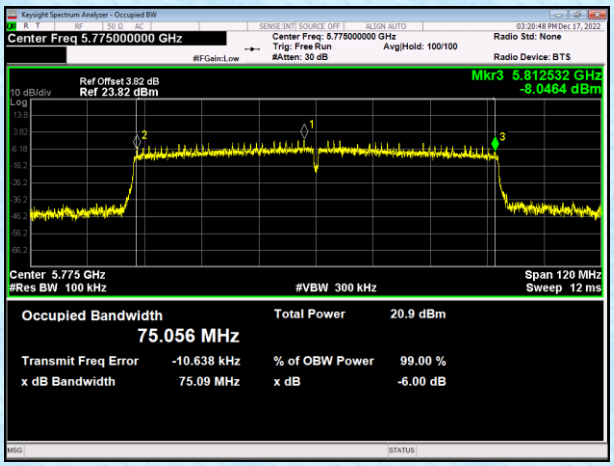
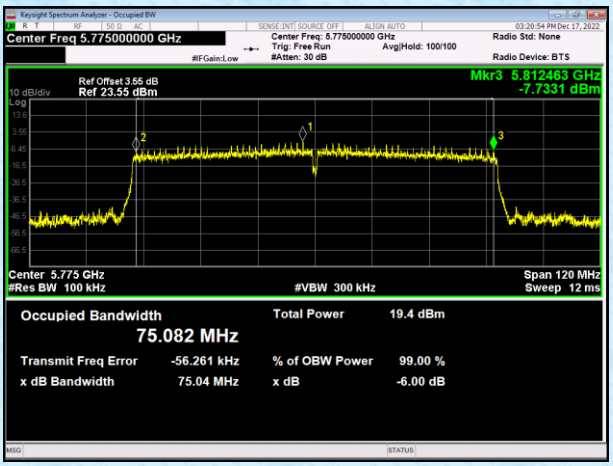
Test mode: 802.11 ac(VHT80)

Lowest channel 5775MHz

Antenna1



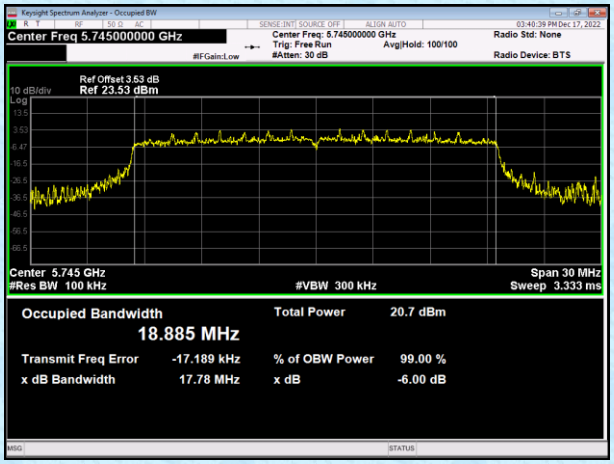
Antenna2



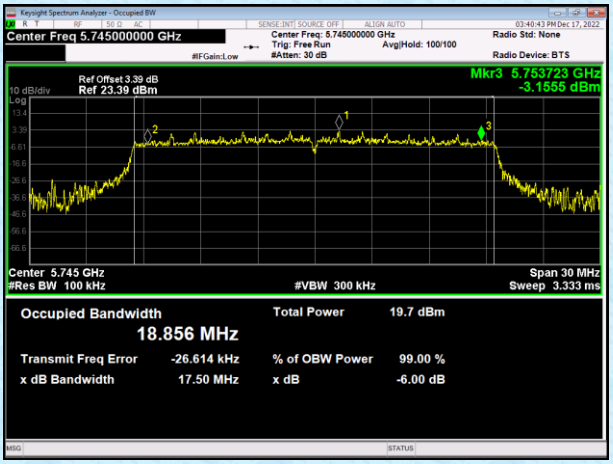
Test mode: 802.11ax(HE20)

Lowest channel 5745MHz

Antenna1

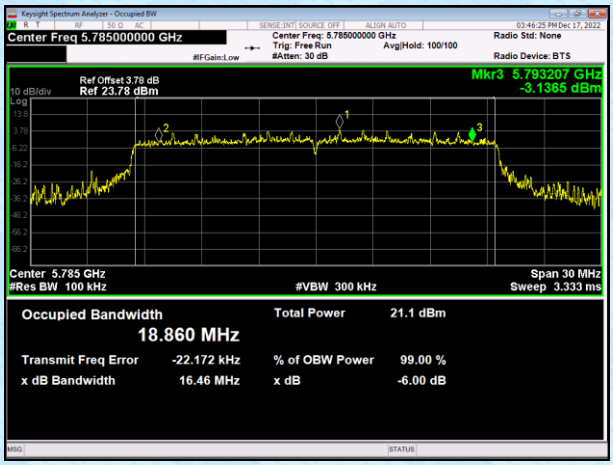


Antenna2

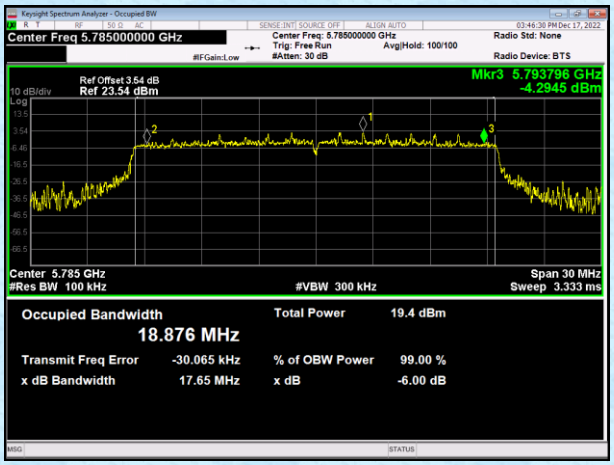


Middle channel 5785MHz

Antenna1

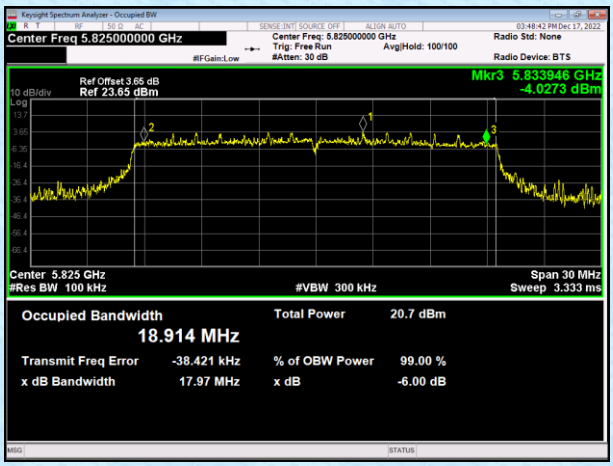


Antenna2

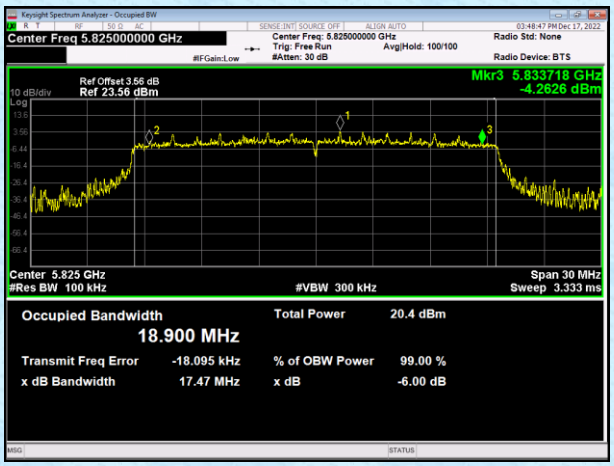


Highest channel 5825MHz

Antenna1



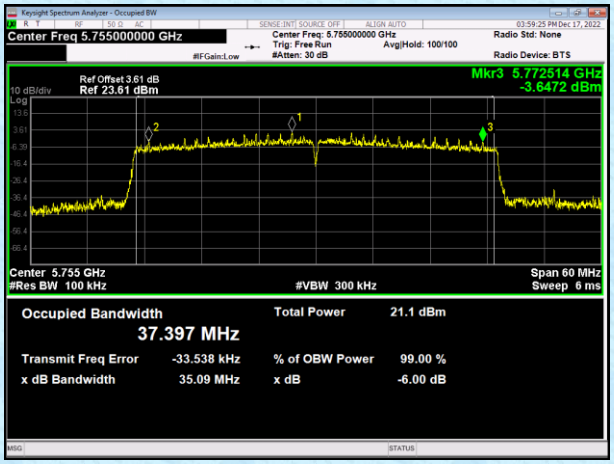
Antenna2



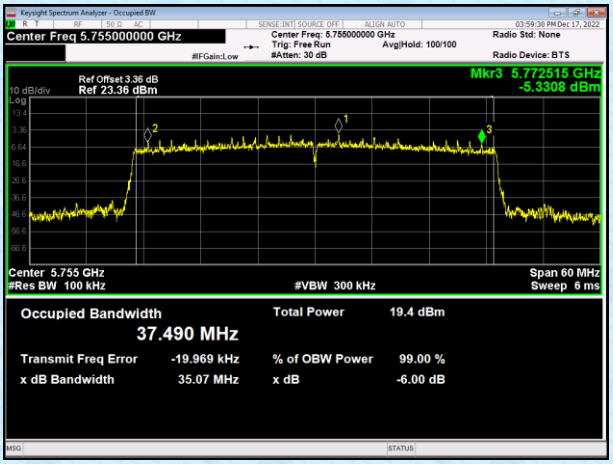
Test mode: 802.11ax(HE40)

Lowest channel 5755MHz

Antenna1

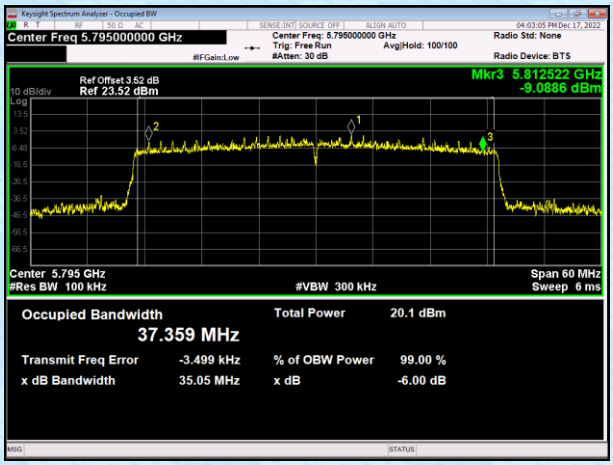


Antenna2

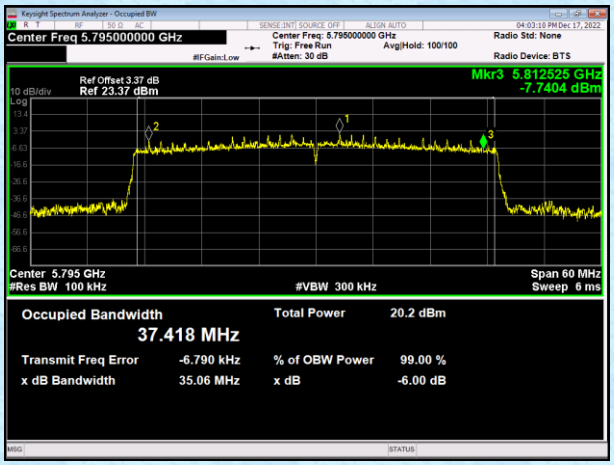


Highest channel 5795MHz

Antenna1



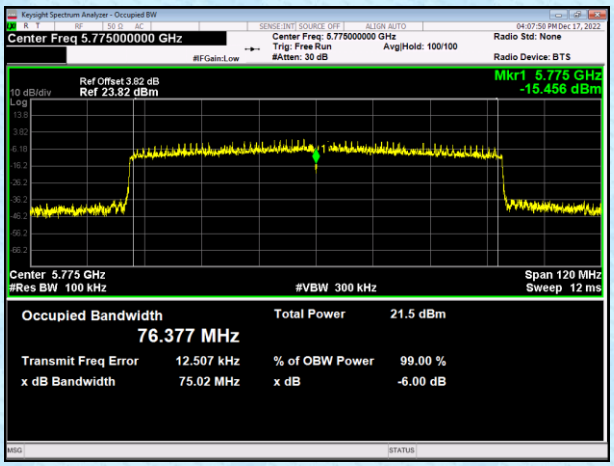
Antenna2



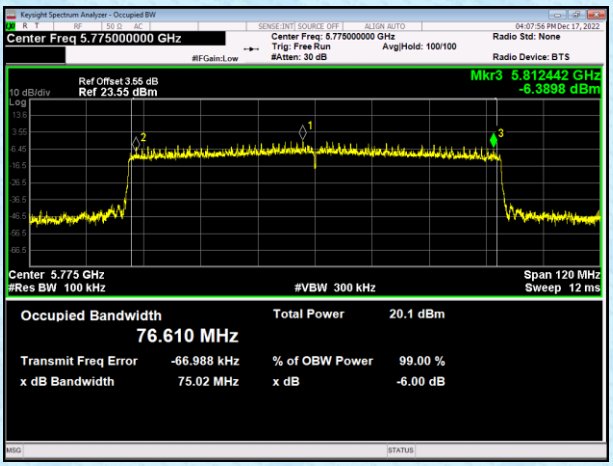
Test mode: 802.11ax(HE80)

Lowest channel 5775MHz

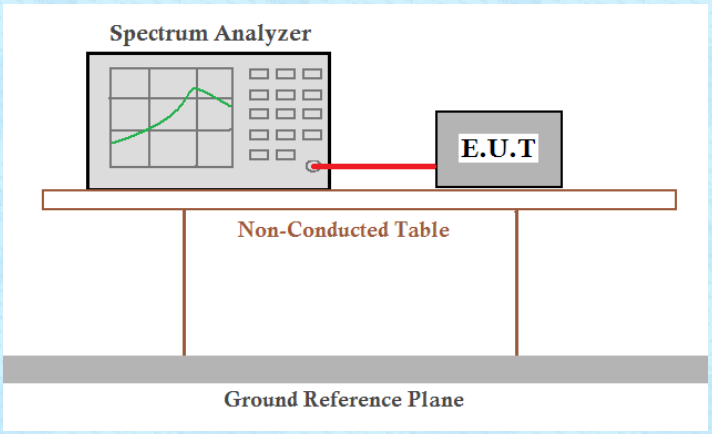
Antenna1



Antenna2



7.4 Power Spectral Density

Test Requirement:	FCC Part15 E Section 15.407(a)(3)
Test Method:	ANSI C63.10:2013 and KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
Limit:	30dBm/500kHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Modulation	Frequency (MHz)	Duty cycle		Duty Factor	
		Antenna1	Antenna2	Antenna1	Antenna2
802.11a	5745	79.52	79.52	1	1
	5785	79.44	79.44	1	1
	5825	79.28	79.28	1.01	1.01
802.11n(HT20)	5745	78.35	78.35	1.06	1.06
	5785	78.08	78.08	1.07	1.07
	5825	78.05	78.05	1.08	1.08
802.11n(HT40)	5755	64.97	64.97	1.87	1.87
	5795	64.94	64.94	1.87	1.87
802.11ac(VHT20)	5745	65.84	65.84	1.81	1.81
	5785	66.07	66.07	1.8	1.8
	5825	65.77	65.77	1.82	1.82
802.11ac(VHT40)	5755	69.71	69.71	1.57	1.57
	5795	69.1	69.1	1.61	1.61
802.11ac(VHT80)	5775	65.79	65.79	1.82	1.82
802.11ax(HE20)	5745	69.39	69.39	1.59	1.59
	5785	69.45	69.45	1.58	1.58
	5825	69.44	69.44	1.58	1.58
802.11ax(HE40)	5755	69.4	69.4	1.59	1.59
	5795	69.37	69.37	1.59	1.59
802.11ax(HE80)	5775	66.02	66.02	1.80	1.80

802.11a mode										
CH No.	Frequency (MHz)	Measured PSD (dBm)			Duty Factor	Power Spectral Density (dBm)			Limit (dBm)	Result
		ANT1	ANT2	ANT 1+2		ANT1	ANT2	ANT 1+2		
149	5745	1.465	0.687	4.104	1	2.465	1.687	5.104	30	Pass
157	5785	1.996	-0.327	3.998	1	2.996	0.673	4.998		
165	5825	1.535	0.764	4.177	1.01	2.545	1.774	5.187		
802.11n(HT20) mode										
CH No.	Frequency (MHz)	Measured PSD (dBm)			Duty Factor	Power Spectral Density (dBm)			Limit (dBm)	Result
		ANT1	ANT2	ANT 1+2		ANT1	ANT2	ANT 1+2		
149	5745	2.298	1.626	4.985	1.06	3.358	2.686	6.045	30	Pass
157	5785	-3.572	-5.223	-1.309	1.07	-2.502	-4.153	-0.239		
165	5825	3.677	4.528	7.134	1.08	4.757	5.608	8.214		
802.11n(HT40) mode										
CH No.	Frequency (MHz)	Measured PSD (dBm)			Duty Factor	Power Spectral Density (dBm)			Limit (dBm)	Result
		ANT1	ANT2	ANT 1+2		ANT1	ANT2	ANT 1+2		
151	5755	-0.333	-0.133	2.778	1.87	1.537	1.737	4.648	30	Pass
159	5795	-0.501	-0.541	2.489	1.87	1.369	1.329	4.359		

802.11ac(VHT20) mode										
CH No.	Frequency (MHz)	Measured PSD (dBm)			Duty Factor	Power Spectral Density (dBm)			Limit (dBm)	Result
		ANT1	ANT2	ANT 1+2		ANT1	ANT2	ANT 1+2		
149	5745	2.084	0.748	4.477	1.81	3.894	2.558	6.287	30	Pass
157	5785	0.273	-0.662	2.841	1.8	2.073	1.138	4.641		
165	5825	3.996	3.166	6.611	1.82	5.816	4.986	8.431		
802.11ac(VHT40) mode										
CH No.	Frequency (MHz)	Measured PSD (dBm)			Duty Factor	Power Spectral Density (dBm)			Limit (dBm)	Result
		ANT1	ANT2	ANT 1+2		ANT1	ANT2	ANT 1+2		
151	5755	-0.794	-0.47	2.381	1.57	0.776	1.1	3.951	28.37	Pass
159	5795	0.726	-1.191	2.883	1.61	2.336	0.419	4.493		
802.11ac(VHT80) mode										
CH No.	Frequency (MHz)	Measured PSD (dBm)			Duty Factor	Power Spectral Density (dBm)			Limit (dBm)	Result
		ANT1	ANT2	ANT 1+2		ANT1	ANT2	ANT 1+2		
155	5775	-5.661	-6.275	-2.947	1.82	-3.841	-4.455	-1.127	28.37	Pass

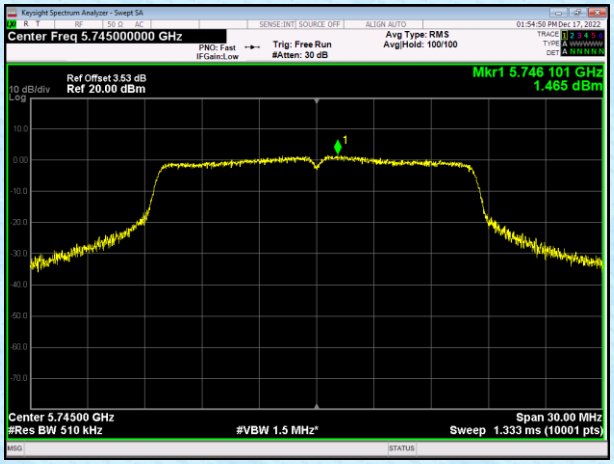
802.11ax(HE20) mode										
CH No.	Frequency (MHz)	Measured PSD (dBm)			Duty Factor	Power Spectral Density (dBm)			Limit (dBm)	Result
		ANT1	ANT2	ANT 1+2		ANT1	ANT2	ANT 1+2		
149	5745	-2.106	-2.641	0.645	1.59	-0.516	-1.051	2.235	28.37	Pass
157	5785	-0.665	-2.529	1.513	1.58	0.915	-0.949	3.093		
165	5825	-1.189	-1.639	1.602	1.58	0.391	-0.059	3.182		
802.11ax(HE40) mode										
CH No.	Frequency (MHz)	Measured PSD (dBm)			Duty Factor	Power Spectral Density (dBm)			Limit (dBm)	Result
		ANT1	ANT2	ANT 1+2		ANT1	ANT2	ANT 1+2		
151	5755	-3.552	-5.238	-1.303	1.59	-1.962	-3.648	0.287	28.37	Pass
159	5795	-5.03	-5.027	-2.018	1.59	-3.44	-3.437	-0.428		
802.11ax(HE80) mode										
CH No.	Frequency (MHz)	Measured PSD (dBm)			Duty Factor	Power Spectral Density (dBm)			Limit (dBm)	Result
		ANT1	ANT2	ANT 1+2		ANT1	ANT2	ANT 1+2		
155	5775	-6.692	-8.965	-4.671	1.80	-4.892	-7.165	-2.871	28.37	Pass

Note: Power Spectral Density = Measured PSD + Duty Factor
Duty Factor = 10 log (1/Duty Cycle)
Power directional gain=7.63dBi, So Limit=30-1.63=28.37dBm
Beamforming Factor is 0 dB, and the results are unchanged

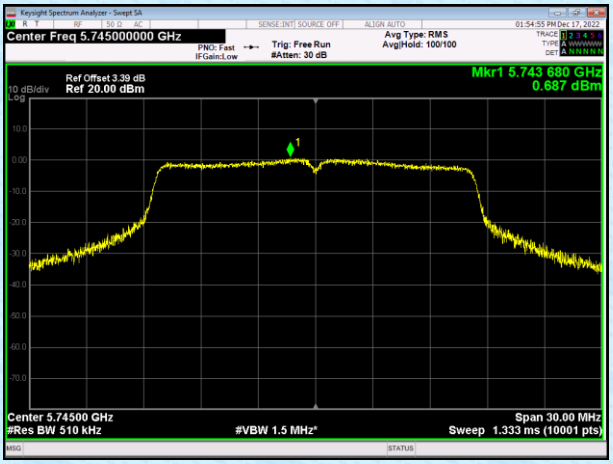
Test plot as follows: Test mode: 802.11a

Lowest channel 5745MHz

Antenna1

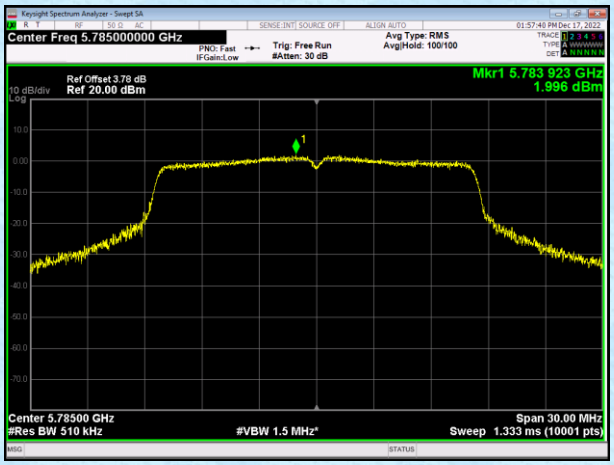


Antenna2

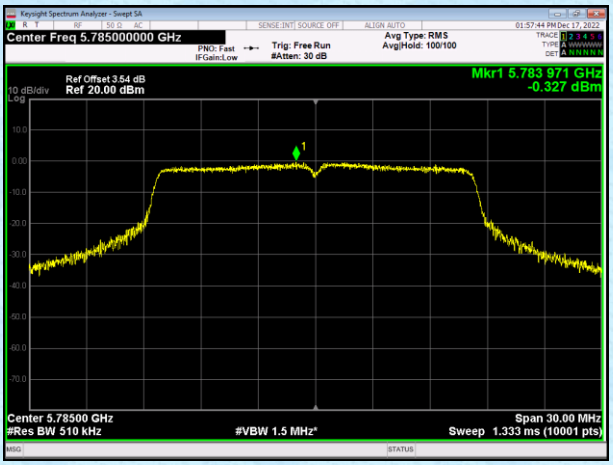


Middle channel 5785MHz

Antenna1

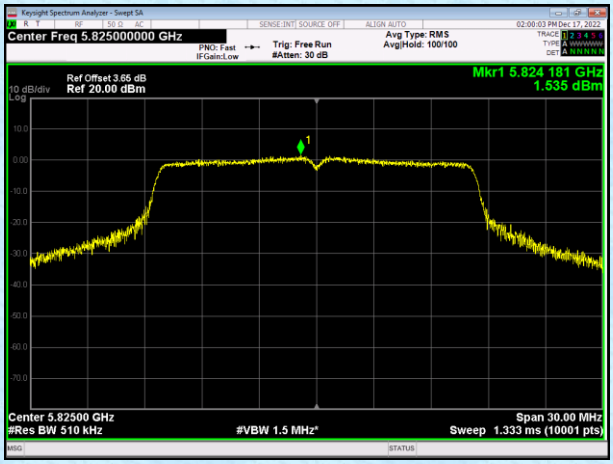


Antenna2

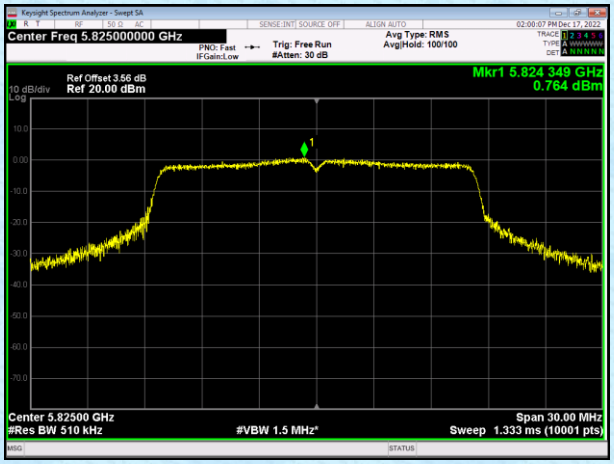


Highest channel 5825MHz

Antenna1



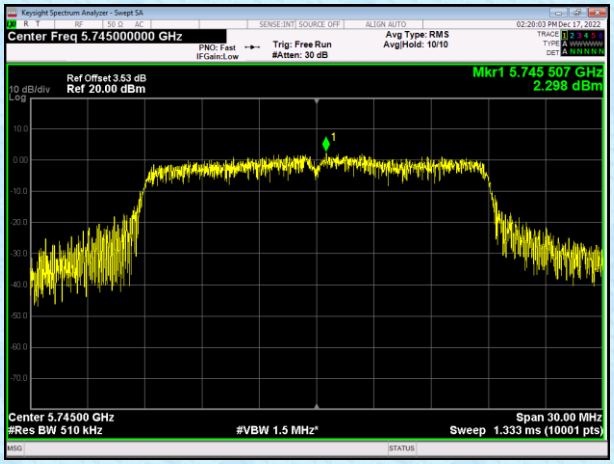
Antenna2



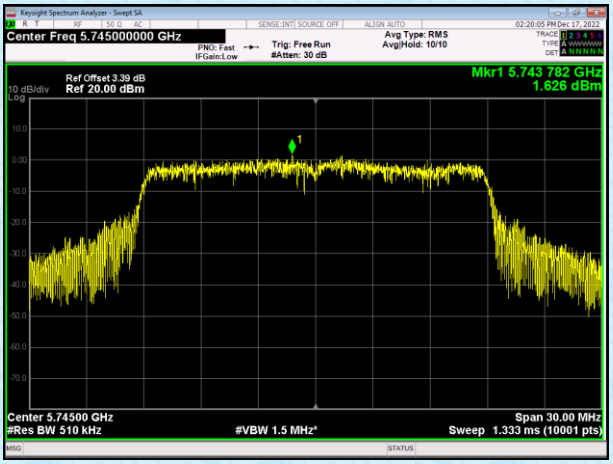
Test mode: 802.11 n(HT20)

Lowest channel 5745MHz

Antenna1

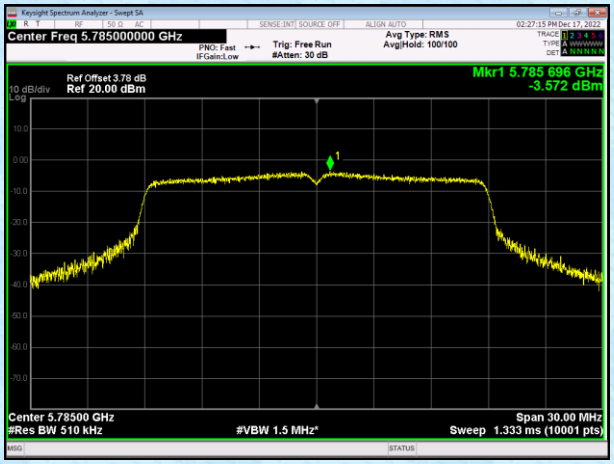


Antenna2

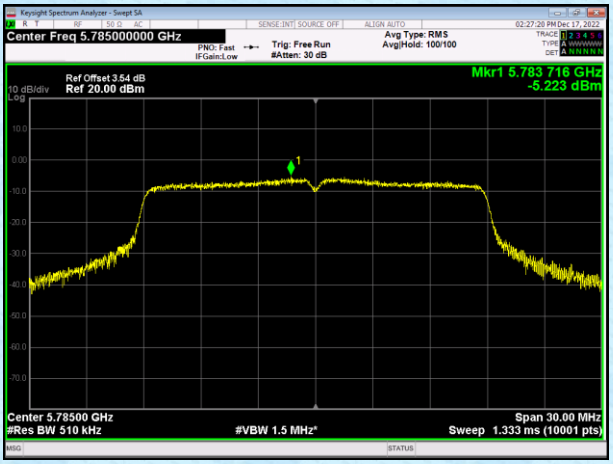


Middle channel 5785MHz

Antenna1

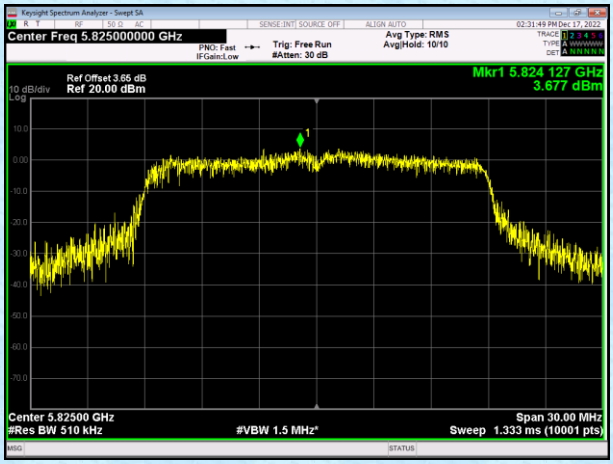


Antenna2

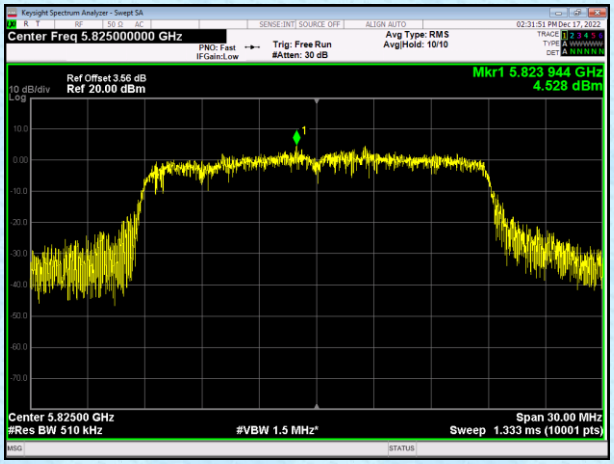


Highest channel 5825MHz

Antenna1



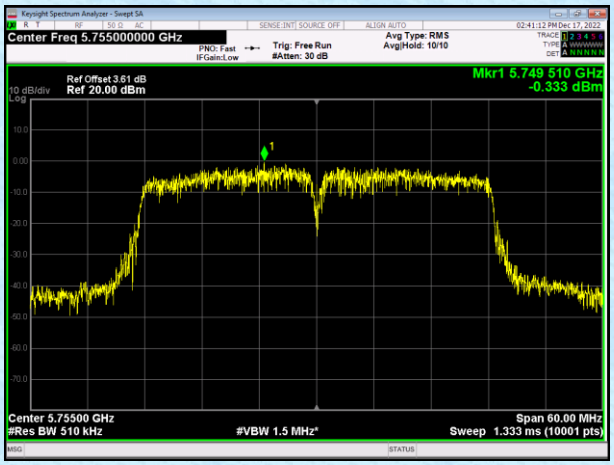
Antenna2



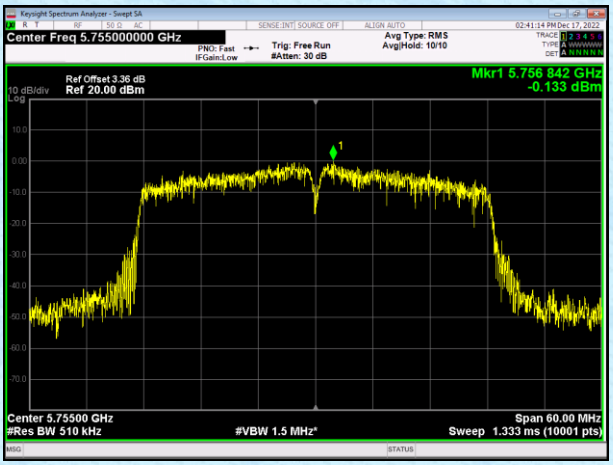
Test mode: 802.11 n(HT40)

Lowest channel 5755MHz

Antenna1

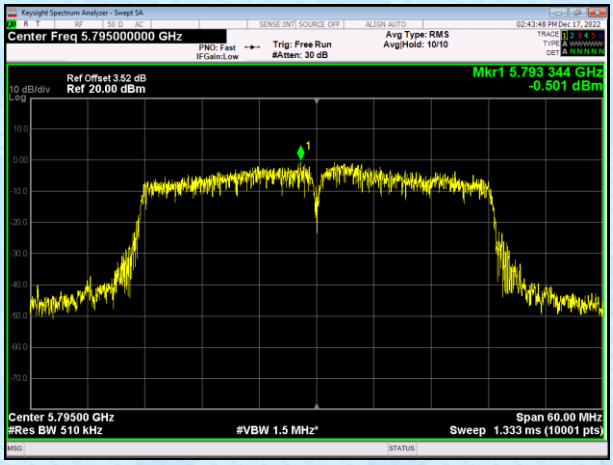


Antenna2

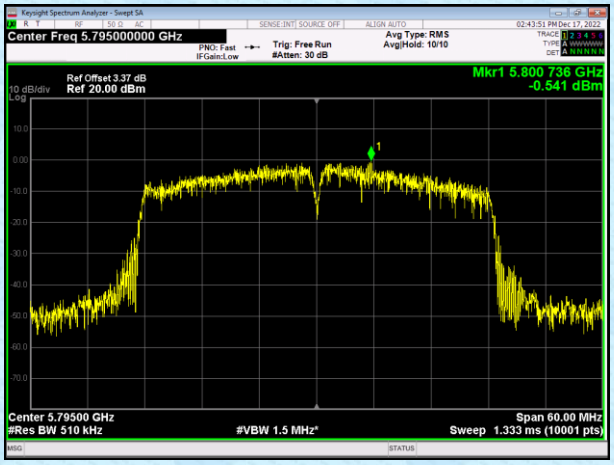


Highest channel 5795MHz

Antenna1



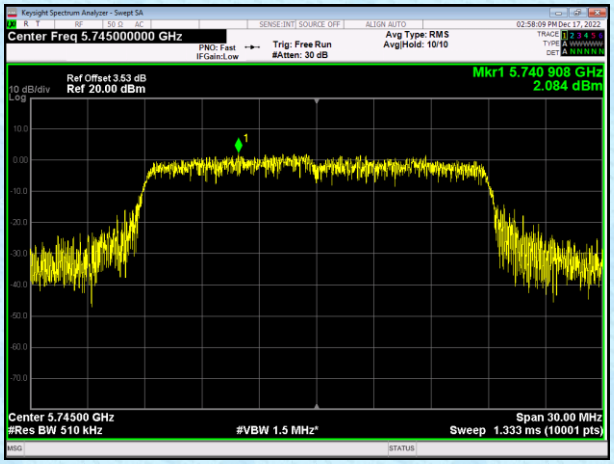
Antenna2



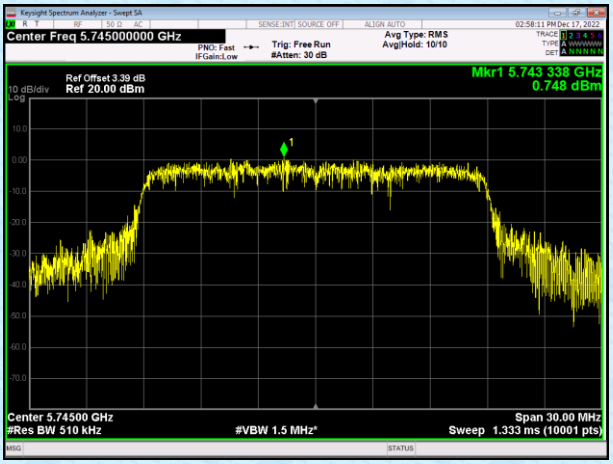
Test mode: 802.11 ac(VHT20)

Lowest channel 5745MHz

Antenna1

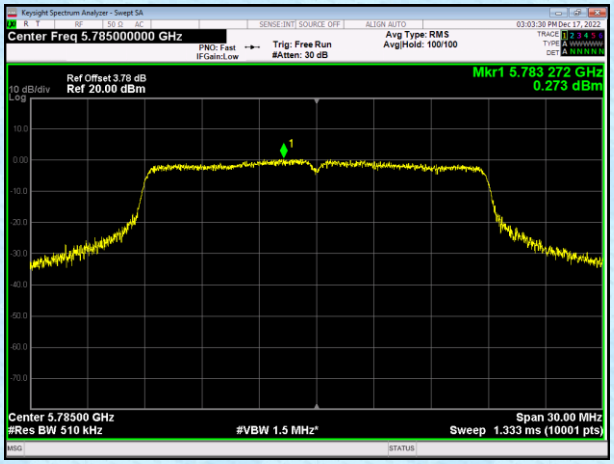


Antenna2

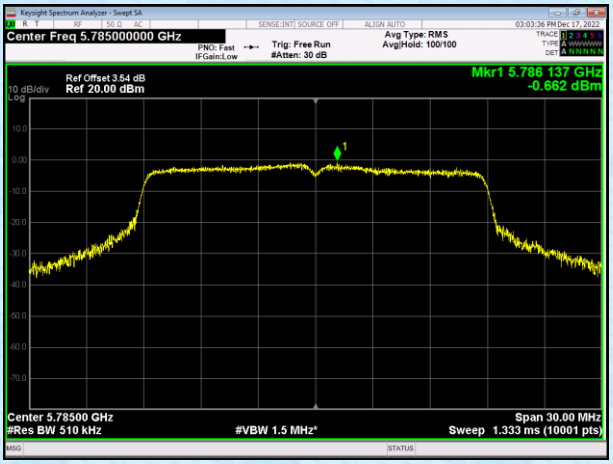


Middle channel 5785MHz

Antenna1

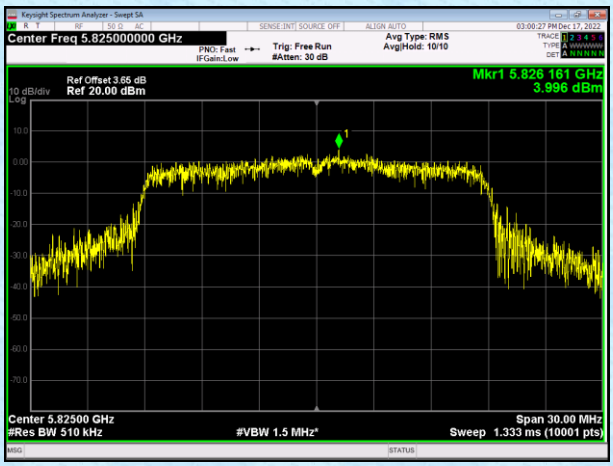


Antenna2

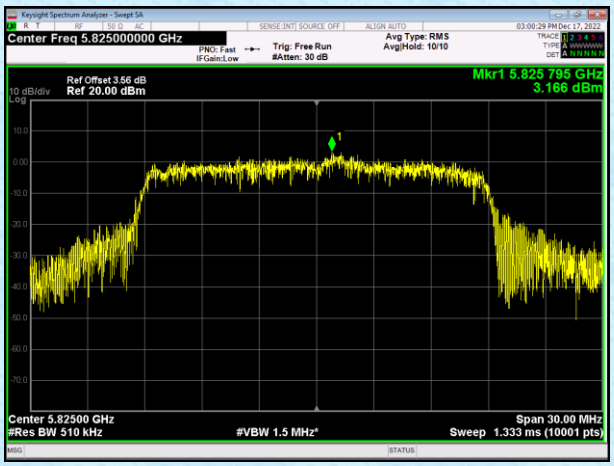


Highest channel 5825MHz

Antenna1



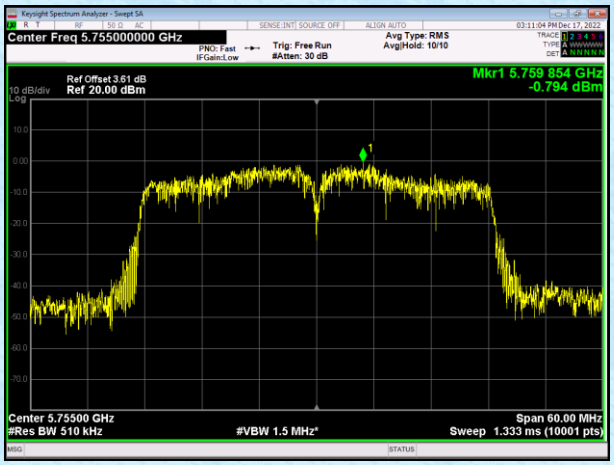
Antenna2



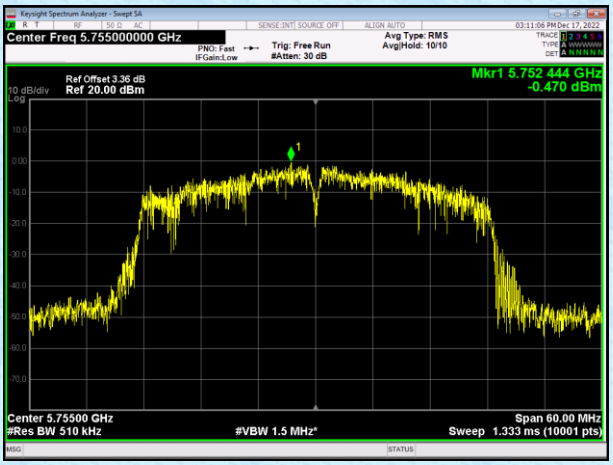
Test mode: 802.11 ac(VHT40)

Lowest channel 5755MHz

Antenna1

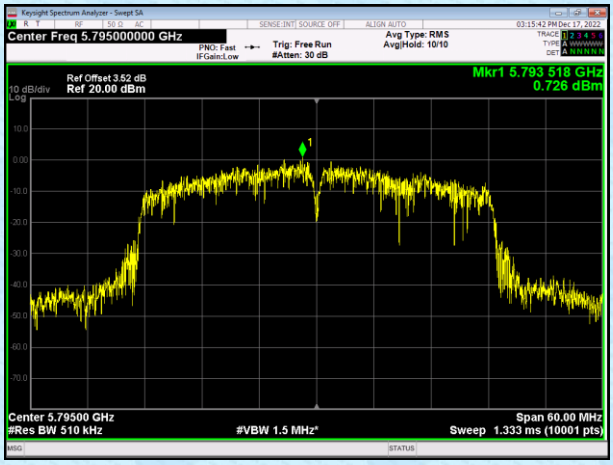


Antenna2

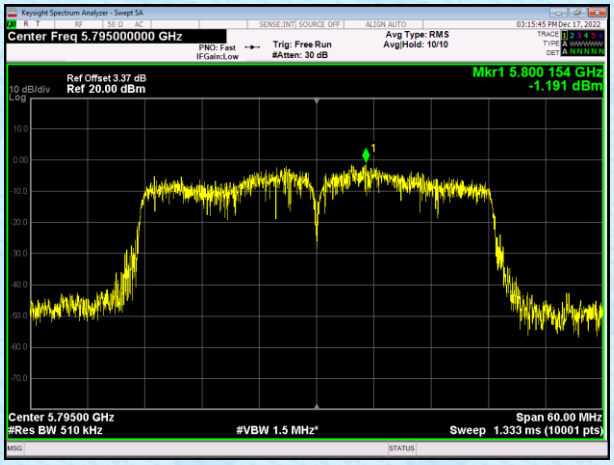


Highest channel 5795MHz

Antenna1



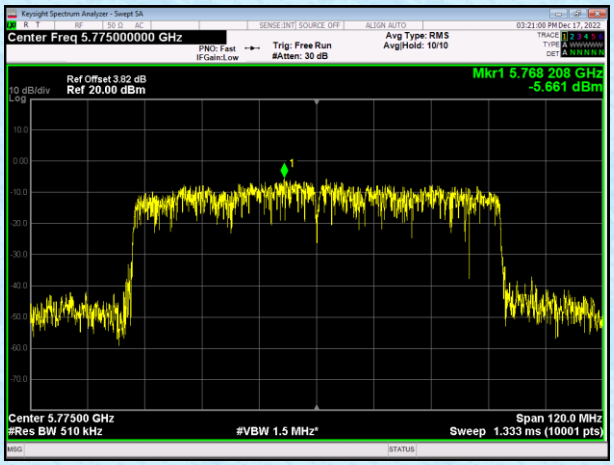
Antenna2



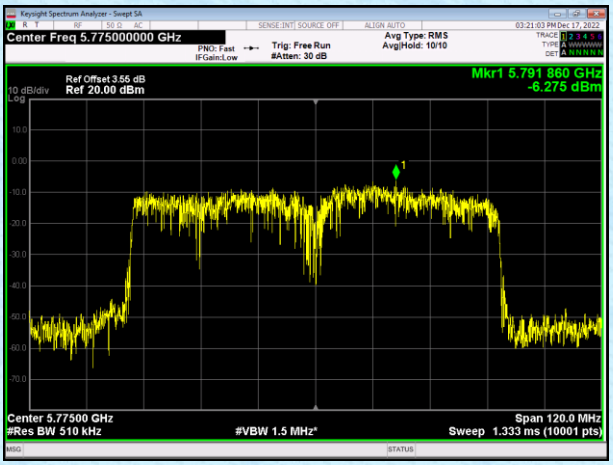
Test mode: 802.11 ac(VHT80)

Lowest channel 5775MHz

Antenna1



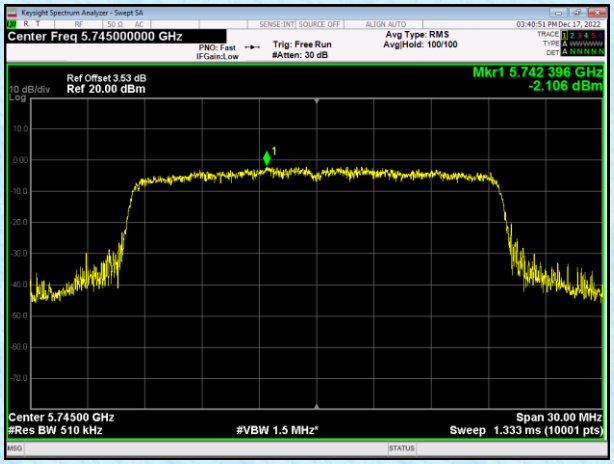
Antenna2



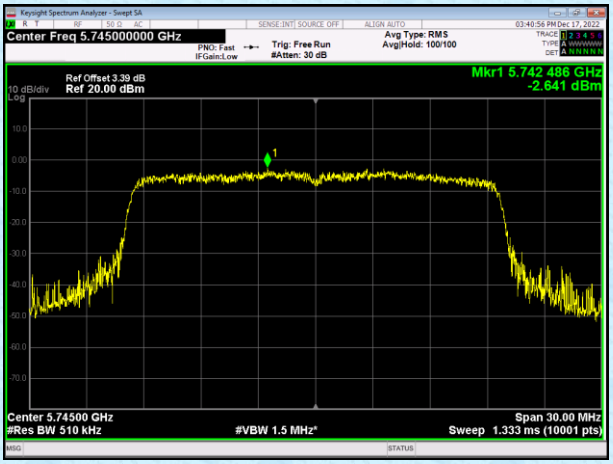
Test mode: 802.11ax(HE20)

Lowest channel 5745MHz

Antenna1

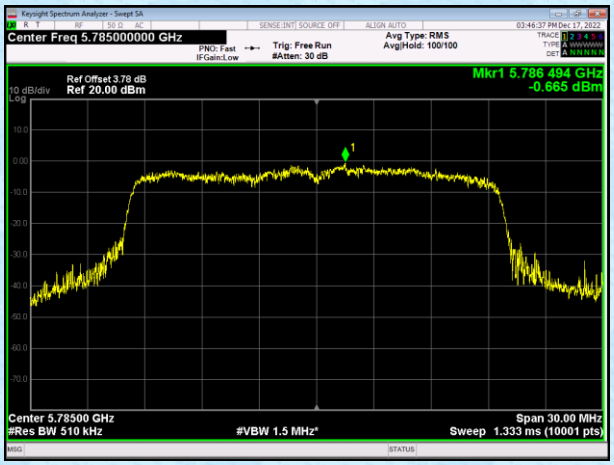


Antenna2

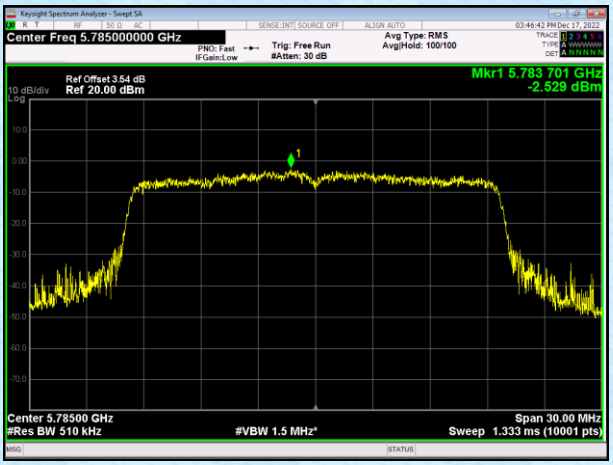


Middle channel 5785MHz

Antenna1

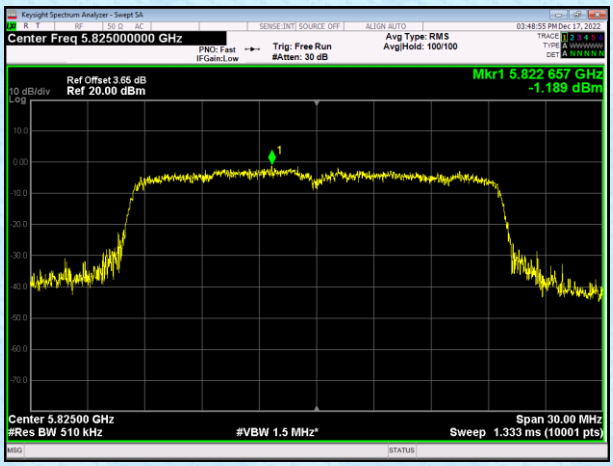


Antenna2

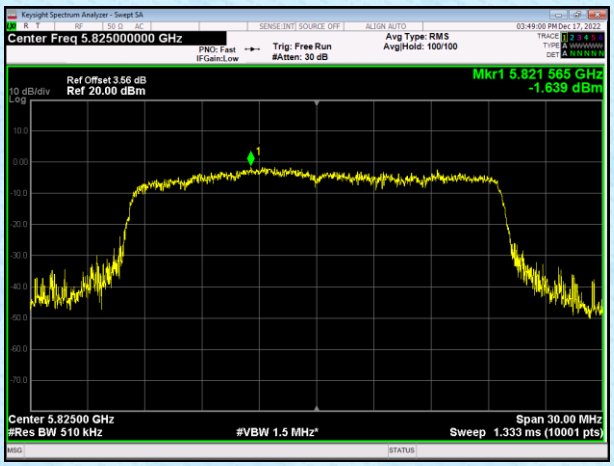


Highest channel 5825MHz

Antenna1



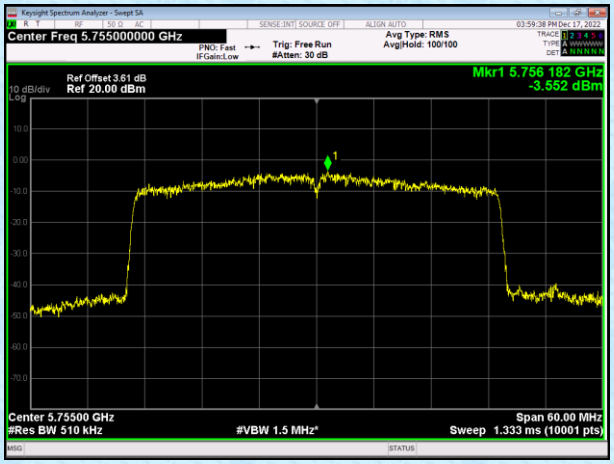
Antenna2



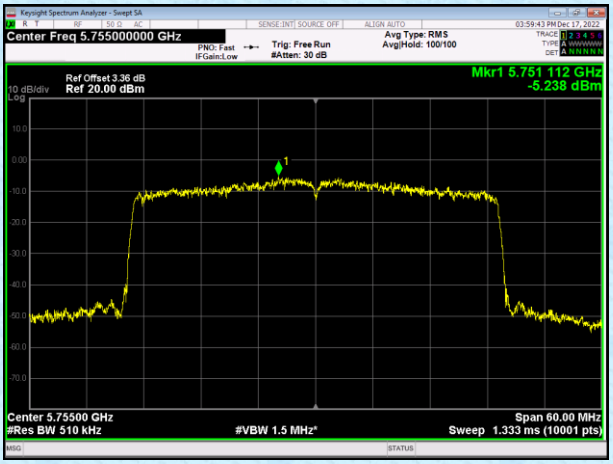
Test mode: 802.11ax(HE40)

Lowest channel 5755MHz

Antenna1

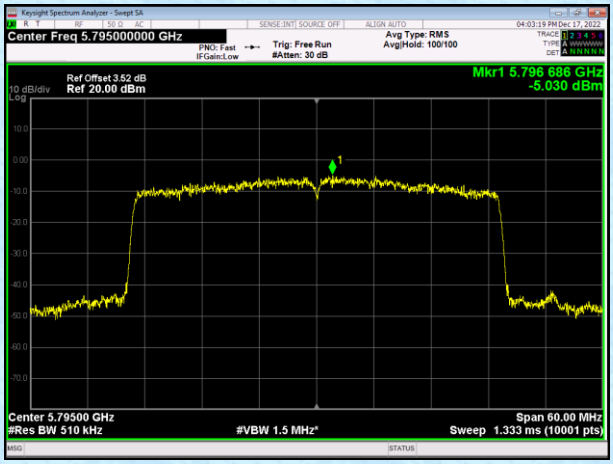


Antenna2

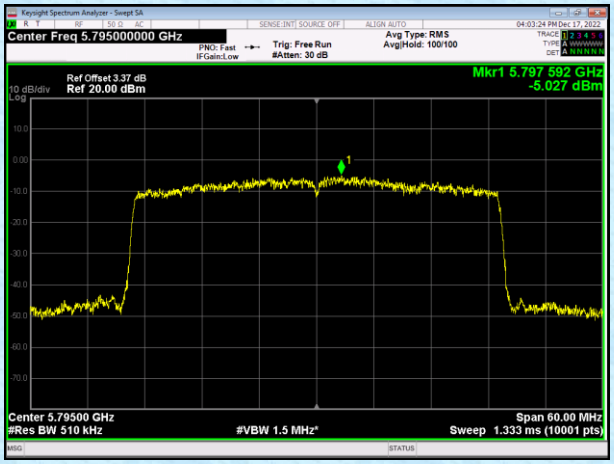


Highest channel 5795MHz

Antenna1



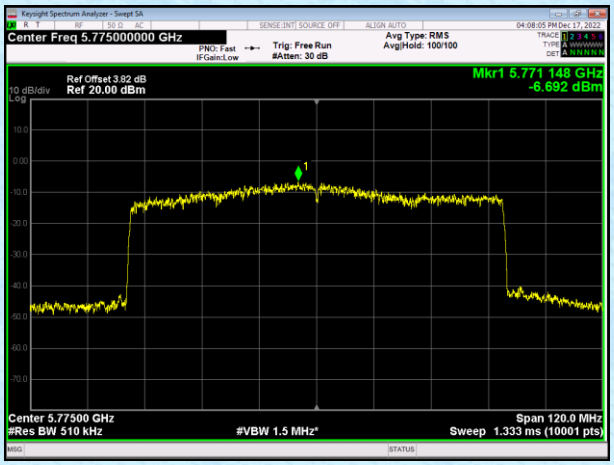
Antenna2



Test mode: 802.11ax(HE80)

Lowest channel 5775MHz

Antenna1



Antenna2