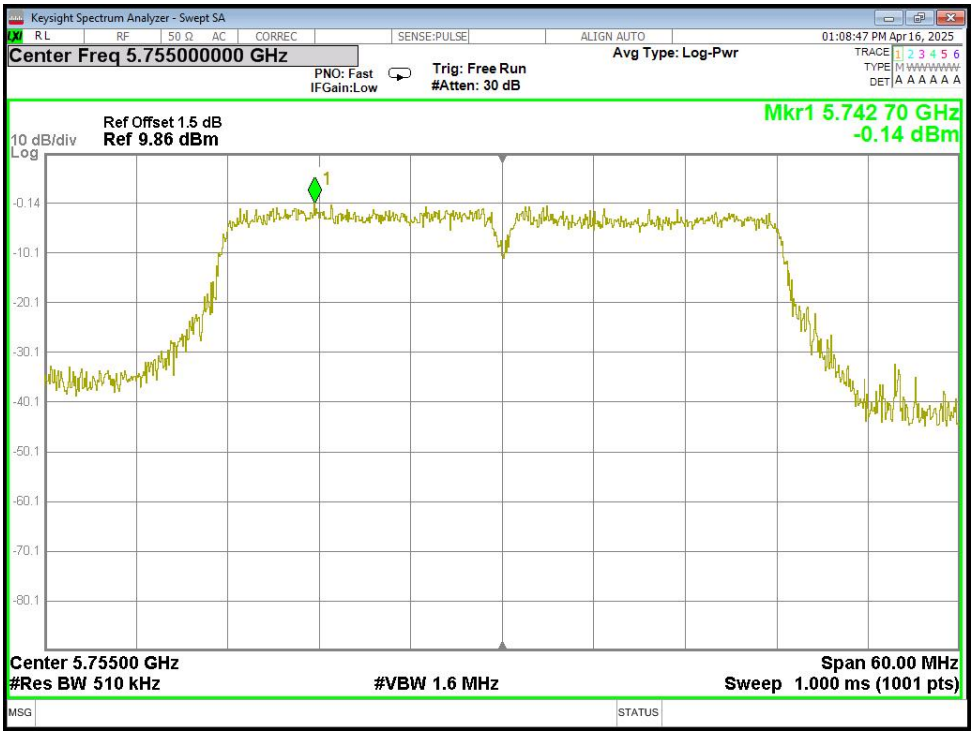
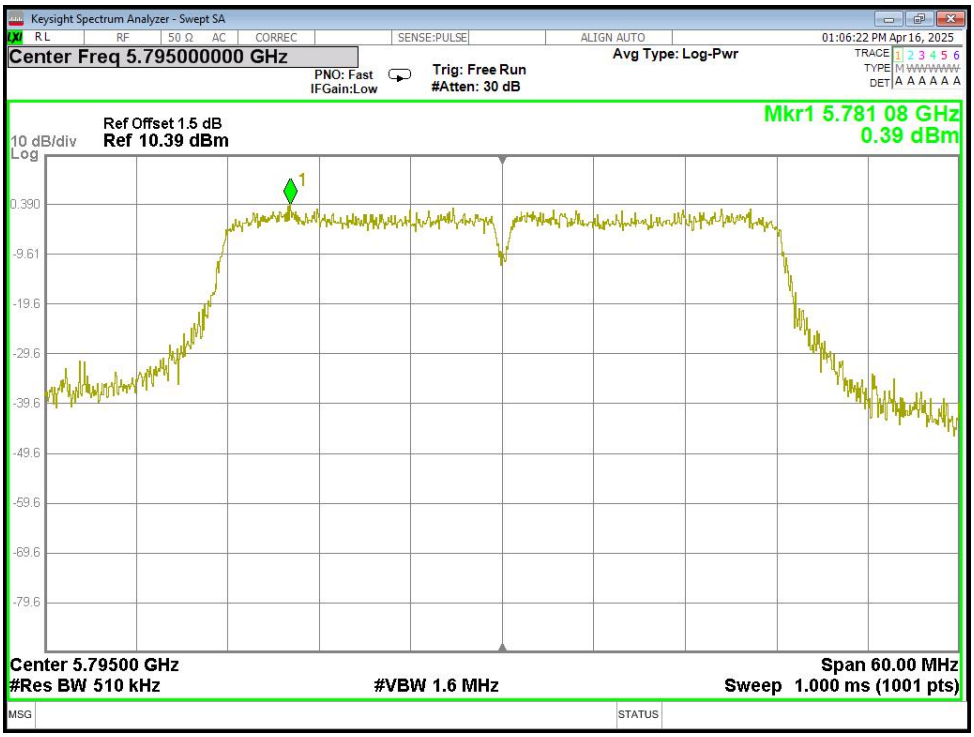
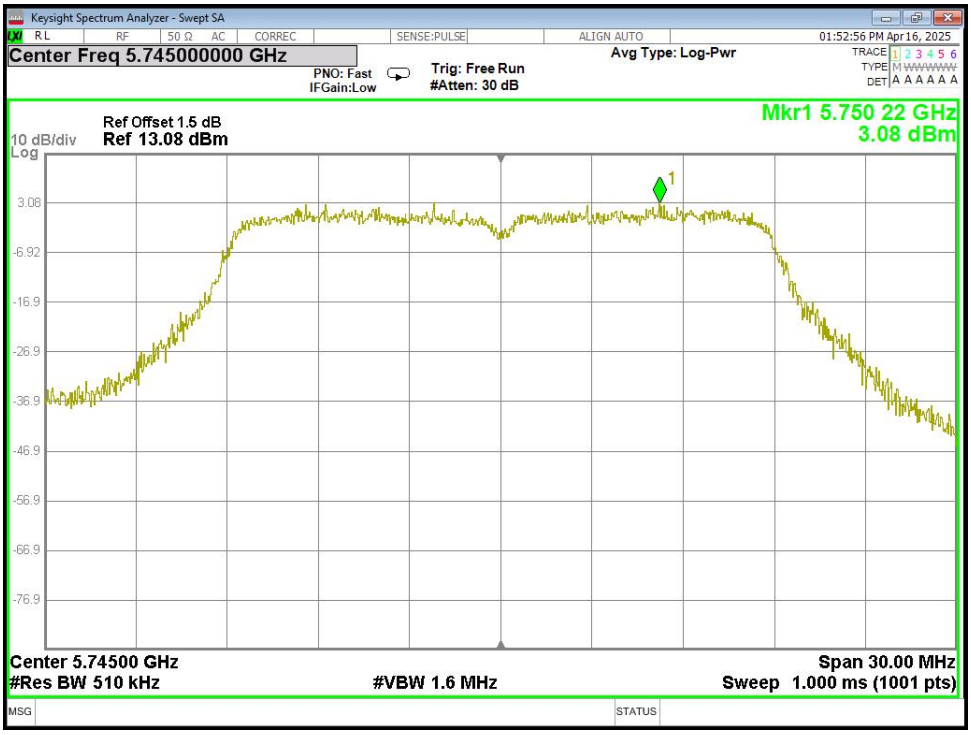
U-NII-3 802.11n(HT40) Low CH



U-NII-3 802.11n(HT40) High CH

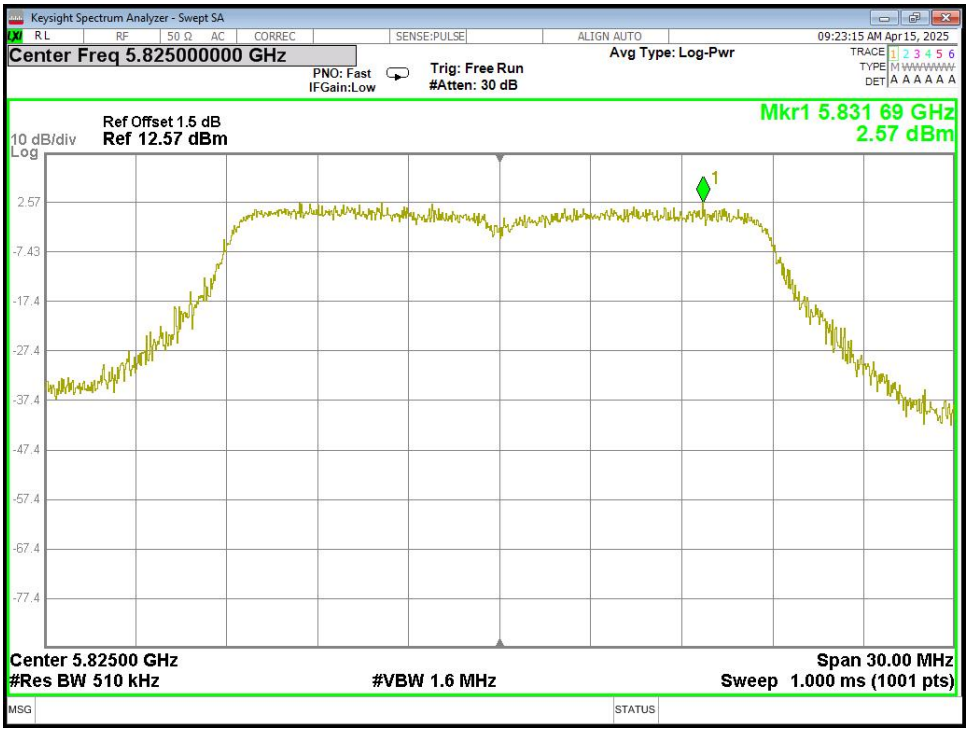


U-NII-3 802.11ac(HT20) Low CH



U-NII-3 802.11ac(HT20) Middle CH

U-NII-3 802.11ac(HT20) High CH



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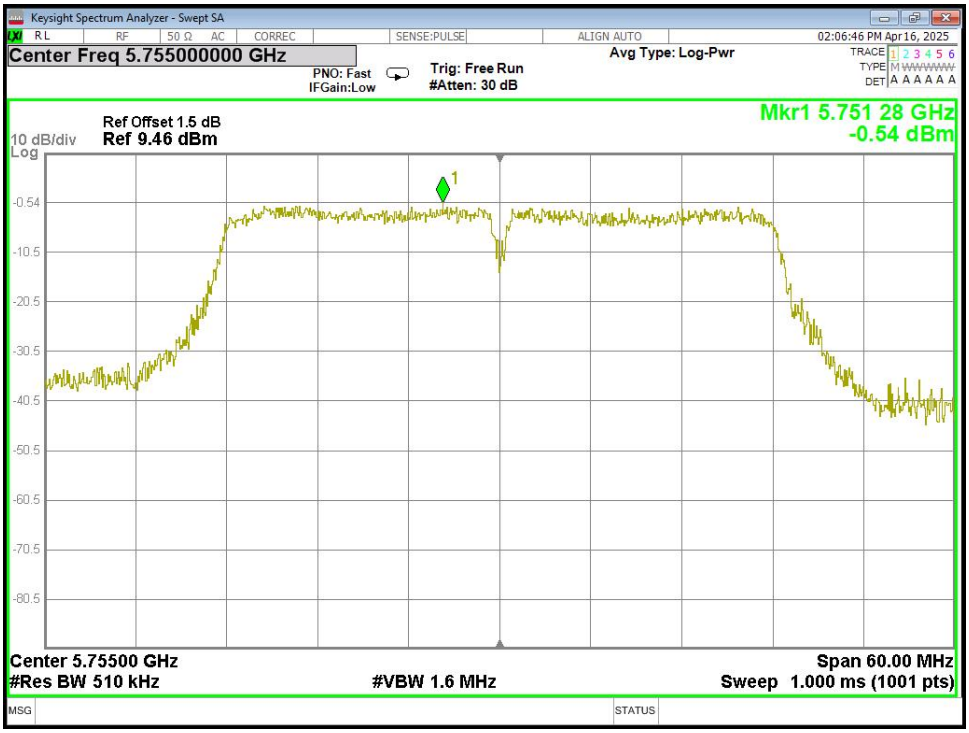
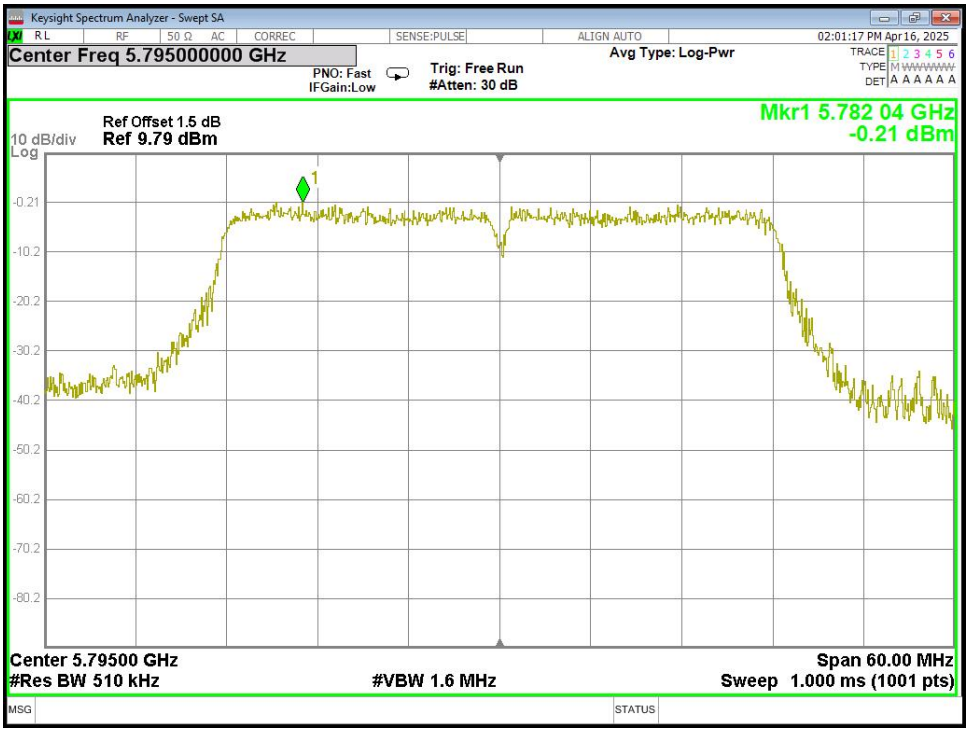


U-NII-3 802.11ac(HT40) High CH



6. FREQUENCY STABILITY MEASUREMENT

6.1 LIMIT

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual

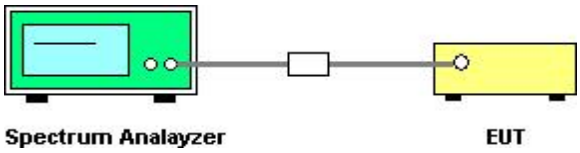
6.2 TEST PROCEDURE

(1) To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.

(2) The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.

(3) The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

6.3 TEST SETUP



6.4 TEST RESULTS

U-NII-1 Test Frequency:5180MHz				
Temperature (℃)	Power Supply (DC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	12V	/		within the band of operation
45		1807	2.1599	
30		1800	2.1516	
20		1806	2.1587	
10		1800	2.1516	
0		1803	2.1552	
-10		1800	2.1516	
-15		1809	2.1623	
-30		/	/	
20	9V	1810	2.1635	
20	14V	1798	2.1492	

U-NII-3 Test Frequency:5785MHz				
Temperature (℃)	Power Supply (DC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50	12V	/		within the band of operation
45		1919	2.2938	
30		1911	2.2842	
20		1915	2.2890	
10		1923	2.2986	
0		1907	2.2795	
-10		1908	2.2807	
-15		1914	2.2878	
-30		/		
20	9V	1918	2.2926	
20	14V	1906	2.2783	

7. Conducted spurious emission and Band edge

7.1 LIMIT

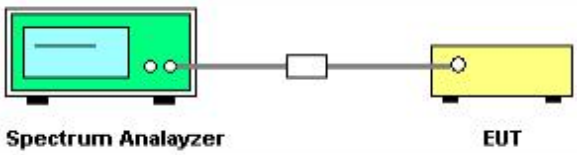
Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

Frequency Band (MHz)	Limit
5150-5250	Outside of the 5.15-5.35 GHz band:EIRP-27 dBm/MHz
5250-5350	Outside of the 5.15-5.35 GHz band:EIRP-27 dBm/MHz
5350-5460	emissions shall be limited to 74 dBuv/m@3m, which is -21.2 dBm
5470-5725	Outside of the 5.47-5.725 GHz band:EIRP-27 dBm/MHz
5725-5850	All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge,and from 25 MHz above or below the band edge increasing lineany to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge,and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

7.2 TEST PROCEDURE

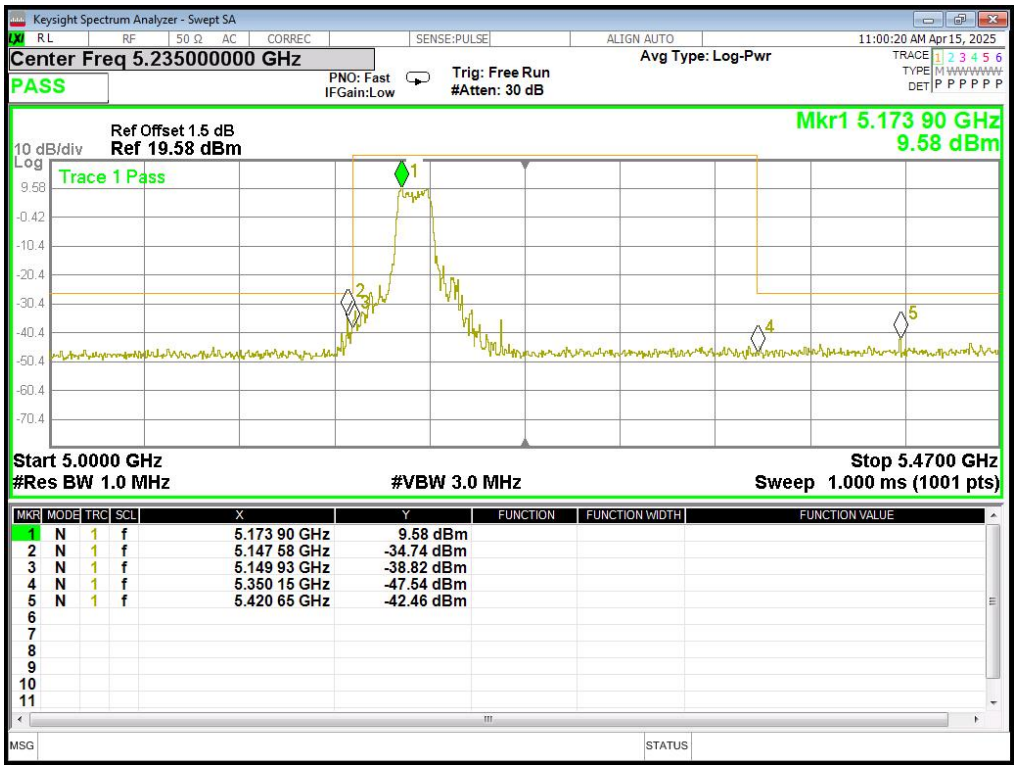
Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
RBW = 1 MHz
VBW = 3 MHz
Sweep = auto
Detector function = peak Trace = max hold
Allow the trace to stabilize

7.3 TEST SETUP

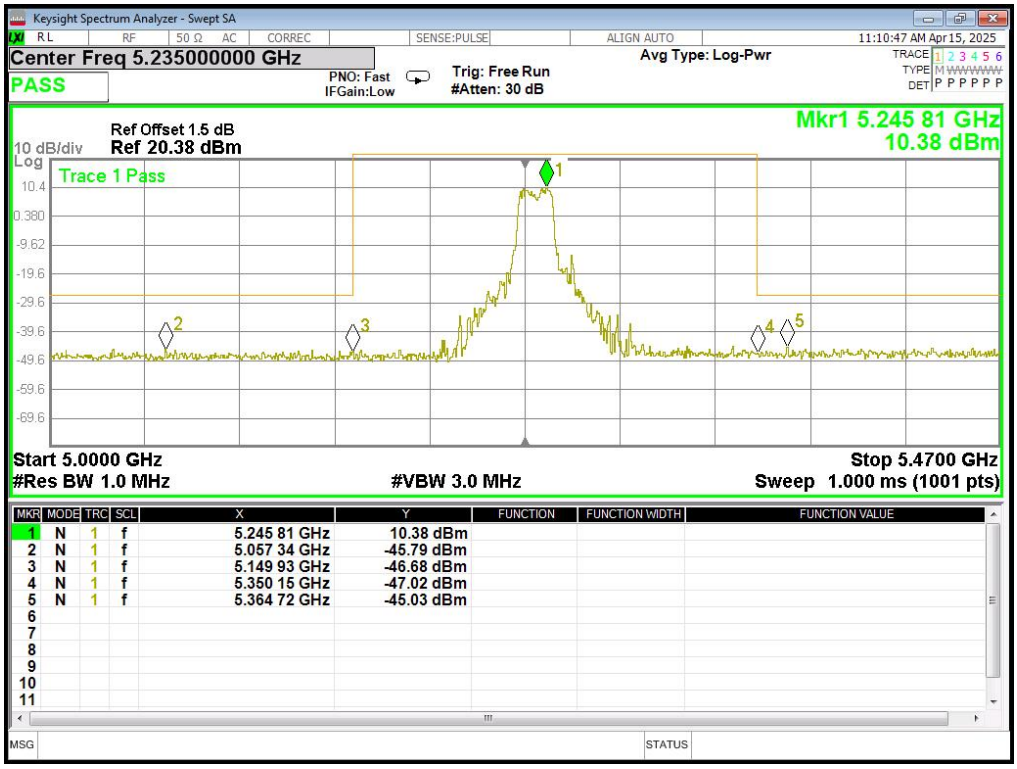


7.4 TEST RESULTS

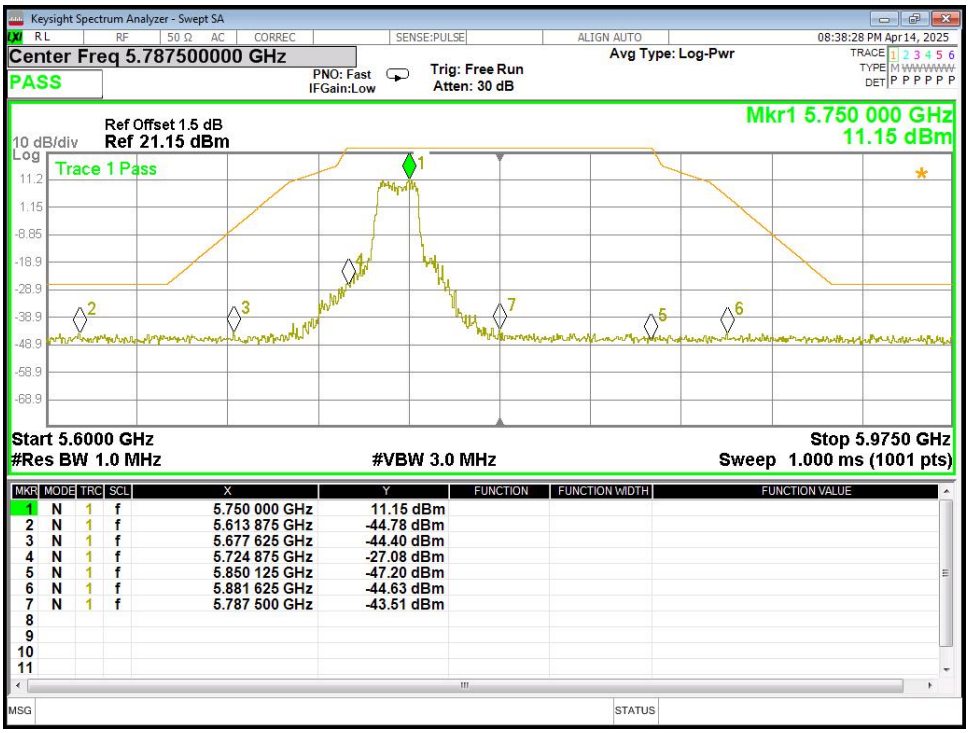
U-NII-1 802.11a Low



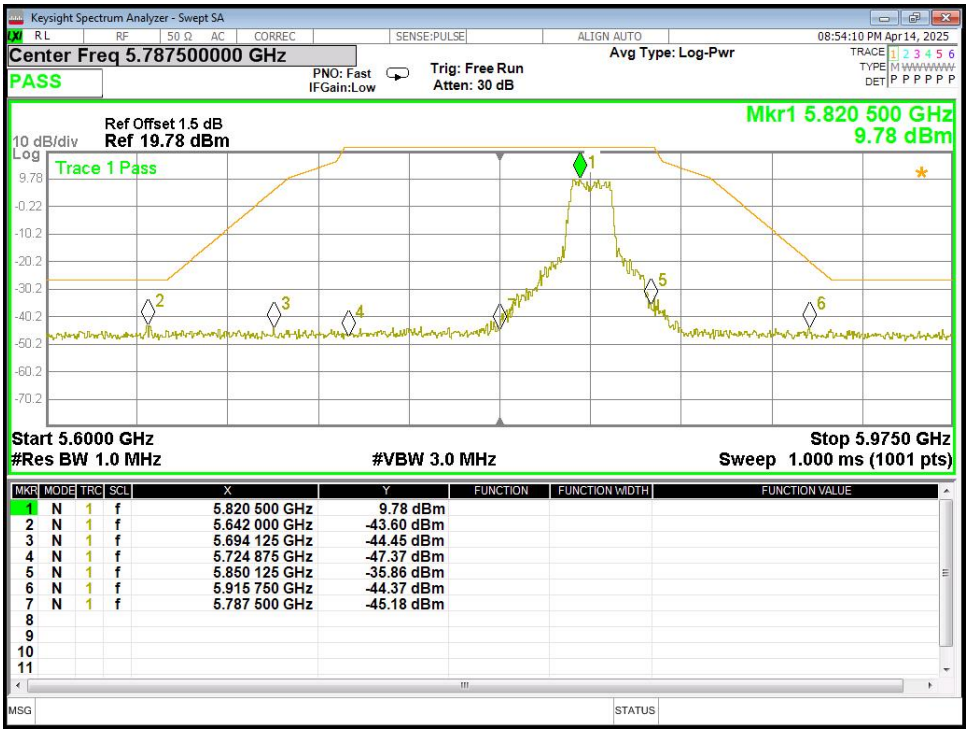
U-NII-1 802.11a High



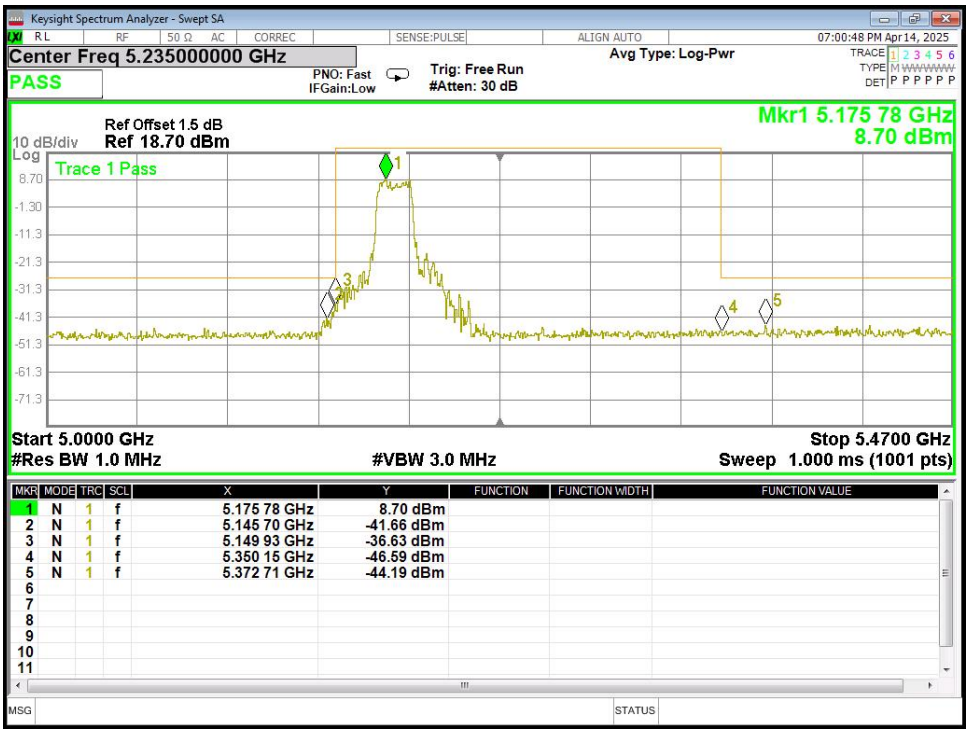
U-NII-3 802.11a Low



U-NII-3 802.11a High



U-NII-1 802.11n(HT20) Low



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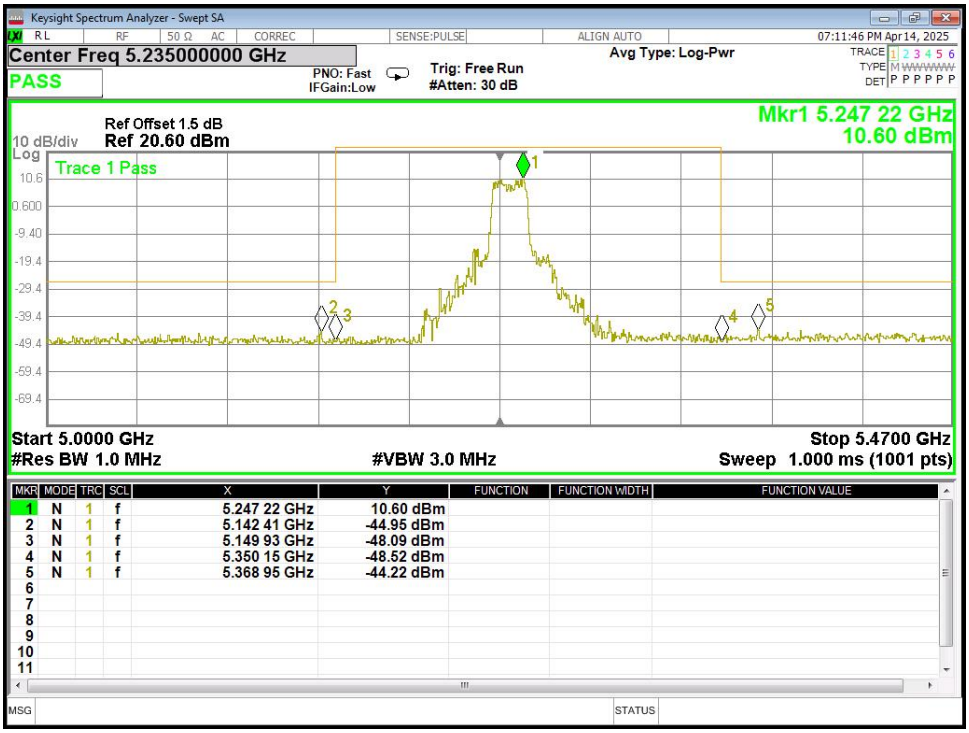

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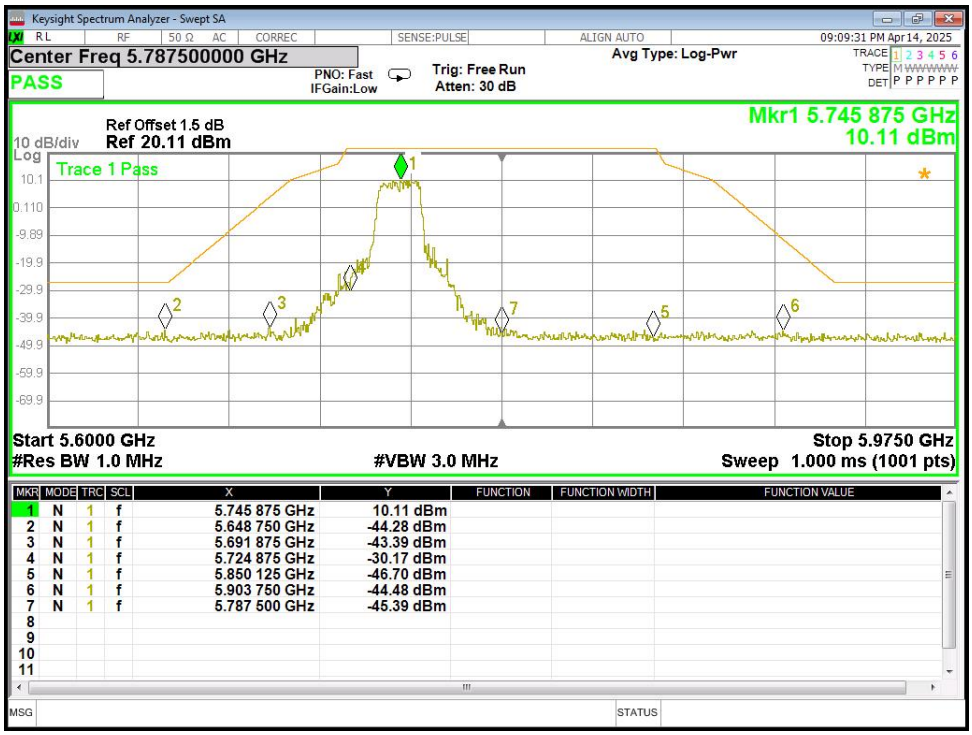

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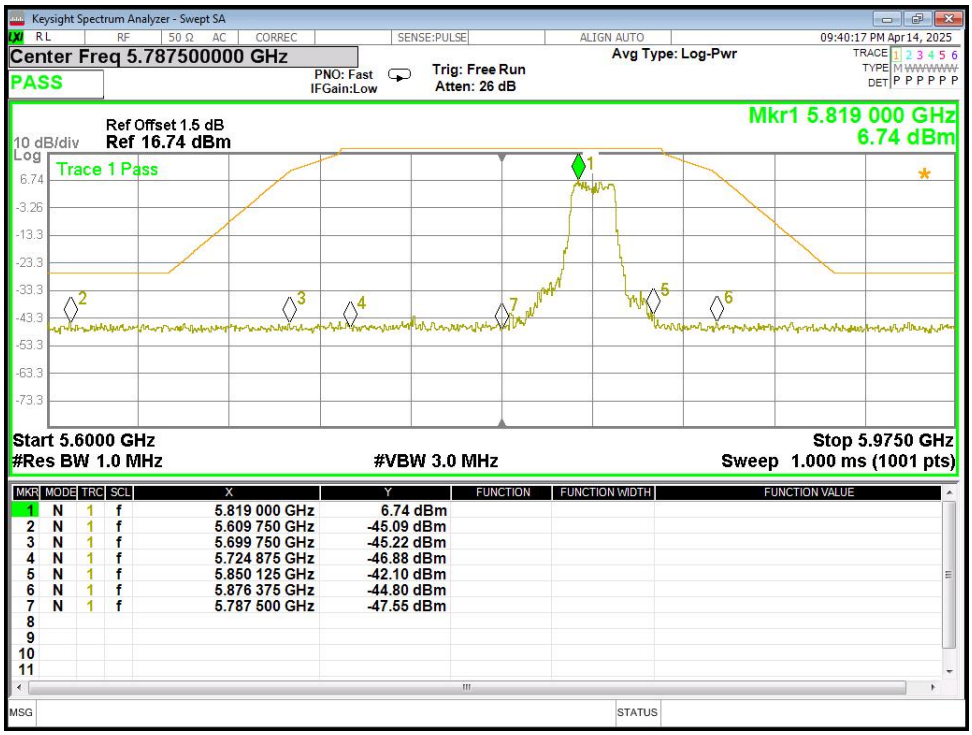

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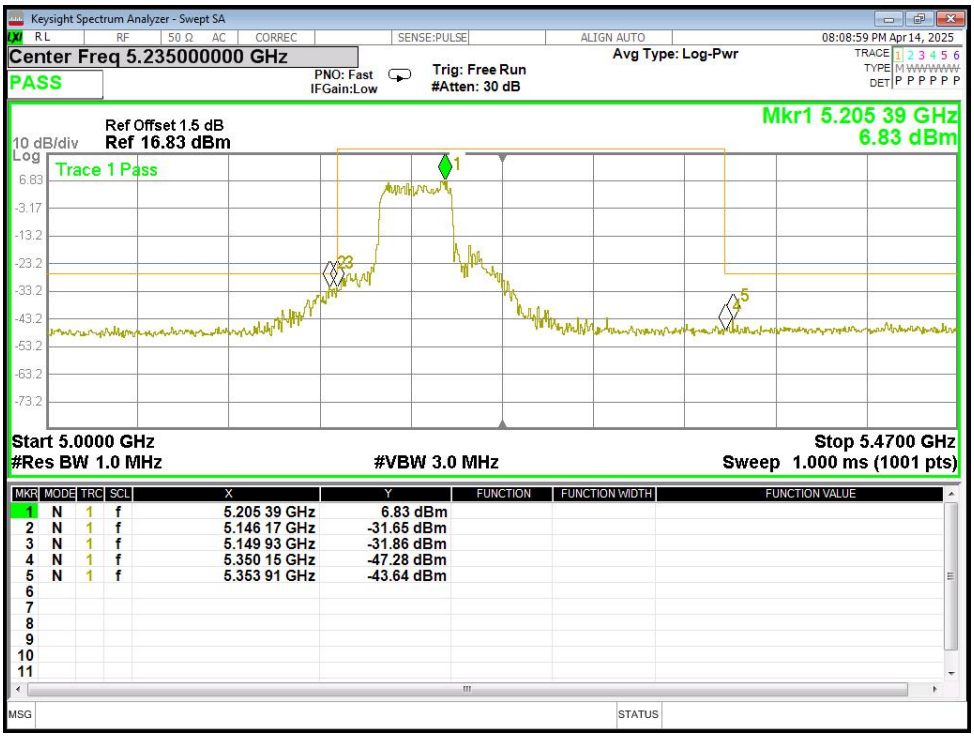

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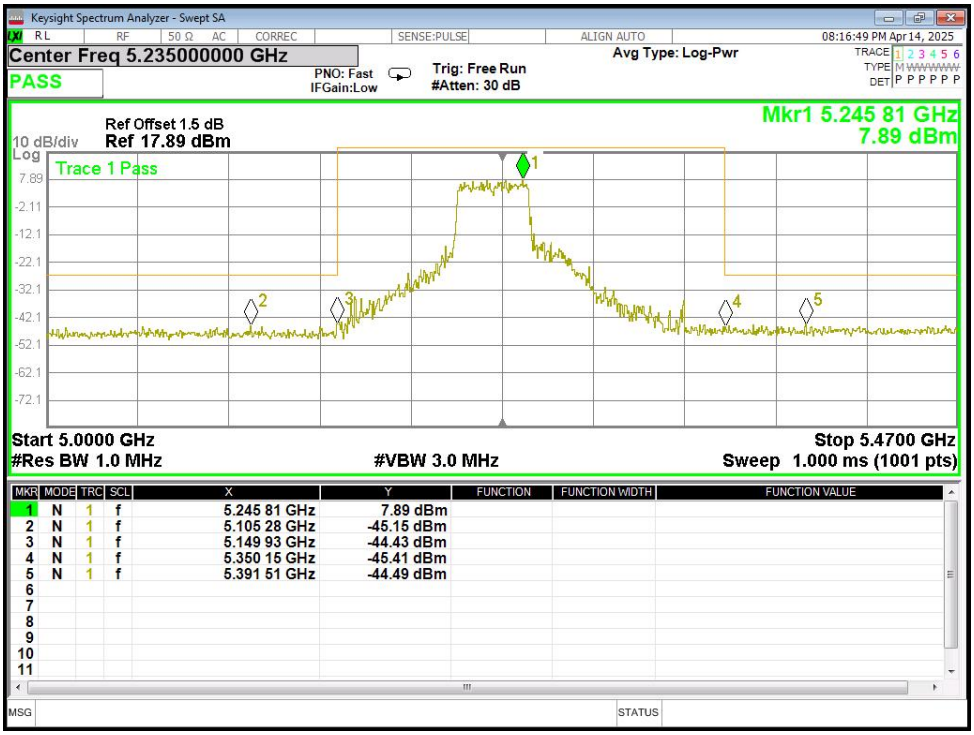

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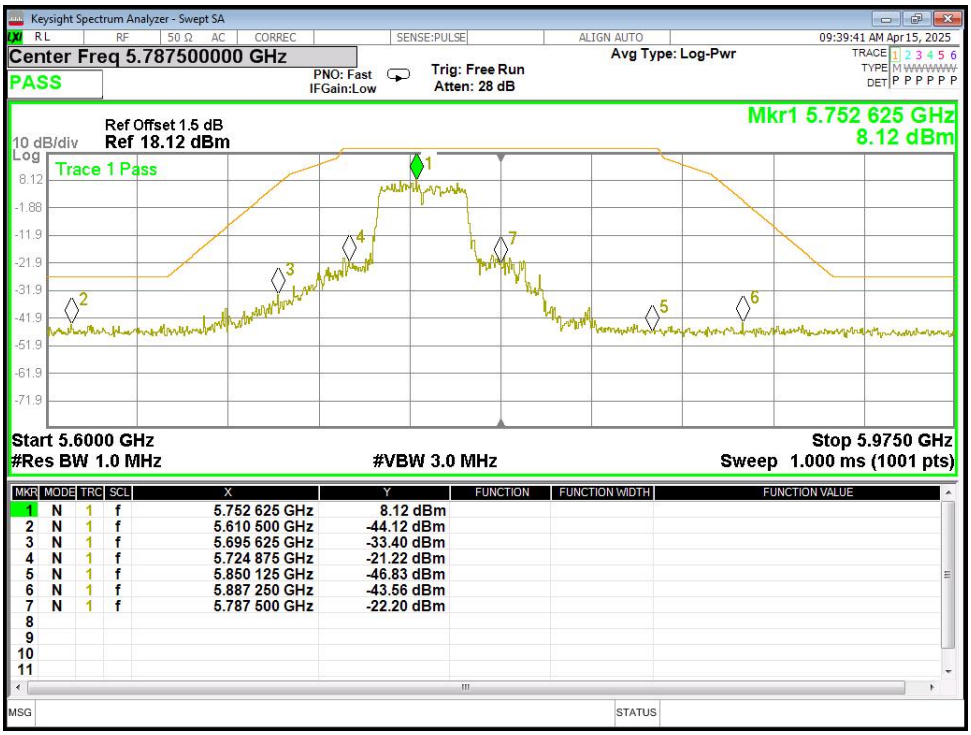

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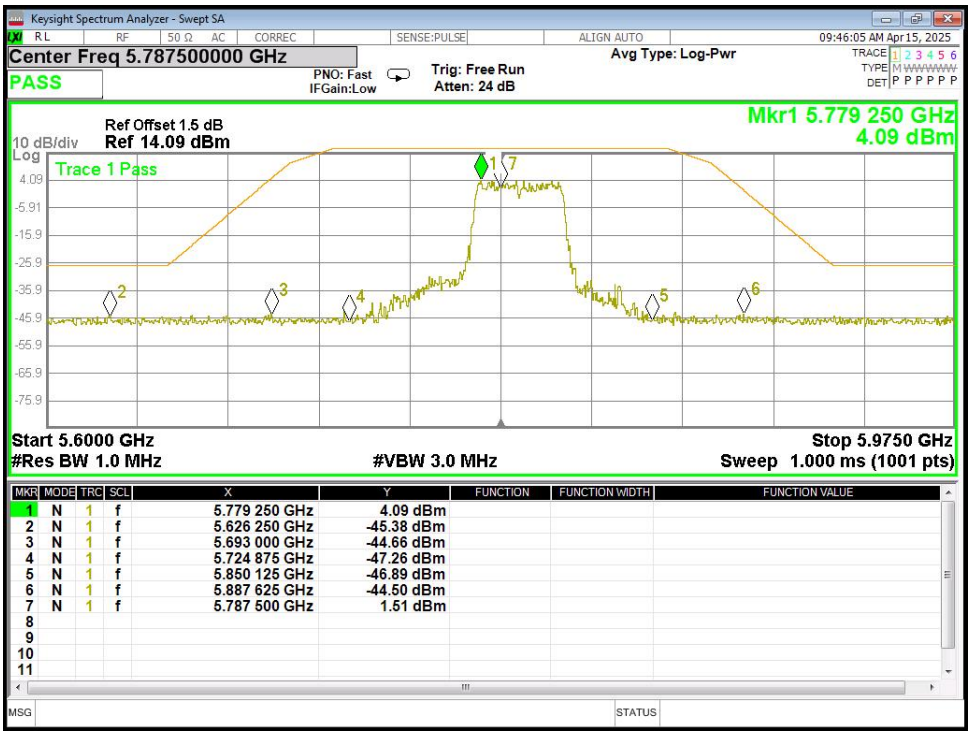

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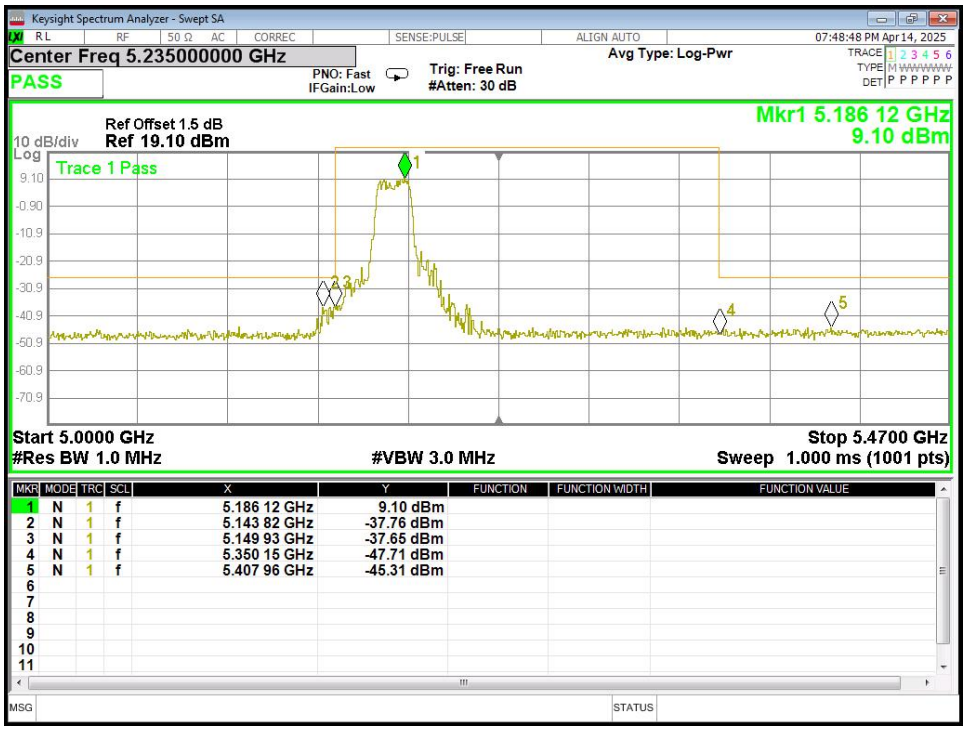

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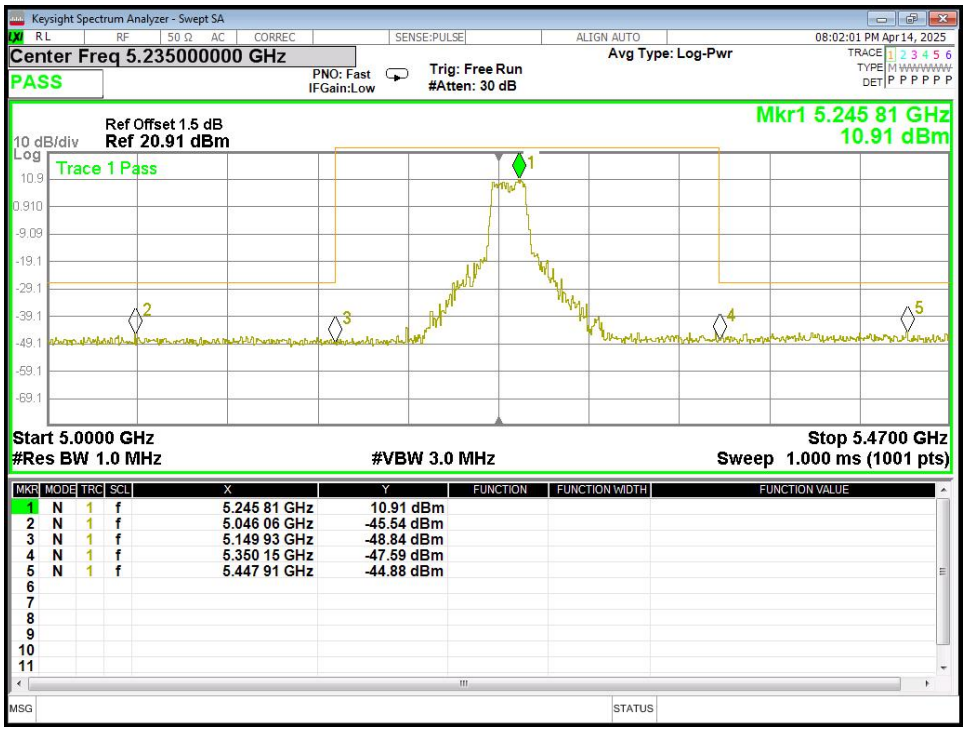

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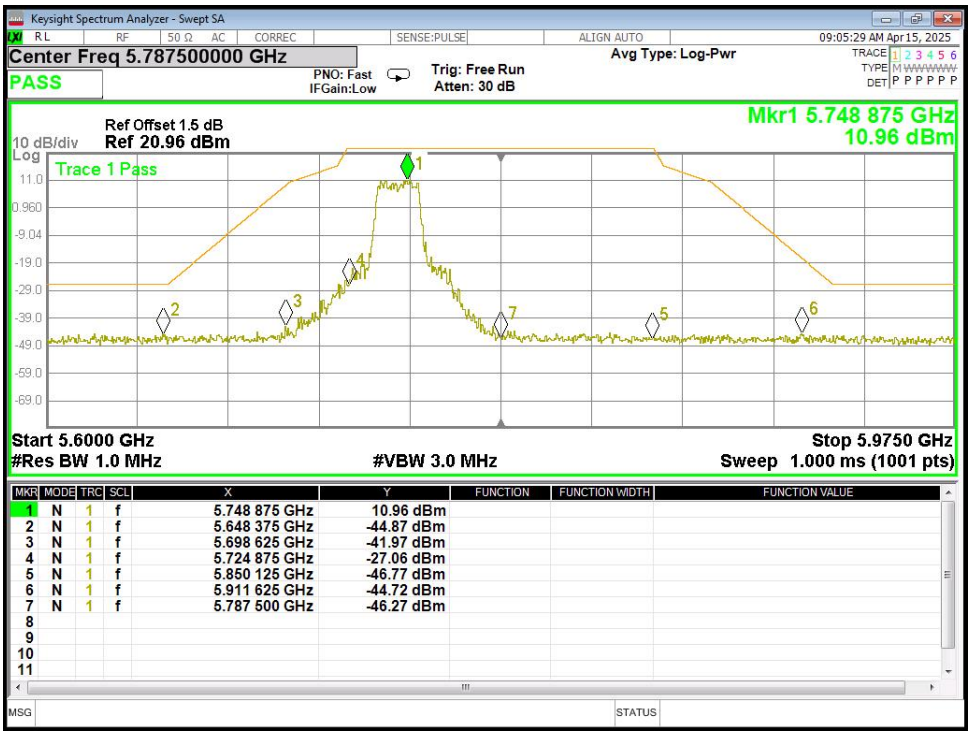
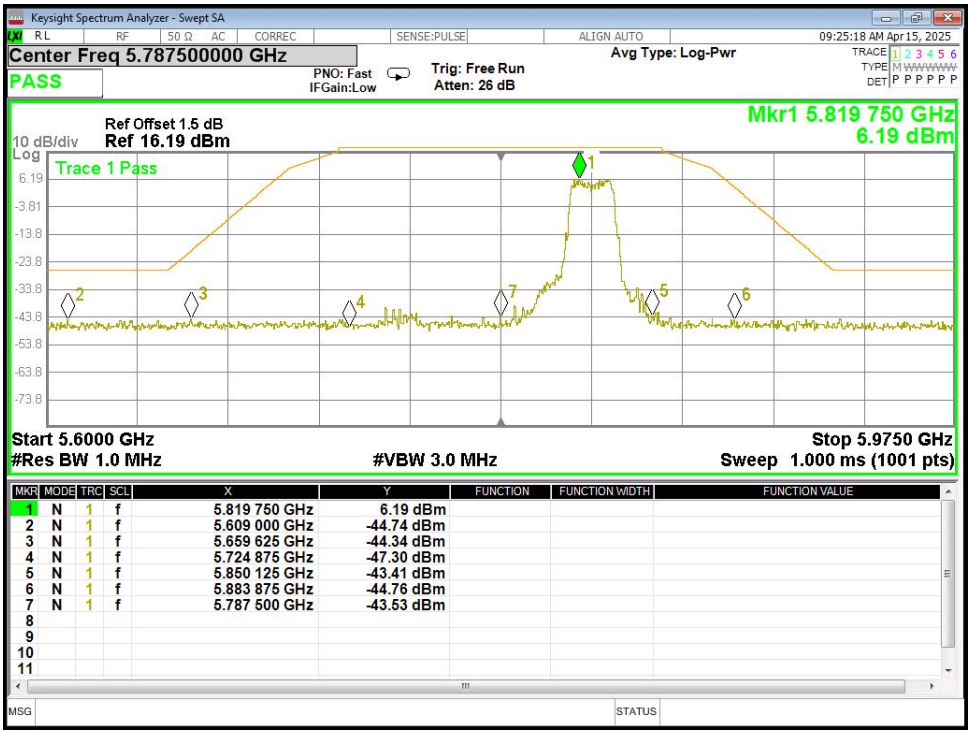
U-NII-3 802.11ac(HT20) High