

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.

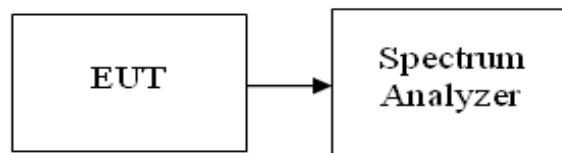
Measure the maximum width of the emission that is 26dB down from the maximum of the emission.

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 :	DC 5V
Test Mode :	TX		

U-NII-1

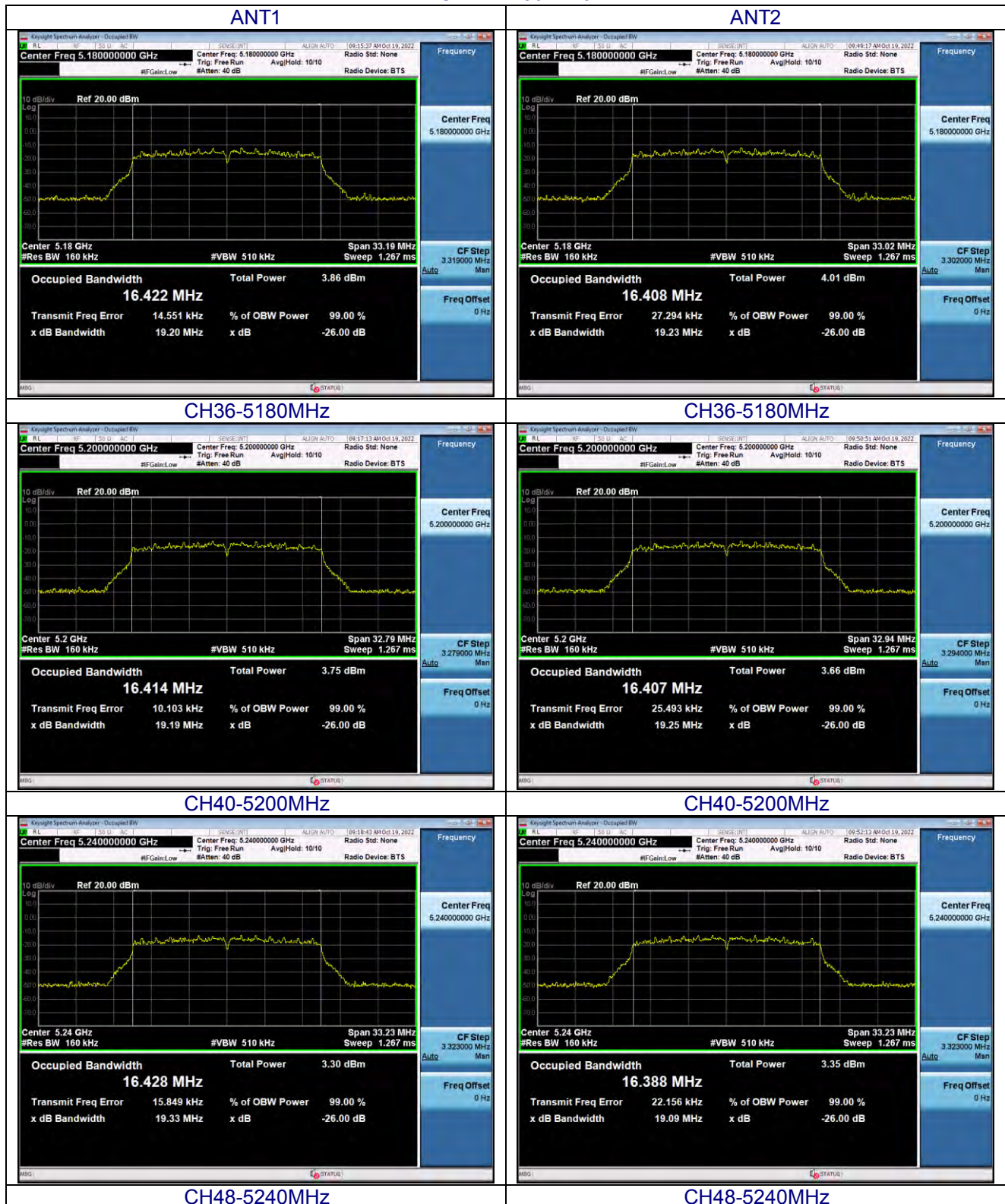
802.11 Mode	Channel No.	Frequency [MHz]	26dB Bandwidth [MHz]	
			ANT1	ANT2
a	36	5180	19.20	19.23
	40	5200	19.19	19.25
	48	5240	19.33	19.09
n (20MHz)	36	5180	19.66	19.61
	40	5200	19.75	19.59
	48	5240	19.30	19.78
n (40MHz)	38	5190	39.80	39.05
	46	5230	39.38	39.16
ac (20MHz)	36	5180	20.16	19.96
	40	5200	19.94	19.89
	48	5240	20.22	20.02
ac(40MHz)	38	5190	40.12	40.78
	46	5230	40.13	40.26
ac(80MHz)	42	5210	130.38	122.23
ax (20MHz)	36	5180	22.89	21.50
	40	5200	22.36	24.14
	48	5240	21.89	22.20
ax(40MHz)	38	5190	39.82	39.43
	46	5230	39.69	39.60
ax(80MHz)	42	5210	108.97	79.92

U-NII-3

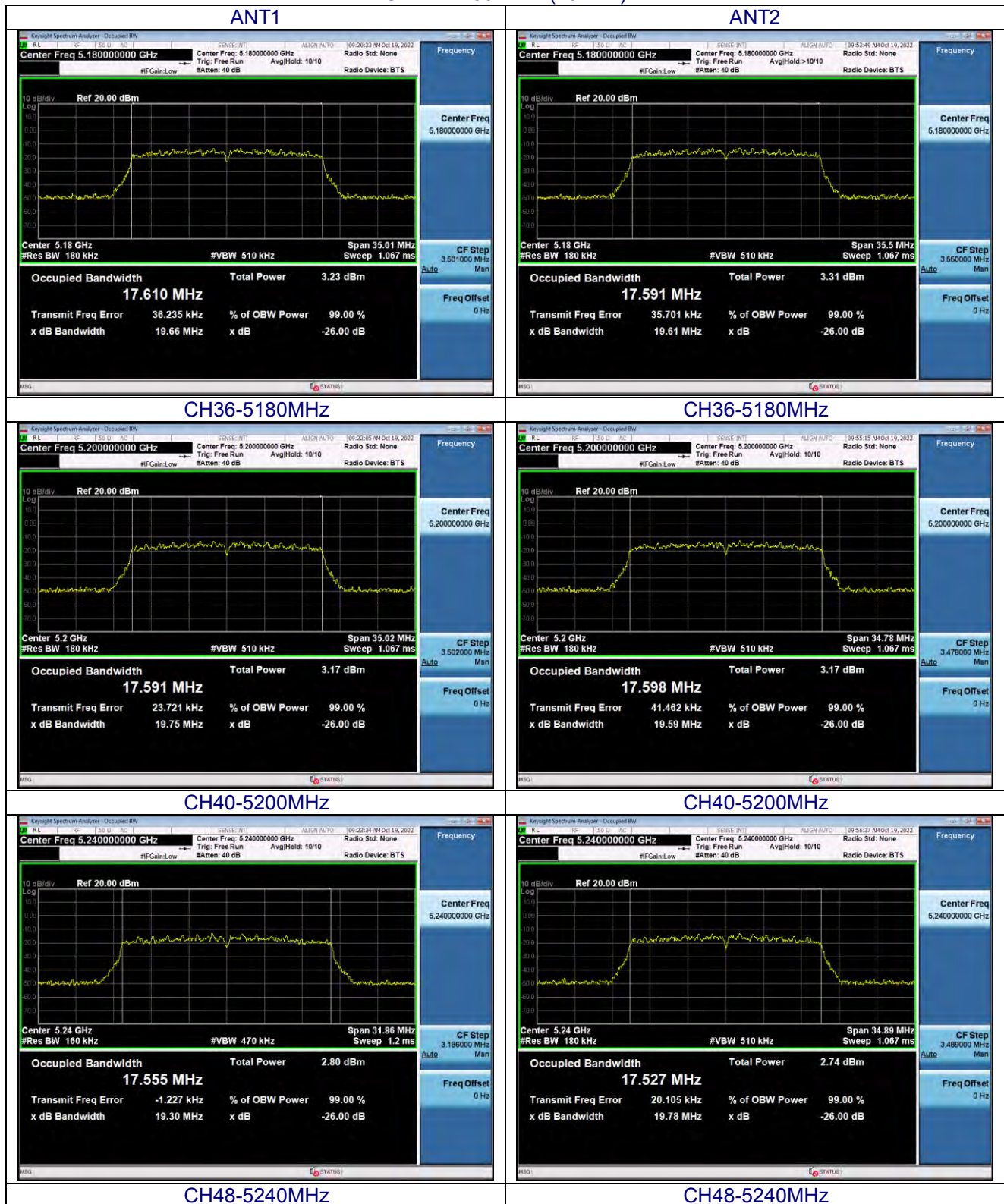
802.11 Mode	Channel No.	Frequency [MHz]	-6db Bandwidth [MHz]		Limit
			ANT1	ANT2	
a	149	5745	16.34	15.68	≥ 500 kHz
	157	5785	16.37	15.76	
	165	5825	16.25	15.75	
n (20MHz)	149	5745	16.96	15.96	
	157	5785	15.96	16.89	
	165	5825	16.97	16.74	
n (40MHz)	151	5755	17.66	17.64	
	159	5795	17.68	17.60	
ac (20MHz)	149	5745	17.65	17.66	
	157	5785	19.09	19.01	
	165	5825	19.04	19.10	
ac(40MHz)	151	5755	19.11	19.12	
	159	5795	35.09	35.05	
ac(80MHz)	155	5775	35.12	35.11	
ax (20MHz)	149	5745	35.88	36.23	
	157	5785	36.27	35.94	
	165	5825	38.10	38.11	
ax(40MHz)	151	5755	38.08	38.17	
	159	5795	76.29	76.35	
ax(80MHz)	155	5775	77.95	77.94	

Test plot as follows:

U-NII-1- 802.11a



U-NII-1 – 802.11n (20MHz)

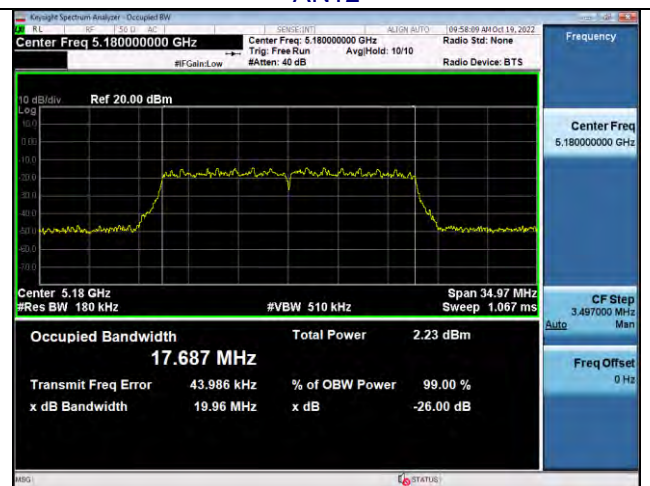


U-NII-1 – 802.11ac 20MHz)

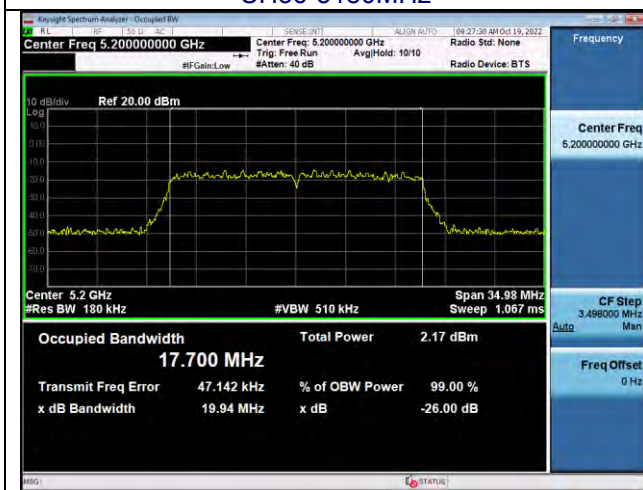
ANT1



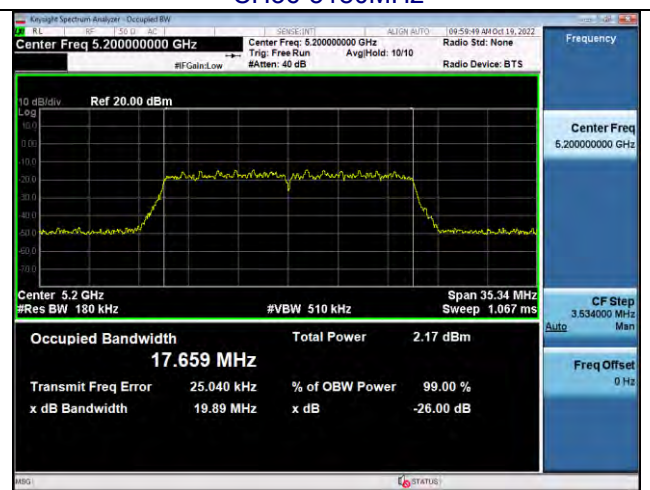
ANT2



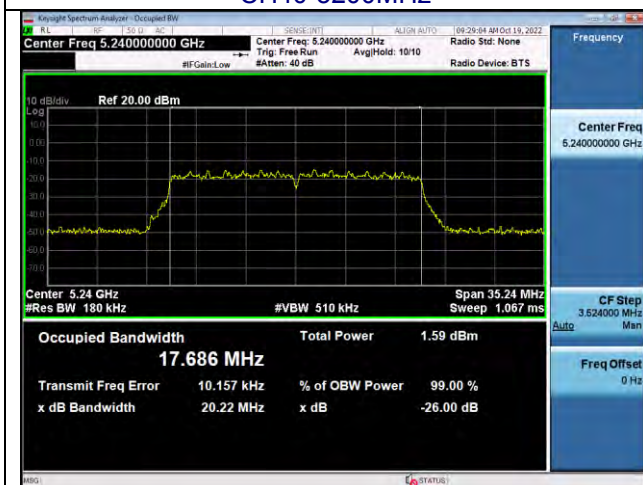
CH36-5180MHz



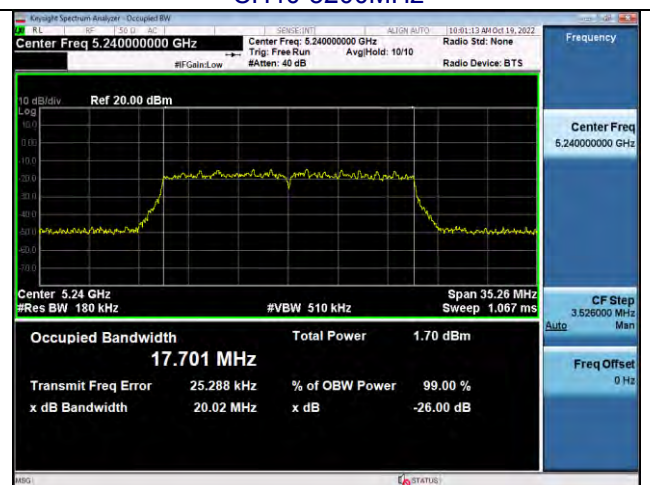
CH36-5180MHz



CH40-5200MHz



CH40-5200MHz



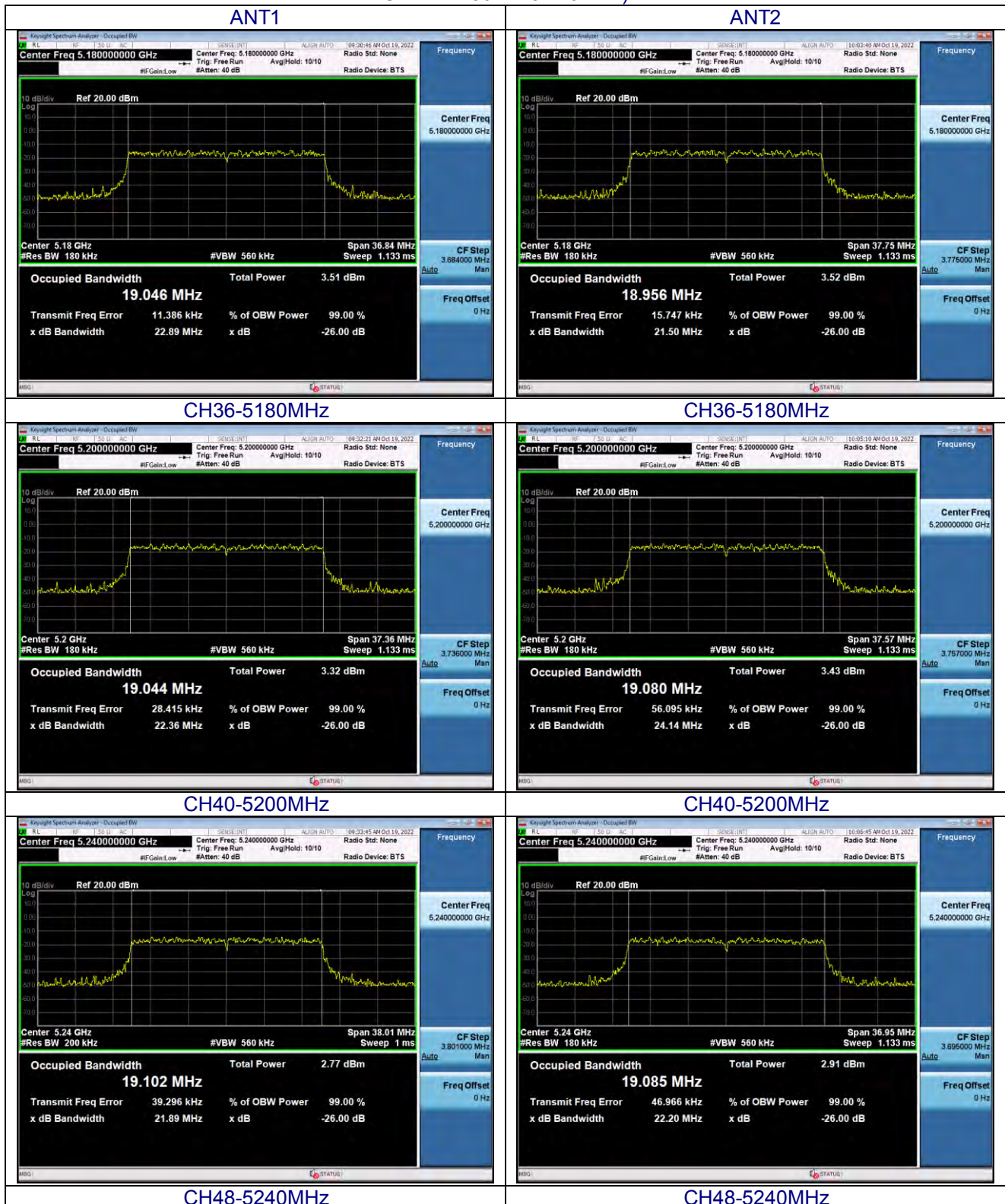
CH48-5240MHz



CH48-5240MHz



U-NII-1 – 802.11ax 20MHz)

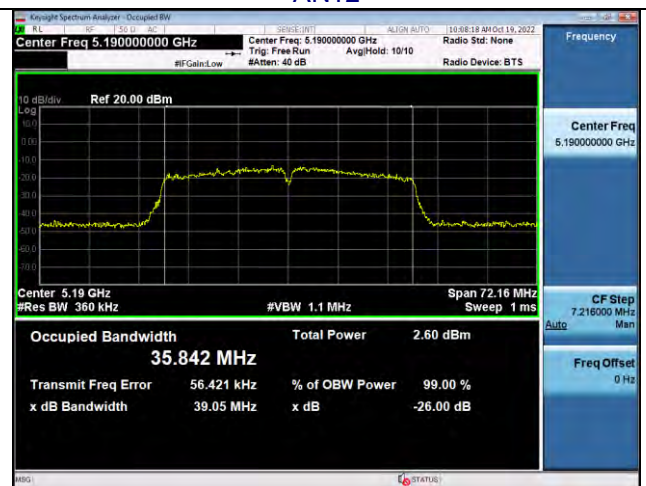


U-NII-1- 802.11n (40MHz)

ANT1



ANT2



CH38-5190MHz



CH38-5190MHz



CH46-5230MHz

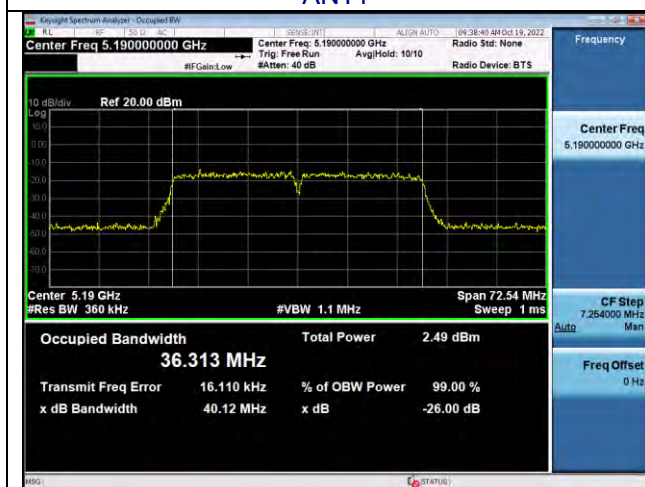


CH46-5230MHz



U-NII-1- 802.11ac (40MHz)

ANT1



ANT2

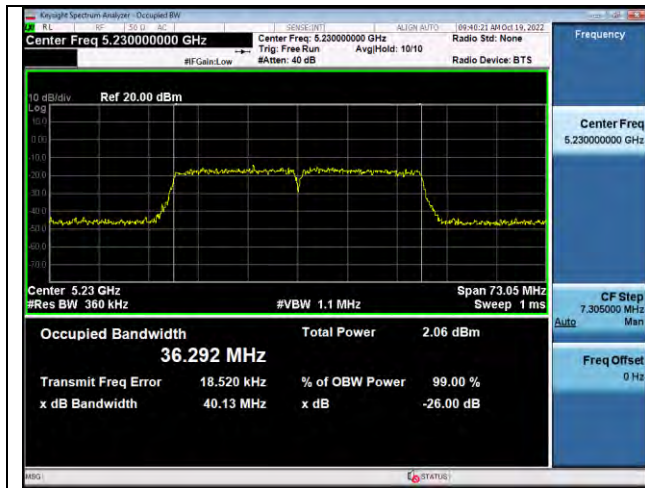


CH38-5190MHz

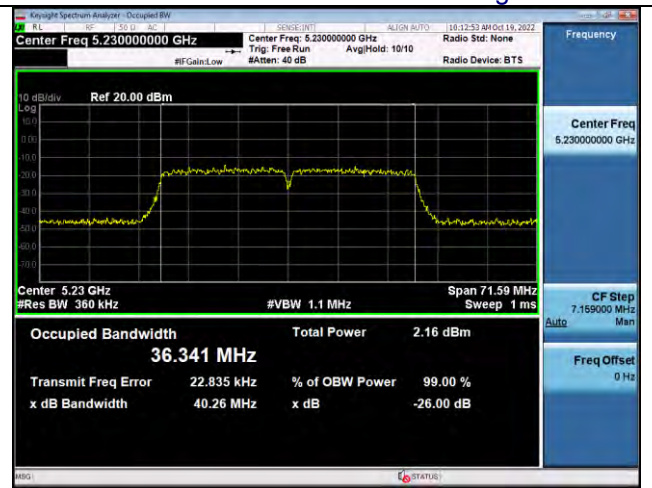


CH38-5190MHz





CH46-5230MHz



CH46-5230MHz

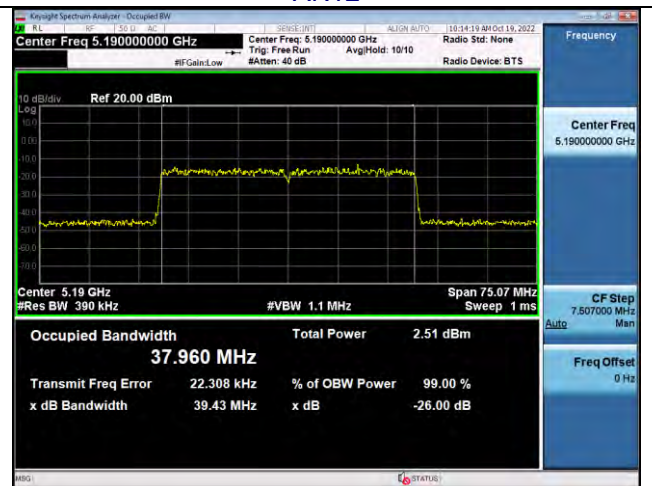
U-NII-1 – 802.11ax (40MHz)

ANT1

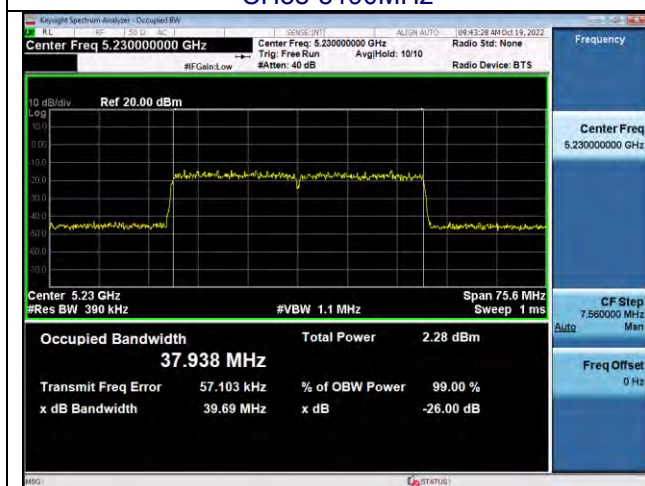


CH38-5190MHz

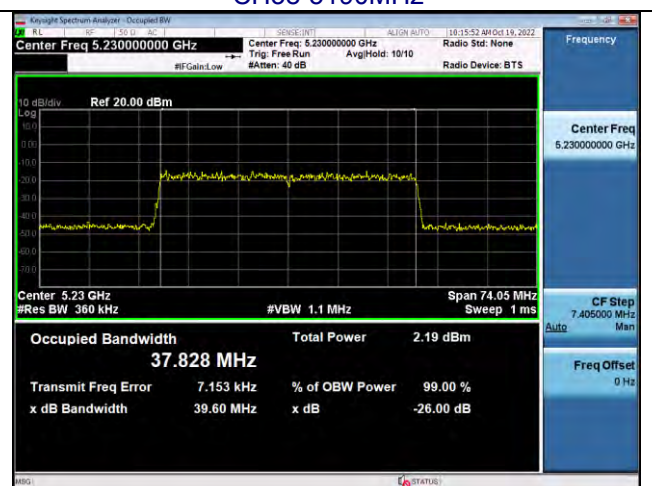
ANT2



CH38-5190MHz

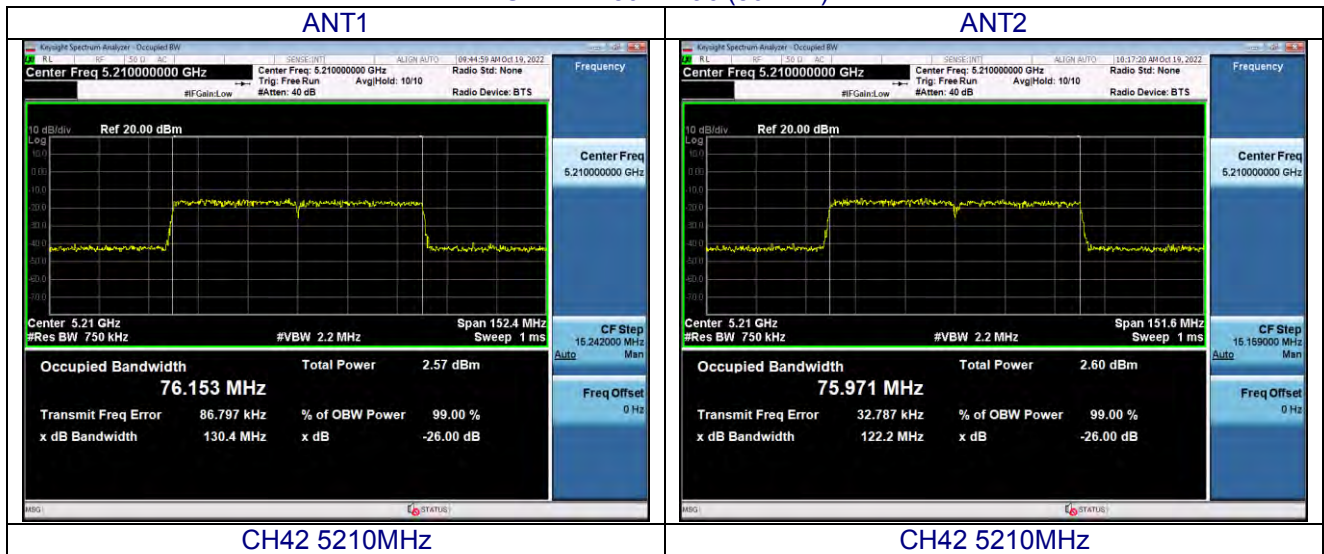


CH46-5230MHz

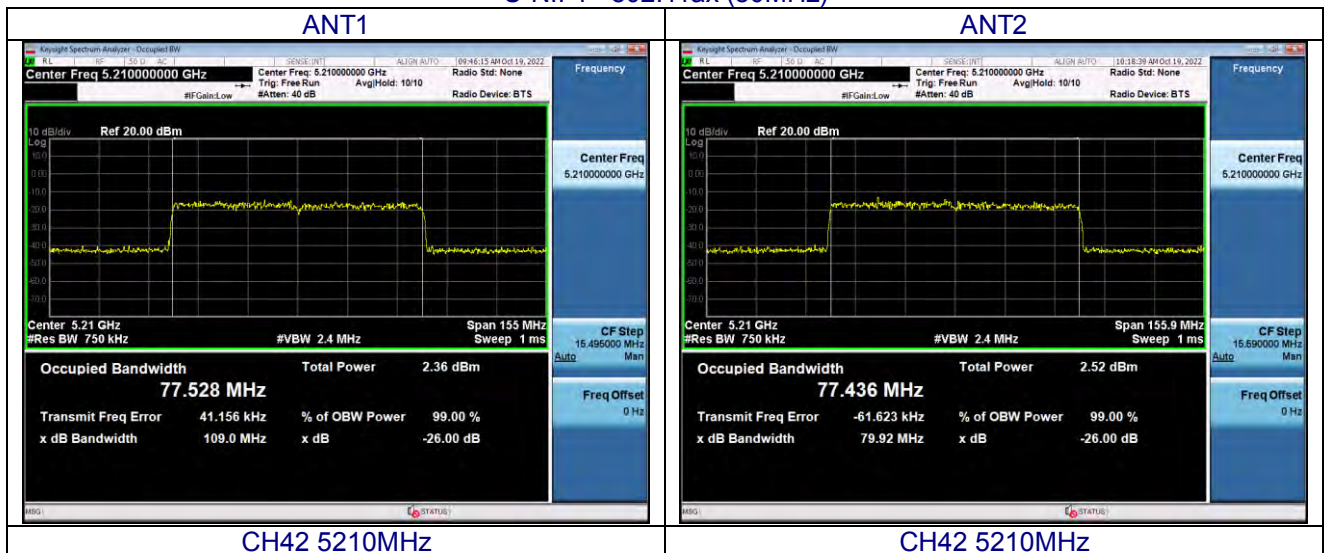


CH46-5230MHz

U-NII-1 –802.11ac (80MHz)

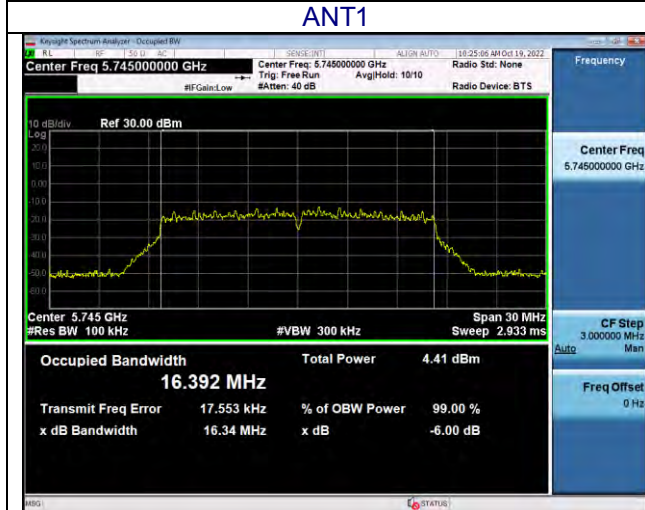


U-NII-1 –802.11ax (80MHz)

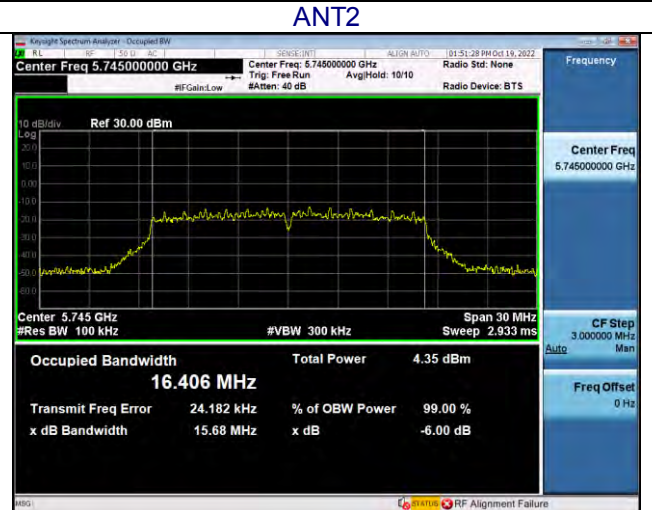


U-NII-3 -802.11a

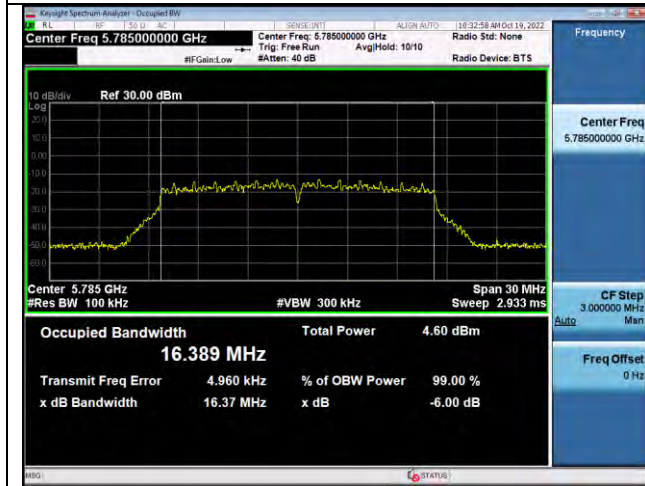
ANT1



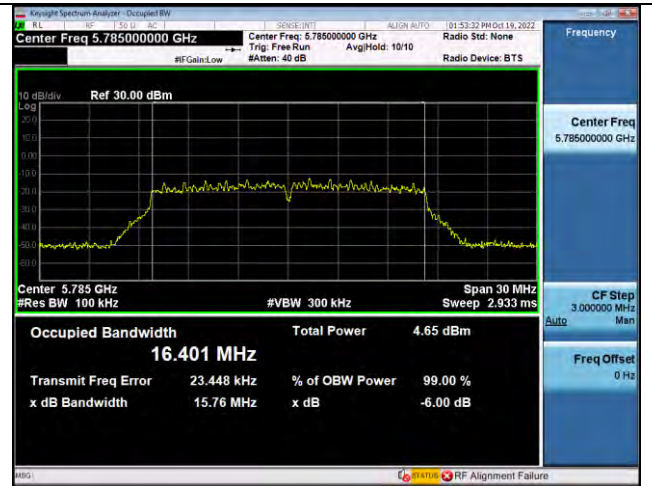
ANT2



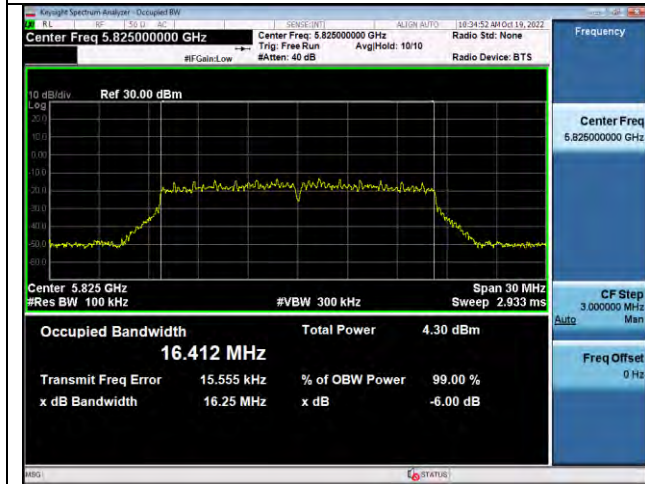
CH149 -5745MHz



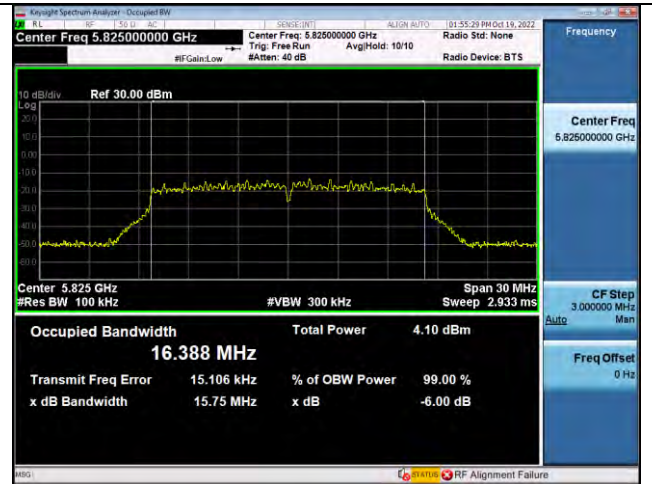
CH149 -5745MHz



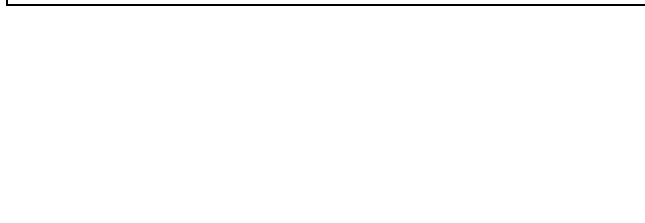
CH157 -5785MHz



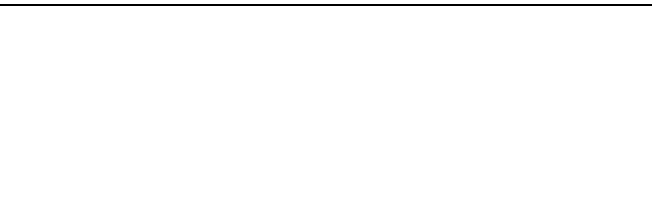
CH157 -5785MHz



CH165 -5825MHz

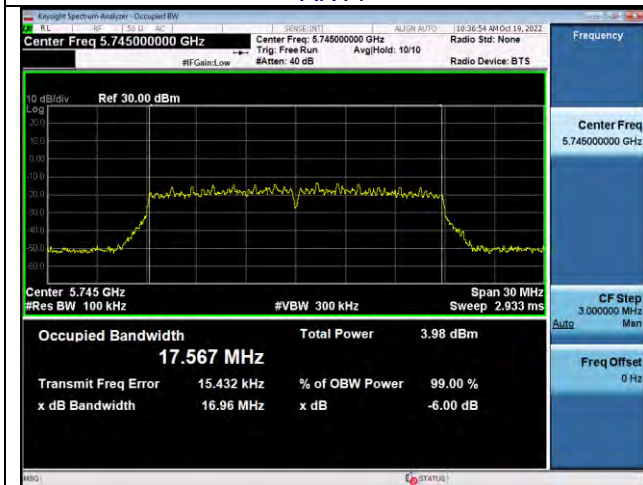


CH165 -5825MHz

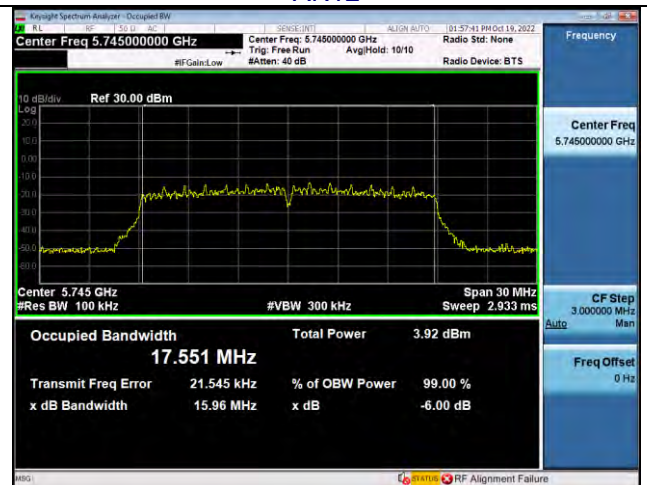


U-NII-3-802.11n (20MHz)

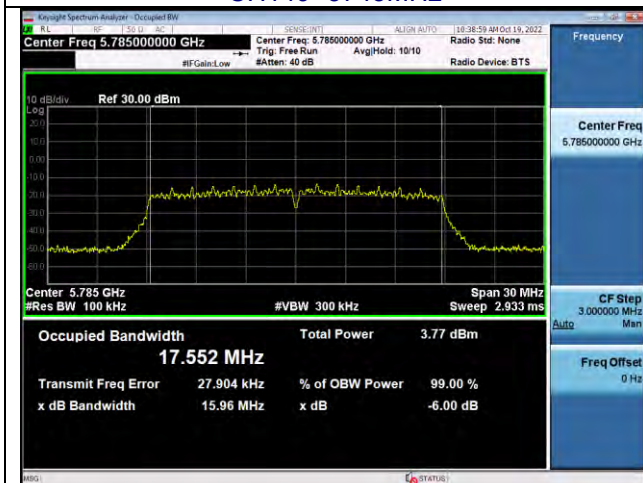
ANT1



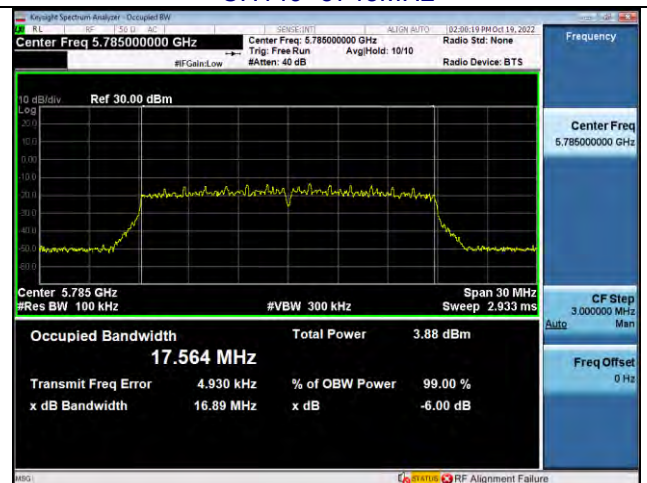
ANT2



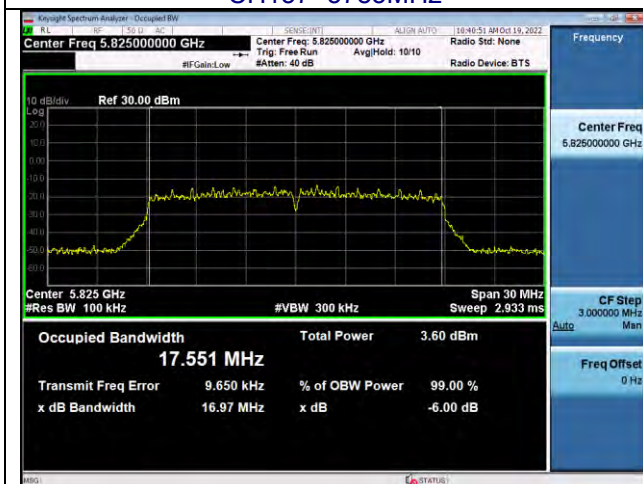
CH149 -5745MHz



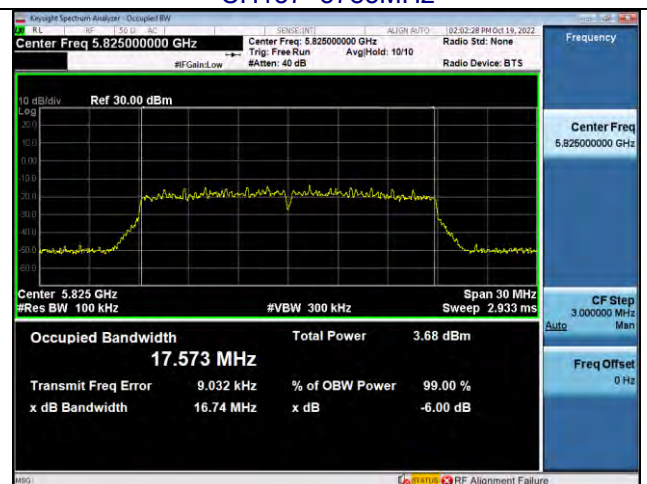
CH149 -5745MHz



CH157 -5785MHz



CH157 -5785MHz



CH165 -5825MHz

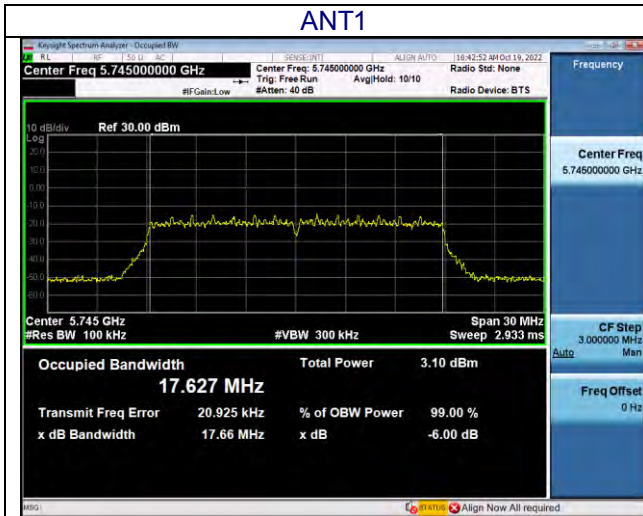


CH165 -5825MHz

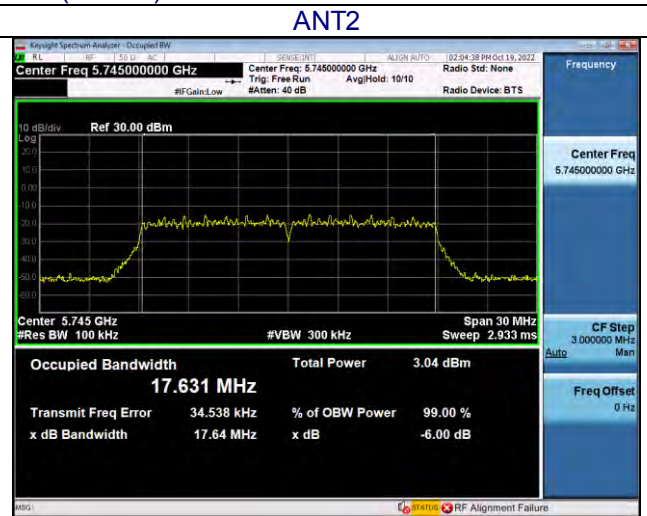


U-NII-3 -802.11ac (20MHz)

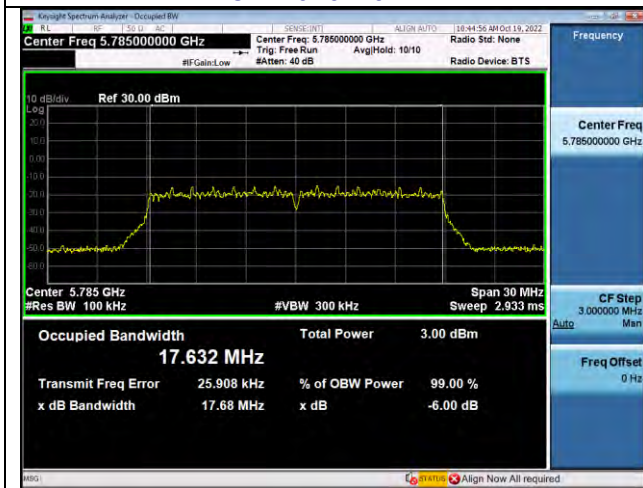
ANT1



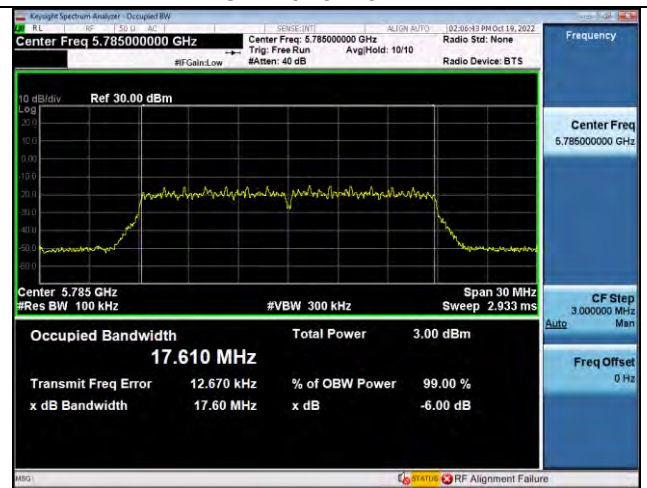
ANT2



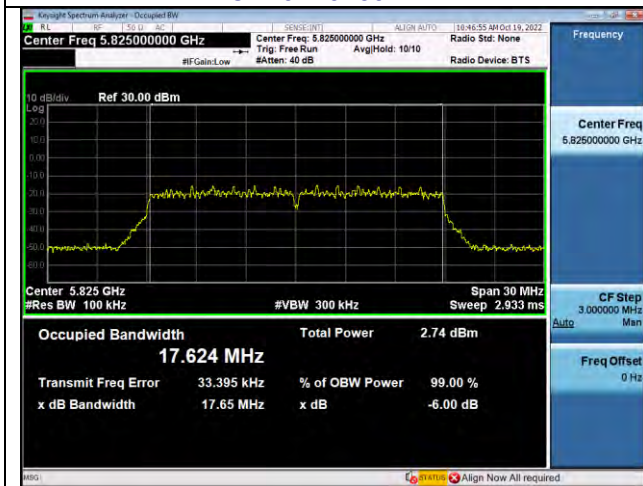
CH149 -5745MHz



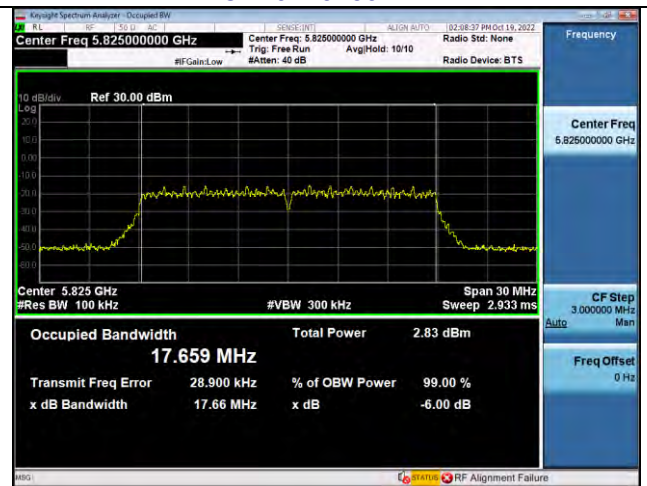
CH149 -5745MHz



CH157 -5785MHz



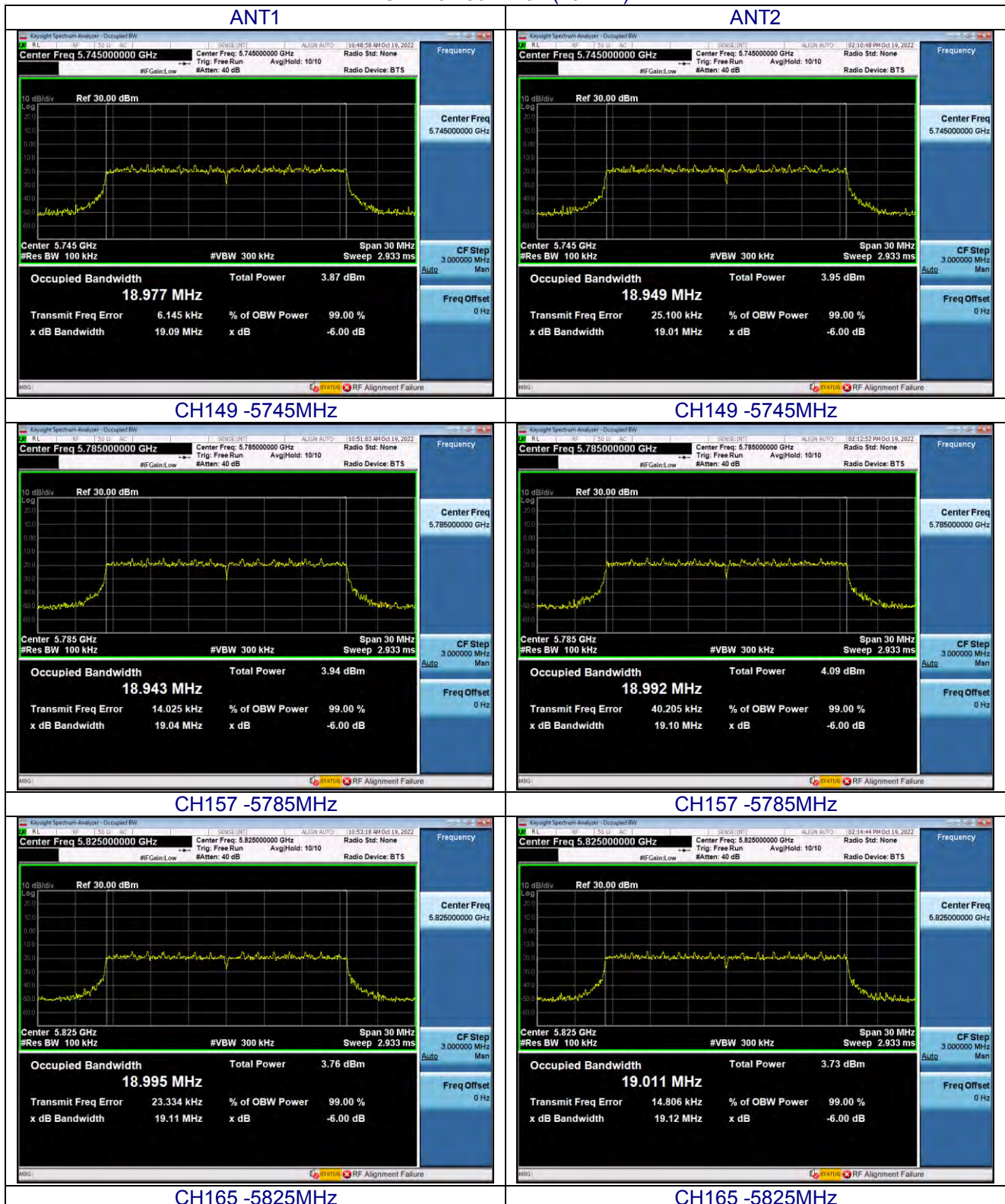
CH157 -5785MHz



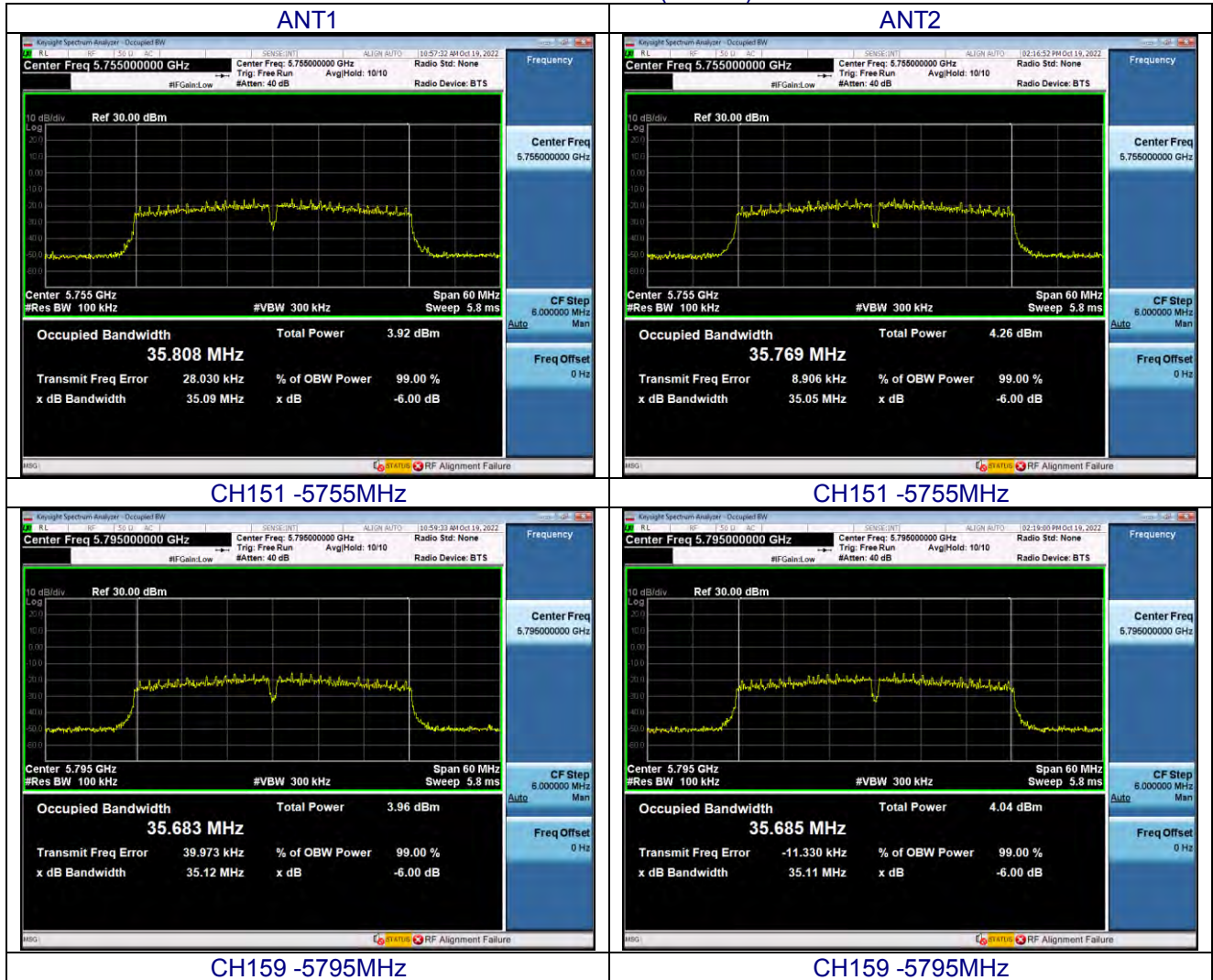
CH165 -5825MHz

CH165 -5825MHz

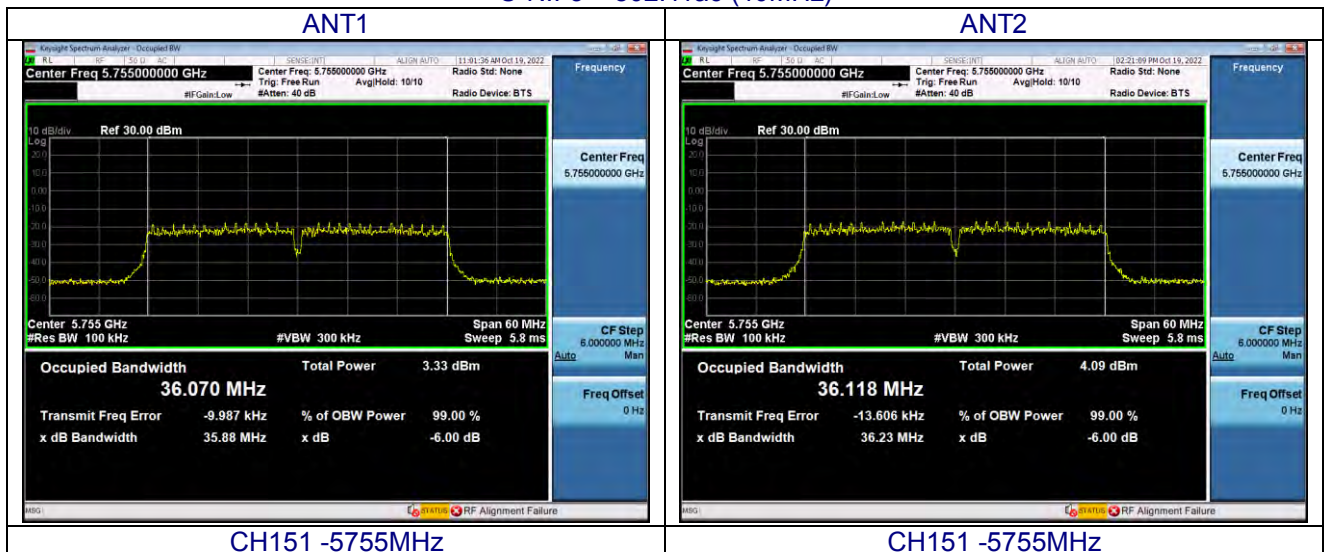
U-NII-3 -802.11ax (20MHz)

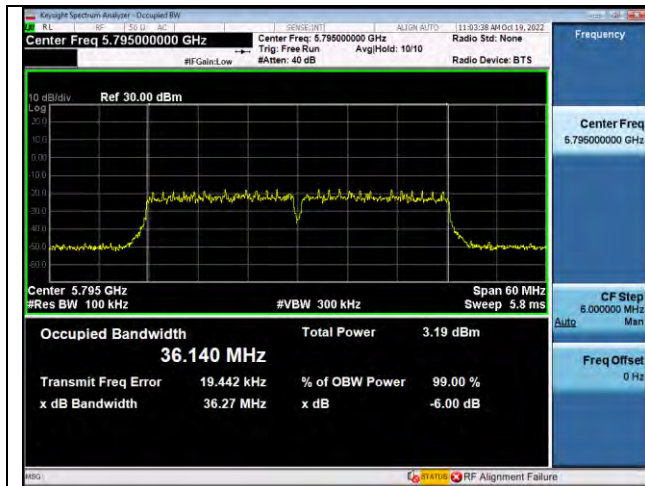


U-NII-3- 802.11n (40MHz)

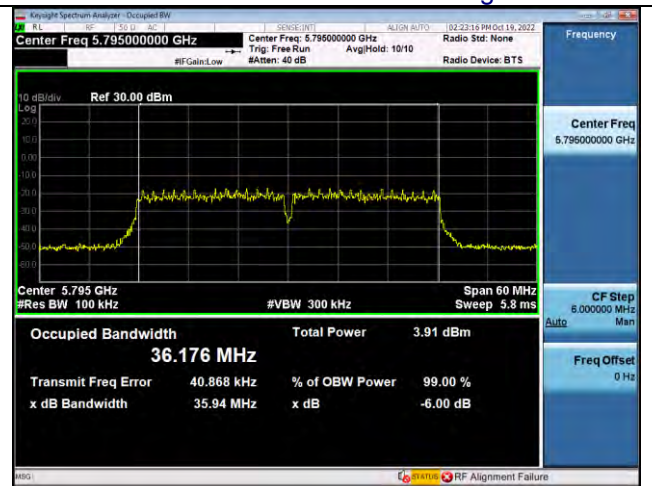


U-NII-3 - 802.11ac (40MHz)





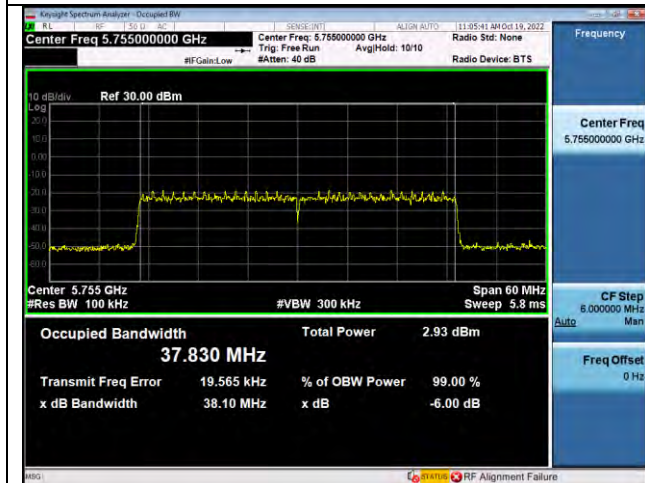
CH159 -5795MHz



CH159 -5795MHz

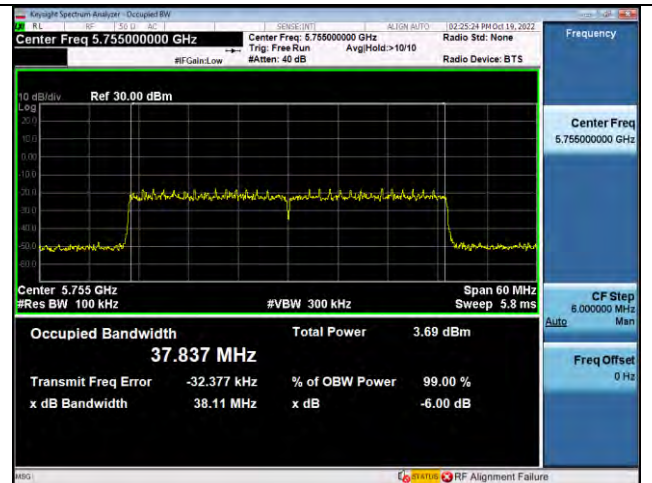
U-NII-3 – 802.11ax (40MHz)

ANT1

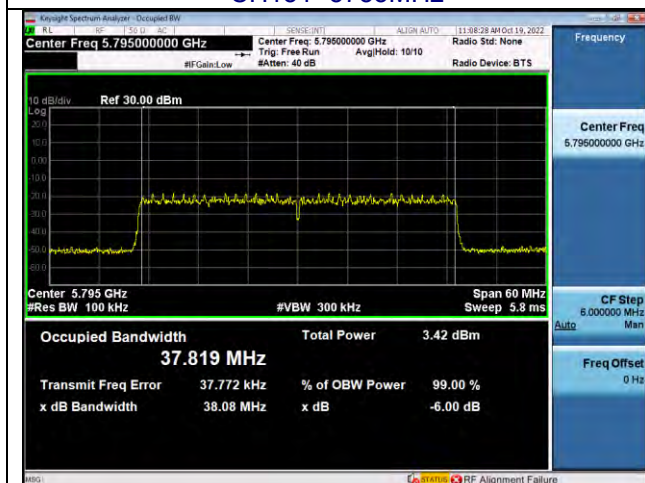


CH151 -5755MHz

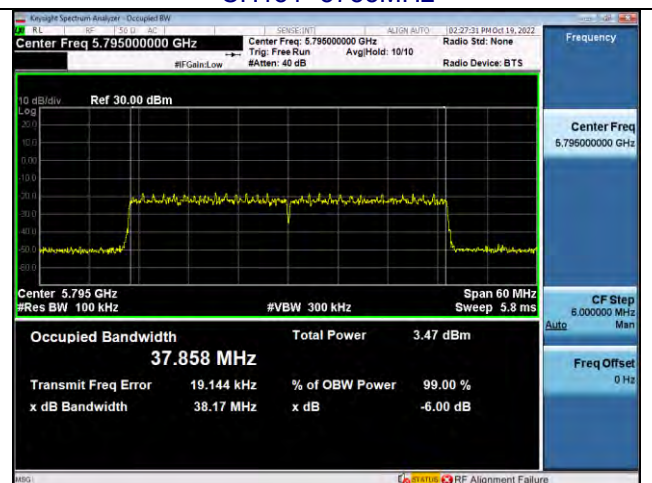
ANT2



CH151 -5755MHz



CH159 -5795MHz



CH159 -5795MHz

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.

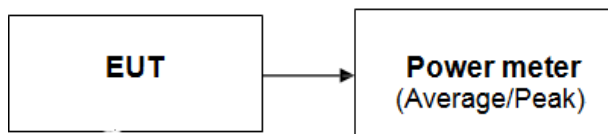
For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

Test Item	Limit	Result
U-NII-1	1W / 30dbm	Pass
U-NII-3	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 :	DC 5V

U-NII-1

802.11 Mode	Channel No.	Frequency [MHz]	Conducted Power [dBm]		Limit [dBm]	MIMO [dBm]	Limit [dBm]
			ANT1	ANT2			
a	36	5180	2.33	2.47	30.00	/	/
	40	5200	2.30	2.27	30.00	/	/
	48	5240	1.78	1.95	30.00	/	/
n(20MHz)	36	5180	1.42	1.58	30.00	4.51	28.04
	40	5200	1.41	1.43	30.00	4.43	28.04
	48	5240	0.98	1.03	30.00	4.02	28.04
ac(20MHz)	36	5180	0.73	0.92	30.00	3.84	28.04
	40	5200	0.65	0.74	30.00	3.71	28.04
	48	5240	0.14	0.21	30.00	3.19	28.04
ax(20MHz)	36	5180	1.86	1.93	30.00	4.91	28.04
	40	5200	1.78	1.85	30.00	4.83	28.04
	48	5240	1.35	1.42	30.00	4.40	28.04
n(40MHz)	38	5190	1.23	1.27	30.00	4.26	28.04
	46	5230	0.91	0.90	30.00	3.92	28.04
ac(40MHz)	38	5190	1.18	1.19	30.00	4.20	28.04
	46	5230	0.81	0.89	30.00	3.86	28.04
ax(40MHz)	38	5190	1.02	1.32	30.00	4.18	28.04
	46	5230	0.83	0.79	30.00	3.82	28.04
ax(80MHz)	42	5210	0.82	0.92	30.00	3.88	28.04
ax(80MHz)	42	5210	0.68	0.68	30.00	3.69	28.04

Note: For frequency U-NII-1, if MIMO Gain >6dBi , PSD Limit(MIMO)=17- (MIMO Gain-6dBi),
 If MIMO Gain <6dBi , PSD Limit(MIMO)=Limit =30, in this report, MIMO Gain =7.96>6dBi,
 So U-NII-1 PSD Limit(MIMO)=Limit =30-(7.96-6)=30-1.96=28.04dBm

U-NII-3

802.11 Mode	Channel No.	Frequency [MHz]	Conducted Power [dBm]		Limit [dBm]	MIMO [dBm]	Limit [dBm]
			ANT1	ANT2			
a	149	5745	3.11	2.80	30.00	/	/
	157	5785	3.22	3.00	30.00	/	/
	165	5825	2.72	2.76	30.00	/	/
n (20MHz)	149	5745	2.31	2.14	30.00	5.24	28.04
	157	5785	2.09	2.26	30.00	5.19	28.04
	165	5825	1.69	1.79	30.00	4.75	28.04
ac (20MHz)	149	5745	1.67	1.58	30.00	4.64	28.04
	157	5785	1.57	1.58	30.00	4.59	28.04
	165	5825	1.17	1.29	30.00	4.24	28.04
ax(20MHz)	149	5745	2.80	3.00	30.00	5.91	28.04
	157	5785	2.74	2.67	30.00	5.72	28.04
	165	5825	2.23	2.28	30.00	5.27	28.04
n (40MHz)	151	5755	1.74	2.23	30.00	5.00	28.04
	159	5795	1.73	2.03	30.00	4.89	28.04
ac(40MHz)	151	5755	1.39	2.13	30.00	4.79	28.04
	159	5795	1.31	1.85	30.00	4.60	28.04
ax(40MHz)	151	5755	1.63	2.10	30.00	4.88	28.04
	159	5795	1.67	2.12	30.00	4.91	28.04
ac(80MHz)	155	5775	1.03	1.95	30.00	4.52	28.04
ax(80MHz)	155	5775	1.37	1.84	30.00	4.62	28.04

For frequency U-NII-3, If MIMO Gain >6dBi , Power Limit(MIMO)=30- (MIMO Gain - 6dBi)

If MIMO Gain <6dBi , PSD Limit(MIMO)=Limit =30 dBm, in this report, MIMO Gain>6dBi ,

So Power Limit(MIMO)=Limit =30-(7.96-6)=30-1.96=28.04dBm

8. OUT OF BAND EDGE EMISSION

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

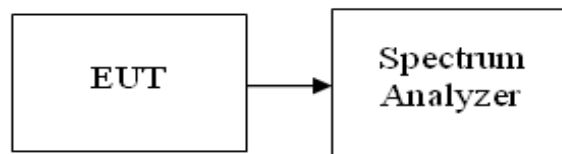
8.1 TEST PROCEDURE

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

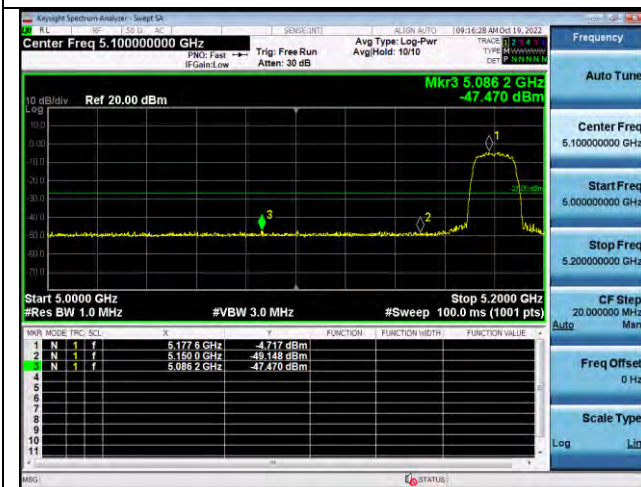
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

8.5 TEST RESULTS

Test plot as follows:

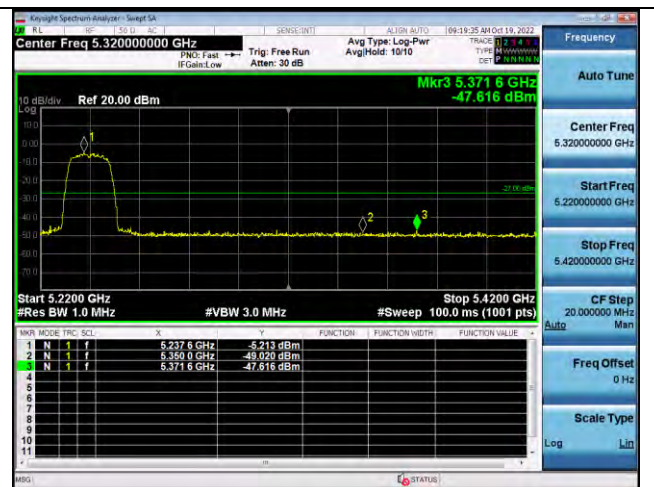
ANT1- U-NII-1

Test mode:



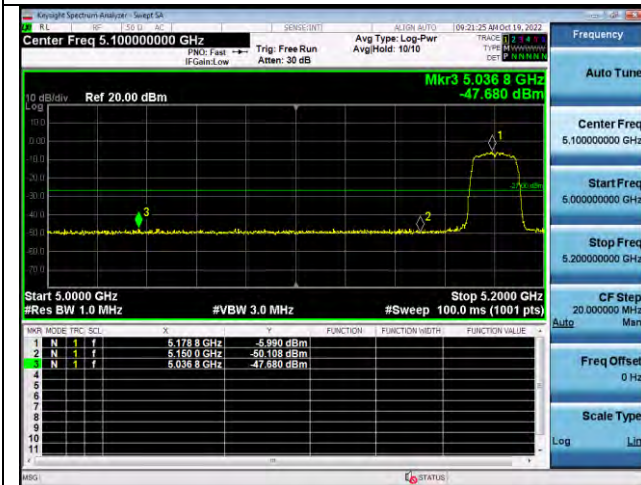
Lowest channel

802.11a



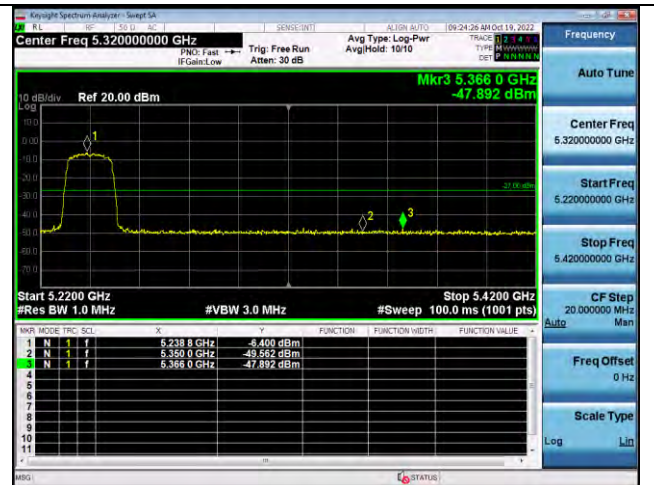
Highest channel

Test mode:



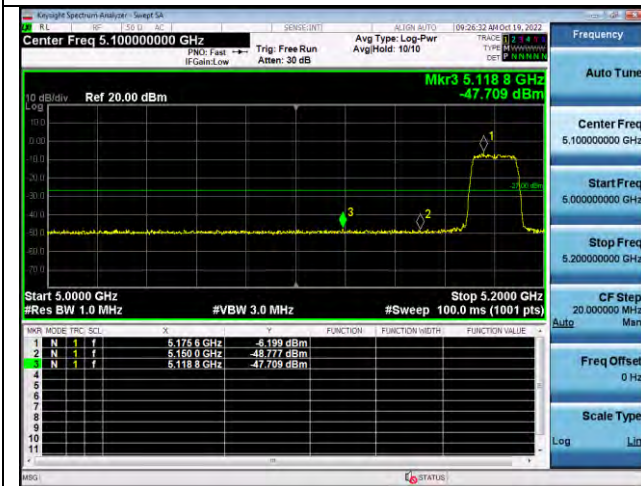
Lowest channel

802.11n20



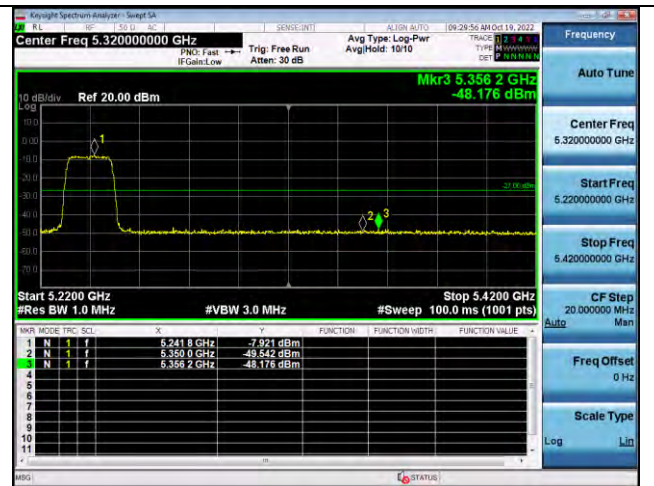
Highest channel

Test mode:



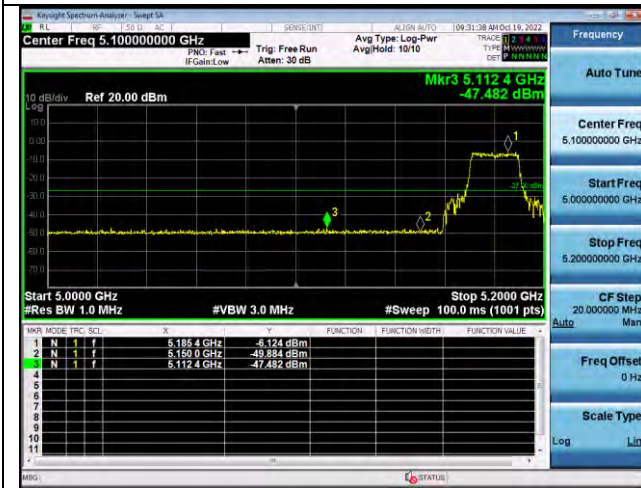
Lowest channel

802.11ac20



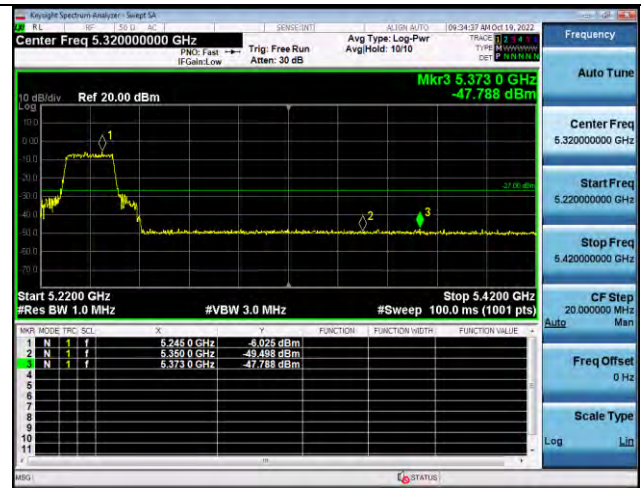
Highest channel

Test mode:



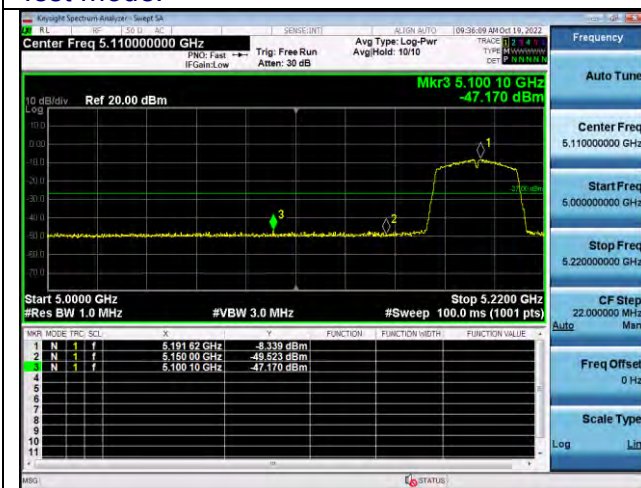
Lowest channel

802.11ax20



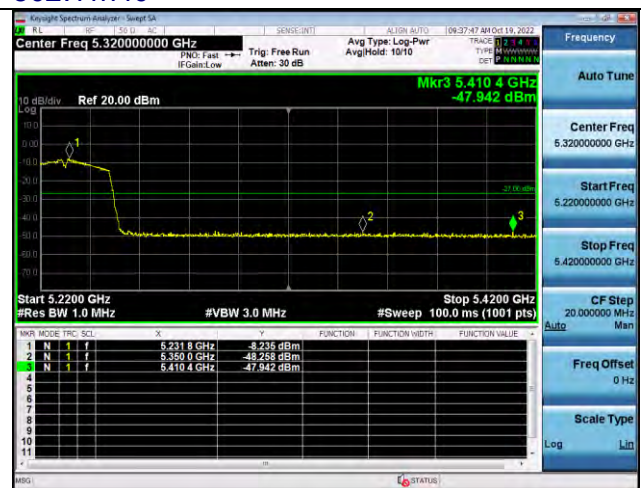
Highest channel

Test mode:



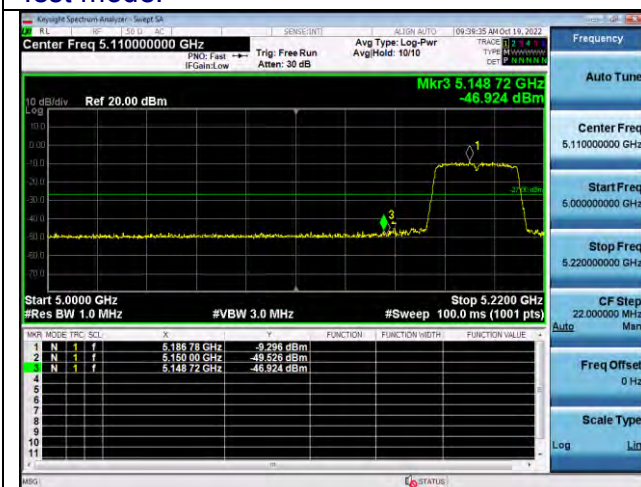
Lowest channel

802.11n40



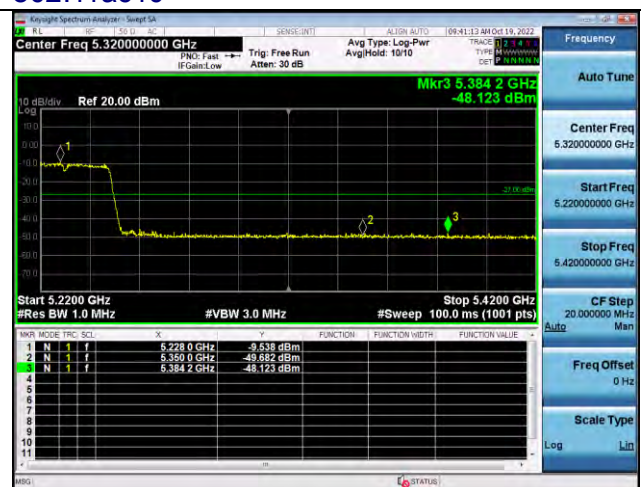
Highest channel

Test mode:



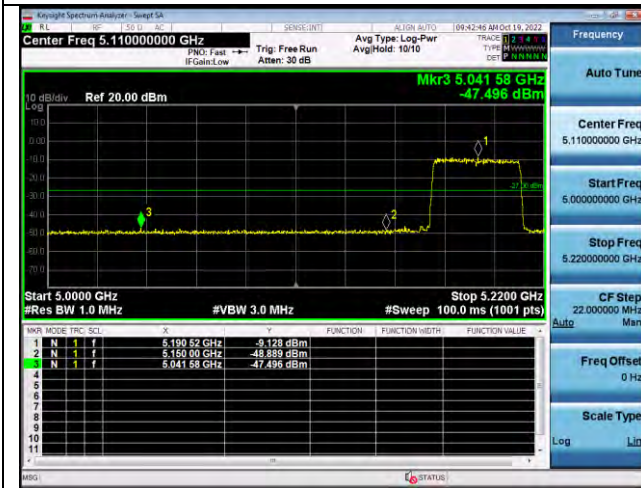
Lowest channel

802.11ac40



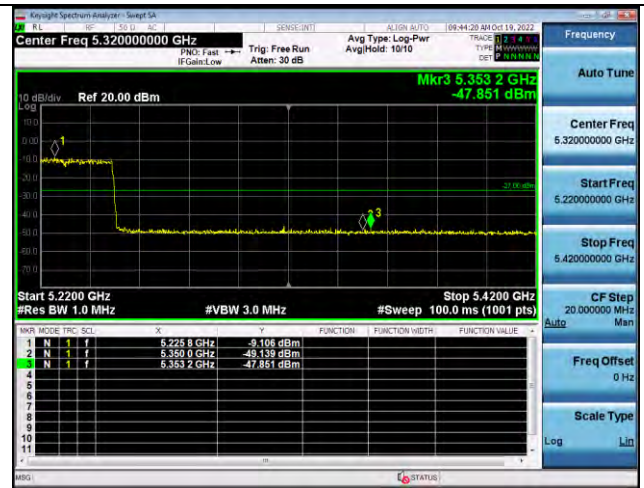
Highest channel

Test mode:



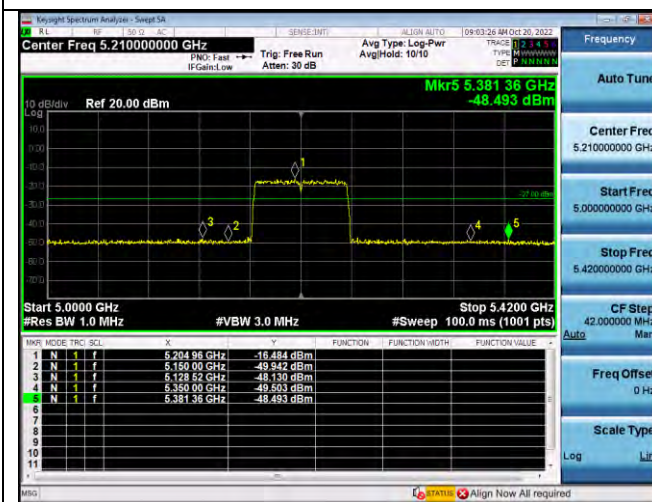
Lowest channel

802.11ax40



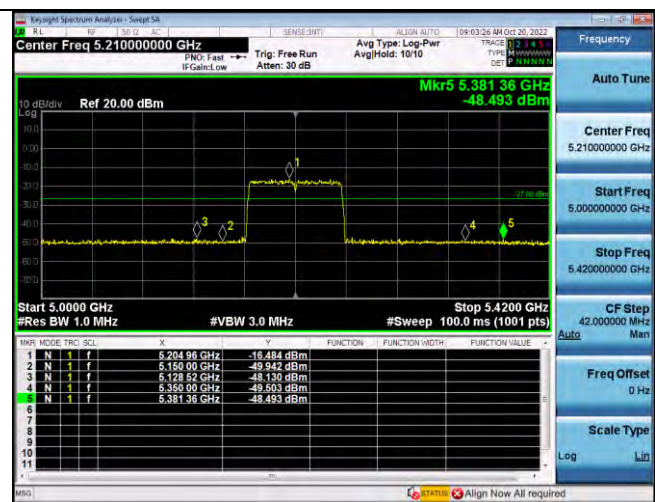
Highest channel

Test mode:



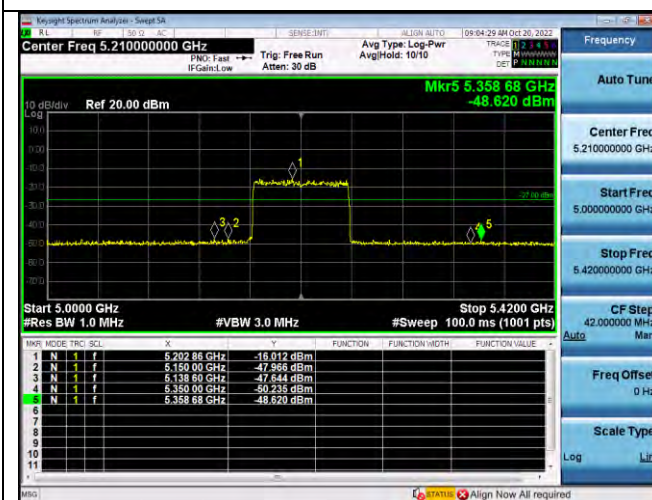
Lowest channel

802.11ac80



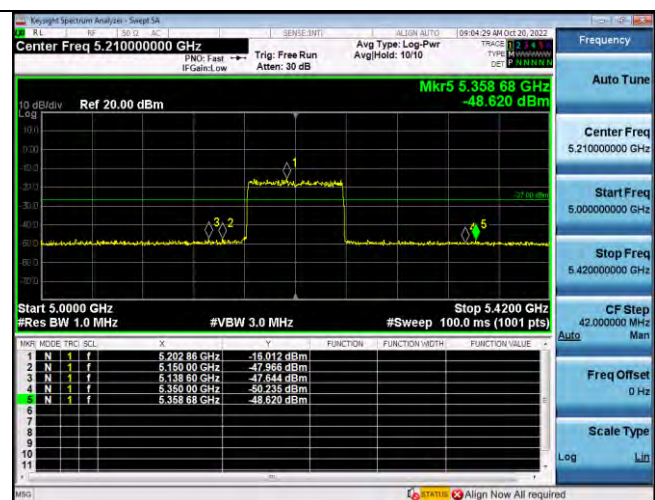
Highest channel

Test mode:



Lowest channel

802.11ax80

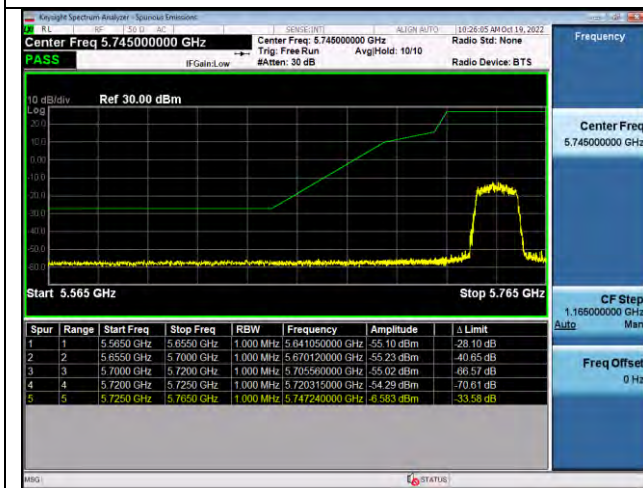


Highest channel

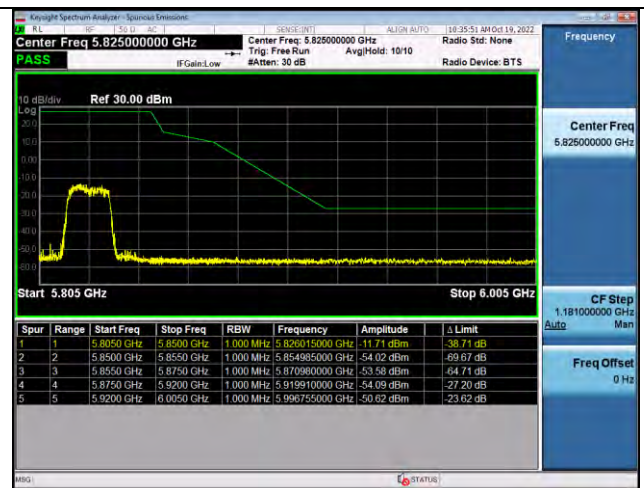
ANT1- U-NII-3

Test mode:

802.11a



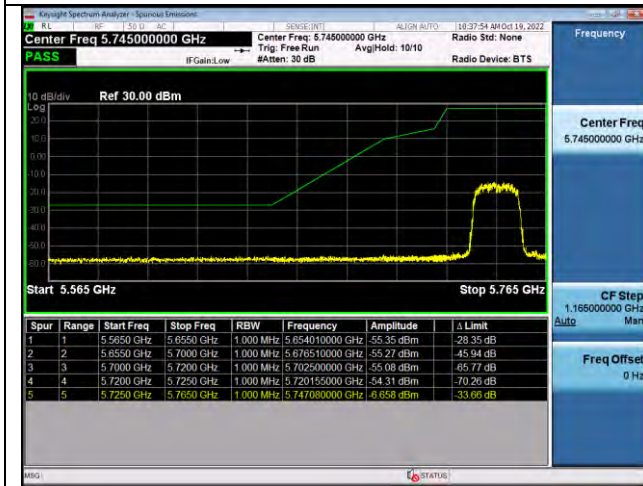
Lowest channel



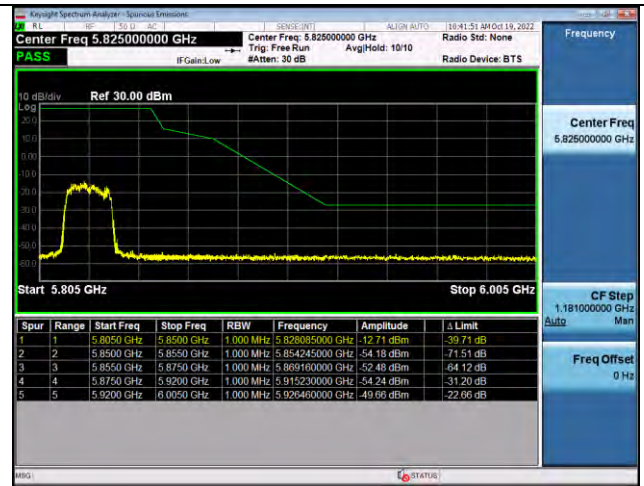
Highest channel

Test mode:

802.11n20



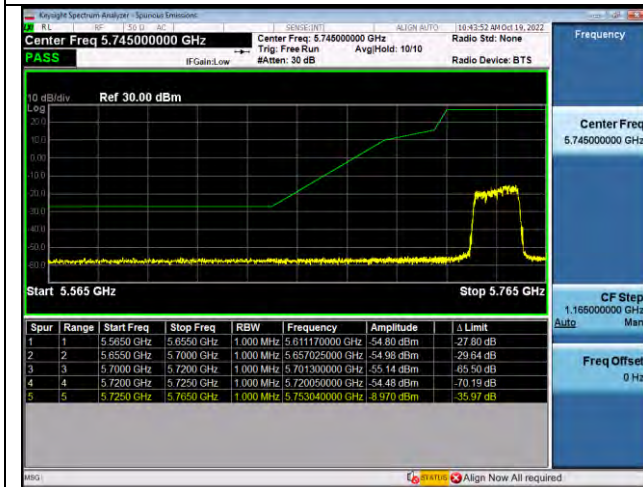
Lowest channel



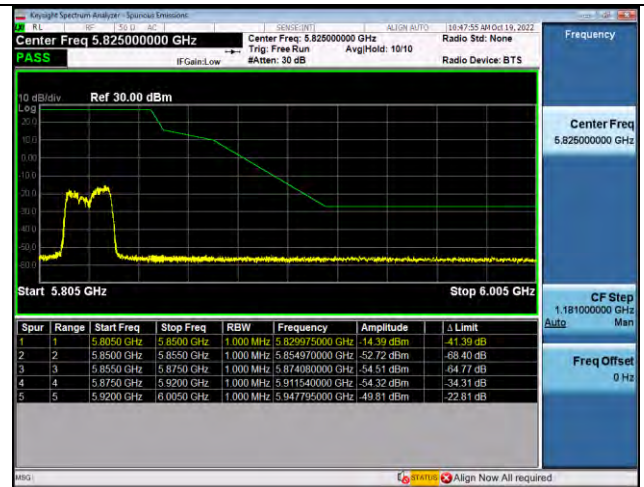
Highest channel

Test mode:

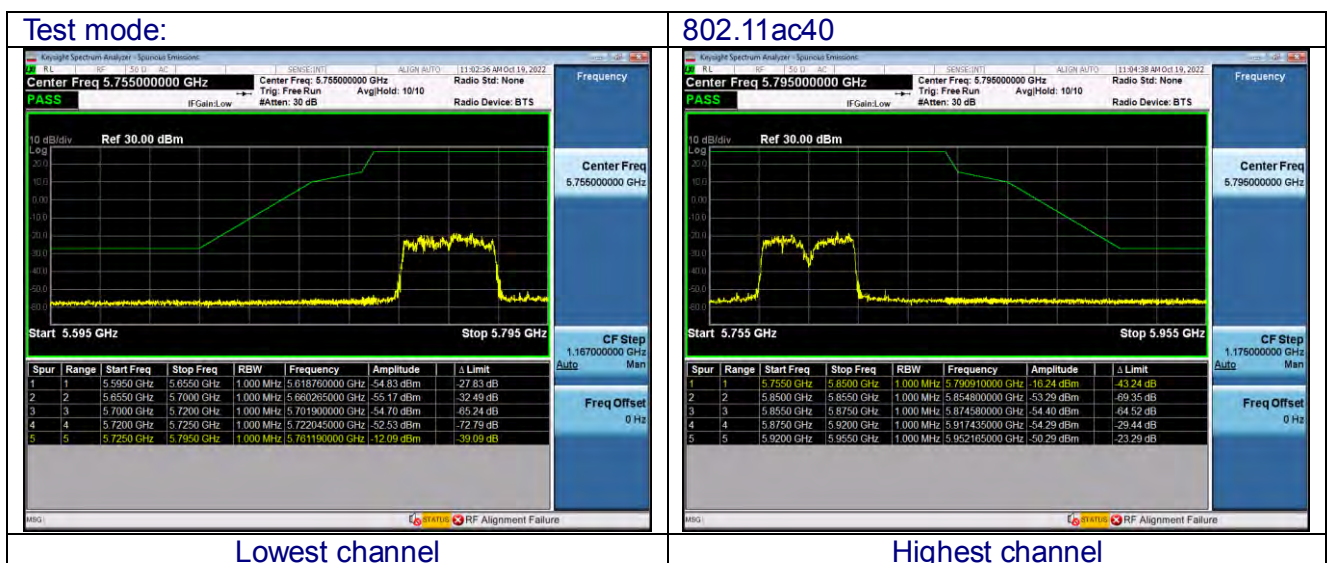
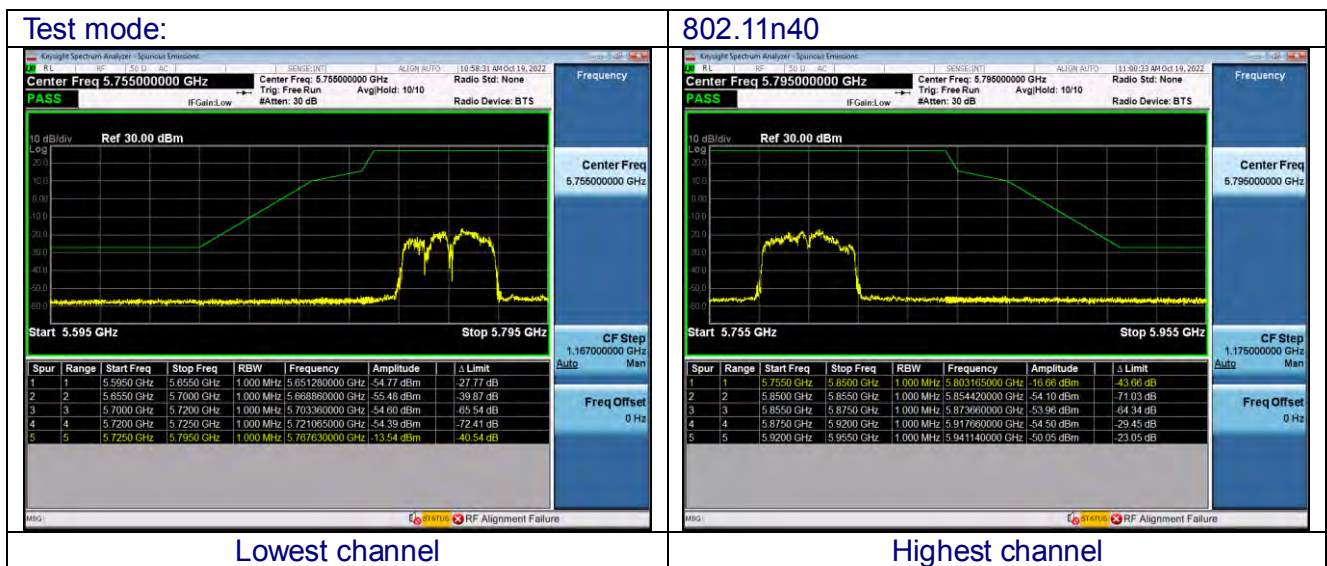
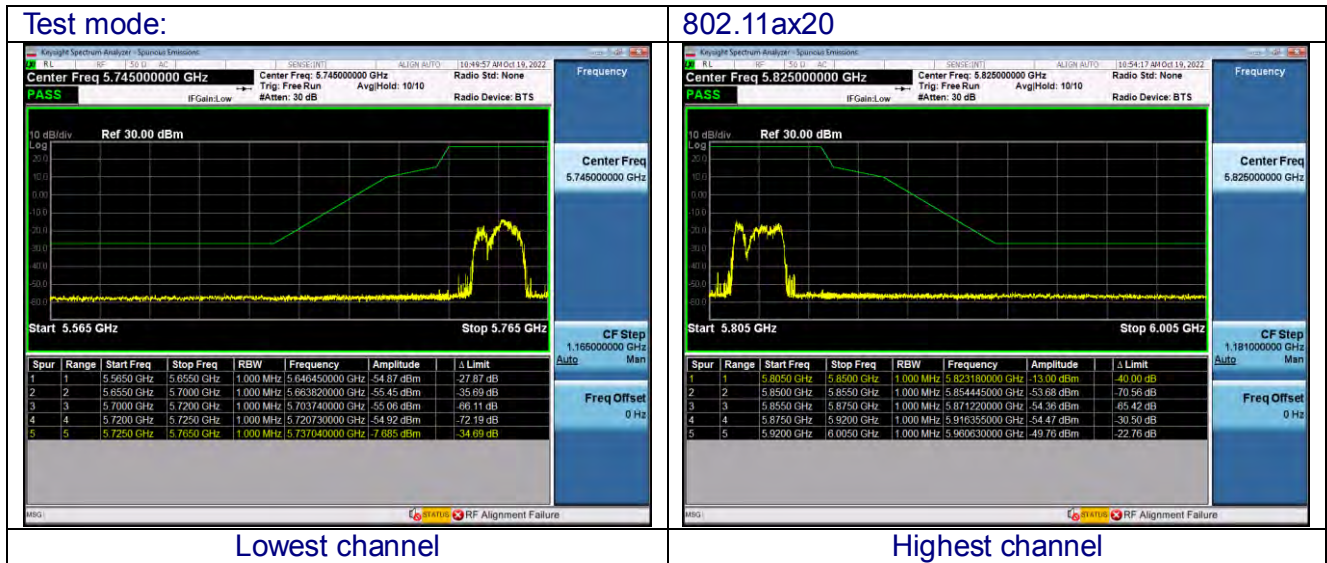
802.11ac20



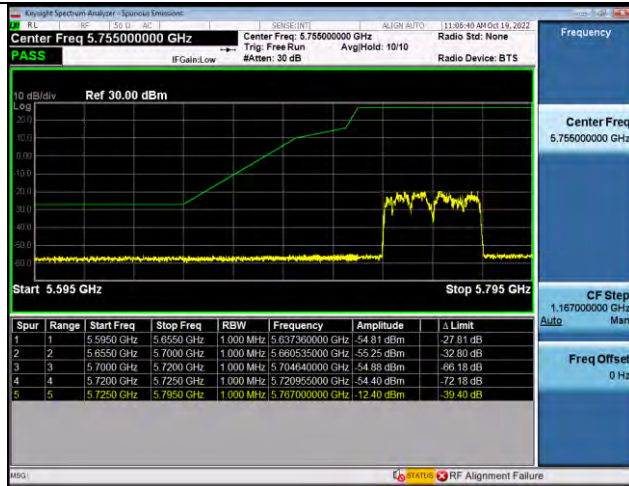
Lowest channel



Highest channel

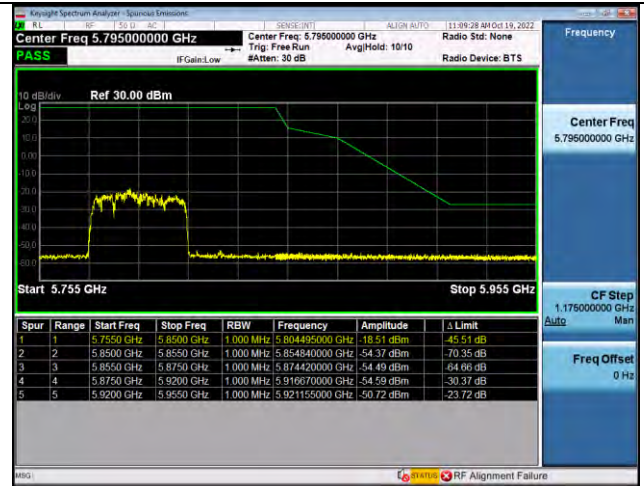


Test mode:



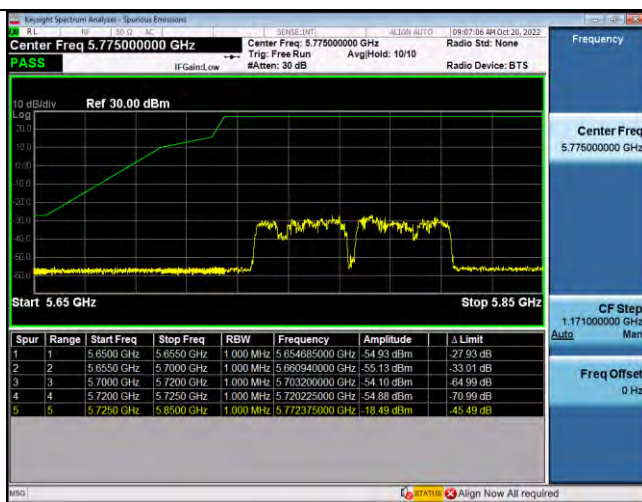
Lowest channel

802.11ax40



Highest channel

Test mode:



Lowest channel

802.11ac80



Highest channel

Test mode:



Lowest channel

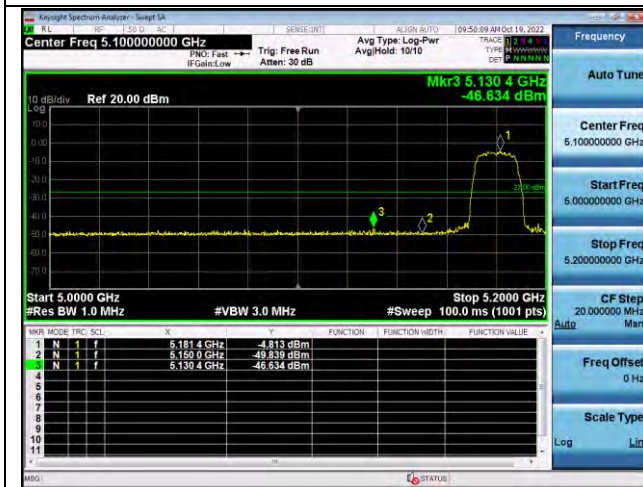
802.11ax80



Highest channel

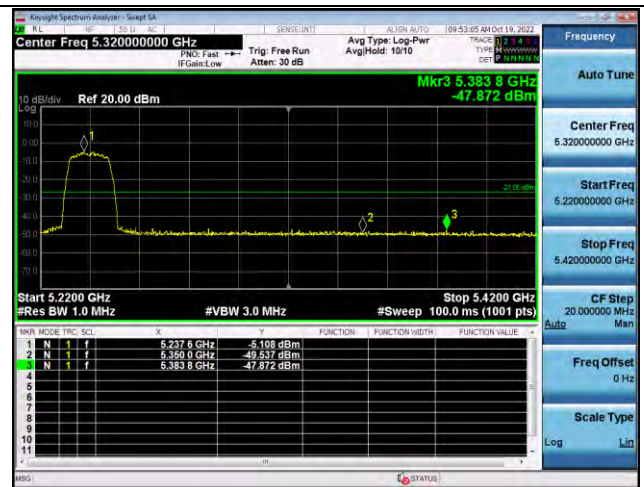
ANT2- U-NII-1

Test mode:



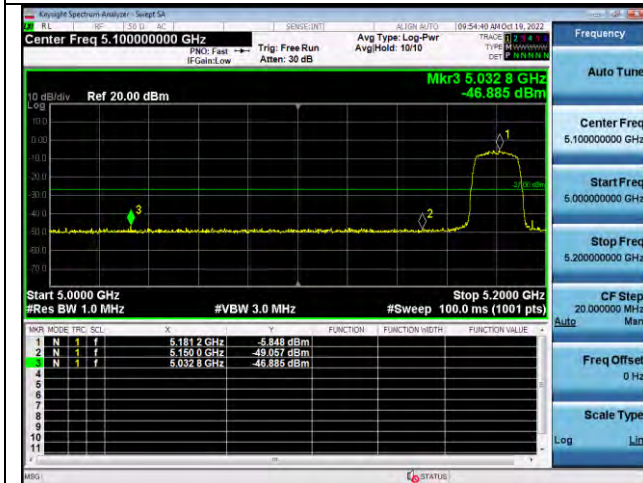
Lowest channel

802.11a



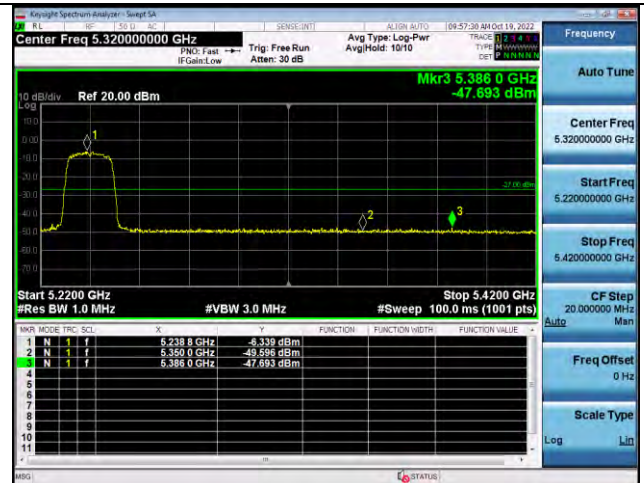
Highest channel

Test mode:



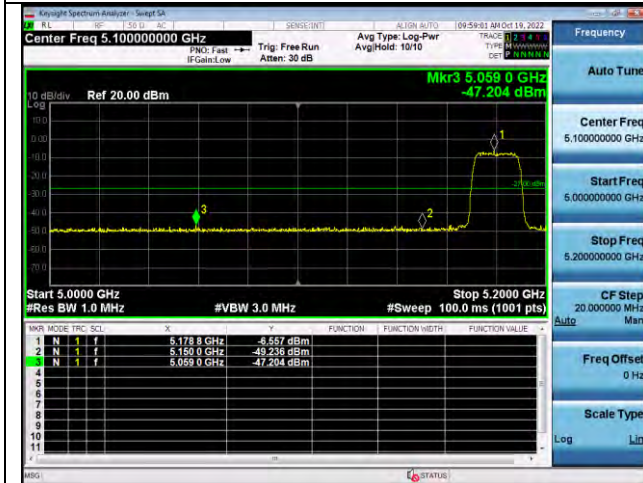
Lowest channel

802.11n20



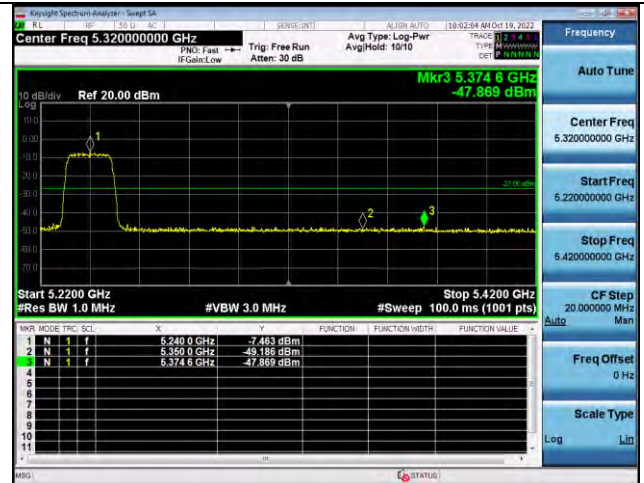
Highest channel

Test mode:

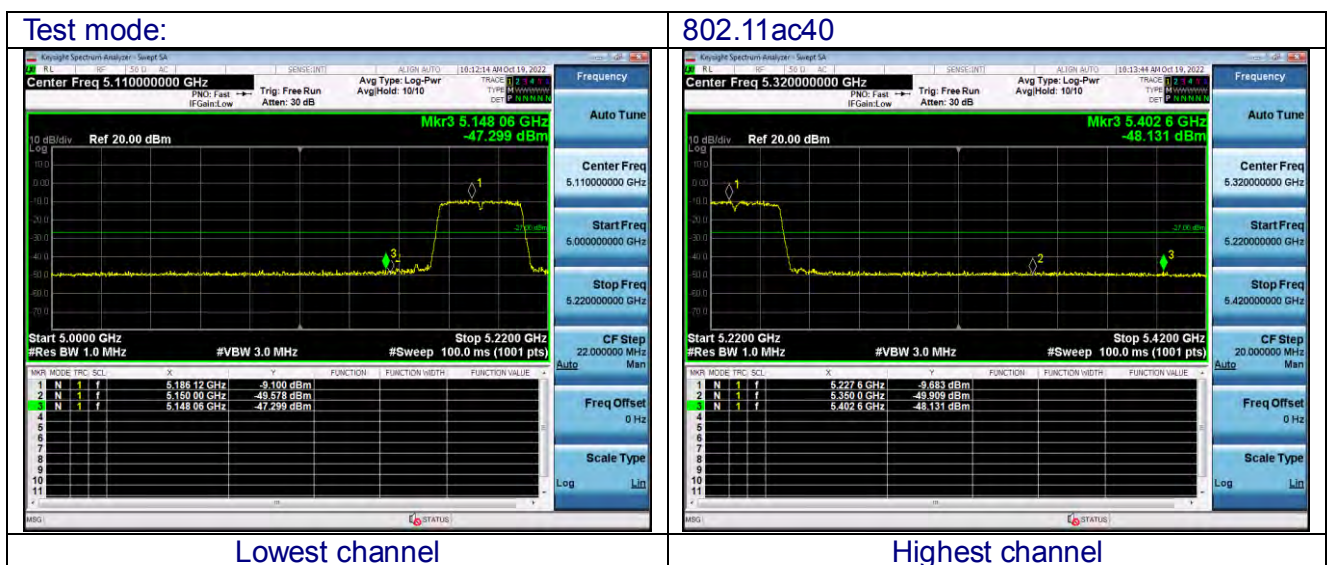
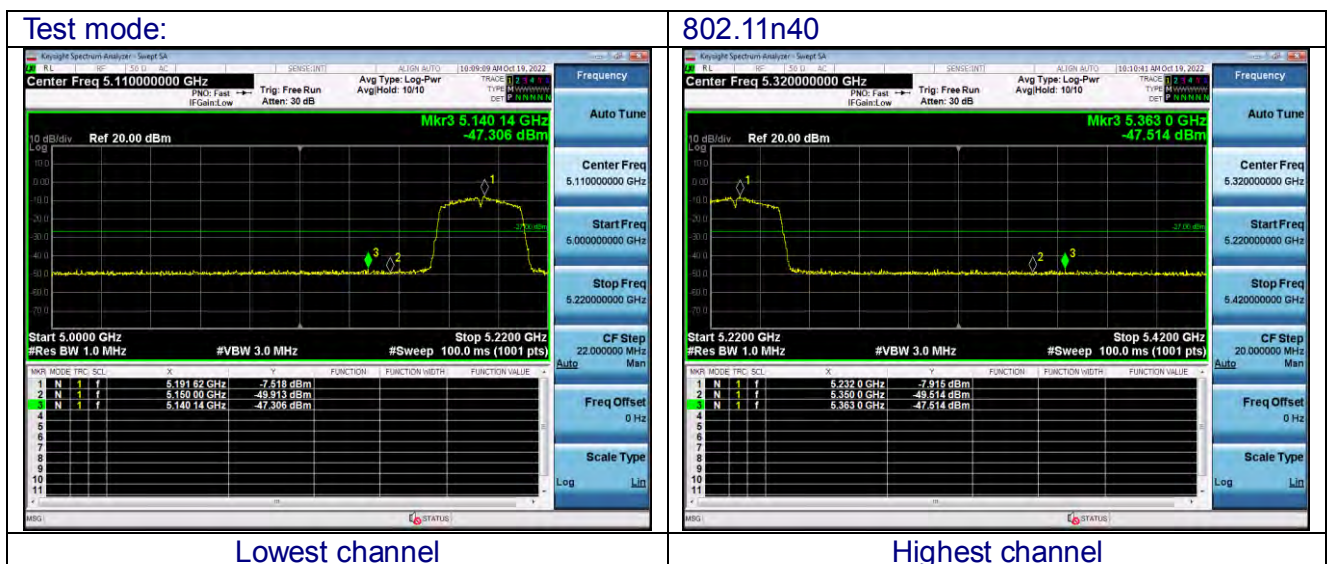
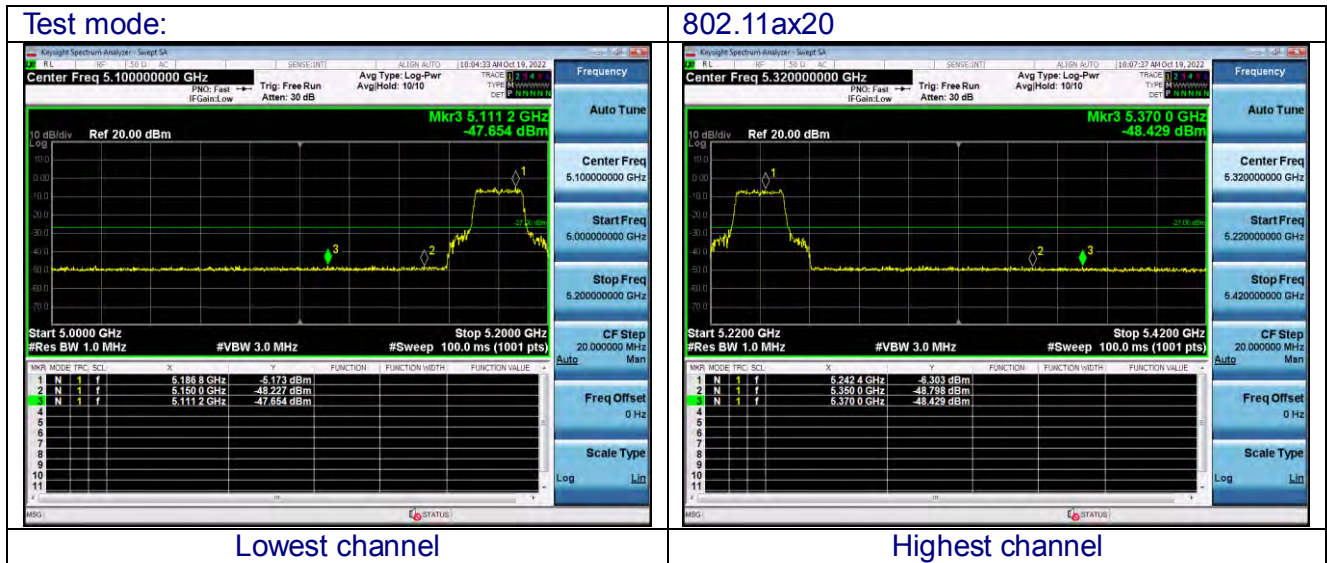


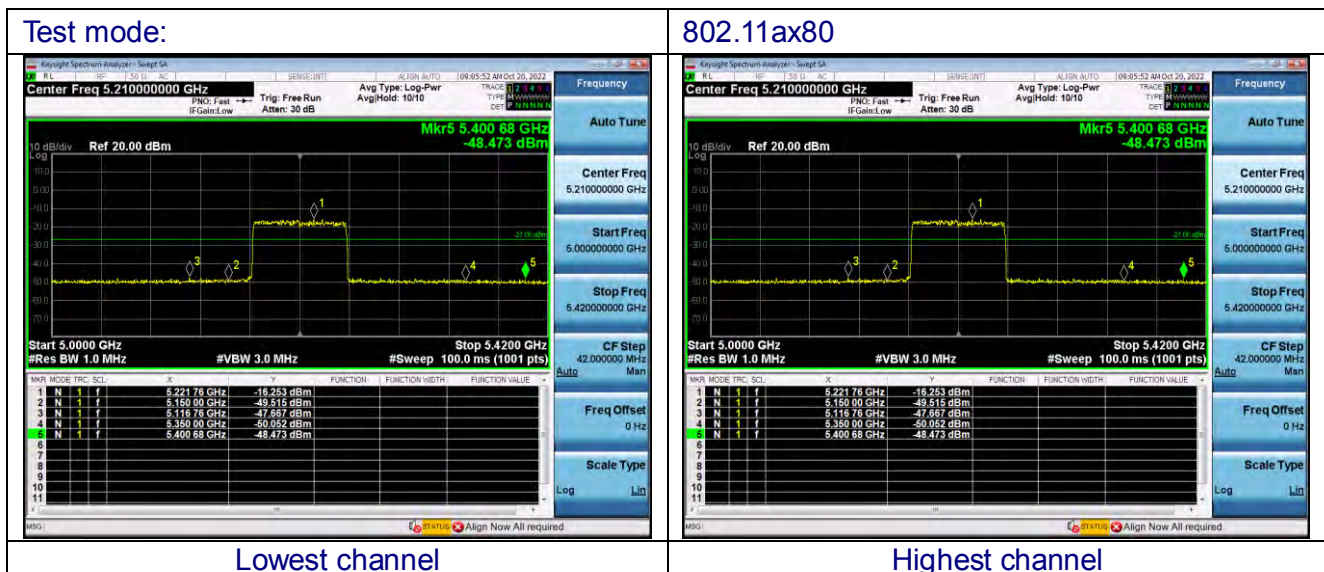
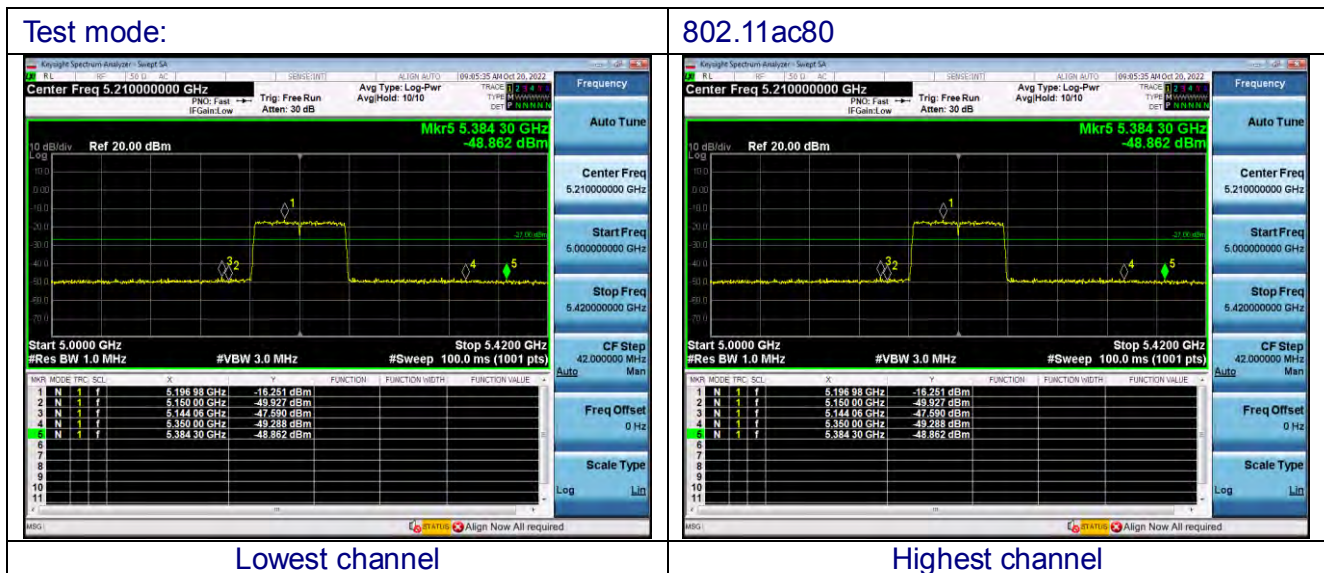
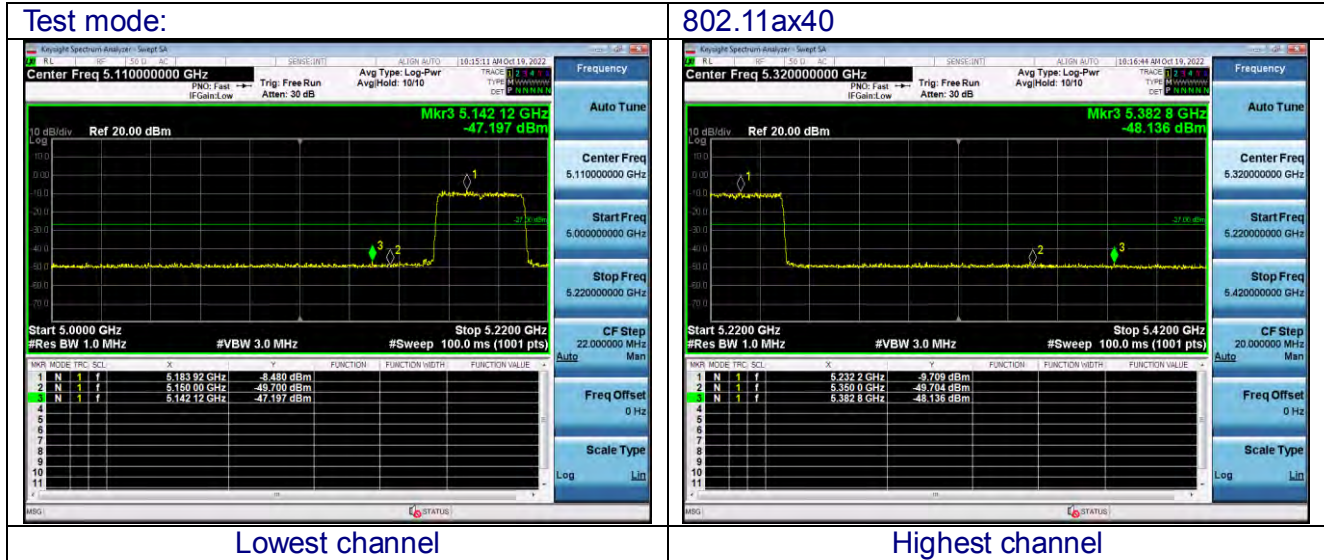
Lowest channel

802.11ac20



Highest channel

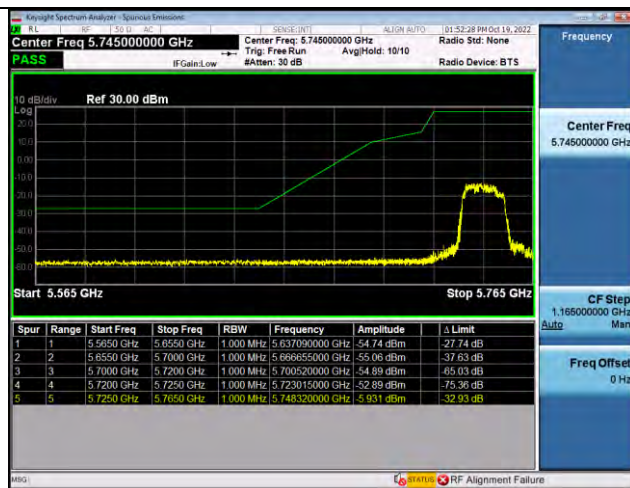




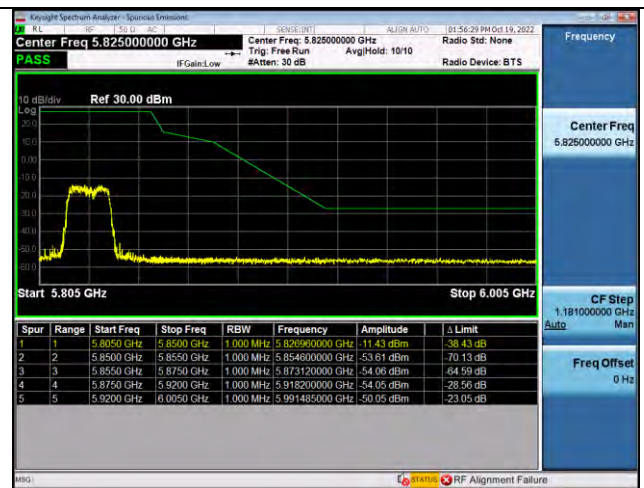
ANT2-U-NII-3

Test mode:

802.11a



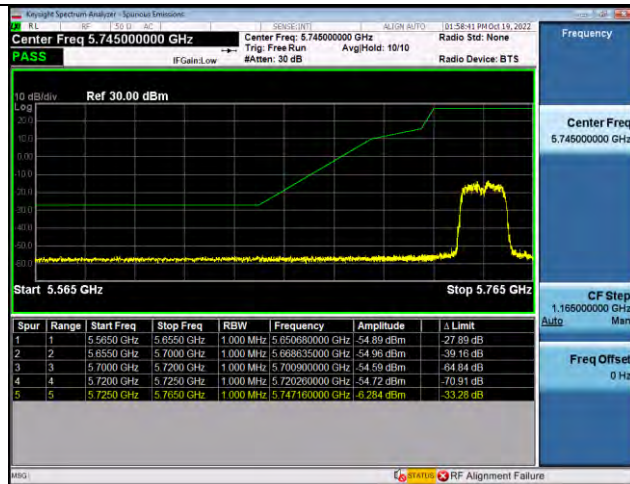
Lowest channel



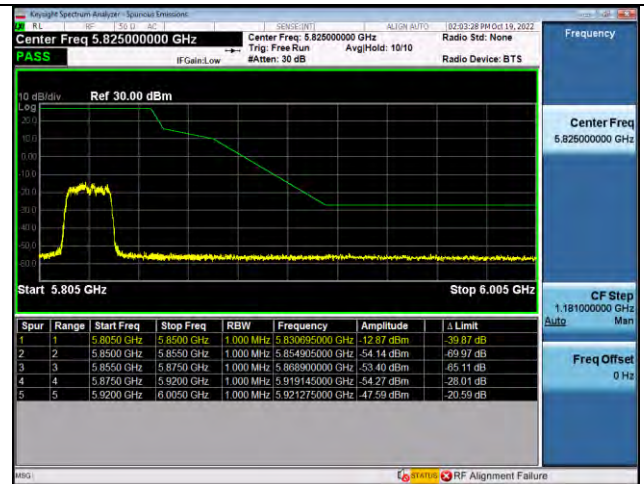
Highest channel

Test mode:

802.11n20



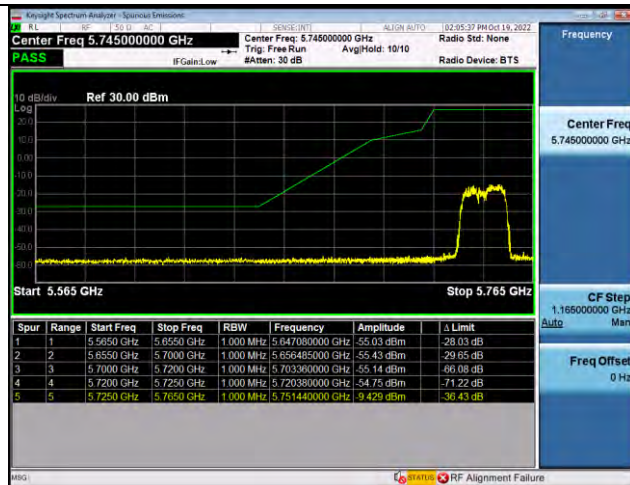
Lowest channel



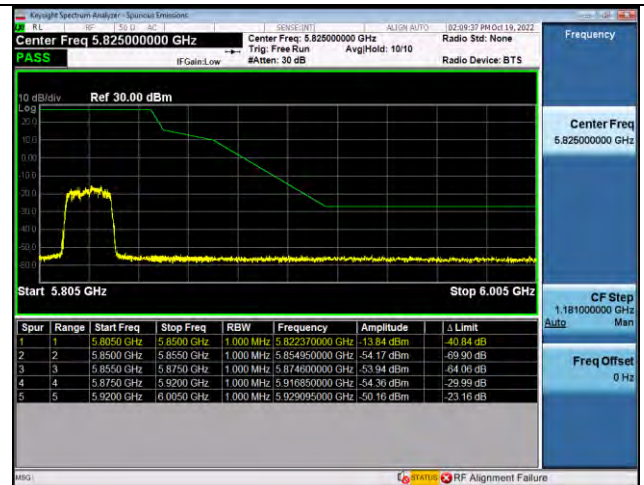
Highest channel

Test mode:

802.11ac20

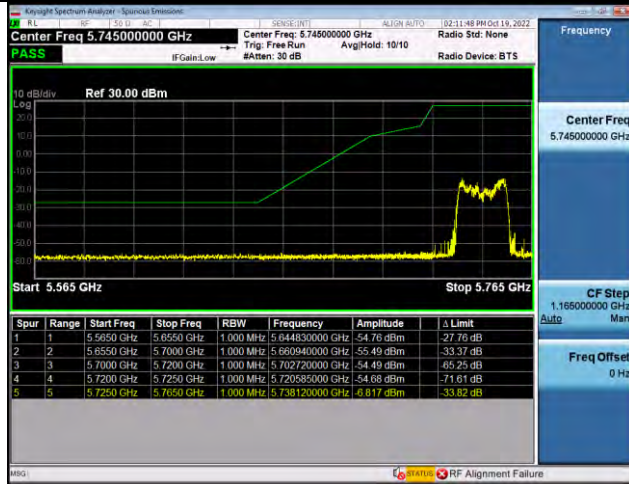


Lowest channel



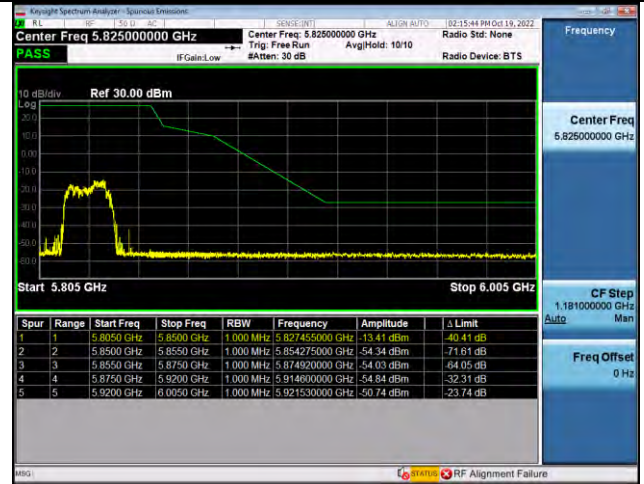
Highest channel

Test mode:



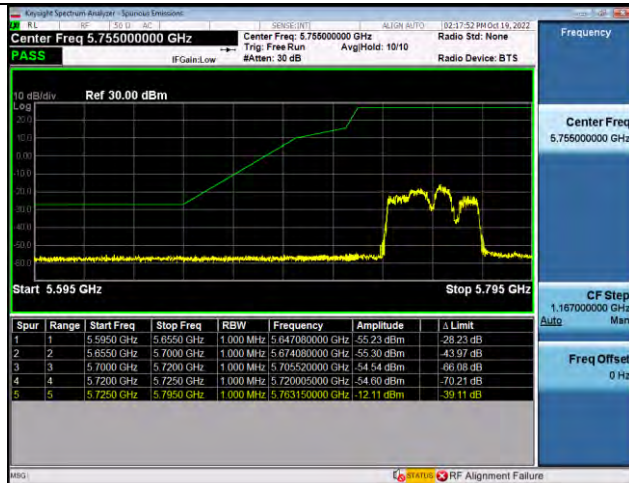
Lowest channel

802.11ax20



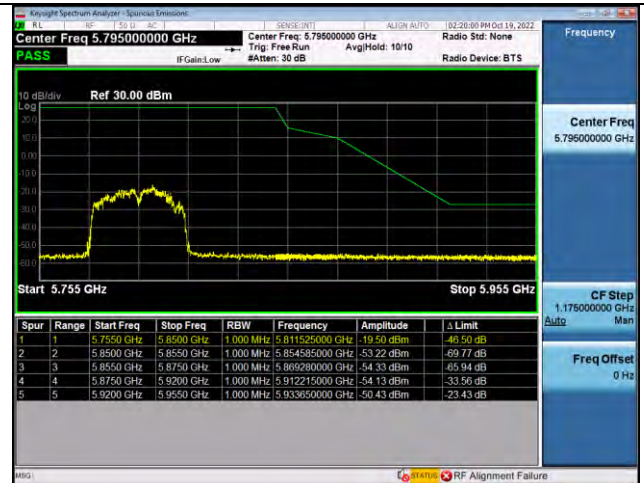
Highest channel

Test mode:



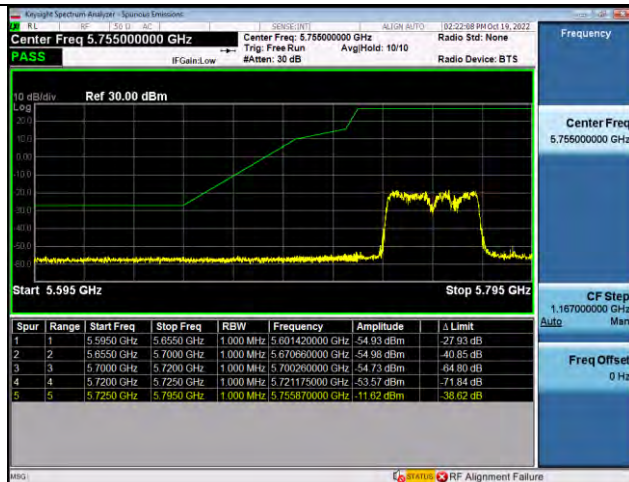
Lowest channel

802.11n40



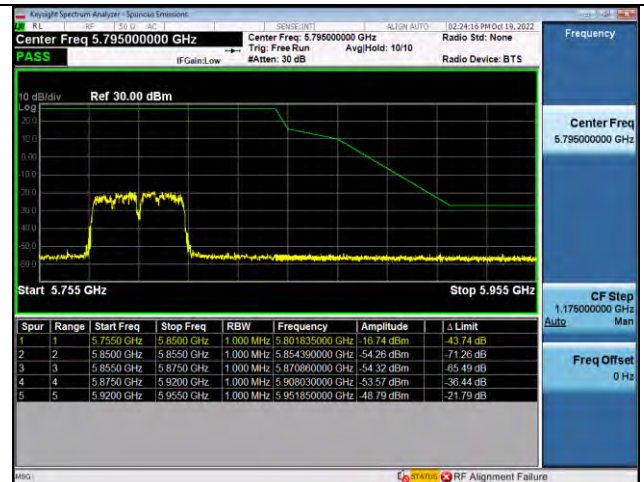
Highest channel

Test mode:

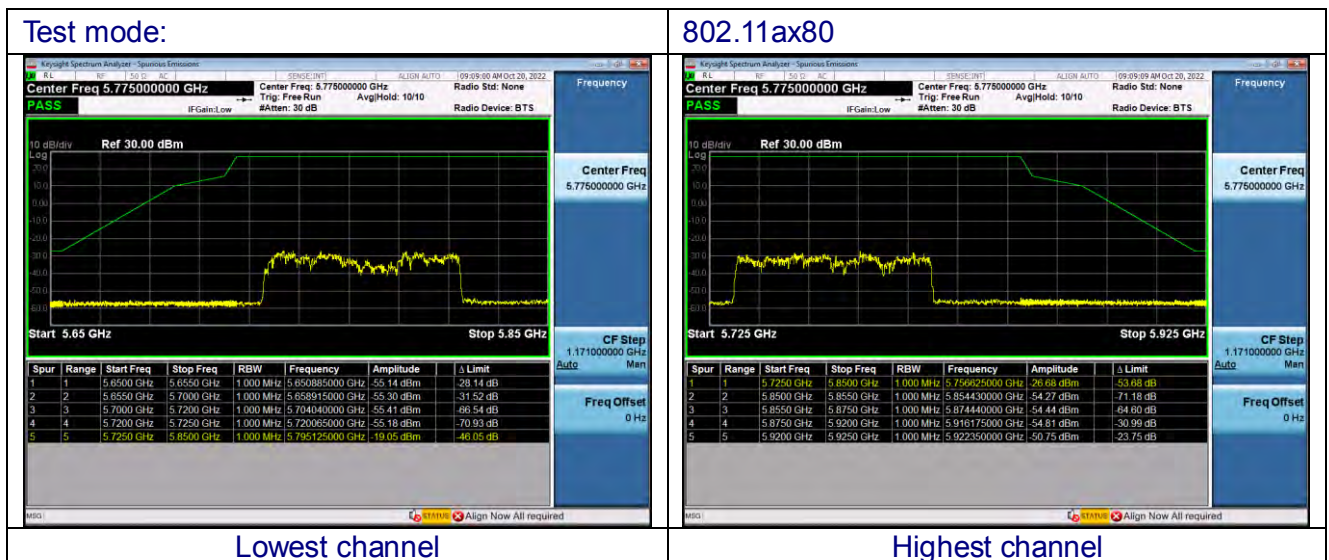
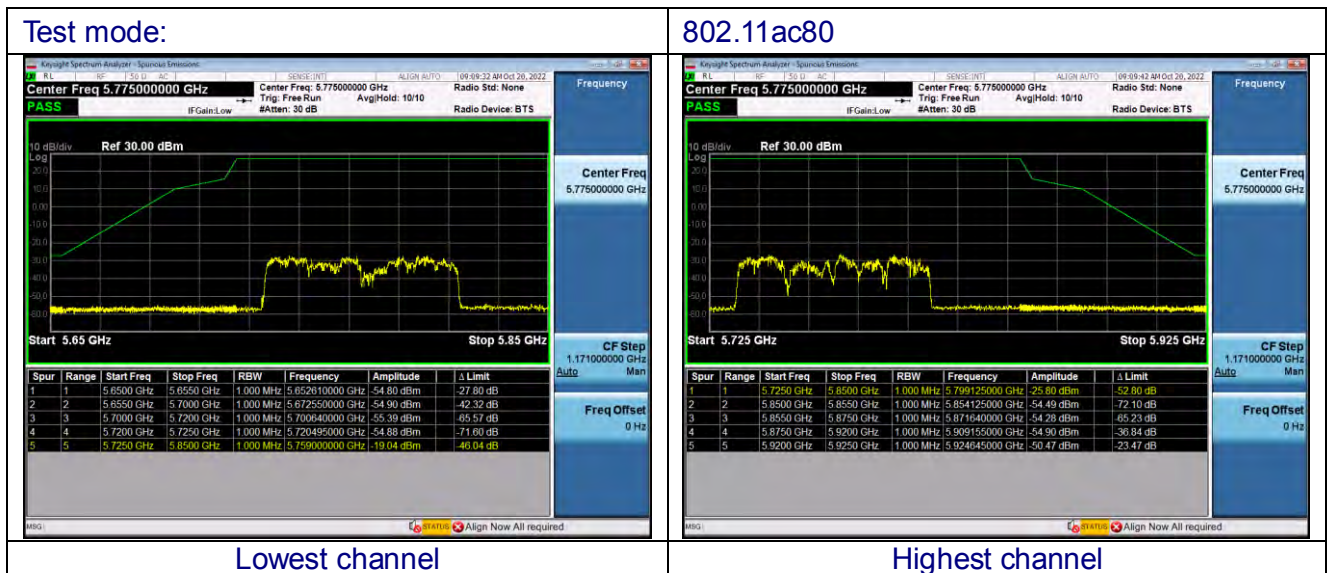
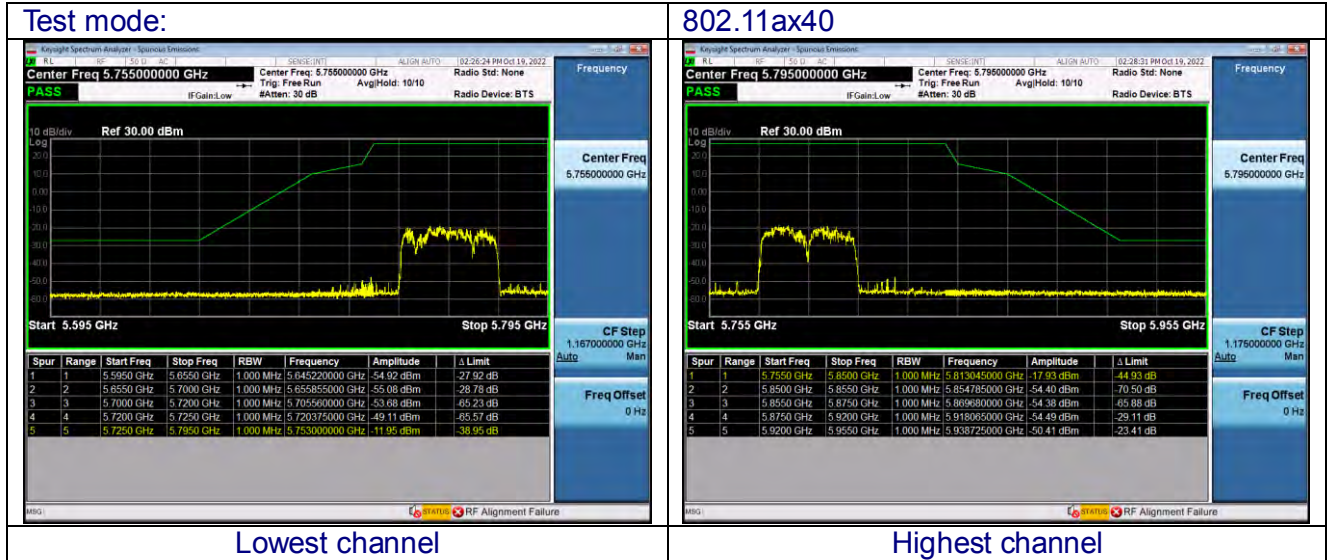


Lowest channel

802.11ac40



Highest channel



9. FREQUENCY STABILITY MEASUREMENT

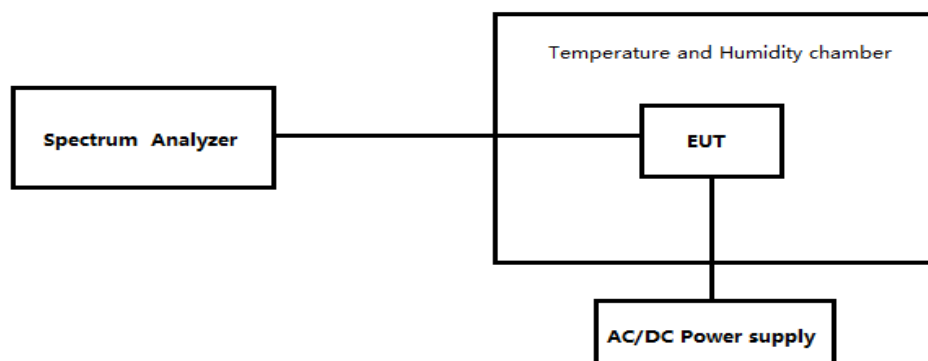
9.1 LIMIT

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 TESTPROCEDURE

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 TESTCONFIGURATION



9.4 TEST RESULT

Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 5V

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

ANT1-802.11a- CH36

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.011	2.132
40	5.0	0.008	1.624
30	5.0	0.016	3.123
20	5.0	0.013	2.559

10	5.0	0.015	2.970
0	5.0	0.011	2.132
-10	5.0	0.001	0.252
-20	5.0	0.011	2.132
-30	5.0	0.001	0.252

ANT1-802.11a- CH48

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.015	2.919
40	5.0	0.014	2.600
30	5.0	0.015	2.919
20	5.0	0.007	1.245
10	5.0	0.013	2.434
0	5.0	0.001	0.156
-10	5.0	0.002	0.413
-20	5.0	0.006	1.188
-30	5.0	0.017	3.314

ANT1-802.11a- CH149

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.009	1.556
40	5.0	0.013	2.345
30	5.0	0.011	1.992
20	5.0	0.016	2.722
10	5.0	0.011	1.928
0	5.0	0.014	2.398
-10	5.0	0.016	2.722
-20	5.0	0.012	2.110
-30	5.0	0.004	0.679

ANT1-802.11a- CH165

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.010	1.635
40	5.0	0.016	2.706
30	5.0	0.004	0.721
20	5.0	0.011	1.925
10	5.0	0.004	0.721
0	5.0	0.014	2.350
-10	5.0	0.009	1.614
-20	5.0	0.015	2.646
-30	5.0	0.011	1.878

ANT1-802.11n20- CH36

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.011	2.132
40	5.0	0.002	0.478
30	5.0	0.017	3.233
20	5.0	0.004	0.846
10	5.0	0.009	1.816
0	5.0	0.010	1.911
-10	5.0	0.002	0.416
-20	5.0	0.011	2.123
-30	-20	0.007	1.345

ANT1-802.11n20- CH48

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.006	1.158
40	5.0	0.009	1.629
30	5.0	0.018	3.358
20	5.0	0.012	2.291
10	5.0	0.004	0.713
0	5.0	0.005	0.908
-10	5.0	0.010	2.002
-20	5.0	0.010	2.002
-30	5.0	0.010	2.002

ANT1-802.11n20- CH149

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.006	1.061
40	5.0	0.005	0.909
30	5.0	0.002	0.335
20	5.0	0.012	2.126
10	5.0	0.005	0.909
0	5.0	0.009	1.512
-10	5.0	0.003	0.463
-20	5.0	0.010	1.815
-30		0.017	3.042

ANT1-802.11n20- CH165

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.017	2.996
40	5.0	0.010	1.683
30	5.0	0.010	1.683
20	5.0	0.014	2.406
10	5.0	0.010	1.683
0	5.0	0.016	2.666
-10	5.0	0.009	1.621
-20	5.0	0.010	1.683
-30	5.0	0.014	2.406

ANT1-802.11n40- CH38

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.013	2.466
40	5.0	0.015	2.856
30	5.0	0.004	0.697
20	5.0	0.012	2.219
10	5.0	0.007	1.440
0	5.0	0.006	1.183
-10	5.0	0.010	1.834
-20	5.0	0.010	1.834
-30	5.0	0.012	2.219

ANT1-802.11n40- CH46

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.006	1.077
40	5.0	0.010	1.944
30	5.0	0.005	1.005
20	5.0	0.015	2.948
10	5.0	0.010	1.944
0	5.0	0.001	0.170
-10	5.0	0.005	1.047
-20	5.0	0.009	1.655
-30	5.0	0.011	2.081

ANT1-802.11n40- CH151

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.012	2.148
40	5.0	0.014	2.494
30	5.0	0.017	2.926
20	5.0	0.004	0.676
10	5.0	0.013	2.324
0	5.0	0.010	1.668
-10	5.0	0.005	0.848
-20	5.0	0.009	1.520
-30	5.0	0.001	0.217

ANT1-802.11n40- CH159

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.008	1.440
40	5.0	0.016	2.811
30	5.0	0.006	0.973
20	5.0	0.013	2.222
10	5.0	0.017	2.982
0	5.0	0.012	2.057
-10	5.0	0.007	1.216
-20	5.0	0.017	2.982
-30	5.0	0.002	0.347

ANT1-802.11ac20- CH36

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.014	2.769
40	5.0	0.018	3.442
30	5.0	0.011	2.123
20	5.0	0.004	0.811
10	5.0	0.001	0.202
0	5.0	0.018	3.397
-10	5.0	0.013	2.522
-20	5.0	0.018	3.442
-30	5.0	0.012	2.300

ANT1-802.11ac20- CH48

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.013	2.560
40	5.0	0.005	0.863
30	5.0	0.016	3.012

20	5.0	0.013	2.560
10	5.0	0.016	3.012
0	5.0	0.004	0.852
-10	5.0	0.015	2.803
-20	5.0	0.013	2.560
-30	5.0	0.015	2.803

ANT1-802.11ac20- CH149

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.007	1.219
40	5.0	0.011	1.916
30	5.0	0.003	0.542
20	5.0	0.012	2.131
10	5.0	0.001	0.091
0	5.0	0.012	2.130
-10	5.0	0.007	1.219
-20	5.0	0.005	0.819
-30	5.0	0.014	2.381

ANT1-802.11ac20- CH165

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.003	0.464
40	5.0	0.002	0.285
30	5.0	0.004	0.690
20	5.0	0.010	1.801
10	5.0	0.004	0.690
0	5.0	0.007	1.245
-10	5.0	0.002	0.285
-20	5.0	0.008	1.317
-30	5.0	0.011	1.891

ANT1-802.11ac40- CH38

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.018	3.417
40	5.0	0.007	1.359
30	5.0	0.017	3.227
20	5.0	0.007	1.359
10	5.0	0.012	2.343
0	5.0	0.008	1.608
-10	5.0	0.007	1.359
-20	5.0	0.005	0.976
-30	5.0	0.009	1.818

ANT1-802.11ac40- CH46

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.013	2.553
40	5.0	0.011	2.183
30	5.0	0.007	1.377
20	5.0	0.002	0.450
10	5.0	0.014	2.651
0	5.0	0.016	3.018
-10	5.0	0.002	0.450
-20	5.0	0.003	0.652
-30	5.0	0.002	0.450

ANT1-802.11ac40- CH151

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.002	0.364
40	5.0	0.008	1.442
30	5.0	0.010	1.742
20	5.0	0.008	1.331
10	5.0	0.013	2.322
0	5.0	0.009	1.631
-10	5.0	0.016	2.801
-20	5.0	0.016	2.801
-30	5.0	0.006	1.057

ANT1-802.11ac40- CH159

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.018	3.092
40	5.0	0.004	0.763
30	5.0	0.005	0.800
20	5.0	0.010	1.780
10	5.0	0.013	2.189
0	5.0	0.008	1.384
-10	5.0	0.007	1.247
-20	5.0	0.014	2.389
-30	5.0	0.004	0.763

ANT1-802.11ac80- CH42

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.013	2.466
40	5.0	0.010	2.009
30	5.0	0.001	0.162
20	5.0	0.010	2.009

10	5.0	0.015	2.909
0	5.0	0.012	2.212
-10	5.0	0.006	1.132
-20	5.0	0.008	1.447
-30	5.0	0.004	0.832

ANT1-802.11ac80- CH155

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.013	2.179
40	5.0	0.006	1.028
30	5.0	0.016	2.793
20	5.0	0.015	2.593
10	5.0	0.010	1.813
0	5.0	0.015	2.683
-10	5.0	0.002	0.297
-20	5.0	0.011	1.962
-30	5.0	0.016	2.793

ANT1-802.11ax20- CH36

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.017	3.311
40	5.0	0.004	0.720
30	5.0	0.002	0.341
20	5.0	0.016	3.016
10	5.0	0.010	1.909
0	5.0	0.003	0.593
-10	5.0	0.001	0.242
-20	5.0	0.014	2.696
-30	5.0	0.014	2.696

ANT1-802.11ax20- CH48

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.007	1.256
40	5.0	0.002	0.407
30	5.0	0.006	1.157
20	5.0	0.009	1.654
10	5.0	0.001	0.125
0	5.0	0.017	3.220
-10	5.0	0.011	2.153
-20	5.0	0.016	3.012
-30	5.0	0.013	2.529

ANT1-802.11ax20- CH149

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.001	0.118
40	5.0	0.003	0.594
30	5.0	0.012	2.076
20	5.0	0.006	1.006
10	5.0	0.008	1.307
0	5.0	0.010	1.735
-10	5.0	0.003	0.594
-20	5.0	0.007	1.166
-30	5.0	0.012	2.076

ANT1-802.11ax20- CH165

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.016	2.710
40	5.0	0.009	1.530
30	5.0	0.006	1.026
20	5.0	0.008	1.448
10	5.0	0.008	1.448
0	5.0	0.005	0.841
-10	5.0	0.005	0.841
-20	5.0	0.012	2.108
-30	5.0	0.009	1.545

ANT1-802.11ax40- CH38

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.016	3.173
40	5.0	0.011	2.194
30	5.0	0.017	3.237
20	5.0	0.014	2.713
10	5.0	0.004	0.861
0	5.0	0.014	2.713
-10	5.0	0.013	2.466
-20	5.0	0.018	3.382
-30	5.0	0.015	2.936

ANT1-802.11ax40- CH46

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.016	3.067
40	5.0	0.016	3.067
30	5.0	0.001	0.207

20	5.0	0.010	1.839
10	5.0	0.010	1.839
0	5.0	0.014	2.661
-10	5.0	0.015	2.795
-20	5.0	0.015	2.795
-30	5.0	0.009	1.798

ANT1-802.11ax40- CH151

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.009	1.615
40	5.0	0.007	1.225
30	5.0	0.015	2.553
20	5.0	0.016	2.854
10	5.0	0.012	2.130
0	5.0	0.017	3.003
-10	5.0	0.003	0.593
-20	5.0	0.004	0.639
-30	5.0	0.007	1.178

ANT1-802.11ax40- CH159

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.010	1.692
40	5.0	0.014	2.360
30	5.0	0.009	1.494
20	5.0	0.010	1.678
10	5.0	0.010	1.678
0	5.0	0.002	0.333
-10	5.0	0.005	0.834
-20	5.0	0.009	1.494
-30	5.0	0.005	0.834

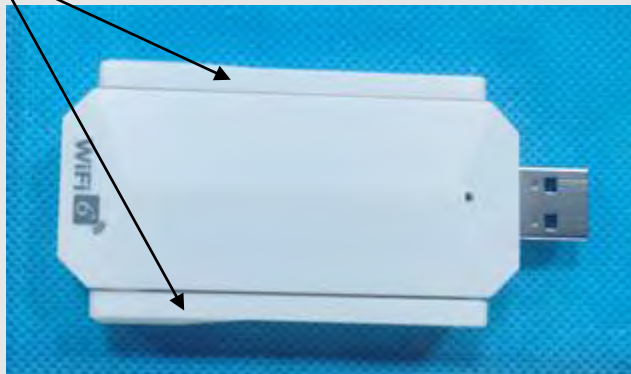
ANT1-802.11ax80- CH42

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.010	1.895
40	5.0	0.005	1.026
30	5.0	0.014	2.657
20	5.0	0.007	1.275
10	5.0	0.014	2.657
0	5.0	0.009	1.734
-10	5.0	0.006	1.177
-20	5.0	0.016	3.131
-30	5.0	0.016	3.131

ANT1-802.11ax80- CH155

Temperature (°C)	Voltage (DC:V)	Frequency Measure with time Elapsed	
		MCF	(ppm)
50	5.0	0.005	0.790
40	5.0	0.005	0.790
30	5.0	0.011	1.844
20	5.0	0.013	2.173
10	5.0	0.015	2.649
0	5.0	0.010	1.754
-10	5.0	0.007	1.287
-20	5.0	0.014	2.484
-30	5.0	0.008	1.434

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 1:4.95dBi and Antenna port 2:4.95dBi.	
EUT Antenna: 2.4G&5GWIFI ANT 	

10. TEST SETUP PHOTO

Reference to the test setup file for details.

11. EUT CONSTRUCTIONAL DETAILS

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

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