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

General Description of EUT	
Product Name:	Wireless Speaker
Test Model:	M5
Sample ID:	RW-C-202302-0022-9-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 3.7V
Test Engineer:	Huang jian ping
Note: For a more detailed features description, please refer to the report TBR-C-202302-0022-9	

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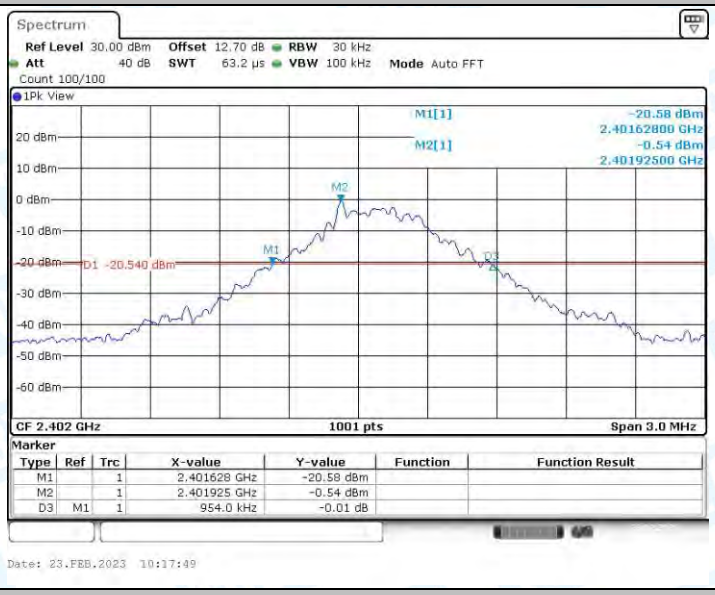
1. 20dB Emission Bandwidth

1.1.Test Result

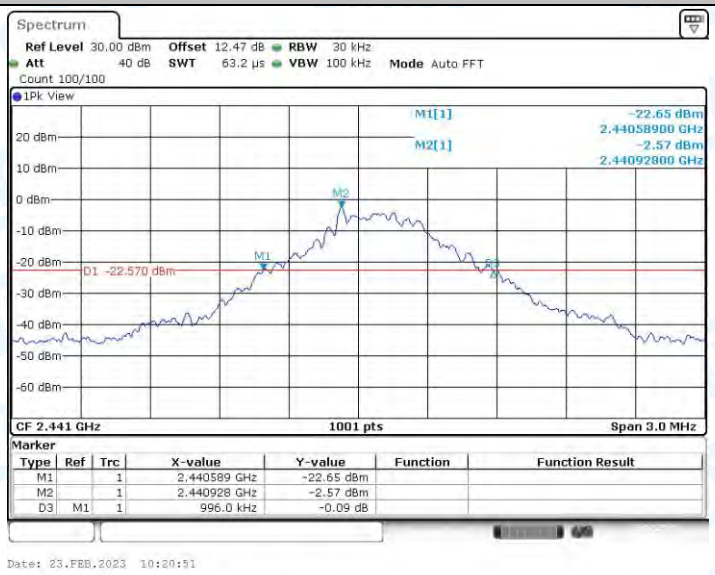
TestMode	Antenna	Channel	20db EBW[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.95	---	---
		2441	1.00	---	---
		2480	0.99	---	---
2DH5	Ant1	2402	1.29	---	---
		2441	1.28	---	---
		2480	1.29	---	---
3DH5	Ant1	2402	1.26	---	---
		2441	1.26	---	---
		2480	1.27	---	---

1.2.Test Graphs

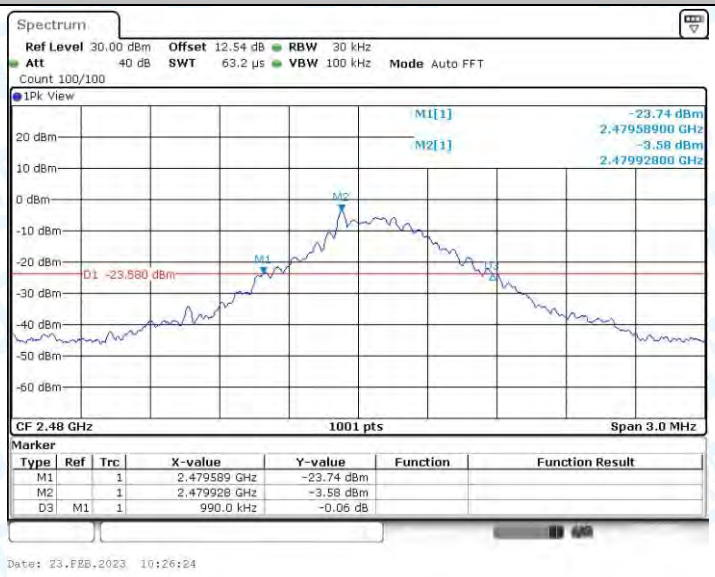
DH5_Ant1_2402



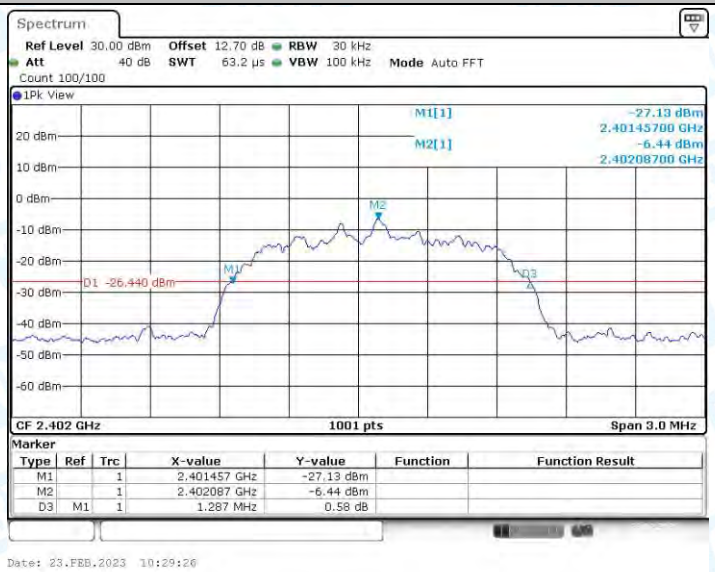
DH5_Ant1_2441



DH5_Ant1_2480



2DH5_Ant1_2402



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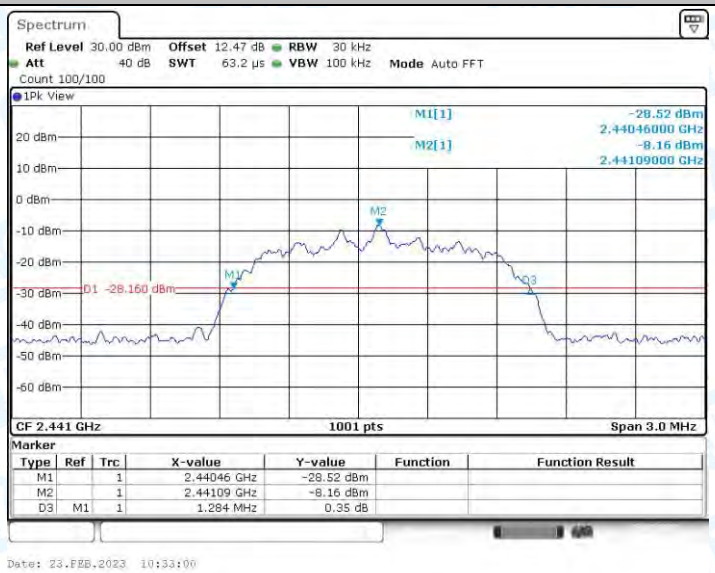
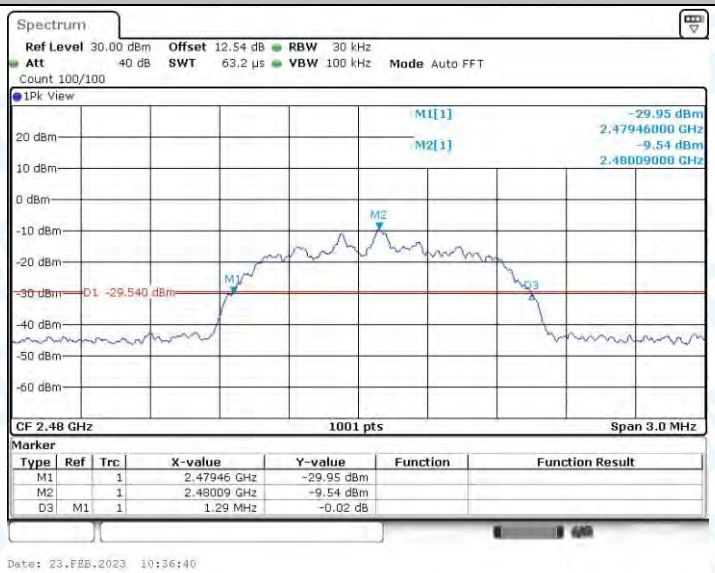


2DH5_Ant1_2480



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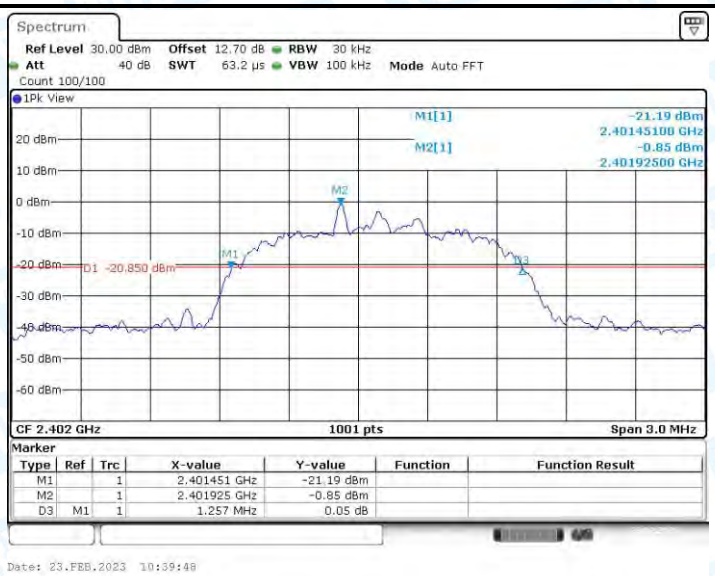

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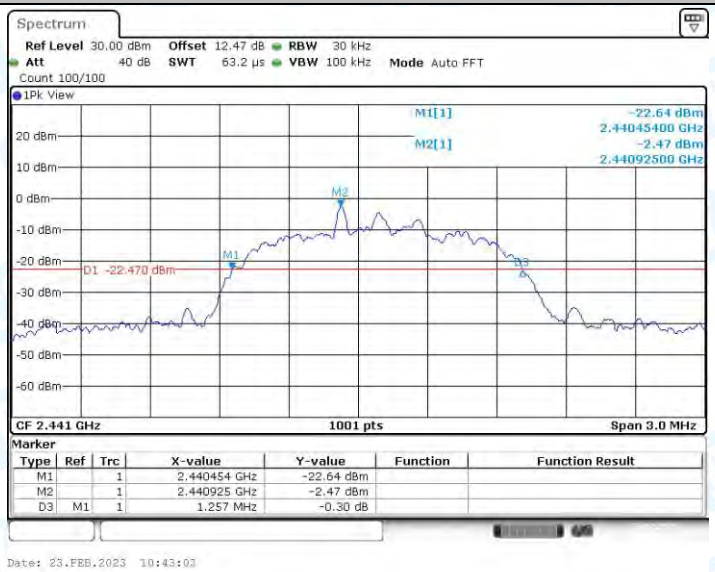


3DH5_Ant1_2480

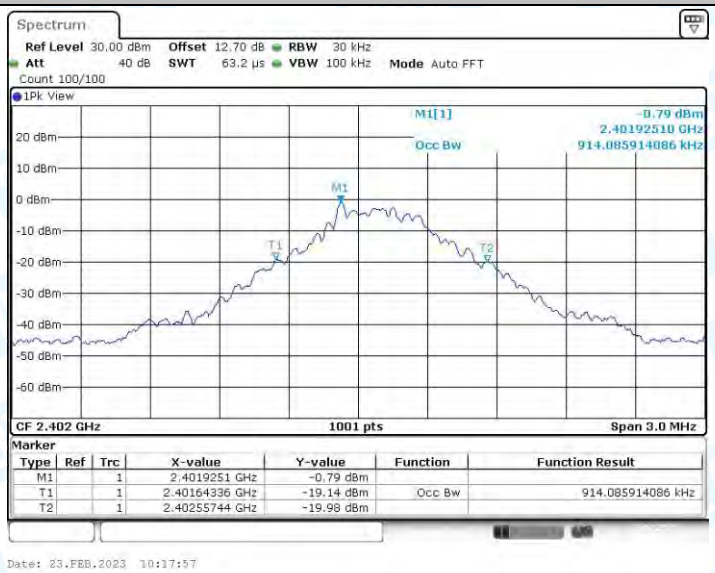
2. Occupied Channel Bandwidth

2.1.Test Result

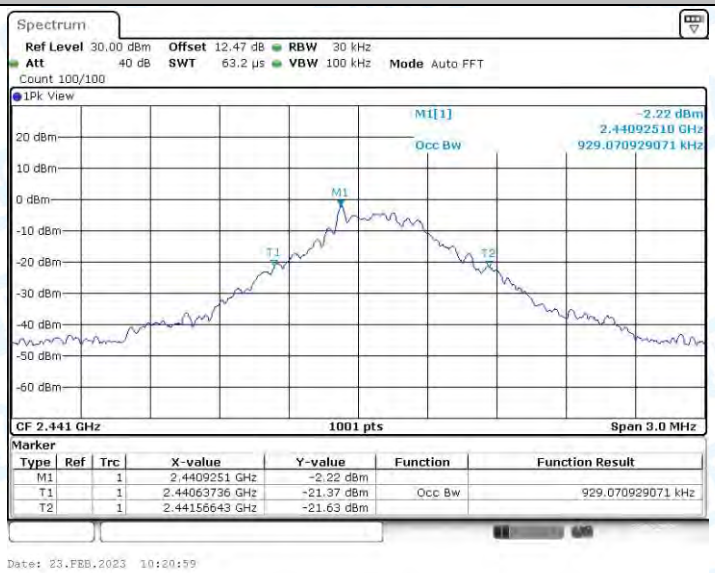
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.914	2401.6434	2402.5574	---	---
		2441	0.929	2440.6374	2441.5664	---	---
		2480	0.959	2479.6134	2480.5724	---	---
2DH5	Ant1	2402	1.181	2401.4995	2402.6803	---	---
		2441	1.190	2440.4965	2441.6863	---	---
		2480	1.193	2479.4965	2480.6893	---	---
3DH5	Ant1	2402	1.181	2401.5025	2402.6833	---	---
		2441	1.178	2440.5025	2441.6803	---	---
		2480	1.190	2479.4965	2480.6863	---	---

2.2.Test Graphs

DH5_Ant1_2402

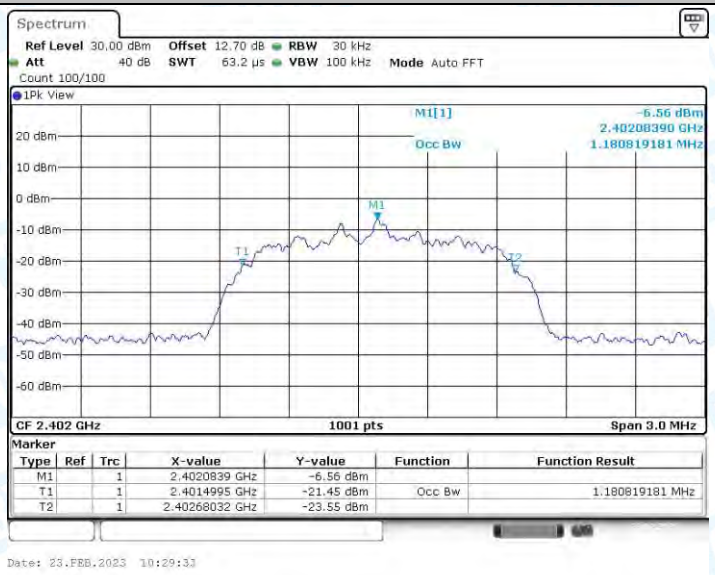


DH5_Ant1_2441



DH5_Ant1_2480

2DH5_Ant1_2402



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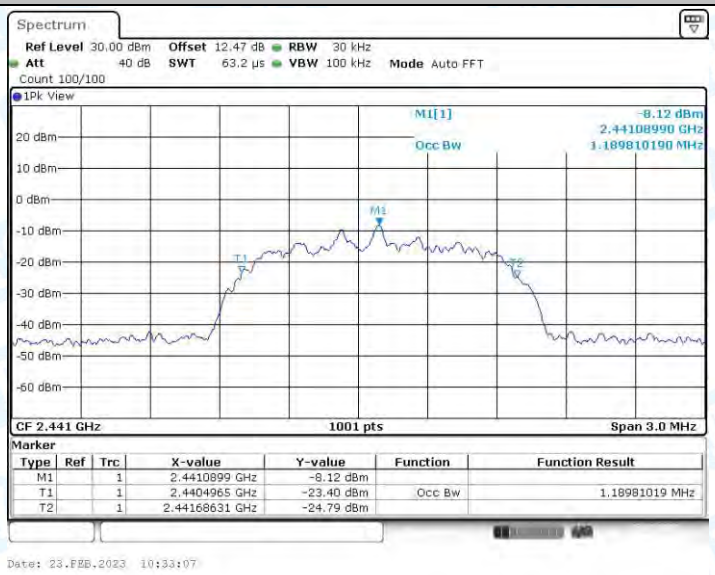

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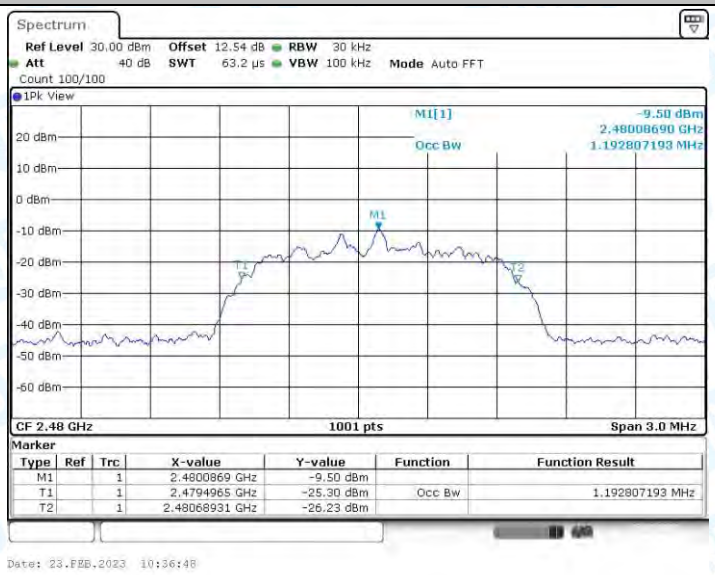
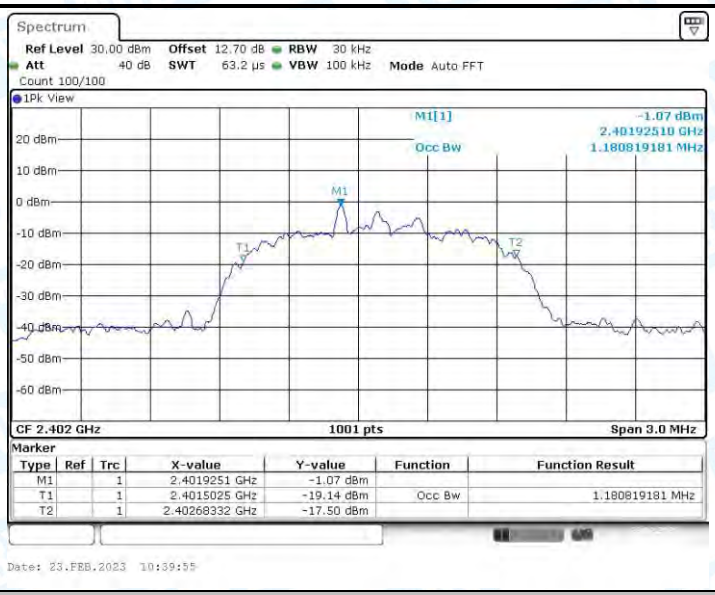


3DH5_Ant1_2402



3DH5_Ant1_2441

3DH5_Ant1_2480

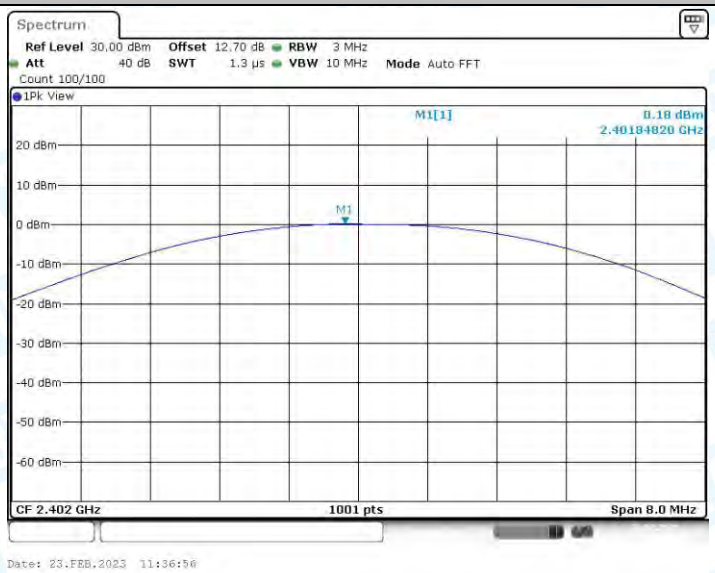
3. Maximum conducted output power

3.1.Test Result

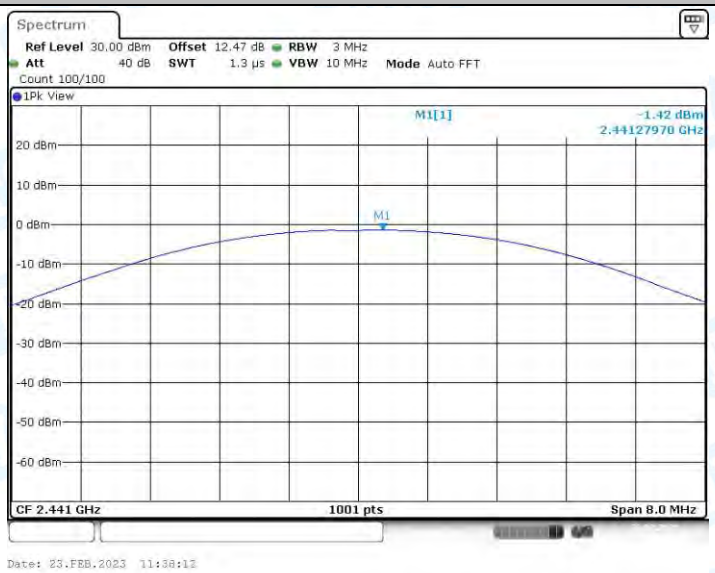
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	0.18	≤21	PASS
		2441	-1.42	≤21	PASS
		2480	-3.11	≤21	PASS
2DH5	Ant1	2402	0.15	≤21	PASS
		2441	-1.35	≤21	PASS
		2480	-2.75	≤21	PASS
3DH5	Ant1	2402	0.41	≤21	PASS
		2441	-0.95	≤21	PASS
		2480	-2.90	≤21	PASS

3.2.Test Graphs

DH5_Ant1_2402



DH5_Ant1_2441



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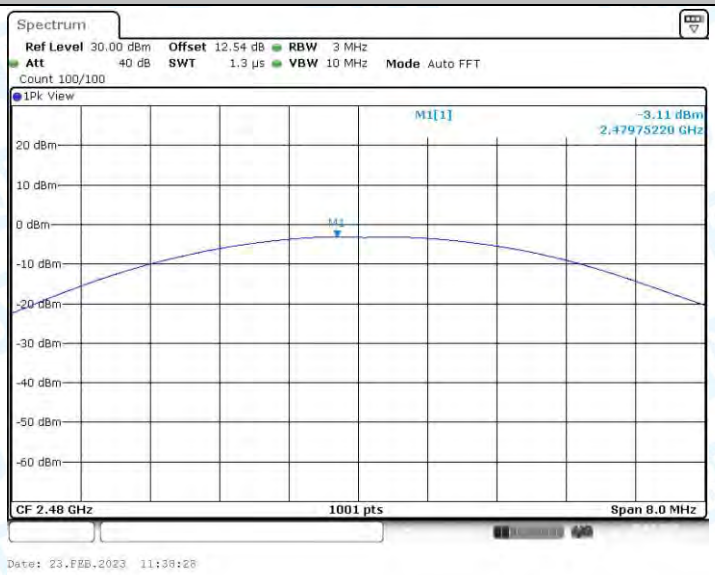

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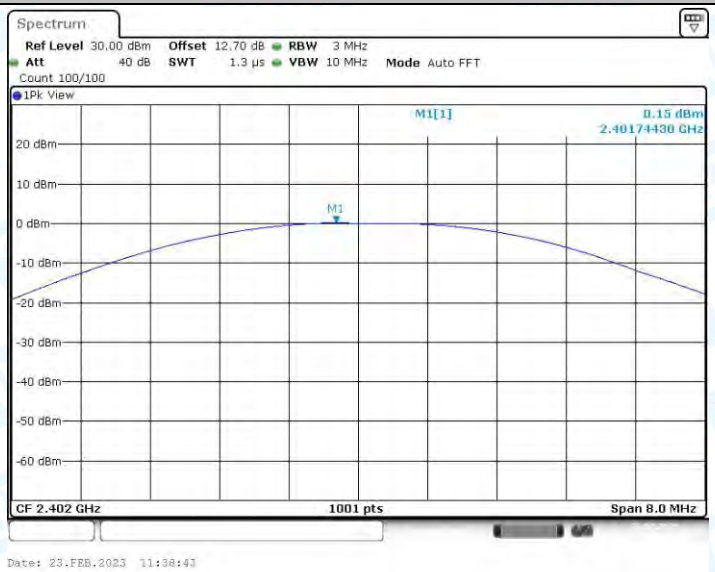

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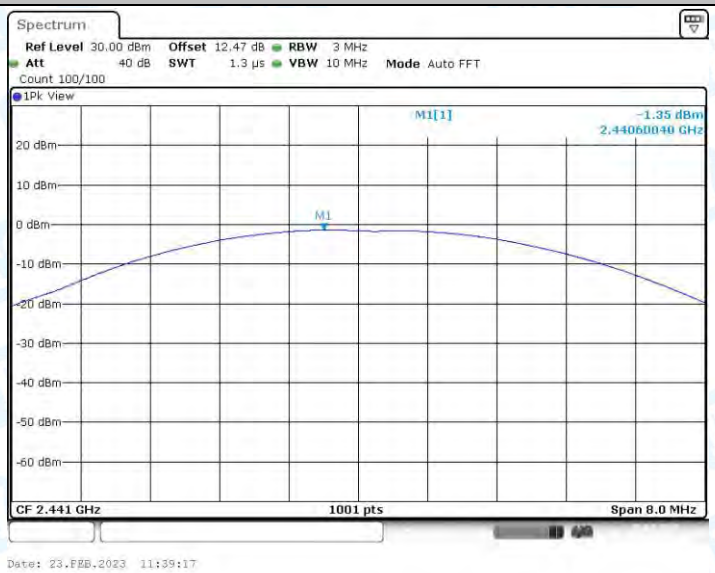
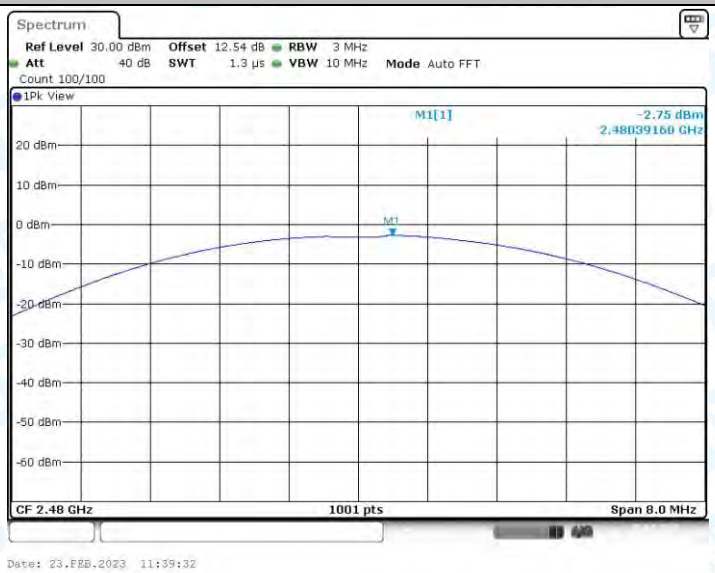


2DH5_Ant1_2480



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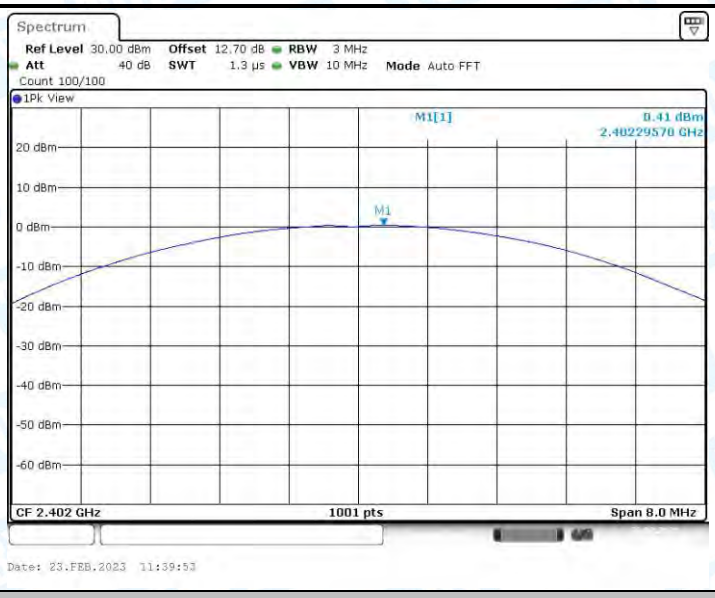
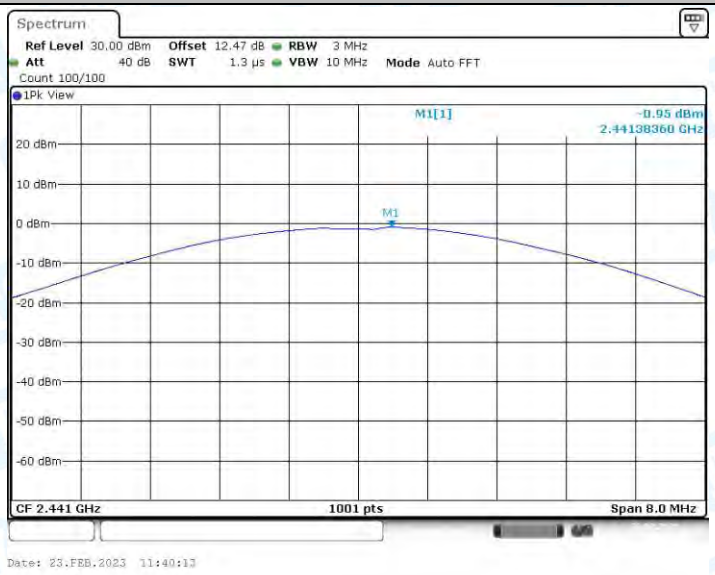


3DH5_Ant1_2441



3DH5_Ant1_2480

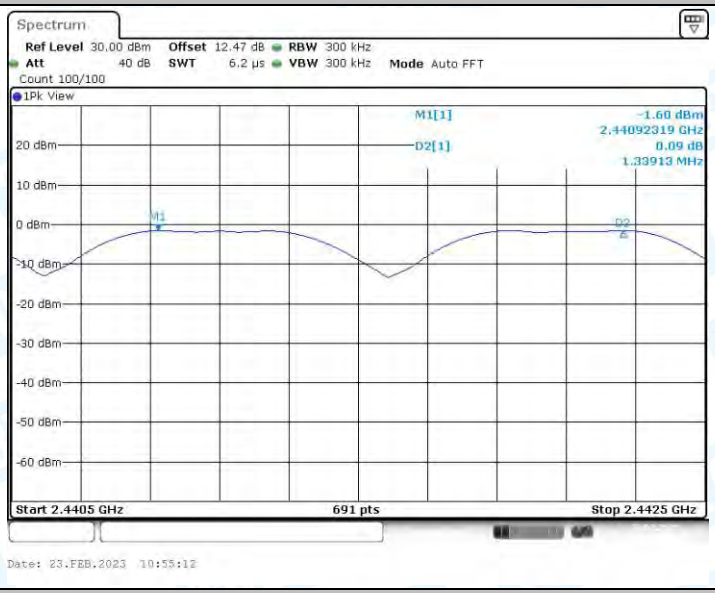
4. Carrier frequency separation

4.1.Test Result

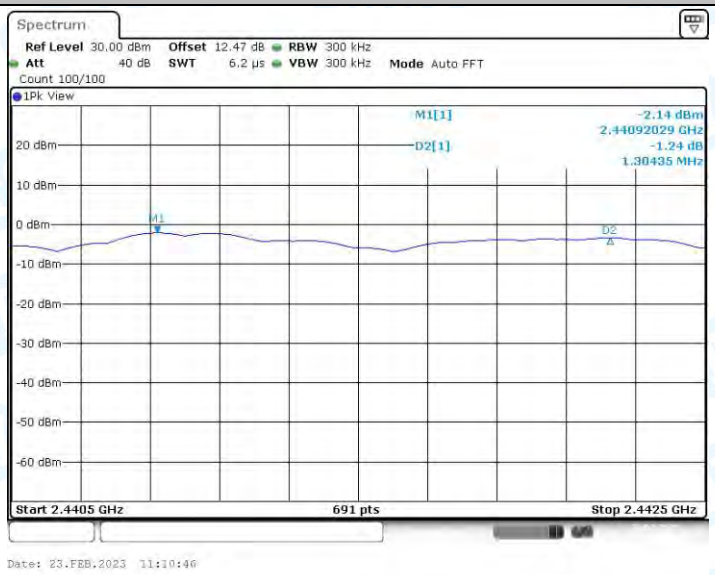
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.339	0.667	PASS
2DH5	Ant1	Hop	1.304	0.860	PASS
3DH5	Ant1	Hop	1.006	0.847	PASS

4.2.Test Graphs

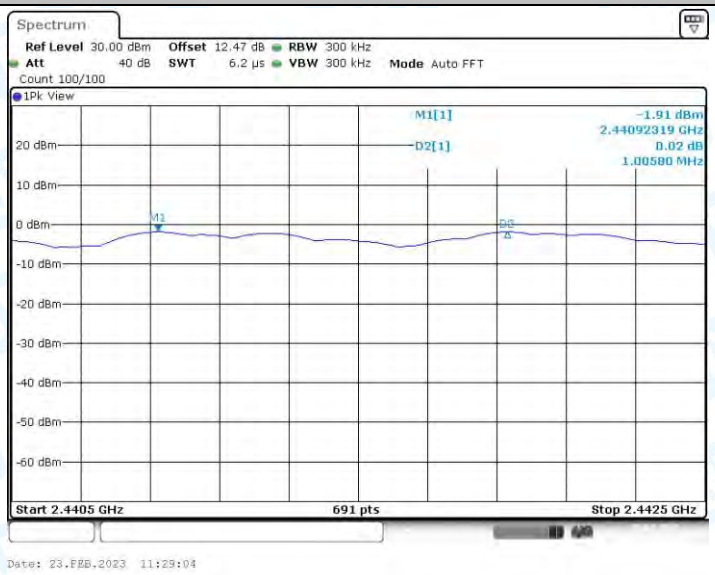
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



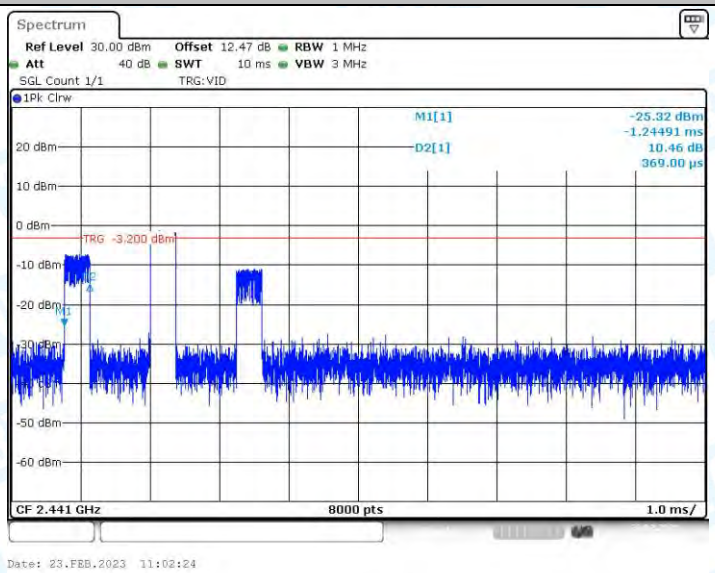
5. Time of occupancy

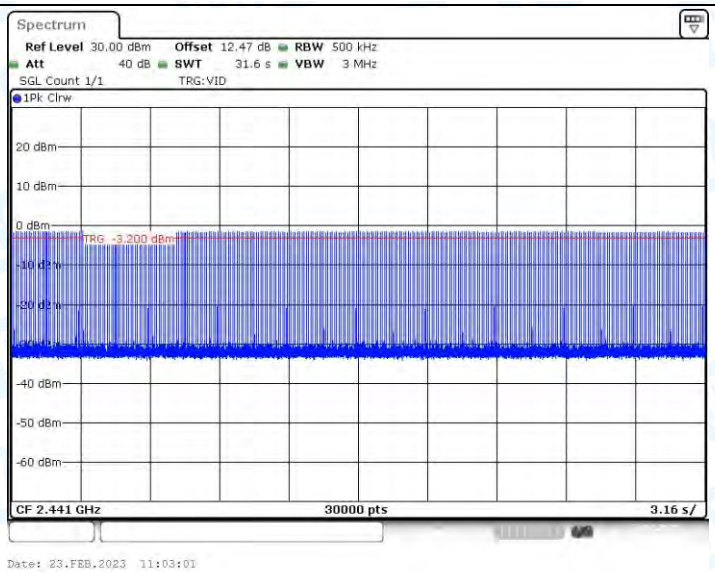
5.1.Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.369	320	0.118	≤0.4	PASS
DH3	Ant1	Hop	1.610	160	0.258	≤0.4	PASS
DH5	Ant1	Hop	2.850	107	0.305	≤0.4	PASS
2DH1	Ant1	Hop	0.376	320	0.120	≤0.4	PASS
2DH3	Ant1	Hop	1.621	160	0.259	≤0.4	PASS
2DH5	Ant1	Hop	2.863	107	0.306	≤0.4	PASS
3DH1	Ant1	Hop	0.376	320	0.120	≤0.4	PASS
3DH3	Ant1	Hop	1.619	160	0.259	≤0.4	PASS
3DH5	Ant1	Hop	2.863	107	0.306	≤0.4	PASS

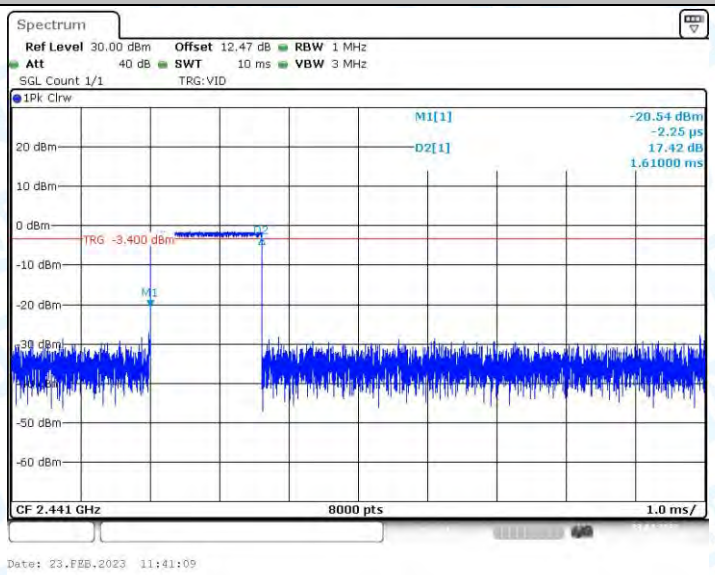
5.2.Test Graphs

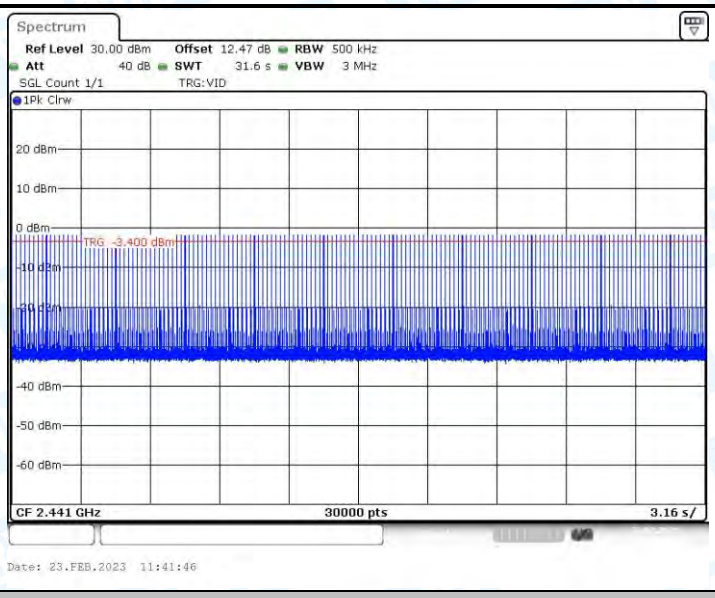
DH1_Ant1_Hop



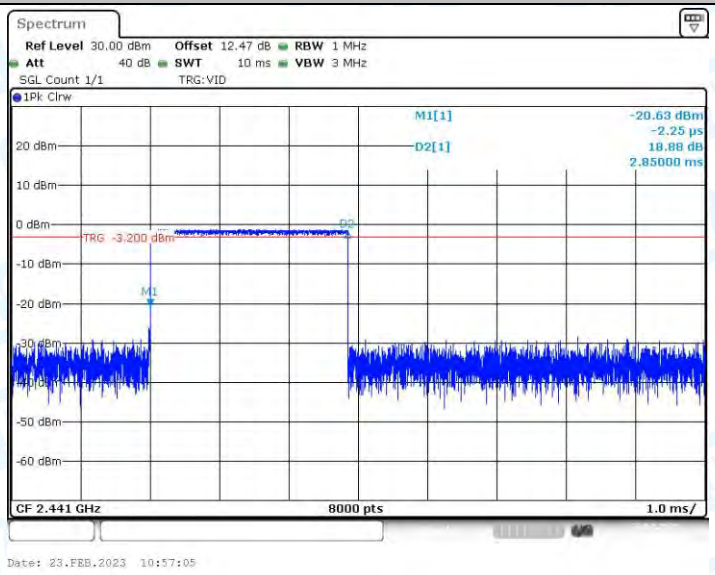


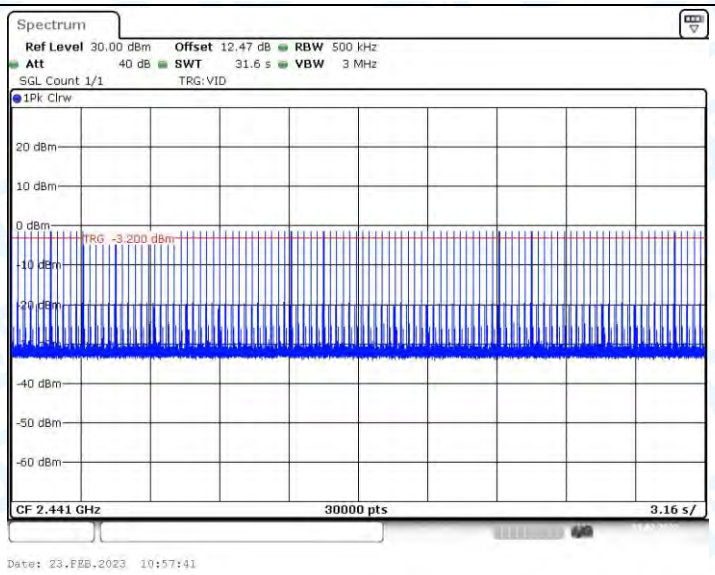
DH3_Ant1_Hop



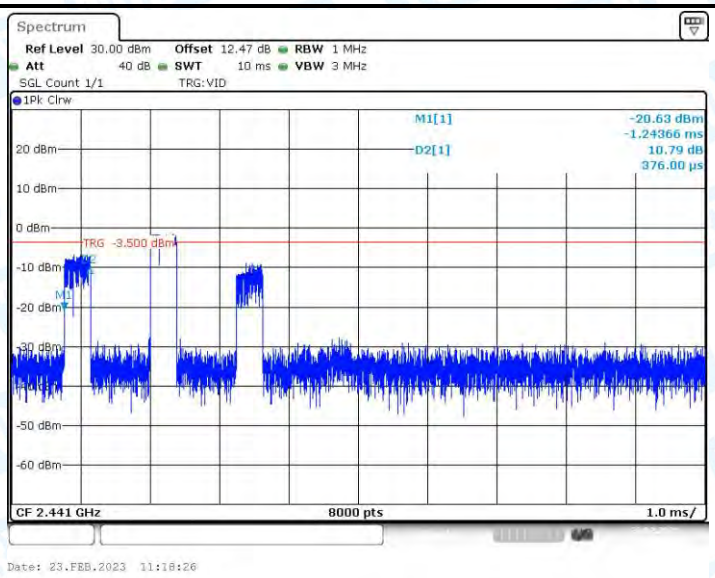


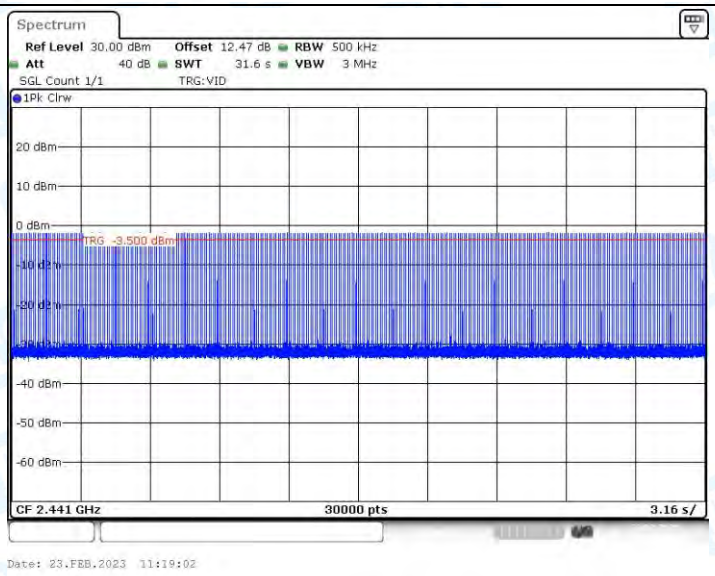
DH5_Ant1_Hop



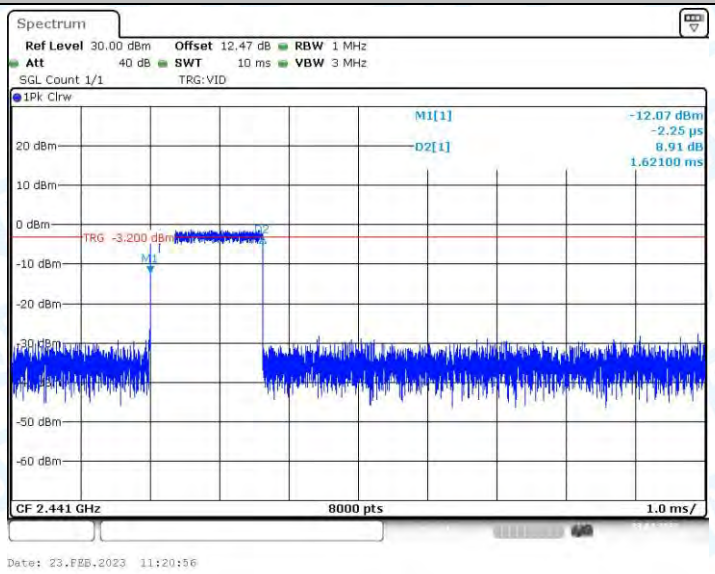


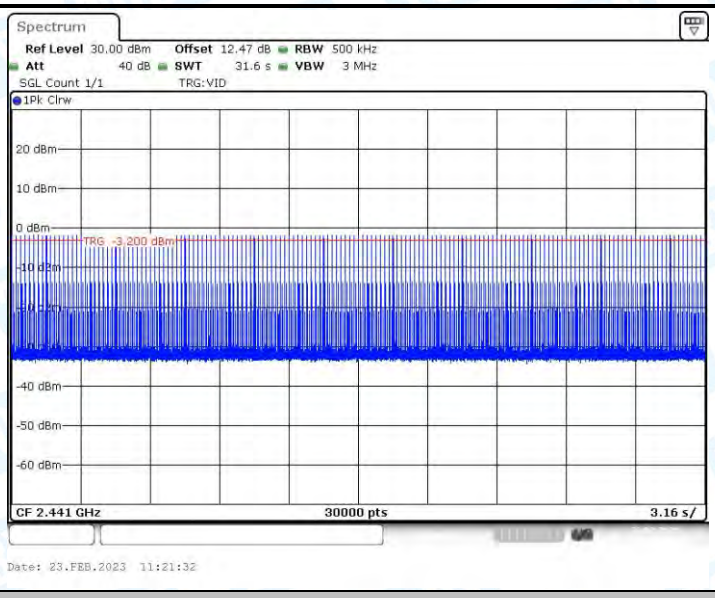
2DH1_Ant1_Hop



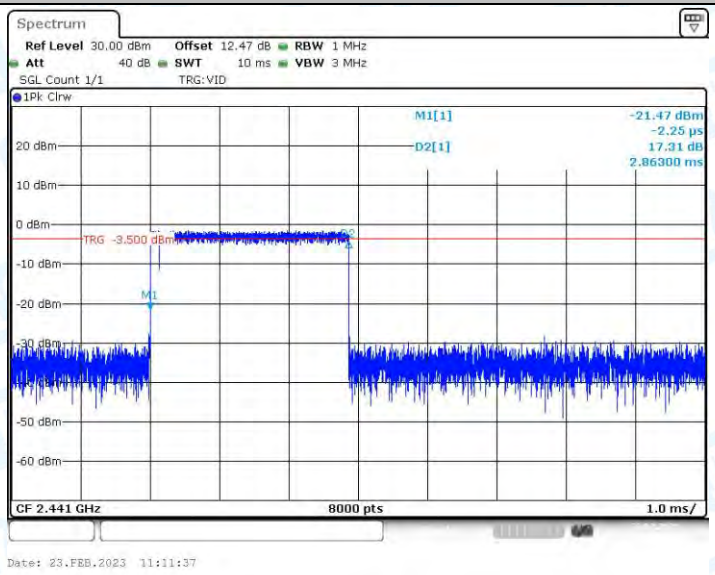


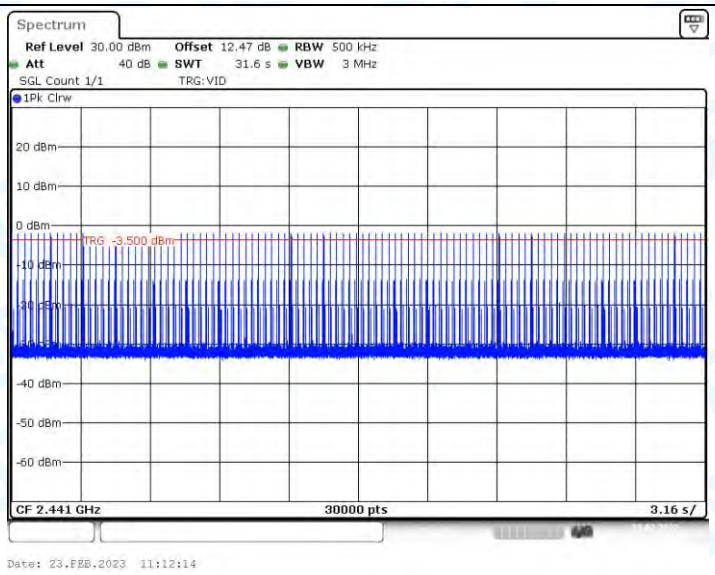
2DH3_Ant1_Hop



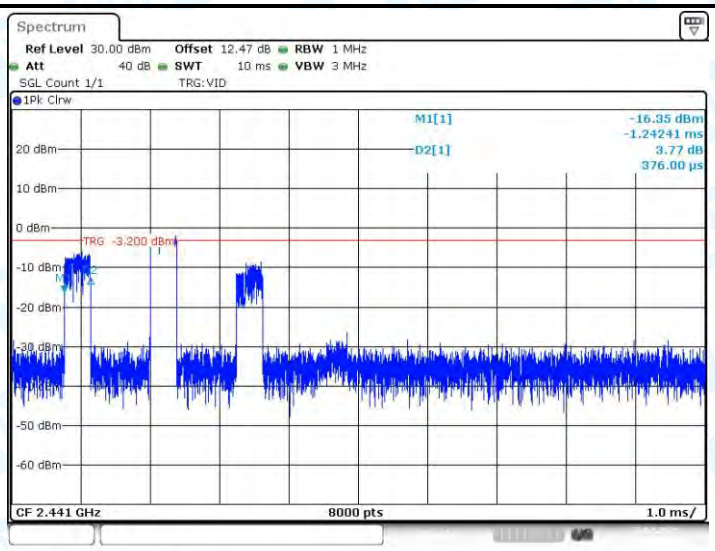


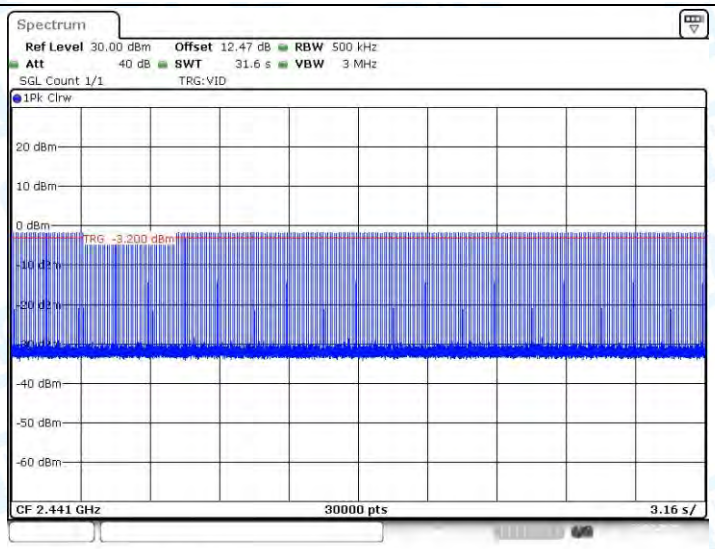
2DH5_Ant1_Hop



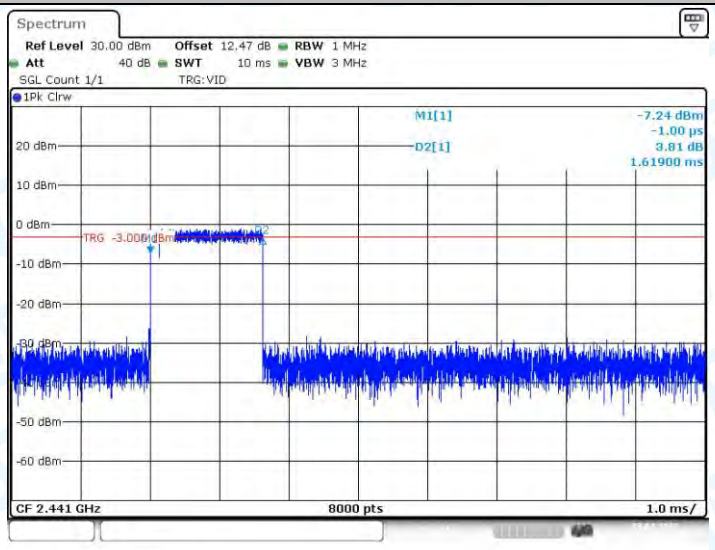


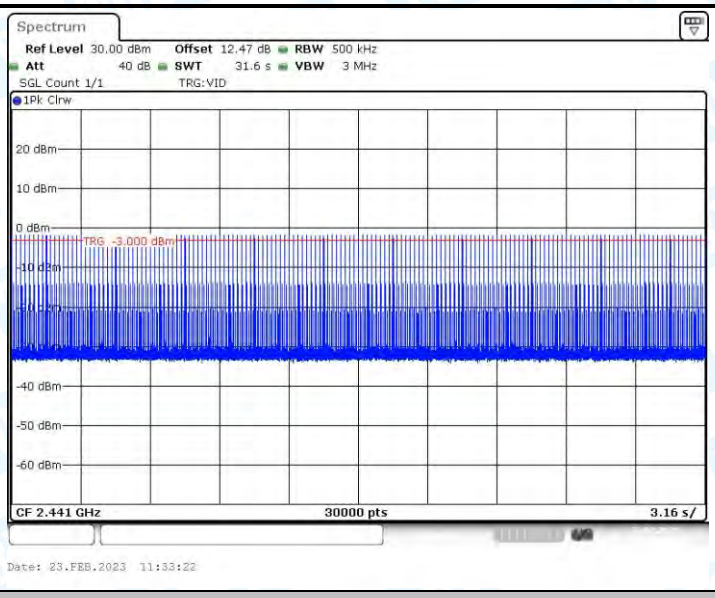
3DH1_Ant1_Hop



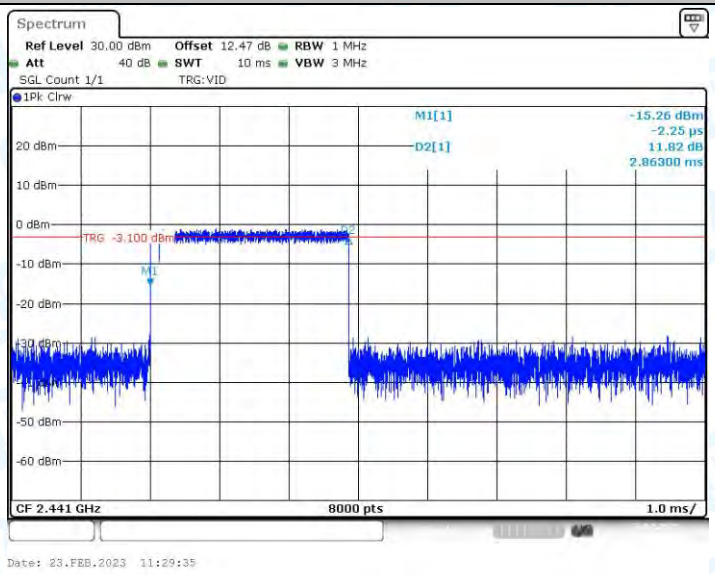


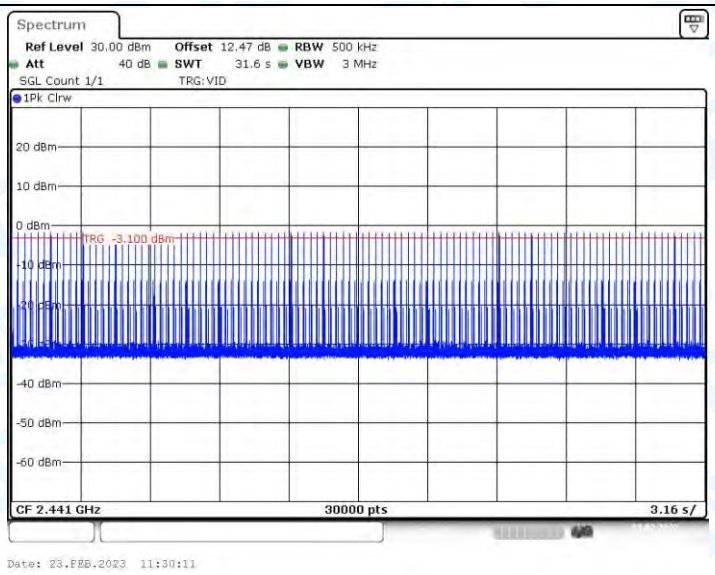
3DH3_Ant1_Hop





3DH5_Ant1_Hop





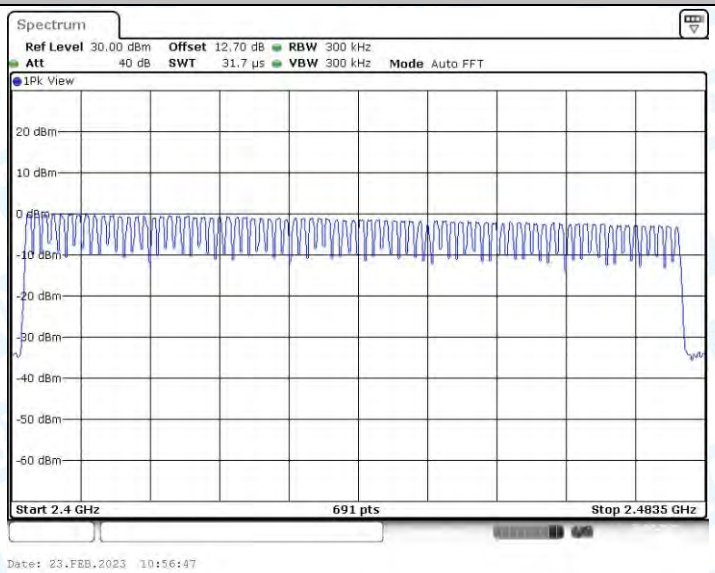
6. Number of hopping channels

6.1.Test Result

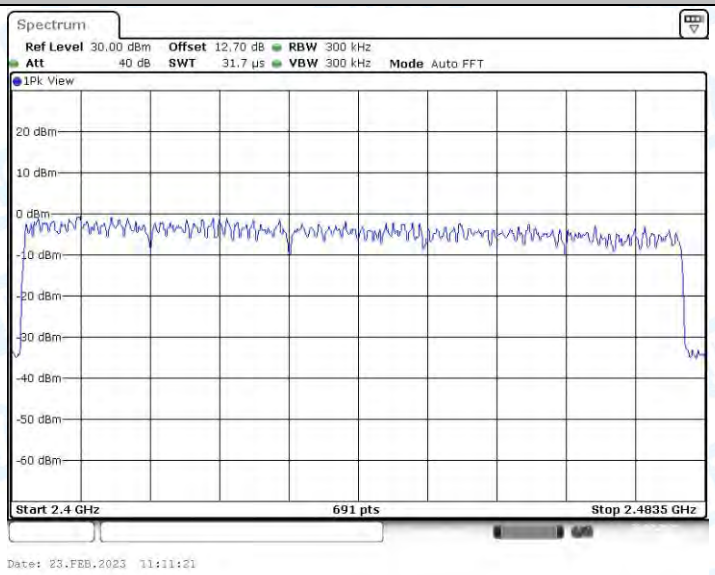
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

6.2.Test Graphs

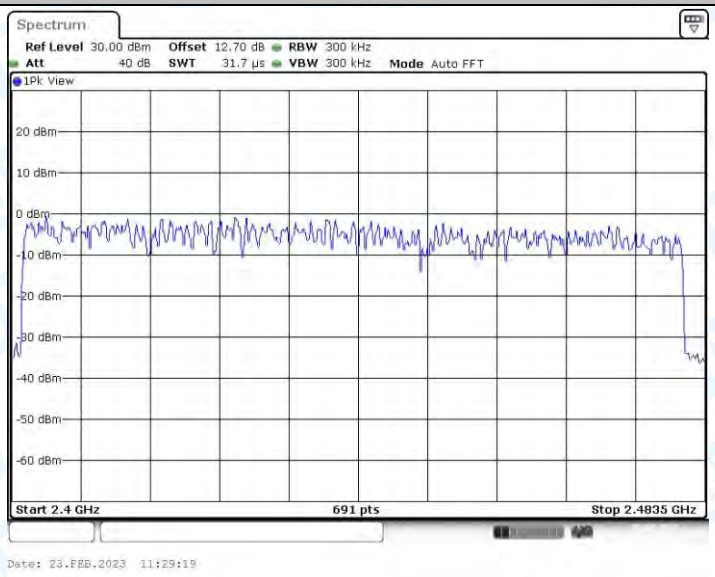
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



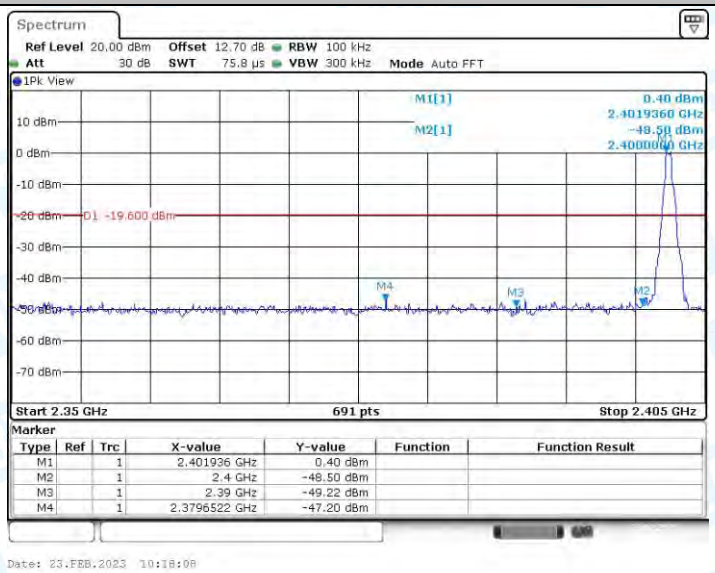
7.Band edge measurements

7.1.Test Result

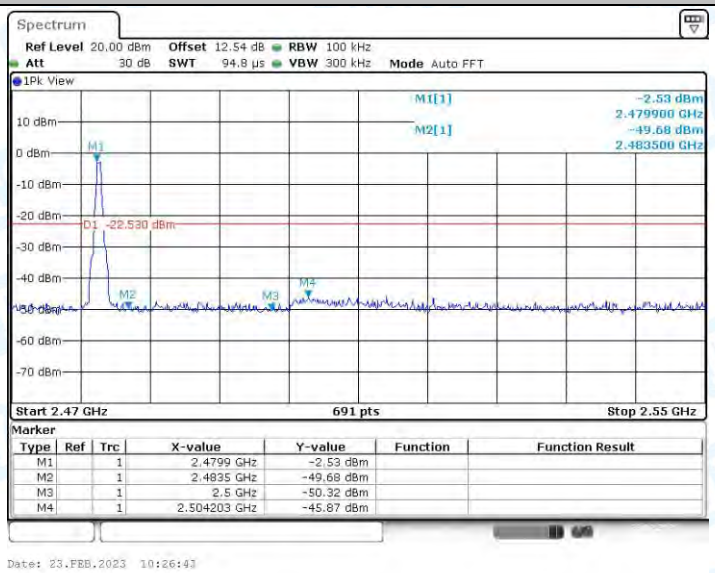
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	0.40	-47.2	≤-19.6	PASS
		High	2480	-2.53	-45.87	≤-22.53	PASS
		Low	Hop_2402	-0.62	-47.27	≤-20.62	PASS
		High	Hop_2480	-3.83	-44.67	≤-23.83	PASS
2DH5	Ant1	Low	2402	-5.27	-46.67	≤-25.27	PASS
		High	2480	-7.54	-45.26	≤-27.54	PASS
		Low	Hop_2402	-2.97	-47.52	≤-22.97	PASS
		High	Hop_2480	-7.89	-45.67	≤-27.89	PASS
3DH5	Ant1	Low	2402	0.26	-47.46	≤-19.74	PASS
		High	2480	-3.06	-44.98	≤-23.06	PASS
		Low	Hop_2402	-3.35	-46.79	≤-23.35	PASS
		High	Hop_2480	-3.30	-45.14	≤-23.3	PASS

7.2.Test Graphs

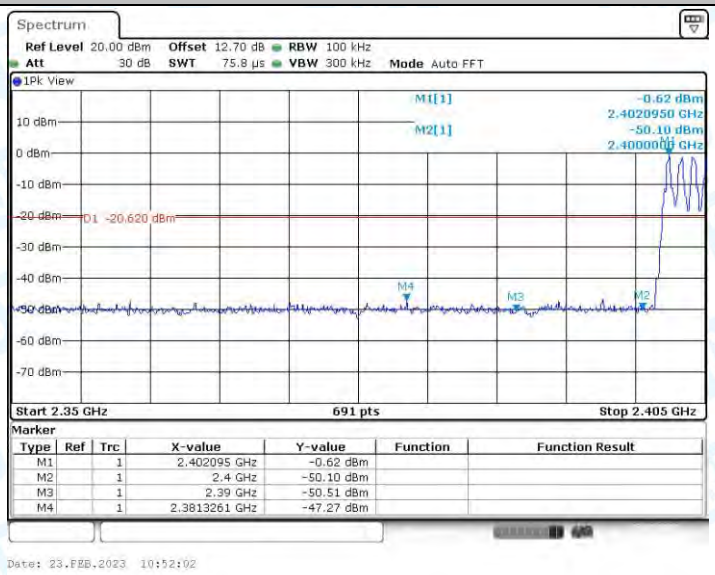
DH5_Ant1_Low_2402



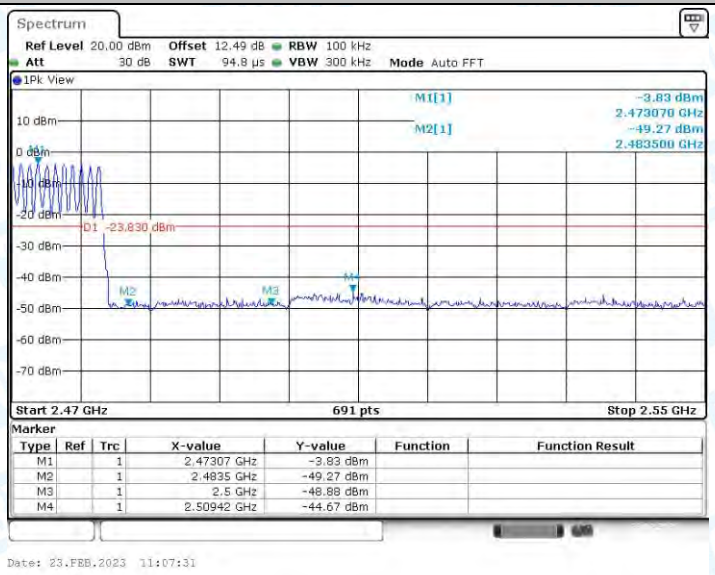
DH5_Ant1_High_2480



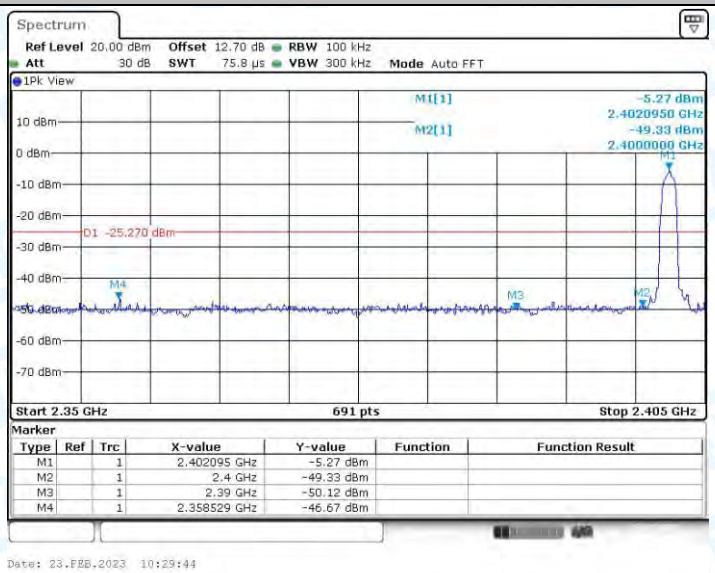
DH5_Ant1_Low_Hop_2402



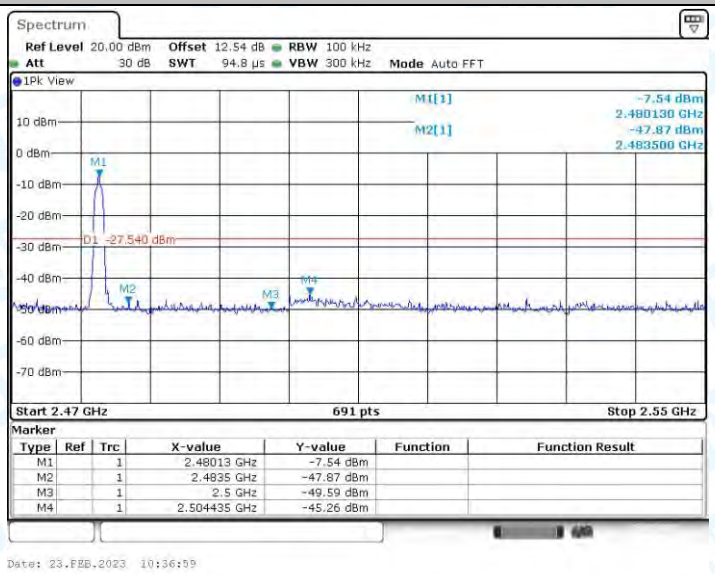
DH5_Ant1_High_Hop_2480



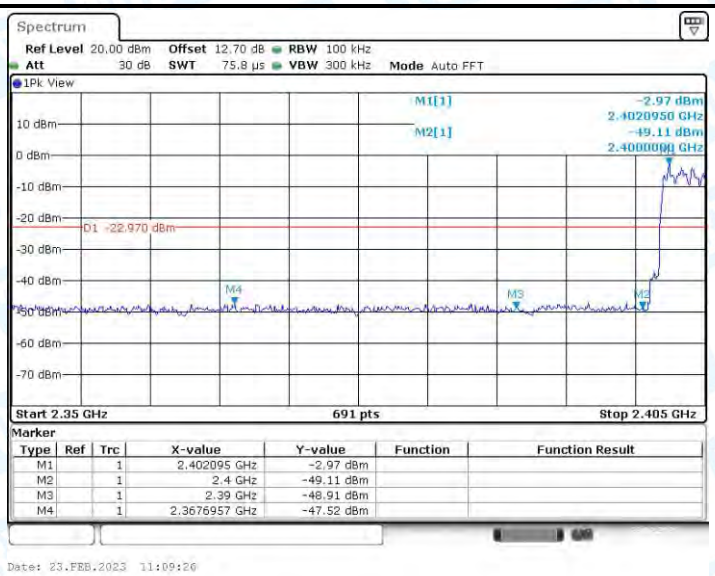
2DH5_Ant1_Low_2402



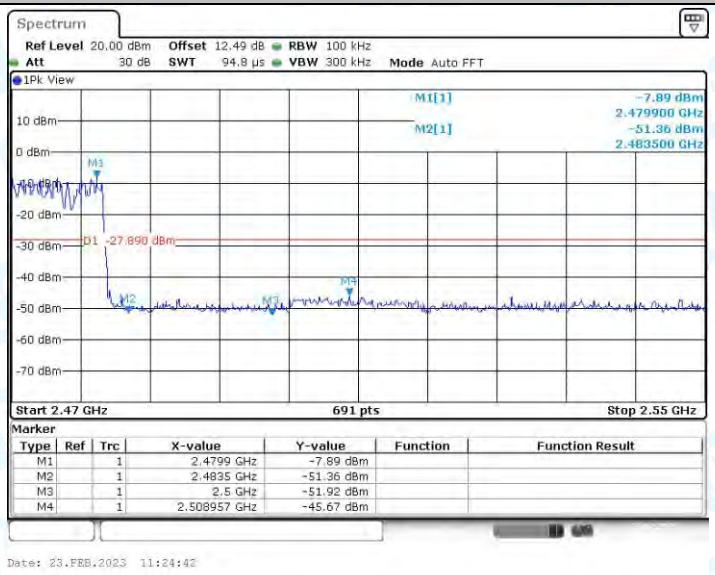
2DH5_Ant1_High_2480



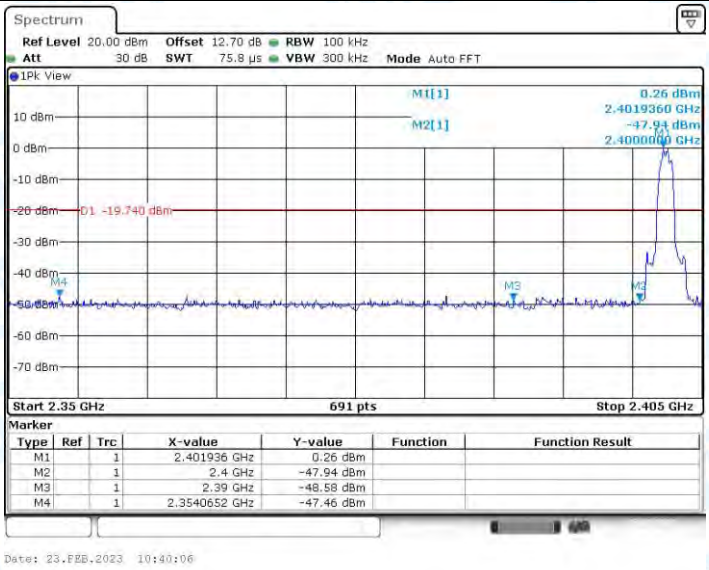
2DH5_Ant1_Low_Hop_2402



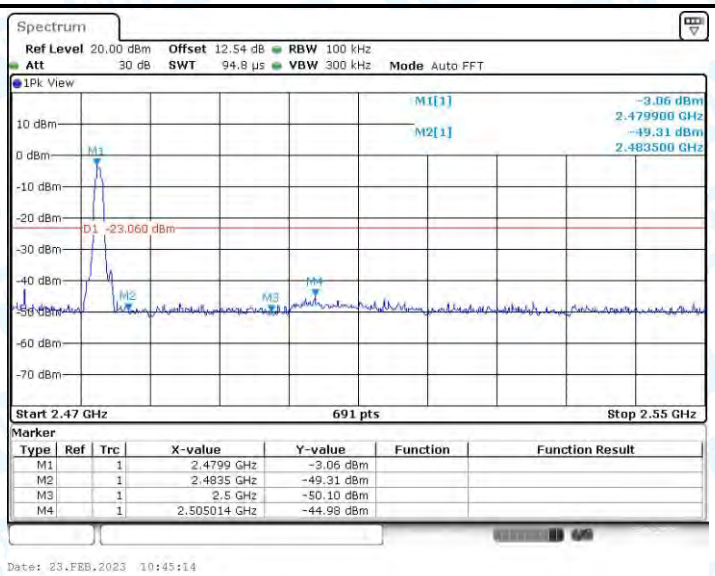
2DH5_Ant1_High_Hop_2480



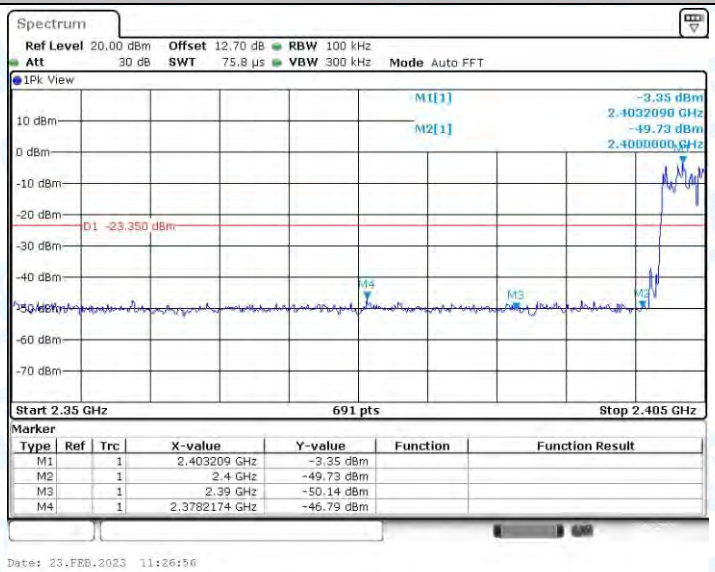
3DH5_Ant1_Low_2402



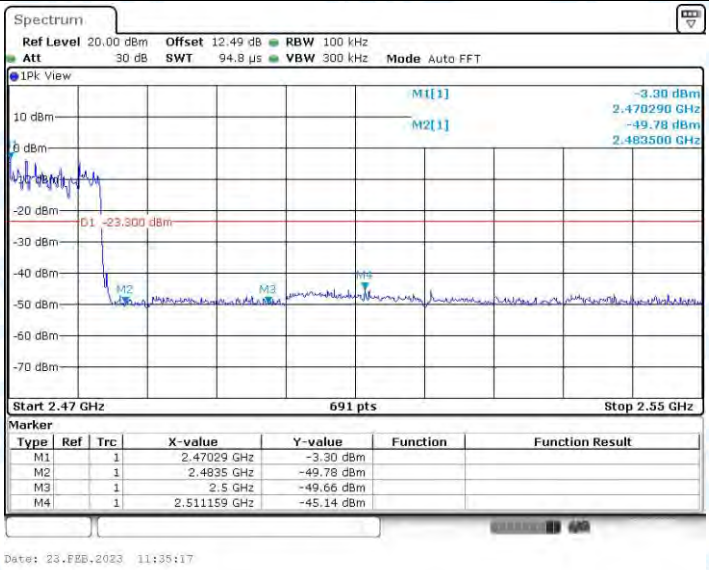
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



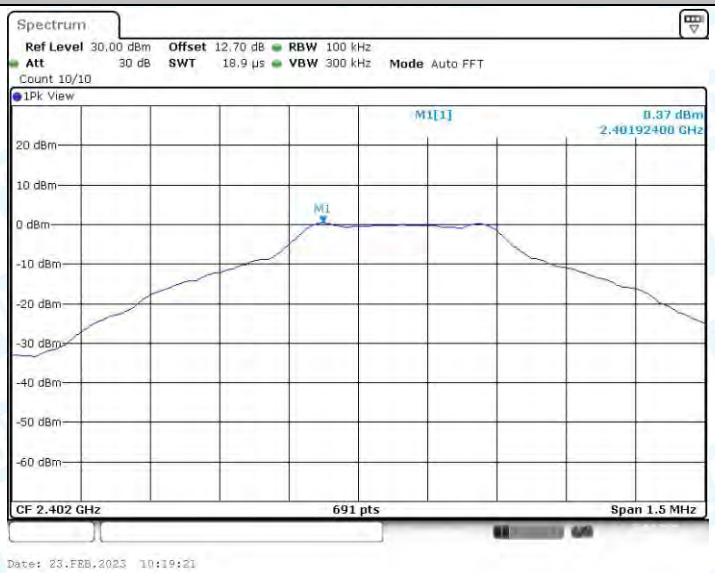
8. Conducted Spurious Emission

8.1.Test Result

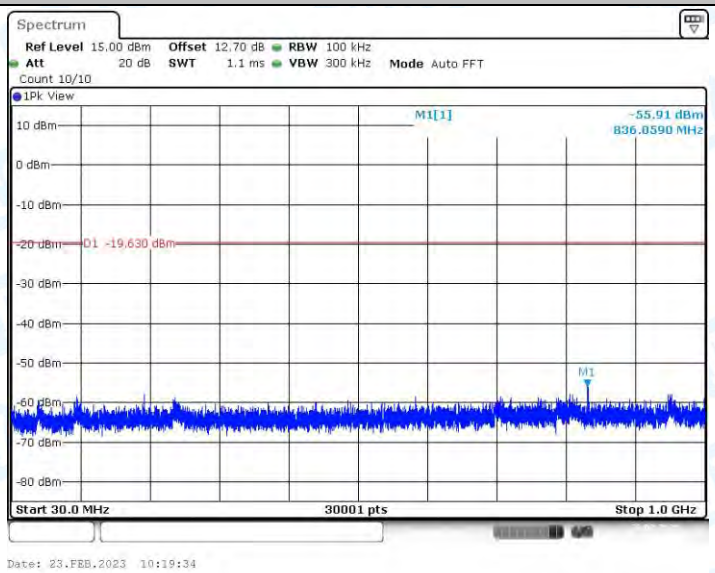
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	0.37	0.37	---	PASS
			30~1000	0.37	-55.91	≤-19.63	PASS
			1000~26500	0.37	-38.97	≤-19.63	PASS
		2441	Reference	-1.27	-1.27	---	PASS
			30~1000	-1.27	-58.12	≤-21.27	PASS
			1000~26500	-1.27	-47.85	≤-21.27	PASS
		2480	Reference	-2.68	-2.68	---	PASS
			30~1000	-2.68	-53.71	≤-22.68	PASS
			1000~26500	-2.68	-47.95	≤-22.68	PASS
2DH5	Ant1	2402	Reference	-3.69	-3.69	---	PASS
			30~1000	-3.69	-57.79	≤-23.69	PASS
			1000~26500	-3.69	-47.17	≤-23.69	PASS
		2441	Reference	-5.27	-5.27	---	PASS
			30~1000	-5.27	-58.3	≤-25.27	PASS
			1000~26500	-5.27	-48.55	≤-25.27	PASS
		2480	Reference	-6.71	-6.71	---	PASS
			30~1000	-6.71	-58.49	≤-26.71	PASS
			1000~26500	-6.71	-48.88	≤-26.71	PASS
3DH5	Ant1	2402	Reference	0.09	0.09	---	PASS
			30~1000	0.09	-56.04	≤-19.91	PASS
			1000~26500	0.09	-48.41	≤-19.91	PASS
		2441	Reference	-1.49	-1.49	---	PASS
			30~1000	-1.49	-56.67	≤-21.49	PASS
			1000~26500	-1.49	-48.98	≤-21.49	PASS
		2480	Reference	-3.19	-3.19	---	PASS
			30~1000	-3.19	-56.37	≤-23.19	PASS
			1000~26500	-3.19	-48.24	≤-23.19	PASS

8.2.Test Graphs

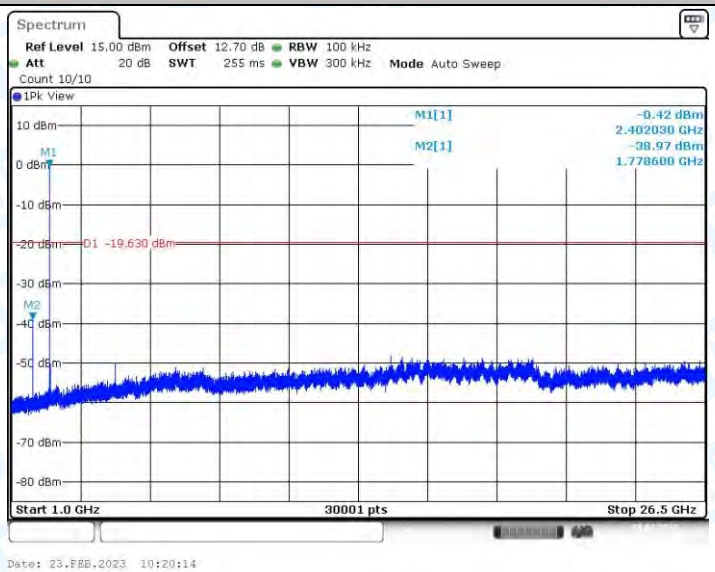
DH5_Ant1_2402_0~Reference



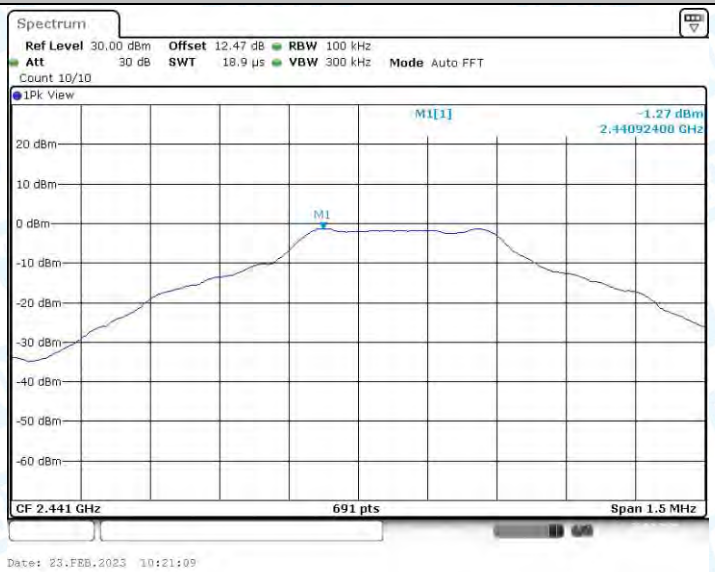
DH5_Ant1_2402_30~1000



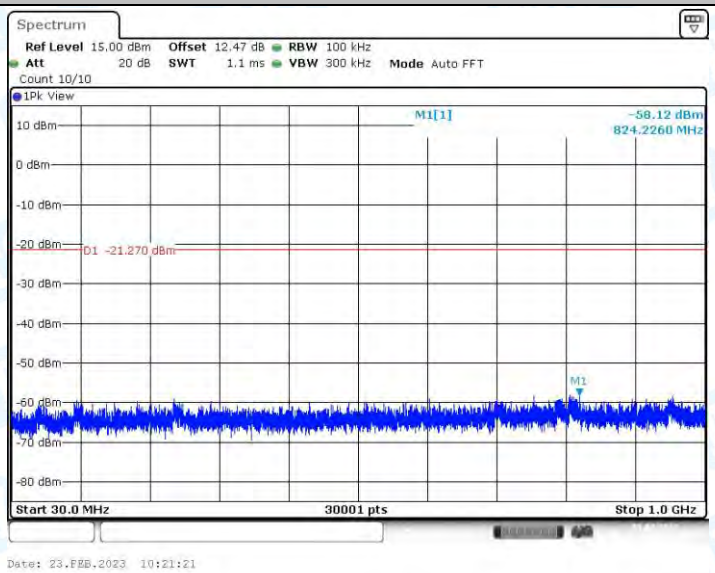
DH5_Ant1_2402_1000~26500



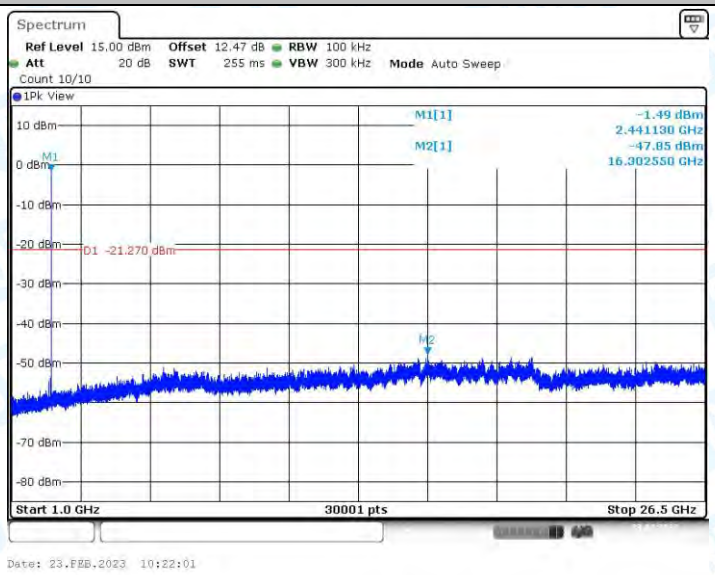
DH5_Ant1_2441_0~Reference



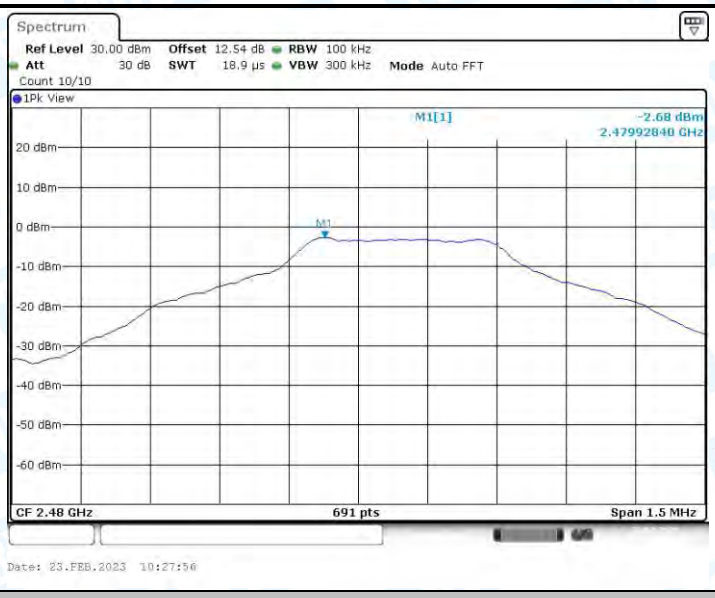
DH5_Ant1_2441_30~1000



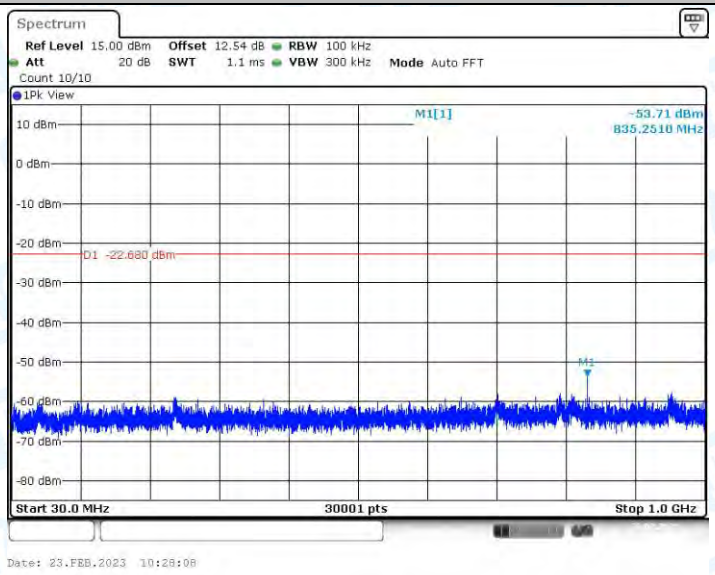
DH5_Ant1_2441_1000~26500



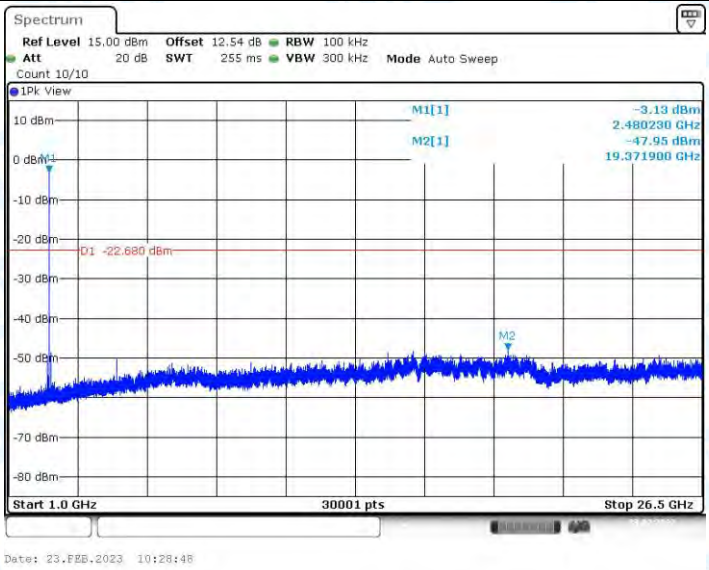
DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000

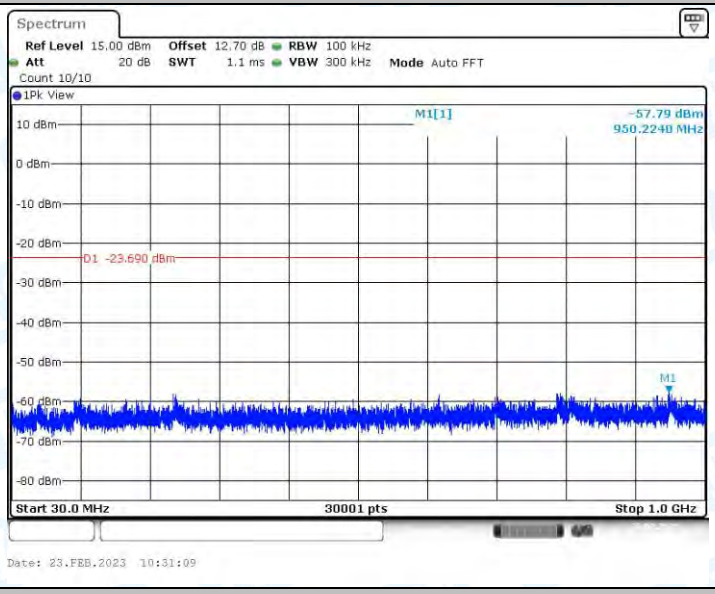


DH5_Ant1_2480_1000~26500

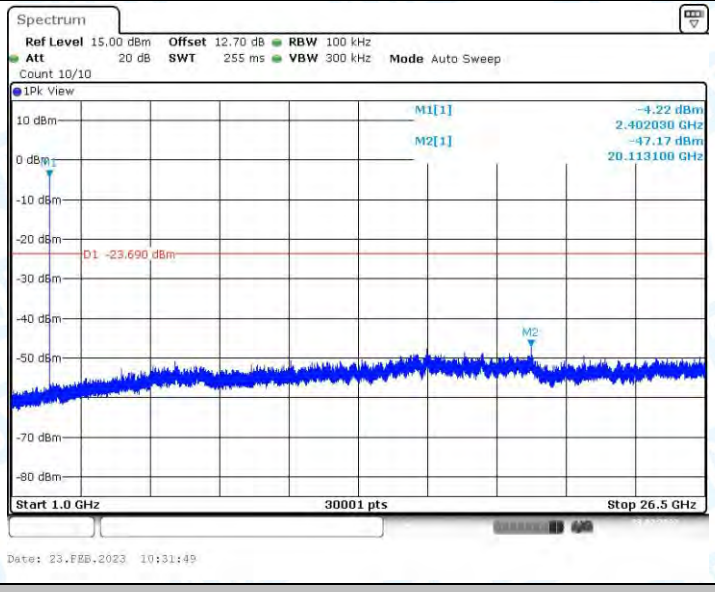


2DH5_Ant1_2402_0~Reference

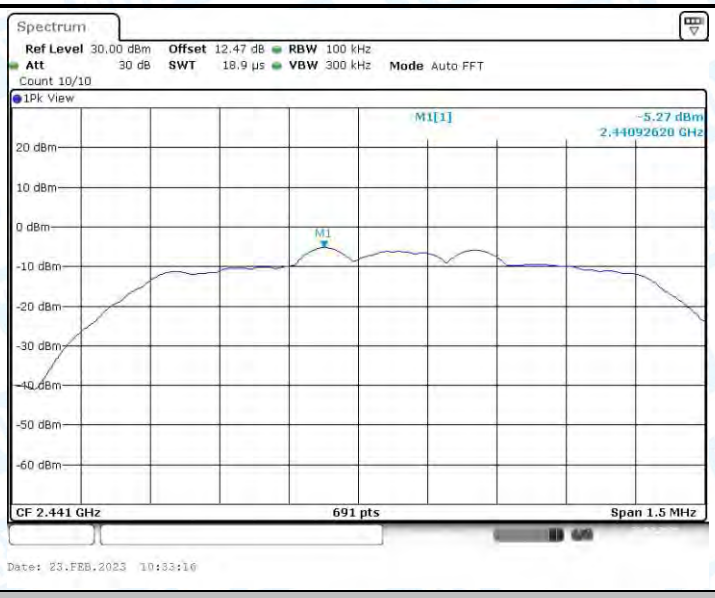
2DH5_Ant1_2402_30~1000



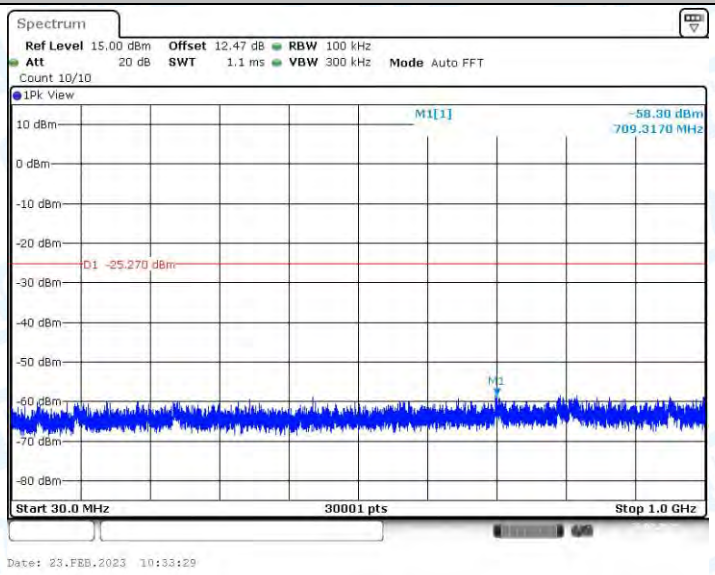
2DH5_Ant1_2402_1000~26500



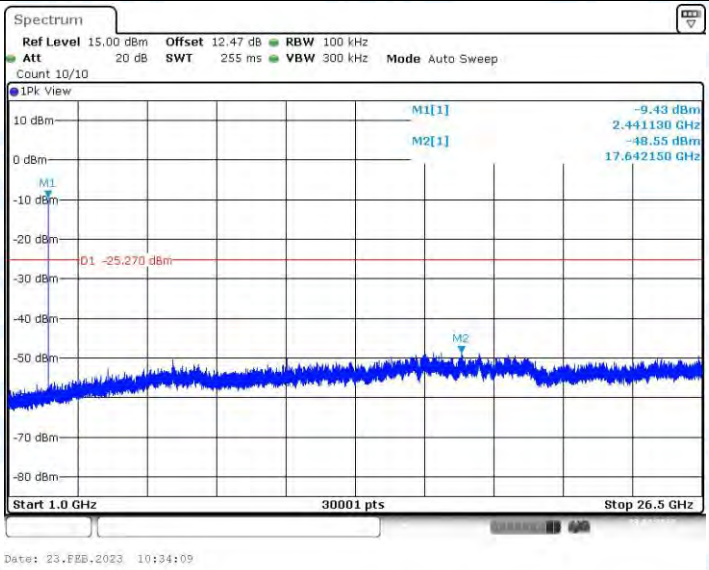
2DH5_Ant1_2441_0~Reference



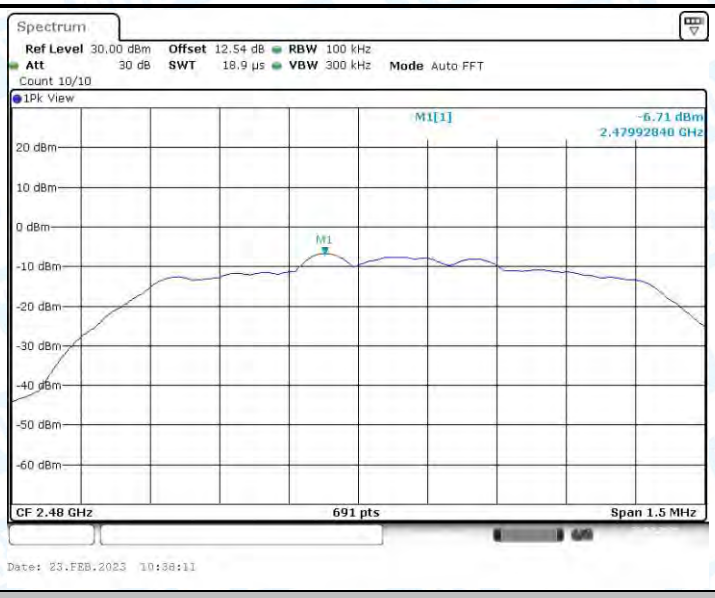
2DH5_Ant1_2441_30~1000



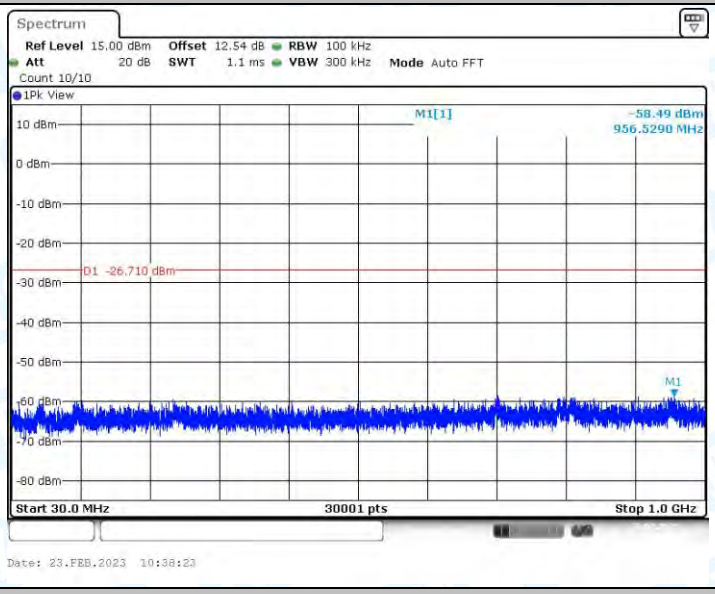
2DH5_Ant1_2441_1000~26500



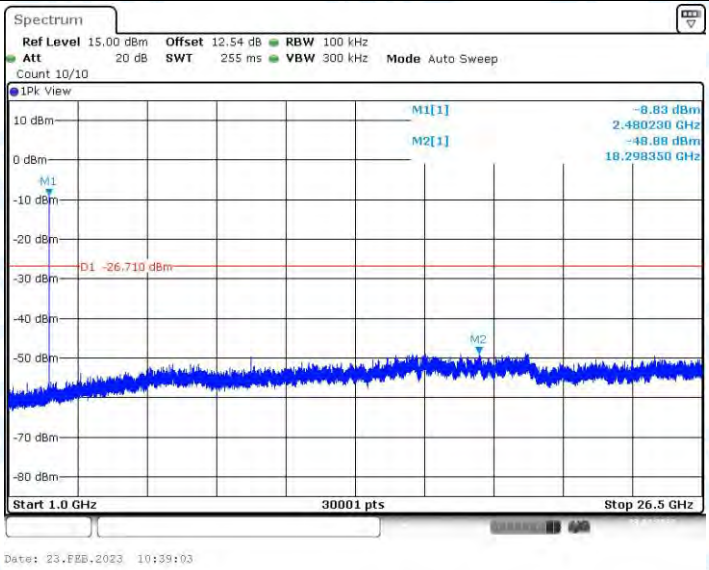
2DH5_Ant1_2480_0~Reference



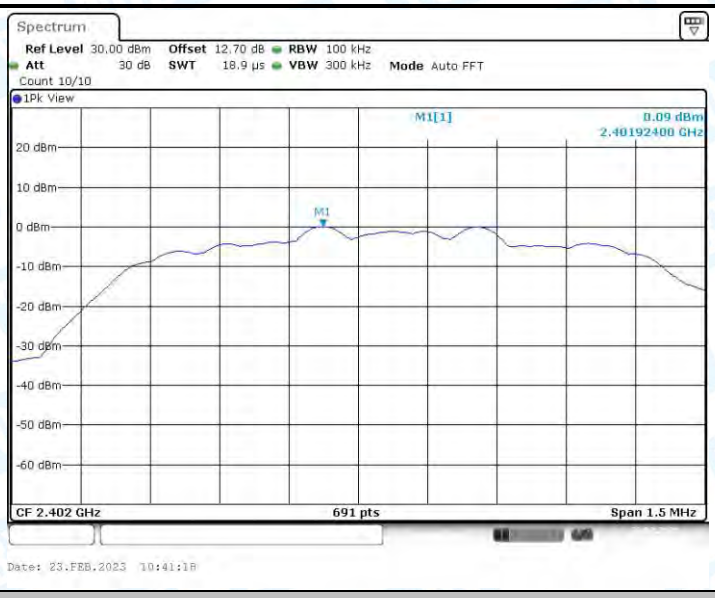
2DH5_Ant1_2480_30~1000



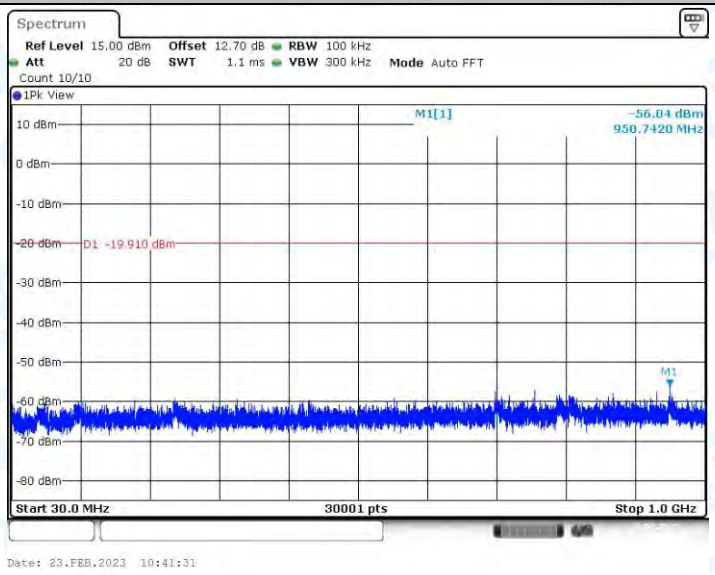
2DH5_Ant1_2480_1000~26500



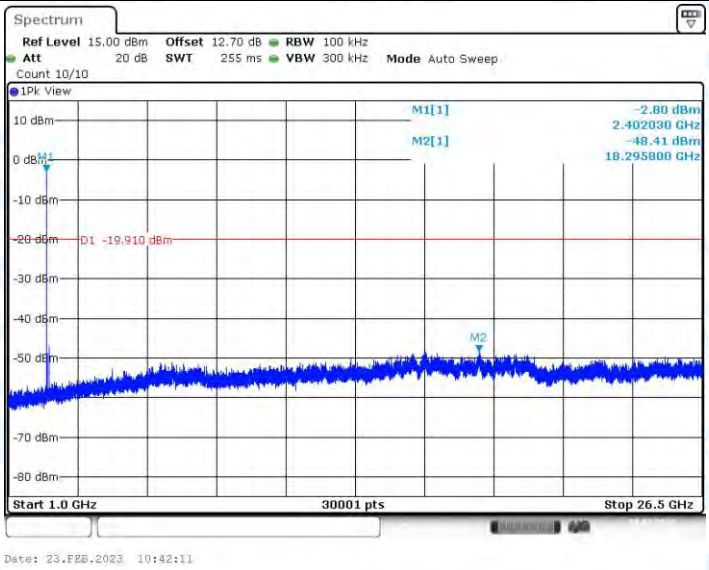
3DH5_Ant1_2402_0~Reference



3DH5_Ant1_2402_30~1000

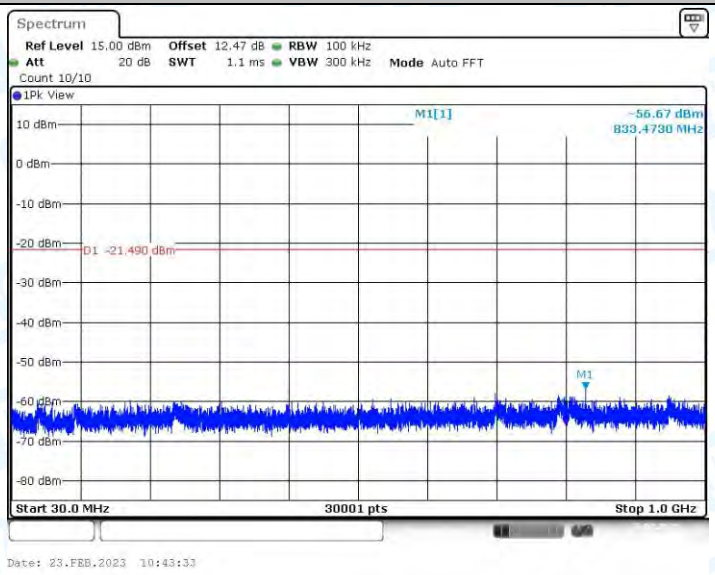


3DH5_Ant1_2402_1000~26500

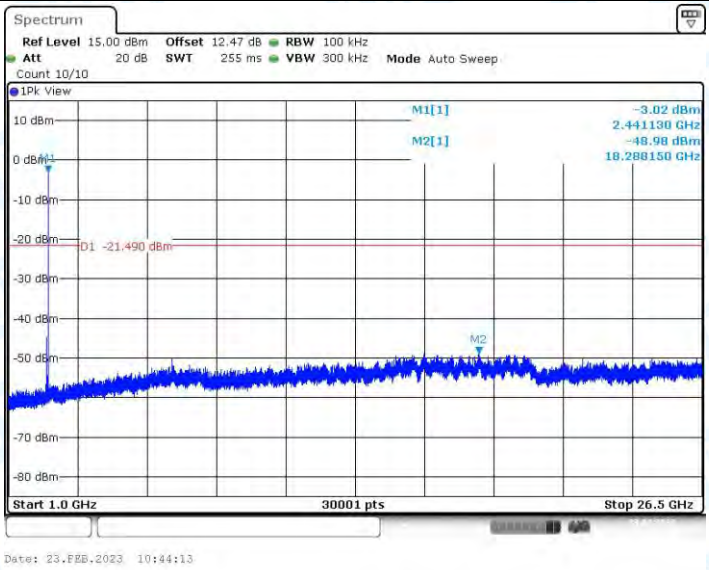


3DH5_Ant1_2441_0~Reference

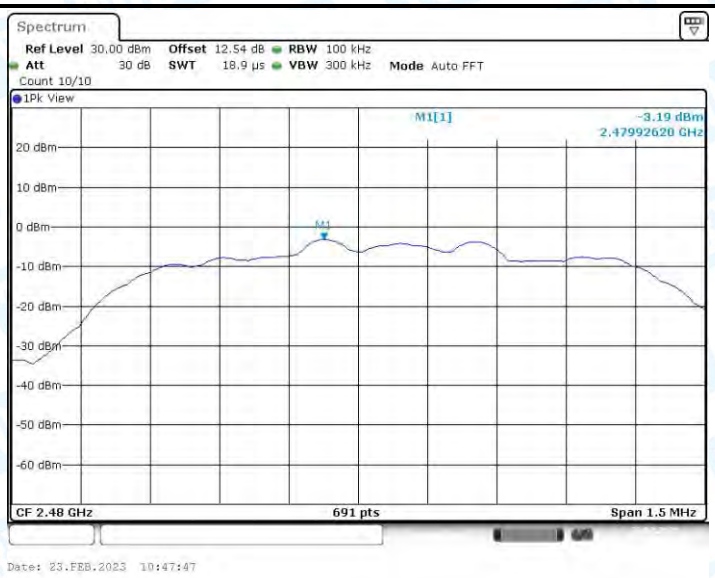
3DH5_Ant1_2441_30~1000



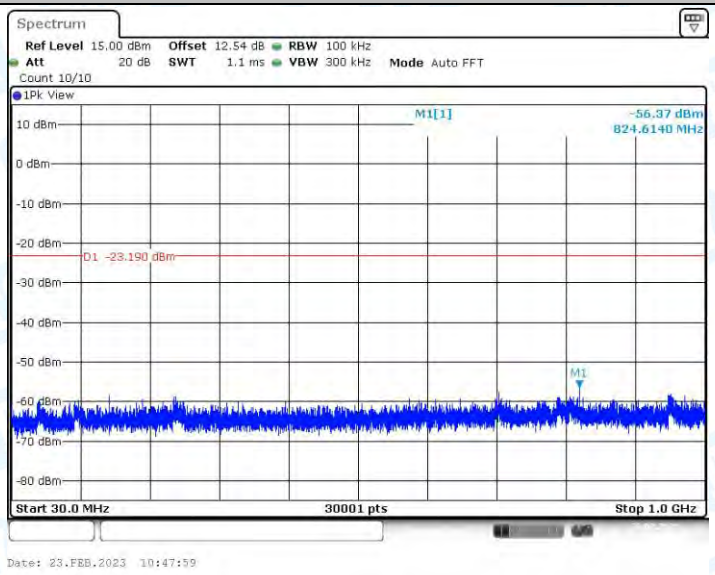
3DH5_Ant1_2441_1000~26500



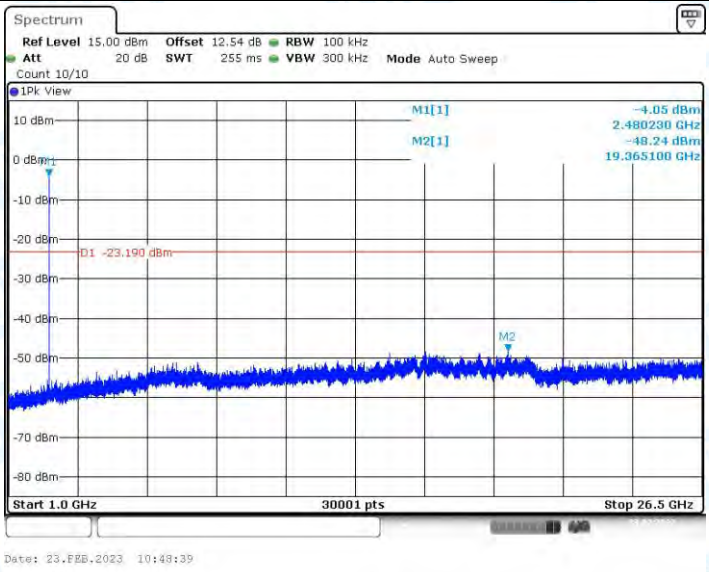
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500



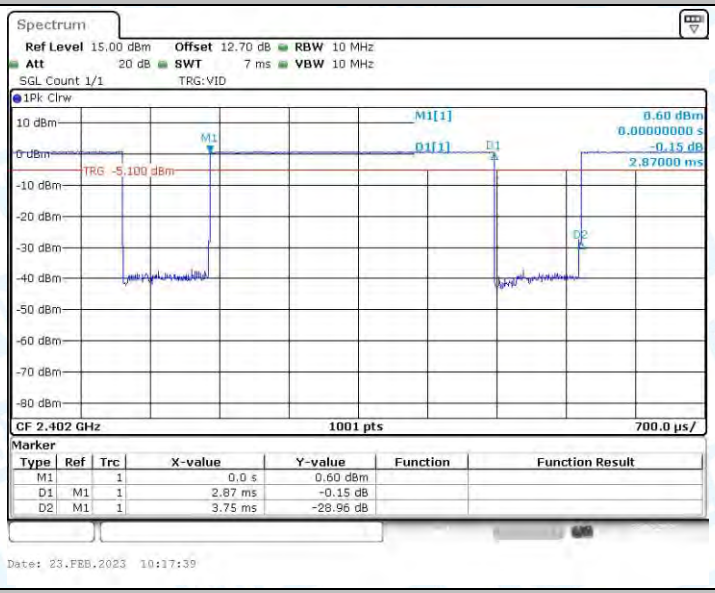
9. Duty Cycle

9.1.Test Result

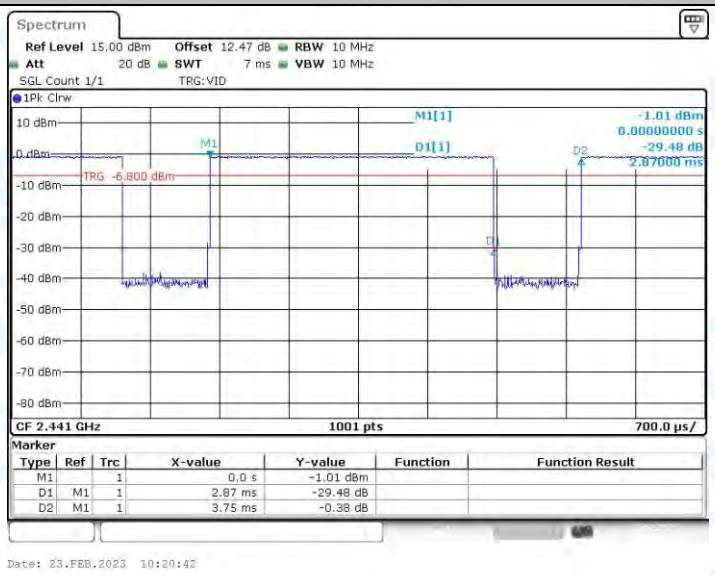
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T [KHz]	Limit	Verdict
DH5	Ant1	2402	2.87	3.75	76.53	0.348	---	---
		2441	2.87	3.75	76.53	0.348	---	---
		2480	2.87	3.75	76.53	0.348	---	---
2DH5	Ant1	2402	2.88	3.75	76.80	0.347	---	---
		2441	2.88	3.75	76.80	0.347	---	---
		2480	2.88	3.75	76.80	0.347	---	---
3DH5	Ant1	2402	2.88	3.75	76.80	0.347	---	---
		2441	2.89	3.76	76.86	0.346	---	---
		2480	2.89	3.75	77.07	0.346	---	---

9.2.Test Graphs

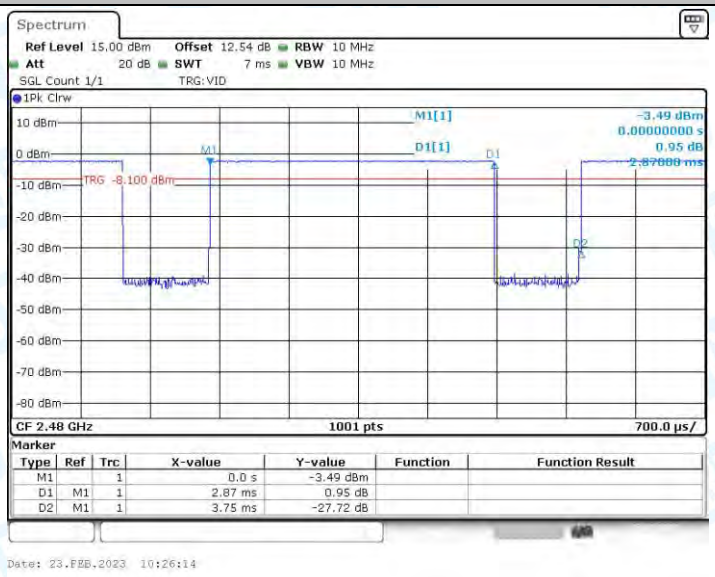
DH5_Ant1_2402



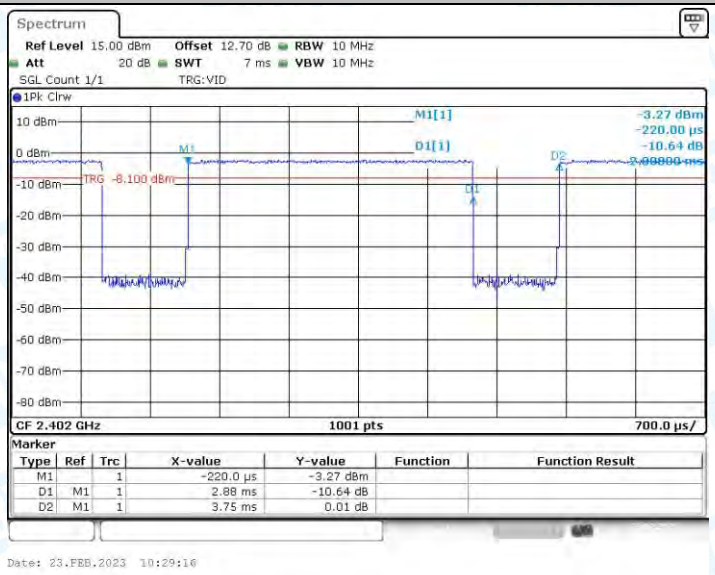
DH5_Ant1_2441



DH5_Ant1_2480



2DH5_Ant1_2402



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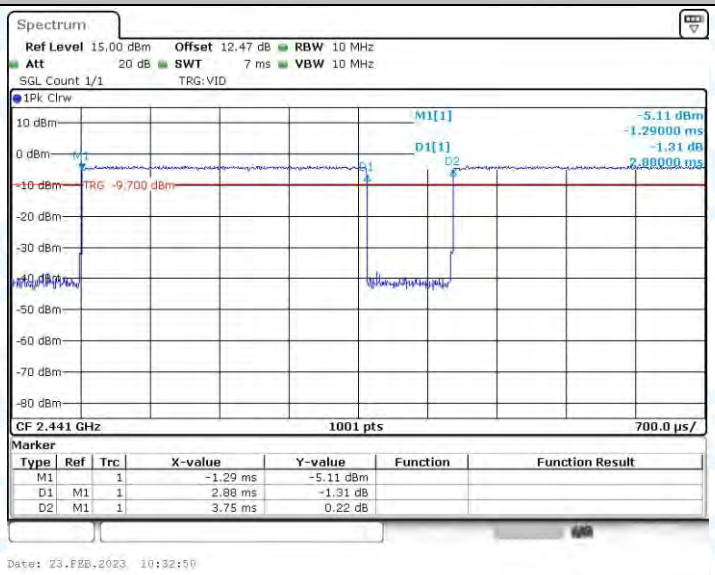

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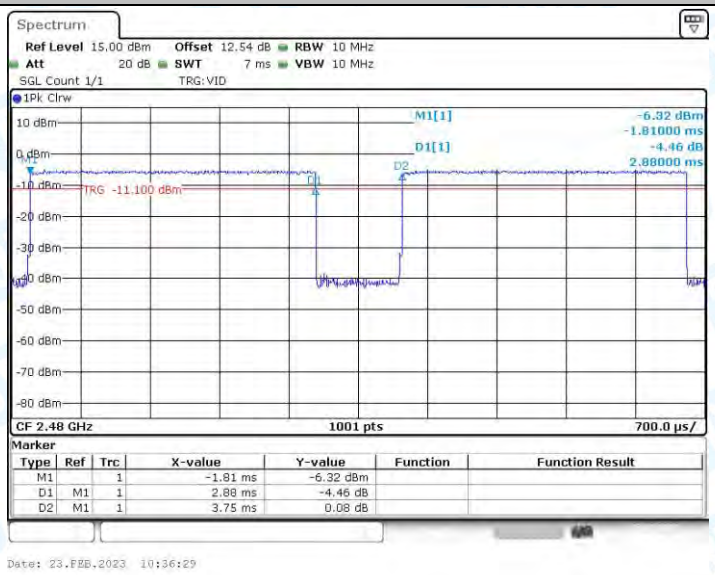

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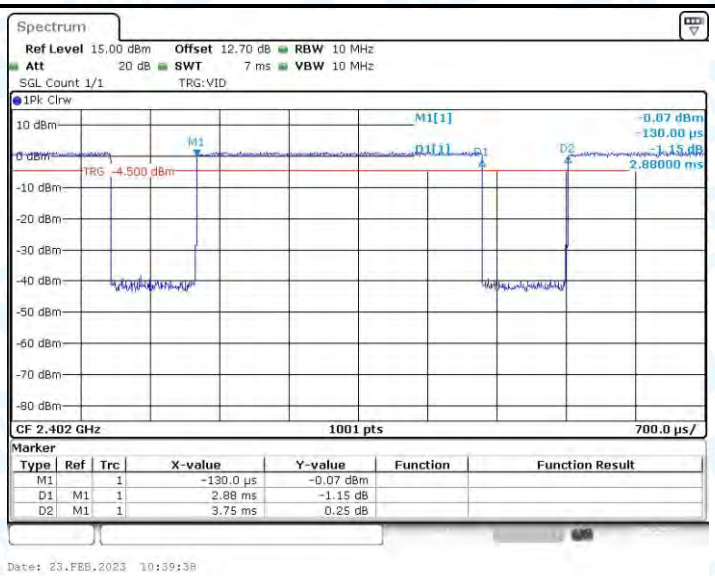

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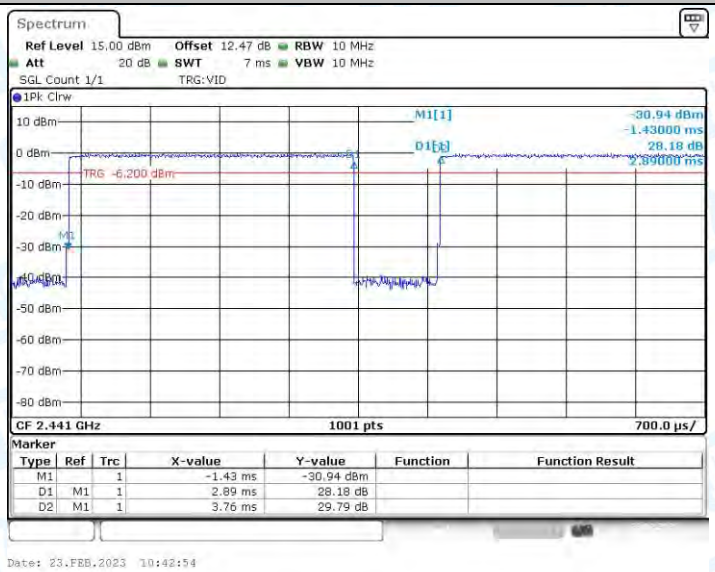

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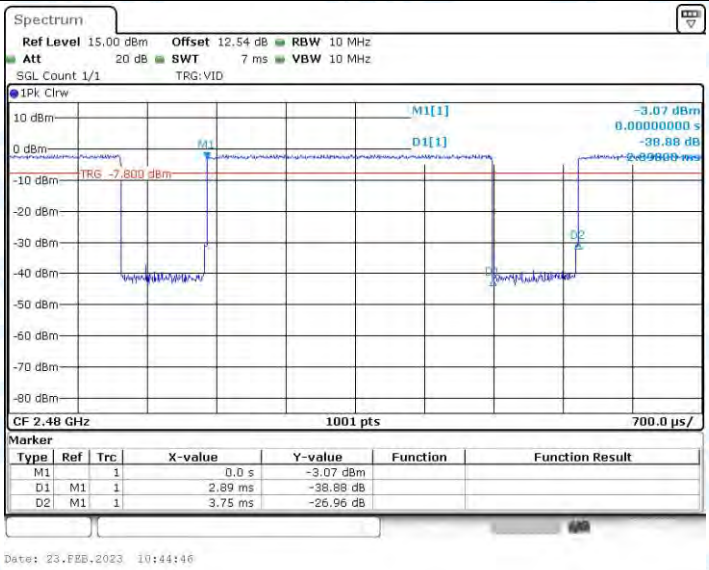


10. Emissions in Restricted Bands

10.1.Test Result

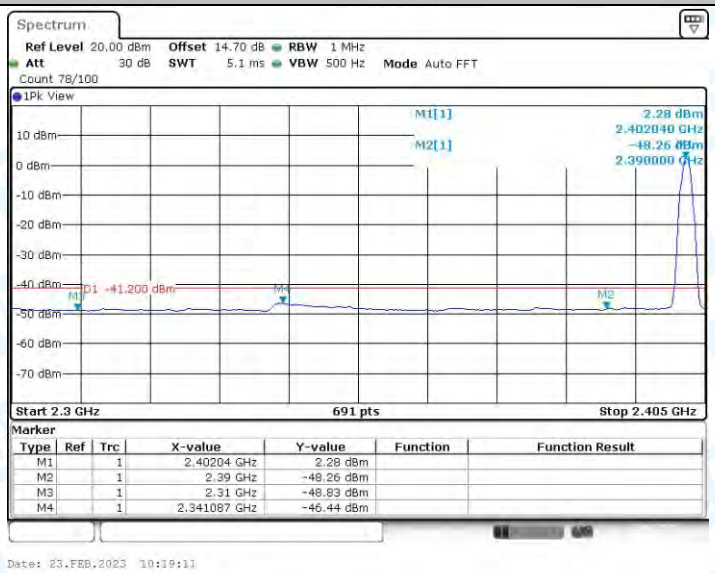
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-48.83	≤-41.20	PASS
				AV	2341.087	-46.44	≤-41.20	PASS
				AV	2390.000	-48.26	≤-41.20	PASS
				Peak	2310.000	-37.41	≤-21.20	PASS
				Peak	2349.304	-35.42	≤-21.20	PASS
				Peak	2390.000	-38.02	≤-21.20	PASS
		High	2480	AV	2483.500	-47.99	≤-41.20	PASS
				AV	2497.826	-47.57	≤-41.20	PASS
				AV	2500.000	-48.1	≤-41.20	PASS
				Peak	2483.500	-39.33	≤-21.20	PASS
				Peak	2498.058	-35.35	≤-21.20	PASS
				Peak	2500.000	-37.63	≤-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.86	≤-41.20	PASS
				AV	2341.087	-46.45	≤-41.20	PASS
				AV	2390.000	-48.53	≤-41.20	PASS
				Peak	2310.000	-38.81	≤-21.20	PASS
				Peak	2340.935	-34.17	≤-21.20	PASS
				Peak	2390.000	-37.48	≤-21.20	PASS
		High	2480	AV	2483.500	-48.05	≤-41.20	PASS
				AV	2497.130	-47.66	≤-41.20	PASS
				AV	2500.000	-48.08	≤-41.20	PASS
				Peak	2483.500	-38.42	≤-21.20	PASS
				Peak	2492.261	-35.89	≤-21.20	PASS
				Peak	2500.000	-36.86	≤-21.20	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.84	≤-41.20	PASS
				AV	2340.022	-46.25	≤-41.20	PASS
				AV	2390.000	-48.24	≤-41.20	PASS
				Peak	2310.000	-37.36	≤-21.20	PASS
				Peak	2342.000	-34.88	≤-21.20	PASS
				Peak	2390.000	-38.25	≤-21.20	PASS
		High	2480	AV	2483.500	-48.04	≤-41.20	PASS
				AV	2497.246	-47.69	≤-41.20	PASS
				AV	2500.000	-48.13	≤-41.20	PASS
				Peak	2483.500	-38.02	≤-21.20	PASS
				Peak	2490.986	-34.1	≤-21.20	PASS
				Peak	2500.000	-37.02	≤-21.20	PASS

Note：

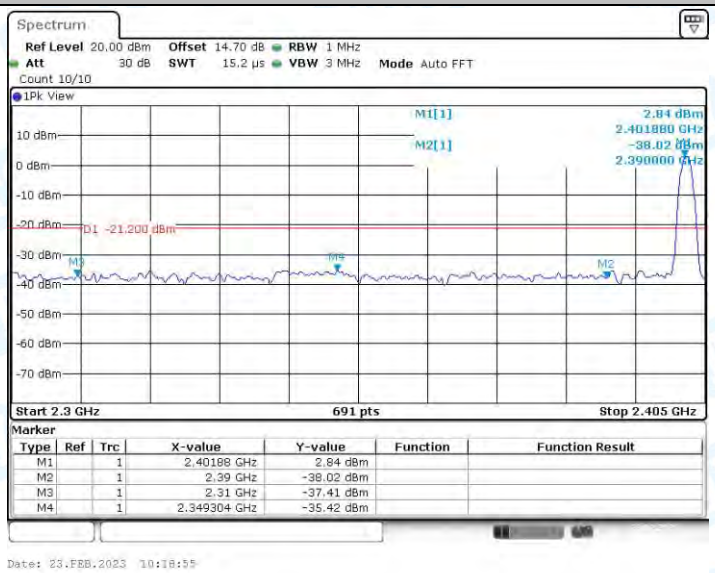
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

10.2.Test Graphs

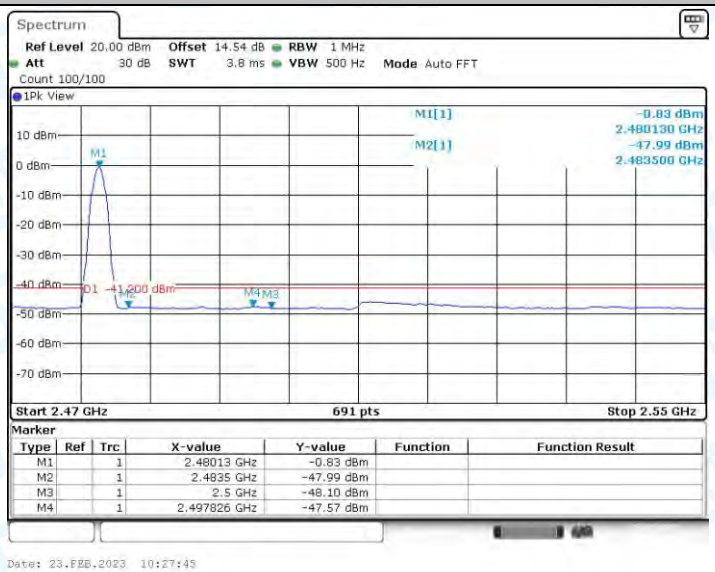
DH5_Ant1_Low_2402_AV



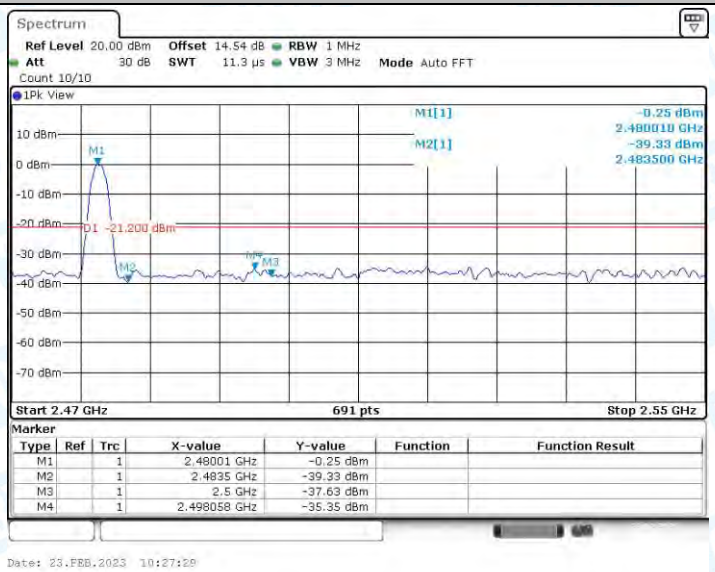
DH5_Ant1_Low_2402_Peak



DH5_Ant1_High_2480_AV



DH5_Ant1_High_2480_Peak



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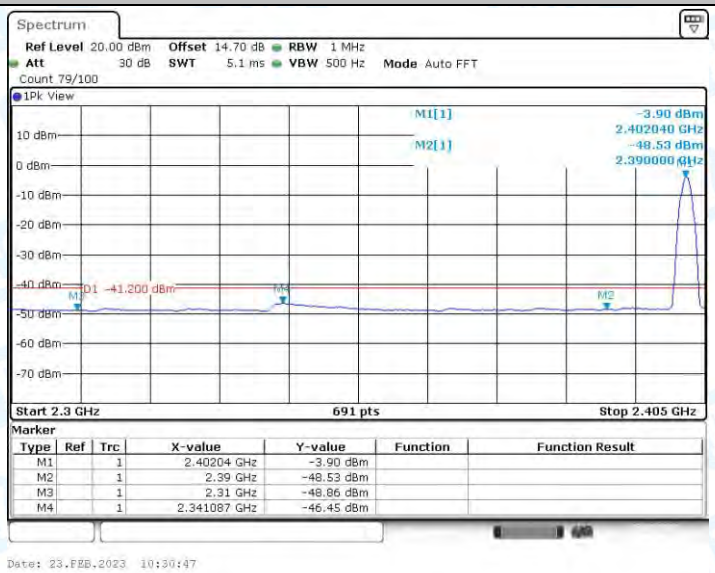

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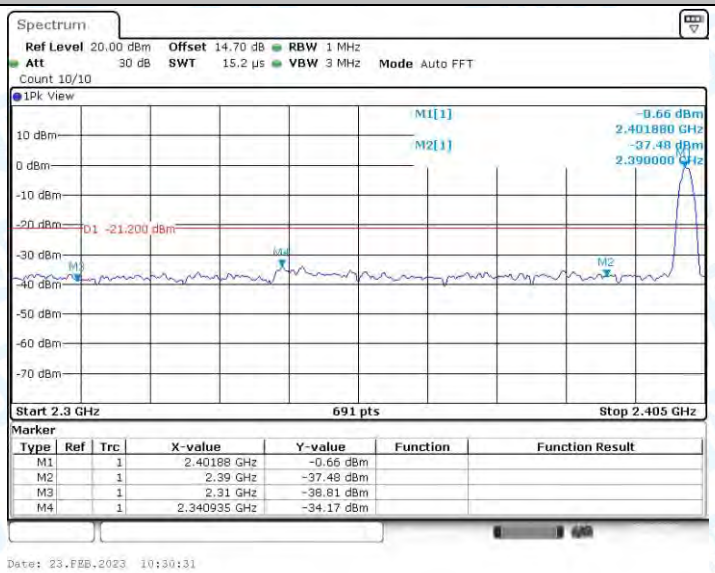
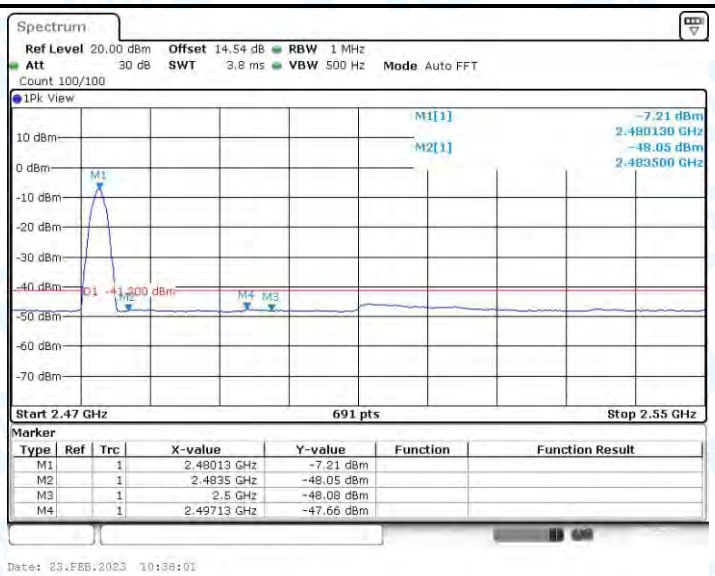
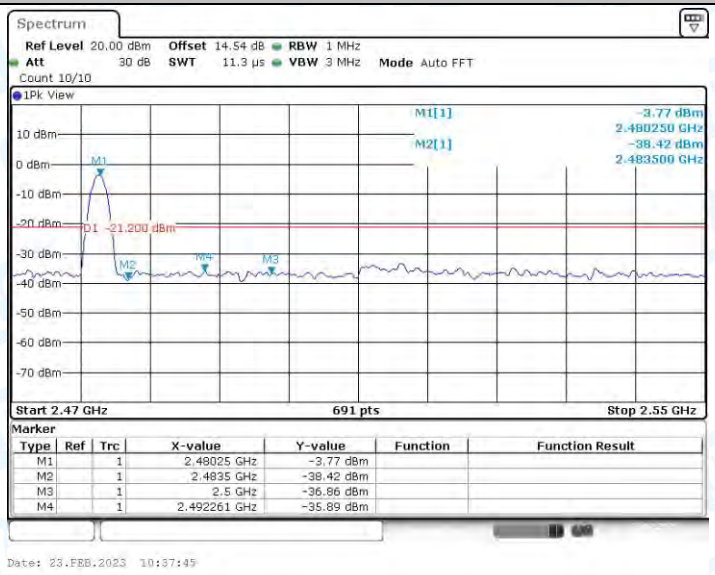


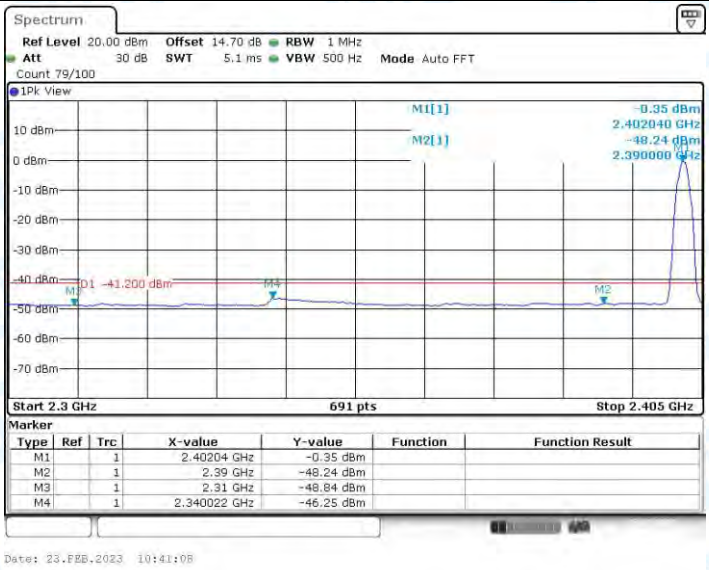
2DH5_Ant1_High_2480_AV



2DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_2402_AV



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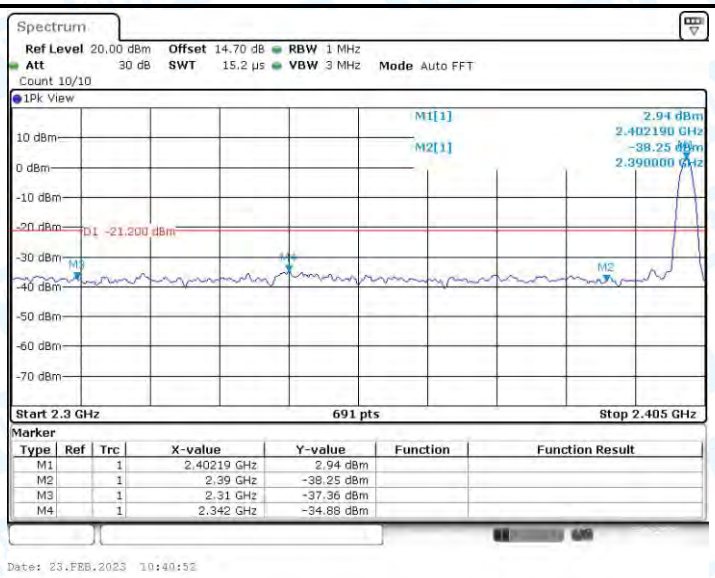
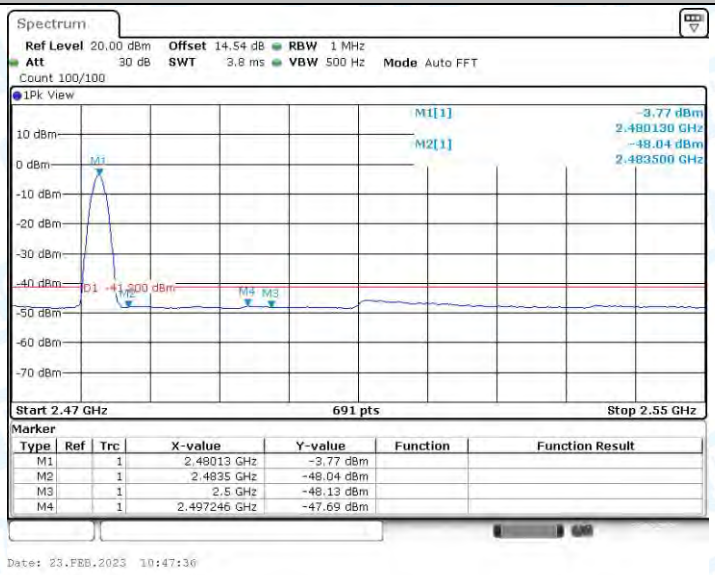
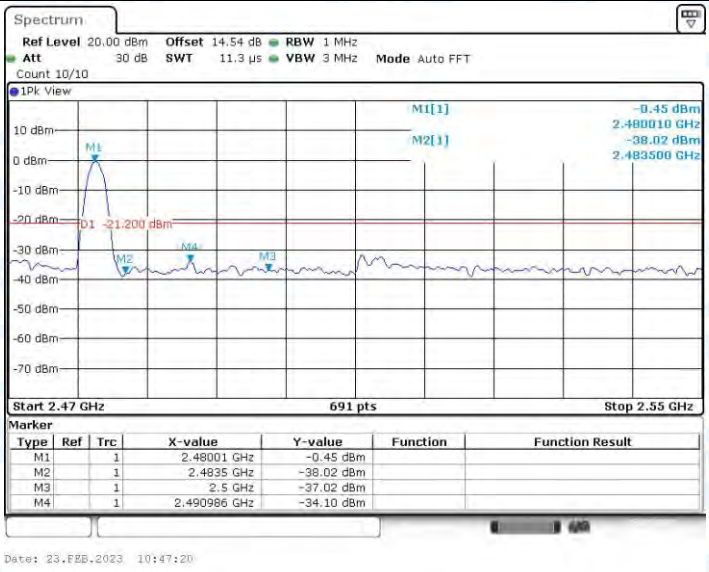


3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak



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