

RF Test Data for 2.4G Wi-Fi (Conducted Measurements)

General Description of EUT	
Product Name:	AC2000 Dual Band WiFi GPON Terminal Dual Band WiFi GPON Terminal
Test Model:	NP2035G
Sample ID:	HC-C-202305-0139-01-02
Environmental Conditions	
Temperature:	23.5℃
Relative Humidity:	48%
Test Voltage:	DC 12V
Test Engineer:	Haiting Zhou
Note: For a more detailed features description, please refer to the report TBR-C-202305-0139-3.	

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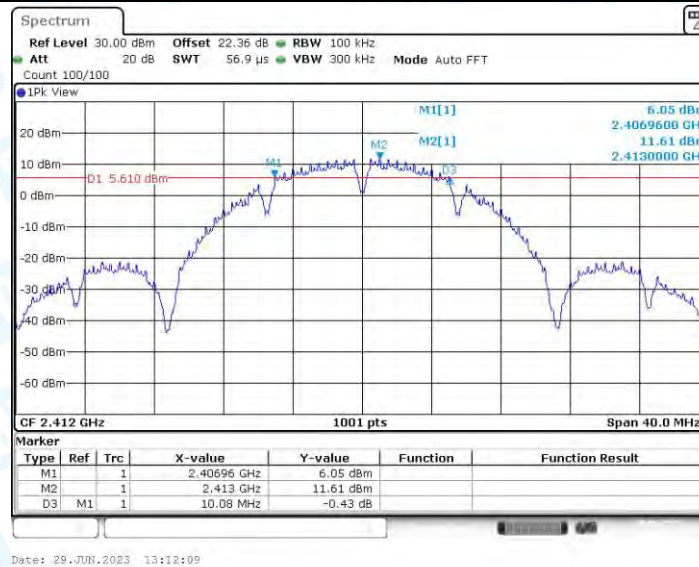
1. DTS Bandwidth

1.1. Test Result

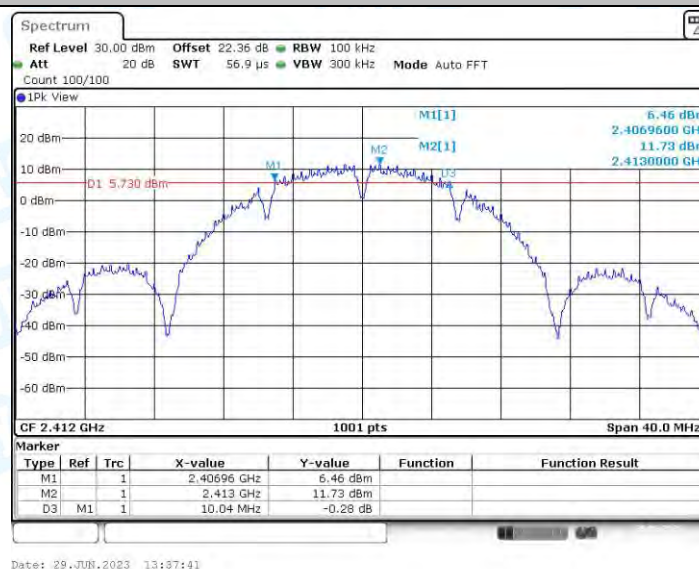
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B-SISO	Ant1	2412	10.08	2406.96	2417.04	0.5	PASS
	Ant2	2412	10.04	2406.96	2417.00	0.5	PASS
	Ant1	2437	9.56	2432.00	2441.56	0.5	PASS
	Ant2	2437	10.04	2431.96	2442.00	0.5	PASS
	Ant1	2462	10.08	2456.96	2467.04	0.5	PASS
	Ant2	2462	10.04	2456.96	2467.00	0.5	PASS
11G-SISO	Ant1	2412	15.08	2404.48	2419.56	0.5	PASS
	Ant2	2412	15.12	2404.44	2419.56	0.5	PASS
	Ant1	2437	15.76	2429.12	2444.88	0.5	PASS
	Ant2	2437	15.08	2429.44	2444.52	0.5	PASS
	Ant1	2462	16.32	2453.84	2470.16	0.5	PASS
	Ant2	2462	16.32	2453.84	2470.16	0.5	PASS
11B-CDD	Ant1	2412	10.04	2406.96	2417.00	0.5	PASS
	Ant2	2412	10.04	2406.96	2417.00	0.5	PASS
	Ant1	2437	10.04	2431.96	2442.00	0.5	PASS
	Ant2	2437	10.04	2431.96	2442.00	0.5	PASS
	Ant1	2462	9.52	2457.24	2466.76	0.5	PASS
	Ant2	2462	10.04	2456.96	2467.00	0.5	PASS
11G-CDD	Ant1	2412	16.32	2403.84	2420.16	0.5	PASS
	Ant2	2412	15.12	2404.44	2419.56	0.5	PASS
	Ant1	2437	15.12	2429.44	2444.56	0.5	PASS
	Ant2	2437	16.32	2428.84	2445.16	0.5	PASS
	Ant1	2462	15.12	2454.44	2469.56	0.5	PASS
	Ant2	2462	15.12	2454.44	2469.56	0.5	PASS
11N20-CDD	Ant1	2412	15.48	2404.08	2419.56	0.5	PASS
	Ant2	2412	16.92	2403.24	2420.16	0.5	PASS
	Ant1	2437	12.64	2430.68	2443.32	0.5	PASS
	Ant2	2437	15.12	2429.44	2444.56	0.5	PASS
	Ant1	2462	15.08	2454.44	2469.52	0.5	PASS
	Ant2	2462	16.16	2453.60	2469.76	0.5	PASS
11N40-CDD	Ant1	2422	27.52	2406.96	2434.48	0.5	PASS
	Ant2	2422	35.68	2403.84	2439.52	0.5	PASS
	Ant1	2437	35.12	2419.40	2454.52	0.5	PASS
	Ant2	2437	35.04	2419.48	2454.52	0.5	PASS
	Ant1	2452	26.96	2442.56	2469.52	0.5	PASS
	Ant2	2452	30.00	2434.48	2464.48	0.5	PASS

1.2. Test Graphs

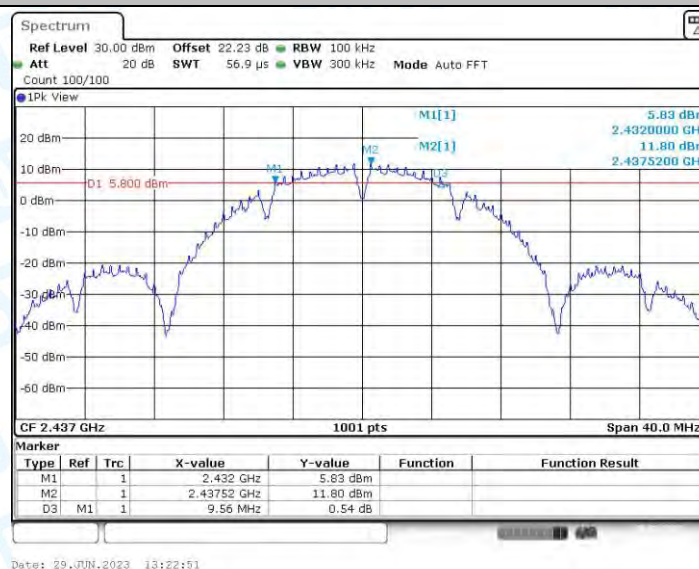
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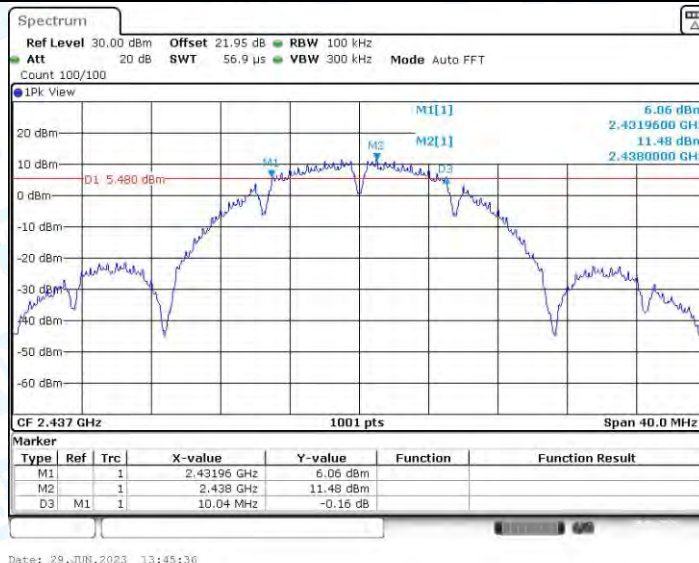
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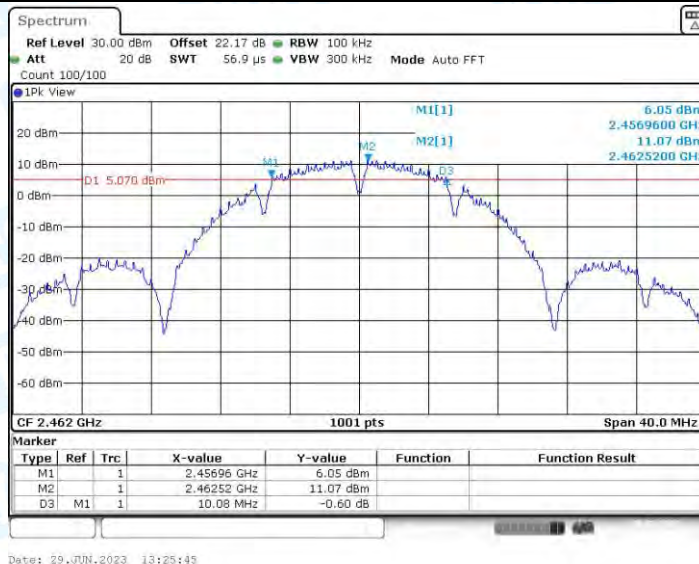
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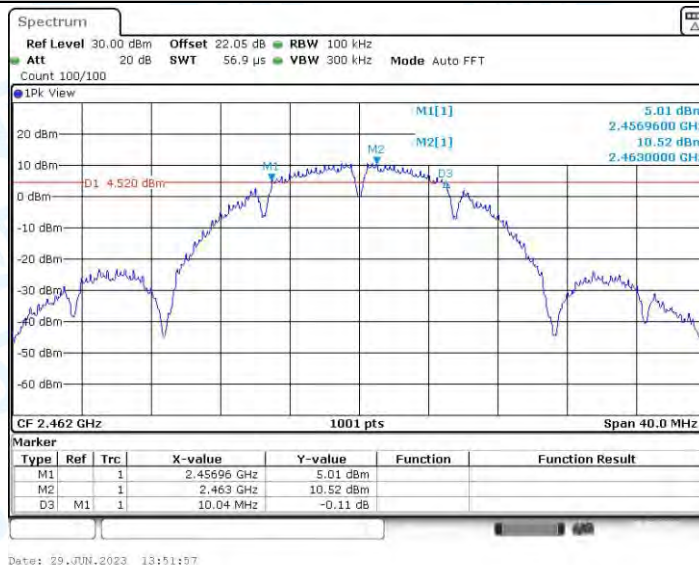
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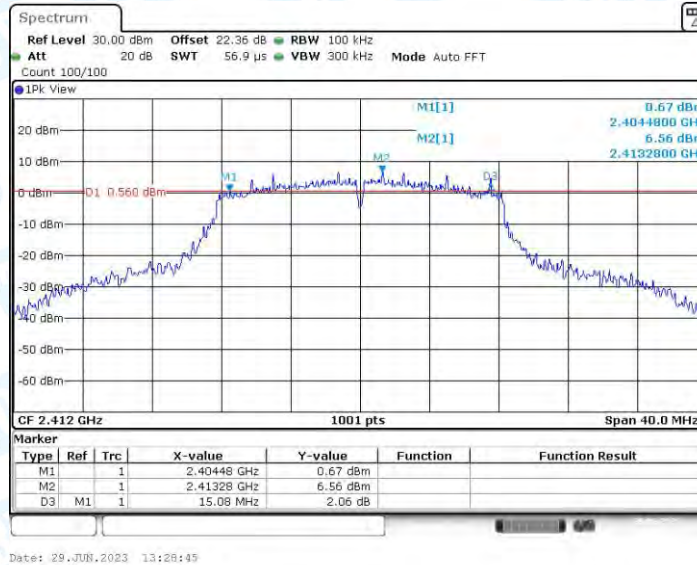
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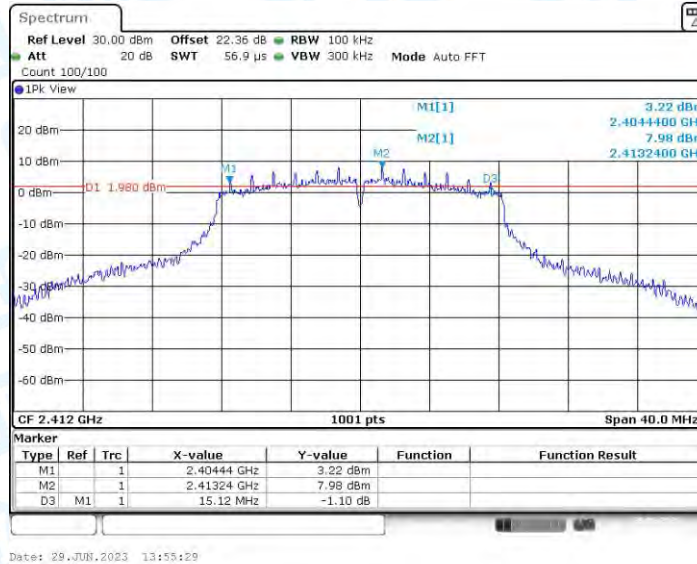
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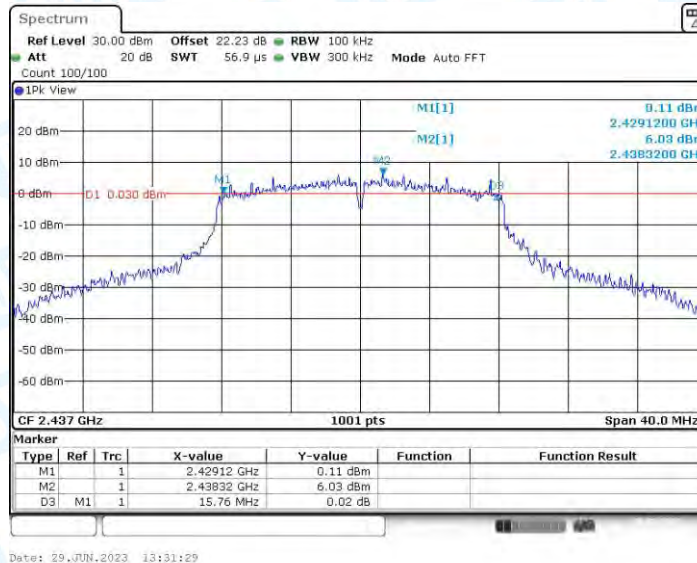
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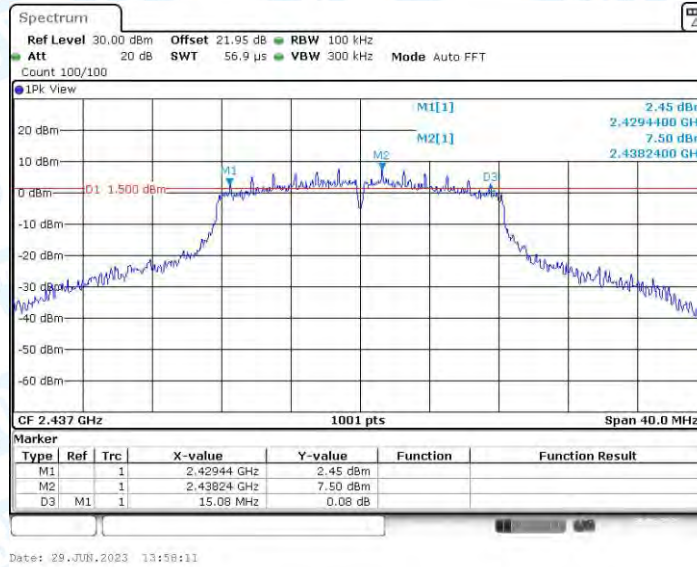
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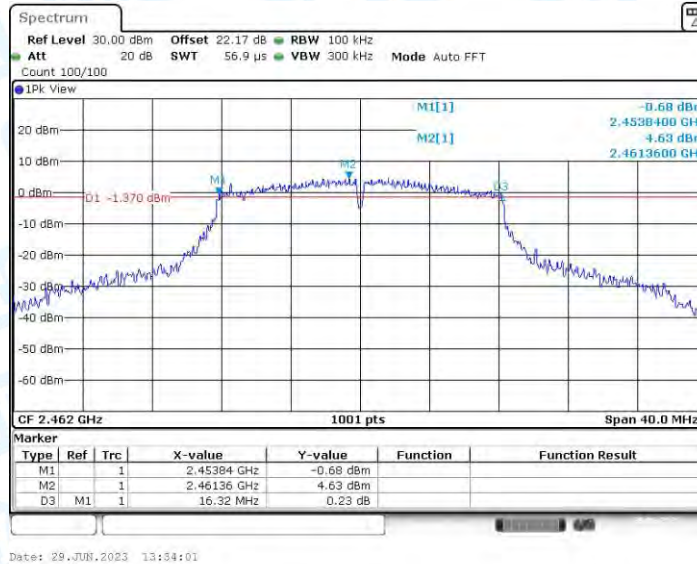
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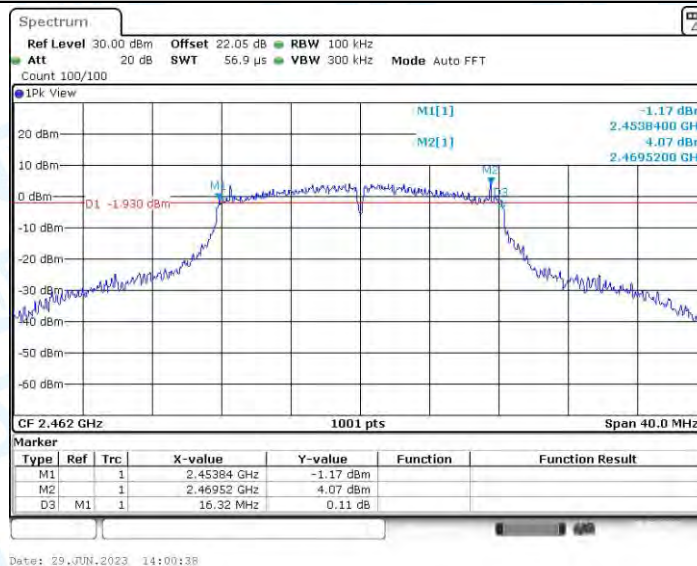
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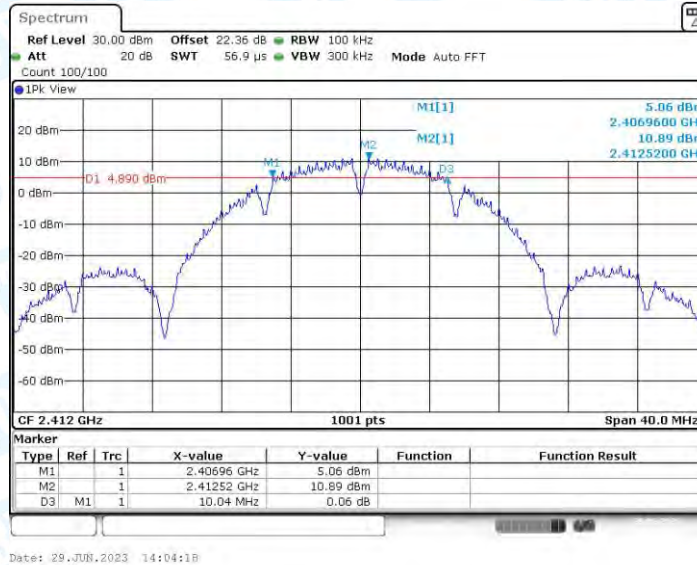
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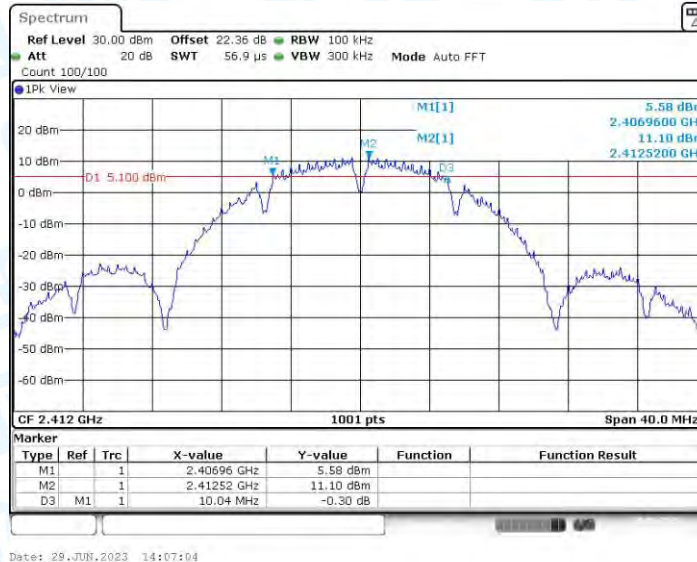
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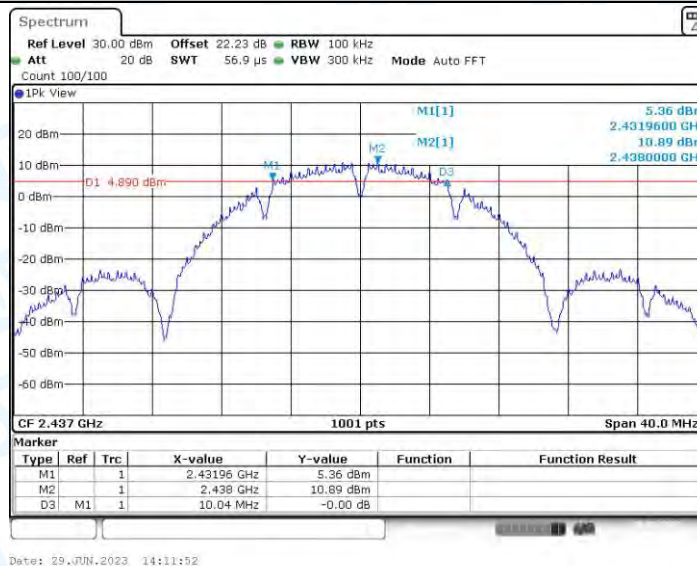
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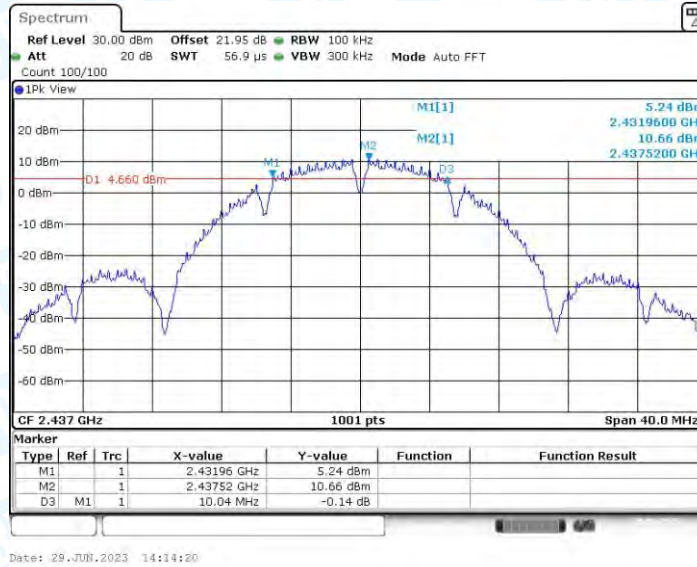
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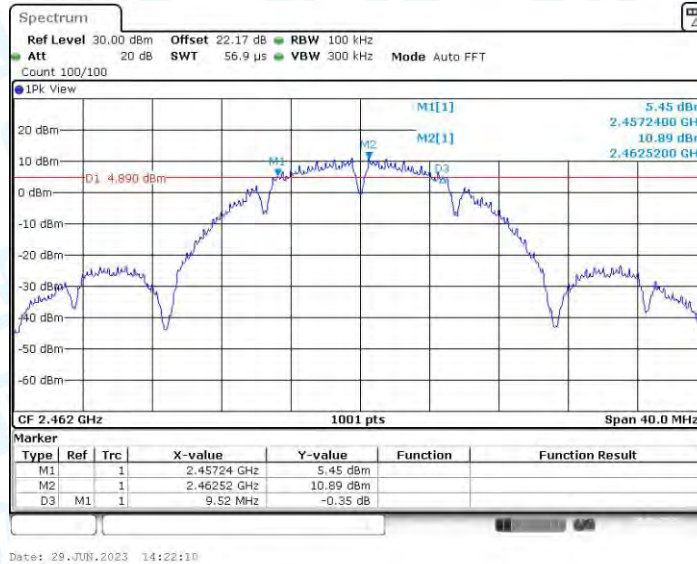
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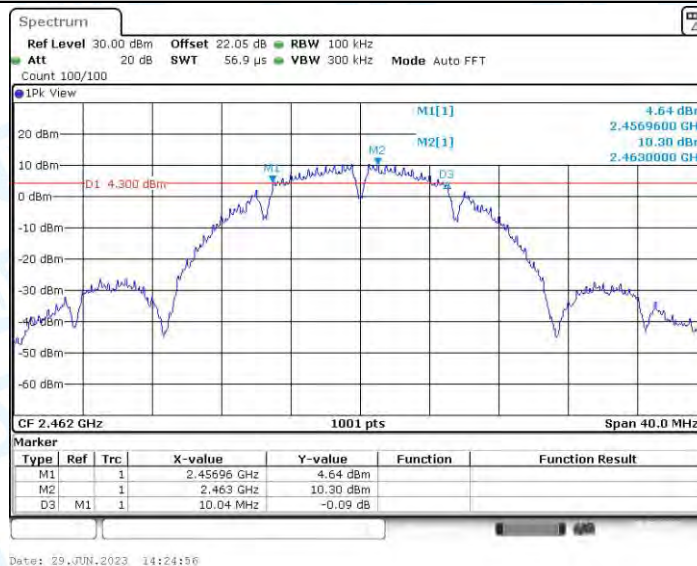
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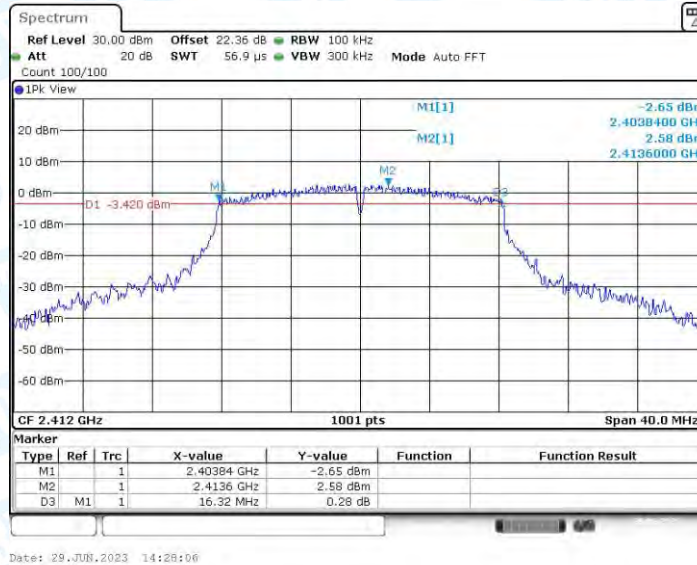
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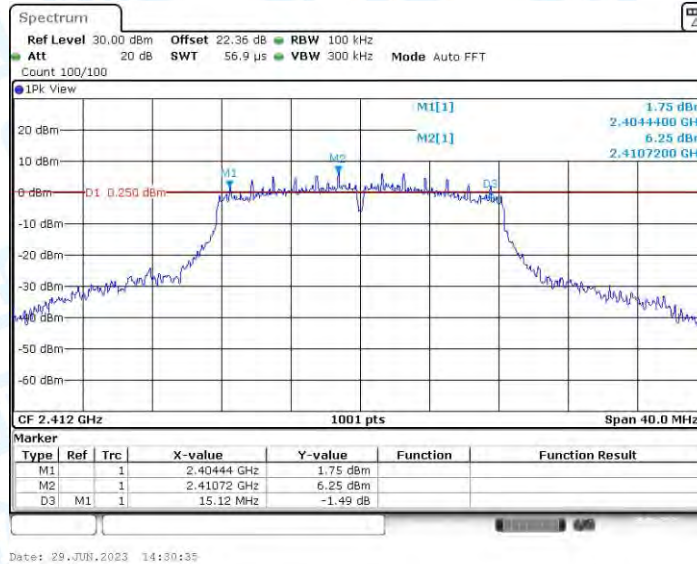
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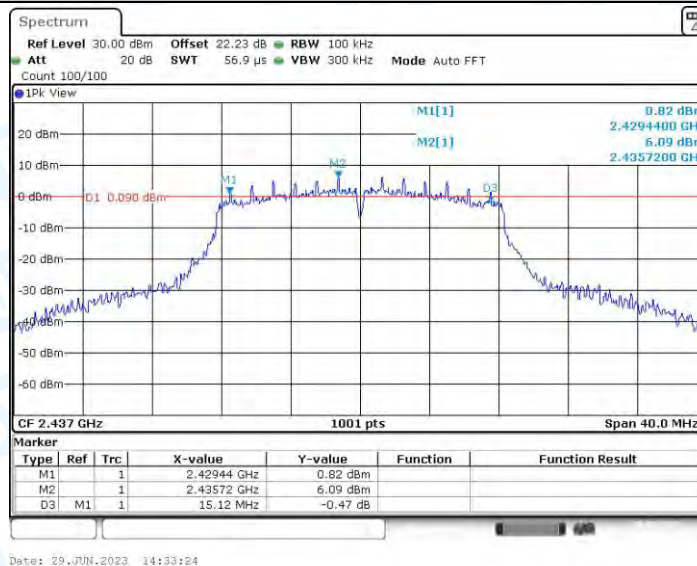
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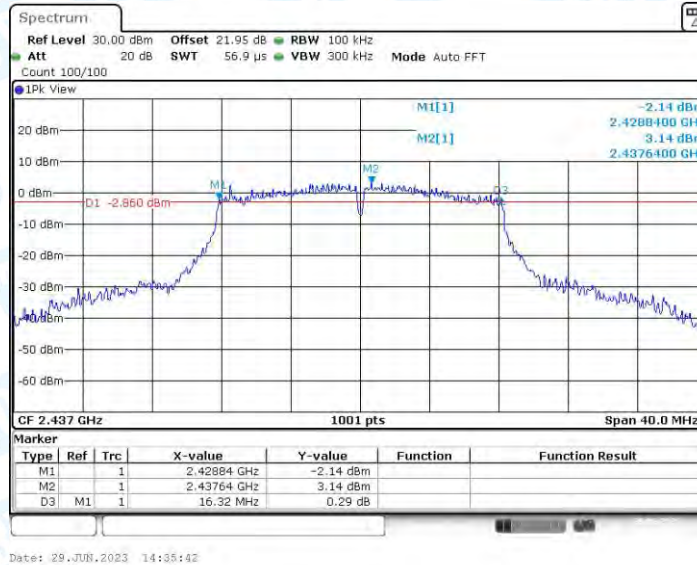
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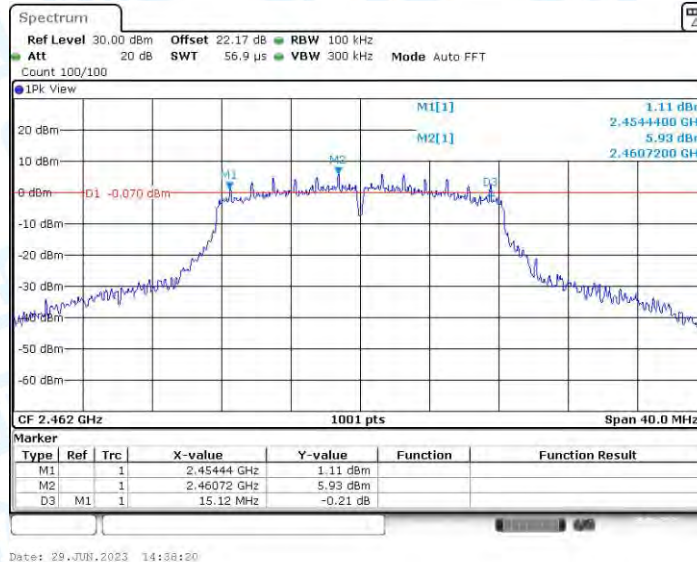
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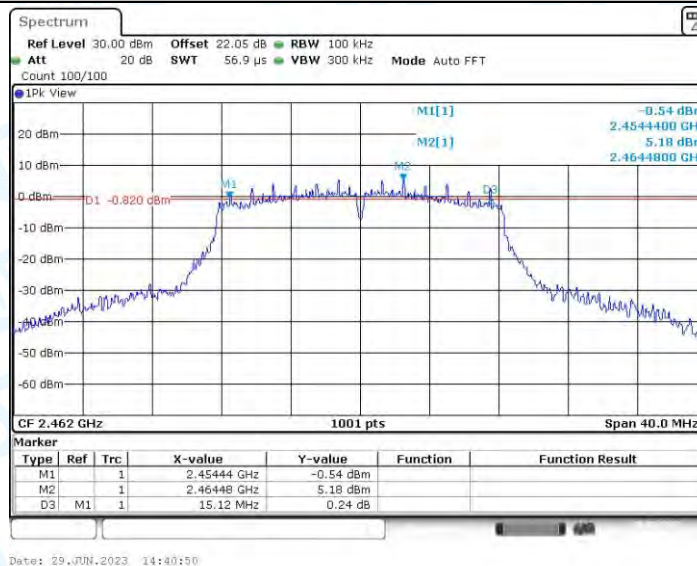
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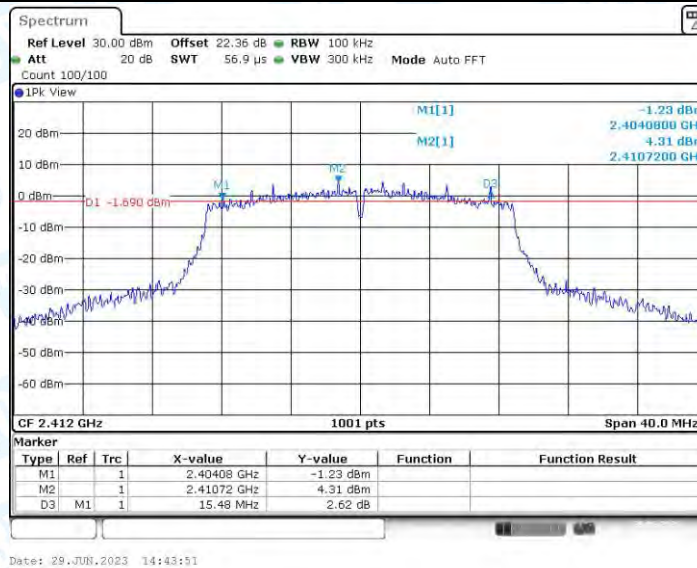
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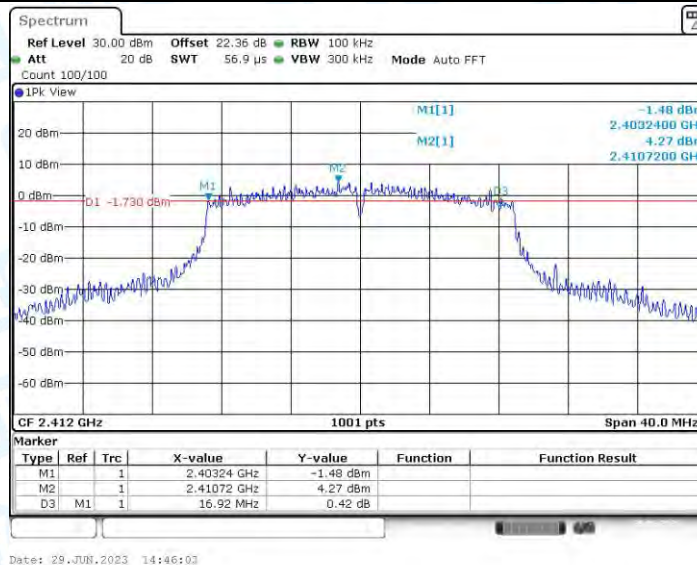
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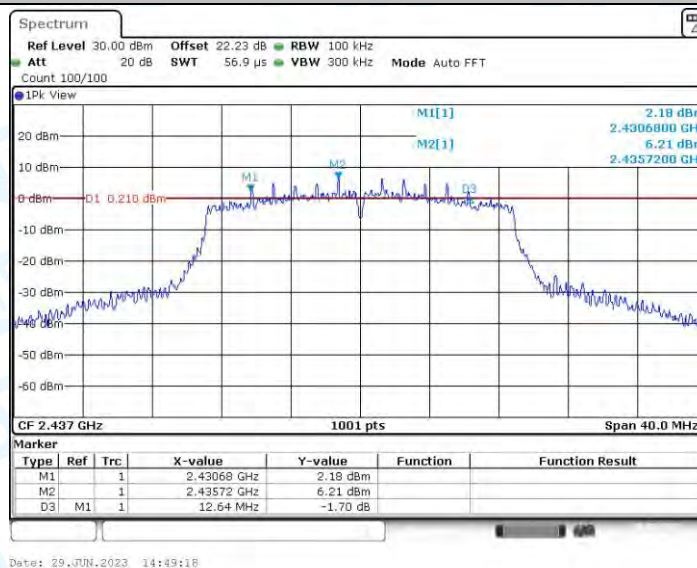
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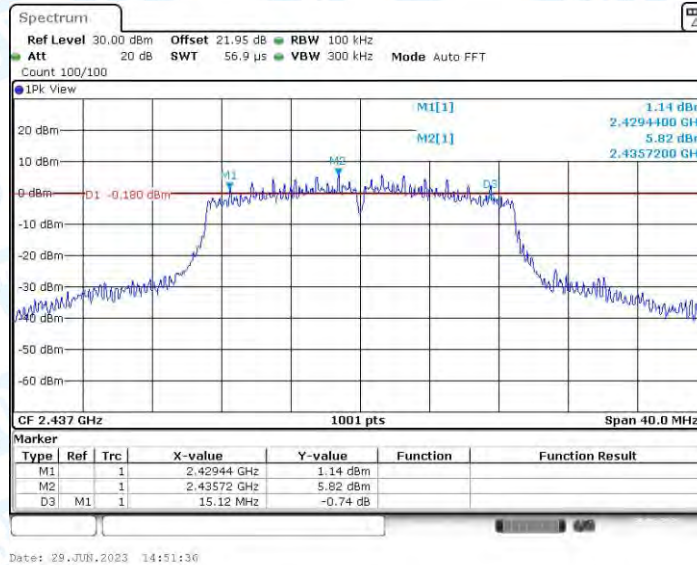
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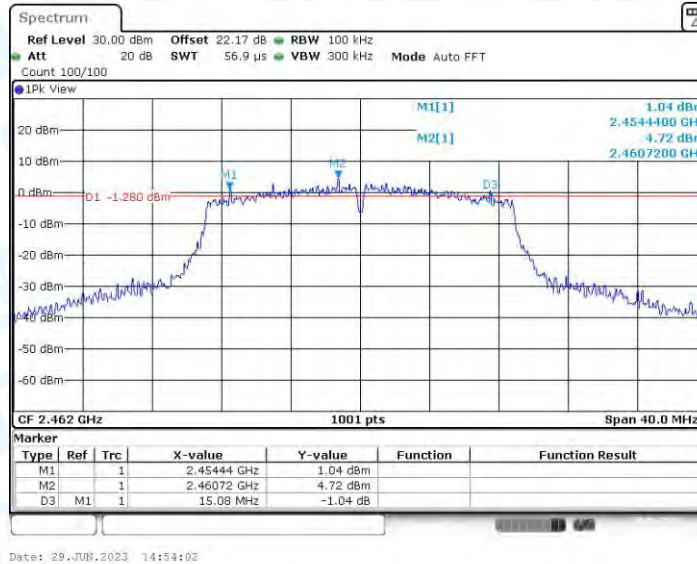
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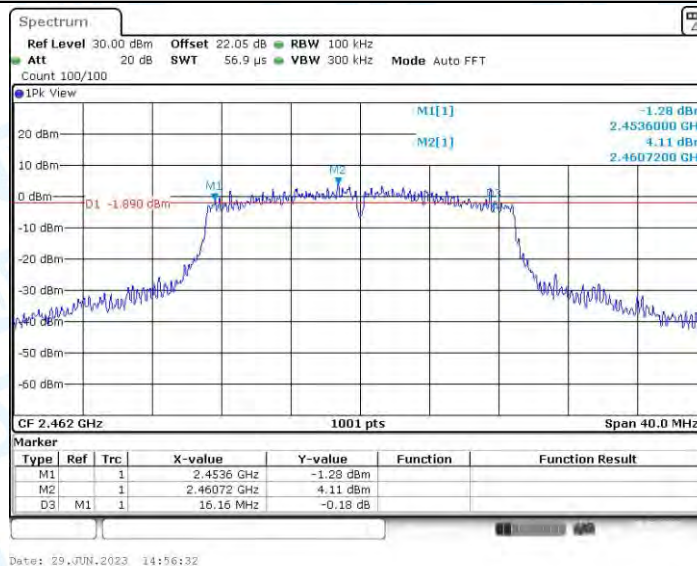
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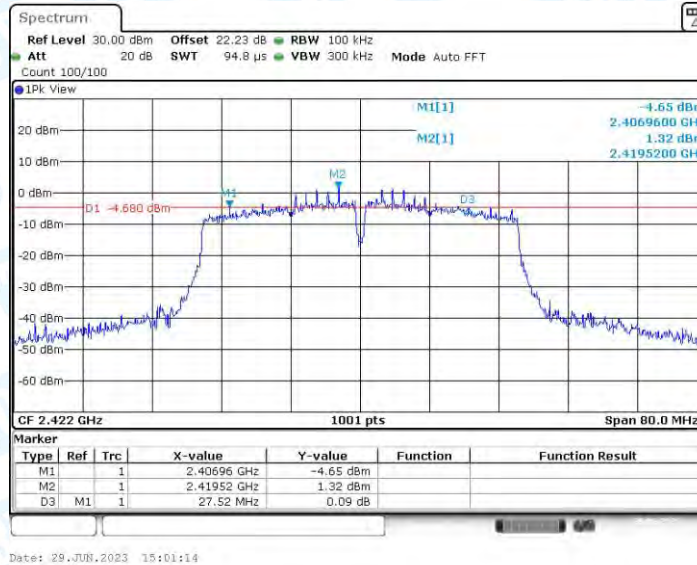
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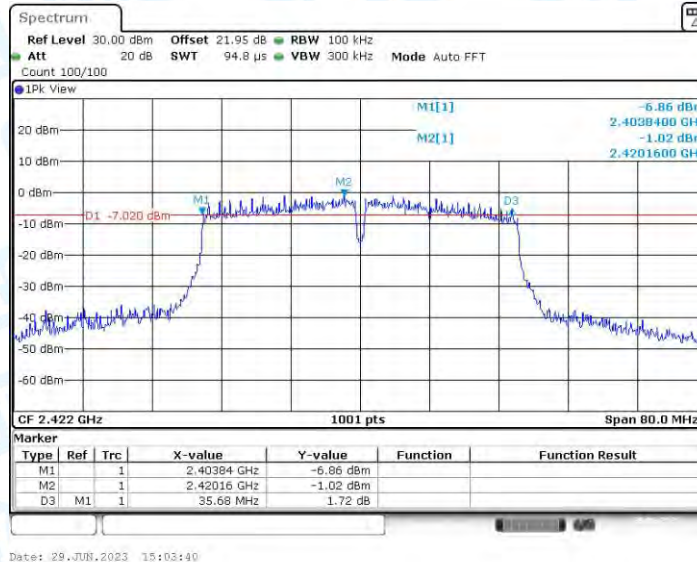
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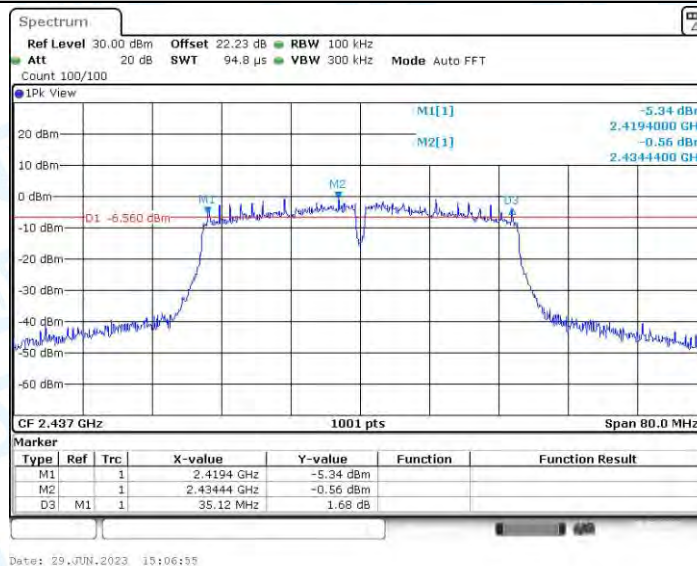
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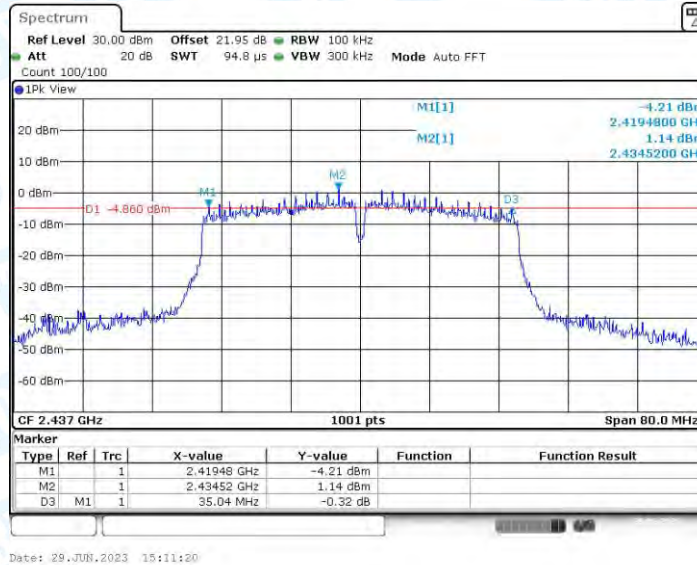
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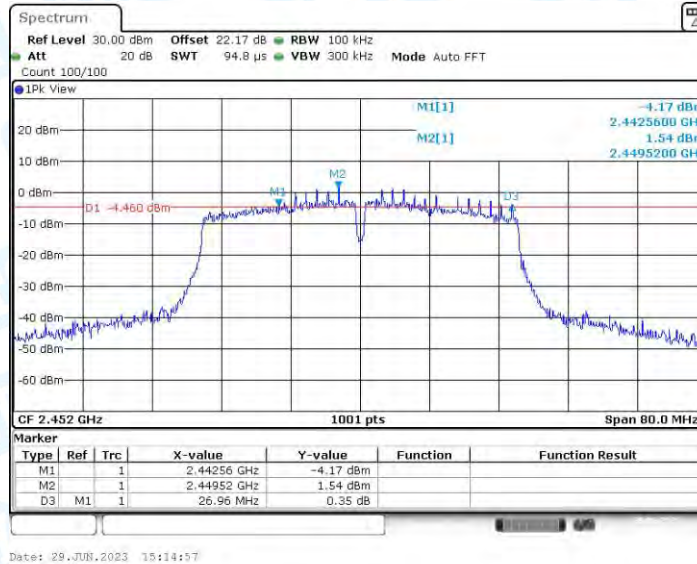
11N40-CDD_Ant1_2437



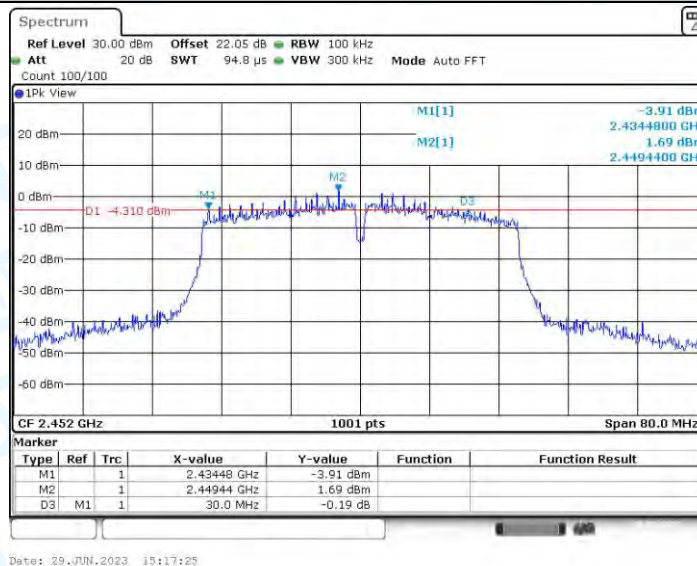
11N40-CDD_Ant2_2437



11N40-CDD_Ant1_2452



11N40-CDD_Ant2_2452



2. Maximum conducted output power

2.1. Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	21.93	≤30.00	PASS
	Ant2	2412	22.27	≤30.00	PASS
	Ant1	2437	21.93	≤30.00	PASS
	Ant2	2437	22.04	≤30.00	PASS
	Ant1	2462	21.86	≤30.00	PASS
	Ant2	2462	21.62	≤30.00	PASS
11G	Ant1	2412	18.34	≤30.00	PASS
	Ant2	2412	18.67	≤30.00	PASS
	Ant1	2437	18.23	≤30.00	PASS
	Ant2	2437	18.66	≤30.00	PASS
	Ant1	2462	18.22	≤30.00	PASS
	Ant2	2462	17.94	≤30.00	PASS
11B-CDD	Ant1	2412	21.29	≤30.00	PASS
	Ant2	2412	21.53	≤30.00	PASS
	total	2412	24.42	≤30.00	PASS
	Ant1	2437	21.15	≤30.00	PASS
	Ant2	2437	21.31	≤30.00	PASS
	total	2437	24.24	≤30.00	PASS
	Ant1	2462	21.12	≤30.00	PASS
	Ant2	2462	20.86	≤30.00	PASS
11G-CDD	total	2462	24.00	≤30.00	PASS
	Ant1	2412	16.78	≤30.00	PASS
	Ant2	2412	16.85	≤30.00	PASS
	total	2412	19.83	≤30.00	PASS
	Ant1	2437	16.83	≤30.00	PASS
	Ant2	2437	16.91	≤30.00	PASS
	total	2437	19.88	≤30.00	PASS
	Ant1	2462	16.72	≤30.00	PASS
11N20-CDD	Ant2	2462	16.31	≤30.00	PASS
	total	2462	19.53	≤30.00	PASS
	Ant1	2412	16.57	≤30.00	PASS
	Ant2	2412	16.78	≤30.00	PASS
	total	2412	19.69	≤30.00	PASS
	Ant1	2437	16.68	≤30.00	PASS
	Ant2	2437	16.87	≤30.00	PASS
	total	2437	19.79	≤30.00	PASS
11N40-CDD	Ant1	2462	16.32	≤30.00	PASS
	Ant2	2462	16.35	≤30.00	PASS
	total	2462	19.35	≤30.00	PASS
	Ant1	2422	14.67	≤30.00	PASS
	Ant2	2422	14.56	≤30.00	PASS
	total	2422	17.63	≤30.00	PASS
	Ant1	2437	14.29	≤30.00	PASS
	Ant2	2437	14.95	≤30.00	PASS
11N40-CDD	total	2437	17.64	≤30.00	PASS
	Ant1	2452	14.97	≤30.00	PASS
	Ant2	2452	14.99	≤30.00	PASS
	total	2452	17.99	≤30.00	PASS

Note: For CDD Mode, Directional gain = $G_{ANT} + \text{Array Gain}$, Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
 $G_{ANT1}=4.45\text{dBi}$; $G_{ANT2}=4.02\text{dBi}$; and the Directional gain $< 6\text{dBi}$, So the $P_{limit}=30\text{dBm}$.

3. Maximum power spectral density

3.1. Test Result

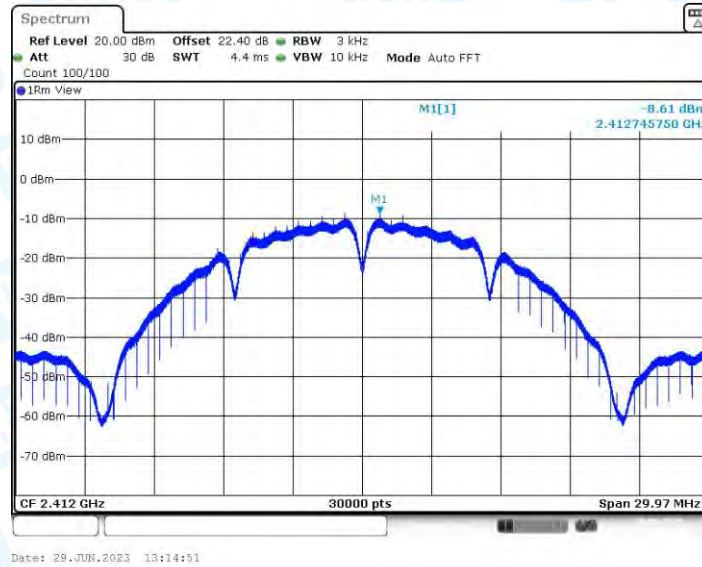
TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B-SISO	Ant1	2412	-8.61	≤8.00	PASS
	Ant2	2412	-9.73	≤8.00	PASS
	Ant1	2437	-9.95	≤8.00	PASS
	Ant2	2437	-5.7	≤8.00	PASS
	Ant1	2462	-5.49	≤8.00	PASS
	Ant2	2462	-9.4	≤8.00	PASS
11G-SISO	Ant1	2412	-12.72	≤8.00	PASS
	Ant2	2412	-13.01	≤8.00	PASS
	Ant1	2437	-13.12	≤8.00	PASS
	Ant2	2437	-13.02	≤8.00	PASS
	Ant1	2462	-13.07	≤8.00	PASS
	Ant2	2462	-13.28	≤8.00	PASS
11B-CDD	Ant1	2412	-8.14	≤8.00	PASS
	Ant2	2412	-7.51	≤8.00	PASS
	total	2412	-4.80	≤6.75	PASS
	Ant1	2437	-10.56	≤8.00	PASS
	Ant2	2437	-10.63	≤8.00	PASS
	total	2437	-7.58	≤6.75	PASS
	Ant1	2462	-10.73	≤8.00	PASS
	Ant2	2462	-11.09	≤8.00	PASS
11G-CDD	total	2462	-7.90	≤6.75	PASS
	Ant1	2412	-14.52	≤8.00	PASS
	Ant2	2412	-14.77	≤8.00	PASS
	total	2412	-11.63	≤6.75	PASS
	Ant1	2437	-14.63	≤8.00	PASS
	Ant2	2437	-14.81	≤8.00	PASS
	total	2437	-11.71	≤6.75	PASS
	Ant1	2462	-14.8	≤8.00	PASS
11N20-CDD	Ant2	2462	-15.35	≤8.00	PASS
	total	2462	-12.06	≤6.75	PASS
	Ant1	2412	-15.88	≤8.00	PASS
	Ant2	2412	-14.92	≤8.00	PASS
	total	2412	-12.36	≤6.75	PASS
	Ant1	2437	-15.49	≤8.00	PASS
	Ant2	2437	-15.41	≤8.00	PASS
	total	2437	-12.44	≤6.75	PASS
11N40-CDD	Ant1	2462	-15.98	≤8.00	PASS
	Ant2	2462	-15.96	≤8.00	PASS
	total	2462	-12.96	≤6.75	PASS
	Ant1	2422	-20.37	≤8.00	PASS
	Ant2	2422	-20.63	≤8.00	PASS
	total	2422	-17.49	≤6.75	PASS
	Ant1	2437	-19.74	≤8.00	PASS
	Ant2	2437	-20.12	≤8.00	PASS
11N40-CDD	total	2437	-16.92	≤6.75	PASS
	Ant1	2452	-19.1	≤8.00	PASS
	Ant2	2452	-19.8	≤8.00	PASS
	total	2452	-16.43	≤6.75	PASS

Note: For CDD Mode, Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$,

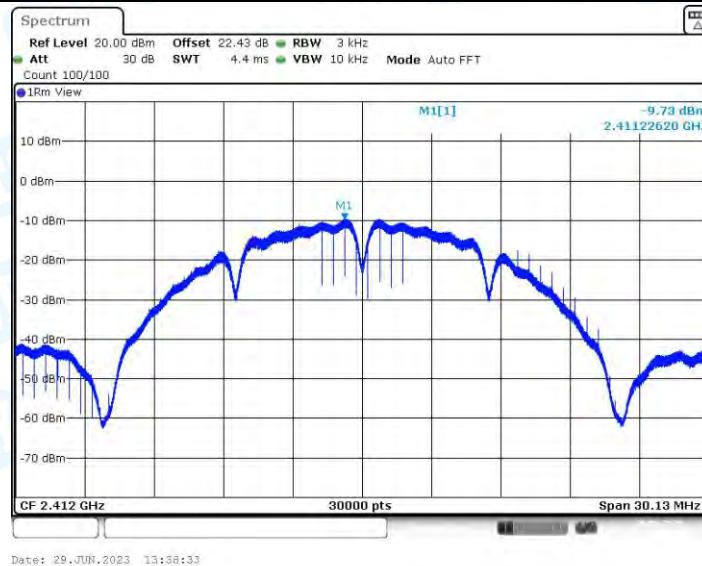
$G_{ANT1}=4.45\text{dBi}$; $G_{ANT2}=4.02\text{dBi}$; and the Directional gain= $7.25\text{dBi}>6\text{dBi}$, So the $P_{\text{limit}}=8-(7.25-6)\text{dBm}=6.75\text{dBm}/3\text{kHz}$.

3.2. Test Graphs

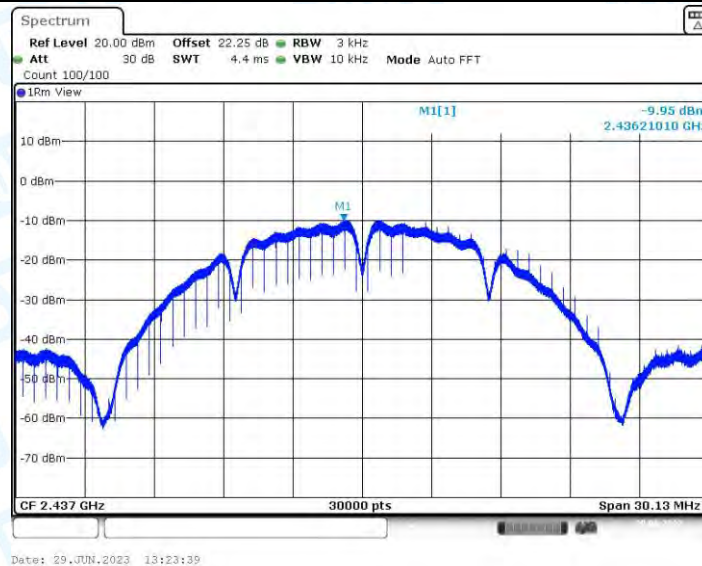
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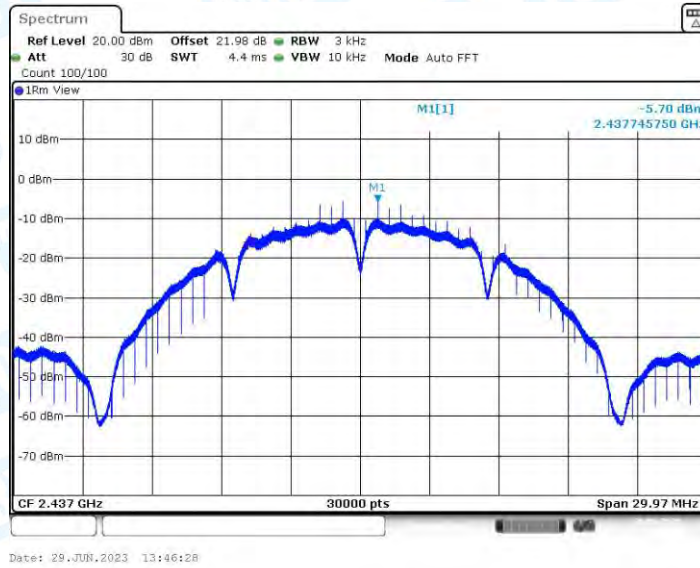
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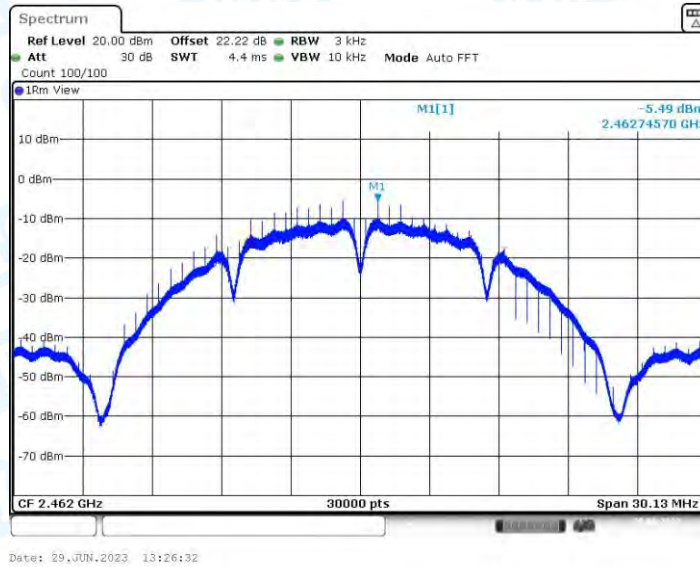
11B_Ant1_2437



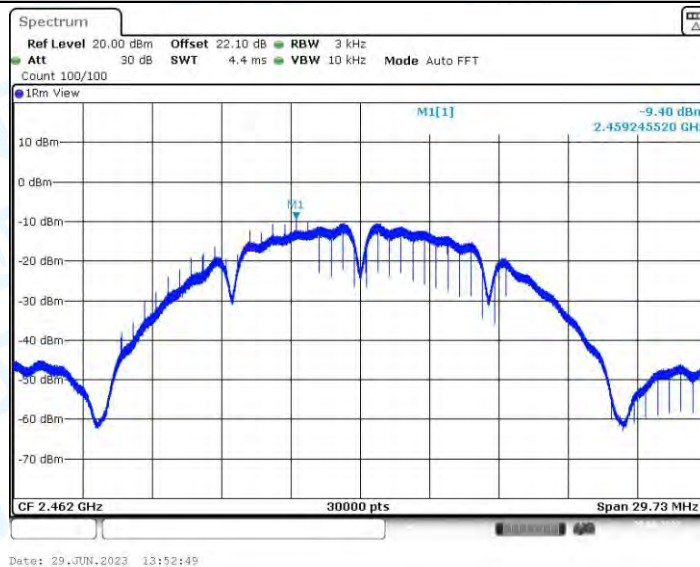
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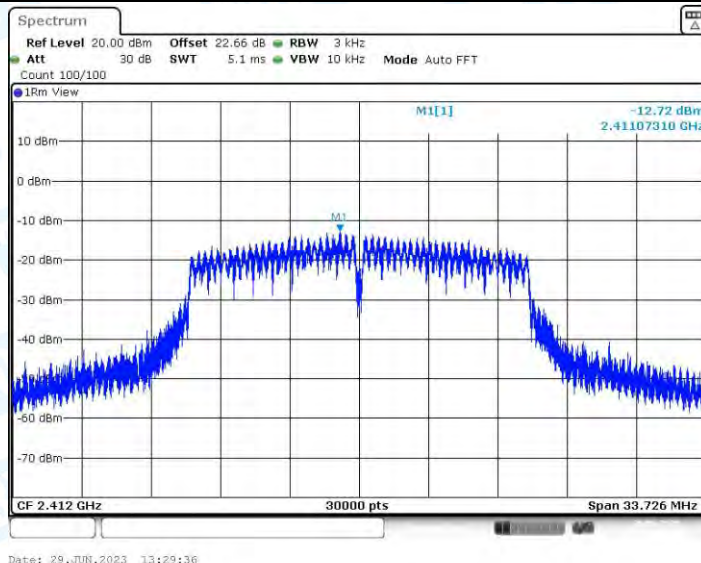
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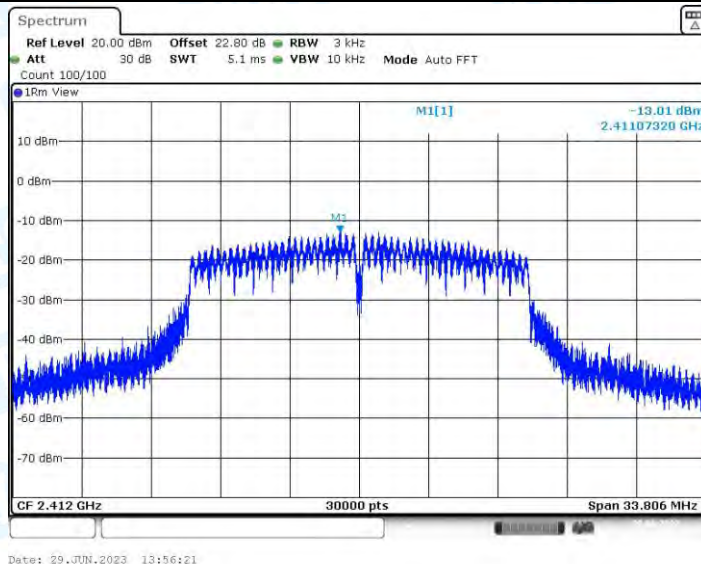
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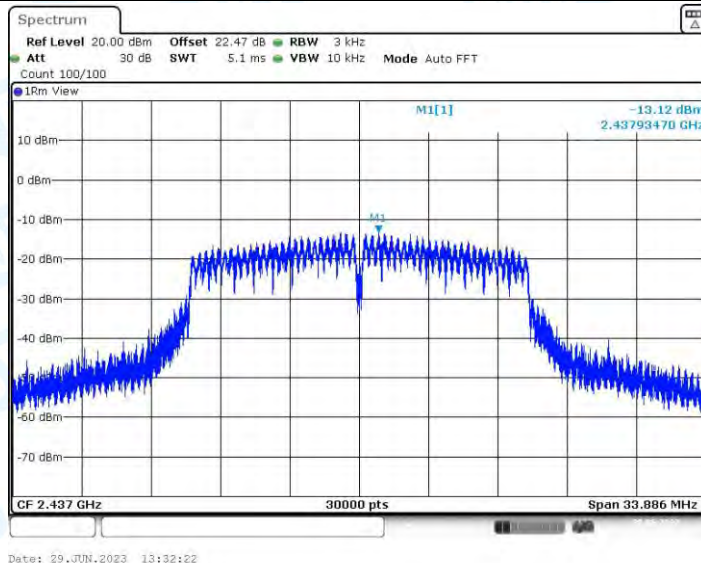
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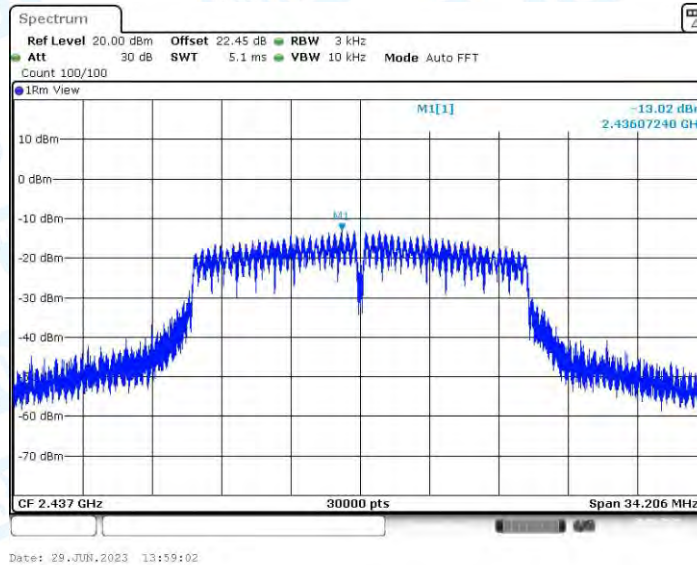
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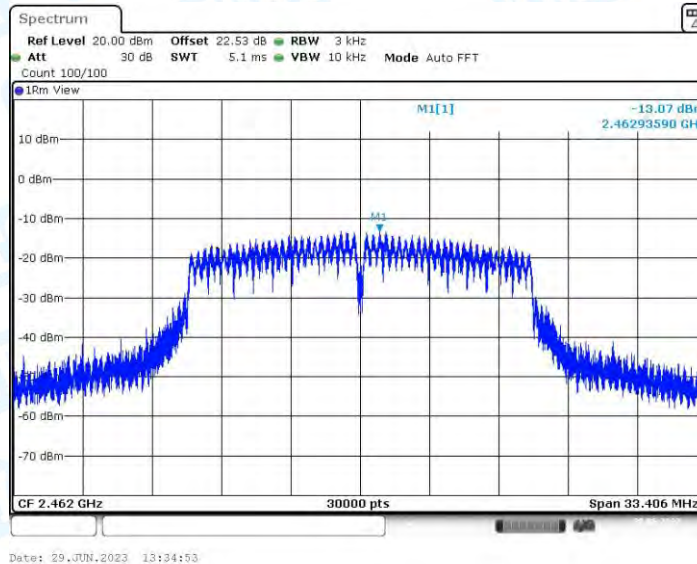
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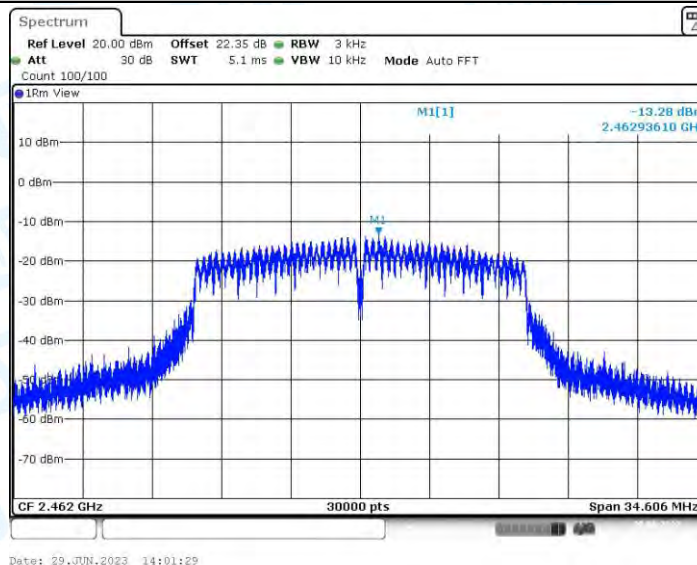
11G_Ant2_2437



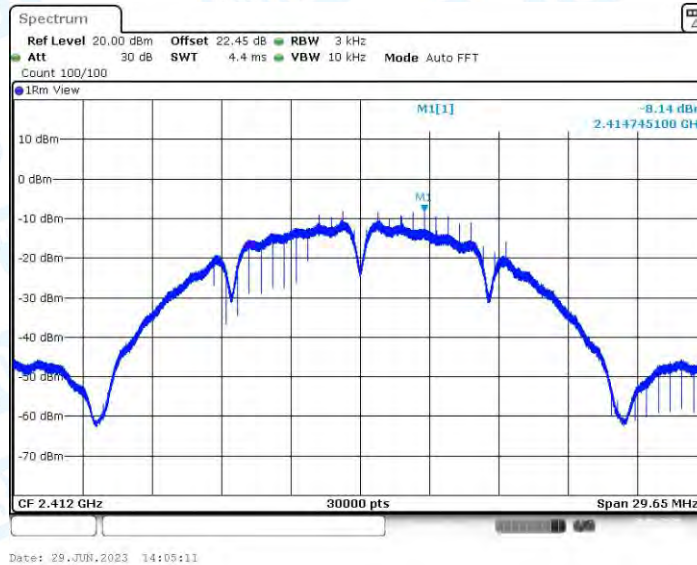
11G_Ant1_2462



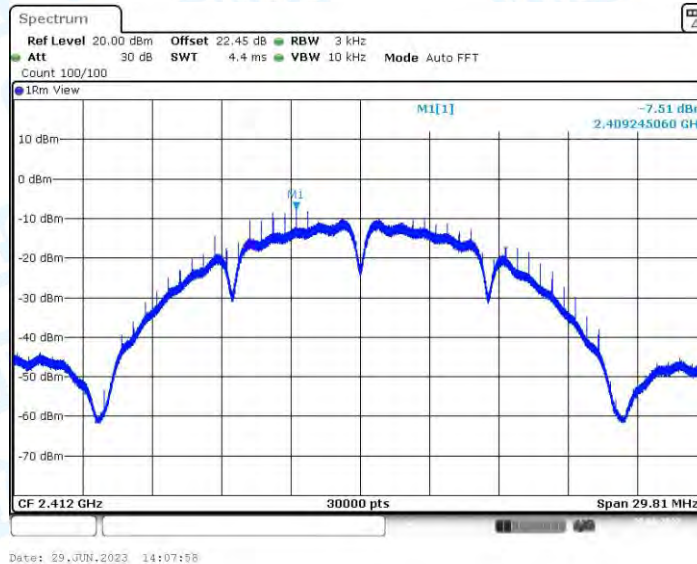
11G_Ant2_2462



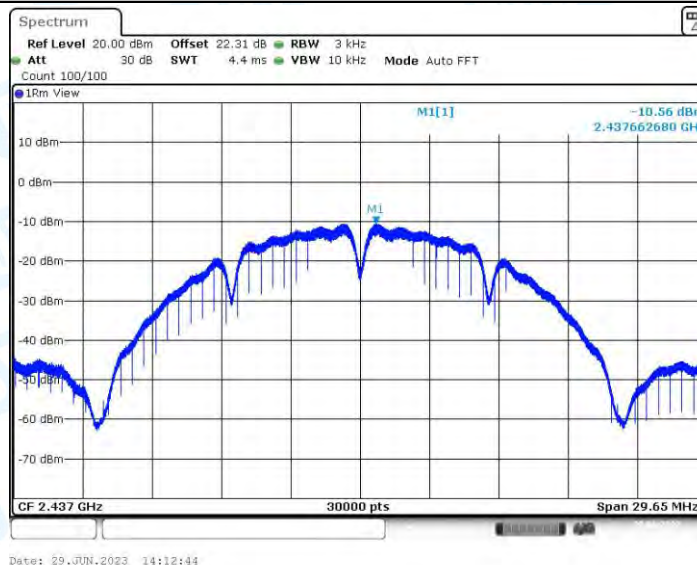
11B-CDD_Ant1_2412



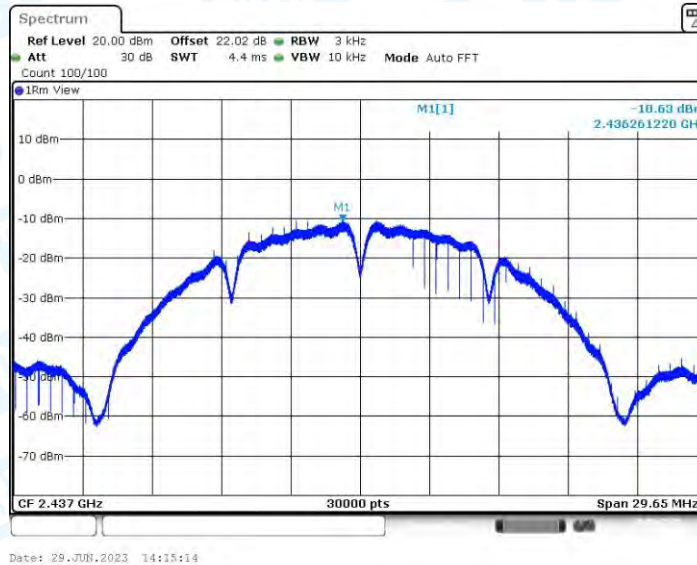
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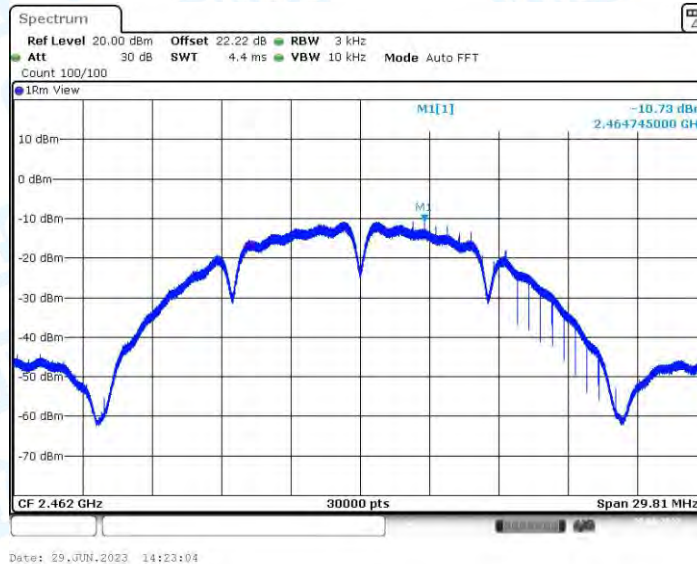
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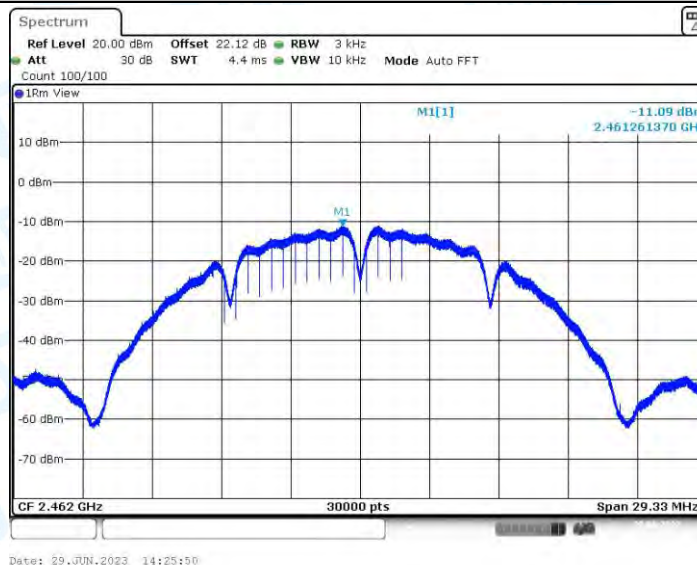
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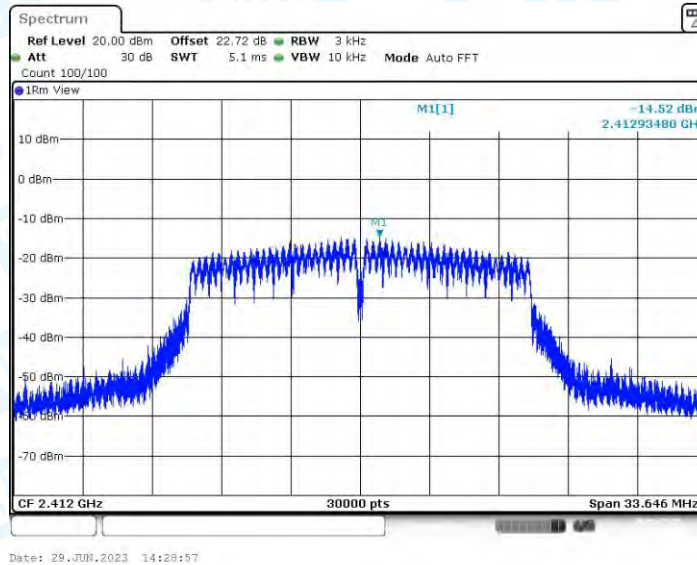
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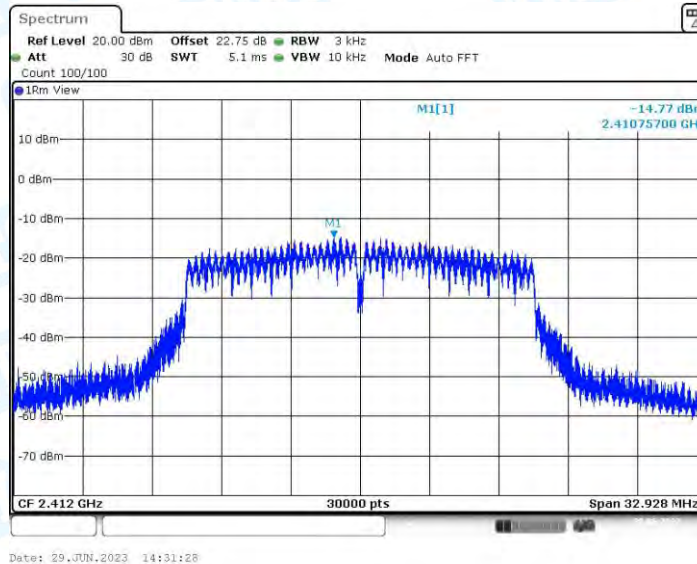
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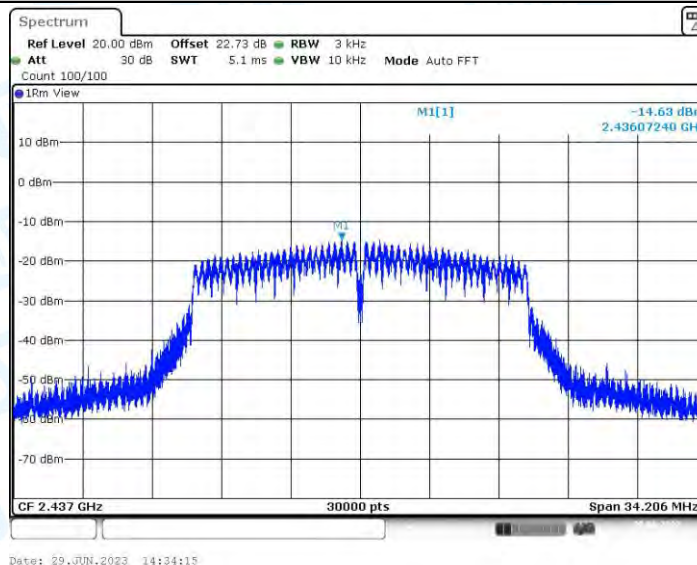
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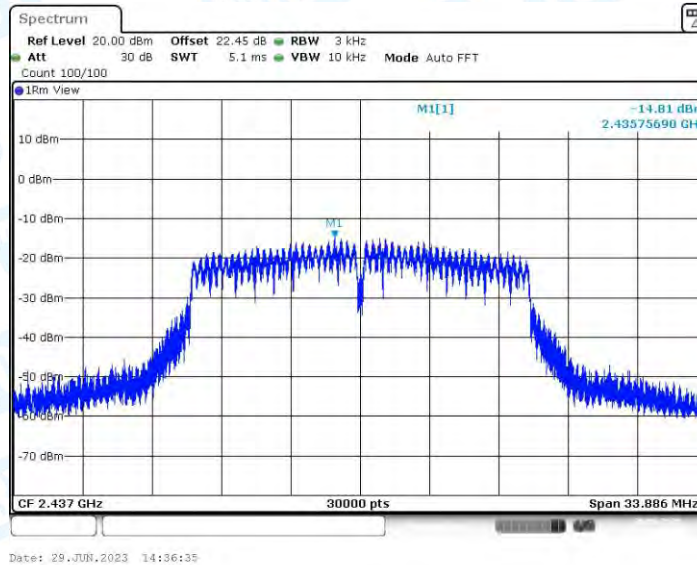
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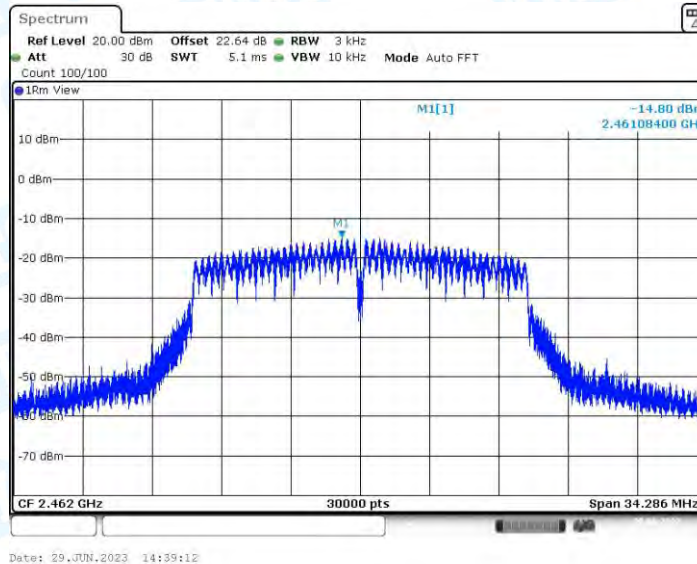
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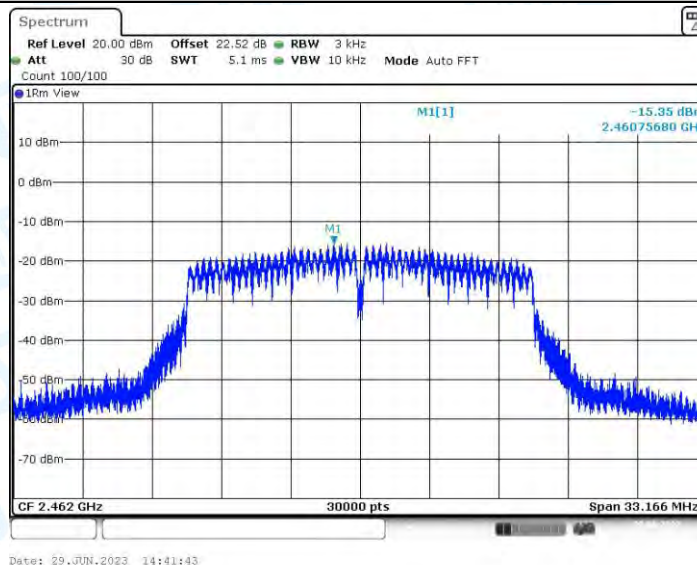
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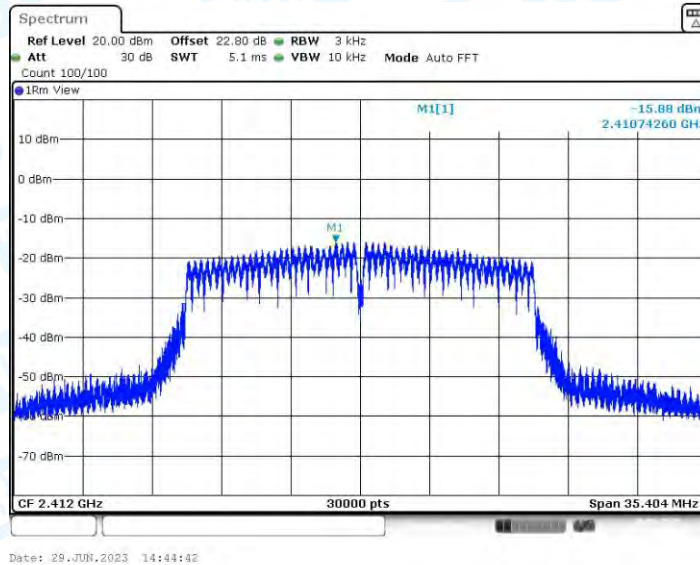
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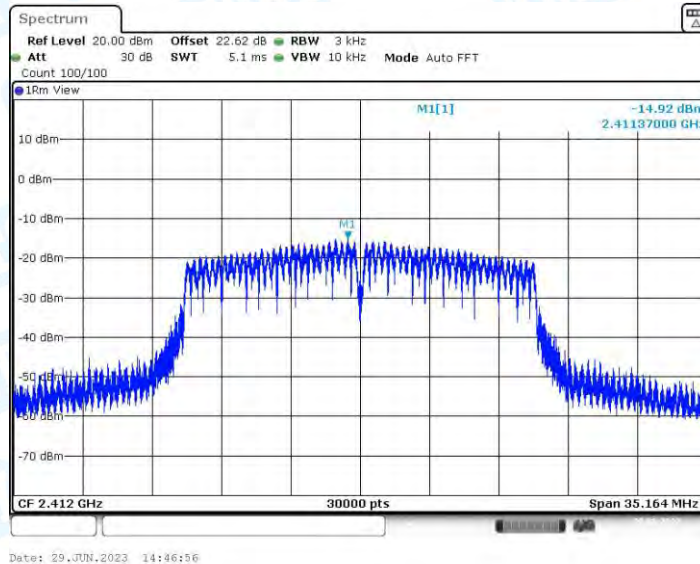
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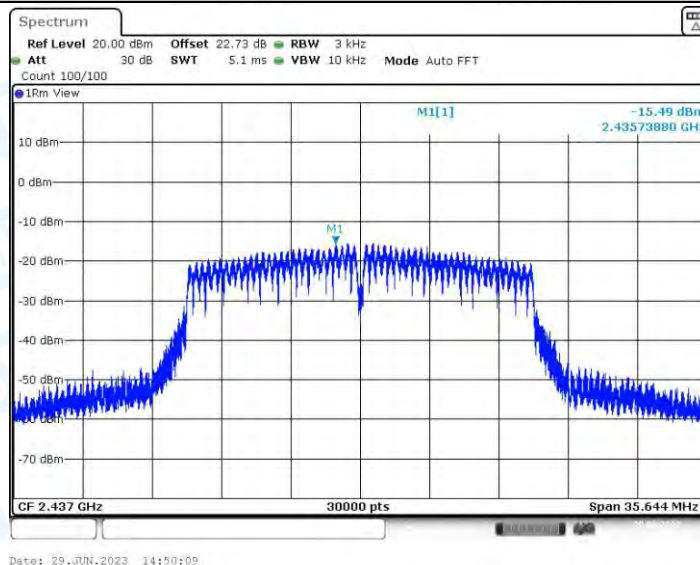
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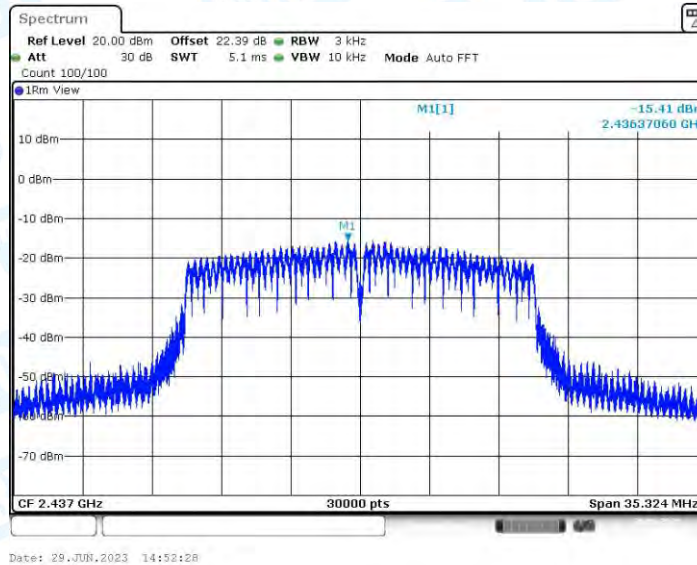
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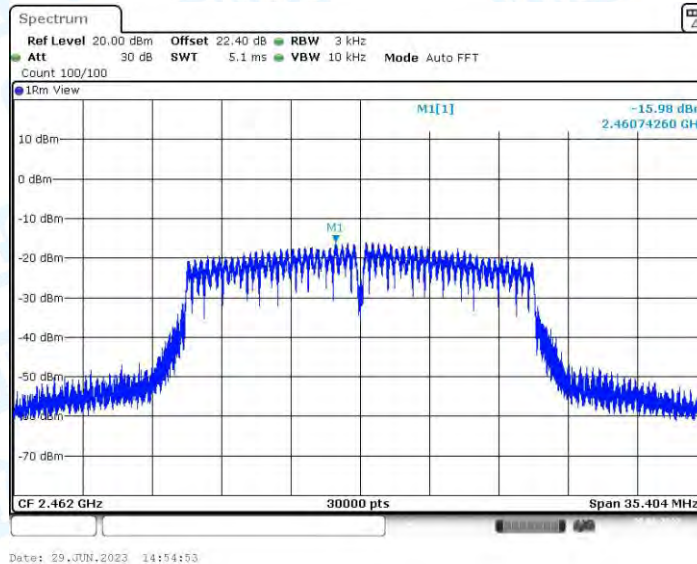
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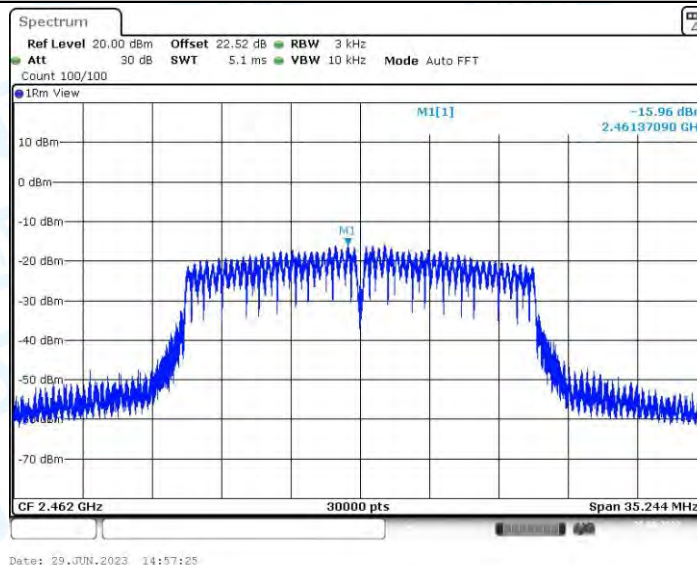
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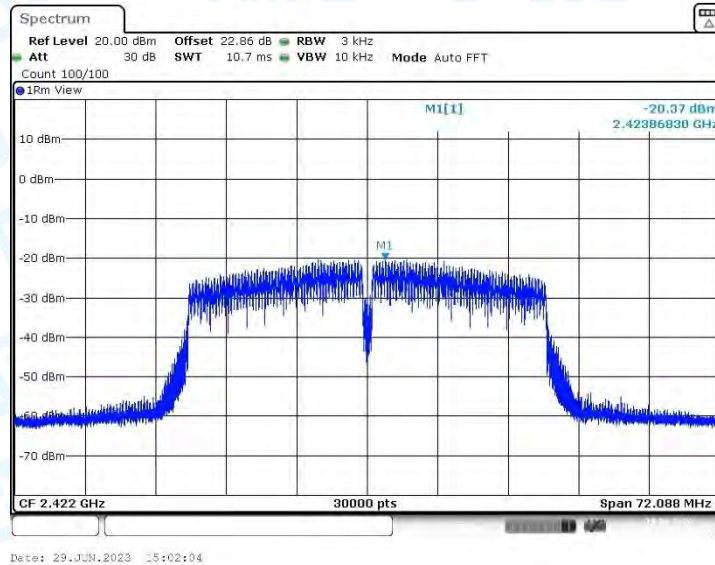
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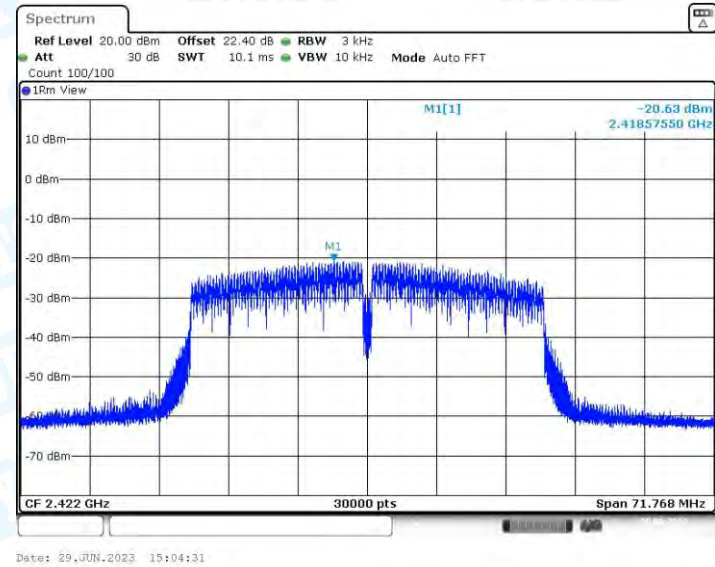
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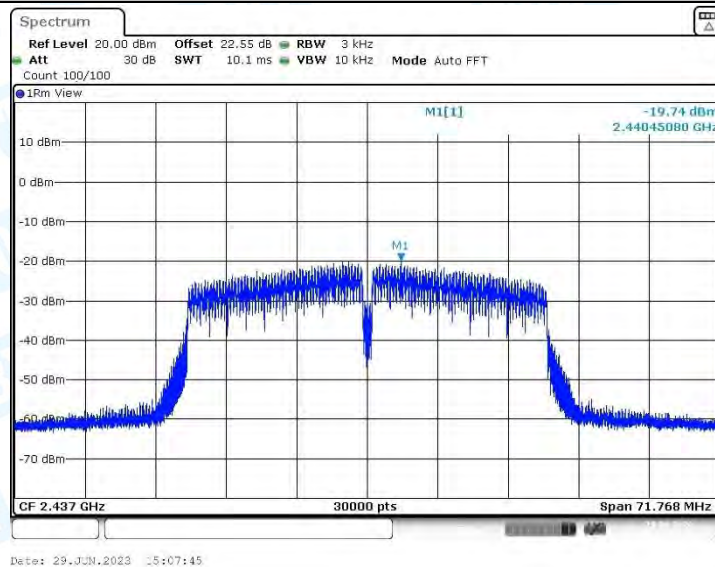
11N40-CDD_Ant1_2422



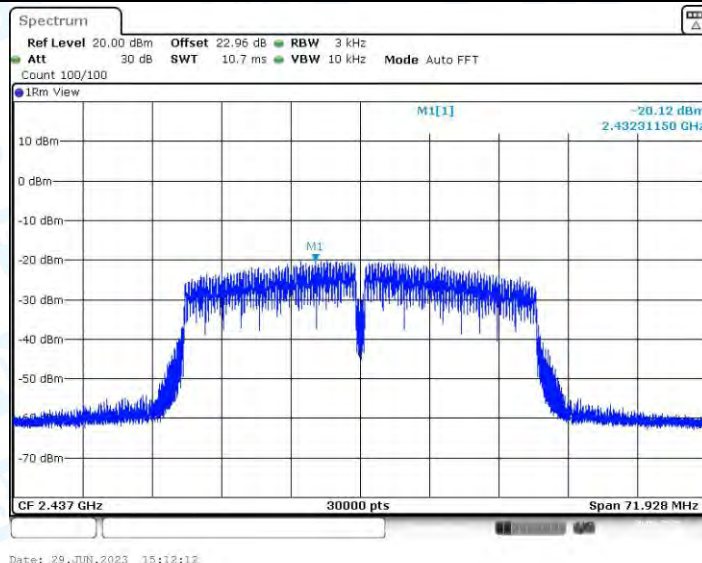
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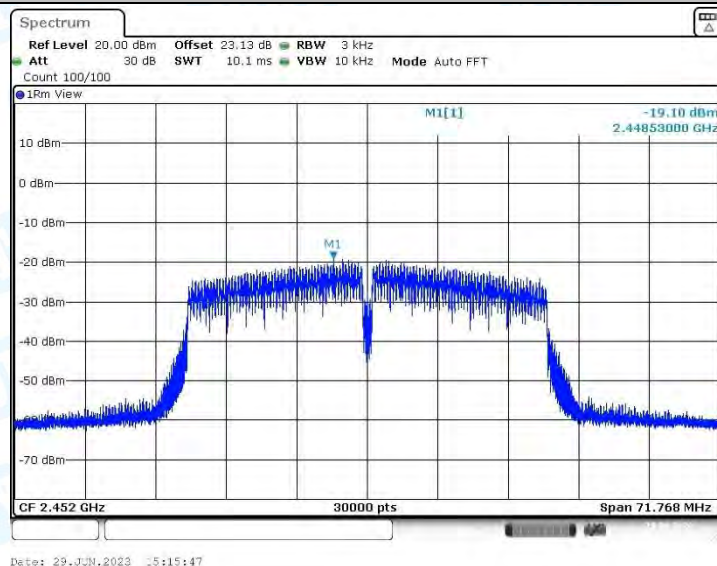
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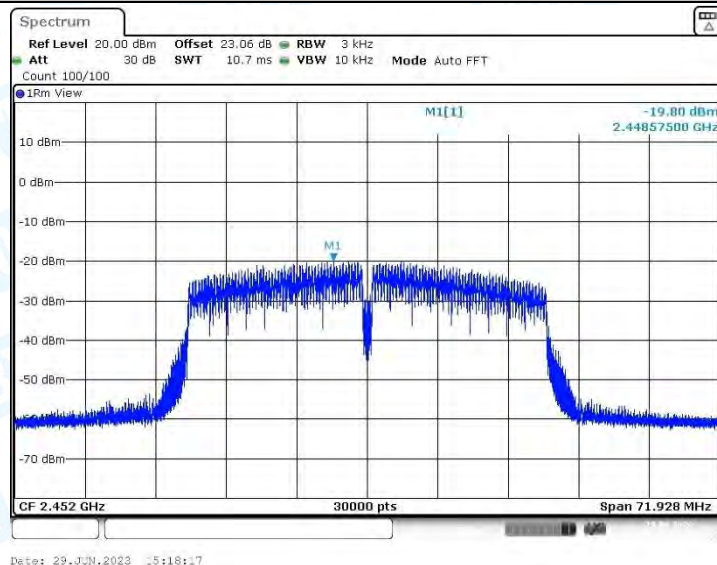
11N40-CDD_Ant2_2437



11N40-CDD_Ant1_2452



11N40-CDD_Ant2_2452



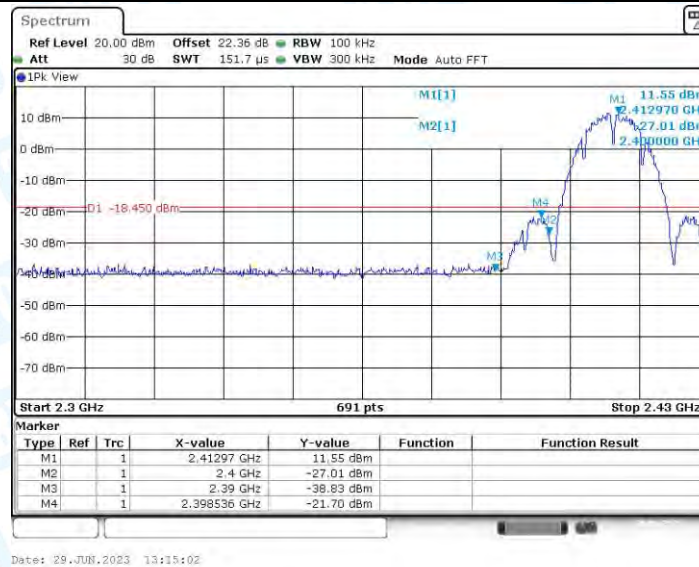
4. Band edge measurements

4.1. Test Result

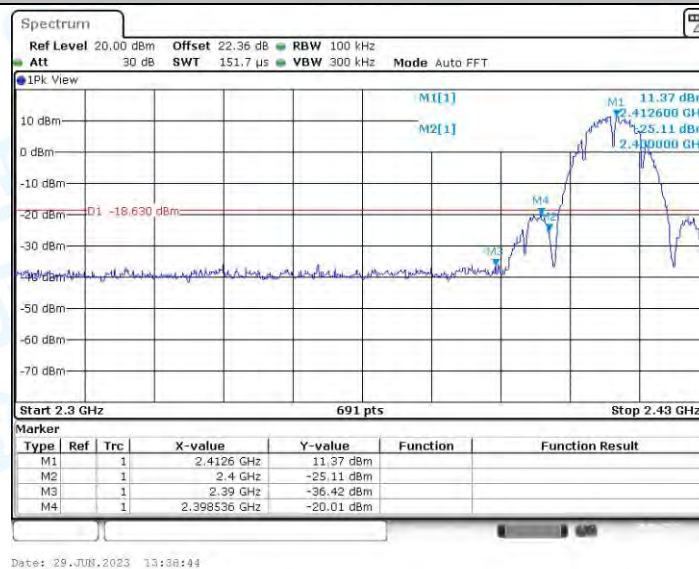
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B-SISO	Ant1	Low	2412	11.55	-21.70	≤-18.45	PASS
	Ant2	Low	2412	11.37	-20.01	≤-18.63	PASS
	Ant1	High	2462	11.53	-34.84	≤-18.47	PASS
	Ant2	High	2462	11.23	-35.35	≤-18.77	PASS
11G-SISO	Ant1	Low	2412	7.16	-23.62	≤-22.84	PASS
	Ant2	Low	2412	7.48	-22.80	≤-22.52	PASS
	Ant1	High	2462	6.80	-33.26	≤-23.20	PASS
	Ant2	High	2462	4.45	-35.07	≤-25.55	PASS
11B-CDD	Ant1	Low	2412	10.82	-23.81	≤-19.18	PASS
	Ant2	Low	2412	11.10	-22.68	≤-18.90	PASS
	Ant1	High	2462	10.83	-34.79	≤-19.17	PASS
	Ant2	High	2462	10.44	-35.06	≤-19.56	PASS
11G-CDD	Ant1	Low	2412	5.94	-28.75	≤-24.06	PASS
	Ant2	Low	2412	6.07	-24.41	≤-23.93	PASS
	Ant1	High	2462	3.14	-35.07	≤-26.86	PASS
	Ant2	High	2462	5.03	-34.14	≤-24.97	PASS
11N20-CDD	Ant1	Low	2412	5.60	-28.71	≤-24.40	PASS
	Ant2	Low	2412	6.25	-26.27	≤-23.75	PASS
	Ant1	High	2462	6.06	-35.00	≤-23.94	PASS
	Ant2	High	2462	3.17	-35.47	≤-26.83	PASS
11N40-CDD	Ant1	Low	2422	-1.93	-34.15	≤-31.93	PASS
	Ant2	Low	2422	-0.01	-32.96	≤-30.01	PASS
	Ant1	High	2452	1.15	-34.26	≤-28.85	PASS
	Ant2	High	2452	1.64	-35.17	≤-28.36	PASS

4.2. Test Graphs

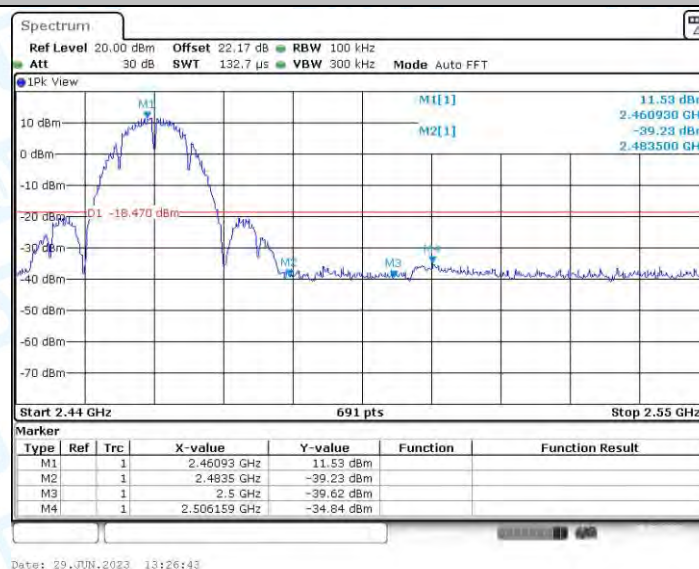
11B_Ant1_Low_2412



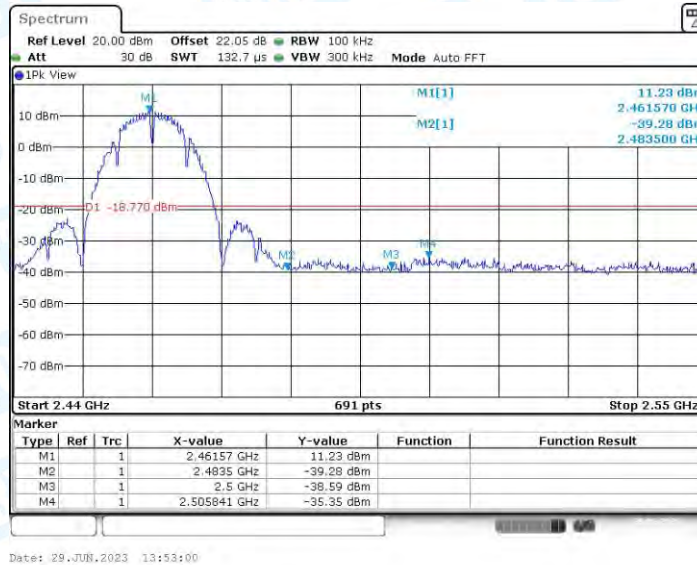
11B_Ant2_Low_2412



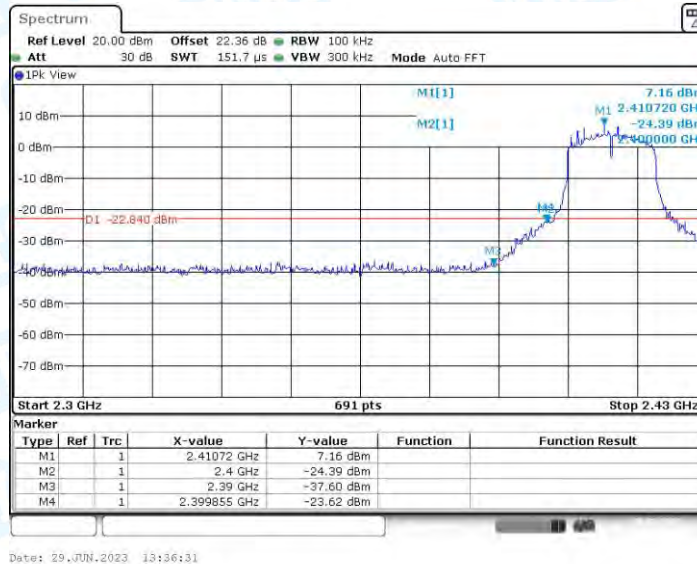
11B_Ant1_High_2462



11B_Ant2_High_2462



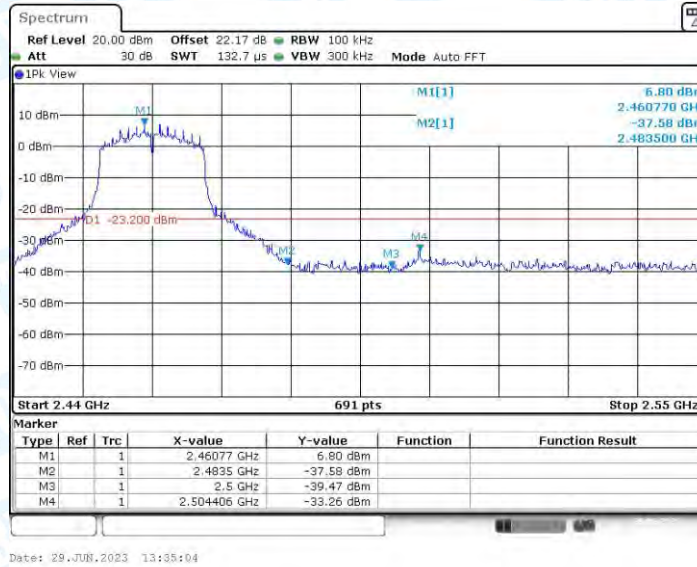
11G_Ant1_Low_2412



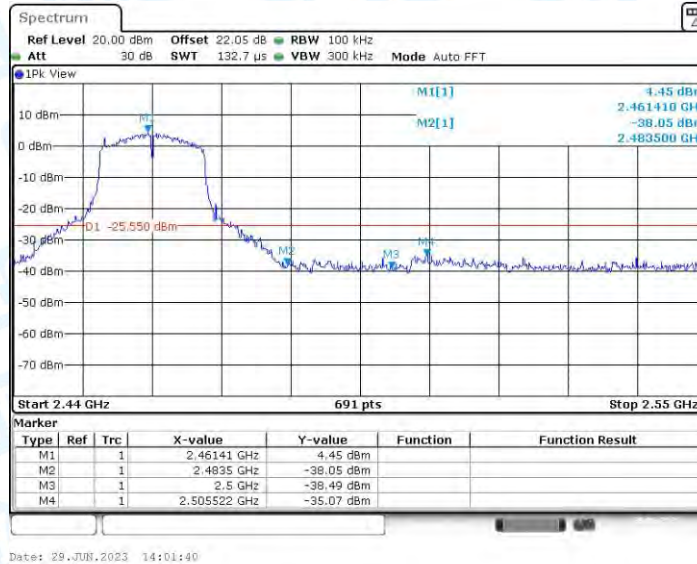
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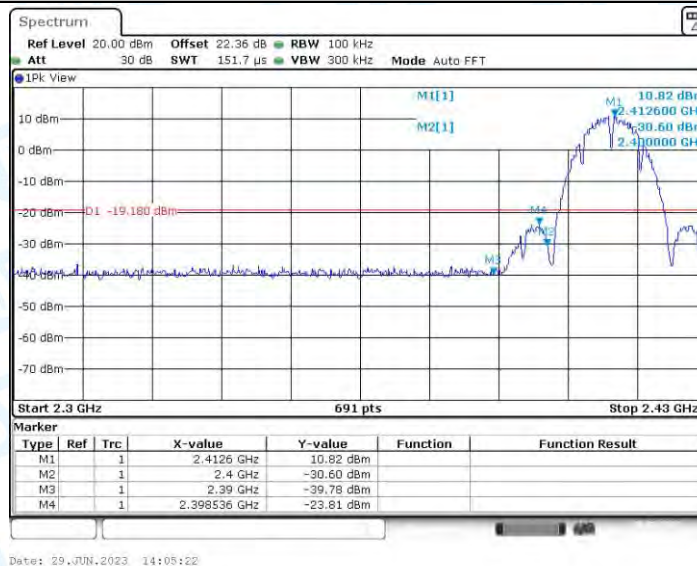
11G_Ant1_High_2462



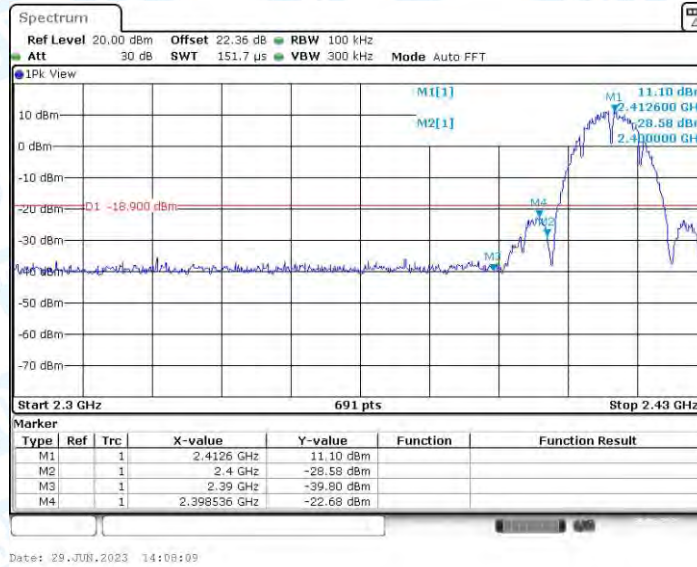
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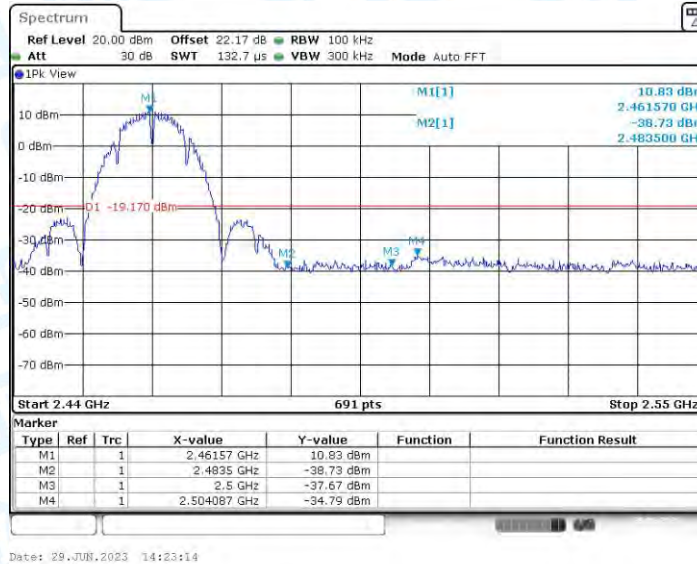
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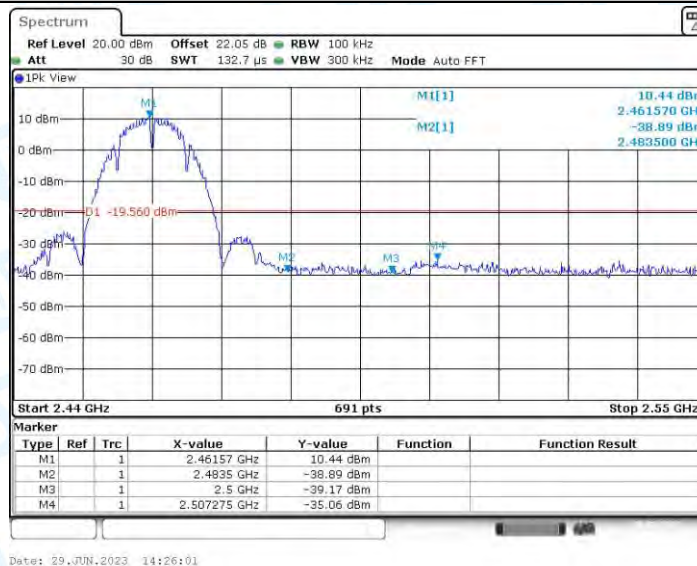
11B-CDD_Ant2_Low_2412



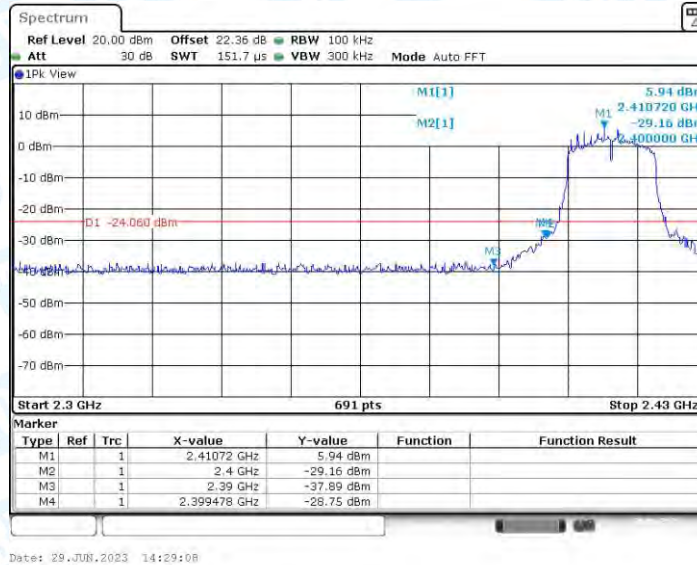
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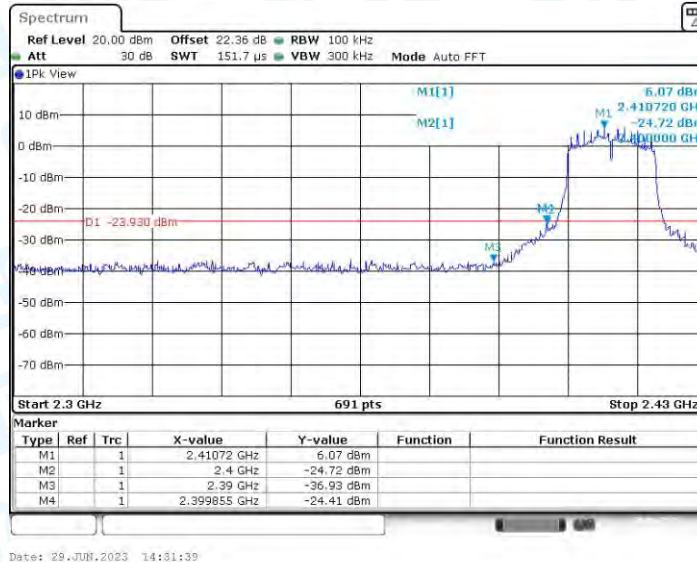
11B-CDD_Ant2_High_2462



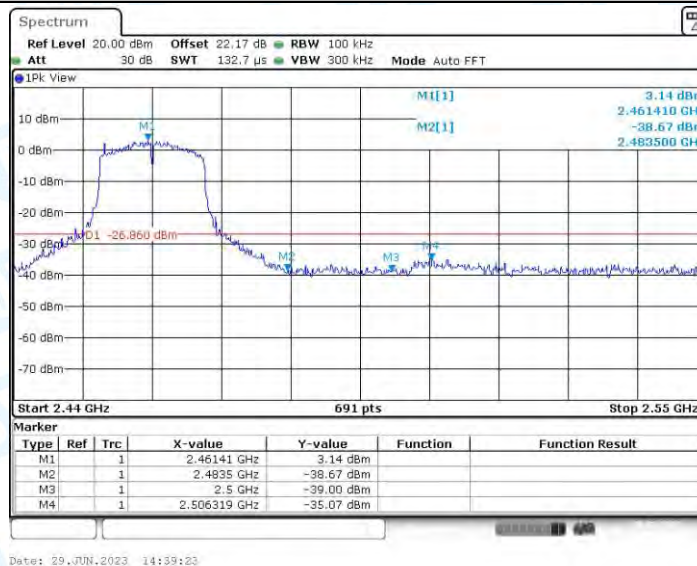
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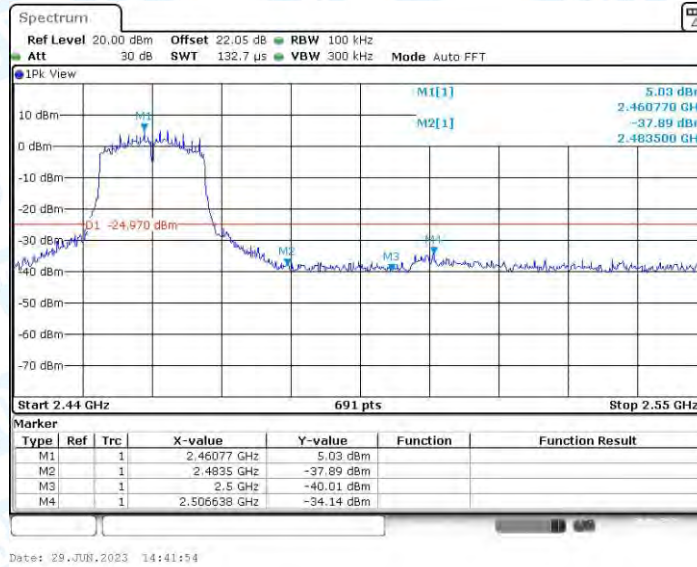
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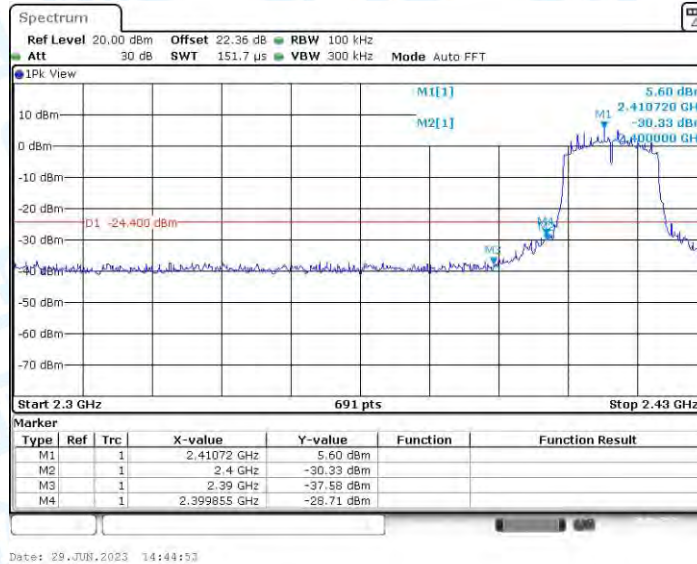
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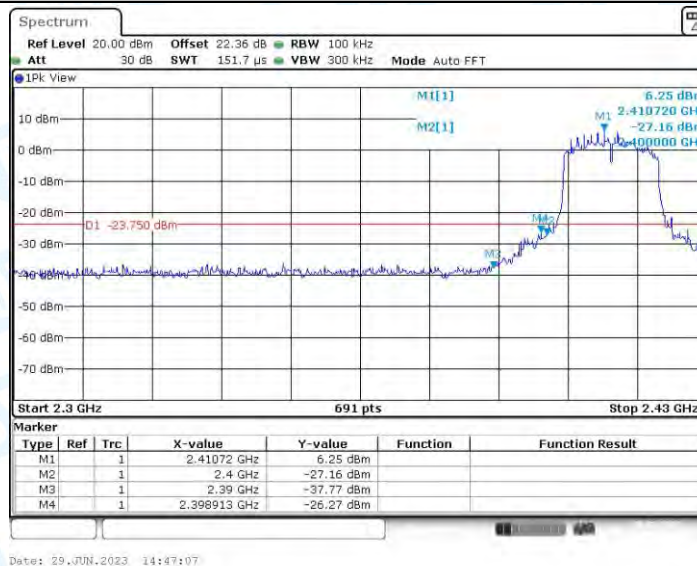
11G-CDD_Ant2_High_2462



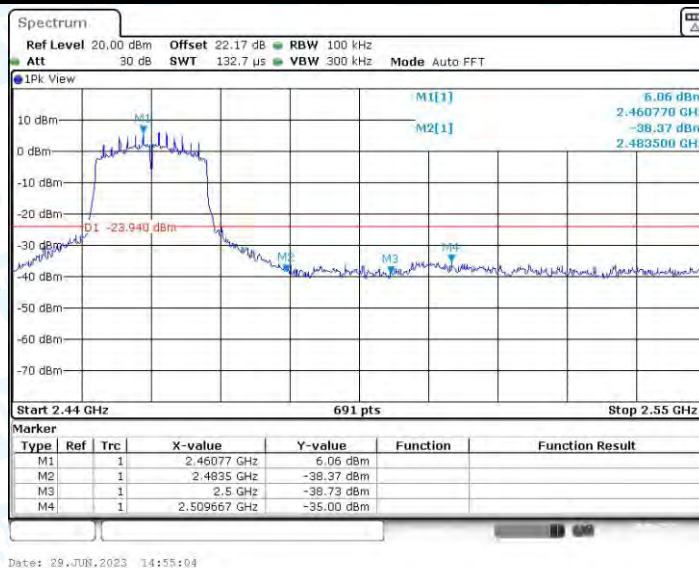
11N20-CDD_Ant1_Low_2412



11N20-CDD_Ant2_Low_2412



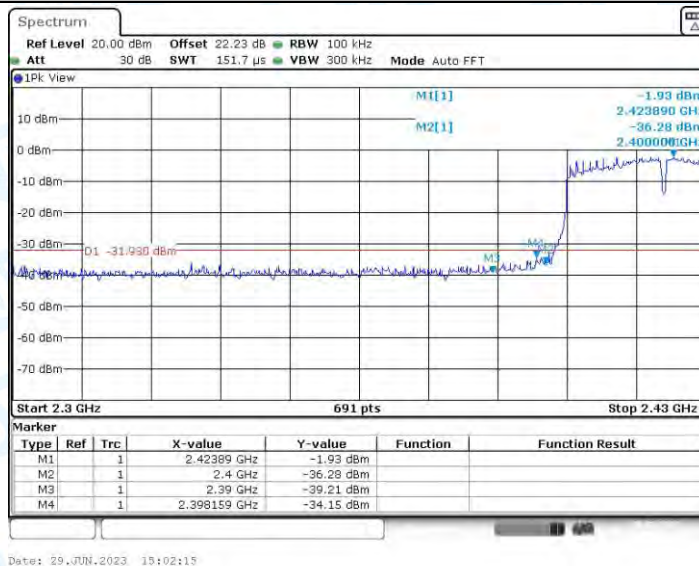
11N20-CDD_Ant1_High_2462



11N20-CDD_Ant2_High_2462



11N40-CDD_Ant1_Low_2422



11N40-CDD_Ant2_Low_2422