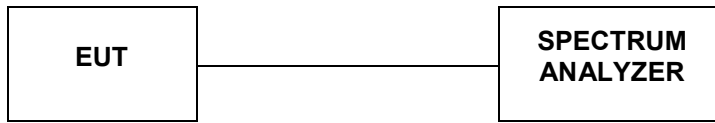


#### 4.6. 6dB Bandwidth

##### TEST CONFIGURATION



##### TEST PROCEDURE

According to KDB789033 D02 General UNII Test Procedures New Rules v01 for one of the following procedures may be used for section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

- a. Set RBW = 100 kHz.
- b. Set the video bandwidth (VBW)  $\geq 3 \times$  RBW
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. Sweep = auto couple.
- f. Allow the trace to stabilize
- g. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.

##### LIMIT

For Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz

##### TEST RESULTS

Temperature	23.6°C	Humidity	55.7%
Test Engineer	Moon Tan	Configurations	IEEE 802.11a/n/ac

**Antenna 0:**

Type	Channel	99%Bandwidth (MHz)	6dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	149	18.701	15.480	≥500	Pass
	157	18.206	15.200		
	165	17.960	14.440		
802.11nHT20	149	19.388	15.120	≥500	Pass
	157	18.954	15.200		
	165	18.787	15.560		
802.11ac20	149	19.587	15.480	≥500	Pass
	157	18.866	15.800		
	165	18.756	16.360		
802.11n40	151	37.227	35.280	≥500	Pass
	159	37.060	35.200		
802.11ac40	151	36.985	35.200	≥500	Pass
	159	37.258	35.280		
802.11ac80	155	87.766	75.360	≥500	Pass

**Antenna 1:**

Type	Channel	99%Bandwidth (MHz)	6dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	149	18.261	15.200	≥500	Pass
	157	17.979	15.200		
	165	17.649	15.200		
802.11nHT20	149	18.825	15.520	≥500	Pass
	157	18.682	15.920		
	165	18.565	15.160		
802.11ac20	149	18.886	15.120	≥500	Pass
	157	18.632	15.120		
	165	18.578	15.160		
802.11n40	151	36.860	35.280	≥500	Pass
	159	36.863	35.280		
802.11ac40	151	36.814	35.200	≥500	Pass
	159	36.775	35.280		
802.11ac80	155	88.573	75.360	≥500	Pass

Antenna 0:

99%Bandwidth

802.11a

802.11n HT20



CH149

CH149



CH157

CH157



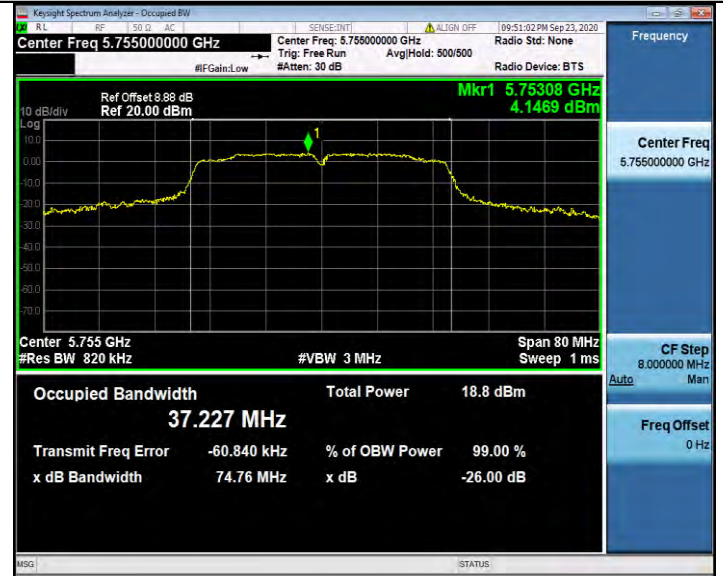
CH165

CH165

99%Bandwidth

802.11ac20

802.11n HT40



CH149

CH151

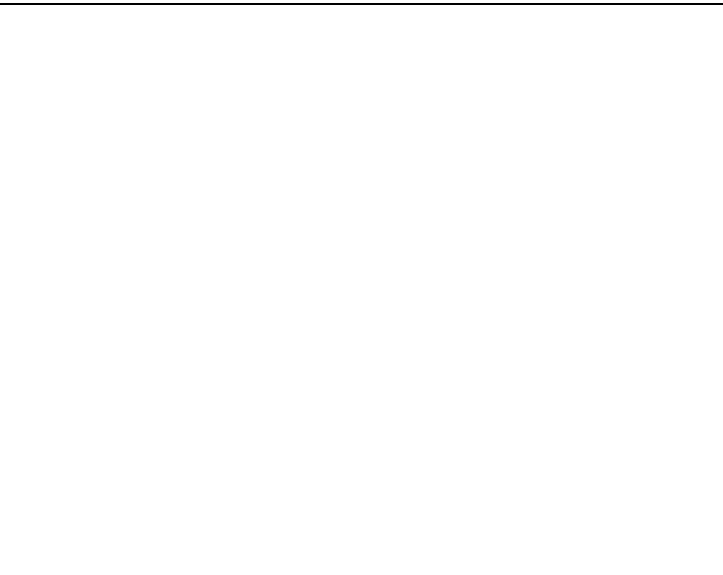


CH157

CH159



CH165





99%Bandwidth

802.11ac40

802.11ac80

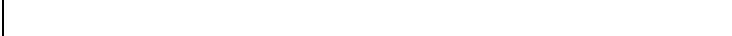


CH151

CH155



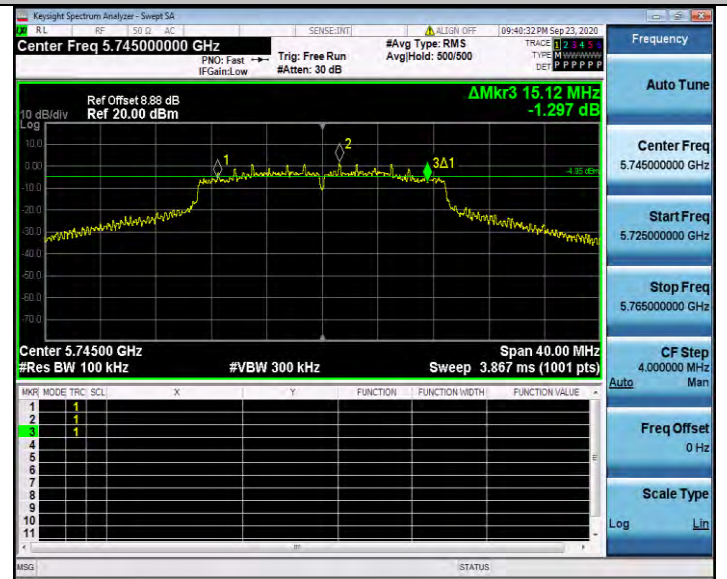
CH159



6dB Bandwidth

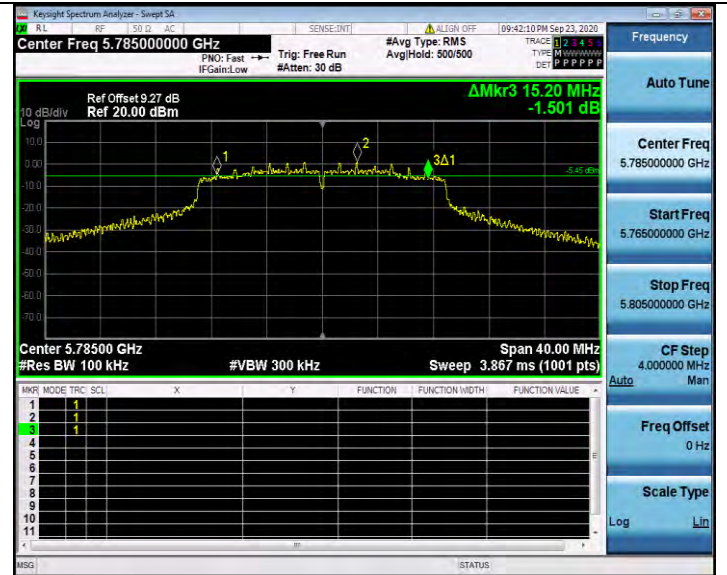
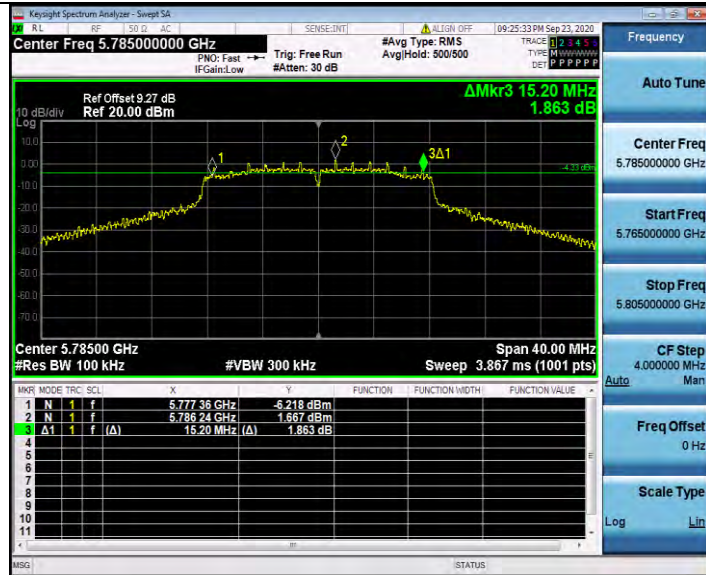
802.11a

802.11n HT20



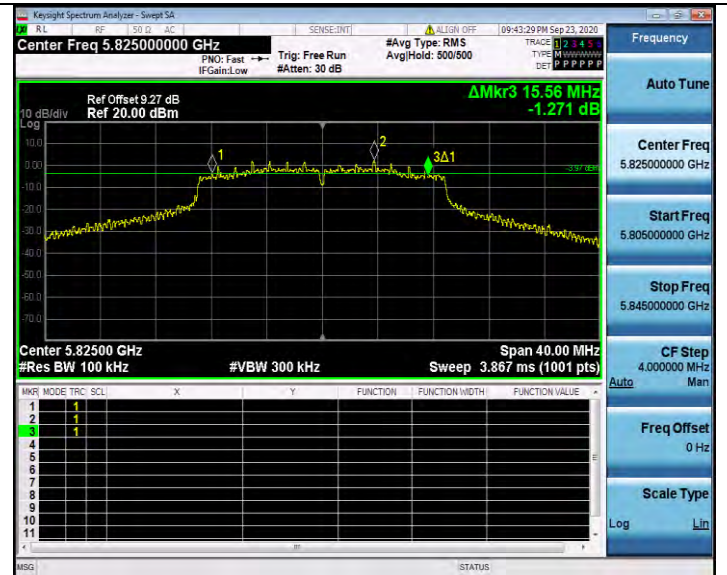
CH149

CH149



CH157

CH157



CH165

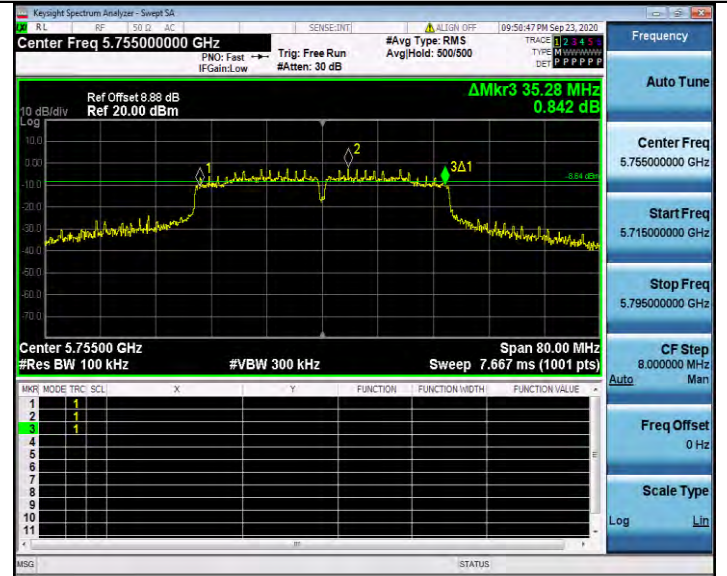
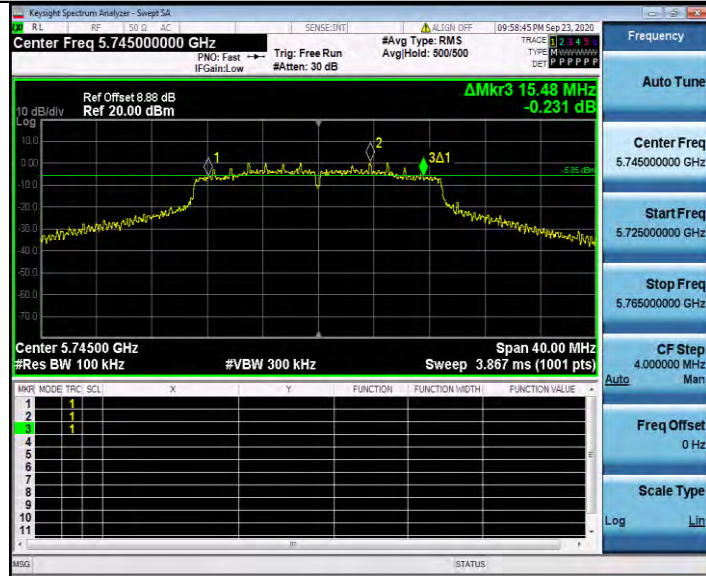
CH165



6dB Bandwidth

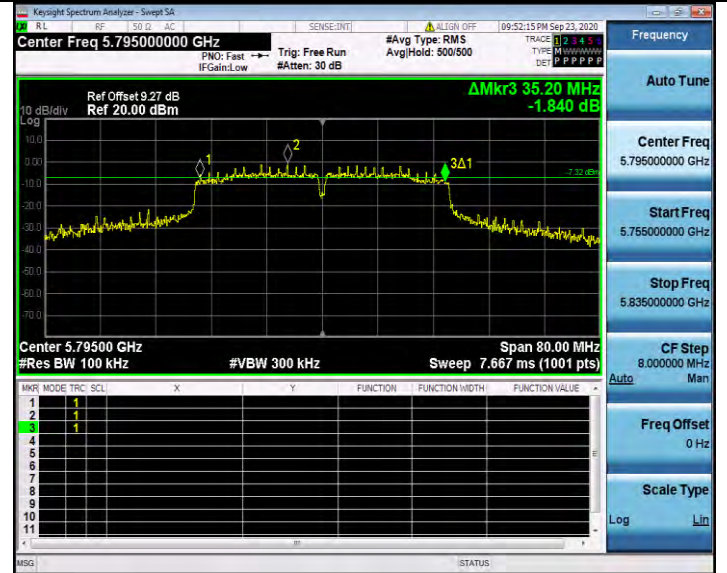
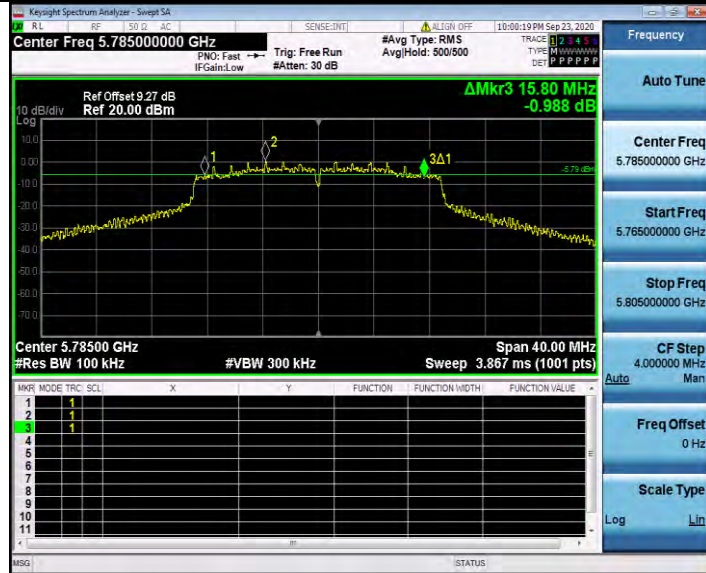
802.11ac20

802.11n HT40



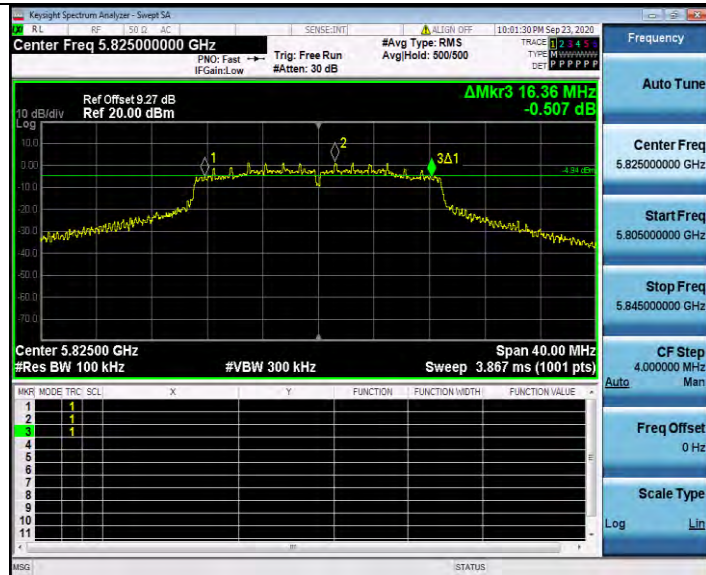
CH149

CH151



CH157

CH159

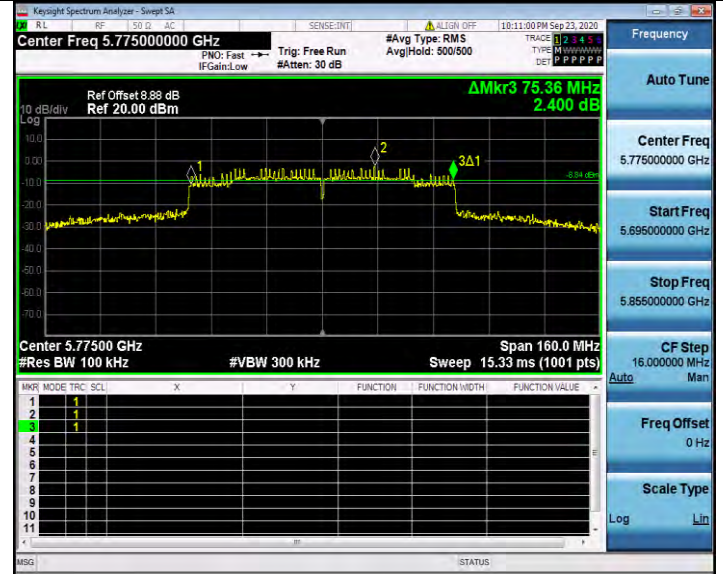
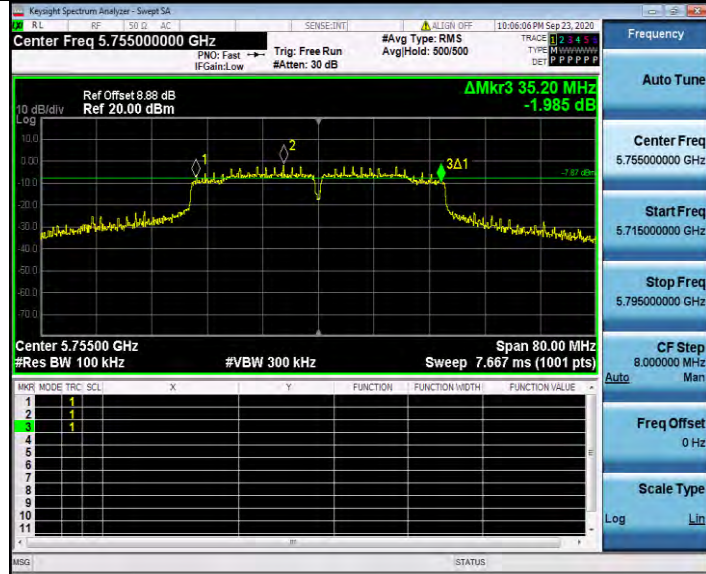


CH165

6dB Bandwidth

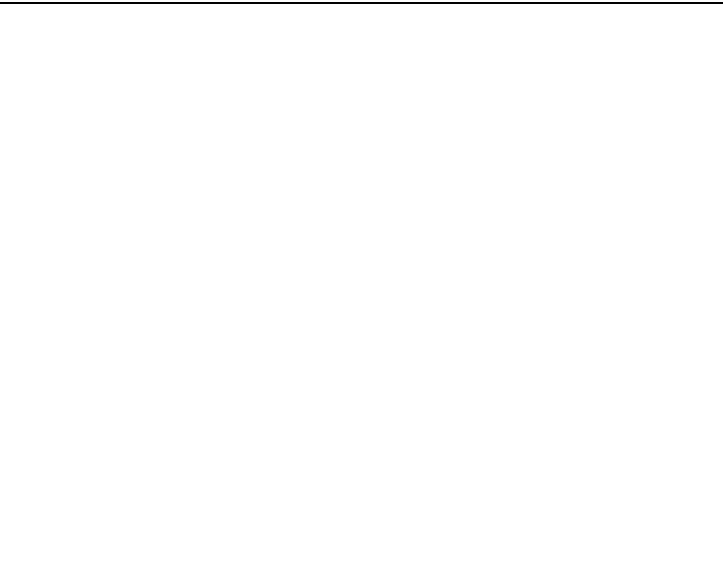
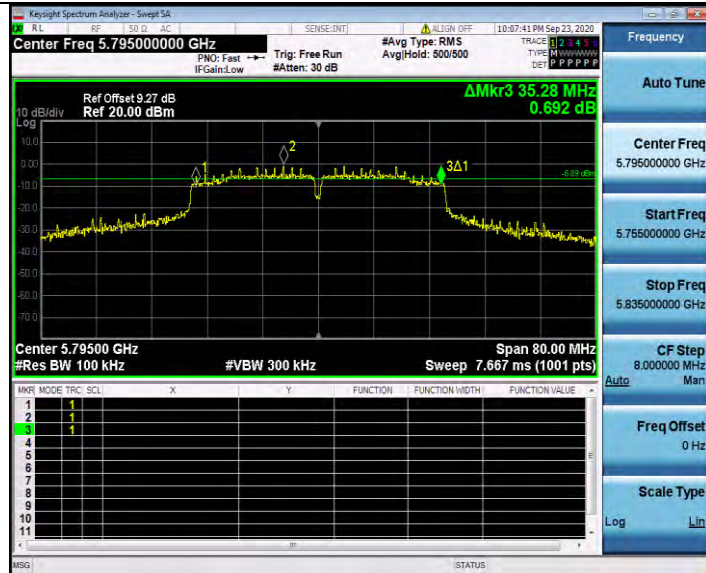
802.11ac40

802.11ac80



CH151

CH155



CH159

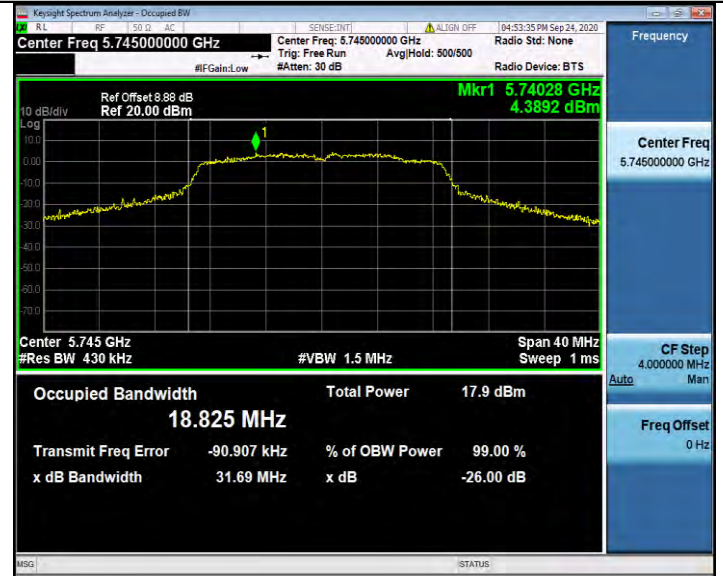


Antenna 1:

99%Bandwidth

802.11a

802.11n HT20



CH149

CH149



CH157

CH157



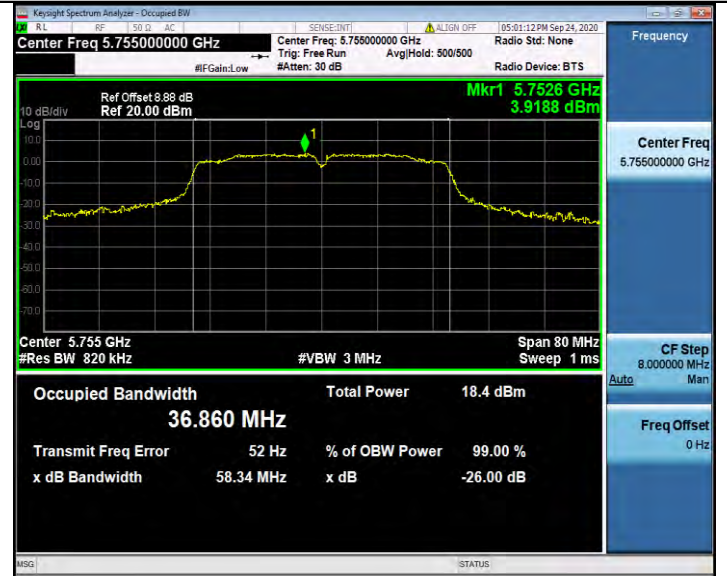
CH165

CH165

99%Bandwidth

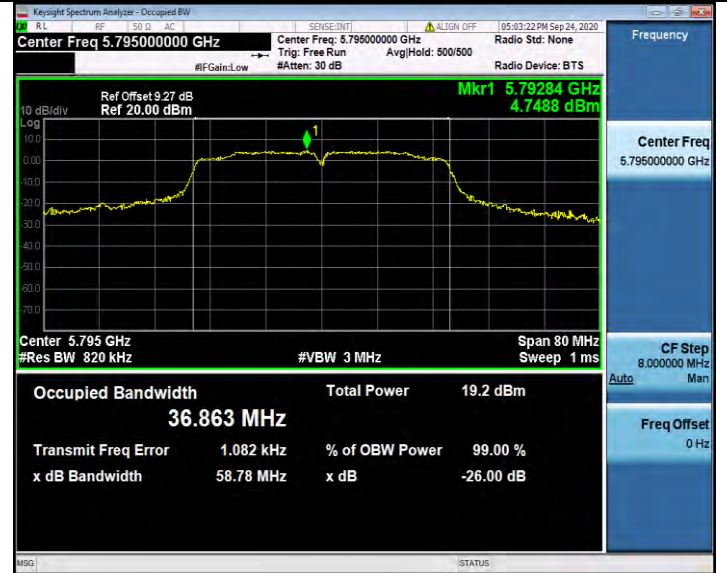
802.11ac20

802.11n HT40



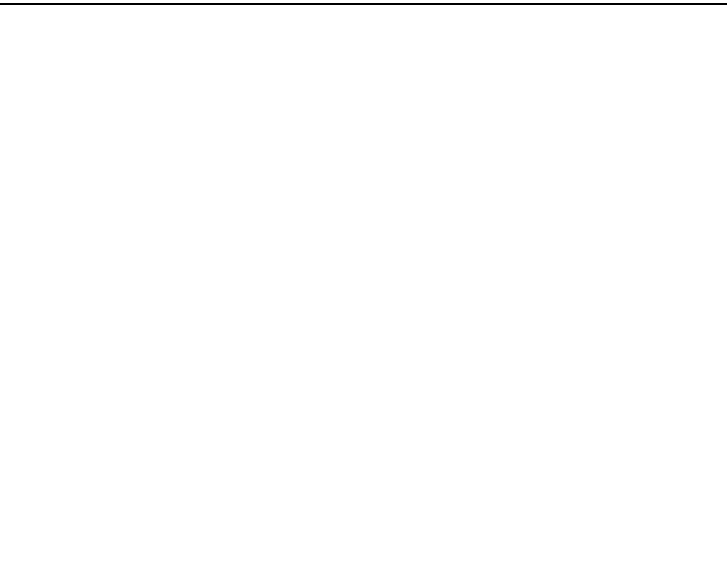
CH149

CH151



CH157

CH159



CH165



99%Bandwidth

802.11ac40

802.11ac80

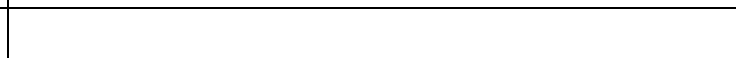


CH151

CH155



CH159

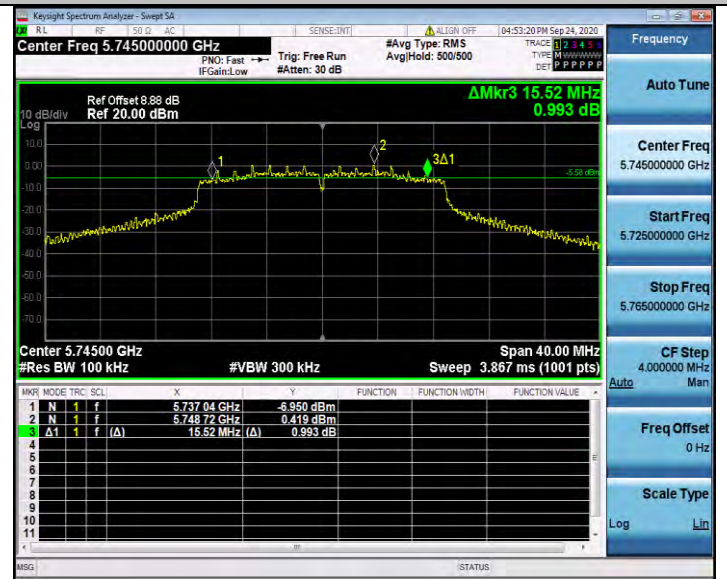
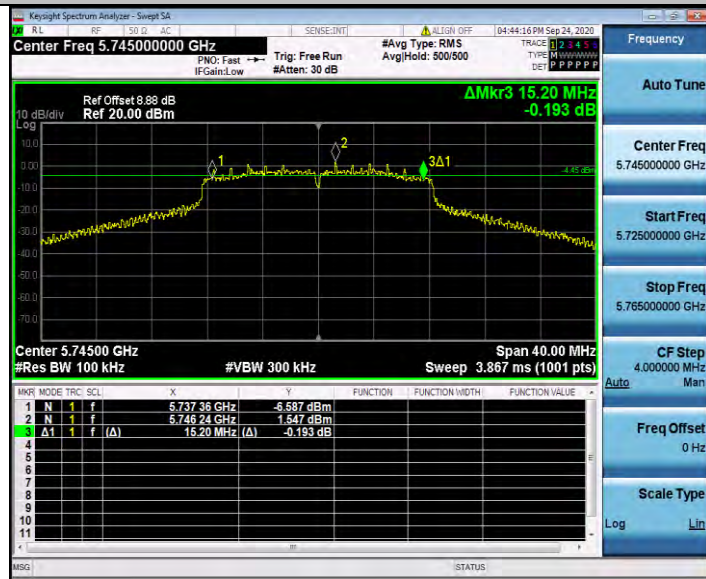




6dB Bandwidth

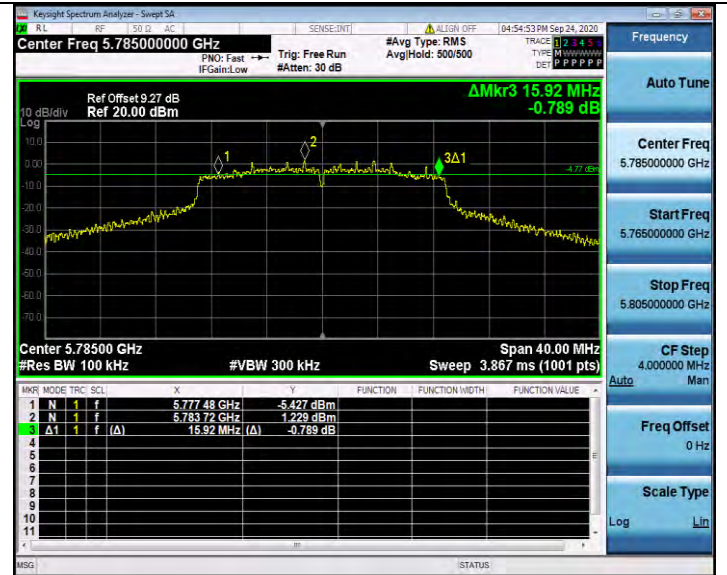
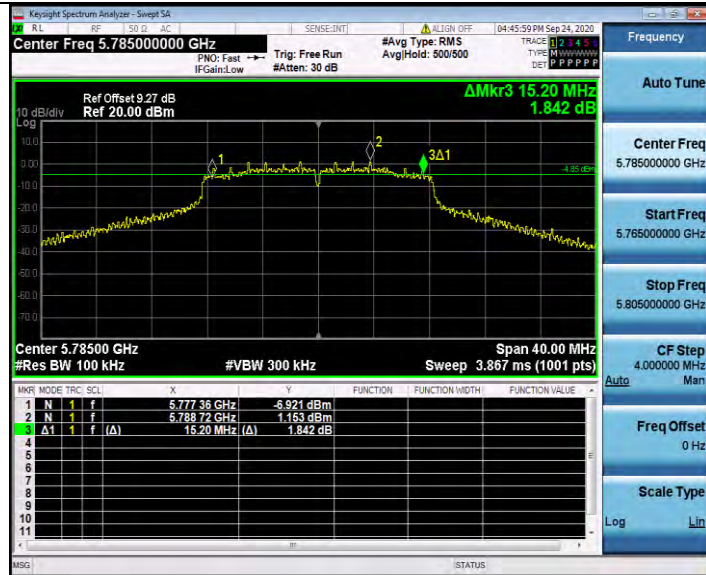
802.11a

802.11n HT20



CH149

CH149



CH157

CH157



CH165

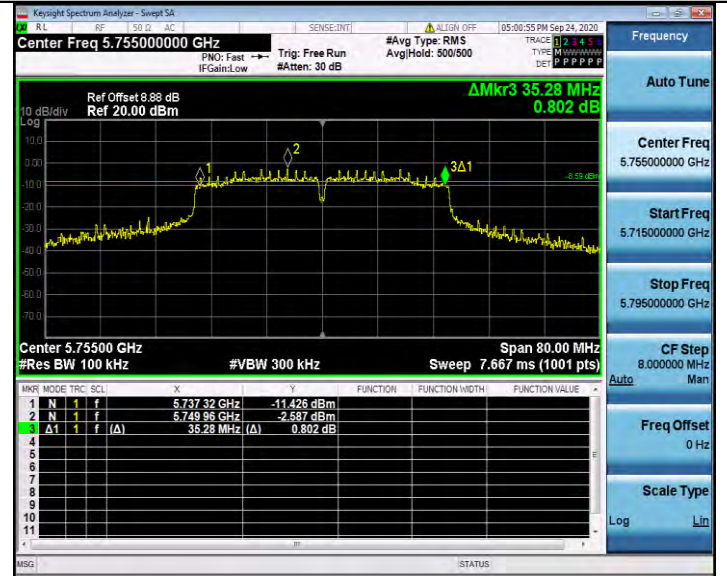
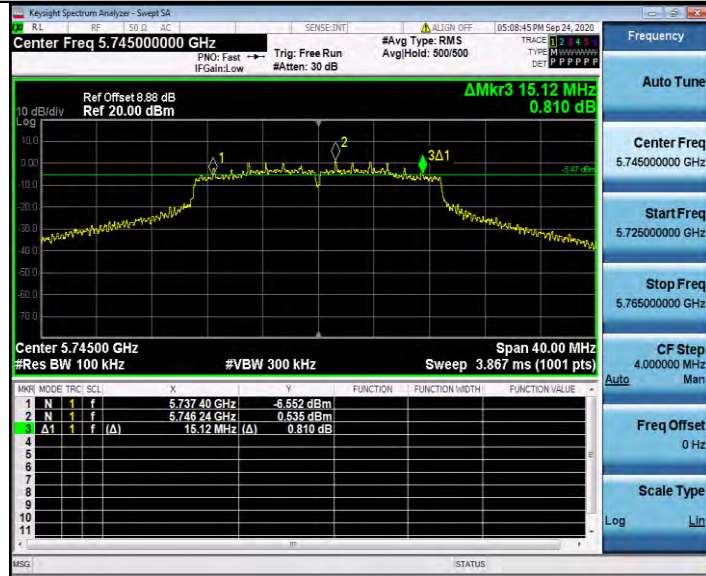
CH165



6dB Bandwidth

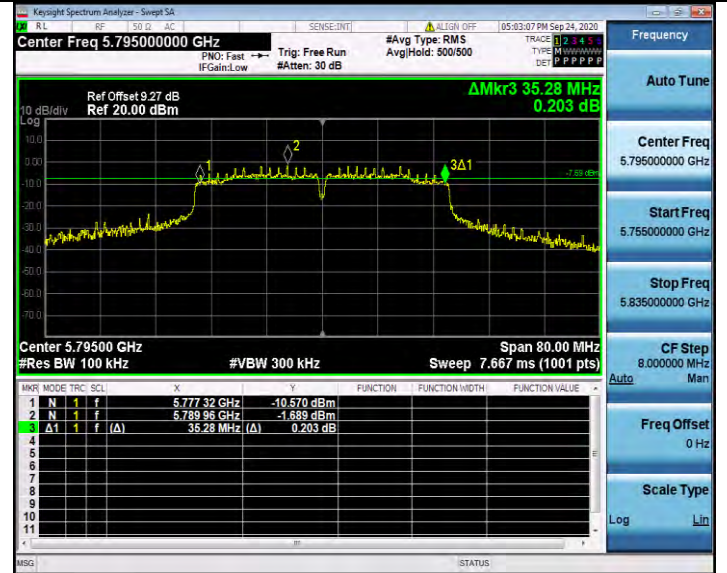
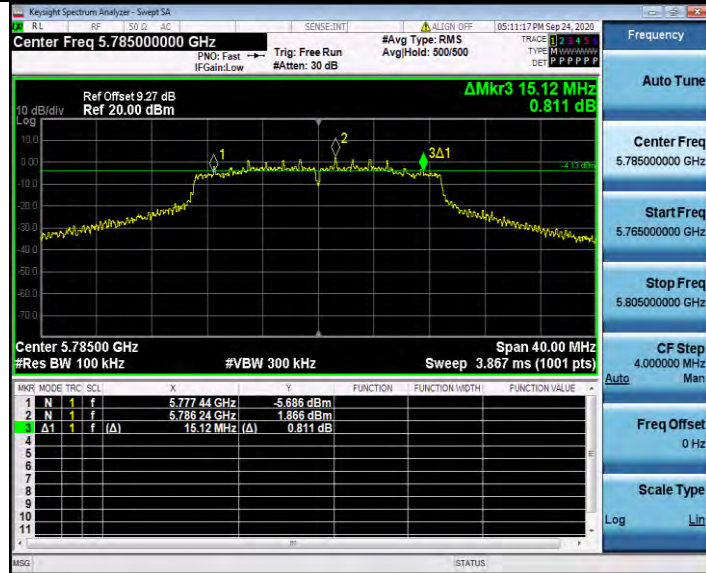
802.11ac20

802.11n HT40



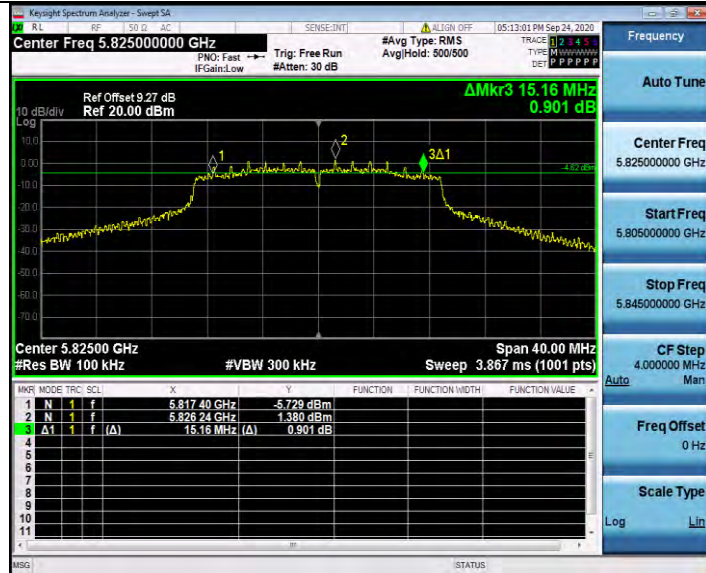
CH149

CH151



CH157

CH159

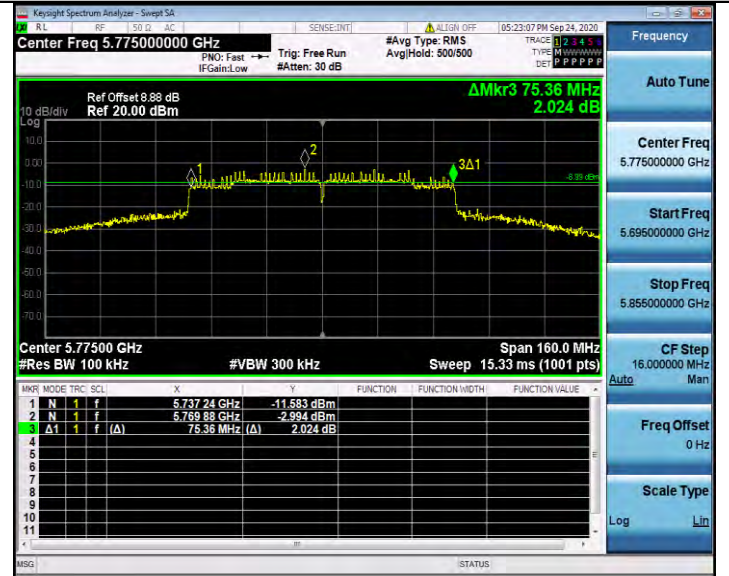
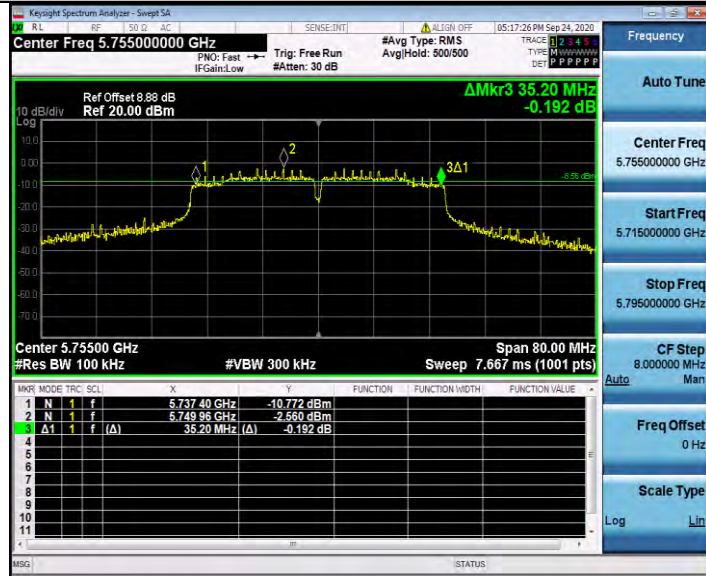


CH165

6dB Bandwidth

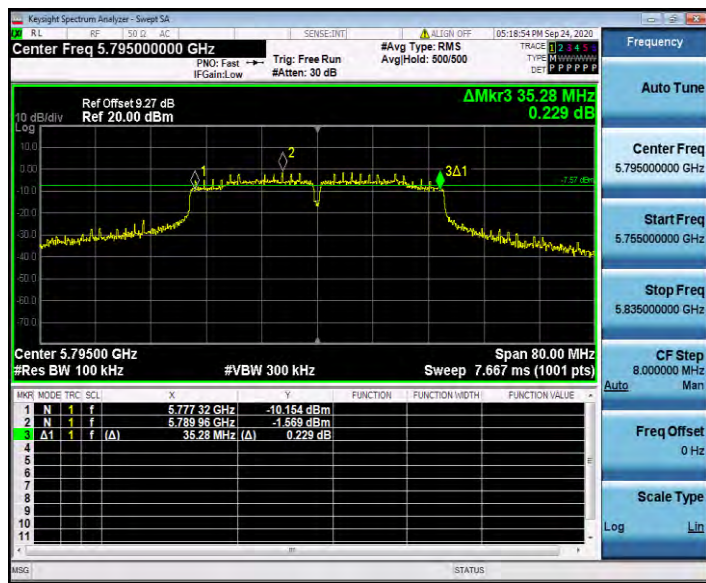
802.11ac40

802.11ac80



CH151

CH155

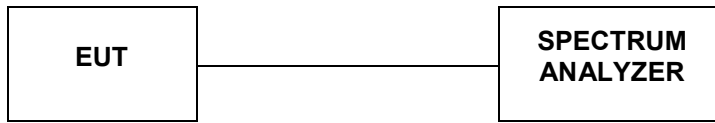


CH159



### 4.7. 26dBc Bandwidth

#### TEST CONFIGURATION



#### TEST PROCEDURE

According to KDB789033 D02 General UNII Test Procedures New Rules v01 for one of the following procedures may be used for Emission Bandwidth (EBW) measurement:

- a. Set RBW = 300 kHz (approximately 1% of the emission bandwidth).
- b. Set the video bandwidth (VBW) = 1000 KHz (VBW > RBW)
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. Sweep = auto couple.
- f. Allow the trace to stabilize
- g. Measure the maximum width of the emission that is 26 dB down from the maximum 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%.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.

#### LIMIT

No Limits for 26dBc Bandwidth

#### TEST RESULTS

Temperature	23.6°C	Humidity	55.7%
Test Engineer	Moon Tan	Configurations	IEEE 802.11a/n/ac

**Antenna 0:**

Type	Channel	99%Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	36	22.933	36.520	-	Pass
	40	22.084	33.280		
	48	21.555	35.120		
802.11nHT20	36	22.997	37.040	-	Pass
	40	22.731	38.480		
	48	22.821	35.880		
802.11ac20	36	22.808	35.360	-	Pass
	40	23.166	37.000		
	48	22.814	35.000		
802.11n40	38	40.516	78.480	-	Pass
	46	39.786	74.640		
802.11ac40	38	41.999	79.920	-	Pass
	46	41.599	76.480		
802.11ac80	42	81.645	158.240	-	Pass

**Antenna 1:**

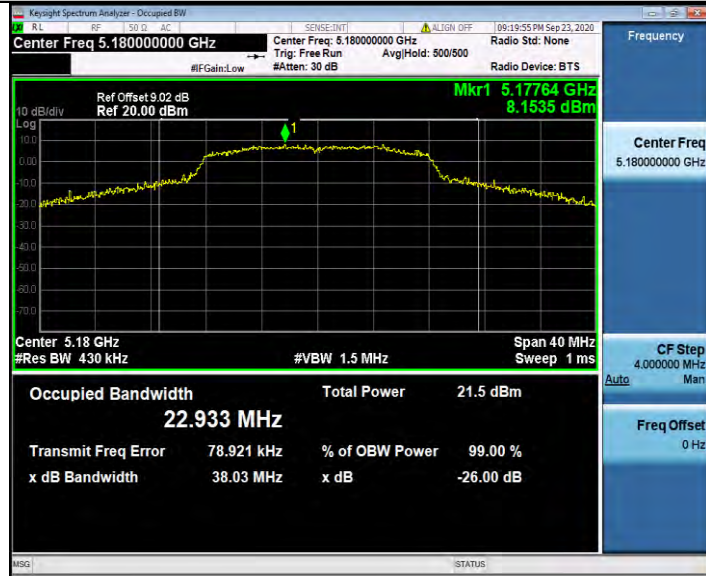
Type	Channel	99%Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	36	20.658	30.160	-	Pass
	40	20.800	32.040		
	48	20.391	31.360		
802.11nHT20	36	21.725	35.960	-	Pass
	40	21.754	36.400		
	48	21.664	31.960		
802.11ac20	36	21.948	34.080	-	Pass
	40	22.281	34.280		
	48	21.194	35.760		
802.11n40	38	38.481	76.080	-	Pass
	46	38.265	75.040		
802.11ac40	38	38.614	76.560	-	Pass
	46	38.144	75.120		
802.11ac80	42	79.485	154.720	-	Pass

Antenna 0:

99%Bandwidth

802.11a

802.11n HT20



CH36

CH36



CH40

CH40



CH48

CH48



99%Bandwidth

802.11ac20

802.11n HT40



CH36

CH38

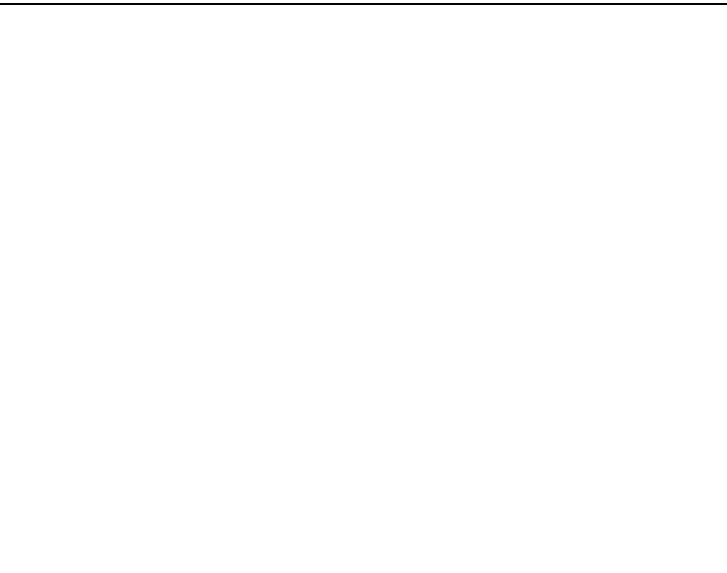


CH40

CH46



CH48



99%Bandwidth

802.11ac40

802.11ac80

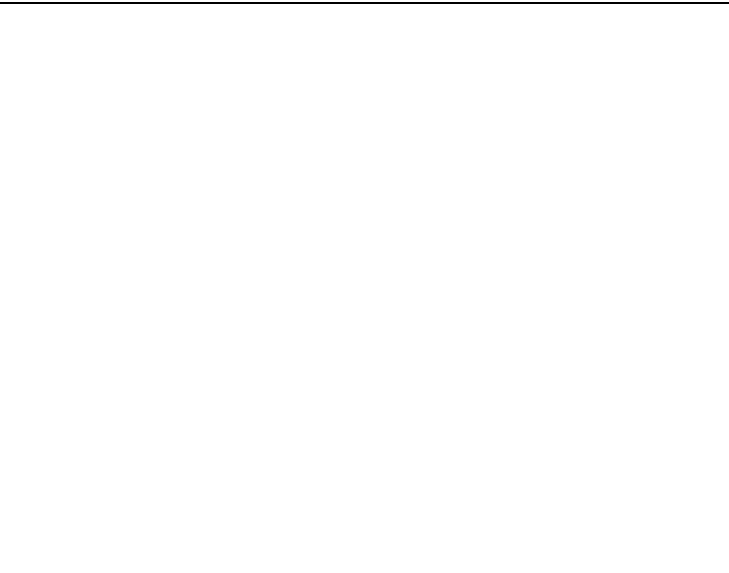


CH38

CH42



CH46

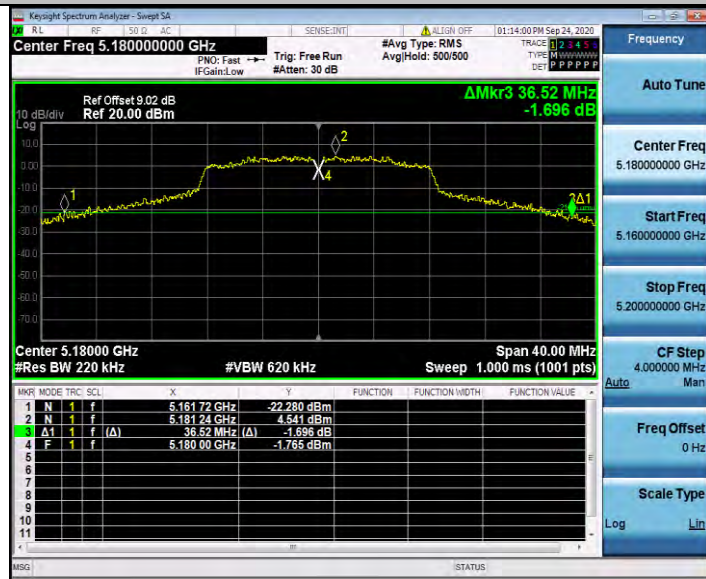




26dB Bandwidth

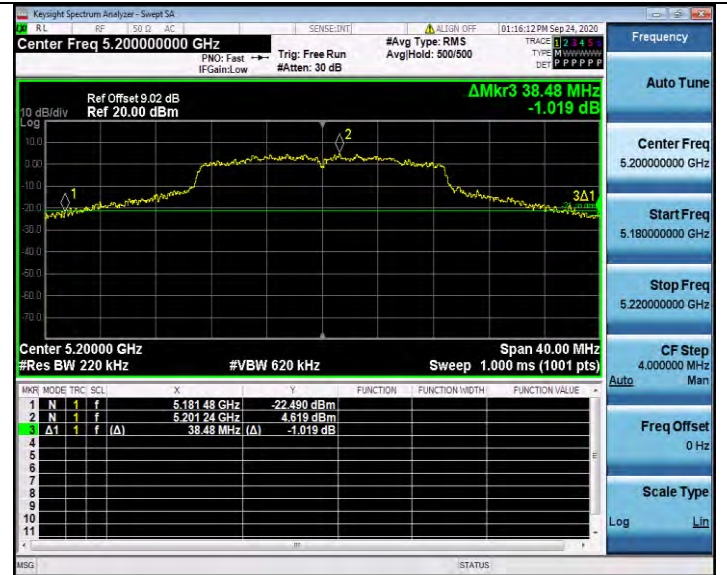
802.11a

802.11n HT20



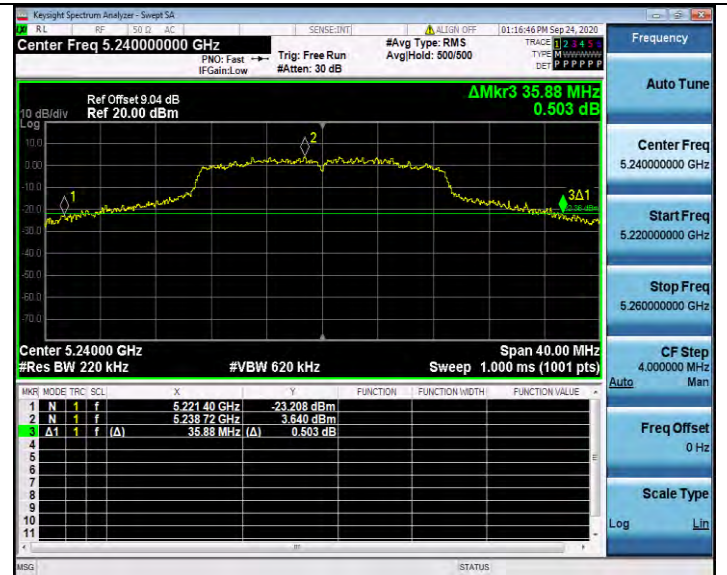
CH36

CH36



CH40

CH40



CH48

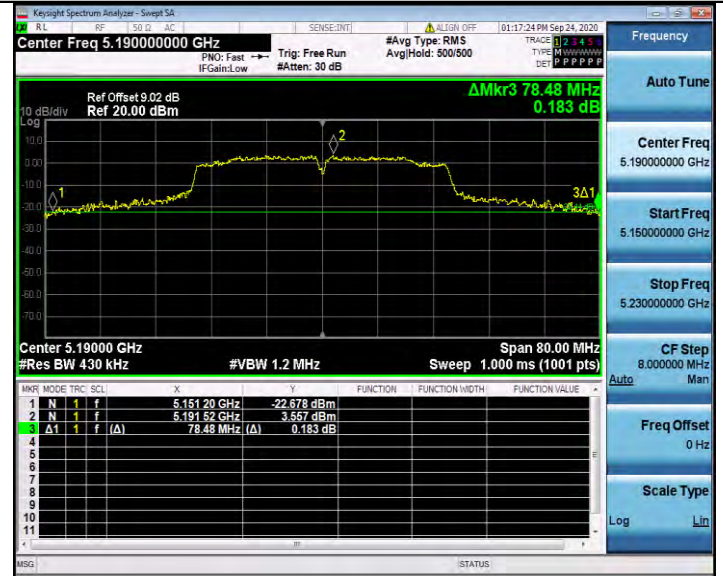
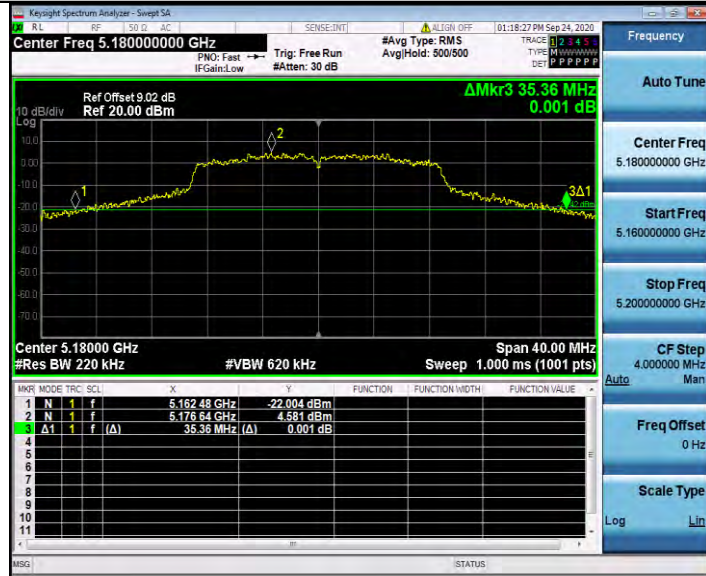
CH48



26dB Bandwidth

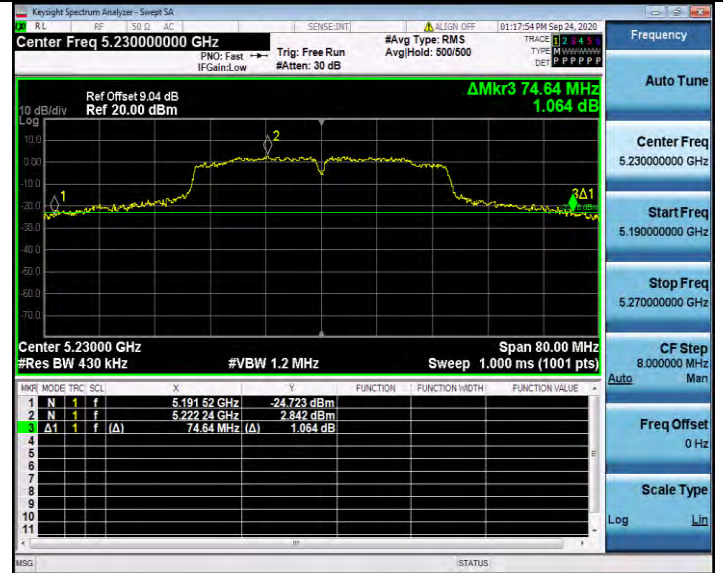
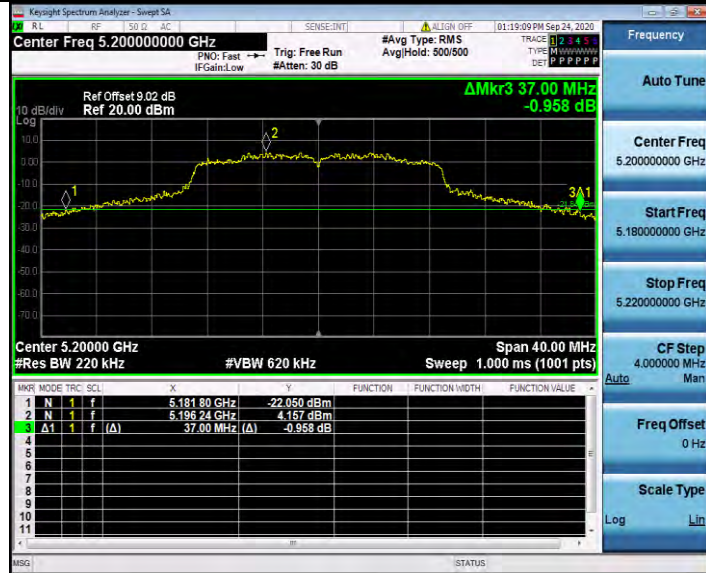
802.11ac20

802.11n HT40



CH36

CH38



CH40

CH46



CH48