

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

General Description of EUT	
Product Name:	projector
Test Model:	TS-3
Sample ID:	HC-C-202405-0346-01-02#
Environmental Conditions	
Temperature:	25°C
Relative Humidity:	55%
Test Voltage:	AC 120V
Test Engineer:	Mike Yan
Note: For a more detailed features description, please refer to the report TBR-C-202405-0346-61	



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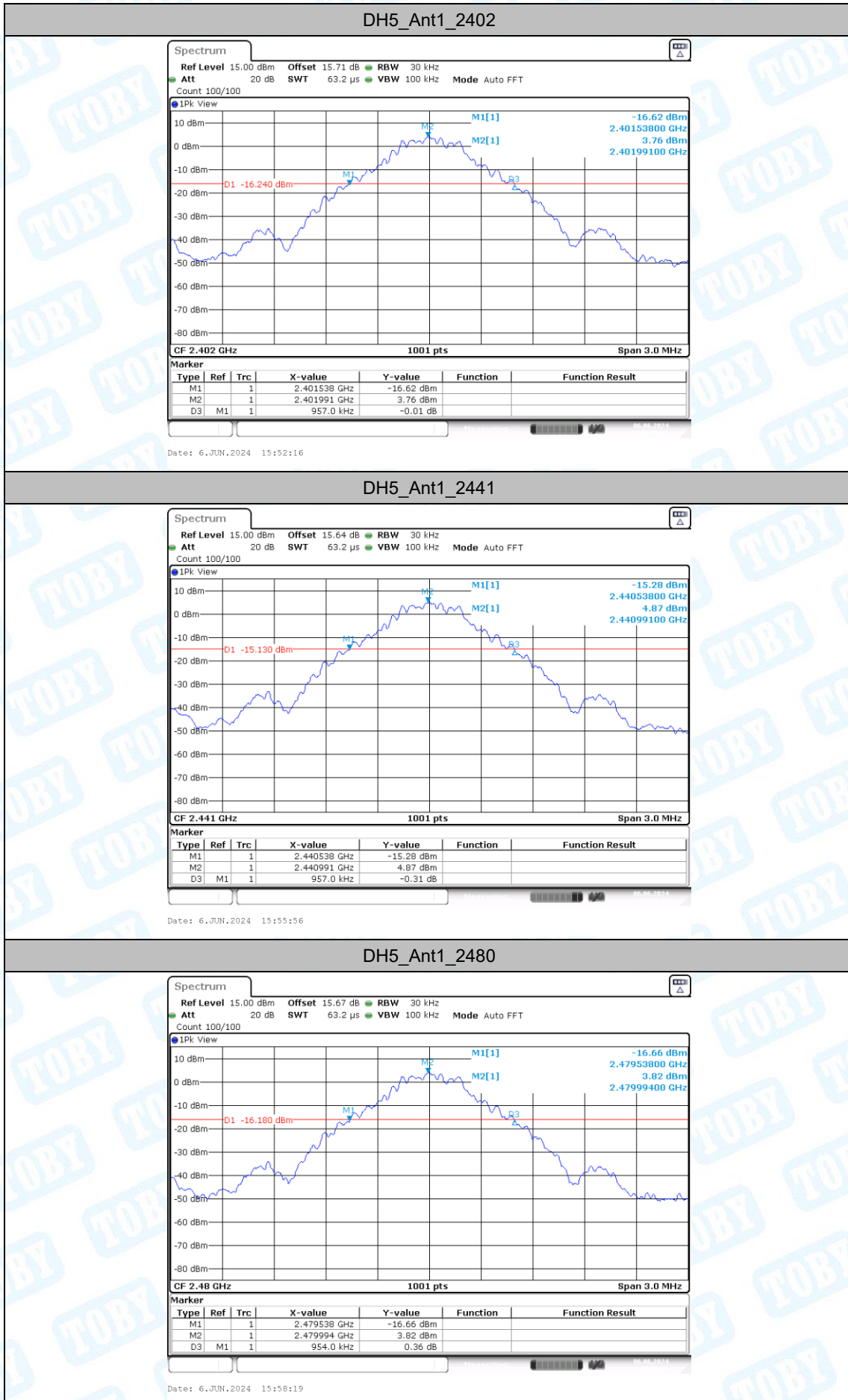


## 1. 20dB Emission Bandwidth

### 1.1. Test Result

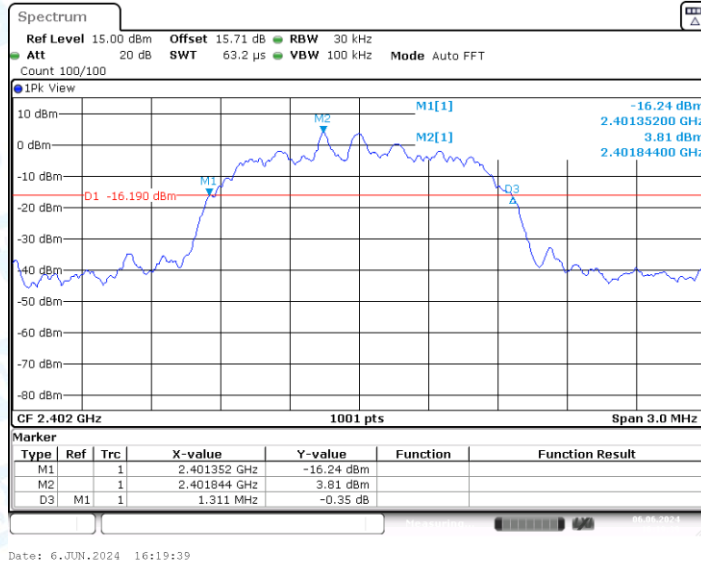
TestMode	Antenna	Channel	20db EBW[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.96	---	---
		2441	0.96	---	---
		2480	0.95	---	---
2DH5	Ant1	2402	1.31	---	---
		2441	1.29	---	---
		2480	1.29	---	---
3DH5	Ant1	2402	1.30	---	---
		2441	1.30	---	---
		2480	1.29	---	---

## 1.2. Test Graphs

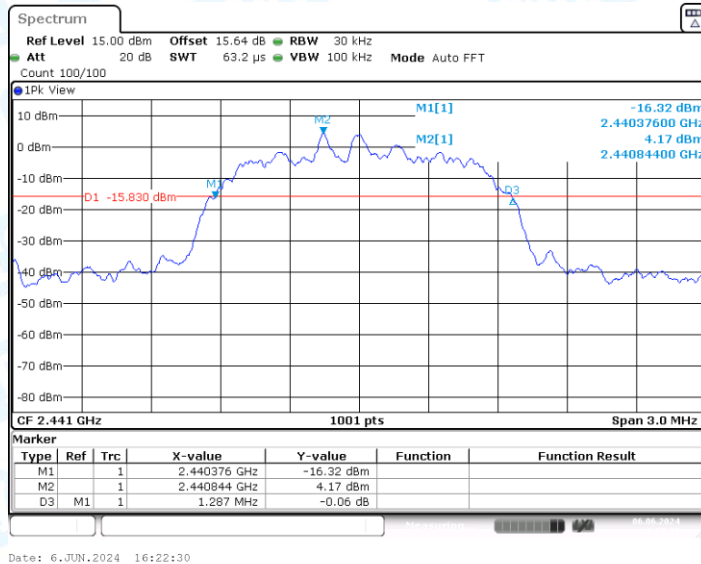




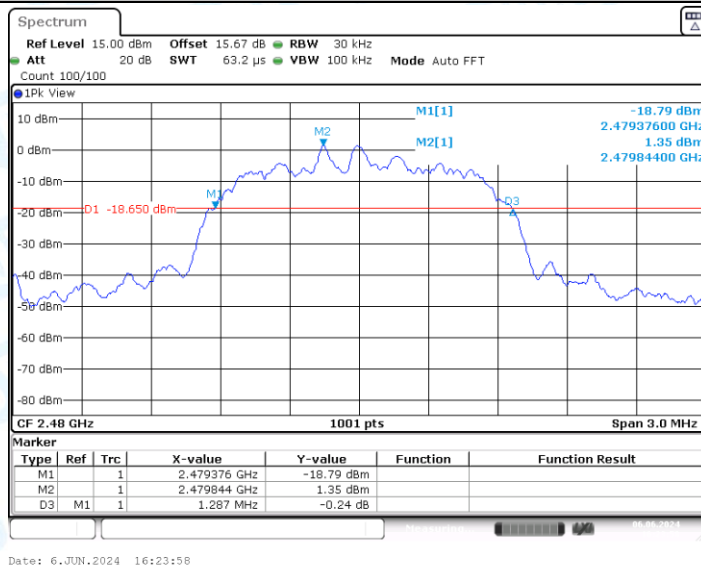
2DH5\_Ant1\_2402



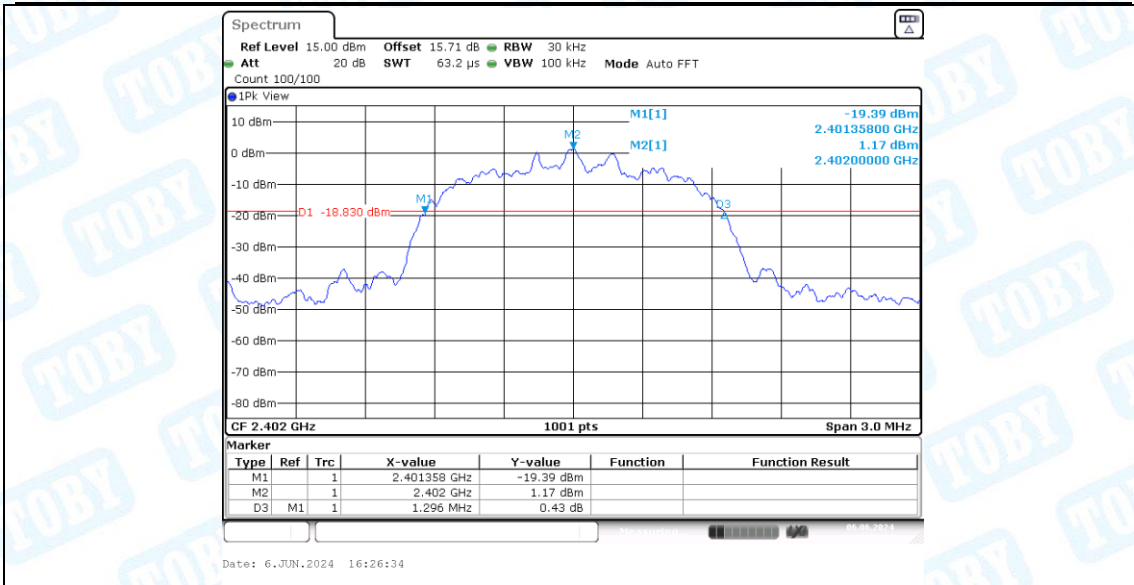
2DH5\_Ant1\_2441



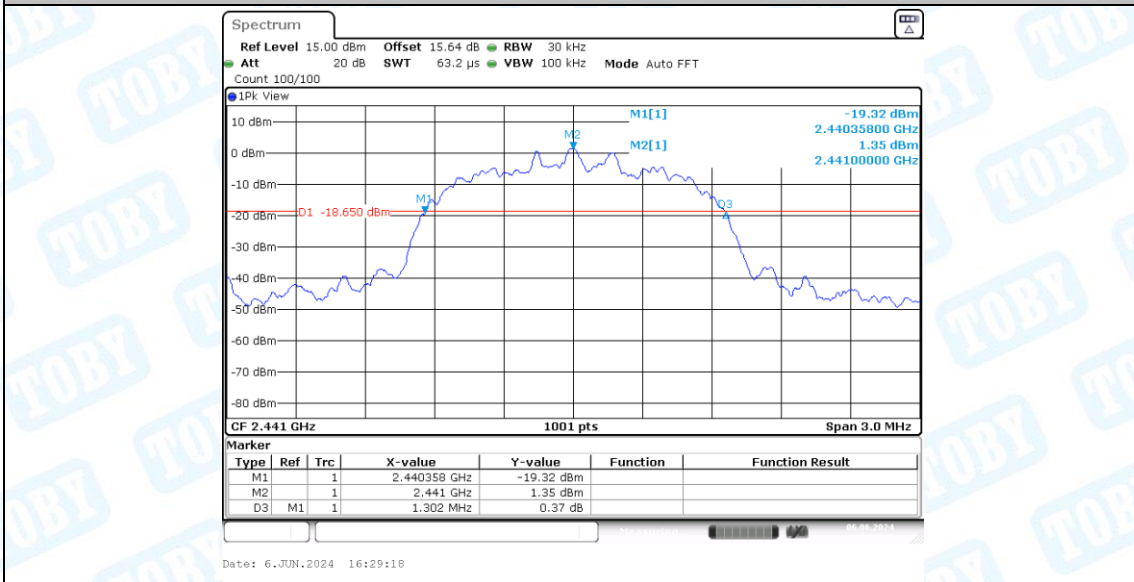
2DH5\_Ant1\_2480



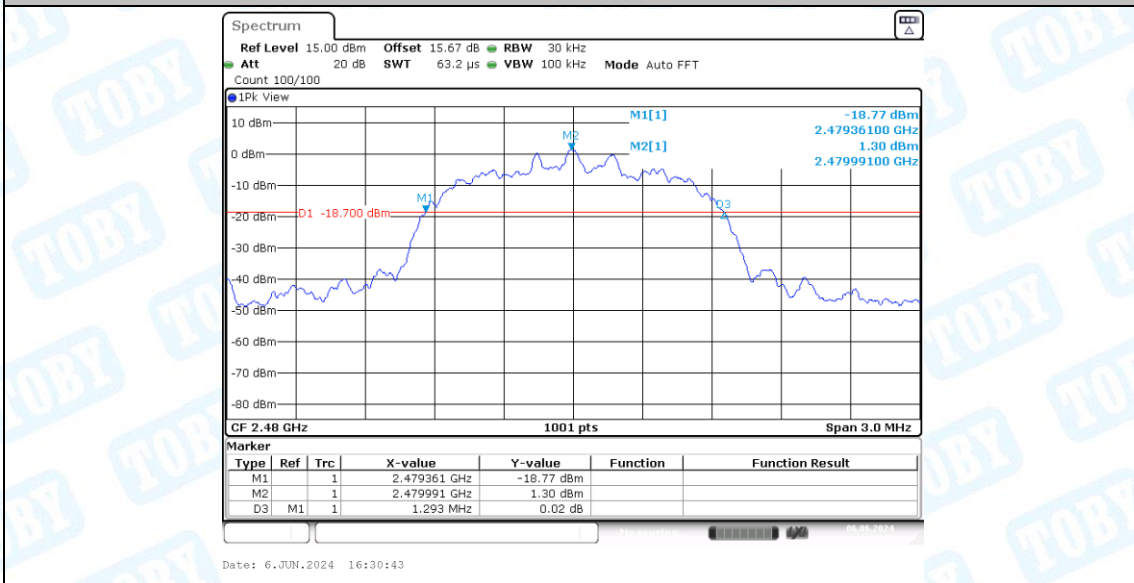
3DH5\_Ant1\_2402



3DH5\_Ant1\_2441



3DH5\_Ant1\_2480



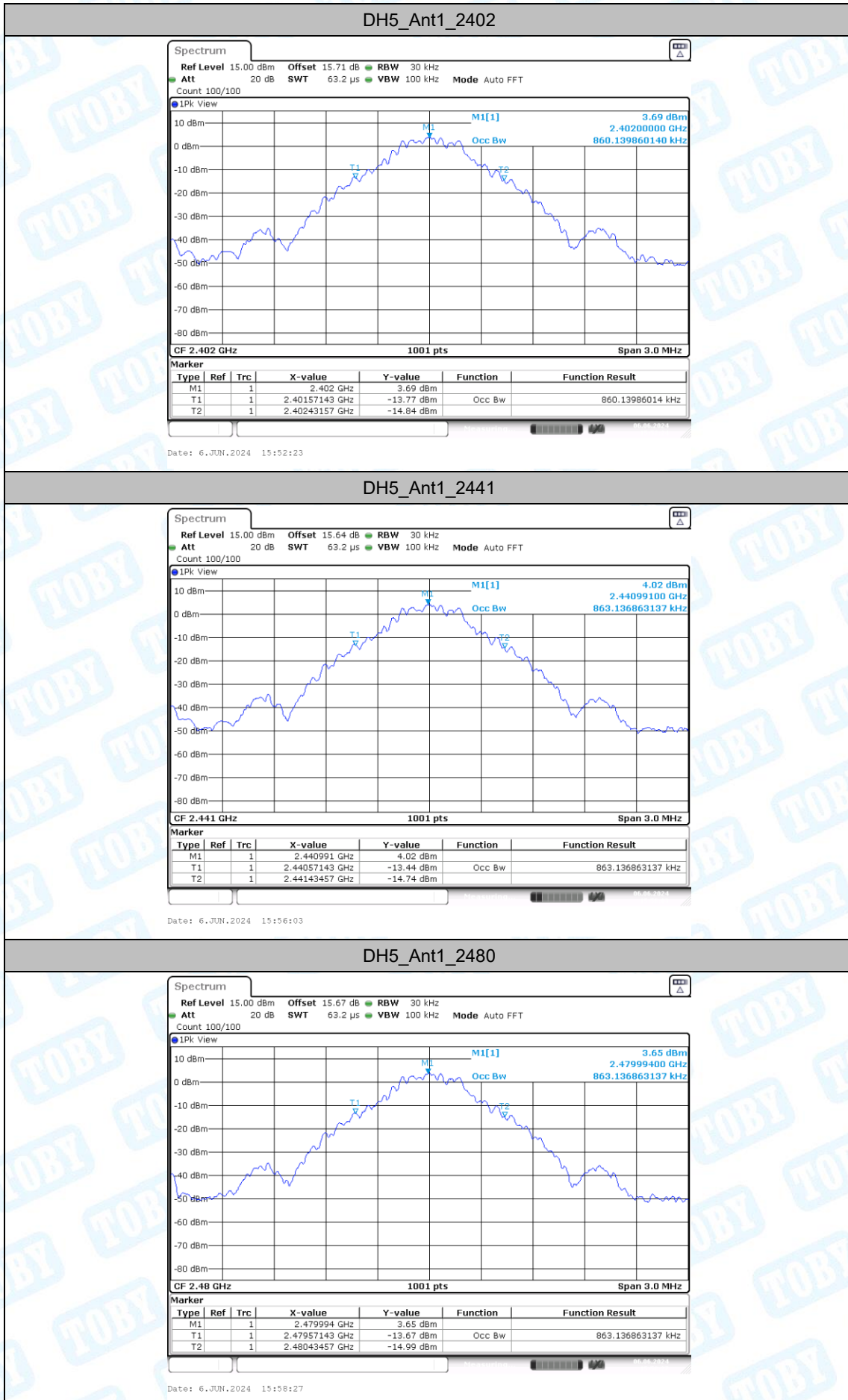


## 2. Occupied Channel Bandwidth

### 2.1. Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.86	2401.5714	2402.4316	---	---
		2441	0.863	2440.5714	2441.4346	---	---
		2480	0.863	2479.5714	2480.4346	---	---
2DH5	Ant1	2402	1.175	2401.4156	2402.5904	---	---
		2441	1.169	2440.4186	2441.5874	---	---
		2480	1.169	2479.4186	2480.5874	---	---
3DH5	Ant1	2402	1.175	2401.4186	2402.5934	---	---
		2441	1.175	2440.4186	2441.5934	---	---
		2480	1.181	2479.4156	2480.5964	---	---

## 2.2. Test Graphs

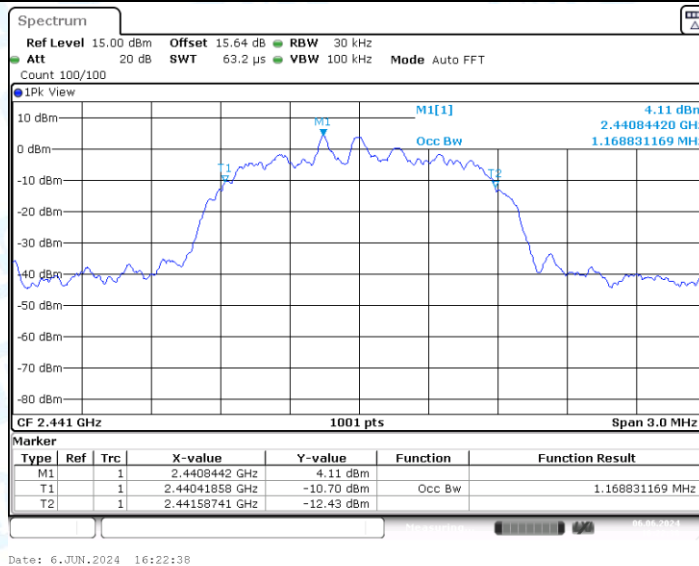




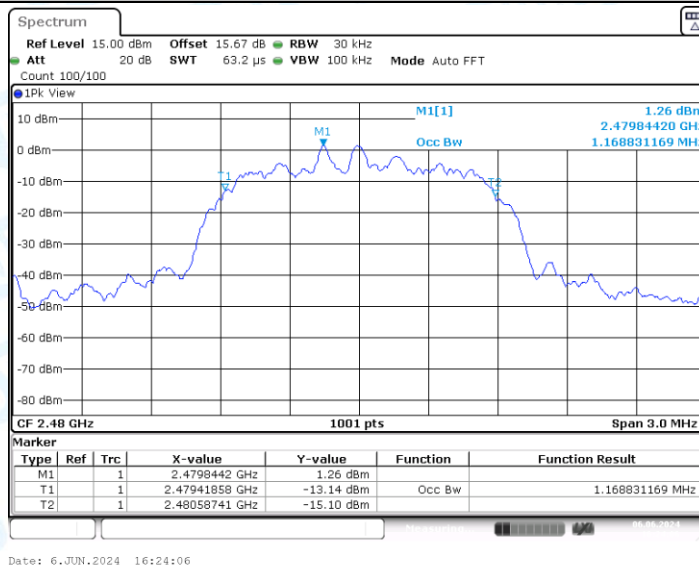
2DH5\_Ant1\_2402



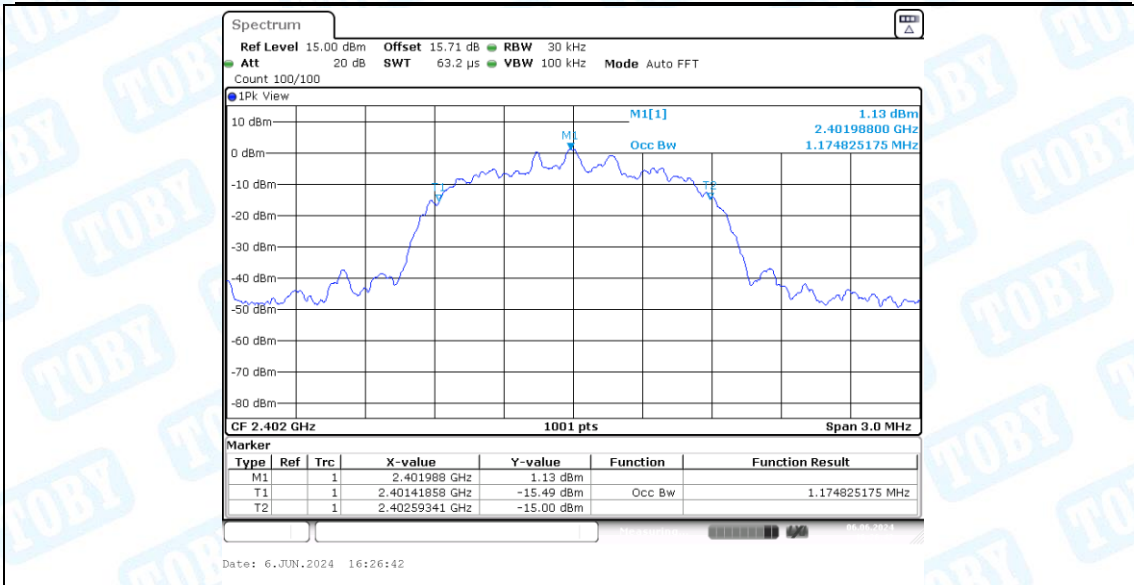
2DH5\_Ant1\_2441



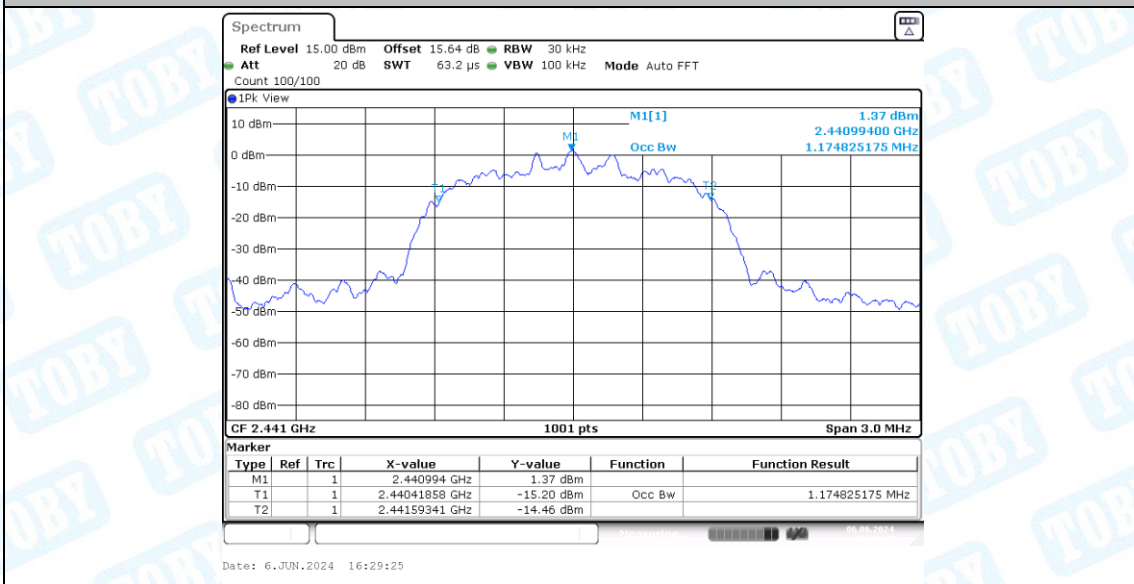
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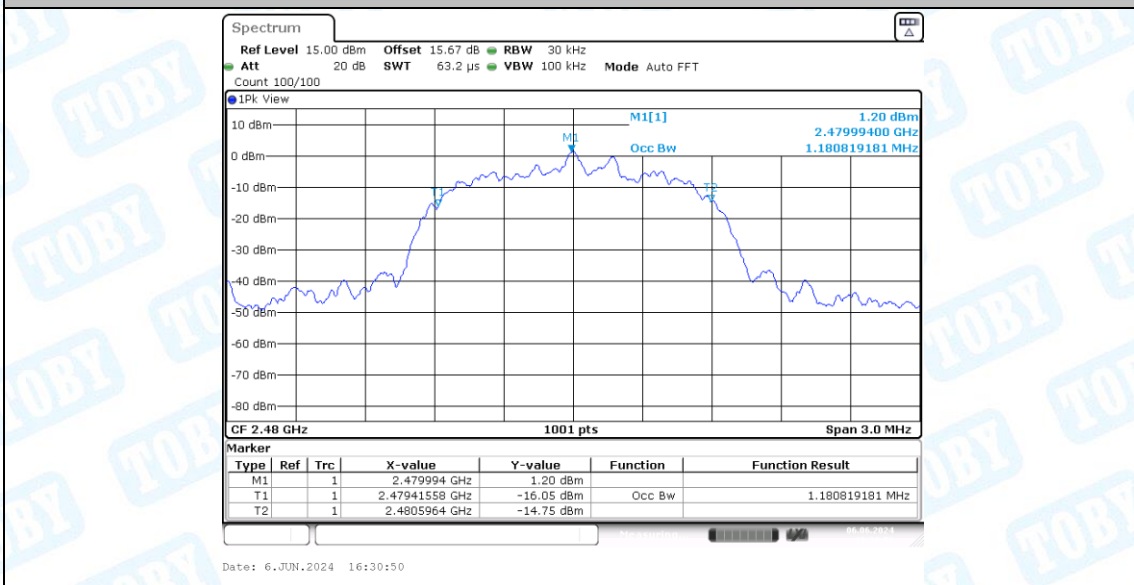
3DH5\_Ant1\_2402



3DH5\_Ant1\_2441



3DH5\_Ant1\_2480



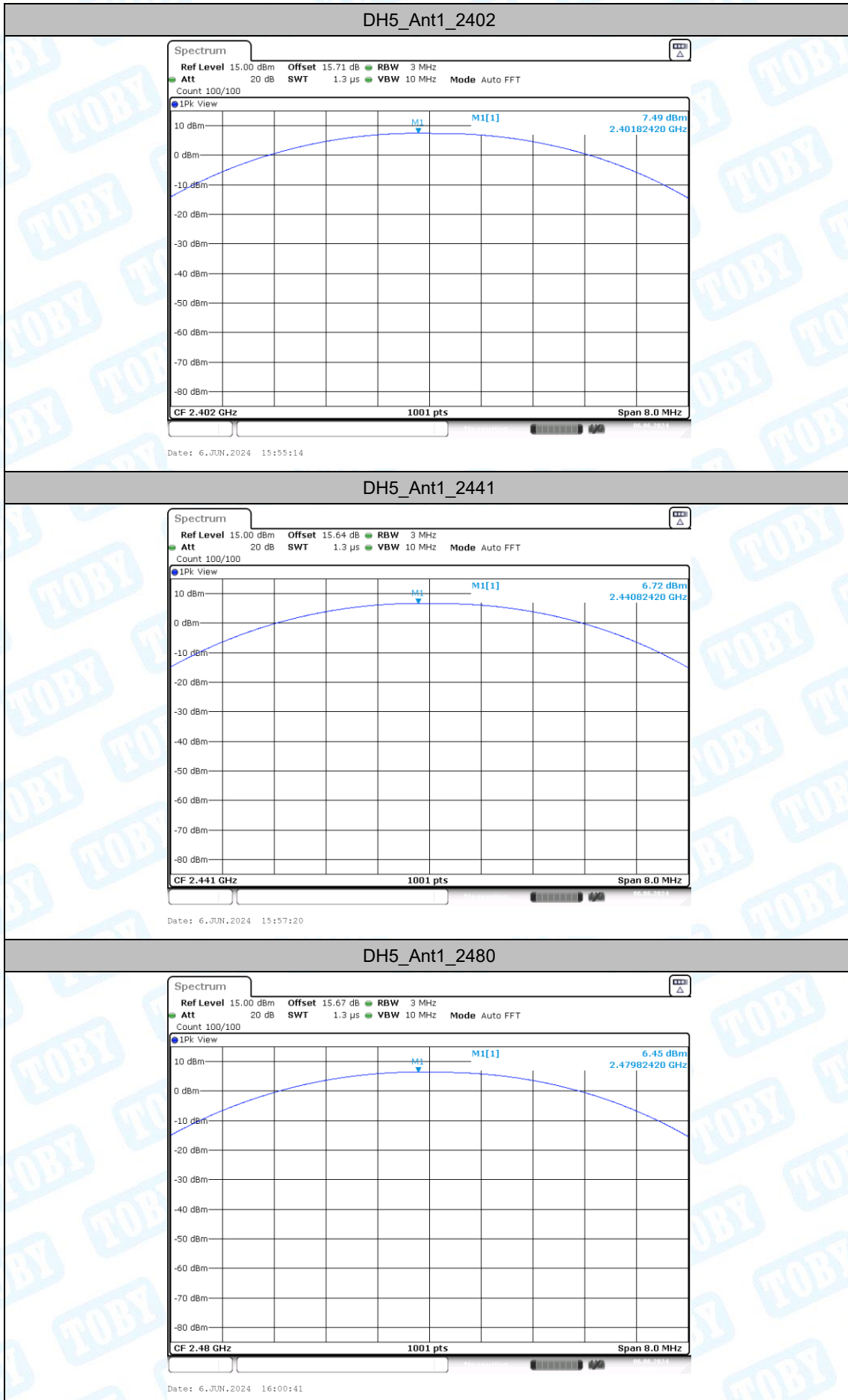


### 3. Maximum conducted output power

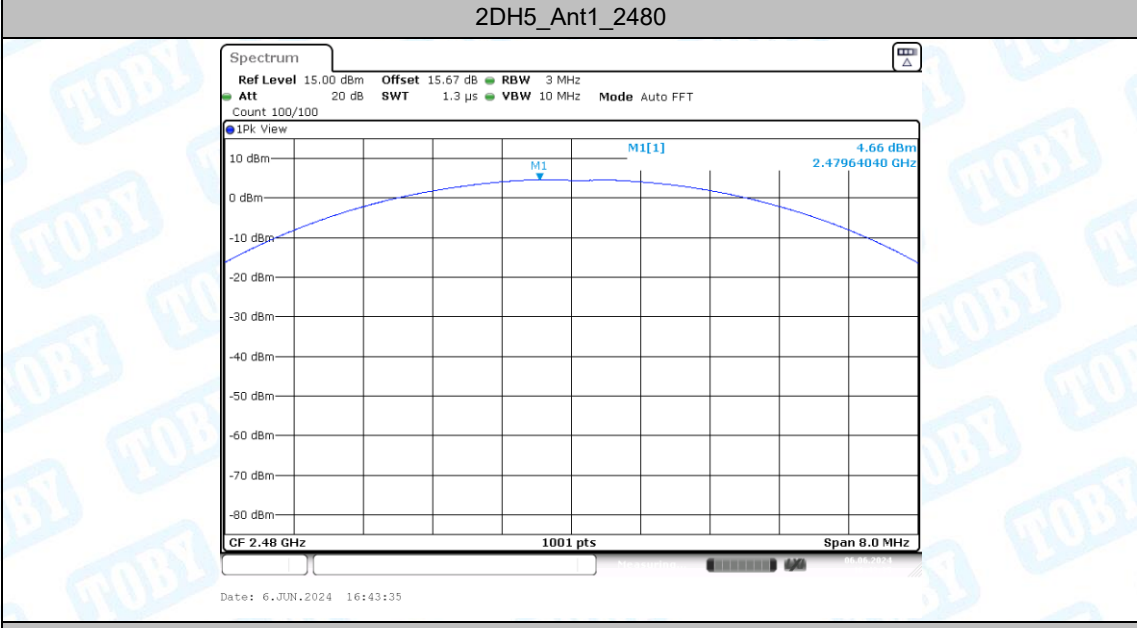
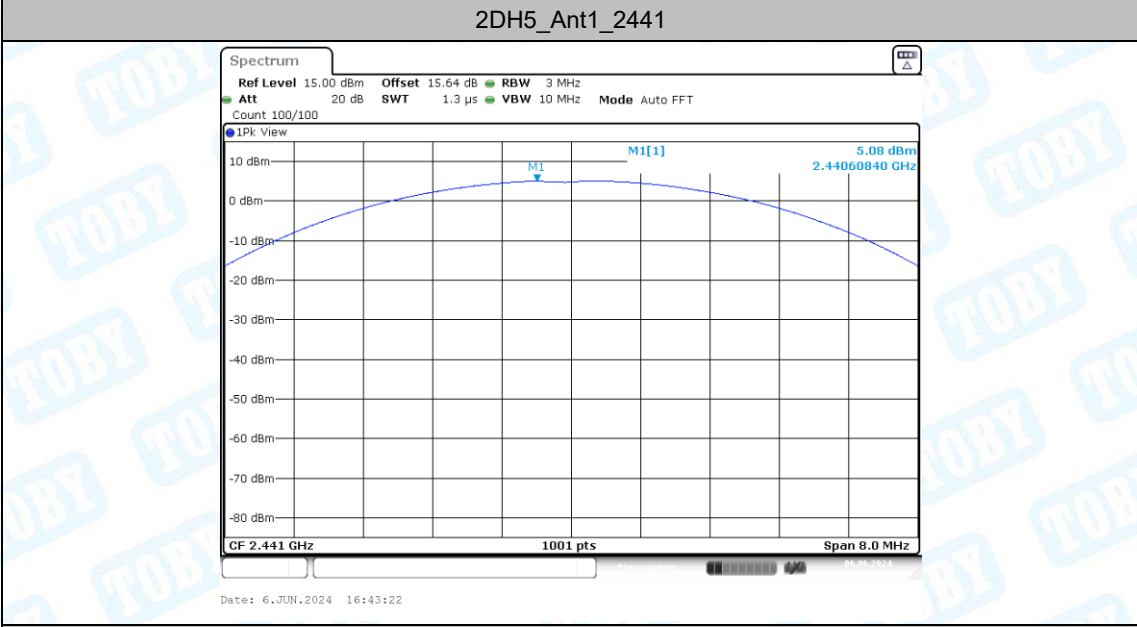
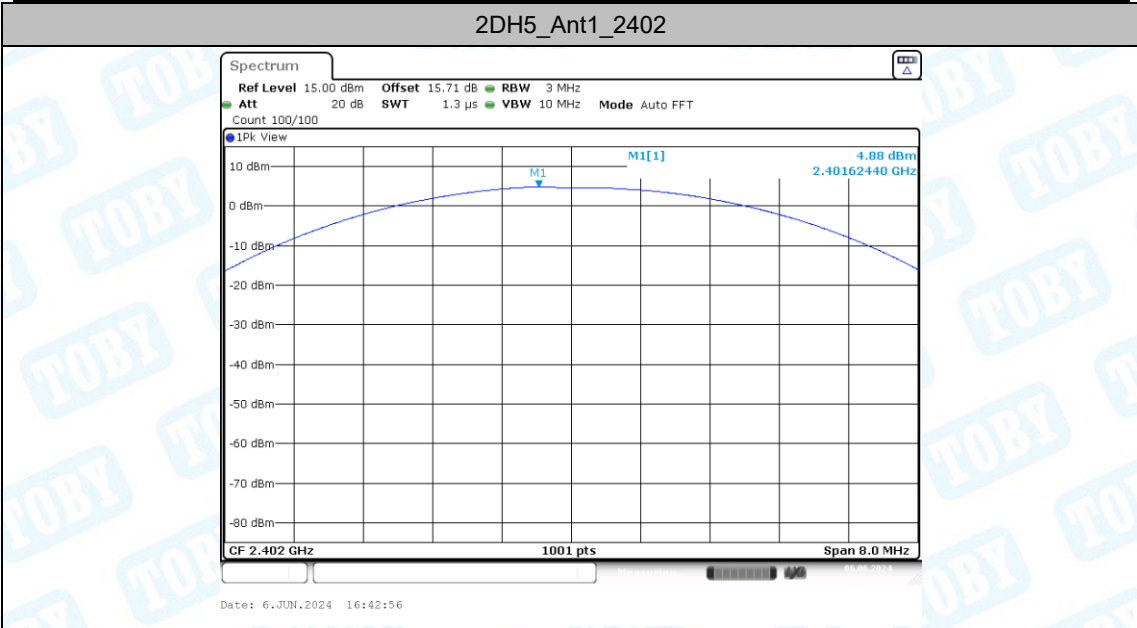
#### 3.1. Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	7.49	≤20.97	PASS
		2441	6.72	≤20.97	PASS
		2480	6.45	≤20.97	PASS
2DH5	Ant1	2402	4.88	≤20.97	PASS
		2441	5.08	≤20.97	PASS
		2480	4.66	≤20.97	PASS
3DH5	Ant1	2402	5.03	≤20.97	PASS
		2441	5.24	≤20.97	PASS
		2480	4.92	≤20.97	PASS

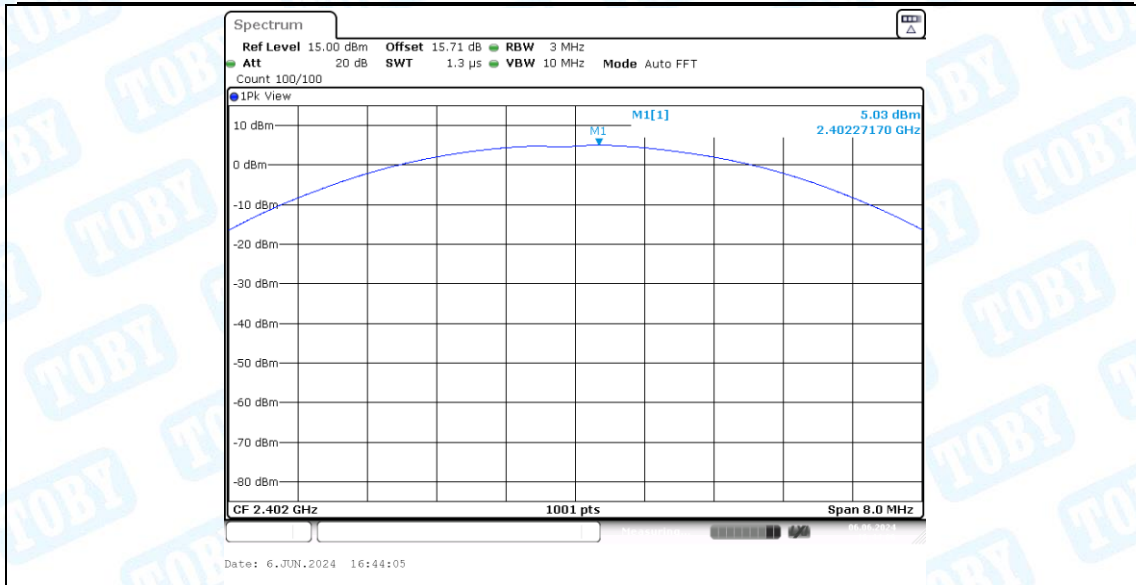
### 3.2. Test Graphs



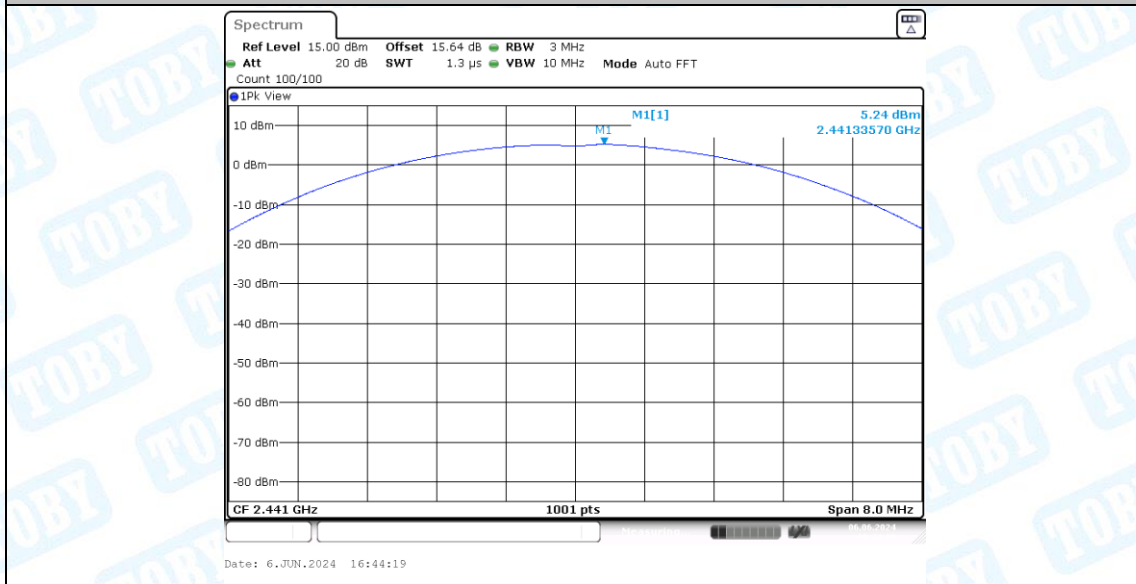




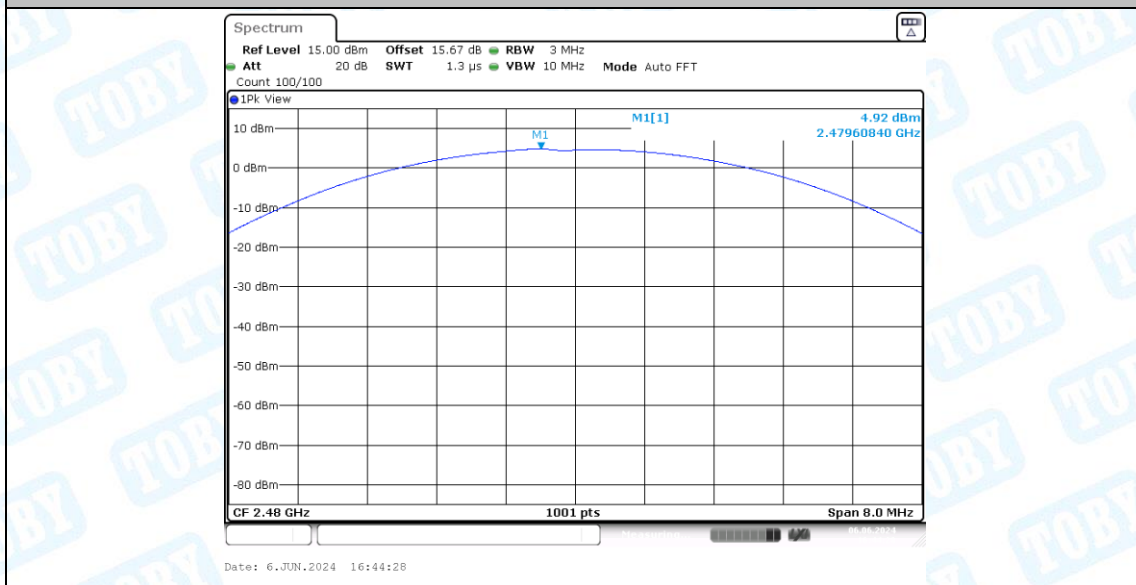
3DH5\_Ant1\_2402



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	0.693	≥0.640	PASS
2DH5	Ant1	Hop	1	≥0.873	PASS
3DH5	Ant1	Hop	1.023	≥0.867	PASS

## 4.2. Test Graphs



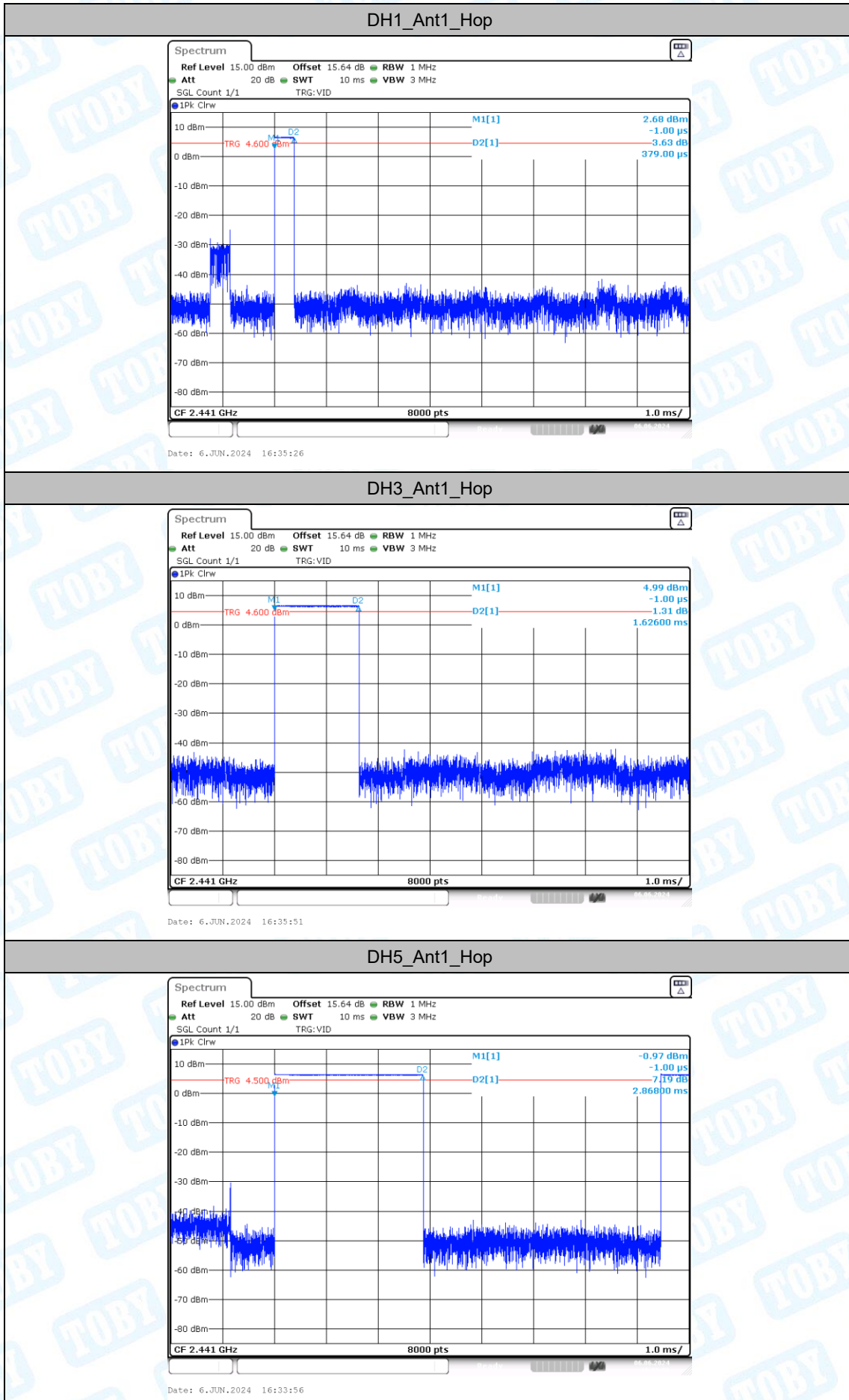


## 5. Time of occupancy

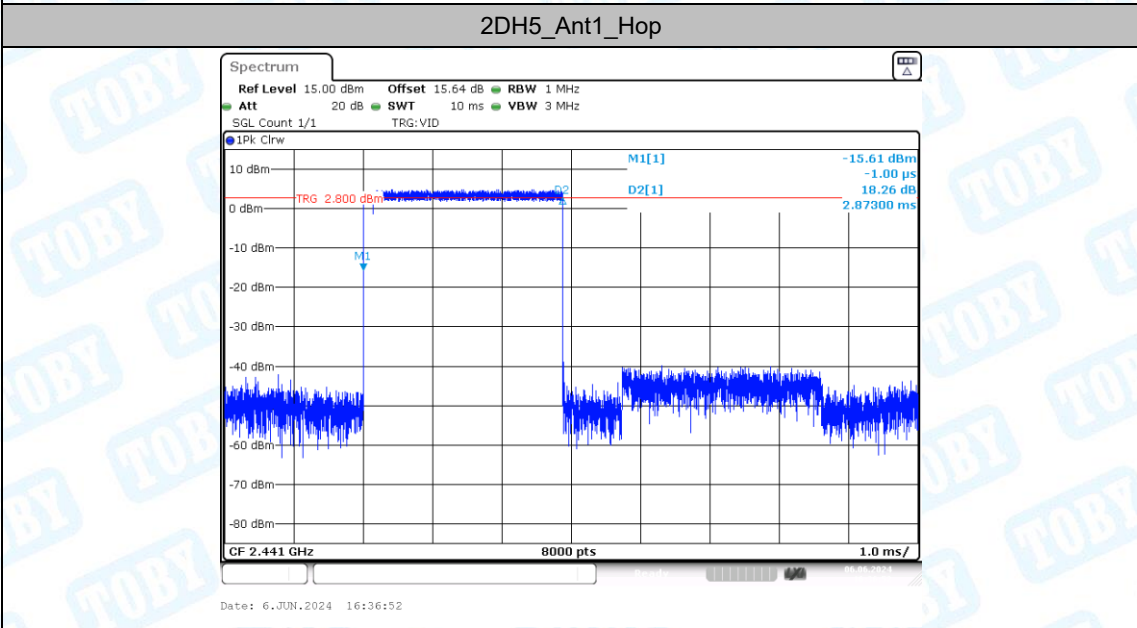
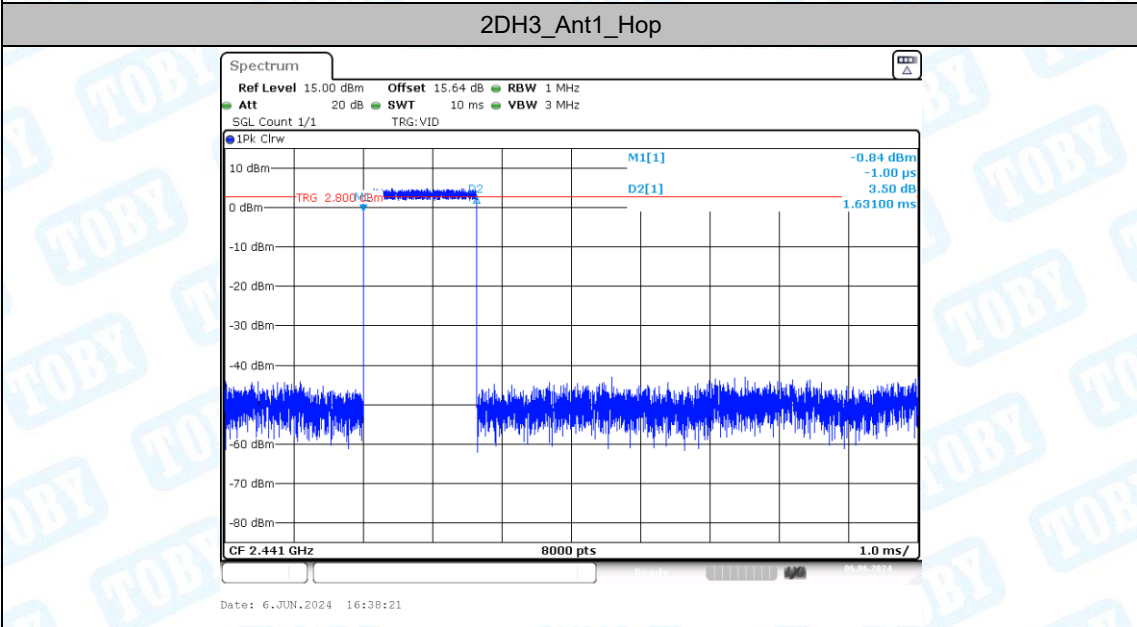
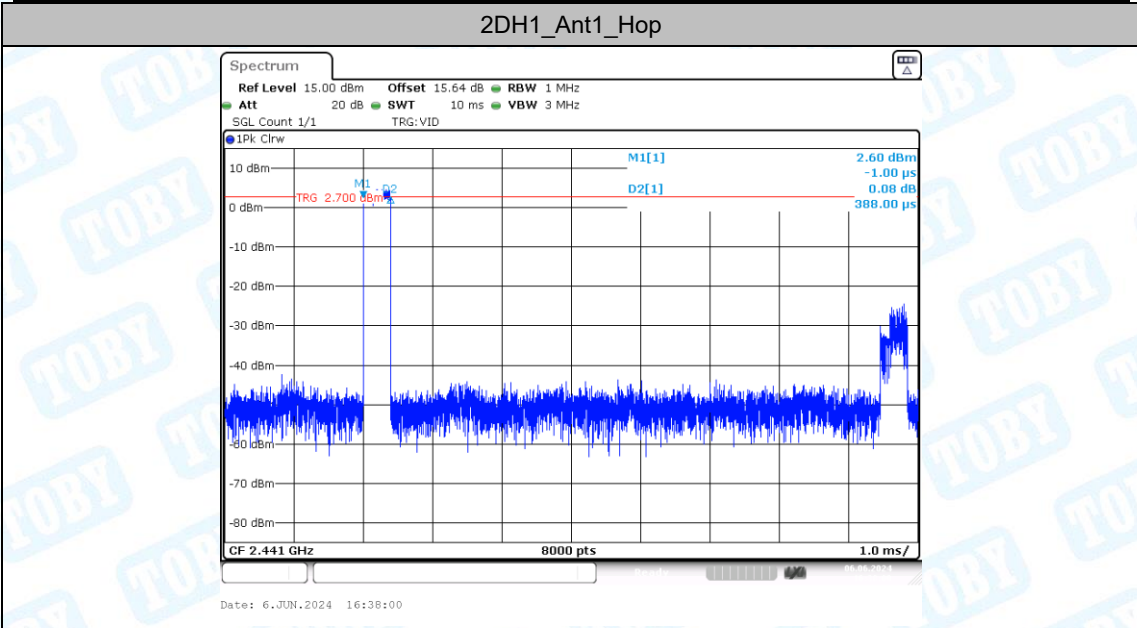
### 5.1. Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.379	320	0.121	≤0.4	PASS
DH3	Ant1	Hop	1.626	160	0.26	≤0.4	PASS
DH5	Ant1	Hop	2.868	106.67	0.306	≤0.4	PASS
2DH1	Ant1	Hop	0.388	320	0.124	≤0.4	PASS
2DH3	Ant1	Hop	1.631	160	0.261	≤0.4	PASS
2DH5	Ant1	Hop	2.873	106.67	0.306	≤0.4	PASS
3DH1	Ant1	Hop	0.388	320	0.124	≤0.4	PASS
3DH3	Ant1	Hop	1.630	160	0.261	≤0.4	PASS
3DH5	Ant1	Hop	2.875	106.67	0.307	≤0.4	PASS

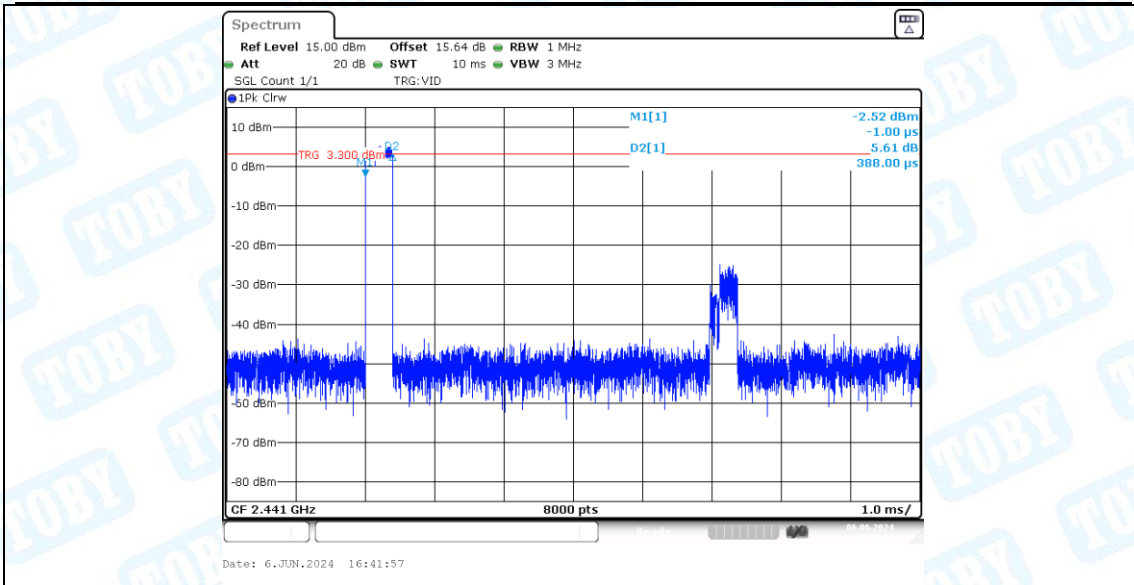
## 5.2. Test Graphs



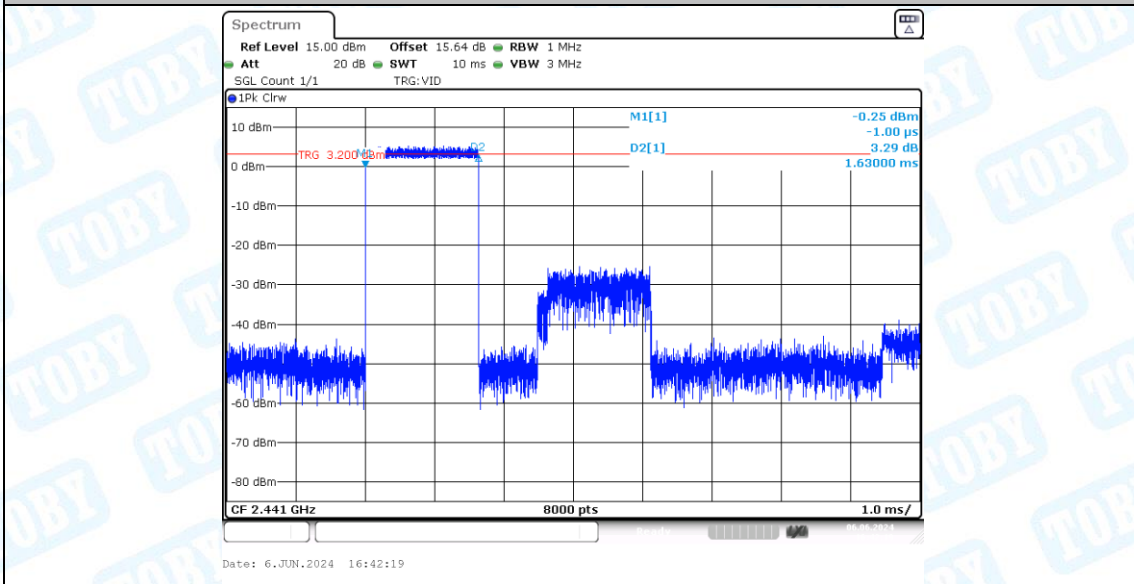




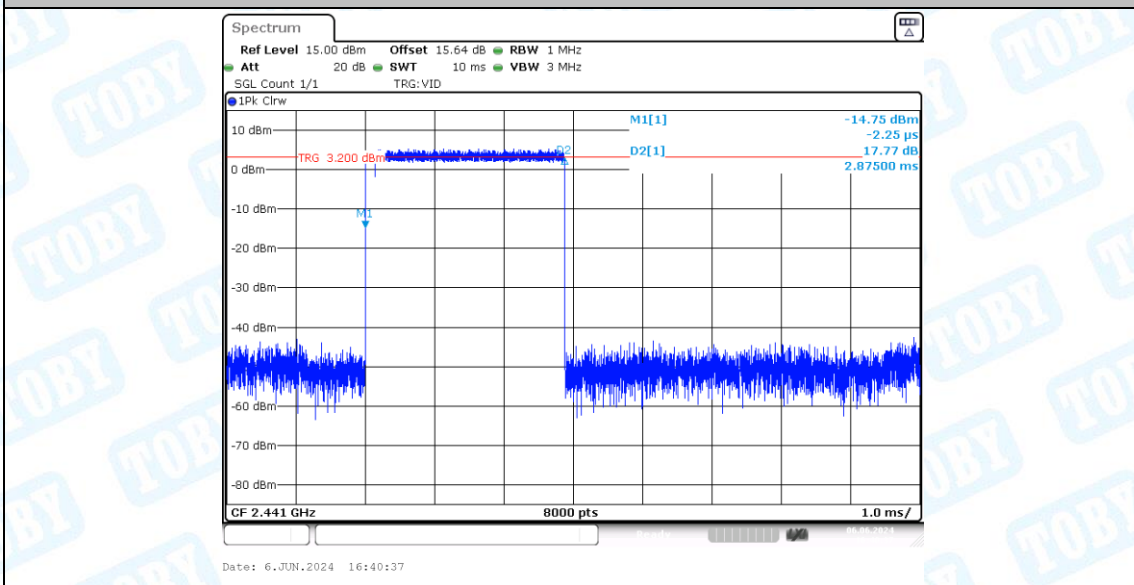
### 3DH1\_Ant1\_Hop



3DH3\_Ant1\_Hop



3DH5\_Ant1\_Hop



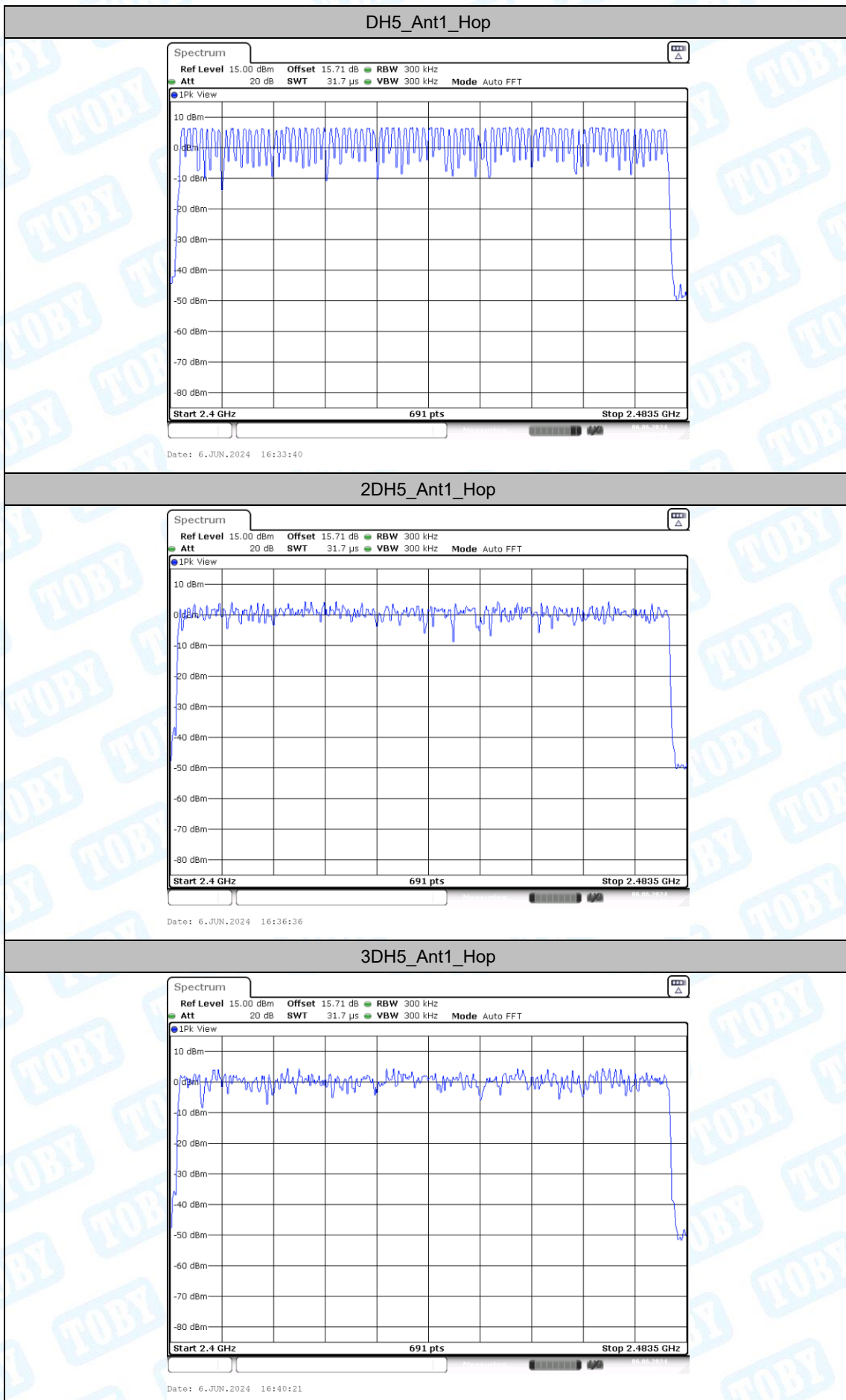


## 6. Number of hopping channels

### 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









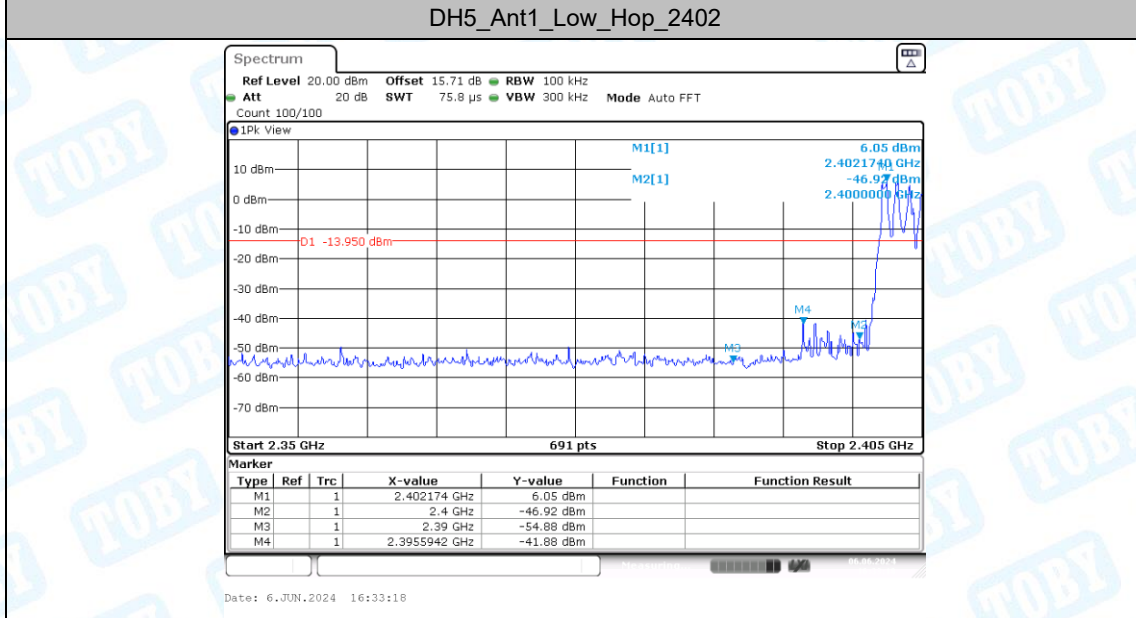
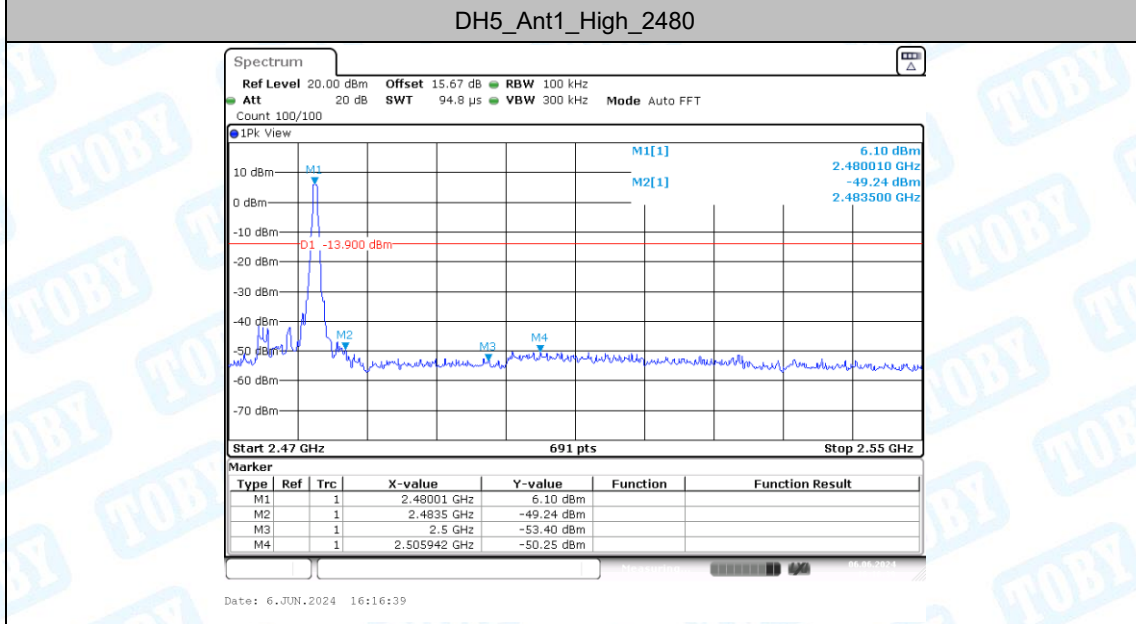
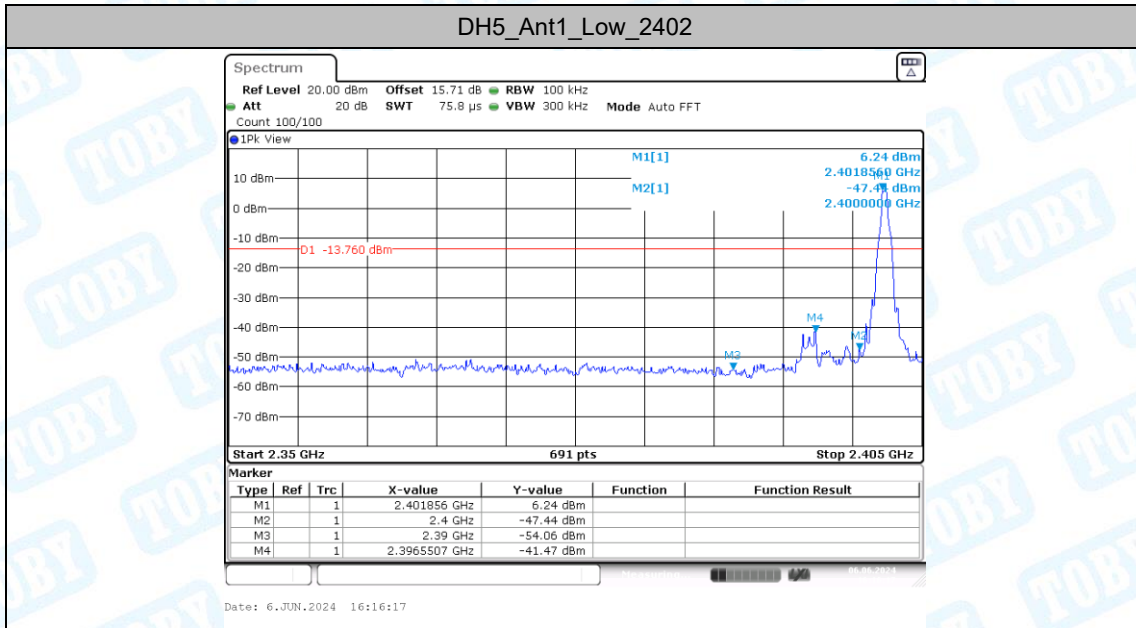
## 7. Band edge measurements

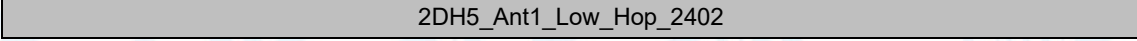
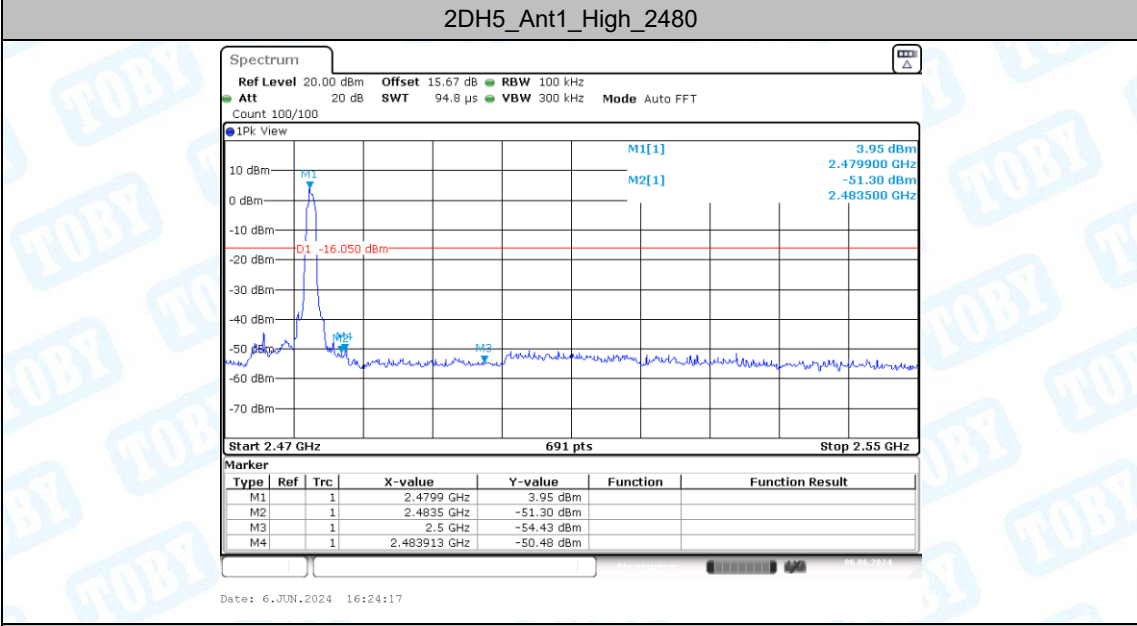
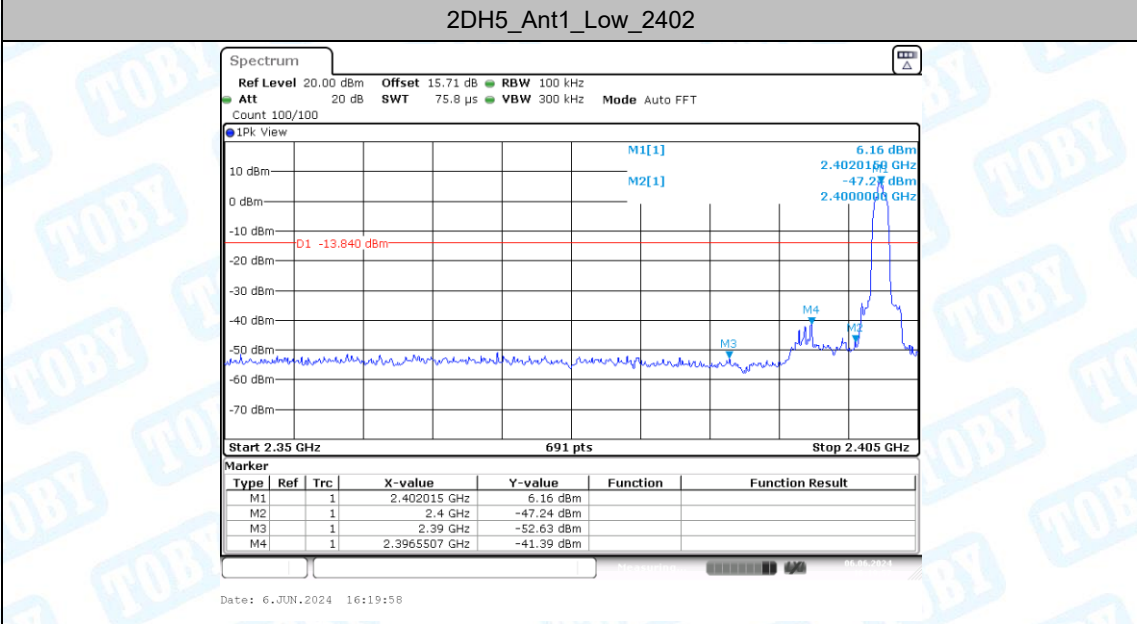
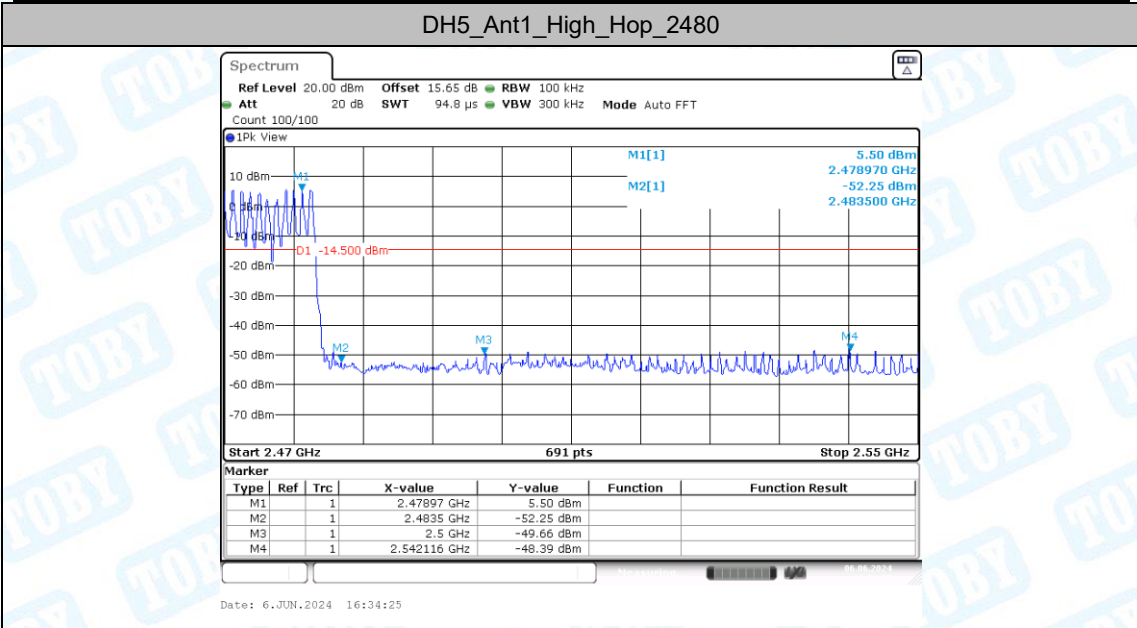
### 7.1. Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	6.24	-41.47	≤-13.76	PASS
		High	2480	6.10	-50.25	≤-13.9	PASS
		Low	Hop_2402	6.05	-41.88	≤-13.95	PASS
		High	Hop_2480	5.50	-48.39	≤-14.5	PASS
2DH5	Ant1	Low	2402	6.16	-41.39	≤-13.84	PASS
		High	2480	3.95	-50.48	≤-16.05	PASS
		Low	Hop_2402	3.72	-46.95	≤-16.28	PASS
		High	Hop_2480	0.90	-50.46	≤-19.1	PASS
3DH5	Ant1	Low	2402	3.82	-44.54	≤-16.18	PASS
		High	2480	3.88	-50.8	≤-16.12	PASS
		Low	Hop_2402	0.66	-48.78	≤-19.34	PASS
		High	Hop_2480	0.15	-49.31	≤-19.85	PASS

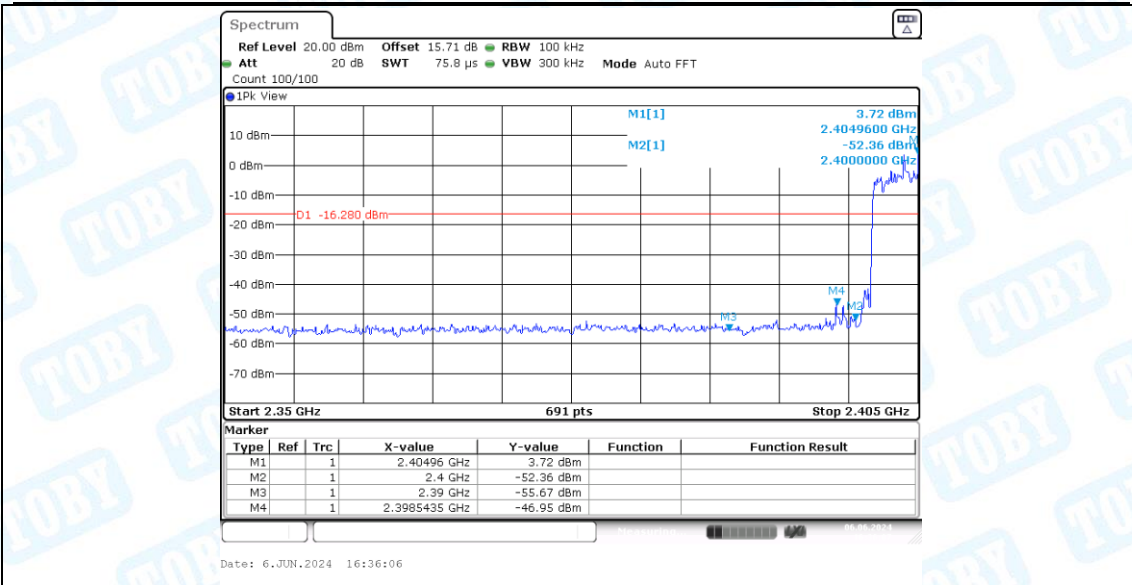


## 7.2. Test Graphs

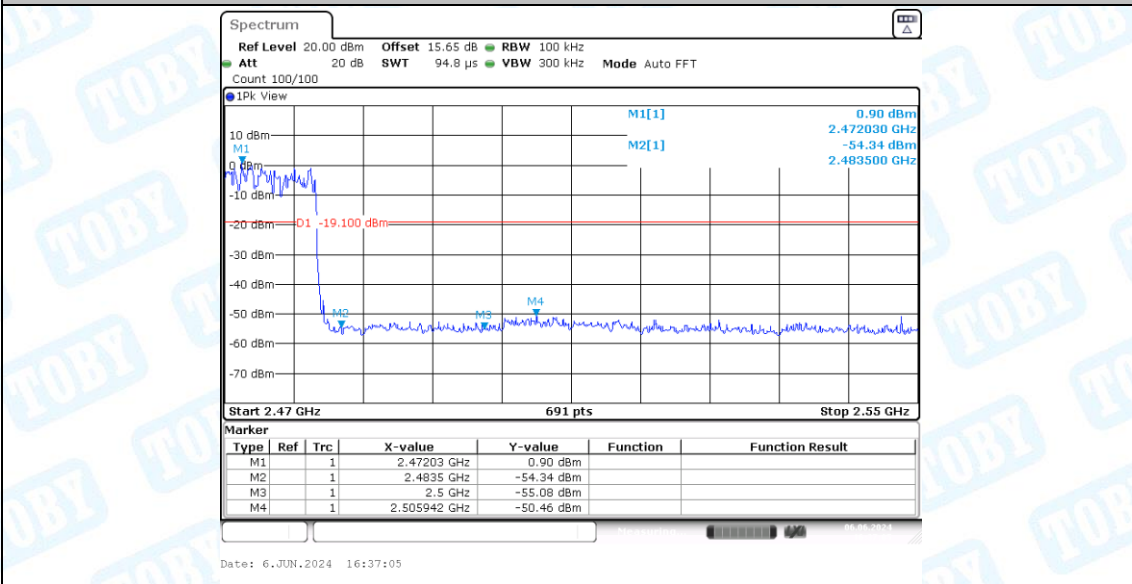




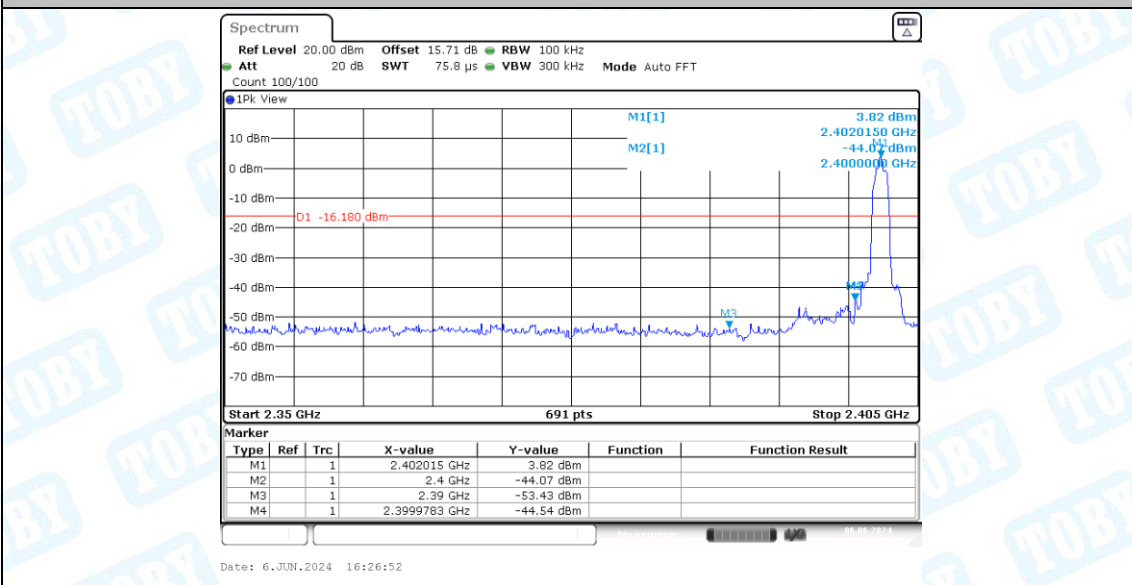




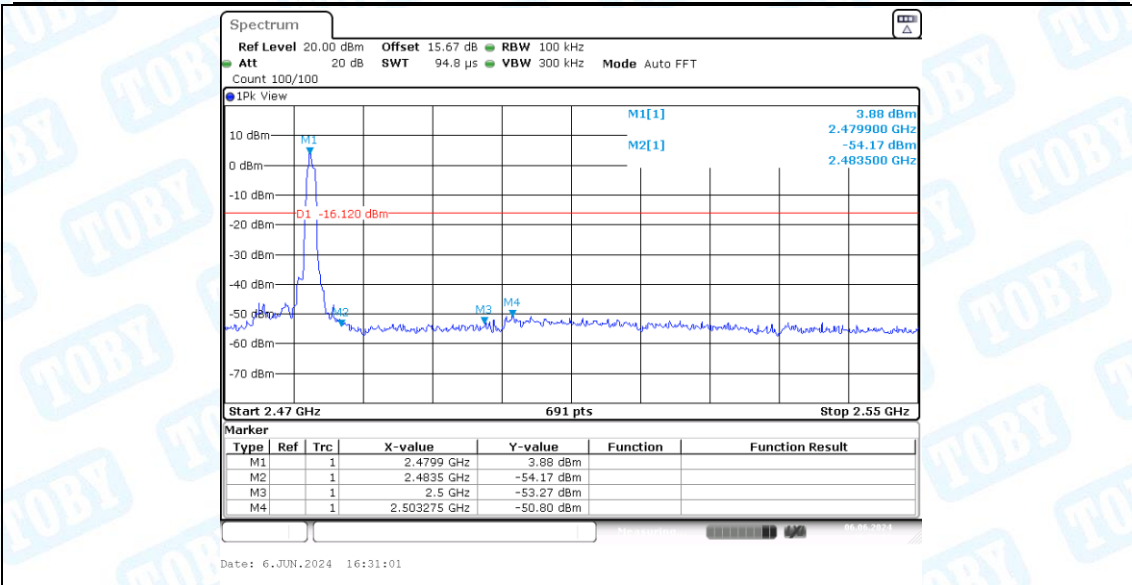
2DH5\_Ant1\_High\_Hop\_2480



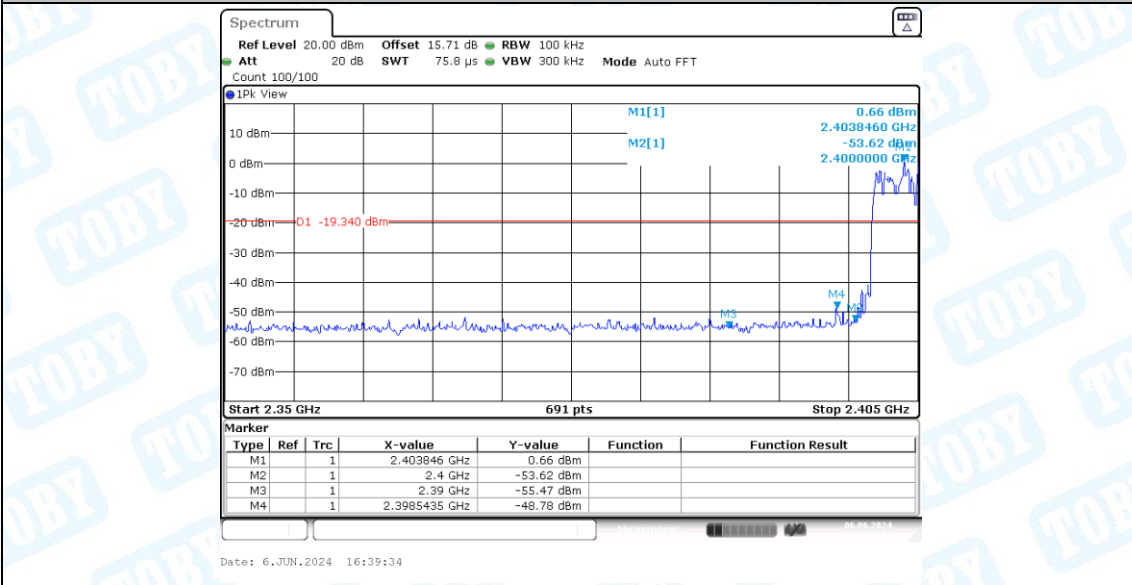
3DH5\_Ant1\_Low\_2402



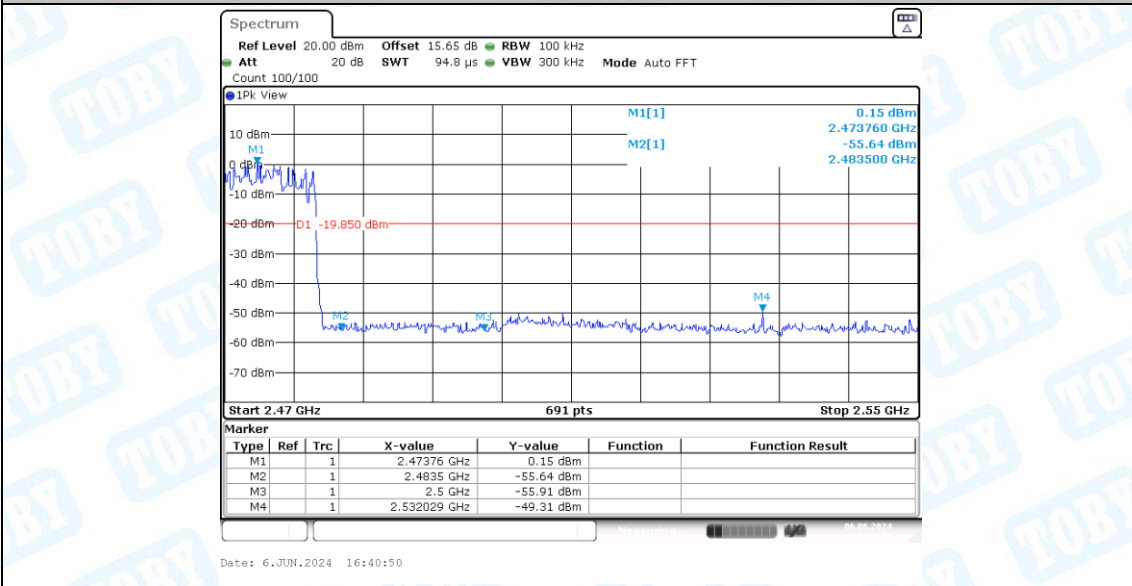
3DH5\_Ant1\_High\_2480



3DH5\_Ant1\_Low\_Hop\_2402



3DH5\_Ant1\_High\_Hop\_2480



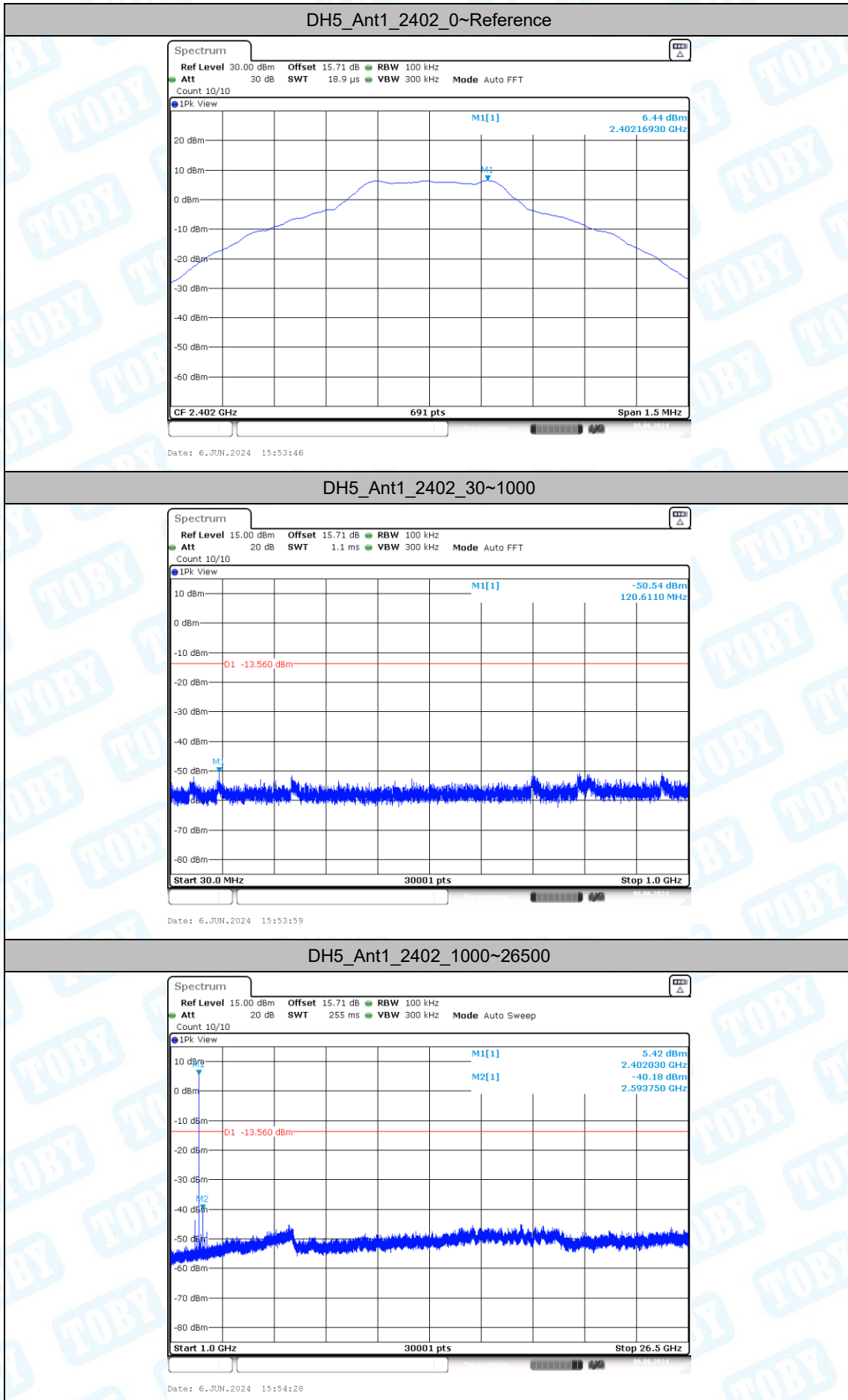


## 8. Conducted Spurious Emission

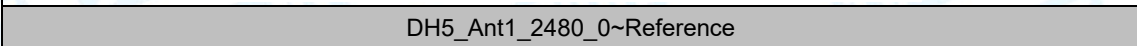
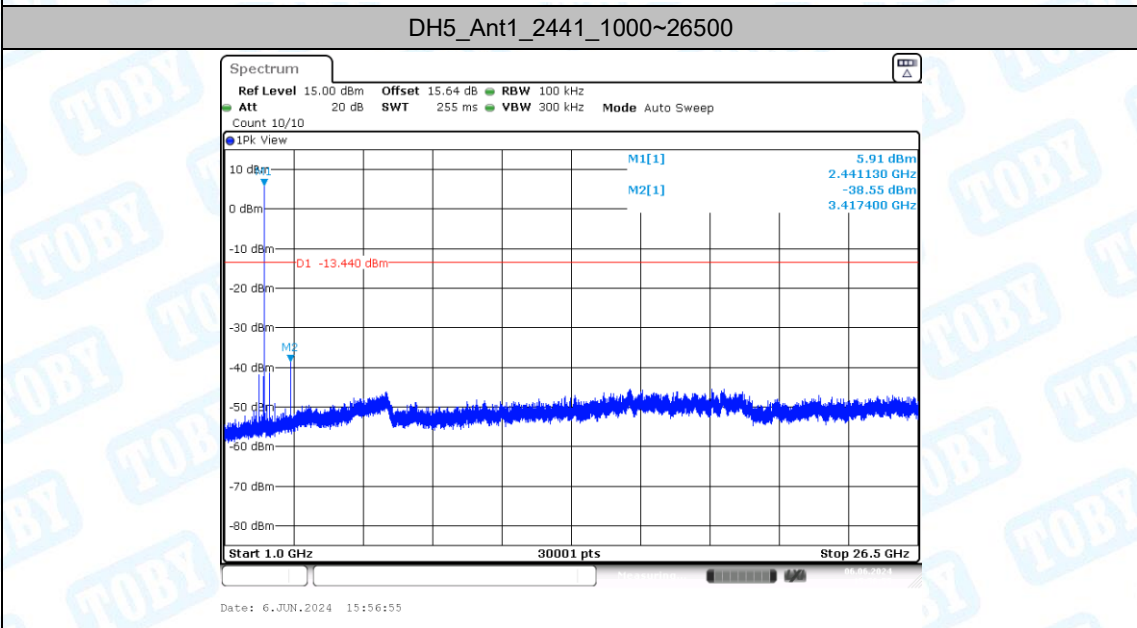
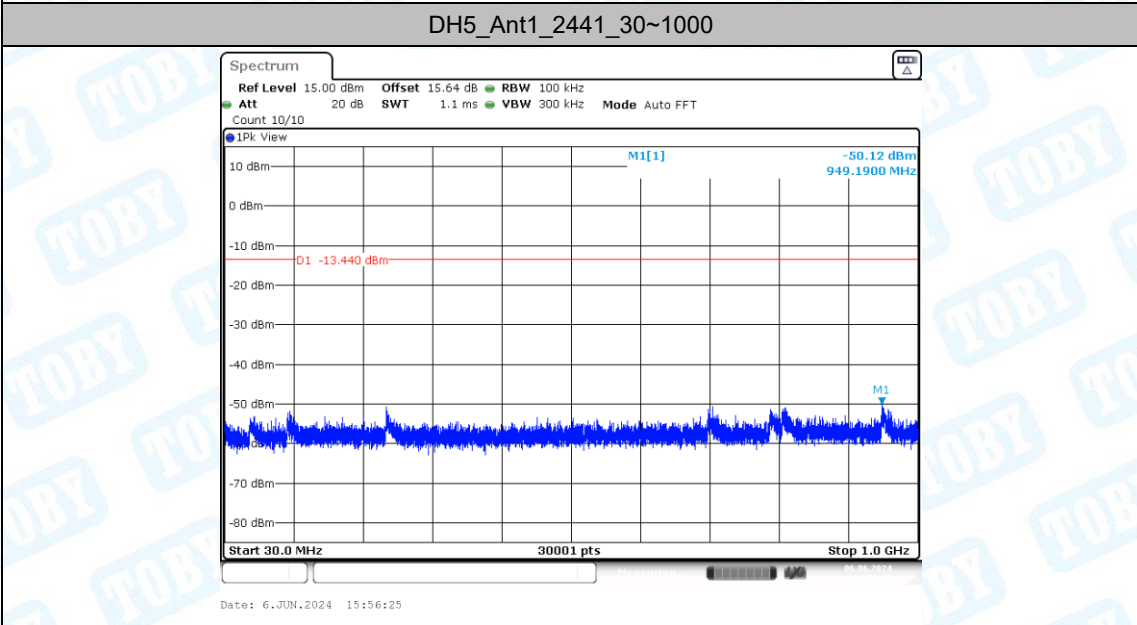
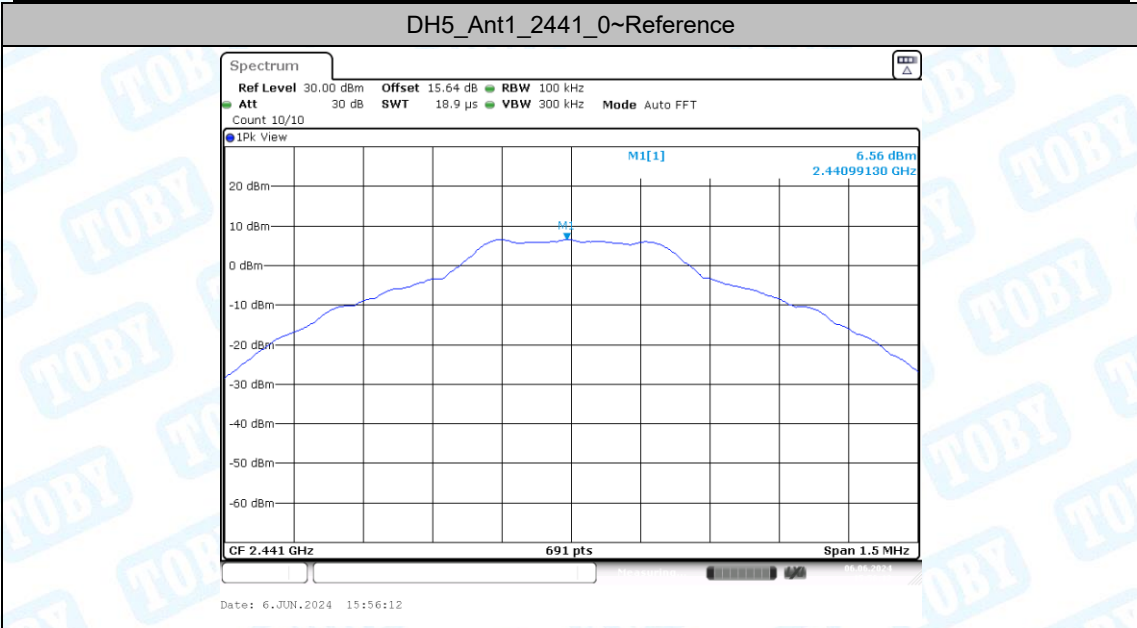
### 8.1. Test Result

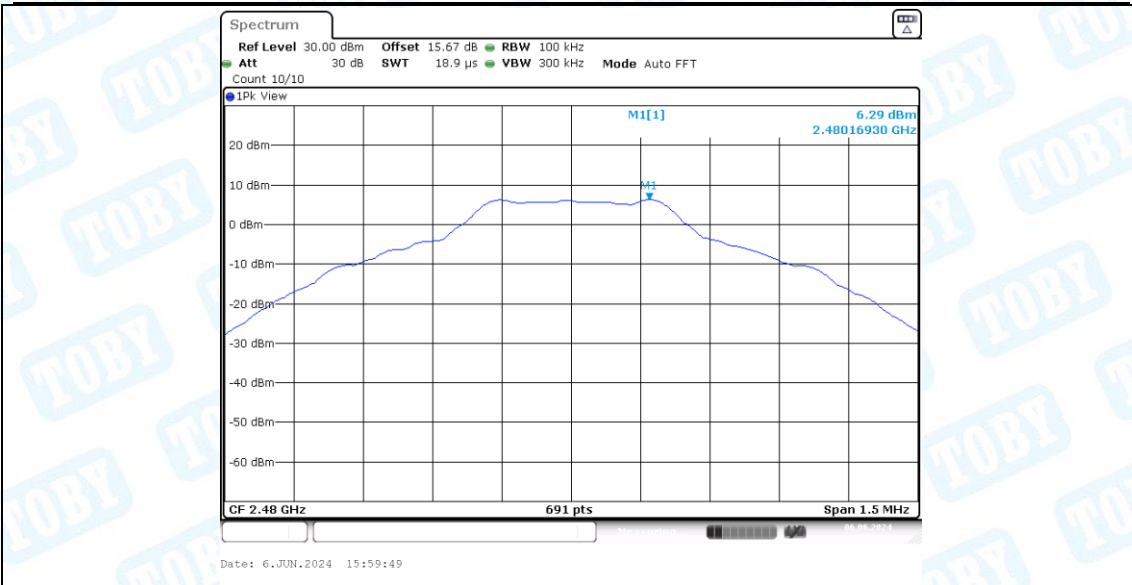
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	6.44	6.44	---	PASS
			30~1000	6.44	-50.54	≤-13.56	PASS
			1000~26500	6.44	-40.18	≤-13.56	PASS
		2441	Reference	6.56	6.56	---	PASS
			30~1000	6.56	-50.12	≤-13.44	PASS
			1000~26500	6.56	-38.55	≤-13.44	PASS
		2480	Reference	6.29	6.29	---	PASS
			30~1000	6.29	-50.43	≤-13.71	PASS
			1000~26500	6.29	-40.94	≤-13.71	PASS
2DH5	Ant1	2402	Reference	6.33	6.33	---	PASS
			30~1000	6.33	-50.37	≤-13.67	PASS
			1000~26500	6.33	-42.75	≤-13.67	PASS
		2441	Reference	6.48	6.48	---	PASS
			30~1000	6.48	-50	≤-13.52	PASS
			1000~26500	6.48	-43.39	≤-13.52	PASS
		2480	Reference	3.93	3.93	---	PASS
			30~1000	3.93	-49.9	≤-16.07	PASS
			1000~26500	3.93	-44.94	≤-16.07	PASS
3DH5	Ant1	2402	Reference	3.93	3.93	---	PASS
			30~1000	3.93	-49.96	≤-16.07	PASS
			1000~26500	3.93	-44.77	≤-16.07	PASS
		2441	Reference	4.14	4.14	---	PASS
			30~1000	4.14	-50.42	≤-15.86	PASS
			1000~26500	4.14	-44.9	≤-15.86	PASS
		2480	Reference	3.85	3.85	---	PASS
			30~1000	3.85	-50.31	≤-16.15	PASS
			1000~26500	3.85	-44.5	≤-16.15	PASS

## 8.2. Test Graphs

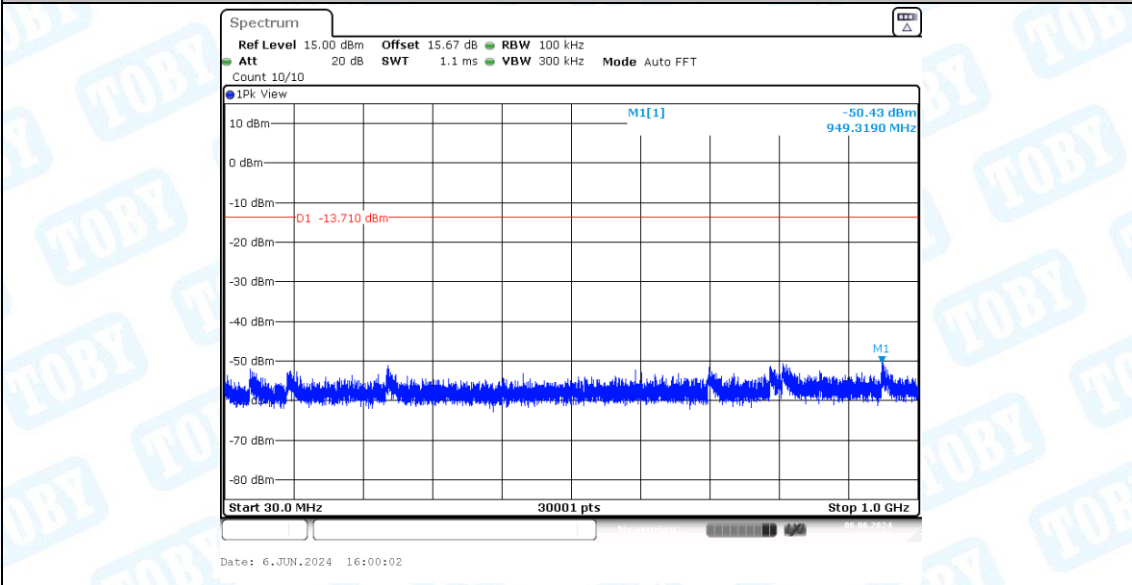




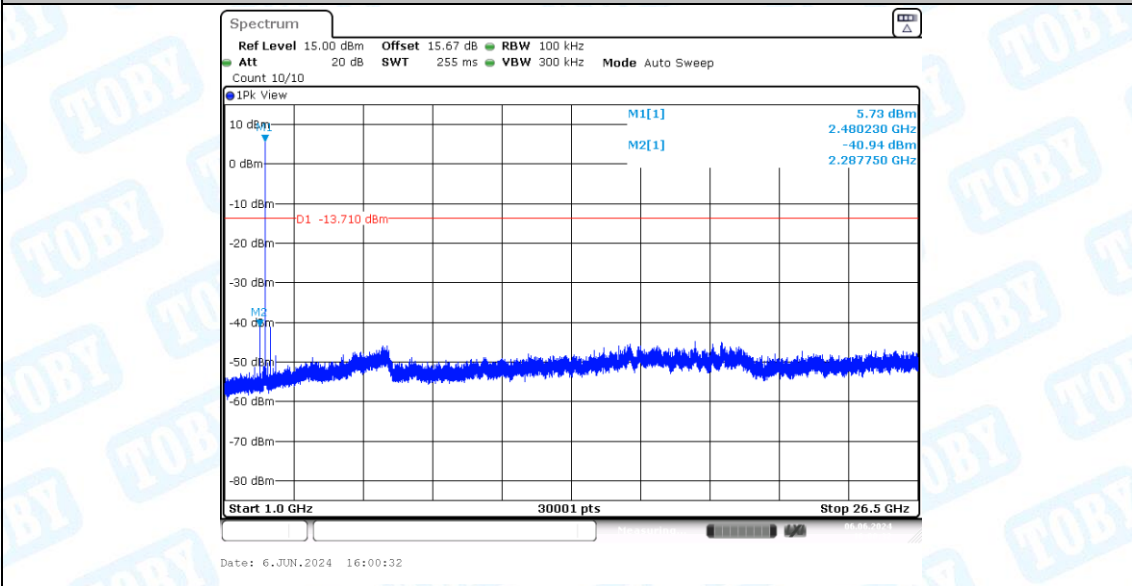




DH5\_Ant1\_2480\_30~1000

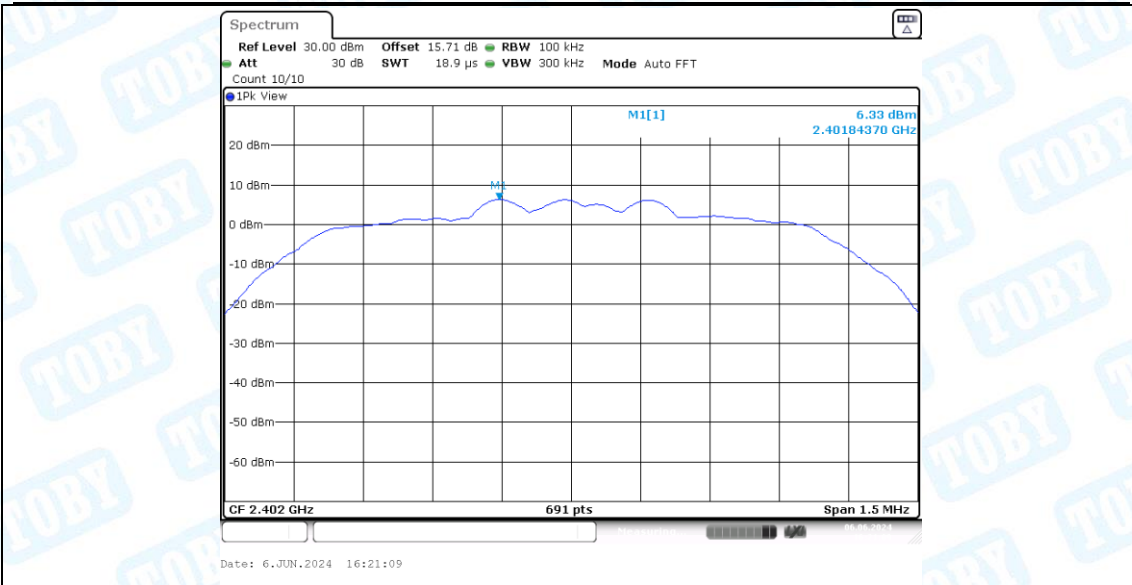


DH5\_Ant1\_2480\_1000~26500

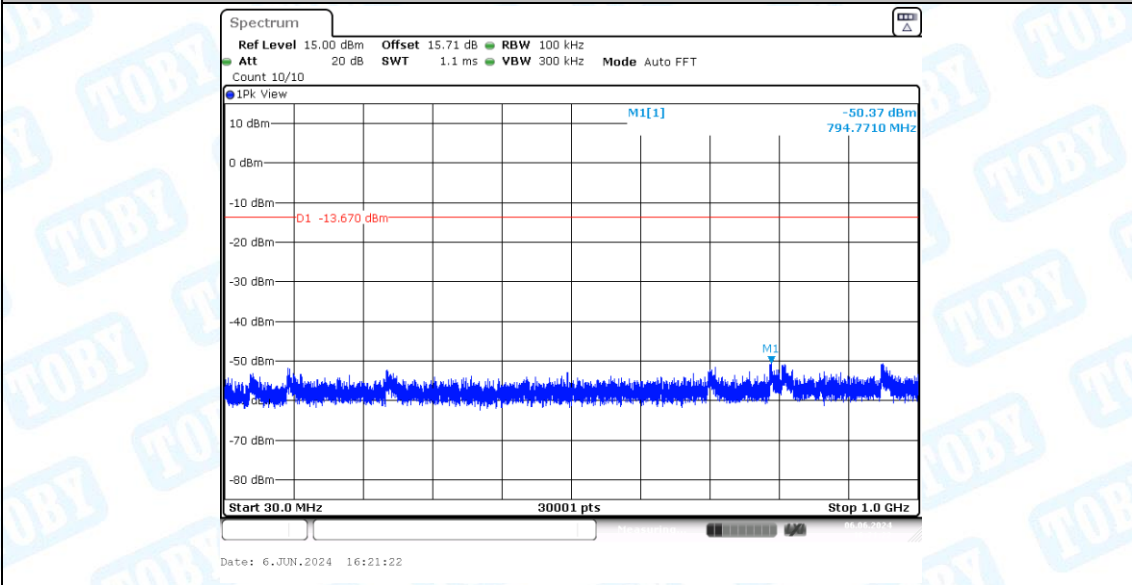


2DH5\_Ant1\_2402\_0~Reference

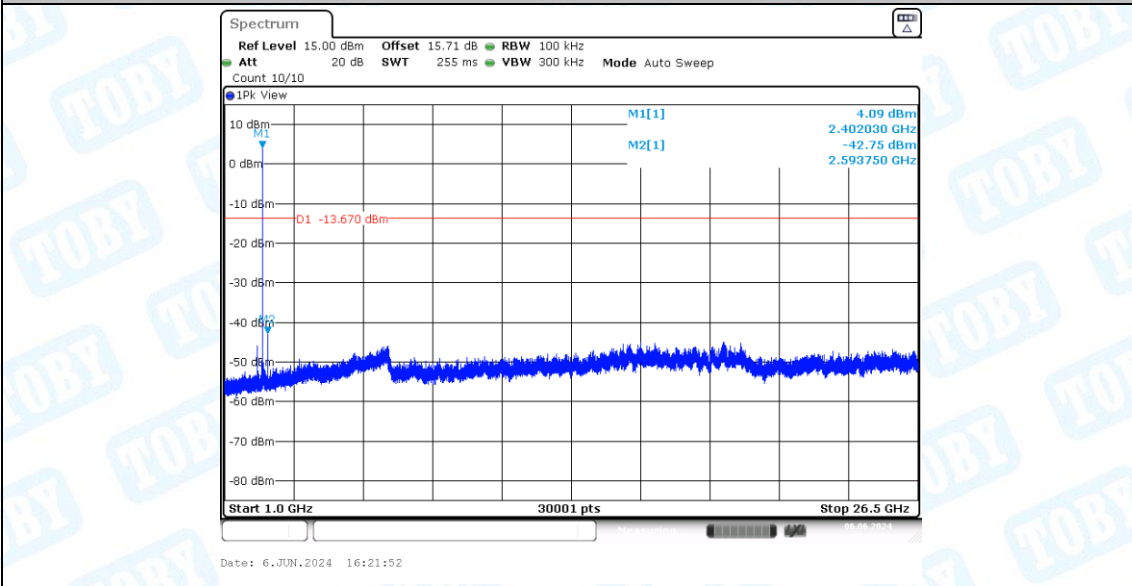




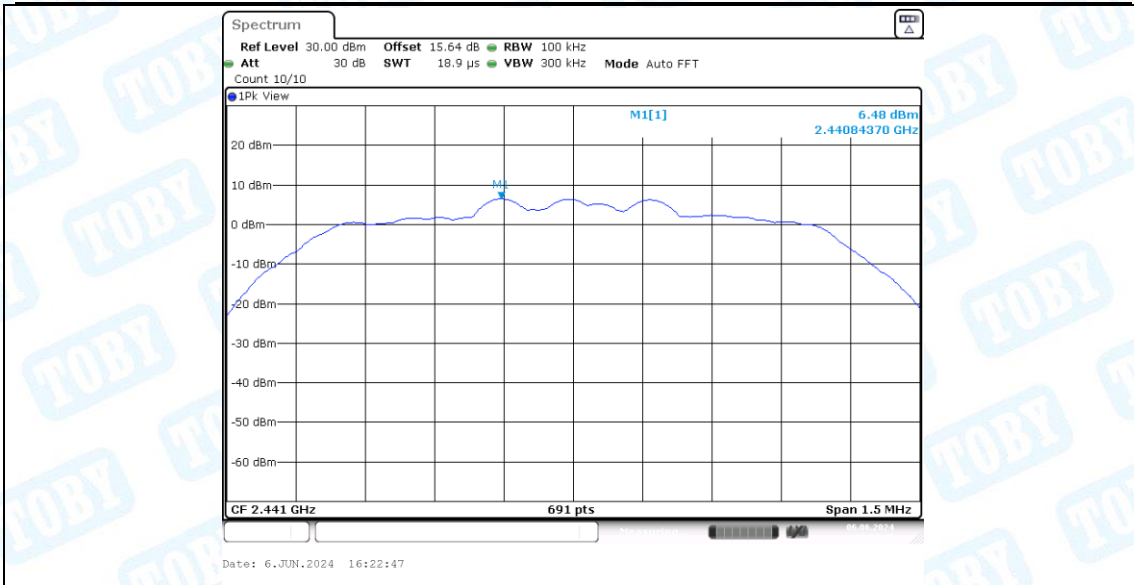
2DH5\_Ant1\_2402\_30~1000



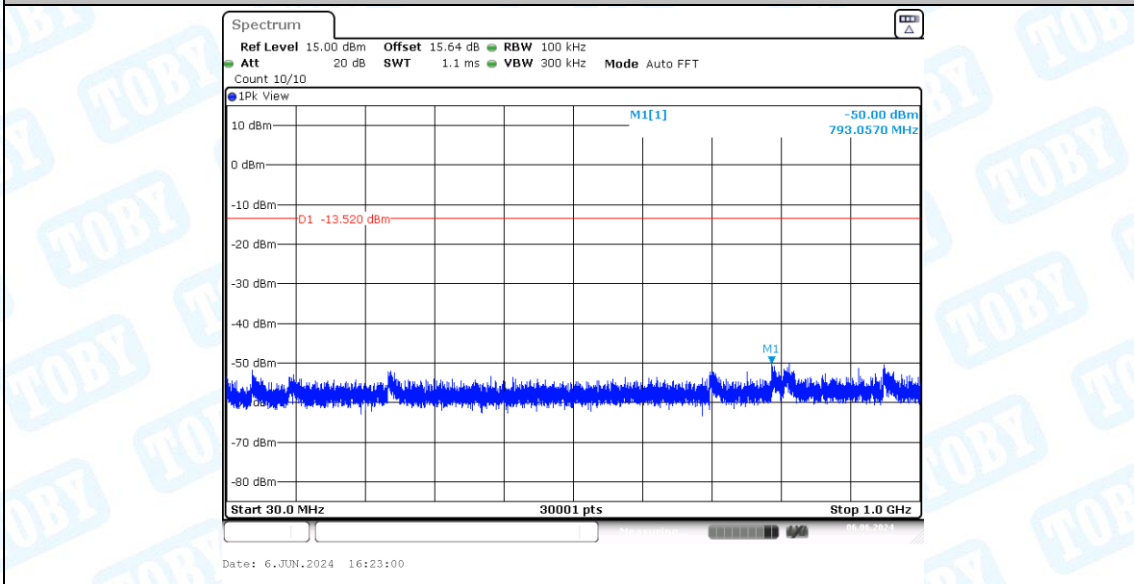
2DH5\_Ant1\_2402\_1000~26500



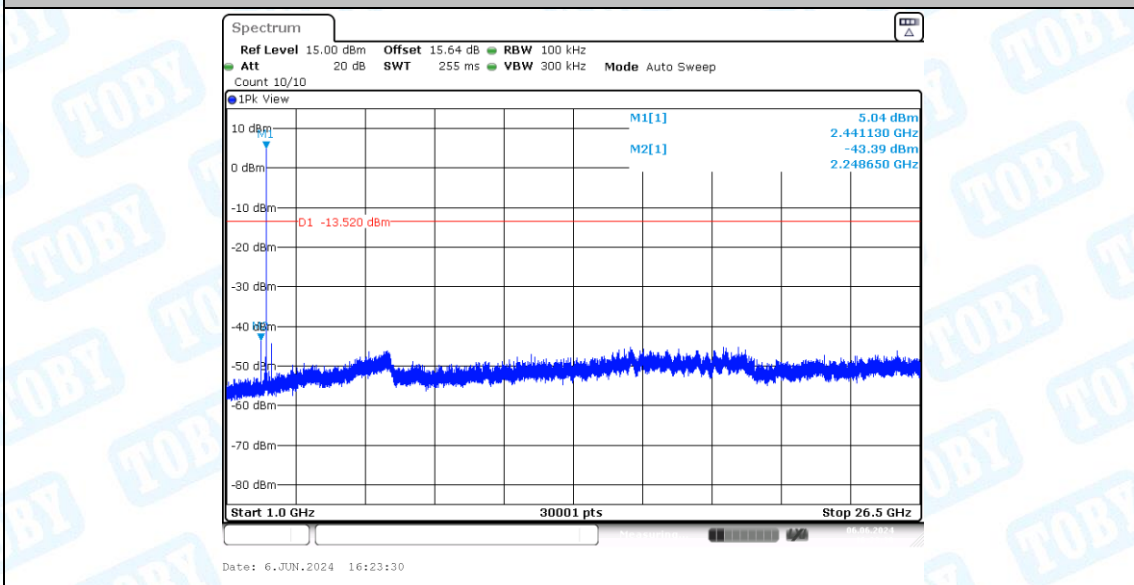
2DH5\_Ant1\_2441\_0~Reference



2DH5\_Ant1\_2441\_30~1000

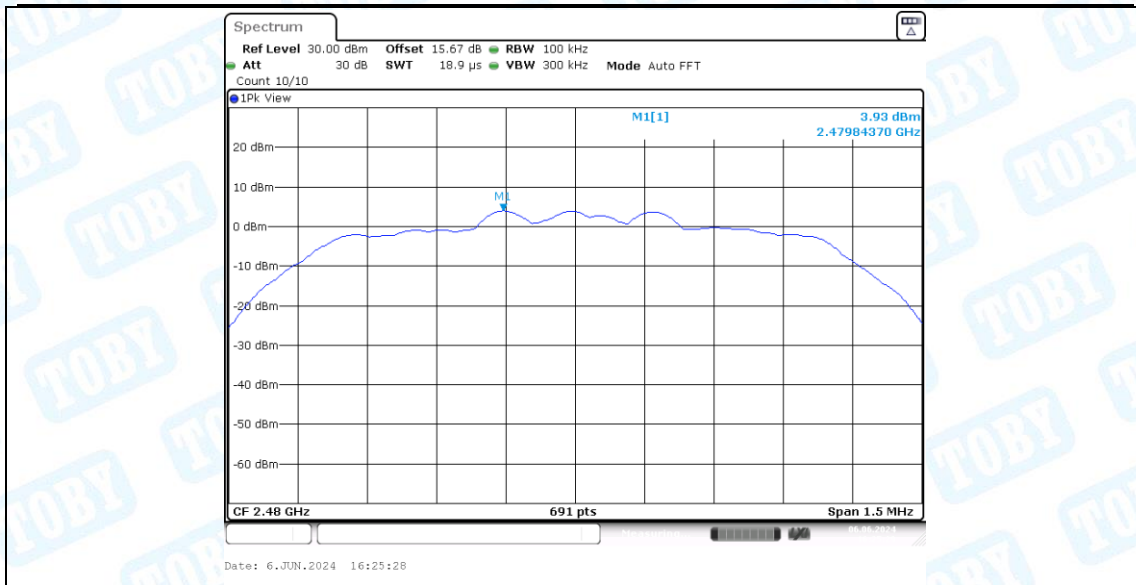


2DH5\_Ant1\_2441\_1000~26500

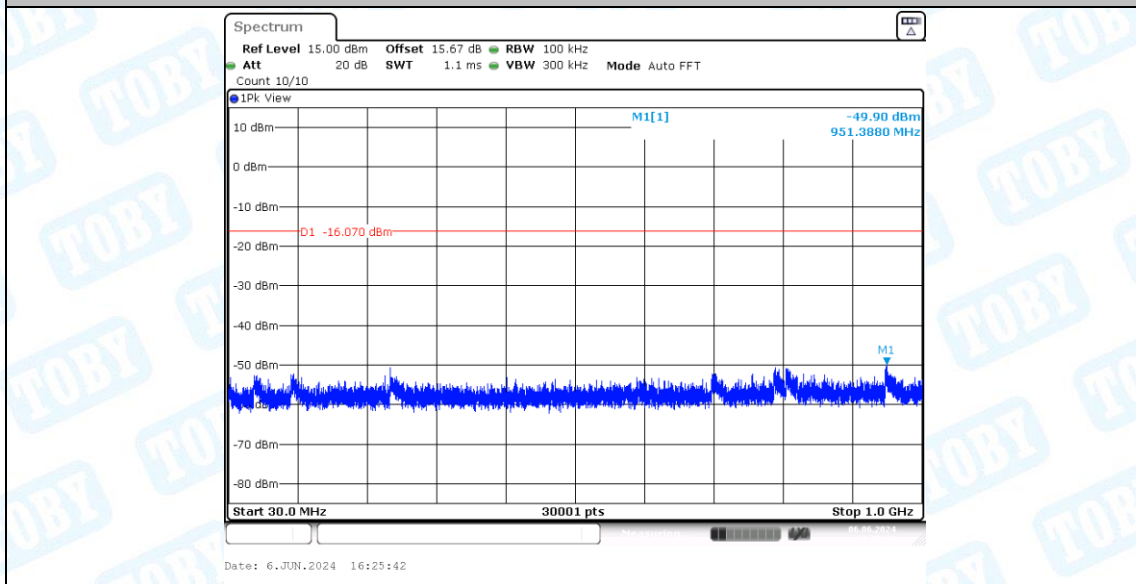


2DH5\_Ant1\_2480\_0~Reference

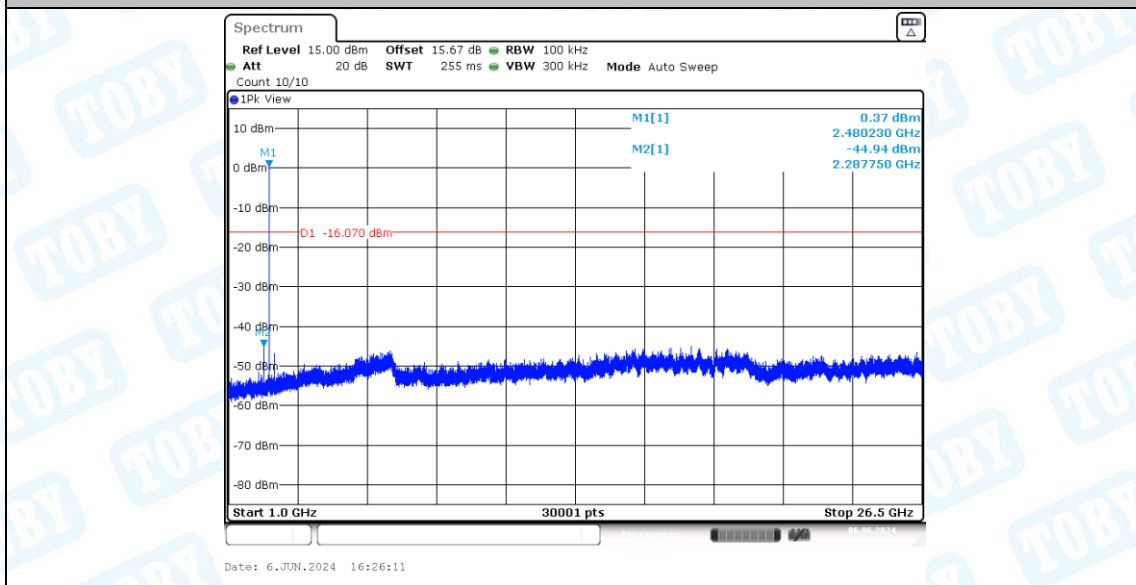




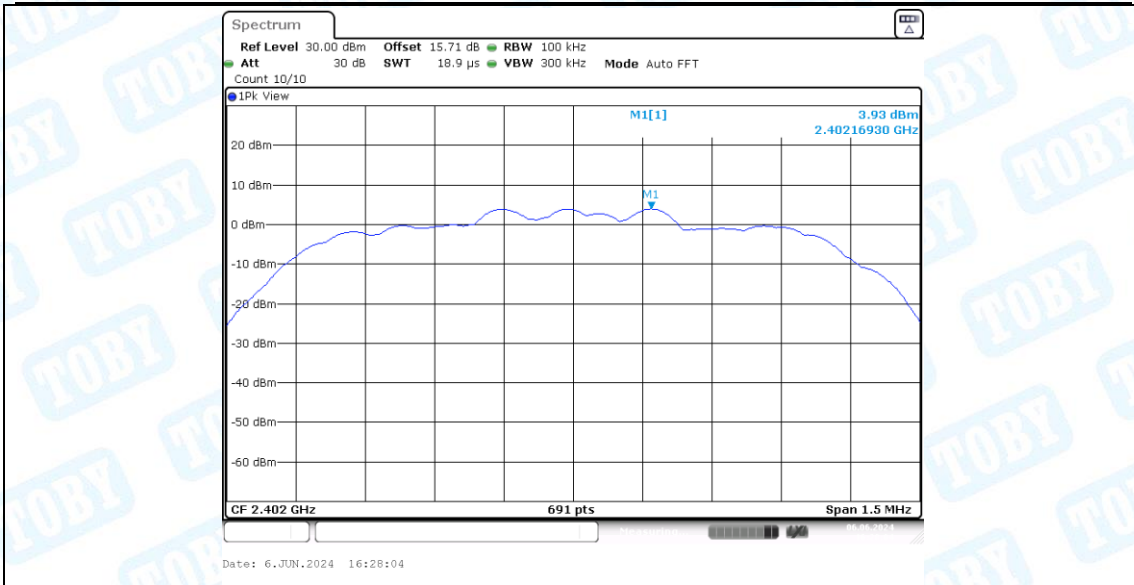
2DH5\_Ant1\_2480\_30~1000



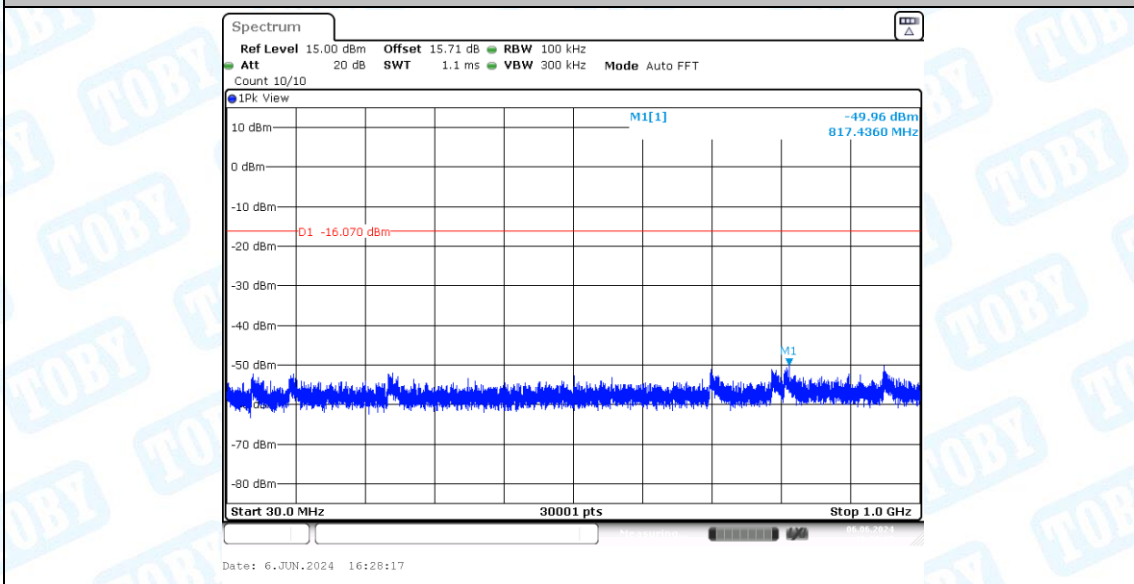
2DH5\_Ant1\_2480\_1000~26500



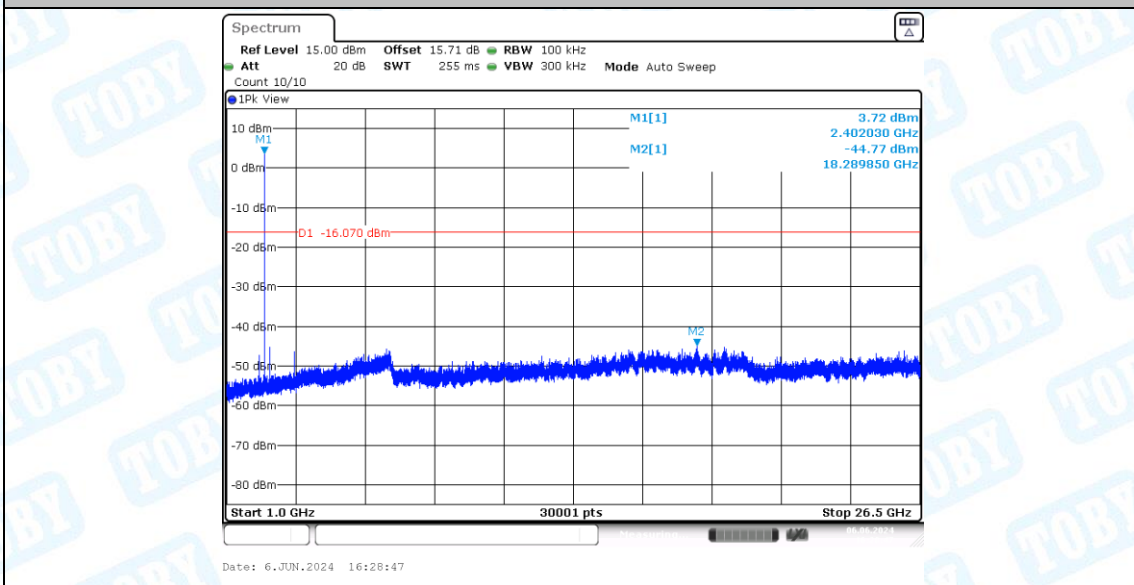
3DH5\_Ant1\_2402\_0~Reference



3DH5\_Ant1\_2402\_30~1000

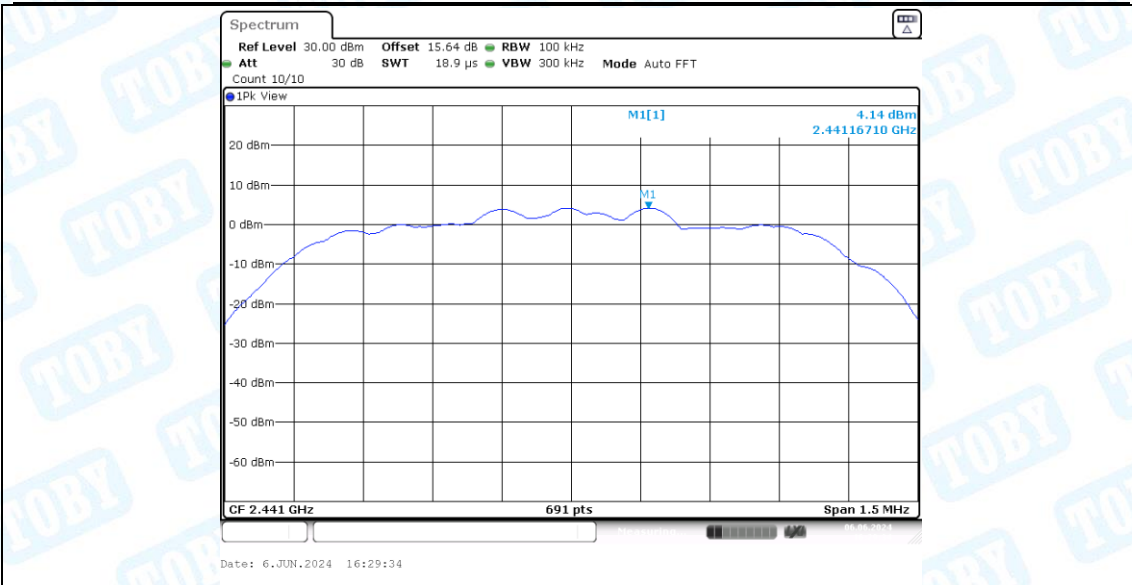


3DH5\_Ant1\_2402\_1000~26500

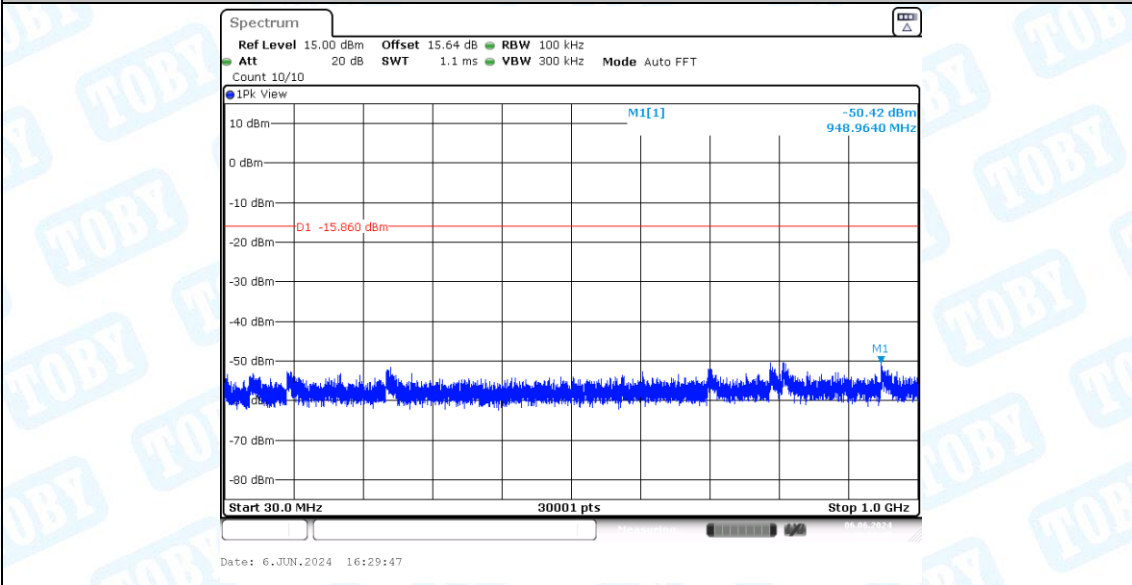


3DH5\_Ant1\_2441\_0~Reference

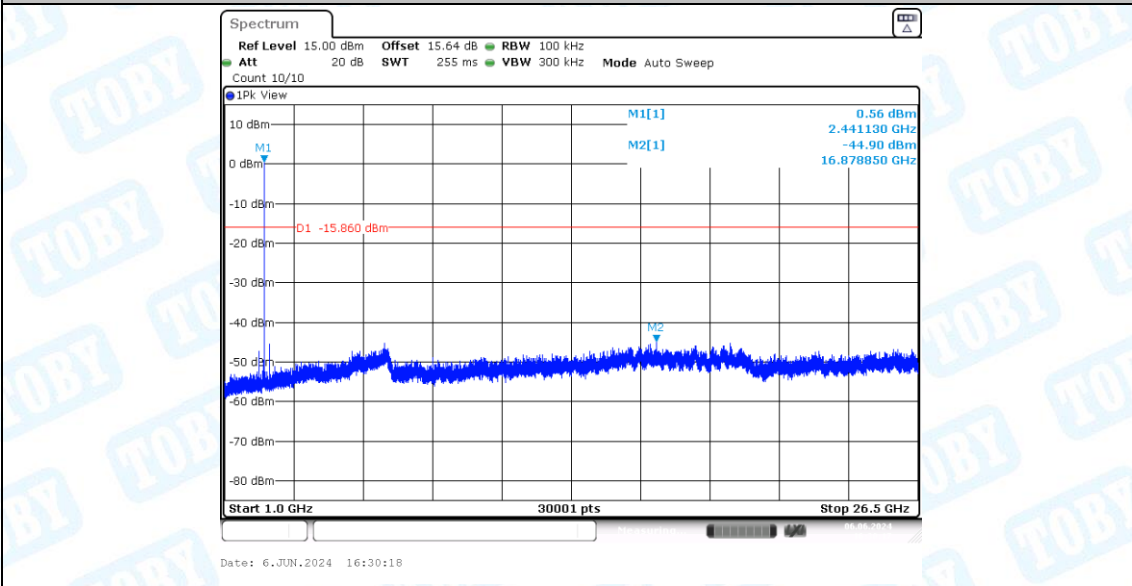




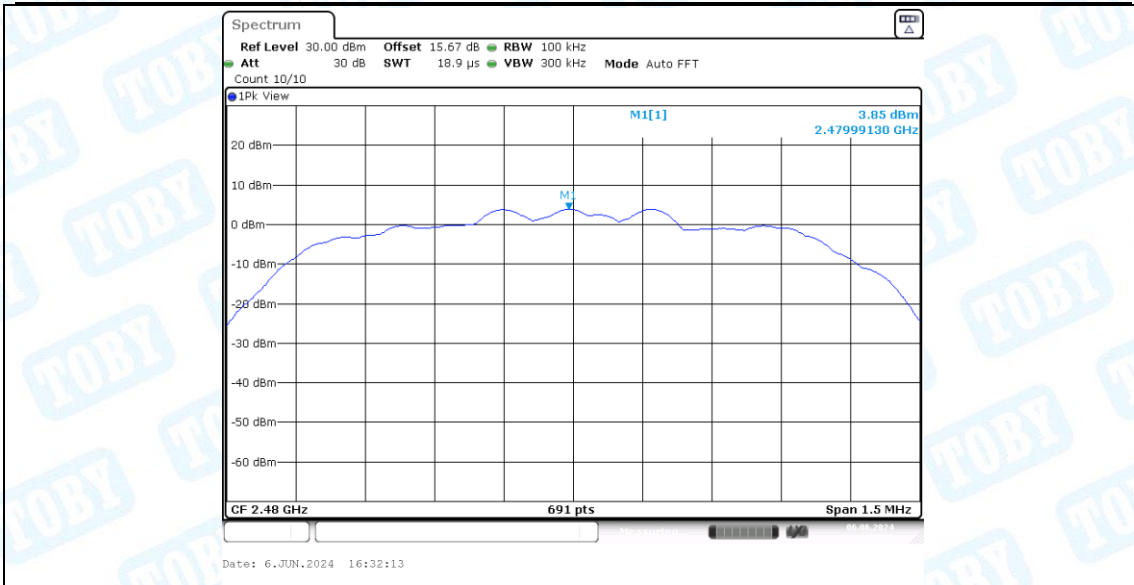
3DH5\_Ant1\_2441\_30~1000



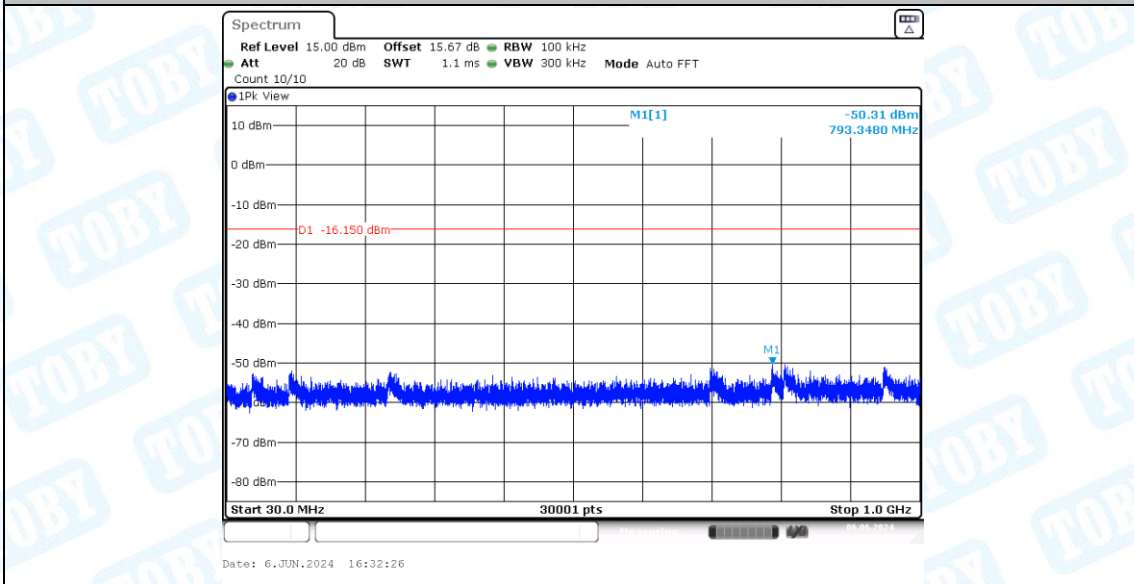
3DH5\_Ant1\_2441\_1000~26500



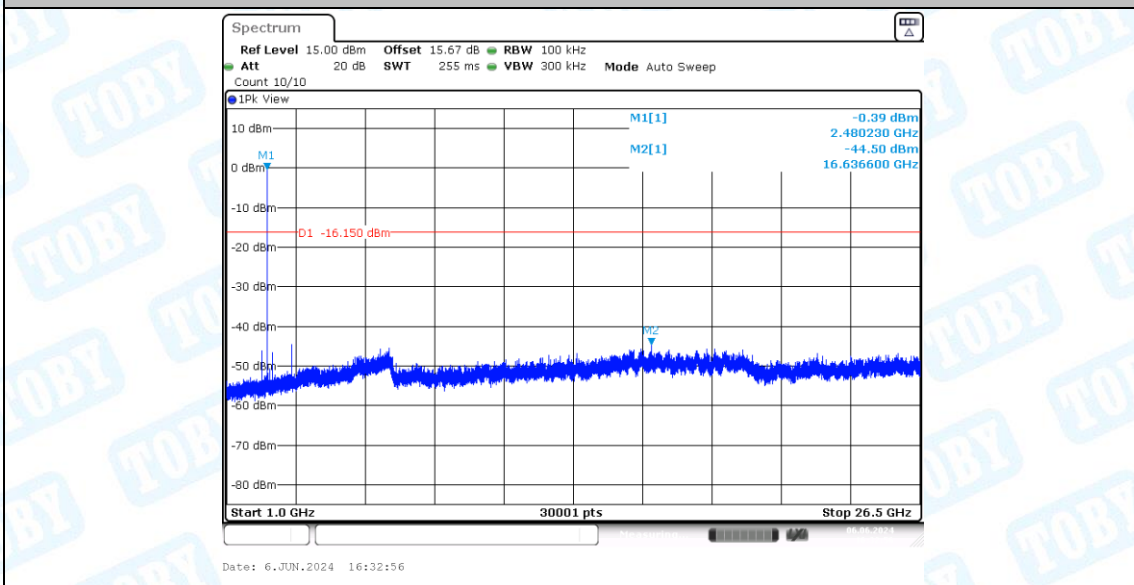
3DH5\_Ant1\_2480\_0~Reference



3DH5\_Ant1\_2480\_30~1000



3DH5\_Ant1\_2480\_1000~26500





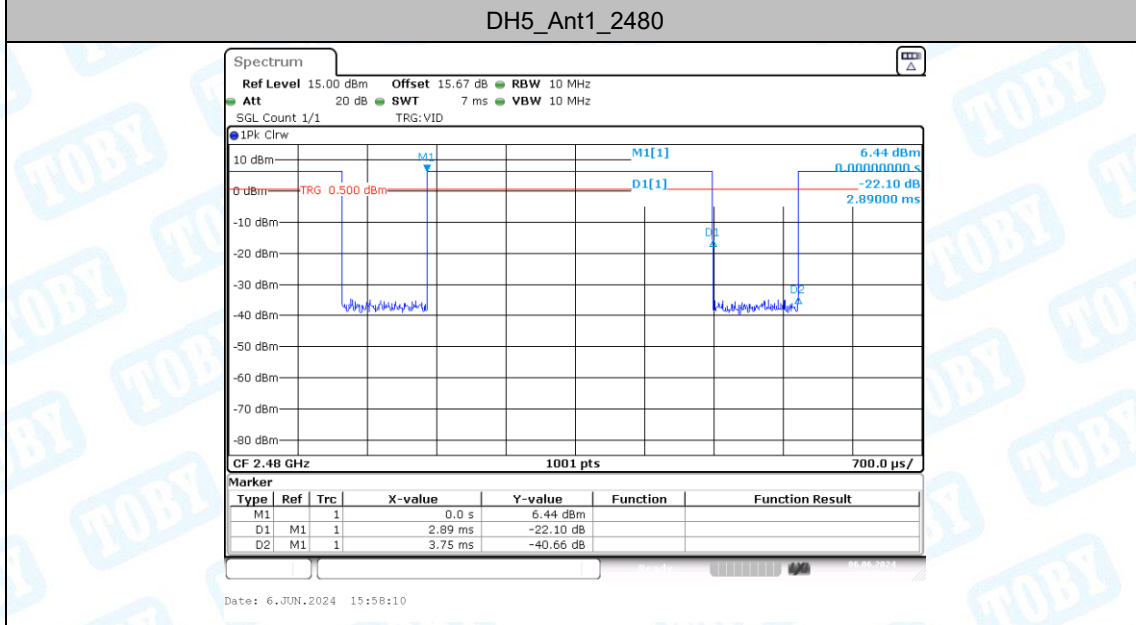
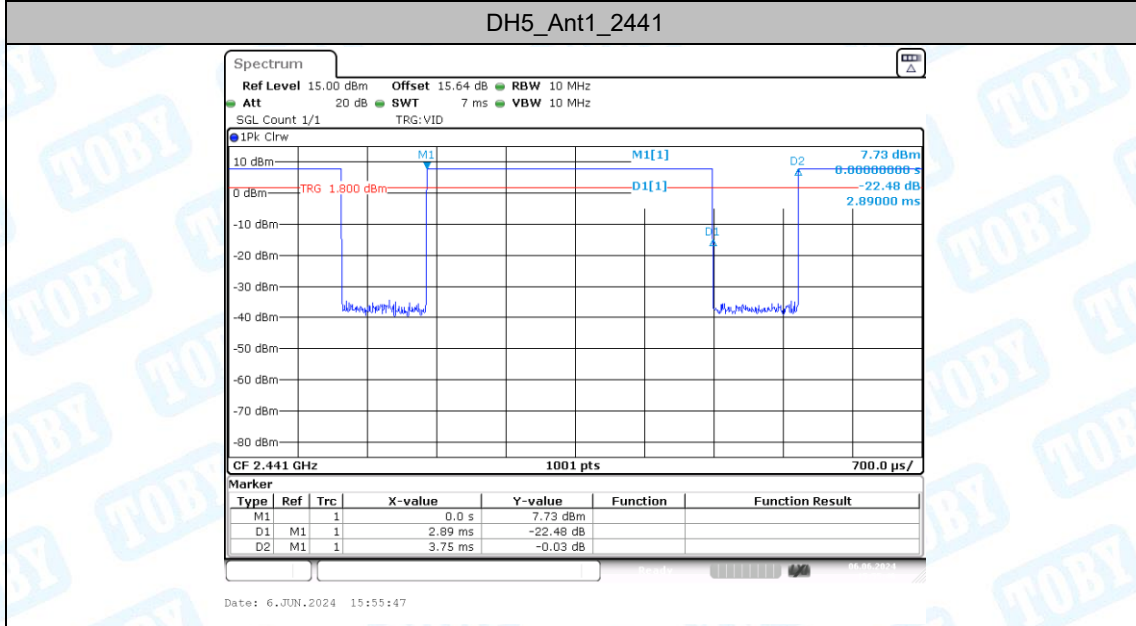
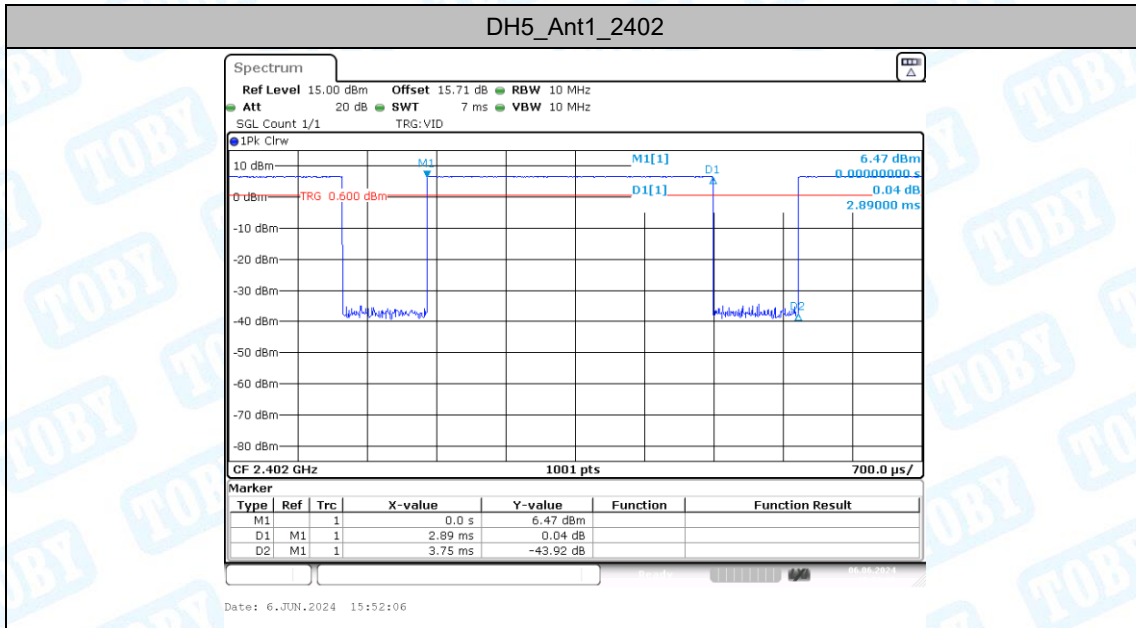
## 9. Duty Cycle

### 9.1. Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T [KHz]	Limit	Verdict
DH5	Ant1	2402	2.89	3.75	77.07	0.35	---	---
		2441	2.89	3.75	77.07	0.35	---	---
		2480	2.89	3.75	77.07	0.35	---	---
2DH5	Ant1	2402	2.88	3.76	76.60	0.35	---	---
		2441	2.88	3.76	76.60	0.35	---	---
		2480	2.88	3.76	76.60	0.35	---	---
3DH5	Ant1	2402	2.88	3.76	76.60	0.35	---	---
		2441	2.88	3.76	76.60	0.35	---	---
		2480	2.88	3.76	76.60	0.35	---	---

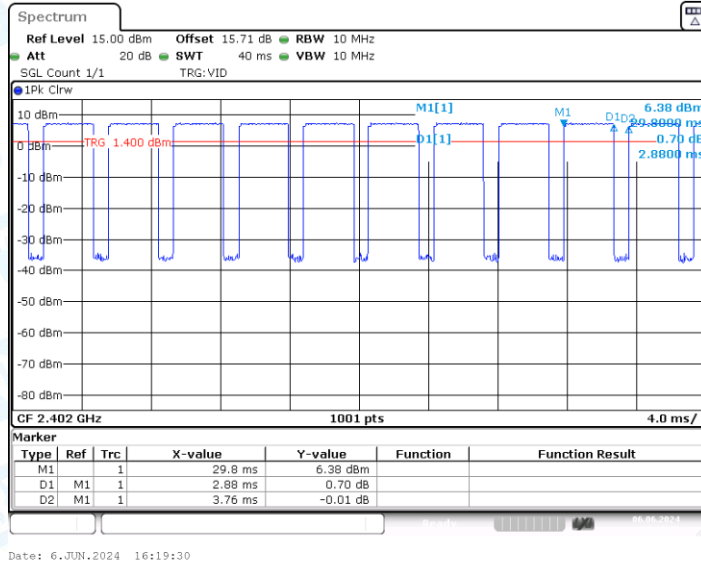
Note: 1/T=1/ Transmission Duration

### 9.2. Test Graphs

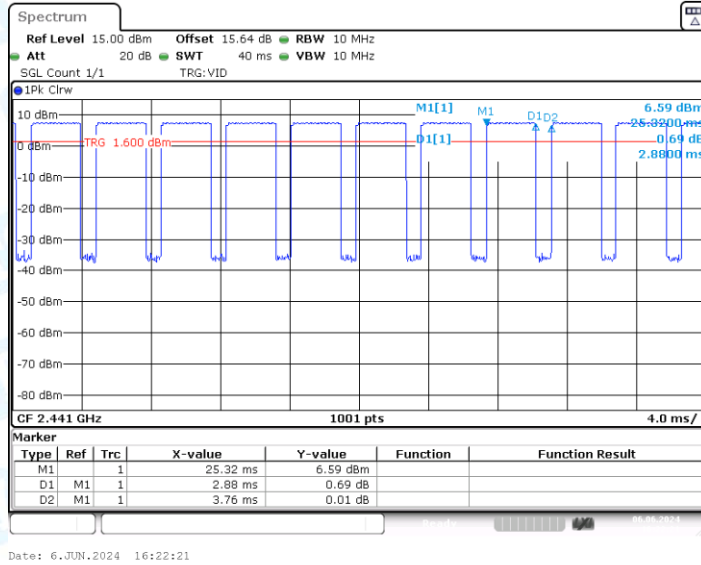




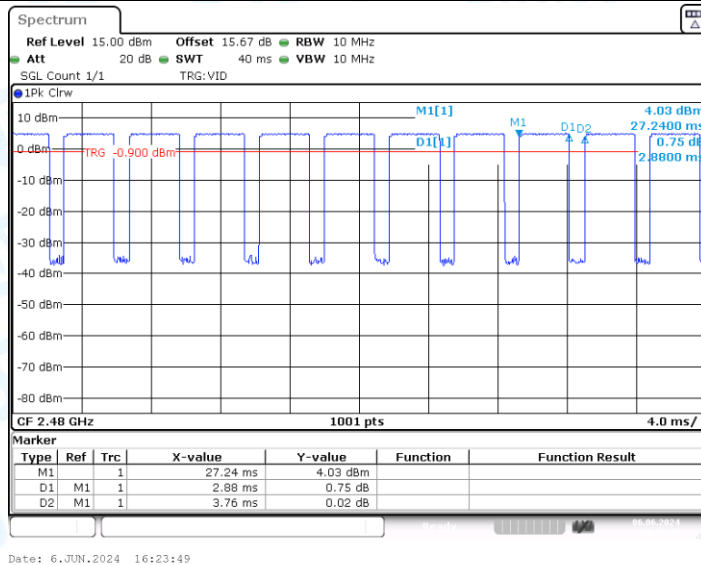
2DH5\_Ant1\_2402



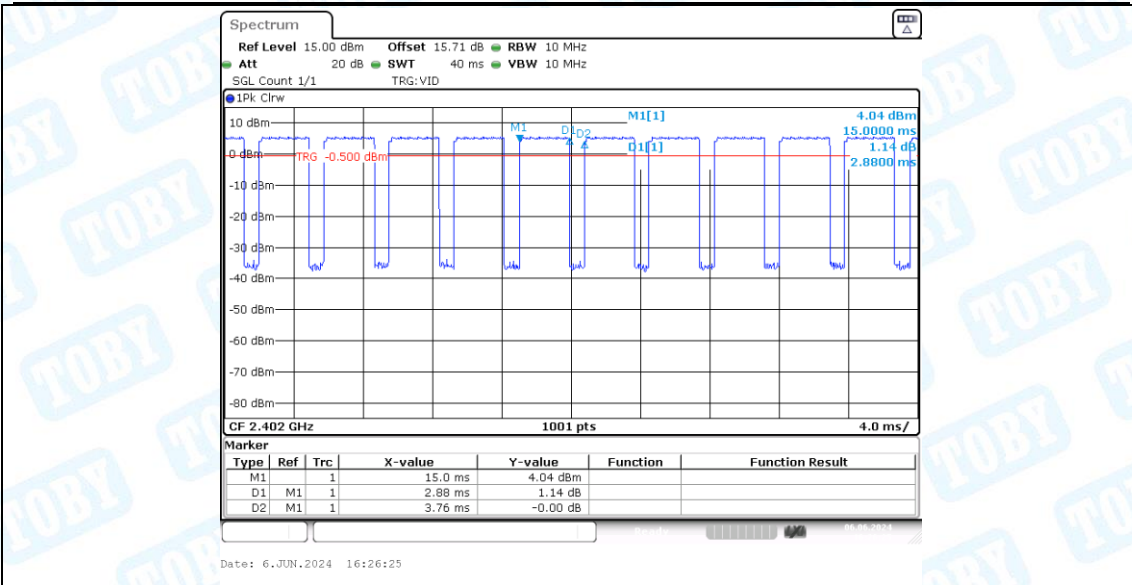
2DH5\_Ant1\_2441



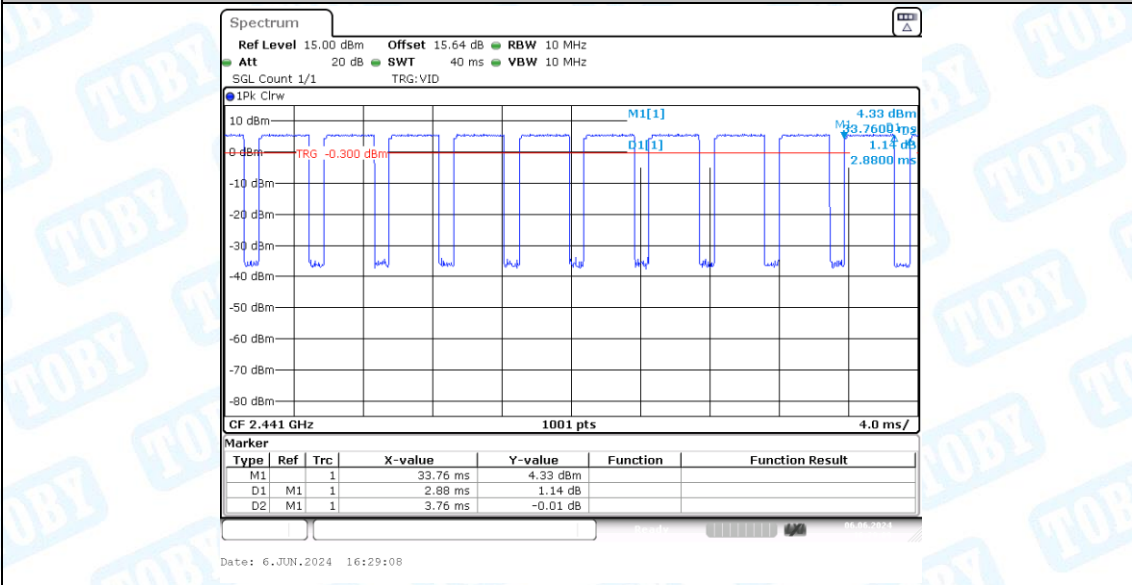
2DH5\_Ant1\_2480



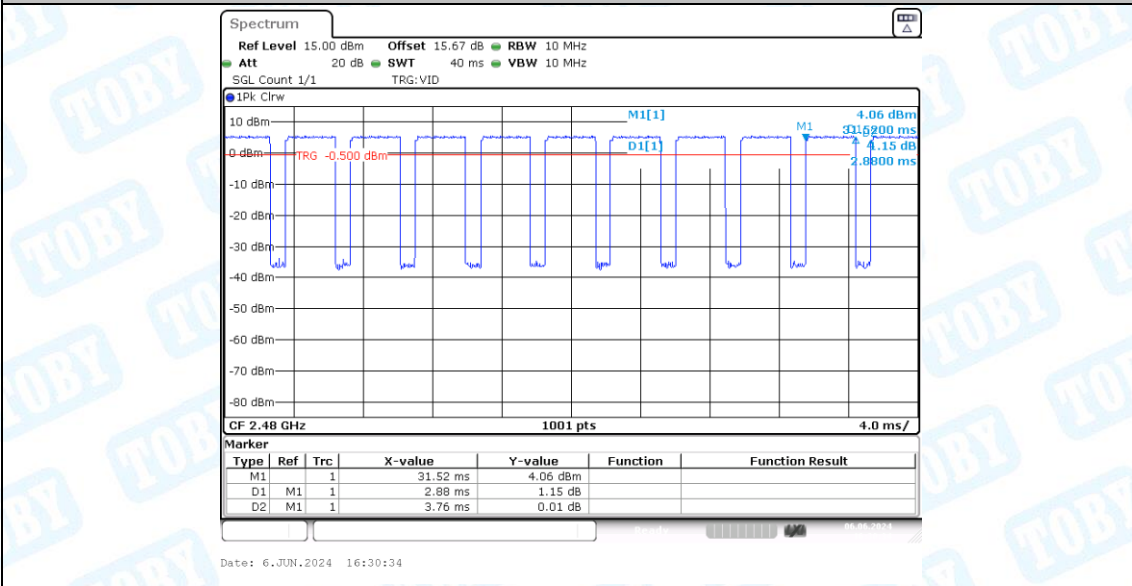
3DH5\_Ant1\_2402



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	-51.94	≤-41.20	PASS
				AV	2354.022	-49.39	≤-41.20	PASS
				AV	2390.000	-51.46	≤-41.20	PASS
				Peak	2310.000	-43.5	≤-21.20	PASS
				Peak	2369.087	-39.19	≤-21.20	PASS
				Peak	2390.000	-41.39	≤-21.20	PASS
		High	2480	AV	2483.500	-48.4	≤-41.20	PASS
				AV	2483.565	-48.7	≤-41.20	PASS
				AV	2500.000	-53.12	≤-41.20	PASS
				Peak	2483.500	-40.43	≤-21.20	PASS
				Peak	2483.797	-38.95	≤-21.20	PASS
				Peak	2500.000	-41.97	≤-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-56.46	≤-41.20	PASS
				AV	2368.174	-51.65	≤-41.20	PASS
				AV	2390.000	-54.71	≤-41.20	PASS
				Peak	2310.000	-44.69	≤-21.20	PASS
				Peak	2366.348	-39.28	≤-21.20	PASS
				Peak	2390.000	-40.87	≤-21.20	PASS
		High	2480	AV	2483.500	-49.93	≤-41.20	PASS
				AV	2483.565	-50.28	≤-41.20	PASS
				AV	2500.000	-53.27	≤-41.20	PASS
				Peak	2483.500	-41.97	≤-21.20	PASS
				Peak	2483.797	-40.73	≤-21.20	PASS
				Peak	2500.000	-41.07	≤-21.20	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-56.51	≤-41.20	PASS
				AV	2358.130	-53.13	≤-41.20	PASS
				AV	2390.000	-54.54	≤-41.20	PASS
				Peak	2310.000	-42.87	≤-21.20	PASS
				Peak	2343.217	-38.71	≤-21.20	PASS
				Peak	2390.000	-42.51	≤-21.20	PASS
		High	2480	AV	2483.500	-50.79	≤-41.20	PASS
				AV	2483.565	-51.06	≤-41.20	PASS
				AV	2500.000	-54.2	≤-41.20	PASS
				Peak	2483.500	-42.6	≤-21.20	PASS
				Peak	2493.304	-39.64	≤-21.20	PASS
				Peak	2500.000	-41.46	≤-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



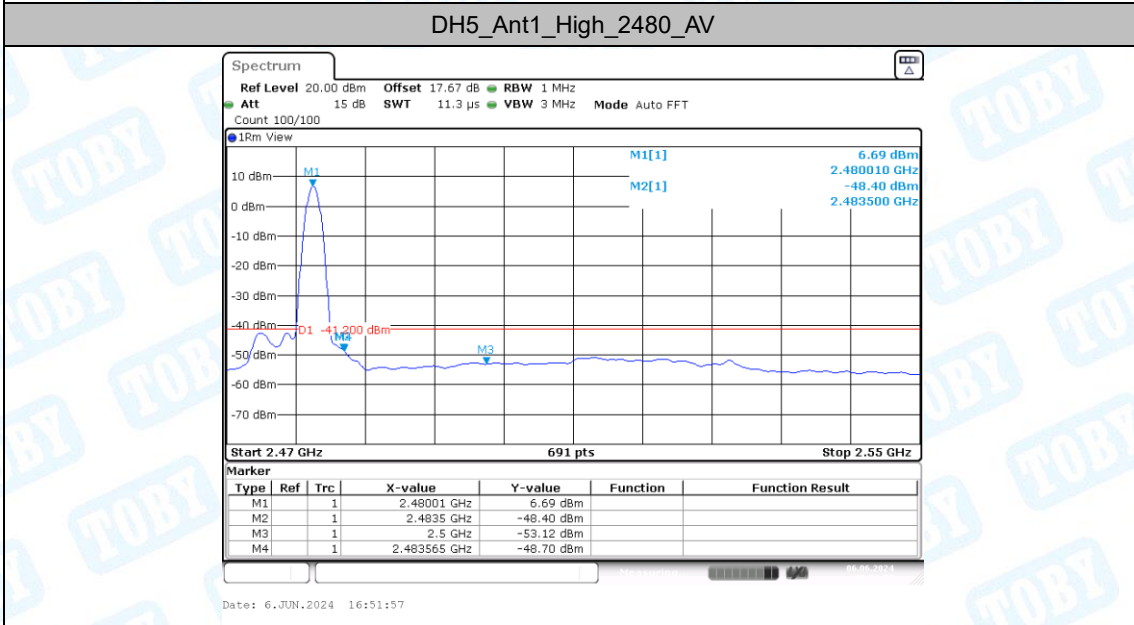
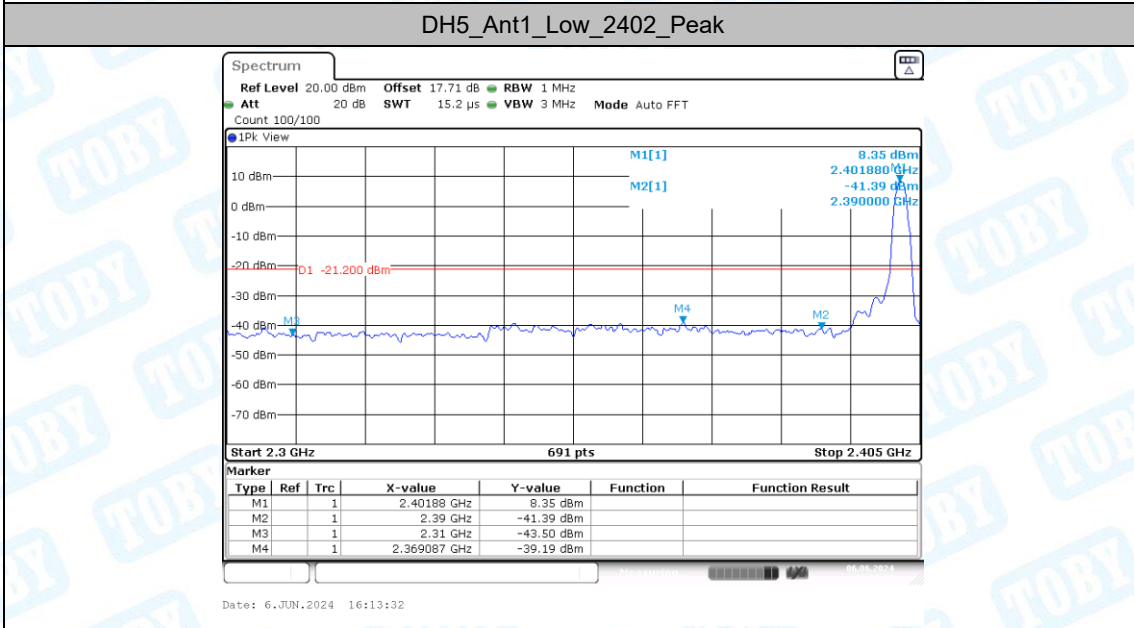
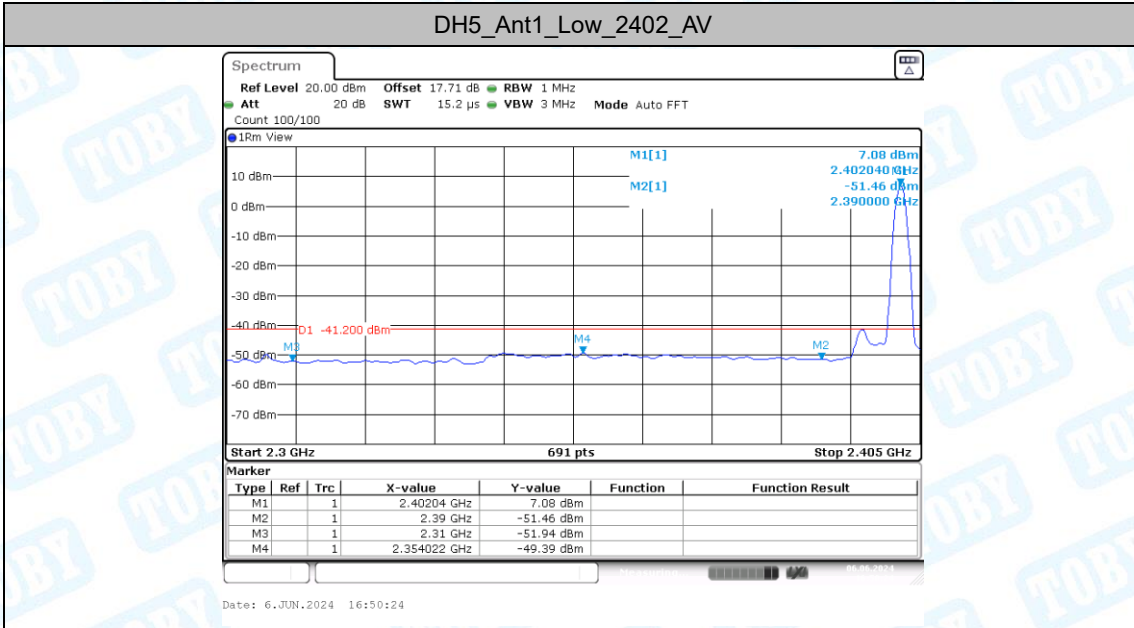
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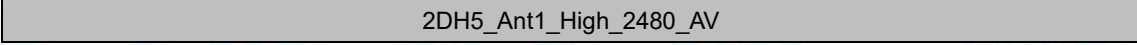
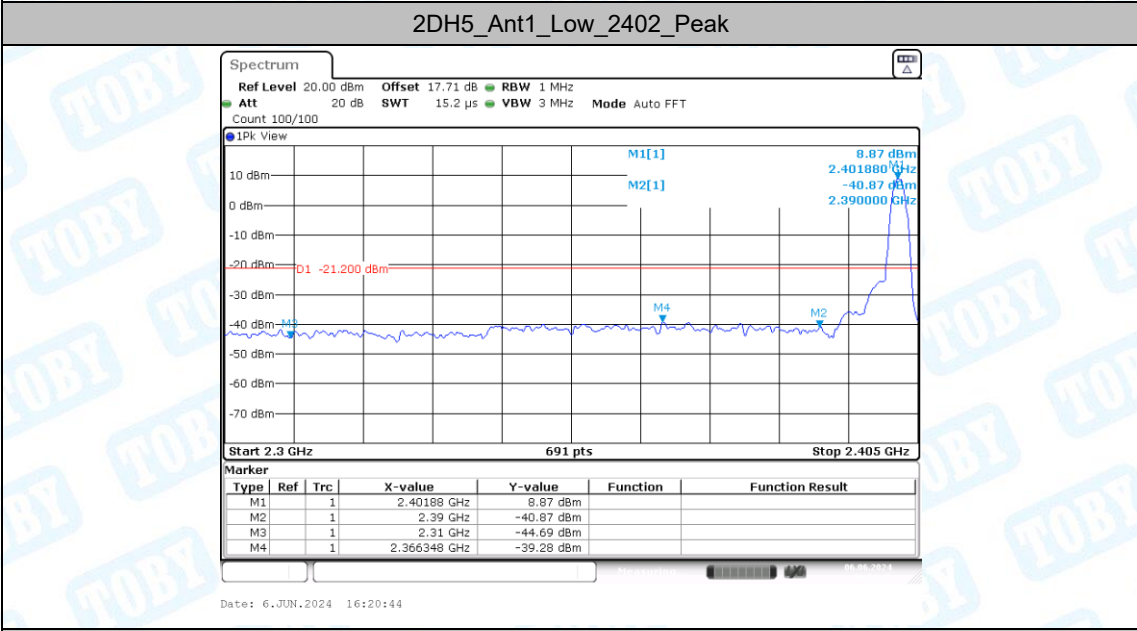
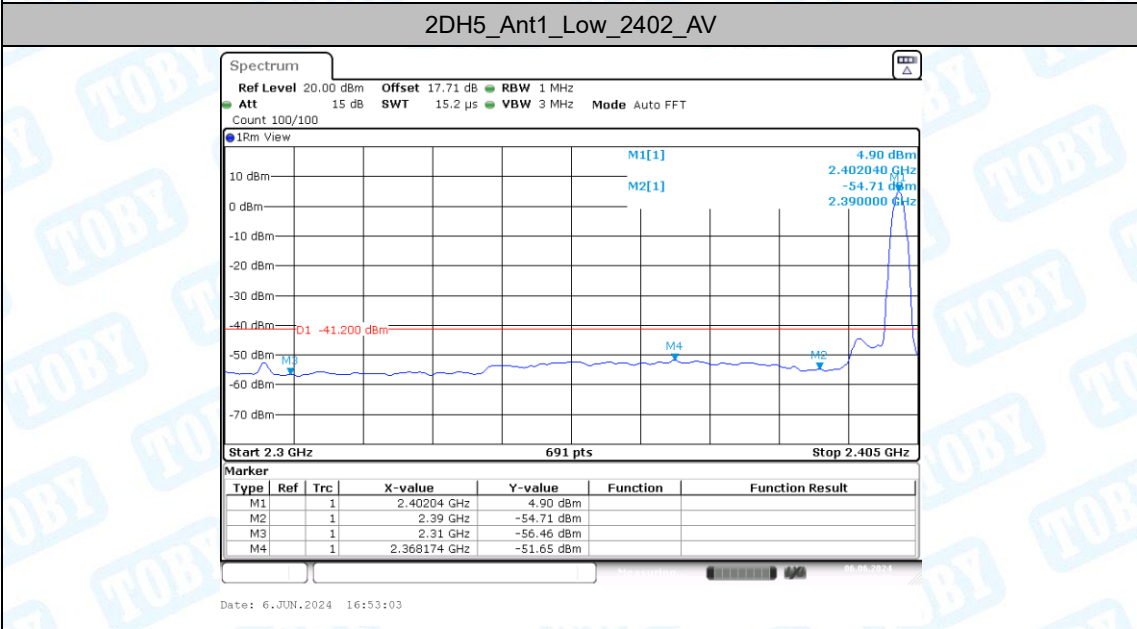
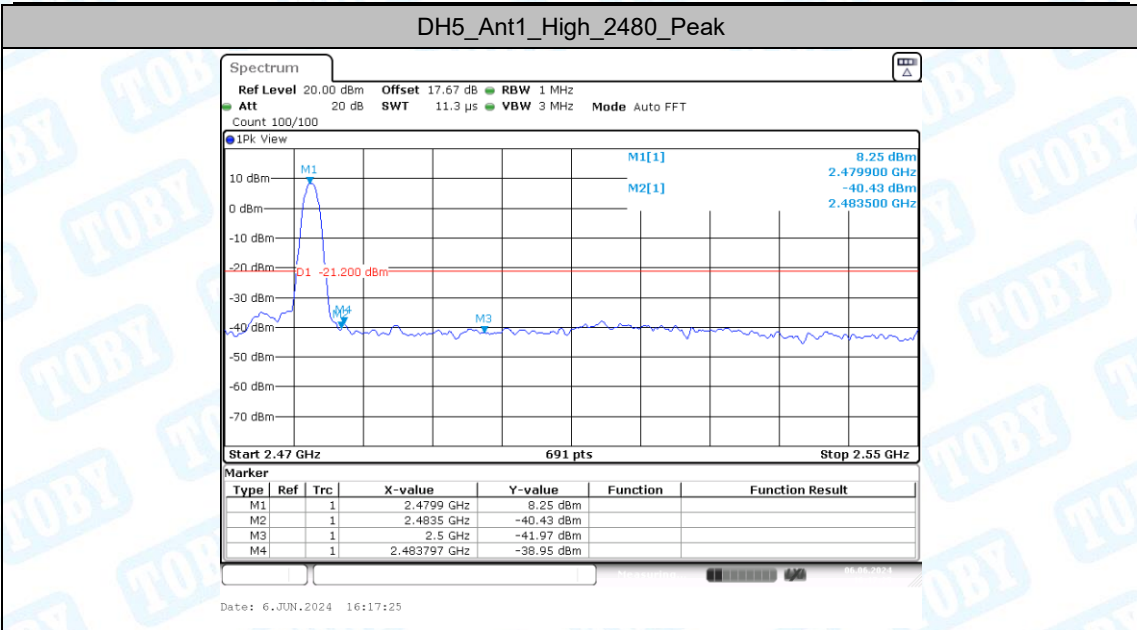
limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

3. The Duty Cycle Factor is compensated in the graph.

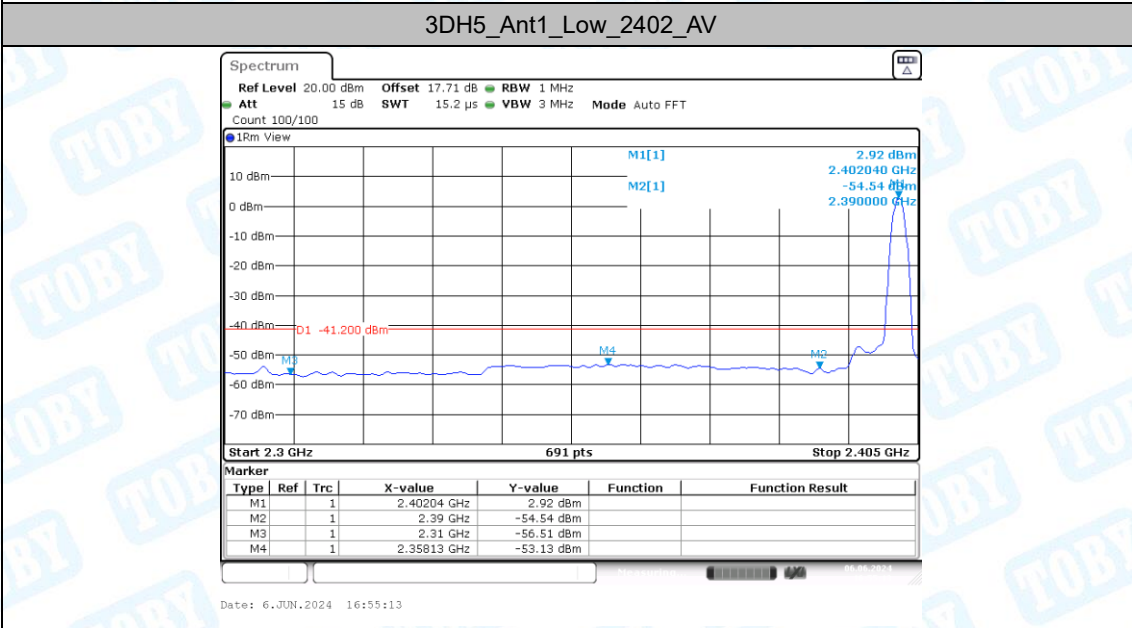
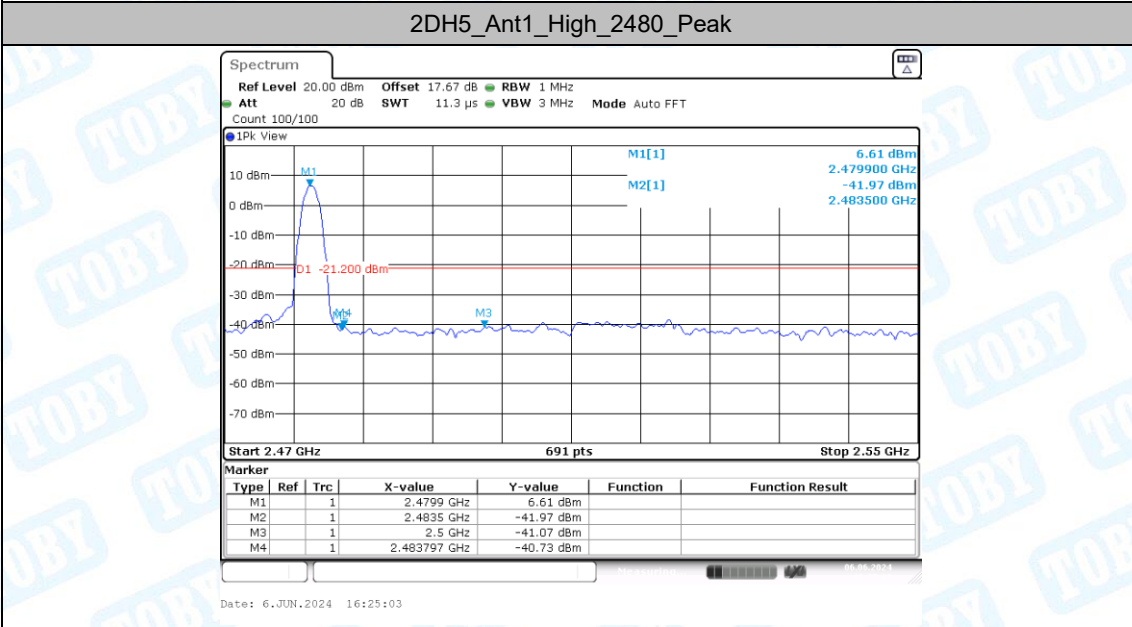
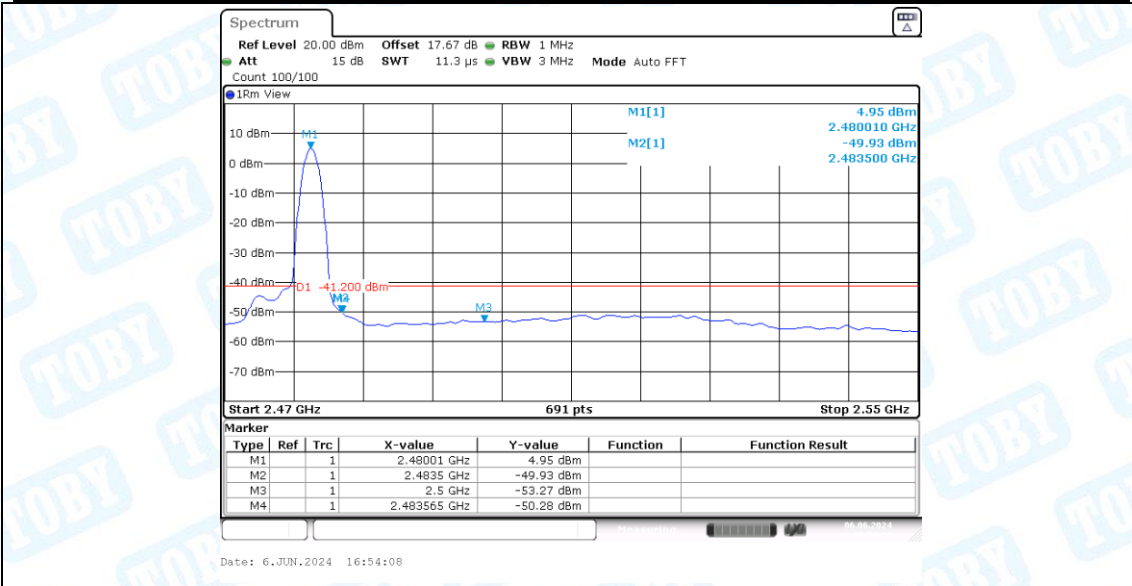


### 10.2. Test Graphs

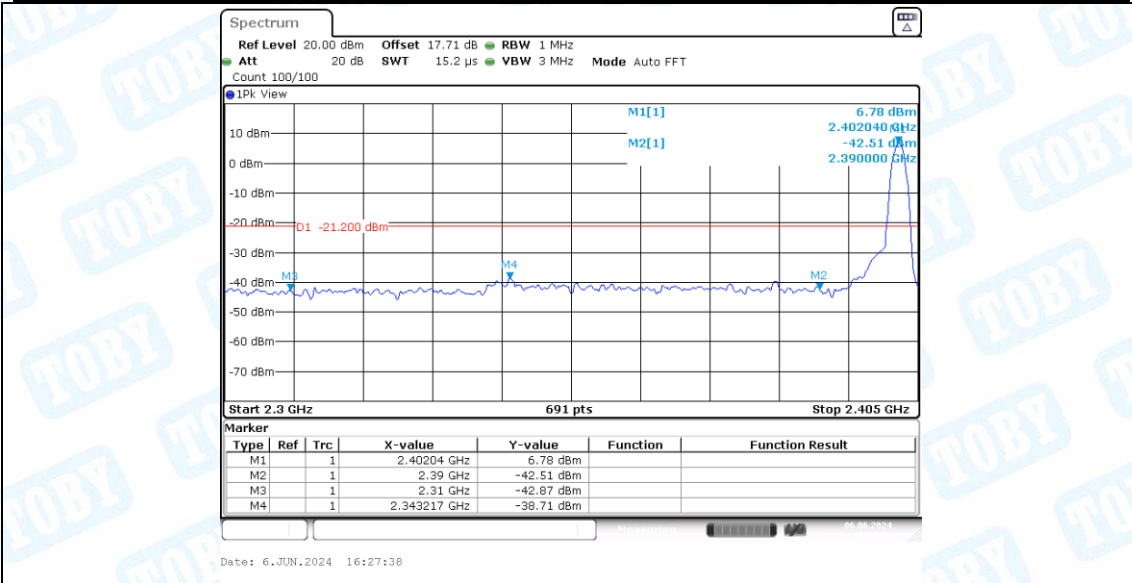




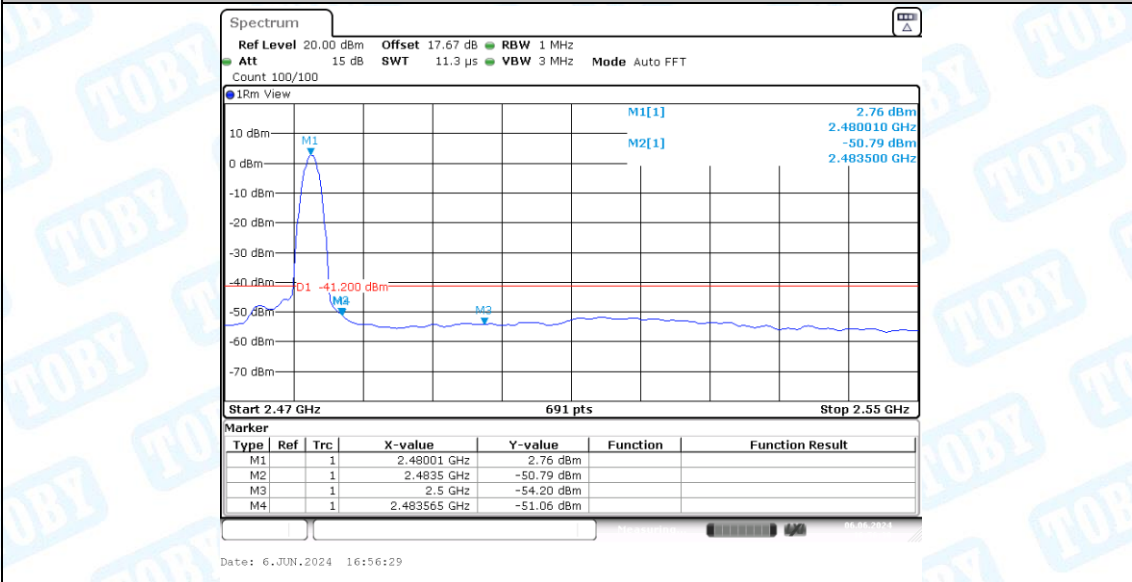




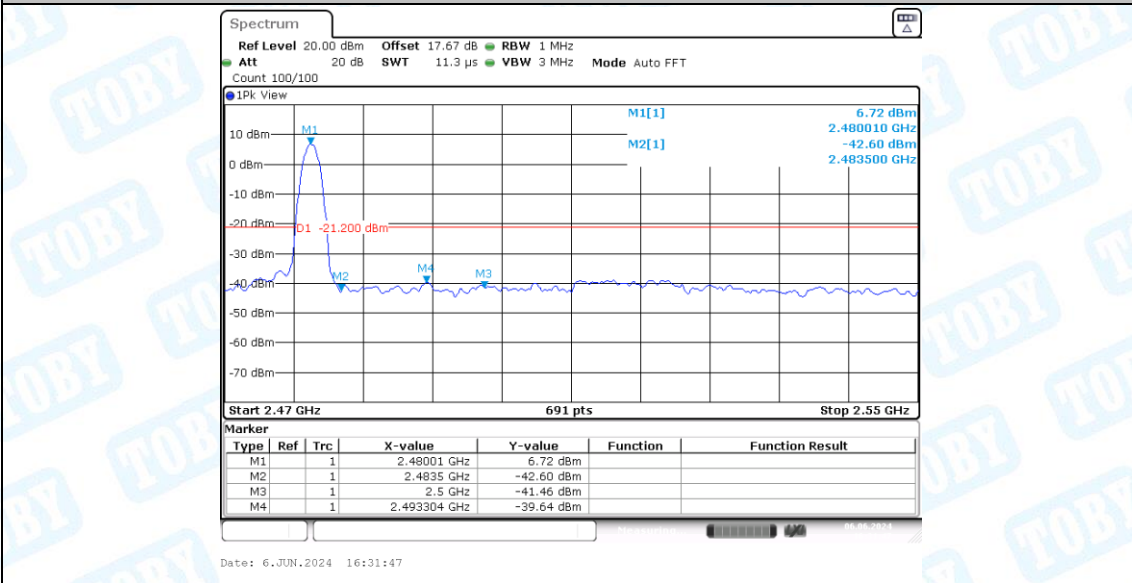
**3DH5\_Ant1\_Low\_2402\_Peak**



3DH5\_Ant1\_High\_2480\_AV



3DH5\_Ant1\_High\_2480\_Peak



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