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

General Description of EUT	
Product Name:	**wireless headphone**
Test Model:	**SE02**
Sample ID:	**202202-0199_01-02**
Environmental Conditions	
Temperature:	**25℃**
Relative Humidity:	**55%**
Test Voltage:	**DC 3.7V**
Test Engineer:	**Huangjianping**
Note: For a more detailed features description, please refer to the report TBR-C-202202-0199-1	

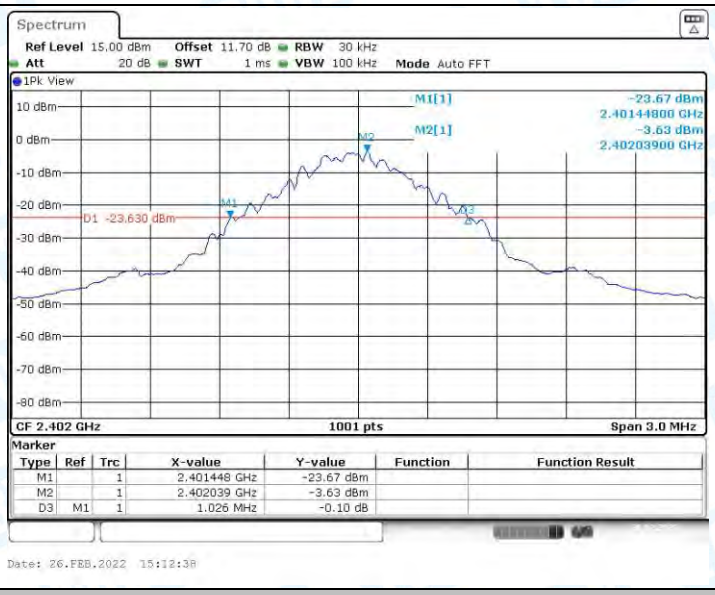
Contents

1. 20dB Emission Bandwidth

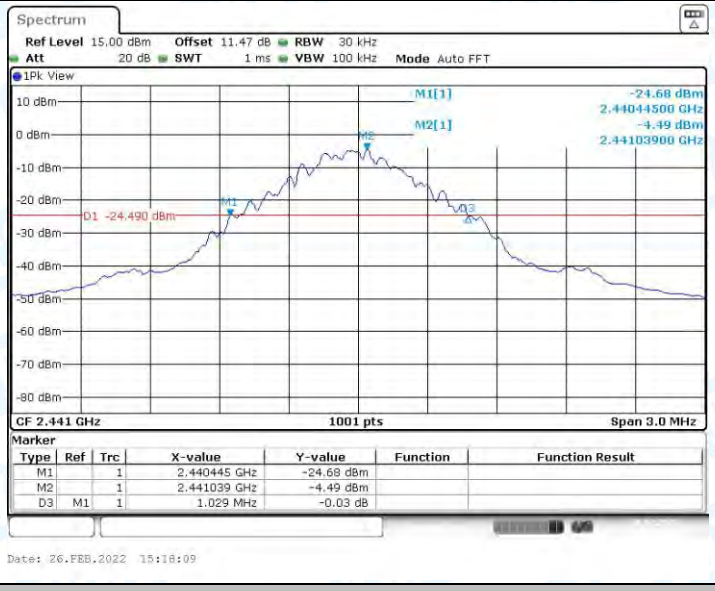
1.1.Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.03	---	---
		2441	1.03	---	---
		2480	1.03	---	---
2DH5	Ant1	2402	1.36	---	---
		2441	1.36	---	---
		2480	1.36	---	---
3DH5	Ant1	2402	1.35	---	---
		2441	1.35	---	---
		2480	1.35	---	---

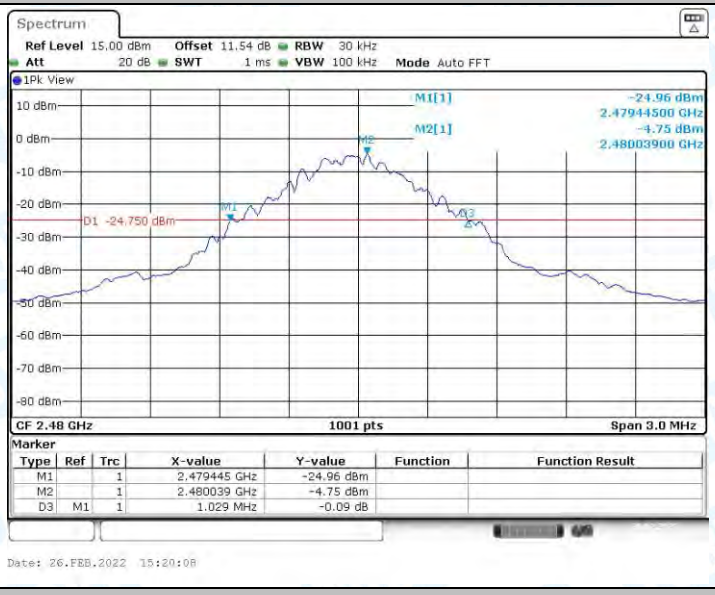
1.2.Test Graphs



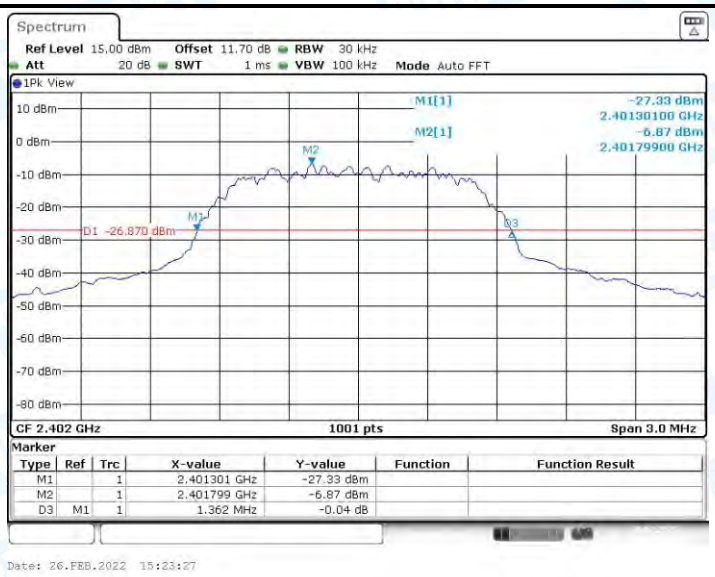
DH5_Ant1_2402



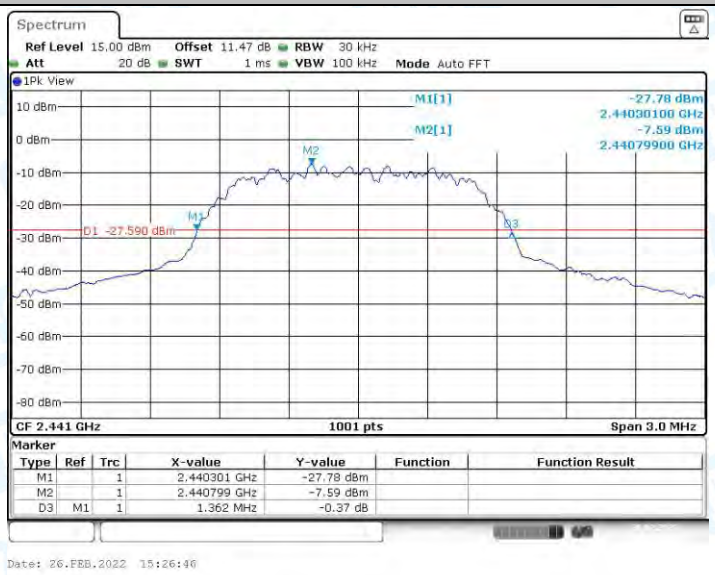
DH5_Ant1_2441



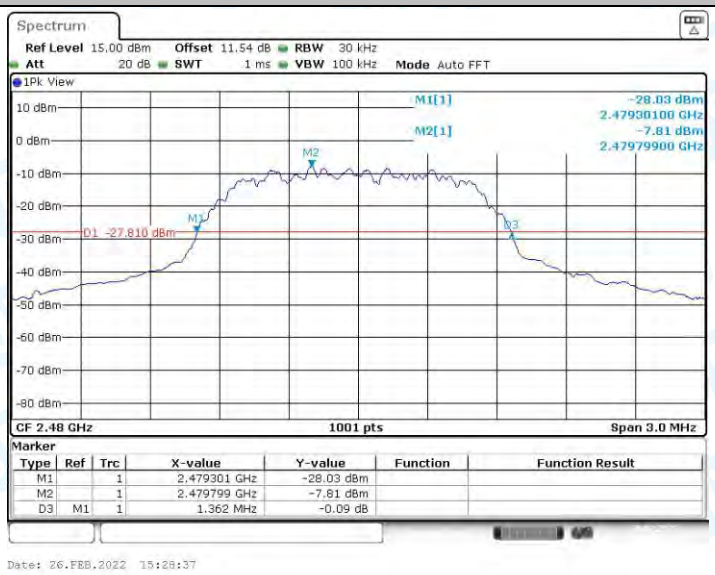
DH5_Ant1_2480



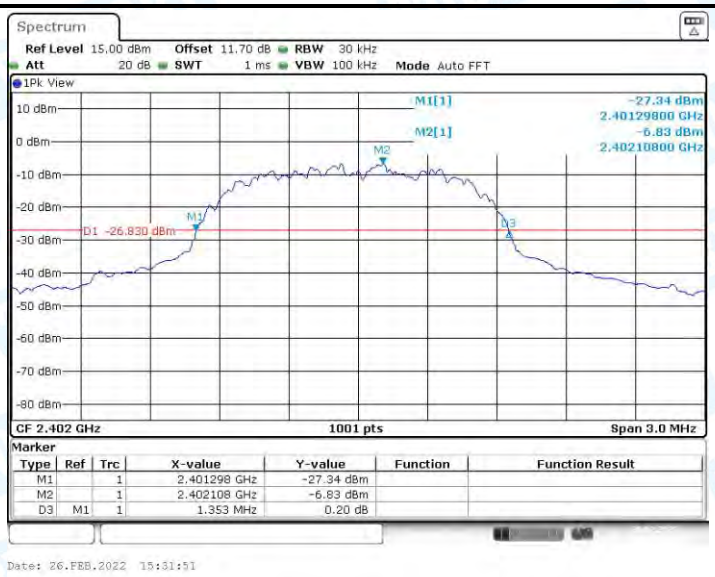
2DH5_Ant1_2402



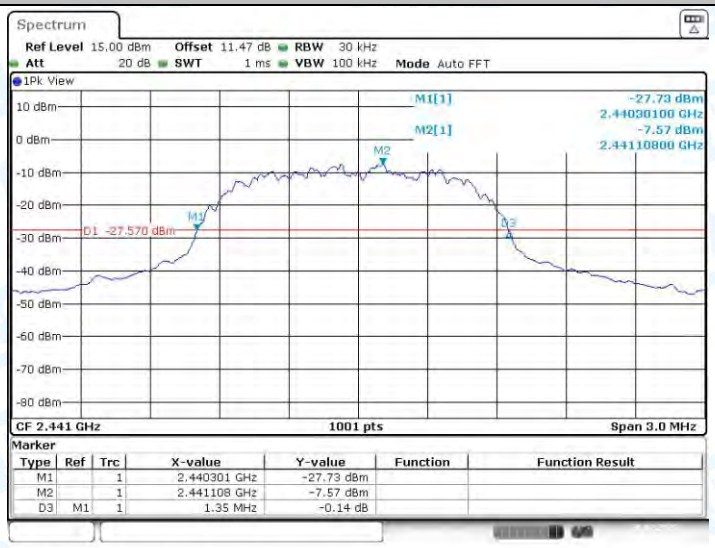
2DH5_Ant1_2441



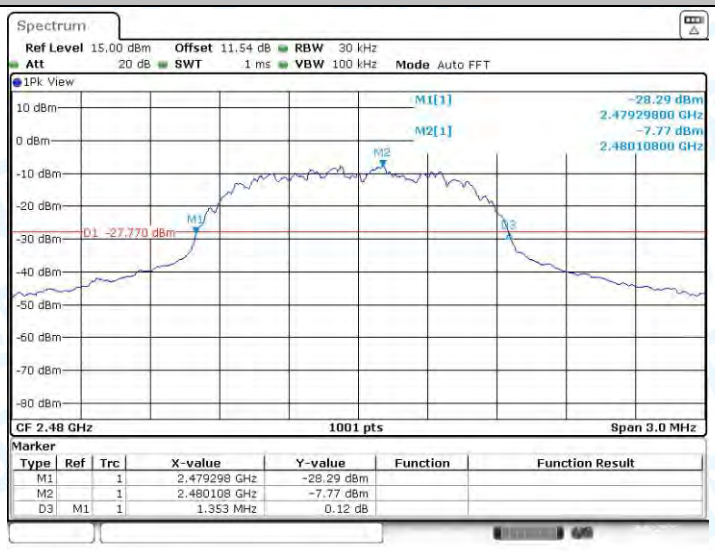
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



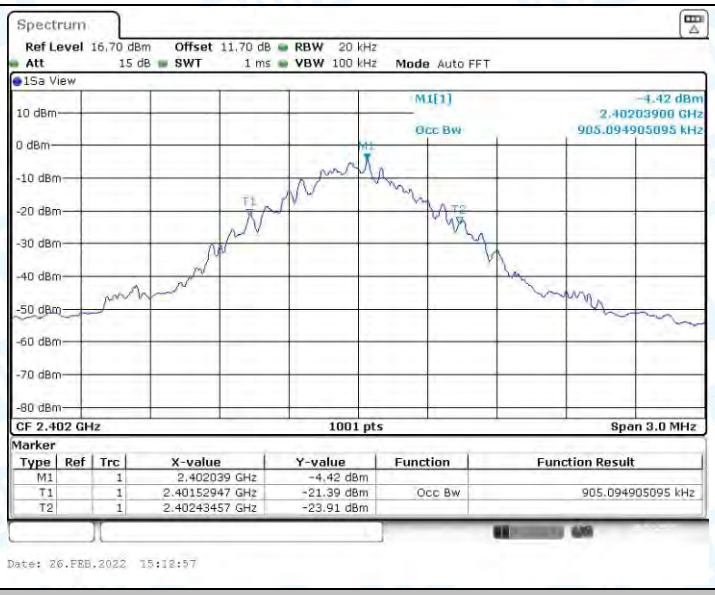
3DH5_Ant1_2480

2. Occupied Channel Bandwidth

2.1.Test Result

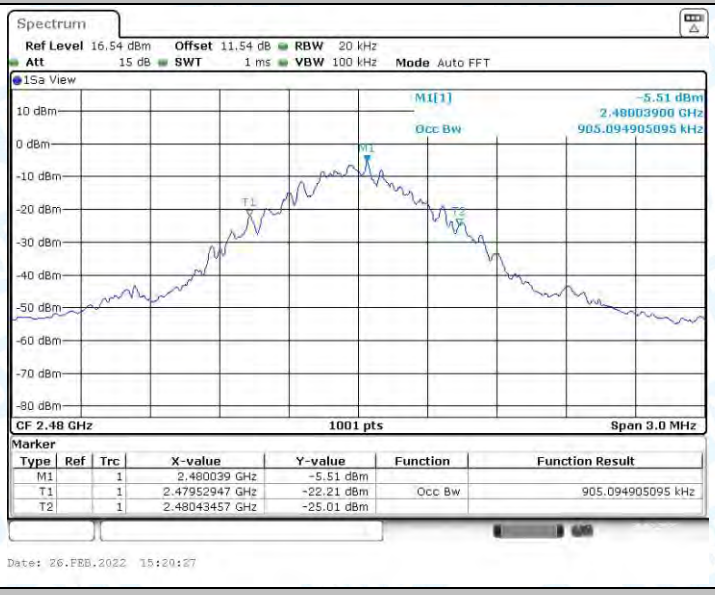
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.905	2401.529	2402.435	---	---
		2441	0.905	2440.529	2441.435	---	---
		2480	0.905	2479.529	2480.435	---	---
2DH5	Ant1	2402	1.196	2401.383	2402.578	---	---
		2441	1.199	2440.380	2441.578	---	---
		2480	1.196	2479.383	2480.578	---	---
3DH5	Ant1	2402	1.205	2401.371	2402.575	---	---
		2441	1.202	2440.374	2441.575	---	---
		2480	1.202	2479.374	2480.575	---	---

2.2.Test Graphs

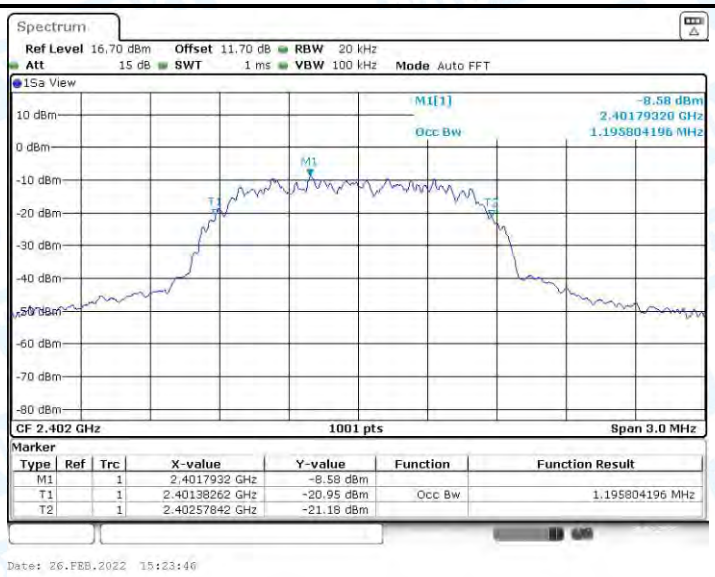


DH5_Ant1_2402

DH5_Ant1_2441

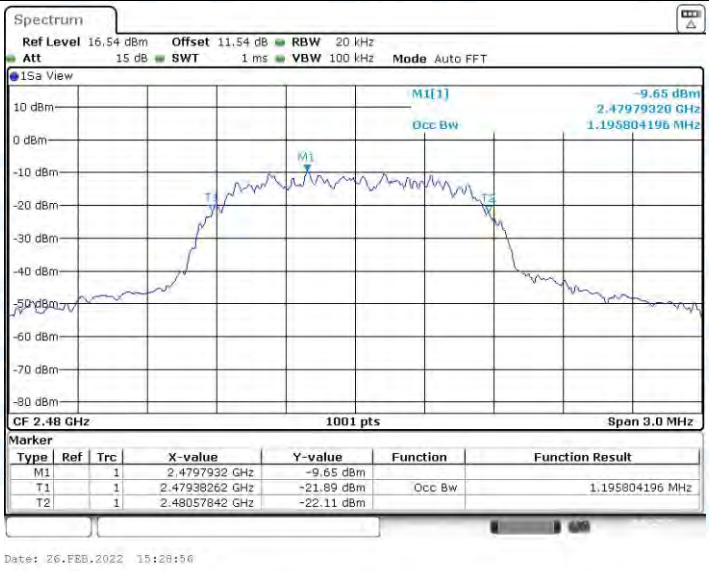


DH5_Ant1_2480

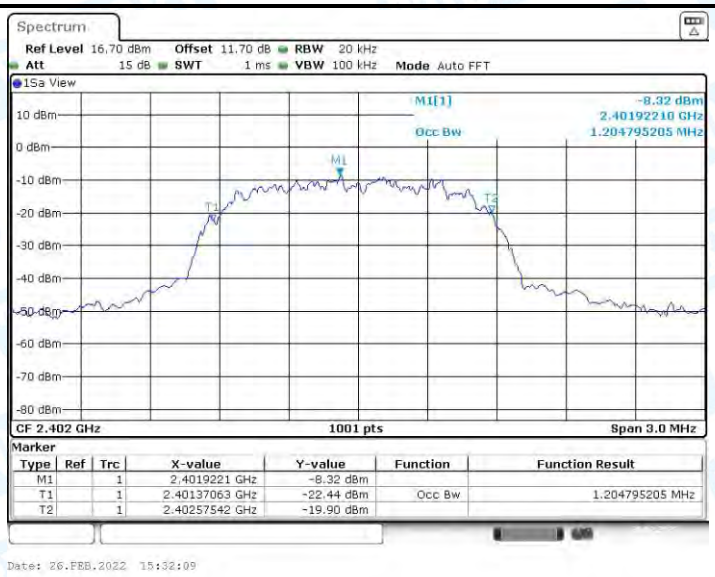


2DH5_Ant1_2402

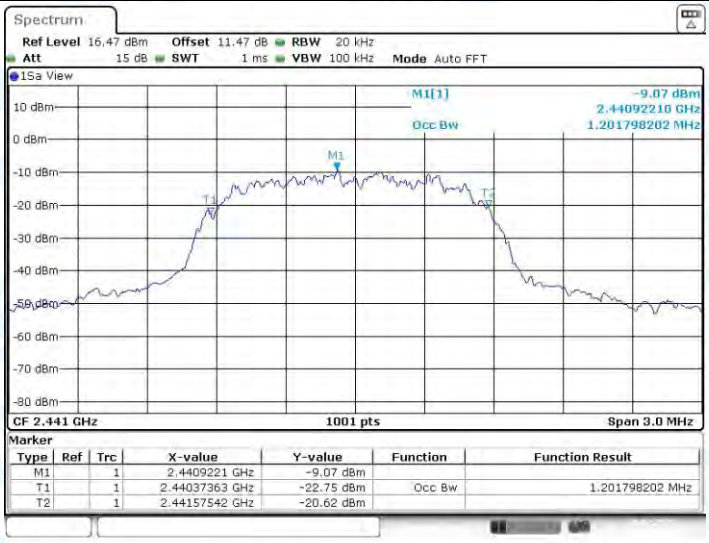
2DH5_Ant1_2441



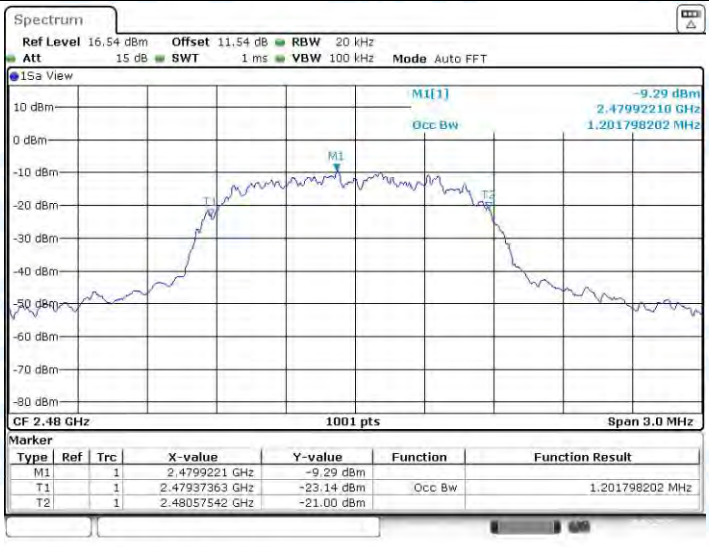
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



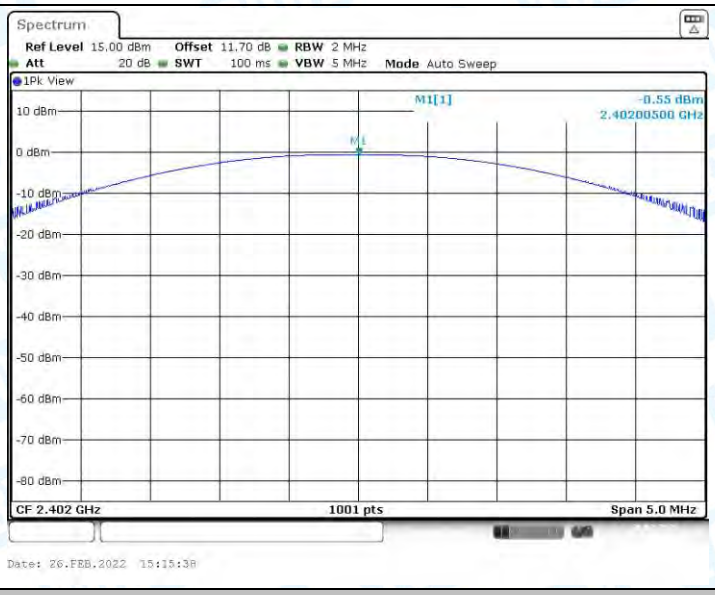
3DH5_Ant1_2480

3. Maximum conducted output power

3.1.Test Result

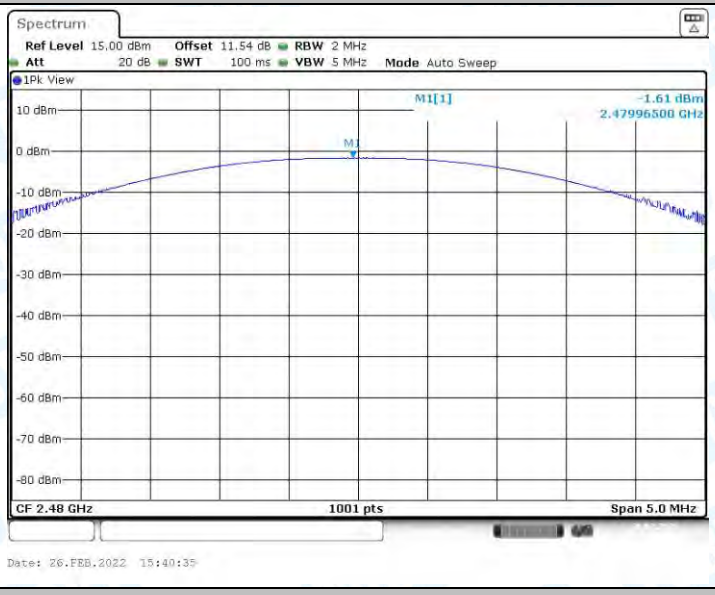
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-0.55	≤20.97	PASS
		2441	-1.33	≤20.97	PASS
		2480	-1.61	≤20.97	PASS
2DH5	Ant1	2402	1.46	≤20.97	PASS
		2441	0.73	≤20.97	PASS
		2480	0.47	≤20.97	PASS
3DH5	Ant1	2402	2	≤20.97	PASS
		2441	1.2	≤20.97	PASS
		2480	0.99	≤20.97	PASS

3.2.Test Graphs

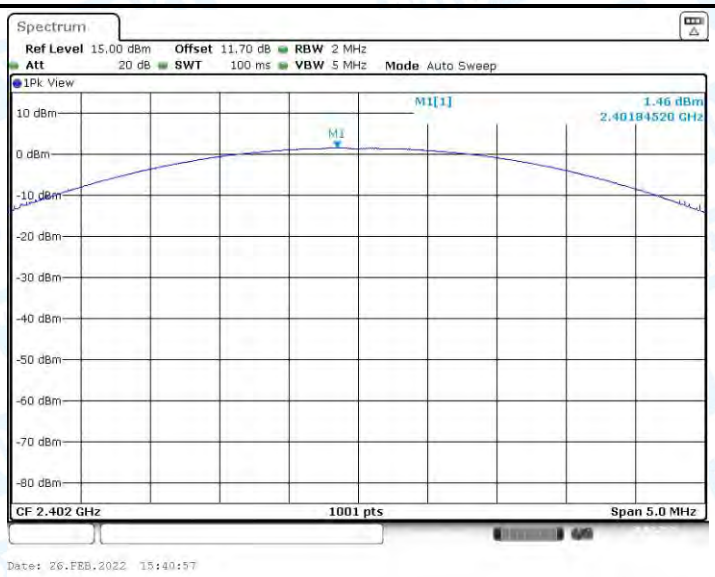


DH5_Ant1_2402

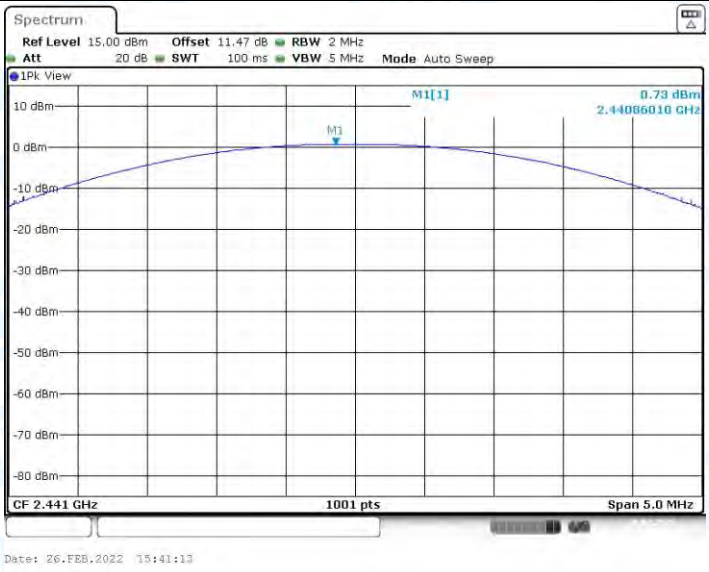
DH5_Ant1_2441



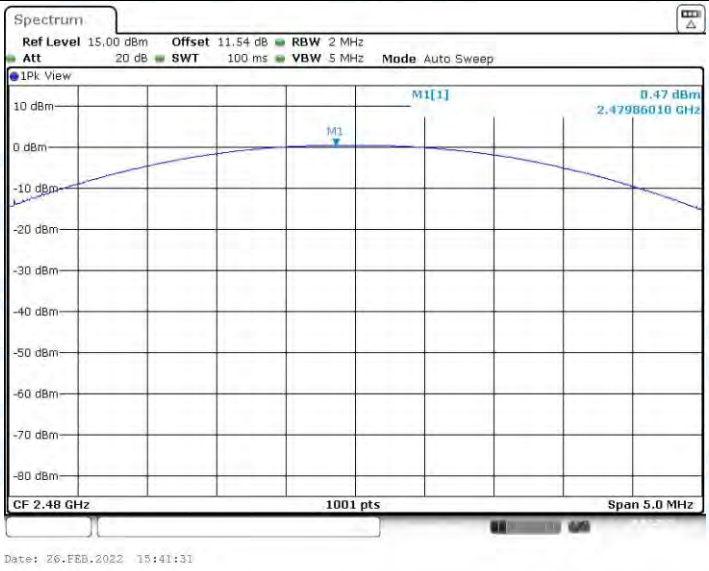
DH5_Ant1_2480



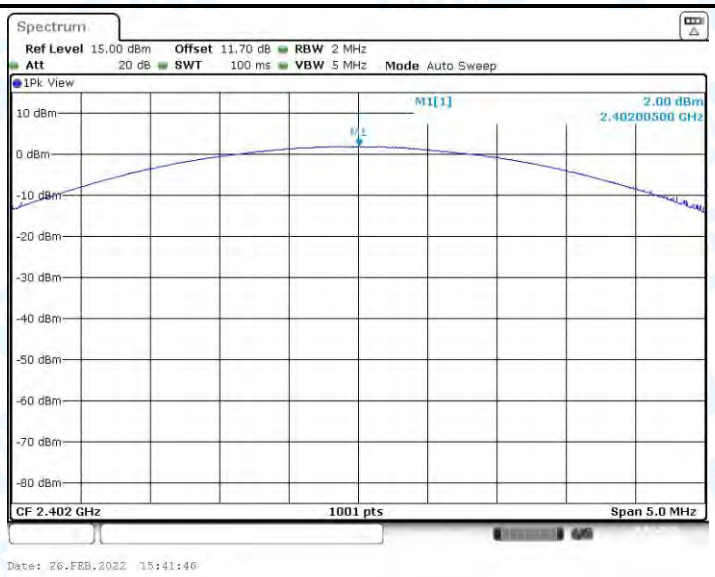
2DH5_Ant1_2402



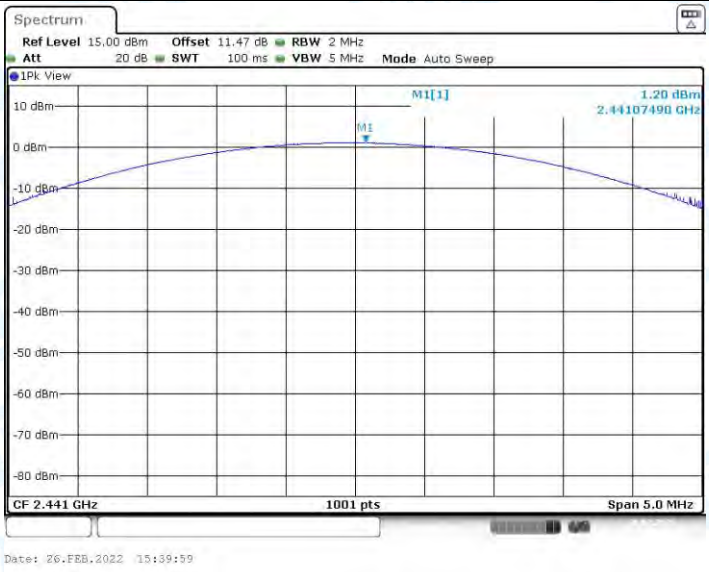
2DH5_Ant1_2441



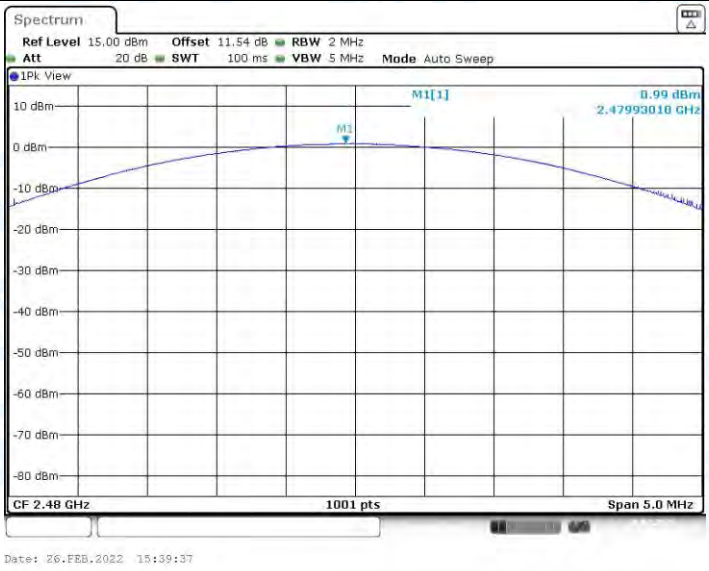
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



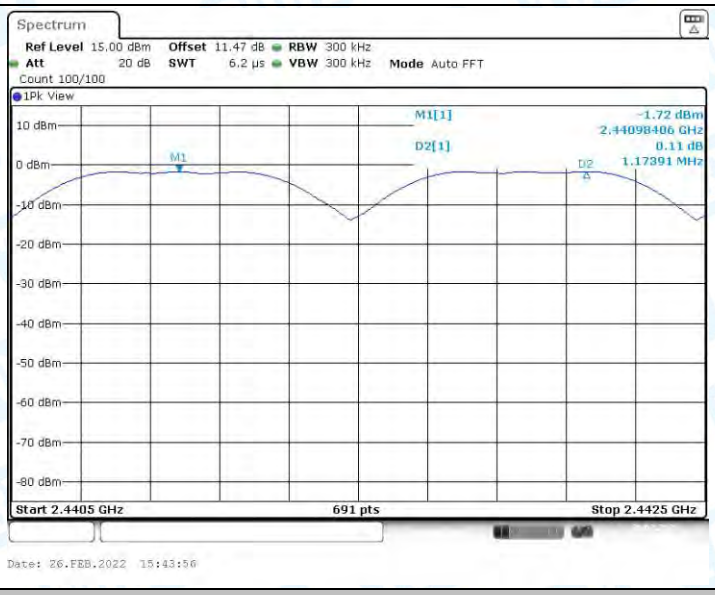
3DH5_Ant1_2480

4. Carrier frequency separation

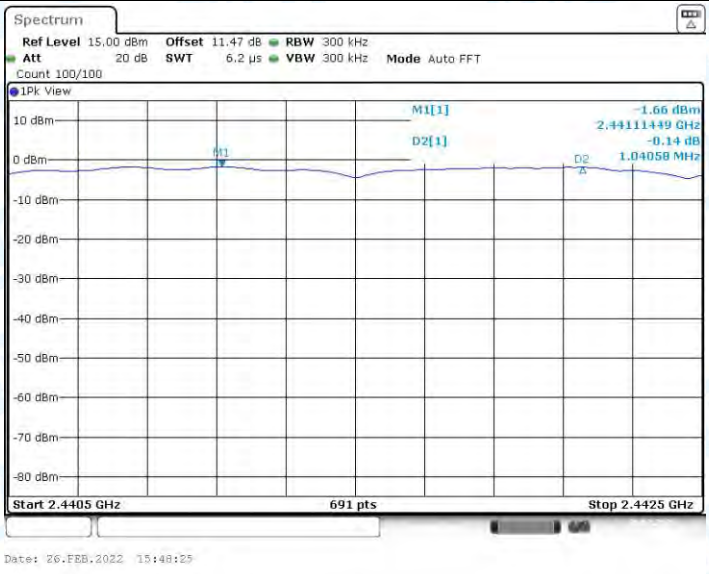
4.1.Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.174	≥1.030	PASS
2DH5	Ant1	Hop	1.041	≥0.907	PASS
3DH5	Ant1	Hop	1.162	≥0.900	PASS

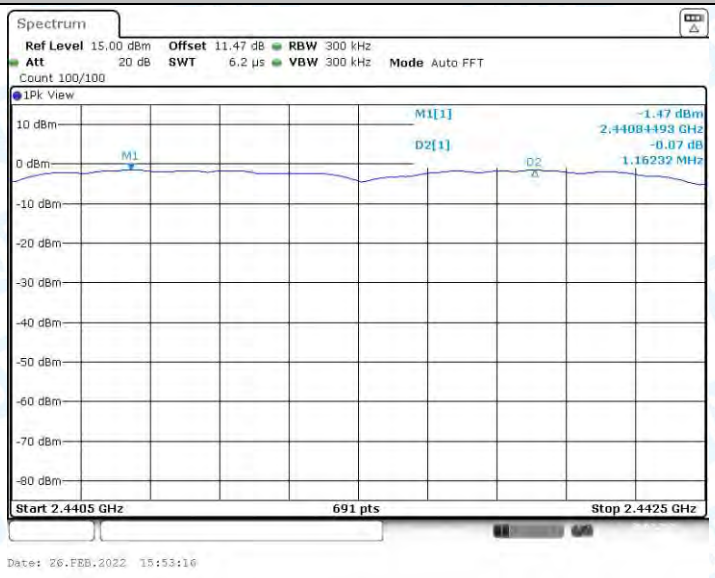
4.2.Test Graphs



DH5_Ant1_Hop



2DH5_Ant1_Hop



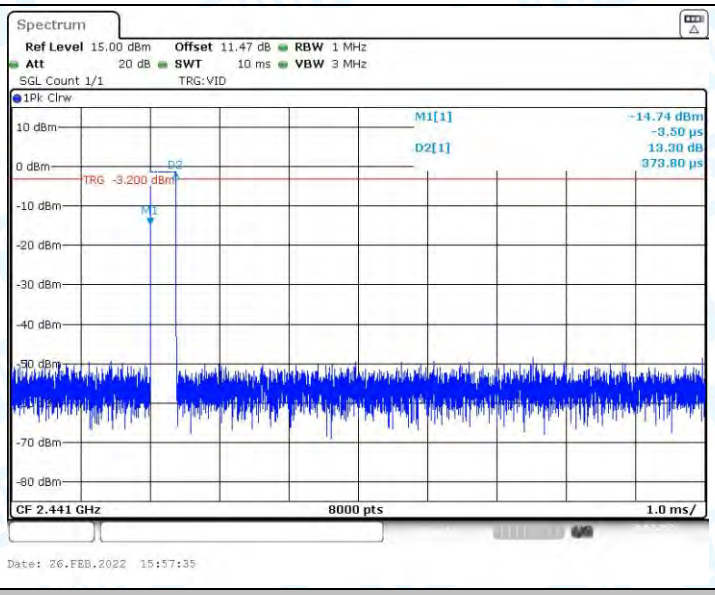
3DH5_Ant1_Hop

5. Time of occupancy

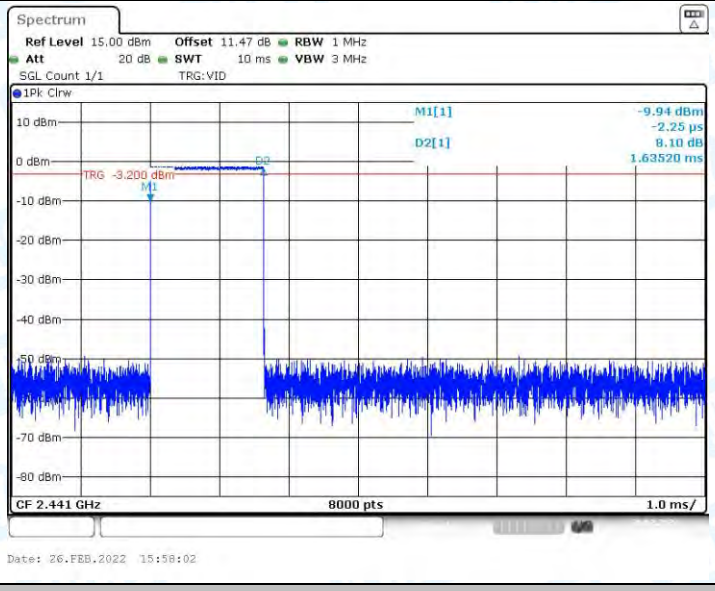
5.1.Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.37	320	0.12	≤0.4	PASS
DH3	Ant1	Hop	1.64	160	0.262	≤0.4	PASS
DH5	Ant1	Hop	2.90	106.67	0.309	≤0.4	PASS
2DH1	Ant1	Hop	0.37	320	0.119	≤0.4	PASS
2DH3	Ant1	Hop	1.64	160	0.262	≤0.4	PASS
2DH5	Ant1	Hop	2.90	106.67	0.309	≤0.4	PASS
3DH1	Ant1	Hop	0.37	320	0.119	≤0.4	PASS
3DH3	Ant1	Hop	1.64	160	0.262	≤0.4	PASS
3DH5	Ant1	Hop	2.90	106.67	0.309	≤0.4	PASS

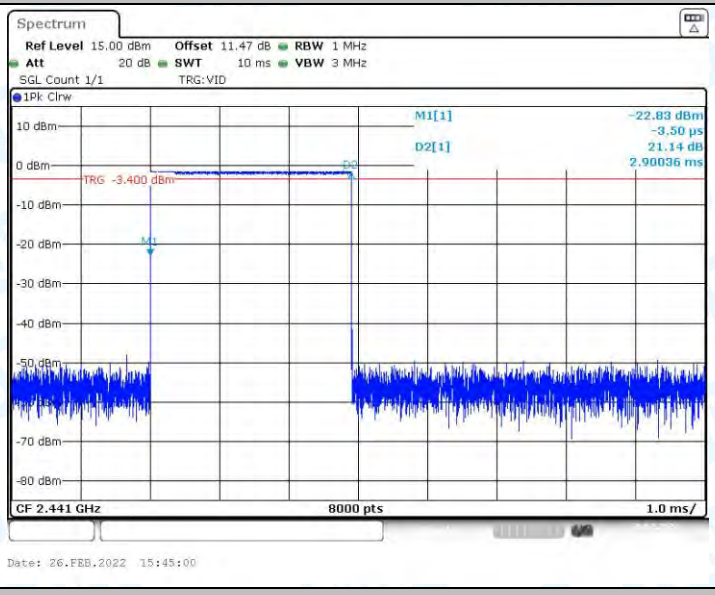
5.2.Test Graphs



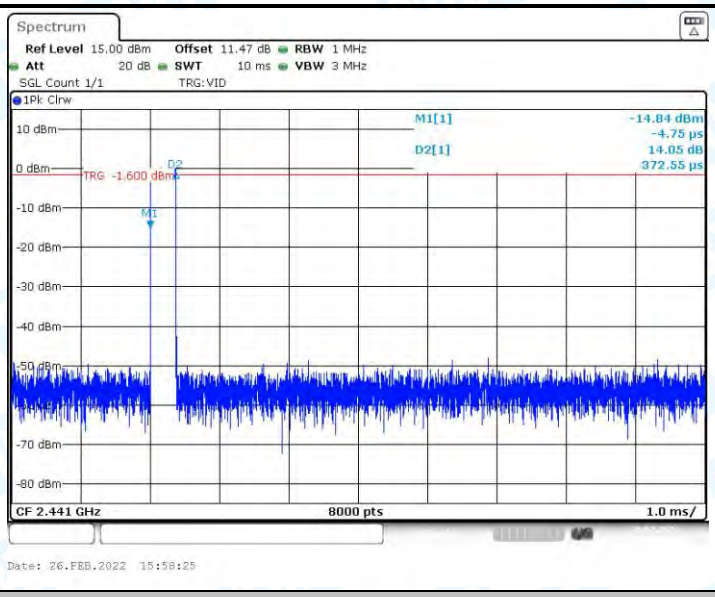
DH1_Ant1_Hop



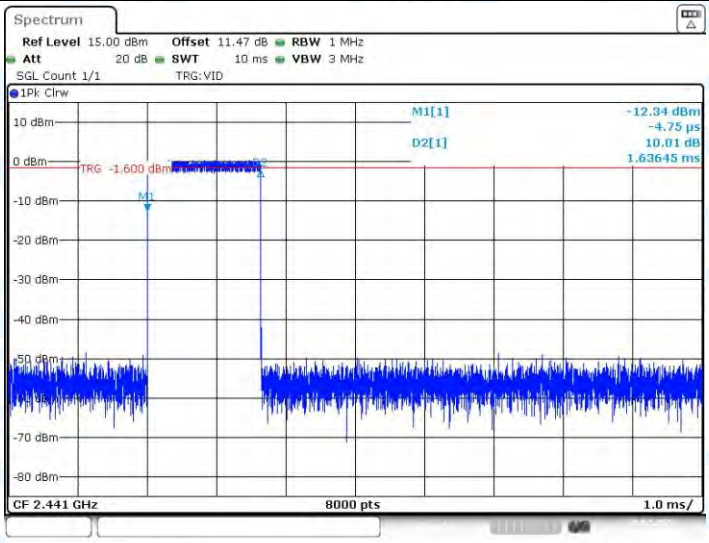
DH3_Ant1_Hop



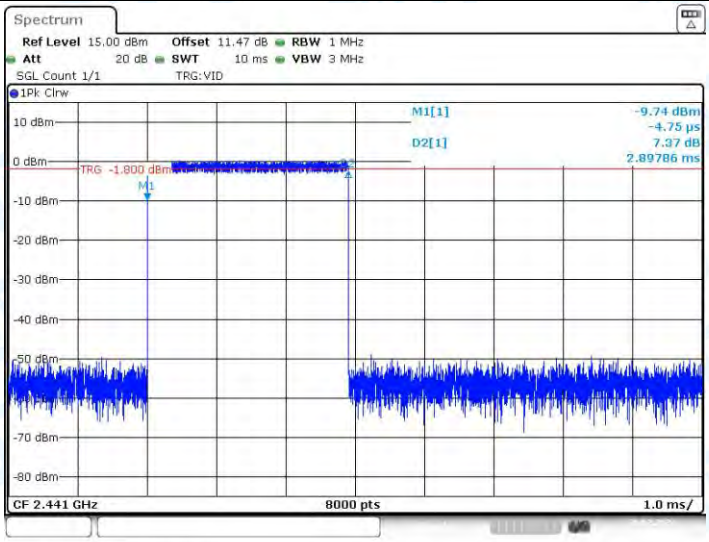
DH5_Ant1_Hop



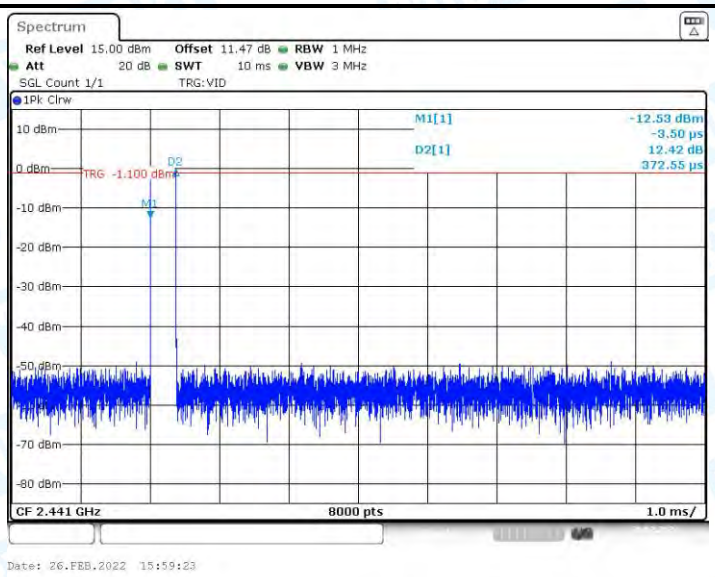
2DH1_Ant1_Hop



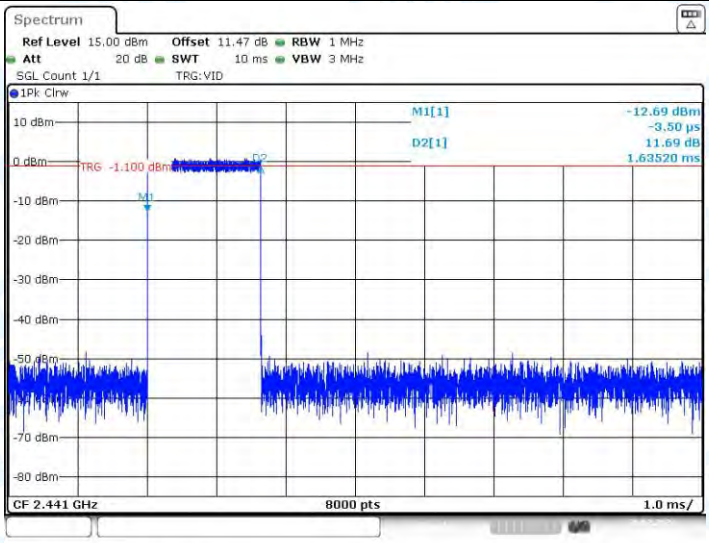
2DH3_Ant1_Hop



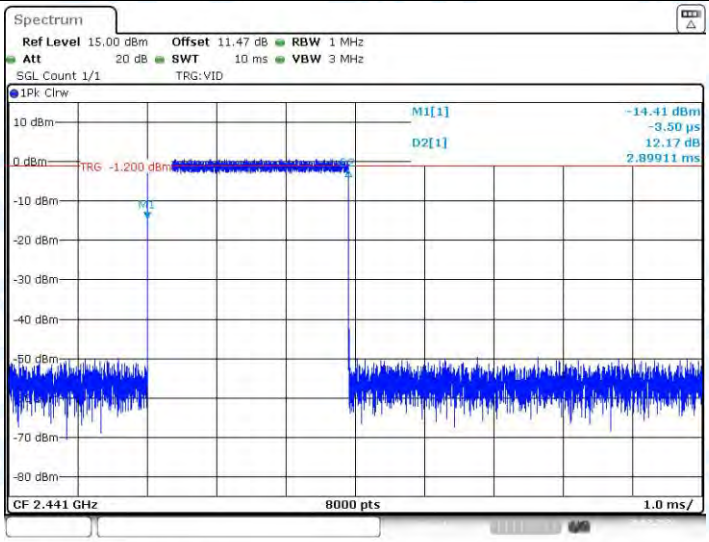
2DH5_Ant1_Hop



3DH1_Ant1_Hop



3DH3_Ant1_Hop



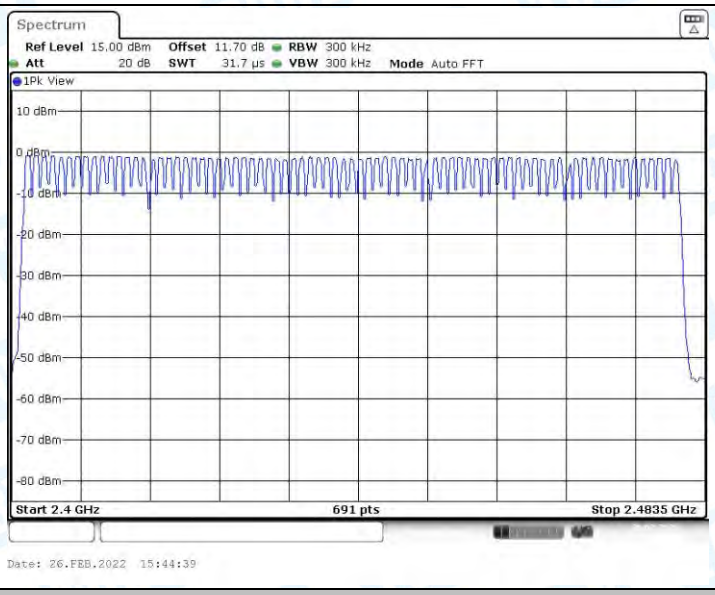
3DH5_Ant1_Hop

6. Number of hopping channels

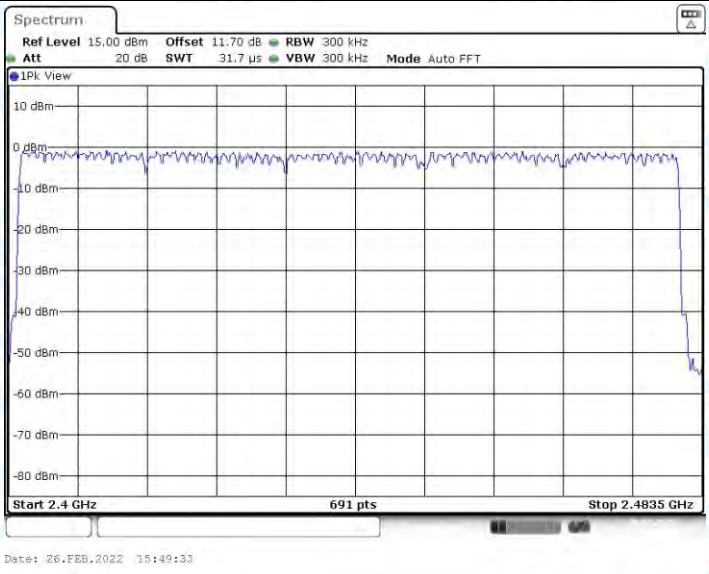
6.1.Test Result

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

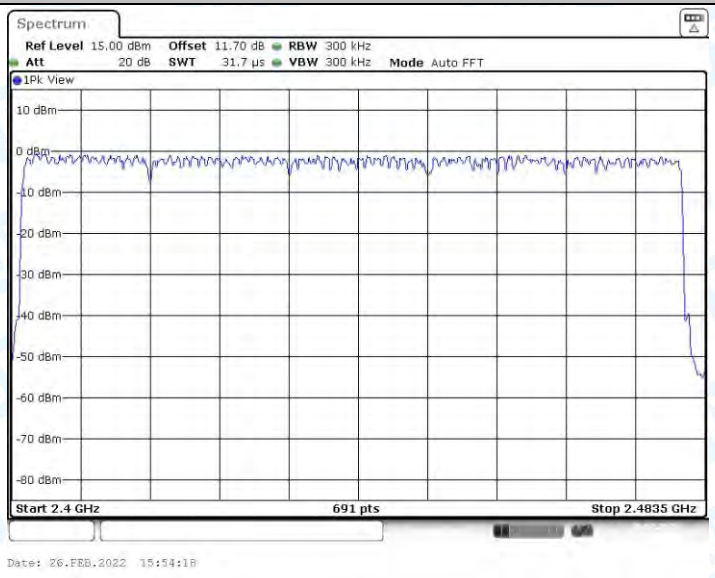
6.2.Test Graphs



DH5_Ant1_Hop



2DH5_Ant1_Hop



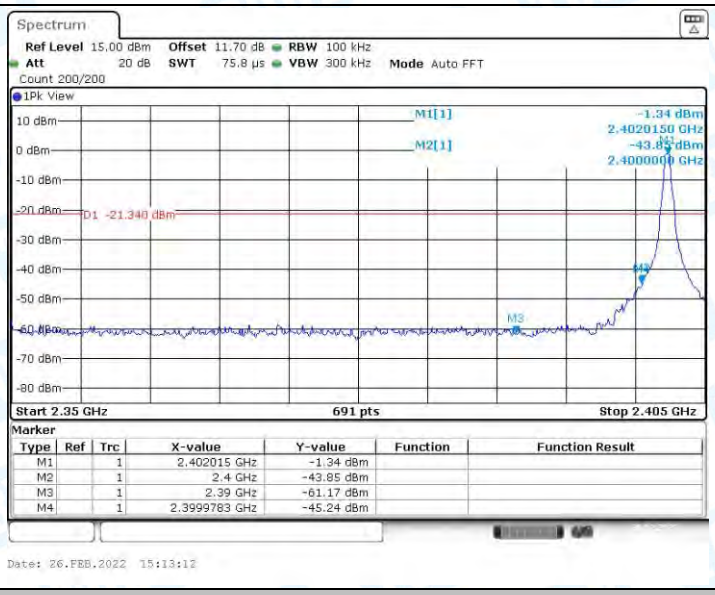
3DH5_Ant1_Hop

7.Band edge measurements

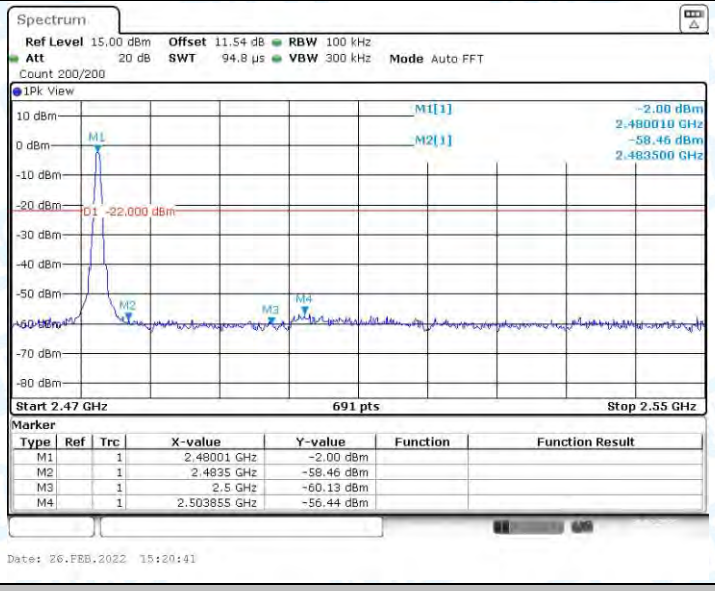
7.1.Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-1.34	-45.24	≤-21.34	PASS
		High	2480	-2.00	-56.44	≤-22	PASS
		Low	Hop_2402	-1.69	-58.56	≤-21.69	PASS
		High	Hop_2480	-1.94	-55.91	≤-21.94	PASS
2DH5	Ant1	Low	2402	-2.50	-48.69	≤-22.5	PASS
		High	2480	-4.14	-56.96	≤-24.14	PASS
		Low	Hop_2402	-4.31	-58.59	≤-24.31	PASS
		High	Hop_2480	-3.80	-57.49	≤-23.8	PASS
3DH5	Ant1	Low	2402	-2.62	-42.58	≤-22.62	PASS
		High	2480	-3.55	-56.83	≤-23.55	PASS
		Low	Hop_2402	-3.46	-57.91	≤-23.46	PASS
		High	Hop_2480	-4.06	-57.01	≤-24.06	PASS

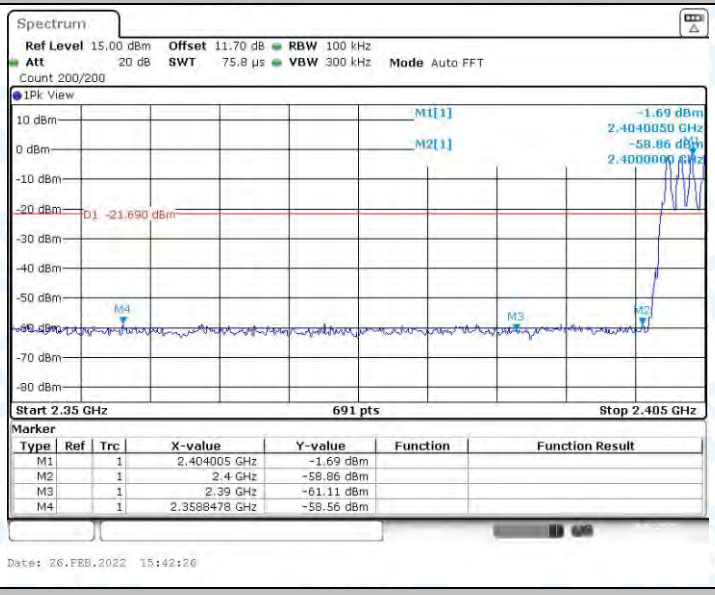
7.2.Test Graphs



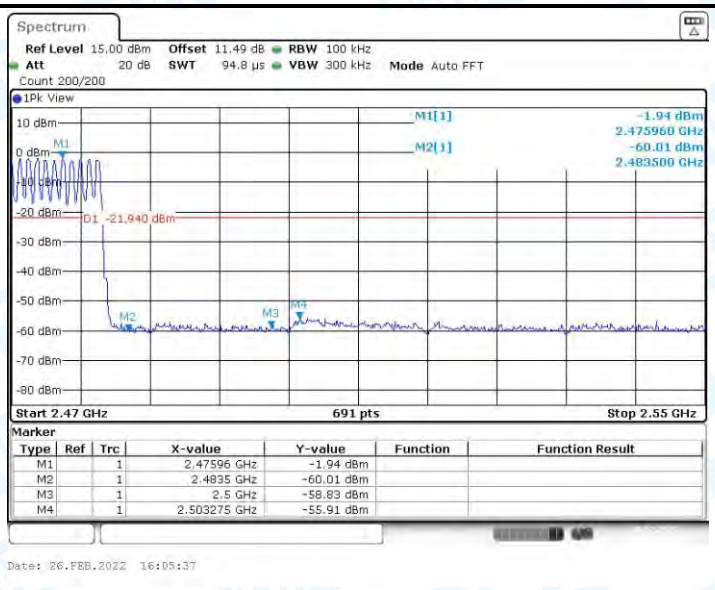
DH5_Ant1_Low_2402



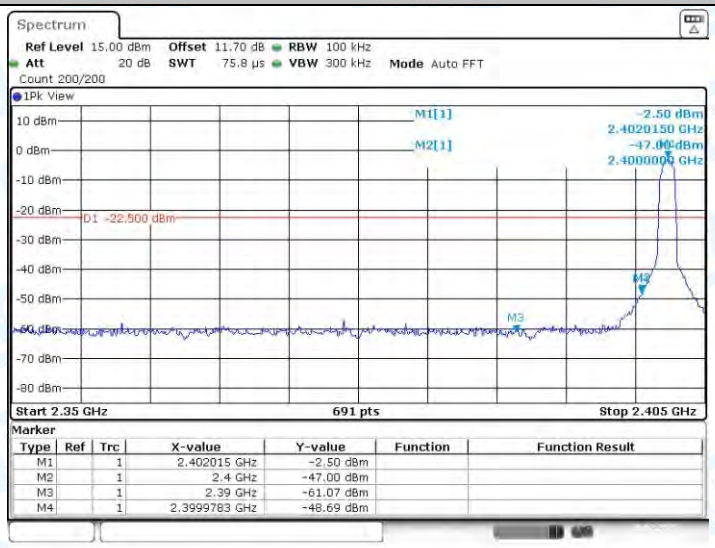
DH5_Ant1_High_2480



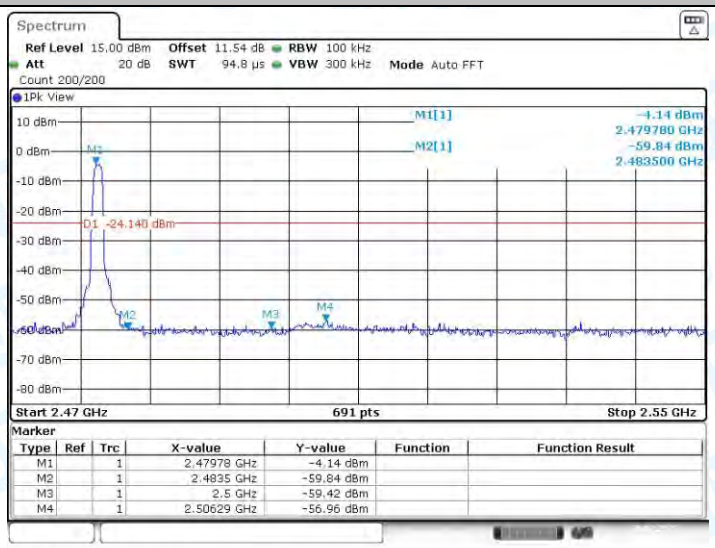
DH5_Ant1_Low_Hop_2402



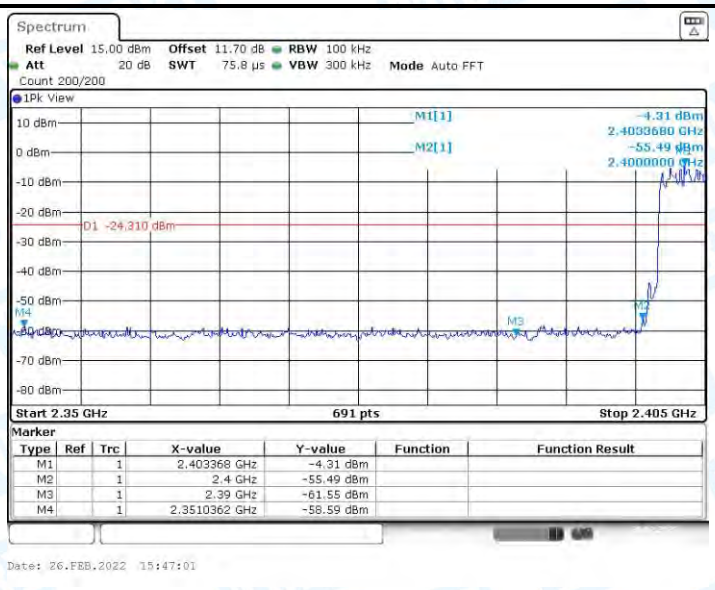
DH5_Ant1_High_Hop_2480



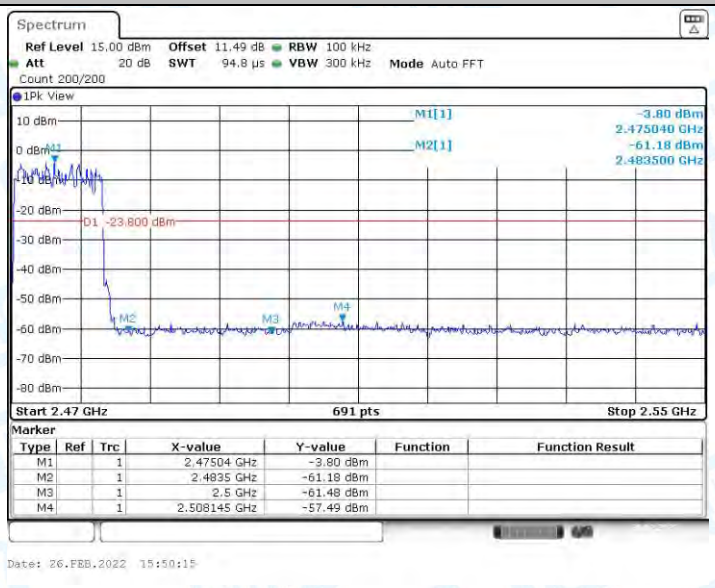
2DH5_Ant1_Low_2402



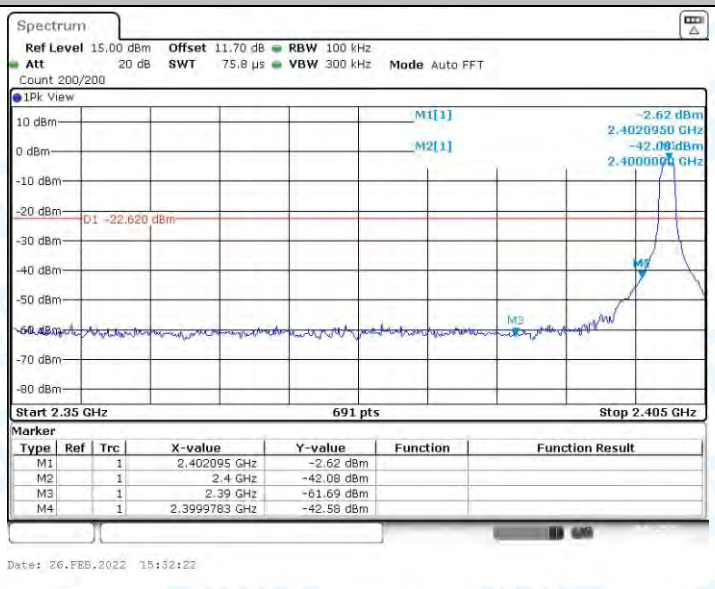
2DH5_Ant1_High_2480



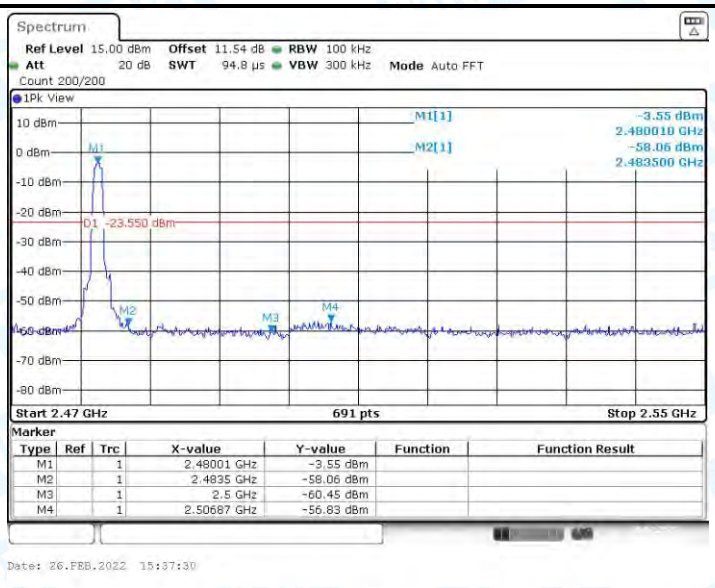
2DH5_Ant1_Low_Hop_2402



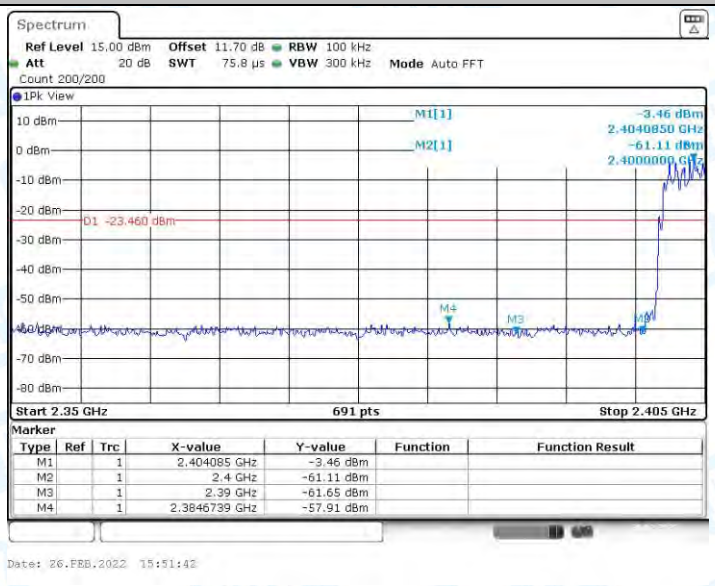
2DH5_Ant1_High_Hop_2480



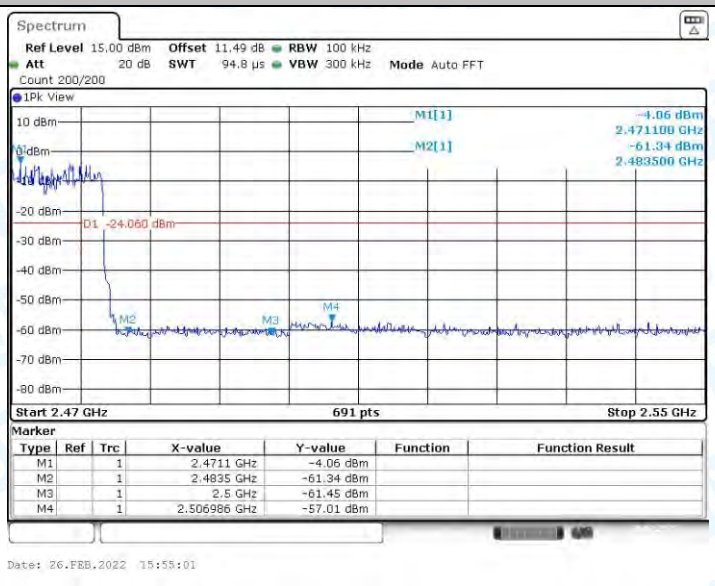
3DH5_Ant1_Low_2402



3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



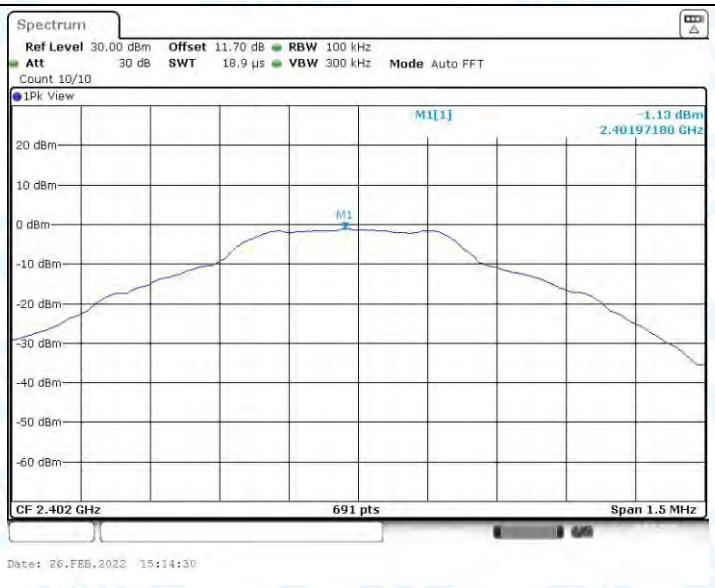
3DH5_Ant1_High_Hop_2480

8. Conducted Spurious Emission

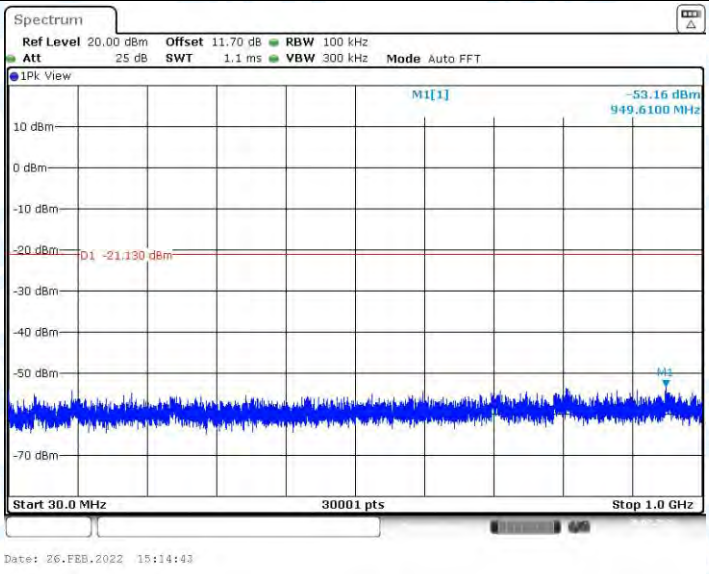
8.1.Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-1.13	-1.13	---	PASS
			30~1000	-1.13	-53.16	≤-21.13	PASS
			1000~26500	-1.13	-46.55	≤-21.13	PASS
		2441	Reference	-1.91	-1.91	---	PASS
			30~1000	-1.91	-53.19	≤-21.91	PASS
			1000~26500	-1.91	-45.78	≤-21.91	PASS
		2480	Reference	-1.97	-1.97	---	PASS
			30~1000	-1.97	-53.08	≤-21.97	PASS
			1000~26500	-1.97	-46.86	≤-21.97	PASS
2DH5	Ant1	2402	Reference	-2.49	-2.49	---	PASS
			30~1000	-2.49	-52.84	≤-22.49	PASS
			1000~26500	-2.49	-46.02	≤-22.49	PASS
		2441	Reference	-3.19	-3.19	---	PASS
			30~1000	-3.19	-53.64	≤-23.19	PASS
			1000~26500	-3.19	-46.64	≤-23.19	PASS
		2480	Reference	-3.41	-3.41	---	PASS
			30~1000	-3.41	-51.79	≤-23.41	PASS
			1000~26500	-3.41	-46.89	≤-23.41	PASS
3DH5	Ant1	2402	Reference	-2.55	-2.55	---	PASS
			30~1000	-2.55	-53.71	≤-22.55	PASS
			1000~26500	-2.55	-46.98	≤-22.55	PASS
		2441	Reference	-3.31	-3.31	---	PASS
			30~1000	-3.31	-53.37	≤-23.31	PASS
			1000~26500	-3.31	-46.2	≤-23.31	PASS
		2480	Reference	-3.63	-3.63	---	PASS
			30~1000	-3.63	-53.22	≤-23.63	PASS
			1000~26500	-3.63	-46.48	≤-23.63	PASS

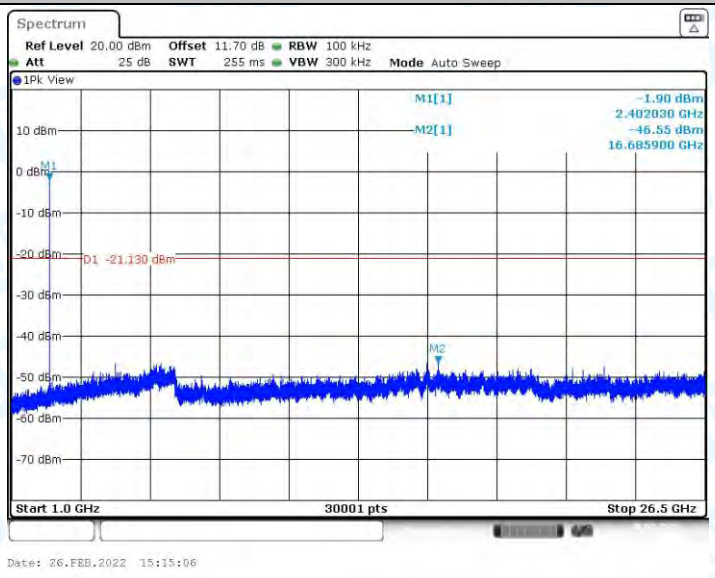
8.2.Test Graphs



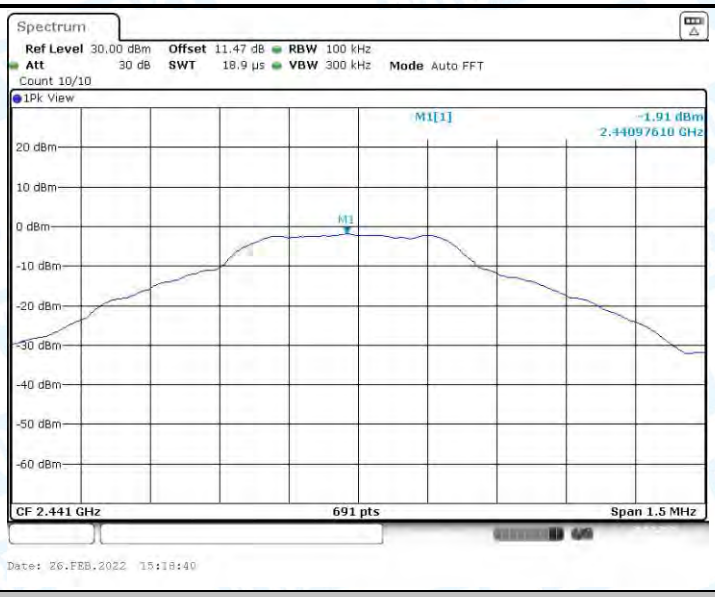
DH5_Ant1_2402_0~Reference



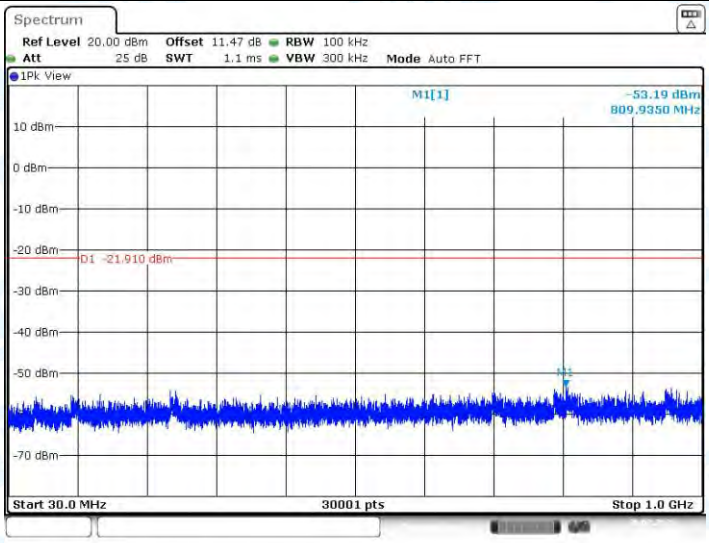
DH5_Ant1_2402_30~1000



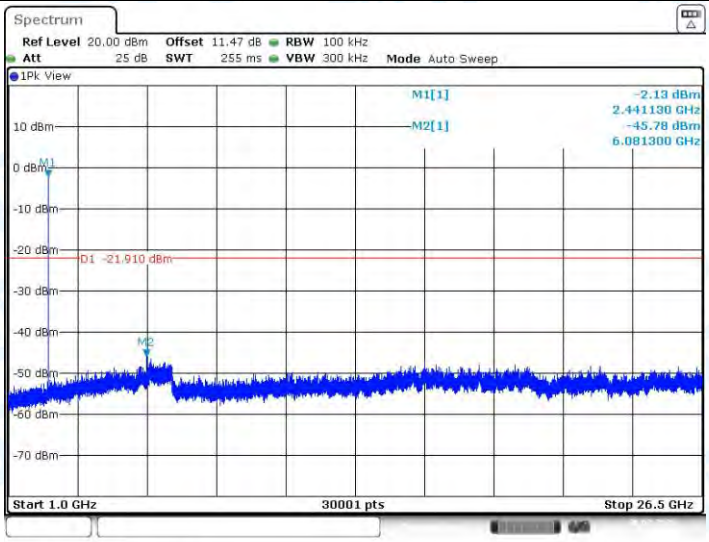
DH5_Ant1_2402_1000~26500



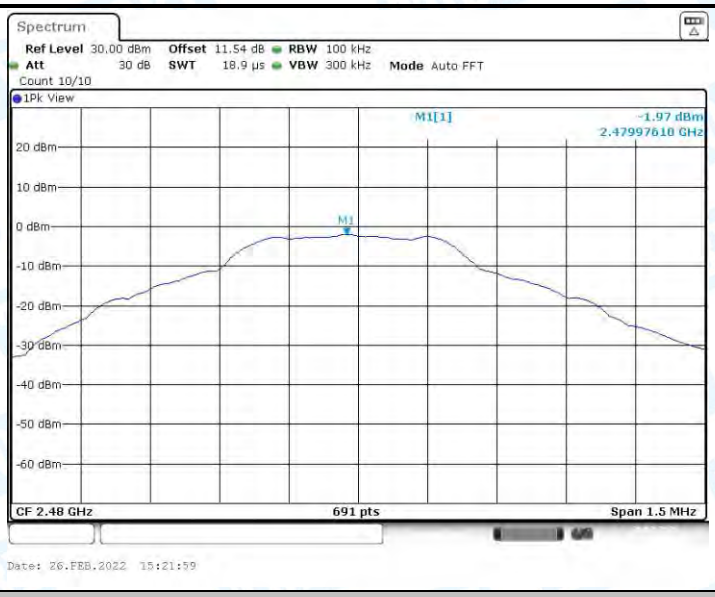
DH5_Ant1_2441_0~Reference



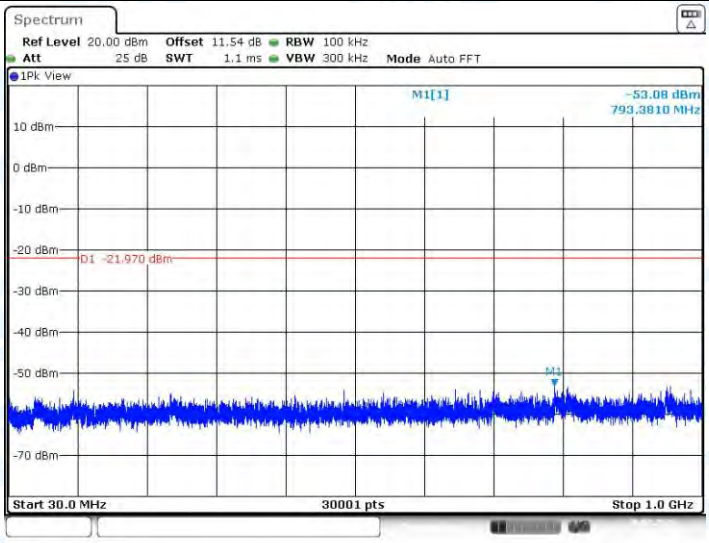
DH5_Ant1_2441_30~1000



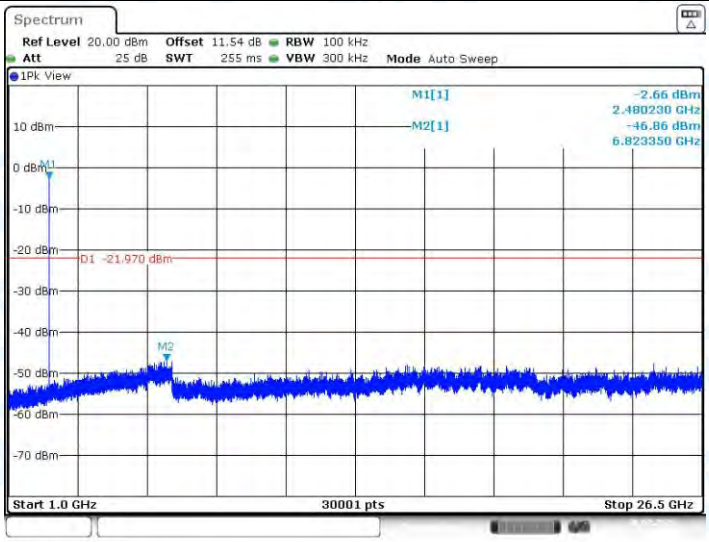
DH5_Ant1_2441_1000~26500



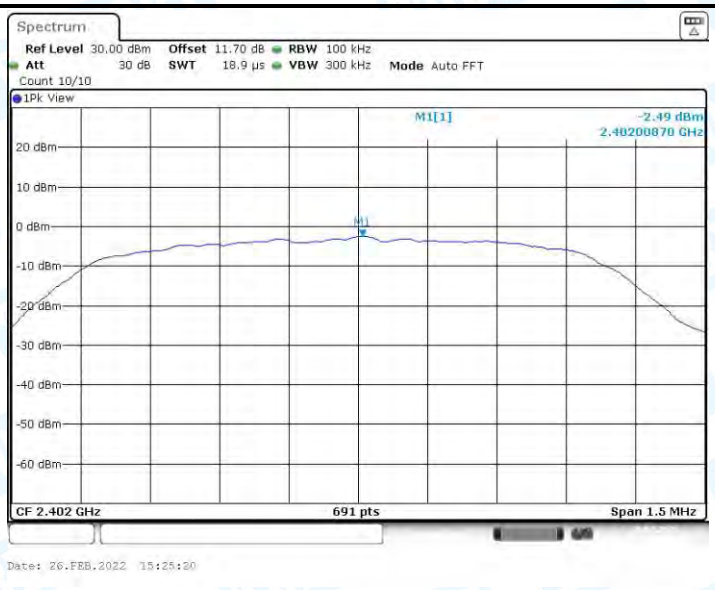
DH5_Ant1_2480_0~Reference



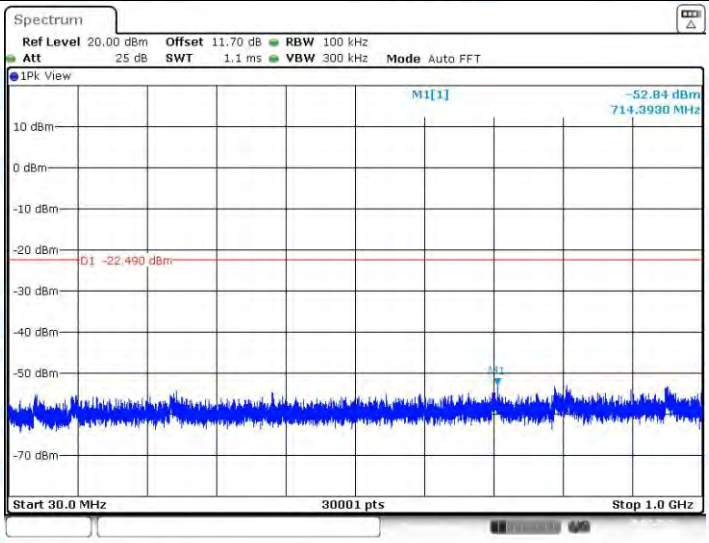
DH5_Ant1_2480_30~1000



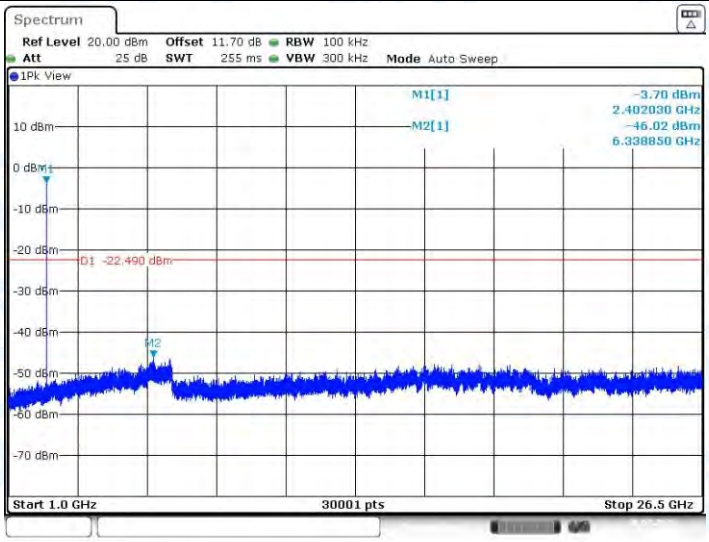
DH5_Ant1_2480_1000~26500



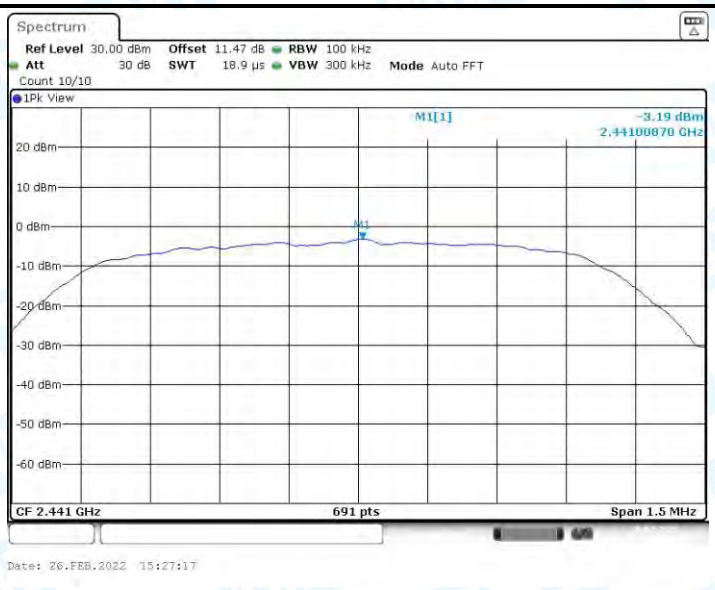
2DH5_Ant1_2402_0~Reference



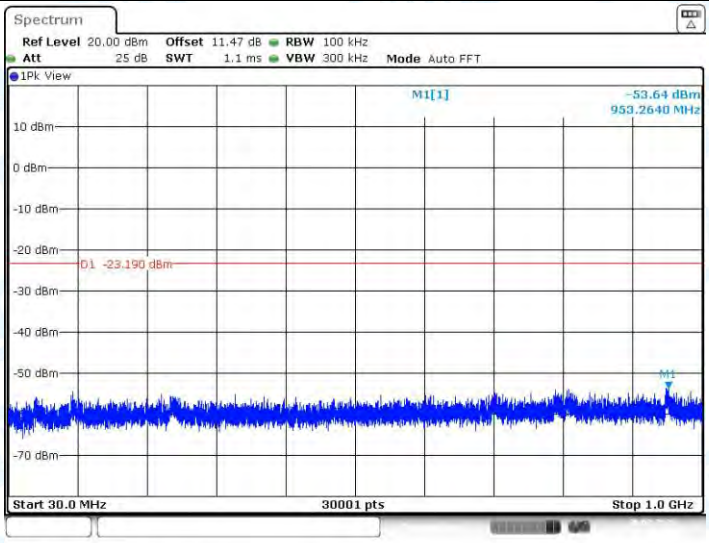
2DH5_Ant1_2402_30~1000



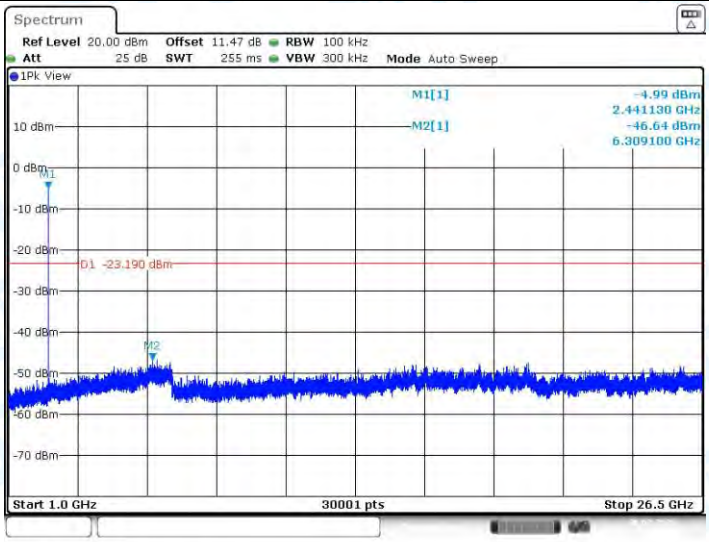
2DH5_Ant1_2402_1000~26500



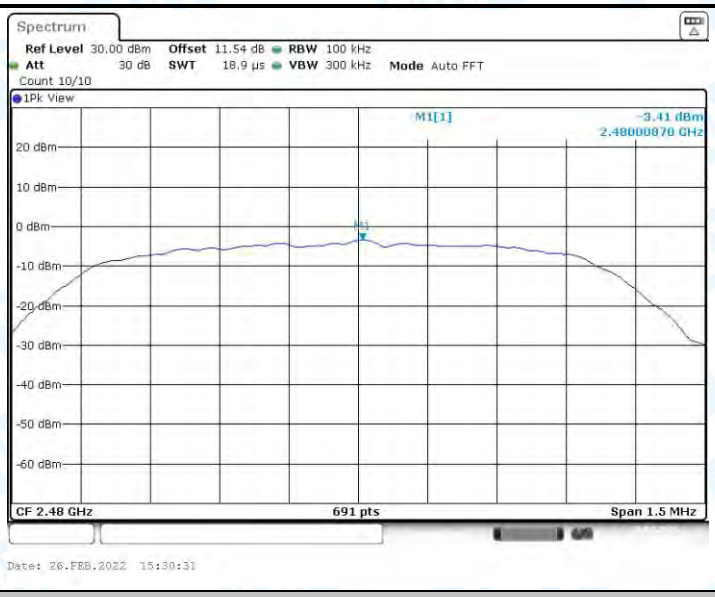
2DH5_Ant1_2441_0~Reference



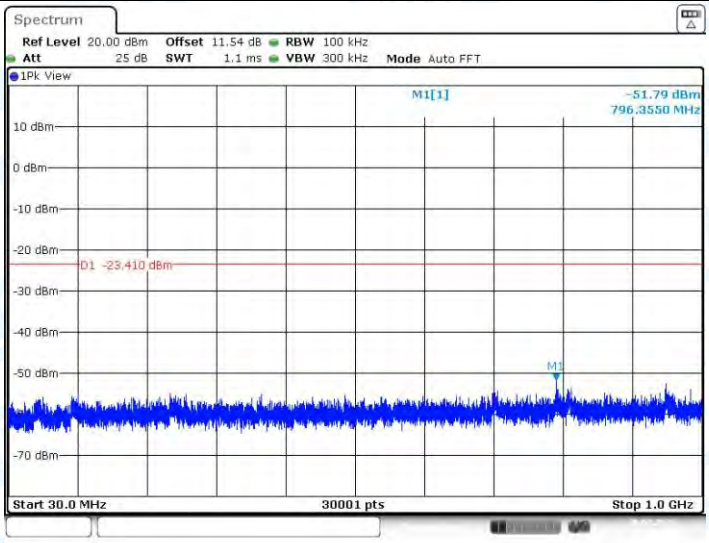
2DH5_Ant1_2441_30~1000



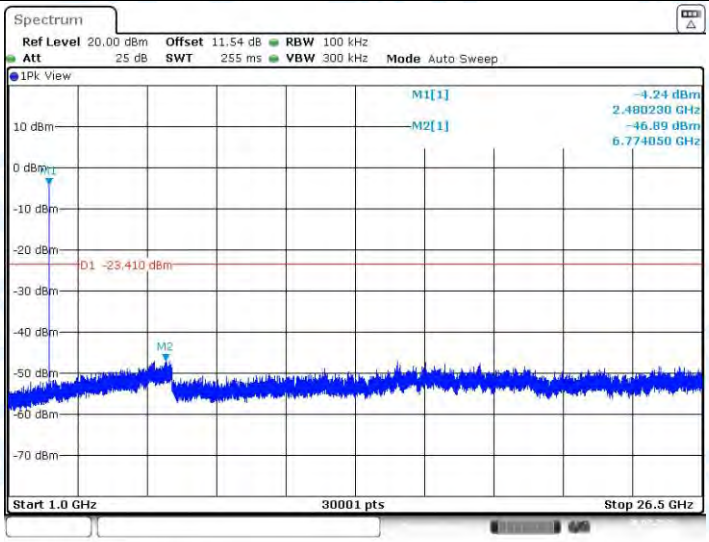
2DH5_Ant1_2441_1000~26500



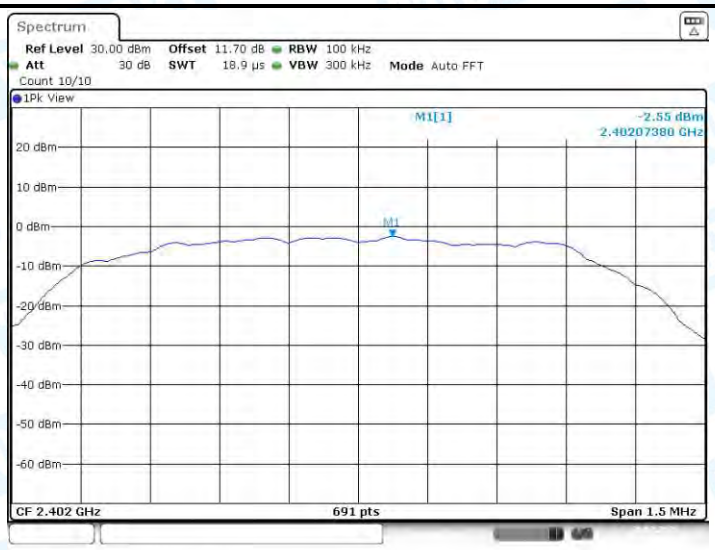
2DH5_Ant1_2480_0~Reference



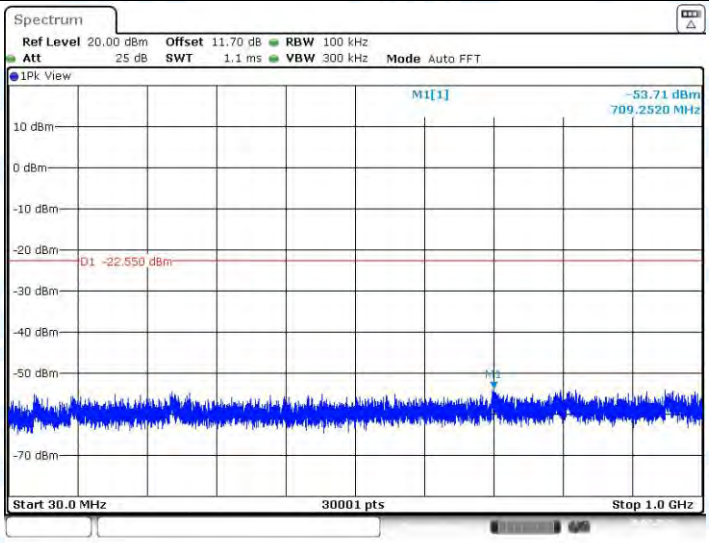
2DH5_Ant1_2480_30~1000



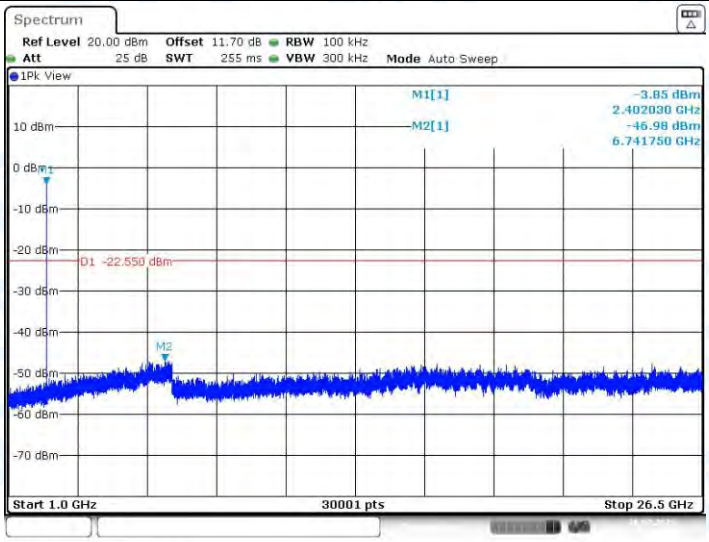
2DH5_Ant1_2480_1000~26500



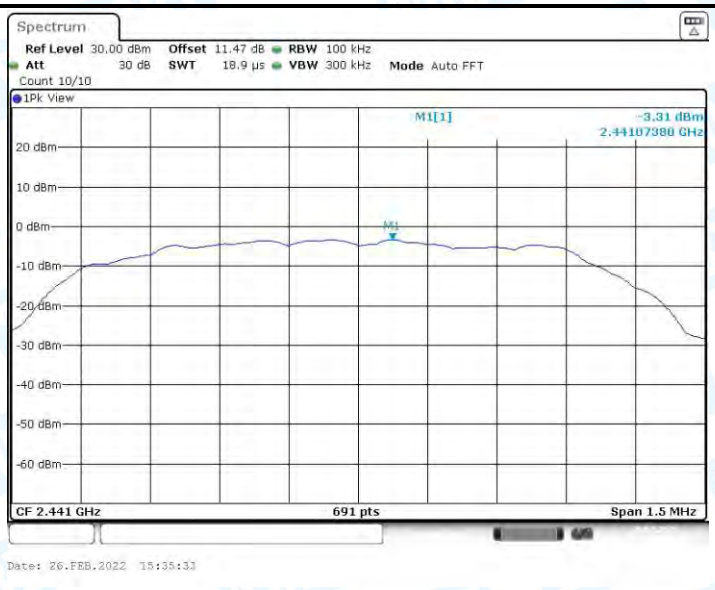
3DH5_Ant1_2402_0~Reference



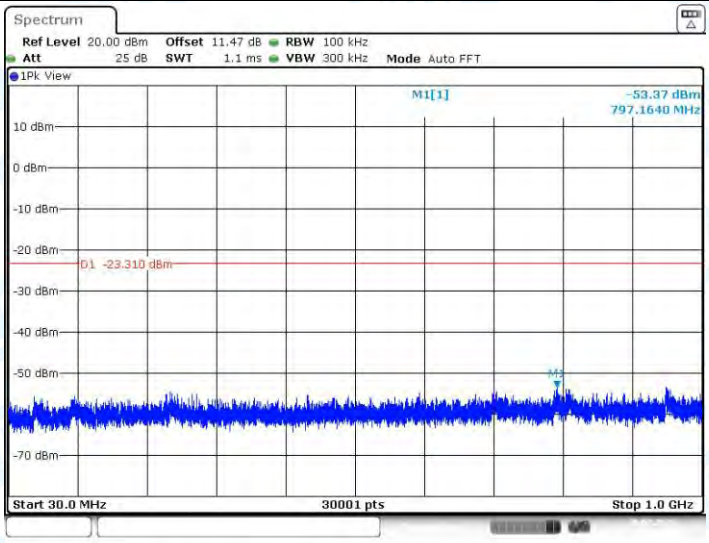
3DH5_Ant1_2402_30~1000



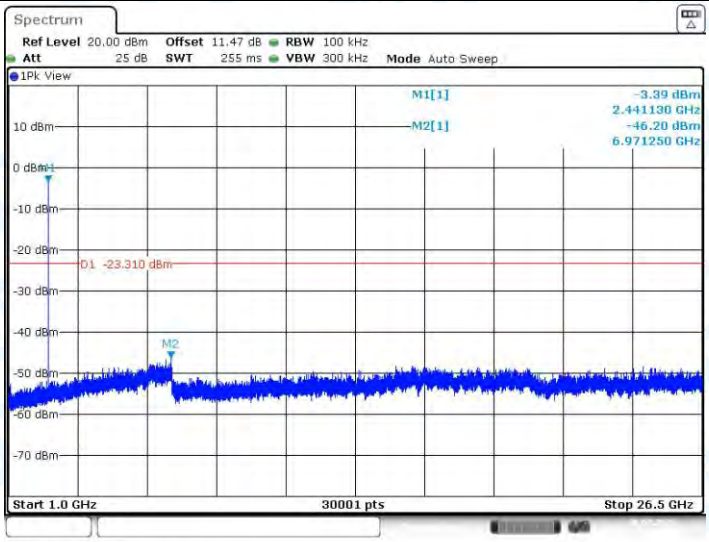
3DH5_Ant1_2402_1000~26500



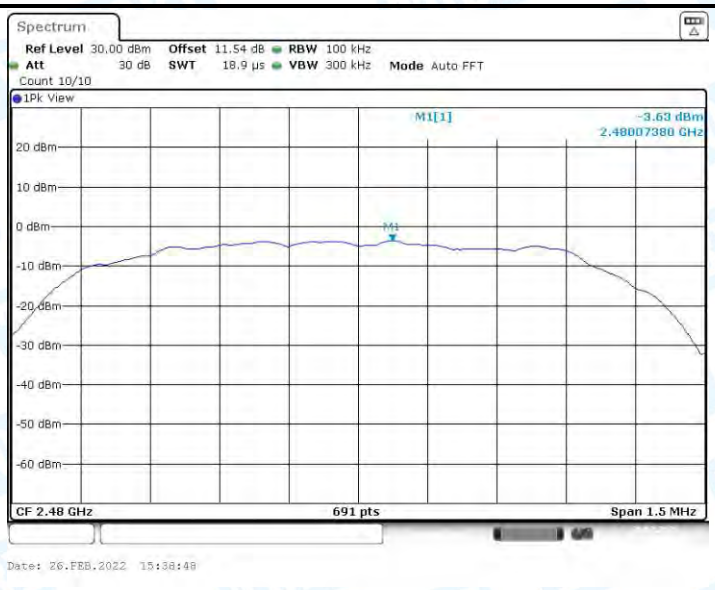
3DH5_Ant1_2441_0~Reference



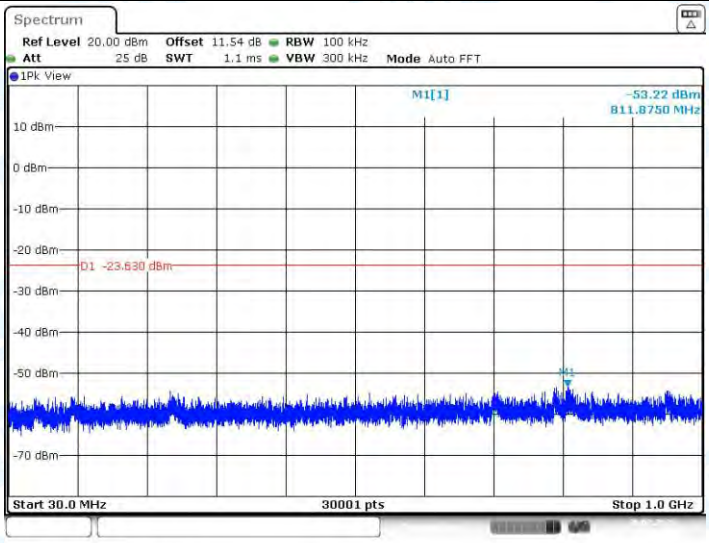
3DH5_Ant1_2441_30~1000



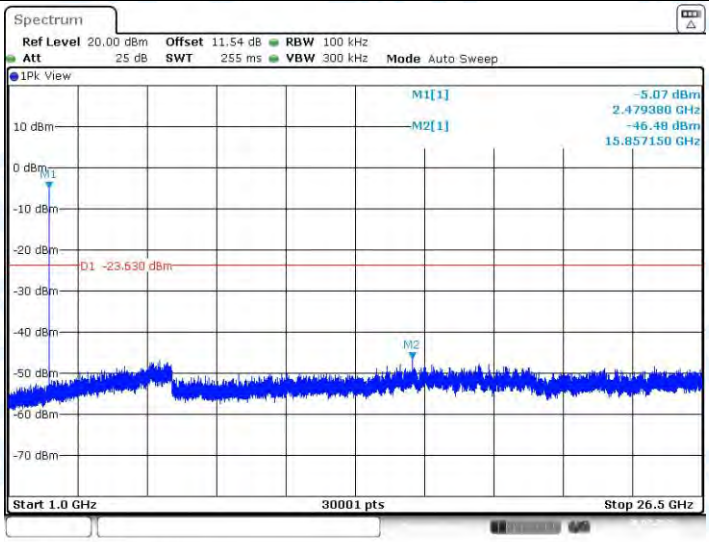
3DH5_Ant1_2441_1000~26500



3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



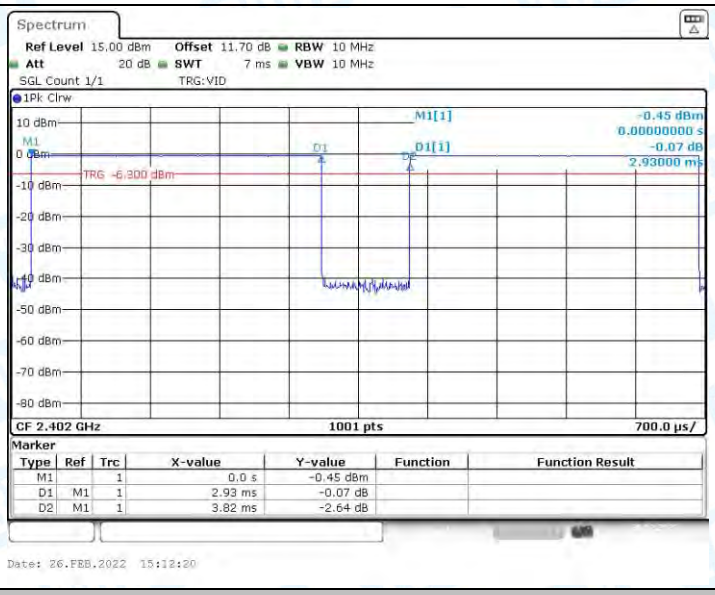
3DH5_Ant1_2480_1000~26500

9. Duty Cycle

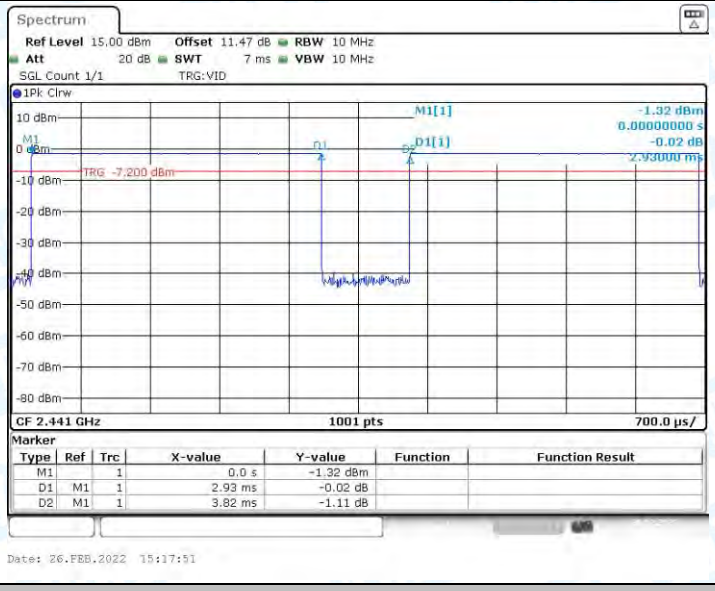
9.1.Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
DH5	Ant1	2402	2.93	3.82	76.70	---	---
		2441	2.93	3.82	76.70	---	---
		2480	2.94	3.82	76.96	---	---
2DH5	Ant1	2402	2.91	3.80	76.58	---	---
		2441	2.92	3.83	76.24	---	---
		2480	2.92	3.83	76.24	---	---
3DH5	Ant1	2402	2.93	3.81	76.90	---	---
		2441	2.93	3.81	76.90	---	---
		2480	2.94	3.82	76.96	---	---

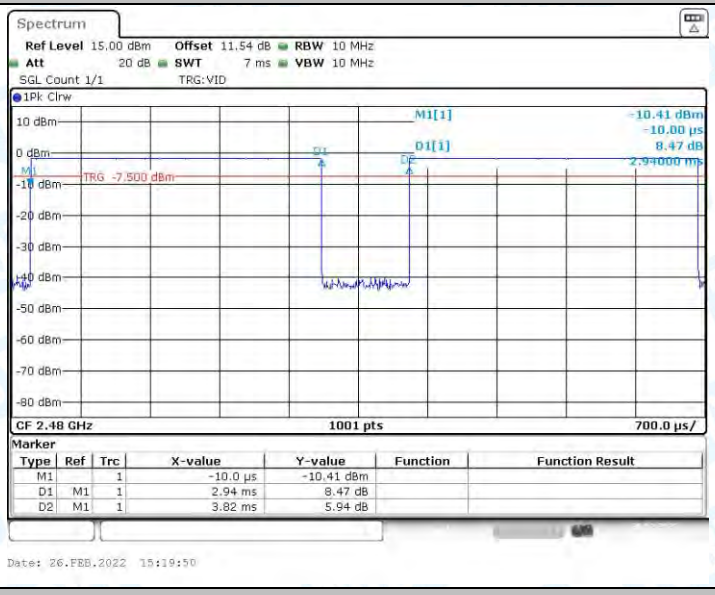
9.2.Test Graphs



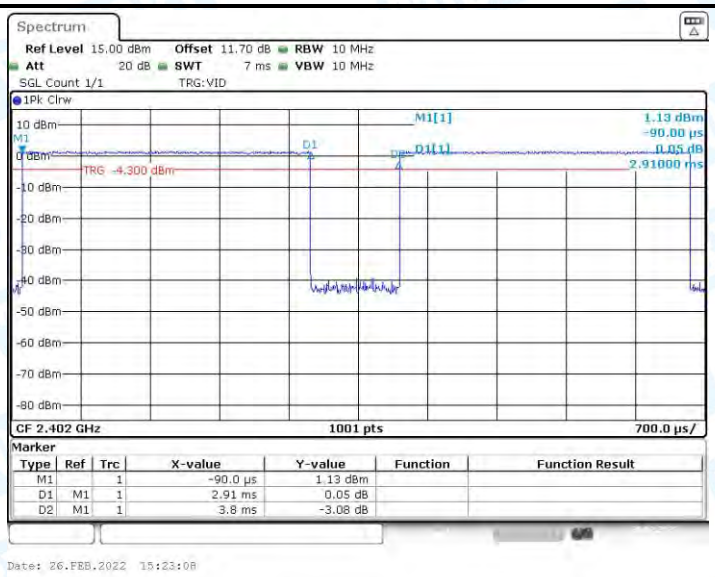
DH5_Ant1_2402



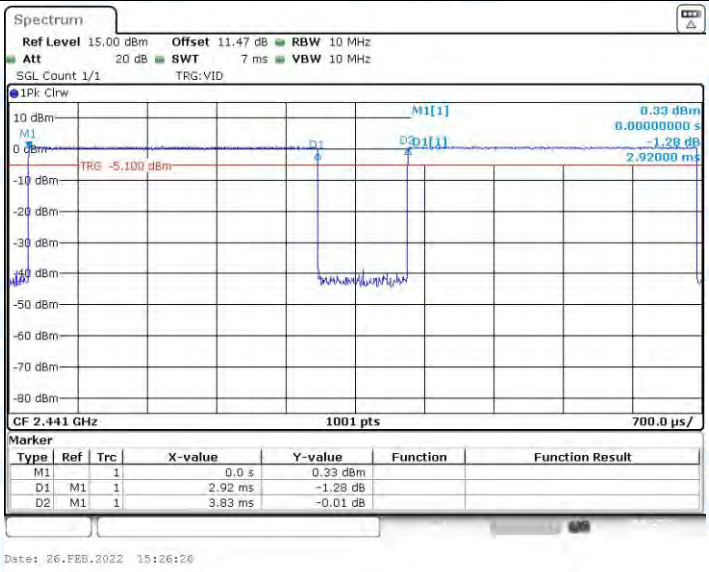
DH5_Ant1_2441



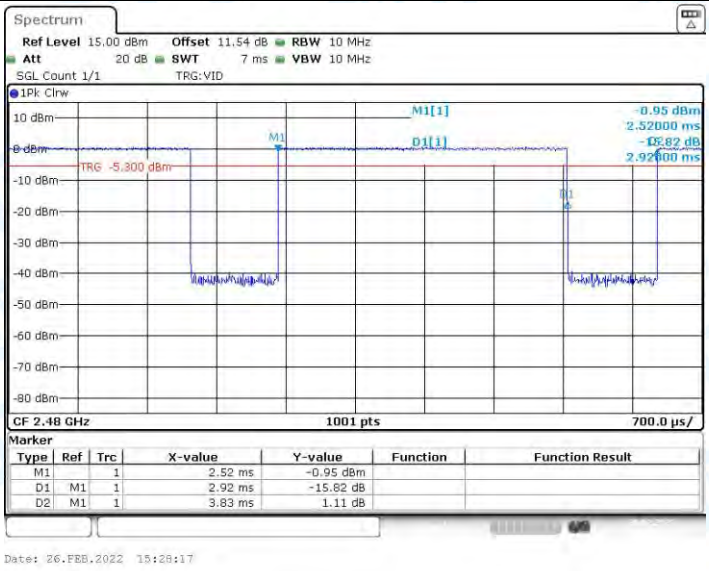
DH5_Ant1_2480



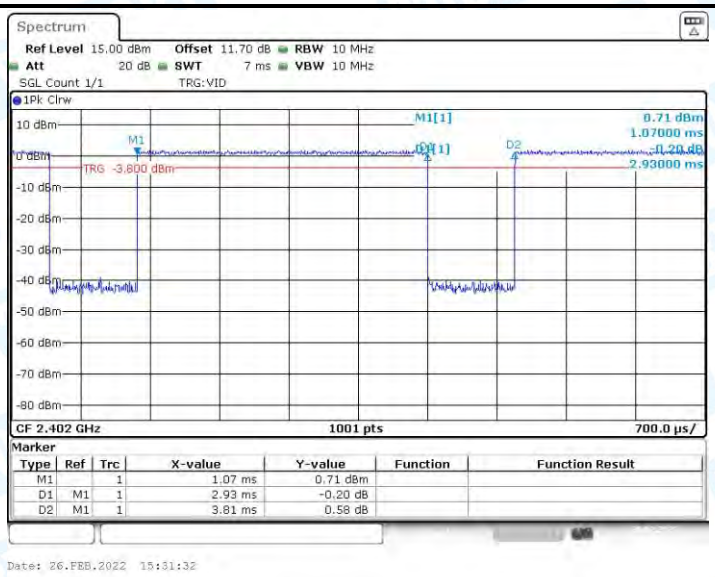
2DH5_Ant1_2402



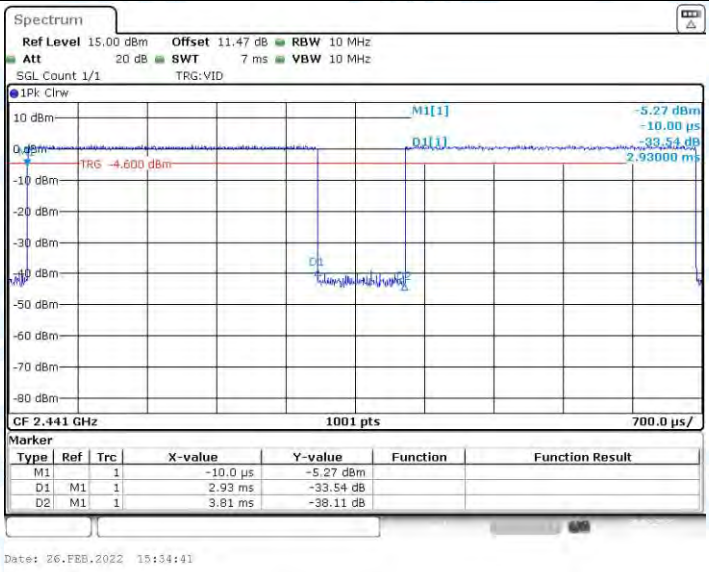
2DH5_Ant1_2441



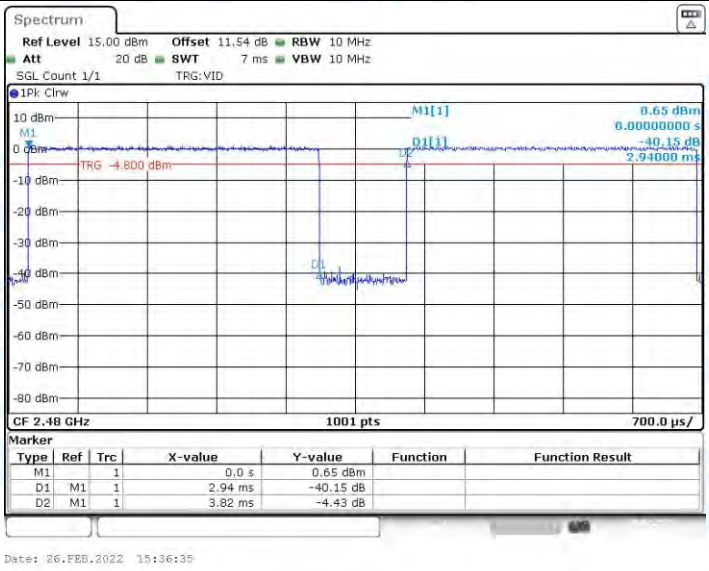
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

10. Emissions in Restricted Bands

10.1.Test Result

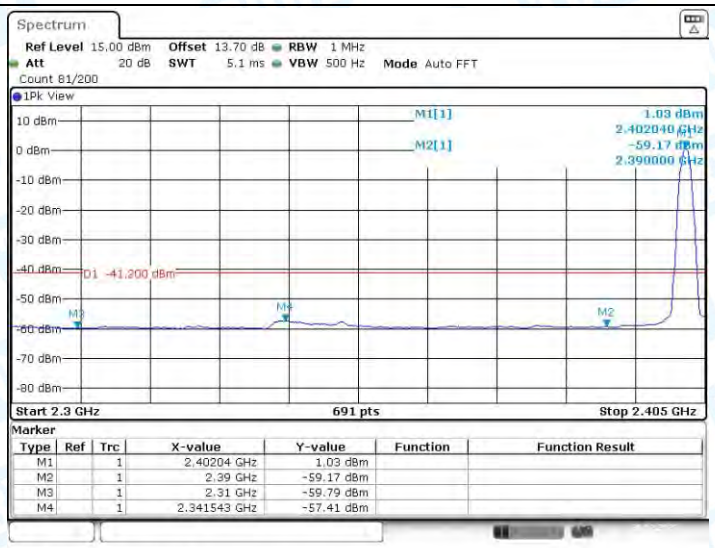
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-59.79	≤-41.20	PASS
				AV	2341.543	-57.41	≤-41.20	PASS
				AV	2390.000	-59.17	≤-41.20	PASS
				Peak	2310.000	-48.46	≤-21.20	PASS
				Peak	2340.935	-45.81	≤-21.20	PASS
				Peak	2390.000	-49.13	≤-21.20	PASS
		High	2480	AV	2483.500	-57.71	≤-41.20	PASS
				AV	2483.913	-57.57	≤-41.20	PASS
				AV	2500.000	-58.97	≤-41.20	PASS
				Peak	2483.500	-47.57	≤-21.20	PASS
				Peak	2484.377	-44.2	≤-21.20	PASS
				Peak	2500.000	-47.26	≤-21.20	PASS
		Low	Hop_2402	Peak	2310.000	-47.98	≤-21.20	PASS
				Peak	2345.652	-45.94	≤-21.20	PASS
				Peak	2390.000	-48.36	≤-21.20	PASS
		High	Hop_2480	Peak	2483.500	-50.46	≤-21.20	PASS
				Peak	2485.652	-45.89	≤-21.20	PASS
				Peak	2500.000	-48.48	≤-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-59.71	≤-41.20	PASS
				AV	2340.935	-57.19	≤-41.20	PASS
				AV	2390.000	-59.66	≤-41.20	PASS
				Peak	2310.000	-49.28	≤-21.20	PASS
				Peak	2340.783	-45.34	≤-21.20	PASS
				Peak	2390.000	-46.7	≤-21.20	PASS
		High	2480	AV	2483.500	-57.49	≤-41.20	PASS
				AV	2483.565	-57.51	≤-41.20	PASS
				AV	2500.000	-58.99	≤-41.20	PASS
				Peak	2483.500	-48.21	≤-21.20	PASS
				Peak	2483.913	-45.23	≤-21.20	PASS
				Peak	2500.000	-48.76	≤-21.20	PASS
		Low	Hop_2402	Peak	2310.000	-49.95	≤-21.20	PASS
				Peak	2350.674	-46.12	≤-21.20	PASS
				Peak	2390.000	-49.26	≤-21.20	PASS
		High	Hop_2480	Peak	2483.500	-50.38	≤-21.20	PASS
				Peak	2491.797	-45.99	≤-21.20	PASS
				Peak	2500.000	-47.03	≤-21.20	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-59.71	≤-41.20	PASS
				AV	2340.022	-57.4	≤-41.20	PASS
				AV	2390.000	-59.42	≤-41.20	PASS
				Peak	2310.000	-49.55	≤-21.20	PASS
				Peak	2342.000	-45.53	≤-21.20	PASS

				Peak	2390.000	-49.1	≤-21.20	PASS
		High	2480	AV	2483.500	-57.45	≤-41.20	PASS
				AV	2483.565	-57.49	≤-41.20	PASS
				AV	2500.000	-58.98	≤-41.20	PASS
				Peak	2483.500	-48.03	≤-21.20	PASS
				Peak	2484.145	-46.22	≤-21.20	PASS
				Peak	2500.000	-48.45	≤-21.20	PASS
		Low	Hop_2402	Peak	2310.000	-49.06	≤-21.20	PASS
				Peak	2341.543	-45.78	≤-21.20	PASS
				Peak	2390.000	-48.34	≤-21.20	PASS
		High	Hop_2480	Peak	2483.500	-49.13	≤-21.20	PASS
				Peak	2484.145	-46.41	≤-21.20	PASS
				Peak	2500.000	-49.15	≤-21.20	PASS

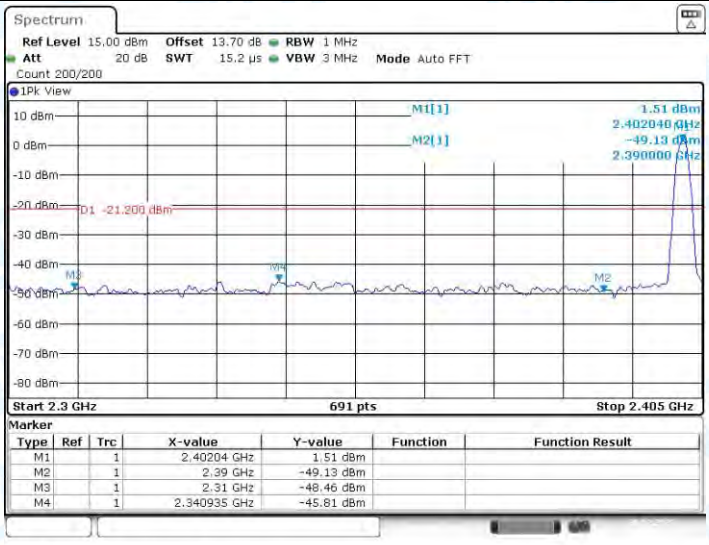
Note：

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.

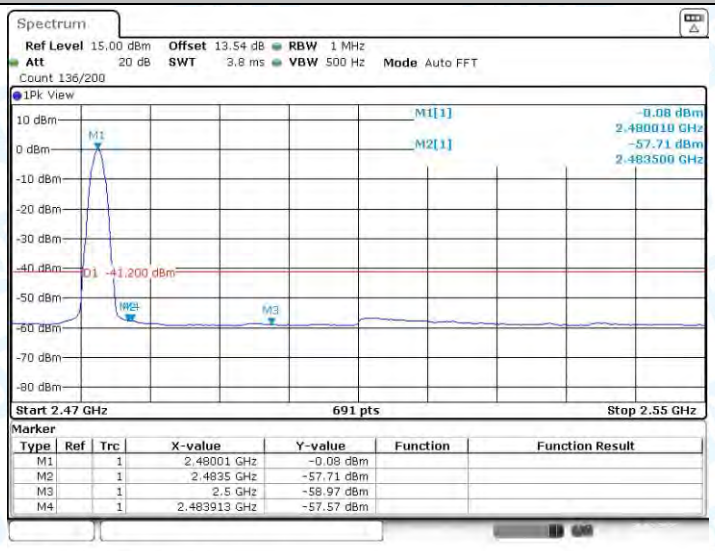
10.2.Test Graphs



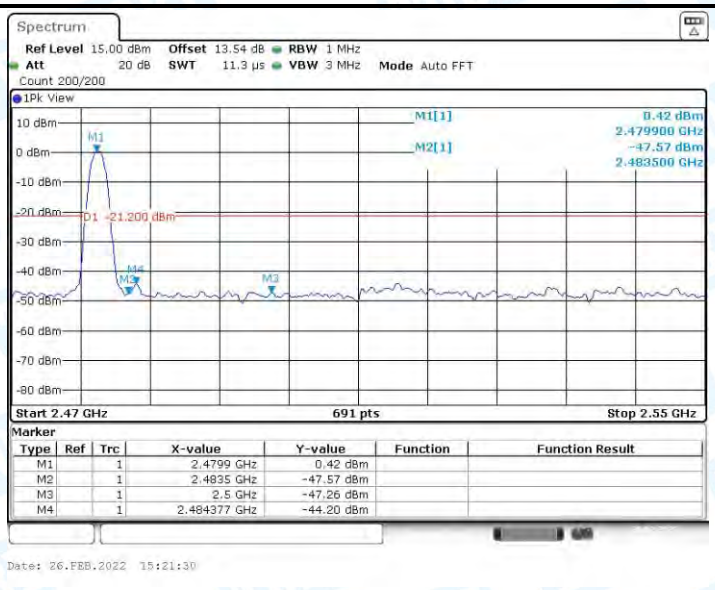
DH5_Ant1_Low_2402_AV



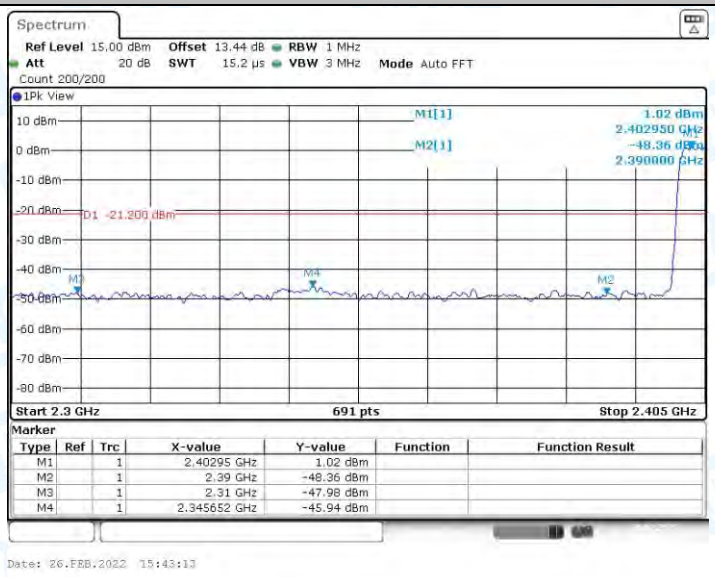
DH5_Ant1_Low_2402_Peak



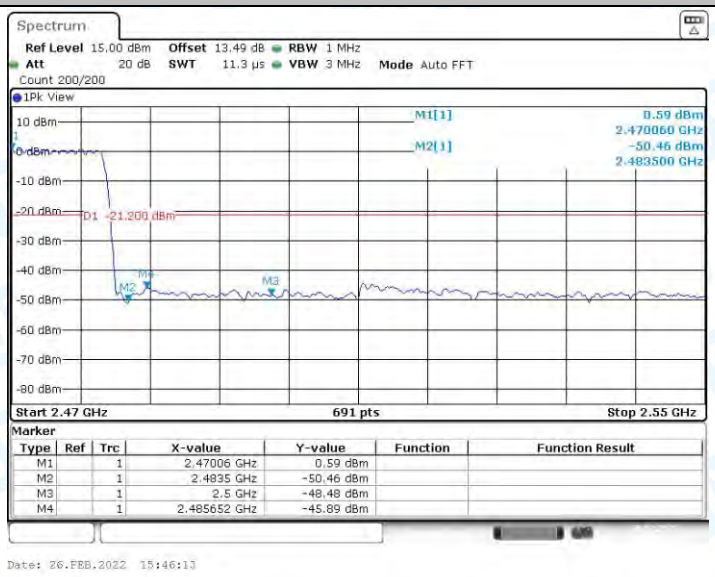
DH5_Ant1_High_2480_AV



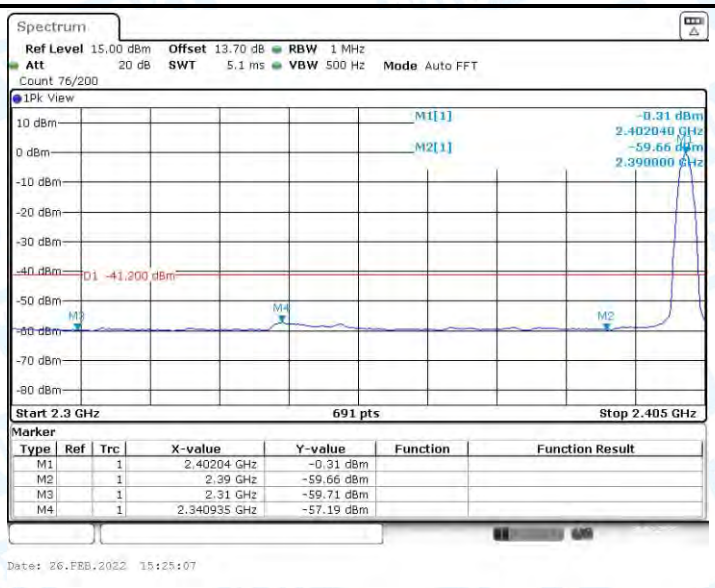
DH5_Ant1_High_2480_Peak



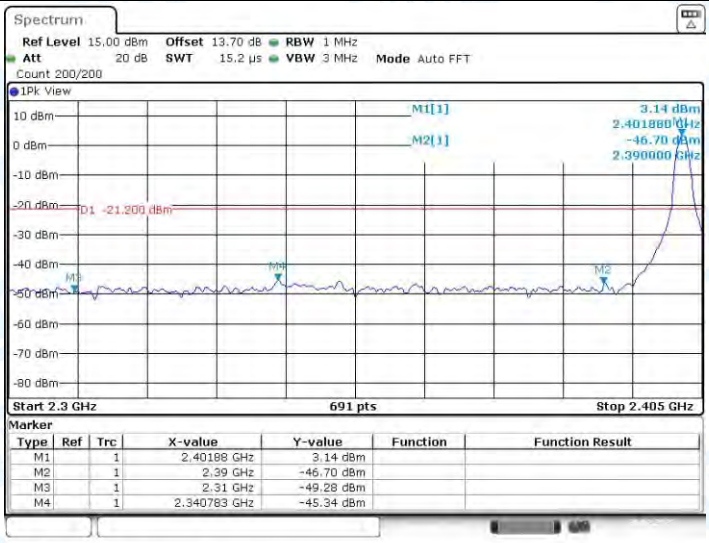
DH5_Ant1_Low_Hop_2402_Peak



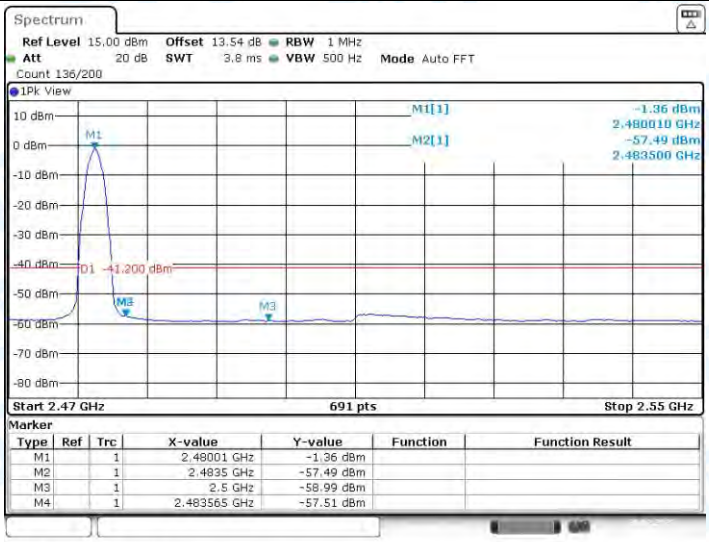
DH5_Ant1_High_Hop_2480_Peak



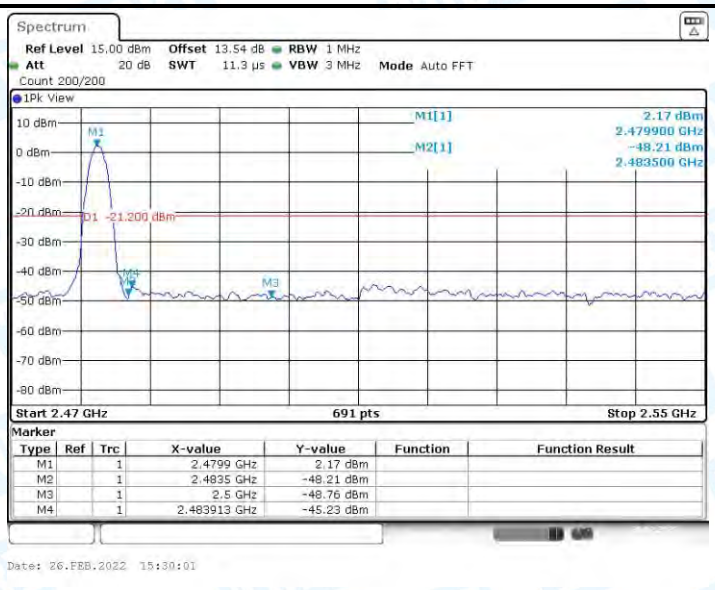
2DH5_Ant1_Low_2402_AV



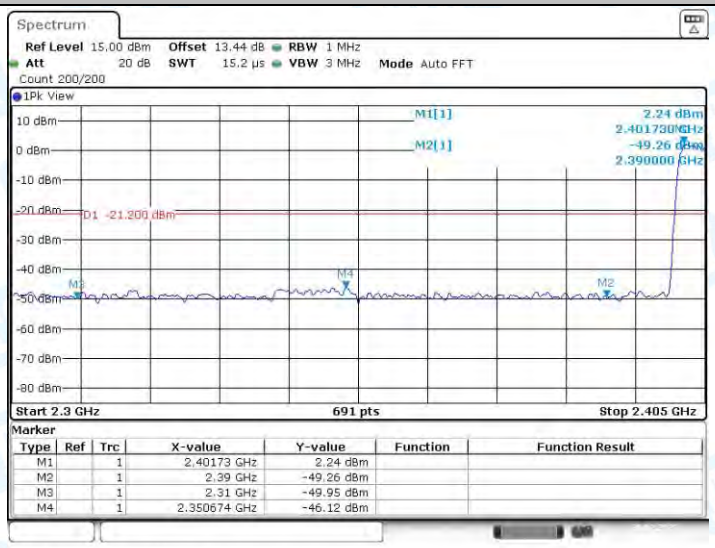
2DH5_Ant1_Low_2402_Peak



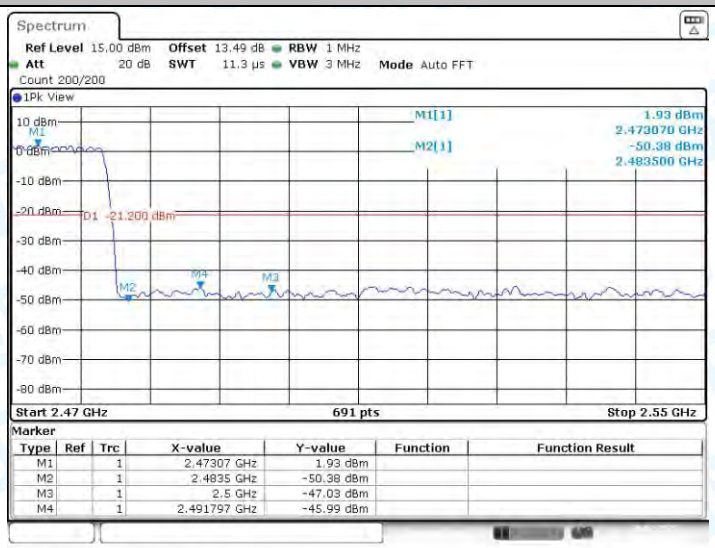
2DH5_Ant1_High_2480_AV



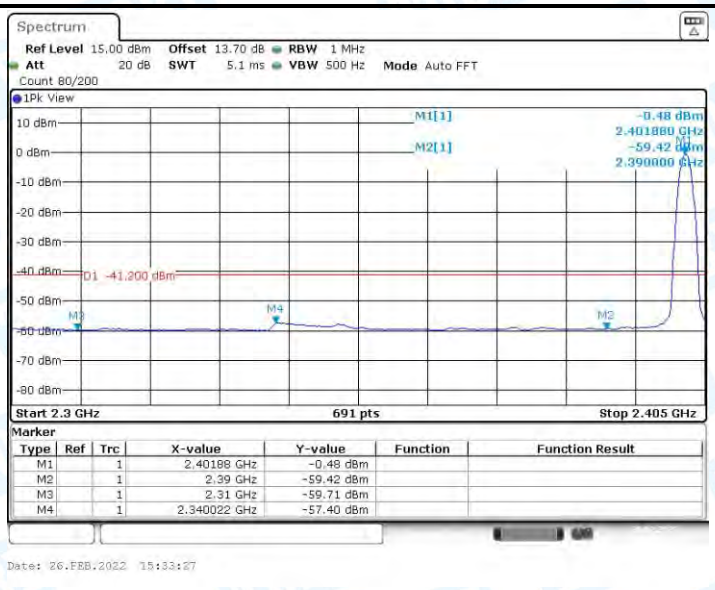
2DH5_Ant1_High_2480_Peak



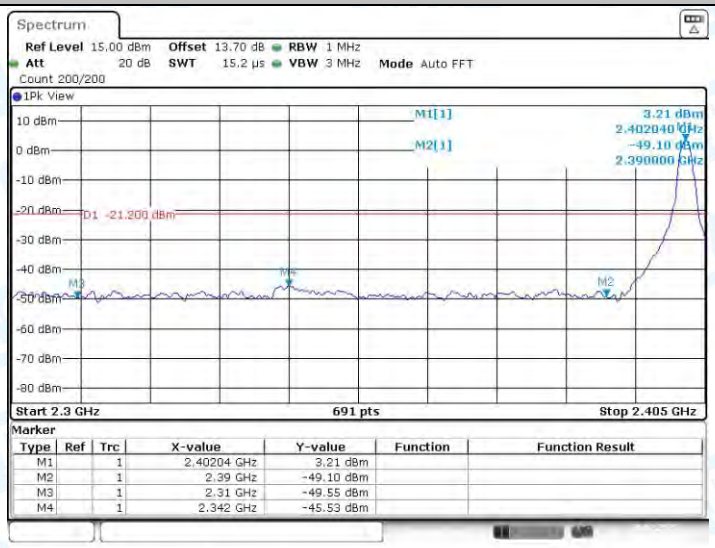
2DH5_Ant1_Low_Hop_2402_Peak



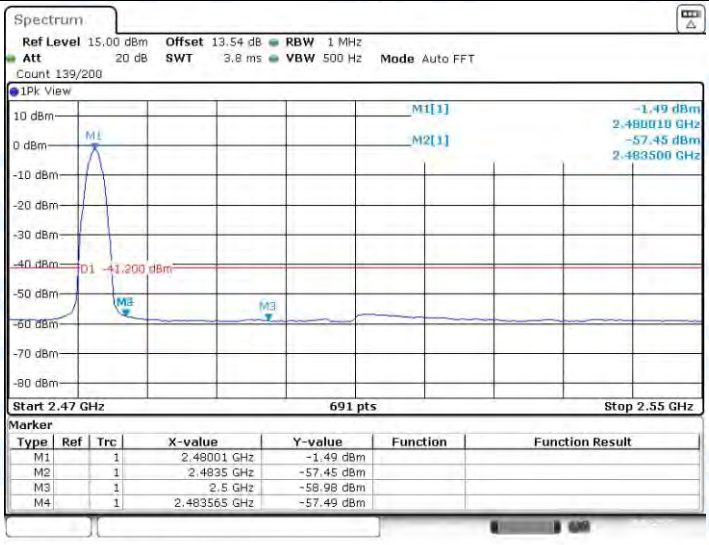
2DH5_Ant1_High_Hop_2480_Peak



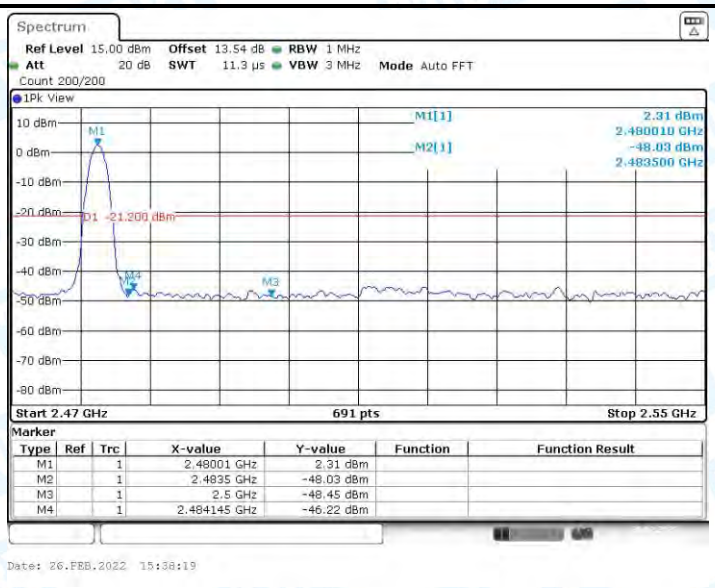
3DH5_Ant1_Low_2402_AV



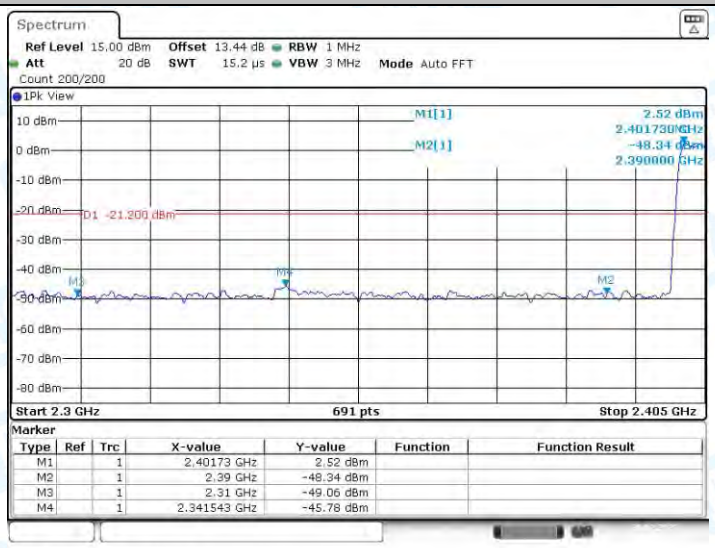
3DH5_Ant1_Low_2402_Peak



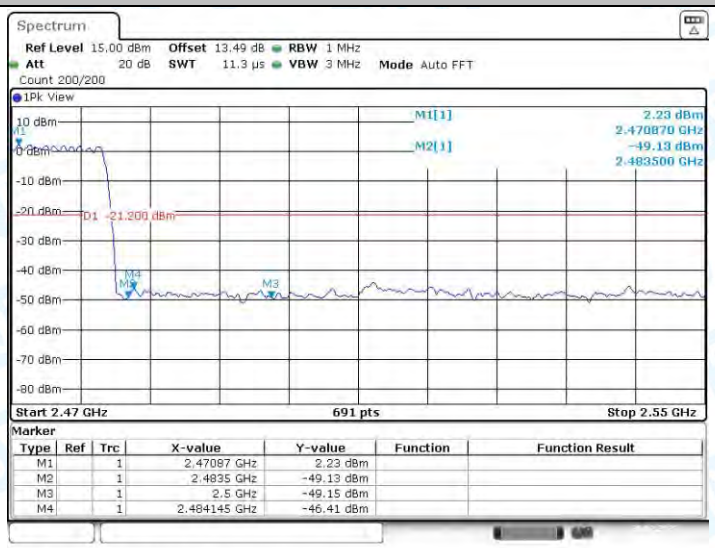
3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak



3DH5_Ant1_High_Hop_2480_Peak

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