

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

General Description of EUT	
Product Name:	Retro Mini PC
Test Model:	AYANEO Retro Mini PC AM02
Sample ID:	HC-C-202311-0249-01-02-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 20V
Test Engineer:	Jolin Lee
Note: For a more detailed features description, please refer to the report TBR-C-202311-0249-6	

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1. 20dB Emission Bandwidth

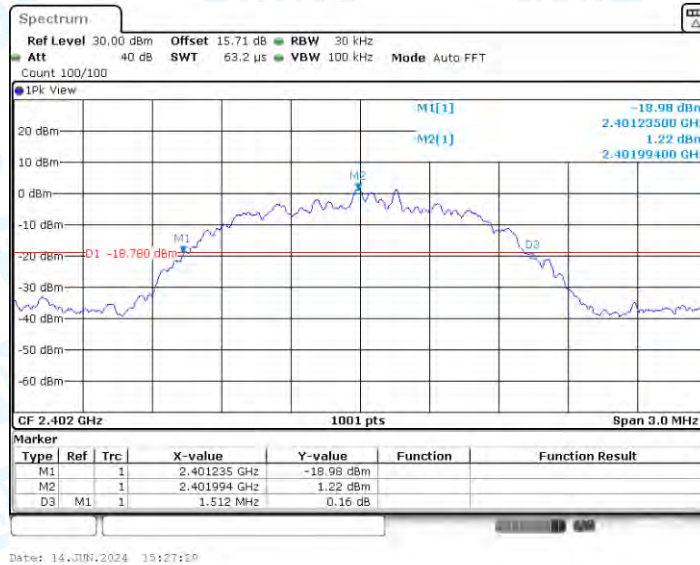
1.1. Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.96	---	---
		2441	0.96	---	---
		2480	0.96	---	---
2DH5	Ant1	2402	1.51	---	---
		2441	1.47	---	---
		2480	1.51	---	---
3DH5	Ant1	2402	1.49	---	---
		2441	1.48	---	---
		2480	1.48	---	---

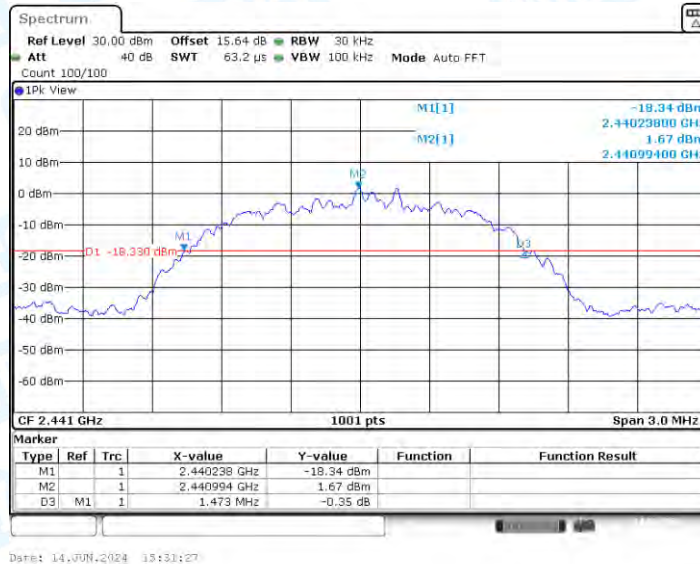
1.2. Test Graphs



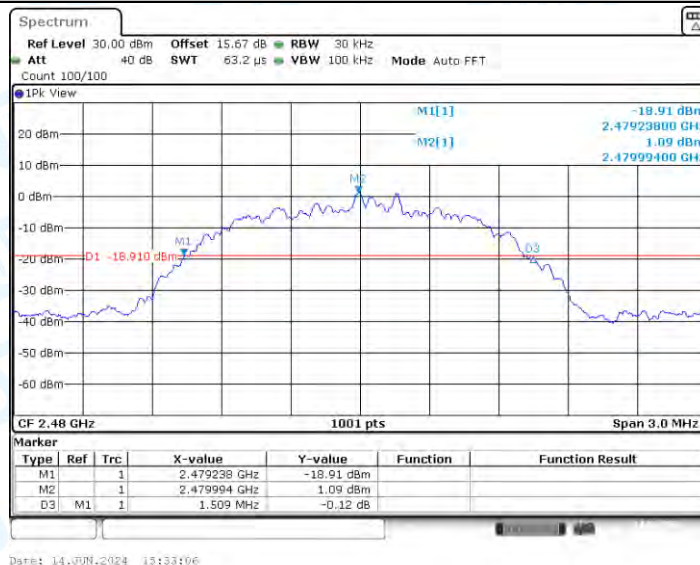
2DH5_Ant1_2402



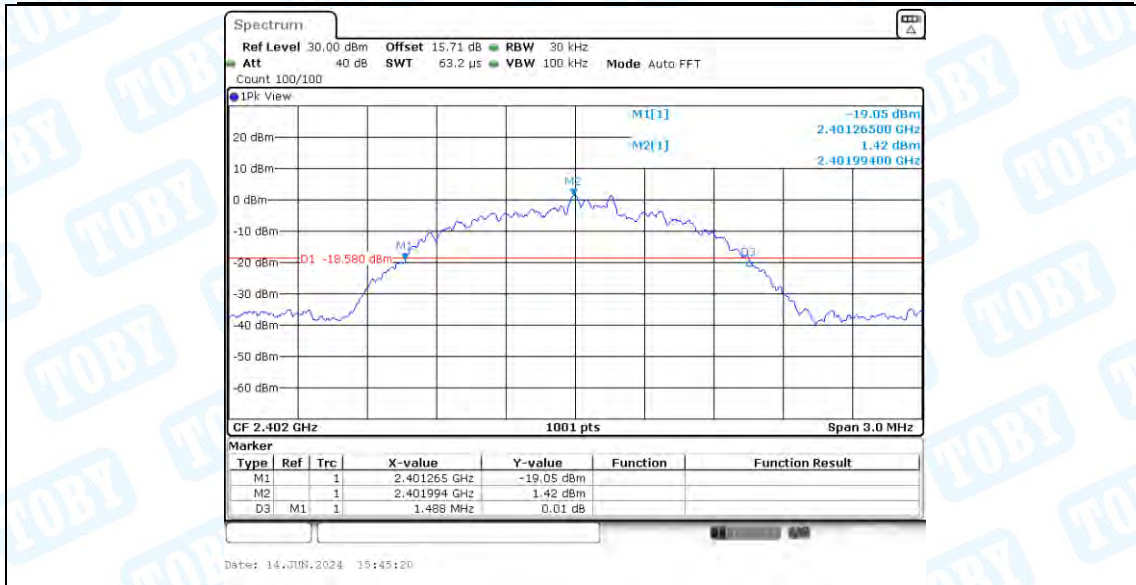
2DH5_Ant1_2441



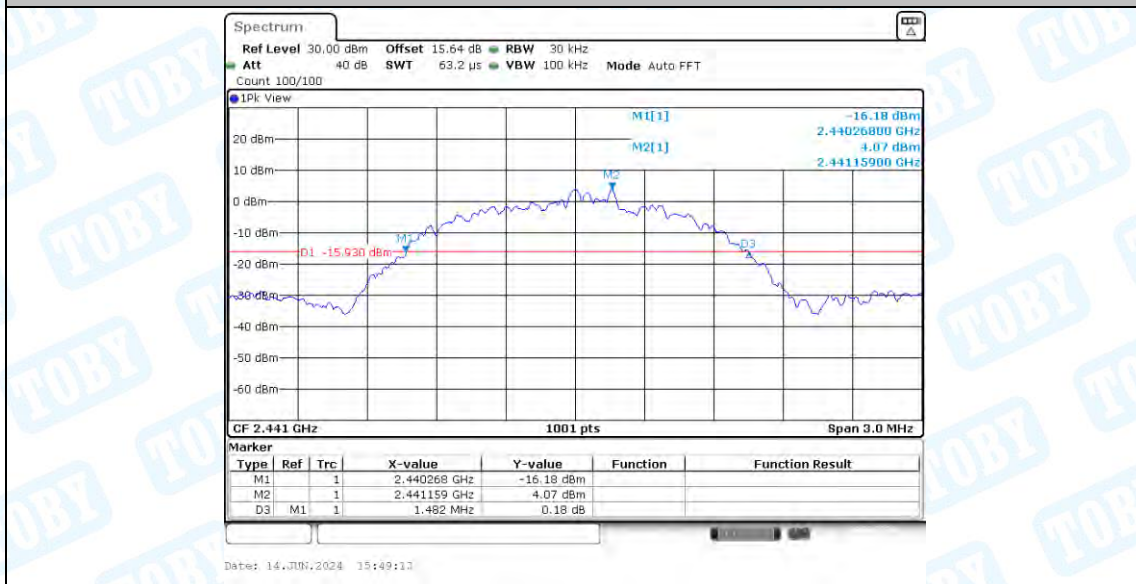
2DH5_Ant1_2480



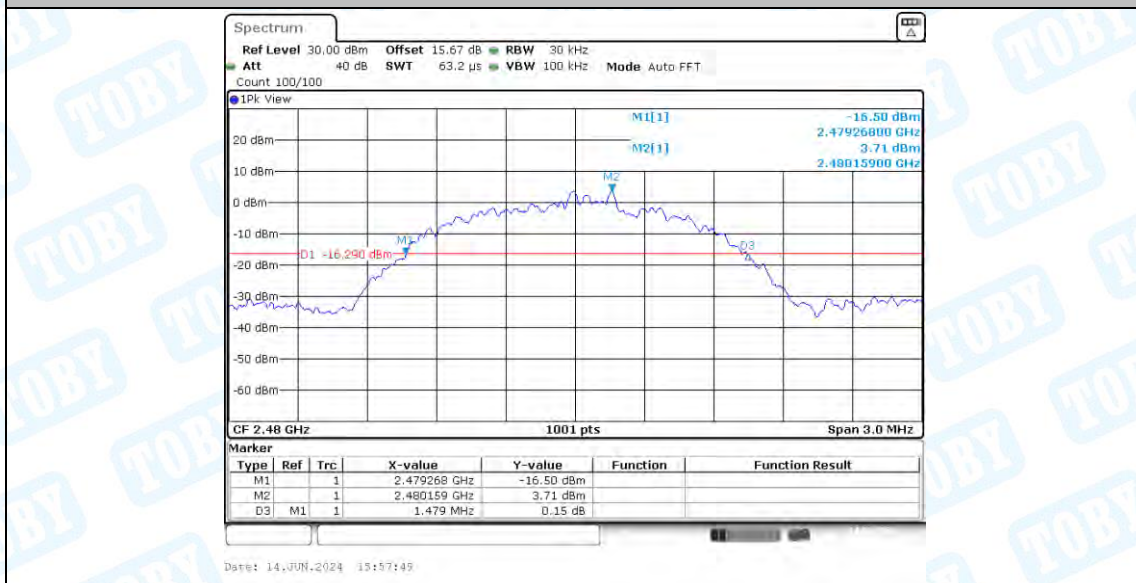
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



2. Occupied Channel Bandwidth

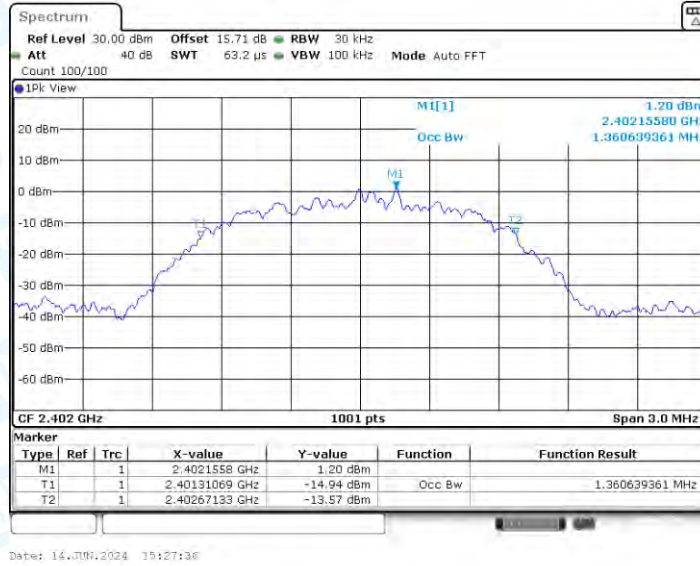
2.1. Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.893	2401.5504	2402.4436	---	---
		2441	0.893	2440.5504	2441.4436	---	---
		2480	0.899	2479.5445	2480.4436	---	---
2DH5	Ant1	2402	1.361	2401.3107	2402.6713	---	---
		2441	1.358	2440.3137	2441.6713	---	---
		2480	1.358	2479.3107	2480.6683	---	---
3DH5	Ant1	2402	1.361	2401.3107	2402.6713	---	---
		2441	1.364	2440.3137	2441.6773	---	---
		2480	1.361	2479.3137	2480.6743	---	---

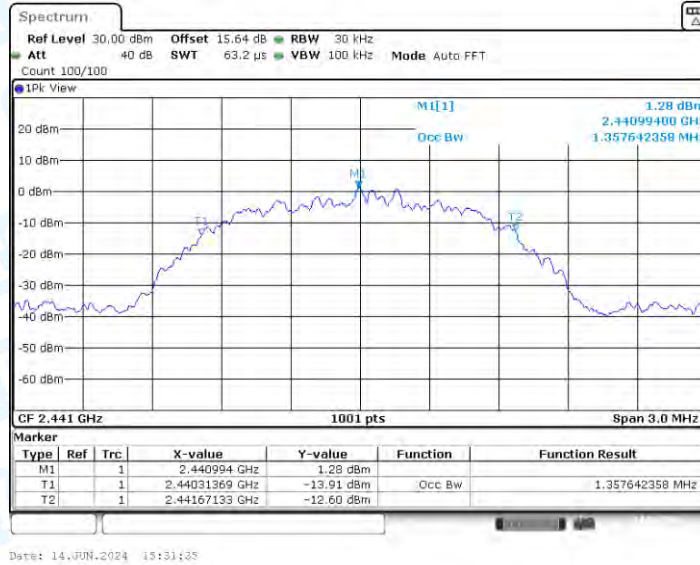
2.2. Test Graphs



2DH5_Ant1_2402



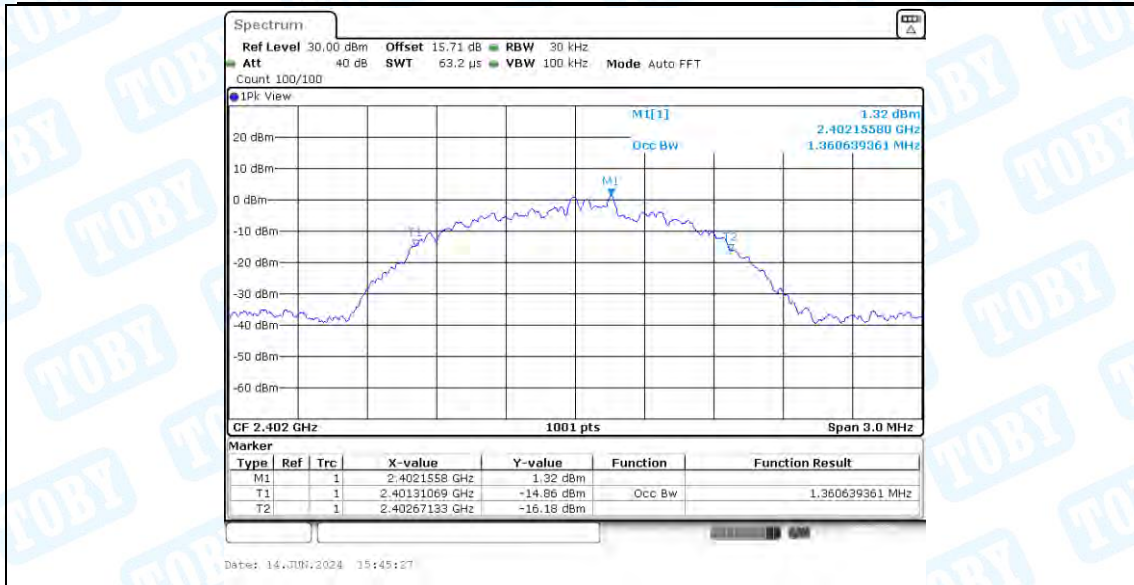
2DH5_Ant1_2441



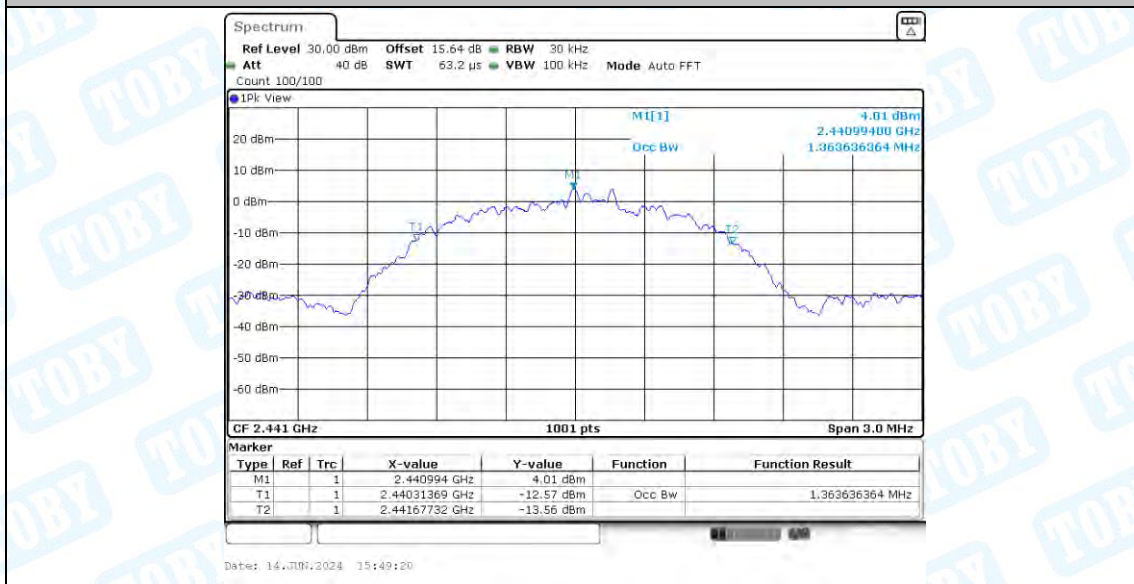
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



3. Maximum conducted output power

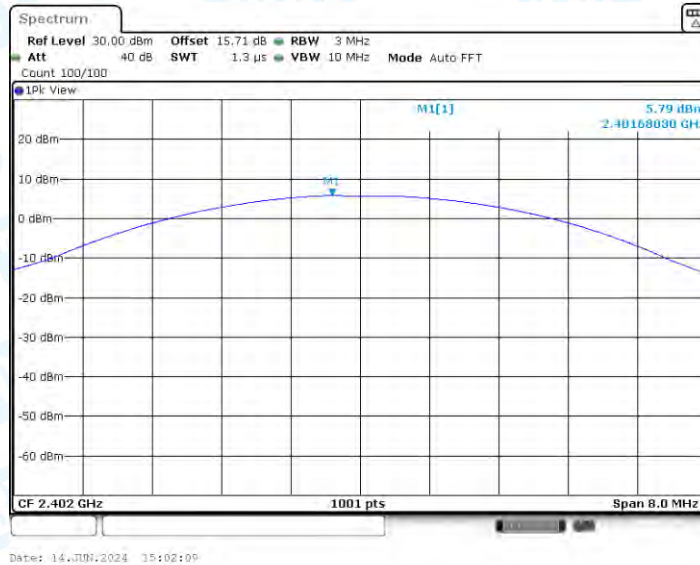
3.1. Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	4.00	≤21	PASS
		2441	4.26	≤21	PASS
		2480	3.69	≤21	PASS
2DH5	Ant1	2402	5.79	≤21	PASS
		2441	6.09	≤21	PASS
		2480	5.58	≤21	PASS
3DH5	Ant1	2402	5.98	≤21	PASS
		2441	6.17	≤21	PASS
		2480	5.59	≤21	PASS

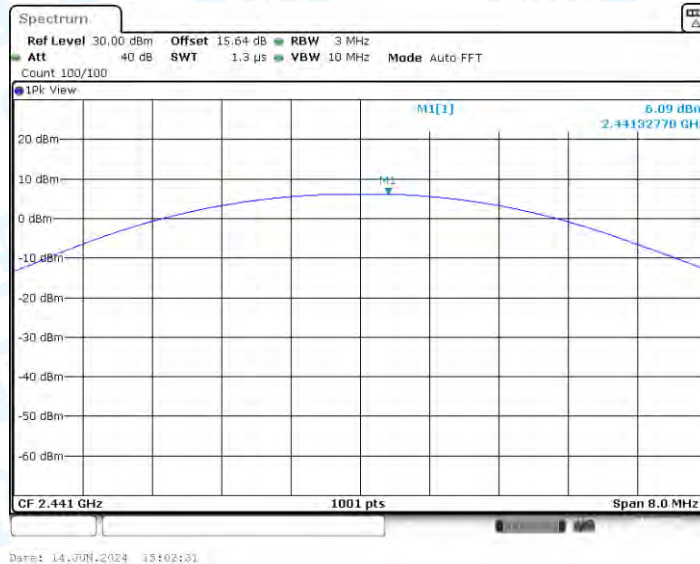
3.2.Test Graphs



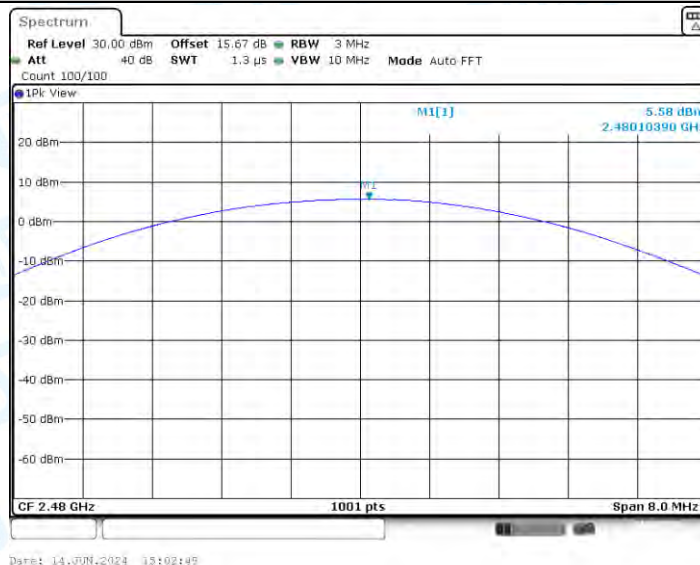
2DH5_Ant1_2402



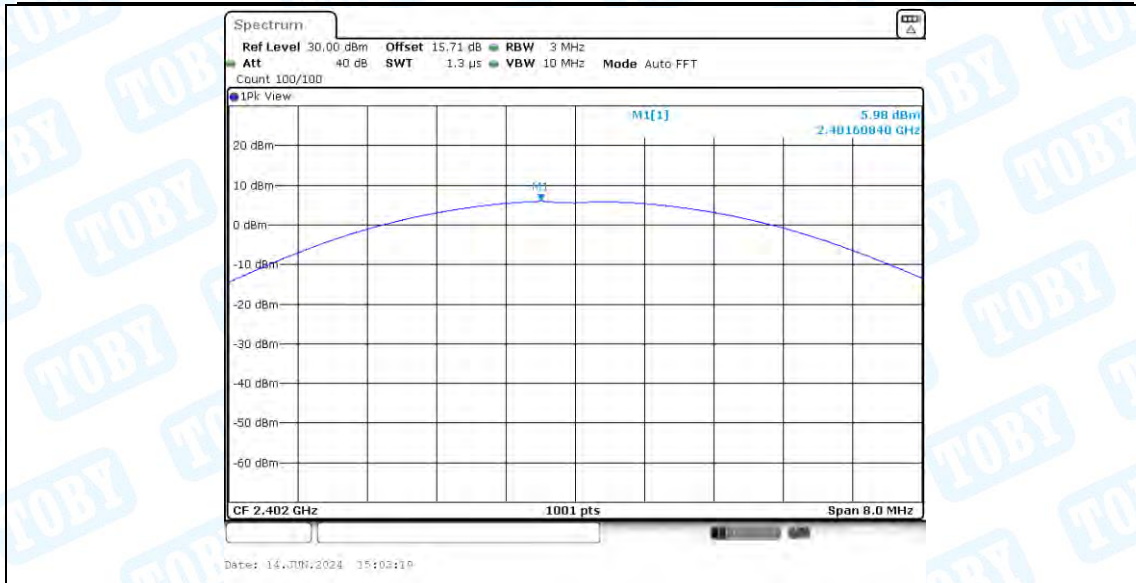
2DH5_Ant1_2441



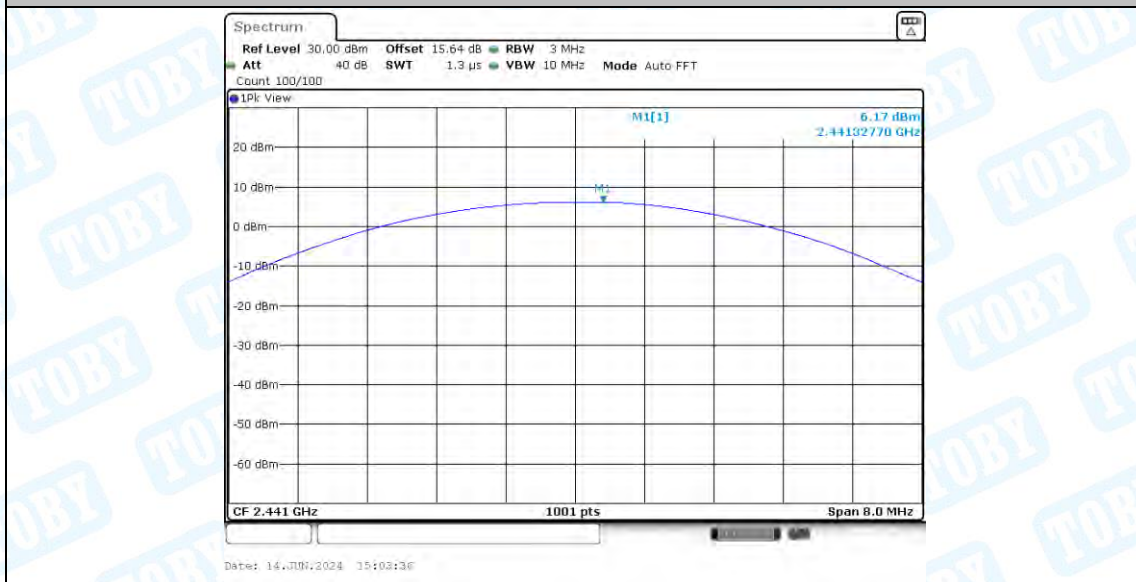
2DH5_Ant1_2480



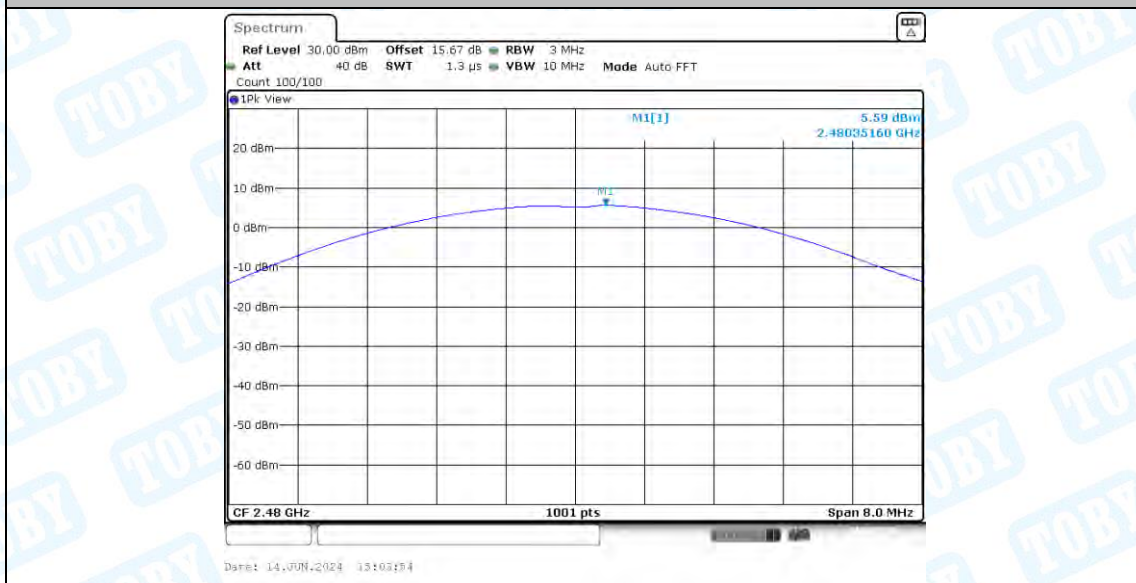
3DH5_Ant1_2402



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	1.003	≥ 0.64	PASS
2DH5	Ant1	Hop	1.075	≥ 1.007	PASS
3DH5	Ant1	Hop	1.078	≥ 0.993	PASS

4.2.Test Graphs

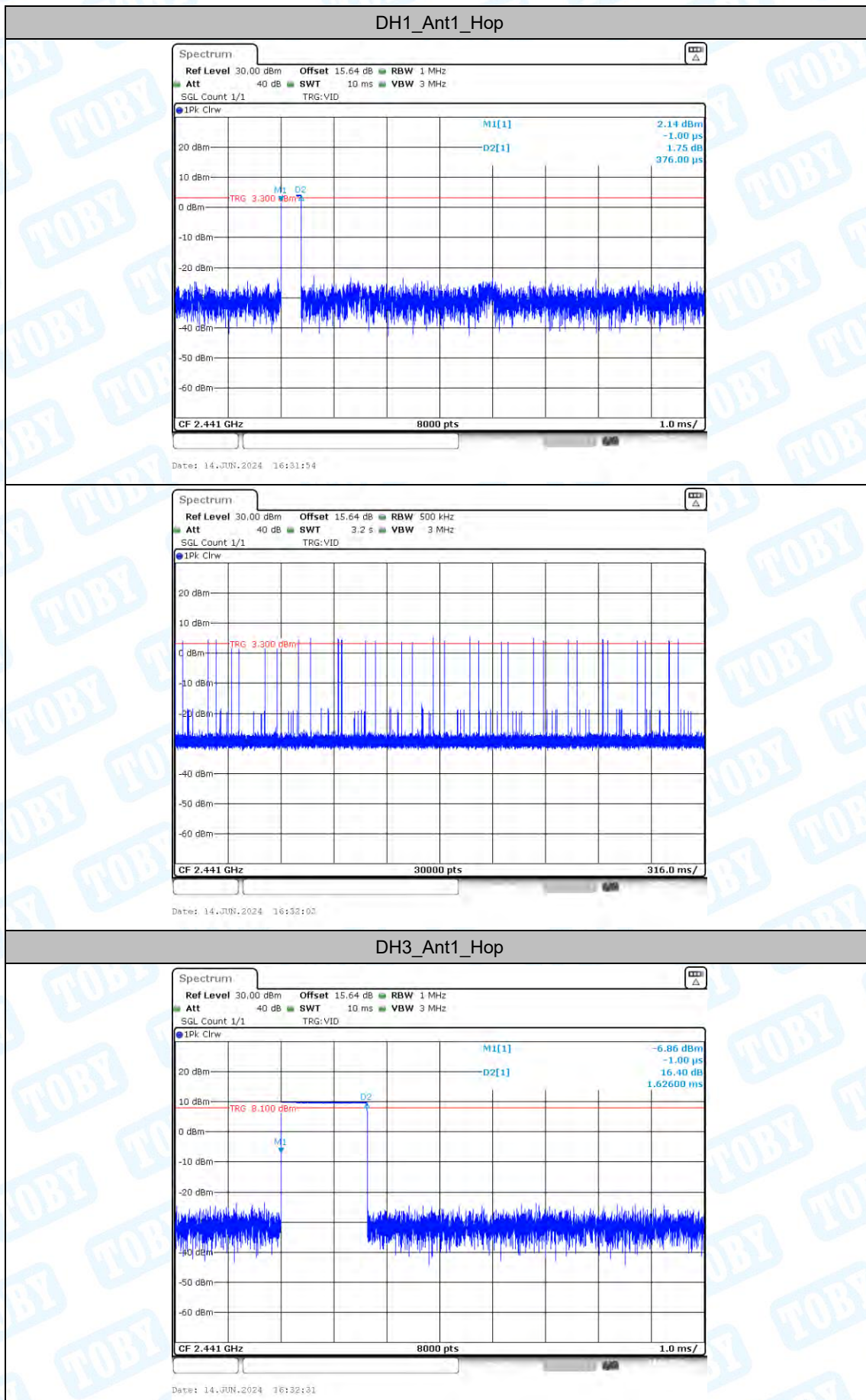


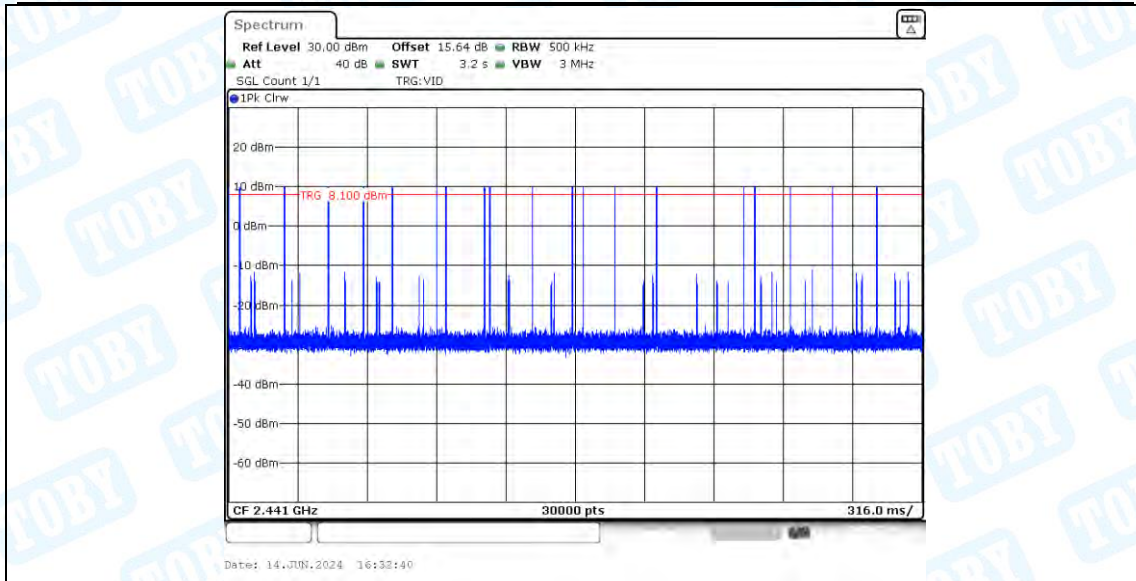
5. Time of occupancy

5.1. Test Result

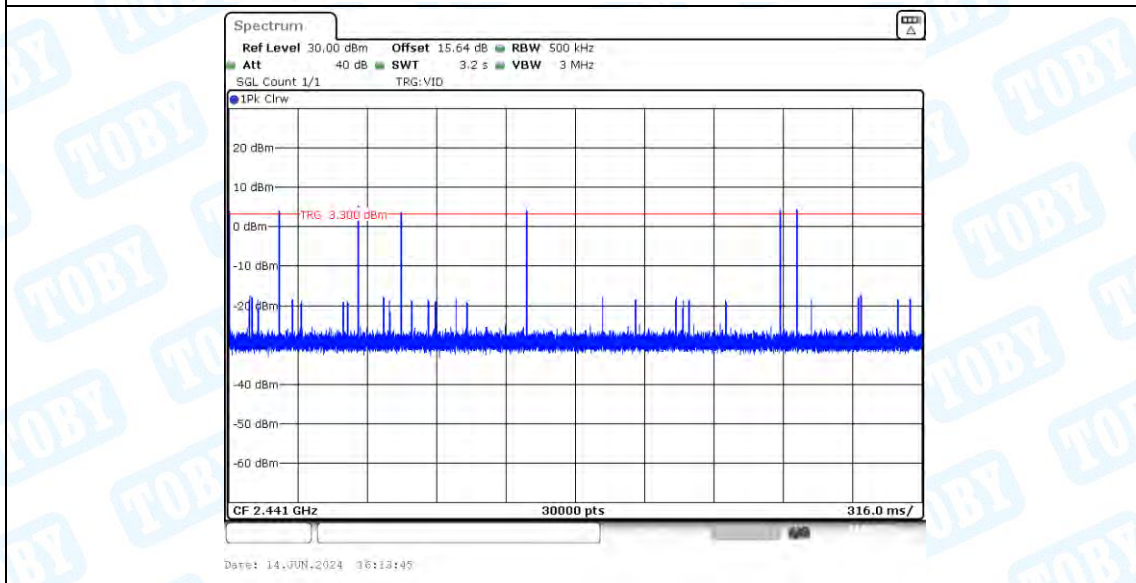
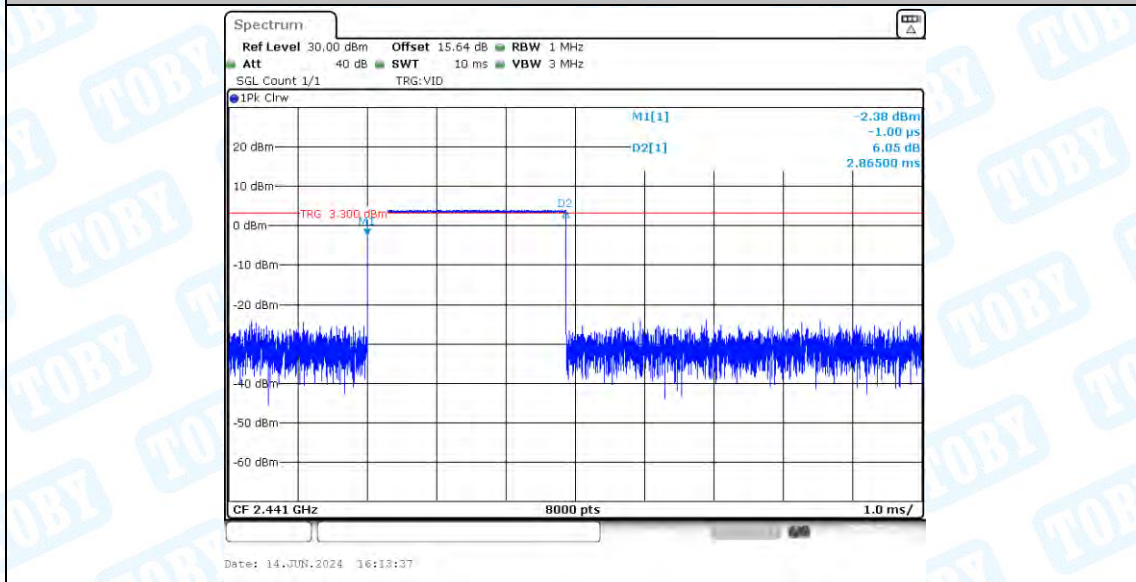
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.376	320	0.12	≤0.4	PASS
DH3	Ant1	Hop	1.626	200	0.325	≤0.4	PASS
DH5	Ant1	Hop	2.865	70	0.201	≤0.4	PASS
2DH1	Ant1	Hop	0.386	320	0.124	≤0.4	PASS
2DH3	Ant1	Hop	1.630	130	0.212	≤0.4	PASS
2DH5	Ant1	Hop	2.870	90	0.258	≤0.4	PASS
3DH1	Ant1	Hop	0.385	320	0.123	≤0.4	PASS
3DH3	Ant1	Hop	1.629	130	0.212	≤0.4	PASS
3DH5	Ant1	Hop	2.872	130	0.373	≤0.4	PASS

5.2.Test Graphs

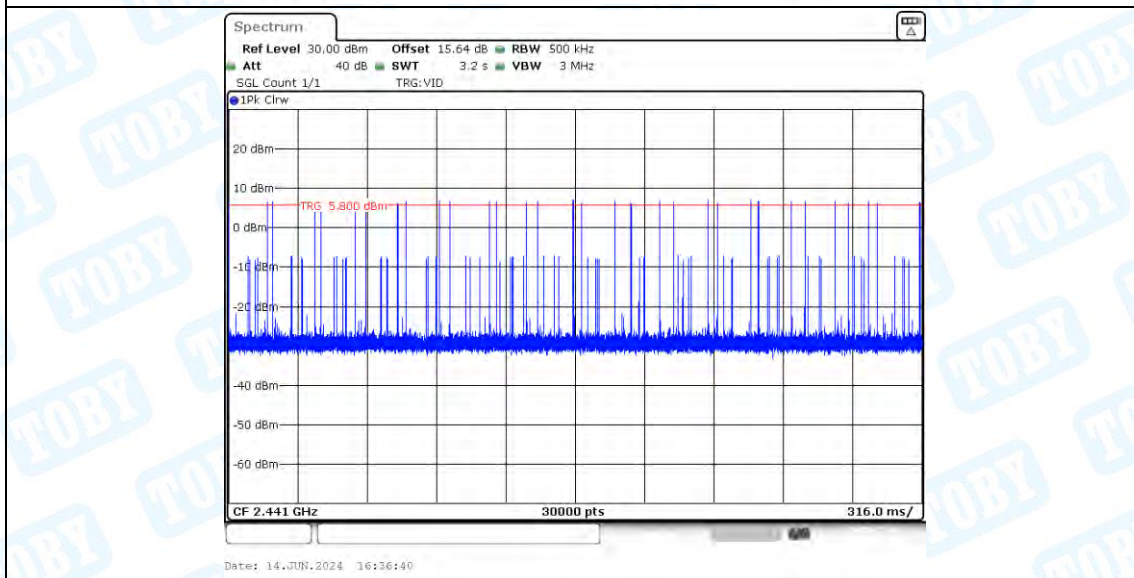
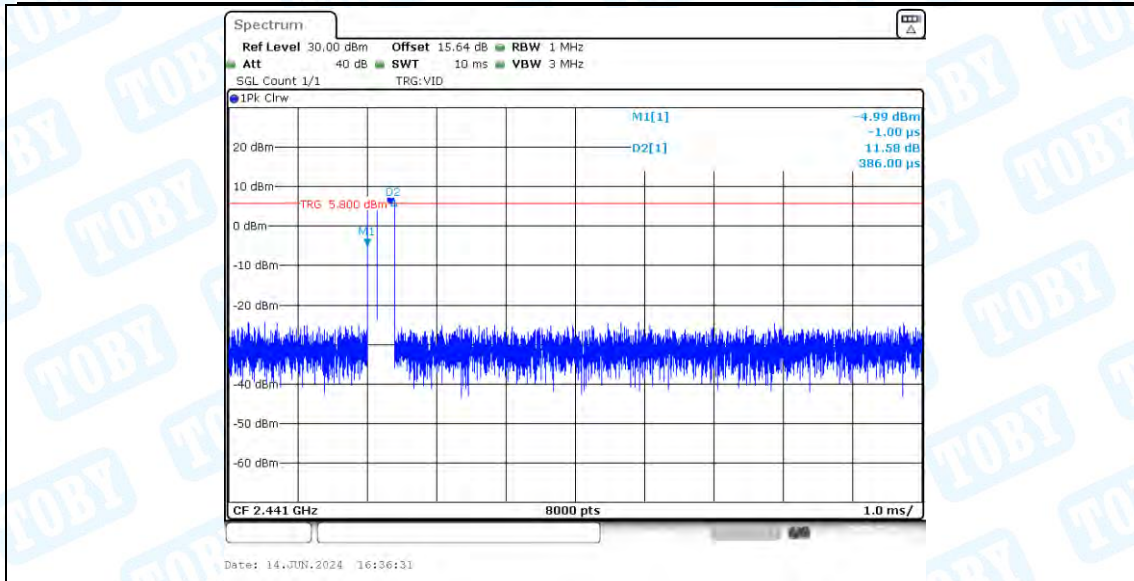




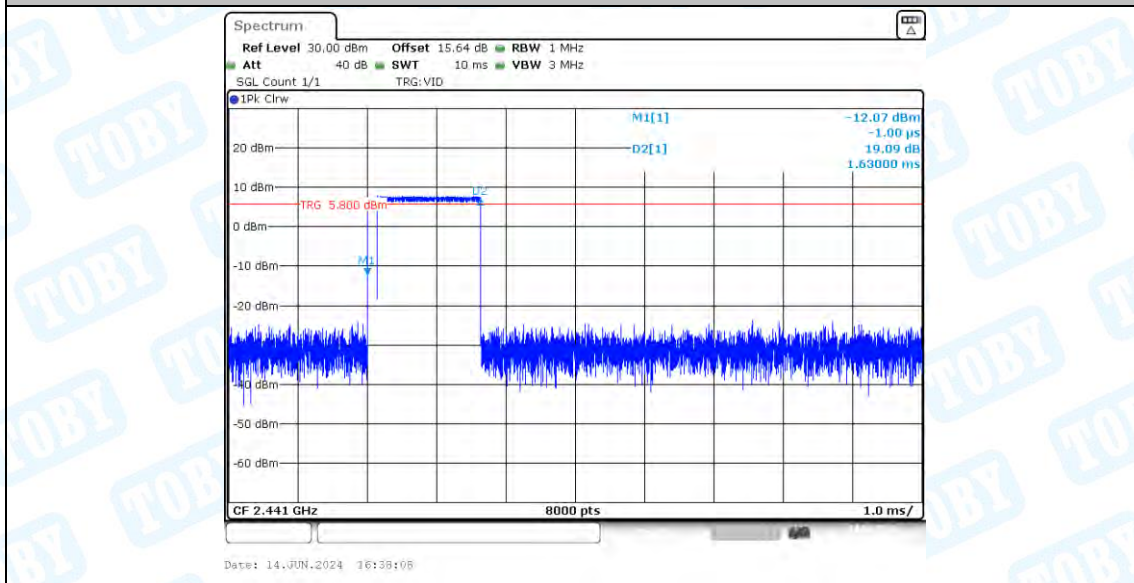
DH5_Ant1_Hop

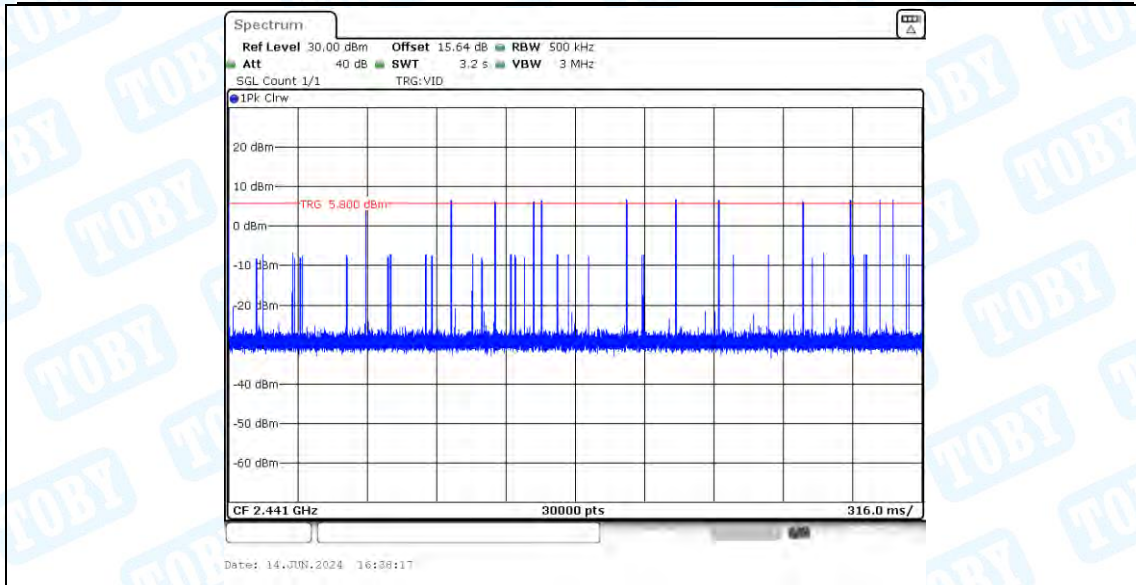


2DH1_Ant1_Hop

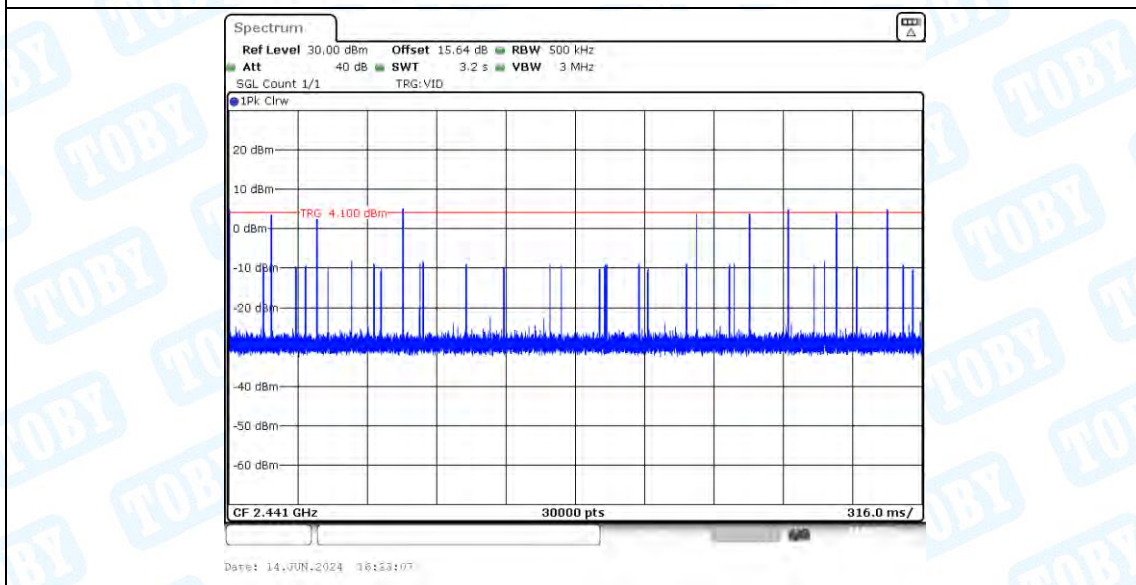
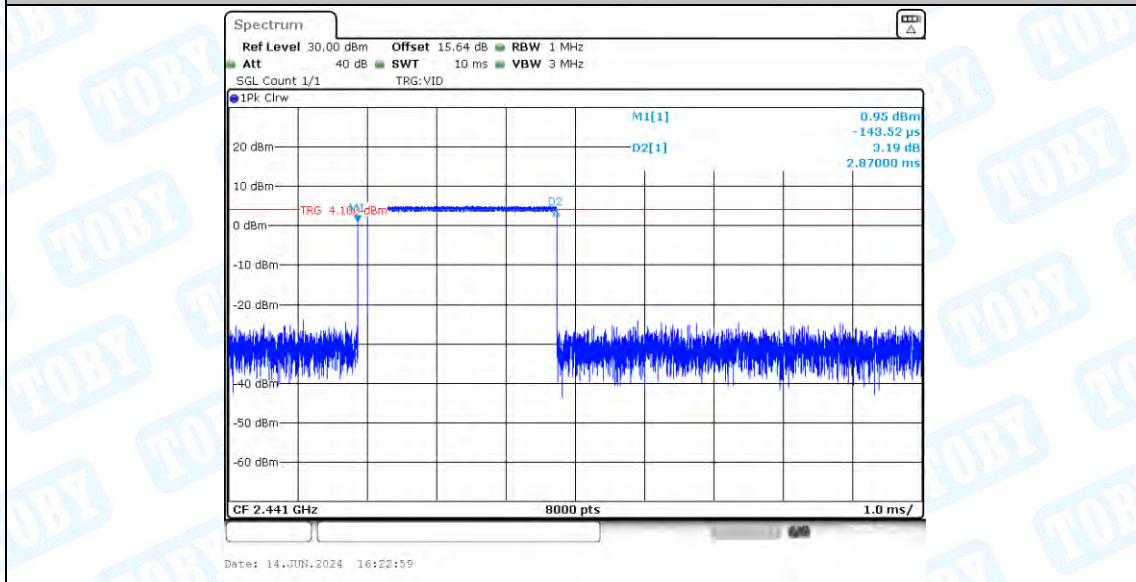


2DH3_Ant1_Hop

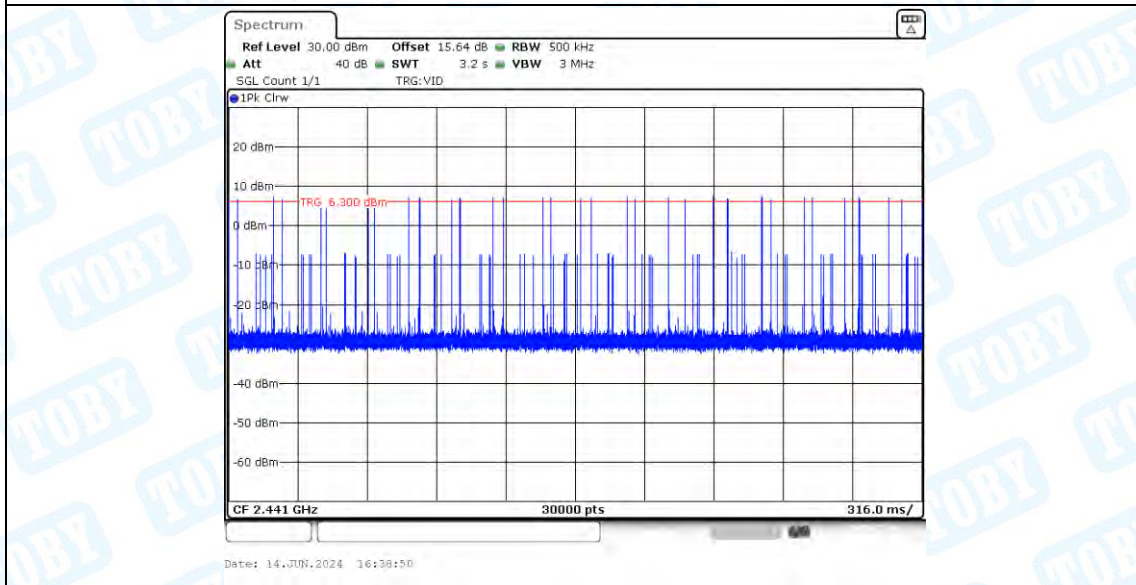
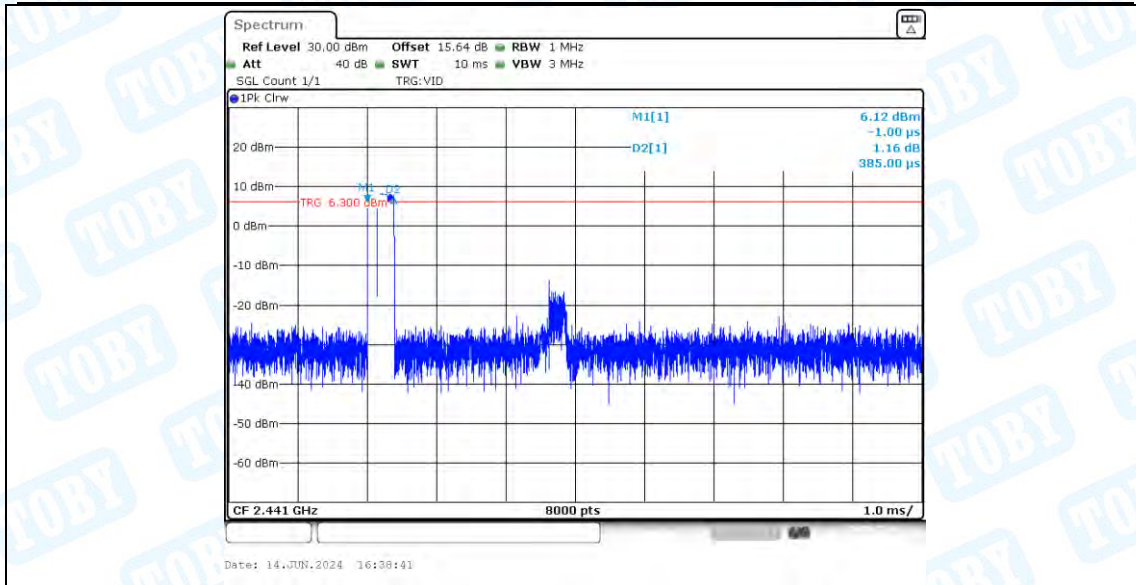




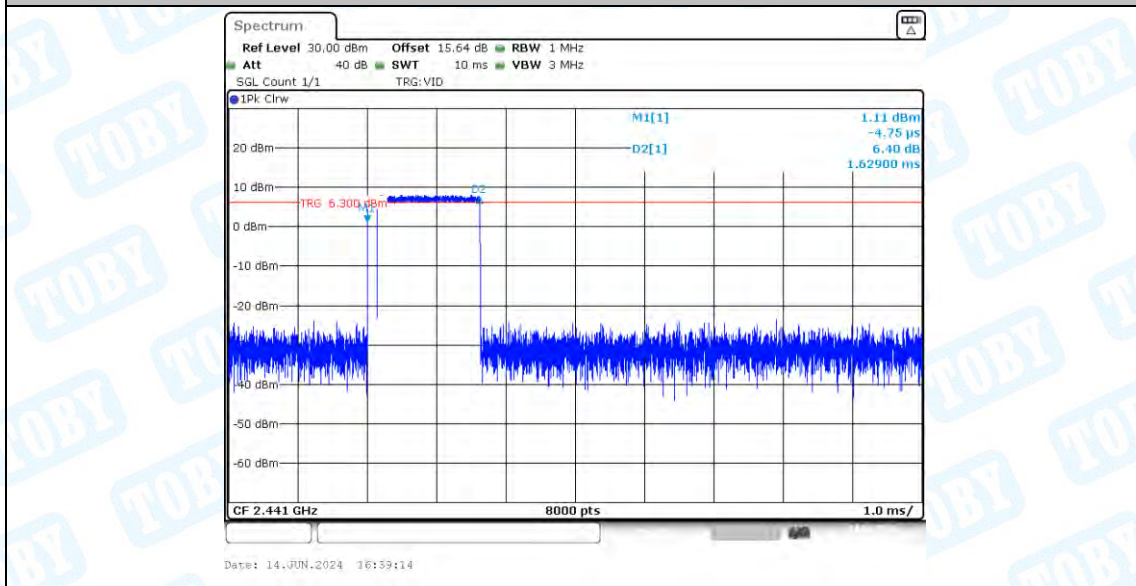
2DH5_Ant1_Hop

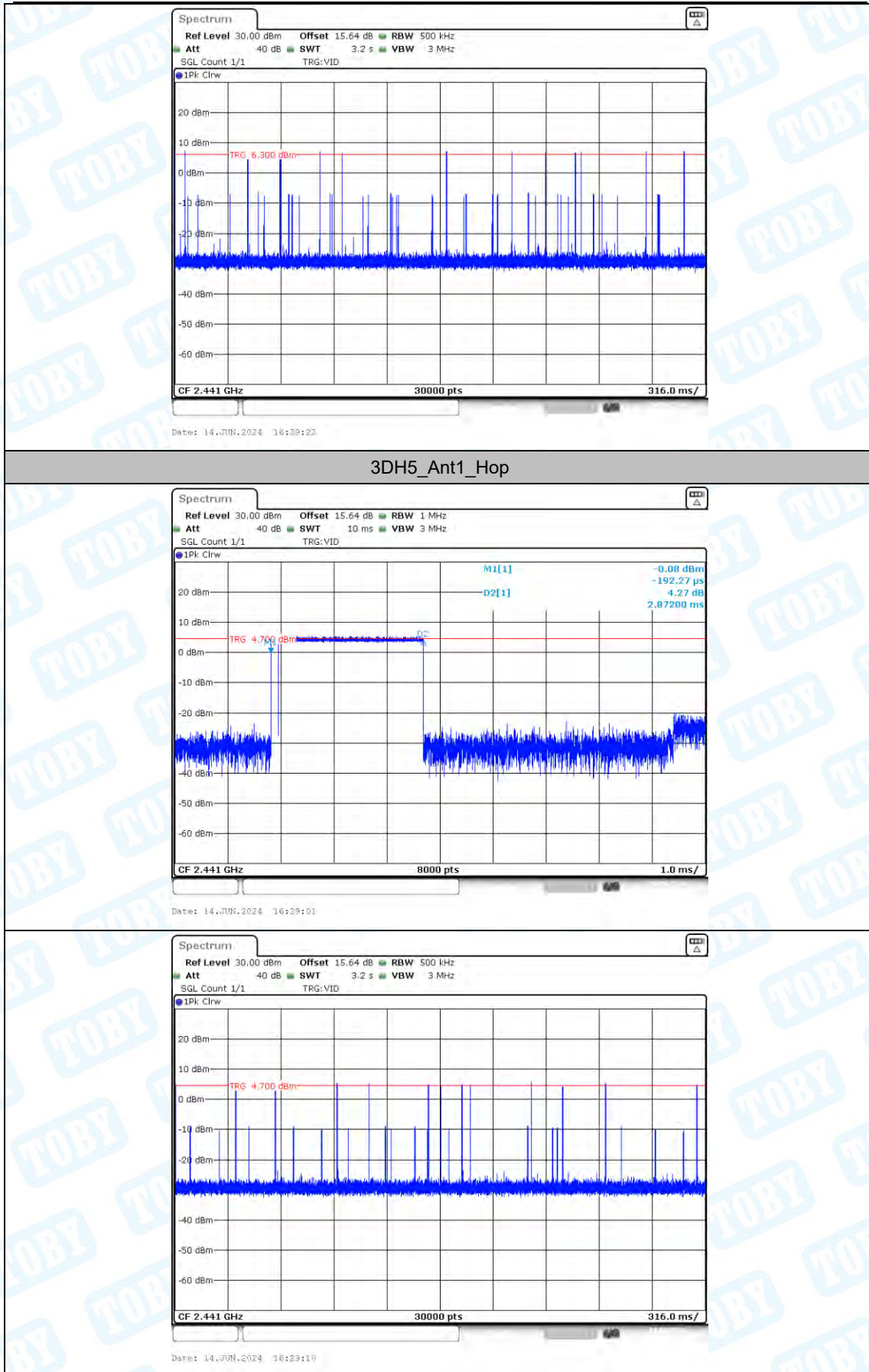


3DH1_Ant1_Hop



3DH3_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

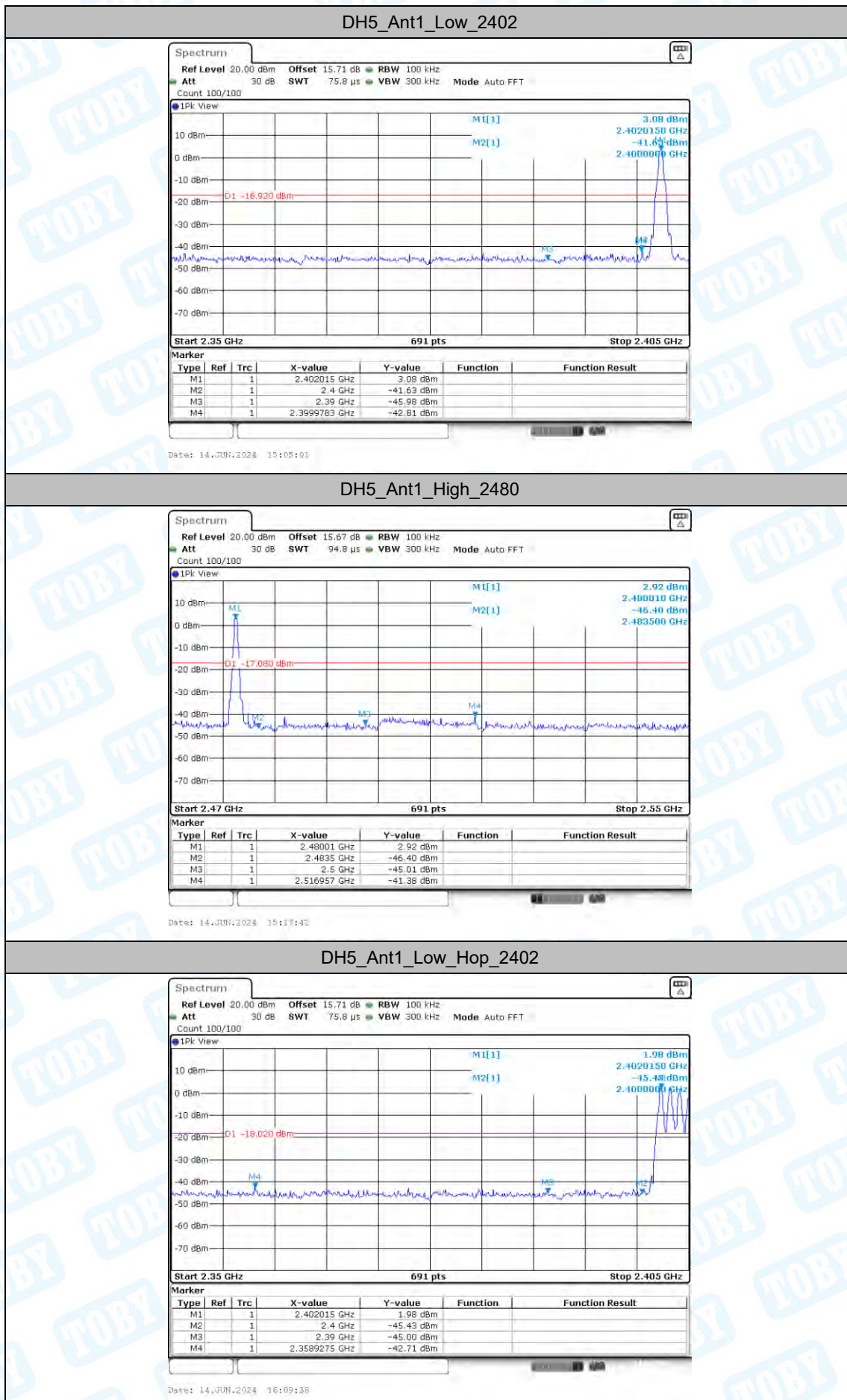


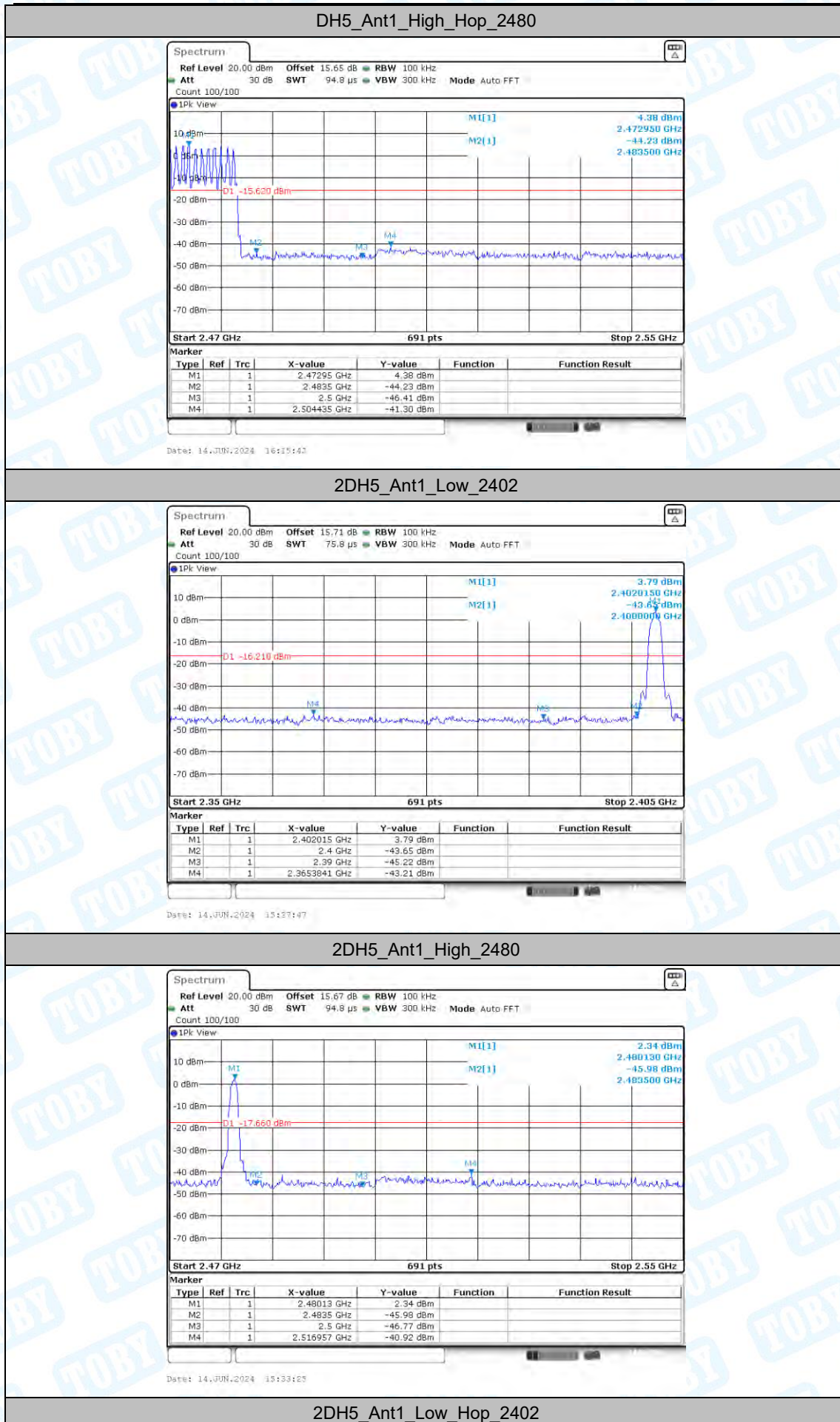
7. Band edge measurements

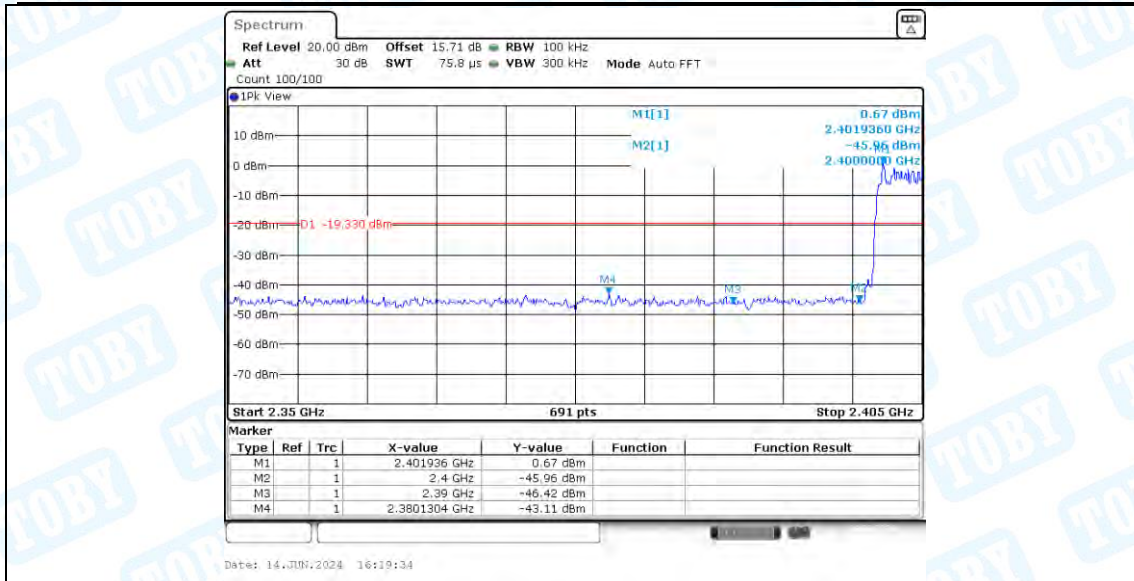
7.1. Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	3.08	-42.81	≤-16.92	PASS
		High	2480	2.92	-41.38	≤-17.08	PASS
		Low	Hop_2402	1.98	-42.71	≤-18.02	PASS
		High	Hop_2480	4.38	-41.3	≤-15.62	PASS
2DH5	Ant1	Low	2402	3.79	-43.21	≤-16.21	PASS
		High	2480	2.34	-40.92	≤-17.66	PASS
		Low	Hop_2402	0.67	-43.11	≤-19.33	PASS
		High	Hop_2480	4.68	-40.76	≤-15.32	PASS
3DH5	Ant1	Low	2402	3.91	-42.43	≤-16.09	PASS
		High	2480	6.17	-40.65	≤-13.83	PASS
		Low	Hop_2402	1.12	-42.51	≤-18.88	PASS
		High	Hop_2480	3.77	-41.04	≤-16.23	PASS

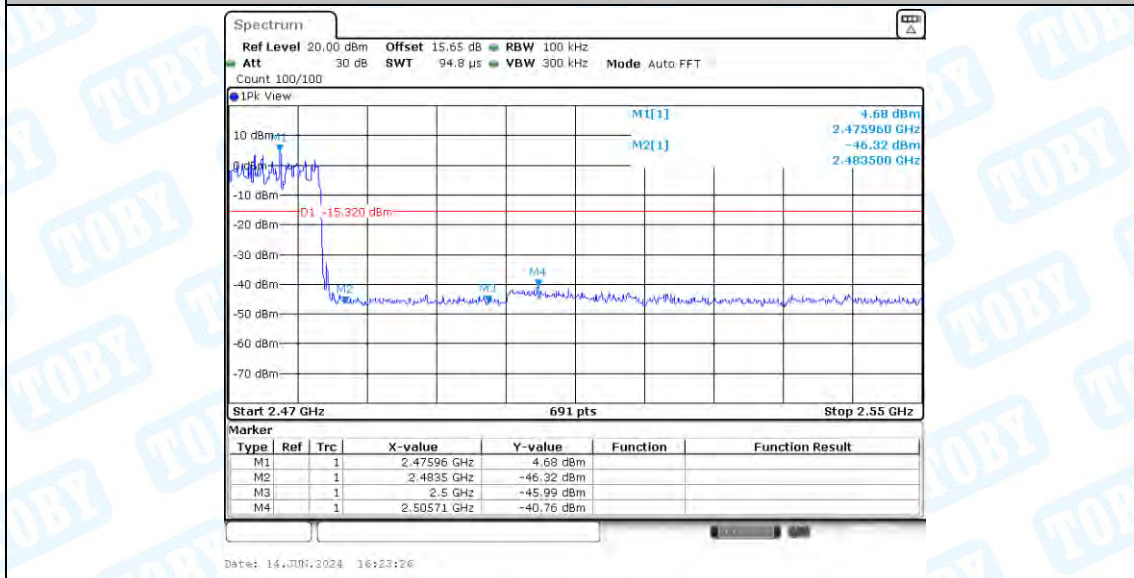
7.2. Test Graphs



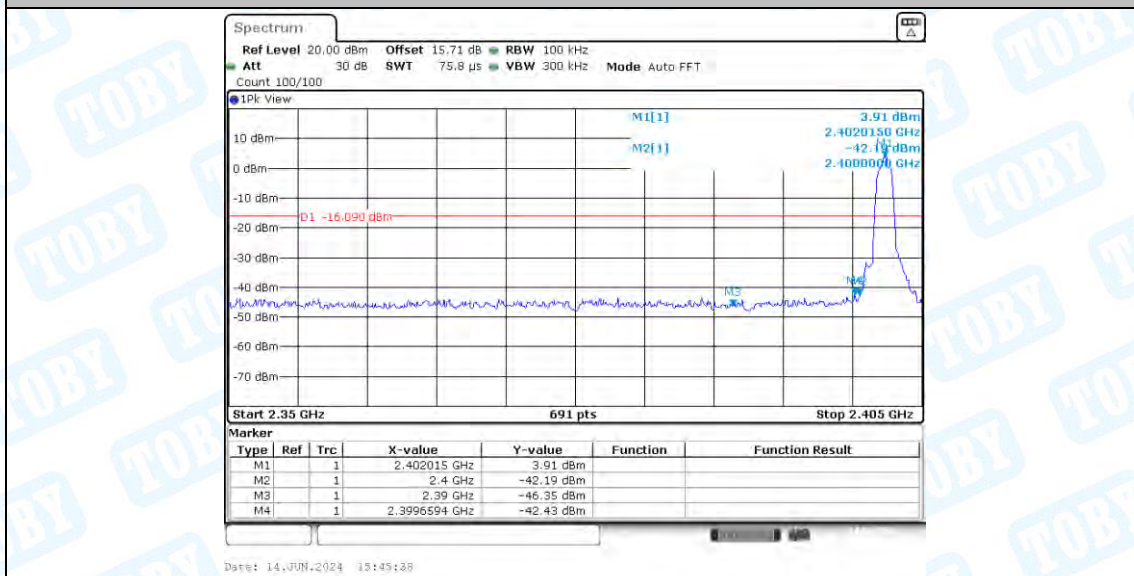




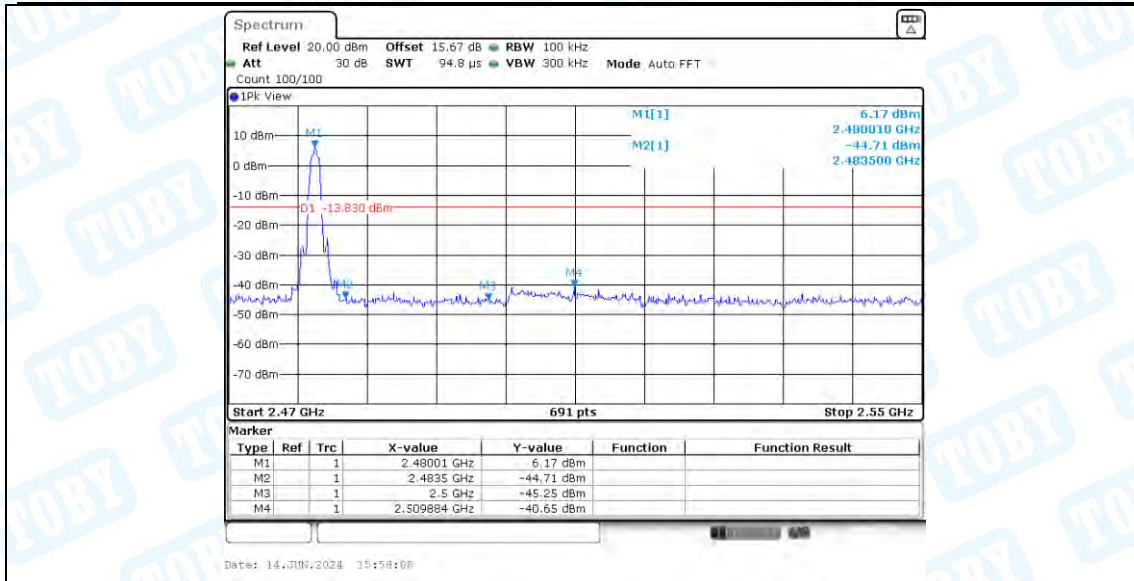
2DH5_Ant1_High_Hop_2480



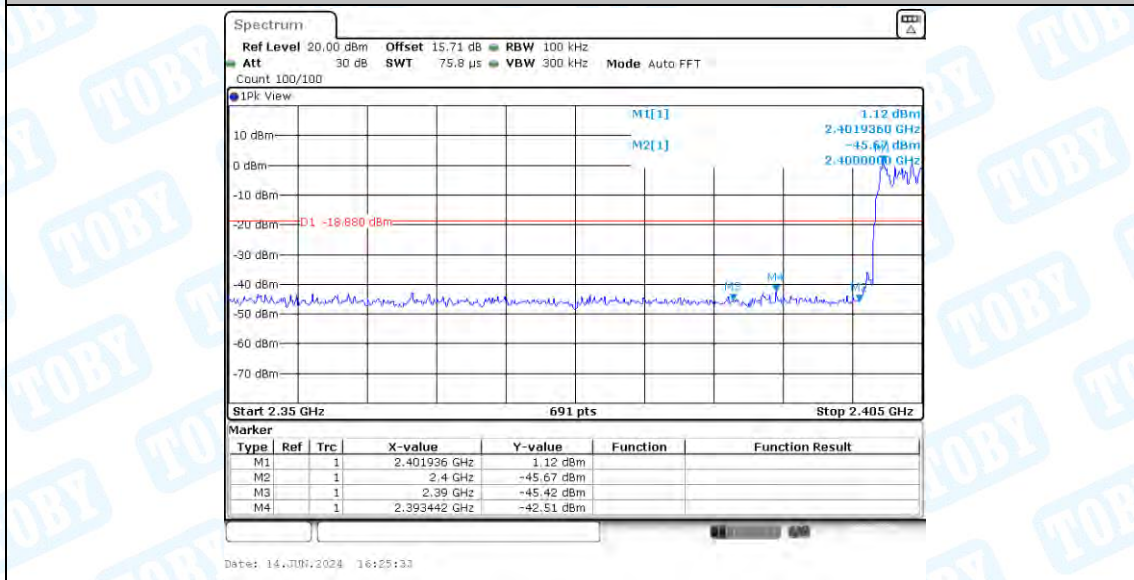
3DH5_Ant1_Low_2402



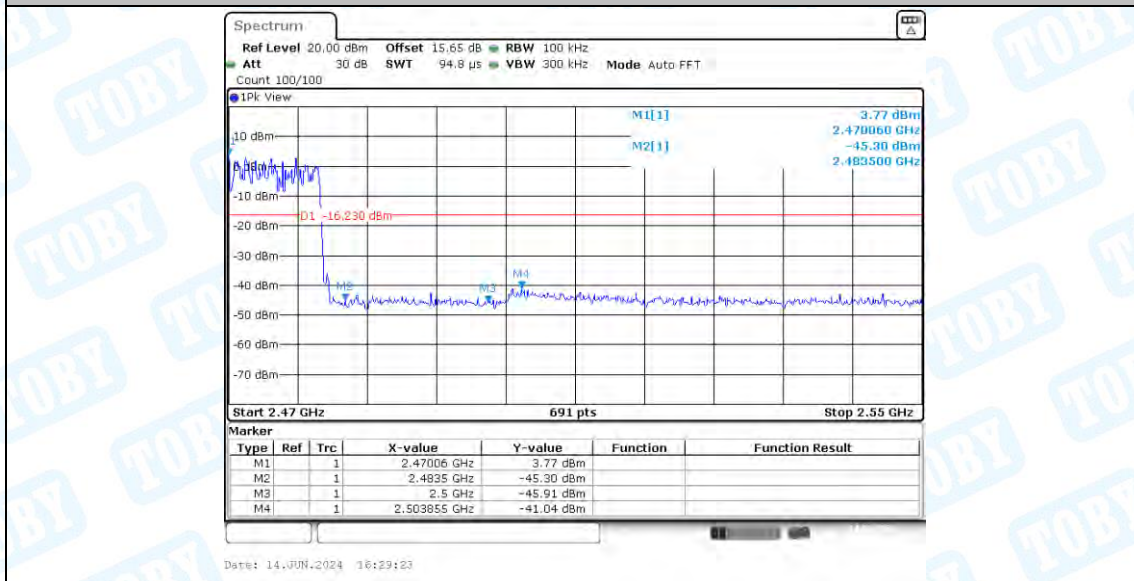
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480

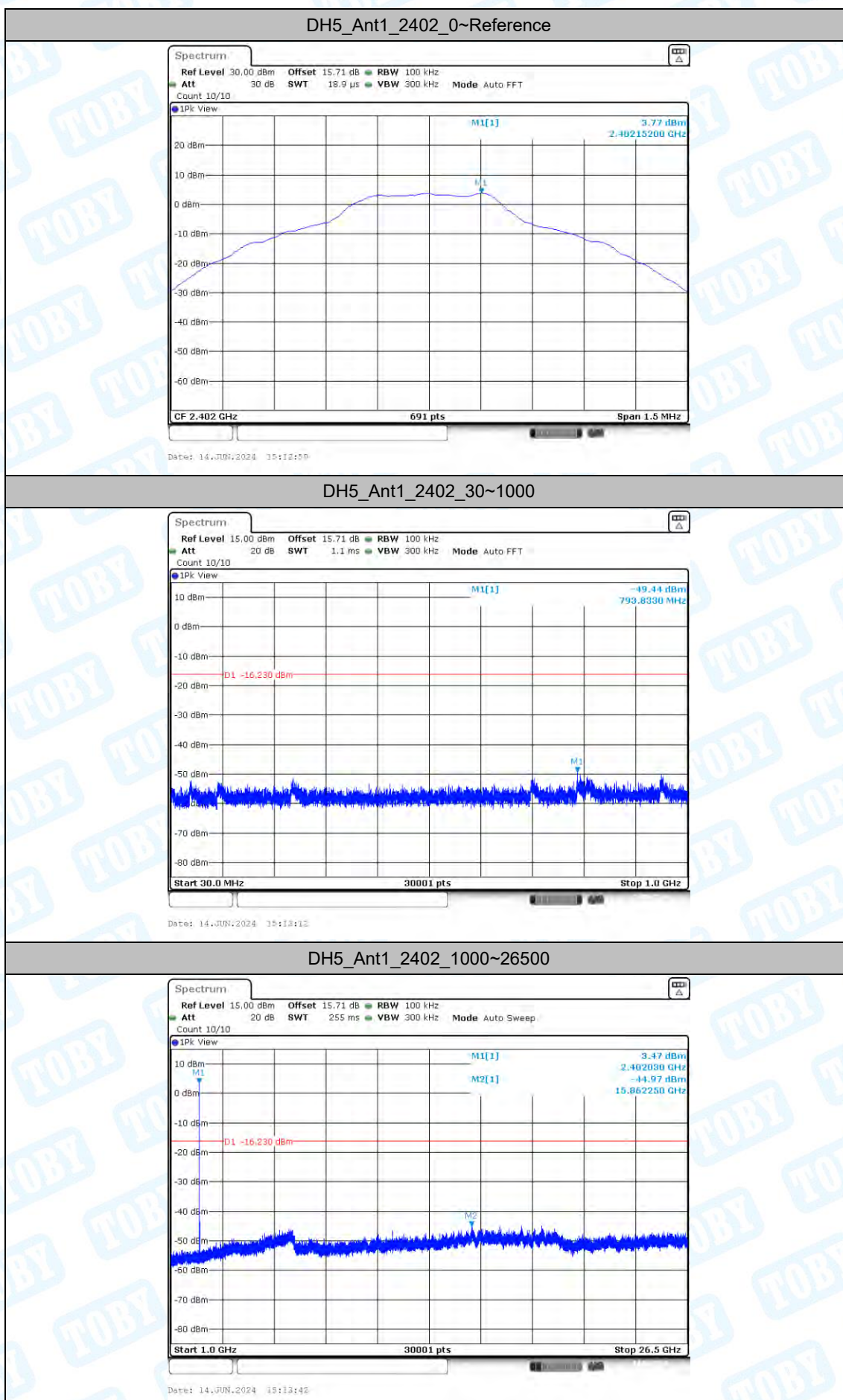


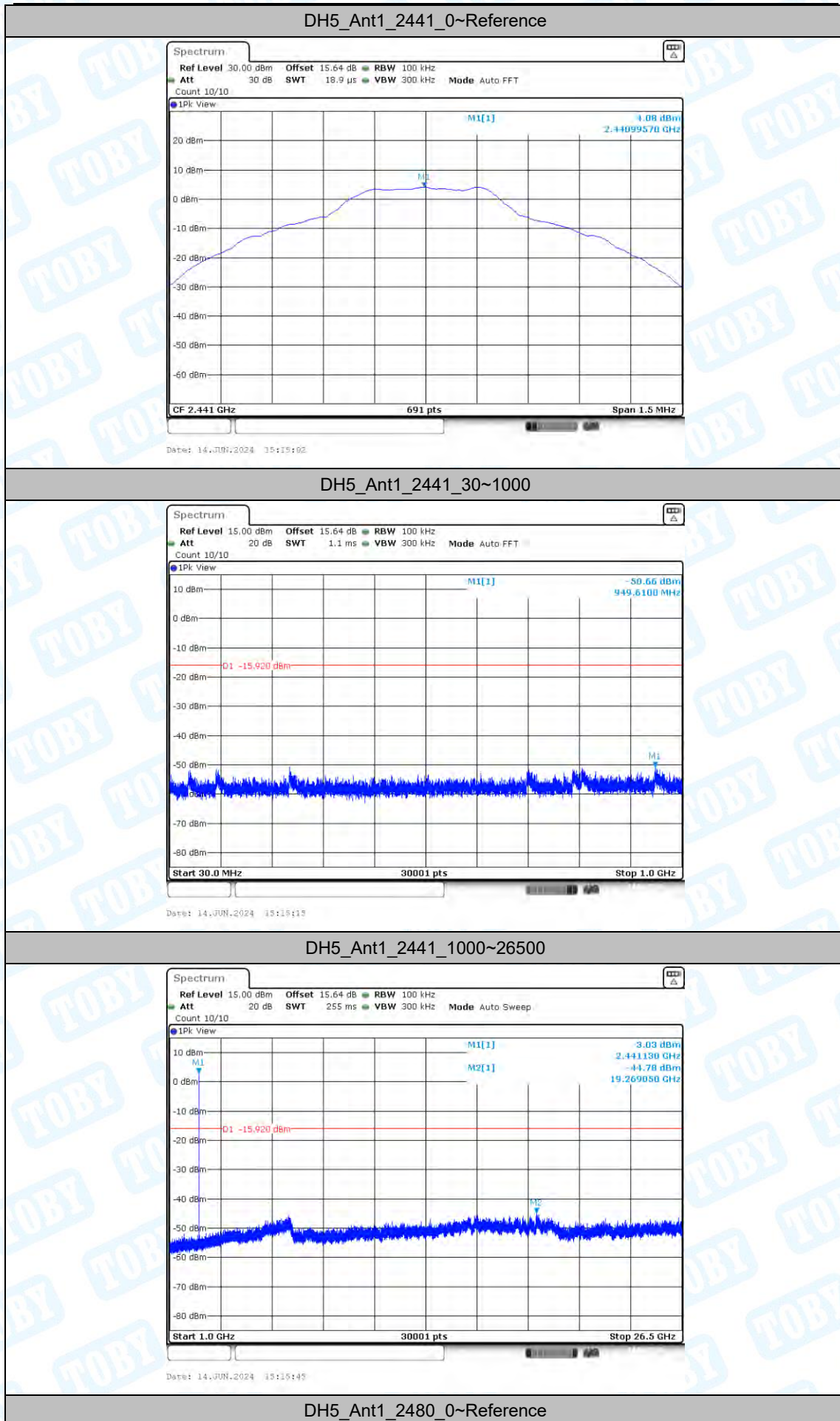
8. Conducted Spurious Emission

8.1. Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	3.77	3.77	---	PASS
			30~1000	3.77	-49.44	≤-16.23	PASS
			1000~26500	3.77	-44.97	≤-16.23	PASS
		2441	Reference	4.08	4.08	---	PASS
			30~1000	4.08	-50.66	≤-15.92	PASS
			1000~26500	4.08	-44.78	≤-15.92	PASS
		2480	Reference	3.53	3.53	---	PASS
			30~1000	3.53	-50.08	≤-16.47	PASS
			1000~26500	3.53	-45.2	≤-16.47	PASS
2DH5	Ant1	2402	Reference	3.80	3.80	---	PASS
			30~1000	3.80	-50.21	≤-16.2	PASS
			1000~26500	3.80	-44.95	≤-16.2	PASS
		2441	Reference	4.19	4.19	---	PASS
			30~1000	4.19	-50.37	≤-15.81	PASS
			1000~26500	4.19	-45.61	≤-15.81	PASS
		2480	Reference	3.56	3.56	---	PASS
			30~1000	3.56	-50.93	≤-16.44	PASS
			1000~26500	3.56	-45.38	≤-16.44	PASS
3DH5	Ant1	2402	Reference	3.94	3.94	---	PASS
			30~1000	3.94	-49.9	≤-16.06	PASS
			1000~26500	3.94	-44.05	≤-16.06	PASS
		2441	Reference	6.58	6.58	---	PASS
			30~1000	6.58	-50.02	≤-13.42	PASS
			1000~26500	6.58	-44.83	≤-13.42	PASS
		2480	Reference	6.20	6.20	---	PASS
			30~1000	6.20	-50.36	≤-13.8	PASS
			1000~26500	6.20	-44.97	≤-13.8	PASS

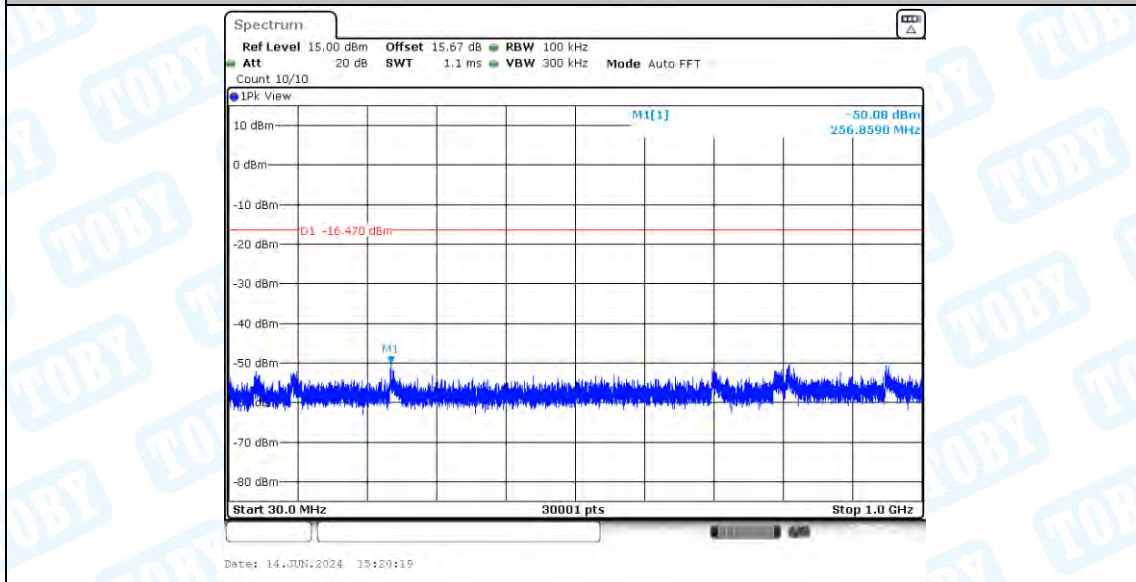
8.2.Test Graphs



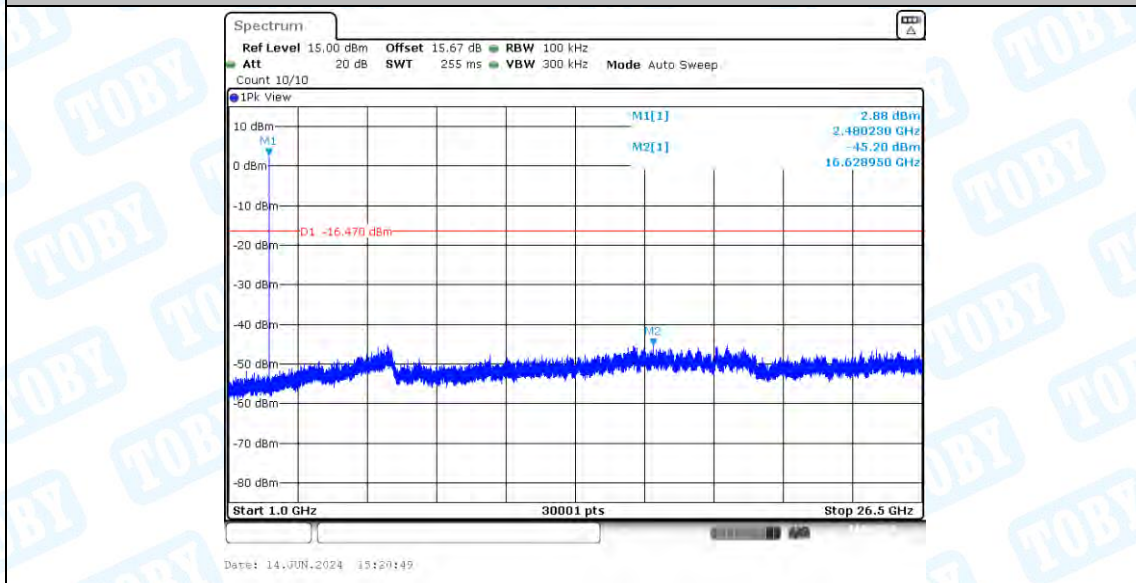




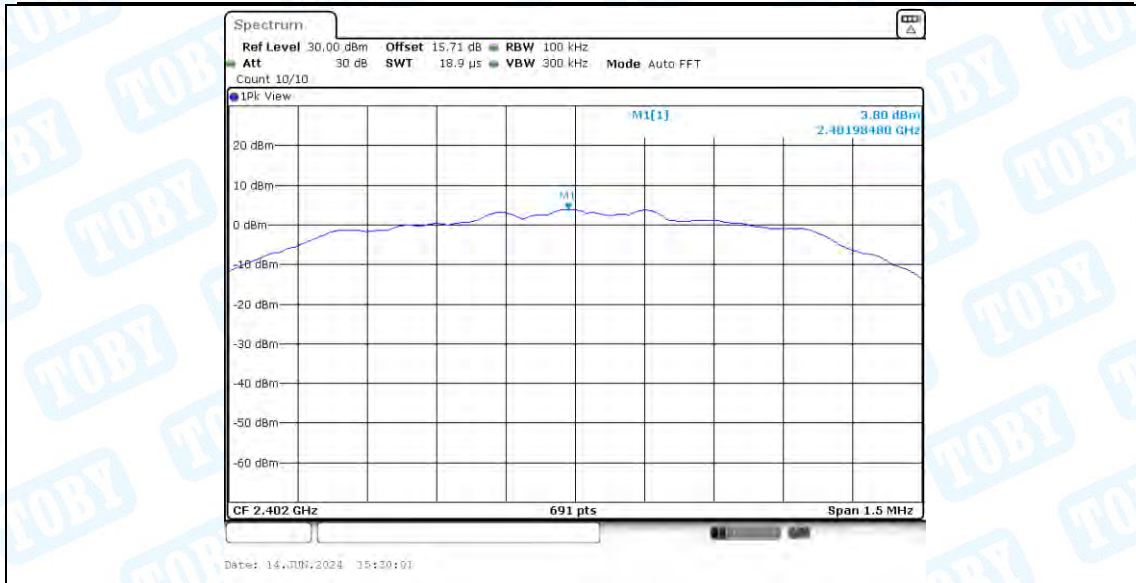
DH5_Ant1_2480_30~1000



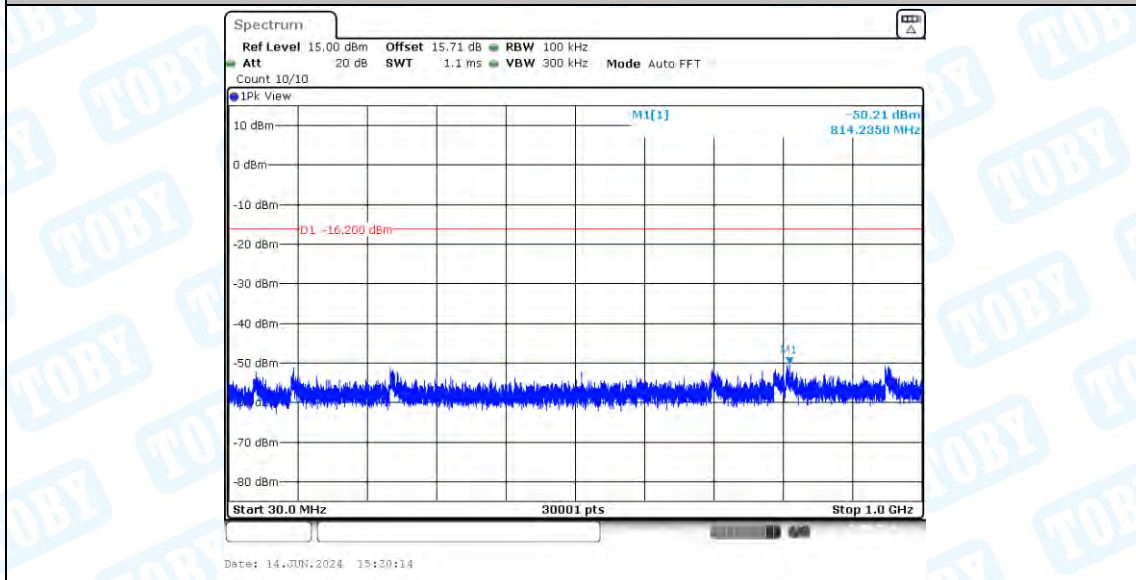
DH5_Ant1_2480_1000~26500



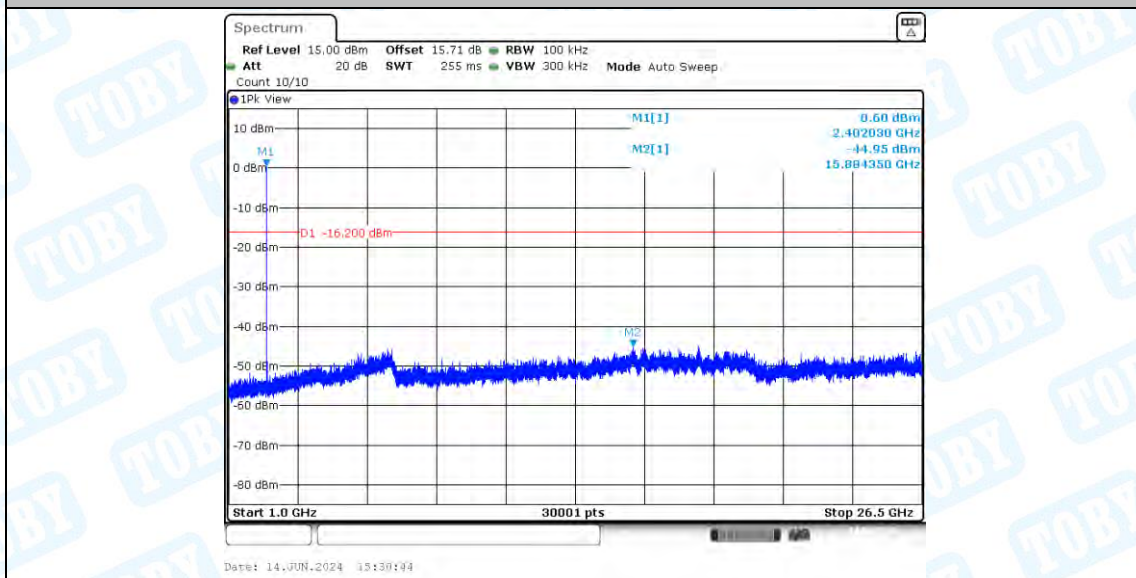
2DH5_Ant1_2402_0~Reference



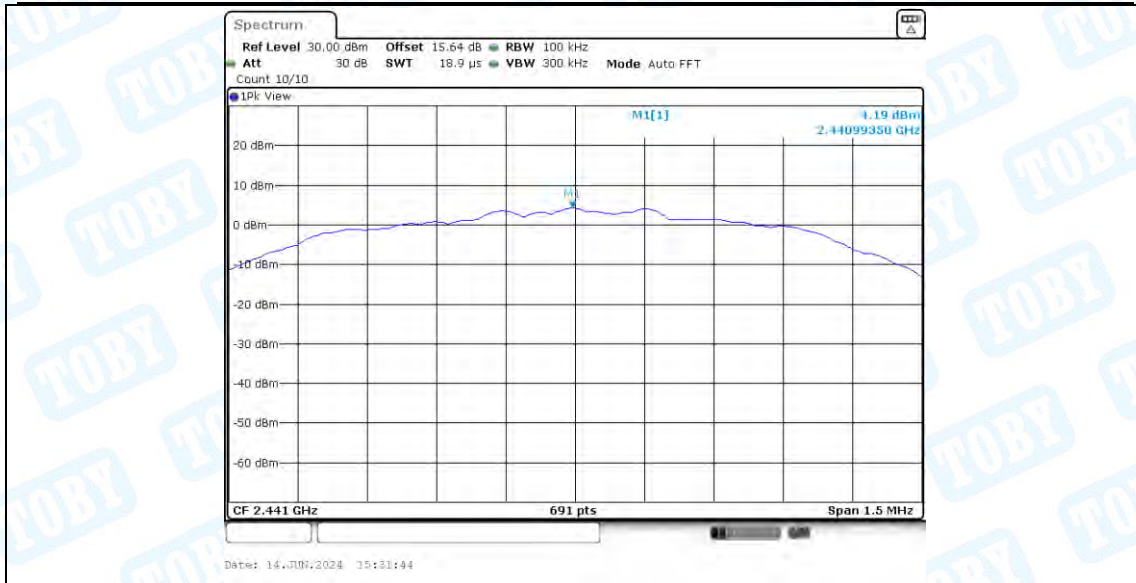
2DH5_Ant1_2402_30~1000



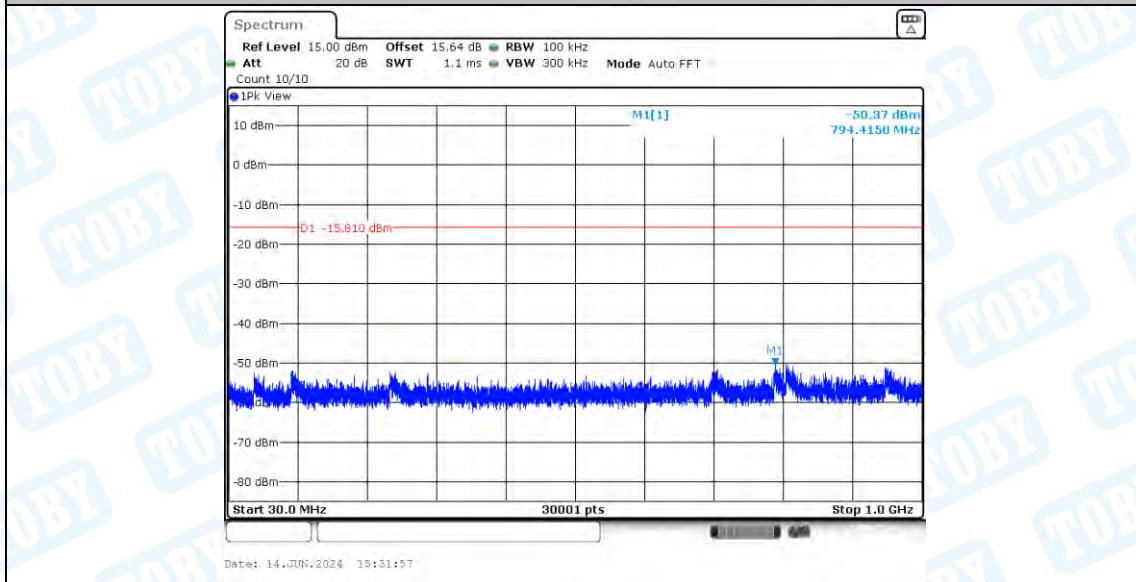
2DH5_Ant1_2402_1000~26500



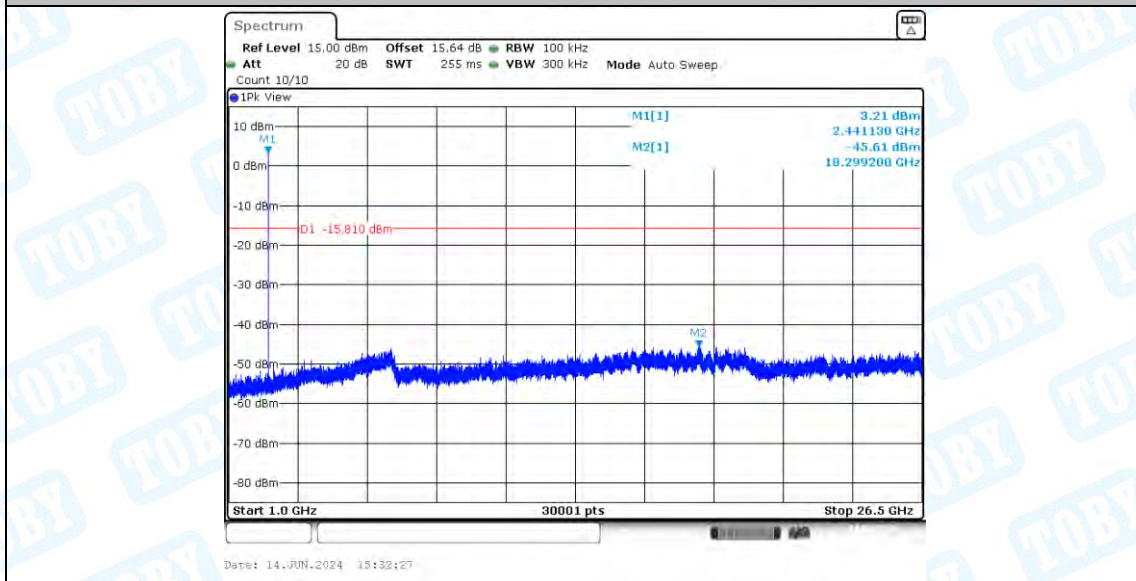
2DH5_Ant1_2441_0~Reference



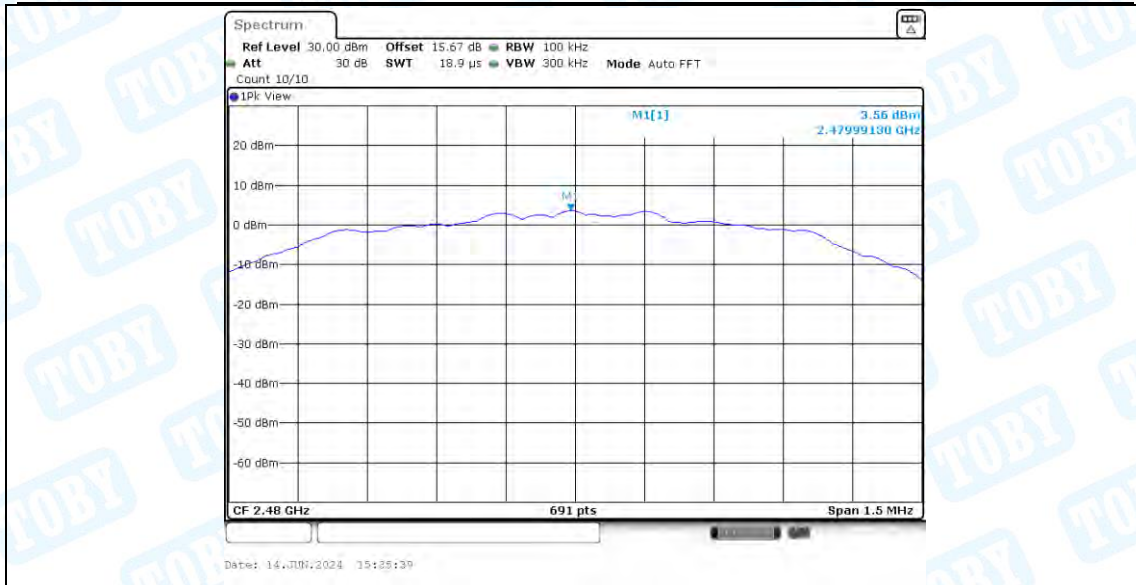
2DH5_Ant1_2441_30~1000



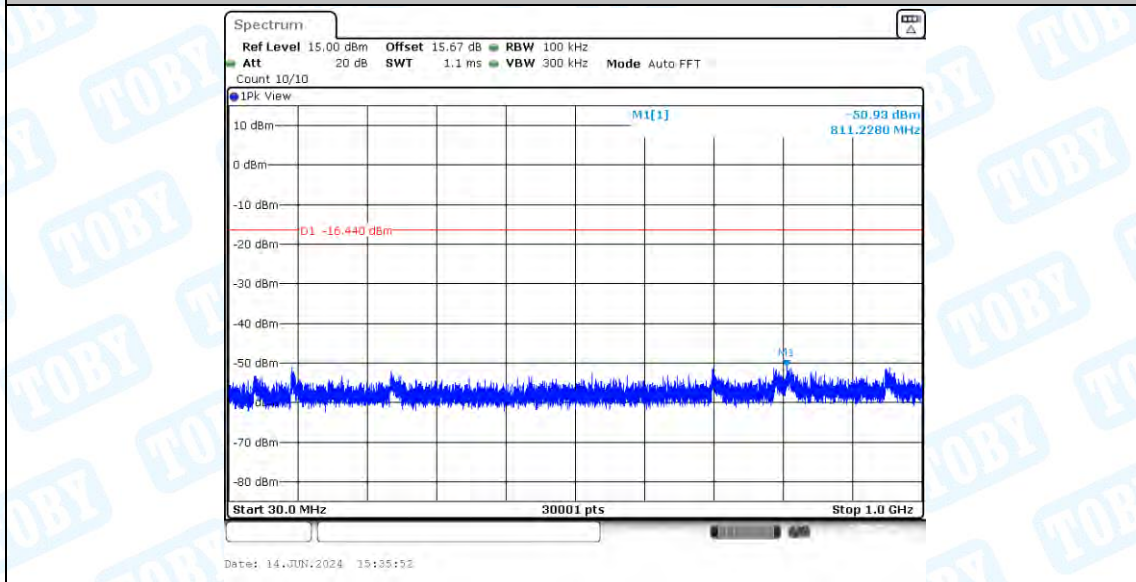
2DH5_Ant1_2441_1000~26500



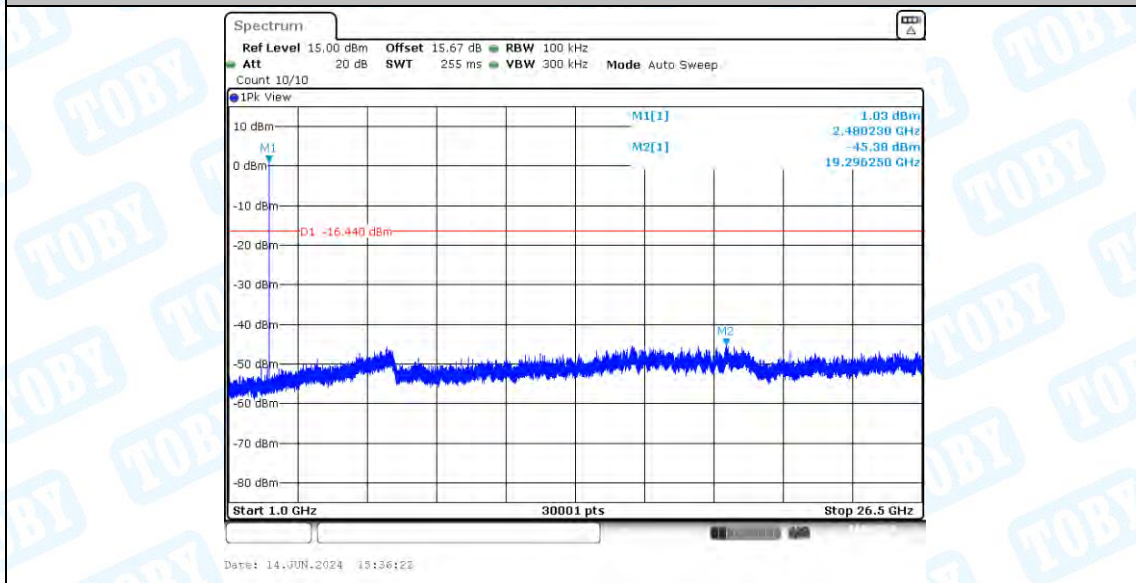
2DH5_Ant1_2480_0~Reference



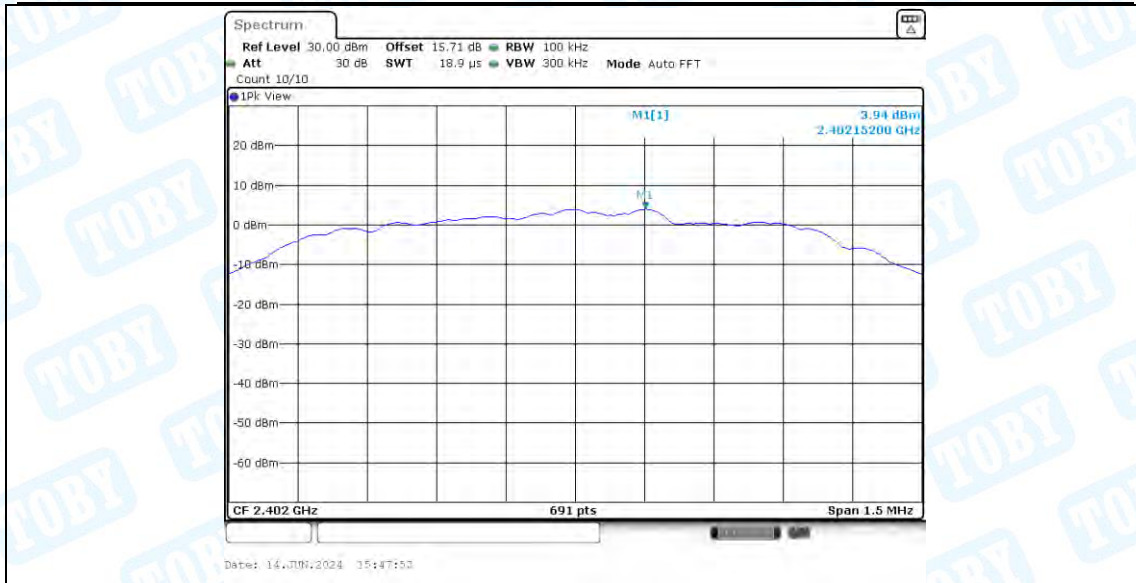
2DH5_Ant1_2480_30~1000



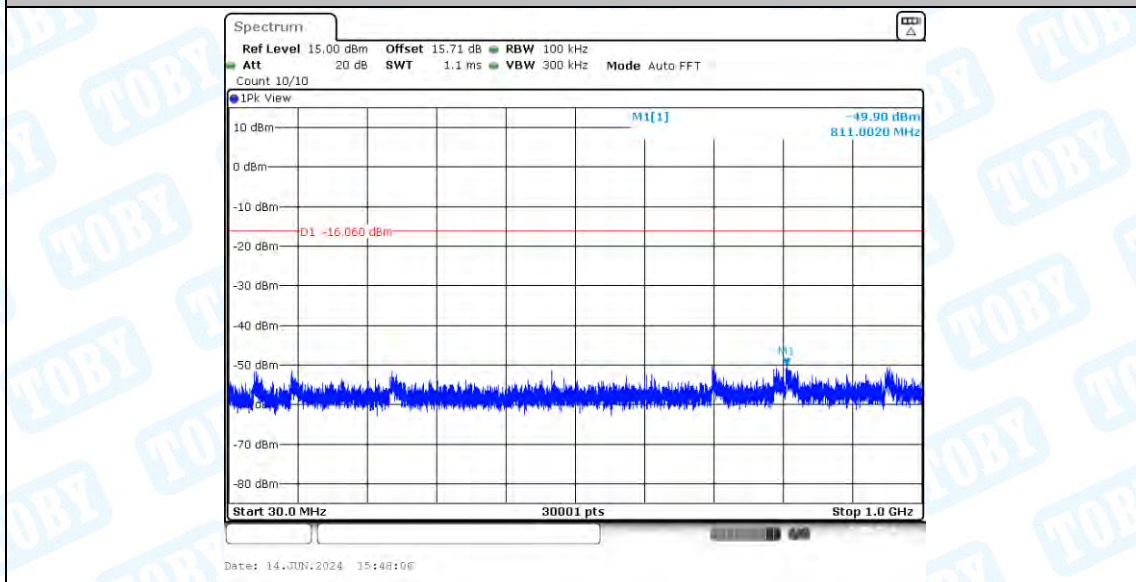
2DH5_Ant1_2480_1000~26500



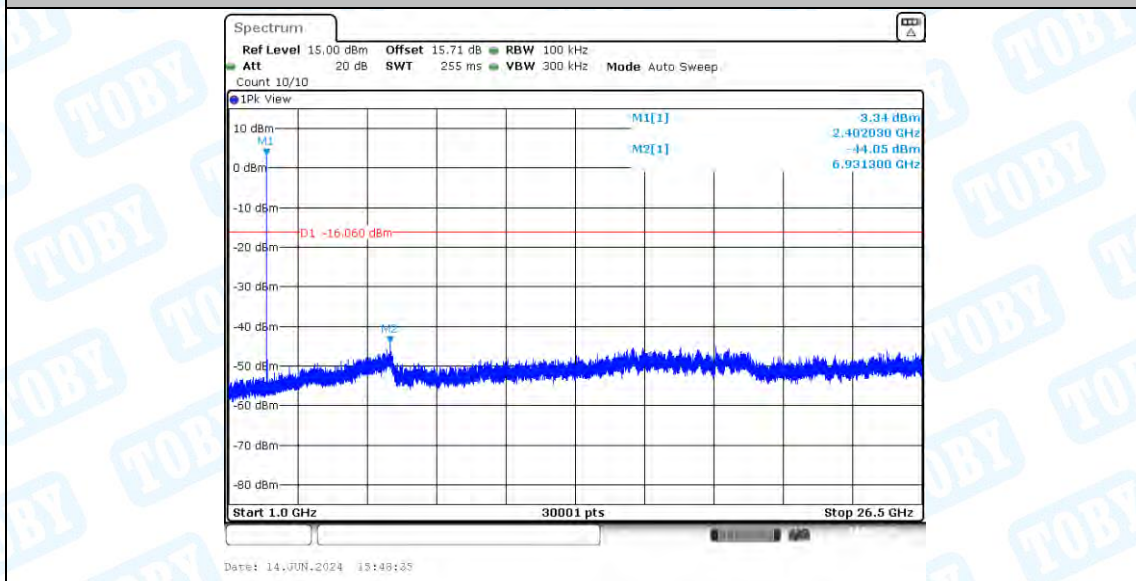
3DH5_Ant1_2402_0~Reference



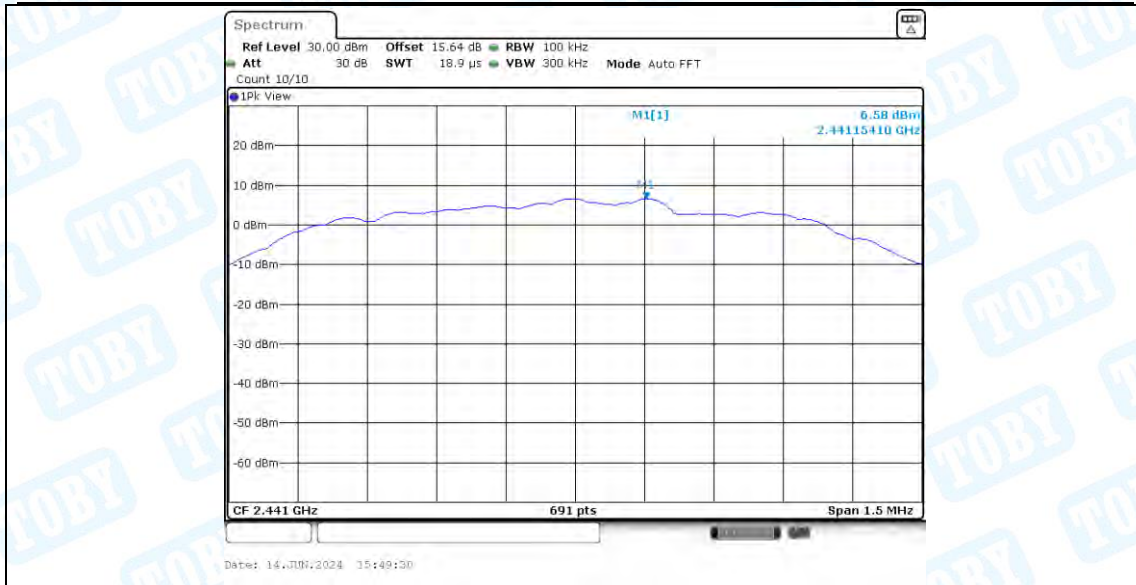
3DH5_Ant1_2402_30~1000



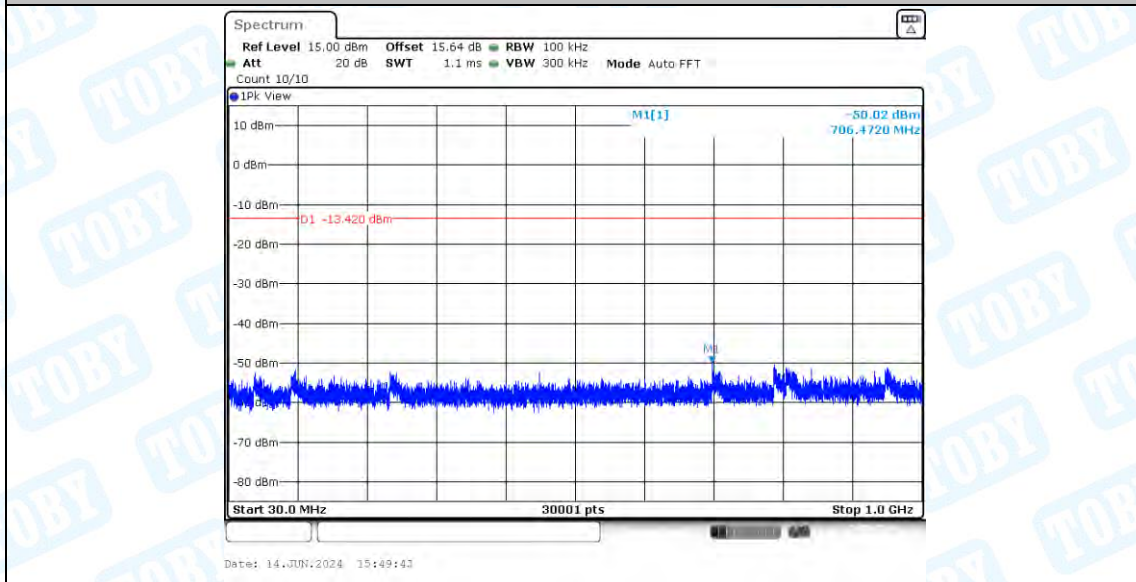
3DH5_Ant1_2402_1000~26500



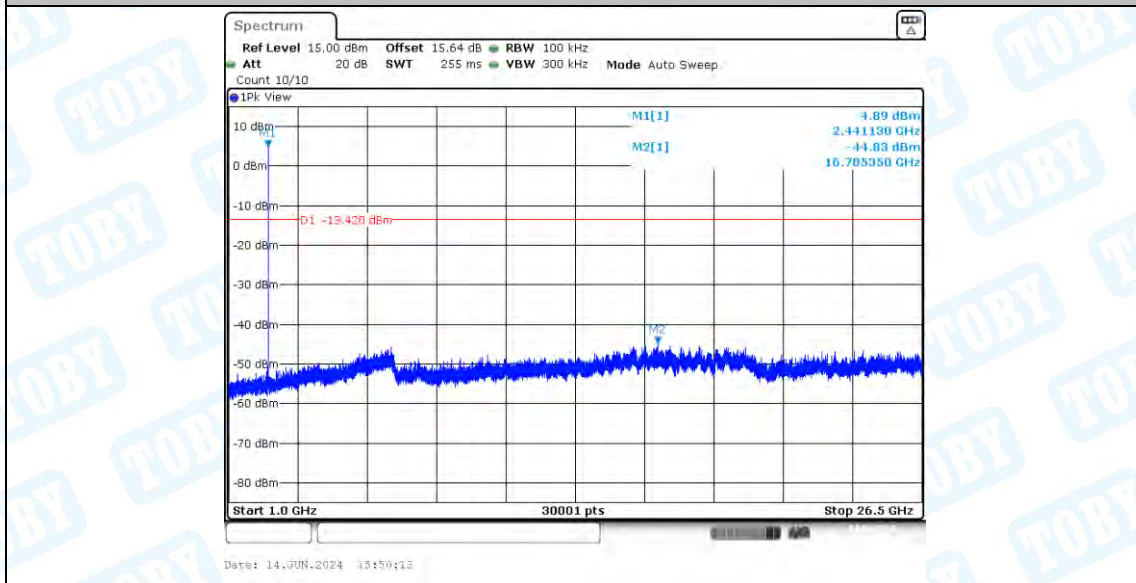
3DH5_Ant1_2441_0~Reference



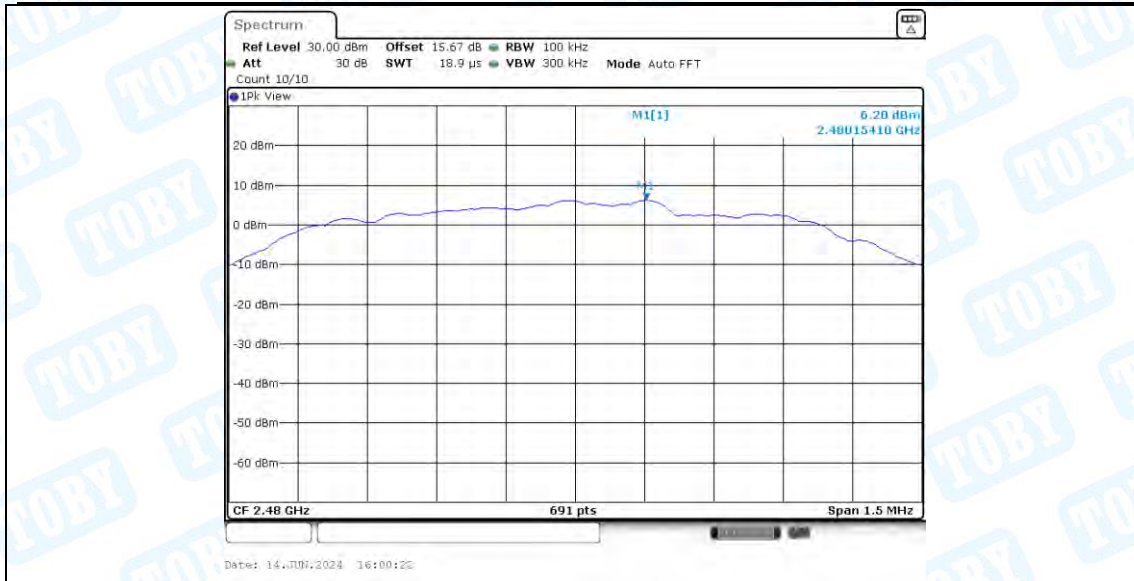
3DH5_Ant1_2441_30~1000



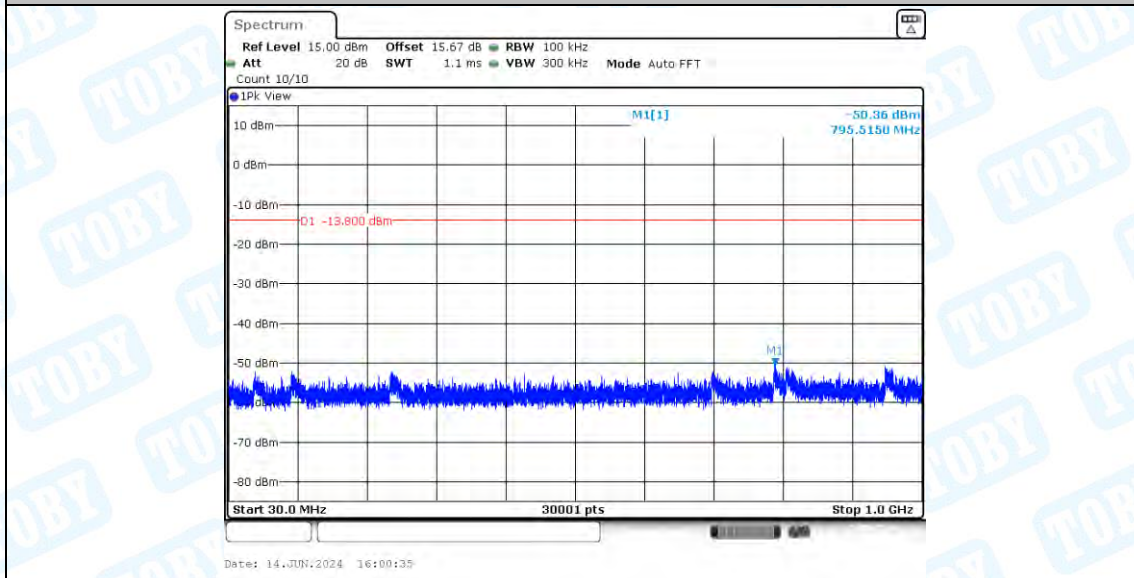
3DH5_Ant1_2441_1000~26500



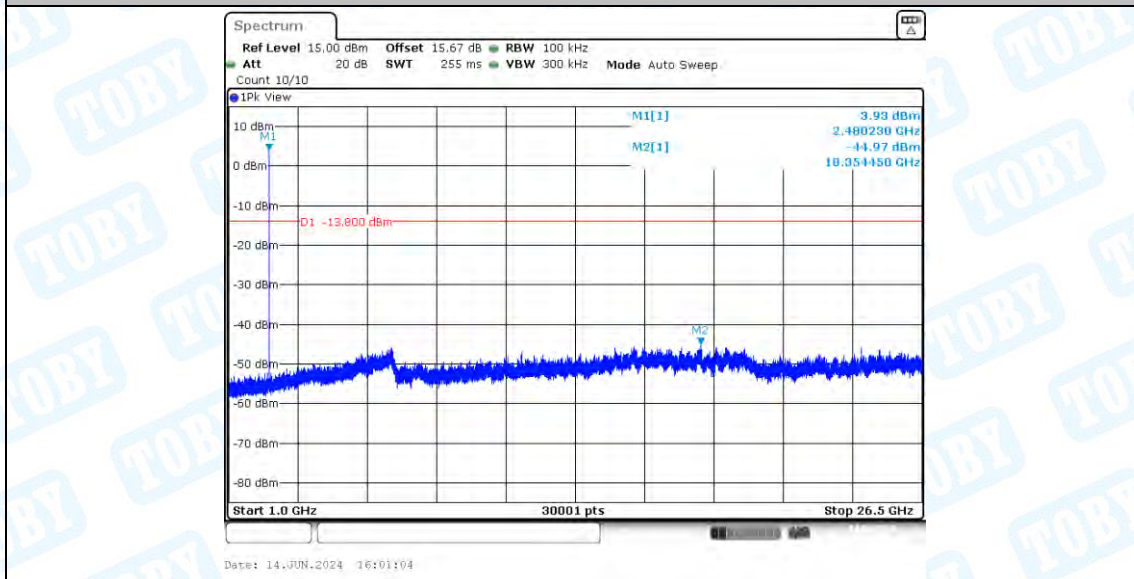
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500

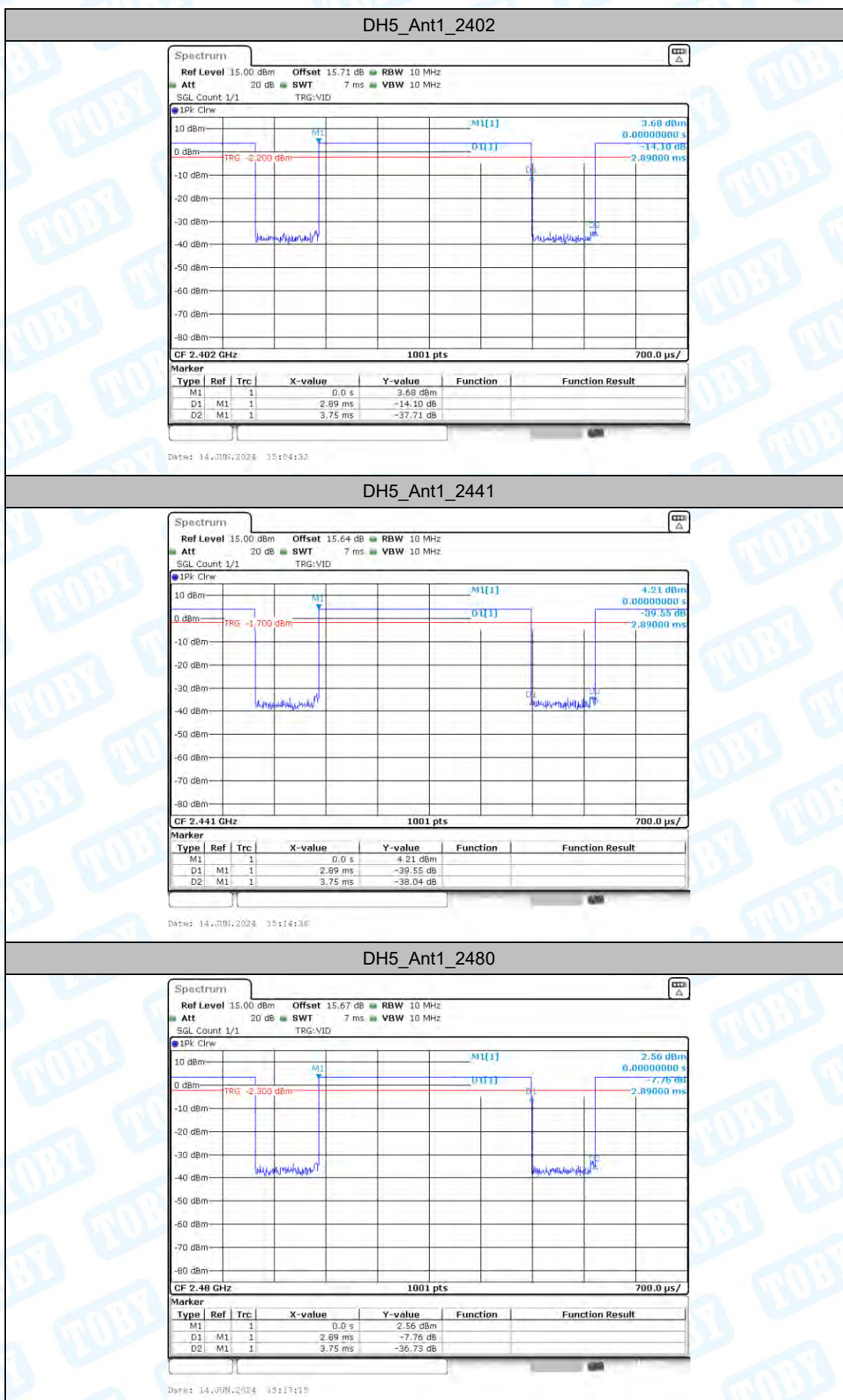


9. Duty Cycle

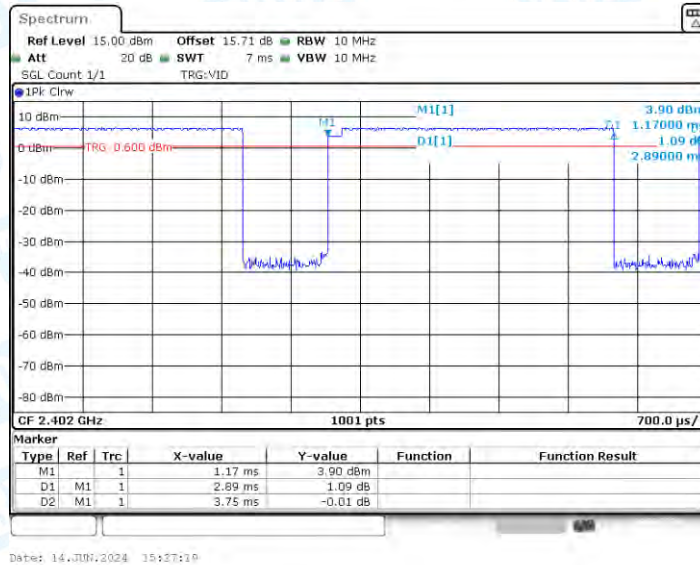
9.1. Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
DH5	Ant1	2402	2.89	3.75	77.07	---	---
		2441	2.89	3.75	77.07	---	---
		2480	2.89	3.75	77.07	---	---
2DH5	Ant1	2402	2.89	3.75	77.07	---	---
		2441	2.89	3.75	77.07	---	---
		2480	2.89	3.75	77.07	---	---
3DH5	Ant1	2402	2.89	3.75	77.07	---	---
		2441	2.90	3.76	77.13	---	---
		2480	2.89	3.75	77.07	---	---

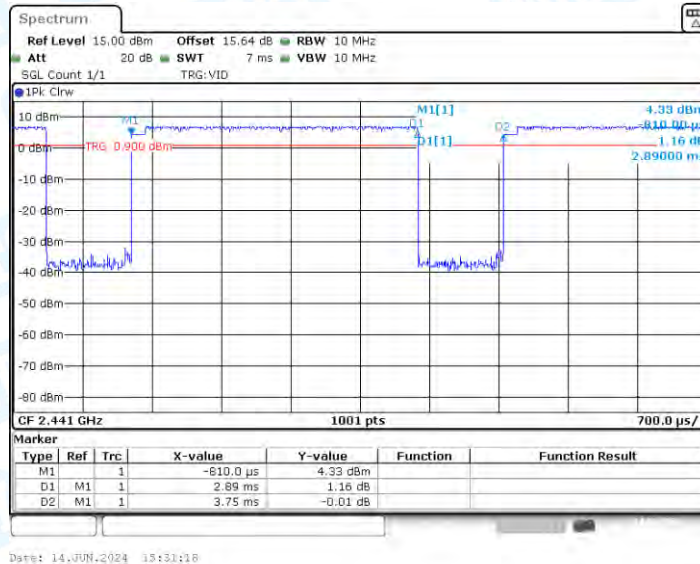
9.2. Test Graphs



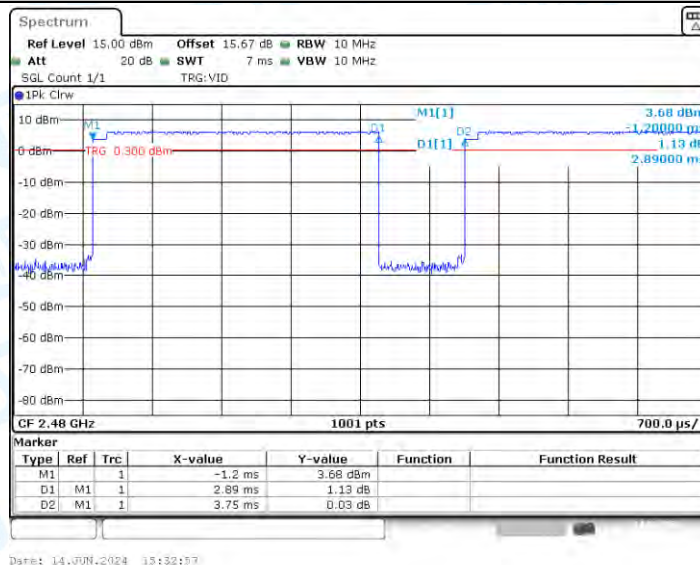
2DH5_Ant1_2402



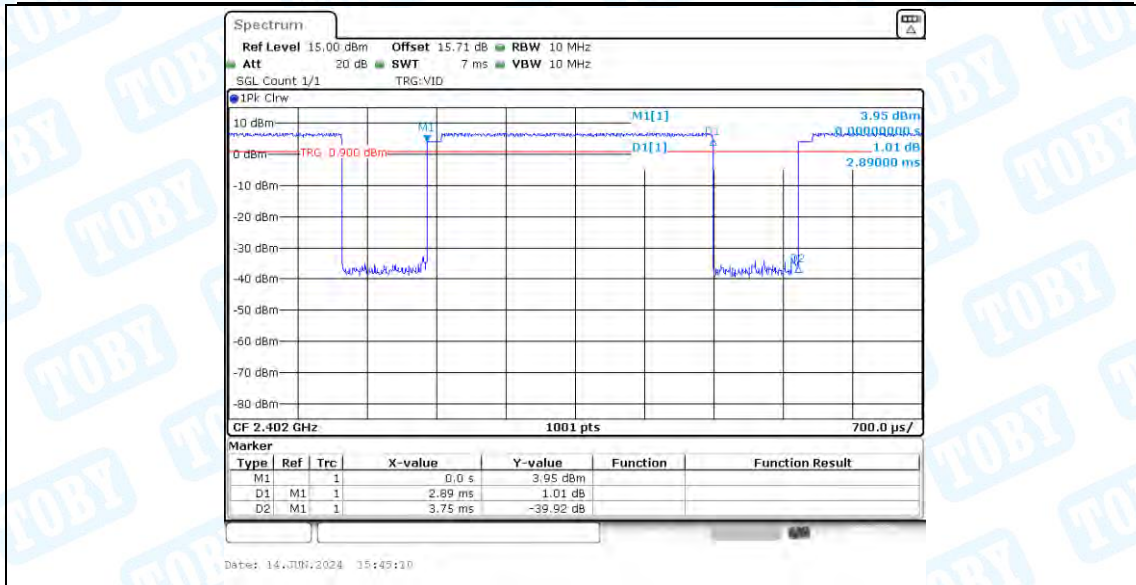
2DH5_Ant1_2441



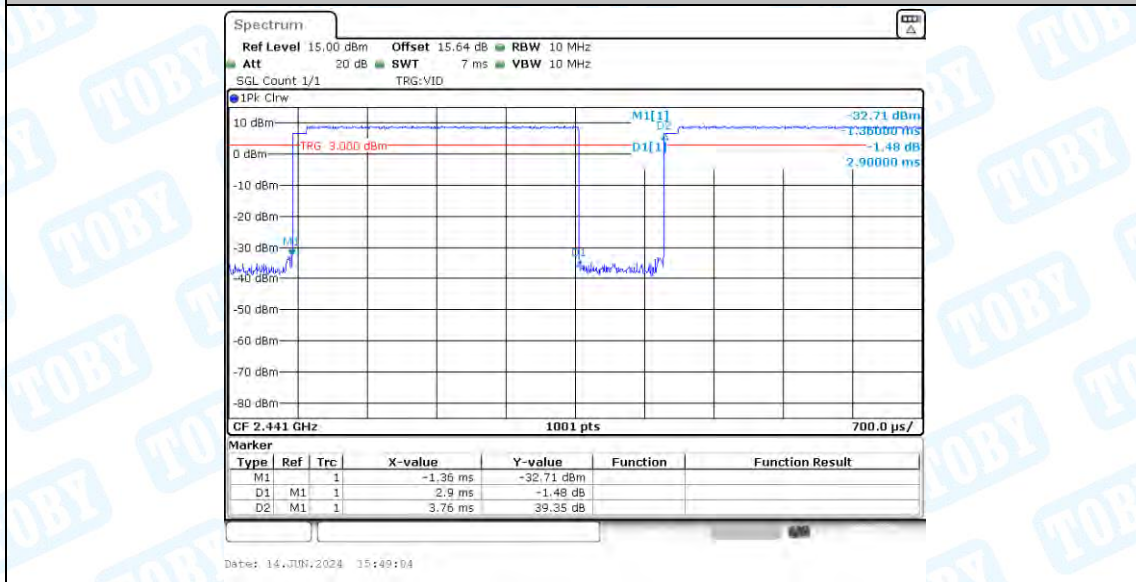
2DH5_Ant1_2480



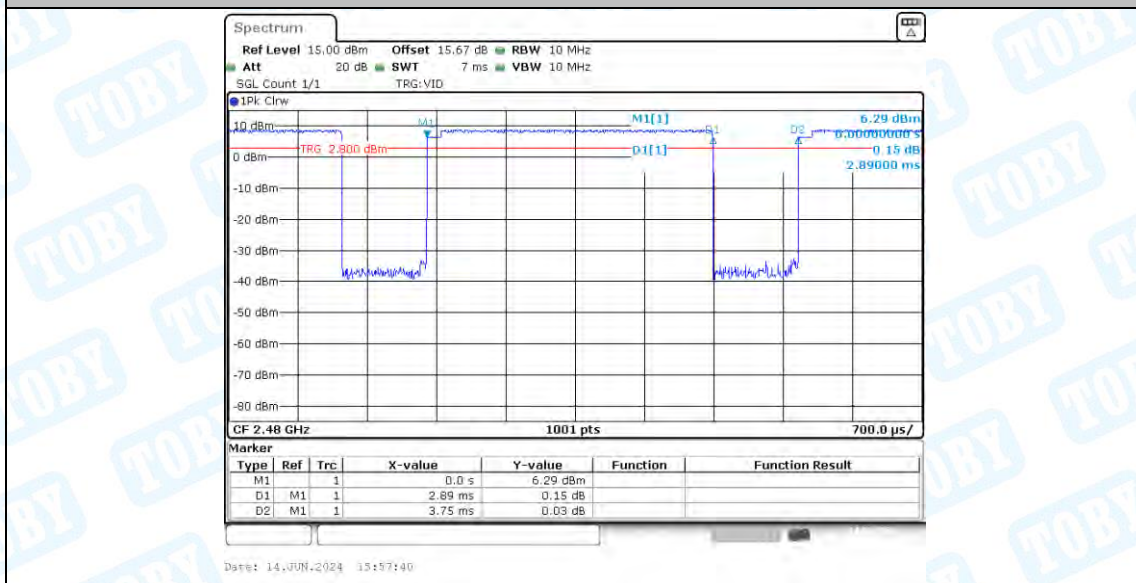
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



10. Emissions in Restricted Bands

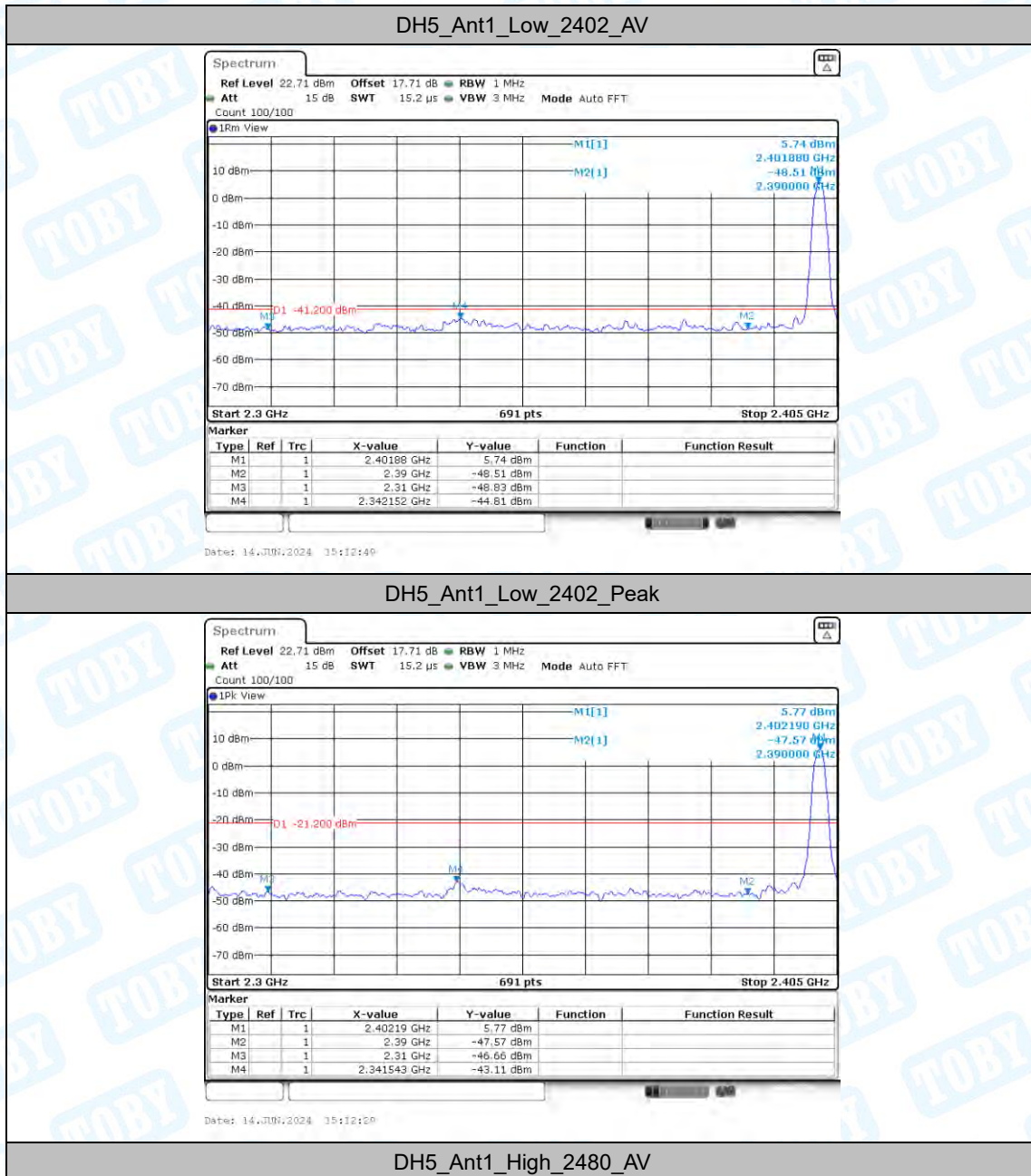
10.1. Test Result

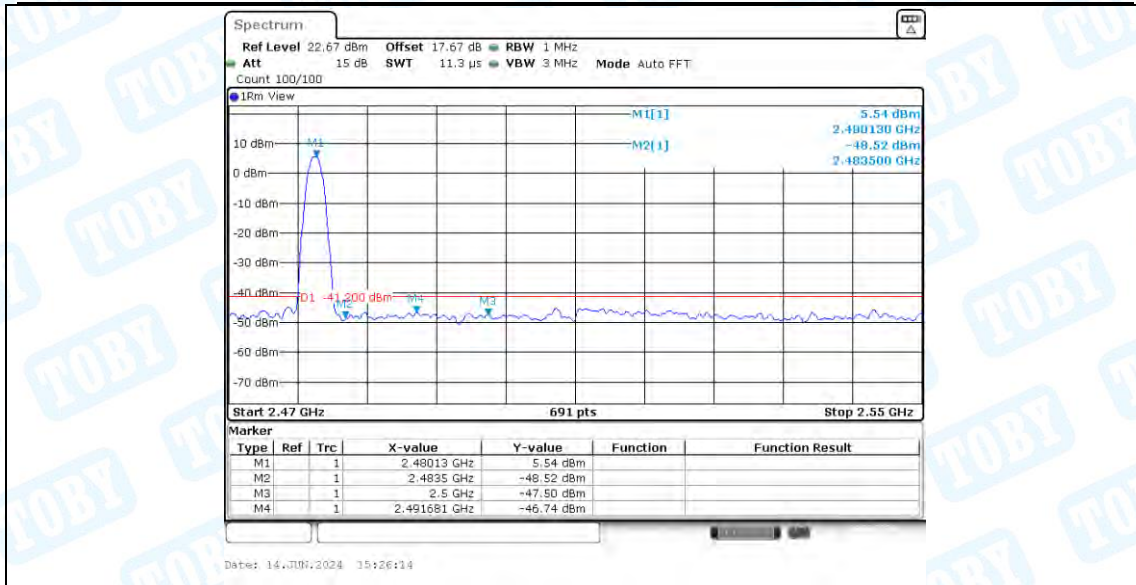
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-48.83	≤-41.20	PASS
				AV	2342.152	-44.81	≤-41.20	PASS
				AV	2390.000	-48.51	≤-41.20	PASS
				Peak	2310.000	-46.66	≤-21.20	PASS
				Peak	2341.543	-43.11	≤-21.20	PASS
				Peak	2390.000	-47.57	≤-21.20	PASS
		High	2480	AV	2483.500	-48.52	≤-41.20	PASS
				AV	2491.681	-46.74	≤-41.20	PASS
				AV	2500.000	-47.5	≤-41.20	PASS
				Peak	2483.500	-47.86	≤-21.20	PASS
				Peak	2484.029	-44.57	≤-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.6	≤-41.20	PASS
				AV	2342.152	-44.19	≤-41.20	PASS
				AV	2390.000	-47.35	≤-41.20	PASS
				Peak	2310.000	-47.35	≤-21.20	PASS
				Peak	2342.152	-44.14	≤-21.20	PASS
				Peak	2390.000	-45.35	≤-21.20	PASS
		High	2480	AV	2483.500	-47.96	≤-41.20	PASS
				AV	2497.246	-46.06	≤-41.20	PASS
				AV	2500.000	-48.37	≤-41.20	PASS
				Peak	2483.500	-44.37	≤-21.20	PASS
				Peak	2487.507	-38.37	≤-21.20	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-47.68	≤-41.20	PASS
				AV	2340.935	-44.31	≤-41.20	PASS
				AV	2390.000	-46.36	≤-41.20	PASS
				Peak	2310.000	-48.21	≤-21.20	PASS
				Peak	2341.848	-43.93	≤-21.20	PASS
				Peak	2390.000	-46.52	≤-21.20	PASS
		High	2480	AV	2483.500	-45.88	≤-41.20	PASS
				AV	2483.797	-43.89	≤-41.20	PASS
				AV	2500.000	-46.59	≤-41.20	PASS
				Peak	2483.500	-40.16	≤-21.20	PASS
				Peak	2484.609	-38.89	≤-21.20	PASS
				Peak	2500.000	-44.79	≤-21.20	PASS

Note:

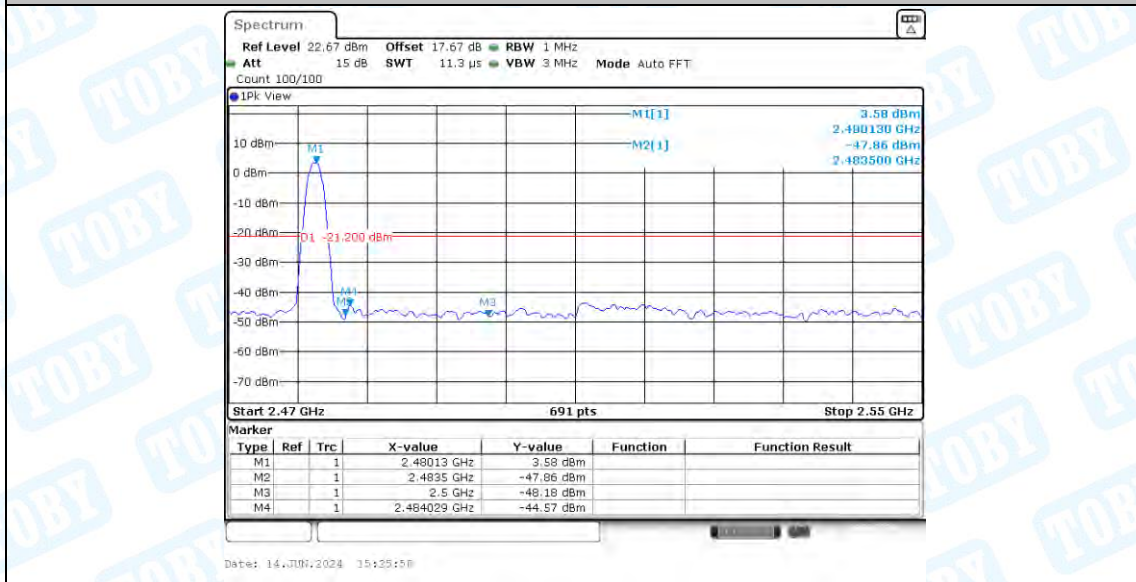
- The Antenna Gain is compensated in the graph.
- The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

10.2. Test Graphs

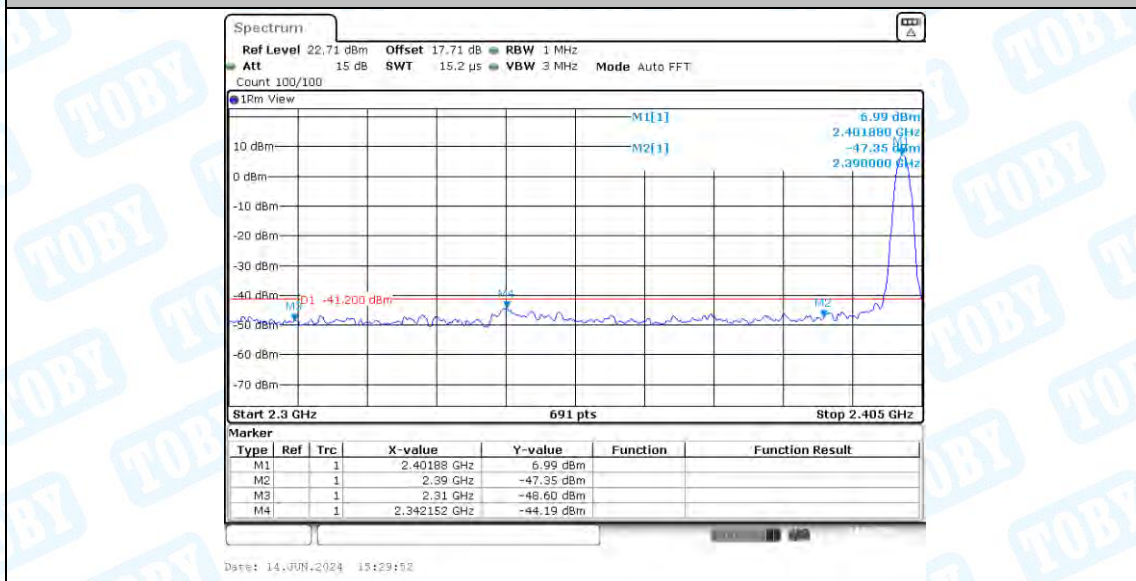




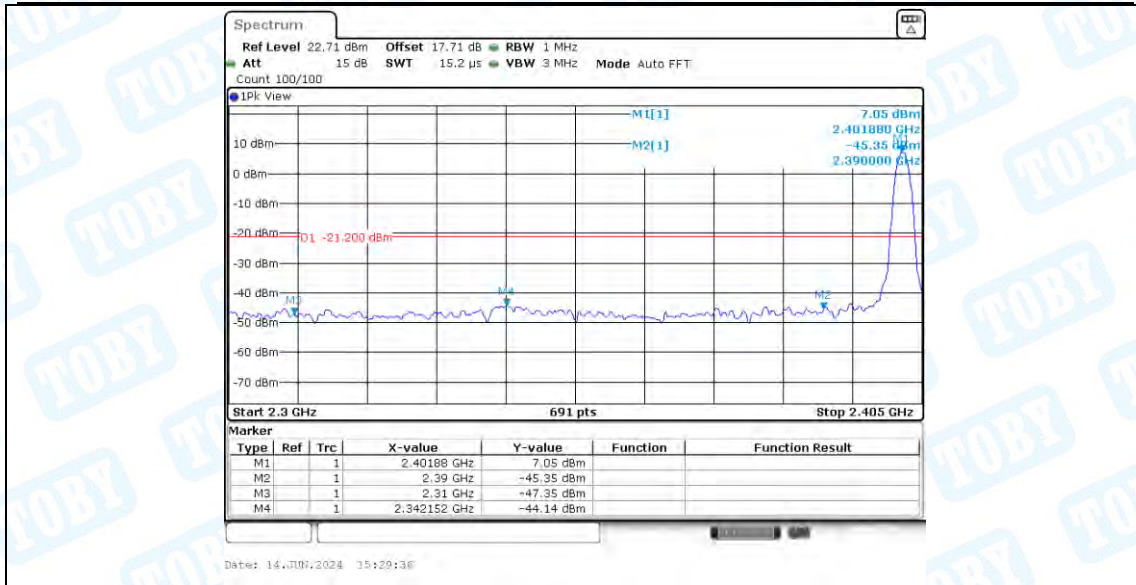
DH5_Ant1_High_2480_Peak



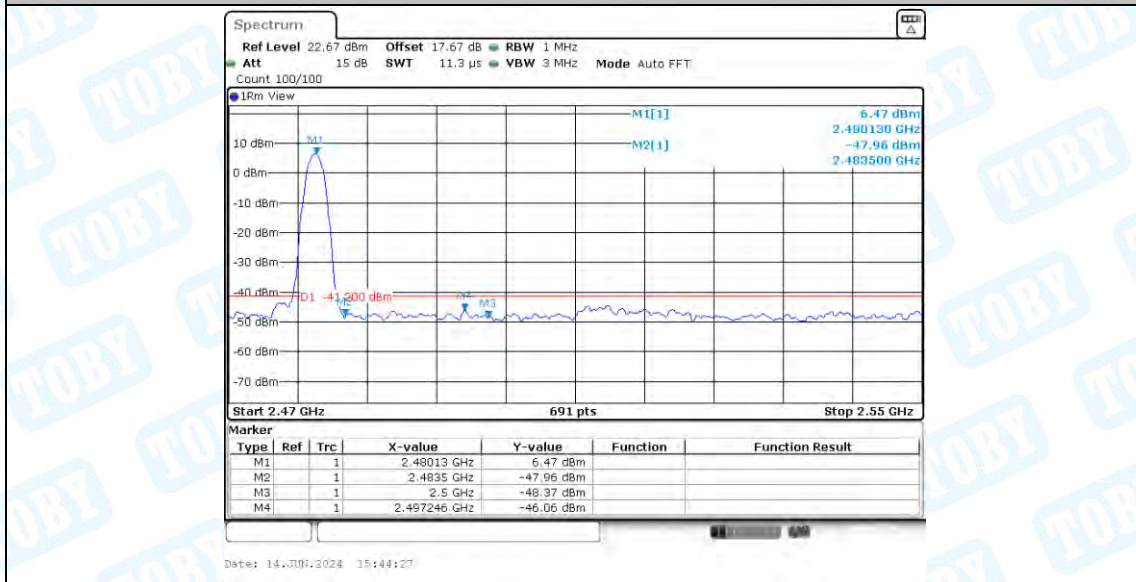
2DH5_Ant1_Low_2402_AV



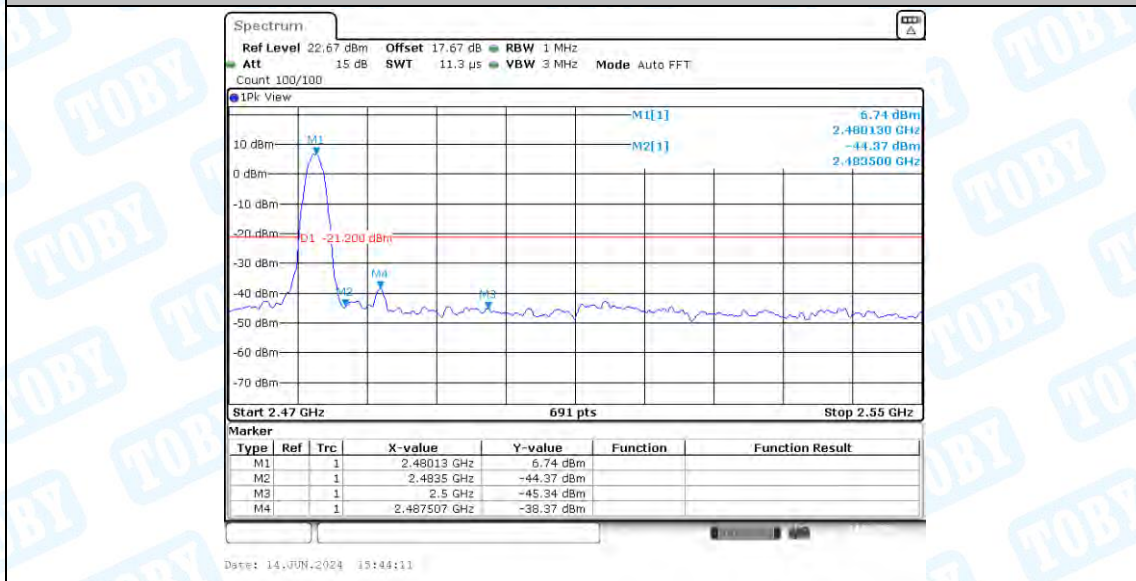
2DH5_Ant1_Low_2402_Peak



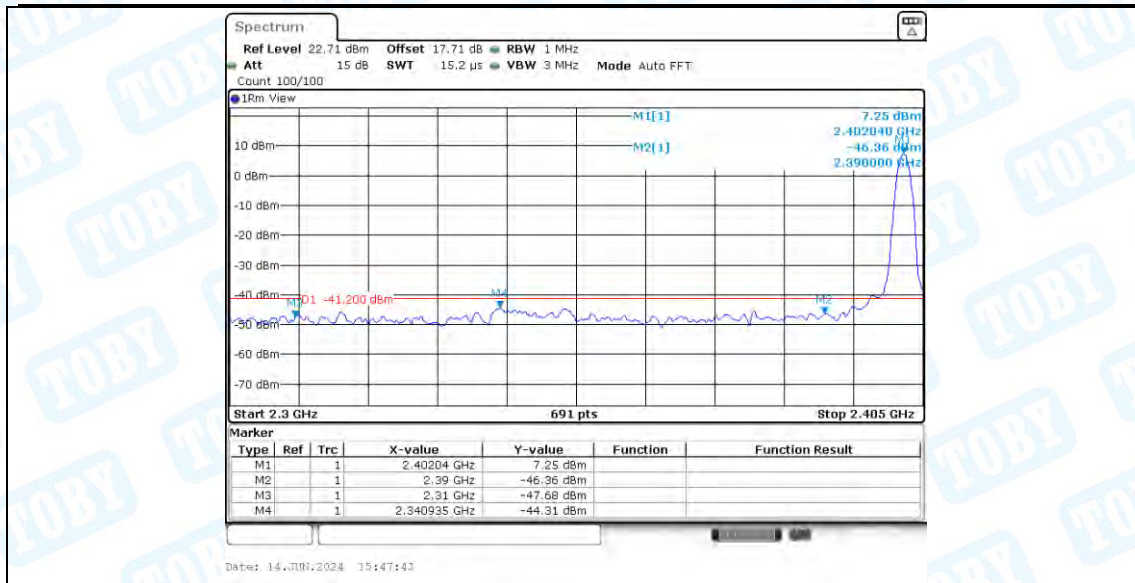
2DH5_Ant1_High_2480_AV



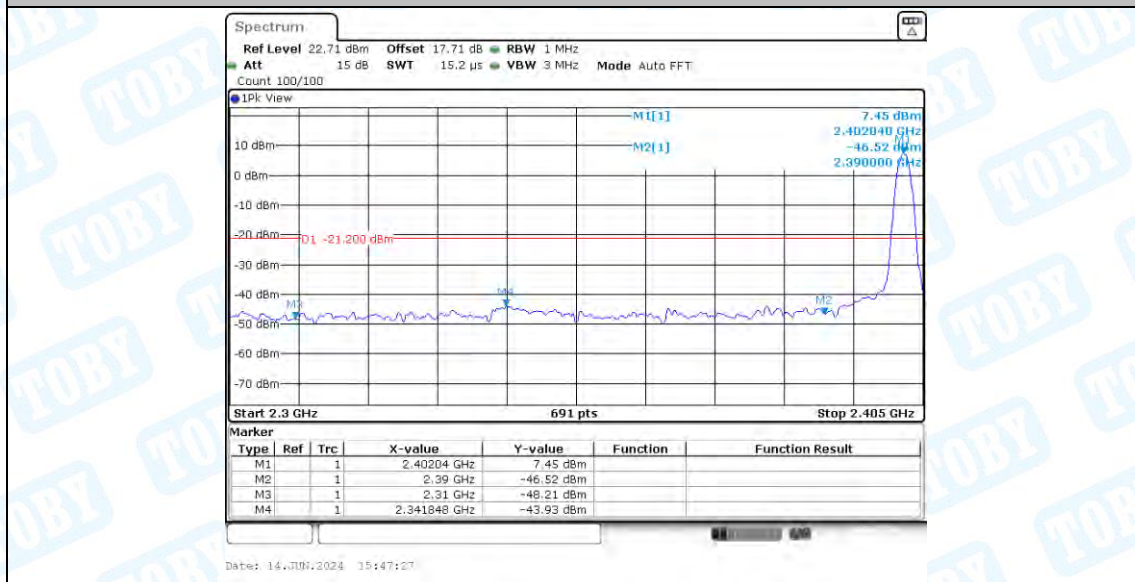
2DH5_Ant1_High_2480_Peak



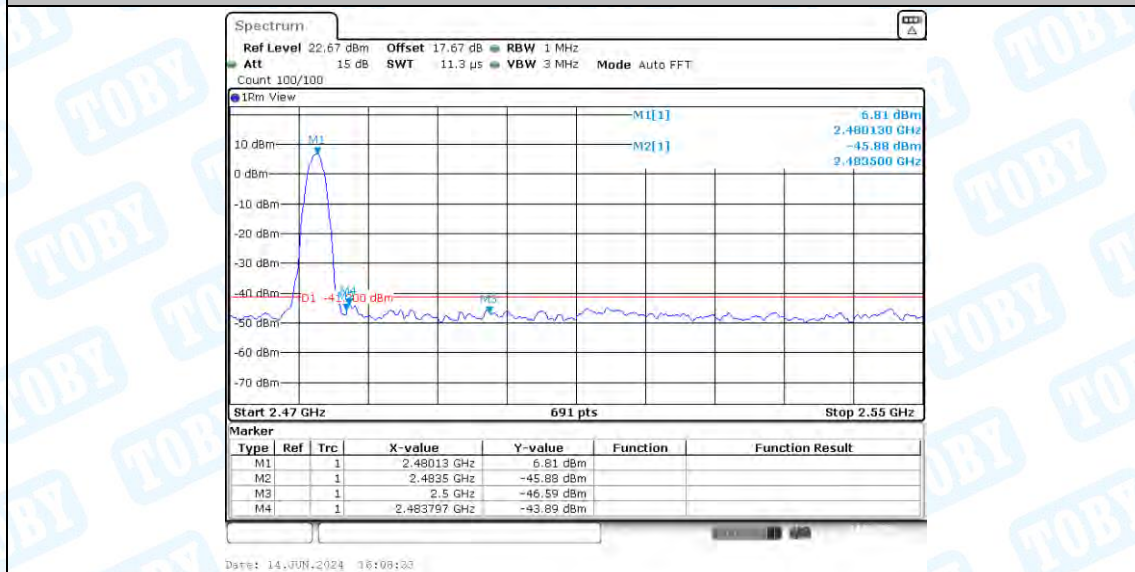
3DH5_Ant1_Low_2402_AV



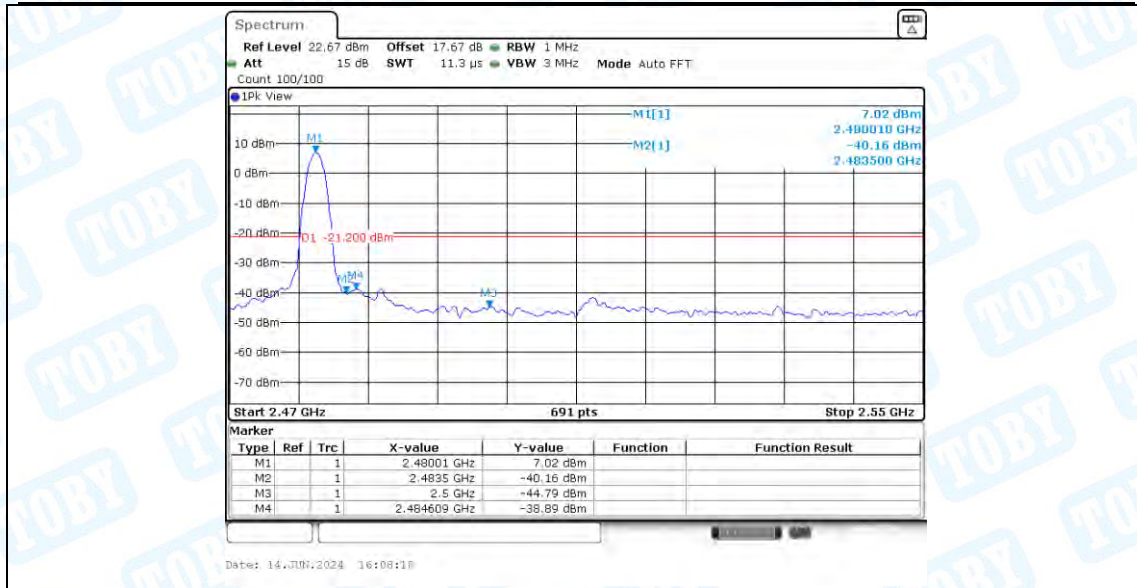
3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak



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