

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

General Description of EUT	
Product Name:	WiFi & BT combo module
Test Model:	EWN-8852BSN3DB
Sample ID:	HC-C-202501-0081-01-01
Environmental Conditions	
Temperature:	25.6℃
Relative Humidity:	48%
Test Voltage:	DC 3.3V
Test Engineer:	Gold zhang
Note: For a more detailed features description, please refer to the report TBR-C-202501-0081-15	

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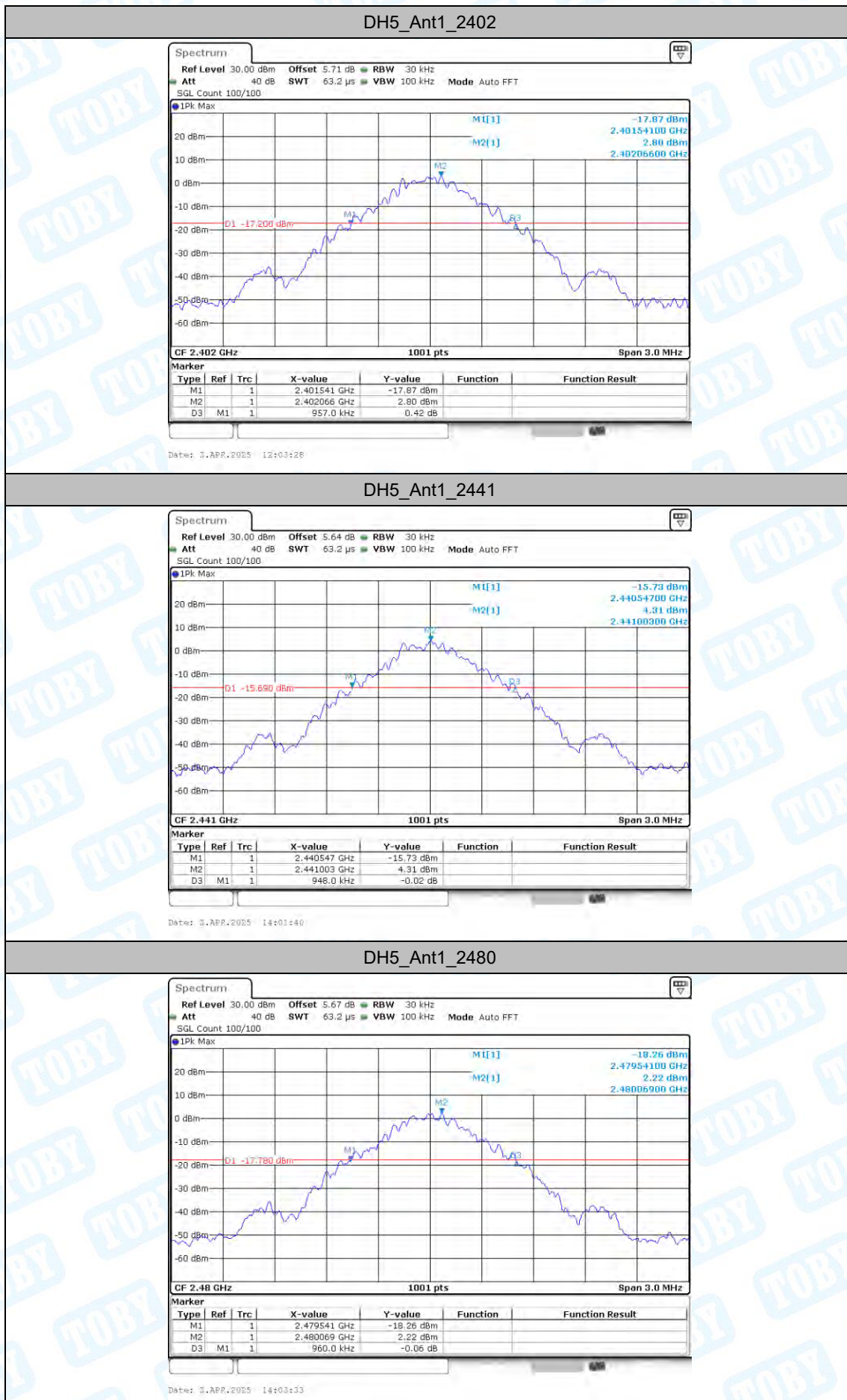
1. 20dB Emission Bandwidth

1.1. Test Result

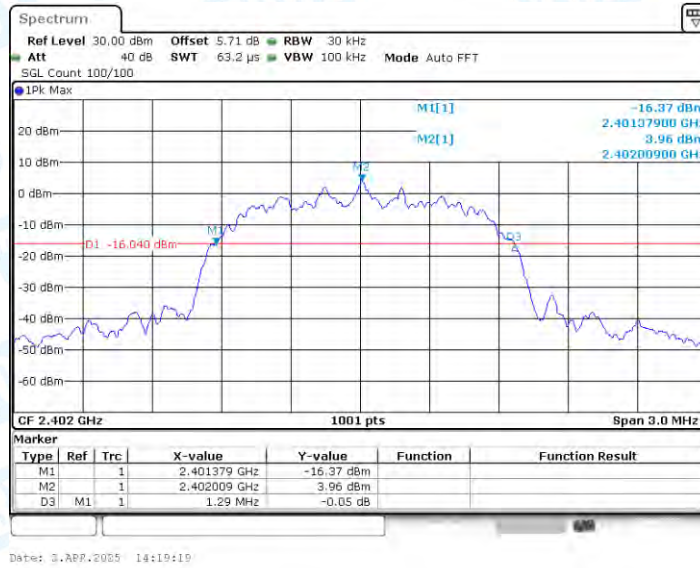
TestMode	Antenna	Channel	20db EBW[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.96	---	---
		2441	0.95	---	---
		2480	0.96	---	---
2DH5	Ant1	2402	1.29	---	---
		2441	1.26	---	---
		2480	1.33	---	---
3DH5	Ant1	2402	1.27	---	---
		2441	1.28	---	---
		2480	1.31	---	---

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

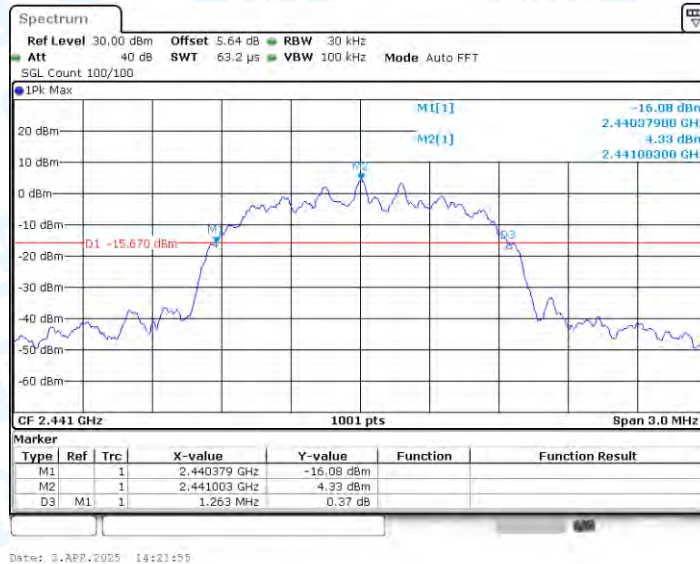
1.2.Test Graphs



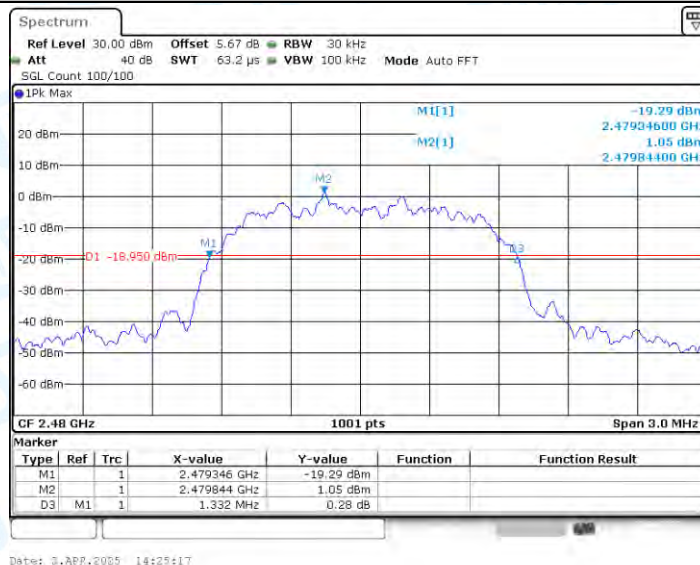
2DH5_Ant1_2402



2DH5_Ant1_2441



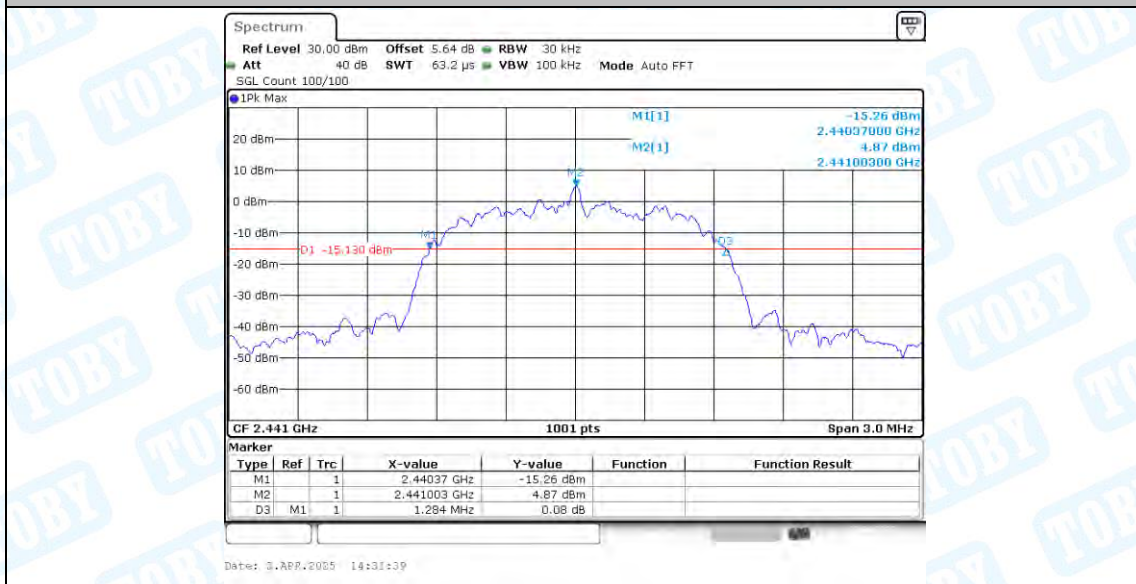
2DH5_Ant1_2480



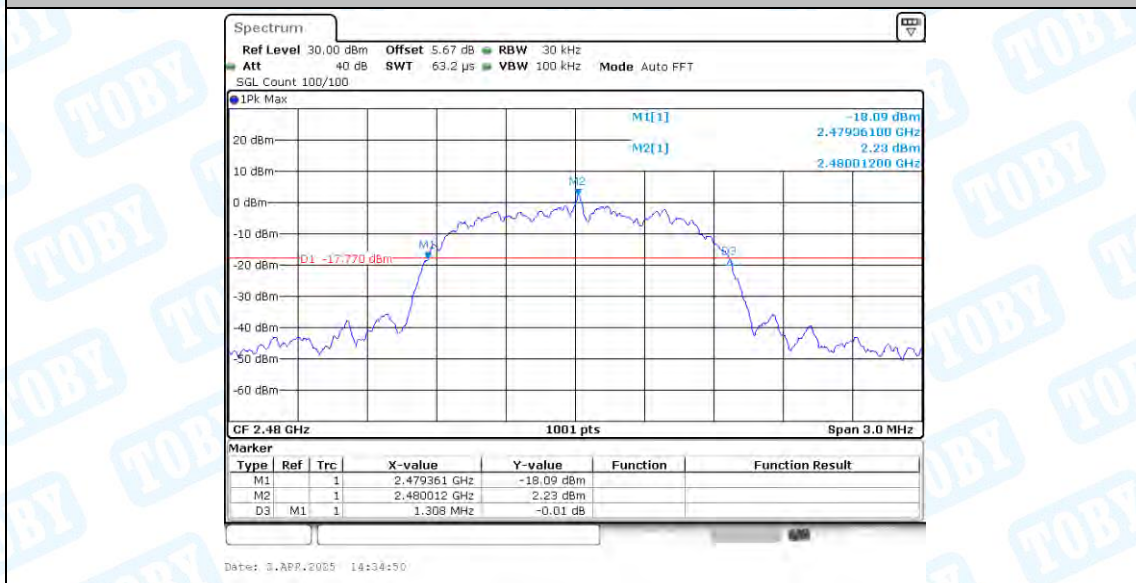
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



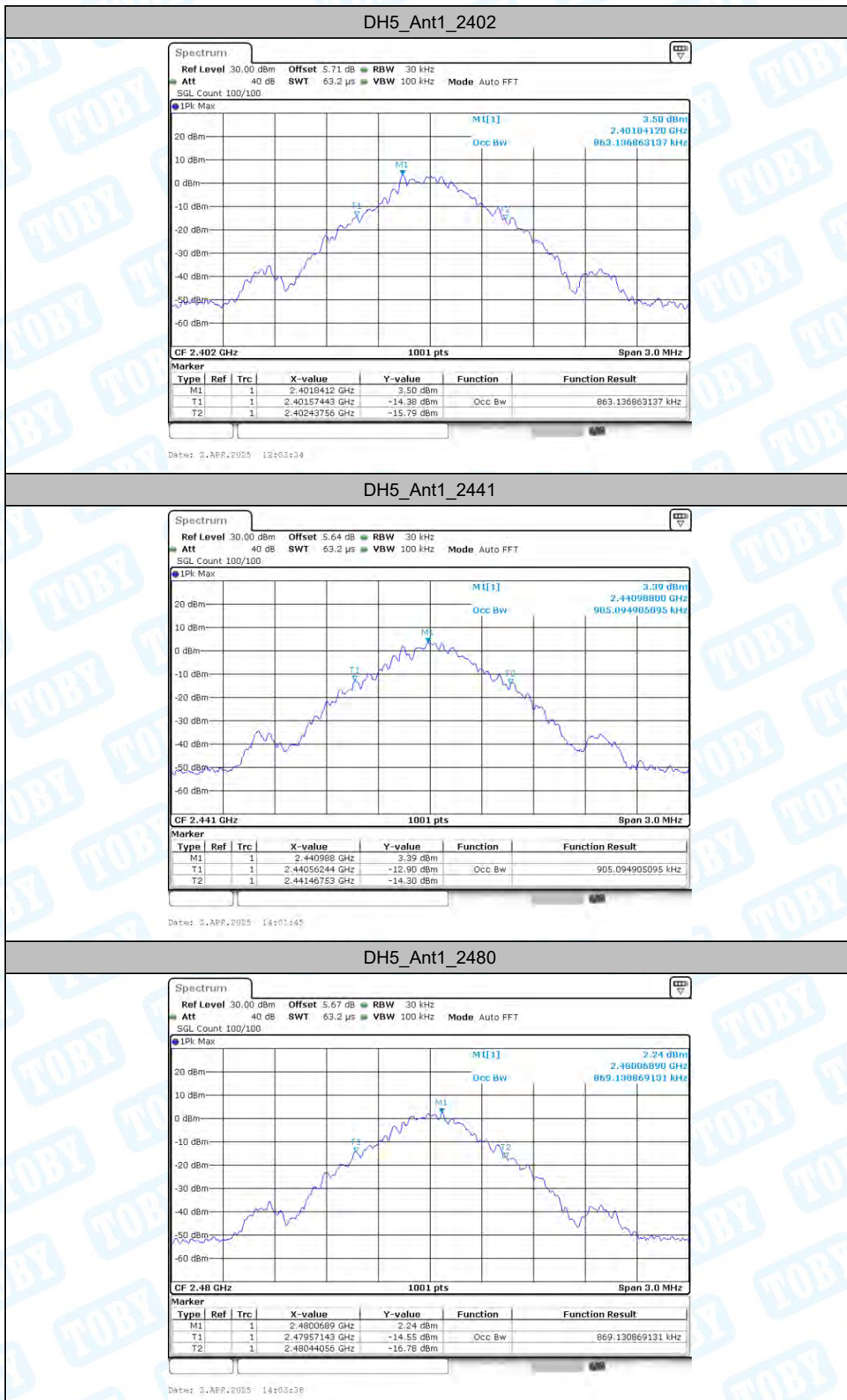
2. Occupied Channel Bandwidth

2.1. Test Result

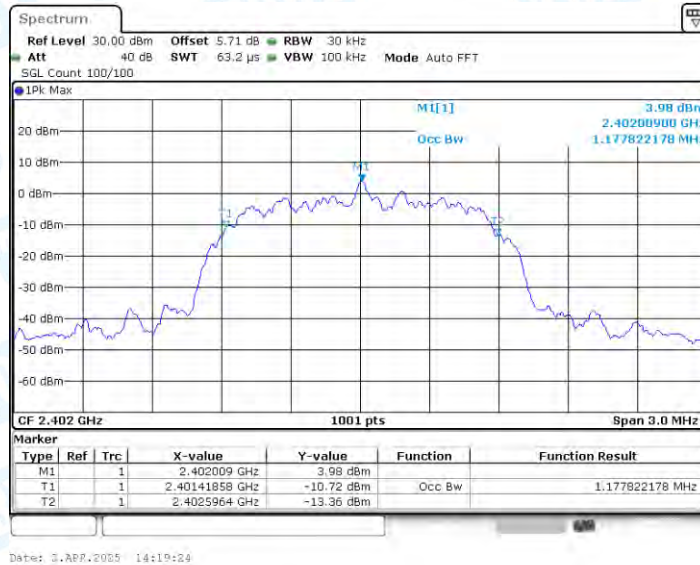
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.863	2401.5744	2402.4376	---	---
		2441	0.905	2440.5624	2441.4675	---	---
		2480	0.869	2479.5714	2480.4406	---	---
2DH5	Ant1	2402	1.178	2401.4186	2402.5964	---	---
		2441	1.166	2440.4276	2441.5934	---	---
		2480	1.181	2479.4216	2480.6024	---	---
3DH5	Ant1	2402	1.178	2401.4216	2402.5994	---	---
		2441	1.199	2440.4096	2441.6084	---	---
		2480	1.175	2479.4246	2480.5994	---	---

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

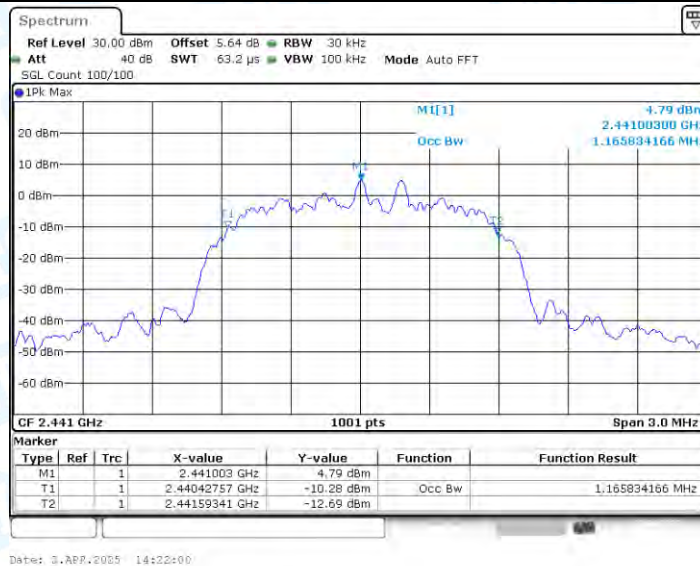
2.2. Test Graphs



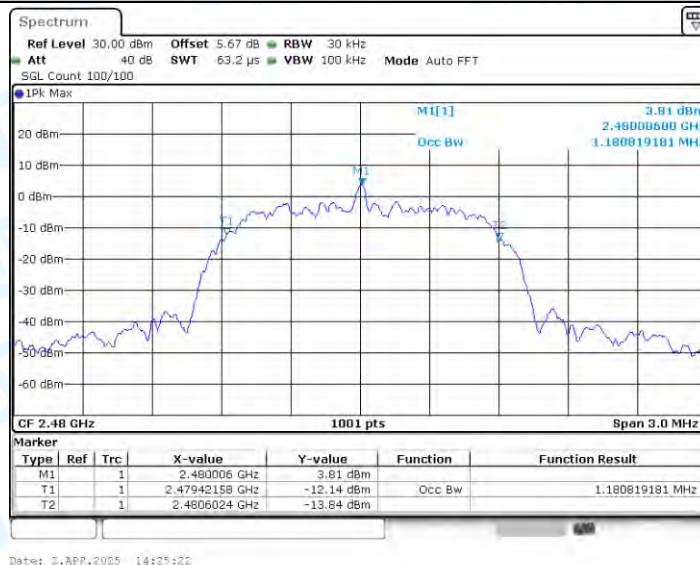
2DH5_Ant1_2402



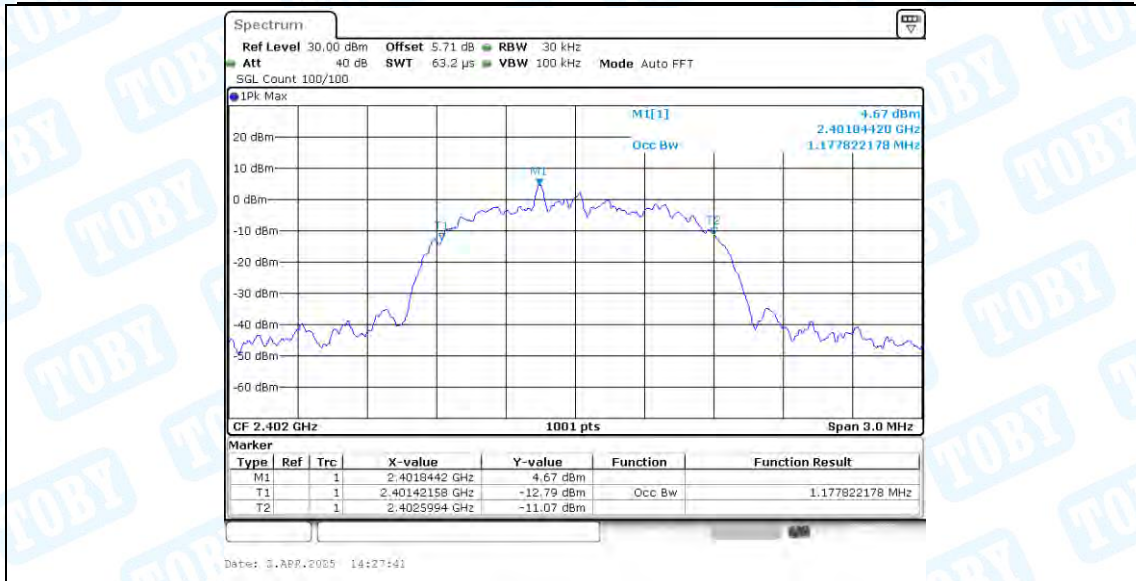
2DH5_Ant1_2441



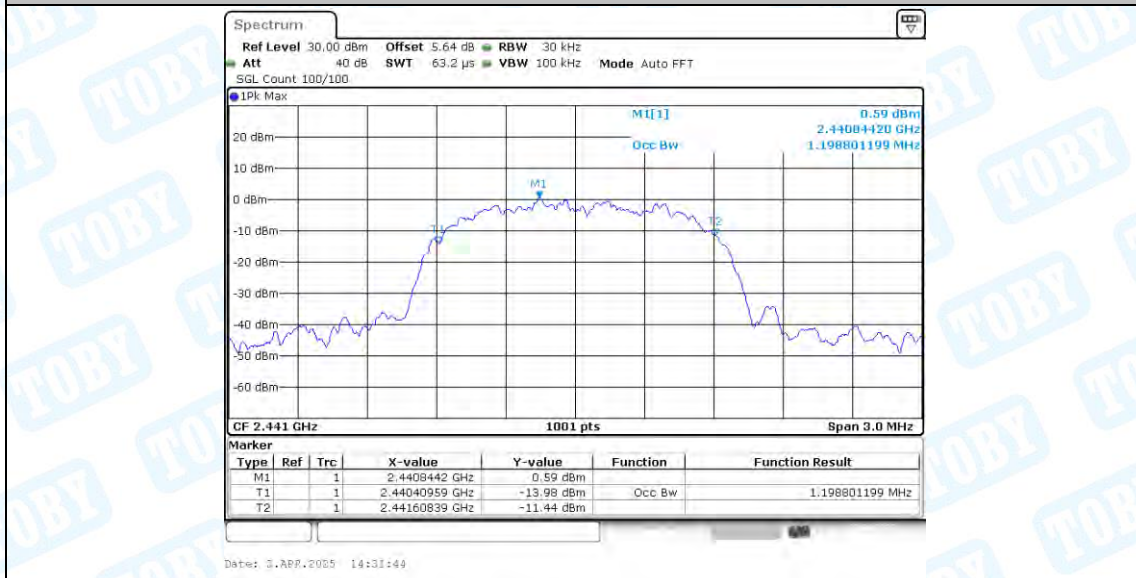
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



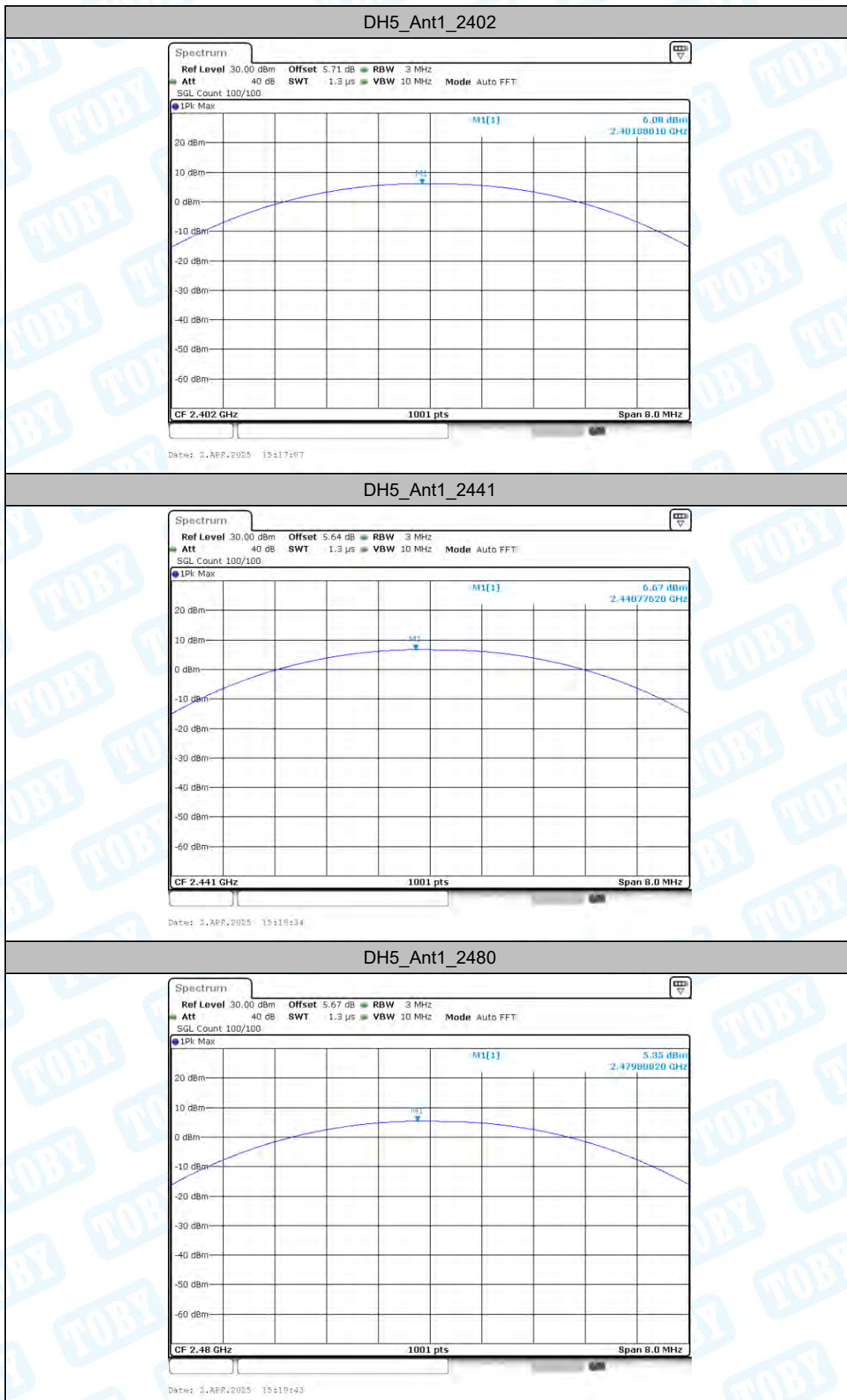
3. Maximum conducted output power

3.1. Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Gain(dBi)	EIRP(dBm)	EIRP Limit[dBm]	Verdict
DH5	Ant1	2402	6.08	≤30	5.25	11.33	≤36	PASS
		2441	6.67	≤30	5.25	11.92	≤36	PASS
		2480	5.35	≤30	5.25	10.6	≤36	PASS
2DH5	Ant1	2402	8.10	≤30	5.25	13.35	≤36	PASS
		2441	8.45	≤30	5.25	13.7	≤36	PASS
		2480	7.40	≤30	5.25	12.65	≤36	PASS
3DH5	Ant1	2402	8.60	≤30	5.25	13.85	≤36	PASS
		2441	8.72	≤30	5.25	13.97	≤36	PASS
		2480	7.56	≤30	5.25	12.81	≤36	PASS

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

3.2.Test Graphs



2DH5_Ant1_2402



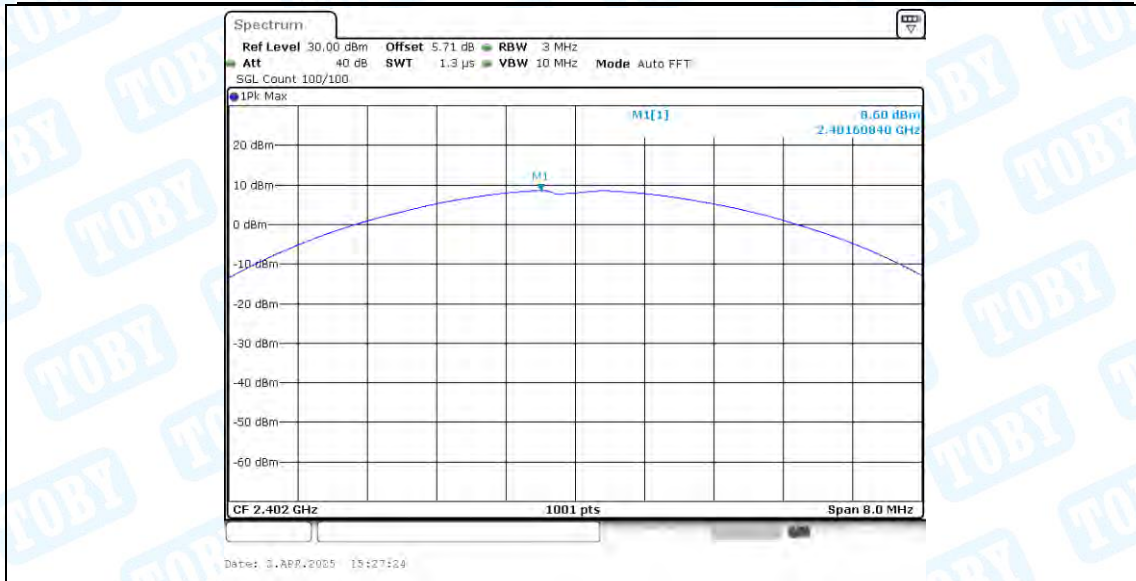
2DH5_Ant1_2441



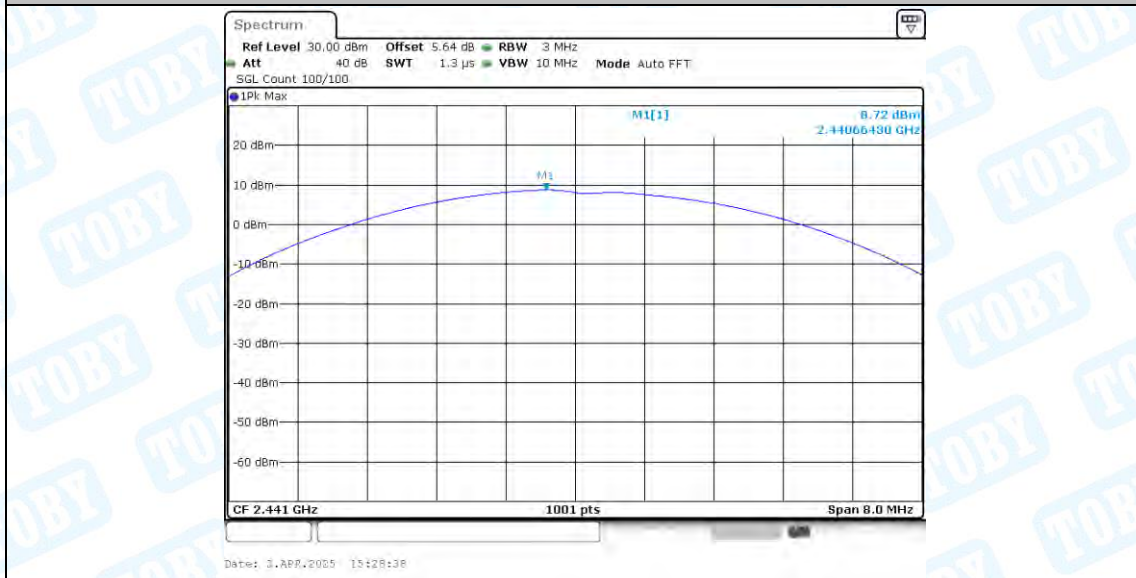
2DH5_Ant1_2480



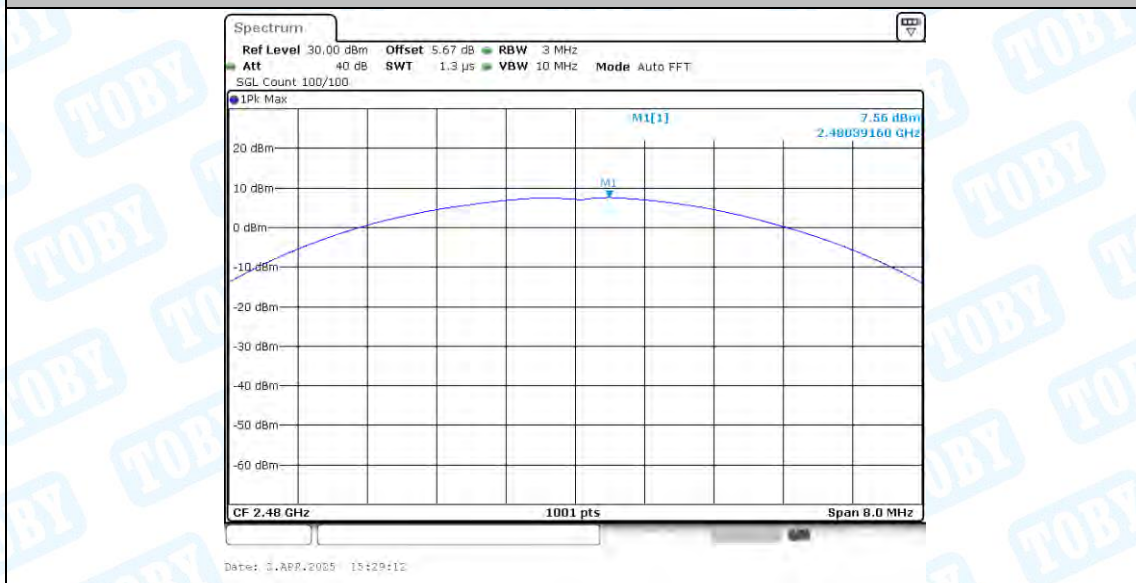
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



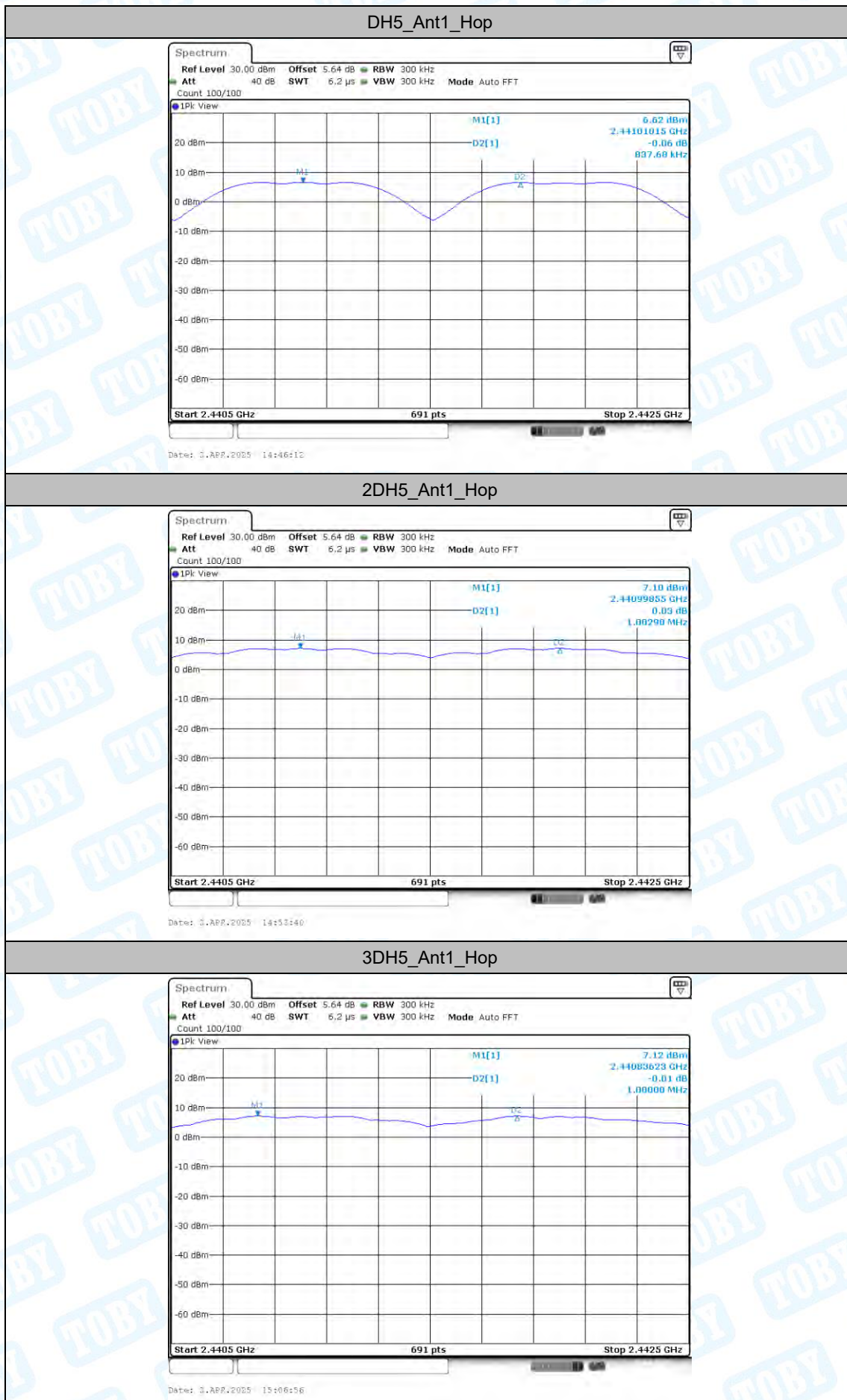
4. Carrier frequency separation

4.1. Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.838	≥ 0.640	PASS
2DH5	Ant1	Hop	1.003	≥ 0.887	PASS
3DH5	Ant1	Hop	1	≥ 0.873	PASS

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

4.2. Test Graphs



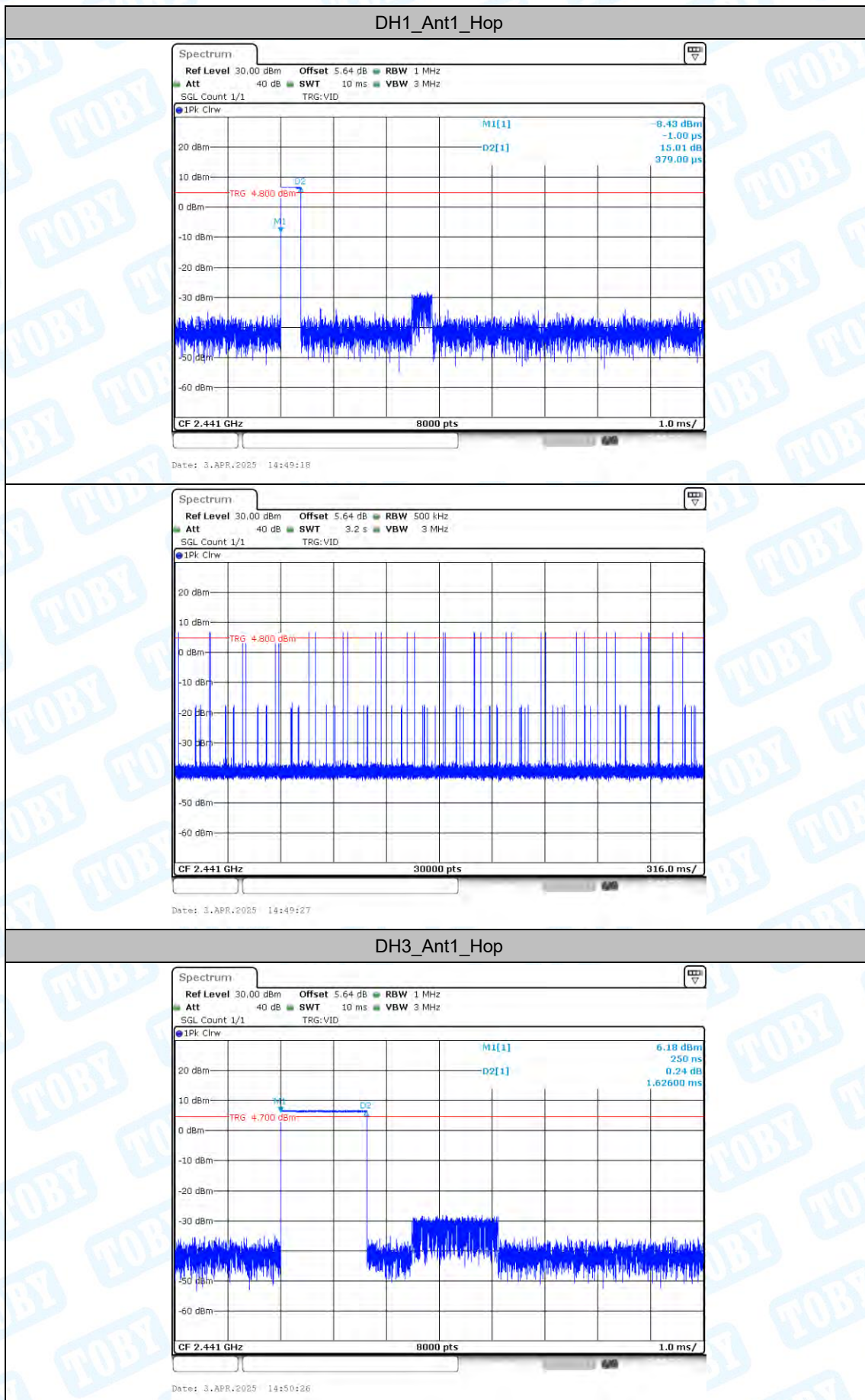
5. Time of occupancy

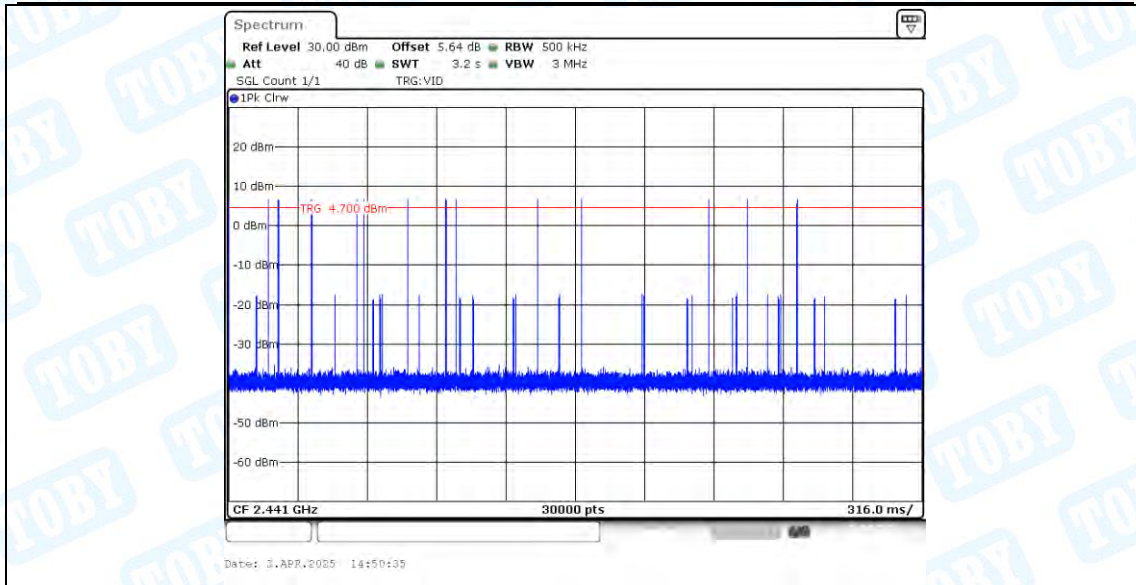
5.1. Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.379	320	0.121	≤0.4	PASS
DH3	Ant1	Hop	1.626	140	0.228	≤0.4	PASS
DH5	Ant1	Hop	2.867	100	0.287	≤0.4	PASS
2DH1	Ant1	Hop	0.389	330	0.128	≤0.4	PASS
2DH3	Ant1	Hop	1.633	210	0.343	≤0.4	PASS
2DH5	Ant1	Hop	2.873	90	0.259	≤0.4	PASS
3DH1	Ant1	Hop	0.388	330	0.128	≤0.4	PASS
3DH3	Ant1	Hop	1.630	170	0.277	≤0.4	PASS
3DH5	Ant1	Hop	2.874	110	0.316	≤0.4	PASS

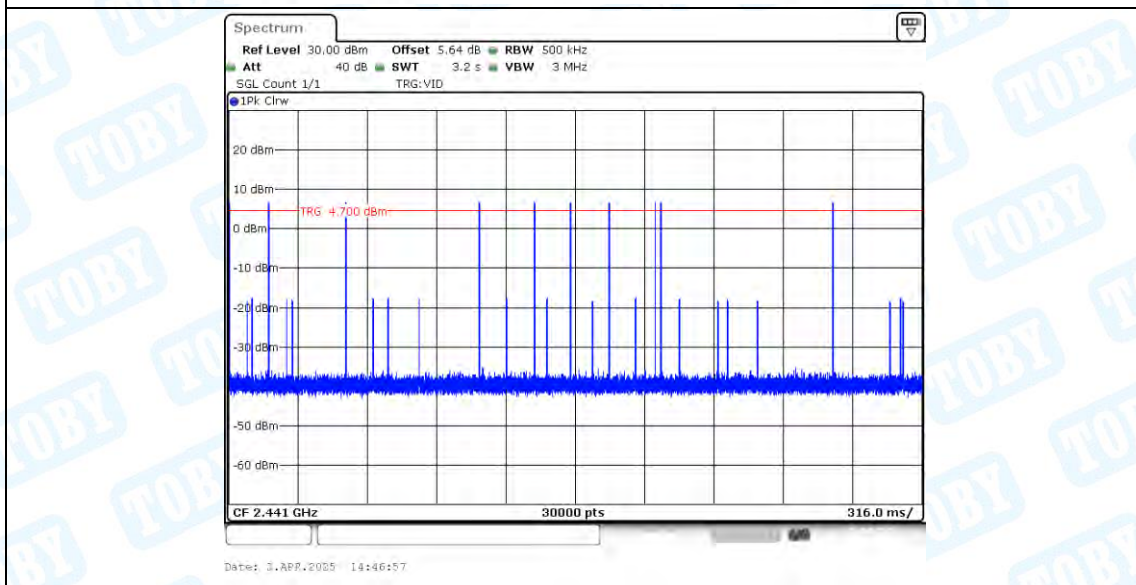
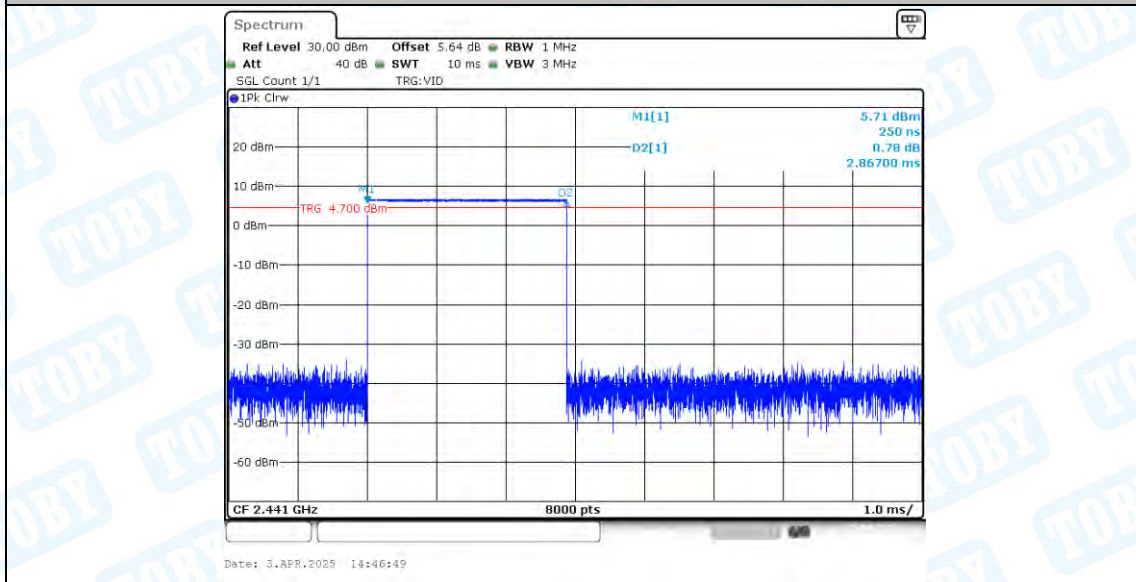
Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

5.2.Test Graphs

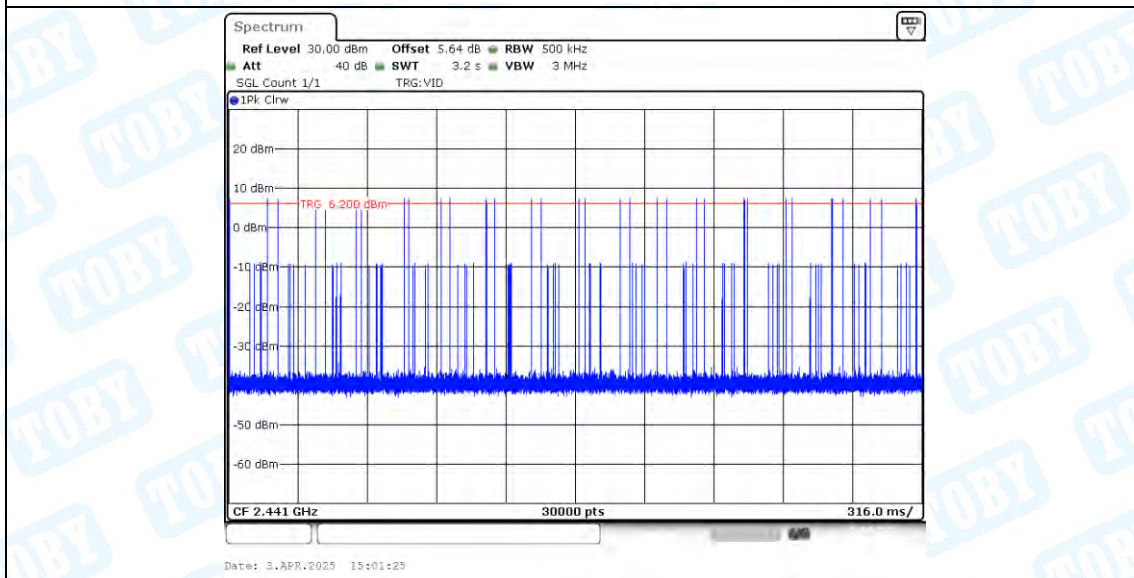
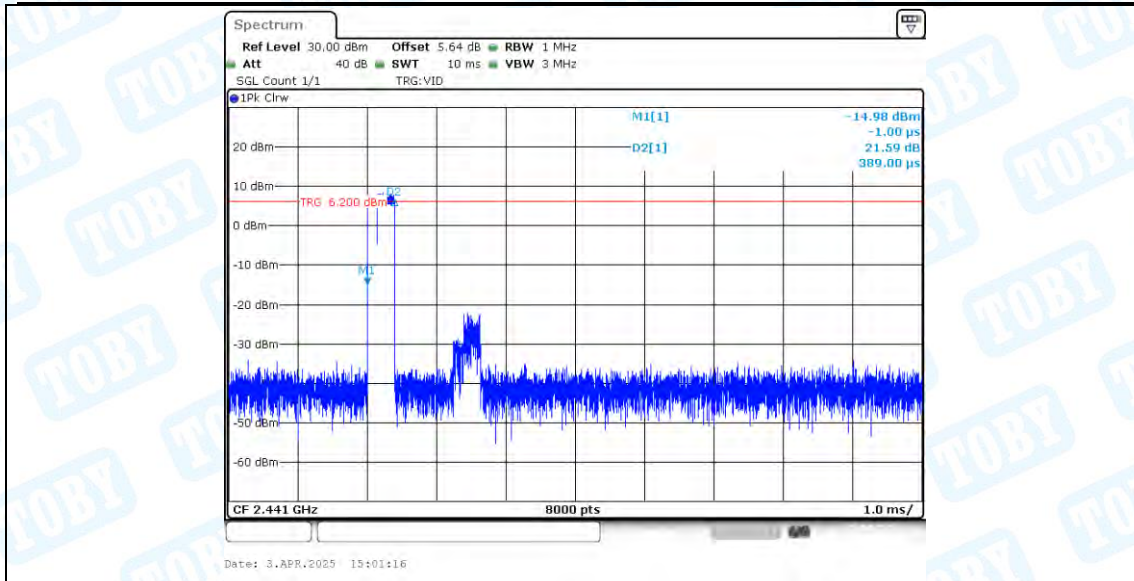




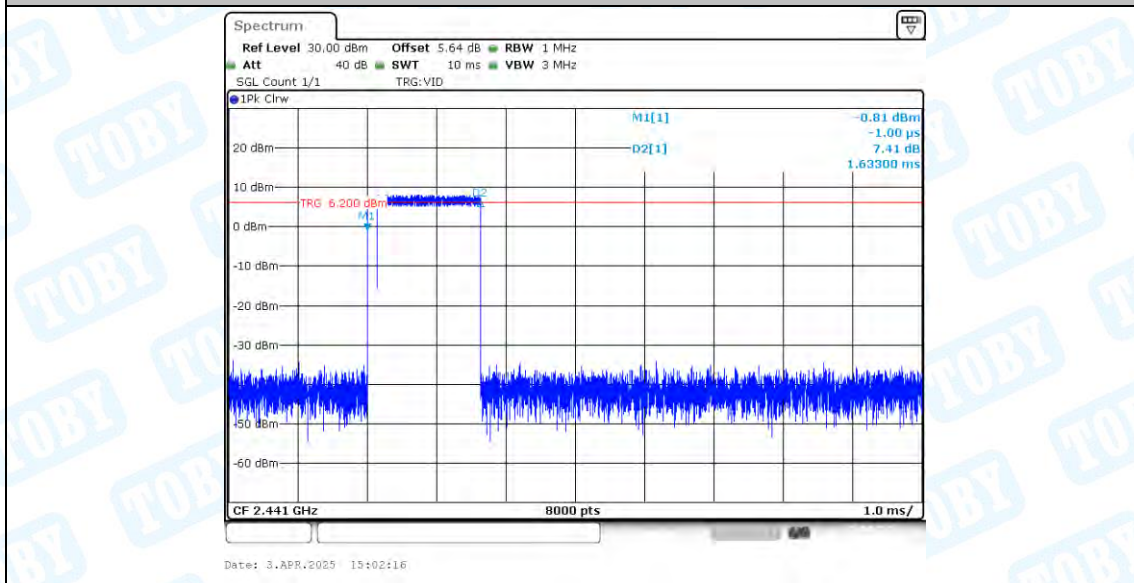
DH5_Ant1_Hop

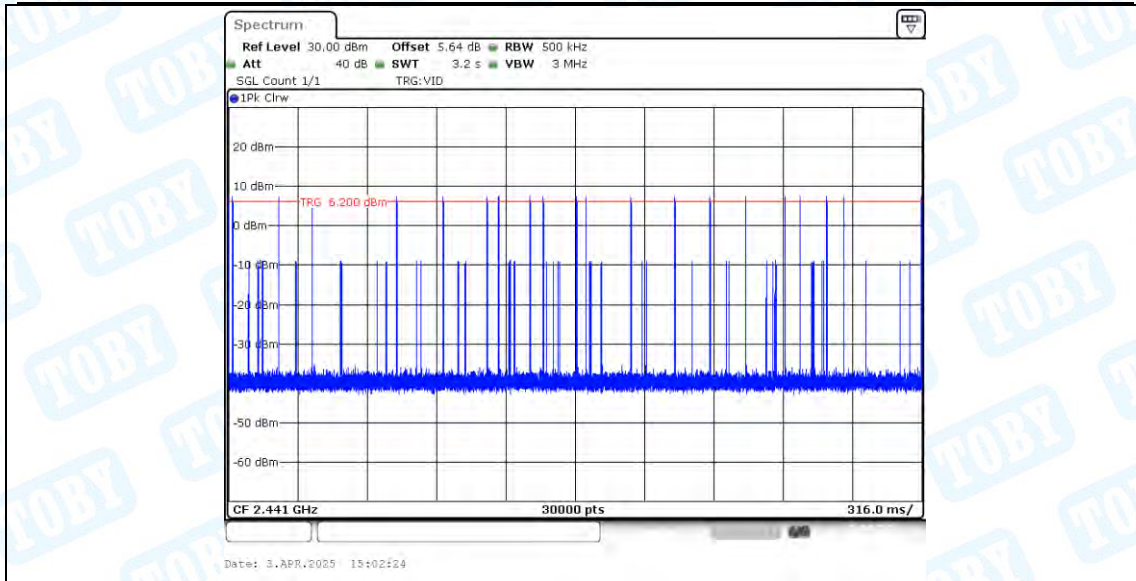


2DH1_Ant1_Hop

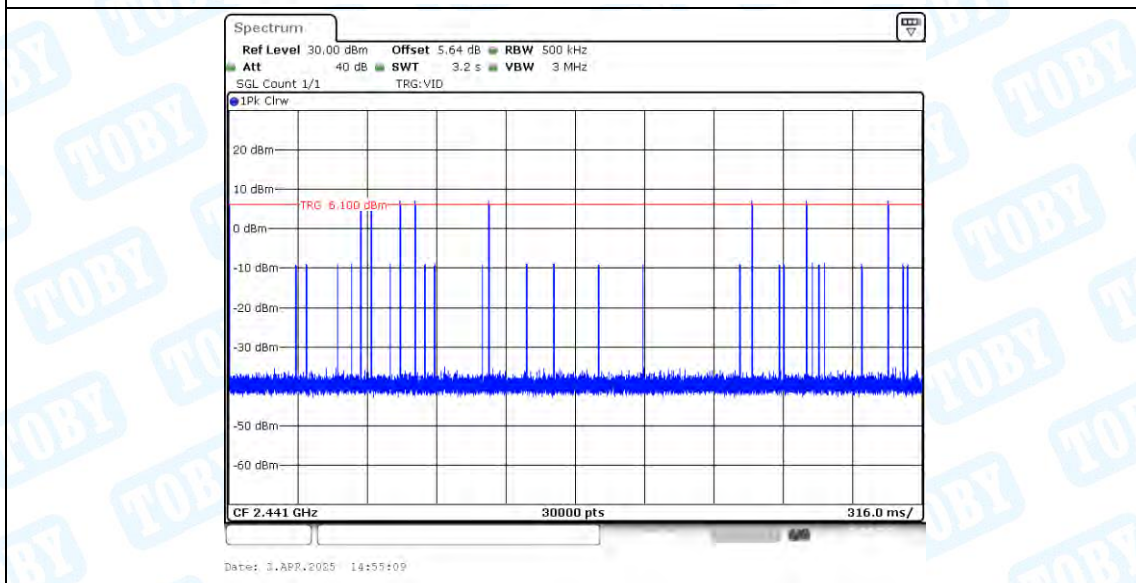
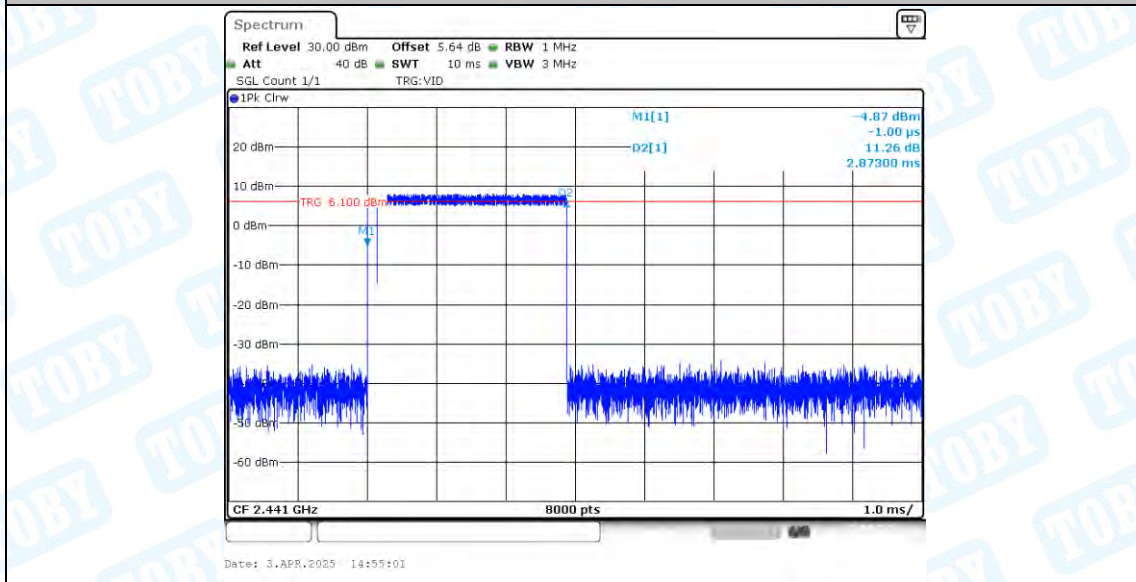


2DH3_Ant1_Hop

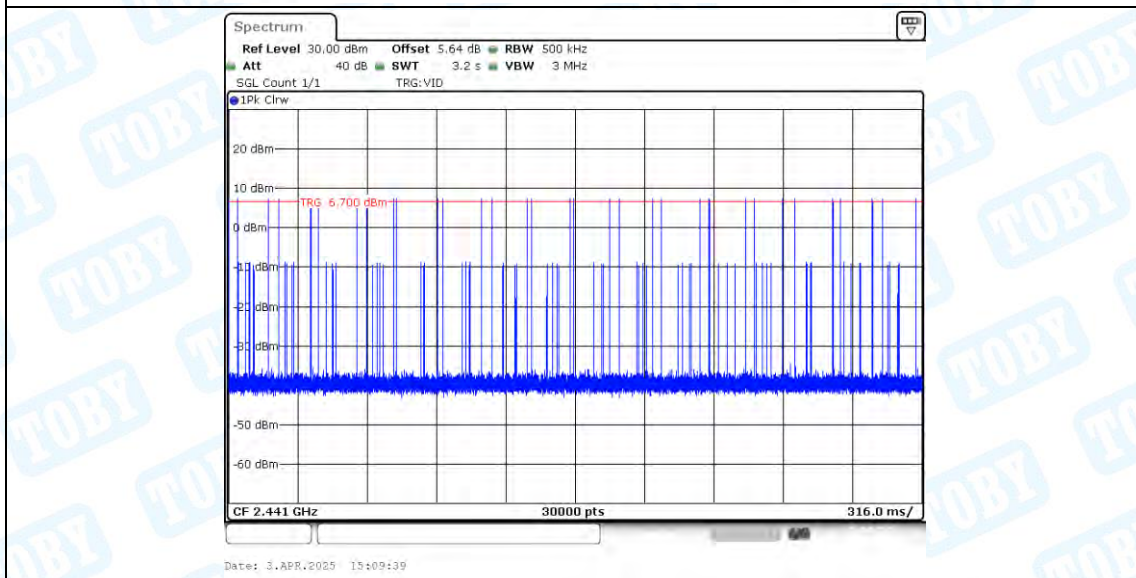
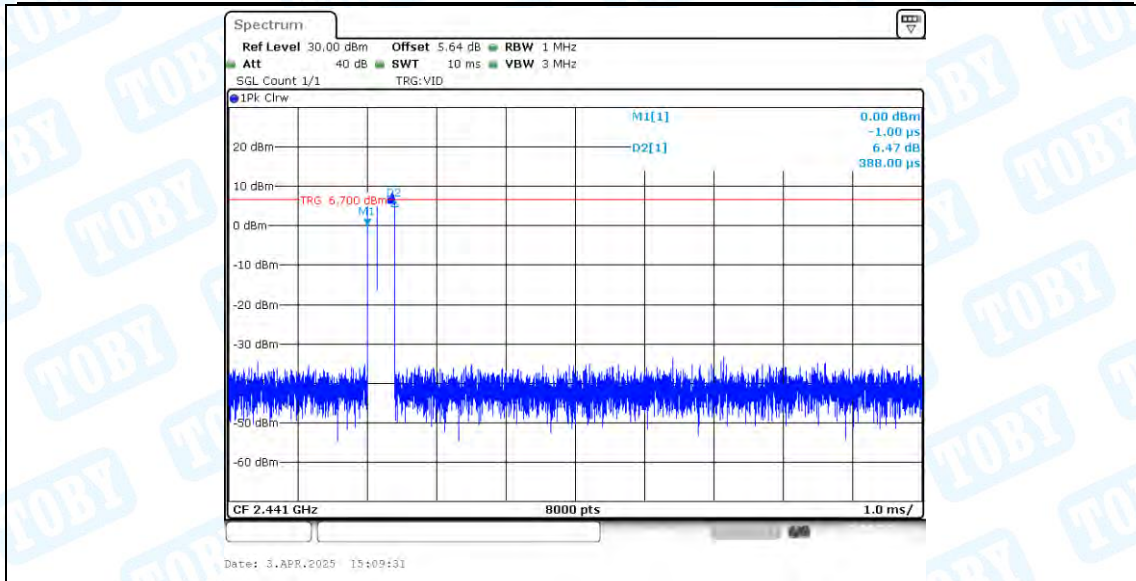




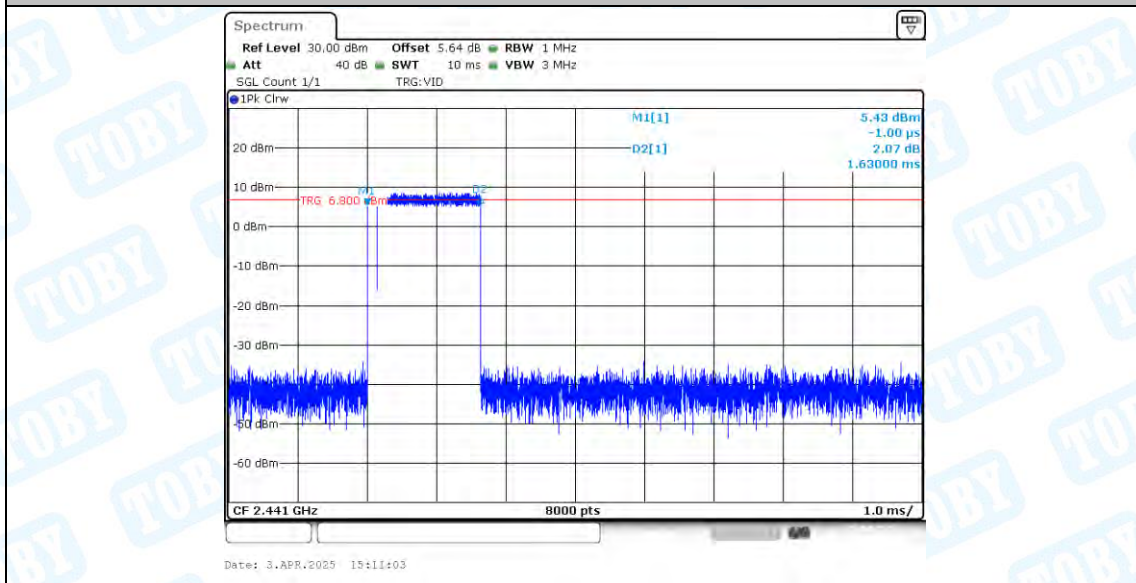
2DH5_Ant1_Hop

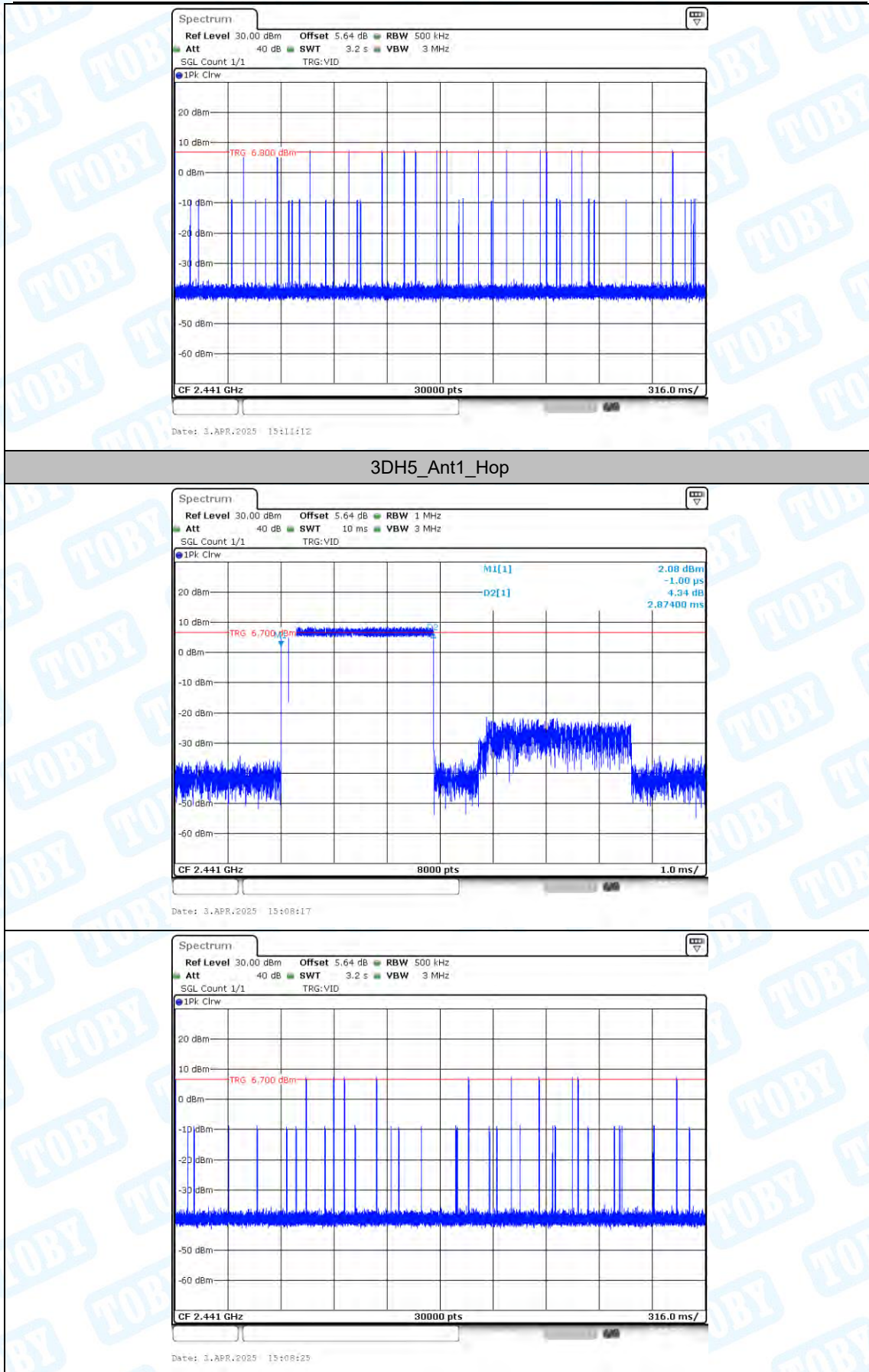


3DH1_Ant1_Hop



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

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

6.2.Test Graphs



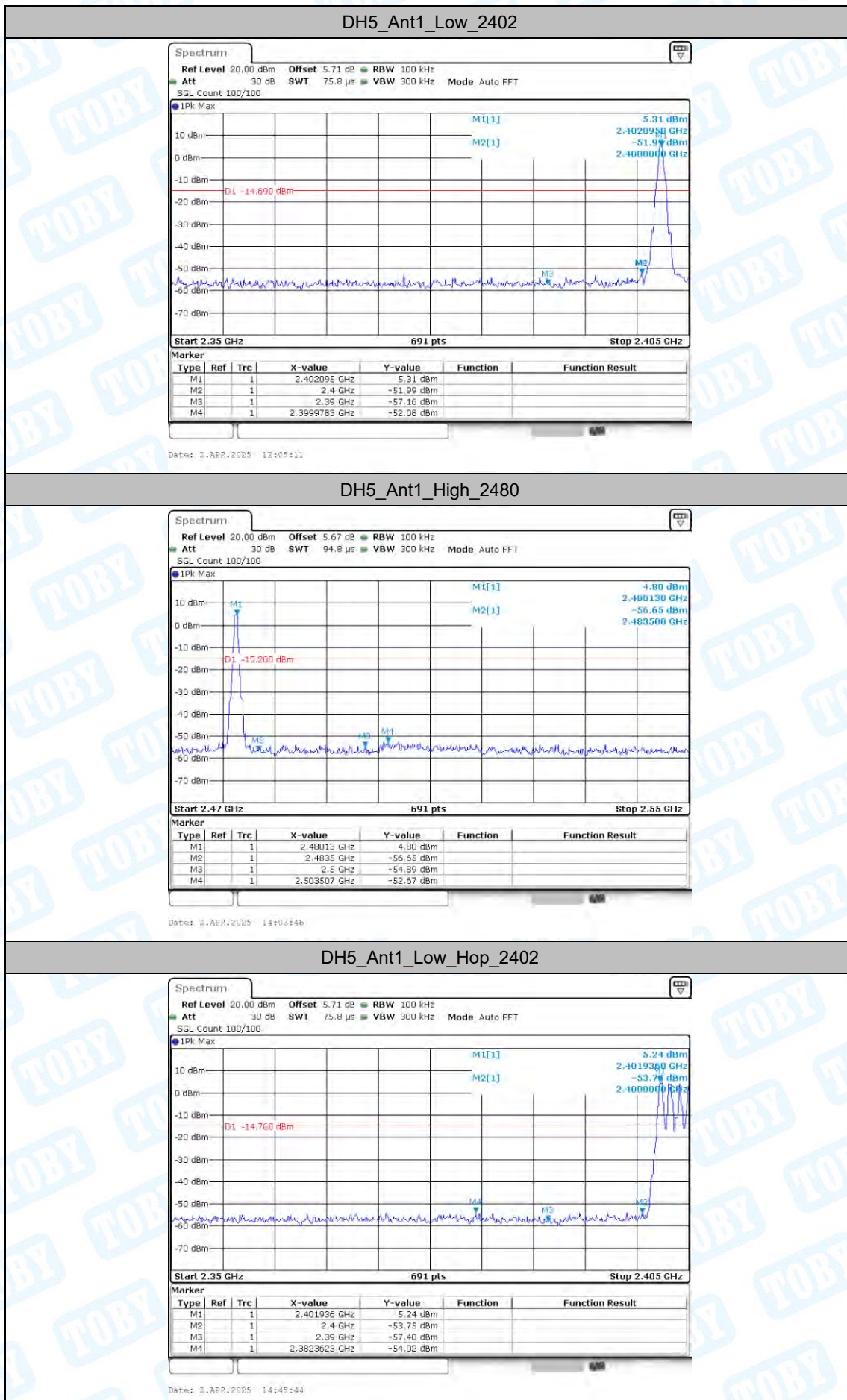
7. Band edge measurements

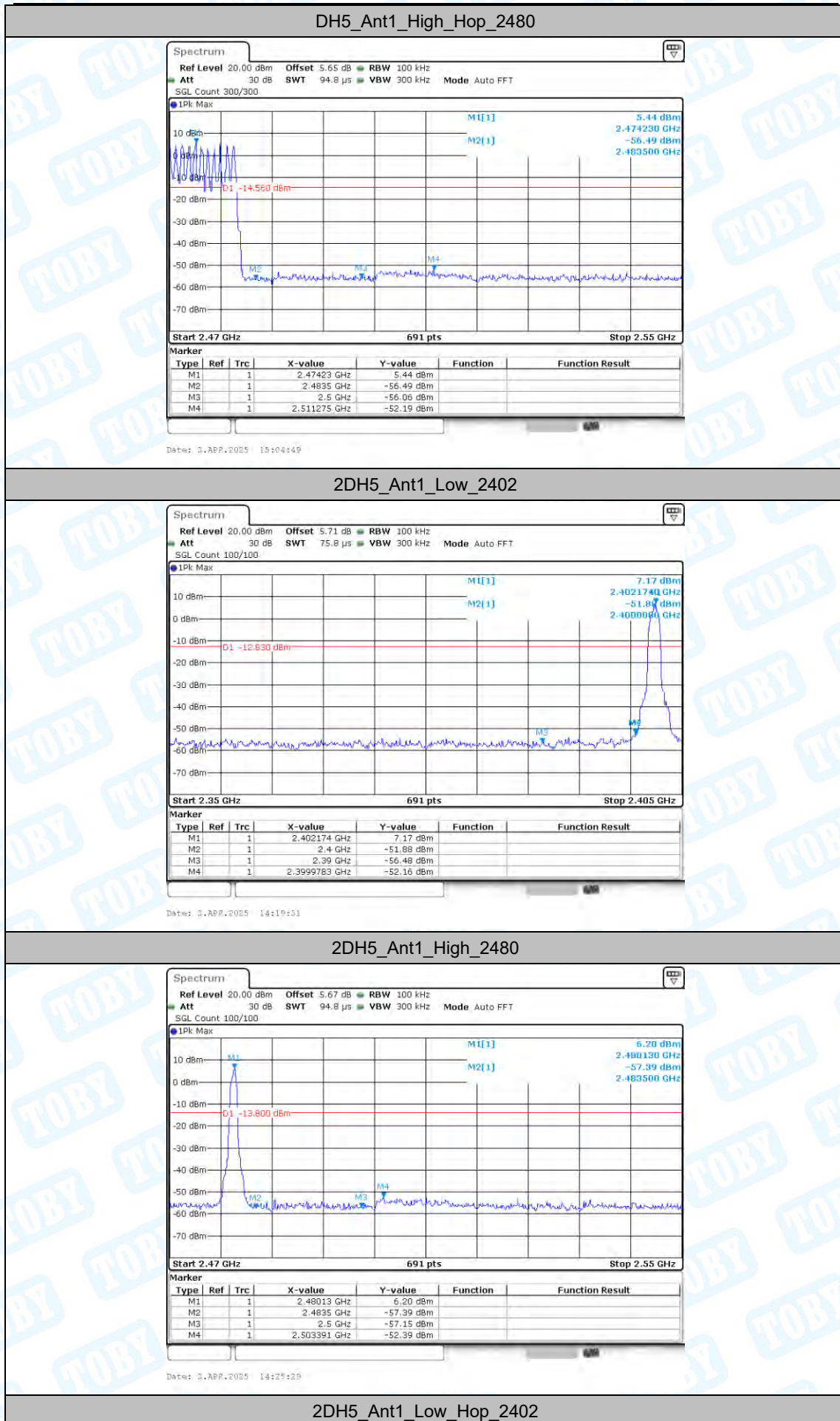
7.1. Test Result

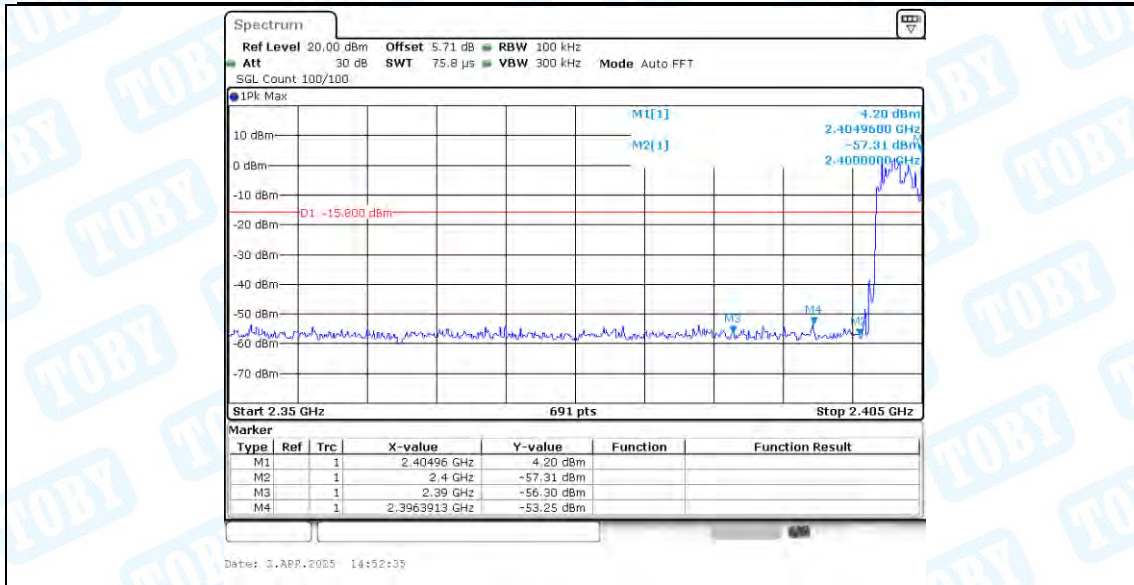
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	5.31	-52.08	≤-14.69	PASS
		High	2480	4.80	-52.67	≤-15.2	PASS
		Low	Hop_2402	5.24	-54.02	≤-14.76	PASS
		High	Hop_2480	5.44	-52.19	≤-14.56	PASS
2DH5	Ant1	Low	2402	7.17	-52.16	≤-12.83	PASS
		High	2480	6.20	-52.39	≤-13.8	PASS
		Low	Hop_2402	4.20	-53.25	≤-15.8	PASS
		High	Hop_2480	3.74	-51.79	≤-16.26	PASS
3DH5	Ant1	Low	2402	7.12	-50.1	≤-12.88	PASS
		High	2480	4.44	-52.59	≤-15.56	PASS
		Low	Hop_2402	0.23	-52.99	≤-19.77	PASS
		High	Hop_2480	4.66	-50.67	≤-15.34	PASS

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

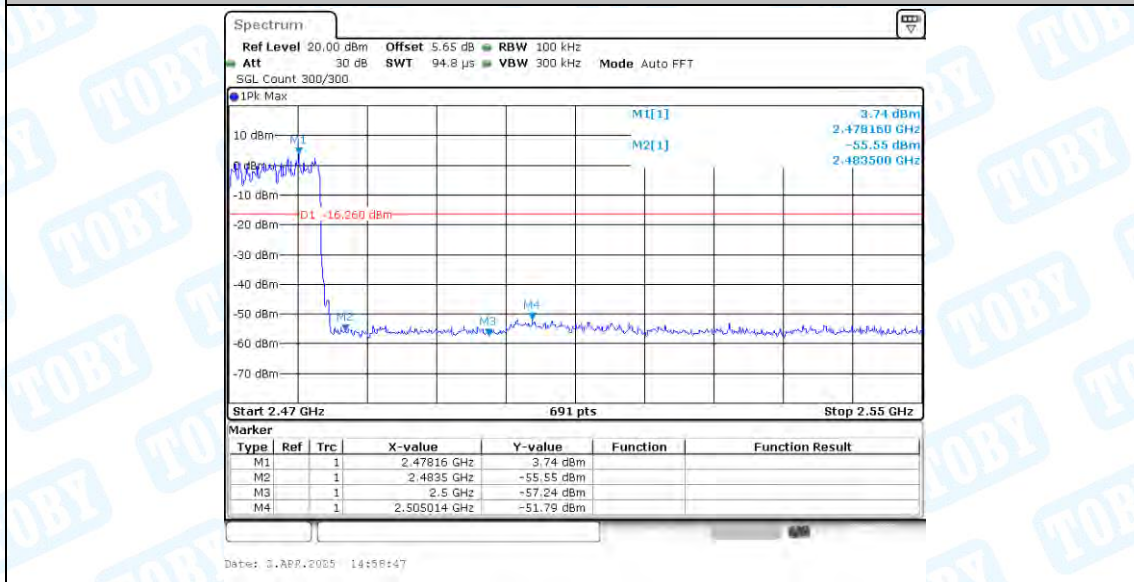
7.2. Test Graphs



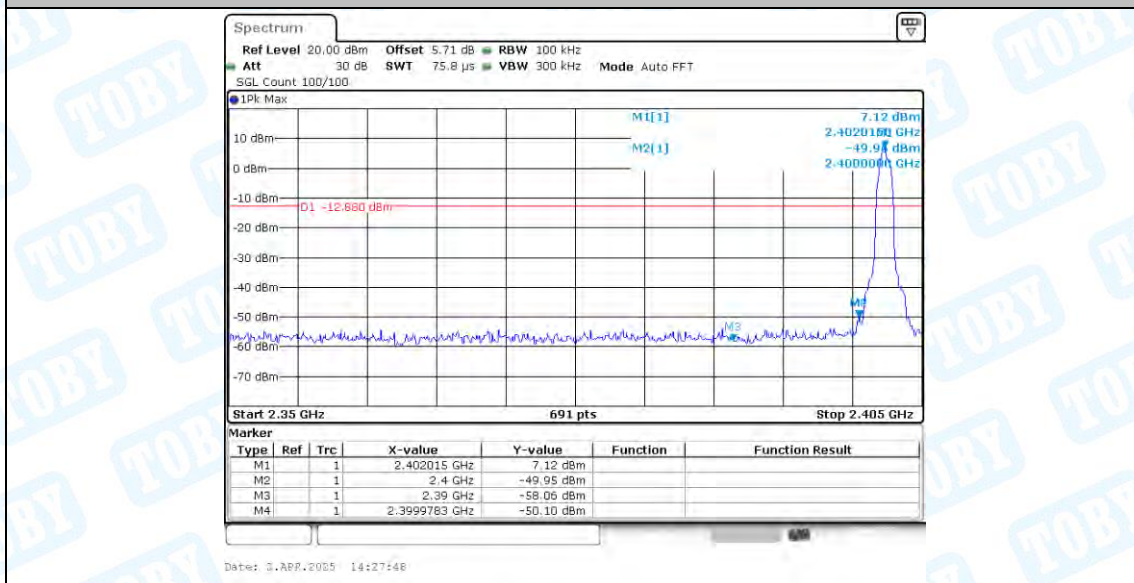




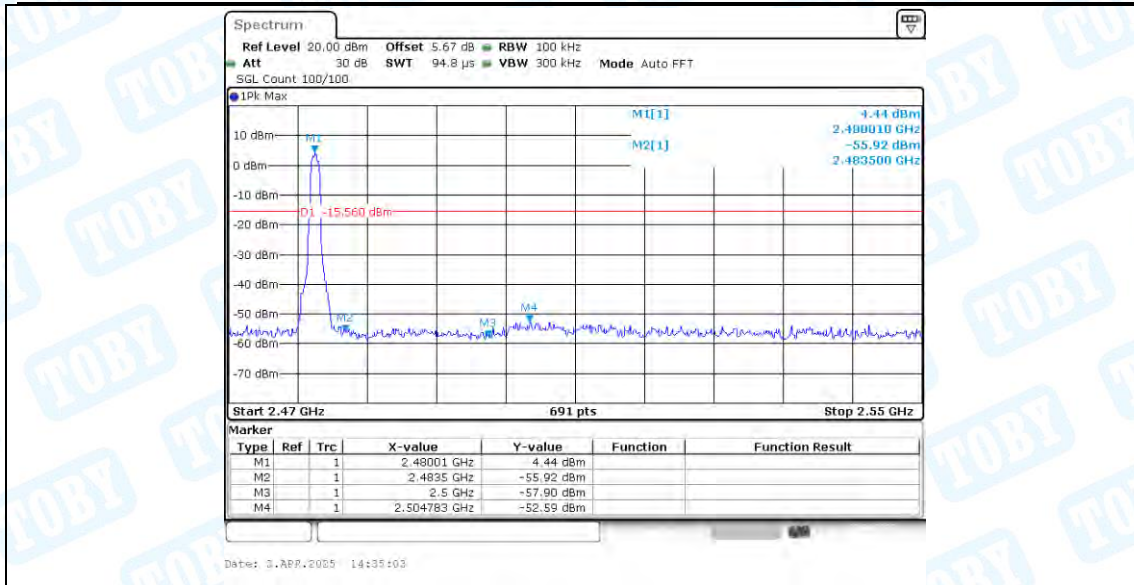
2DH5_Ant1_High_Hop_2480



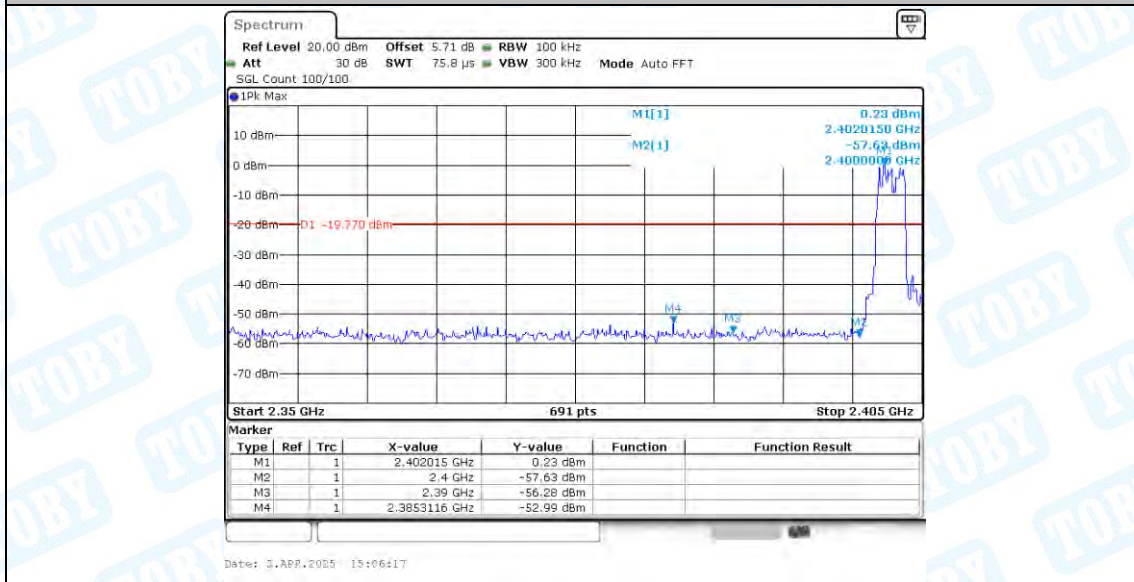
3DH5_Ant1_Low_2402



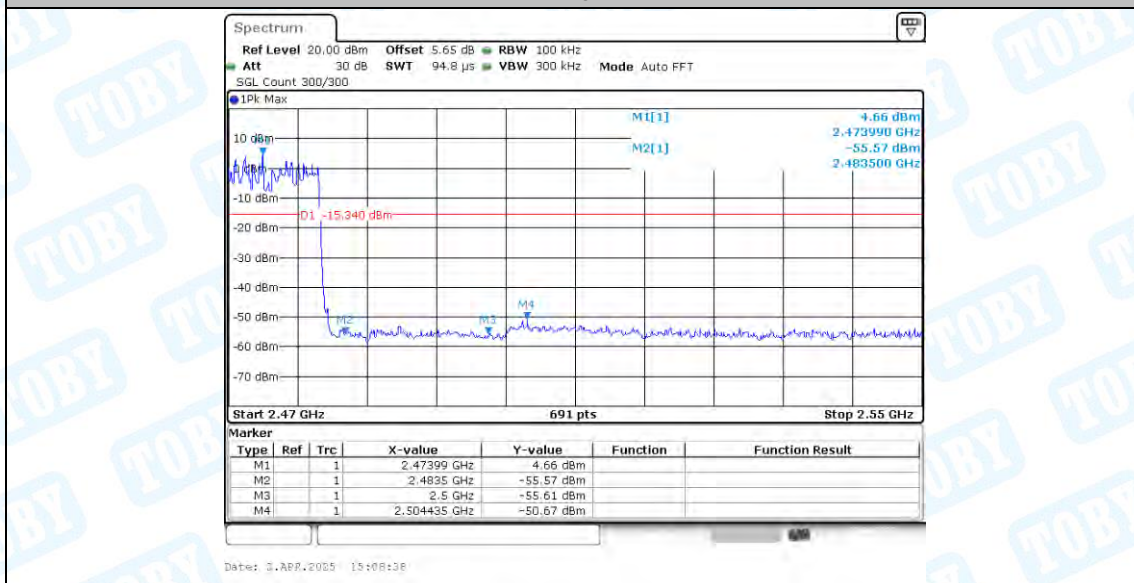
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



8. Conducted Spurious Emission

8.1. Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	0~Reference	4.06	4.06	---	PASS
DH5	Ant1	2402	30~1000	4.06	-48.48	≤-15.94	PASS
DH5	Ant1	2402	1000~26500	4.06	-34.58	≤-15.94	PASS
DH5	Ant1	2441	0~Reference	5.00	5.00	---	PASS
DH5	Ant1	2441	30~1000	5.00	-48.03	≤-15	PASS
DH5	Ant1	2441	1000~26500	5.00	-34.27	≤-15	PASS
DH5	Ant1	2480	0~Reference	3.67	3.67	---	PASS
DH5	Ant1	2480	30~1000	3.67	-47.62	≤-16.33	PASS
DH5	Ant1	2480	1000~26500	3.67	-34.78	≤-16.33	PASS
2DH5	Ant1	2402	0~Reference	3.17	3.17	---	PASS
2DH5	Ant1	2402	30~1000	3.17	-47.15	≤-16.83	PASS
2DH5	Ant1	2402	1000~26500	3.17	-35.25	≤-16.83	PASS
2DH5	Ant1	2441	0~Reference	0.68	0.68	---	PASS
2DH5	Ant1	2441	30~1000	0.68	-47.6	≤-19.32	PASS
2DH5	Ant1	2441	1000~26500	0.68	-34.9	≤-19.32	PASS
2DH5	Ant1	2480	0~Reference	2.27	2.27	---	PASS
2DH5	Ant1	2480	30~1000	2.27	-47.7	≤-17.73	PASS
2DH5	Ant1	2480	1000~26500	2.27	-34.64	≤-17.73	PASS
3DH5	Ant1	2402	0~Reference	1.89	1.89	---	PASS
3DH5	Ant1	2402	30~1000	1.89	-48.5	≤-18.11	PASS
3DH5	Ant1	2402	1000~26500	1.89	-34.18	≤-18.11	PASS
3DH5	Ant1	2441	0~Reference	3.41	3.41	---	PASS
3DH5	Ant1	2441	30~1000	3.41	-47.67	≤-16.59	PASS
3DH5	Ant1	2441	1000~26500	3.41	-34.68	≤-16.59	PASS
3DH5	Ant1	2480	0~Reference	2.48	2.48	---	PASS
3DH5	Ant1	2480	30~1000	2.48	-47.26	≤-17.52	PASS
3DH5	Ant1	2480	1000~26500	2.48	-35.17	≤-17.52	PASS

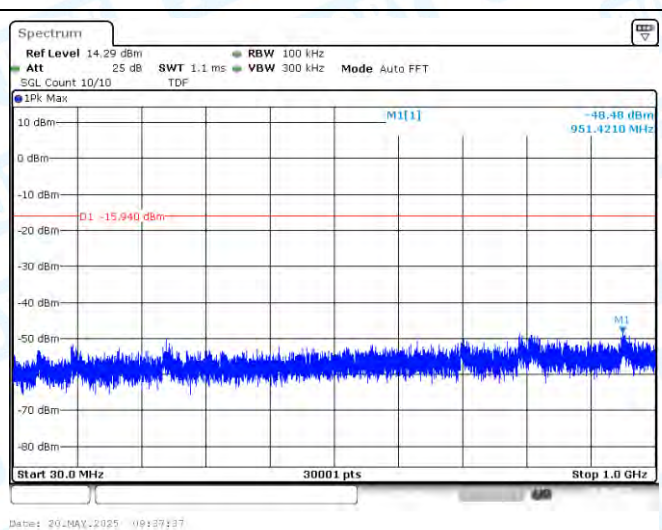
Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

For conducted spurious emission test, cable loss is the maximum value in the range of test.

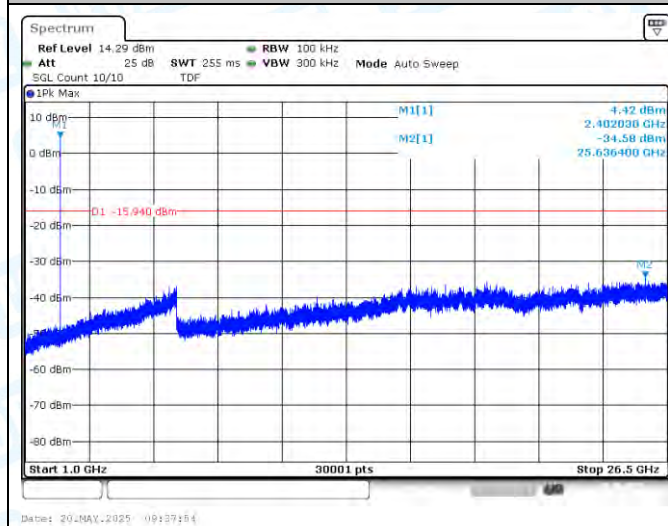
8.2. Test Graphs



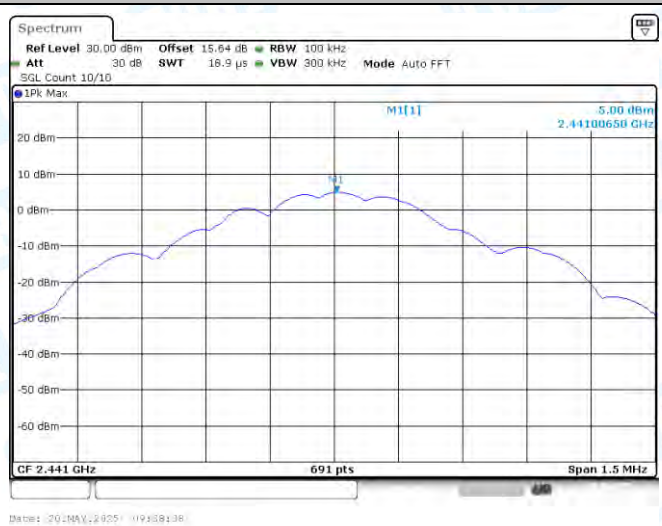
DH5-Ant1-2402-0~Reference-PASS



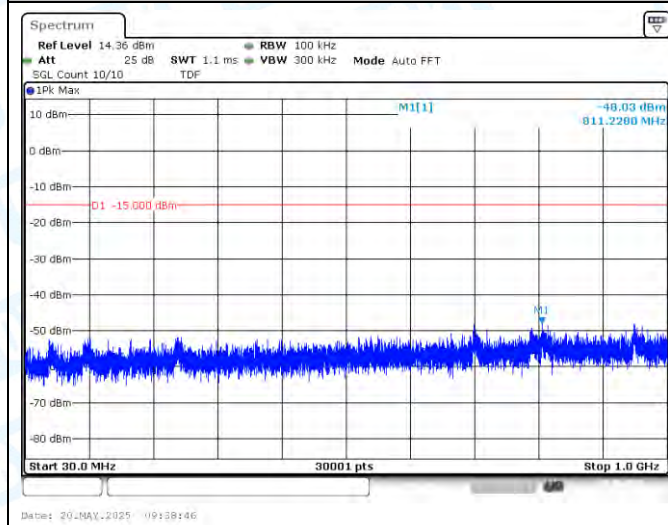
DH5-Ant1-2402-30~1000-PASS



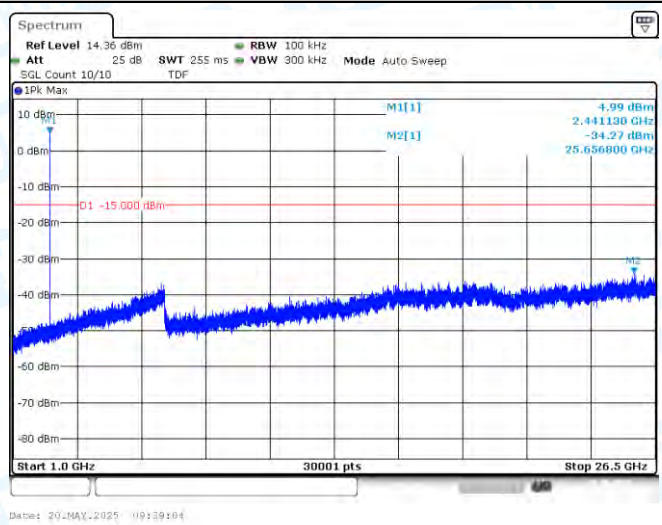
DH5-Ant1-2402-1000~26500-PASS



DH5-Ant1-2441-0~Reference-PASS



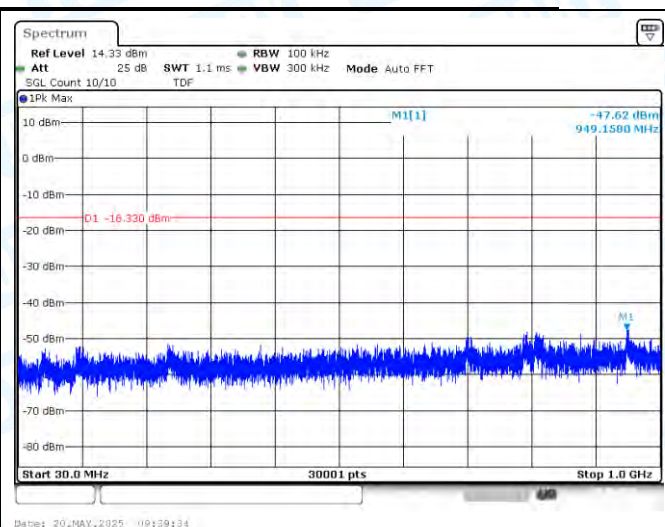
DH5-Ant1-2441-30~1000-PASS



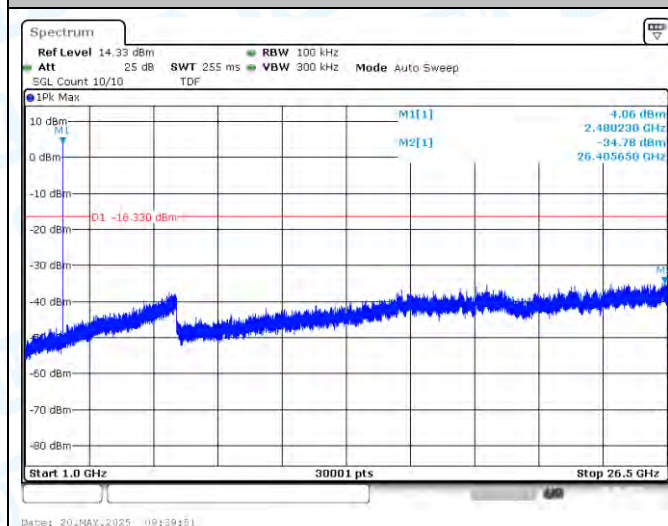
DH5-Ant1-2441-1000~26500-PASS



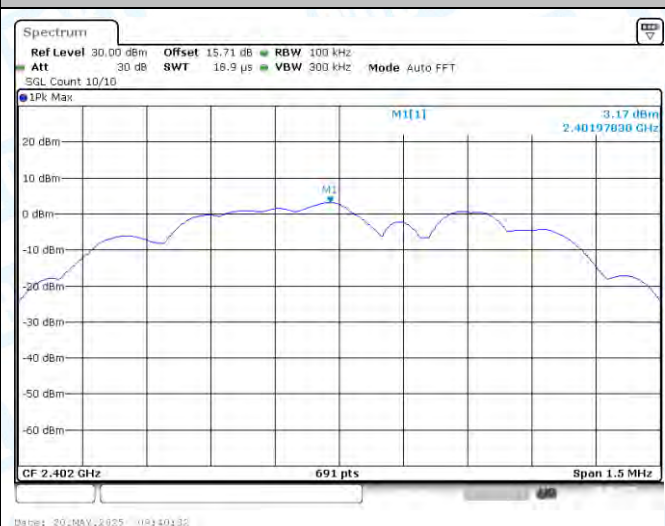
DH5-Ant1-2480-0~Reference-PASS



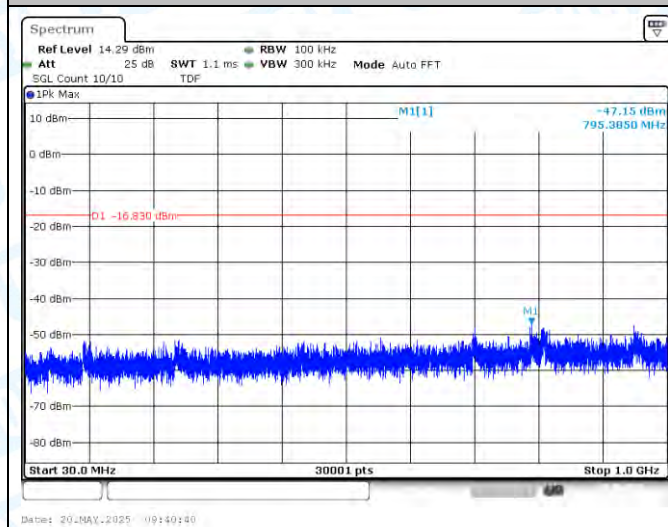
DH5-Ant1-2480-30~1000-PASS



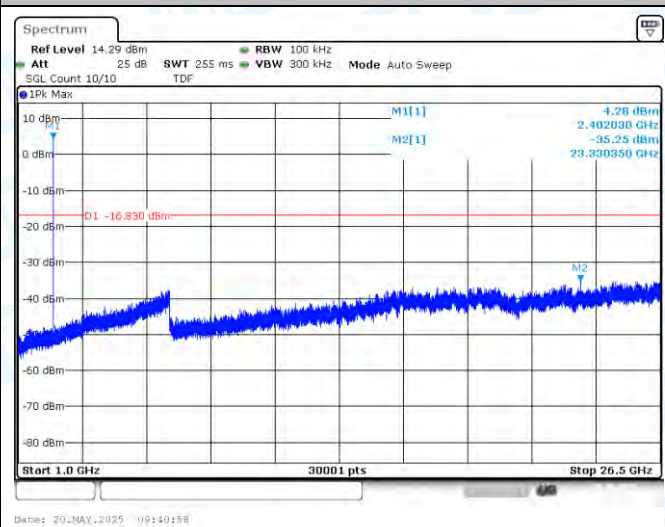
DH5-Ant1-2480-1000~26500-PASS



2DH5-Ant1-2402-0~Reference-PASS



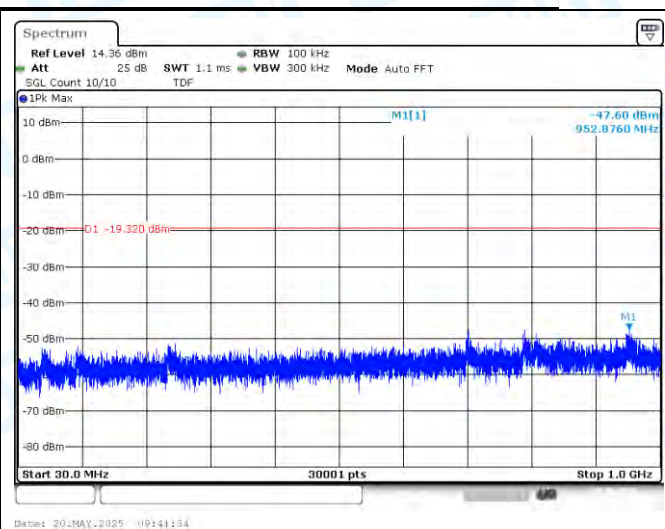
2DH5-Ant1-2402-30~1000-PASS



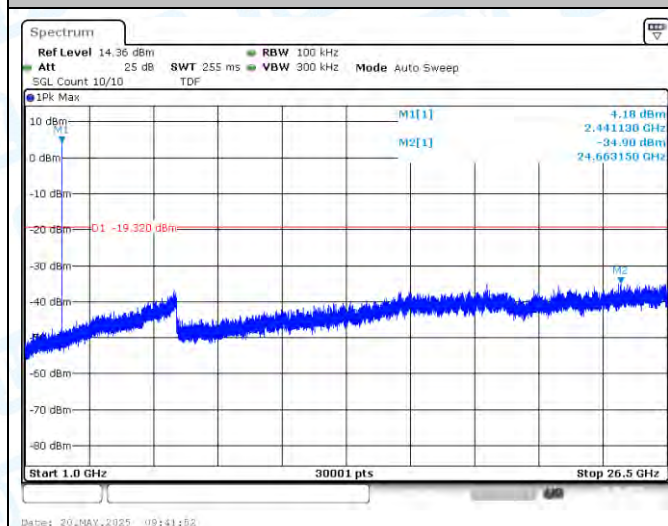
2DH5-Ant1-2402-1000~26500-PASS



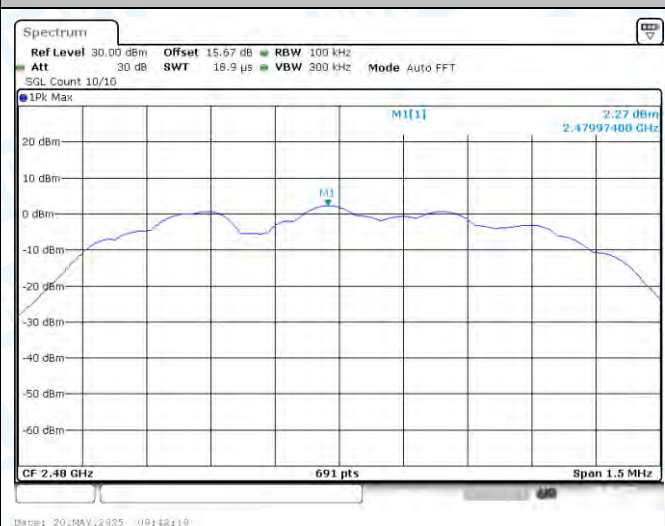
2DH5-Ant1-2441-0~Reference-PASS



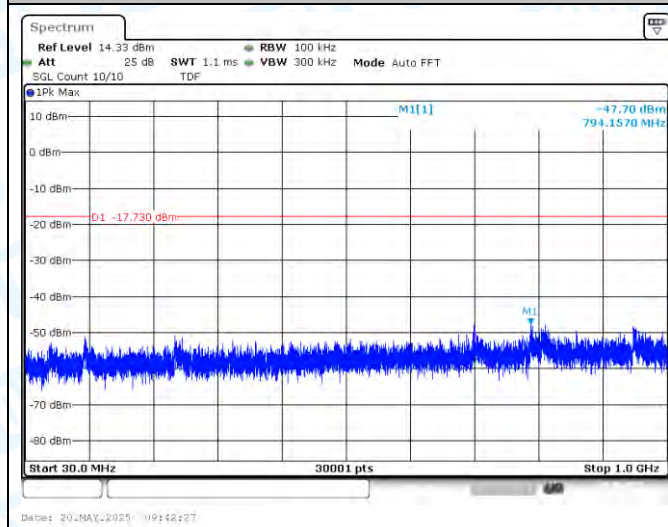
2DH5-Ant1-2441-30~1000-PASS



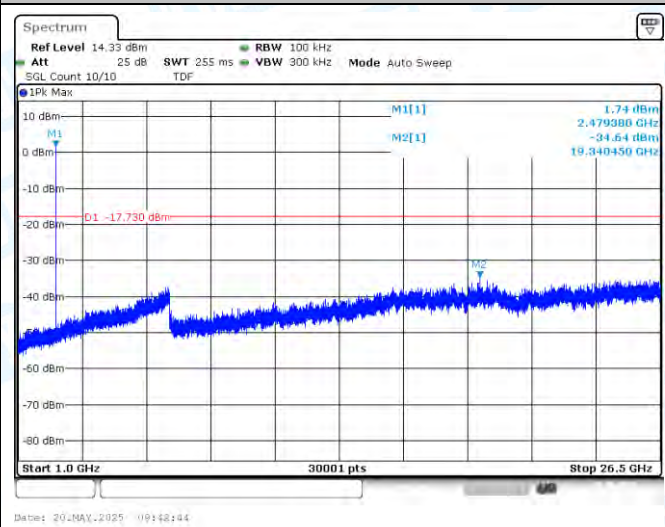
2DH5-Ant1-2441-1000~26500-PASS



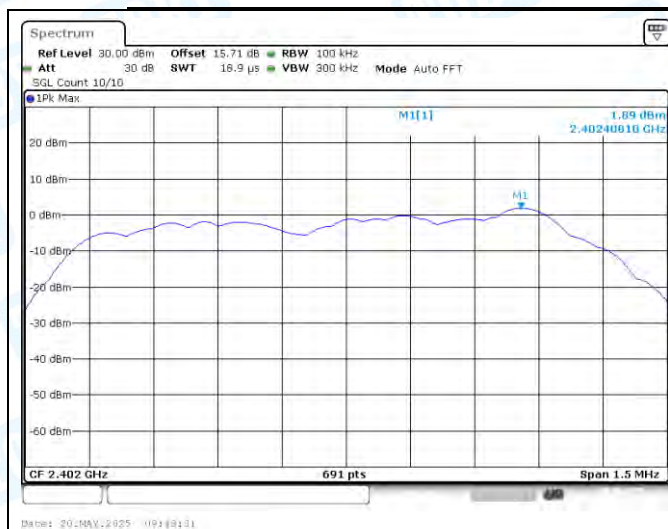
2DH5-Ant1-2480-0~Reference-PASS



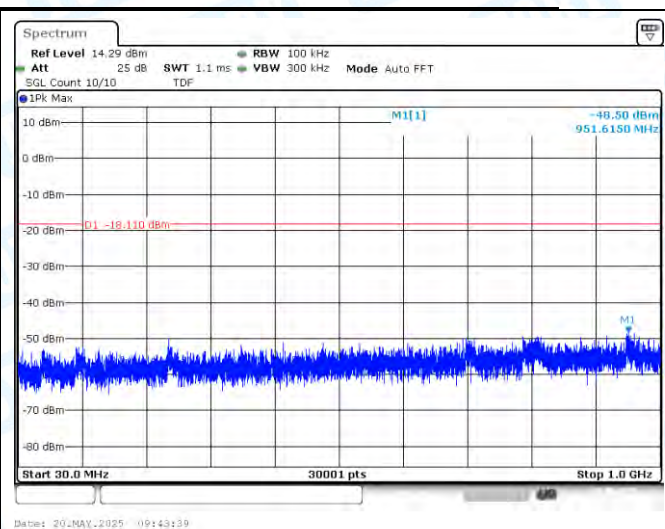
2DH5-Ant1-2480-30~1000-PASS



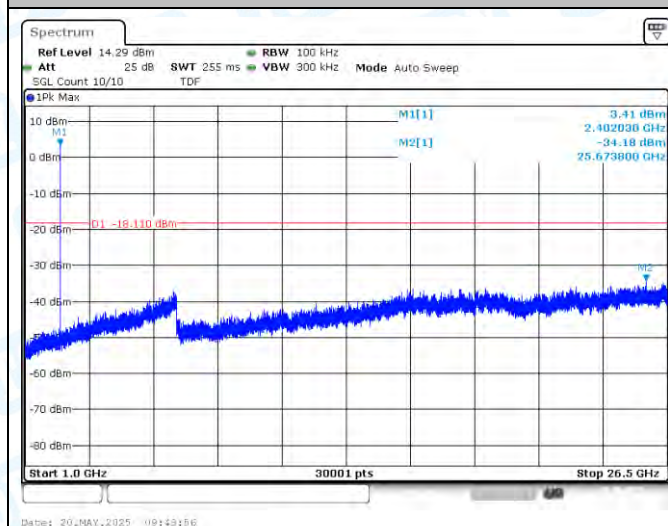
2DH5-Ant1-2480-1000~26500-PASS



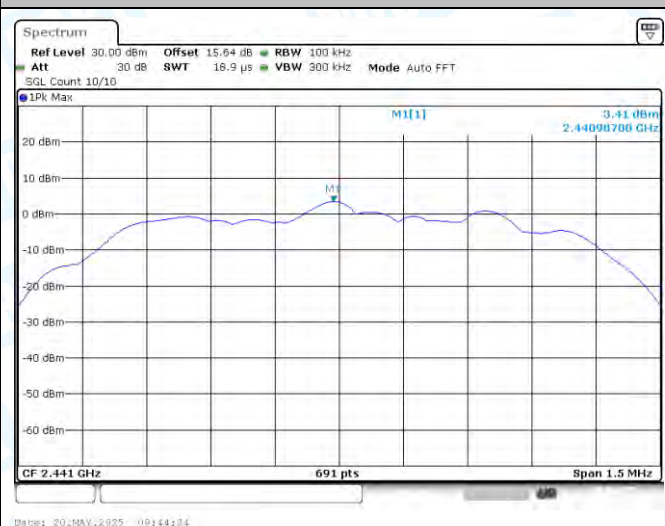
3DH5-Ant1-2402-0~Reference-PASS



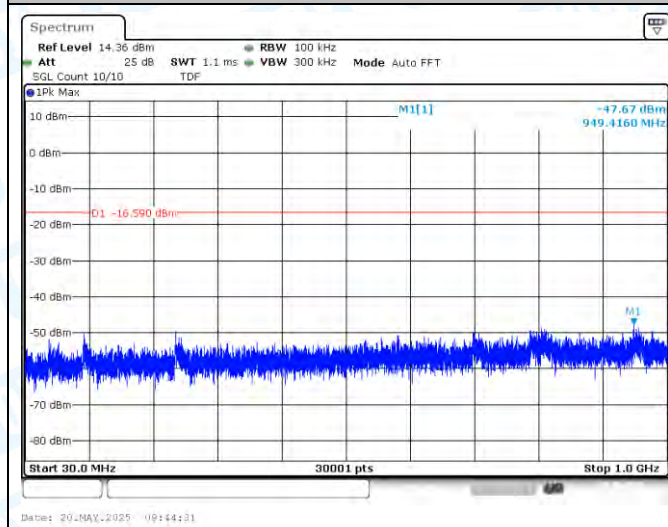
3DH5-Ant1-2402-30~1000-PASS



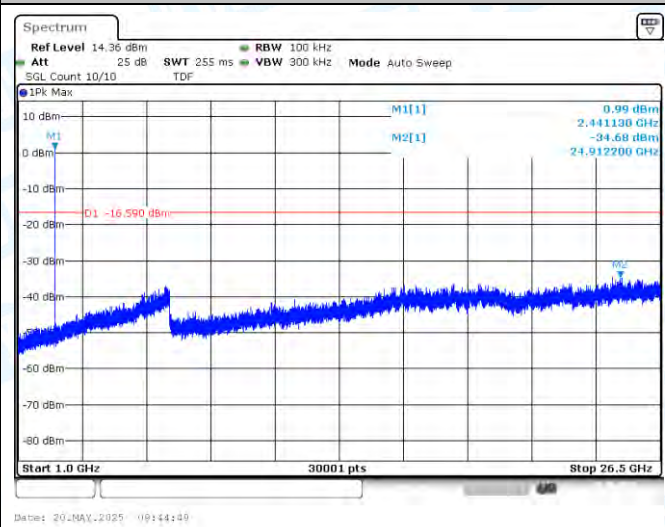
3DH5-Ant1-2402-1000~26500-PASS



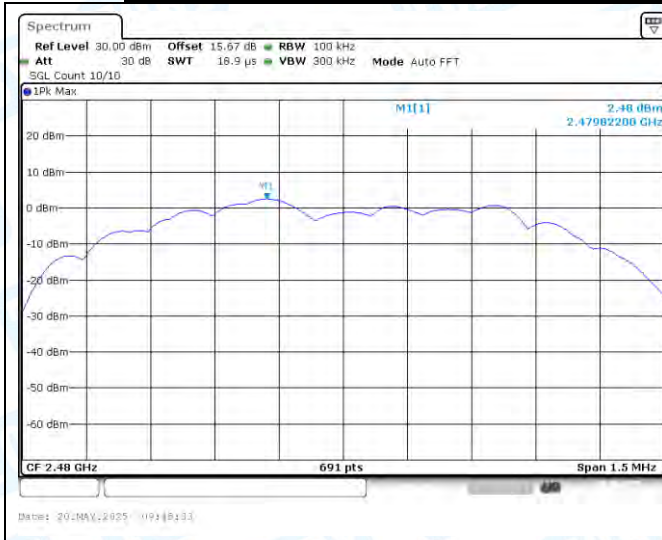
3DH5-Ant1-2441-0~Reference-PASS



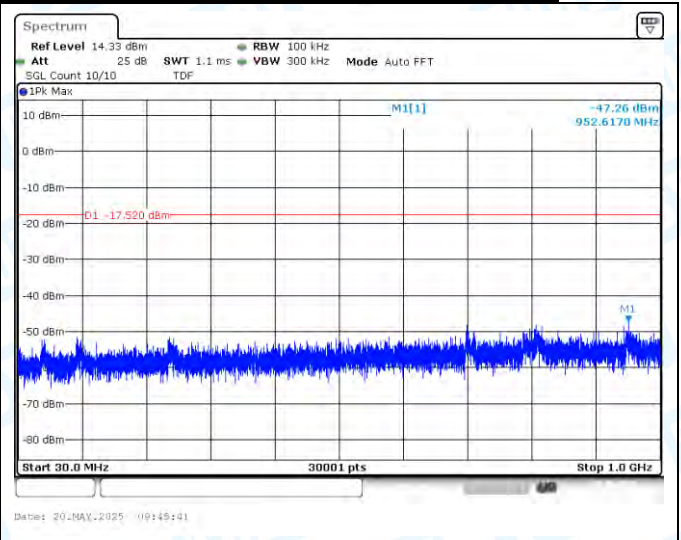
3DH5-Ant1-2441-30~1000-PASS



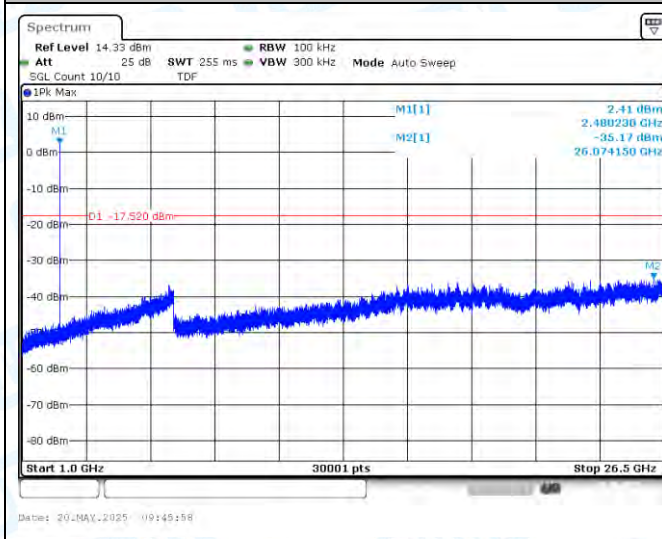
3DH5-Ant1-2441-1000~26500-PASS



3DH5-Ant1-2480-0~Reference-PASS



3DH5-Ant1-2480-30~1000-PASS



3DH5-Ant1-2480-1000~26500-PASS

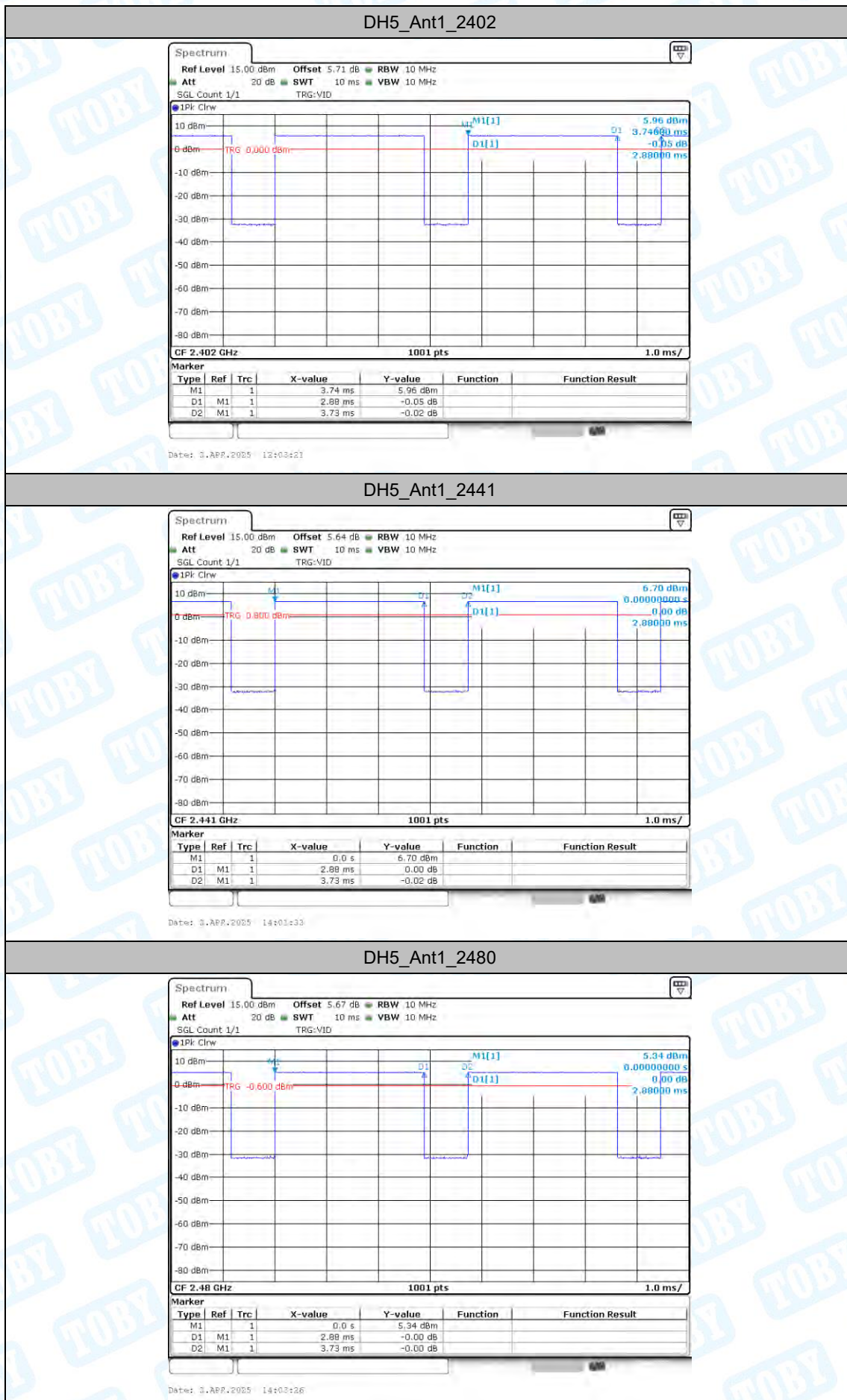
9. Duty Cycle

9.1. Test Result

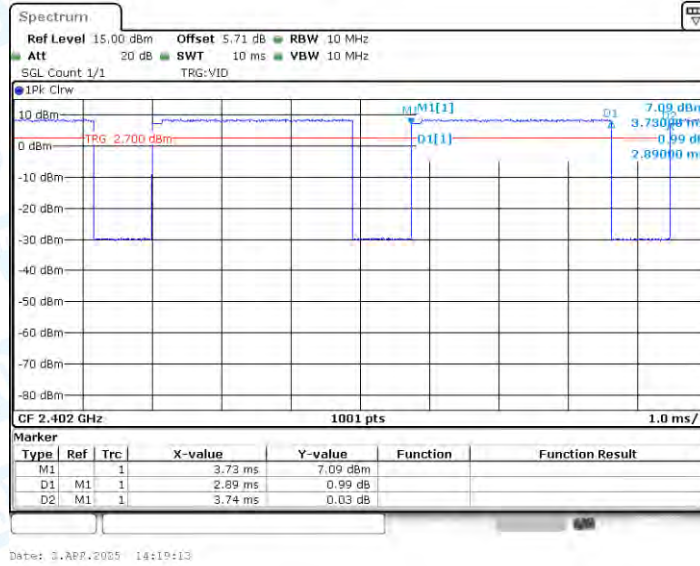
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
DH5	Ant1	2402	2.88	3.73	77.21	---	---
		2441	2.88	3.73	77.21	---	---
		2480	2.88	3.73	77.21	---	---
2DH5	Ant1	2402	2.89	3.74	77.27	---	---
		2441	2.89	3.74	77.27	---	---
		2480	2.89	3.74	77.27	---	---
3DH5	Ant1	2402	2.89	3.74	77.27	---	---
		2441	2.89	3.74	77.27	---	---
		2480	2.89	3.74	77.27	---	---

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

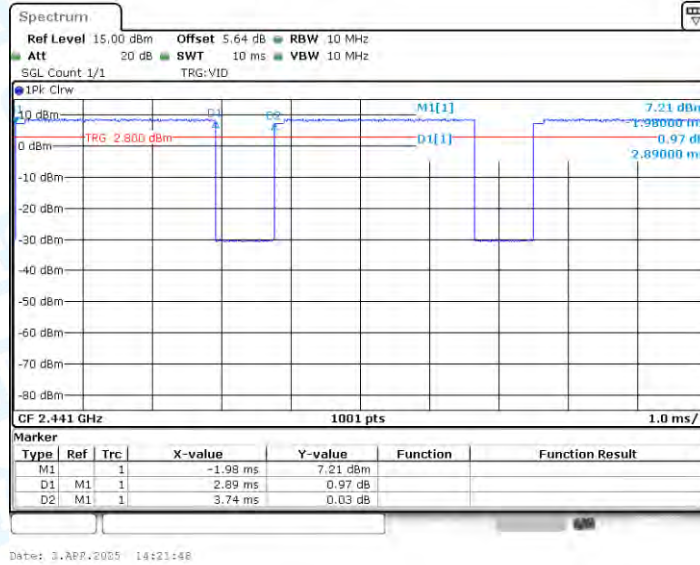
9.2.Test Graphs



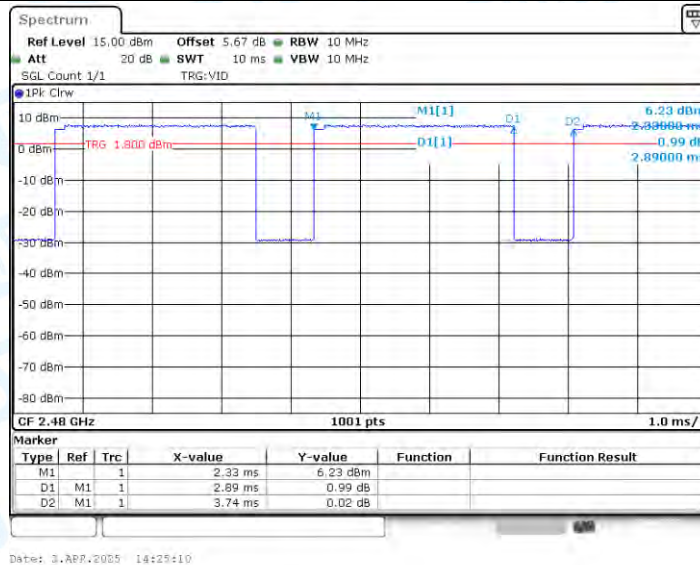
2DH5_Ant1_2402



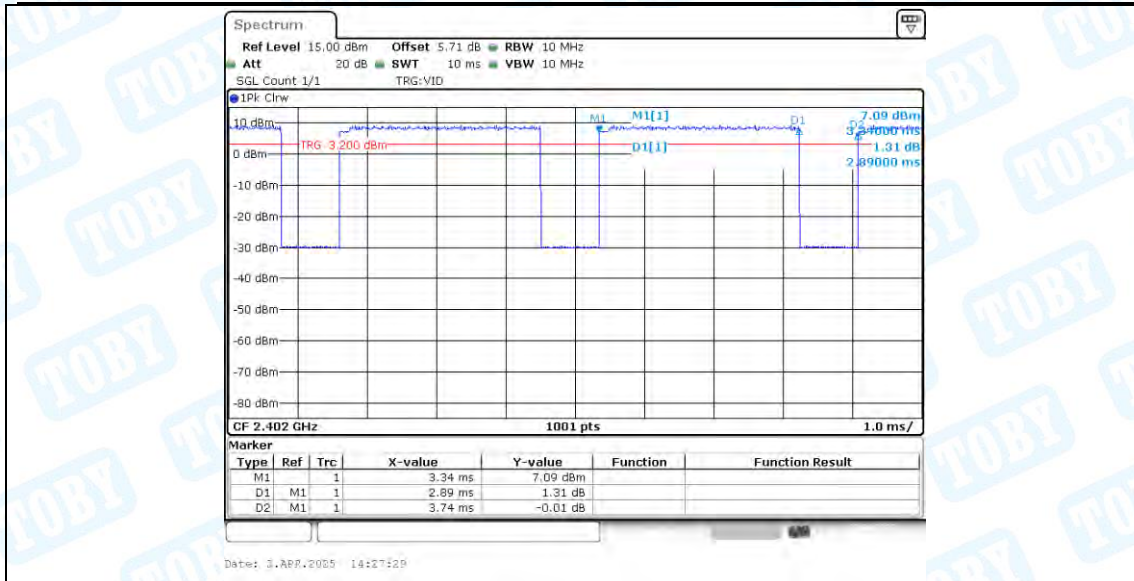
2DH5_Ant1_2441



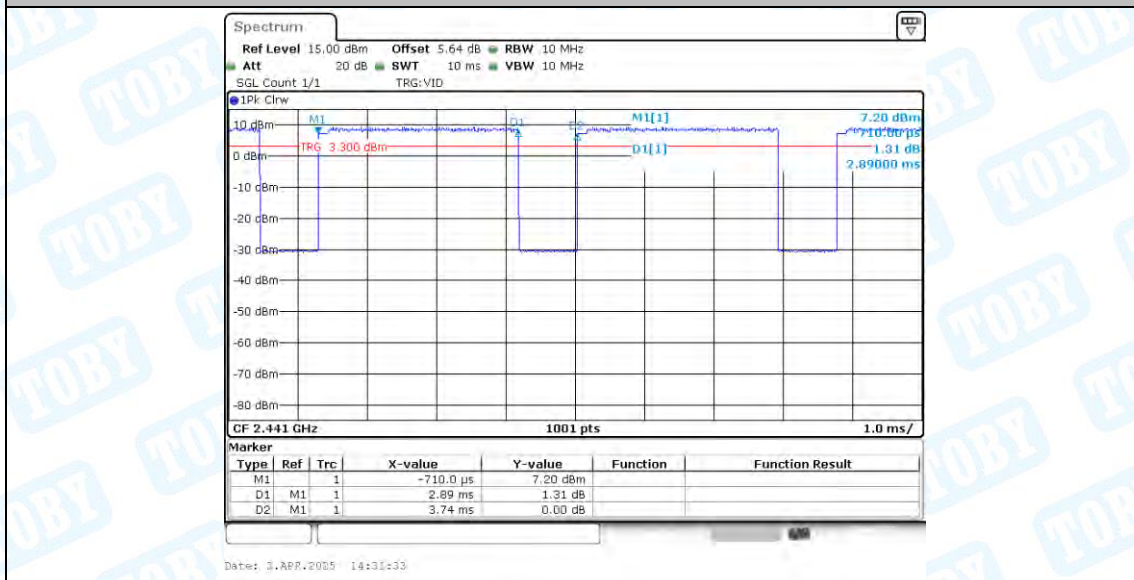
2DH5_Ant1_2480



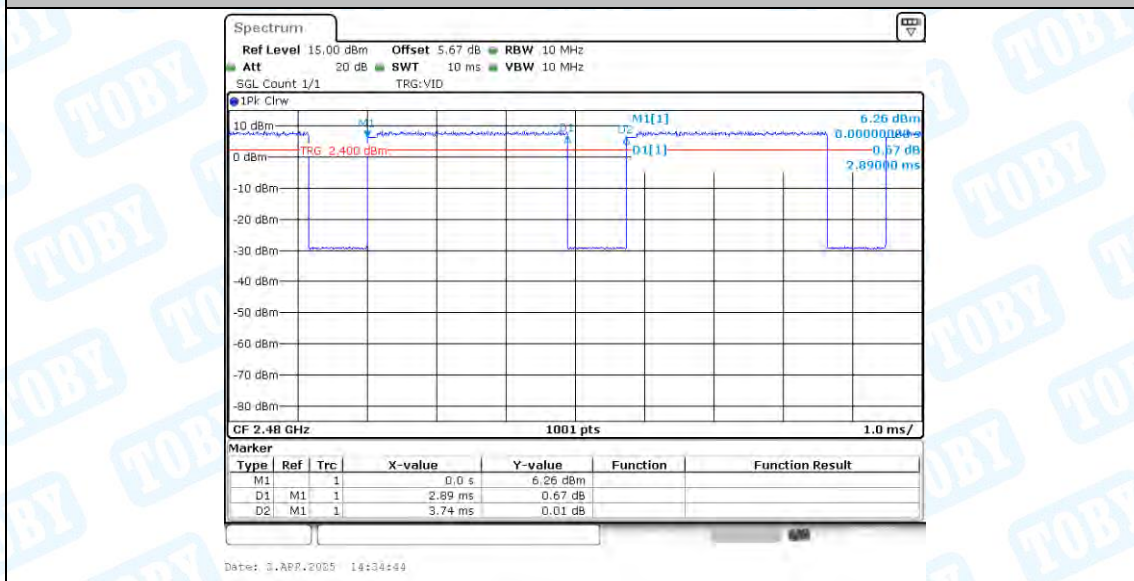
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



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