

802.11ax HE40 Mode:

5775 MHz											
Horizontal						Vertical					
Freq.		Reading		Factor		Level		Limit		Margin Height Degree Remark	
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	dBuV/m	dB	(cm)	(°)
11510.000	31.23	7.22	38.45	54.00	-15.55	153	357	Average			
11510.000	40.43	7.22	47.65	74.00	-26.35	153	357	Peak			
17265.000	55.11	11.88	66.99	68.20	-1.21	100	337	Peak			
11510.000	38.90	7.22	46.12	54.00	-7.88	100	7	Average			
11510.000	49.58	7.22	56.80	74.00	-17.20	100	7	Peak			
17265.000	52.60	11.88	64.48	68.20	-3.72	203	47	Peak			

5795 MHz											
Horizontal						Vertical					
Freq.		Reading		Factor		Level		Limit		Margin Height Degree Remark	
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	dBuV/m	dB	(cm)	(°)
11590.000	31.35	7.18	38.53	54.00	-15.47	146	298	Average			
11590.000	40.70	7.18	47.88	74.00	-26.12	146	298	Peak			
17385.000	54.17	12.56	66.73	68.20	-1.47	194	331	Peak			
11590.000	36.70	7.18	43.88	54.00	-10.12	110	3	Average			
11590.000	48.23	7.18	55.41	74.00	-18.59	110	3	Peak			
17385.000	50.92	12.56	63.48	68.20	-4.72	198	1	Peak			

802.11ax HE80 Mode:

5775 MHz											
Horizontal						Vertical					
Freq.		Reading		Factor		Level		Limit		Margin Height Degree Remark	
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	dBuV/m	dB	(cm)	(°)
11550.000	31.99	7.21	39.20	54.00	-14.80	148	103	Average			
11550.000	42.04	7.21	49.25	74.00	-24.75	148	103	Peak			
17325.000	53.47	12.13	65.60	68.20	-2.60	199	331	Peak			
11550.000	37.42	7.21	44.63	54.00	-9.37	100	4	Average			
11550.000	47.24	7.21	54.45	74.00	-19.55	100	4	Peak			
17325.000	50.24	12.13	62.37	68.20	-5.83	202	44	Peak			

Level = Reading + Factor.

Margin = Level - Limit.

Factor = Antenna Factor + Cable Loss - Amplifier Gain.

Beamforming Mode:**5150-5250MHz**

802.11ac VHT20 Mode:

5180 MHz										
Horizontal						Vertical				
Freq. Reading Factor Level Limit Margin Height Degree Remark										
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)			
10360.000	44.56	5.72	50.28	68.20	-17.92	153	121	Peak		
15540.000	38.97	8.79	47.76	54.00	-6.24	103	32	Average		
15540.000	52.01	8.79	60.80	74.00	-13.20	103	32	Peak		
Freq. Reading Factor Level Limit Margin Height Degree Remark										
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)			
10360.000	50.80	5.72	56.52	68.20	-11.68	138	0	Peak		
15540.000	38.98	8.79	47.77	54.00	-6.23	184	170	Average		
15540.000	52.46	8.79	61.25	74.00	-12.75	184	170	Peak		
5200 MHz										
Horizontal						Vertical				
Freq. Reading Factor Level Limit Margin Height Degree Remark										
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)			
10400.000	43.76	5.96	49.72	68.20	-18.48	132	79	Peak		
15600.000	40.09	8.78	48.87	54.00	-5.13	195	38	Average		
15600.000	53.64	8.78	62.42	74.00	-11.58	195	38	Peak		
Freq. Reading Factor Level Limit Margin Height Degree Remark										
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)			
10400.000	50.76	5.96	56.72	68.20	-11.48	125	360	Peak		
15600.000	41.25	8.78	50.03	54.00	-3.97	199	172	Average		
15600.000	54.06	8.78	62.84	74.00	-11.16	199	172	Peak		
5240 MHz										
Horizontal						Vertical				
Freq. Reading Factor Level Limit Margin Height Degree Remark										
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)			
10480.000	43.46	6.09	49.55	68.20	-18.65	132	269	Peak		
15720.000	43.92	9.44	53.36	54.00	-0.64	211	208	Average		
15720.000	58.79	9.44	68.23	74.00	-5.77	211	208	Peak		
Freq. Reading Factor Level Limit Margin Height Degree Remark										
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)			
10480.000	50.35	6.09	56.44	68.20	-11.76	121	3	Peak		
15720.000	43.58	9.44	53.02	54.00	-0.98	102	165	Average		
15720.000	58.65	9.44	68.09	74.00	-5.91	102	165	Peak		

802.11ac VHT40 Mode:

5190 MHz															
Horizontal						Vertical									
Freq. Reading Factor Level Limit Margin Height Degree Remark															
MHz dBuV dB/m dBuV/m dBuV/m dB dB (cm) (°)															
10380.000 43.89 5.84 49.73 68.20 -18.47 156 8 Peak 15570.000 31.22 8.78 40.00 54.00 -14.00 152 315 Average 15570.000 43.08 8.78 51.86 74.00 -22.14 152 315 Peak															
10380.000 47.91 5.84 53.75 68.20 -14.45 108 197 Peak 15570.000 31.49 8.78 40.27 54.00 -13.73 132 60 Average 15570.000 42.61 8.78 51.39 74.00 -22.61 132 60 Peak															
5230 MHz															
Horizontal						Vertical									
Freq. Reading Factor Level Limit Margin Height Degree Remark															
MHz dBuV dB/m dBuV/m dBuV/m dB dB (cm) (°)															
10460.000 43.21 6.06 49.27 68.20 -18.93 189 127 Peak 15690.000 37.90 9.23 47.13 54.00 -6.87 197 351 Average 15690.000 52.75 9.23 61.98 74.00 -12.02 197 351 Peak															
10460.000 47.31 6.06 53.37 68.20 -14.83 106 98 Peak 15690.000 35.58 9.23 44.81 54.00 -9.19 109 353 Average 15690.000 49.54 9.23 58.77 74.00 -15.23 109 353 Peak															

802.11ac VHT80 Mode:

5210 MHz															
Horizontal						Vertical									
Freq. Reading Factor Level Limit Margin Height Degree Remark															
MHz dBuV dB/m dBuV/m dBuV/m dB dB (cm) (°)															
10420.000 43.40 5.99 49.39 68.20 -18.81 179 133 Peak 15630.000 32.97 8.93 41.90 54.00 -12.10 188 356 Average 15630.000 43.37 8.93 52.30 74.00 -21.70 188 356 Peak															
10420.000 43.54 5.99 49.53 68.20 -18.67 105 17 Peak 15630.000 34.19 8.93 43.12 54.00 -10.88 105 231 Average 15630.000 44.94 8.93 53.87 74.00 -20.13 105 231 Peak															

802.11ax HE20 Mode:

5180 MHz															
Horizontal						Vertical									
Freq. Reading Factor Level Limit Margin Height Degree Remark															
MHz dBuV dB/m dBuV/m dBuV/m dB (cm) (°)															
10360.000 41.87 5.72 47.59 68.20 -20.61 156 69 Peak 15540.000 36.46 8.79 45.25 54.00 -8.75 203 196 Average 15540.000 50.35 8.79 59.14 74.00 -14.86 203 196 Peak															
10360.000 50.20 5.72 55.92 68.20 -12.28 128 13 Peak 15540.000 33.90 8.79 42.69 54.00 -11.31 135 176 Average 15540.000 46.59 8.79 55.38 74.00 -18.62 135 176 Peak															
5200 MHz															
Horizontal						Vertical									
Freq. Reading Factor Level Limit Margin Height Degree Remark															
MHz dBuV dB/m dBuV/m dBuV/m dB (cm) (°)															
10400.000 43.48 5.96 49.36 68.20 -18.84 137 243 Peak 15600.000 41.98 8.78 50.76 54.00 -3.24 209 212 Average 15600.000 55.97 8.78 64.75 74.00 -9.25 209 212 Peak															
10400.000 52.64 5.96 58.60 68.20 -9.60 116 3 Peak 15600.000 42.27 8.78 51.05 54.00 -2.95 202 170 Average 15600.000 55.42 8.78 64.20 74.00 -9.80 202 170 Peak															
5240 MHz															
Horizontal						Vertical									
Freq. Reading Factor Level Limit Margin Height Degree Remark															
MHz dBuV dB/m dBuV/m dBuV/m dB (cm) (°)															
10480.000 48.82 6.09 54.91 68.20 -13.29 118 261 Peak 15720.000 43.97 9.44 53.41 54.00 -0.59 212 209 Average 15720.000 59.50 9.44 68.94 74.00 -5.06 212 209 Peak															
10480.000 50.44 6.09 56.53 68.20 -11.67 135 341 Peak 15720.000 44.15 9.44 53.59 54.00 -0.41 103 3 Average 15720.000 59.66 9.44 69.10 74.00 -4.90 103 3 Peak															

802.11ax HE40 Mode:

5190 MHz											
Horizontal							Vertical				
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark			
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)				
10380.000	43.22	5.84	49.06	68.20	-19.14	189	0	Peak			
15570.000	31.09	8.78	39.87	54.00	-14.13	193	192	Average			
15570.000	42.97	8.78	51.75	74.00	-22.25	193	192	Peak			
5230 MHz											
Horizontal							Vertical				
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark			
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)				
10460.000	44.17	6.06	50.23	68.20	-17.97	182	75	Peak			
15690.000	36.81	9.23	46.04	54.00	-7.96	201	353	Average			
15690.000	53.56	9.23	62.79	74.00	-11.21	201	353	Peak			

802.11ax HE80 Mode:

5210 MHz											
Horizontal							Vertical				
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark			
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)				
10420.000	44.89	5.99	50.88	68.20	-17.32	188	173	Peak			
15630.000	33.81	8.93	42.74	54.00	-11.26	196	189	Average			
15630.000	44.93	8.93	53.86	74.00	-20.14	196	189	Peak			
10420.000											
Horizontal							Vertical				
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark			
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)				
10420.000	42.72	5.99	48.71	68.20	-19.49	105	211	Peak			
15630.000	34.46	8.93	43.39	54.00	-10.61	108	36	Average			
15630.000	45.68	8.93	54.61	74.00	-19.39	108	36	Peak			

Level = Reading + Factor.

Margin = Level - Limit.

Factor = Antenna Factor + Cable Loss - Amplifier Gain.

5725-5850MHz

802.11ac VHT20 Mode:

5745 MHz																	
Horizontal							Vertical										
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark	Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11490.000	32.16	7.23	39.39	54.00	-14.61	131	349	Average	11490.000	38.27	7.23	45.50	54.00	-8.50	106	360	Average
11490.000	45.28	7.23	52.51	74.00	-21.49	131	349	Peak	11490.000	51.76	7.23	58.99	74.00	-15.01	106	360	Peak
17235.000	54.52	11.80	66.32	68.20	-1.88	193	358	Peak	17235.000	52.07	11.80	63.87	68.20	-4.33	206	39	Peak

5785 MHz																	
Horizontal							Vertical										
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark	Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11570.000	30.83	7.19	38.02	54.00	-15.98	135	315	Average	11570.000	39.26	7.19	46.45	54.00	-7.55	103	360	Average
11570.000	40.51	7.19	47.70	74.00	-26.30	135	315	Peak	11570.000	52.33	7.19	59.52	74.00	-14.48	103	360	Peak
17355.000	55.01	12.35	67.36	68.20	-0.84	182	343	Peak	17355.000	52.14	12.35	64.49	68.20	-3.71	146	42	Peak

5825 MHz																	
Horizontal							Vertical										
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark	Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11650.000	30.34	7.20	37.54	54.00	-16.46	152	8	Average	11650.000	38.20	7.20	45.48	54.00	-8.60	104	360	Average
11650.000	39.88	7.20	47.08	74.00	-26.92	152	8	Peak	11650.000	50.47	7.20	57.67	74.00	-16.33	104	360	Peak
17475.000	54.51	11.89	66.40	68.20	-1.80	201	214	Peak	17475.000	51.49	11.89	63.38	68.20	-4.82	150	358	Peak

802.11ac VHT40 Mode:

5755 MHz											
Horizontal							Vertical				
Freq.		Reading		Factor		Level		Limit		Margin Height Degree Remark	
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	MHz	dBuV	dB/m	dBuV/m
11510.000	31.07	7.22	38.29	54.00	-15.71	158	348	11510.000	38.27	7.22	45.49
11510.000	43.10	7.22	50.32	74.00	-23.68	158	348	11510.000	50.56	7.22	57.78
17265.000	56.07	11.88	67.95	68.20	-0.25	197	337	17265.000	49.11	11.88	60.99
17779.000	30.80	12.79	43.59	54.00	-10.41	150	45	17779.000	31.00	12.79	43.79
17779.000	43.52	12.79	56.31	74.00	-17.69	150	45	17779.000	43.24	12.79	56.03

5795 MHz											
Horizontal							Vertical				
Freq.		Reading		Factor		Level		Limit		Margin Height Degree Remark	
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	MHz	dBuV	dB/m	dBuV/m
11590.000	31.69	7.18	38.87	54.00	-15.13	117	250	11590.000	39.45	7.18	46.63
11590.000	43.66	7.18	50.84	74.00	-23.16	117	250	11590.000	51.14	7.18	58.32
17385.000	55.13	12.56	67.69	68.20	-0.51	193	320	17385.000	52.10	12.56	64.66

802.11ac VHT80 Mode:

5775 MHz											
Horizontal							Vertical				
Freq.		Reading		Factor		Level		Limit		Margin Height Degree Remark	
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	MHz	dBuV	dB/m	dBuV/m
11550.000	32.75	7.21	39.96	54.00	-14.84	192	91	11550.000	38.65	7.21	45.86
11550.000	43.30	7.21	50.51	74.00	-23.49	192	91	11550.000	47.80	7.21	55.01
17325.000	52.42	12.13	64.55	68.20	-3.65	202	350	17325.000	51.03	12.13	63.16

802.11ax HE20 Mode:

5745 MHz																	
Horizontal							Vertical										
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark	Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11490.000	30.62	7.23	37.85	54.00	-16.15	147	353	Average	11490.000	38.76	7.23	45.99	54.00	-8.01	103	344	Average
11490.000	42.43	7.23	49.66	74.00	-24.34	147	353	Peak	11490.000	49.87	7.23	57.10	74.00	-16.90	103	344	Peak
17235.000	56.06	11.80	67.86	68.20	-0.34	197	350	Peak	17235.000	52.56	11.80	64.36	68.20	-3.84	109	318	Peak

5785 MHz																	
Horizontal							Vertical										
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark	Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11570.000	30.43	7.19	37.62	54.00	-16.38	153	350	Average	11570.000	37.80	7.19	44.99	54.00	-9.01	102	6	Average
11570.000	41.55	7.19	48.74	74.00	-25.26	153	350	Peak	11570.000	49.95	7.19	57.14	74.00	-16.86	102	6	Peak
17355.000	55.25	12.35	67.60	68.20	-0.60	194	225	Peak	17355.000	53.52	12.35	65.87	68.20	-2.33	103	350	Peak

5825 MHz																	
Horizontal							Vertical										
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark	Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11650.000	31.72	7.20	38.92	54.00	-15.08	169	313	Average	11650.000	37.54	7.20	44.74	54.00	-9.26	107	6	Average
11650.000	42.74	7.20	49.94	74.00	-24.06	169	313	Peak	11650.000	50.22	7.20	57.42	74.00	-16.58	107	6	Peak
17475.000	55.72	11.89	67.61	68.20	-0.59	205	337	Peak	17475.000	50.08	11.89	61.97	68.20	-6.23	106	6	Peak

802.11ax HE40 Mode:

5775 MHz												
Horizontal							Vertical					
Freq. Reading Factor Level Limit Margin Height Degree Remark												
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	MHz	dBuV	dB/m	dBuV/m	
11510.000	31.31	7.22	38.53	54.00	-15.47	174	347	Average	11510.000	39.93	7.22	47.15
11510.000	43.18	7.22	50.40	74.00	-23.60	174	347	Peak	11510.000	51.37	7.22	58.59
17265.000	56.00	11.88	67.88	68.20	-0.32	197	342	Peak	17265.000	53.62	11.88	65.50

5795 MHz												
Horizontal							Vertical					
Freq. Reading Factor Level Limit Margin Height Degree Remark												
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	MHz	dBuV	dB/m	dBuV/m	
11590.000	32.62	7.18	39.80	54.00	-14.20	185	301	Average	11590.000	37.17	7.18	44.35
11590.000	44.42	7.18	51.60	74.00	-22.40	185	301	Peak	11590.000	49.73	7.18	56.91
17385.000	54.86	12.56	67.42	68.20	-0.78	201	338	Peak	17385.000	53.60	12.56	66.16

802.11ax HE80 Mode:

5775 MHz												
Horizontal							Vertical					
Freq. Reading Factor Level Limit Margin Height Degree Remark												
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	MHz	dBuV	dB/m	dBuV/m	
11550.000	32.63	7.21	39.84	54.00	-14.16	185	25	Average	11550.000	39.51	7.21	46.72
11550.000	43.21	7.21	50.42	74.00	-23.58	185	25	Peak	11550.000	48.79	7.21	56.00
17325.000	53.95	12.13	66.08	68.20	-2.12	199	339	Peak	17325.000	52.19	12.13	64.32

Level = Reading + Factor.

Margin = Level - Limit.

Factor = Antenna Factor + Cable Loss - Amplifier Gain.

9 FCC §15.407(a)(e) – Emission Bandwidth And Occupied Bandwidth

9.1 Applicable Standard

As per FCC §15.407(a): The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

As per FCC §15.407(e): for equipment operating in the band 5725 – 5850 MHz, the minimum 6 dB bandwidth of U-NII devices shall be 500 kHz.

9.2 Test Procedure

26dB Emission Bandwidth (EBW)

According to ANSI C63.10-2013 Section 12.4.1

- a) Set RBW = approximately 1% of the emission bandwidth.
- b) Set the VBW > RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

Minimum Emission Bandwidth for the band 5.725-5.85 GHz

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 kHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

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

99% Occupied Bandwidth:

According to ANSI C63.10-2013 Section 12.4.2&6.9.3

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:

- a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.
- c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (\text{OBW}/\text{RBW})]$ below the reference level. Specific guidance is given in 4.1.5.2.
- d) Step a) through step c) might require iteration to adjust within the specified range.
- e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
- g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
- h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

9.3 Test Results

Test mode: Transmitting

Non Beamforming Mode:

5150-5250MHz

Mode	Channel	Frequency (MHz)	26dB Emission Bandwidth (MHz)			99% Emission Bandwidth (MHz)		
			Chain 0	Chain 1	Chain 2	Chain 0	Chain 1	Chain 2
802.11a	36	5180	29.32	28.32	28.24	16.82	17.02	16.98
	40	5200	29.80	28.68	29.40	16.82	16.82	16.94
	48	5240	20.44	20.40	20.40	17.02	17.02	17.02
802.11ac 20	36	5180	29.52	29.76	29.12	17.90	18.02	18.02
	40	5200	29.40	29.76	29.28	18.02	18.02	18.02
	48	5240	20.72	20.60	20.60	17.82	17.86	17.86
802.11ac 40	38	5190	40.72	40.80	40.24	36.44	36.44	36.44
	46	5230	41.04	40.32	40.64	36.20	36.20	36.20
802.11ac 80	42	5210	79.68	79.52	97.60	75.44	75.60	75.44
802.11ax 20	36	5180	27.80	25.52	25.16	19.14	19.14	19.14
	40	5200	29.92	29.36	28.48	19.06	19.26	19.18
	48	5240	20.08	20.08	20.08	18.94	18.98	18.90
802.11ax 40	38	5190	47.68	45.12	43.04	37.80	37.72	37.80
	46	5230	39.84	39.76	39.68	37.64	37.80	37.72
802.11ax 80	42	5210	80.00	80.16	94.56	77.20	77.04	77.52

The 99% Occupied Bandwidth have not fallen into the band 5250-5350MHz, please refer to the test plots of 99% Occupied Bandwidth.

5725-5850MHz

Mode	Channel	Frequency (MHz)	6dB Emission Bandwidth (MHz)			99% Emission Bandwidth (MHz)			Limit (kHz)	Result
			Chain 0	Chain 1	Chain 2	Chain 0	Chain 1	Chain 2		
802.11a	149	5745	16.32	16.32	16.32	16.78	16.78	16.82	≥500	PASS
	157	5785	16.32	16.32	16.32	16.66	16.74	16.74	≥500	PASS
	165	5825	16.36	16.32	16.32	16.74	16.82	16.82	≥500	PASS
802.11ac 20	149	5745	17.56	17.60	17.60	17.78	17.82	17.82	≥500	PASS
	157	5785	17.60	17.60	17.60	17.78	17.70	17.70	≥500	PASS
	165	5825	17.60	17.60	17.60	17.98	17.90	17.86	≥500	PASS
802.11ac 40	151	5755	35.20	35.20	35.12	36.36	36.20	36.28	≥500	PASS
	159	5795	35.20	35.20	35.12	36.28	36.20	36.12	≥500	PASS
802.11ac 80	155	5775	75.20	75.20	75.20	75.28	75.44	75.12	≥500	PASS
802.11ax 20	149	5745	18.84	19.08	19.04	19.14	19.14	19.10	≥500	PASS
	157	5785	19.00	19.08	19.04	18.94	18.98	18.94	≥500	PASS
	165	5825	19.04	19.04	19.04	19.14	19.10	19.14	≥500	PASS
802.11ax 40	151	5755	37.60	37.60	37.60	37.72	37.56	37.80	≥500	PASS
	159	5795	37.60	37.60	37.60	37.72	37.56	37.72	≥500	PASS
802.11ax 80	155	5775	76.64	75.84	77.12	76.72	76.72	76.72	≥500	PASS

The 99% Occupied Bandwidth have not fallen into the band 5470-5725MHz, please refer to the test plots of 99% Occupied Bandwidth.

Beamforming Mode:**5150-5250MHz**

Mode	Channel	Frequency (MHz)	26dB Emission Bandwidth (MHz)			99% Emission Bandwidth (MHz)		
			Chain 0	Chain 1	Chain 2	Chain 0	Chain 1	Chain 2
802.11ac 20	36	5180	29.72	29.56	26.80	17.86	17.78	17.86
	40	5200	26.48	28.80	27.32	17.82	17.86	17.86
	48	5240	20.76	20.80	20.64	19.46	19.22	19.34
802.11ac 40	38	5190	48.40	46.72	43.52	36.52	36.52	36.52
	46	5230	42.24	42.96	40.88	36.28	36.44	36.36
802.11ac 80	42	5210	94.88	99.20	94.72	75.60	75.60	75.60
802.11ax 20	36	5180	29.08	28.76	28.28	19.14	19.18	19.22
	40	5200	27.64	29.44	26.64	19.14	19.14	19.14
	48	5240	29.24	26.60	22.60	18.98	18.94	18.98
802.11ax 40	38	5190	48.00	39.68	46.32	37.72	37.72	37.72
	46	5230	39.60	39.68	39.68	37.64	37.56	37.64
802.11ax 80	42	5210	98.88	89.12	84.80	77.20	77.04	77.20

The 99% Occupied Bandwidth have not fallen into the band 5250-5350MHz, please refer to the test plots of 99% Occupied Bandwidth.

5725-5850MHz

Mode	Channel	Frequency (MHz)	6dB Emission Bandwidth (MHz)			99% Emission Bandwidth (MHz)			Limit (kHz)	Result
			Chain 0	Chain 1	Chain 2	Chain 0	Chain 1	Chain 2		
802.11ac 20	149	5745	17.64	17.64	17.68	17.86	17.86	17.78	≥500	PASS
	157	5785	17.32	17.40	16.68	17.74	17.74	17.74	≥500	PASS
	165	5825	17.32	17.44	17.68	17.86	17.86	17.78	≥500	PASS
802.11ac 40	151	5755	36.32	35.28	35.12	36.76	36.76	36.76	≥500	PASS
	159	5795	35.12	35.12	35.12	36.52	36.60	36.52	≥500	PASS
802.11ac 80	155	5775	75.20	75.68	75.20	75.60	75.76	75.76	≥500	PASS
802.11ax 20	149	5745	18.84	18.84	18.92	19.10	19.02	19.14	≥500	PASS
	157	5785	18.88	19.00	18.72	18.98	19.10	19.02	≥500	PASS
	165	5825	18.20	18.76	18.56	19.14	19.14	19.06	≥500	PASS
802.11ax 40	151	5755	38.00	35.20	38.16	37.96	38.04	37.96	≥500	PASS
	159	5795	36.96	38.08	37.84	37.80	37.88	37.88	≥500	PASS
802.11ax 80	155	5775	76.00	75.20	75.20	77.36	77.36	77.52	≥500	PASS

The 99% Occupied Bandwidth have not fallen into the band 5470-5725MHz, please refer to the test plots of 99% Occupied Bandwidth.

Please refer to the following plots

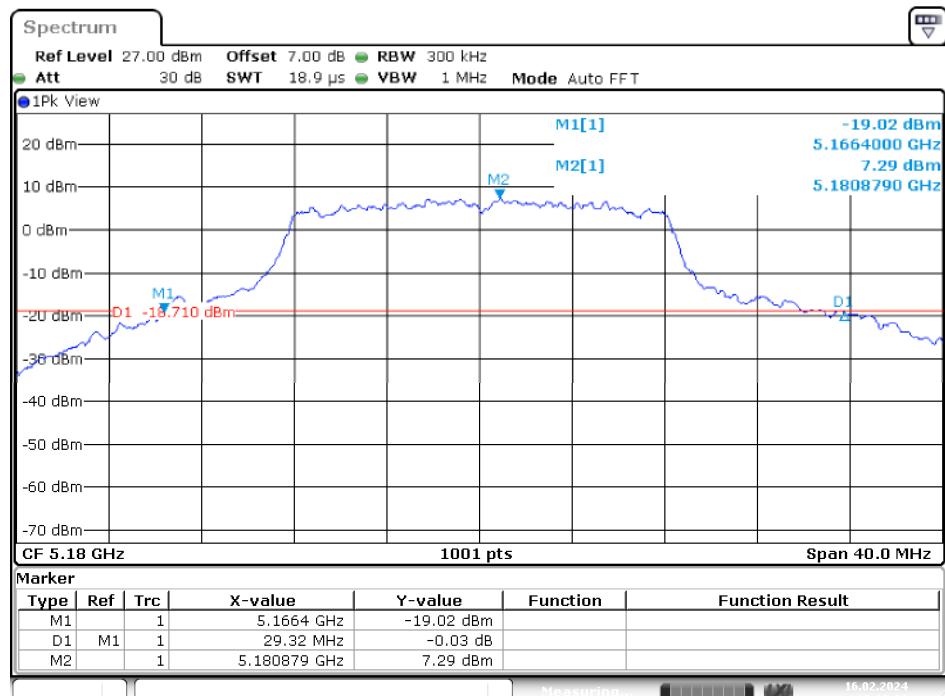
UNII-1 Band I / BW 26dBc

Non Beamforming Mode:

Chain 0

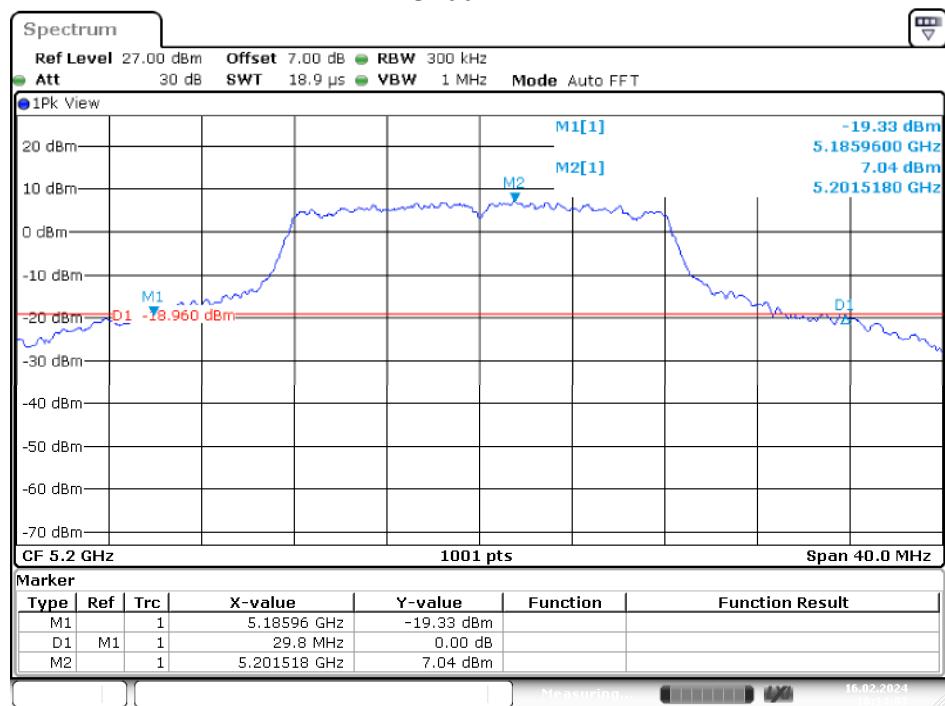
IEEE 802.11a Mode / 5150 ~ 5250MHz

5180MHz



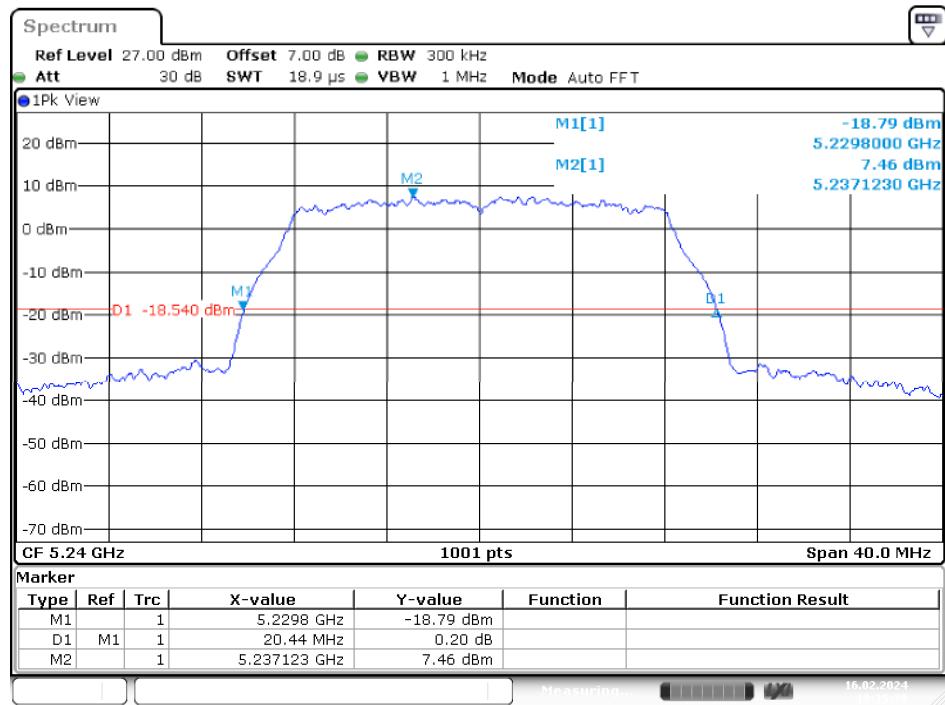
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5200MHz



Date: 16.FEB.2024 10:14:04

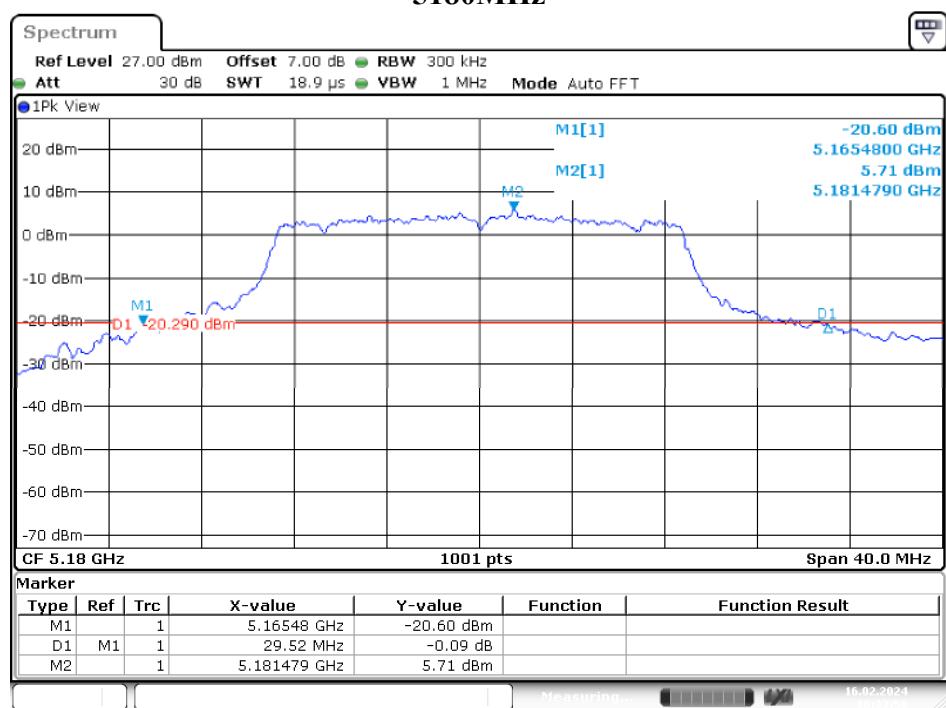
5240MHz



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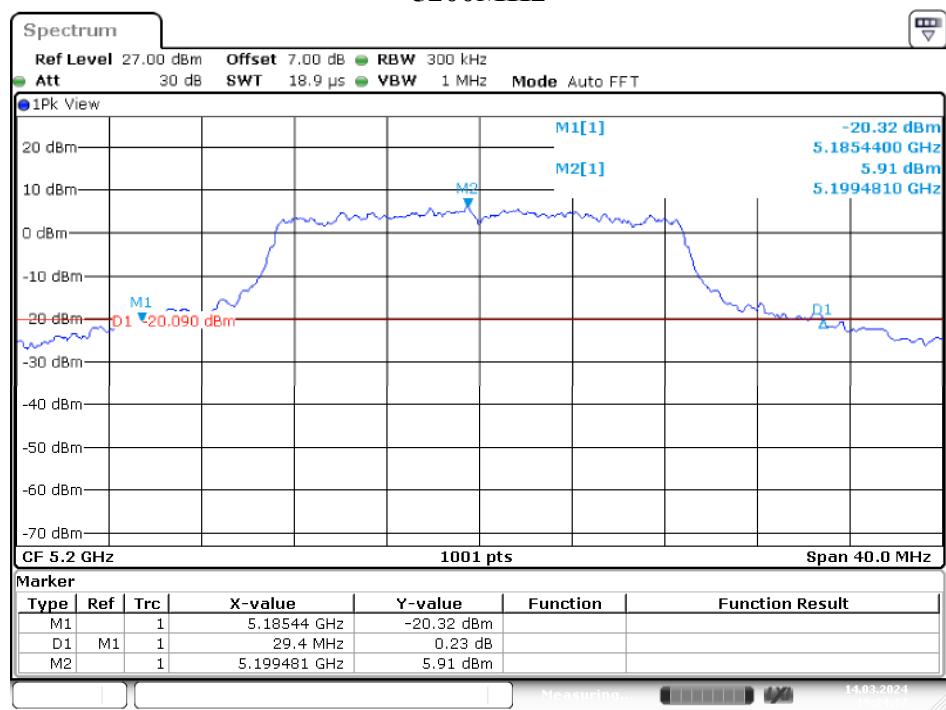
IEEE 802.11ac VHT20 Mode / 5150 ~ 5250MHz

5180MHz



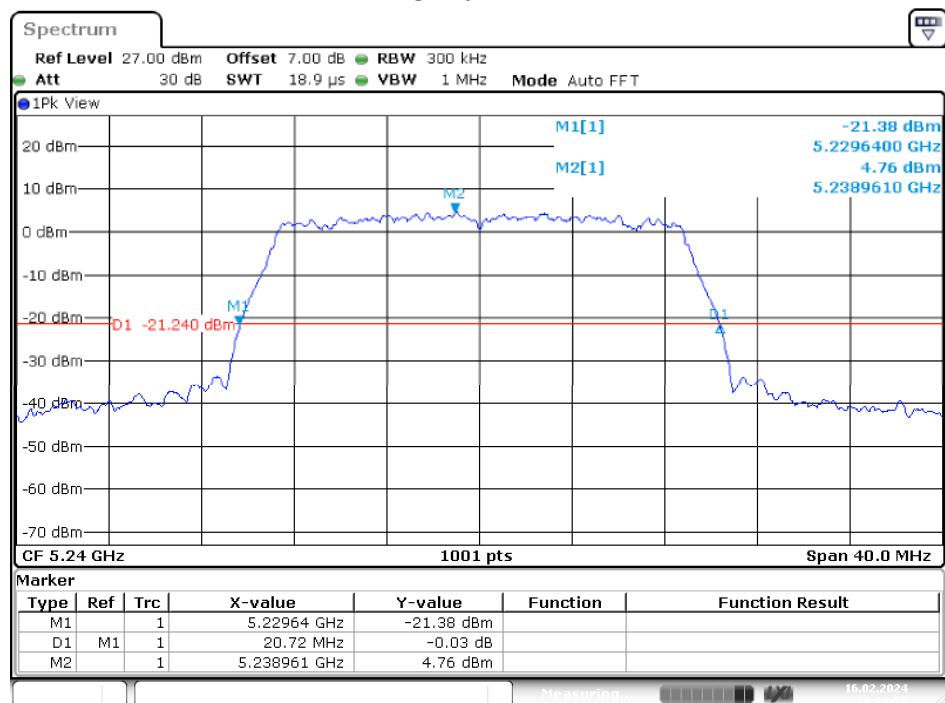
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5200MHz



Date: 14.MAR.2024 19:24:18

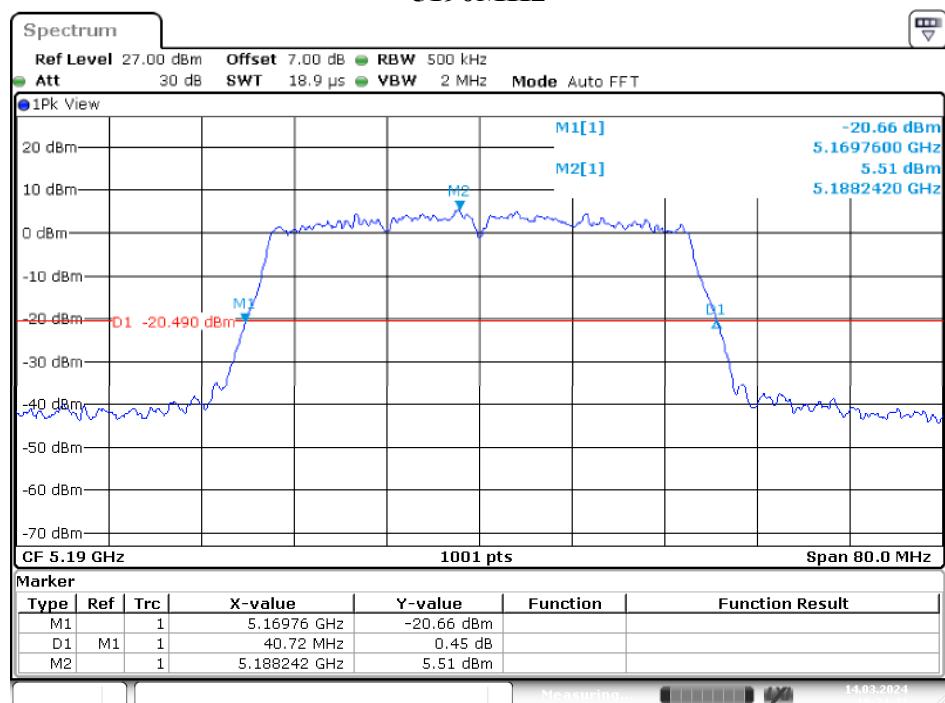
5240MHz



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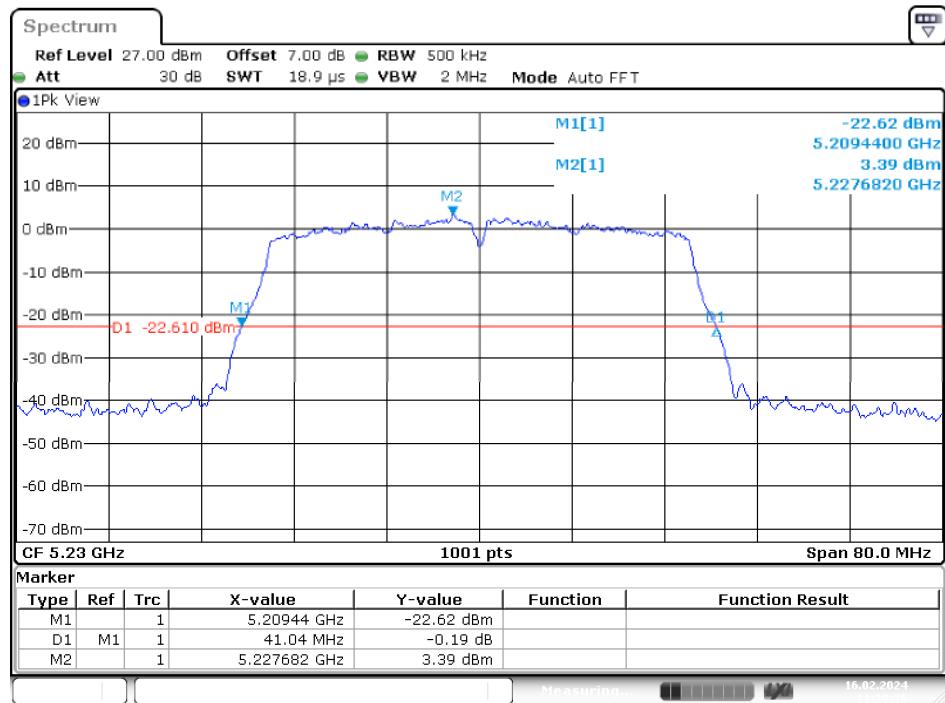
IEEE 802.11ac VHT40 Mode / 5150 ~ 5250MHz

5190MHz



Date: 14.MAR.2024 19:34:42

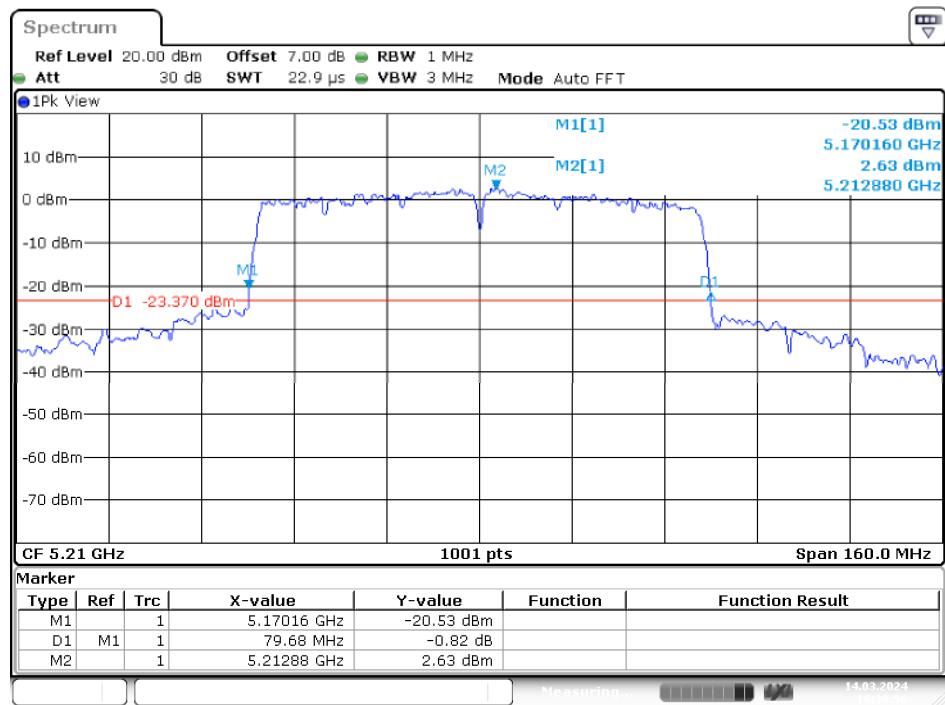
5230MHz



Date: 16.FEB.2024 11:20:36

IEEE 802.11ac VHT80 Mode / 5150 ~ 5250MHz

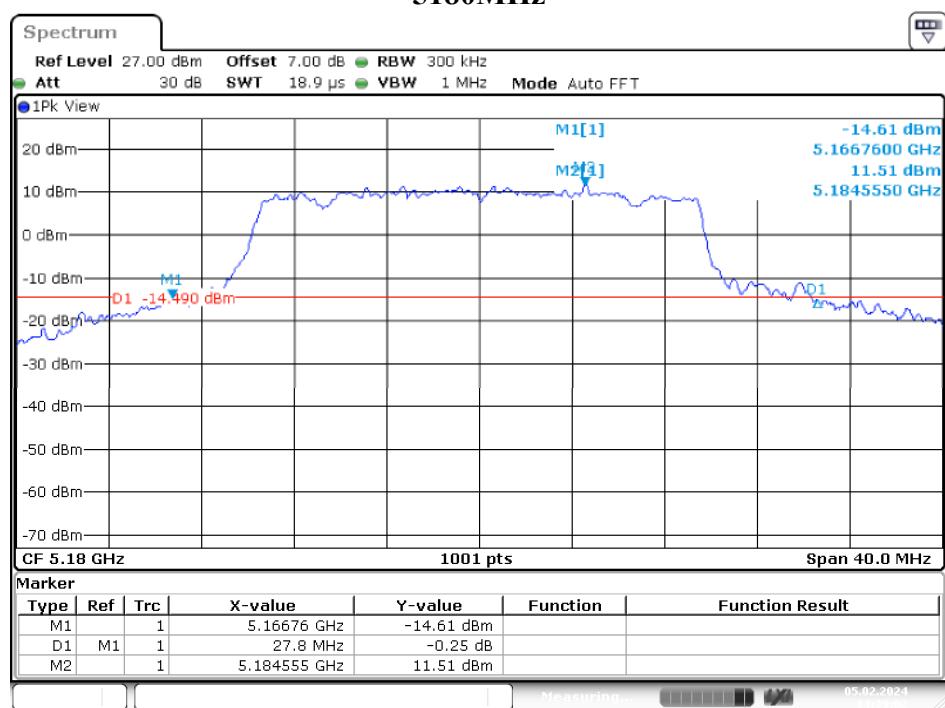
5210MHz



Date: 14.MAR.2024 19:39:56

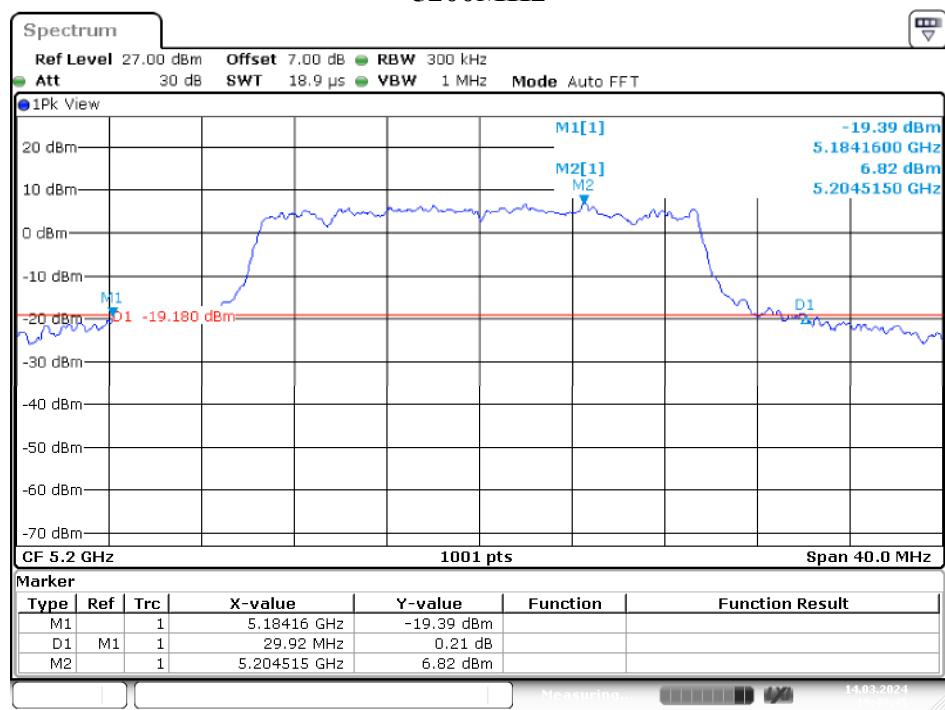
IEEE 802.11ax HE20 Mode / 5150 ~ 5250MHz

5180MHz



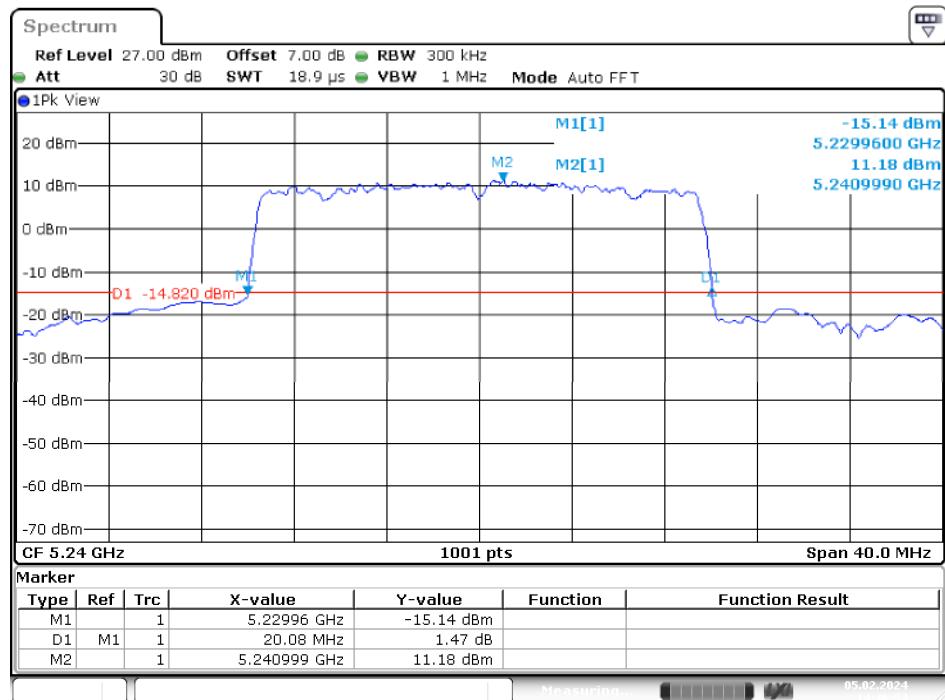
Date: 5.FEB.2024 14:39:03

5200MHz



Date: 14.MAR.2024 19:49:45

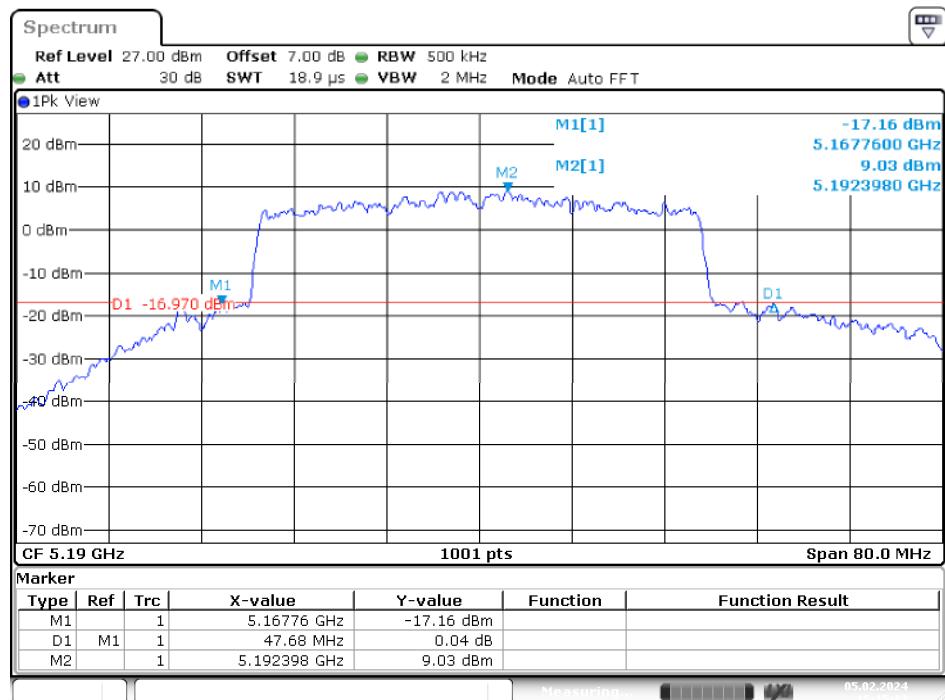
5240MHz



Date: 5.FEB.2024 14:46:54

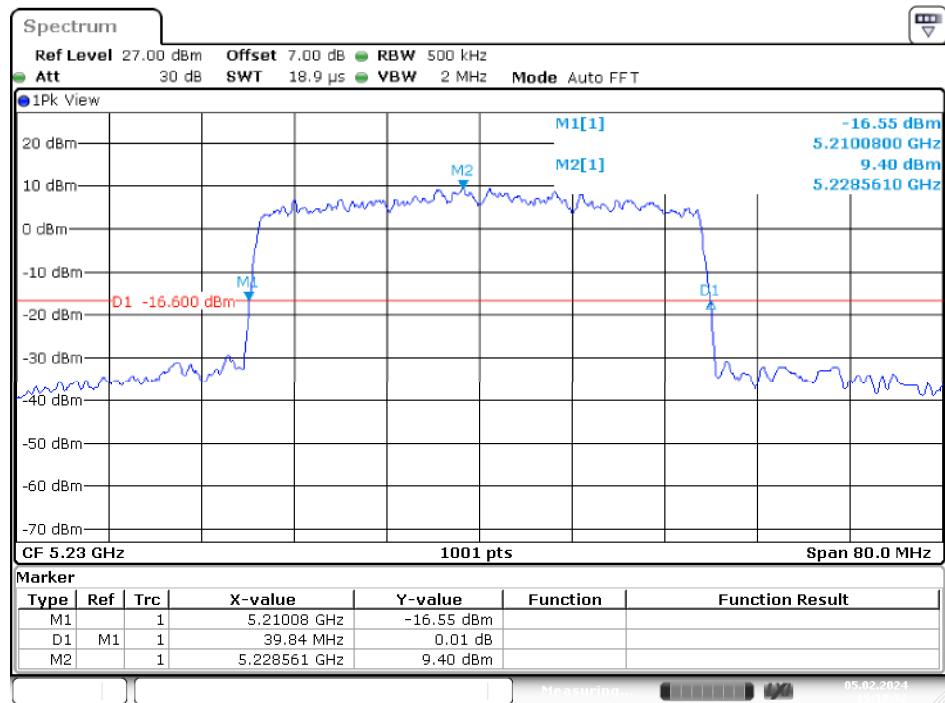
IEEE 802.11ax HE40 Mode / 5150 ~ 5250MHz

5190MHz



Date: 5.FEB.2024 15:15:12

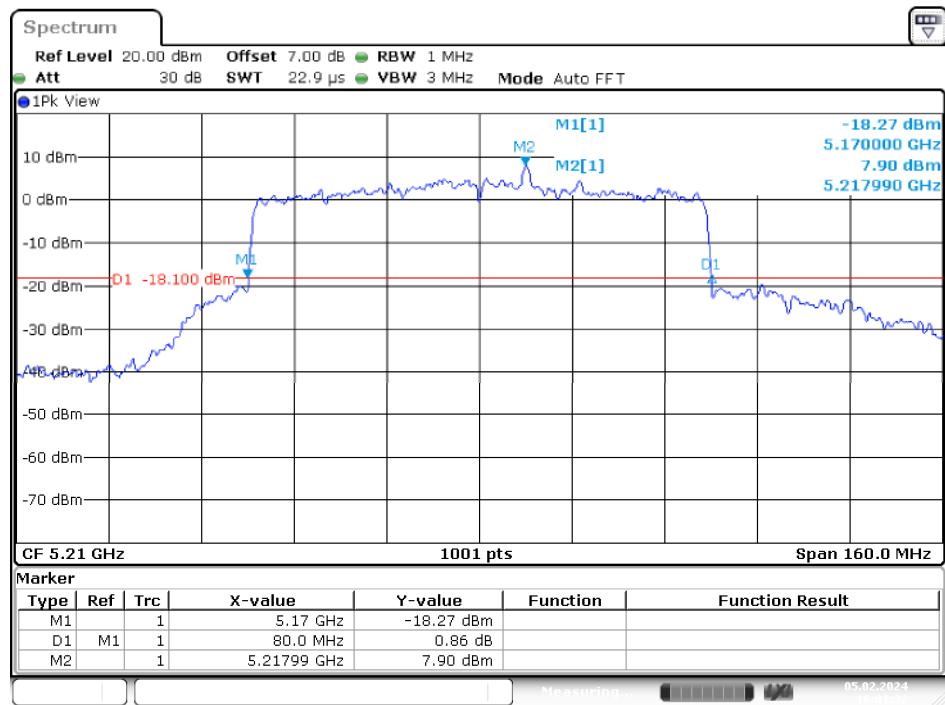
5230MHz



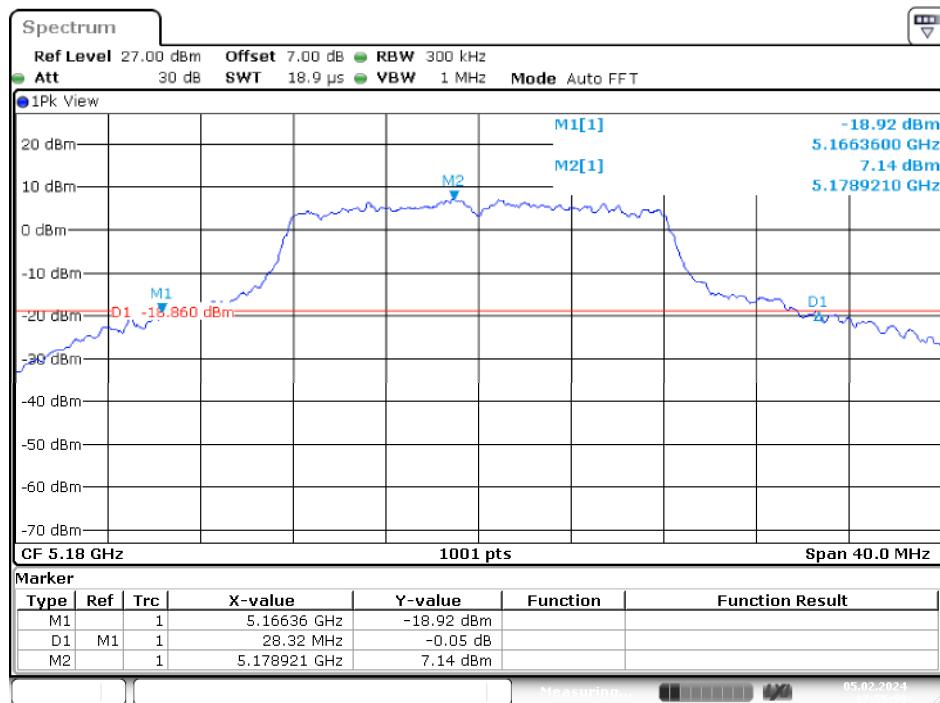
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IEEE 802.11ax HE80 Mode / 5150 ~ 5250MHz

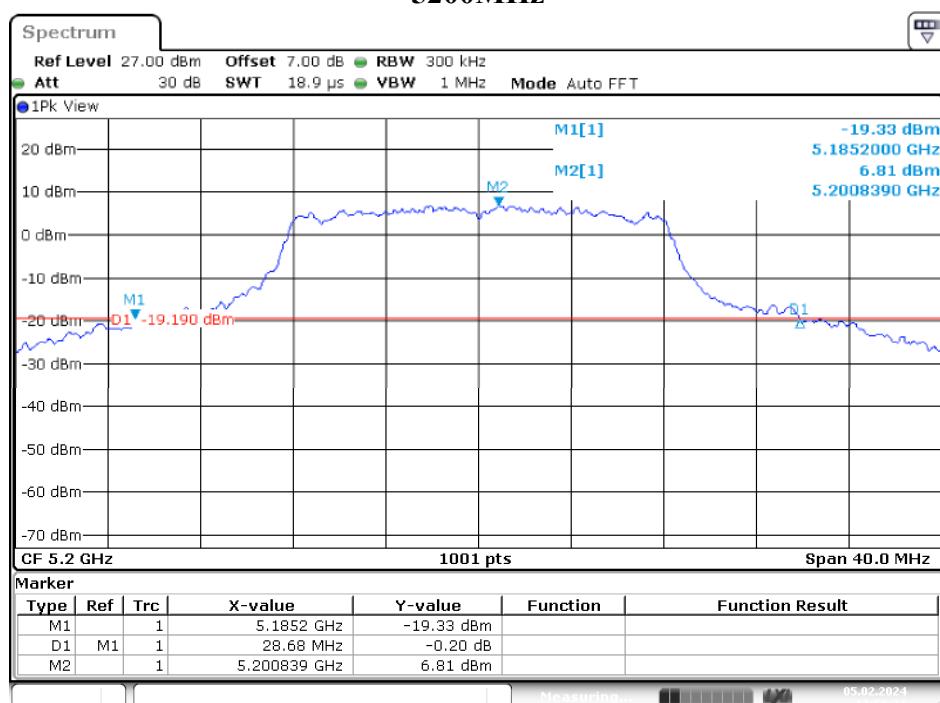
5210MHz



Date: 5.FEB.2024 16:01:33

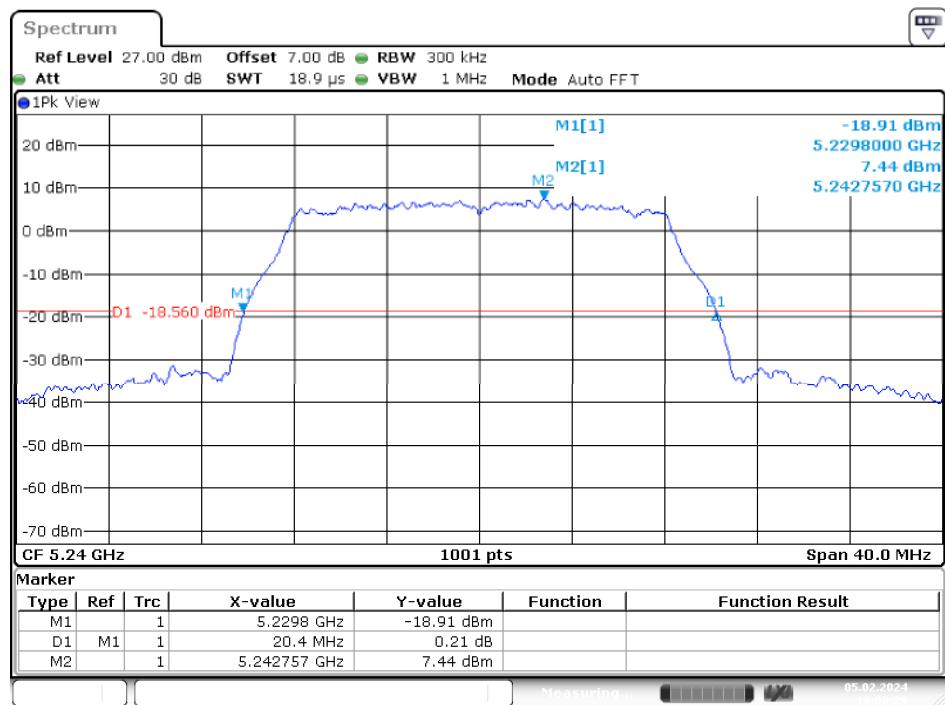
Chain 1**IEEE 802.11a Mode / 5150 ~ 5250MHz****5180MHz**

Date: 5.FEB.2024 17:55:59

5200MHz

Date: 5.FEB.2024 17:58:21

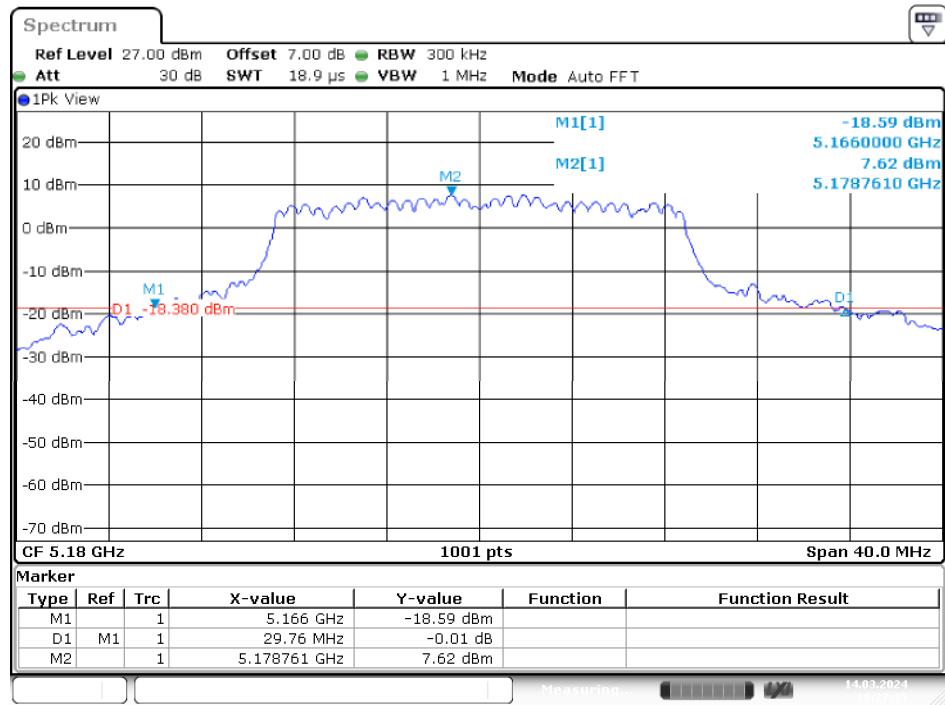
5240MHz



Date: 5.FEB.2024 18:00:30

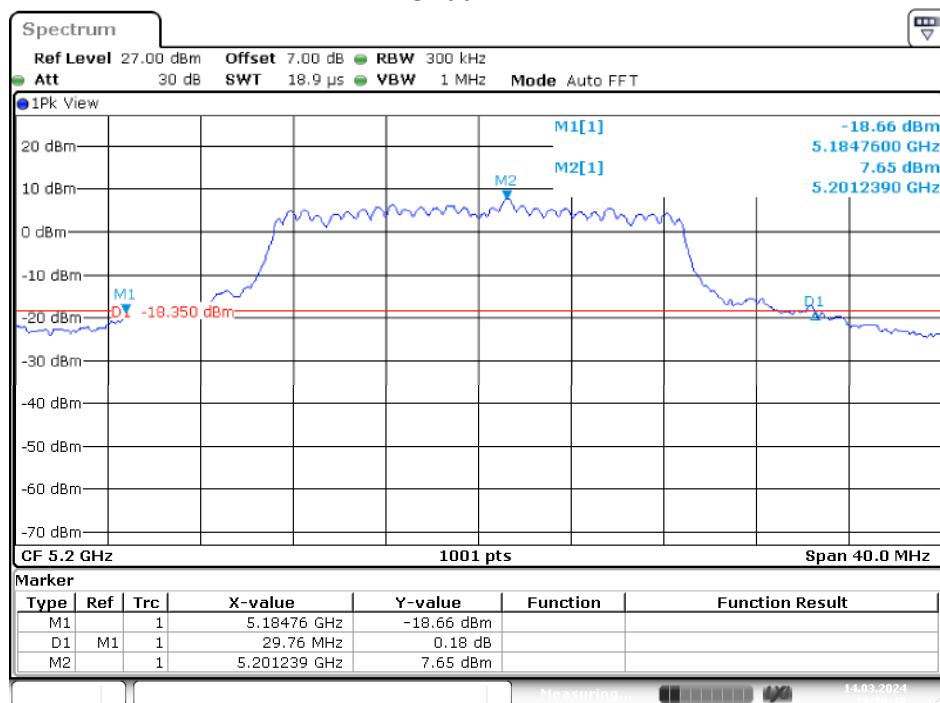
IEEE 802.11ac VHT20 Mode / 5150 ~ 5250MHz

5180MHz



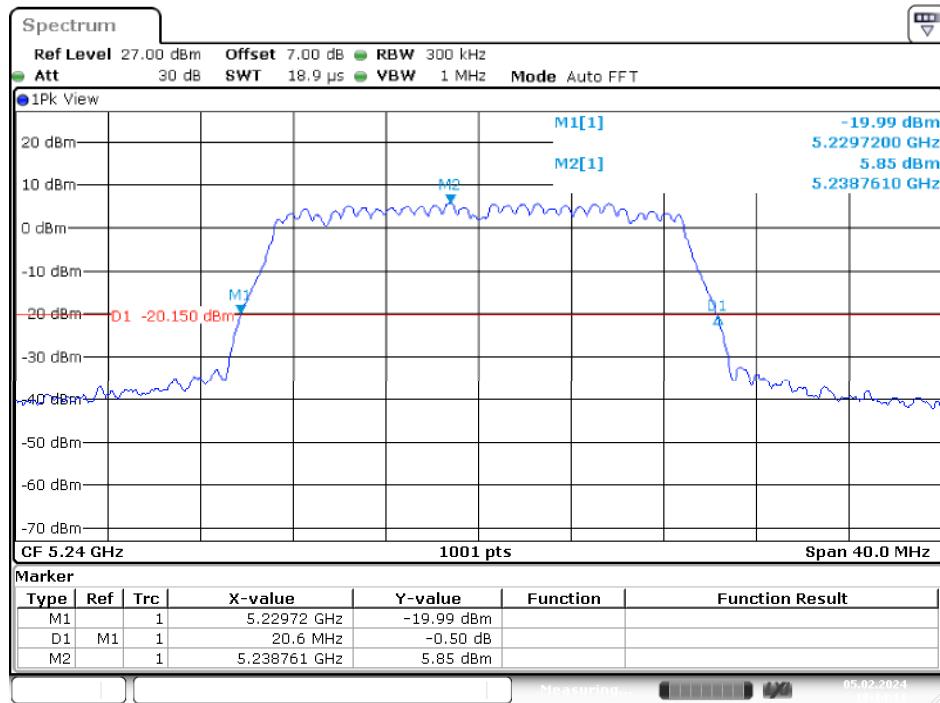
Date: 14.MAR.2024 19:27:35

5200MHz



Date: 14.MAR.2024 19:16:14

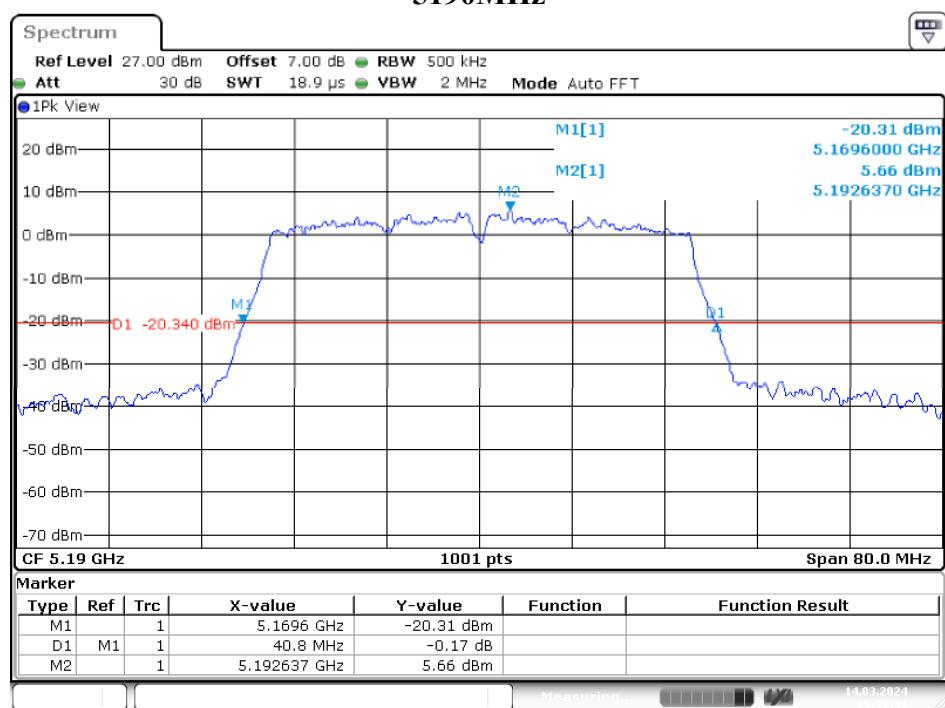
5240MHz



Date: 5.FEB.2024 18:14:11

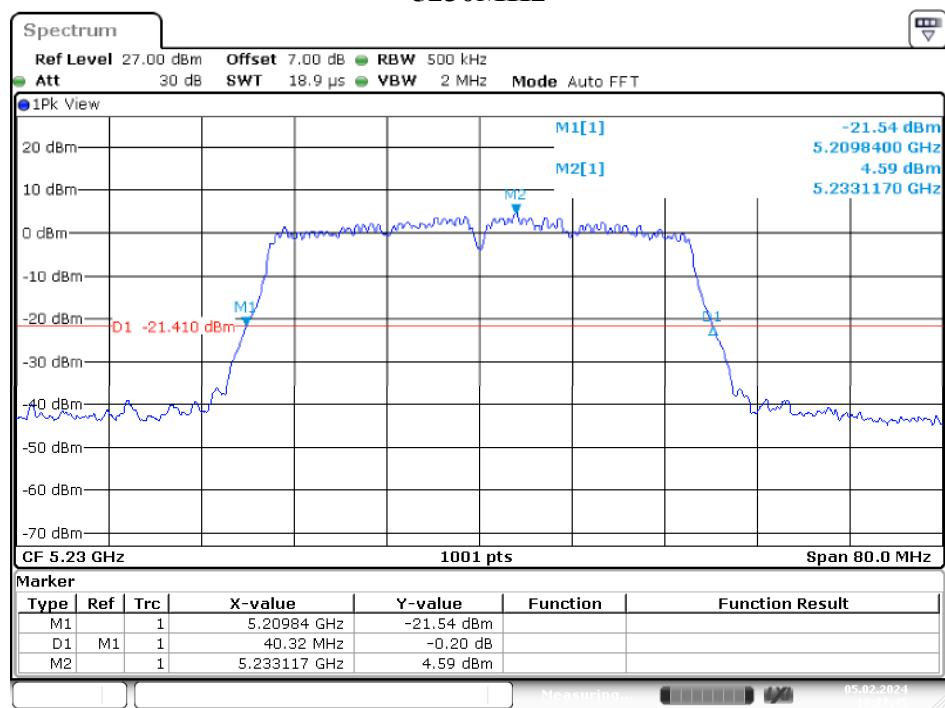
IEEE 802.11ac VHT40 Mode / 5150 ~ 5250MHz

5190MHz



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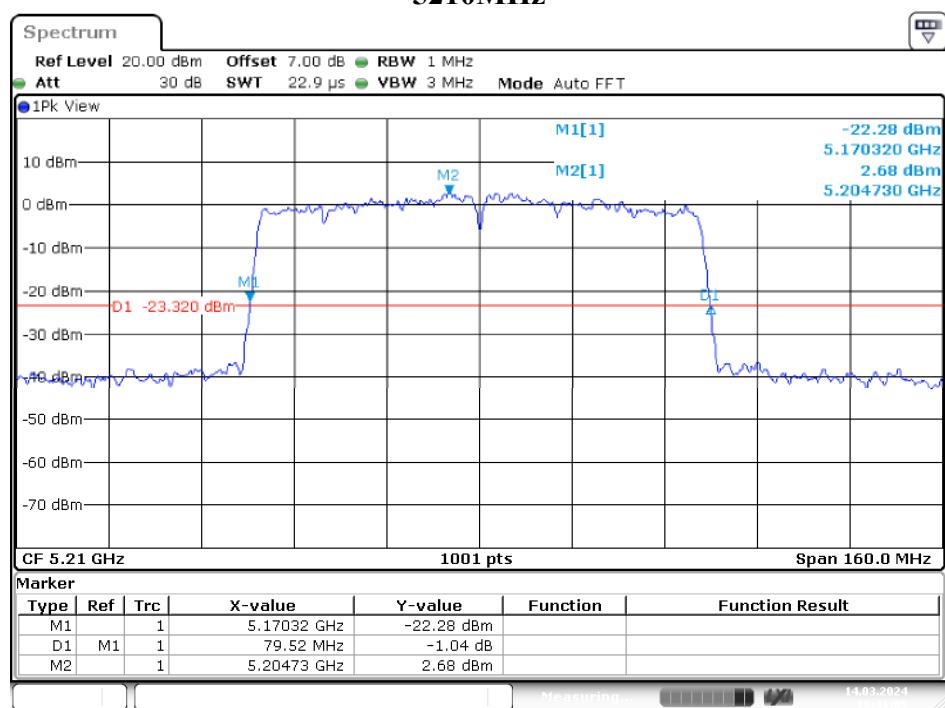
5230MHz



Date: 5.FEB.2024 18:27:45

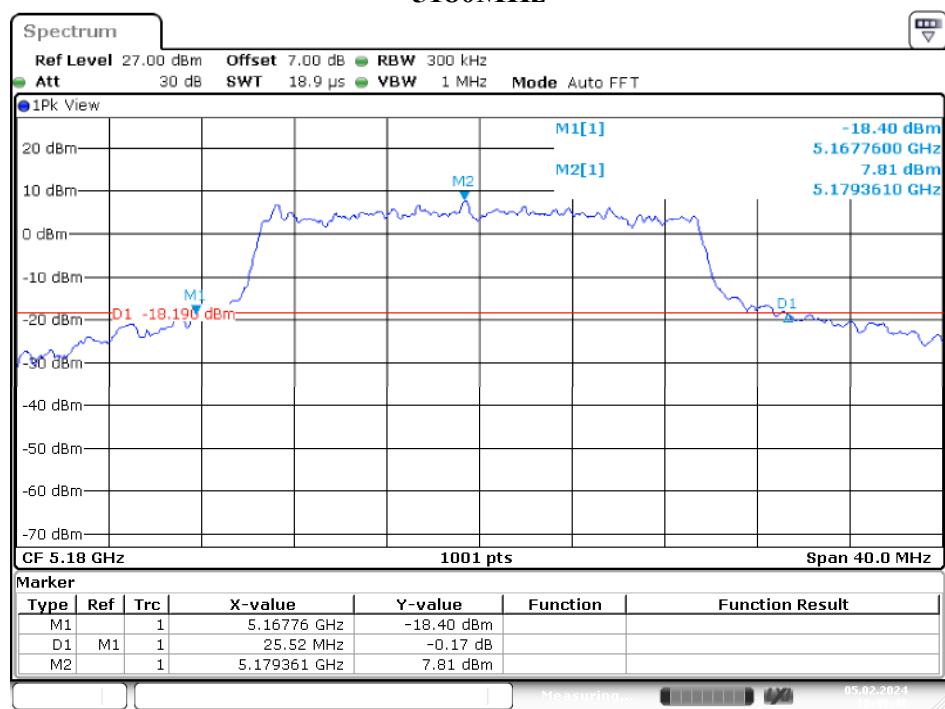
IEEE 802.11ac VHT80 Mode / 5150 ~ 5250MHz

5210MHz

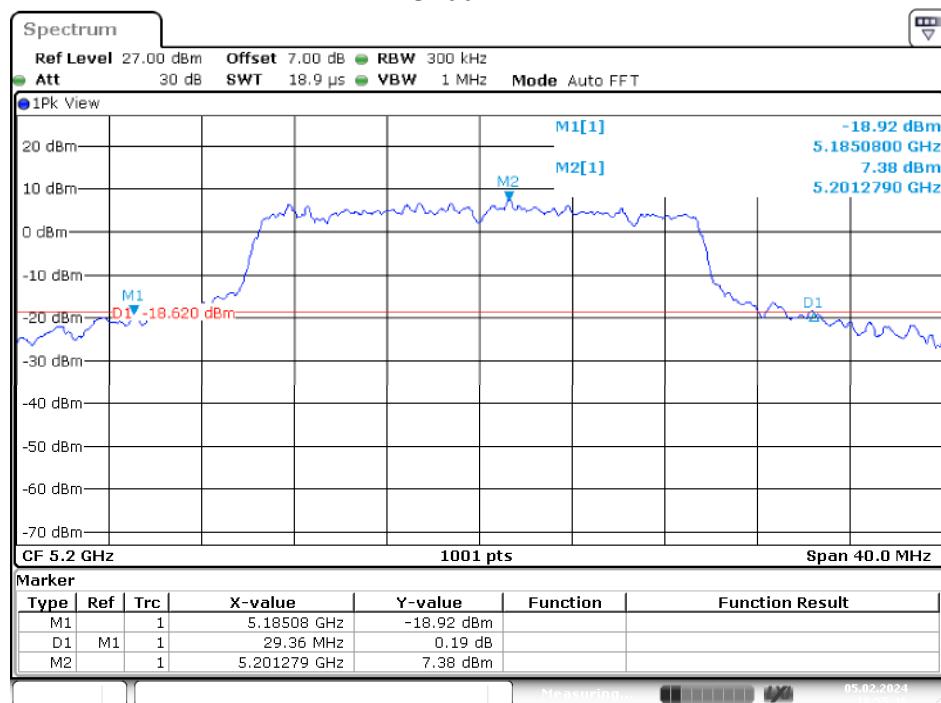


IEEE 802.11ax HE20 Mode / 5150 ~ 5250MHz

5180MHz

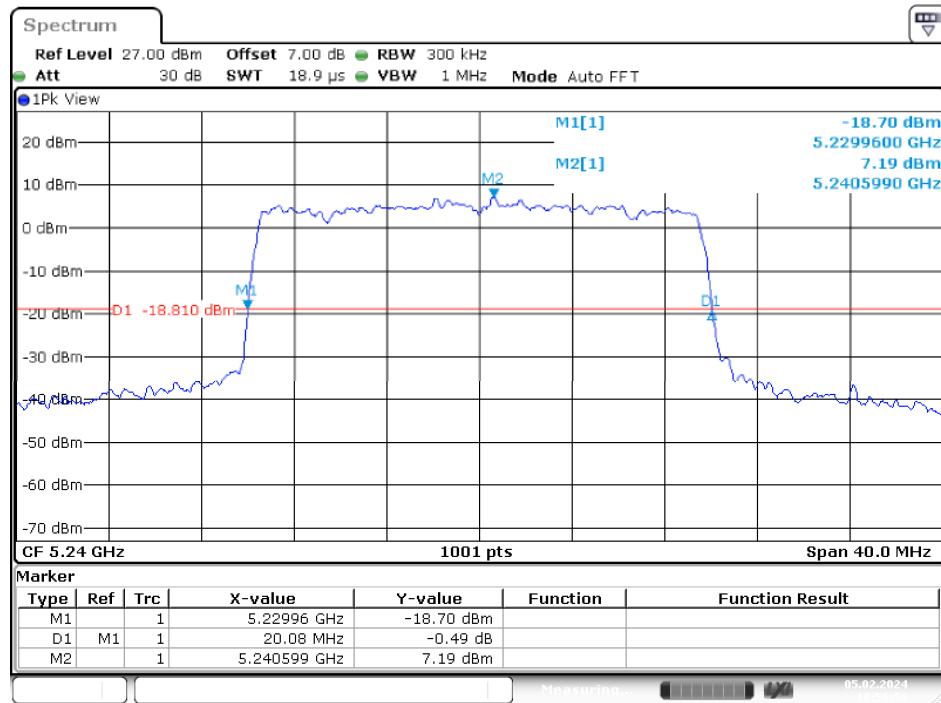


5200MHz



Date: 5.FEB.2024 18:55:36

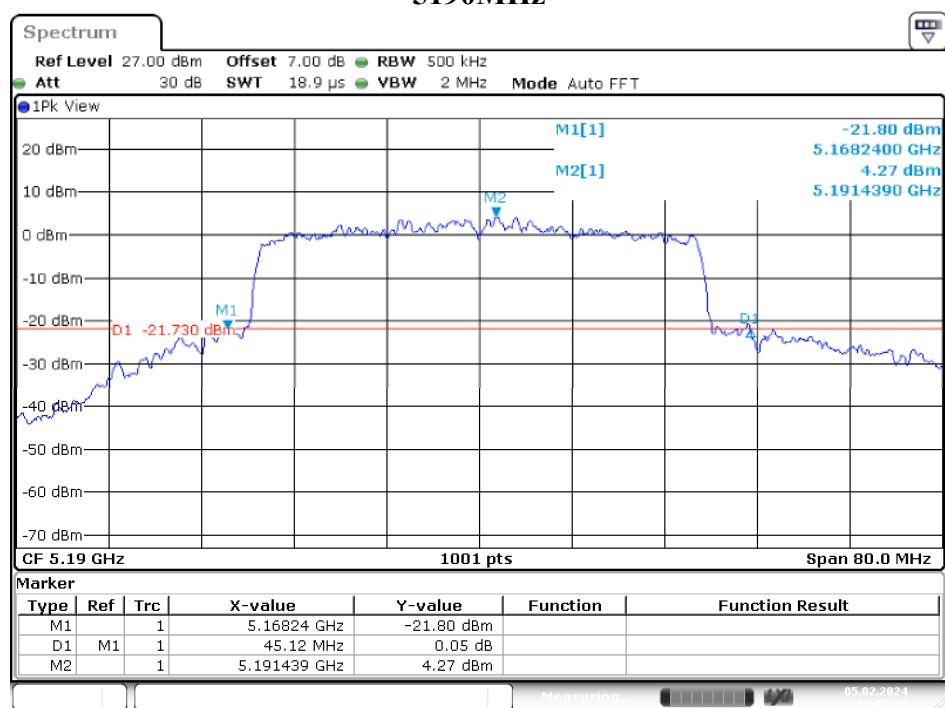
5240MHz



Date: 5.FEB.2024 18:56:56

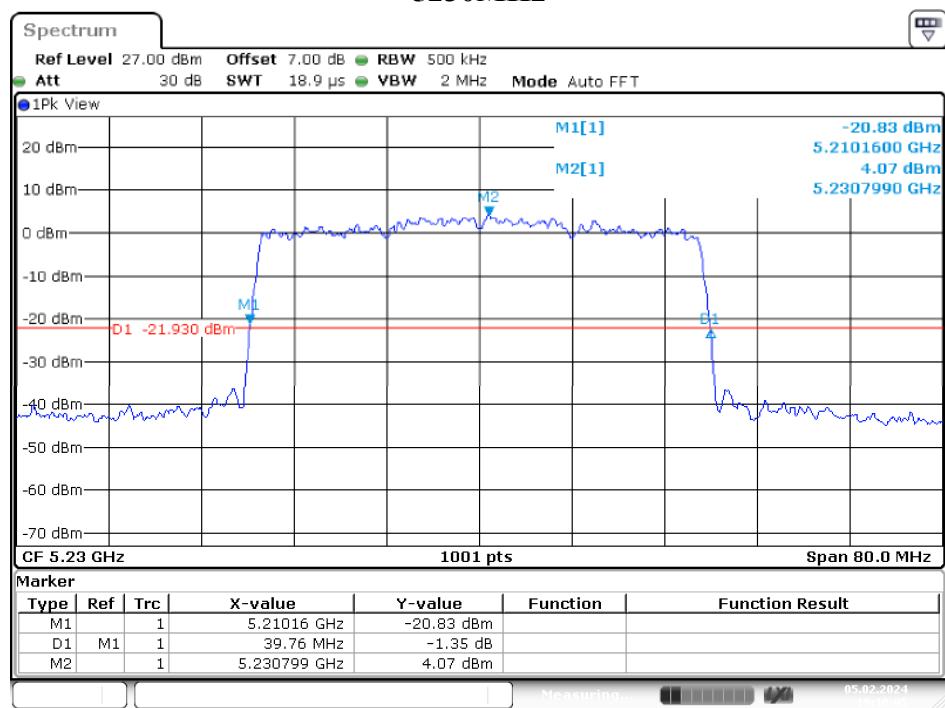
IEEE 802.11ax HE40 Mode / 5150 ~ 5250MHz

5190MHz



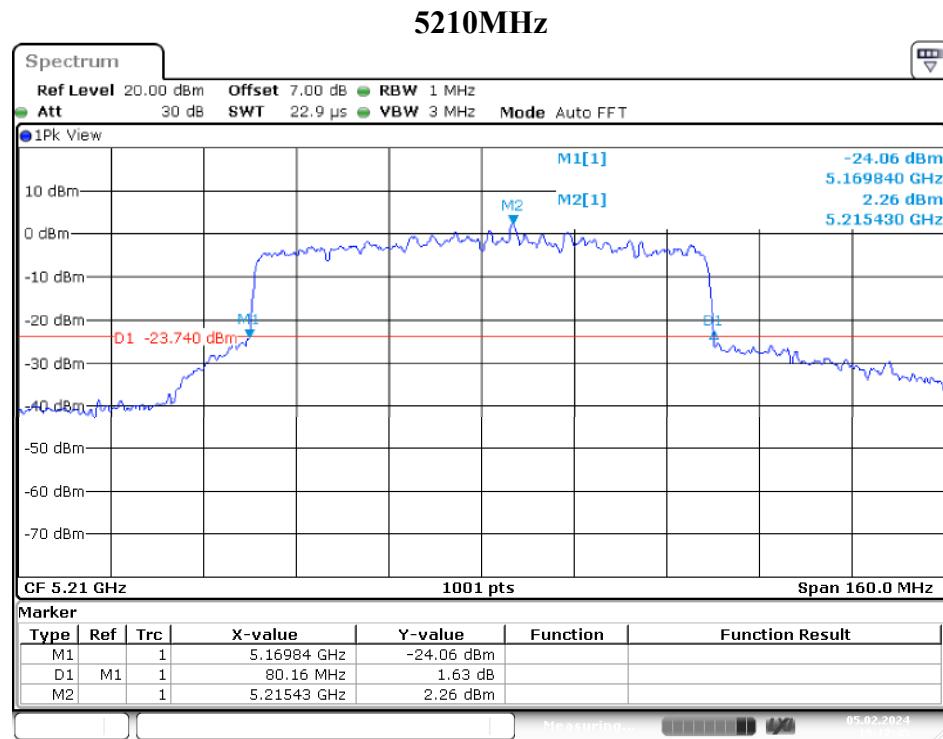
Date: 5.FEB.2024 19:07:39

5230MHz



Date: 5.FEB.2024 19:10:05

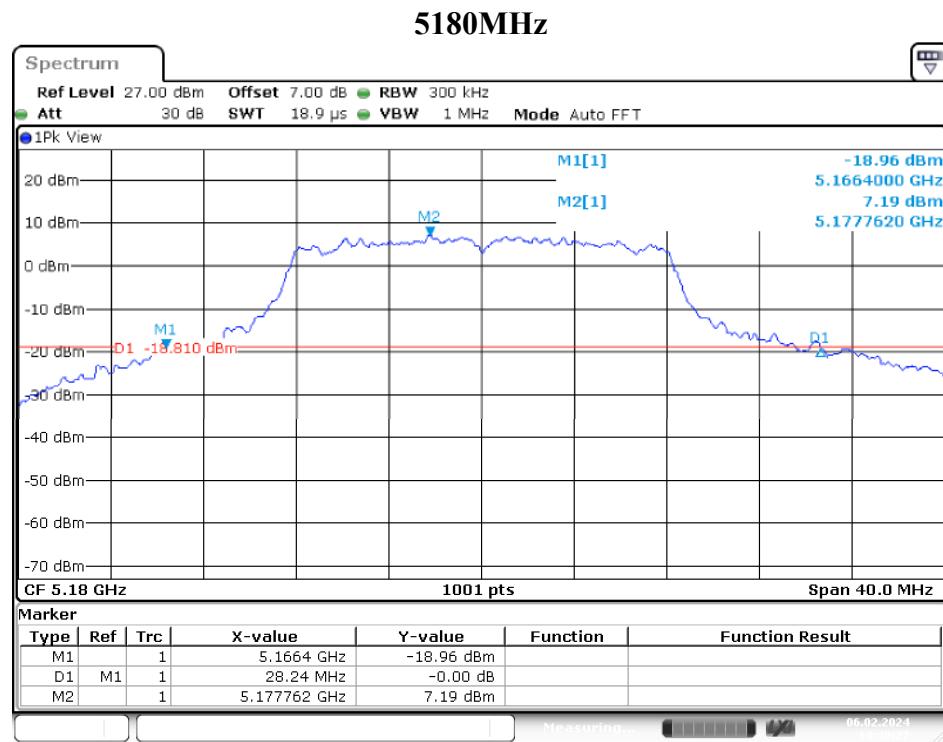
IEEE 802.11ax 80 Mode / 5150 ~ 5250MHz



Date: 5.FEB.2024 19:17:45

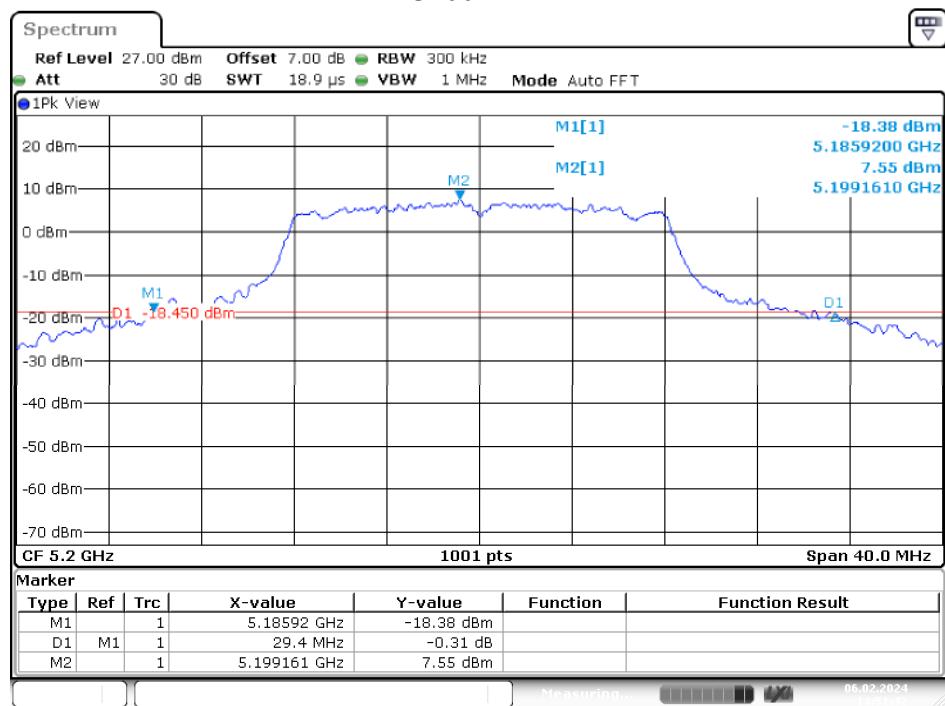
Chain 2

IEEE 802.11a Mode / 5150 ~ 5250MHz



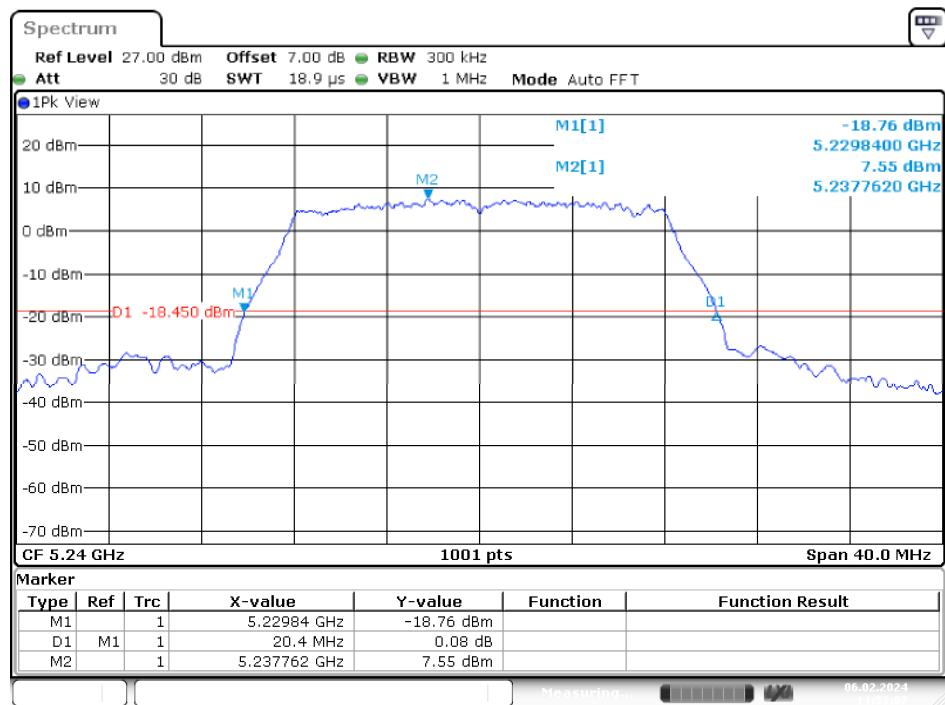
Date: 6.FEB.2024 14:49:27

5200MHz



Date: 6.FEB.2024 14:51:32

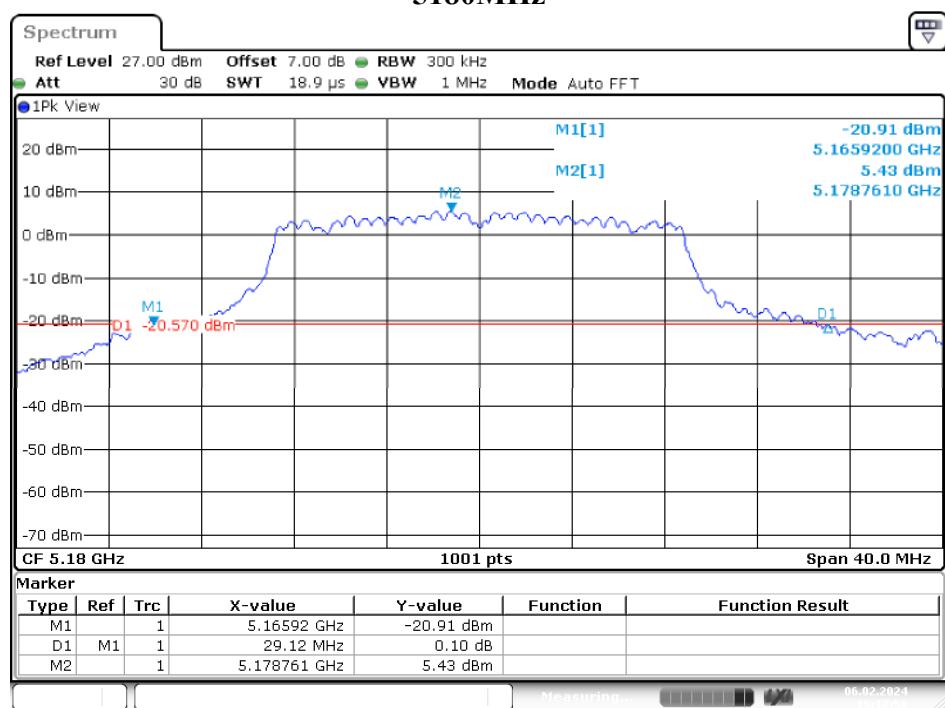
5240MHz



Date: 6.FEB.2024 14:53:08

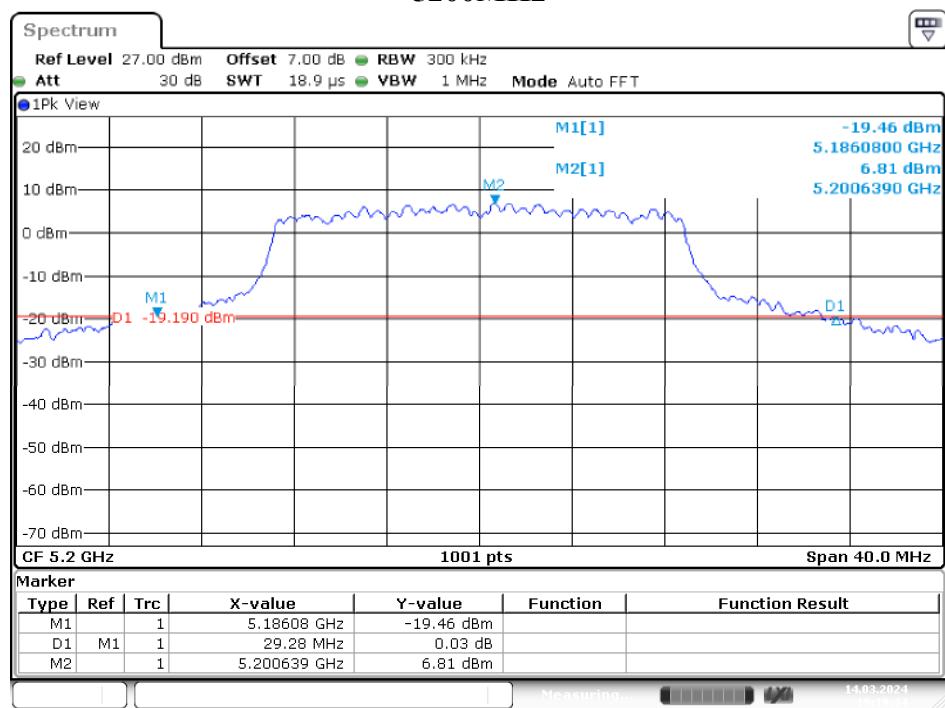
IEEE 802.11ac VHT20 Mode / 5150 ~ 5250MHz

5180MHz



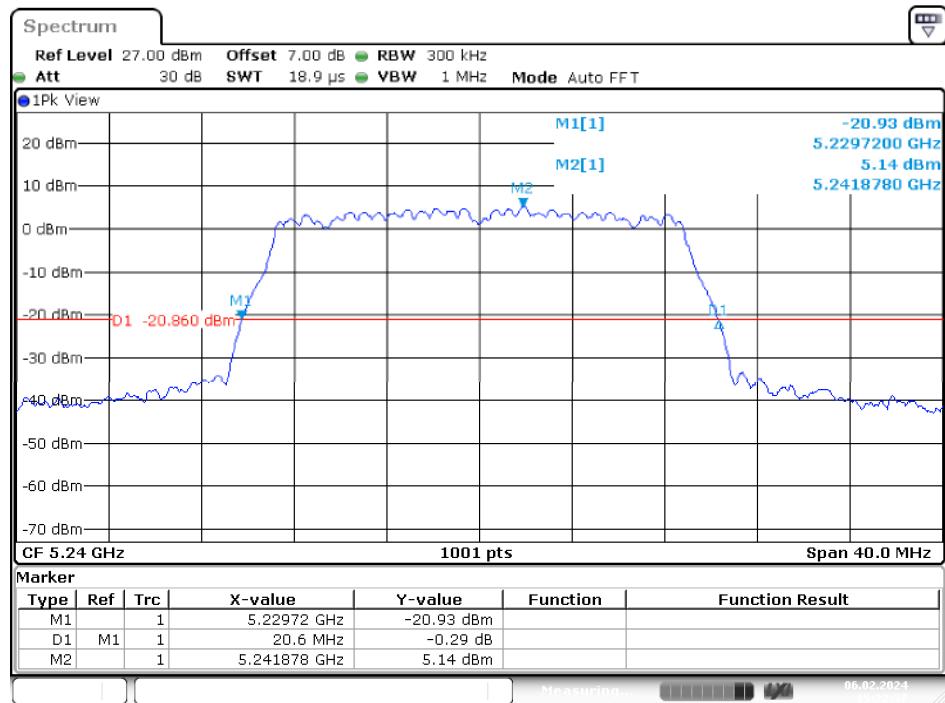
Date: 6.FEB.2024 15:17:56

5200MHz



Date: 14.MAR.2024 19:19:34

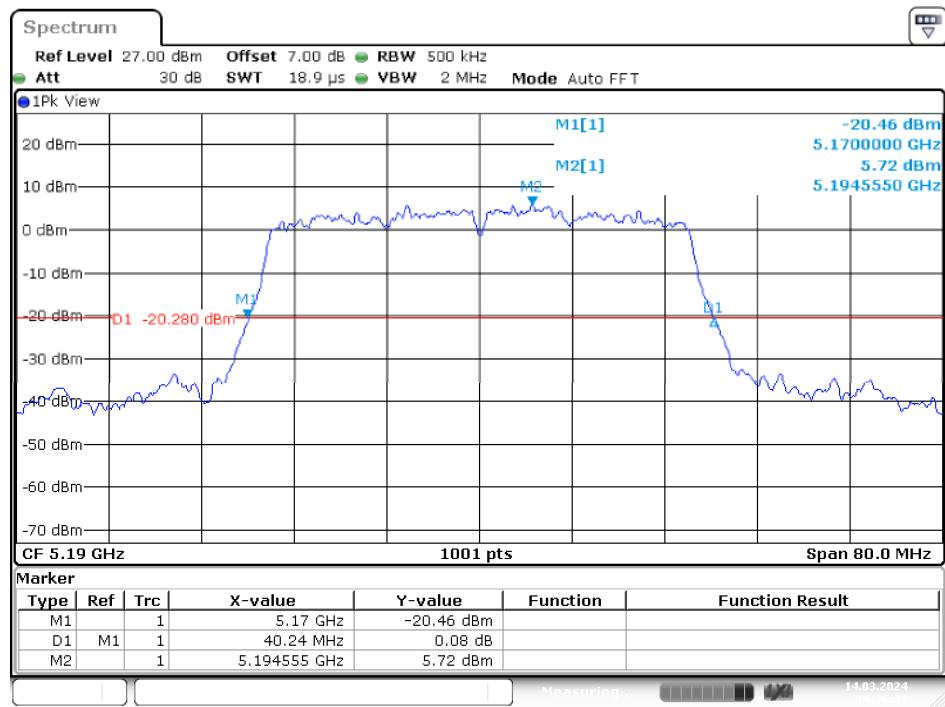
5240MHz



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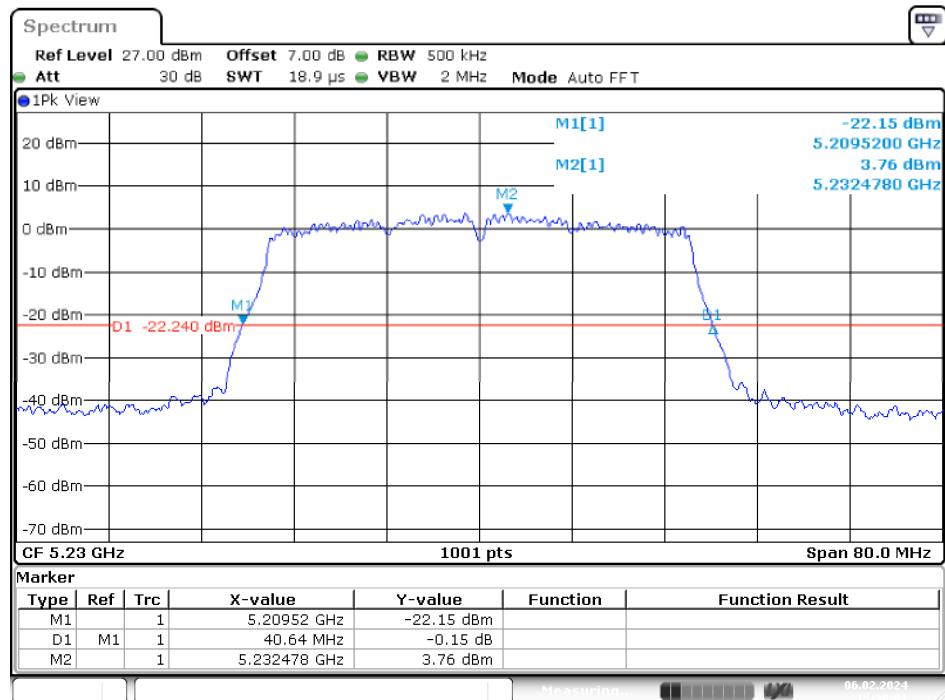
IEEE 802.11ac VHT40 Mode / 5150 ~ 5250MHz

5190MHz



Date: 14.MAR.2024 19:36:33

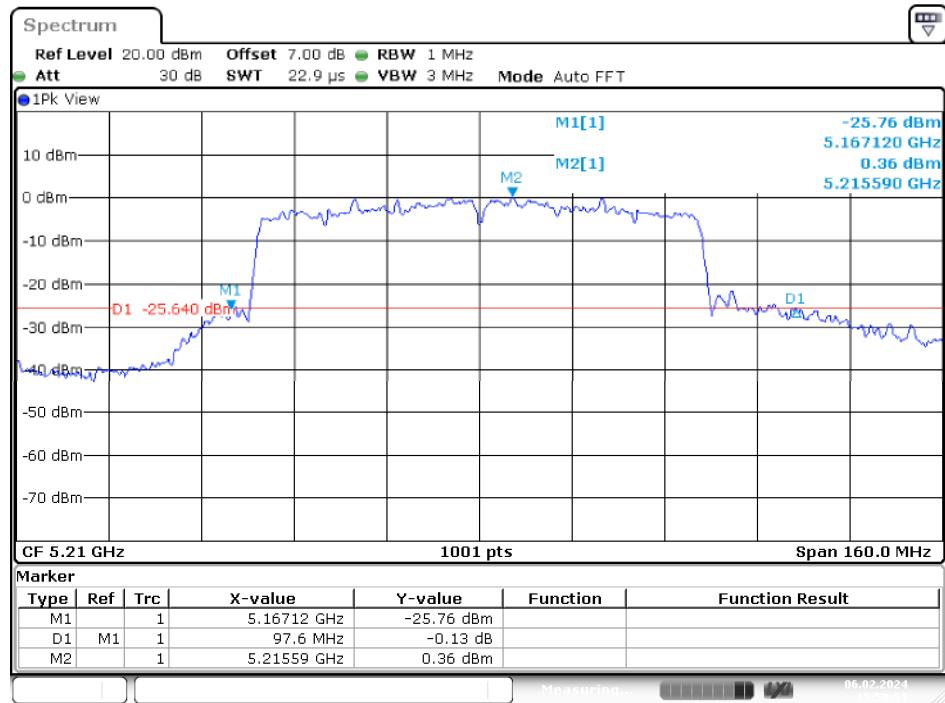
5230MHz



Date: 6.FEB.2024 15:39:01

IEEE 802.11ac VHT80 Mode / 5150 ~ 5250MHz

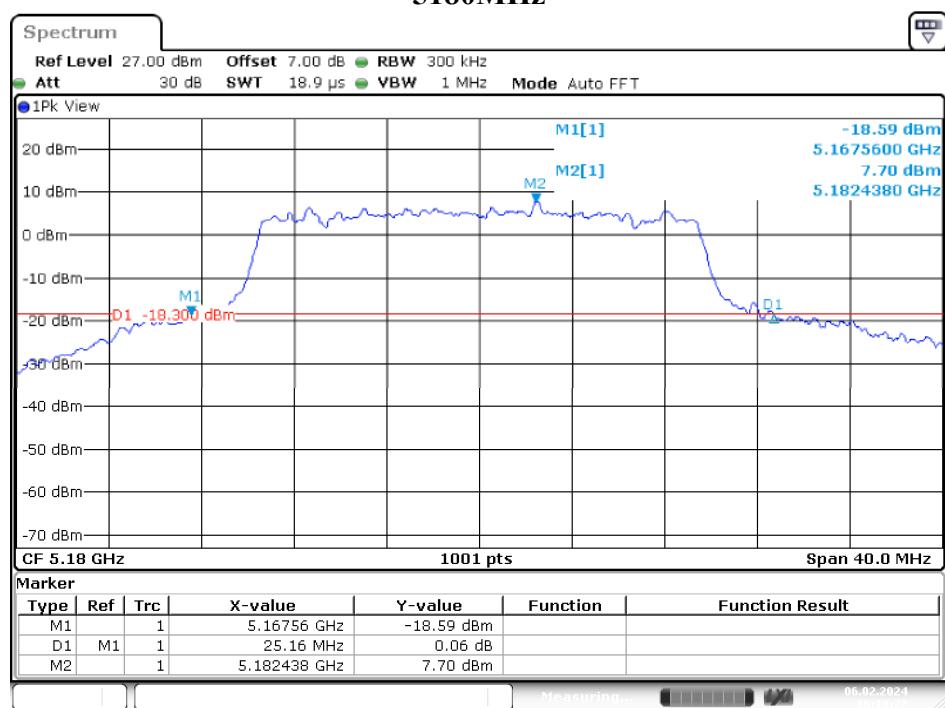
5210MHz



Date: 6.FEB.2024 15:50:51

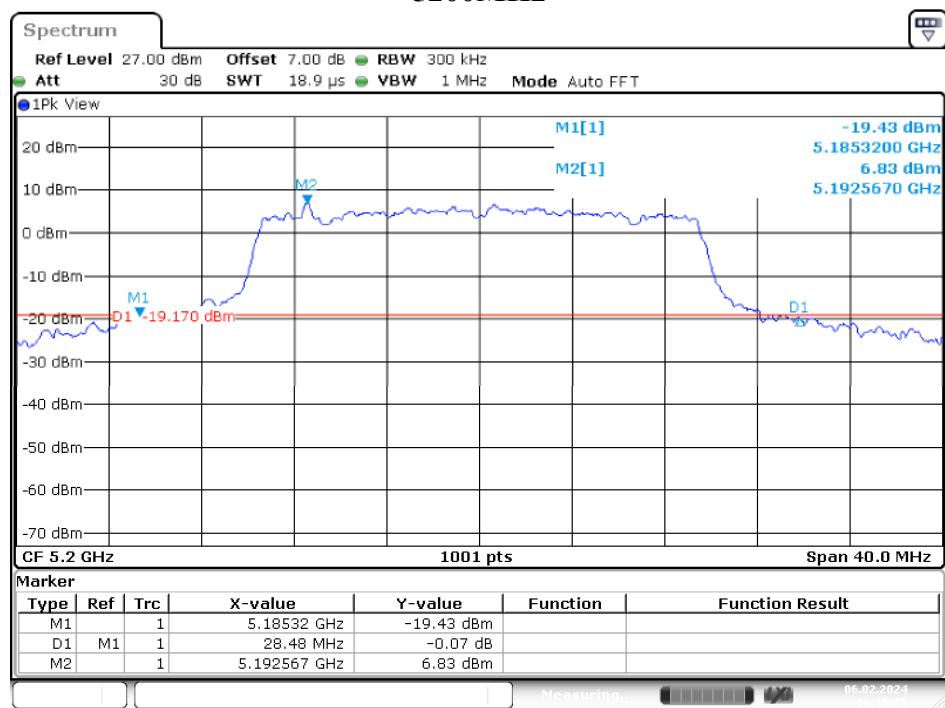
IEEE 802.11ax HE20 Mode / 5150 ~ 5250MHz

5180MHz



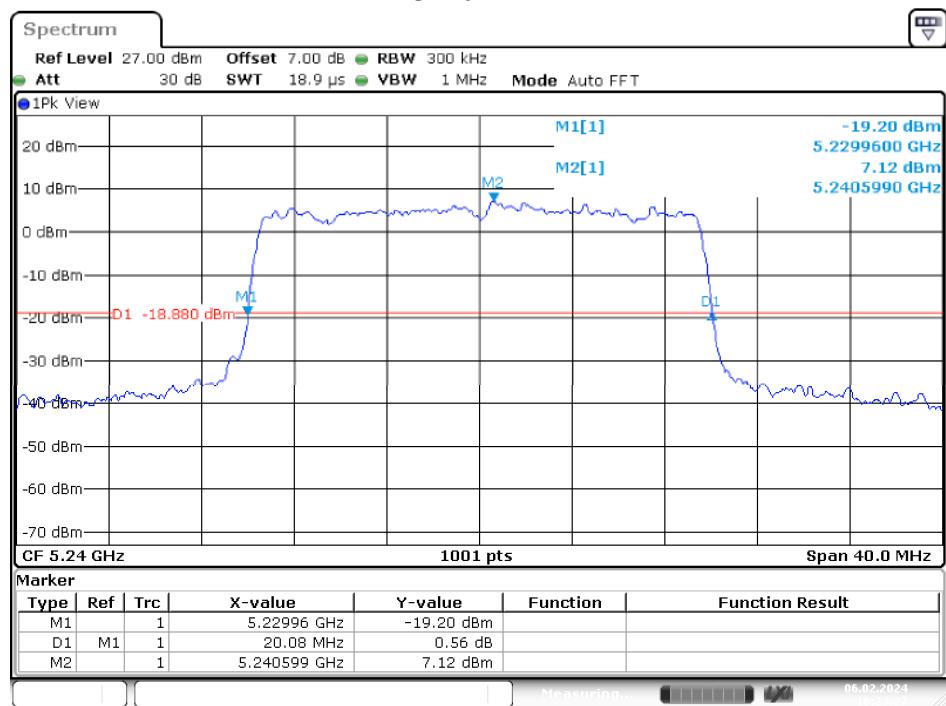
Date: 6.FEB.2024 16:13:27

5200MHz



Date: 6.FEB.2024 16:16:25

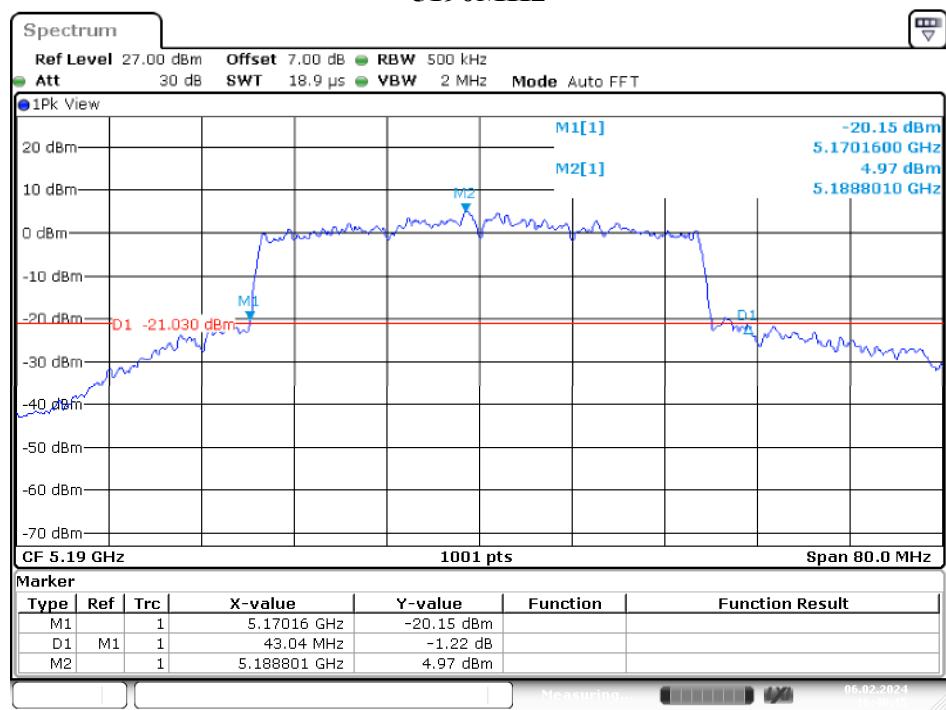
5240MHz



Date: 6.FEB.2024 16:23:27

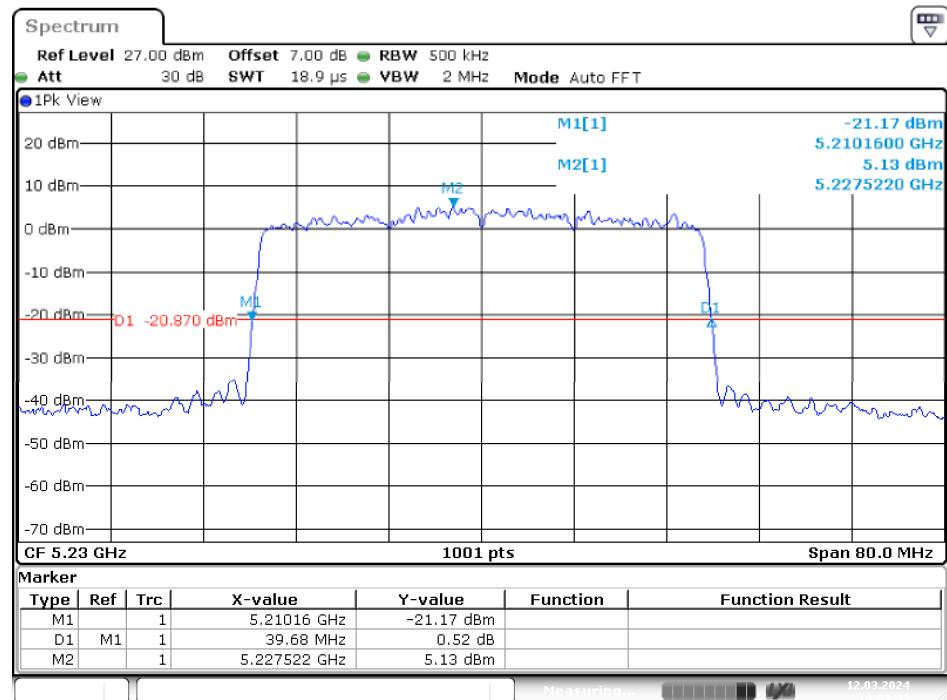
IEEE 802.11ax HE40 Mode / 5150 ~ 5250MHz

5190MHz



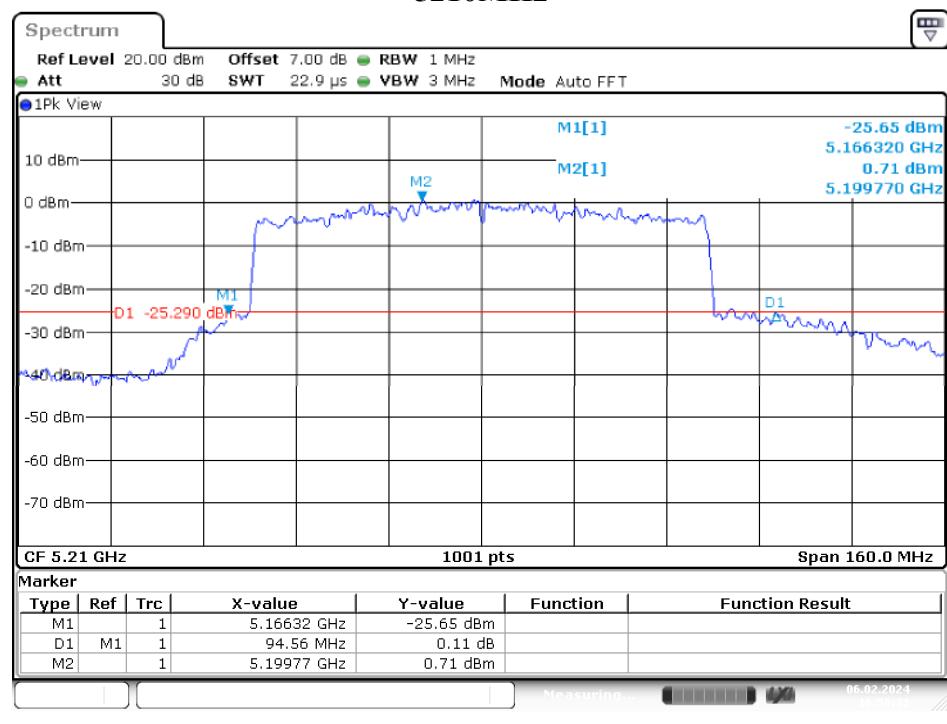
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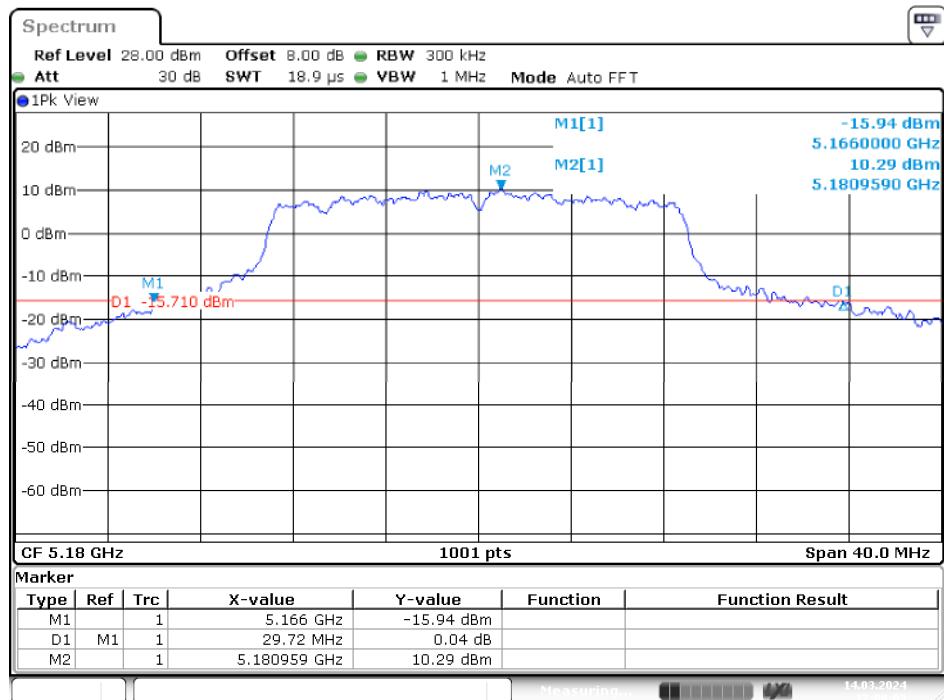
5230MHz



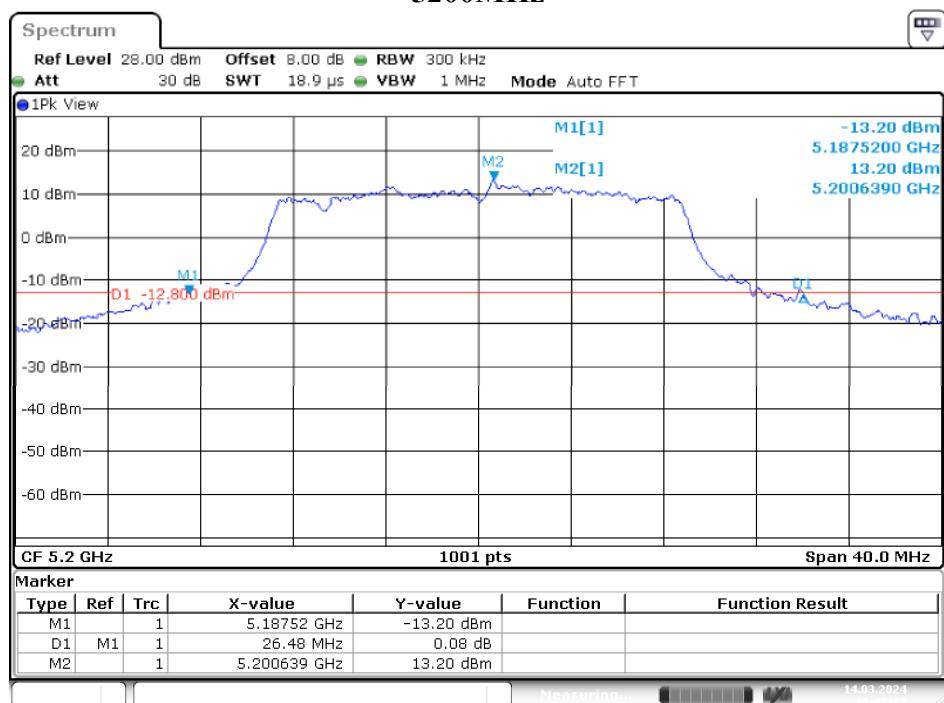
IEEE 802.11ax HE80 Mode / 5150 ~ 5250MHz

5210MHz



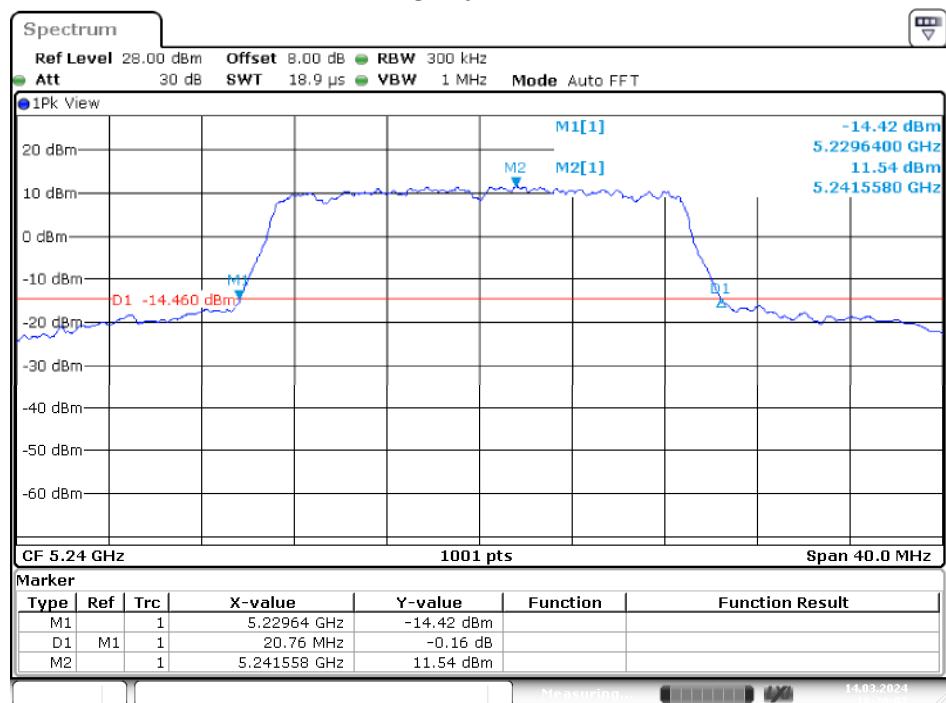
Beamforming Mode:**Chain 0****IEEE 802.11ac VHT20 Mode / 5150 ~ 5250MHz****5180MHz**

Date: 14.MAR.2024 17:09:03

5200MHz

Date: 14.MAR.2024 18:08:34

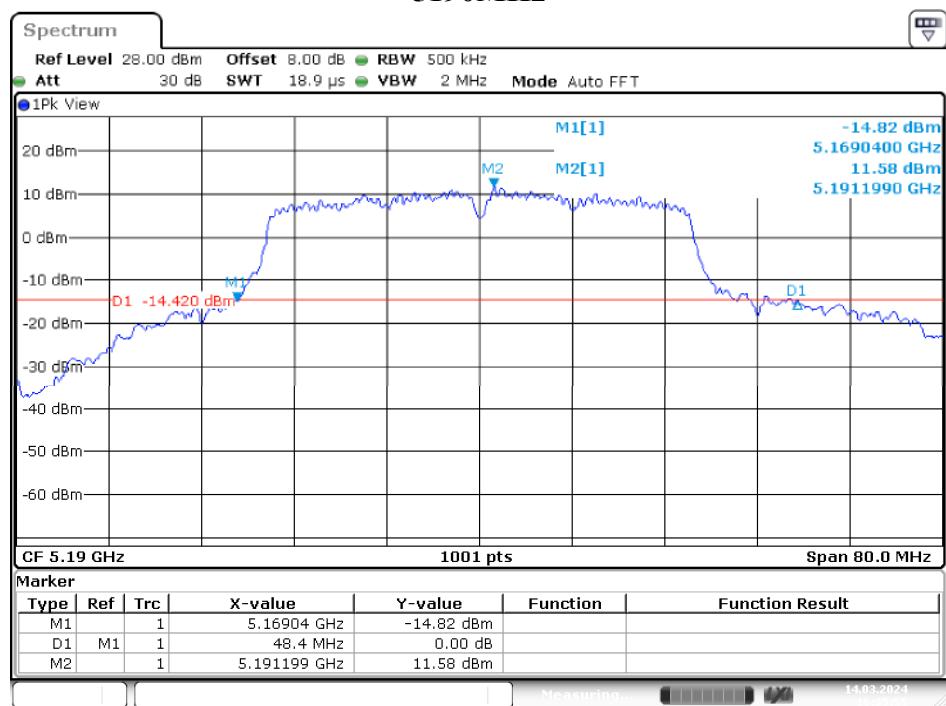
5240MHz



Date: 14.MAR.2024 18:20:04

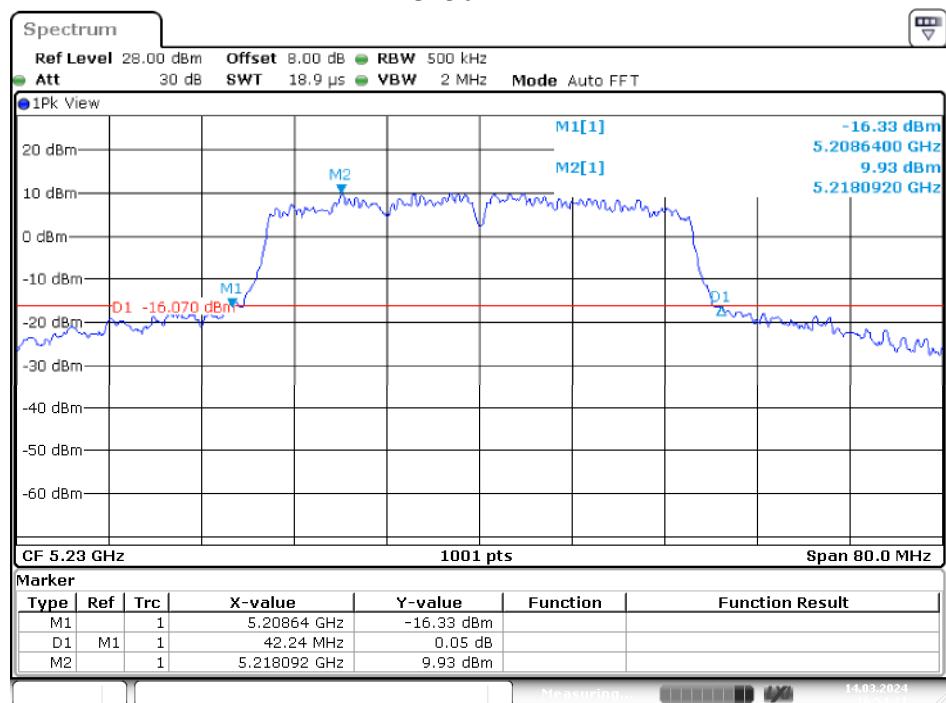
IEEE 802.11ac VHT40 Mode / 5150 ~ 5250MHz

5190MHz



Date: 14.MAR.2024 16:25:55

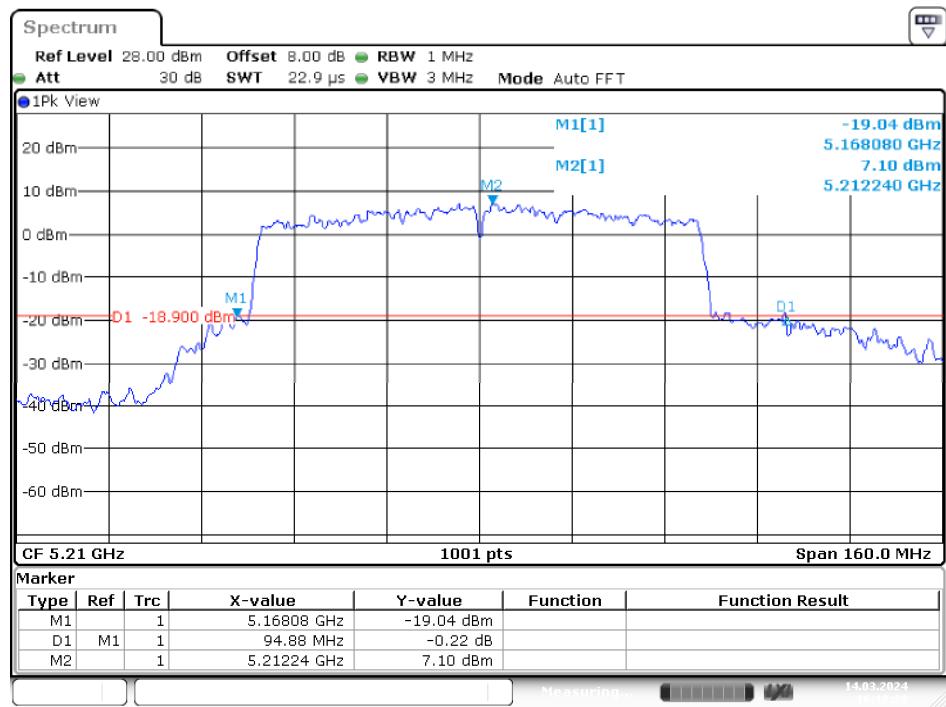
5230MHz



Date: 14.MAR.2024 16:54:11

IEEE 802.11ac VHT80 Mode / 5150 ~ 5250MHz

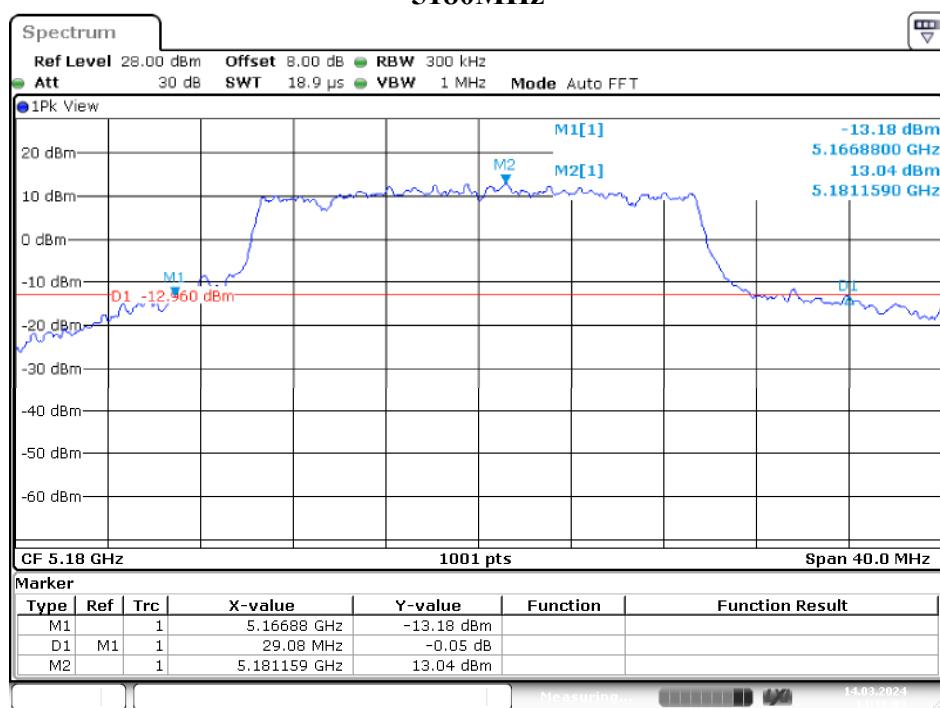
5210MHz



Date: 14.MAR.2024 16:18:28

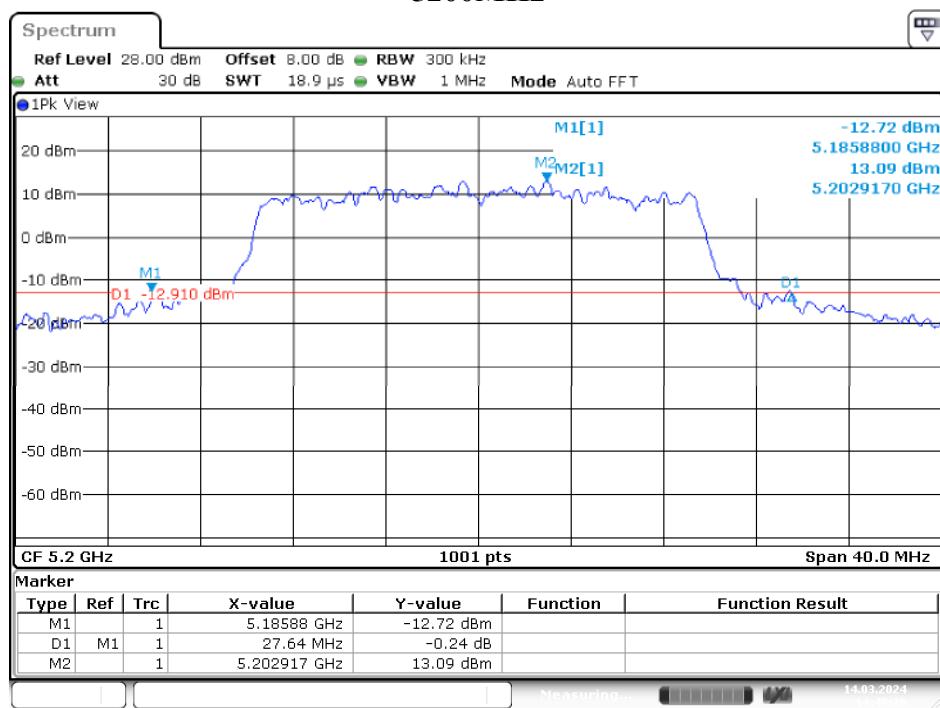
IEEE 802.11ax HE20 Mode / 5150 ~ 5250MHz

5180MHz



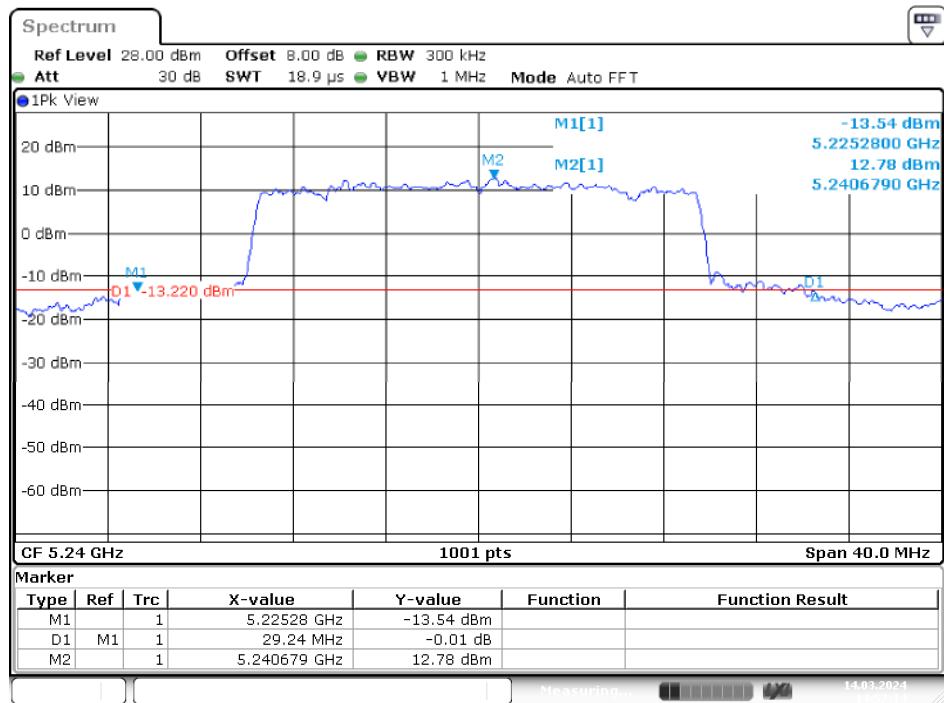
Date: 14.MAR.2024 14:18:03

5200MHz



Date: 14.MAR.2024 14:49:26

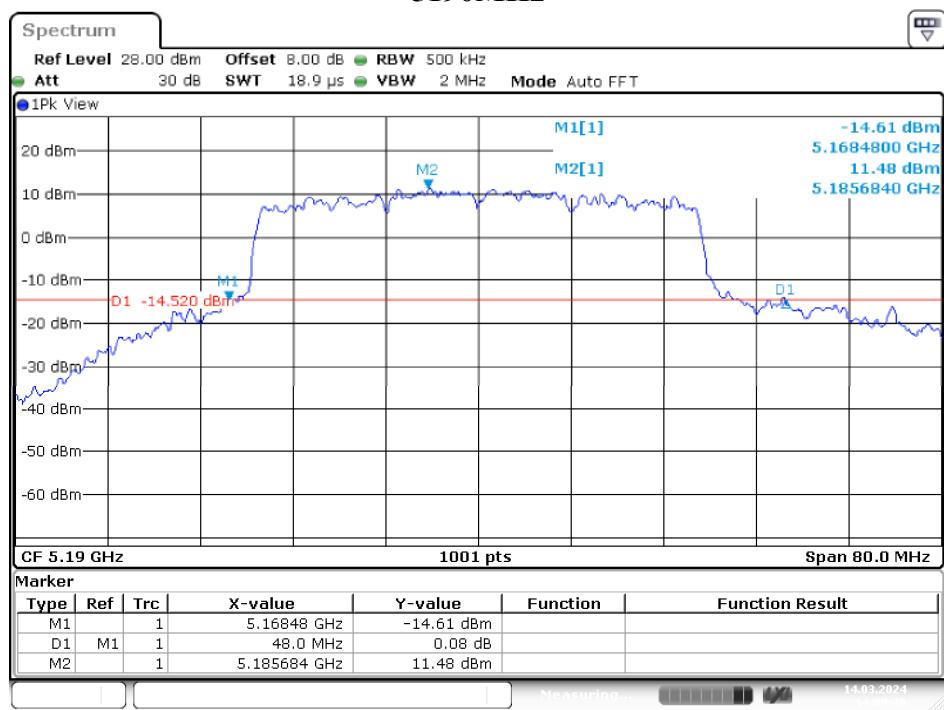
5240MHz



Date: 14.MAR.2024 14:57:14

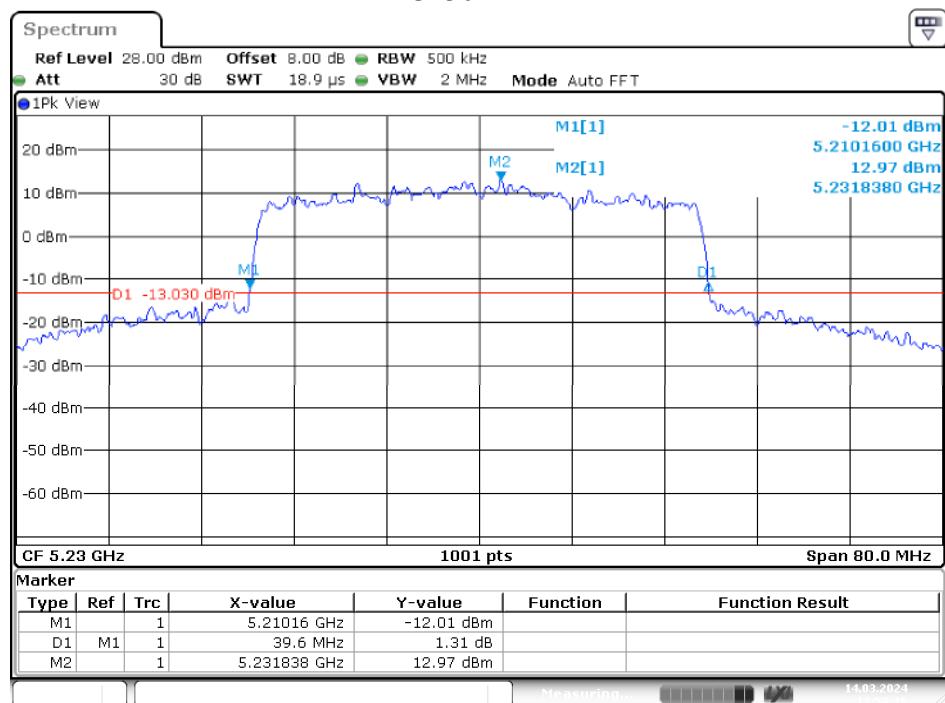
IEEE 802.11ax HE40 Mode / 5150 ~ 5250MHz

5190MHz



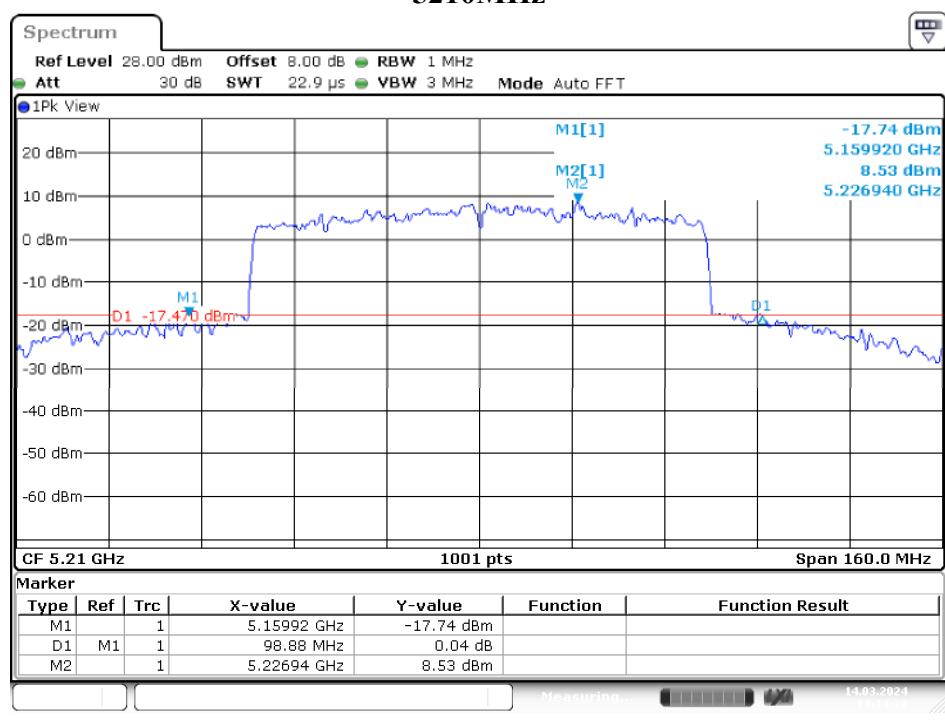
Date: 14.MAR.2024 14:09:30

5230MHz



IEEE 802.11ax HE80 Mode / 5150 ~ 5250MHz

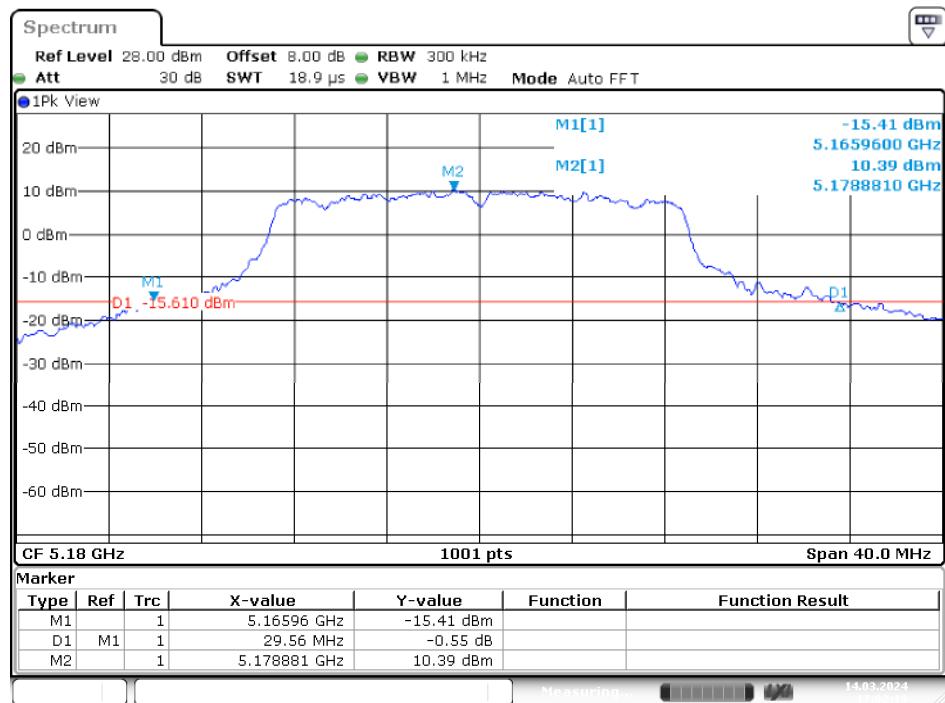
5210MHz



Chain 1

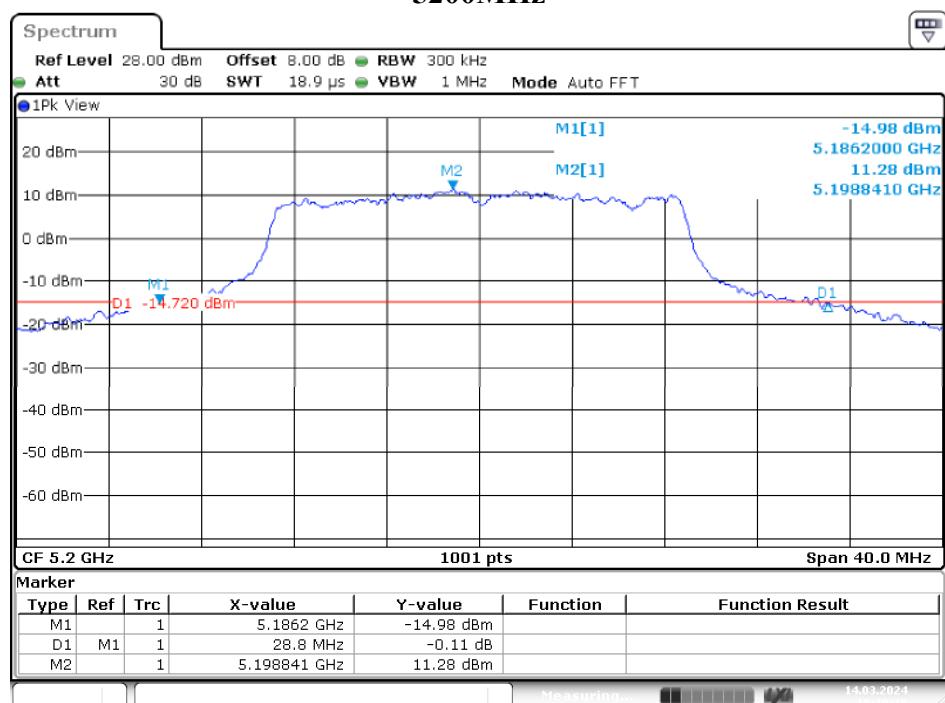
IEEE 802.11ac VHT20 Mode / 5150 ~ 5250MHz

5180MHz



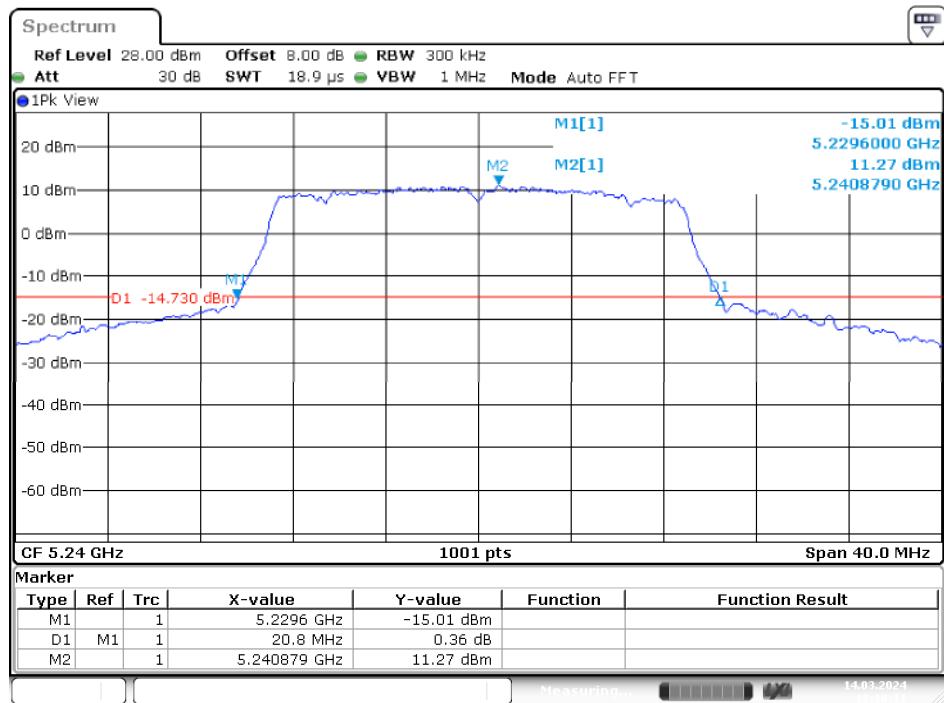
Date: 14.MAR.2024 17:02:19

5200MHz



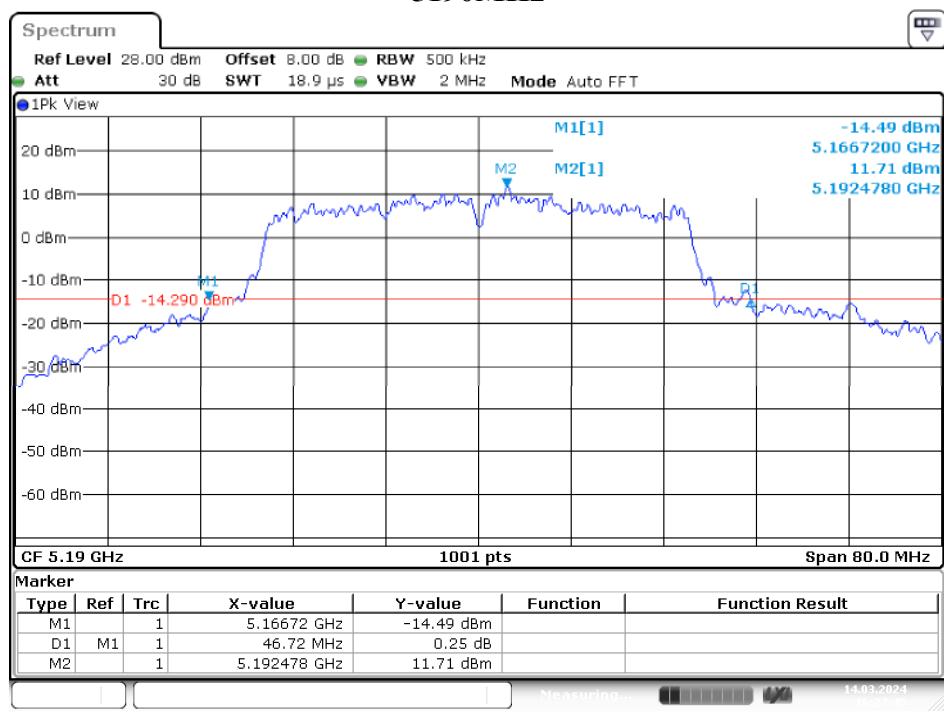
Date: 14.MAR.2024 18:10:19

5240MHz

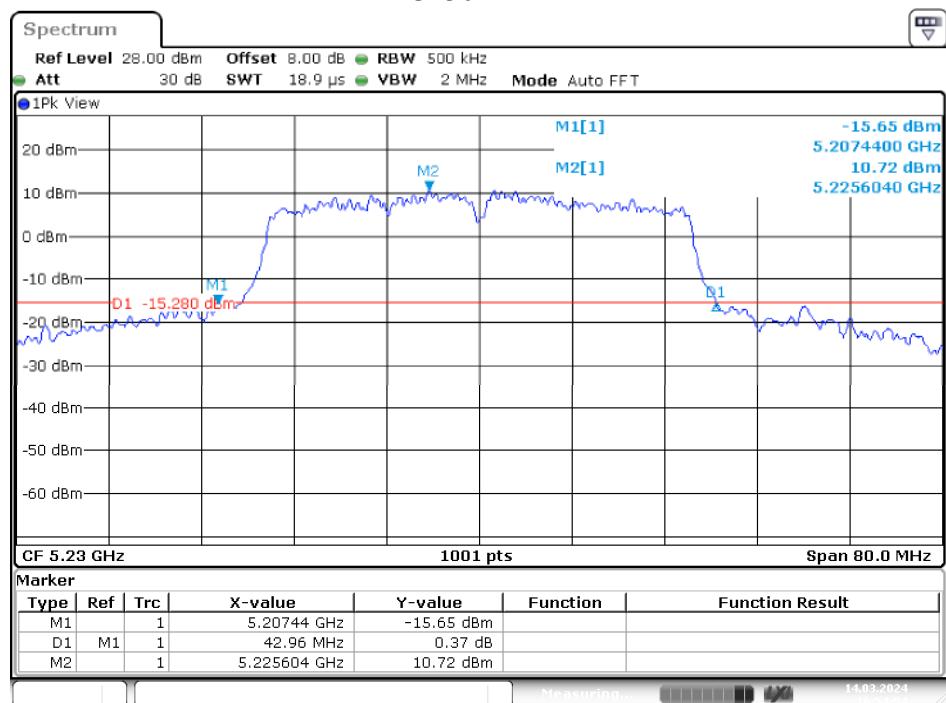


IEEE 802.11ac VHT40 Mode / 5150 ~ 5250MHz

5190MHz



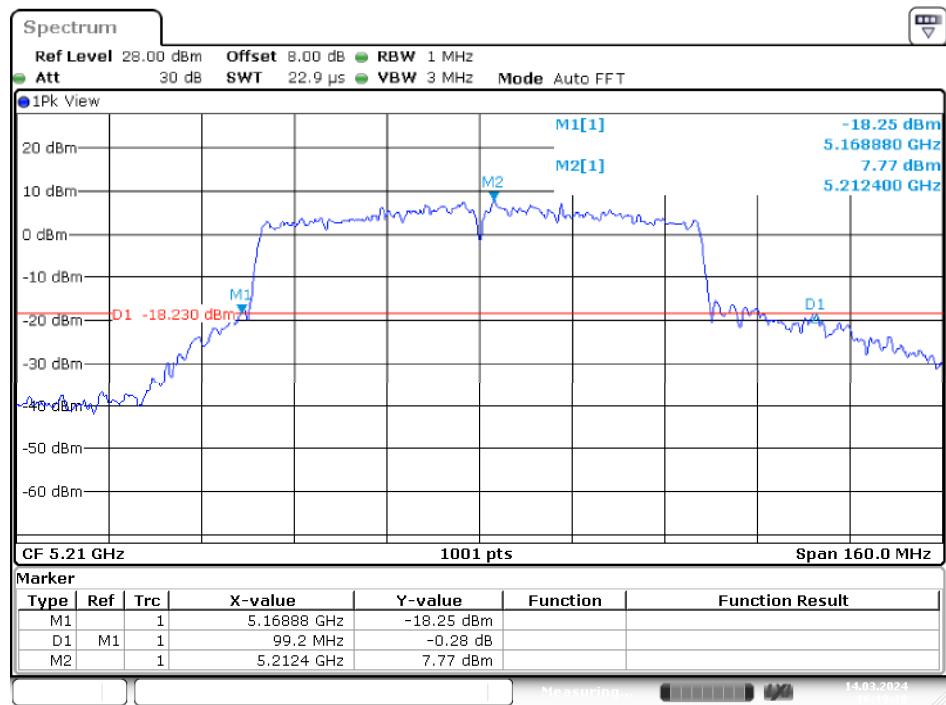
5230MHz



Date: 14.MAR.2024 16:54:54

IEEE 802.11ac VHT80 Mode / 5150 ~ 5250MHz

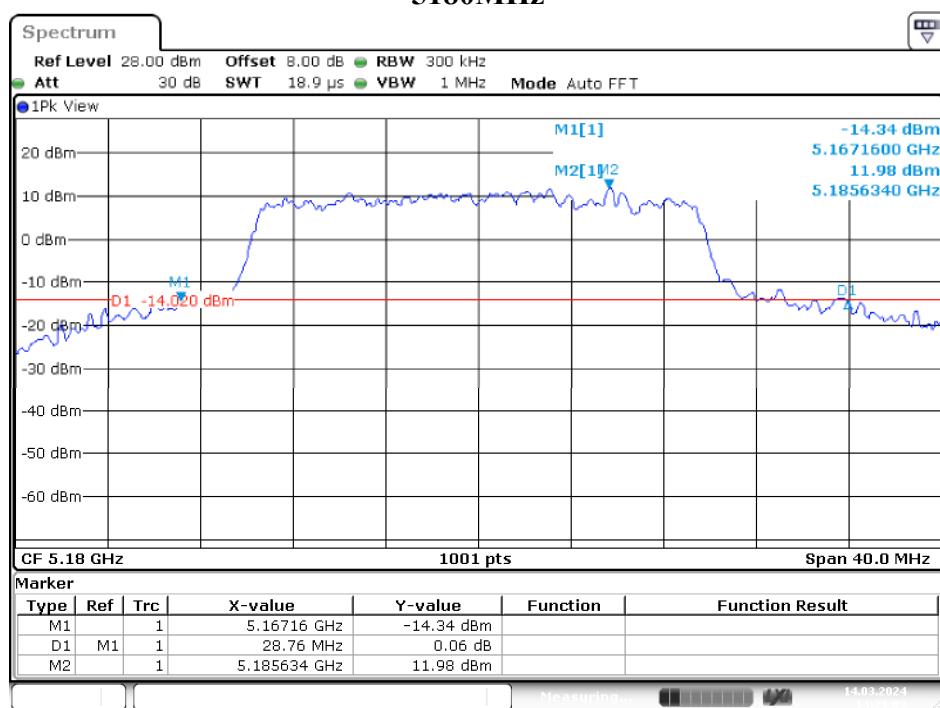
5210MHz



Date: 14.MAR.2024 16:19:18

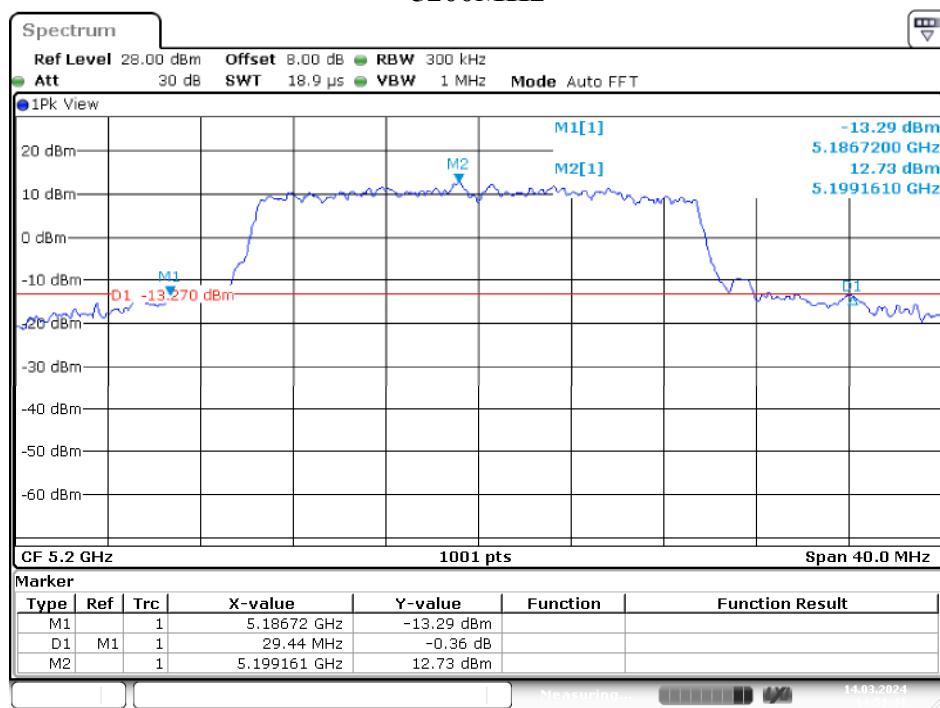
IEEE 802.11ax HE20 Mode / 5150 ~ 5250MHz

5180MHz



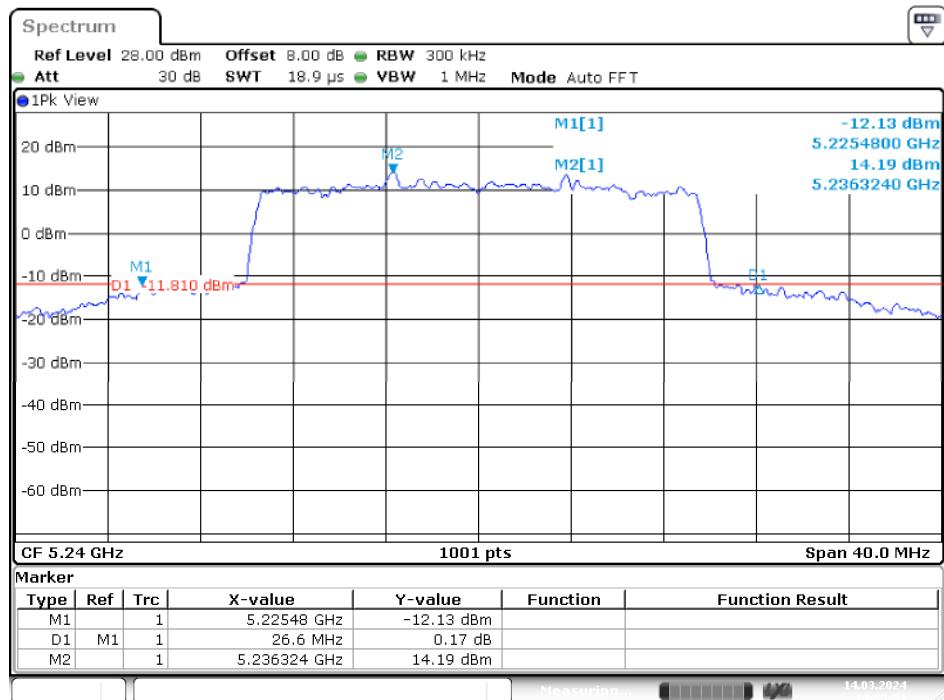
Date: 14.MAR.2024 14:21:02

5200MHz



Date: 14.MAR.2024 14:51:41

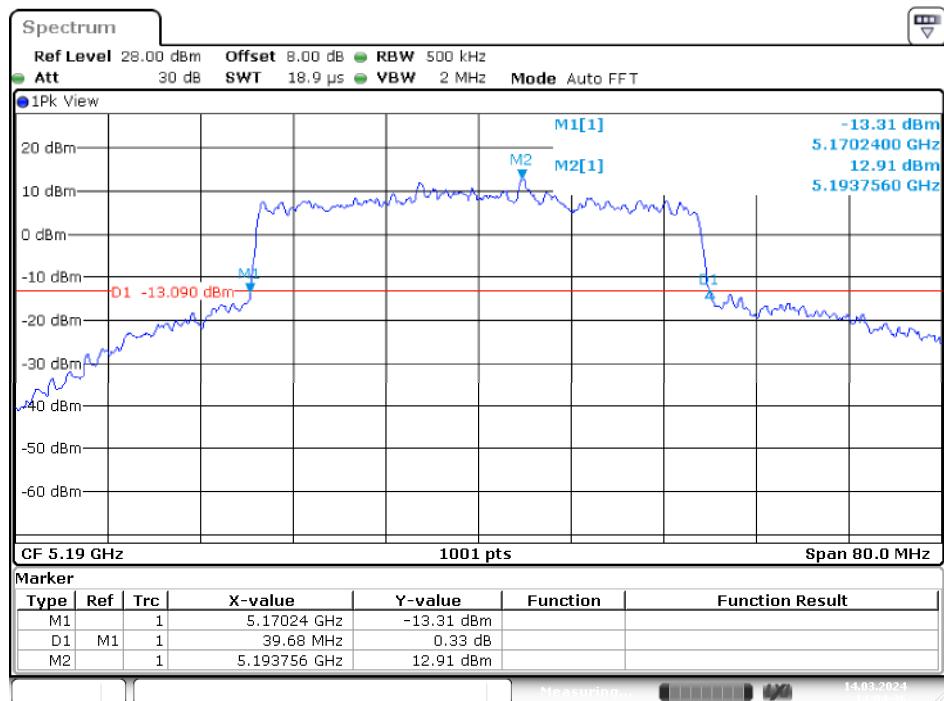
5240MHz



Date: 14.MAR.2024 14:55:51

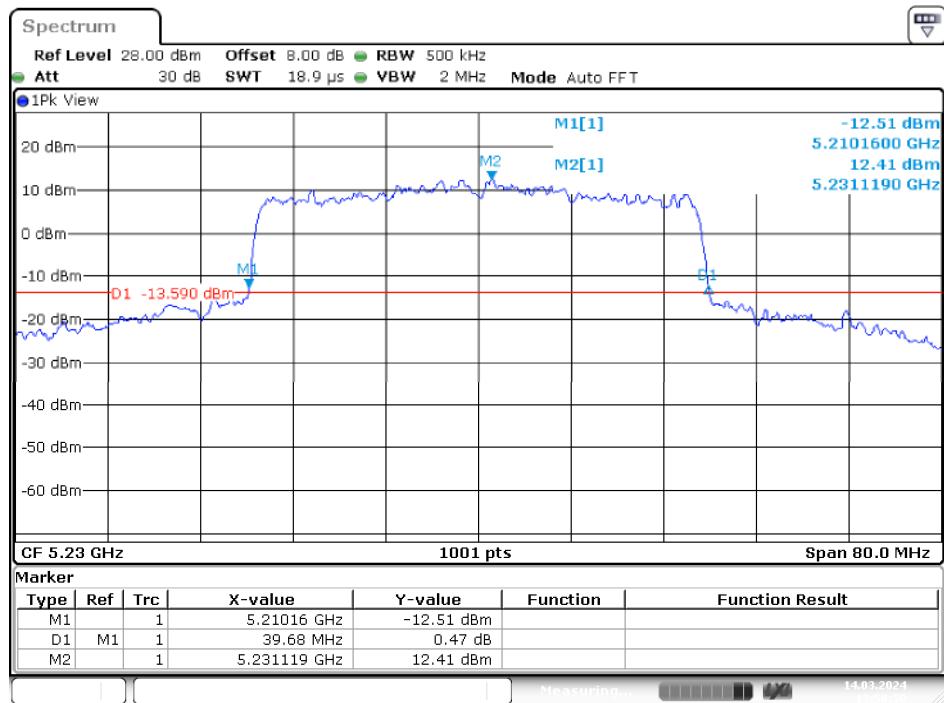
IEEE 802.11ax HE40 Mode / 5150 ~ 5250MHz

5190MHz



Date: 14.MAR.2024 14:04:36

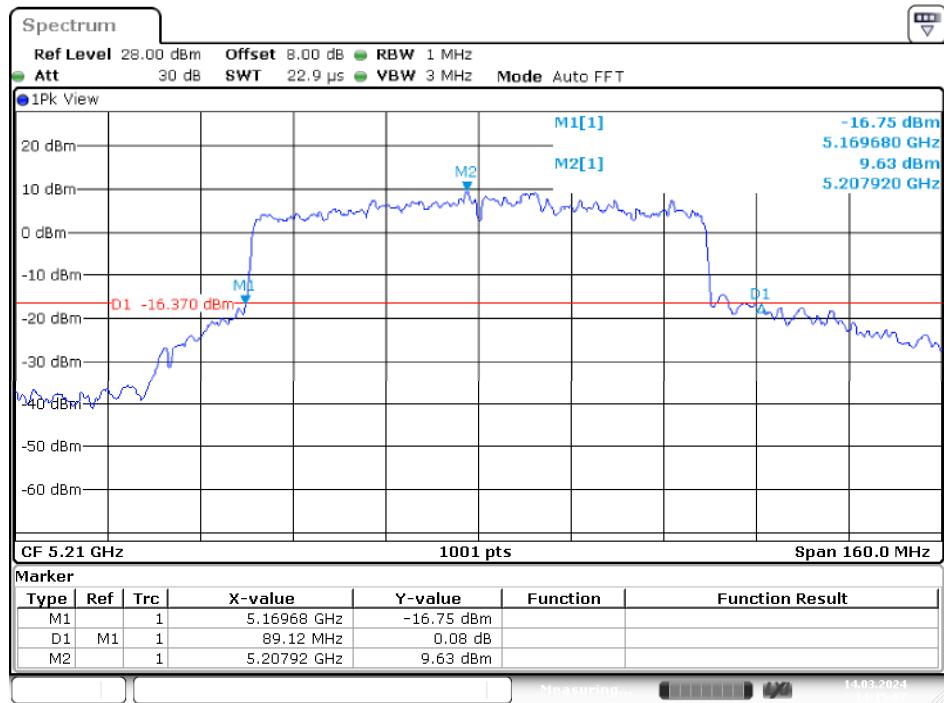
5230MHz



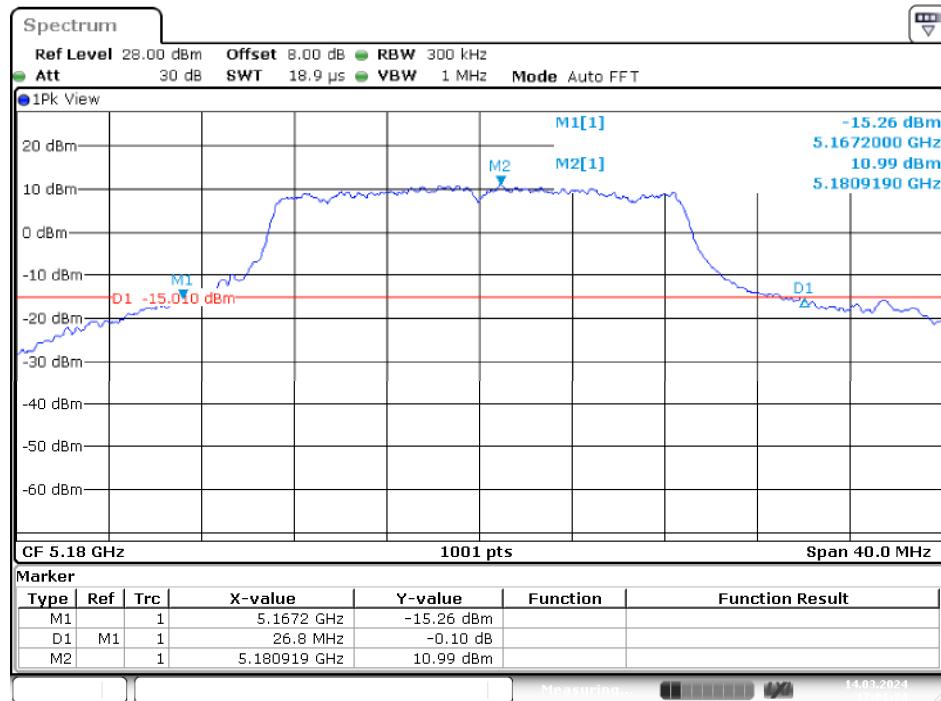
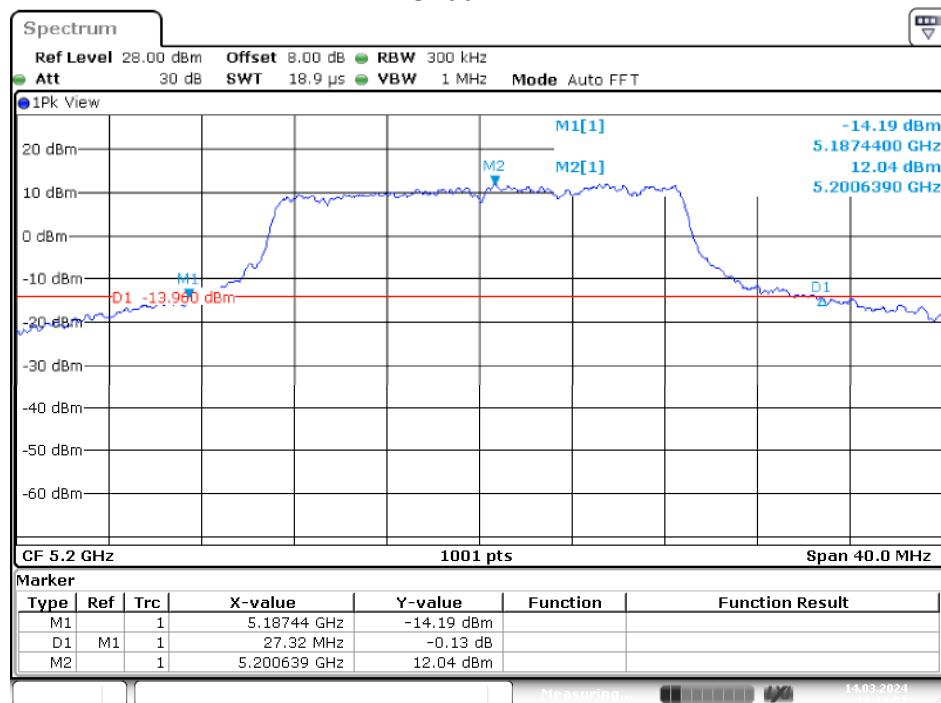
Date: 14.MAR.2024 13:58:50

IEEE 802.11ax HE80 Mode / 5150 ~ 5250MHz

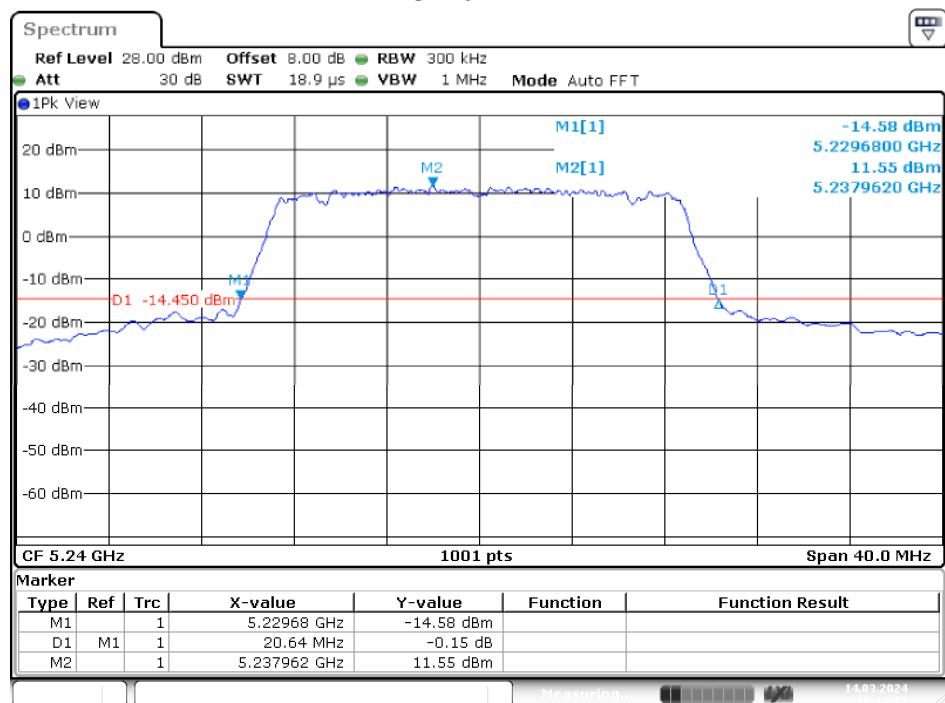
5210MHz



Date: 14.MAR.2024 14:15:07

Chain 2**IEEE 802.11ac VHT20 Mode / 5150 ~ 5250MHz****5180MHz****5200MHz**

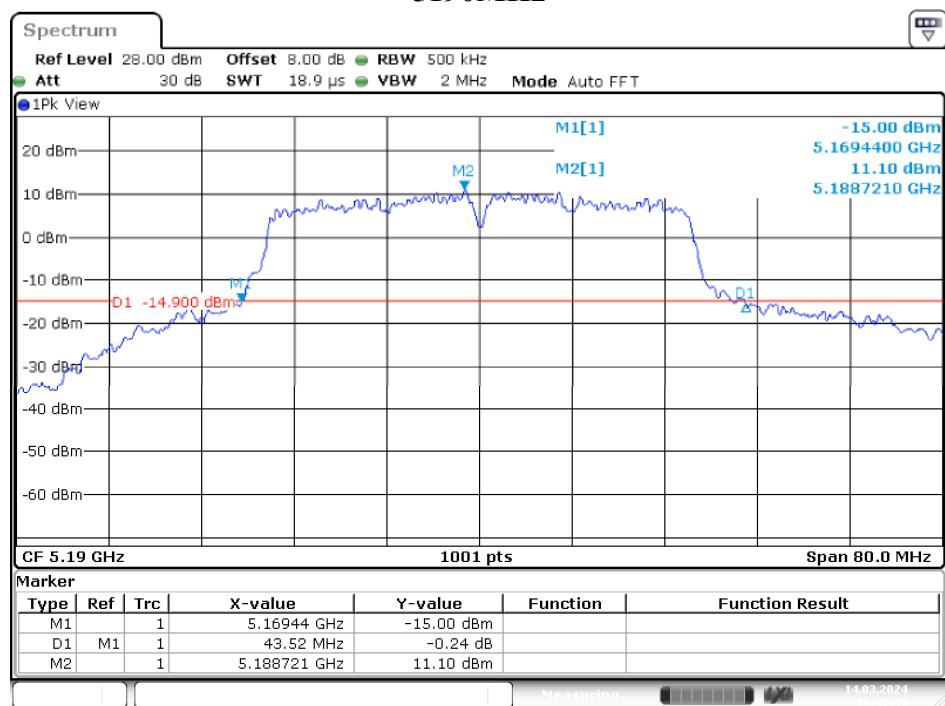
5240MHz



Date: 14.MAR.2024 18:17:17

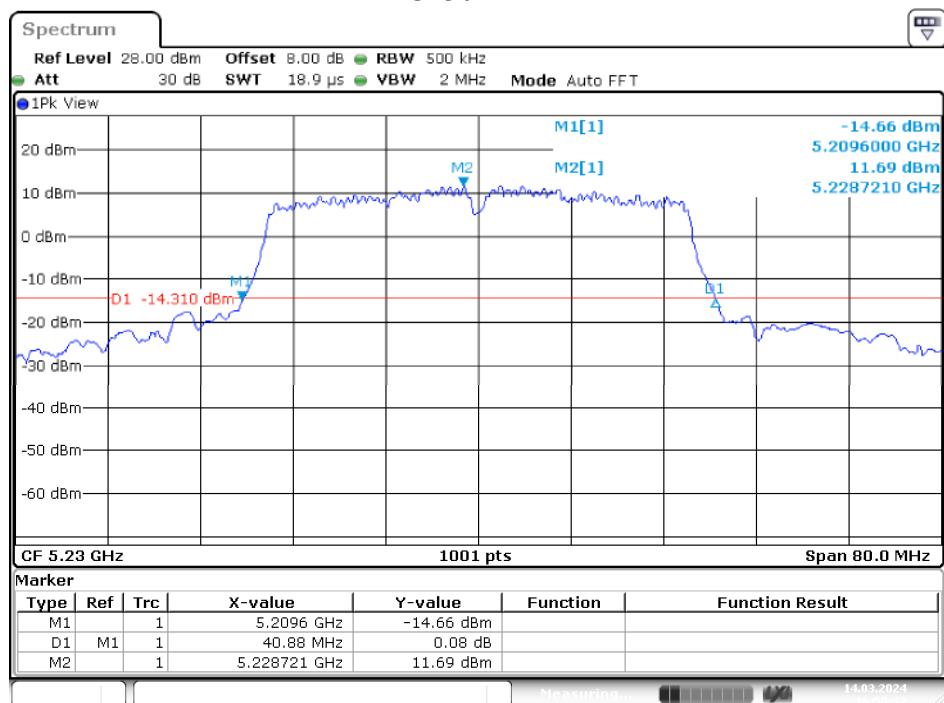
IEEE 802.11ac VHT40 Mode / 5150 ~ 5250MHz

5190MHz



Date: 14.MAR.2024 16:48:49

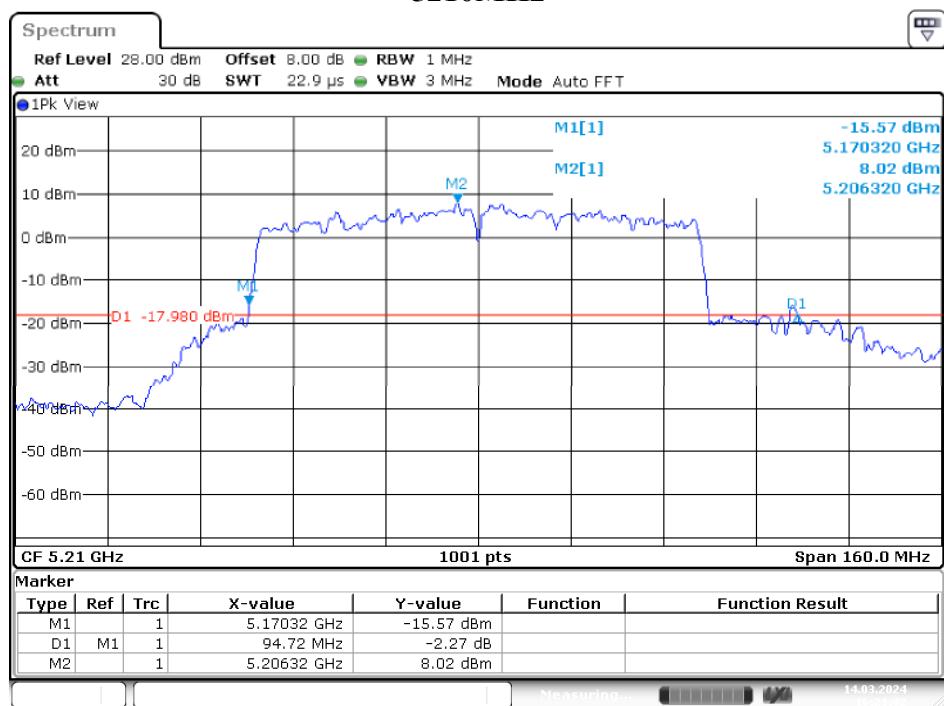
5230MHz



Date: 14.MAR.2024 16:55:32

IEEE 802.11ac VHT80 Mode / 5150 ~ 5250MHz

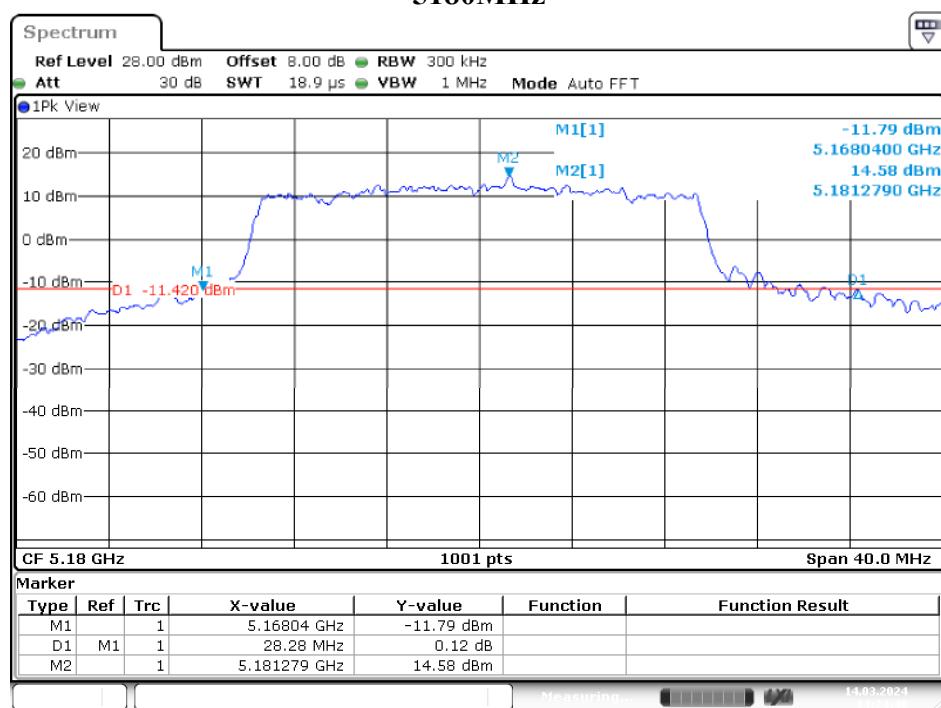
5210MHz



Date: 14.MAR.2024 16:21:02

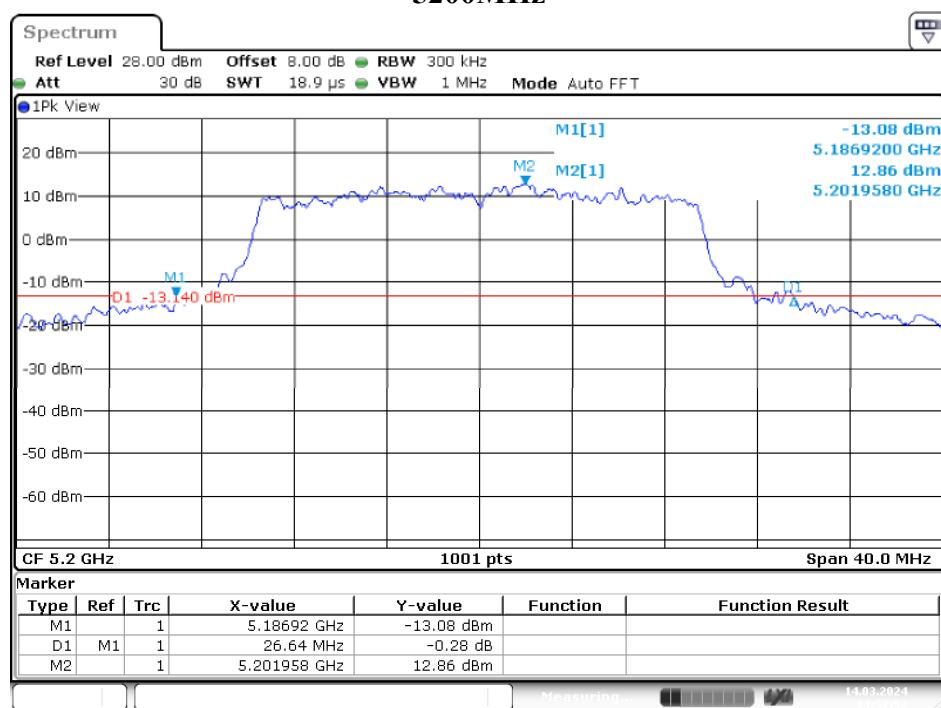
IEEE 802.11ax HE20 Mode / 5150 ~ 5250MHz

5180MHz



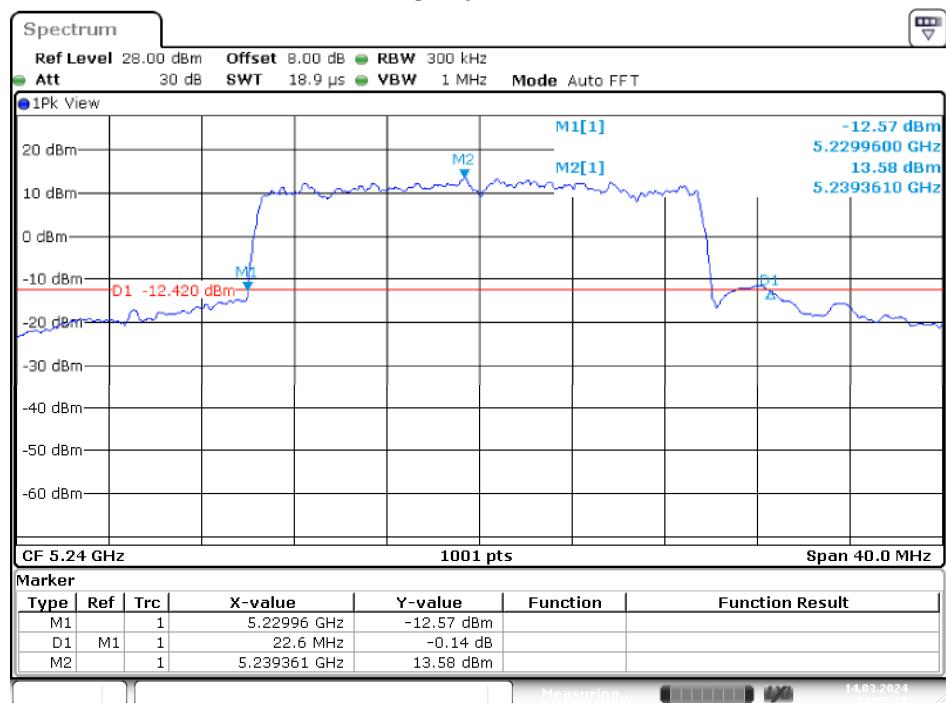
Date: 14.MAR.2024 14:24:40

5200MHz



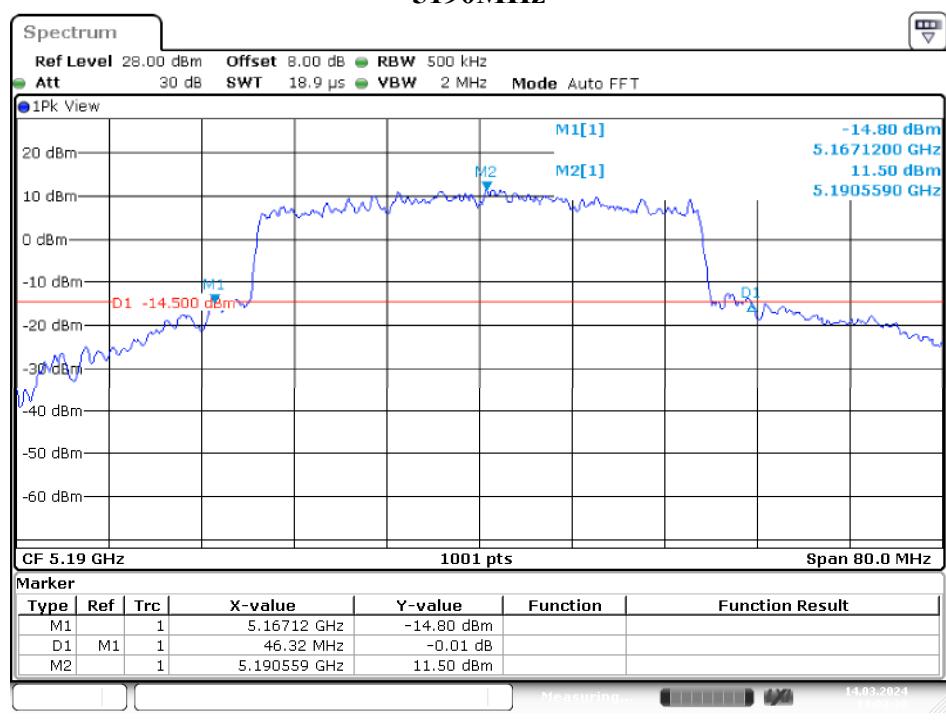
Date: 14.MAR.2024 14:52:52

5240MHz

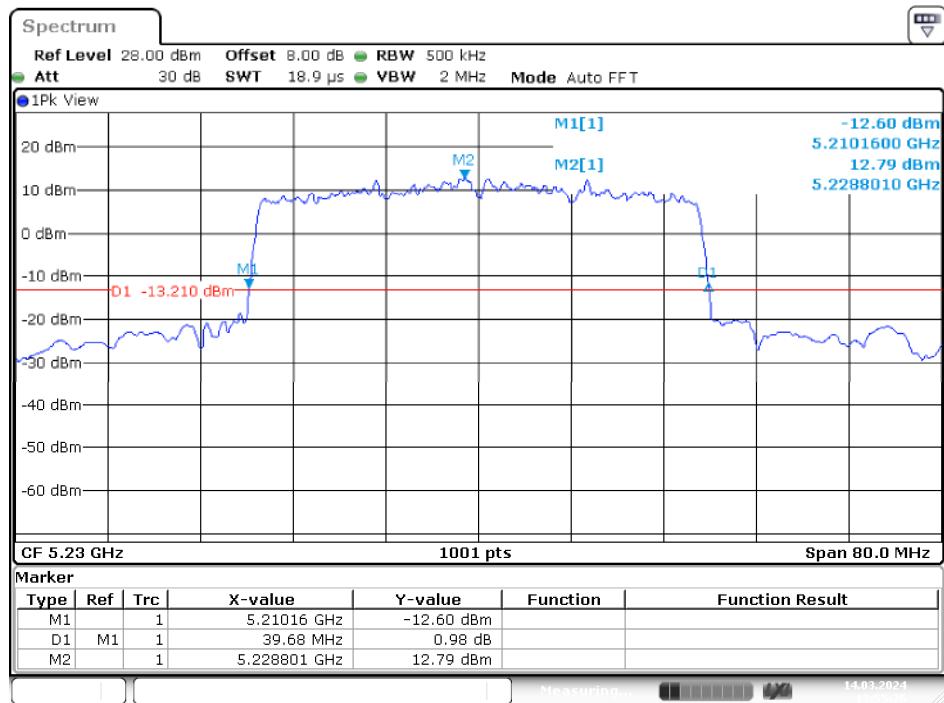


IEEE 802.11ax HE40 Mode / 5150 ~ 5250MHz

5190MHz



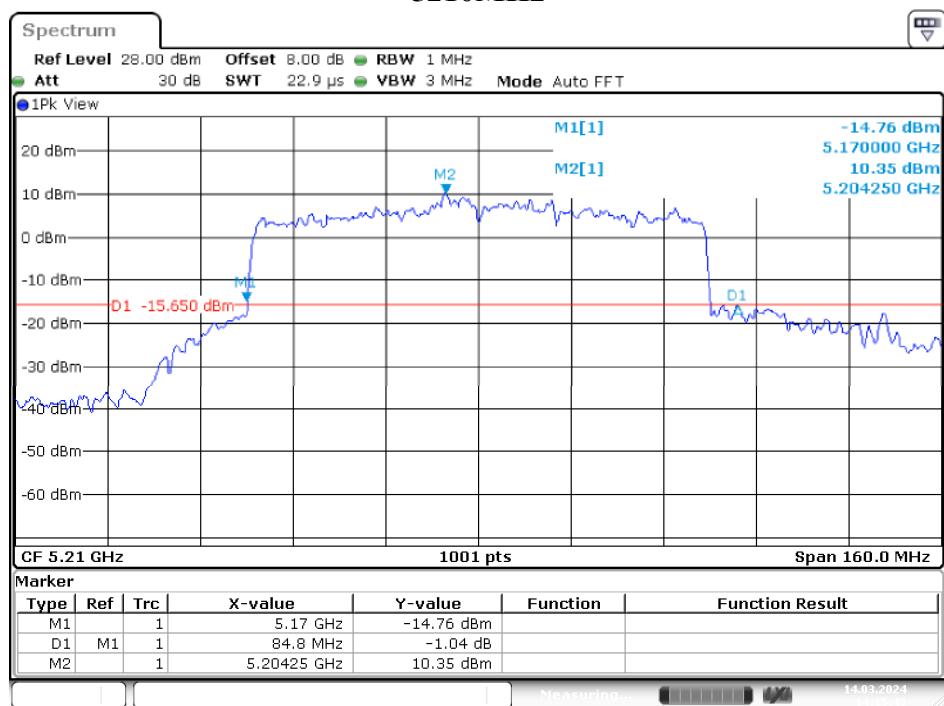
5230MHz



Date: 14.MAR.2024 13:55:26

IEEE 802.11ax HE80 Mode / 5150 ~ 5250MHz

5210MHz



Date: 14.MAR.2024 14:15:43

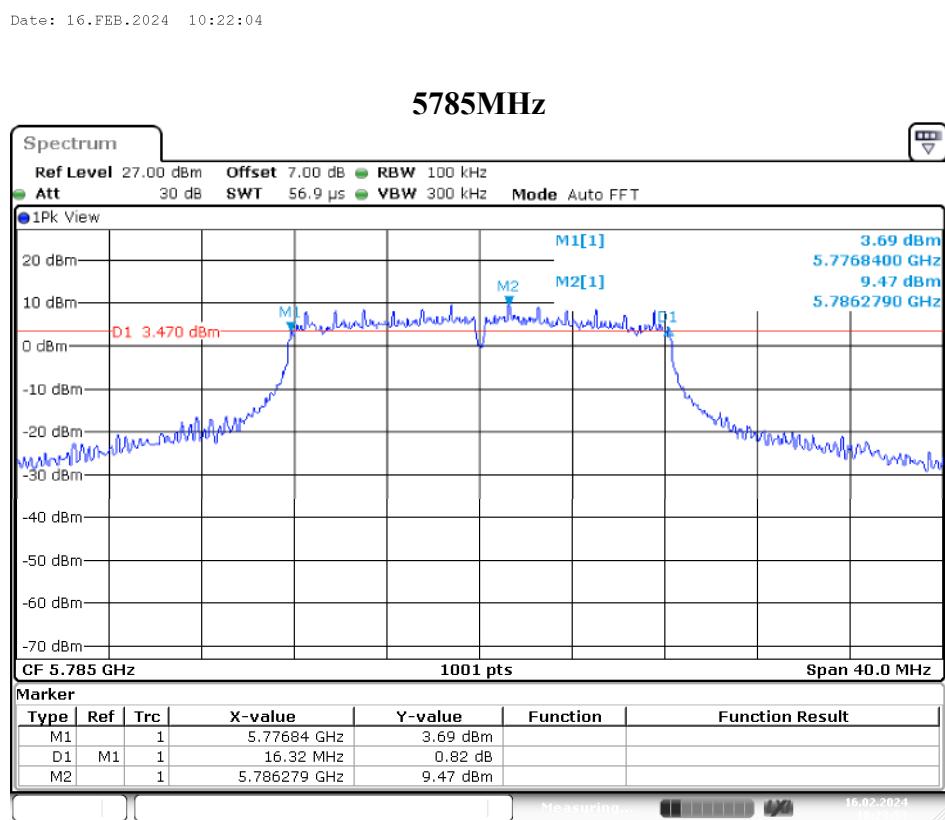
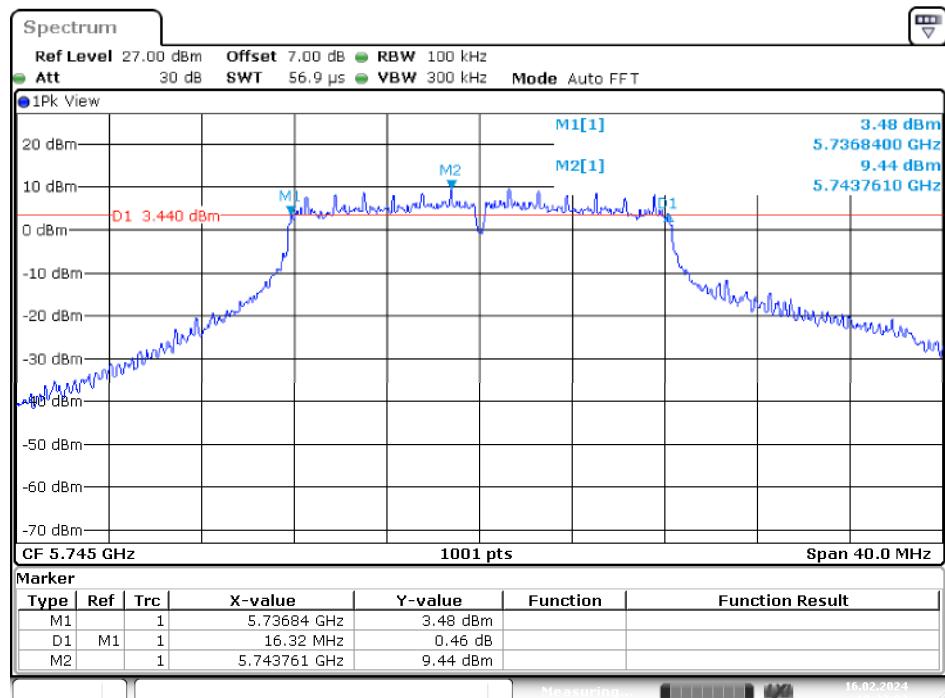
UNII-3 Band IV / BW 6dBc

Non Beamforming Mode:

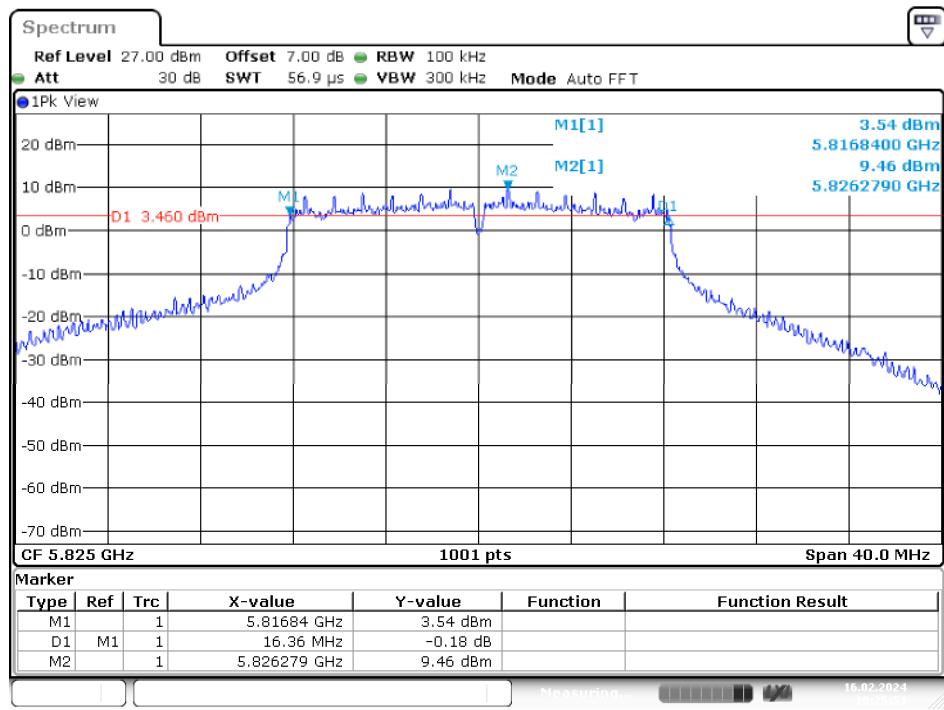
Chain 0

IEEE 802.11a Mode / 5725 ~ 5850MHz

5745MHz

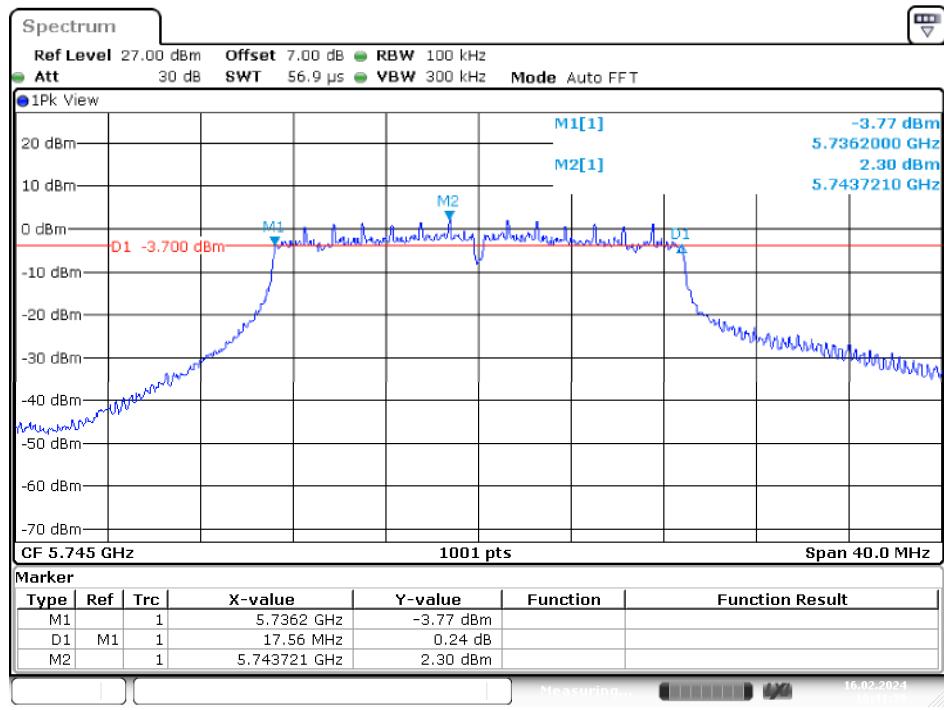


5825MHz

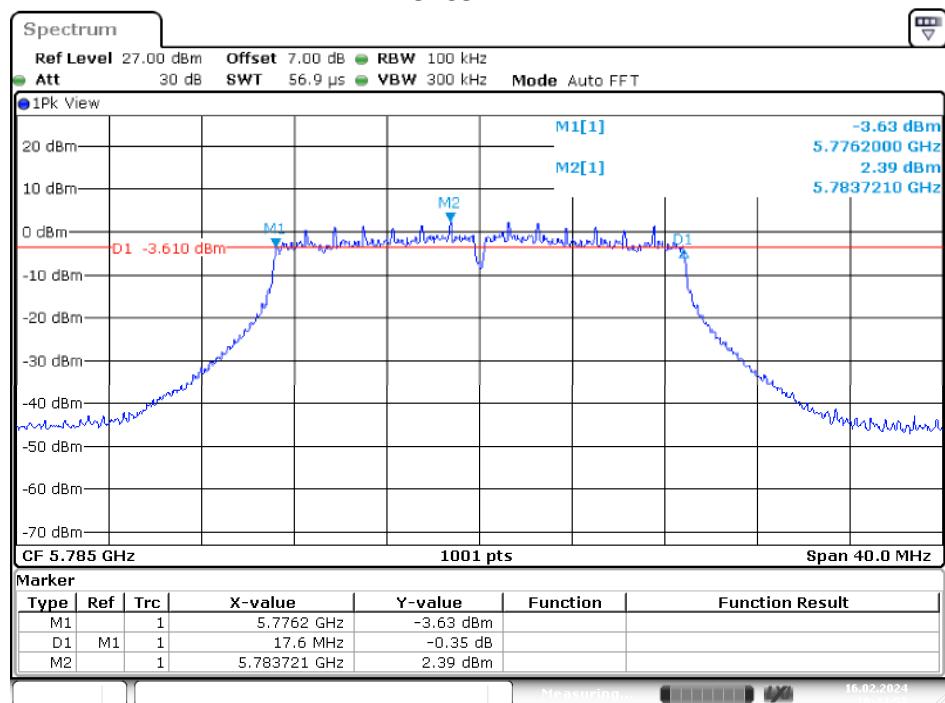


IEEE 802.11ac VHT20 Mode / 5725 ~ 5850MHz

5745MHz

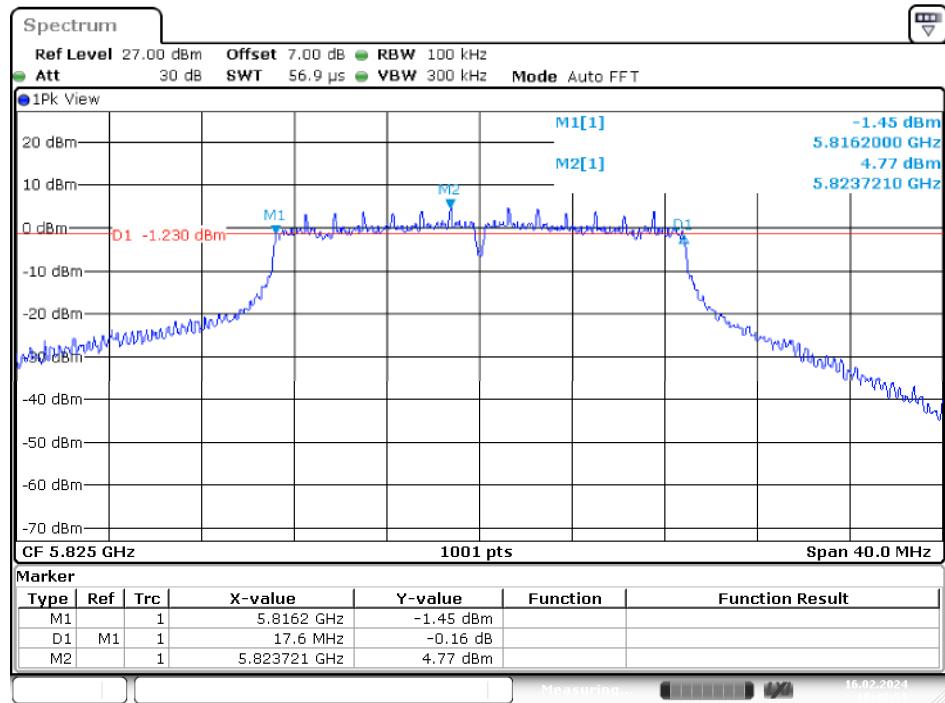


5785MHz



Date: 16.FEB.2024 10:44:58

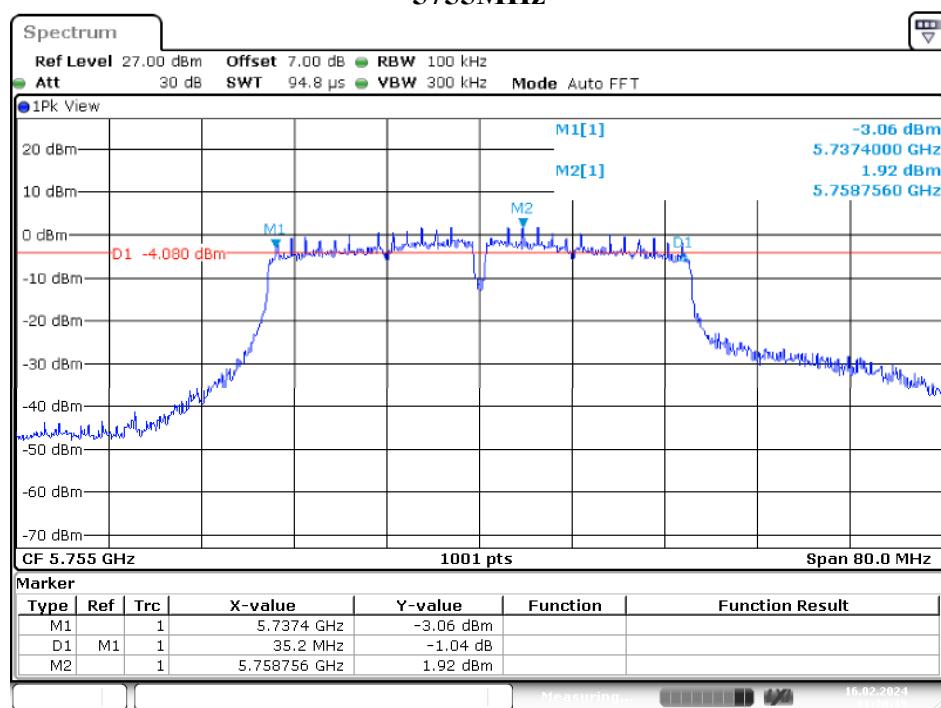
5825MHz



Date: 16.FEB.2024 10:48:51

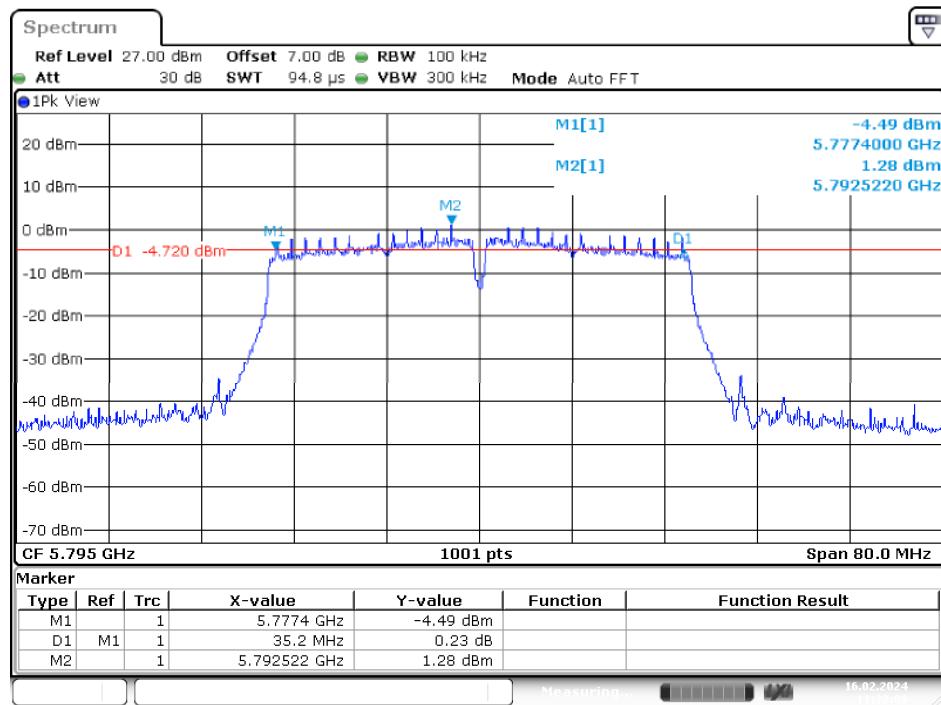
IEEE 802.11ac VHT40 Mode / 5725 ~ 5850MHz

5755MHz



Date: 16.FEB.2024 11:30:15

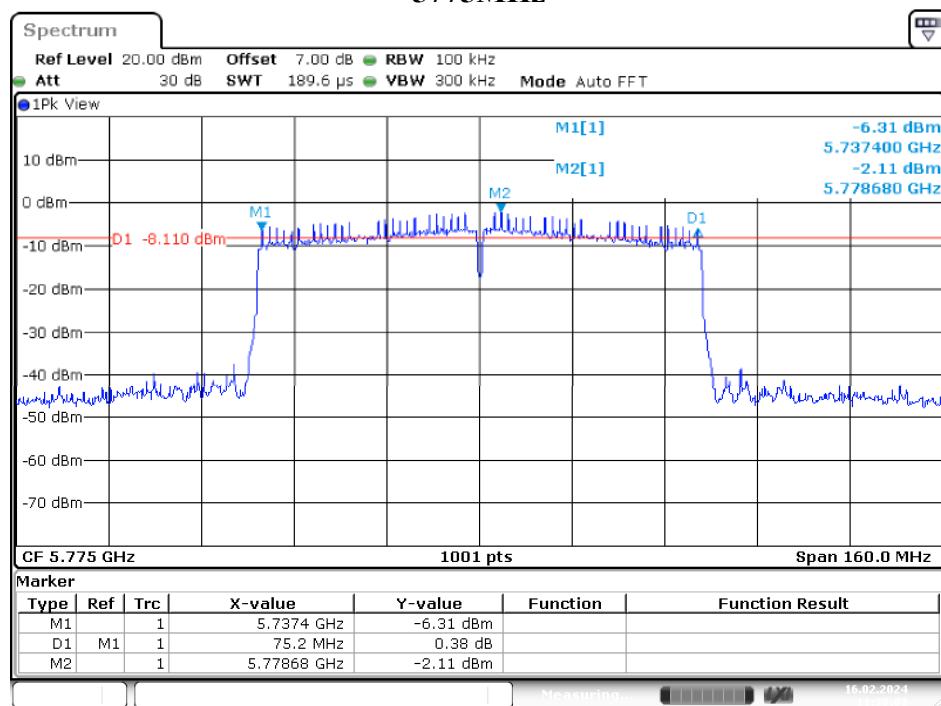
5795MHz



Date: 16.FEB.2024 11:32:09

IEEE 802.11ac VHT80 Mode / 5725 ~ 5850MHz

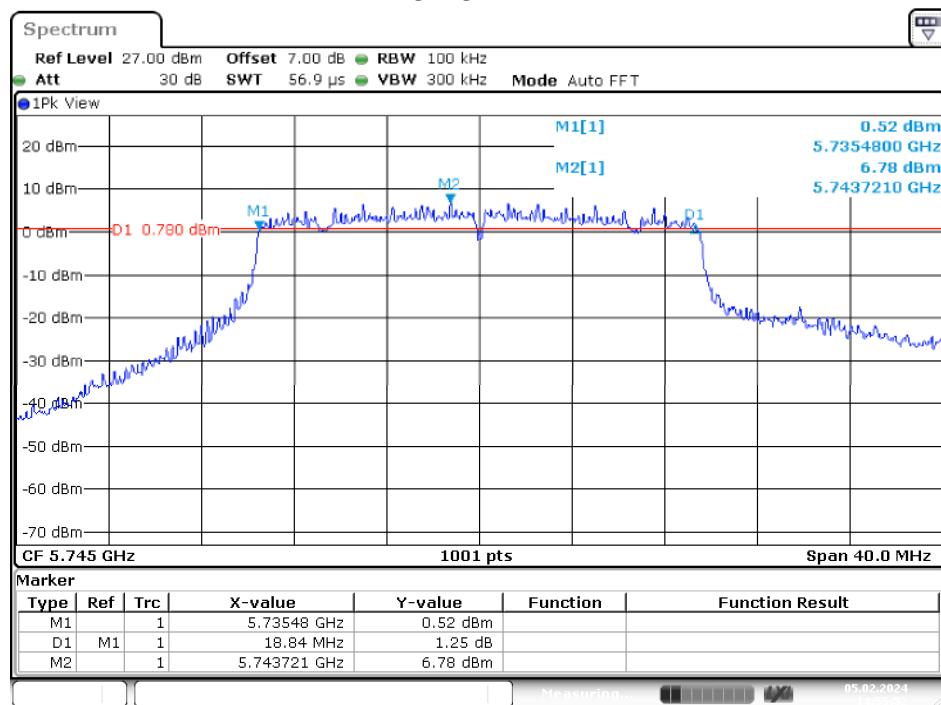
5775MHz



Date: 16.FEB.2024 11:38:03

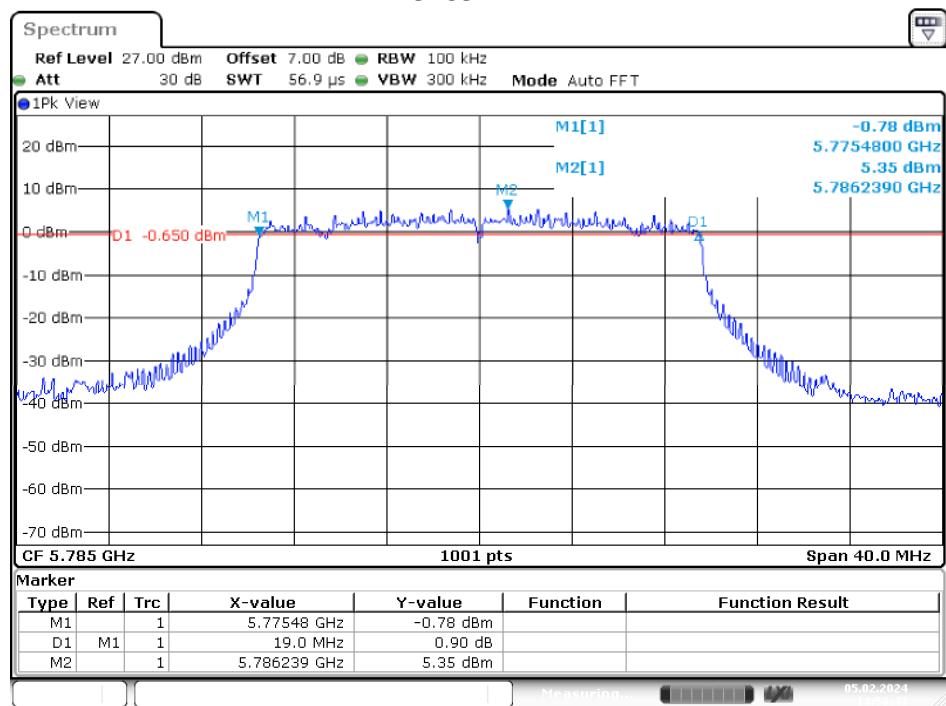
IEEE 802.11ax HE20 Mode / 5725 ~ 5850MHz

5745MHz



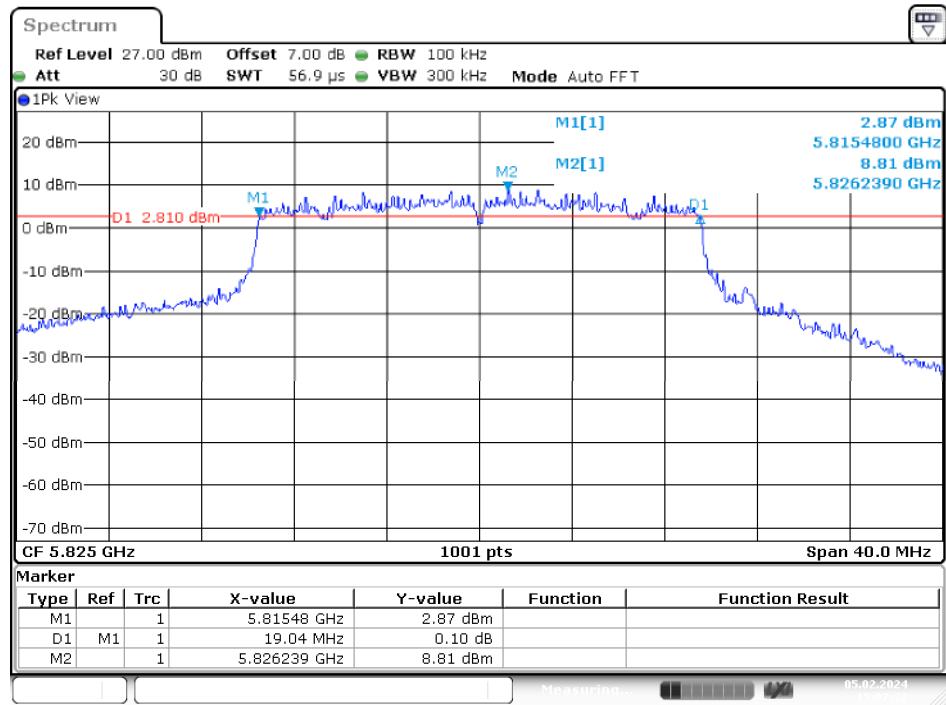
Date: 5.FEB.2024 14:55:52

5785MHz



Date: 5.FEB.2024 14:58:43

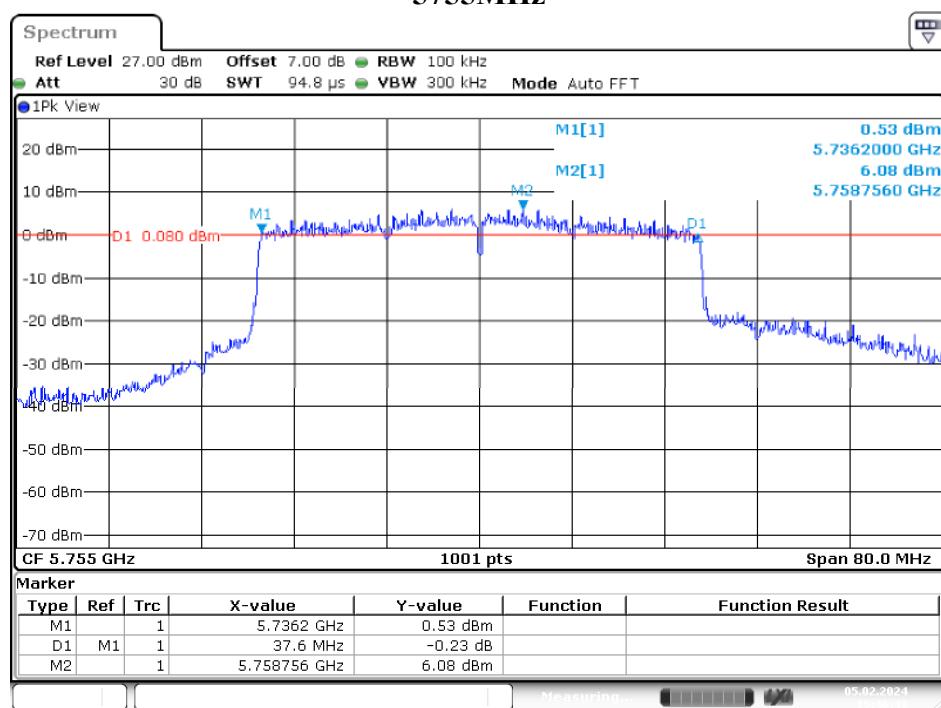
5825MHz



Date: 5.FEB.2024 15:07:33

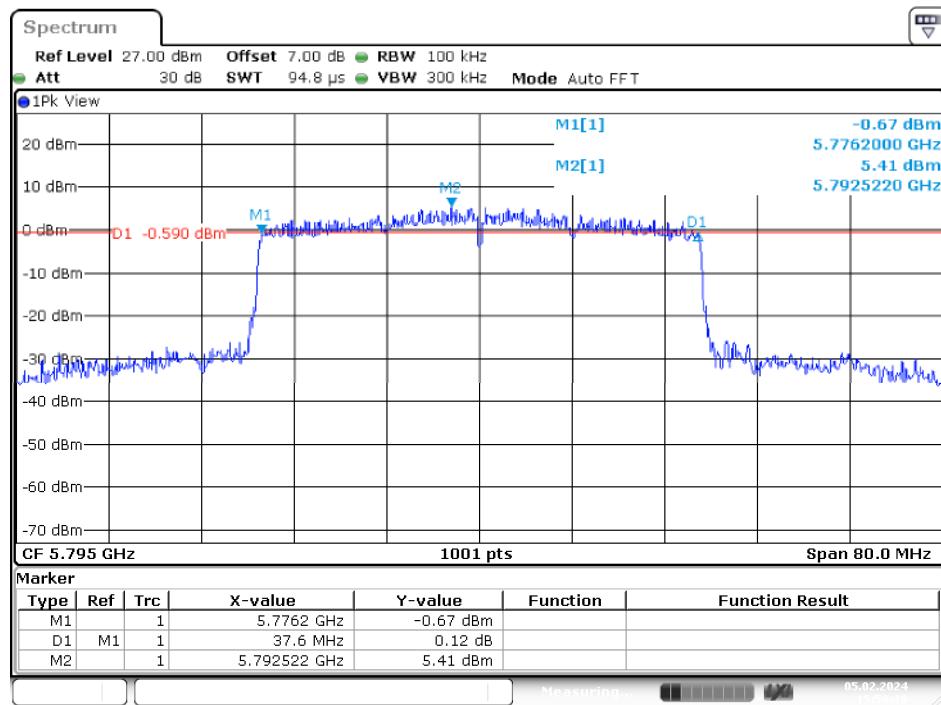
IEEE 802.11ax HE40 Mode / 5725 ~ 5850MHz

5755MHz



Date: 5.FEB.2024 15:46:43

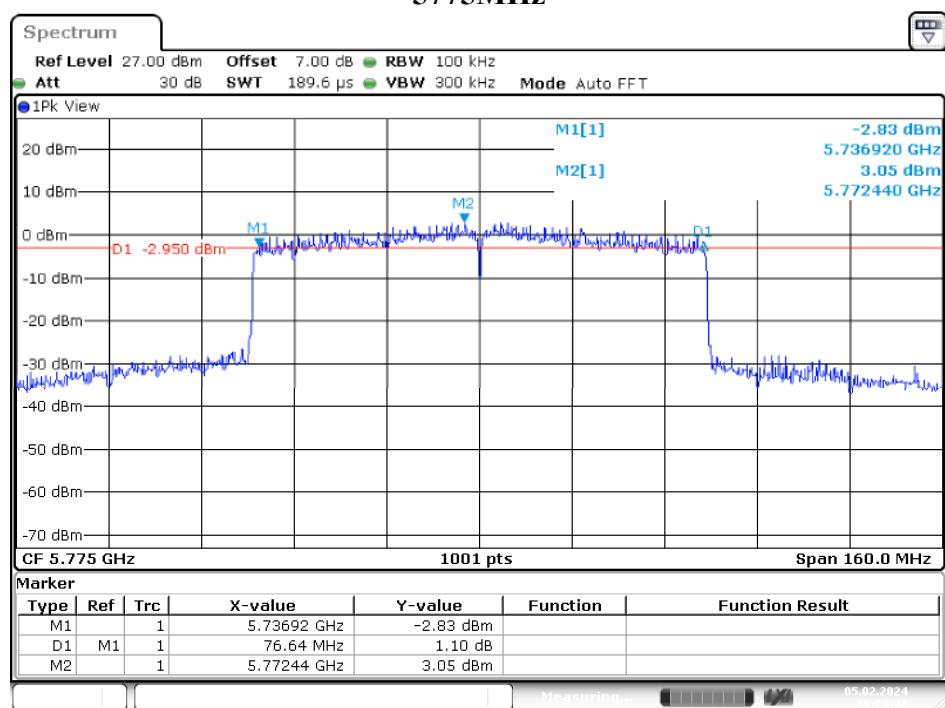
5795MHz



Date: 5.FEB.2024 15:50:11

IEEE 802.11ax HE80 Mode / 5725 ~ 5850MHz

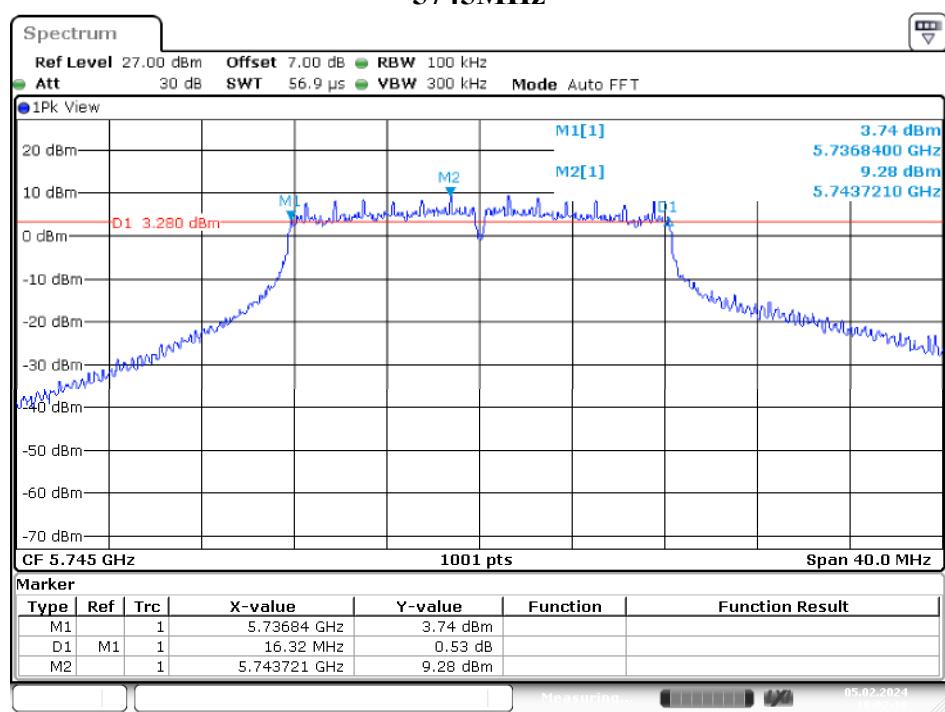
5775MHz



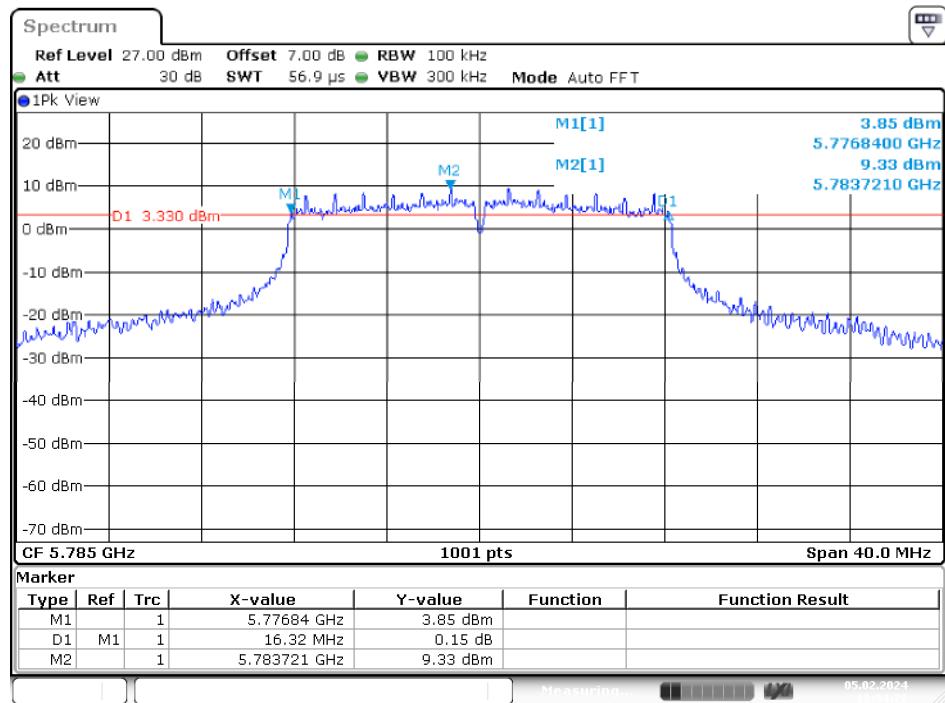
Chain 1

IEEE 802.11a Mode / 5725 ~ 5850MHz

5745MHz

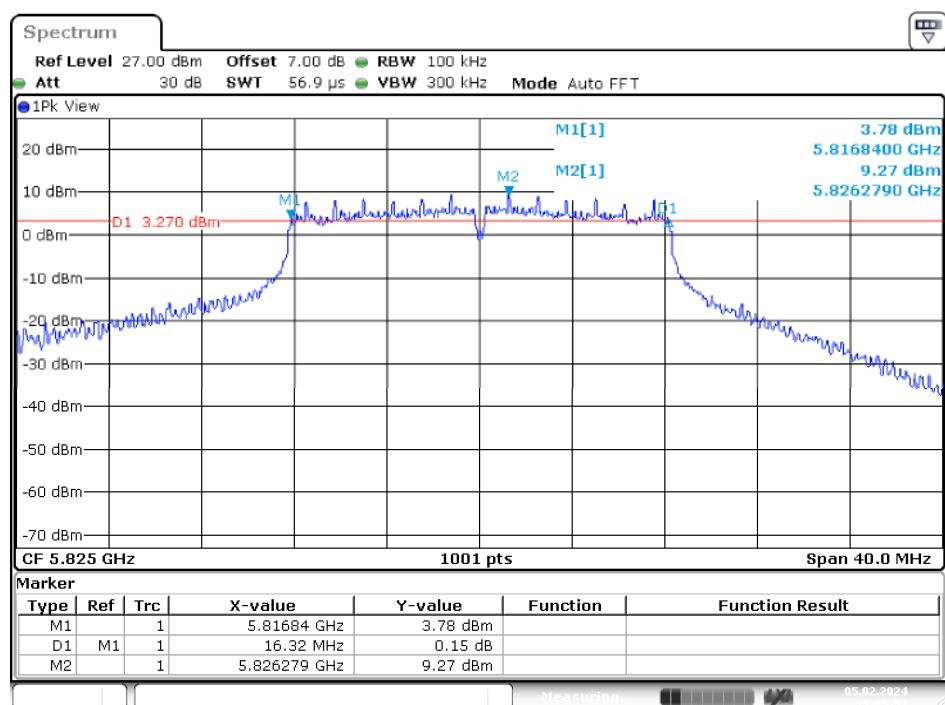


5785MHz



Date: 5.FEB.2024 18:04:23

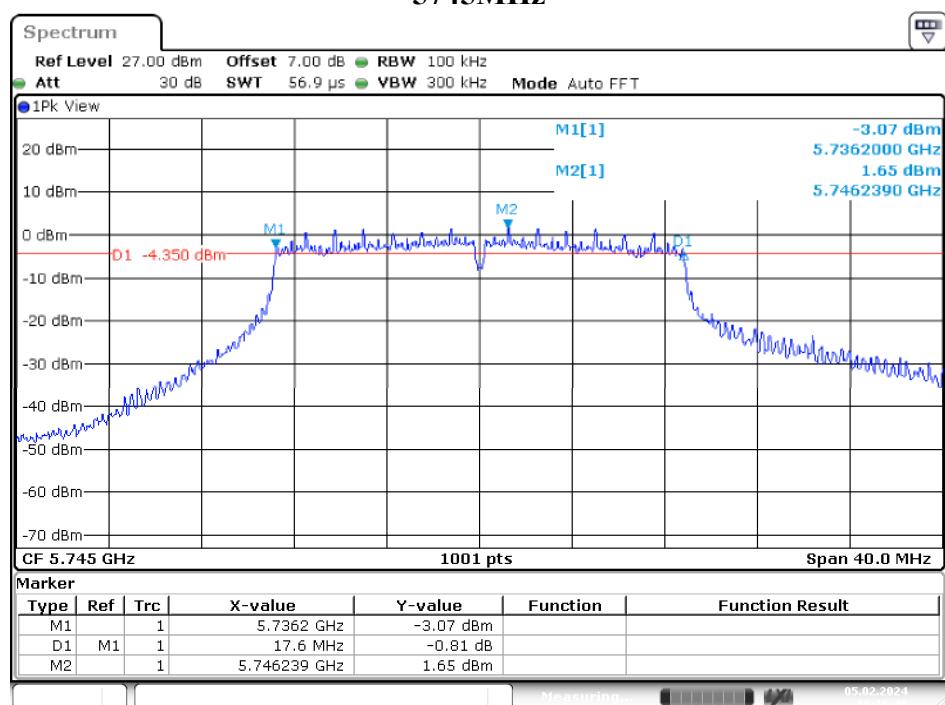
5825MHz



Date: 5.FEB.2024 18:06:52

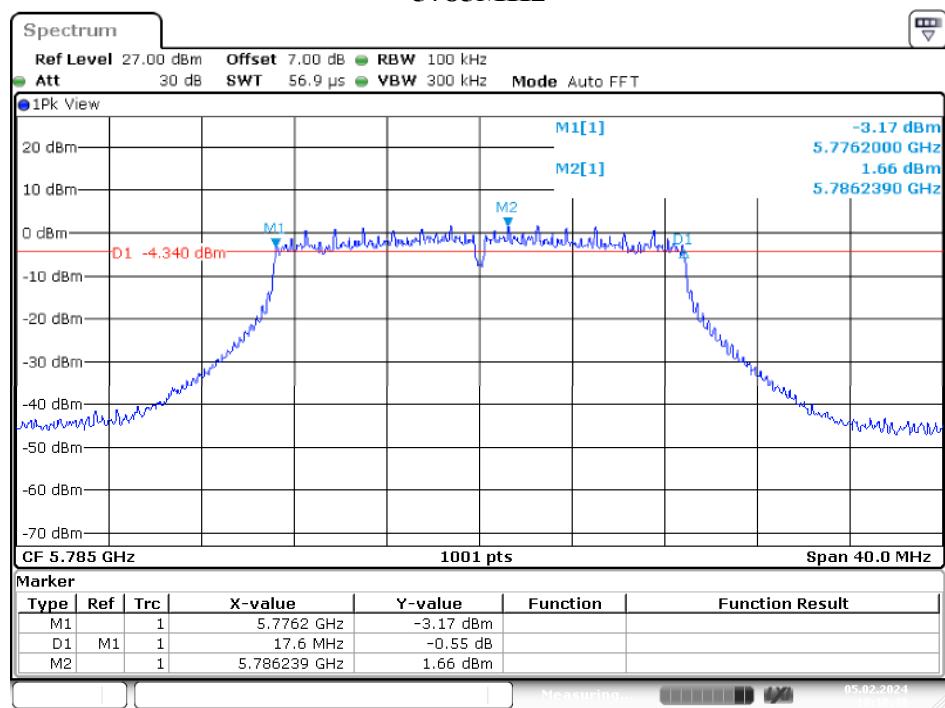
IEEE 802.11ac VHT20 Mode / 5725 ~ 5850MHz

5745MHz



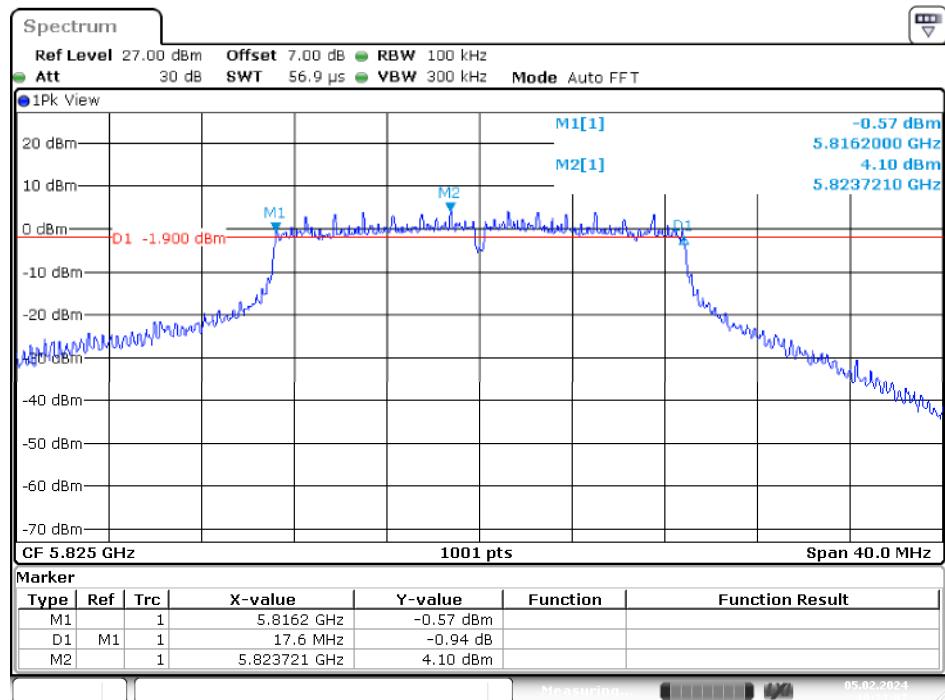
Date: 5.FEB.2024 18:16:40

5785MHz



Date: 5.FEB.2024 18:18:49

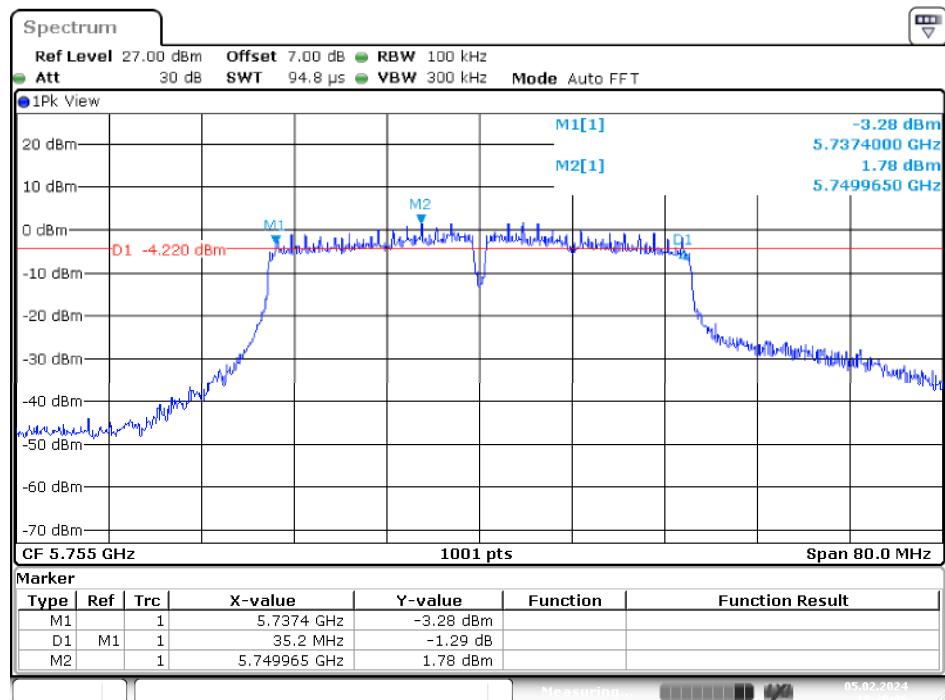
5825MHz



Date: 5.FEB.2024 18:21:08

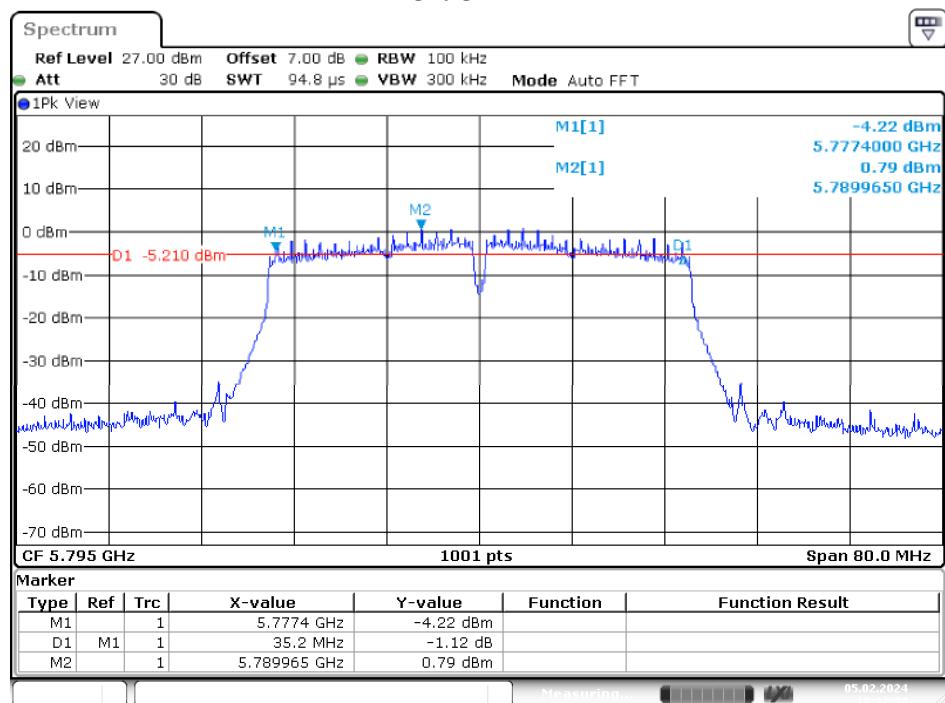
IEEE 802.11ac VHT40 Mode / 5725 ~ 5850MHz

5755MHz



Date: 5.FEB.2024 18:30:06

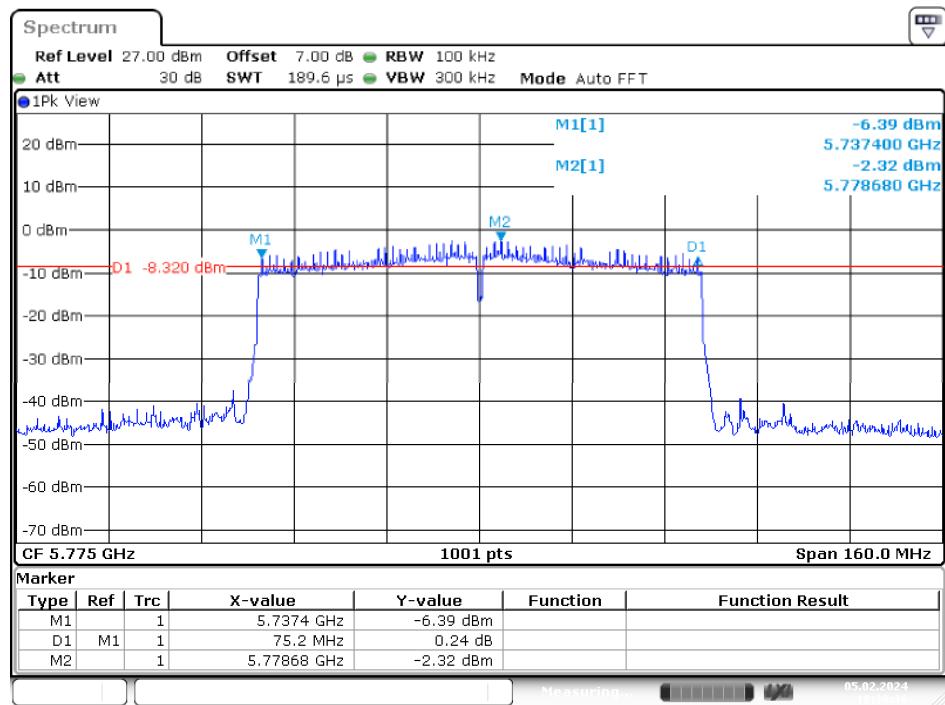
5795MHz



Date: 5.FEB.2024 18:32:34

IEEE 802.11ac VHT80 Mode / 5725 ~ 5850MHz

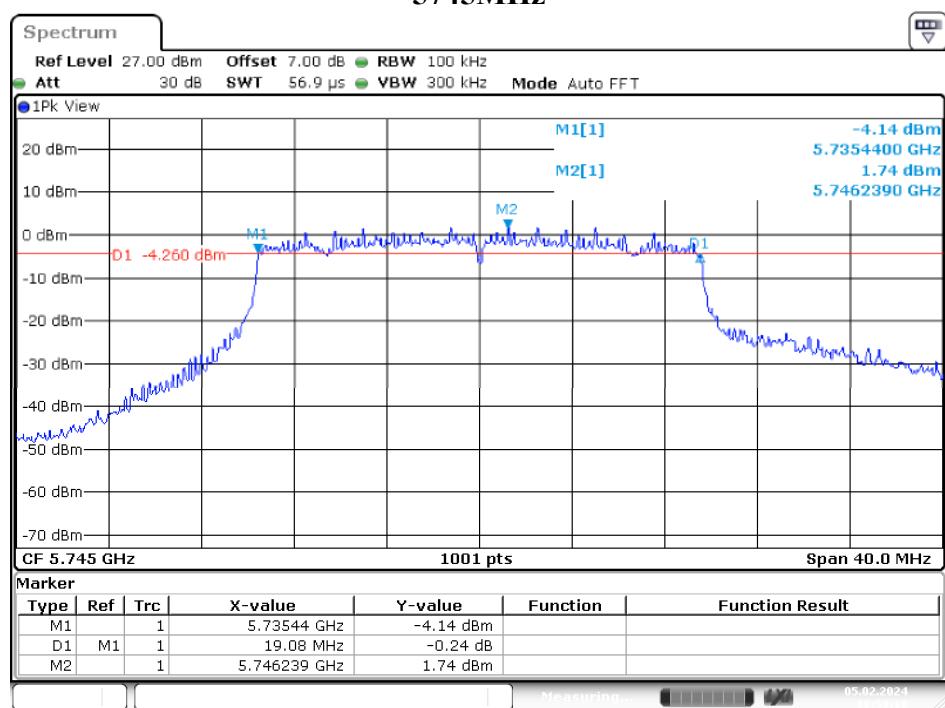
5775MHz



Date: 5.FEB.2024 18:38:37

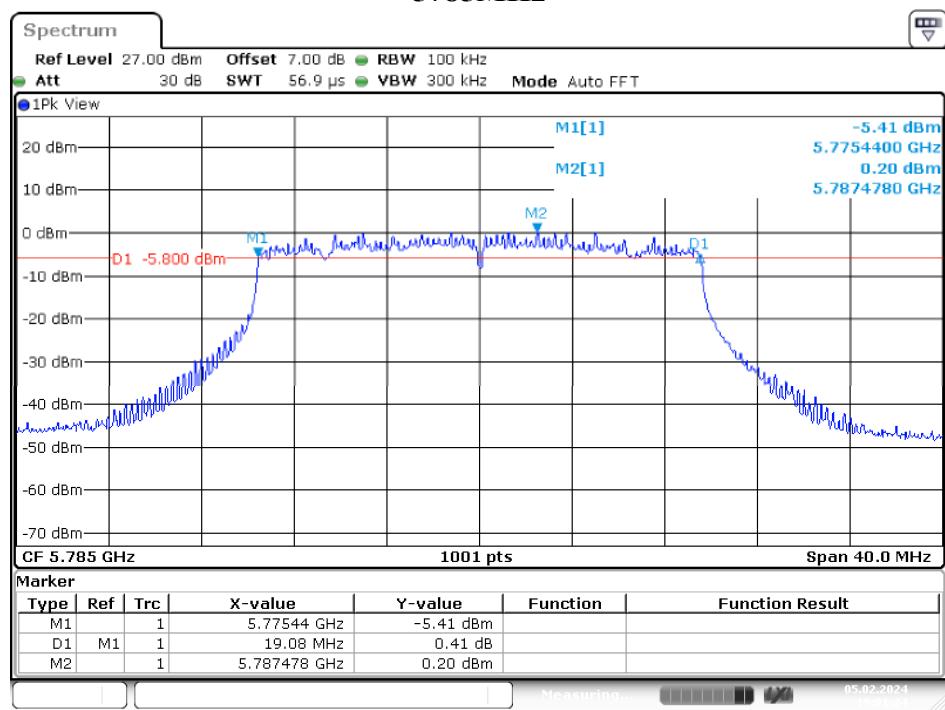
IEEE 802.11ax HE20 Mode / 5725 ~ 5850MHz

5745MHz



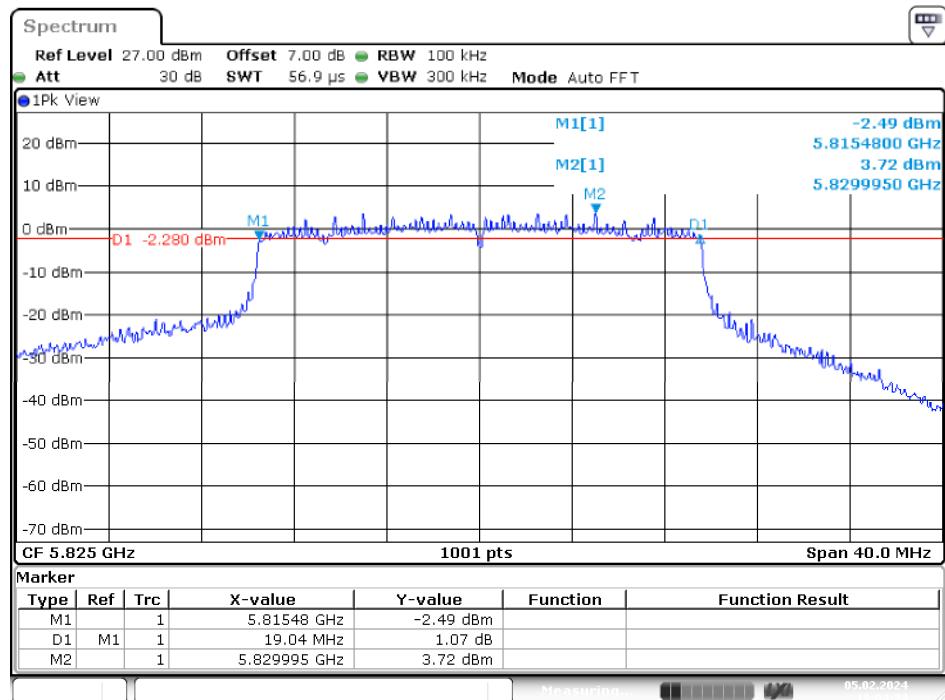
Date: 5.FEB.2024 18:59:10

5785MHz



Date: 5.FEB.2024 19:01:24

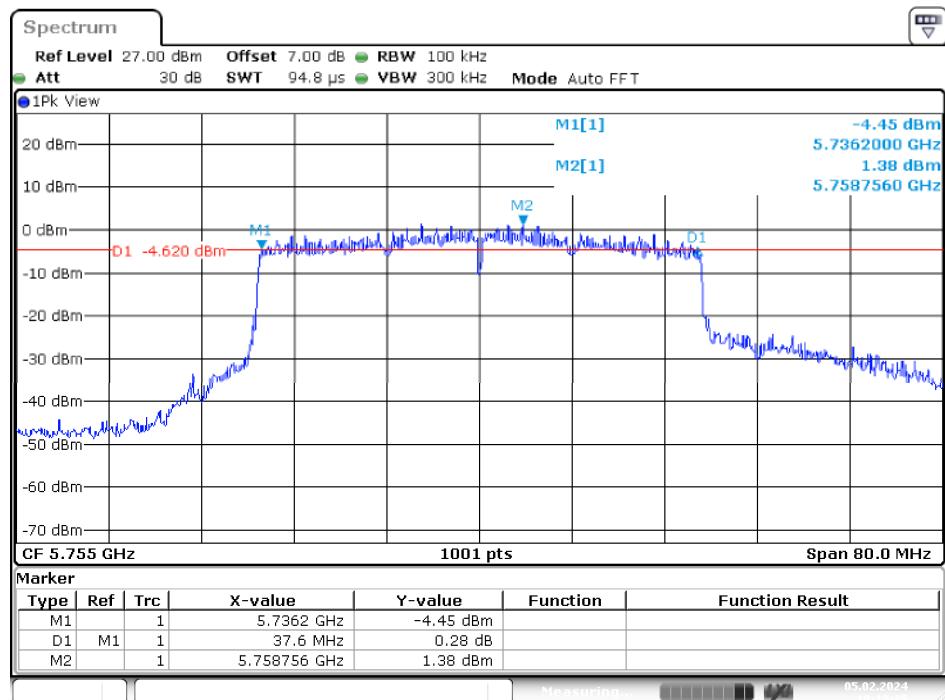
5825MHz



Date: 5.FEB.2024 19:04:25

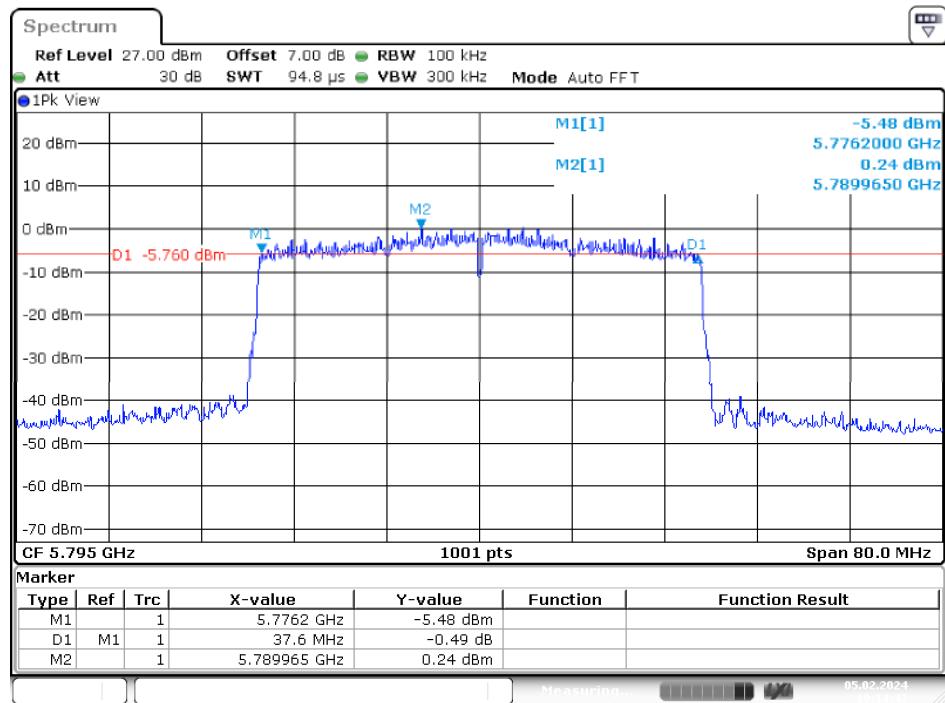
IEEE 802.11ax HE40 Mode / 5725 ~ 5850MHz

5755MHz



Date: 5.FEB.2024 19:12:36

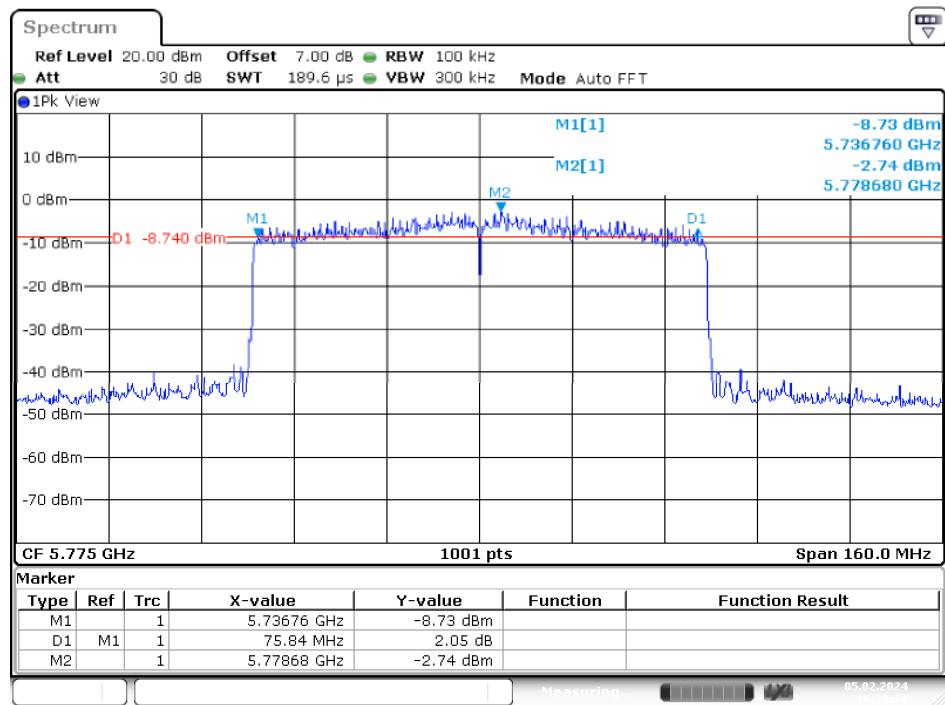
5795MHz



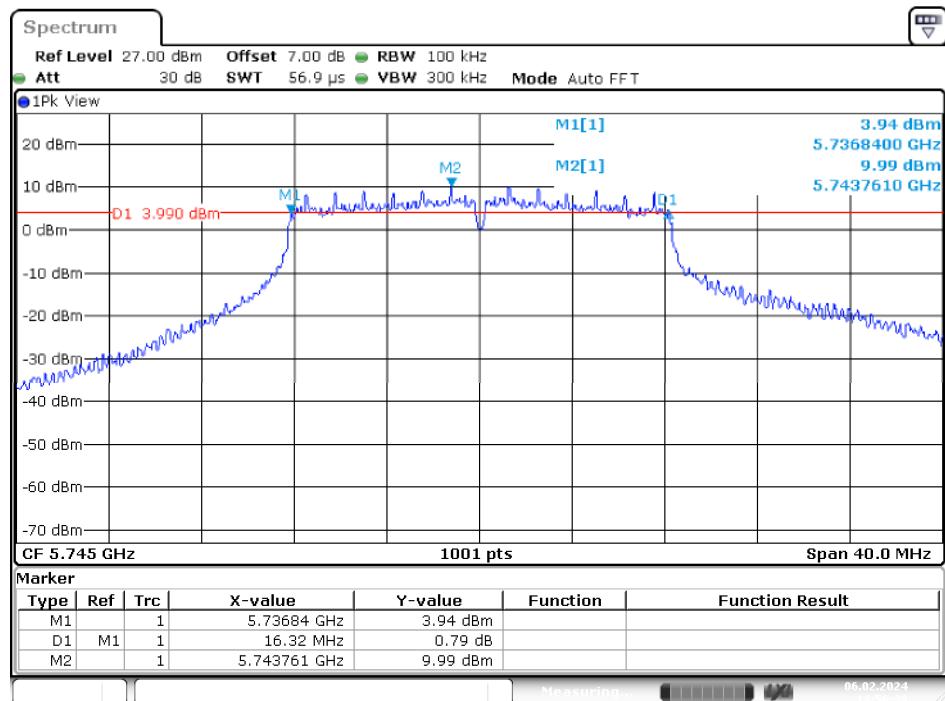
Date: 5.FEB.2024 19:14:43

IEEE 802.11ax HE80 Mode / 5725 ~ 5850MHz

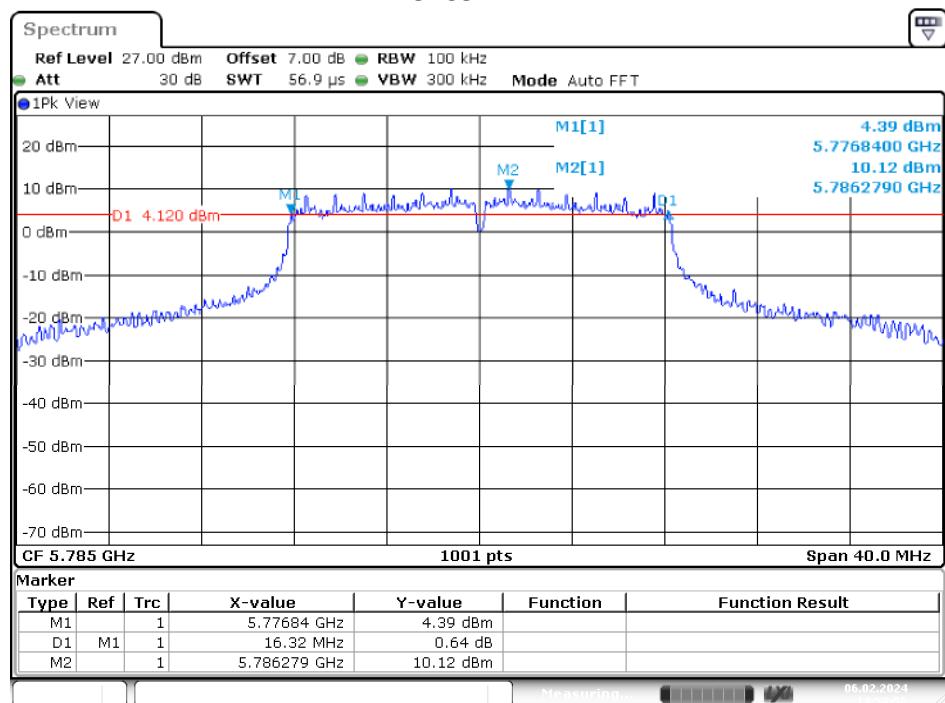
5775MHz



Date: 5.FEB.2024 19:20:36

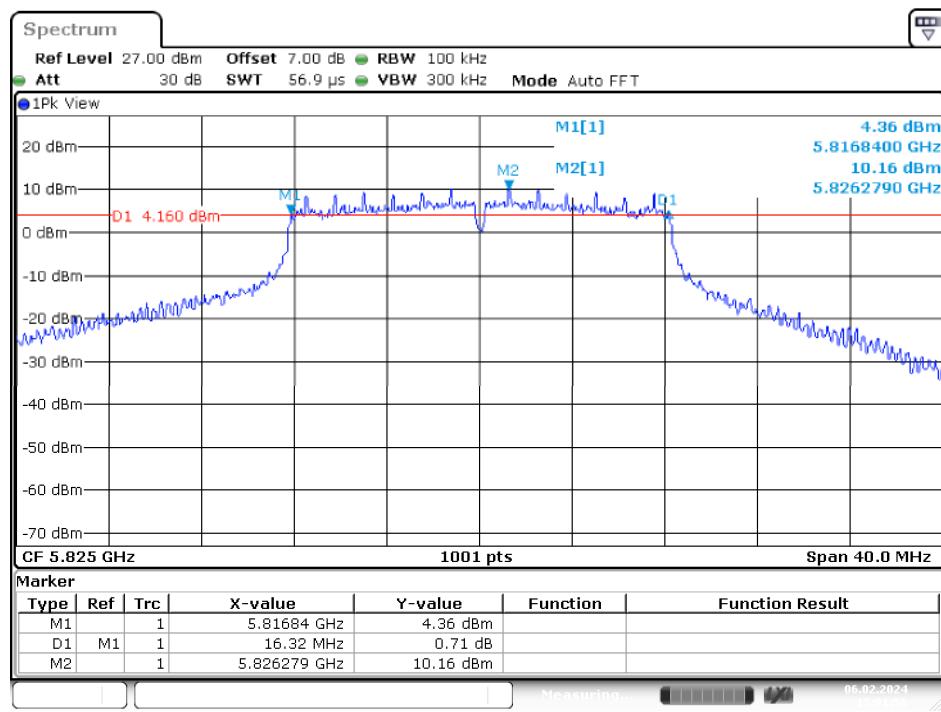
Chain 2**IEEE 802.11a Mode / 5725 ~ 5850MHz****5745MHz**

Date: 6.FEB.2024 14:56:39

5785MHz

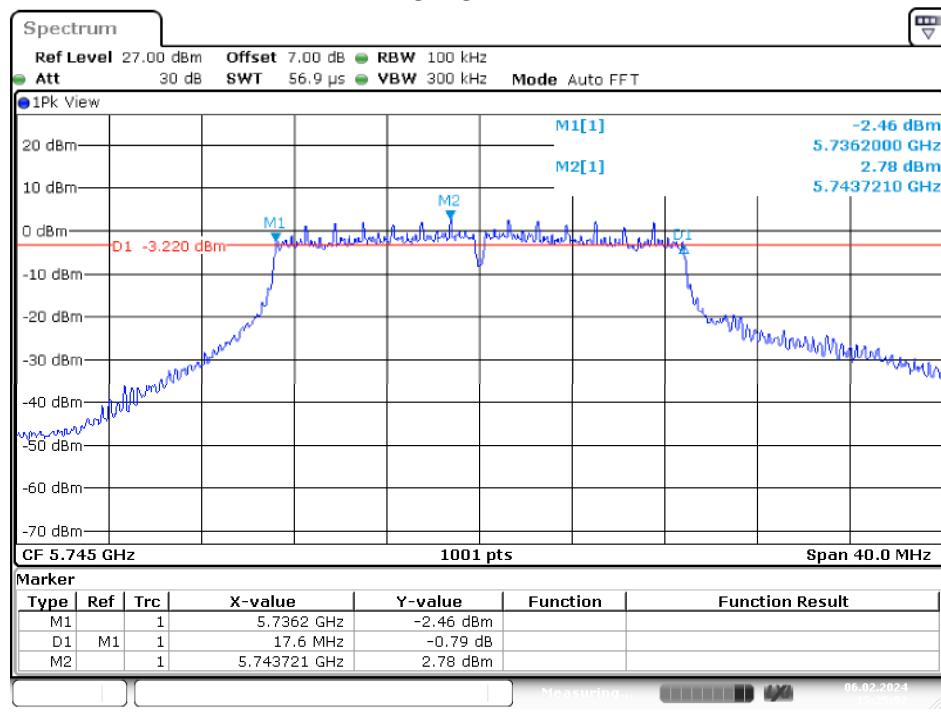
Date: 6.FEB.2024 14:58:56

5825MHz

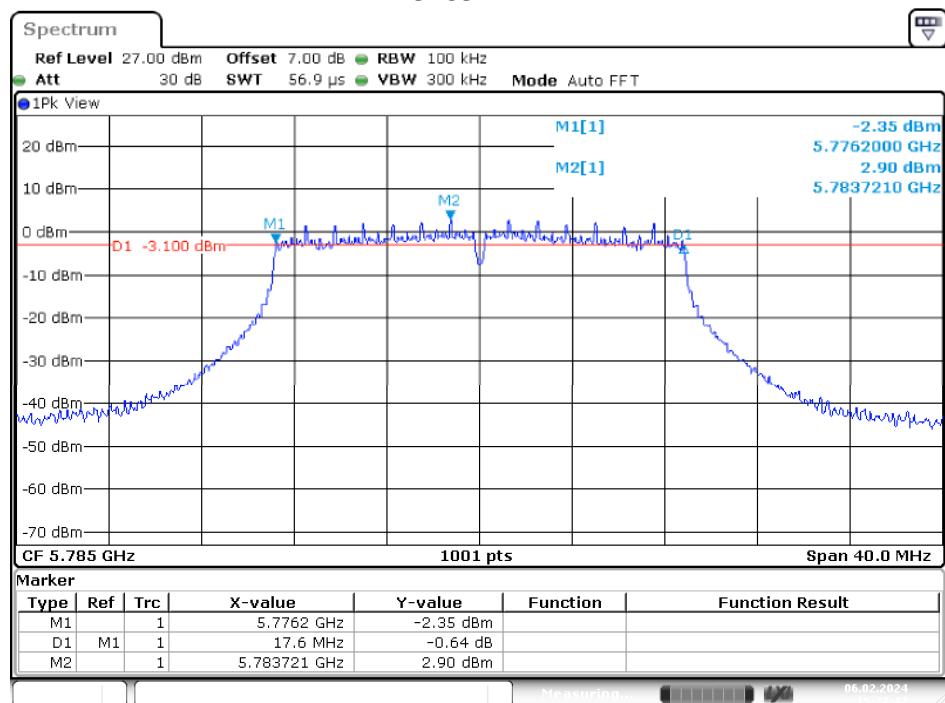


IEEE 802.11ac VHT20 Mode / 5725 ~ 5850MHz

5745MHz

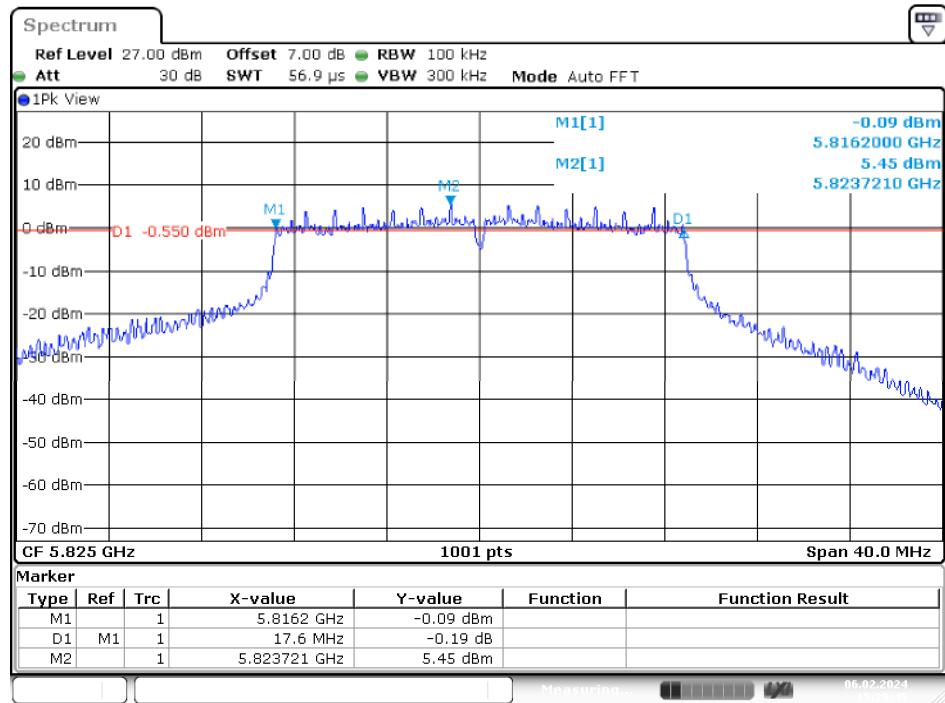


5785MHz



Date: 6.FEB.2024 15:27:47

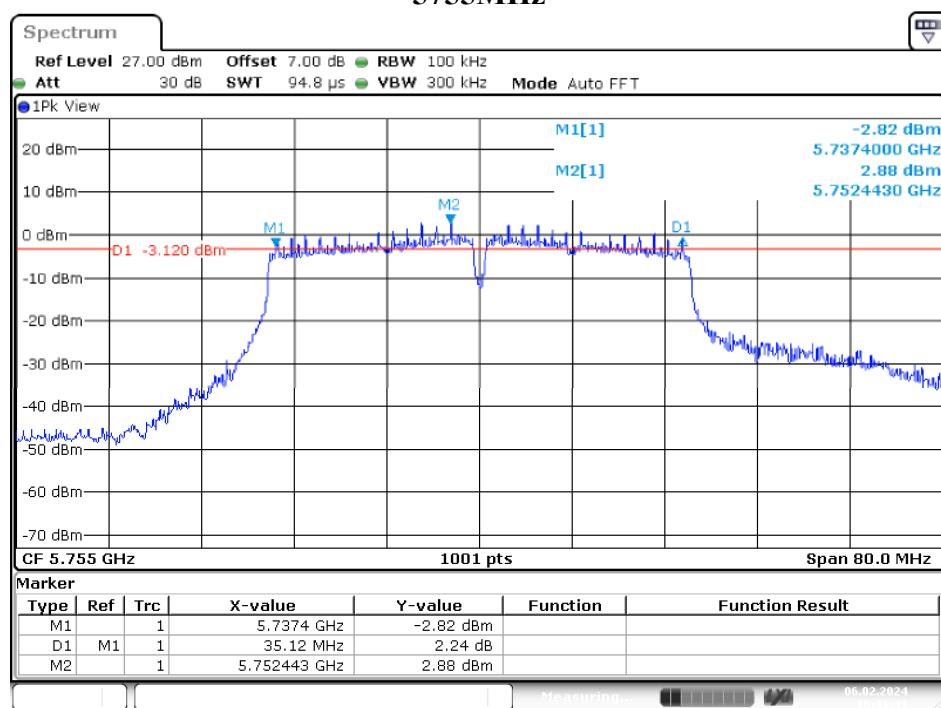
5825MHz



Date: 6.FEB.2024 15:29:45

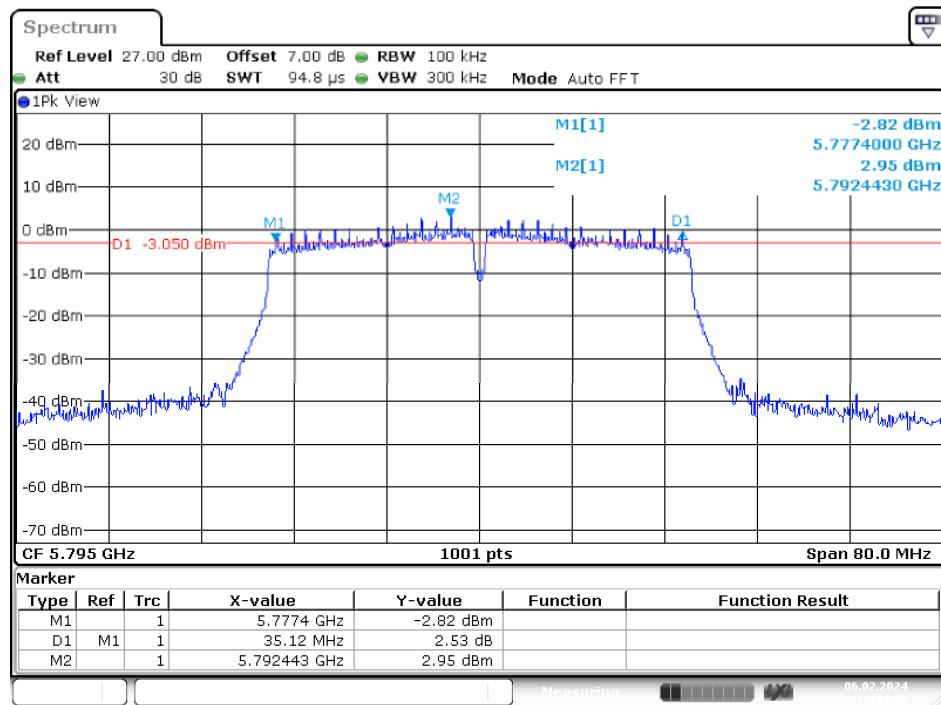
IEEE 802.11ac VHT40 Mode / 5725 ~ 5850MHz

5755MHz



Date: 6.FEB.2024 15:41:43

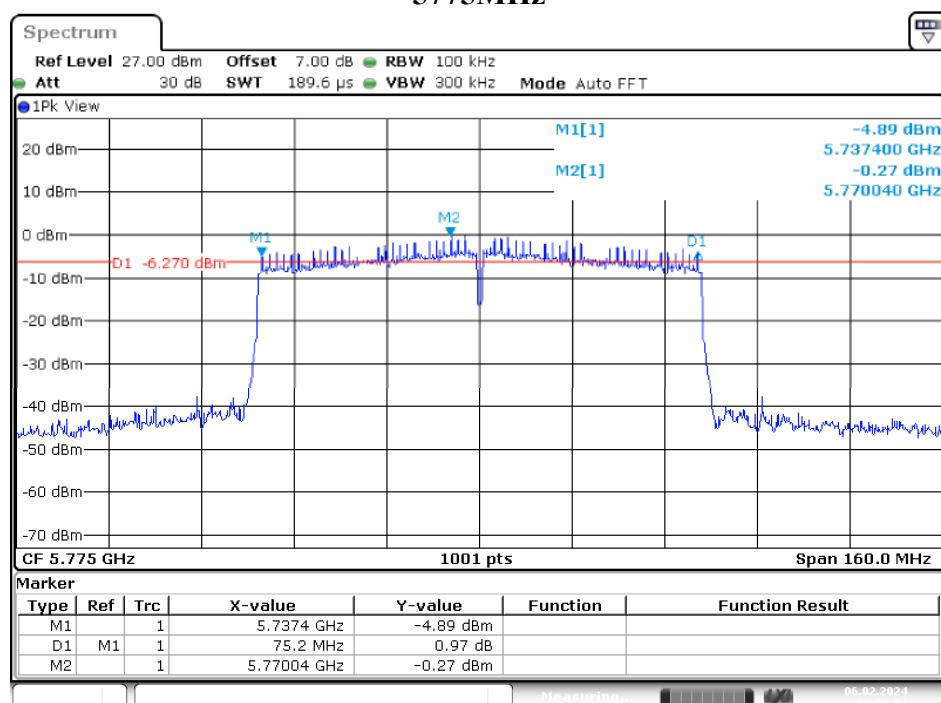
5795MHz



Date: 6.FEB.2024 15:44:49

IEEE 802.11ac VHT80 Mode / 5725 ~ 5850MHz

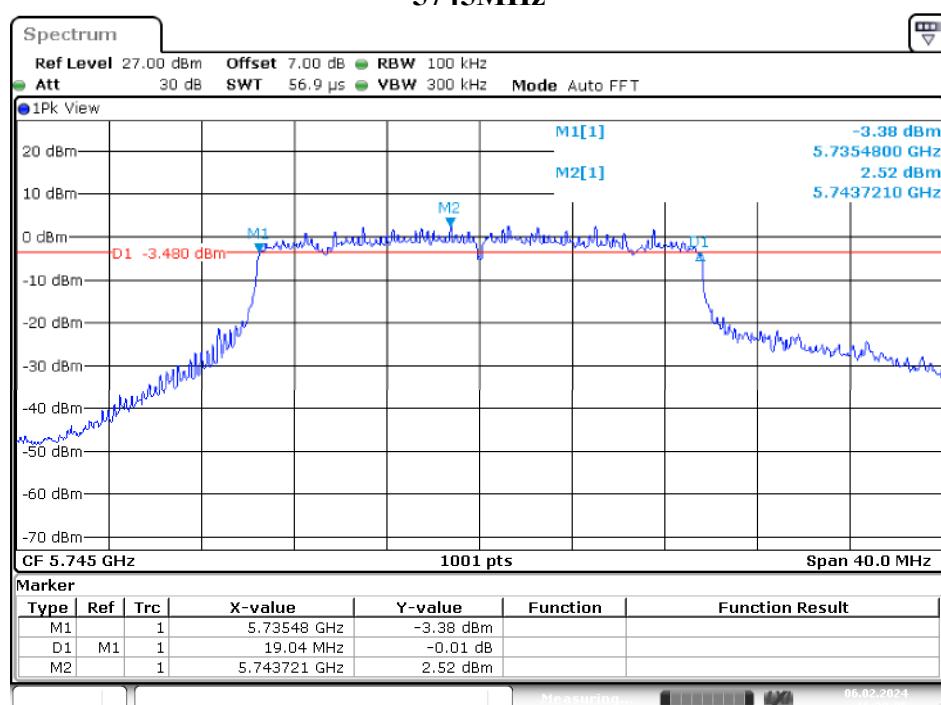
5775MHz



Date: 6.FEB.2024 15:53:04

IEEE 802.11ax HE20 Mode / 5725 ~ 5850MHz

5745MHz



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