

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

General Description of EUT	
EUT Name:	W665S3
Model:	W665S3
Sample ID:	RW-C-202502-0011-1-2#
Test Standard:	FCC Part 15.247
Environmental Conditions	
Ambient Temperature:	25°C
Ambient Humidity:	45%RH
Test Power Supply:	DC 3.3V
Test Engineer:	Rick.chen
Note: For a more detailed features description, please refer to the report TBR-C-202502-0011-12	

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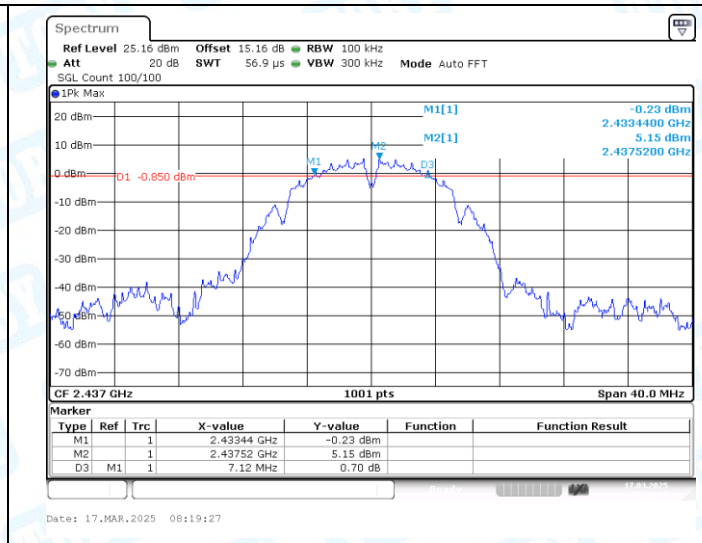
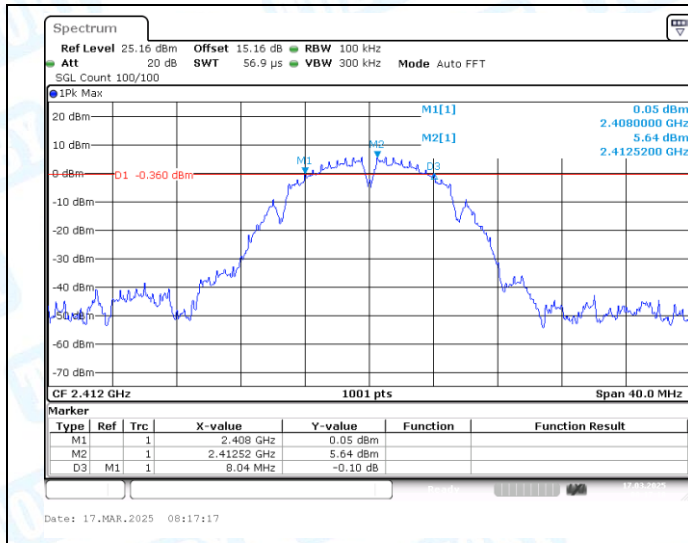
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1: DTS Bandwidth

1.1 Test Result

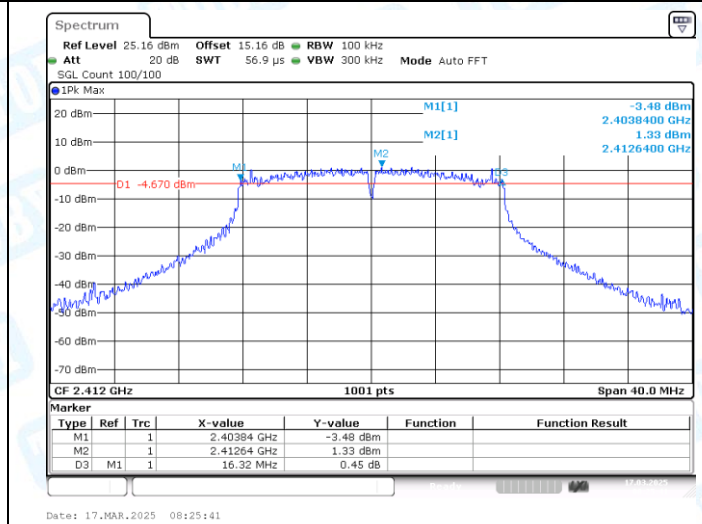
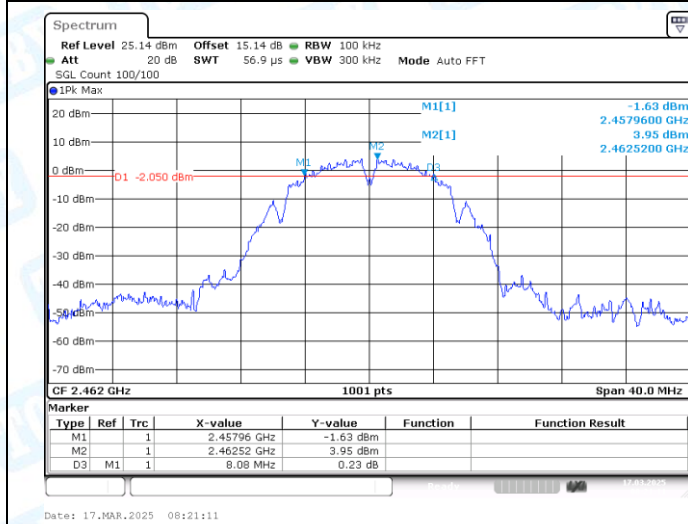
Test Mode	Ant.	Frequency [MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.04	2408.00	2416.04	0.5	PASS
11B	Ant1	2437	7.12	2433.44	2440.56	0.5	PASS
11B	Ant1	2462	8.08	2457.96	2466.04	0.5	PASS
11G	Ant1	2412	16.32	2403.84	2420.16	0.5	PASS
11G	Ant1	2437	16.36	2428.84	2445.20	0.5	PASS
11G	Ant1	2462	15.64	2454.24	2469.88	0.5	PASS
11N20MIMO	Ant1	2412	17.60	2403.20	2420.80	0.5	PASS
11N20MIMO	Ant2	2412	17.56	2403.20	2420.76	0.5	PASS
11N20MIMO	Ant1	2437	17.56	2428.24	2445.80	0.5	PASS
11N20MIMO	Ant2	2437	15.12	2429.44	2444.56	0.5	PASS
11N20MIMO	Ant1	2462	16.28	2453.52	2469.80	0.5	PASS
11N20MIMO	Ant2	2462	13.88	2455.68	2469.56	0.5	PASS
11N40MIMO	Ant1	2422	32.64	2406.96	2439.60	0.5	PASS
11N40MIMO	Ant2	2422	32.64	2405.68	2438.32	0.5	PASS
11N40MIMO	Ant1	2437	27.68	2421.88	2449.56	0.5	PASS
11N40MIMO	Ant2	2437	33.92	2420.68	2454.60	0.5	PASS
11N40MIMO	Ant1	2452	35.20	2434.48	2469.68	0.5	PASS
11N40MIMO	Ant2	2452	32.56	2436.96	2469.52	0.5	PASS
11AX20MIMO	Ant1	2412	18.16	2402.84	2421.00	0.5	PASS
11AX20MIMO	Ant2	2412	18.80	2402.60	2421.40	0.5	PASS
11AX20MIMO	Ant1	2437	18.64	2427.68	2446.32	0.5	PASS
11AX20MIMO	Ant2	2437	18.12	2428.12	2446.24	0.5	PASS
11AX20MIMO	Ant1	2462	18.28	2452.68	2470.96	0.5	PASS
11AX20MIMO	Ant2	2462	18.64	2452.56	2471.20	0.5	PASS
11AX40MIMO	Ant1	2422	38.08	2402.96	2441.04	0.5	PASS
11AX40MIMO	Ant2	2422	28.72	2405.92	2434.64	0.5	PASS
11AX40MIMO	Ant1	2437	37.28	2418.44	2455.72	0.5	PASS
11AX40MIMO	Ant2	2437	30.72	2421.96	2452.68	0.5	PASS
11AX40MIMO	Ant1	2452	25.60	2438.48	2464.08	0.5	PASS
11AX40MIMO	Ant2	2452	37.84	2433.04	2470.88	0.5	PASS

1.2 Test Graphs



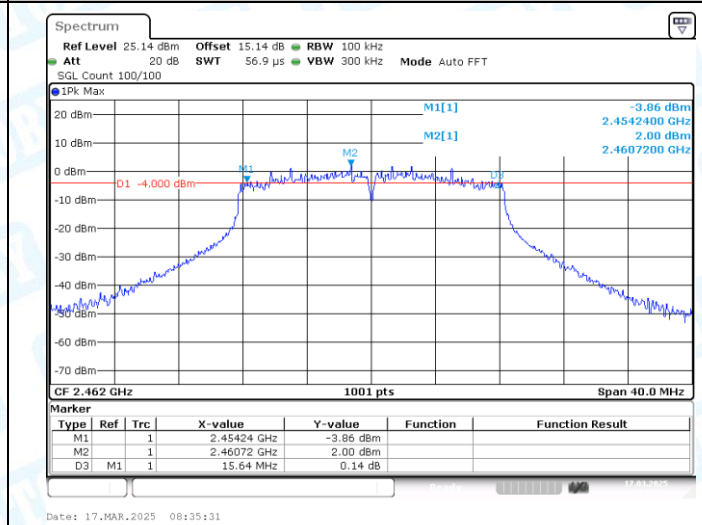
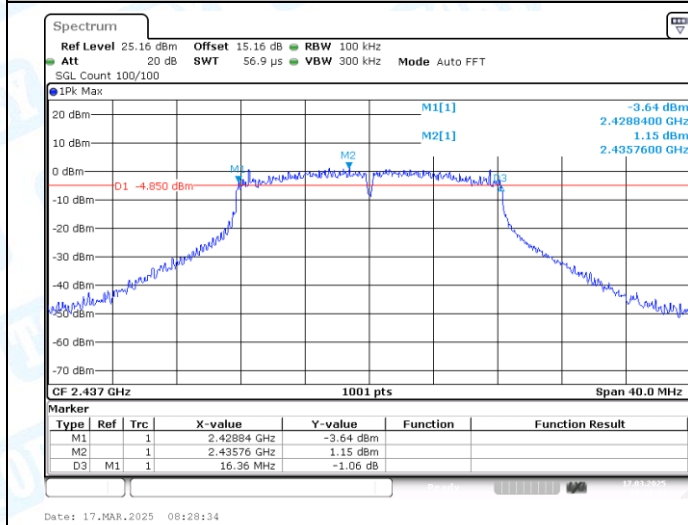
11B-Ant1-2412-PASS

11B-Ant1-2437-PASS



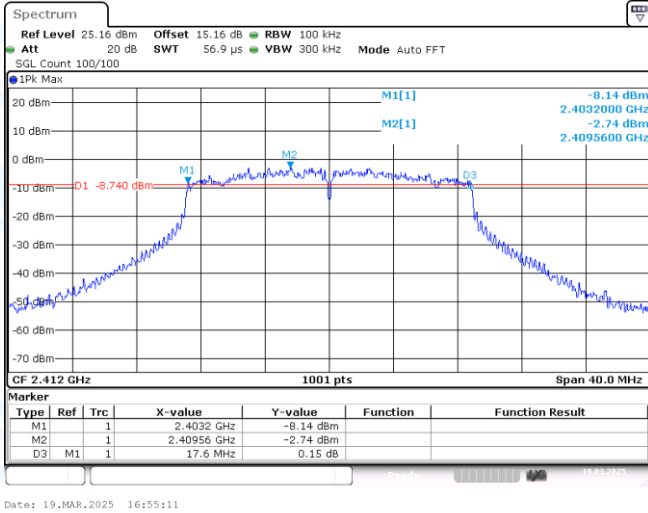
11B-Ant1-2462-PASS

11G-Ant1-2412-PASS

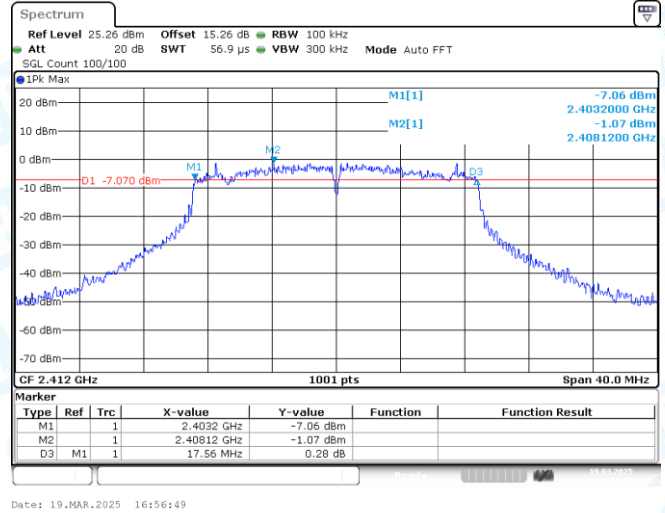


11G-Ant1-2437-PASS

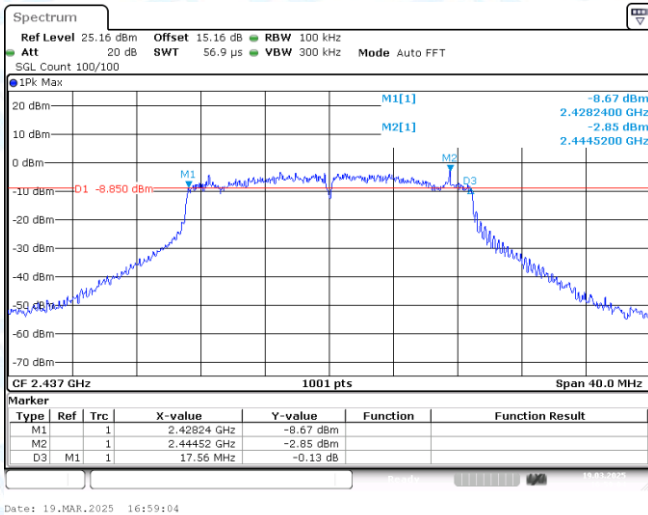
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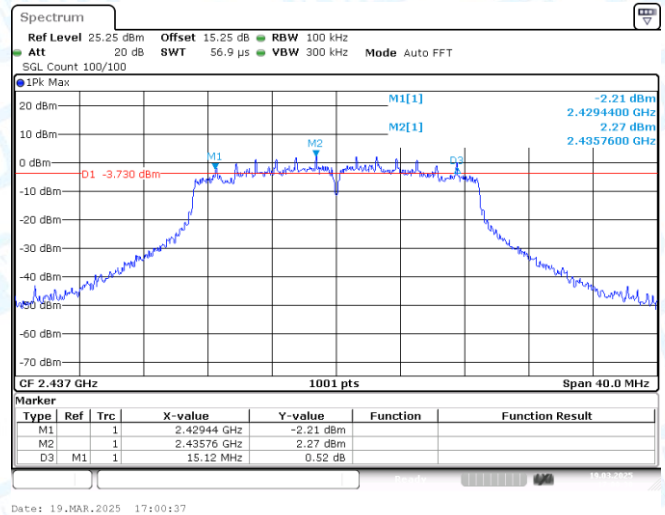
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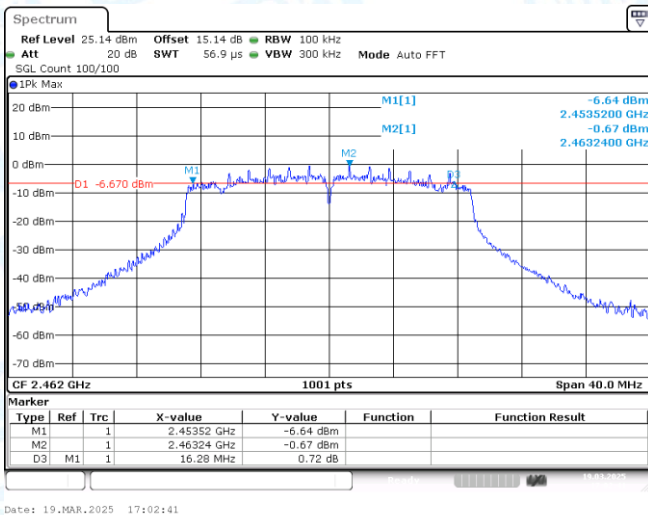
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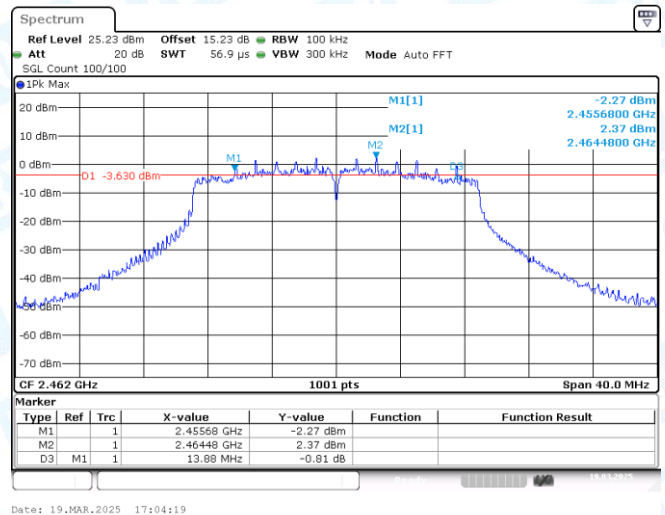
11N20MIMO-Ant1-2437-PASS



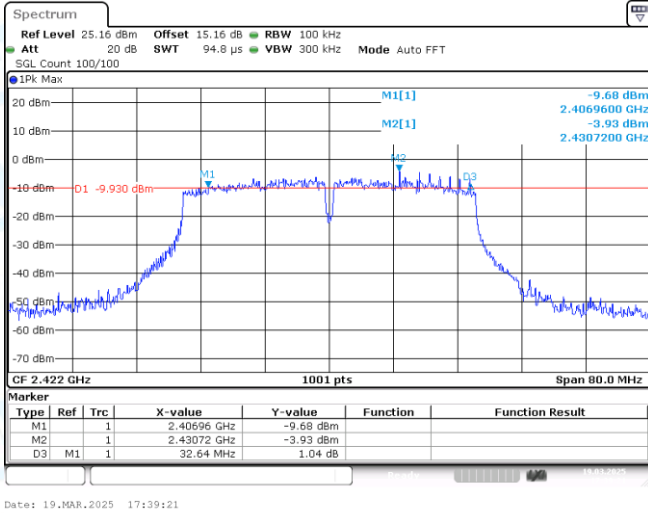
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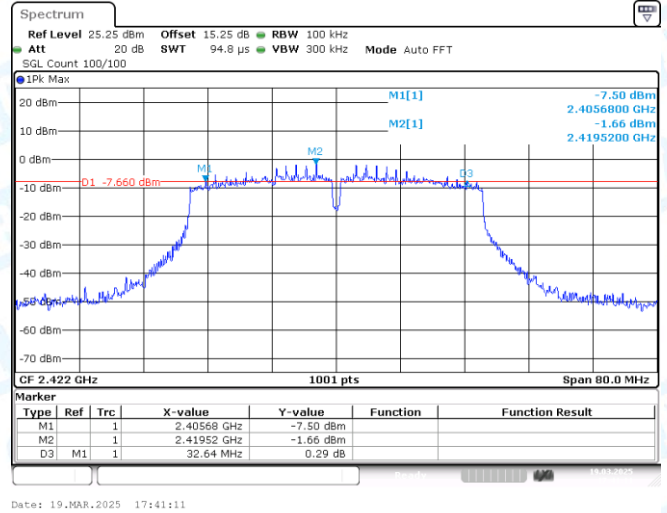
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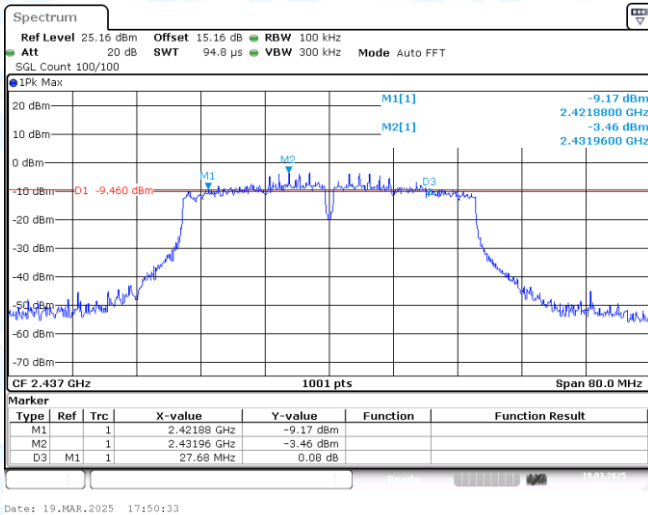
11N20MIMO-Ant2-2462-PASS



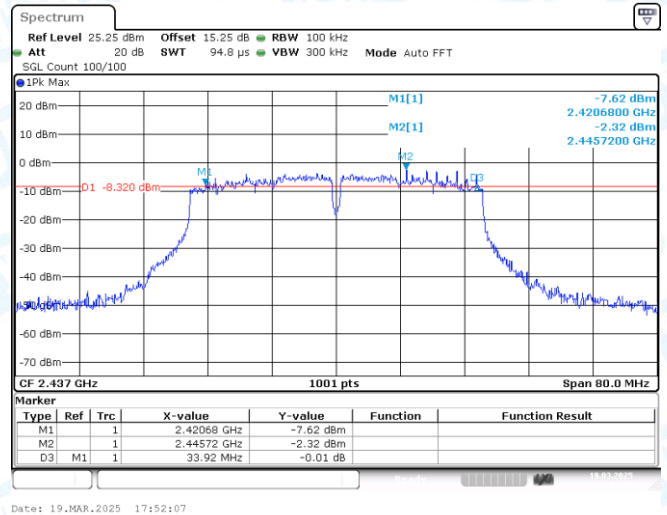
11N40MIMO-Ant1-2422-PASS



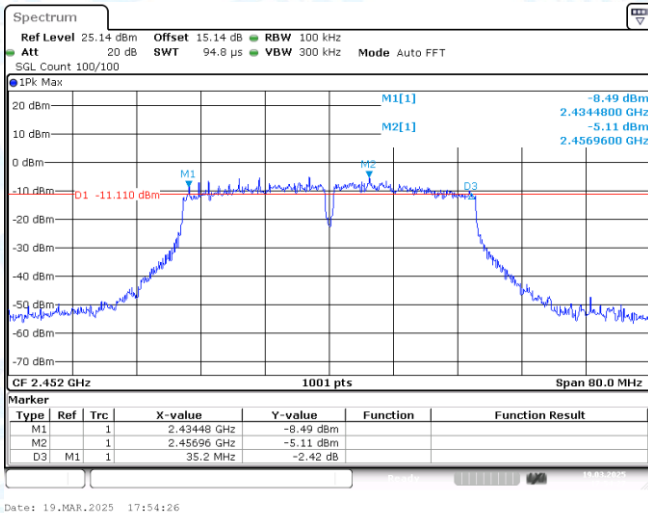
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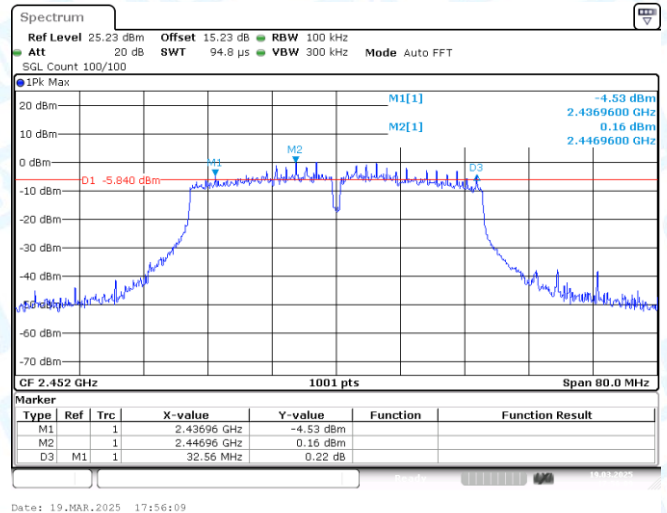
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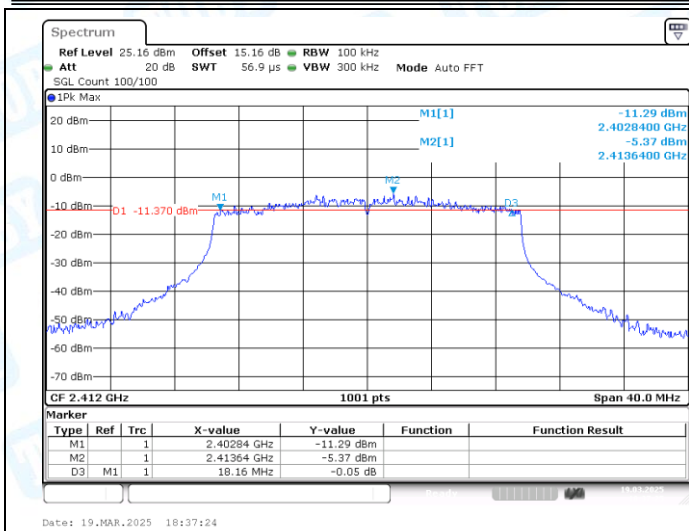
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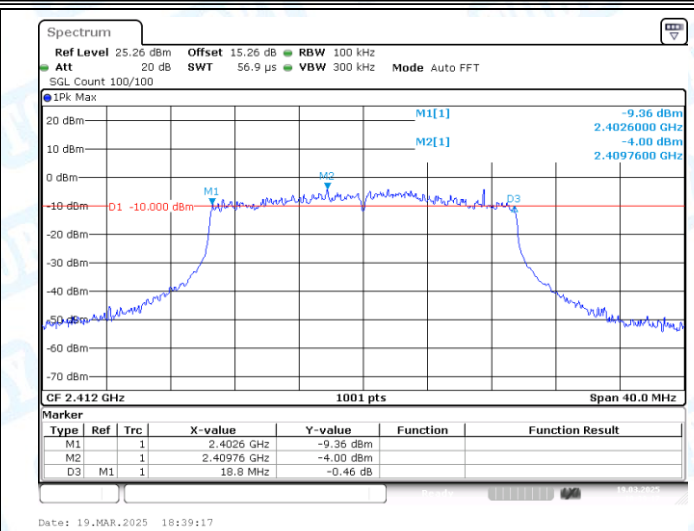
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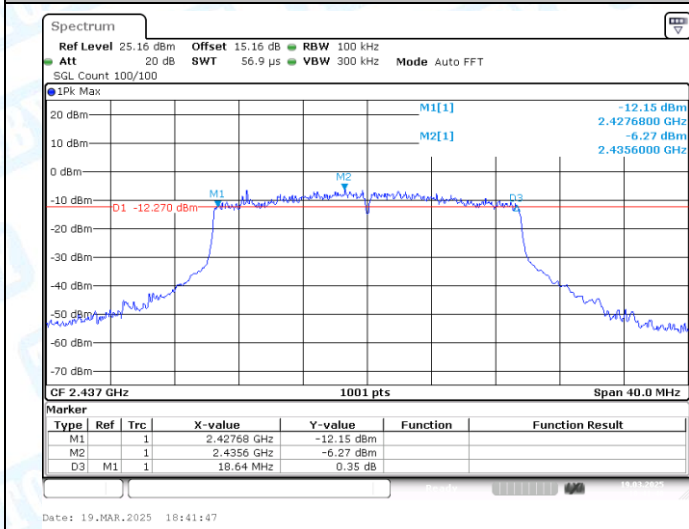
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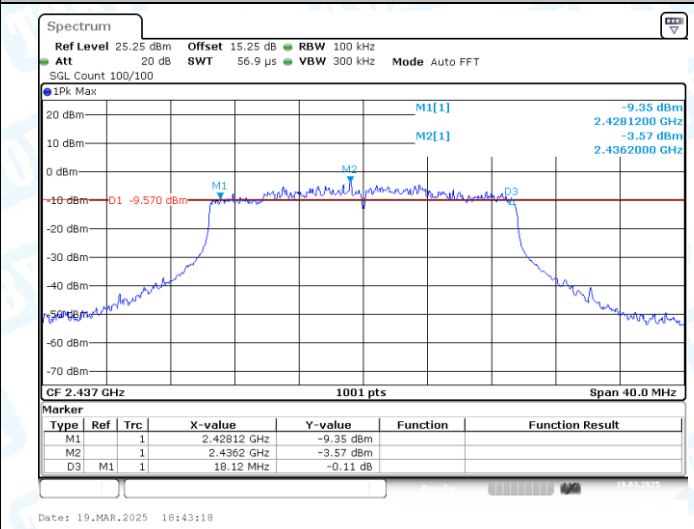
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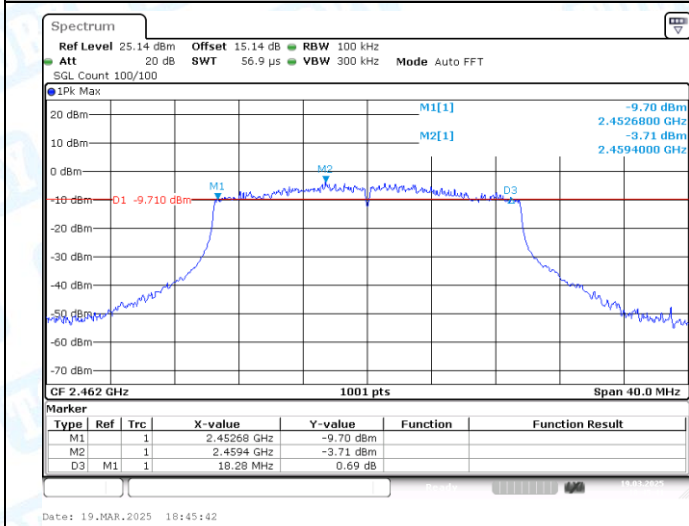
11AX20MIMO-Ant2-2412-PASS



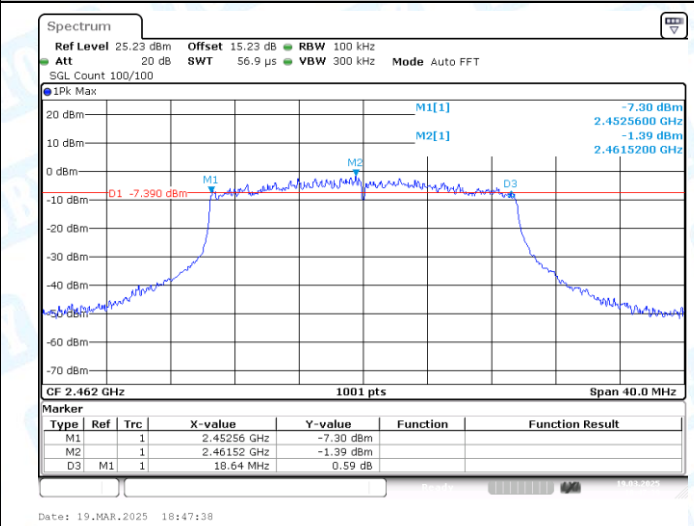
11AX20MIMO-Ant1-2437-PASS



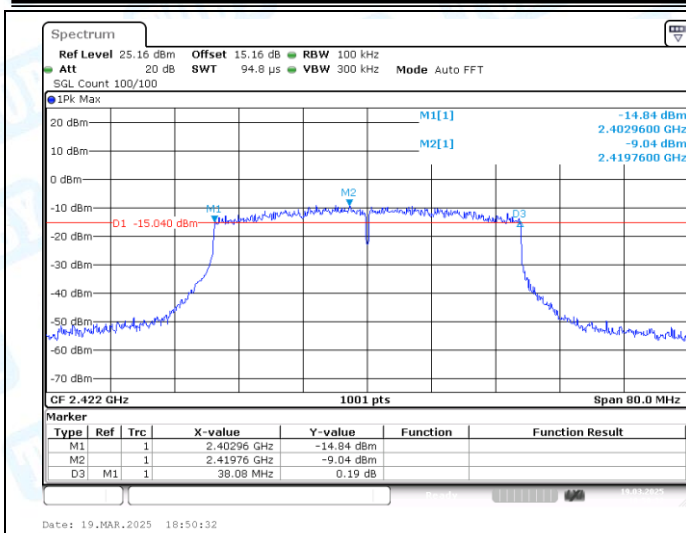
11AX20MIMO-Ant2-2437-PASS



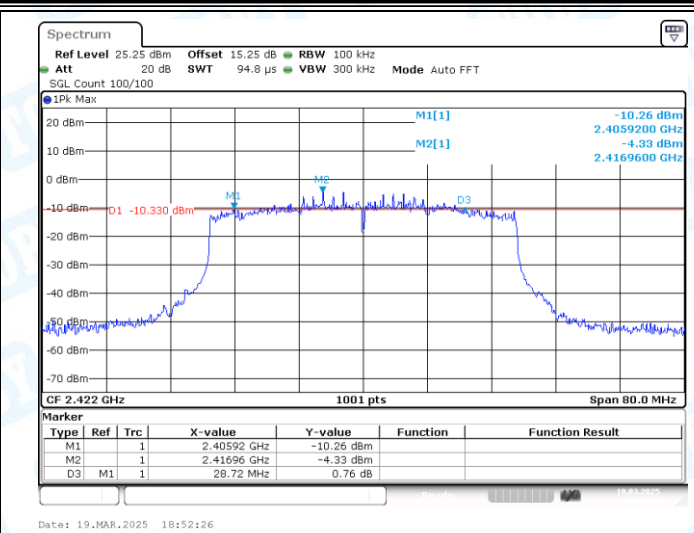
11AX20MIMO-Ant1-2462-PASS



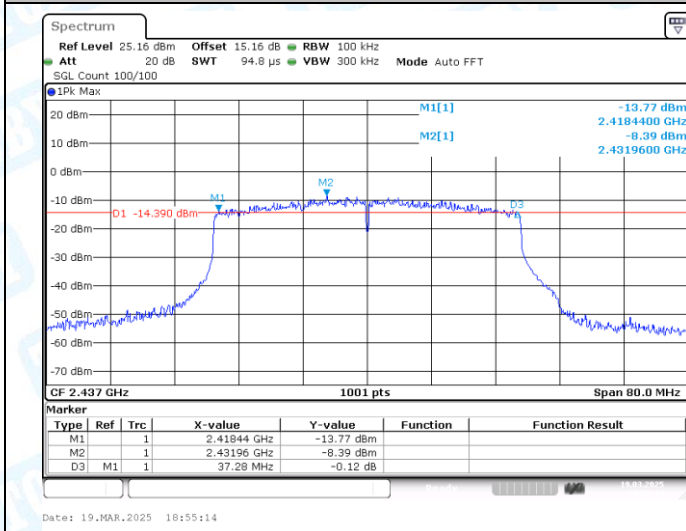
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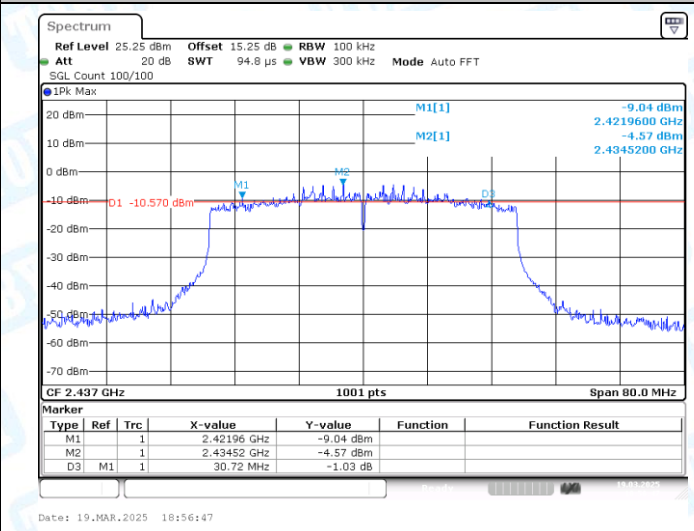
11AX40MIMO-Ant1-2422-PASS



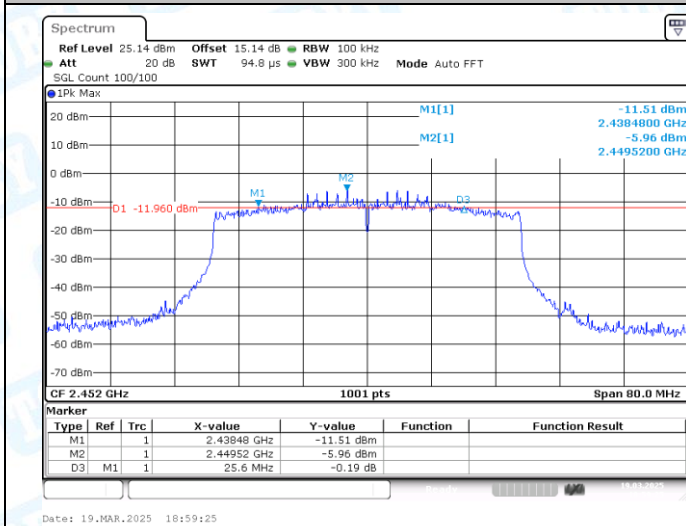
11AX40MIMO-Ant2-2422-PASS



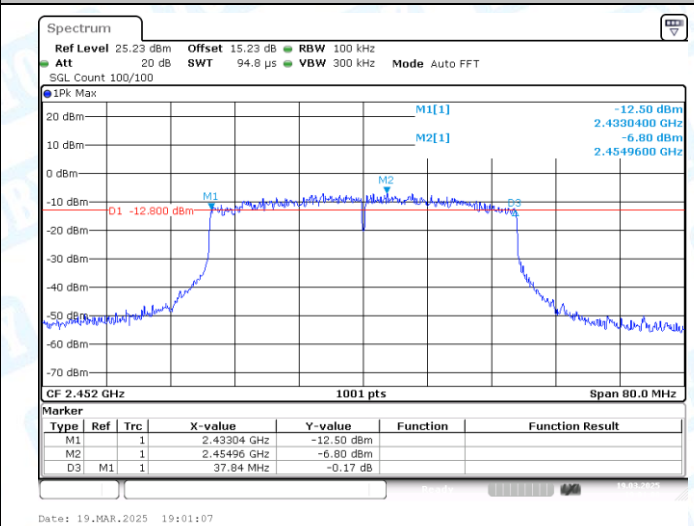
11AX40MIMO-Ant1-2437-PASS



11AX40MIMO-Ant2-2437-PASS



11AX40MIMO-Ant1-2452-PASS



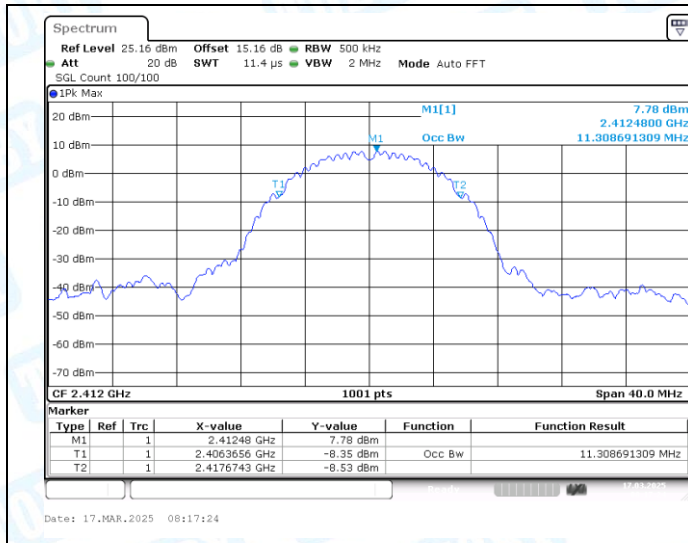
11AX40MIMO-Ant2-2452-PASS

2: Occupied Channel Bandwidth

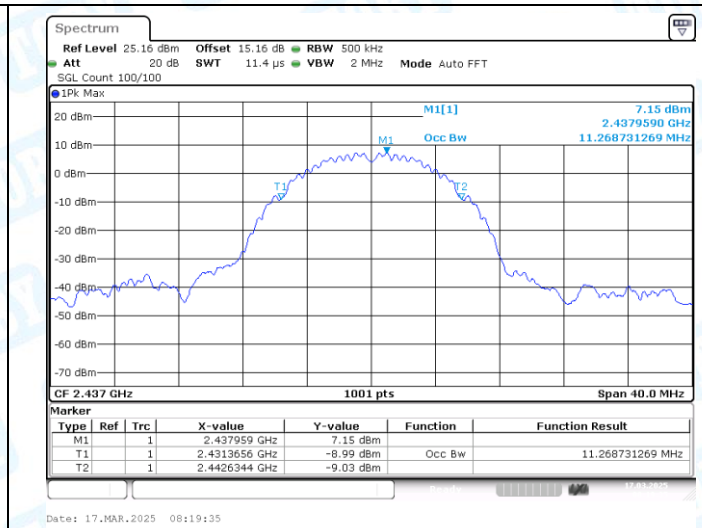
2.1 Test Result

TestMode	Ant.	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	11.309	2406.3656	2417.6743	---	---
11B	Ant1	2437	11.269	2431.3656	2442.6344	---	---
11B	Ant1	2462	11.269	2456.3257	2467.5944	---	---
11G	Ant1	2412	16.503	2403.8082	2420.3117	---	---
11G	Ant1	2437	16.783	2428.6084	2445.3916	---	---
11G	Ant1	2462	16.583	2453.7283	2470.3117	---	---
11N20MIMO	Ant1	2412	17.942	2402.9690	2420.9111	---	---
11N20MIMO	Ant2	2412	17.902	2403.0090	2420.9111	---	---
11N20MIMO	Ant1	2437	18.062	2428.1688	2446.2308	---	---
11N20MIMO	Ant2	2437	17.942	2428.0090	2445.9510	---	---
11N20MIMO	Ant1	2462	17.862	2453.0490	2470.9111	---	---
11N20MIMO	Ant2	2462	17.662	2453.1289	2470.7912	---	---
11N40MIMO	Ant1	2422	36.044	2403.8581	2439.9021	---	---
11N40MIMO	Ant2	2422	36.284	2403.9381	2440.2218	---	---
11N40MIMO	Ant1	2437	36.683	2418.8581	2455.5415	---	---
11N40MIMO	Ant2	2437	36.124	2418.8581	2454.9820	---	---
11N40MIMO	Ant1	2452	36.284	2433.6983	2469.9820	---	---
11N40MIMO	Ant2	2452	36.124	2433.9381	2470.0619	---	---
11AX20MIMO	Ant1	2412	19.181	2402.4496	2421.6304	---	---
11AX20MIMO	Ant2	2412	18.981	2402.4895	2421.4705	---	---
11AX20MIMO	Ant1	2437	18.901	2427.5295	2446.4306	---	---
11AX20MIMO	Ant2	2437	18.941	2427.5694	2446.5105	---	---
11AX20MIMO	Ant1	2462	18.861	2452.5694	2471.4306	---	---
11AX20MIMO	Ant2	2462	18.981	2452.5295	2471.5105	---	---
11AX40MIMO	Ant1	2422	37.722	2403.1389	2440.8611	---	---
11AX40MIMO	Ant2	2422	37.642	2403.1389	2440.7812	---	---
11AX40MIMO	Ant1	2437	37.562	2418.2188	2455.7812	---	---
11AX40MIMO	Ant2	2437	37.882	2418.0589	2455.9411	---	---
11AX40MIMO	Ant1	2452	37.802	2433.1389	2470.9411	---	---
11AX40MIMO	Ant2	2452	37.642	2433.2987	2470.9411	---	---

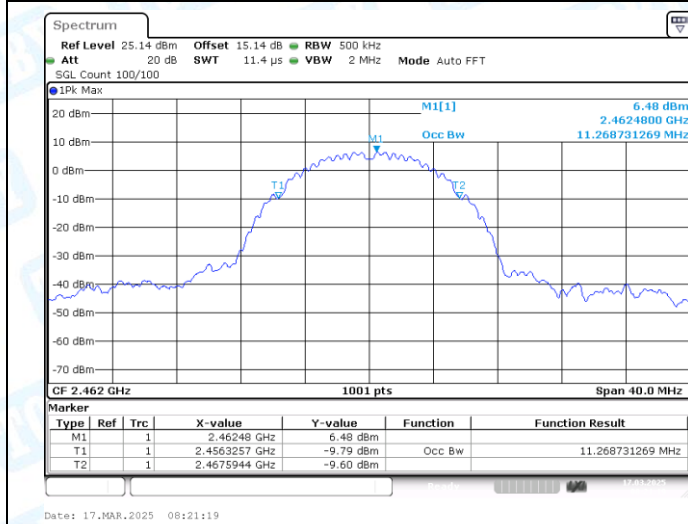
2.2 Test Graphs



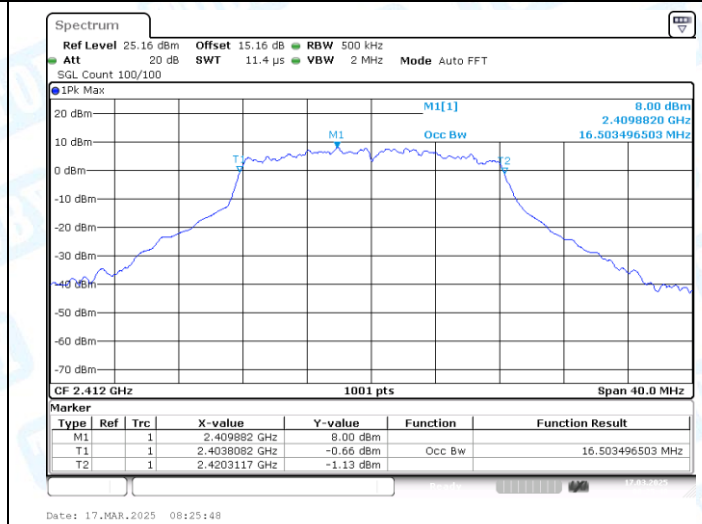
11B-Ant1-2412



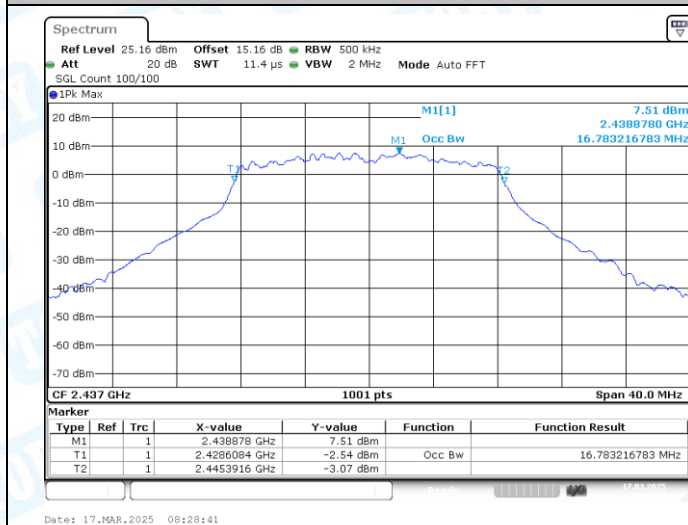
11B-Ant1-2437



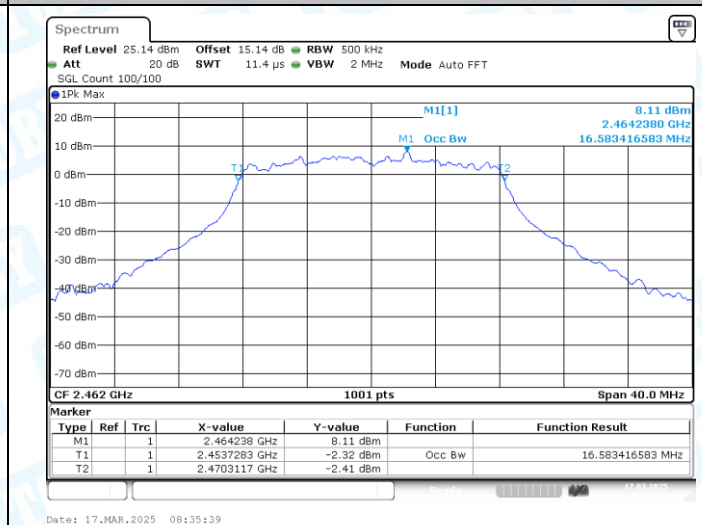
11B-Ant1-2462



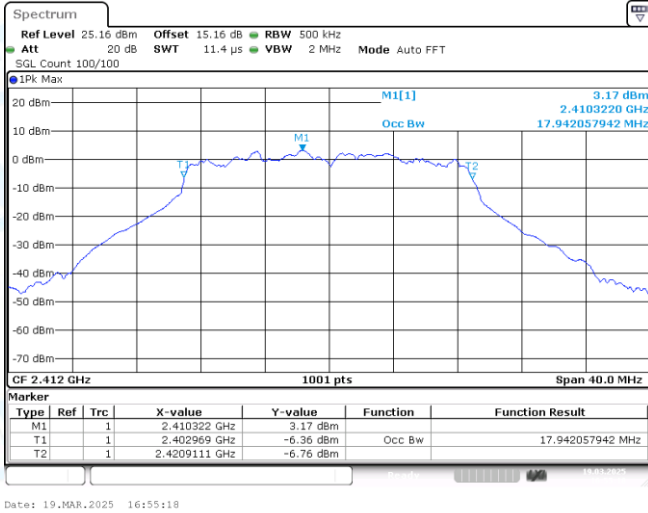
11G-Ant1-2412



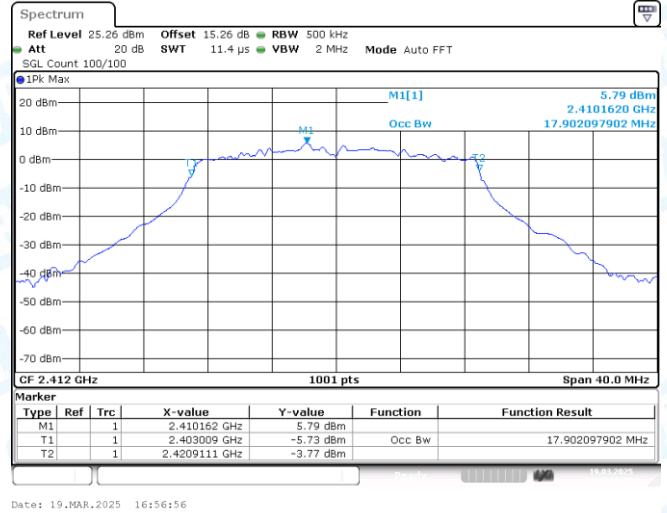
11G-Ant1-2437



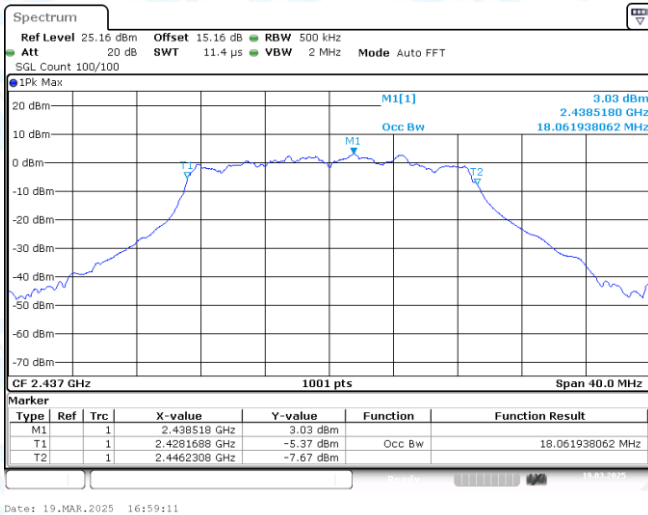
11G-Ant1-2462



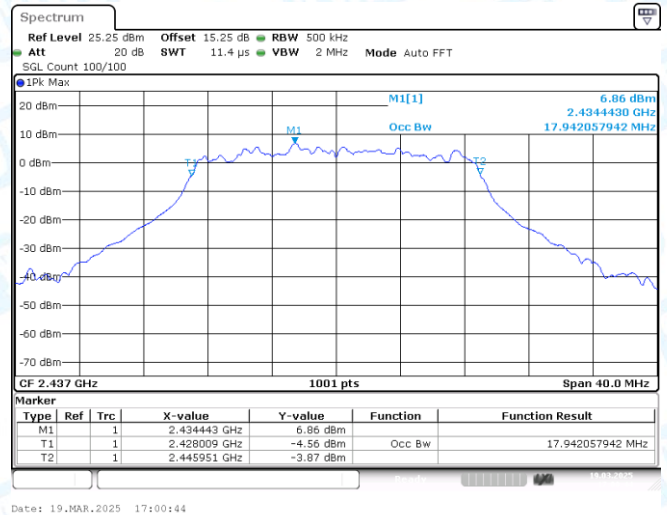
11N20MIMO-Ant1-2412



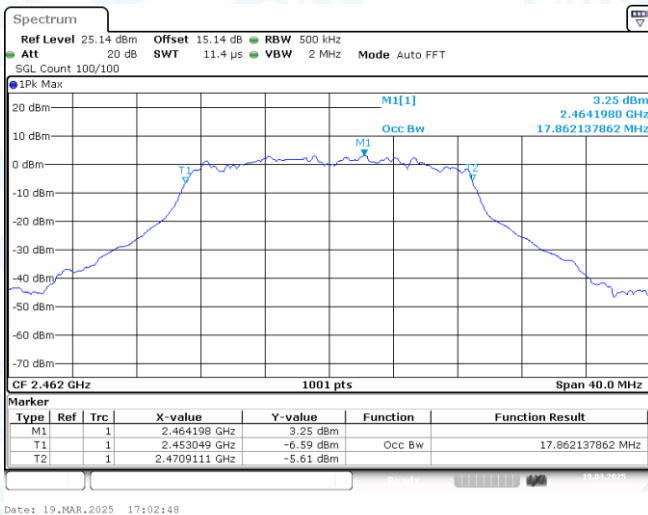
11N20MIMO-Ant2-2412



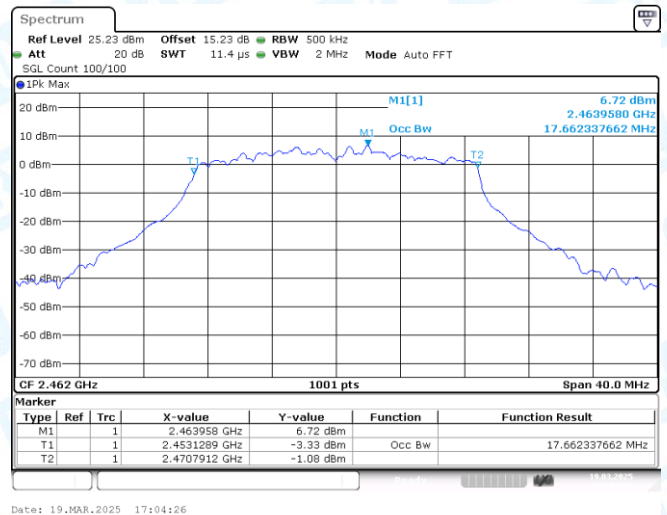
11N20MIMO-Ant1-2437



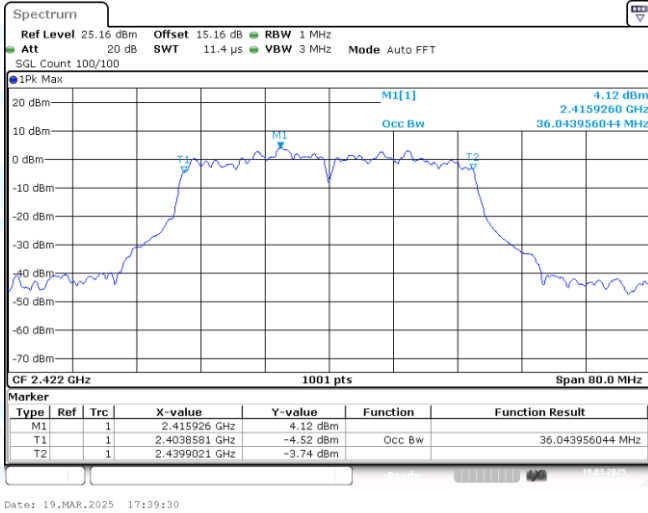
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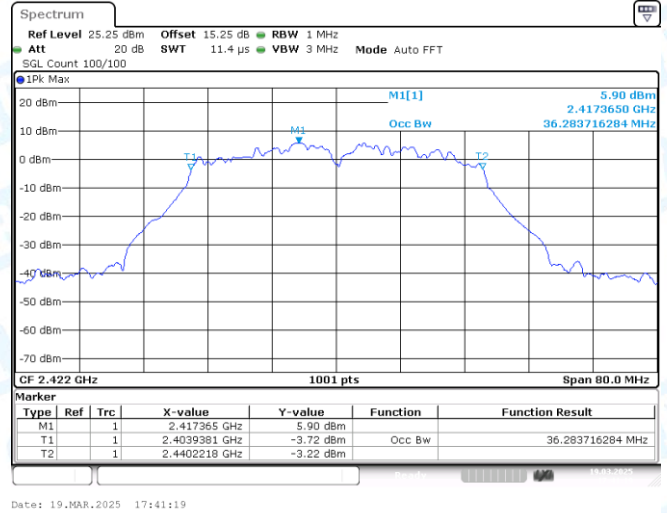
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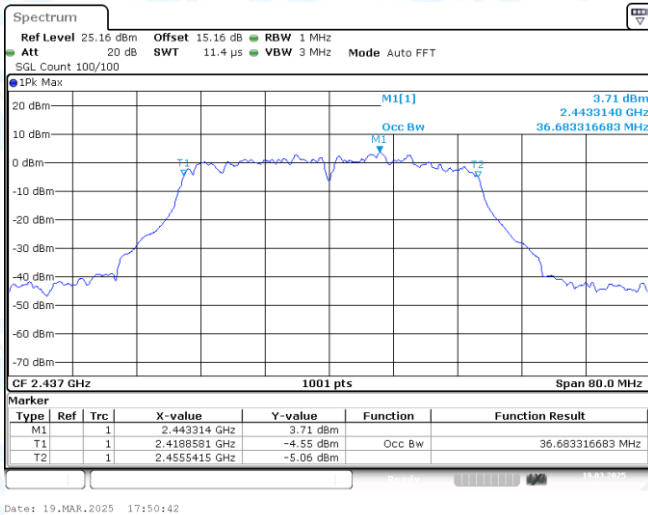
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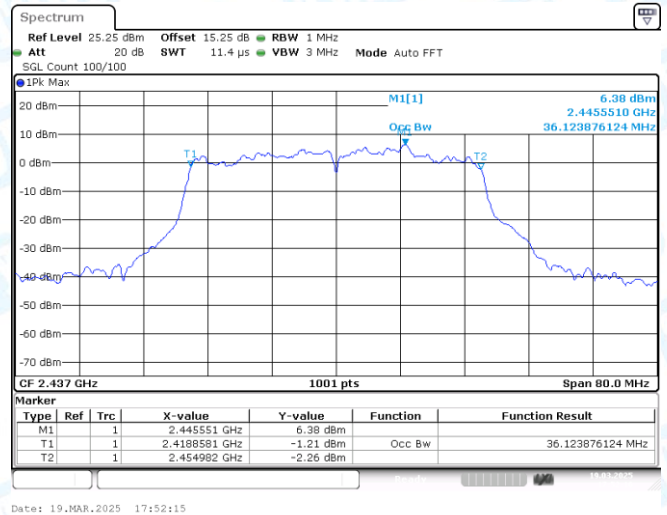
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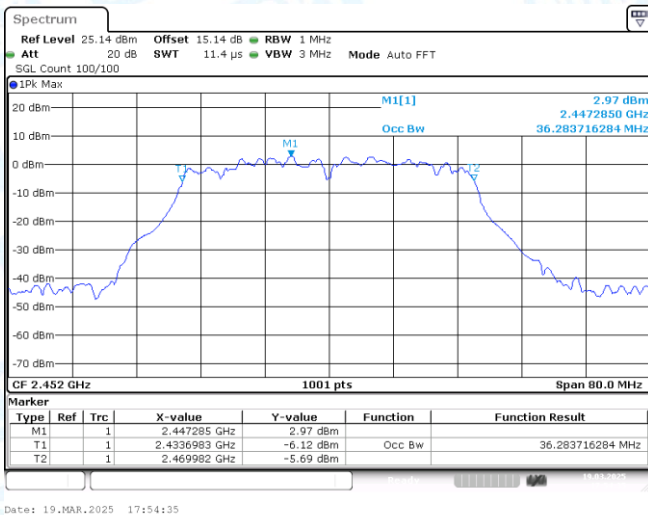
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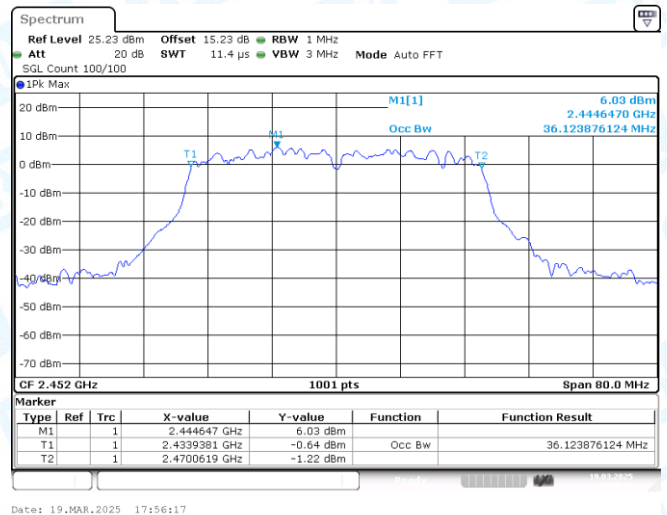
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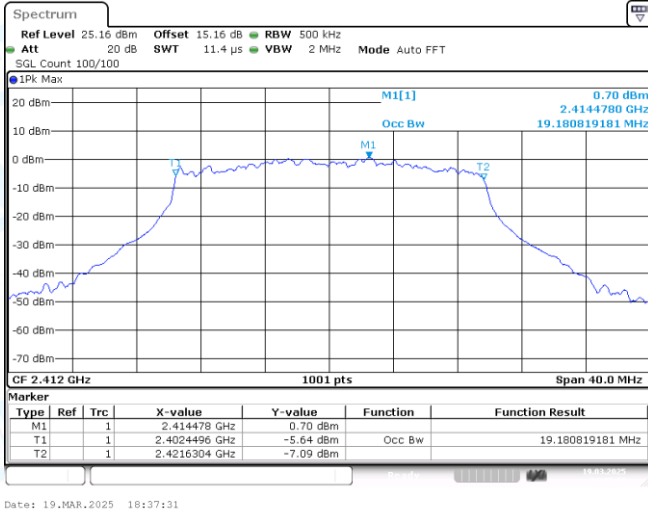
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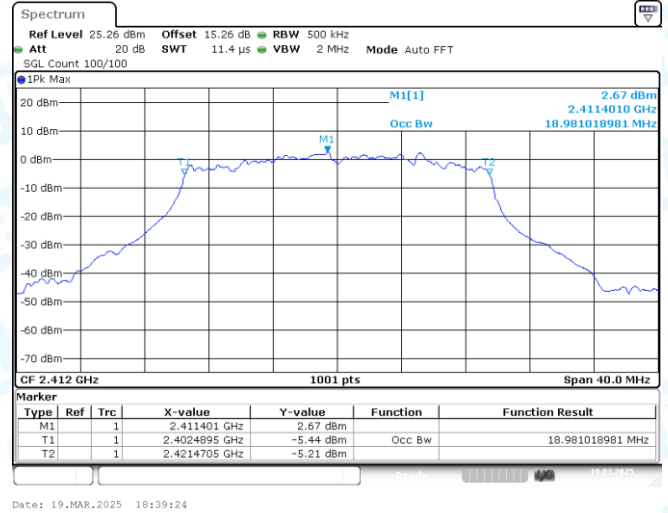
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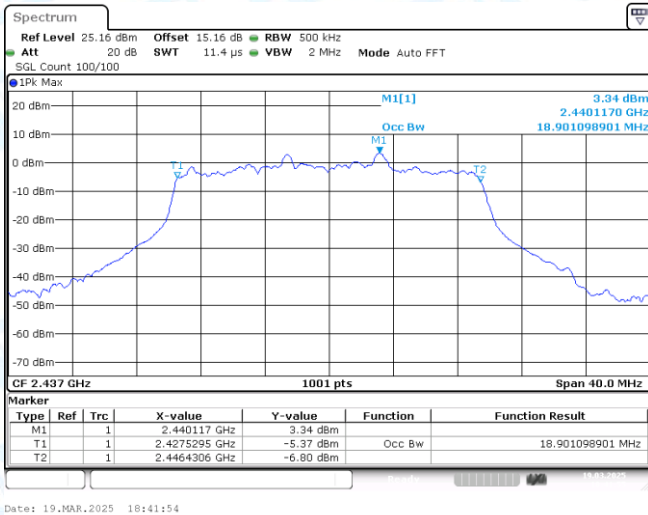
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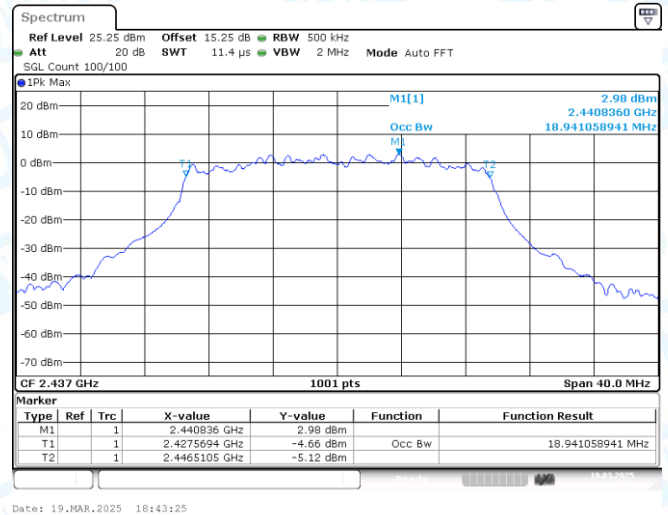
11AX20MIMO-Ant1-2412



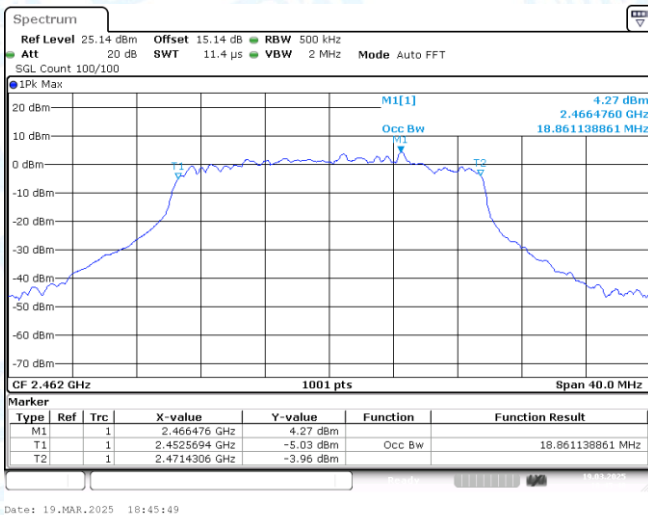
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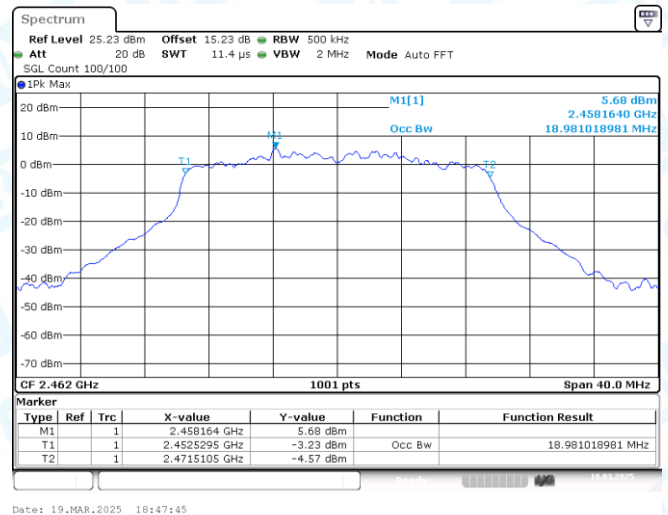
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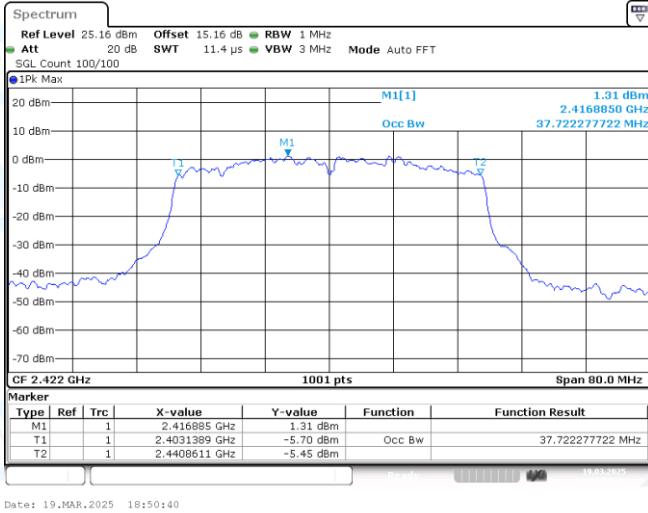
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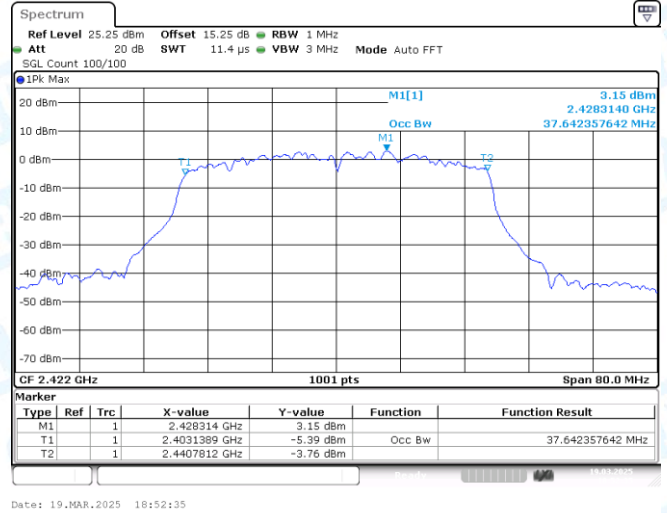
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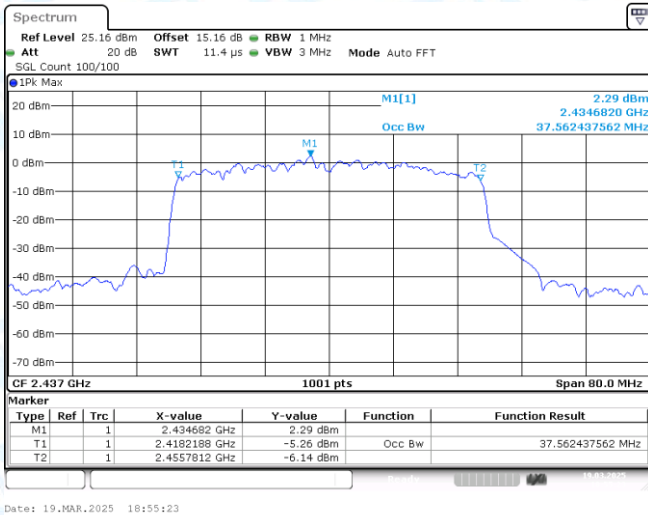
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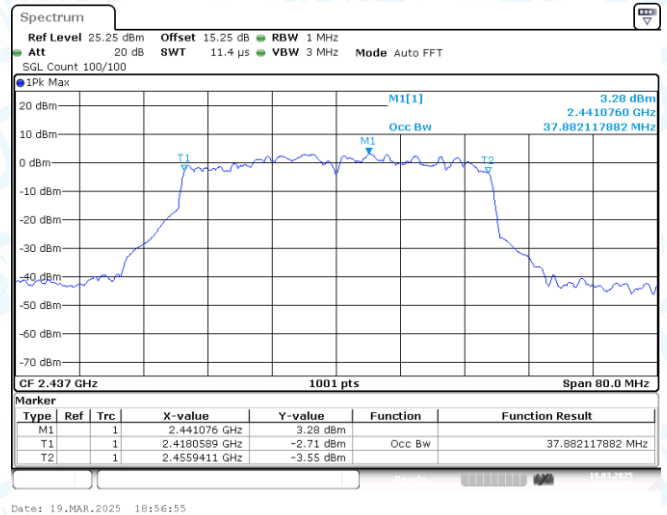
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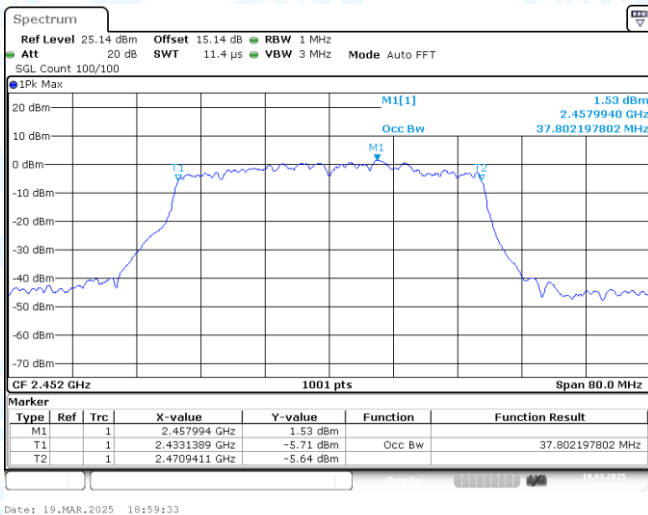
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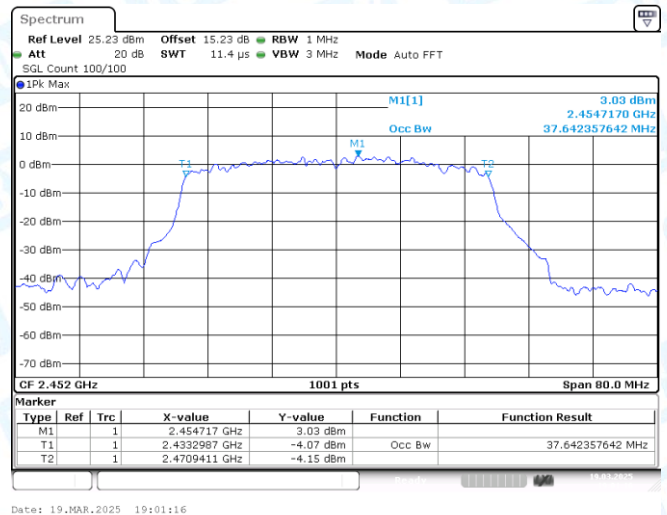
11AX40MIMO-Ant1-2437



11AX40MIMO-Ant2-2437



11AX40MIMO-Ant1-2452



11AX40MIMO-Ant2-2452

3: Maximum conducted output power

3.1 Test Result Average

Test Mode	Ant.	Frequency [MHz]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	15.35	≤30.00	PASS
11B	Ant1	2437	14.72	≤30.00	PASS
11B	Ant1	2462	14.07	≤30.00	PASS
11G	Ant1	2412	15.03	≤30.00	PASS
11G	Ant1	2437	14.60	≤30.00	PASS
11G	Ant1	2462	13.97	≤30.00	PASS
11N20MIMO	Ant1	2412	10.63	≤30.00	PASS
11N20MIMO	Ant2	2412	12.50	≤30.00	PASS
11N20MIMO	total	2412	14.68	≤29.39	PASS
11N20MIMO	Ant1	2437	10.28	≤30.00	PASS
11N20MIMO	Ant2	2437	13.37	≤30.00	PASS
11N20MIMO	total	2437	15.10	≤29.39	PASS
11N20MIMO	Ant1	2462	10.96	≤30.00	PASS
11N20MIMO	Ant2	2462	13.59	≤30.00	PASS
11N20MIMO	total	2462	15.48	≤29.39	PASS
11N40MIMO	Ant1	2422	11.83	≤30.00	PASS
11N40MIMO	Ant2	2422	11.93	≤30.00	PASS
11N40MIMO	total	2422	14.89	≤29.39	PASS
11N40MIMO	Ant1	2437	10.11	≤30.00	PASS
11N40MIMO	Ant2	2437	8.80	≤30.00	PASS
11N40MIMO	total	2437	12.51	≤29.39	PASS
11N40MIMO	Ant1	2452	10.26	≤30.00	PASS
11N40MIMO	Ant2	2452	14.27	≤30.00	PASS
11N40MIMO	total	2452	15.72	≤29.39	PASS
11AX20MIMO	Ant1	2412	6.67	≤30.00	PASS
11AX20MIMO	Ant2	2412	7.89	≤30.00	PASS
11AX20MIMO	total	2412	10.33	≤29.39	PASS
11AX20MIMO	Ant1	2437	6.87	≤30.00	PASS
11AX20MIMO	Ant2	2437	8.70	≤30.00	PASS
11AX20MIMO	total	2437	10.89	≤29.39	PASS
11AX20MIMO	Ant1	2462	9.25	≤30.00	PASS
11AX20MIMO	Ant2	2462	10.96	≤30.00	PASS
11AX20MIMO	total	2462	13.20	≤29.39	PASS
11AX40MIMO	Ant1	2422	7.17	≤30.00	PASS
11AX40MIMO	Ant2	2422	8.68	≤30.00	PASS
11AX40MIMO	total	2422	11.00	≤29.39	PASS
11AX40MIMO	Ant1	2437	7.11	≤30.00	PASS
11AX40MIMO	Ant2	2437	8.96	≤30.00	PASS
11AX40MIMO	total	2437	11.14	≤29.39	PASS
11AX40MIMO	Ant1	2452	7.93	≤30.00	PASS
11AX40MIMO	Ant2	2452	8.63	≤30.00	PASS
11AX40MIMO	total	2452	11.30	≤29.39	PASS

Note: The EUT incorporates a MIMO function. Physically, the EUT provides two antennas for transmitting and receiving.

When ANT.1 and ANT. 2 transmitting simultaneously, and the Directional Gain=6.61dBi>6dBi. (Ant.1: 3.6dBi; Ant.2: 3.6dBi)

So $P_{out} = P_{limit} - (GTX - 6) = (30.00 - 0.61) \text{dBm} = 29.39 \text{dBm}$

Directional Gain=ANT. Gain+10*LOG(NANT)

The Duty Cycle Factor is compensated in the graph.

4: Maximum power spectral density

4.1 Test Result

TestMode	Ant.	Frequency[MHz]	RawData [dBm/3kHz]	DC Factory	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-15.26	0.40	-14.86	≤8.00	PASS
11B	Ant1	2437	-15.1	0.40	-14.70	≤8.00	PASS
11B	Ant1	2462	-15.47	0.41	-15.06	≤8.00	PASS
11G	Ant1	2412	-19.4	1.15	-18.25	≤8.00	PASS
11G	Ant1	2437	-19.5	1.12	-18.38	≤8.00	PASS
11G	Ant1	2462	-20.08	1.12	-18.96	≤8.00	PASS
11N20MIMO	Ant1	2412	-23.51	2.23	-21.28	≤8.00	PASS
11N20MIMO	Ant2	2412	-21.82	2.30	-19.52	≤8.00	PASS
11N20MIMO	total	2412	---	---	-17.30	≤7.39	PASS
11N20MIMO	Ant1	2437	-24.09	2.30	-21.79	≤8.00	PASS
11N20MIMO	Ant2	2437	-20.6	2.30	-18.30	≤8.00	PASS
11N20MIMO	total	2437	---	---	-16.69	≤7.39	PASS
11N20MIMO	Ant1	2462	-23.52	2.30	-21.22	≤8.00	PASS
11N20MIMO	Ant2	2462	-20.61	2.30	-18.31	≤8.00	PASS
11N20MIMO	total	2462	---	---	-16.52	≤7.39	PASS
11N40MIMO	Ant1	2422	-28.34	6.79	-21.55	≤8.00	PASS
11N40MIMO	Ant2	2422	-24.85	3.58	-21.27	≤8.00	PASS
11N40MIMO	total	2422	---	---	-18.40	≤7.39	PASS
11N40MIMO	Ant1	2437	-28.33	3.89	-24.44	≤8.00	PASS
11N40MIMO	Ant2	2437	-28.33	3.89	-24.44	≤8.00	PASS
11N40MIMO	total	2437	---	---	-21.23	≤7.39	PASS
11N40MIMO	Ant1	2452	-27.43	4.63	-22.80	≤8.00	PASS
11N40MIMO	Ant2	2452	-24.21	5.84	-18.37	≤8.00	PASS
11N40MIMO	total	2452	---	---	-17.03	≤7.39	PASS
11AC20MIMO	Ant1	2412	-26.07	3.44	-22.63	≤8.00	PASS
11AC20MIMO	Ant2	2412	-24.63	3.57	-21.06	≤8.00	PASS
11AC20MIMO	total	2412	---	---	-18.76	≤7.39	PASS
11AC20MIMO	Ant1	2437	-26.25	0.36	-25.89	≤8.00	PASS
11AC20MIMO	Ant2	2437	-24.63	0.38	-24.25	≤8.00	PASS
11AC20MIMO	total	2437	---	---	-21.98	≤7.39	PASS
11AC20MIMO	Ant1	2462	-24.88	0.38	-24.50	≤8.00	PASS
11AC20MIMO	Ant2	2462	-21.84	0.37	-21.47	≤8.00	PASS
11AC20MIMO	total	2462	---	---	-19.72	≤7.39	PASS
11AC40MIMO	Ant1	2422	-30.24	1.37	-28.87	≤8.00	PASS
11AC40MIMO	Ant2	2422	-27.99	1.36	-26.63	≤8.00	PASS
11AC40MIMO	total	2422	---	---	-24.60	≤7.39	PASS
11AC40MIMO	Ant1	2437	-29.77	0.72	-29.05	≤8.00	PASS
11AC40MIMO	Ant2	2437	-27.85	0.70	-27.15	≤8.00	PASS
11AC40MIMO	total	2437	---	---	-24.99	≤7.39	PASS
11AC40MIMO	Ant1	2452	-29.37	1.38	-27.99	≤8.00	PASS
11AC40MIMO	Ant2	2452	-28.1	0.70	-27.40	≤8.00	PASS
11AC40MIMO	total	2452	---	---	-24.67	≤7.39	PASS
11AX20MIMO	Ant1	2412	-25.56	0.38	-25.18	≤8.00	PASS
11AX20MIMO	Ant2	2412	-25.05	0.37	-24.68	≤8.00	PASS
11AX20MIMO	total	2412	---	---	-21.91	≤7.39	PASS
11AX20MIMO	Ant1	2437	-26.27	0.37	-25.90	≤8.00	PASS
11AX20MIMO	Ant2	2437	-25.05	0.38	-24.67	≤8.00	PASS
11AX20MIMO	total	2437	---	---	-22.23	≤7.39	PASS
11AX20MIMO	Ant1	2462	-24.36	0.36	-24.00	≤8.00	PASS
11AX20MIMO	Ant2	2462	-21.92	0.37	-21.55	≤8.00	PASS
11AX20MIMO	total	2462	---	---	-19.59	≤7.39	PASS
11AX40MIMO	Ant1	2422	-30.03	0.72	-29.31	≤8.00	PASS

11AX40MIMO	Ant2	2422	-27.84	0.70	-27.14	≤8.00	PASS
11AX40MIMO	total	2422	---	---	-25.08	≤7.39	PASS
11AX40MIMO	Ant1	2437	-29.98	0.71	-29.27	≤8.00	PASS
11AX40MIMO	Ant2	2437	-27.62	0.71	-26.91	≤8.00	PASS
11AX40MIMO	total	2437	---	---	-24.92	≤7.39	PASS
11AX40MIMO	Ant1	2452	-29.38	1.58	-27.80	≤8.00	PASS
11AX40MIMO	Ant2	2452	-27.98	0.72	-27.26	≤8.00	PASS
11AX40MIMO	total	2452	---	---	-24.51	≤7.39	PASS

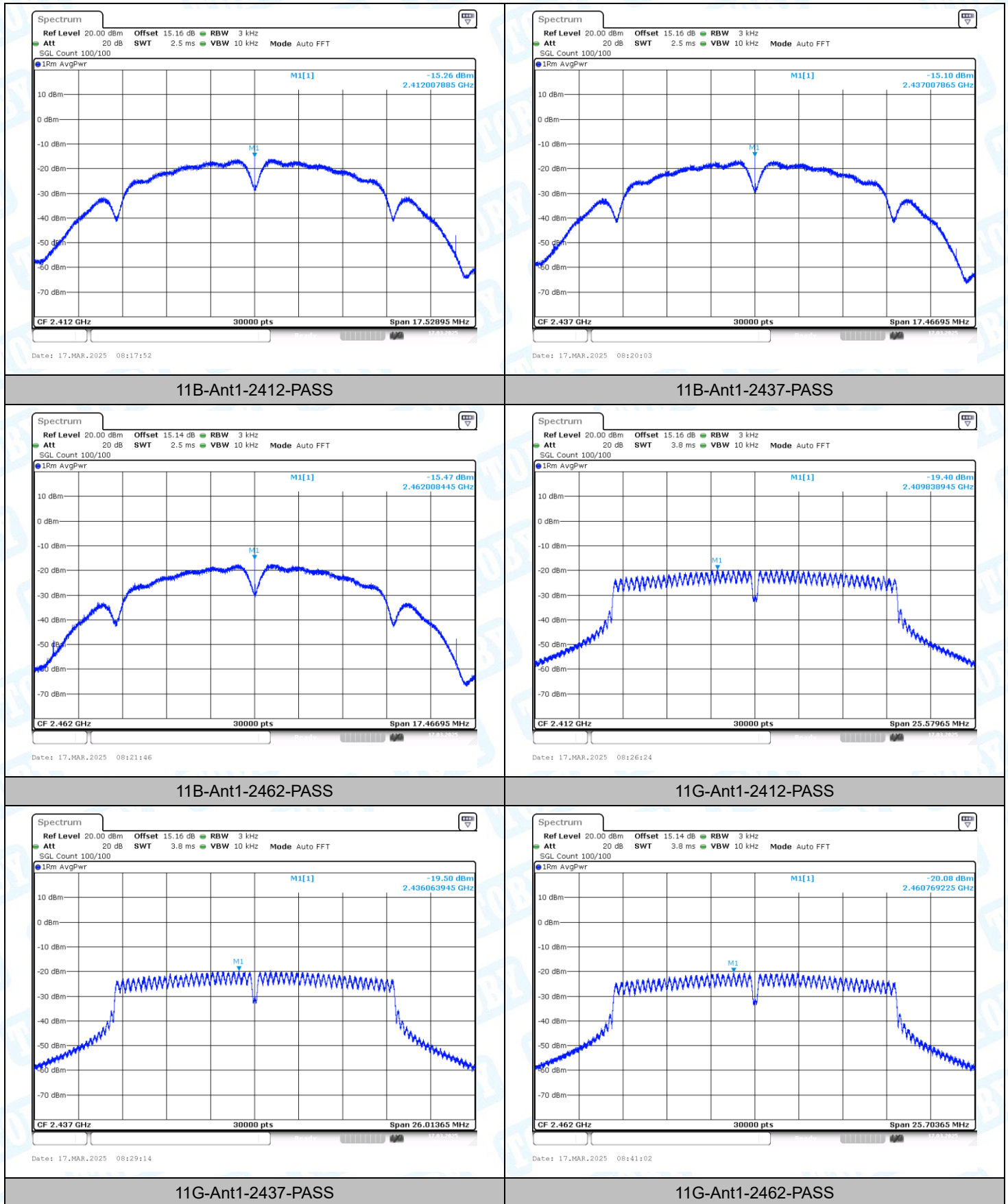
Note: The EUT incorporates a MIMO function. Physically, the EUT provides two antennas for transmitting and receiving.

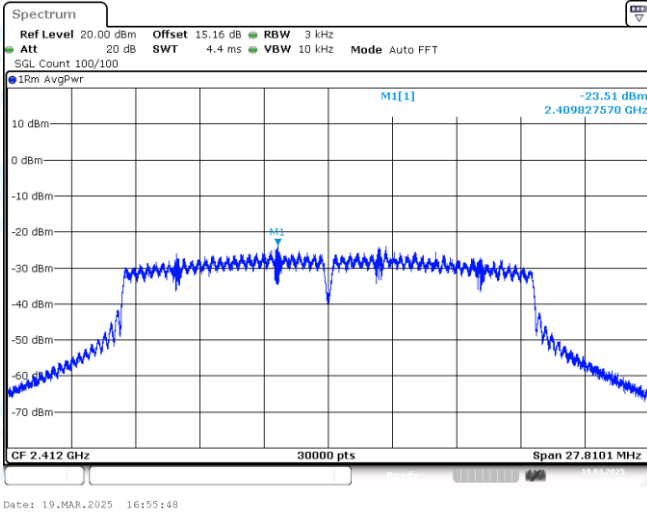
When ANT.1 and ANT. 2 transmitting simultaneously, and the Directional Gain=6.61dBi>6dBi. (Ant.1: 3.6dBi; Ant.2: 3.6dBi)

So PSDout = PSDlimit-(GTX-6)]= (8-0.61)dBm=7.39dBm

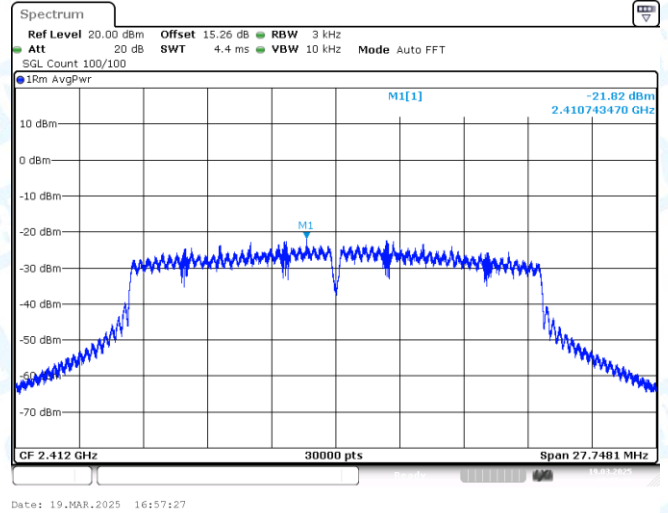
Directional Gain=ANT. Gain+10*LOG(NANT)

4.2 Test Graphs

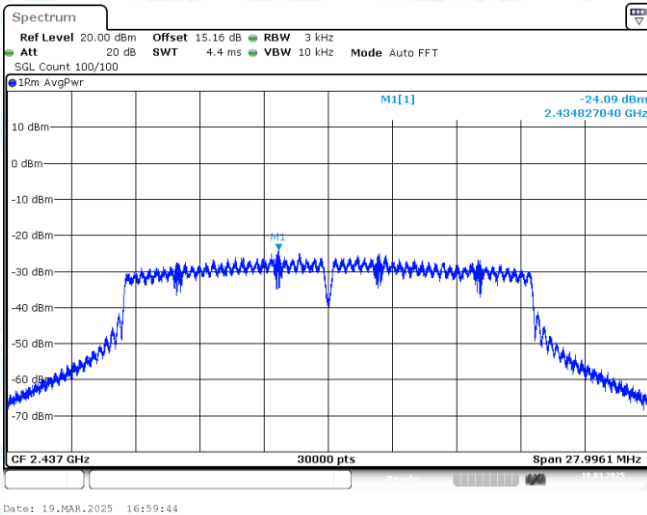




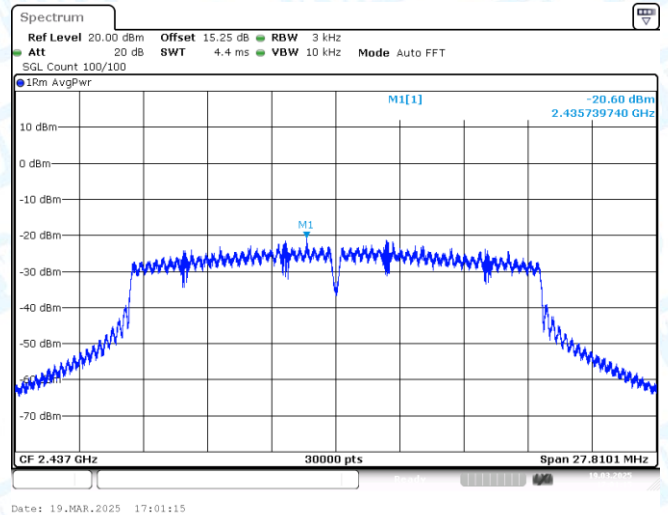
11N20MIMO-Ant1-2412-PASS



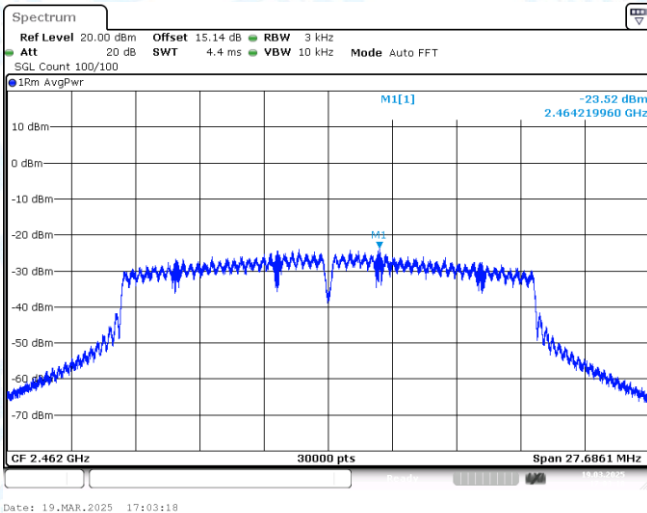
11N20MIMO-Ant2-2412-PASS



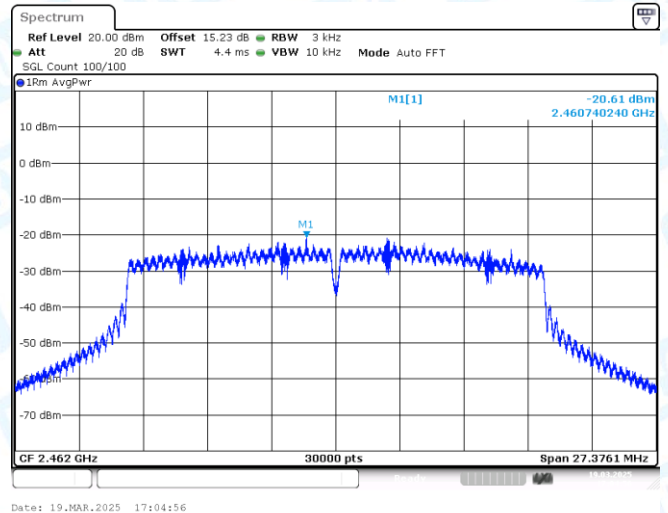
11N20MIMO-Ant1-2437-PASS



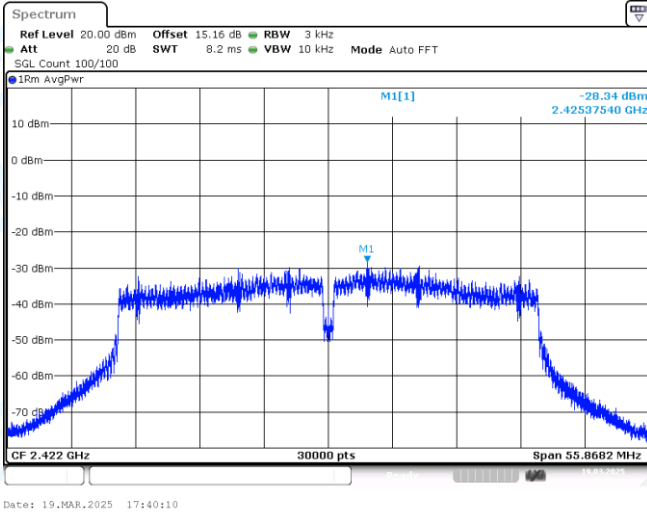
11N20MIMO-Ant2-2437-PASS



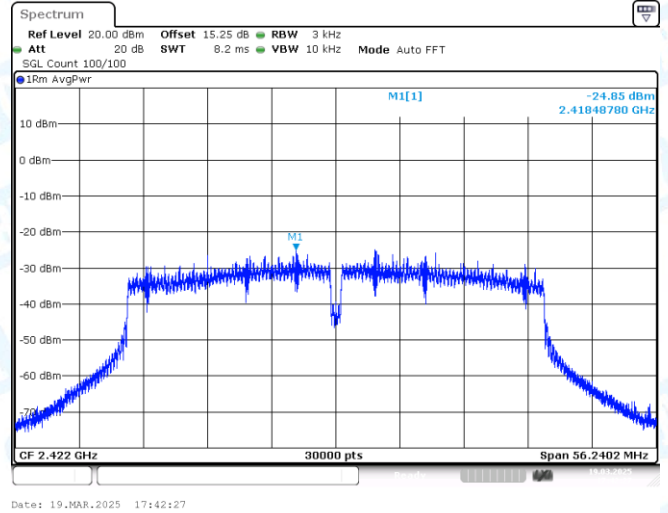
11N20MIMO-Ant1-2462-PASS



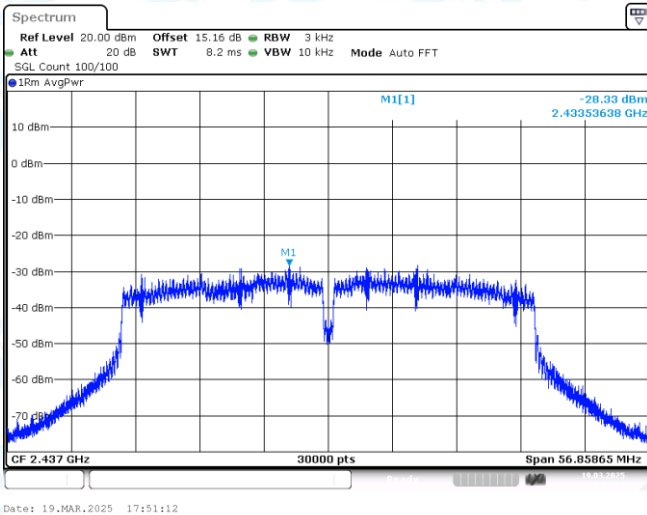
11N20MIMO-Ant2-2462-PASS



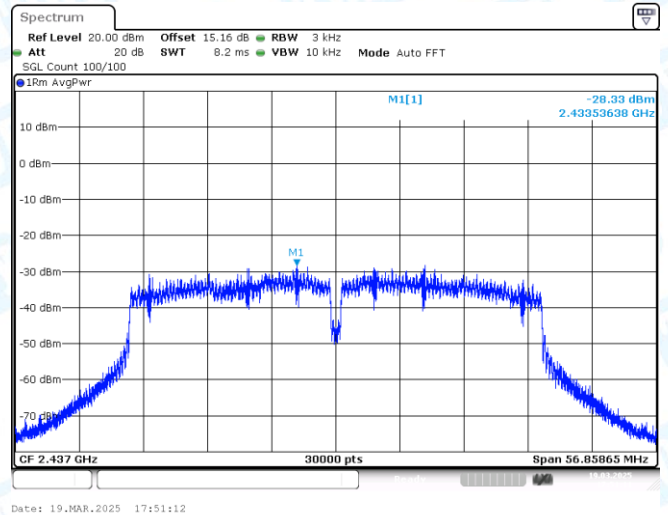
11N40MIMO-Ant1-2422-PASS



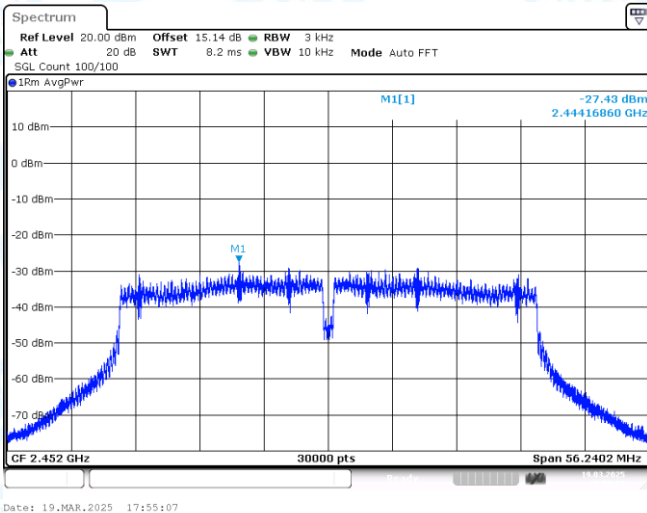
11N40MIMO-Ant2-2422-PASS



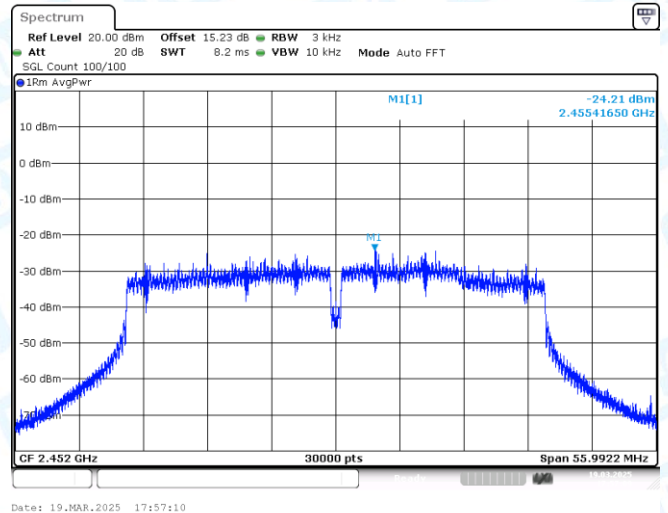
11N40MIMO-Ant1-2437-PASS



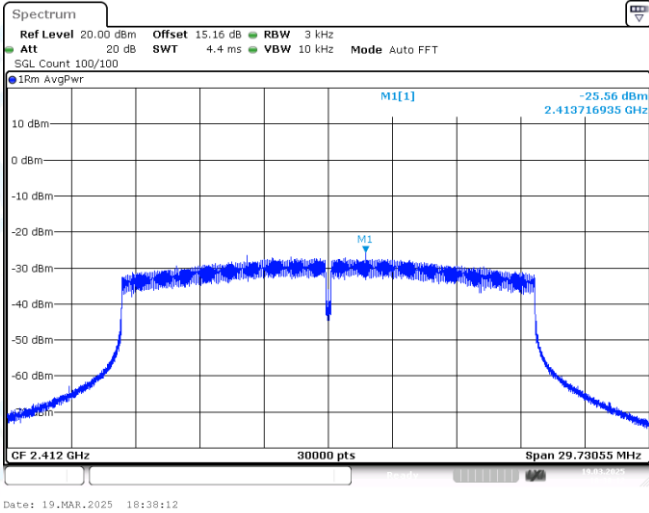
11N40MIMO-Ant2-2437-PASS



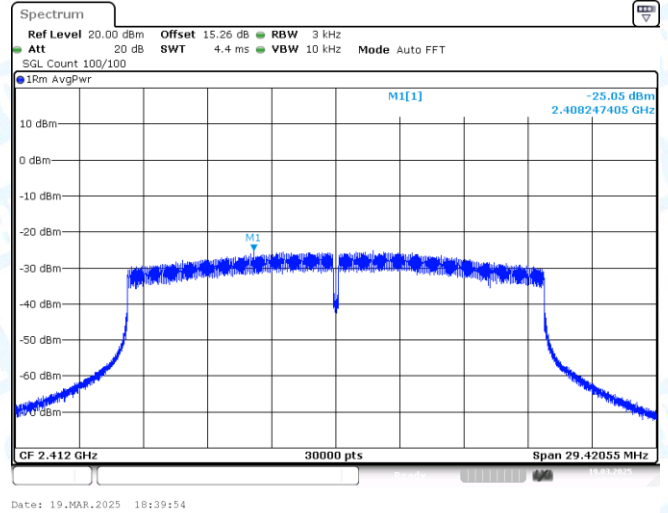
11N40MIMO-Ant1-2452-PASS



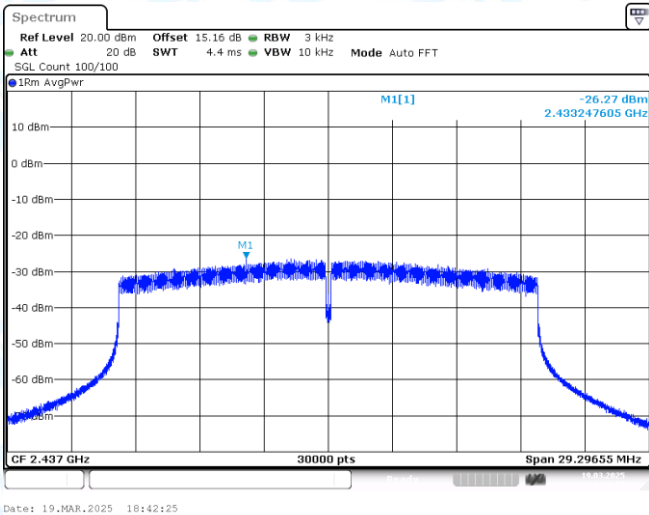
11N40MIMO-Ant2-2452-PASS



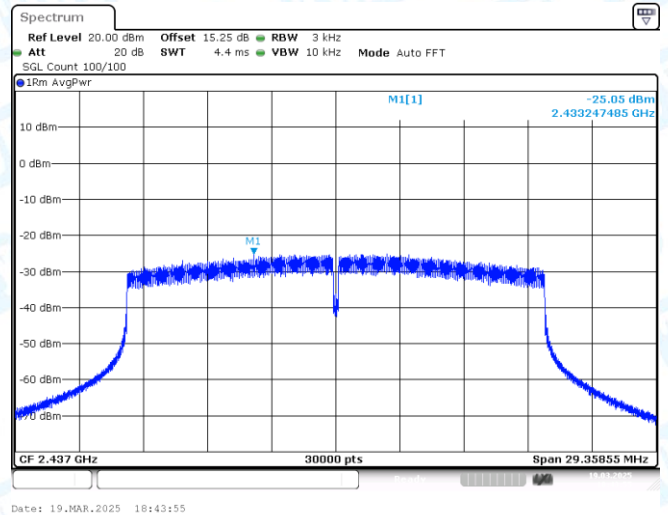
11AX20MIMO-Ant1-2412-PASS



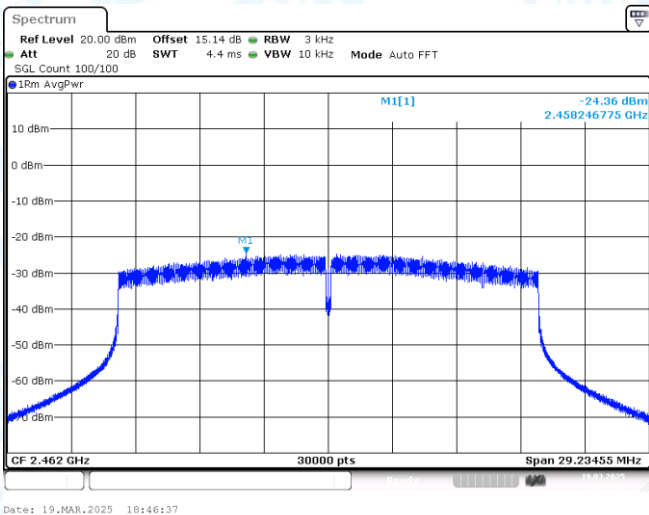
11AX20MIMO-Ant2-2412-PASS



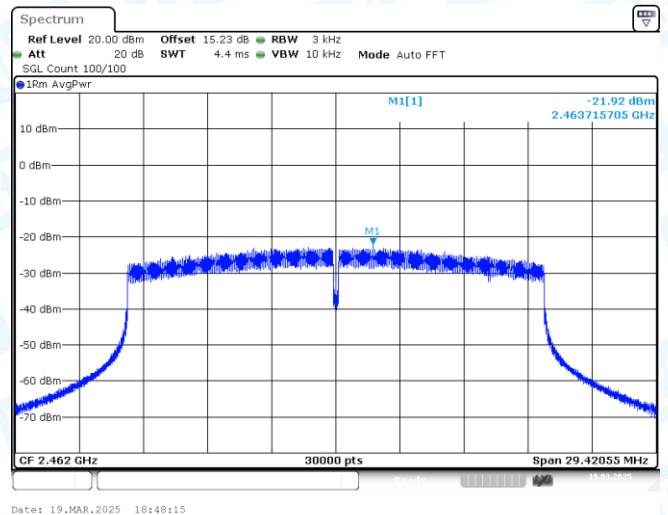
11AX20MIMO-Ant1-2437-PASS



11AX20MIMO-Ant2-2437-PASS



11AX20MIMO-Ant1-2462-PASS



11AX20MIMO-Ant2-2462-PASS