

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

General Description of EUT	
EUT Name:	AP5811SA
Model:	AP5811SA
Sample ID:	HC-C-202503-0077-01-01
Test Standard:	FCC Part 15.247
Environmental Conditions	
Ambient Temperature:	25°C
Ambient Humidity:	45%RH
Test Power Supply:	DC 3.3V
Test Engineer:	Gold zhang
Note: For a more detailed features description, please refer to the report TBR-C-202503-0077-41	

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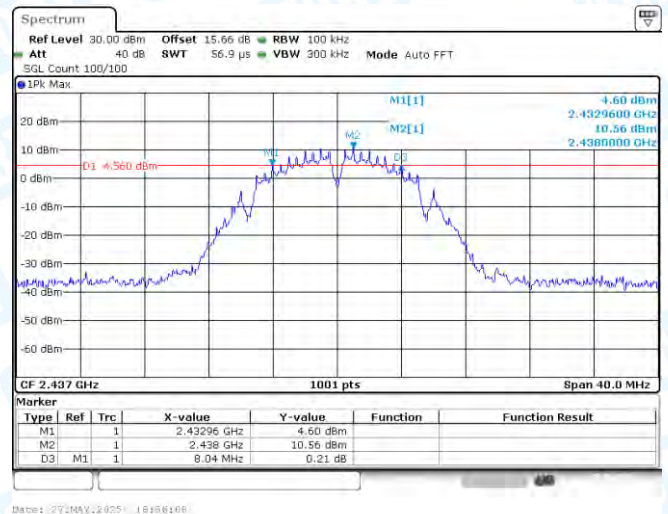
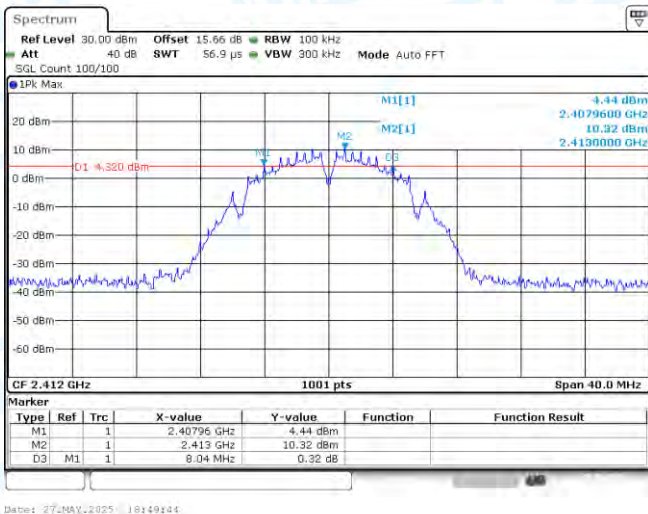
1: DTS Bandwidth

1.1 Test Result

TestMode	Ant.	Frequency [MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.04	2407.96	2416.00	0.5	PASS
11B	Ant1	2437	8.04	2432.96	2441.00	0.5	PASS
11B	Ant1	2462	8.04	2457.96	2466.00	0.5	PASS
11G	Ant1	2412	16.56	2403.72	2420.28	0.5	PASS
11G	Ant1	2437	16.52	2428.72	2445.24	0.5	PASS
11G	Ant1	2462	16.56	2453.72	2470.28	0.5	PASS
11N20SISO	Ant1	2412	17.80	2403.08	2420.88	0.5	PASS
11N20SISO	Ant1	2437	17.60	2428.20	2445.80	0.5	PASS
11N20SISO	Ant1	2462	17.60	2453.20	2470.80	0.5	PASS
11AX20SISO	Ant1	2412	19.00	2402.48	2421.48	0.5	PASS
11AX20SISO	Ant1	2437	19.04	2427.48	2446.52	0.5	PASS
11AX20SISO	Ant1	2462	19.16	2452.44	2471.60	0.5	PASS

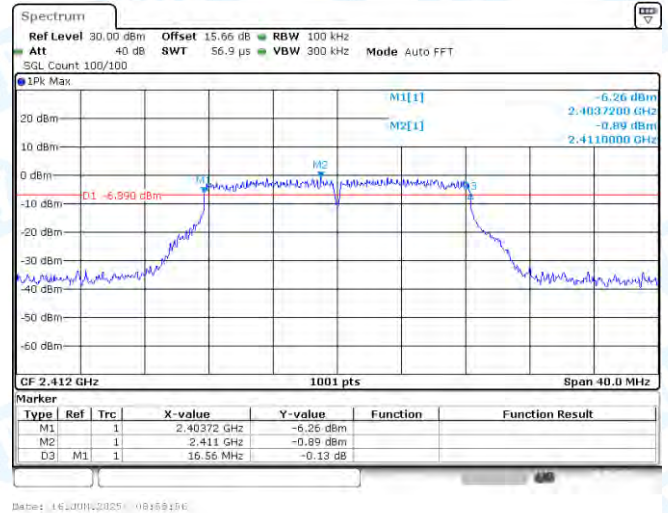
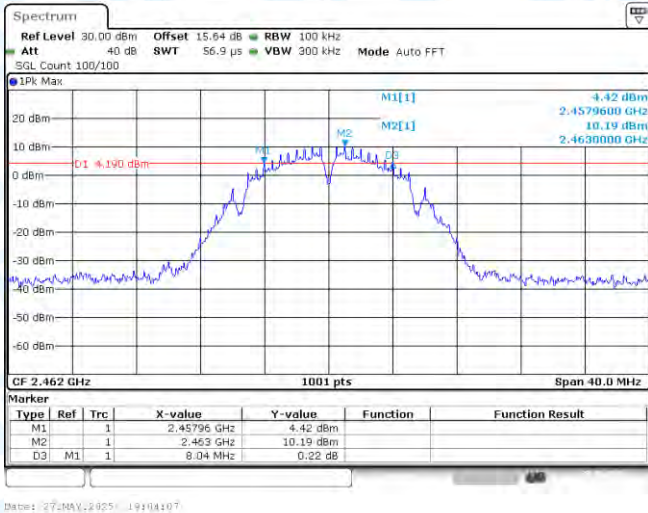
Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

1.2 Test Graphs



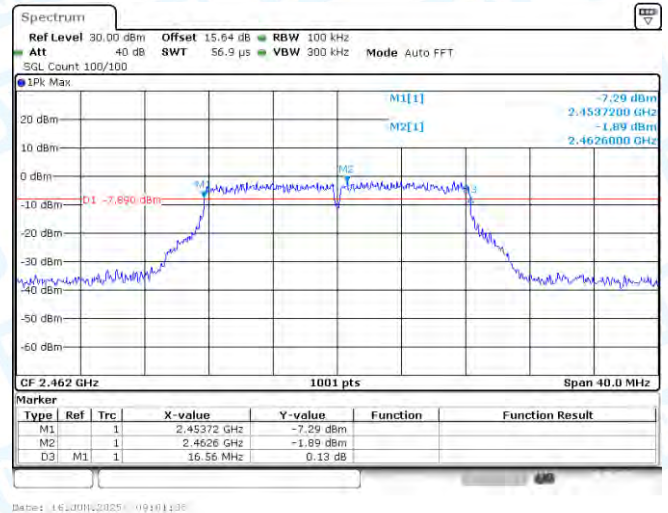
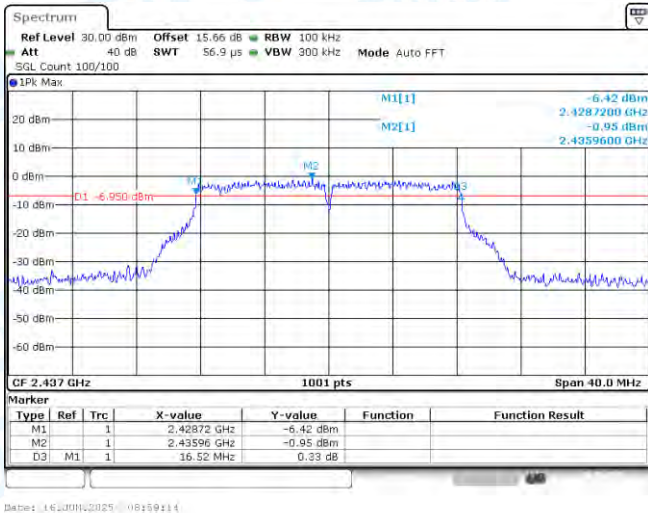
11B-Ant1-2412-PASS

11B-Ant1-2437-PASS



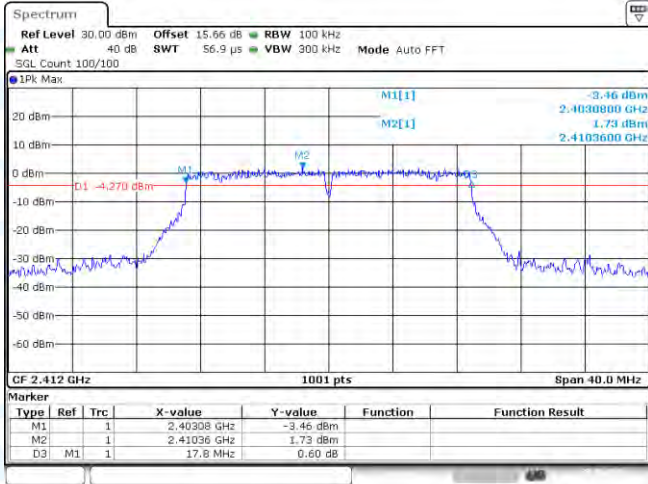
11B-Ant1-2462-PASS

11G-Ant1-2412-PASS

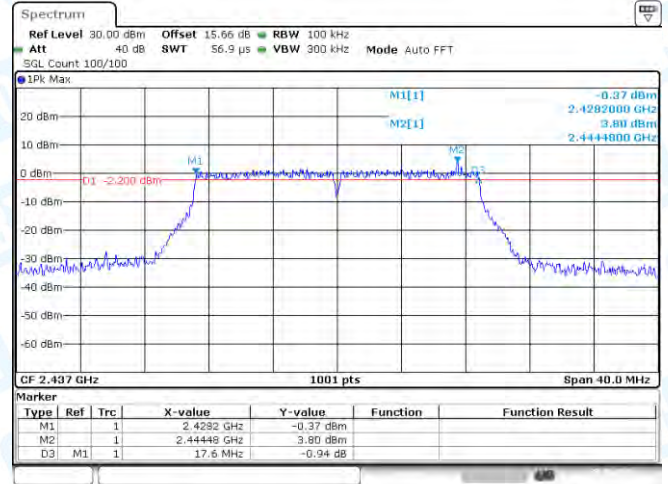


11G-Ant1-2437-PASS

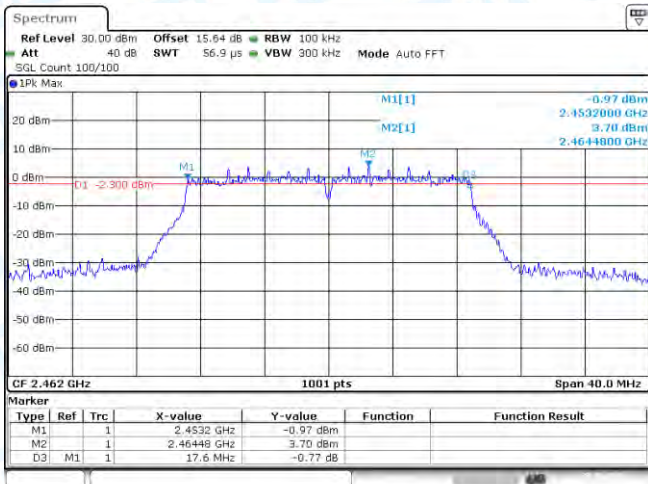
11G-Ant1-2462-PASS



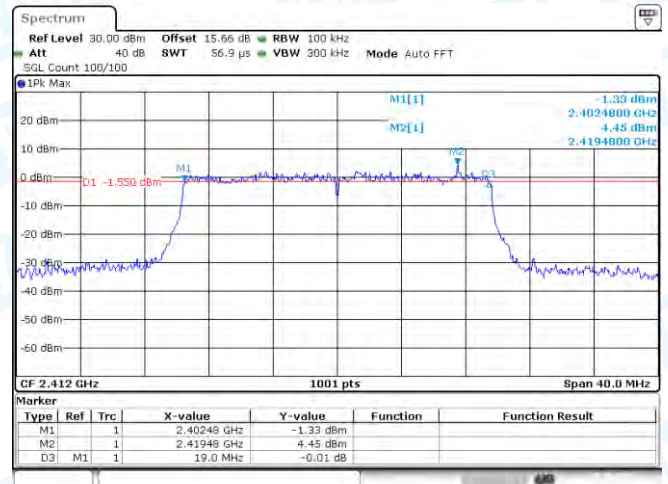
11N20SISO-Ant1-2412-PASS



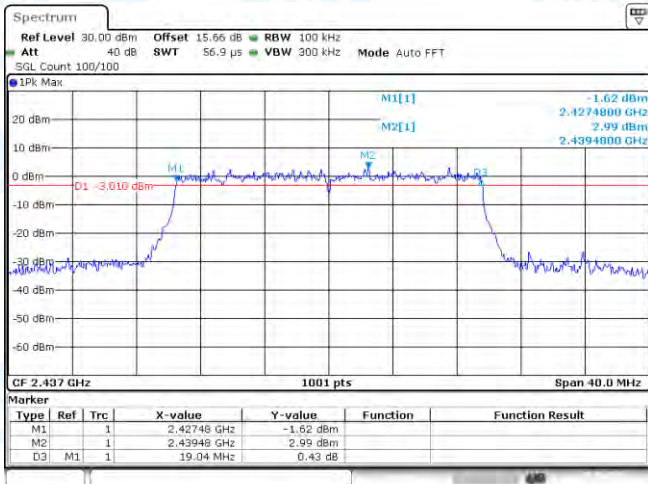
11N20SISO-Ant1-2437-PASS



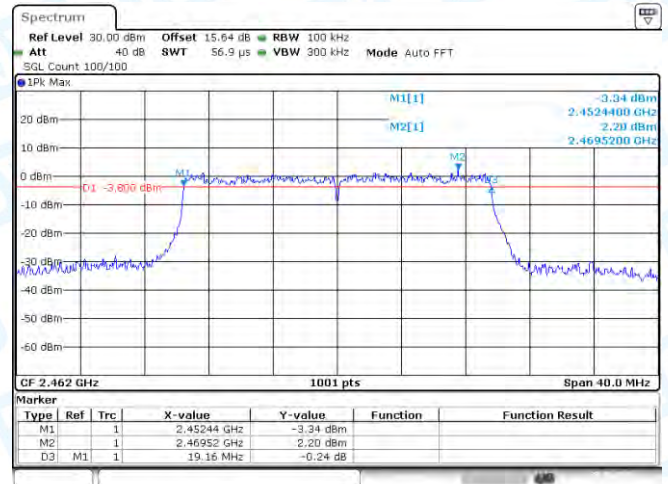
11N20SISO-Ant1-2462-PASS



11AX20SISO-Ant1-2412-PASS



11AX20SISO-Ant1-2437-PASS



11AX20SISO-Ant1-2462-PASS

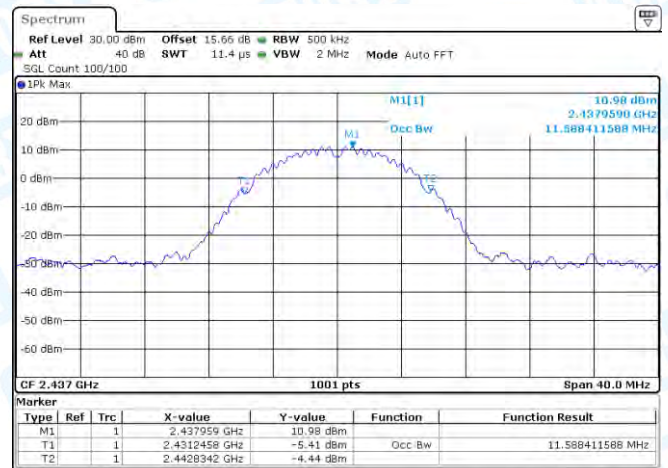
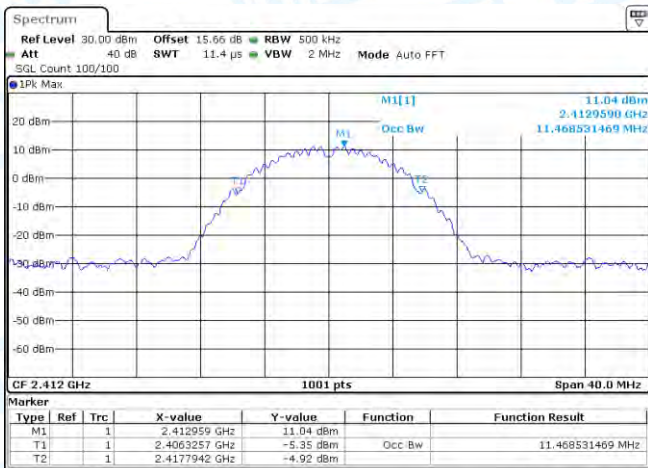
2: Occupied Channel Bandwidth

2.1 Test Result

TestMode	Ant.	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	11.469	2406.3257	2417.7942	---	---
11B	Ant1	2437	11.588	2431.2458	2442.8342	---	---
11B	Ant1	2462	11.548	2456.2458	2467.7942	---	---
11G	Ant1	2412	17.582	2403.2088	2420.7912	---	---
11G	Ant1	2437	17.263	2428.5684	2445.8312	---	---
11G	Ant1	2462	17.423	2453.1289	2470.5514	---	---
11N20SISO	Ant1	2412	18.422	2402.7692	2421.1908	---	---
11N20SISO	Ant1	2437	18.701	2427.7293	2446.4306	---	---
11N20SISO	Ant1	2462	18.382	2453.0090	2471.3906	---	---
11AX20SISO	Ant1	2412	19.421	2402.2897	2421.7103	---	---
11AX20SISO	Ant1	2437	19.141	2427.4496	2446.5904	---	---
11AX20SISO	Ant1	2462	19.261	2452.3297	2471.5904	---	---

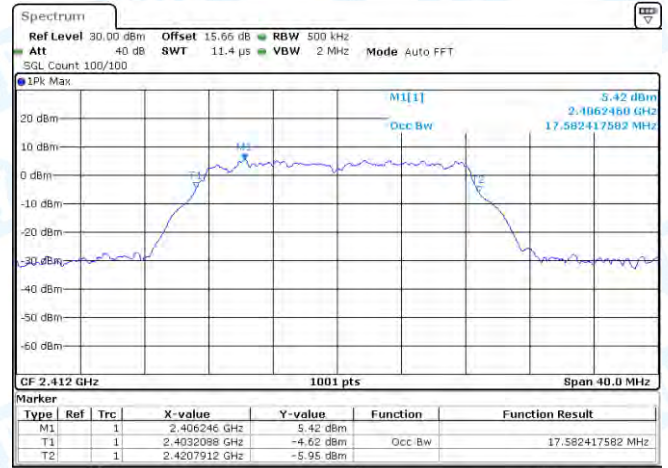
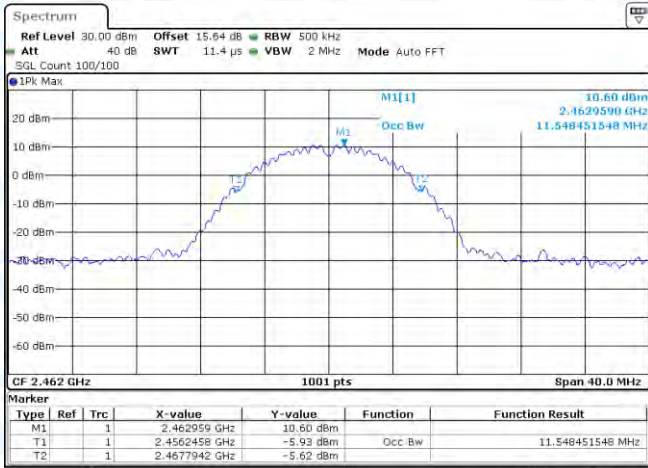
Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

2.2 Test Graphs



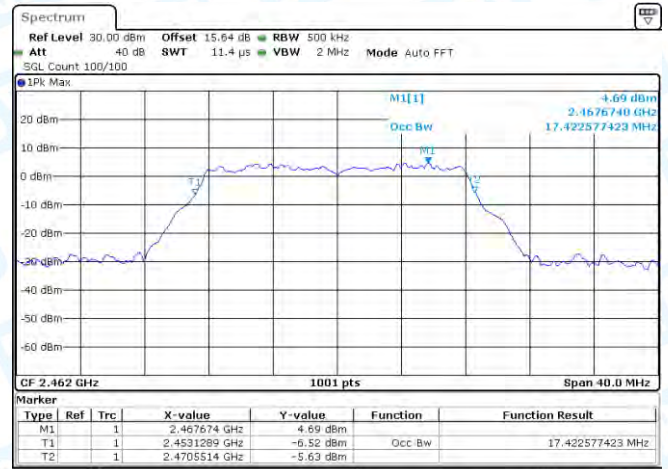
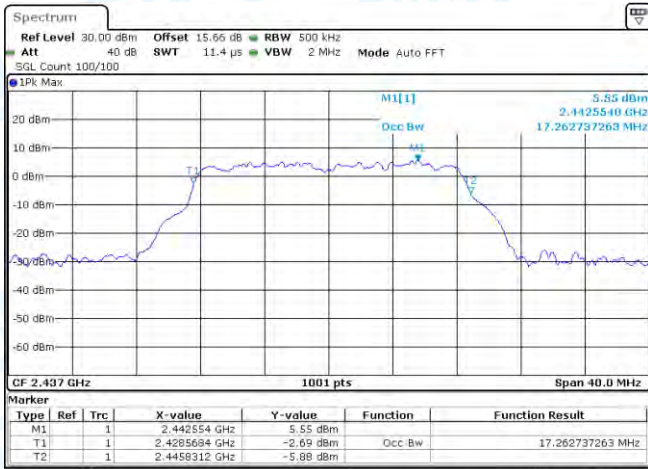
11B-Ant1-2412

11B-Ant1-2437



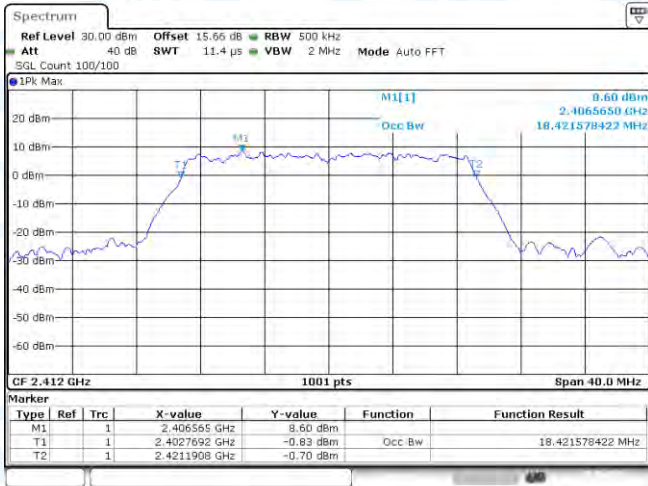
11B-Ant1-2462

11G-Ant1-2412



11G-Ant1-2437

11G-Ant1-2462



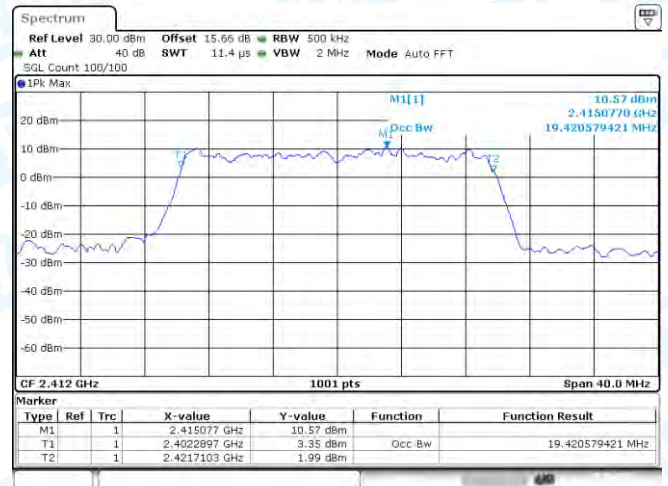
11N20SISO-Ant1-2412



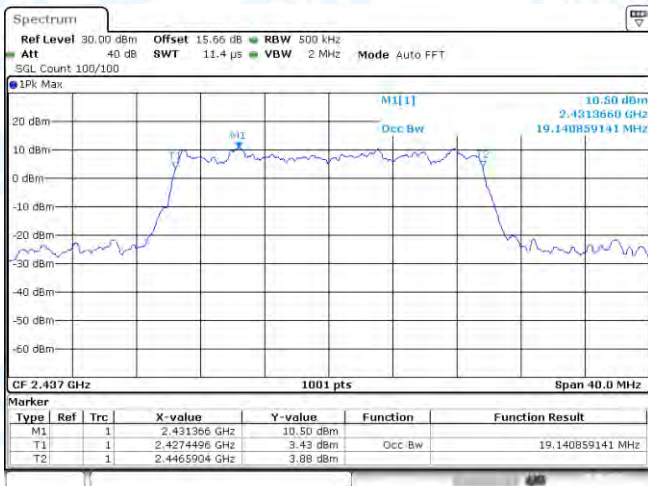
11N20SISO-Ant1-2437



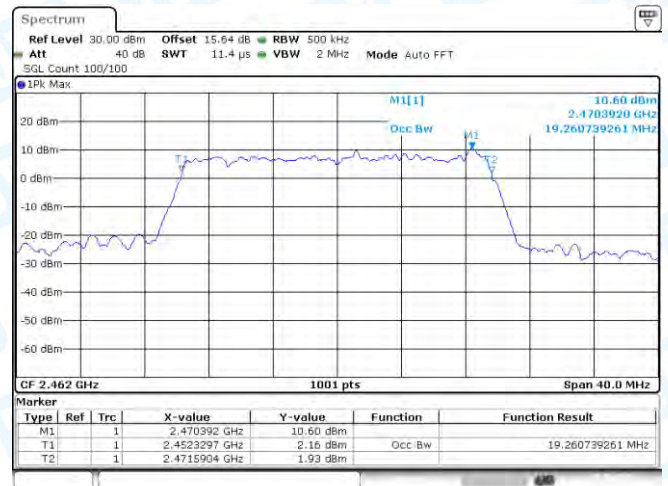
11N20SISO-Ant1-2462



11AX20SISO-Ant1-2412



11AX20SISO-Ant1-2437



11AX20SISO-Ant1-2462

3: Maximum conducted output power

3.1 Test Result Average

Test Mode	Ant.	Frequency [MHz]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	17.01	≤30.00	PASS
11B	Ant1	2437	17.02	≤30.00	PASS
11B	Ant1	2462	16.77	≤30.00	PASS
11G	Ant1	2412	13.86	≤30.00	PASS
11G	Ant1	2437	13.81	≤30.00	PASS
11G	Ant1	2462	13.17	≤30.00	PASS
11N20SISO	Ant1	2412	14.01	≤30.00	PASS
11N20SISO	Ant1	2437	13.85	≤30.00	PASS
11N20SISO	Ant1	2462	13.30	≤30.00	PASS
11AX20SISO	Ant1	2412	13.51	≤30.00	PASS
11AX20SISO	Ant1	2437	13.28	≤30.00	PASS
11AX20SISO	Ant1	2462	12.71	≤30.00	PASS

4: Maximum power spectral density

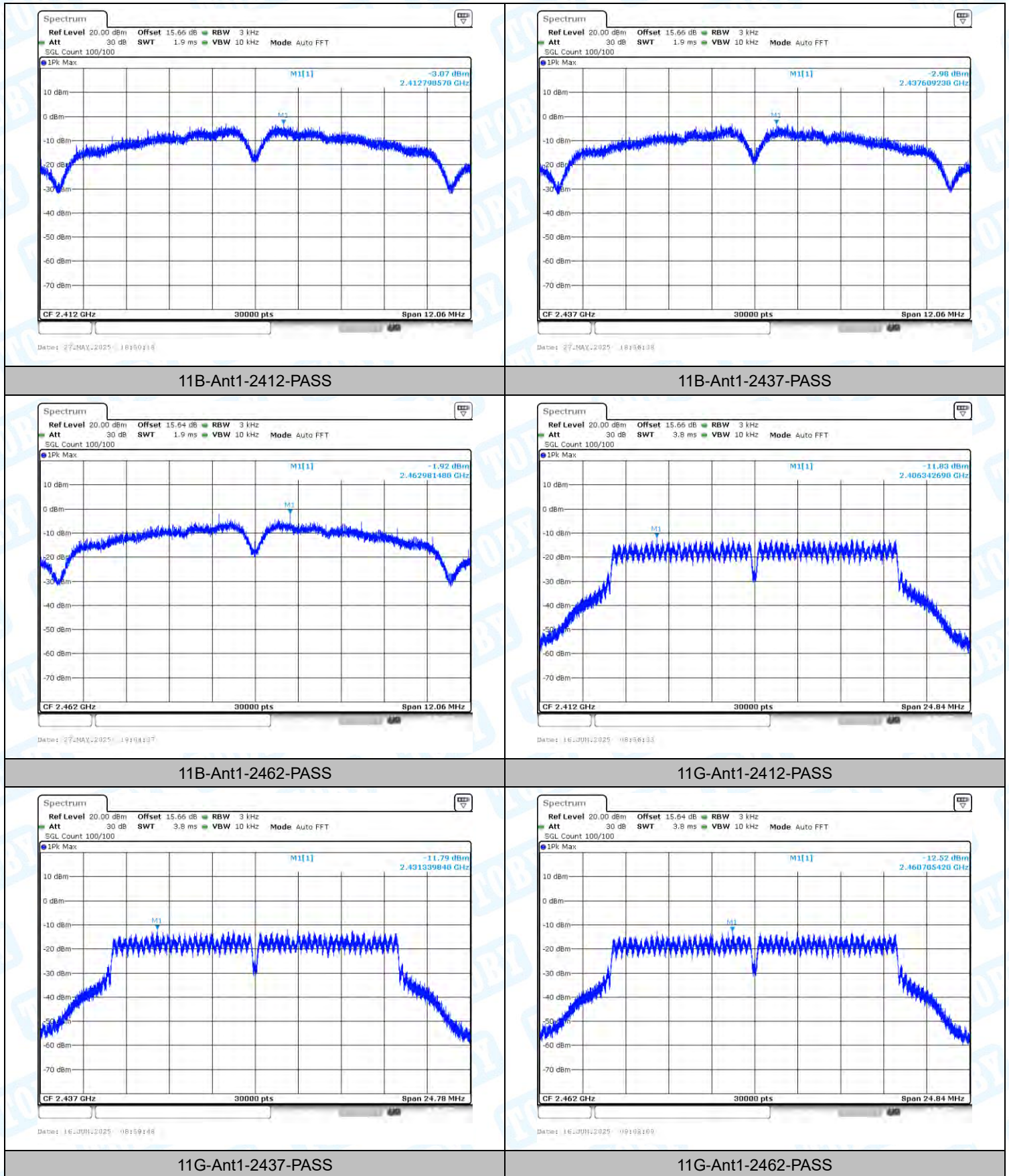
4.1 Test Result

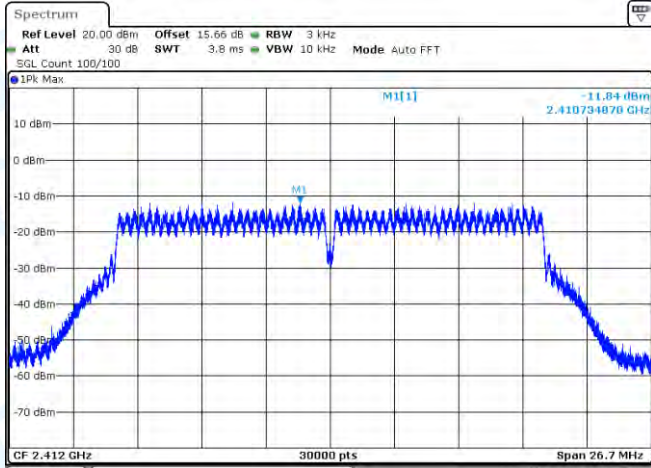
TestMode	Ant.	Frequency[MHz]	RawData [dBm/3kHz]	DC Factory	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-3.07	0.00	-3.07	≤8.00	PASS
11B	Ant1	2437	-2.98	0.00	-2.98	≤8.00	PASS
11B	Ant1	2462	-1.92	0.00	-1.92	≤8.00	PASS
11G	Ant1	2412	-11.83	0.00	-11.83	≤8.00	PASS
11G	Ant1	2437	-11.79	0.00	-11.79	≤8.00	PASS
11G	Ant1	2462	-12.52	0.00	-12.52	≤8.00	PASS
11N20SISO	Ant1	2412	-11.84	0.00	-11.84	≤8.00	PASS
11N20SISO	Ant1	2437	-12.39	0.00	-12.39	≤8.00	PASS
11N20SISO	Ant1	2462	-12.49	0.00	-12.49	≤8.00	PASS
11AX20SISO	Ant1	2412	-12.91	0.00	-12.91	≤8.00	PASS
11AX20SISO	Ant1	2437	-12.81	0.00	-12.81	≤8.00	PASS
11AX20SISO	Ant1	2462	-13.74	0.00	-13.74	≤8.00	PASS

Note: The Duty Cycle Factor is compensated in the graph.

RF Conducted test Offset= cable loss+ Attenuator(10dB).

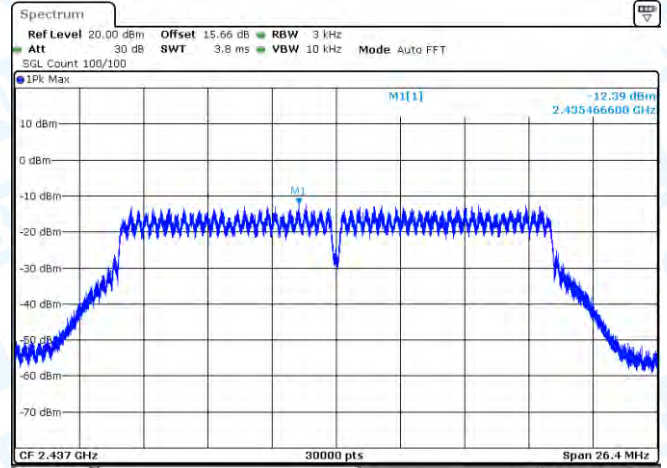
4.2 Test Graphs





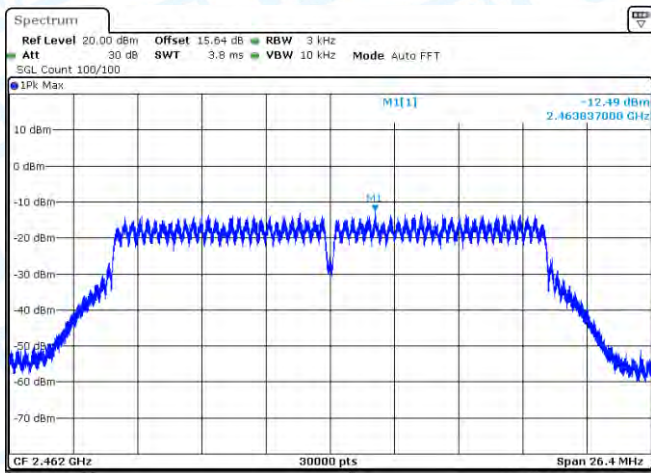
Date: 16 JUN 2025 09:08:51

11N20SISO-Ant1-2412-PASS



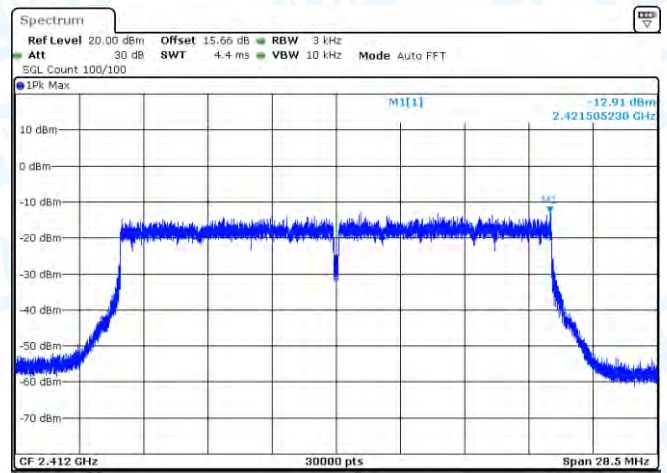
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11N20SISO-Ant1-2437-PASS



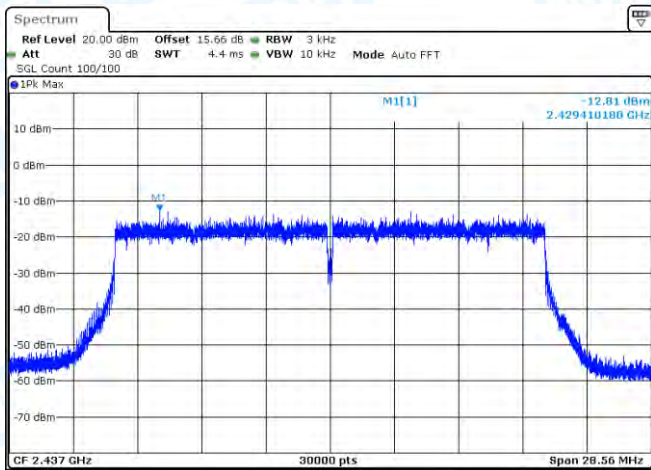
Date: 16 JUN 2025 09:08:56

11N20SISO-Ant1-2462-PASS



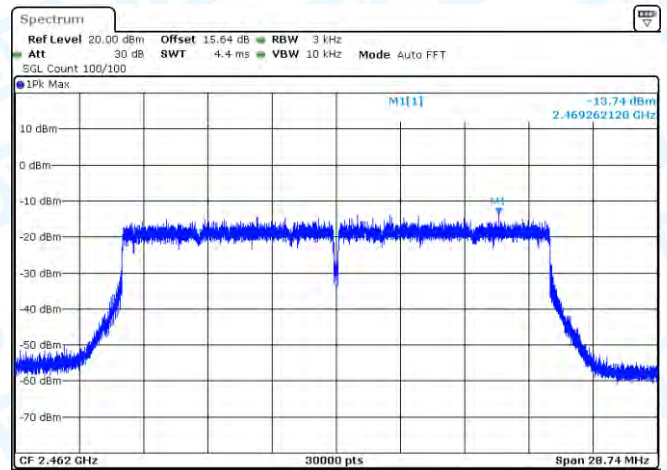
Date: 16 JUN 2025 09:09:00

11AX20SISO-Ant1-2412-PASS



Date: 16 JUN 2025 09:09:58

11AX20SISO-Ant1-2437-PASS



Date: 16 JUN 2025 09:11:17

11AX20SISO-Ant1-2462-PASS

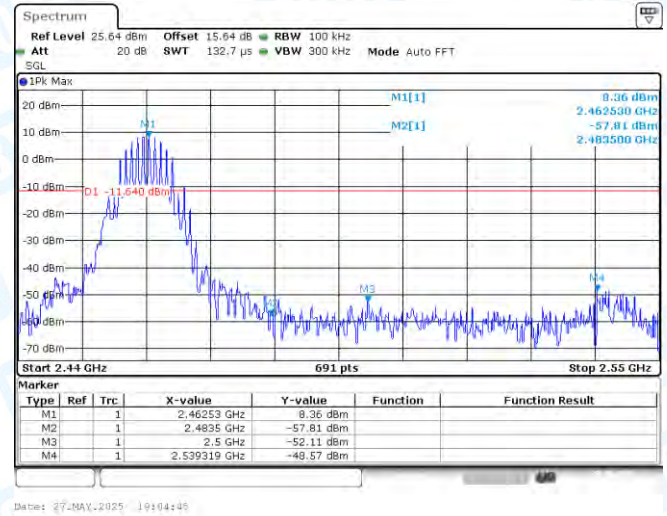
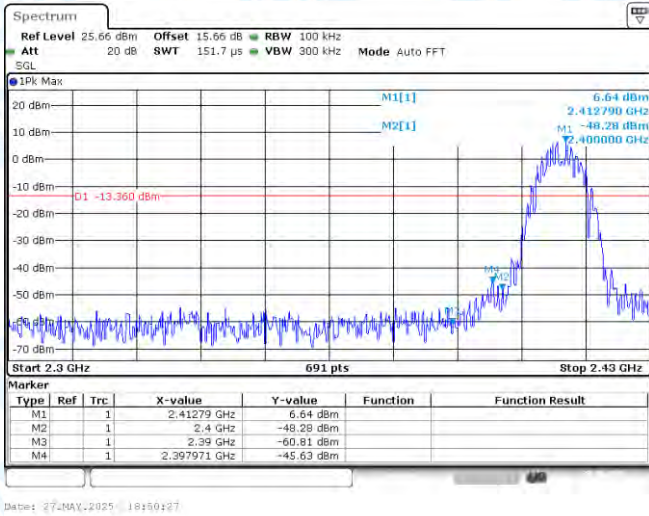
5: Band edge measurements

5.1 Test Result

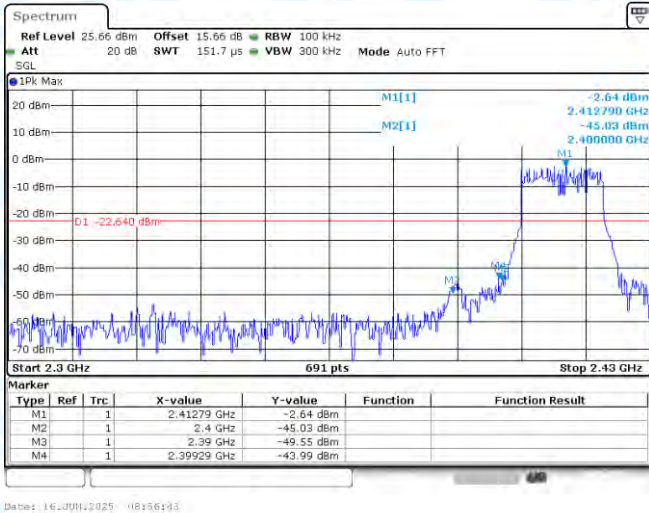
TestMode	Ant.	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	6.64	-45.63	≤-13.36	PASS
11B	Ant1	High	2462	8.36	-48.57	≤-11.64	PASS
11G	Ant1	Low	2412	-2.64	-43.99	≤-22.64	PASS
11G	Ant1	High	2462	-3.12	-53.65	≤-23.12	PASS
11N20SISO	Ant1	Low	2412	0.86	-35.21	≤-19.14	PASS
11N20SISO	Ant1	High	2462	0.42	-47.68	≤-19.58	PASS
11AX20SISO	Ant1	Low	2412	0.68	-33.18	≤-19.32	PASS
11AX20SISO	Ant1	High	2462	-0.06	-39.05	≤-20.06	PASS

Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

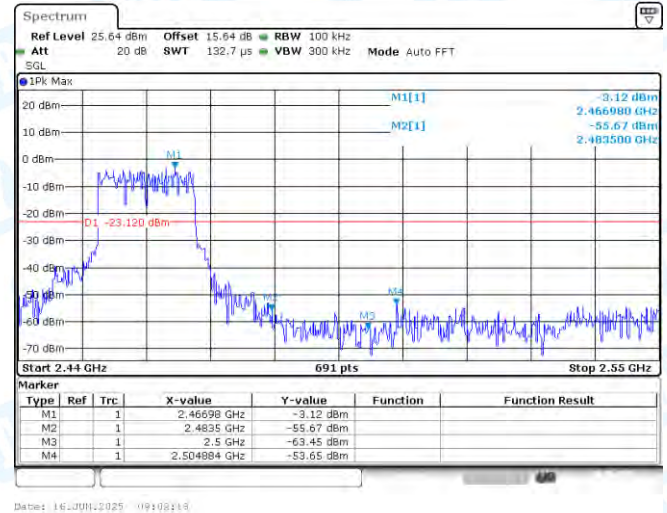
5.2 Test Graphs



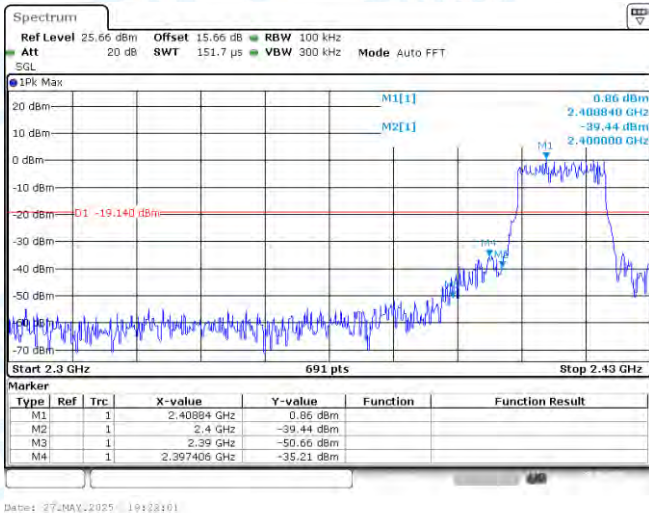
11B-Ant1-2412-PASS



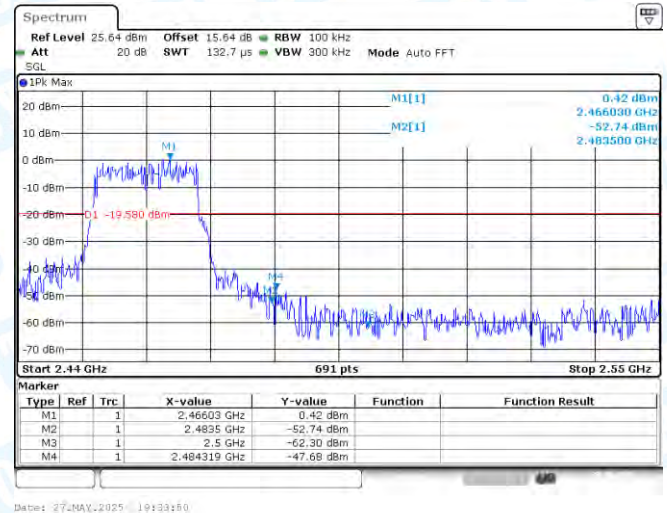
11B-Ant1-2462-PASS



11G-Ant1-2412-PASS

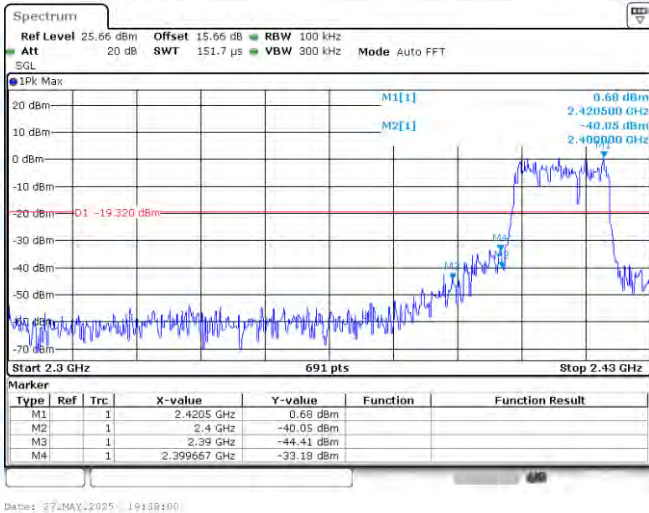


11G-Ant1-2462-PASS

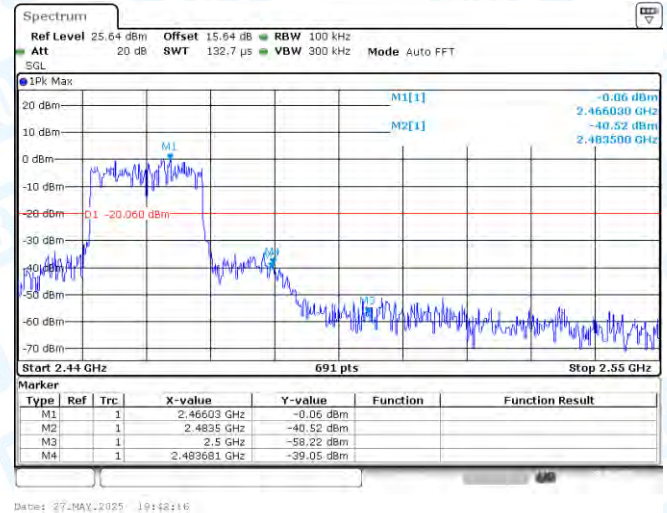


11N20SISO-Ant1-2412-PASS

11N20SISO-Ant1-2462-PASS



11AX20SISO-Ant1-2412-PASS



11AX20SISO-Ant1-2462-PASS

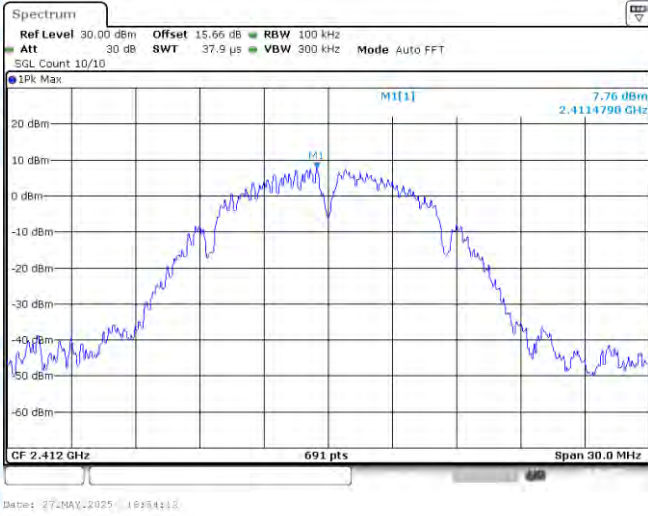
6: Conducted Spurious Emission

6.1 Test Result

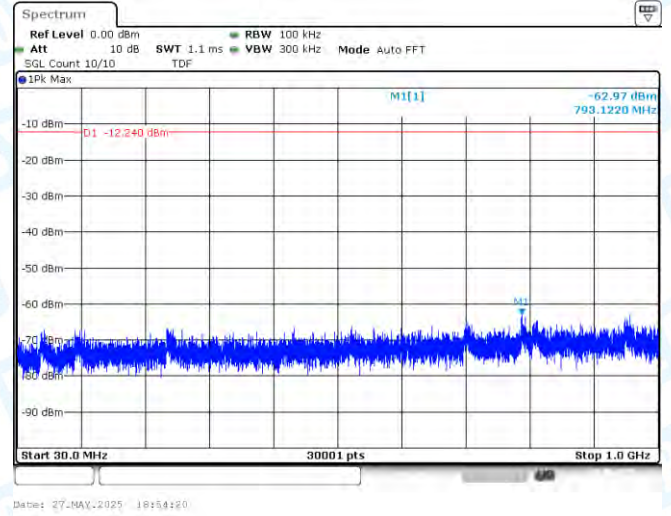
TestMode	Ant.	Frequency [MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	0~Reference	7.76	7.76	---	PASS
11B	Ant1	2412	30~1000	7.76	-62.97	≤-12.24	PASS
11B	Ant1	2412	1000~26500	7.76	-47.29	≤-12.24	PASS
11B	Ant1	2437	0~Reference	7.87	7.87	---	PASS
11B	Ant1	2437	30~1000	7.87	-64.37	≤-12.13	PASS
11B	Ant1	2437	1000~26500	7.87	-47.11	≤-12.13	PASS
11B	Ant1	2462	0~Reference	7.61	7.61	---	PASS
11B	Ant1	2462	30~1000	7.61	-63.07	≤-12.39	PASS
11B	Ant1	2462	1000~26500	7.61	-46.72	≤-12.39	PASS
11G	Ant1	2412	0~Reference	-0.93	-0.93	---	PASS
11G	Ant1	2412	30~1000	-0.93	-62.24	≤-20.93	PASS
11G	Ant1	2412	1000~26500	-0.93	-55.34	≤-20.93	PASS
11G	Ant1	2437	0~Reference	-2.15	-2.15	---	PASS
11G	Ant1	2437	30~1000	-2.15	-61.16	≤-22.15	PASS
11G	Ant1	2437	1000~26500	-2.15	-54.6	≤-22.15	PASS
11G	Ant1	2462	0~Reference	-2.44	-2.44	---	PASS
11G	Ant1	2462	30~1000	-2.44	-61.76	≤-22.44	PASS
11G	Ant1	2462	1000~26500	-2.44	-54.34	≤-22.44	PASS
11N20SISO	Ant1	2412	0~Reference	1.18	1.18	---	PASS
11N20SISO	Ant1	2412	30~1000	1.18	-63.27	≤-18.82	PASS
11N20SISO	Ant1	2412	1000~26500	1.18	-47.71	≤-18.82	PASS
11N20SISO	Ant1	2437	0~Reference	1.34	1.34	---	PASS
11N20SISO	Ant1	2437	30~1000	1.34	-63.7	≤-18.66	PASS
11N20SISO	Ant1	2437	1000~26500	1.34	-45.51	≤-18.66	PASS
11N20SISO	Ant1	2462	0~Reference	0.76	0.76	---	PASS
11N20SISO	Ant1	2462	30~1000	0.76	-63.32	≤-19.24	PASS
11N20SISO	Ant1	2462	1000~26500	0.76	-46.88	≤-19.24	PASS
11AX20SISO	Ant1	2412	0~Reference	2.69	2.69	---	PASS
11AX20SISO	Ant1	2412	30~1000	2.69	-63.18	≤-17.31	PASS
11AX20SISO	Ant1	2412	1000~26500	2.69	-47.11	≤-17.31	PASS
11AX20SISO	Ant1	2437	0~Reference	0.31	0.31	---	PASS
11AX20SISO	Ant1	2437	30~1000	0.31	-63.1	≤-19.69	PASS
11AX20SISO	Ant1	2437	1000~26500	0.31	-47.04	≤-19.69	PASS
11AX20SISO	Ant1	2462	0~Reference	1.88	1.88	---	PASS
11AX20SISO	Ant1	2462	30~1000	1.88	-63.93	≤-18.12	PASS
11AX20SISO	Ant1	2462	1000~26500	1.88	-45.91	≤-18.12	PASS

Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

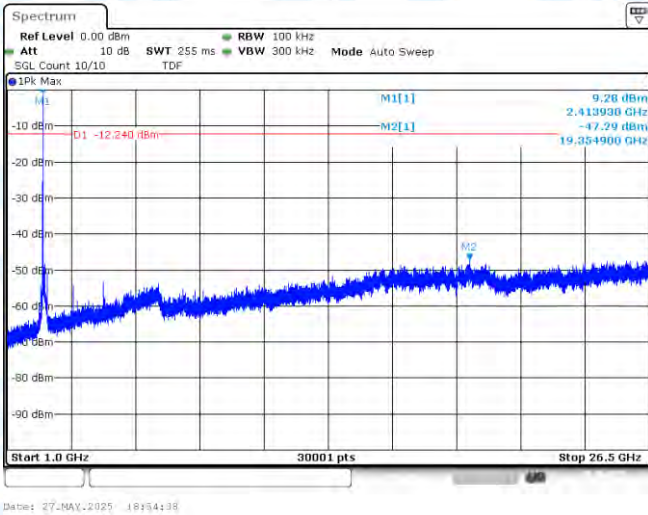
6.2 Test Graphs



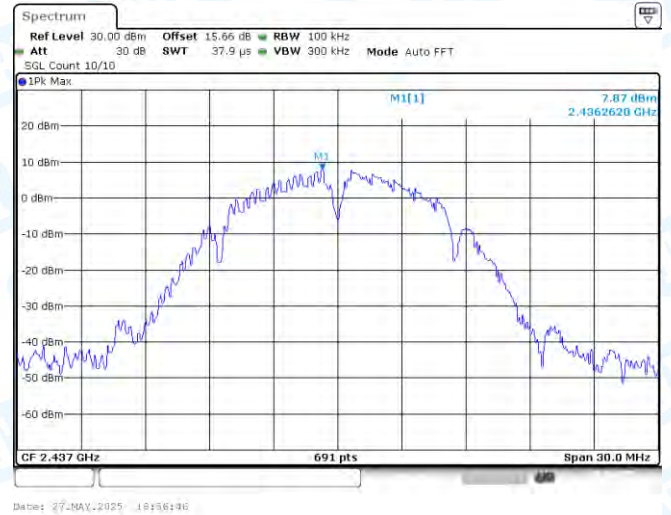
11B-Ant1-2412-0~Reference-PASS



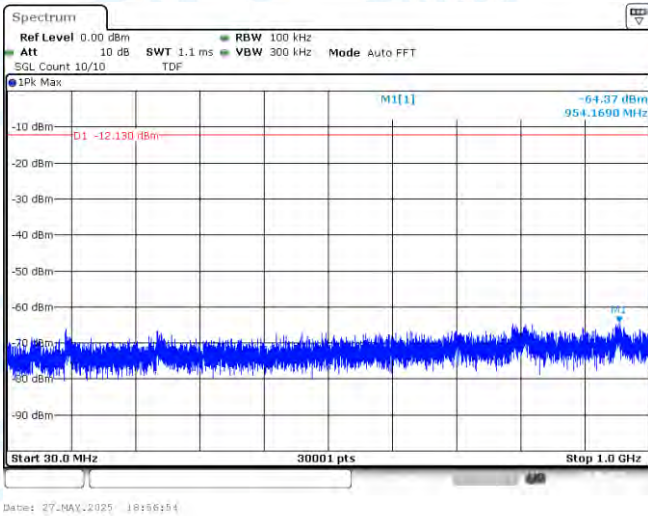
11B-Ant1-2412-30~1000-PASS



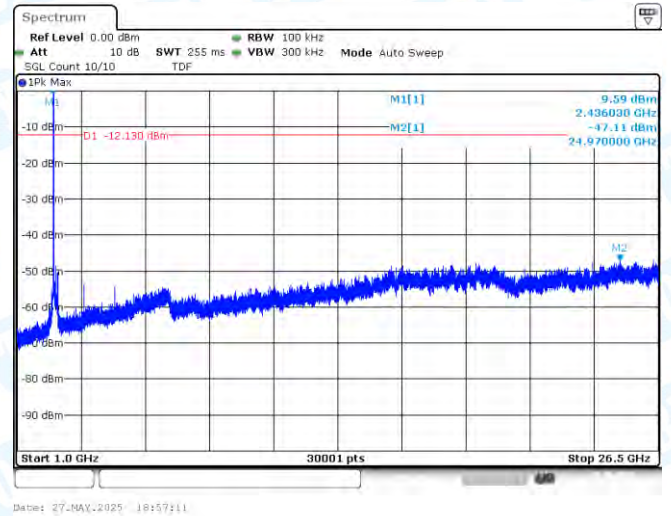
11B-Ant1-2412-1000~26500-PASS



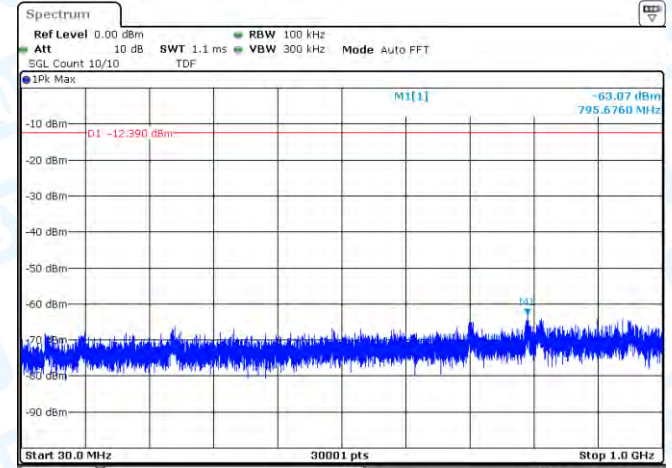
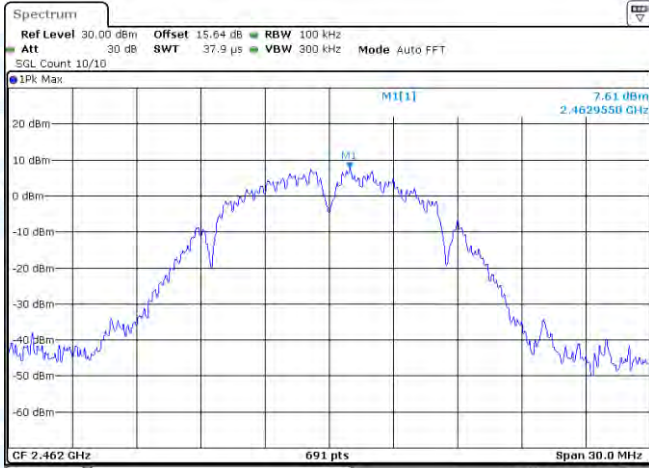
11B-Ant1-2437-0~Reference-PASS



11B-Ant1-2437-30~1000-PASS

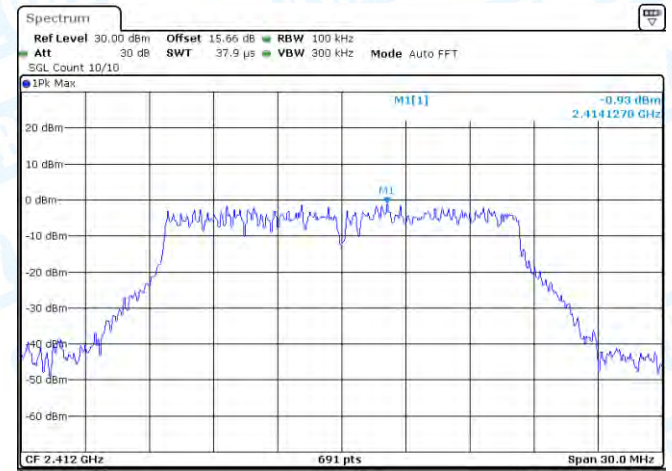
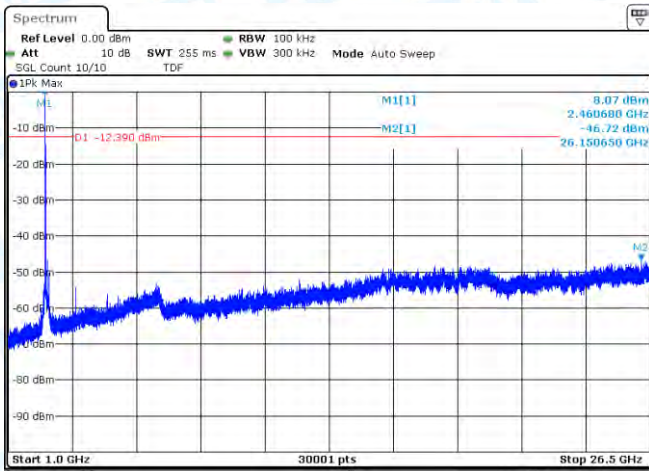


11B-Ant1-2437-1000~26500-PASS



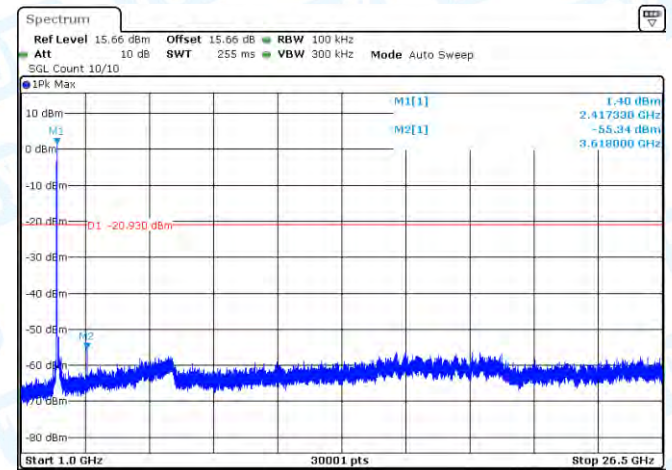
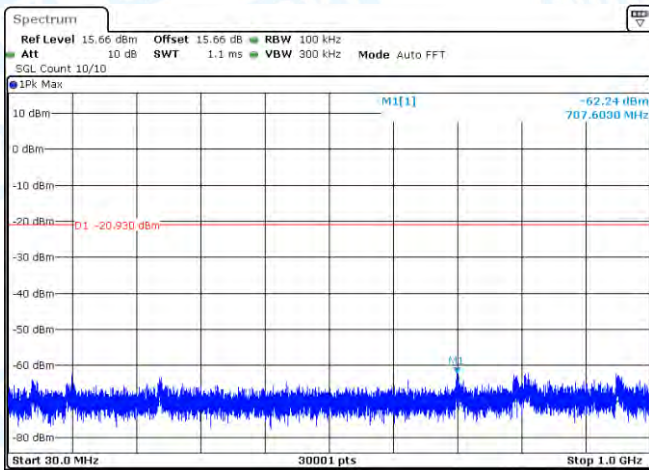
11B-Ant1-2462-0~Reference-PASS

11B-Ant1-2462-30~1000-PASS



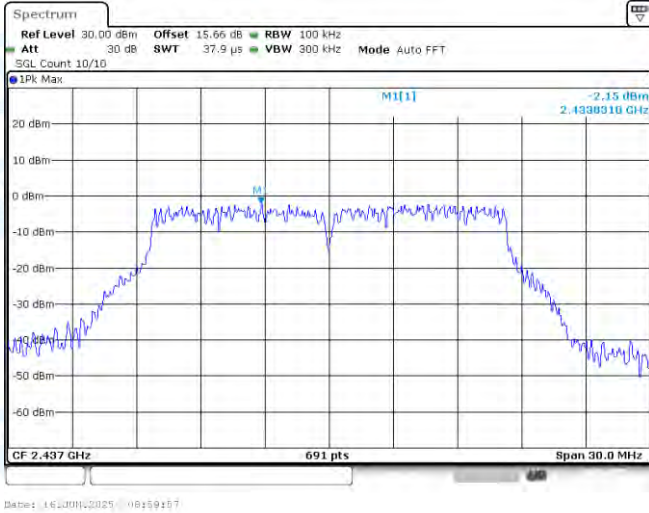
11B-Ant1-2462-1000~26500-PASS

11G-Ant1-2412-0~Reference-PASS

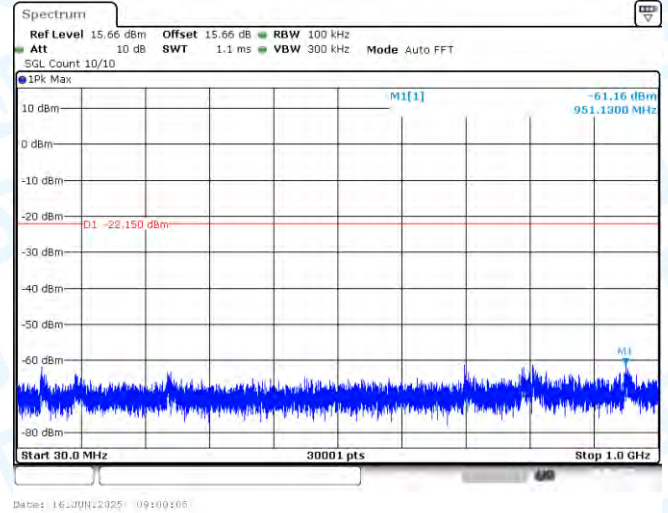


11G-Ant1-2412-30~1000-PASS

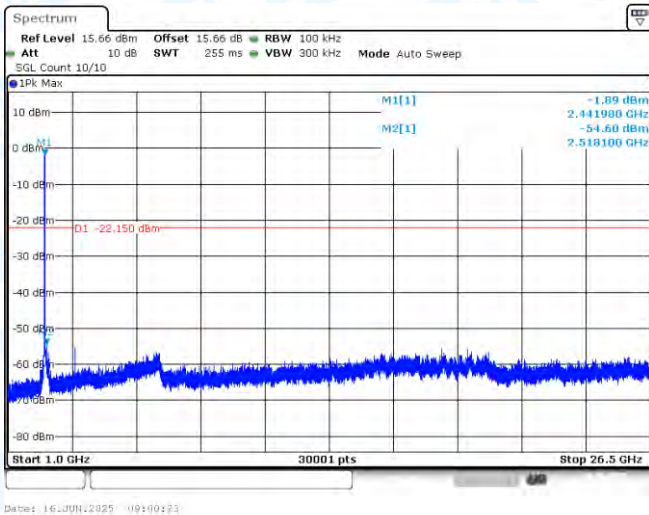
11G-Ant1-2412-1000~26500-PASS



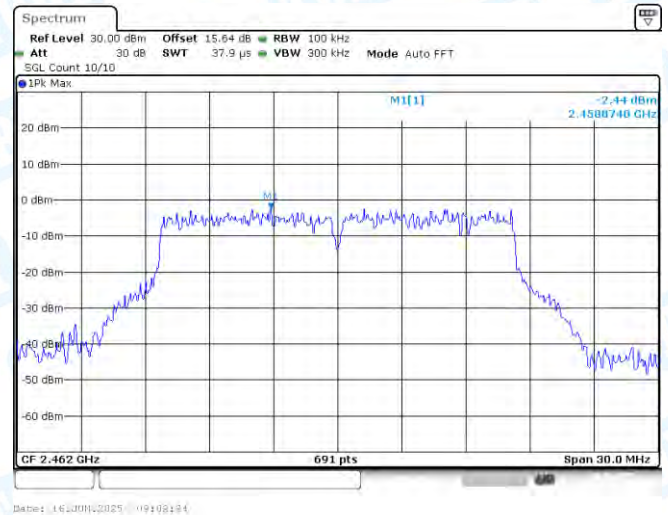
11G-Ant1-2437-0~Reference-PASS



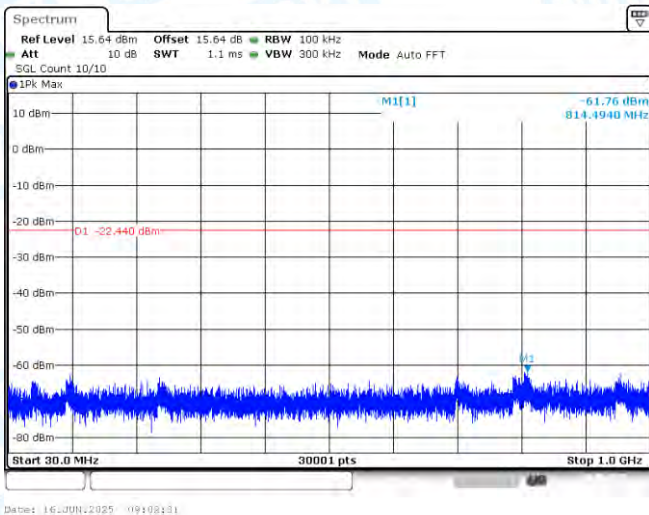
11G-Ant1-2437-30~1000-PASS



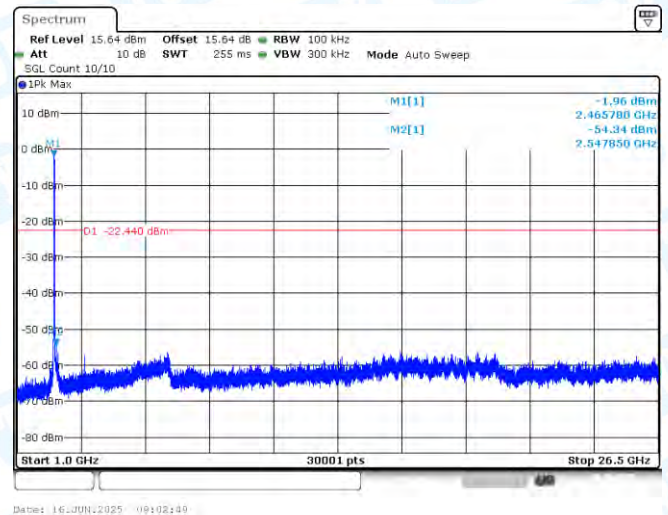
11G-Ant1-2437-1000~26500-PASS



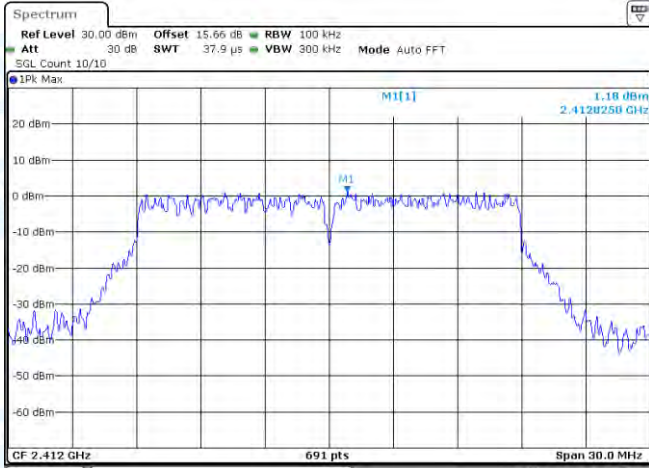
11G-Ant1-2462-0~Reference-PASS



11G-Ant1-2462-30~1000-PASS

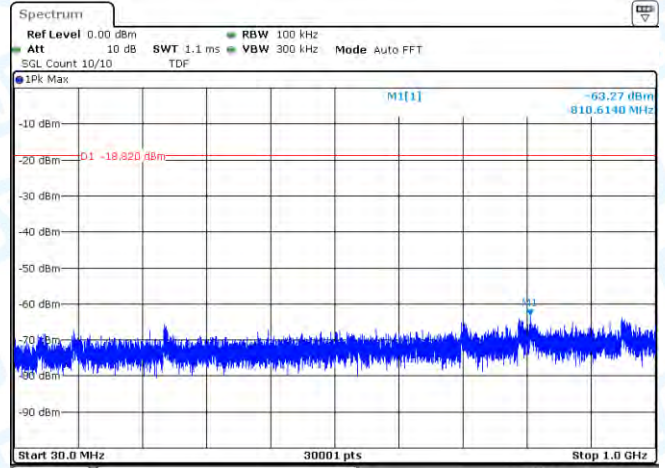


11G-Ant1-2462-1000~26500-PASS



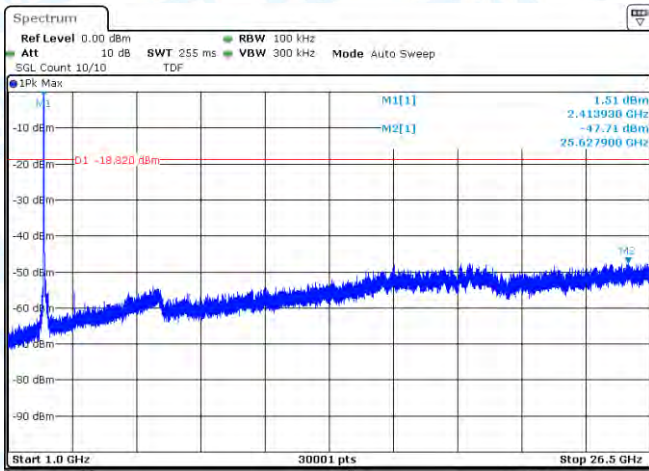
Date: 27-MAY-2025 19:22:16

11N20SISO-Ant1-2412-0~Reference-PASS



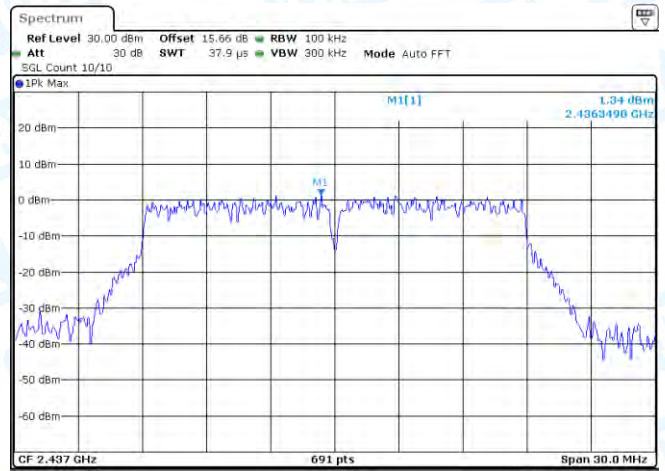
Date: 27-MAY-2025 19:22:14

11N20SISO-Ant1-2412-30~1000-PASS



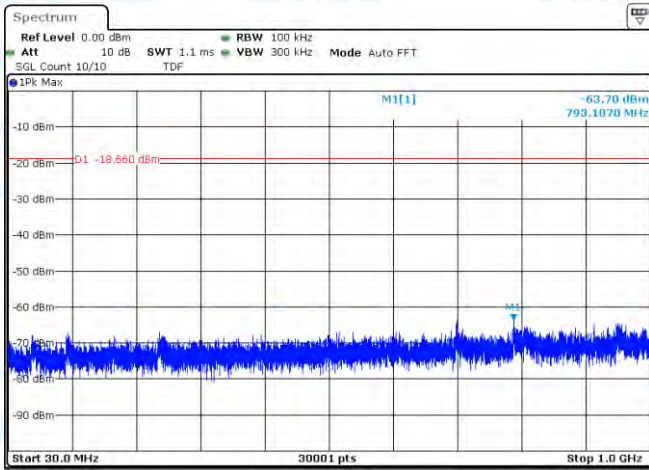
Date: 27-MAY-2025 19:22:31

11N20SISO-Ant1-2412-1000~26500-PASS



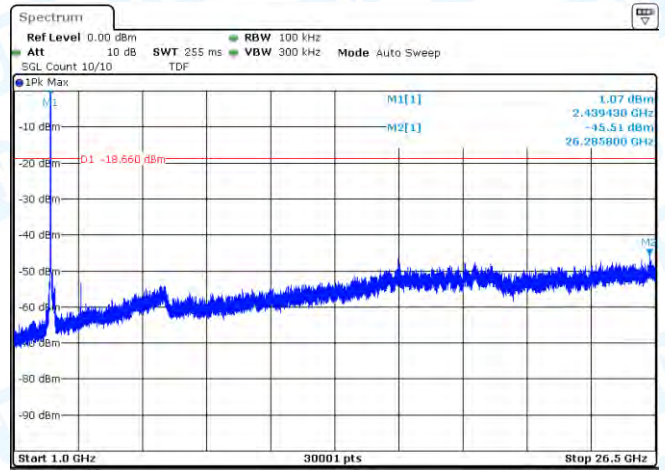
Date: 27-MAY-2025 19:22:34

11N20SISO-Ant1-2437-0~Reference-PASS



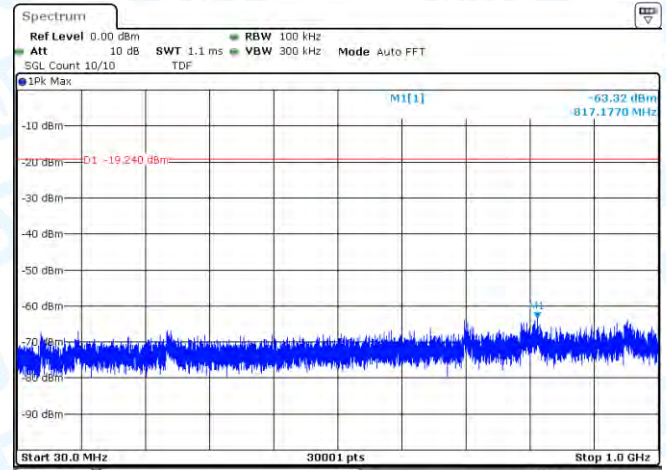
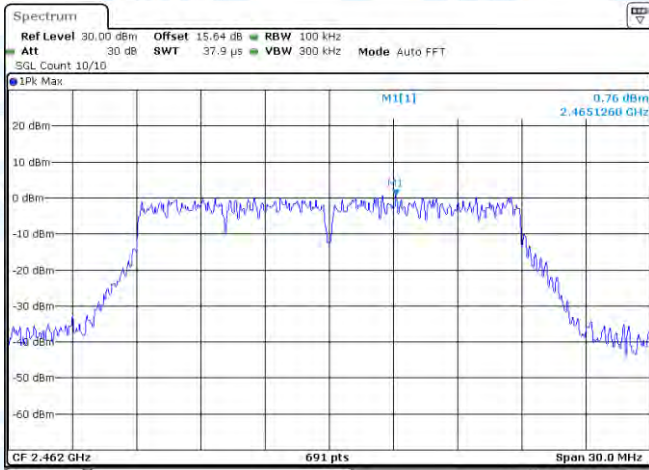
Date: 27-MAY-2025 19:22:31

11N20SISO-Ant1-2437-30~1000-PASS



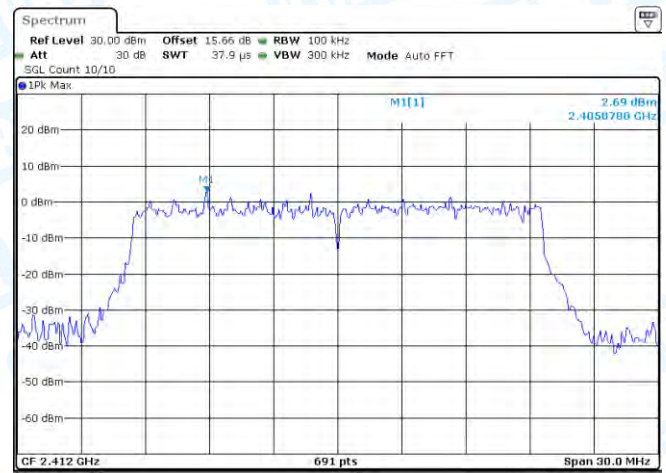
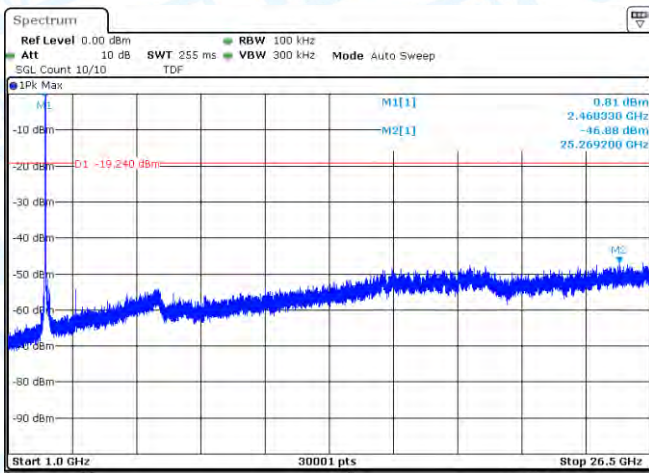
Date: 27-MAY-2025 19:22:30

11N20SISO-Ant1-2437-1000~26500-PASS



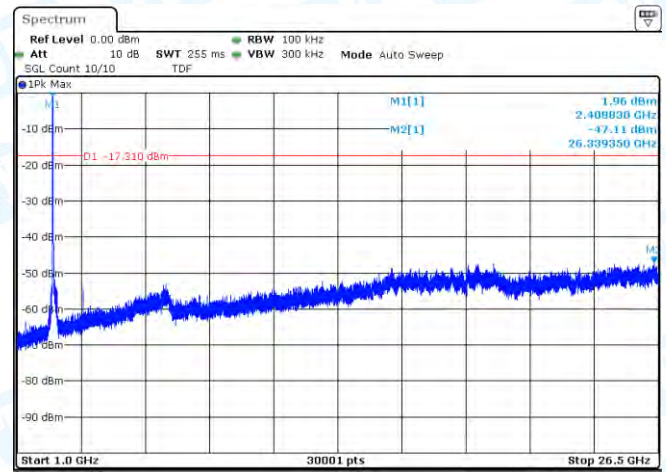
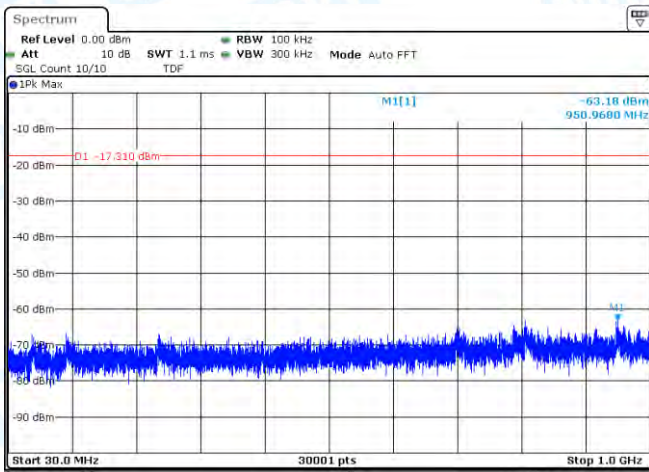
11N20SISO-Ant1-2462-0~Reference-PASS

11N20SISO-Ant1-2462-30~1000-PASS



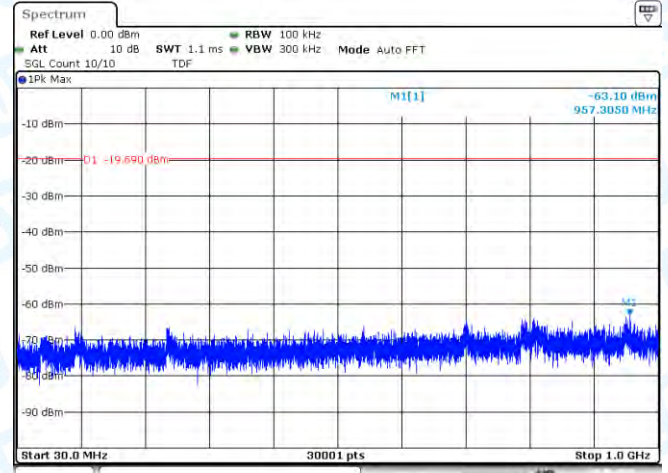
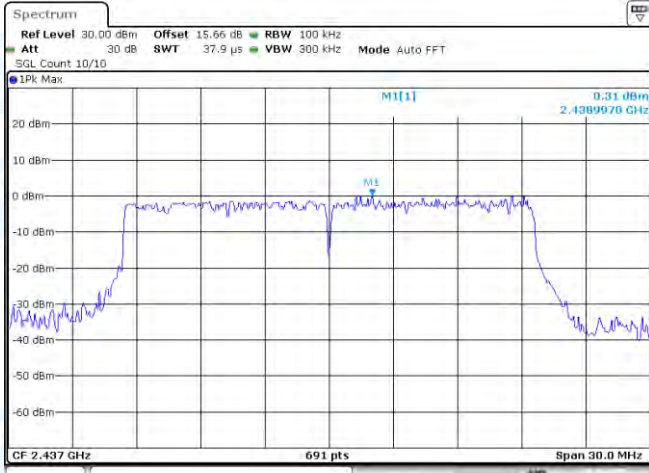
11N20SISO-Ant1-2462-1000~26500-PASS

11AX20SISO-Ant1-2412-0~Reference-PASS



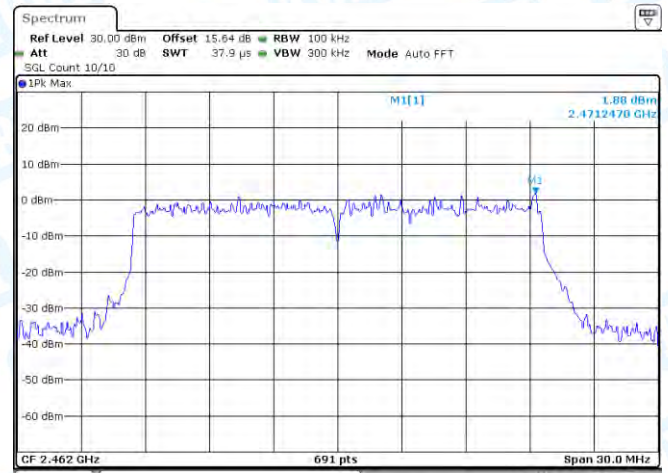
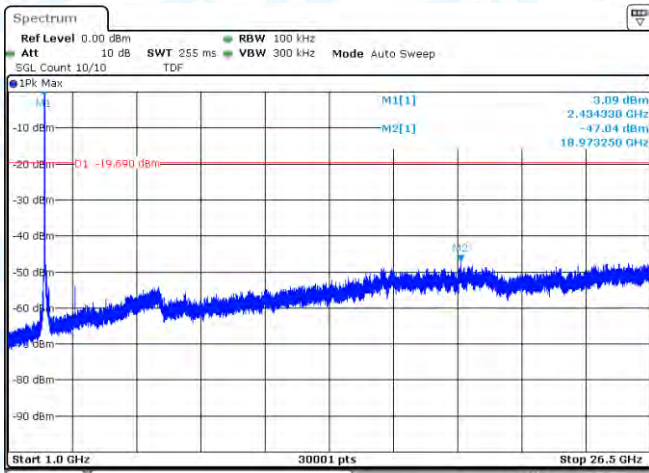
11AX20SISO-Ant1-2412-30~1000-PASS

11AX20SISO-Ant1-2412-1000~26500-PASS



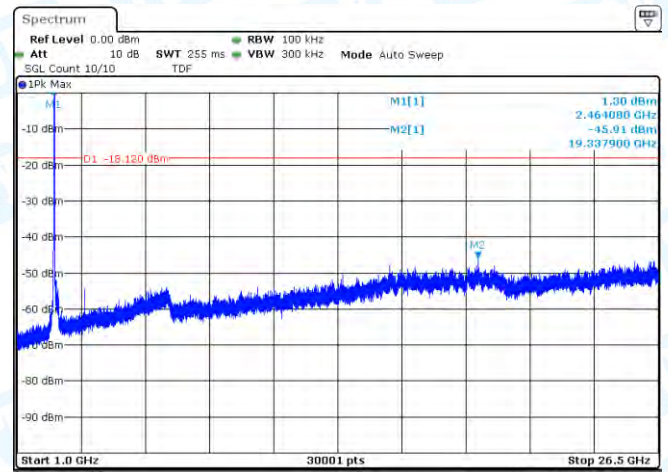
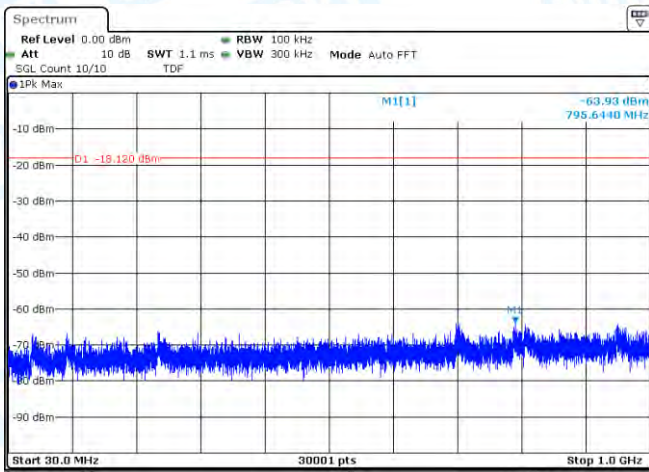
11AX20SISO-Ant1-2437-0~Reference-PASS

11AX20SISO-Ant1-2437-30~1000-PASS



11AX20SISO-Ant1-2437-1000~26500-PASS

11AX20SISO-Ant1-2462-0~Reference-PASS



11AX20SISO-Ant1-2462-30~1000-PASS

11AX20SISO-Ant1-2462-1000~26500-PASS

7: Duty Cycle

7.1 Test Result

TestMode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	DC Factory	1/T [kHz]
11B	Ant1	2412	12.40	12.43	99.76	0.01	0.08
11B	Ant1	2437	12.41	12.43	99.84	0.01	0.08
11B	Ant1	2462	12.41	12.43	99.84	0.01	0.08
11G	Ant1	2412	2.06	2.09	98.56	0.06	0.49
11G	Ant1	2437	2.06	2.09	98.56	0.06	0.49
11G	Ant1	2462	2.06	2.09	98.56	0.06	0.49
11N20SISO	Ant1	2412	1.92	1.95	98.46	0.07	0.52
11N20SISO	Ant1	2437	1.92	1.95	98.46	0.07	0.52
11N20SISO	Ant1	2462	1.92	1.95	98.46	0.07	0.52
11AX20SISO	Ant1	2412	1.49	1.52	98.03	0.09	0.67
11AX20SISO	Ant1	2437	1.48	1.51	98.01	0.09	0.68
11AX20SISO	Ant1	2462	1.48	1.51	98.01	0.09	0.68

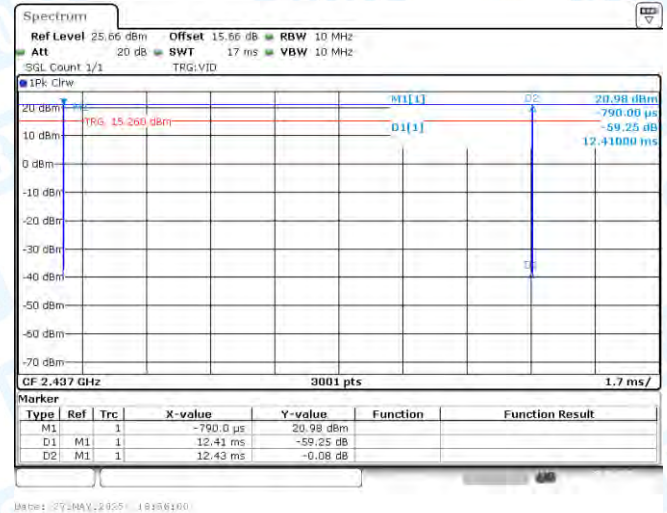
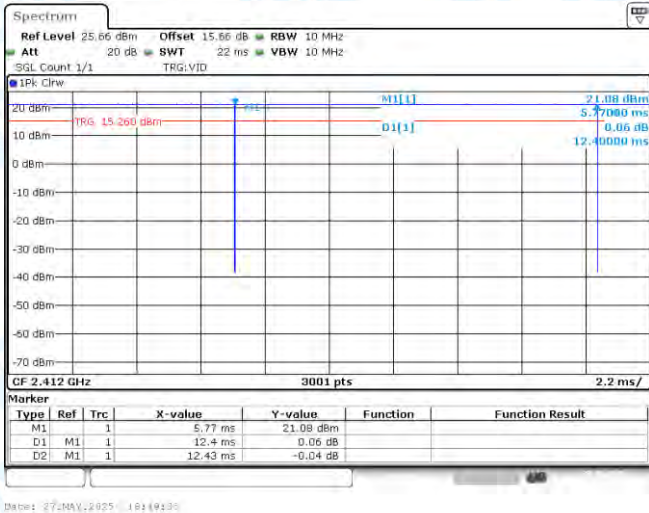
Note: 1, Duty Cycle= Transmission Duration/ Transmission Period

2, DC Factory=10*Log₁₀(1/Duty Cycle)

3, 1/T=1/ Transmission Duration

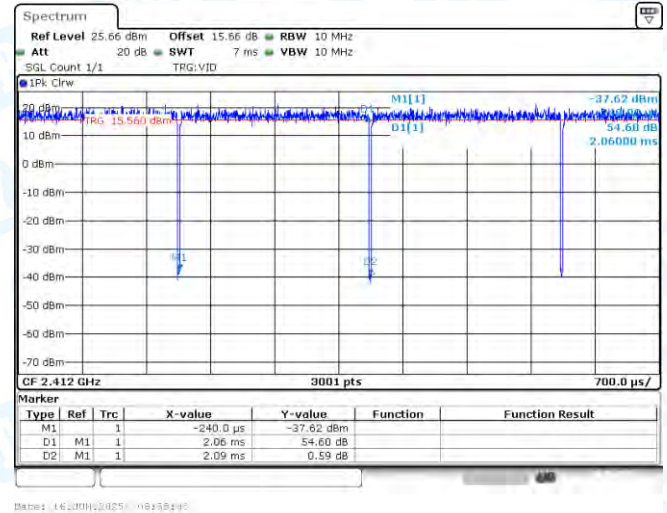
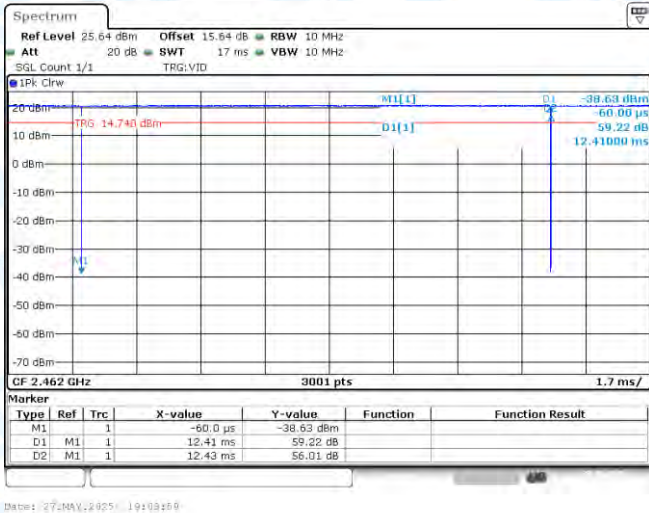
4: RF Conducted test Offset= cable loss+ Attenuator(10dB).

7.2 Test Graphs



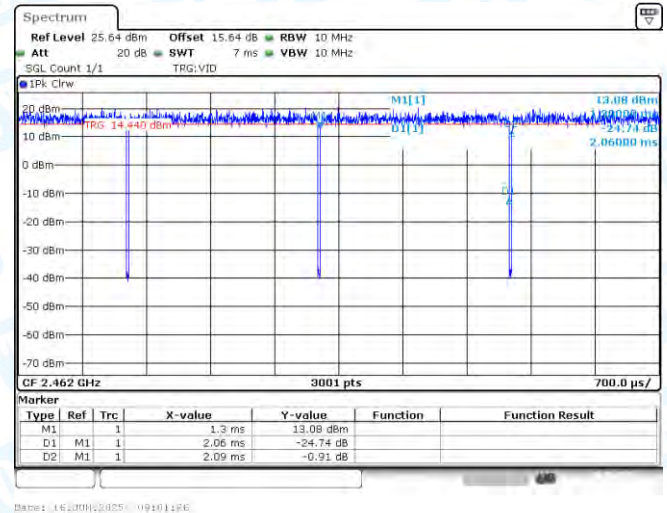
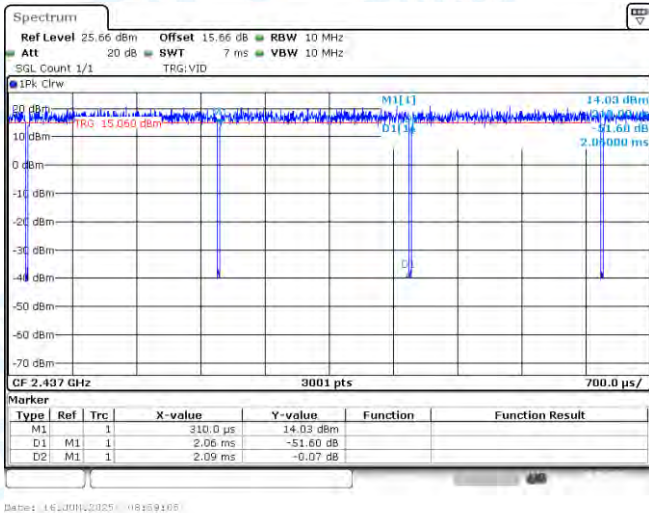
NTNV-11B-Ant1-2412

NTNV-11B-Ant1-2437



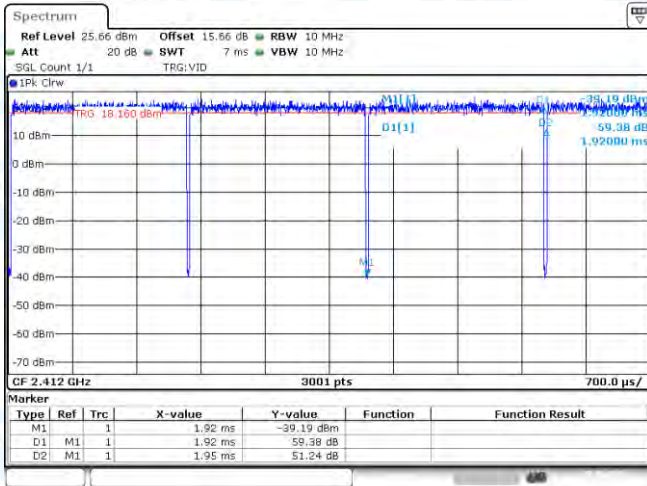
NTNV-11B-Ant1-2462

NTNV-11G-Ant1-2412



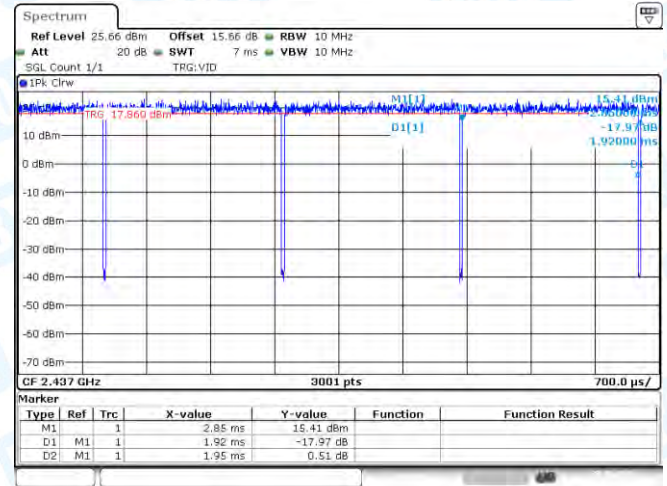
NTNV-11G-Ant1-2437

NTNV-11G-Ant1-2462



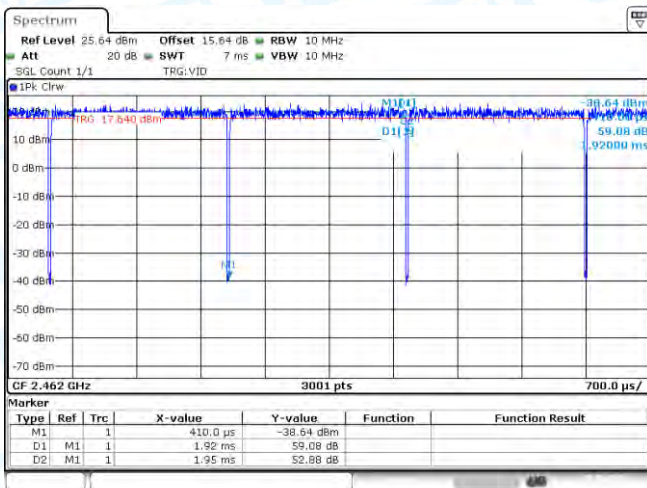
Date: 27-MAY-2025 19:11:11

NTNV-11N20SISO-Ant1-2412



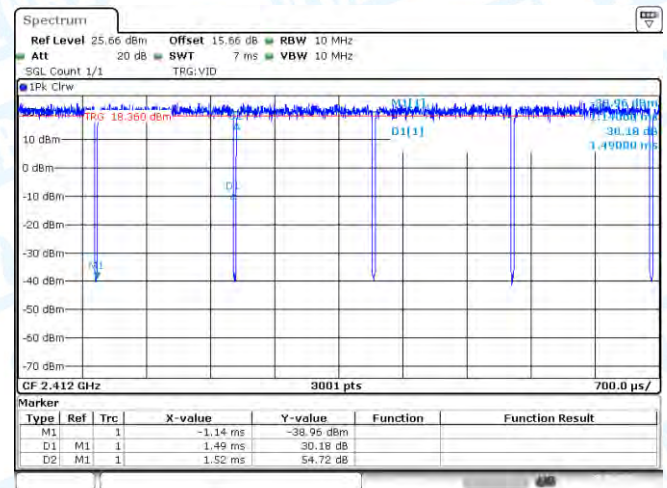
Date: 27-MAY-2025 19:13:31

NTNV-11N20SISO-Ant1-2437



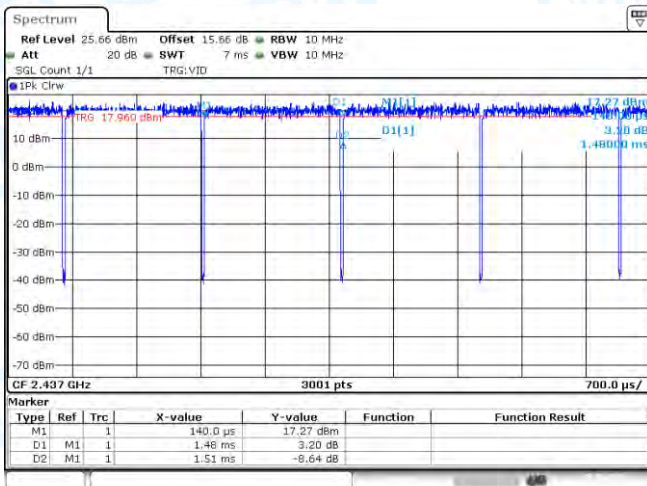
Date: 27-MAY-2025 19:22:59

NTNV-11N20SISO-Ant1-2462



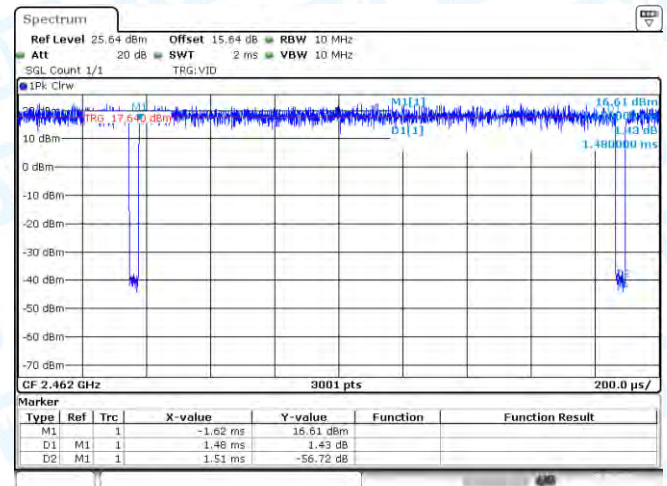
Date: 27-MAY-2025 19:27:59

NTNV-11AX20SISO-Ant1-2412



Date: 27-MAY-2025 19:29:26

NTNV-11AX20SISO-Ant1-2437



Date: 27-MAY-2025 19:11:25

NTNV-11AX20SISO-Ant1-2462

--- END OF REPORT ---