

6. -26 DB & 6DBM EMISSION BANDWIDTH

Test Requirement:	Part 15 Subpart C Section 15.407 (e)
Test Method:	KDB 789033 D02 v02r01

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15.407 (e)		
Bandwidth		
Limit	U-NII-1	N/A
	U-NII-3	≥ 500 kHz

6.2 TEST PROCEDURE

Place the EUT on the table and set it in the transmitting mode.

Remove the antenna from the EUT and then connect a low-loss RF cable from the antenna port to the spectrum analyzer.

Set the spectrum analyzers RBW = approximately 1% of the emission bandwidth, VBW >RBW, Detector = Peak, Span>26dB bandwidth, and Sweep = auto ,Trace mode = max hold.

Measure the maximum width of the emission that is 26dB down from the maximum of the emission.

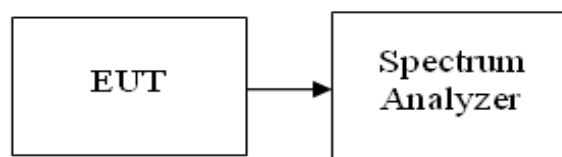
Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

Repeat until all the rest channels were investigated.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.6 TEST RESULT

Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V
Test Mode :	TX		

U-NII-1

802.11 Mode	Channel No.	Frequency [MHz]	26dB Bandwidth [MHz]	
			ANT1	ANT2
a	36	5180	19.30	19.48
	40	5200	19.42	19.33
	48	5240	19.21	19.28
n (20MHz)	36	5180	19.66	19.56
	40	5200	19.79	19.59
	48	5240	19.47	19.45
n (40MHz)	38	5190	39.07	38.85
	46	5230	39.22	39.45
ac (20MHz)	36	5180	20.00	19.96
	40	5200	19.74	19.86
	48	5240	20.10	19.92
ac(40MHz)	38	5190	40.42	40.30
	46	5230	40.37	40.49
ac(80MHz)	42	5210	80.25	80.14
ax (20MHz)	36	5180	21.82	21.98
	40	5200	21.22	21.39
	48	5240	21.92	21.76
ax(40MHz)	38	5190	39.43	39.35
	46	5230	39.55	39.50
ax(80MHz)	42	5210	80.16	80.25

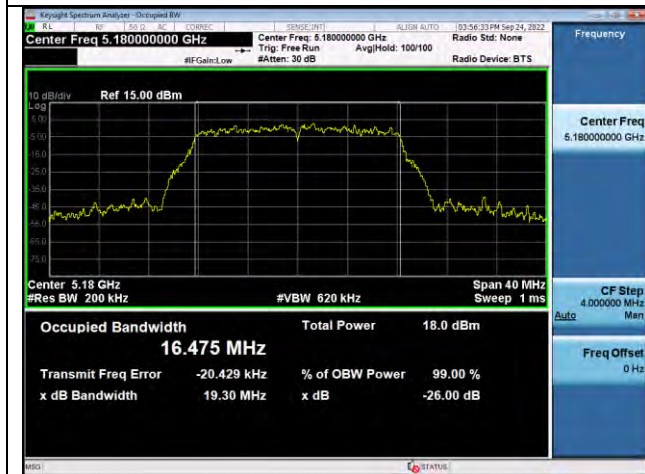
U-NII-3

802.11 Mode	Channel No.	Frequency [MHz]	-6db Bandwidth [MHz]		Limit
			ANT1	ANT2	
a	149	5745	16.38	15.49	≥ 500 kHz
	157	5785	16.34	16.36	
	165	5825	16.31	16.40	
n (20MHz)	149	5745	16.53	17.50	
	157	5785	15.69	16.62	
	165	5825	17.48	17.09	
n (40MHz)	151	5755	33.93	35.15	
	159	5795	35.16	32.67	
ac (20MHz)	149	5745	17.65	17.66	
	157	5785	17.69	17.69	
	165	5825	17.69	17.64	
ac(40MHz)	151	5755	35.99	36.02	
	159	5795	36.17	35.85	
ac(80MHz)	155	5775	76.14	76.41	
ax (20MHz)	149	5745	19.11	19.07	
	157	5785	19.06	19.11	
	165	5825	19.04	19.08	
ax(40MHz)	151	5755	38.05	38.14	
	159	5795	38.12	38.08	
ax(80MHz)	155	5775	77.75	77.93	

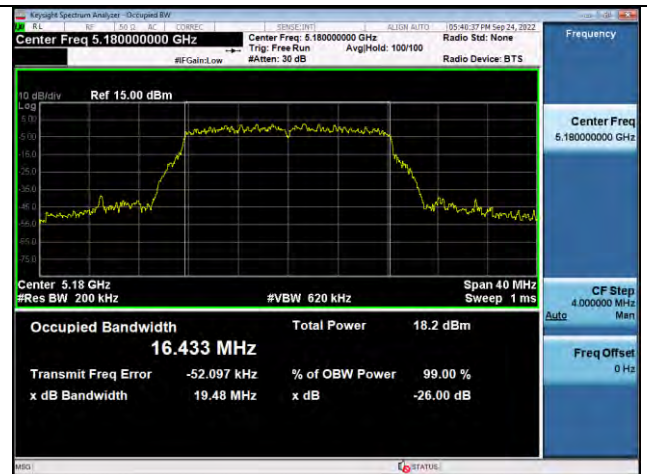
Test plot as follows:

U-NII-1 – 802.11a

ANT1



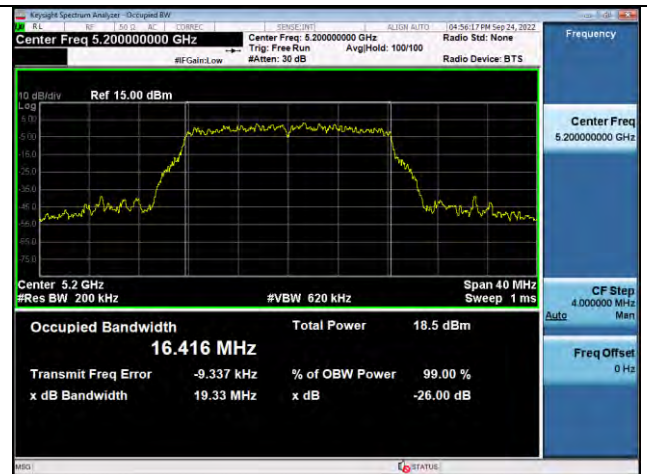
ANT2



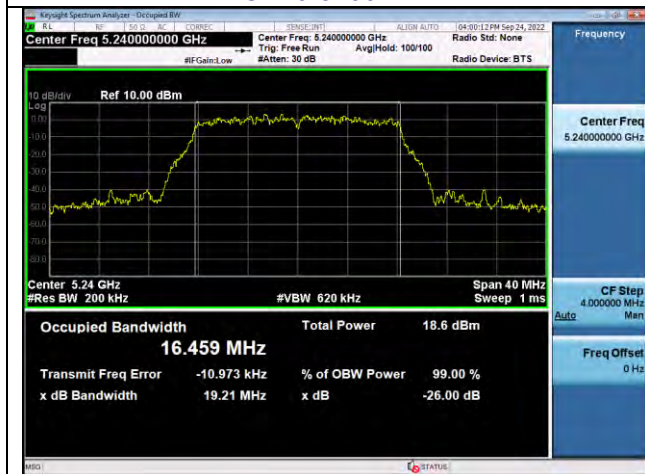
CH36-5180MHz



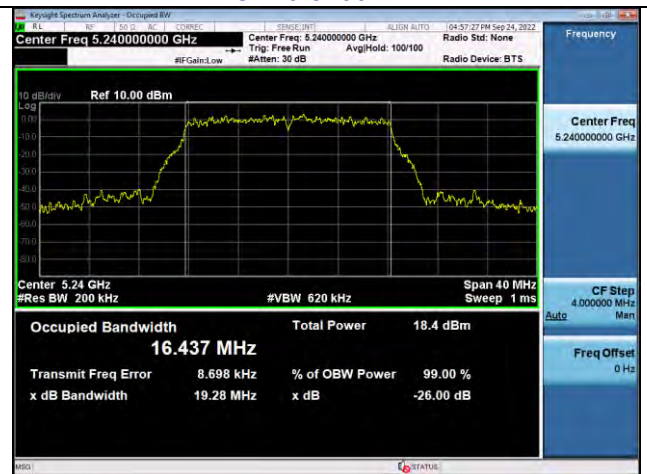
CH36-5180MHz



CH40-5200MHz



CH40-5200MHz



CH48-5240MHz

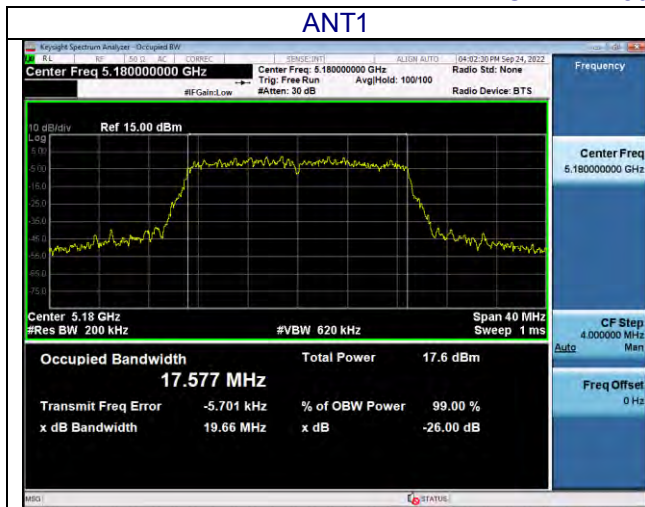


CH48-5240MHz

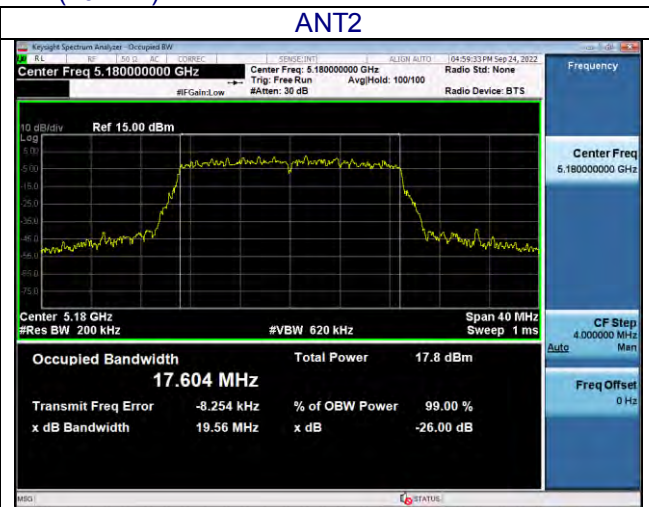


U-NII-1 – 802.11n (20MHz)

ANT1



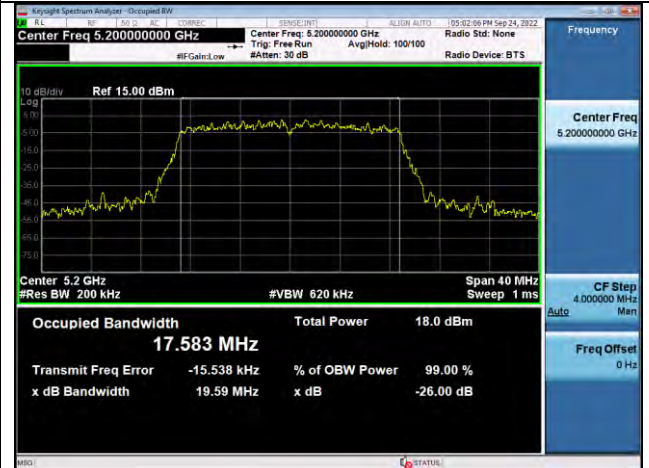
ANT2



CH36-5180MHz



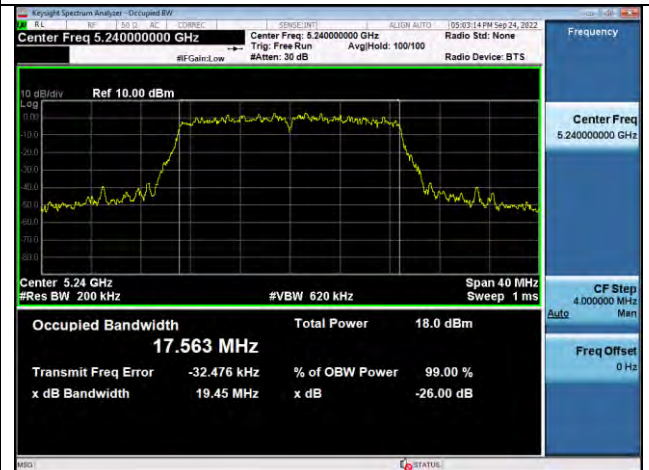
CH36-5180MHz



CH40-5200MHz



CH40-5200MHz



CH48-5240MHz

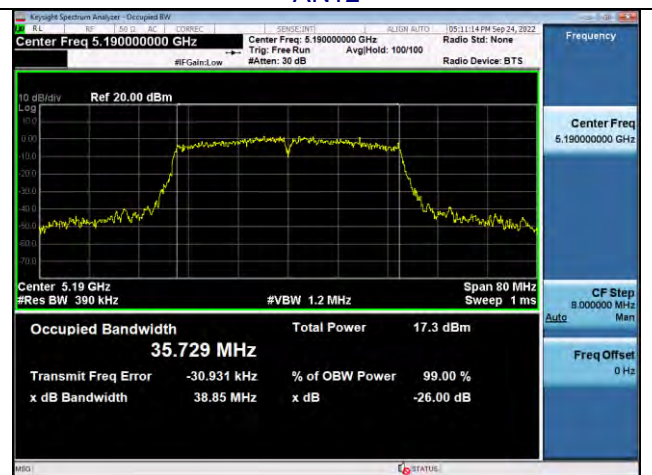
CH48-5240MHz

U-NII-1 – 802.11n (40MHz)

ANT1



ANT2



CH38-5190MHz



CH38-5190MHz



CH46-5230MHz

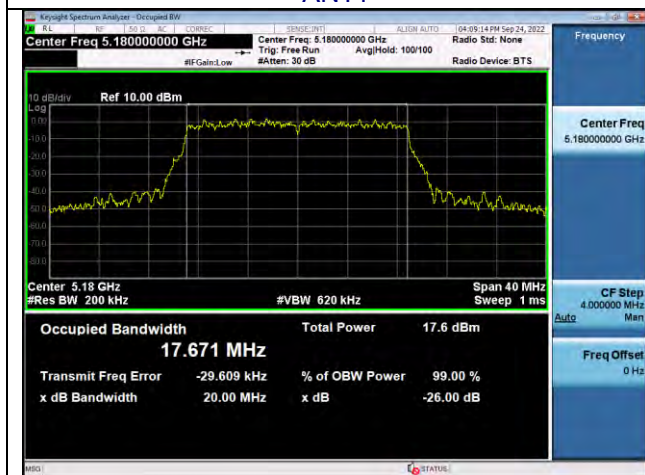


CH46-5230MHz

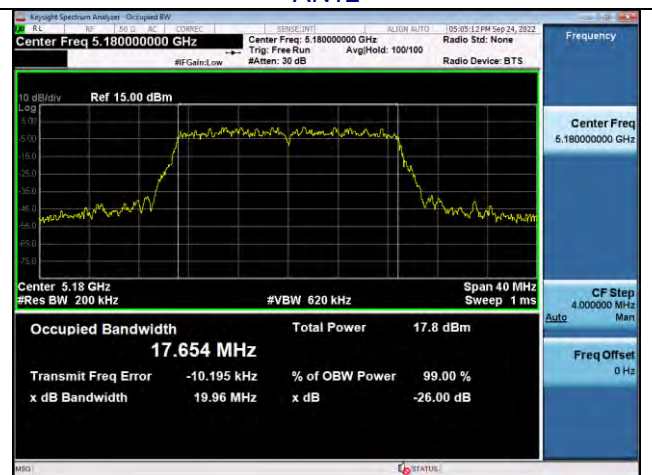


U-NII-1 – 802.11ac 20MHz)

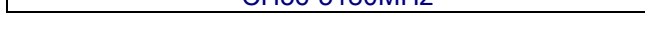
ANT1



ANT2

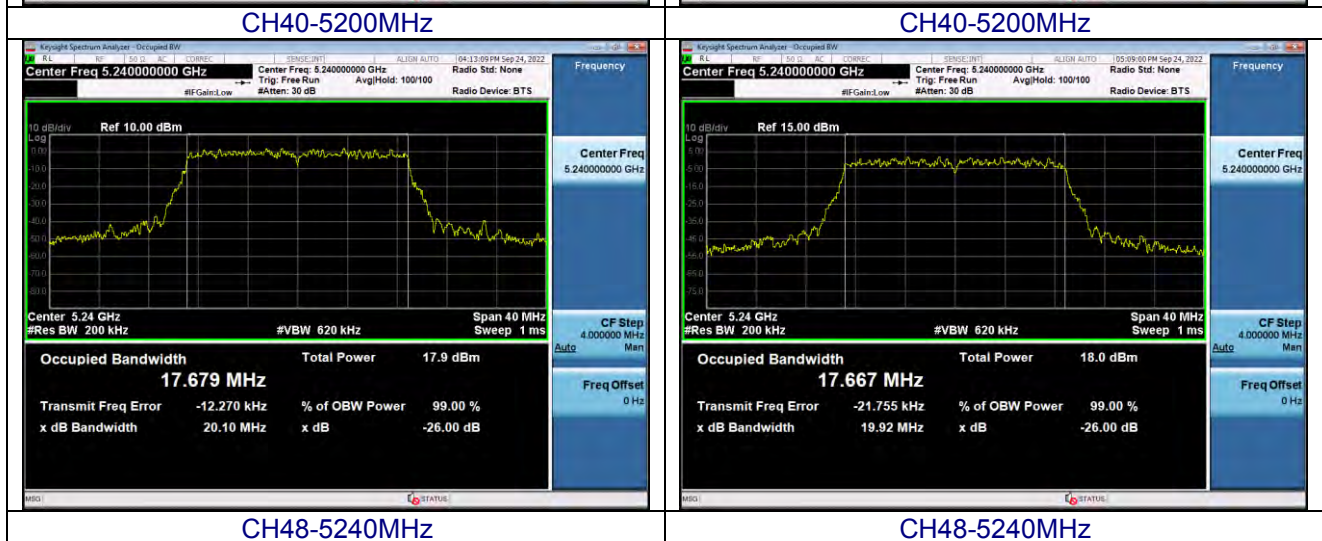
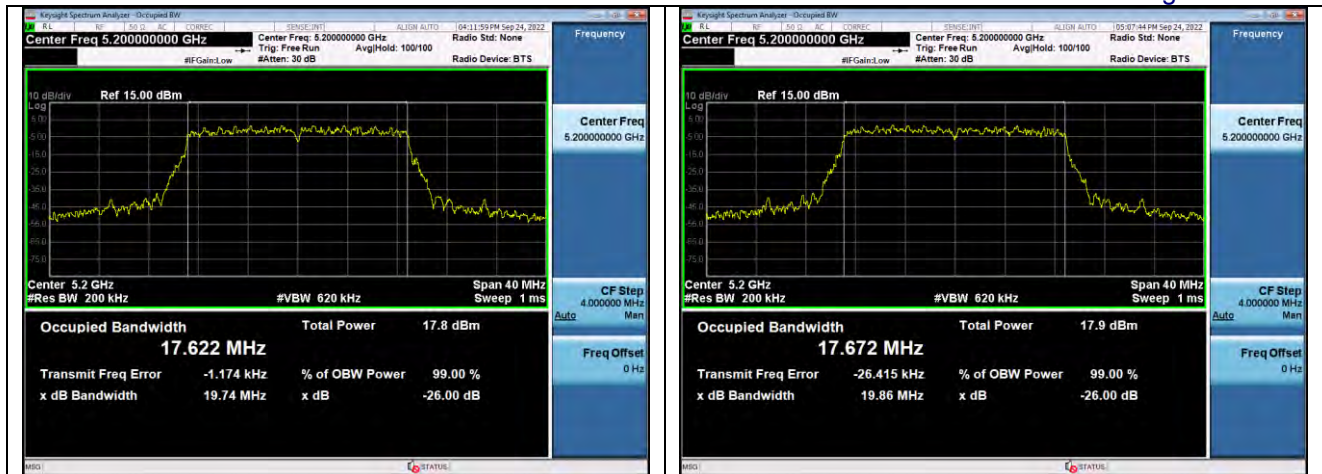


CH36-5180MHz

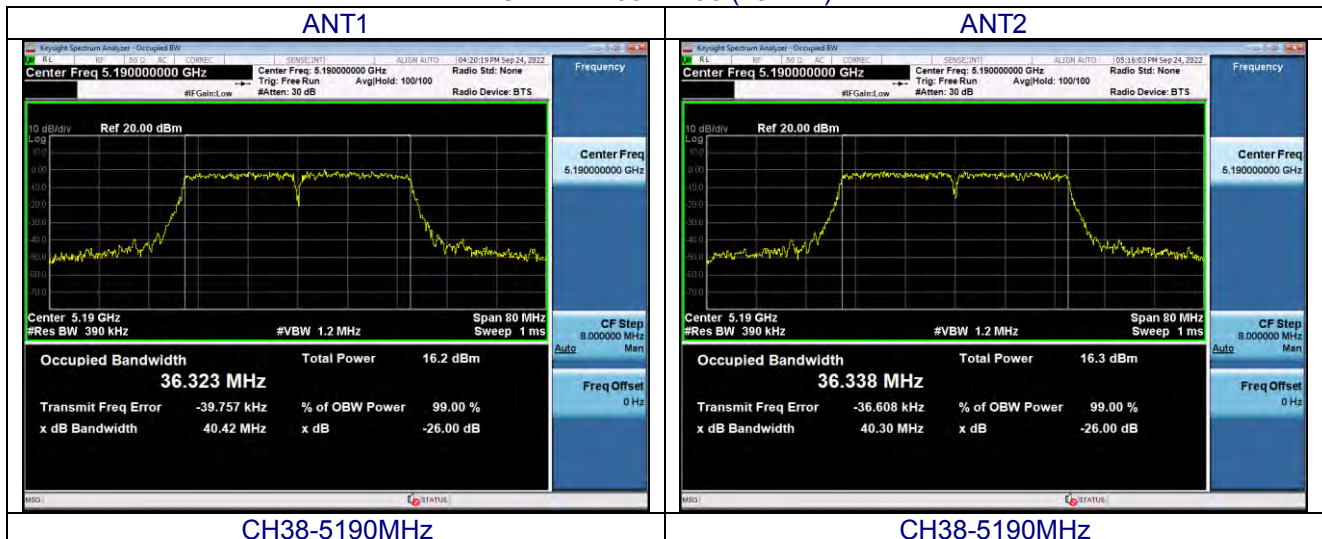
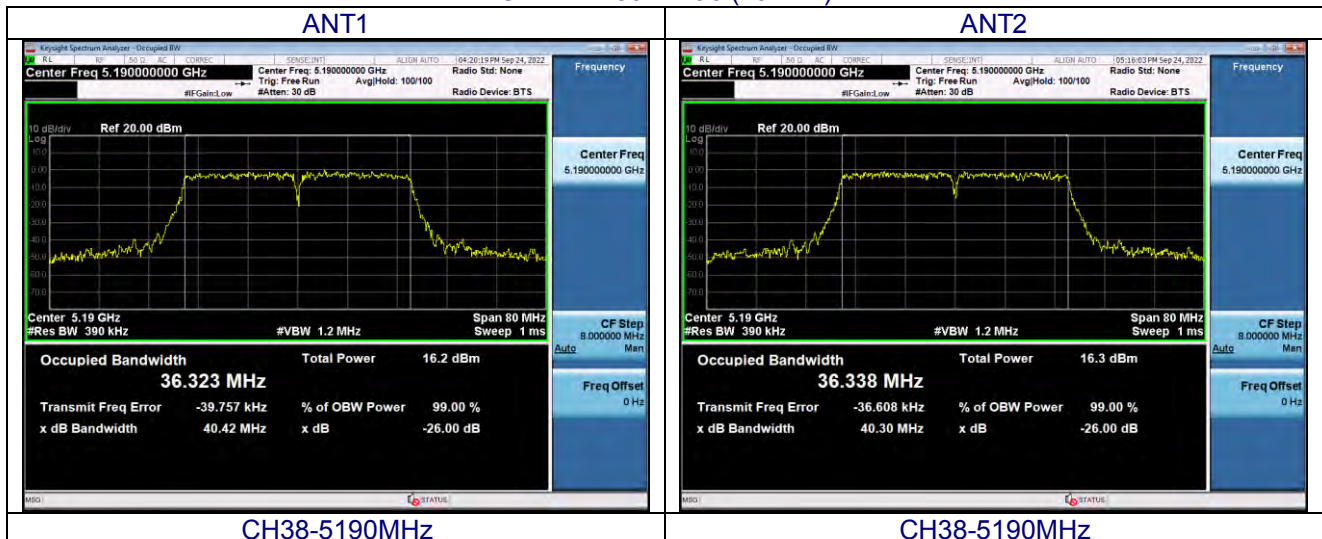


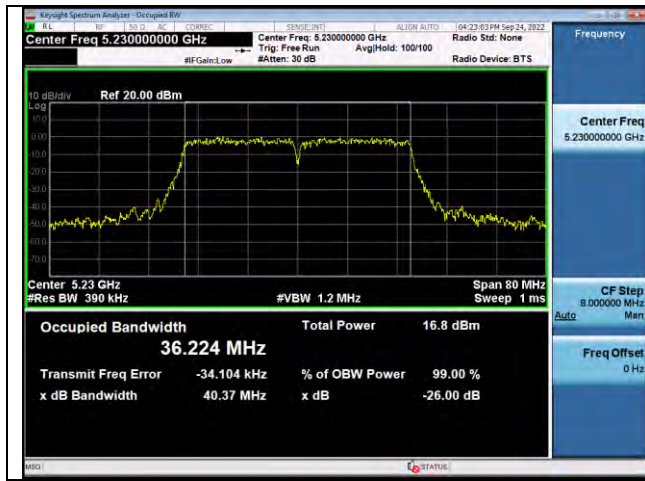
CH36-5180MHz



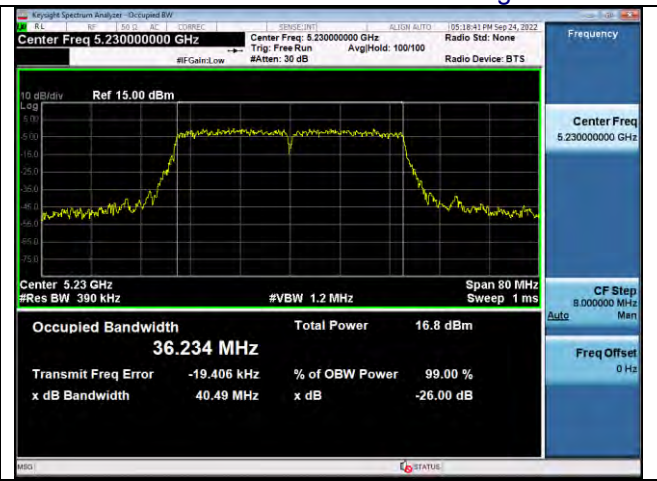


U-NII-1 – 802.11ac (40MHz)



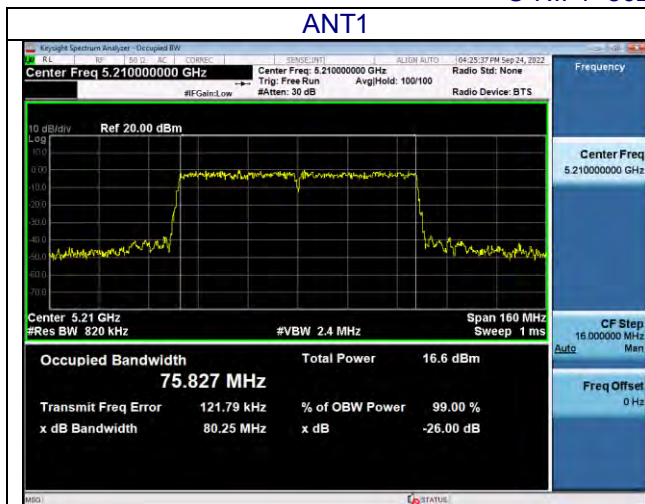


CH46-5230MHz

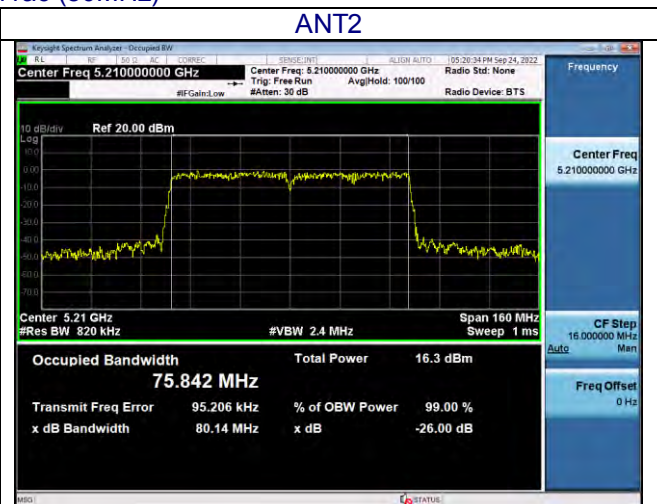


CH46-5230MHz

U-NII-1-802.11ac (80MHz)

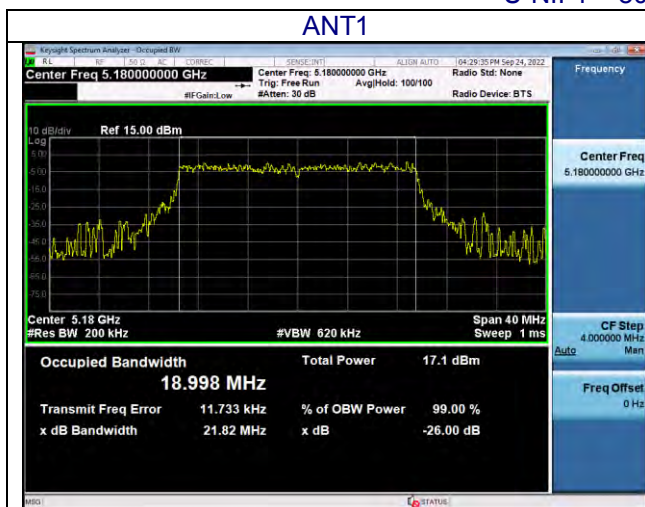


CH42 5210MHz

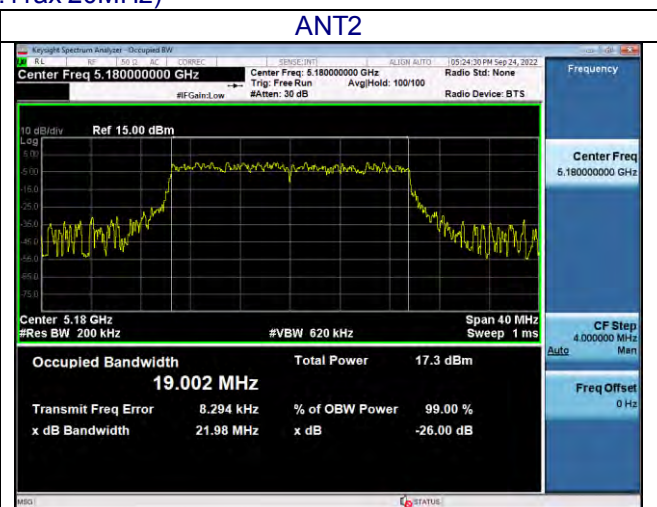


CH42 5210MHz

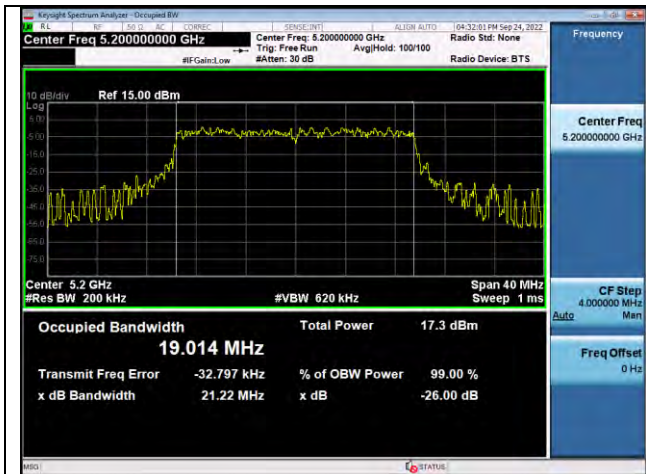
U-NII-1 - 802.11ax 20MHz)



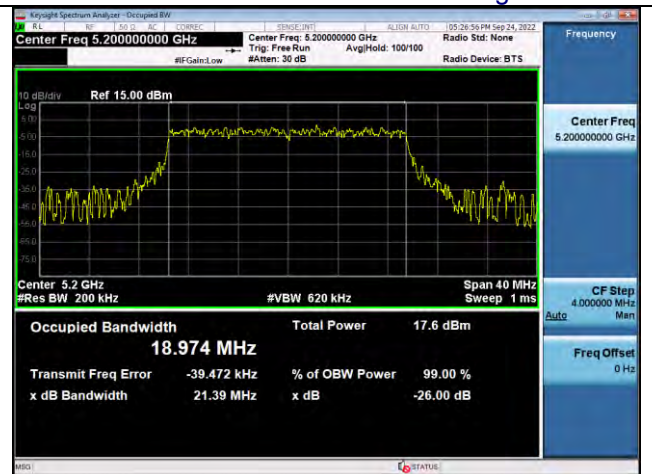
CH36-5180MHz



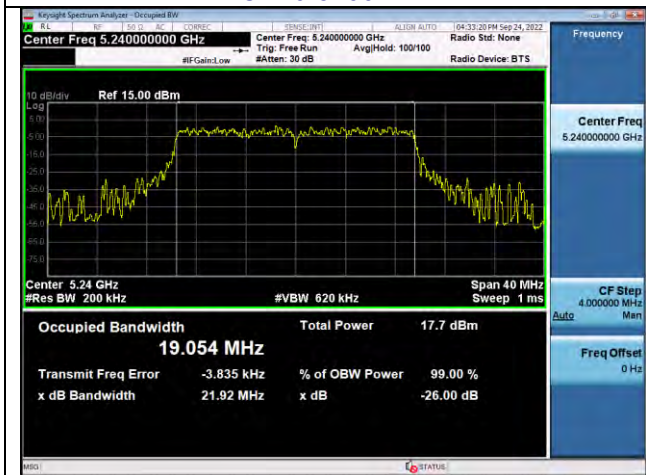
CH36-5180MHz



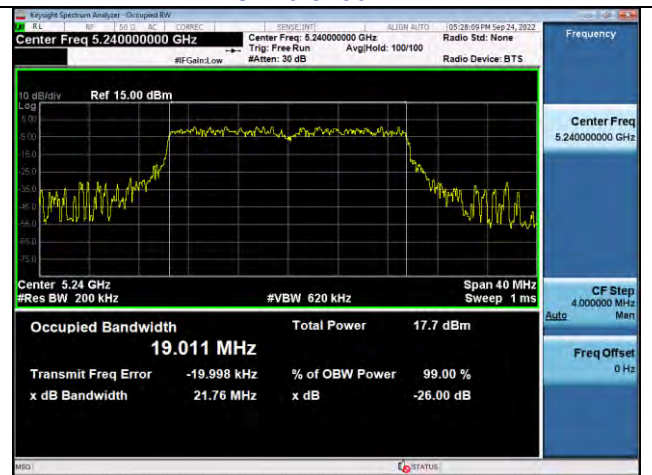
CH40-5200MHz



CH40-5200MHz



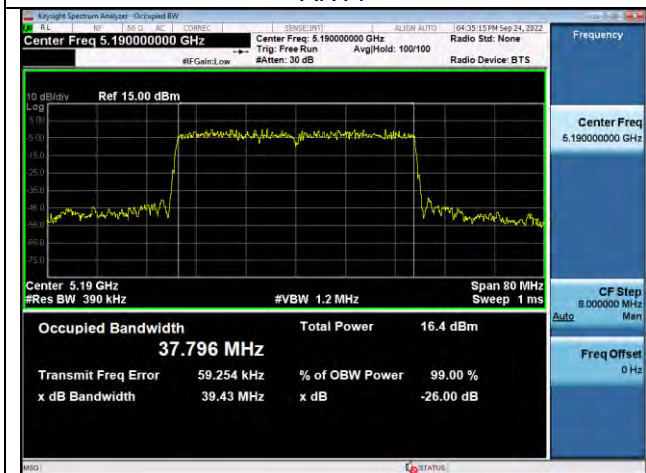
CH48-5240MHz



CH48-5240MHz

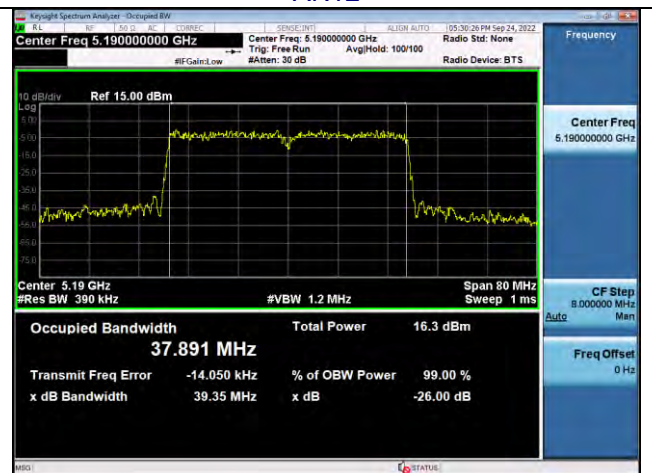
U-NII-1 – 802.11ax (40MHz)

ANT1

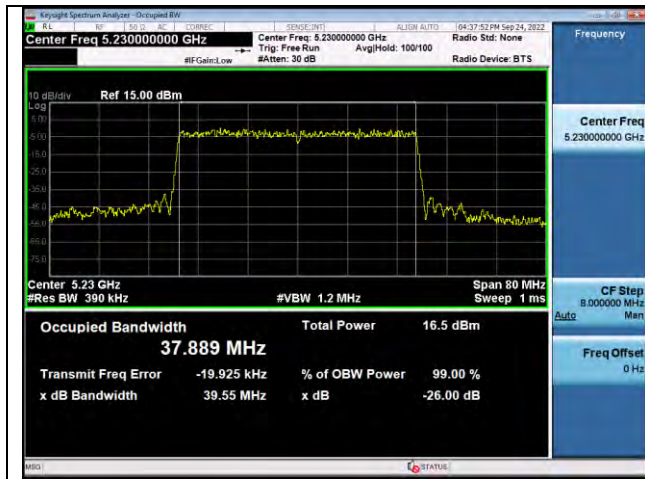


CH38-5190MHz

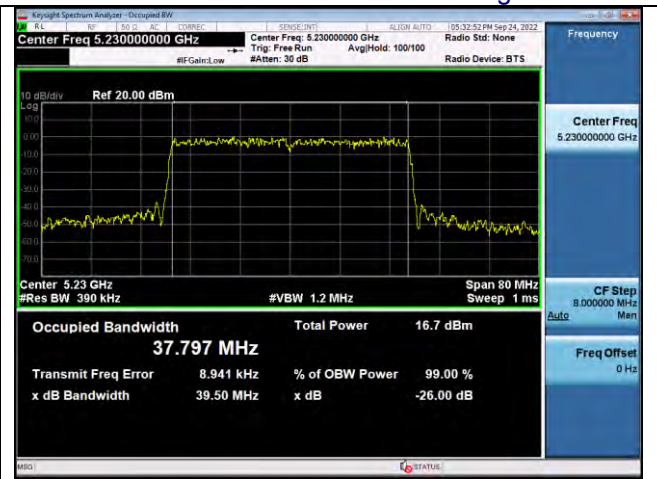
ANT2



CH38-5190MHz

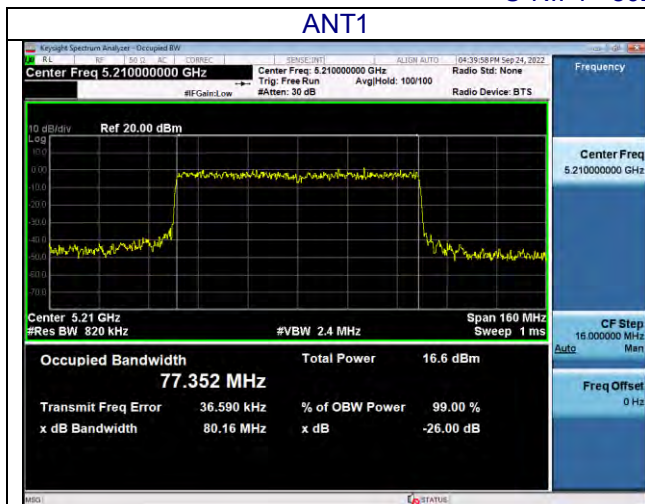


CH46-5230MHz

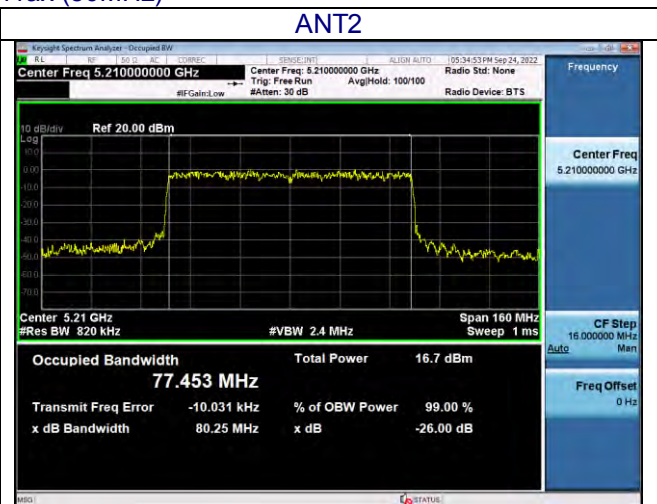


CH46-5230MHz

U-NII-1 -802.11ax (80MHz)

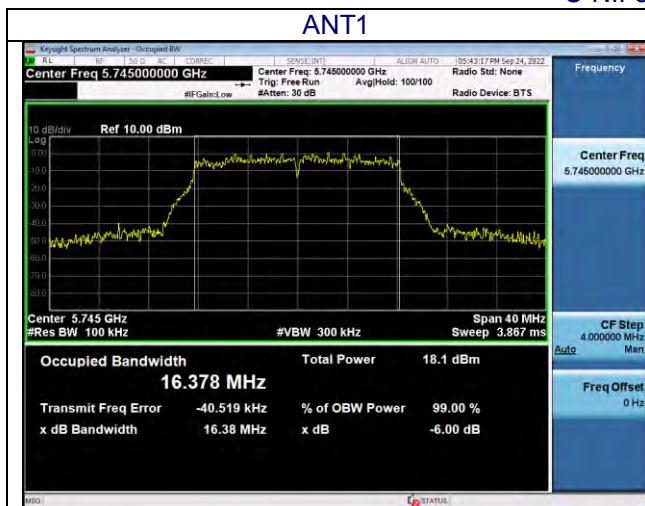


CH42 5210MHz

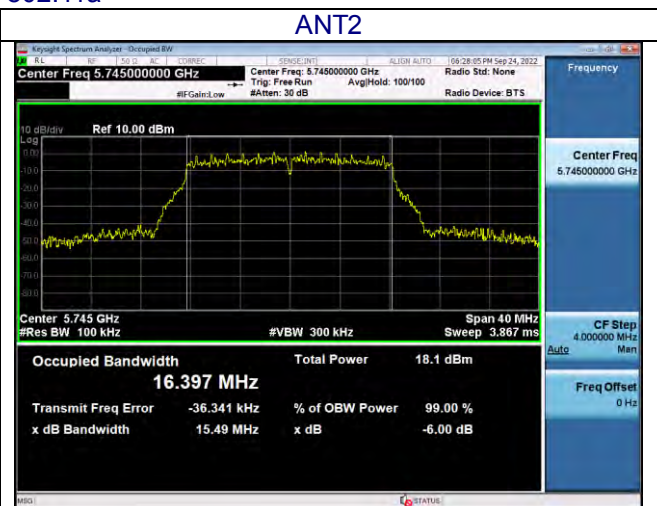


CH42 5210MHz

U-NII-3 -802.11a



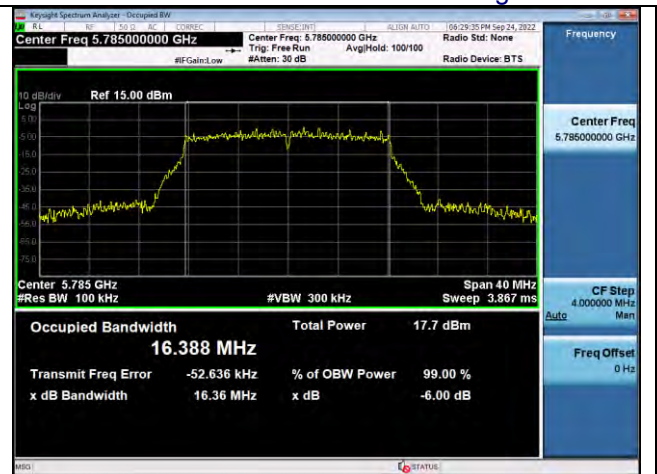
CH149 -5745MHz



CH149 -5745MHz



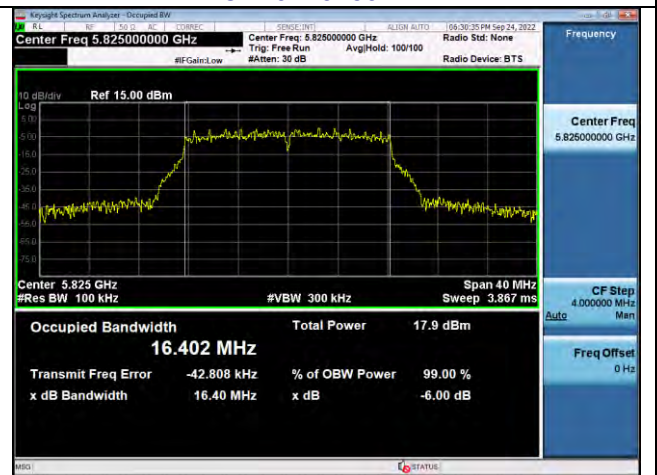
CH157 -5785MHz



CH157 -5785MHz

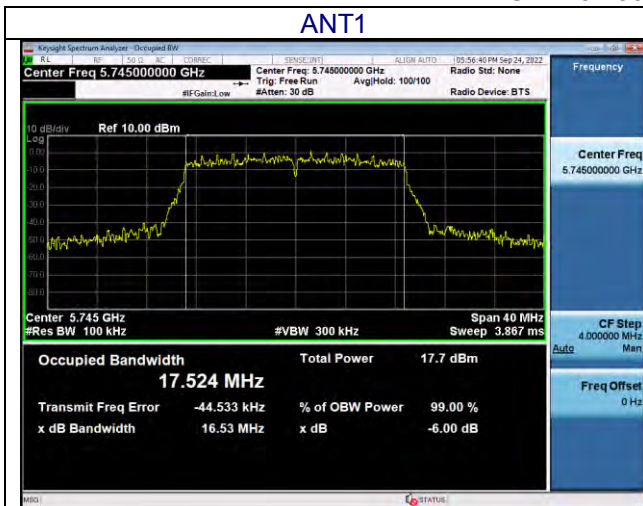


CH165 -5825MHz

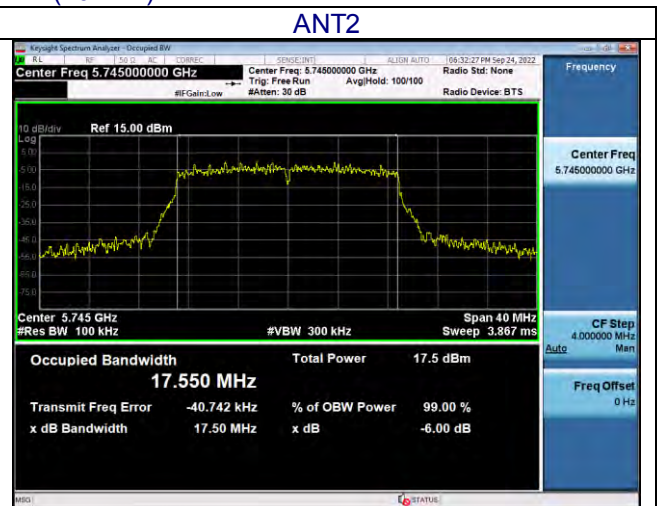


CH165 -5825MHz

U-NII-3 -802.11n (20MHz)



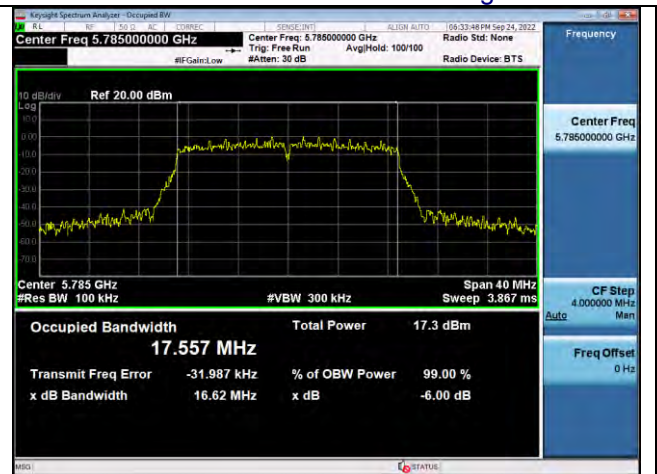
CH149 -5745MHz



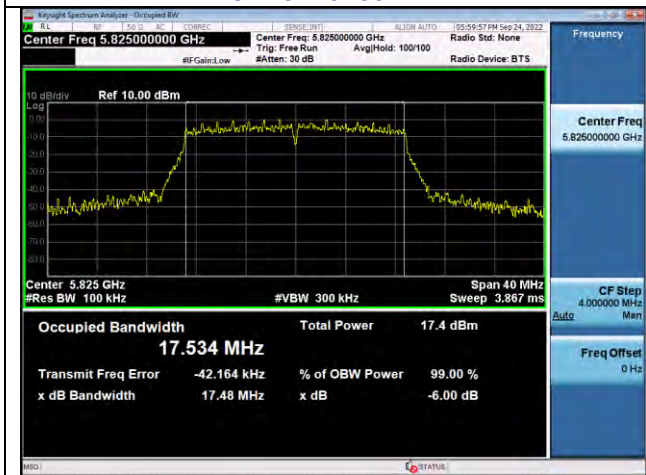
CH149 -5745MHz



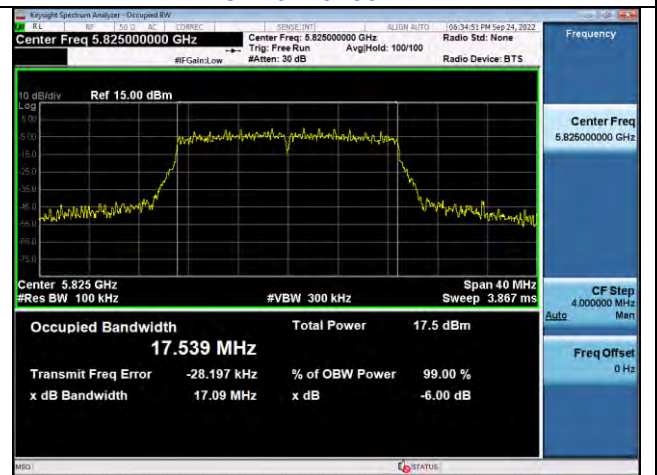
CH157 -5785MHz



CH157 -5785MHz

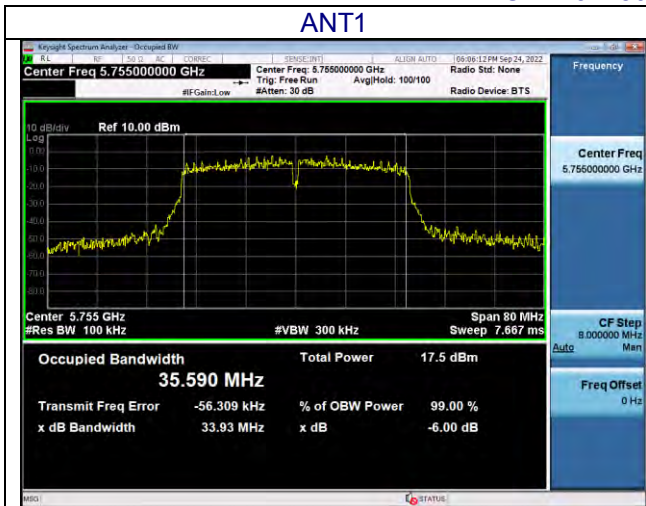


CH165 -5825MHz

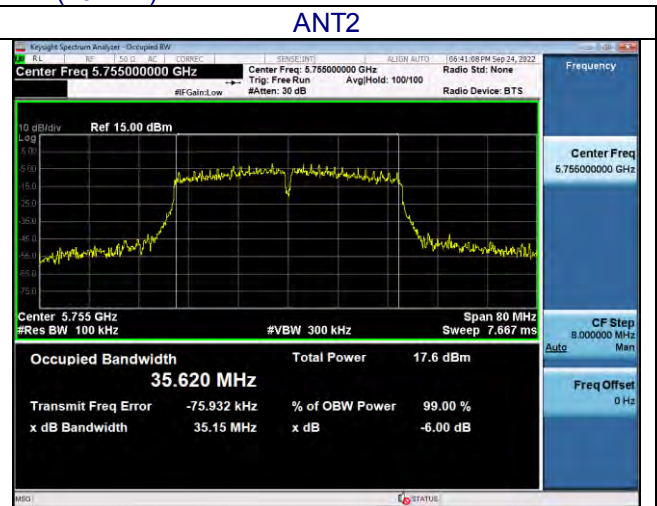


CH165 -5825MHz

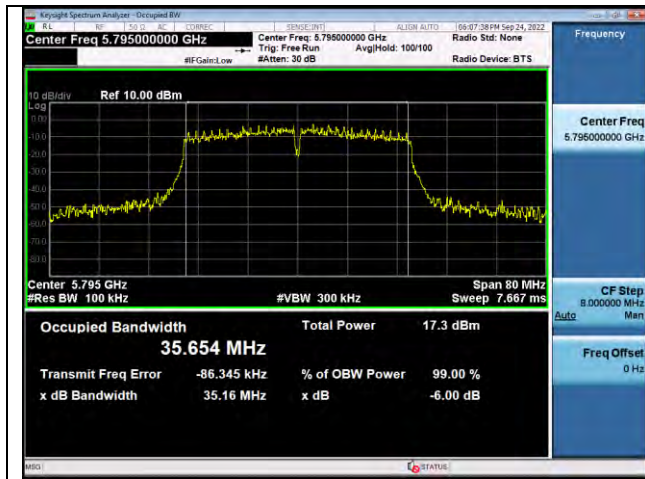
U-NII-3 – 802.11n (40MHz)



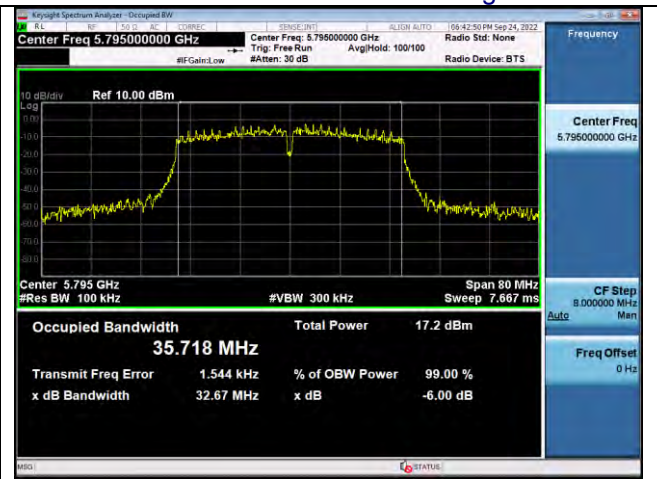
CH151 -5755MHz



CH151 -5755MHz



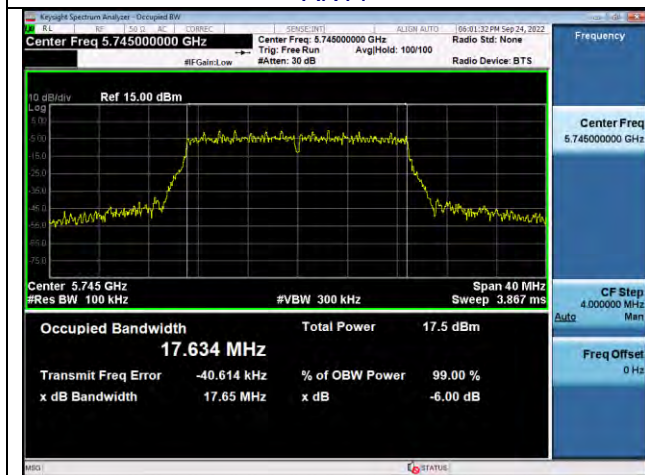
CH159 -5795MHz



CH159 -5795MHz

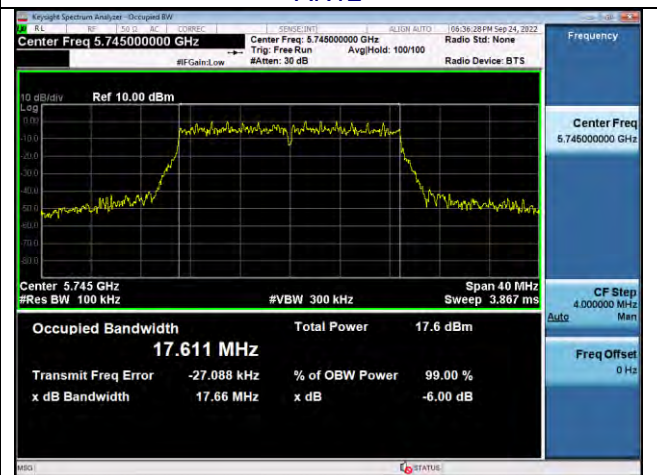
U-NII-3 -802.11ac (20MHz)

ANT1

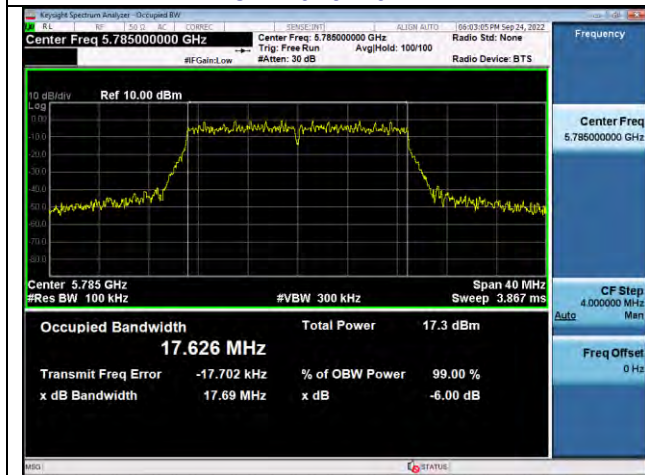


CH149 -5745MHz

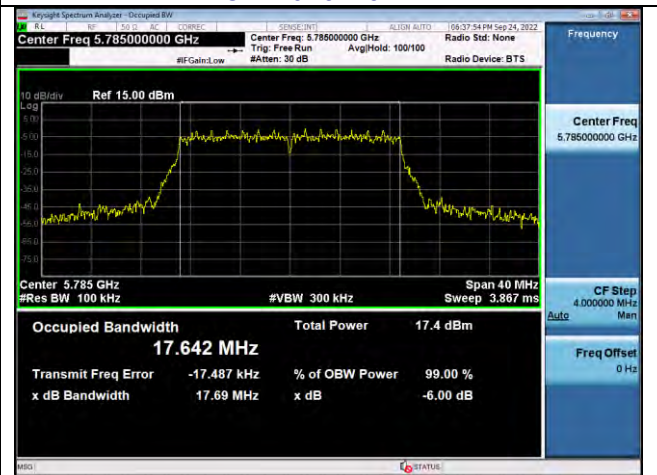
ANT2



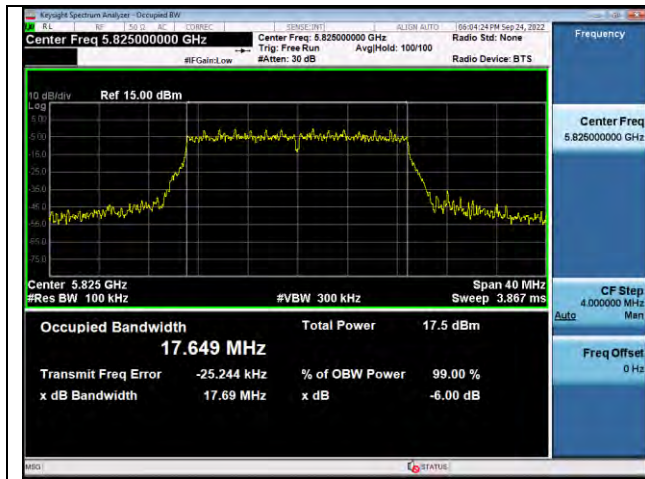
CH149 -5745MHz



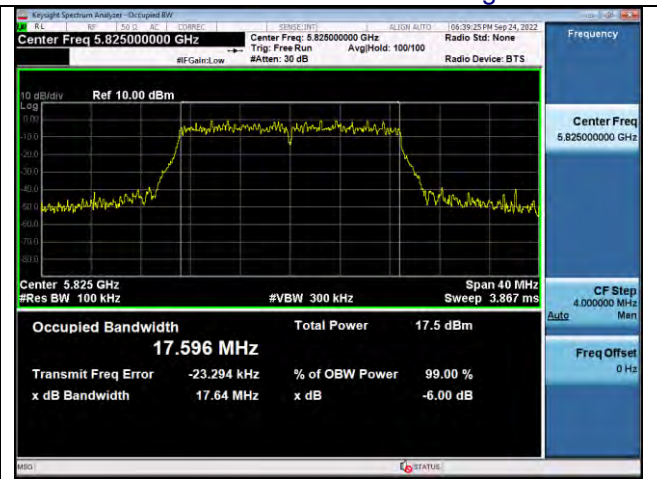
CH157 -5785MHz



CH157 -5785MHz

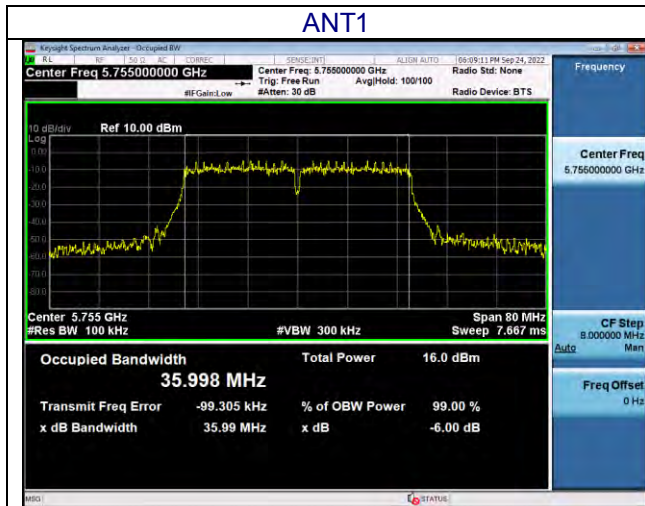


CH165 -5825MHz

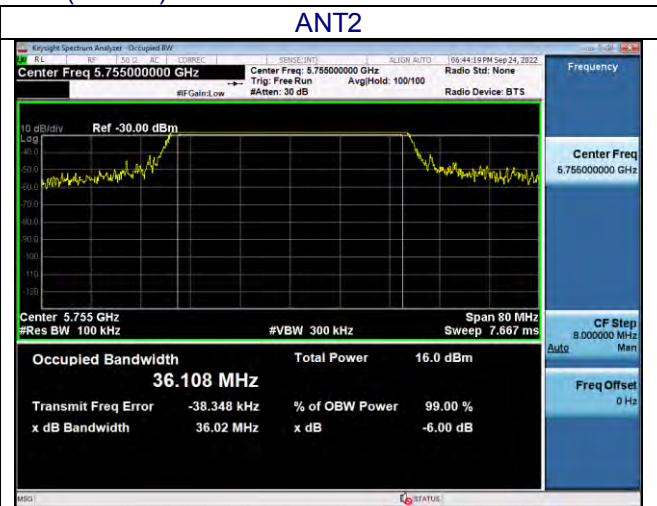


CH165 -5825MHz

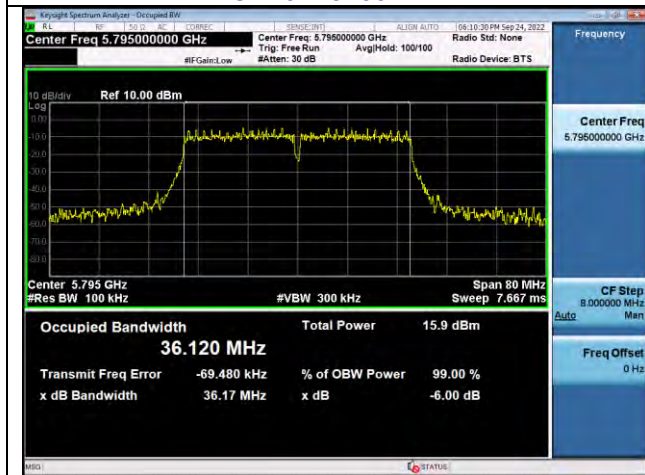
U-NII-3 – 802.11ac (40MHz)



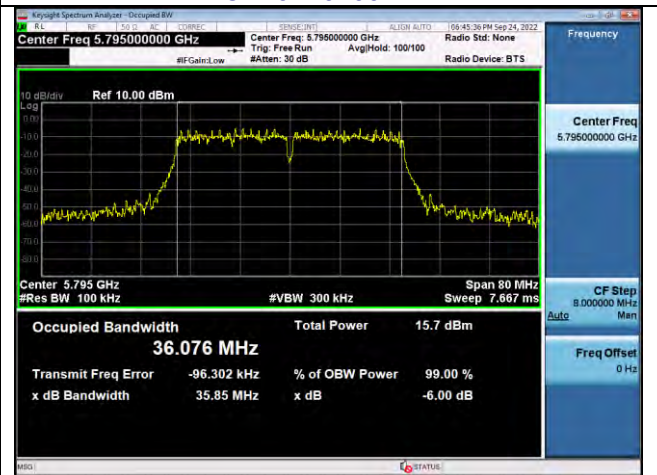
CH151 -5755MHz



CH151 -5755MHz



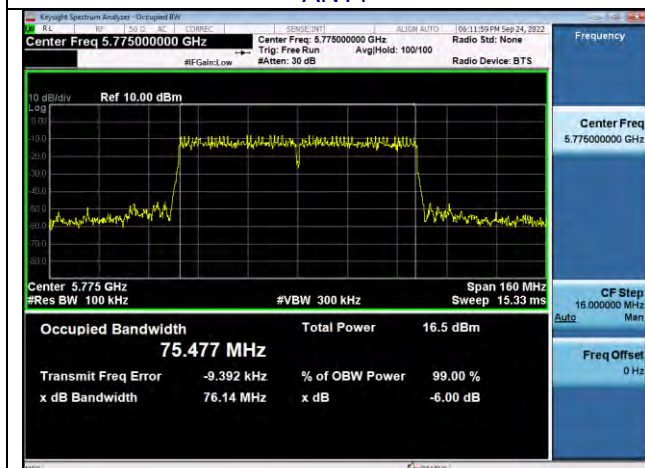
CH159 -5795MHz



CH159 -5795MHz

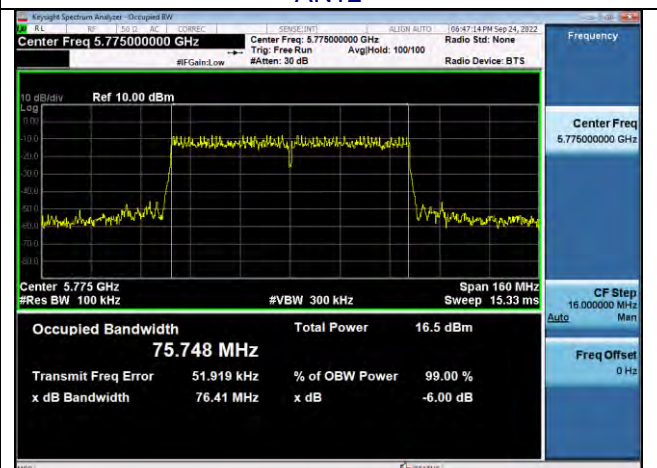
U-NII-3- 802.11ac (80MHz)

ANT1



CH155 -5775MHz

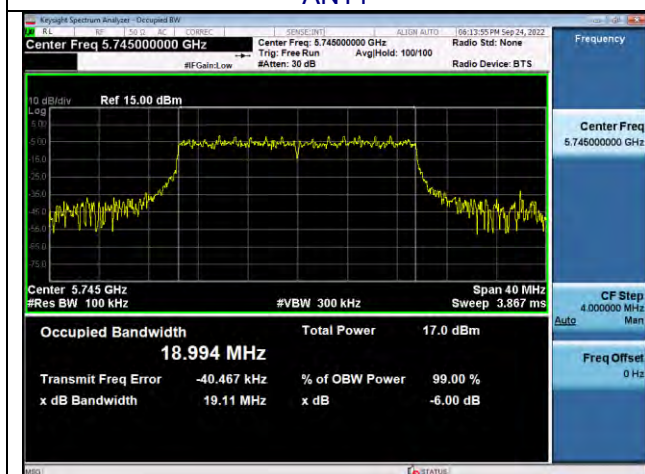
ANT2



CH155 -5775MHz

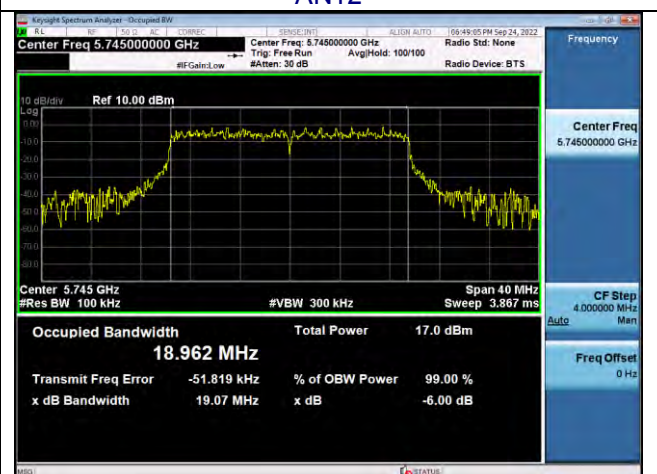
U-NII-3-802.11ax (20MHz)

ANT1



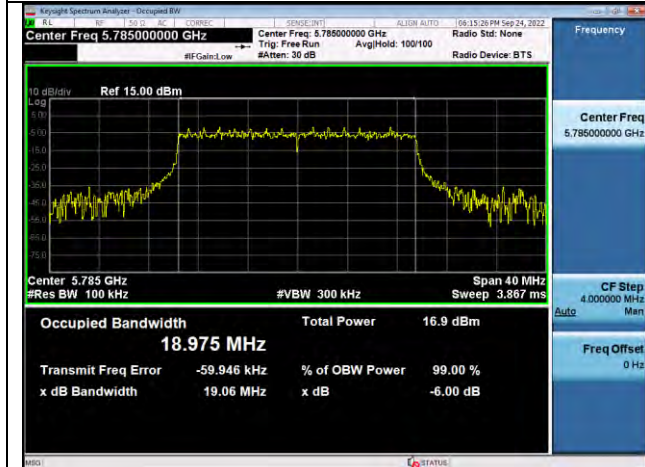
CH149 -5745MHz

ANT2



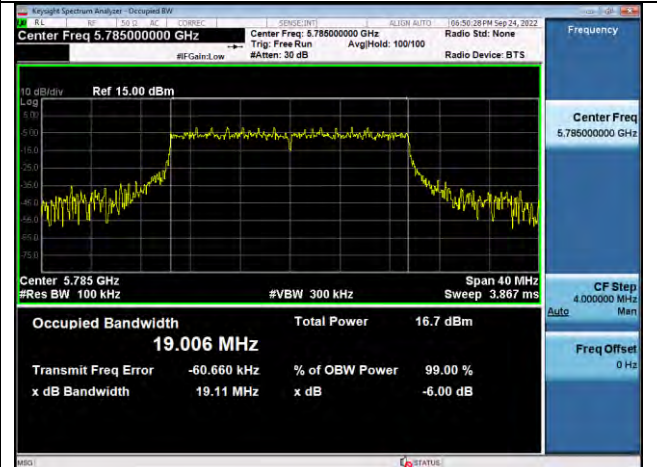
CH149 -5745MHz

ANT1

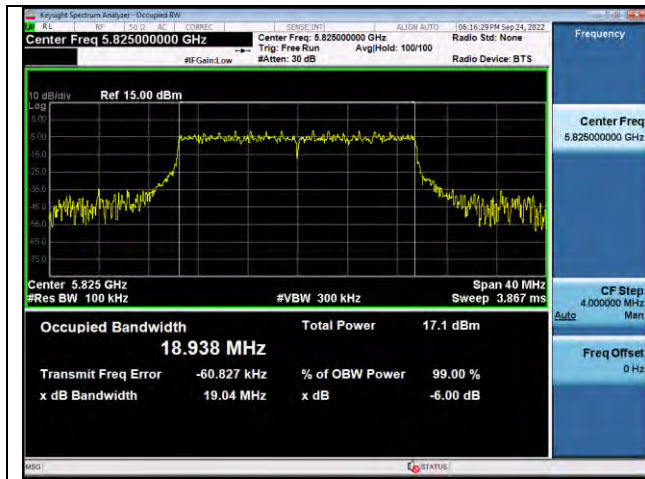


CH157 -5785MHz

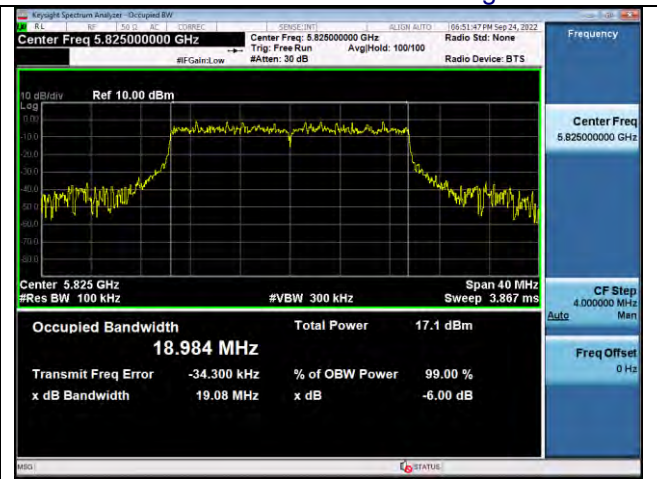
ANT2



CH157 -5785MHz



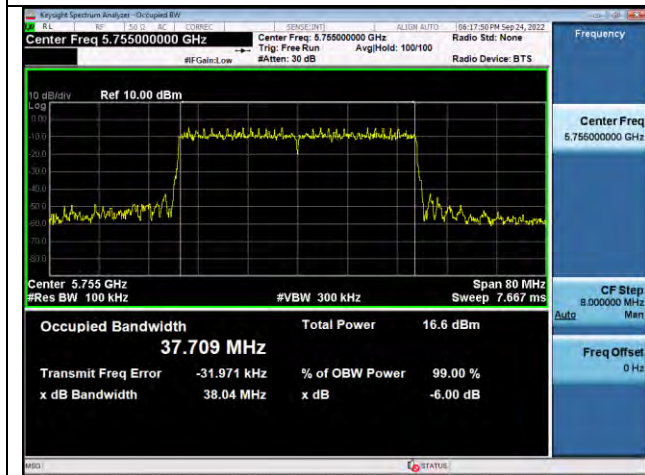
CH165 -5825MHz



CH165 -5825MHz

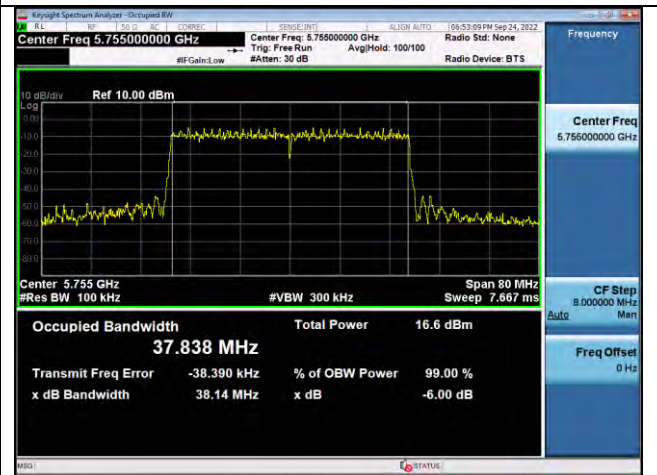
U-NII-3 – 802.11ax (40MHz)

ANT1

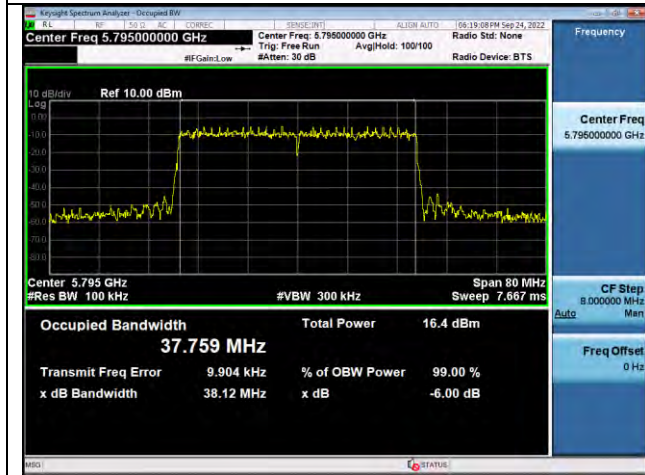


CH151 -5755MHz

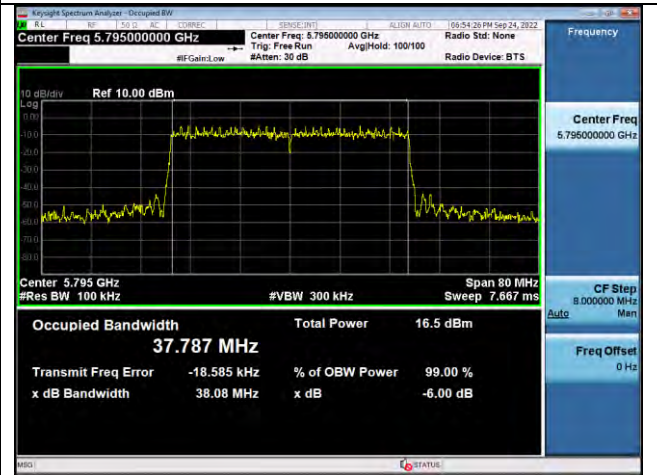
ANT2



CH151 -5755MHz



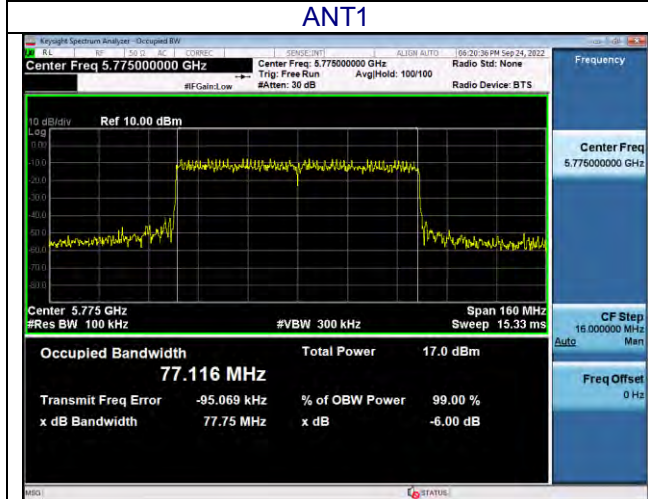
CH159 -5795MHz



CH159 -5795MHz

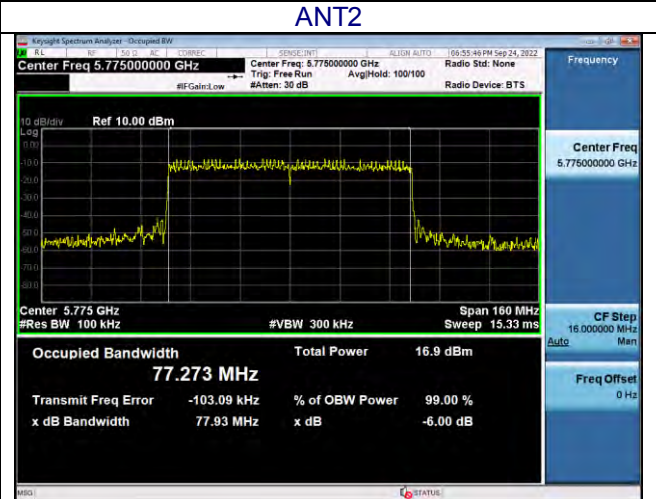
U-NII-3 – 802.11ax (80MHz)

ANT1



CH155 -5775MHz

ANT2



CH155 -5775MHz

7. OUTPUT POWER TEST

Test Requirement:	15.407 (a)(1)(2)(3)
Test Method:	KDB 789033 D02 v02r01

7.1 APPLIED PROCEDURES/LIMIT

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.

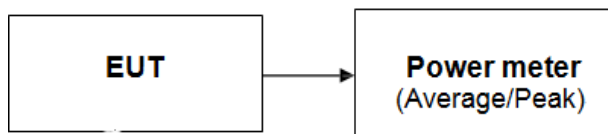
For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

Test Item	Limit	Result
Max conducted output power	1W / 30dbm	Pass
Max conducted output power	1 W / 30dbm	Pass

7.2 DEVIATION FROM STANDARD

No deviation.

7.3 TEST SETUP



7.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

7.5 TEST RESULT

Temperature :	26℃	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V

U-NII-1

802.11 Mode	Channel No.	Frequency [MHz]	Conducted Power [dBm]		Limit [dBm]
			ANT1	ANT2	
a	36	5180	7.607	7.122	30.00
	40	5200	6.302	7.511	30.00
	48	5240	7.788	7.706	30.00
n(20MHz)	36	5180	6.596	6.478	30.00
	40	5200	7.667	7.022	30.00
	48	5240	7.063	6.963	30.00
n(40MHz)	38	5190	5.119	4.645	30.00
	46	5230	5.138	5.246	30.00
ac(20MHz)	36	5180	6.513	6.538	30.00
	40	5200	6.414	6.937	30.00
	48	5240	6.639	6.377	30.00
ac(40MHz)	38	5190	4.008	4.269	30.00
	46	5230	4.606	4.897	30.00
ac(80MHz)	42	5210	1.733	2.259	30.00
ax(20MHz)	36	5180	4.789	5.168	30.00
	40	5200	4.841	4.666	30.00
	48	5240	5.074	5.31	30.00
ax(40MHz)	38	5190	3.453	3.43	30.00
	46	5230	3.165	3.804	30.00
ax(80MHz)	42	5210	2.511	2.244	30.00

MIMO/CDD Maximum Conducted Output Power Measurements

802.11 Mode	Channel No.	Freq. [MHz]	Conducted Power [dBm]		MIMO [dBm]	Limit [dBm]
			ANT1	ANT2		
a	36	5180	7.607	7.122	/	/
	40	5200	6.302	7.511	/	/
	48	5240	7.788	7.706	/	/
n(20MHz)	36	5180	6.596	6.478	9.55	30.00
	40	5200	7.667	7.022	10.37	30.00
	48	5240	7.063	6.963	10.02	30.00
n(40MHz)	38	5190	5.119	4.645	7.90	30.00
	46	5230	5.138	5.246	8.20	30.00
ac(20MHz)	36	5180	6.513	6.538	9.54	30.00
	40	5200	6.414	6.937	9.69	30.00
	48	5240	6.639	6.377	9.52	30.00
ac(40MHz)	38	5190	4.008	4.269	7.15	30.00
	46	5230	4.606	4.897	7.76	30.00
ac(80MHz)	42	5210	1.733	2.259	5.01	30.00
ax(20MHz)	36	5180	4.789	5.168	7.99	30.00
	40	5200	4.841	4.666	7.76	30.00
	48	5240	5.074	5.31	8.20	30.00
ax(40MHz)	38	5190	3.453	3.43	6.45	30.00
	46	5230	3.165	3.804	6.51	30.00
ax(80MHz)	42	5210	2.511	2.244	5.39	30.00

U-NII-3

802.11 Mode	Channel No.	Frequency [MHz]	Conducted Power [dBm]		Limit [dBm]
			ANT1	ANT2	
a	149	5745	7.123	6.966	30.00
	157	5785	6.989	6.507	30.00
	165	5825	6.504	7.198	30.00
n (20MHz)	149	5745	6.489	6.407	30.00
	157	5785	6.686	5.371	30.00
	165	5825	5.711	5.82	30.00
n (40MHz)	151	5755	4.566	4.332	30.00
	159	5795	3.926	3.547	30.00
ac (20MHz)	149	5745	6.18	5.932	30.00
	157	5785	4.799	5.844	30.00
	165	5825	5.709	5.497	30.00
ac(40MHz)	151	5755	2.656	2.874	30.00
	159	5795	1.758	2.054	30.00
ac(80MHz)	155	5775	1.179	1.498	30.00
ax(20MHz)	149	5745	4.286	4.145	30.00
	157	5785	4.346	3.883	30.00
	165	5825	4.084	3.53	30.00
ax(40MHz)	151	5755	2.639	2.861	30.00
	159	5795	2.314	2.239	30.00
ax(80MHz)	155	5775	2.484	2.329	30.00

MIMO/CDD Maximum Conducted Output Power Measurements

802.11 Mode	Channel No.	Freq. [MHz]	Conducted Power [dBm]		MIMO [dBm]	Limit [dBm]
			ANT1	ANT2		
a	149	5745	7.123	6.966	/	/
	157	5785	6.989	6.507	/	/
	165	5825	6.504	7.198	/	/
n(20MHz)	149	5745	6.489	6.407	9.46	30.00
	157	5785	6.686	5.371	9.09	30.00
	165	5825	5.711	5.82	8.78	30.00
n(40MHz)	151	5755	4.566	4.332	7.46	30.00
	159	5795	3.926	3.547	6.75	30.00
ac(20MHz)	149	5745	6.18	5.932	9.07	30.00
	157	5785	4.799	5.844	8.36	30.00
	165	5825	5.709	5.497	8.61	30.00
ac(40MHz)	151	5755	2.656	2.874	5.78	30.00
	159	5795	1.758	2.054	4.92	30.00
ac(80MHz)	155	5775	1.179	1.498	4.35	30.00
ax(20MHz)	149	5745	4.286	4.145	7.23	30.00
	157	5785	4.346	3.883	7.13	30.00
	165	5825	4.084	3.53	6.83	30.00
ax(40MHz)	151	5755	2.639	2.861	5.76	30.00
	159	5795	2.314	2.239	5.29	30.00
ax(80MHz)	155	5775	2.484	2.329	5.42	30.00

8. OUT OF BAND EDGE EMISSION

Test Requirement:	15.407 (b)
Test Method:	KDB 789033 D02 v02r01

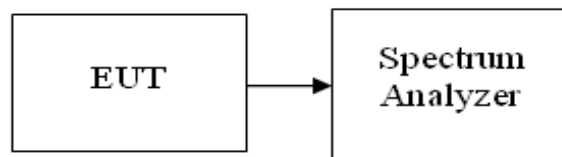
8.1 TEST PROCEDURE

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

8.2 DEVIATION FROM STANDARD

No deviation.

8.3 TEST SETUP



8.4 EUT OPERATION CONDITIONS

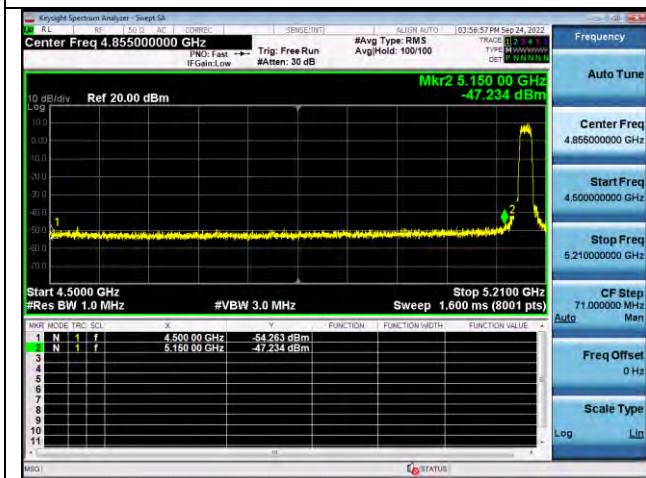
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

8.5 TEST RESULTS

Test plot as follows:

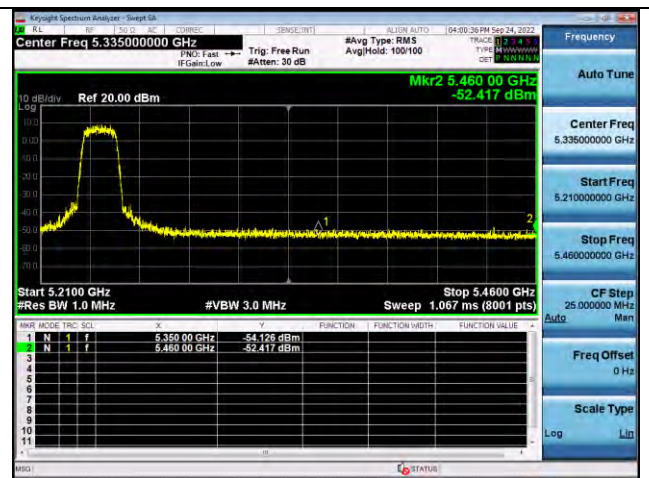
ANT1- U-NII-1

Test mode:



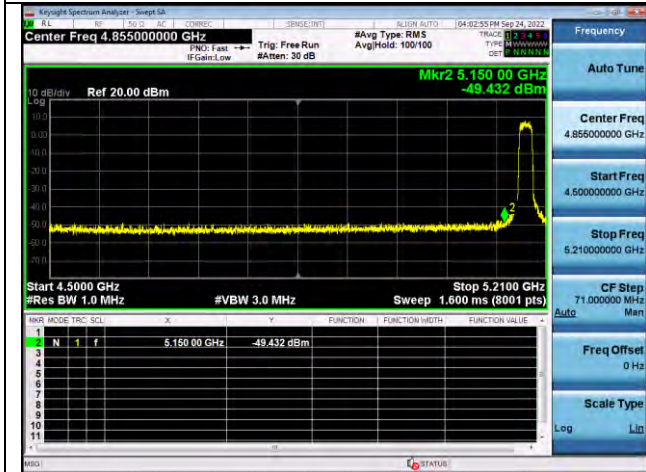
Lowest channel

802.11a



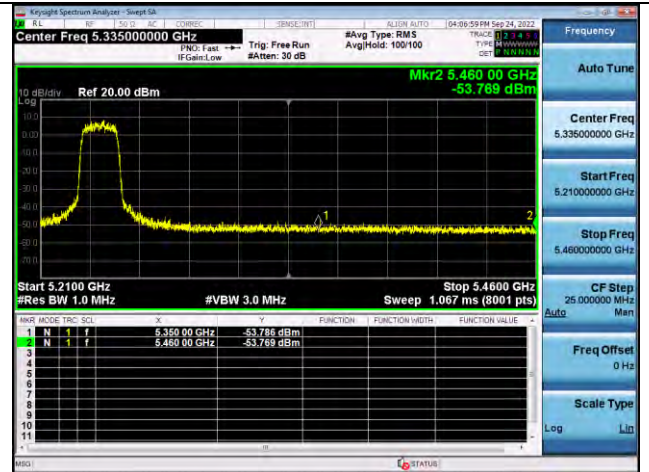
Highest channel

Test mode:



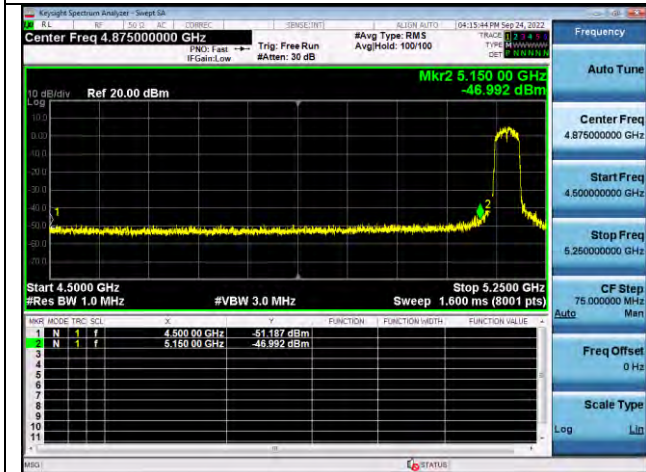
Lowest channel

802.11n20



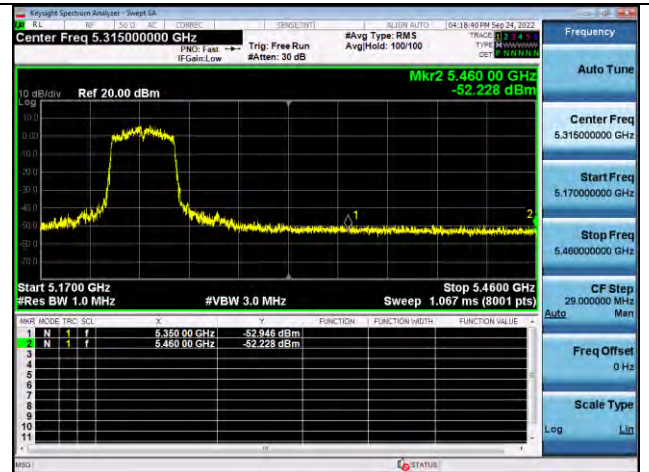
Highest channel

Test mode:



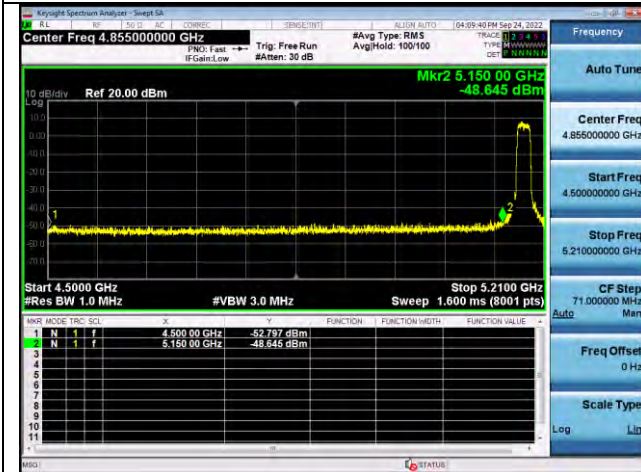
Lowest channel

802.11n40



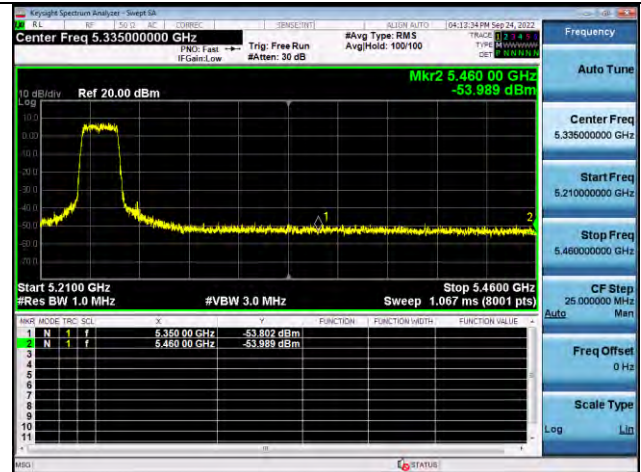
Highest channel

Test mode:



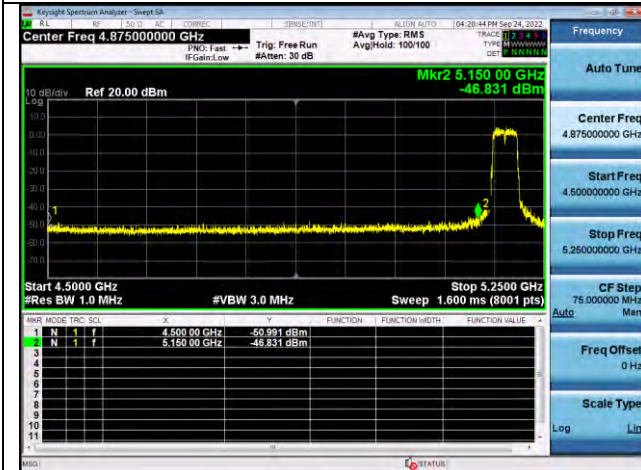
Lowest channel

802.11ac20



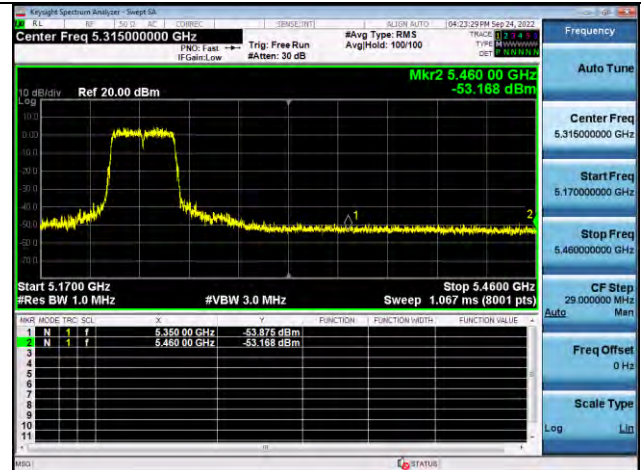
Highest channel

Test mode:



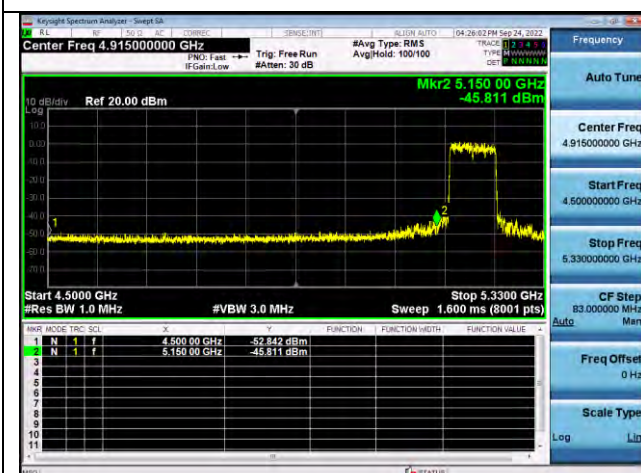
Lowest channel

802.11ac40



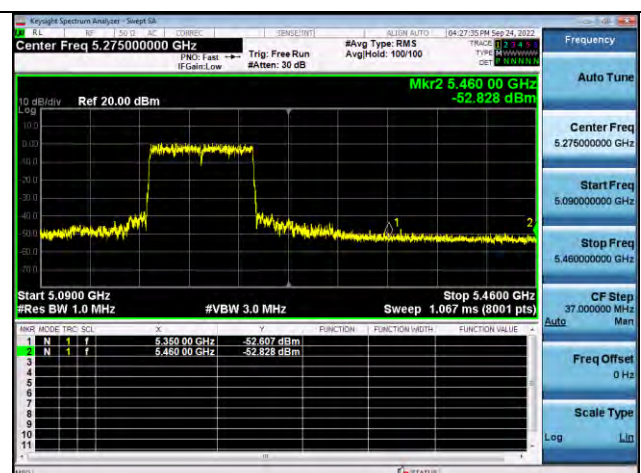
Highest channel

Test mode:



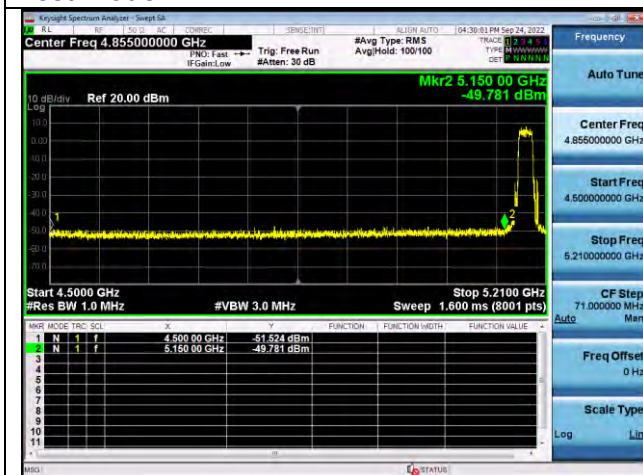
Lowest channel

802.11ac80



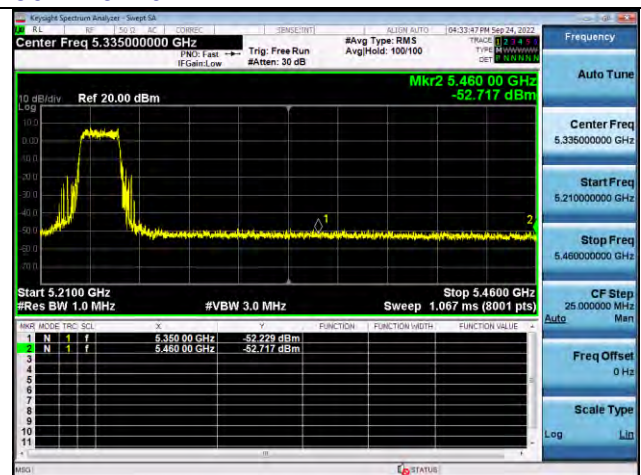
Highest channel

Test mode:



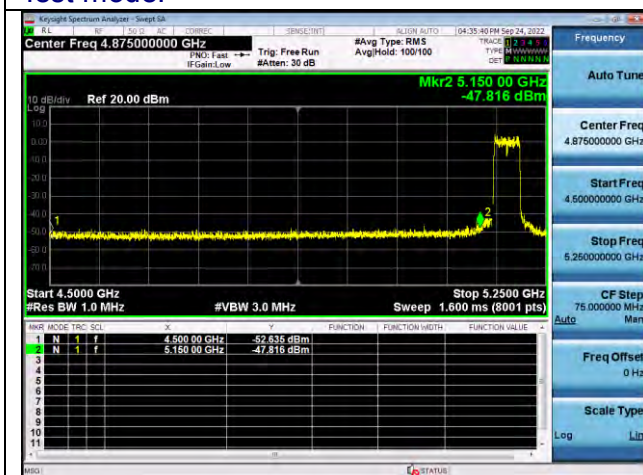
Lowest channel

802.11ax20



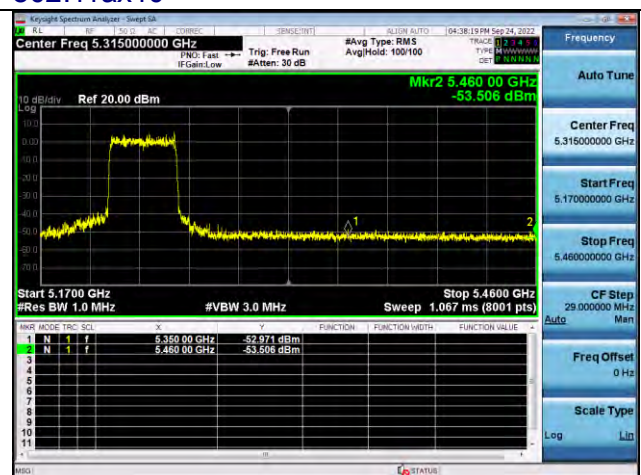
Highest channel

Test mode:



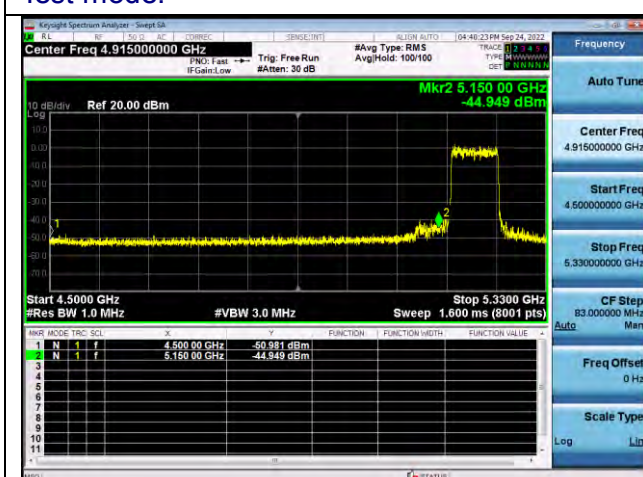
Lowest channel

802.11ax40



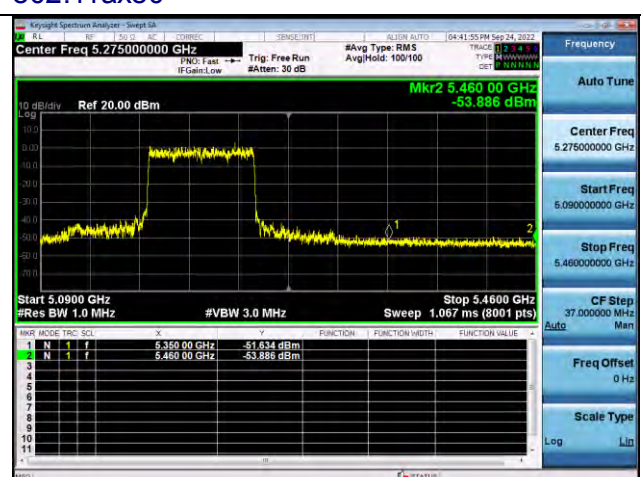
Highest channel

Test mode:



Lowest channel

802.11ax80

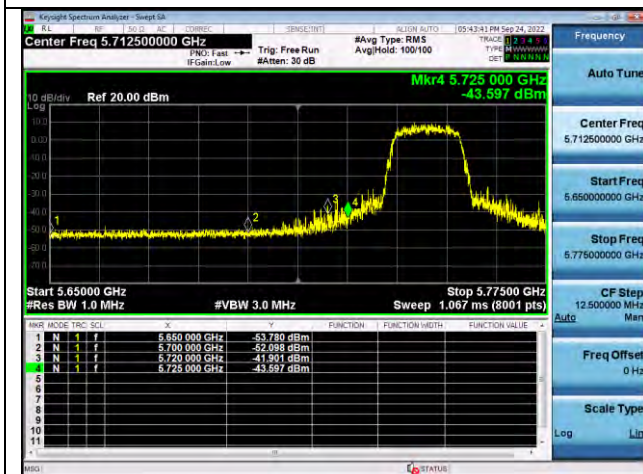


Highest channel

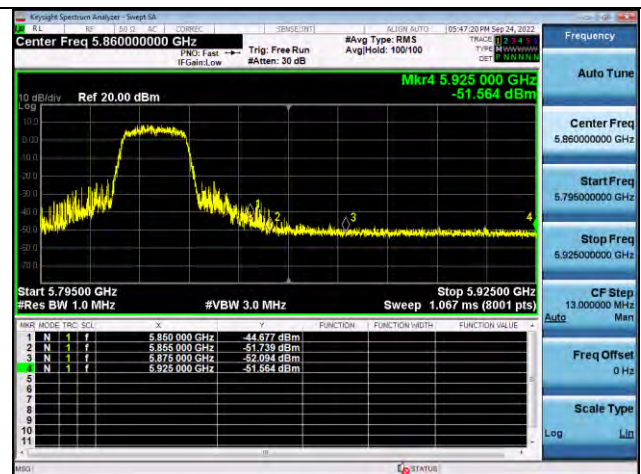
ANT1- U-NII-3

Test mode:

802.11a



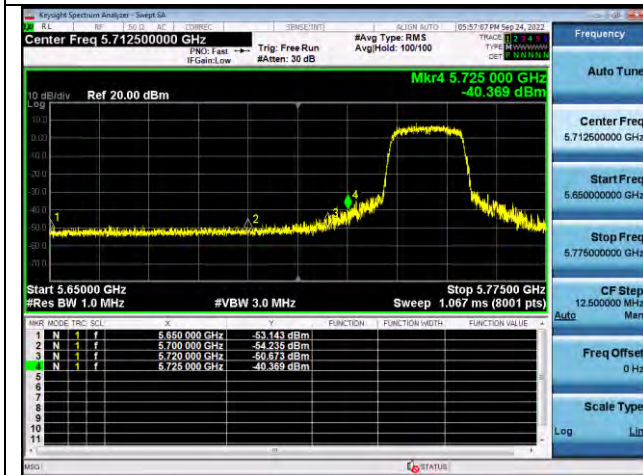
Lowest channel



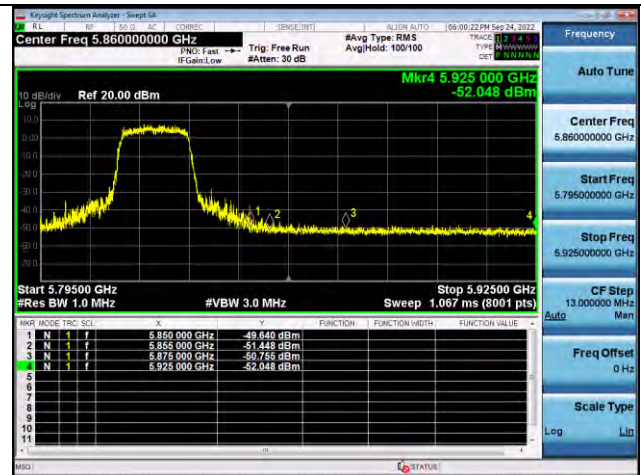
Highest channel

Test mode:

802.11n20



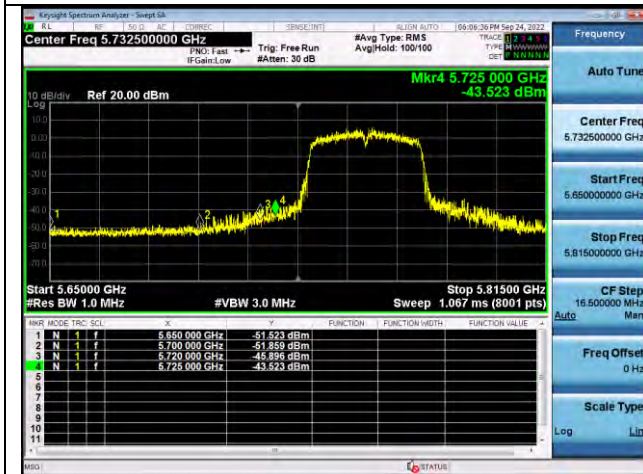
Lowest channel



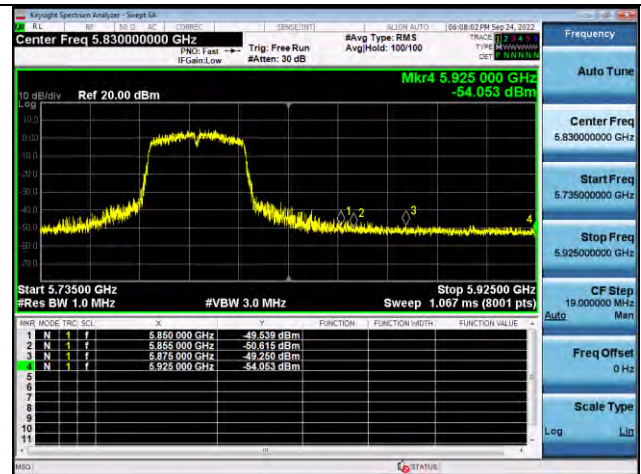
Highest channel

Test mode:

802.11n40

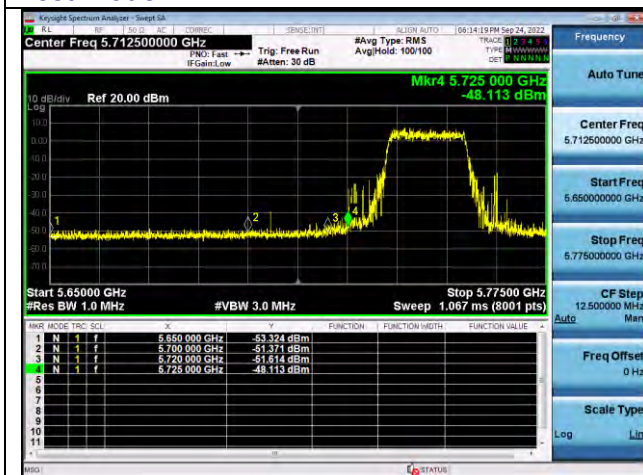


Lowest channel



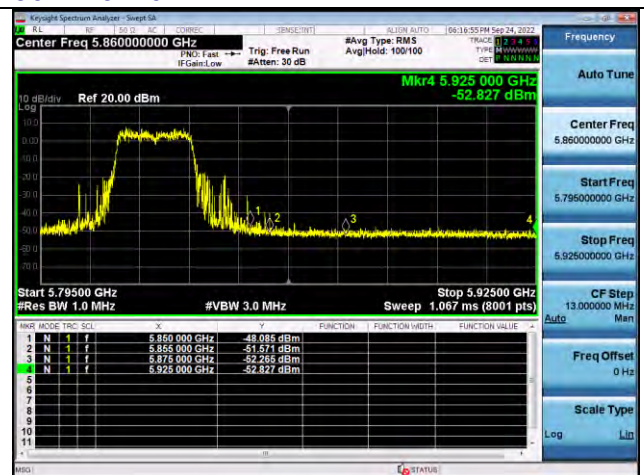
Highest channel

Test mode:



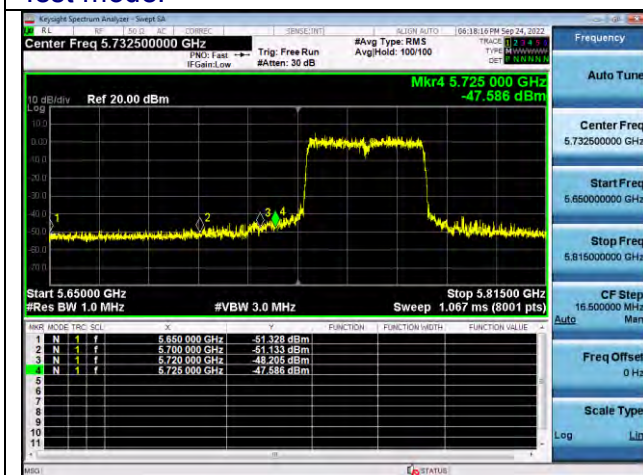
Lowest channel

802.11ax20



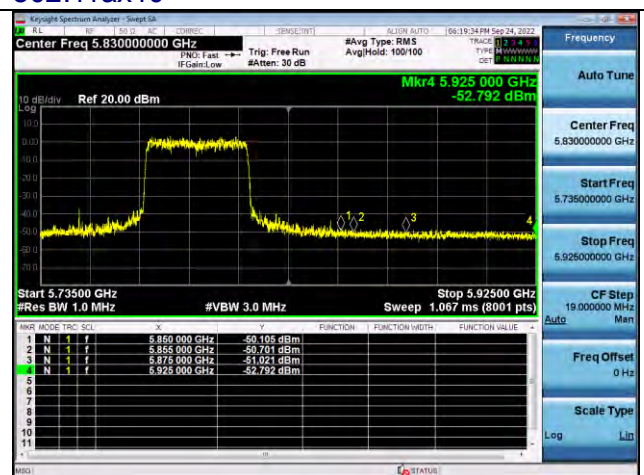
Highest channel

Test mode:



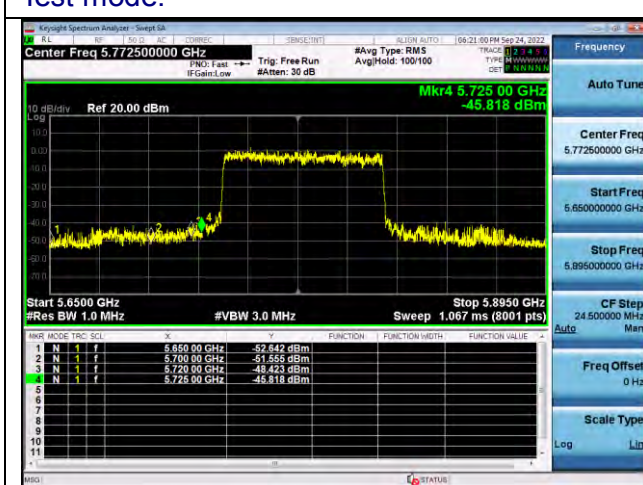
Lowest channel

802.11ax40



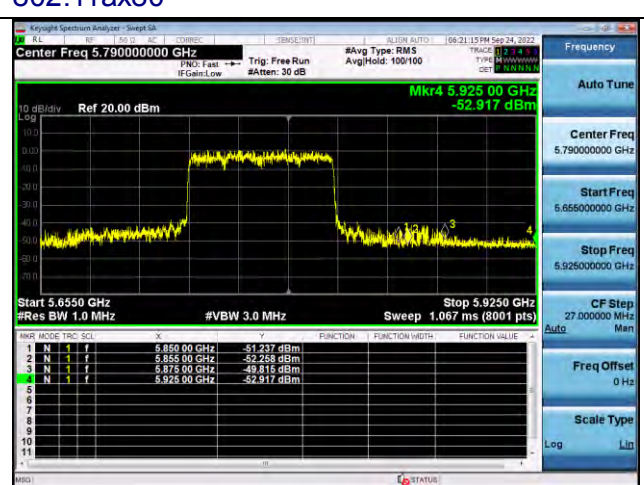
Highest channel

Test mode:



Lowest channel

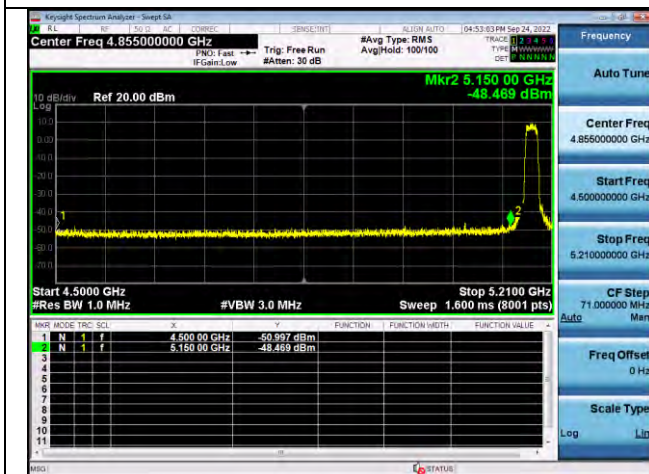
802.11ax80



Highest channel

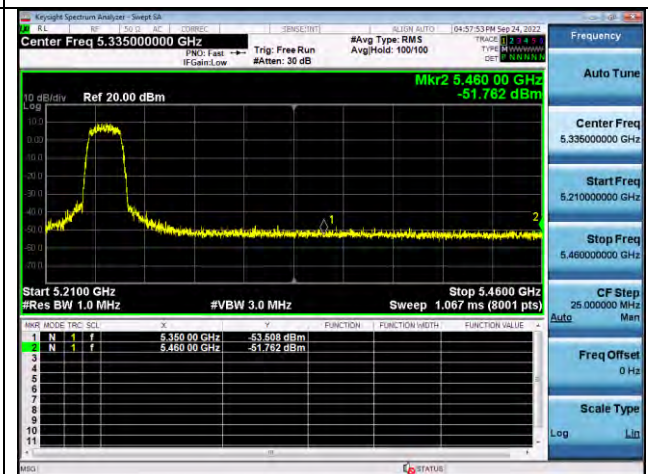
ANT2- U-NII-1

Test mode:



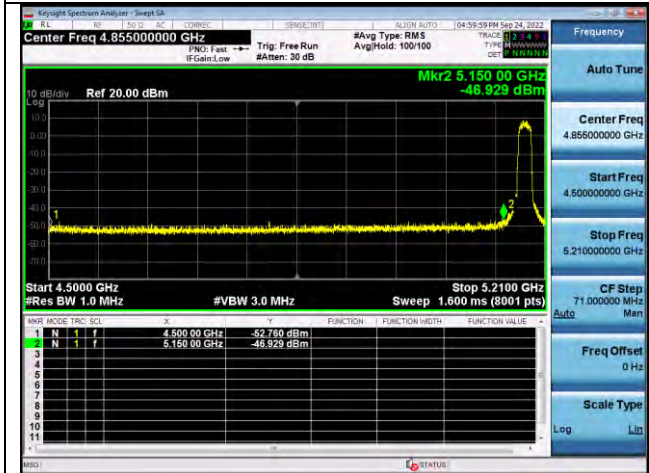
Lowest channel

802.11a



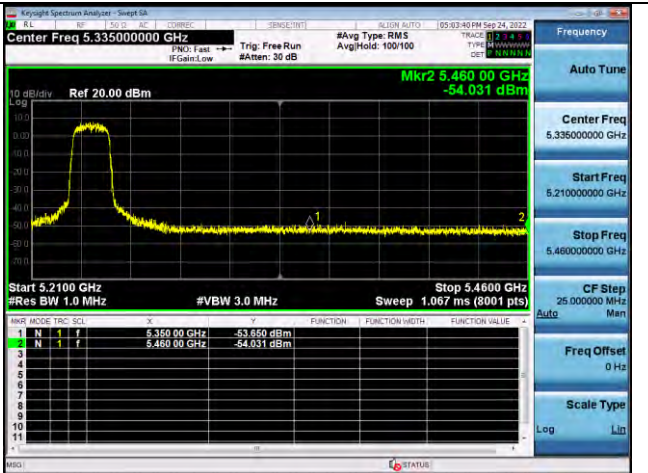
Highest channel

Test mode:



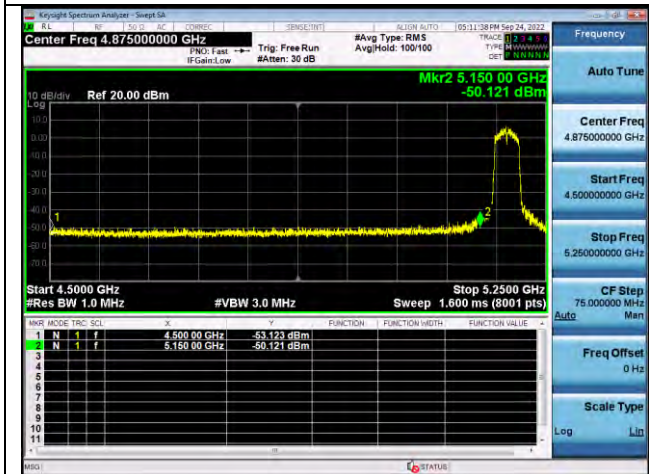
Lowest channel

802.11n20



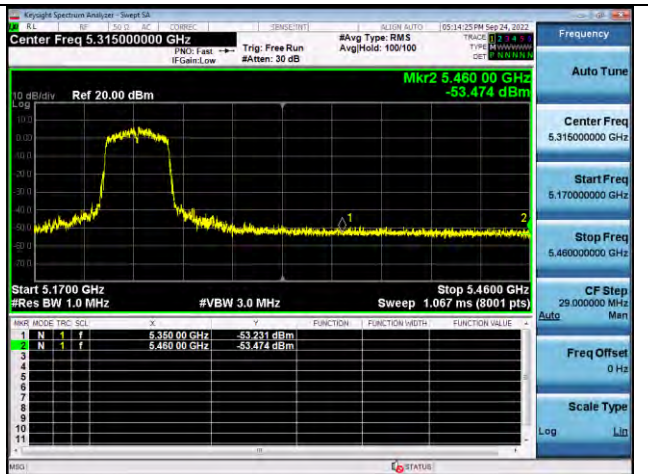
Highest channel

Test mode:



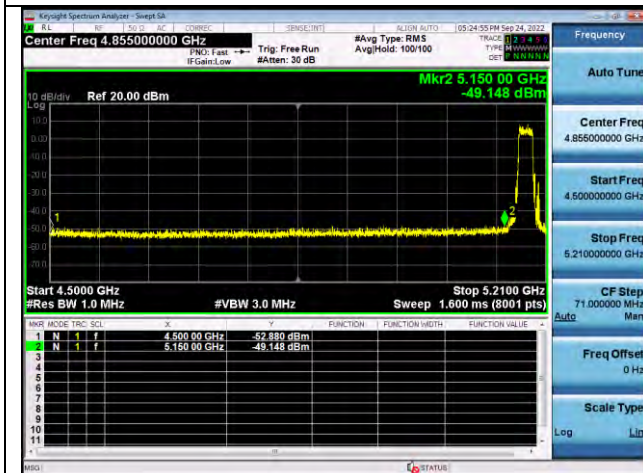
Lowest channel

802.11n40



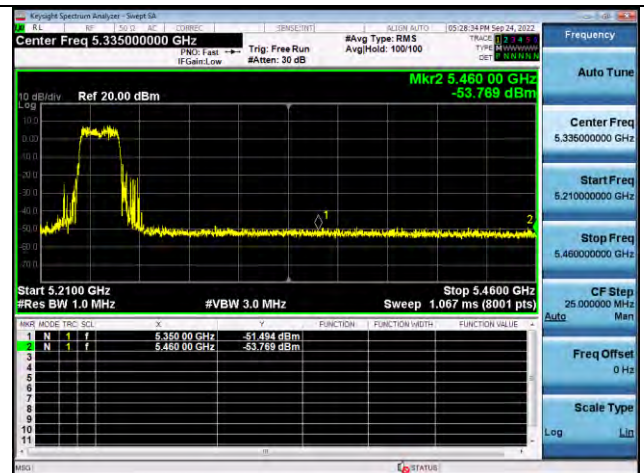
Highest channel

Test mode:



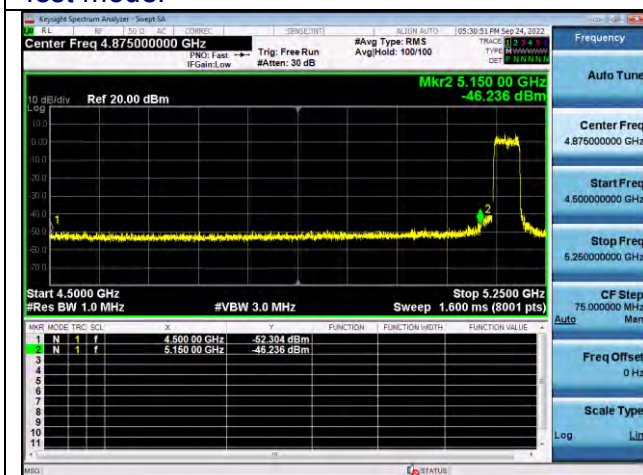
Lowest channel

802.11ax20



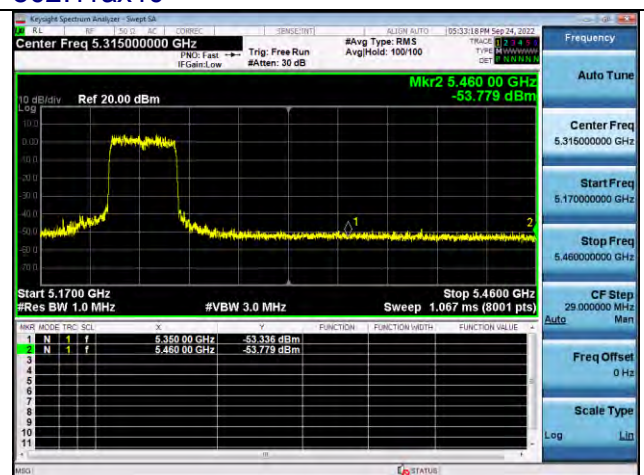
Highest channel

Test mode:



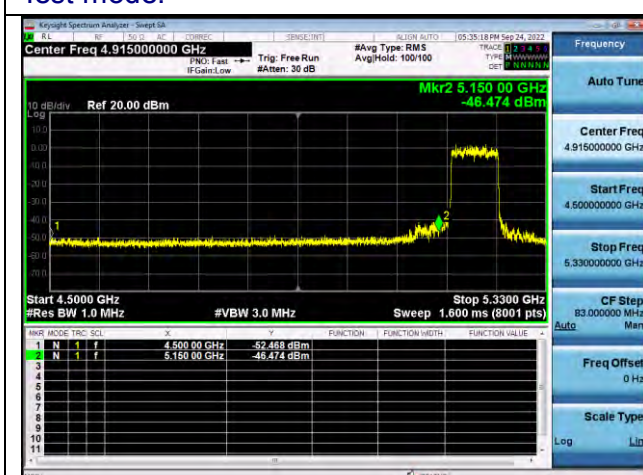
Lowest channel

802.11ax40



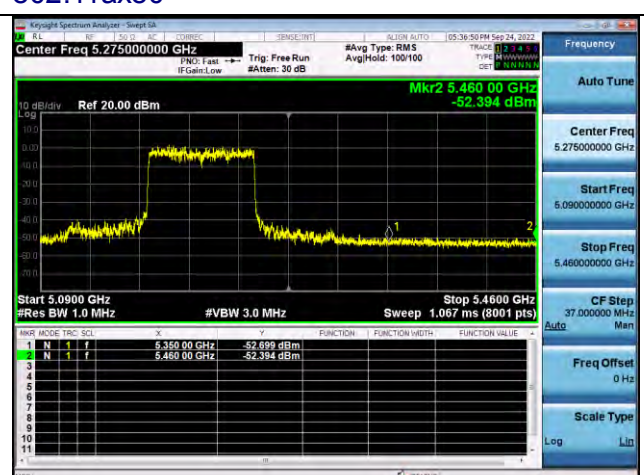
Highest channel

Test mode:



Lowest channel

802.11ax80

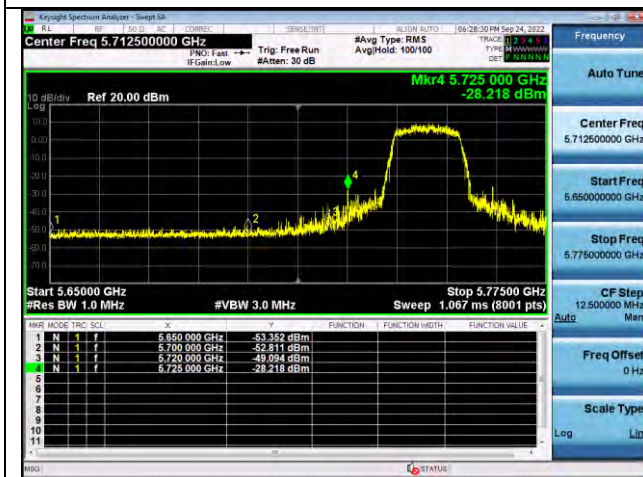


Highest channel

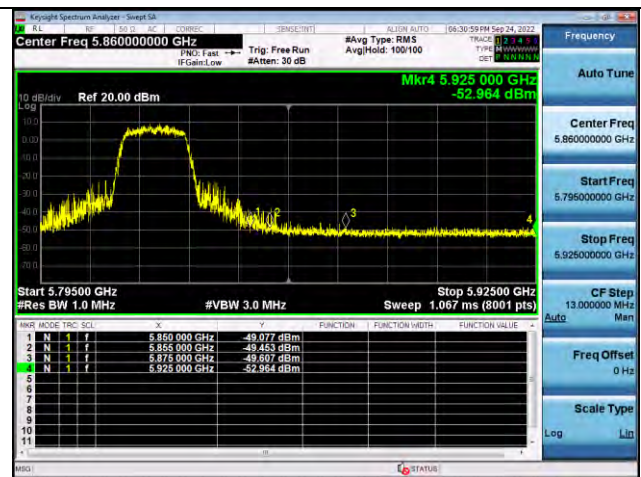
ANT2- U-NII-3

Test mode:

802.11a



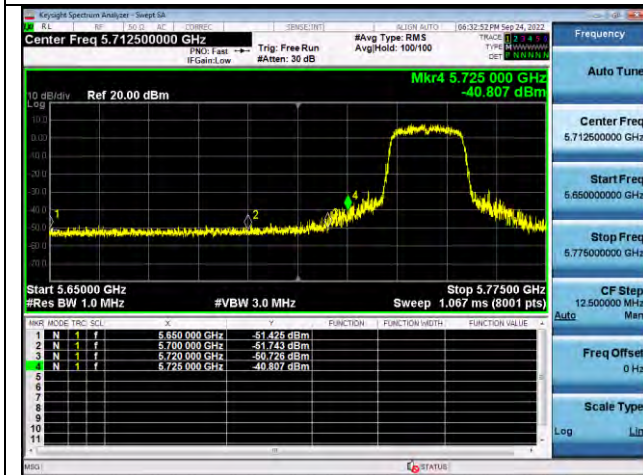
Lowest channel



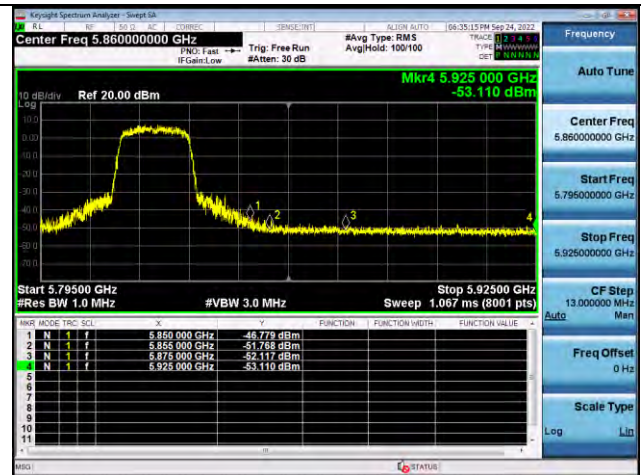
Highest channel

Test mode:

802.11n20



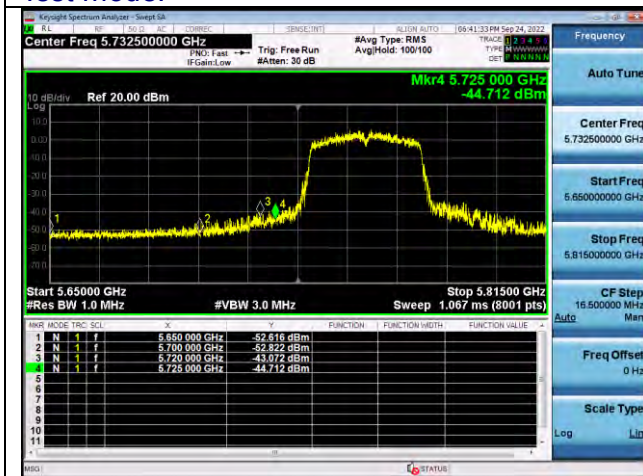
Lowest channel



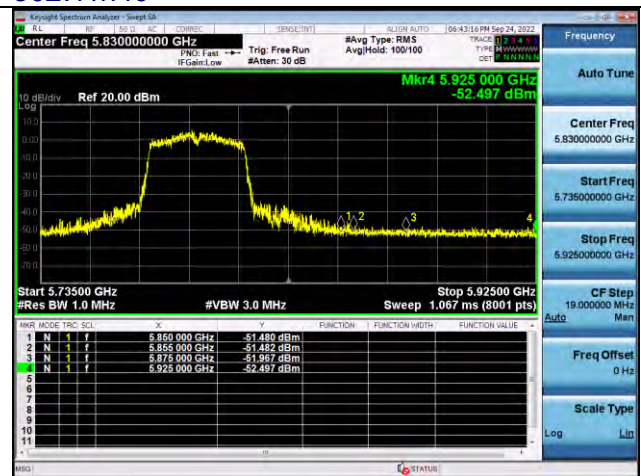
Highest channel

Test mode:

802.11n40

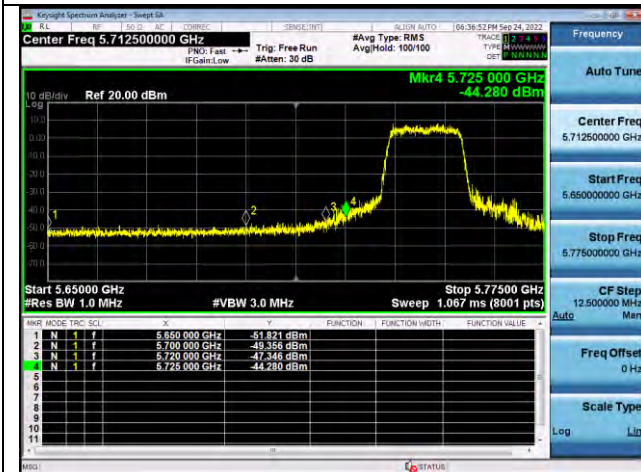


Lowest channel



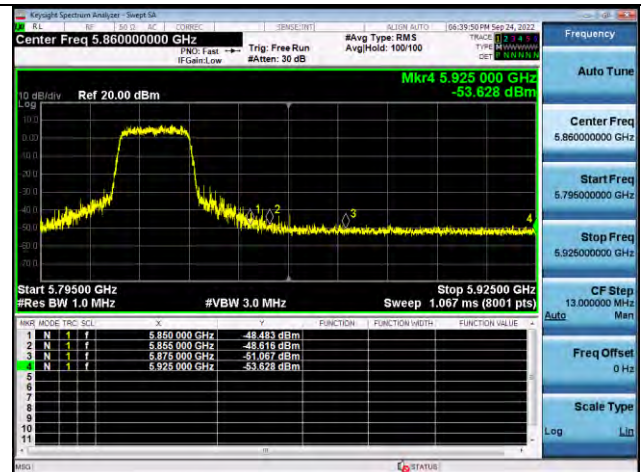
Highest channel

Test mode:



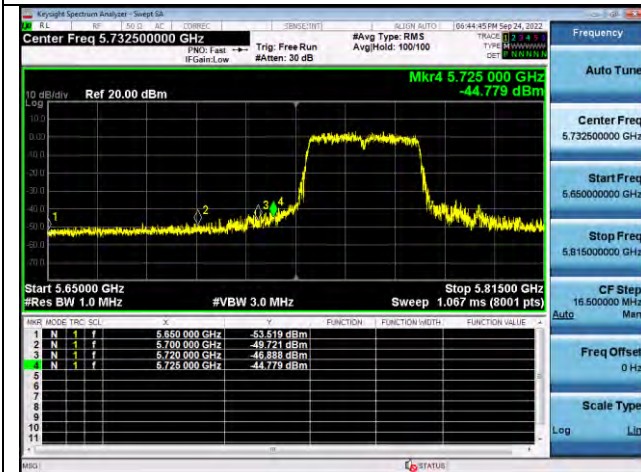
Lowest channel

802.11ac20



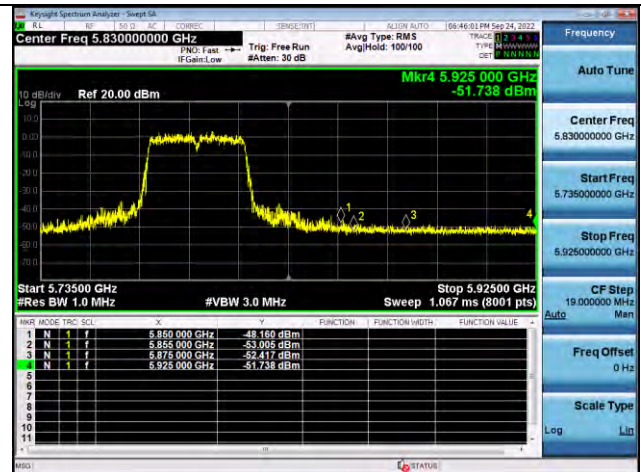
Highest channel

Test mode:



Lowest channel

802.11ac40



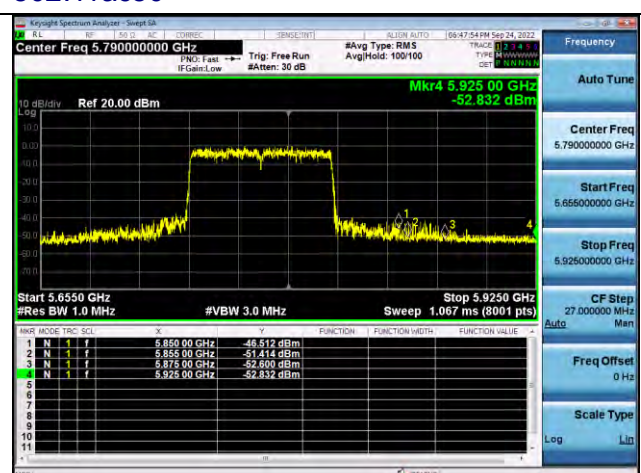
Highest channel

Test mode:



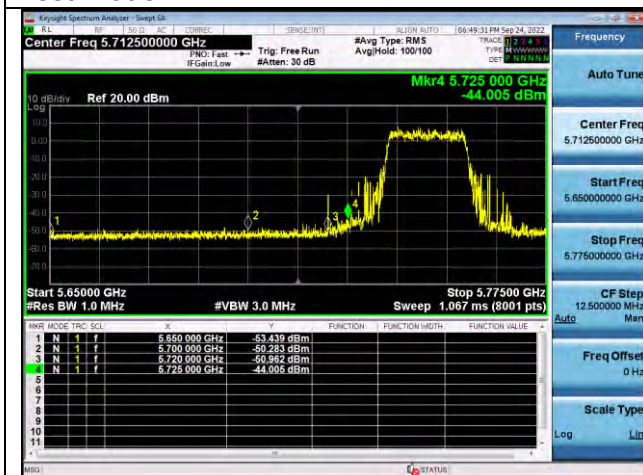
Lowest channel

802.11ac80



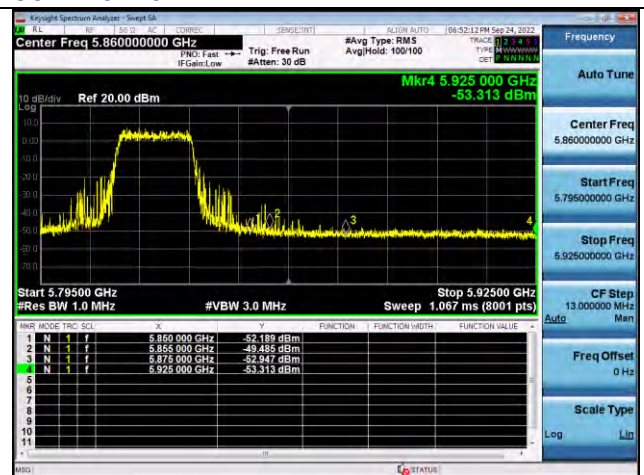
Highest channel

Test mode:



Lowest channel

802.11ax20



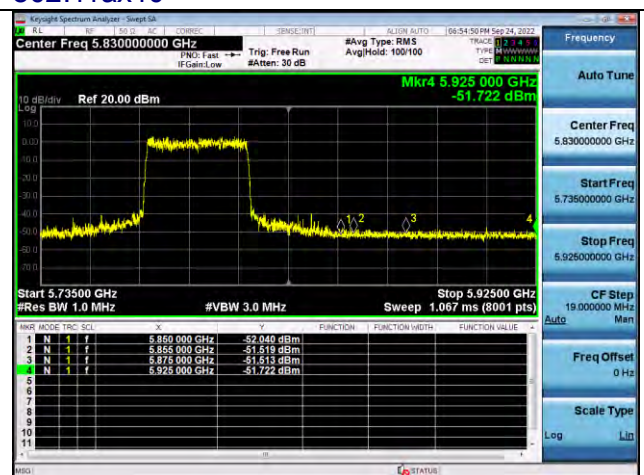
Highest channel

Test mode:



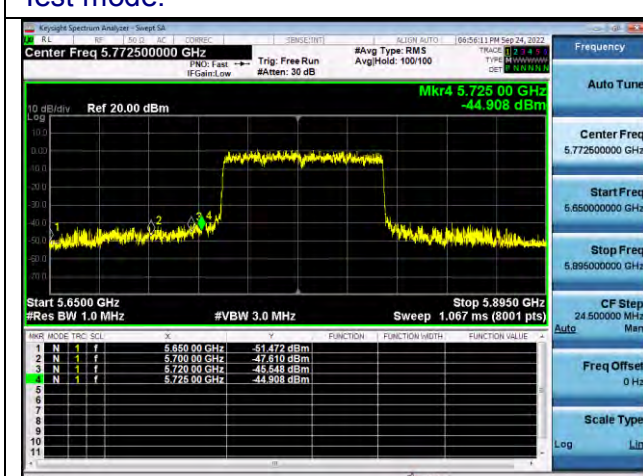
Lowest channel

802.11ax40



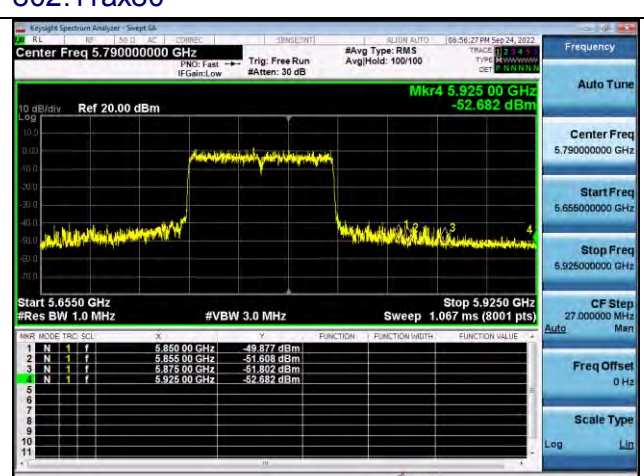
Highest channel

Test mode:



Lowest channel

802.11ax80



Highest channel

9. FREQUENCY STABILITY MEASUREMENT

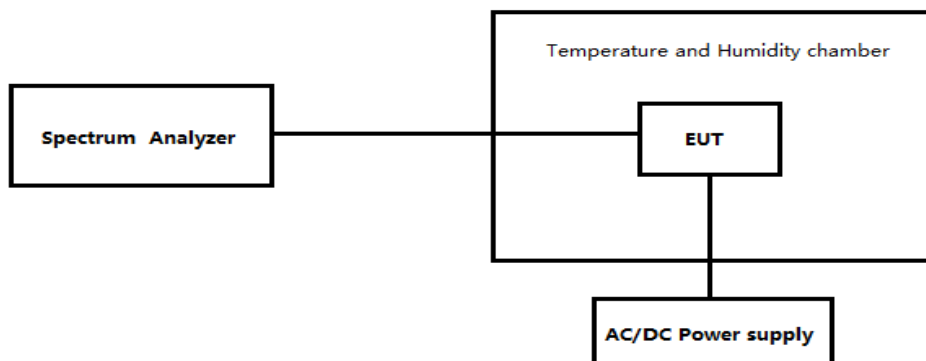
9.1 LIMIT

According to §15.407(g), 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.

9.2 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.

9.3 TEST CONFIGURATION



9.4 TEST RESULT

Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC120V

Note: Only the test results of the worst channel are displayed

ANT1-802.11a- CH36

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.007	1.331
40	120	0.016	3.003
30	120	0.013	2.589
20	120	0.010	1.903
10	120	0.000	0.052
0	120	0.007	1.409

-10	120	0.011	2.061
-20	120	0.017	3.374
-30	120	0.014	2.683

ANT1-802.11a- CH48

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.003	0.647
40	120	0.009	1.787
30	120	0.005	0.894
20	120	0.014	2.760
10	120	0.010	1.944
0	120	0.014	2.714
-10	120	0.009	1.754
-20	120	0.010	1.934
-30	120	0.007	1.369

ANT1-802.11a- CH149

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.017	3.027
40	120	0.004	0.710
30	120	0.010	1.726
20	120	0.016	2.852
10	120	0.012	2.017
0	120	0.004	0.731
-10	120	0.009	1.591
-20	120	0.016	2.858
-30	120	0.015	2.682

ANT1-802.11a- CH165

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.003	0.518
40	120	0.006	1.018
30	120	0.002	0.330
20	120	0.007	1.285
10	120	0.000	0.055
0	120	0.014	2.462
-10	120	0.010	1.648
-20	120	0.013	2.157
-30	120	0.015	2.657

ANT1-802.11n20- CH36

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.002	0.344
40	120	0.004	0.676
30	120	0.007	1.341
20	120	0.007	1.275
10	120	0.007	1.388
0	120	0.017	3.274
-10	120	0.014	2.725
-20	120	0.016	3.165
-30	120	0.012	2.342

ANT1-802.11n20- CH48

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.013	2.497
40	120	0.003	0.538
30	120	0.016	3.115
20	120	0.014	2.739
10	120	0.011	2.185
0	120	0.006	1.142
-10	120	0.002	0.337
-20	120	0.011	2.188
-30	120	0.010	1.959

ANT1-802.11n20- CH149

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.018	3.125
40	120	0.017	2.951
30	120	0.002	0.315
20	120	0.010	1.785
10	120	0.008	1.451
0	120	0.011	1.931
-10	120	0.012	2.115
-20	120	0.004	0.716
-30	120	0.016	2.872

ANT1-802.11n20- CH165

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.011	1.827
40	120	0.006	0.953
30	120	0.009	1.565

20	120	0.015	2.592
10	120	0.004	0.672
0	120	0.000	0.048
-10	120	0.010	1.779
-20	120	0.010	1.645
-30	120	0.006	1.081

ANT1-802.11n40- CH38

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.017	3.323
40	120	0.001	0.262
30	120	0.018	3.445
20	120	0.009	1.668
10	120	0.018	3.461
0	120	0.004	0.855
-10	120	0.005	0.867
-20	120	0.009	1.762
-30	120	0.017	3.255

ANT1-802.11n40- CH46

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.015	2.794
40	120	0.016	3.003
30	120	0.011	2.127
20	120	0.014	2.757
10	120	0.017	3.210
0	120	0.010	1.991
-10	120	0.012	2.388
-20	120	0.011	2.091
-30	120	0.016	3.000

ANT1-802.11n40- CH151

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.004	0.711
40	120	0.013	2.304
30	120	0.013	2.292
20	120	0.003	0.473
10	120	0.009	1.531
0	120	0.002	0.382
-10	120	0.013	2.332
-20	120	0.002	0.319
-30	120	0.010	1.773

ANT1-802.11n40- CH159

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.013	2.190
40	120	0.014	2.389
30	120	0.005	0.812
20	120	0.011	1.901
10	120	0.003	0.461
0	120	0.012	2.001
-10	120	0.011	1.850
-20	120	0.012	1.989
-30	120	0.016	2.725

ANT1-802.11ac20- CH36

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.007	1.274
40	120	0.014	2.734
30	120	0.004	0.757
20	120	0.015	2.842
10	120	0.017	3.288
0	120	0.011	2.033
-10	120	0.017	3.265
-20	120	0.002	0.429
-30	120	0.001	0.160

ANT1-802.11ac20- CH48

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.006	1.151
40	120	0.012	2.317
30	120	0.012	2.213
20	120	0.002	0.447
10	120	0.018	3.416
0	120	0.001	0.224
-10	120	0.010	2.000
-20	120	0.016	3.085
-30	120	0.014	2.638

ANT1-802.11ac20- CH149

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.002	0.267
40	120	0.014	2.401
30	120	0.011	1.899
20	120	0.006	1.001
10	120	0.011	1.929
0	120	0.002	0.310
-10	120	0.013	2.242

-20	120	0.013	2.198
-30	120	0.014	2.371

ANT1-802.11ac20- CH165

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.010	1.635
40	120	0.014	2.442
30	120	0.003	0.599
20	120	0.012	2.077
10	120	0.002	0.322
0	120	0.004	0.744
-10	120	0.008	1.340
-20	120	0.007	1.136
-30	120	0.015	2.557

ANT1-802.11ac40- CH38

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.015	2.954
40	120	0.008	1.587
30	120	0.007	1.399
20	120	0.007	1.273
10	120	0.006	1.218
0	120	0.000	0.048
-10	120	0.003	0.609
-20	120	0.012	2.364
-30	120	0.000	0.088

ANT1-802.11ac40- CH46

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.016	3.082
40	120	0.001	0.220
30	120	0.017	3.160
20	120	0.007	1.329
10	120	0.016	3.006
0	120	0.017	3.224
-10	120	0.008	1.518
-20	120	0.012	2.374
-30	120	0.018	3.414

ANT1-802.11ac40- CH151

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.018	3.079
40	120	0.008	1.334

30	120	0.007	1.148
20	120	0.010	1.653
10	120	0.013	2.321
0	120	0.009	1.554
-10	120	0.016	2.804
-20	120	0.008	1.472
-30	120	0.015	2.684

ANT1-802.11ac40- CH159

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.002	0.264
40	120	0.014	2.380
30	120	0.016	2.805
20	120	0.009	1.596
10	120	0.007	1.149
0	120	0.003	0.545
-10	120	0.016	2.761
-20	120	0.006	0.975
-30	120	0.007	1.283

ANT1-802.11ac80- CH42

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.008	1.452
40	120	0.009	1.819
30	120	0.013	2.511
20	120	0.008	1.625
10	120	0.015	2.826
0	120	0.005	0.947
-10	120	0.004	0.844
-20	120	0.004	0.728
-30	120	0.007	1.312

ANT1-802.11ac80- CH155

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.008	1.317
40	120	0.009	1.624
30	120	0.009	1.511
20	120	0.009	1.576
10	120	0.003	0.459
0	120	0.016	2.689
-10	120	0.016	2.721
-20	120	0.008	1.471
-30	120	0.012	2.004

ANT1-802.11ax20- CH36

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.015	2.978
40	120	0.017	3.199
30	120	0.016	3.126
20	120	0.018	3.462
10	120	0.013	2.455
0	120	0.016	3.070
-10	120	0.006	1.114
-20	120	0.016	3.130
-30	120	0.002	0.318

ANT1-802.11ax20- CH149

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.010	1.799
40	120	0.015	2.646
30	120	0.017	2.954
20	120	0.017	2.875
10	120	0.009	1.630
0	120	0.011	1.841
-10	120	0.015	2.557
-20	120	0.003	0.546
-30	120	0.008	1.400

ANT1-802.11ax20- CH165

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.015	2.534
40	120	0.012	2.133
30	120	0.004	0.761
20	120	0.014	2.455
10	120	0.003	0.521
0	120	0.017	2.941
-10	120	0.010	1.790
-20	120	0.008	1.319
-30	120	0.005	0.862

ANT1-802.11ax40- CH46

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.014	2.766
40	120	0.018	3.372
30	120	0.008	1.586
20	120	0.015	2.870
10	120	0.001	0.275

0	120	0.010	1.912
-10	120	0.003	0.617
-20	120	0.011	2.114
-30	120	0.014	2.719

ANT1-802.11ax40- CH151

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.011	1.914
40	120	0.006	1.086
30	120	0.012	2.114
20	120	0.000	0.000
10	120	0.018	3.101
0	120	0.005	0.951
-10	120	0.011	1.836
-20	120	0.007	1.227
-30	120	0.009	1.548

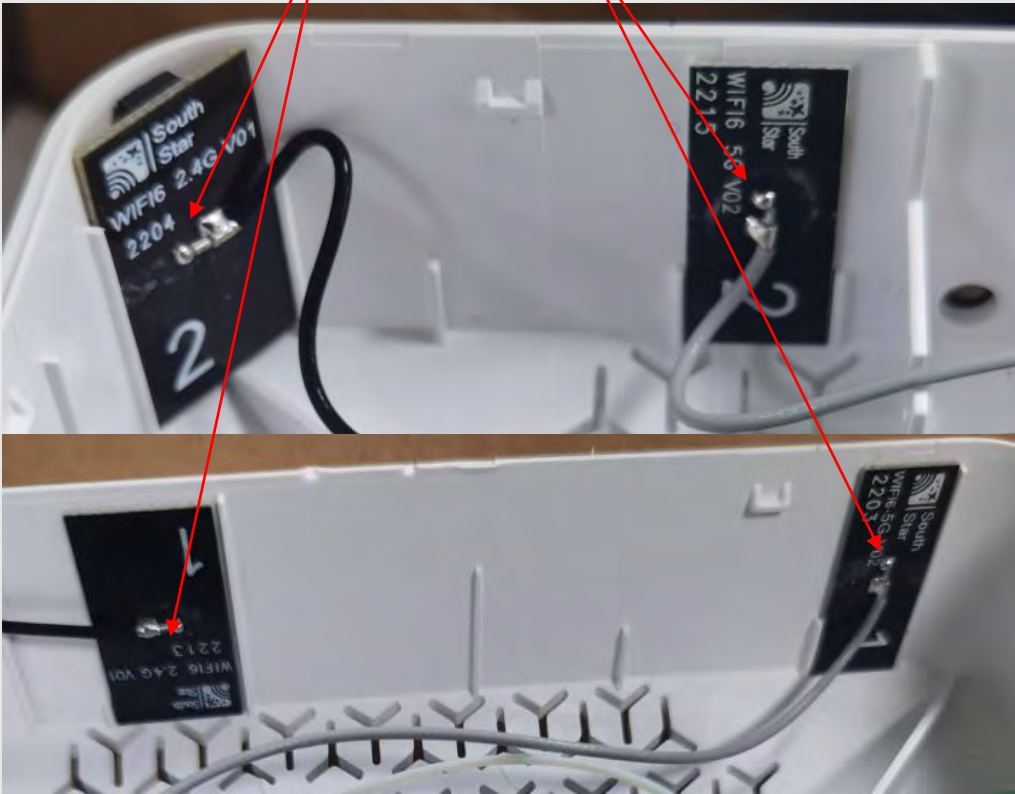
ANT1-802.11ax40- CH159

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.014	2.498
40	120	0.013	2.197
30	120	0.001	0.155
20	120	0.017	2.889
10	120	0.016	2.757
0	120	0.006	1.094
-10	120	0.005	0.934
-20	120	0.018	3.067
-30	120	0.008	1.438

ANT1-802.11ax80- CH155

Temperature (°C)	Voltage (AC:V)	Frequency Measure with time Elapsed	
		Rating	(ppm)
50	120	0.017	3.016
40	120	0.015	2.622
30	120	0.018	3.064
20	120	0.010	1.718
10	120	0.015	2.581
0	120	0.017	2.869
-10	120	0.006	1.081
-20	120	0.013	2.190
-30	120	0.007	1.200

10.ANTENNA REQUIREMENT

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi. Refer to statement below for compliance. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed. Antenna Connected Construction The antenna used in this product is a Glue stick antenna, and the best case gain of the antenna is antenna port 1: 1.35dBi and Antenna port 2: 1.35dBi.	
EUT Antenna: 	

10. TEST SETUP PHOTO





11. EUT CONSTRUCTIONAL DETAILS

Reference to the external photos file and internal photos file for details.

***** END OF REPORT *****