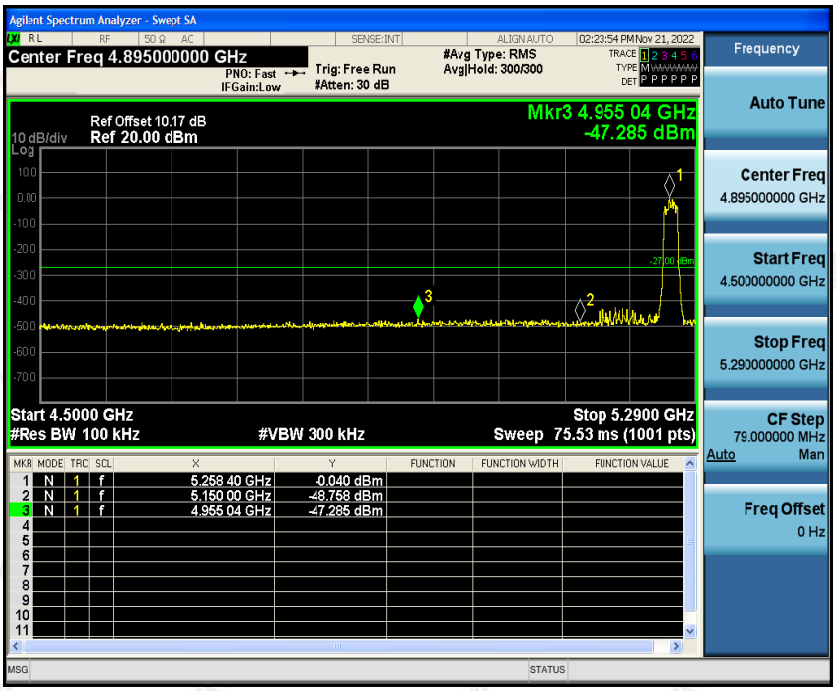
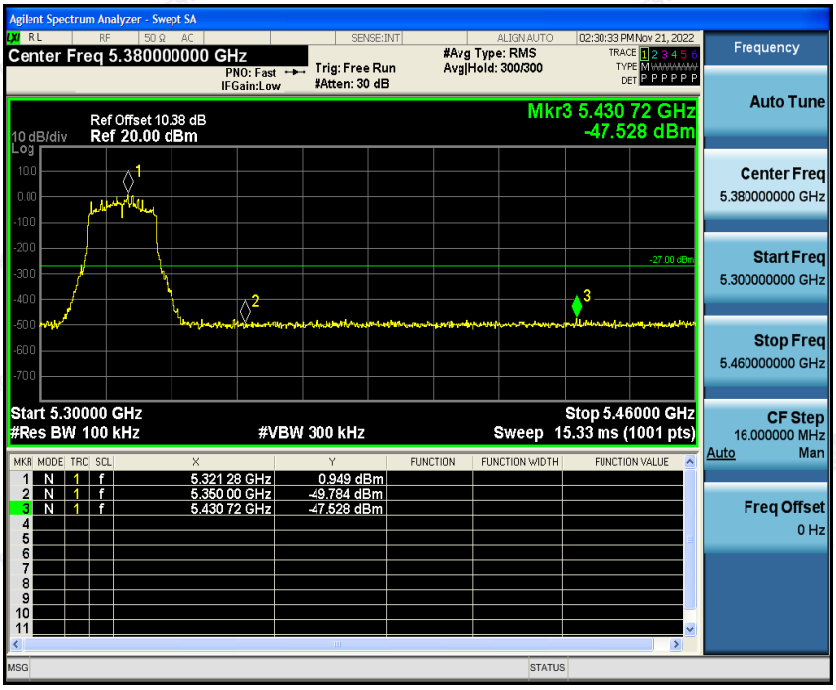
Antenna 2

Band Edges(IEEE802.11a mode)

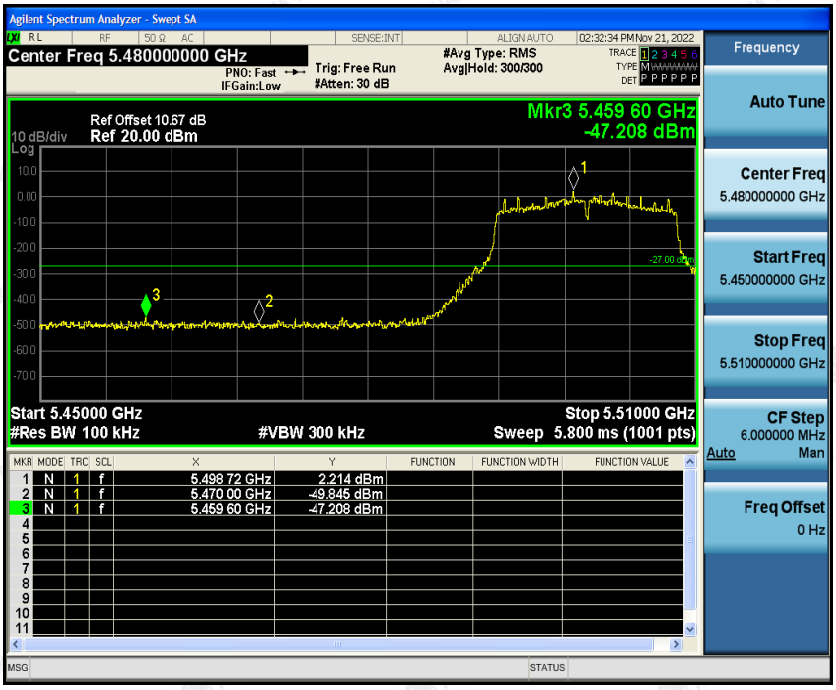
5260MHz



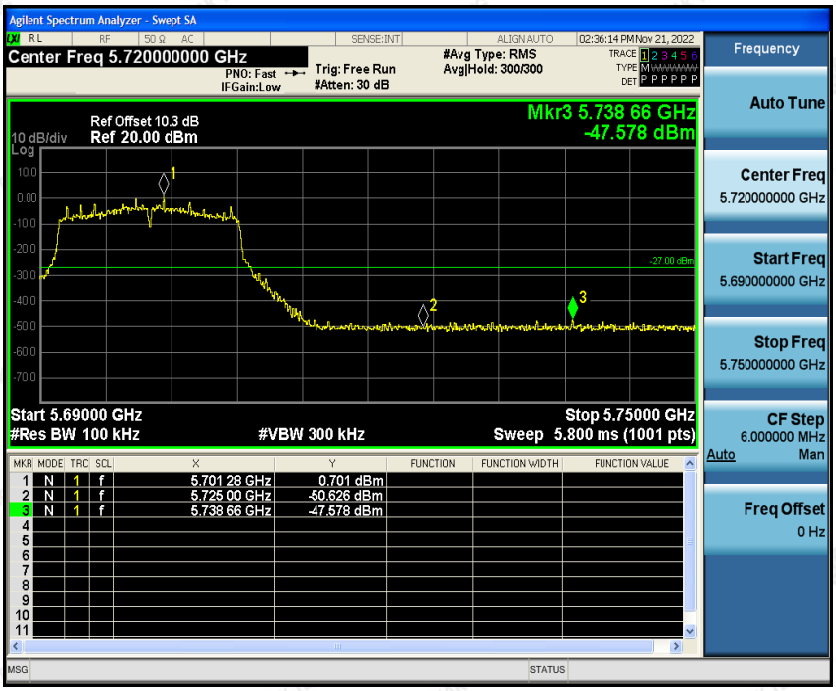
5320MHz



5500MHz

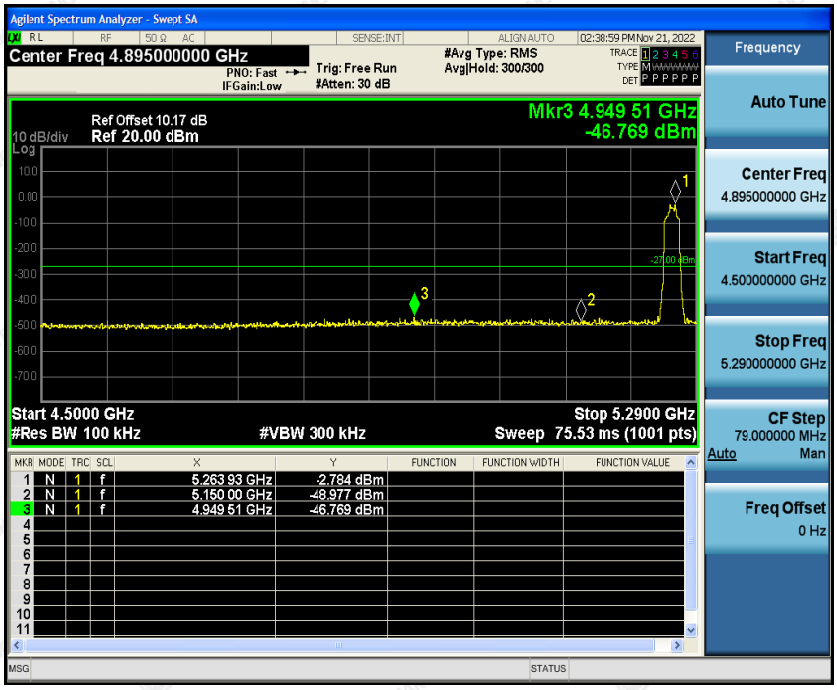


5700MHz

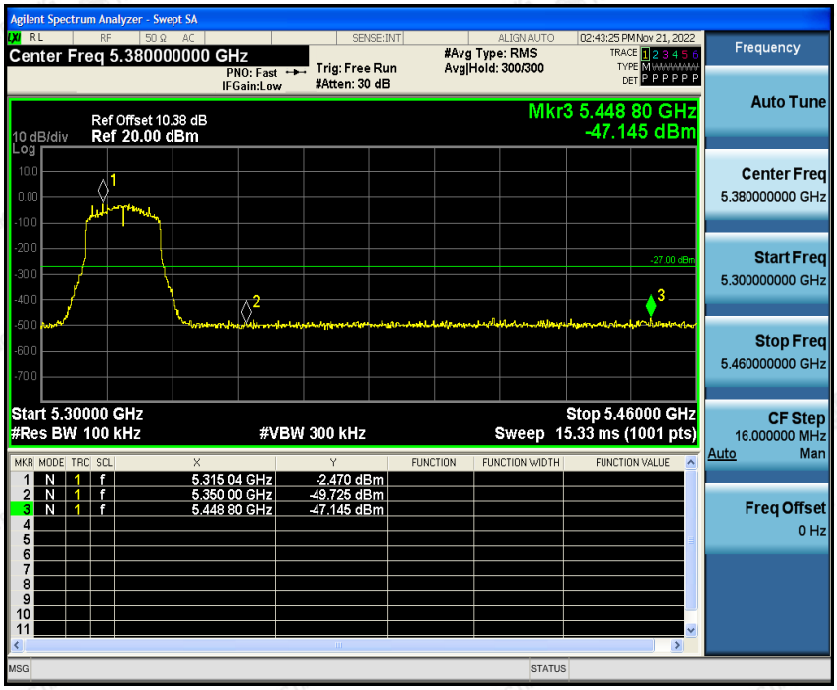


Band Edges(IEEE802.11n HT20 mode)

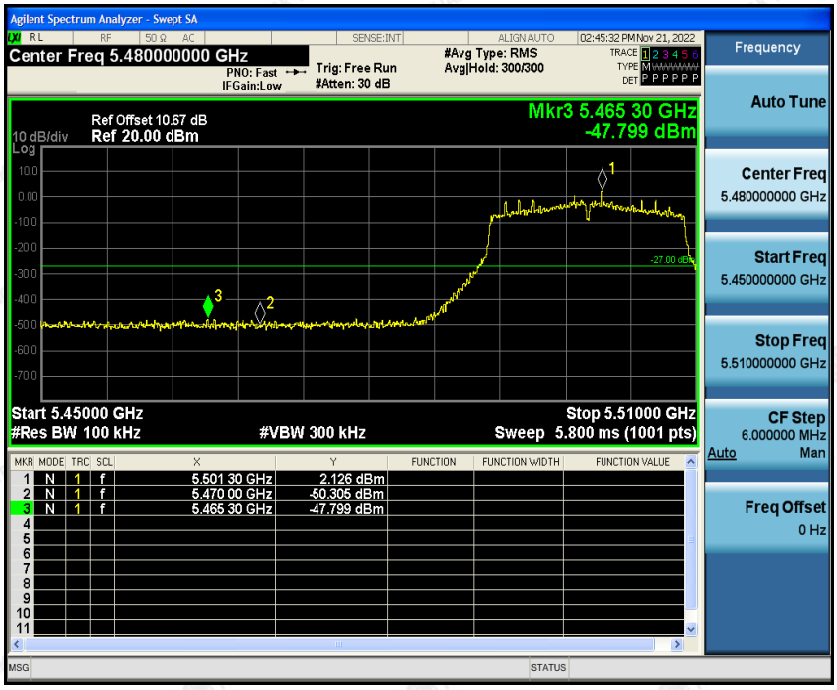
5260MHz



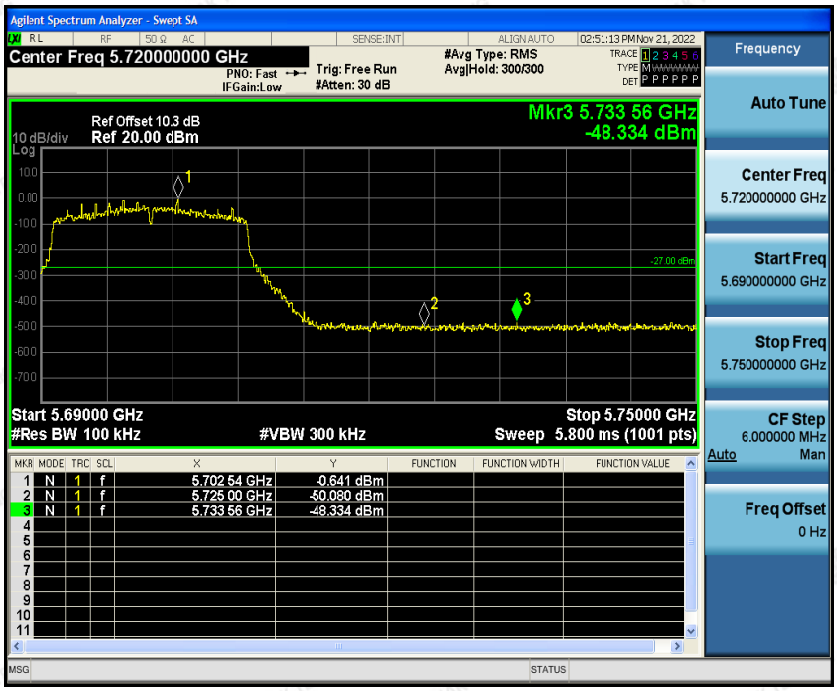
5320MHz



5500MHz

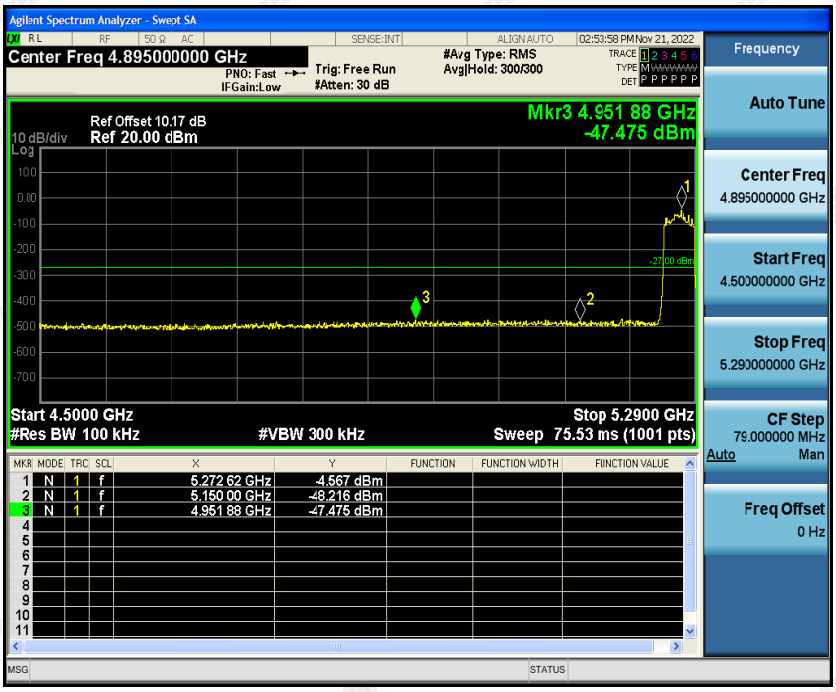


5700MHz

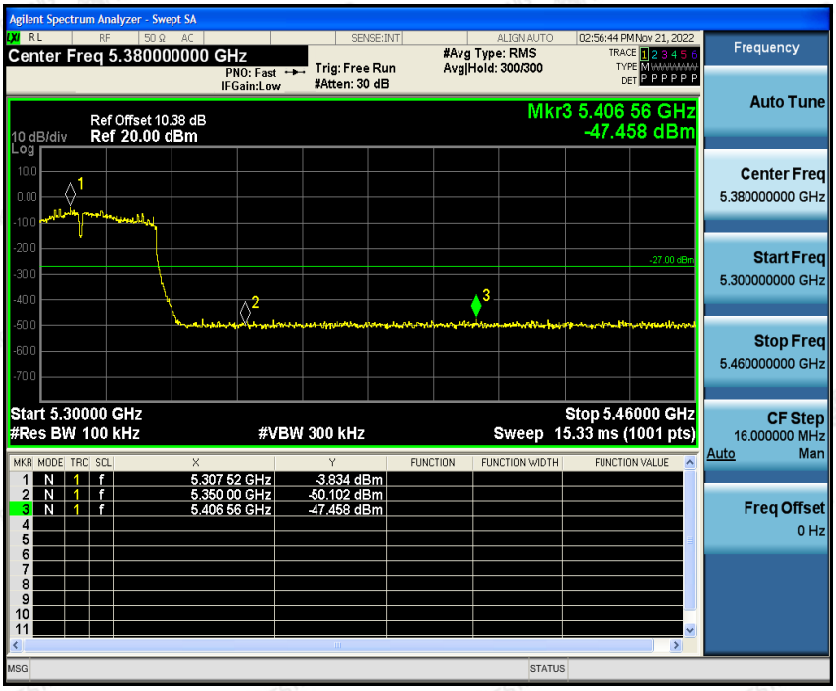


Band Edges(IEEE802.11n HT40 mode)

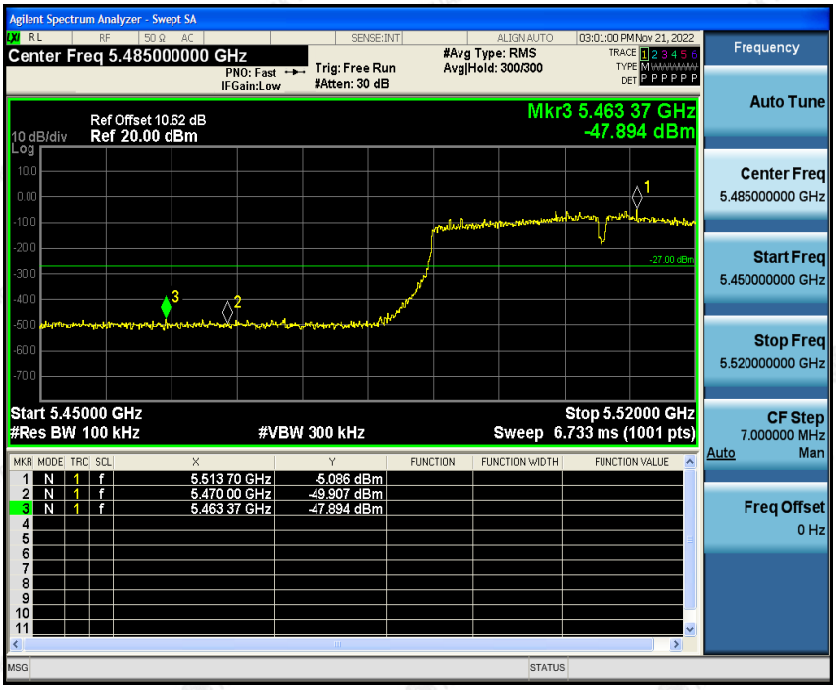
5270MHz



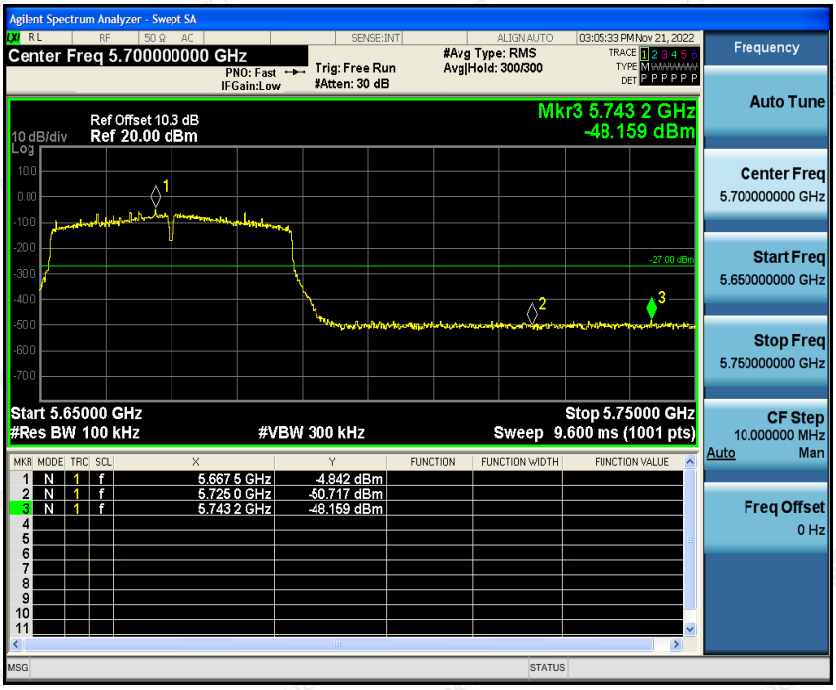
5310MHz



5510MHz

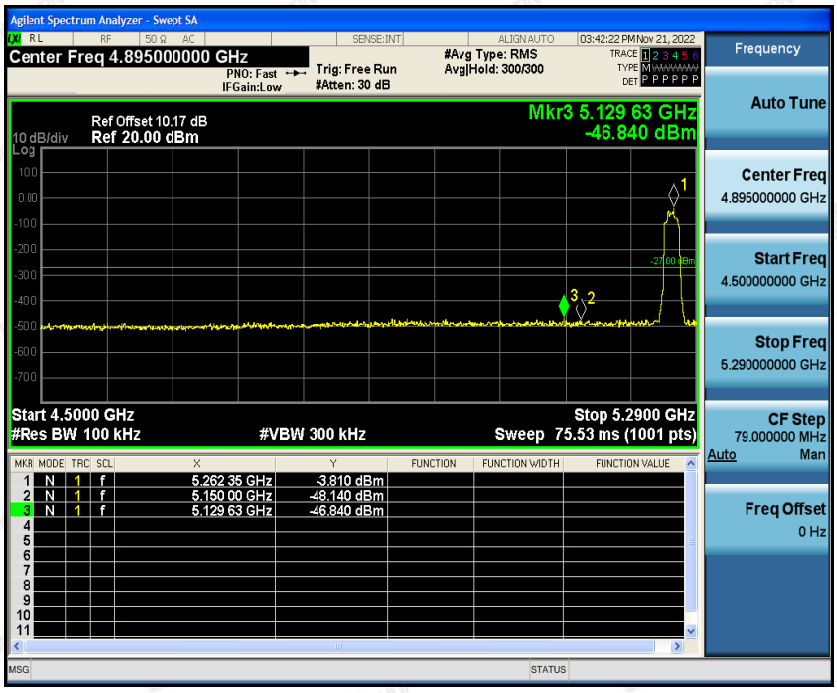


5670MHz

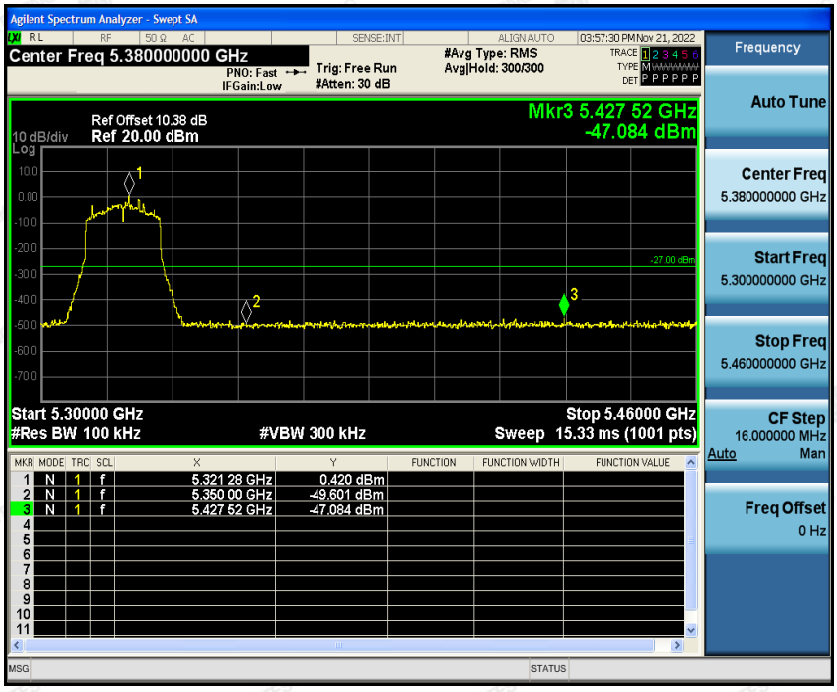


Band Edges(IEEE802.11ac HT20 mode)

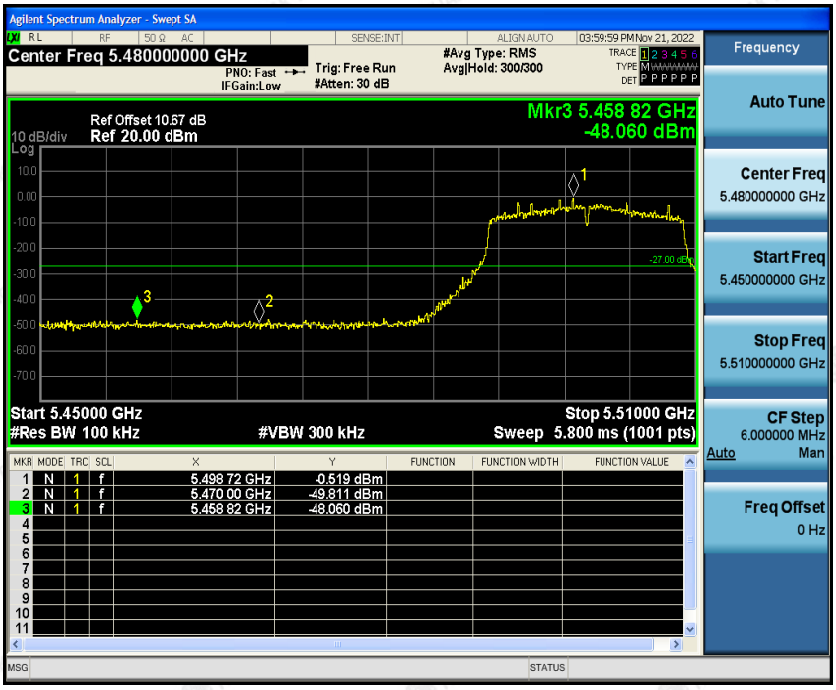
5260MHz



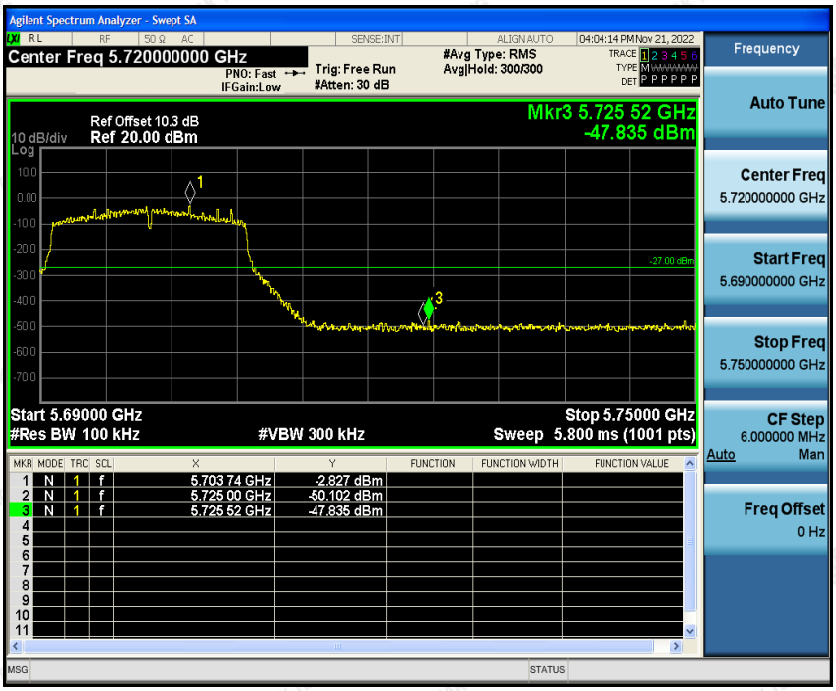
5320MHz



5500MHz

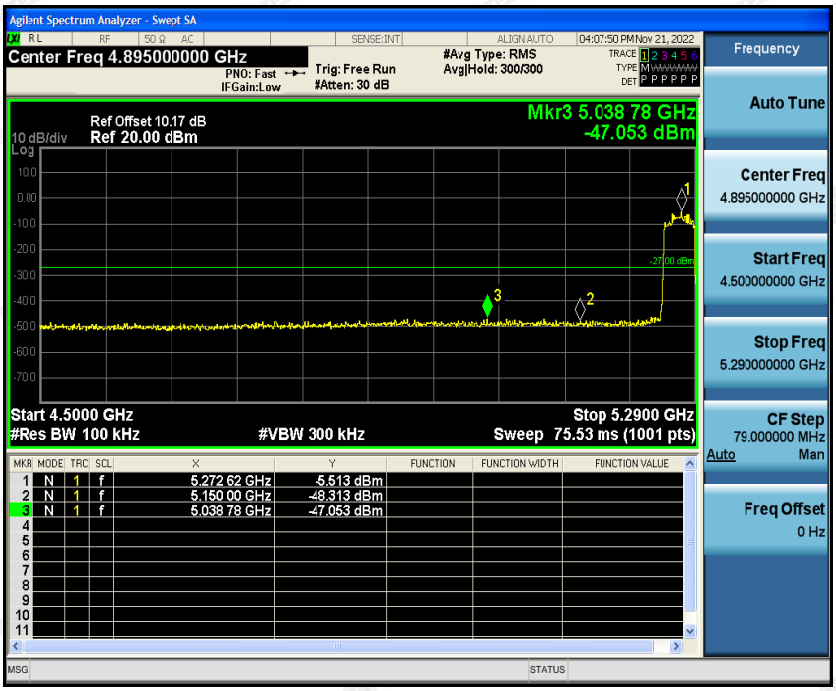


5700MHz

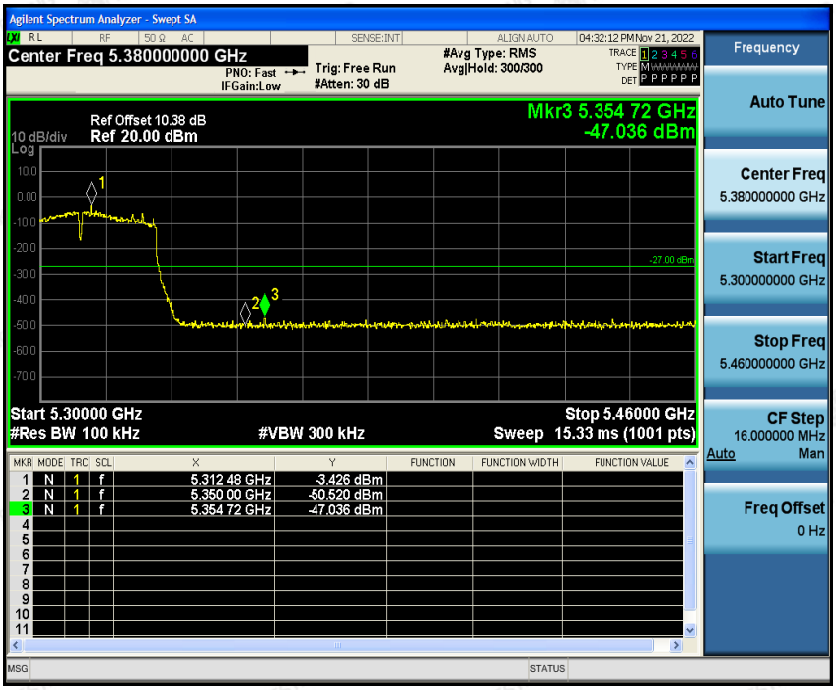


Band Edges(IEEE802.11ac HT40 mode)

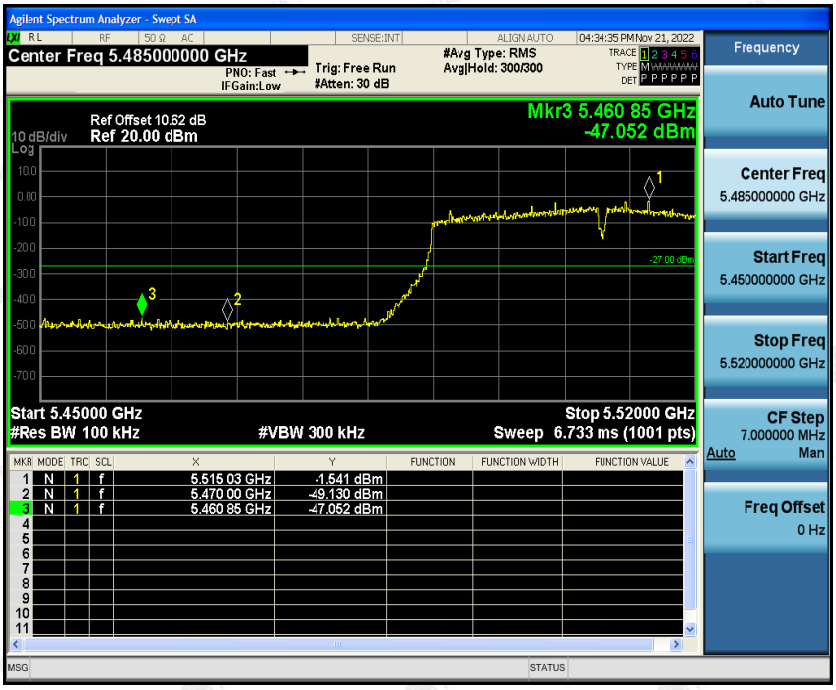
5270MHz



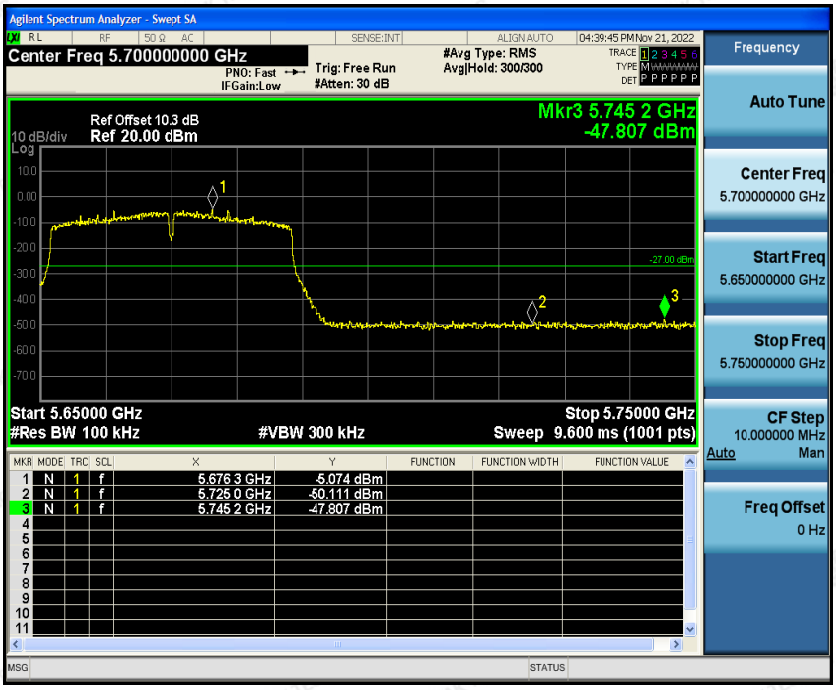
5310MHz



5510MHz

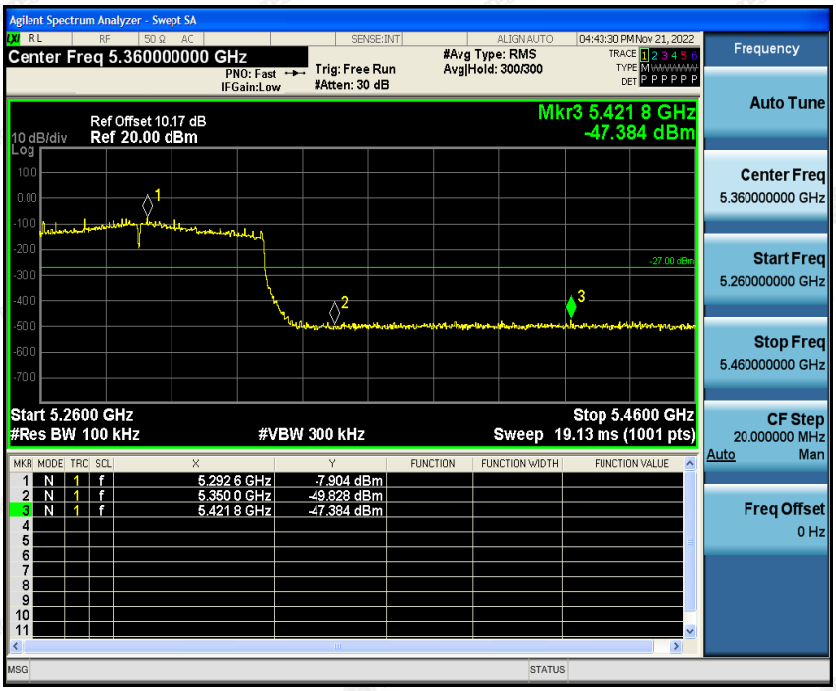


5670MHz

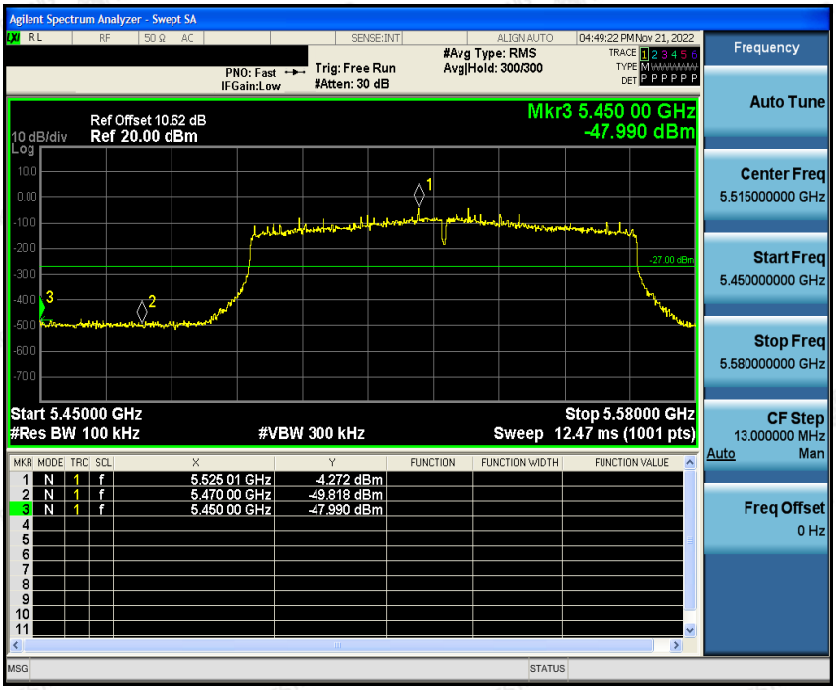


Band Edges(IEEE802.11ac HT80 mode)

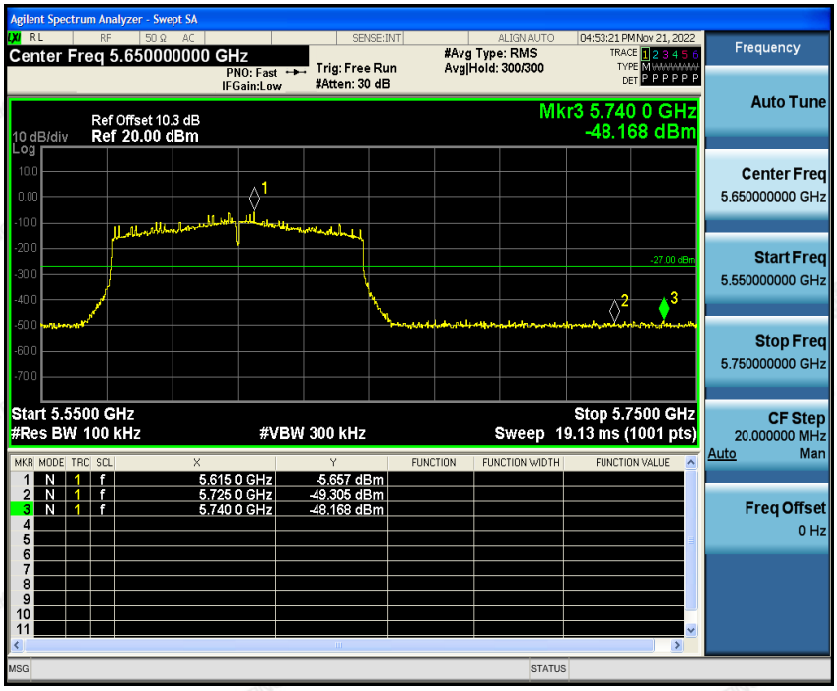
5290MHz



5530MHz

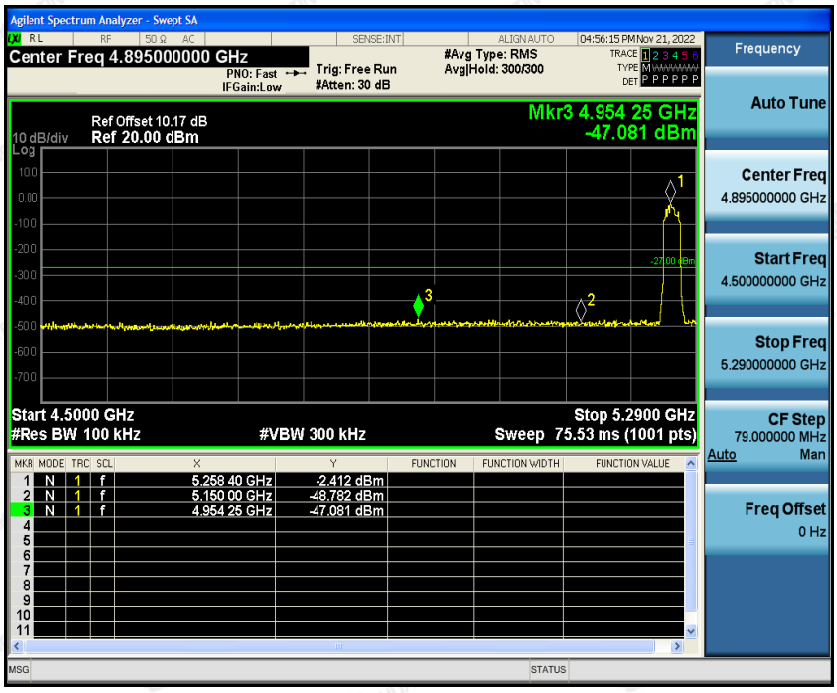


5610MHz

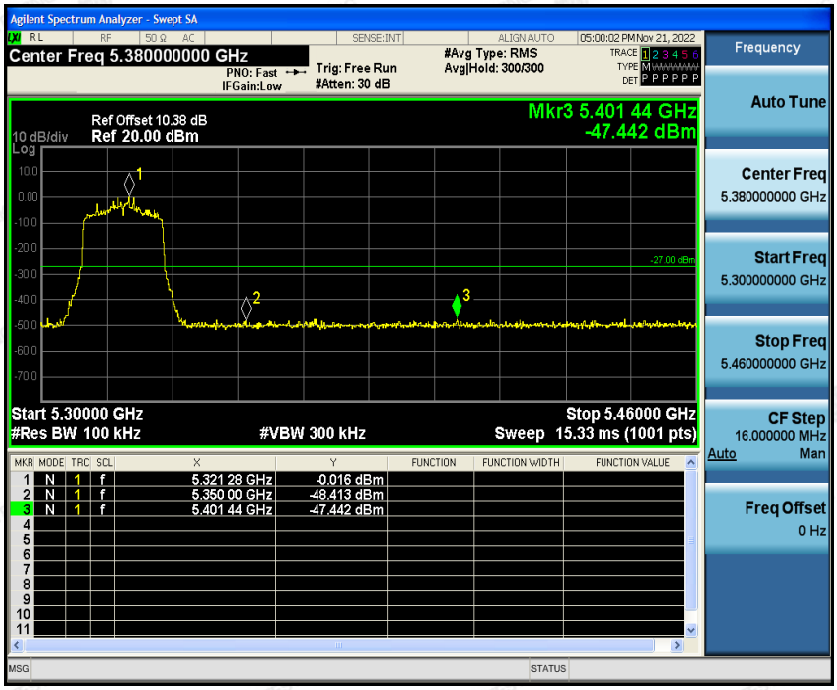


Band Edges(IEEE802.11ax HT20 mode)

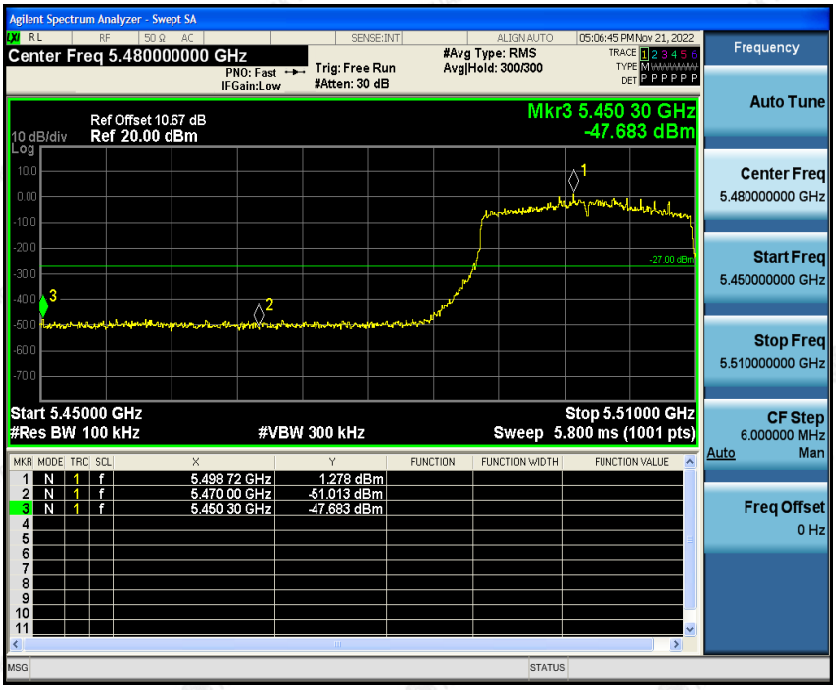
5260MHz



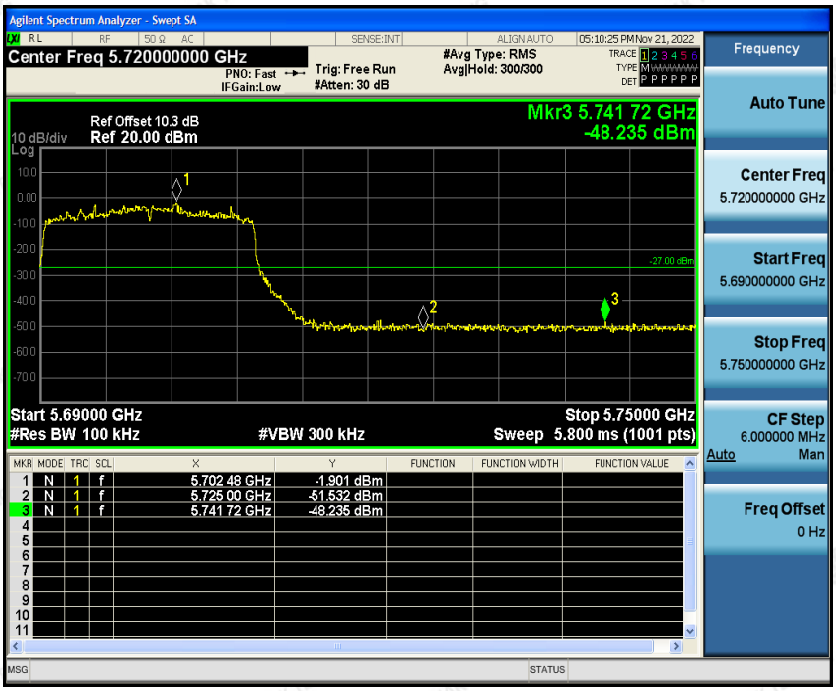
5320MHz



5500MHz

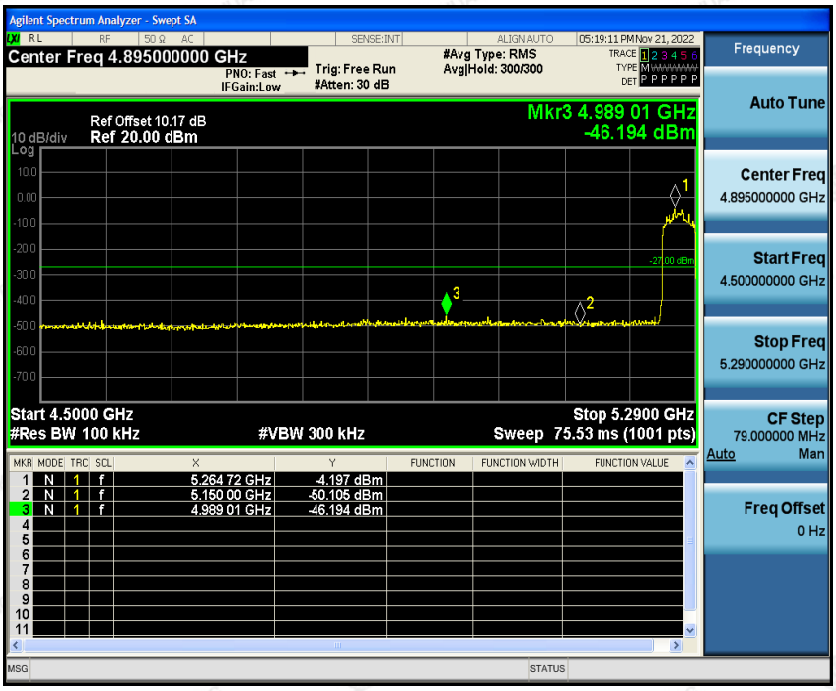


5700MHz

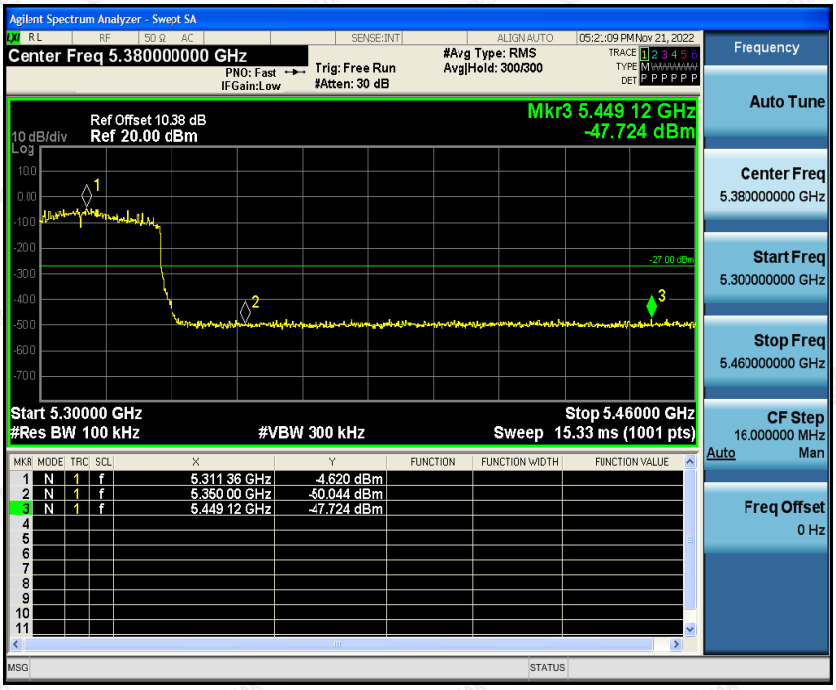


Band Edges(IEEE802.11ax HT40 mode)

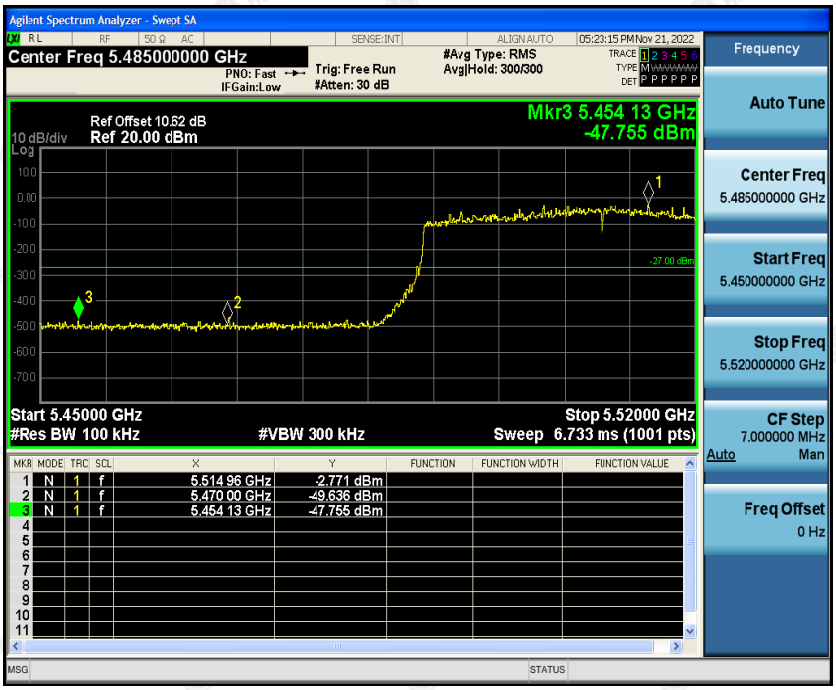
5270MHz



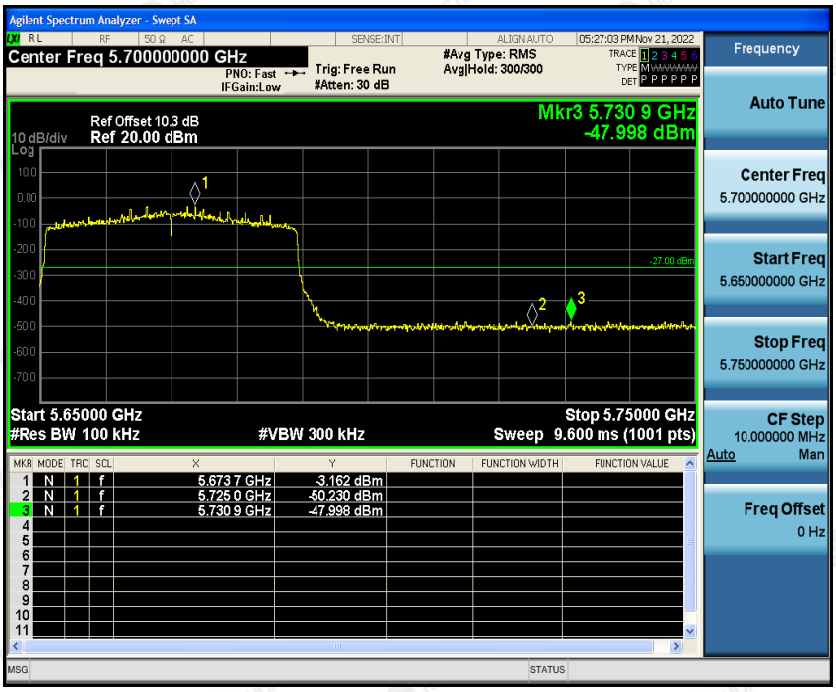
5310MHz



5510MHz

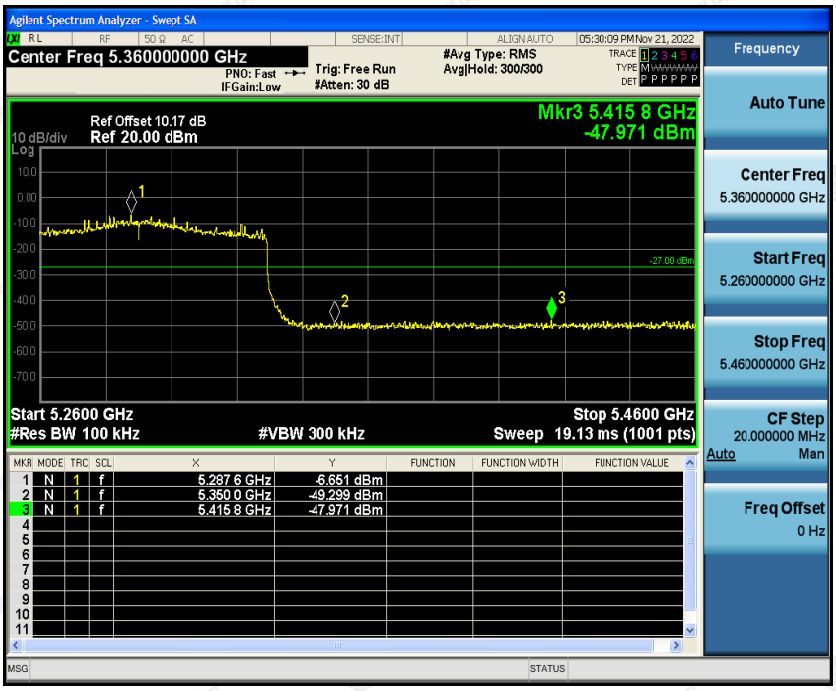


5670MHz

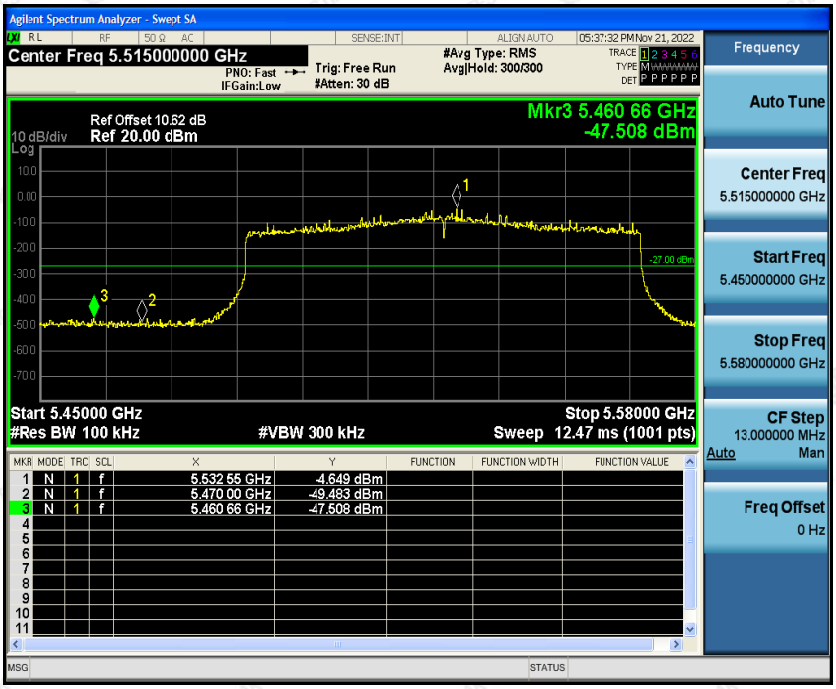


Band Edges(IEEE802.11ax HT80 mode)

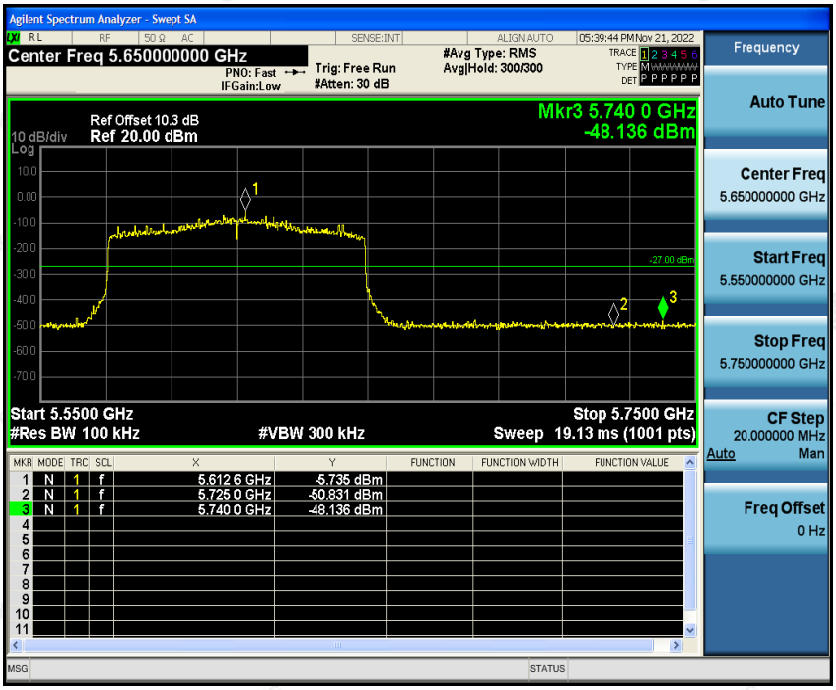
5290MHz



5530MHz



5610MHz



6.5 MAXIMUM POWER SPECTRAL DENSITY

LIMIT

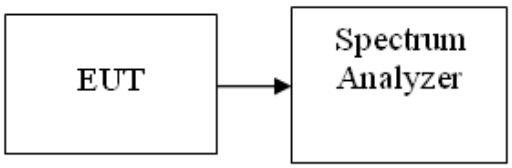
Accordingto§15.407(a),

For mobile and portable client devices in the 5.5-5.25 GHz band, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band.

For the 5.25-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any I megahertz band

If transmitting antennas of directional gain greater than 6dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Test Configuration



TESTPROCEDURE

8. Place the EUT on the table and set it in transmitting mode.
   Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
9. Set the spectrum analyzer as RBW = 1MHz, VBW = 3MHz, Span must be greater than 26dB bandwidth, adjust as necessary, Sweep= auto, Detector RMS
10. Record the max. reading.

TESTRESULTS

No non-compliance noted

Test Data

Testmode:IEEE802.11a mode

5250~5350MHz

Channel	Frequency (MHz)	PPSD(dBm)		Mimo	Limit(dBm)	Result
		Ant1	Ant2			
Low	5260	-12.41	-14.09	/	-6.00	PASS
Mid	5280	-13.91	-13.98	/	-6.00	PASS
High	5320	-18	-13.54	/	-6.00	PASS

5470~5725MHz

Channel	Frequency (MHz)	PPSD(dBm)		Mimo	Limit(dBm)	Result
		Ant1	Ant2			
Low	5500	-13.22	-13.63	/	-6.00	PASS
Mid	5580	-13.07	-13.78	/	-6.00	PASS
High	5700	-14.59	-13.53	/	-6.00	PASS

Testmode:IEEE802.11n HT20 mode

5250~5350MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5260	-14.25	-14.4	-6.00	PASS
Mid	5280	-15.26	-14.1	-6.00	PASS
High	5320	-13.2	-13.5	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5260	-11.31	-9.01	PASS
Mid	5280	-11.63	-9.01	PASS
High	5320	-10.34	-9.01	PASS

5470~5725MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5500	-12.96	-13.74	-6.00	PASS
Mid	5580	-14.14	-13.25	-6.00	PASS
High	5700	-12.47	-14.8	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5500	-10.32	-9.01	PASS
Mid	5580	-10.66	-9.01	PASS
High	5700	-10.47	-9.01	PASS

Testmode:IEEE802.11n HT40 mode

5250~5350MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5270	-14.3	-14.89	-6.00	PASS
High	5310	-14.01	-15.22	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5270	-11.57	-9.01	PASS
High	5310	-11.56	-9.01	PASS

5470~5725MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5510	-14.31	-15.44	-6.00	PASS
Mid	5550	-13.97	-16.31	-6.00	PASS
High	5670	-13.8	-16.77	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5510	-11.83	-9.01	PASS
Mid	5550	-11.97	-9.01	PASS
High	5670	-12.03	-9.01	PASS

Testmode:IEEE802.11ac HT20 mode

5250~5350MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5260	-13.92	-13.49	-6.00	PASS
Mid	5280	-13.53	-13.72	-6.00	PASS
High	5320	-12.9	-12.92	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5260	-10.69	-9.01	PASS
Mid	5280	-10.61	-9.01	PASS
High	5320	-9.90	-9.01	PASS

5470~5725MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5500	-12.65	-14.38	-6.00	PASS
Mid	5580	-12.92	-13.68	-6.00	PASS
High	5700	-12.87	-13.39	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5500	-10.42	-9.01	PASS
Mid	5580	-10.27	-9.01	PASS
High	5700	-10.11	-9.01	PASS

Testmode:IEEE802.11ac HT40 mode

5250~5350MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5270	-14.83	-15.31	-6.00	PASS
High	5310	-14.47	-14.4	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5270	-12.05	-9.01	PASS
High	5310	-11.42	-9.01	PASS

5470~5725MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5510	-14.96	-15.41	-6.00	PASS
Mid	5550	-13.71	-15.48	-6.00	PASS
High	5670	-13.95	-13.73	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5510	-12.17	-9.01	PASS
Mid	5550	-11.50	-9.01	PASS
High	5670	-10.83	-9.01	PASS

Testmode:IEEE802.11ac HT80 mode

5250~5350MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5290	-17.54	-16.66	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5290	-14.07	-9.01	PASS

5470~5725MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5530	-15.83	-15.92	-6.00	PASS
High	5610	-16.27	-17.21	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5530	-12.86	-9.01	PASS
High	5610	-13.70	-9.01	PASS

Testmode:IEEE802.11ax HT20 mode

5250~5350MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5260	-13.52	-14.47	-6.00	PASS
Mid	5280	-12.97	-13.48	-6.00	PASS
High	5320	-13.36	-13.58	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5260	-10.96	-9.01	PASS
Mid	5280	-10.21	-9.01	PASS
High	5320	-10.46	-9.01	PASS

5470~5725MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5500	-13.82	-13.1	-6.00	PASS
Mid	5580	-12.8	-13.02	-6.00	PASS
High	5700	-13.23	-13.58	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5500	-10.43	-9.01	PASS
Mid	5580	-9.90	-9.01	PASS
High	5700	-10.39	-9.01	PASS

Testmode:IEEE802.11ax HT40 mode

5250~5350MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5270	-15.17	-15.43	-6.00	PASS
High	5310	-15.02	-14.75	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5270	-12.29	-9.01	PASS
High	5310	-11.87	-9.01	PASS

5470~5725MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5510	-15.46	-14.43	-6.00	PASS
Mid	5550	-14.59	-14.71	-6.00	PASS
High	5670	-18.33	-14.64	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5510	-11.90	-9.01	PASS
Mid	5550	-11.64	-9.01	PASS
High	5670	-13.09	-9.01	PASS

Testmode:IEEE802.11ax HT80 mode

5250~5350MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5290	-21.4	-16.66	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5290	-15.40	-9.01	PASS

5470~5725MHz

Channel	Frequency (MHz)	PPSD(dBm)		Limit(dBm)	Result
		Ant1	Ant2		
Low	5530	-16.99	-17.3	-6.00	PASS
High	5610	-16.35	-16.69	-6.00	PASS

Channel	Frequency (MHz)	Mimo	Limit(dBm)	Result
Low	5530	-14.13	-9.01	PASS
High	5610	-13.51	-9.01	PASS

Note:

1.Duty factor has been off seted with cable loss

2. According to KDB 662911, Result power = 10log(10(ant1/10+10(ant2/10)).

3. Result unit: W, The end result is converted to units of dBm.

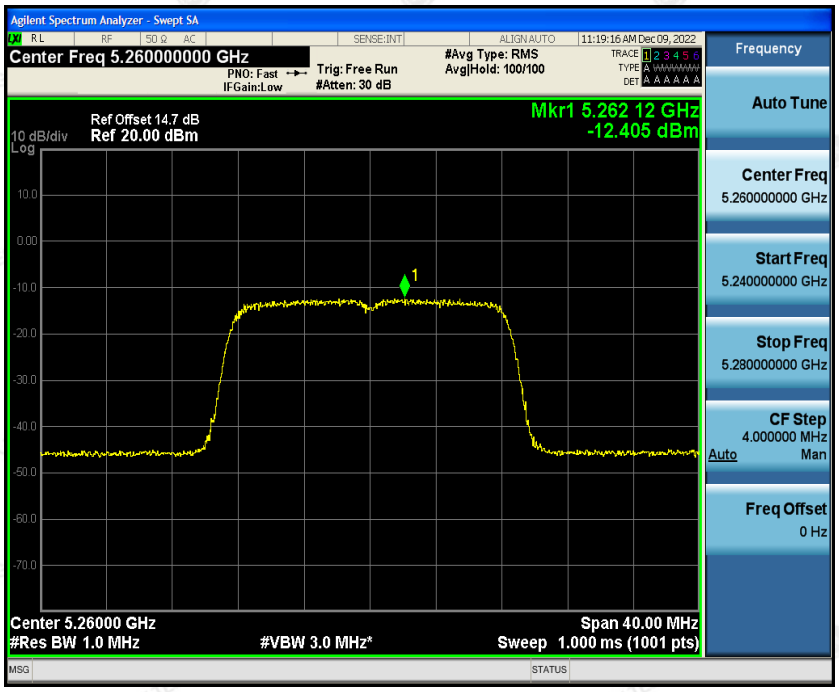
MIMO limit=11dBm-(direction gain-6dBi)= 11-(23+10log2-6)=-9.01(dBm/MHz)

ANT.1/2: limit=11dBm-(23dBi -6dBi)= 11-17=-6.00(dBm/MHz)

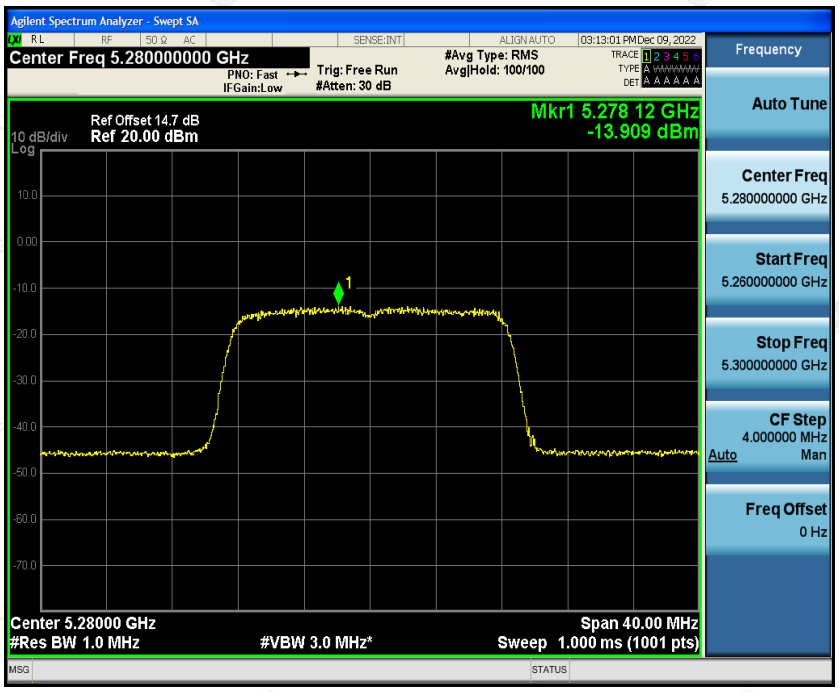
Test Plot
Antenna 1
IEEE802.11a mode:

5250~5350MHz

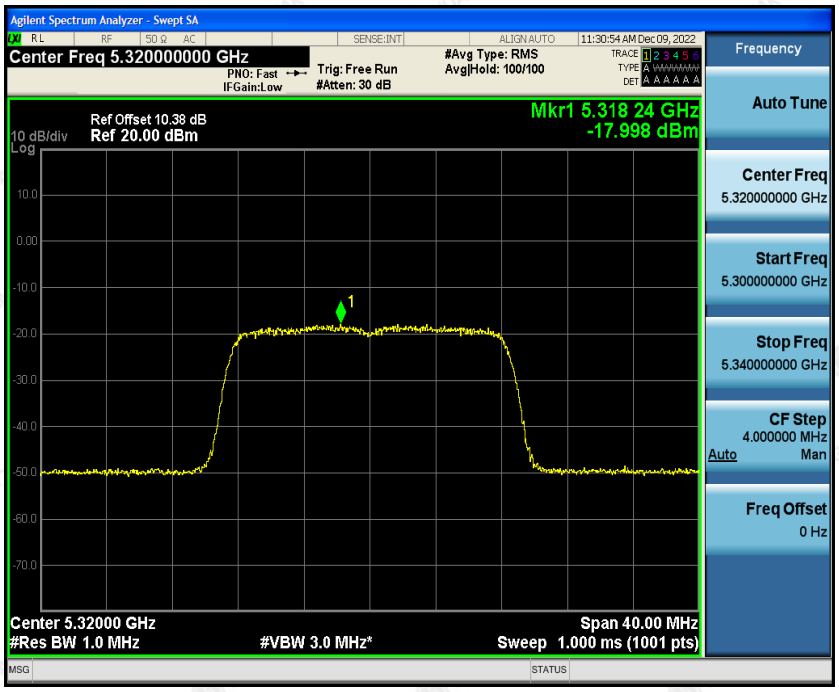
Low Channel



Mid Channel

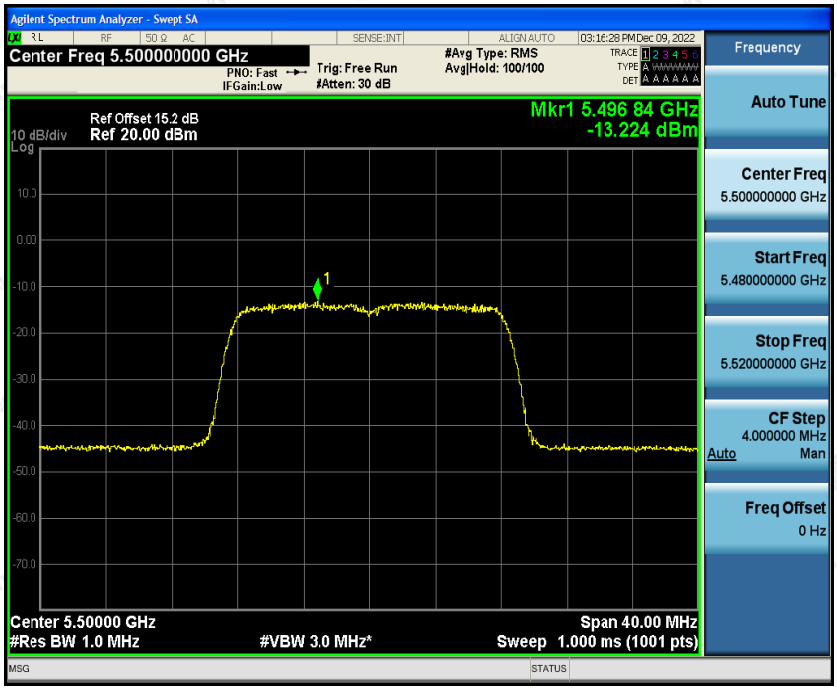


High Channel

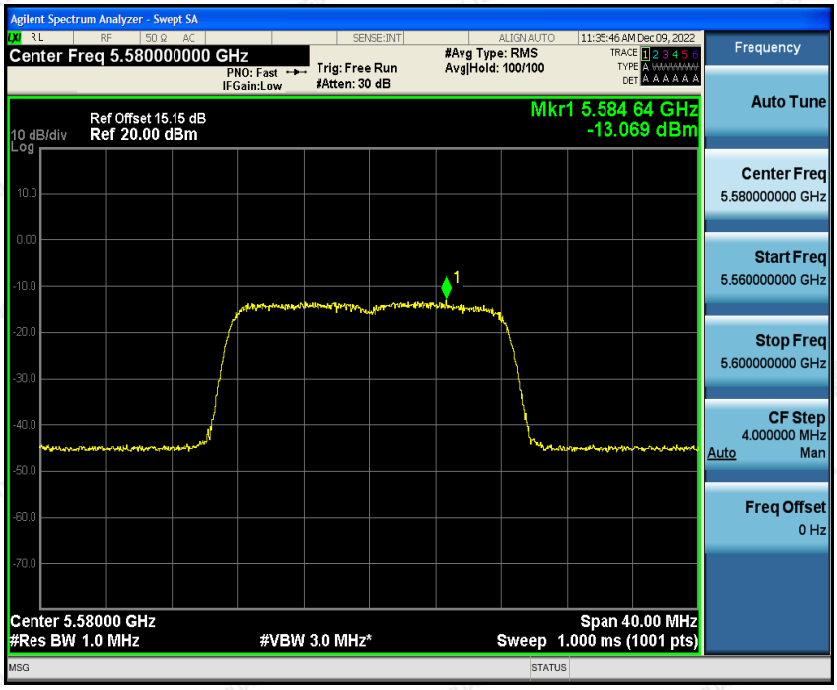


5470~5725MHz

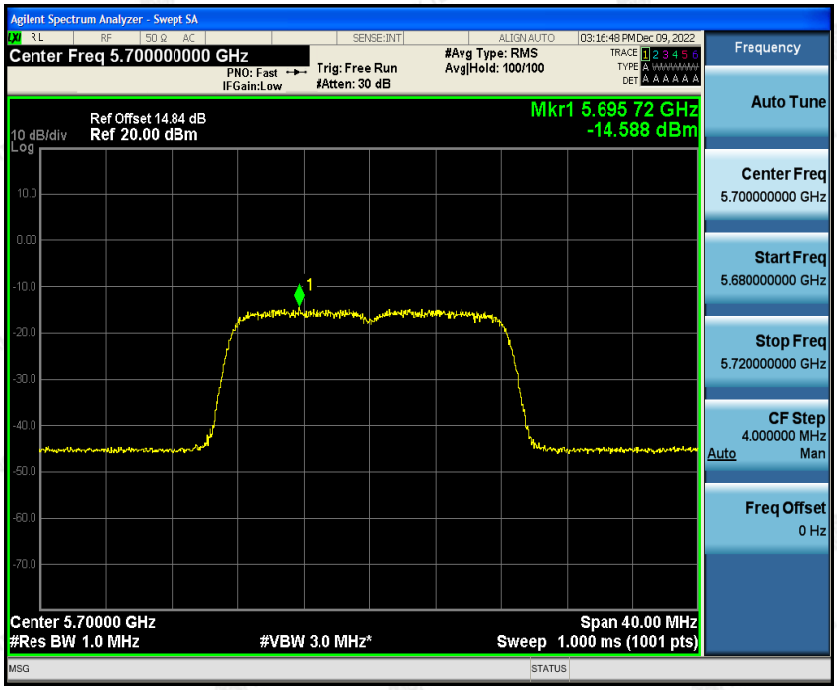
Low Channel



Mid Channel



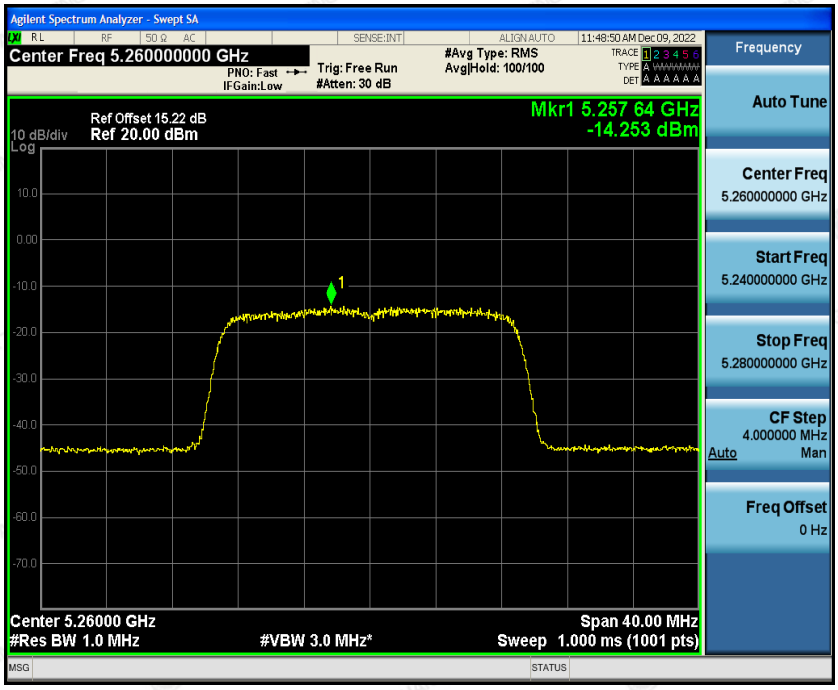
High Channel



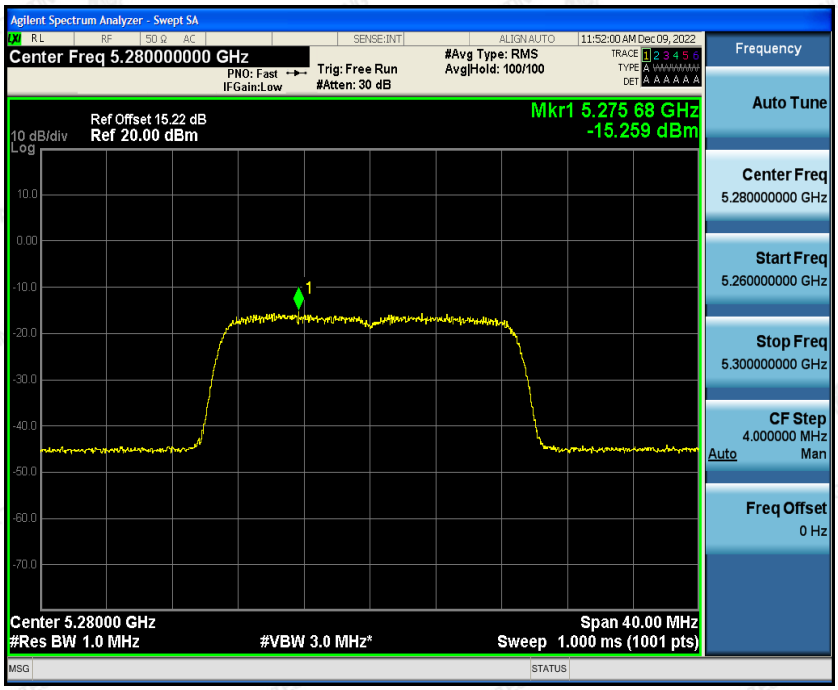
IEEE802.11n HT20 mode

5250~5350MHz

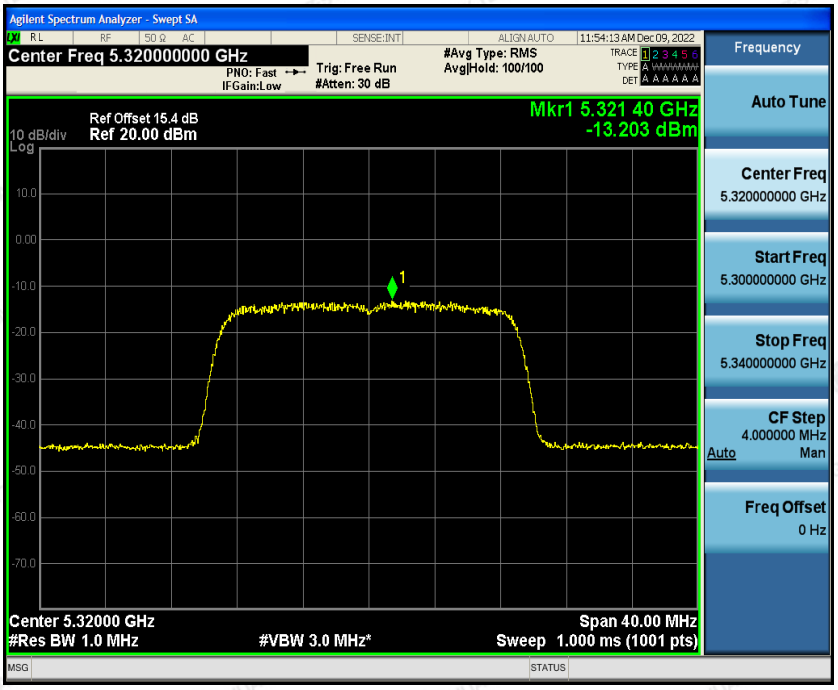
Low Channel



Mid Channel

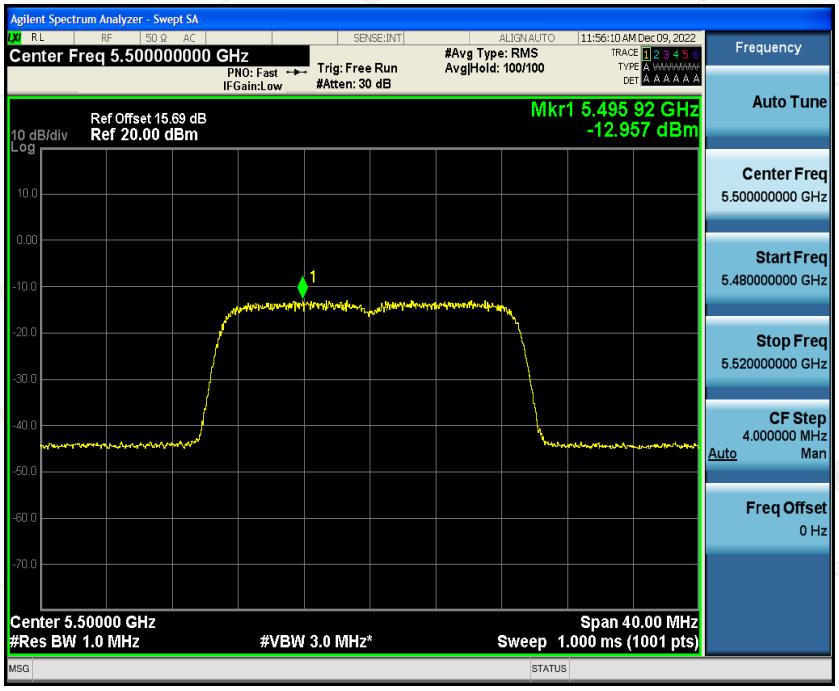


High Channel

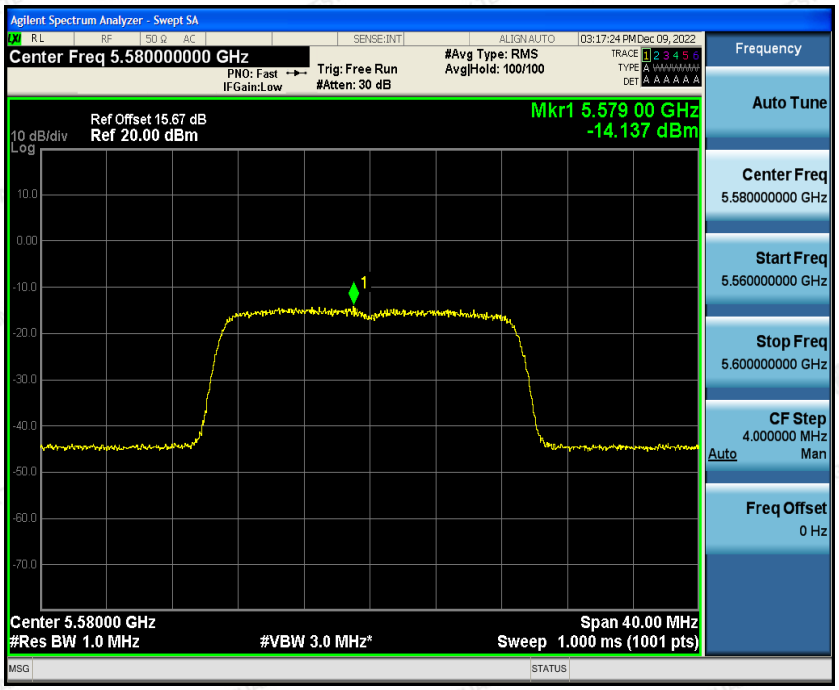


5470~5725MHz

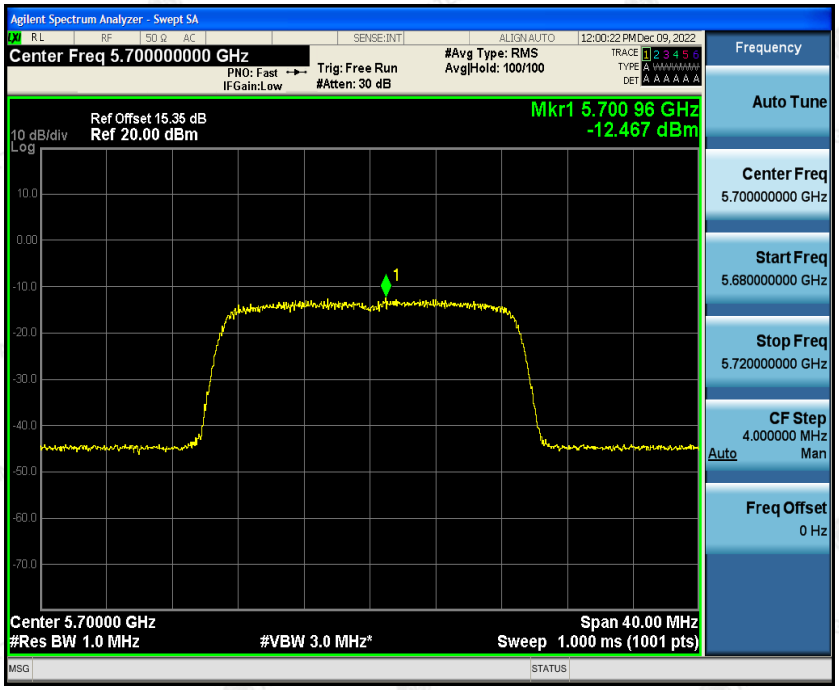
Low Channel



Mid Channel



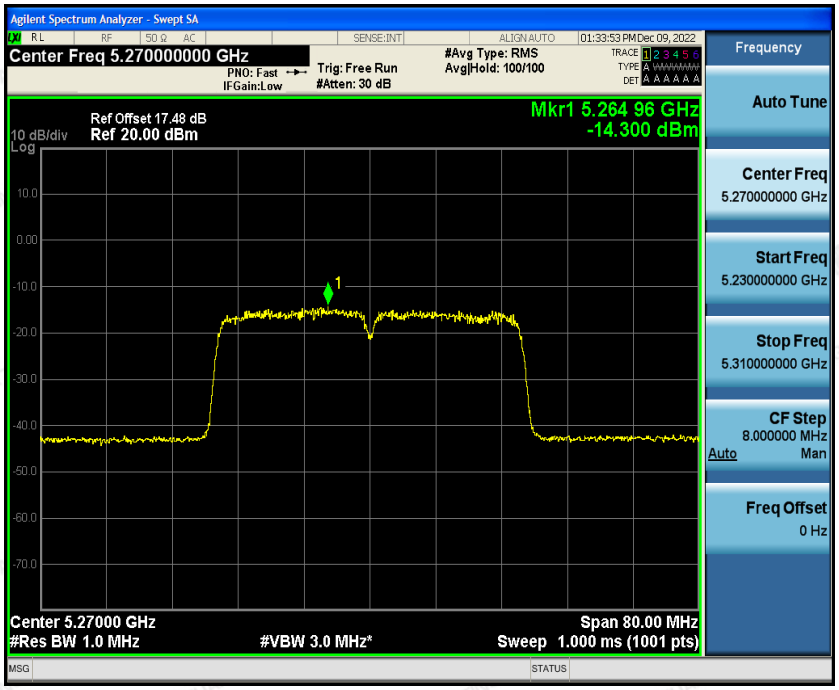
High Channel



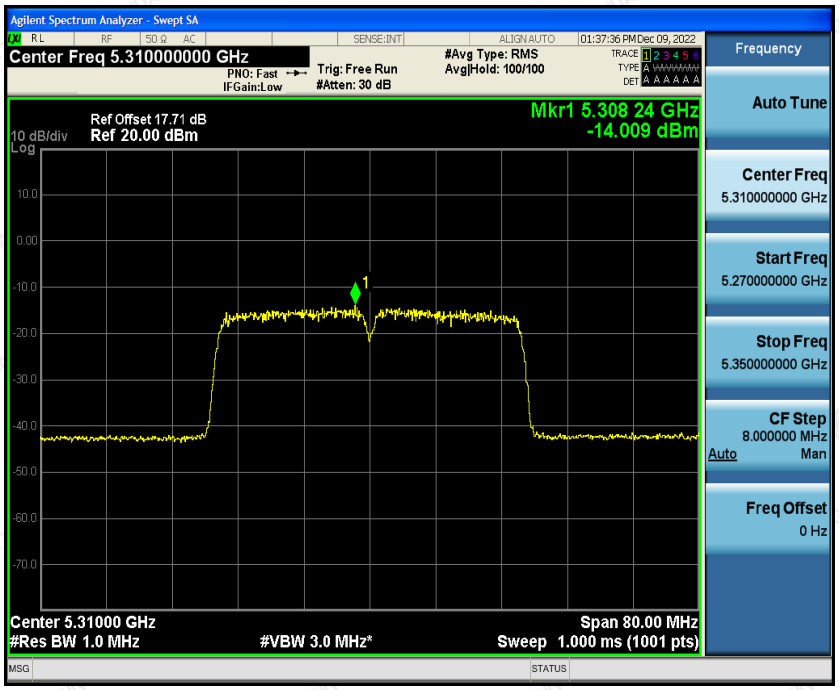
IEEE802.11n HT40 mode

5250~5350MHz

Low Channel

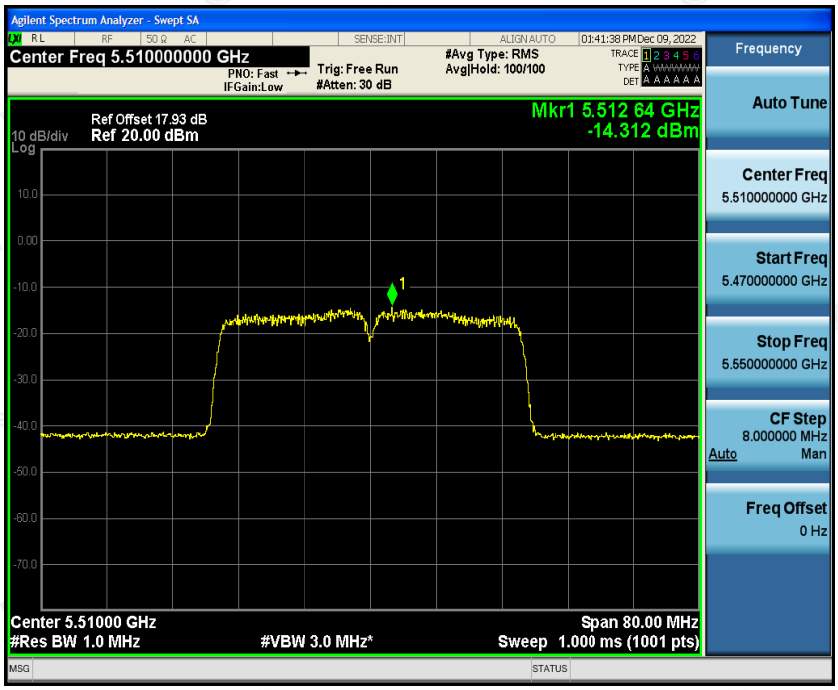


High Channel

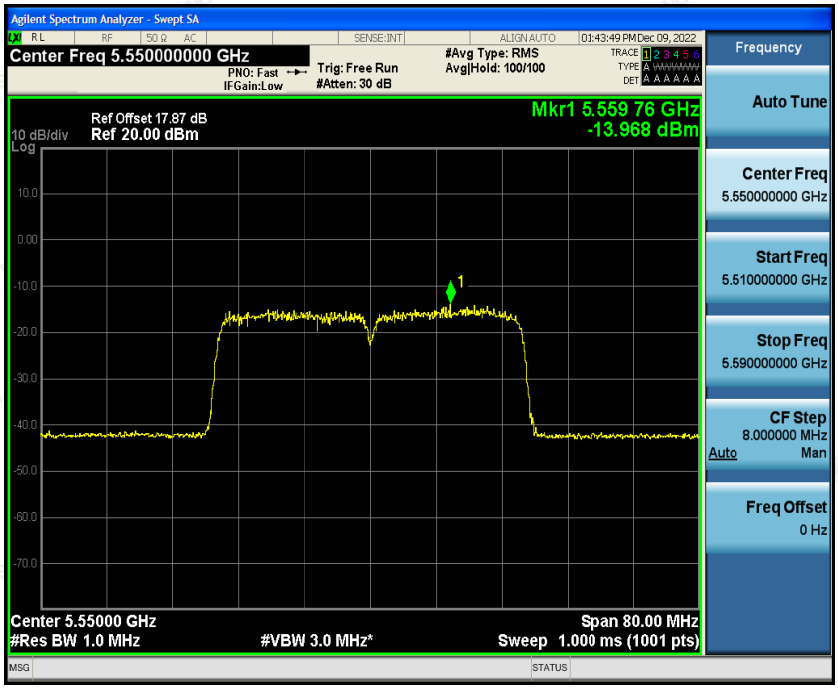


5470~5725MHz

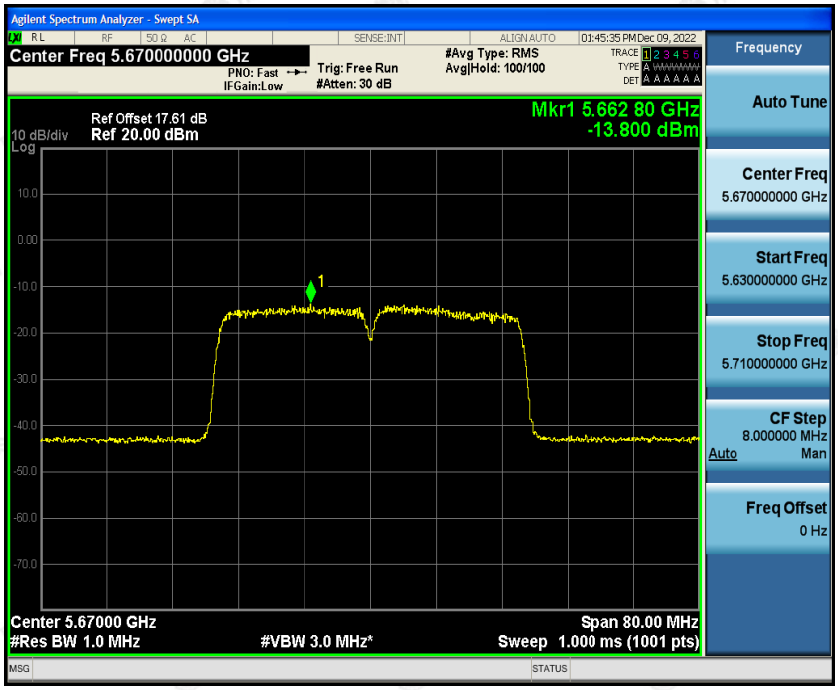
Low Channel



Mid Channel



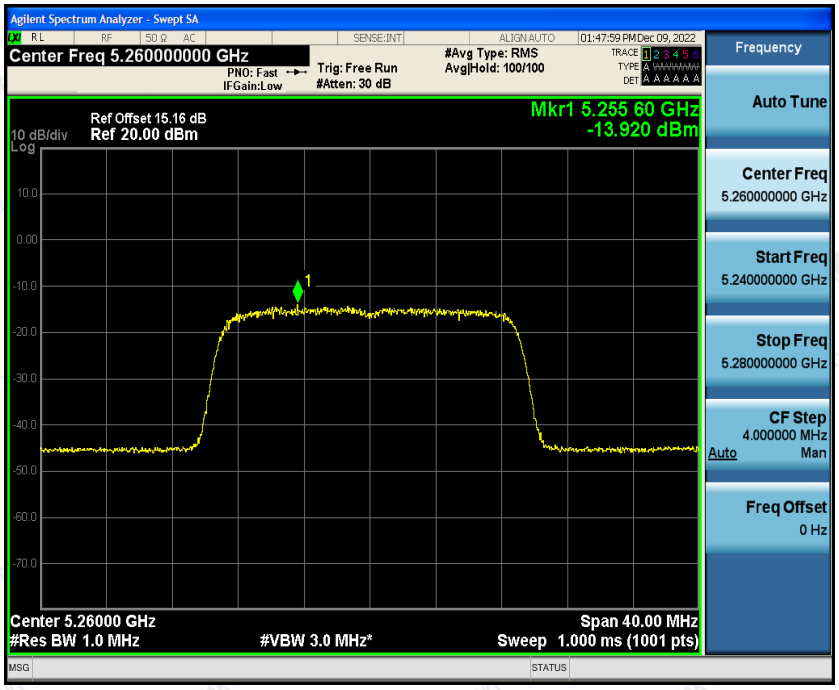
High Channel



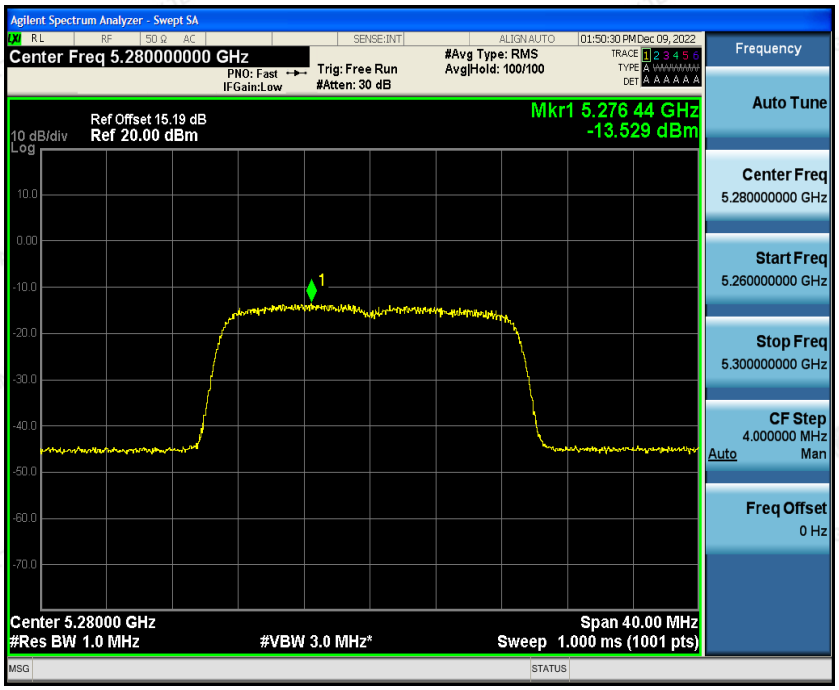
IEEE802.11ac HT20 mode

5250~5350MHz

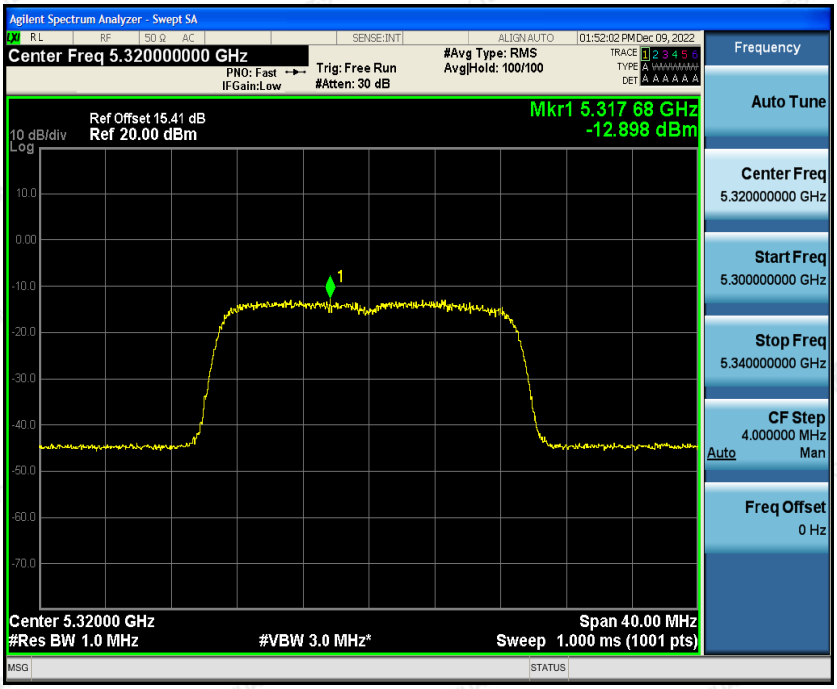
Low Channel



Mid Channel

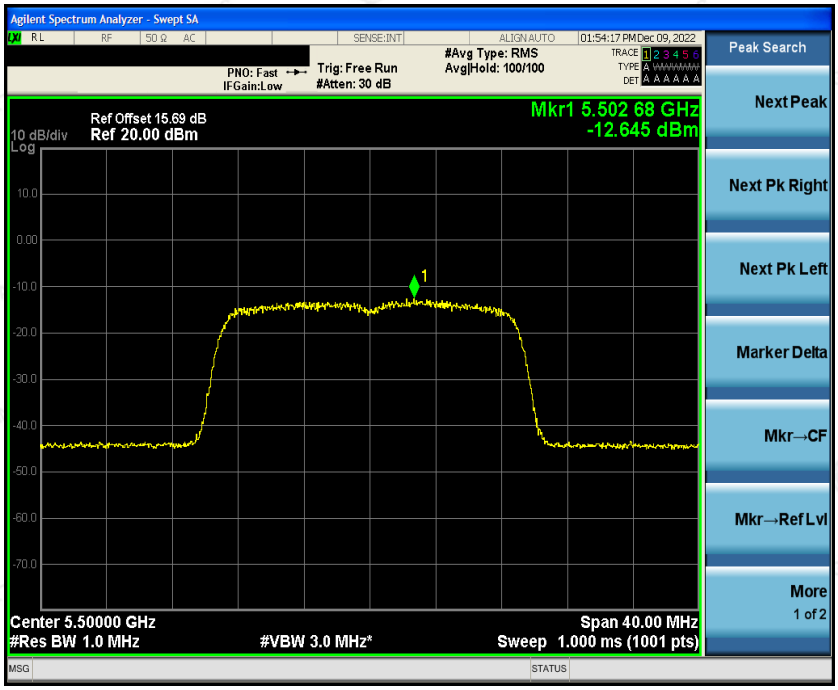


High Channel

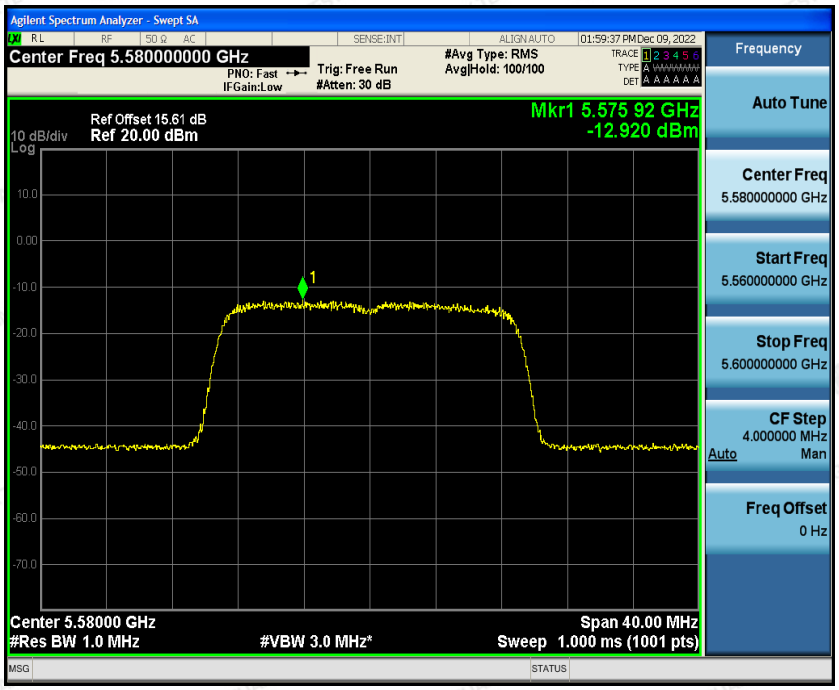


5470~5725MHz

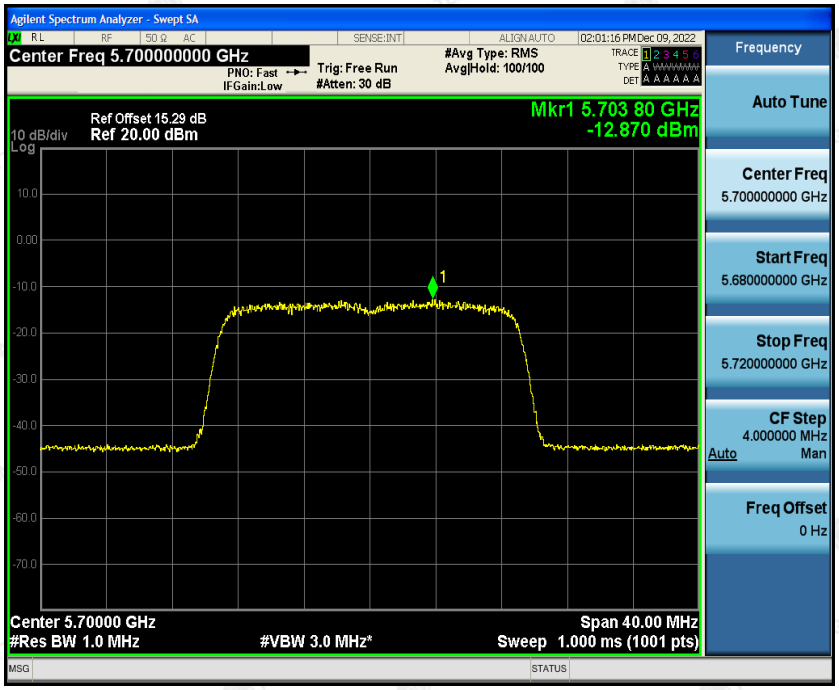
Low Channel



Mid Channel



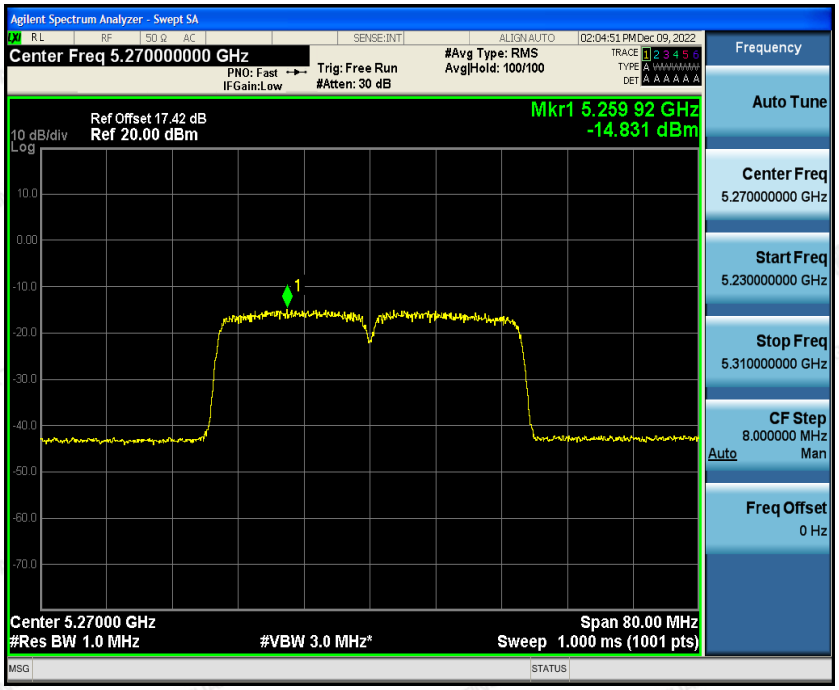
High Channel



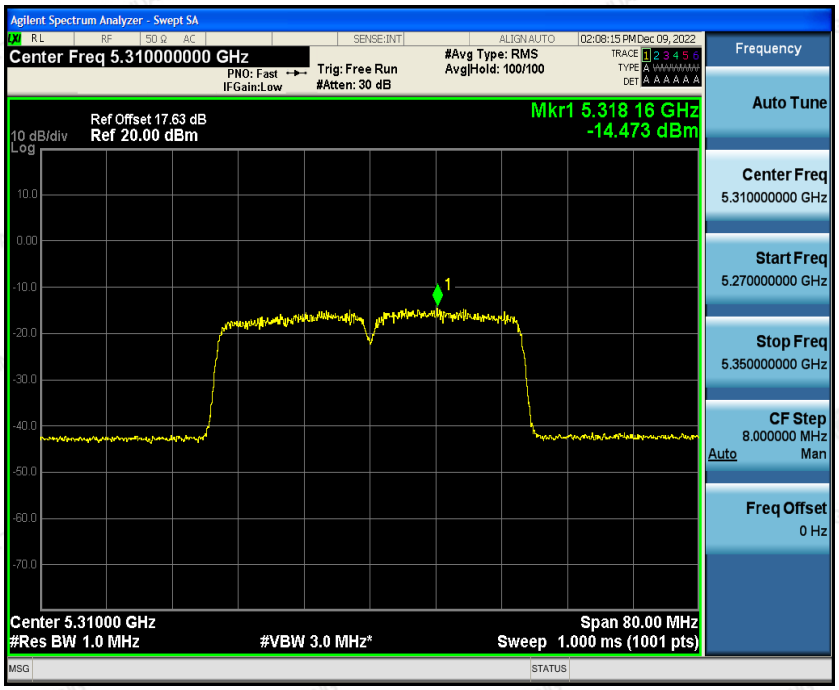
IEEE802.11ac HT40 mode

5250~5350MHz

Low Channel

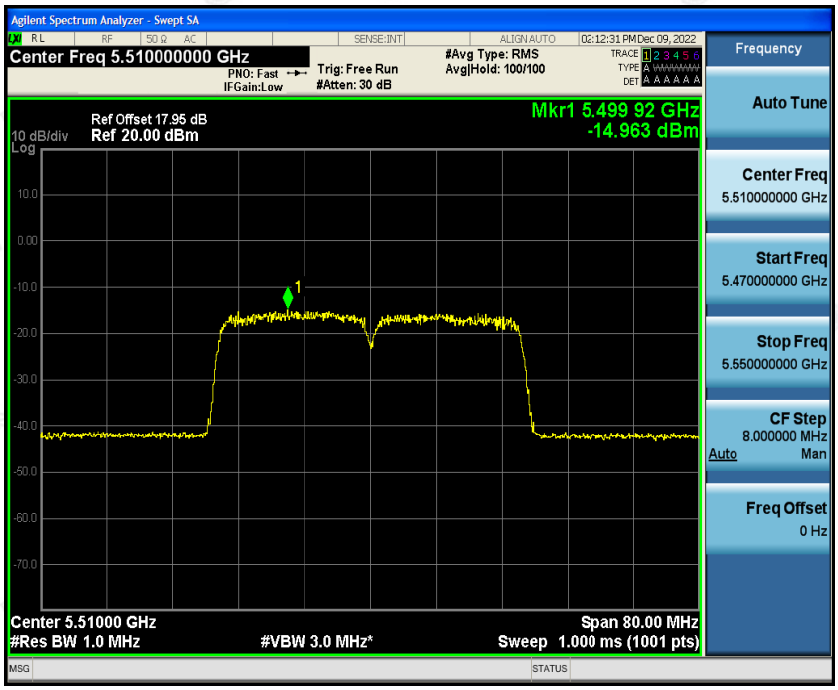


High Channel

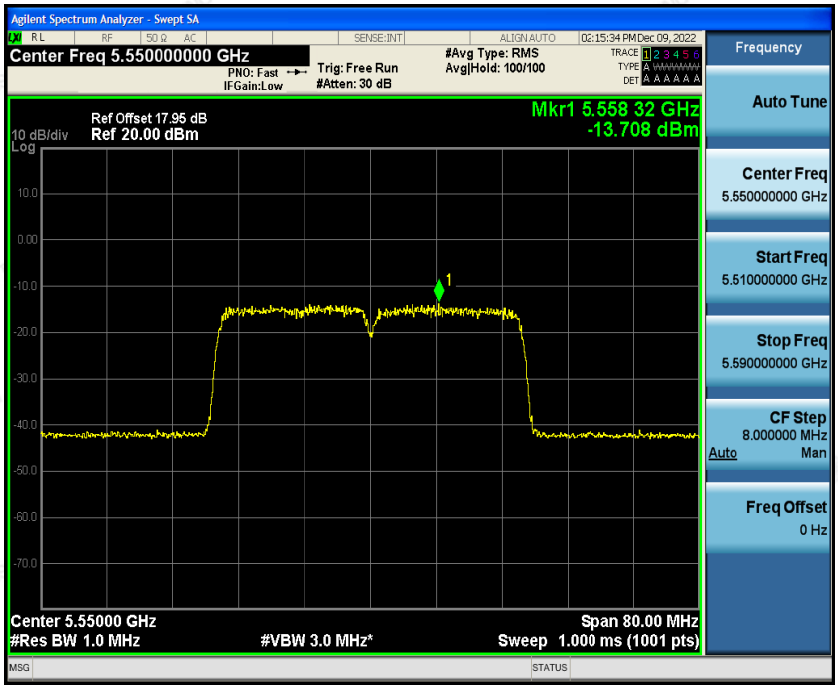


5470~5725MHz

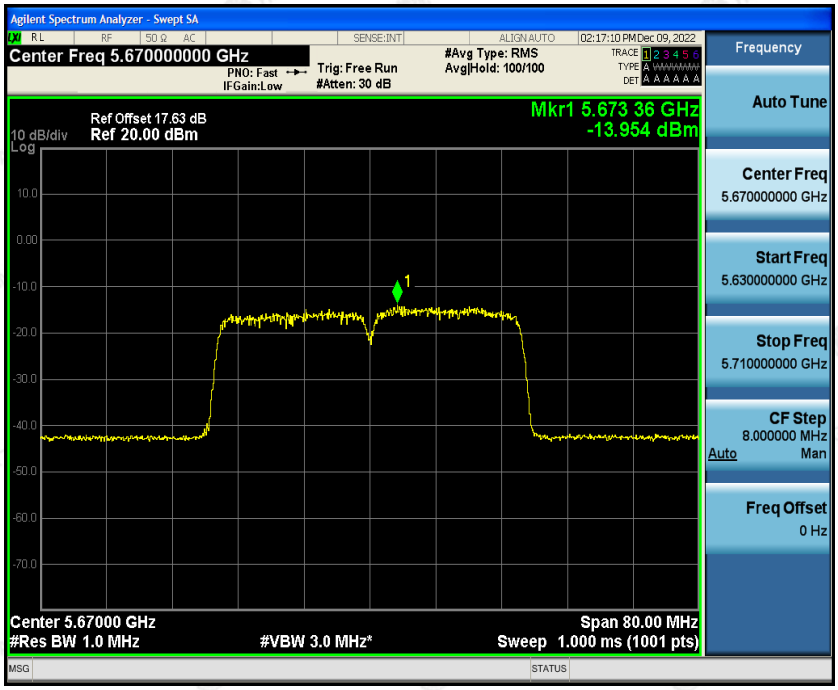
Low Channel



Mid Channel

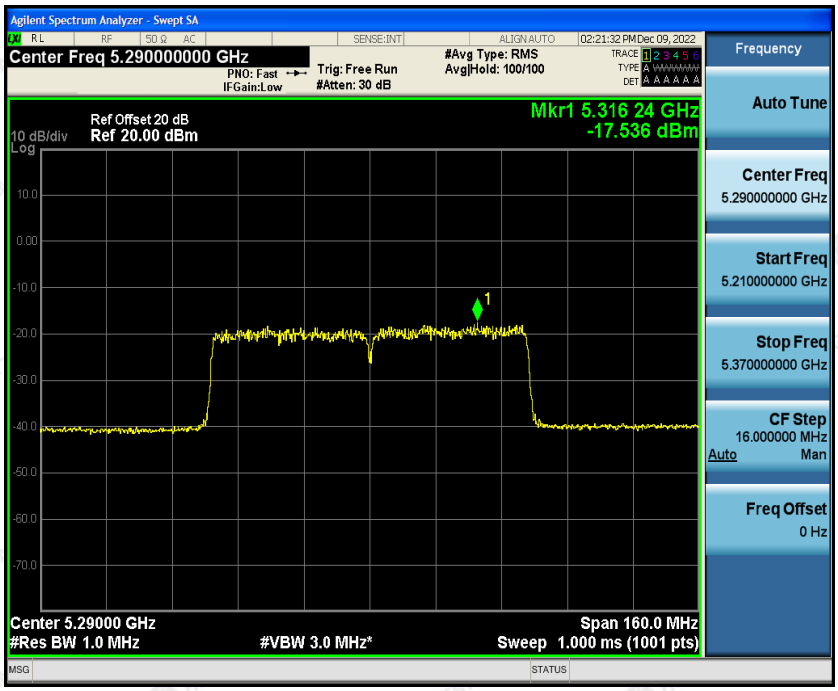


High Channel



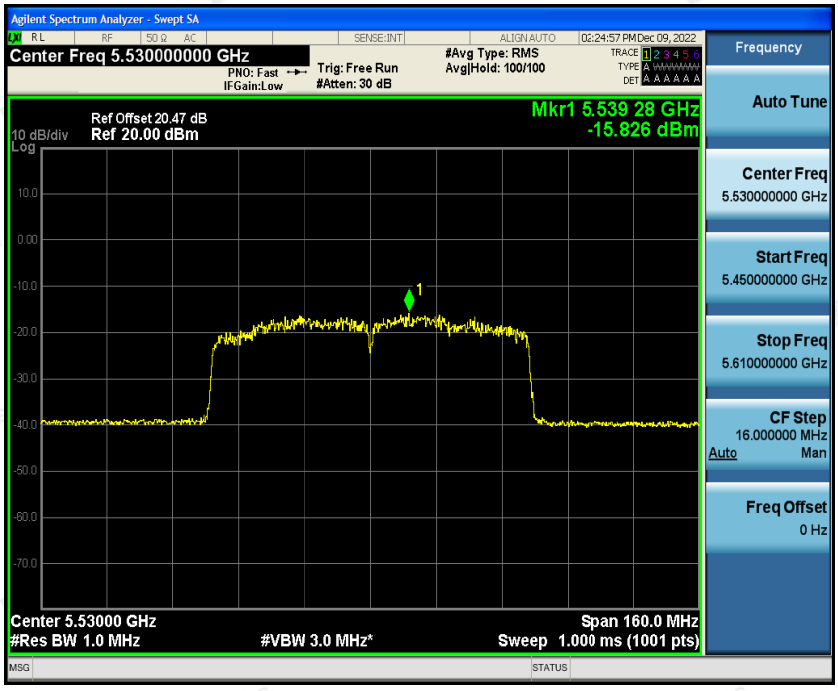
IEEE802.11ac HT80 mode

5250~5350MHz

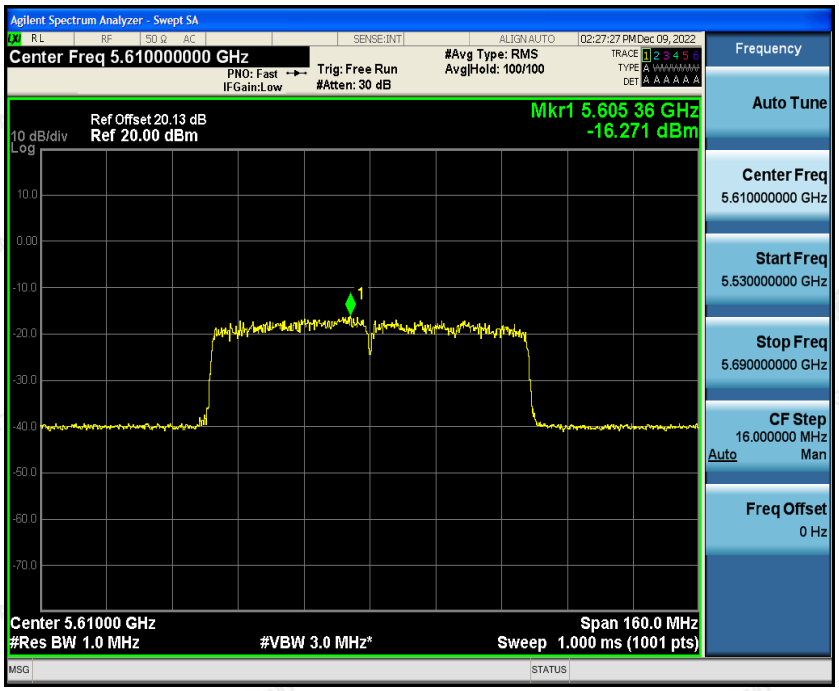


5470~5725MHz

Low Channel



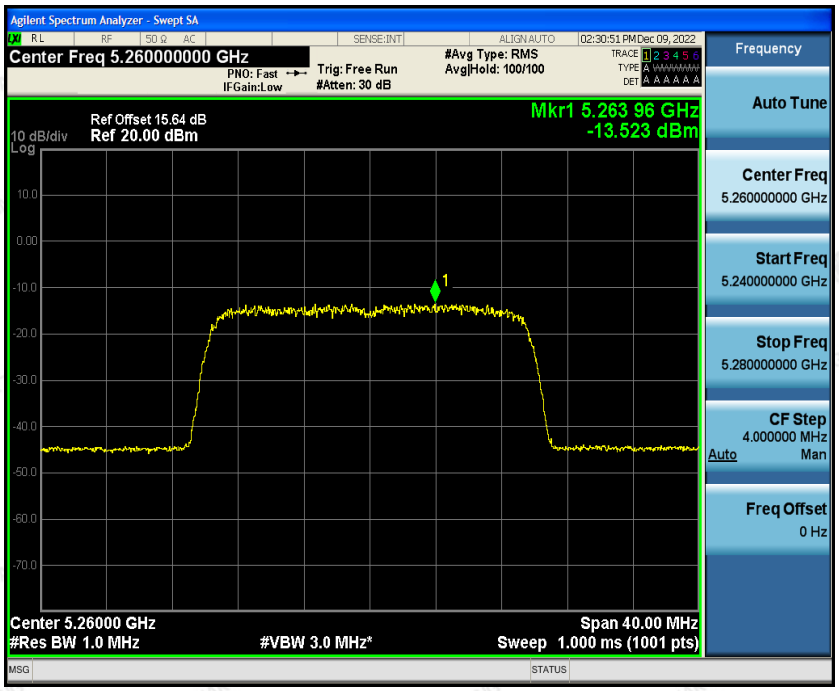
High Channel



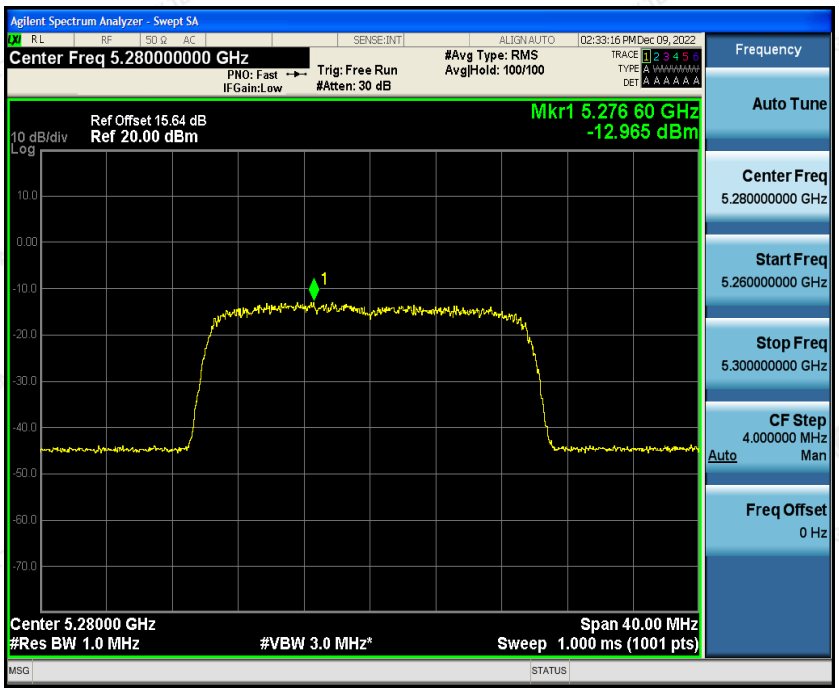
IEEE802.11ax HT20 mode

5250~5350MHz

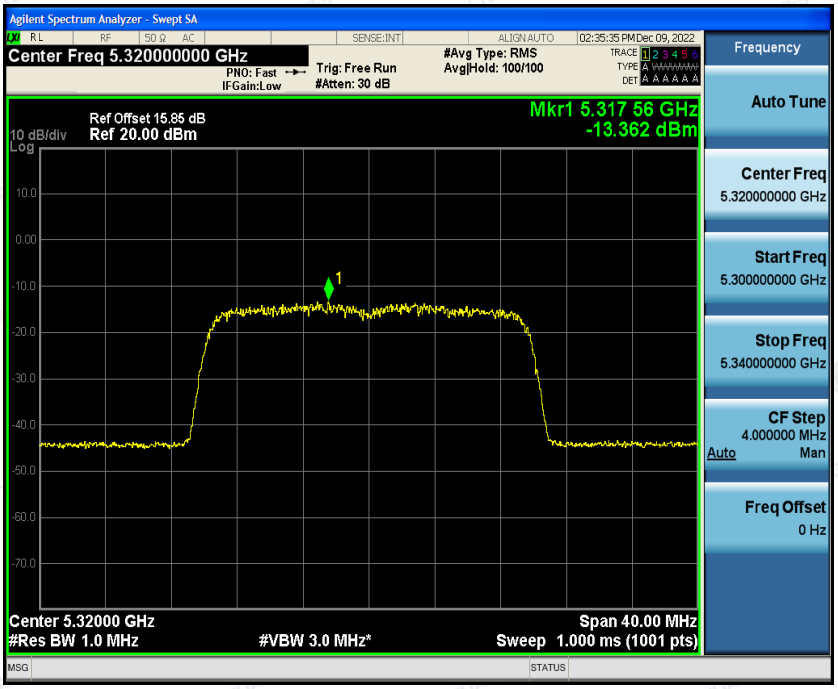
Low Channel



Mid Channel

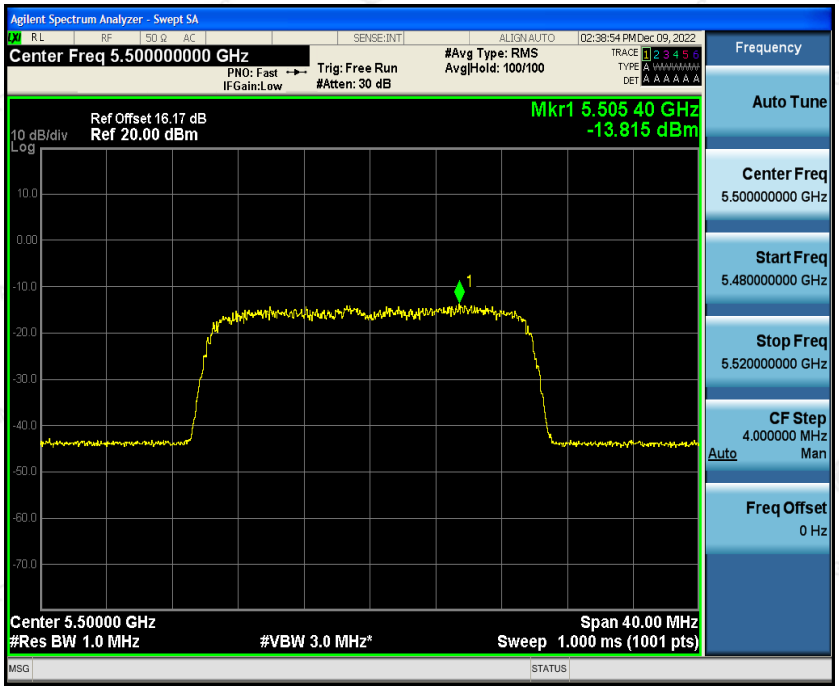


High Channel

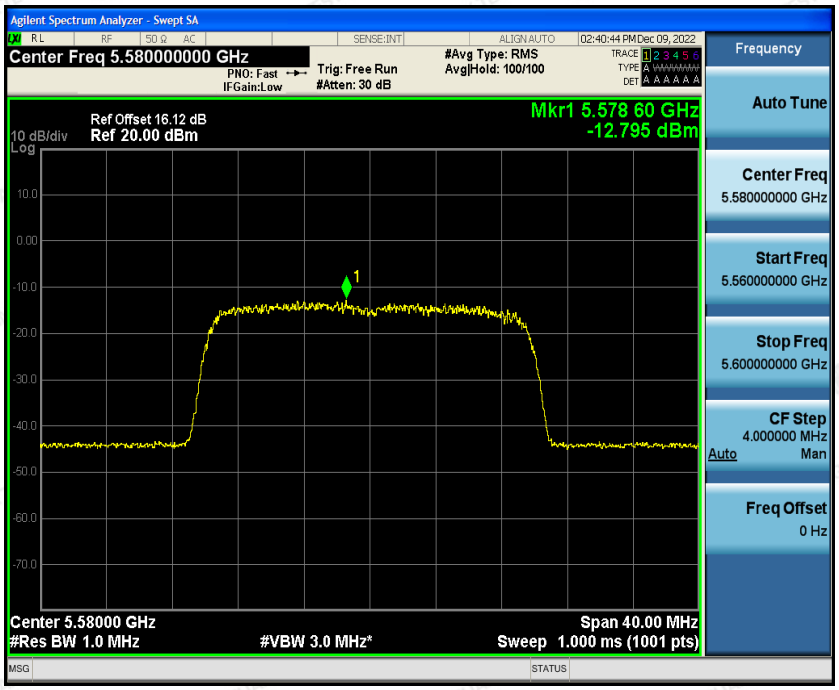


5470~5725MHz

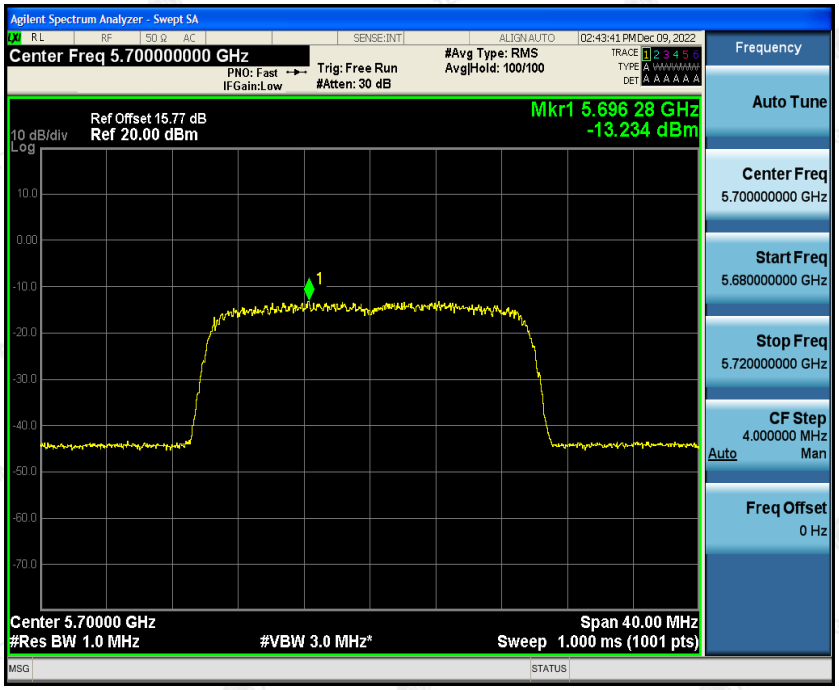
Low Channel



Mid Channel



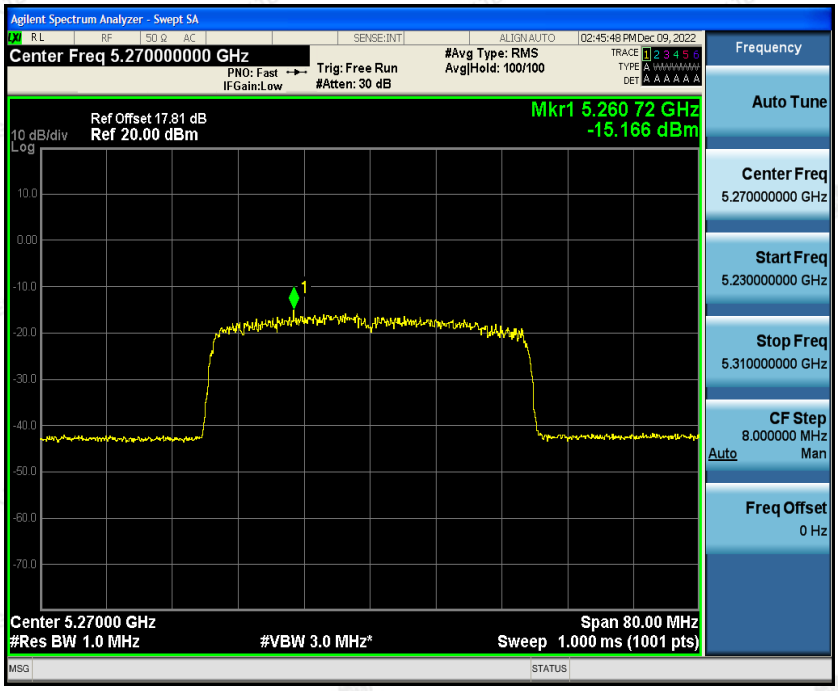
High Channel



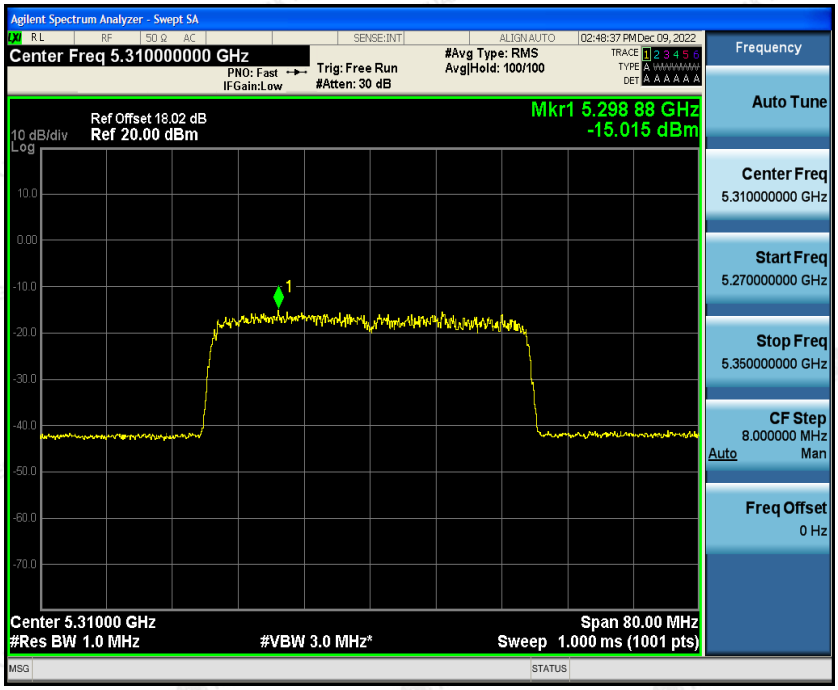
IEEE802.11ax HT40 mode

5250~5350MHz

Low Channel

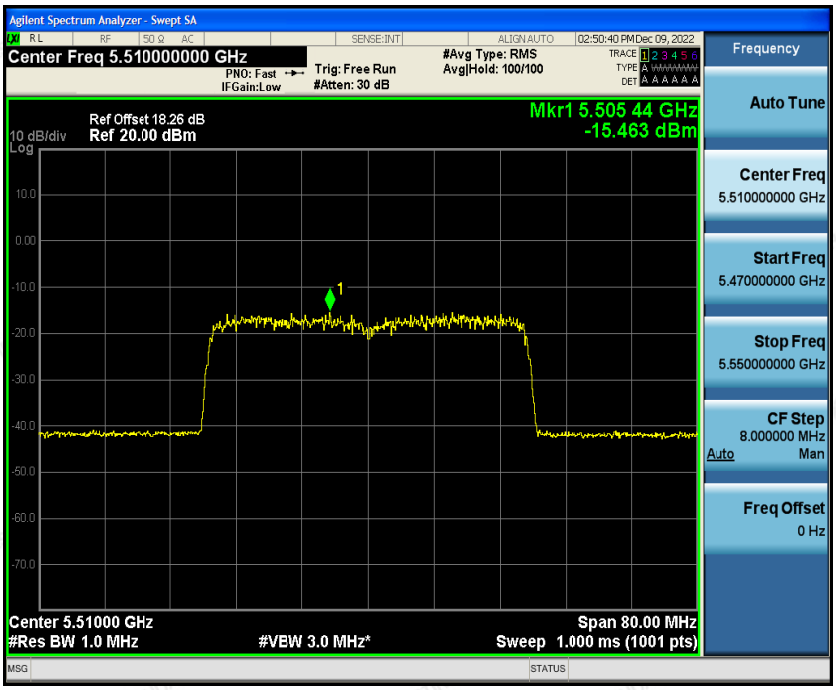


High Channel

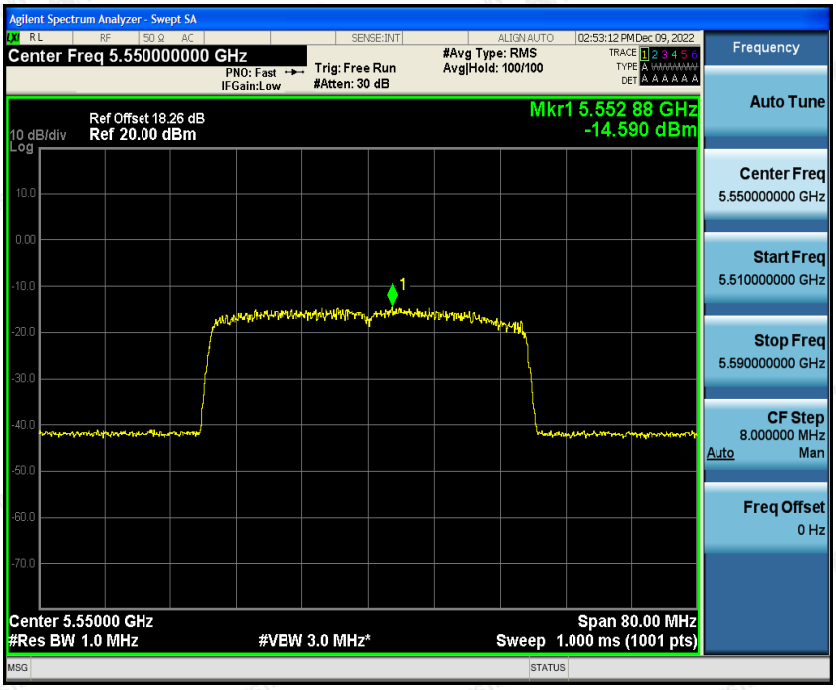


5470~5725MHz

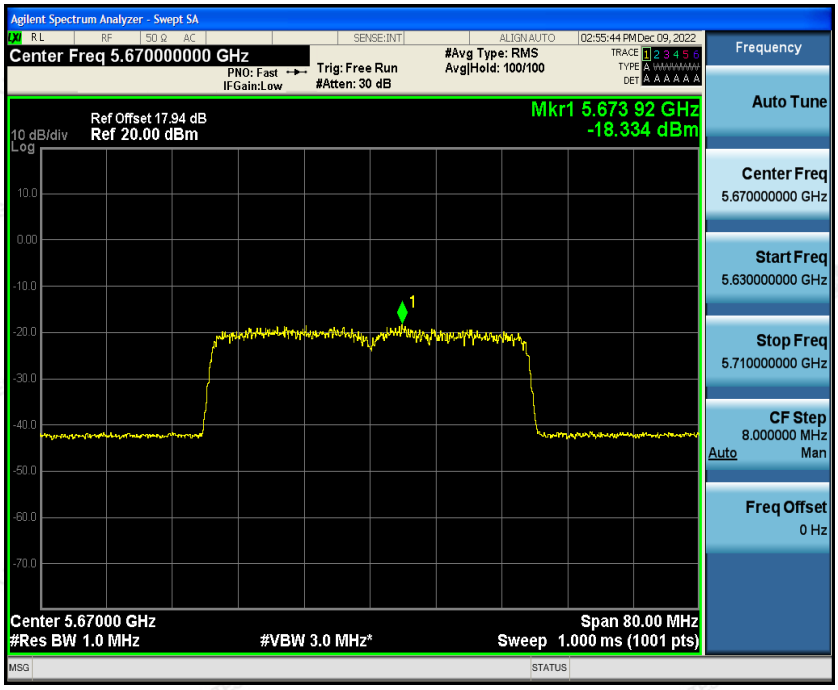
Low Channel



Mid Channel



High Channel

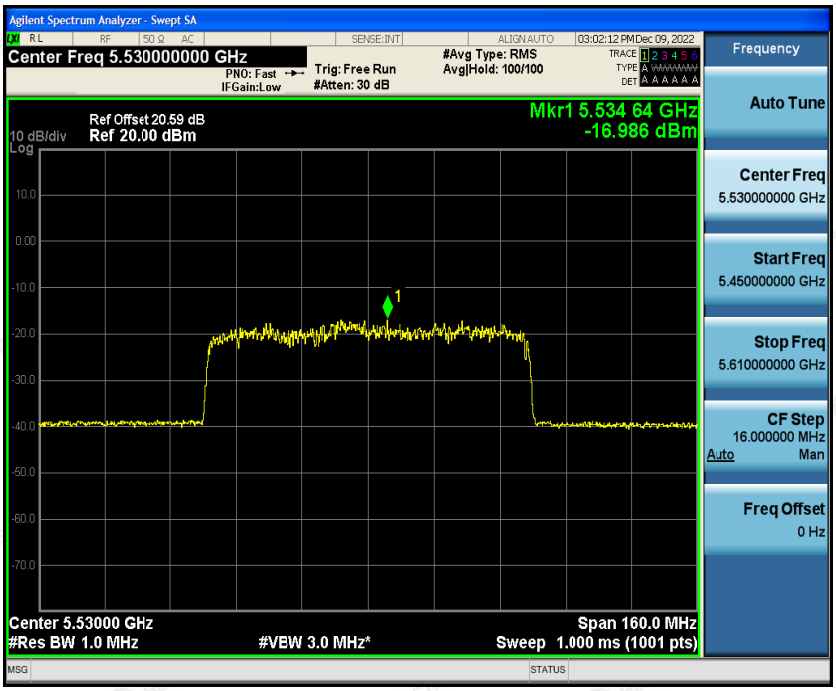


IEEE802.11ax HT80 mode

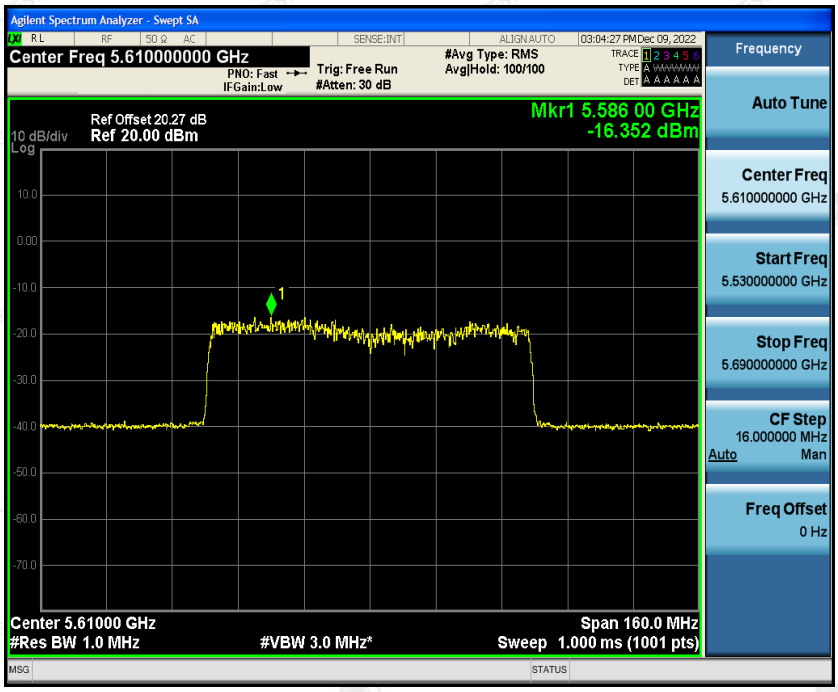
5250~5350MHz

5470~5725MHz

Low Channel



High Channel

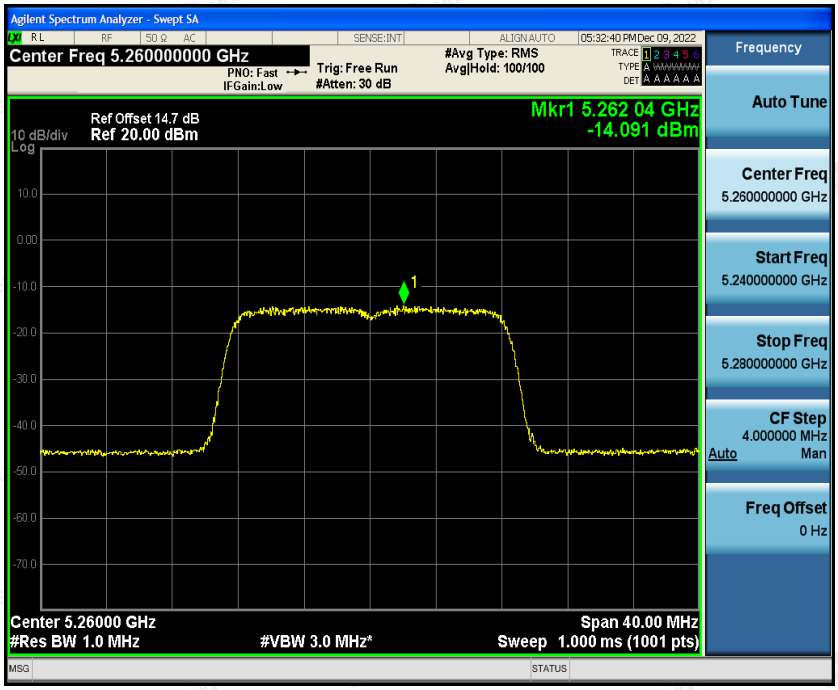


Antenna 2

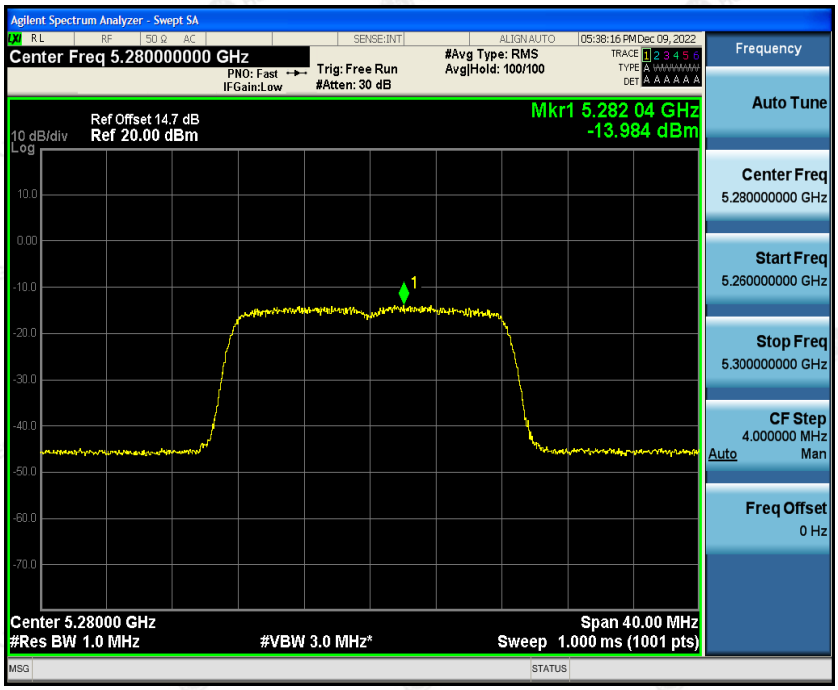
IEEE802.11a mode:

5250~5350MHz

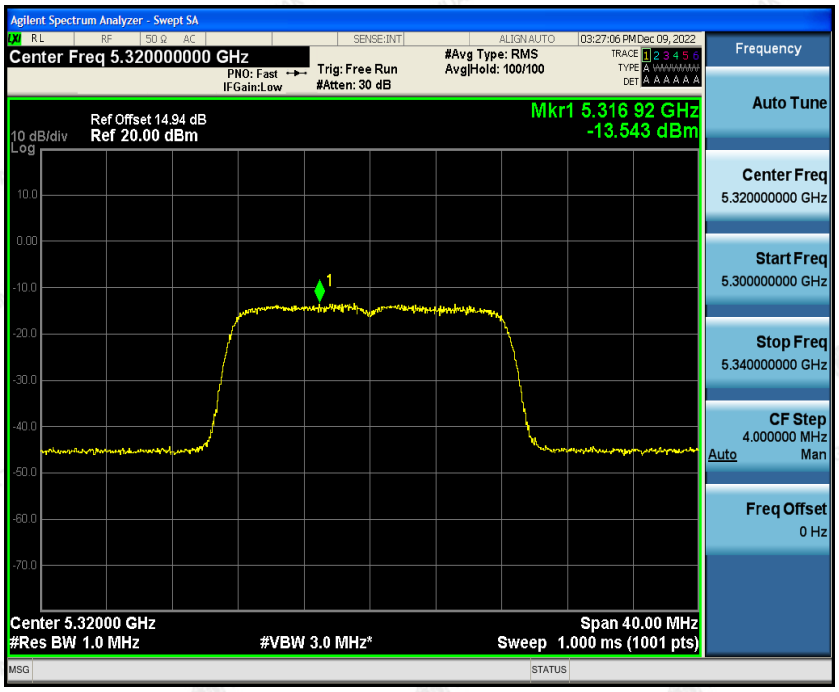
Low Channel



Mid Channel

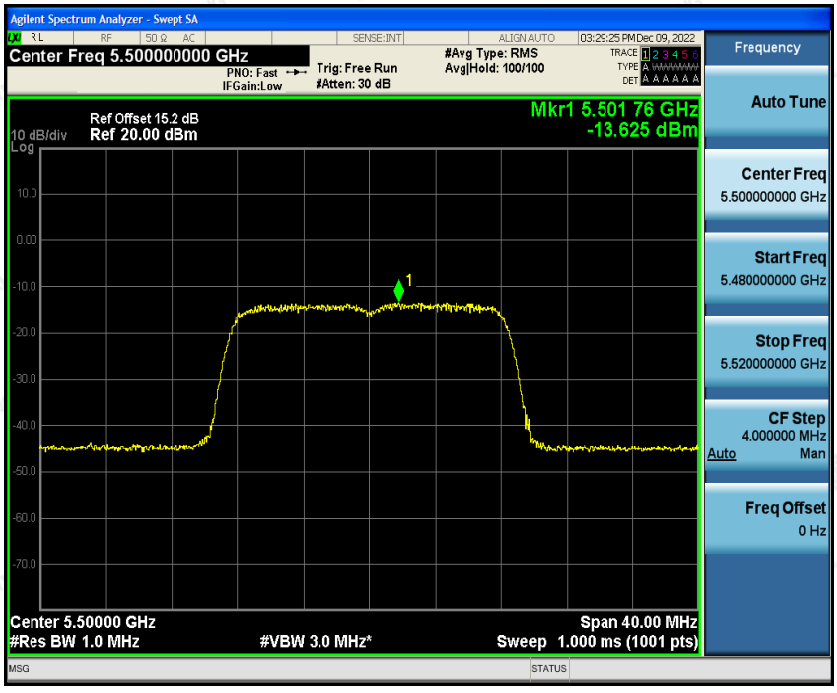


High Channel

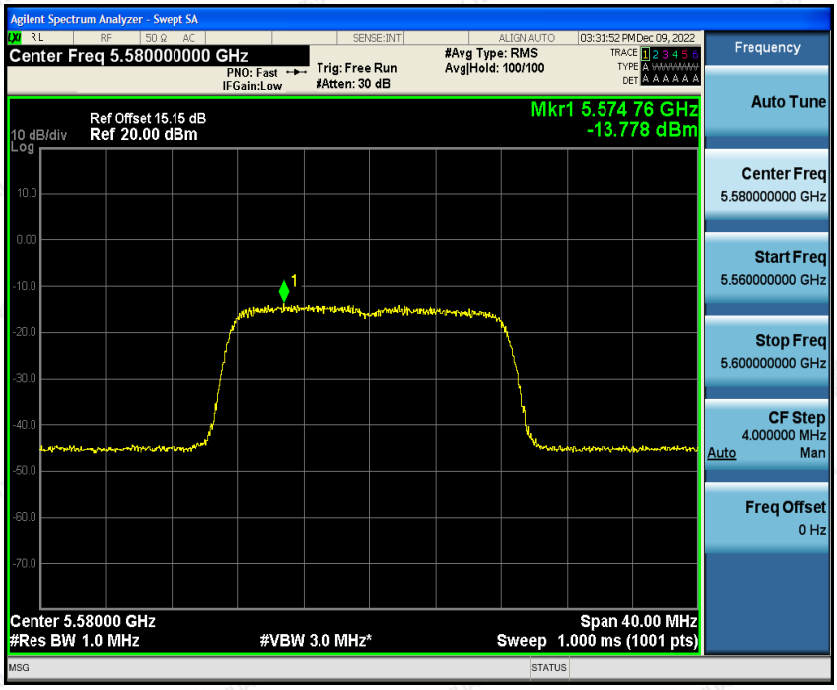


5470~5725MHz

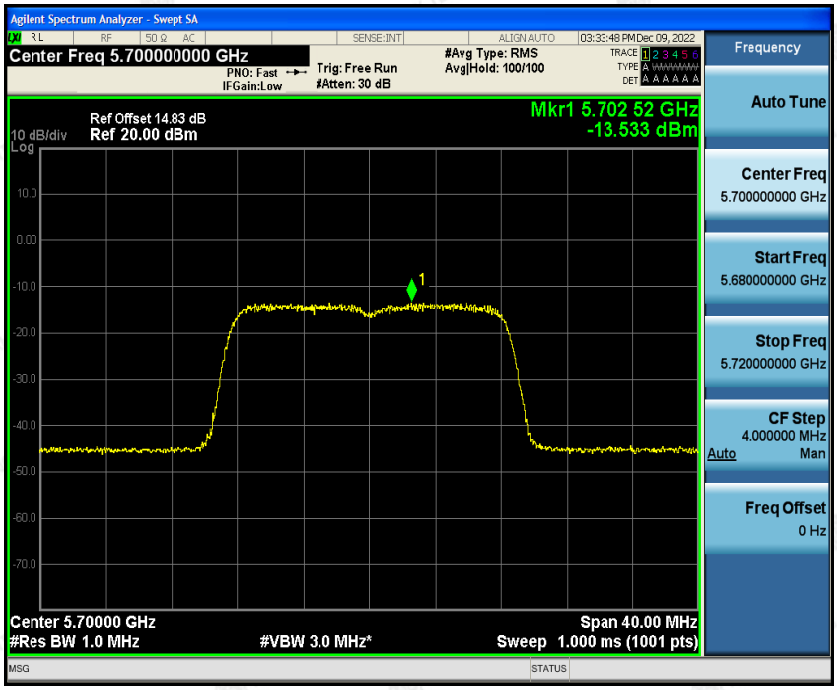
Low Channel



Mid Channel



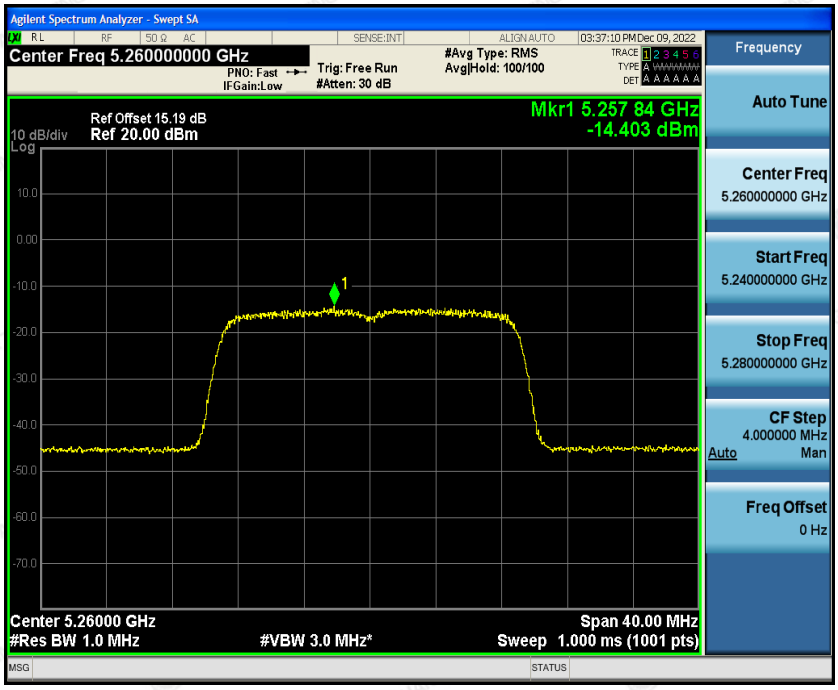
High Channel



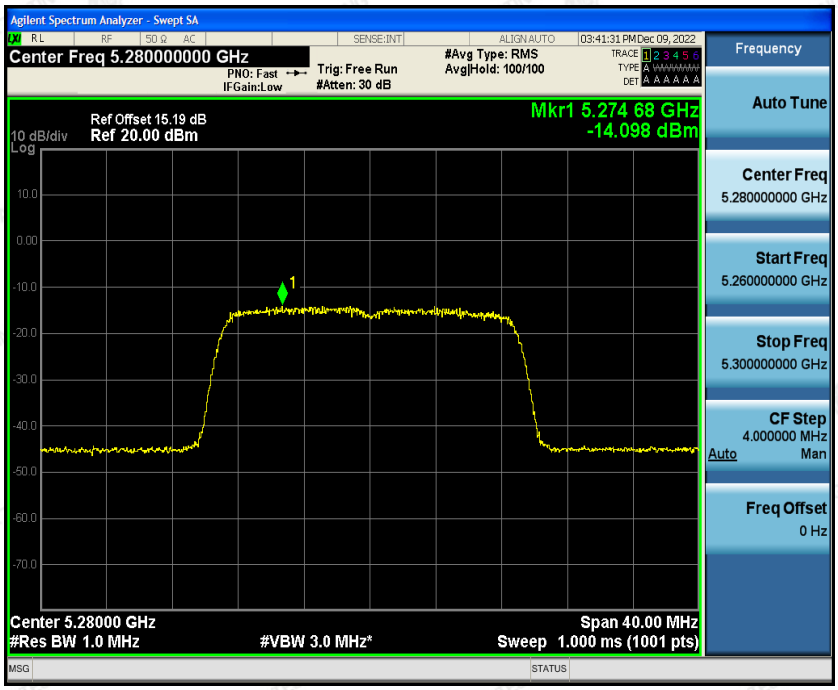
IEEE802.11n HT20 mode

5250~5350MHz

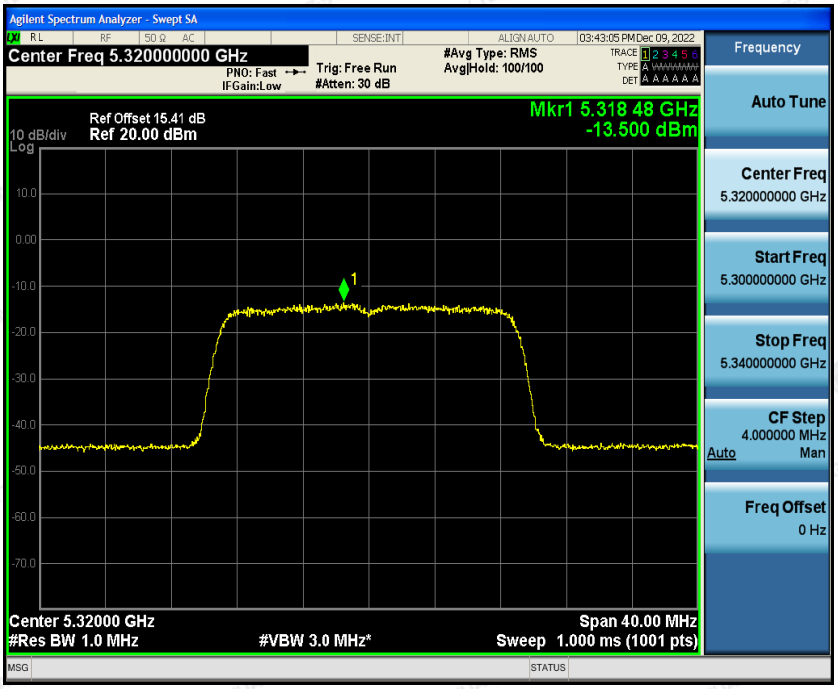
Low Channel



Mid Channel

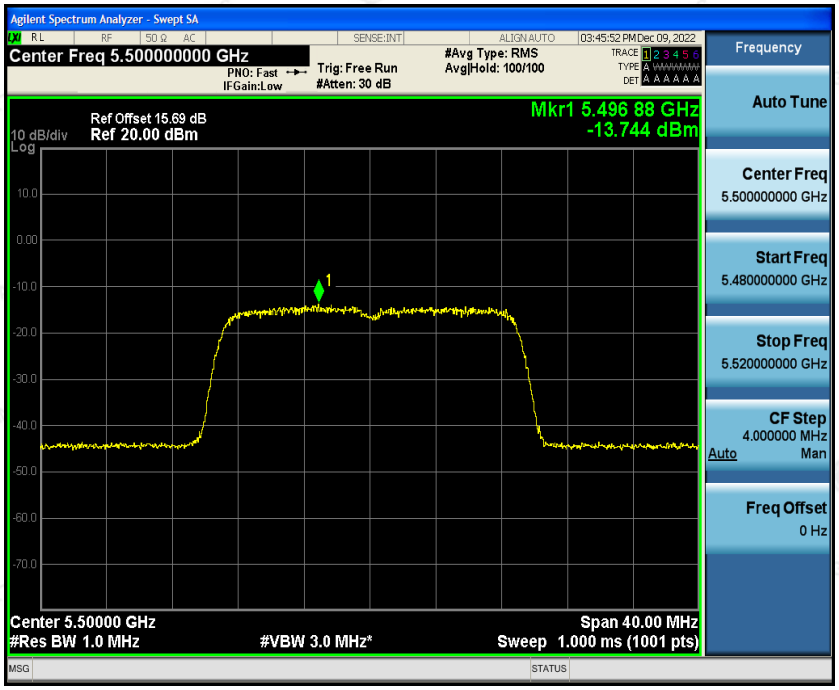


High Channel

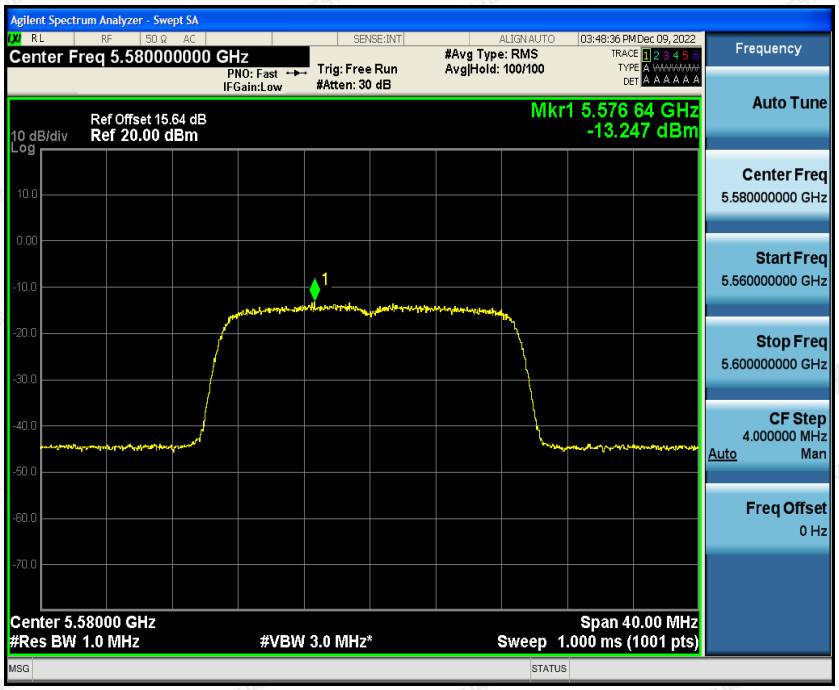


5470~5725MHz

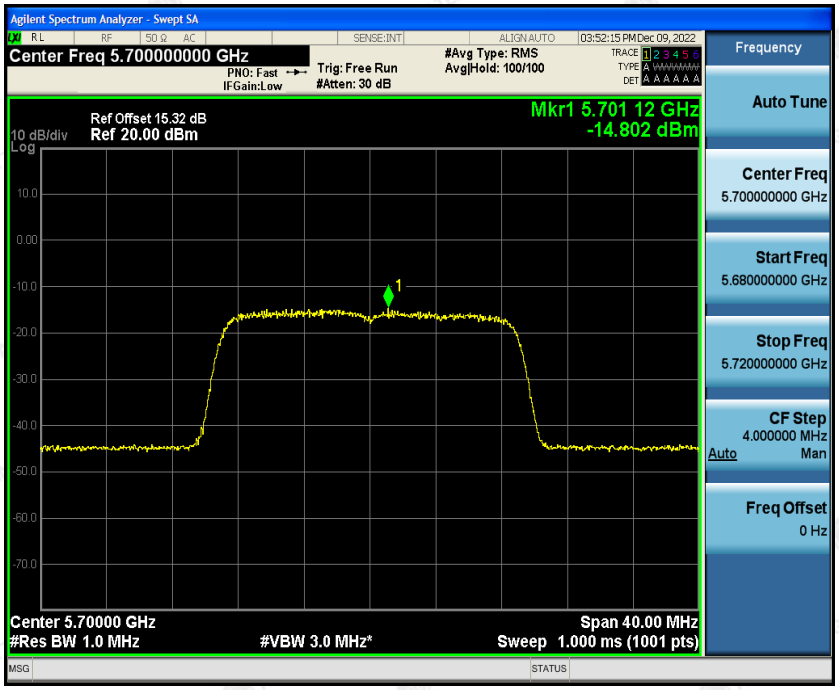
Low Channel



Mid Channel



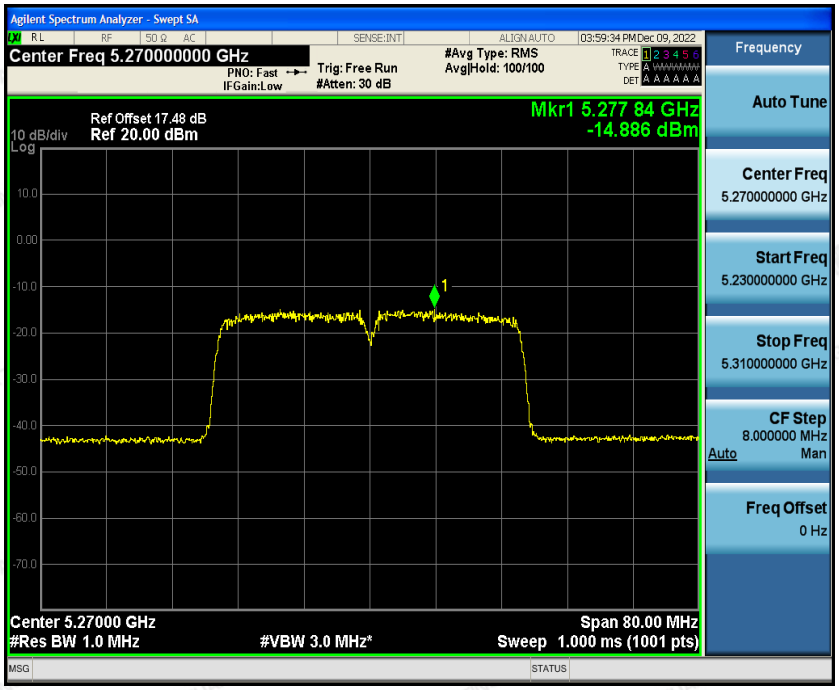
High Channel



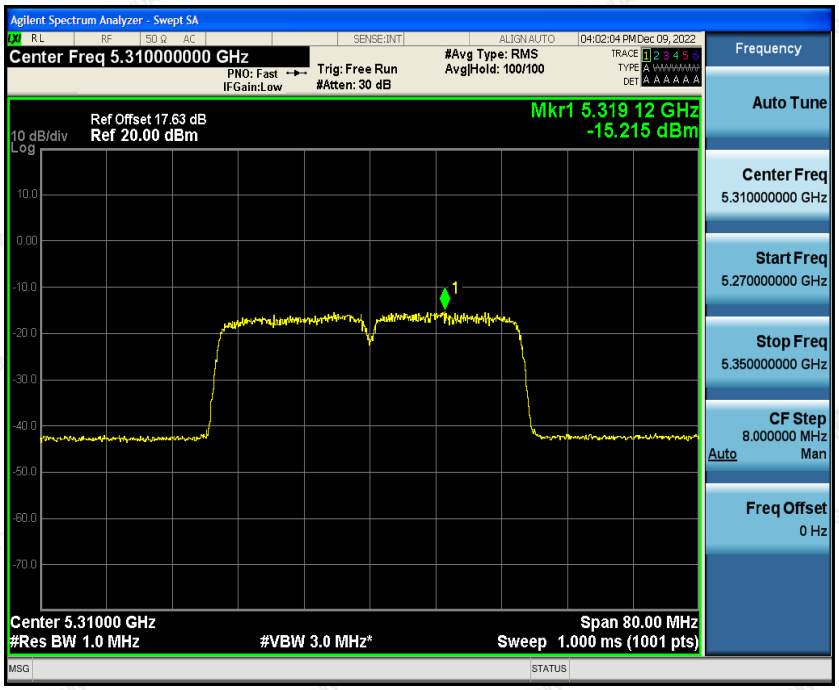
IEEE802.11n HT40 mode

5250~5350MHz

Low Channel

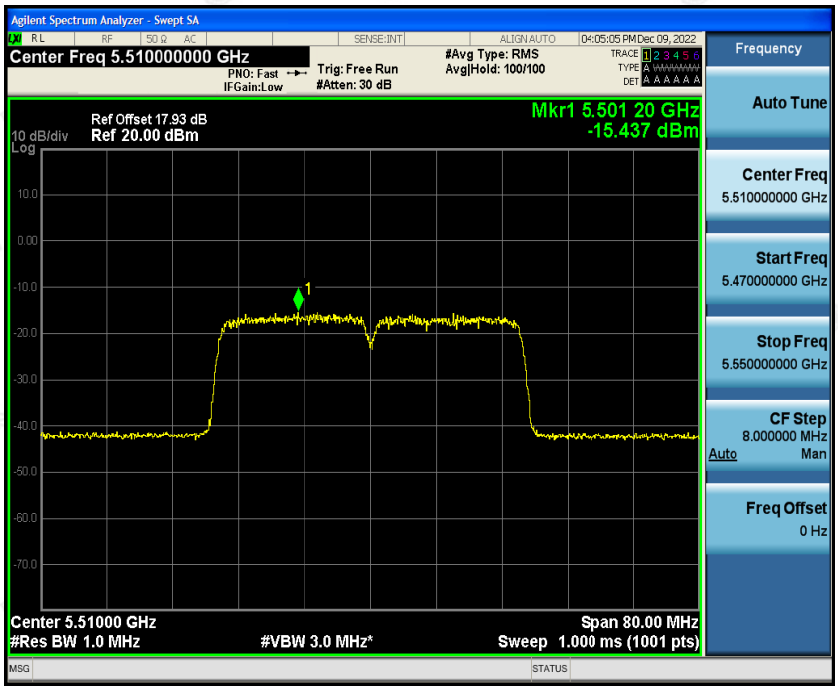


High Channel

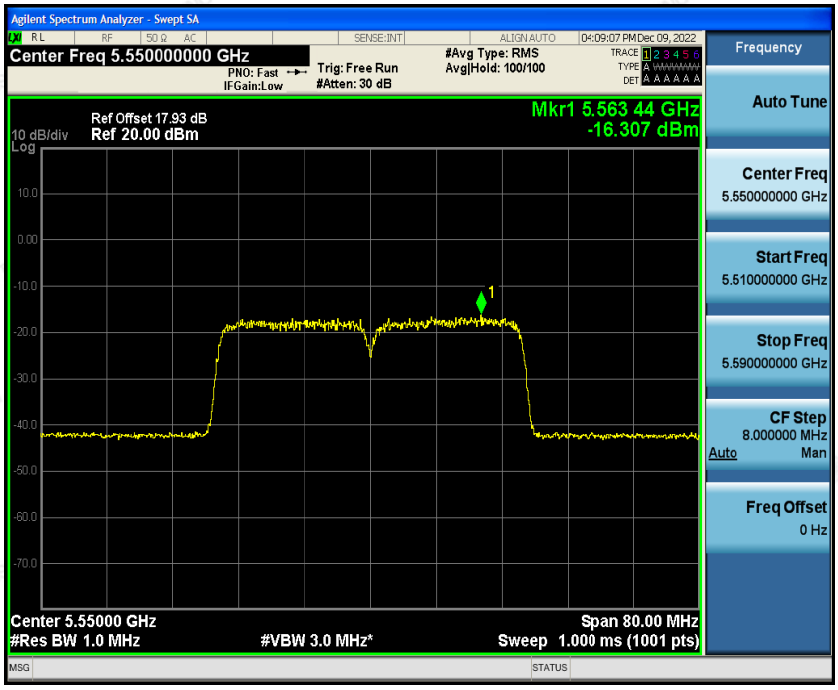


5470~5725MHz

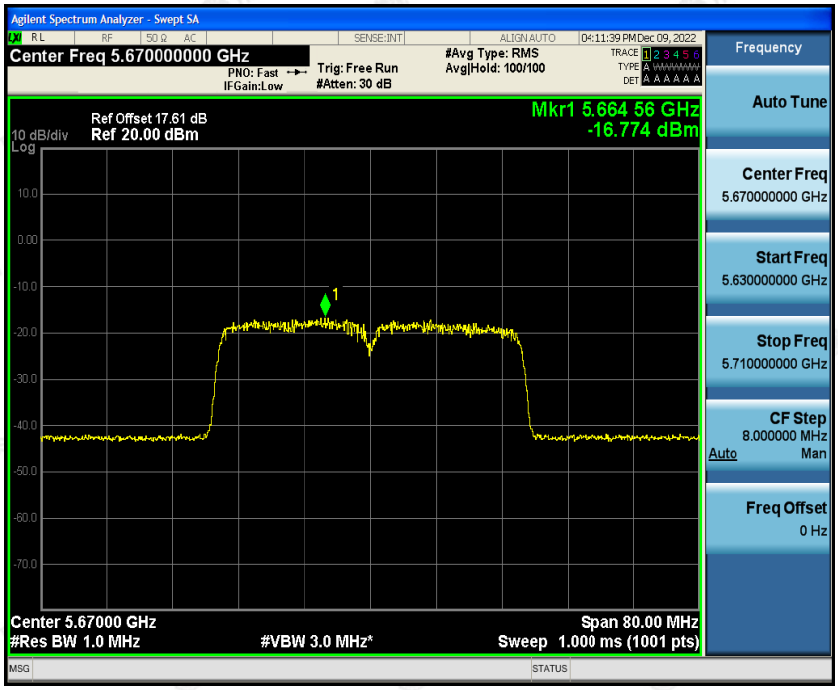
Low Channel



Mid Channel



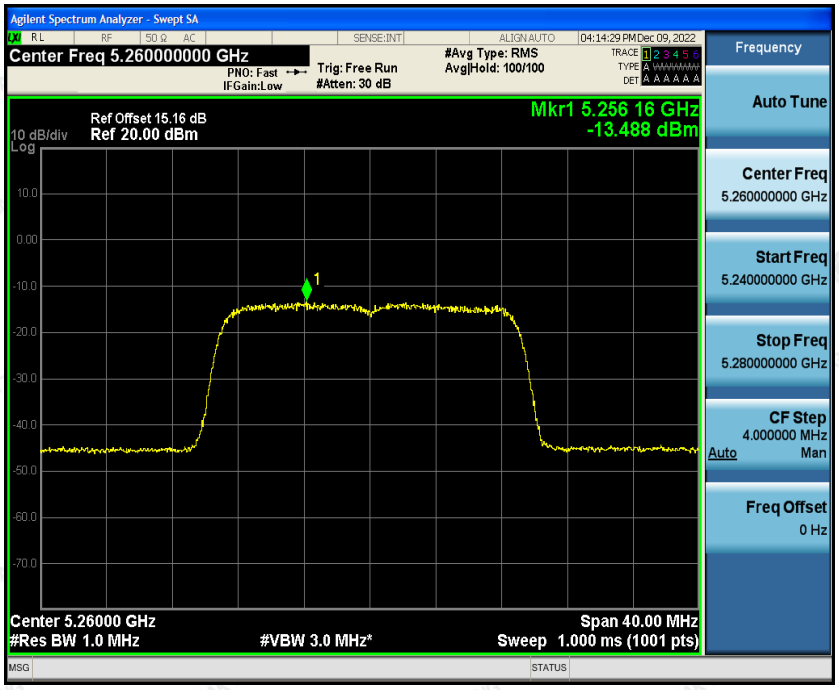
High Channel



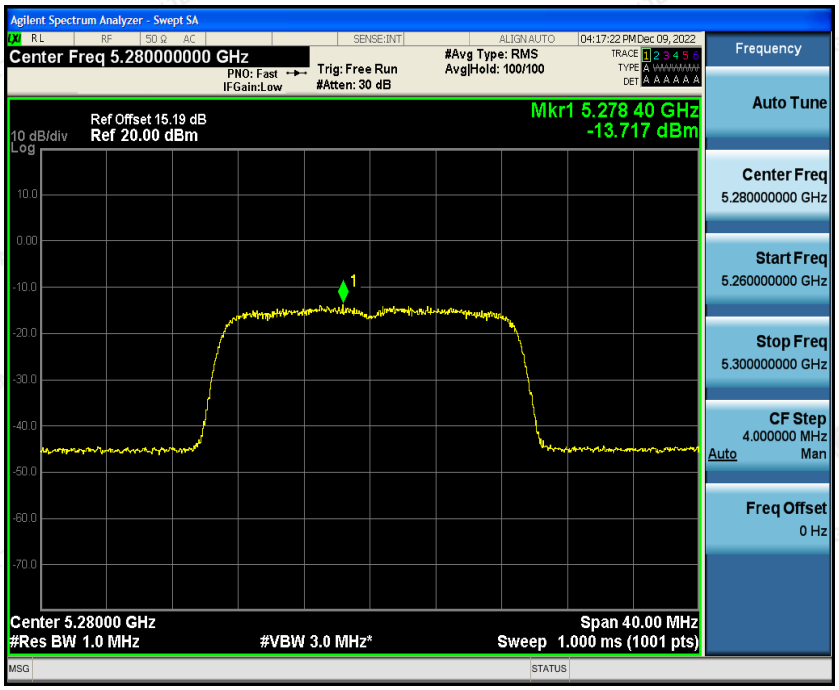
IEEE802.11ac HT20 mode

5250~5350MHz

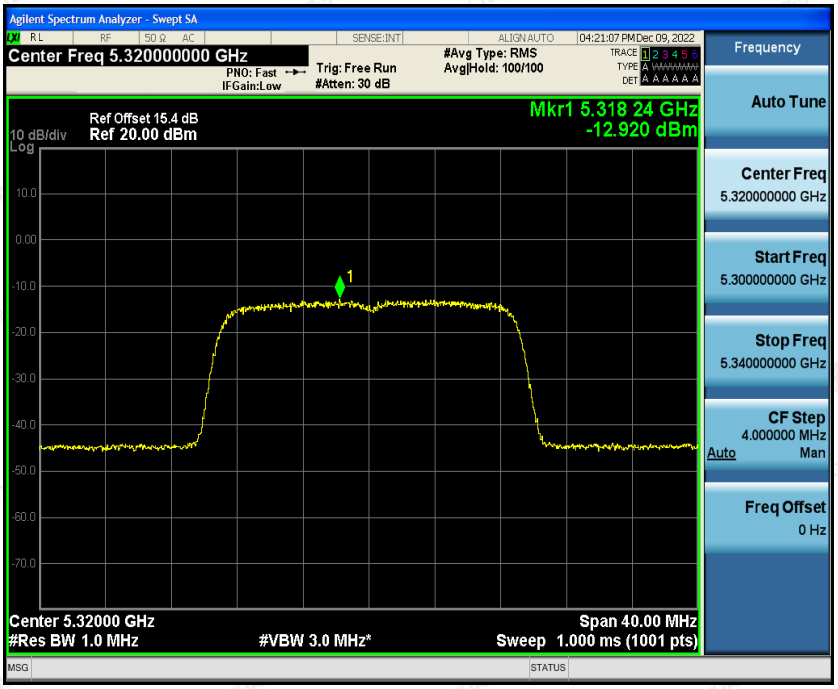
Low Channel



Mid Channel

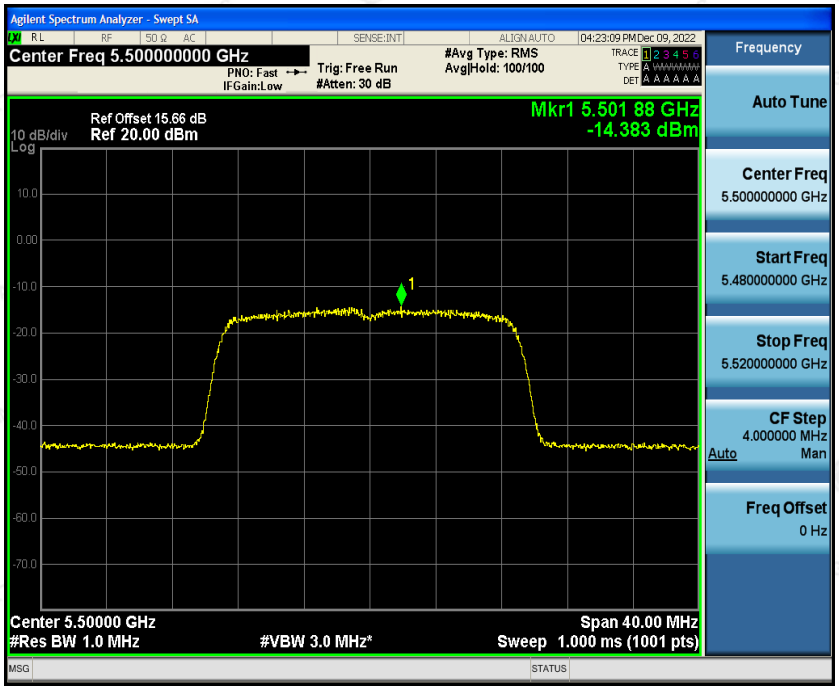


High Channel

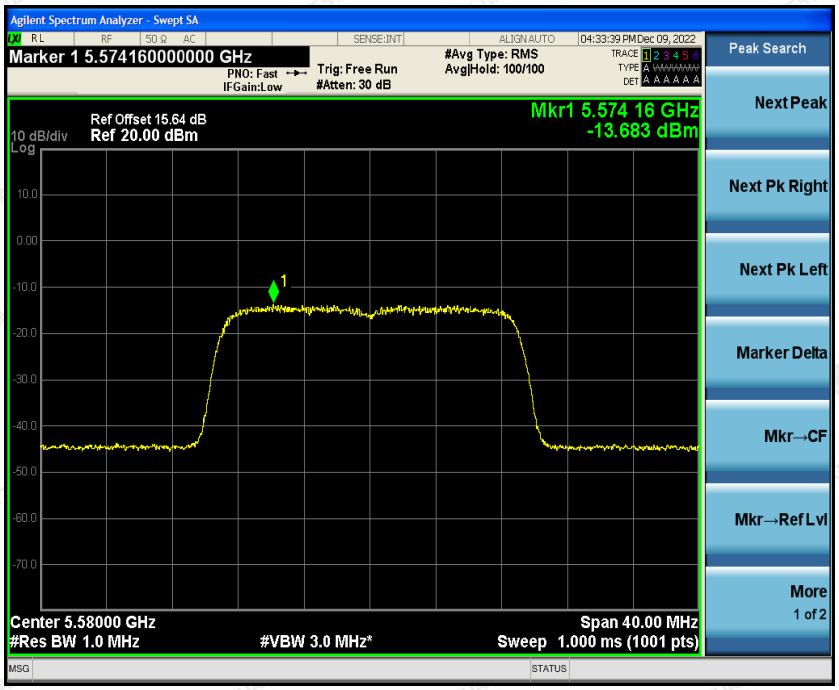


5470~5725MHz

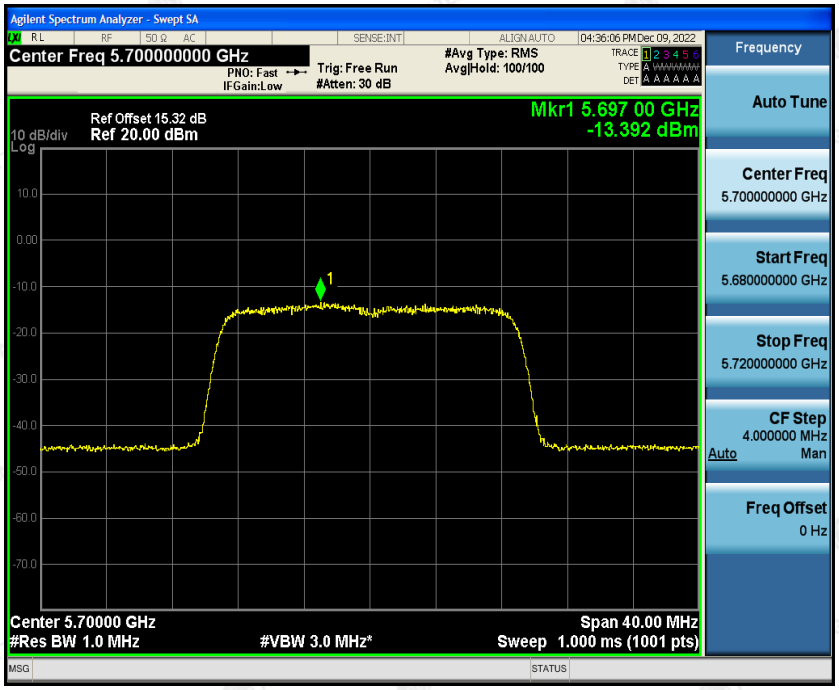
Low Channel



Mid Channel



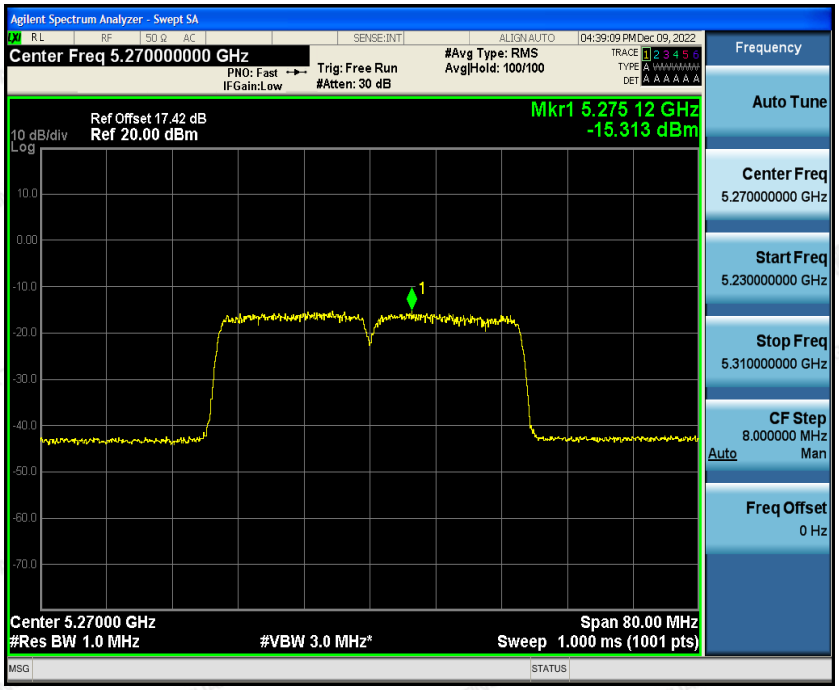
High Channel



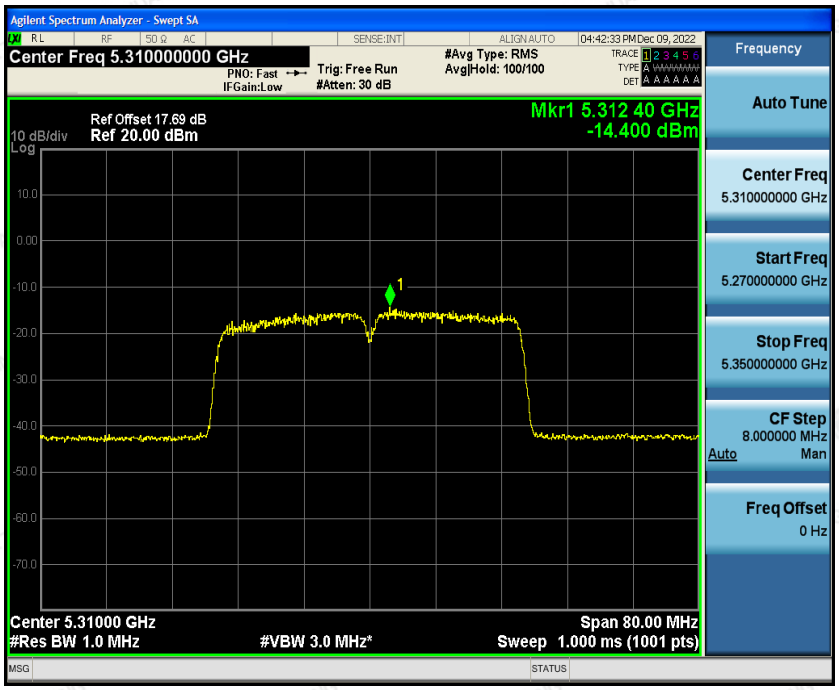
IEEE802.11ac HT40 mode

5250~5350MHz

Low Channel

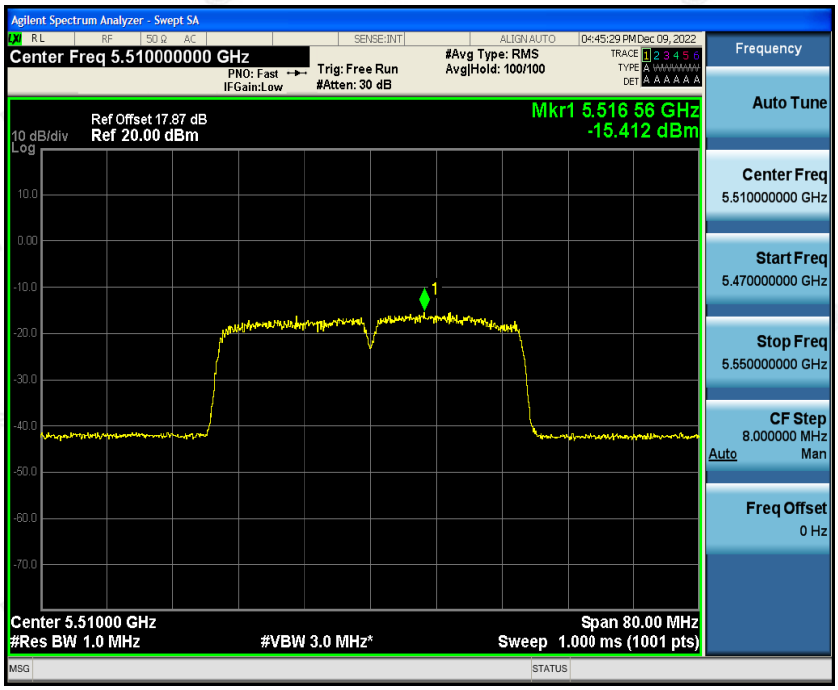


High Channel

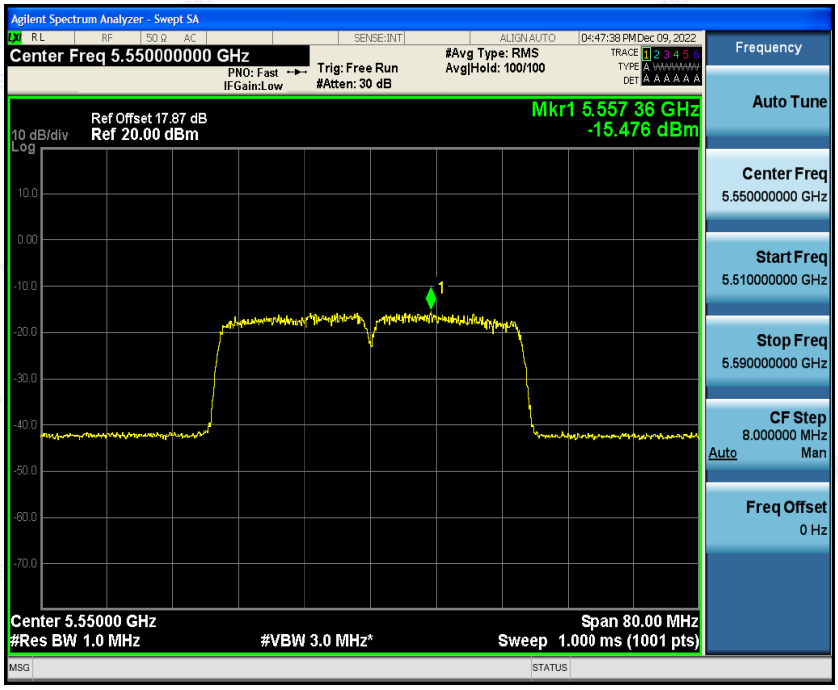


5470~5725MHz

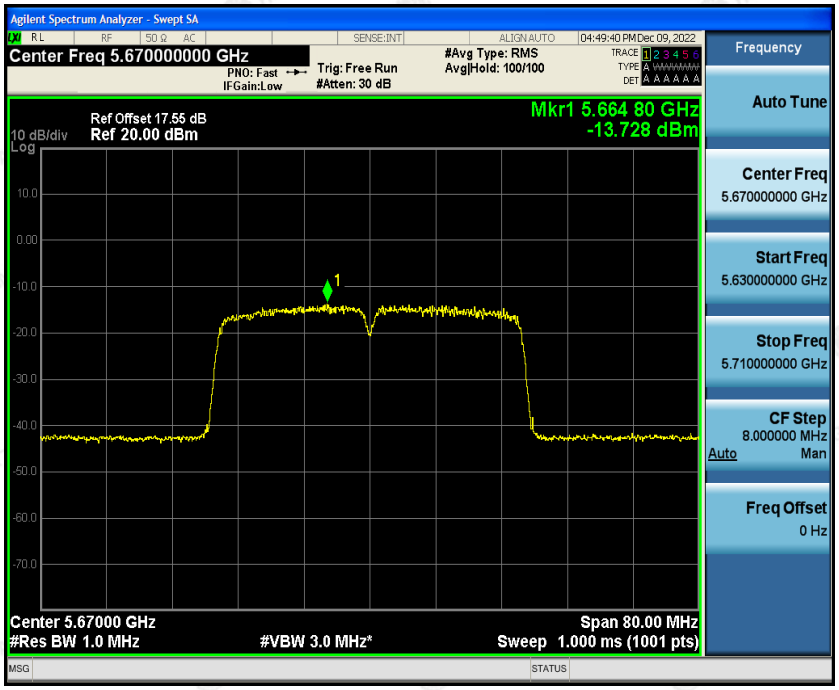
Low Channel



Mid Channel



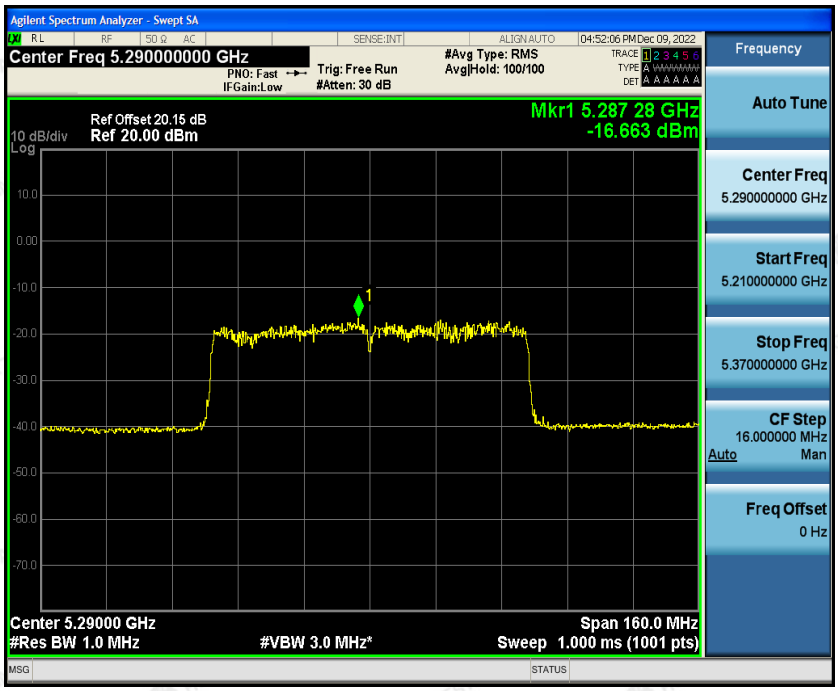
High Channel



IEEE802.11ac HT80 mode

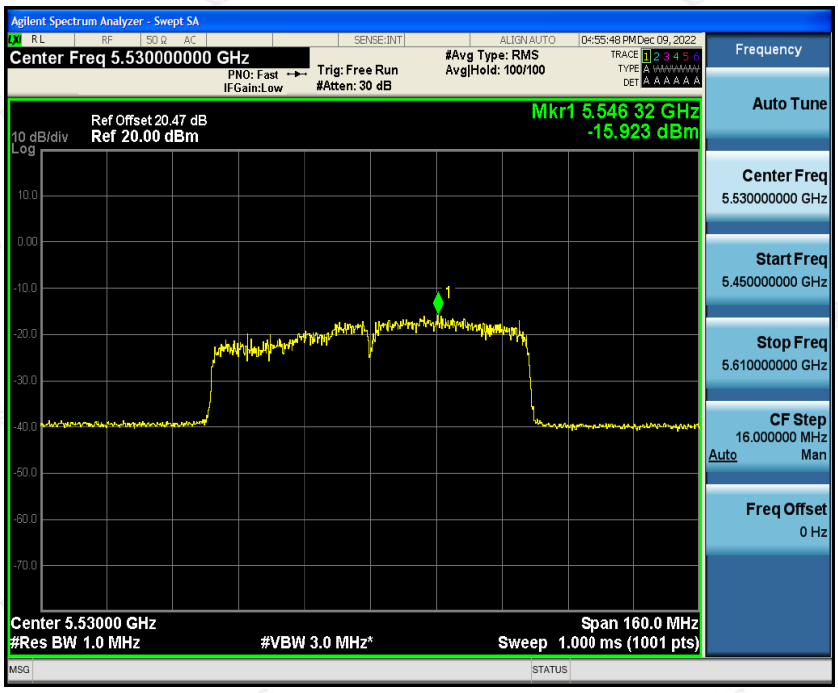
5250~5350MHz

Low Channel



5470~5725MHz

Low Channel

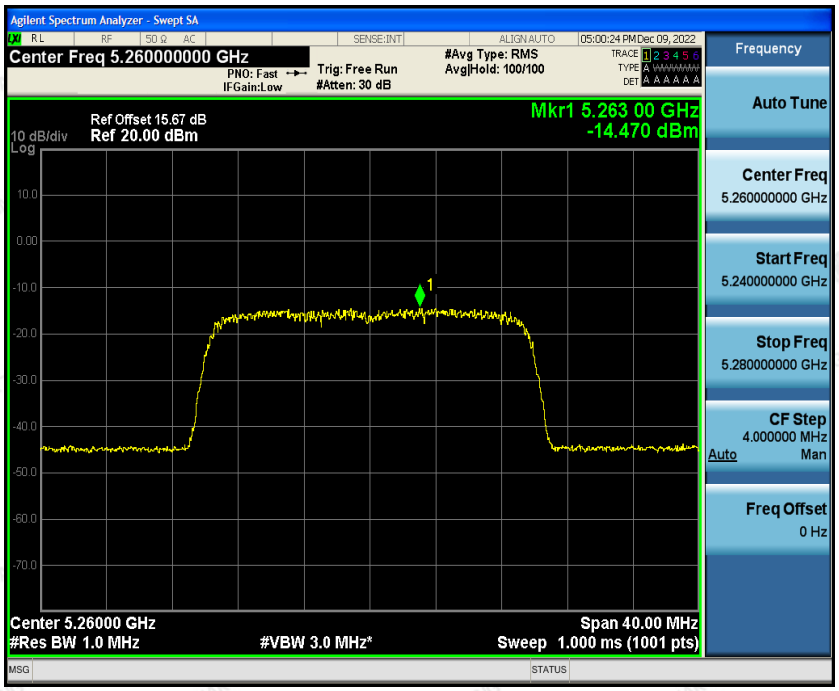


High Channel

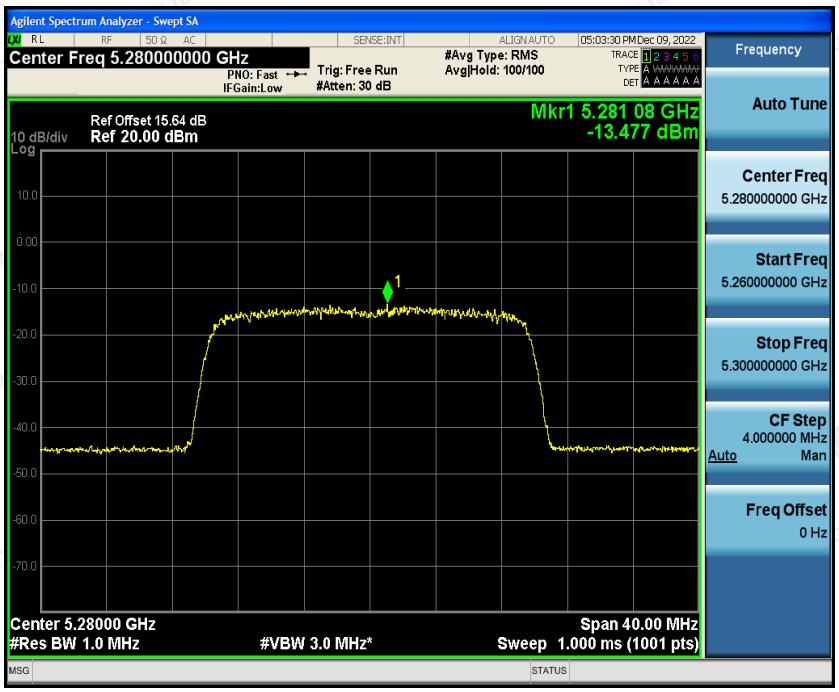
IEEE802.11ax HT20 mode

5250~5350MHz

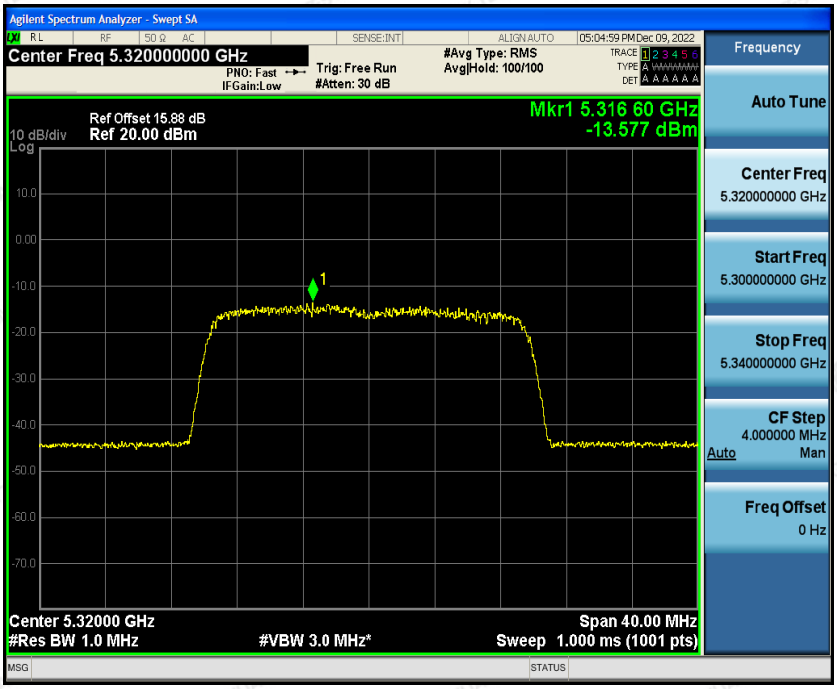
Low Channel



Mid Channel

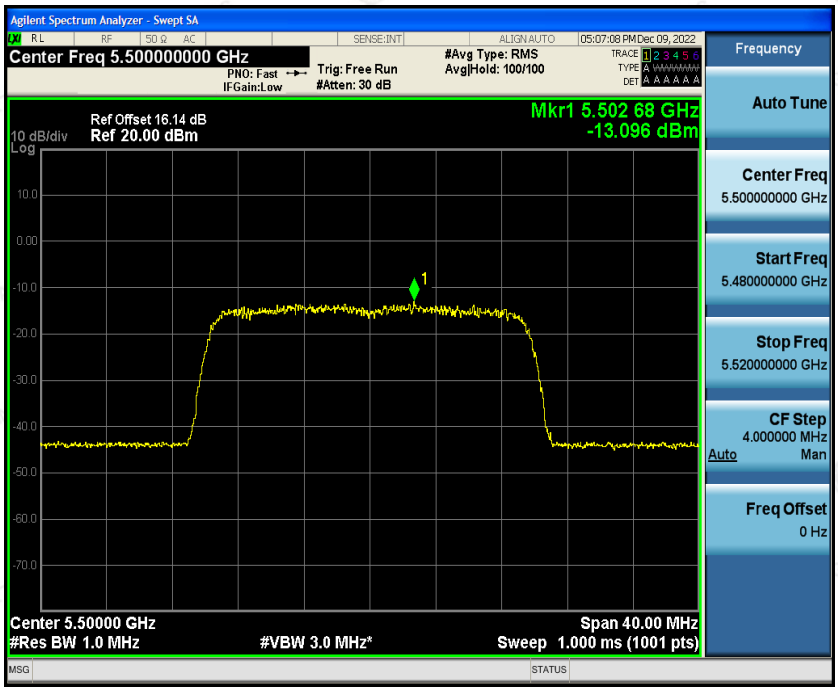


High Channel

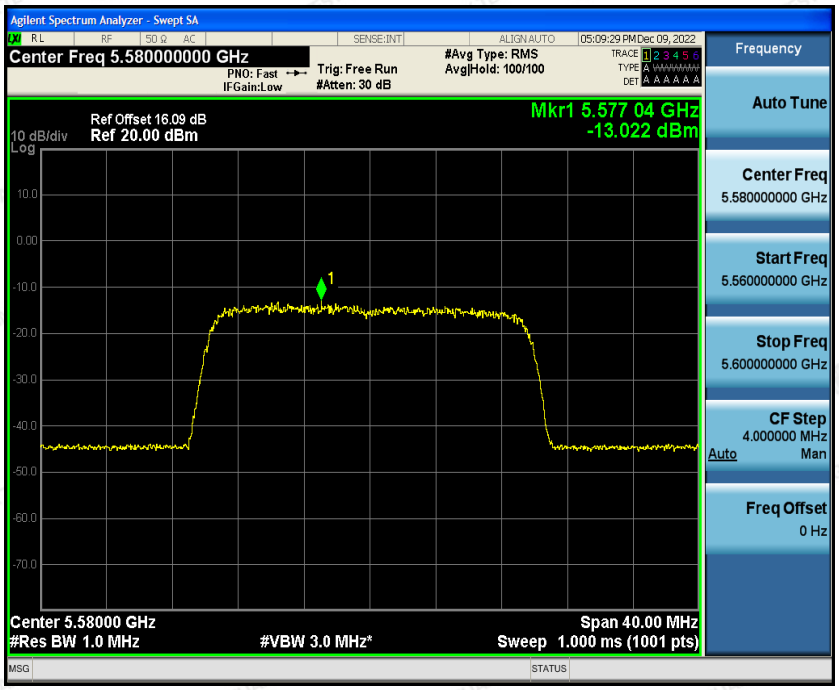


5470~5725MHz

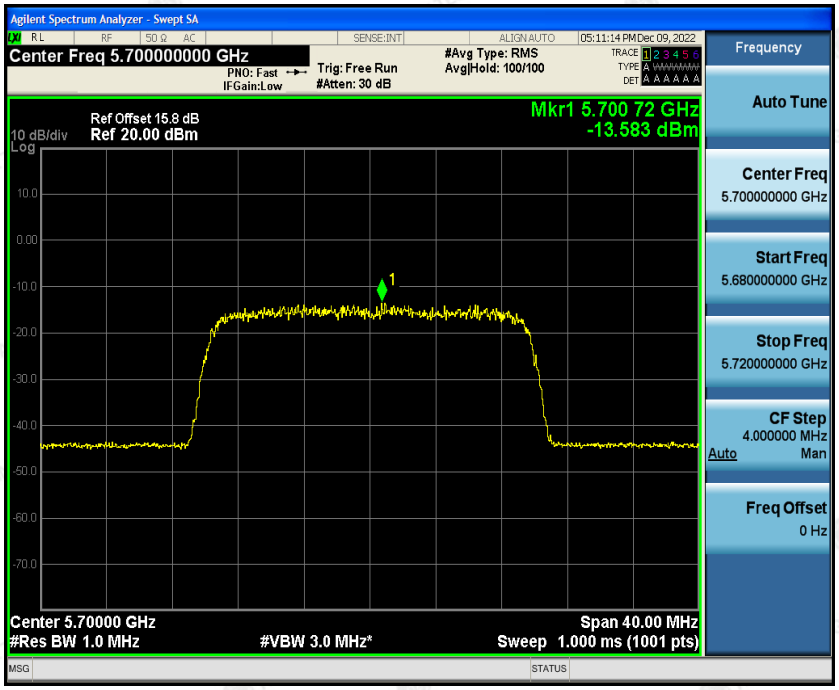
Low Channel



Mid Channel



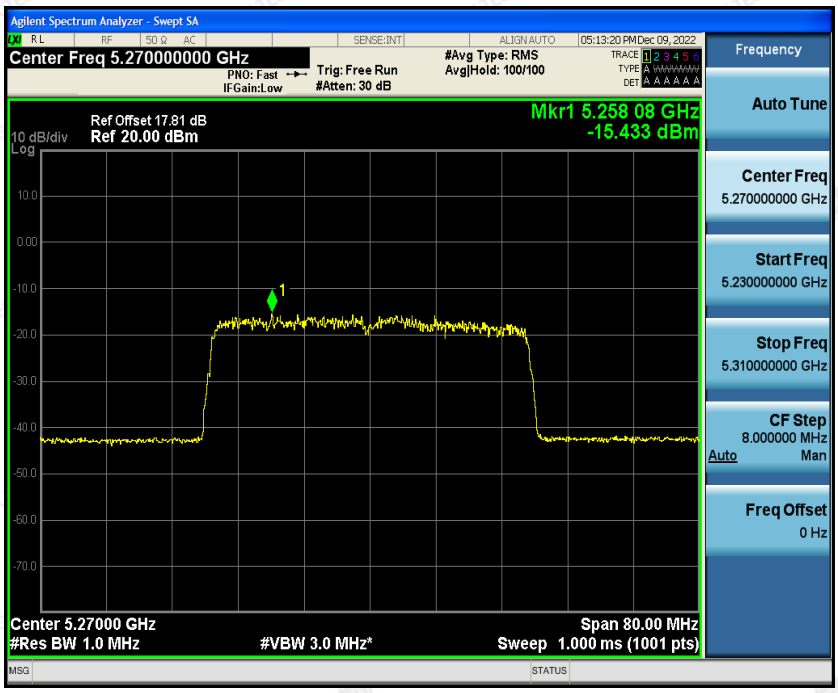
High Channel



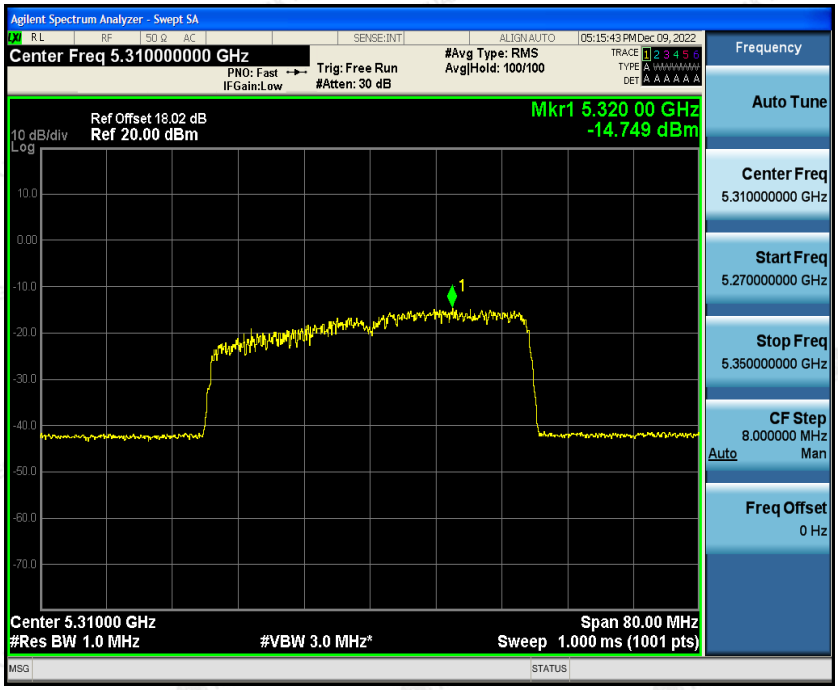
IEEE802.11ax HT40 mode

5250~5350MHz

Low Channel

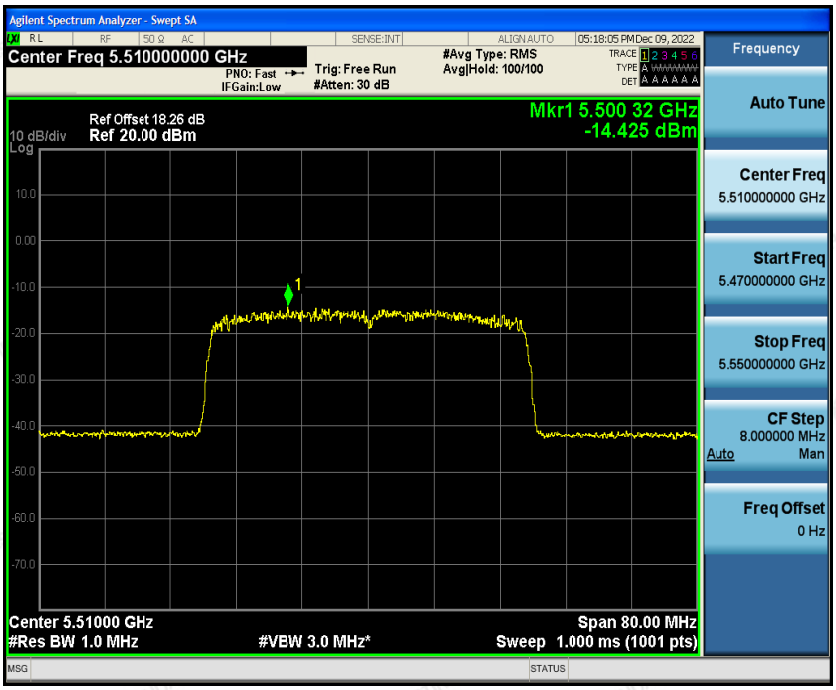


High Channel

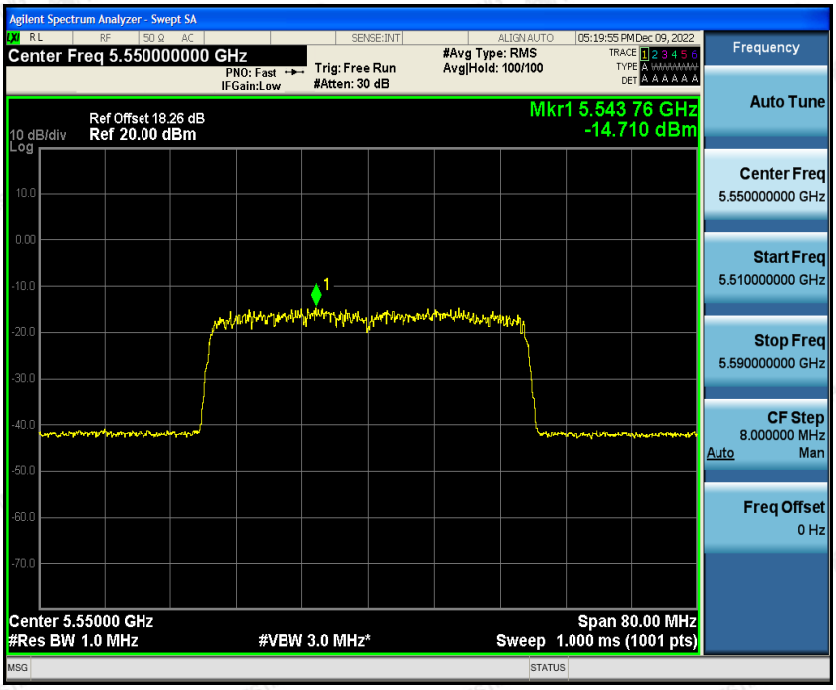


5470~5725MHz

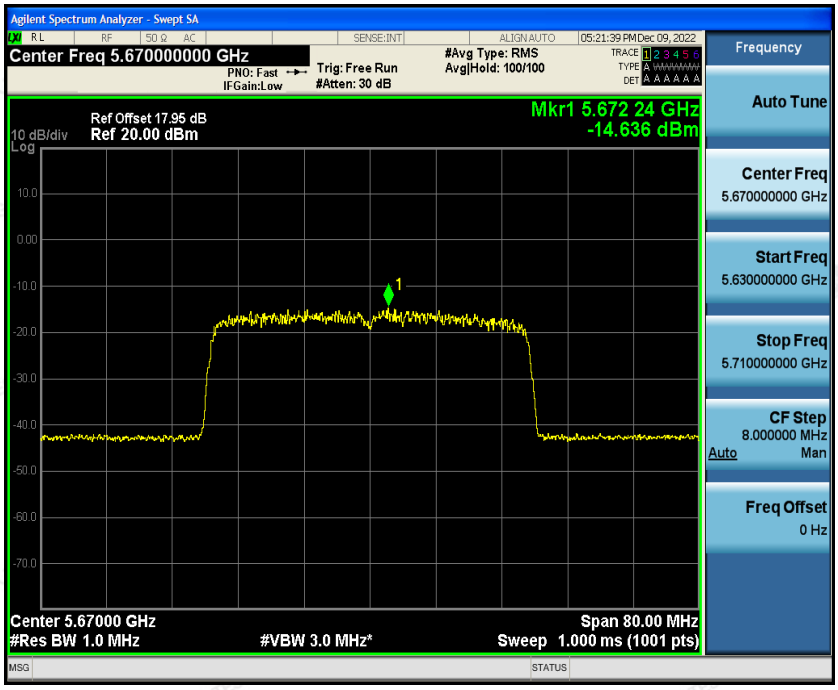
Low Channel



Mid Channel



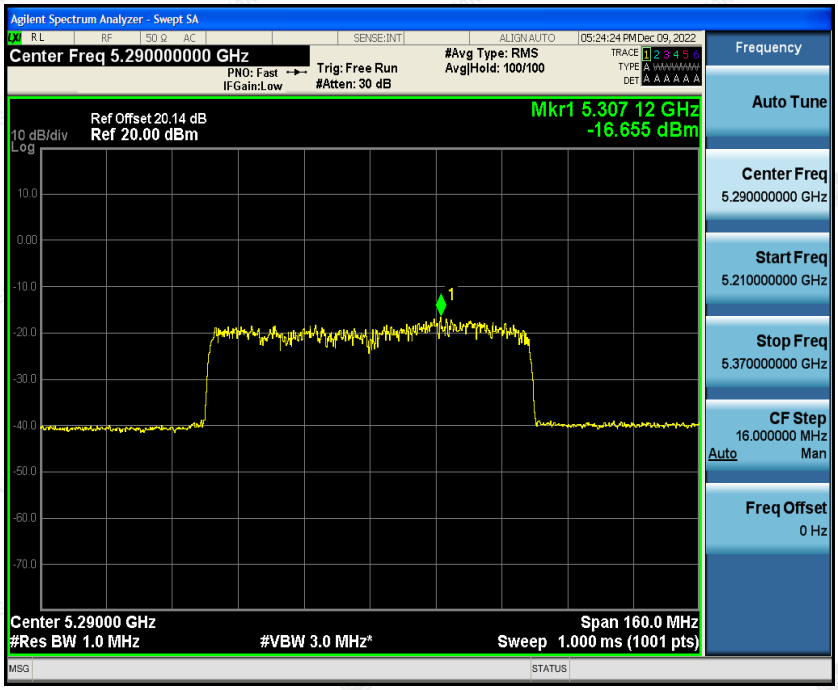
High Channel



IEEE802.11ax HT80 mode

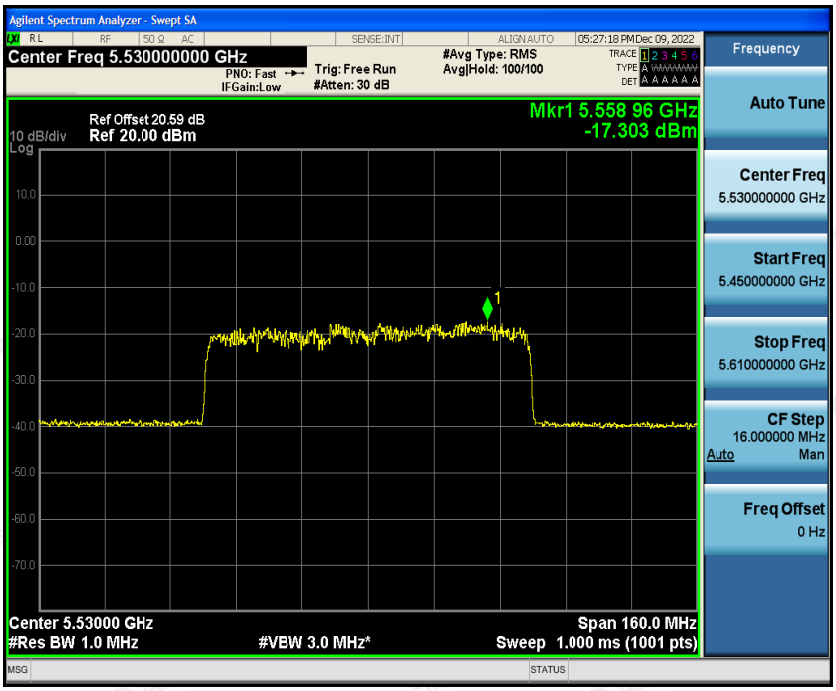
5250~5350MHz

Low Channel



5470~5725MHz

Low Channel



High Channel