RF Test Data for Bluetooth (BDR+EDR) (Conducted Measurements)

General Description of EUT	
Product Name:	SUMTV_BOX
Test Model:	DV9061
Sample ID:	202212-0216-3-1#
Environmental Conditions	
Temperature:	22.8℃
Relative Humidity:	46%
Test Voltage:	DC 12V
Test Engineer:	Jianping Huang
Note: For a more detailed features description, please refer to the report TBR-C-202212-0216-31.	

Contents

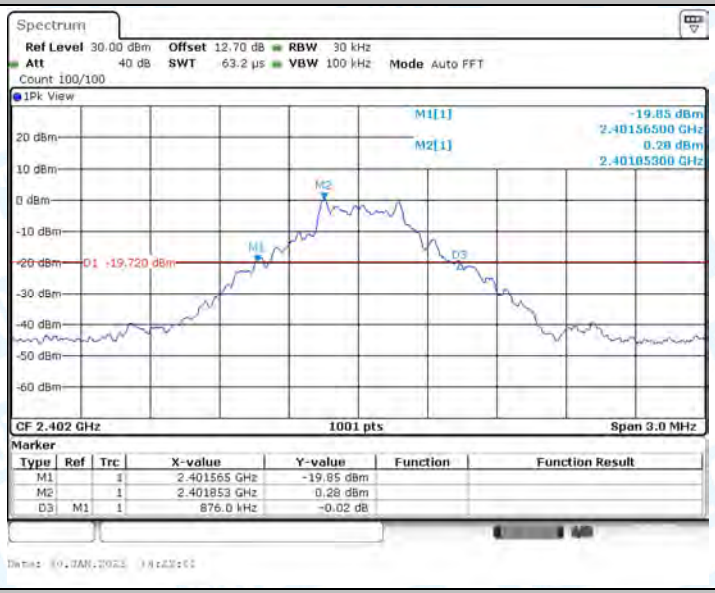
1. 20dB Emission Bandwidth

1.1.Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	Limit[MHz]	Verdict
DH5	AntA	2402	0.88	---	---
		2441	0.84	---	---
		2480	0.89	---	---
2DH5	AntA	2402	1.32	---	---
		2441	1.31	---	---
		2480	1.32	---	---
3DH5	AntA	2402	1.26	---	---
		2441	1.31	---	---
		2480	1.24	---	---

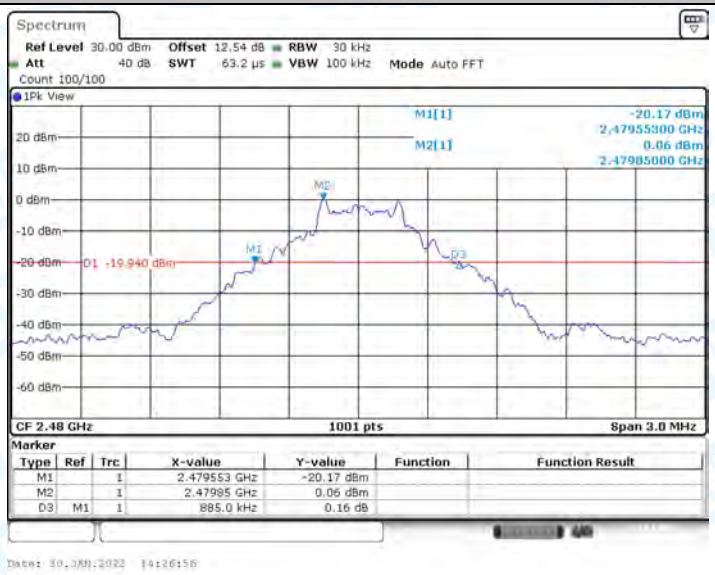
1.2.Test Graphs

DH5_AntA_2402

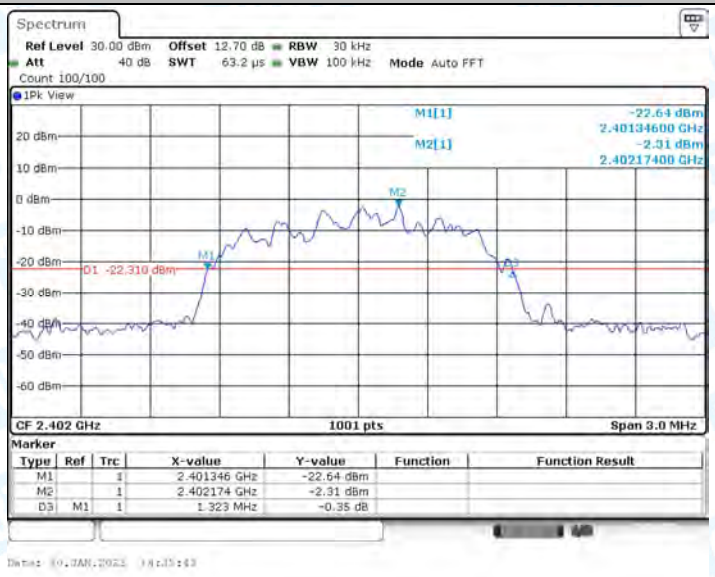


DH5_AntA_2441

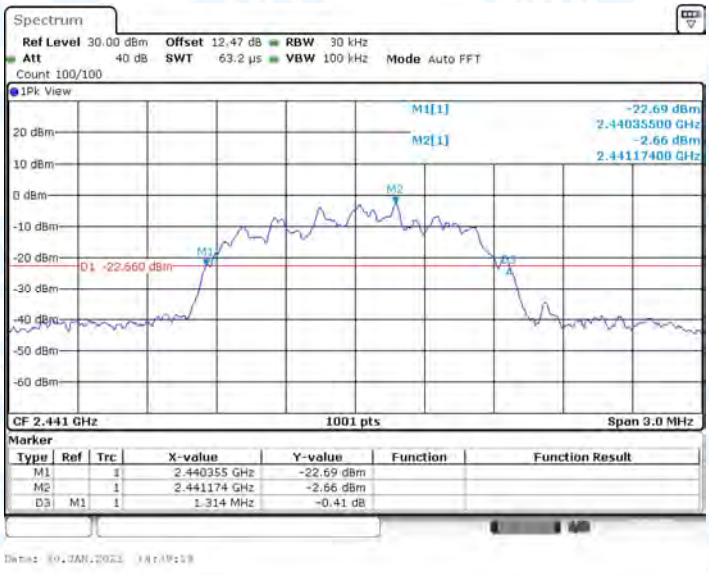
DH5_AntA_2480



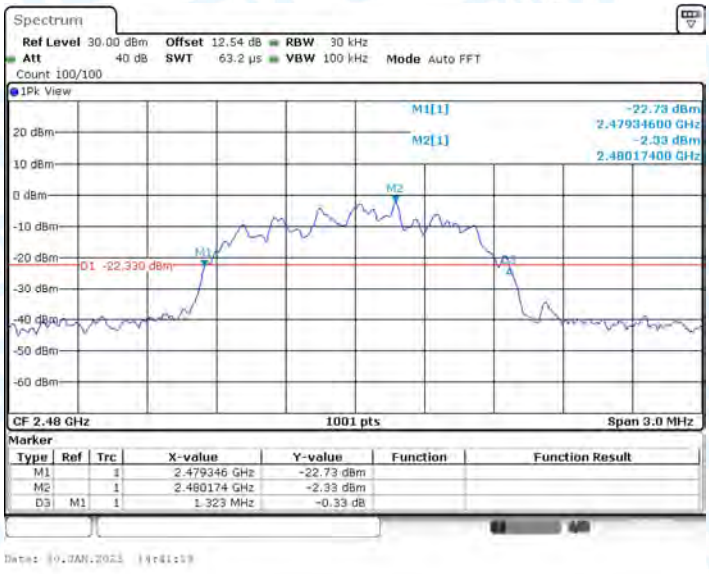
2DH5_AntA_2402



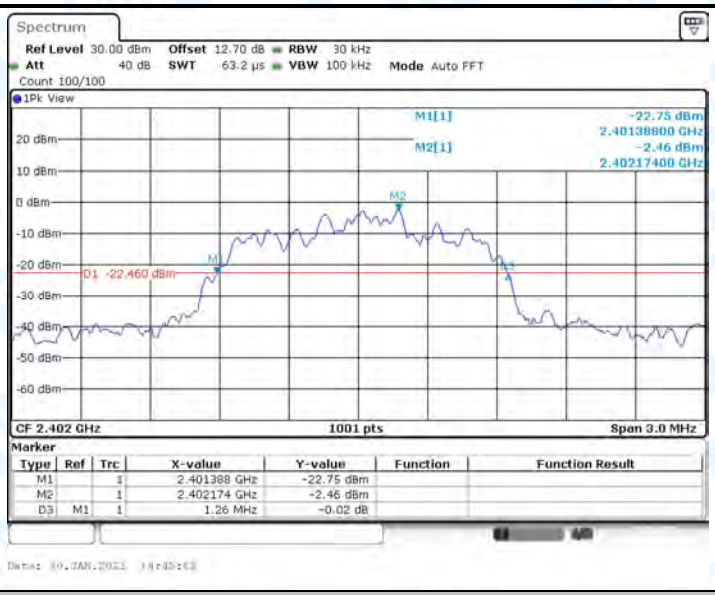
2DH5_AntA_2441



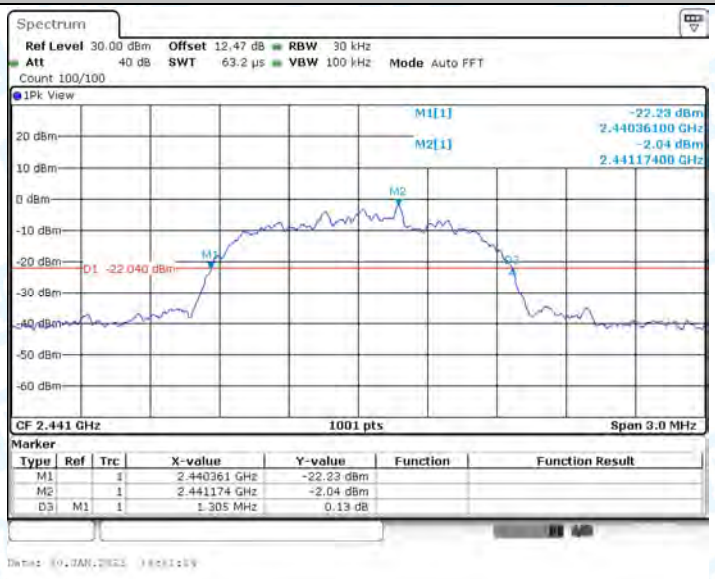
2DH5_AntA_2480



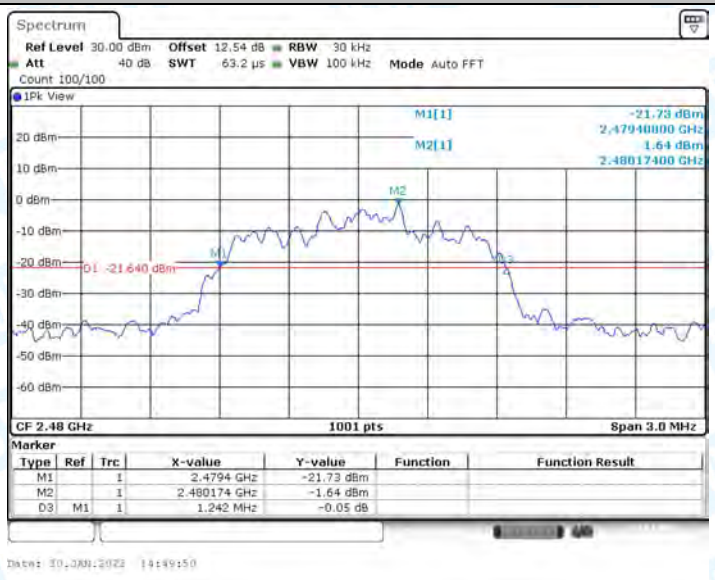
3DH5_AntA_2402



3DH5_AntA_2441



3DH5_AntA_2480



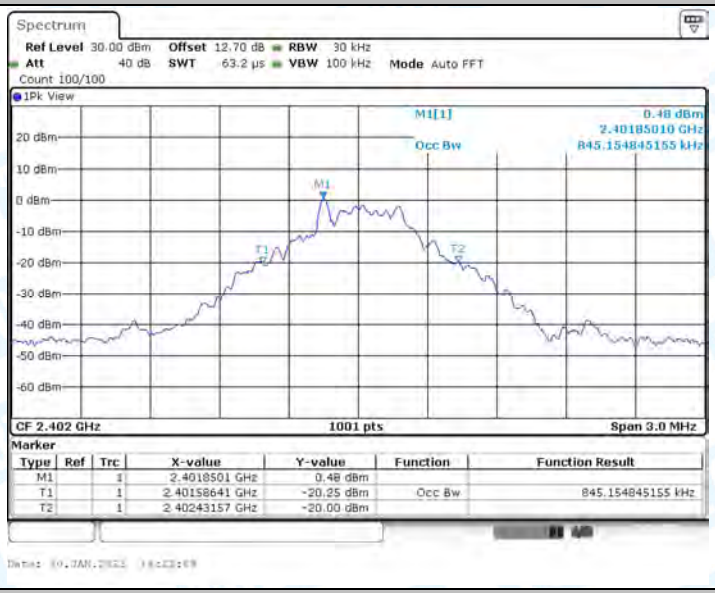
2. Occupied Channel Bandwidth

2.1.Test Result

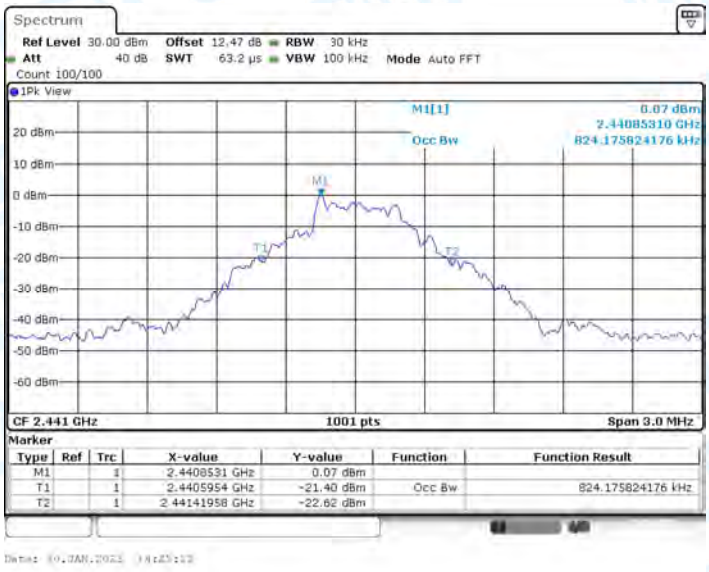
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	AntA	2402	0.845	2401.5864	2402.4316	---	---
		2441	0.824	2440.5954	2441.4196	---	---
		2480	0.812	2479.6014	2480.4136	---	---
2DH5	AntA	2402	1.163	2401.4126	2402.5754	---	---
		2441	1.169	2440.4156	2441.5844	---	---
		2480	1.178	2479.4156	2480.5934	---	---
3DH5	AntA	2402	1.151	2401.4426	2402.5934	---	---
		2441	1.193	2440.4156	2441.6084	---	---
		2480	1.148	2479.4456	2480.5934	---	---

2.2.Test Graphs

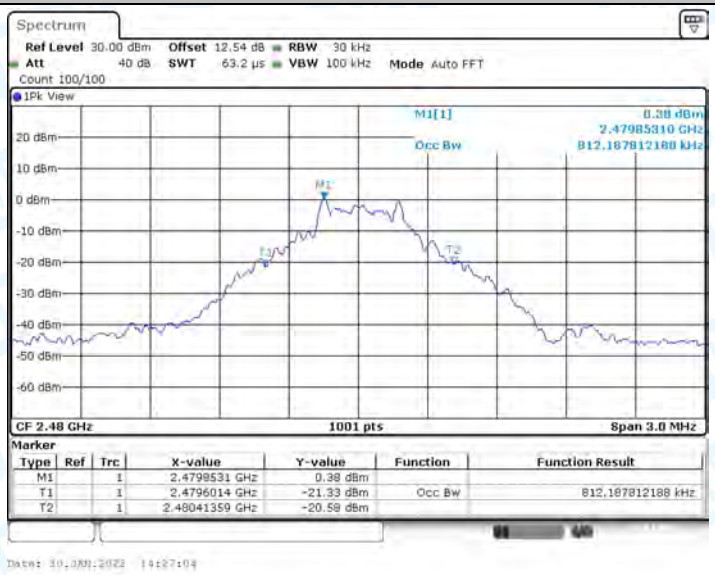
DH5_AntA_2402



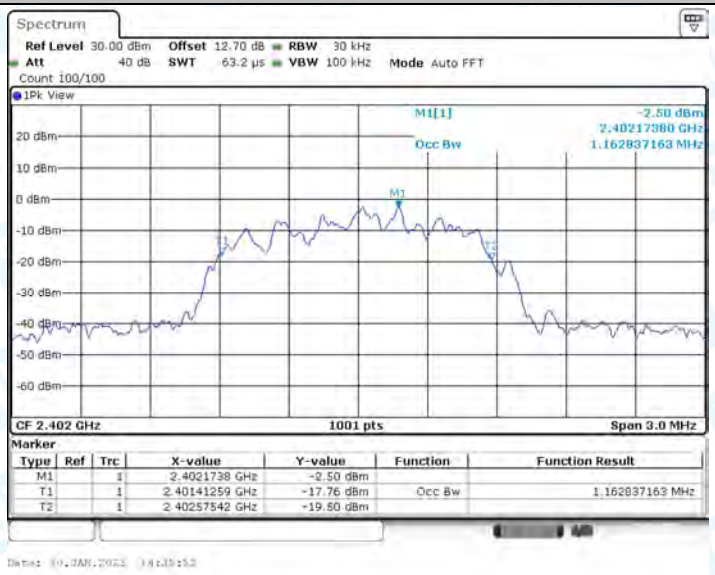
DH5_AntA_2441



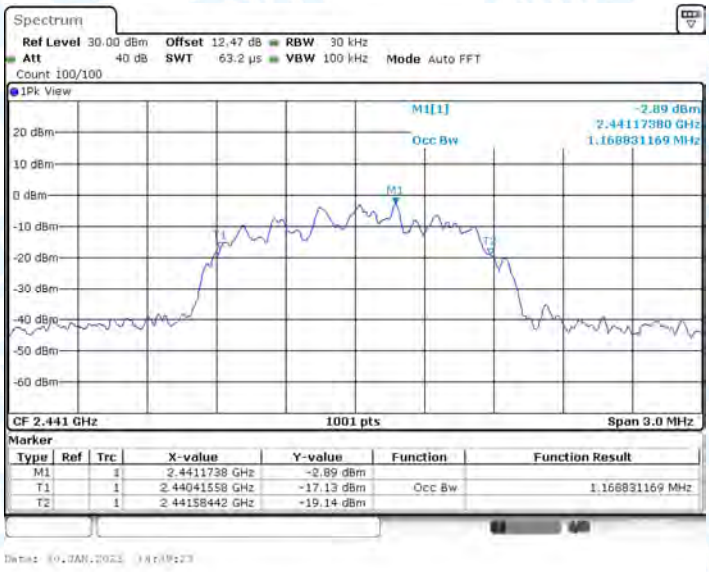
DH5_AntA_2480



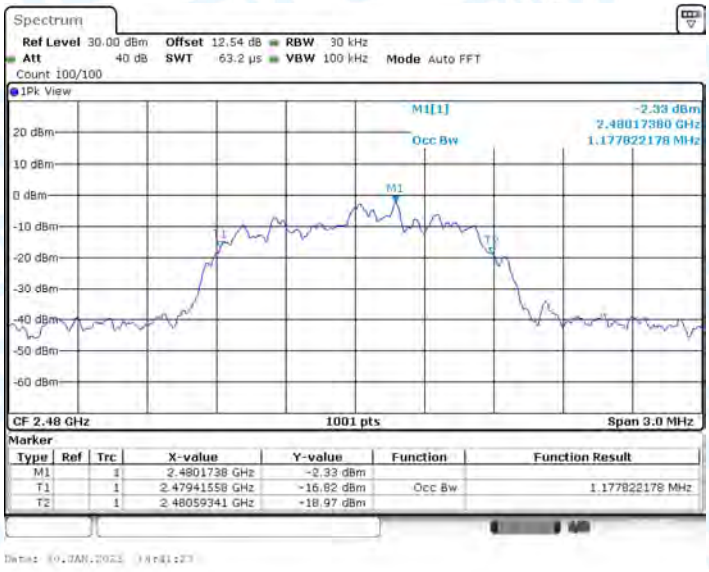
2DH5_AntA_2402



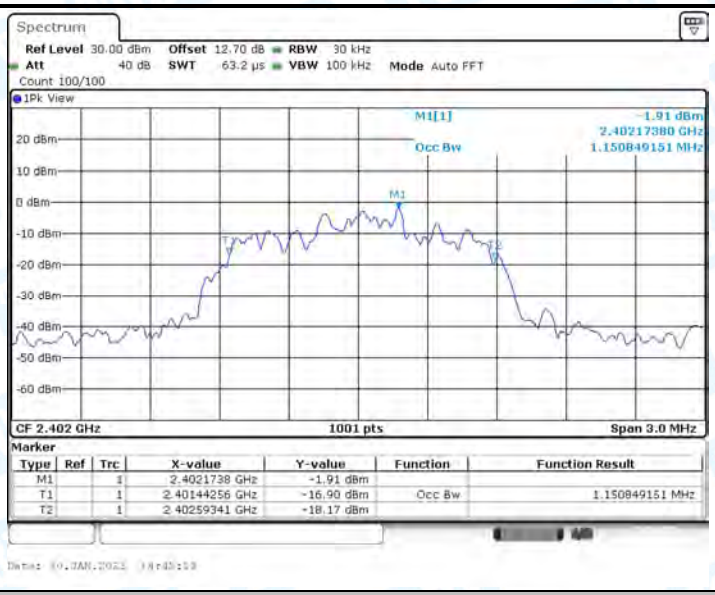
2DH5_AntA_2441



2DH5_AntA_2480

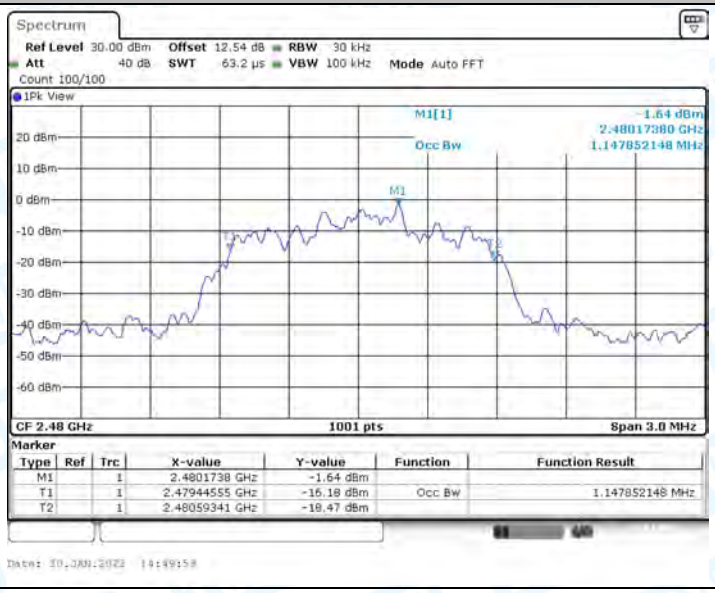


3DH5_AntA_2402



3DH5_AntA_2441

3DH5_AntA_2480



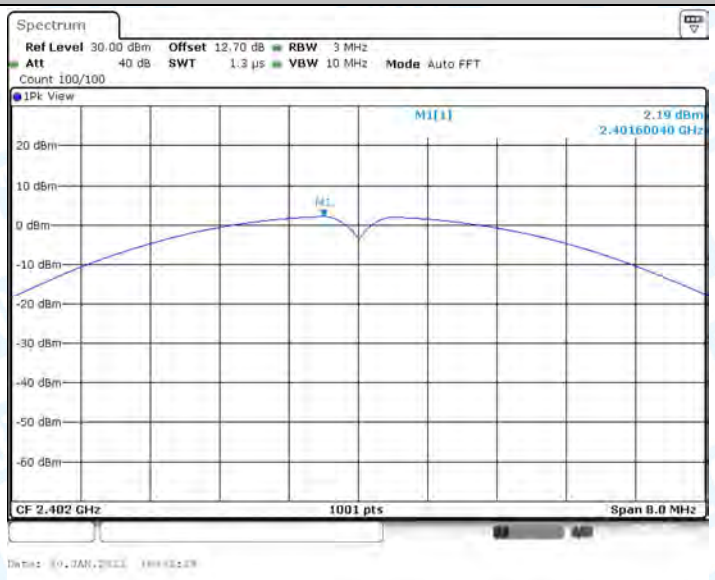
3. Maximum conducted output power

3.1.Test Result

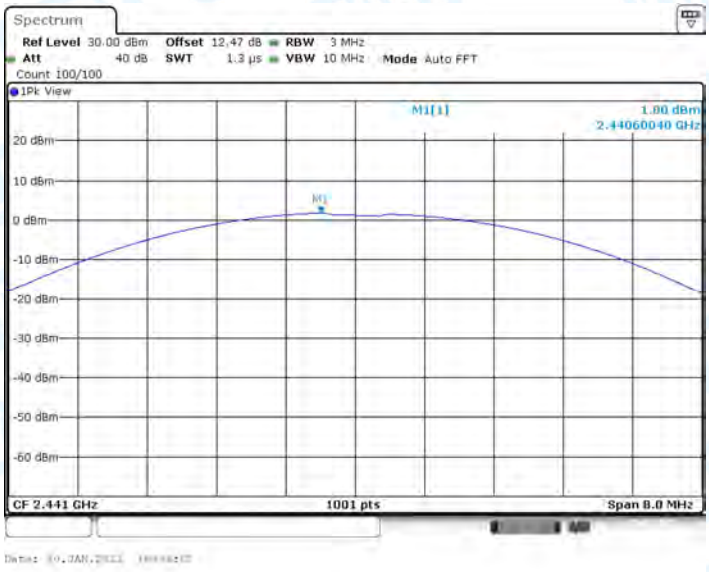
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	AntA	2402	2.19	≤21	PASS
		2441	1.80	≤21	PASS
		2480	2.04	≤21	PASS
2DH5	AntA	2402	3.34	≤21	PASS
		2441	2.12	≤21	PASS
		2480	2.62	≤21	PASS
3DH5	AntA	2402	4.33	≤21	PASS
		2441	3.17	≤21	PASS
		2480	3.05	≤21	PASS

3.2.Test Graphs

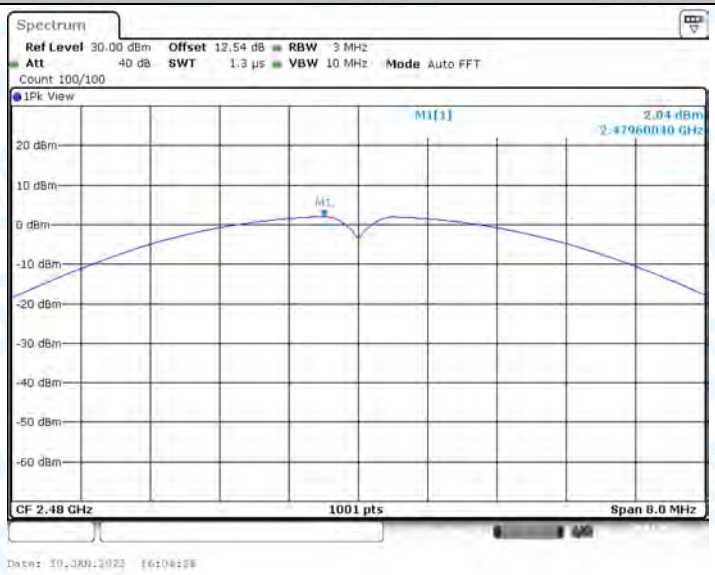
DH5_AntA_2402



DH5_AntA_2441

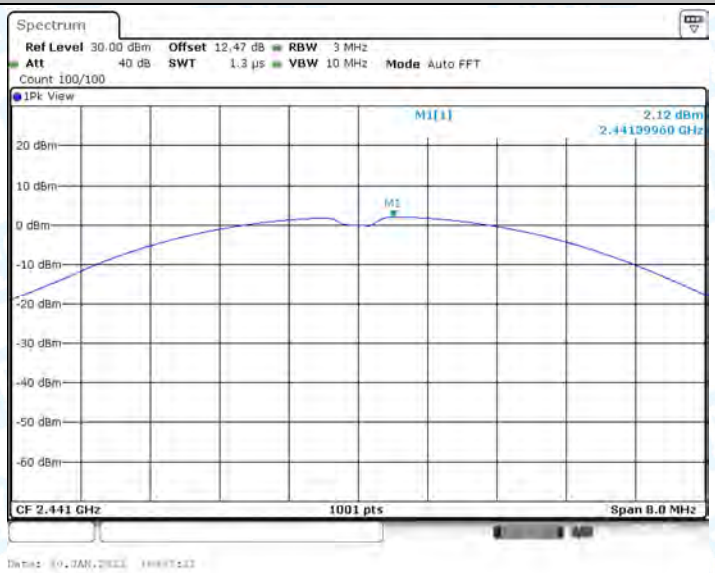


DH5_AntA_2480

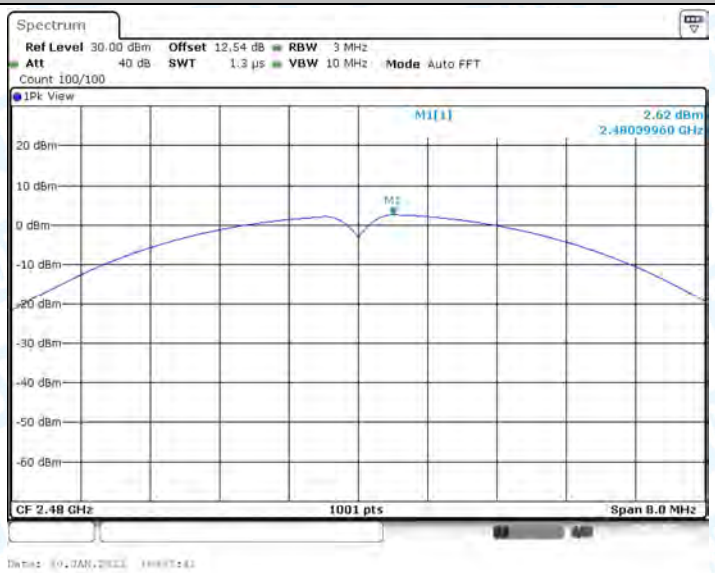


2DH5_AntA_2402

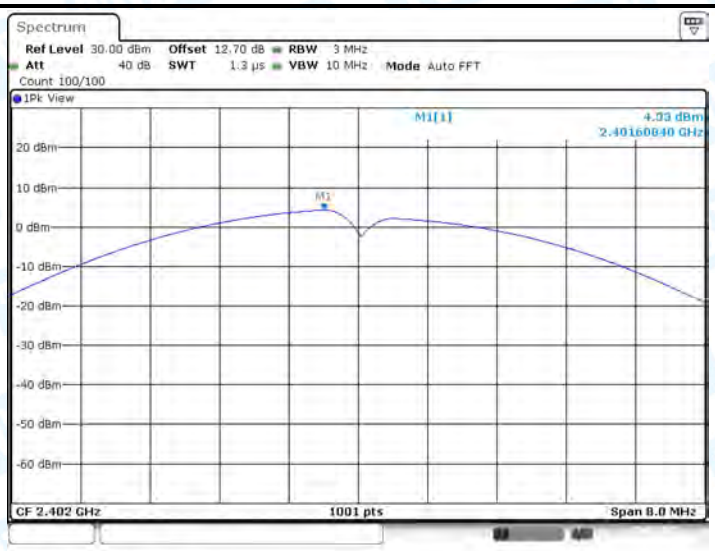
2DH5_AntA_2441



2DH5_AntA_2480

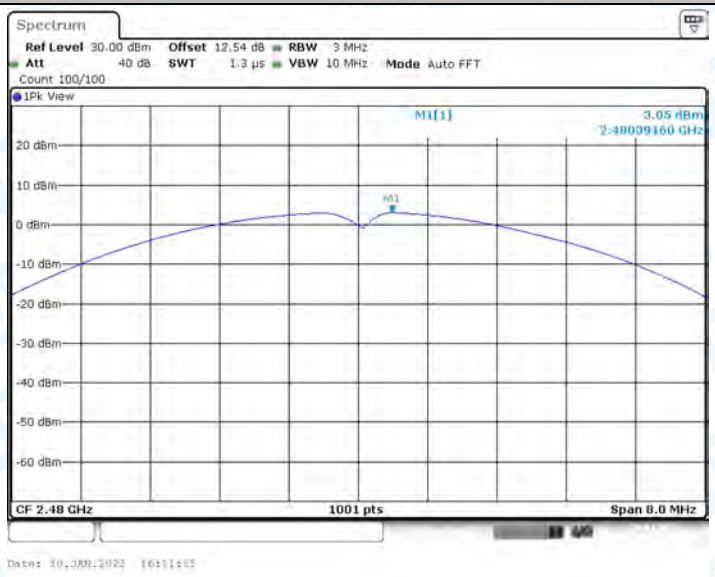


3DH5_AntA_2402



3DH5_AntA_2441

3DH5_AntA_2480



4. Carrier frequency separation

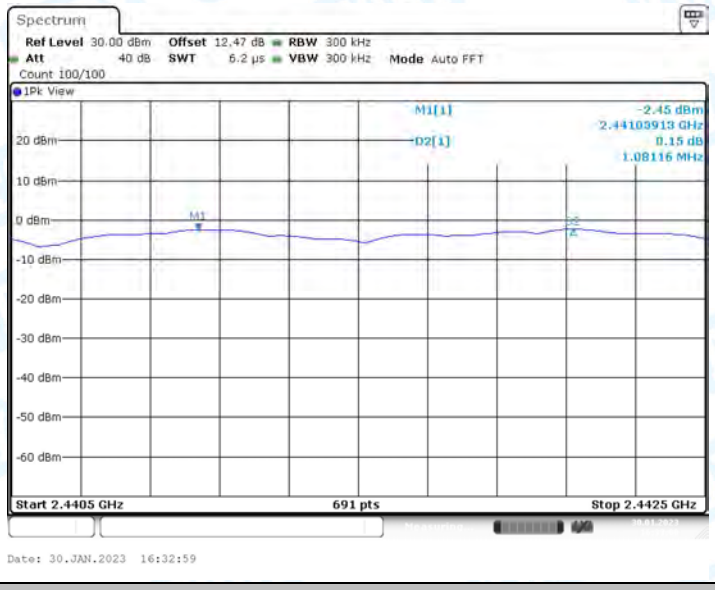
4.1.Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	AntA	Hop	1.296	≥0.890	PASS
2DH5	AntA	Hop	1.081	≥0.880	PASS
3DH5	AntA	Hop	1.035	≥0.873	PASS

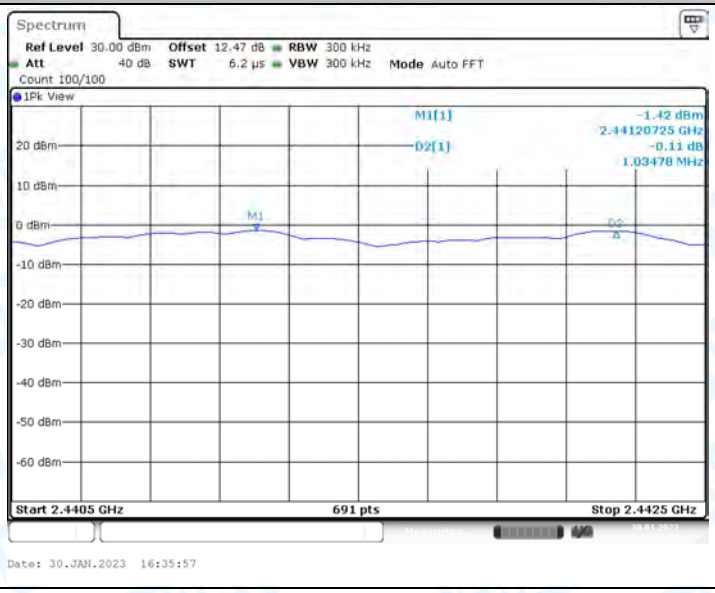
4.2.Test Graphs

DH5_AntA_Hop

2DH5_AntA_Hop



3DH5_AntA_Hop



5. Time of occupancy

5.1.Test Result

TestMode	Antenna	Channel	Pulse Time ([ms]	Period Time(s)	Time of occupancy [s]	Limit[s]	Verdict
DH1	AntA	Hop	0.373	31.60	0.119	≤0.4	PASS
DH3	AntA	Hop	1.621	31.60	0.259	≤0.4	PASS
DH5	AntA	Hop	2.860	31.60	0.305	≤0.4	PASS
2DH1	AntA	Hop	0.383	31.60	0.123	≤0.4	PASS
2DH3	AntA	Hop	1.626	31.60	0.260	≤0.4	PASS
2DH5	AntA	Hop	2.867	31.60	0.306	≤0.4	PASS
3DH1	AntA	Hop	0.383	31.60	0.123	≤0.4	PASS
3DH3	AntA	Hop	1.626	31.60	0.260	≤0.4	PASS
3DH5	AntA	Hop	2.869	31.60	0.306	≤0.4	PASS

Note:

1DH1 Time of occupancy= Pulse Time(1600/2)*31.6/79*

1DH3 Time of occupancy= Pulse Time(1600/4)*31.6/79*

1DH5 Time of occupancy= Pulse Time(1600/6)*31.6/79*

2DH1 Time of occupancy= Pulse Time(1600/2)*31.6/79*

2DH3 Time of occupancy= Pulse Time(1600/4)*31.6/79*

2DH5 Time of occupancy= Pulse Time(1600/6)*31.6/79*

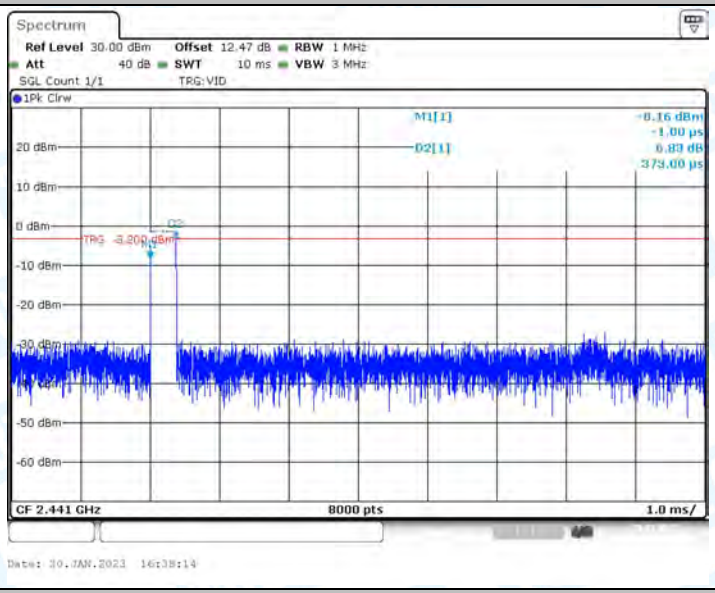
3DH1 Time of occupancy= Pulse Time(1600/2)*31.6/79*

3DH3 Time of occupancy= Pulse Time(1600/4)*31.6/79*

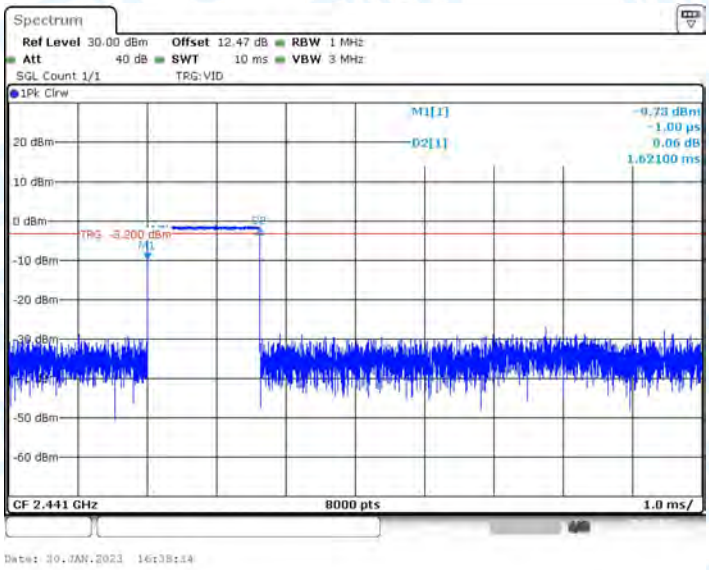
3DH5 Time of occupancy= Pulse Time(1600/6)*31.6/79*

5.2.Test Graphs

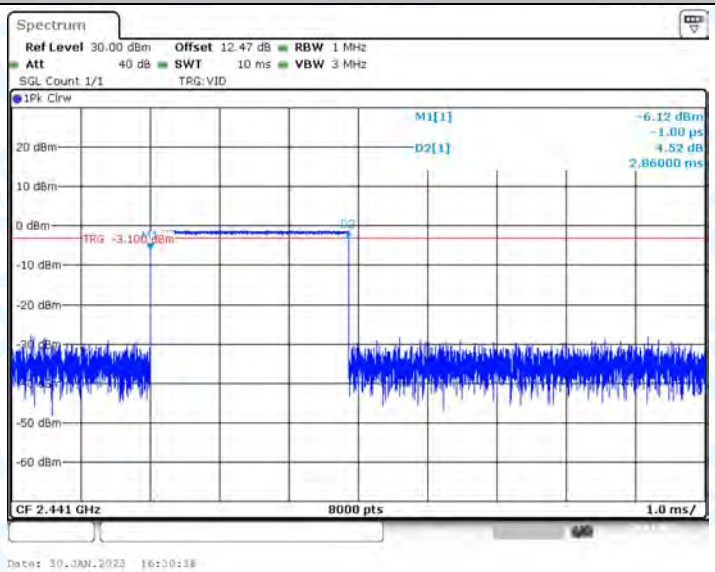
DH1_AntA_Hop

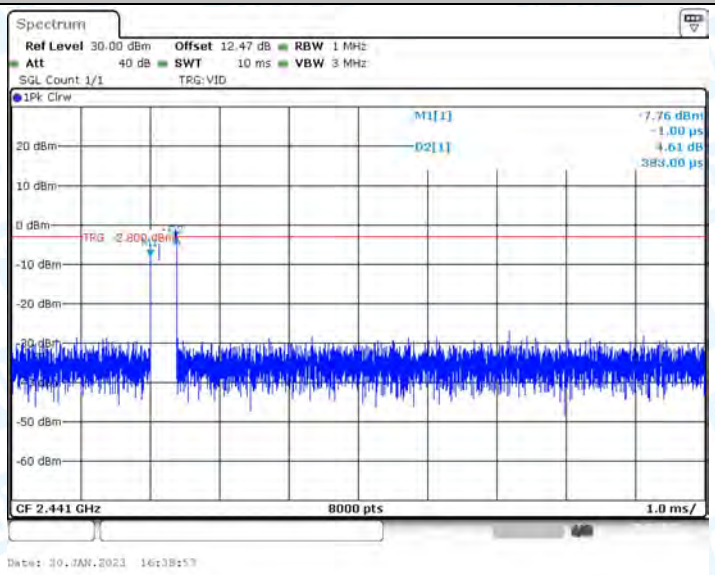
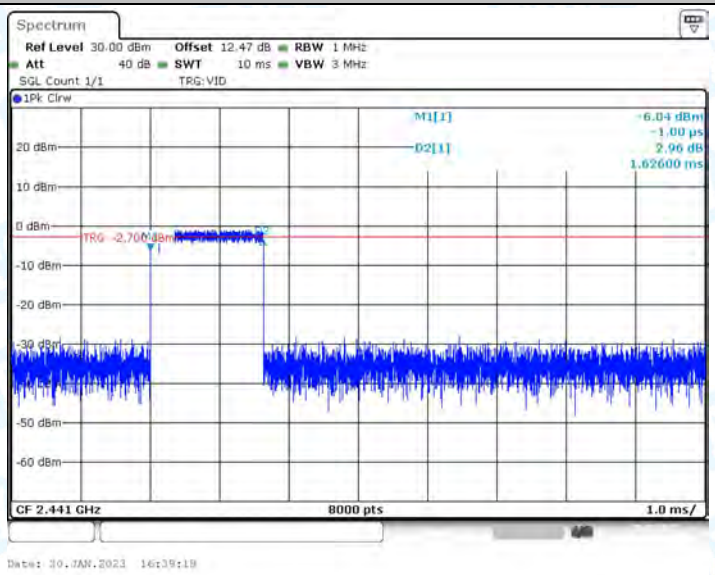
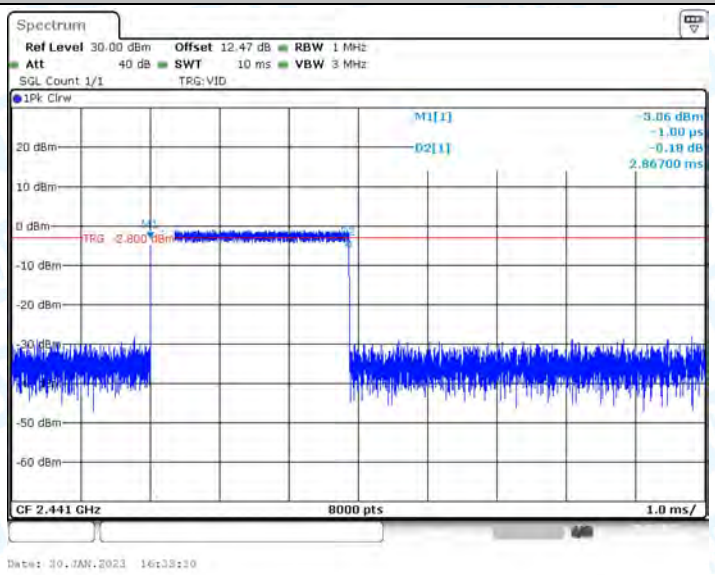


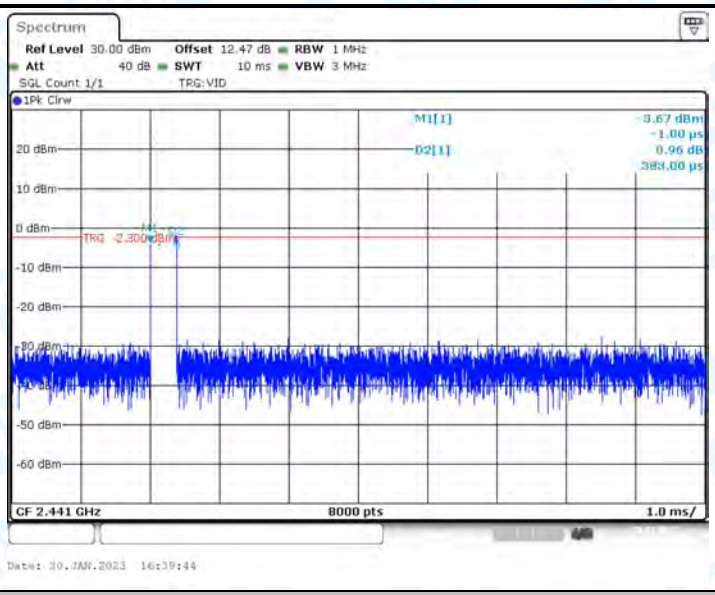
DH3_AntA_Hop



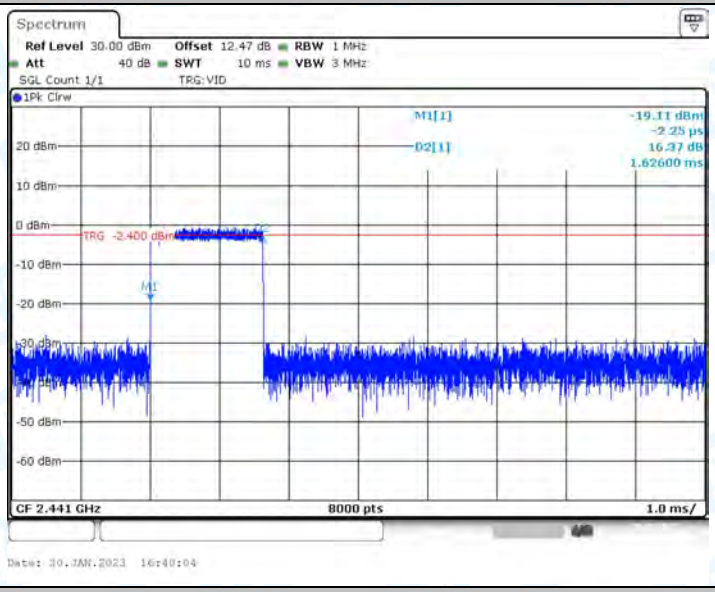
DH5_AntA_Hop



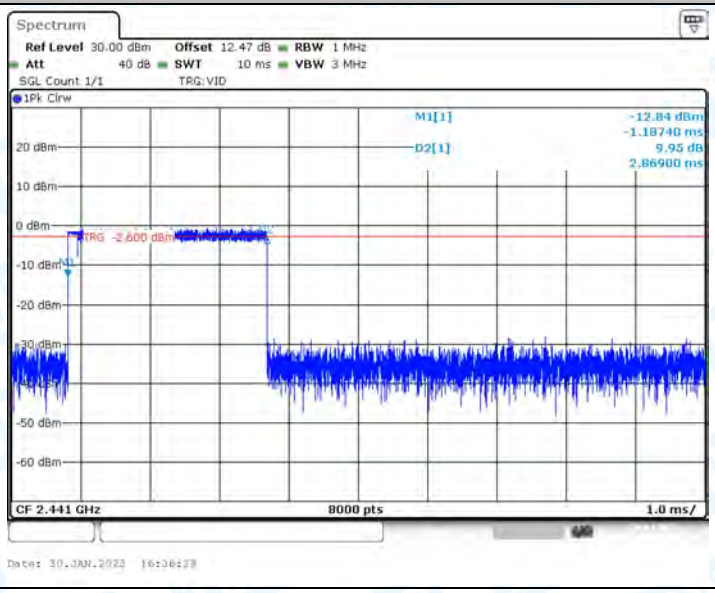
2DH1_AntA_Hop

2DH3_AntA_Hop

2DH5_AntA_Hop

3DH1_AntA_Hop



3DH3_AntA_Hop



3DH5_AntA_Hop



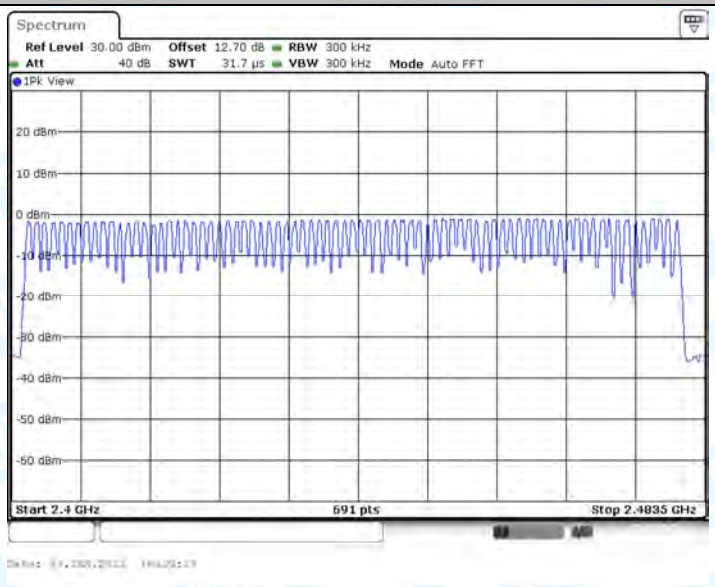
6. Number of hopping channels

6.1.Test Result

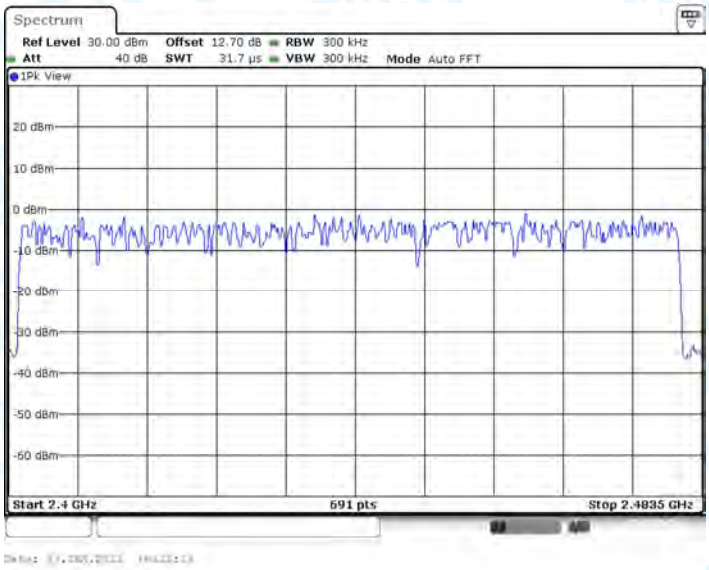
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	AntA	Hop	79	≥15	PASS
2DH5	AntA	Hop	79	≥15	PASS
3DH5	AntA	Hop	79	≥15	PASS

6.2.Test Graphs

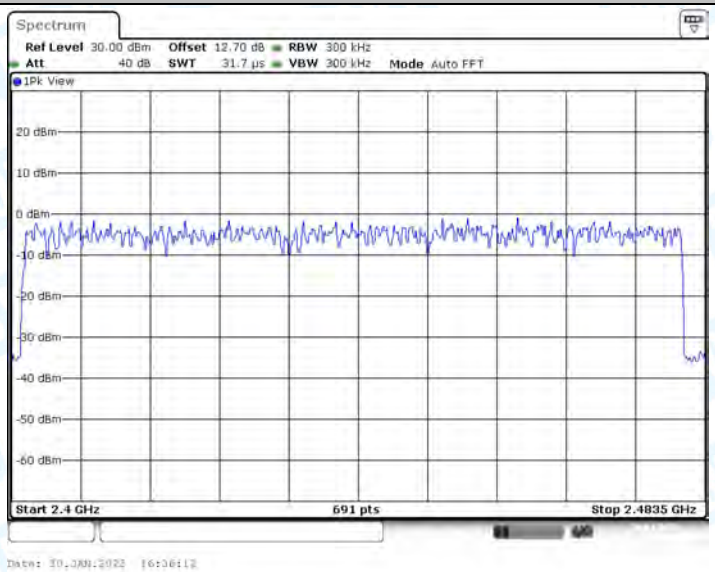
DH5_AntA_Hop



2DH5_AntA_Hop



3DH5_AntA_Hop



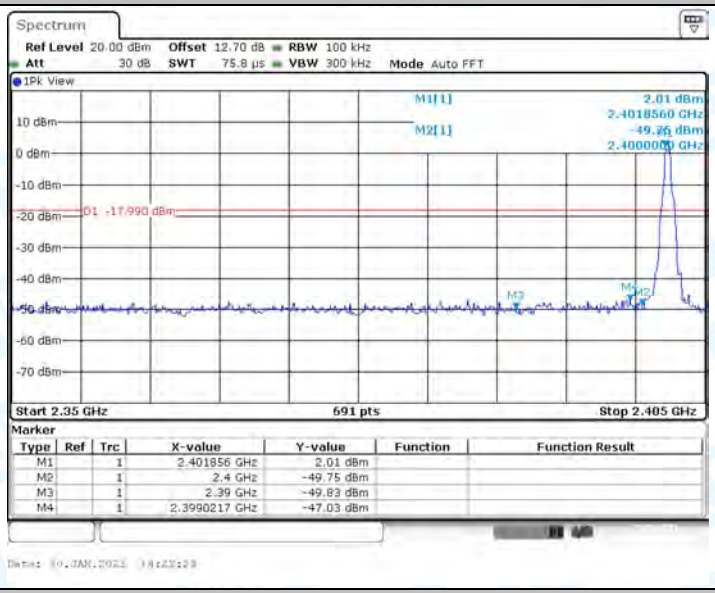
7.Band edge measurements

7.1.Test Result

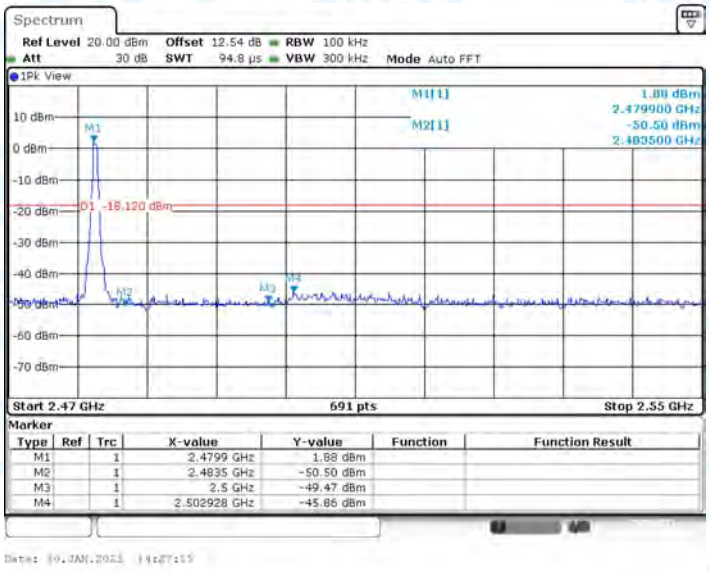
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	AntA	Low	2402	2.01	-47.03	≤-17.99	PASS
		High	2480	1.88	-45.86	≤-18.12	PASS
		Low	Hop_2402	-2.60	-47.14	≤-22.6	PASS
		High	Hop_2480	-1.95	-44.96	≤-21.95	PASS
2DH5	AntA	Low	2402	0.28	-47.24	≤-19.72	PASS
		High	2480	0.61	-45.9	≤-19.39	PASS
		Low	Hop_2402	-6.20	-47.19	≤-26.2	PASS
		High	Hop_2480	-5.91	-45.73	≤-25.91	PASS
3DH5	AntA	Low	2402	0.86	-47.25	≤-19.14	PASS
		High	2480	0.79	-45.76	≤-19.21	PASS
		Low	Hop_2402	-6.14	-47.28	≤-26.14	PASS
		High	Hop_2480	-1.44	-46.25	≤-21.44	PASS

7.2.Test Graphs

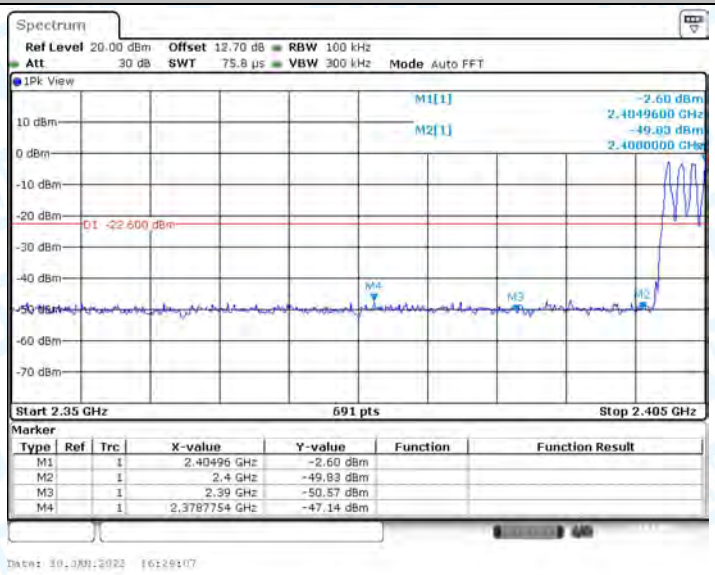
DH5_AntA_Low_2402



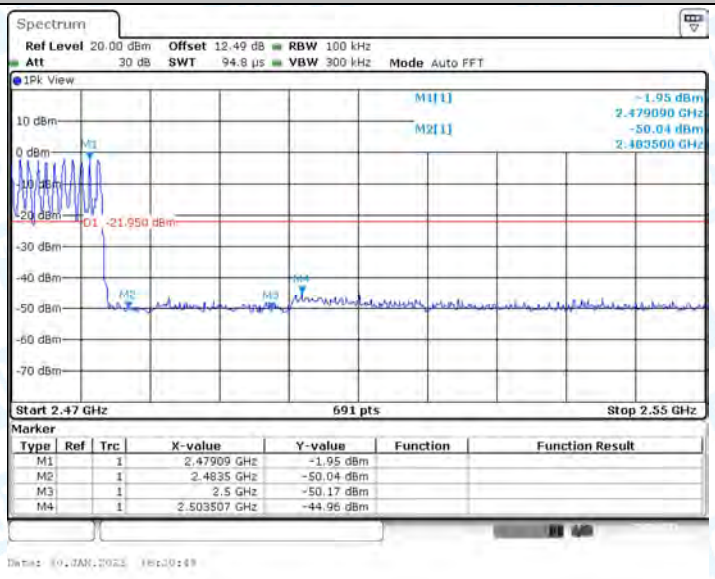
DH5_AntA_High_2480



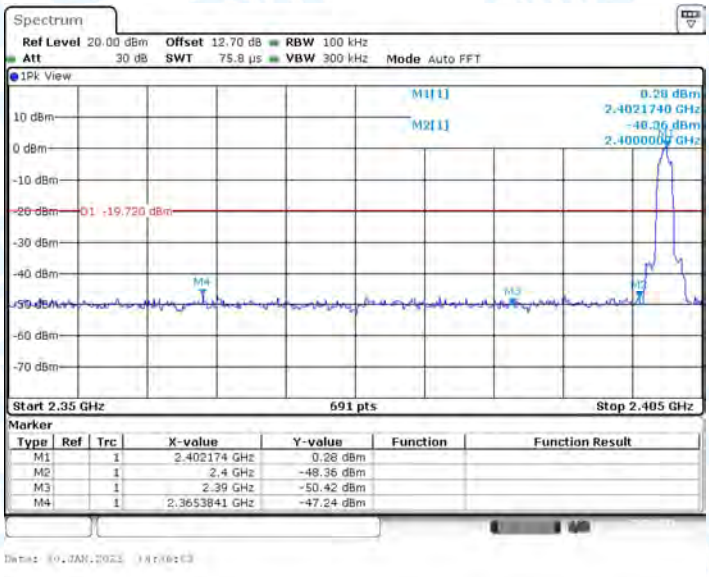
DH5_AntA_Low_Hop_2402



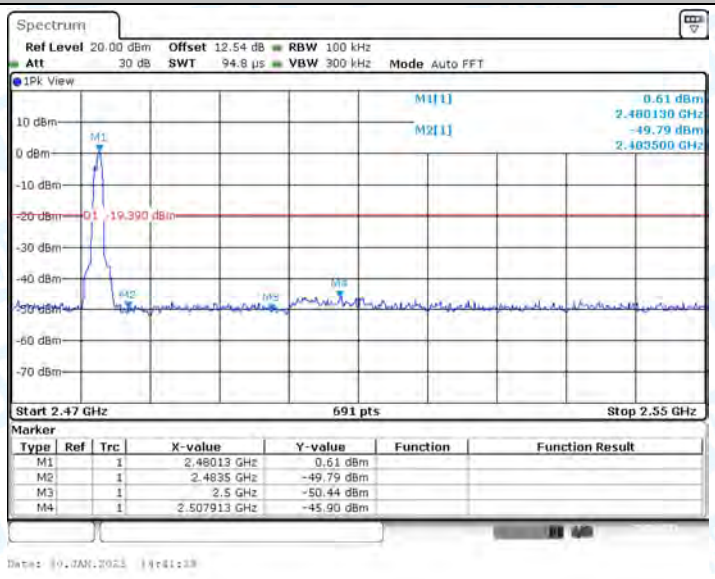
DH5_AntA_High_Hop_2480



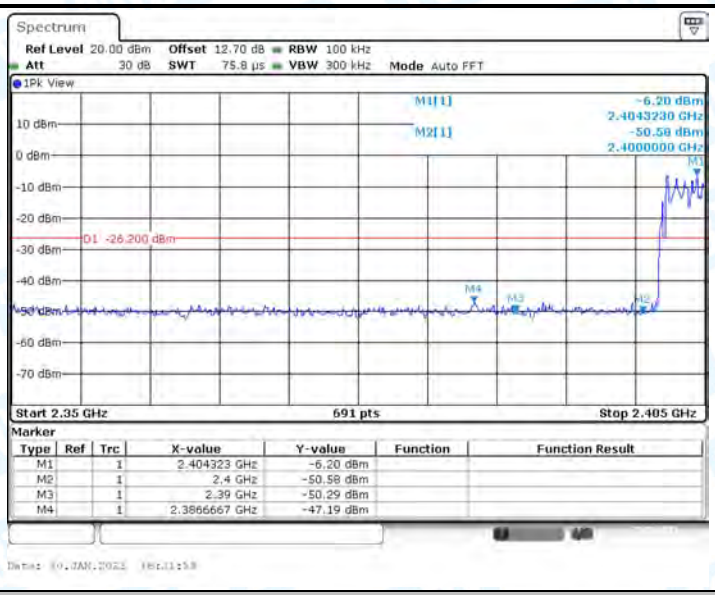
2DH5_AntA_Low_2402



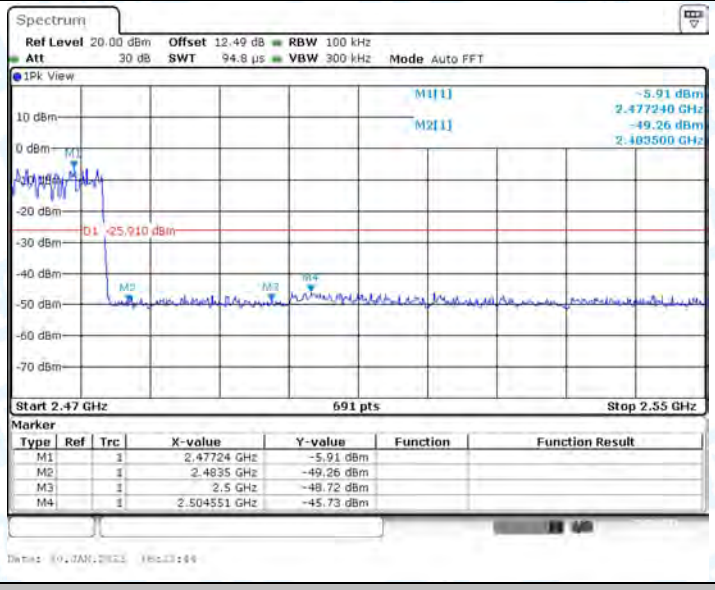
2DH5_AntA_High_2480



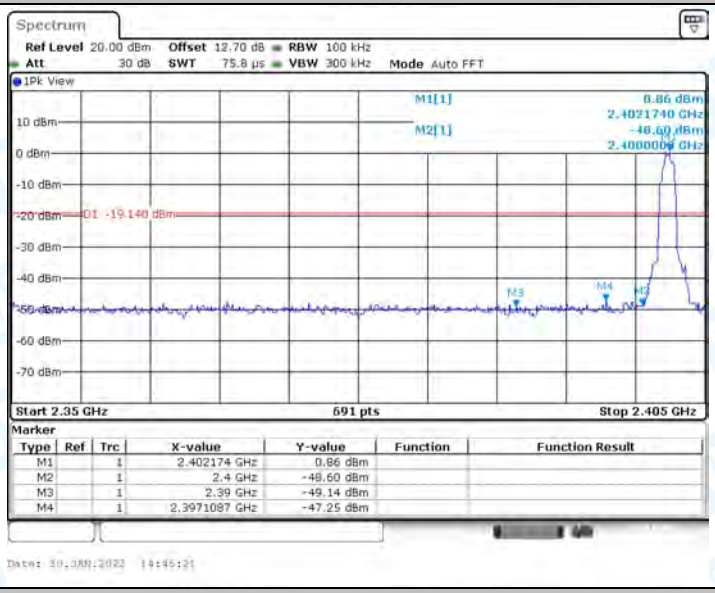
2DH5_AntA_Low_Hop_2402



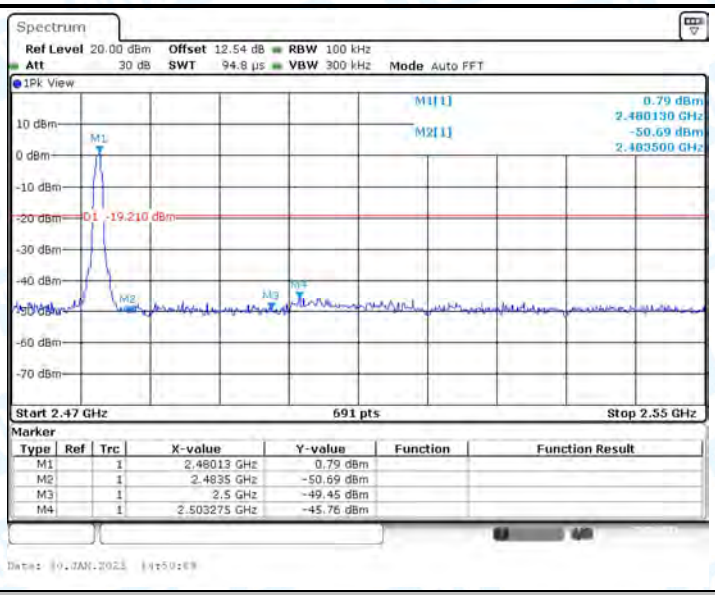
2DH5_AntA_High_Hop_2480



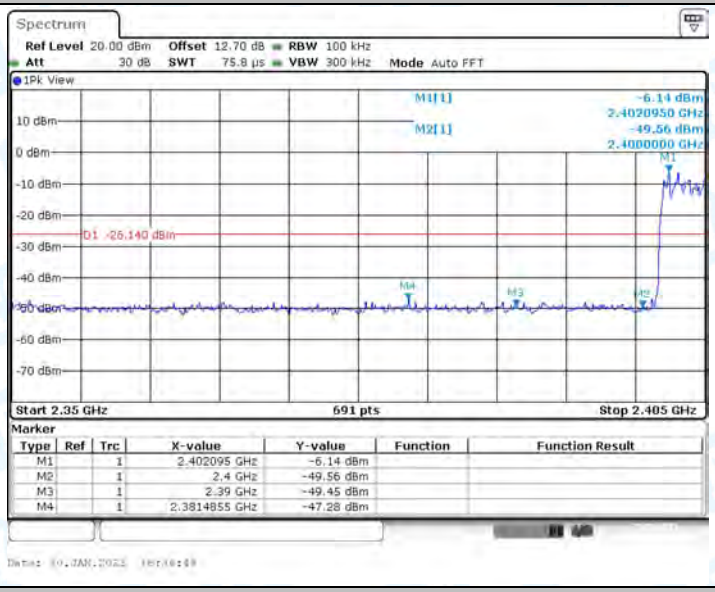
3DH5_AntA_Low_2402



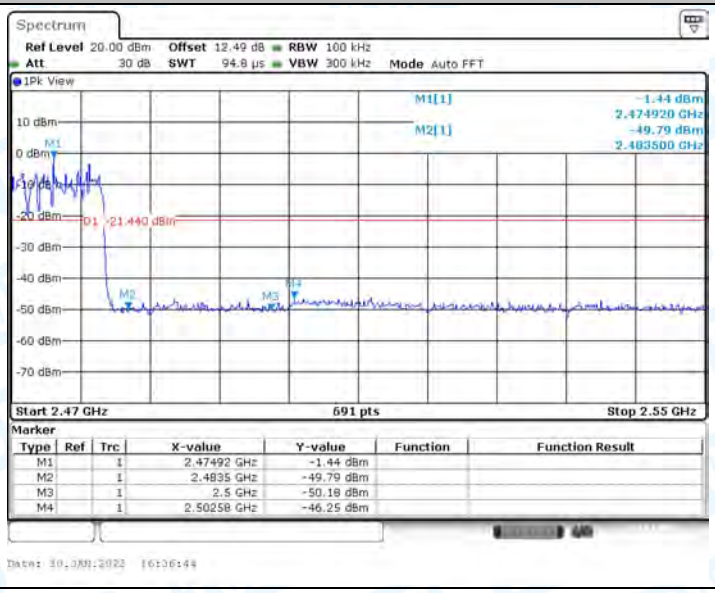
3DH5_AntA_High_2480



3DH5_AntA_Low_Hop_2402



3DH5_AntA_High_Hop_2480



8. Conducted Spurious Emission

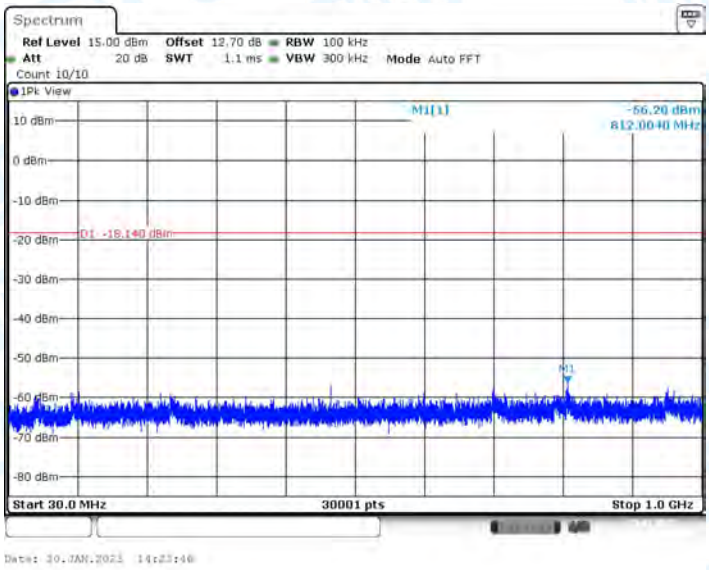
8.1.Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	AntA	2402	Reference	1.86	1.86	---	PASS
			30~1000	1.86	-56.28	≤-18.14	PASS
			1000~26500	1.86	-37.9	≤-18.14	PASS
		2441	Reference	1.46	1.46	---	PASS
			30~1000	1.46	-50.95	≤-18.54	PASS
			1000~26500	1.46	-37.24	≤-18.54	PASS
		2480	Reference	1.80	1.80	---	PASS
			30~1000	1.80	-51.35	≤-18.2	PASS
			1000~26500	1.80	-40.1	≤-18.2	PASS
2DH5	AntA	2402	Reference	0.73	0.73	---	PASS
			30~1000	0.73	-56.93	≤-19.27	PASS
			1000~26500	0.73	-41.43	≤-19.27	PASS
		2441	Reference	0.25	0.25	---	PASS
			30~1000	0.25	-52.26	≤-19.75	PASS
			1000~26500	0.25	-40.44	≤-19.75	PASS
		2480	Reference	0.66	0.66	---	PASS
			30~1000	0.66	-55.9	≤-19.34	PASS
			1000~26500	0.66	-46.99	≤-19.34	PASS
3DH5	AntA	2402	Reference	0.72	0.72	---	PASS
			30~1000	0.72	-57.16	≤-19.28	PASS
			1000~26500	0.72	-40.79	≤-19.28	PASS
		2441	Reference	0.35	0.35	---	PASS
			30~1000	0.35	-58.4	≤-19.65	PASS
			1000~26500	0.35	-42.09	≤-19.65	PASS
		2480	Reference	0.68	0.68	---	PASS
			30~1000	0.68	-53.65	≤-19.32	PASS
			1000~26500	0.68	-40.55	≤-19.32	PASS

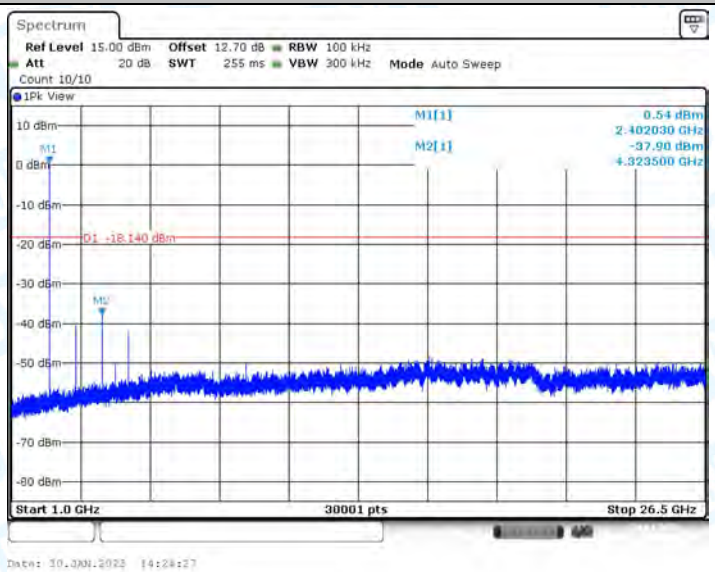
8.2.Test Graphs

DH5_AntA_2402_0~Reference

DH5_AntA_2402_30~1000

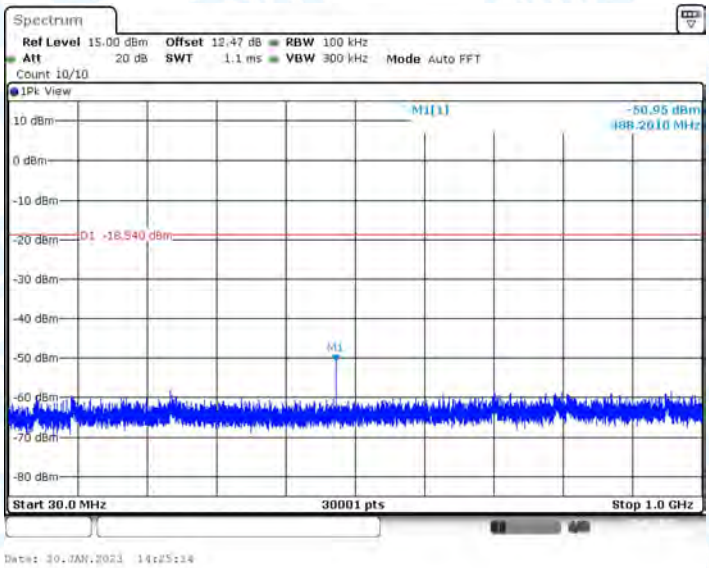


DH5_AntA_2402_1000~26500

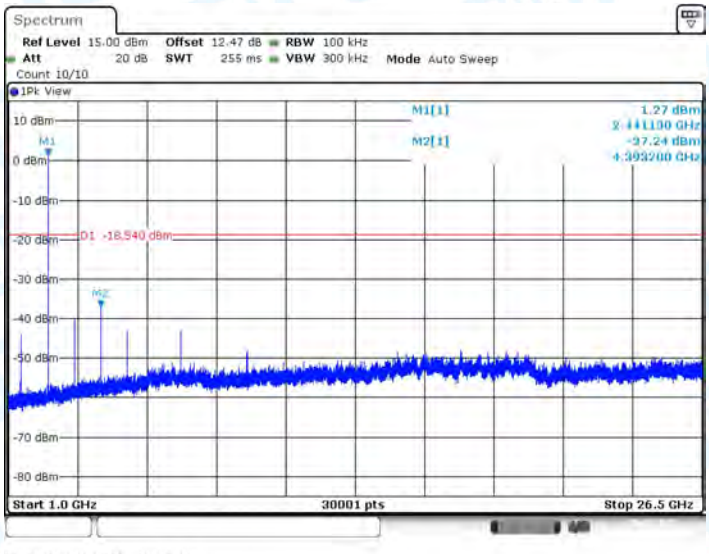


DH5_AntA_2441_0~Reference

DH5_AntA_2441_30~1000

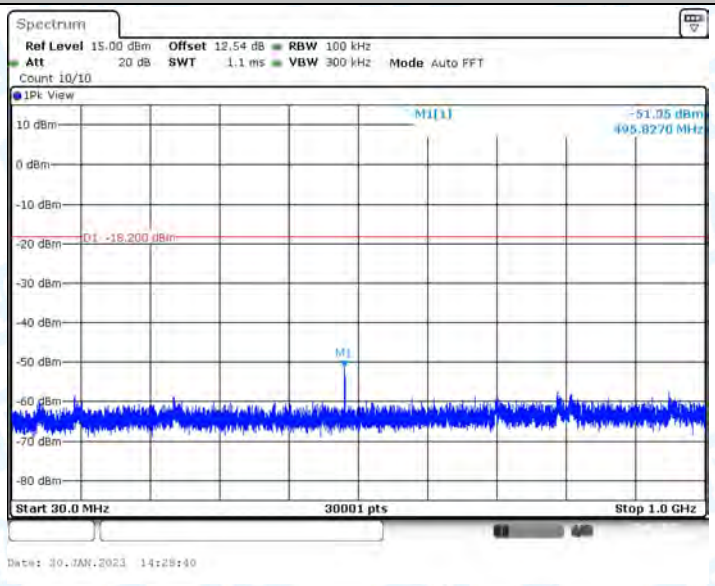


DH5_AntA_2441_1000~26500

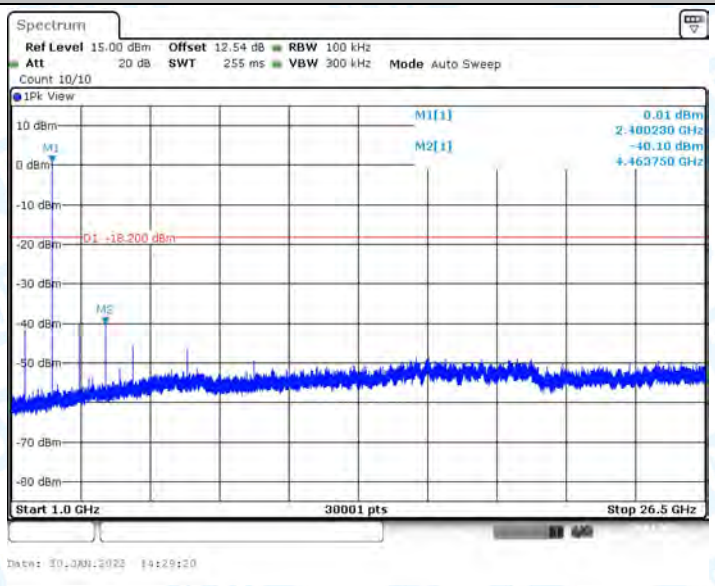


DH5_AntA_2480_0~Reference

DH5_AntA_2480_30~1000

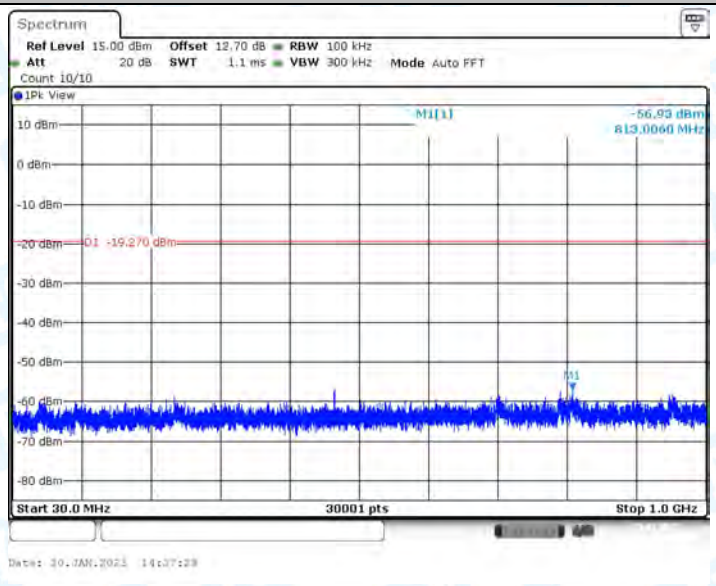


DH5_AntA_2480_1000~26500

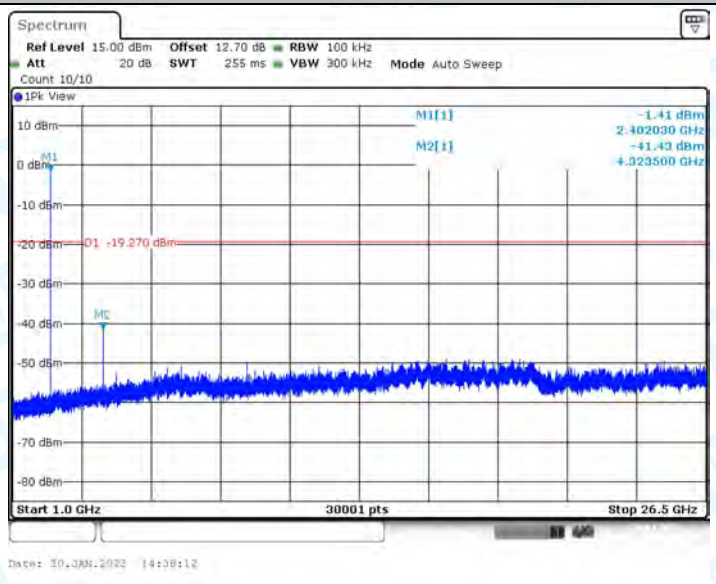


2DH5_AntA_2402_0~Reference

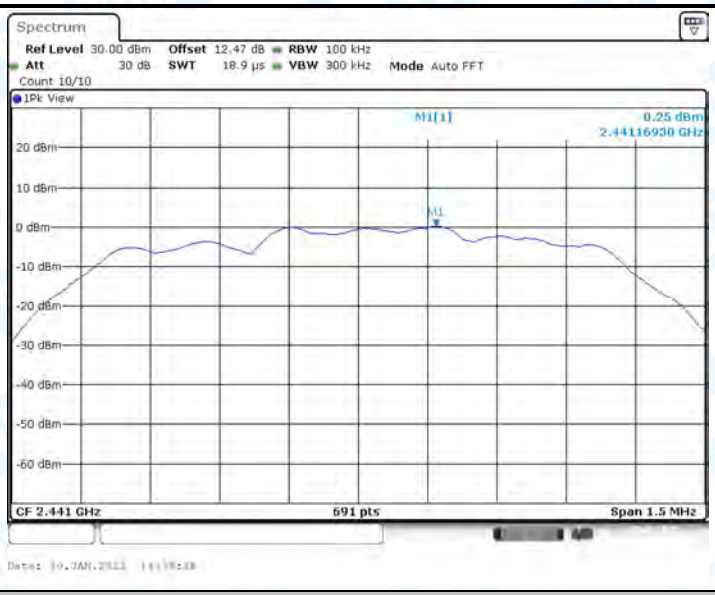
2DH5_AntA_2402_30~1000



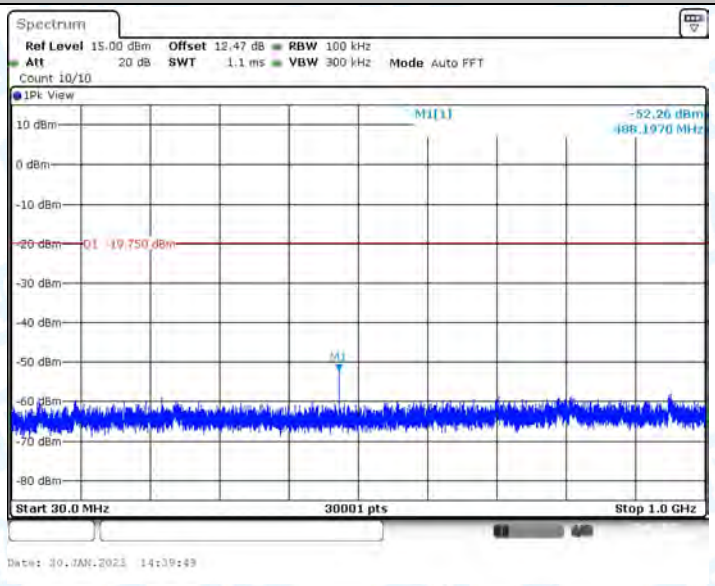
2DH5_AntA_2402_1000~26500



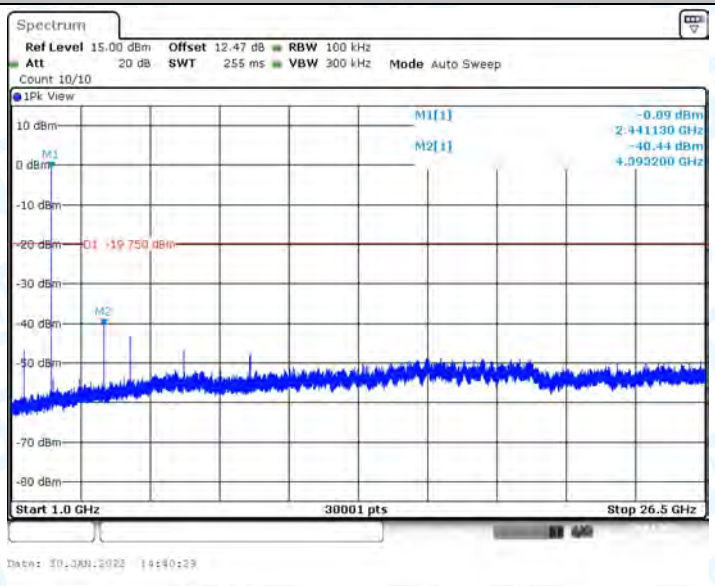
2DH5_AntA_2441_0~Reference



2DH5_AntA_2441_30~1000

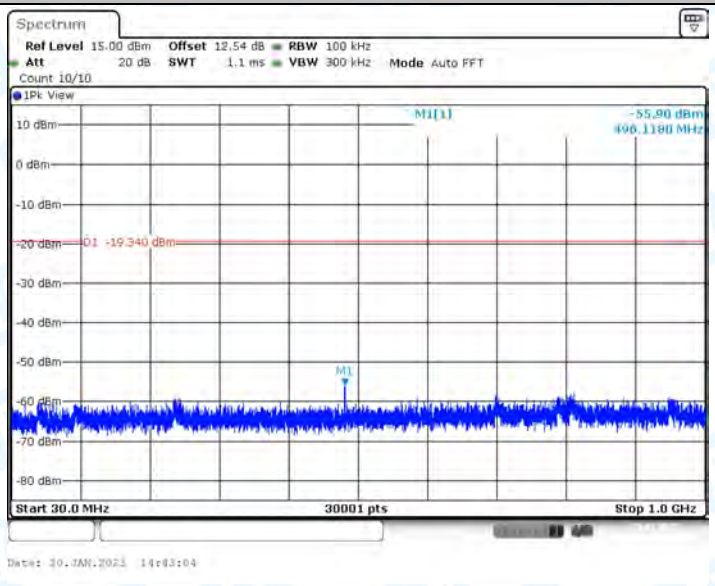


2DH5_AntA_2441_1000~26500

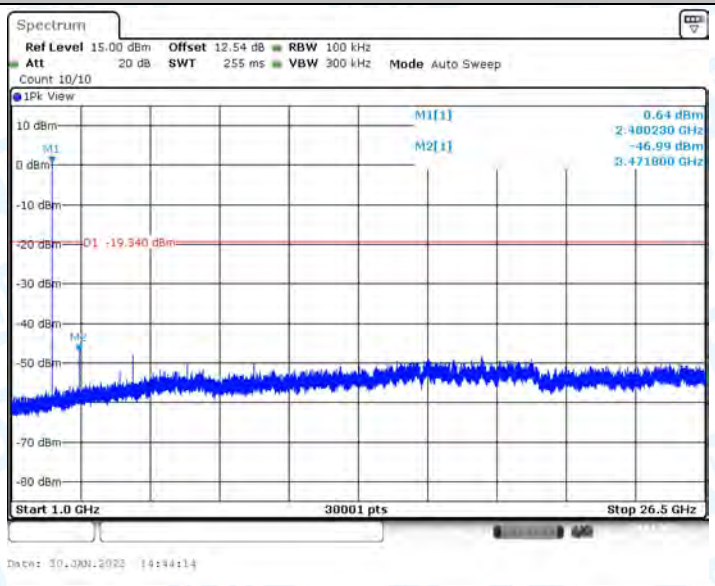


2DH5_AntA_2480_0~Reference

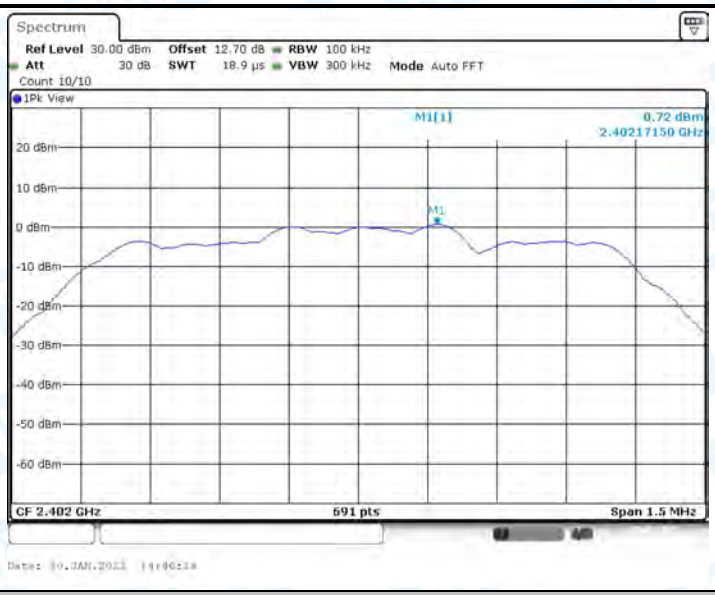
2DH5_AntA_2480_30~1000



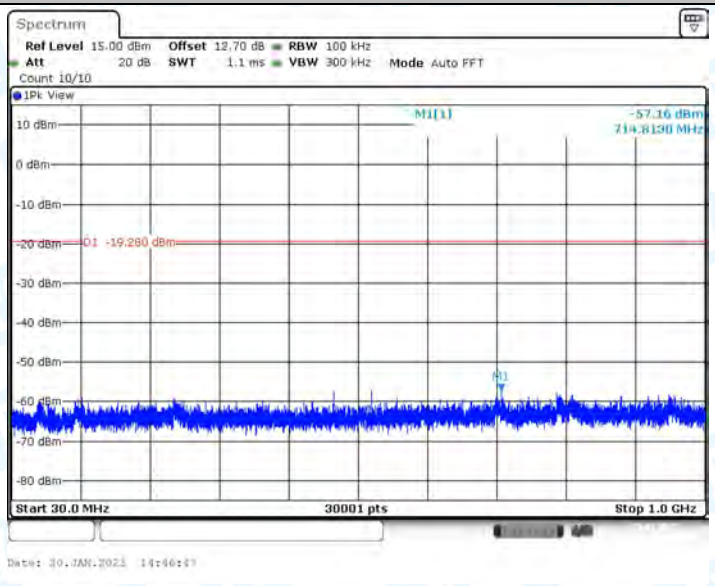
2DH5_AntA_2480_1000~26500



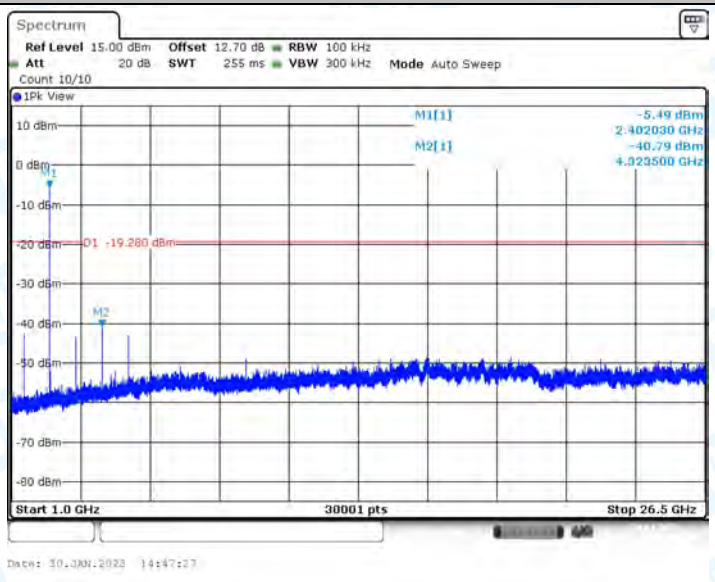
3DH5_AntA_2402_0~Reference



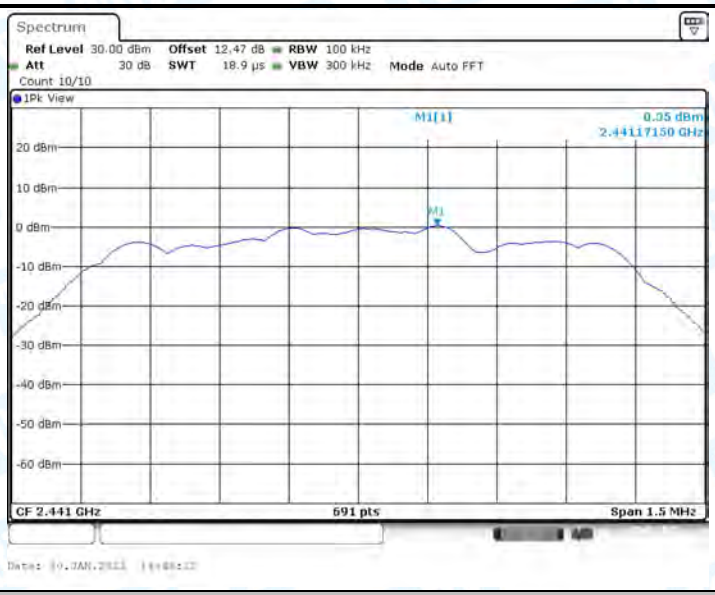
3DH5_AntA_2402_30~1000



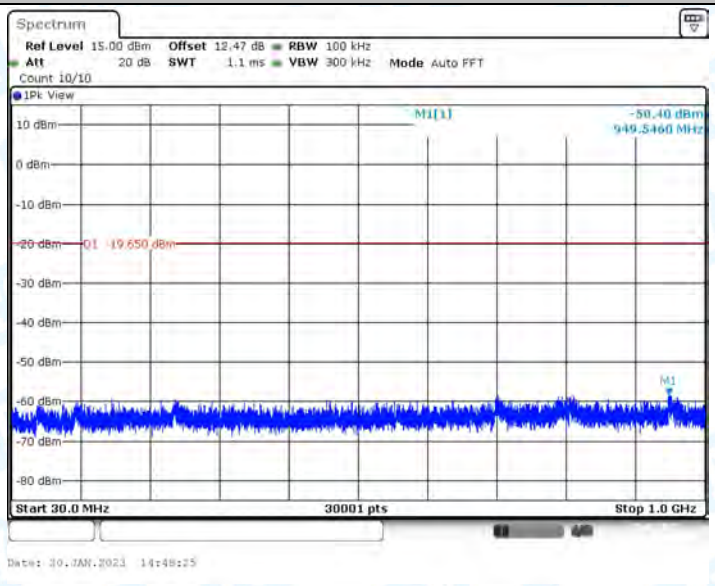
3DH5_AntA_2402_1000~26500



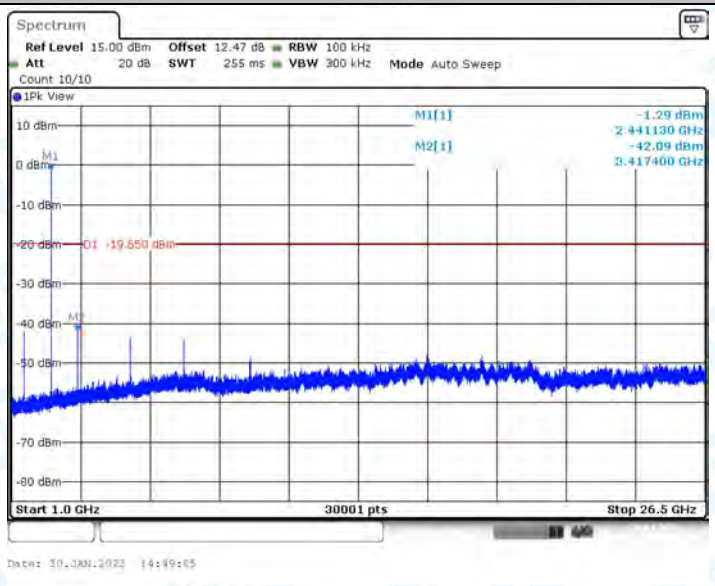
3DH5_AntA_2441_0~Reference



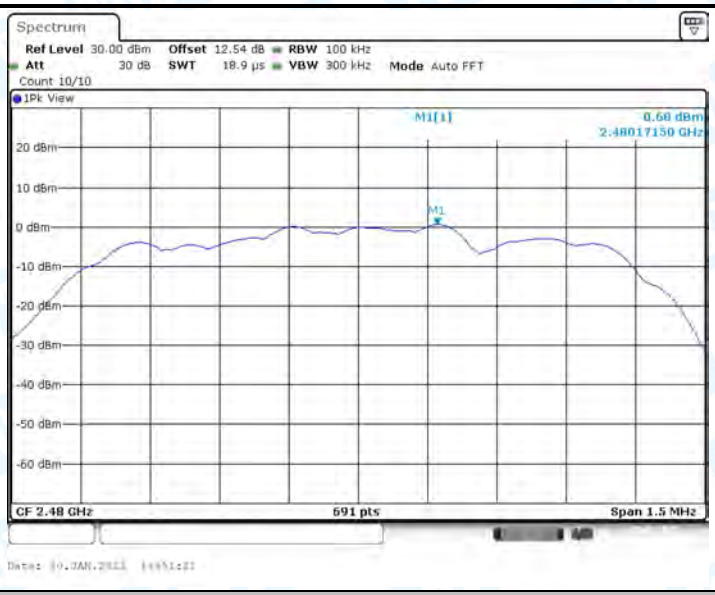
3DH5_AntA_2441_30~1000



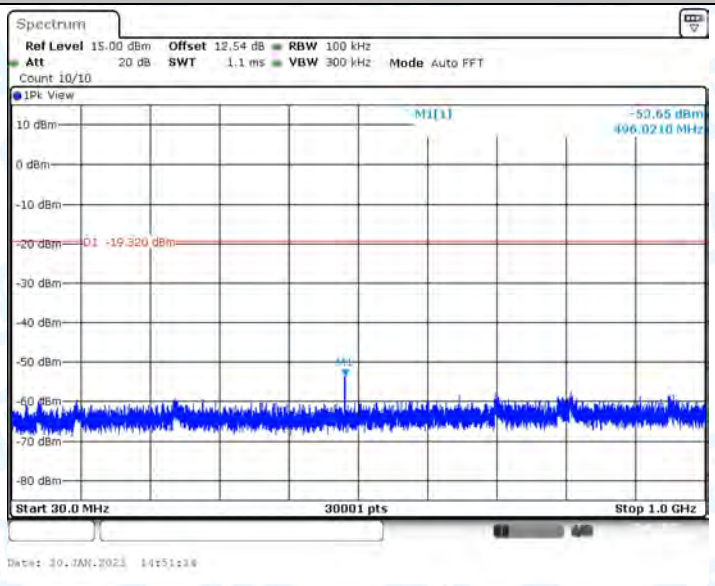
3DH5_AntA_2441_1000~26500



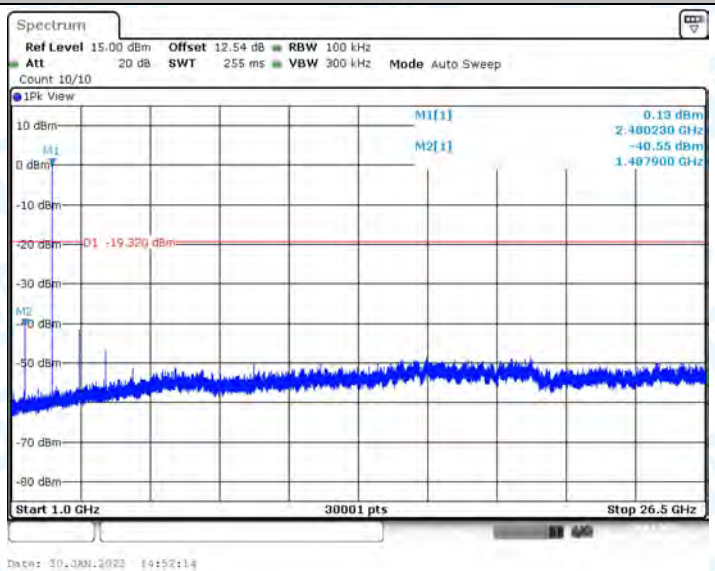
3DH5_AntA_2480_0~Reference



3DH5_AntA_2480_30~1000



3DH5_AntA_2480_1000~26500



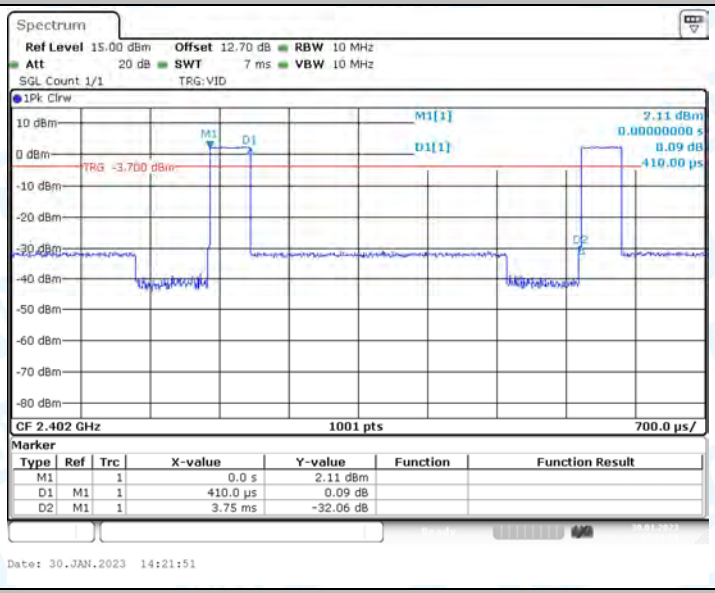
9. Duty Cycle

9.1.Test Result

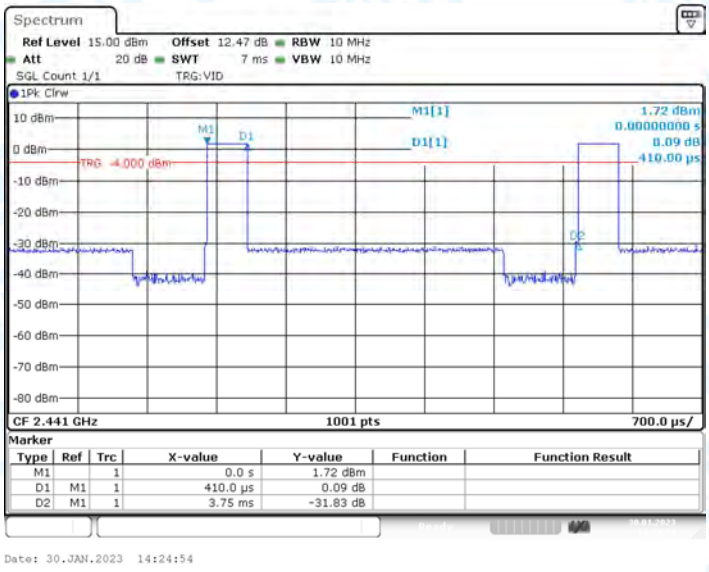
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T [kHz]	Verdict
DH5	AntA	2402	0.41	3.75	10.93	2.4	---
		2441	0.41	3.75	10.93	2.4	---
		2480	0.41	3.75	10.93	2.4	---
2DH5	AntA	2402	0.28	3.75	7.47	3.6	---
		2441	0.28	3.75	7.47	3.6	---
		2480	0.29	3.75	7.73	3.6	---
3DH5	AntA	2402	0.23	3.75	6.13	4.2	---
		2441	0.24	3.75	6.40	4.2	---
		2480	0.23	3.75	6.13	4.2	---

9.2.Test Graphs

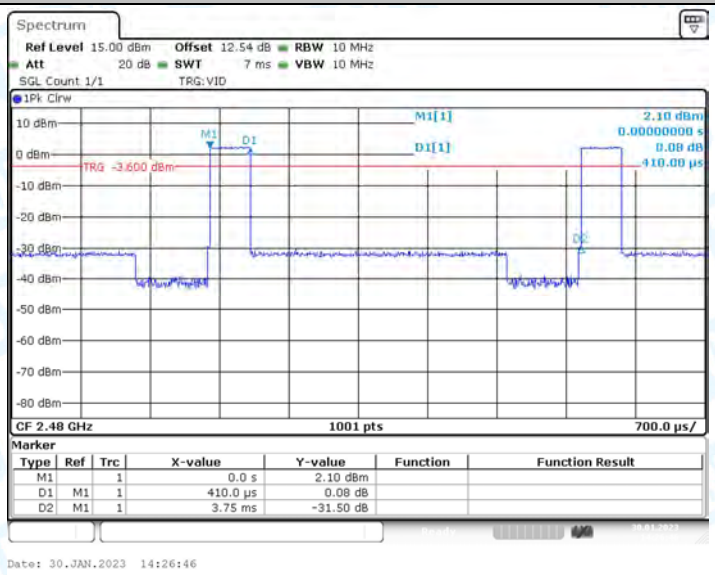
DH5_AntA_2402



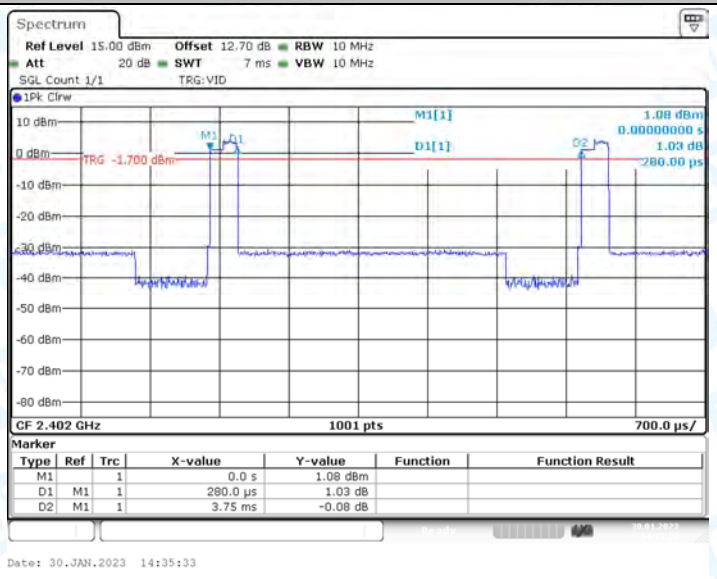
DH5_AntA_2441



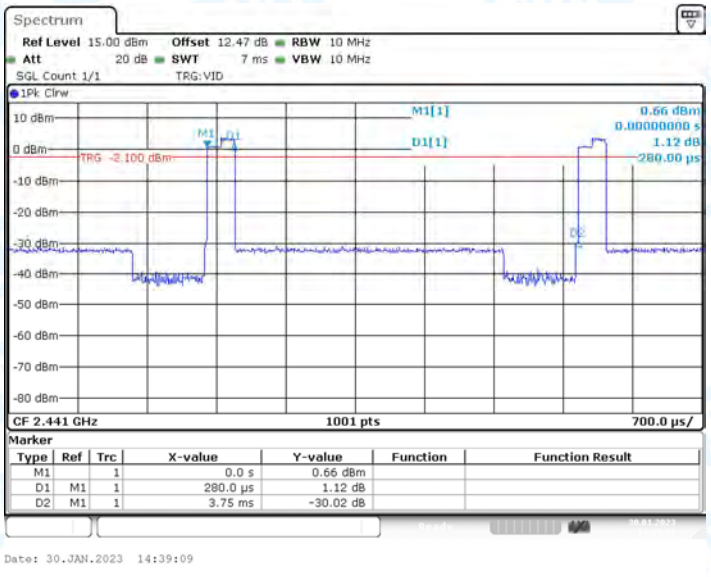
DH5_AntA_2480



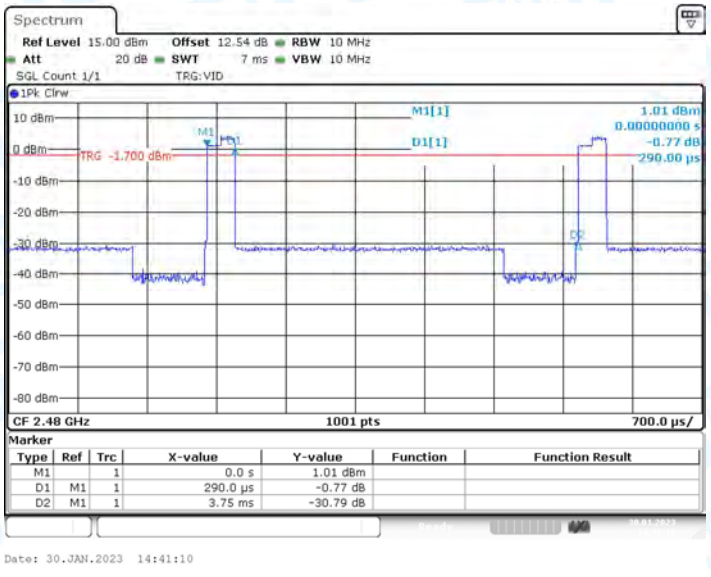
2DH5_AntA_2402



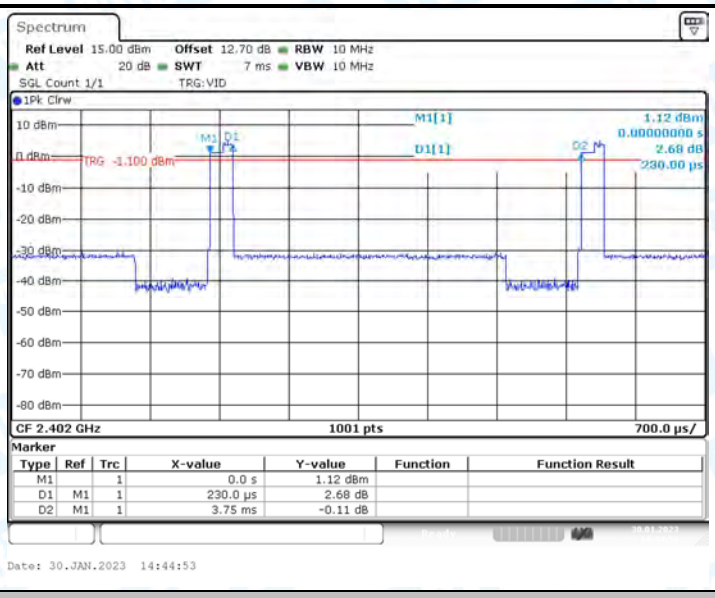
2DH5_AntA_2441



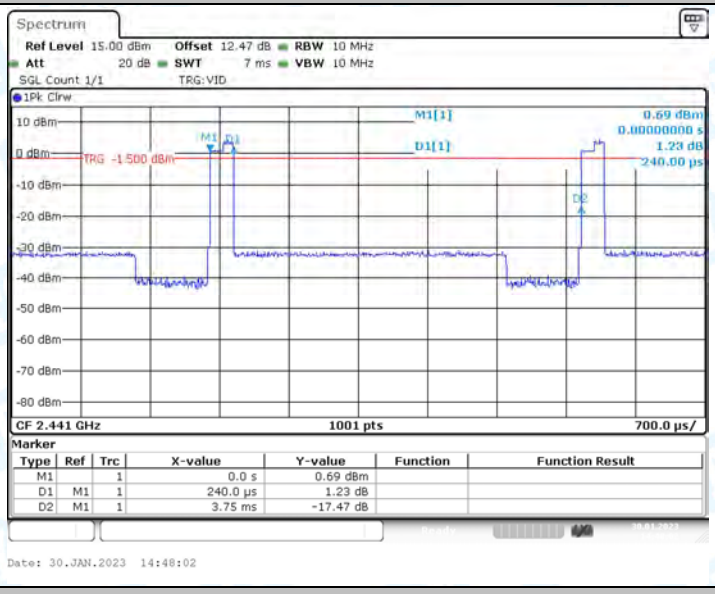
2DH5_AntA_2480



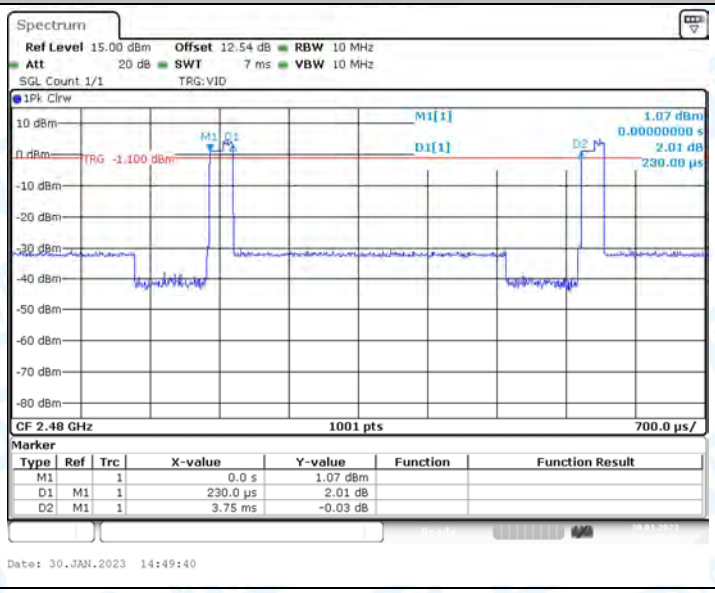
3DH5_AntA_2402



3DH5_AntA_2441



3DH5_AntA_2480



10. Emissions in Restricted Bands

10.1.Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
DH5	AntA	Low	2402	AV	2310.000	-46.69	≤-41.20	PASS
				AV	2342.304	-44.55	≤-41.20	PASS
				AV	2390.000	-46.72	≤-41.20	PASS
				Peak	2310.000	-37.36	≤-21.20	PASS
				Peak	2346.261	-33.32	≤-21.20	PASS
				Peak	2390.000	-37.23	≤-21.20	PASS
		High	2480	AV	2483.500	-45.1	≤-41.20	PASS
				AV	2483.797	-44.66	≤-41.20	PASS
				AV	2500.000	-46.38	≤-41.20	PASS
				Peak	2483.500	-37.83	≤-21.20	PASS
				Peak	2487.507	-34.48	≤-21.20	PASS
				Peak	2500.000	-36.52	≤-21.20	PASS
		Low	Hop_2402	Peak	2310.000	-37.77	≤-21.20	PASS
				Peak	2370.000	-33.6	≤-21.20	PASS
				Peak	2390.000	-37.22	≤-21.20	PASS
		High	Hop_2480	Peak	2483.500	-38.36	≤-21.20	PASS
				Peak	2493.420	-35.09	≤-21.20	PASS
				Peak	2500.000	-36.65	≤-21.20	PASS
2DH5	AntA	Low	2402	AV	2310.000	-46.67	≤-41.20	PASS
				AV	2341.239	-43.86	≤-41.20	PASS
				AV	2390.000	-46.4	≤-41.20	PASS
				Peak	2310.000	-36.12	≤-21.20	PASS
				Peak	2343.522	-33.56	≤-21.20	PASS
				Peak	2390.000	-36.37	≤-21.20	PASS
		High	2480	AV	2483.500	-45.15	≤-41.20	PASS
				AV	2497.362	-44.59	≤-41.20	PASS
				AV	2500.000	-45.86	≤-41.20	PASS
				Peak	2483.500	-37.49	≤-21.20	PASS
				Peak	2485.072	-34.64	≤-21.20	PASS
				Peak	2500.000	-35.84	≤-21.20	PASS
		Low	Hop_2402	Peak	2310.000	-37.47	≤-21.20	PASS
				Peak	2344.435	-32.82	≤-21.20	PASS
				Peak	2390.000	-37.58	≤-21.20	PASS
		High	Hop_2480	Peak	2483.500	-36.97	≤-21.20	PASS
				Peak	2483.913	-33.56	≤-21.20	PASS
				Peak	2500.000	-35.78	≤-21.20	PASS
3DH5	AntA	Low	2402	AV	2310.000	-46.27	≤-41.20	PASS
				AV	2340.478	-43.67	≤-41.20	PASS
				AV	2390.000	-46.39	≤-41.20	PASS
				Peak	2310.000	-36.38	≤-21.20	PASS

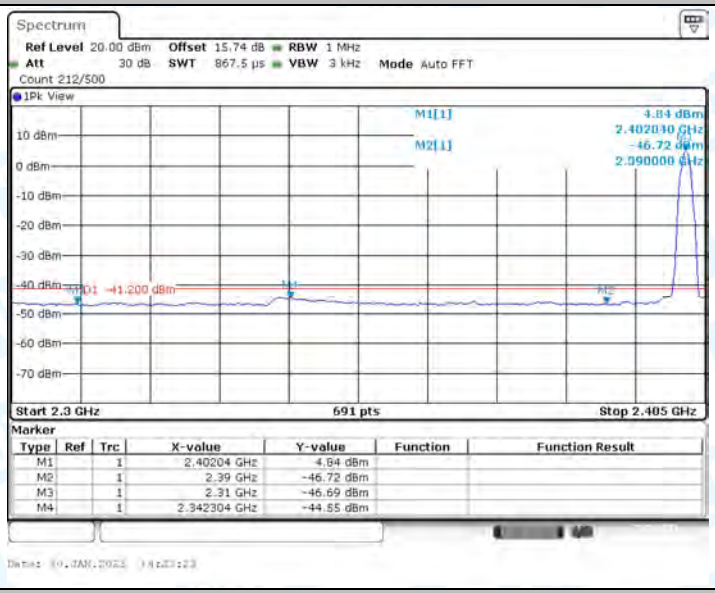
				Peak	2344.739	-34.55	≤-21.20	PASS
				Peak	2390.000	-37.17	≤-21.20	PASS
		High	2480	AV	2483.500	-45.5	≤-41.20	PASS
				AV	2483.797	-44.45	≤-41.20	PASS
				AV	2500.000	-45.51	≤-41.20	PASS
				Peak	2483.500	-37.95	≤-21.20	PASS
				Peak	2485.652	-34.91	≤-21.20	PASS
				Peak	2500.000	-35.56	≤-21.20	PASS
		Low	Hop_2402	Peak	2310.000	-36.95	≤-21.20	PASS
				Peak	2342.000	-34.27	≤-21.20	PASS
				Peak	2390.000	-36.53	≤-21.20	PASS
		High	Hop_2480	Peak	2483.500	-36.8	≤-21.20	PASS
				Peak	2483.913	-34.49	≤-21.20	PASS
				Peak	2500.000	-36.77	≤-21.20	PASS

Note：

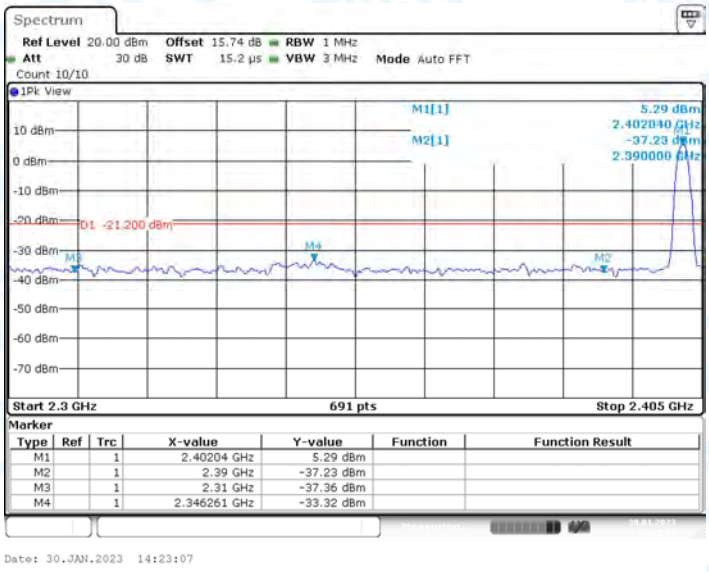
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

10.2.Test Graphs

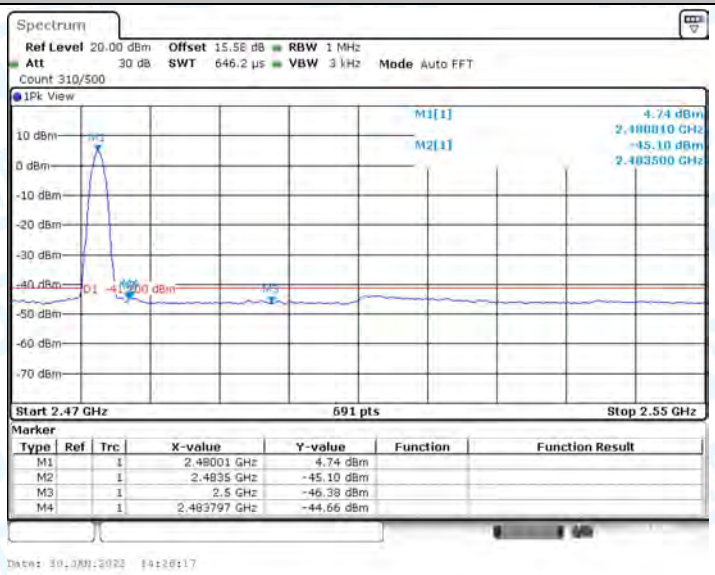
DH5_AntA_Low_2402_AV



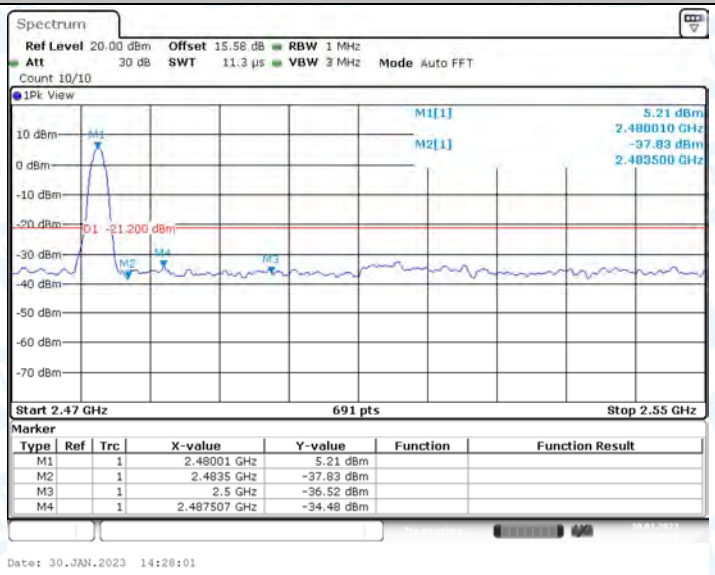
DH5_AntA_Low_2402_Peak



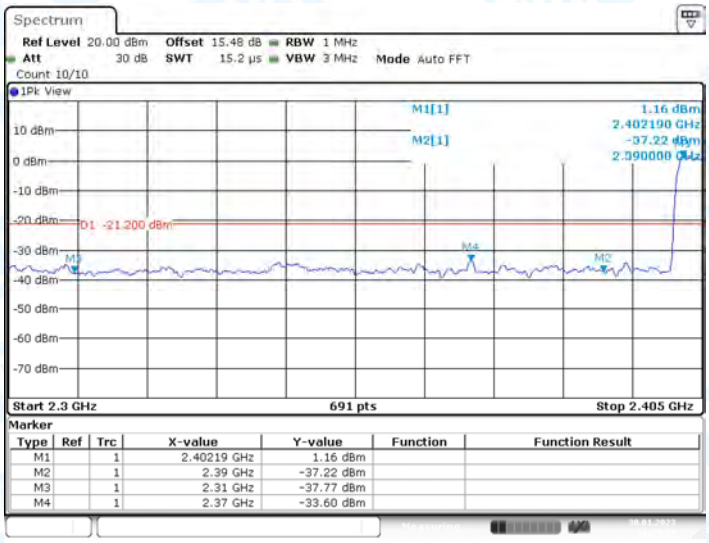
DH5_AntA_High_2480_AV



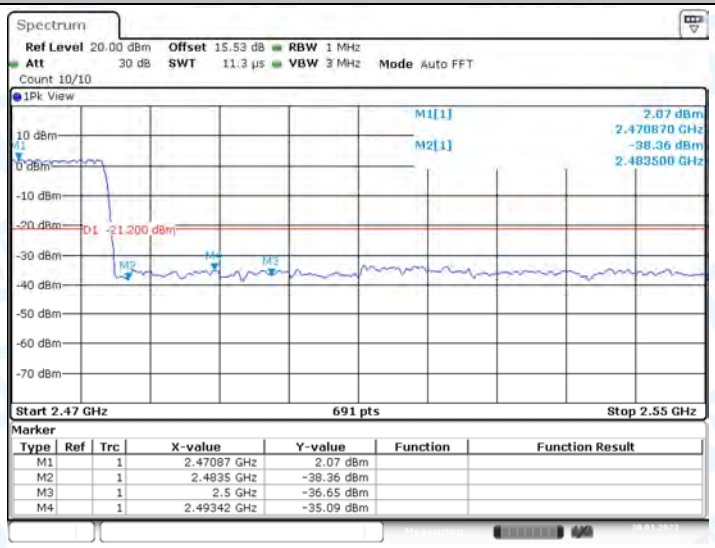
DH5_AntA_High_2480_Peak



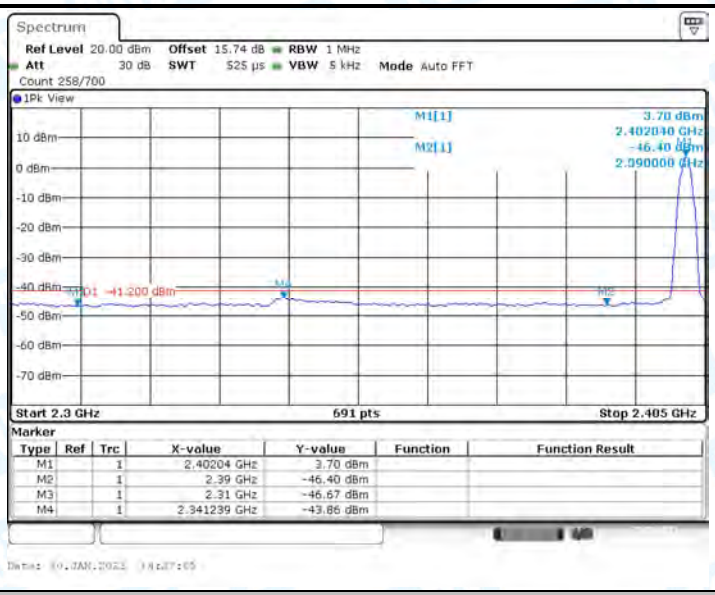
DH5_AntA_Low_Hop_2402_Peak



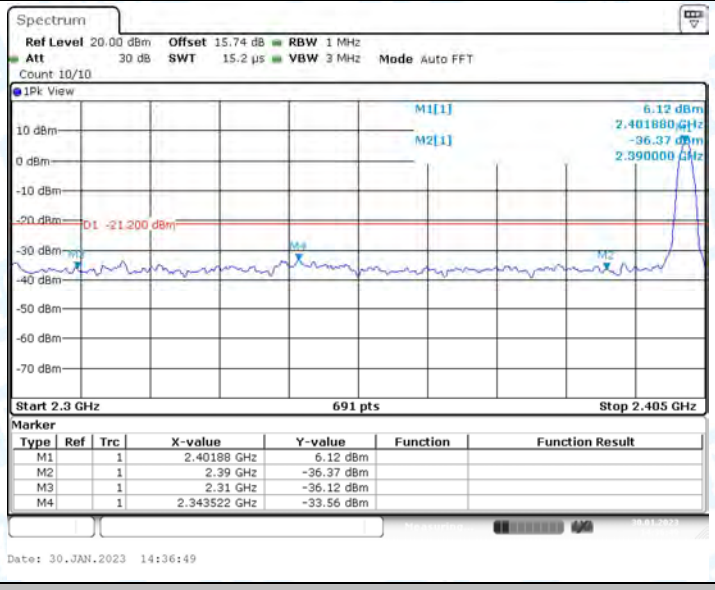
DH5_AntA_High_Hop_2480_Peak



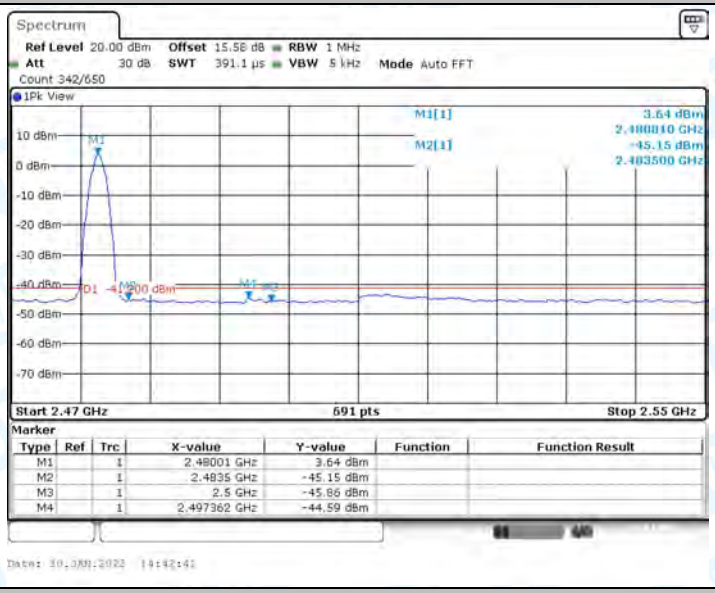
2DH5_AntA_Low_2402_AV



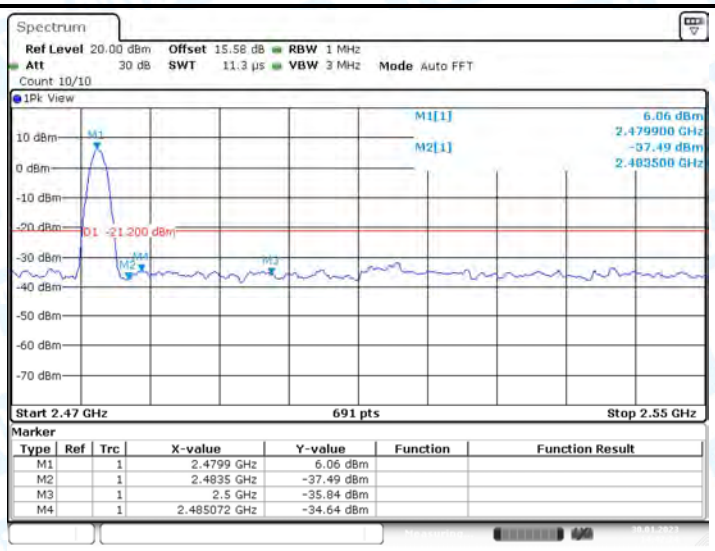
2DH5_AntA_Low_2402_Peak



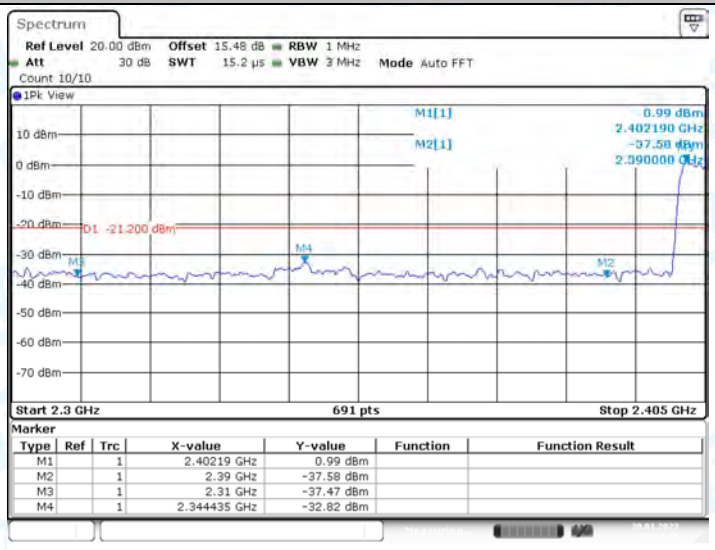
2DH5_AntA_High_2480_AV



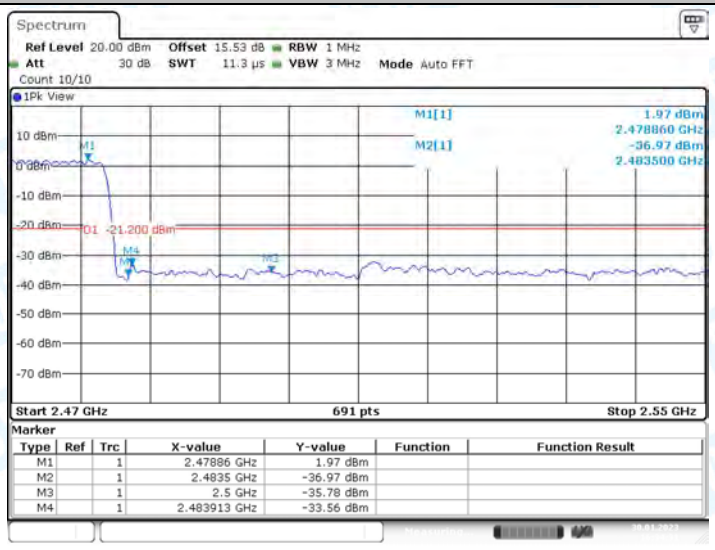
2DH5_AntA_High_2480_Peak



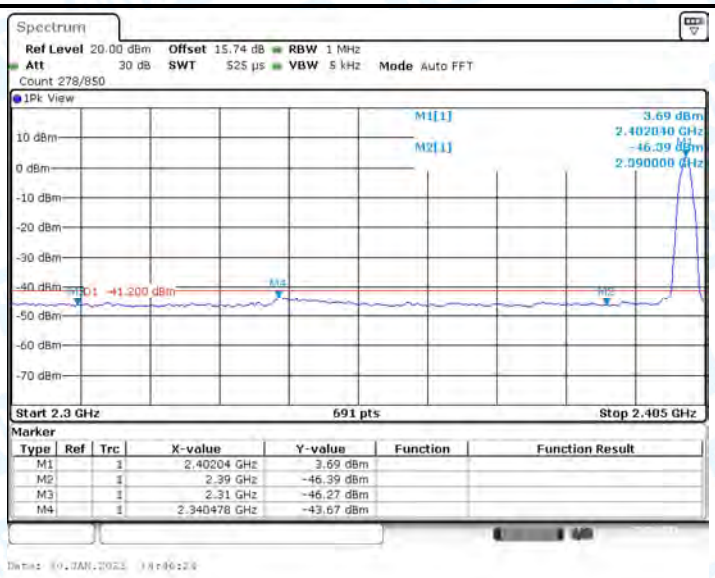
2DH5_AntA_Low_Hop_2402_Peak



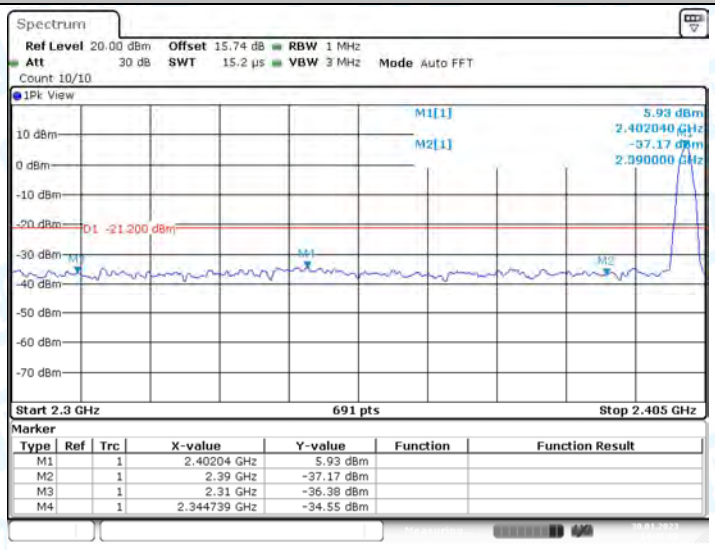
2DH5_AntA_High_Hop_2480_Peak



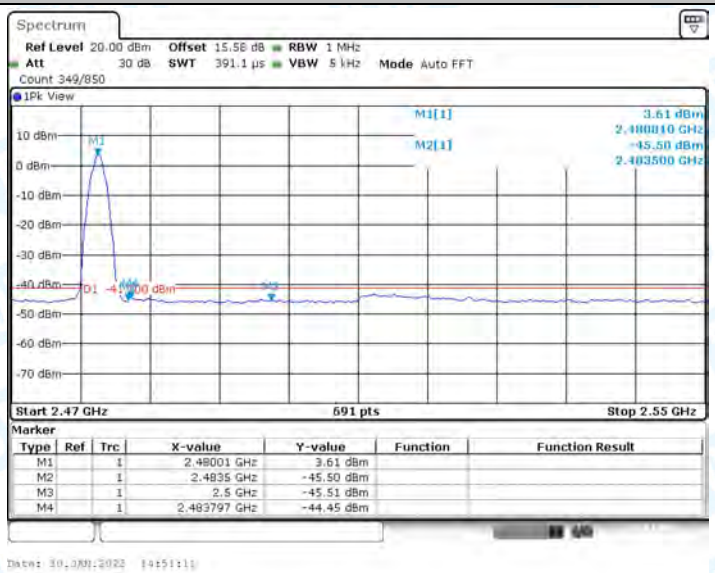
3DH5_AntA_Low_2402_AV



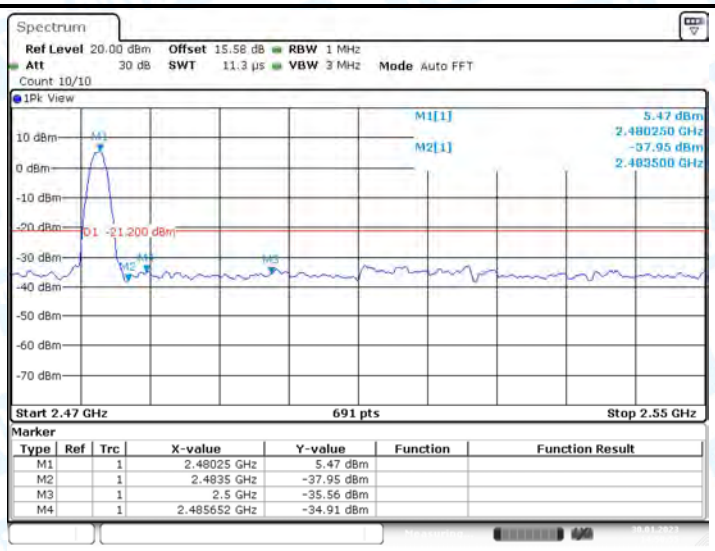
3DH5_AntA_Low_2402_Peak



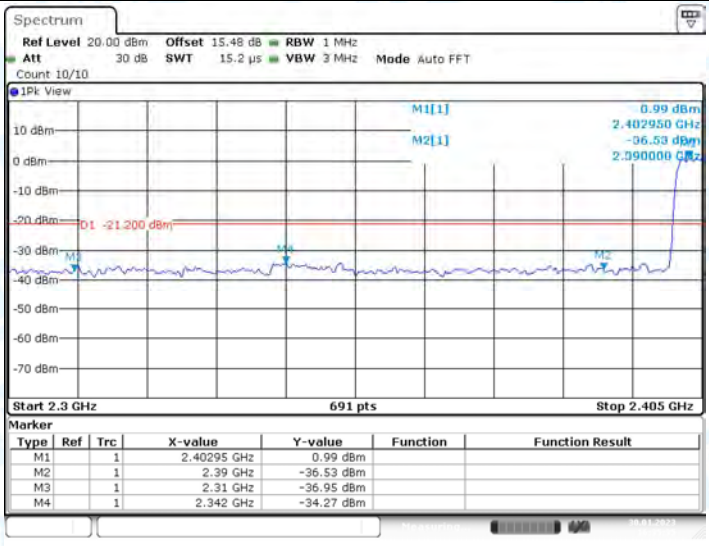
3DH5_AntA_High_2480_AV



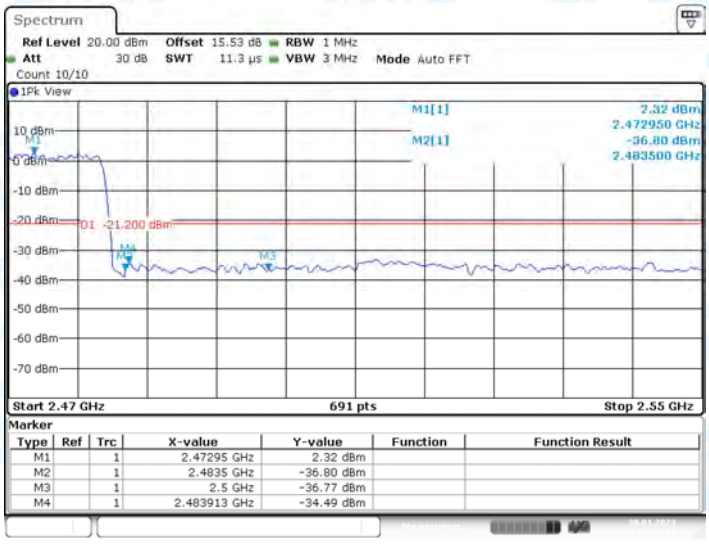
3DH5_AntA_High_2480_Peak



3DH5_AntA_Low_Hop_2402_Peak



3DH5_AntA_High_Hop_2480_Peak



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