

9.4. TEST RESULTS

Environment: 25°C/60%RH
 Tested By: Liu lingfeng

Voltage: AC120V/60Hz
 Date: 2022-4-19~4-27

802.11b Mode:

Channel No.	Frequency (MHz)	PSD (dBm/3kHz)		Duty Factor	Total PSD with Duty Factor (dBm/3kHz)		Limit (dBm/3kHz)	Result
		antenna 1	antenna 2		antenna 1	antenna 2		
1	2412	1.33	0.47	0	1.33	0.47	8.00	Pass
6	2437	0.69	1.57	0	0.69	1.57	8.00	Pass
11	2462	-0.28	0.63	0	-0.28	0.63	8.00	Pass

802.11g Mode:

Channel No.	Frequency (MHz)	PSD (dBm/3kHz)		Duty Factor	Total PSD with Duty Factor (dBm/3kHz)		Limit (dBm/3kHz)	Result
		antenna 1	antenna 2		antenna 1	antenna 2		
1	2412	-5.28	-10.46	0	-5.28	-10.46	8.00	Pass
6	2437	-5.27	-10.48	0	-5.27	-10.48	8.00	Pass
11	2462	-5.31	-10.55	0	-5.31	-10.55	8.00	Pass

802.11n HT20 Mode:

Channel No.	Frequency (MHz)	PSD (dBm/3kHz)			Duty Factor	Total PSD with Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Result
		antenna 1	antenna 2	total				
1	2412	-8.65	-8.66	-5.64	0	-5.64	7.99	Pass
6	2437	-9.37	-8.39	-5.84	0	-5.84	7.99	Pass
11	2462	-8.86	-7.49	-5.11	0	-5.11	7.99	Pass

802.11n HT40 Mode:

Channel No.	Frequency (MHz)	PSD (dBm/3kHz)			Duty Factor	Total PSD with Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Result
		antenna 1	antenna 2	total				
3	2422	-14.93	-14.17	-11.52	0	-11.52	7.99	Pass
6	2437	-15.09	-14.09	-11.55	0	-11.55	7.99	Pass
9	2452	-15.02	-14.14	-11.55	0	-11.55	7.99	Pass

802.11ax HE20 Mode:

Channel No.	Frequency (MHz)	PSD (dBm/3kHz)			Duty Factor	Total PSD with Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Result
		antenna 1	antenna 2	total				
1	2412	-11.38	-10.89	-8.12	0	-8.12	7.99	Pass
6	2437	-11.36	-10.67	-7.99	0	-7.99	7.99	Pass
11	2462	-11.56	-10.87	-8.19	0	-8.19	7.99	Pass

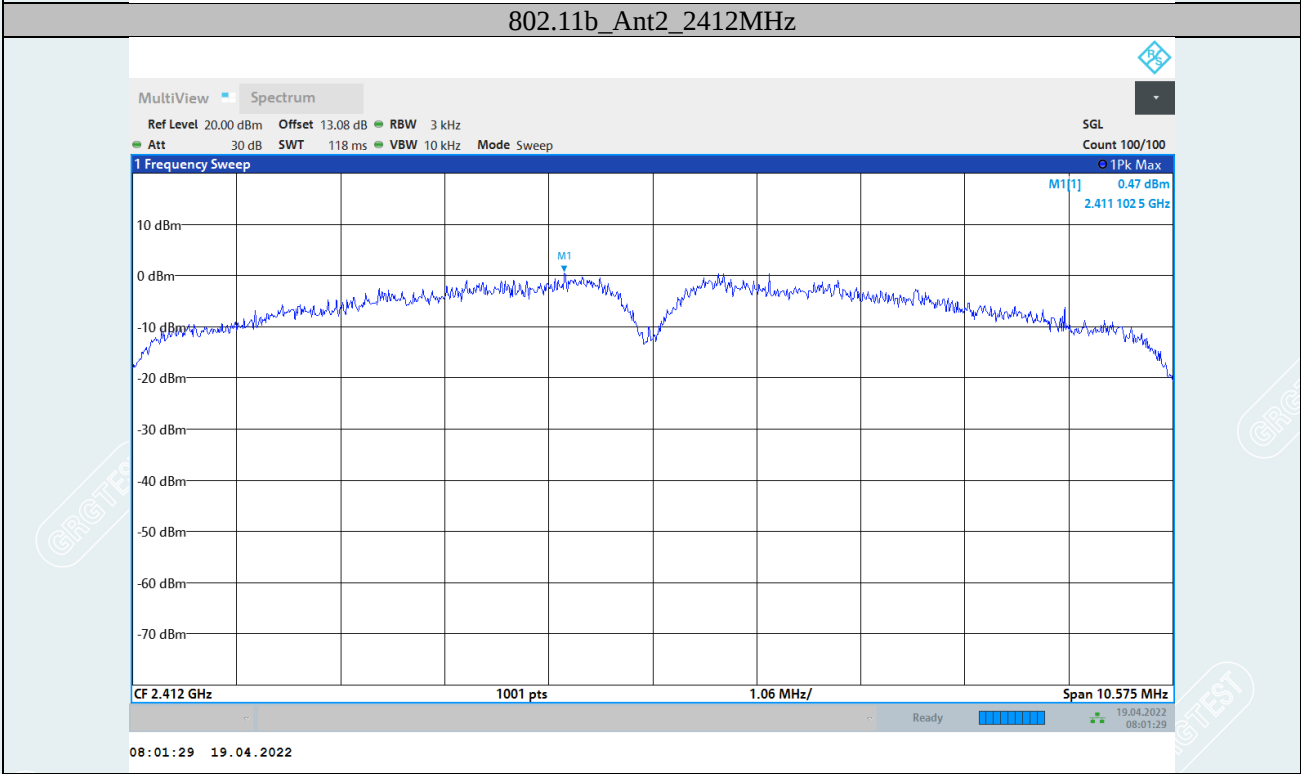
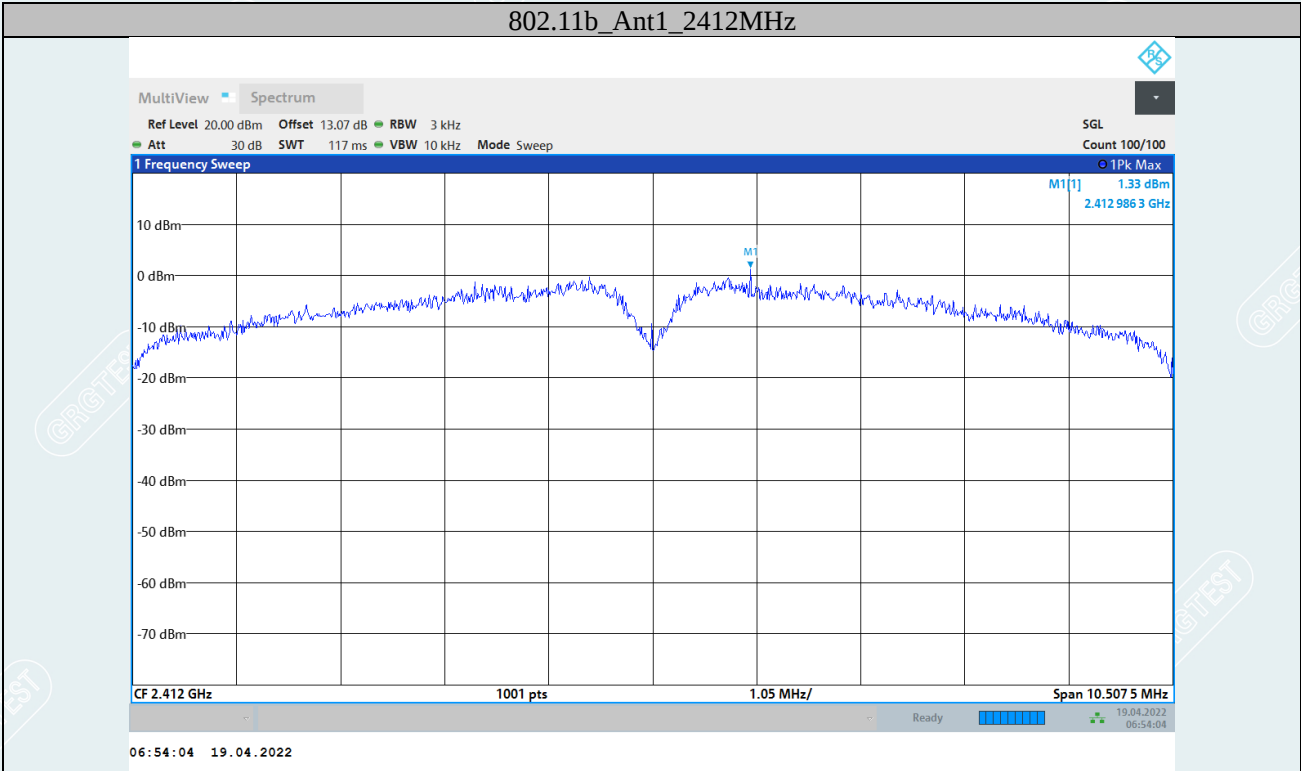
802.11ax HE40 Mode:

Channel No.	Frequency (MHz)	PSD (dBm/3kHz)			Duty Factor	Total PSD with Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Result
		antenna 1	antenna 2	total				
3	2422	-14.61	-13.88	-11.22	0	-11.22	7.99	Pass
6	2437	-14.78	-13.94	-11.33	0	-11.33	7.99	Pass
9	2452	-14.67	-13.95	-11.28	0	-11.28	7.99	Pass

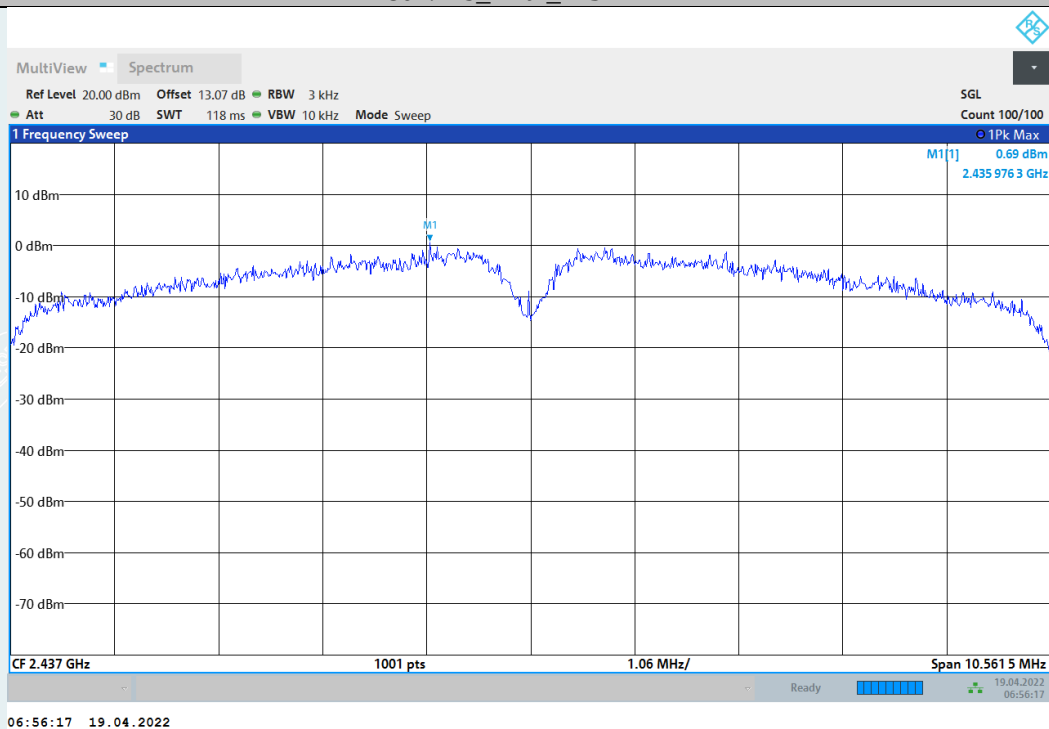
Note1: This EUT supports MIMO 2X2, any transmit signals are correlated with each other, So Directional gain = $3.0 + 10\log(2)$ dBi, HT20, HT40, HE20, HE40 mode: Directional gain (dBi) = 6.01.

Note2: Antenna gain is greater than 6, HT20, HT40, HE20, HE40 mode: PSD limit = $8 - (6.01 - 6) = 7.99$ dBm.

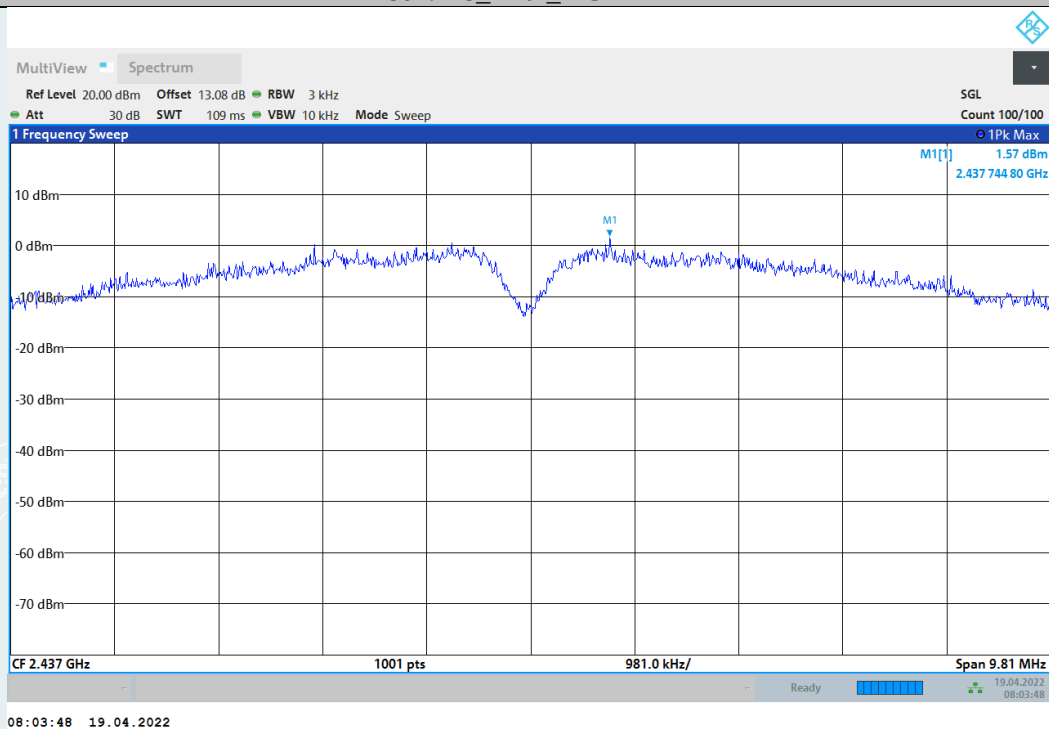
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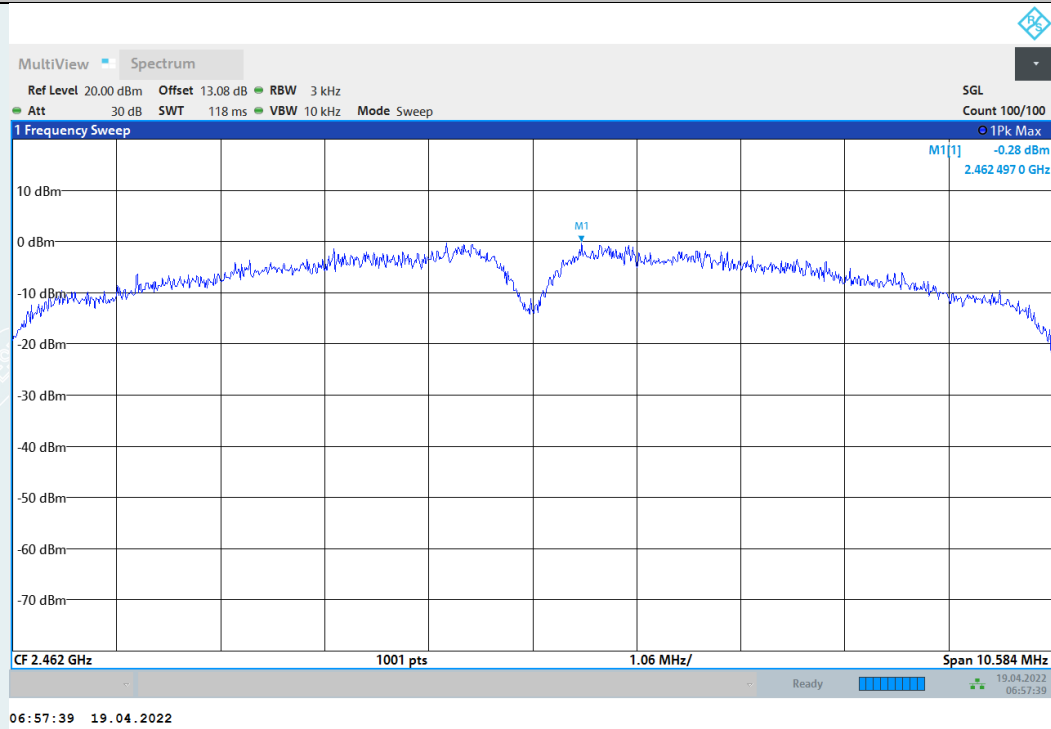
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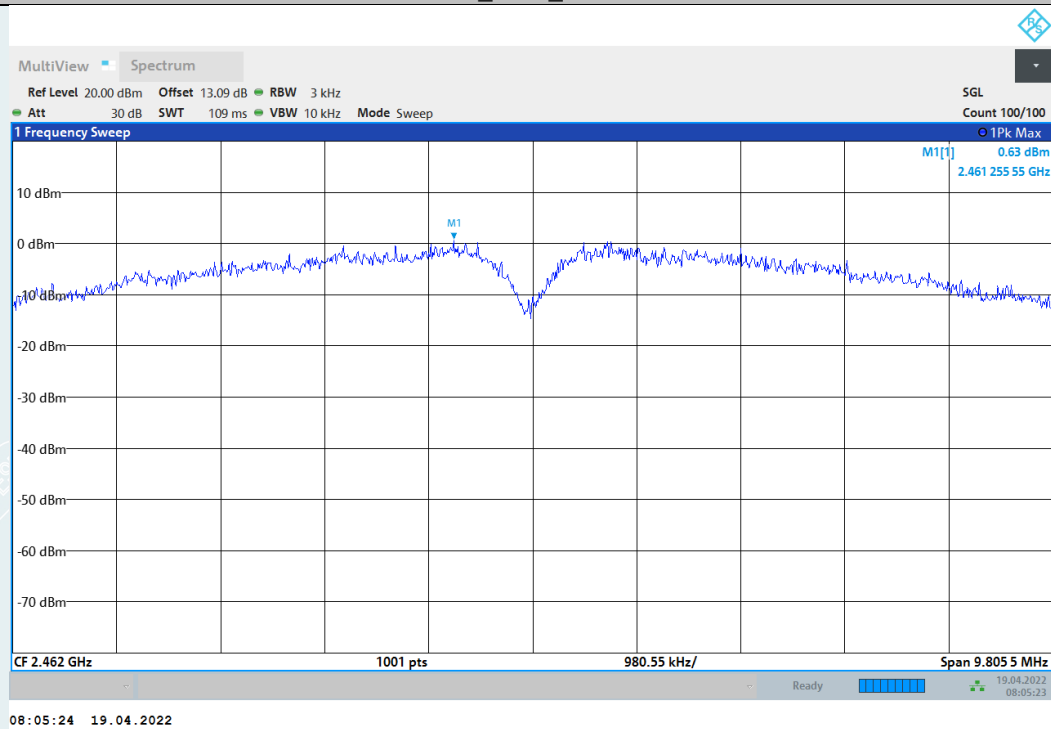
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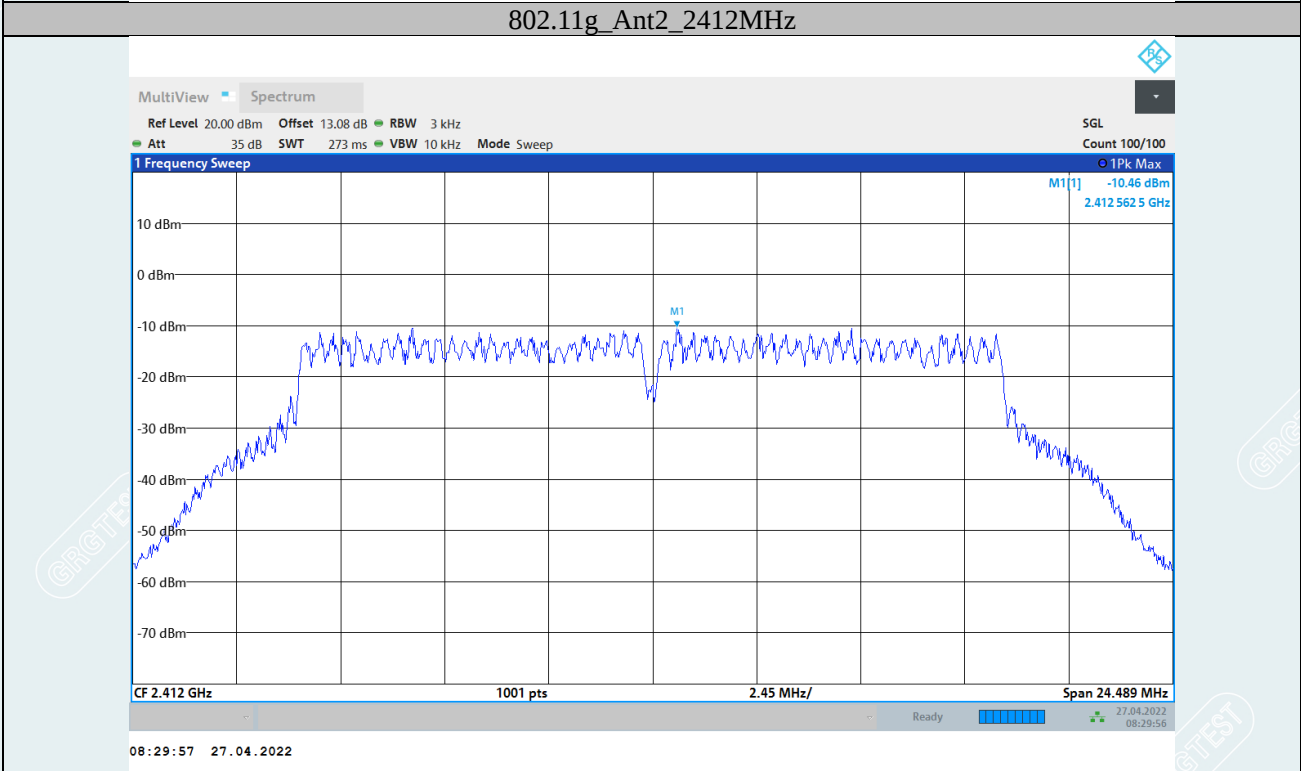
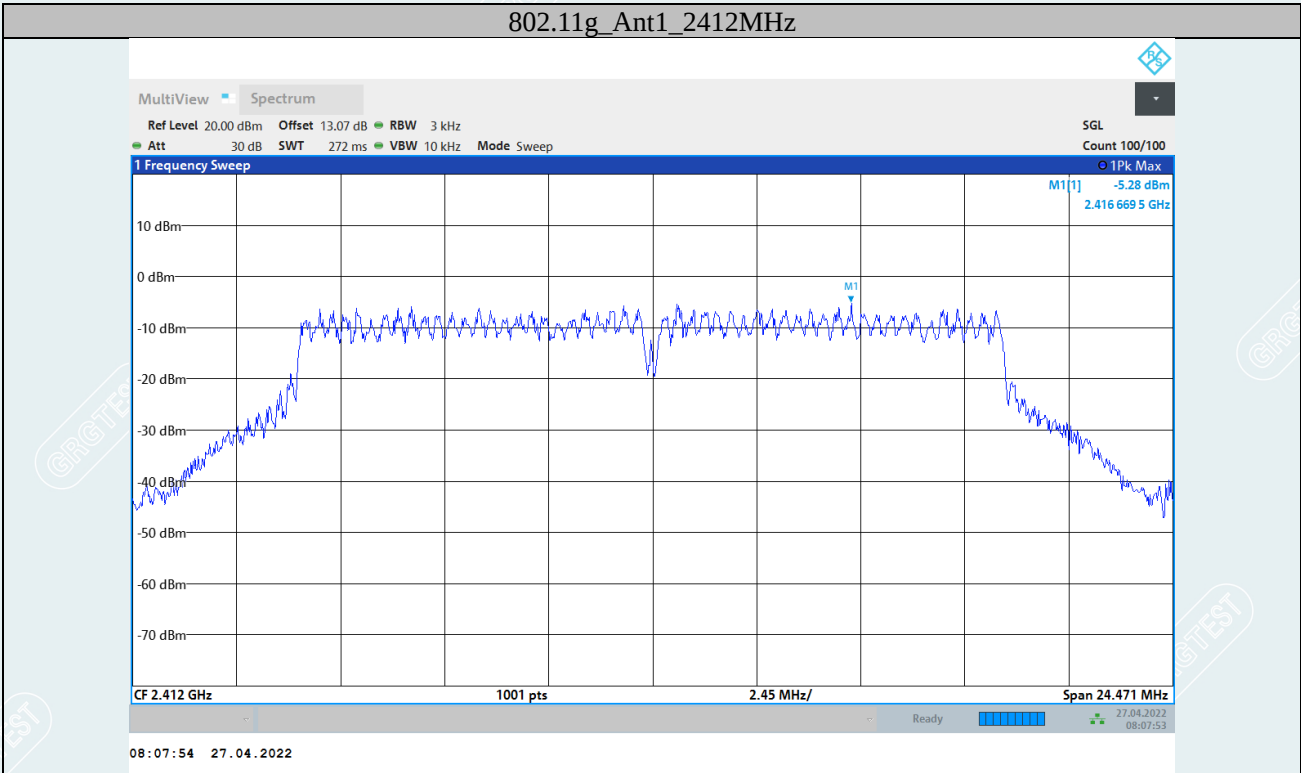


802.11b_Ant1_2462MHz

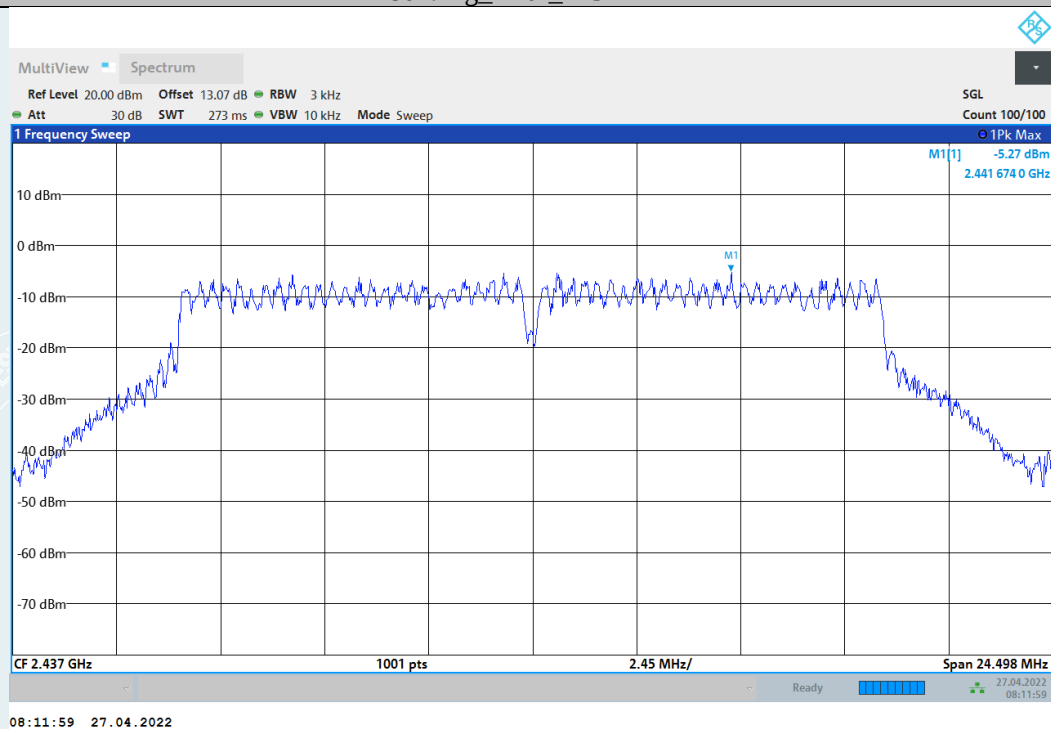


802.11b_Ant2_2462MHz

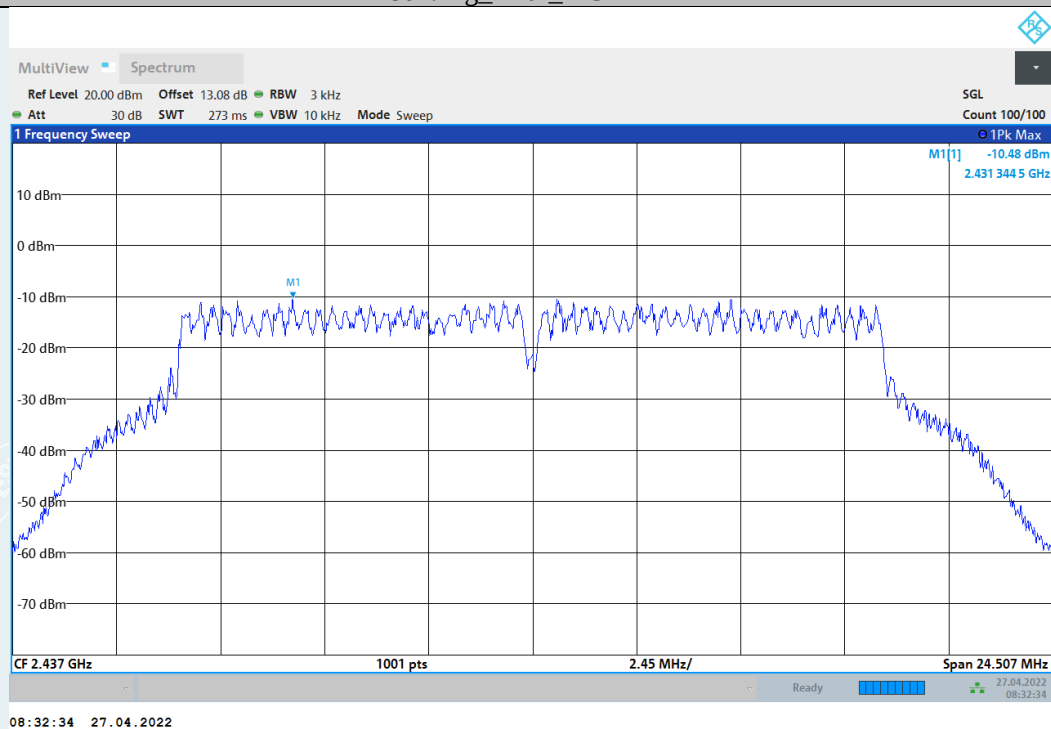


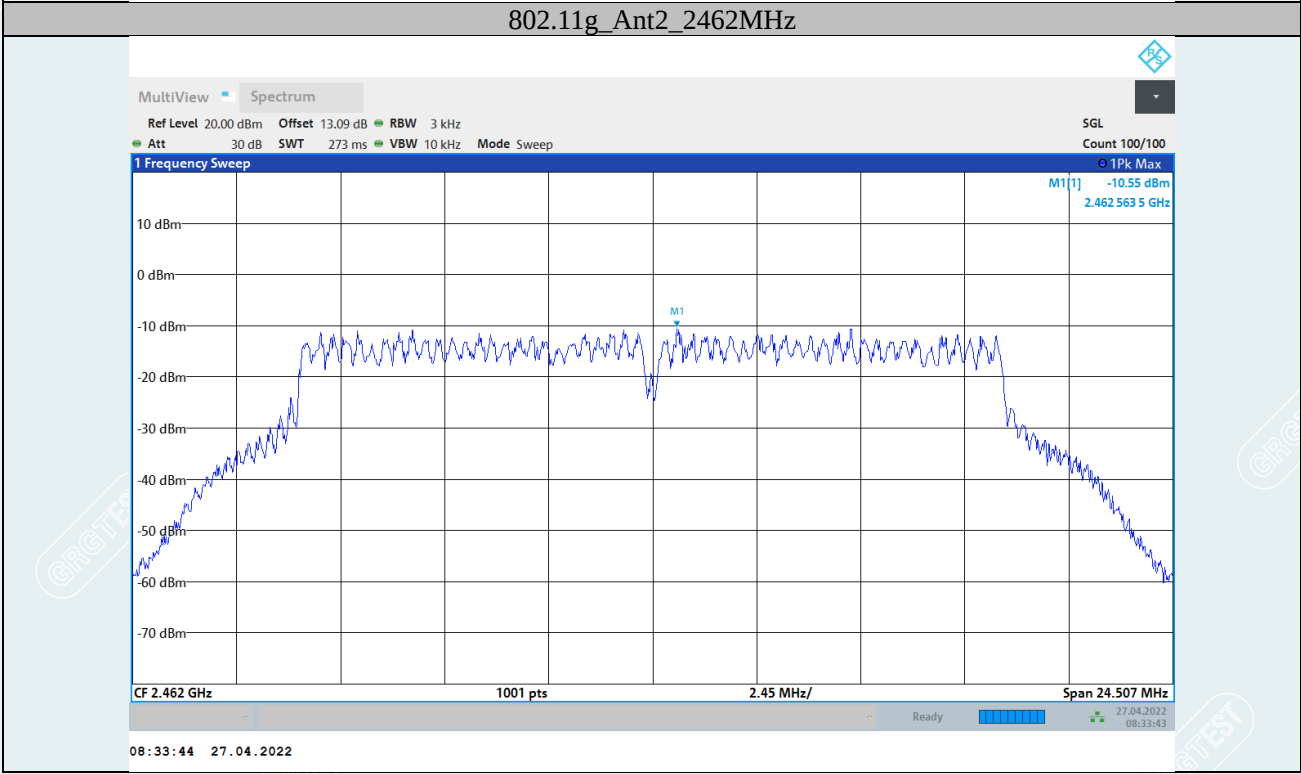
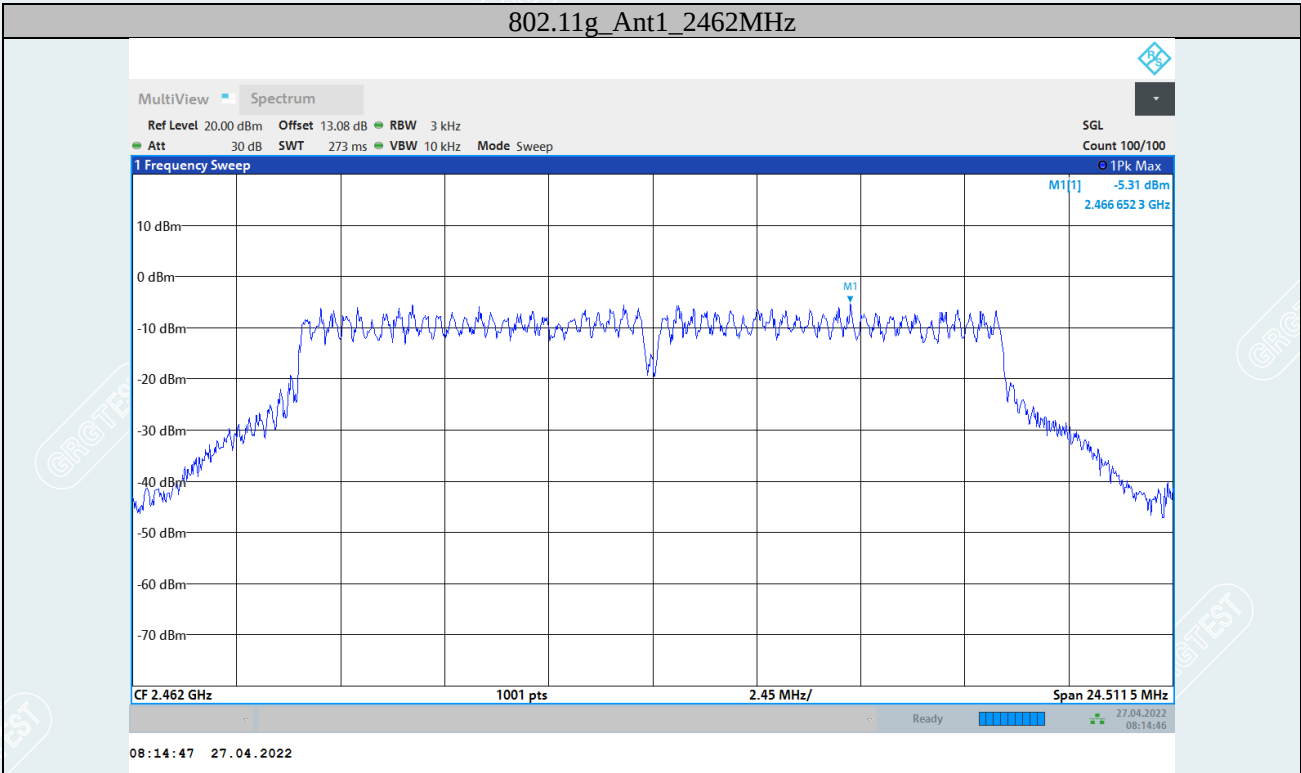


802.11g_Ant1_2437MHz

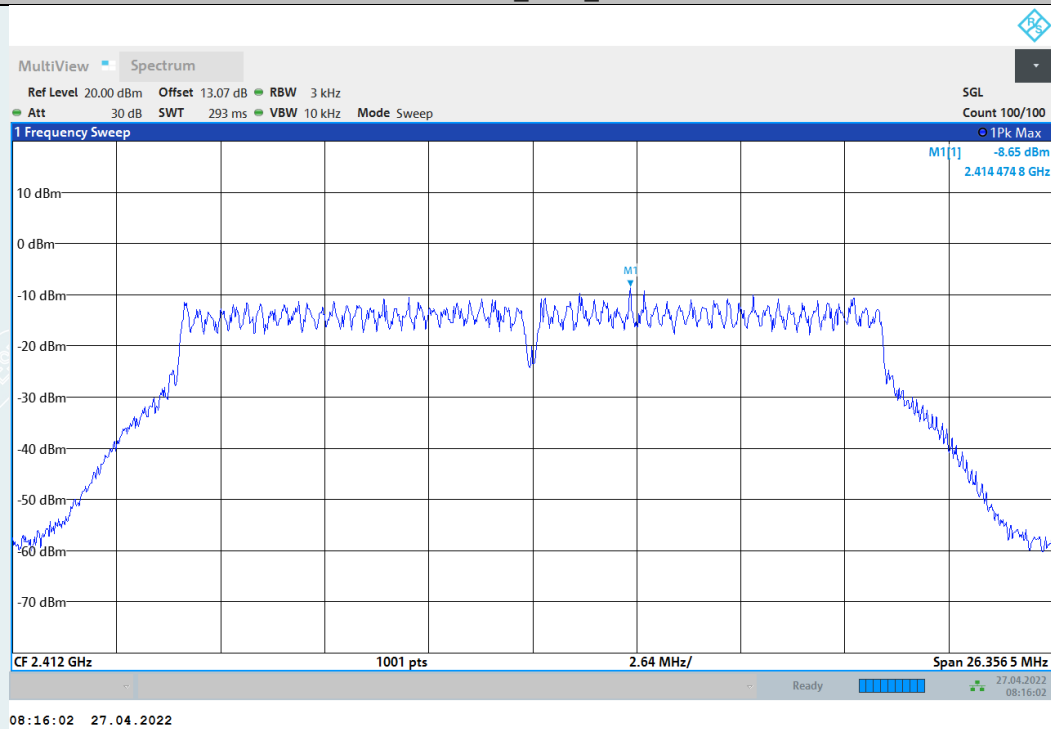


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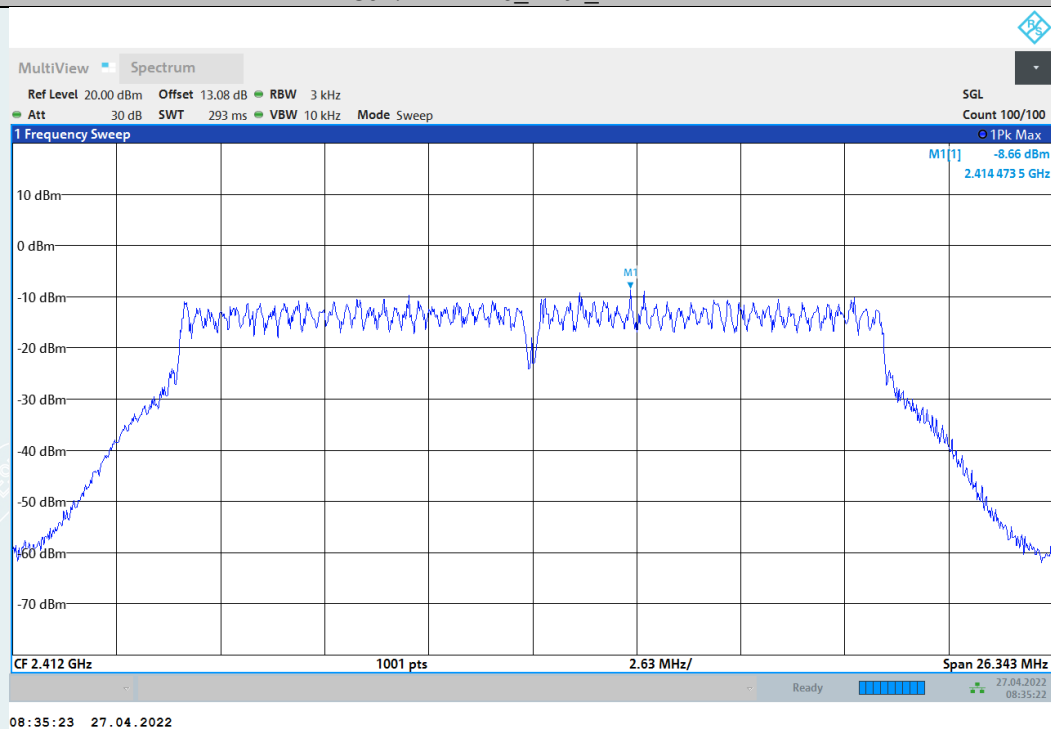


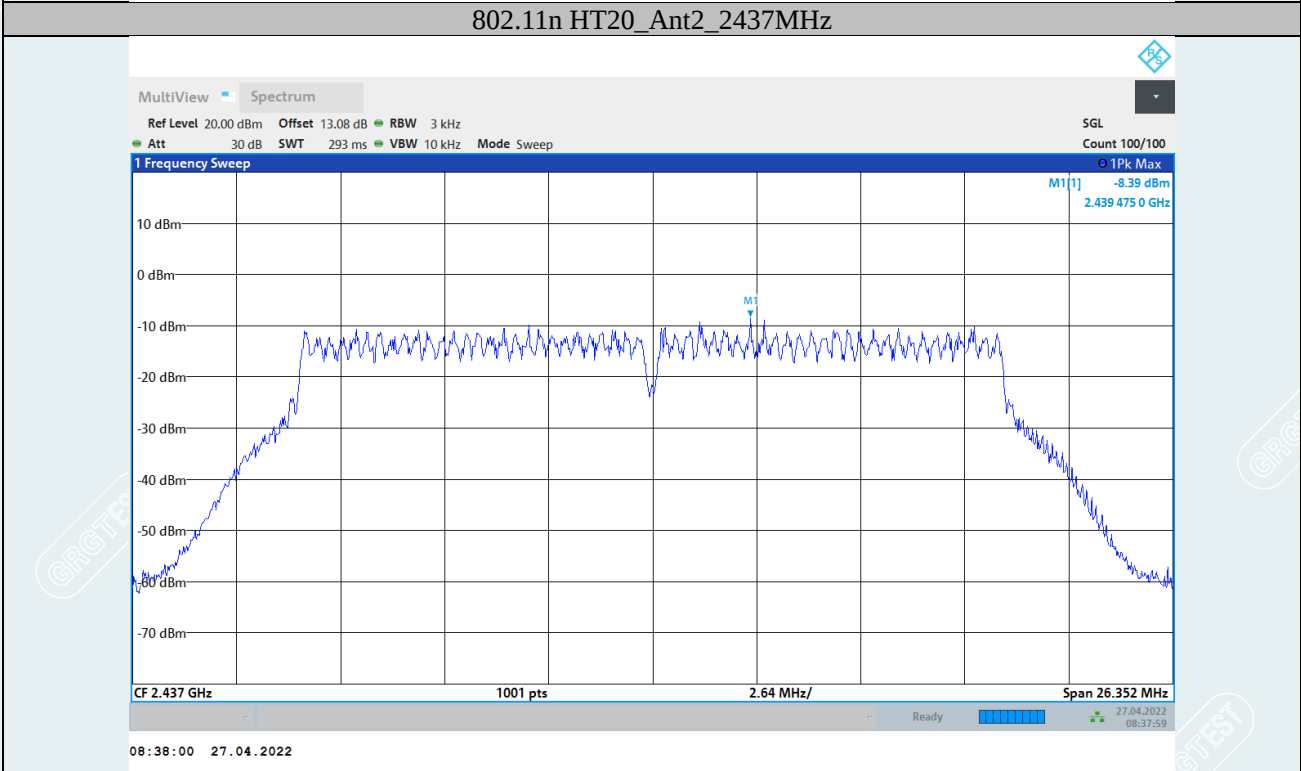
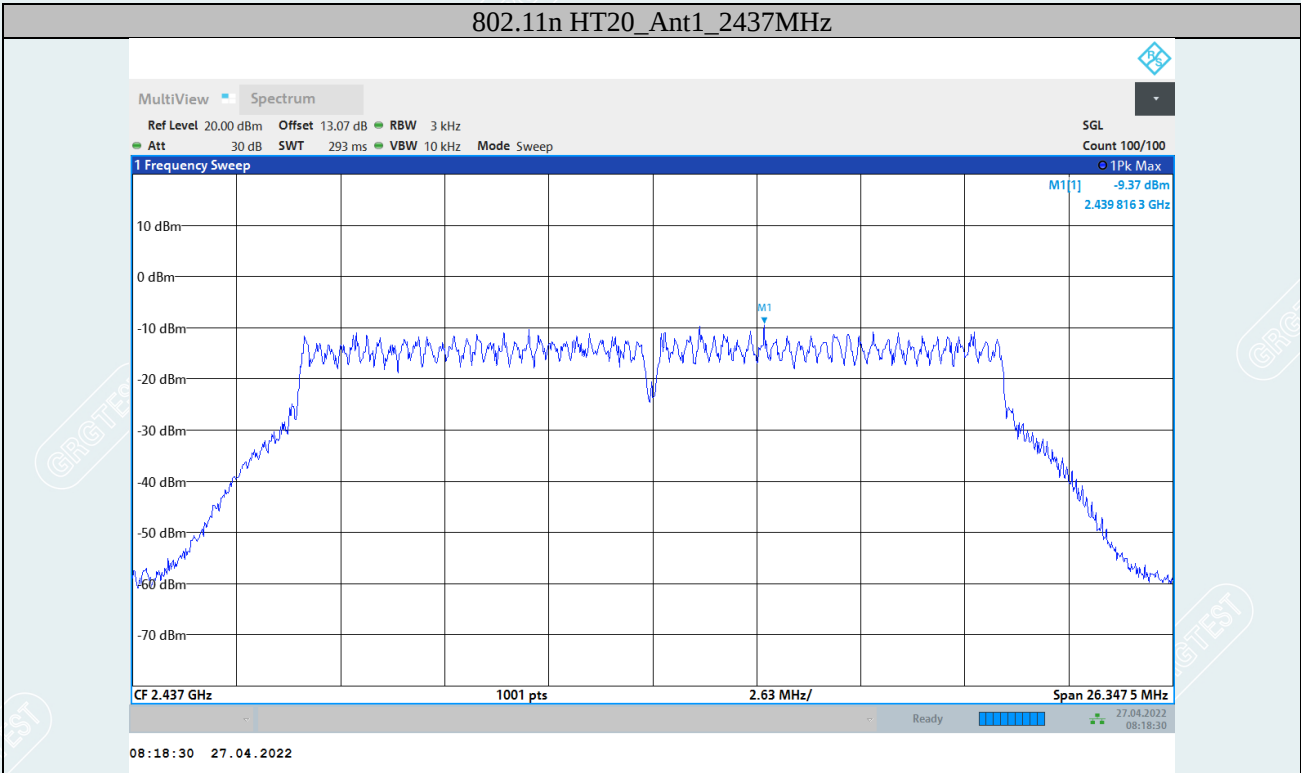


802.11n HT20_Ant1_2412MHz

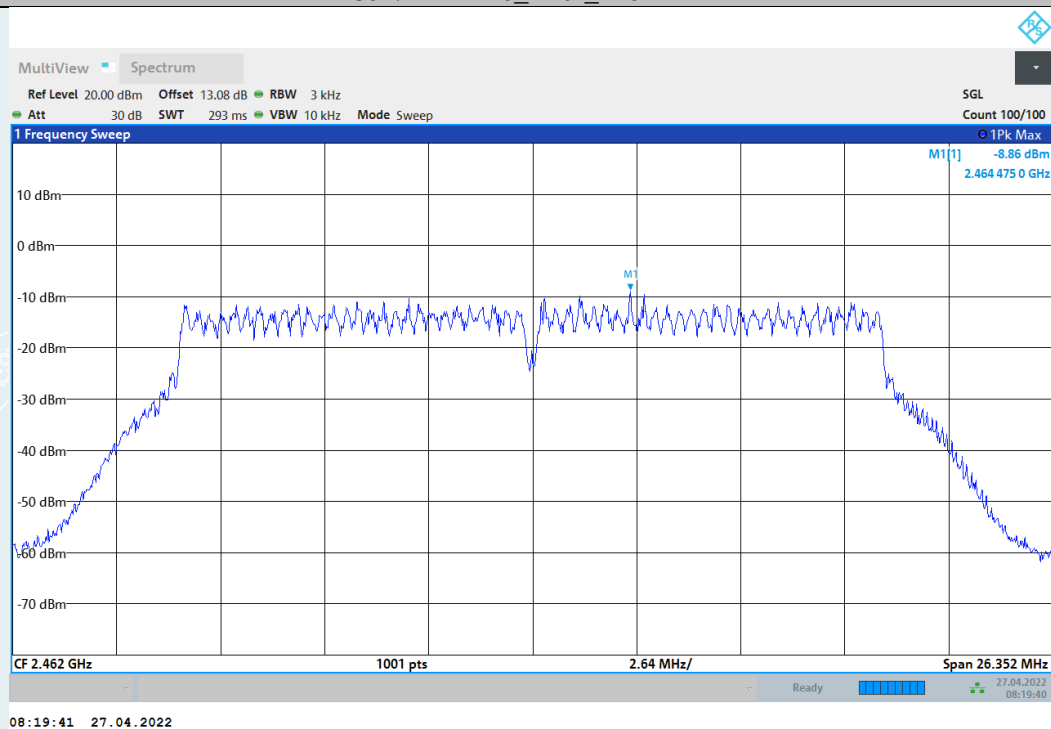


802.11n HT20_Ant2_2412MHz

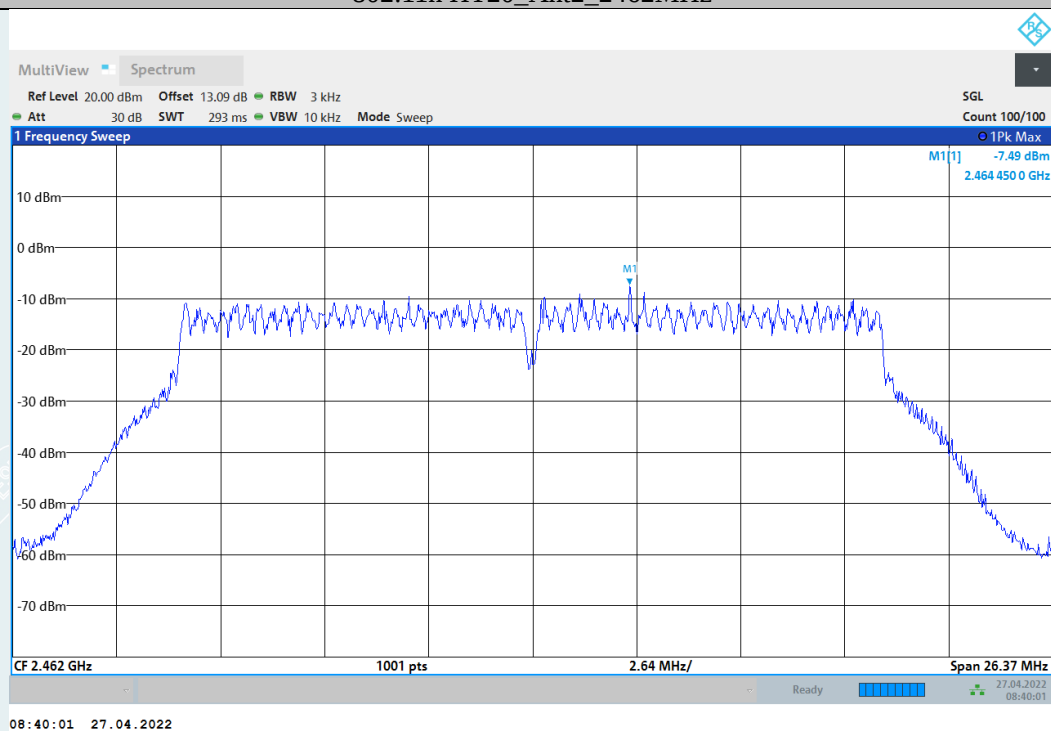




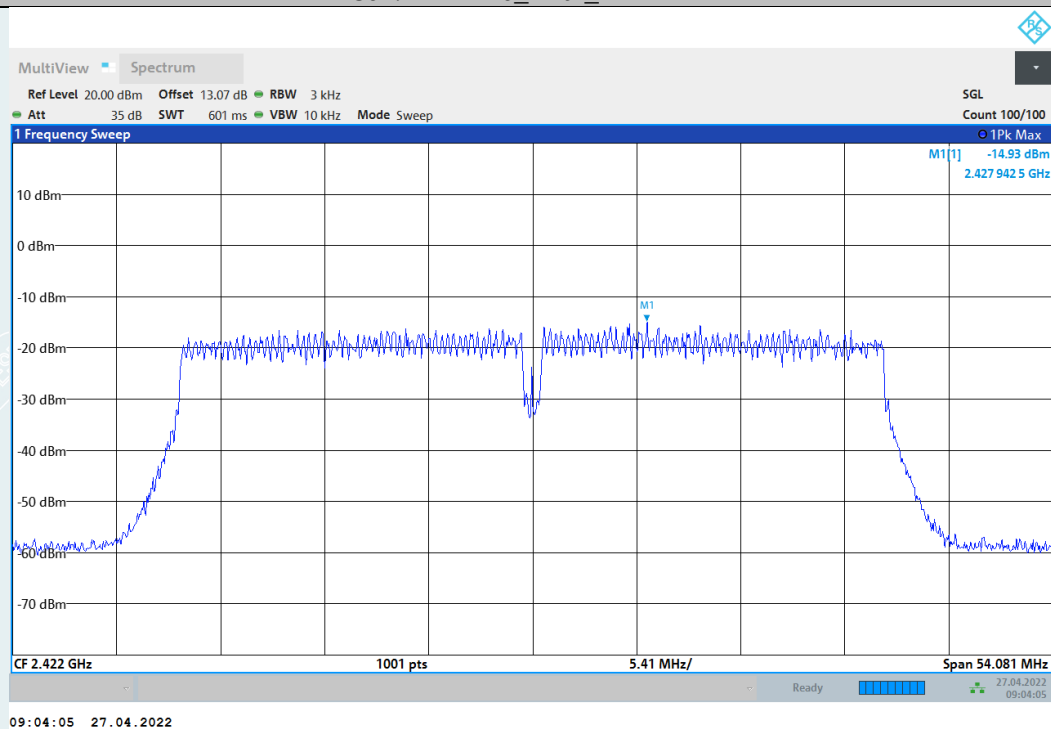
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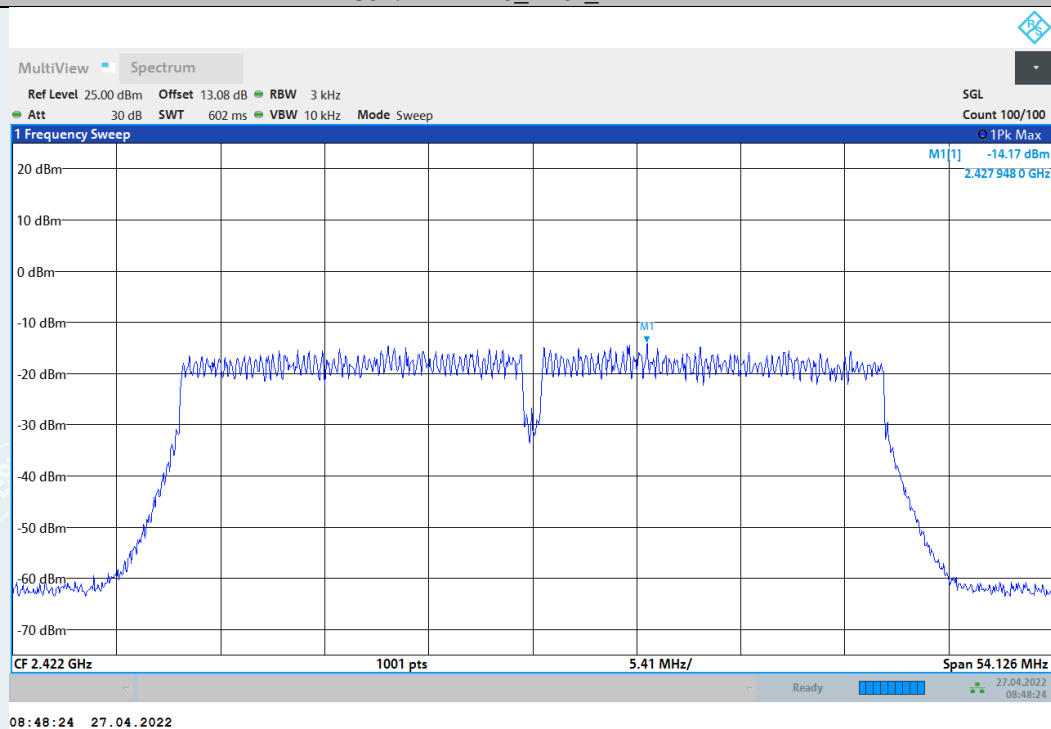
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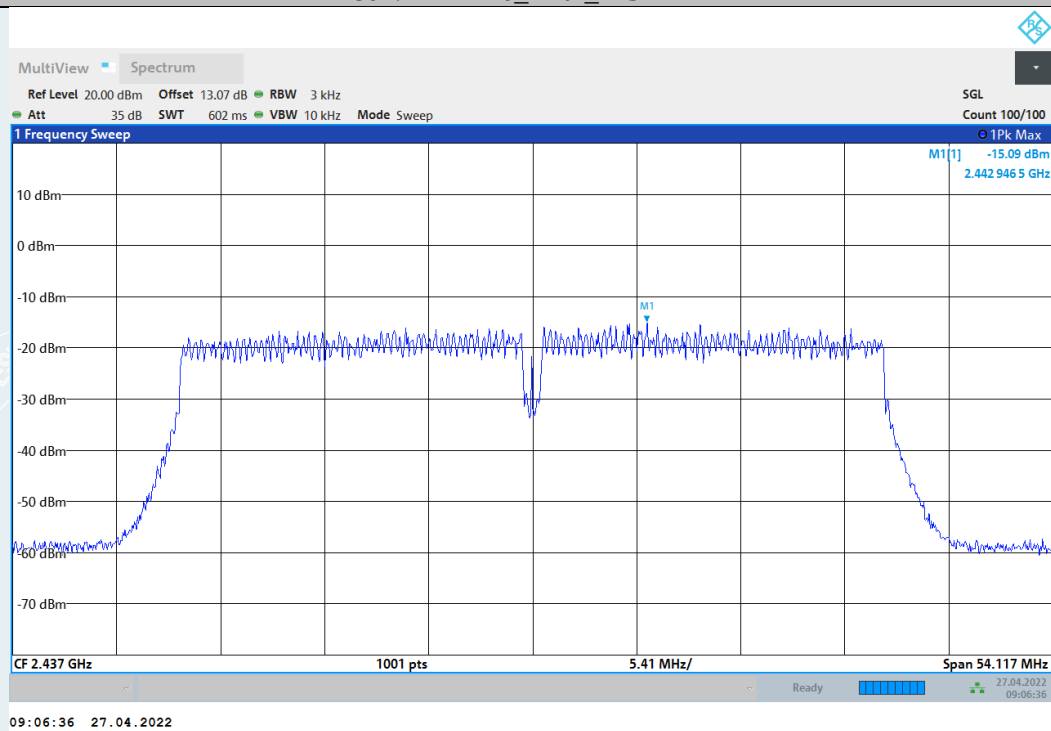
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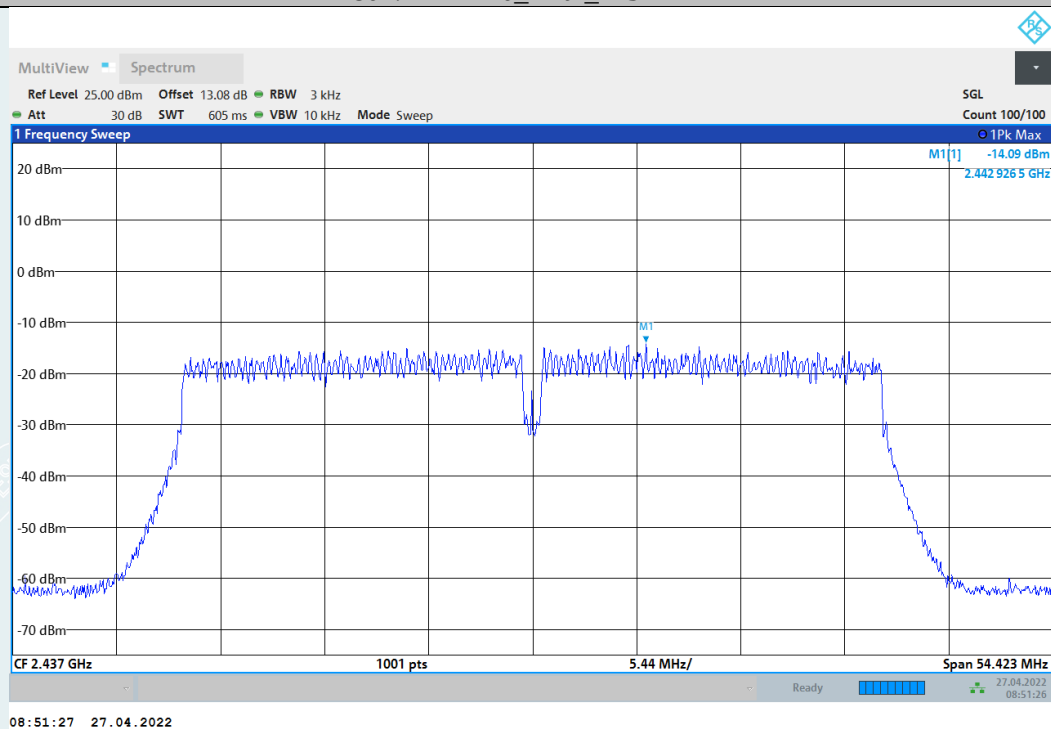
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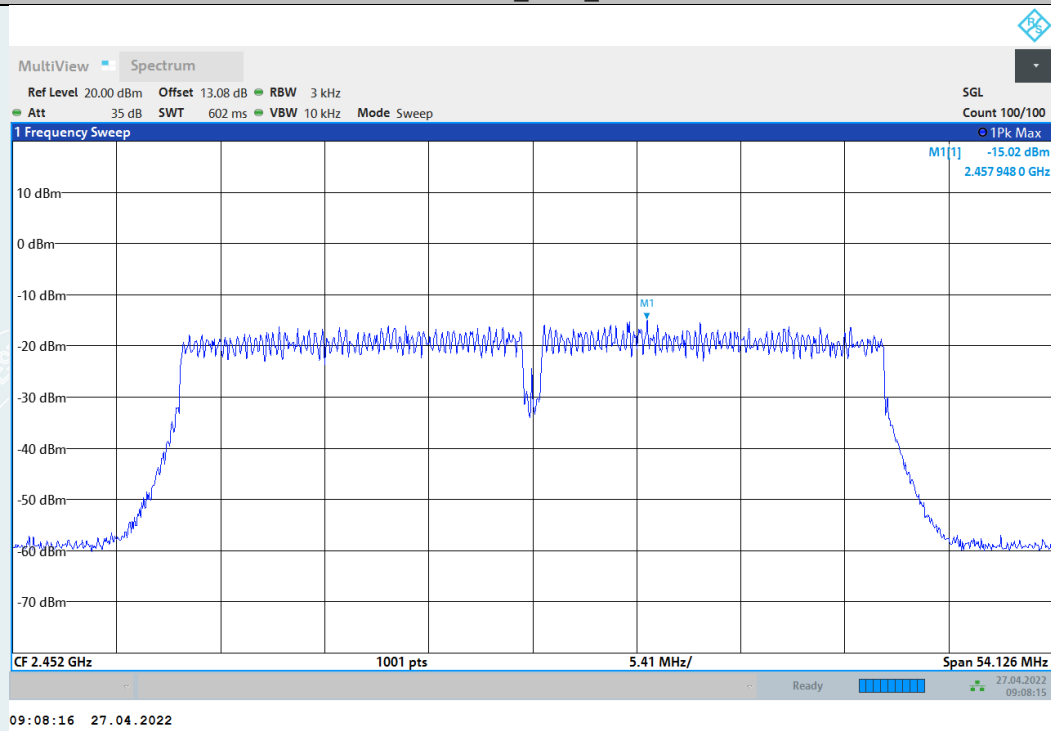
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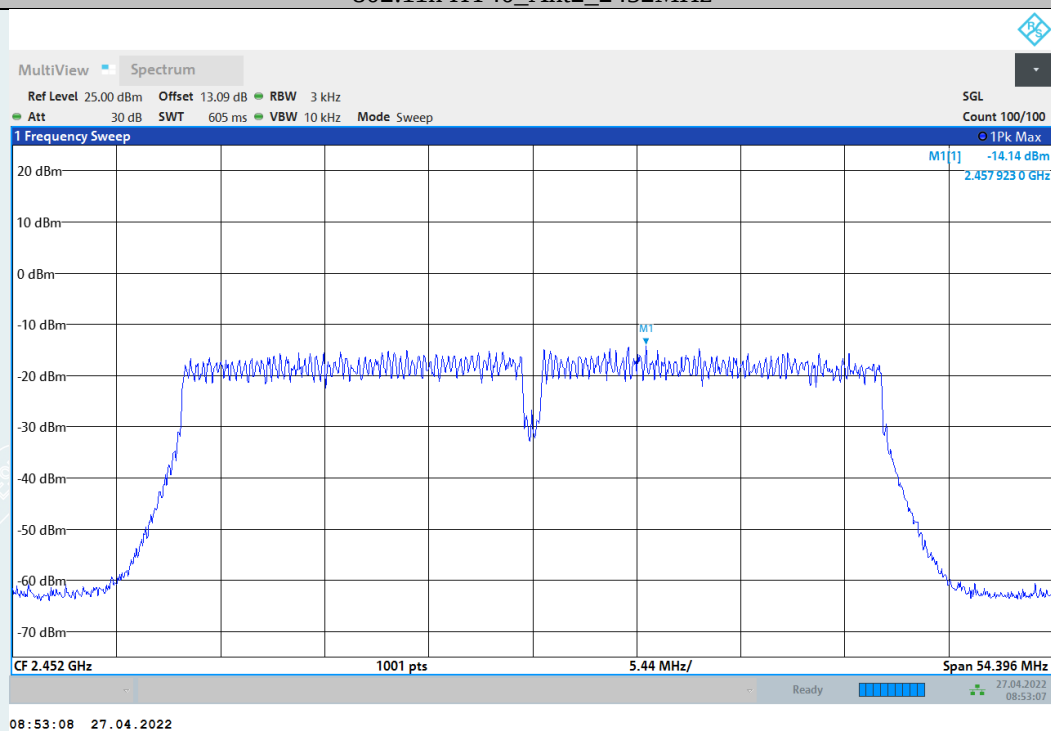
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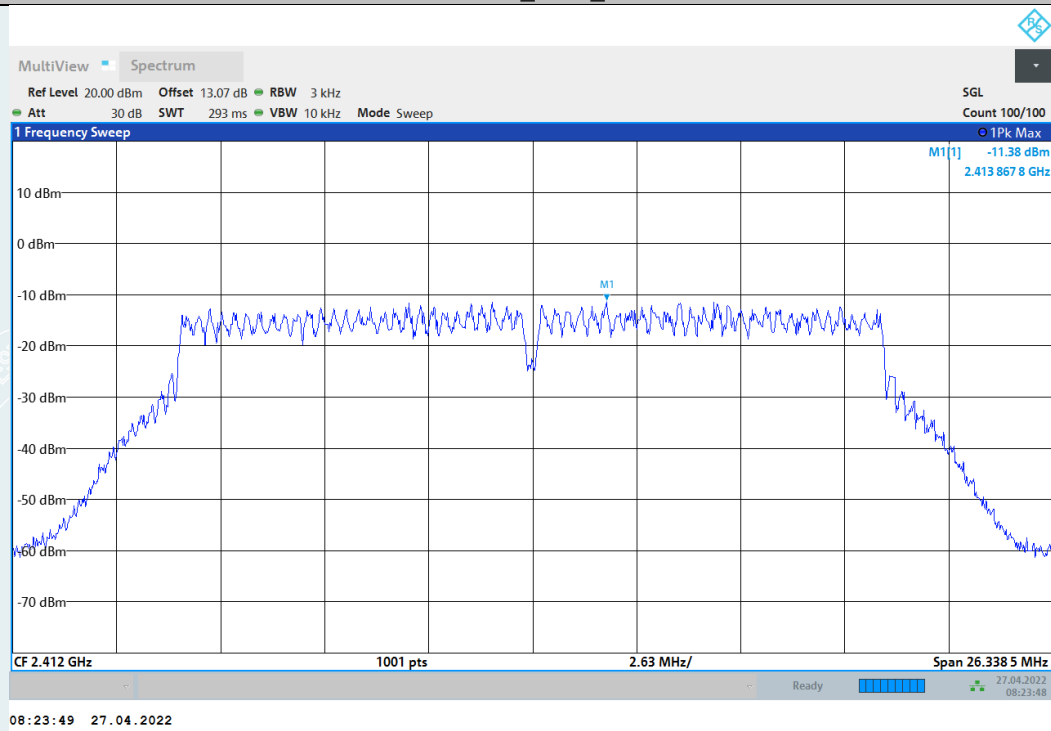
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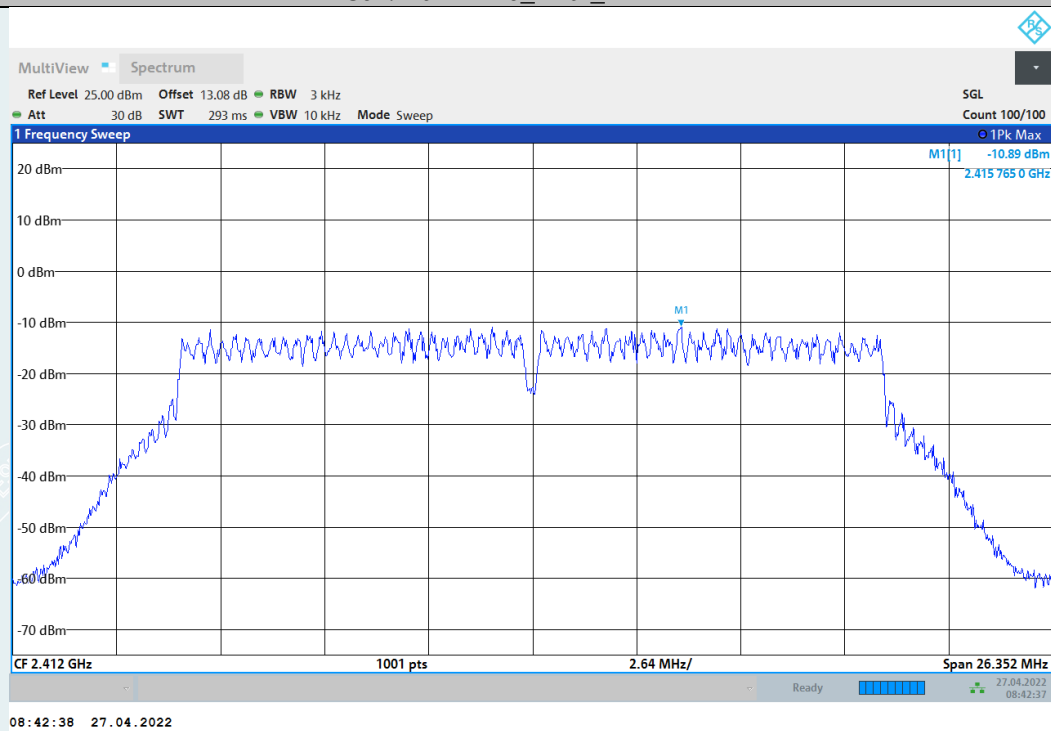
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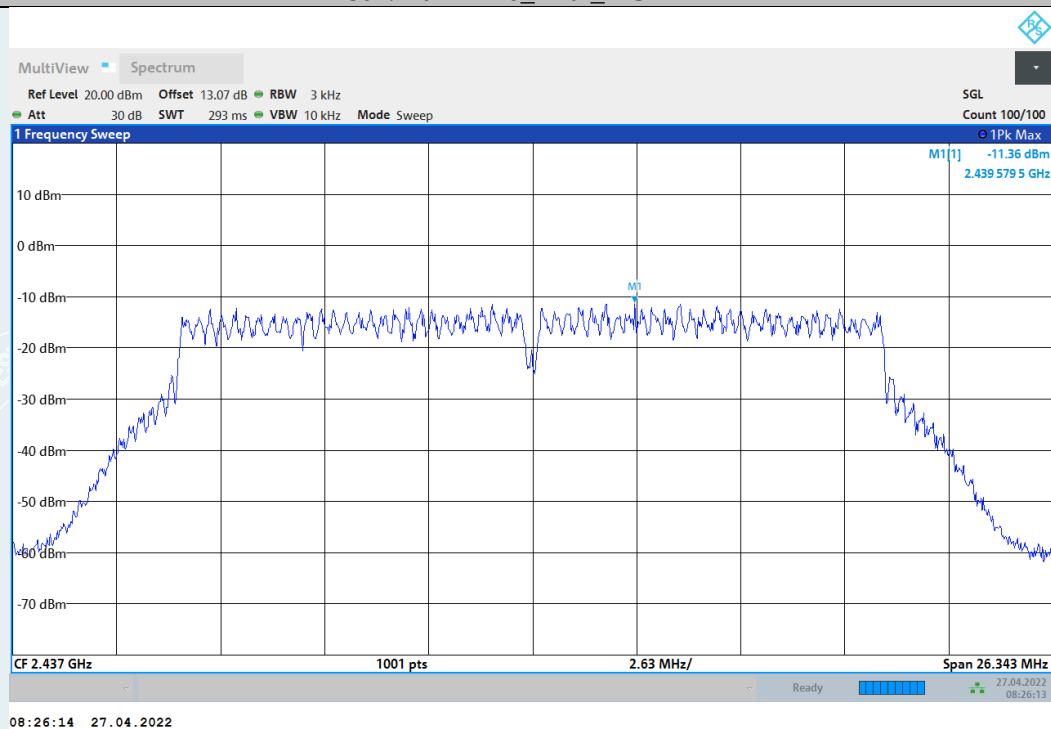
802.11ax HE20_Ant1_2412MHz



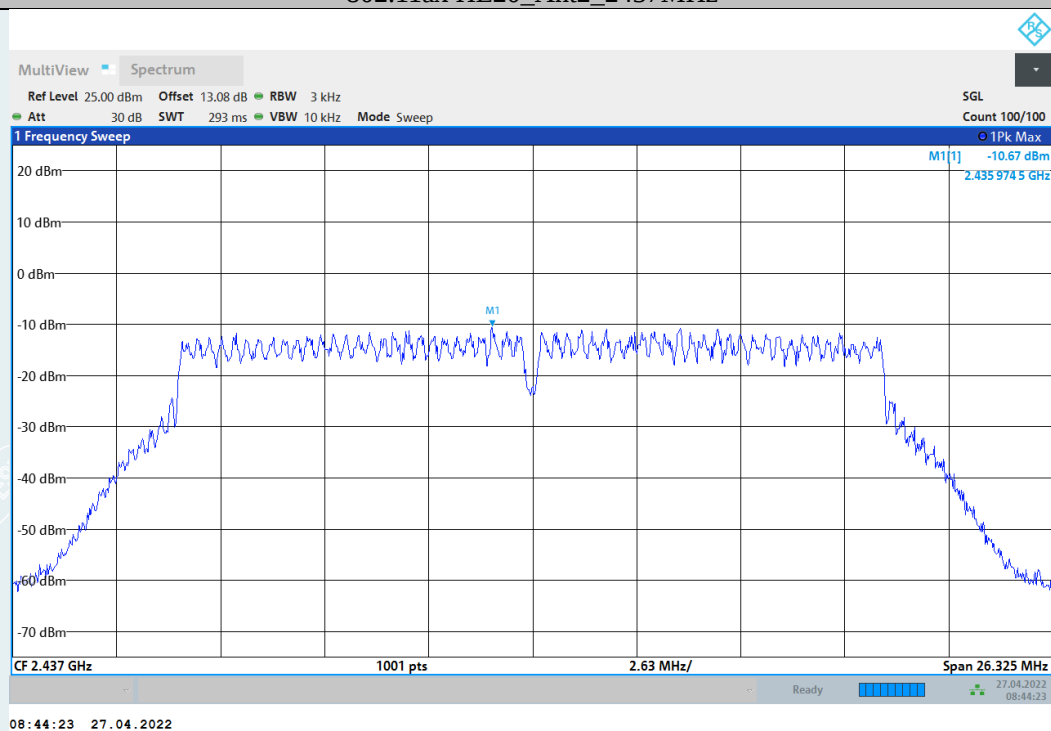
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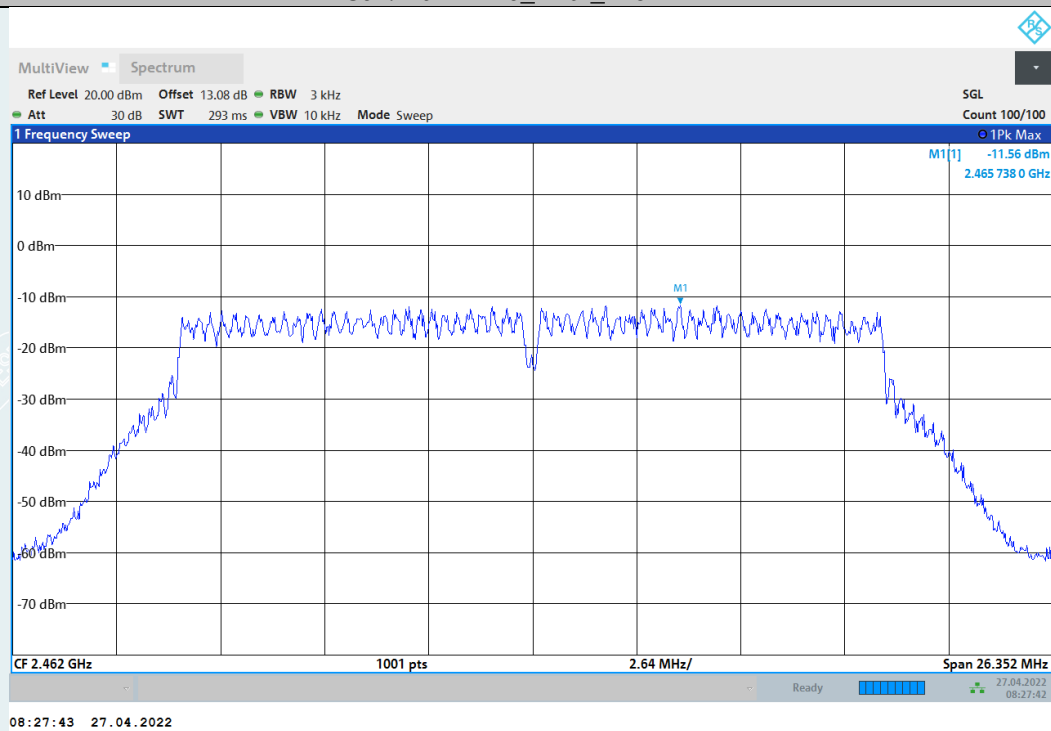
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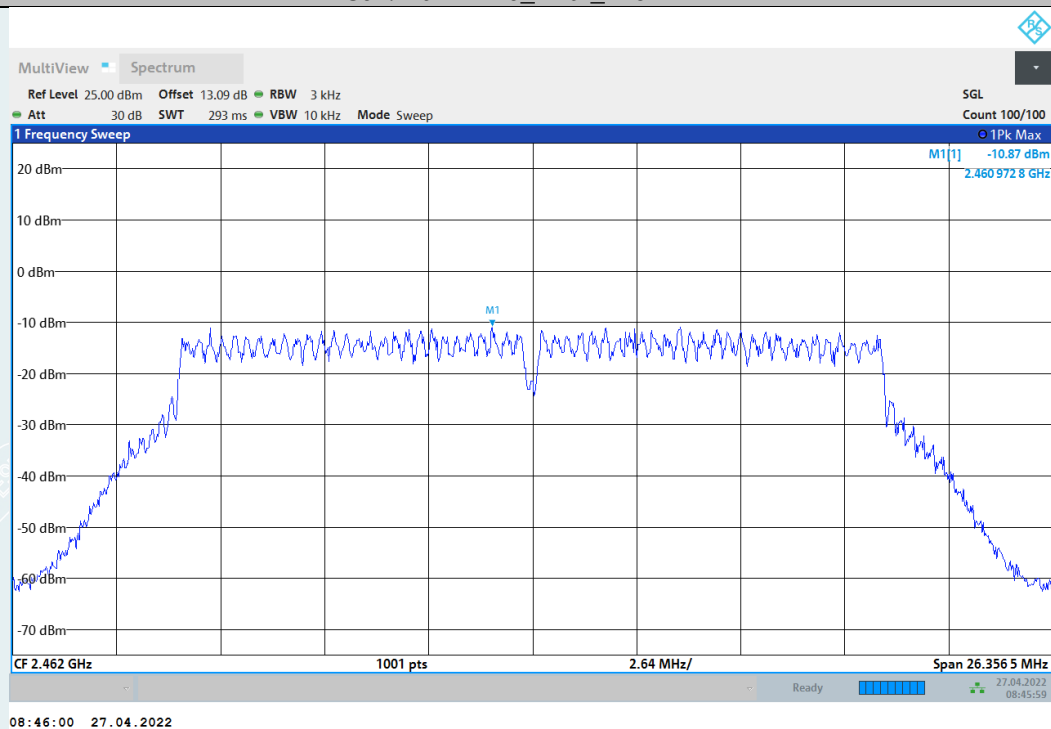
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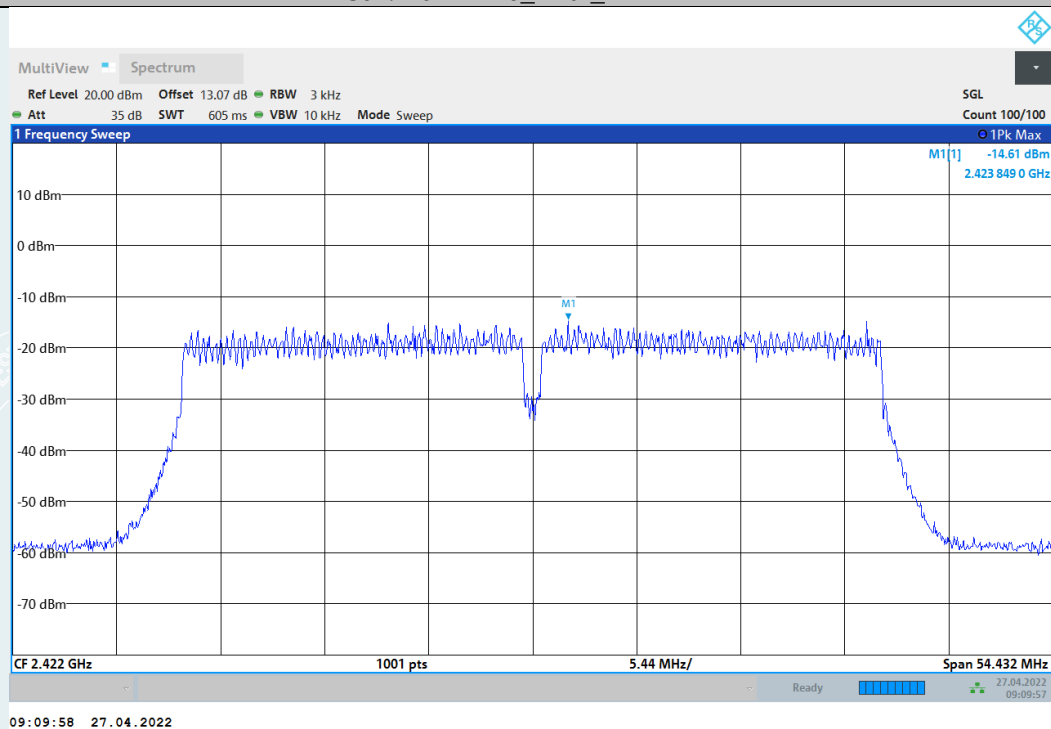
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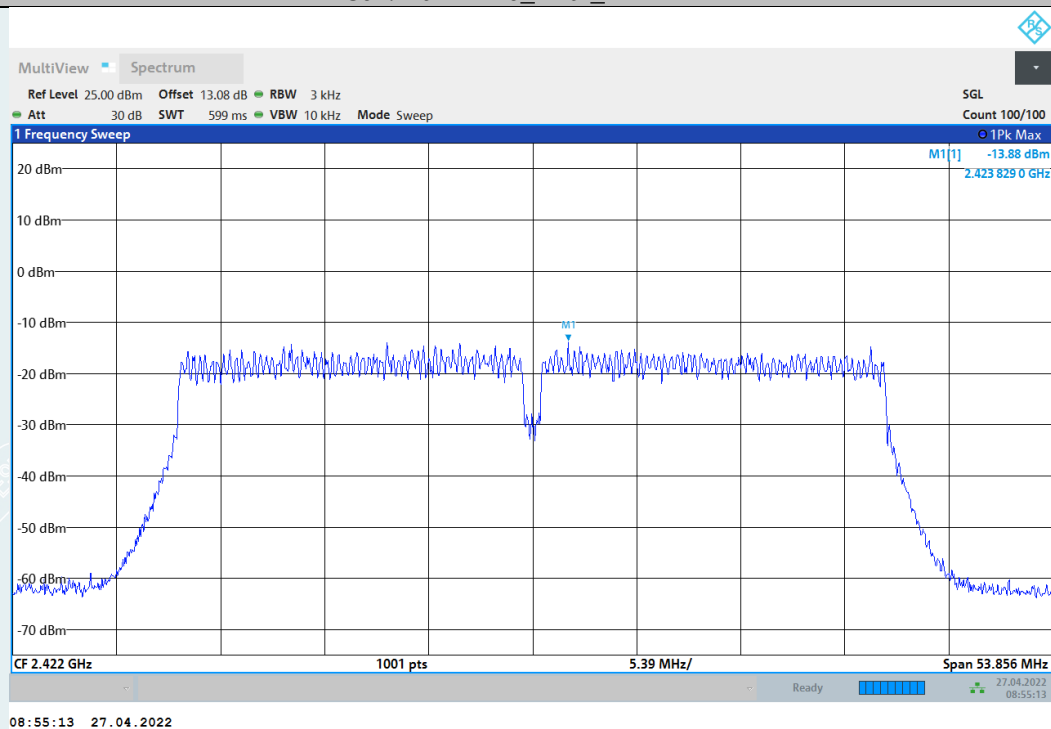
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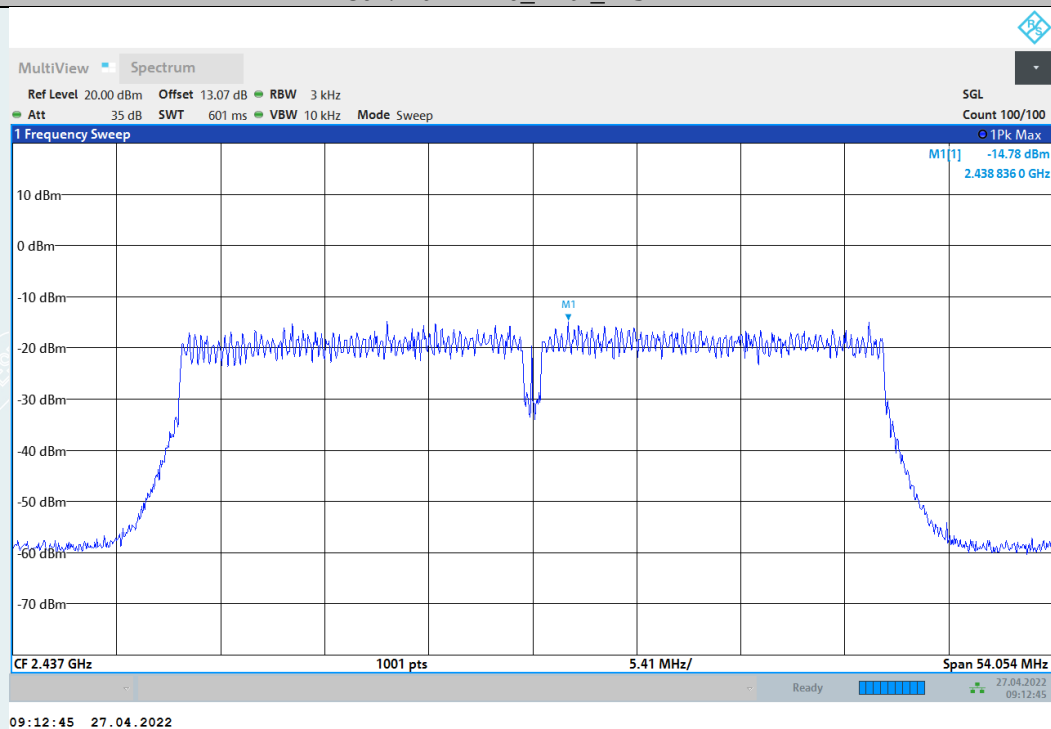
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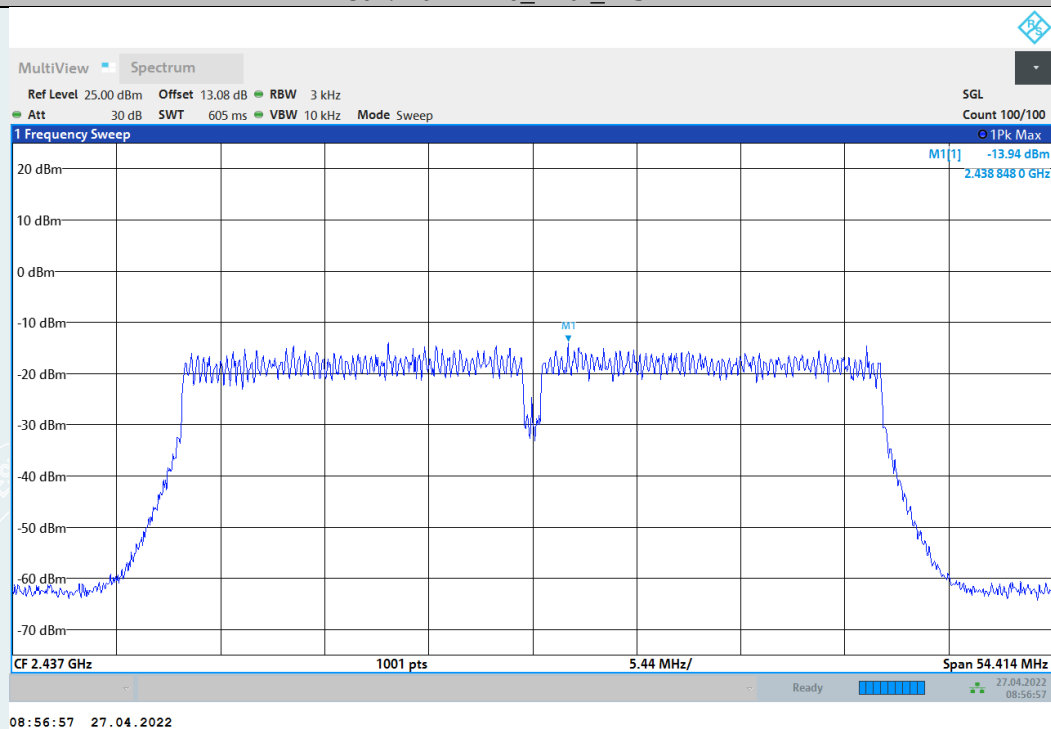
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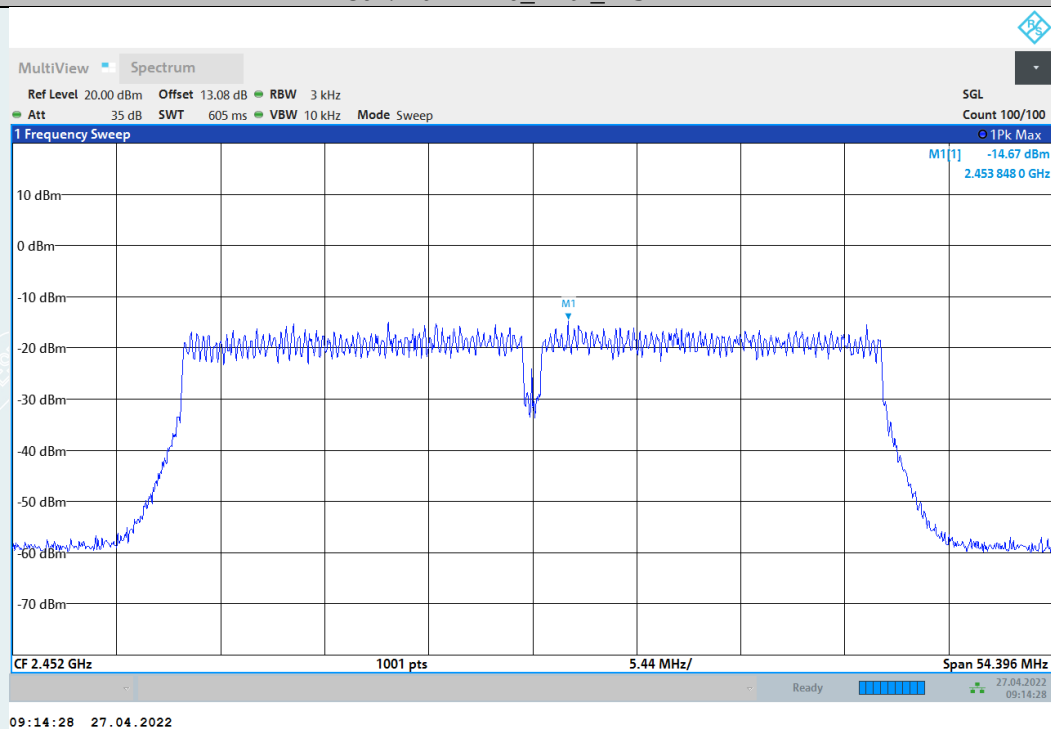
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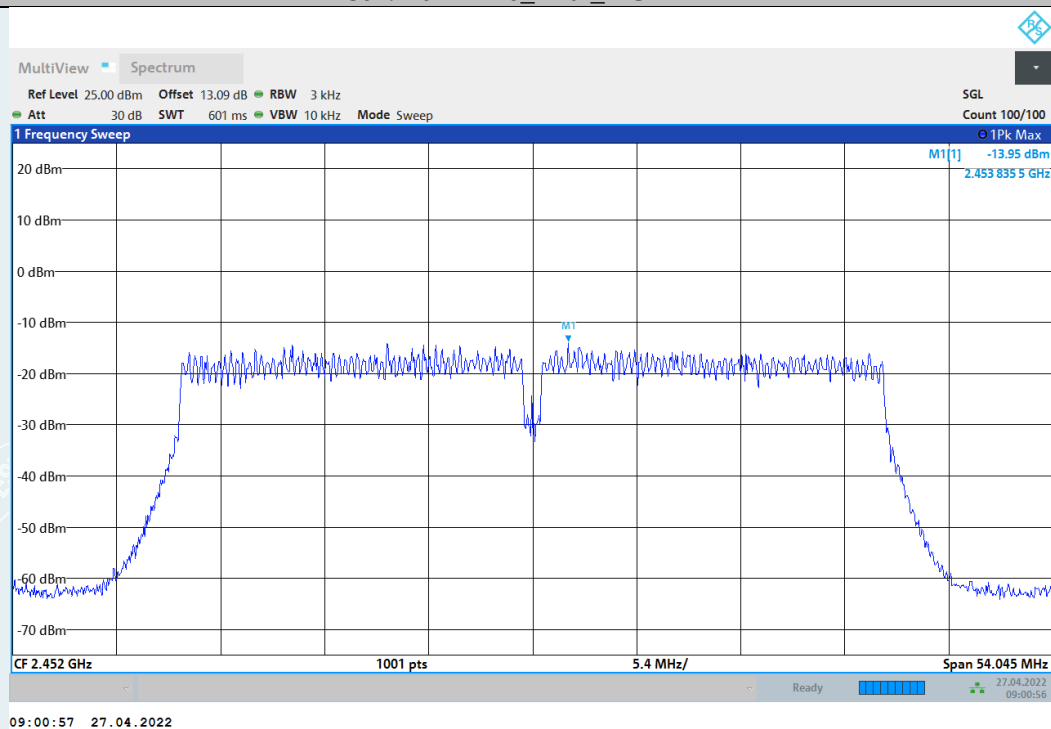
802.11ax HE40_Ant2_2437MHz



802.11ax HE40_Ant1_2452MHz



802.11ax HE40_Ant2_2452MHz



10. CONDUCTED BAND EDGES AND SPURIOUS EMISSIONS

10.1. LIMITS

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

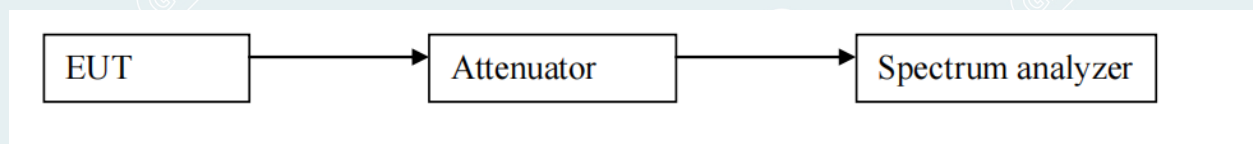
10.2. TEST PROCEDURES

Test procedures follow KDB 558074 D01 DTS Measurement Guidance.

Remove the antenna from the EUT and then connect a low attenuation cable from the antenna port to the spectrum.

- 1) Remove the antenna from the EUT and then connect a low attenuation cable from the antenna port to the spectrum.
- 2) Set the spectrum analyzer: RBW =100KHz; VBW =300KHz, Frequency range = 30MHz to 26.5GHz; Sweep = auto; Detector Function = Peak; Trace = Max hold.
- 3) Measure and record the results in the test report.
- 4) The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

10.3. TEST SETUP



10.4. TEST RESULTS

Environment: 25°C/60%RH

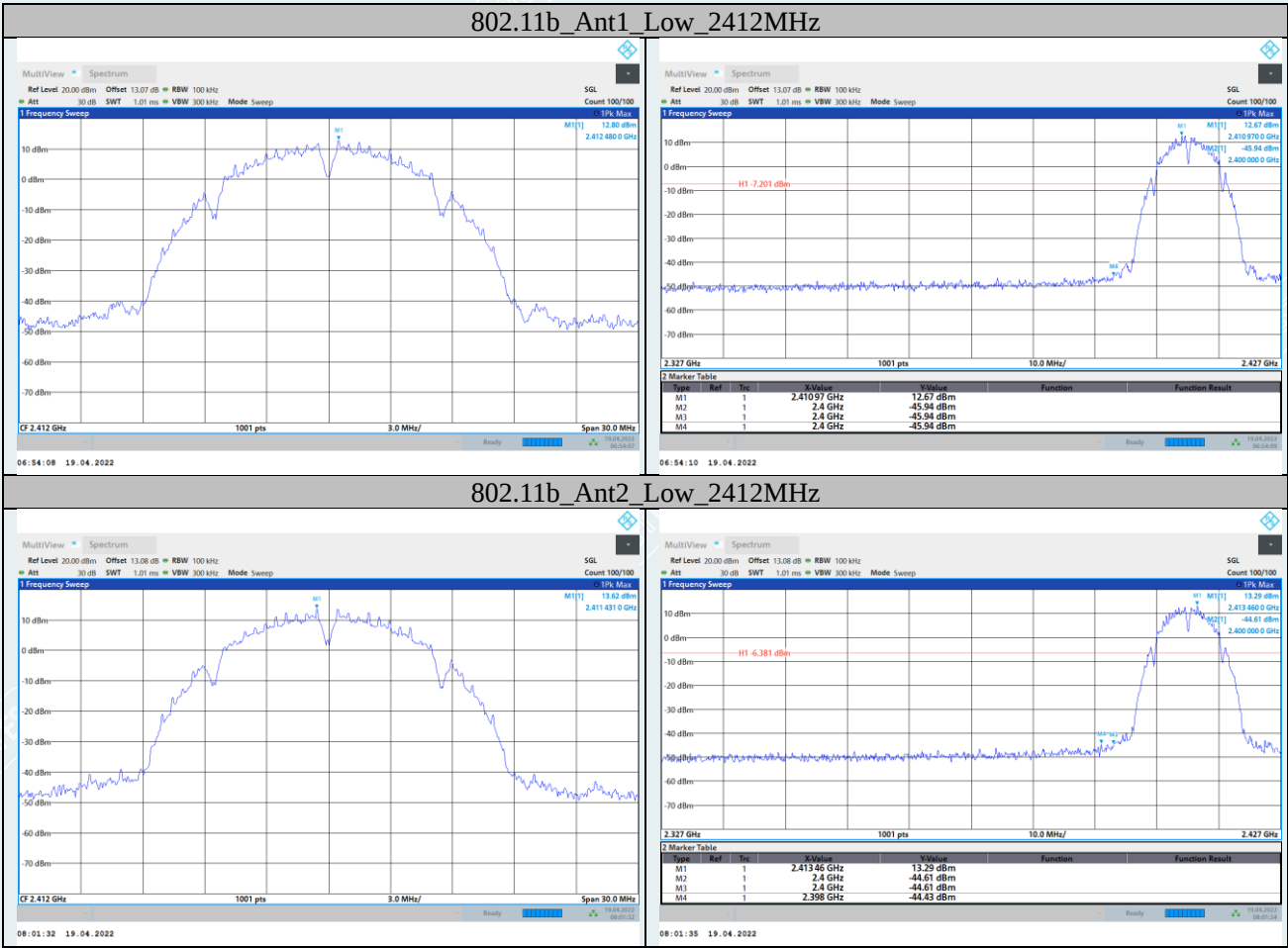
Tested By: Liu lingfeng

Voltage: AC120V/60Hz

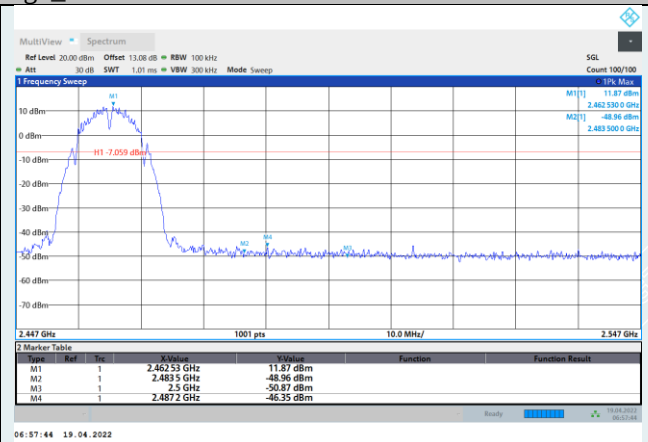
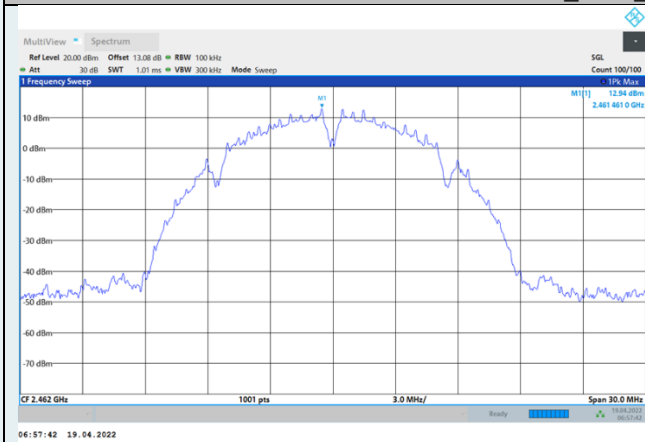
Date: 2022-4-19~4-27

Band edge

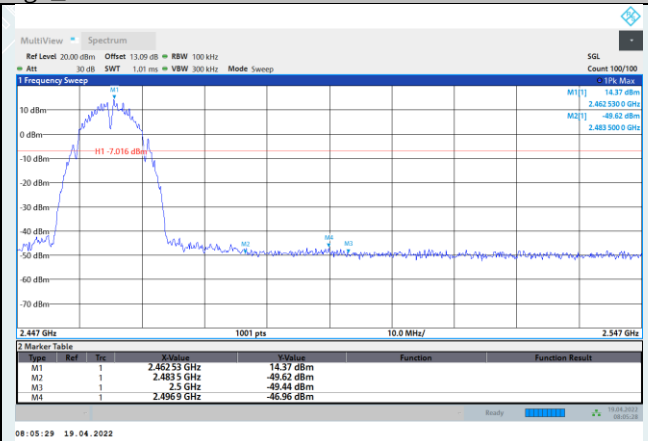
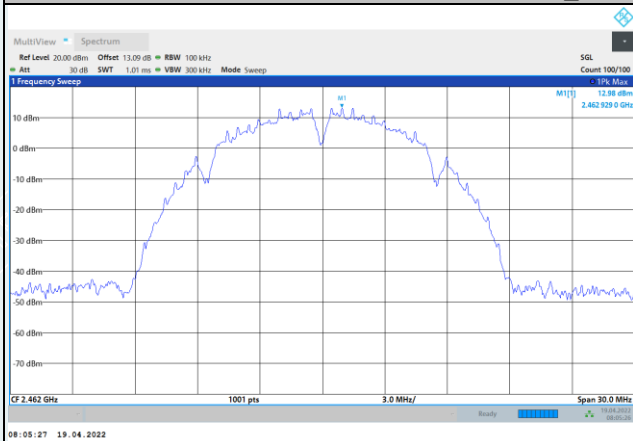
Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
g	2412	Ant1	-34.5	-20	Pass
g	2462	Ant1	-44.37	-20	Pass
g	2412	Ant2	-45.23	-20	Pass
g	2462	Ant2	-50.35	-20	Pass
n20	2412	Ant1	-44.54	-20	Pass
n20	2462	Ant1	-51.58	-20	Pass
n20	2412	Ant2	-44.99	-20	Pass
n20	2462	Ant2	-51.9	-20	Pass
n40	2422	Ant1	-44.59	-20	Pass
n40	2452	Ant1	-46.48	-20	Pass
n40	2422	Ant2	-46.99	-20	Pass
n40	2452	Ant2	-47.49	-20	Pass
ax20	2412	Ant1	-43.5	-20	Pass
ax20	2462	Ant1	-50.66	-20	Pass
ax20	2412	Ant2	-44.79	-20	Pass
ax20	2462	Ant2	-50.6	-20	Pass
ax40	2422	Ant1	-45.34	-20	Pass
ax40	2452	Ant1	-46.65	-20	Pass
ax40	2422	Ant2	-44.57	-20	Pass
ax40	2452	Ant2	-48.01	-20	Pass



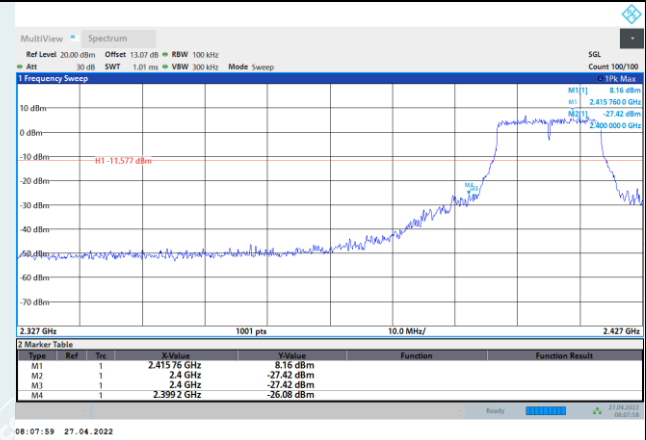
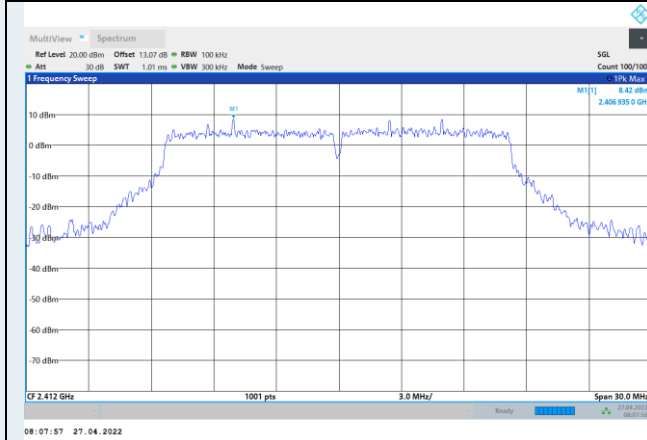
802.11b_Ant1_High_2462MHz



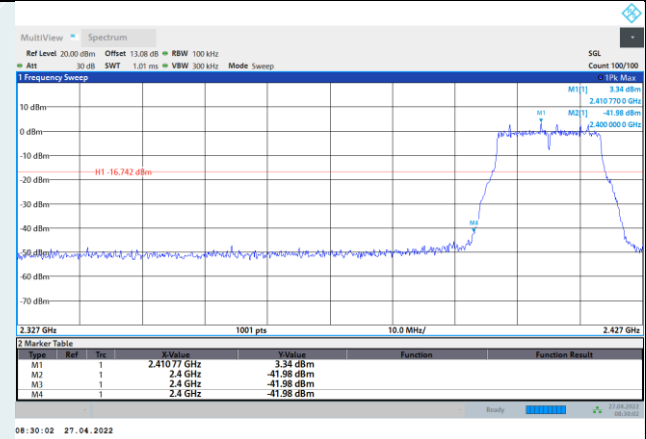
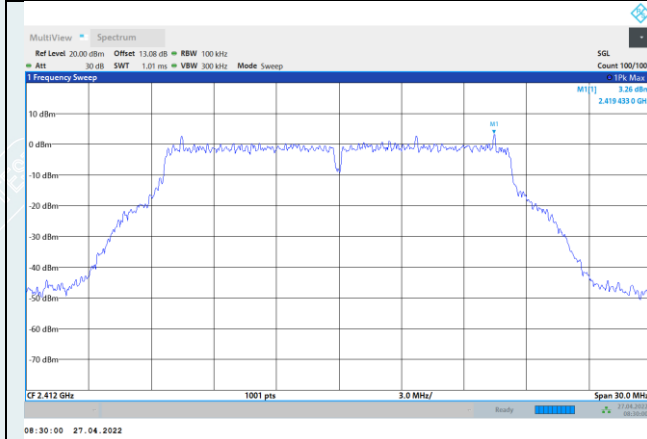
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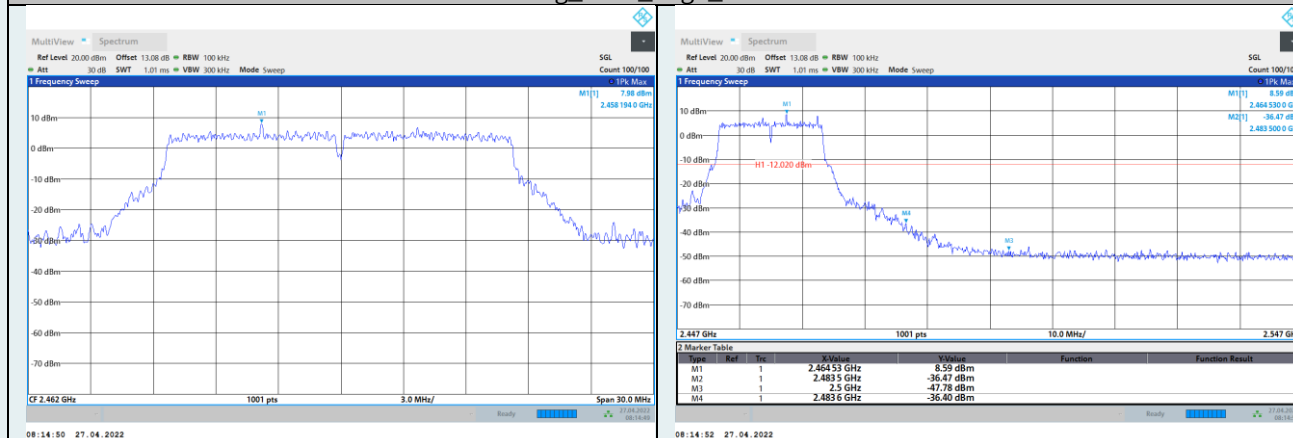
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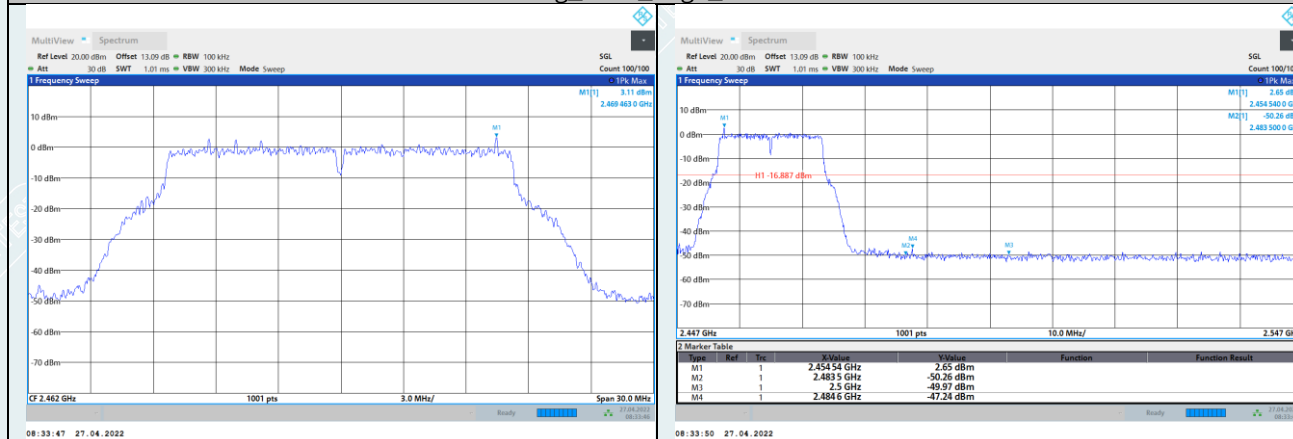
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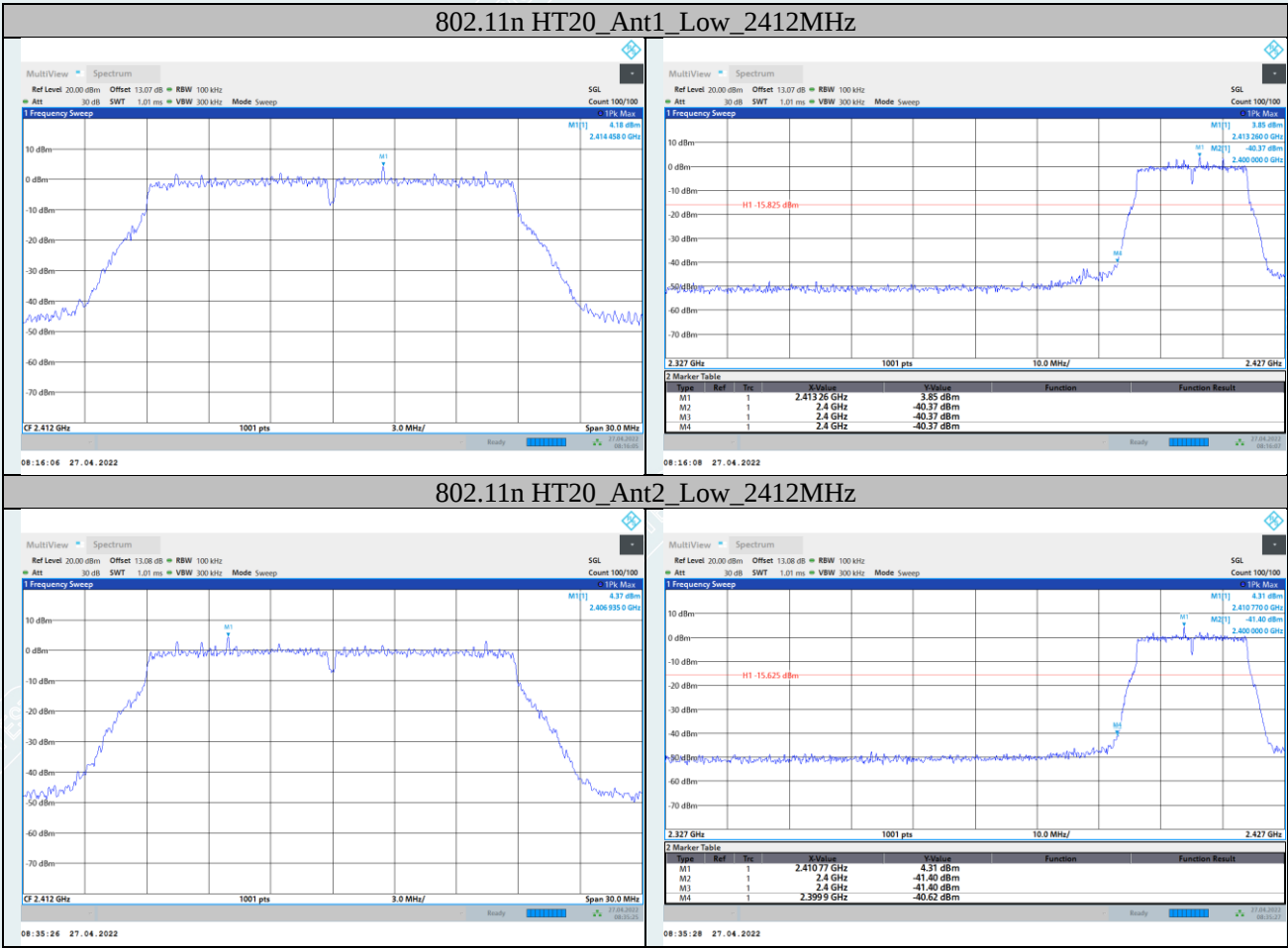


802.11g_Ant1_High_2462MHz

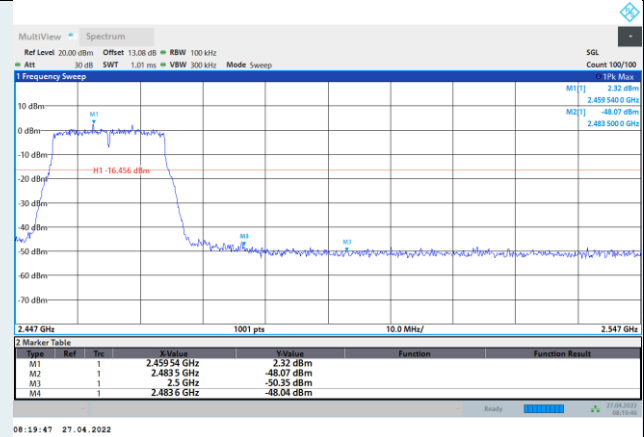
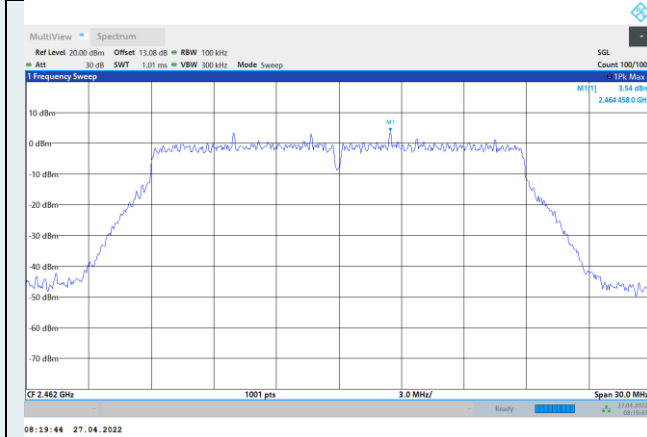


802.11g_Ant2_High_2462MHz

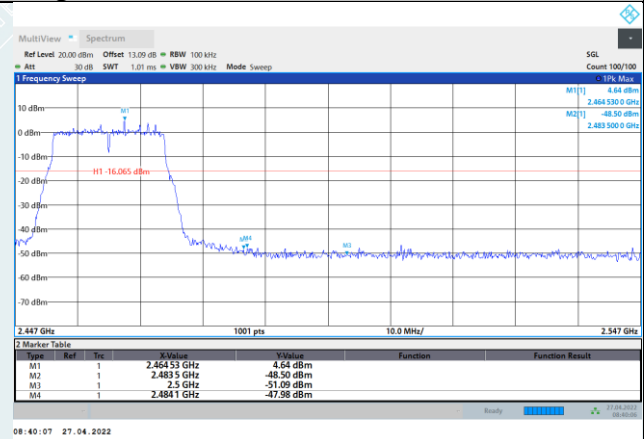
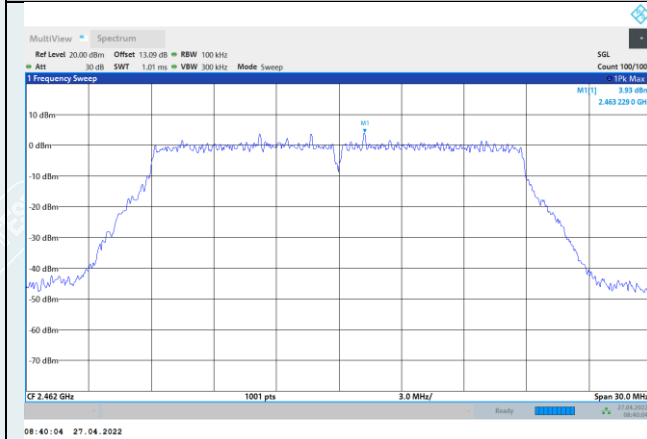


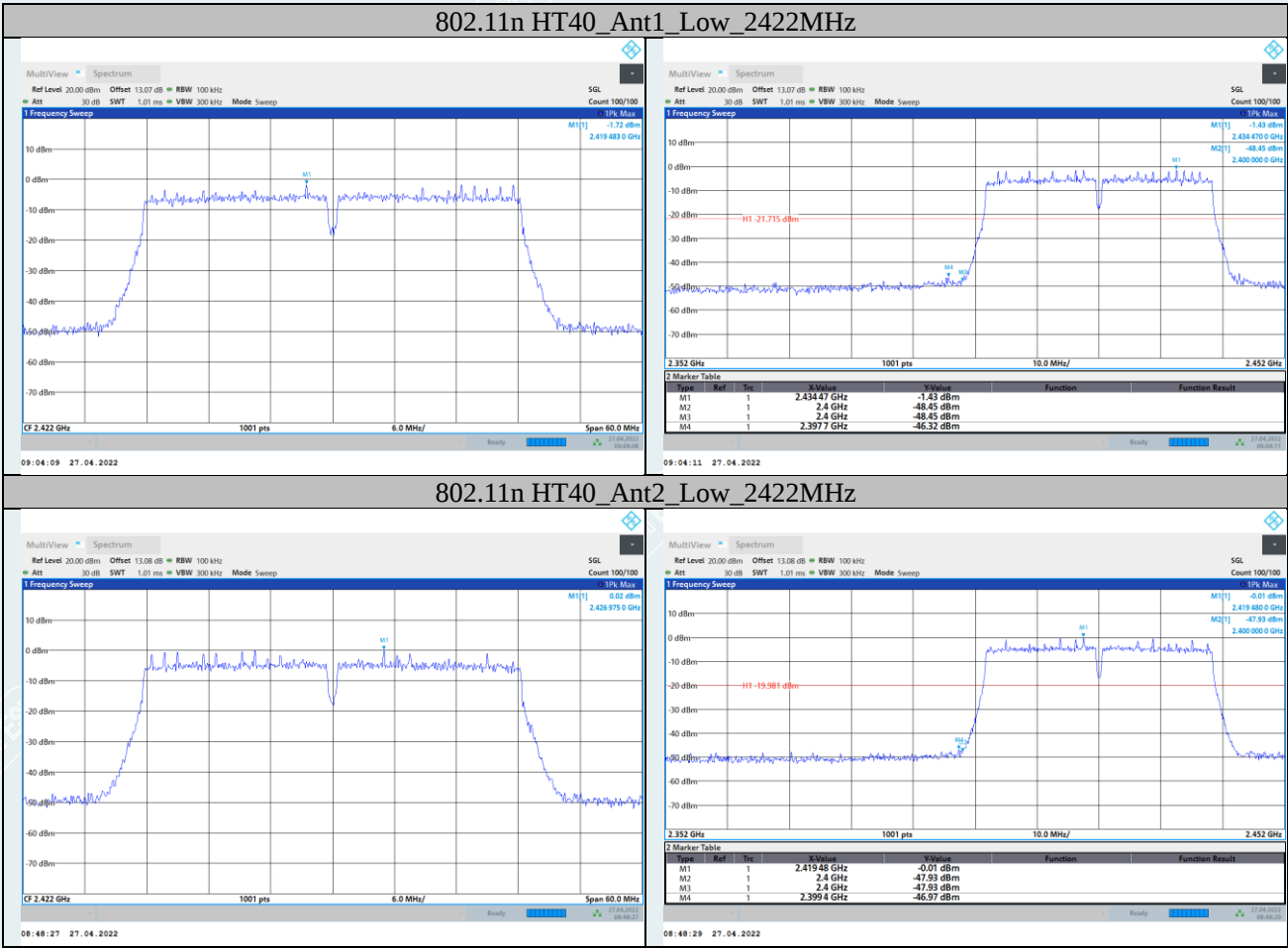


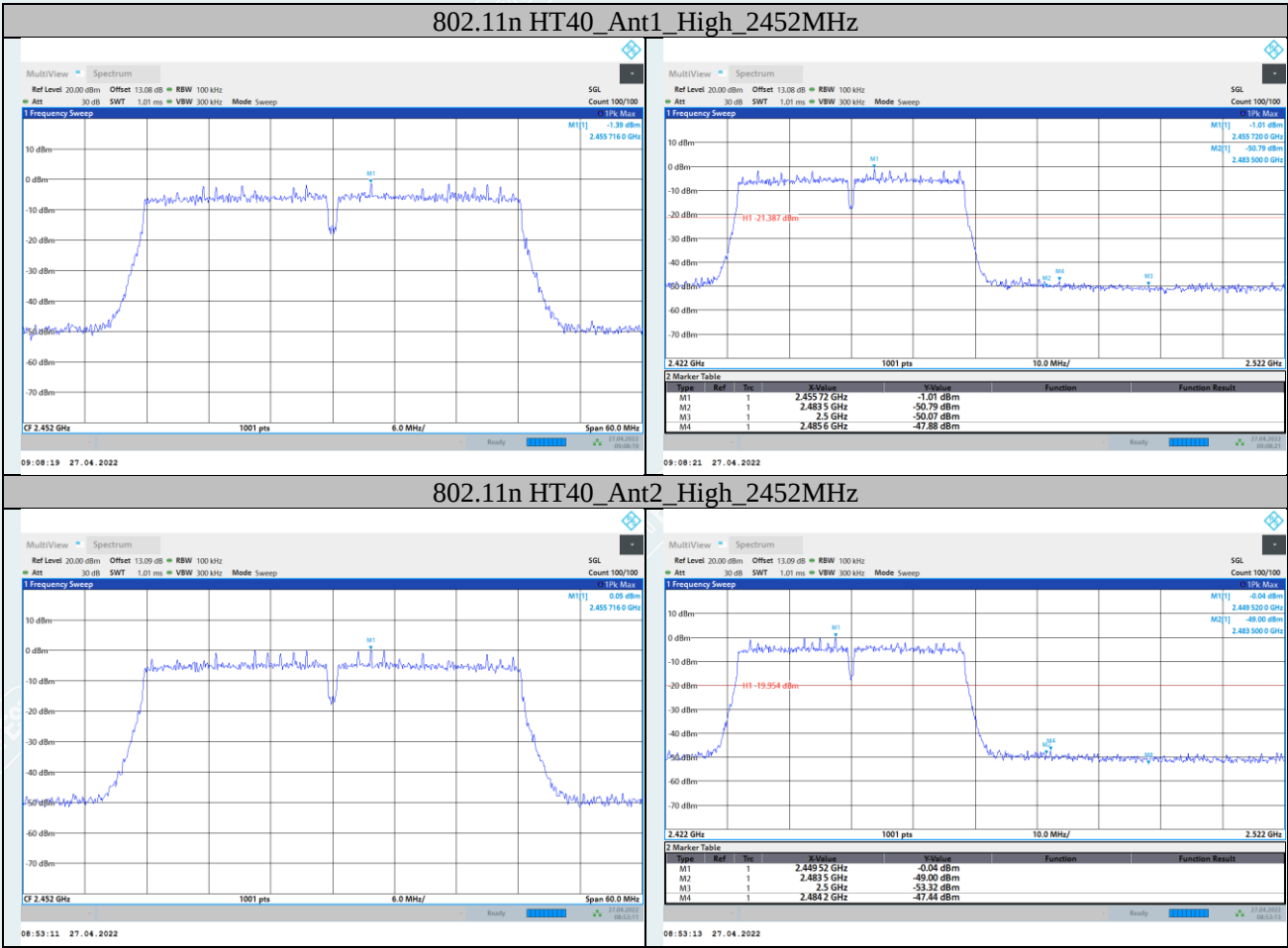
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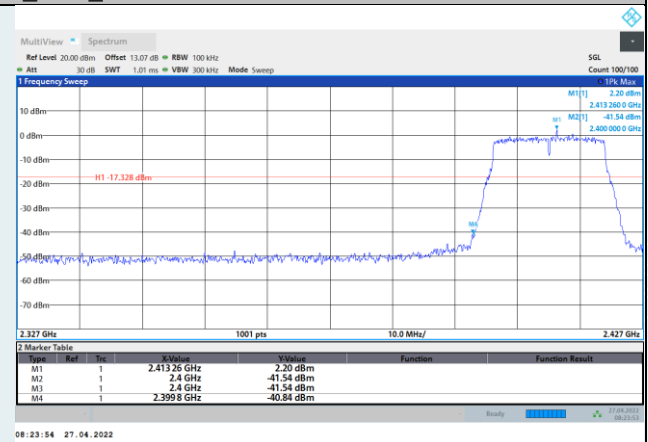
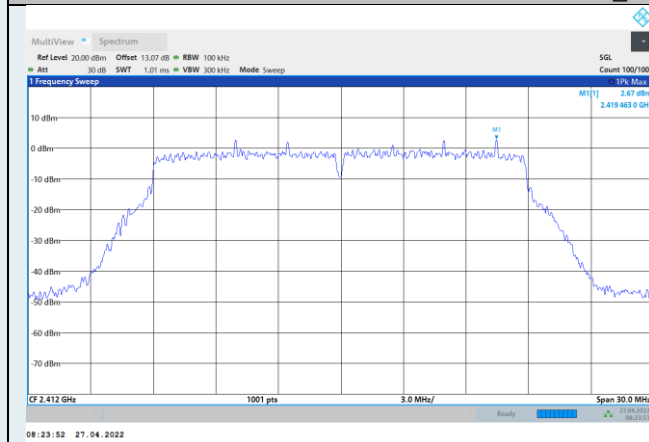
802.11n HT20_Ant2_High_2462MHz



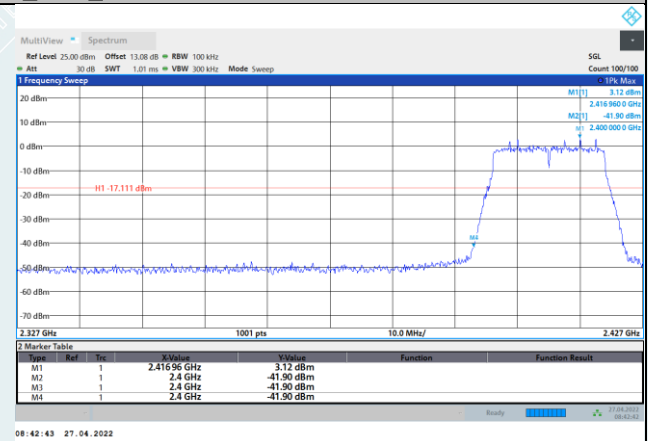
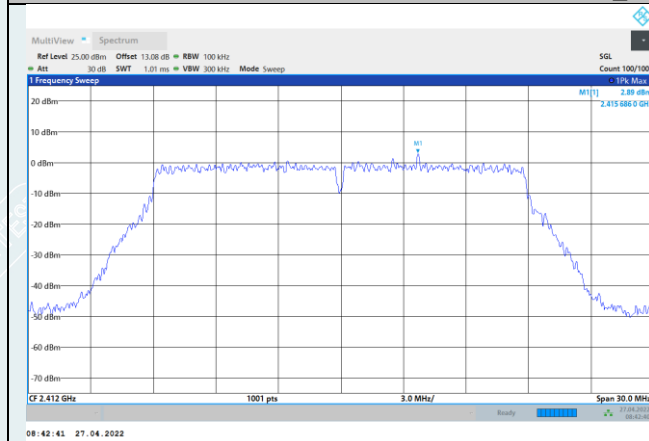




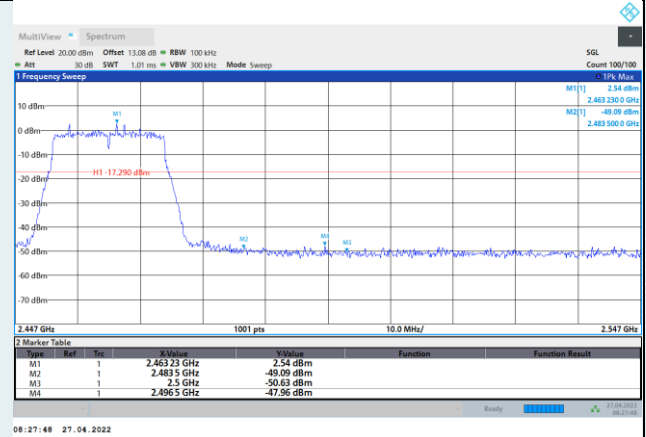
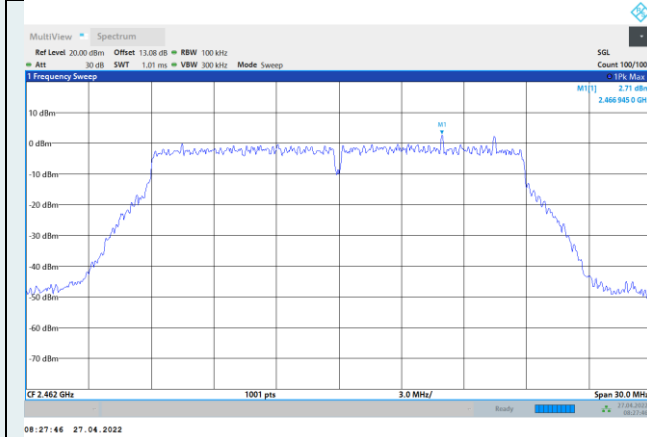
802.11ax HE20_Ant1_Low_2412MHz



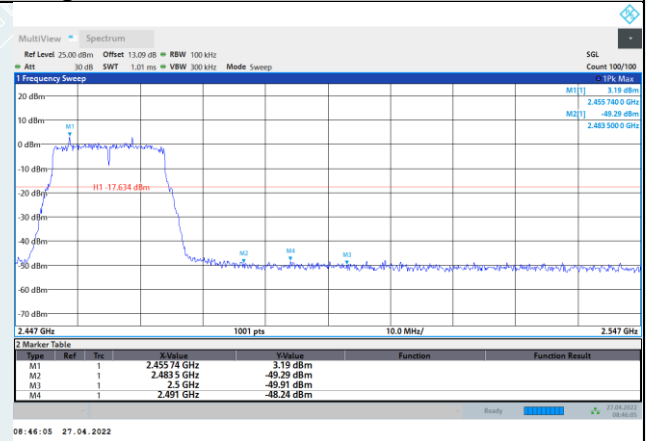
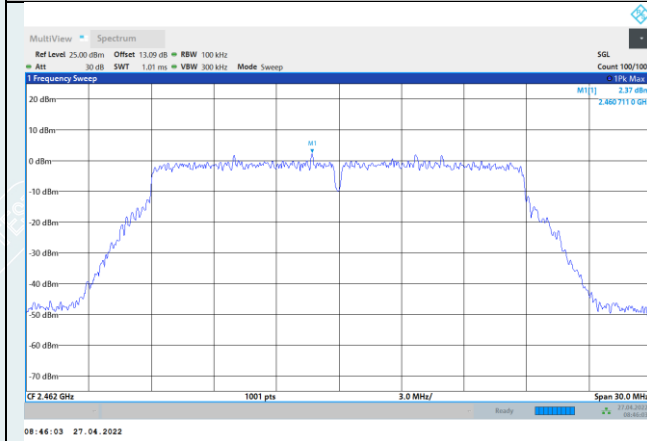
802.11ax HE20_Ant2_Low_2412MHz



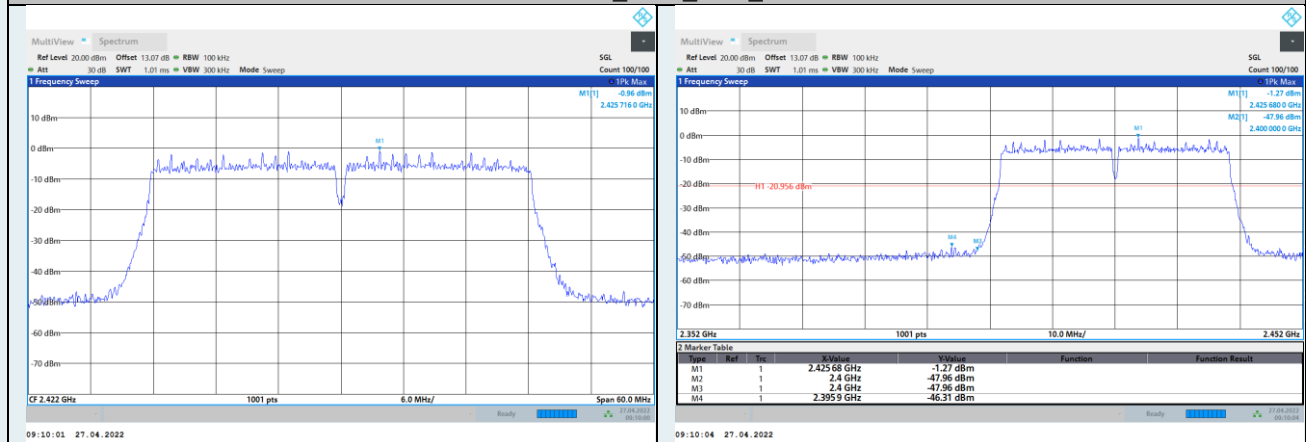
802.11ax HE20_Ant1_High_2462MHz



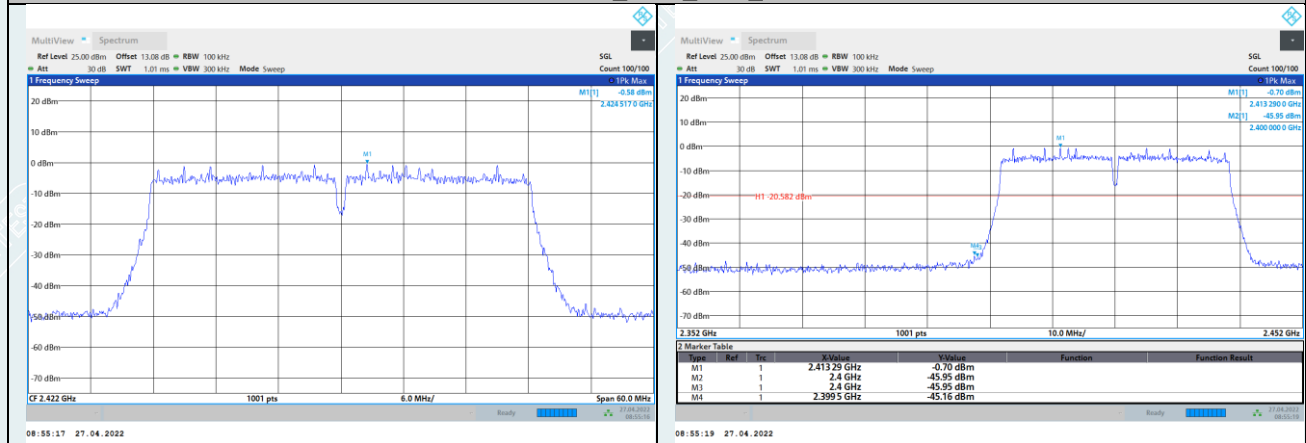
802.11ax HE20_Ant2_High_2462MHz



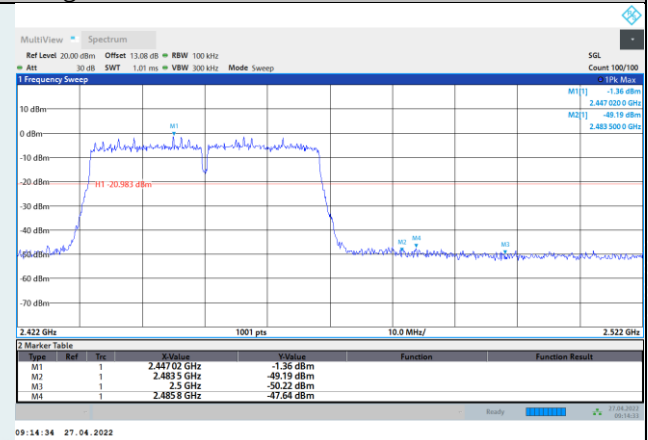
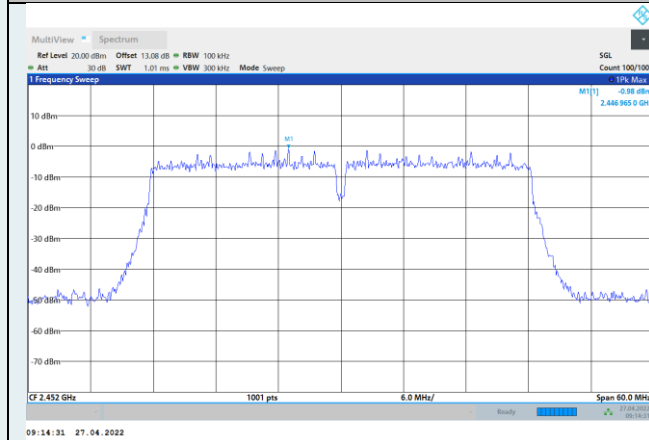
802.11ax HE40_Ant1_Low_2422MHz



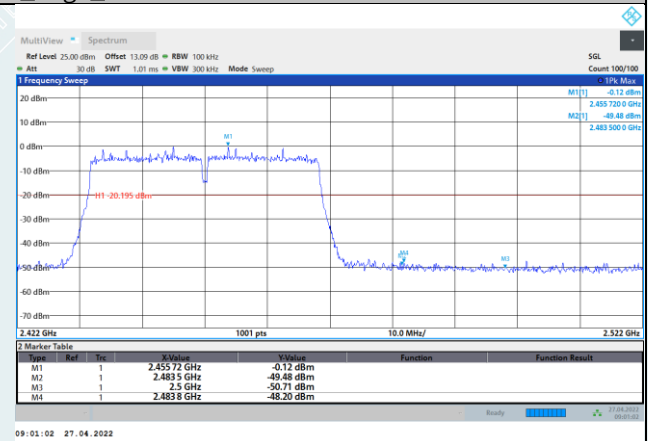
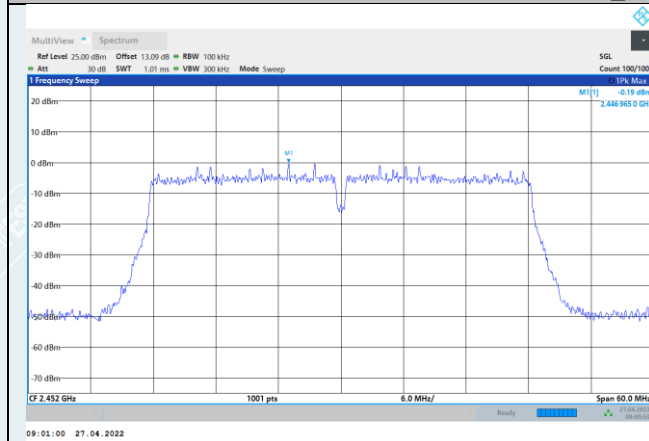
802.11ax HE40_Ant2_Low_2422MHz



802.11ax HE40_Ant1_High_2452MHz



802.11ax HE40_Ant2_High_2452MHz



Conducted Spurious Emission:

Test Result

Environment: 25°C/60%RH

Tested By: Liu lingfeng

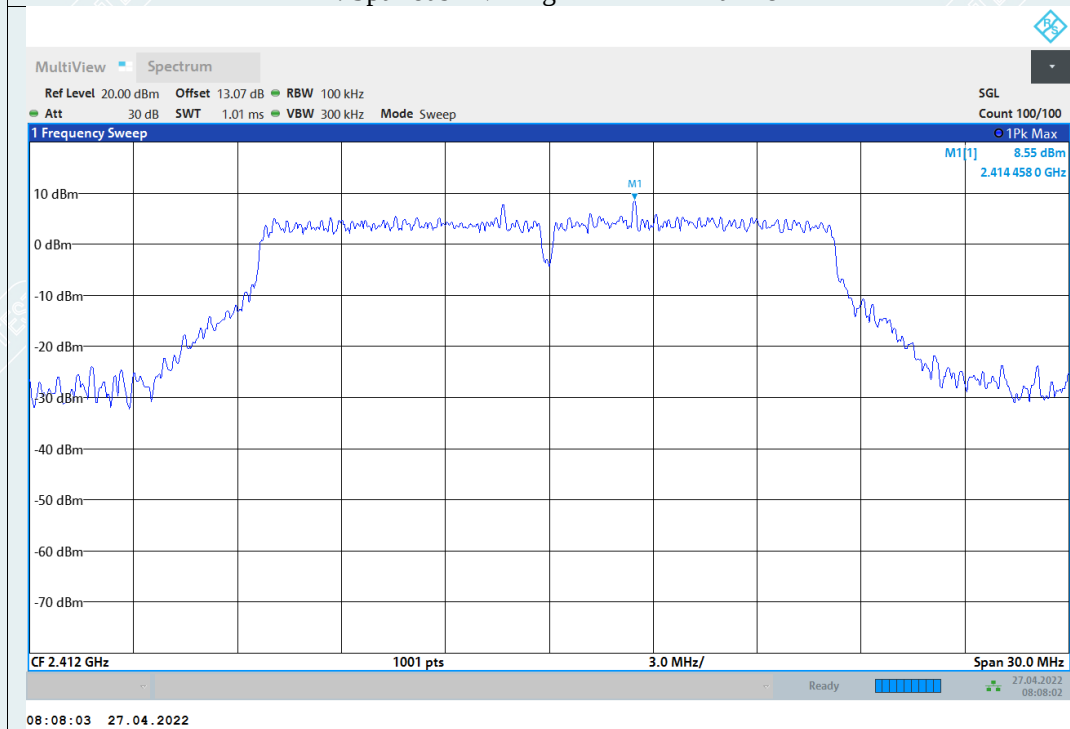
Voltage: AC120V/60Hz

Date: 2022-4-19~4-27

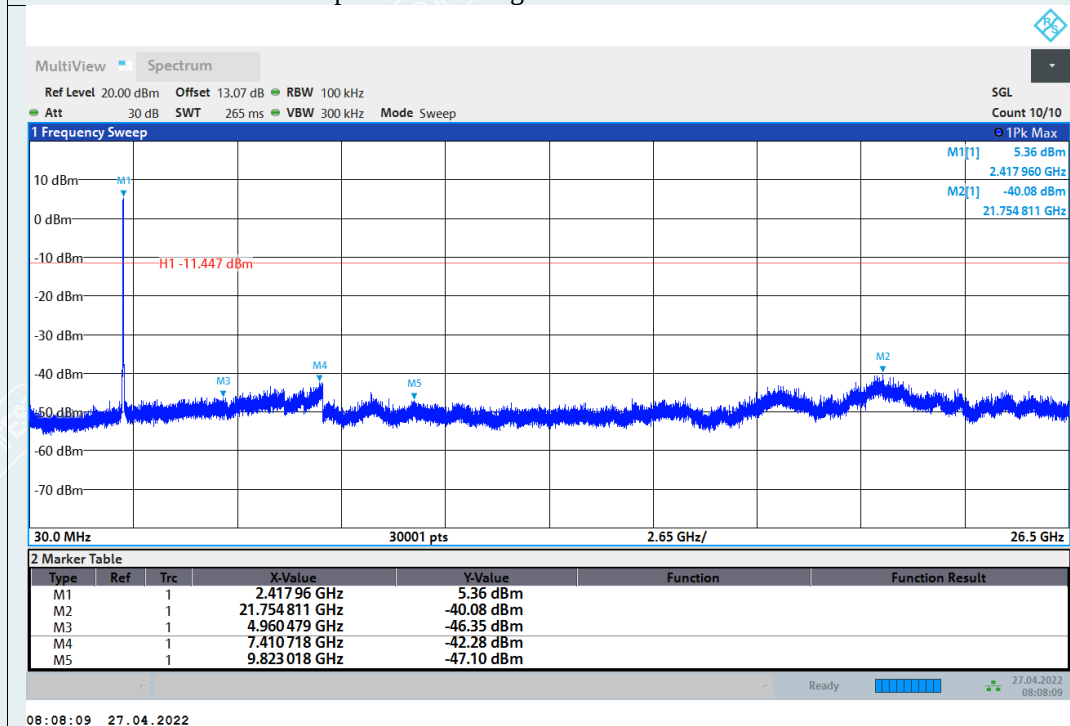
Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
11b	2412	Ant1	-48.63	-20	Pass
11b	2437	Ant1	-48.8	-20	Pass
11b	2462	Ant1	-49.36	-20	Pass
11b	2412	Ant2	-44.11	-20	Pass
11b	2437	Ant2	-44.8	-20	Pass
11b	2462	Ant2	-44.06	-20	Pass
11g	2412	Ant1	-44.94	-20	Pass
11g	2437	Ant1	-45	-20	Pass
11g	2462	Ant1	-44.72	-20	Pass
11g	2412	Ant2	-42.24	-20	Pass
11g	2437	Ant2	-44.94	-20	Pass
11g	2462	Ant2	-45.11	-20	Pass
11n20	2412	Ant1	-39.21	-20	Pass
11n20	2437	Ant1	-39.76	-20	Pass
11n20	2462	Ant1	-40.01	-20	Pass
11n20	2412	Ant2	-40.82	-20	Pass
11n20	2437	Ant2	-39.84	-20	Pass
11n20	2462	Ant2	-41.17	-20	Pass
11n40	2422	Ant1	-43.7	-20	Pass
11n40	2437	Ant1	-43.36	-20	Pass
11n40	2452	Ant1	-43.62	-20	Pass
11n40	2422	Ant2	-42.68	-20	Pass
11n40	2437	Ant2	-43.77	-20	Pass
11n40	2452	Ant2	-42.45	-20	Pass
11ax20	2412	Ant1	-40.05	-20	Pass
11ax20	2437	Ant1	-39.21	-20	Pass
11ax20	2462	Ant1	-39.61	-20	Pass
11ax20	2412	Ant2	-38.45	-20	Pass
11ax20	2437	Ant2	-39.18	-20	Pass
11ax20	2462	Ant2	-39.32	-20	Pass
11ax40	2422	Ant1	-48.63	-20	Pass
11ax40	2437	Ant1	-48.8	-20	Pass
11ax40	2452	Ant1	-49.36	-20	Pass
11ax40	2422	Ant2	-44.11	-20	Pass
11ax40	2437	Ant2	-44.8	-20	Pass
11ax40	2452	Ant2	-44.06	-20	Pass

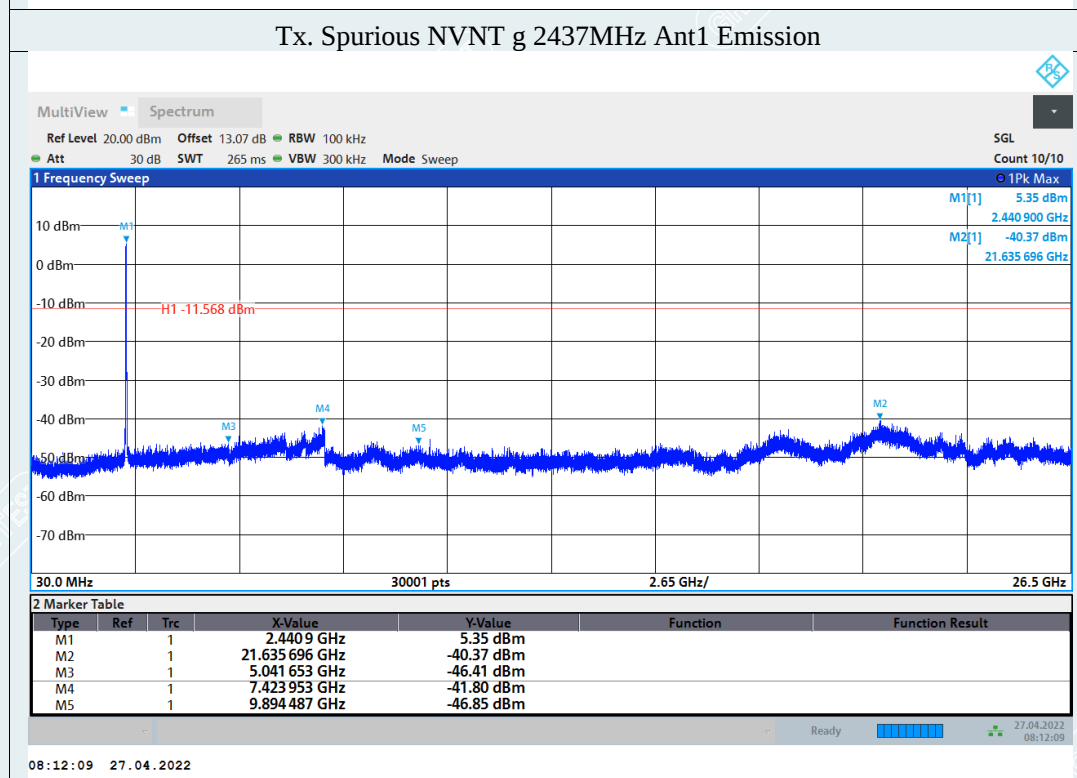
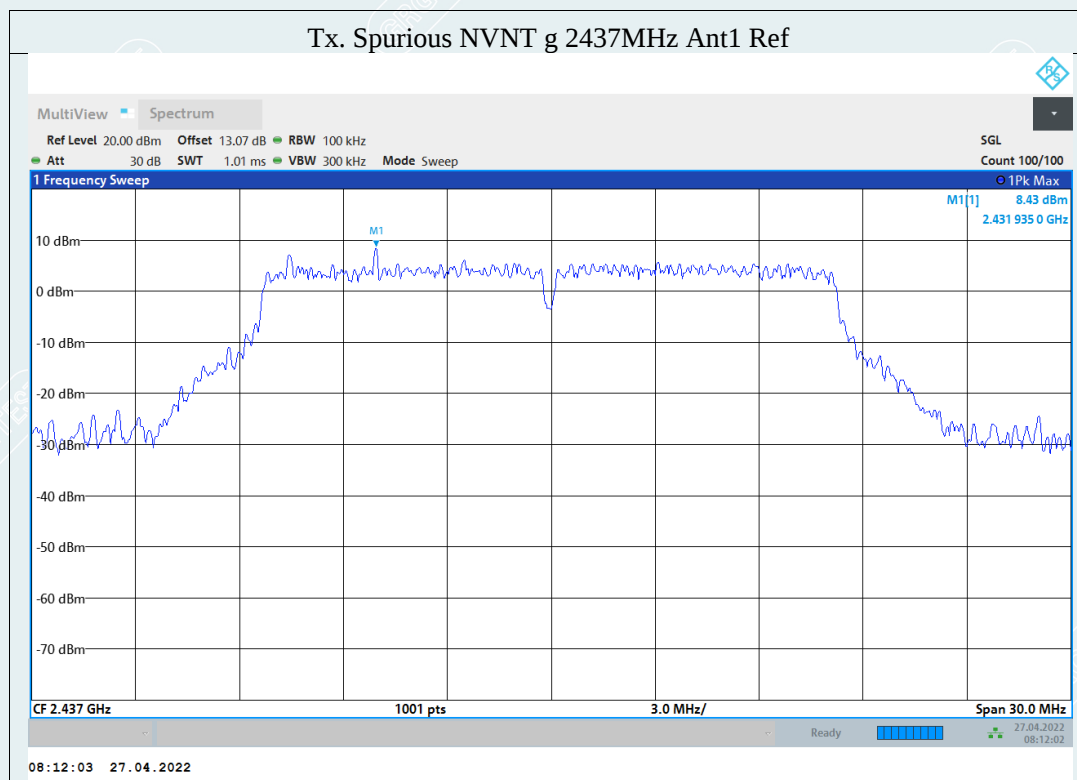
Test Graphs

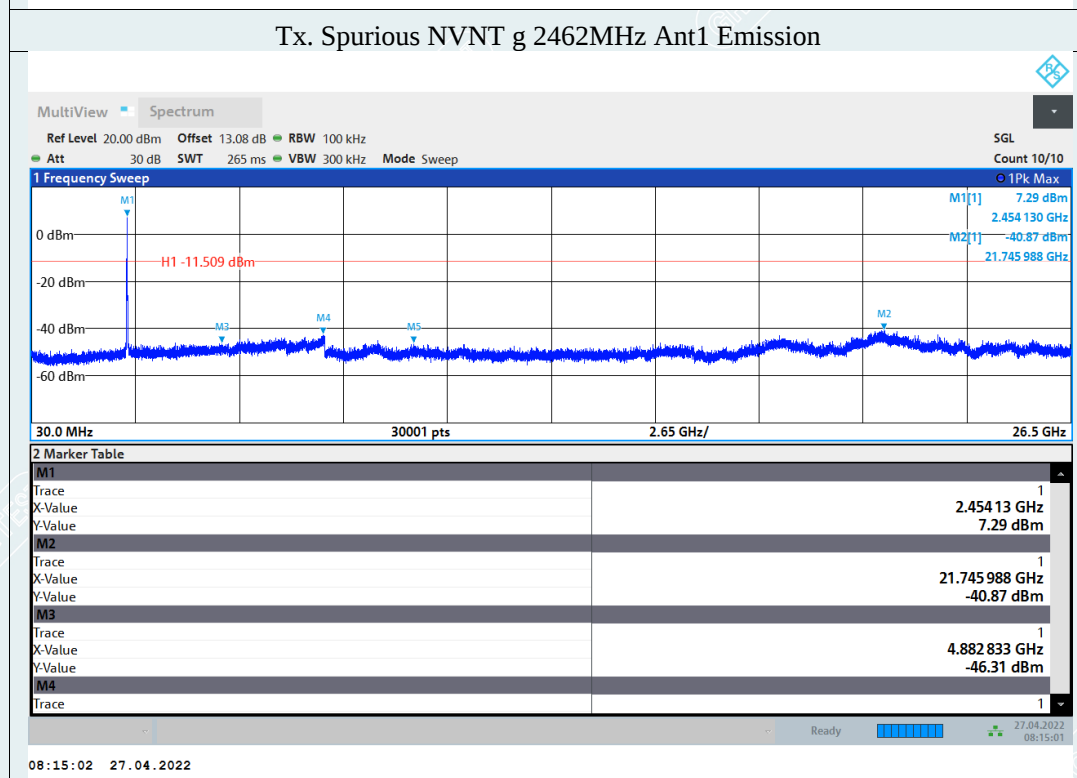
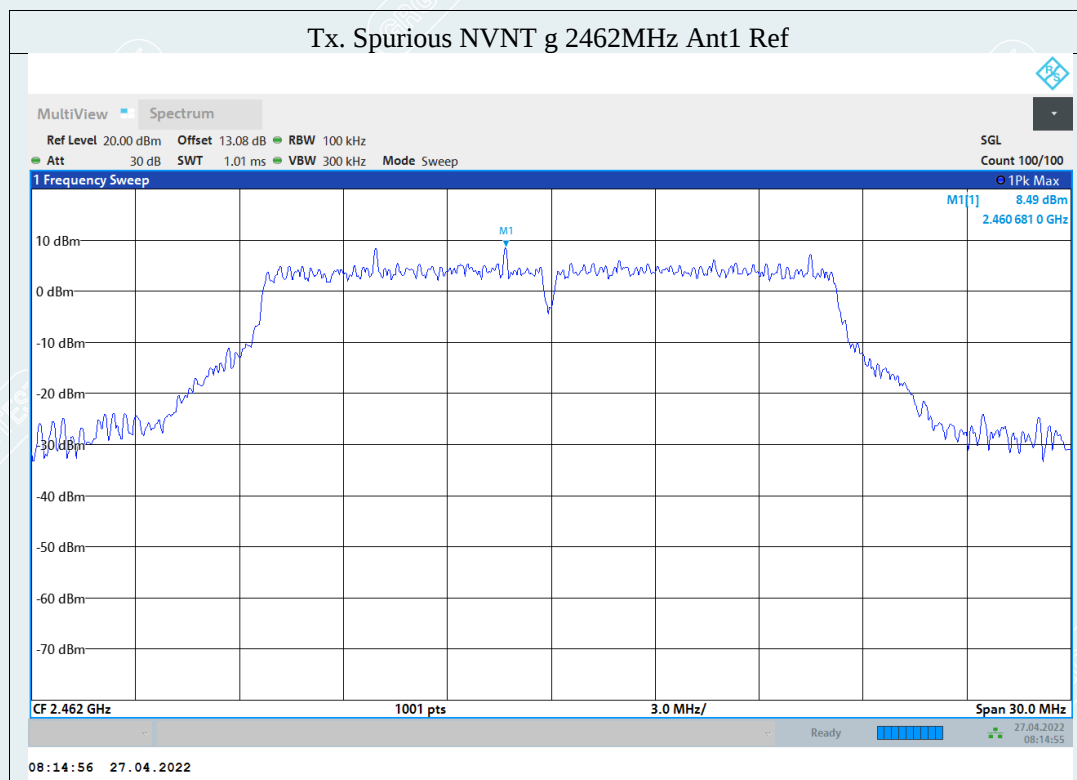
Tx. Spurious NVNT g 2412MHz Ant1 Ref

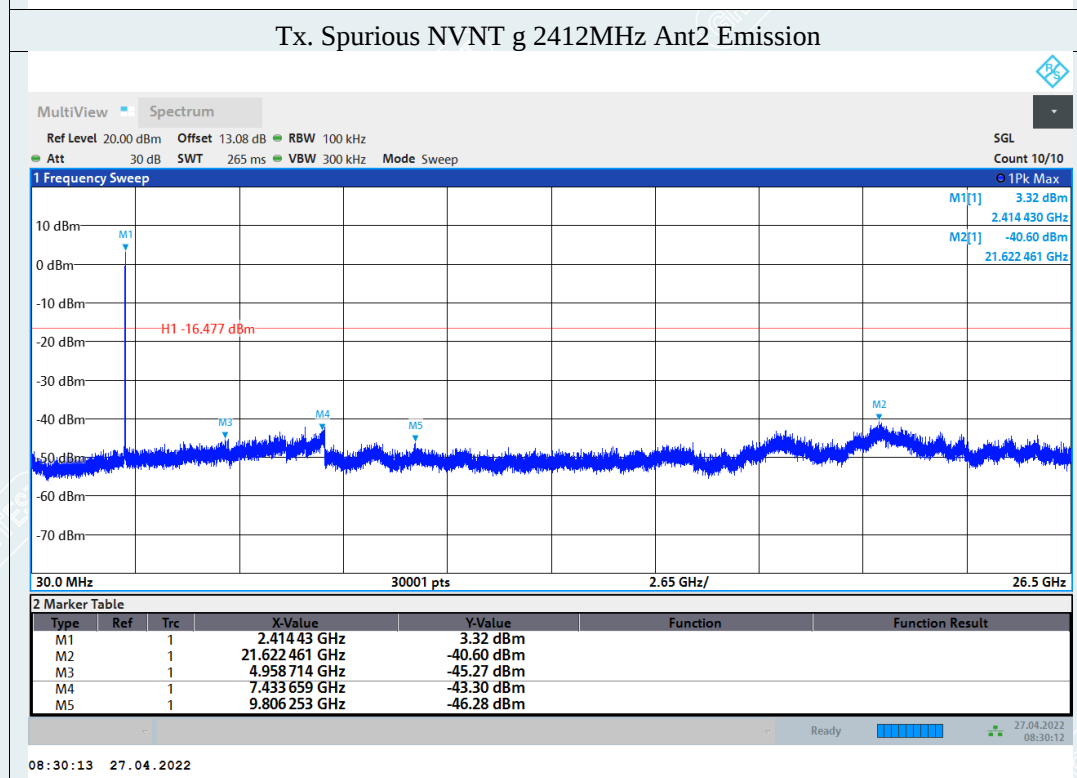
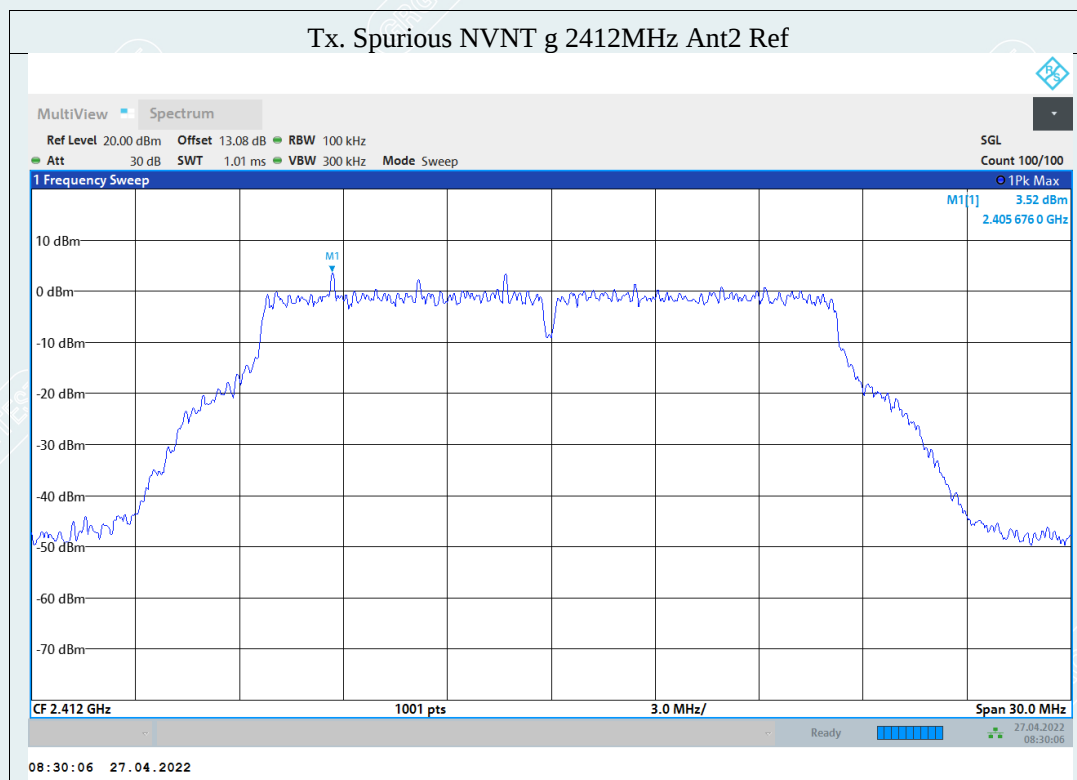


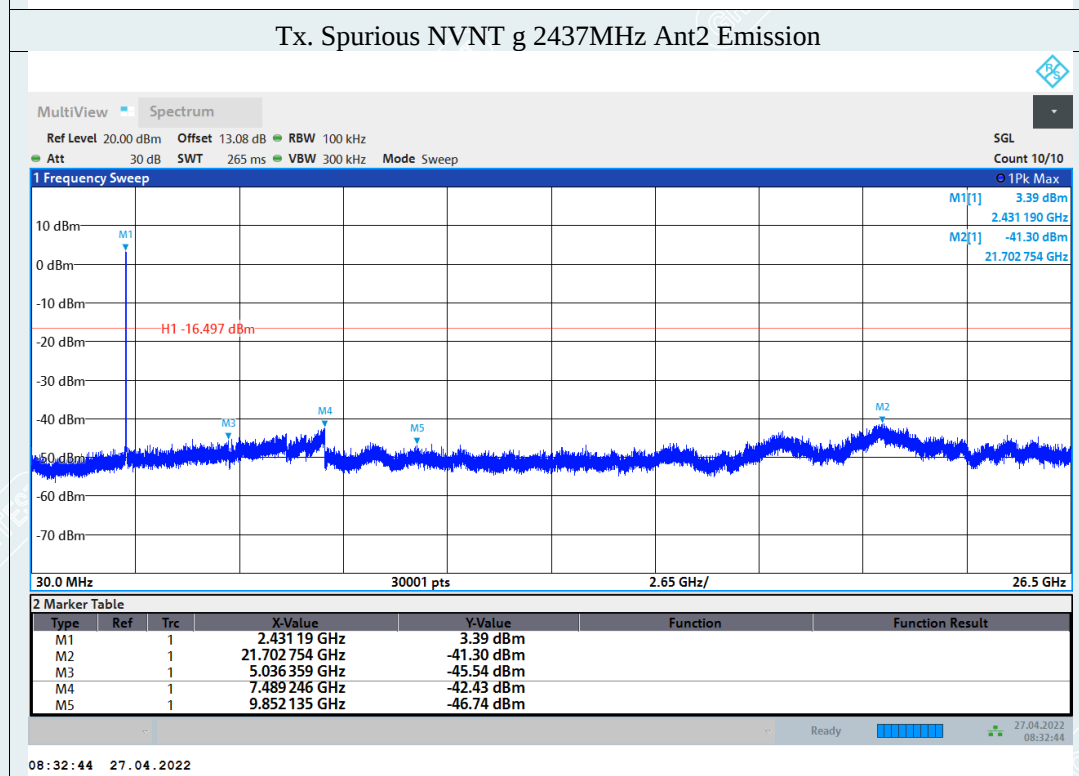
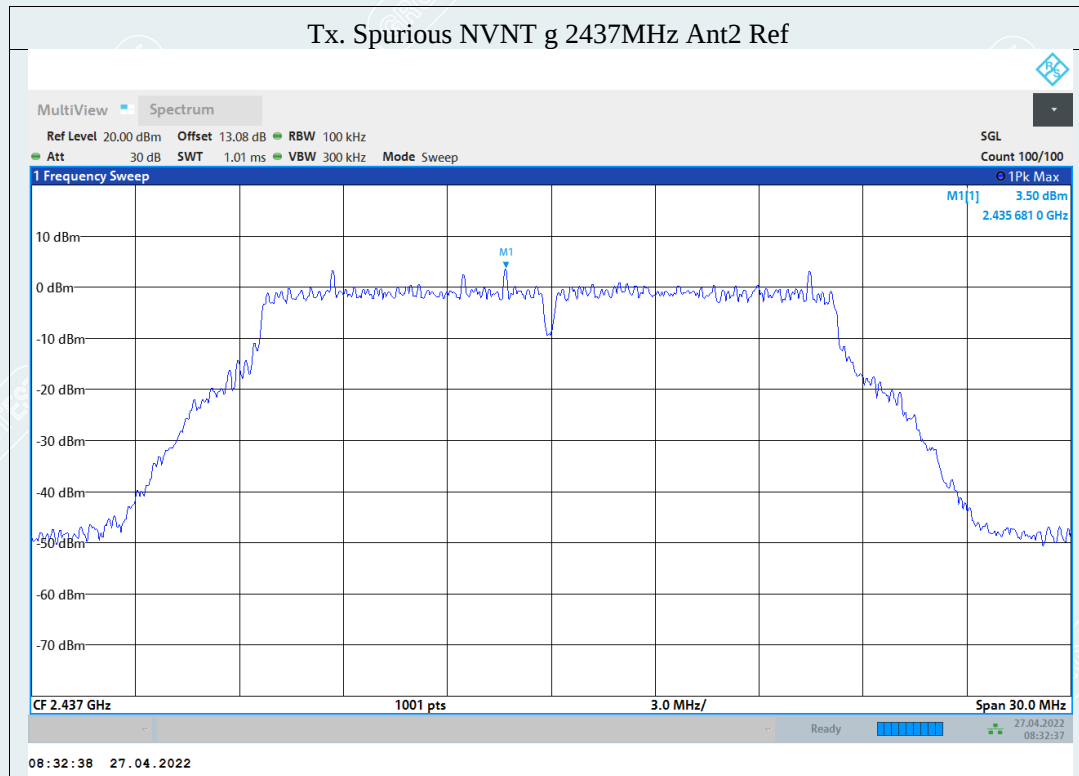
Tx. Spurious NVNT g 2412MHz Ant1 Emission

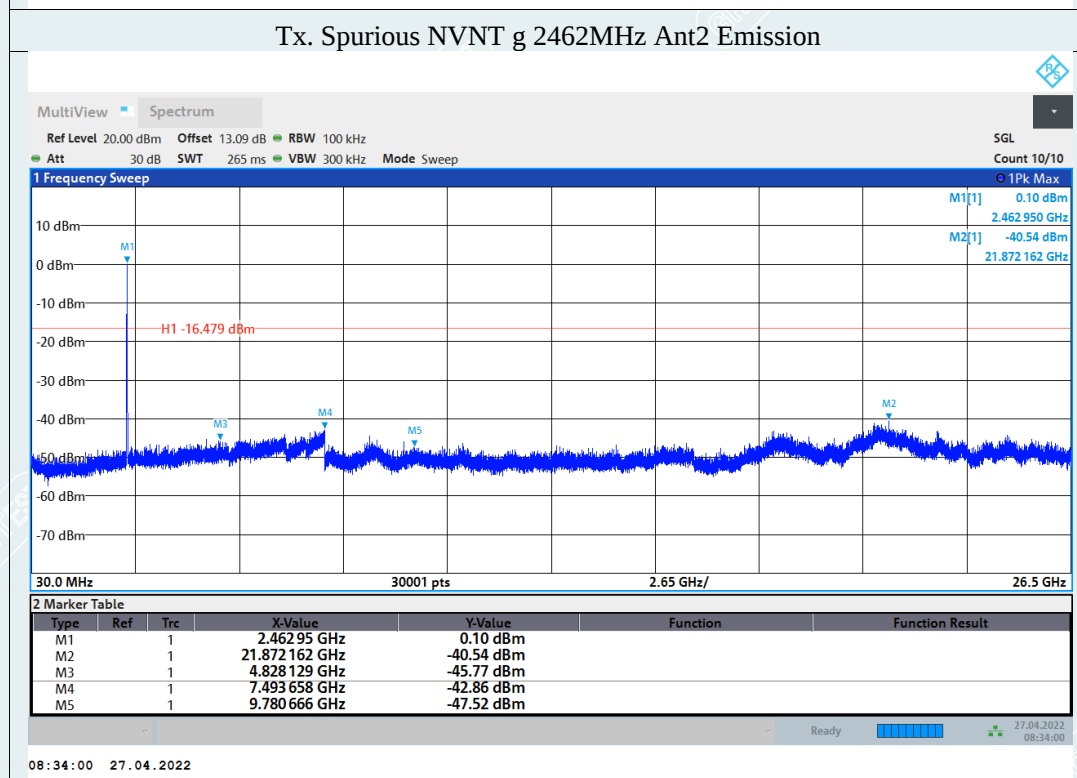
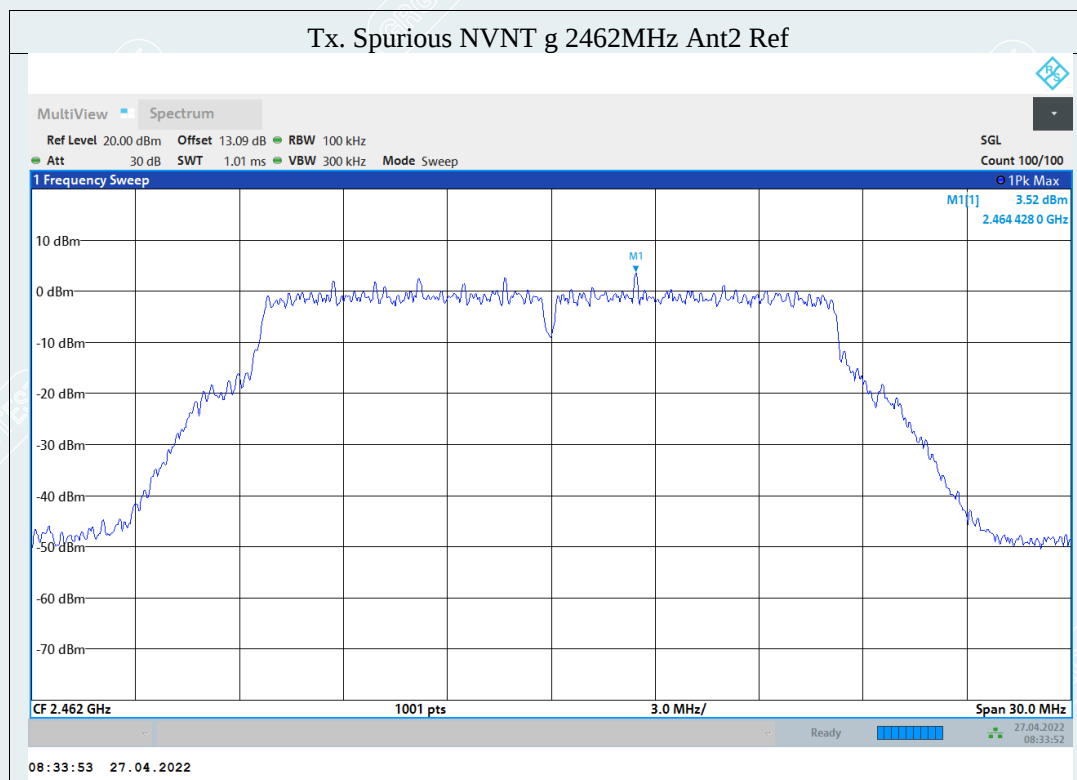


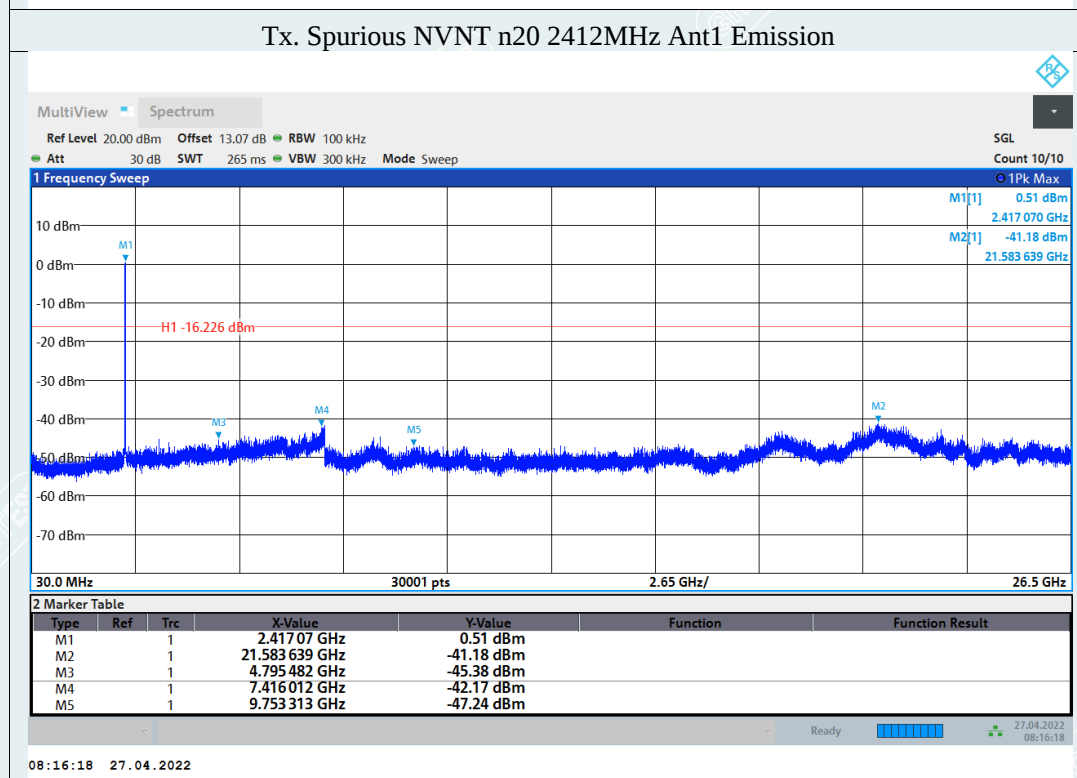
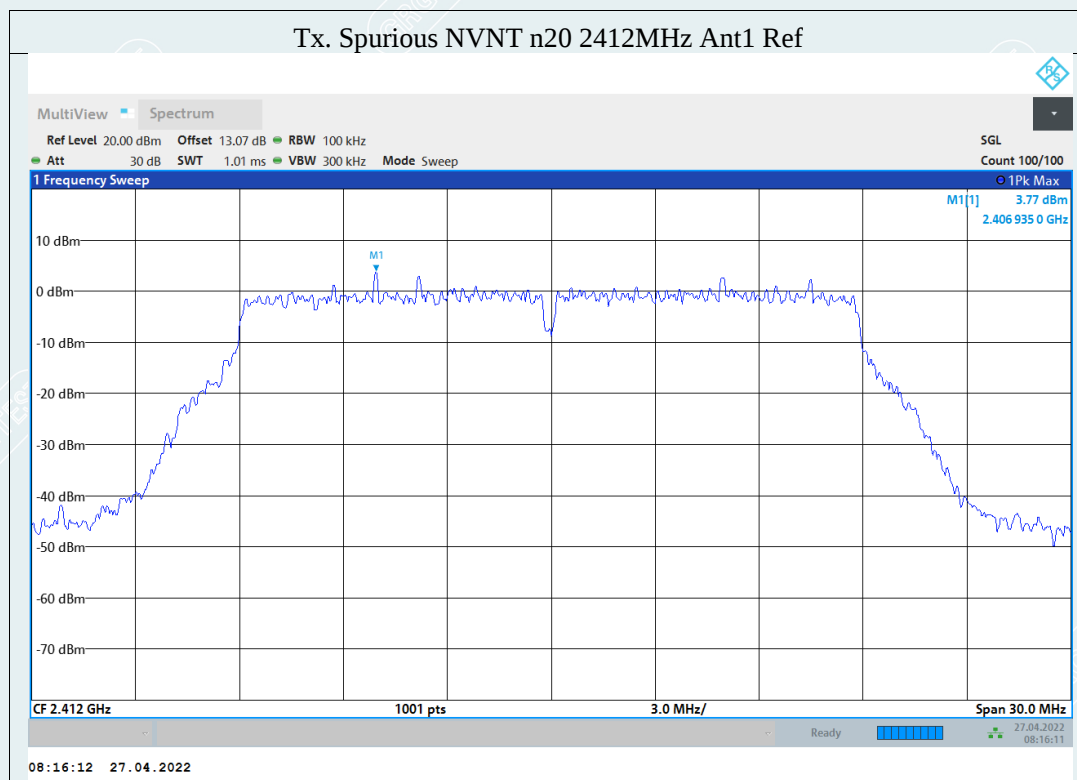




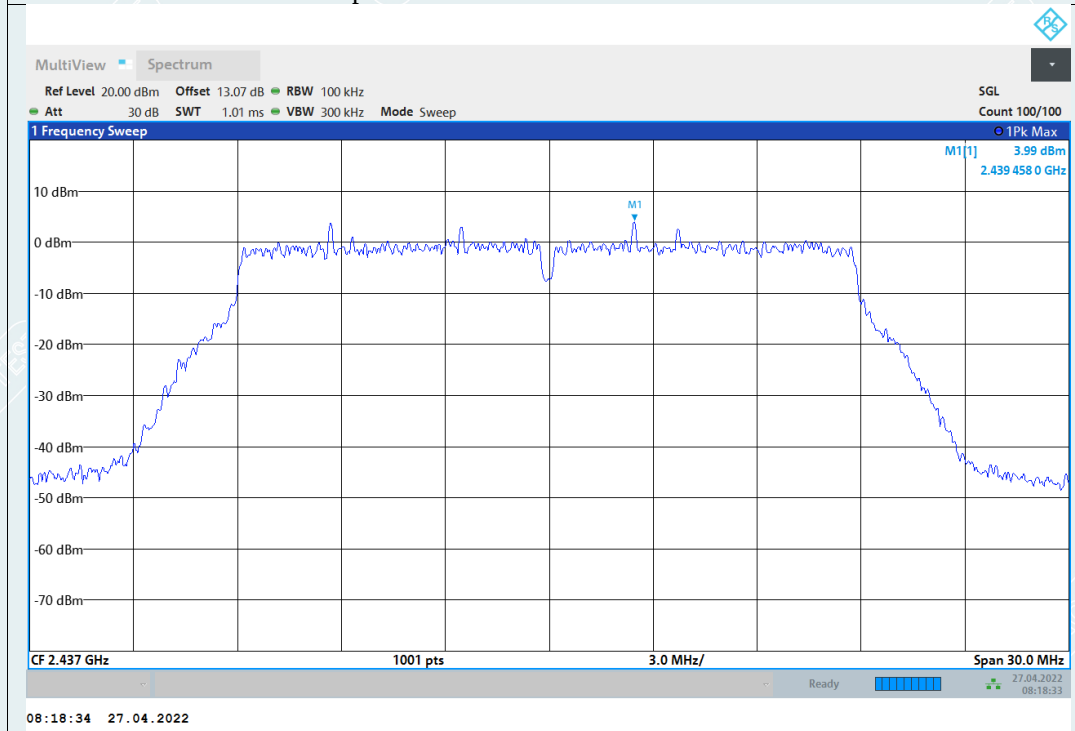




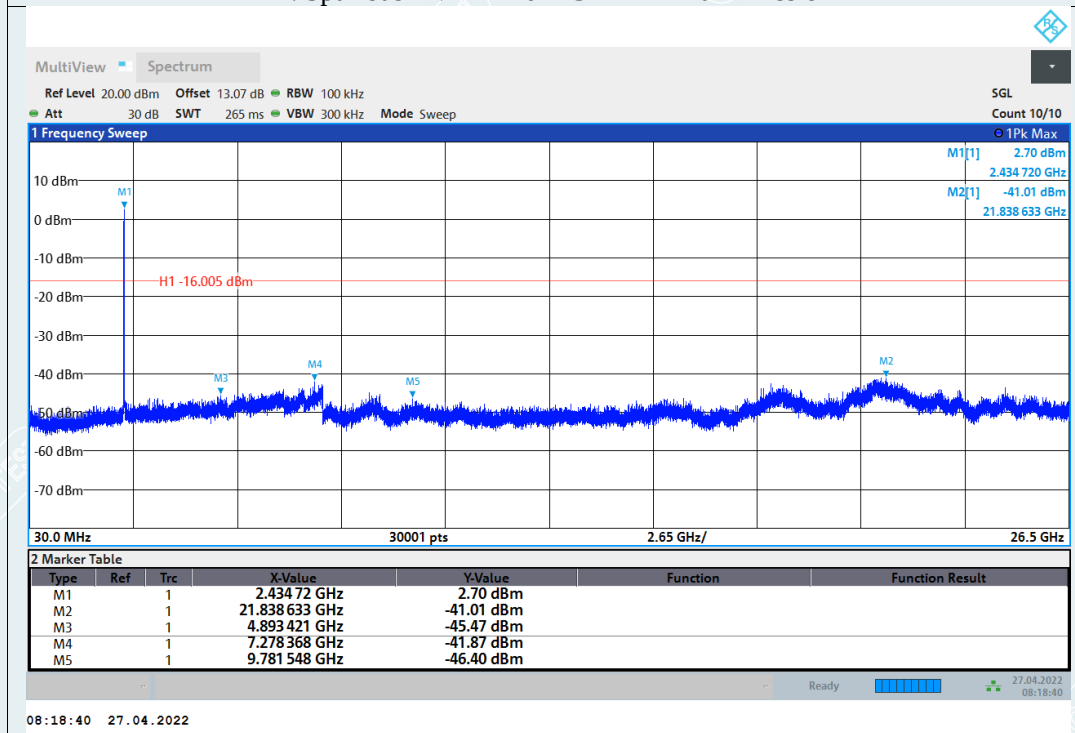


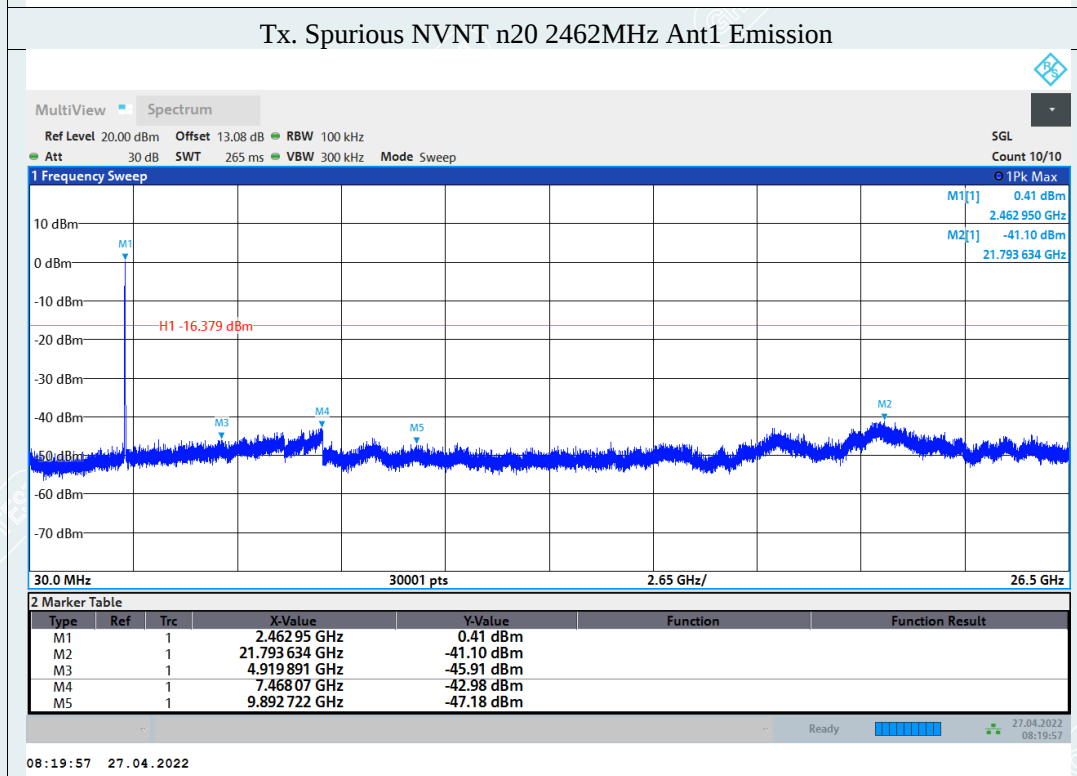
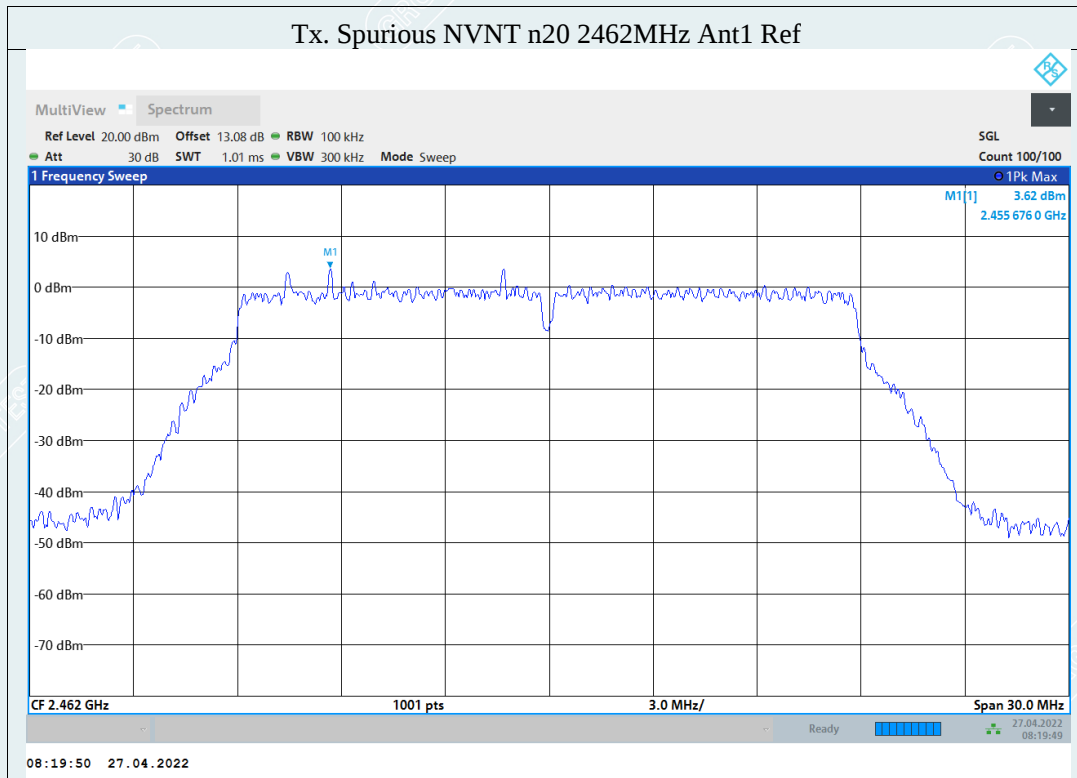


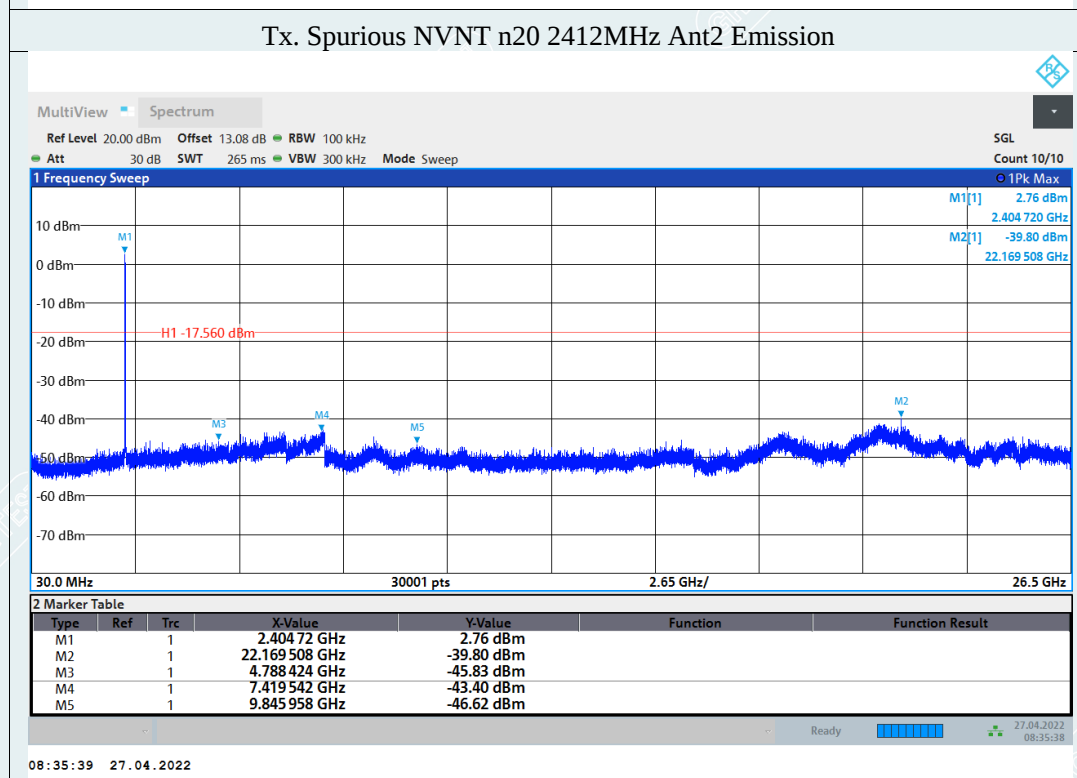
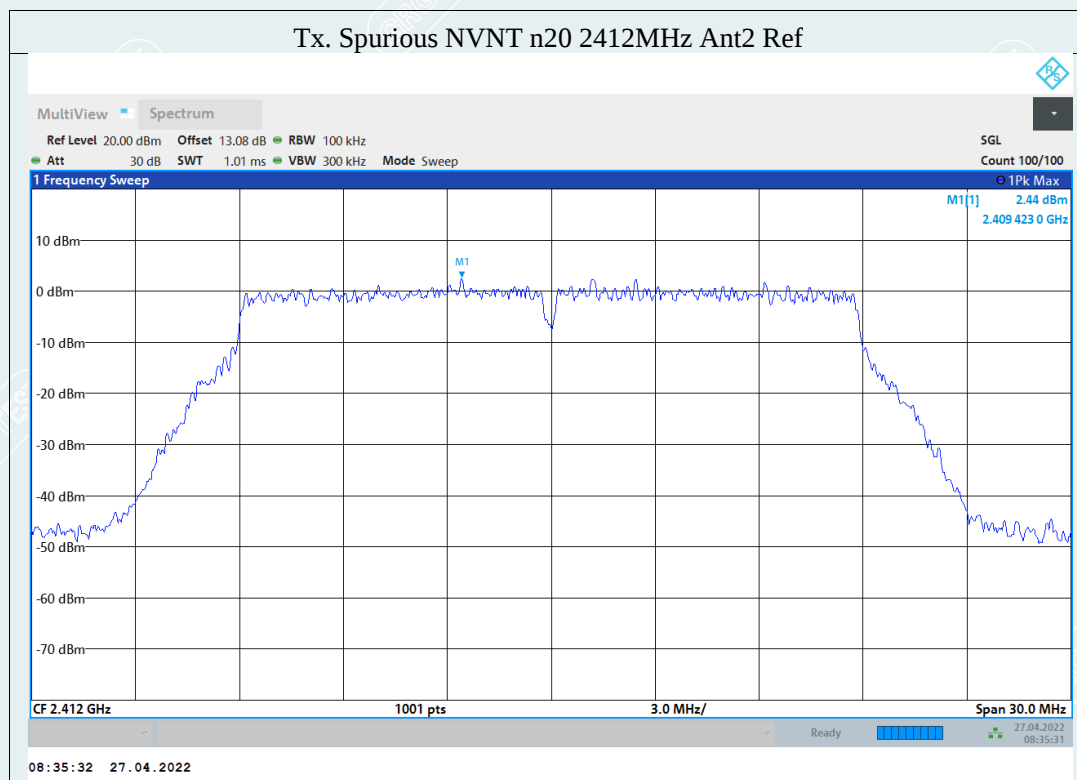
Tx. Spurious NVNT n20 2437MHz Ant1 Ref

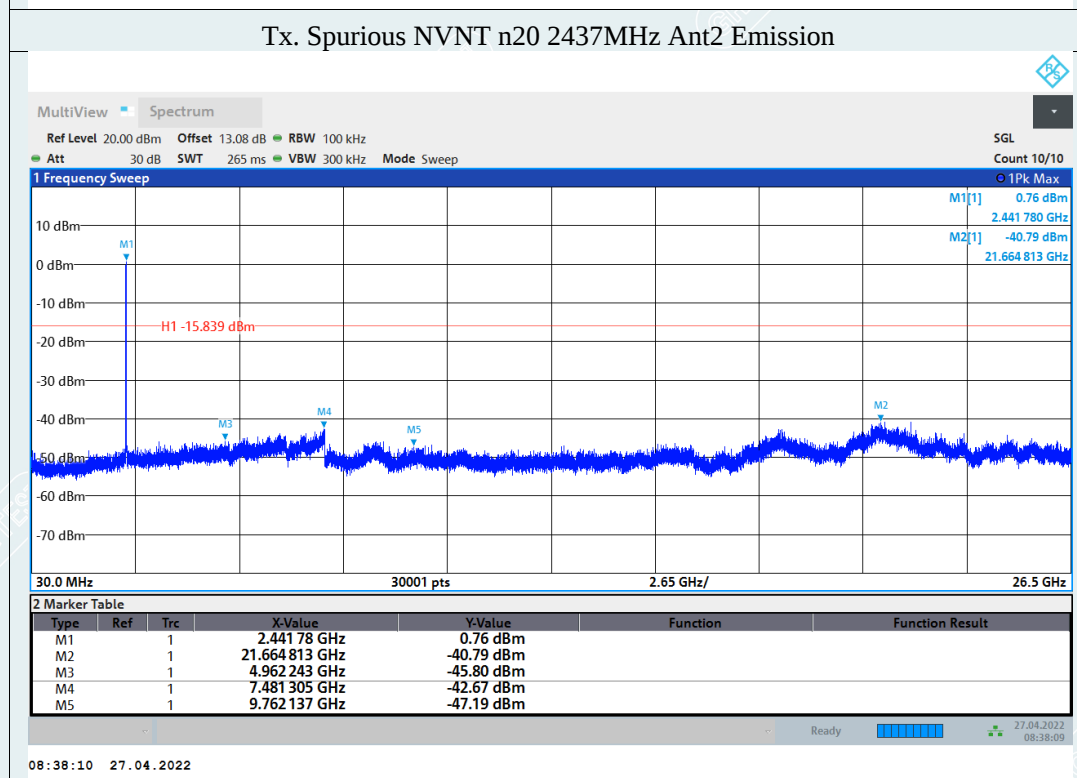
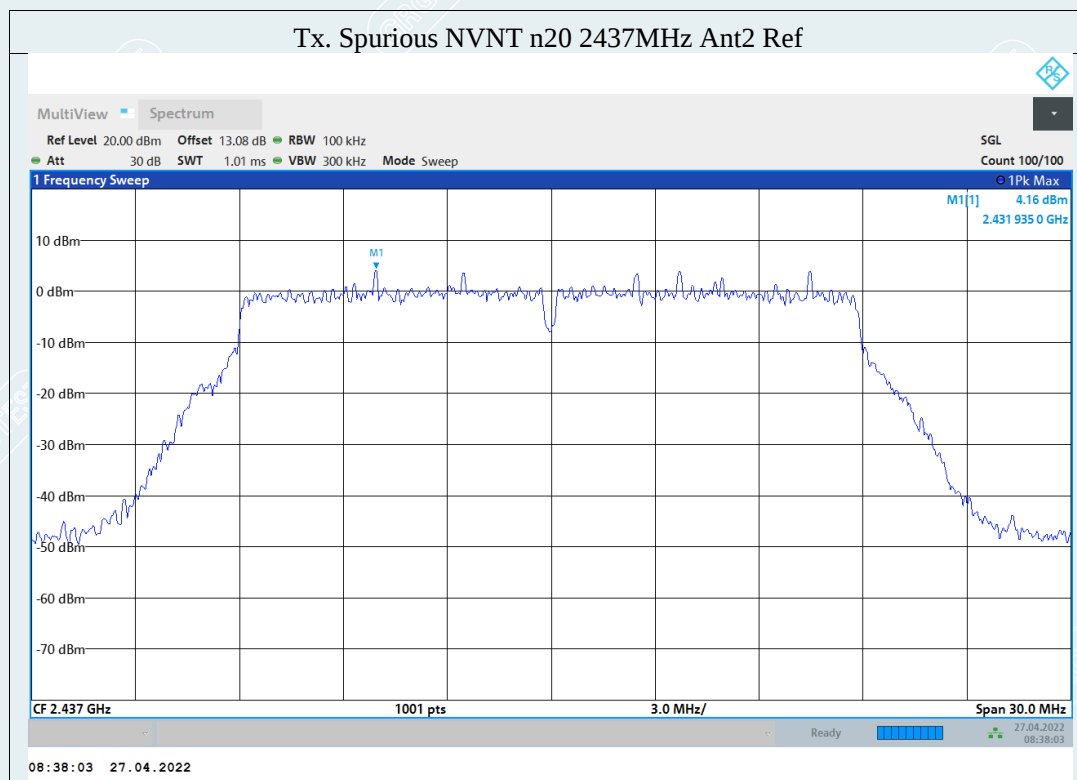


Tx. Spurious NVNT n20 2437MHz Ant1 Emission

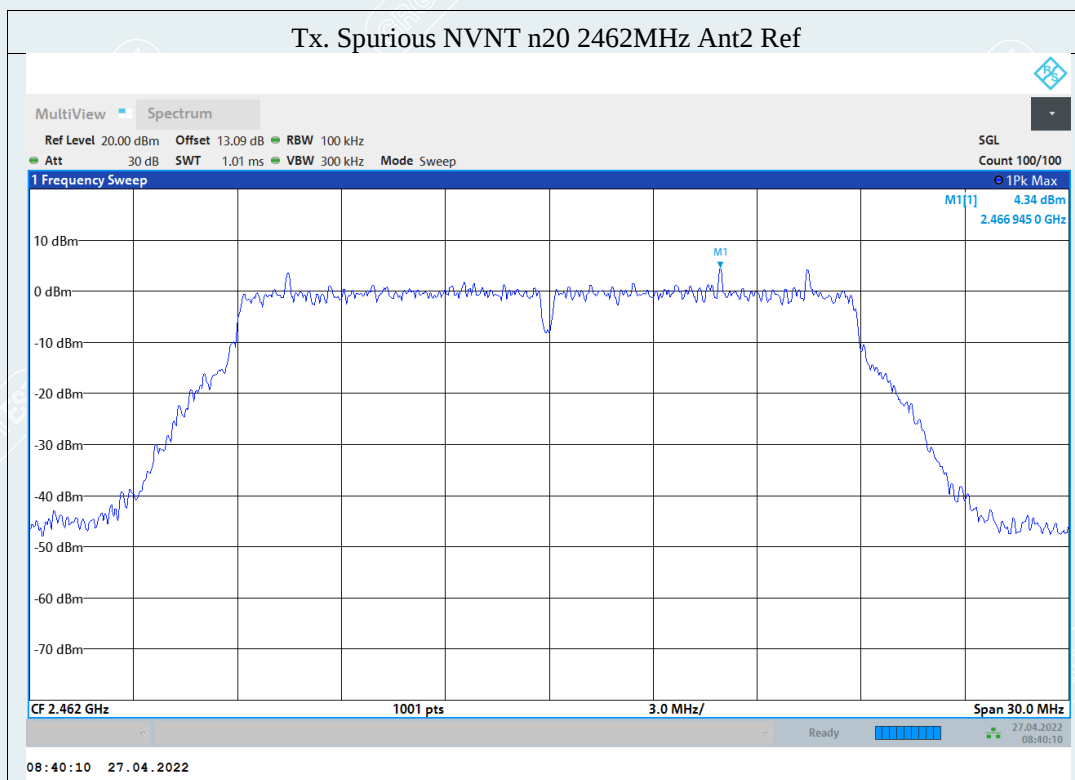








Tx. Spurious NVNT n20 2462MHz Ant2 Ref



Tx. Spurious NVNT n20 2462MHz Ant2 Emission

