

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

General Description of EUT	
Product Name:	Indoor Full Hotspot US915
Test Model:	ED-IoTHotspot-Pi4-US
Sample ID:	20210928-19-02
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	AC 120V/60Hz
Test Engineer:	Huang jian ping
Note: For a more detailed features description, please refer to the report TB-FCC184221	

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1. 20dB Emission Bandwidth

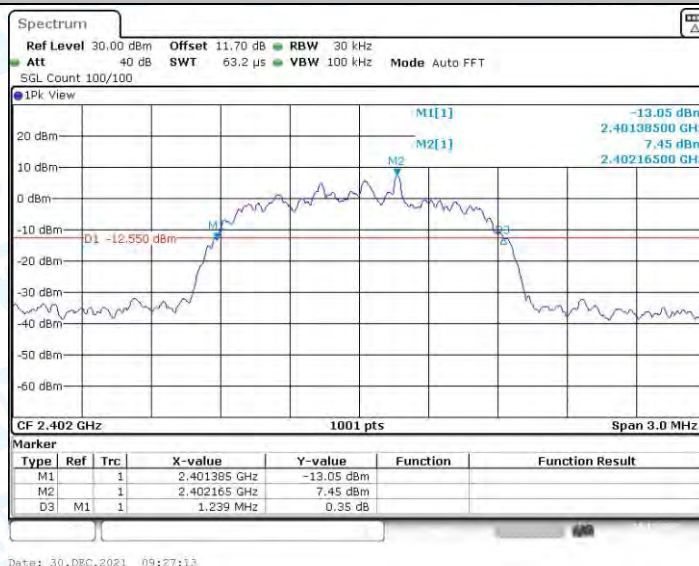
1.1. Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.81	---	PASS
		2441	0.86	---	PASS
		2480	0.86	---	PASS
2DH5	Ant1	2402	1.24	---	PASS
		2441	1.33	---	PASS
		2480	1.28	---	PASS
3DH5	Ant1	2402	1.32	---	PASS
		2441	1.29	---	PASS
		2480	1.25	---	PASS

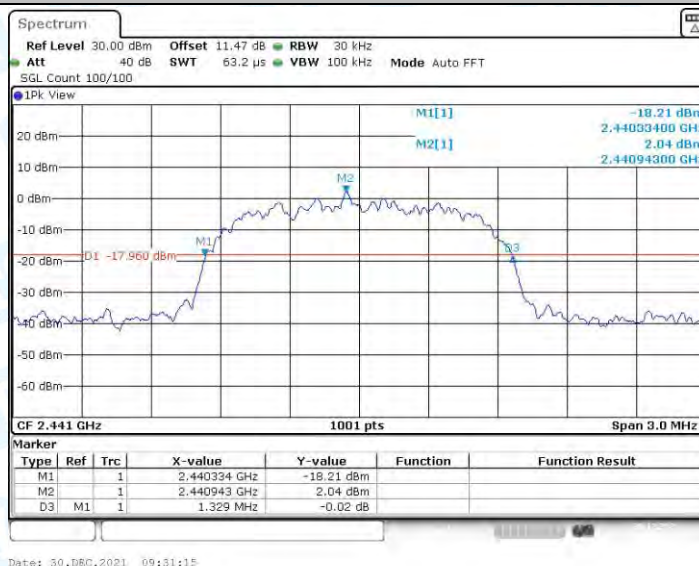
1.2. Test Graphs



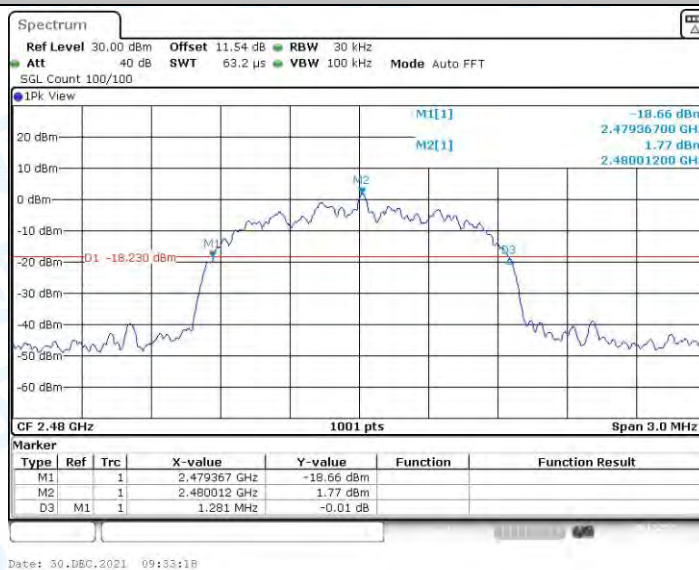
2DH5_Ant1_2402



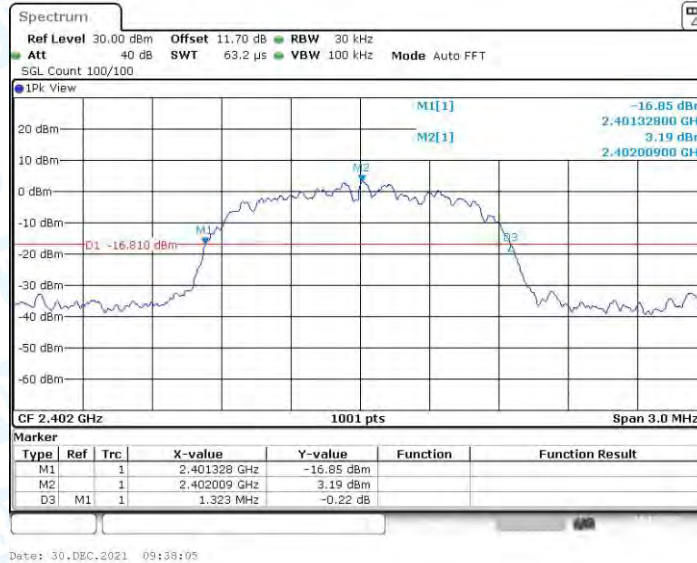
2DH5_Ant1_2441



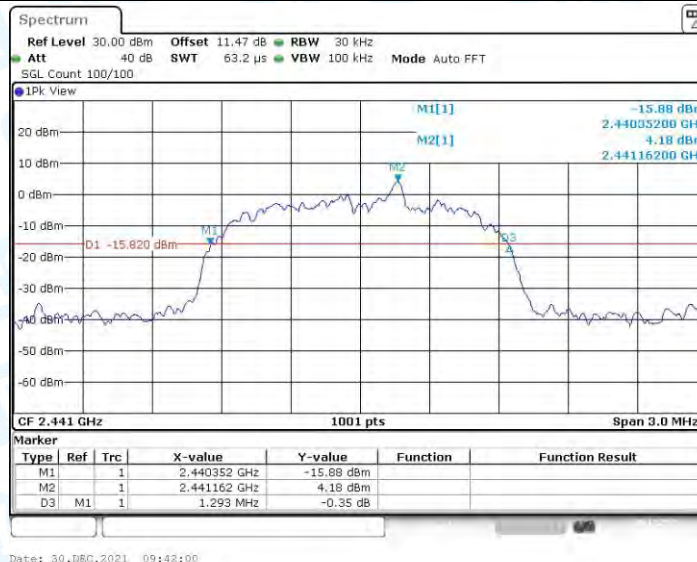
2DH5_Ant1_2480



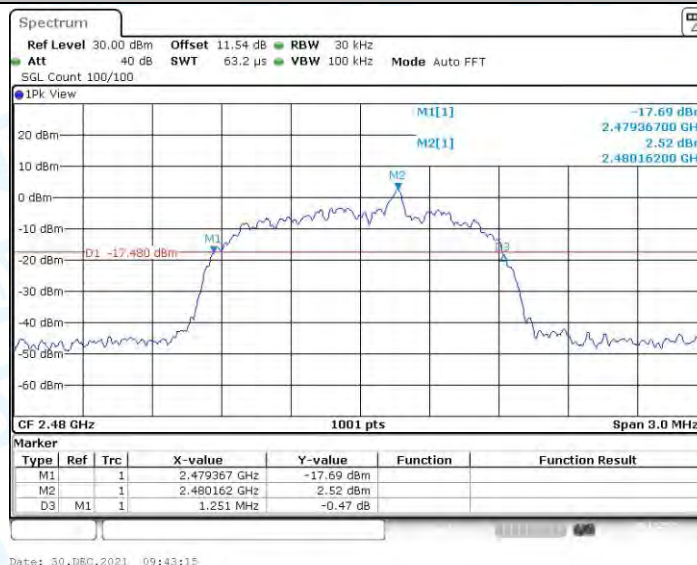
3DH5_Ant1_2402



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	0.755	2401.628	2402.384	---	PASS
		2441	0.758	2440.625	2441.384	---	PASS
		2480	0.758	2479.628	2480.387	---	PASS
2DH5	Ant1	2402	1.154	2401.419	2402.572	---	PASS
		2441	1.157	2440.419	2441.575	---	PASS
		2480	1.145	2479.428	2480.572	---	PASS
3DH5	Ant1	2402	1.163	2401.419	2402.581	---	PASS
		2441	1.157	2440.422	2441.578	---	PASS
		2480	1.142	2479.434	2480.575	---	PASS

2.2.Test Graphs



2DH5_Ant1_2402



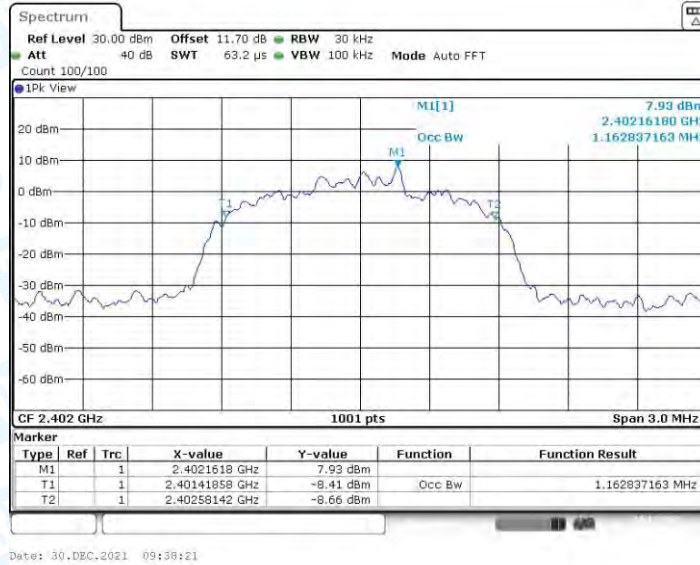
2DH5_Ant1_2441



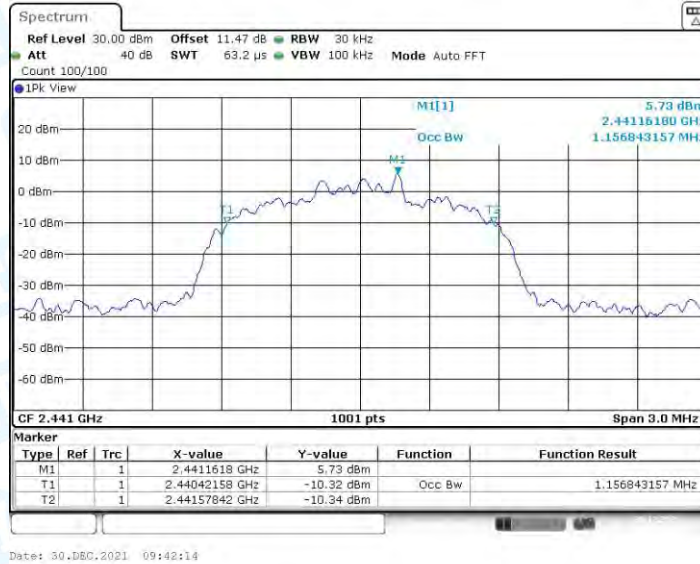
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



3. Maximum conducted output power

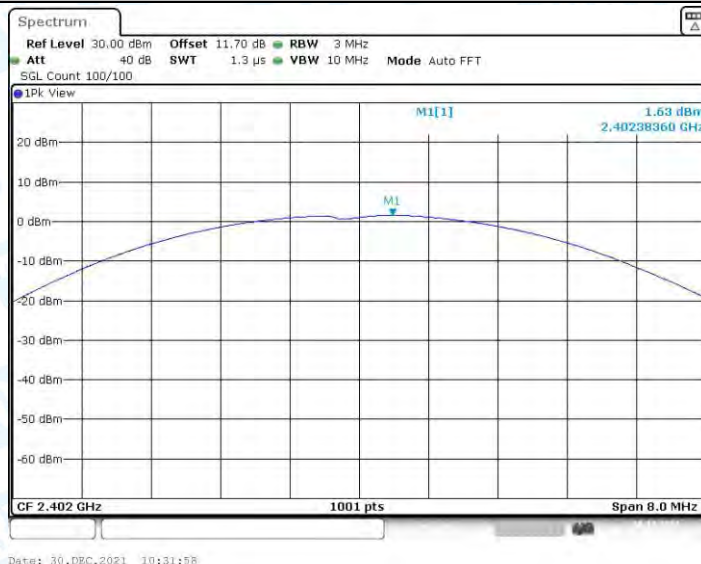
3.1. Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	2.67	≤21	PASS
		2441	0.93	≤21	PASS
		2480	1.49	≤21	PASS
2DH5	Ant1	2402	1.63	≤21	PASS
		2441	-0.13	≤21	PASS
		2480	0.29	≤21	PASS
3DH5	Ant1	2402	1.53	≤21	PASS
		2441	-0.11	≤21	PASS
		2480	0.44	≤21	PASS

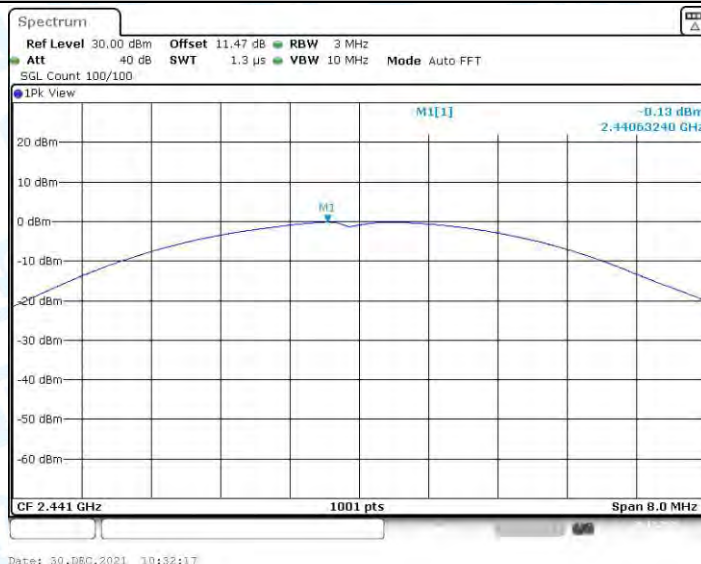
3.2.Test Graphs



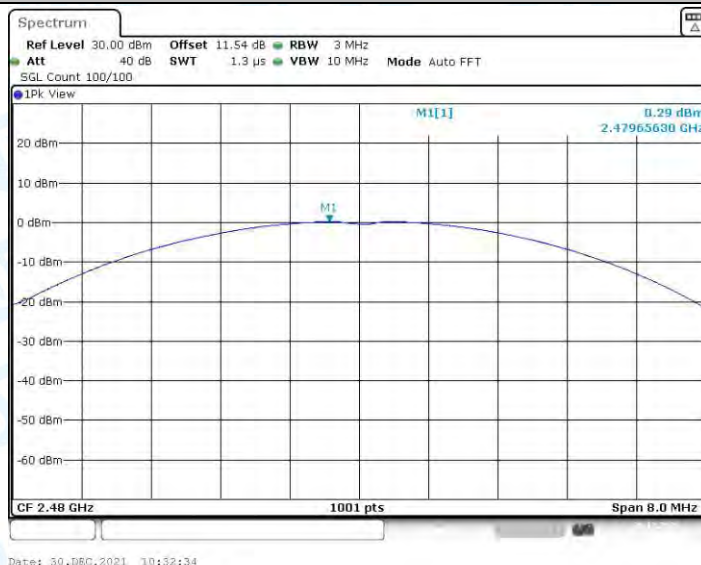
2DH5_Ant1_2402



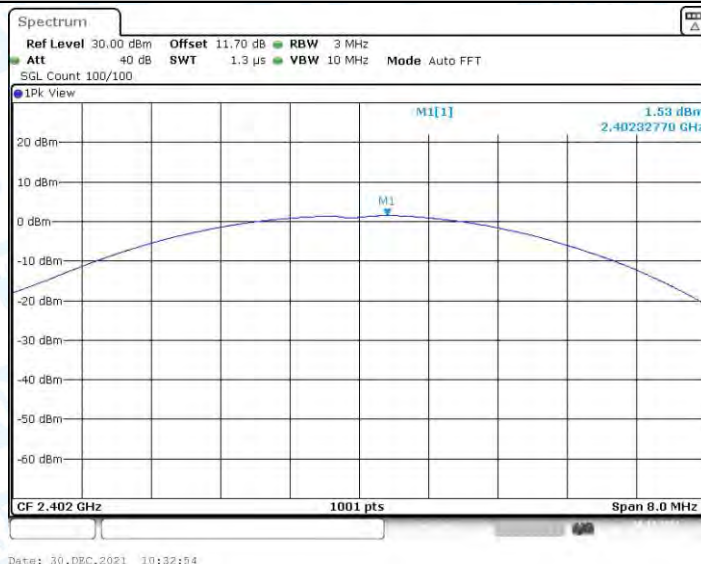
2DH5_Ant1_2441



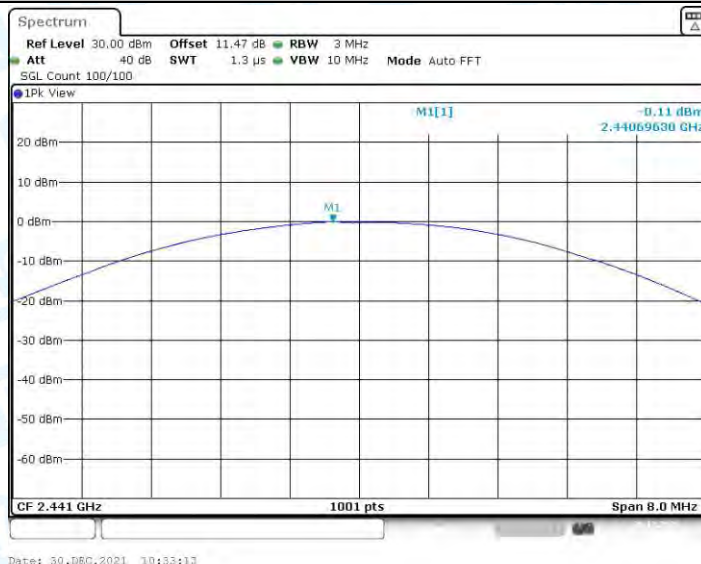
2DH5_Ant1_2480



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	0.997	≥ 0.860	PASS
2DH5	Ant1	Hop	0.962	≥ 0.887	PASS
3DH5	Ant1	Hop	0.93	≥ 0.880	PASS

4.2.Test Graphs

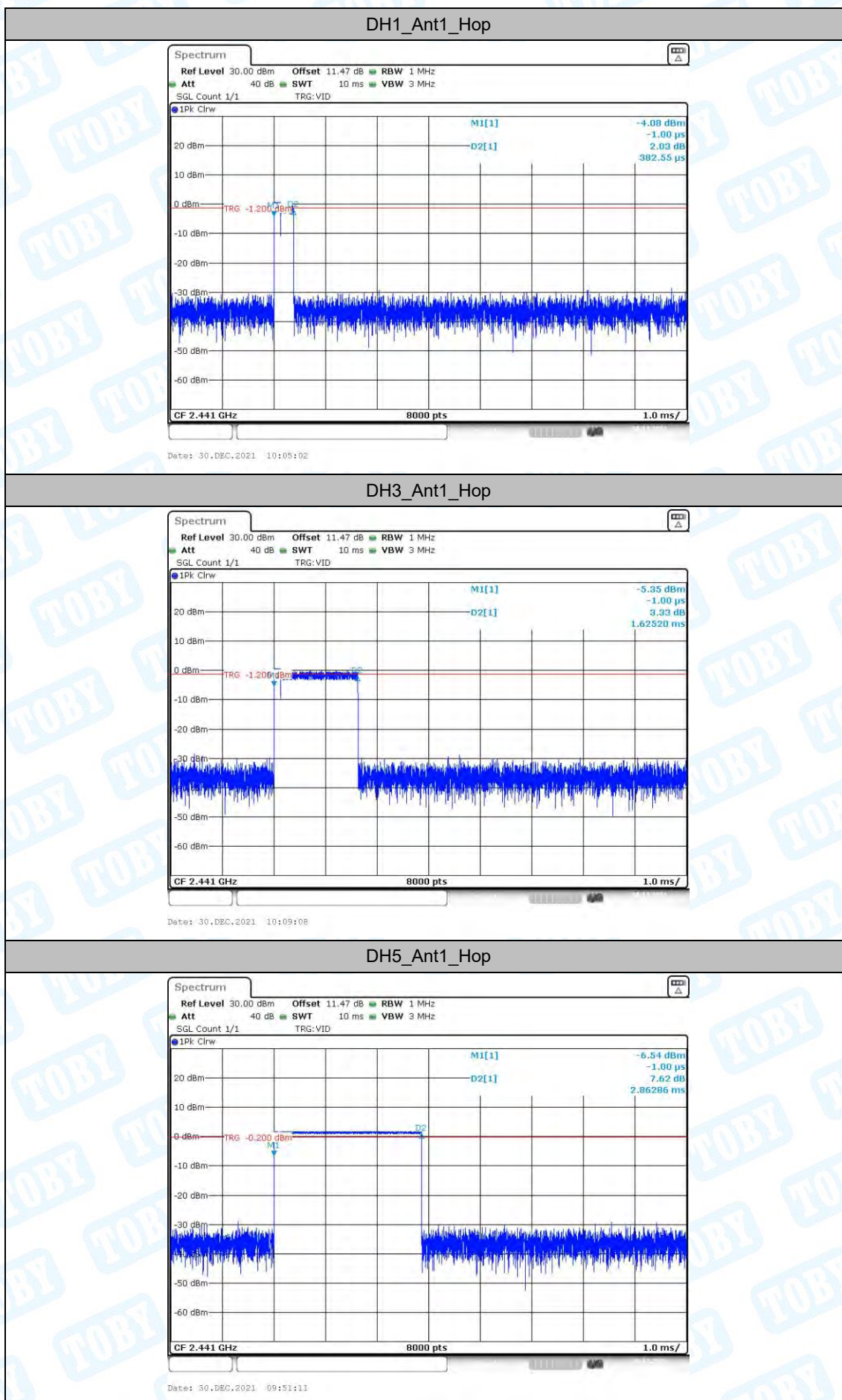


5. Time of occupancy

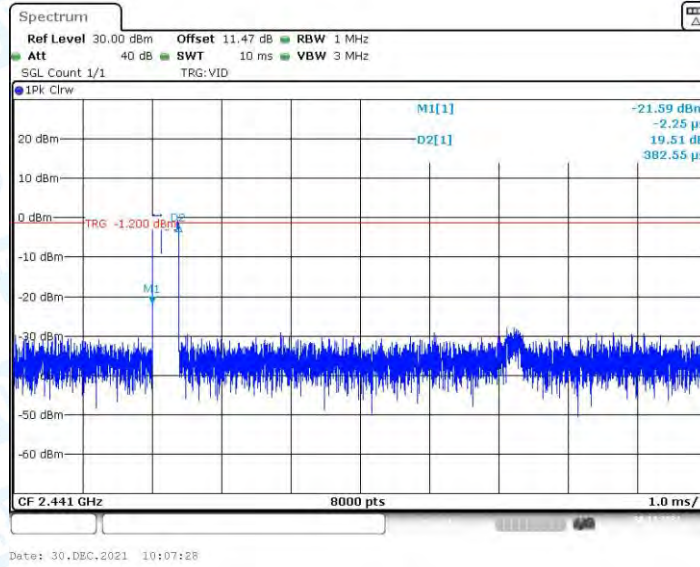
5.1. Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.38	320	0.122	≤0.4	PASS
DH3	Ant1	Hop	1.63	160	0.26	≤0.4	PASS
DH5	Ant1	Hop	2.86	106.67	0.305	≤0.4	PASS
2DH1	Ant1	Hop	0.38	320	0.122	≤0.4	PASS
2DH3	Ant1	Hop	1.63	160	0.26	≤0.4	PASS
2DH5	Ant1	Hop	2.87	106.67	0.306	≤0.4	PASS
3DH1	Ant1	Hop	0.38	320	0.122	≤0.4	PASS
3DH3	Ant1	Hop	1.63	160	0.26	≤0.4	PASS
3DH5	Ant1	Hop	2.87	106.67	0.306	≤0.4	PASS

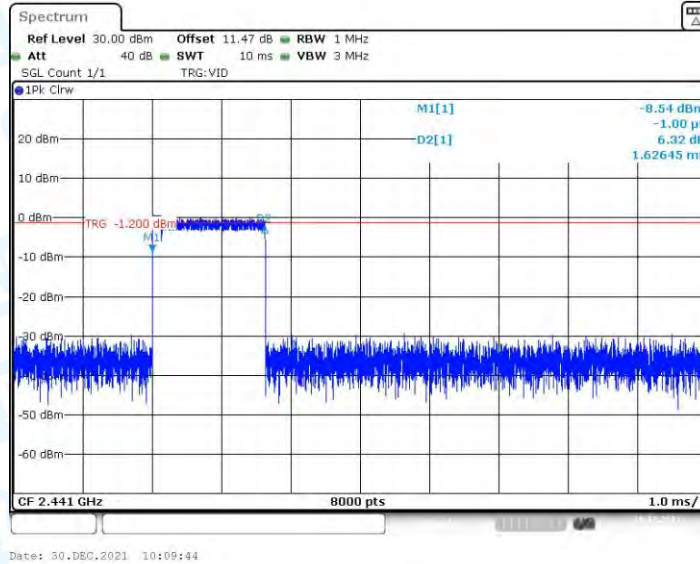
5.2. Test Graphs



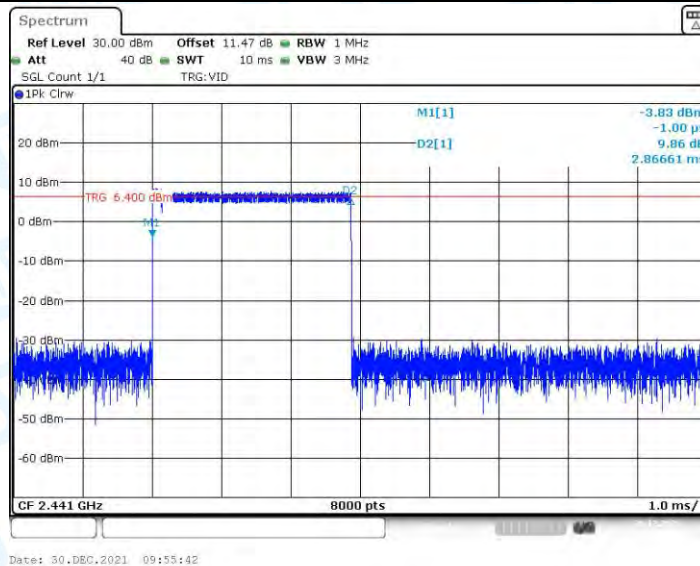
2DH1_Ant1_Hop



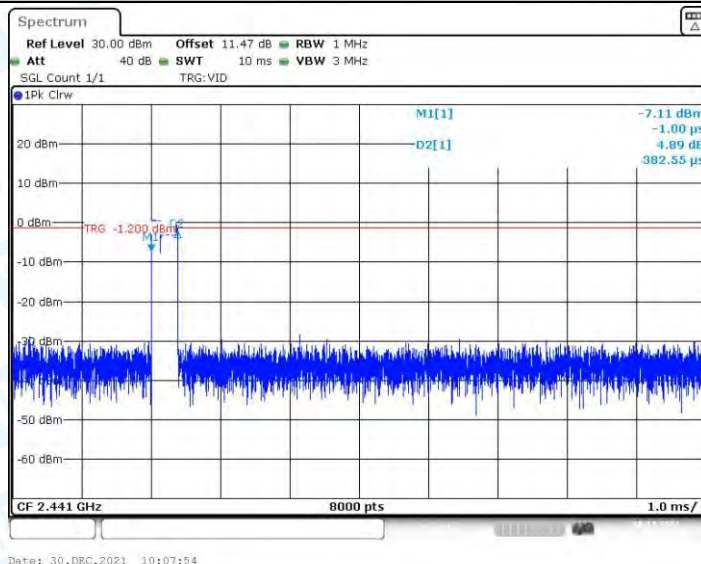
2DH3_Ant1_Hop



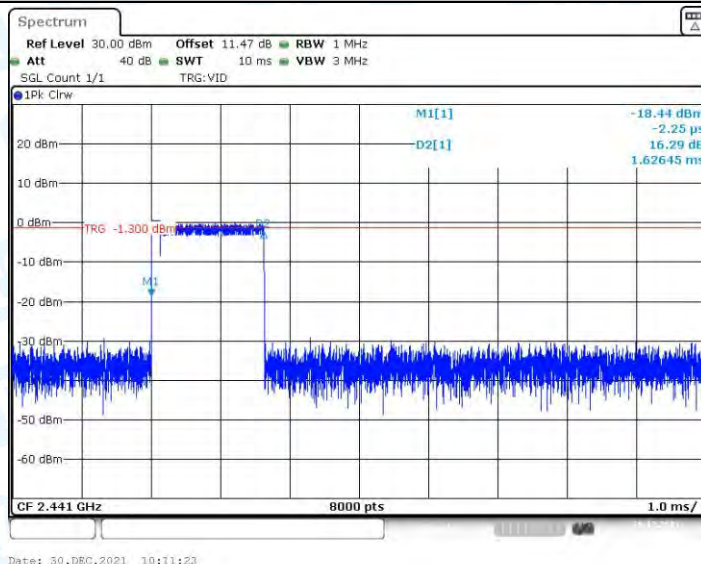
2DH5_Ant1_Hop



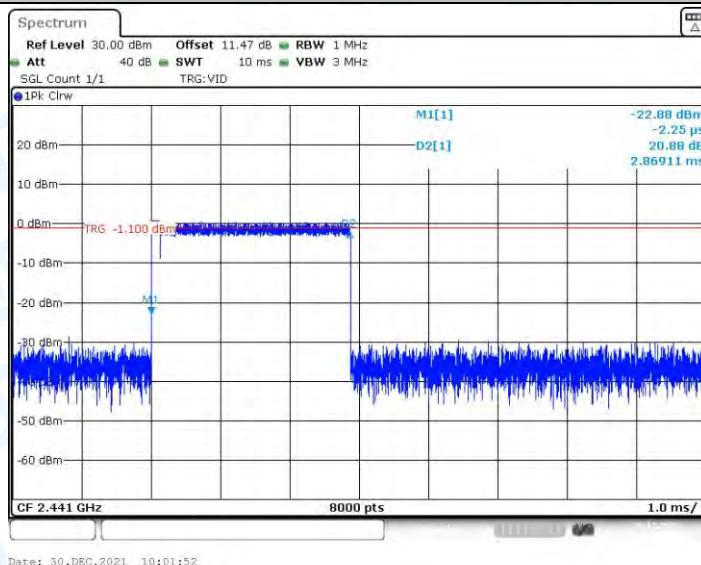
3DH1_Ant1_Hop



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

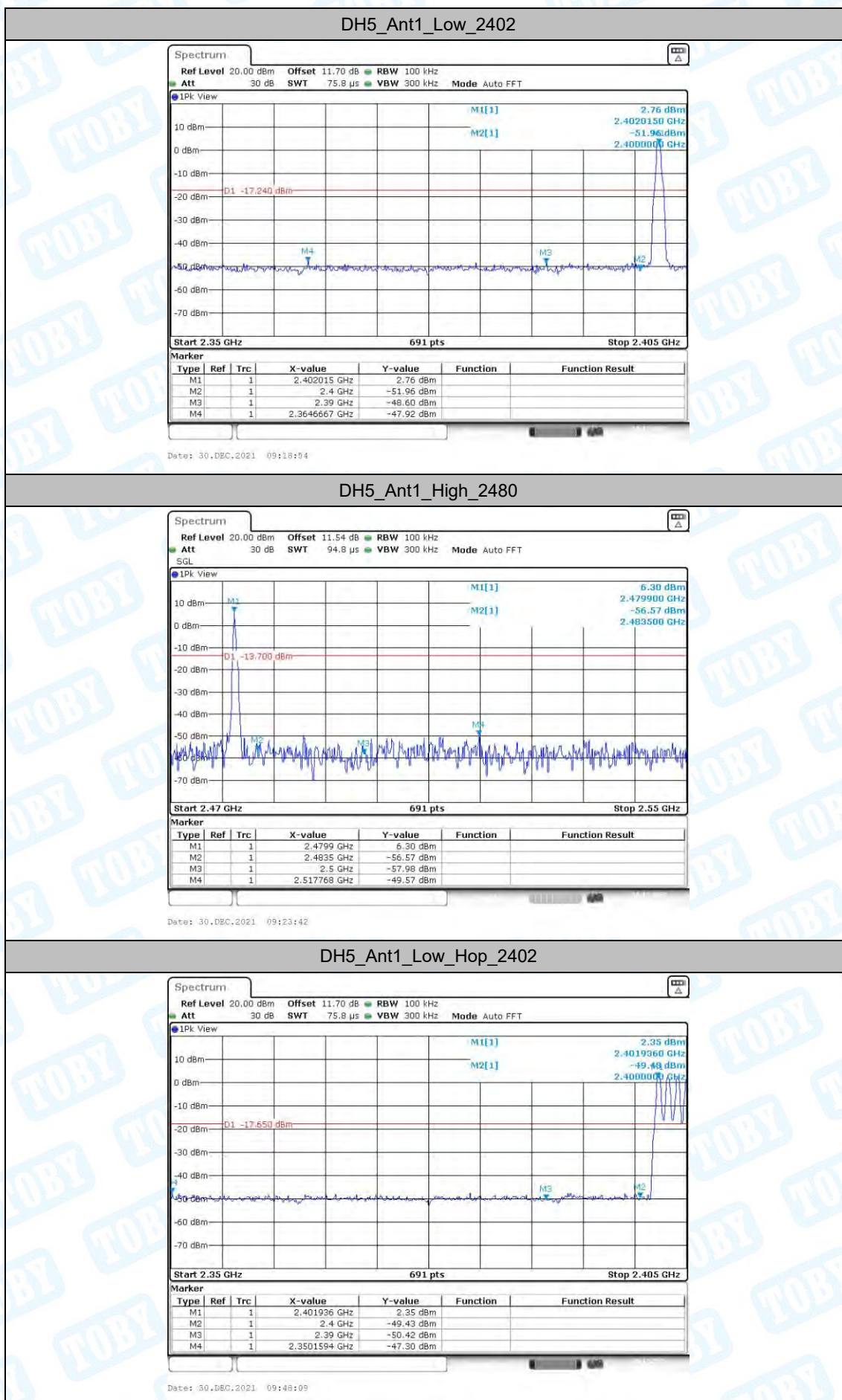


7. Band edge measurements

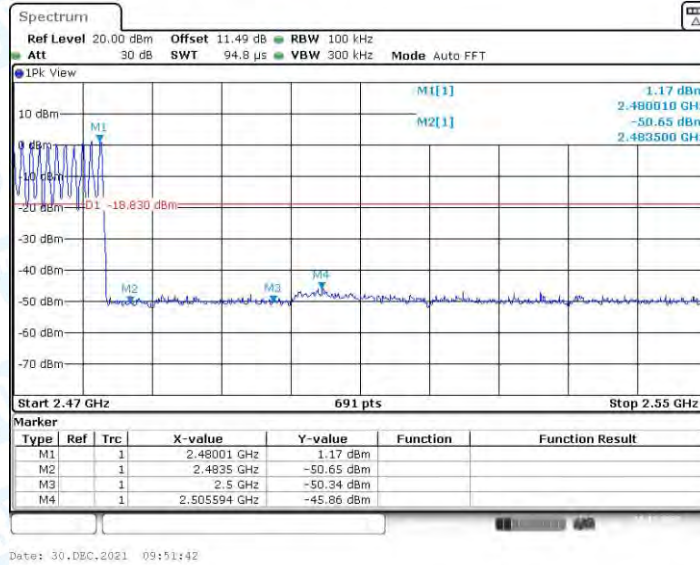
7.1. Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	2.76	-47.92	≤ -17.24	PASS
		High	2480	6.30	-49.57	≤ -13.7	PASS
		Low	Hop_2402	2.35	-47.3	≤ -17.65	PASS
		High	Hop_2480	1.17	-45.86	≤ -18.83	PASS
2DH5	Ant1	Low	2402	4.41	-47.43	≤ -15.59	PASS
		High	2480	5.90	-60.85	≤ -14.1	PASS
		Low	Hop_2402	4.14	-49.13	≤ -15.86	PASS
		High	Hop_2480	-5.11	-46.26	≤ -25.11	PASS
3DH5	Ant1	Low	2402	6.00	-51.6	≤ -14	PASS
		High	2480	-0.03	-48.32	≤ -20.03	PASS
		Low	Hop_2402	-3.90	-48.07	≤ -23.9	PASS
		High	Hop_2480	-4.30	-46.98	≤ -24.3	PASS

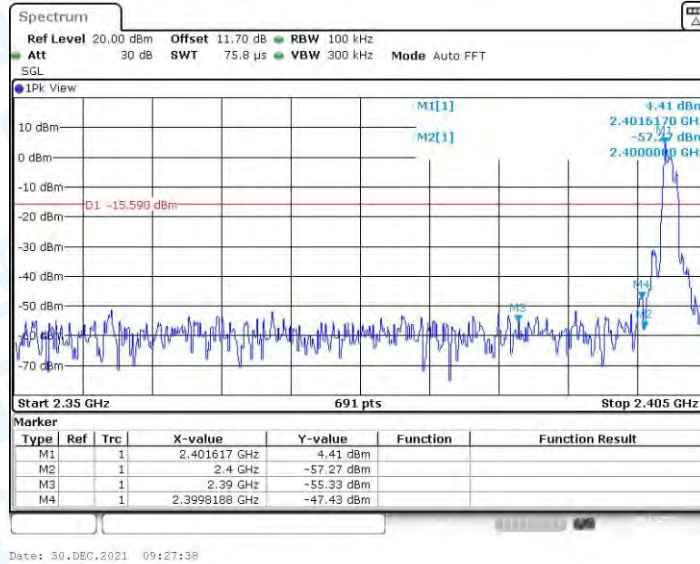
7.2. Test Graphs



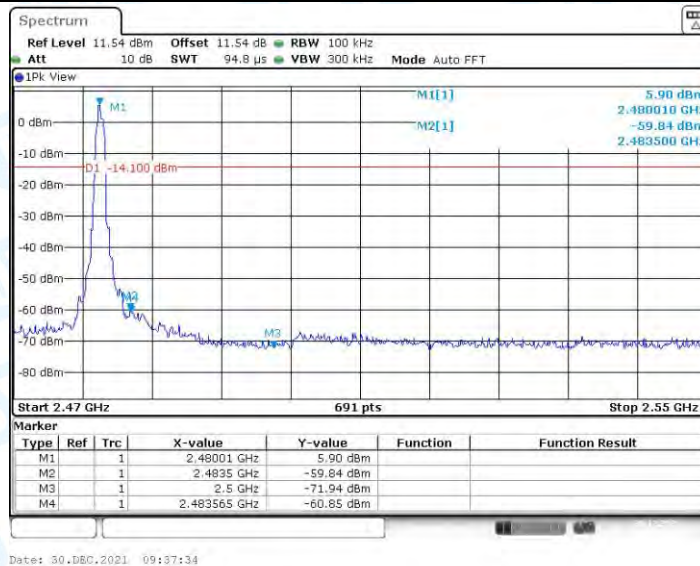
DH5_Ant1_High_Hop_2480



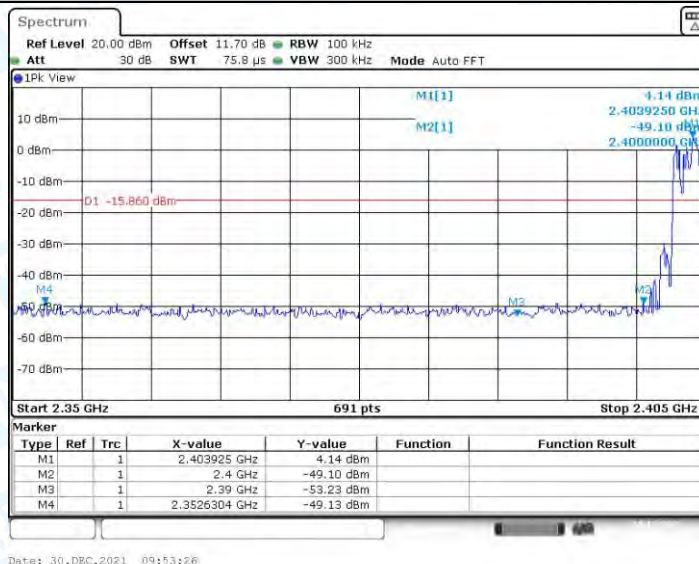
2DH5_Ant1_Low_2402



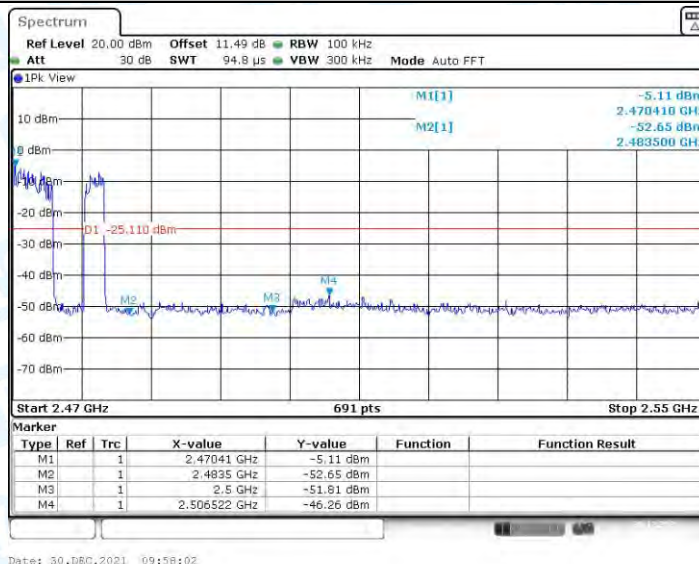
2DH5_Ant1_High_2480



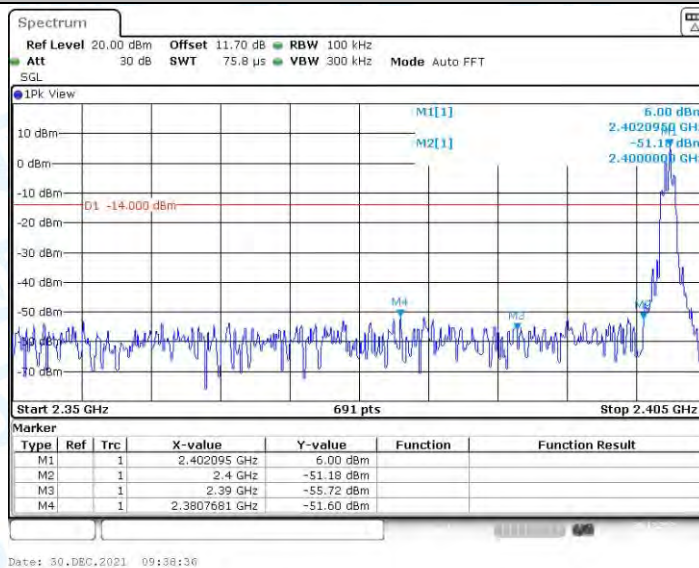
2DH5_Ant1_Low_Hop_2402



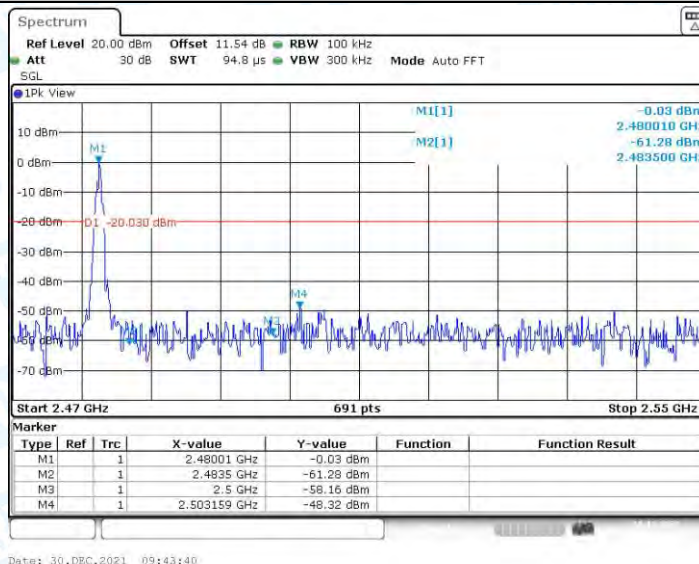
2DH5_Ant1_High_Hop_2480



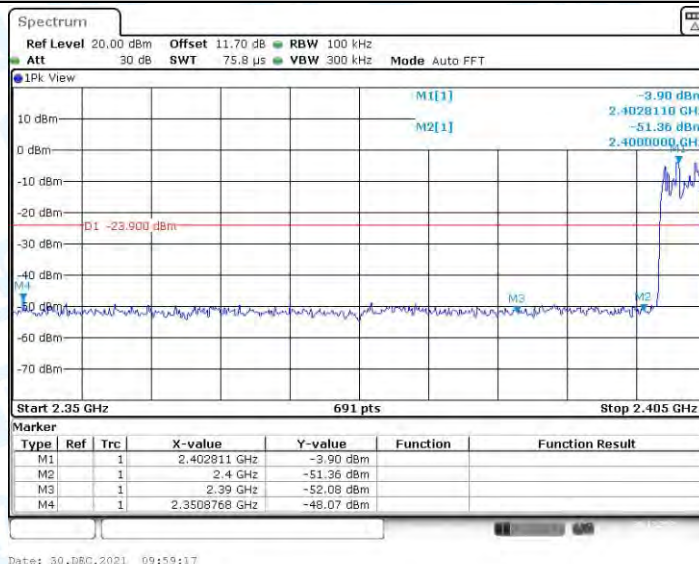
3DH5_Ant1_Low_2402



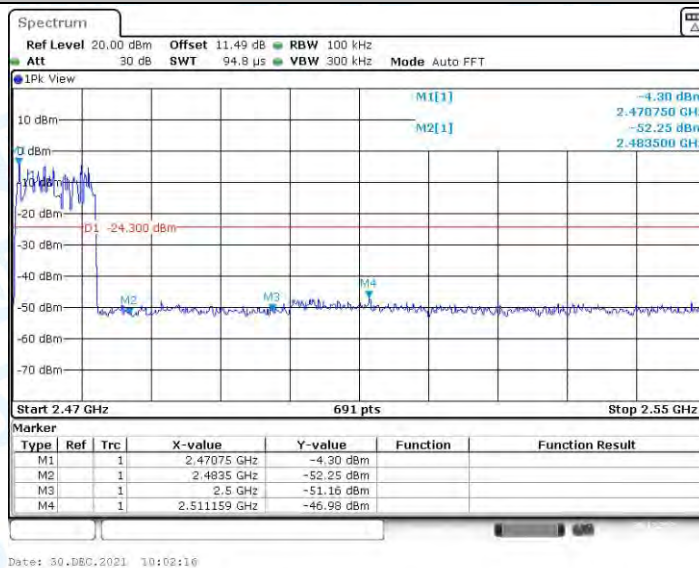
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480

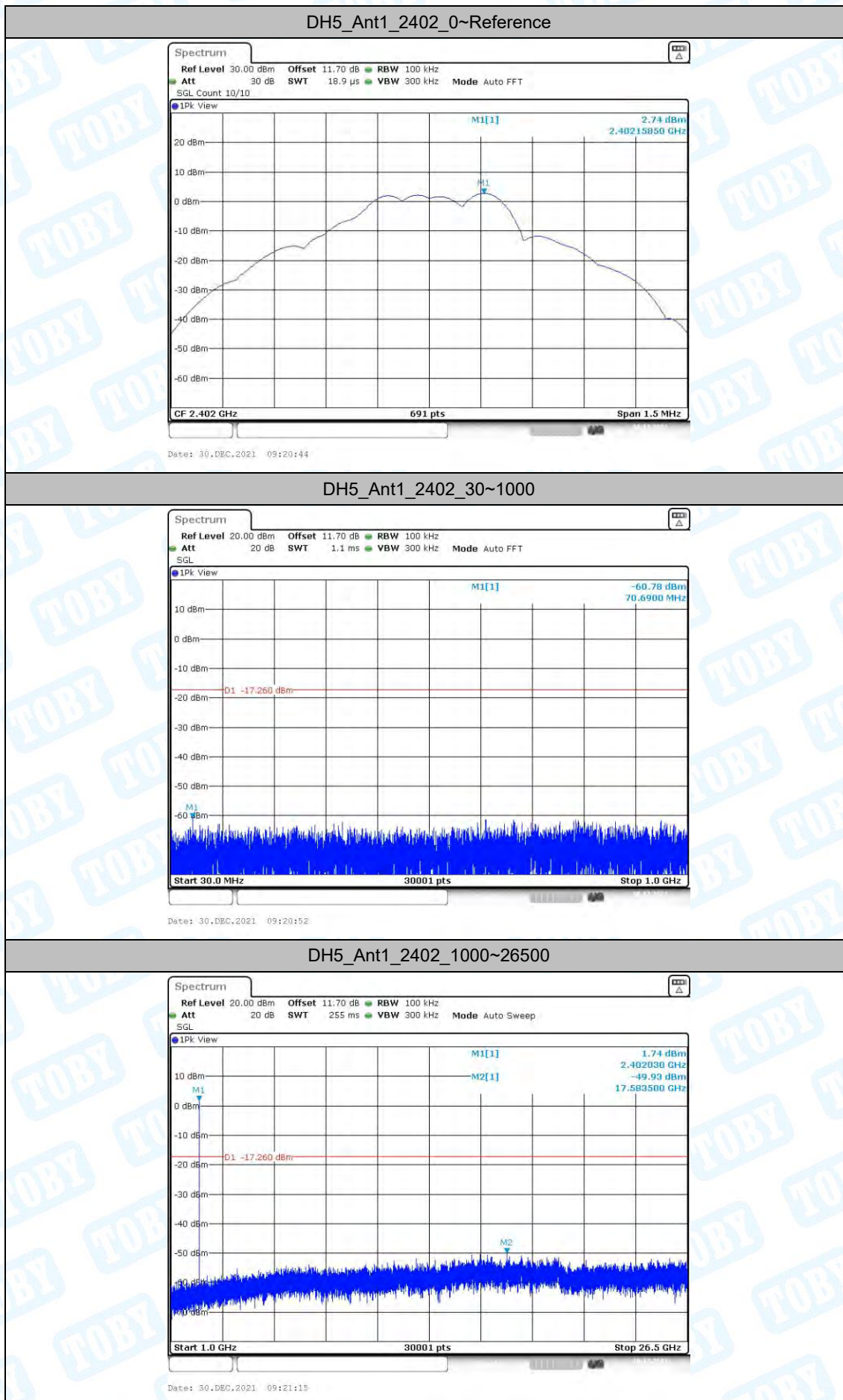


8. Conducted Spurious Emission

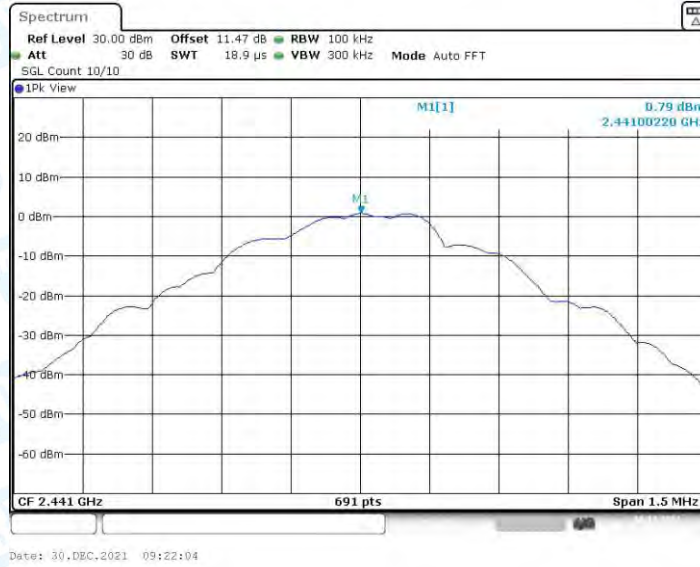
8.1. Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	2.74	2.74	---	PASS
			30~1000	2.74	-60.78	≤-17.26	PASS
			1000~26500	2.74	-49.93	≤-17.26	PASS
		2441	Reference	0.79	0.79	---	PASS
			30~1000	0.79	-60.91	≤-19.21	PASS
			1000~26500	0.79	-50.6	≤-19.21	PASS
		2480	Reference	6.22	6.22	---	PASS
			30~1000	6.22	-60.79	≤-13.78	PASS
			1000~26500	6.22	-49.51	≤-13.78	PASS
2DH5	Ant1	2402	Reference	5.17	5.17	---	PASS
			30~1000	5.17	-59.52	≤-14.83	PASS
			1000~26500	5.17	-50.68	≤-14.83	PASS
		2441	Reference	4.38	4.38	---	PASS
			30~1000	4.38	-60.14	≤-15.62	PASS
			1000~26500	4.38	-50.6	≤-15.62	PASS
		2480	Reference	-0.91	-0.91	---	PASS
			30~1000	-0.91	-59.88	≤-20.91	PASS
			1000~26500	-0.91	-50.62	≤-20.91	PASS
3DH5	Ant1	2402	Reference	8.60	8.60	---	PASS
			30~1000	8.60	-60.72	≤-11.4	PASS
			1000~26500	8.60	-50.52	≤-11.4	PASS
		2441	Reference	2.51	2.51	---	PASS
			30~1000	2.51	-59.43	≤-17.49	PASS
			1000~26500	2.51	-50.17	≤-17.49	PASS
		2480	Reference	0.21	0.21	---	PASS
			30~1000	0.21	-60.77	≤-19.79	PASS
			1000~26500	0.21	-51.07	≤-19.79	PASS

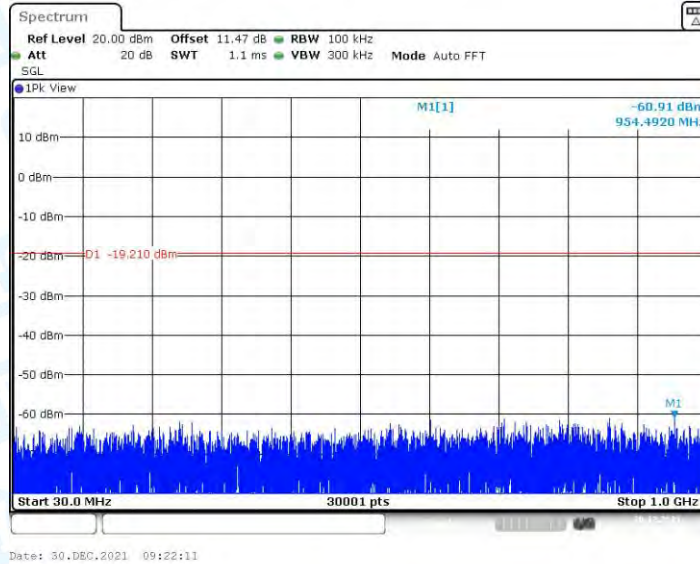
8.2. Test Graphs



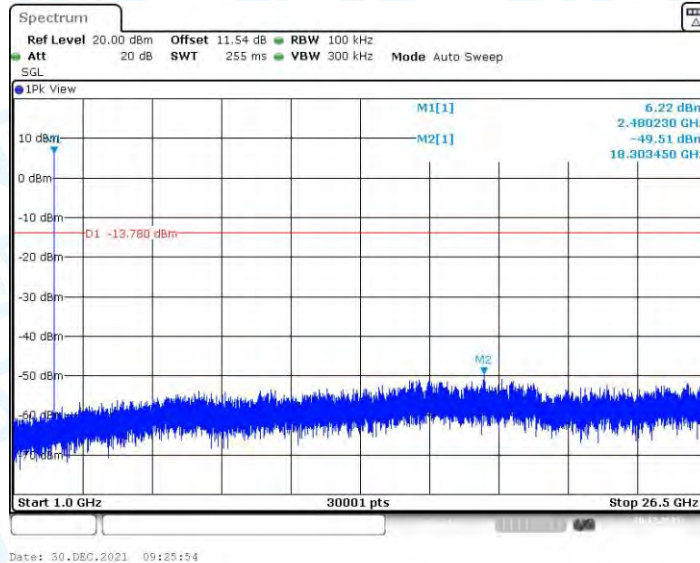
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



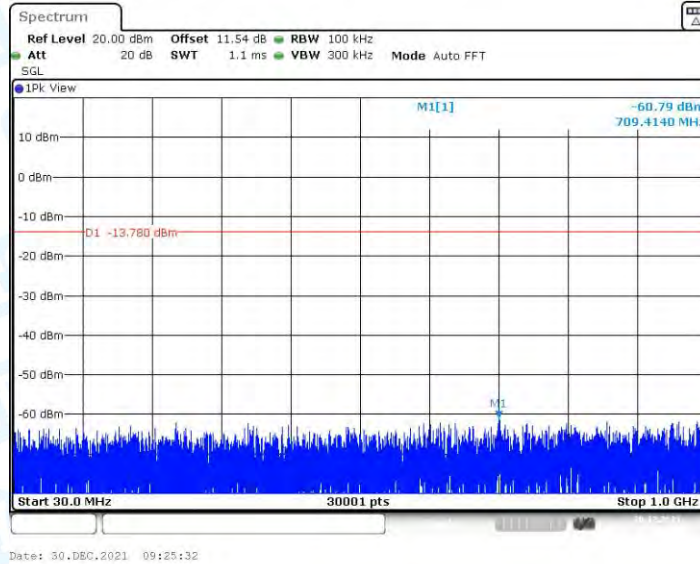
DH5_Ant1_2441_1000~26500



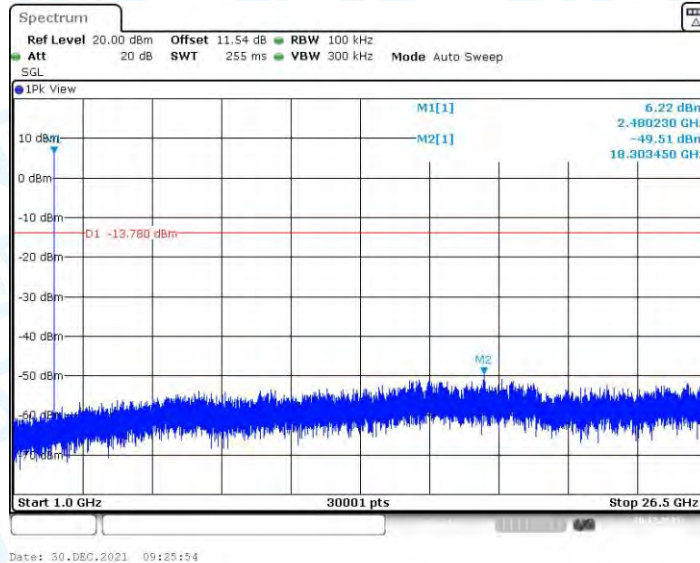
DH5_Ant1_2480_0~Reference



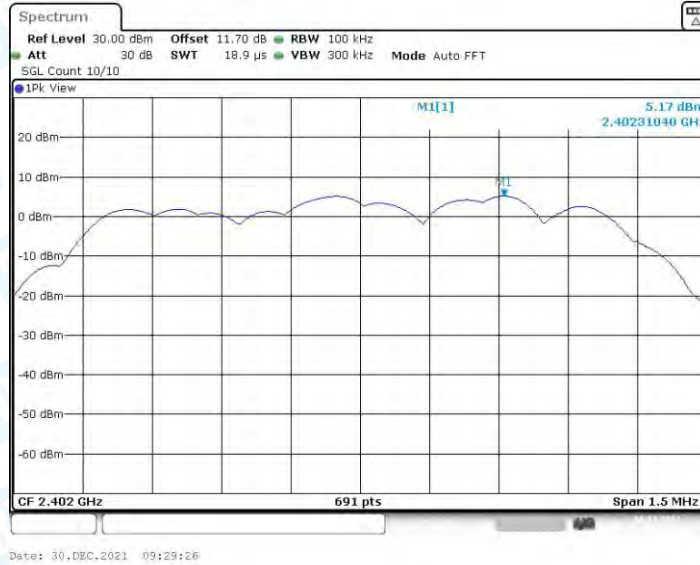
DH5_Ant1_2480_30~1000



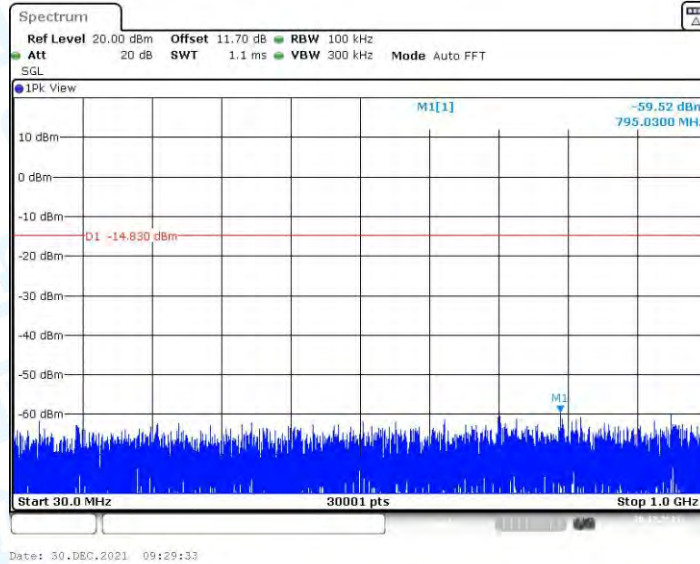
DH5_Ant1_2480_1000~26500



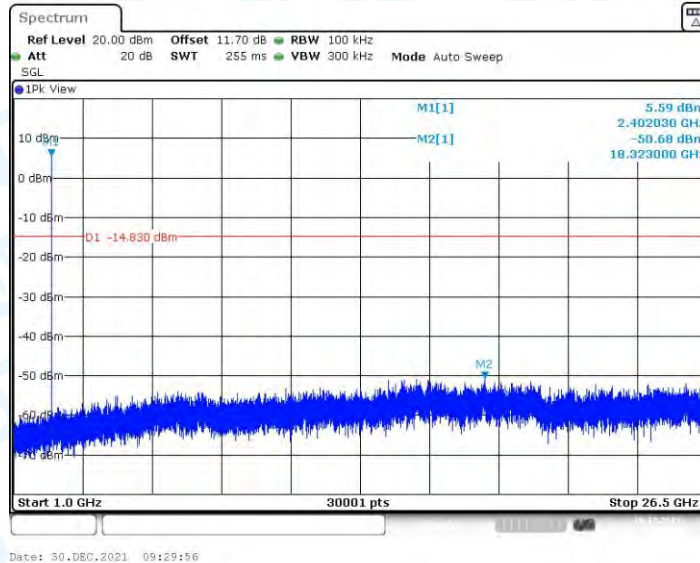
2DH5_Ant1_2402_0~Reference



2DH5_Ant1_2402_30~1000



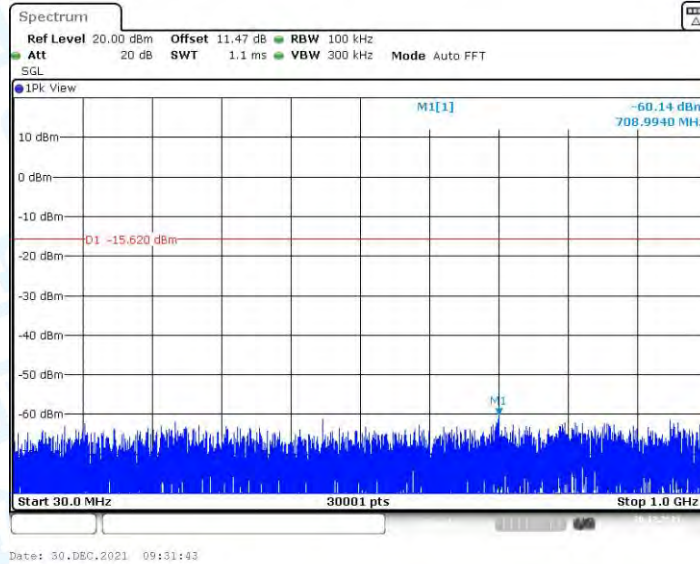
2DH5_Ant1_2402_1000~26500



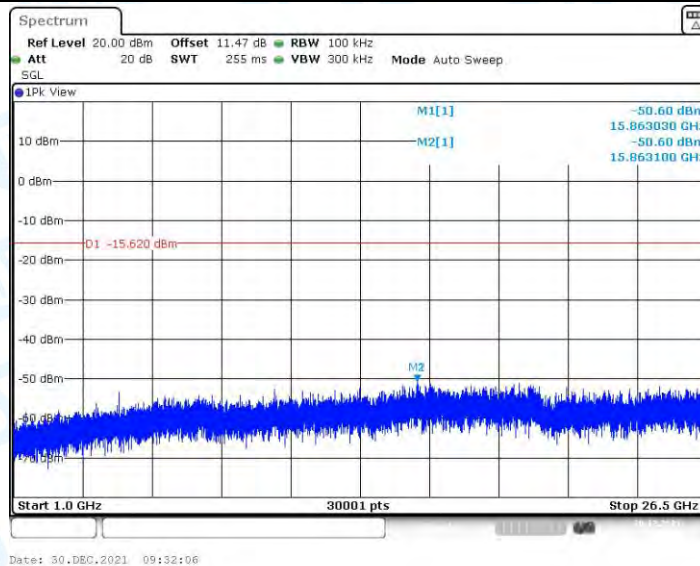
2DH5_Ant1_2441_0~Reference



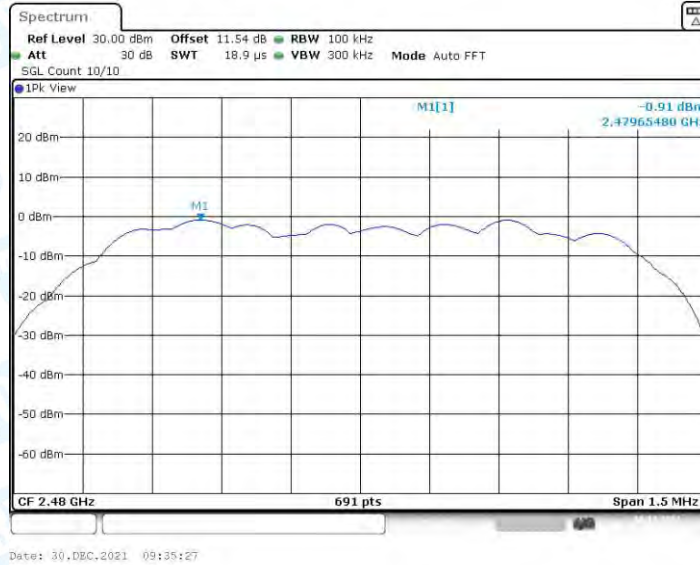
2DH5_Ant1_2441_30~1000



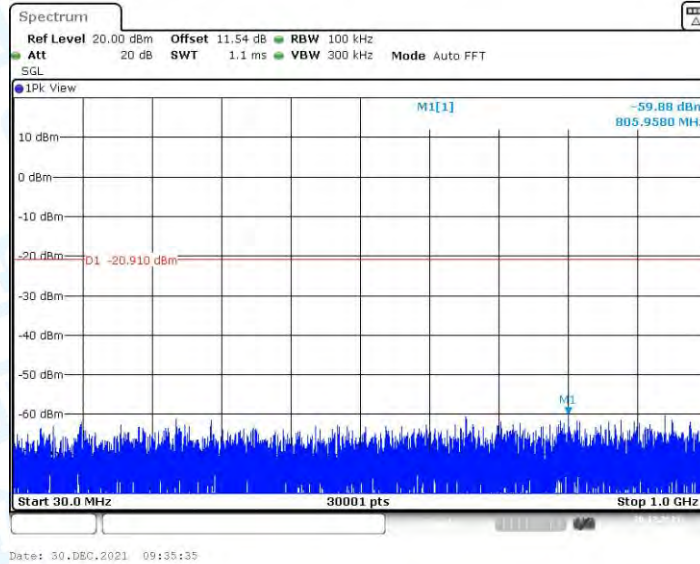
2DH5_Ant1_2441_1000~26500



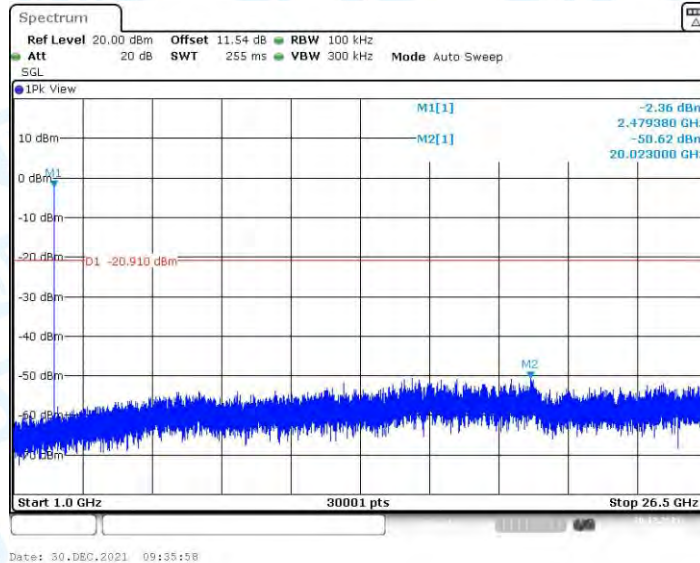
2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000



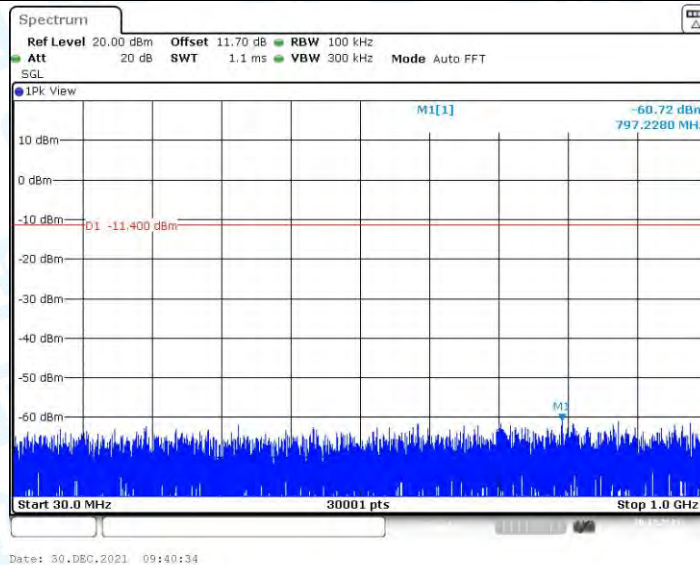
2DH5_Ant1_2480_1000~26500



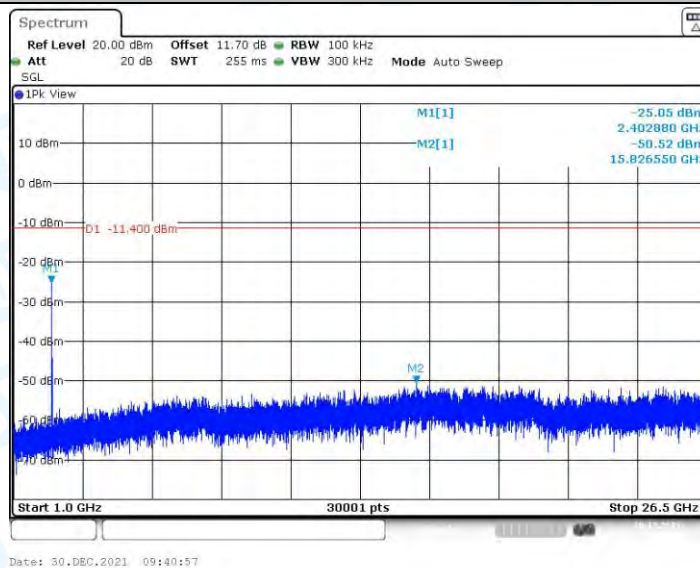
3DH5_Ant1_2402_0~Reference



3DH5_Ant1_2402_30~1000



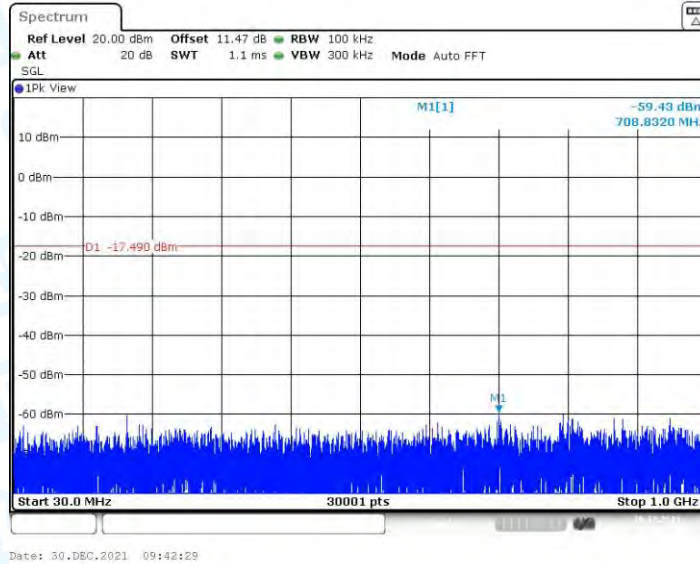
3DH5_Ant1_2402_1000~26500



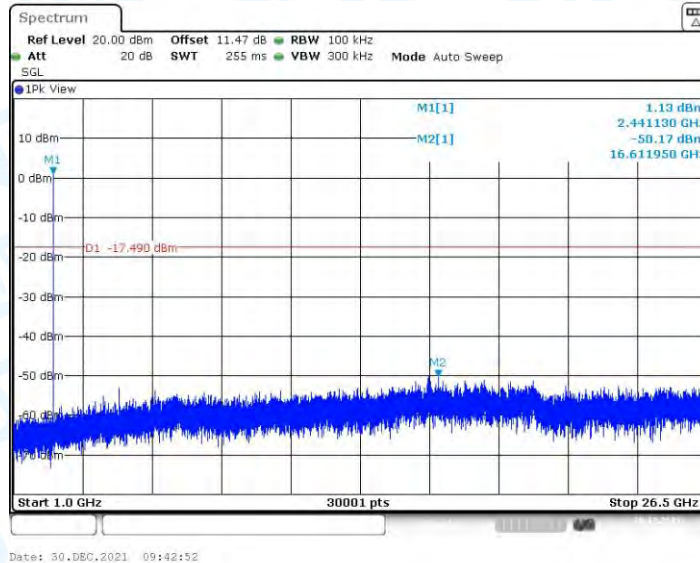
3DH5_Ant1_2441_0~Reference



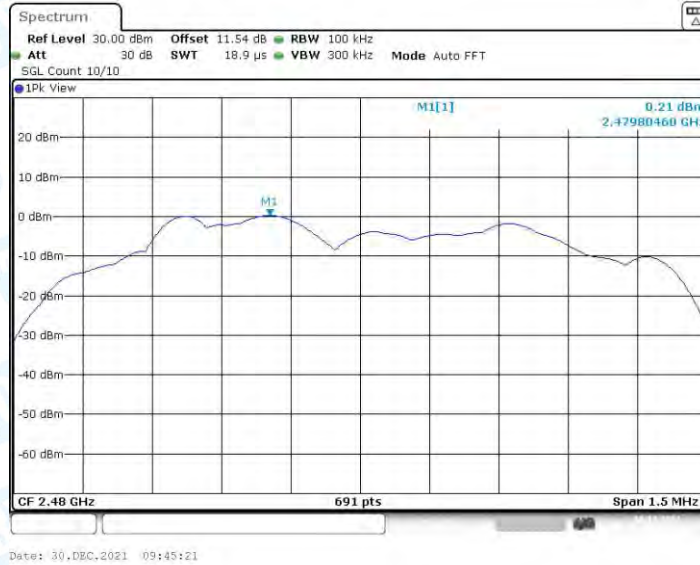
3DH5_Ant1_2441_30~1000



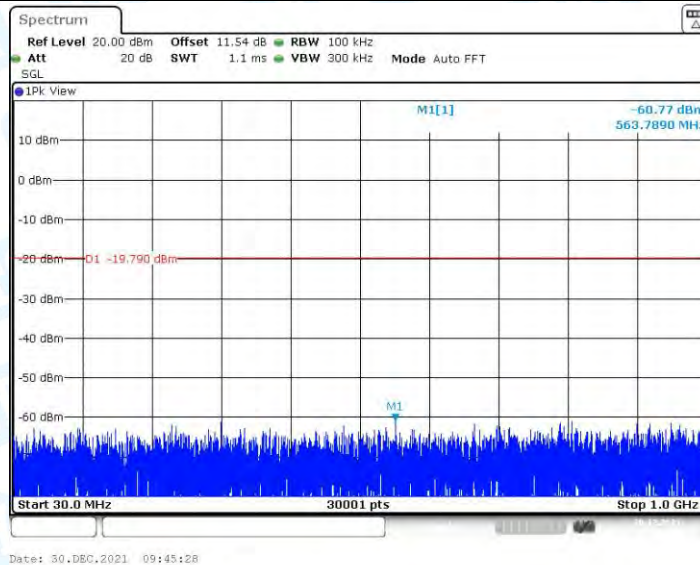
3DH5_Ant1_2441_1000~26500



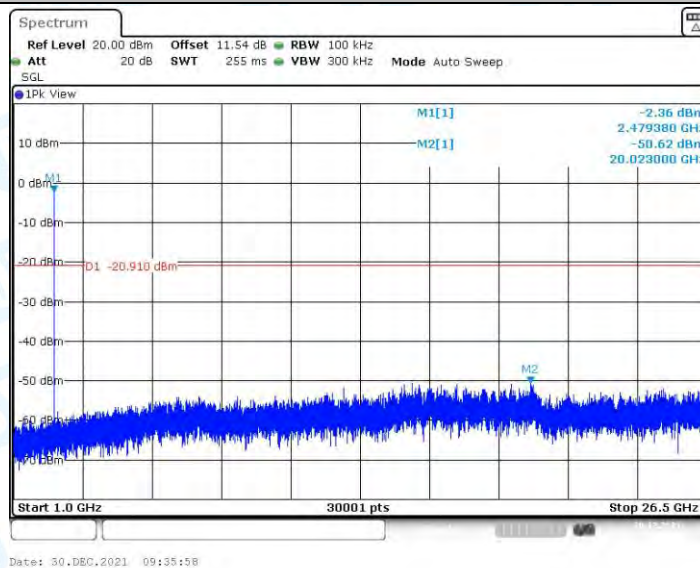
3DH5_Ant1_2480_0~Reference



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	-49.69	≤-41.20	PASS
				AV	2340.630	-47.42	≤-41.20	PASS
				AV	2390.000	-49.6	≤-41.20	PASS
				Peak	2310.000	-38.58	≤-21.20	PASS
				Peak	2351.739	-36.32	≤-21.20	PASS
				Peak	2390.000	-40.53	≤-21.20	PASS
		High	2480	AV	2483.500	-48.65	≤-41.20	PASS
				AV	2483.797	-48.53	≤-41.20	PASS
				AV	2500.000	-48.89	≤-41.20	PASS
				Peak	2483.500	-41.98	≤-21.20	PASS
				Peak	2488.435	-38	≤-21.20	PASS
				Peak	2500.000	-40.68	≤-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-49.7	≤-41.20	PASS
				AV	2340.783	-47.46	≤-41.20	PASS
				AV	2390.000	-49.56	≤-41.20	PASS
				Peak	2310.000	-40.93	≤-21.20	PASS
				Peak	2340.478	-35.56	≤-21.20	PASS
				Peak	2390.000	-41.13	≤-21.20	PASS
		High	2480	AV	2483.500	-48.66	≤-41.20	PASS
				AV	2483.797	-48.51	≤-41.20	PASS
				AV	2500.000	-48.91	≤-41.20	PASS
				Peak	2483.500	-39.81	≤-21.20	PASS
				Peak	2487.275	-36.12	≤-21.20	PASS
				Peak	2500.000	-40.32	≤-21.20	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-49.72	≤-41.20	PASS
				AV	2340.935	-47.44	≤-41.20	PASS
				AV	2390.000	-49.63	≤-41.20	PASS
				Peak	2310.000	-40.77	≤-21.20	PASS
				Peak	2344.130	-36.7	≤-21.20	PASS
				Peak	2390.000	-40.51	≤-21.20	PASS
		High	2480	AV	2483.500	-48.67	≤-41.20	PASS
				AV	2483.913	-48.52	≤-41.20	PASS
				AV	2500.000	-48.94	≤-41.20	PASS
				Peak	2483.500	-41.41	≤-21.20	PASS
				Peak	2491.565	-37.06	≤-21.20	PASS
				Peak	2500.000	-39.78	≤-21.20	PASS

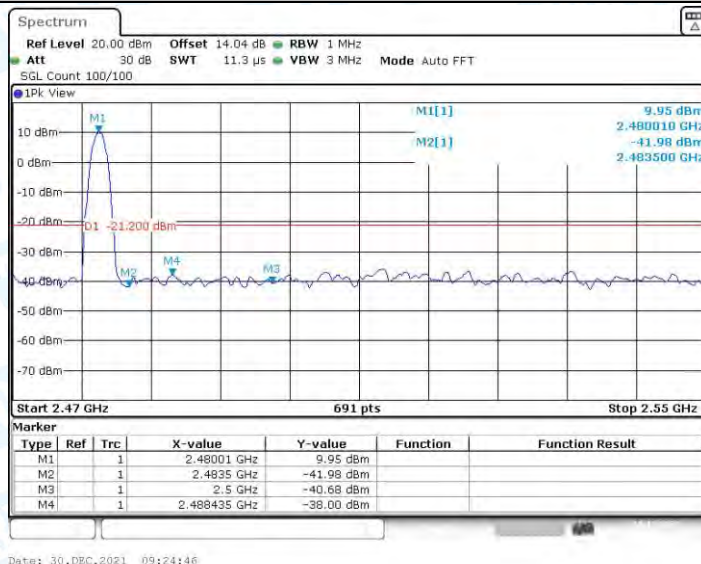
Note:

- The Antenna Gain is compensated in the graph.
- 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.

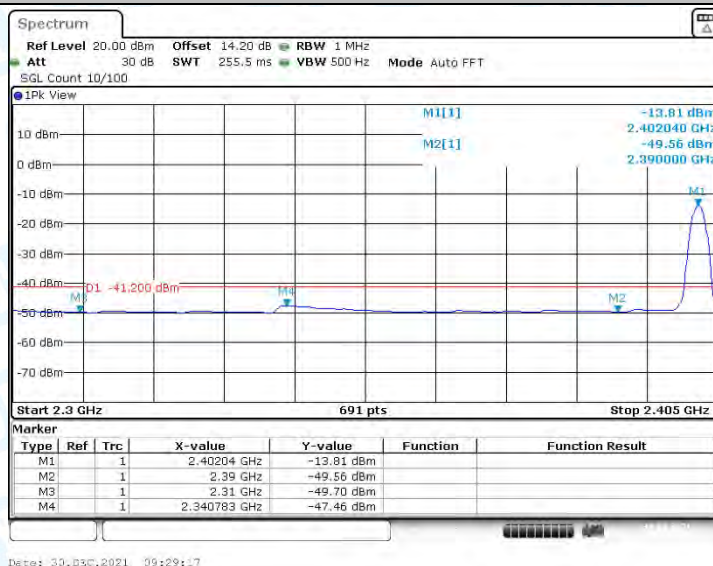
9.2.Test Graphs



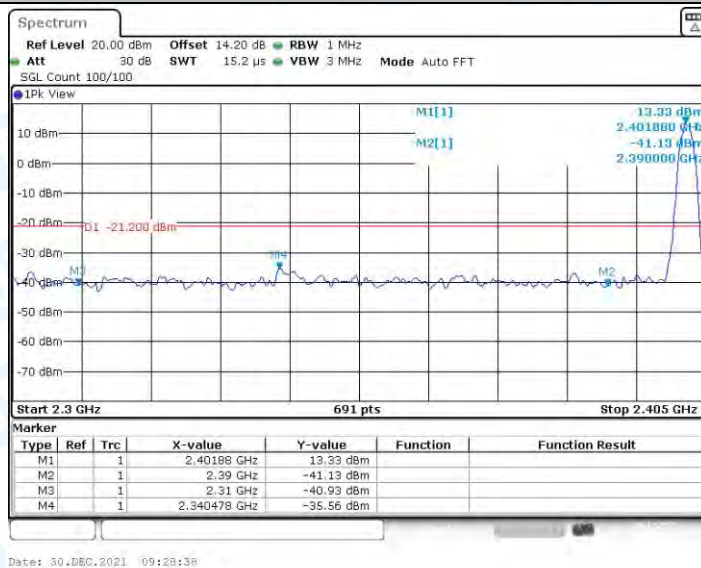
DH5_Ant1_High_2480_Peak

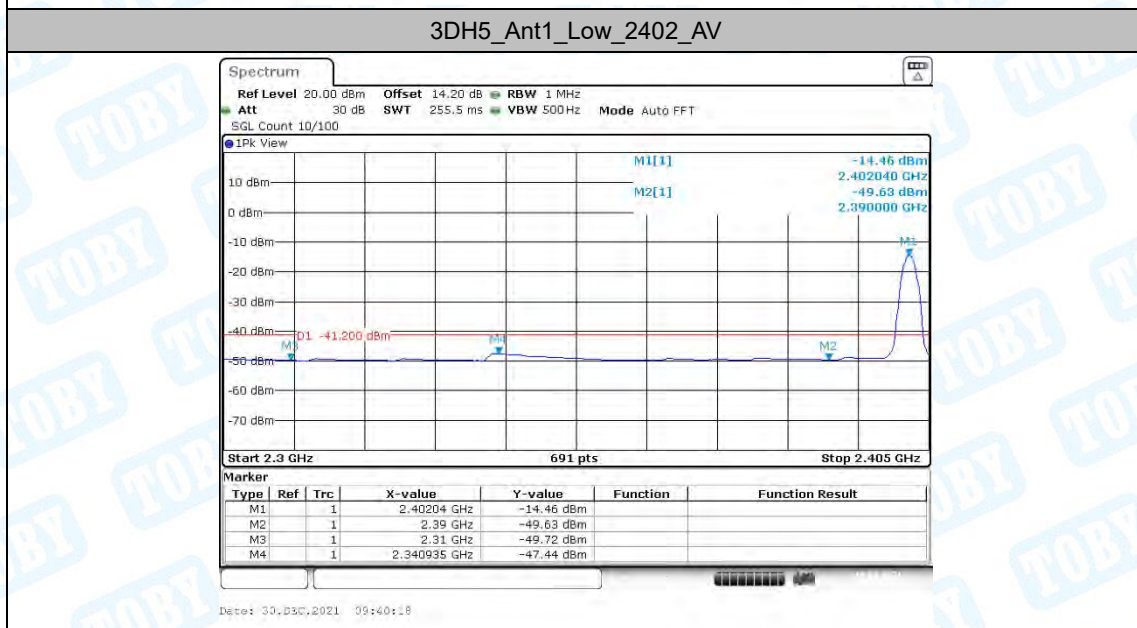
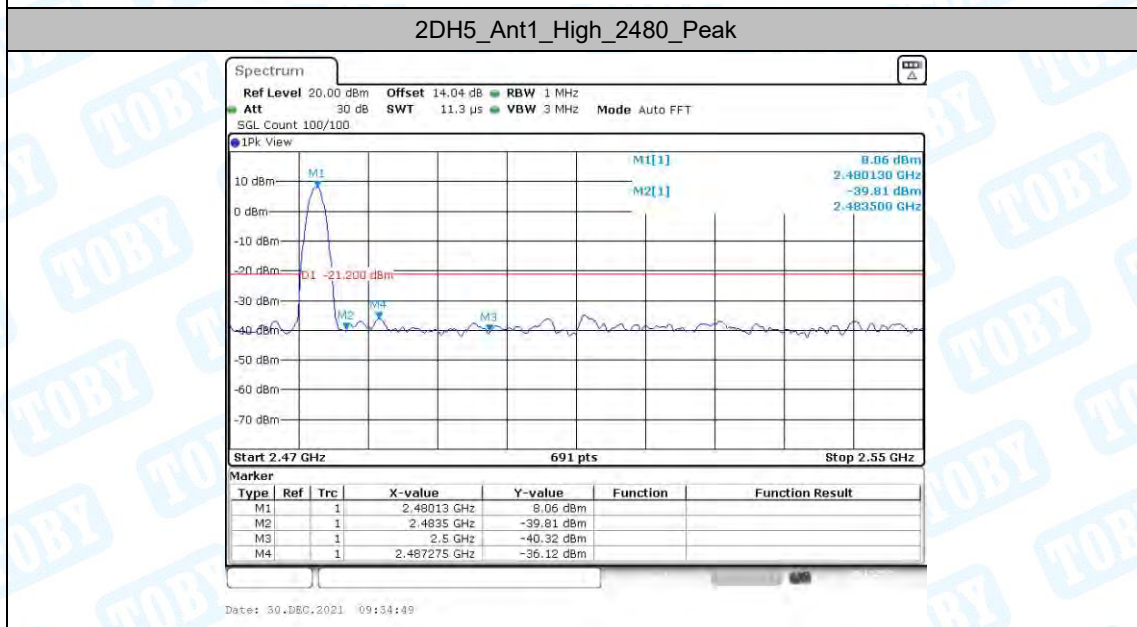
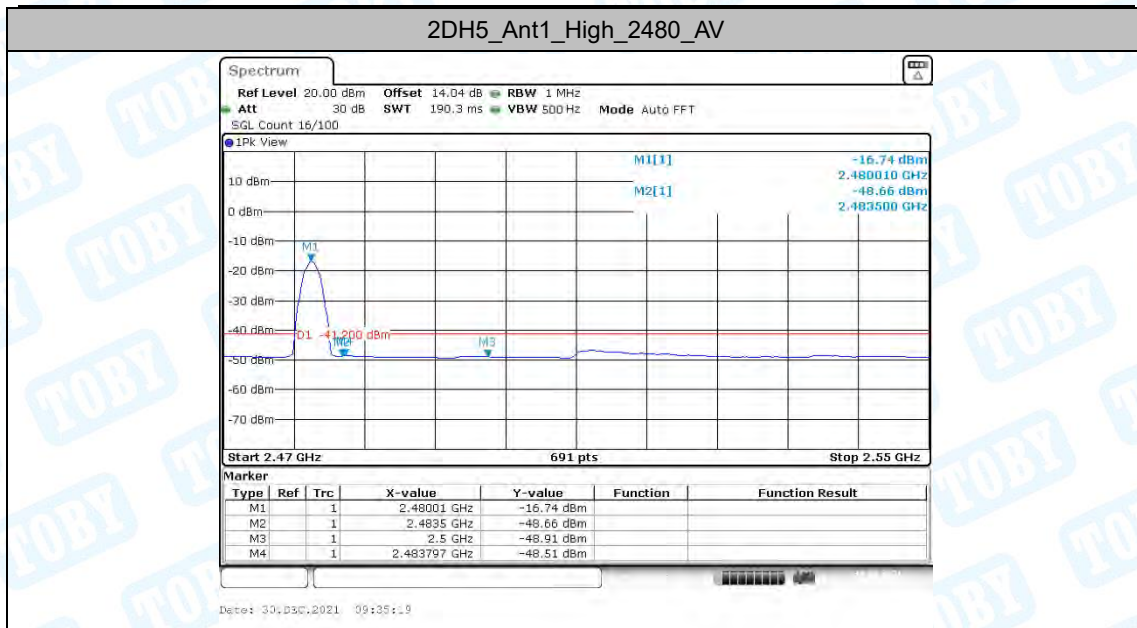


2DH5_Ant1_Low_2402_AV

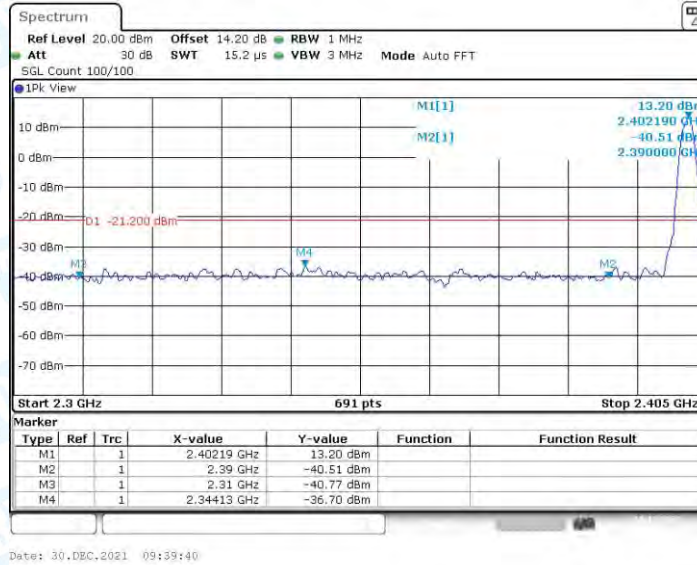


2DH5_Ant1_Low_2402_Peak

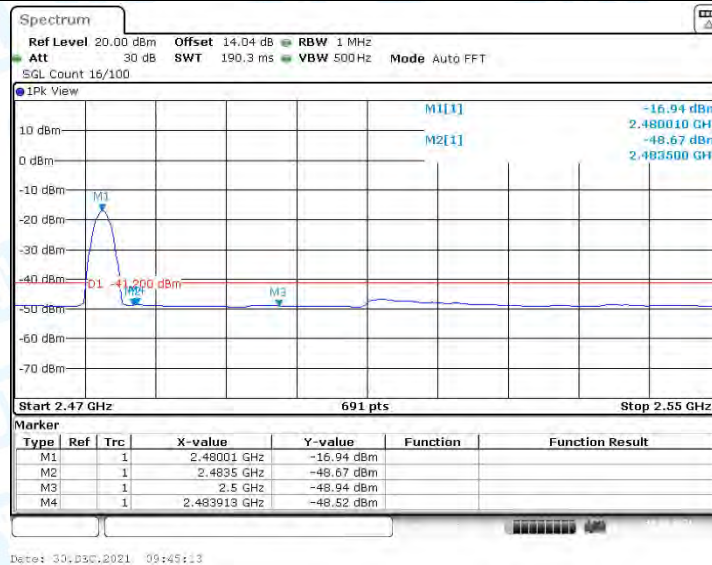




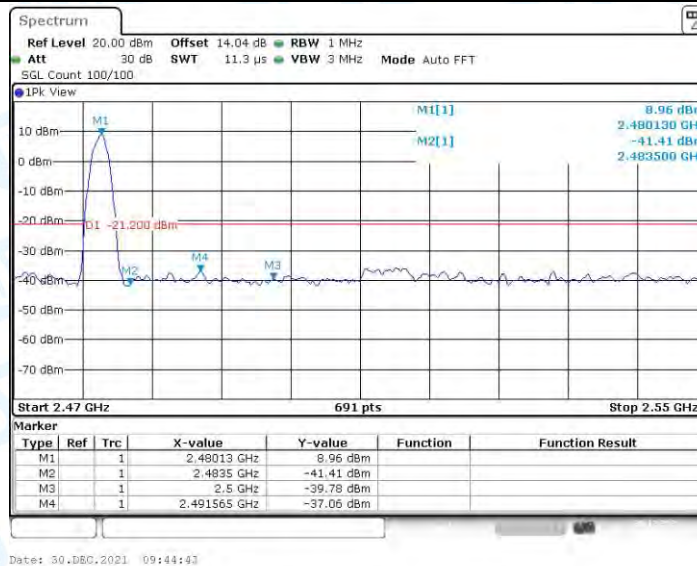
3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak



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