

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

General Description of EUT	
Product Name:	Heltec WiFi Kit LoRa Node
Test Model:	HTIT-WS
Sample ID:	RW-C-202202-0173-1-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 5V
Test Engineer:	Huang jian ping
Note: For a more detailed features description, please refer to the report TBR-C-202202-0173-12	

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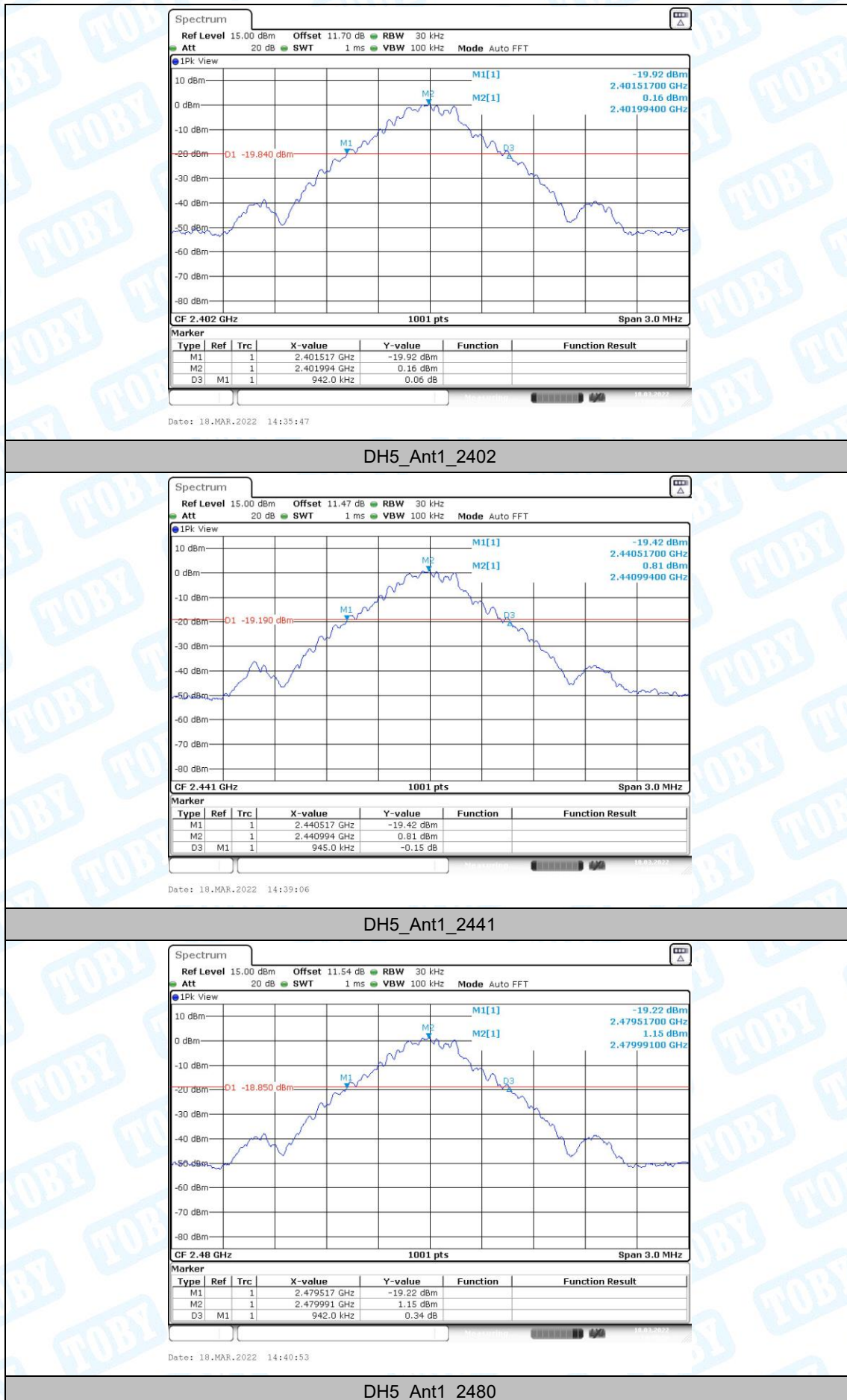
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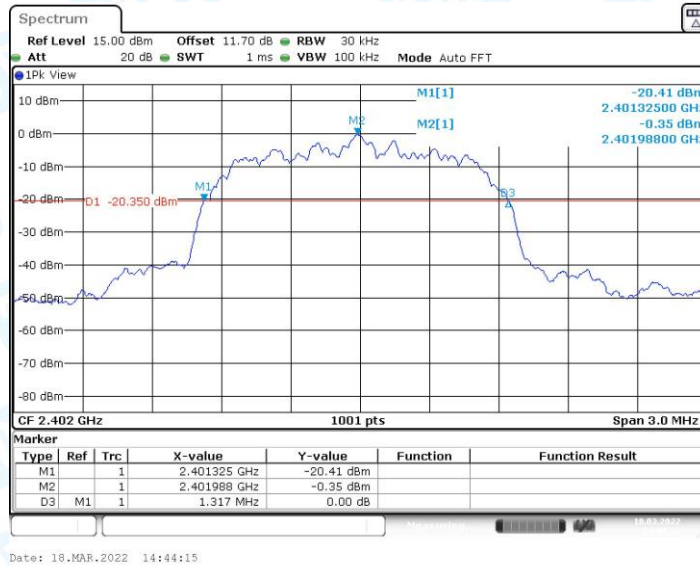
1. 20dB Emission Bandwidth

1.1. Test Result

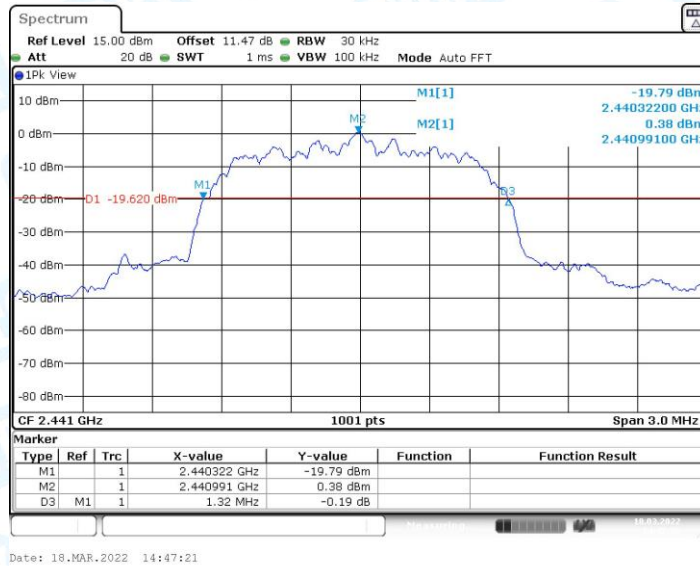
TestMode	Antenna	Channel	20db EBW[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.94	---	---
		2441	0.95	---	---
		2480	0.94	---	---
2DH5	Ant1	2402	1.32	---	---
		2441	1.32	---	---
		2480	1.32	---	---
3DH5	Ant1	2402	1.31	---	---
		2441	1.30	---	---
		2480	1.31	---	---

1.2. Test Graphs

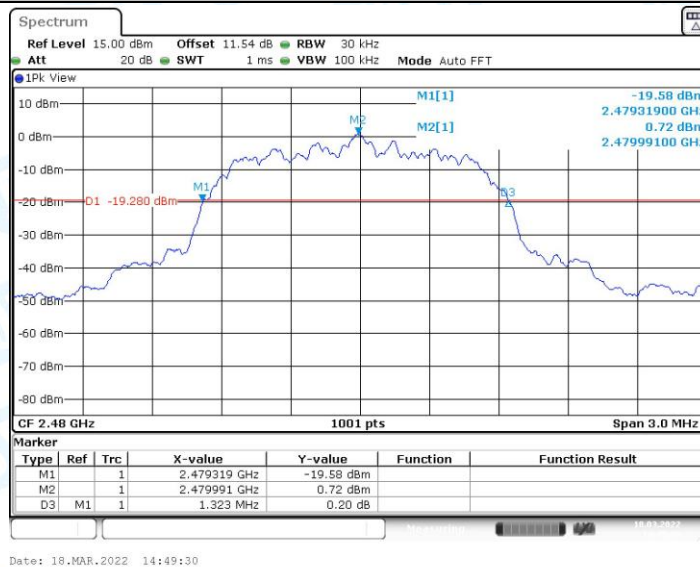




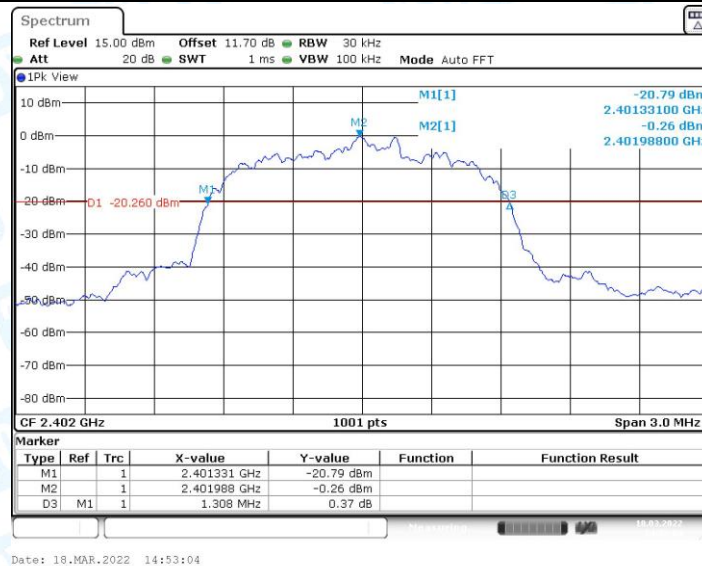
2DH5_Ant1_2402



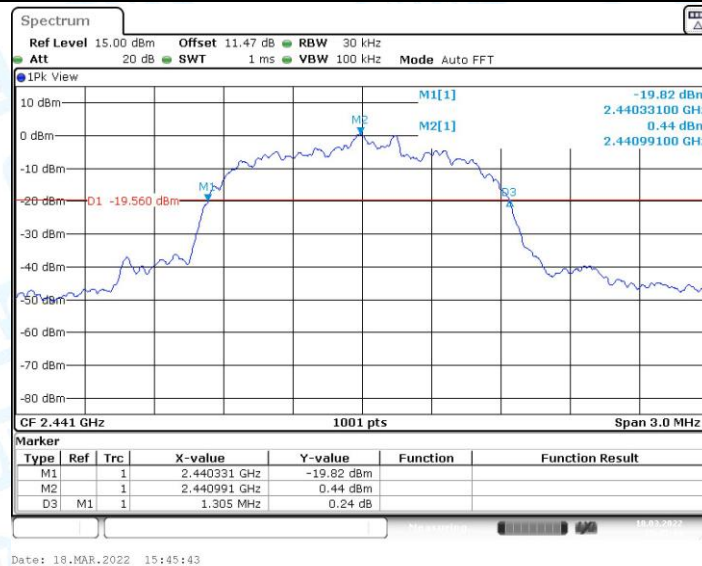
2DH5_Ant1_2441



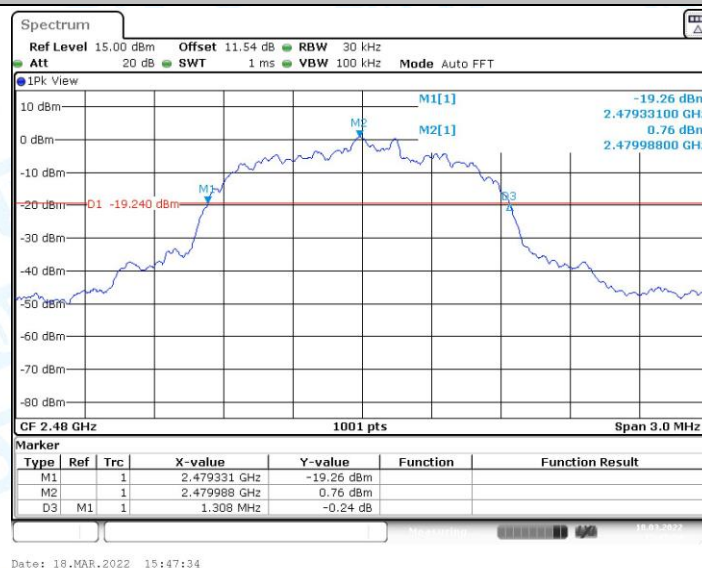
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



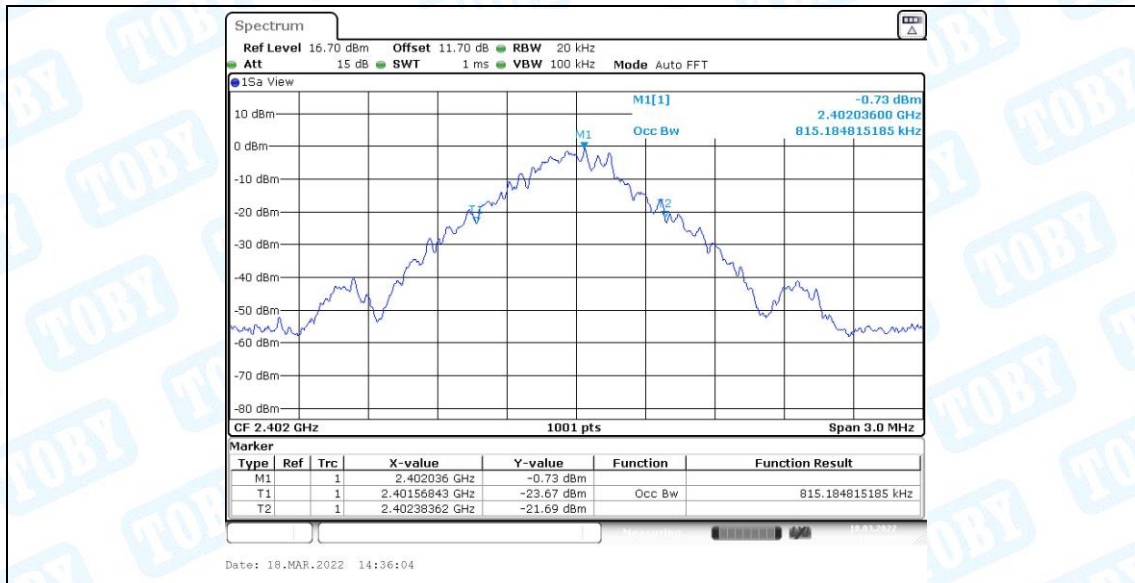
3DH5_Ant1_2480

2. Occupied Channel Bandwidth

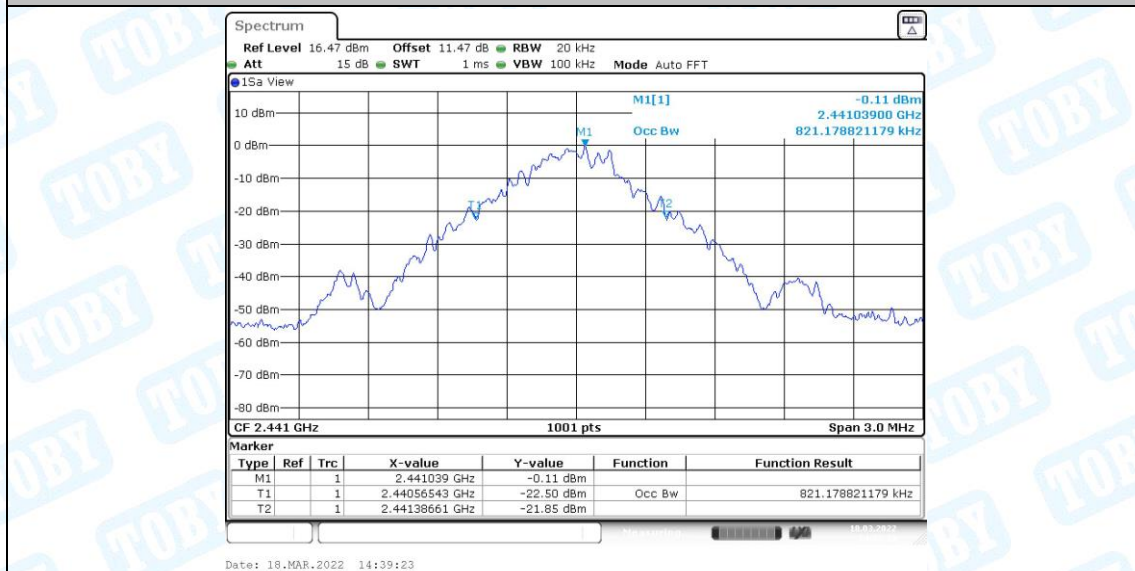
2.1. Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.815	2401.568	2402.384	---	---
		2441	0.821	2440.565	2441.387	---	---
		2480	0.824	2479.562	2480.387	---	---
2DH5	Ant1	2402	1.178	2401.392	2402.569	---	---
		2441	1.178	2440.392	2441.569	---	---
		2480	1.184	2479.389	2480.572	---	---
3DH5	Ant1	2402	1.178	2401.392	2402.569	---	---
		2441	1.178	2440.392	2441.569	---	---
		2480	1.187	2479.386	2480.572	---	---

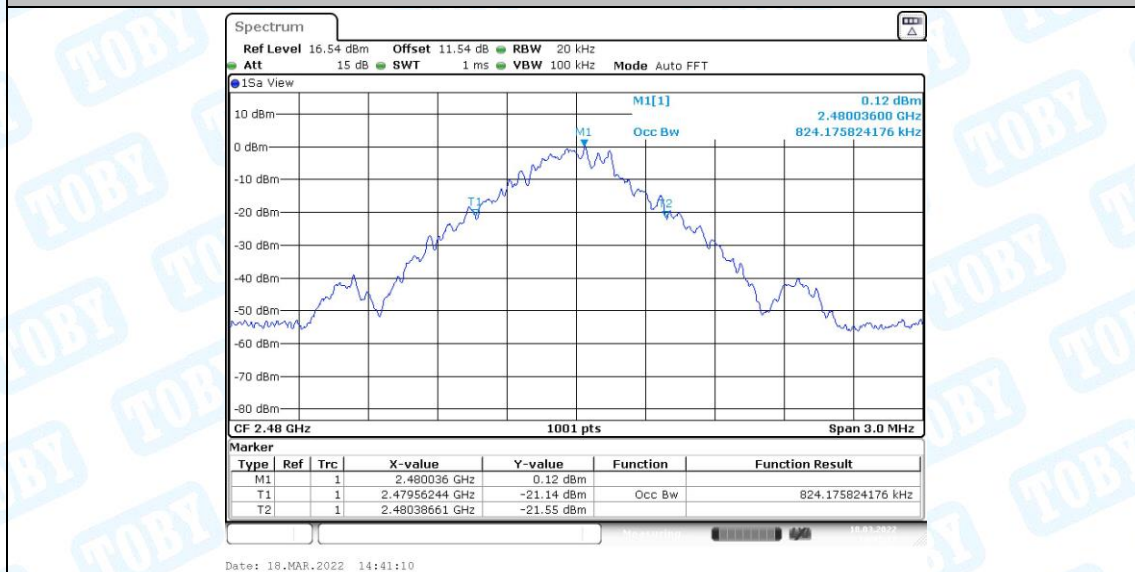
2.2.Test Graphs



DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480



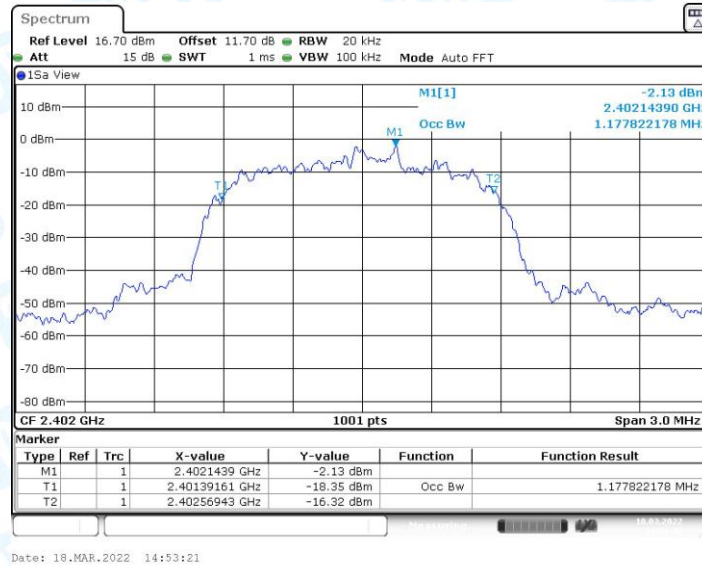
2DH5_Ant1_2402



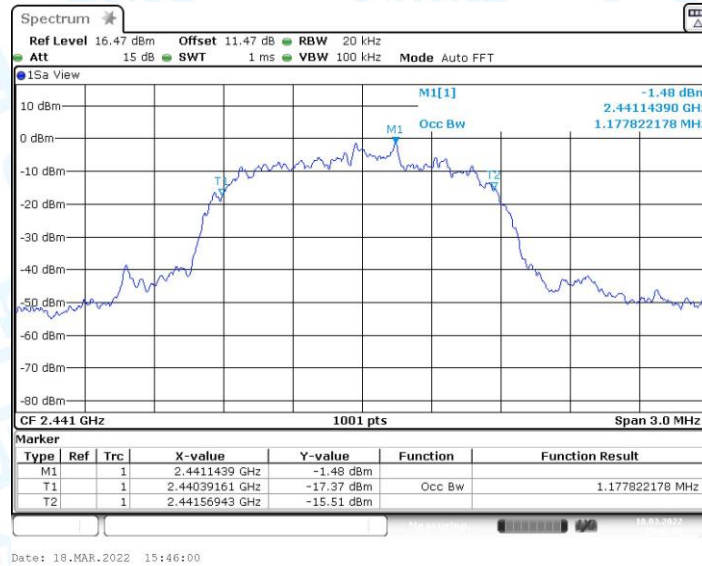
2DH5_Ant1_2441



2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

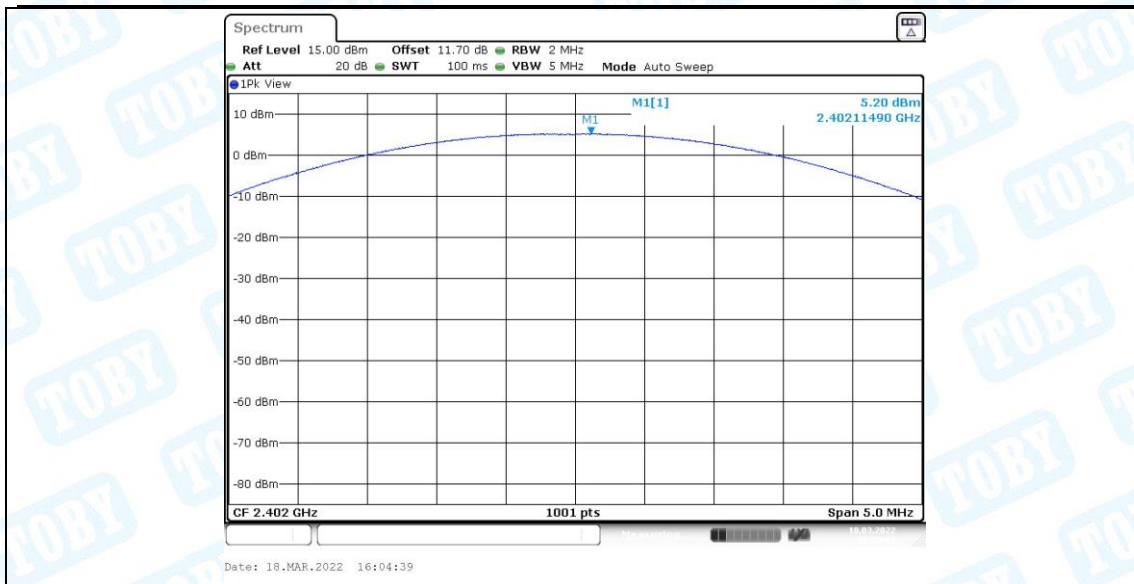
3. Maximum conducted output power

3.1. Test Result

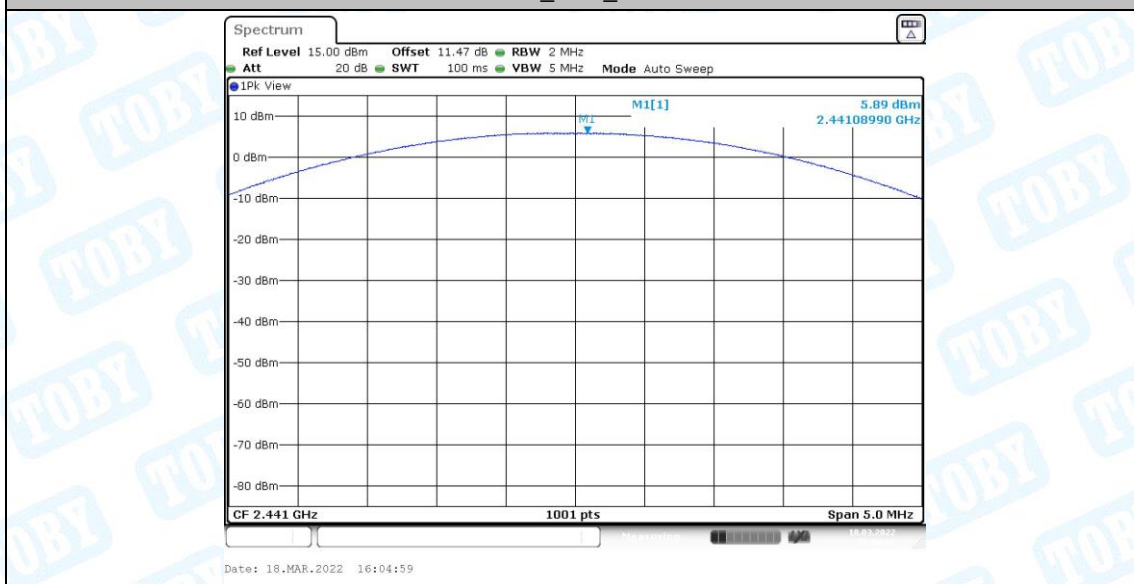
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	3.12	≤21	PASS
		2441	3.84	≤21	PASS
		2480	4.09	≤21	PASS
2DH5	Ant1	2402	5.2	≤21	PASS
		2441	5.89	≤21	PASS
		2480	6.14	≤21	PASS
3DH5	Ant1	2402	5.61	≤21	PASS
		2441	6.31	≤21	PASS
		2480	6.52	≤21	PASS

3.2. Test Graphs

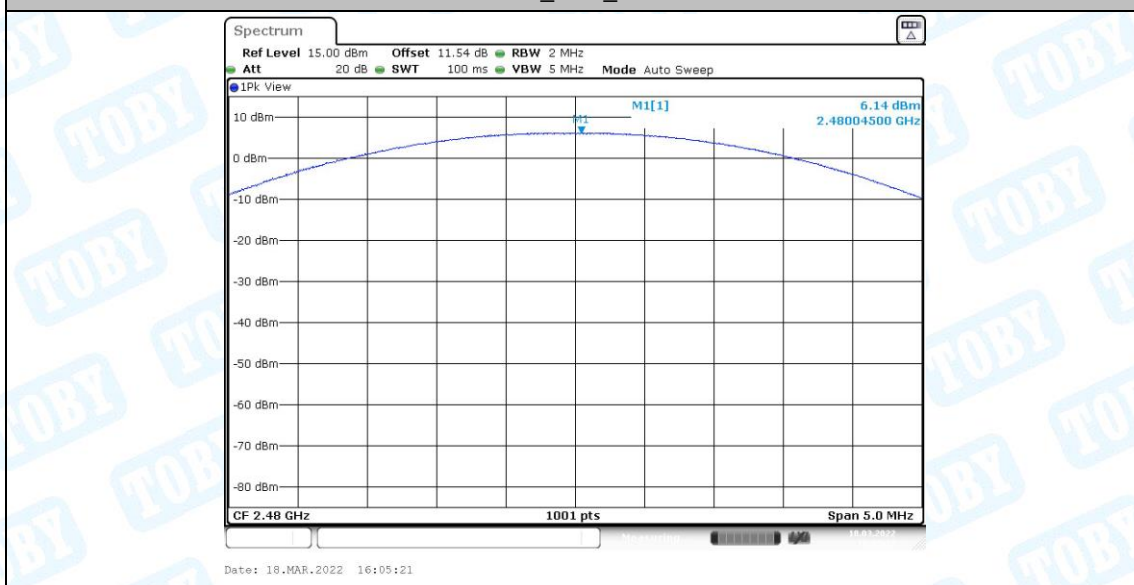




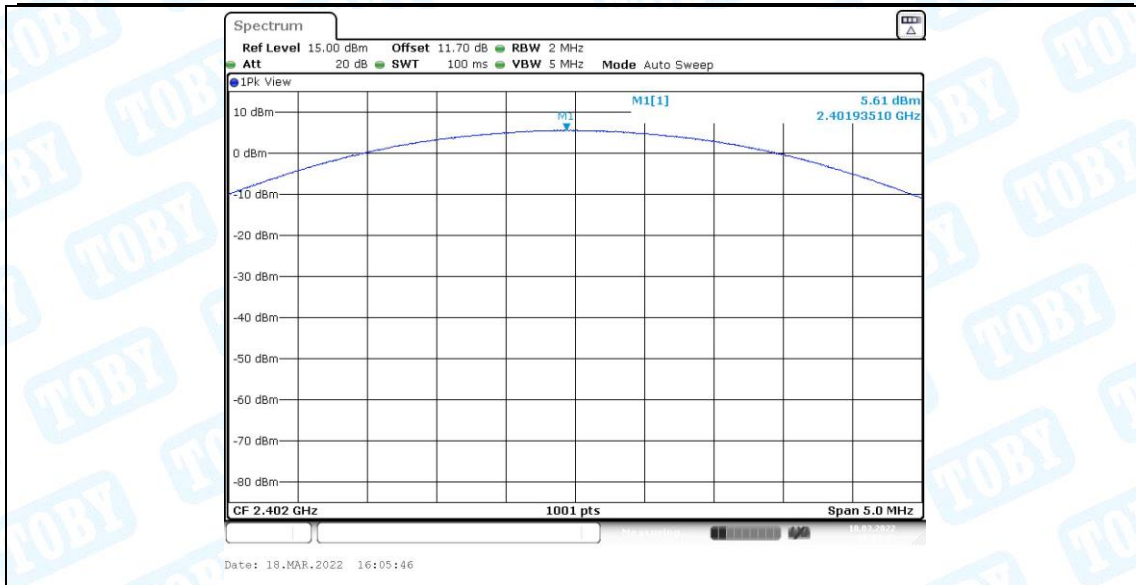
2DH5_Ant1_2402



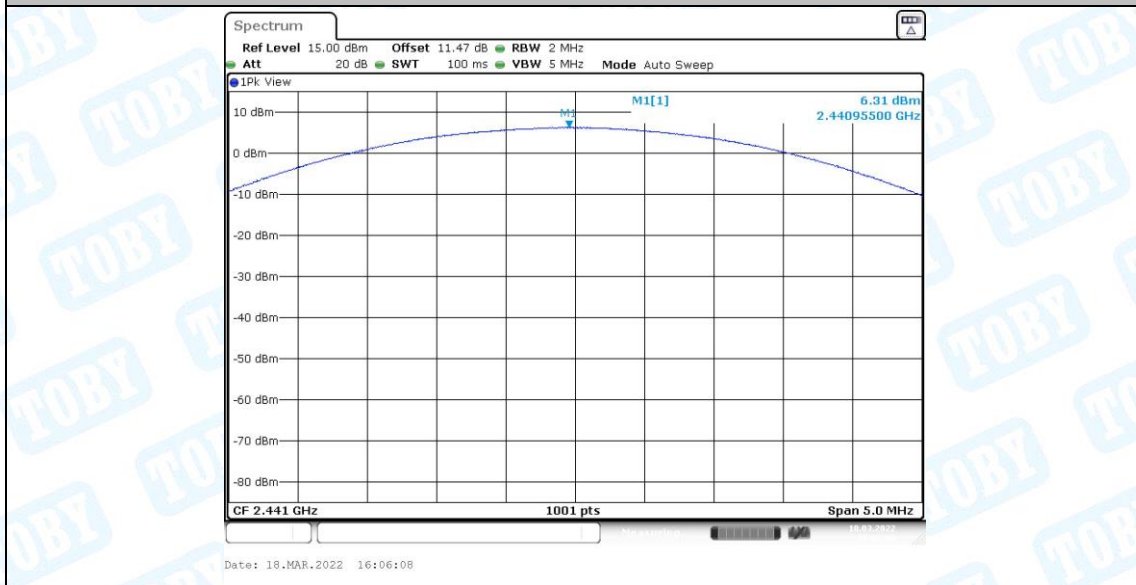
2DH5_Ant1_2441



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	0.852	≥ 0.633	PASS
2DH5	Ant1	Hop	0.994	≥ 0.880	PASS
3DH5	Ant1	Hop	0.93	≥ 0.873	PASS

4.2. Test Graphs

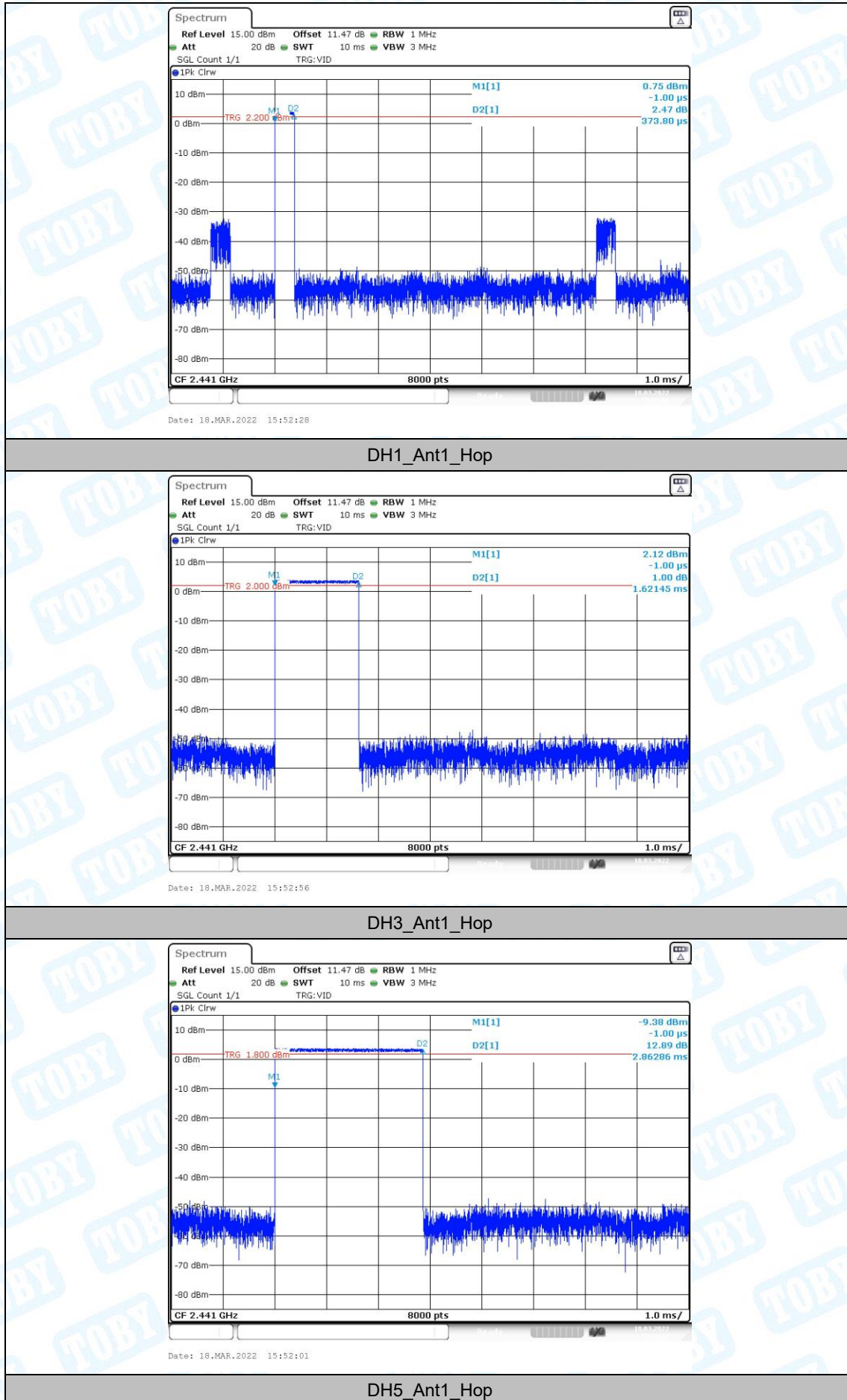


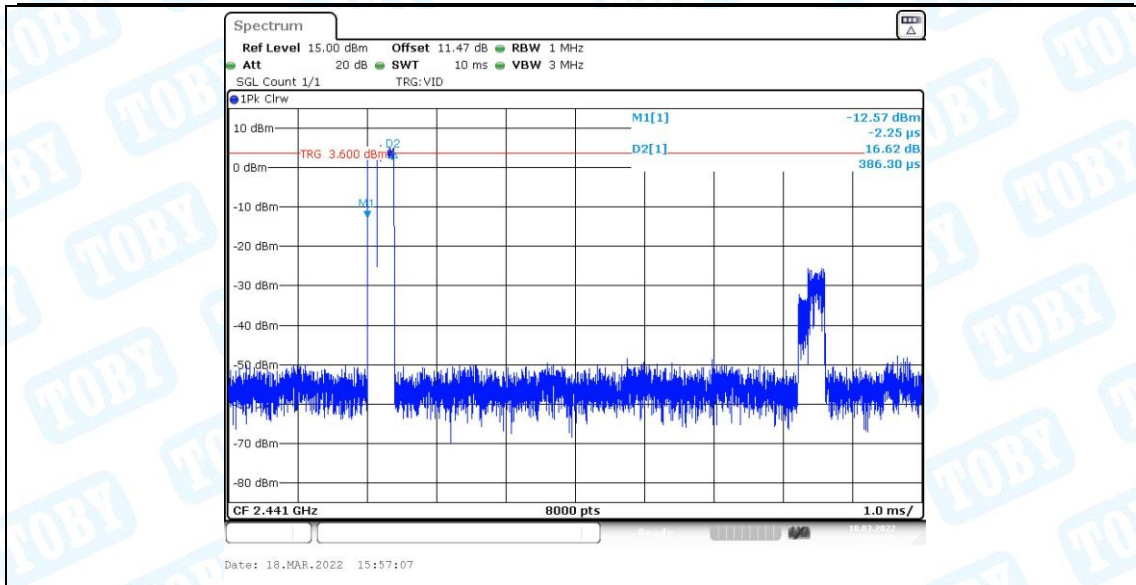
5. Time of occupancy

5.1. Test Result

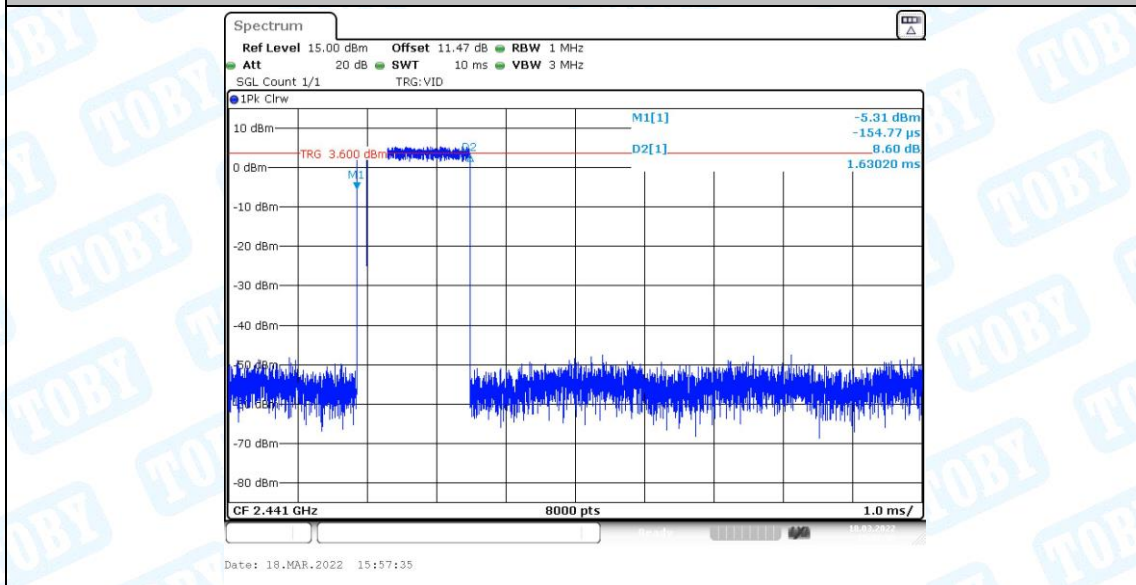
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.37	320	0.12	≤0.4	PASS
DH3	Ant1	Hop	1.62	160	0.259	≤0.4	PASS
DH5	Ant1	Hop	2.86	106.67	0.305	≤0.4	PASS
2DH1	Ant1	Hop	0.39	320	0.124	≤0.4	PASS
2DH3	Ant1	Hop	1.63	160	0.261	≤0.4	PASS
2DH5	Ant1	Hop	2.87	106.67	0.306	≤0.4	PASS
3DH1	Ant1	Hop	0.39	320	0.123	≤0.4	PASS
3DH3	Ant1	Hop	1.63	160	0.261	≤0.4	PASS
3DH5	Ant1	Hop	2.87	106.67	0.306	≤0.4	PASS

5.2. Test Graphs

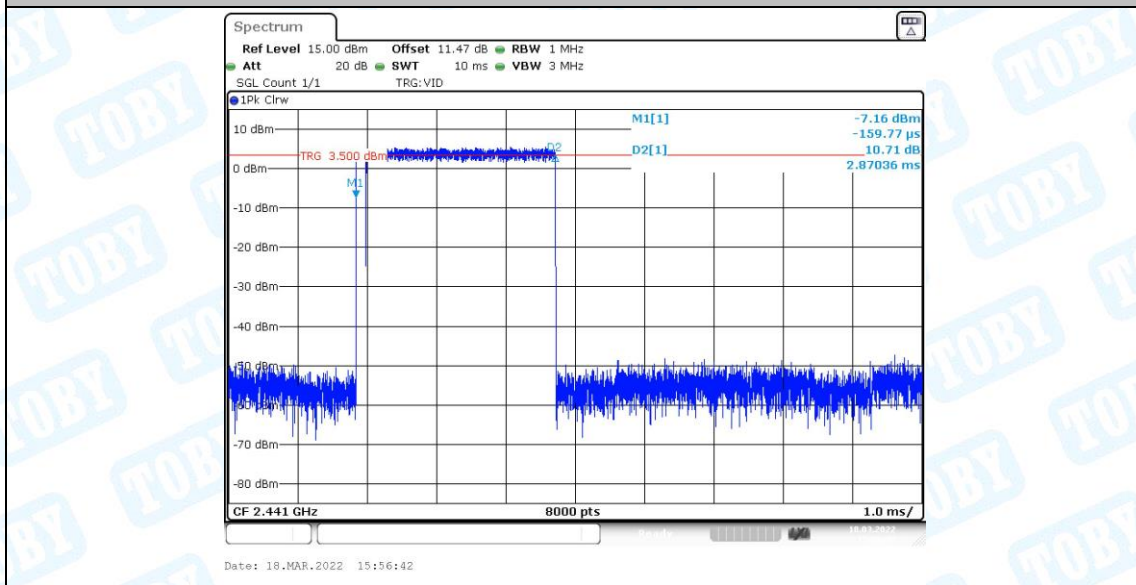




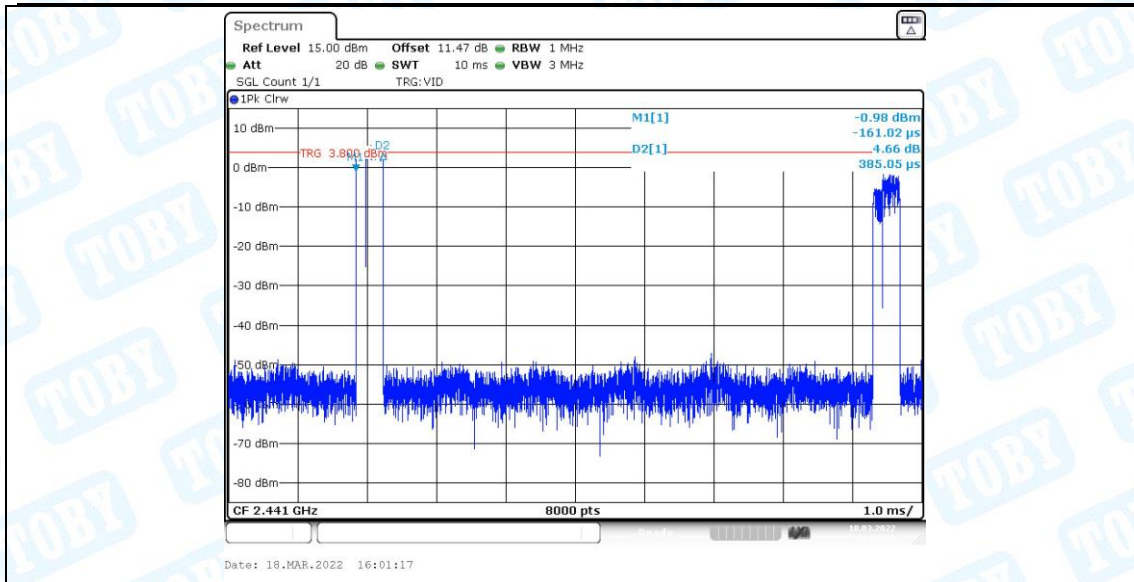
2DH1_Ant1_Hop



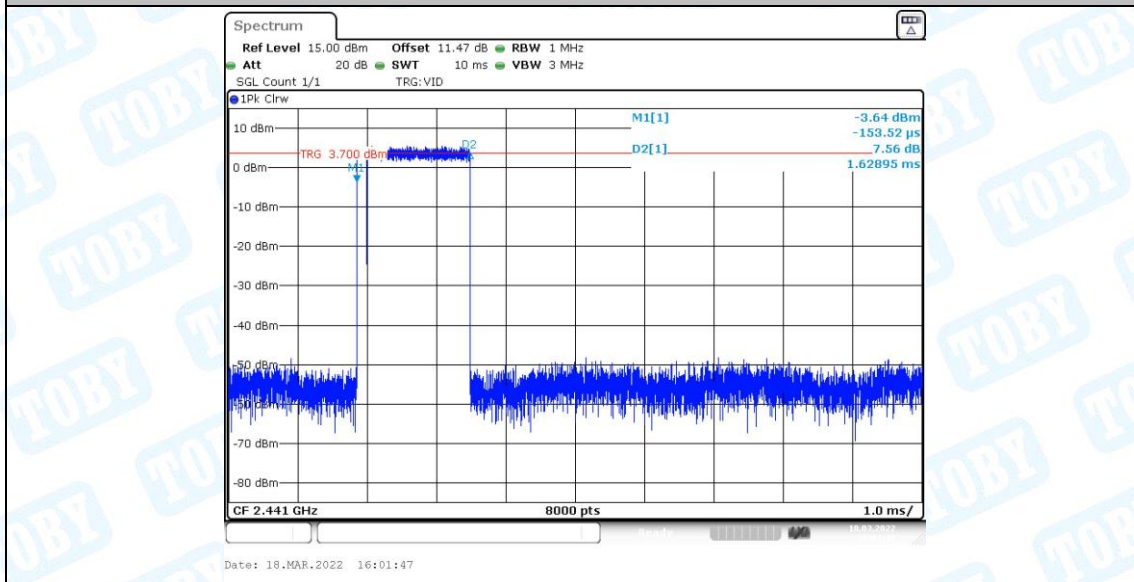
2DH3_Ant1_Hop



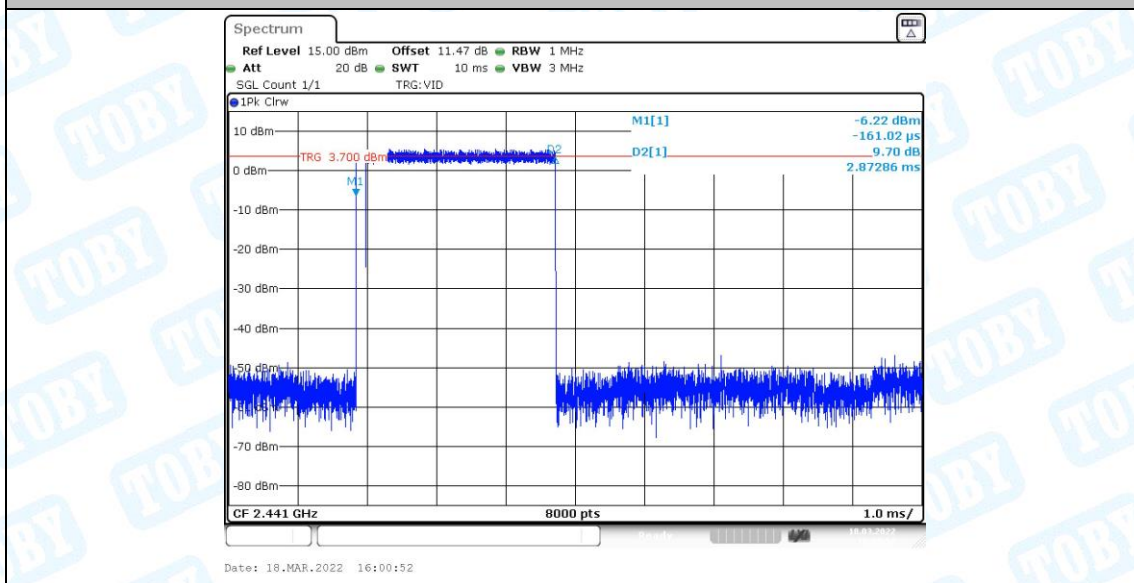
2DH5_Ant1_Hop



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

