802.11ac VHT80 Mode:

5530 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5450.711	57.52	-5.27	52.25	54.00	-1.75	115	298	Average
5450.711	70.75	-5.27	65.48	74.00	-8.52	115	298	Peak
5530.000	95.28	-5.01	90.27			115	298	Average
5530.000	104.44	-5.01	99.43			115	298	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11060.000	29.40	6.69	36.09	54.00	-17.91	155	267	Average
11060.000	40.59	6.69	47.28	74.00	-26.72	155	267	Peak
16590.000	41.57	11.74	53.31	68.20	-14.89	156	321	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5450.881	55.29	-5.27	50.02	54.00	-3.98	104	183	Average
5450.881	68.44	-5.27	63.17	74.00	-10.83	104	183	Peak
5530.000	94.32	-5.01	89.31			104	183	Average
5530.000	102.89	-5.01	97.88			104	183	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11060.000	29.44	6.69	36.13	54.00	-17.87	155	276	Average
11060.000	40.51	6.69	47.20	74.00	-26.80	155	276	Peak
16590.000	41.47	11.74	53.21	68.20	-14.99	152	197	Peak

5610 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5444.504	44.76	-5.27	39.49	54.00	-14.51	101	296	Average
5444.504	59.57	-5.27	54.30	74.00	-19.70	101	296	Peak
5610.000	95.06	-5.19	89.87			101	296	Average
5610.000	105.01	-5.19	99.82			101	296	Peak
5725.000	56.58	-5.49	51.09	68.20	-17.11	101	296	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11220.000	30.15	6.79	36.94	54.00	-17.06	157	153	Average
11220.000	41.72	6.79	48.51	74.00	-25.49	157	153	Peak
16830.000	41.85	11.38	53.23	68.20	-14.97	151	292	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5442.603	44.16	-5.26	38.90	54.00	-15.10	100	183	Average
5442.603	57.91	-5.26	52.65	74.00	-21.35	100	183	Peak
5610.000	94.52	-5.11	89.41			100	183	Average
5610.000	103.89	-5.19	98.70			100	183	Peak
5725.000	53.89	-5.49	48.40	68.20	-19.80	100	183	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11220.000	29.79	6.79	36.58	54.00	-17.42	151	267	Average
11220.000	40.98	6.79	47.77	74.00	-26.23	151	267	Peak
16830.000	43.09	11.38	54.47	68.20	-13.73	153	291	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

5725-5850MHz

802.11a Mode:

5745 MHz

Horizontal

Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
5615.766	56.24	-5.20	51.04	68.20	-17.16	108	348	Peak
5700.090	63.24	-5.54	57.70	105.23	-47.53	108	348	Peak
5714.504	69.98	-5.52	64.46	109.26	-44.80	108	348	Peak
5745.000	112.37	-5.46	106.91	122.20	-15.29	108	348	Peak
5864.054	56.01	-5.16	50.85	108.26	-57.41	108	348	Peak
5893.604	56.99	-4.93	52.06	91.40	-39.34	108	348	Peak
5953.784	56.16	-4.52	51.64	68.20	-16.56	108	348	Peak

Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
11490.000	29.96	6.92	36.88	54.00	-17.12	154	79	Average
11490.000	40.10	6.92	47.02	74.00	-26.98	154	79	Peak
17235.000	39.89	11.87	51.76	68.20	-16.44	150	287	Peak

Vertical

Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
5647.838	56.62	-5.25	51.37	68.20	-16.83	122	124	Peak
5699.729	60.64	-5.54	55.10	105.00	-49.90	122	124	Peak
5718.829	67.63	-5.50	62.13	110.47	-48.34	122	124	Peak
5745.000	109.03	-5.46	103.57	122.20	-18.63	122	124	Peak
5861.892	56.47	-5.17	51.30	108.87	-57.57	122	124	Peak
5921.712	55.71	-4.73	50.98	70.62	-19.64	122	124	Peak
5930.360	56.24	-4.68	51.56	68.20	-16.64	122	124	Peak

Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
11490.000	29.45	6.92	36.37	54.00	-17.63	149	189	Average
11490.000	41.20	6.92	48.12	74.00	-25.88	149	189	Peak
17235.000	40.63	11.87	52.50	68.20	-15.70	152	359	Peak

5785 MHz

Horizontal

Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
5626.216	56.16	-5.21	50.95	68.20	-17.25	106	346	Peak
5675.585	56.78	-5.40	51.38	87.17	-35.79	106	346	Peak
5715.585	56.73	-5.52	51.21	109.57	-58.36	106	346	Peak
5785.000	111.21	-5.38	105.83	122.20	-16.37	106	346	Peak
5859.369	57.25	-5.20	52.05	109.58	-57.53	106	346	Peak
5913.423	56.74	-4.79	51.95	76.74	-24.79	106	346	Peak
5939.009	56.06	-4.62	51.44	68.20	-16.76	106	346	Peak

Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
11570.000	30.49	6.91	37.40	54.00	-16.60	153	13	Average
11570.000	40.54	6.91	47.45	74.00	-26.55	153	13	Peak
17355.000	41.36	12.12	53.48	68.20	-14.72	146	134	Peak

Vertical

Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
5622.252	55.54	-5.20	50.34	68.20	-17.86	104	157	Peak
5699.729	56.31	-5.54	50.77	105.00	-54.23	104	157	Peak
5717.027	57.13	-5.51	51.62	109.97	-58.35	104	157	Peak
5785.000	110.17	-5.38	104.79	122.20	-17.41	104	157	Peak
5861.171	56.71	-5.18	51.53	109.07	-57.54	104	157	Peak
5892.162	56.39	-4.94	51.45	92.46	-41.01	104	157	Peak
5948.378	56.25	-4.54	51.71	68.20	-16.49	104	157	Peak

Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
11570.000	29.18	6.91	36.09	54.00	-17.91	154	44	Average
11570.000	42.71	6.91	49.62	74.00	-24.38	154	44	Peak
17355.000	40.31	12.12	52.43	68.20	-15.77	152	59	Peak

5825 MHz

Horizontal

Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
5638.468	55.76	-5.24	50.52	68.20	-17.68	103	346	Peak
5669.459	55.93	-5.36	50.57	82.64	-32.07	103	346	Peak
5703.694	55.77	-5.53	50.24	106.24	-56.00	103	346	Peak
5825.000	111.41	-5.31	106.10	122.20	-16.10	103	346	Peak
5855.766	59.77	-5.22	54.55	110.59	-56.04	103	346	Peak
5876.667	57.10	-5.07	52.03	103.96	-51.93	103	346	Peak
5955.585	56.21	-4.52	51.69	68.20	-16.51	103	346	Peak

Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
11650.000	30.56	7.04	37.60	54.00	-16.40	147	14	Average
11650.000	40.65	7.04	47.69	74.00	-26.31	147	14	Peak
17475.000	40.26	11.91	52.17	68.20	-16.03	155	331	Peak

Vertical

Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
5613.243	55.69	-5.20	50.49	68.20	-17.71	101	160	Peak
5668.018	56.17	-5.36	50.81	81.57	-30.76	101	160	Peak
5704.775	55.81	-5.53	50.28	106.54	-56.26	101	160	Peak
5825.000	109.80	-5.31	104.49	122.20	-17.71	101	160	Peak
5855.405	61.77	-5.23	56.54	110.69	-54.15	101	160	Peak
5883.514	56.26	-5.00	51.26	98.88	-47.62	101	160	Peak
5959.910	56.56	-4.51	52.05	68.20	-16.15	101	160	Peak

Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
11650.000	29.54	7.04	36.58	54.00	-17.42	152	177	Average
11650.000	41.79	7.04	48.83	74.00	-25.17	152	177	Peak
17475.000	40.94	11.91	52.85	68.20	-15.35	153	99	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

802.11ac VHT20 Mode:

5745 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5626.577	55.78	-5.21	50.57	68.20	-17.63	109	345	Peak
5700.090	60.92	-5.54	55.38	105.23	-49.85	109	345	Peak
5719.910	71.80	-5.50	66.30	110.77	-44.47	109	345	Peak
5745.000	112.01	-5.46	106.55	122.20	-15.65	109	345	Peak
5865.496	56.66	-5.15	51.51	107.86	-56.35	109	345	Peak
5891.441	56.64	-4.95	51.69	93.00	-41.31	109	345	Peak
5970.000	56.02	-4.48	51.54	68.20	-16.66	109	345	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11490.000	29.75	6.92	36.67	54.00	-17.33	147	360	Average
11490.000	40.17	6.92	47.09	74.00	-26.91	147	360	Peak
17235.000	39.84	11.87	51.71	68.20	-16.49	149	293	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5646.757	56.23	-5.24	50.99	68.20	-17.21	122	125	Peak
5697.567	57.81	-5.53	52.28	103.41	-51.13	122	125	Peak
5718.829	68.25	-5.50	62.75	110.47	-47.72	122	125	Peak
5745.000	108.57	-5.46	103.11	122.20	-19.09	122	125	Peak
5873.423	56.37	-5.09	51.28	105.64	-54.36	122	125	Peak
5893.604	56.15	-4.93	51.22	91.40	-40.18	122	125	Peak
5957.748	55.94	-4.51	51.43	68.20	-16.77	122	125	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11490.000	29.32	6.92	36.24	54.00	-17.76	154	30	Average
11490.000	40.80	6.92	47.72	74.00	-26.28	154	30	Peak
17235.000	41.08	11.87	52.95	68.20	-15.25	148	61	Peak

5785 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5649.279	56.75	-5.25	51.50	68.20	-16.70	107	344	Peak
5672.342	55.97	-5.38	50.59	84.77	-34.18	107	344	Peak
5717.748	56.07	-5.50	50.57	110.17	-59.60	107	344	Peak
5785.000	112.26	-5.38	106.88	122.20	-15.32	107	344	Peak
5856.486	56.99	-5.22	51.77	110.38	-58.61	107	344	Peak
5885.676	56.84	-4.98	51.86	97.27	-45.41	107	344	Peak
5965.315	55.90	-4.49	51.41	68.20	-16.79	107	344	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11570.000	30.42	6.91	37.33	54.00	-16.67	152	6	Average
11570.000	40.65	6.91	47.56	74.00	-26.44	152	6	Peak
17355.000	41.01	12.12	53.13	68.20	-15.07	145	360	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5647.478	56.60	-5.24	51.36	68.20	-16.84	103	157	Peak
5696.847	56.82	-5.52	51.30	102.88	-51.58	103	157	Peak
5710.541	56.49	-5.53	50.96	108.15	-57.19	103	157	Peak
5785.000	109.66	-5.38	104.28	122.20	-17.92	103	157	Peak
5873.063	56.62	-5.10	51.52	105.74	-54.22	103	157	Peak
5903.333	56.35	-4.86	51.49	84.19	-32.70	103	157	Peak
5954.865	56.48	-4.52	51.96	68.20	-16.24	103	157	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11570.000	29.85	6.91	36.76	54.00	-17.24	154	141	Average
11570.000	42.72	6.91	49.63	74.00	-24.37	154	141	Peak
17355.000	41.25	12.12	53.37	68.20	-14.83	151	164	Peak

5825 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5624.054	56.46	-5.21	51.25	68.20	-16.95	107	346	Peak
5694.324	56.41	-5.51	50.90	101.02	-50.12	107	346	Peak
5701.532	55.60	-5.54	50.06	105.63	-55.57	107	346	Peak
5825.000	111.81	-5.31	106.50	122.20	-15.70	107	346	Peak
5856.486	66.38	-5.22	61.16	110.38	-49.22	107	346	Peak
5907.297	57.13	-4.83	52.30	81.26	-28.96	107	346	Peak
5949.459	56.29	-4.53	51.76	68.20	-16.44	107	346	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11650.000	30.53	7.04	37.57	54.00	-16.43	154	33	Average
11650.000	41.50	7.04	48.54	74.00	-25.46	154	33	Peak
17475.000	40.38	11.91	52.29	68.20	-15.91	147	3	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5647.117	56.18	-5.24	50.94	68.20	-17.26	104	158	Peak
5672.703	57.04	-5.39	51.65	85.04	-33.39	104	158	Peak
5707.658	56.01	-5.52	50.49	107.35	-56.86	104	158	Peak
5825.000	109.57	-5.31	104.26	122.20	-17.94	104	158	Peak
5856.486	64.20	-5.22	58.98	110.38	-51.40	104	158	Peak
5889.640	56.80	-4.95	51.85	94.33	-42.48	104	158	Peak
5957.387	56.24	-4.52	51.72	68.20	-16.48	104	158	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11650.000	30.00	7.04	37.04	54.00	-16.96	155	155	Average
11650.000	41.89	7.04	48.93	74.00	-25.07	155	155	Peak
17475.000	40.30	11.91	52.21	68.20	-15.99	148	151	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

802.11ac VHT40 Mode:

5755 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5645.315	56.59	-5.24	51.35	68.20	-16.85	111	298	Peak
5698.648	64.31	-5.53	58.78	104.20	-45.42	111	298	Peak
5719.910	75.39	-5.50	69.89	110.77	-40.88	111	298	Peak
5755.000	107.08	-5.44	101.64	122.20	-20.56	111	298	Peak
5874.865	55.96	-5.08	50.88	105.24	-54.36	111	298	Peak
5918.108	56.45	-4.75	51.70	73.28	-21.58	111	298	Peak
5932.162	56.25	-4.66	51.59	68.20	-16.61	111	298	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11510.000	29.56	6.92	36.48	54.00	-17.52	146	77	Average
11510.000	39.44	6.92	46.36	74.00	-27.64	146	77	Peak
17265.000	40.31	11.92	52.23	68.20	-15.97	153	217	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5611.441	56.05	-5.19	50.86	68.20	-17.34	100	196	Peak
5699.369	63.74	-5.54	58.20	104.74	-46.54	100	196	Peak
5719.910	74.87	-5.50	69.37	110.77	-41.40	100	196	Peak
5755.000	105.82	-5.44	100.38	122.20	-21.82	100	196	Peak
5871.622	56.22	-5.11	51.11	106.14	-55.03	100	196	Peak
5922.433	56.34	-4.73	51.61	70.09	-18.48	100	196	Peak
5962.072	56.11	-4.50	51.61	68.20	-16.59	100	196	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11510.000	29.04	6.92	35.96	54.00	-18.04	153	28	Average
11510.000	40.13	6.92	47.05	74.00	-26.95	153	28	Peak
17265.000	40.06	11.92	51.98	68.20	-16.22	151	299	Peak

5795 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5610.721	56.16	-5.19	50.97	68.20	-17.23	100	338	Peak
5696.126	58.11	-5.52	52.59	102.34	-49.75	100	338	Peak
5718.108	59.96	-5.50	54.46	110.27	-55.81	100	338	Peak
5795.000	107.45	-5.37	102.08	122.20	-20.12	100	338	Peak
5856.847	59.92	-5.22	54.70	110.28	-55.58	100	338	Peak
5895.045	56.57	-4.92	51.65	90.33	-38.68	100	338	Peak
5950.541	56.48	-4.54	51.94	68.20	-16.26	100	338	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11590.000	29.89	6.91	36.80	54.00	-17.20	151	103	Average
11590.000	40.18	6.91	47.09	74.00	-26.91	151	103	Peak
17385.000	40.96	12.19	53.15	68.20	-15.05	148	267	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5631.982	55.93	-5.22	50.71	68.20	-17.49	100	198	Peak
5660.451	57.23	-5.31	51.92	75.96	-24.04	100	198	Peak
5719.189	57.70	-5.50	52.20	110.57	-58.37	100	198	Peak
5795.000	104.23	-5.37	98.86	122.20	-23.34	100	198	Peak
5857.567	57.01	-5.21	51.80	110.08	-58.28	100	198	Peak
5897.567	56.13	-4.90	51.23	88.46	-37.23	100	198	Peak
5964.234	56.48	-4.49	51.99	68.20	-16.21	100	198	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11590.000	29.54	6.91	36.45	54.00	-17.55	153	0	Average
11590.000	40.38	6.91	47.29	74.00	-26.71	153	0	Peak
17385.000	39.85	12.19	52.04	68.20	-16.16	152	260	Peak

802.11ac VHT80 Mode:

5775 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5649.279	61.01	-5.25	55.76	68.20	-12.44	102	338	Peak
5695.766	71.65	-5.51	66.14	102.08	-35.94	102	338	Peak
5719.910	72.80	-5.50	67.30	110.77	-43.47	102	338	Peak
5775.000	105.05	-5.41	99.64	122.20	-22.56	102	338	Peak
5866.577	74.13	-5.14	68.99	107.56	-38.57	102	338	Peak
5875.225	67.71	-5.08	62.63	105.03	-42.40	102	338	Peak
5928.919	57.59	-4.68	52.91	68.20	-15.29	102	338	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11550.000	29.18	6.92	36.10	54.00	-17.90	153	220	Average
11550.000	39.34	6.92	46.26	74.00	-27.74	153	220	Peak
17325.000	41.04	12.05	53.09	68.20	-15.11	146	208	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5620.090	58.36	-5.20	53.16	68.20	-15.04	100	199	Peak
5699.729	66.97	-5.54	61.43	105.00	-43.57	100	199	Peak
5719.549	70.29	-5.50	64.79	110.67	-45.88	100	199	Peak
5775.000	102.19	-5.41	96.78	122.20	-25.42	100	199	Peak
5866.216	69.07	-5.14	63.93	107.66	-43.73	100	199	Peak
5875.585	63.55	-5.08	58.47	104.76	-46.29	100	199	Peak
5962.793	55.99	-4.49	51.50	68.20	-16.70	100	199	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11550.000	29.08	6.92	36.00	54.00	-18.00	156	316	Average
11550.000	40.04	6.92	46.96	74.00	-27.04	156	316	Peak
17325.000	40.21	12.05	52.26	68.20	-15.94	152	180	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

10 RSS-247 §6.2.1.2 – 26dB Attenuated Below The Channel Power

10.1 Applicable Standard

RSS-247 Clause 6.2.1.2

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

10.2 Test Procedure

1. Set RBW = 1%~5% of the emission bandwidth.
2. Set the VBW > RBW.
3. Detector = RMS.
4. Trace mode = max hold
5. Measure the emission attenuated below the channel power

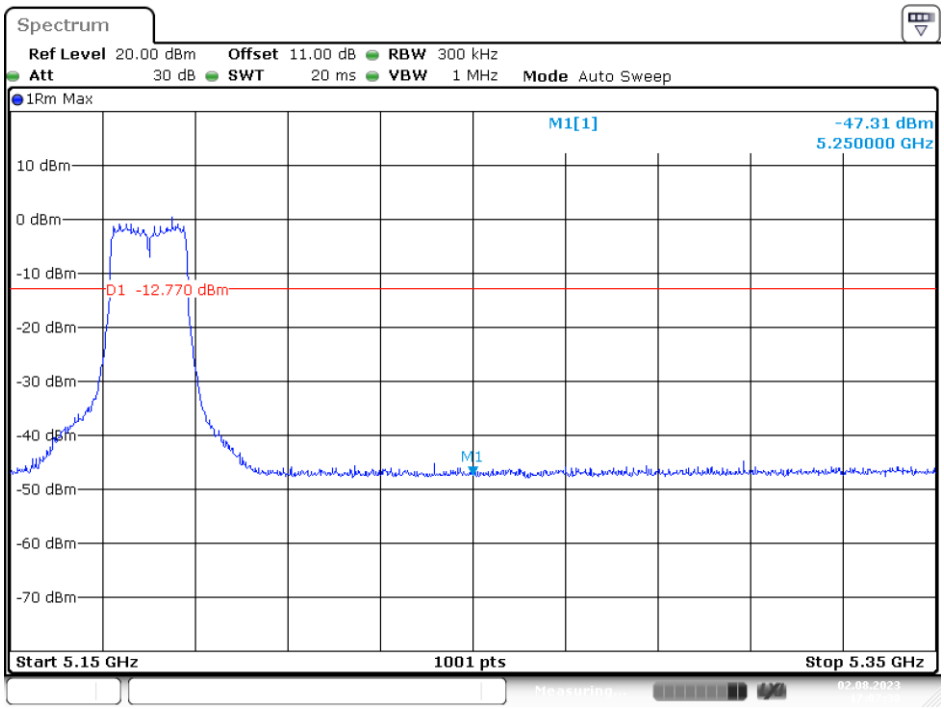
10.3 Test Results

The requirement is for 5150-5250 MHz band. The channel power please refer to the power test result in section 12.3.

Transmitting Mode:

IEEE 802.11a Mode / 5150 ~ 5250MHz

5180MHz



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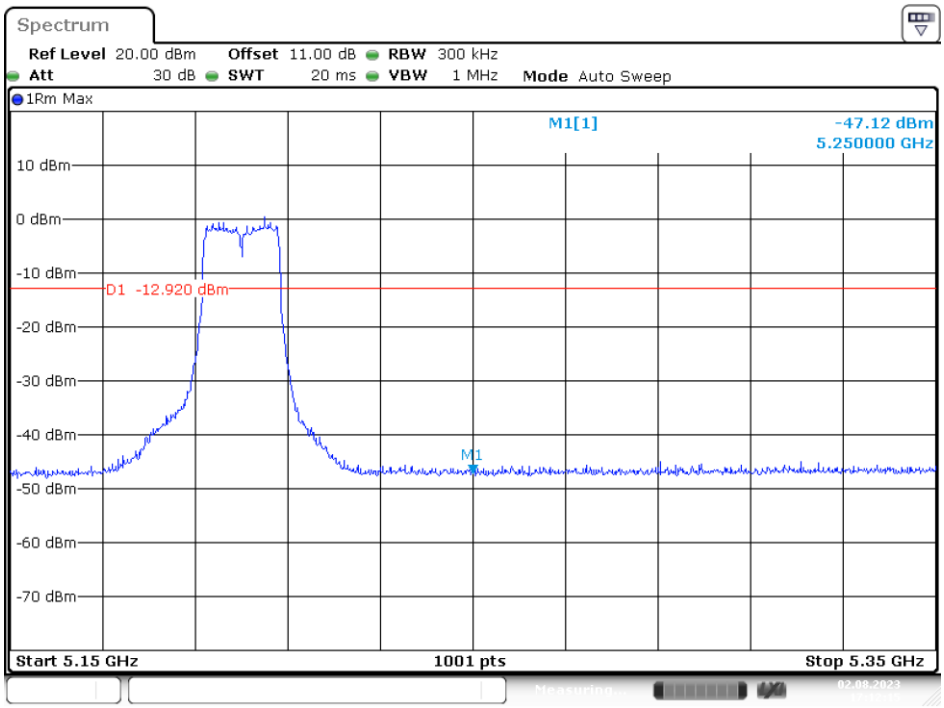
5200MHz



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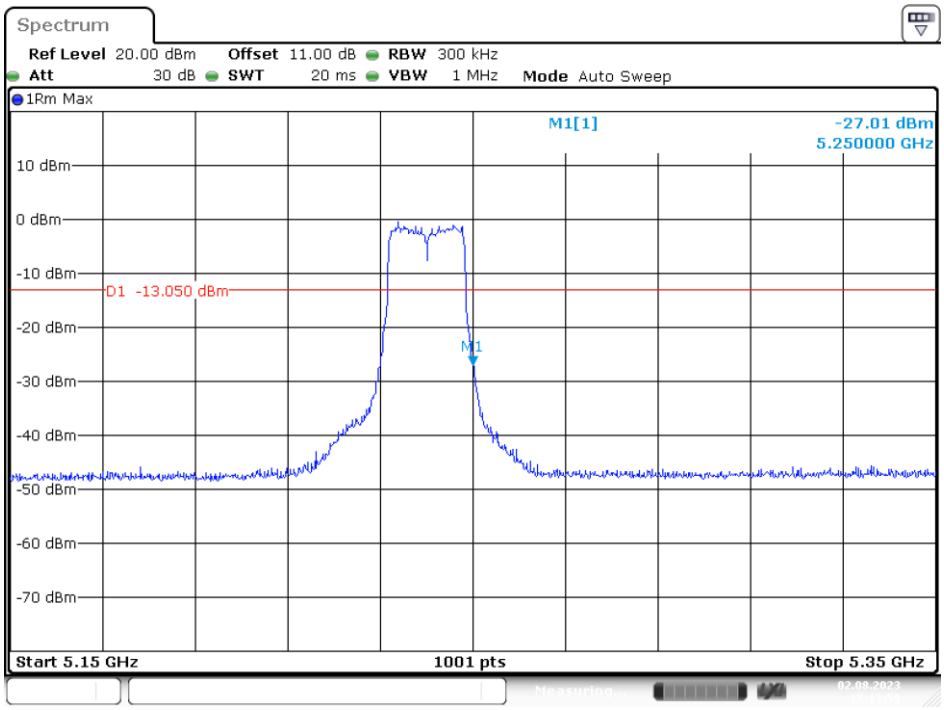
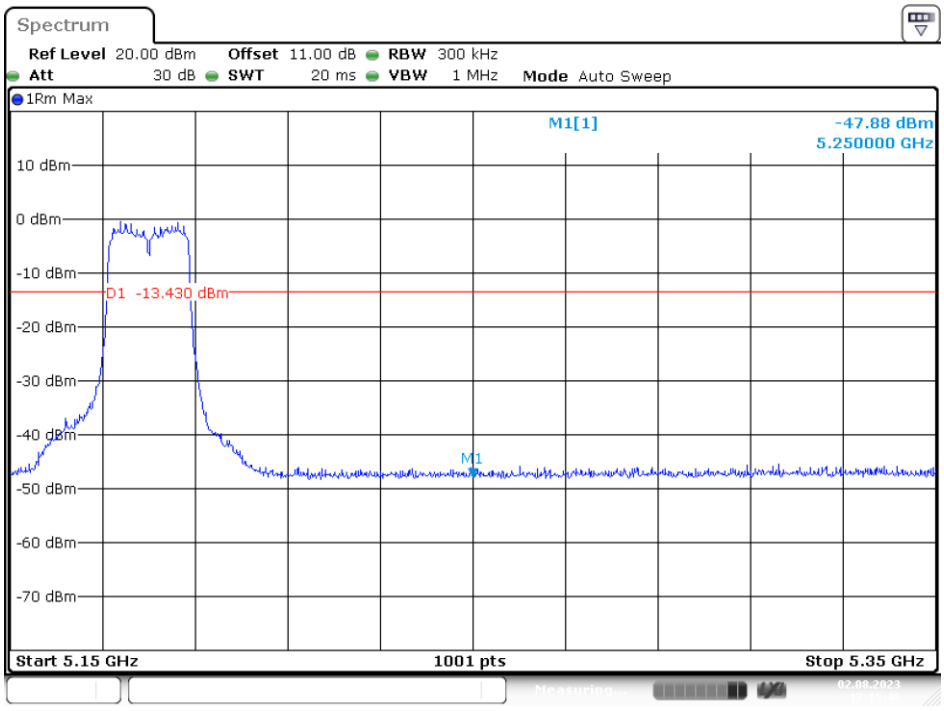
5240MHz



Date: 2.AUG.2023 17:13:59

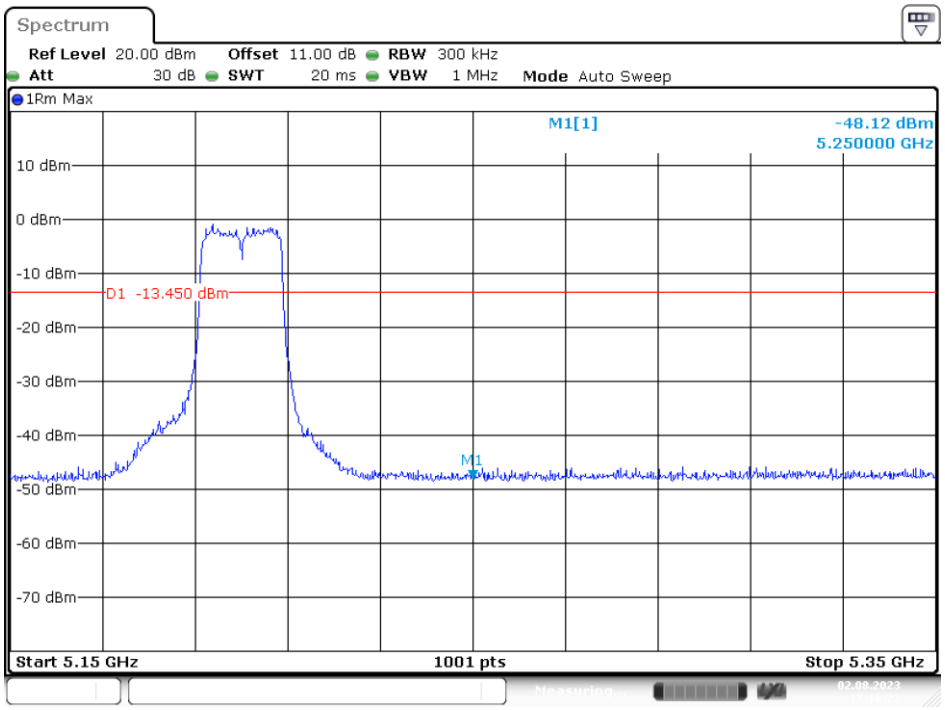
IEEE 802.11ac VHT20 Mode / 5150 ~ 5250MHz

5180MHz



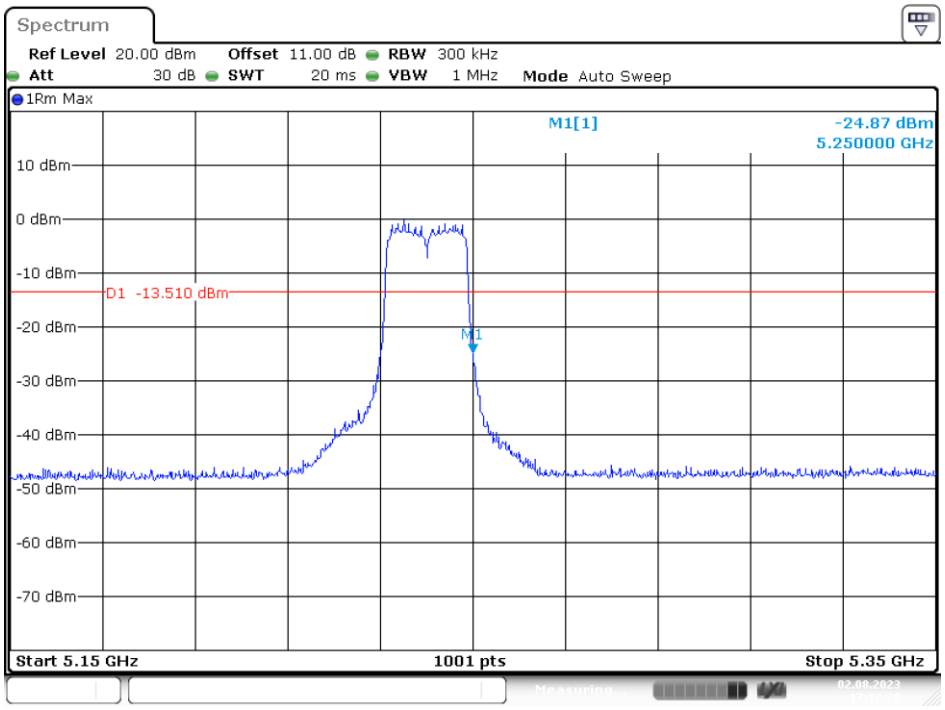
Date: 2.AUG.2023 17:15:46

5200MHz



Date: 2.AUG.2023 17:16:21

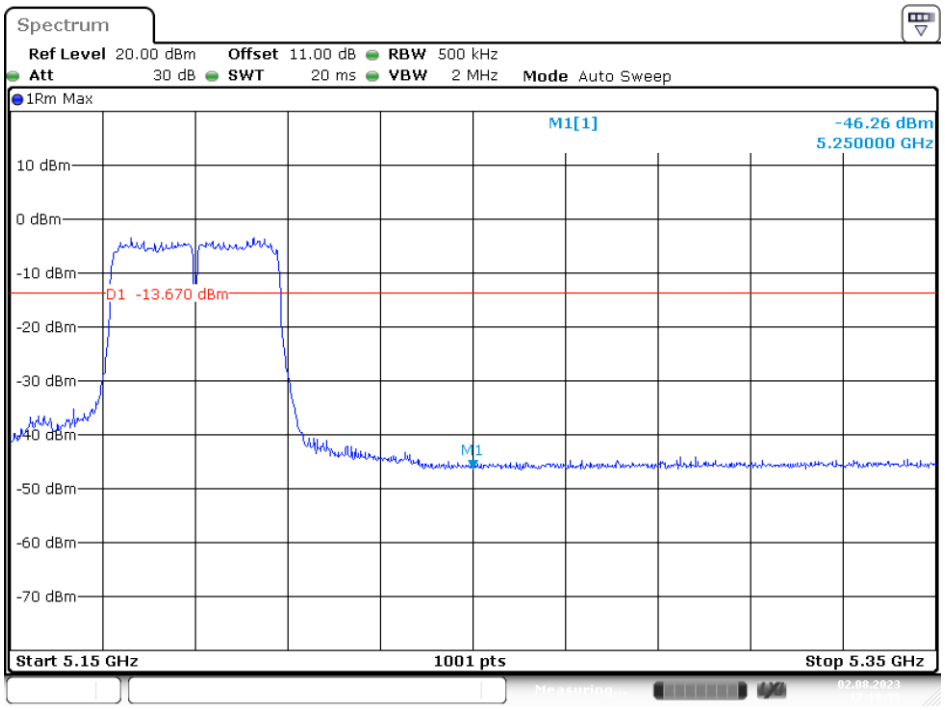
5240MHz



Date: 2.AUG.2023 17:17:20

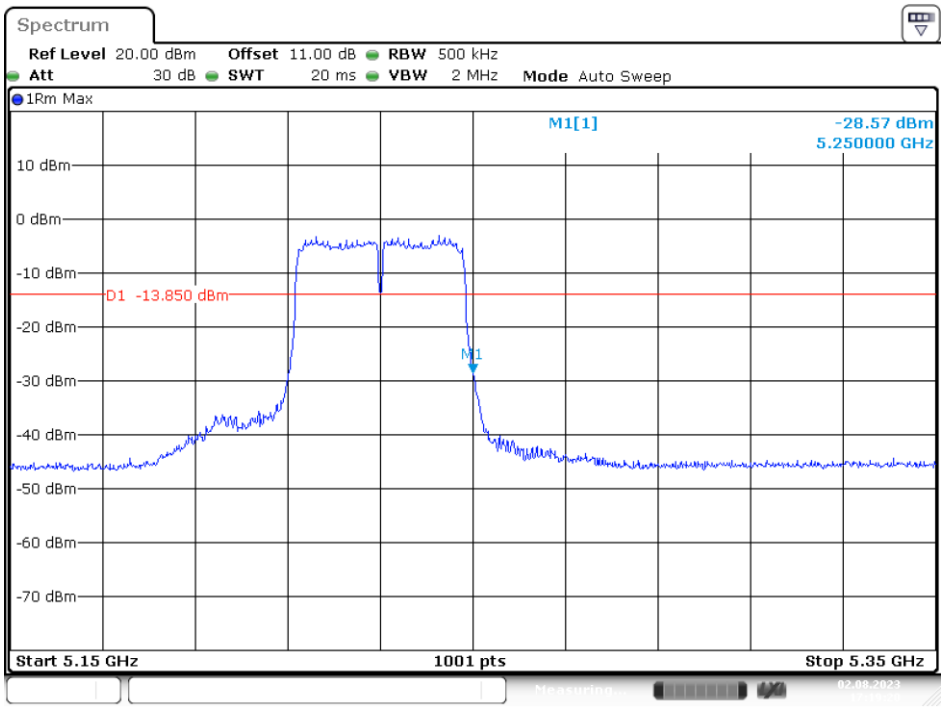
IEEE 802.11ac VHT40 Mode / 5150 ~ 5250MHz

5190MHz



Date: 2.AUG.2023 17:18:35

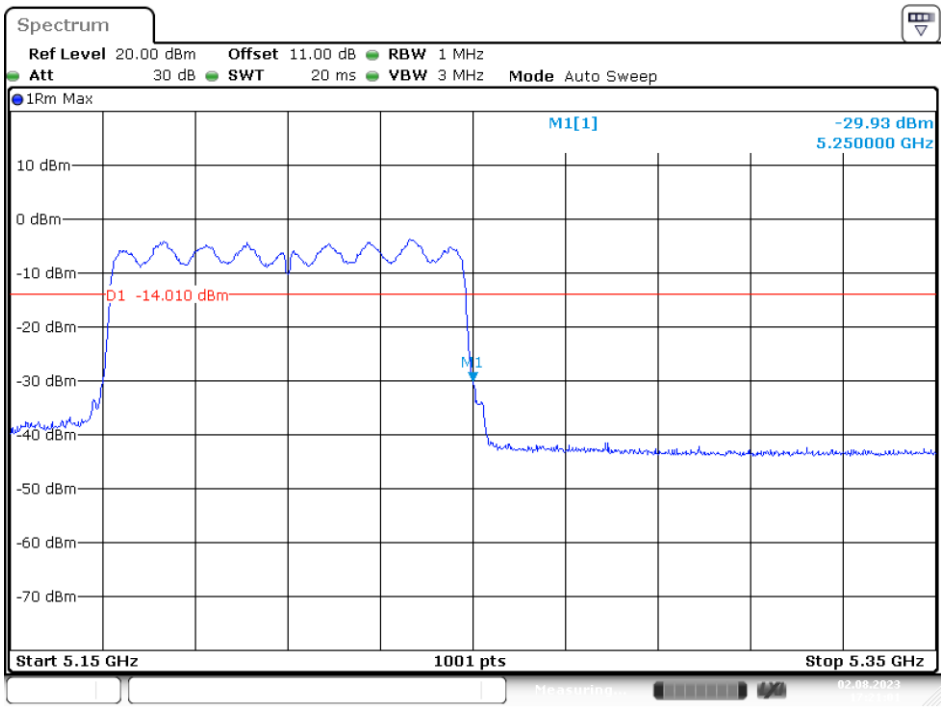
5230MHz



Date: 2.AUG.2023 17:19:20

IEEE 802.11ac VHT80 Mode / 5150 ~ 5250MHz

5210MHz



Date: 2.AUG.2023 17:21:02

11 FCC §15.407(a)(e) & RSS-247 §6.2, RSS-GEN §6.7 – Emission Bandwidth And Occupied Bandwidth

11.1 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.

RSS-247 Clause 6.2.1.2

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

RSS-247 Clause 6.2.4.1

For equipment operating in the band 5725-5850 MHz, the minimum 6 dB bandwidth shall be at least 500 kHz.

11.2 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) ≥ 3 × 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 (OBW/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).

11.3 Test Results

Test mode: Transmitting

5150-5250MHz

UNII Band	Mode	Channel	Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Emission Bandwidth (MHz)
UNII-1	802.11a	36	5180	21.08	16.62
		40	5200	21.08	16.54
		48	5240	21.20	16.54
	802.11ac 20	36	5180	21.84	17.62
		40	5200	21.40	17.58
		48	5240	21.36	17.58
	802.11ac 40	38	5190	42.56	36.36
		46	5230	42.64	36.28
	802.11ac 80	42	5210	82.24	75.44

5250-5350MHz

UNII Band	Mode	Channel	Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Emission Bandwidth (MHz)
UNII-2A	802.11a	52	5260	21.24	16.58
		60	5300	20.64	16.58
		64	5320	20.72	16.54
	802.11ac 20	52	5260	21.32	17.58
		60	5300	21.64	17.58
		64	5320	21.24	17.58
	802.11ac 40	54	5270	42.96	36.36
		62	5310	42.72	36.36
	802.11ac 80	58	5290	82.56	75.44

5470-5725MHz

UNII Band	Mode	Channel	Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Emission Bandwidth (MHz)
UNII-2C	802.11a	100	5500	20.72	16.58
		116	5580	20.72	16.66
		140	5700	23.56	16.66
	802.11ac 20	100	5500	21.56	17.62
		116	5580	22.00	17.62
		140	5700	22.24	17.58
	802.11ac 40	102	5510	43.36	36.44
		118	5590	42.64	36.60
		134	5670	42.56	36.60
	802.11ac 80	106	5530	83.36	75.60
		122	5610	85.60	75.76

5725-5850MHz

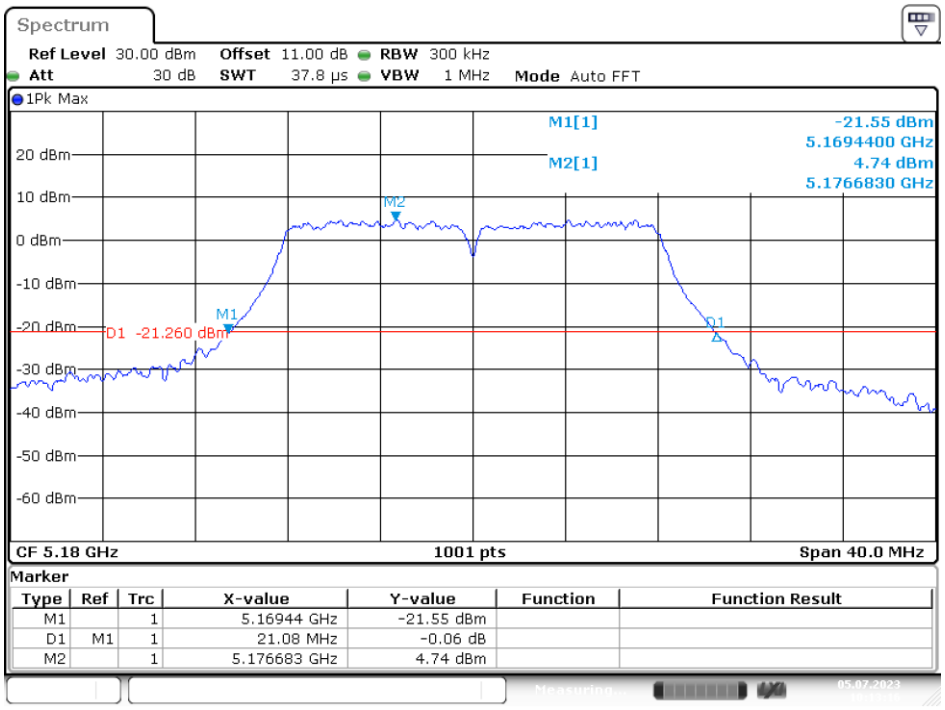
UNII Band	Mode	Channel	Frequency (MHz)	6dB Emission Bandwidth (MHz)	99% Emission Bandwidth (MHz)	Limit (kHz)	Result
UNII-3	802.11a	149	5745	16.32	16.66	≥500	PASS
		157	5785	16.32	16.62	≥500	PASS
		165	5825	16.28	16.58	≥500	PASS
	802.11ac 20	149	5745	17.08	17.70	≥500	PASS
		157	5785	16.96	17.70	≥500	PASS
		165	5825	16.96	17.66	≥500	PASS
	802.11ac 40	151	5755	35.68	36.76	≥500	PASS
		159	5795	35.68	36.68	≥500	PASS
	802.11ac 80	155	5775	75.20	75.92	≥500	PASS

Please refer to the following plots

Transmitting Mode:

UNII-1 Band I / BW 26dBc
IEEE 802.11a Mode / 5150 ~ 5250MHz

5180MHz



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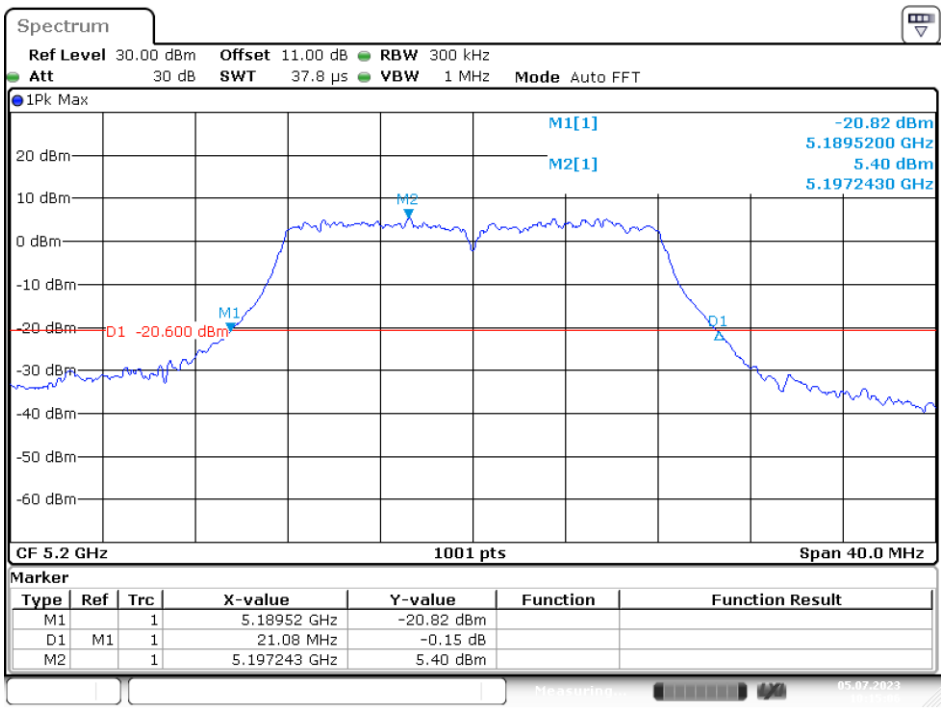
5200MHz



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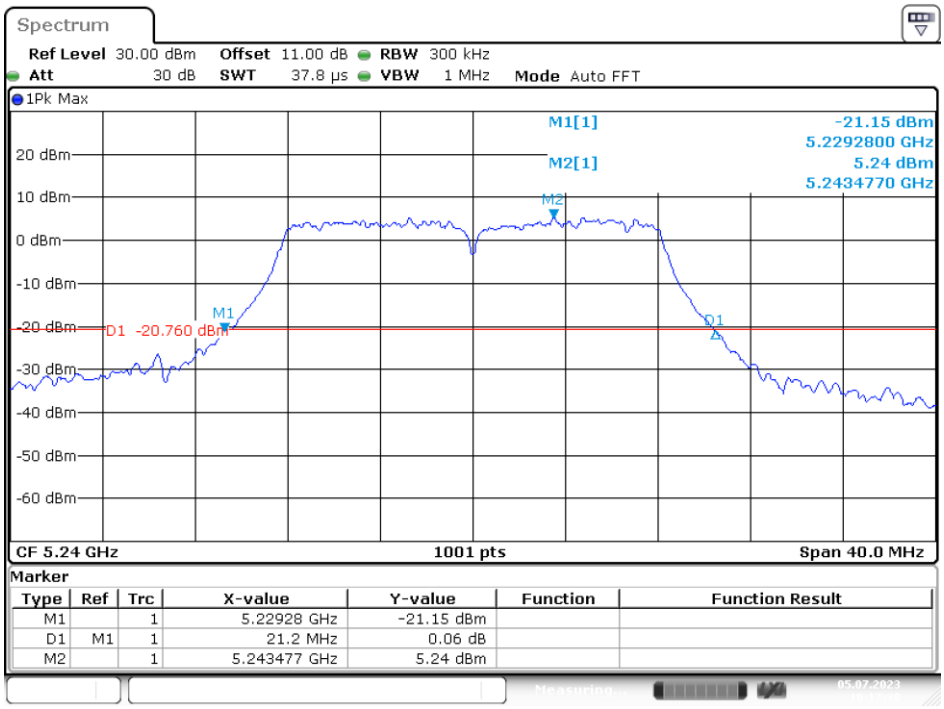
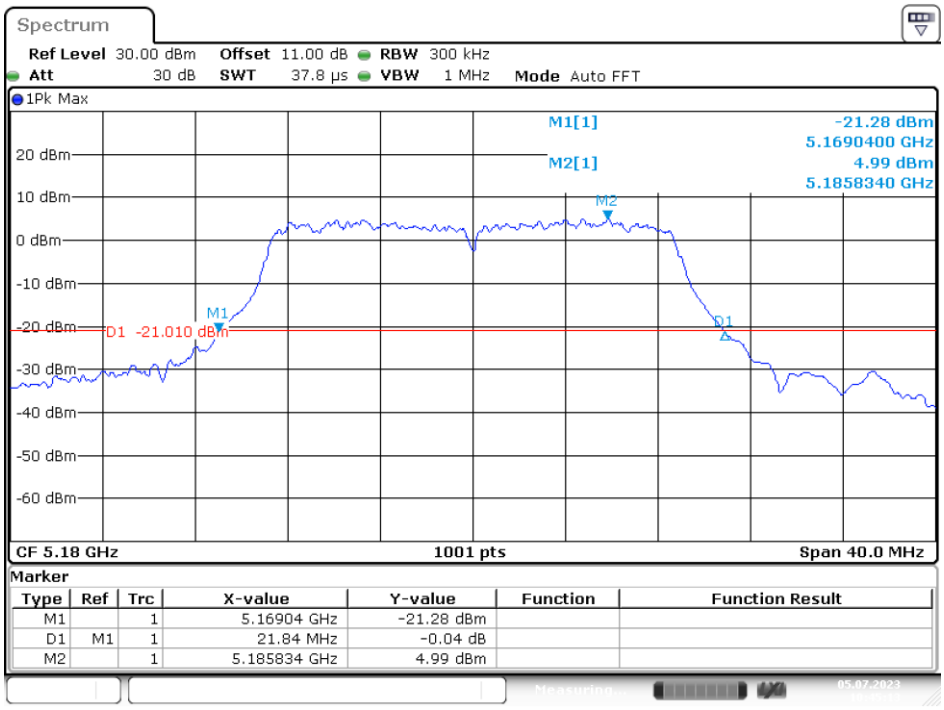
5240MHz



Date: 5.JUL.2023 10:17:38

IEEE 802.11ac VHT20 Mode / 5150 ~ 5250MHz

5180MHz



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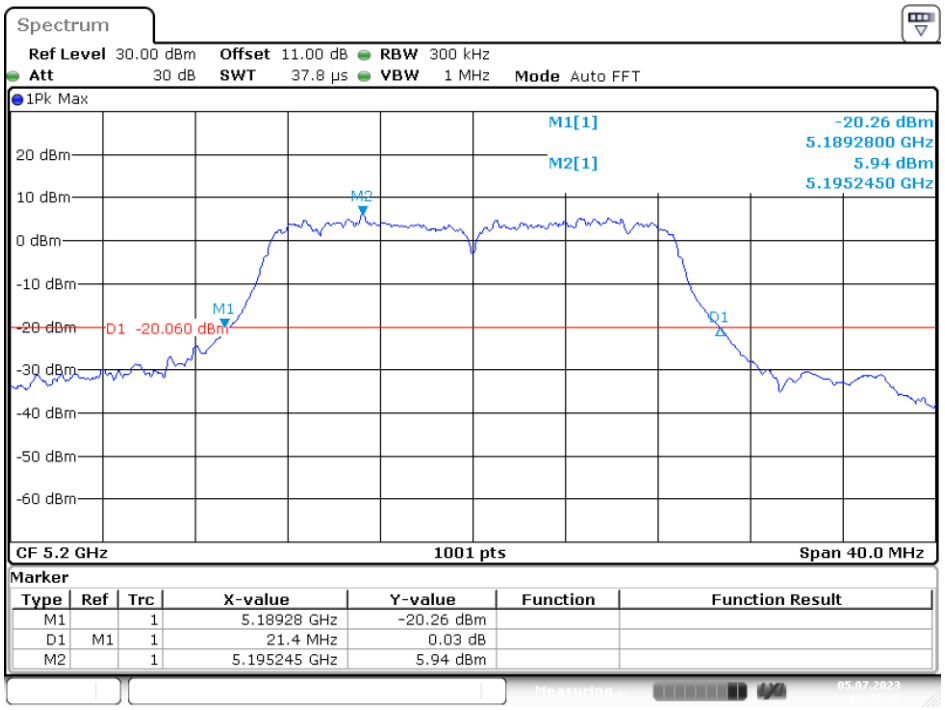
5200MHz

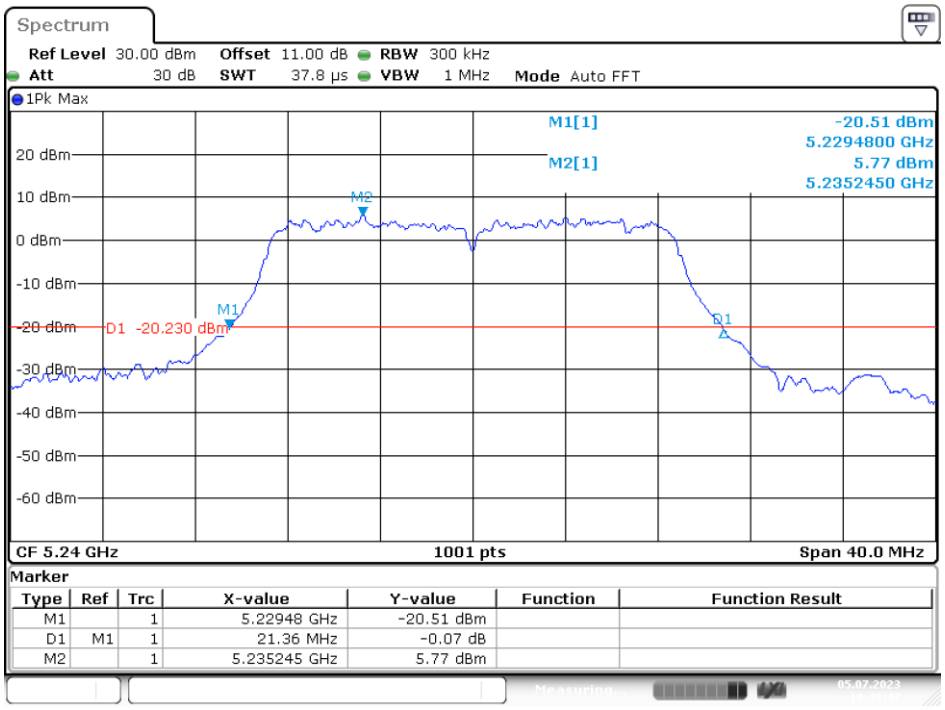


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.18928 GHz	-20.26 dBm		
D1	M1	1	21.4 MHz	0.03 dB		
M2		1	5.195245 GHz	5.94 dBm		

Date: 5.JUL.2023 10:46:46

5240MHz



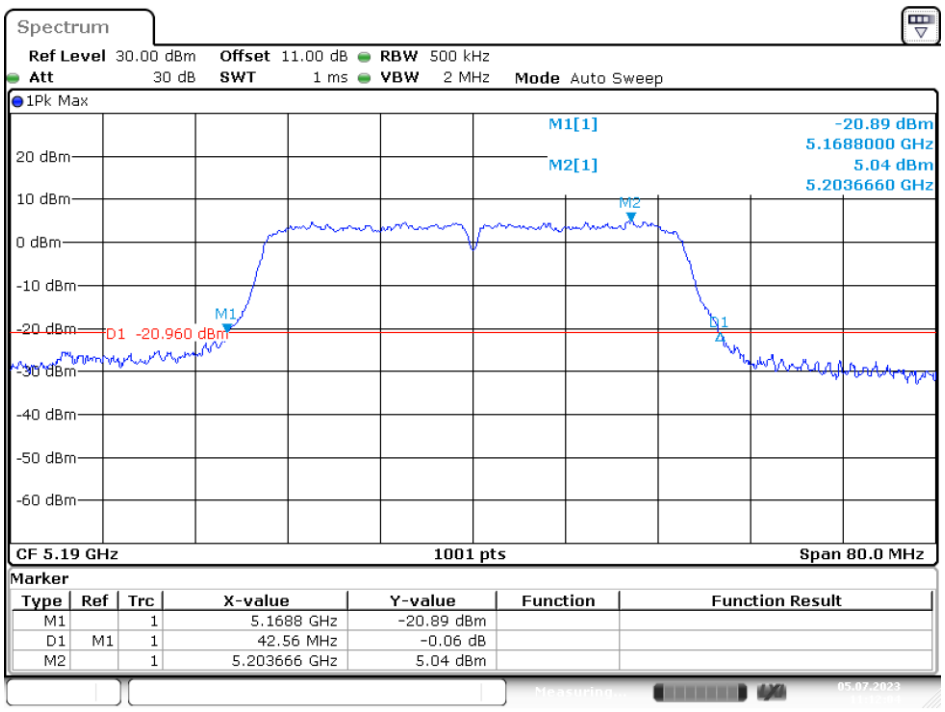
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.22948 GHz	-20.51 dBm		
D1	M1	1	21.36 MHz	-0.07 dB		
M2		1	5.235245 GHz	5.77 dBm		

Date: 5.JUL.2023 10:48:47

IEEE 802.11ac VHT40 Mode / 5150 ~ 5250MHz

5190MHz



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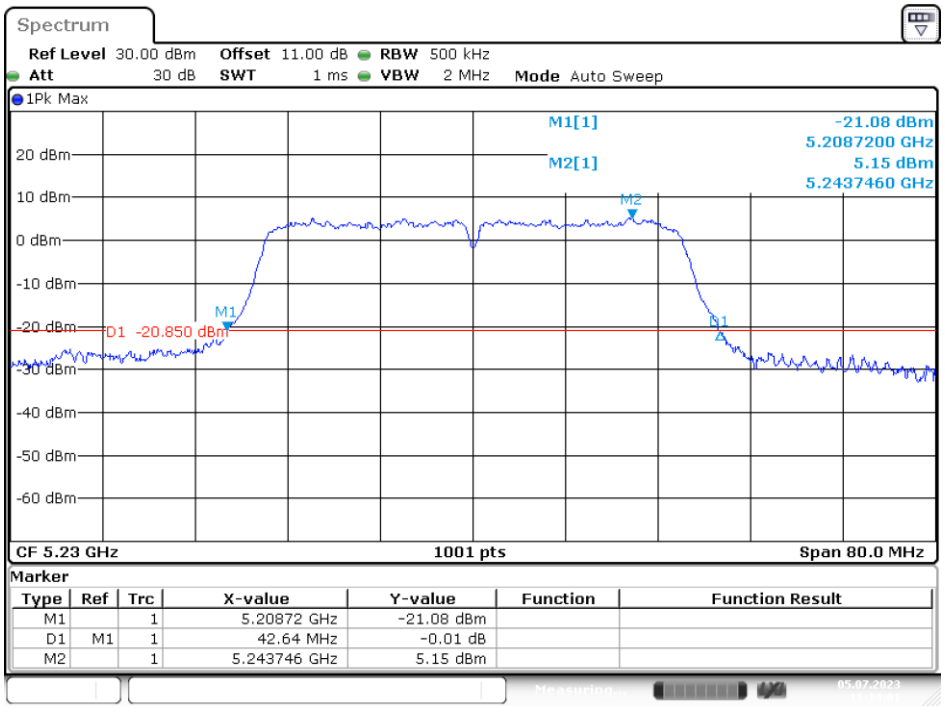
5230MHz



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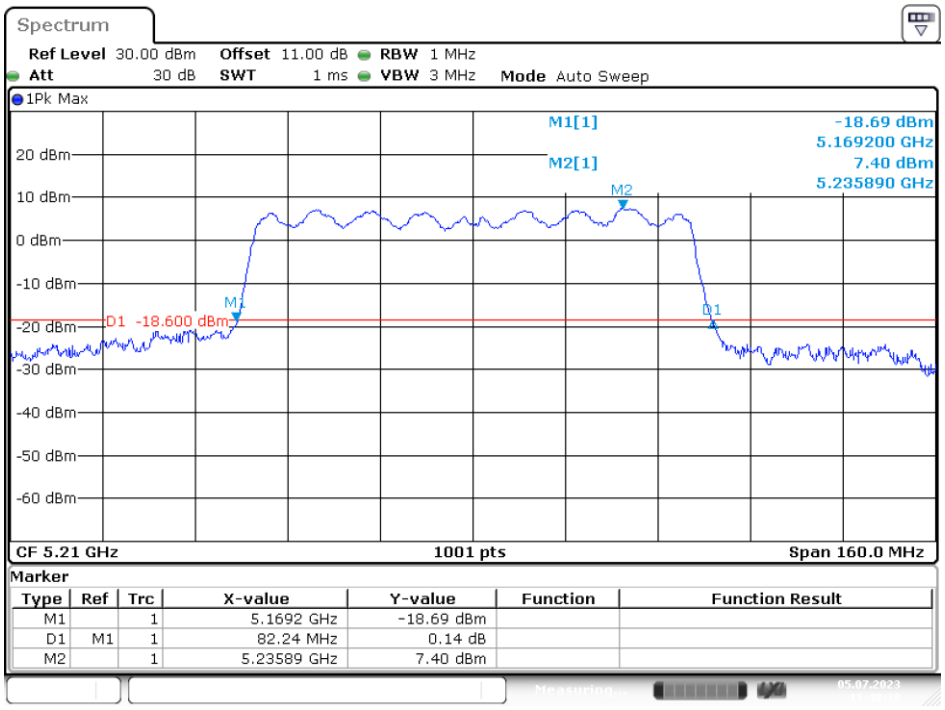
IEEE 802.11ac VHT80 Mode / 5150 ~ 5250MHz

5210MHz



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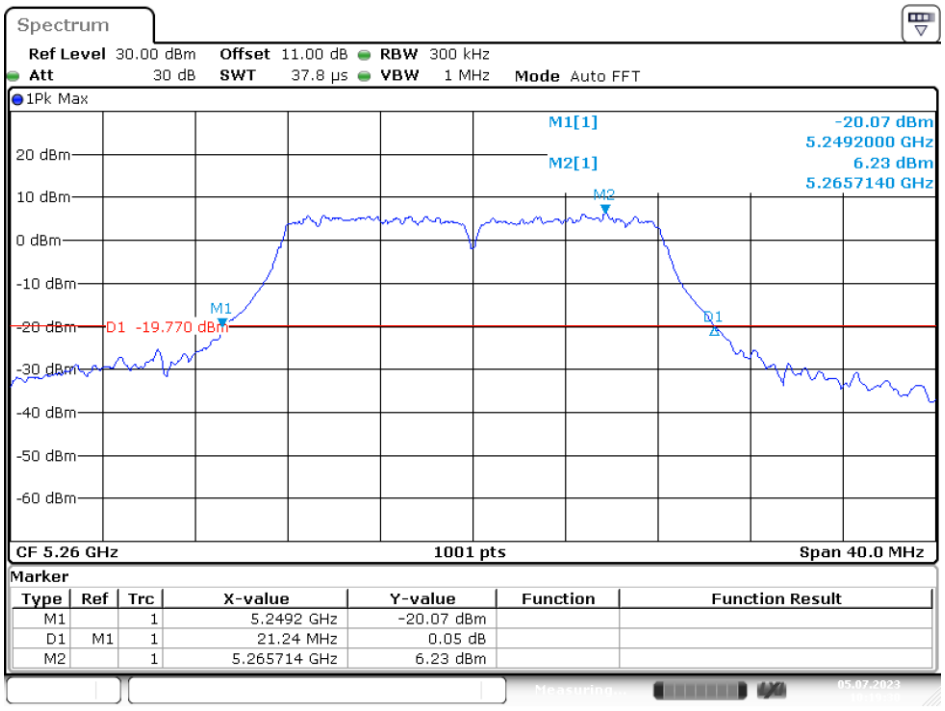
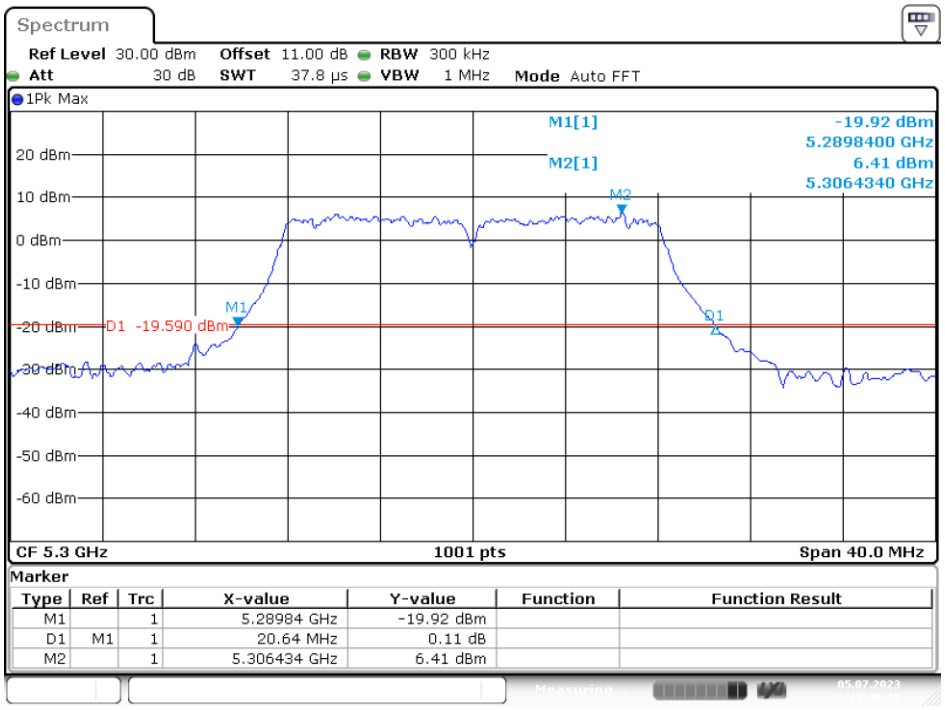
UNII-2A Band II / BW 26dBc
IEEE 802.11a Mode / 5250 ~ 5350MHz

5260MHz



Date: 5.JUL.2023 10:19:31

5300MHz



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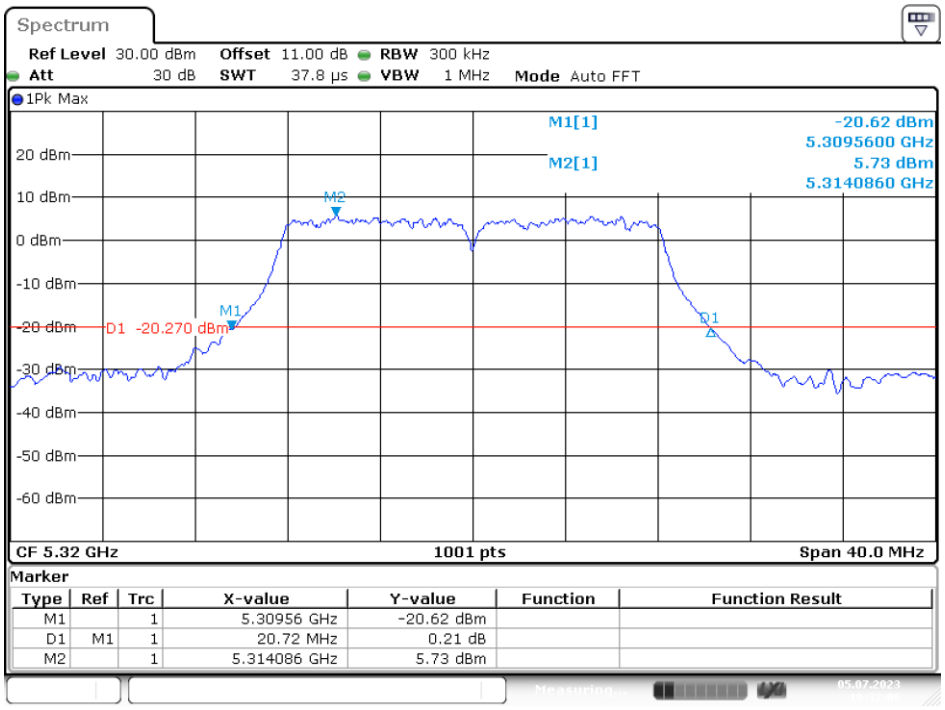
5320MHz



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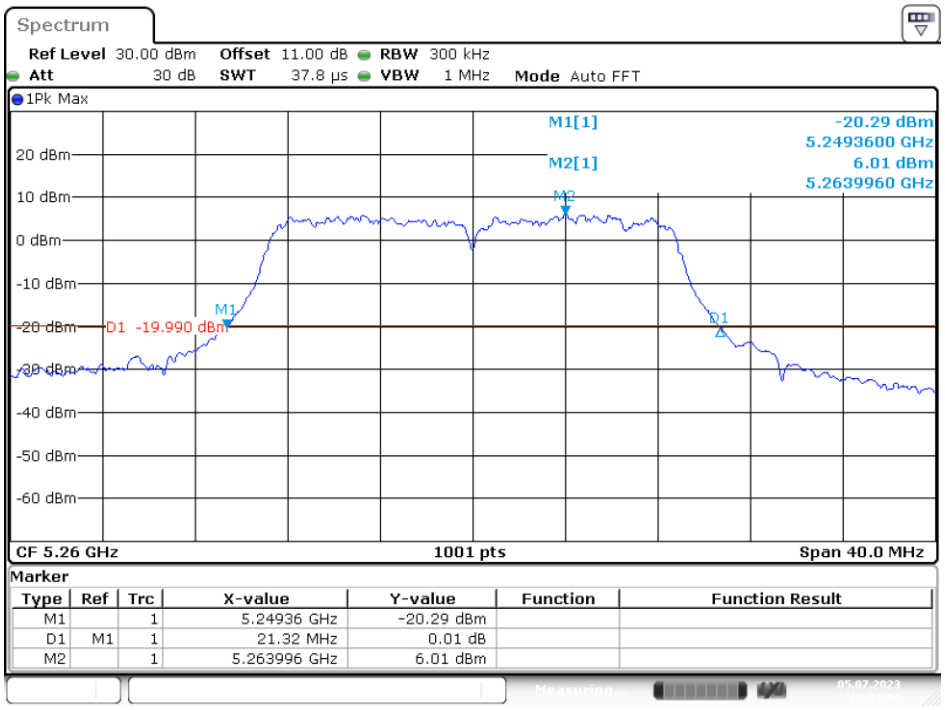
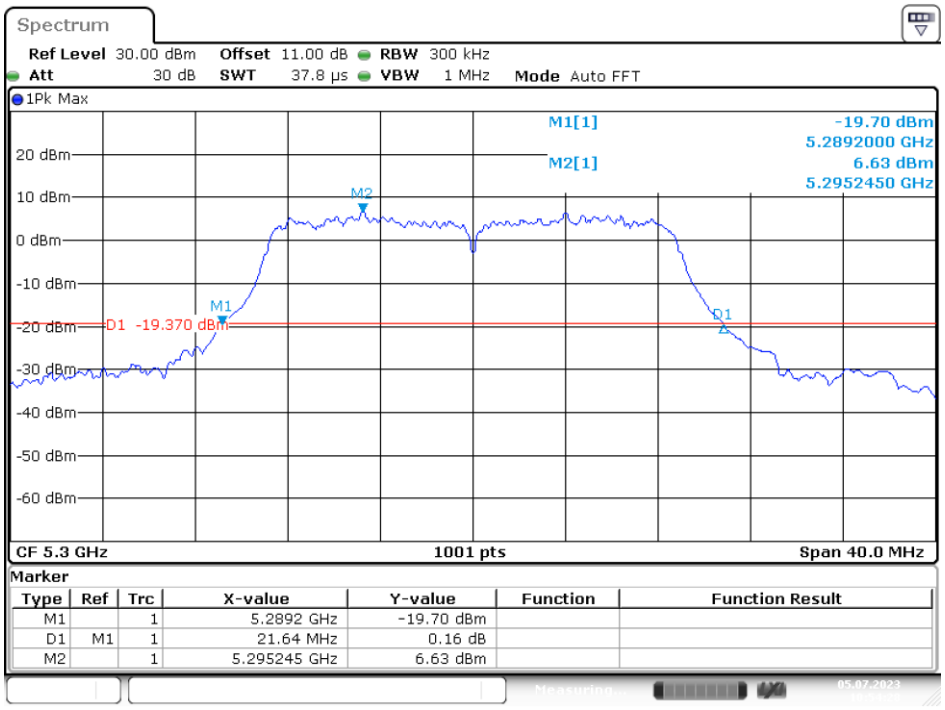
IEEE 802.11ac VHT20 Mode / 5250 ~ 5350MHz

5260MHz



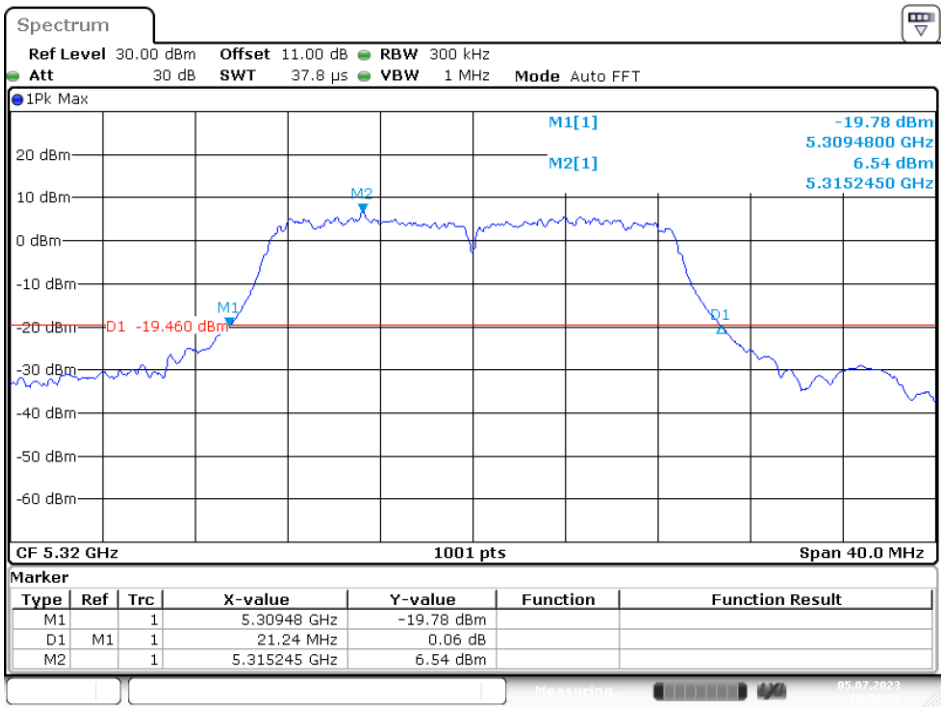
Date: 5.JUL.2023 10:51:04

5300MHz



Date: 5.JUL.2023 10:54:29

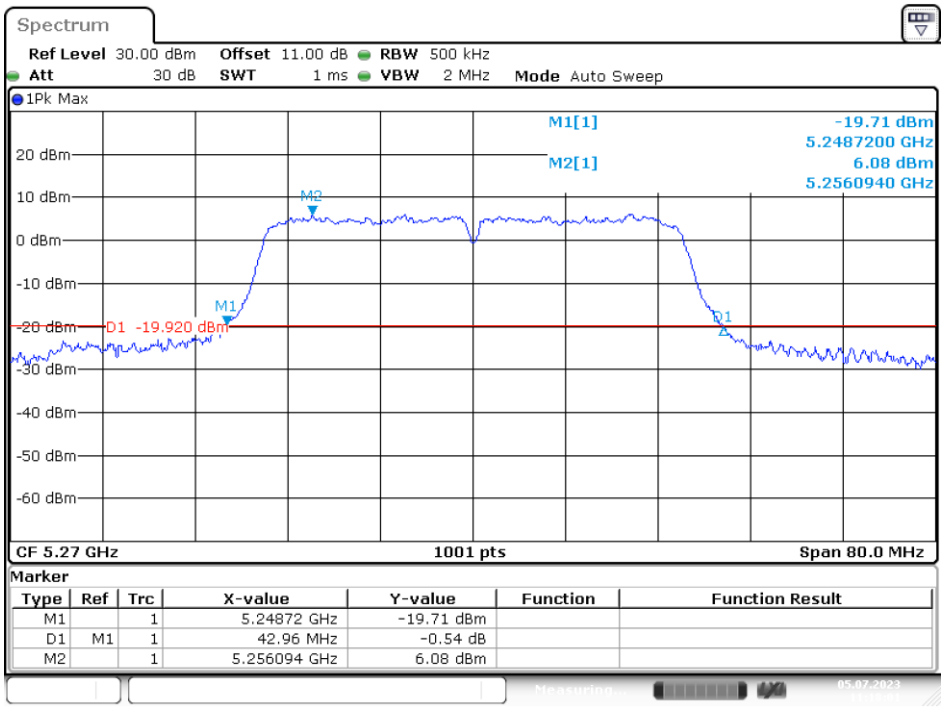
5320MHz



Date: 5.JUL.2023 10:56:20

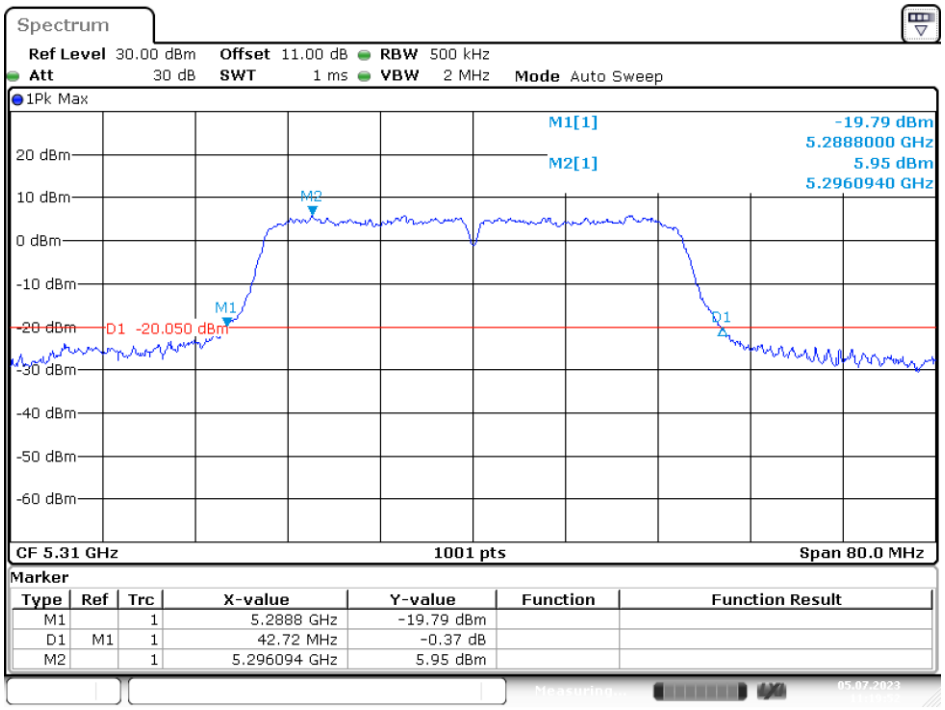
IEEE 802.11ac VHT40 Mode / 5250 ~ 5350MHz

5270MHz



Date: 5.JUL.2023 11:18:01

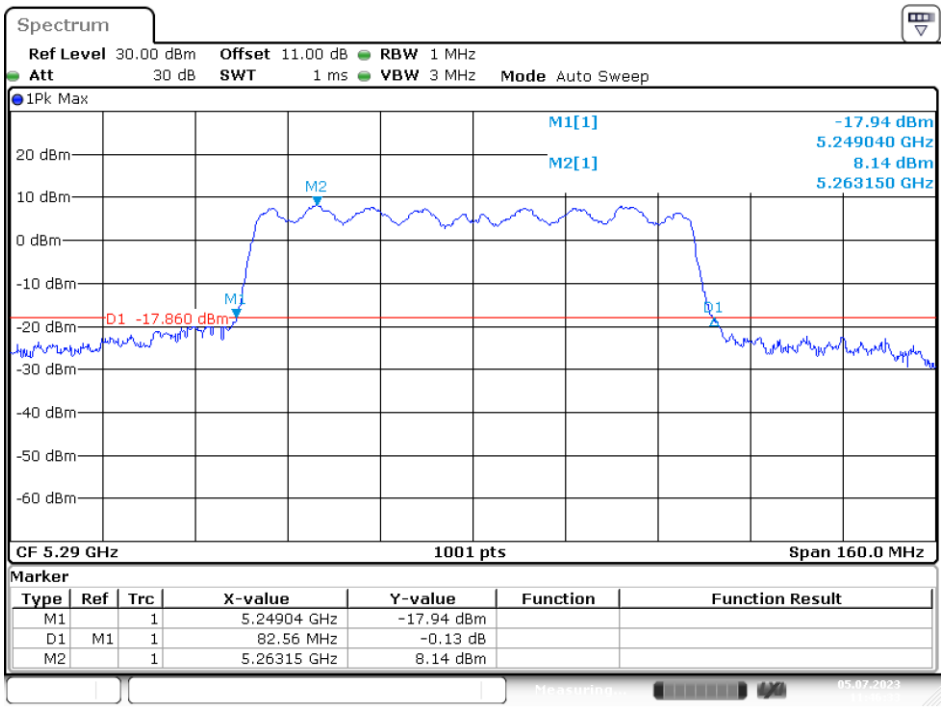
5310MHz



Date: 5.JUL.2023 11:19:53

IEEE 802.11ac VHT80 Mode / 5250 ~ 5350MHz

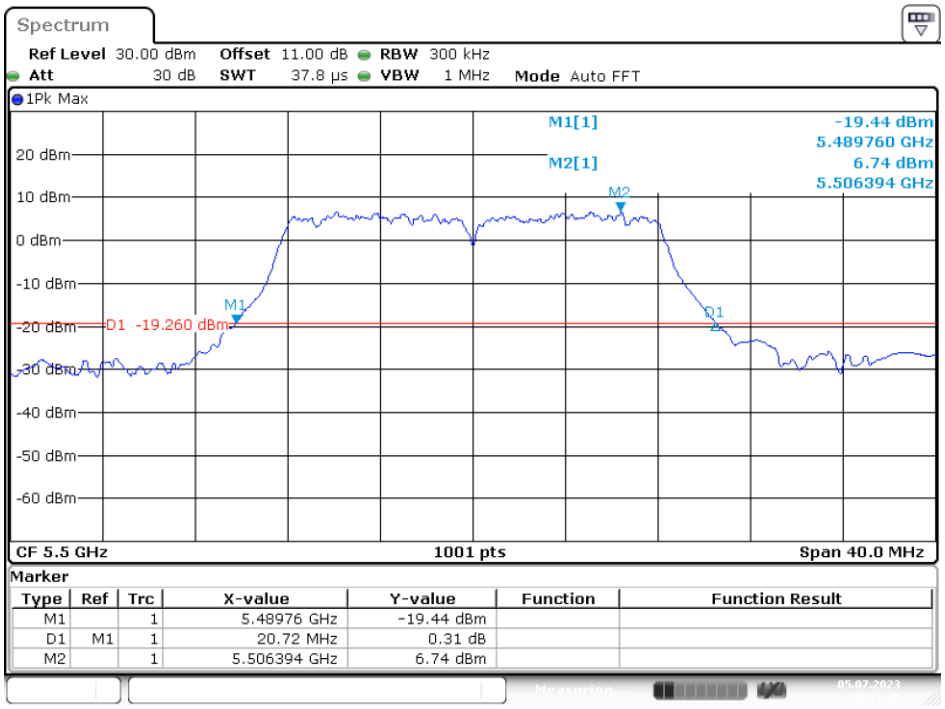
5290MHz



Date: 5.JUL.2023 11:46:33

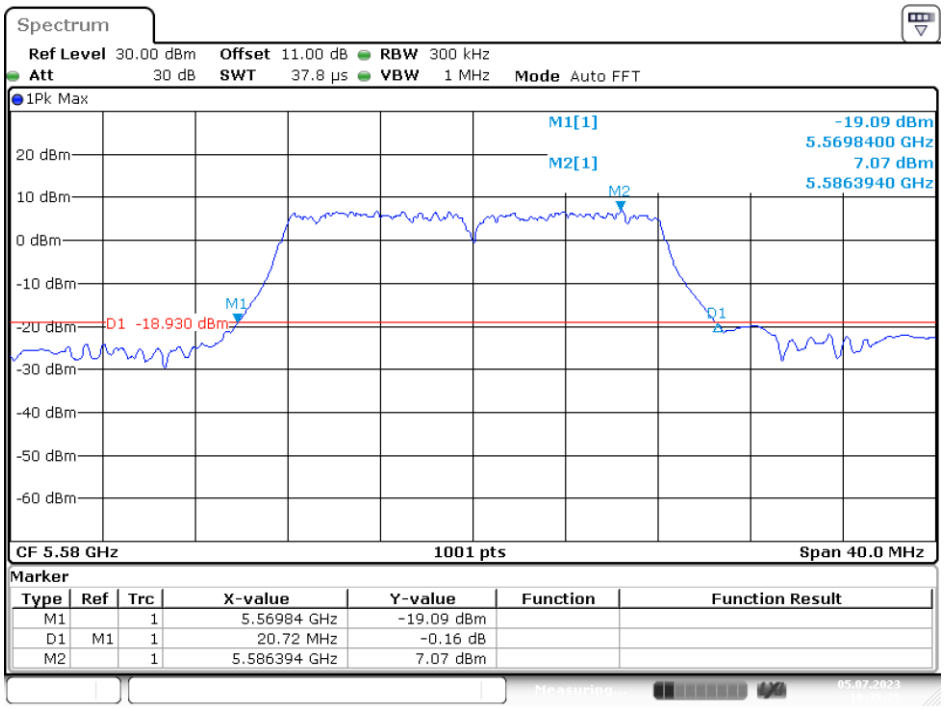
UNII-2C Band III / BW 26dBc
IEEE 802.11a Mode / 5470 ~ 5725MHz

5500MHz



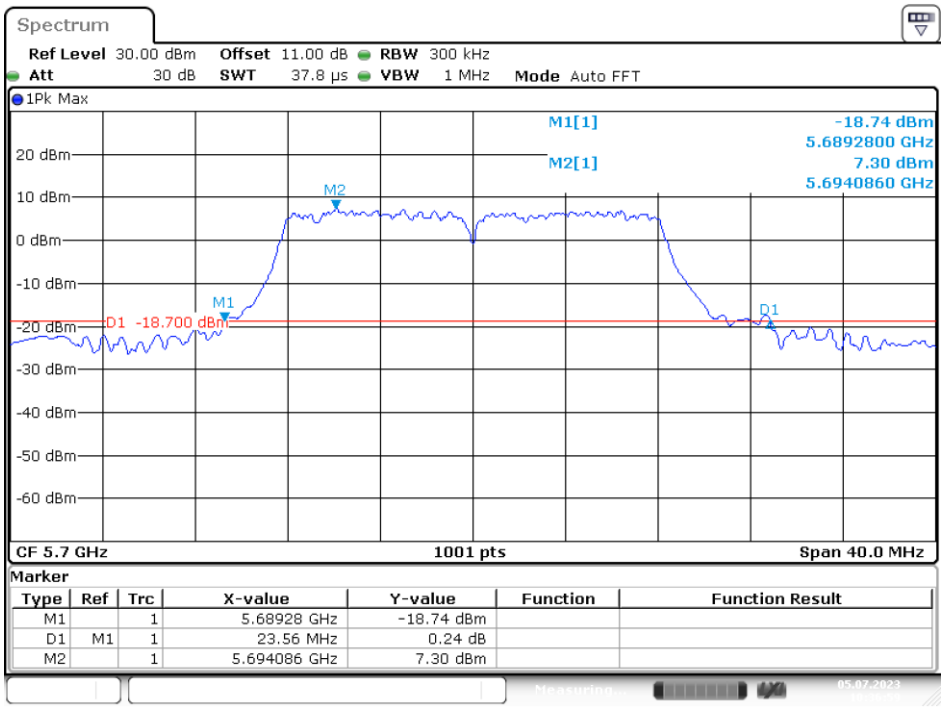
Date: 5.JUL.2023 10:33:41

5580MHz



Date: 5.JUL.2023 10:35:25

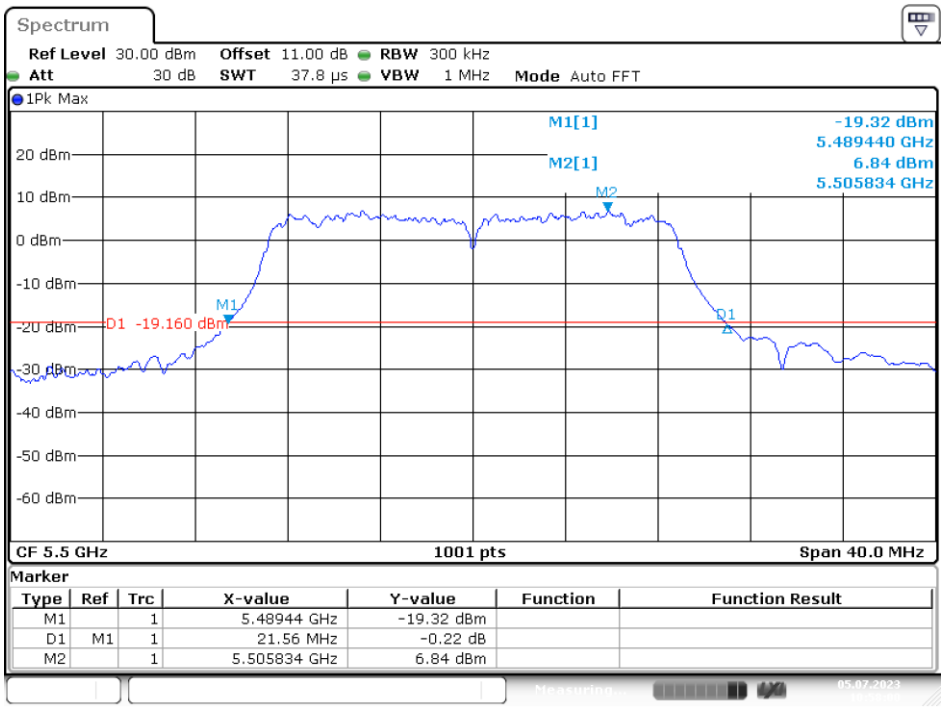
5700MHz



Date: 5.JUL.2023 10:37:00

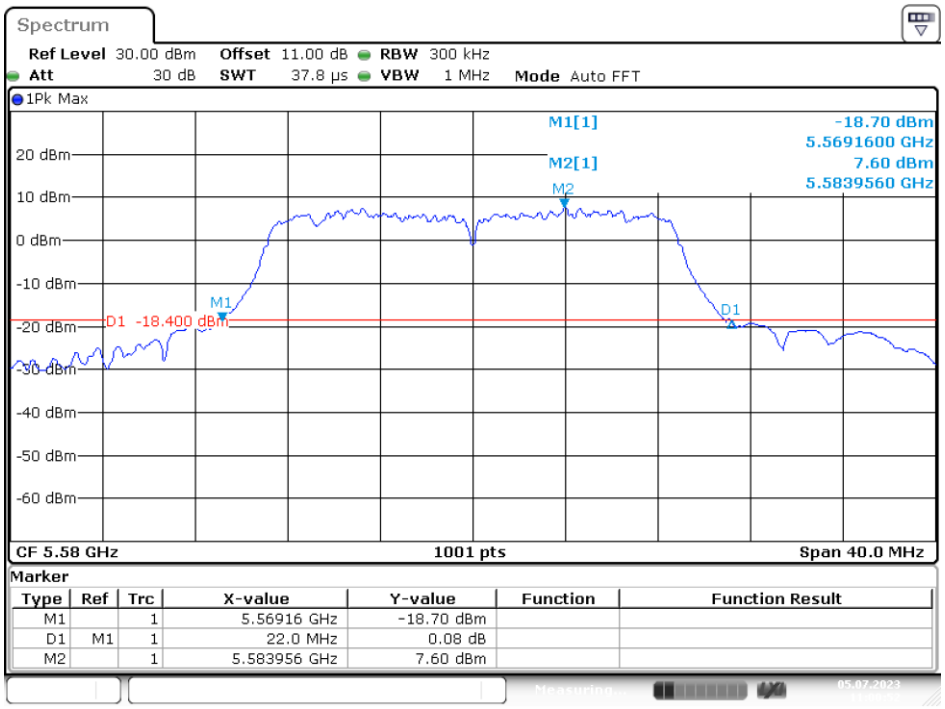
IEEE 802.11ac VHT20 Mode / 5470 ~ 5725MHz

5500MHz



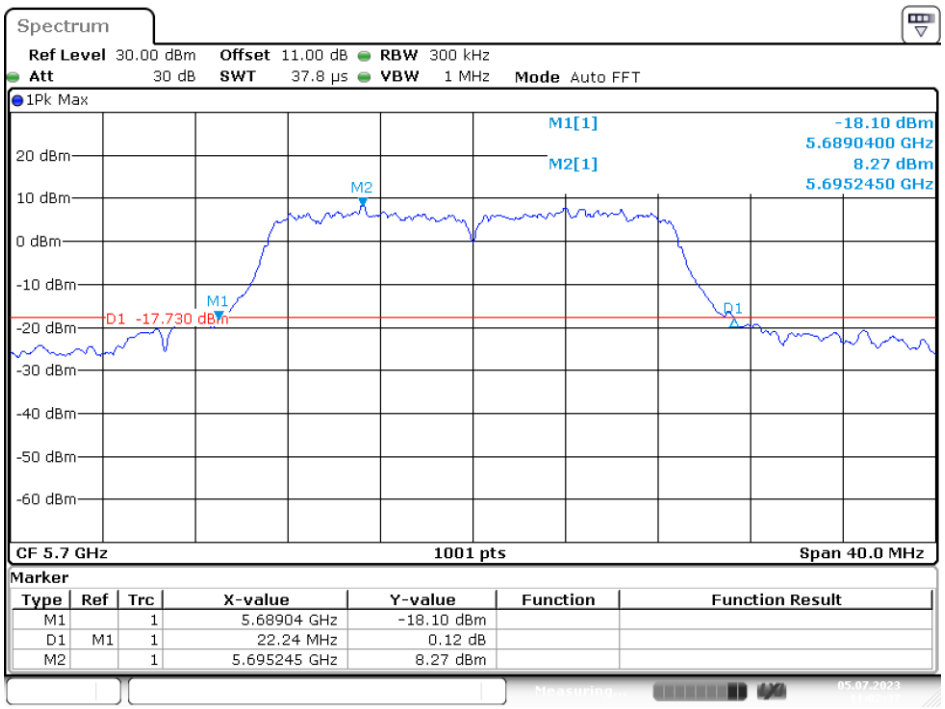
Date: 5.JUL.2023 10:58:00

5580MHz



Date: 5.JUL.2023 11:00:52

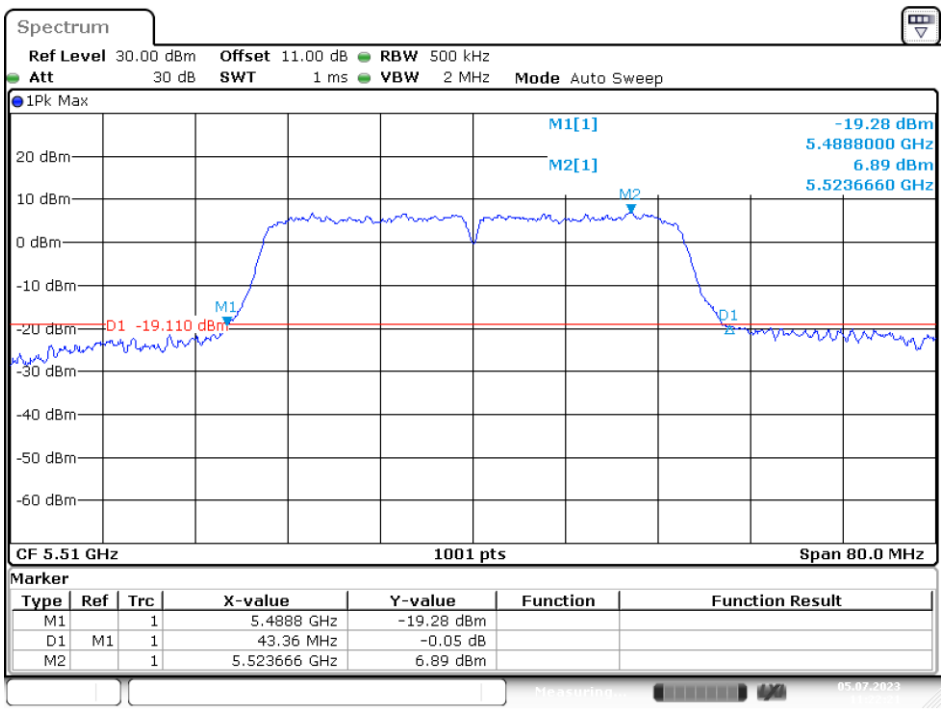
5700MHz



Date: 5.JUL.2023 11:02:38

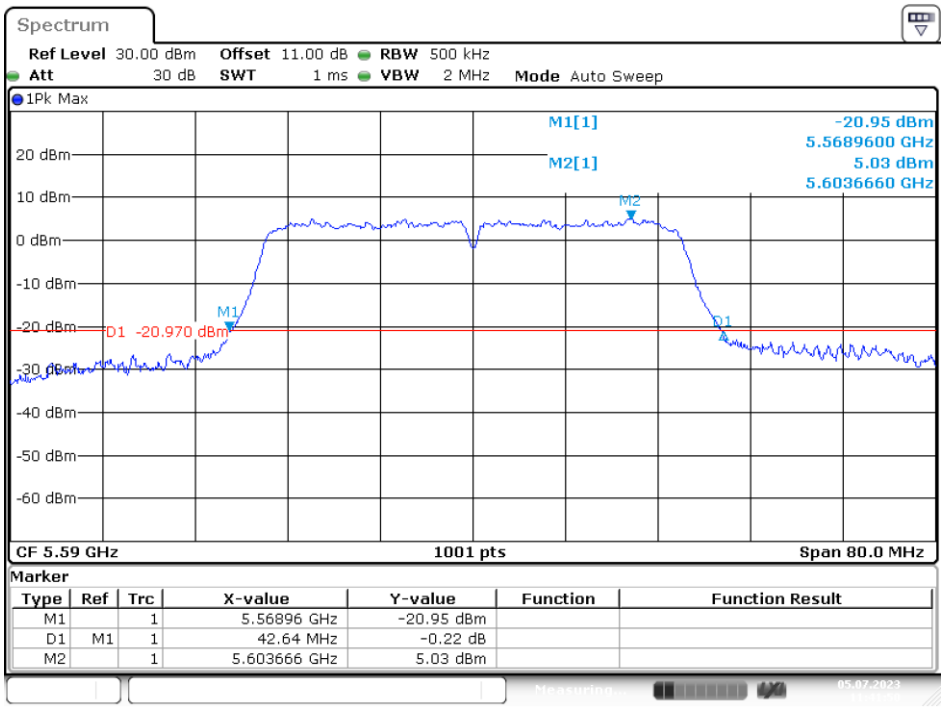
IEEE 802.11ac VHT40 Mode / 5470 ~ 5725MHz

5510MHz



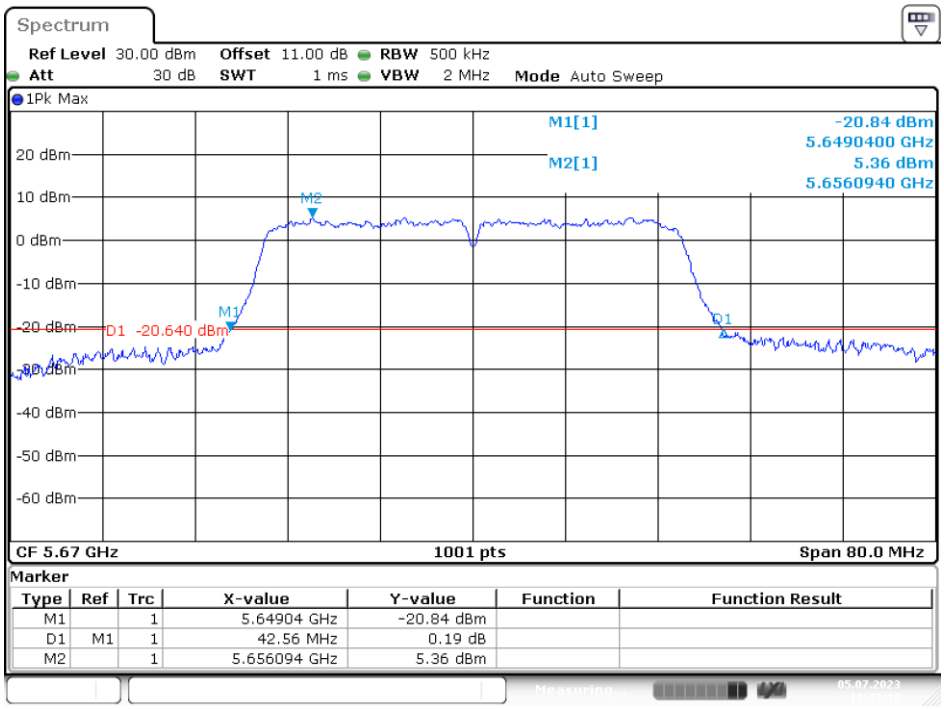
Date: 5.JUL.2023 11:22:21

5590MHz



Date: 5.JUL.2023 11:41:50

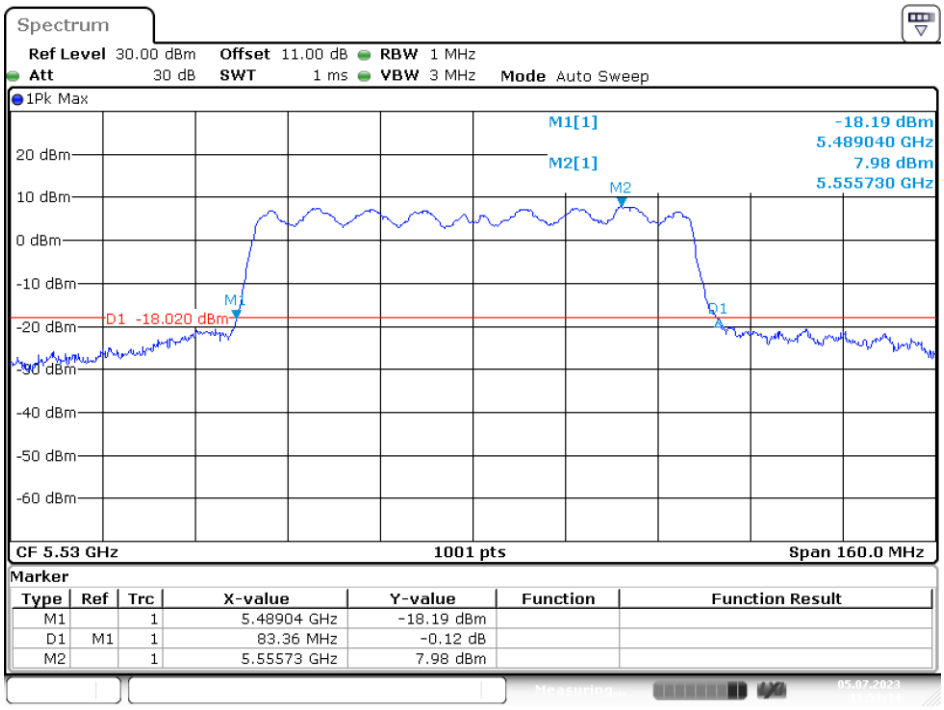
5670MHz



Date: 5.JUL.2023 11:43:10

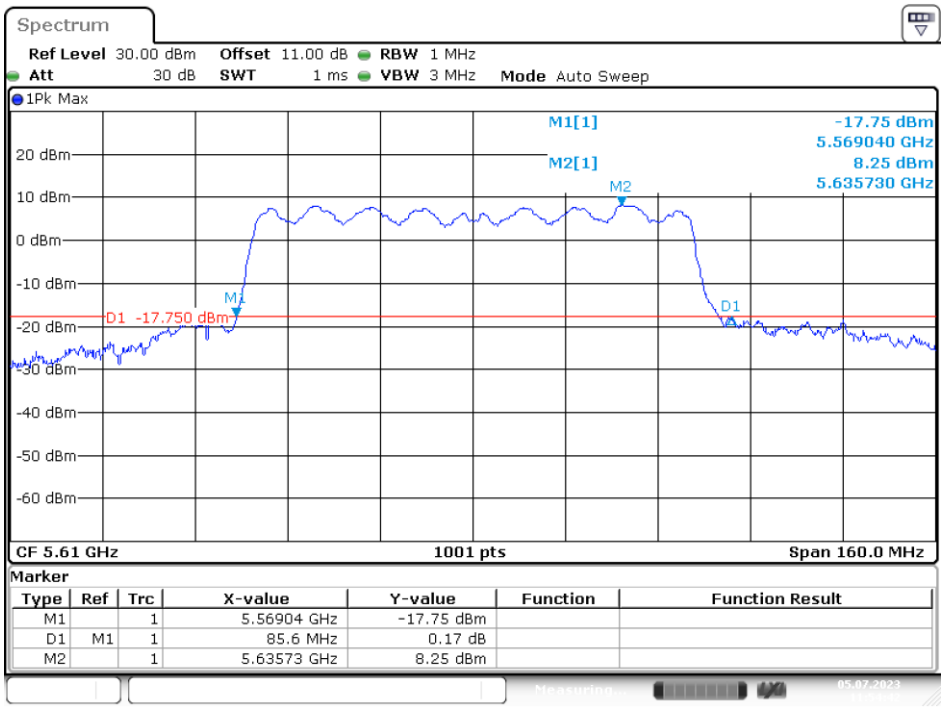
IEEE 802.11ac VHT80 Mode / 5470 ~ 5725MHz

5530MHz



Date: 5.JUL.2023 11:51:34

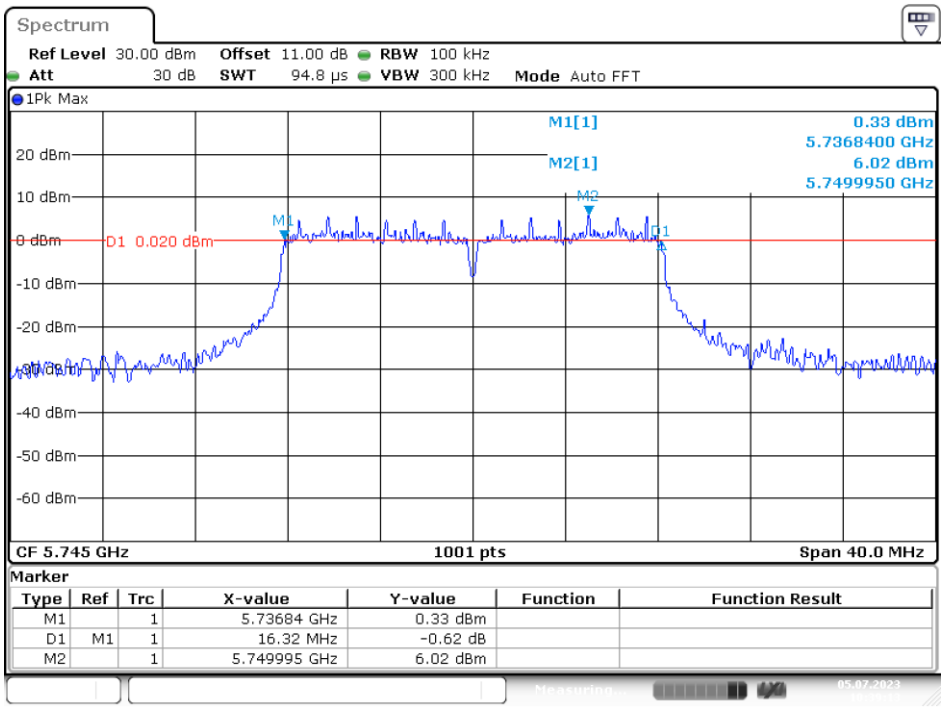
5610MHz



Date: 5.JUL.2023 11:54:43

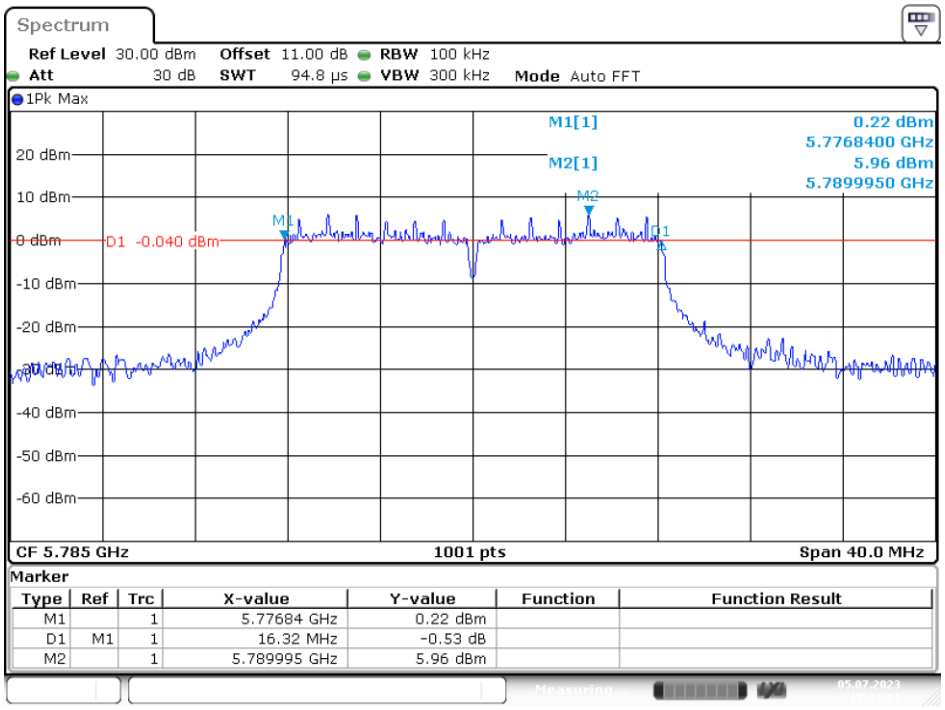
UNII-3 Band IV / BW 6dBc
IEEE 802.11a Mode / 5725 ~ 5850MHz

5745MHz



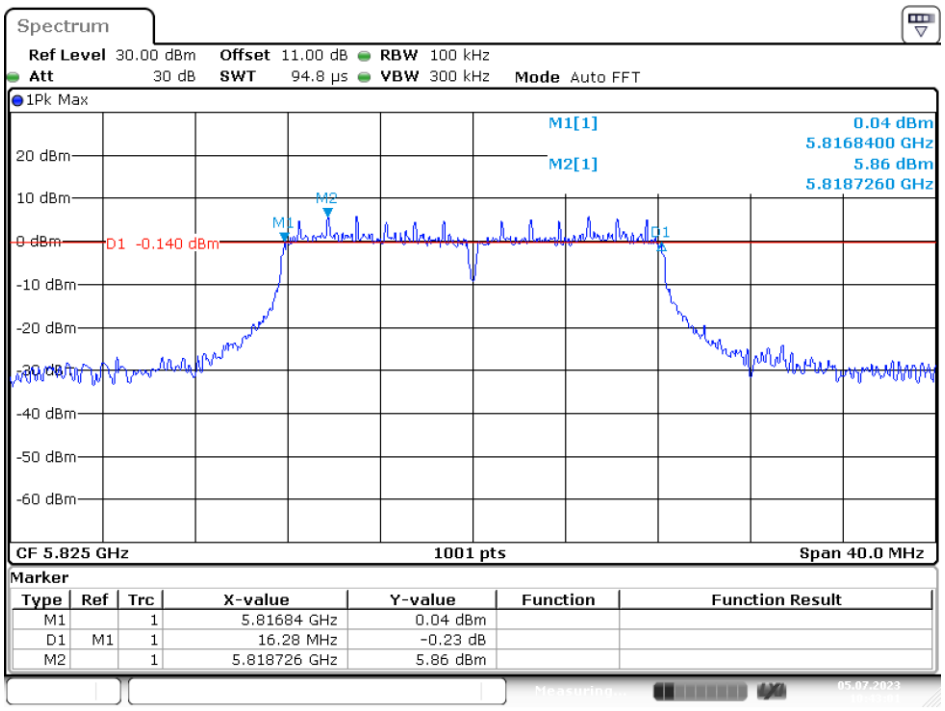
Date: 5.JUL.2023 10:39:13

5785MHz



Date: 5.JUL.2023 10:41:02

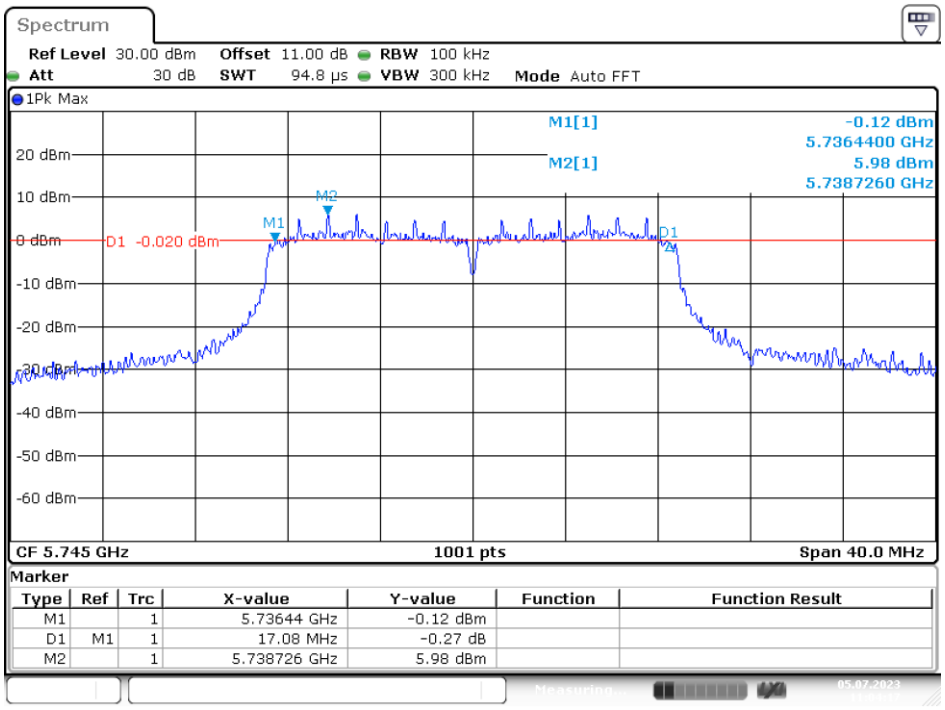
5825MHz



Date: 5.JUL.2023 10:43:01

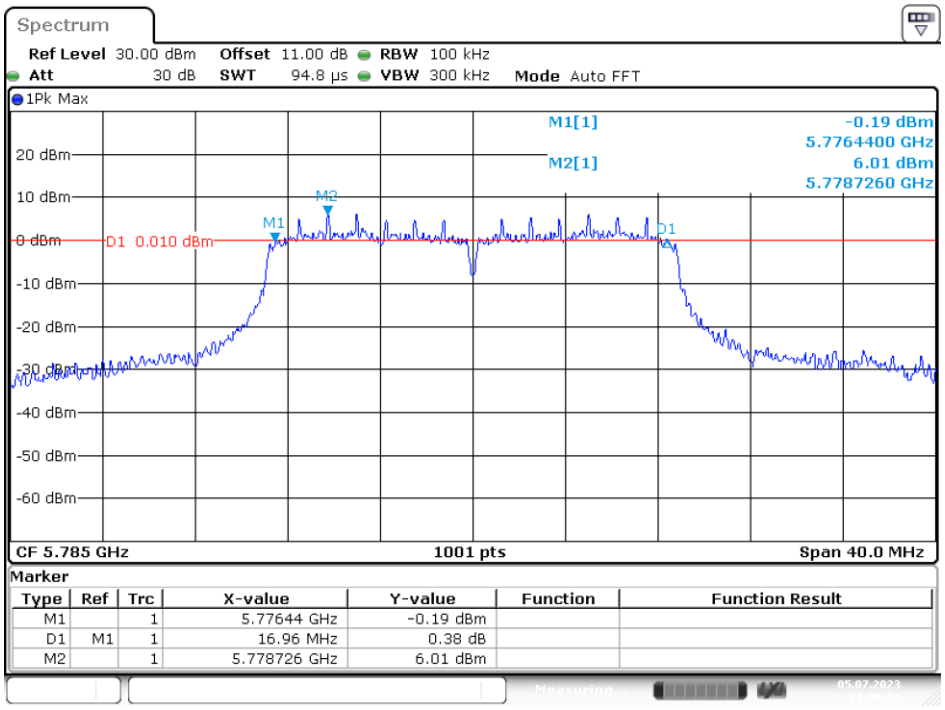
IEEE 802.11ac VHT20 Mode / 5725 ~ 5850MHz

5745MHz



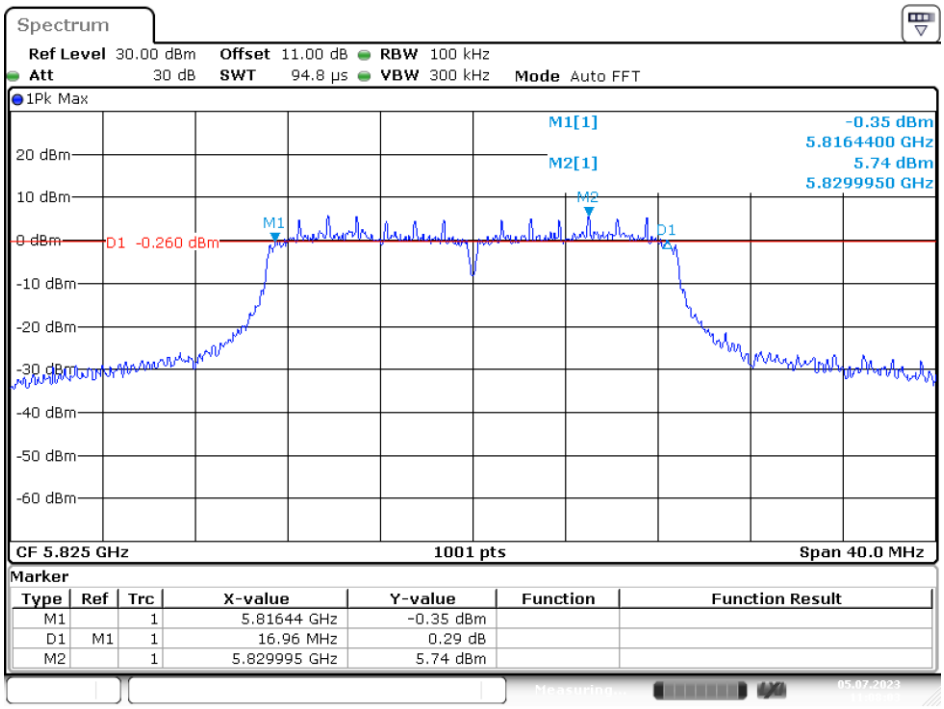
Date: 5.JUL.2023 11:04:17

5785MHz



Date: 5.JUL.2023 11:06:13

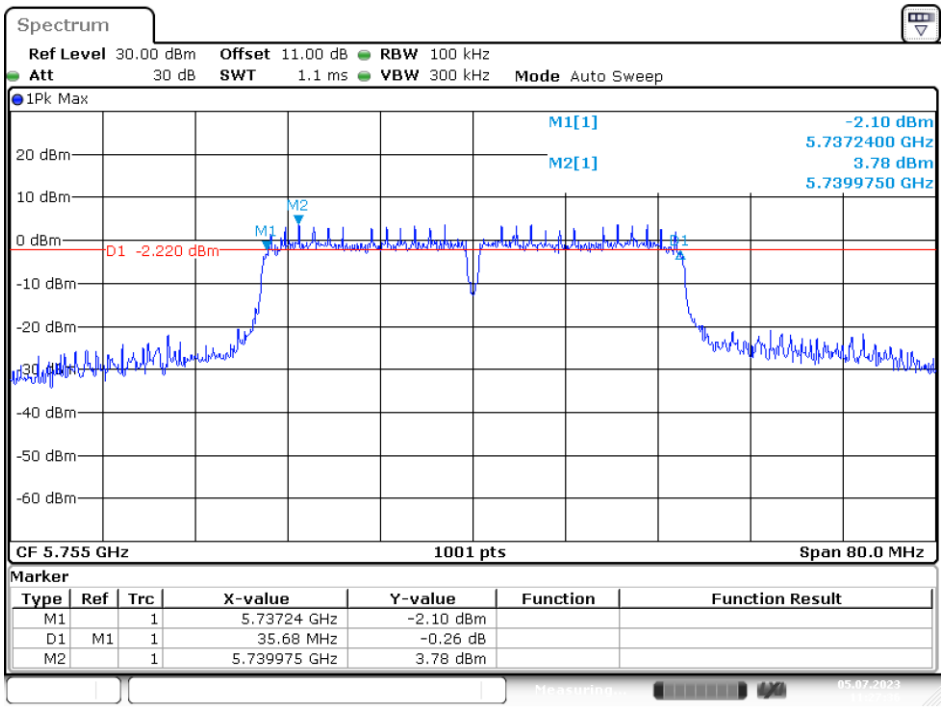
5825MHz



Date: 5.JUL.2023 11:08:03

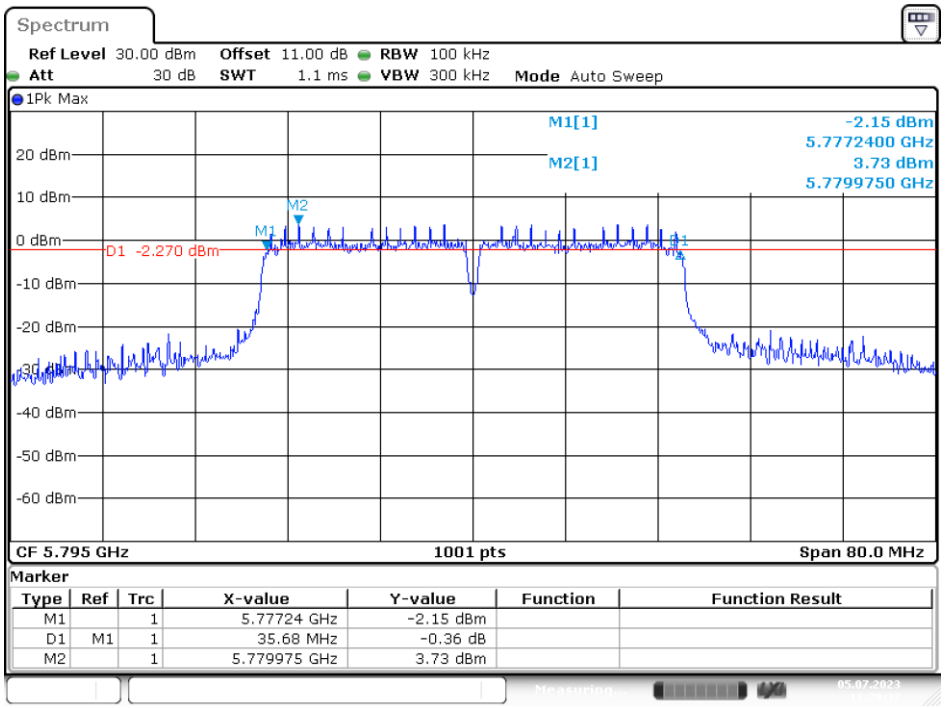
IEEE 802.11ac VHT40 Mode / 5725 ~ 5850MHz

5755MHz



Date: 5.JUL.2023 11:27:36

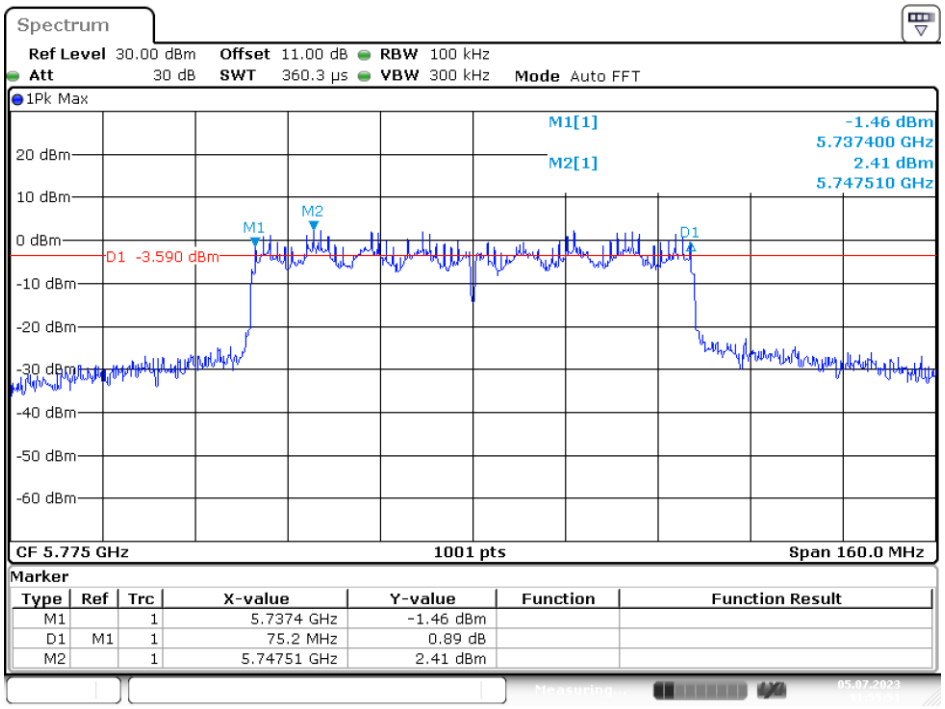
5795MHz



Date: 5.JUL.2023 11:29:37

IEEE 802.11ac VHT80 Mode / 5725 ~ 5850MHz

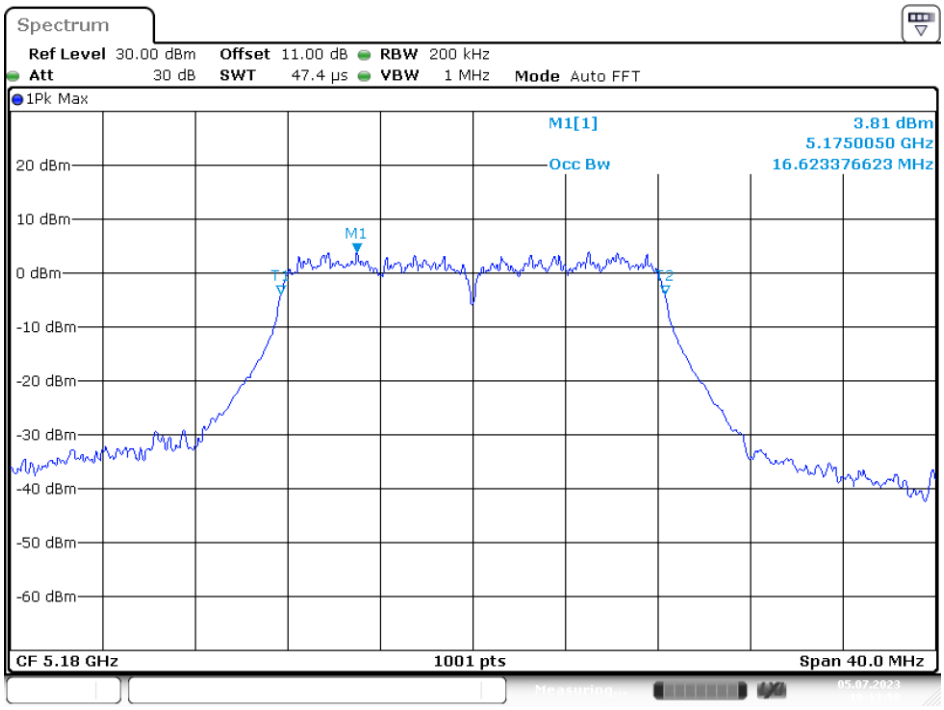
5775MHz



Date: 5.JUL.2023 11:55:52

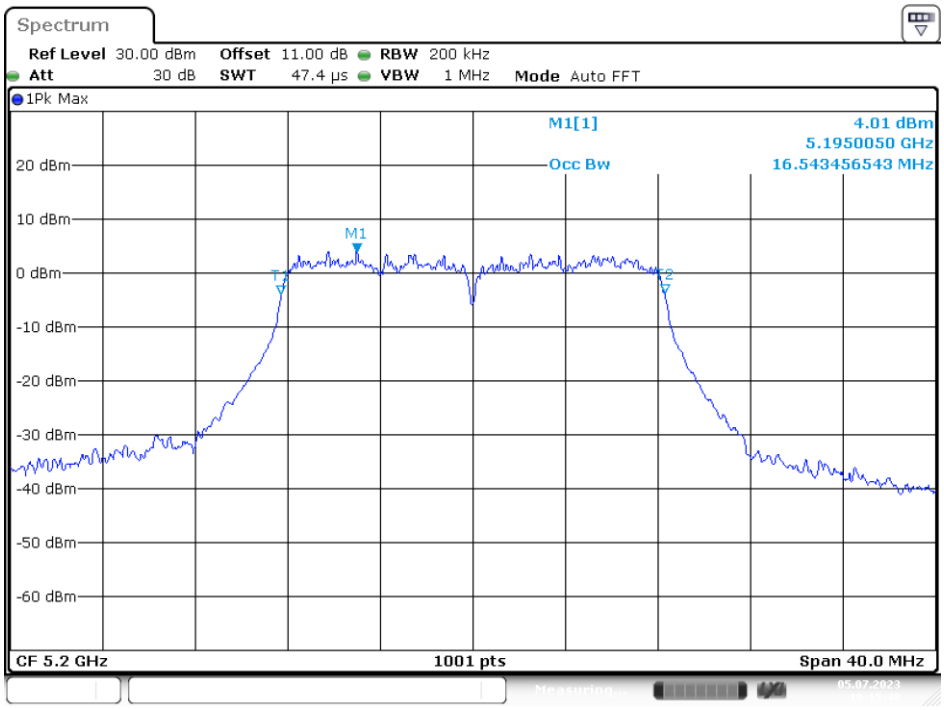
UNII-1 Band I / OBW 99%
IEEE 802.11a Mode / 5150 ~ 5250MHz

5180MHz



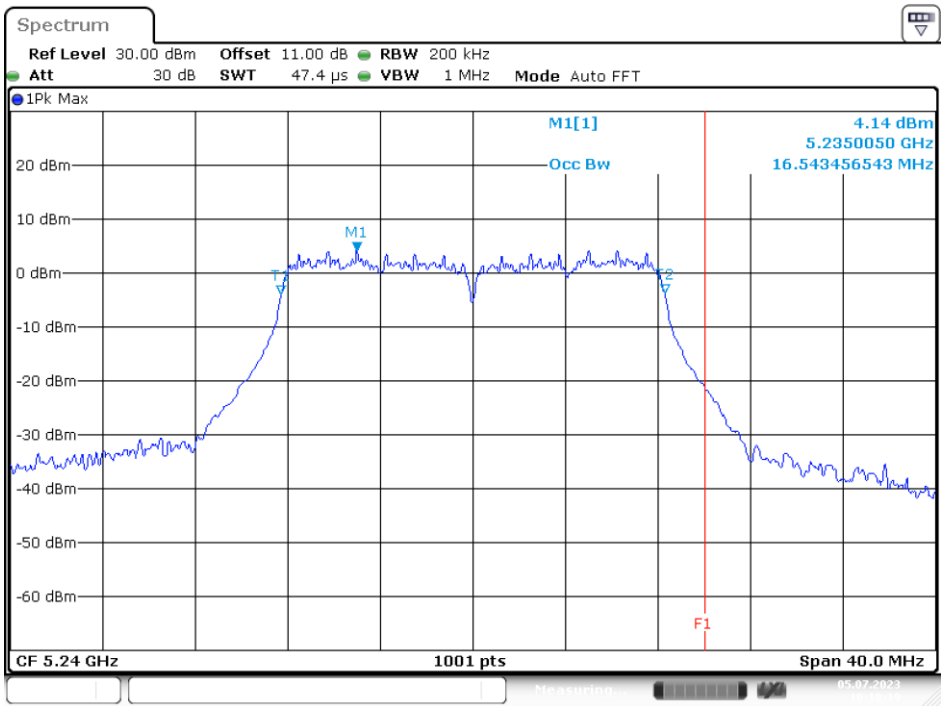
Date: 5.JUL.2023 10:13:59

5200MHz



Date: 5.JUL.2023 10:15:48

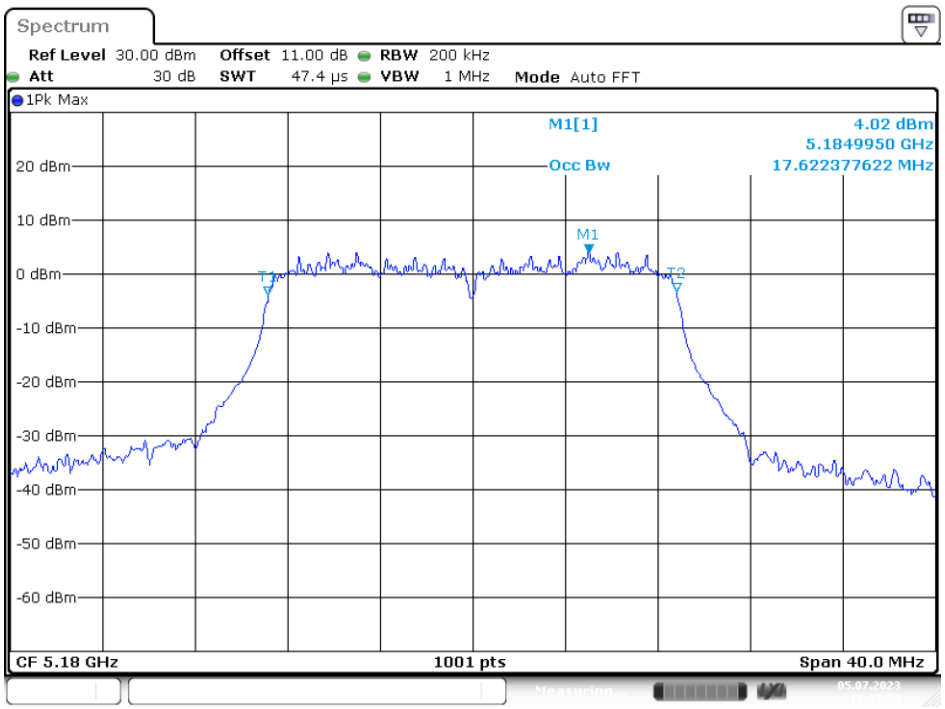
5240MHz



Date: 5.JUL.2023 10:18:20

IEEE 802.11ac VHT20 Mode / 5150 ~ 5250MHz

5180MHz



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