

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

General Description of EUT	
Product Name:	DAY/NIGHT HD DIGITAL SCOPE
Test Model:	9002
Sample ID:	20210419-25-02
Environmental Conditions	
Temperature:	25°C
Relative Humidity:	45%
Test Voltage:	DC 5V
Test Engineer:	Huang jian ping
Note: For a more detailed features description, please refer to the report TB-FCC181031	

Contents

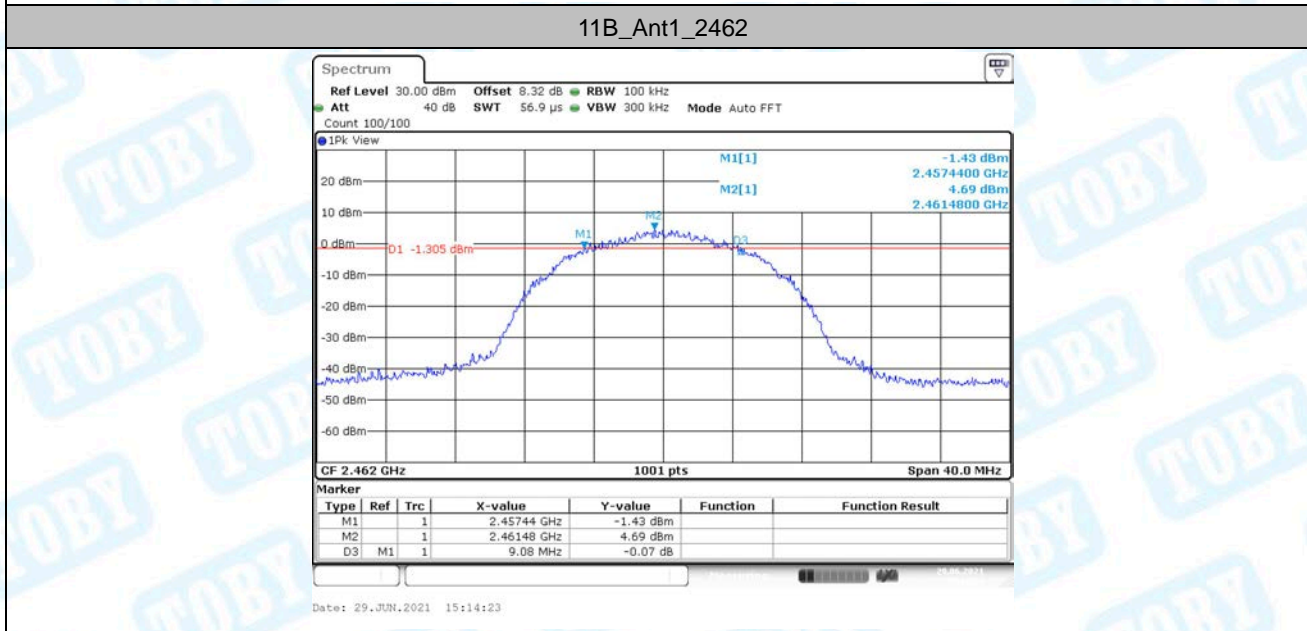
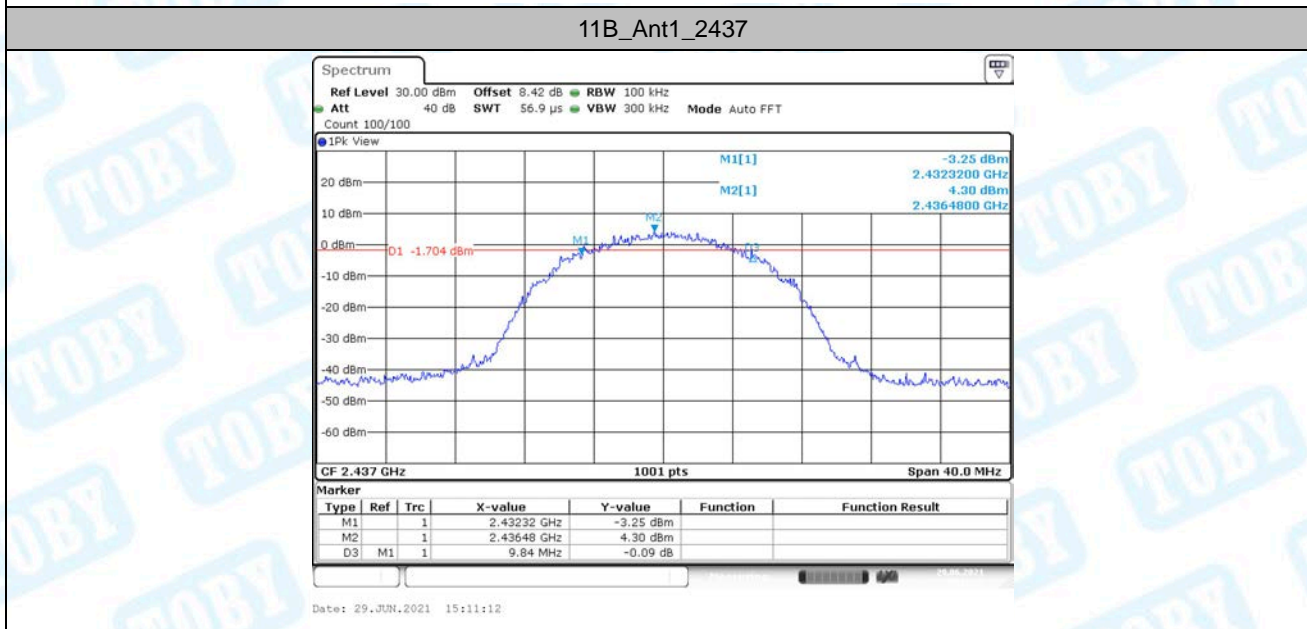
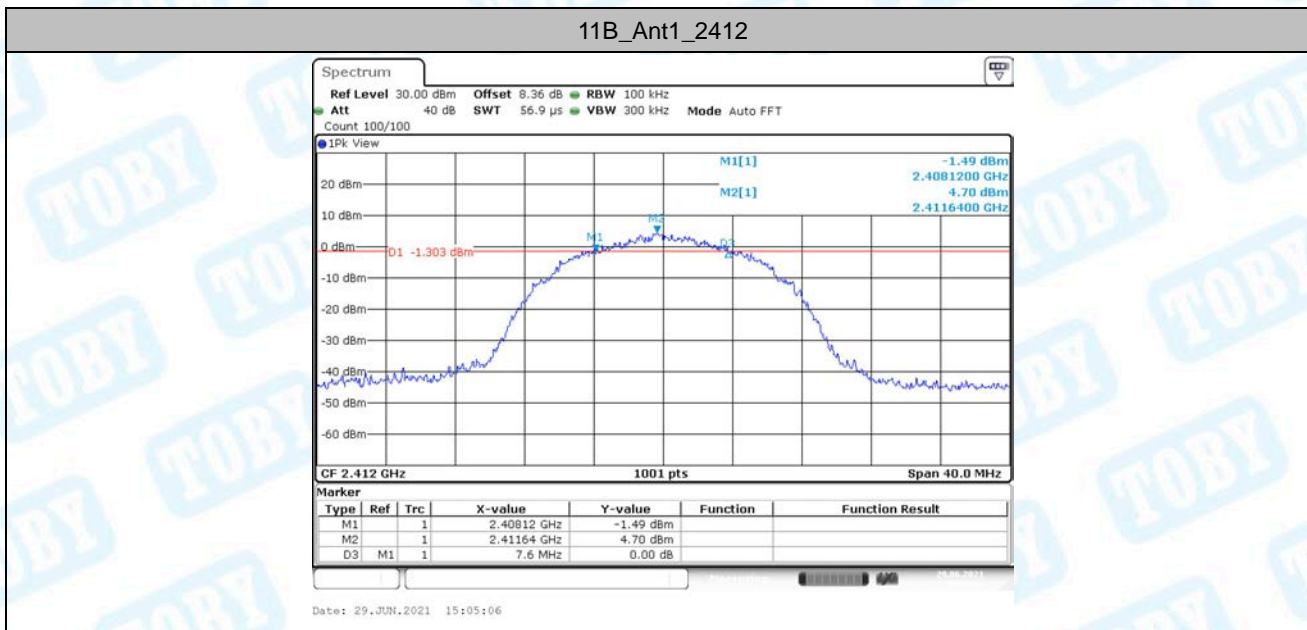
1. DTS Bandwidth.....	3
1.1. Test Result.....	3
1.2. Test Graphs.....	4
2. Occupied Channel Bandwidth.....	7
2.1. Test Result.....	7
2.2. Test Graphs.....	8
3. Maximum conducted output power.....	11
3.1. Test Result.....	11
4. Maximum power spectral density.....	12
4.1. Test Result.....	12
4.2. Test Graphs.....	13
5. Band edge measurements.....	16
5.1. Test Result.....	16
5.2. Test Graphs.....	17
6. Conducted Spurious Emission.....	19
6.1. Test Result.....	19
6.2. Test Graphs.....	20
7. Duty Cycle.....	29
7.1. Test Result.....	29
7.2. Test Graphs.....	30
8. Emissions in Restricted Bands.....	33
8.1. Test Result.....	33

1. DTS Bandwidth

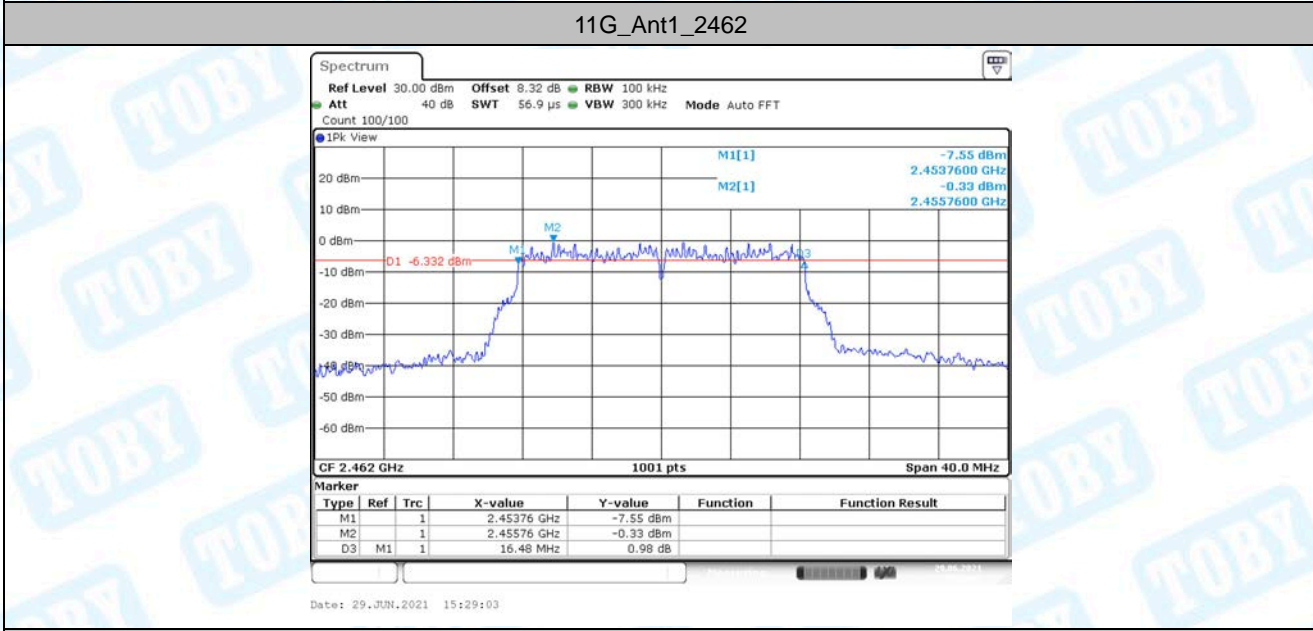
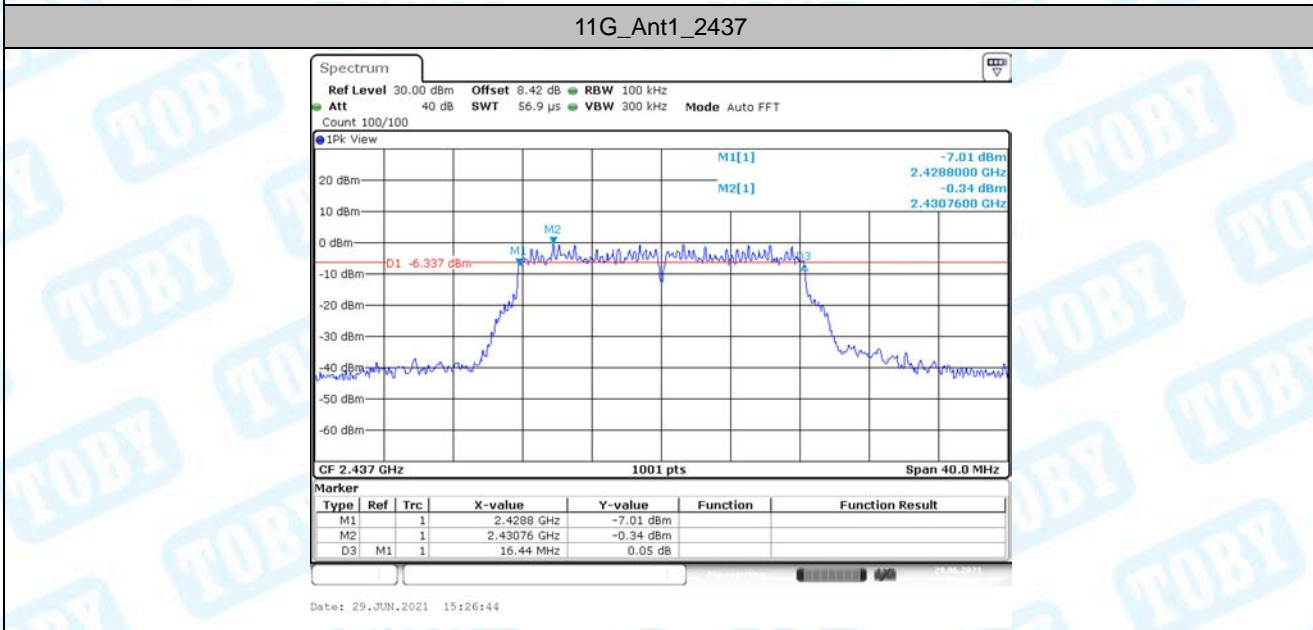
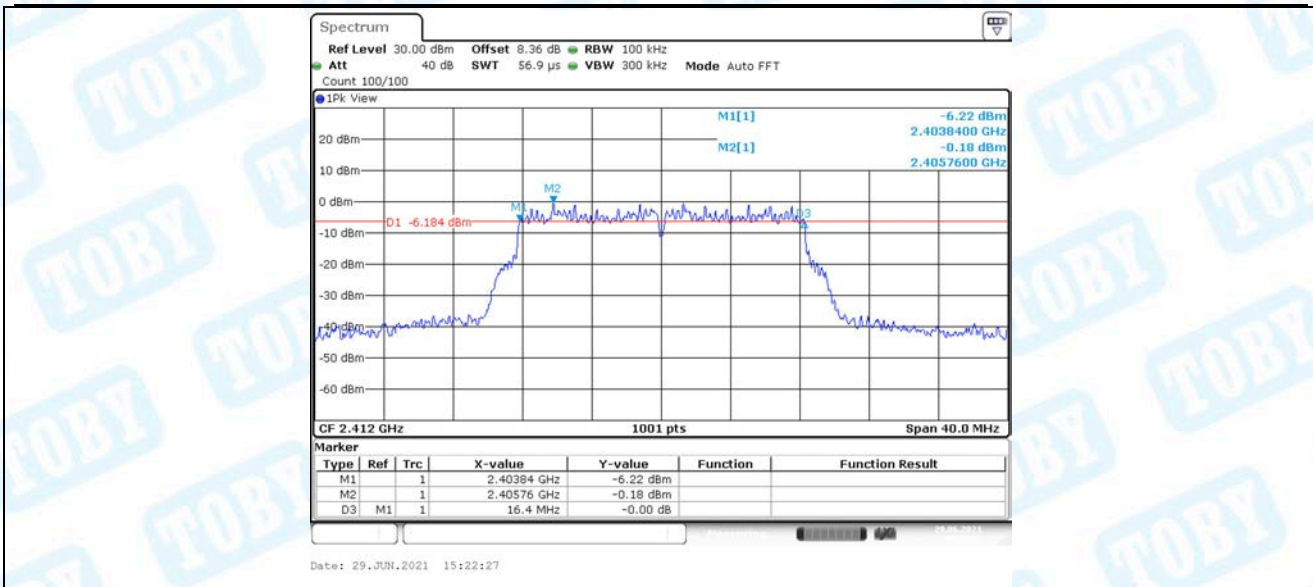
1.1. Test Result

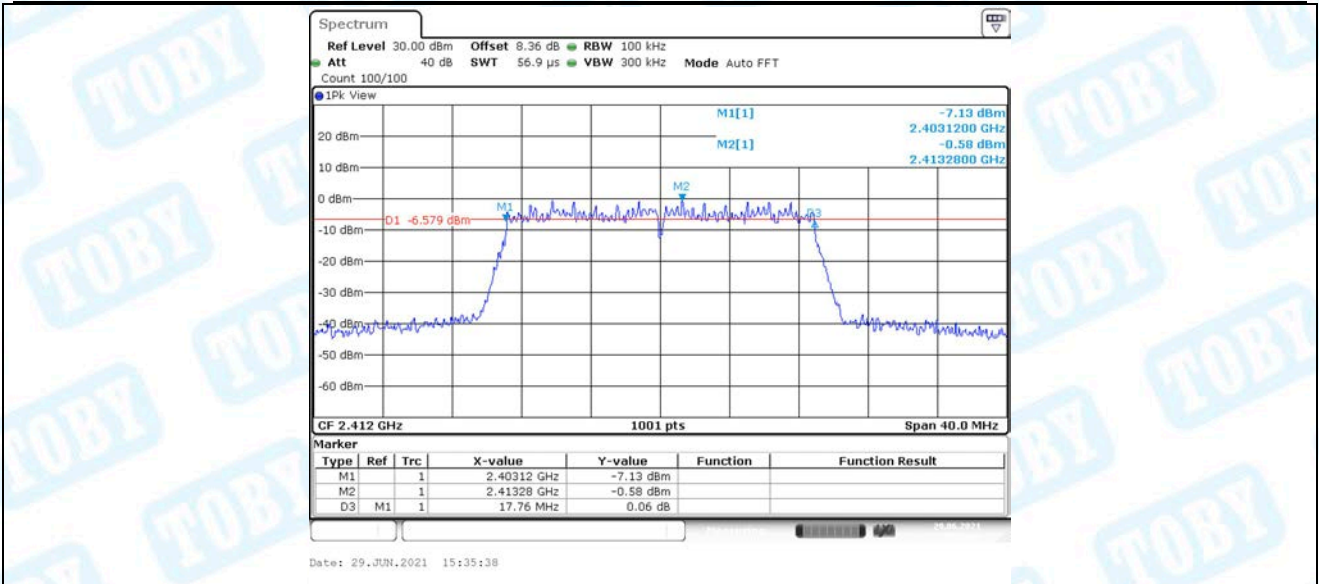
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	7.600	2408.120	2415.720	0.5	PASS
		2437	9.840	2432.320	2442.160	0.5	PASS
		2462	9.080	2457.440	2466.520	0.5	PASS
11G	Ant1	2412	16.400	2403.840	2420.240	0.5	PASS
		2437	16.440	2428.800	2445.240	0.5	PASS
		2462	16.480	2453.760	2470.240	0.5	PASS
11N20SISO	Ant1	2412	17.760	2403.120	2420.880	0.5	PASS
		2437	17.760	2428.120	2445.880	0.5	PASS
		2462	17.760	2453.160	2470.920	0.5	PASS

1.2. Test Graphs

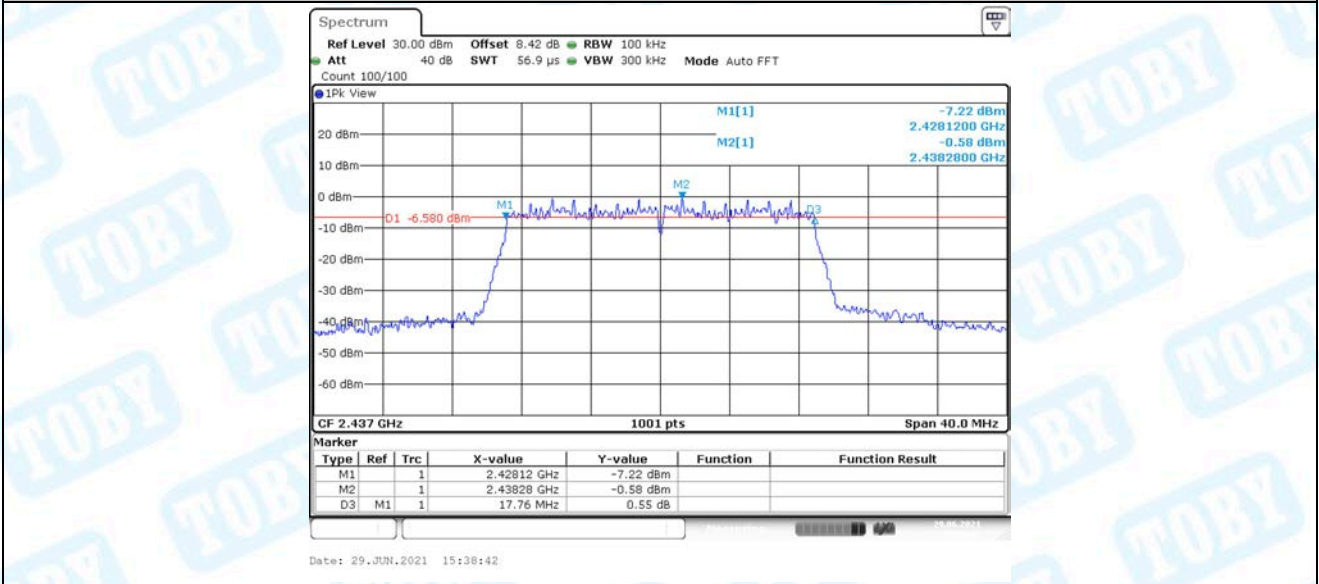


11G_Ant1_2412

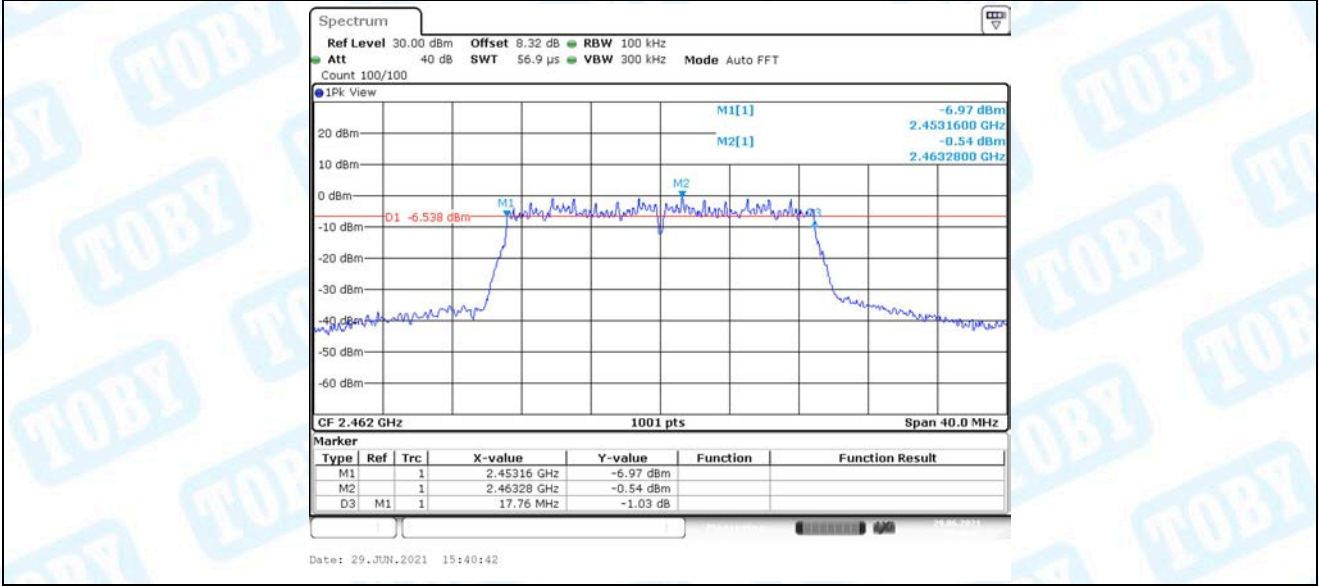




11N20SISO_Ant1_2437



11N20SISO_Ant1_2462

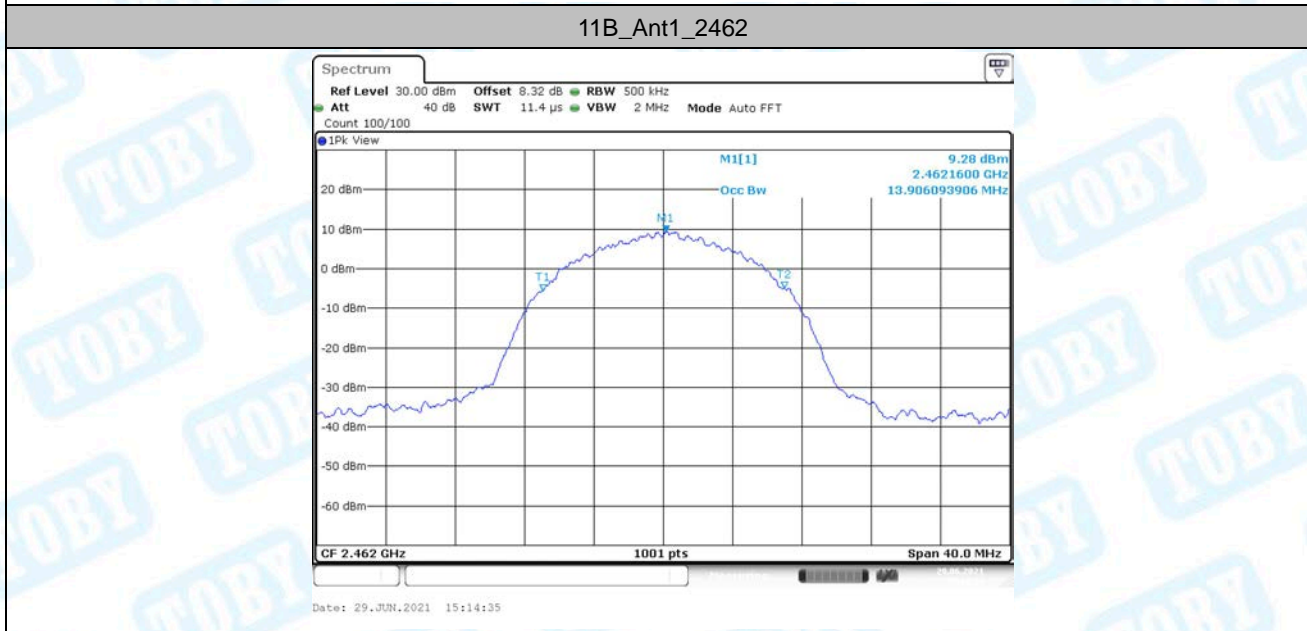
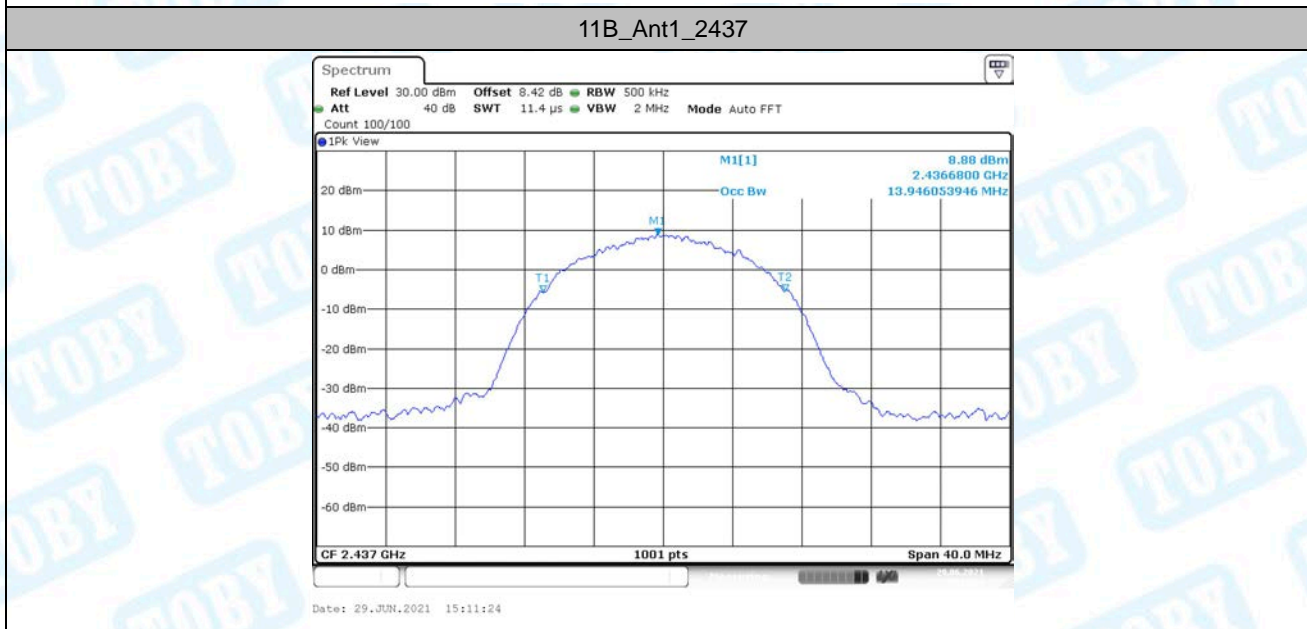
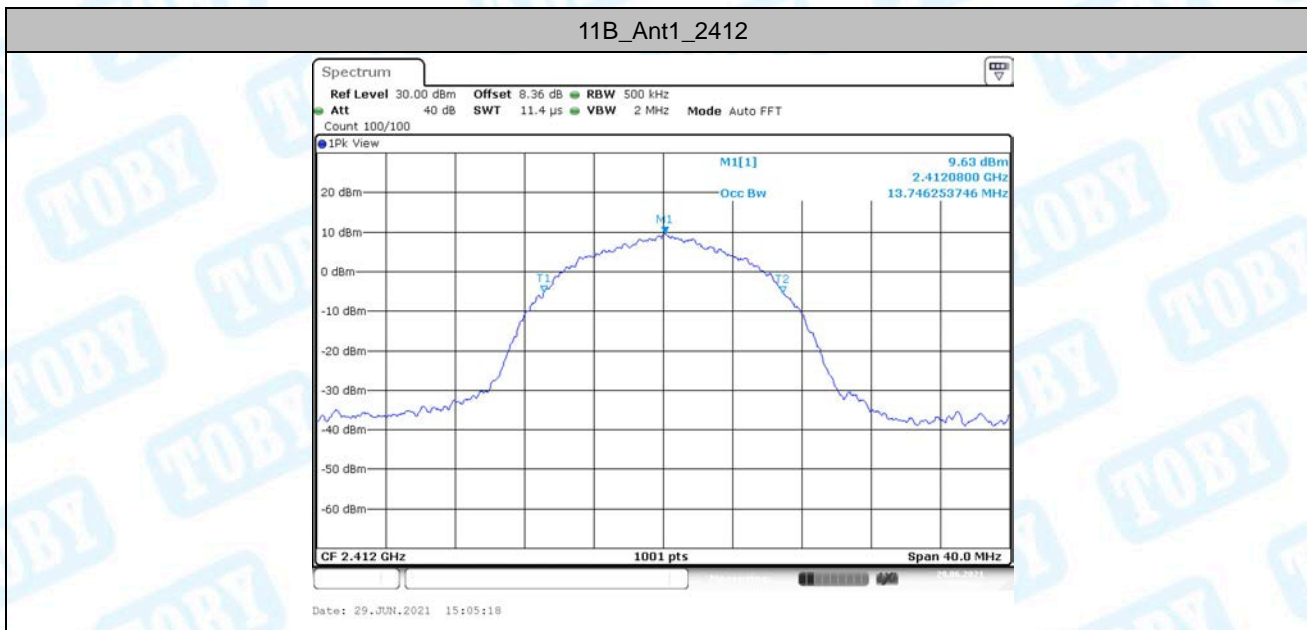


2. Occupied Channel Bandwidth

2.1. Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	13.746	2405.127	2418.873	---	PASS
		2437	13.946	2430.087	2444.033	---	PASS
		2462	13.906	2455.087	2468.993	---	PASS
11G	Ant1	2412	17.223	2403.648	2420.871	---	PASS
		2437	17.183	2428.528	2445.711	---	PASS
		2462	17.223	2453.369	2470.591	---	PASS
11N20SISO	Ant1	2412	18.222	2402.969	2421.191	---	PASS
		2437	18.182	2427.889	2446.071	---	PASS
		2462	18.062	2452.929	2470.991	---	PASS

2.2. Test Graphs



11G_Ant1_2412



Date: 29.JUN.2021 15:22:38

11G_Ant1_2437



Date: 29.JUN.2021 15:26:56

11G_Ant1_2462



Date: 29.JUN.2021 15:29:15

11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



3. Maximum conducted output power

3.1. Test Result

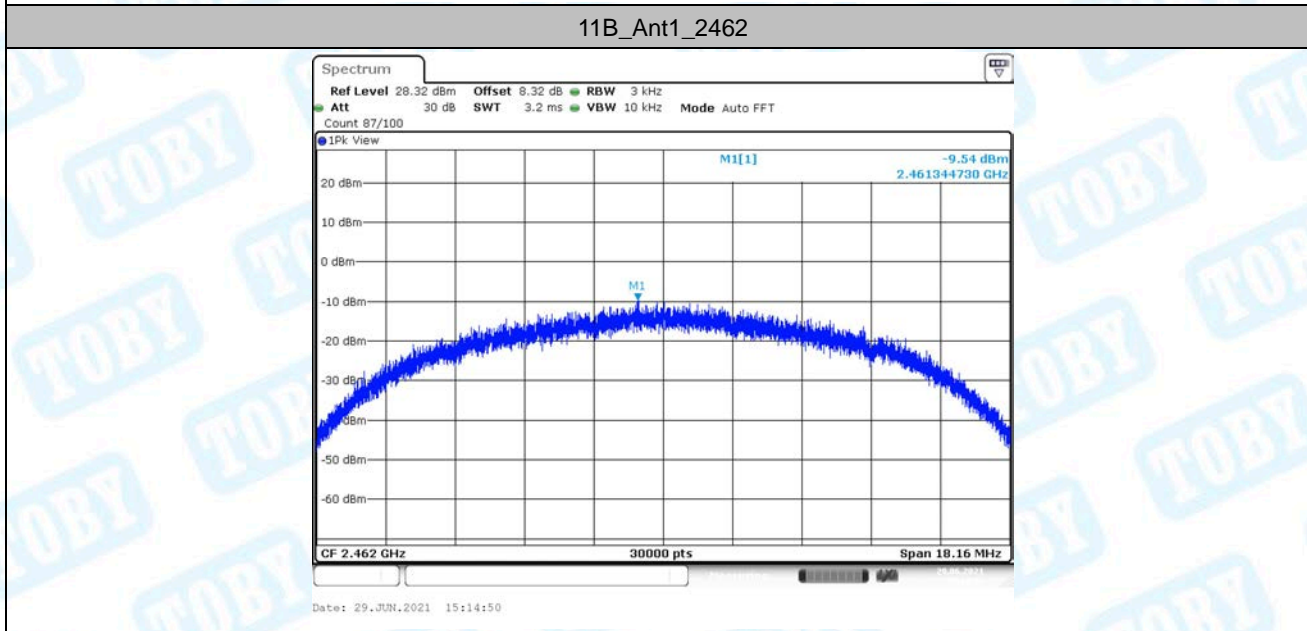
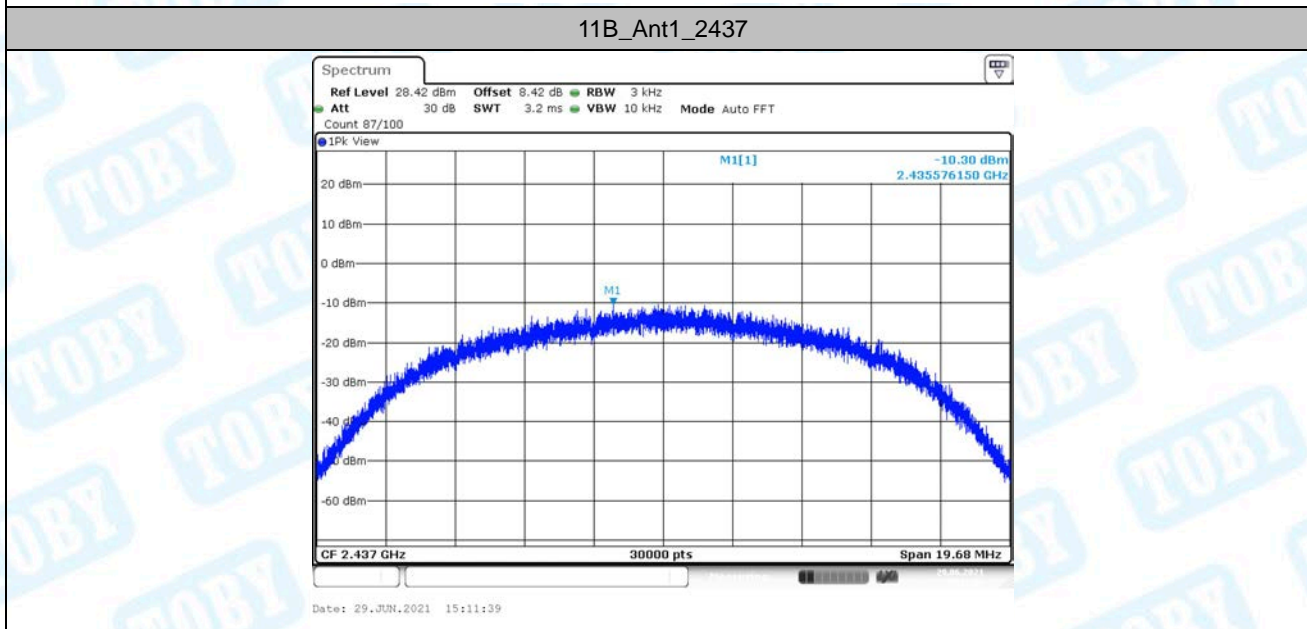
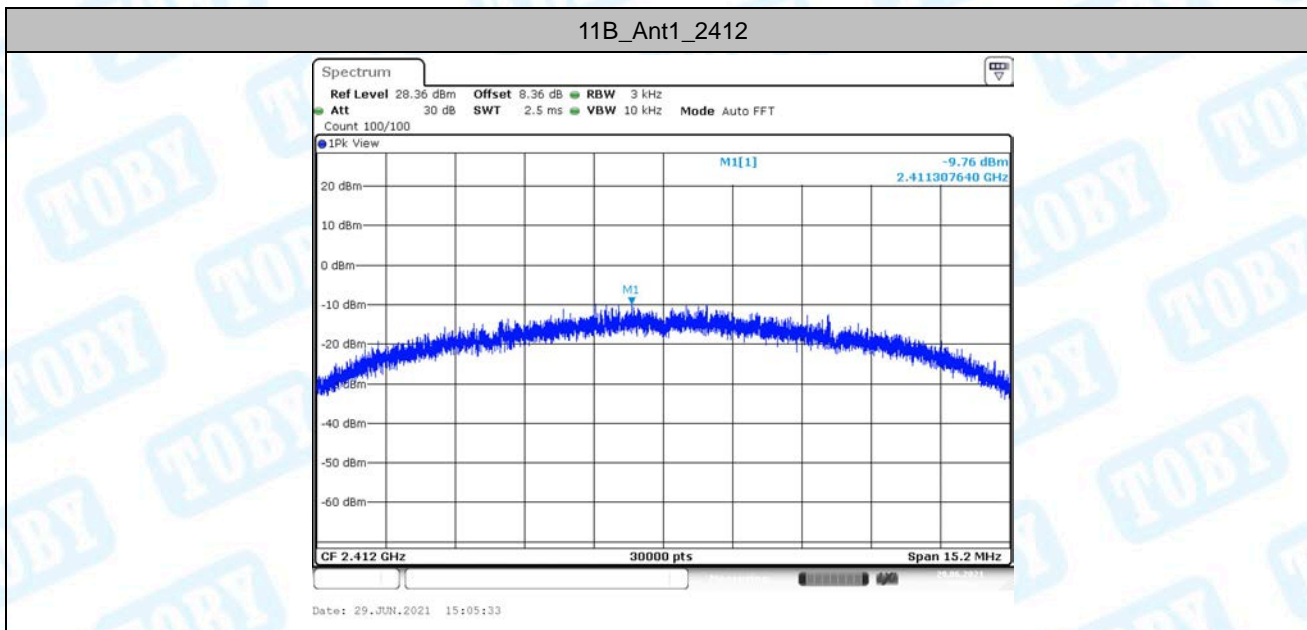
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	6.61	<=30	PASS
		2437	6.41	<=30	PASS
		2462	6.99	<=30	PASS
11G	Ant1	2412	6.65	<=30	PASS
		2437	6.36	<=30	PASS
		2462	5.86	<=30	PASS
11N20SISO	Ant1	2412	5.63	<=30	PASS
		2437	5.33	<=30	PASS
		2462	4.81	<=30	PASS

4. Maximum power spectral density

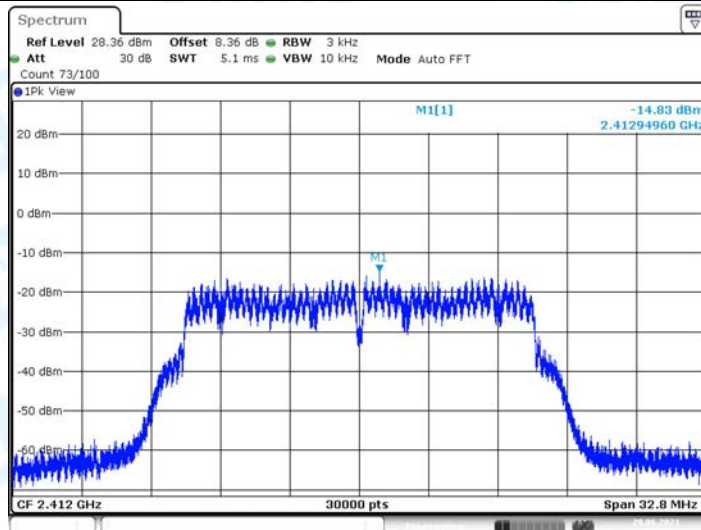
4.1. Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-9.76	<=8	PASS
		2437	-10.3	<=8	PASS
		2462	-9.54	<=8	PASS
11G	Ant1	2412	-14.83	<=8	PASS
		2437	-15.18	<=8	PASS
		2462	-15.1	<=8	PASS
11N20SISO	Ant1	2412	-15.23	<=8	PASS
		2437	-15.84	<=8	PASS
		2462	-15.54	<=8	PASS

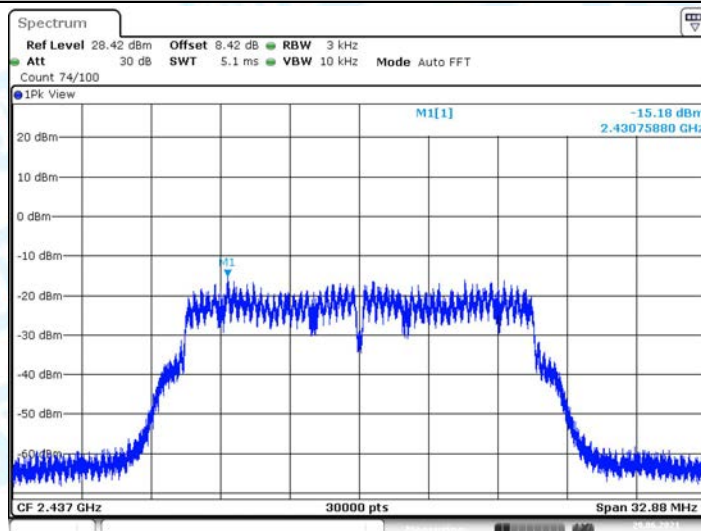
4.2. Test Graphs



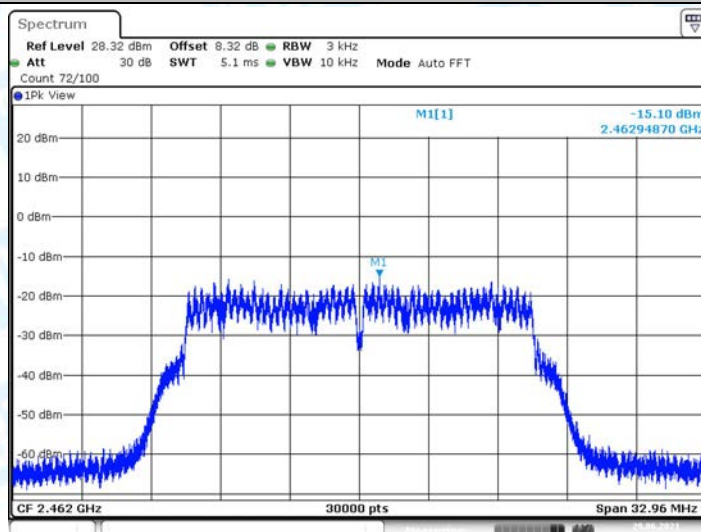
11G_Ant1_2412



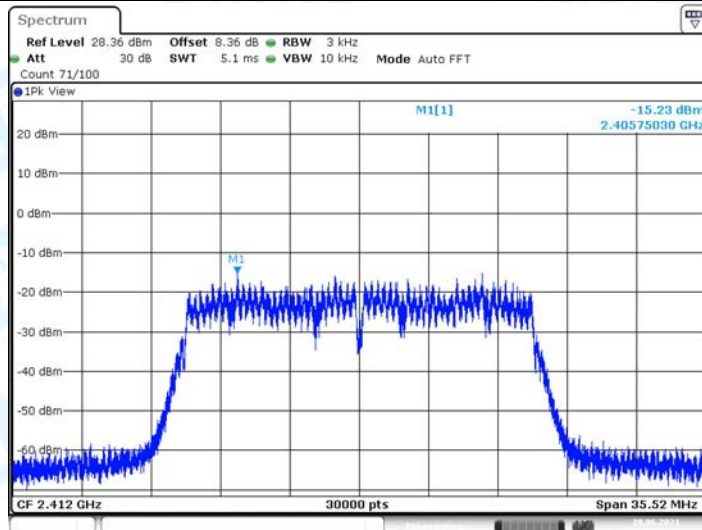
11G_Ant1_2437



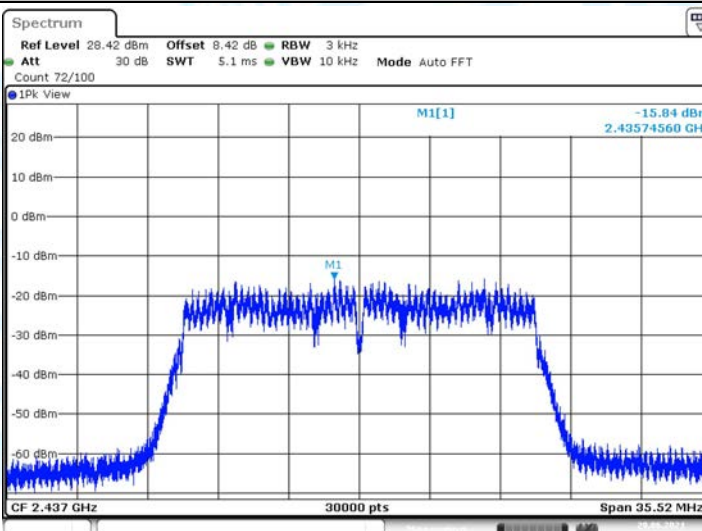
11G_Ant1_2462



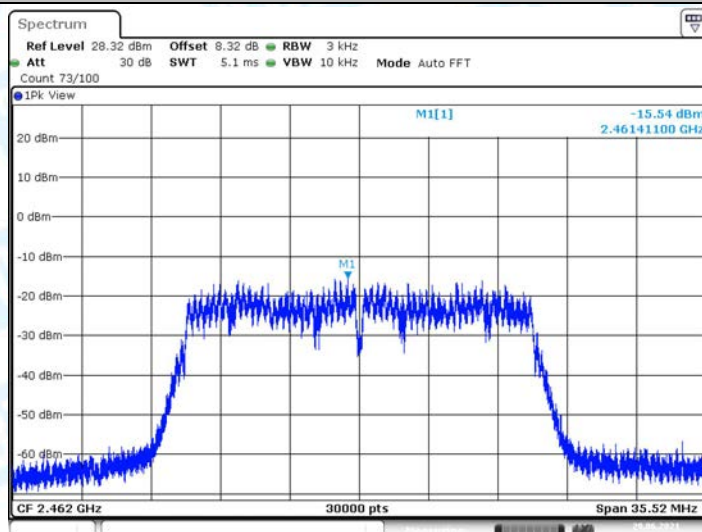
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462

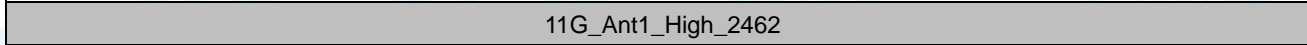
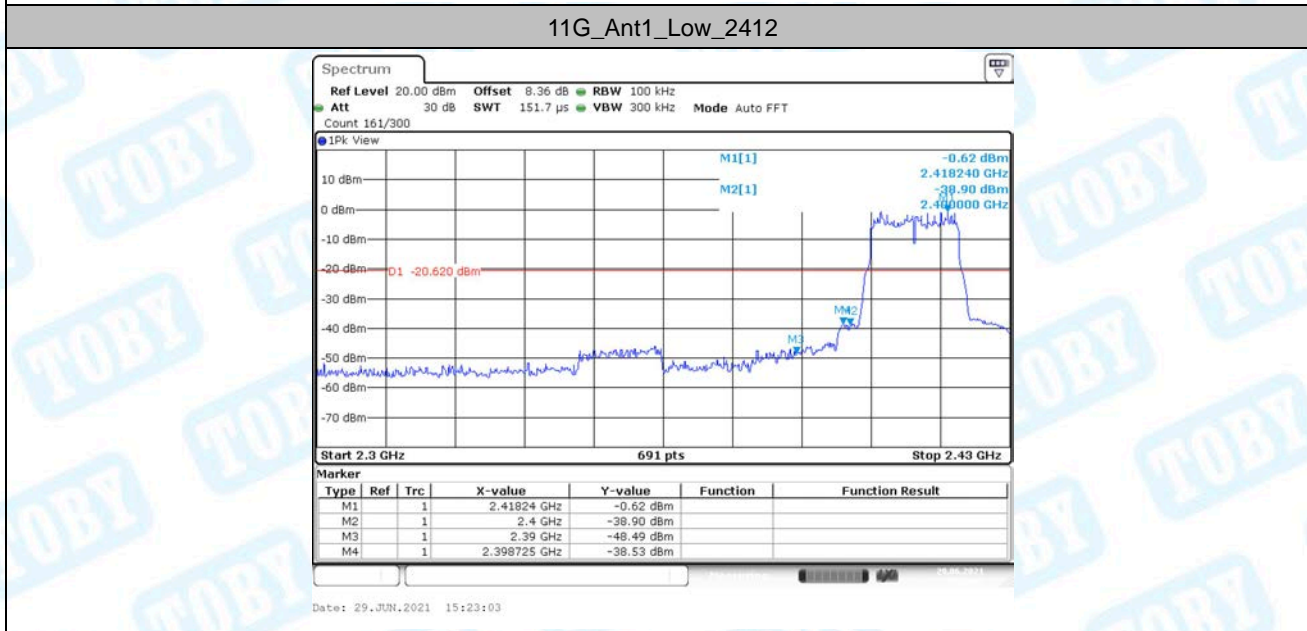
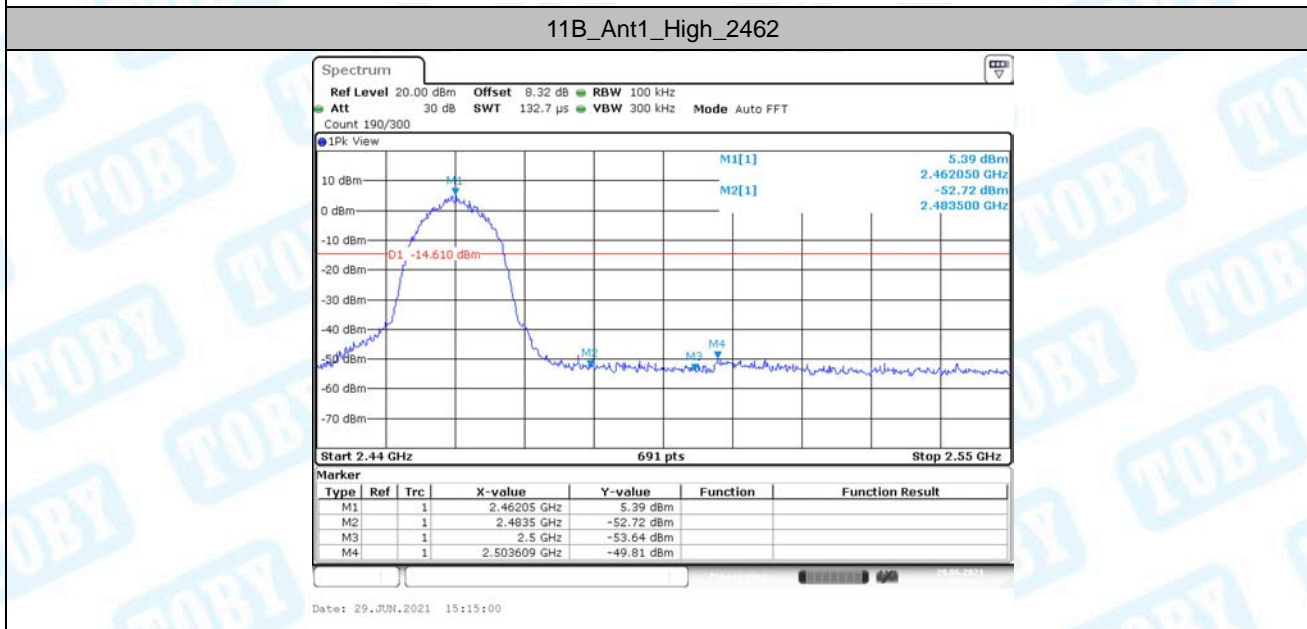
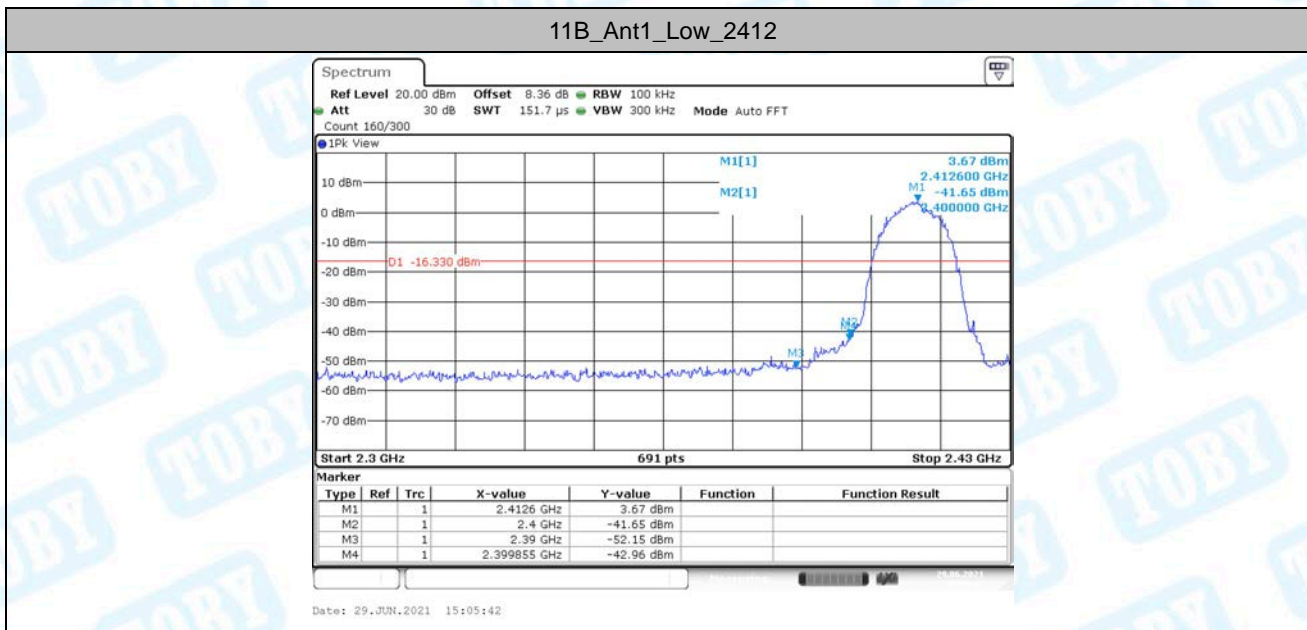


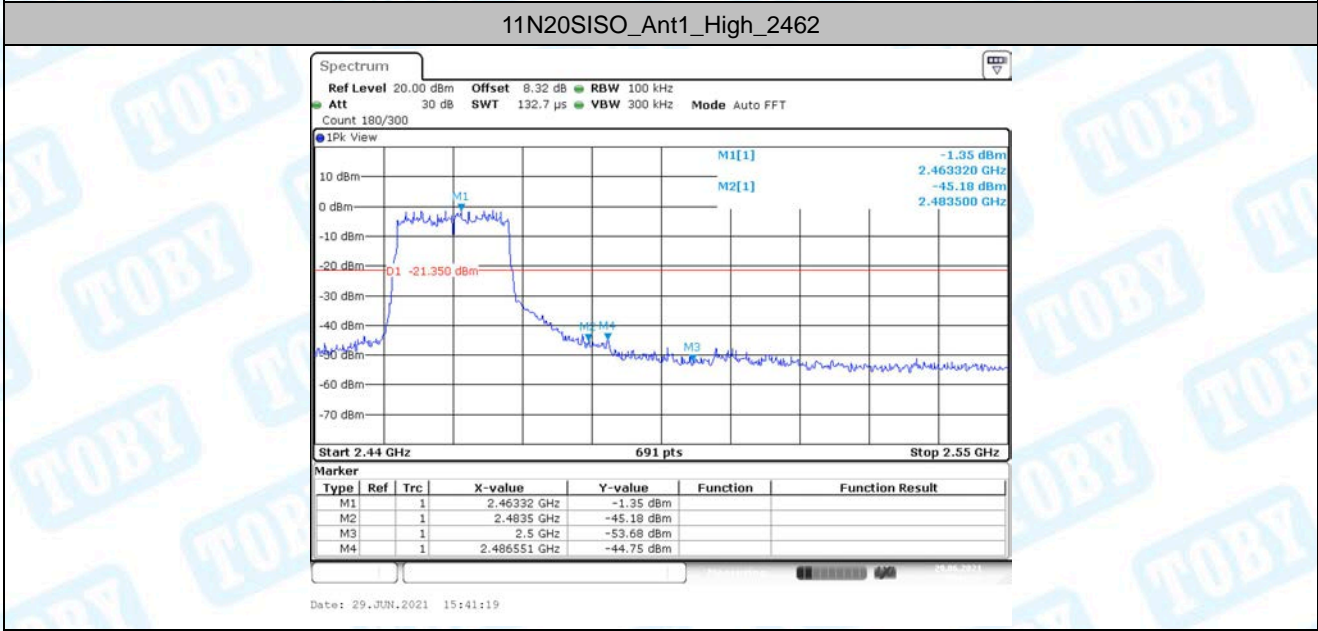
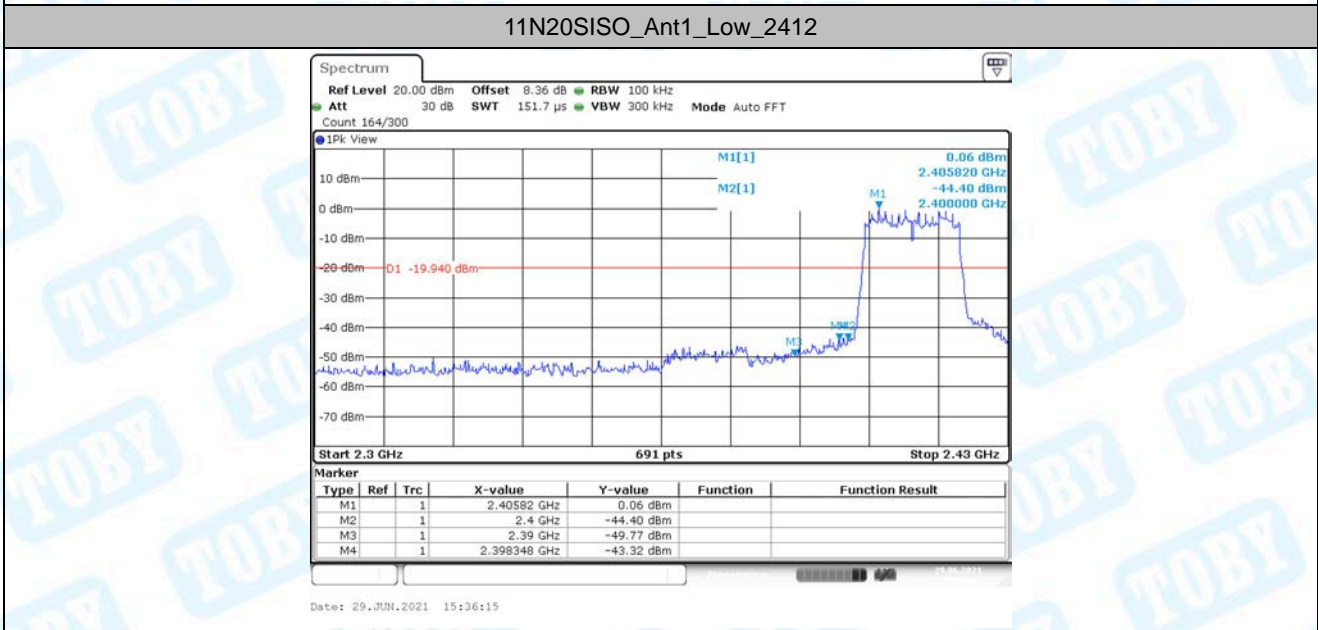
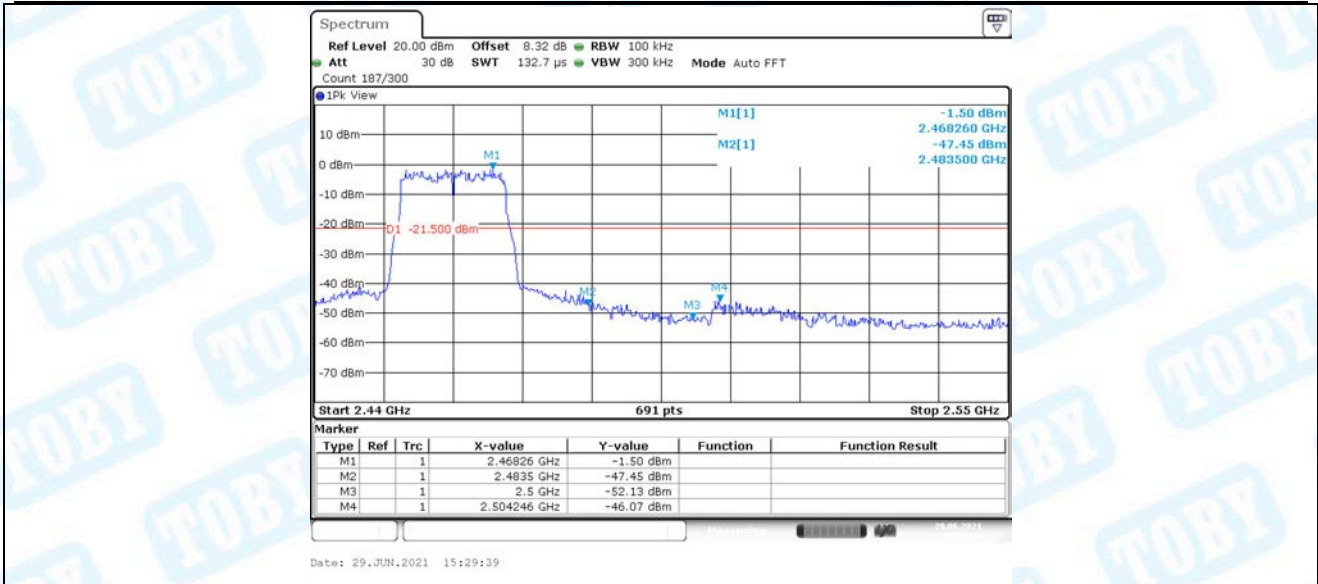
5. Band edge measurements

5.1. Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	3.67	-42.96	<=-16.33	PASS
		High	2462	5.39	-49.81	<=-14.61	PASS
11G	Ant1	Low	2412	-0.62	-38.53	<=-20.62	PASS
		High	2462	-1.50	-46.07	<=-21.5	PASS
11N20SISO	Ant1	Low	2412	0.06	-43.32	<=-19.94	PASS
		High	2462	-1.35	-44.75	<=-21.35	PASS

5.2. Test Graphs



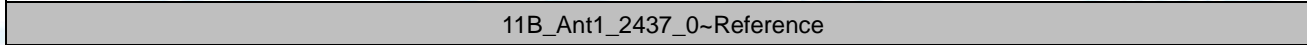
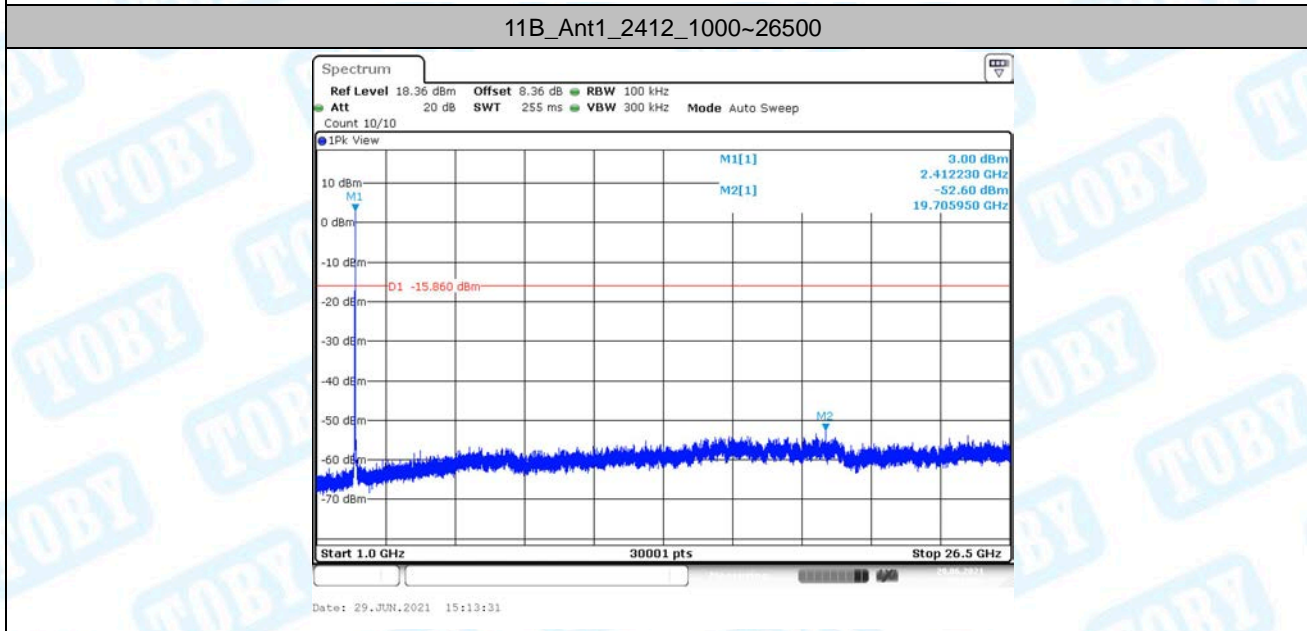
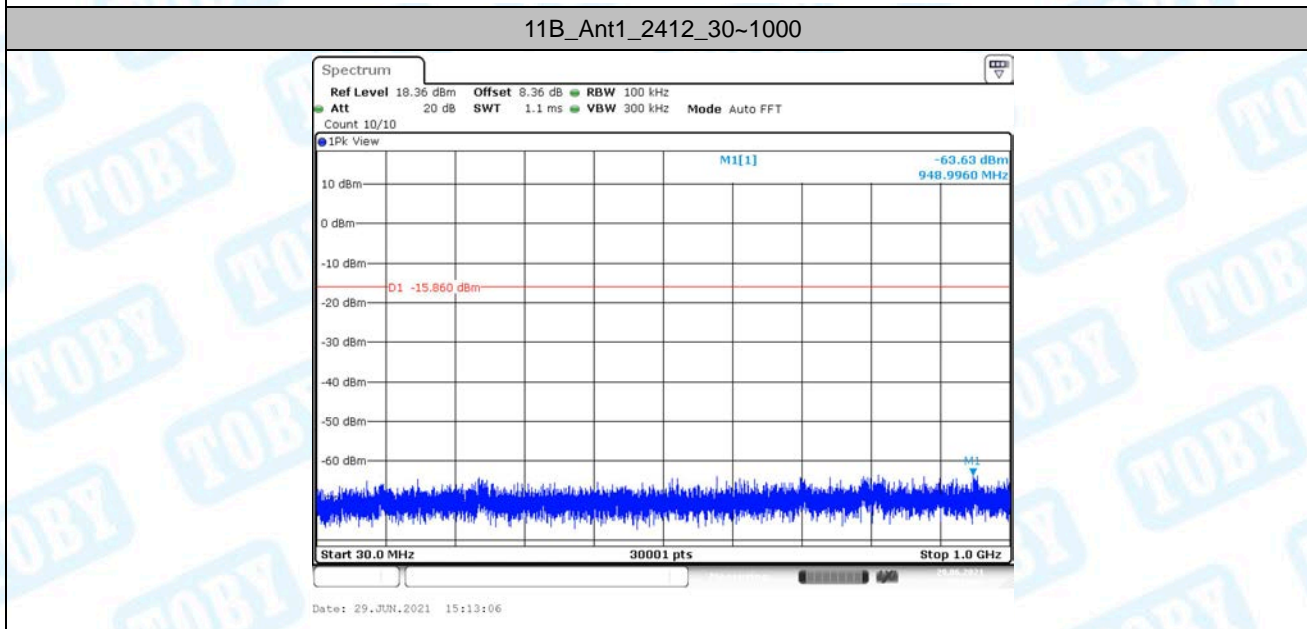
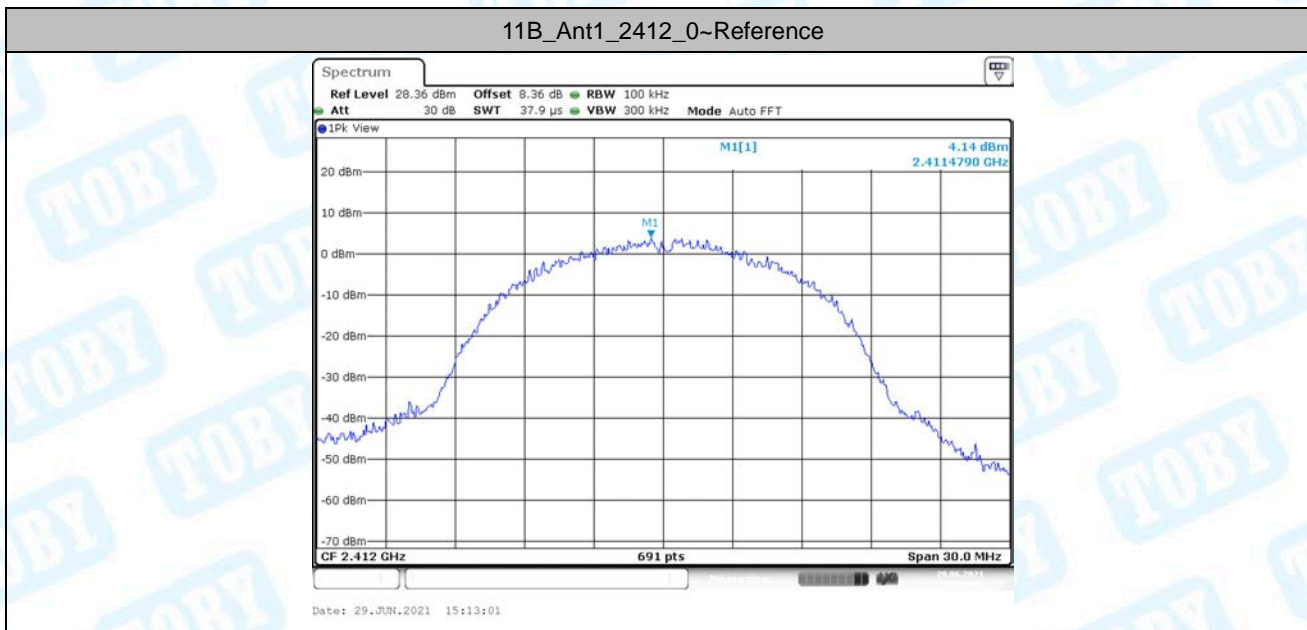


6. Conducted Spurious Emission

6.1. Test Result

Test Mode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	4.14	4.14	---	PASS
			30~1000	4.14	-63.63	<=-15.86	PASS
			1000~26500	4.14	-52.6	<=-15.86	PASS
		2437	Reference	4.68	4.68	---	PASS
			30~1000	4.68	-63.02	<=-15.32	PASS
			1000~26500	4.68	-53.32	<=-15.32	PASS
		2462	Reference	4.04	4.04	---	PASS
			30~1000	4.04	-62.13	<=-15.96	PASS
			1000~26500	4.04	-52.88	<=-15.96	PASS
11G	Ant1	2412	Reference	0.10	0.10	---	PASS
			30~1000	0.10	-62.49	<=-19.9	PASS
			1000~26500	0.10	-51.9	<=-19.9	PASS
		2437	Reference	0.11	0.11	---	PASS
			30~1000	0.11	-62.94	<=-19.89	PASS
			1000~26500	0.11	-52.51	<=-19.89	PASS
		2462	Reference	0.12	0.12	---	PASS
			30~1000	0.12	-62.4	<=-19.88	PASS
			1000~26500	0.12	-52.78	<=-19.88	PASS
11N20SISO	Ant1	2412	Reference	0.25	0.25	---	PASS
			30~1000	0.25	-63.16	<=-19.75	PASS
			1000~26500	0.25	-53.49	<=-19.75	PASS
		2437	Reference	-0.04	-0.04	---	PASS
			30~1000	-0.04	-62.38	<=-20.04	PASS
			1000~26500	-0.04	-51.34	<=-20.04	PASS
		2462	Reference	-0.23	-0.23	---	PASS
			30~1000	-0.23	-62.89	<=-20.23	PASS
			1000~26500	-0.23	-51.87	<=-20.23	PASS

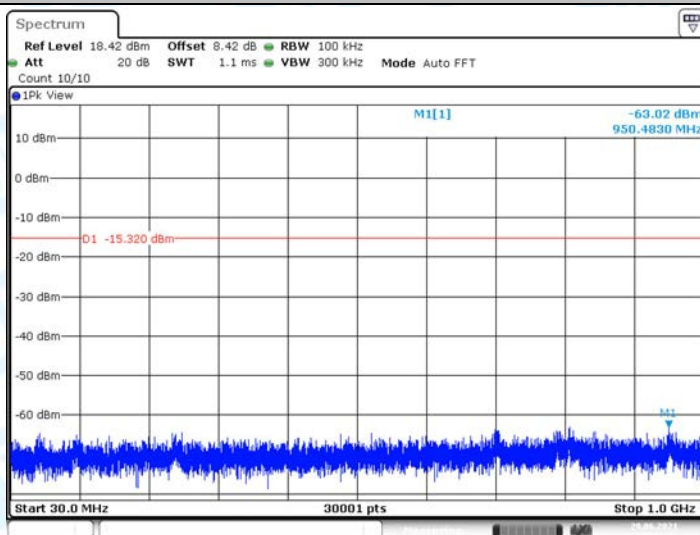
6.2. Test Graphs





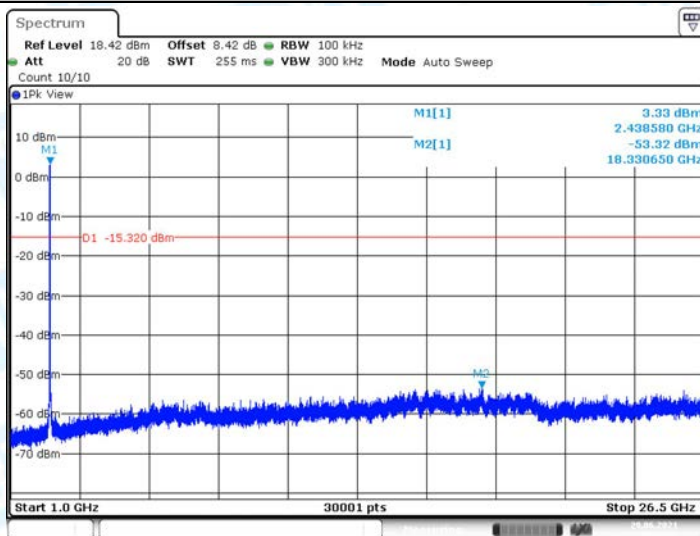
Date: 29.JUN.2021 15:11:45

11B_Ant1_2437_30~1000



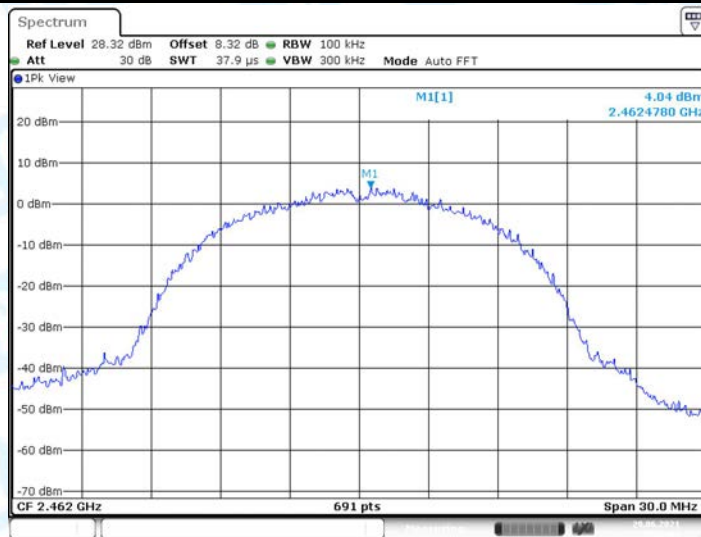
Date: 29.JUN.2021 15:11:51

11B_Ant1_2437_1000~26500



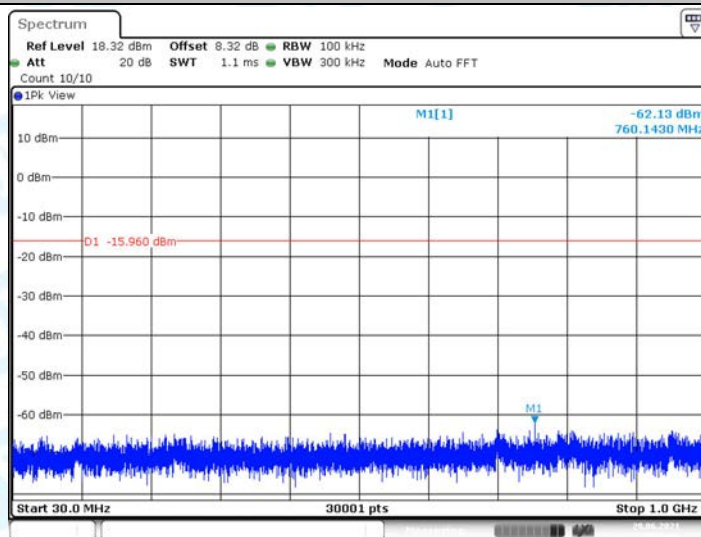
Date: 29.JUN.2021 15:12:15

11B_Ant1_2462_0~Reference



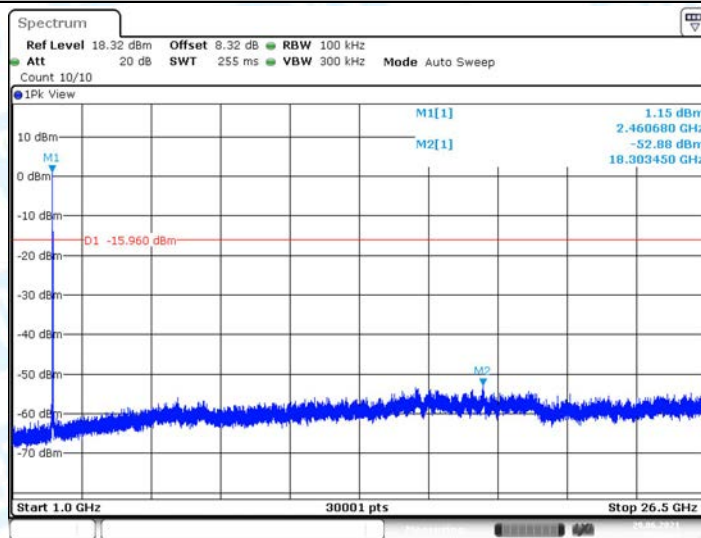
Date: 29.JUN.2021 15:16:04

11B_Ant1_2462_30~1000



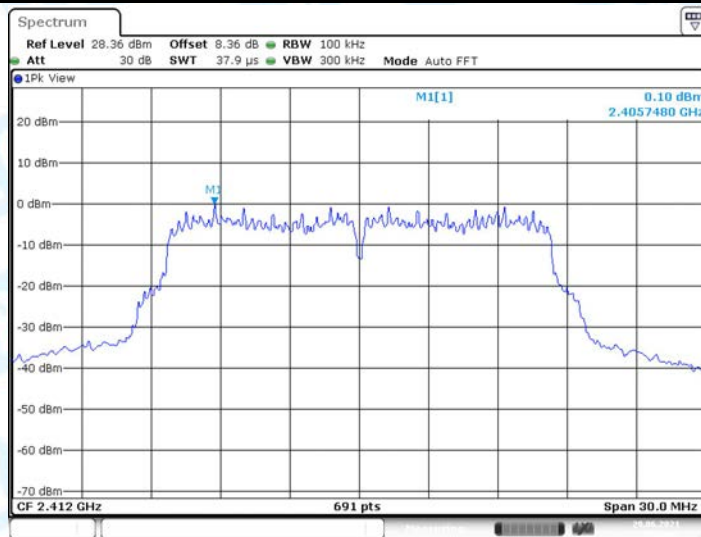
Date: 29.JUN.2021 15:16:09

11B_Ant1_2462_1000~26500

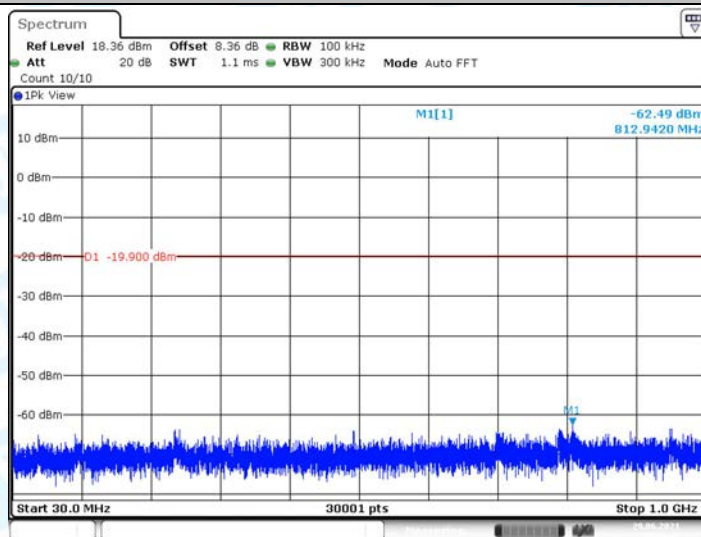


Date: 29.JUN.2021 15:16:34

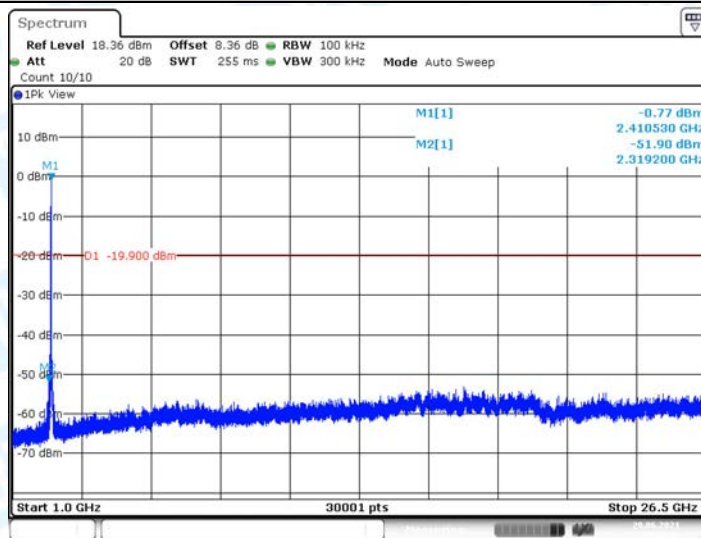
11G_Ant1_2412_0~Reference



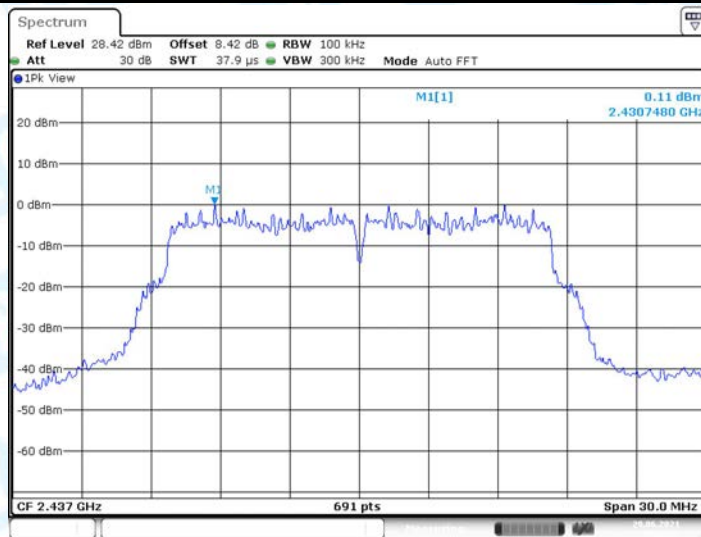
11G_Ant1_2412_30~1000



11G_Ant1_2412_1000~26500

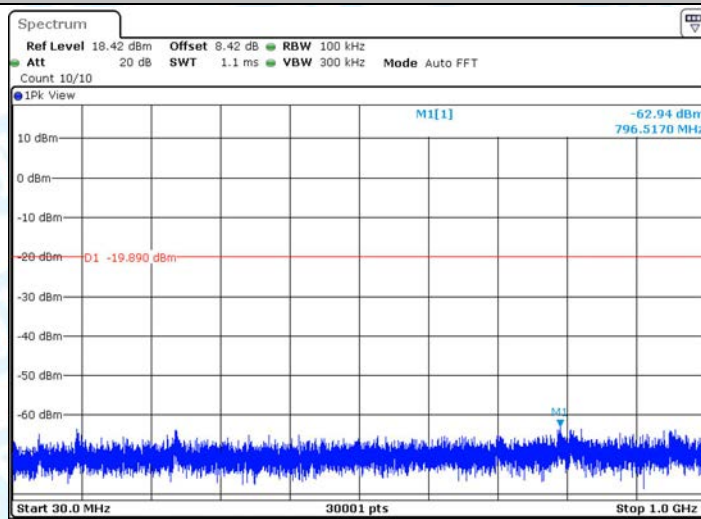


11G_Ant1_2437_0~Reference



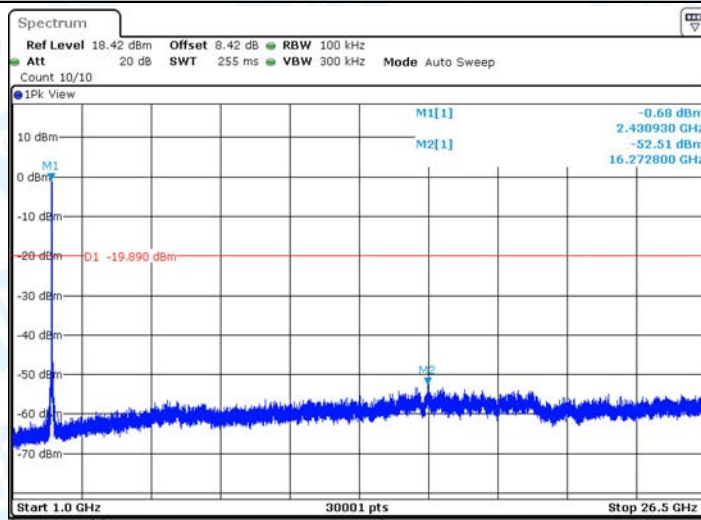
Date: 29. JUN. 2021 15:27:17

11G_Ant1_2437_30~1000



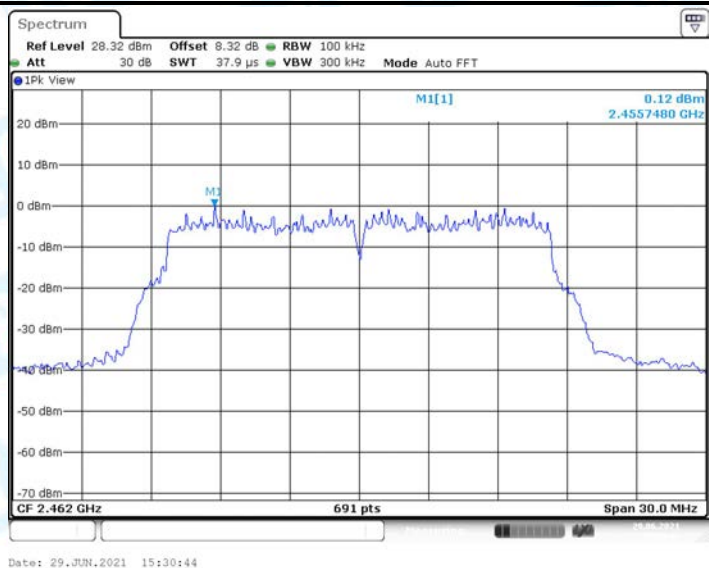
Date: 29. JUN. 2021 15:27:23

11G_Ant1_2437_1000~26500

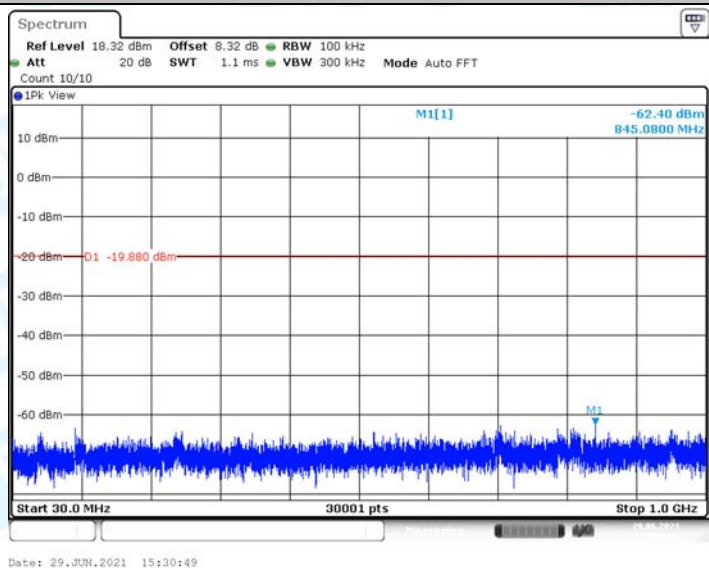


Date: 29. JUN. 2021 15:27:48

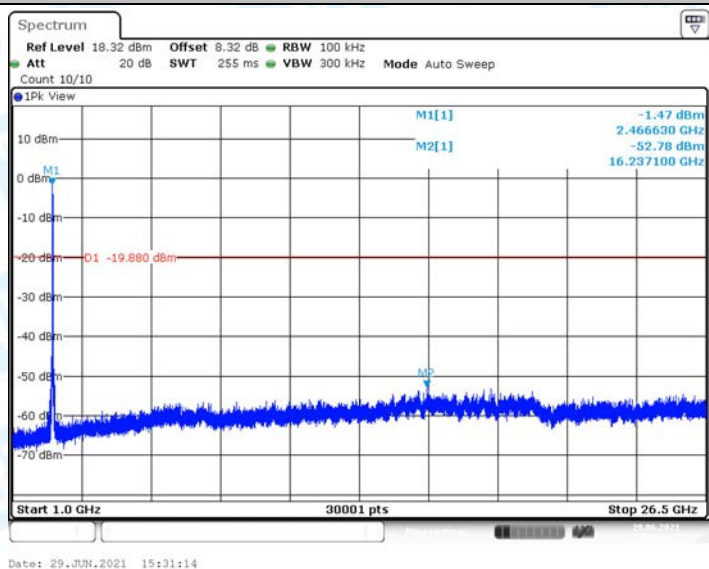
11G_Ant1_2462_0~Reference



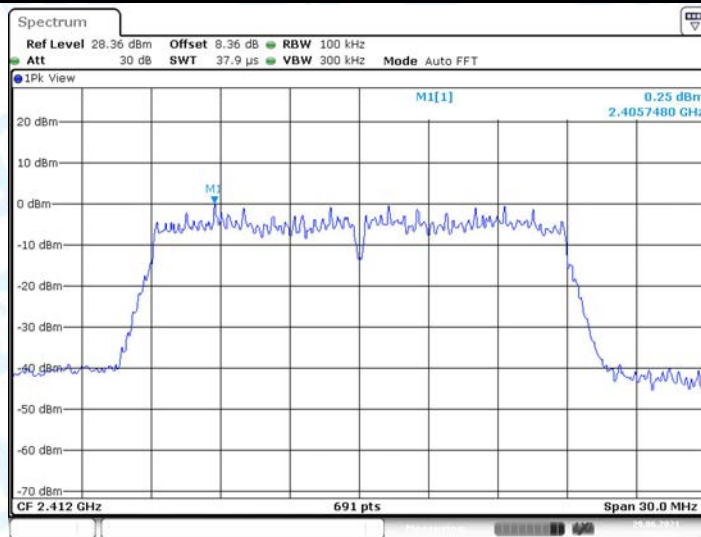
11G_Ant1_2462_30~1000



11G_Ant1_2462_1000~26500

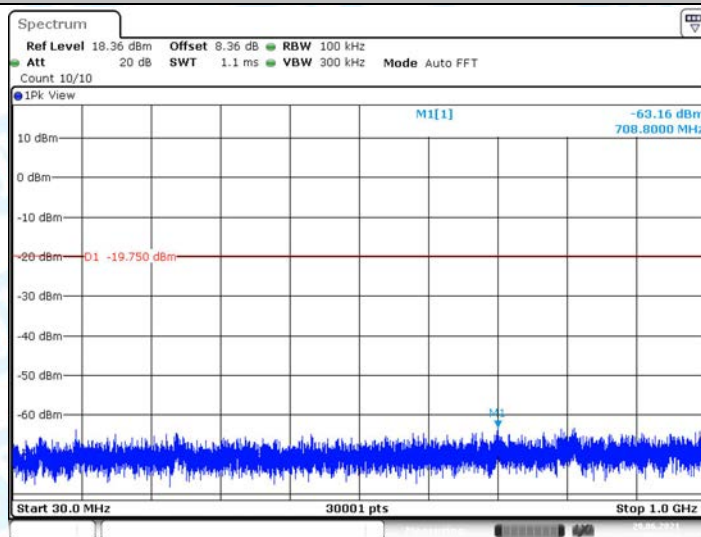


11N20SISO_Ant1_2412_0~Reference



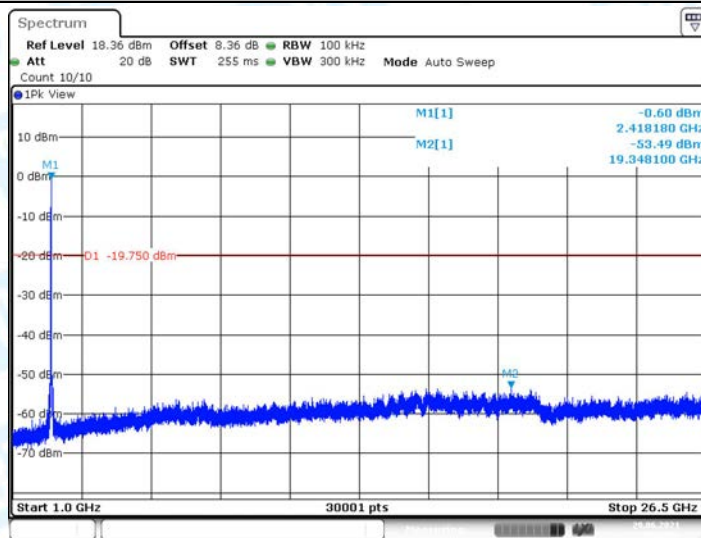
Date: 29. JUN. 2021 15:37:19

11N20SISO_Ant1_2412_30~1000



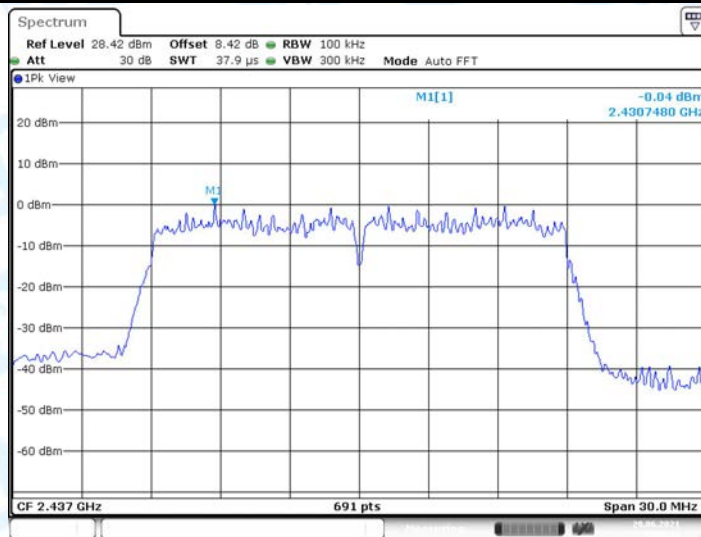
Date: 29. JUN. 2021 15:37:25

11N20SISO_Ant1_2412_1000~26500



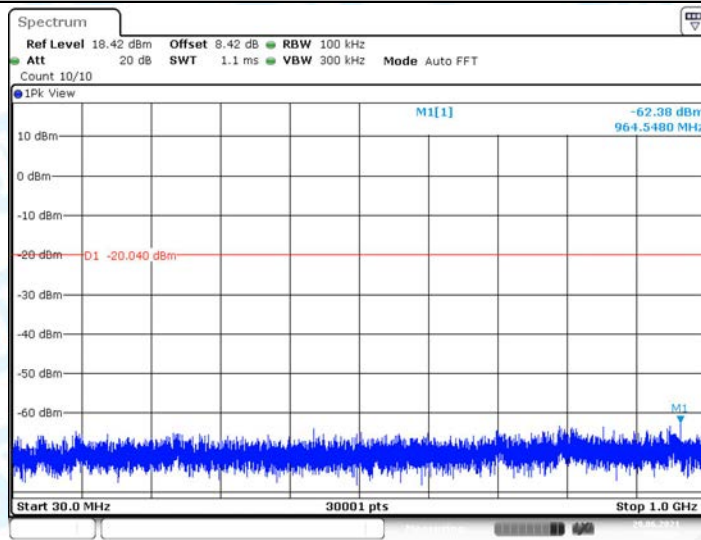
Date: 29. JUN. 2021 15:37:49

11N20SISO_Ant1_2437_0~Reference



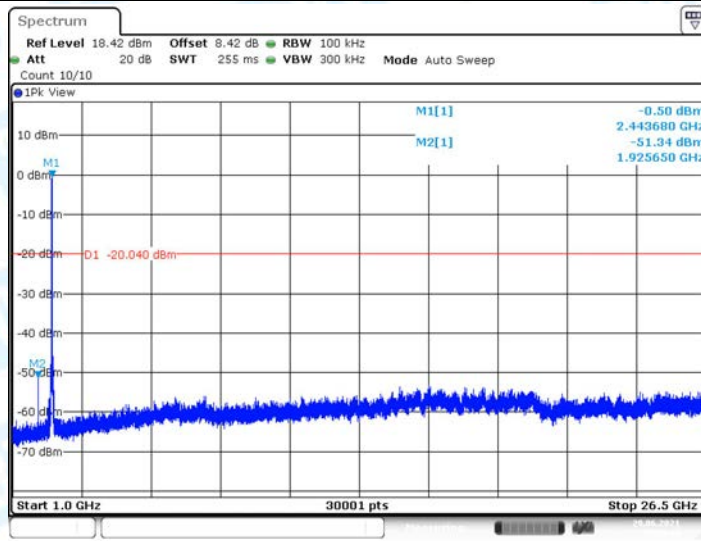
Date: 29.JUN.2021 15:39:14

11N20SISO_Ant1_2437_30~1000



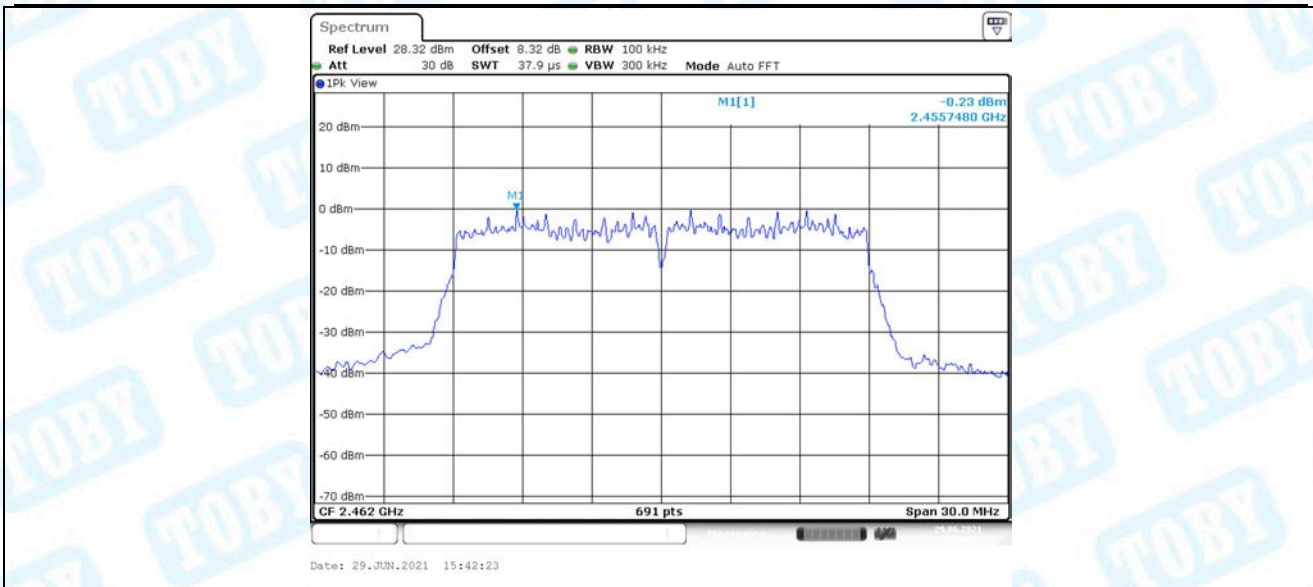
Date: 29.JUN.2021 15:39:20

11N20SISO_Ant1_2437_1000~26500

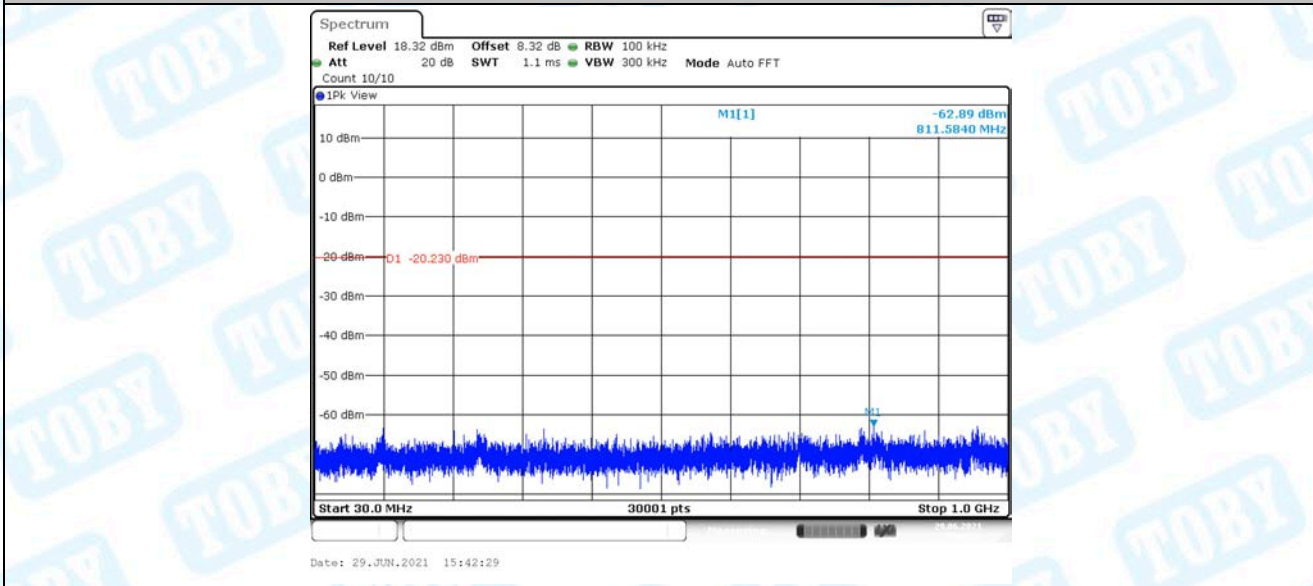


Date: 29.JUN.2021 15:39:45

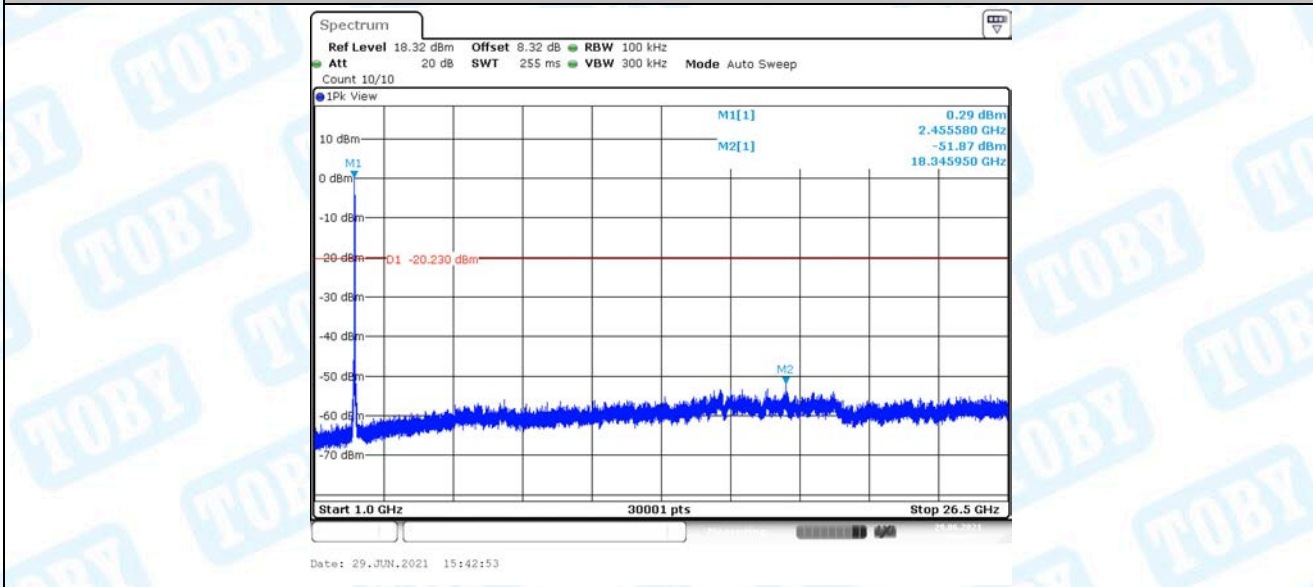
11N20SISO_Ant1_2462_0~Reference



11N20SISO_Ant1_2462_30~1000



11N20SISO_Ant1_2462_1000~26500

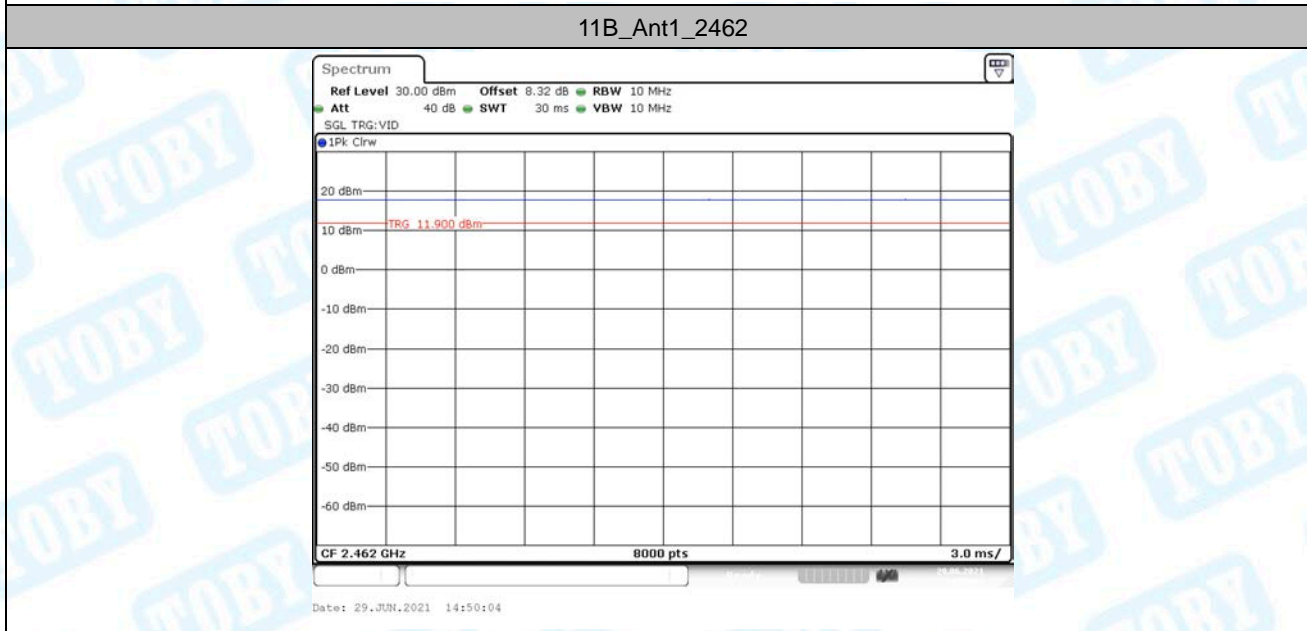
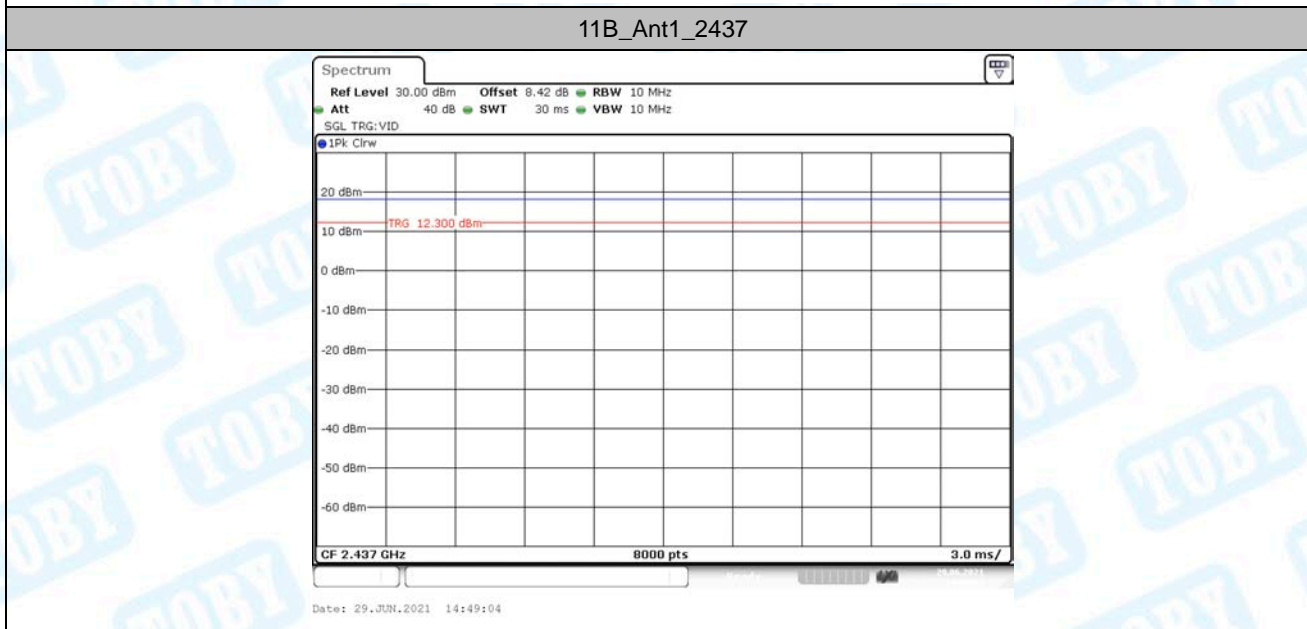
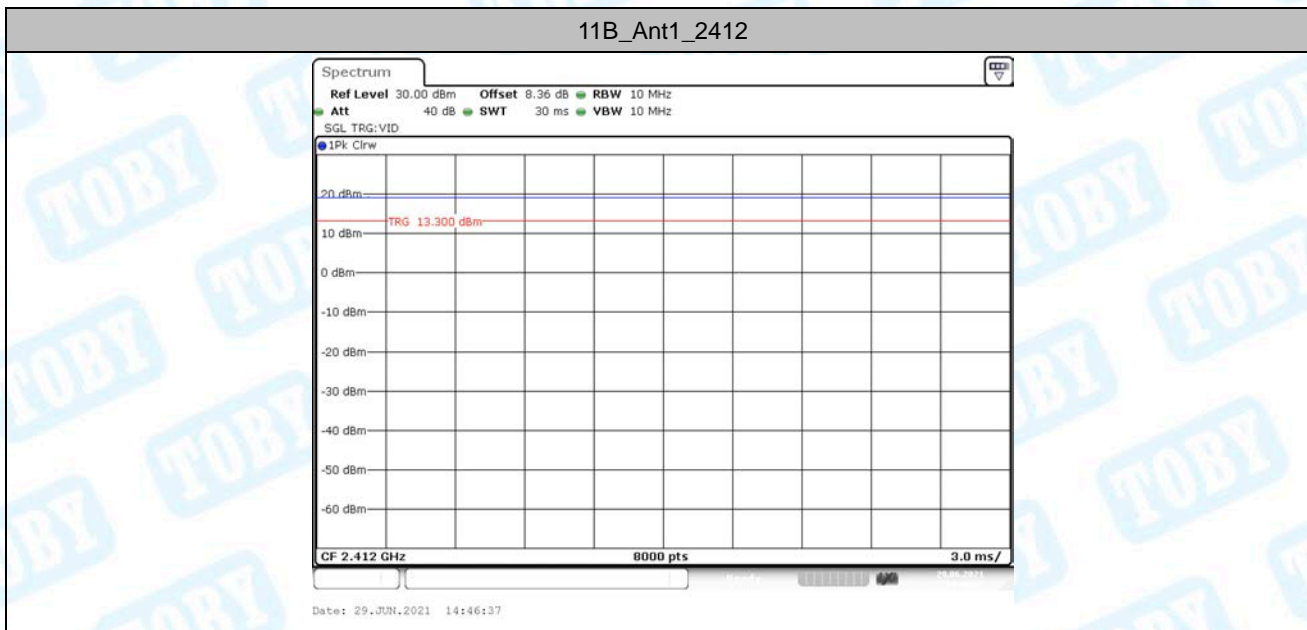


7. Duty Cycle

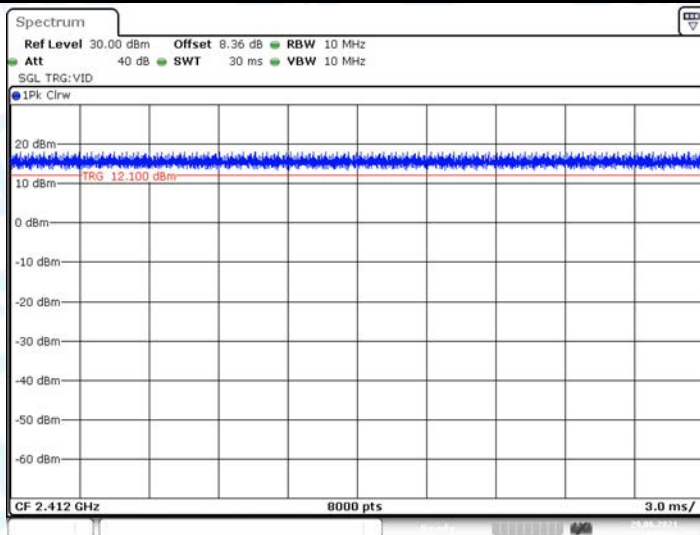
7.1. Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11B	Ant1	2412	30.00	30.00	100.00	---	PASS
		2437	30.00	30.00	100.00	---	PASS
		2462	30.00	30.00	100.00	---	PASS
11G	Ant1	2412	30.00	30.00	100.00	---	PASS
		2437	30.00	30.00	100.00	---	PASS
		2462	30.00	30.00	100.00	---	PASS
11N20SISO	Ant1	2412	30.00	30.00	100.00	---	PASS
		2437	30.00	30.00	100.00	---	PASS
		2462	30.00	30.00	100.00	---	PASS

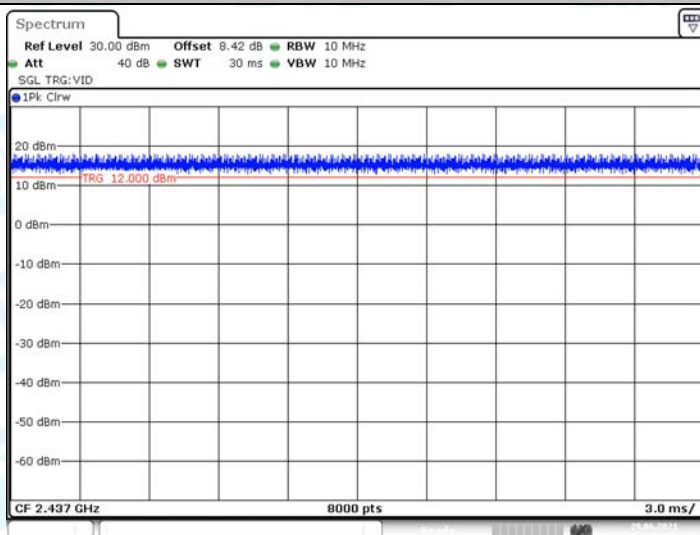
7.2. Test Graphs



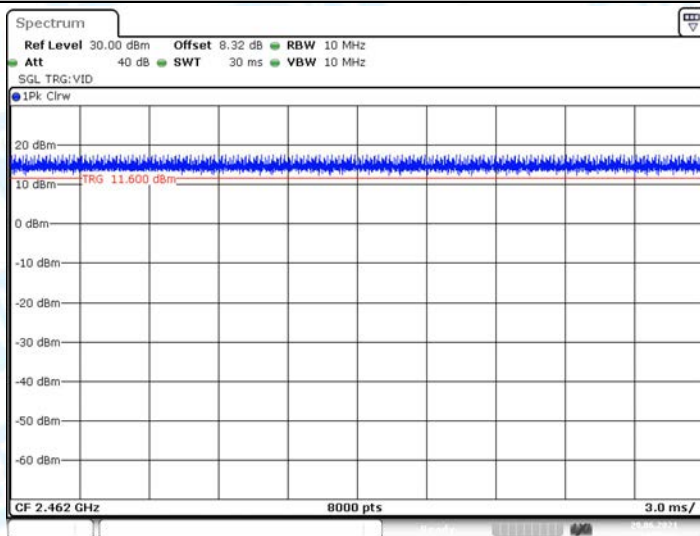
11G_Ant1_2412



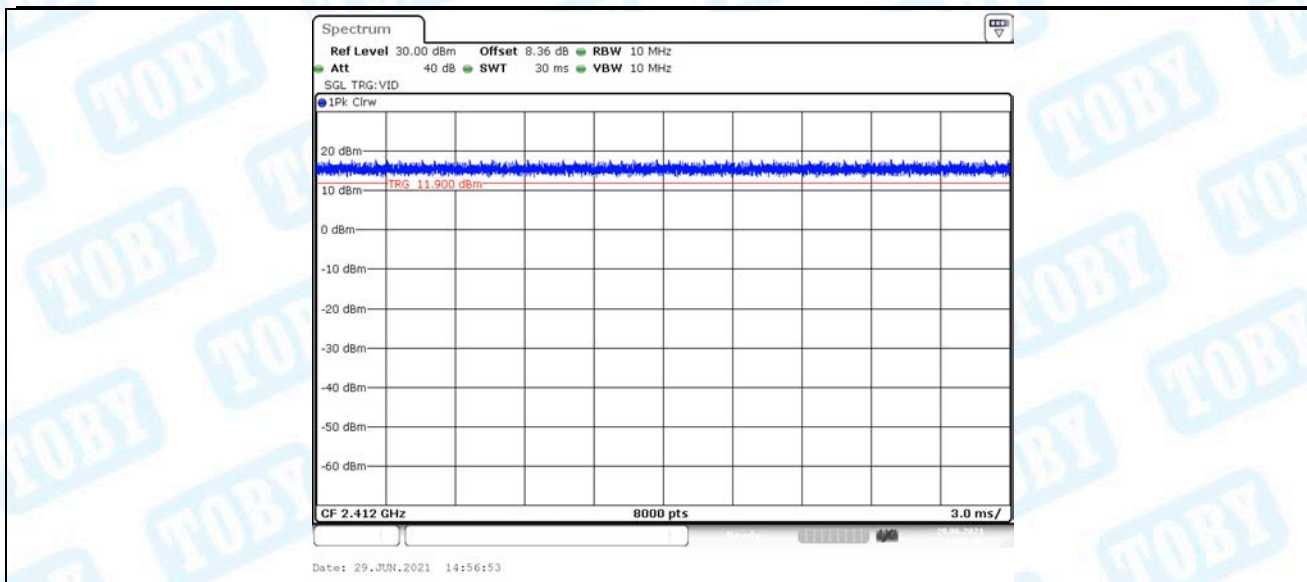
11G_Ant1_2437



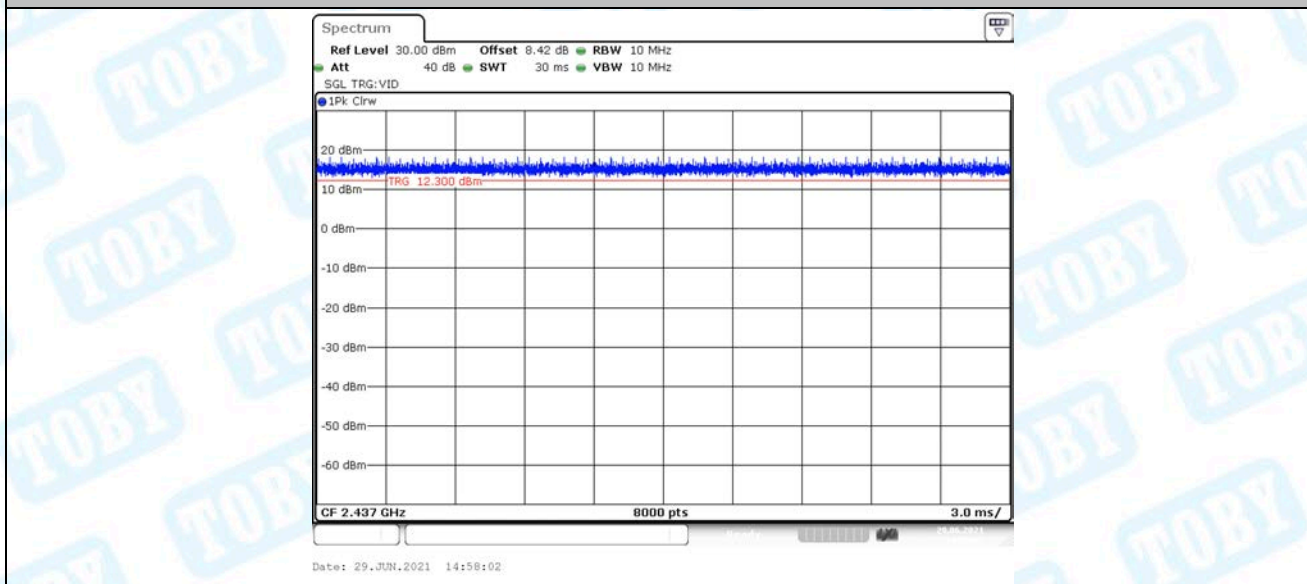
11G_Ant1_2462



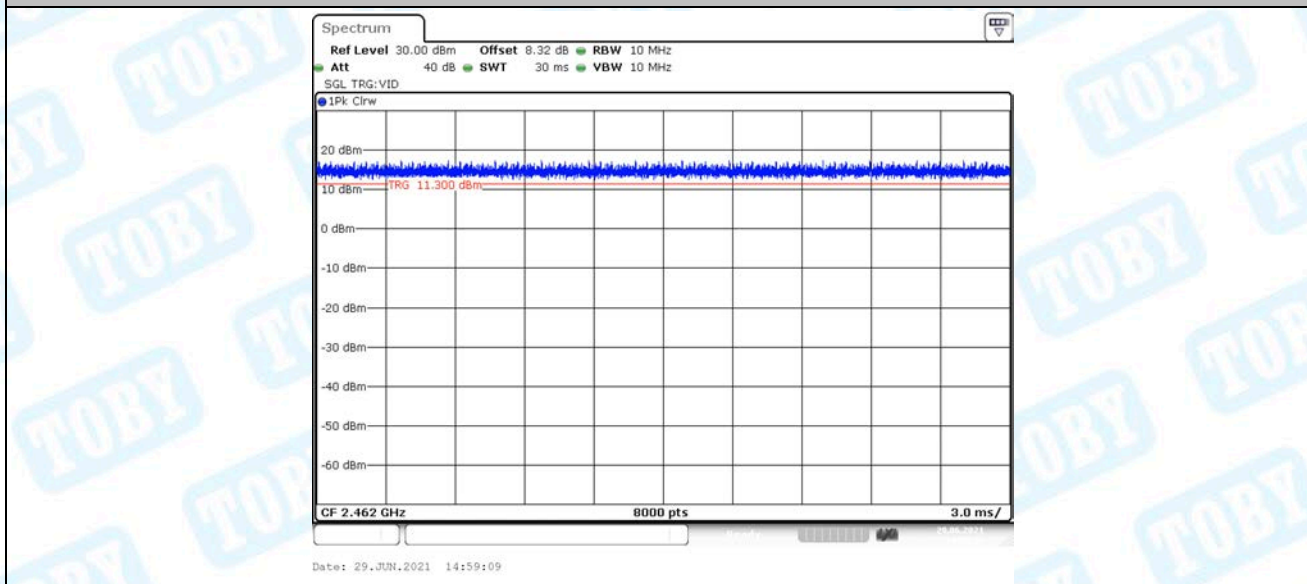
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



8. Emissions in Restricted Bands

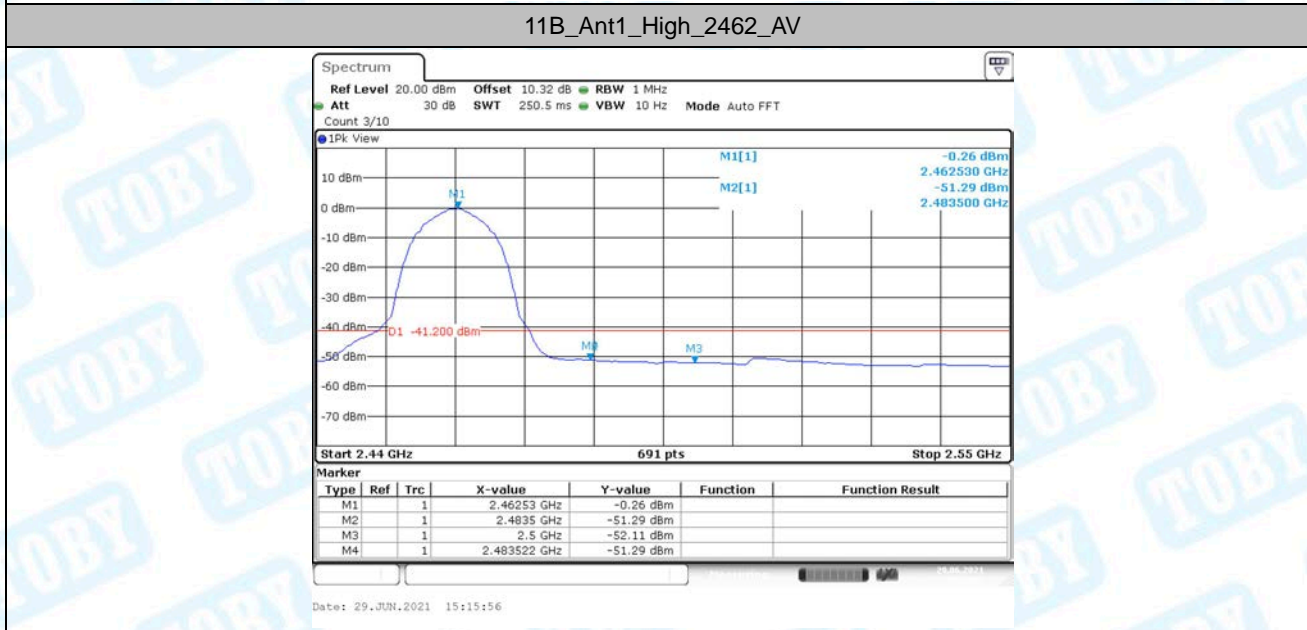
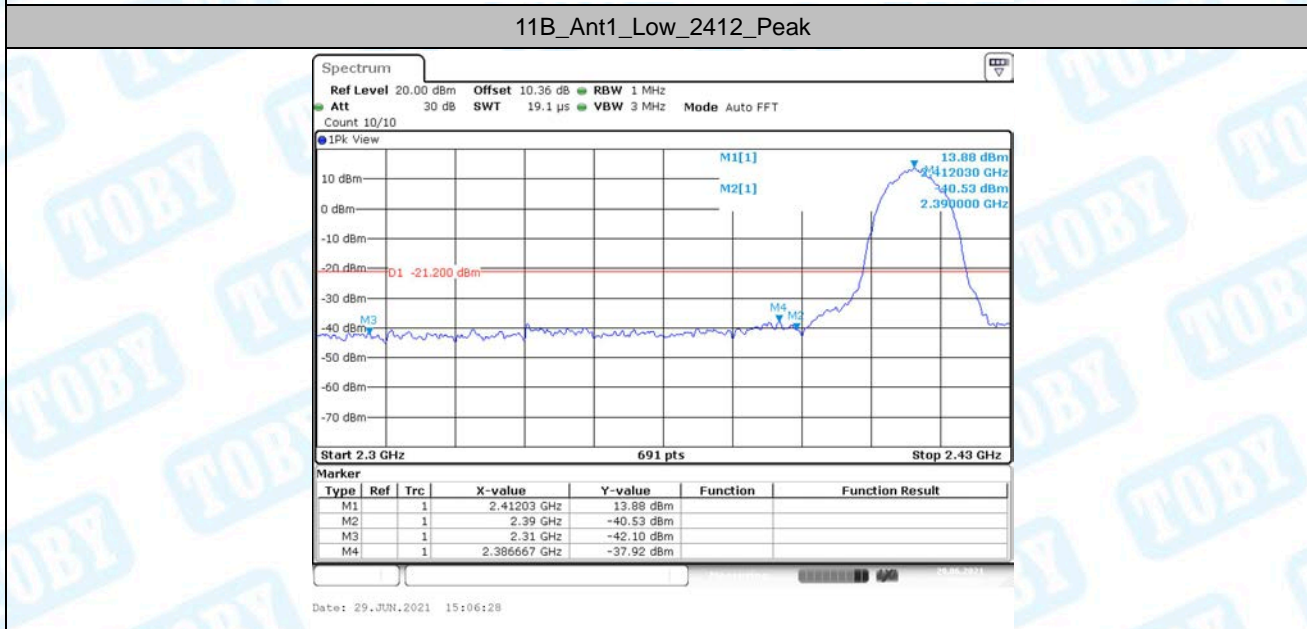
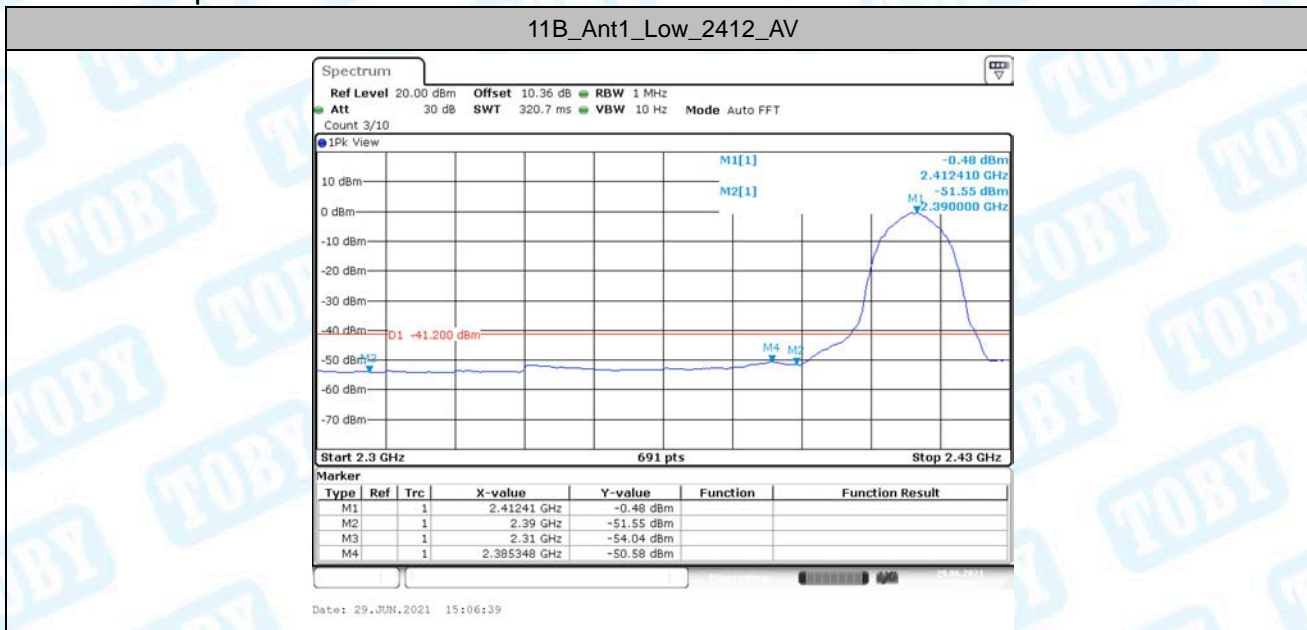
8.1. Test Result

Test Mode	Antenna	ChName	Channel	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	Low	2412	AV	2310.000	-54.04	<=-41.20	PASS
				AV	2385.348	-50.58	<=-41.20	PASS
				AV	2390.000	-51.55	<=-41.20	PASS
				Peak	2310.000	-42.1	<=-21.20	PASS
				Peak	2386.667	-37.92	<=-21.20	PASS
				Peak	2390.000	-40.53	<=-21.20	PASS
		High	2462	AV	2483.500	-51.29	<=-41.20	PASS
				AV	2483.522	-51.29	<=-41.20	PASS
				AV	2500.000	-52.11	<=-41.20	PASS
				Peak	2483.500	-38.83	<=-21.20	PASS
				Peak	2489.420	-38.43	<=-21.20	PASS
				Peak	2500.000	-39.86	<=-21.20	PASS
11G	Ant1	Low	2412	AV	2310.000	-54.14	<=-41.20	PASS
				AV	2389.870	-50.56	<=-41.20	PASS
				AV	2390.000	-50.51	<=-41.20	PASS
				Peak	2310.000	-41.42	<=-21.20	PASS
				Peak	2387.043	-27.58	<=-21.20	PASS
				Peak	2390.000	-27.86	<=-21.20	PASS
		High	2462	AV	2483.500	-49.68	<=-41.20	PASS
				AV	2483.522	-49.68	<=-41.20	PASS
				AV	2500.000	-51.89	<=-41.20	PASS
				Peak	2483.500	-25.36	<=-21.20	PASS
				Peak	2483.522	-25.36	<=-21.20	PASS
				Peak	2500.000	-30.25	<=-21.20	PASS
11N20SISO	Ant1	Low	2412	AV	2310.000	-54.15	<=-41.20	PASS
				AV	2389.870	-50.63	<=-41.20	PASS
				AV	2390.000	-50.55	<=-41.20	PASS
				Peak	2310.000	-35.42	<=-21.20	PASS
				Peak	2386.667	-26.73	<=-21.20	PASS
				Peak	2390.000	-28.24	<=-21.20	PASS
		High	2462	AV	2483.500	-49.35	<=-41.20	PASS
				AV	2483.522	-49.35	<=-41.20	PASS
				AV	2500.000	-51.98	<=-41.20	PASS
				Peak	2483.500	-26.23	<=-21.20	PASS
				Peak	2485.275	-25.46	<=-21.20	PASS
				Peak	2500.000	-40.54	<=-21.20	PASS

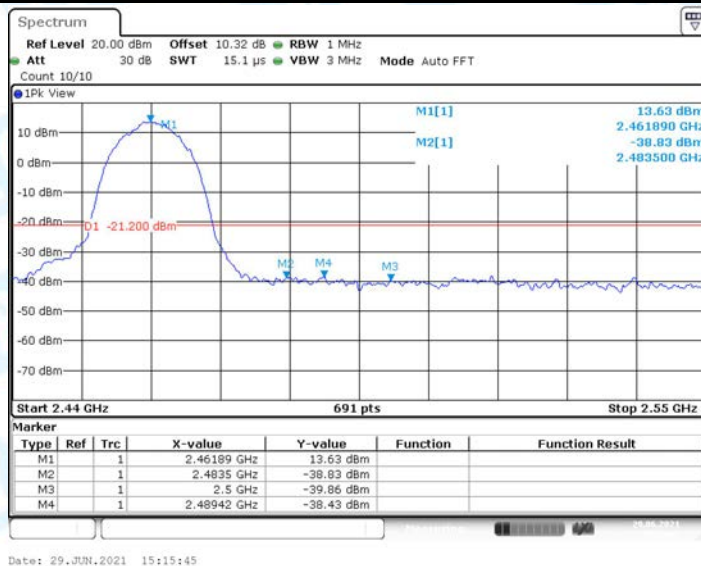
Note:

1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

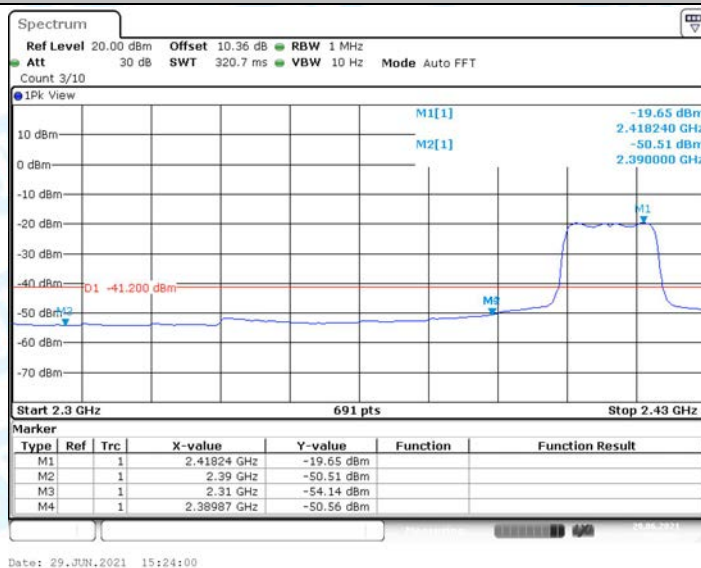
8.2. Test Graphs



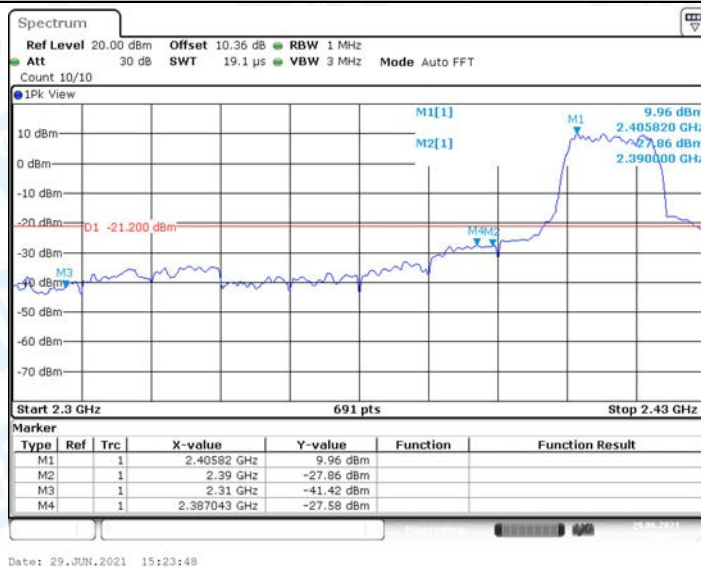
11B_Ant1_High_2462_Peak



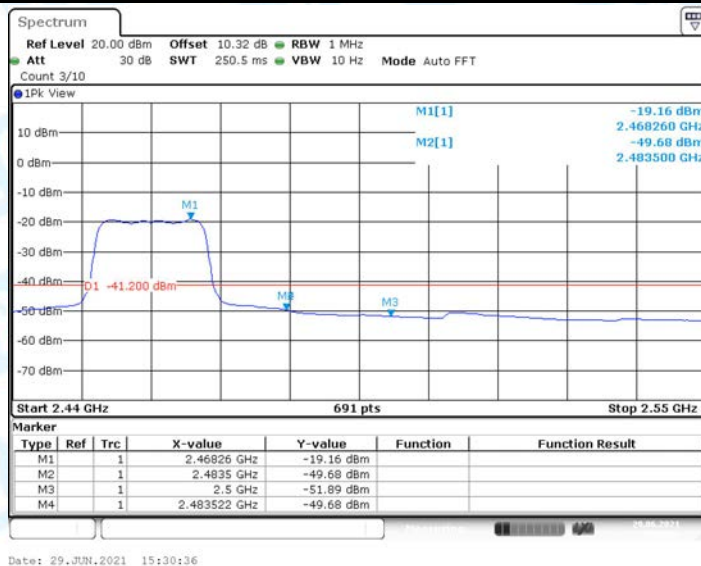
11G_Ant1_Low_2412_AV



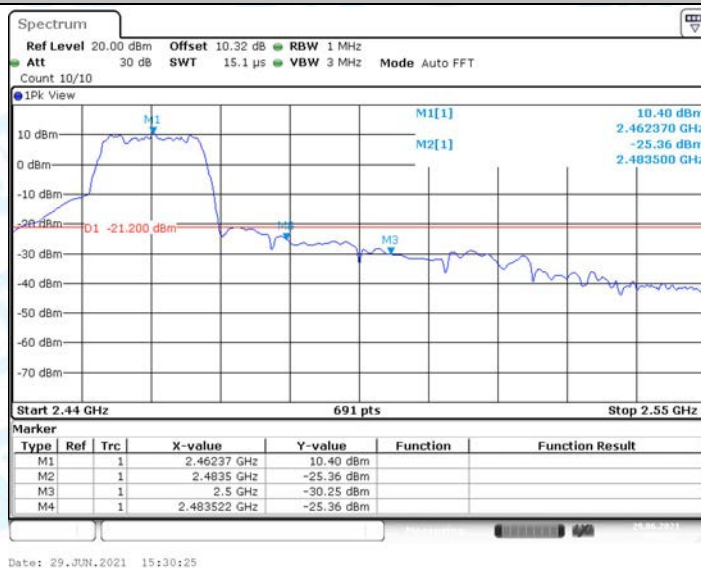
11G_Ant1_Low_2412_Peak



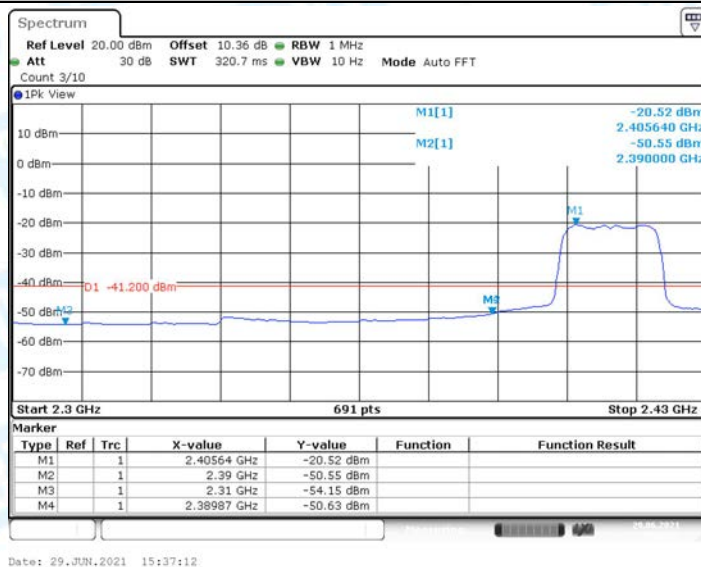
11G_Ant1_High_2462_AV



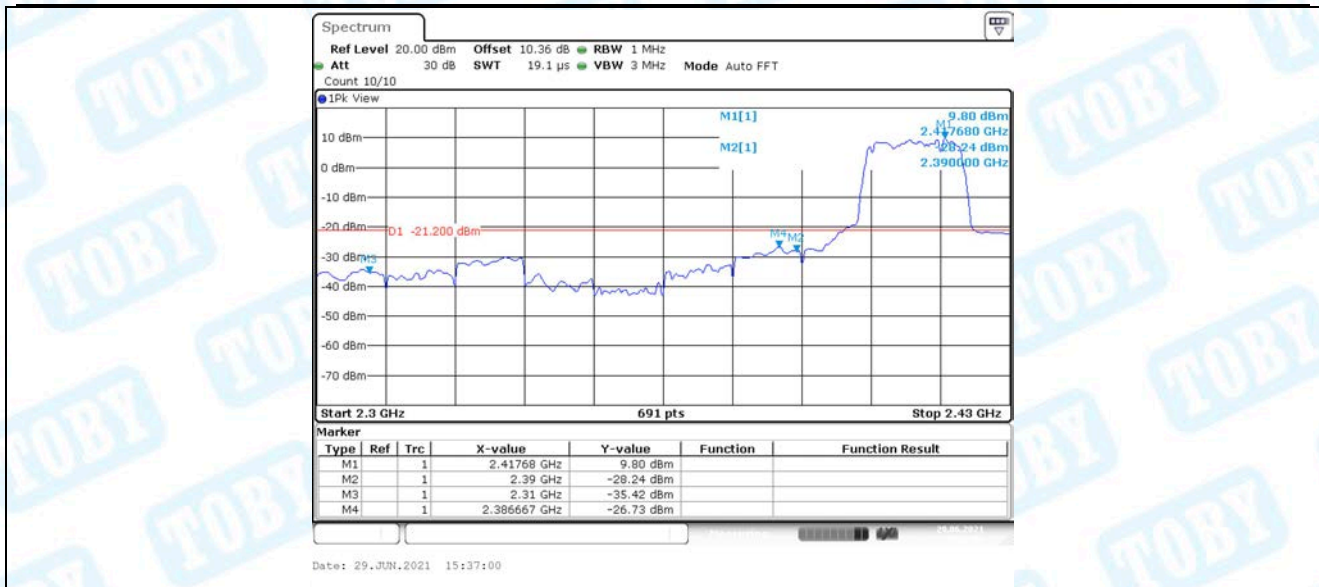
11G_Ant1_High_2462_Peak



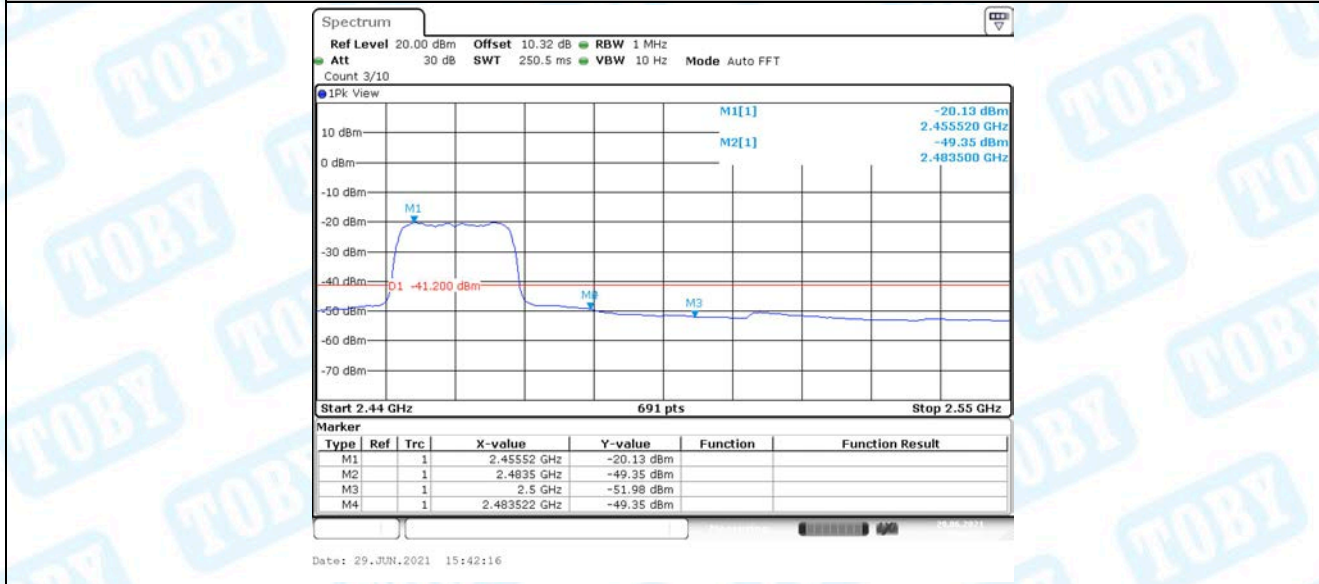
11N20SISO_Ant1_Low_2412_AV



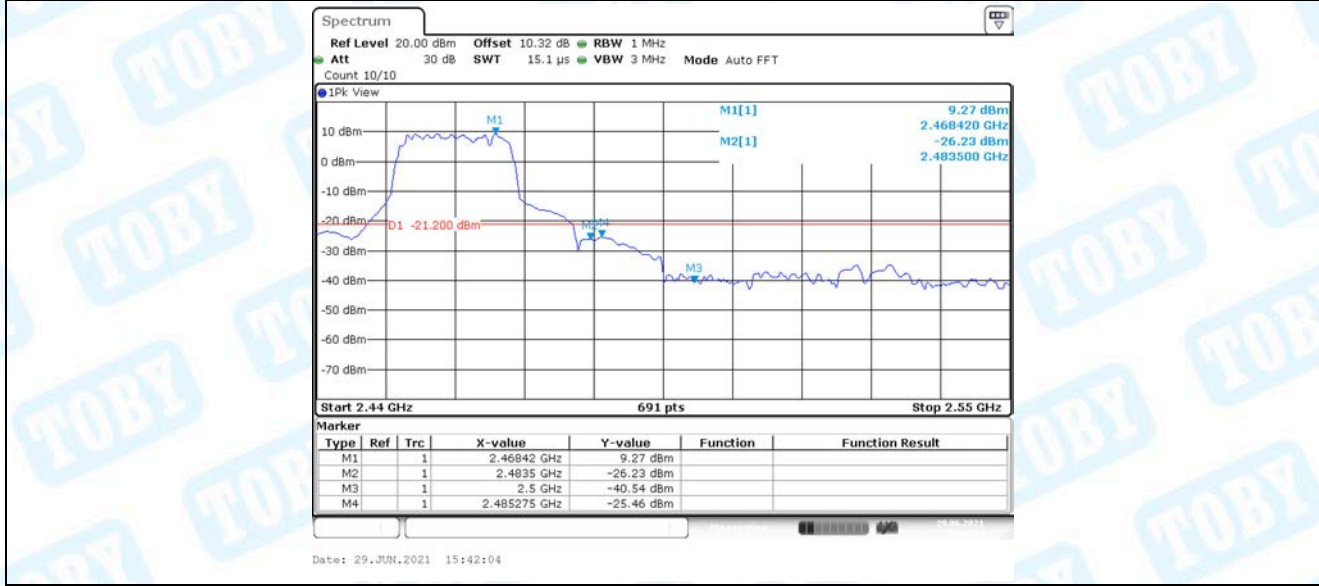
11N20SISO_Ant1_Low_2412_Peak



11N20SISO_Ant1_High_2462_AV



11N20SISO_Ant1_High_2462_Peak



-----End of the report-----