

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

General Description of EUT	
Product Name:	Projector
HVIN/Models No.:	H1
Blueooth Module:	JHEB14F5B(Module1)
Sample ID:	20211018-05-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 10.8V
Test Engineer:	Huang jian ping
Note: For a more detailed features description, please refer to the report TB-RF184572	

Contents

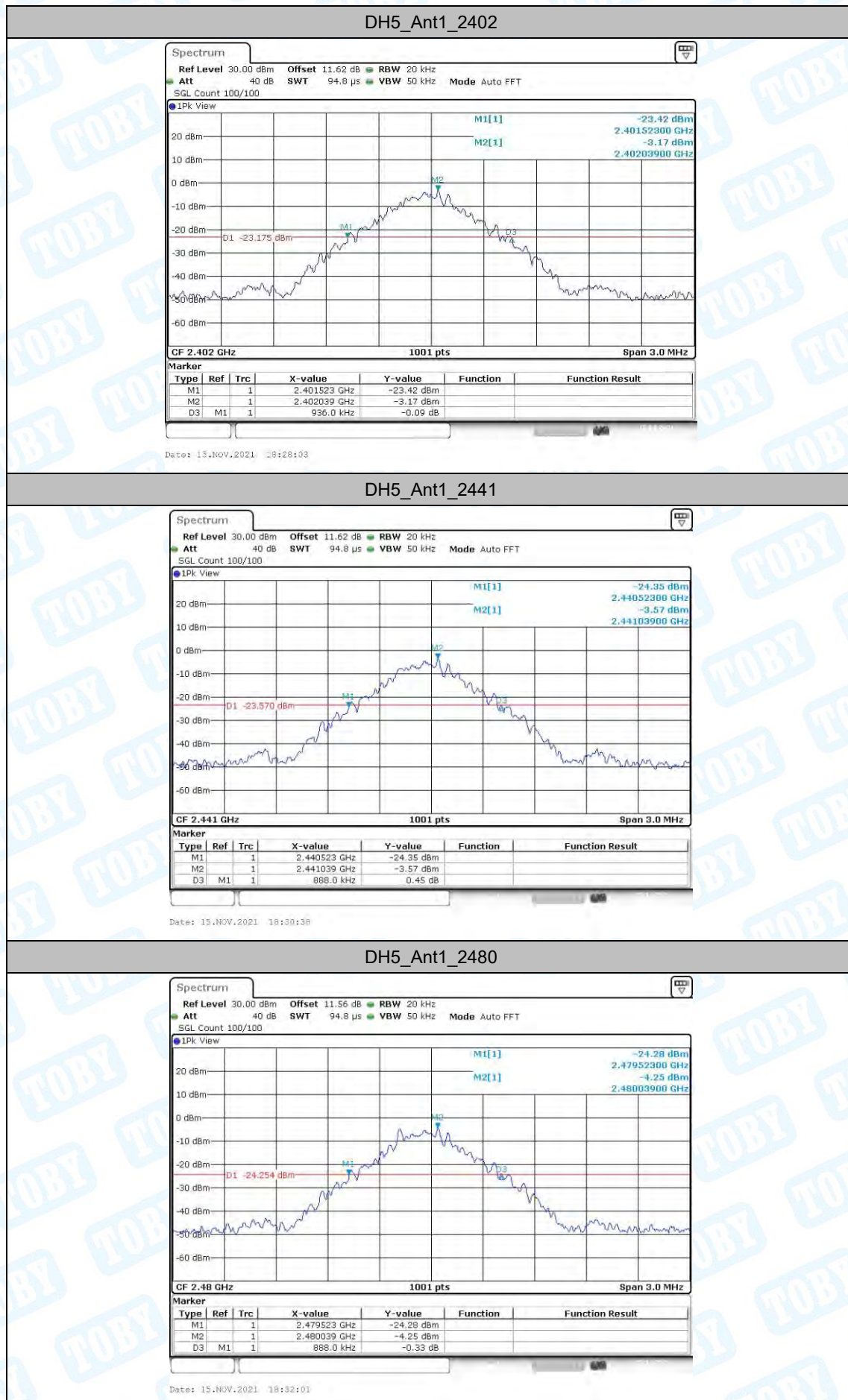
1. 20dB Emission Bandwidth.....	3
1.1.Test Result	3
1.2.Test Graphs	4
2. Occupied Channel Bandwidth.....	7
2.1.Test Result	7
2.2.Test Graphs	8
3. Maximum conducted output power	11
3.1.Test Result	11
3.2.Test Graphs	12
4. Carrier frequency separation	15
4.1.Test Result	15
4.2.Test Graphs	16
5. Time of occupancy	17
5.1.Test Result	17
5.2.Test Graphs	18
6. Number of hopping channels.....	24
6.1.Test Result	24
6.2.Test Graphs	25
7.Band edge measurements	26
7.1.Test Result	26
7.2.Test Graphs	27
8. Conducted Spurious Emission.....	31
8.1.Test Result	31
8.2.Test Graphs	32
9. Emissions in Restricted Bands	41
9.1.Test Result	41
9.2.Test Graphs	42

1. 20dB Emission Bandwidth

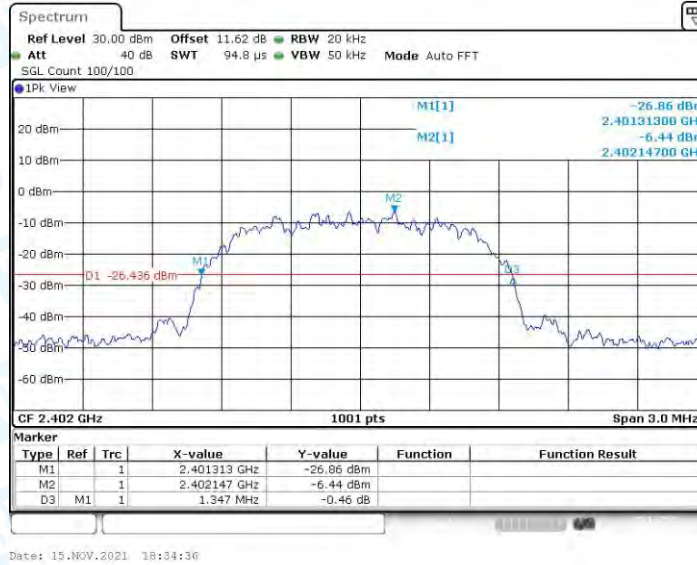
1.1. Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.936	2401.523	2402.459	---	PASS
		2441	0.888	2440.523	2441.411	---	PASS
		2480	0.888	2479.523	2480.411	---	PASS
2DH5	Ant1	2402	1.347	2401.313	2402.660	---	PASS
		2441	1.335	2440.319	2441.654	---	PASS
		2480	1.326	2479.319	2480.645	---	PASS
3DH5	Ant1	2402	1.338	2401.310	2402.648	---	PASS
		2441	1.338	2440.307	2441.645	---	PASS
		2480	1.296	2479.331	2480.627	---	PASS

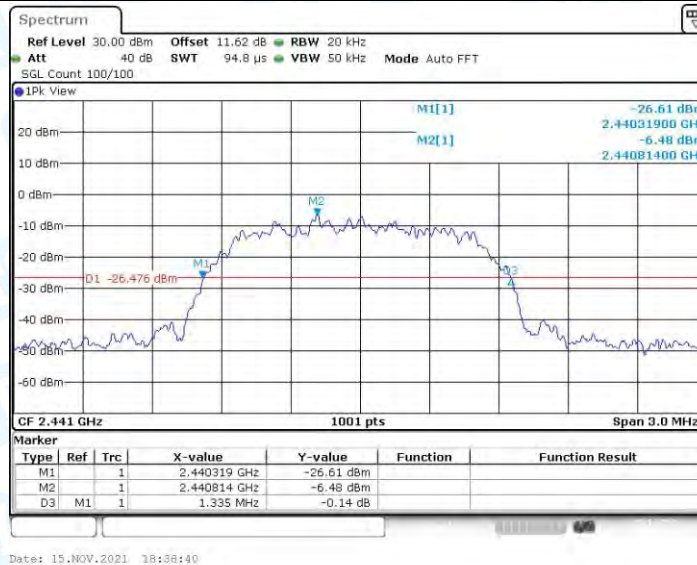
1.2. Test Graphs



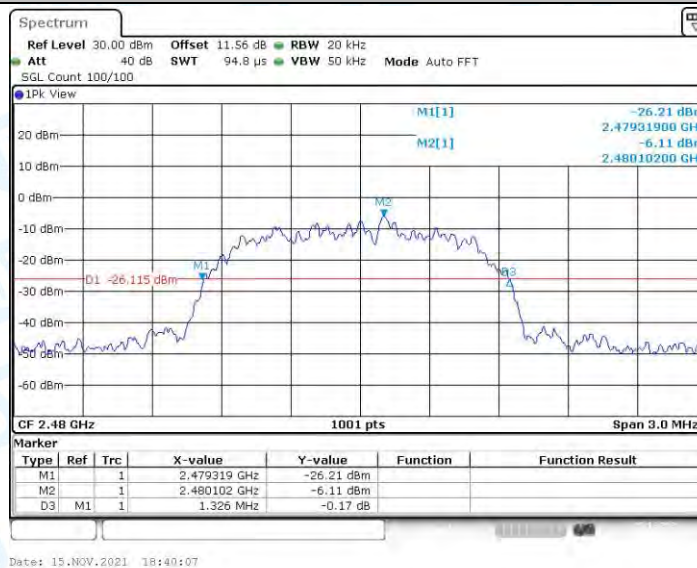
2DH5_Ant1_2402



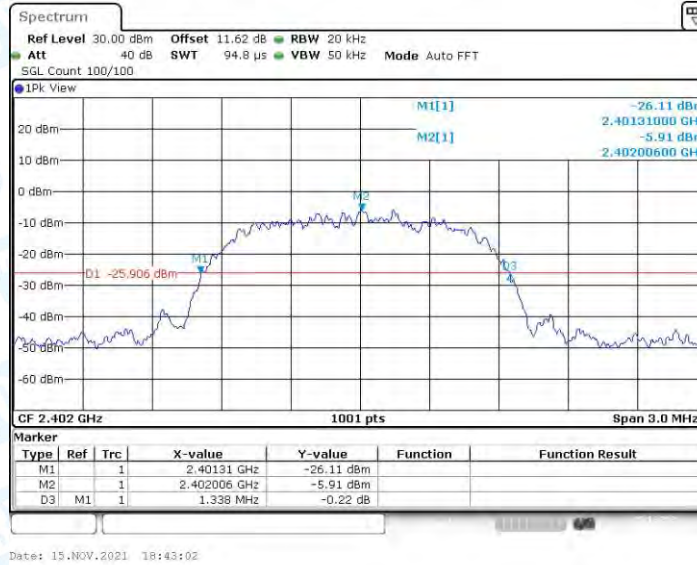
2DH5_Ant1_2441



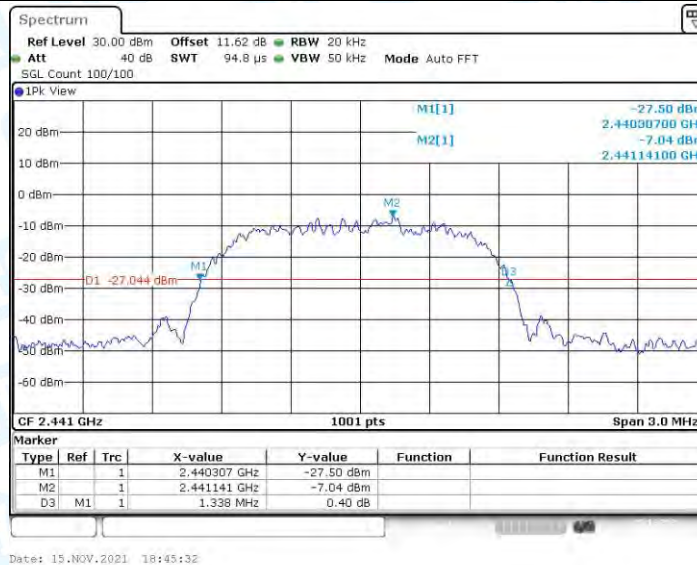
2DH5_Ant1_2480



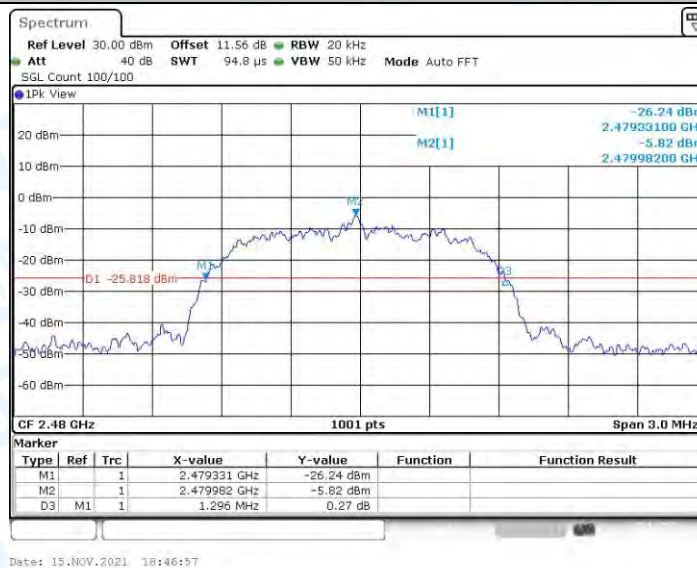
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

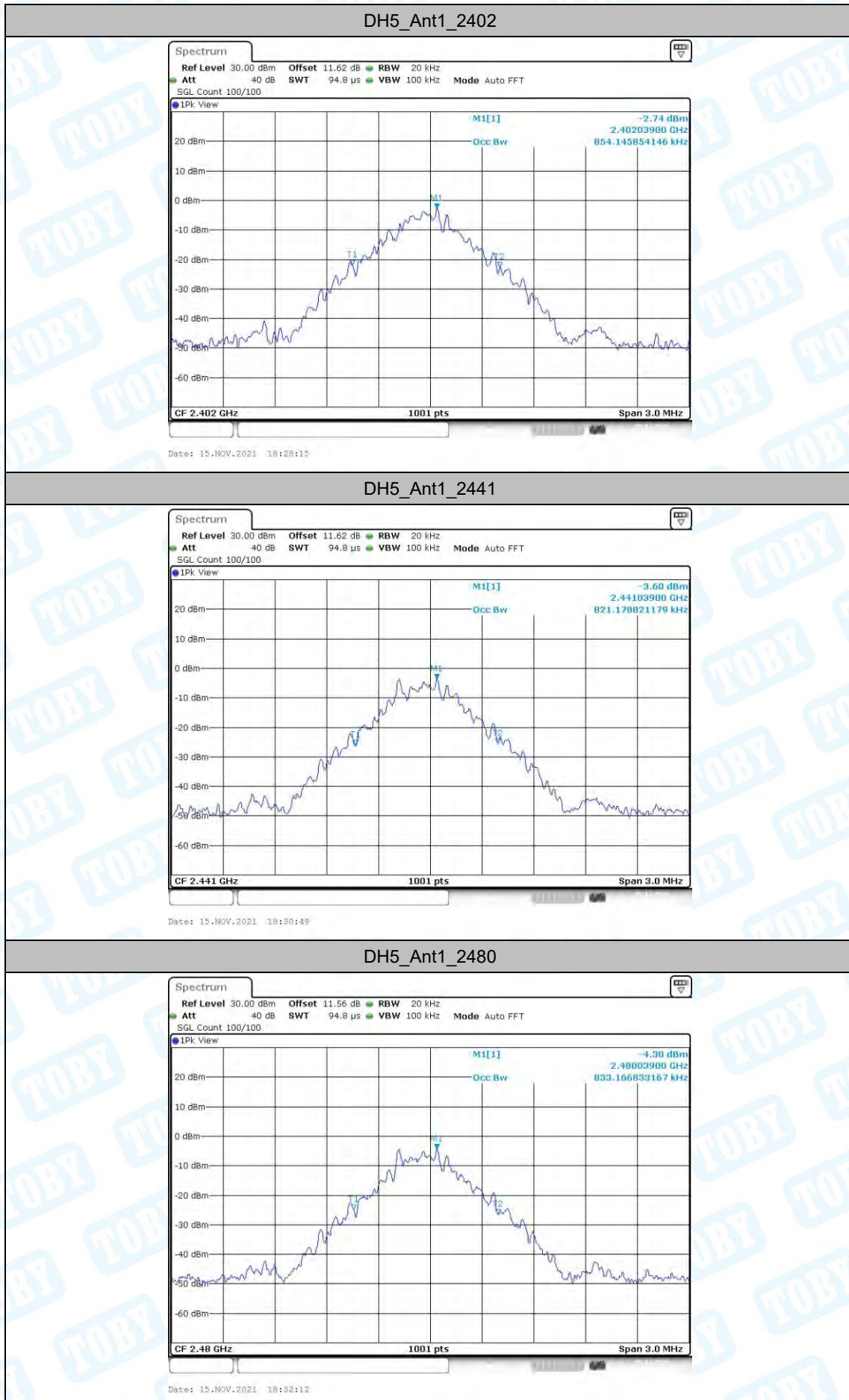


2. Occupied Channel Bandwidth

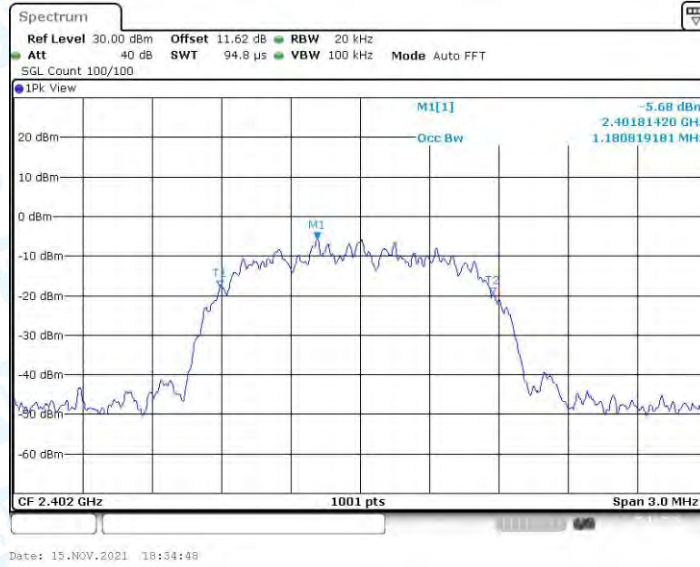
2.1. Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.854	2401.547	2402.402	---	PASS
		2441	0.821	2440.568	2441.390	---	PASS
		2480	0.833	2479.556	2480.390	---	PASS
2DH5	Ant1	2402	1.181	2401.392	2402.572	---	PASS
		2441	1.19	2440.389	2441.578	---	PASS
		2480	1.193	2479.386	2480.578	---	PASS
3DH5	Ant1	2402	1.172	2401.401	2402.572	---	PASS
		2441	1.178	2440.389	2441.566	---	PASS
		2480	1.163	2479.404	2480.566	---	PASS

2.2.Test Graphs



2DH5_Ant1_2402



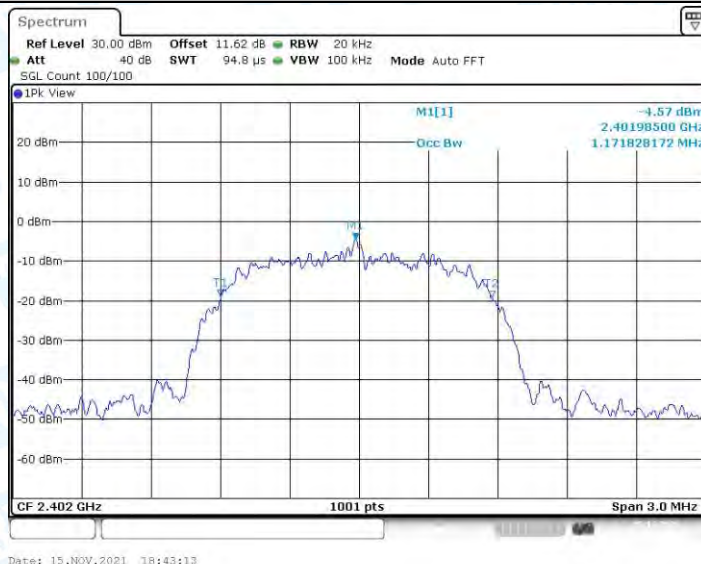
2DH5_Ant1_2441



2DH5_Ant1_2480



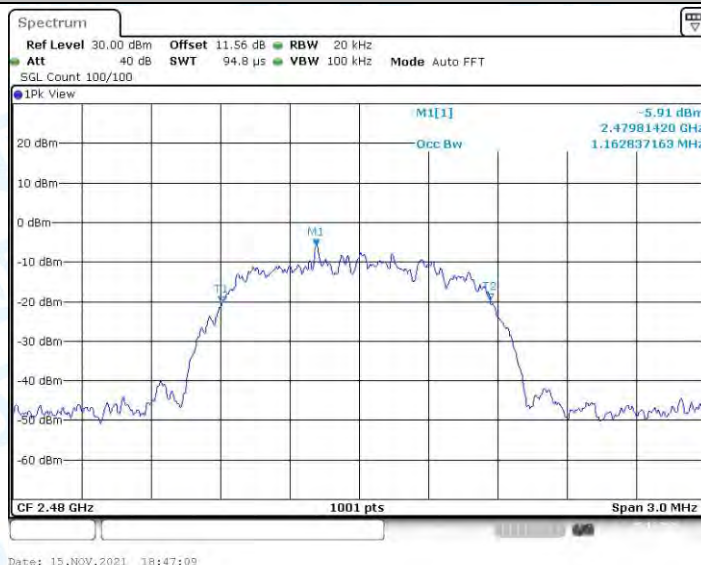
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



3. Maximum conducted output power

3.1. Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	1.14	≤21	PASS
		2441	0.24	≤21	PASS
		2480	-0.35	≤21	PASS
2DH5	Ant1	2402	2.84	≤21	PASS
		2441	2.06	≤21	PASS
		2480	1.34	≤21	PASS
3DH5	Ant1	2402	3.06	≤21	PASS
		2441	2.01	≤21	PASS
		2480	1.78	≤21	PASS

3.2.Test Graphs



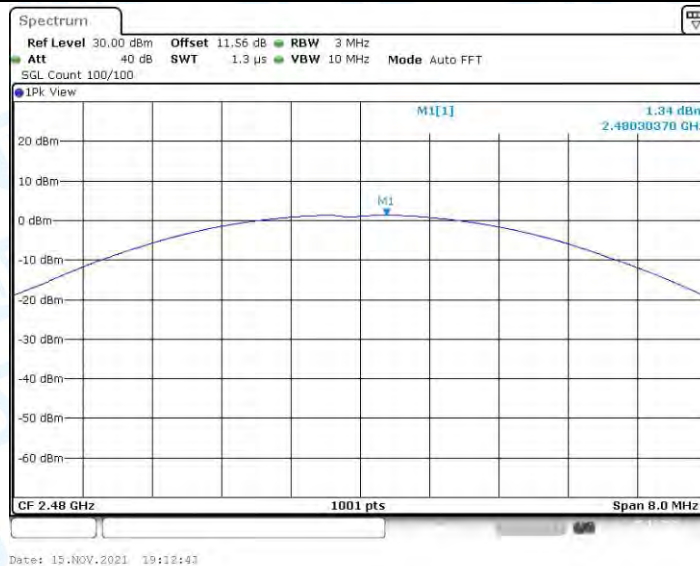
2DH5_Ant1_2402



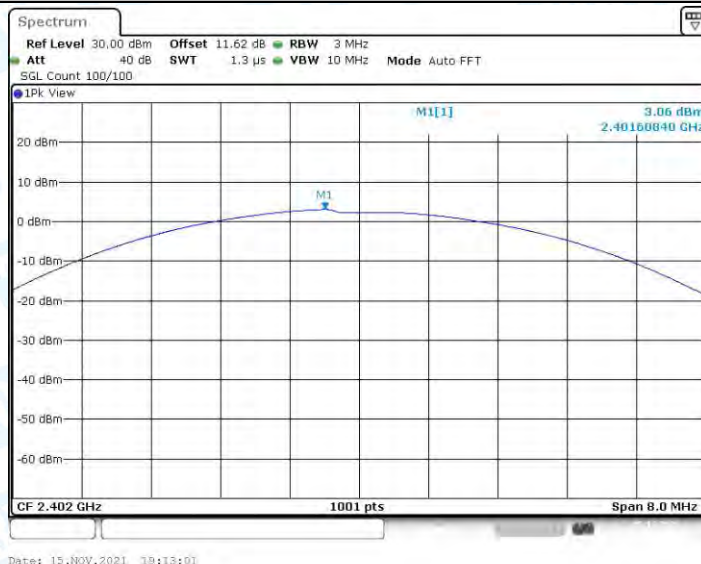
2DH5_Ant1_2441



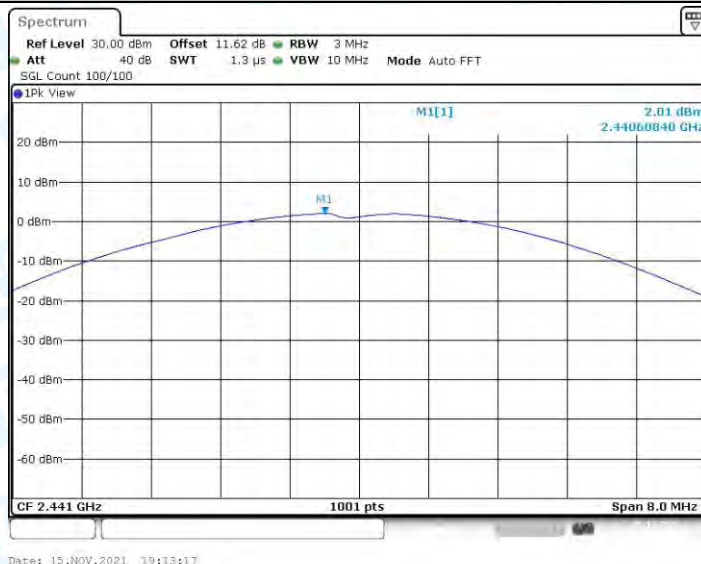
2DH5_Ant1_2480



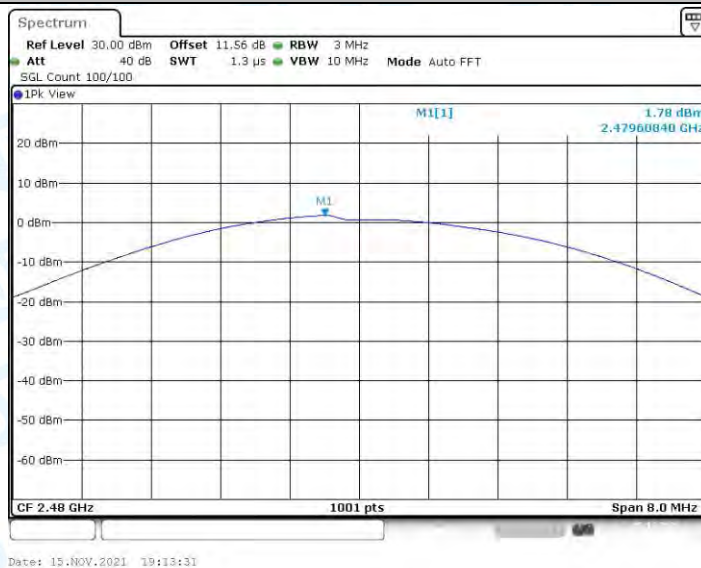
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



4. Carrier frequency separation

4.1. Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.023	≥ 0.936	PASS
2DH5	Ant1	Hop	1.31	≥ 0.898	PASS
3DH5	Ant1	Hop	1.157	≥ 0.892	PASS

4.2.Test Graphs

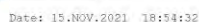
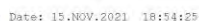


5. Time of occupancy

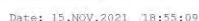
5.1. Test Result

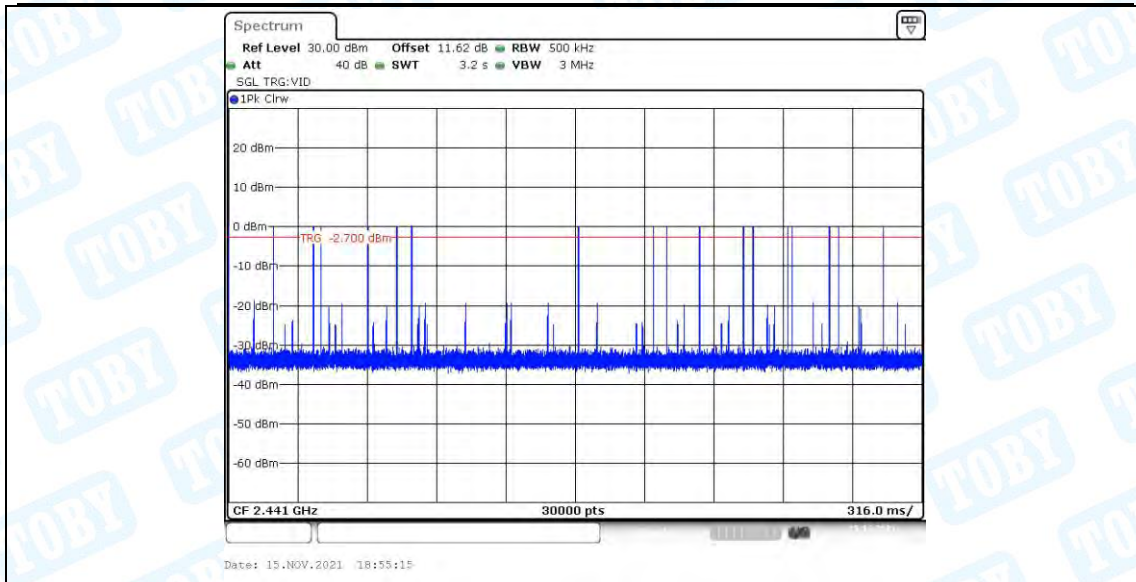
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.39	330	0.13	≤0.4	PASS
DH3	Ant1	Hop	1.64	180	0.295	≤0.4	PASS
DH5	Ant1	Hop	2.88	120	0.346	≤0.4	PASS
2DH1	Ant1	Hop	0.40	320	0.129	≤0.4	PASS
2DH3	Ant1	Hop	1.63	180	0.293	≤0.4	PASS
2DH5	Ant1	Hop	2.89	110	0.318	≤0.4	PASS
3DH1	Ant1	Hop	0.41	330	0.134	≤0.4	PASS
3DH3	Ant1	Hop	1.65	170	0.28	≤0.4	PASS
3DH5	Ant1	Hop	2.89	80	0.231	≤0.4	PASS

DH1 Ant1 Hop

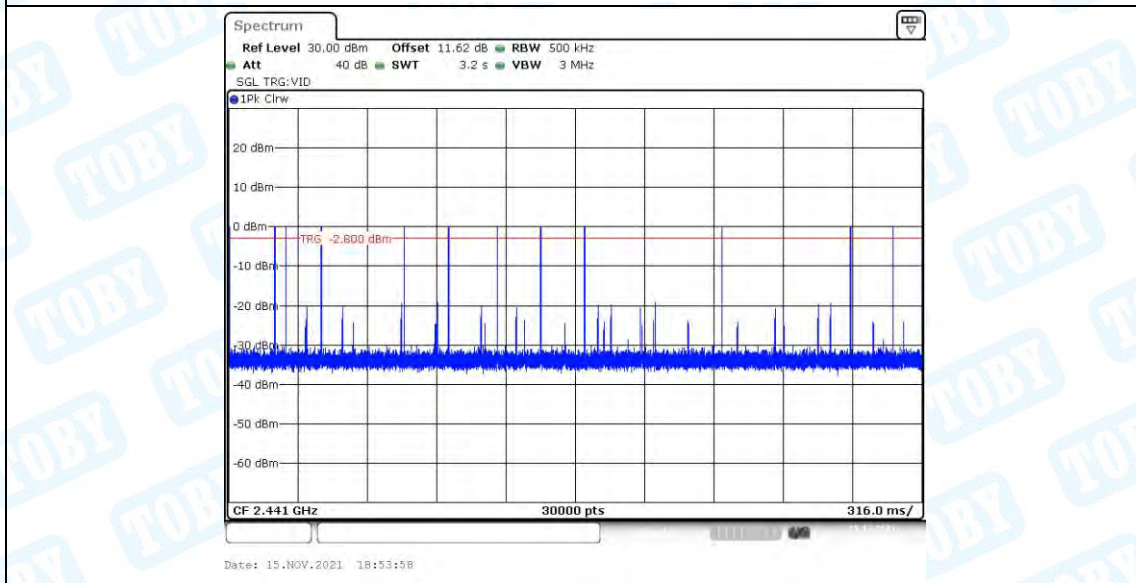
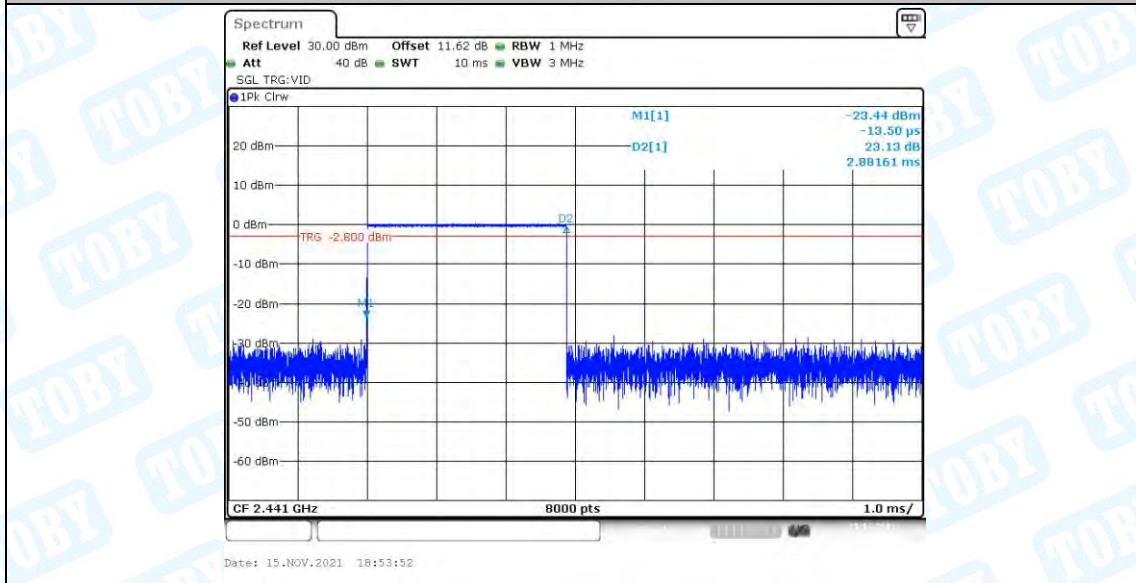


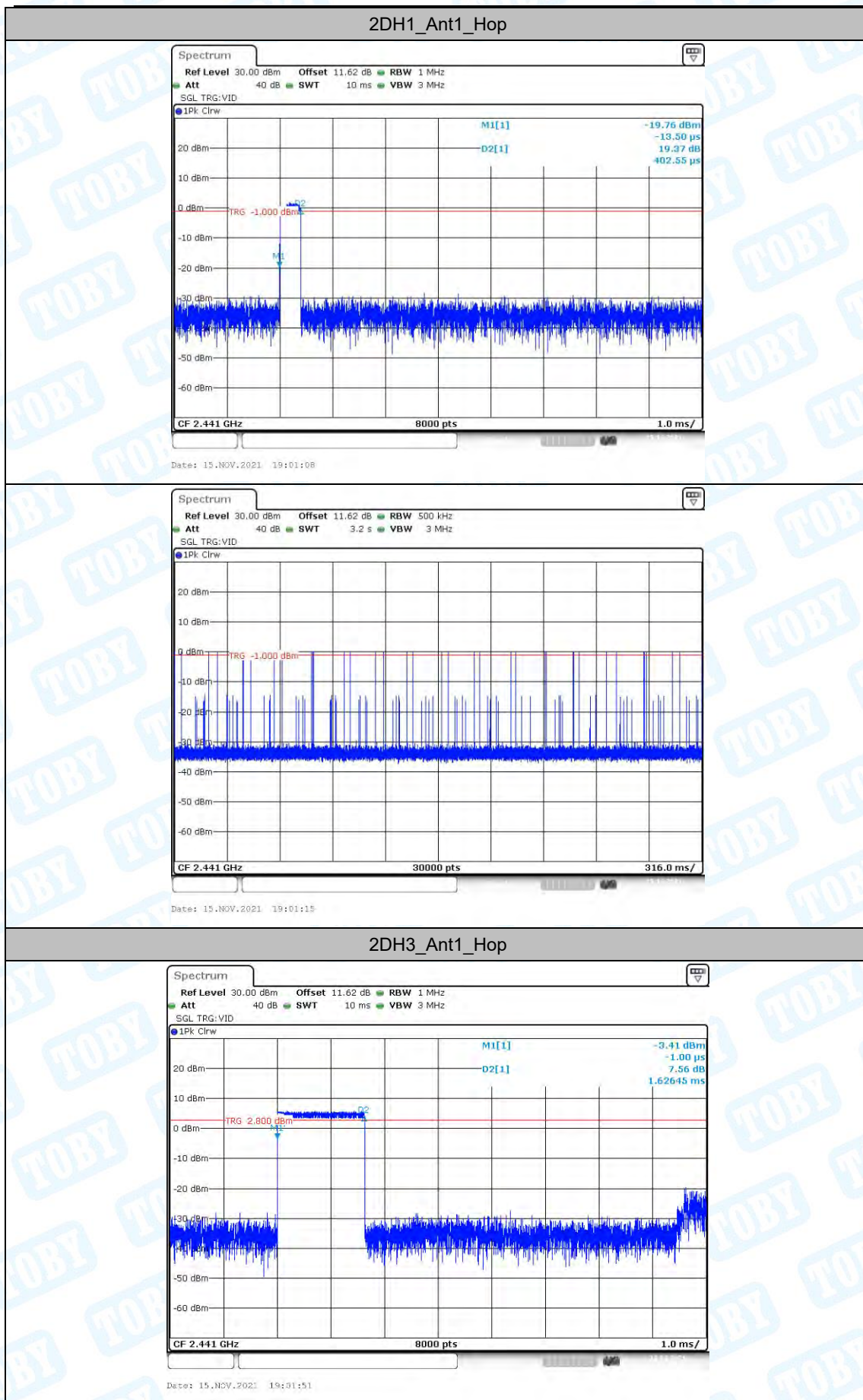
DH3_Ant1_Hop

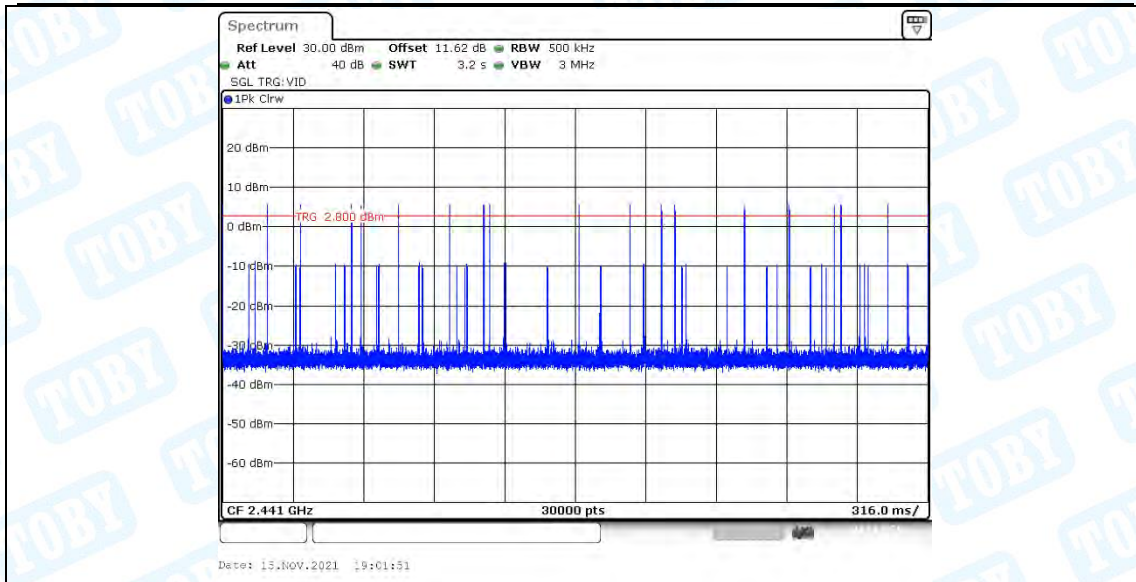




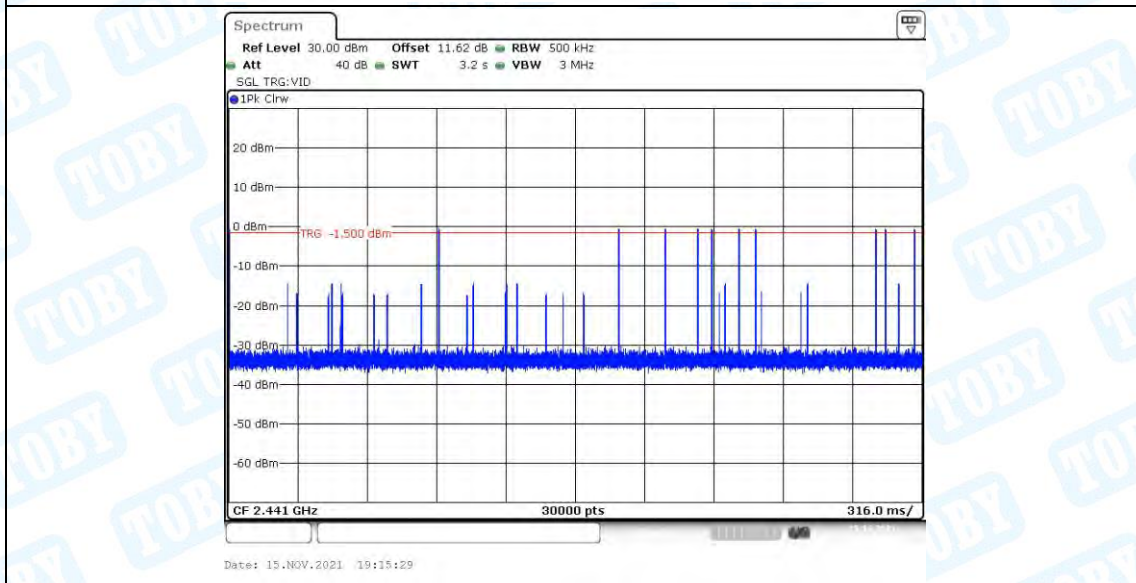
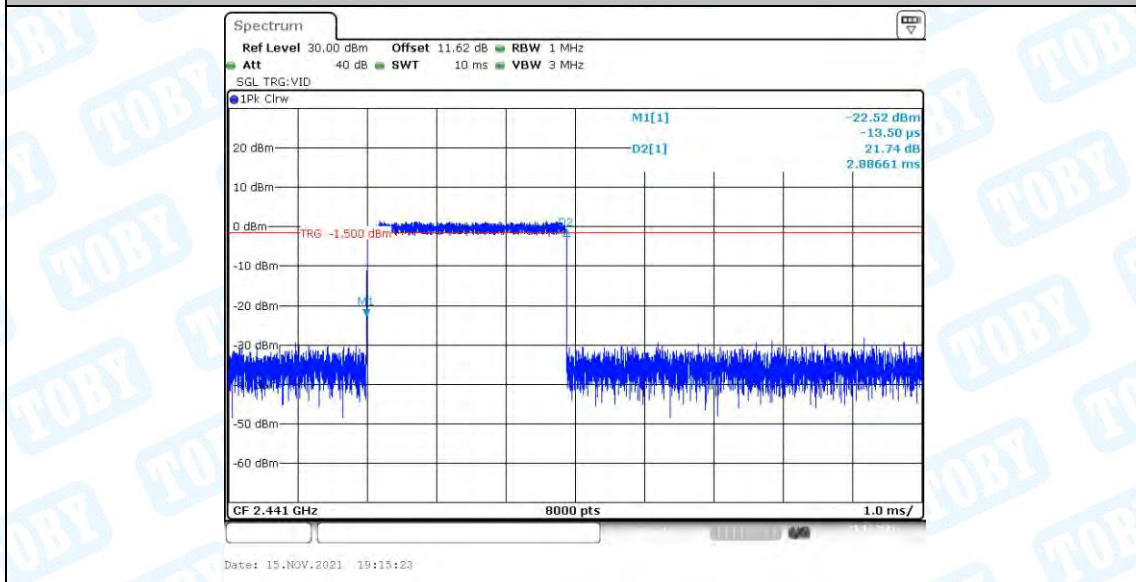
DH5_Ant1_Hop

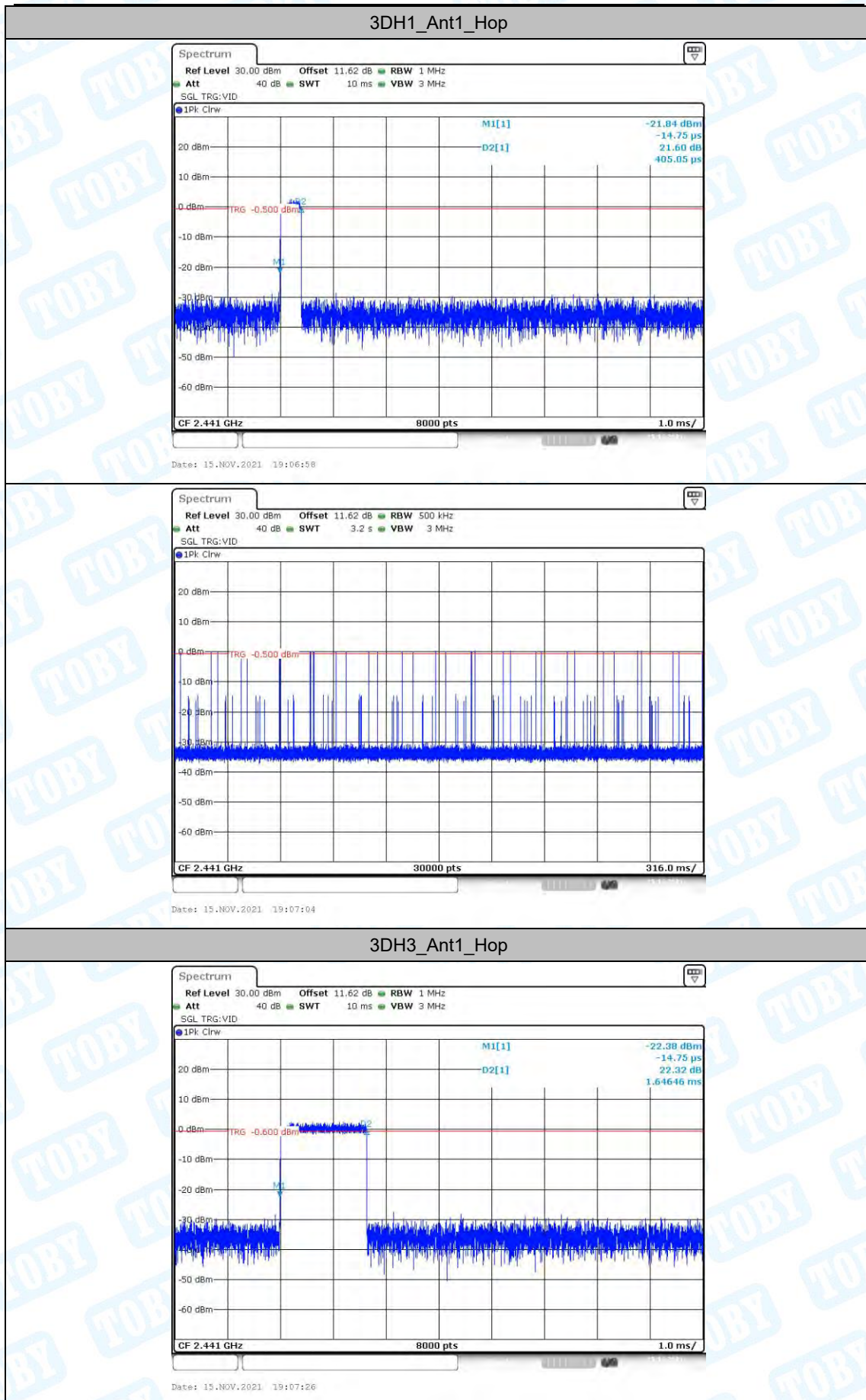


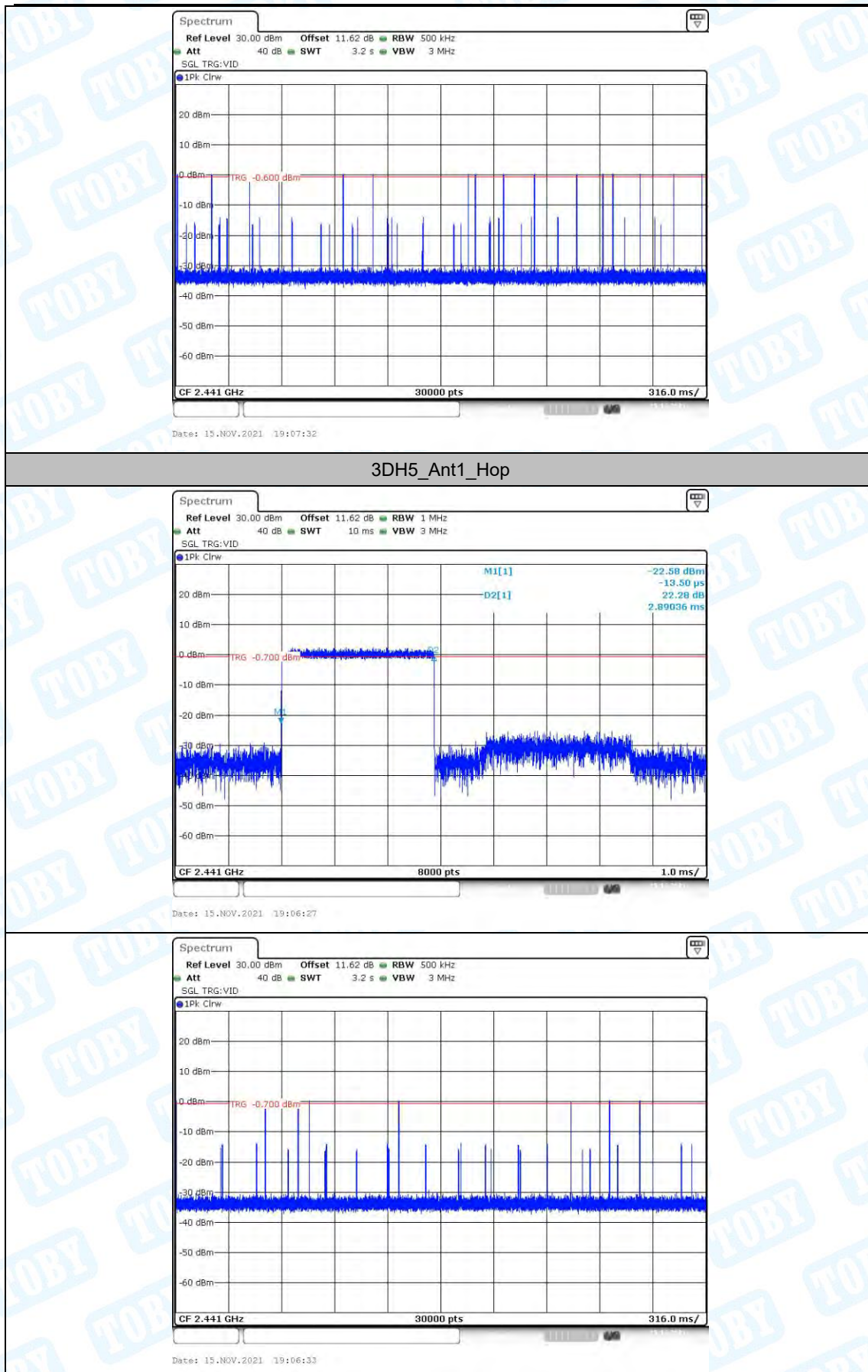




2DH5_Ant1_Hop







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

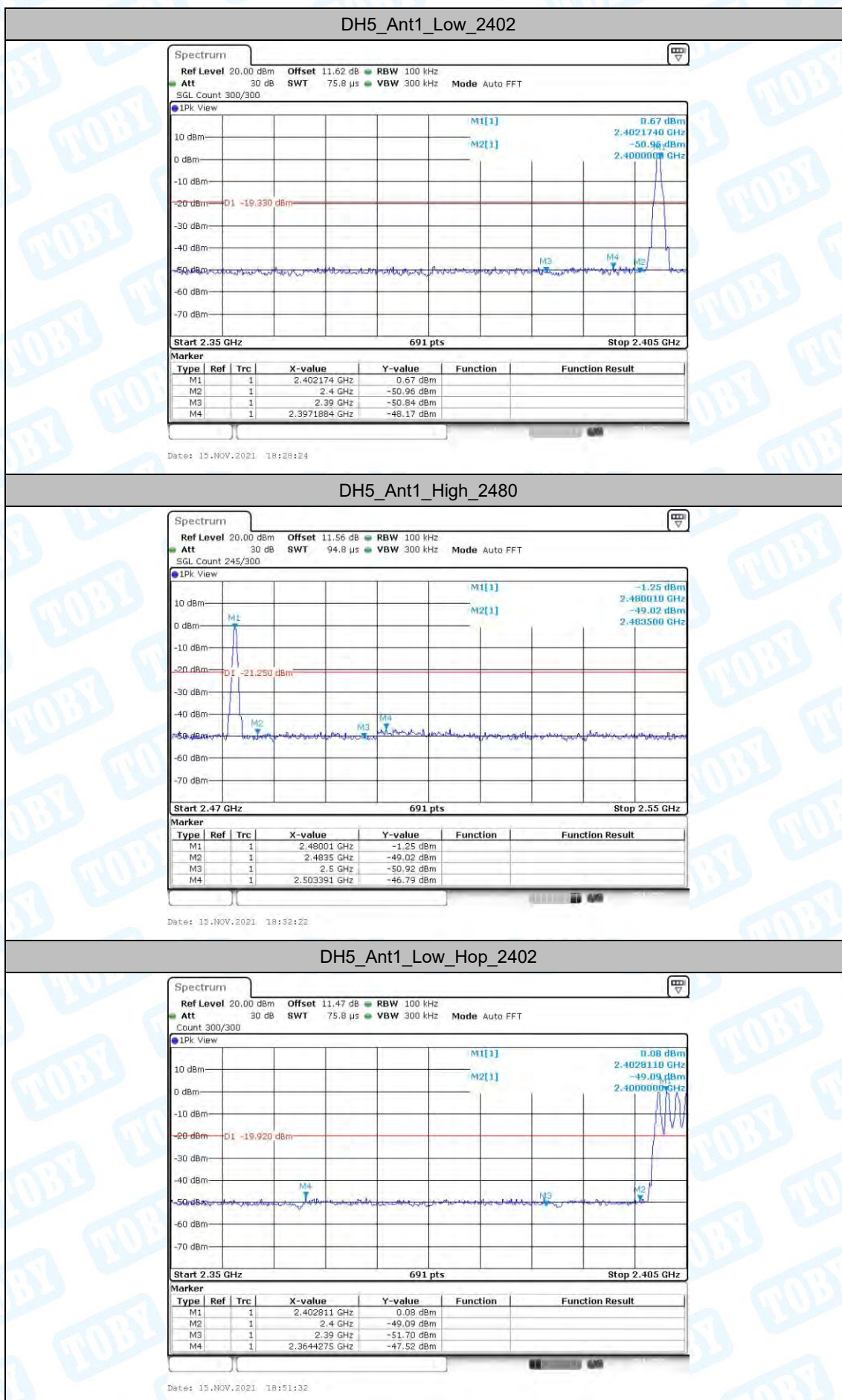


7. Band edge measurements

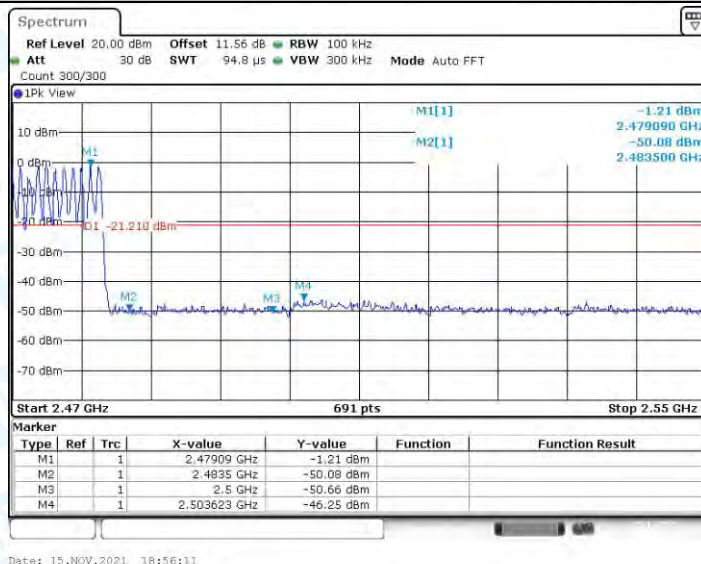
7.1. Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	0.67	-48.17	≤ -19.33	PASS
		High	2480	-1.25	-46.79	≤ -21.25	PASS
		Low	Hop_2402	0.08	-47.52	≤ -19.92	PASS
		High	Hop_2480	-1.21	-46.25	≤ -21.21	PASS
2DH5	Ant1	Low	2402	0.73	-47.88	≤ -19.27	PASS
		High	2480	-0.75	-45.91	≤ -20.75	PASS
		Low	Hop_2402	-1.25	-47.14	≤ -21.25	PASS
		High	Hop_2480	-1.62	-45.77	≤ -21.62	PASS
3DH5	Ant1	Low	2402	0.69	-48.31	≤ -19.31	PASS
		High	2480	-0.63	-46.31	≤ -20.63	PASS
		Low	Hop_2402	0.23	-48.36	≤ -19.77	PASS
		High	Hop_2480	-0.70	-46.04	≤ -20.7	PASS

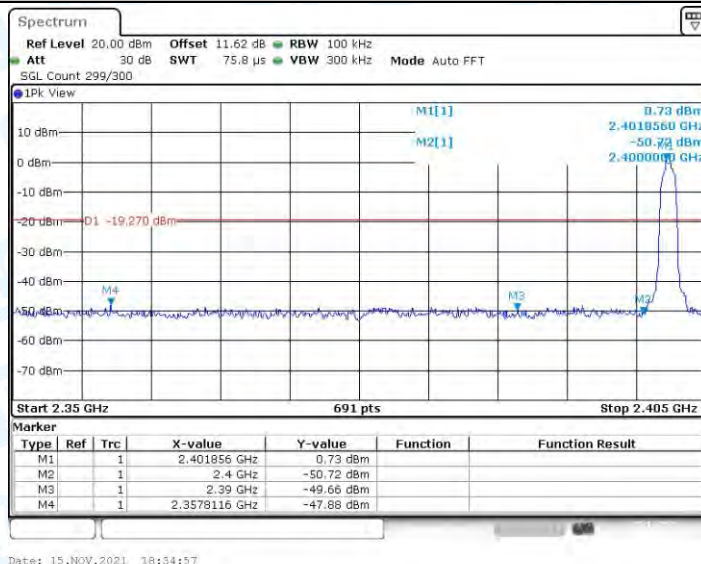
7.2. Test Graphs



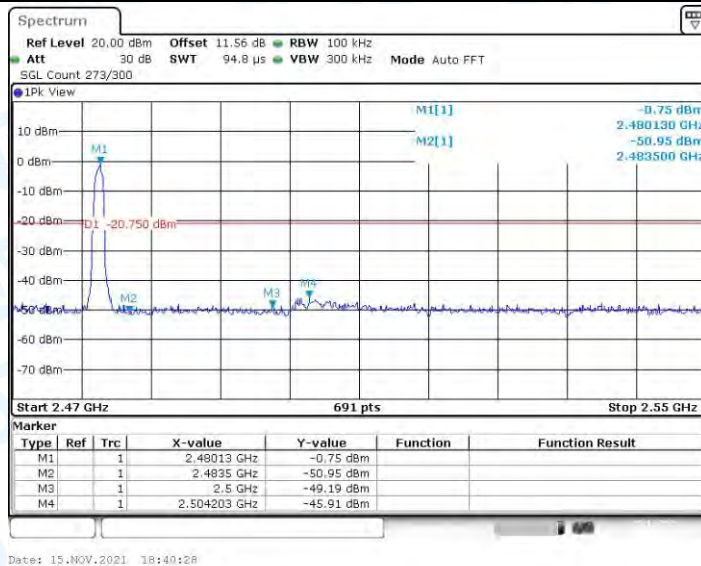
DH5_Ant1_High_Hop_2480



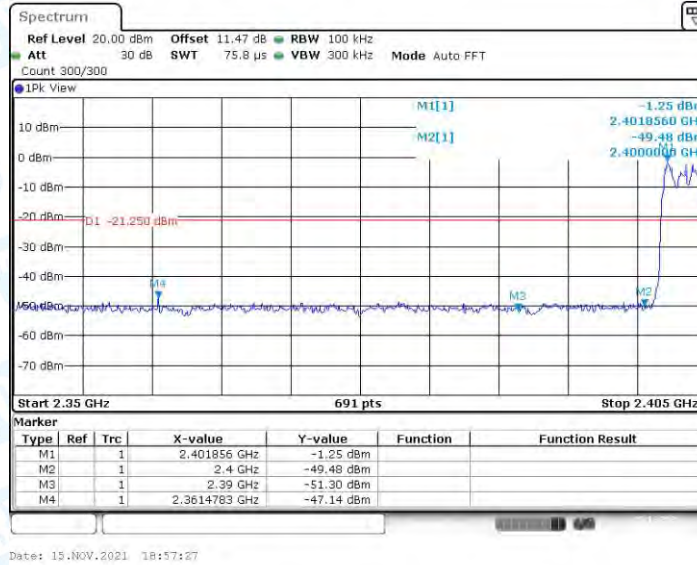
2DH5_Ant1_Low_2402



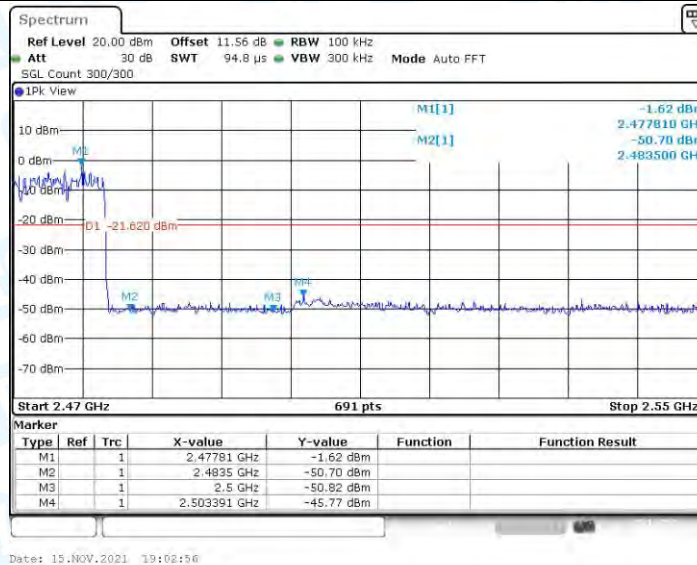
2DH5_Ant1_High_2480



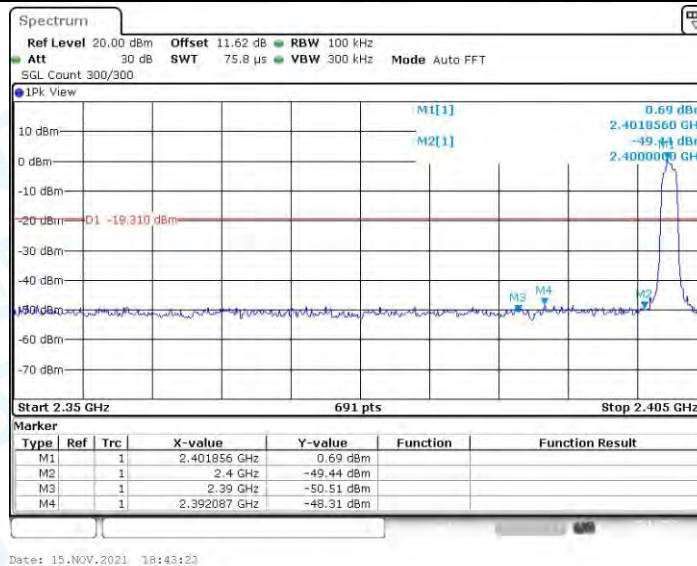
2DH5_Ant1_Low_Hop_2402



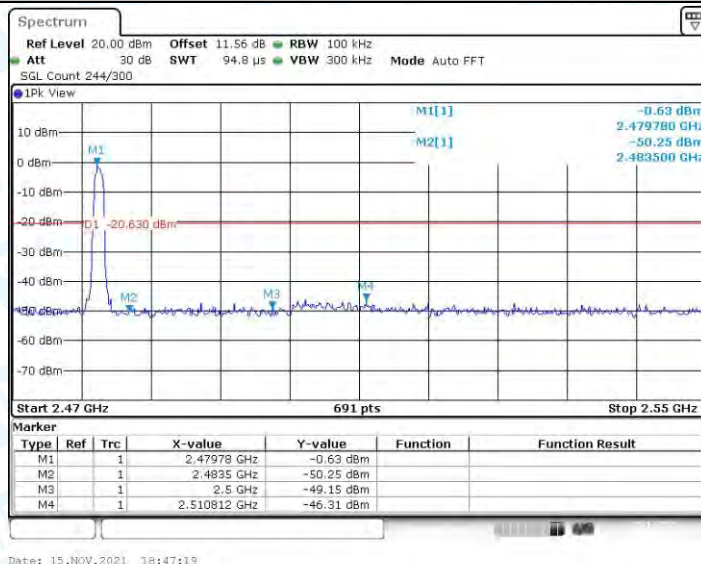
2DH5_Ant1_High_Hop_2480



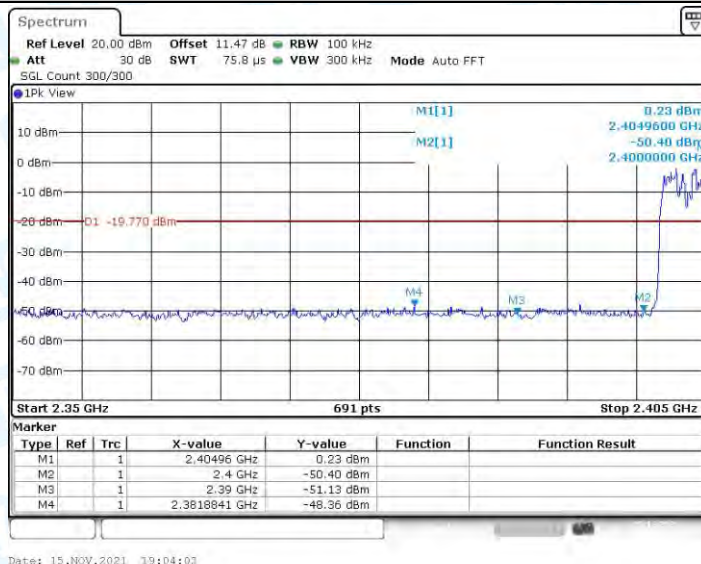
3DH5_Ant1_Low_2402



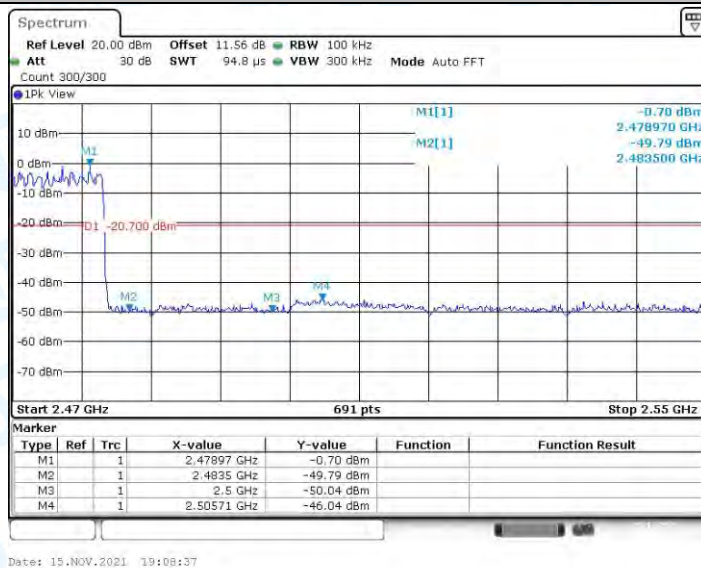
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480

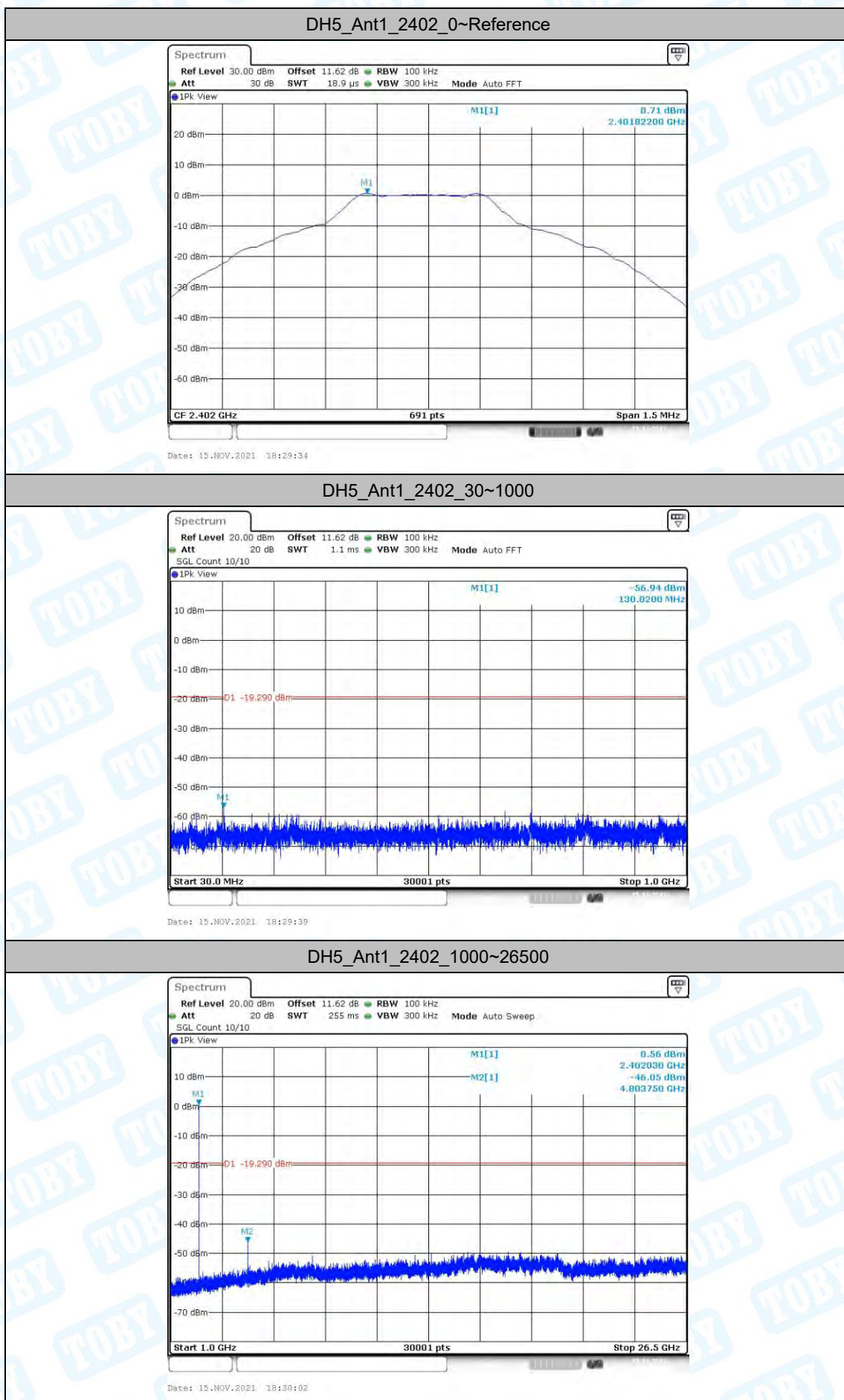


8. Conducted Spurious Emission

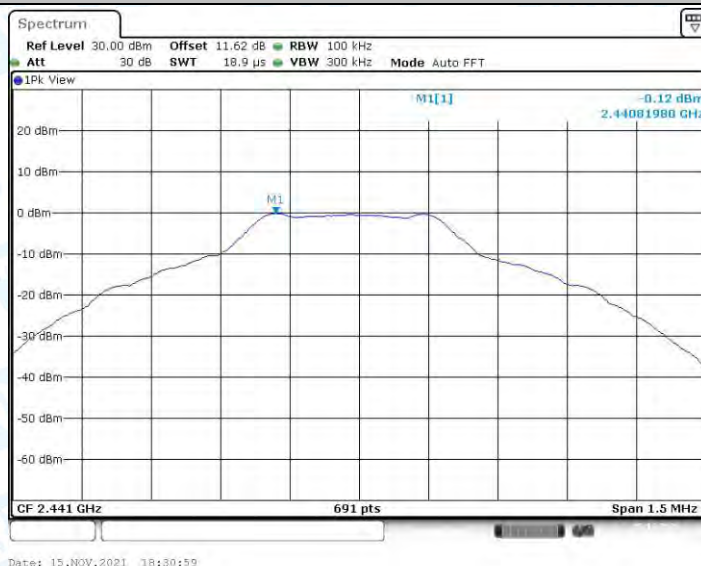
8.1. Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	0.71	0.71	---	PASS
			30~1000	0.71	-56.94	≤-19.29	PASS
			1000~26500	0.71	-46.05	≤-19.29	PASS
		2441	Reference	-0.12	-0.12	---	PASS
			30~1000	-0.12	-58.56	≤-20.12	PASS
			1000~26500	-0.12	-44.87	≤-20.12	PASS
		2480	Reference	-5.86	-5.86	---	PASS
			30~1000	-5.86	-57.1	≤-25.86	PASS
			1000~26500	-5.86	-45.54	≤-25.86	PASS
2DH5	Ant1	2402	Reference	0.63	0.63	---	PASS
			30~1000	0.63	-57.31	≤-19.37	PASS
			1000~26500	0.63	-47.78	≤-19.37	PASS
		2441	Reference	-0.14	-0.14	---	PASS
			30~1000	-0.14	-57.14	≤-20.14	PASS
			1000~26500	-0.14	-46.95	≤-20.14	PASS
		2480	Reference	-0.82	-0.82	---	PASS
			30~1000	-0.82	-56.02	≤-20.82	PASS
			1000~26500	-0.82	-44.58	≤-20.82	PASS
3DH5	Ant1	2402	Reference	0.85	0.85	---	PASS
			30~1000	0.85	-57.41	≤-19.15	PASS
			1000~26500	0.85	-48.15	≤-19.15	PASS
		2441	Reference	-0.05	-0.05	---	PASS
			30~1000	-0.05	-58.04	≤-20.05	PASS
			1000~26500	-0.05	-43.96	≤-20.05	PASS
		2480	Reference	-0.83	-0.83	---	PASS
			30~1000	-0.83	-57.15	≤-20.83	PASS
			1000~26500	-0.83	-48.01	≤-20.83	PASS

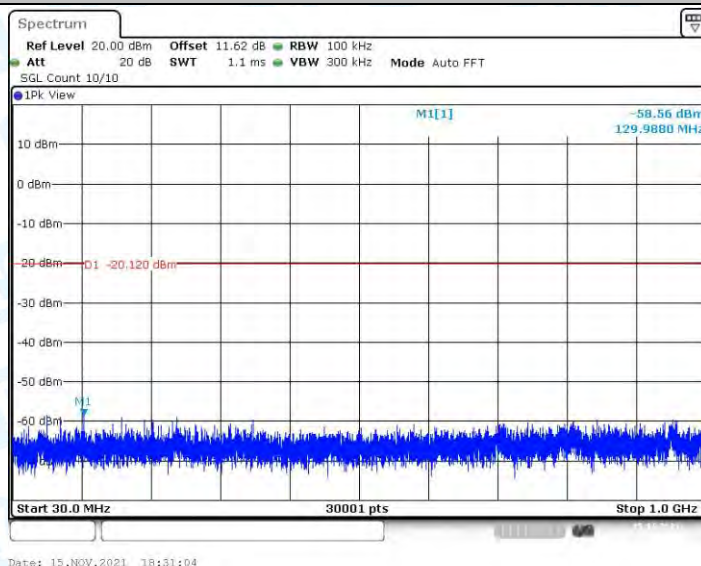
8.2. Test Graphs



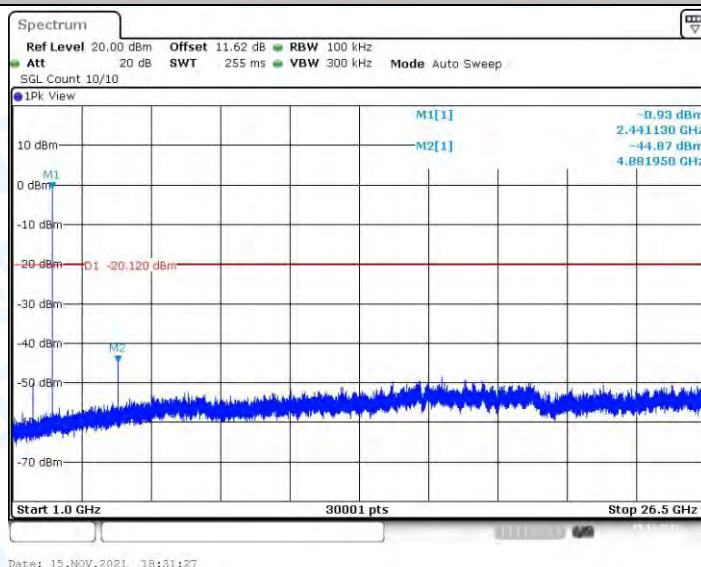
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



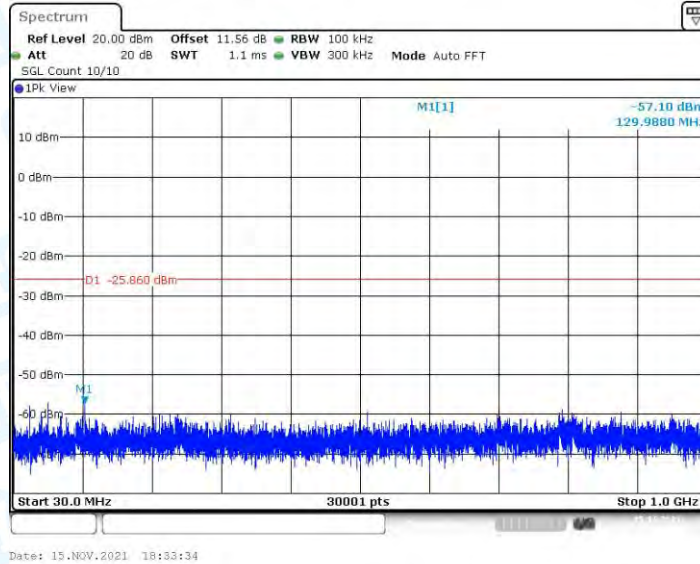
DH5_Ant1_2441_1000~26500



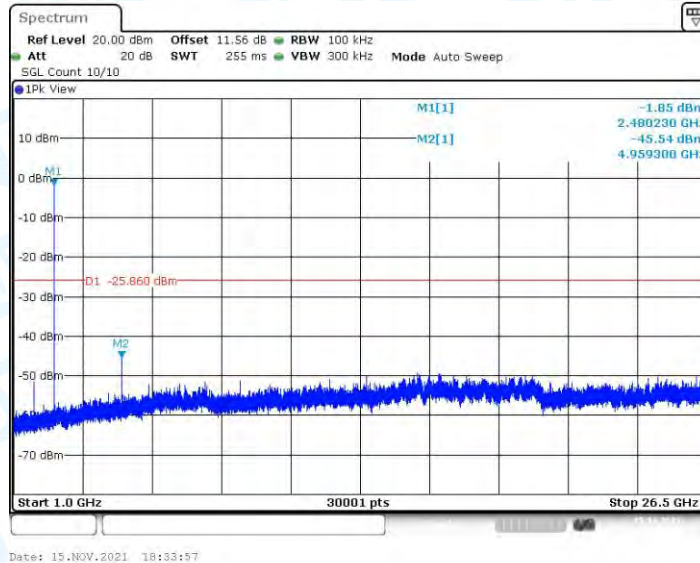
DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000



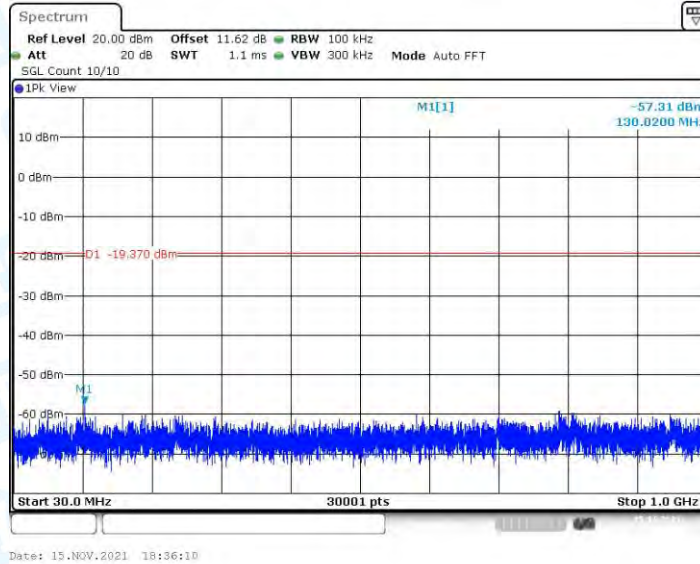
DH5_Ant1_2480_1000~26500



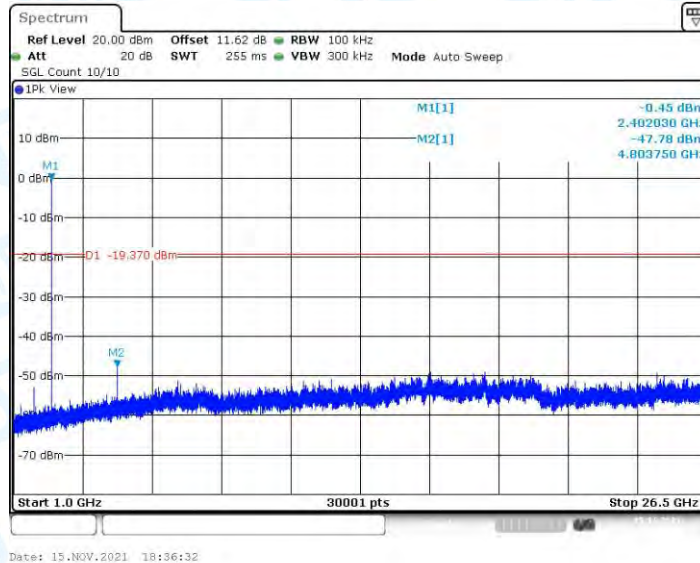
2DH5_Ant1_2402_0~Reference



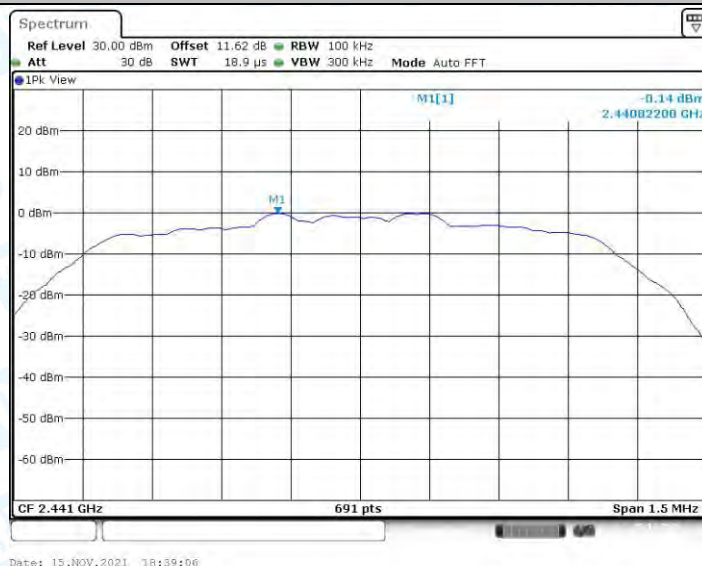
2DH5_Ant1_2402_30~1000



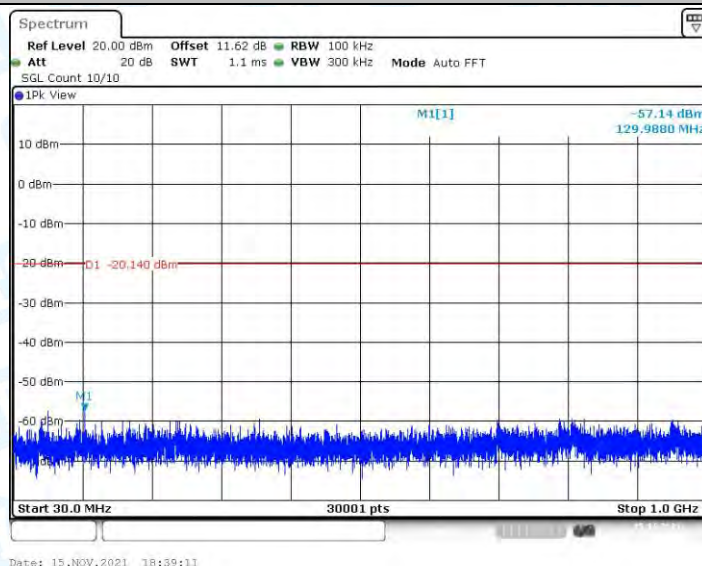
2DH5_Ant1_2402_1000~26500



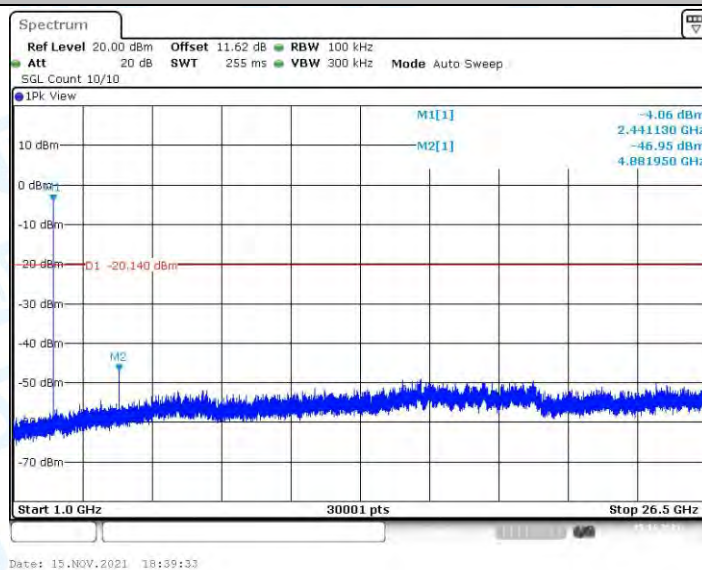
2DH5_Ant1_2441_0~Reference



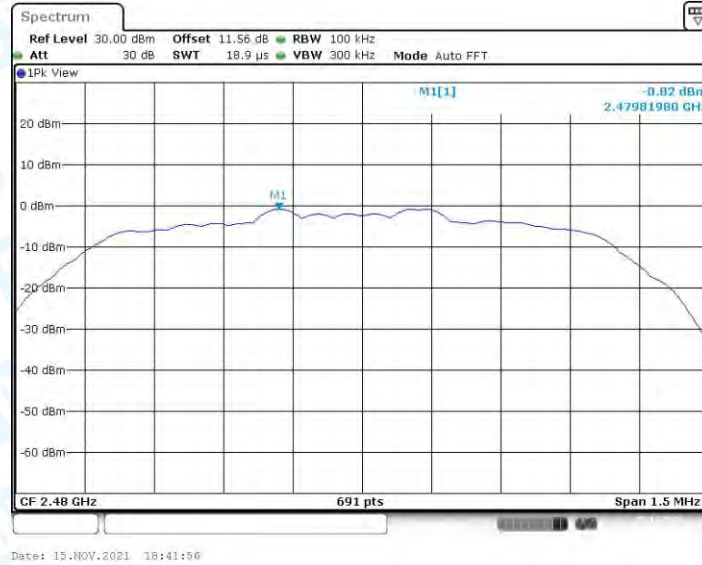
2DH5_Ant1_2441_30~1000



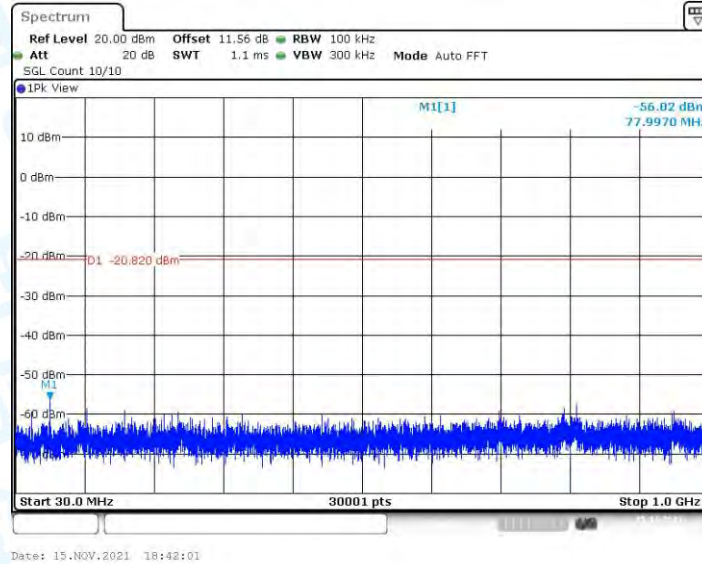
2DH5_Ant1_2441_1000~26500



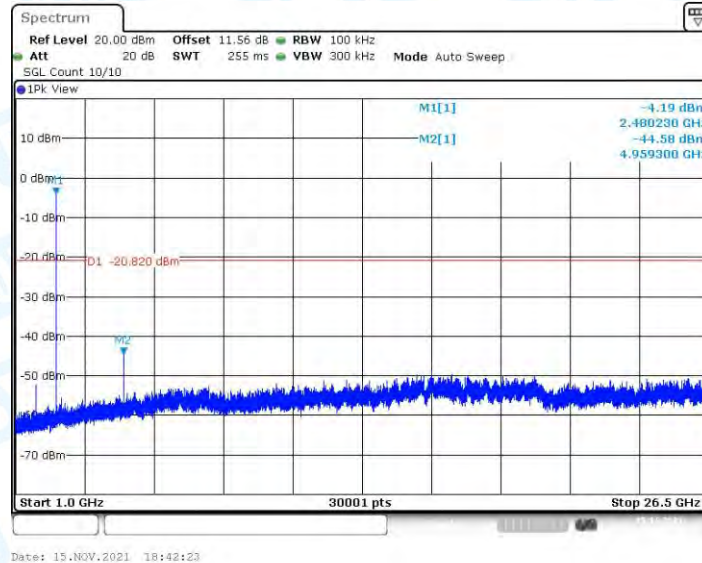
2DH5_Ant1_2480_0~Reference



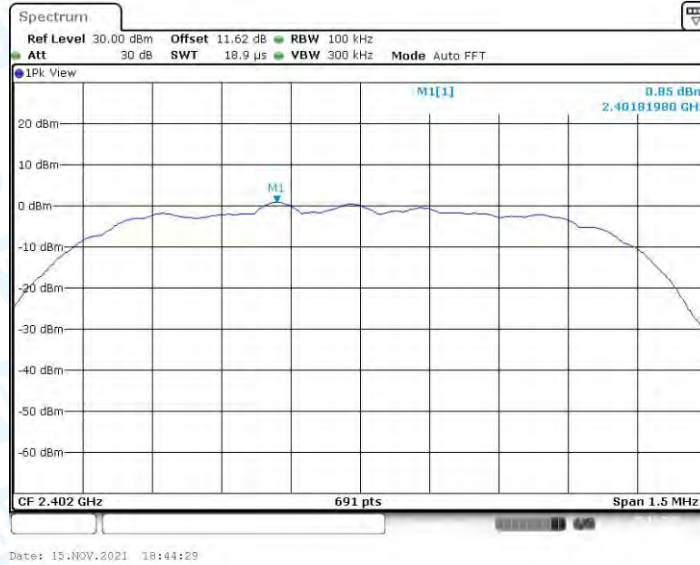
2DH5_Ant1_2480_30~1000



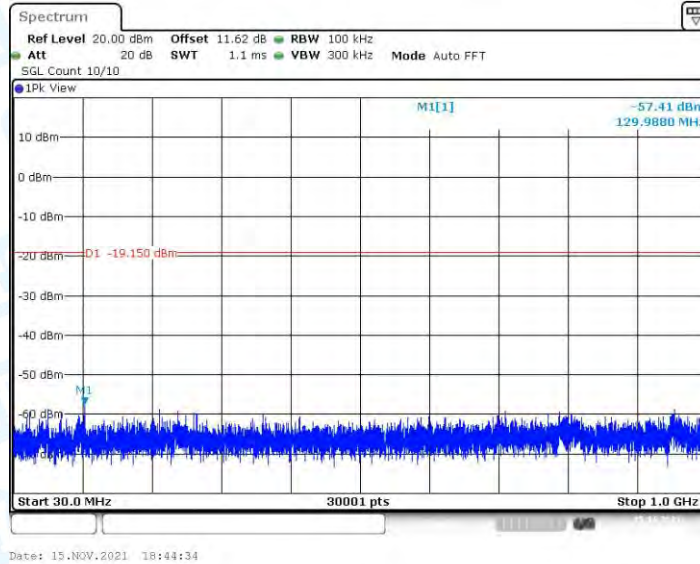
2DH5_Ant1_2480_1000~26500



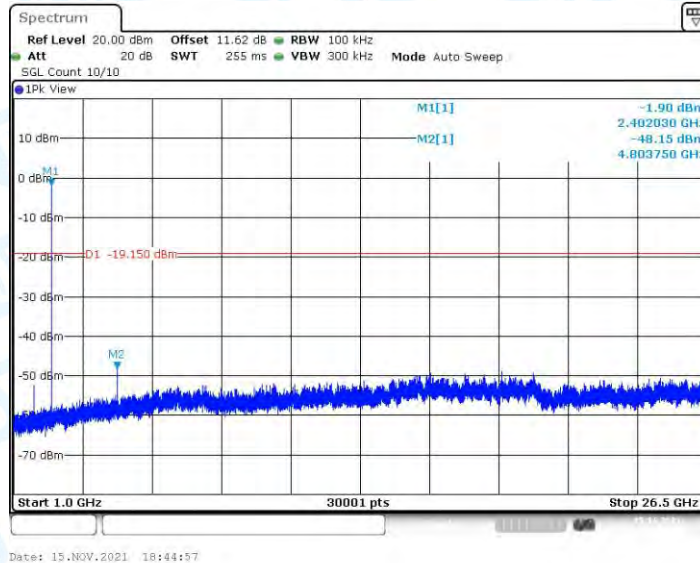
3DH5_Ant1_2402_0~Reference



3DH5_Ant1_2402_30~1000



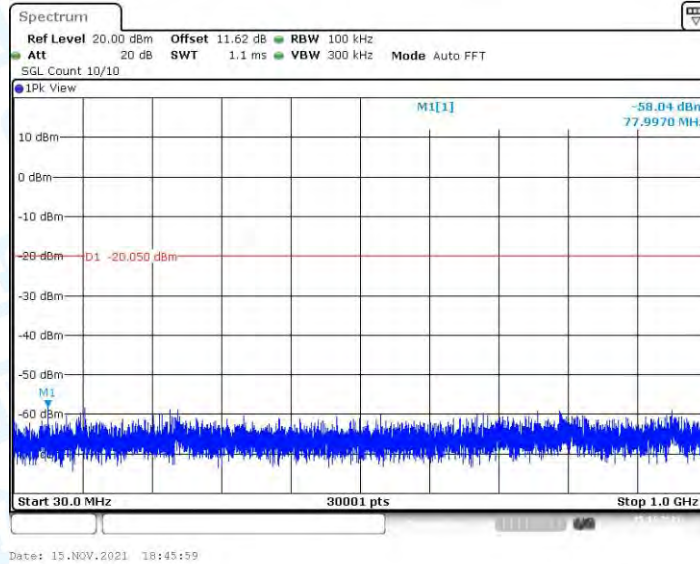
3DH5_Ant1_2402_1000~26500



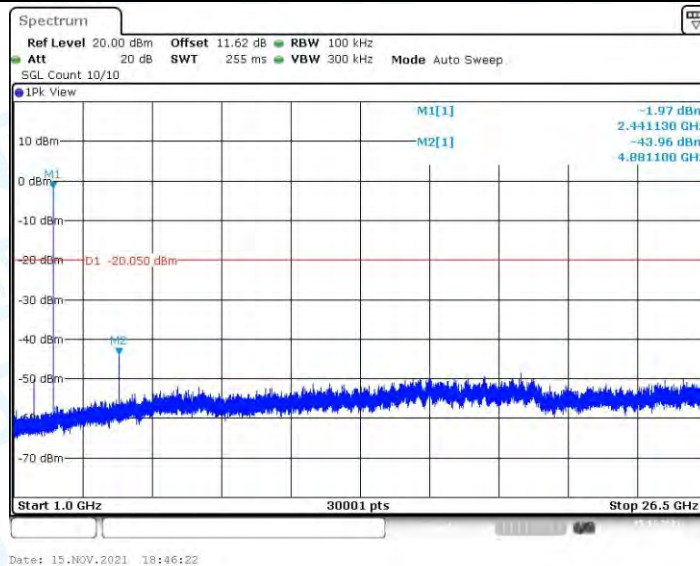
3DH5_Ant1_2441_0~Reference



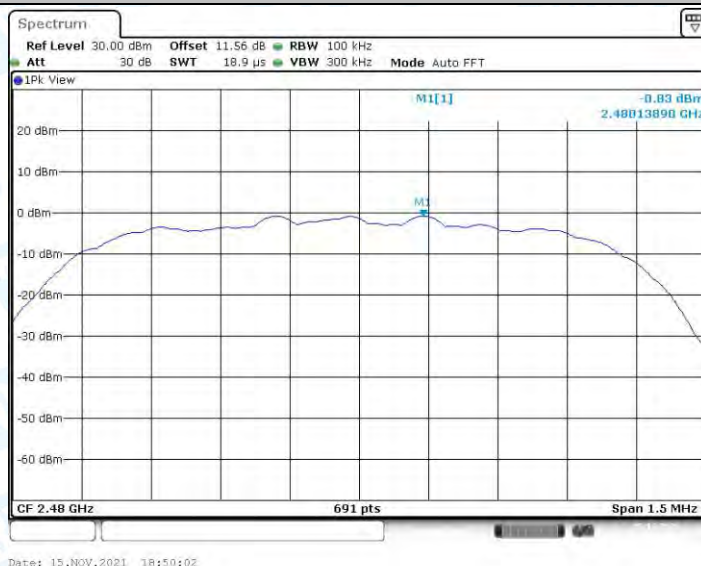
3DH5_Ant1_2441_30~1000



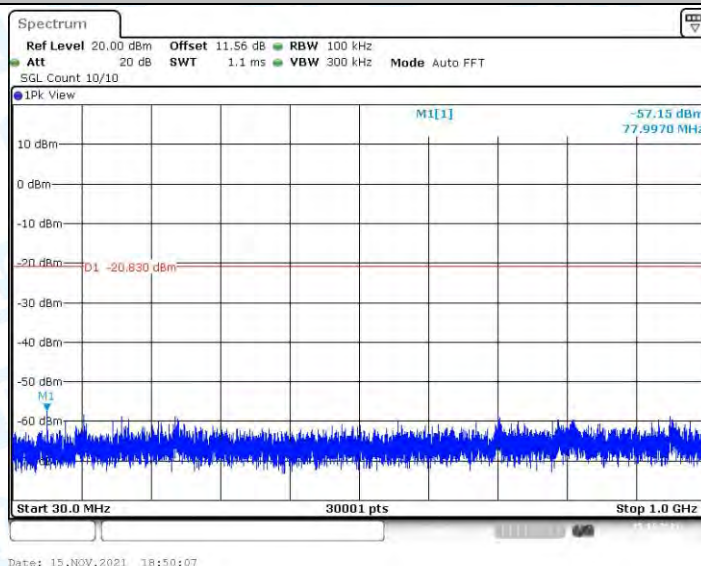
3DH5_Ant1_2441_1000~26500



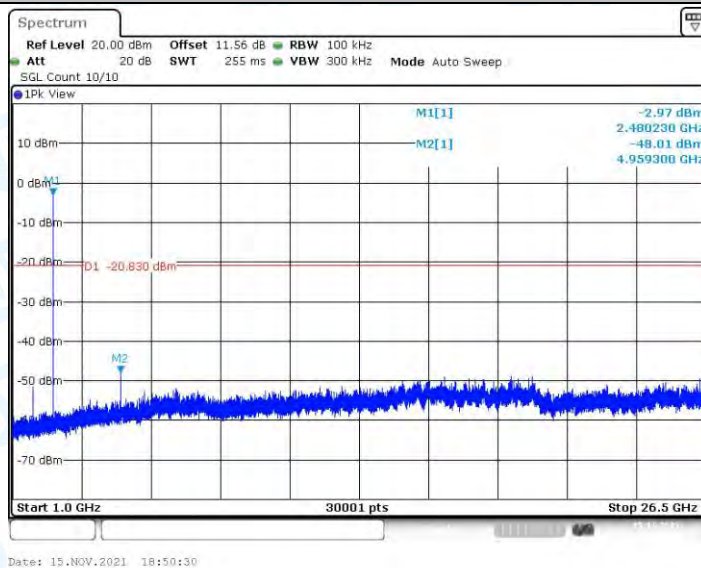
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500



9. Emissions in Restricted Bands

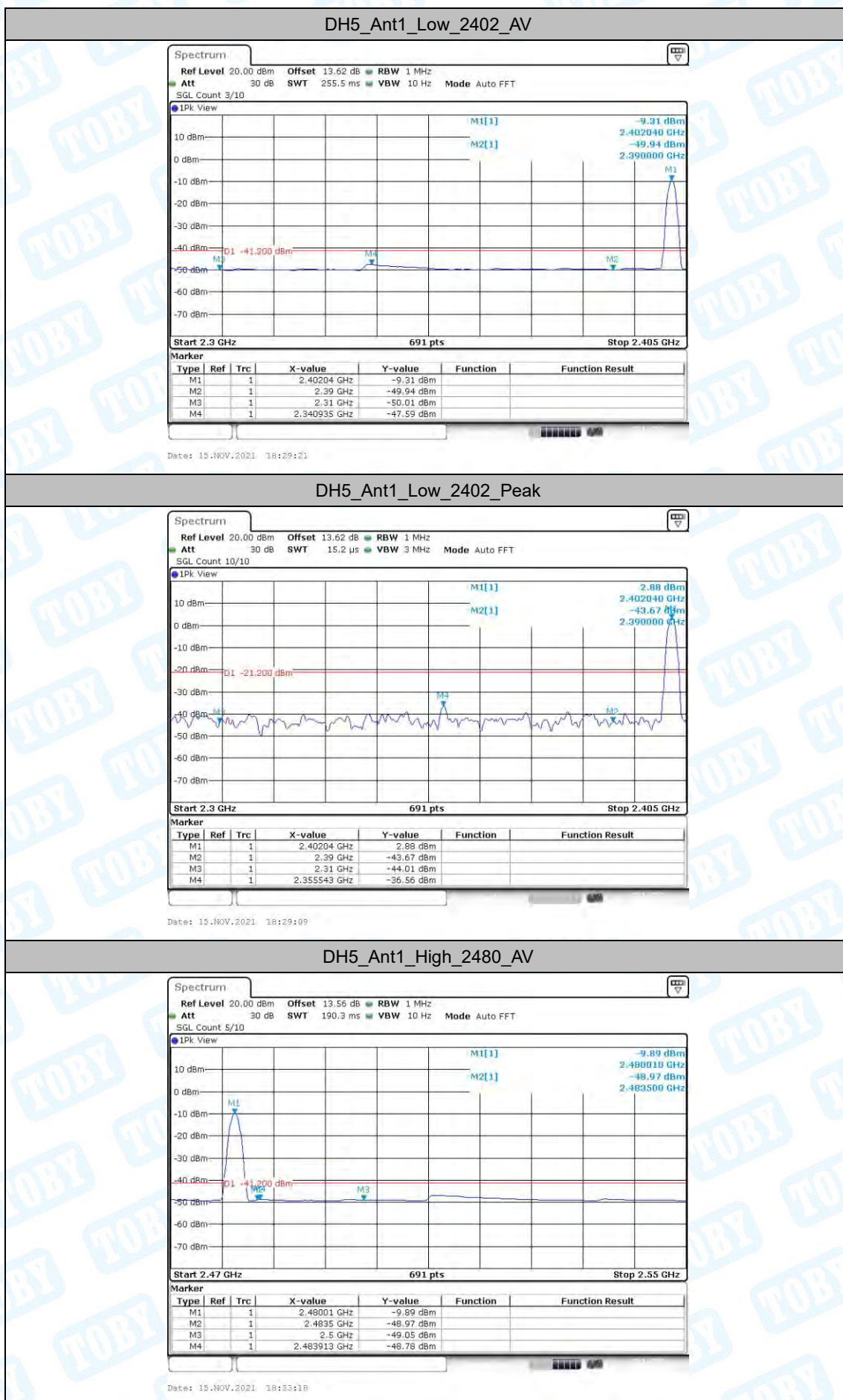
9.1. Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-50.01	≤-41.20	PASS
				AV	2340.935	-47.59	≤-41.20	PASS
				AV	2390.000	-49.94	≤-41.20	PASS
				Peak	2310.000	-44.01	≤-21.20	PASS
				Peak	2355.543	-36.56	≤-21.20	PASS
				Peak	2390.000	-43.67	≤-21.20	PASS
		High	2480	AV	2483.500	-48.97	≤-41.20	PASS
				AV	2483.913	-48.78	≤-41.20	PASS
				AV	2500.000	-49.05	≤-41.20	PASS
				Peak	2483.500	-43.12	≤-21.20	PASS
				Peak	2484.377	-38.2	≤-21.20	PASS
				Peak	2500.000	-42.83	≤-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-49.99	≤-41.20	PASS
				AV	2340.783	-47.62	≤-41.20	PASS
				AV	2390.000	-49.93	≤-41.20	PASS
				Peak	2310.000	-43.06	≤-21.20	PASS
				Peak	2384.152	-37.99	≤-21.20	PASS
				Peak	2390.000	-42.8	≤-21.20	PASS
		High	2480	AV	2483.500	-48.94	≤-41.20	PASS
				AV	2483.913	-48.78	≤-41.20	PASS
				AV	2500.000	-49.07	≤-41.20	PASS
				Peak	2483.500	-44.89	≤-21.20	PASS
				Peak	2498.638	-38.41	≤-21.20	PASS
				Peak	2500.000	-41.51	≤-21.20	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-49.99	≤-41.20	PASS
				AV	2340.783	-47.53	≤-41.20	PASS
				AV	2390.000	-49.92	≤-41.20	PASS
				Peak	2310.000	-42.75	≤-21.20	PASS
				Peak	2340.022	-37.54	≤-21.20	PASS
				Peak	2390.000	-45.57	≤-21.20	PASS
		High	2480	AV	2483.500	-48.95	≤-41.20	PASS
				AV	2483.913	-48.77	≤-41.20	PASS
				AV	2500.000	-49.05	≤-41.20	PASS
				Peak	2483.500	-43.07	≤-21.20	PASS
				Peak	2488.551	-38.03	≤-21.20	PASS
				Peak	2500.000	-44.74	≤-21.20	PASS

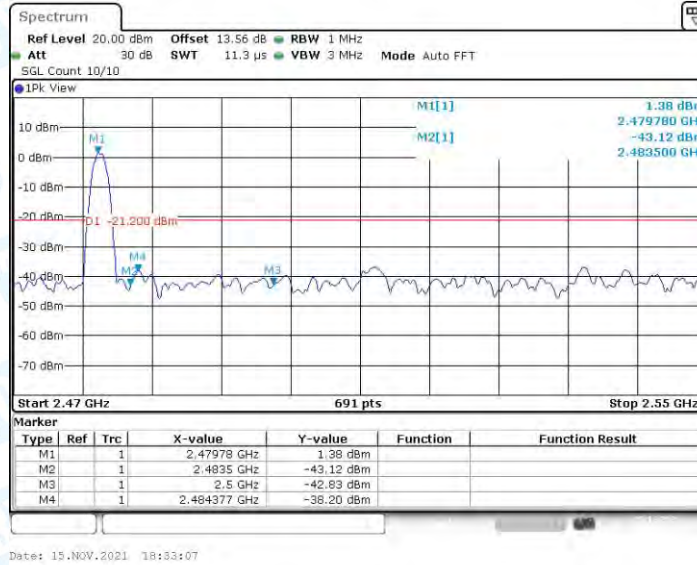
Note:

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.

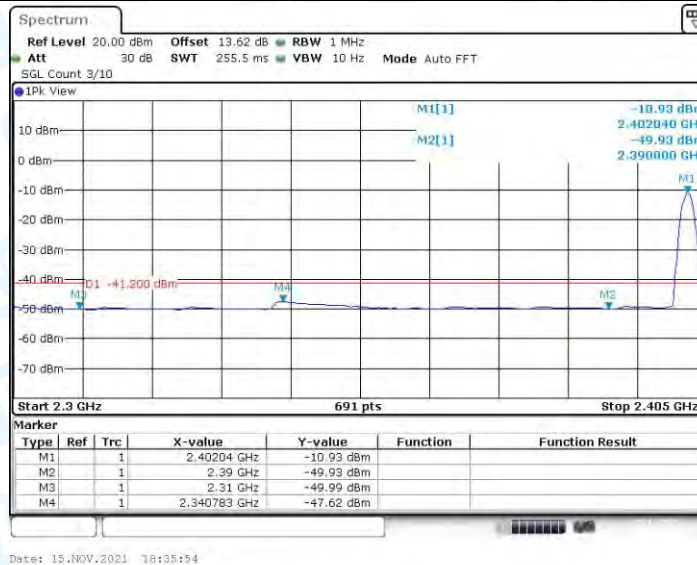
9.2. Test Graphs



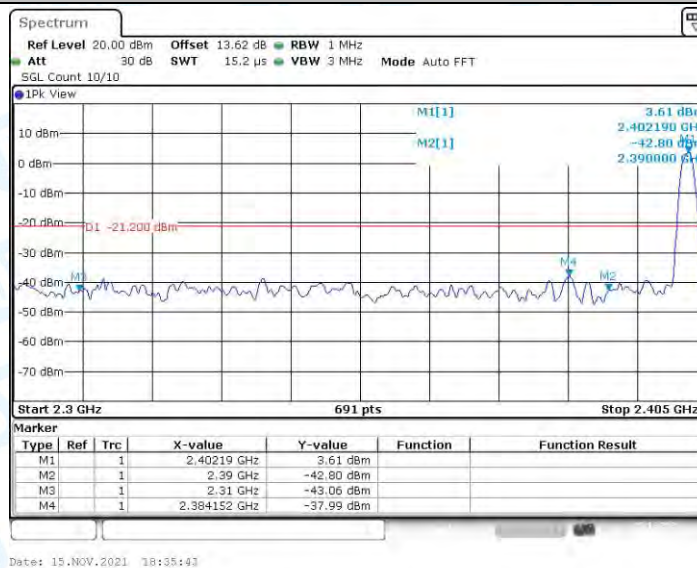
DH5_Ant1_High_2480_Peak



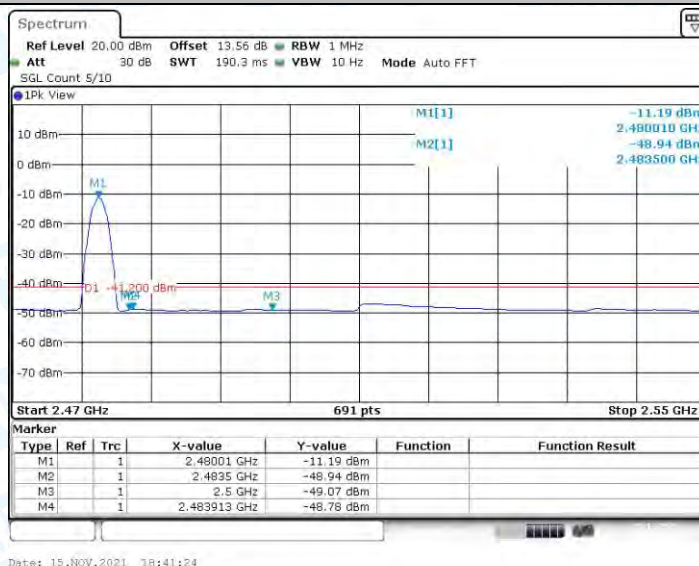
2DH5_Ant1_Low_2402_AV



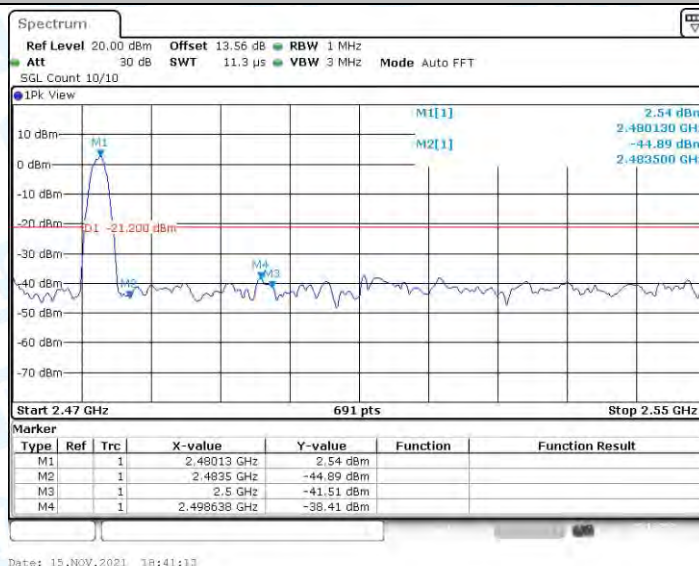
2DH5_Ant1_Low_2402_Peak



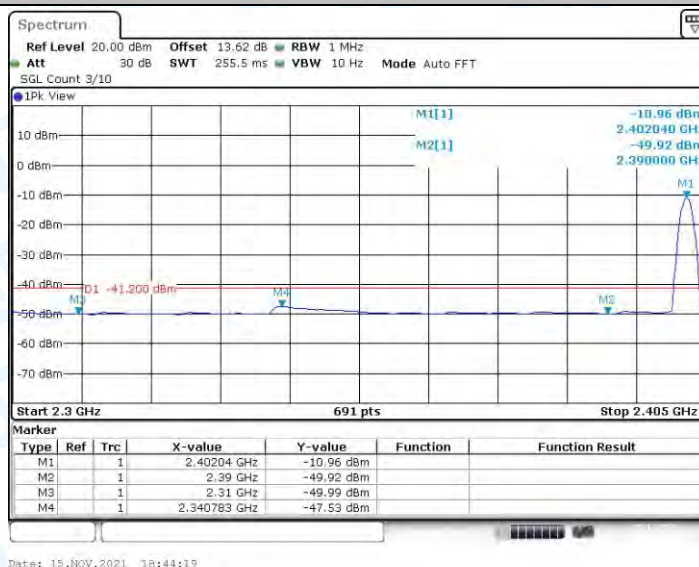
2DH5_Ant1_High_2480_AV



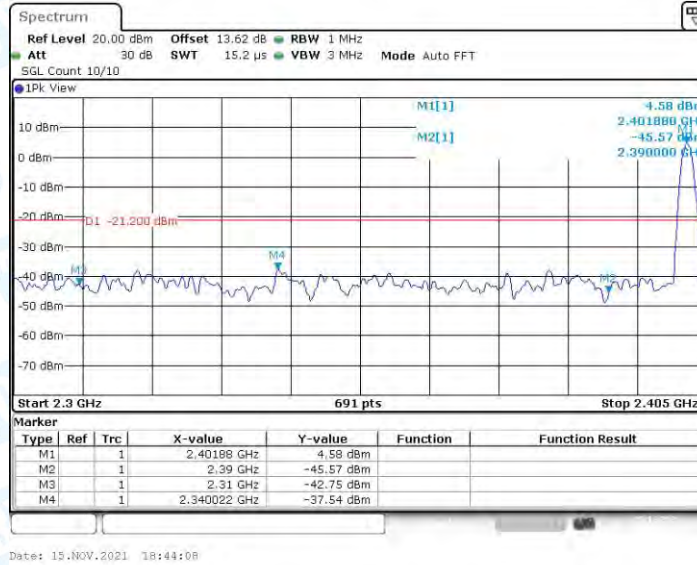
2DH5_Ant1_High_2480_Peak



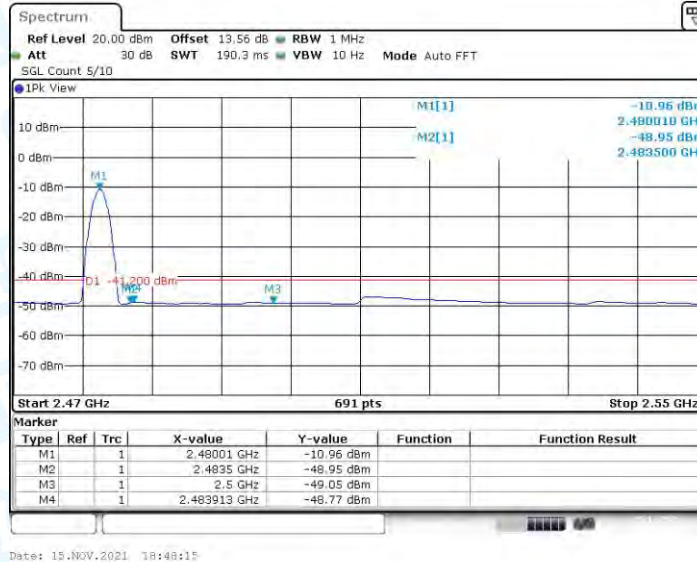
3DH5_Ant1_Low_2402_AV



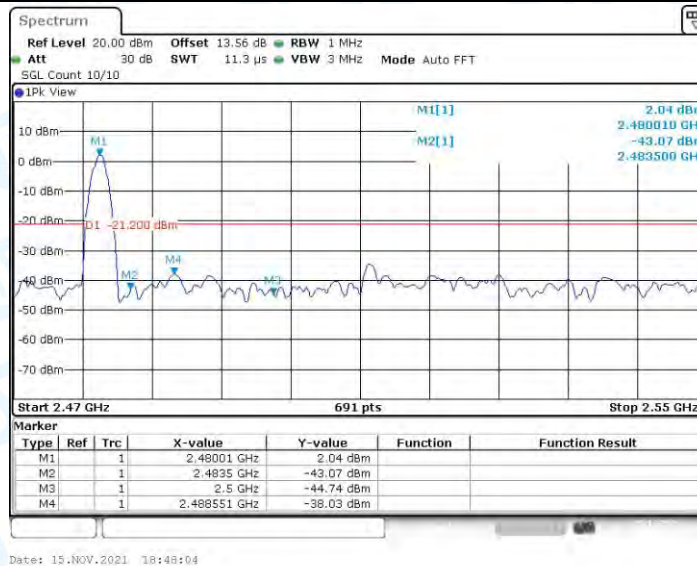
3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak



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