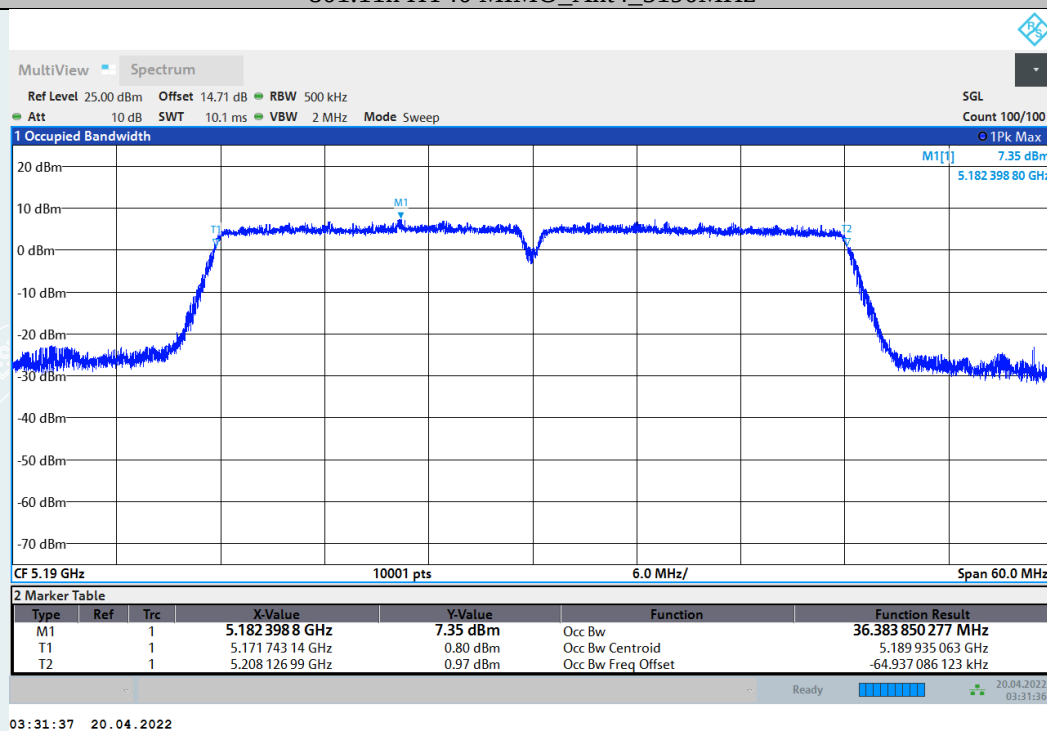
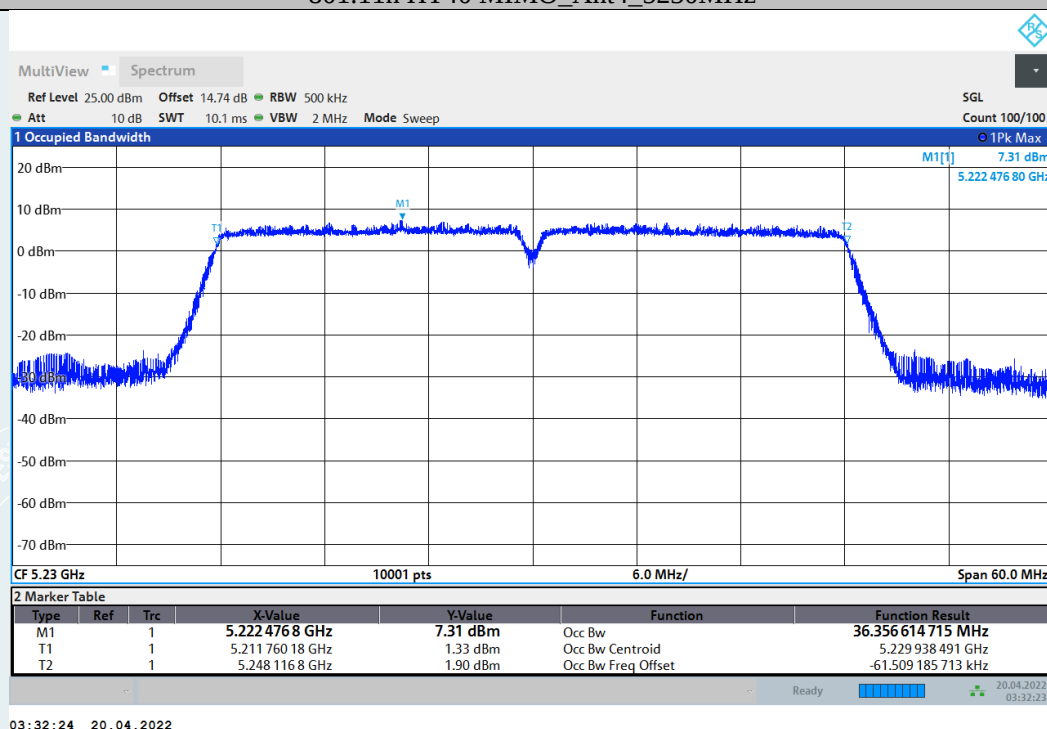
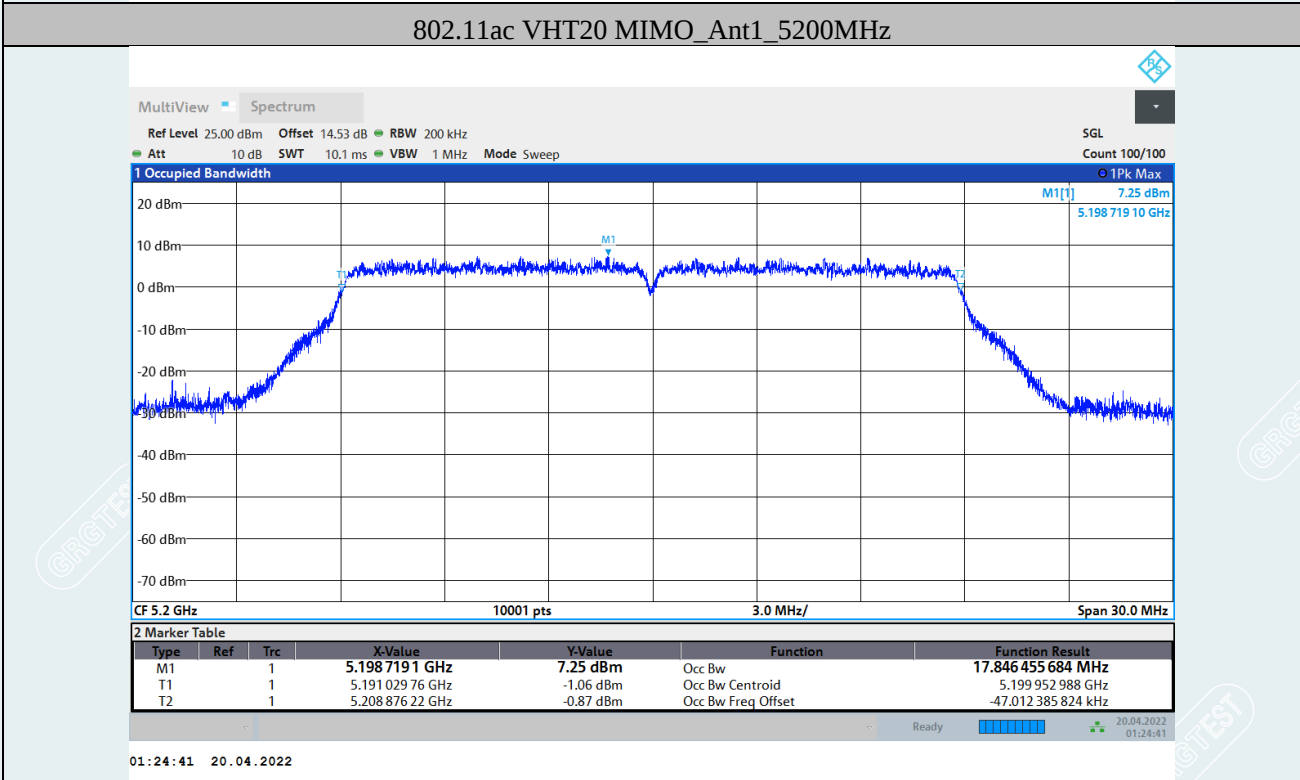
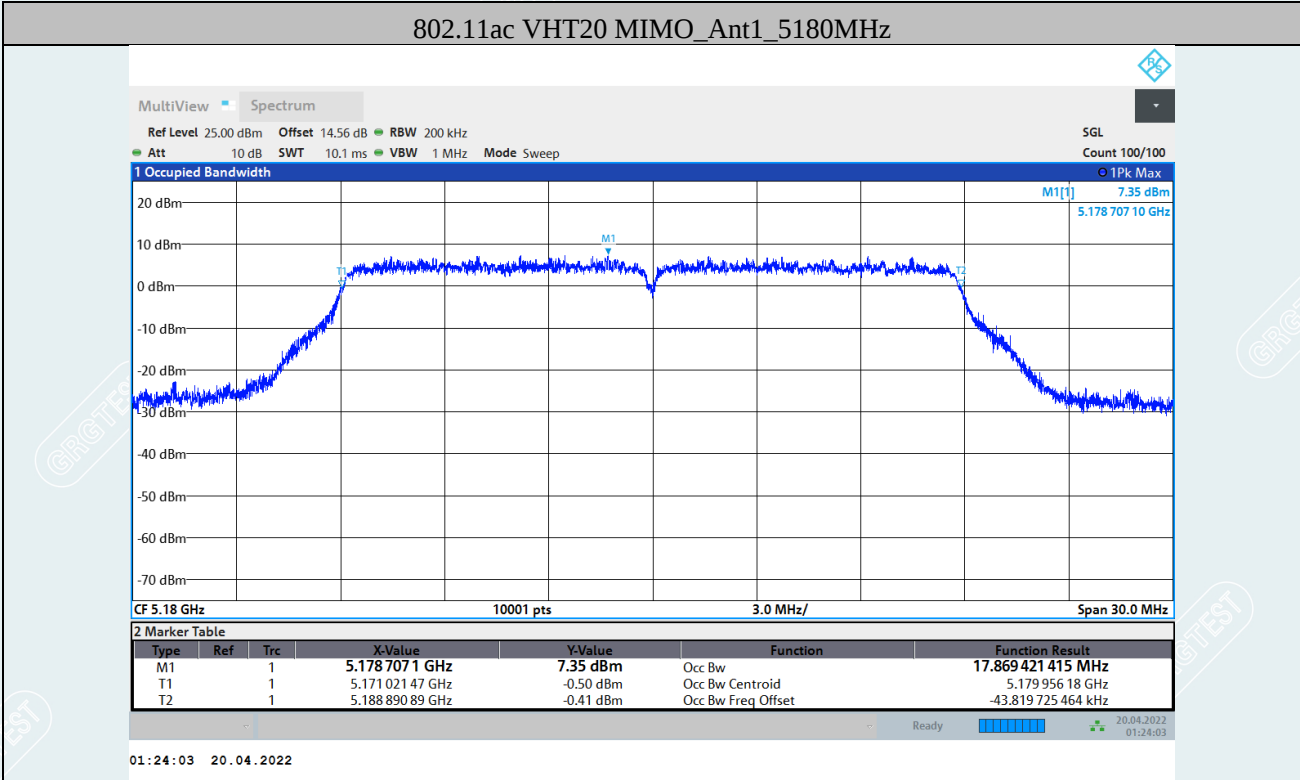


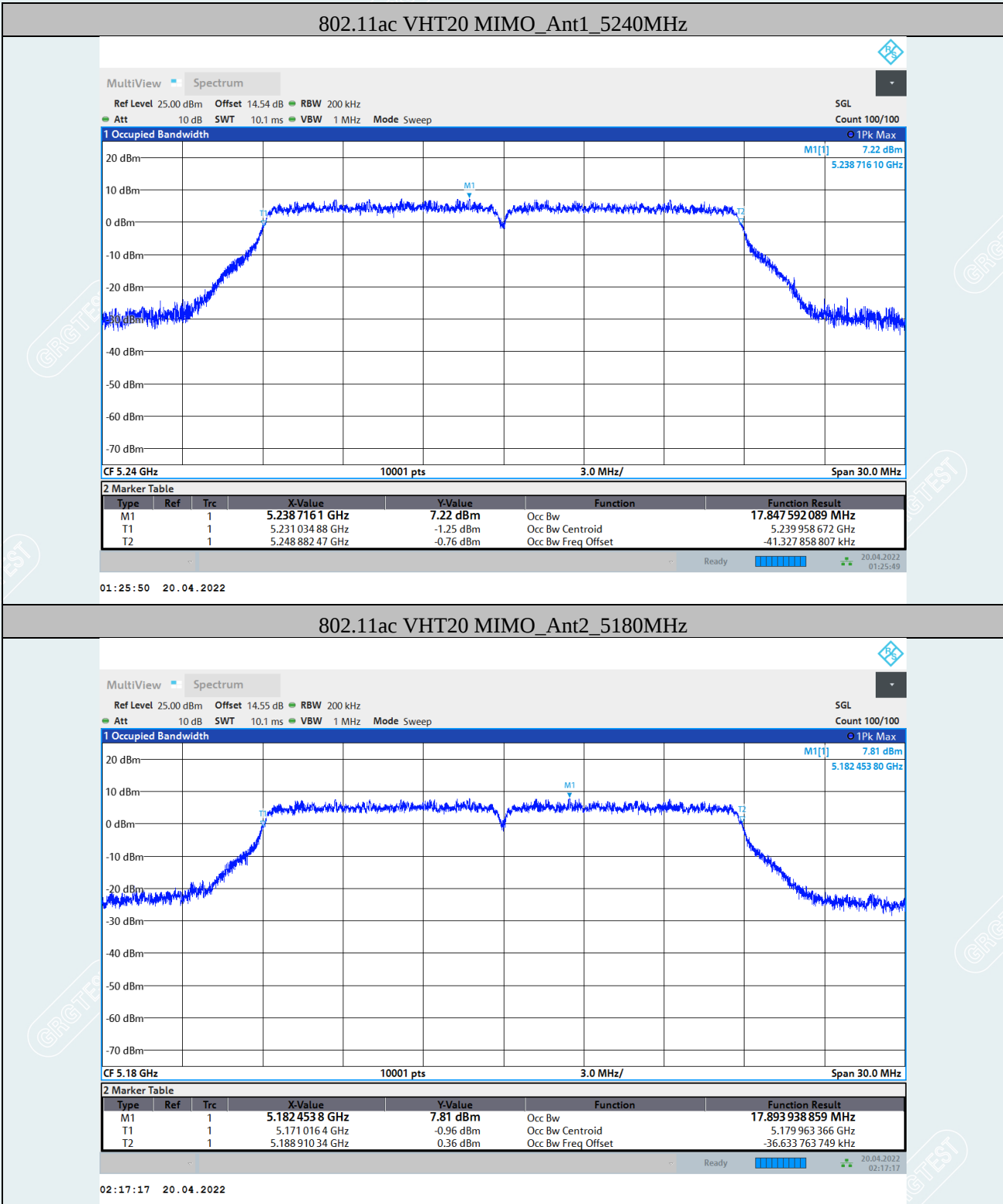
801.11n HT40 MIMO_Ant4_5190MHz



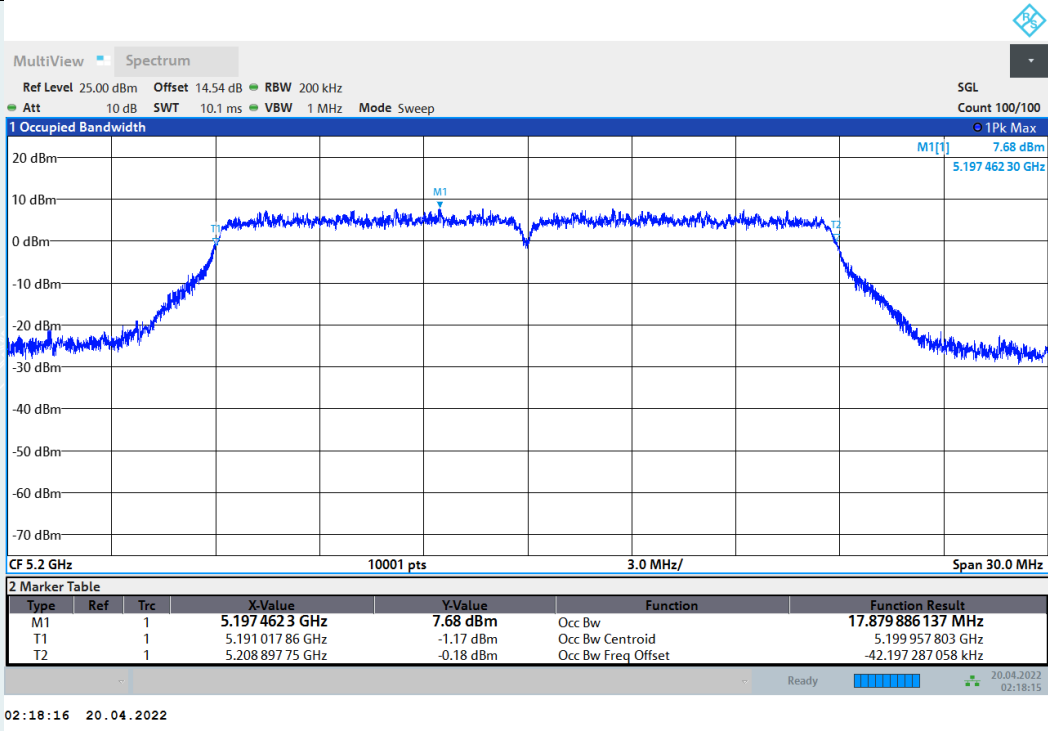
801.11n HT40 MIMO_Ant4_5230MHz



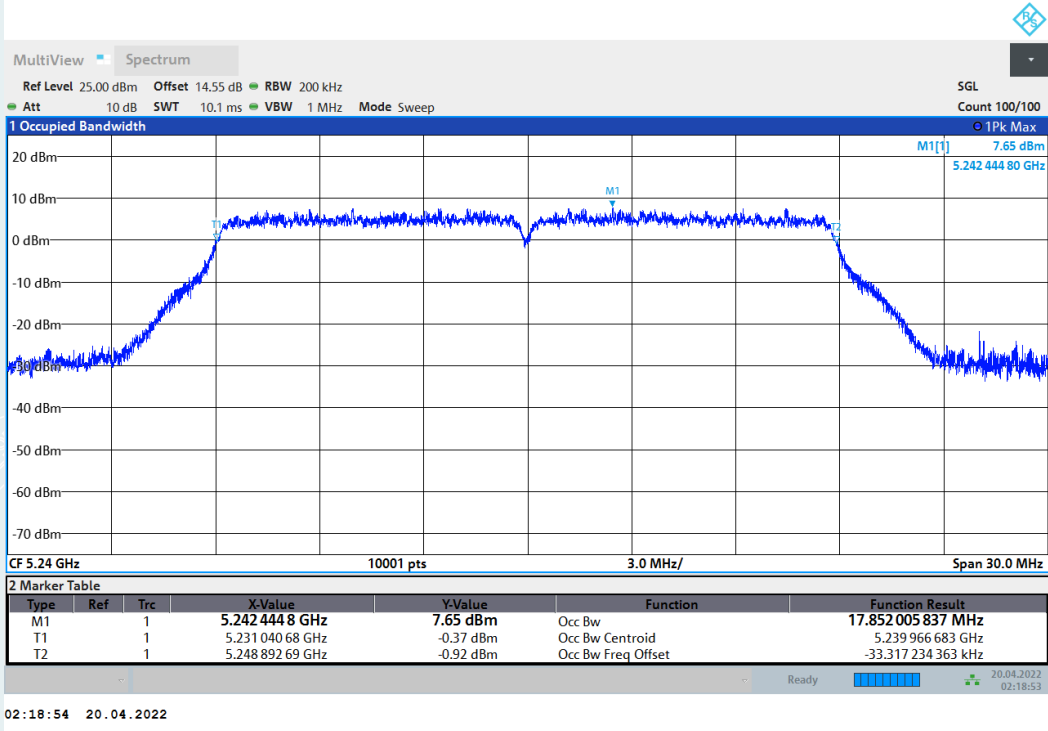


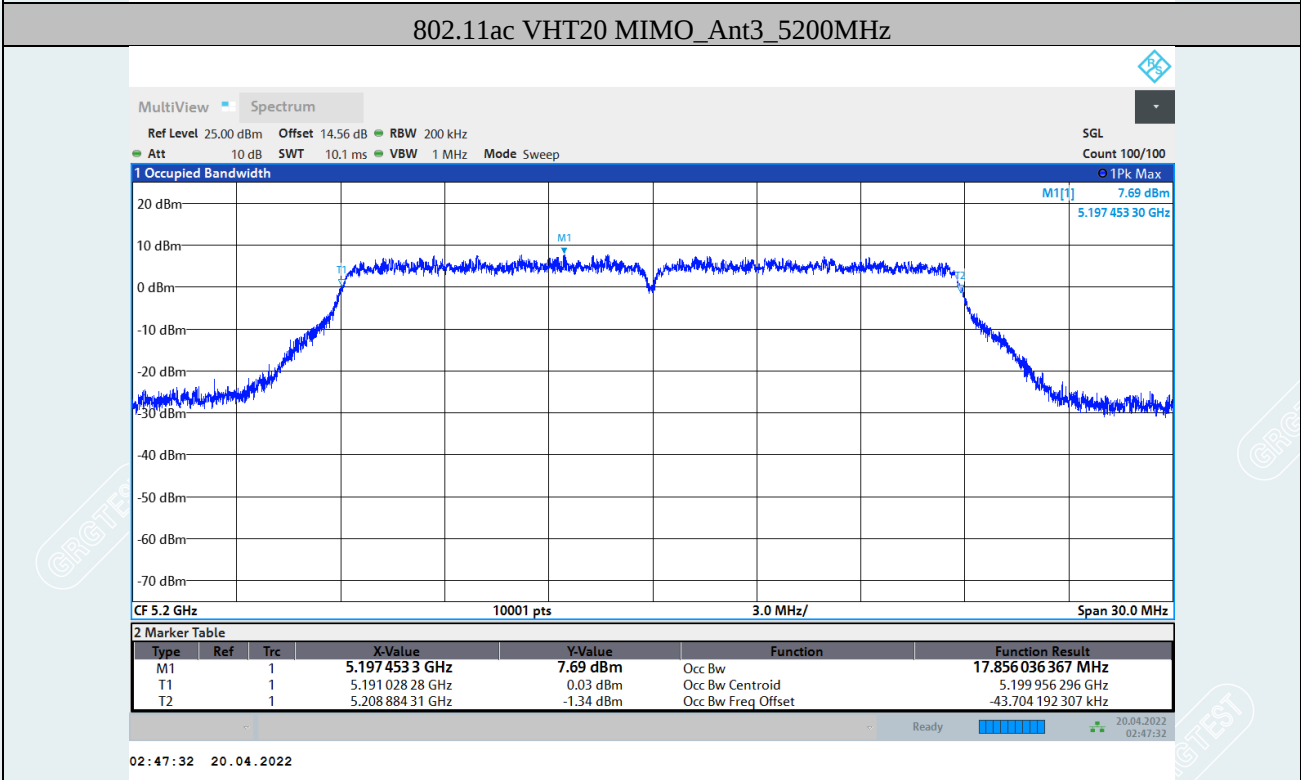
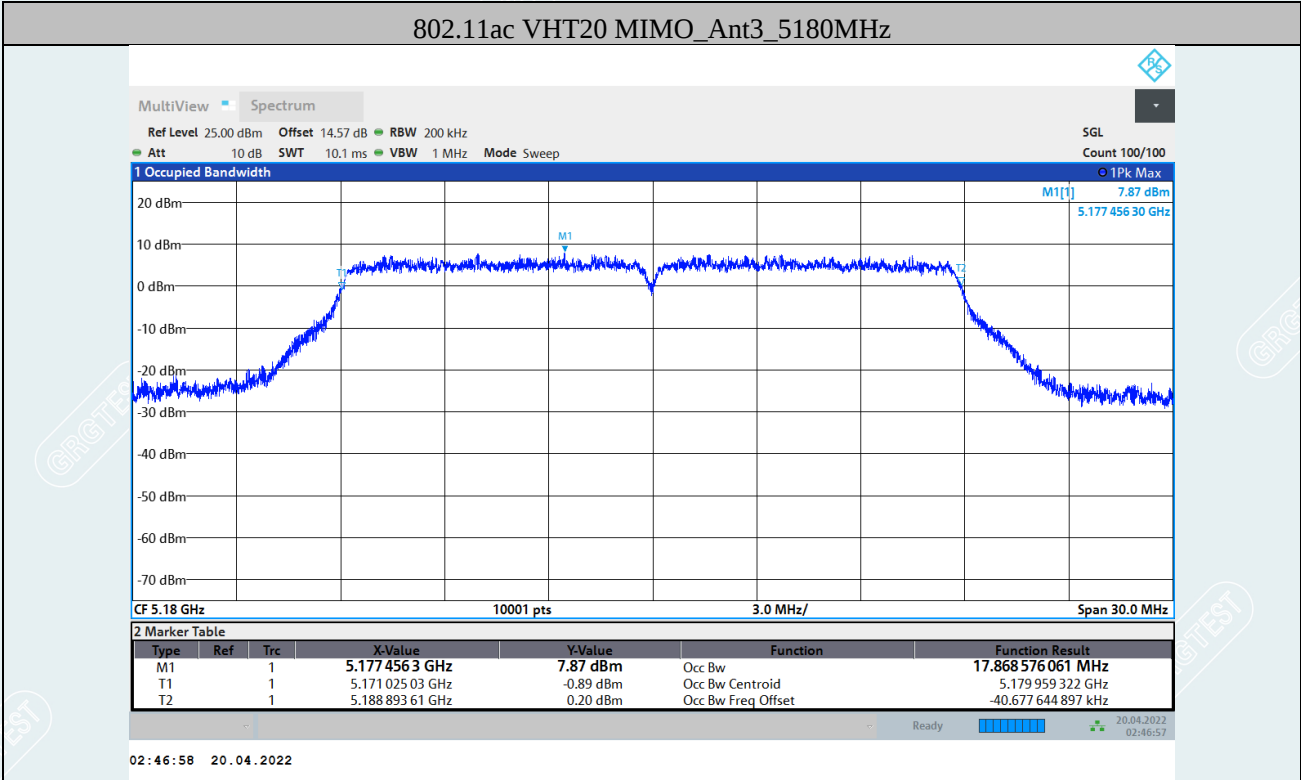


802.11ac VHT20 MIMO_Ant2_5200MHz

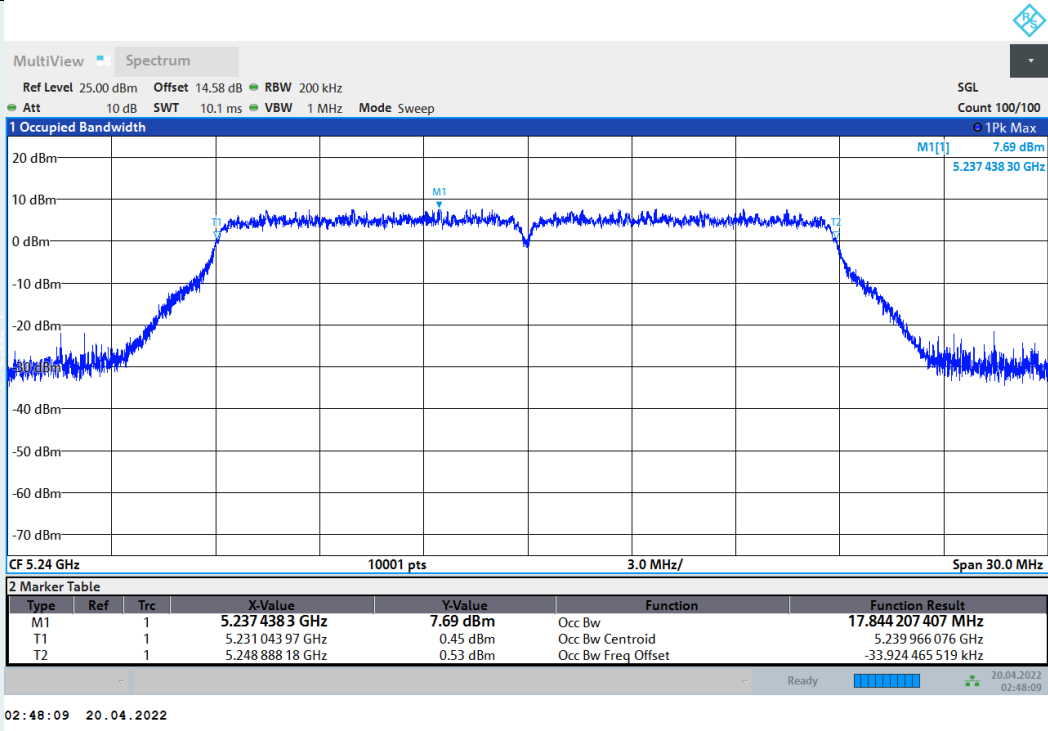


802.11ac VHT20 MIMO_Ant2_5240MHz

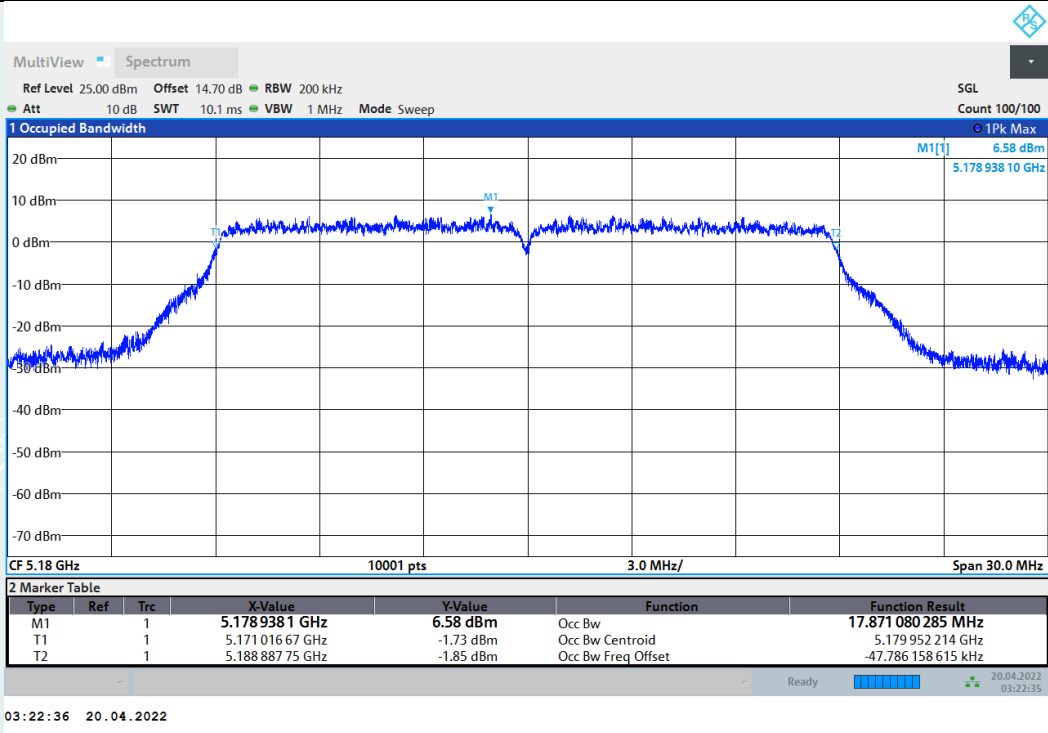




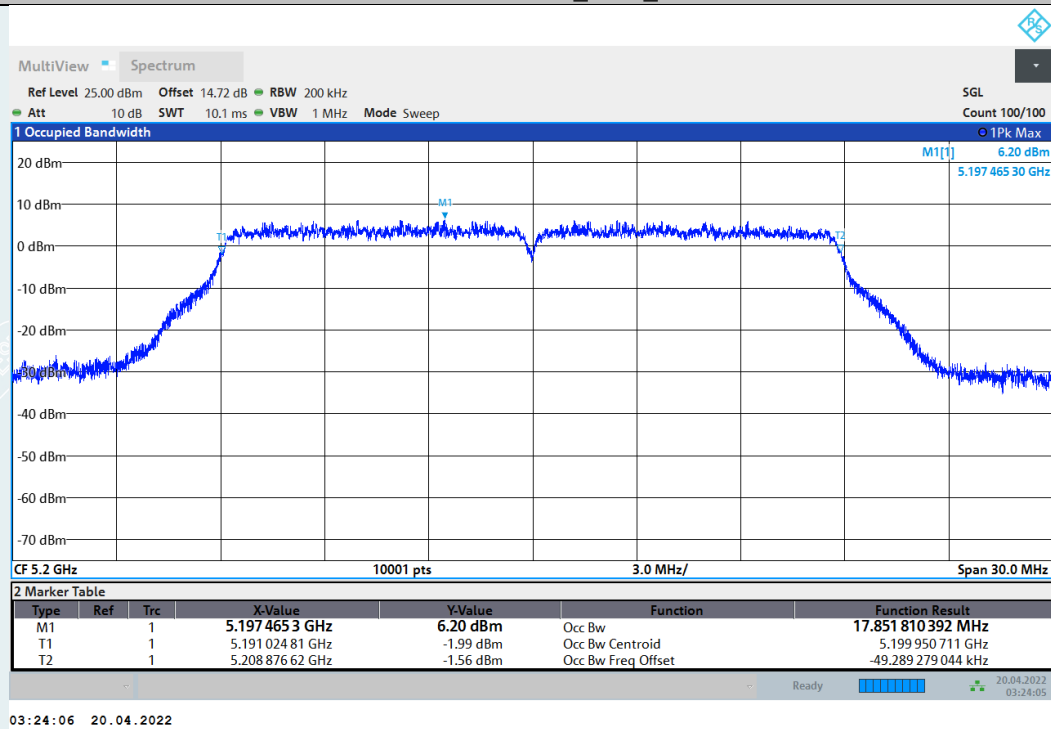
802.11ac VHT20 MIMO_Ant3_5240MHz



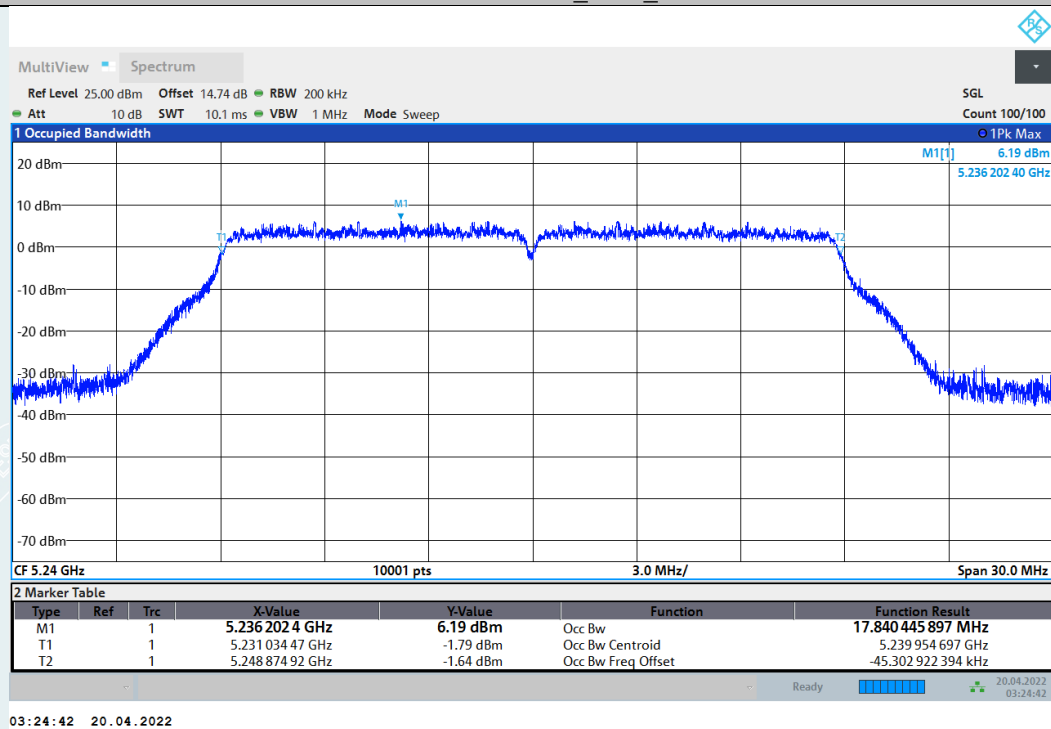
802.11ac VHT20 MIMO_Ant4_5180MHz



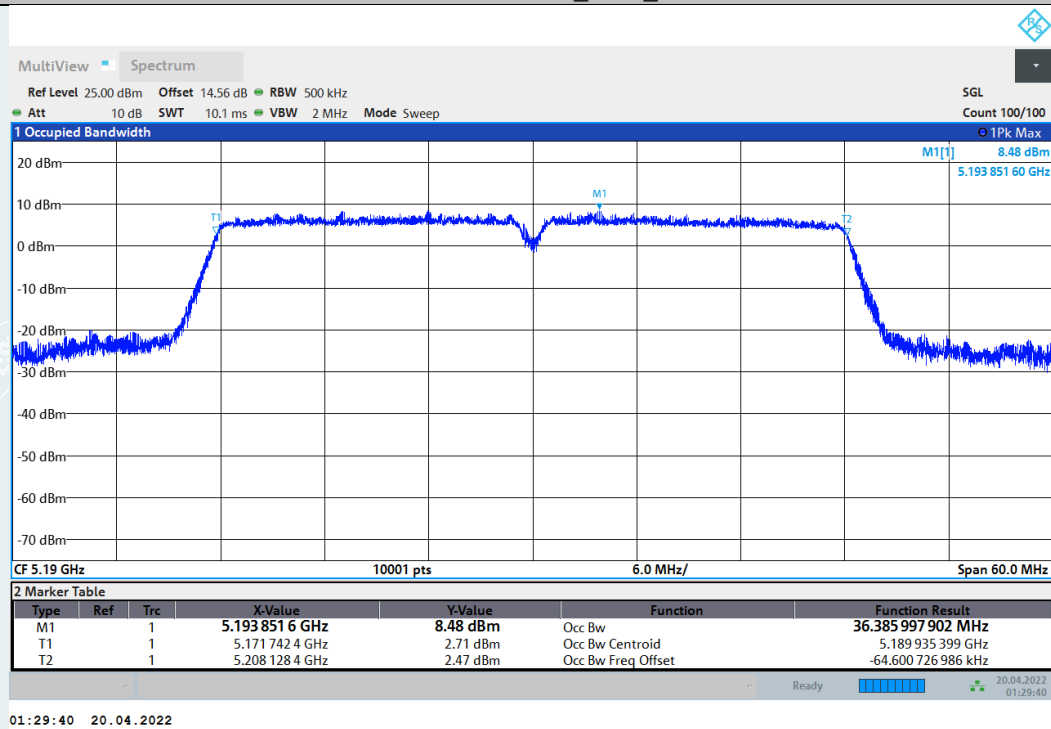
802.11ac VHT20 MIMO_Ant4_5200MHz



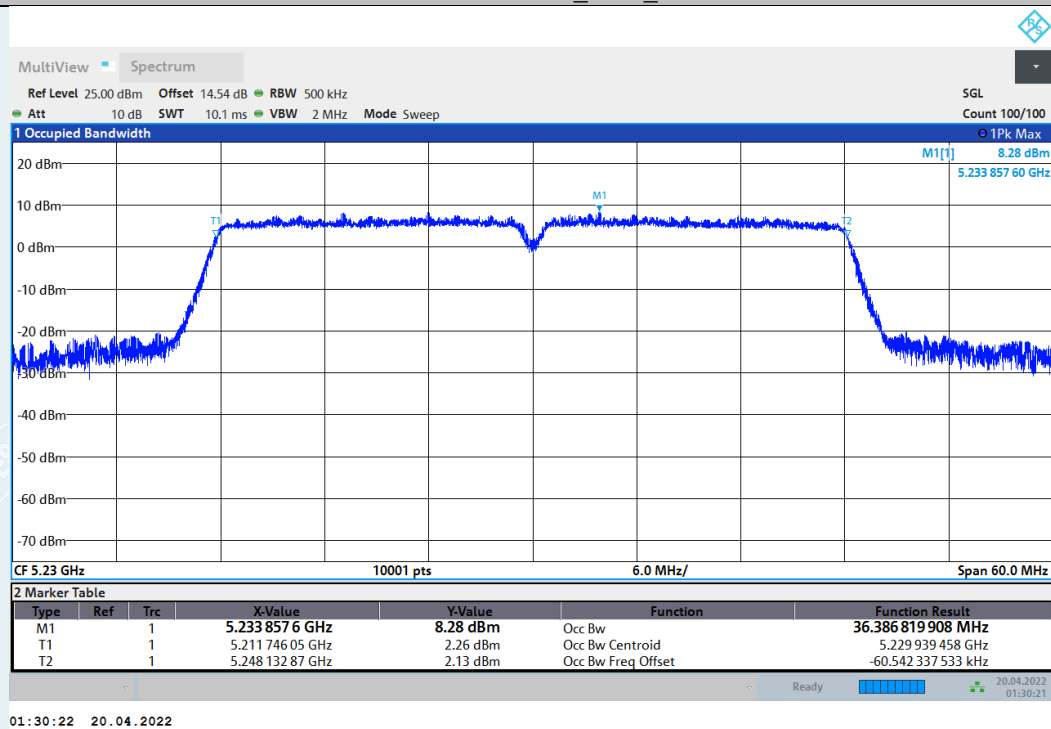
802.11ac VHT20 MIMO_Ant4_5240MHz

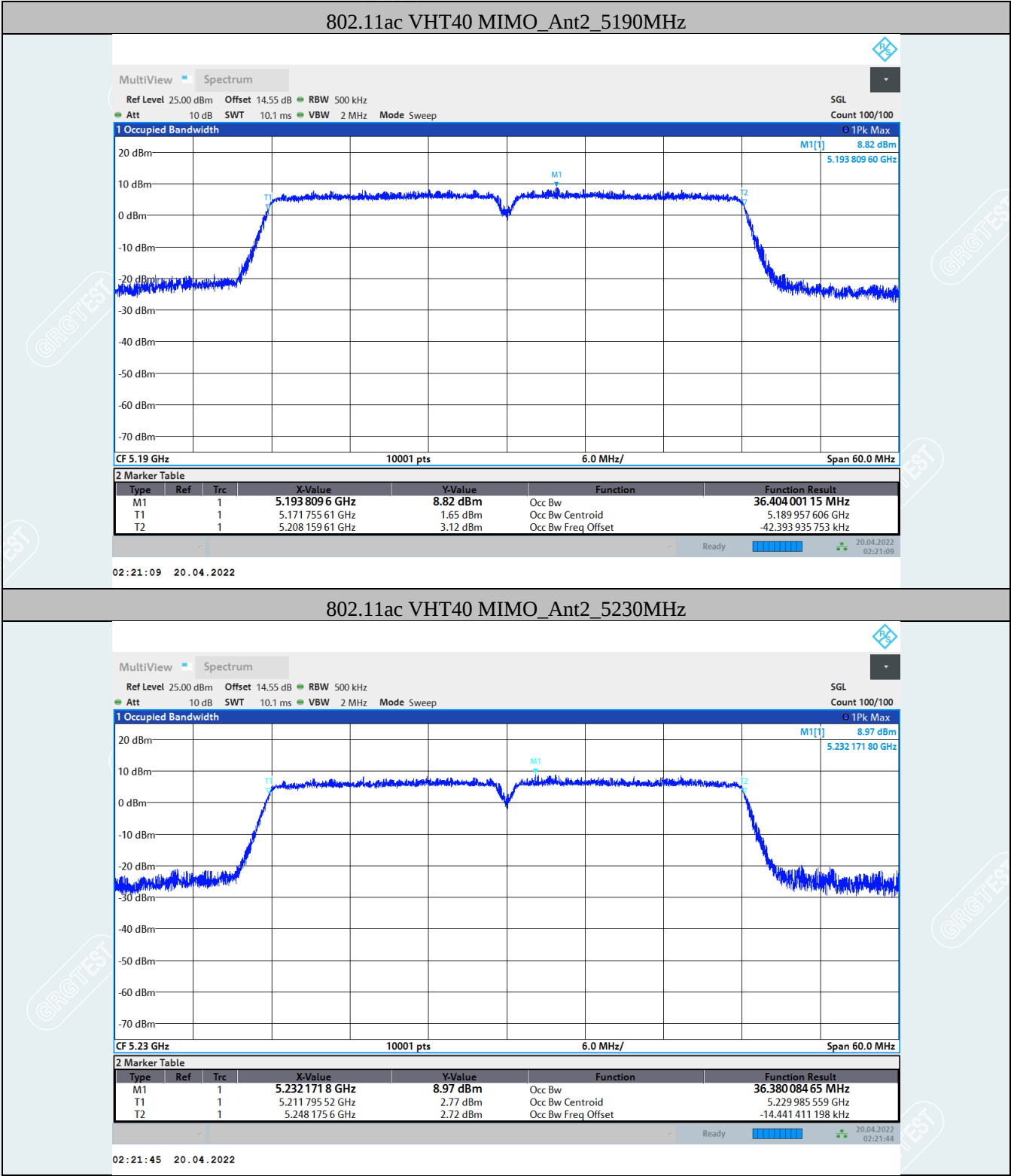


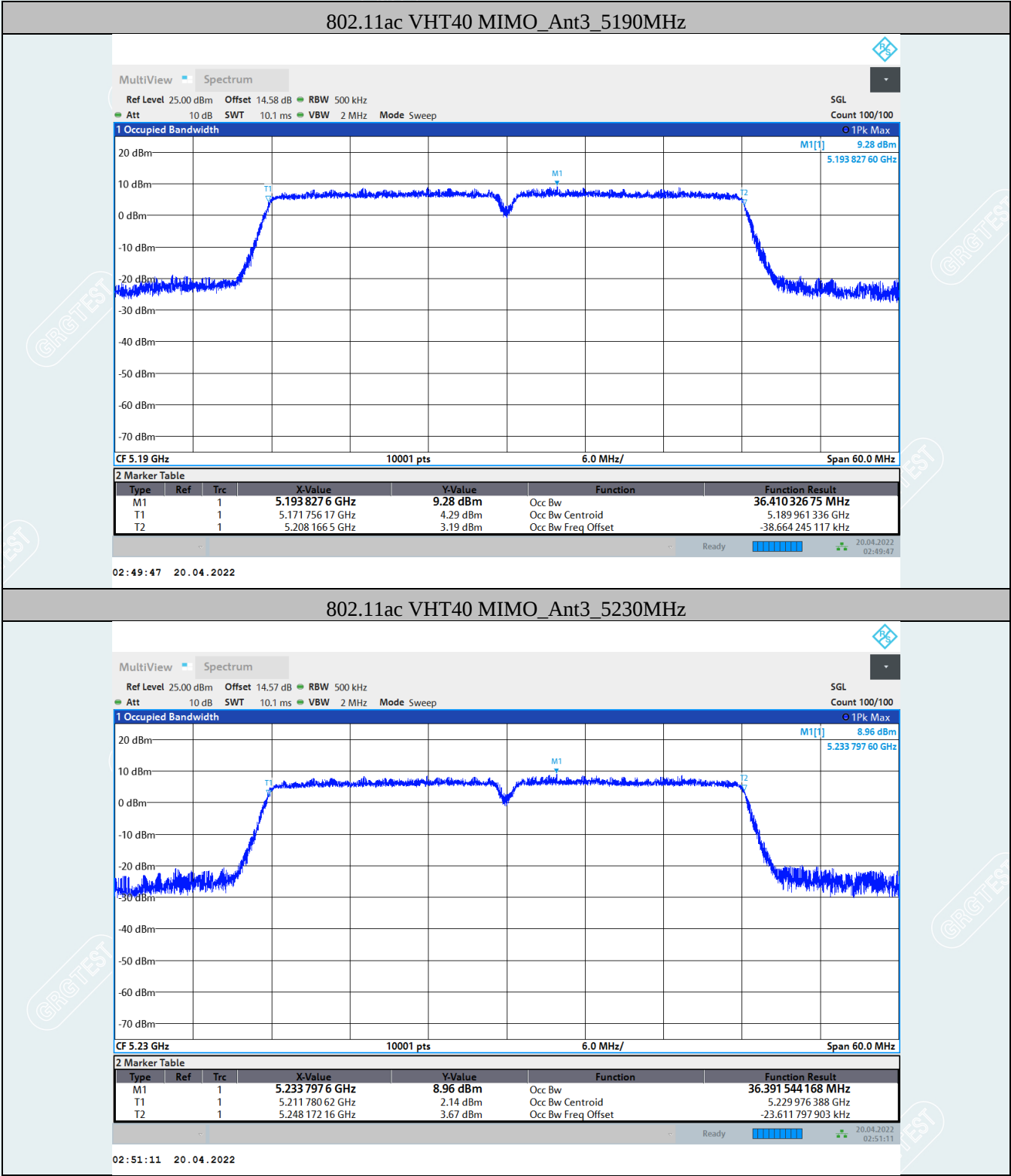
802.11ac VHT40 MIMO_Ant1_5190MHz



802.11ac VHT40 MIMO_Ant1_5230MHz







802.11ac VHT40 MIMO_Ant3_5230MHz

MultiView Spectrum

Ref Level 25.00 dBm Offset 14.57 dB RBW 500 kHz
Att 10 dB SWT 10.1 ms VBW 2 MHz Mode Sweep

SGL
Count 100/100

1 Occupied Bandwidth

CF 5.23 GHz 10001 pts 6.0 MHz/ Span 60.0 MHz

20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm

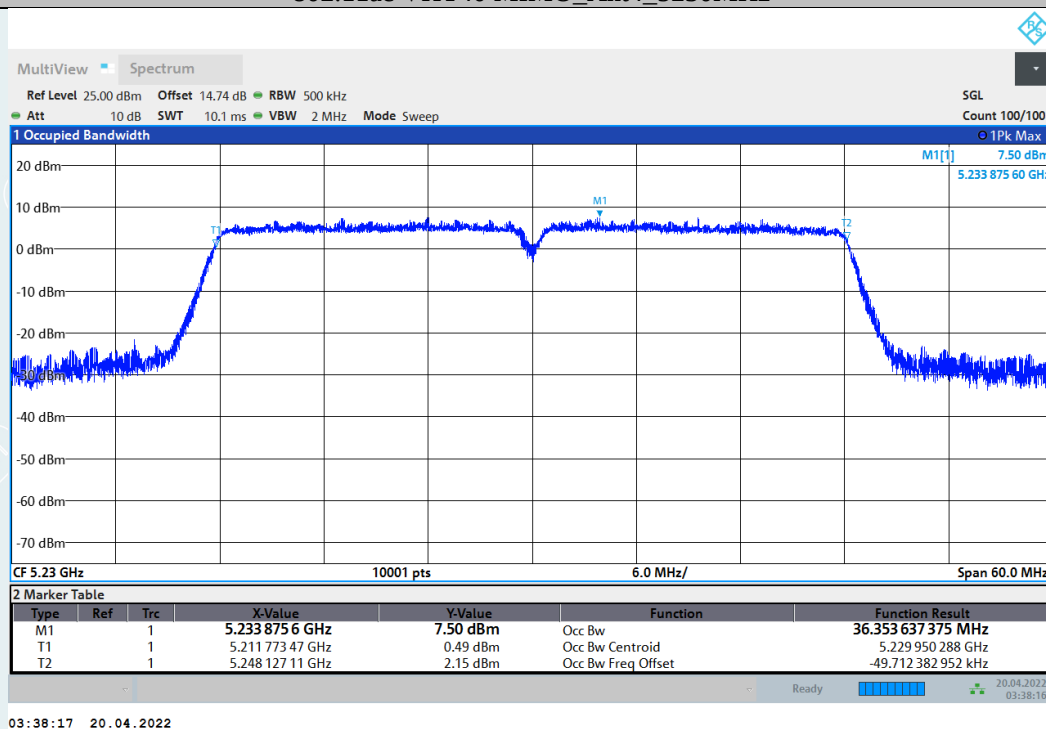
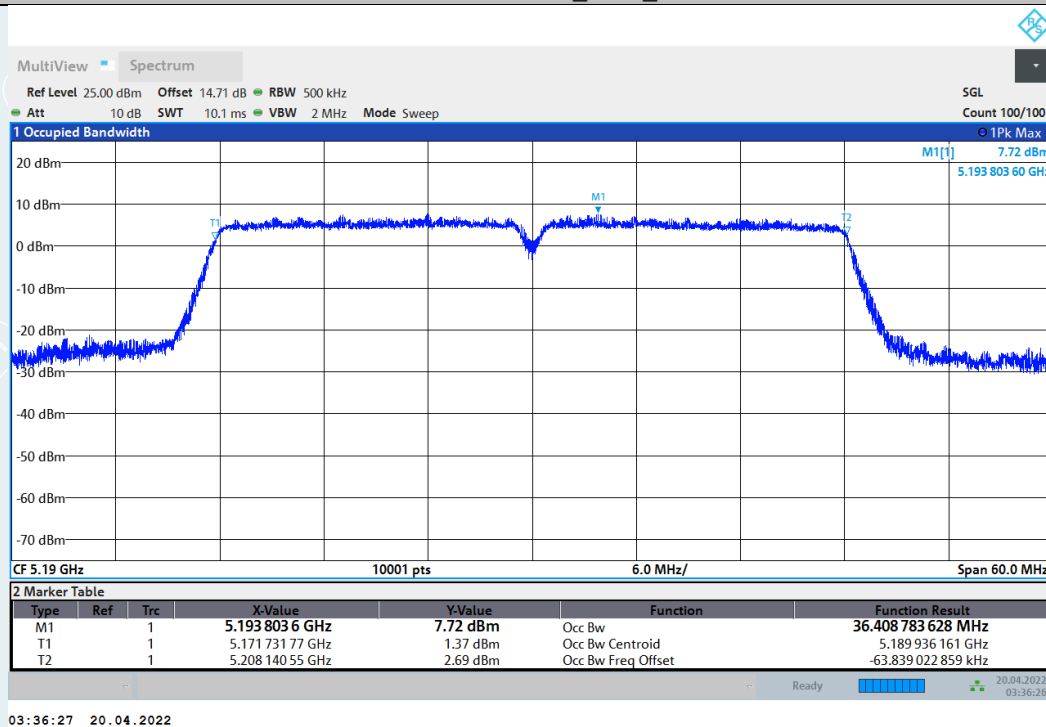
M1 8.96 dBm
5.233 797 60 GHz

2 Marker Table

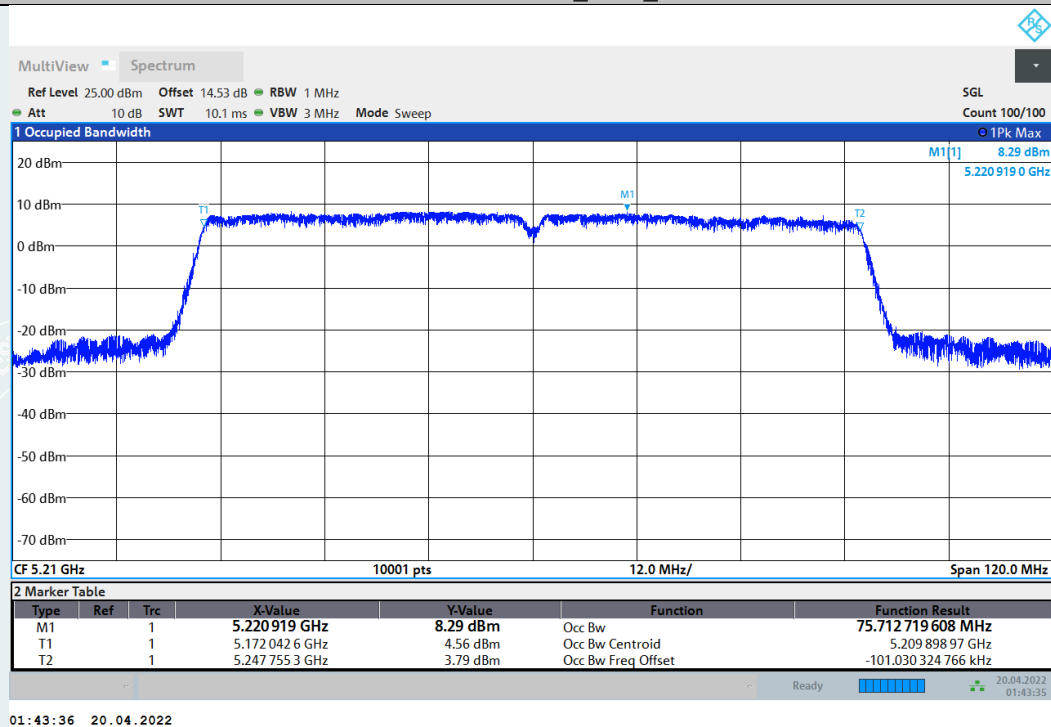
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		5.233 797 6 GHz	8.96 dBm	Occ Bw	36.391 544 168 MHz
T1	1		5.211 780 62 GHz	2.14 dBm	Occ Bw Centroid	5.229 976 388 GHz
T2	1		5.248 172 16 GHz	3.67 dBm	Occ Bw Freq Offset	-23.611 797 903 kHz

Ready 20.04.2022 02:51:11

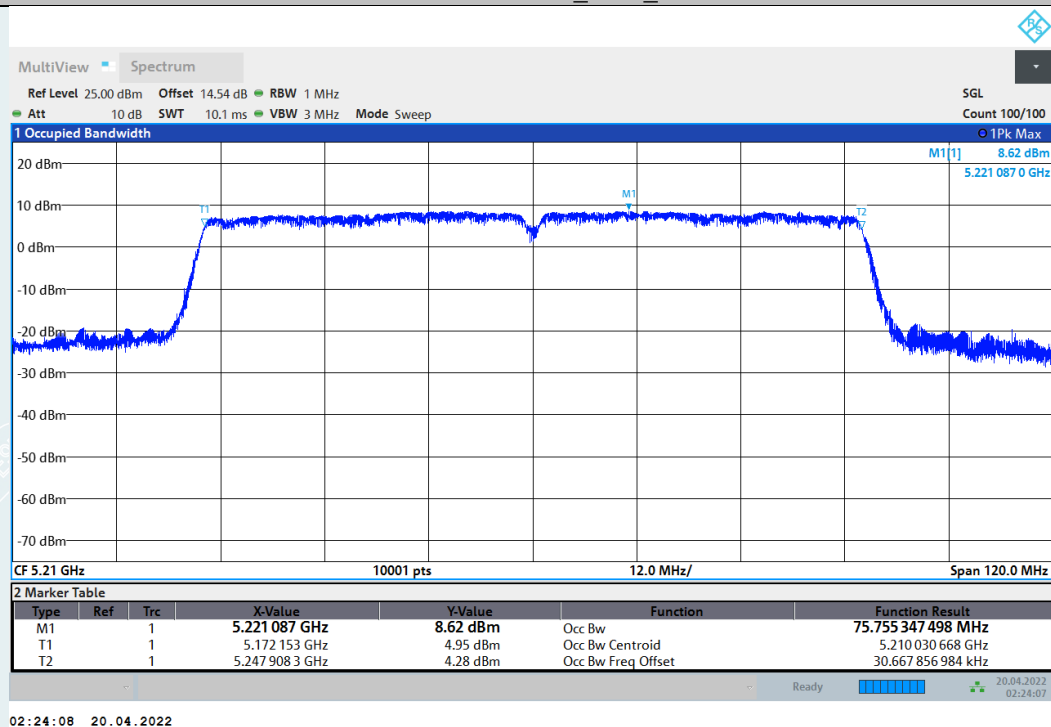
02:51:11 20.04.2022



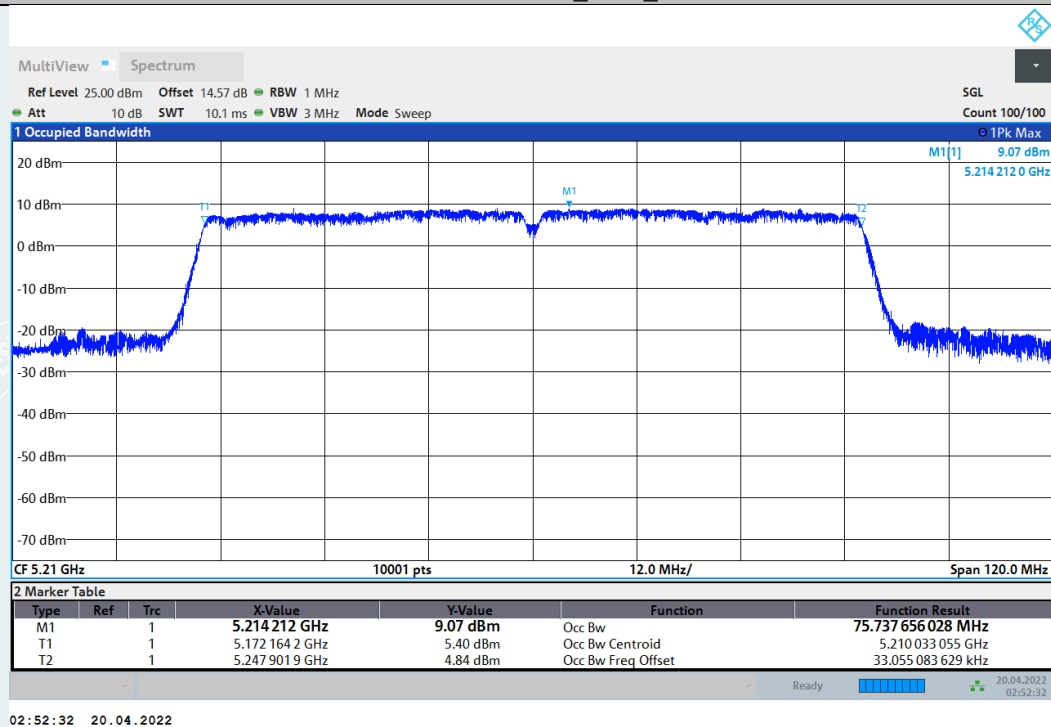
802.11ac VHT80 MIMO_Ant1_5210MHz



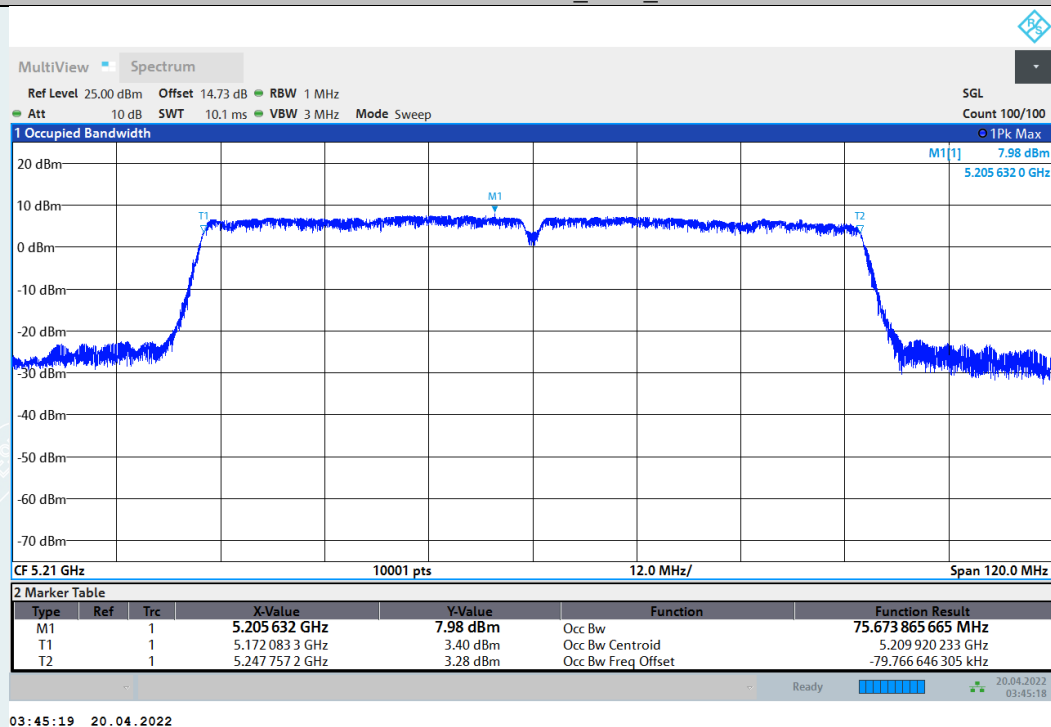
802.11ac VHT80 MIMO_Ant2_5210MHz

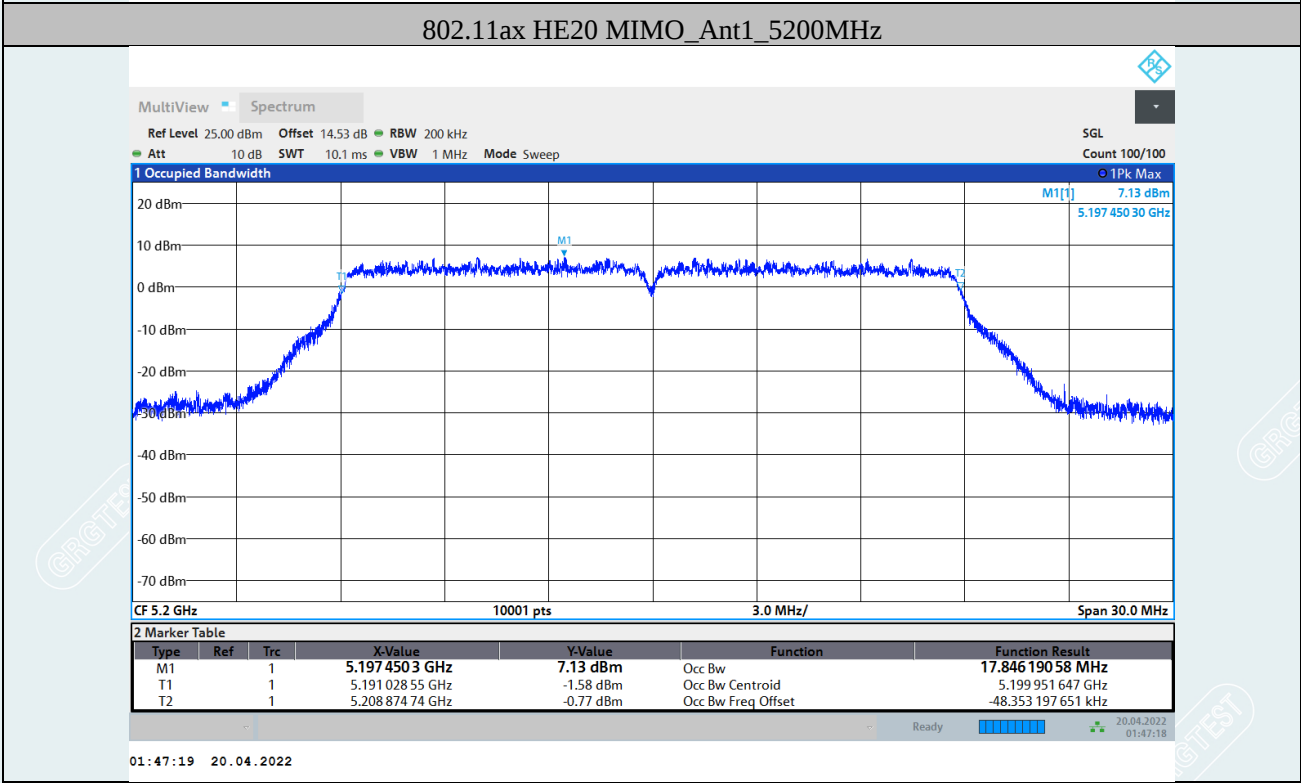
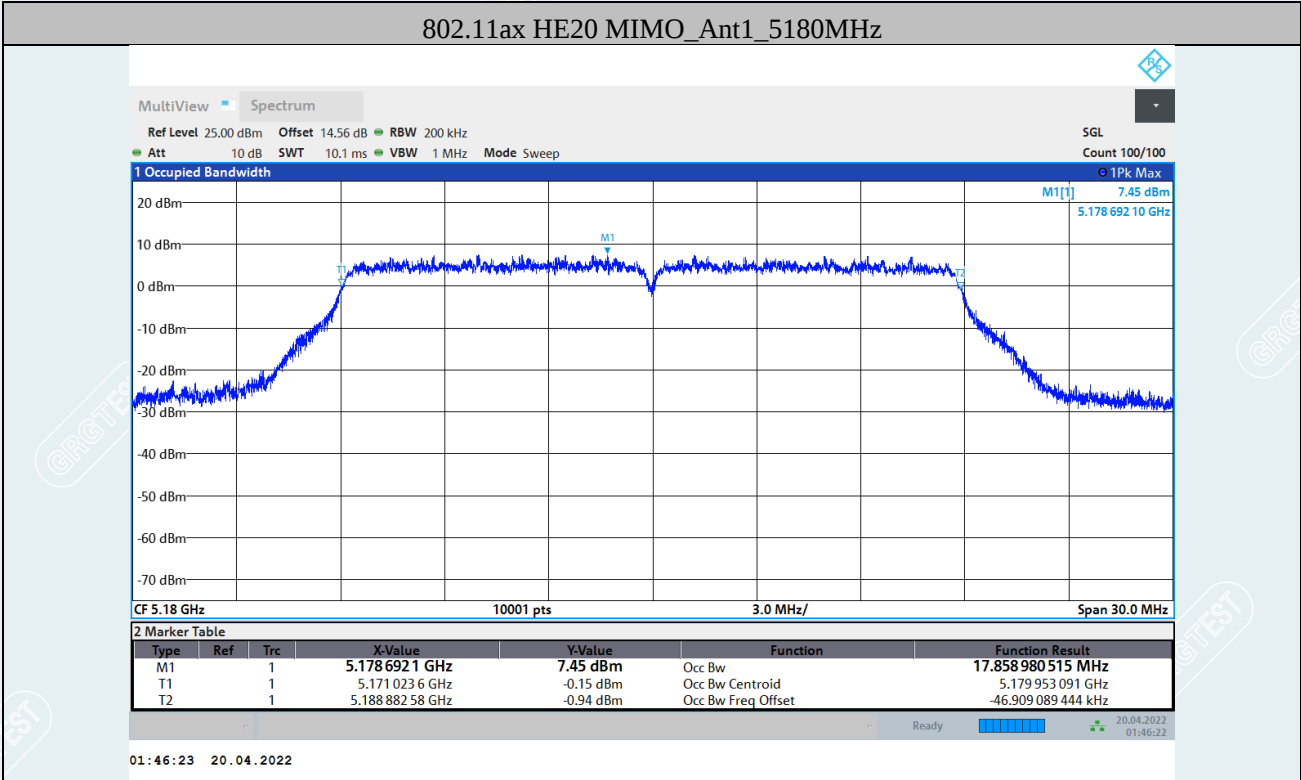


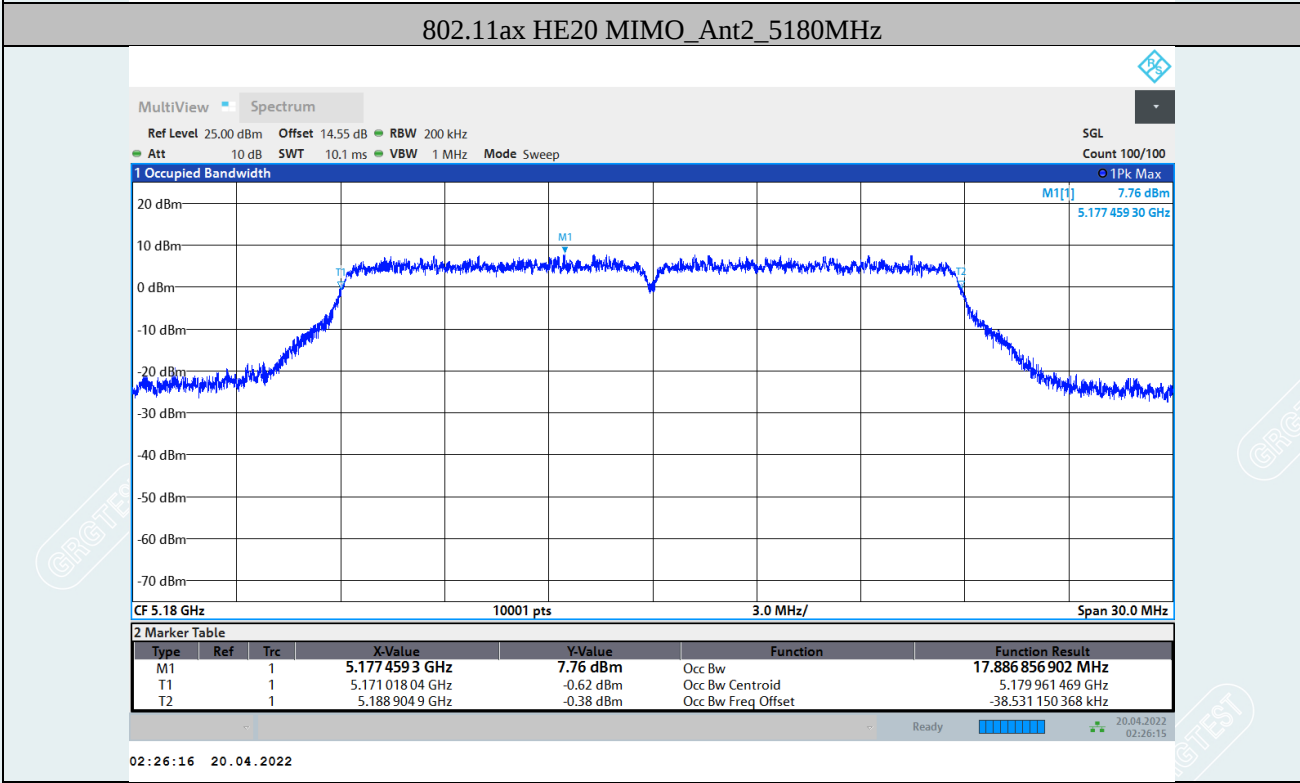
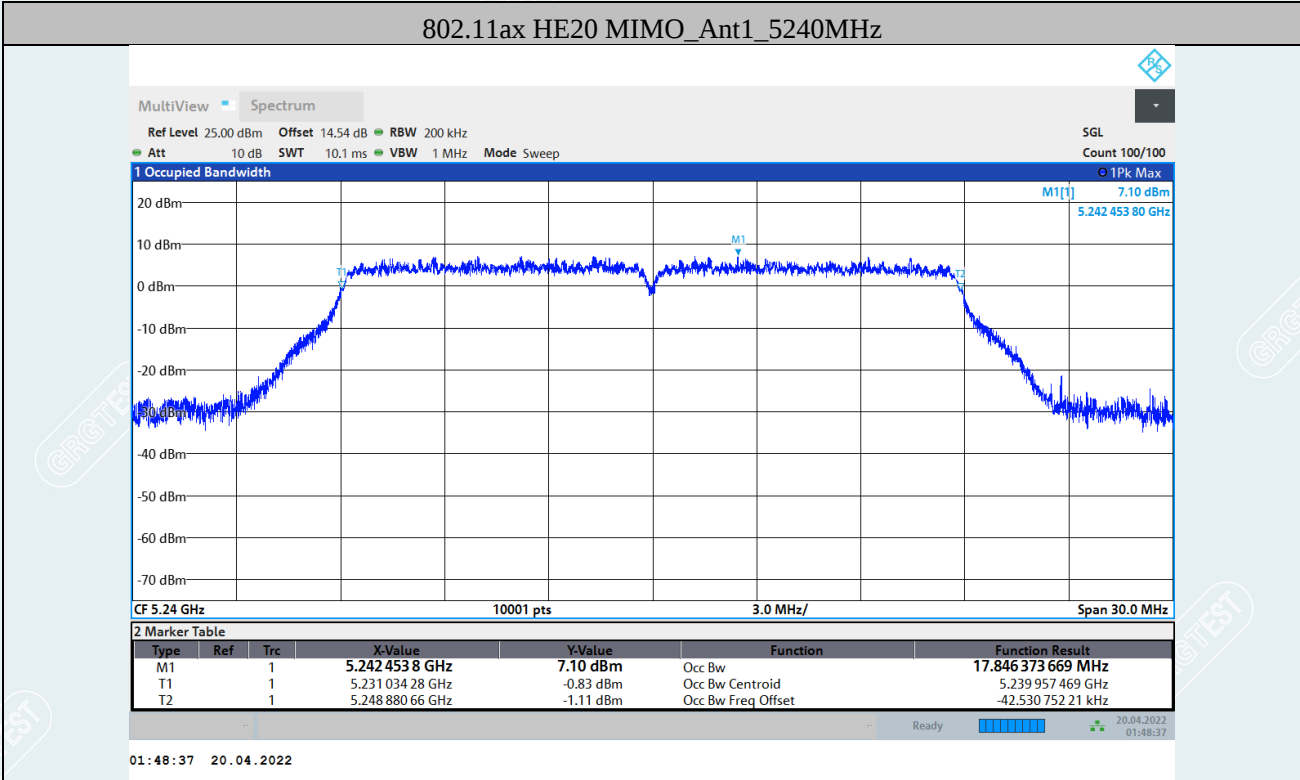
802.11ac VHT80 MIMO_Ant3_5210MHz

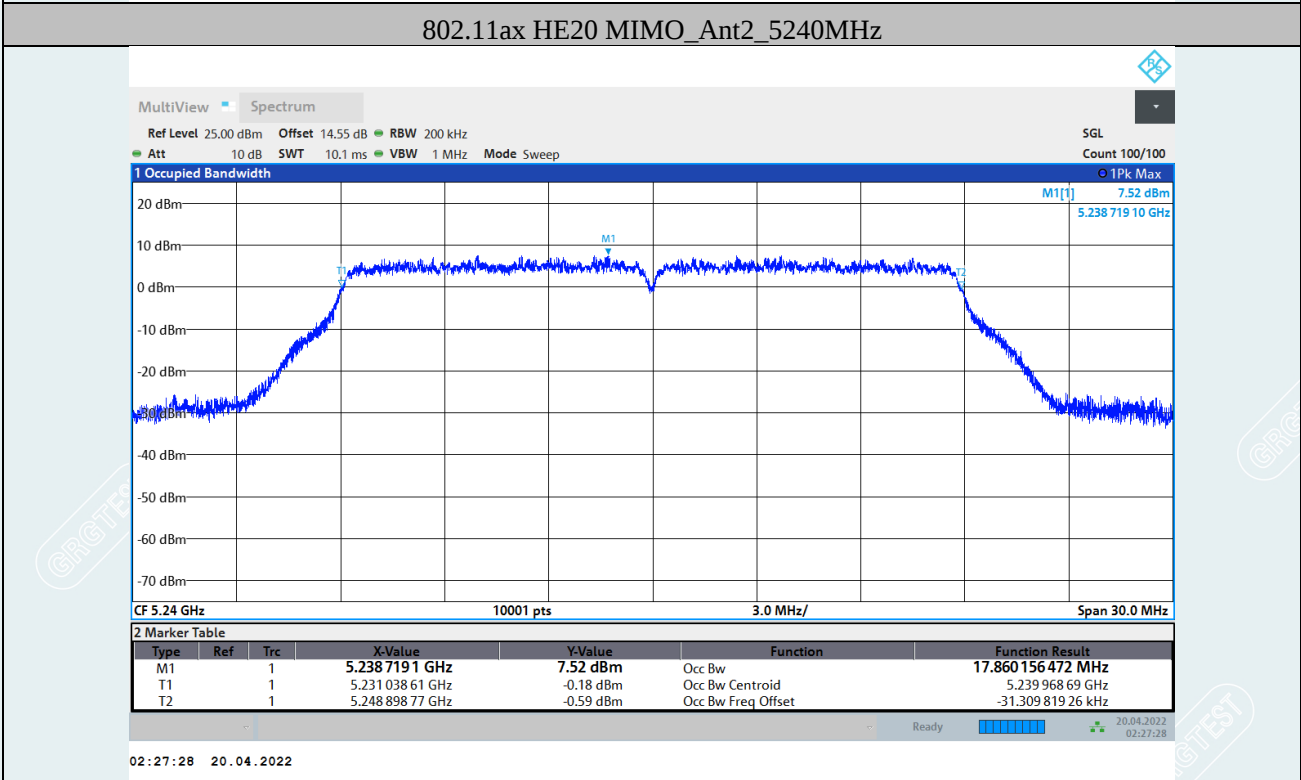
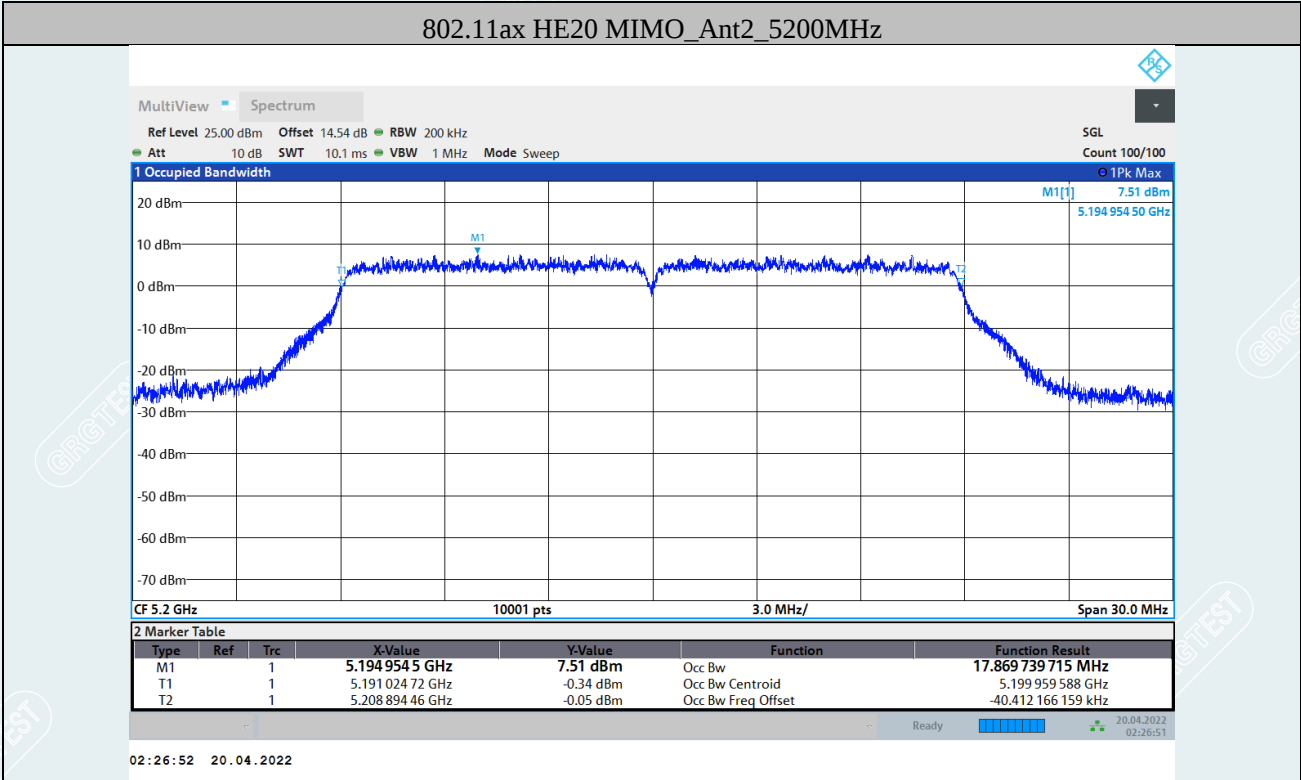


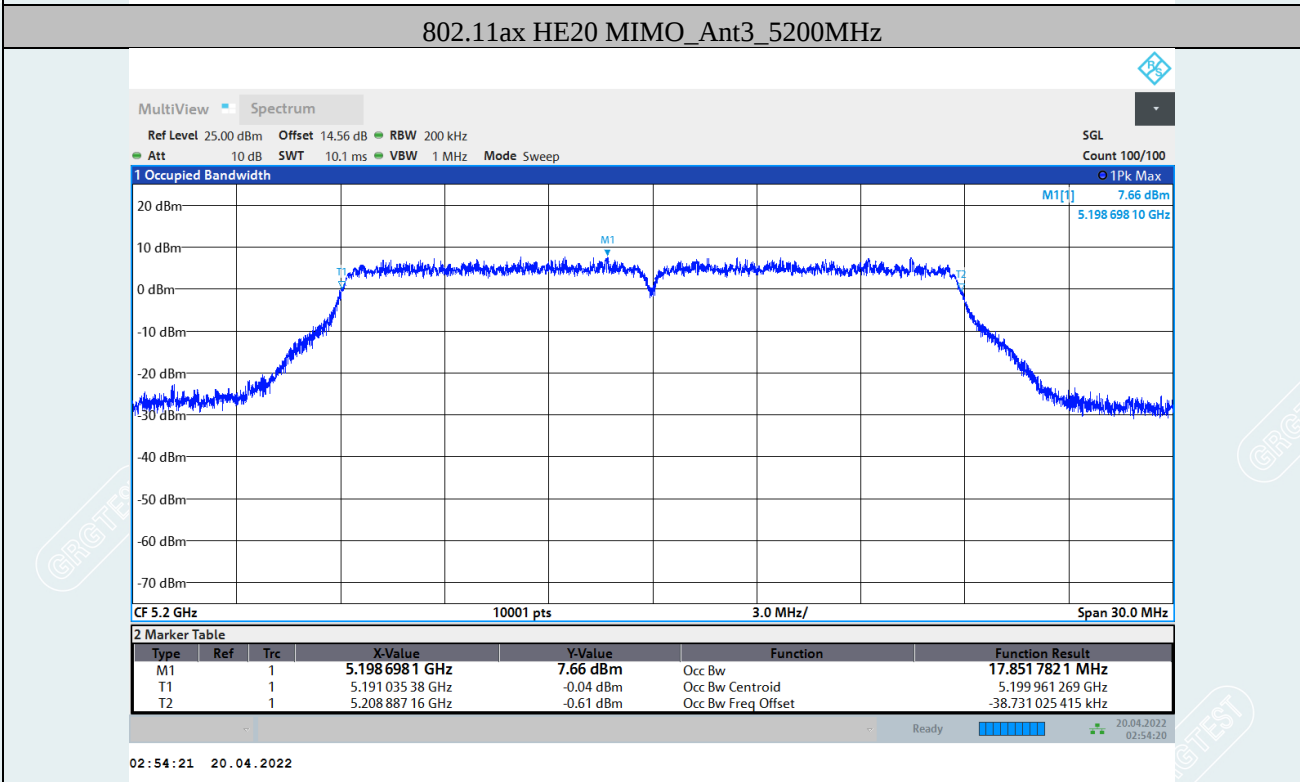
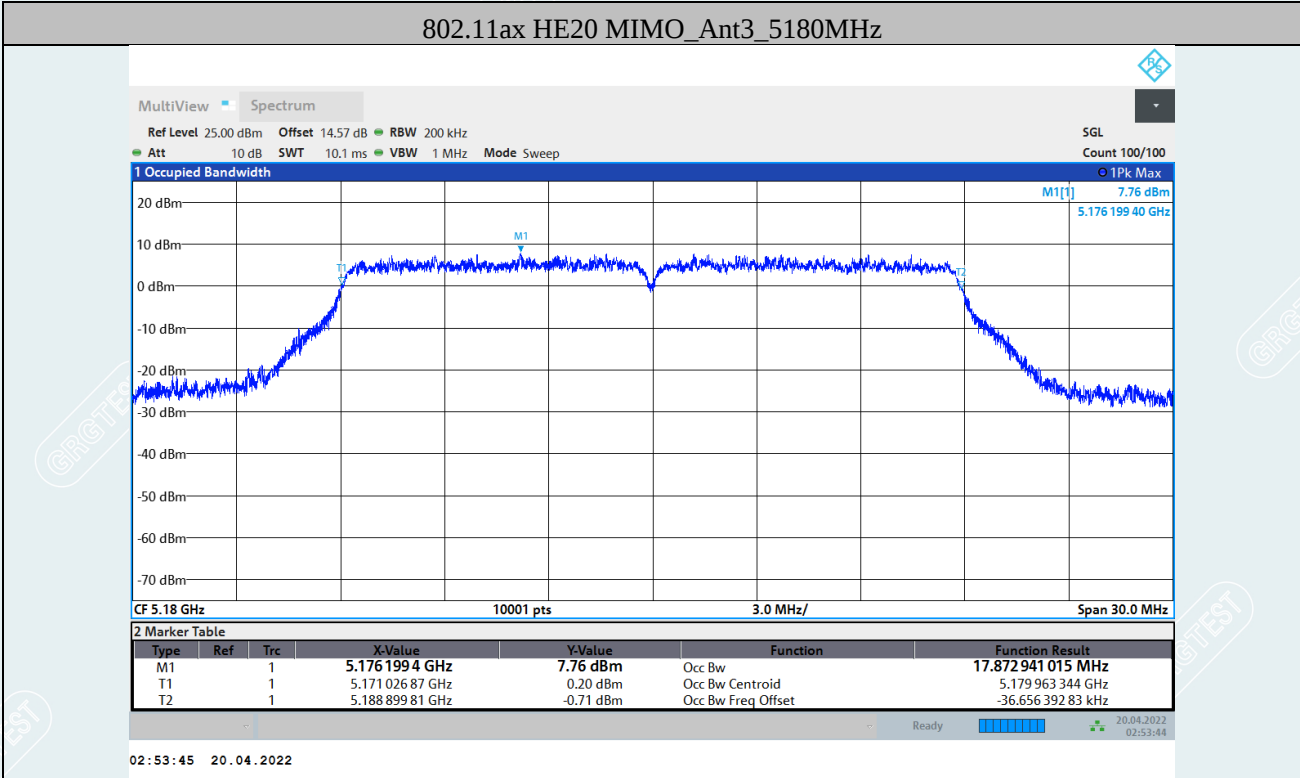
802.11ac VHT80 MIMO_Ant4_5210MHz



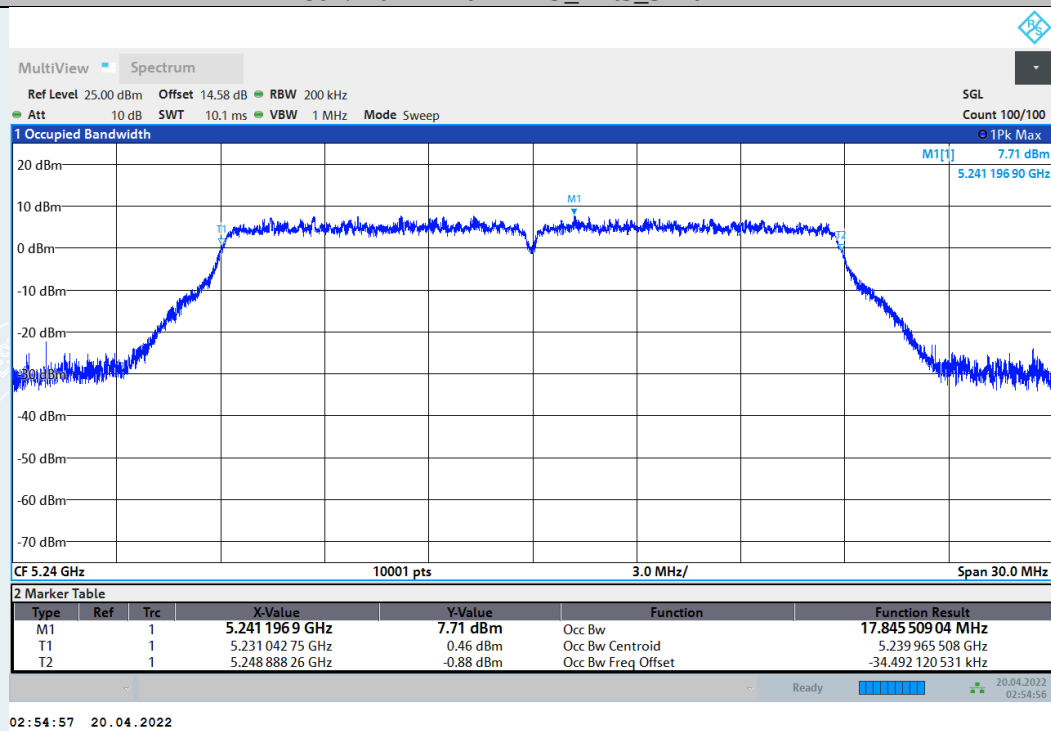




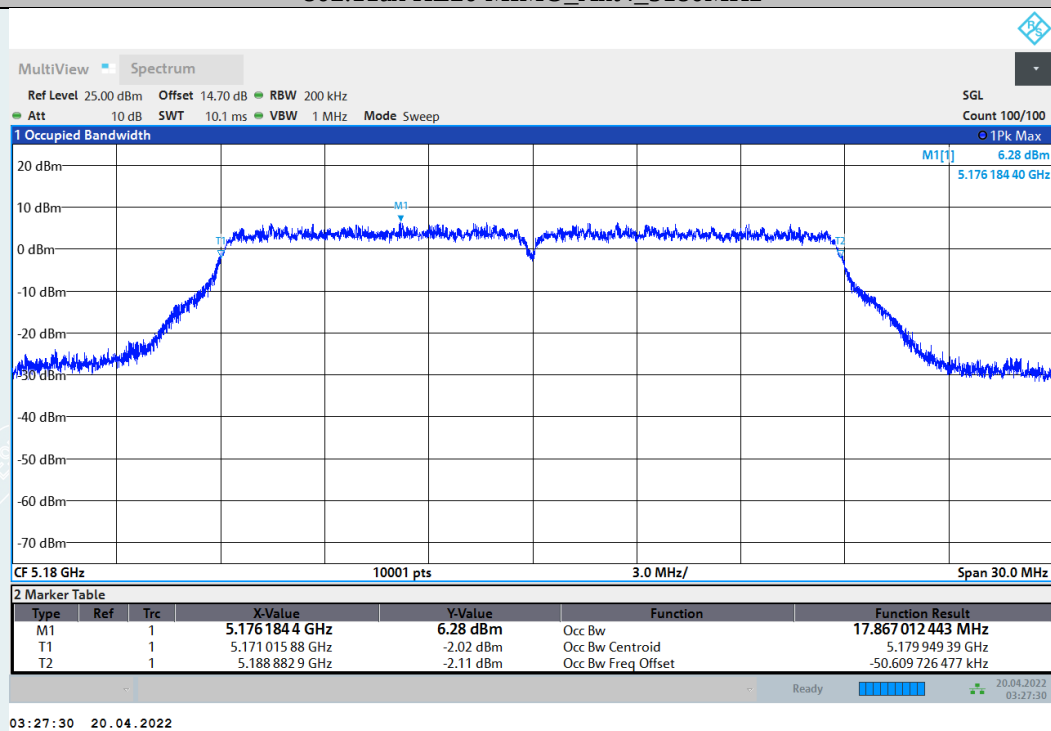


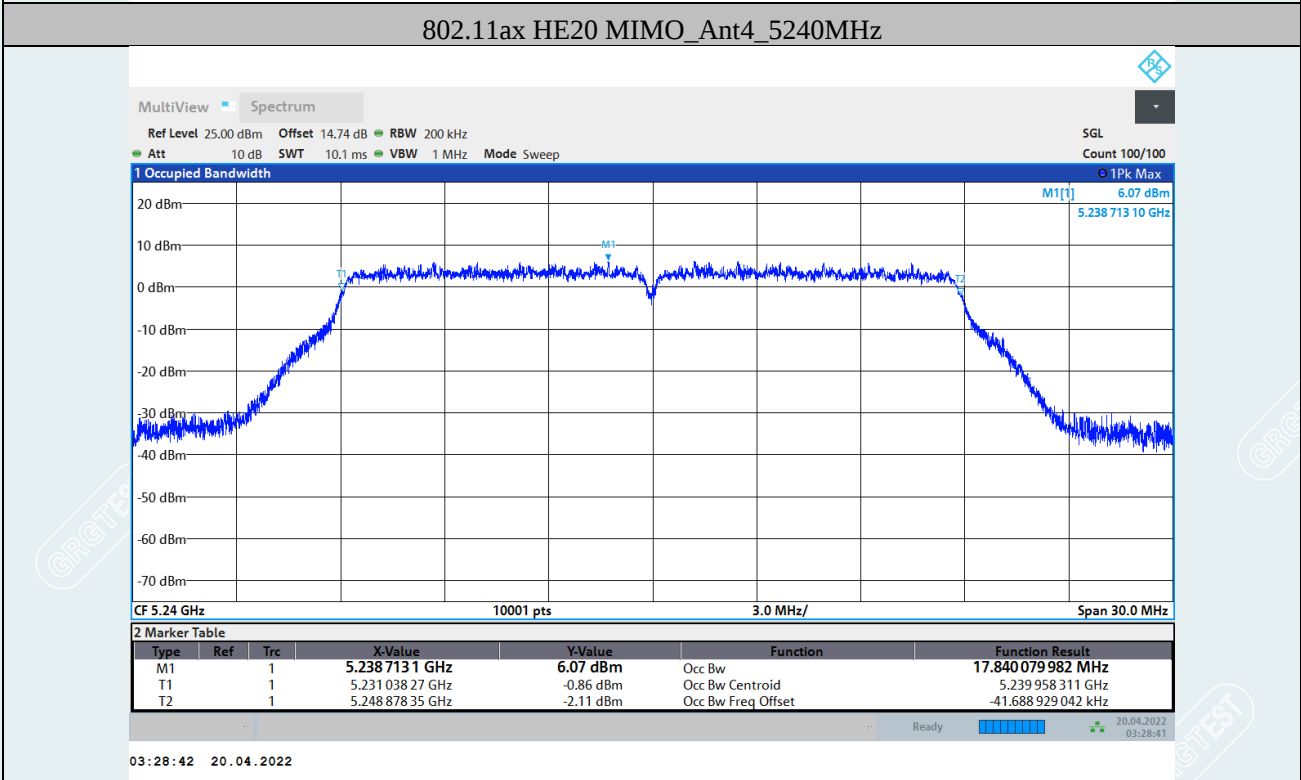
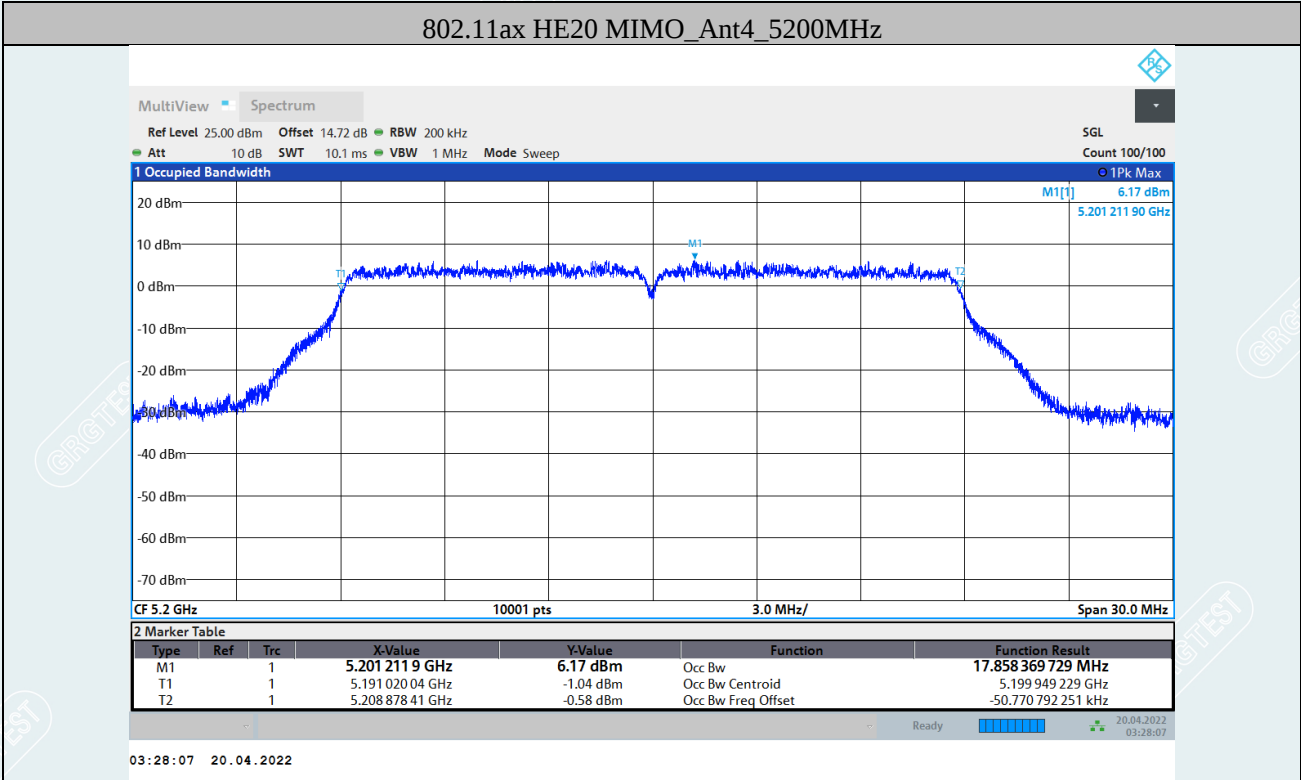


802.11ax HE20 MIMO_Ant3_5240MHz

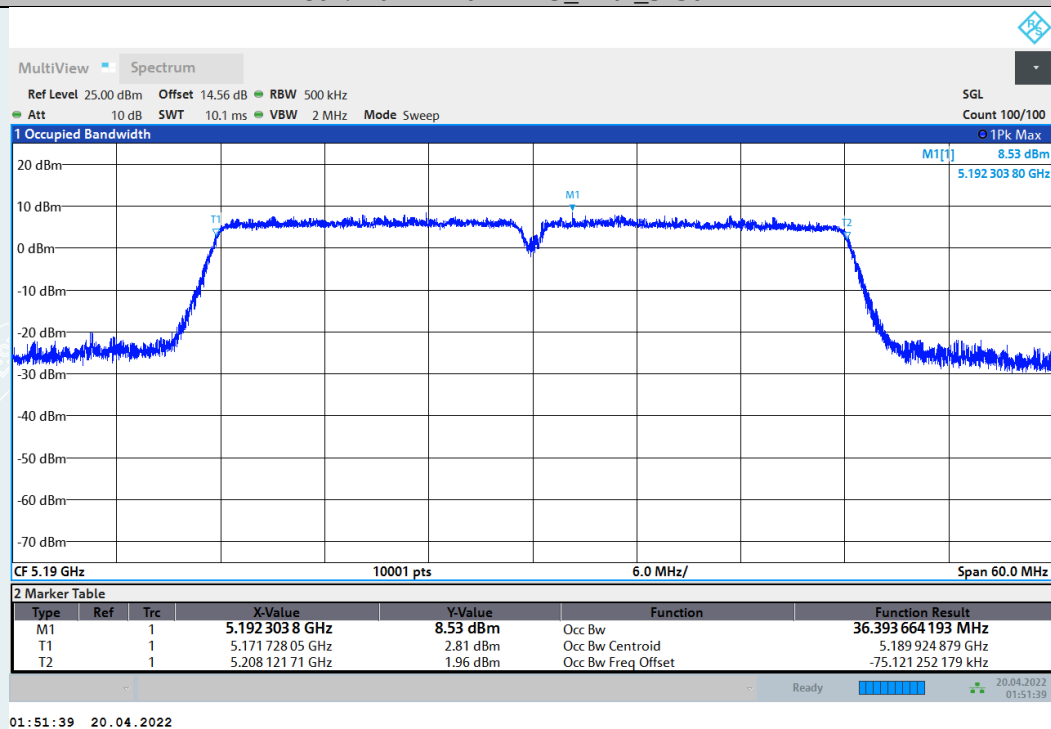


802.11ax HE20 MIMO_Ant4_5180MHz

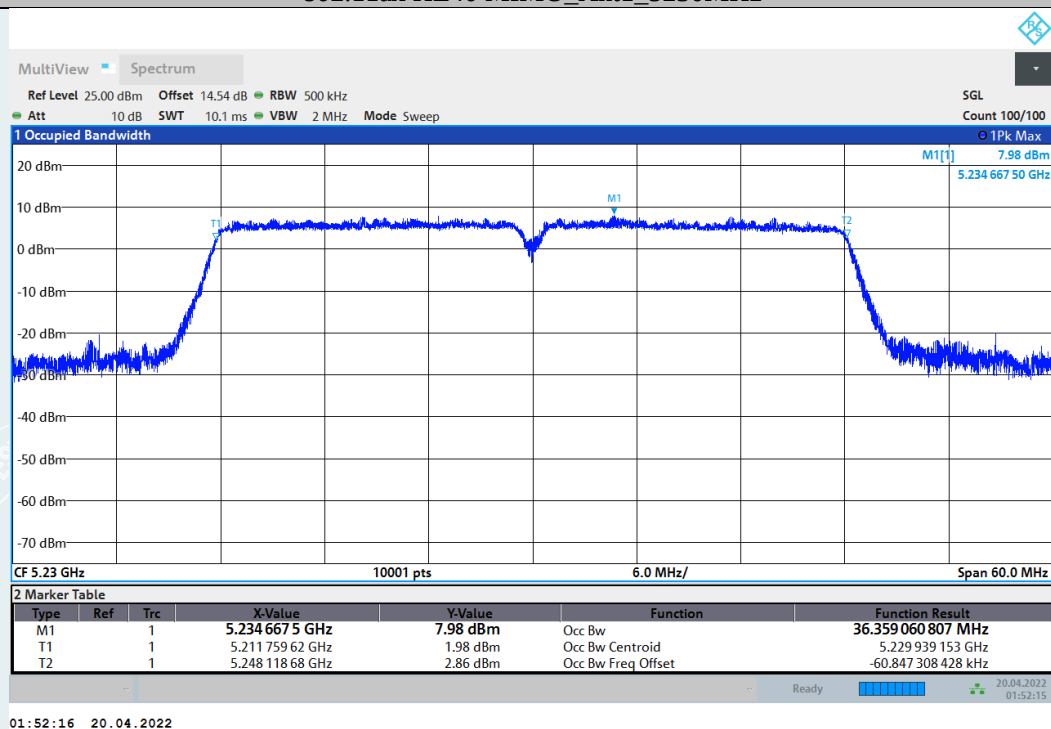


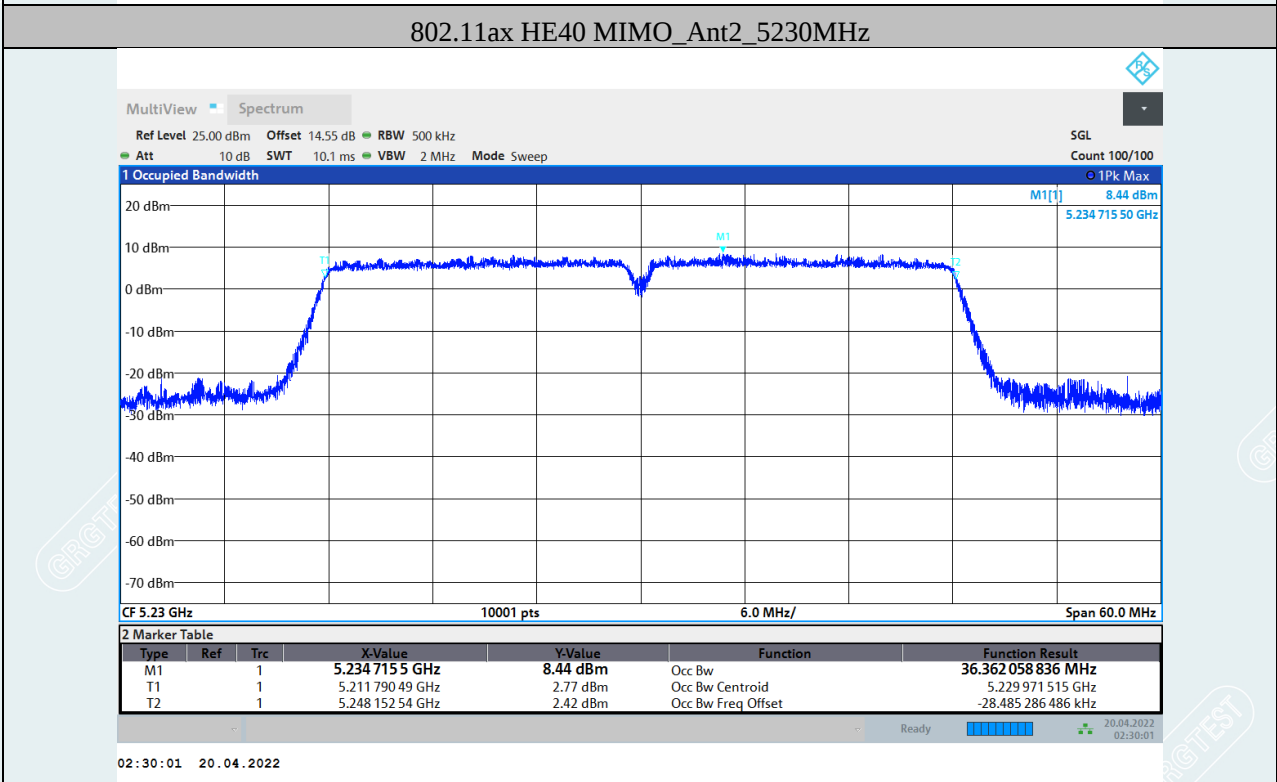
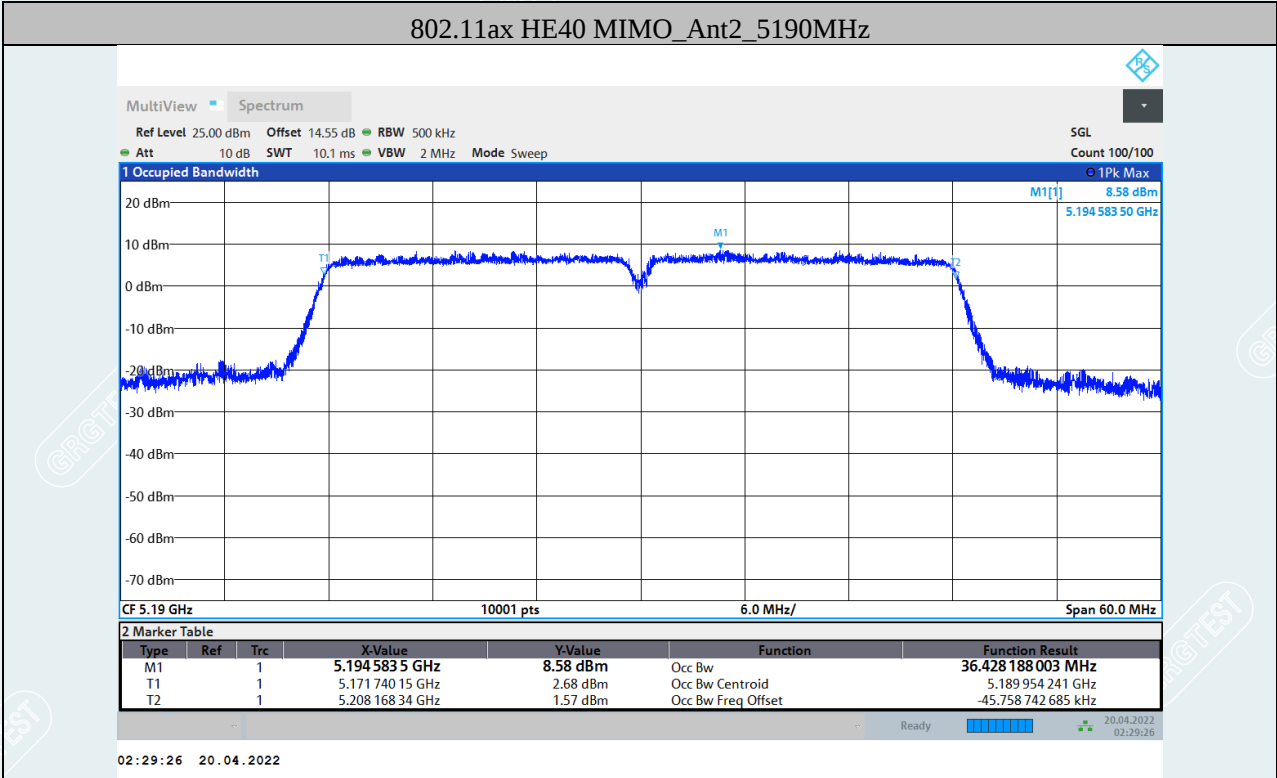


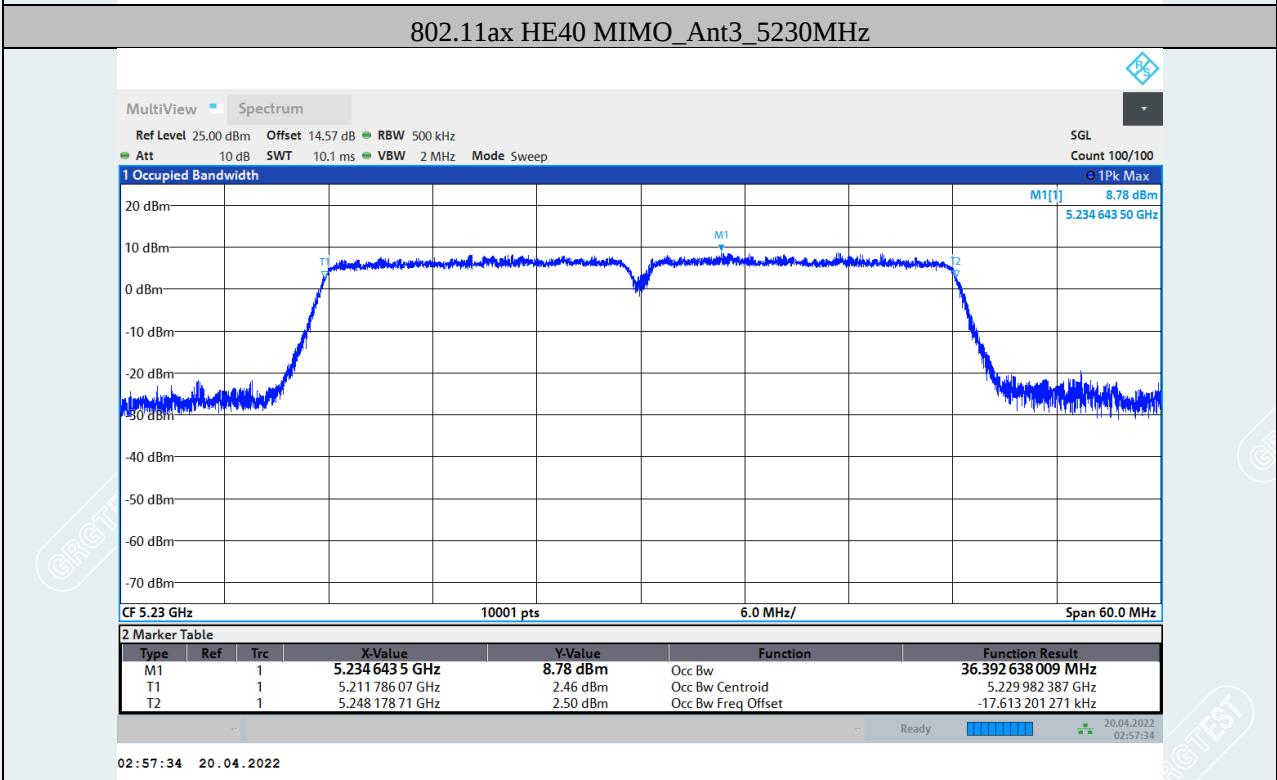
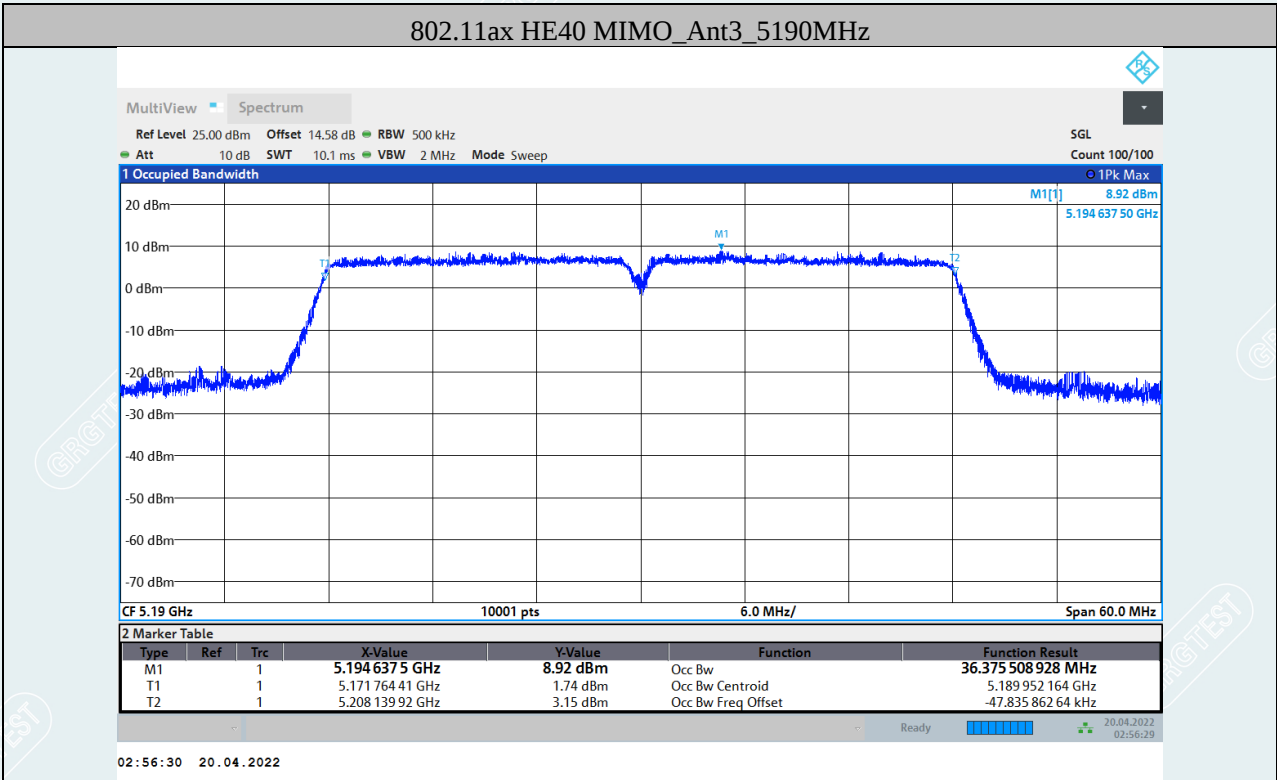
802.11ax HE40 MIMO_Ant1_5190MHz

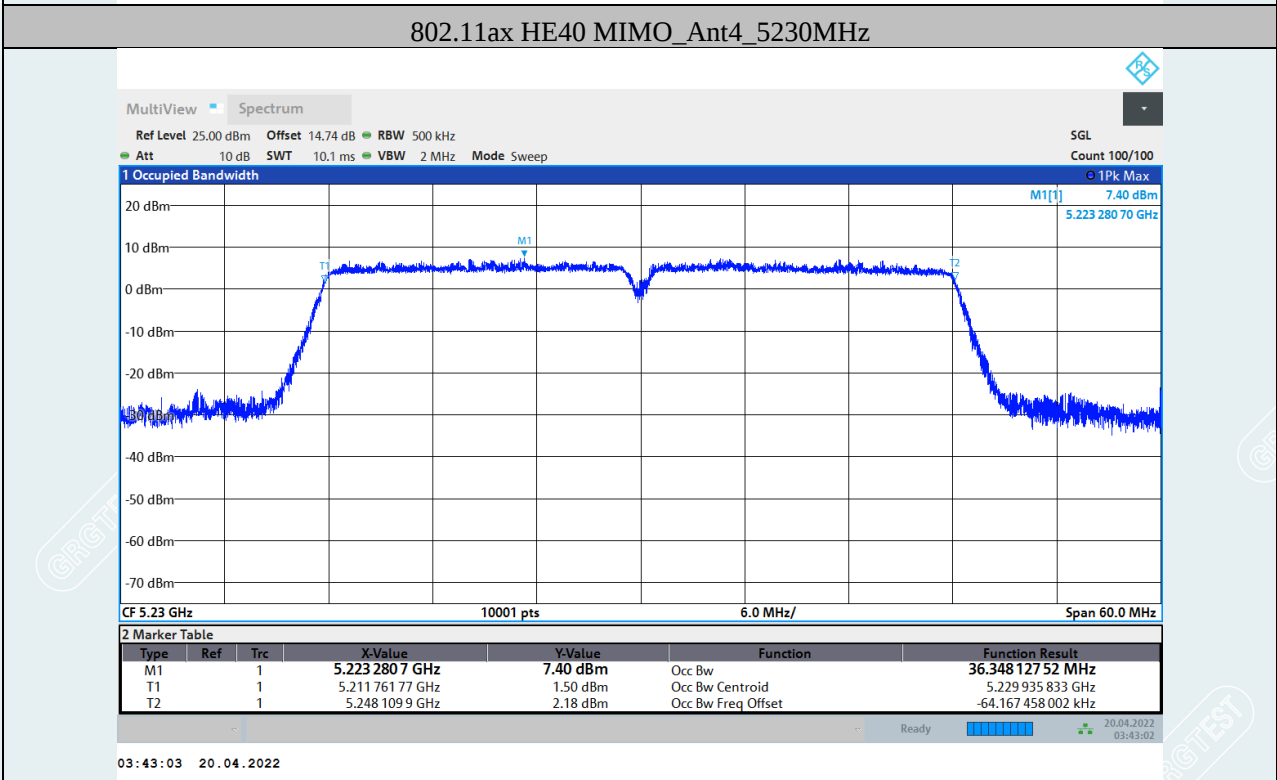
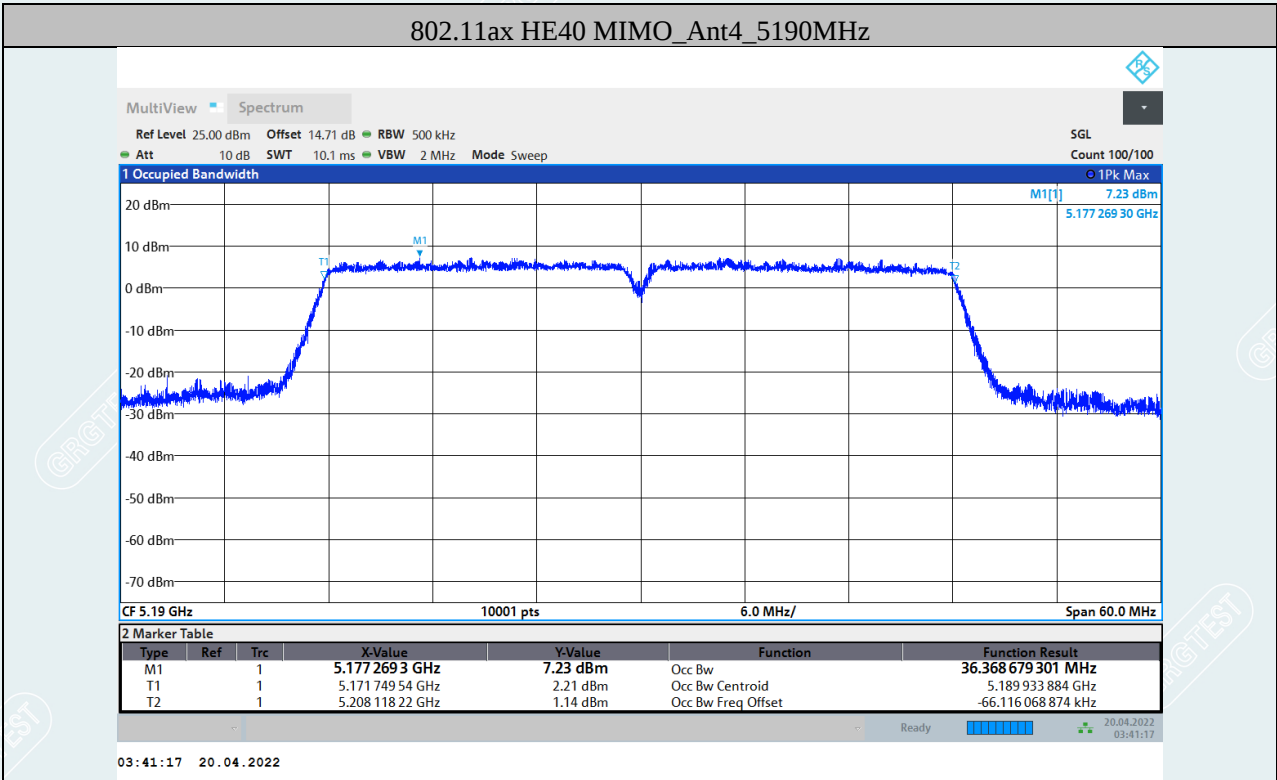


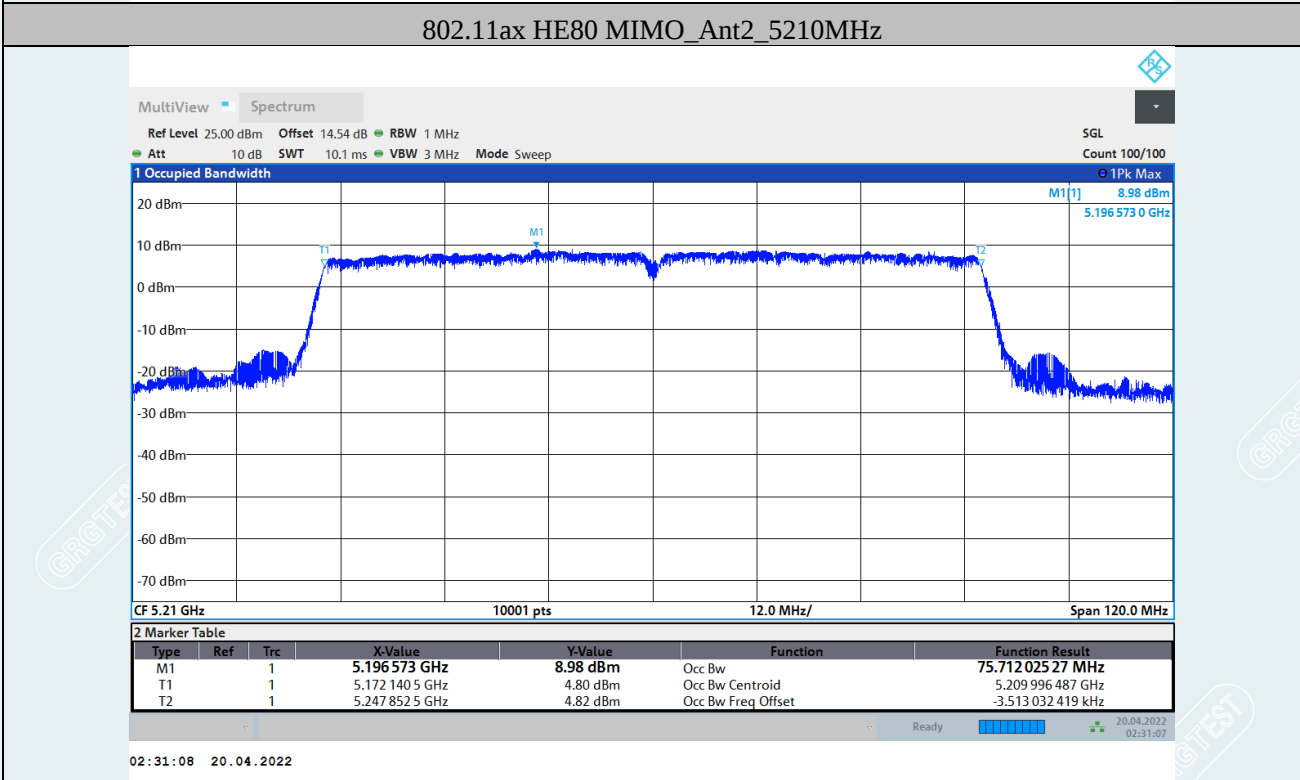
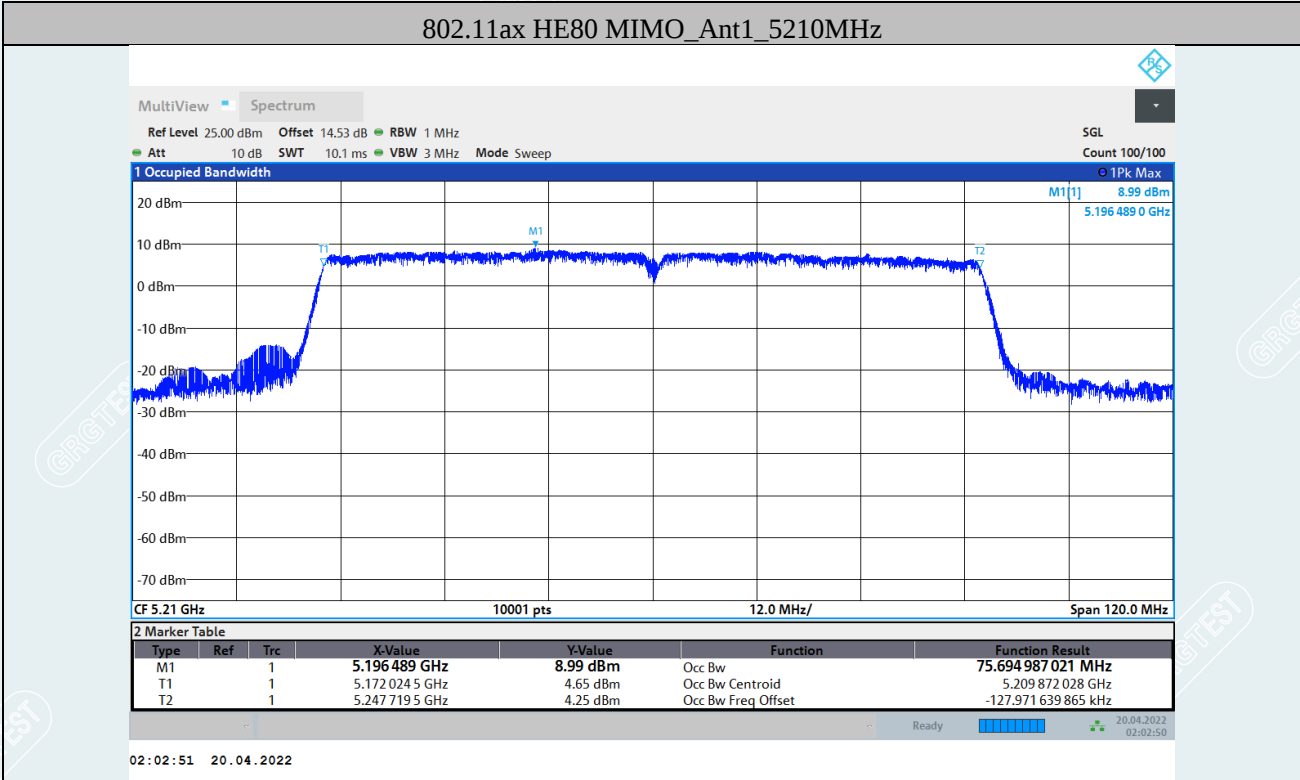
802.11ax HE40 MIMO_Ant1_5230MHz



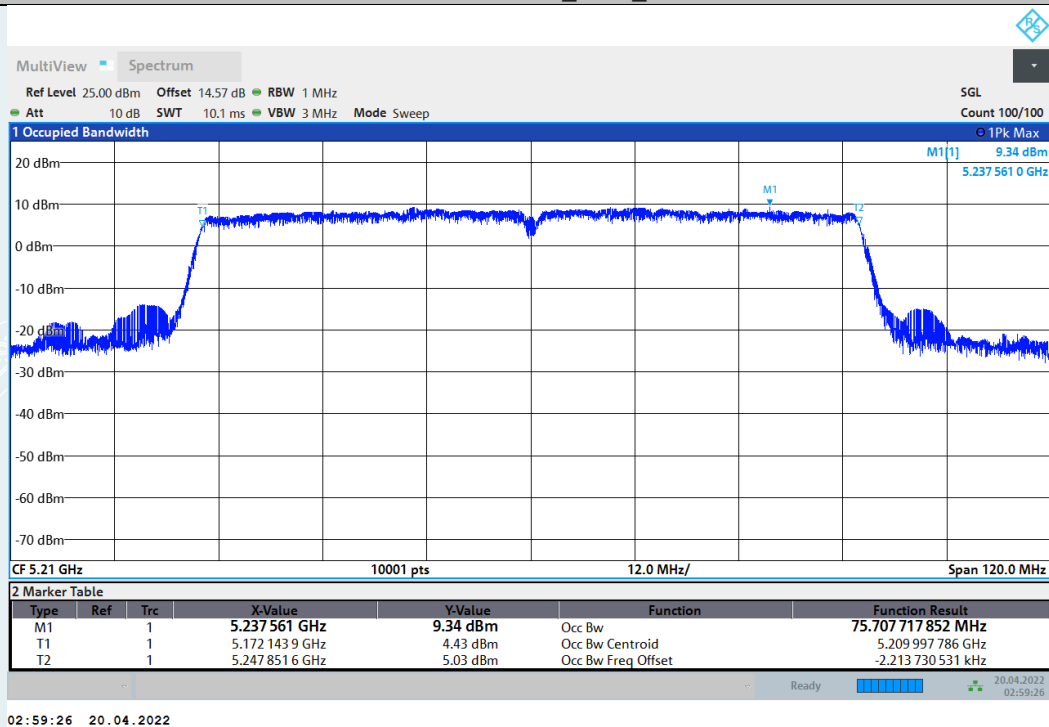




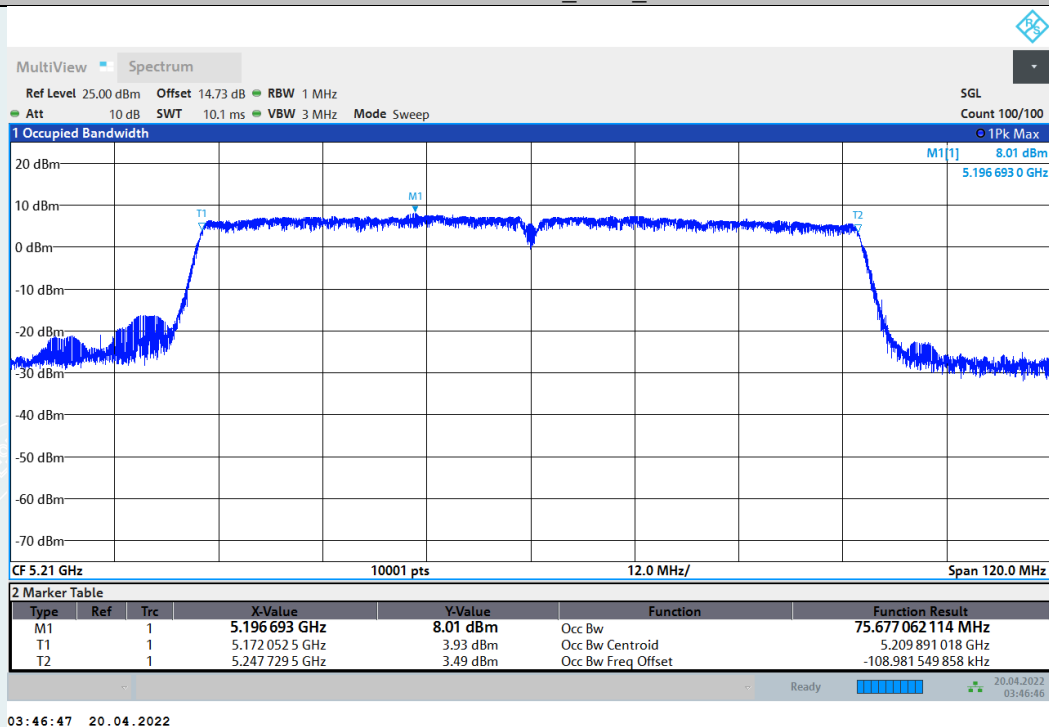




802.11ax HE80 MIMO_Ant3_5210MHz



802.11ax HE80 MIMO_Ant4_5210MHz



9. OUTPUT POWER

9.1. LIMITS

The FCC 15.407(a), The maximum conducted output power should not exceed:

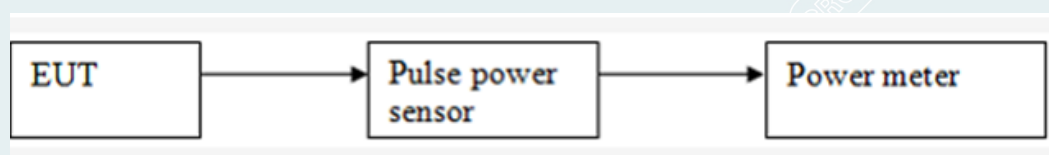
Band	EUT Type	Limit
U-NII-1	Outdoor Access Point	1W(30dBm) (Max. e.i.r.p $\leq$ 125mW at any elevation angle above 30 degrees as measured from the horizon)
	Indoor Access Point	1W(30dBm)
	Fixed point-to-point Access Point	1W(30dBm)
	Mobile and Portable Client Device	250mW(23.98dBm)

The EUT is indoor access point.

9.2. TEST PROCEDURES

- 1) The RF output of EUT was connected to the broadband average RF power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 2) Set to the maximum power setting and enable the EUT transmit continuously.
- 3) Measure the conducted output power and record the results in the test report.

9.3. TEST SETUP



9.4. TEST RESULTS

Environmental Conditions	23.9°C/47%RH	Test Voltage	AC120V/60Hz
Tested By	Liu lingfeng	Tested Date	2022/4/27

Test Mode	Band	Frequency	AVG Conducted Output Power with Duty Factor (dBm)				Limit (dBm)	Result
		(MHz)	antenna 1	antenna 2	antenna 3	antenna 4		
802.11a	U-NII-1	5180	18.12	18.74	18.54	17.69	30	Pass
		5200	17.98	18.93	18.66	17.27		Pass
		5240	17.86	18.94	18.42	17.21		Pass

Test Mode	Band	Frequency	AVG Conducted Output Power with Duty Factor (dBm)					Limit (dBm)	Result
		(MHz)	antenna 1	antenna 2	antenna 3	antenna 4	total		
802.11n HT20	U-NII-1	5180	17.87	18.85	18.59	17.68	24.30	30	Pass
		5200	17.84	18.61	18.48	17.11	24.07		Pass
		5240	17.96	18.9	18.42	16.98	24.14		Pass
802.11n HT40	U-NII-1	5190	15.92	16.56	16.45	15.66	22.60	30	Pass
		5230	16.02	16.79	16.31	15.49	22.62		Pass
802.11ac VHT20	U-NII-1	5180	17.88	18.82	18.59	17.66	24.28	30	Pass
		5200	17.84	18.77	18.48	17.1	24.11		Pass
		5240	17.9	18.87	18.41	17.08	24.14		Pass
802.11ac VHT40	U-NII-1	5190	16.14	16.73	16.34	15.65	22.37	30	Pass
		5230	16.18	16.77	16.55	15.5	22.42		Pass
802.11ac VHT80	U-NII-1	5210	16.26	16.92	16.71	15.75	22.69	30	Pass
IEEE 802.11ax HE20	U-NII-1	5180	18.02	18.73	18.56	17.65	24.28	30	Pass
		5200	17.74	18.69	18.45	17.13	24.07		Pass
		5240	17.84	18.82	18.38	17	24.08		Pass
IEEE 802.11ax HE40	U-NII-1	5190	16.08	16.73	16.37	15.76	22.39	30	Pass
		5230	16.17	16.78	16.51	15.35	22.38		Pass
IEEE 802.11ax HE80	U-NII-1	5210	16.29	16.82	16.62	15.68	22.39	30	Pass

Note: 1. This EUT supports MIMO 4X4, any transmit signals are correlated with each other,
For power measurements on IEEE 802.11 devices, $\text{Array Gain} = 0 \text{ dB}$ (i.e., no array gain) for $N_{\text{ANT}} \leq 4$.

----- The following blanks -----

10. POWER SPECTRAL DENSITY

10.1. LIMITS

FCC 15.407(a)

The maximum power spectral density should not exceed:

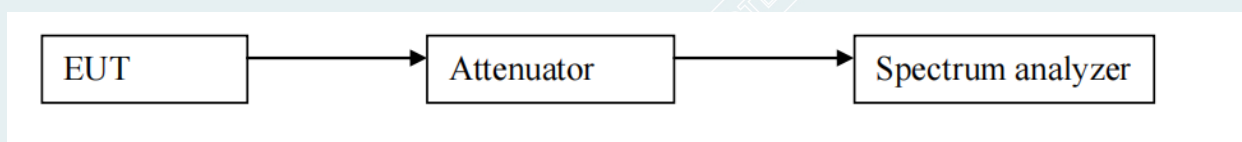
Band	EUT Type	Limit
U-NII-1	Outdoor Access Point	17dBm/MHz
	Indoor Access Point	17dBm/MHz
	Fixed point-to-point Access Point	17dBm/MHz
	Mobile and Portable Client Device	11dBm/MHz

If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

10.2. TEST PROCEDURES

Spectrum Parameters	Setting
RBW	1MHz(For U-NII-1&U-NII-2A&U-NII-2C) 500KHz(For U-NII-3)
VBW	3MHz(For U-NII-1&U-NII-2A&U-NII-2C) 2MHz(For U-NII-3)
Span	encompass the entire 26 dB EBW or 99% OBW of the signal
Sweep Time	Auto
Number of Sweep Point	$\geq 2 \times \text{SPAN} / \text{RBW}$
Detector	RMS(power averaging)
Trace Average	≥ 100 traces

10.3. TEST SETUP



10.4. TEST RESULTS

Environmental Conditions	23.9°C/47%RH	Test Voltage	AC120V/60Hz
Tested By	Liu lingfeng	Tested Date	2022/4/27

TestMode	Antenna	Frequency [MHz]	Result [dBm/MHz]	Duty factor	Result+ Duty factor [dBm/MHz]	Limit[dBm/MHz]	Verdict
802.11a	Ant1	5180	5.91	0	5.91	≤17	PASS
	Ant2	5180	6.29	0	6.29	≤17	PASS
	Ant3	5180	6.11	0	6.11	≤17	PASS
	Ant4	5180	4.86	0	4.86	≤17	PASS
	Ant1	5200	5.86	0	5.86	≤17	PASS
	Ant2	5200	6.09	0	6.09	≤17	PASS
	Ant3	5200	6.25	0	6.25	≤17	PASS
	Ant4	5200	4.77	0	4.77	≤17	PASS
	Ant1	5240	5.74	0	5.74	≤17	PASS
	Ant2	5240	6.22	0	6.22	≤17	PASS
	Ant3	5240	6.11	0	6.11	≤17	PASS
	Ant4	5240	4.79	0	4.79	≤17	PASS
802.11n HT20 MIMO	Ant1	5180	5.44	0	5.44	≤17	PASS
	Ant2	5180	5.83	0	5.83	≤17	PASS
	Ant3	5180	5.81	0	5.81	≤17	PASS
	Ant4	5180	4.53	0	4.53	≤17	PASS
	total	5180	11.45	0	11.45	≤13.98	PASS
	Ant1	5200	5.28	0	5.28	≤17	PASS
	Ant2	5200	5.76	0	5.76	≤17	PASS
	Ant3	5200	5.7	0	5.7	≤17	PASS
	Ant4	5200	4.32	0	4.32	≤17	PASS
	total	5200	11.32	0	11.32	≤13.98	PASS
	Ant1	5240	5.28	0	5.28	≤17	PASS
	Ant2	5240	5.82	0	5.82	≤17	PASS
	Ant3	5240	5.79	0	5.79	≤17	PASS
	Ant4	5240	4.14	0	4.14	≤17	PASS
	total	5240	11.33	0	11.33	≤13.98	PASS
802.11n HT40 MIMO	Ant1	5190	-2.34	0.42	-1.25	≤17	PASS
	Ant2	5190	-2.71	0.42	-0.07	≤17	PASS
	Ant3	5190	-1.75	0.42	0.94	≤17	PASS
	Ant4	5190	-3.22	0.42	-1.26	≤17	PASS
	total	5190	3.55	0.42	5.71	≤13.98	PASS
	Ant1	5230	-2.04	0.42	0.19	≤17	PASS
	Ant2	5230	-1.73	0.42	-0.46	≤17	PASS

	Ant3	5230	-0.81	0.42	0.1	≤ 17	PASS
	Ant4	5230	-2.44	0.42	-0.98	≤ 17	PASS
	total	5230	4.31	0.42	5.76	≤ 13.98	PASS
802.11ac VHT20 MIMO	Ant1	5180	5.34	0	5.34	≤ 17	PASS
	Ant2	5180	5.8	0	5.8	≤ 17	PASS
	Ant3	5180	5.8	0	5.8	≤ 17	PASS
	Ant4	5180	4.43	0	4.43	≤ 17	PASS
	total	5180	11.40	0	11.40	≤ 13.98	PASS
	Ant1	5200	5.28	0	5.28	≤ 17	PASS
	Ant2	5200	5.54	0	5.54	≤ 17	PASS
	Ant3	5200	5.65	0	5.65	≤ 17	PASS
	Ant4	5200	4.24	0	4.24	≤ 17	PASS
	total	5200	11.23	0	11.23	≤ 13.98	PASS
	Ant1	5240	5.22	0	5.22	≤ 17	PASS
	Ant2	5240	5.69	0	5.69	≤ 17	PASS
	Ant3	5240	5.7	0	5.7	≤ 17	PASS
	Ant4	5240	4.2	0	4.2	≤ 17	PASS
	total	5240	11.26	0	11.26	≤ 13.98	PASS
802.11ac VHT40 MIMO	Ant1	5190	0.13	0.12	2.02	≤ 17	PASS
	Ant2	5190	0.48	0.12	2.8	≤ 17	PASS
	Ant3	5190	0.53	0.12	3.03	≤ 17	PASS
	Ant4	5190	-0.81	0.12	1.45	≤ 17	PASS
	total	5190	6.14	0.12	8.39	≤ 13.98	PASS
	Ant1	5230	-0.02	0.12	1.98	≤ 17	PASS
	Ant2	5230	0.75	0.12	2.52	≤ 17	PASS
	Ant3	5230	0.9	0.12	3.2	≤ 17	PASS
	Ant4	5230	-0.43	0.12	1.35	≤ 17	PASS
	total	5230	6.35	0.12	8.34	≤ 13.98	PASS
802.11ac VHT80 MIMO	Ant1	5210	-2.98	0.24	-1.91	≤ 17	PASS
	Ant2	5210	-3.22	0.24	-0.69	≤ 17	PASS
	Ant3	5210	-2.87	0.24	-0.63	≤ 17	PASS
	Ant4	5210	-4.13	0.24	-2.55	≤ 17	PASS
	total	5210	2.75	0.24	4.65	≤ 13.98	PASS
802.11ax HE20 MIMO	Ant1	5180	5.49	0	5.49	≤ 17	PASS
	Ant2	5180	5.7	0	5.7	≤ 17	PASS
	Ant3	5180	5.68	0	5.68	≤ 17	PASS
	Ant4	5180	4.41	0	4.41	≤ 17	PASS
	total	5180	11.37	0	11.37	≤ 13.98	PASS
	Ant1	5200	5.36	0	5.36	≤ 17	PASS
	Ant2	5200	5.56	0	5.56	≤ 17	PASS
	Ant3	5200	5.61	0	5.61	≤ 17	PASS
	Ant4	5200	4.43	0	4.43	≤ 17	PASS
	total	5200	11.29	0	11.29	≤ 13.98	PASS

	Ant1	5240	5	0	5	≤ 17	PASS
	Ant2	5240	5.73	0	5.73	≤ 17	PASS
	Ant3	5240	5.72	0	5.72	≤ 17	PASS
	Ant4	5240	3.97	0	3.97	≤ 17	PASS
	total	5240	11.18	0	11.18	≤ 13.98	PASS
802.11ax HE40 MIMO	Ant1	5190	0.33	0.12	2.25	≤ 17	PASS
	Ant2	5190	0.66	0.12	2.71	≤ 17	PASS
	Ant3	5190	0.41	0.12	3.03	≤ 17	PASS
	Ant4	5190	-0.59	0.12	1.54	≤ 17	PASS
	total	5190	6.25	0.12	8.44	≤ 13.98	PASS
	Ant1	5230	0.08	0.12	2.32	≤ 17	PASS
	Ant2	5230	0.63	0.12	2.7	≤ 17	PASS
	Ant3	5230	0.58	0.12	2.75	≤ 17	PASS
	Ant4	5230	-0.65	0.12	1.85	≤ 17	PASS
	total	5230	6.21	0.12	8.44	≤ 13.98	PASS
802.11ax HE80 MIMO	Ant1	5210	-3.38	0	-1.44	≤ 17	PASS
	Ant2	5210	-3.85	0	-1.72	≤ 17	PASS
	Ant3	5210	-3.97	0	-1.36	≤ 17	PASS
	Ant4	5210	-4.15	0	-2.3	≤ 17	PASS
	total	5210	2.19	0	4.33	≤ 13.98	PASS

U-NII-1 :

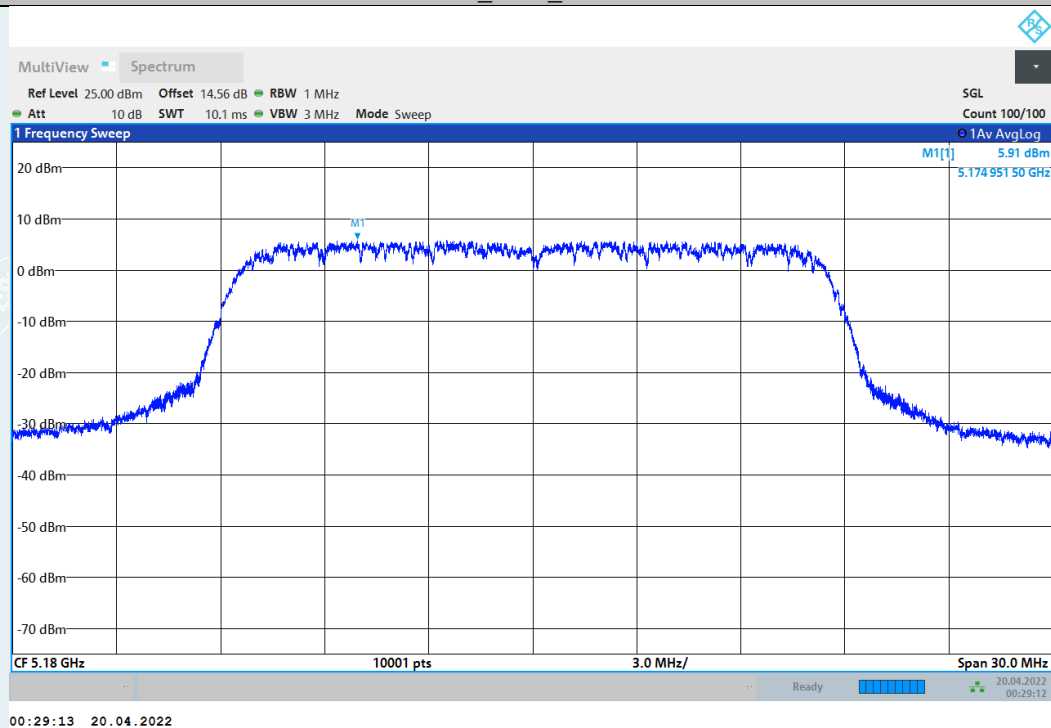
Note1: This EUT supports MIMO 4X4, any transmit signals are correlated with each other,
So Directional gain = $3.0 + 10\log(4)$ dBi, that is Directional gain (dBi) = 9.02

Note2: Antenna gain is greater than 6, Power Density Limit = $17 - (9.02 - 6) = 13.98$ dBm/MHz

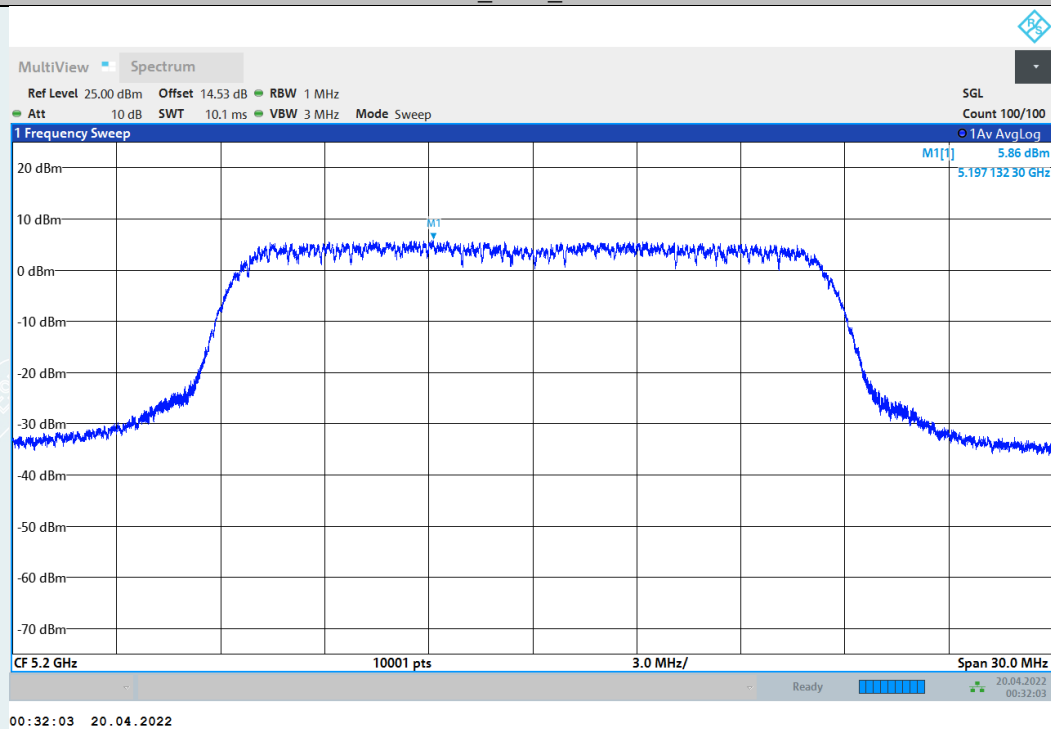
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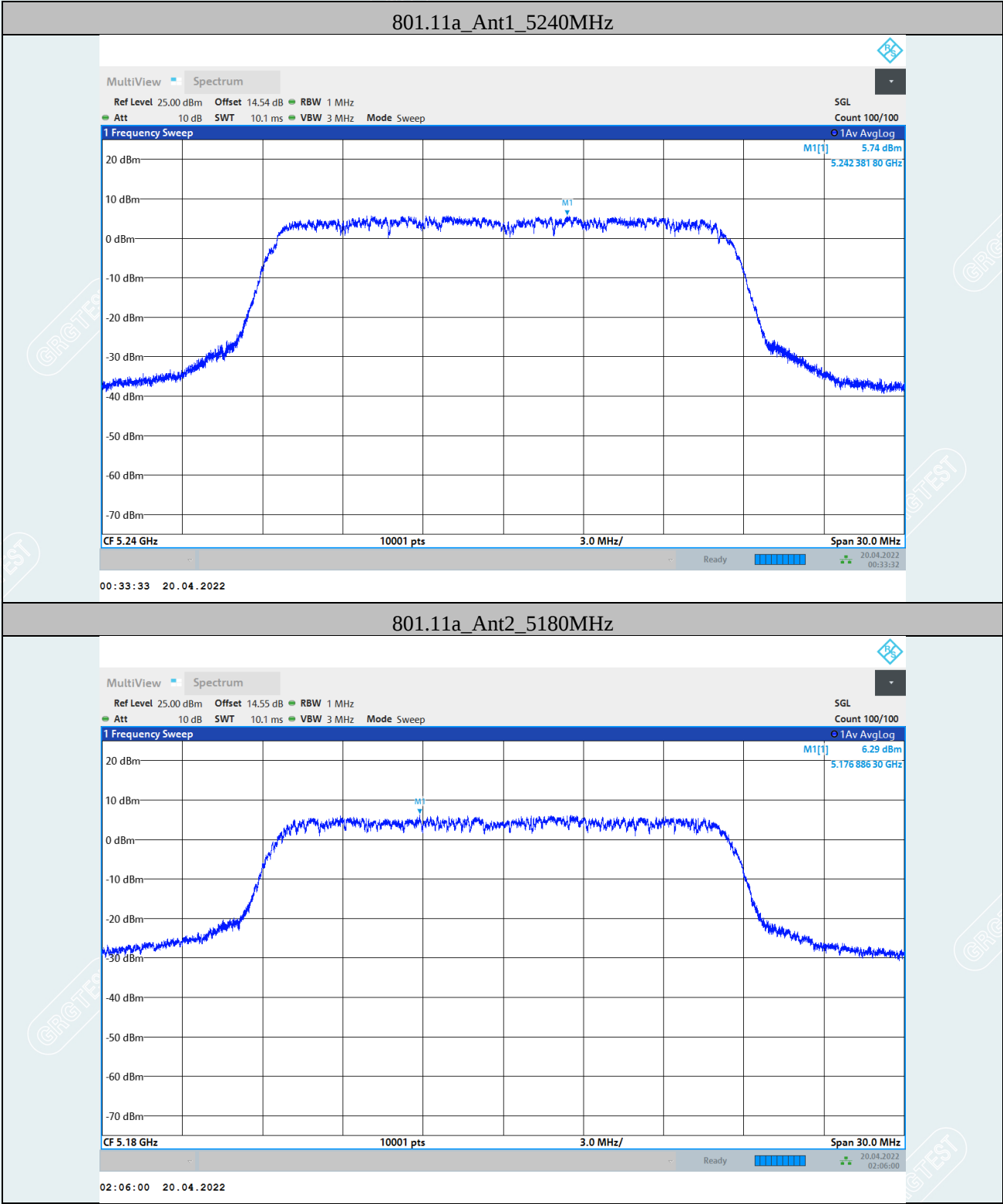
Test Graphs

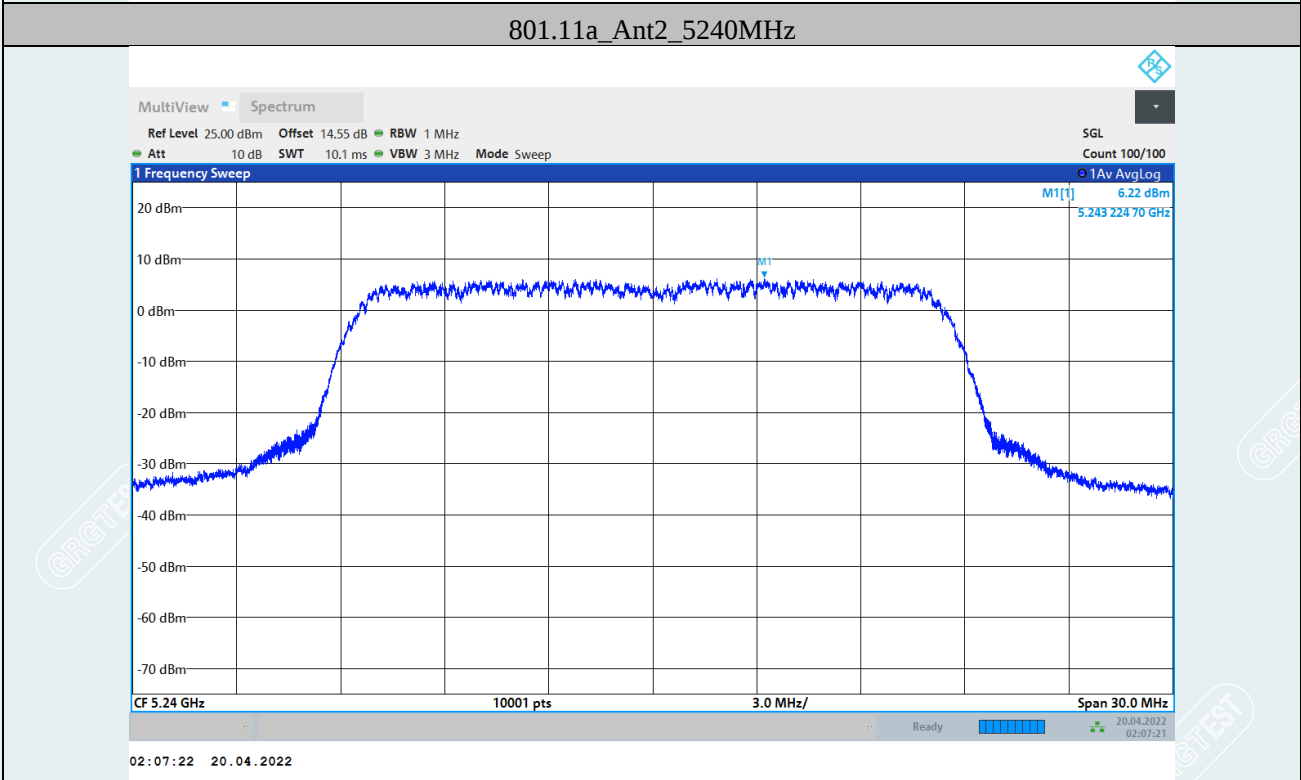
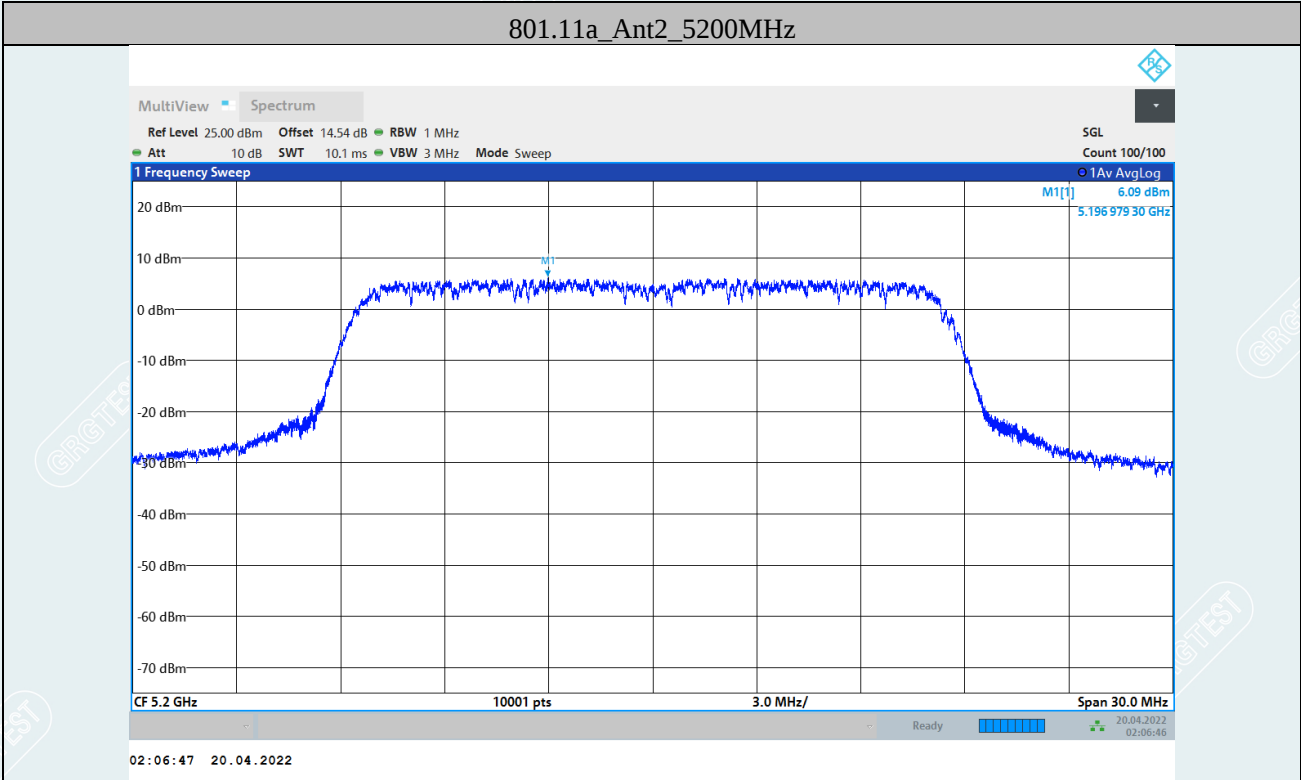
801.11a_Ant1_5180MHz

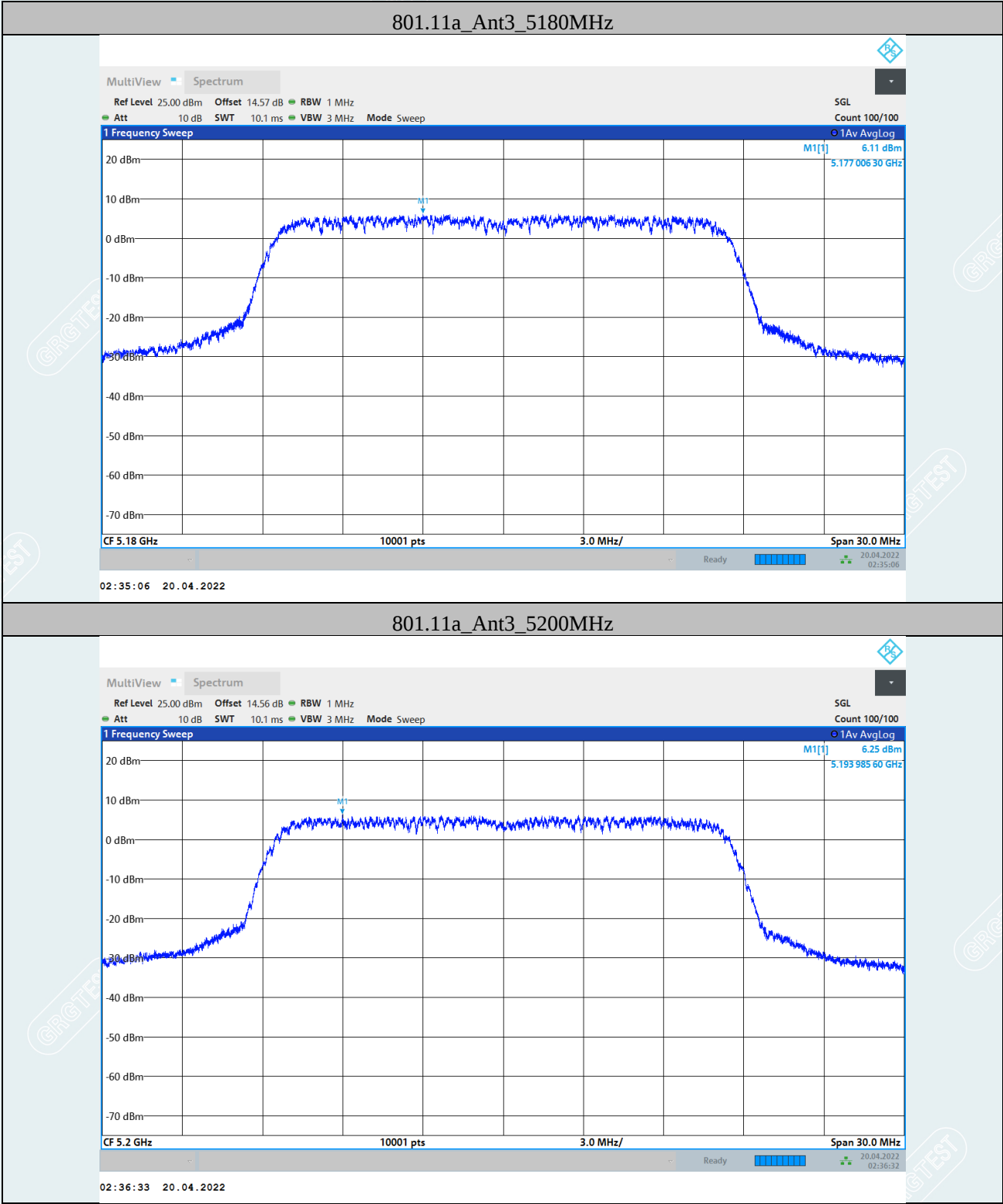


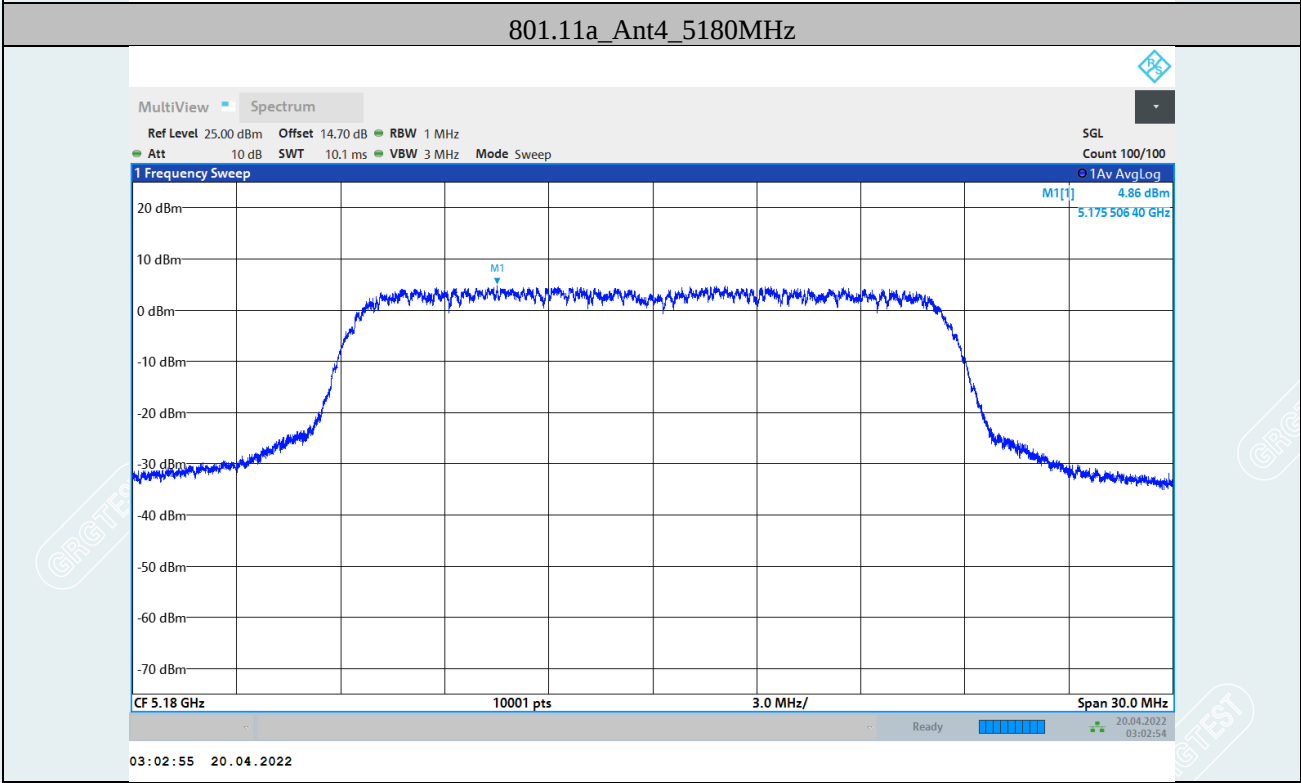
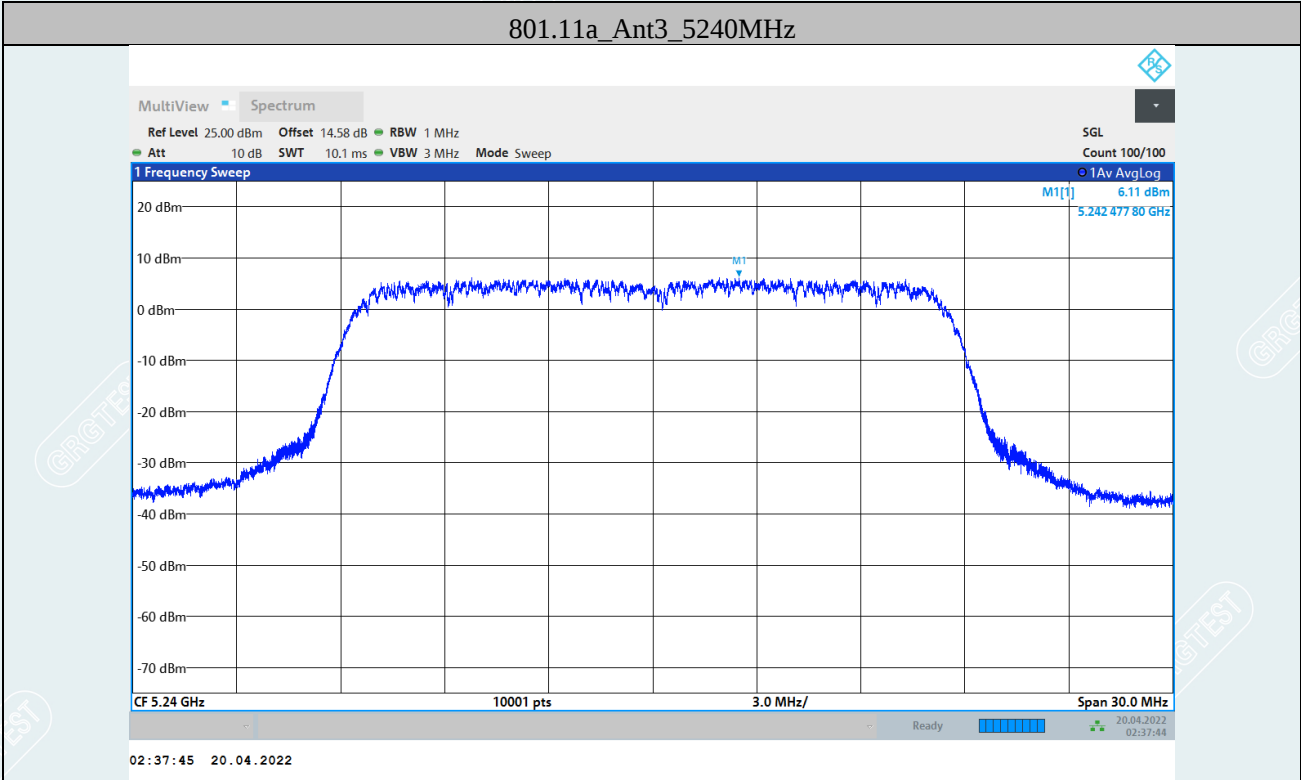
801.11a_Ant1_5200MHz

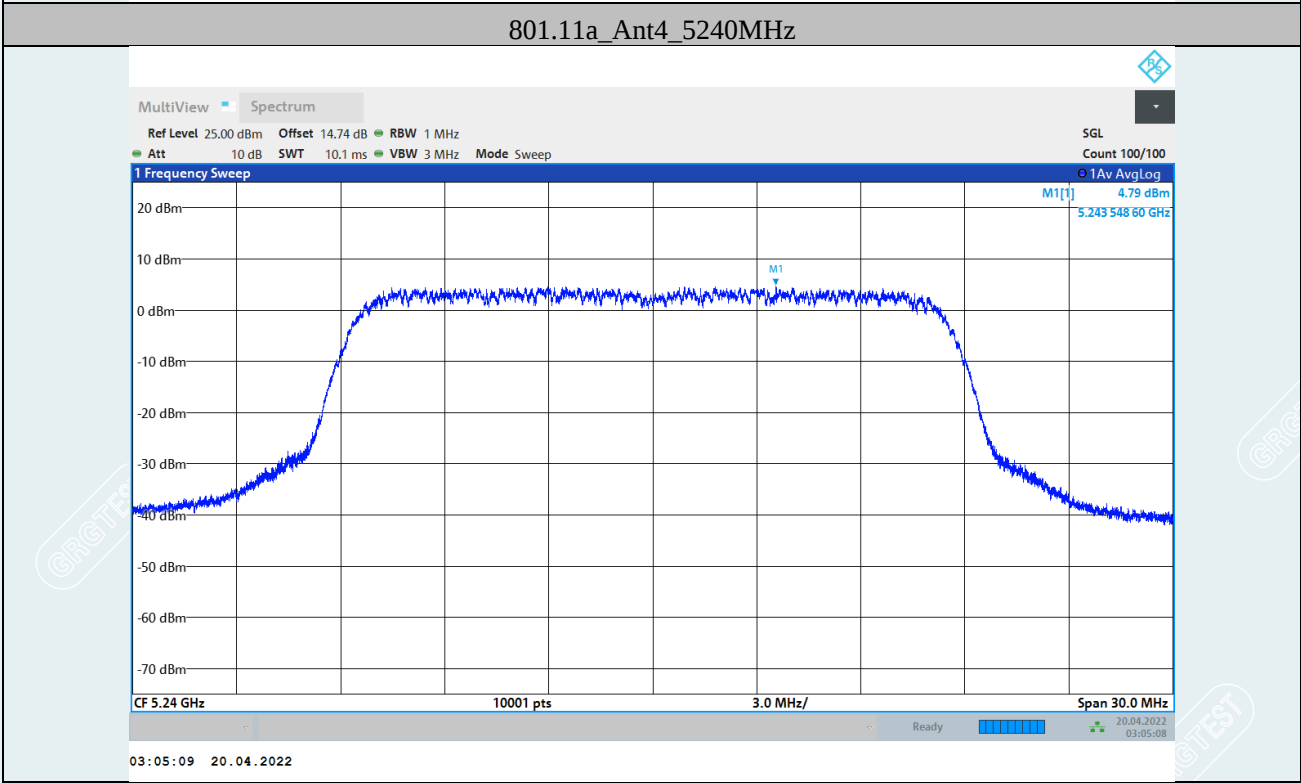
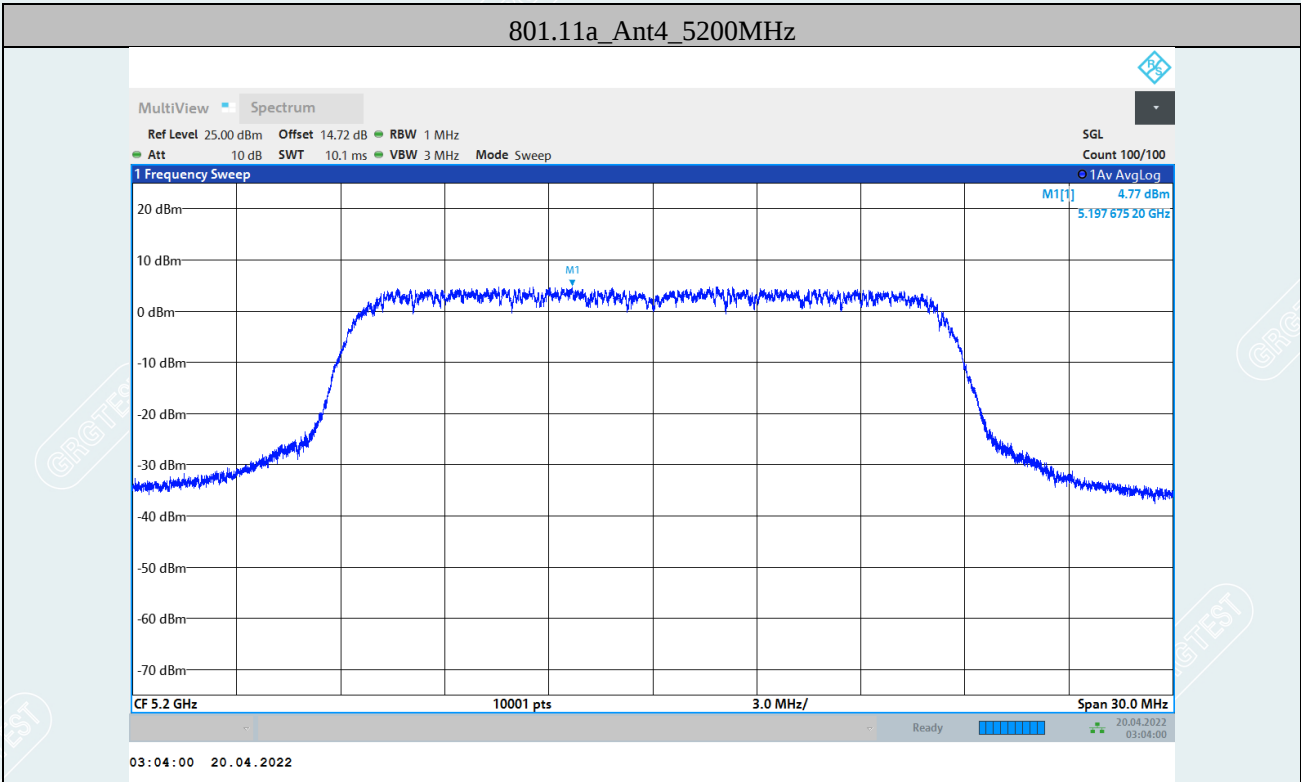


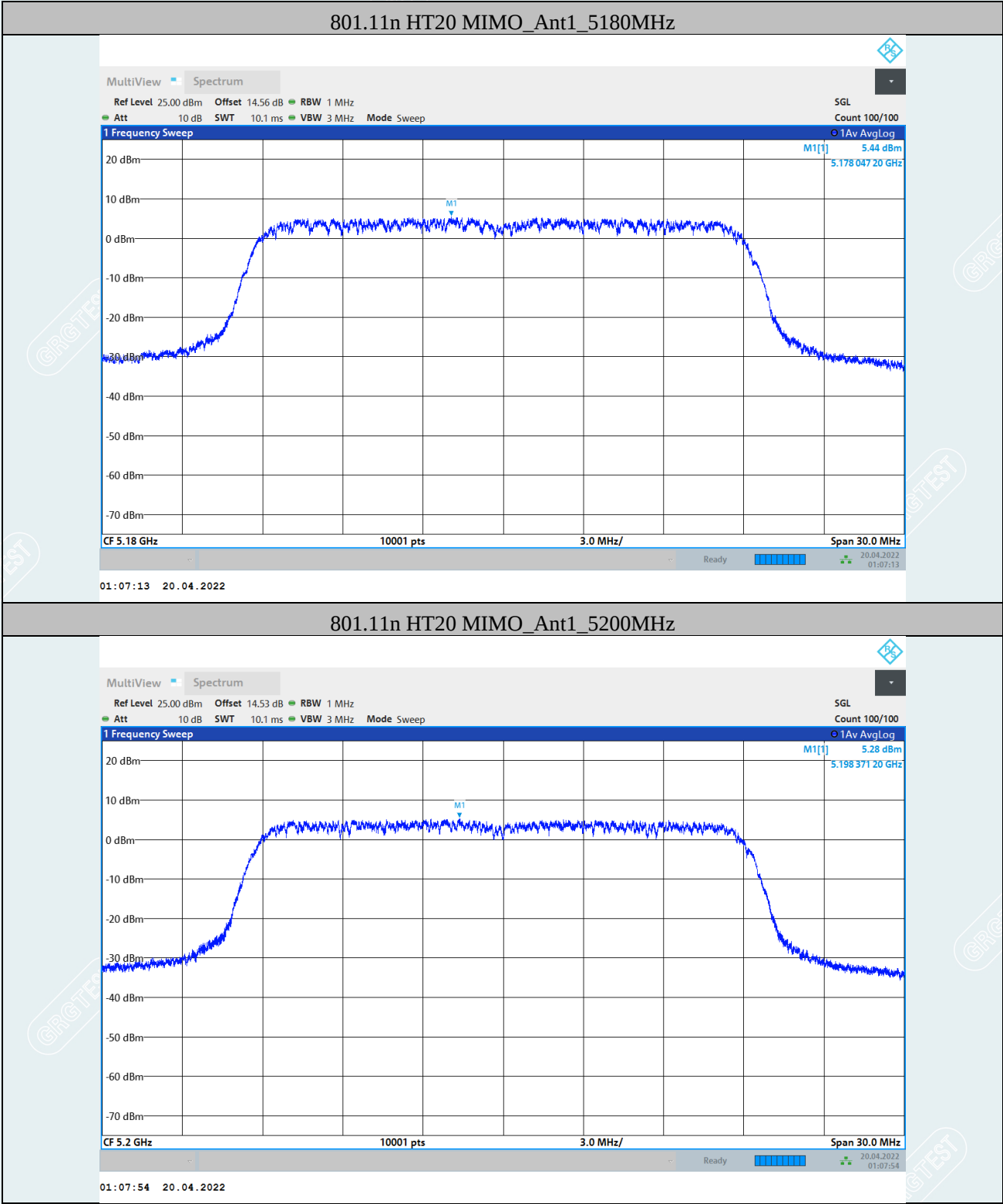


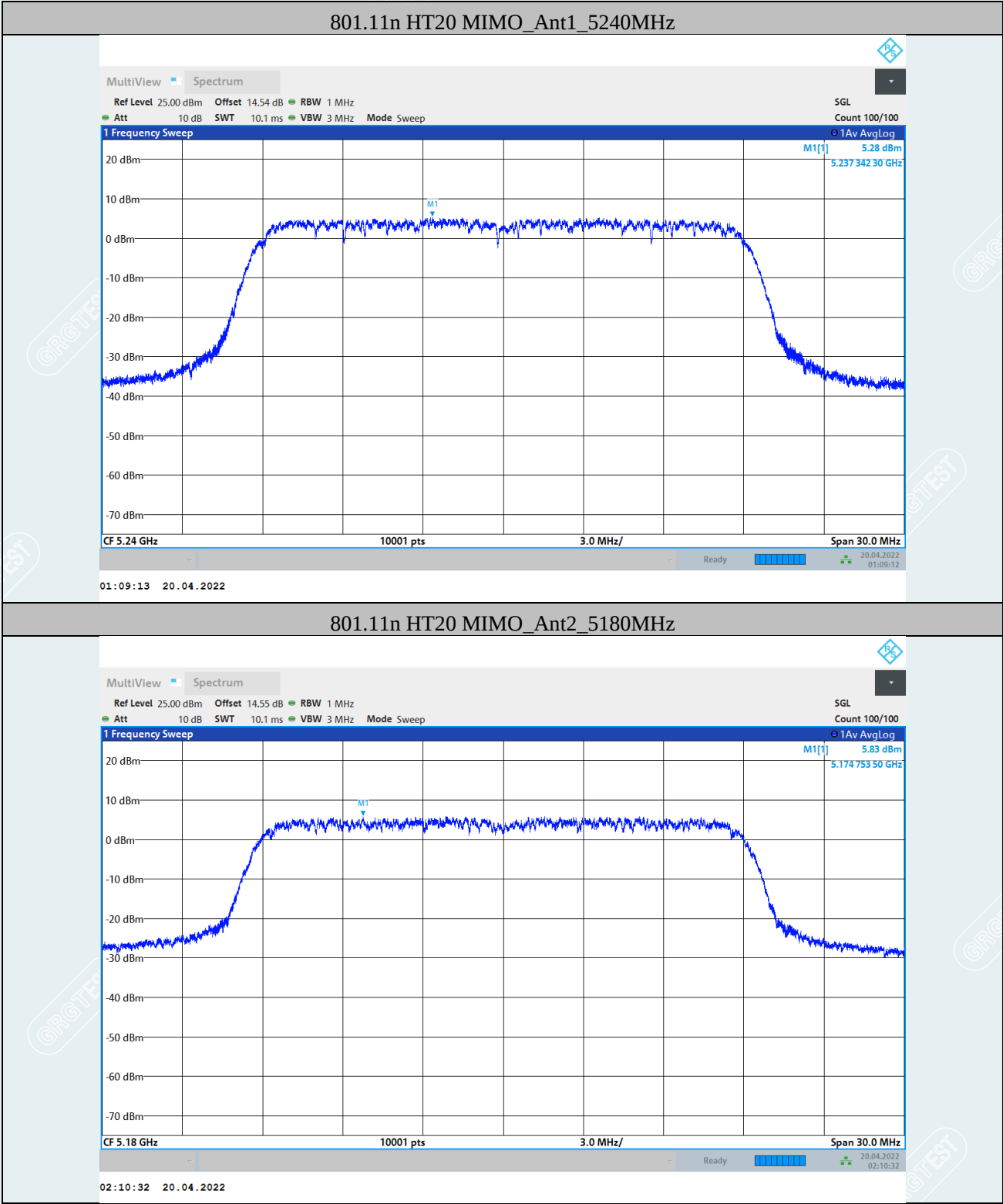


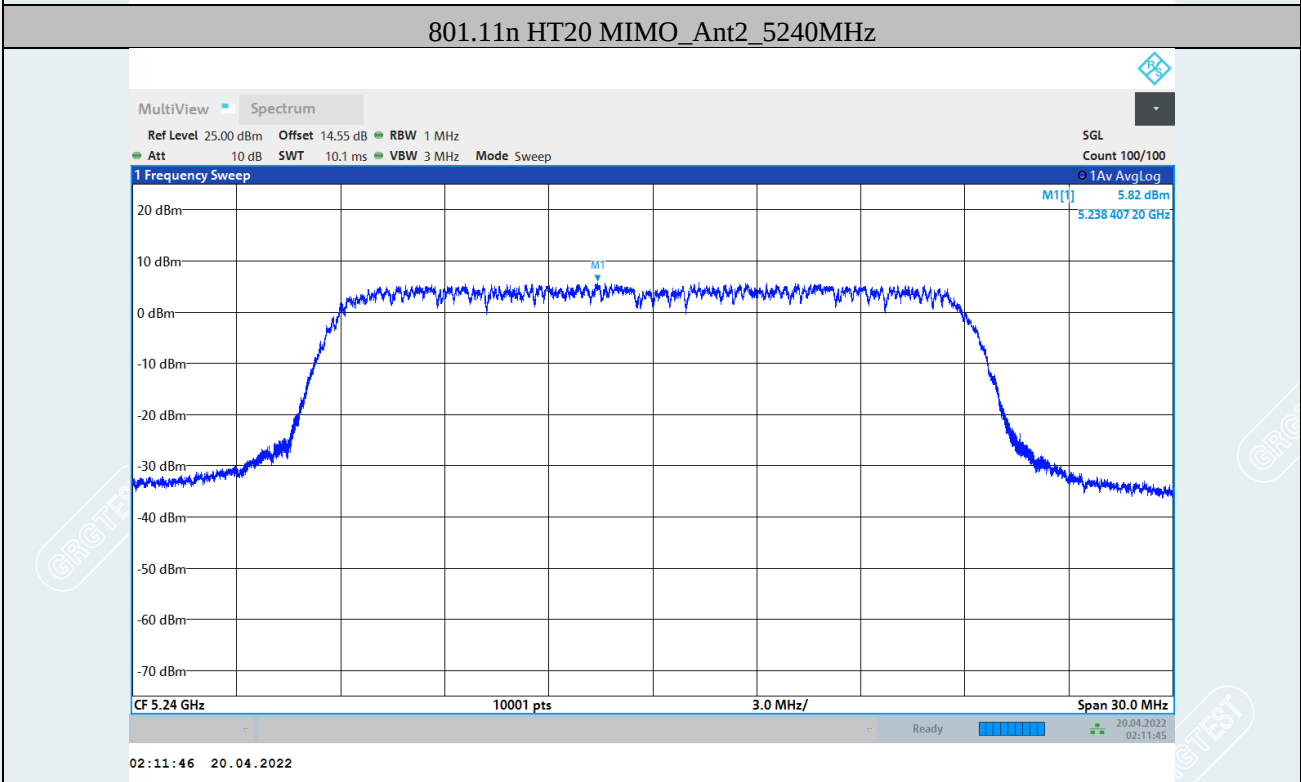
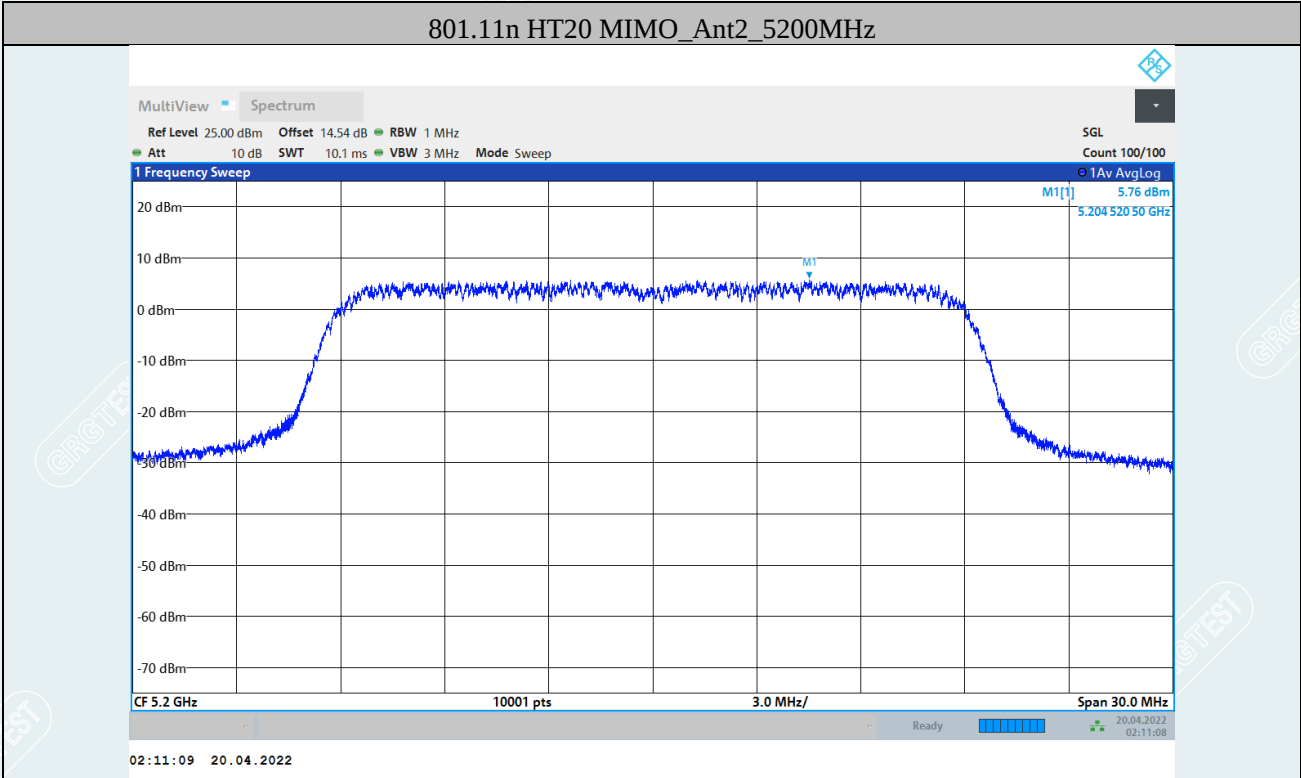


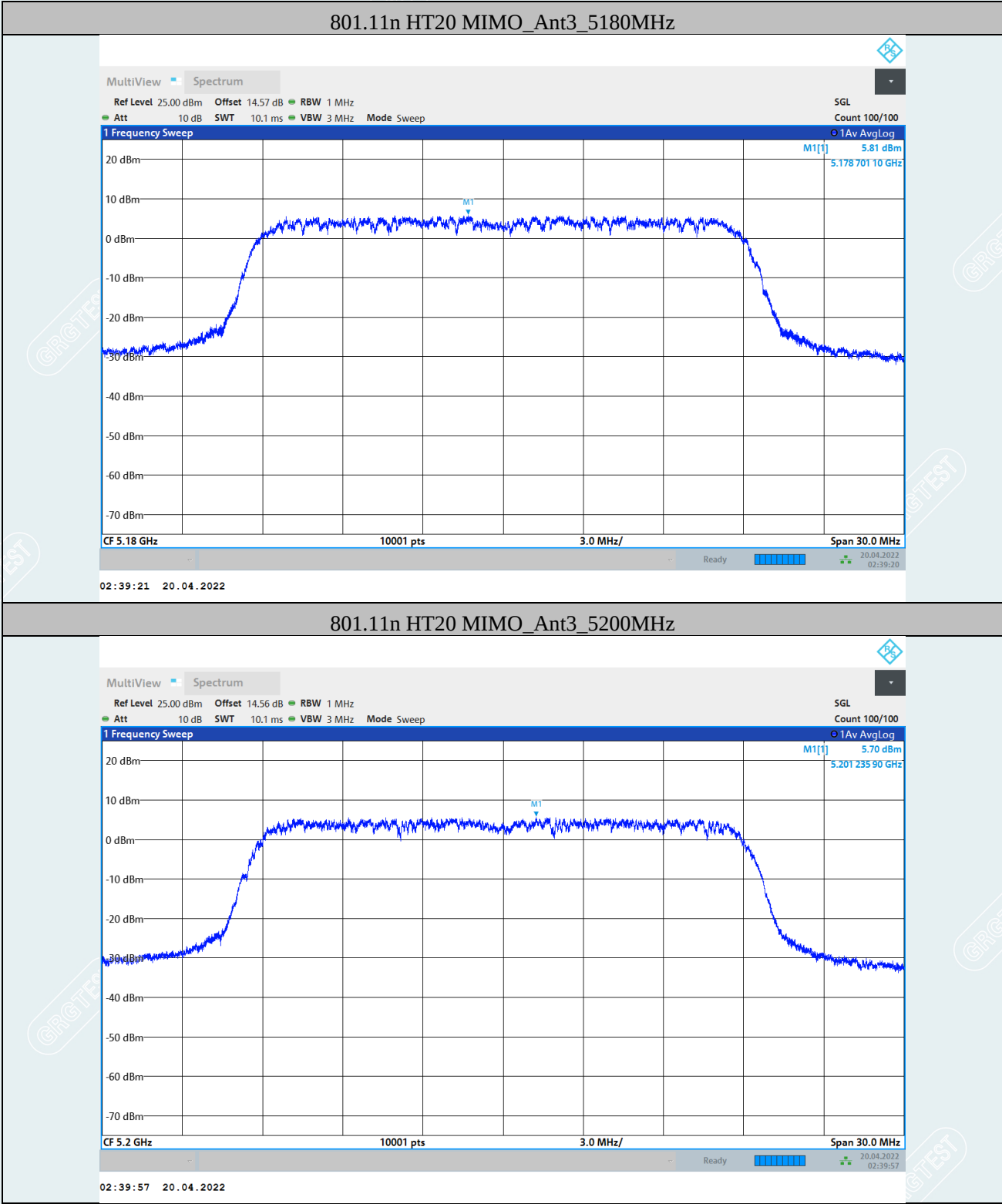












801.11n HT20 MIMO_Ant3_5200MHz

MultiView Spectrum

Ref Level 25.00 dBm Offset 14.56 dB RBW 1 MHz
Att 10 dB SWT 10.1 ms VBW 3 MHz Mode Sweep

SGL
Count 100/100

1 Frequency Sweep

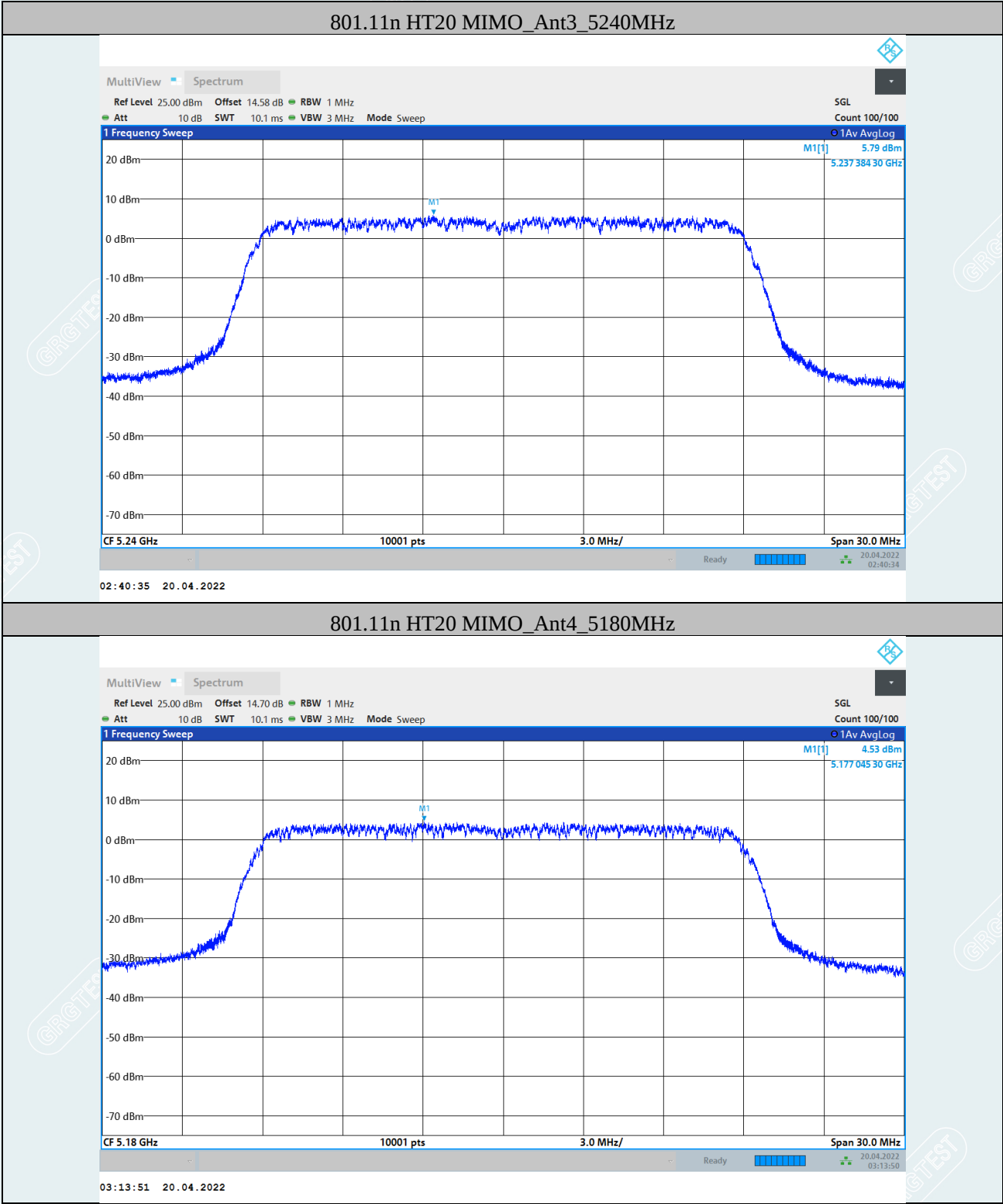
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm

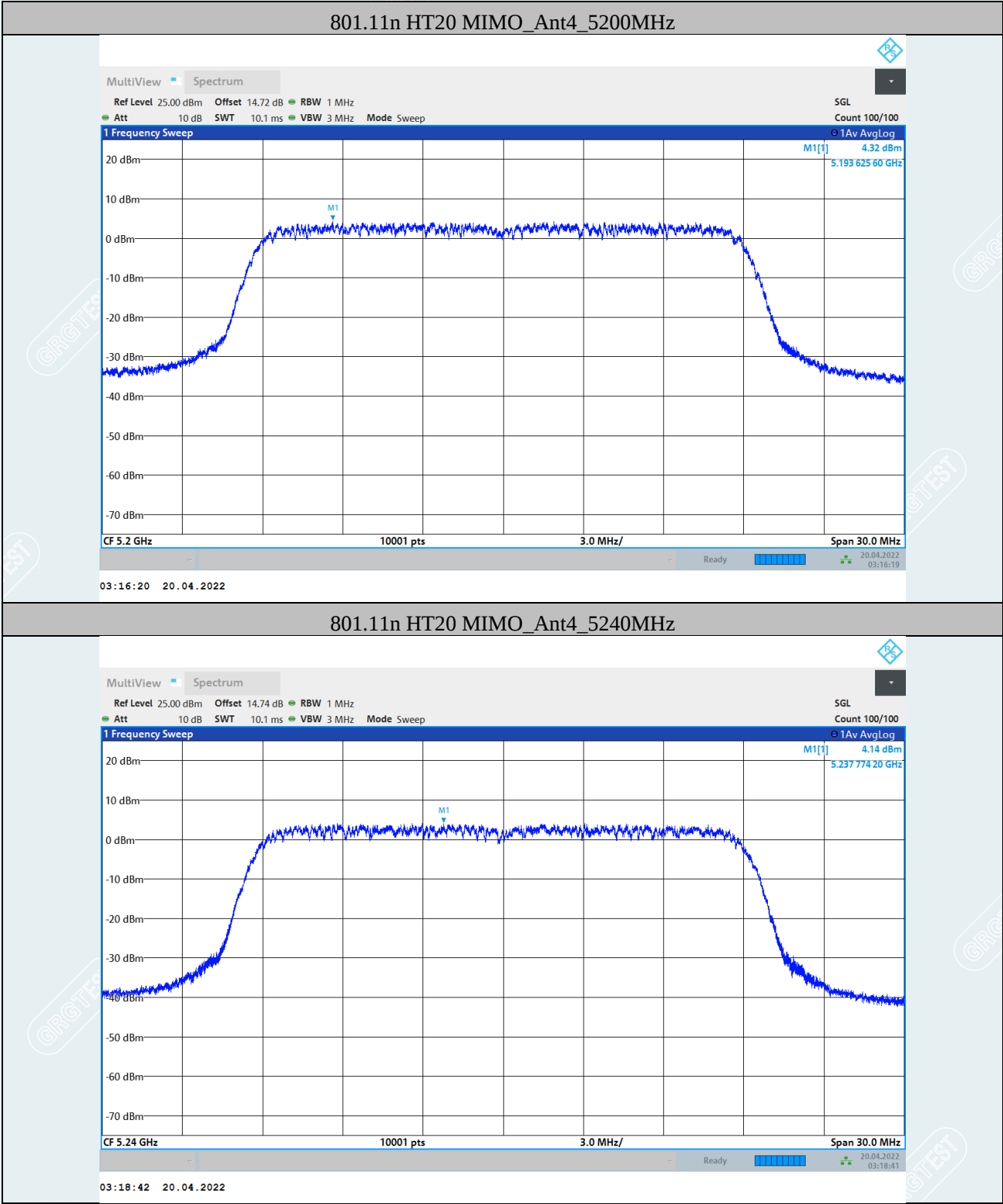
CF 5.2 GHz 10001 pts 3.0 MHz/ Span 30.0 MHz

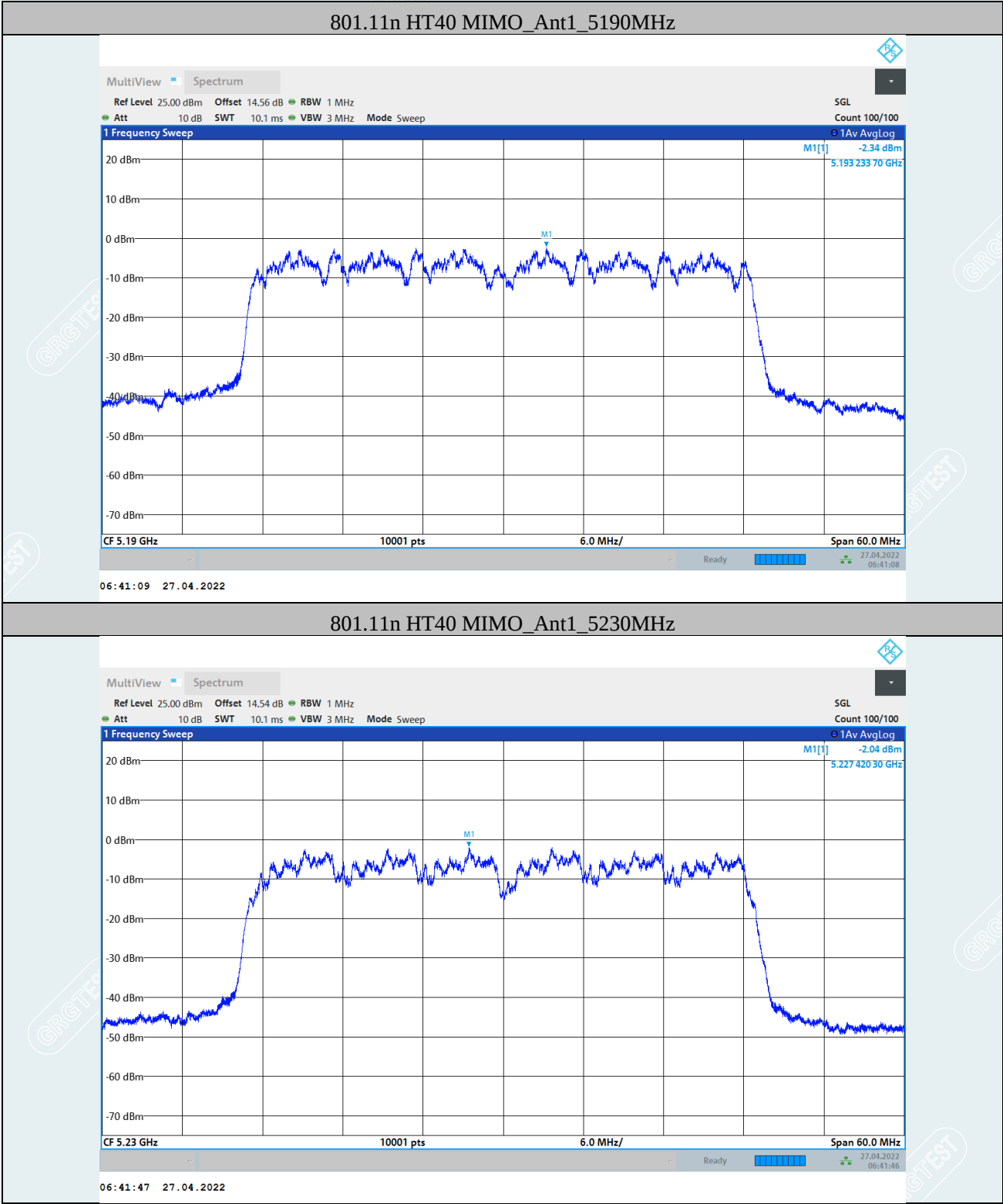
Ready 20.04.2022 02:39:57

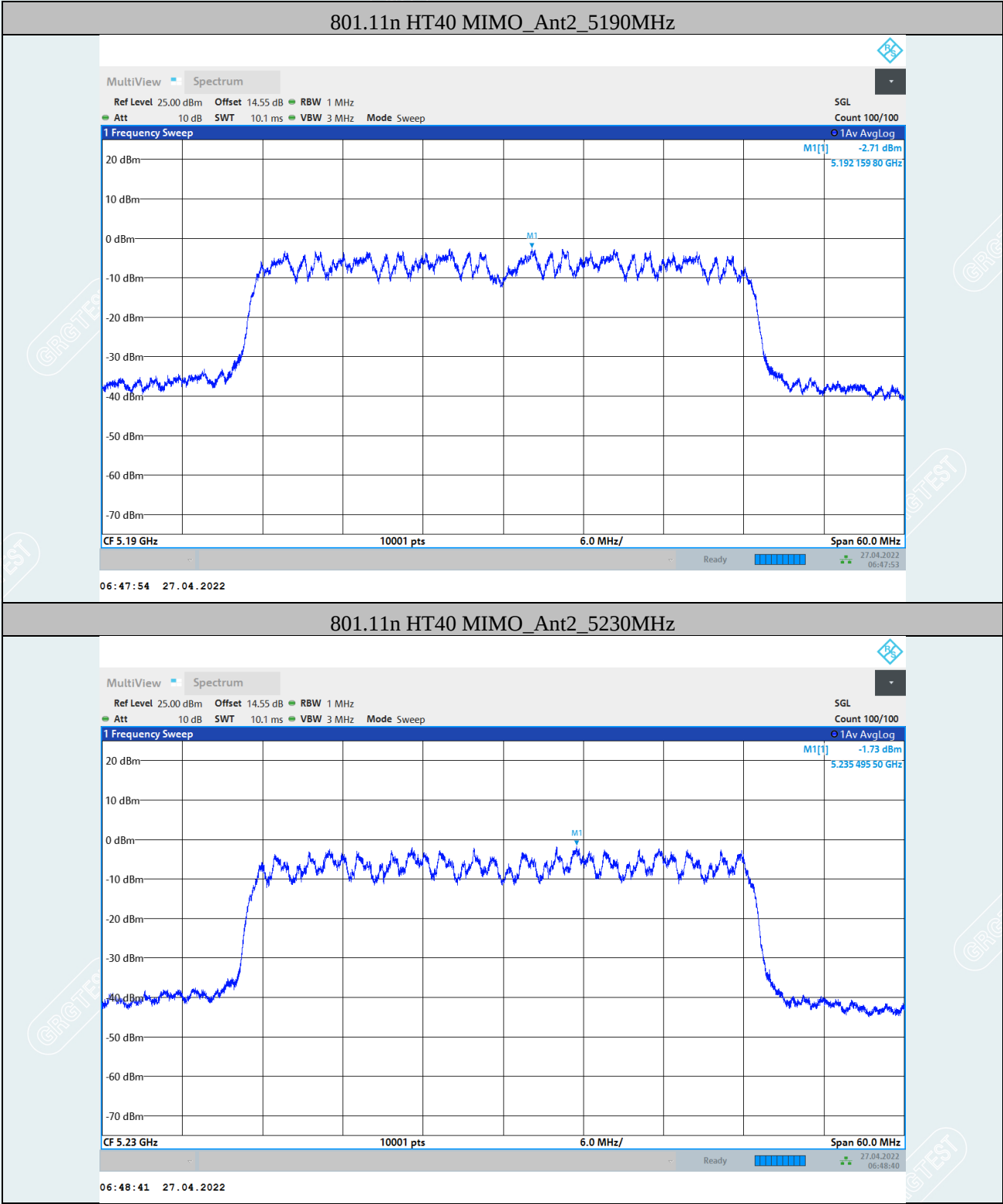
M1[1] 5.70 dBm
5.201 235 90 GHz

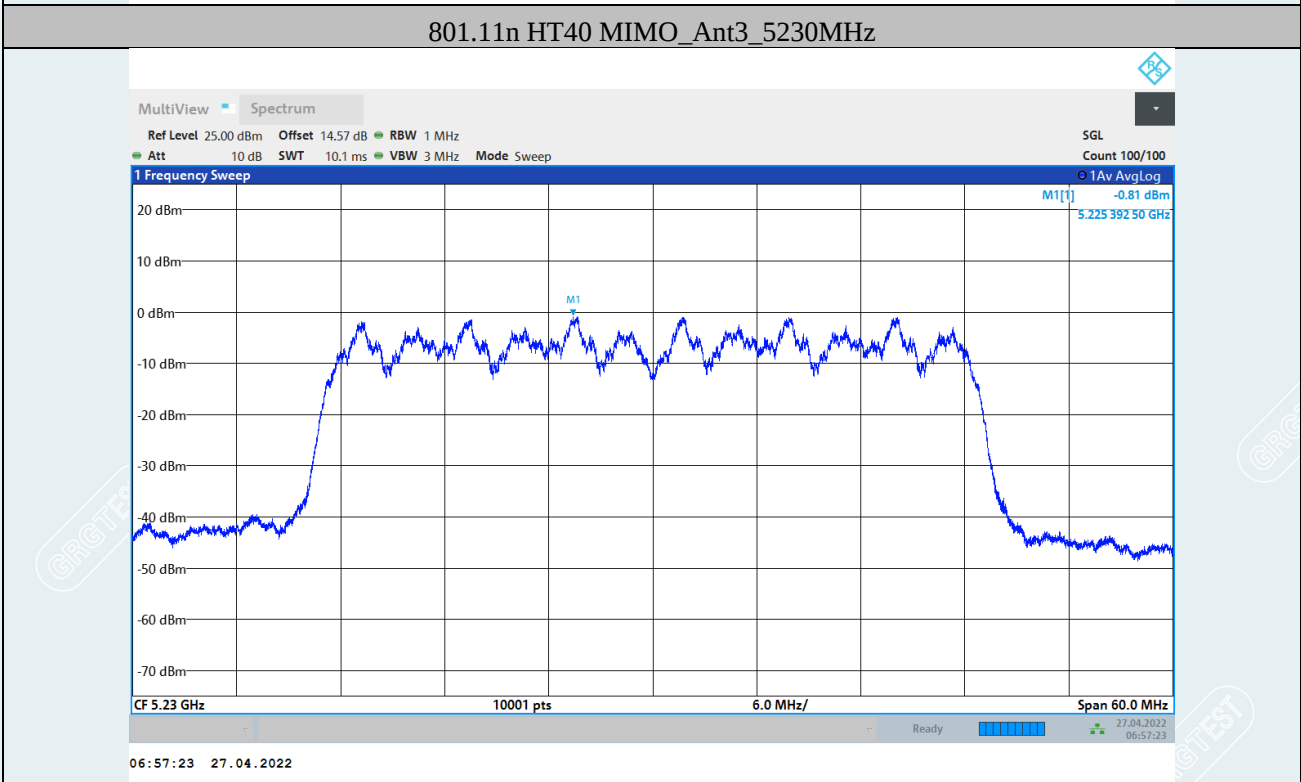
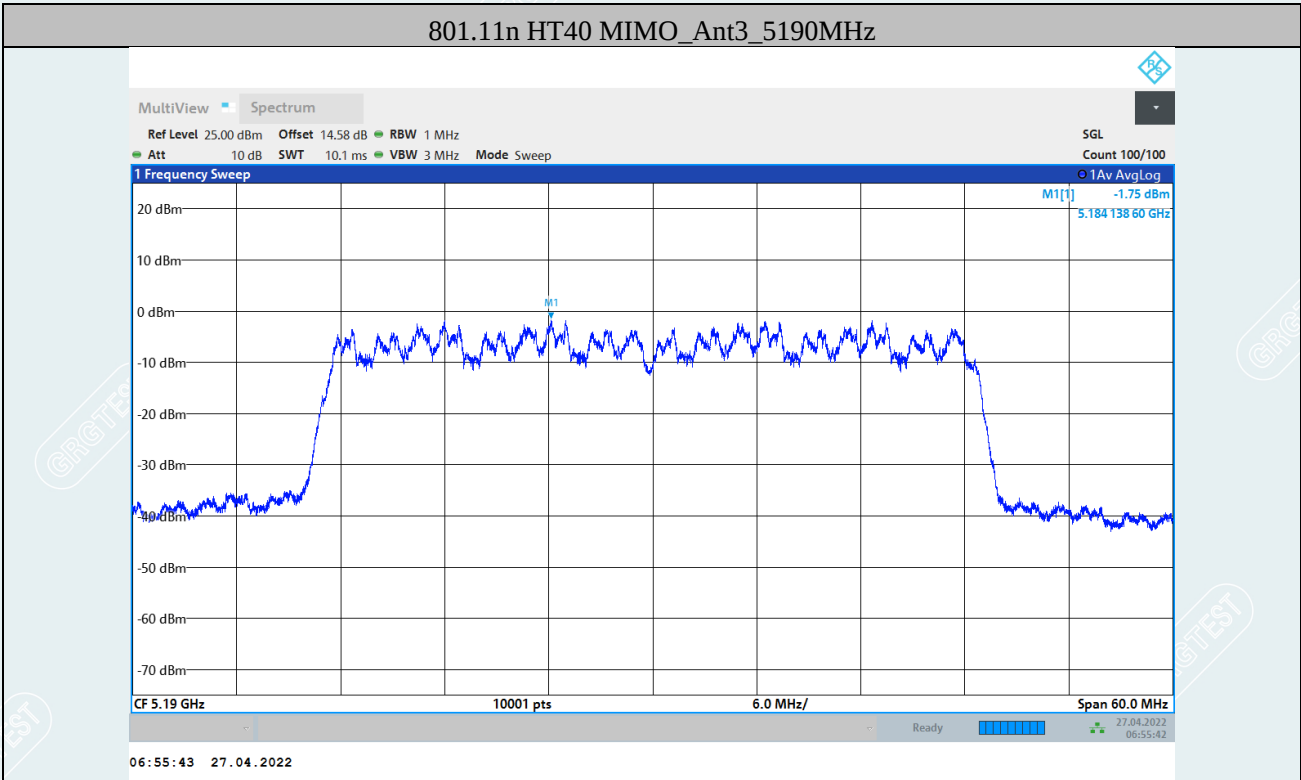
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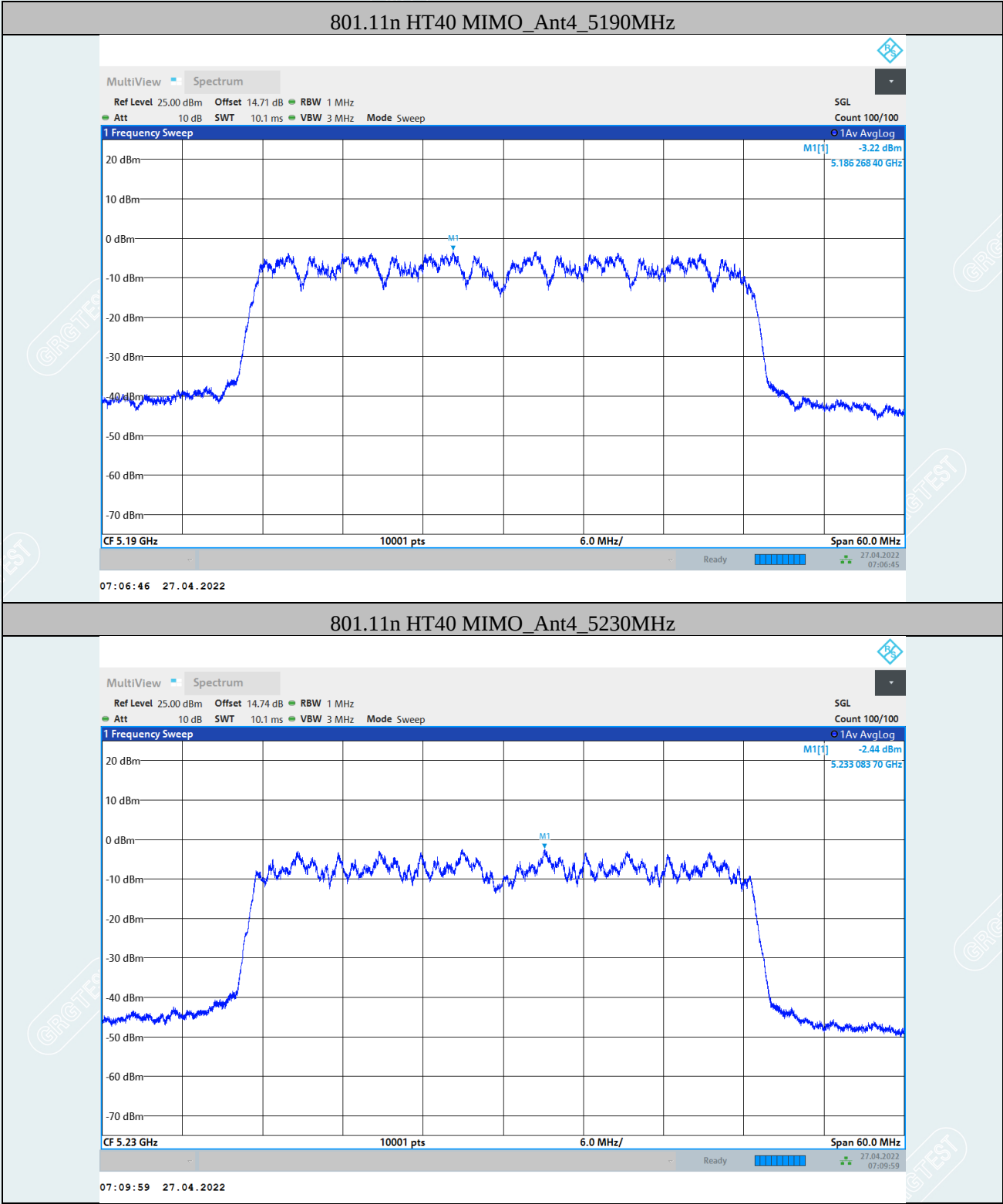


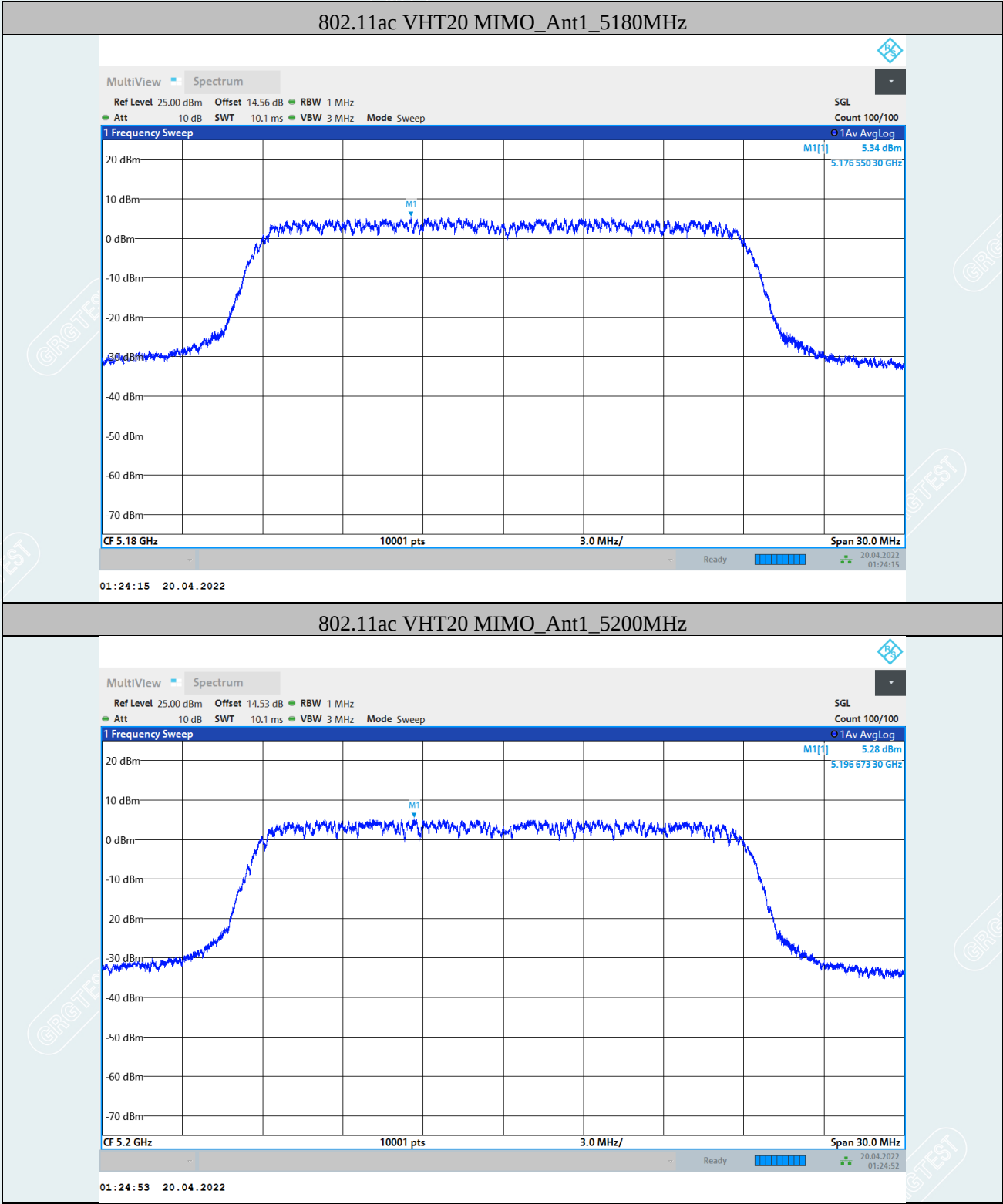


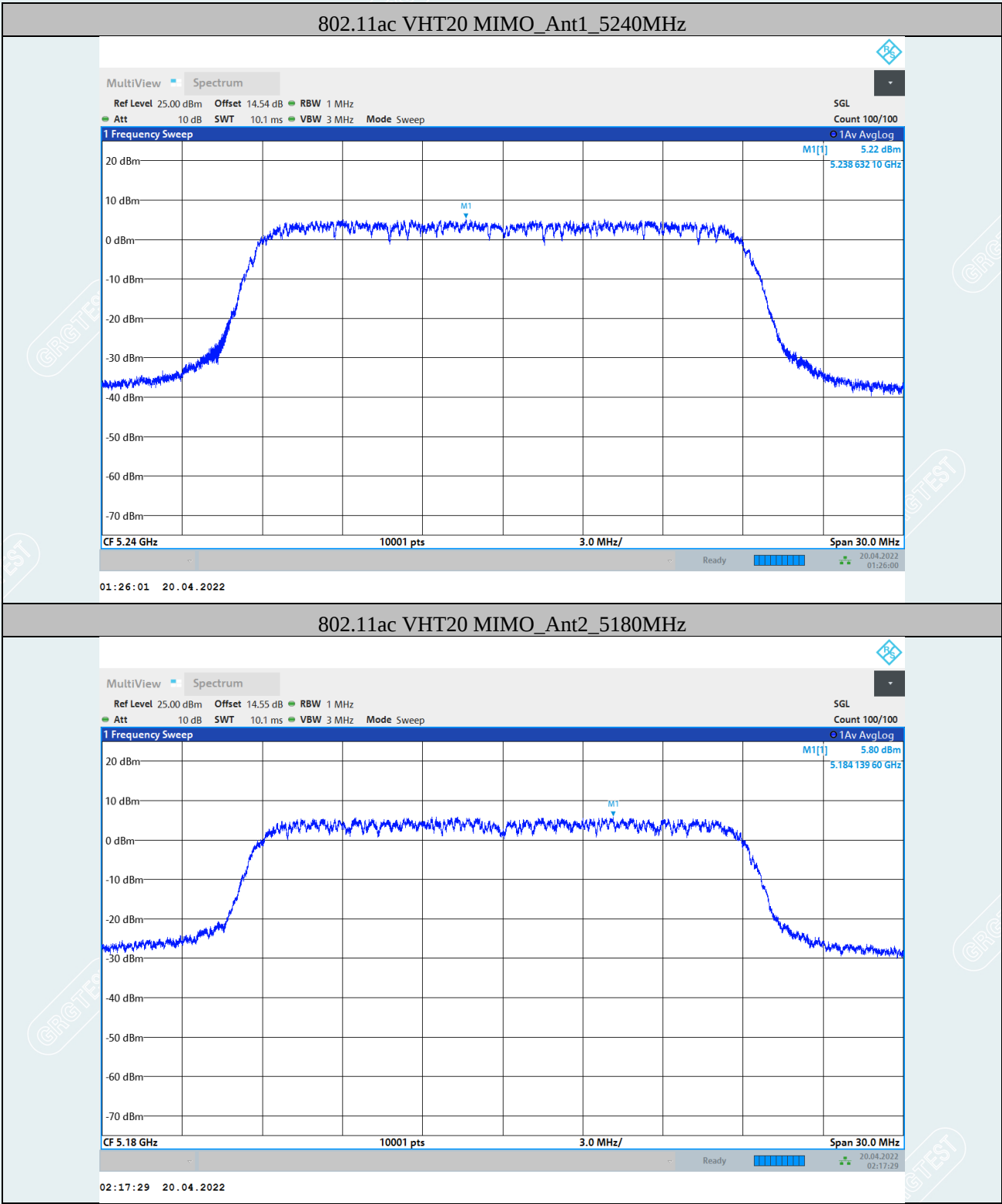


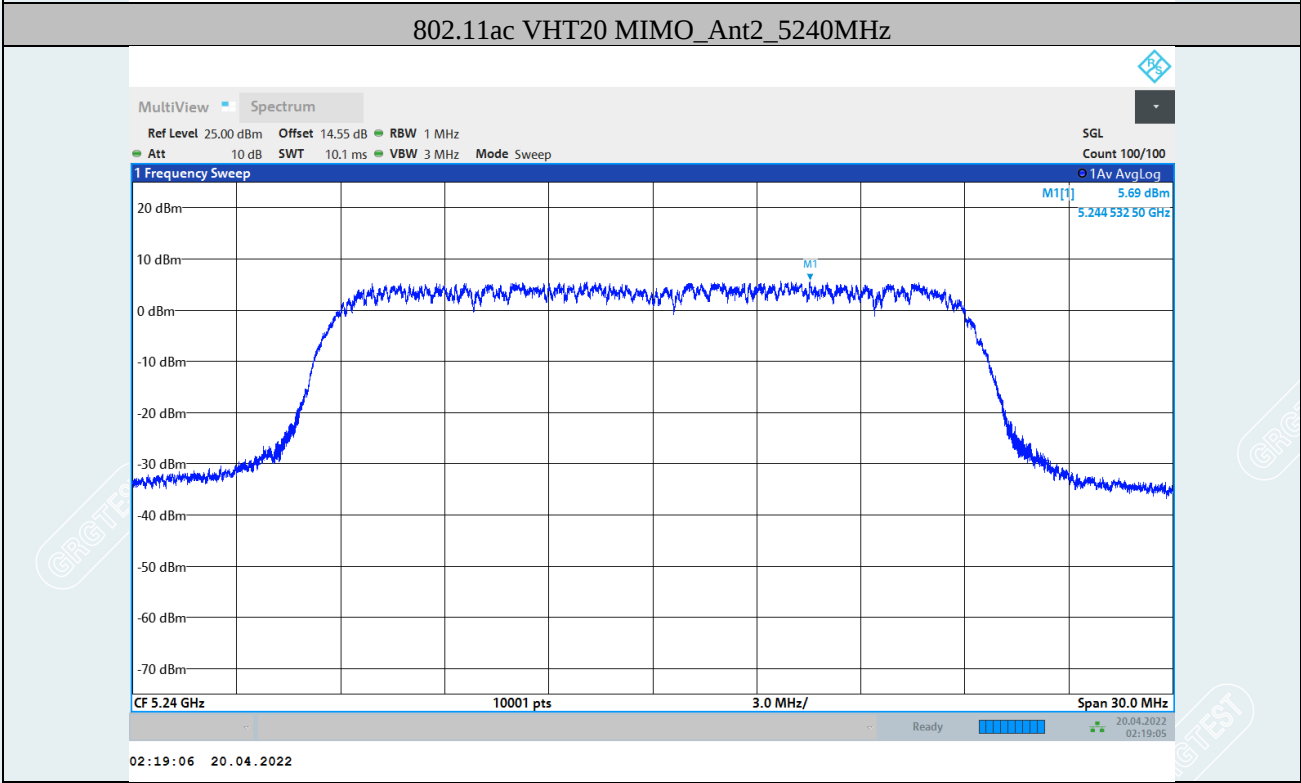
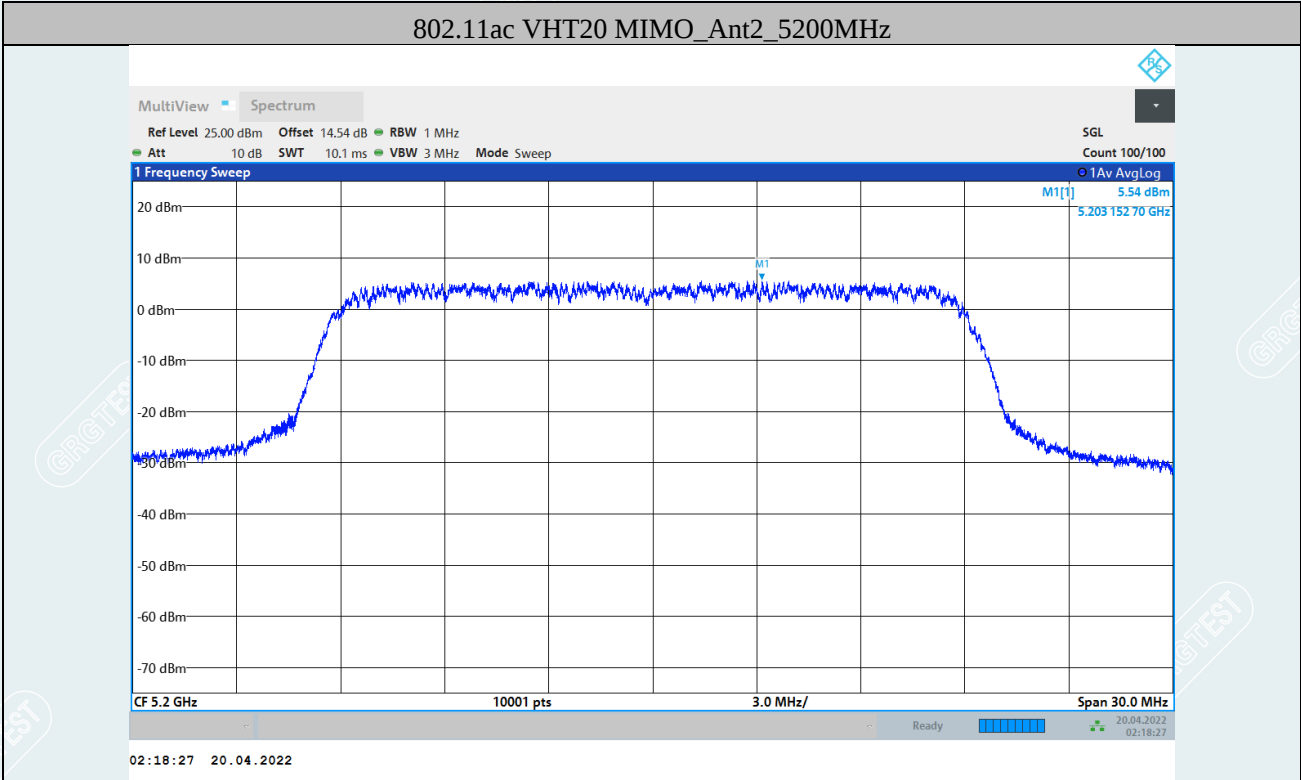


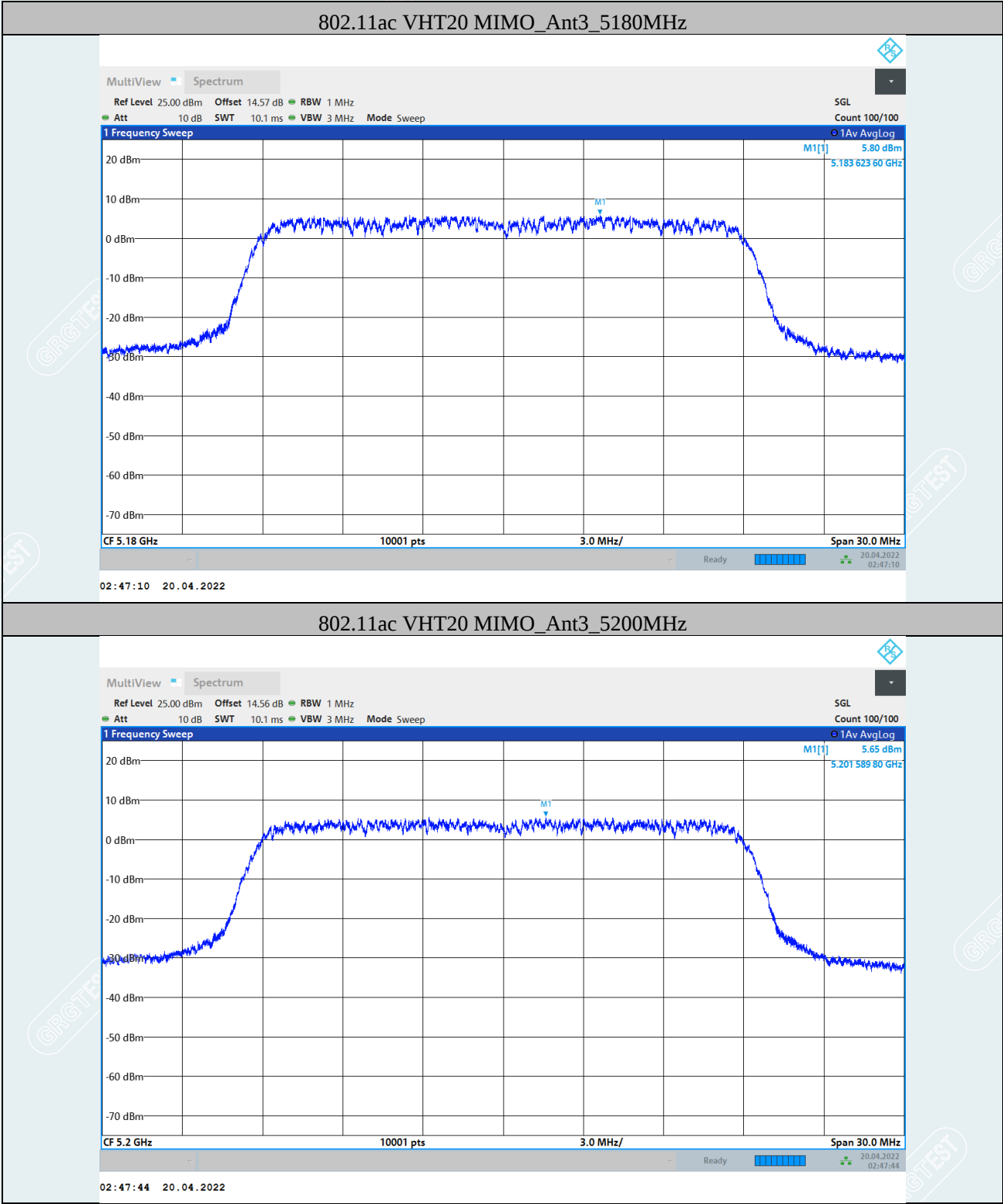




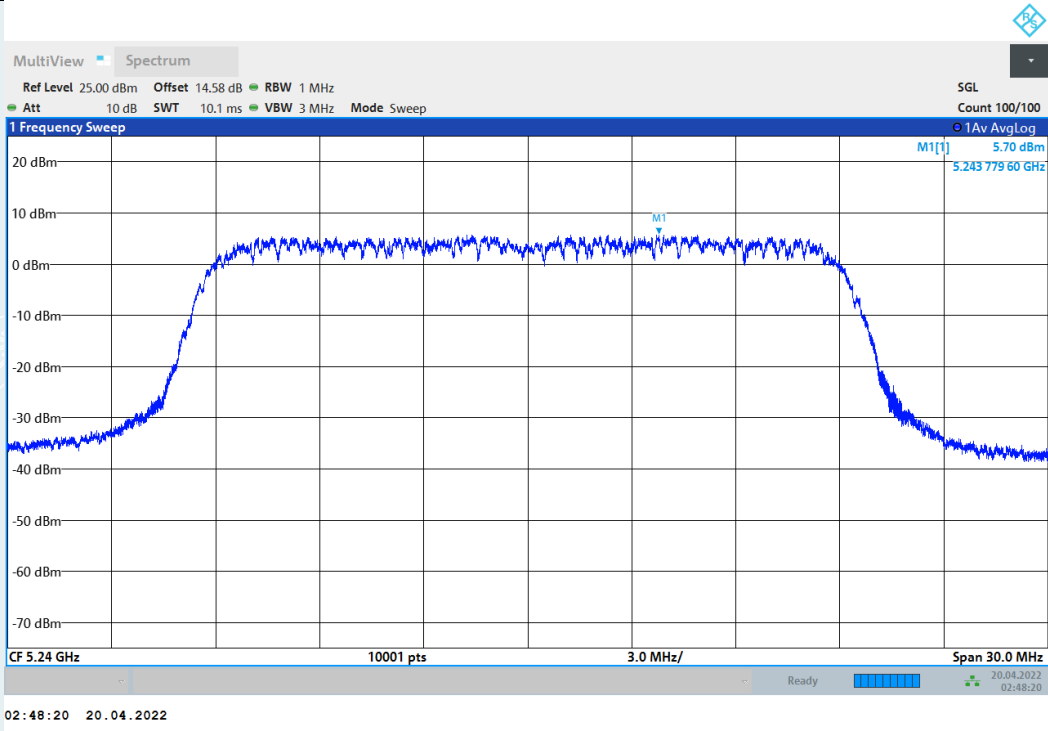




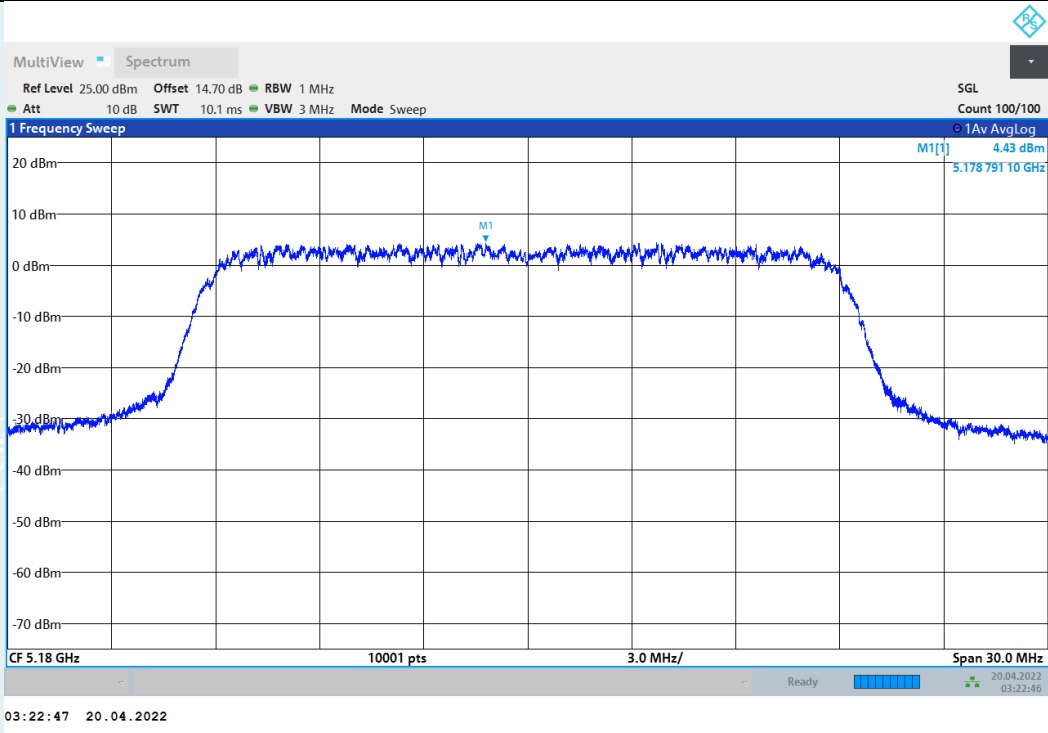




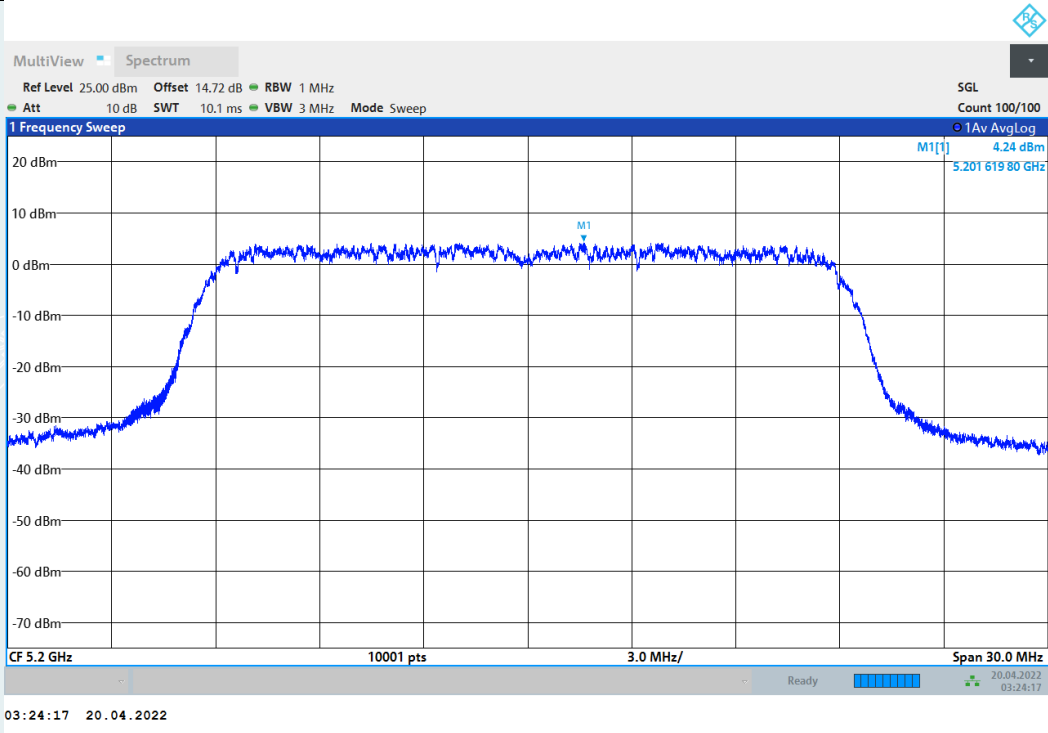
802.11ac VHT20 MIMO_Ant3_5240MHz



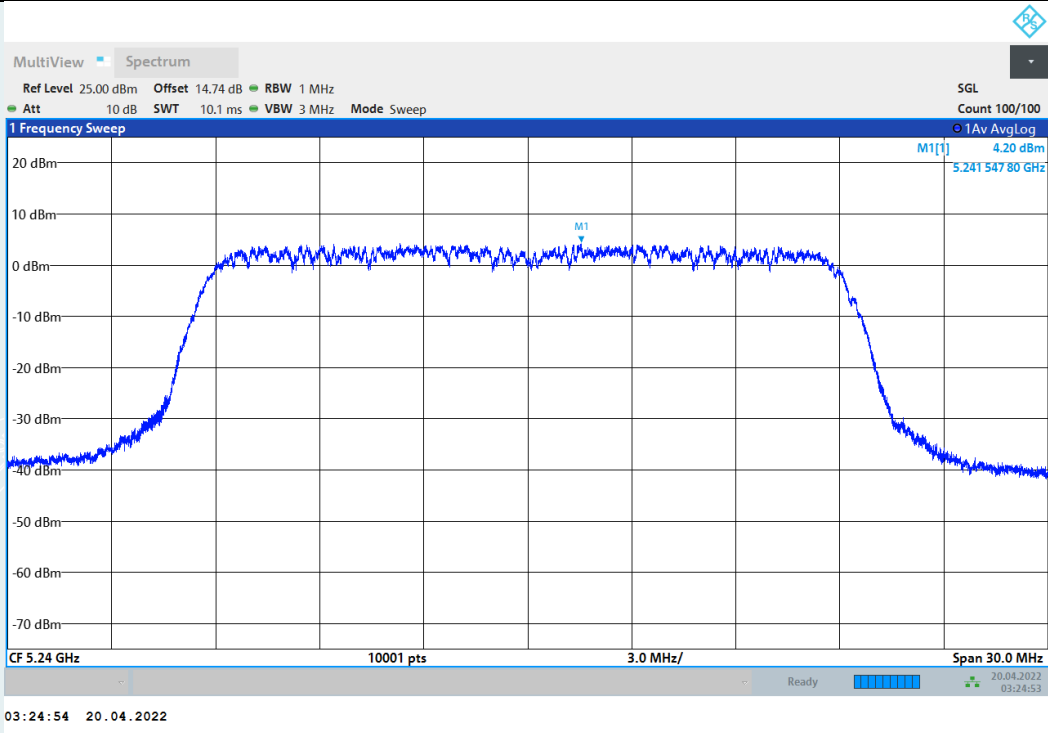
802.11ac VHT20 MIMO_Ant4_5180MHz

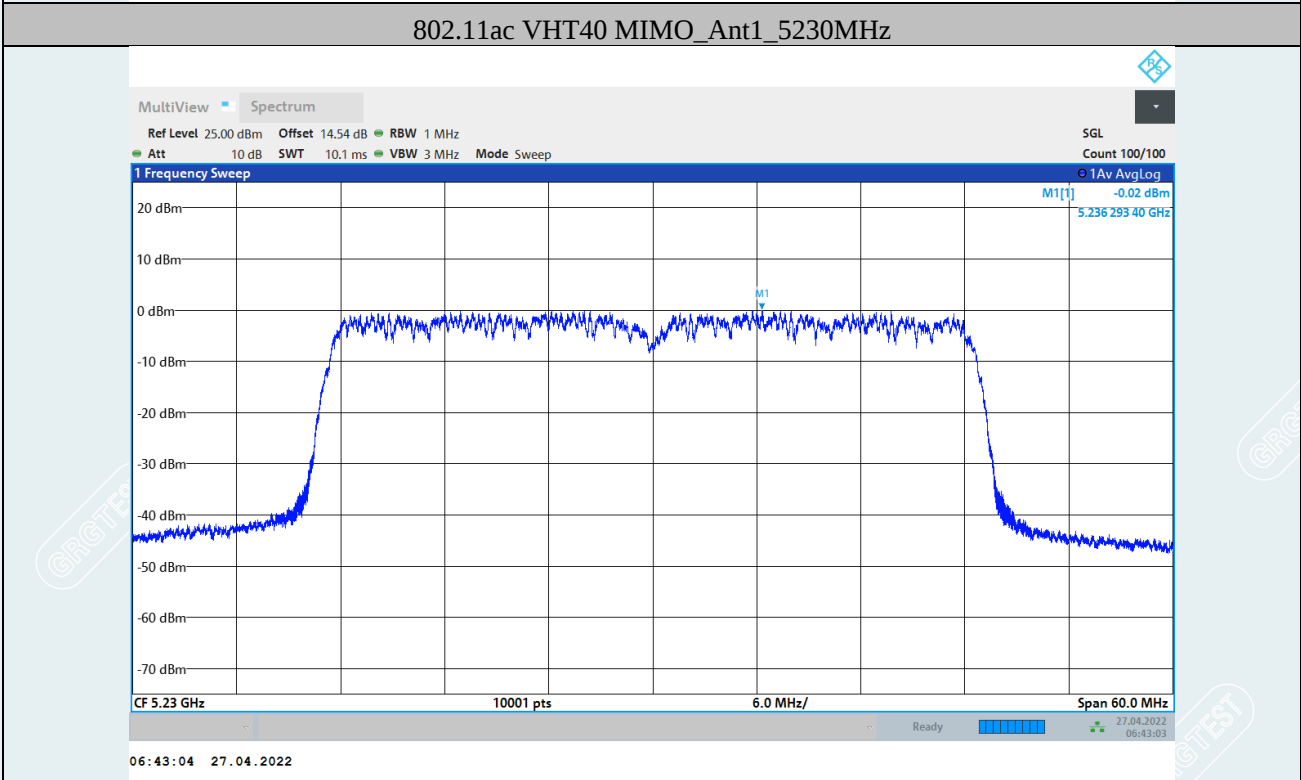
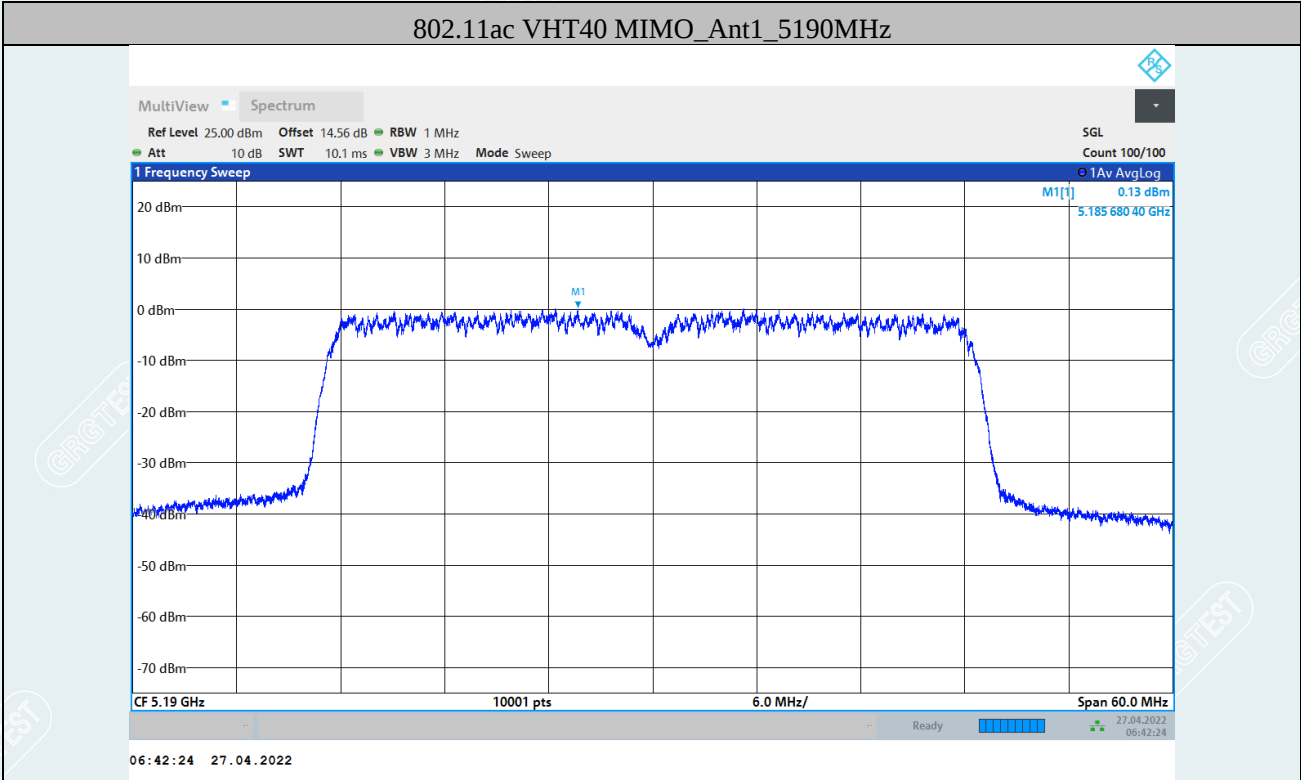


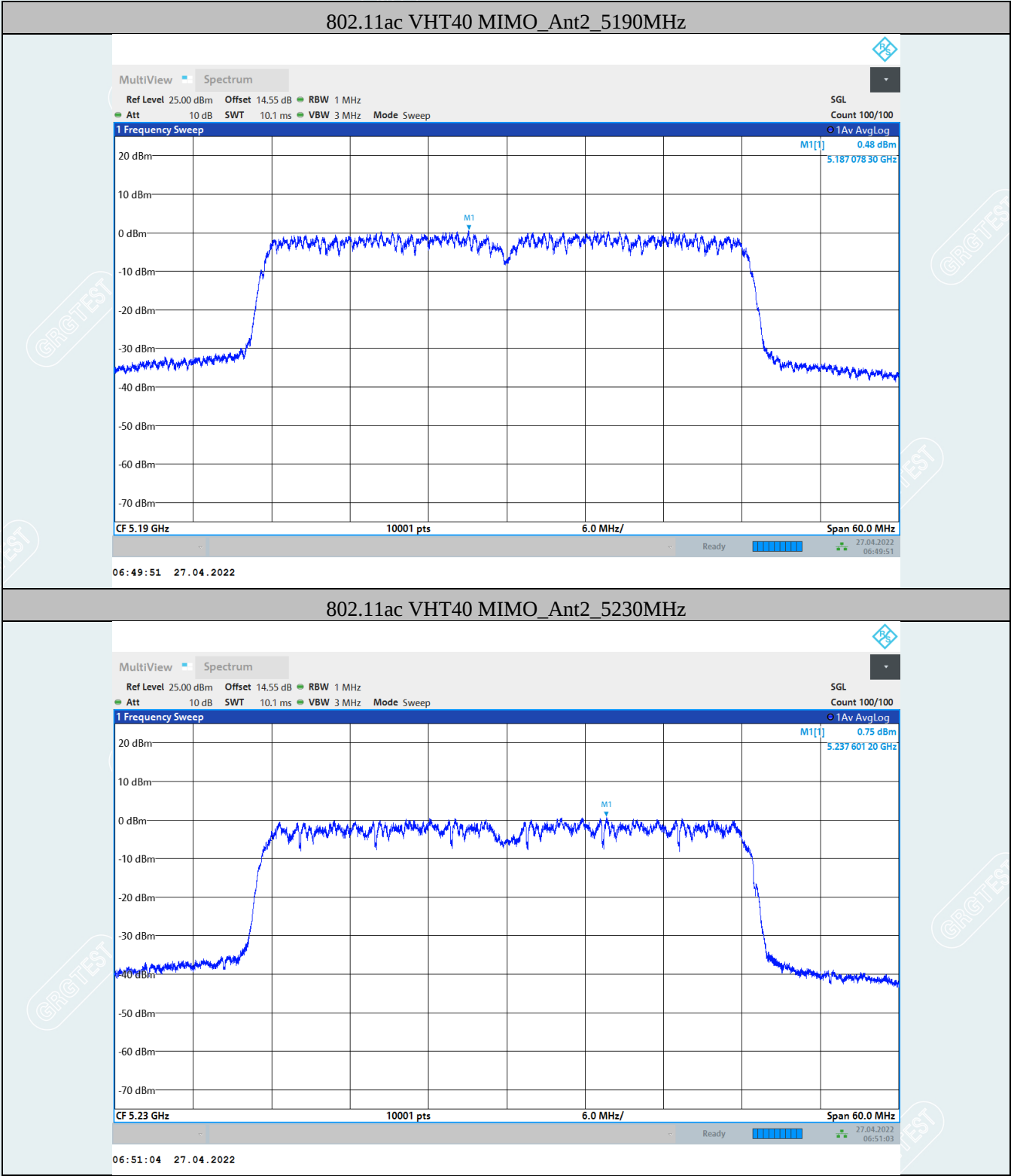
802.11ac VHT20 MIMO_Ant4_5200MHz



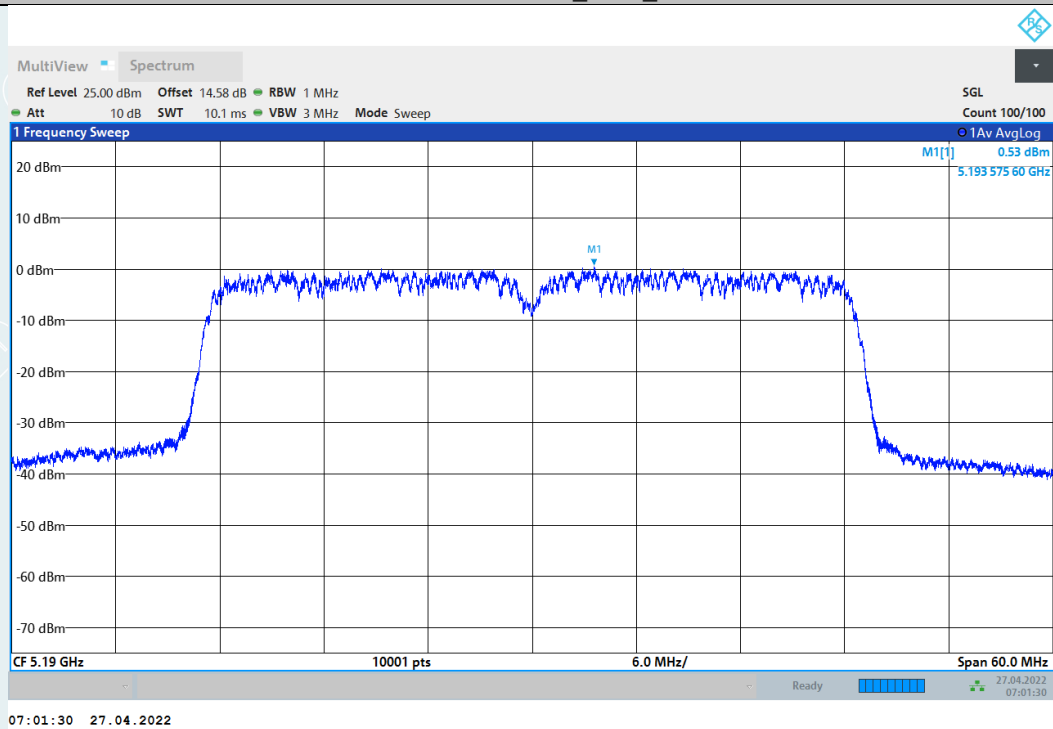
802.11ac VHT20 MIMO_Ant4_5240MHz



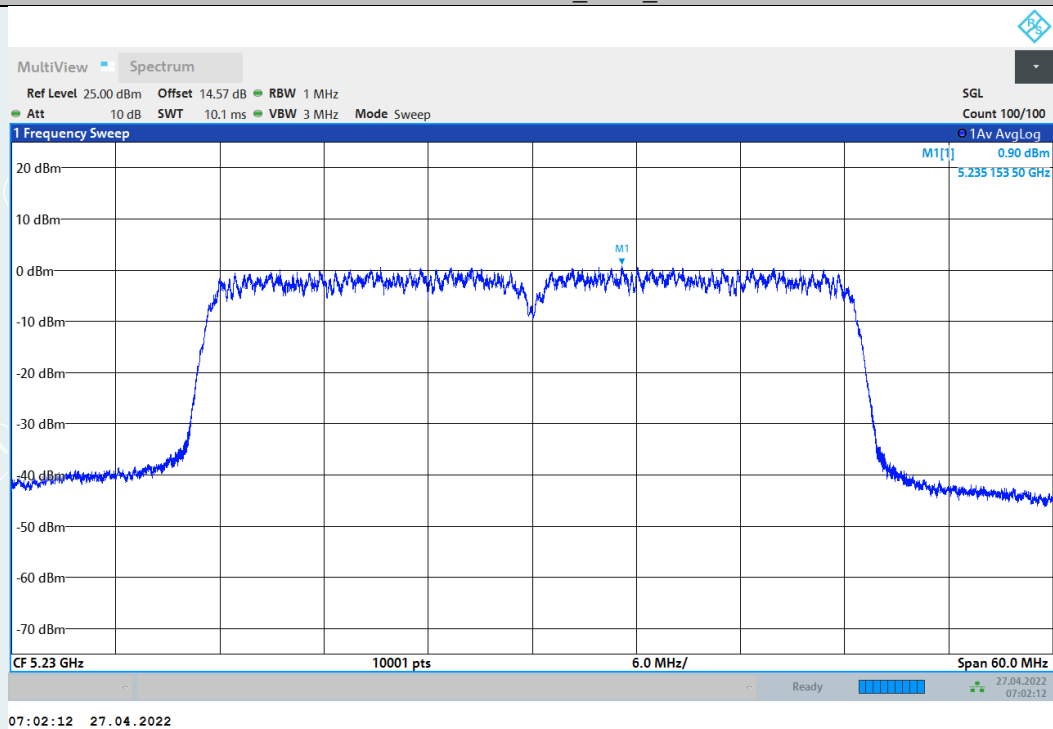


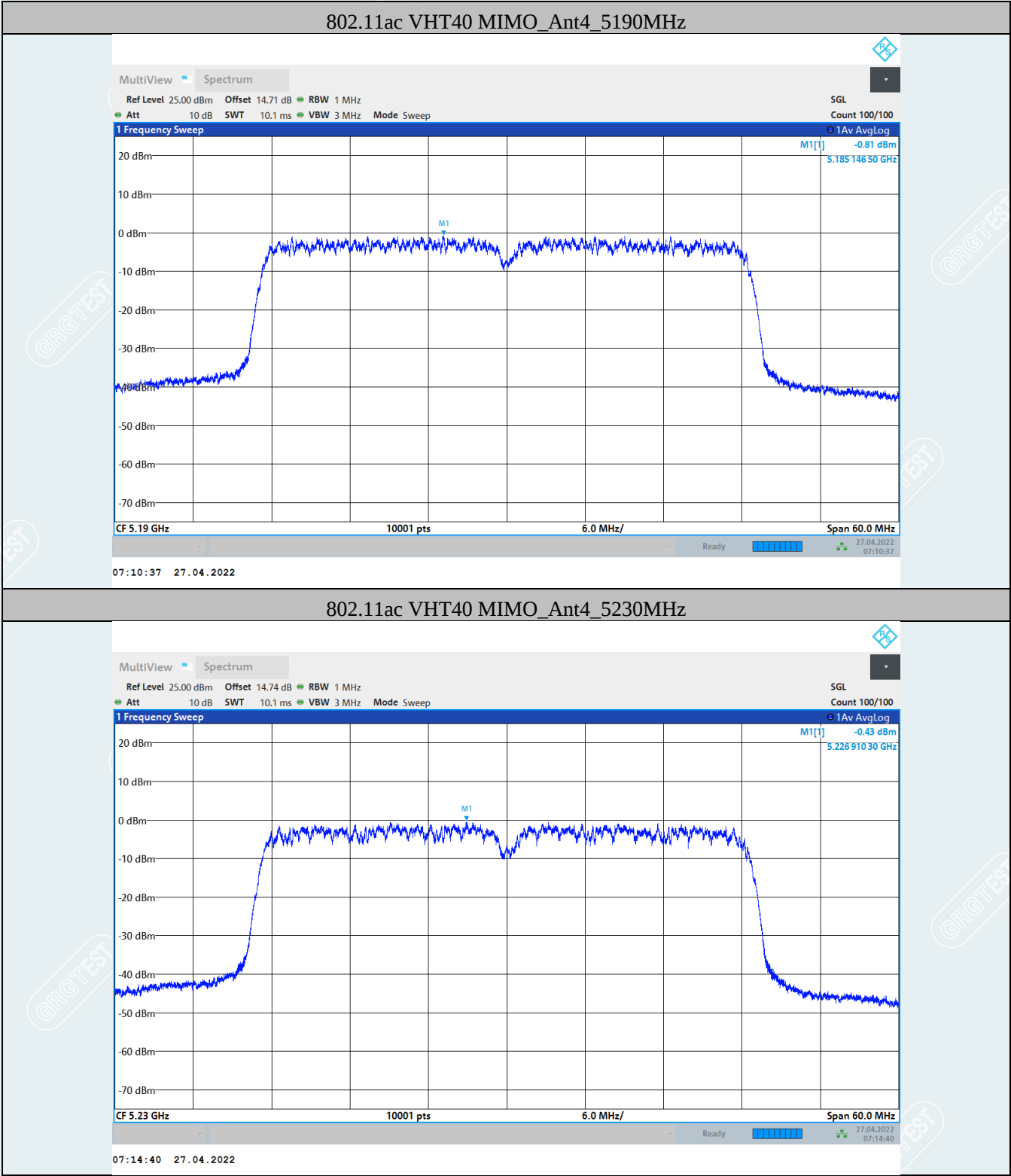


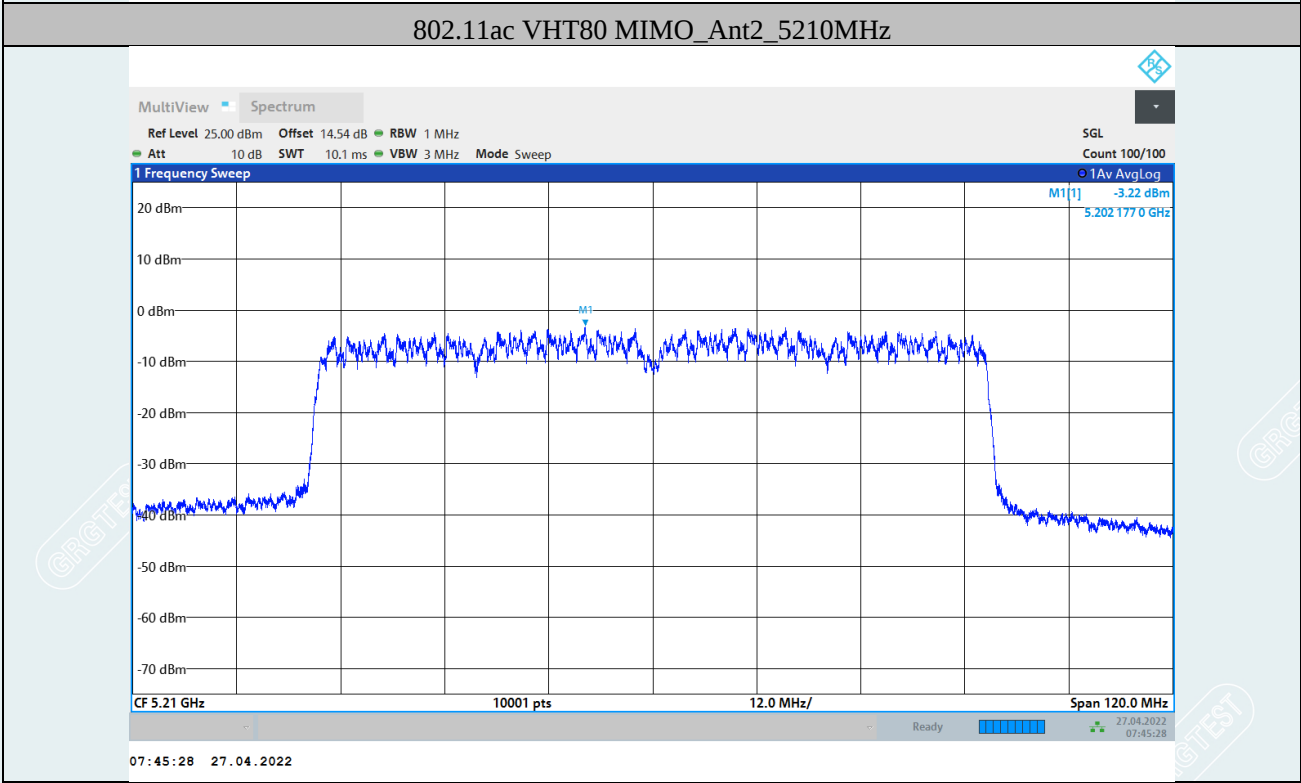
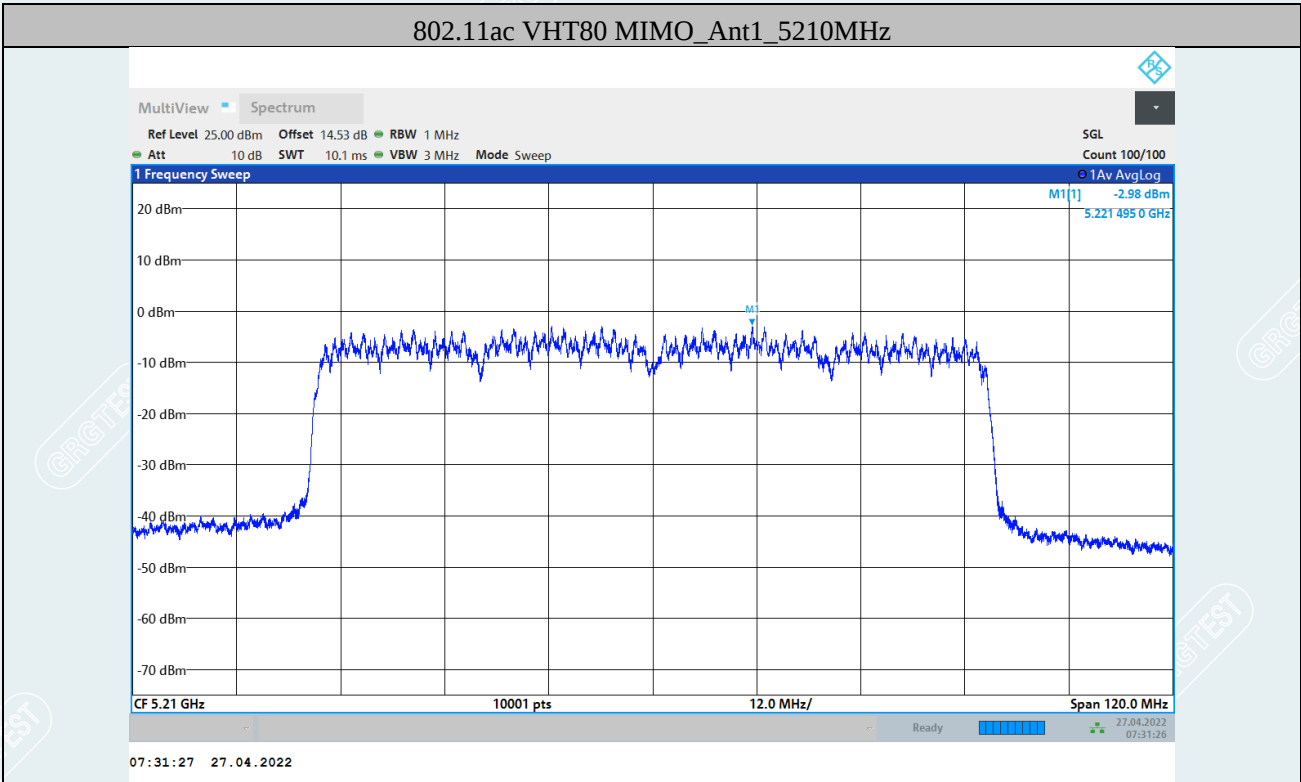
802.11ac VHT40 MIMO_Ant3_5190MHz



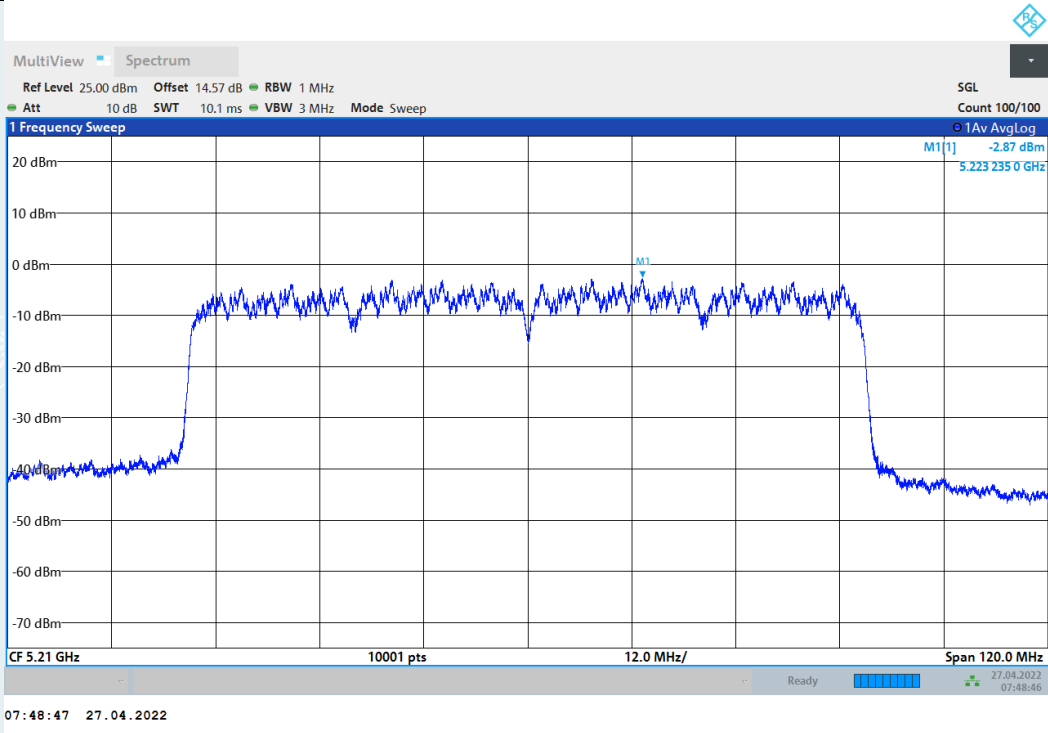
802.11ac VHT40 MIMO_Ant3_5230MHz







802.11ac VHT80 MIMO_Ant3_5210MHz



802.11ac VHT80 MIMO_Ant4_5210MHz

