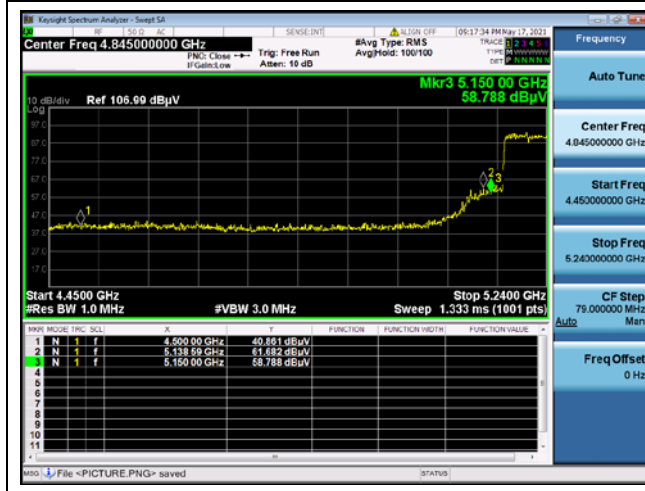


802.11ac_VHT80 (MCS1)

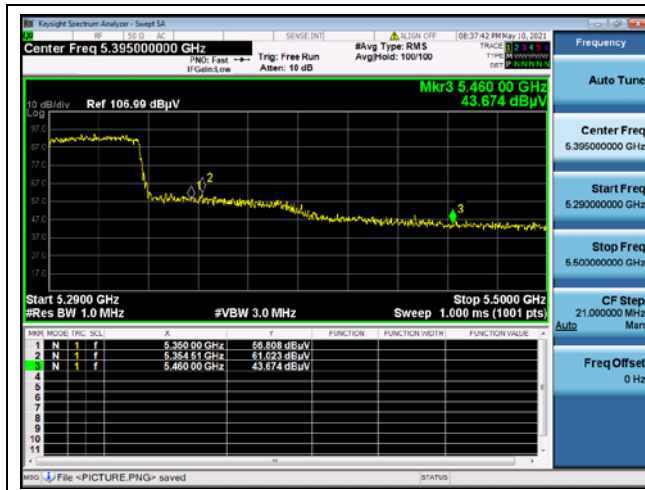
Middle channel Band edge (Peak) - Band 1



Middle channel Band edge (Average) - Band 1



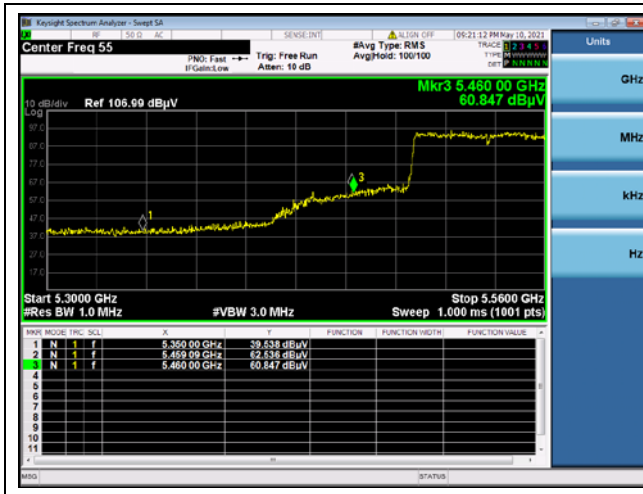
Middle channel Band edge (Peak) - Band 2A



Middle channel Band edge (Average) - Band 2A



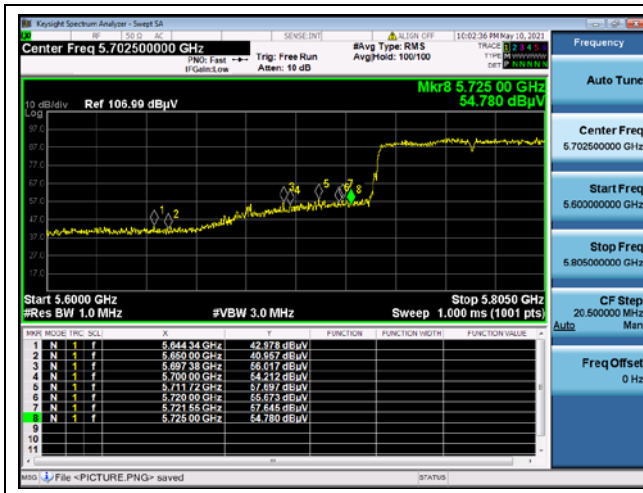
Low channel Band edge (Peak) - Band 2C



Low channel Band edge (Average) - Band 2C



Middle channel Band edge (Peak) - Band 3

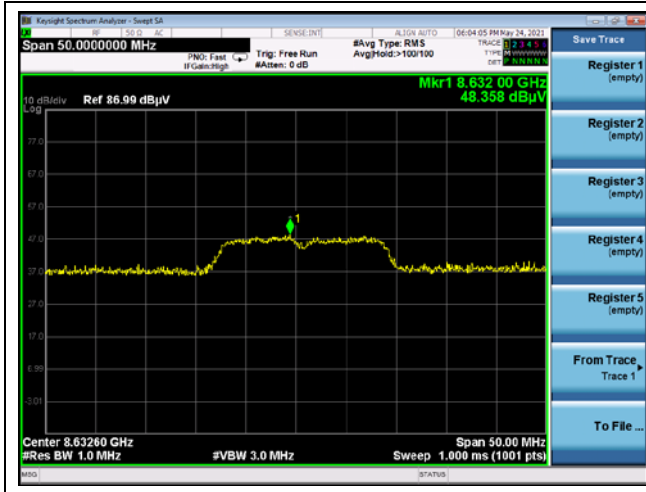


Middle channel Band edge (Peak) - Band 3



802.11a (48 Mbps)

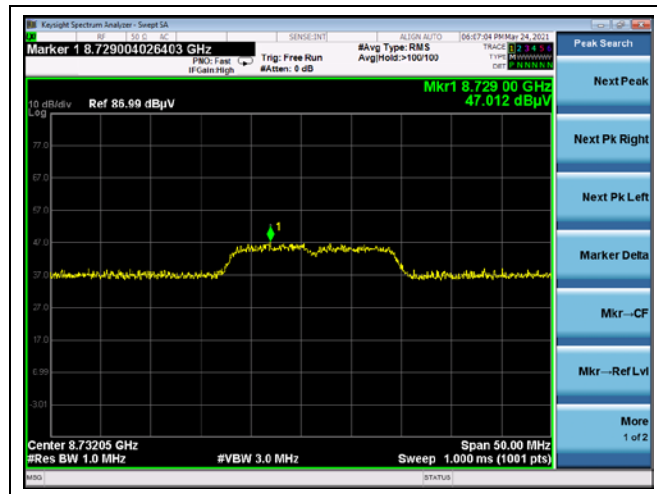
Low channel spurious (Peak) - Band 1



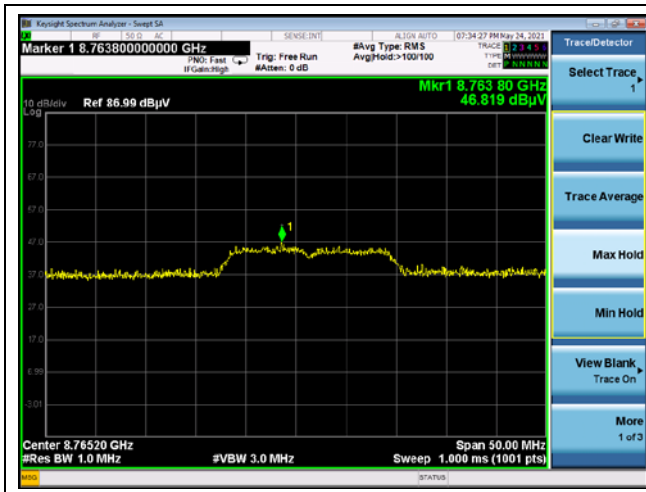
Middle channel spurious (Peak) - Band 1



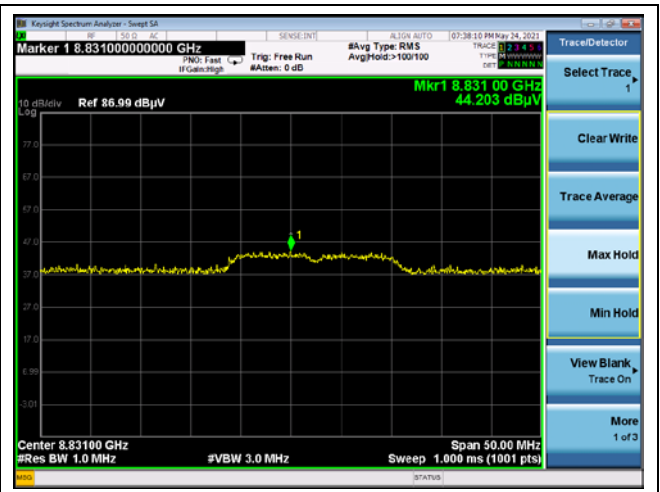
High channel spurious (Peak) - Band 1



Low channel spurious (Peak) - Band 2A

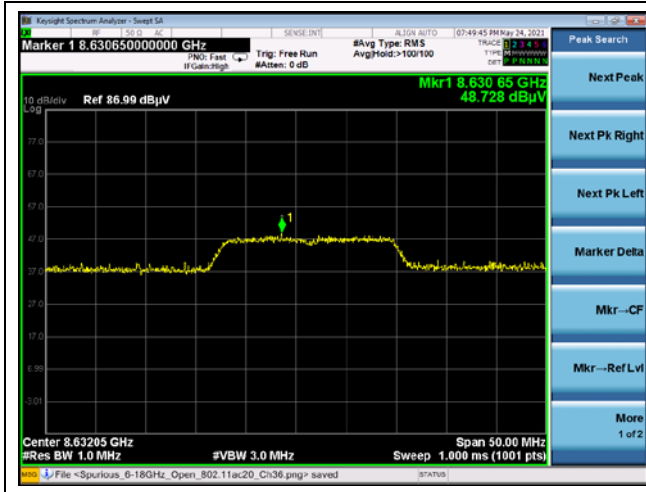


Middle channel spurious (Peak) - Band 2A

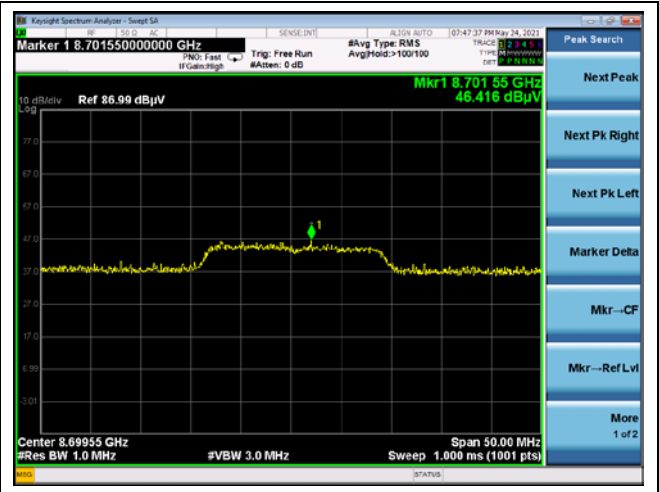


802.11ac_VHT20 (MCS4)

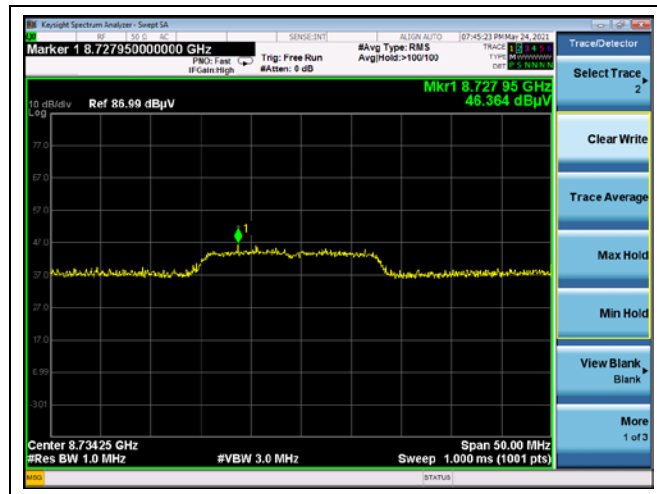
Low channel spurious (Peak) - Band 1



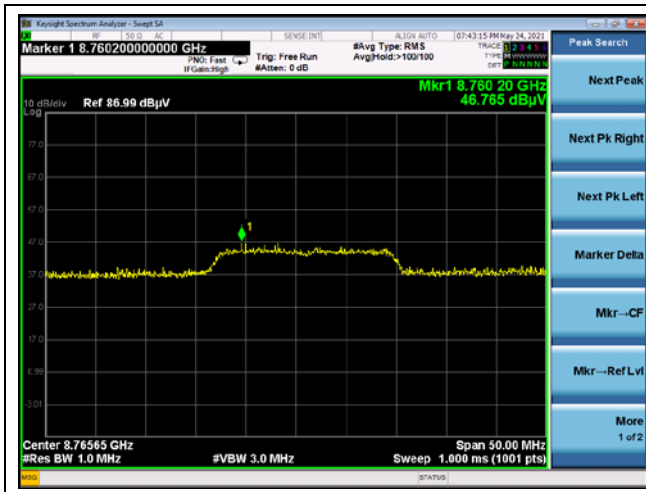
Middle channel spurious (Peak) - Band 1



High channel spurious (Peak) - Band 1



Low channel spurious (Peak) - Band 2A

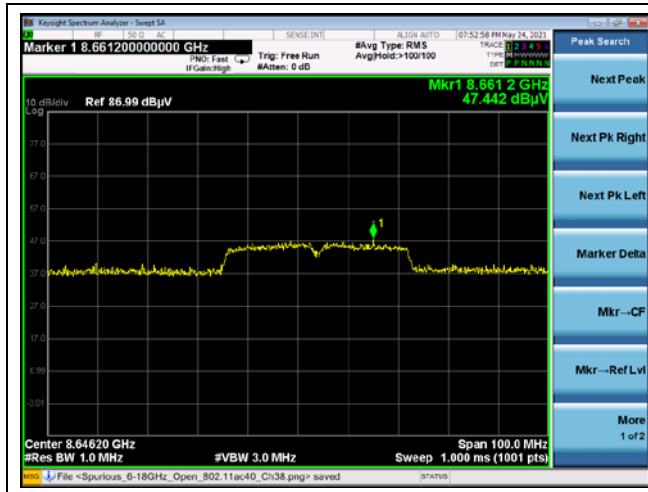


Middle channel spurious (Peak) - Band 2A

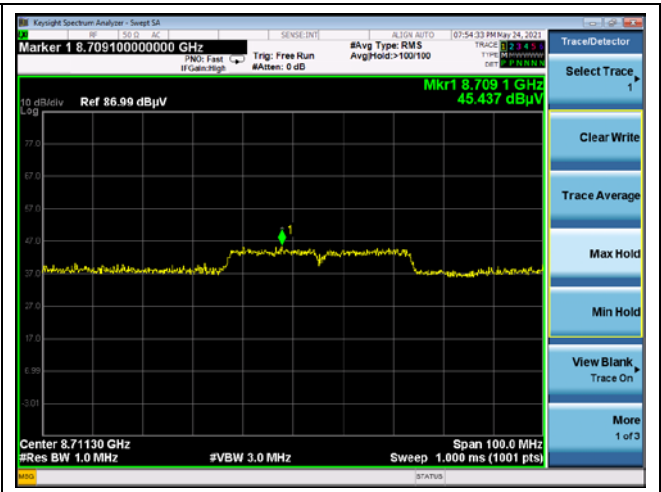


802.11ac_VHT40 (MCS3)

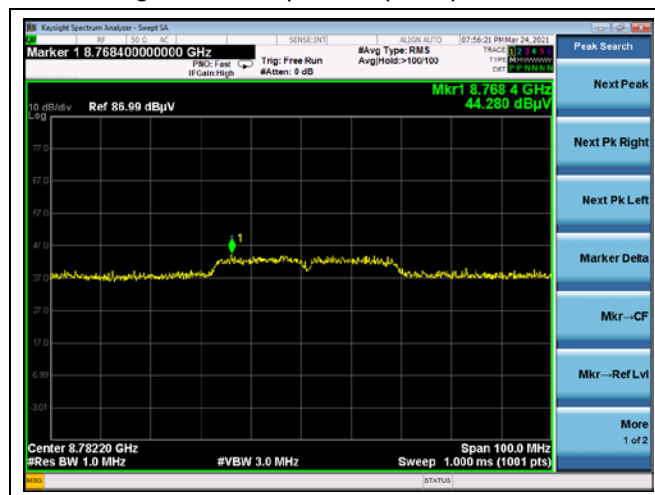
Low channel spurious (Peak) - Band 1



Middle channel spurious (Peak) - Band 1



High channel spurious (Peak) - Band 1



802.11ac_VHT80 (MCS1)

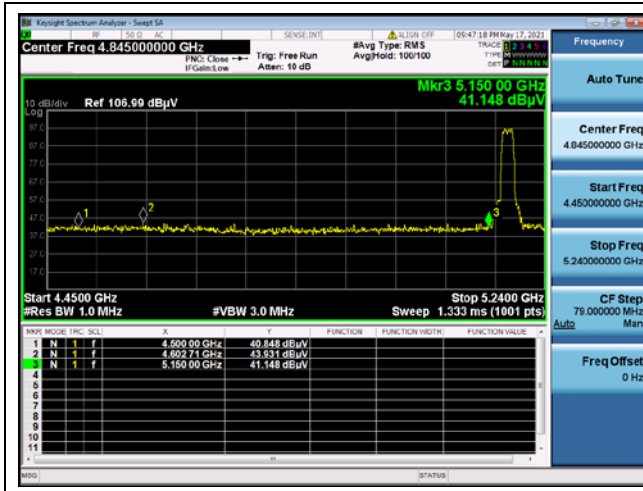
Low channel spurious (Peak) - Band 1



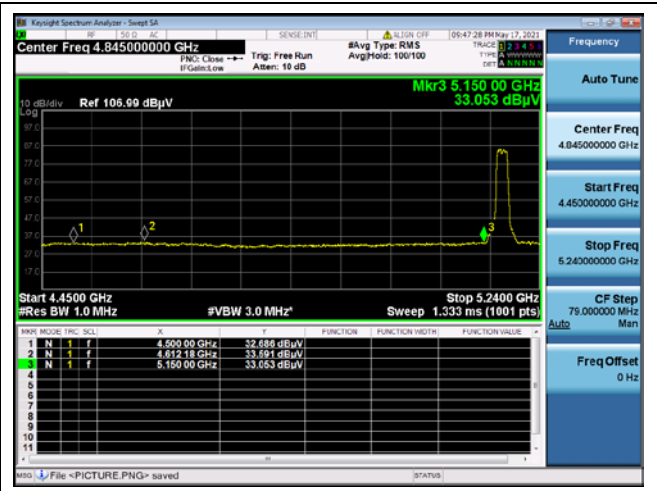
Close Type

802.11a (48 Mbps)

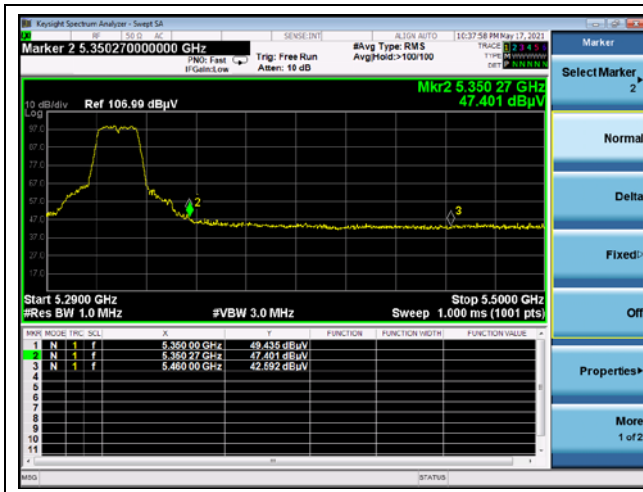
Low channel Band edge (Peak) - Band 1



Low channel Band edge (Average) - Band 1



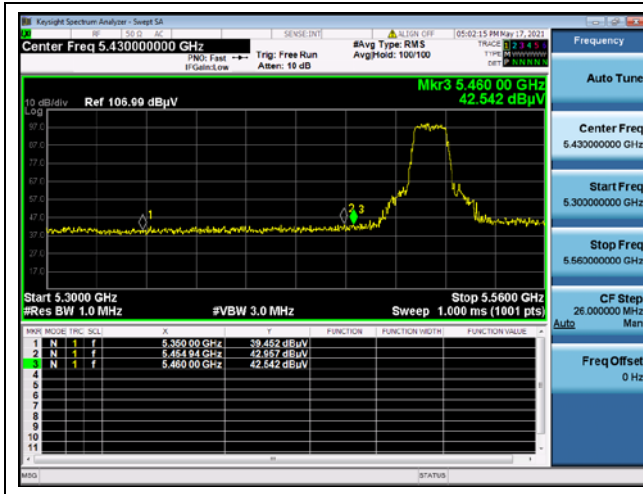
High channel Band edge (Peak) - Band 2A



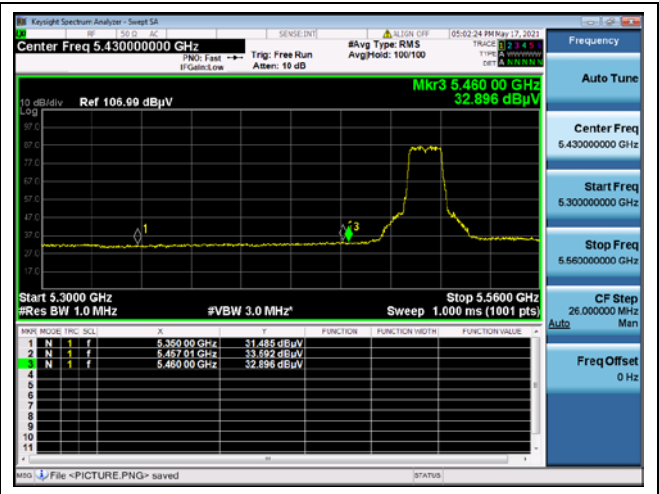
High channel Band edge (Average) - Band 2A



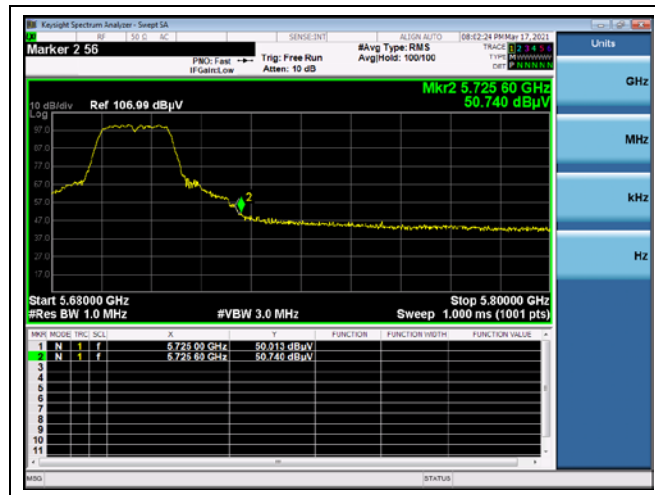
Low channel Band edge (Peak) - Band 2C



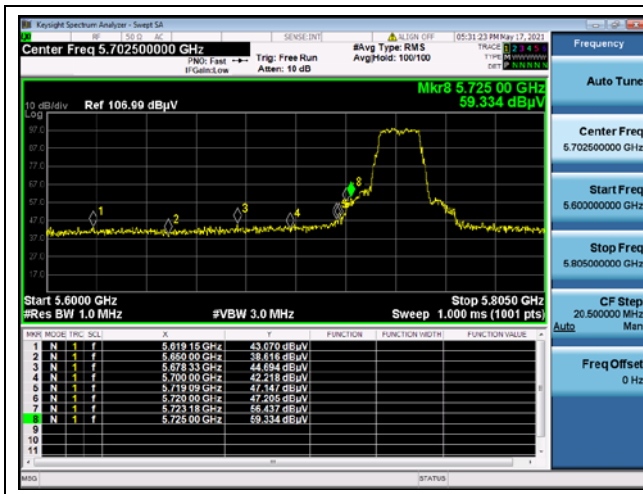
Low channel Band edge (Average) - Band 2C



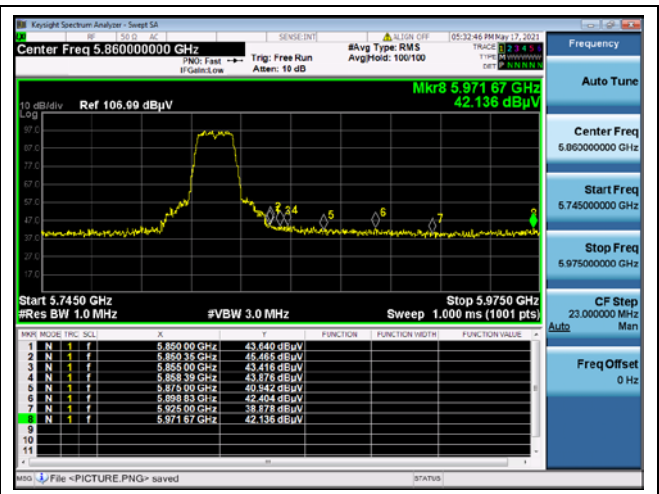
High channel Band edge (Peak) - Band 2C



Low channel Band edge (Peak) - Band 3

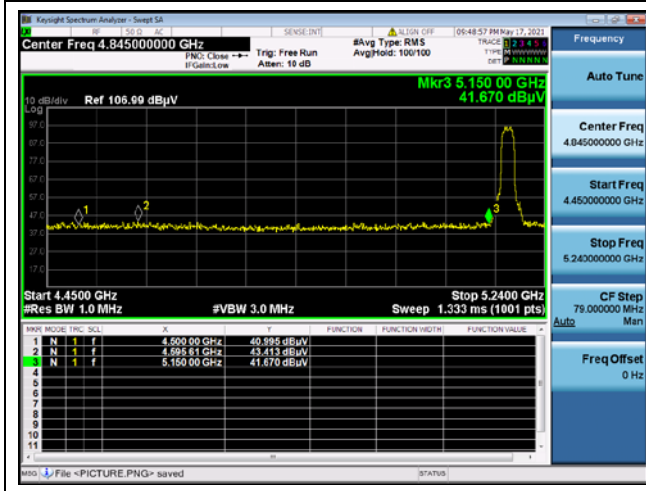


High channel Band edge (Peak) - Band 3

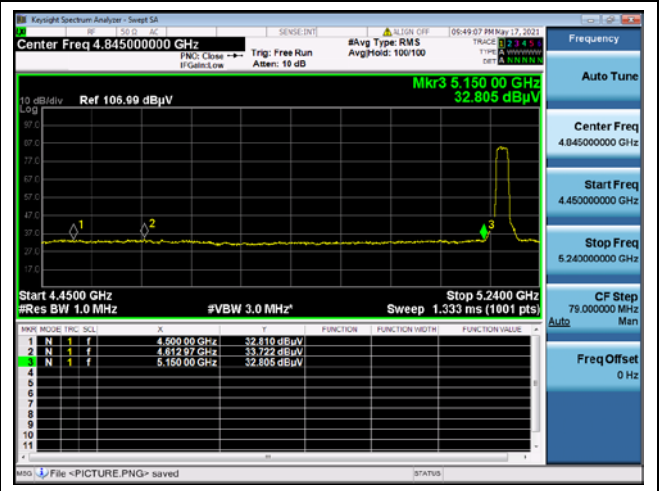


802.11ac_VHT20 (MCS4)

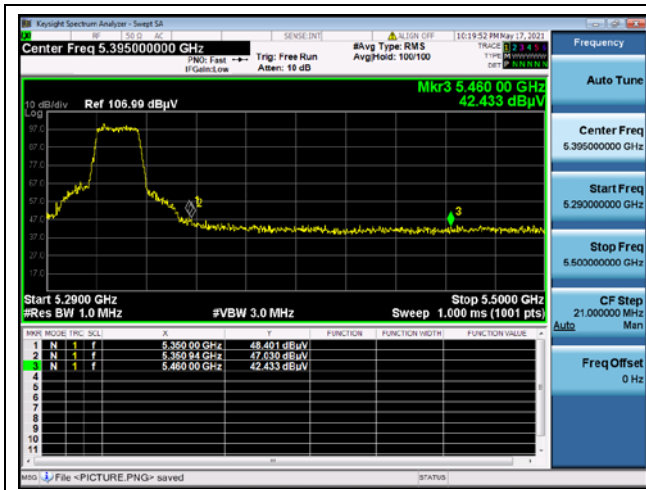
Low channel Band edge (Peak) - Band 1



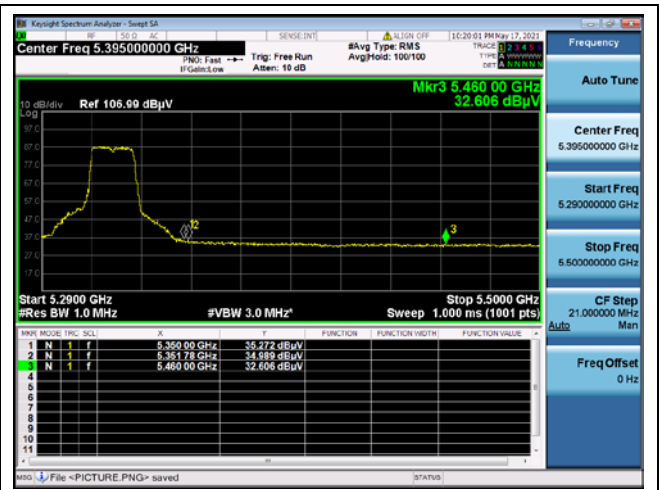
Low channel Band edge (Average) - Band 1



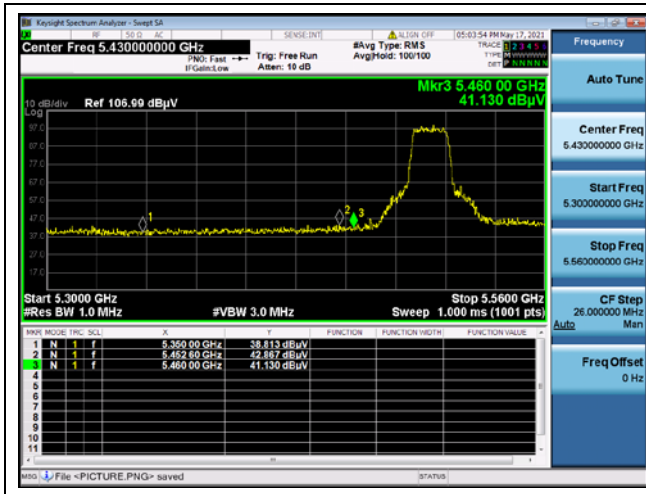
High channel Band edge (Peak) - Band 2A



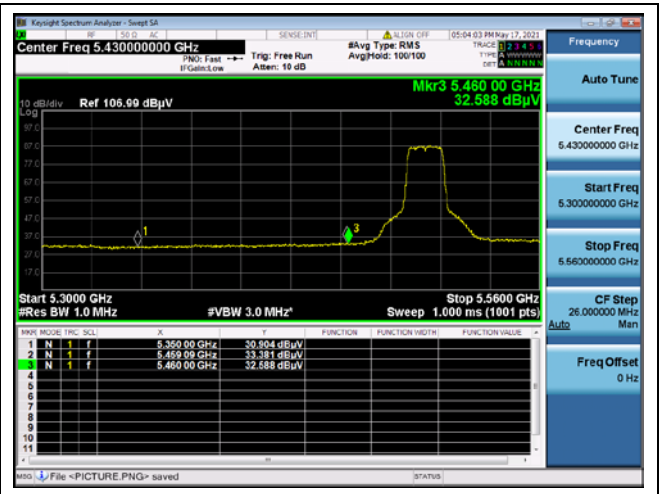
High channel Band edge (Average) - Band 2A



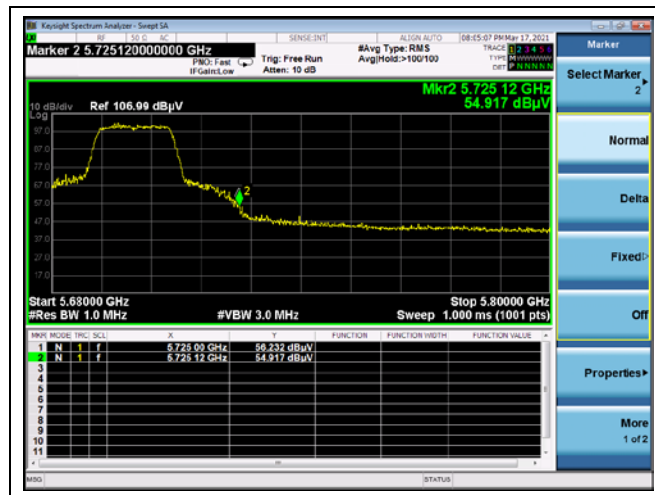
Low channel Band edge (Peak) - Band 2C



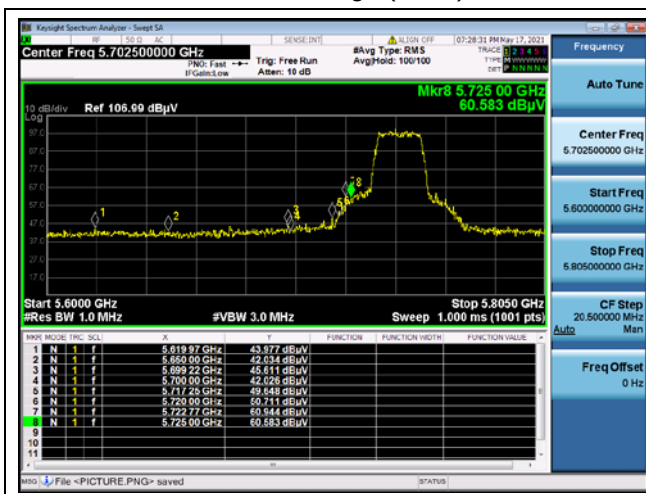
Low channel Band edge (Average) - Band 2C



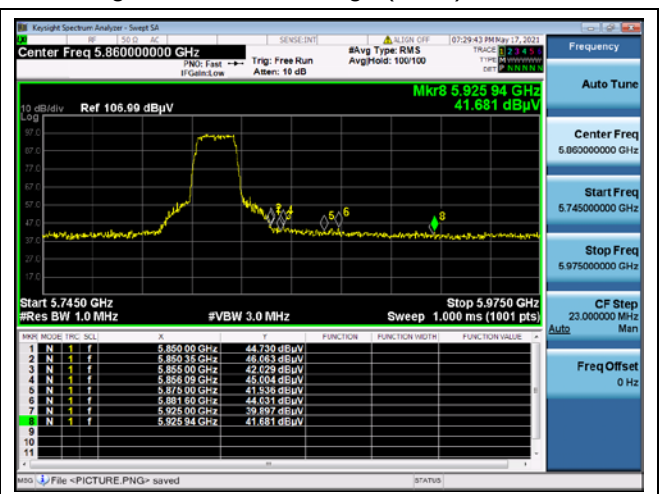
High channel Band edge (Peak) - Band 2C



Low channel Band edge (Peak) - Band 3

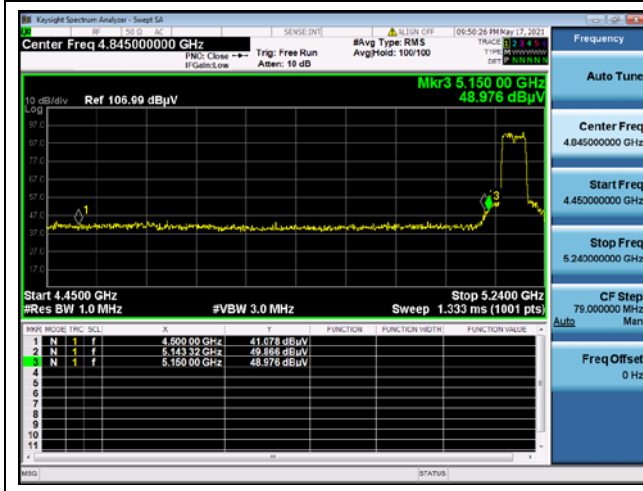


High channel Band edge (Peak) - Band 3

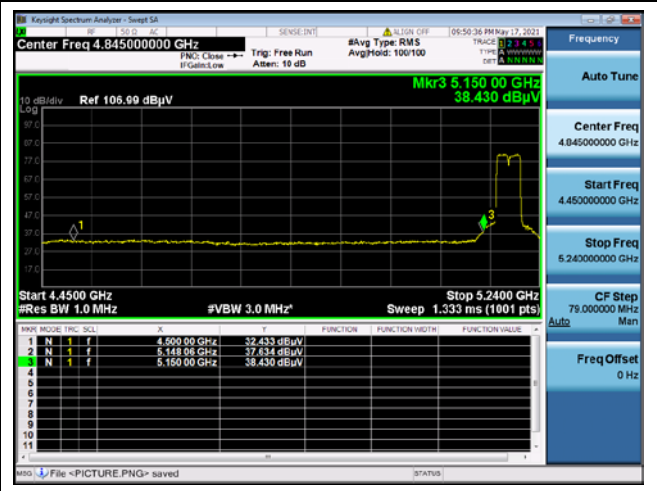


802.11ac_VHT40 (MCS3)

Low channel Band edge (Peak) - Band 1



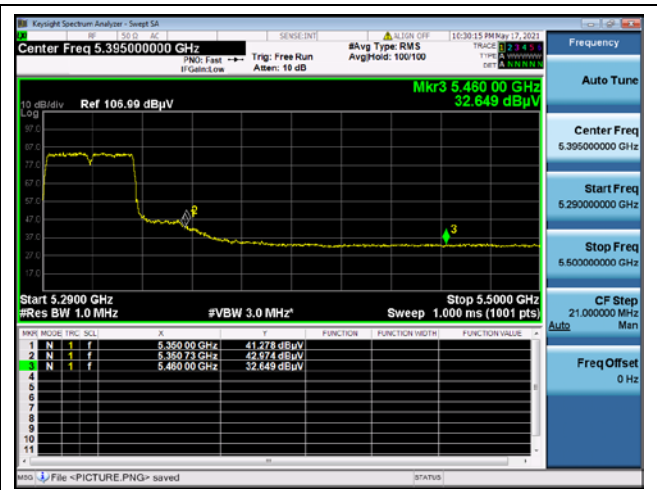
Low channel Band edge (Average) - Band 1



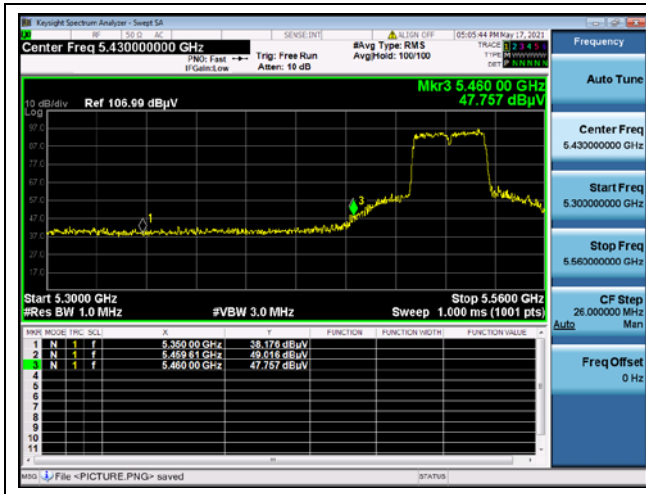
High channel Band edge (Peak) - Band 2A



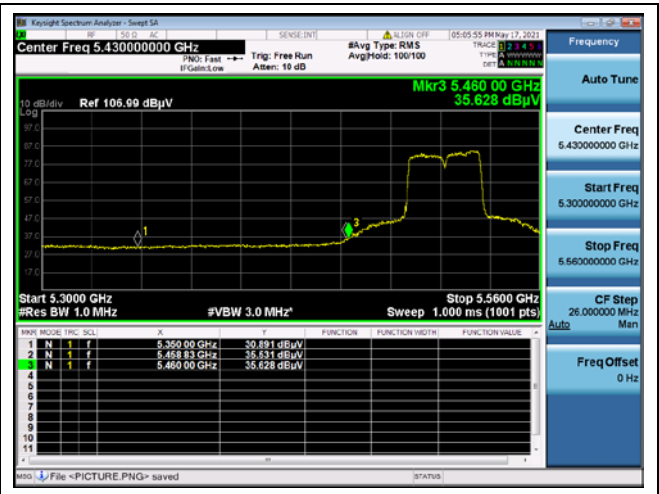
High channel Band edge (Average) - Band 2A



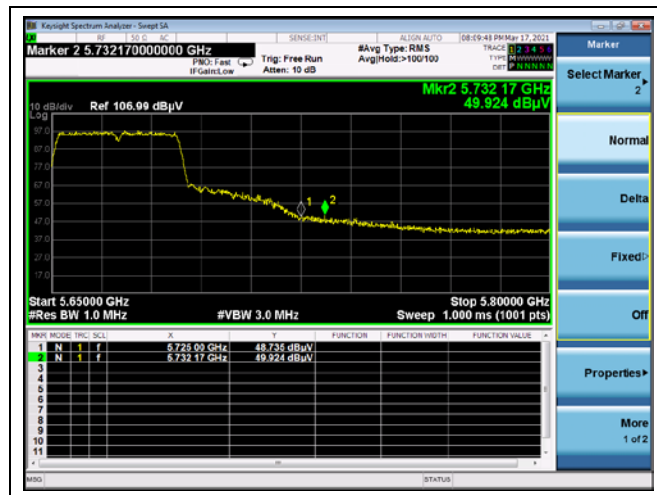
Low channel Band edge (Peak) - Band 2C



Low channel Band edge (Average) - Band 2C



High channel Band edge (Peak) - Band 2C



Low channel Band edge (Peak) - Band 3

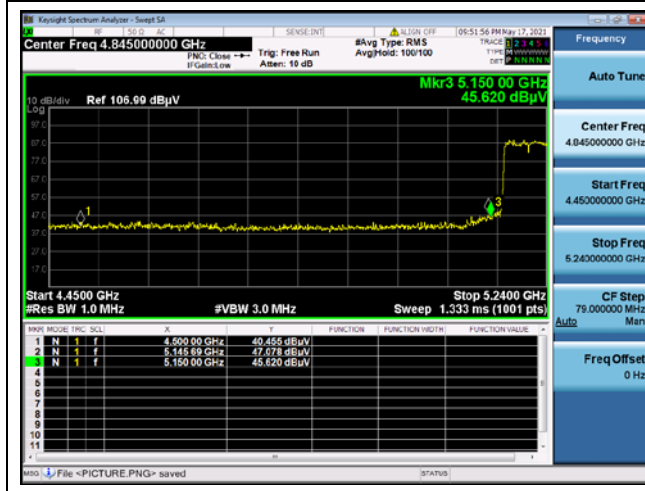


High channel Band edge (Peak) - Band 3

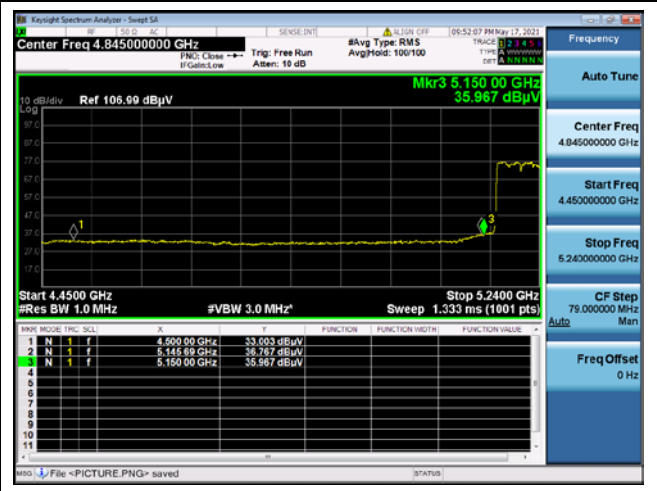


802.11ac_VHT80 (MCS1)

Middle channel Band edge (Peak) - Band 1



Middle channel Band edge (Average) - Band 1



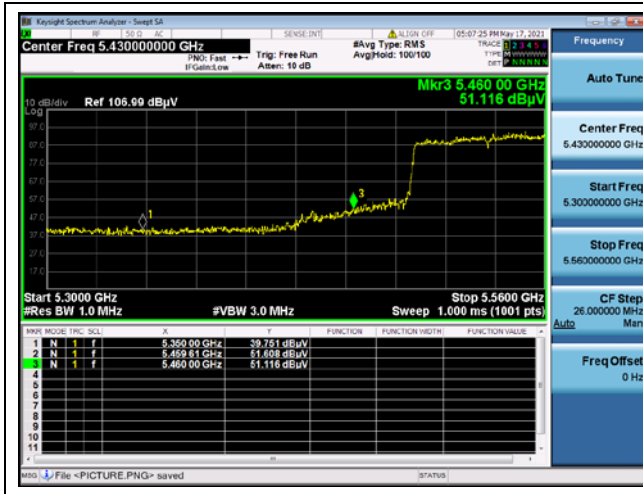
Middle channel Band edge (Peak) - Band 2A



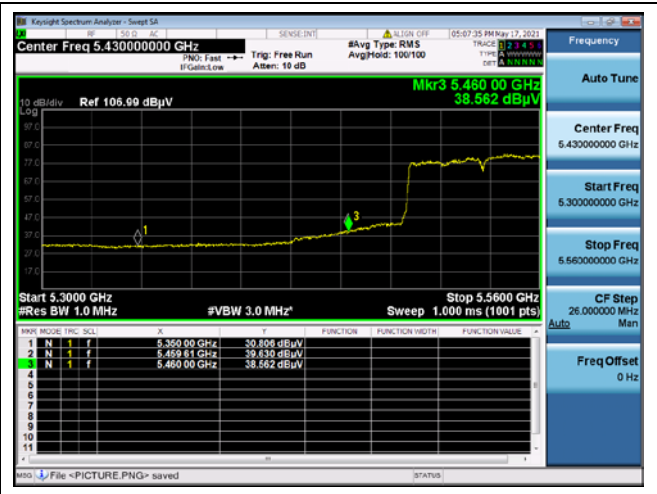
Middle channel Band edge (Average) - Band 2A



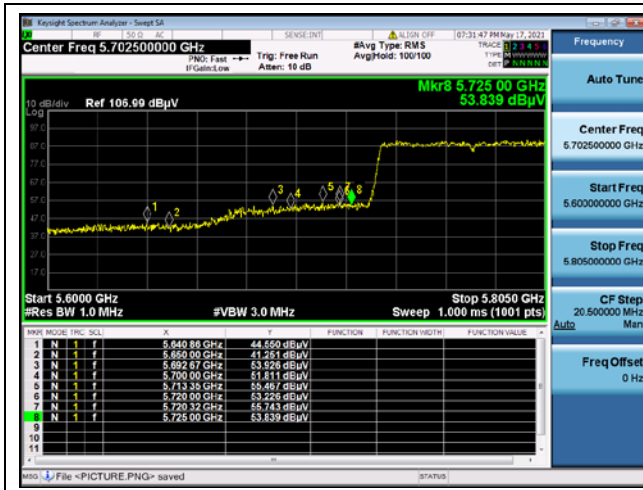
Low channel Band edge (Peak) - Band 2C



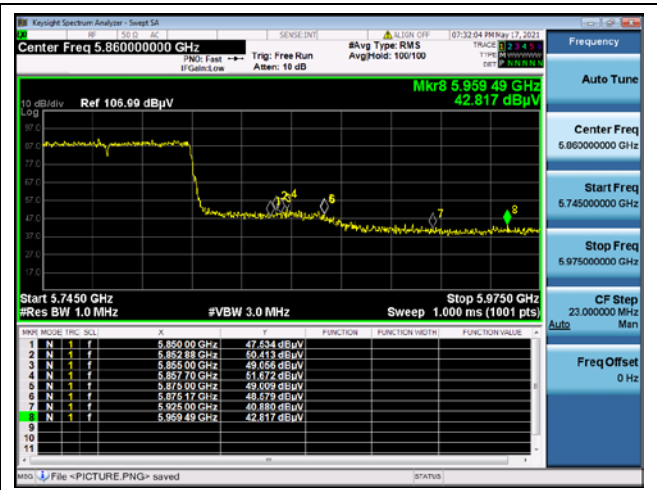
Low channel Band edge (Average) - Band 2C



Middle channel Band edge (Peak) - Band 3



Middle channel Band edge (Peak) - Band 3



3. 26 dB Bandwidth & 99 % Bandwidth

3.1. Test Setup



3.2. Limit

None; for reporting purpose only.

3.3. Test Procedure

All data rates and modes were investigated for this test. The full data for the worst case data rate are reported in this section.

3.3.1. 26 dB Bandwidth

1. This measurement settings are specified in section II.C.1 of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set RBW = approximately 1 % of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

Remark;

In case of band crossing channels 138, 142 and 144, the measurement is complied with section III.A of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

3.3.2. 99 % Bandwidth

1. This measurement settings are specified in section II.D of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set center frequency to the nominal EUT channel center frequency.
3. Set span = 1.5 times to 5.0 times the OBW.
4. Set RBW = 1 % to 5 % of the OBW.
5. Set VBW $\geq 3 \times$ RBW.
6. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
7. Use the 99 % power bandwidth function of the instrument (if available).
8. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99 % occupied bandwidth is the difference between these two frequencies.

In the result,

- DFS requirements are not applicable in the 5 150 MHz ~ 5 250 MHz.

3.4. Test Result

Ambient temperature : (23 ± 1) °C

Relative humidity : 47 % R.H.

Test mode: 11a

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	26 dB Bandwidth (MHz)	99 % Bandwidth (MHz)
U-NII 1	5 180	36	48	21.013	-
	5 220	44		20.897	-
	5 240	48		20.897	16.903
U-NII 2A	5 260	52		21.418	-
	5 300	60		21.418	-
	5 320	64		21.592	-
U-NII 2C	5 500	100		20.897	-
	5 600	120		20.897	-
	5 700	140		20.897	-
U-NII 3	5 745	149		20.955	-
	5 785	157		20.839	-
	5 825	165		20.955	-

Test mode: 11ac_VHT20

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	26 dB Bandwidth (MHz)	99 % Bandwidth (MHz)
U-NII 1	5 180	36	MCS4	21.303	-
	5 220	44		21.418	-
	5 240	48		21.360	18.061
U-NII 2A	5 260	52		21.418	-
	5 300	60		21.418	-
	5 320	64		21.418	-
U-NII 2C	5 500	100		21.476	-
	5 600	120		21.476	-
	5 700	140		21.476	-
U-NII 3	5 745	149		21.592	-
	5 785	157		21.418	-
	5 825	165		21.534	-

Test mode: 11ac_VHT40

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	26 dB Bandwidth (MHz)	99 % Bandwidth (MHz)
U-NII 1	5 190	38	MCS3	40.289	-
	5 230	46		40.058	36.469
U-NII 2A	5 270	54		40.289	-
	5 310	62		40.289	-
U-NII 2C	5 510	102		40.174	-
	5 590	118		40.405	-
	5 670	134		40.521	-
U-NII 3	5 755	151		40.174	-
	5 795	159		40.289	-

Test mode: 11ac_VHT80

Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	26 dB Bandwidth (MHz)	99 % Bandwidth (MHz)
U-NII 1	5 210	42	MCS1	82.431	75.948
U-NII 2A	5 290	58		82.663	-
U-NII 2C	5 530	106		82.431	-
	5 610	122		82.663	-
U-NII 3	5 775	155		82.431	-

Band-crossing channel

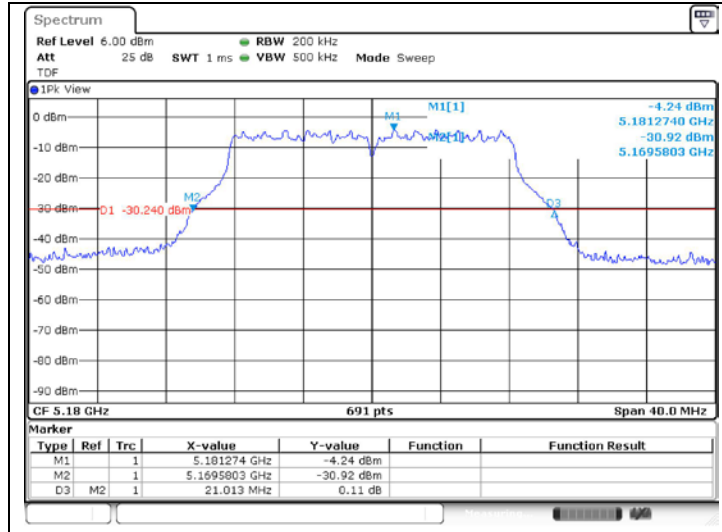
Band	Frequency (MHz)	Ch.	Data Rate (Mbps)	26 dB Bandwidth (MHz)
11a	5 720	144	48	15.362
11ac_VHT20	5 720	144	MCS4	15.767
11ac_VHT40	5 710	142	MCS3	35.029
11ac_VHT80	5 690	138	MCS1	76.216

- Test plots

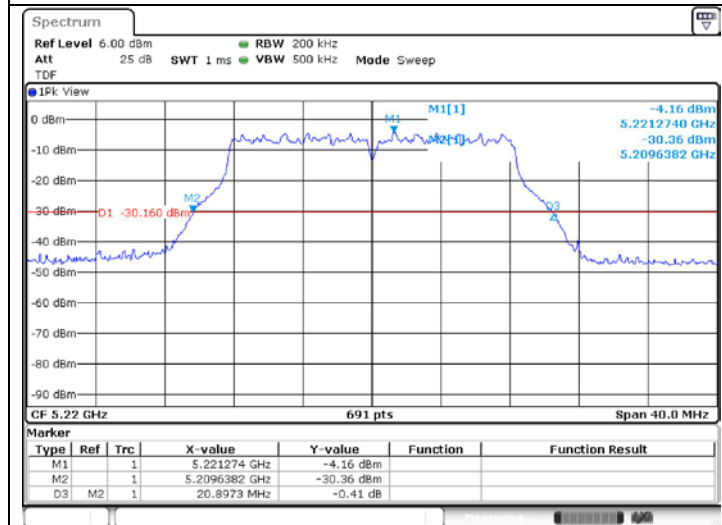
26 dB Bandwidth

802.11a (Band 1)

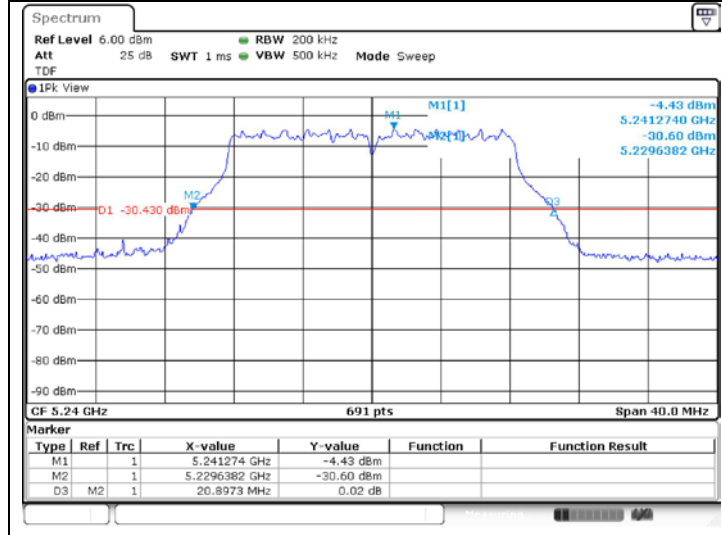
Low Channel
(5 180 MHz)



Middle Channel
(5 220 MHz)

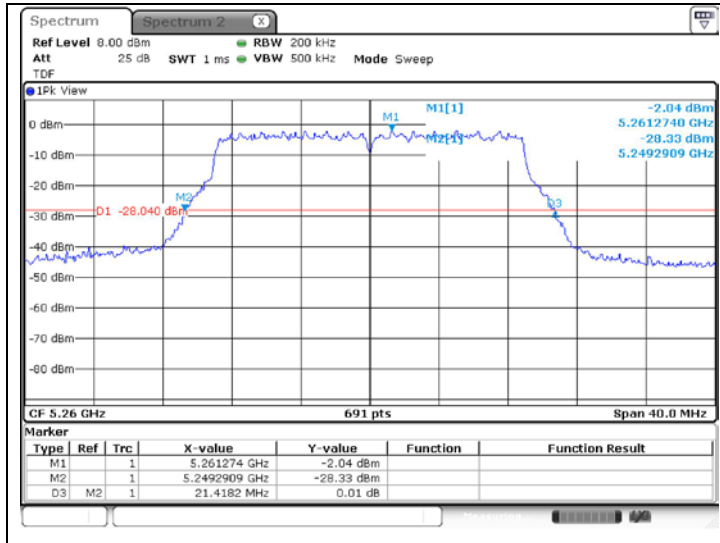


High Channel
(5 240 MHz)

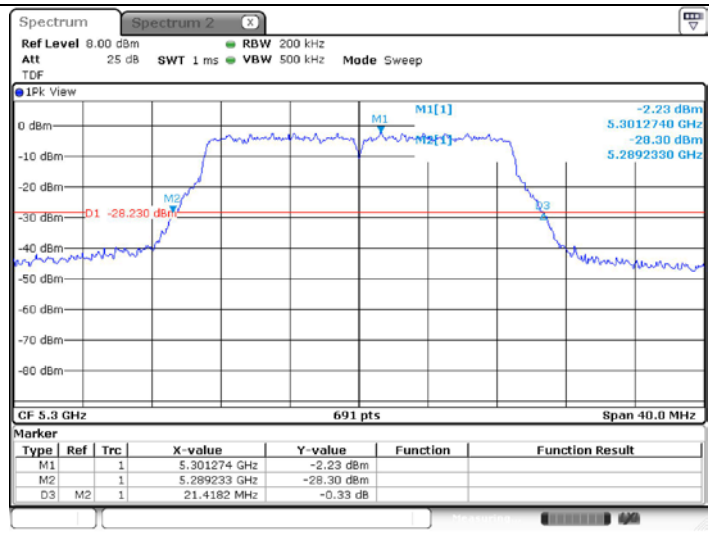


802.11a (Band 2A)

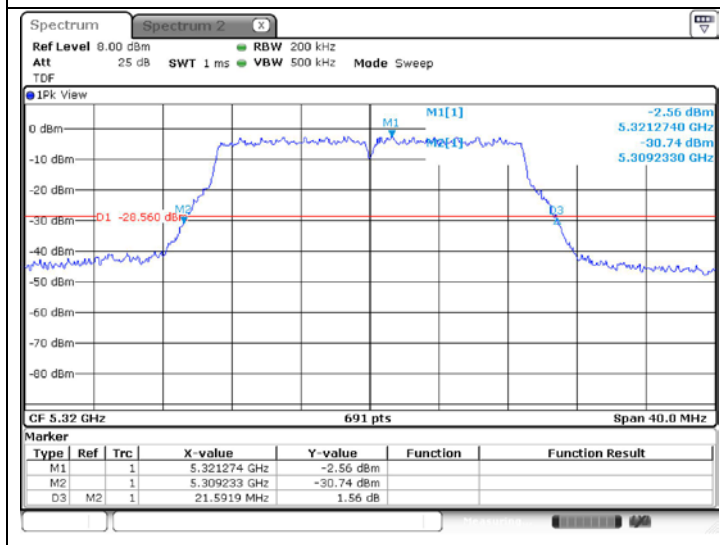
Low Channel
(5 260 MHz)



Middle Channel
(5 300 MHz)

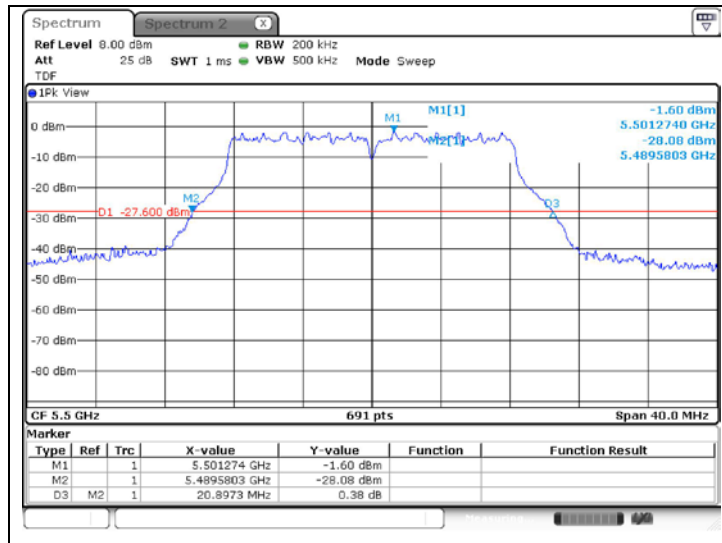


High Channel
(5 320 MHz)

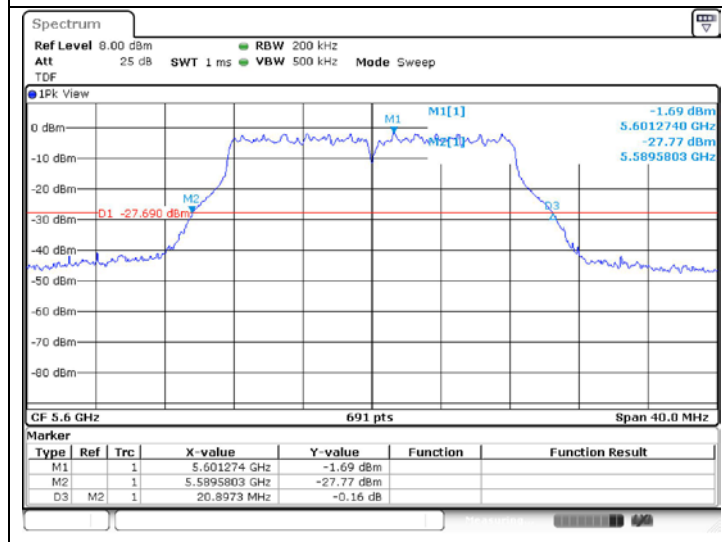


802.11a (Band 2C)

Low Channel
(5 500 MHz)



Middle Channel
(5 600 MHz)



High Channel
(5 700 MHz)

