

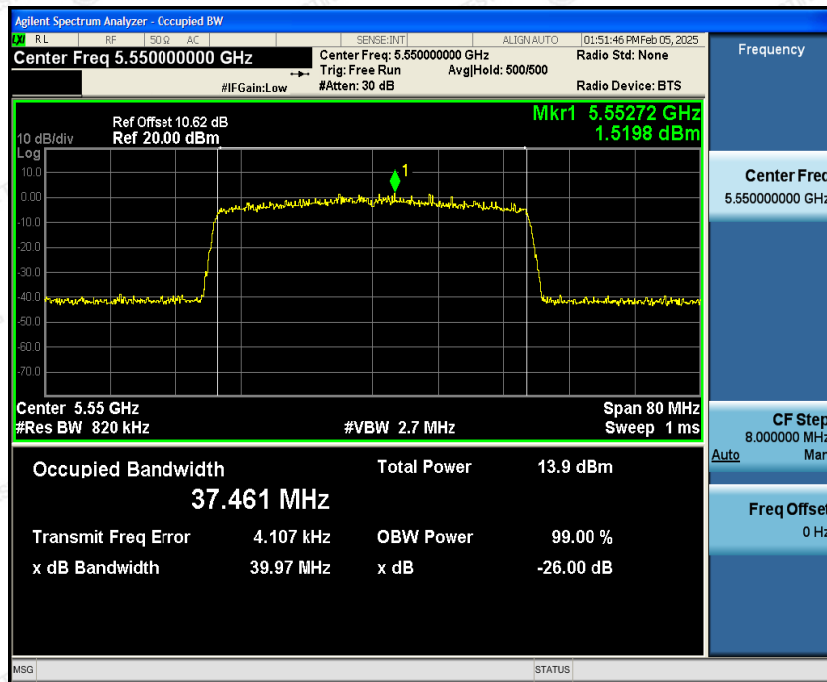


5470~5725MHz

Low Channel

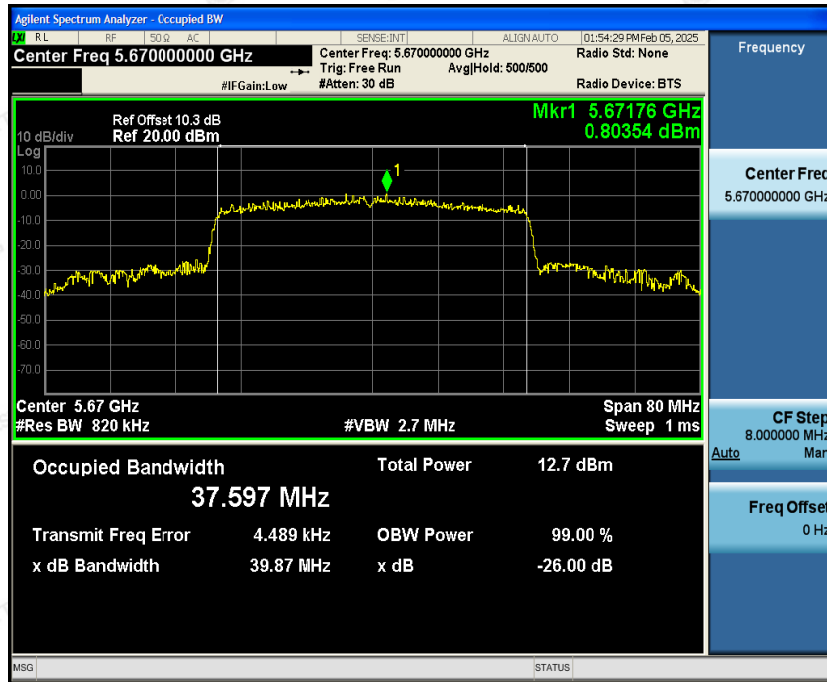


Mid Channel





High Channel





IEEE802.11ax HE80 mode

5150~5250MHz



5250~5350MHz



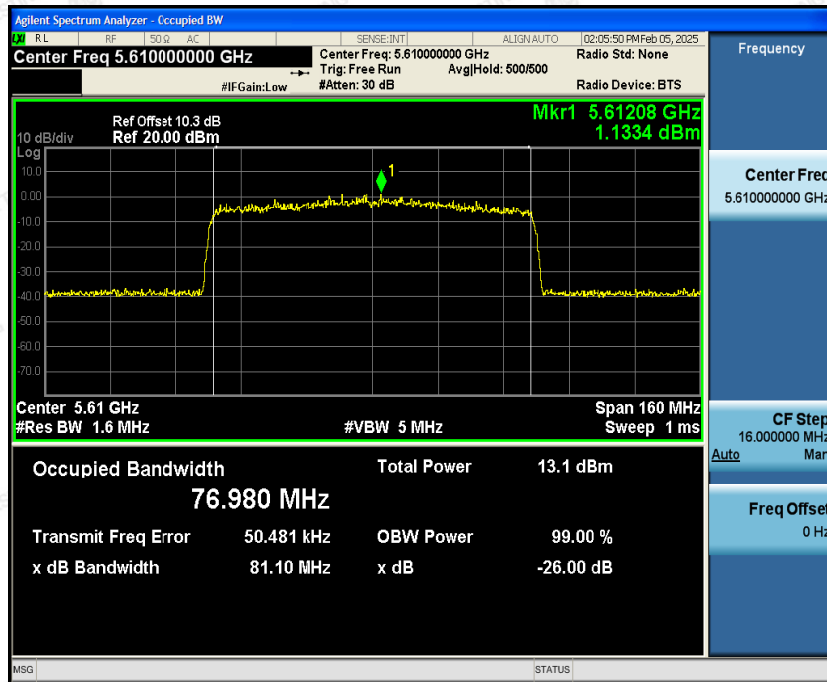


5470~5725MHz

Low Channel



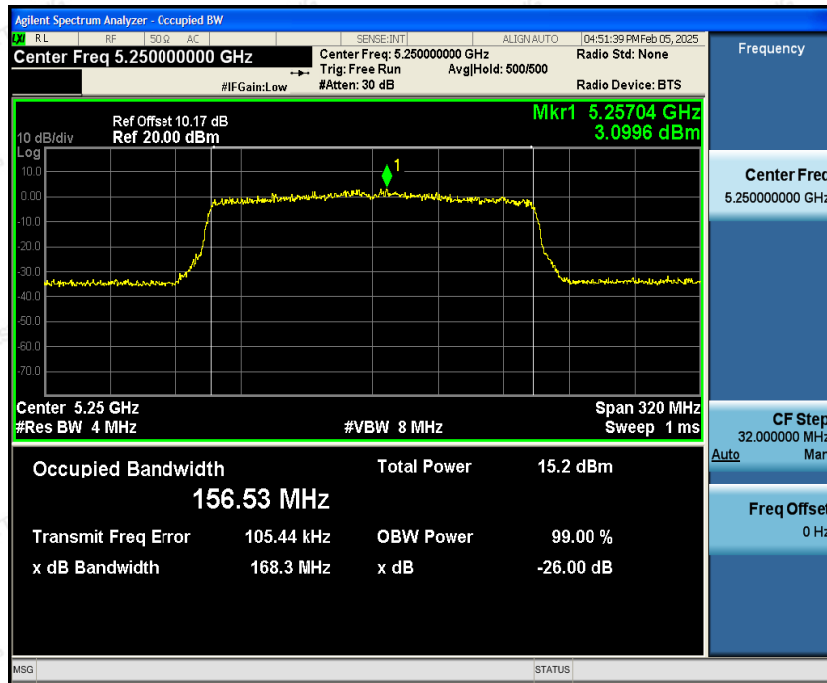
High Channel



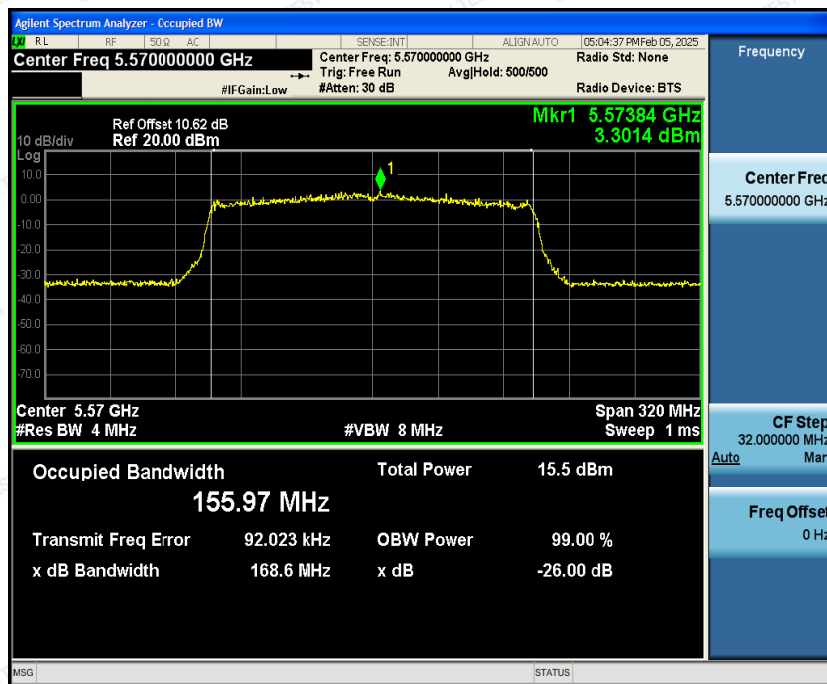


IEEE802.11ax HE160 mode

5150~5350MHz



5470~5725MHz





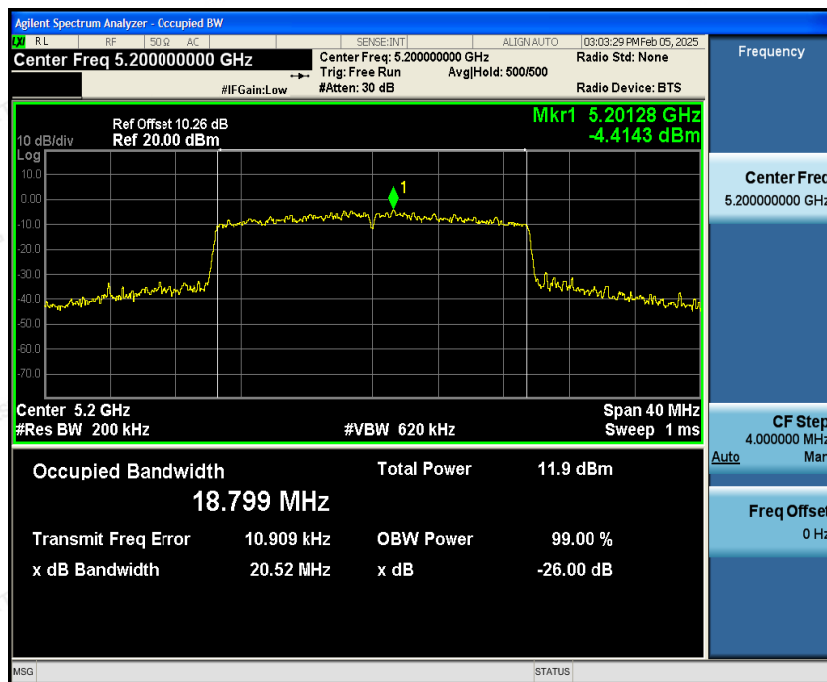
IEEE802.11be EHT20 mode

5150~5250MHz

Low Channel

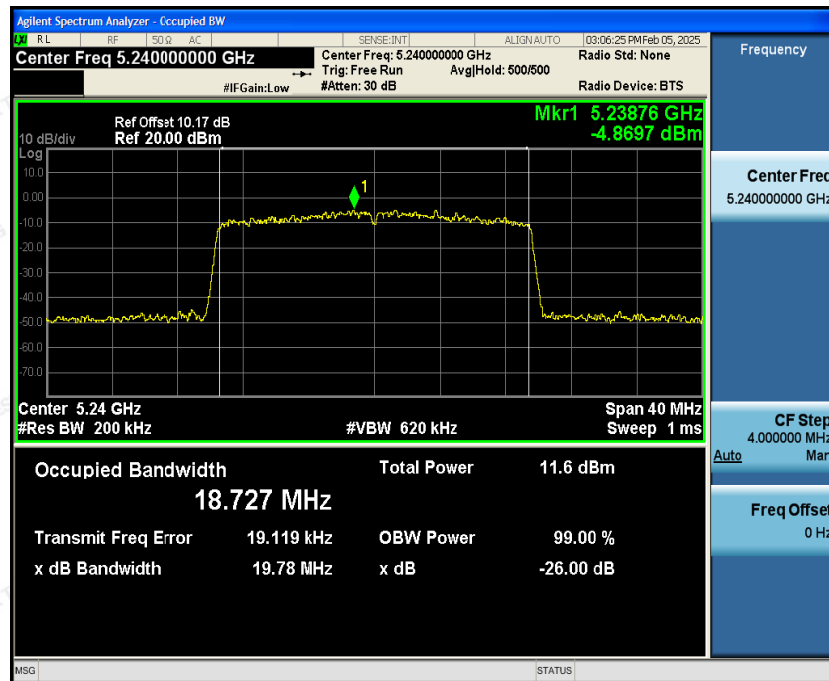


Mid Channel





High Channel





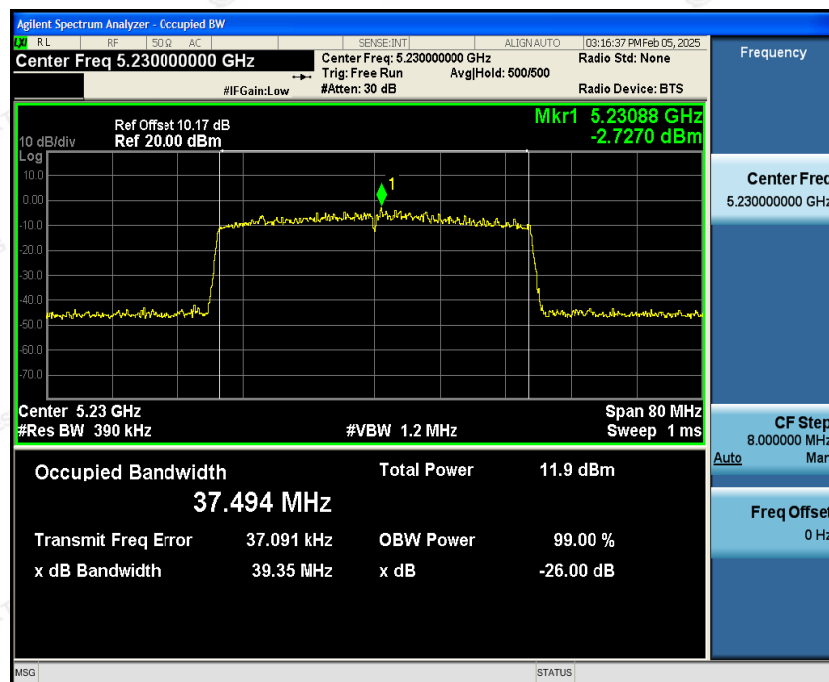
IEEE802.11be EHT40 mode

5150~5250MHz

Low Channel



High Channel





IEEE802.11be EHT80 mode

5150~5250MHz





6.2 Maximum Conducted Output Power

LIMIT

According to §15.407(a),

For the 5.15-5.25 GHz bands, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

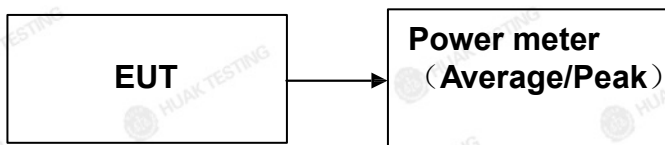
For the 5.25-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or $11\text{dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

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.

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W

The peak power shall not exceed the limit as follow:

Test Configuration



The EUT was connected to a spectrum analyzer through a 50Ω RF cable.

TEST PROCEDURE

The testing follows Method PM of FCC KDB789033 D02 General UNII Test Procedures New Rules v02r01.

Method PM (Measurement using an RF peak power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.

TEST RESULTS

No non-compliance noted

TEST RESULTS

No non-compliance noted

**Test Data**

Testmode:IEEE802.11a mode

5150~5250MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5180	9.58	8.35	/	23.67
Mid	5200	8.86	7.82	/	23.63
High	5240	9.15	7.32	/	23.63

5250~5350MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5260	9.20	7.74	/	23.67
Mid	5280	7.91	8.56	/	23.63
High	5320	8.49	8.80	/	23.63

5470~5725MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5500	7.96	9.07	/	25.08
Mid	5580	7.91	8.14	/	23.23
High	5700	7.96	7.82	/	24.00

Testmode:IEEE802.11n HT20 mode

5150~5250MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5180	9.01	8.87	11.95	24.00
Mid	5200	9.62	8.58	12.14	24.00
High	5240	10.14	8.34	12.34	23.84

**5250~5350MHz**

Channel	Frequency(MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5260	9.65	7.29	11.64	23.82
Mid	5280	9.56	9.49	12.54	23.82
High	5320	9.75	8.82	12.32	24.00

5470~5725MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5500	8.90	8.81	11.87	24.00
Mid	5580	9.94	8.13	12.14	23.39
High	5700	7.88	7.07	10.50	24.00

Testmode:IEEE802.11n HT40 mode**5150~5250MHz**

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5190	7.96	7.84	10.91	24.00
High	5230	8.11	8.32	11.23	24.00

5250~5350MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5270	8.10	7.59	10.86	24.00
Mid	5310	8.01	7.88	10.96	24.00

5470~5725MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5510	9.46	8.87	12.19	24.00
Mid	5550	8.93	8.81	11.88	24.00
High	5670	8.94	7.08	11.12	24.00

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAKE, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.

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Add: 1-2F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China



Testmode:IEEE802.11ac HT20 mode

5150~5250MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5180	9.02	8.38	11.72	24.00
Mid	5200	9.14	8.26	11.73	24.00
High	5240	8.60	7.97	11.31	23.79

5250~5350MHz

Channel	Frequency(MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5260	9.48	7.59	11.65	23.79
Mid	5280	9.16	7.12	11.27	23.80
High	5320	9.26	7.50	11.48	24.00

5470~5725MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5500	8.36	8.36	11.37	24.00
Mid	5580	7.87	8.42	11.16	23.34
High	5700	7.88	7.27	10.60	24.00

Testmode:IEEE802.11ac HT40 mode

5150~5250MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5190	8.23	7.33	10.81	24.00
High	5230	8.58	8.67	11.64	24.00



5250~5350MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5270	8.05	8.46	11.27	24.00
Mid	5310	8.34	7.92	11.15	24.00

5470~5725MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5510	8.09	9.48	11.85	24.00
Mid	5550	8.74	9.45	12.12	24.00
High	5670	8.80	8.58	11.70	24.00

Testmode:IEEE802.11ac HT80 mode

5150~5250MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
--	5210	8.85	7.32	11.16	24.00

5250~5350MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
--	5270	7.73	8.19	10.98	24.00

5470~5725MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5510	7.97	8.56	11.29	24.00
High	5670	8.13	8.29	11.22	24.00



Testmode:IEEE802.11ac HT160 mode

5150~5350MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
--	5250	8.27	8.85	11.58	24.00

5470~5725MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
--	5570	8.24	9.43	11.89	24.00

Testmode:IEEE802.11ax HE20 mode

5150~5250MHz

Channel	Frequency(MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5180	9.45	8.31	11.93	24.00
Mid	5200	9.01	8.95	11.99	24.00
High	5240	9.12	8.57	11.86	23.99

5250~5350MHz

Channel	Frequency(MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5260	8.37	8.56	11.48	24.00
Mid	5280	7.94	8.09	11.03	24.00
High	5320	8.27	8.70	11.50	24.00

5470~5725MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5500	8.60	8.50	11.56	23.58
Mid	5580	8.05	8.29	11.18	23.57
High	5700	8.17	7.39	10.81	23.58



Testmode:IEEE802.11ax HE40 mode

5150~5250MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5190	8.07	7.90	11.00	24.00
Mid	5230	8.36	7.49	10.96	24.00

5250~5350MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5270	8.24	8.58	11.42	24.00
Mid	5310	8.56	8.76	11.67	24.00

5470~5725MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5510	8.37	8.69	11.54	24.00
Mid	5550	7.92	8.66	11.32	24.00
High	5670	7.99	7.56	10.79	24.00

Testmode:IEEE802.11ax HE80 mode

5150~5250MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
--	5210	7.82	7.95	10.90	24.00

5250~5350MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
--	5270	8.50	7.68	11.12	24.00

**5470~5725MHz**

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5510	8.28	8.81	11.56	24.00
High	5670	9.30	8.76	12.05	24.00

Testmode:IEEE802.11ax HE160 mode**5150~5350MHz**

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
--	5250	8.16	9.38	11.82	24.00

5470~5725MHz

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
--	5570	7.31	8.60	11.01	24.00

Testmode:IEEE802.11be EHT20 mode**5150~5250MHz**

Channel	Frequency(MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5180	8.44	9.04	11.76	24.00
Mid	5200	8.13	8.64	11.40	23.98
High	5240	7.94	9.39	11.74	23.96

**Testmode:IEEE802.11be EHT40 mode****5150~5250MHz**

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
Low	5190	8.38	7.97	11.19	24.00
Mid	5230	8.06	8.37	11.23	24.00

Testmode:IEEE802.11be EHT80 mode**5150~5250MHz**

Channel	Frequency (MHz)	Peak Output Power (dBm)		Mimo	Limit(dBm)
		Ant1	Ant2		
--	5210	8.59	8.88	11.75	24.00



6.3 Band Edges Measurement

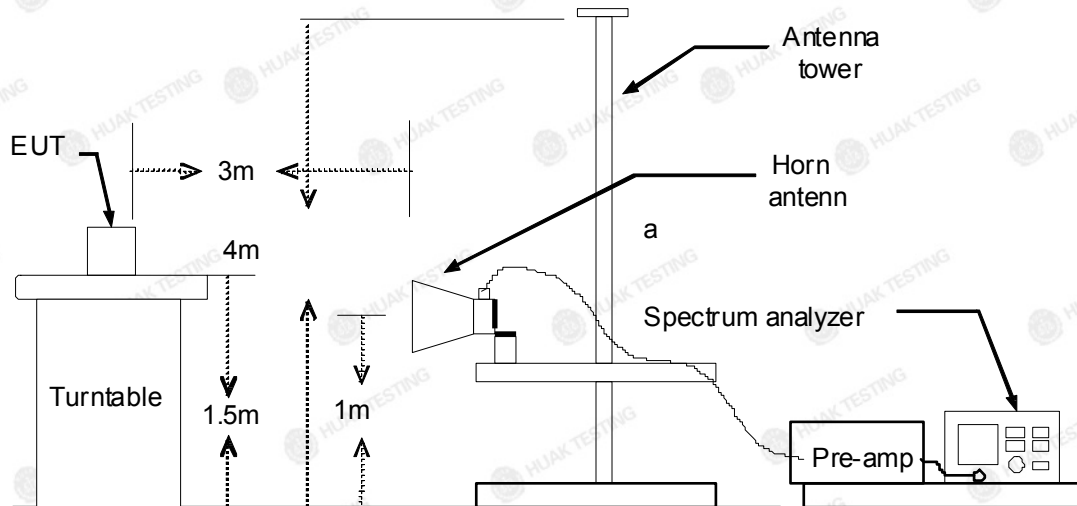
LIMIT

According to §15.407(b),

(1) The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

(2) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency block edges as the design of the equipment permits.

Test Configuration



TESTPROCEDURE

1. The EUT is placed on a turntable, which is 1.5m above the ground plane.
2. The turntable shall be rotated for 360degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
 - (a) PEAK: RBW=1MHz / VBW=RBW*3=3MHz / Sweep=AUTO
 - (b) AVERAGE: RBW=1MHz / Sweep=AUTO

VBW=10Hz, when duty cycle is no less than 98 percent.

VBW $\geq 1/T$, when duty cycle is less than 98 percent, where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
IEEE 802.11 a	100	-	-	10Hz
IEEE 802.11n/ac HT20/ax HE20	100	-	-	10Hz
IEEE 802.11n/ac HT40/ax HE40	100	-	-	10Hz
IEEE 802.11ac HT80/ax HE80	100	-	-	10Hz

TESTRESULTS

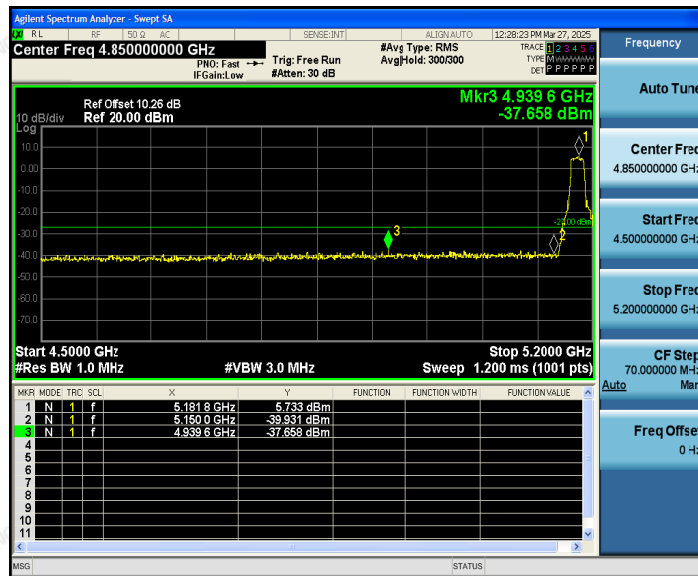
Refer to attach spectrum analyzer data chart.



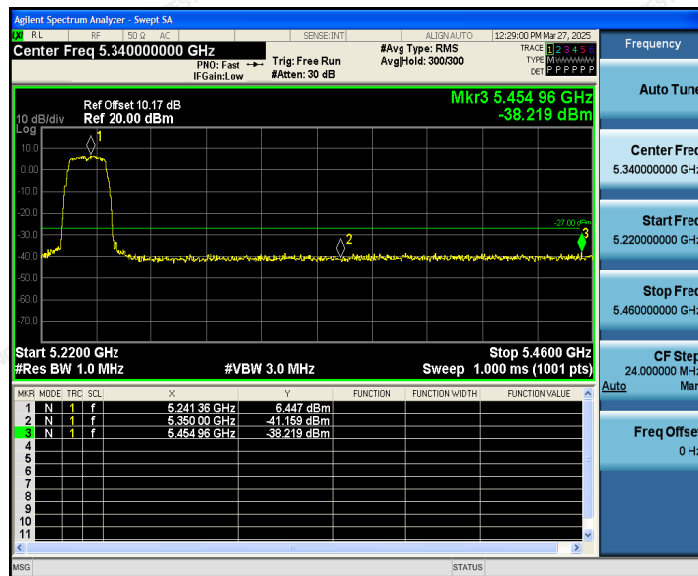
Antenna1

Band Edges(IEEE802.11a mode)

5180MHz

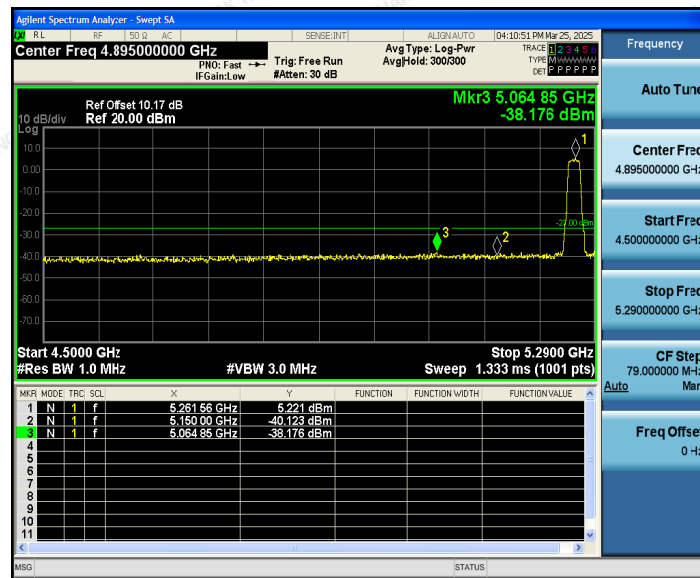


5240MHz

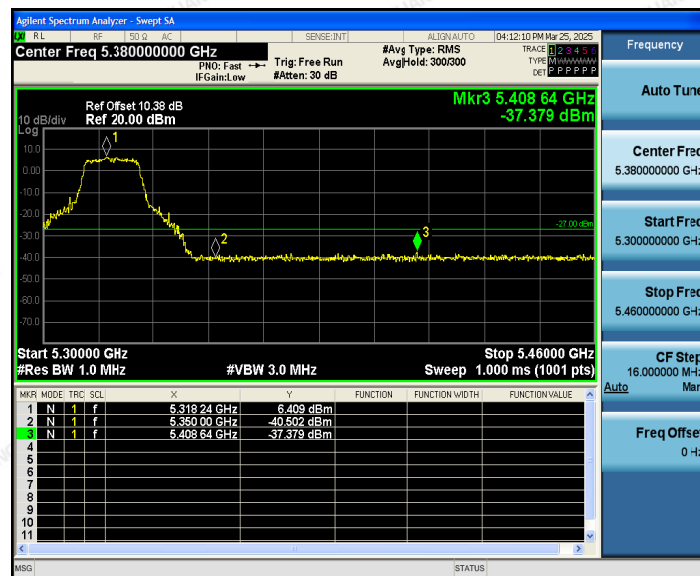




5260MHz



5320MHz





5500MHz



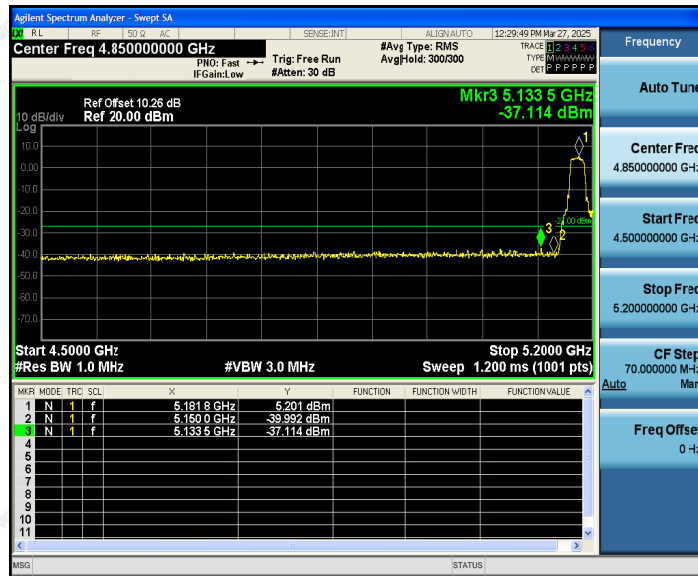
5700MHz



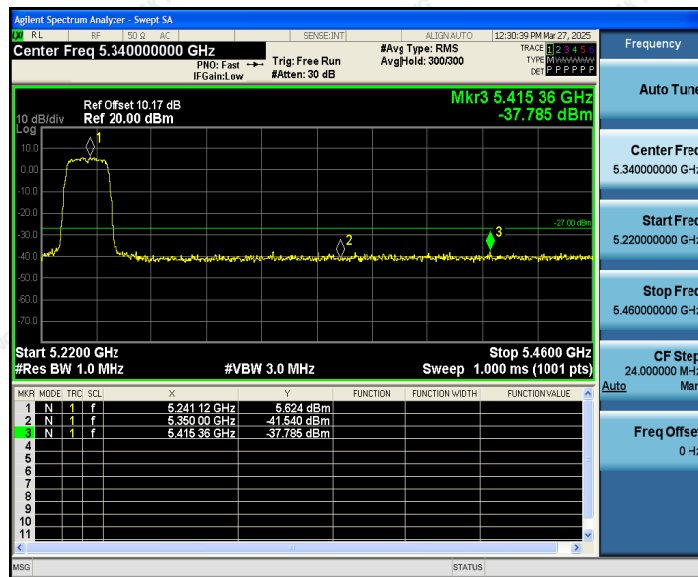


Band Edges(IEEE802.11n HT20 mode)

5180MHz

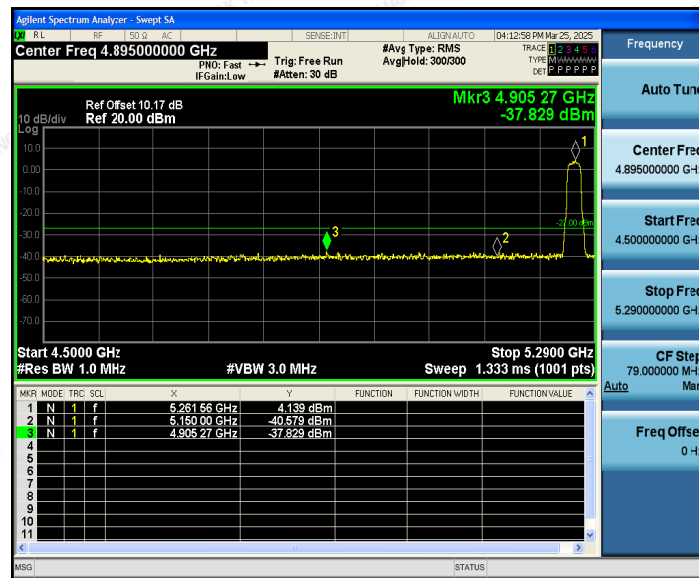


5240MHz





5260MHz



5320MHz





5500MHz



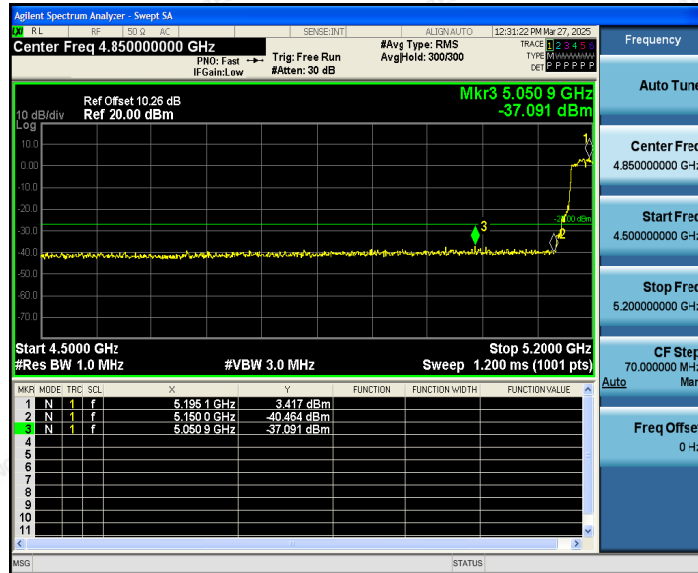
5700MHz



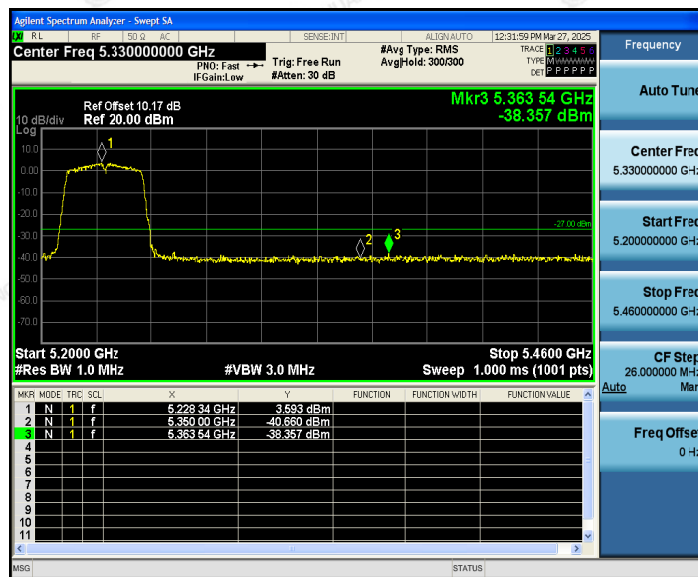


Band Edges(IEEE802.11n HT40 mode)

5190MHz

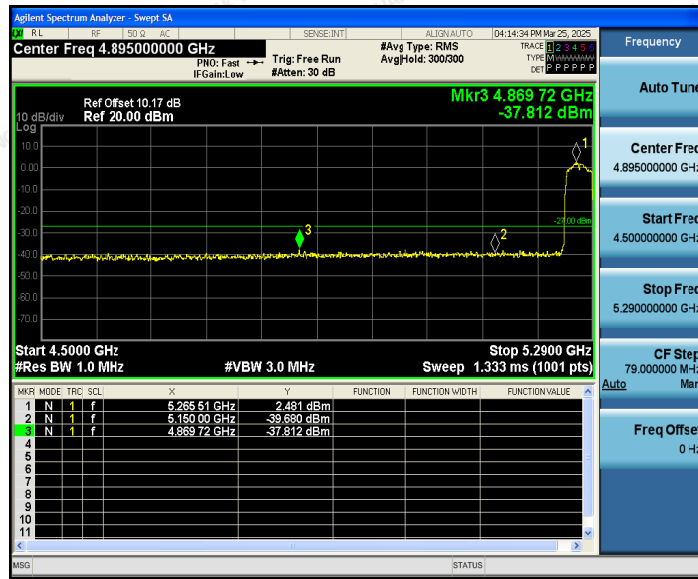


5230MHz





5270MHz



5310MHz





5510MHz



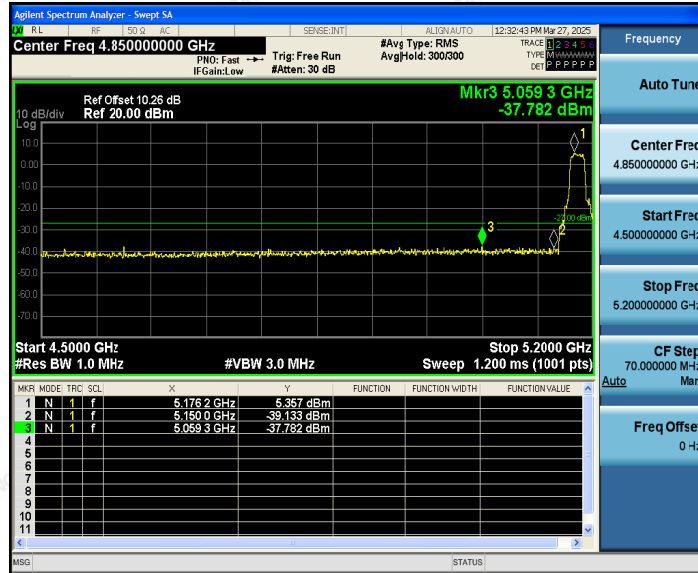
5670MHz



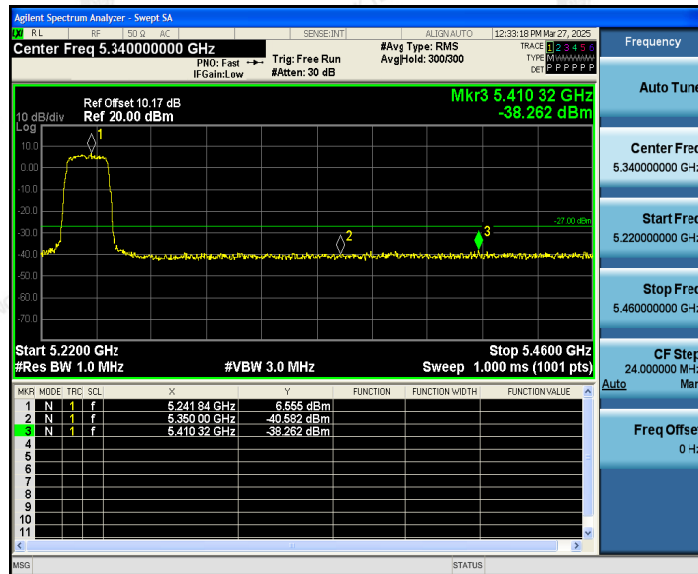


Band Edges(IEEE802.11ac HT20 mode)

5180MHz

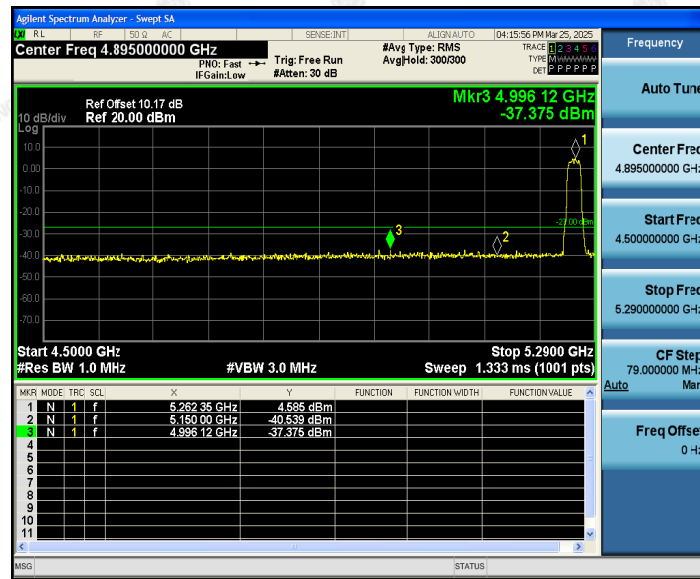


5240MHz





5260MHz



5320MHz





5500MHz



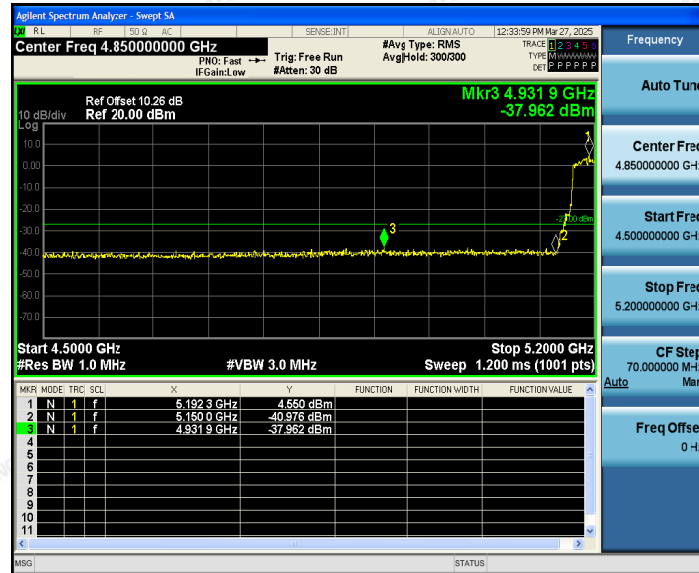
5700MHz



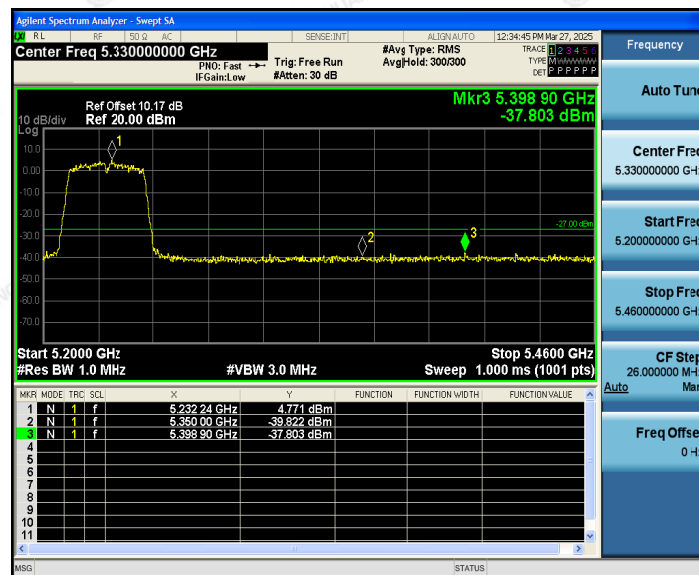


Band Edges(IEEE802.11ac HT40 mode)

5190MHz

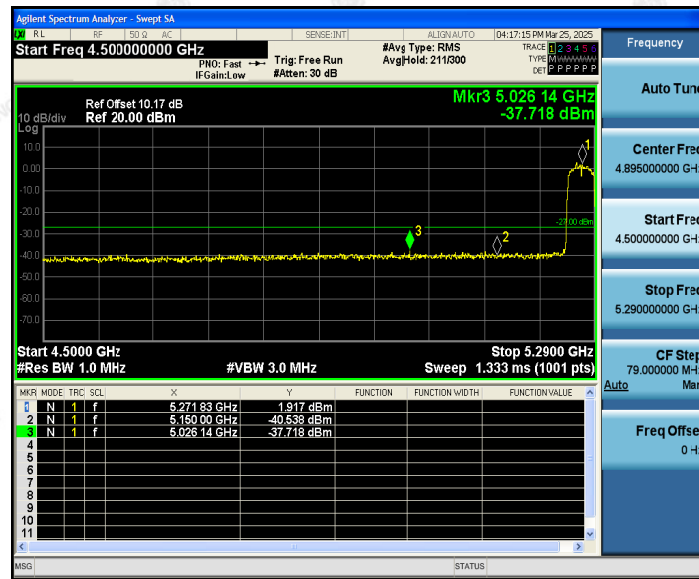


5230MHz





5270MHz



5310MHz





5510MHz



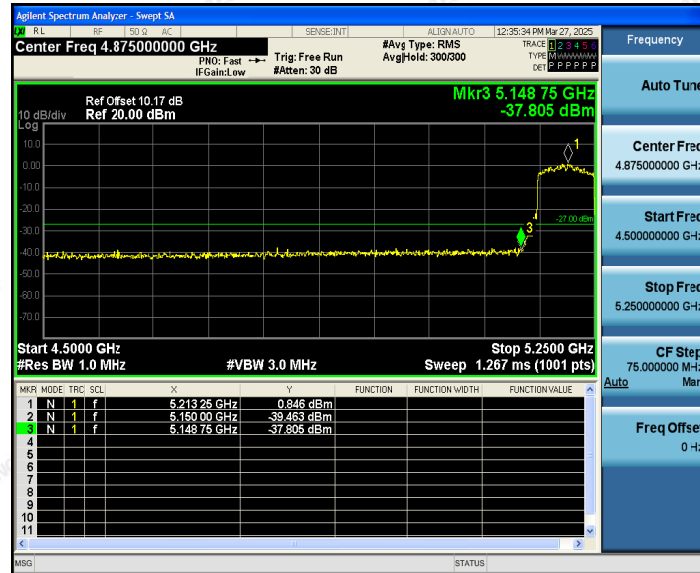
5670MHz





Band Edges(IEEE802.11ac HT80 mode)

5210MHz

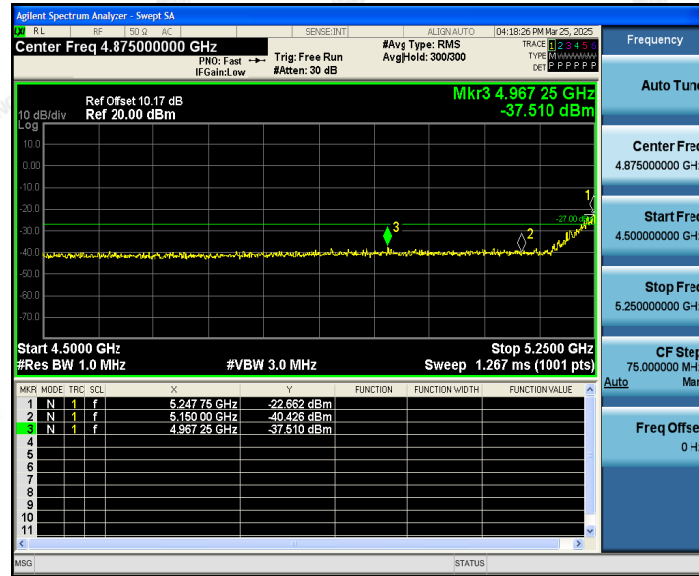


5210MHz





5290MHz



5290MHz

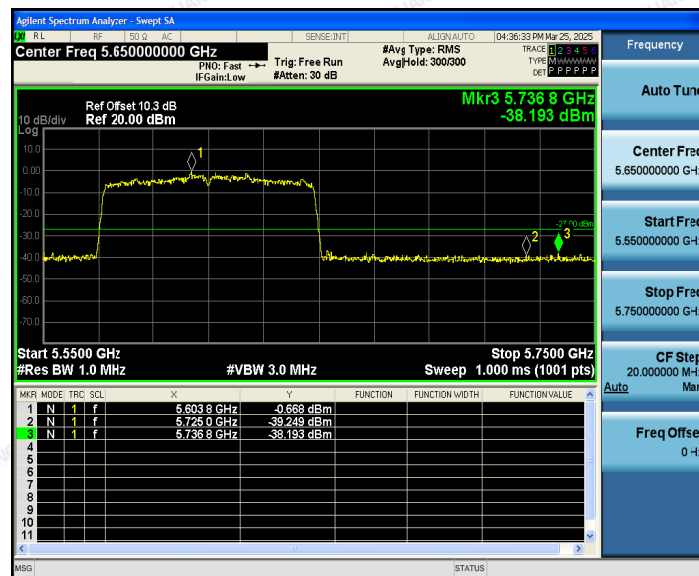




5530MHz



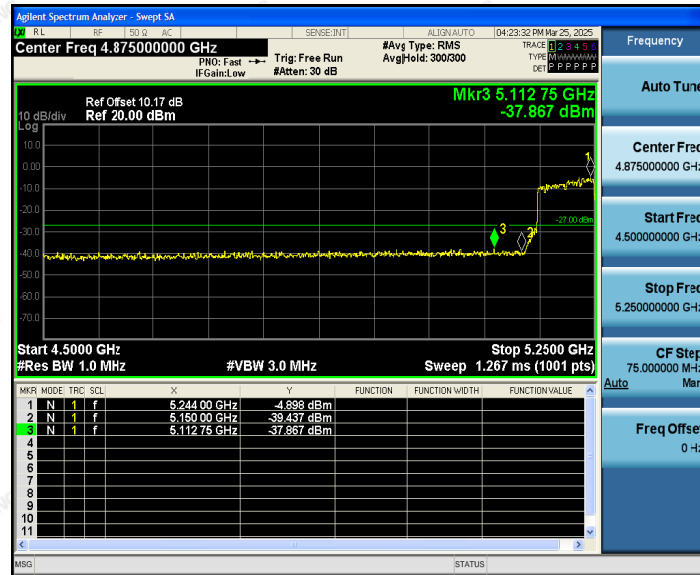
5610MHz





Band Edges(IEEE802.11ac HT160 mode)

5250MHz

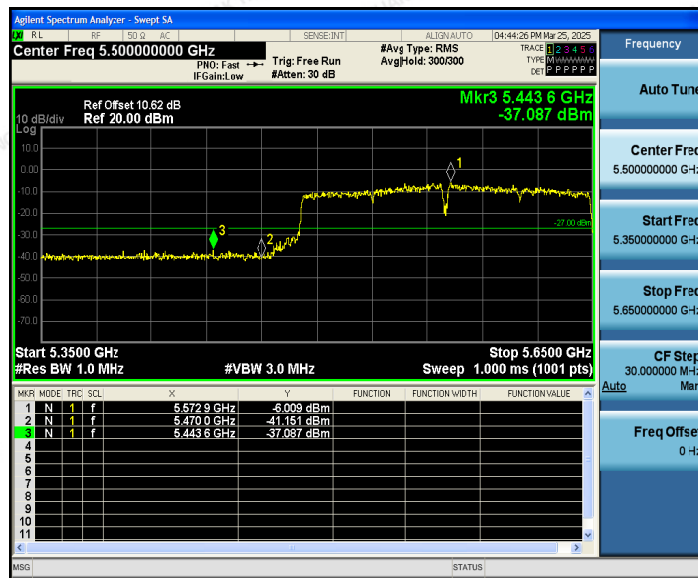


5250MHz

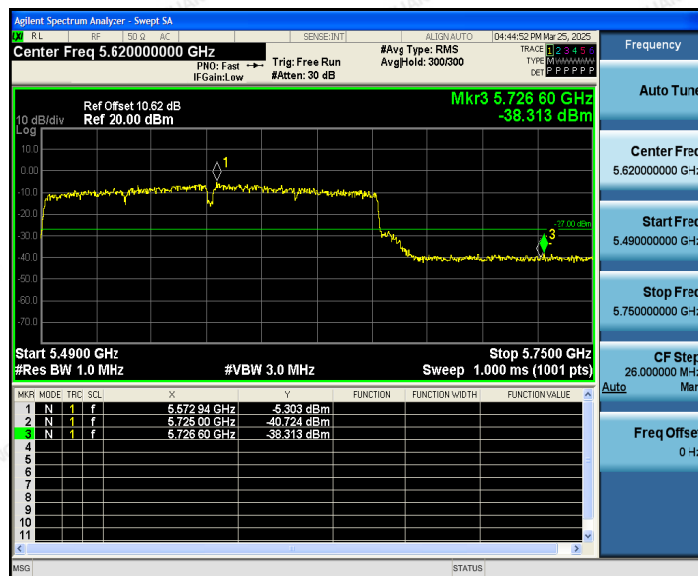




5570MHz



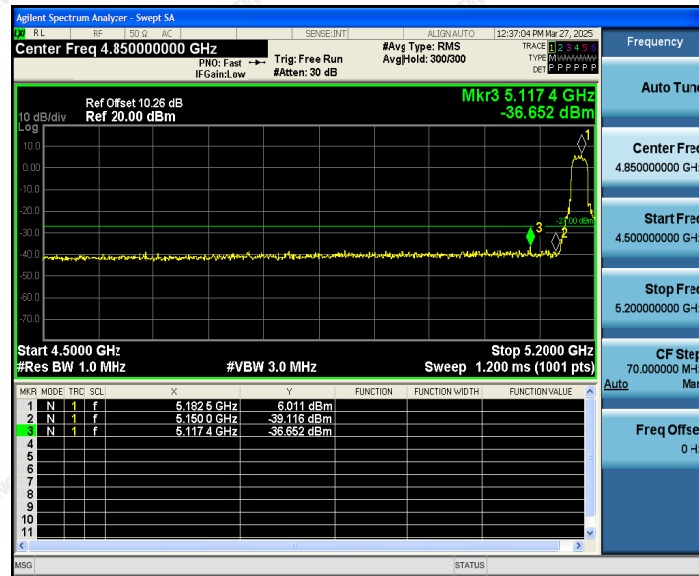
5570MHz



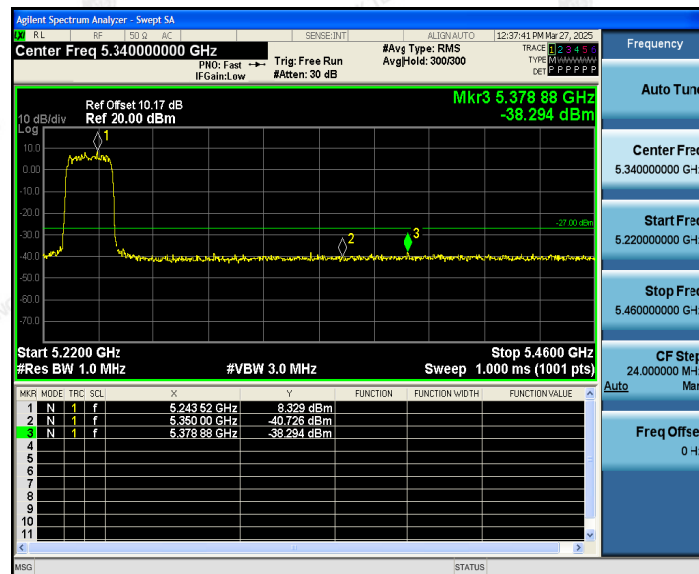


Band Edges(IEEE802.11ax HE20 mode)

5180MHz

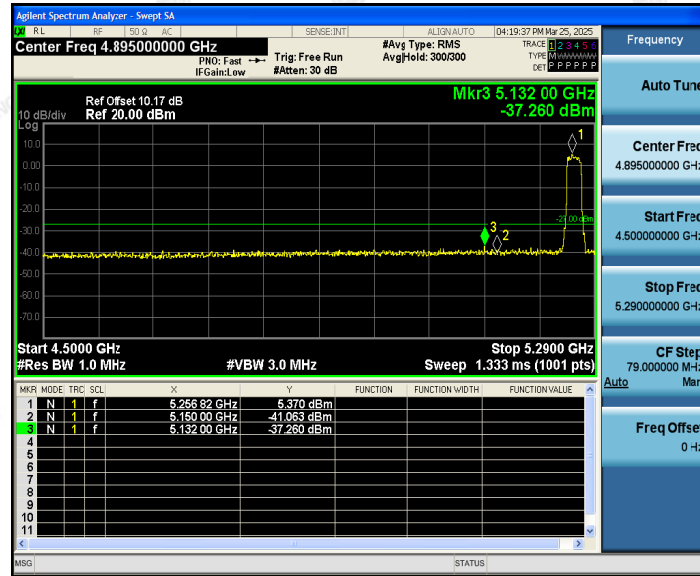


5240MHz

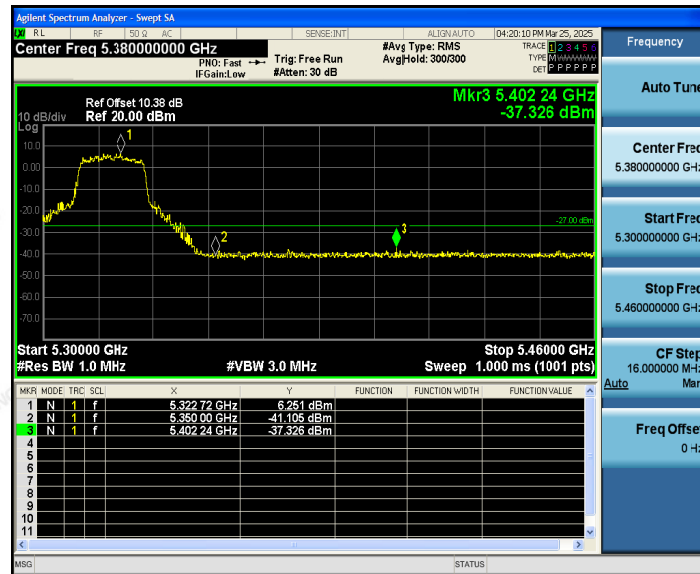




5260MHz



5320MHz





5500MHz



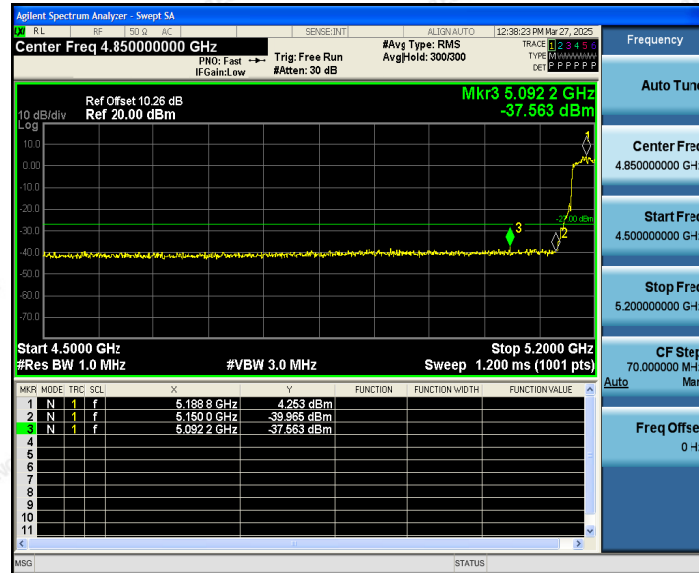
5700MHz



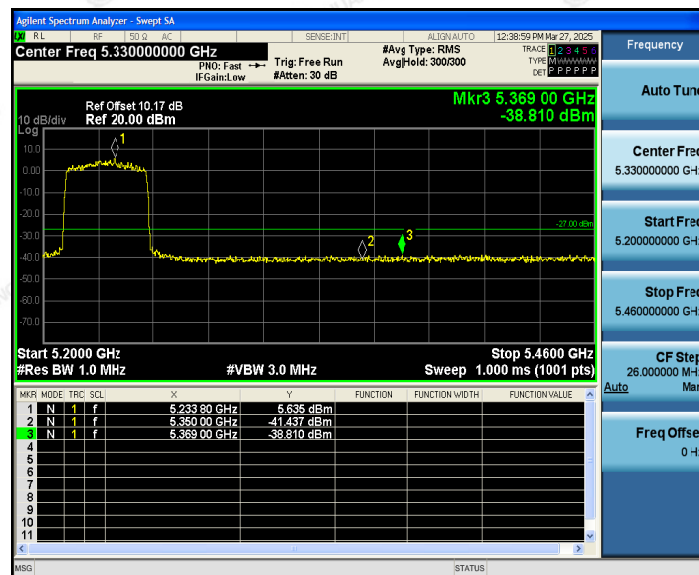


Band Edges(IEEE802.11ax HE40 mode)

5190MHz

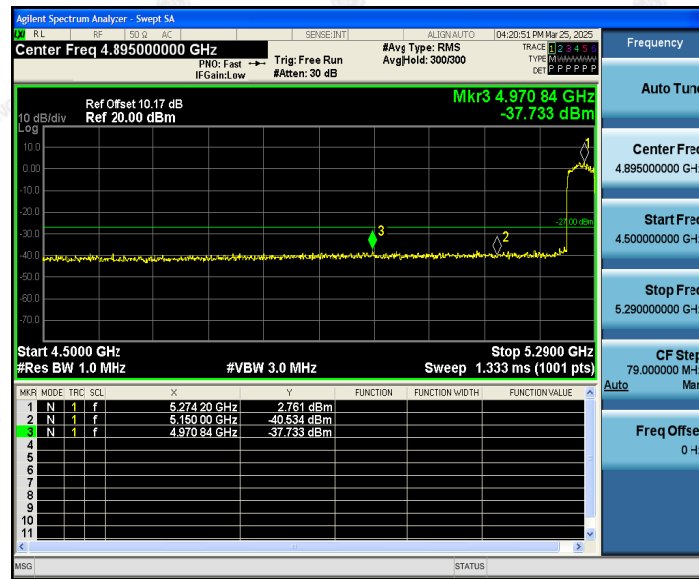


5230MHz





5270MHz



5310MHz





5510MHz



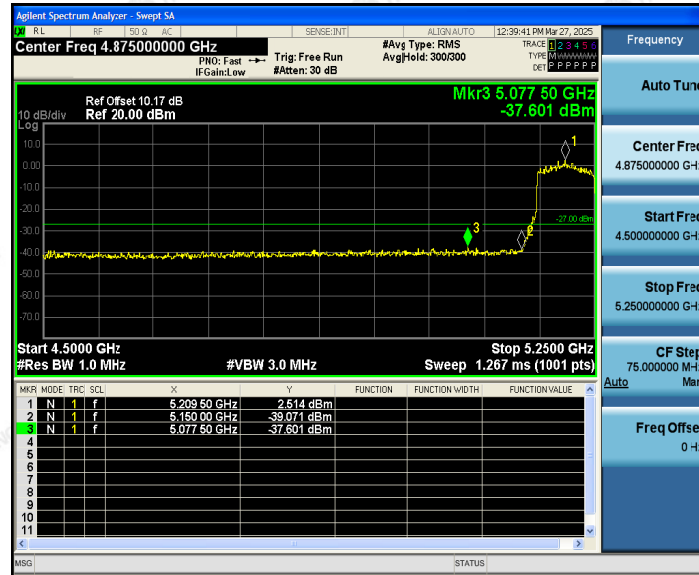
5670MHz





Band Edges(IEEE802.11ax HE80 mode)

5210MHz

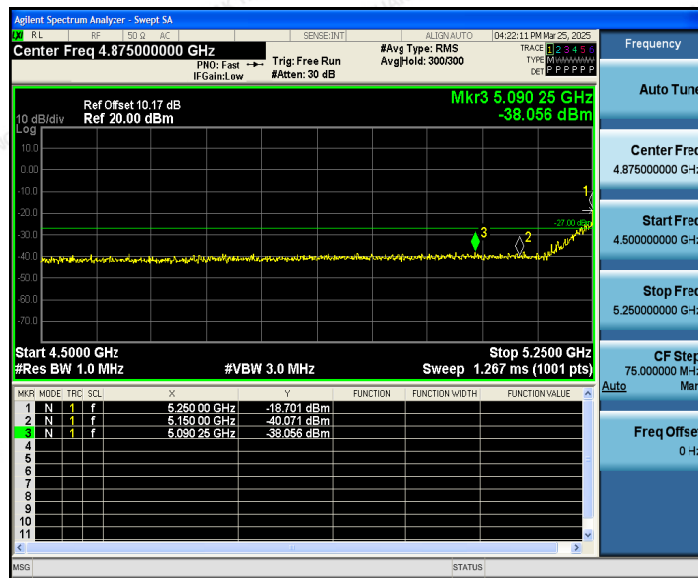


5210MHz





5290MHz



5290MHz

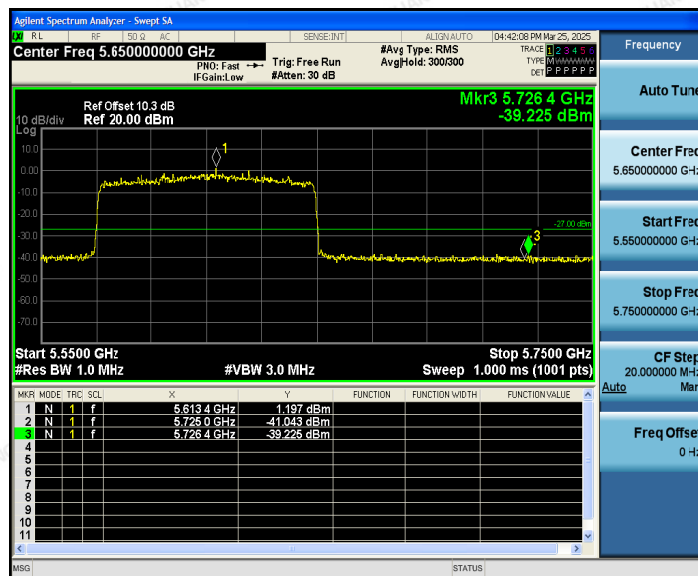




5530MHz



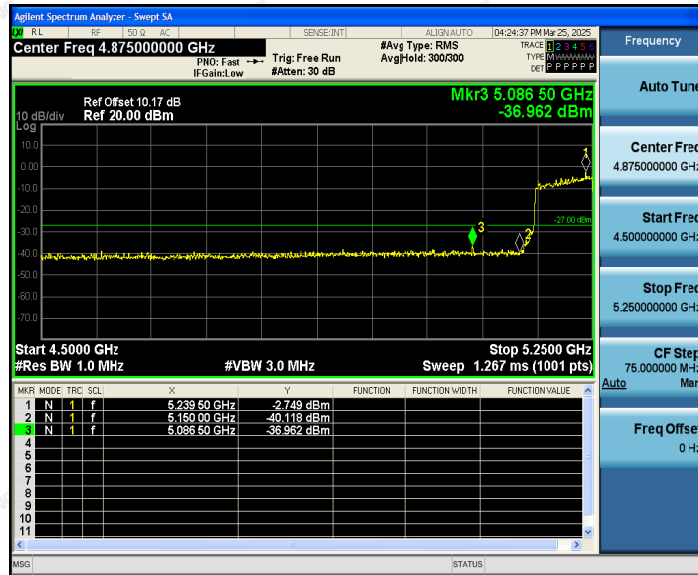
5610MHz





Band Edges(IEEE802.11ax HE160 mode)

5250MHz

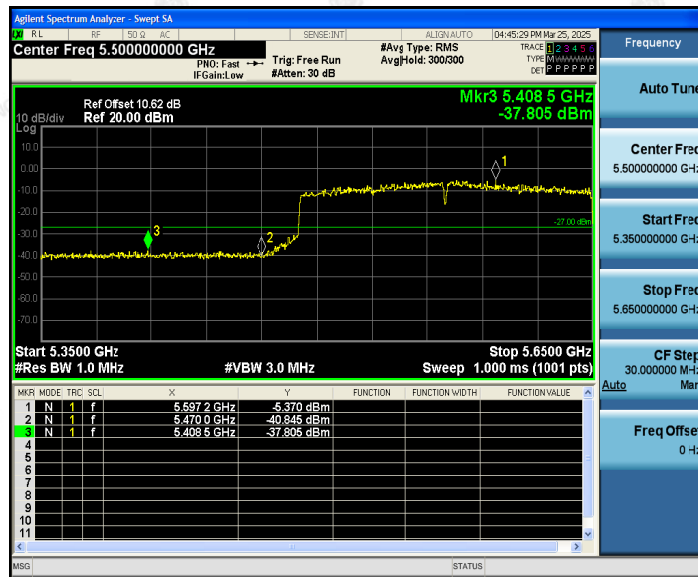


5250MHz

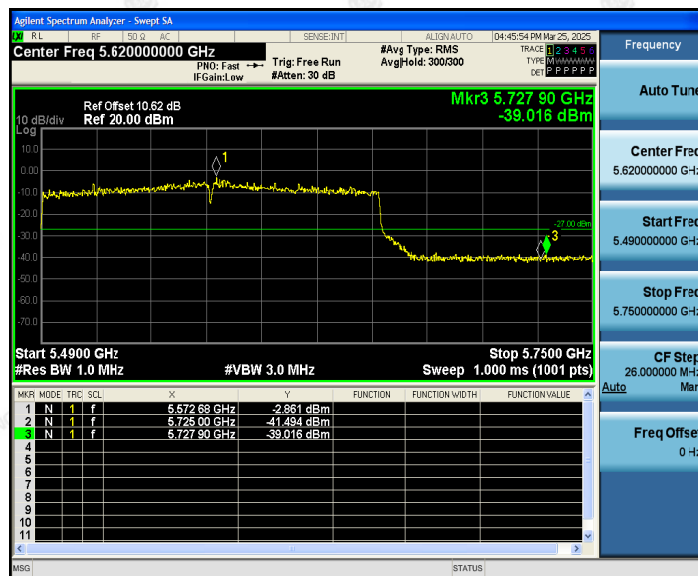




5570MHz



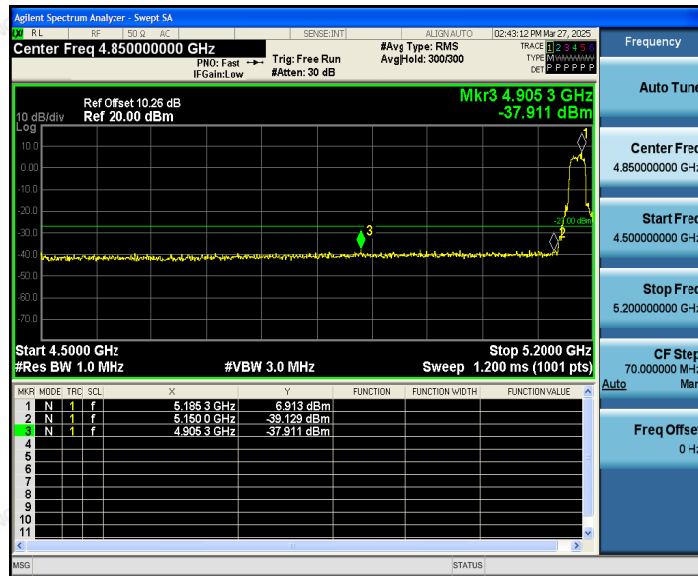
5570MHz



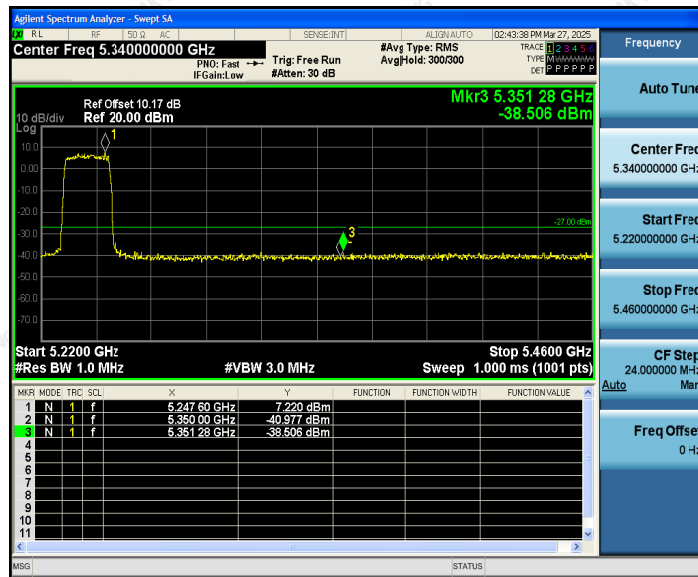


Band Edges(IEEE802.11be EHT20 mode)

5180MHz



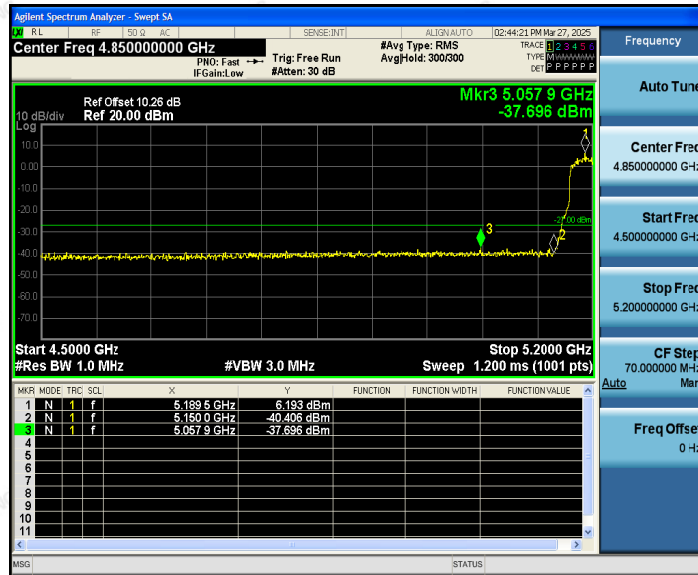
5240MHz



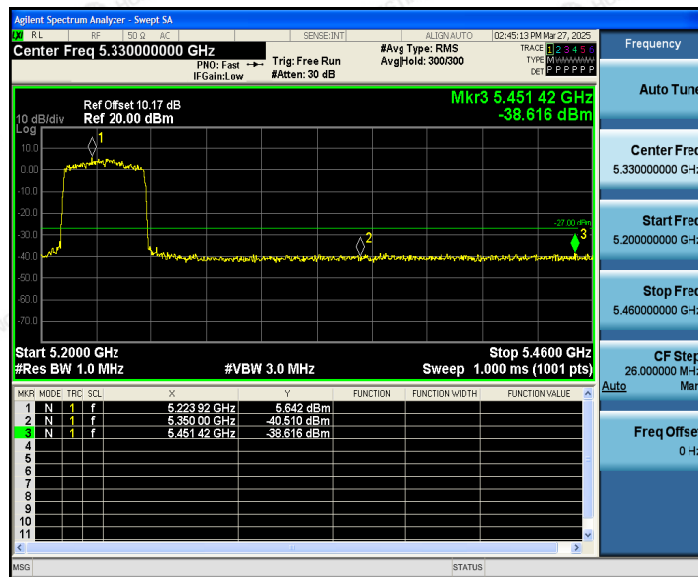


Band Edges(IEEE802.11be EHT40 mode)

5190MHz



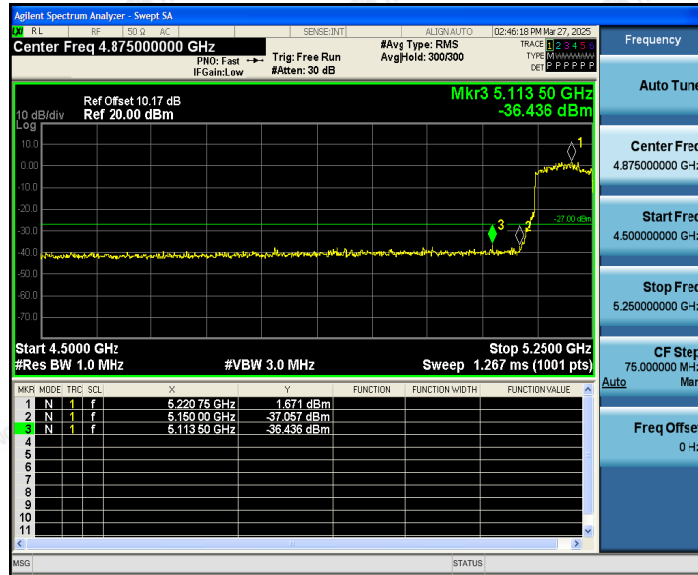
5230MHz





Band Edges(IEEE802.11be EHT80 mode)

5210MHz



5210MHz

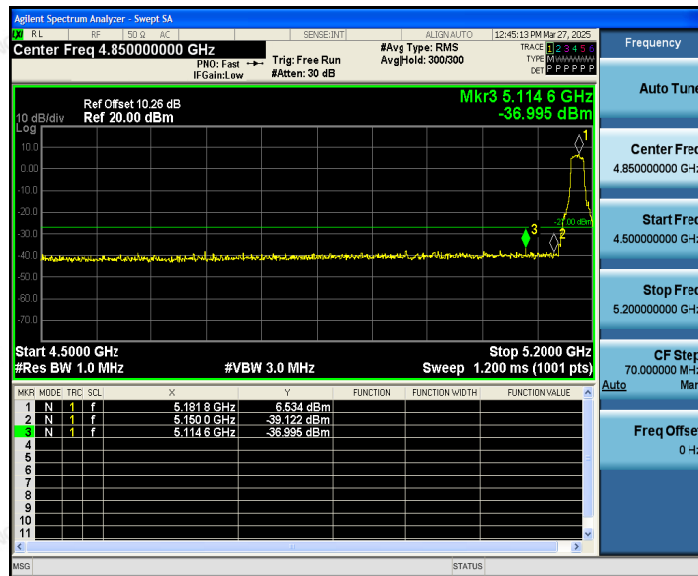




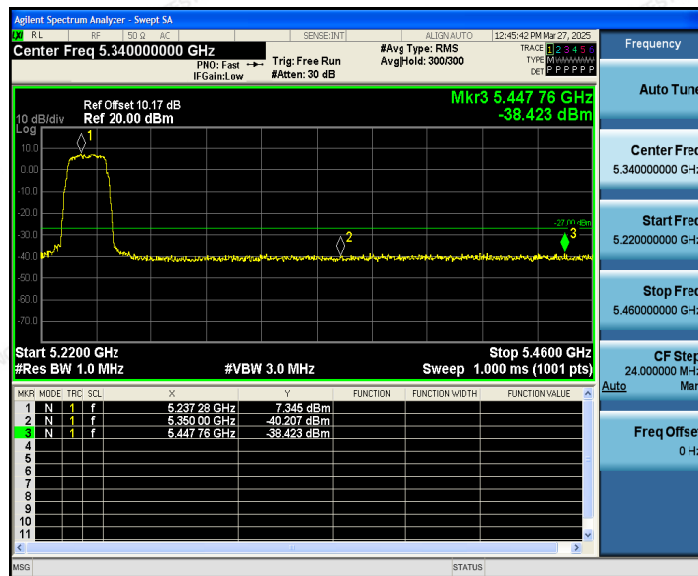
Antenna 2

Band Edges(IEEE802.11a mode)

5180MHz

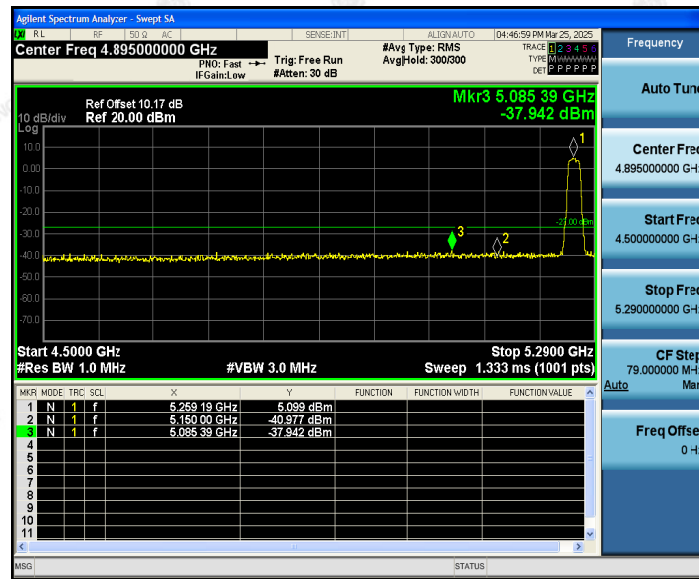


5240MHz





5260MHz



5320MHz





5500MHz



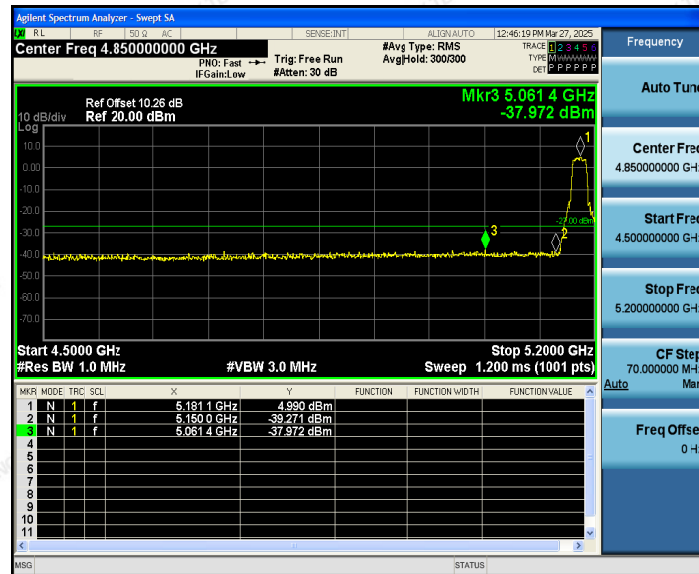
5700MHz



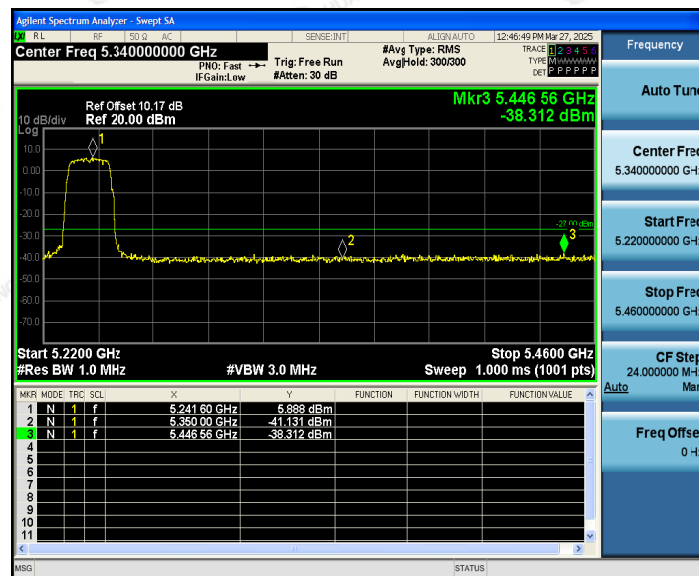


Band Edges(IEEE802.11n HT20 mode)

5180MHz

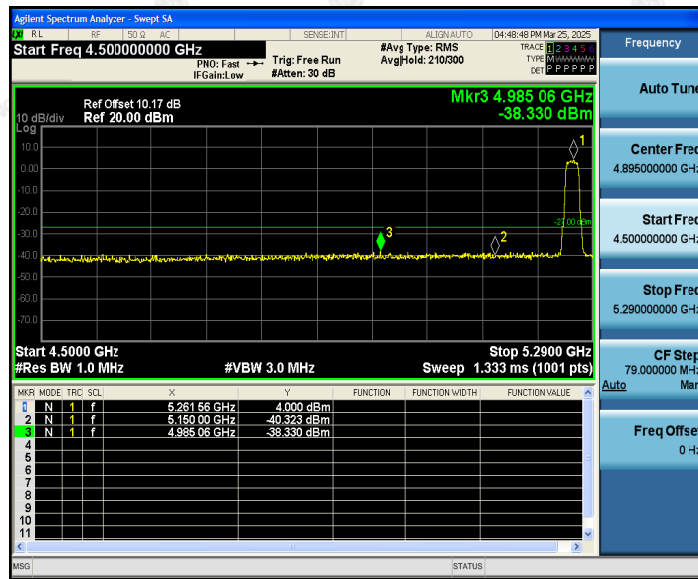


5240MHz

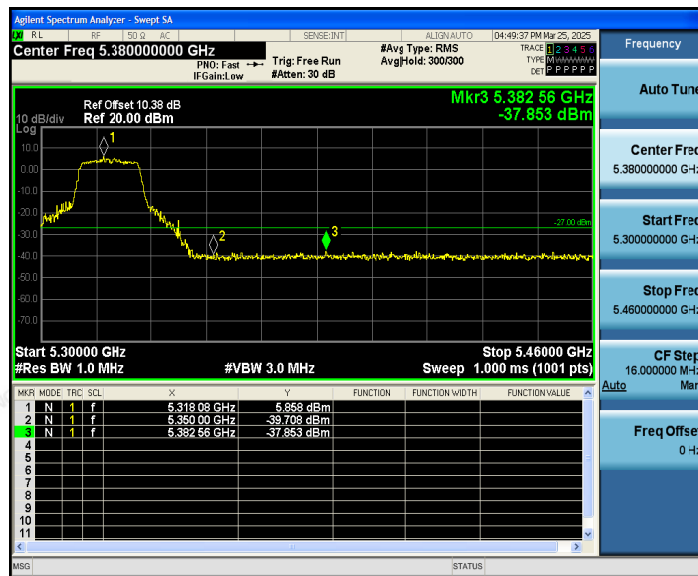




5260MHz

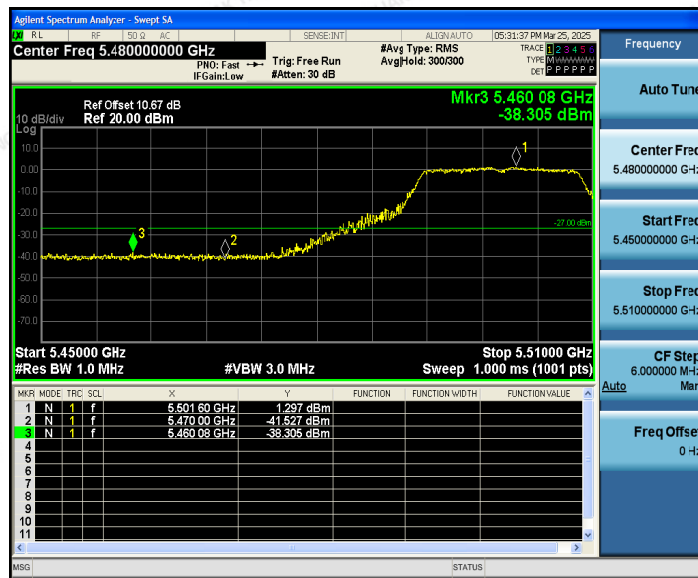


5320MHz





5500MHz



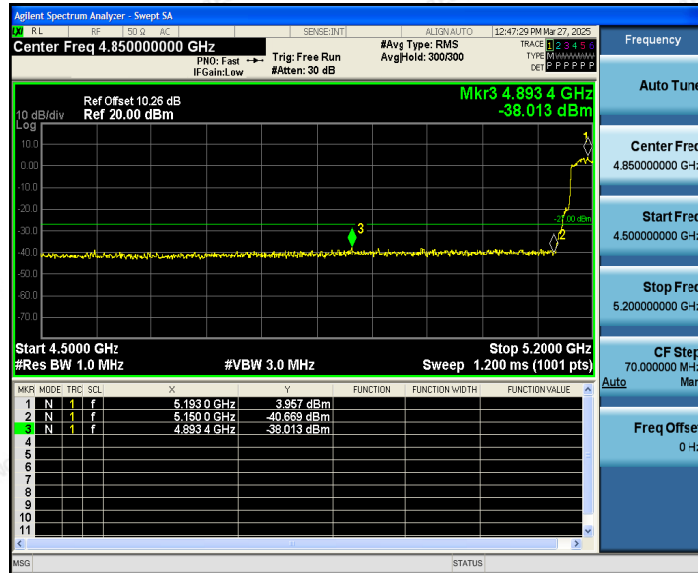
5700MHz



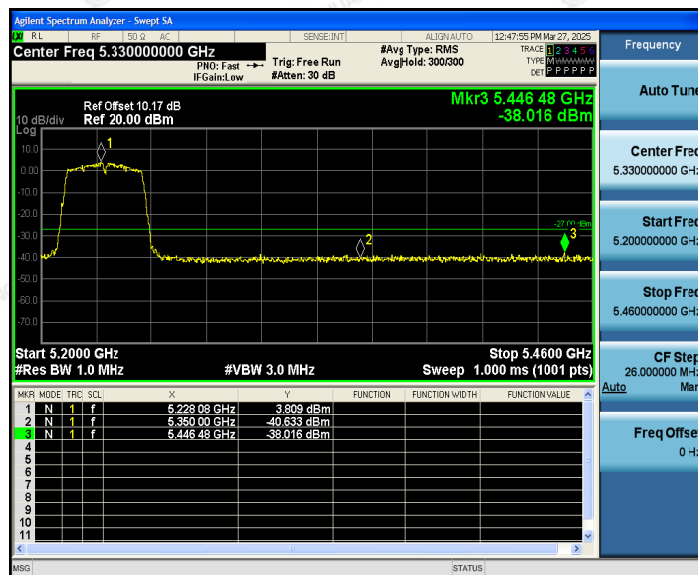


Band Edges(IEEE802.11n HT40 mode)

5190MHz

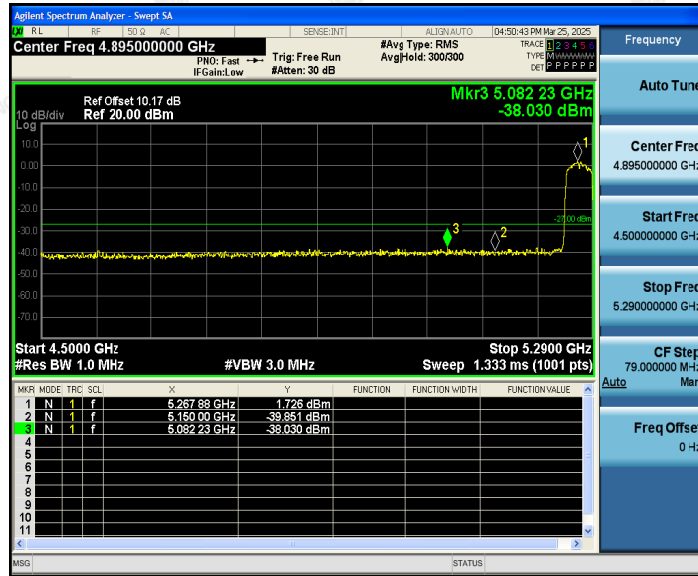


5230MHz





5270MHz



5310MHz





5510MHz



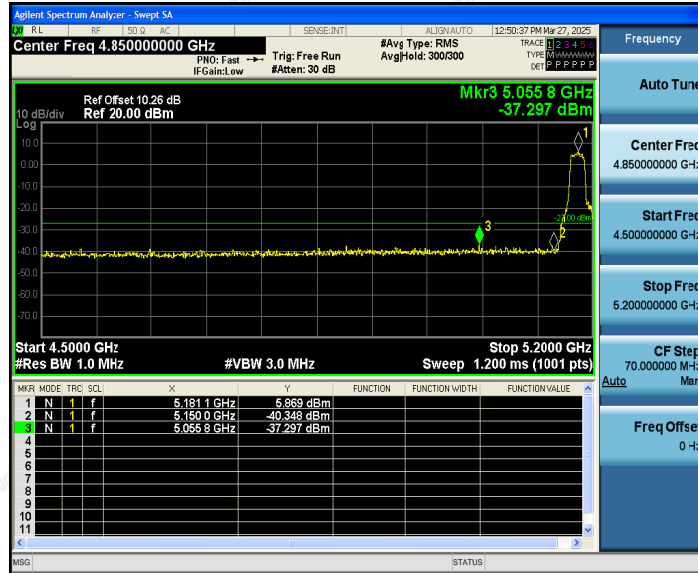
5670MHz



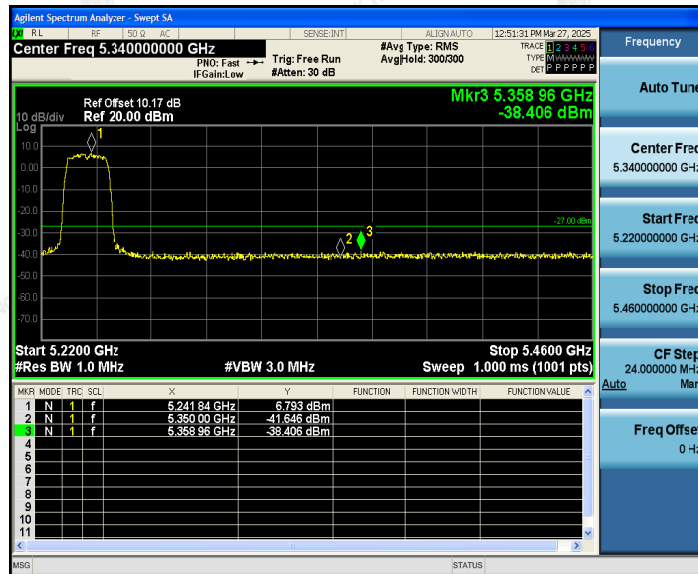


Band Edges(IEEE802.11ac HT20 mode)

5180MHz

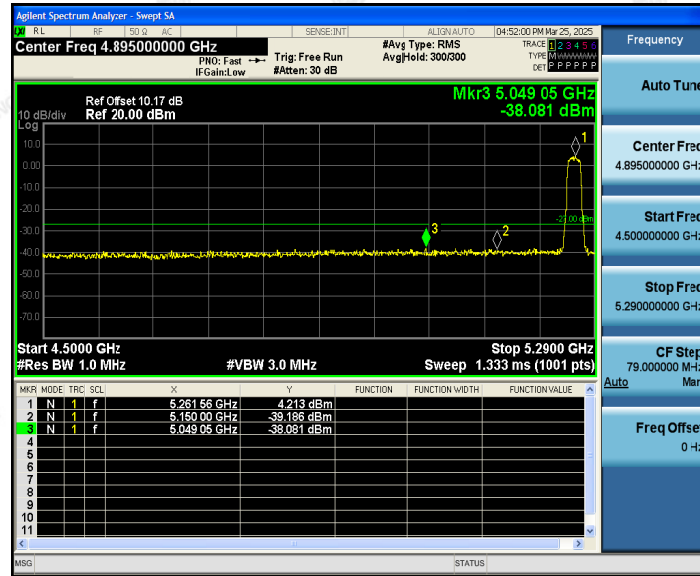


5240MHz





5260MHz



5320MHz





5500MHz



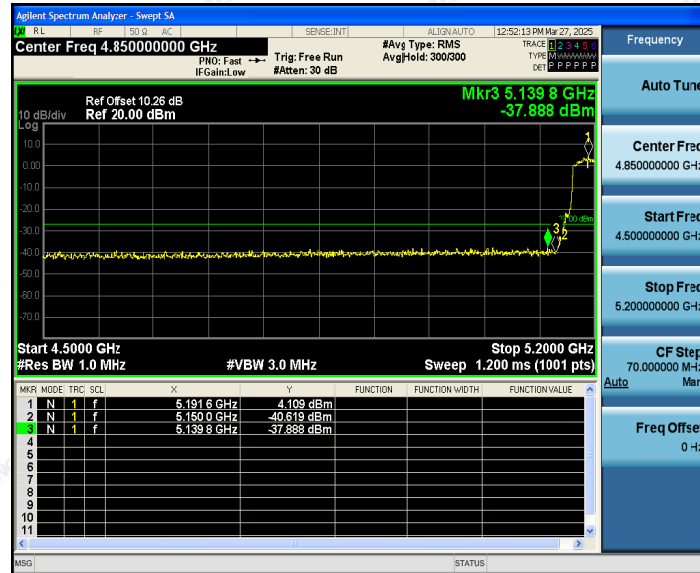
5700MHz



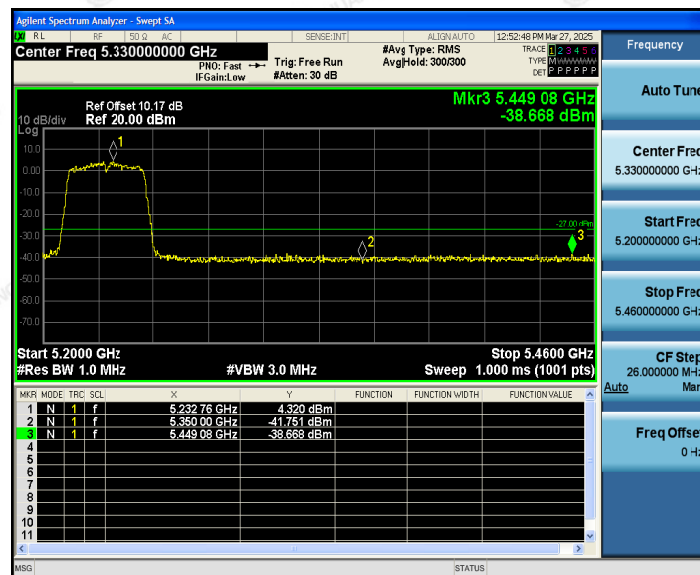


Band Edges(IEEE802.11ac HT40 mode)

5190MHz

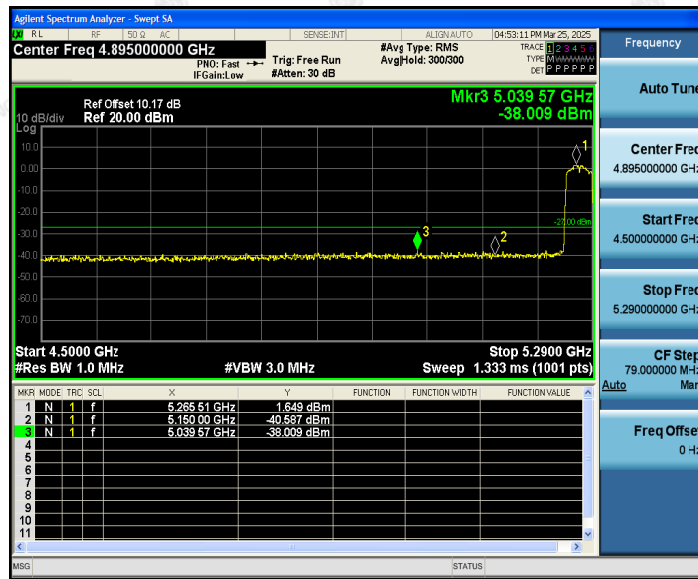


5230MHz





5270MHz



5310MHz





5510MHz



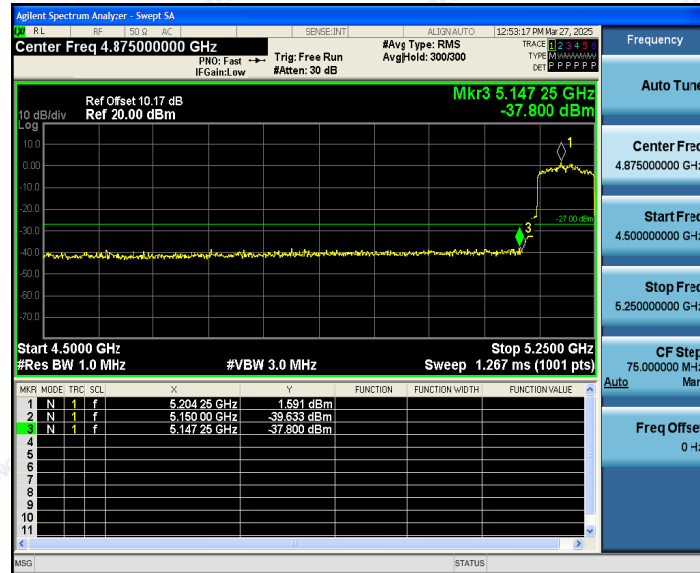
5670MHz





Band Edges(IEEE802.11ac HT80 mode)

5210MHz

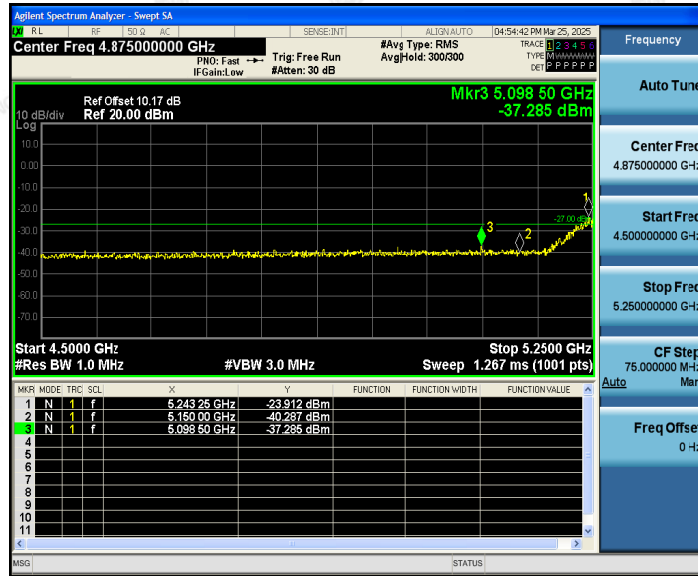


5210MHz





5290MHz



5290MHz

