Appendix: Bluetooth Classic

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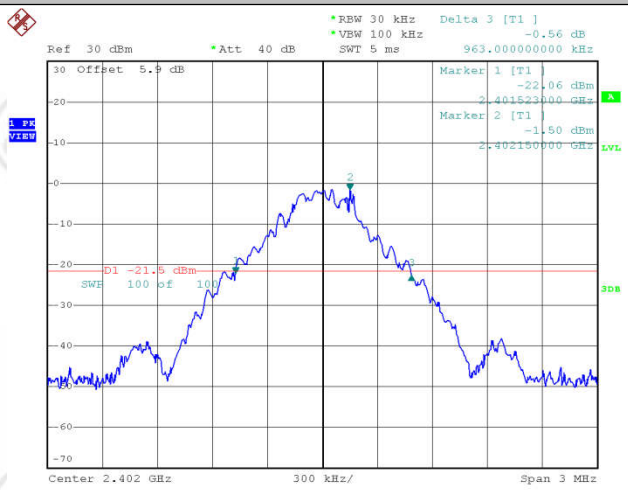
Appendix A: 20dB Emission Bandwidth

Test Result

Test Mode	Antenna	Frequency [MHz]	20db EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
DH5	Ant1	2402	0.96	2401.52	2402.49	---	---
		2441	0.96	2440.52	2441.49	---	---
		2480	0.96	2479.52	2480.48	---	---
2DH5	Ant1	2402	1.22	2401.38	2402.60	---	---
		2441	1.24	2440.37	2441.60	---	---
		2480	1.29	2479.36	2480.65	---	---
3DH5	Ant1	2402	1.29	2401.35	2402.64	---	---
		2441	1.26	2440.36	2441.62	---	---
		2480	1.27	2479.35	2480.62	---	---

Test Graphs

DH5_Ant1_2402



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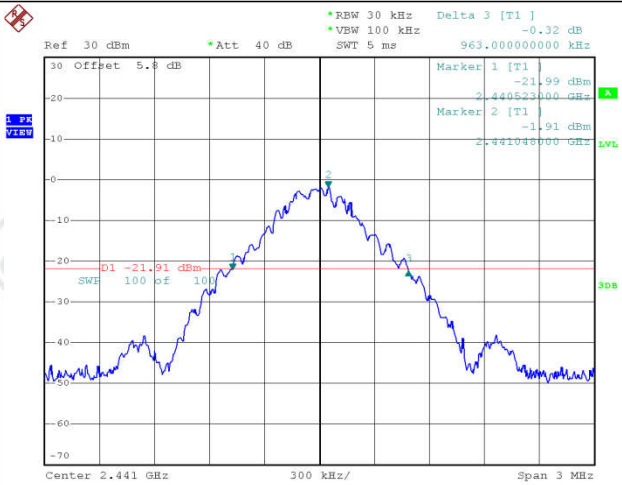
DH5_Ant1_2441



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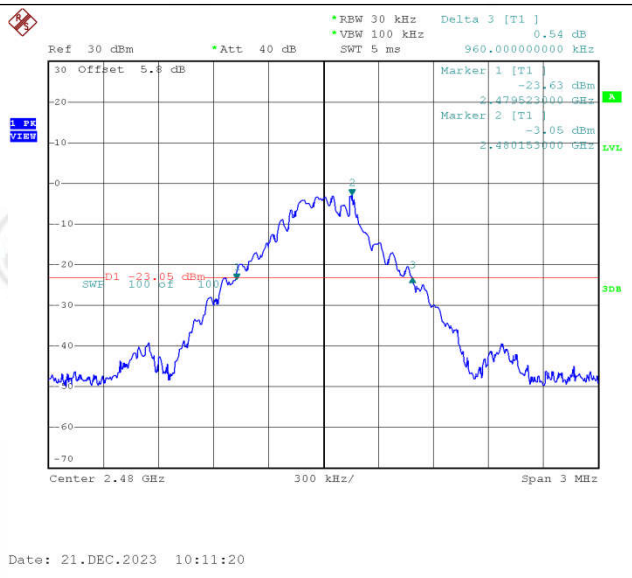
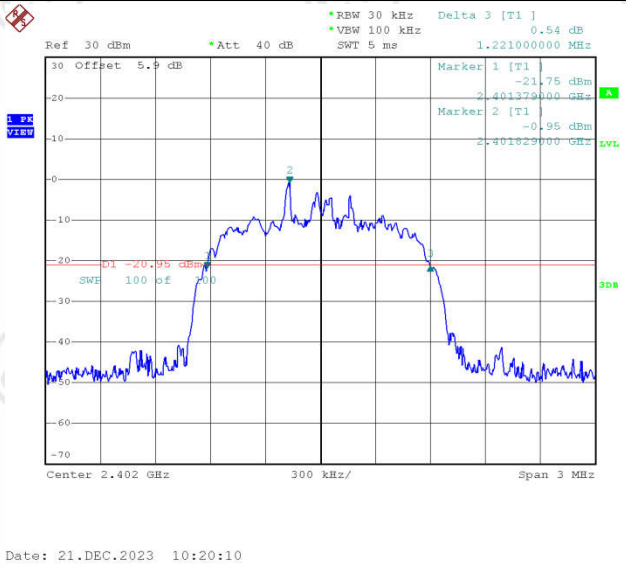
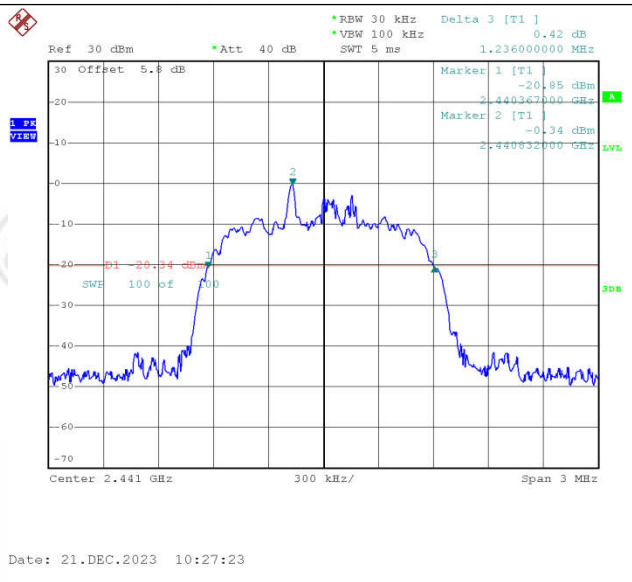
DH5_Ant1_2480



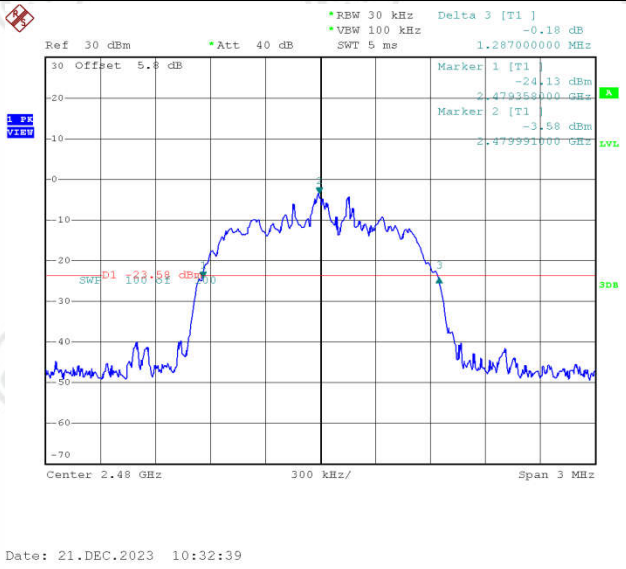
2DH5_Ant1_2402



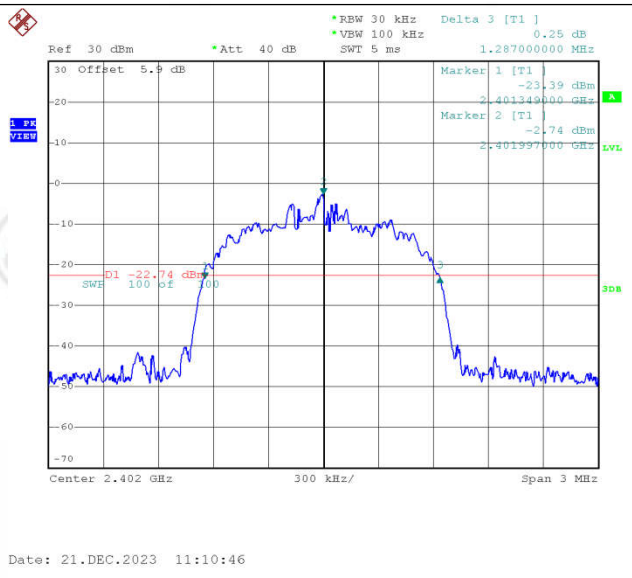
2DH5_Ant1_2441



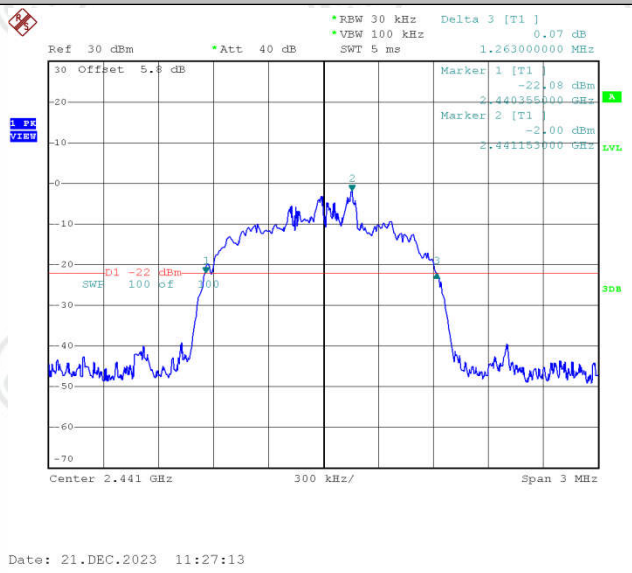
2DH5_Ant1_2480



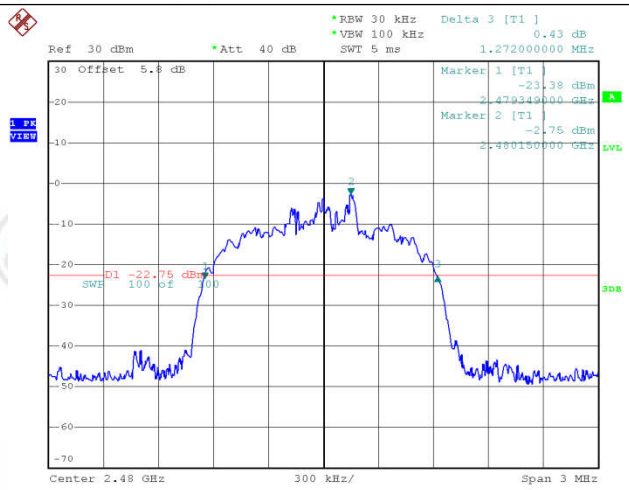
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



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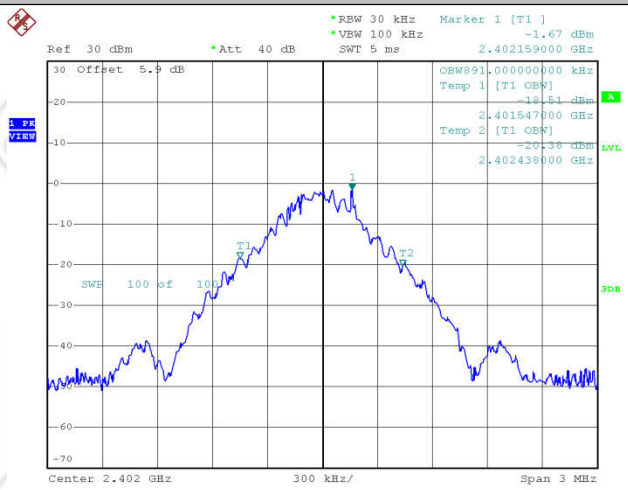
Appendix B: Occupied Channel Bandwidth

Test Result

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	Limit [MHz]	Verdict
DH5	Ant1	2402	0.891	---	---
		2441	0.9	---	---
		2480	0.9	---	---
2DH5	Ant1	2402	1.164	---	---
		2441	1.179	---	---
		2480	1.17	---	---
3DH5	Ant1	2402	1.194	---	---
		2441	1.176	---	---
		2480	1.167	---	---

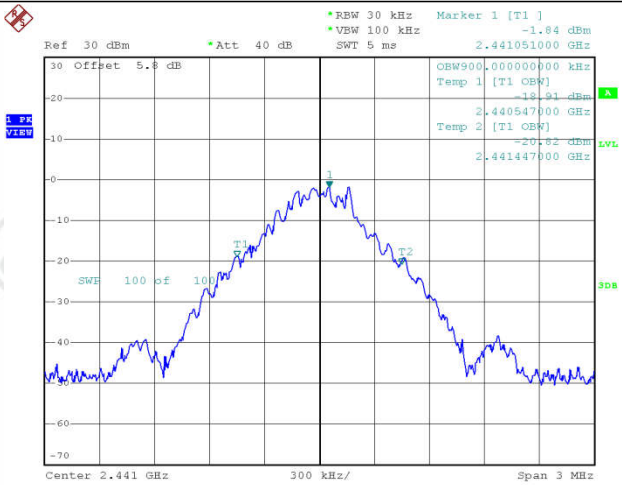
Test Graphs

DH5_Ant1_2402



Date: 21.DEC.2023 09:59:45

DH5_Ant1_2441



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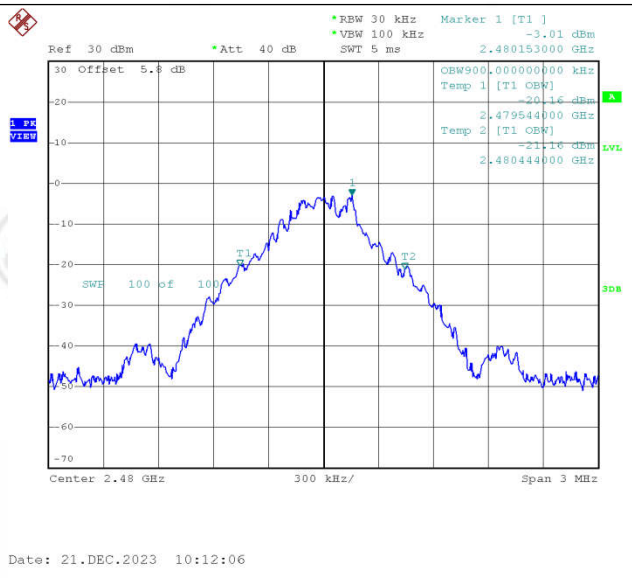
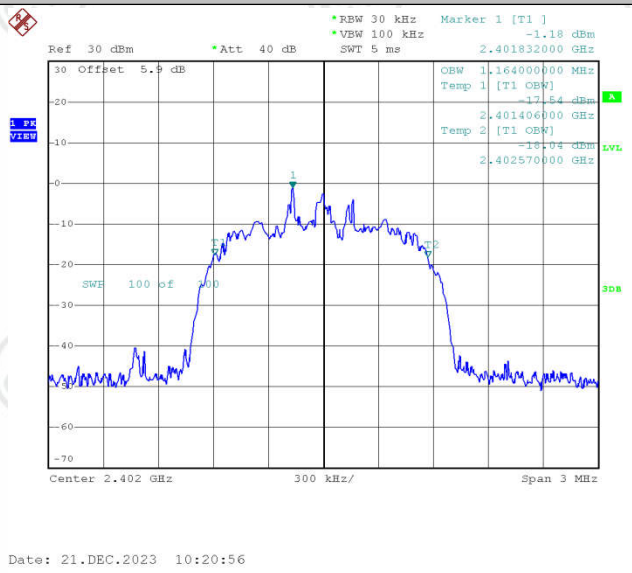
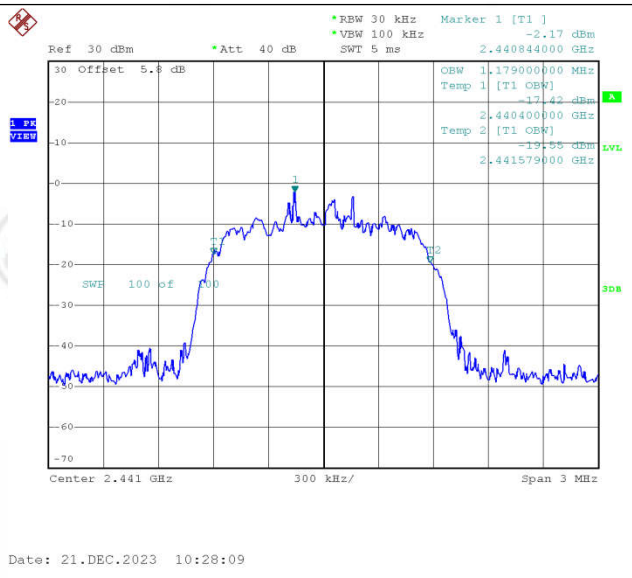
DH5_Ant1_2480



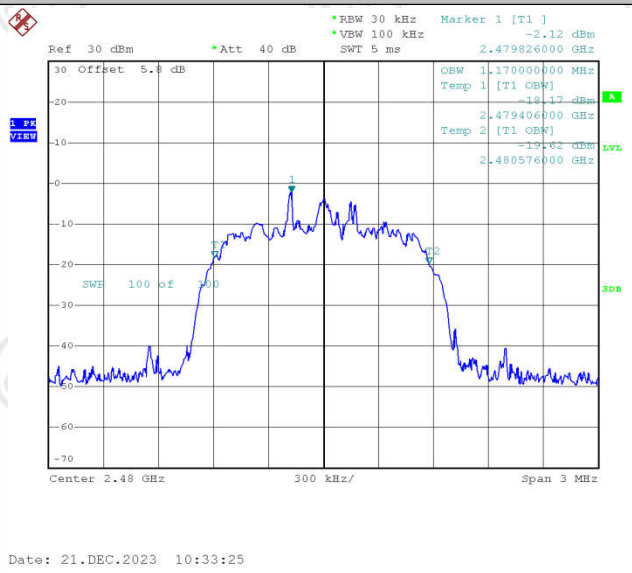
2DH5_Ant1_2402



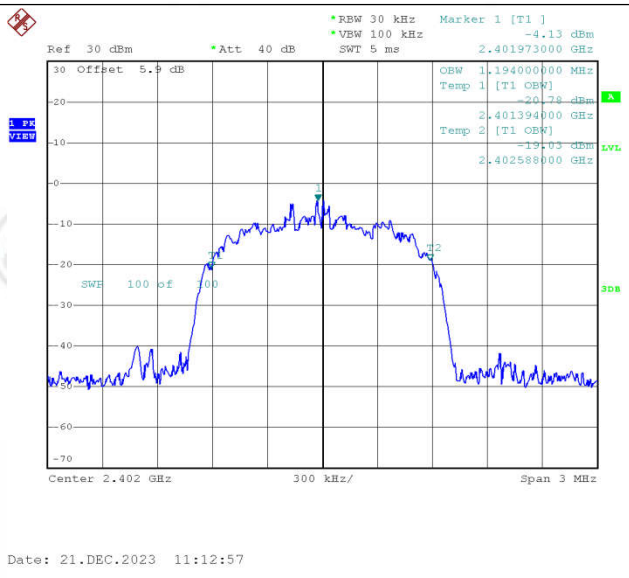
2DH5_Ant1_2441



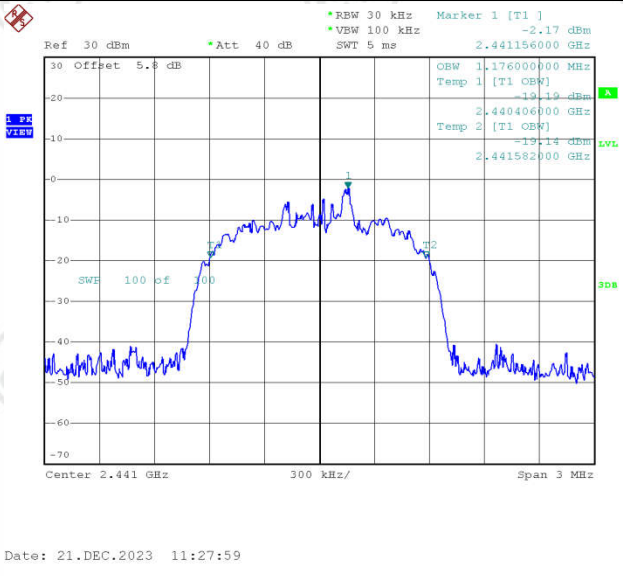
2DH5_Ant1_2480



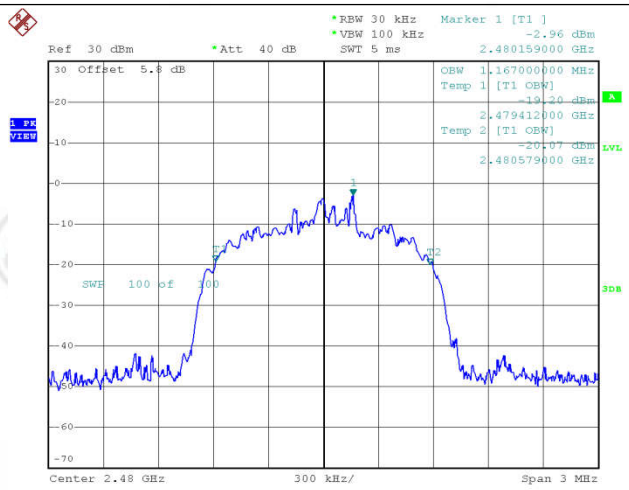
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



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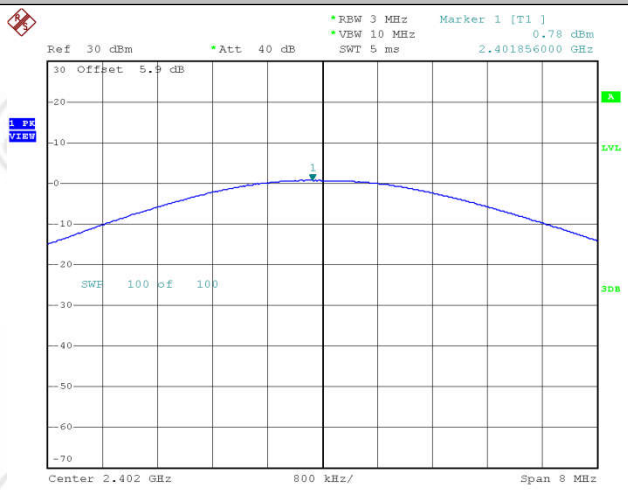
Appendix C: Maximum conducted output power

Test Result Peak

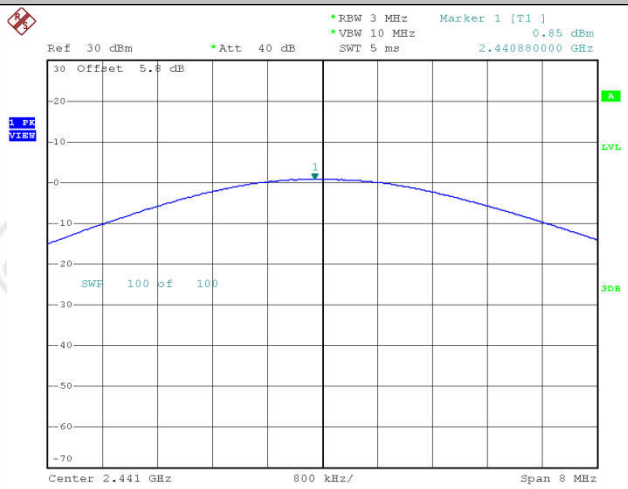
Test Mode	Antenna	Frequency [MHz]	Conducted Peak Powert [dBm]	Conducted Limit [dBm]	Verdict
DH5	Ant1	2402	0.78	≤20.97	PASS
		2441	0.85	≤20.97	PASS
		2480	0.17	≤20.97	PASS
2DH5	Ant1	2402	0.8	≤20.97	PASS
		2441	0.96	≤20.97	PASS
		2480	0.22	≤20.97	PASS
3DH5	Ant1	2402	0.96	≤20.97	PASS
		2441	0.71	≤20.97	PASS
		2480	0.51	≤20.97	PASS

Test Graphs

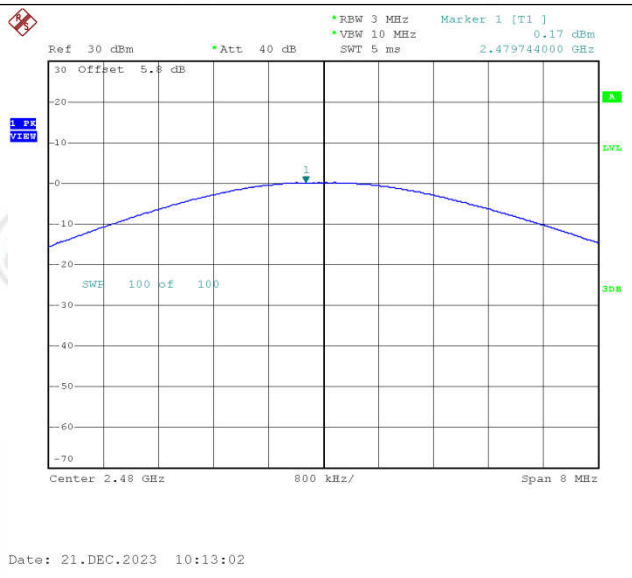
DH5_Ant1_2402



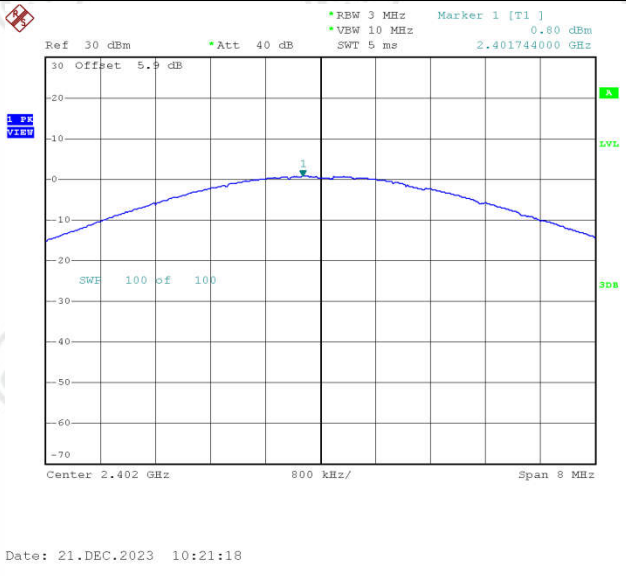
DH5_Ant1_2441



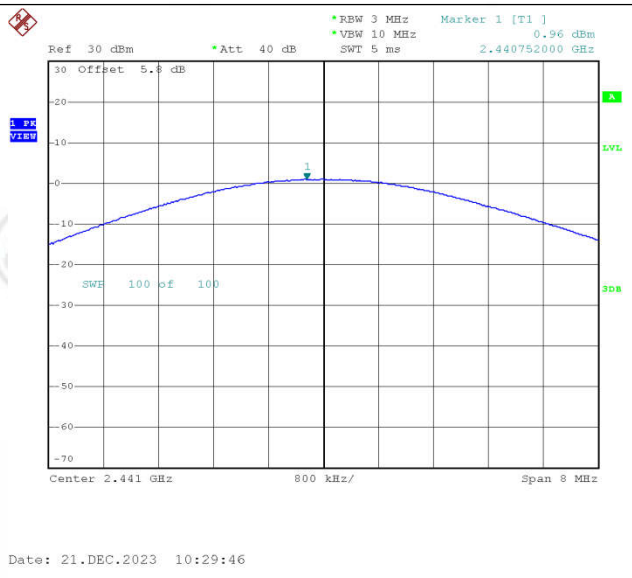
DH5_Ant1_2480



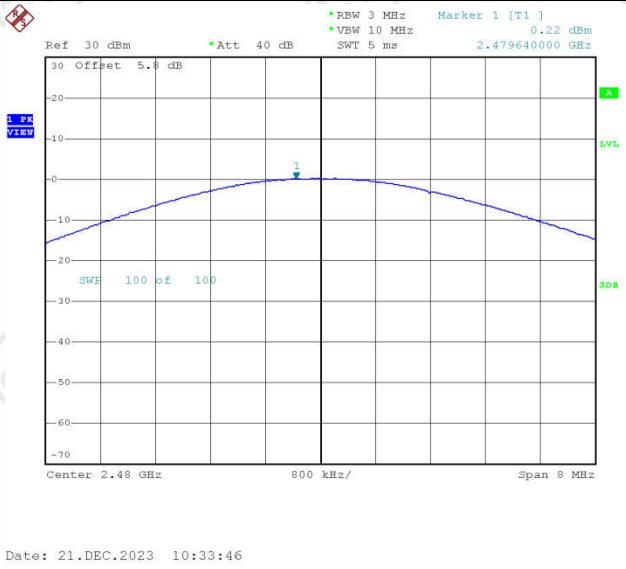
2DH5_Ant1_2402



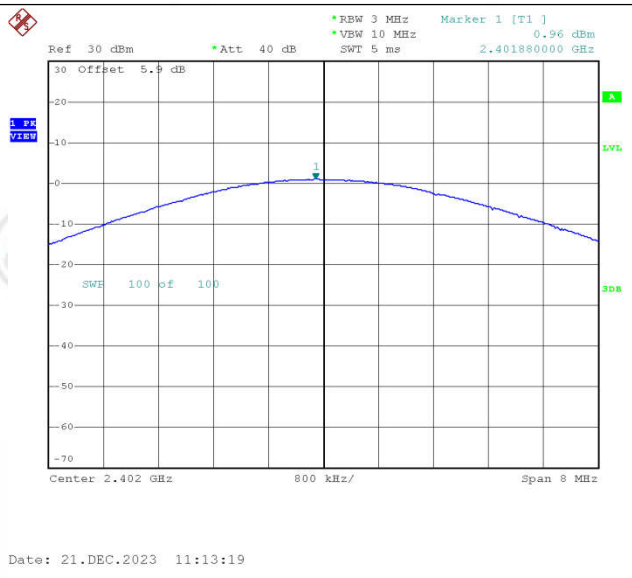
2DH5_Ant1_2441



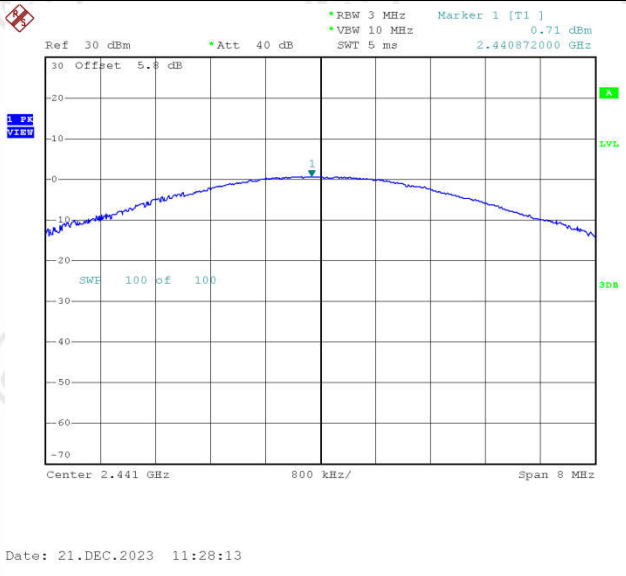
2DH5_Ant1_2480



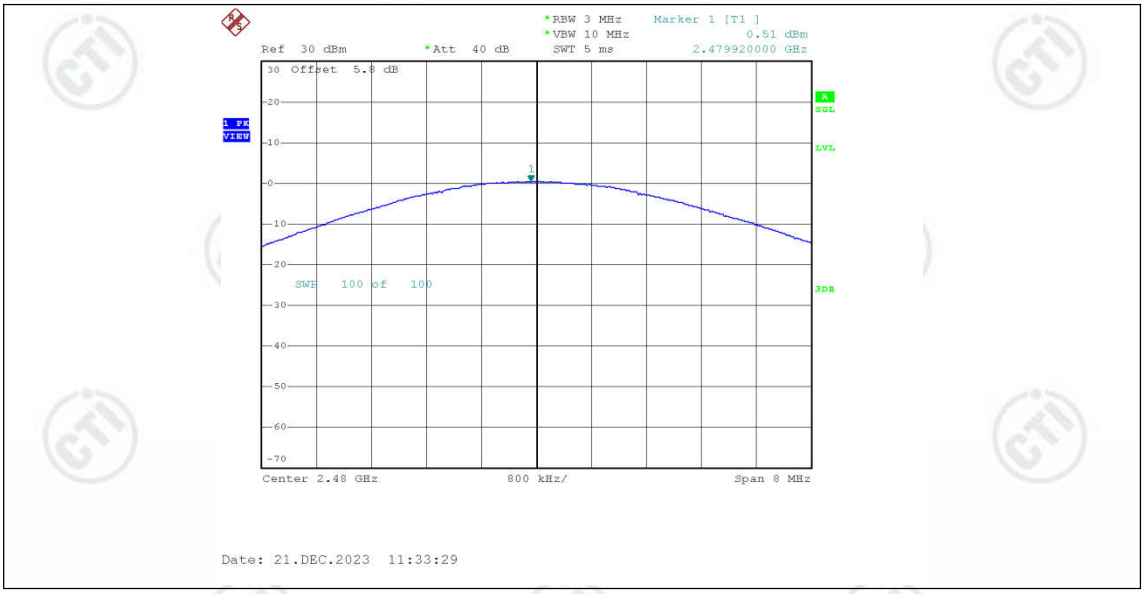
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480


RBW 3 MHz
VBW 10 MHz
SWT 5 ms
Marker 1 [T1]
0.51 dBm
2.479920000 GHz
Ref 30 dBm
Att 40 dB
Offset 5.8 dB
SWP 100 of 100
Center 2.48 GHz
800 kHz/
Span 8 MHz
Date: 21.DEC.2023 11:33:29

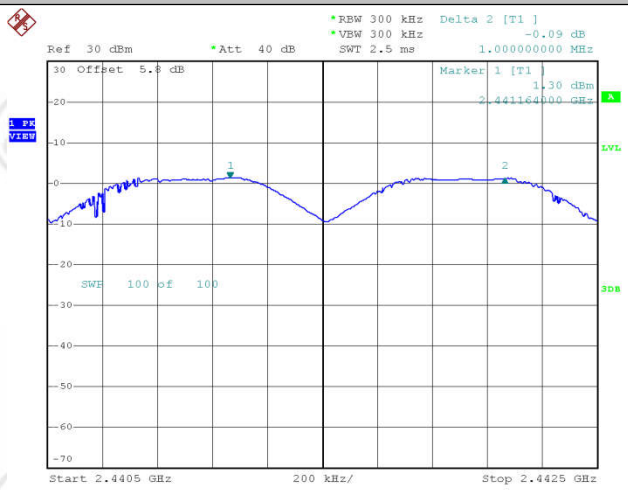
Appendix D: Carrier frequency separation

Test Result

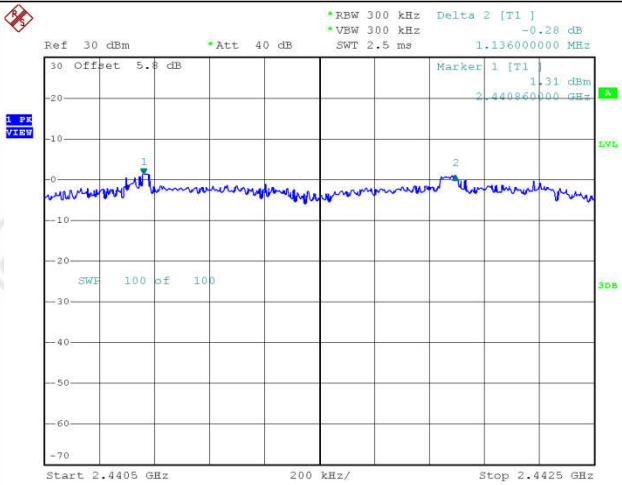
Test Mode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
DH5	Ant1	Hop	1	≥0.960	PASS
2DH5	Ant1	Hop	1.136	≥0.860	PASS
3DH5	Ant1	Hop	1.124	≥0.860	PASS

Test Graphs

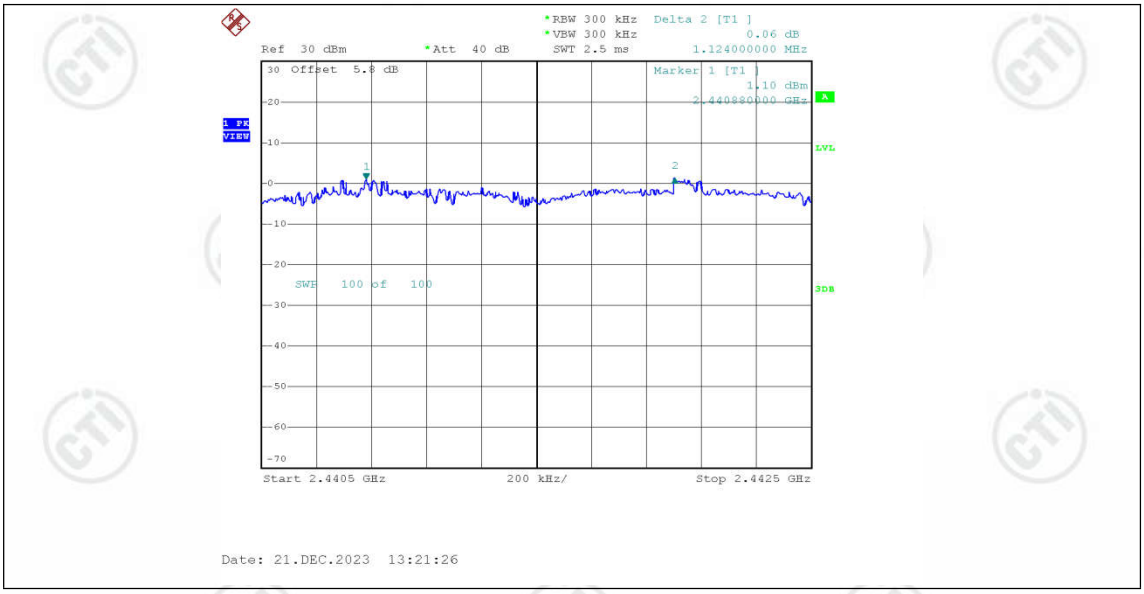
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop


RBW 300 kHz
VBW 300 kHz
SWT 2.5 ms
Delta 2 [T1]
0.06 dB
1.124000000 MHz
Ref 30 dBm
Att 40 dB
30 Offset 5.8 dB
Marker 1 [T1]
1.10 dBm
2.440880000 GHz
SWP 100 of 100
Start 2.4405 GHz
200 kHz/
Stop 2.4425 GHz
Date: 21.DEC.2023 13:21:26

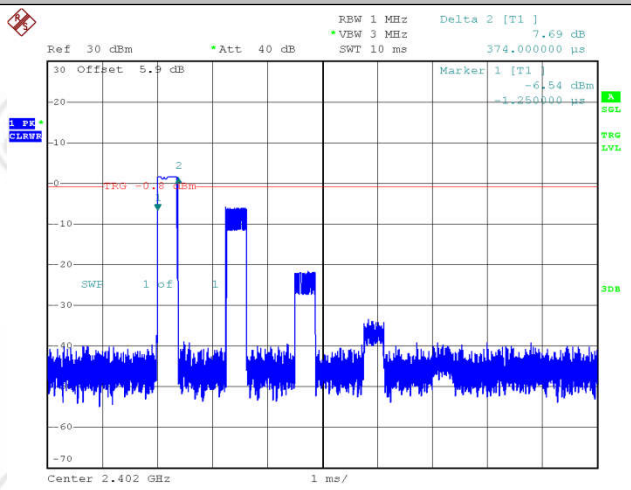
Appendix E: Time of occupancy

Test Result

Test Mode	Antenna	Frequency [MHz]	BurstWidth [ms]	TotalHops [Num]	Result [s]	Limit [s]	Verdict
DH1	Ant1	2402	0.374	320	0.12	≤0.4	PASS
DH3	Ant1	2402	1.630	160	0.261	≤0.4	PASS
DH5	Ant1	2402	2.879	106.67	0.307	≤0.4	PASS
2DH1	Ant1	2402	0.380	320	0.122	≤0.4	PASS
2DH3	Ant1	2402	1.633	160	0.261	≤0.4	PASS
2DH5	Ant1	2402	2.880	106.67	0.307	≤0.4	PASS
3DH1	Ant1	2402	0.380	320	0.122	≤0.4	PASS
3DH3	Ant1	2402	1.631	160	0.261	≤0.4	PASS
3DH5	Ant1	2402	2.883	106.67	0.308	≤0.4	PASS

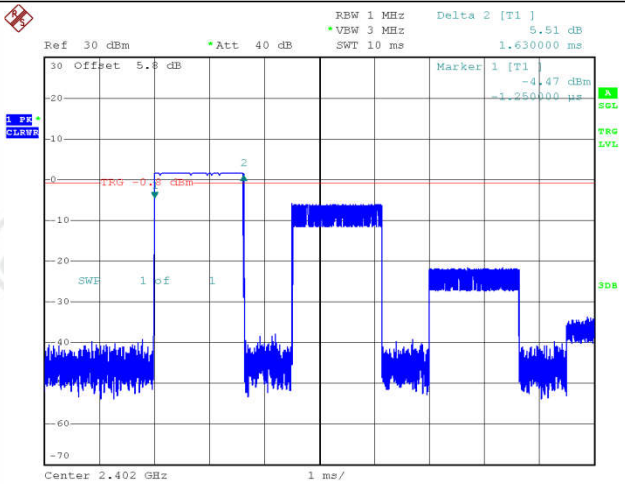
Test Graphs

DH1_Ant1_2402



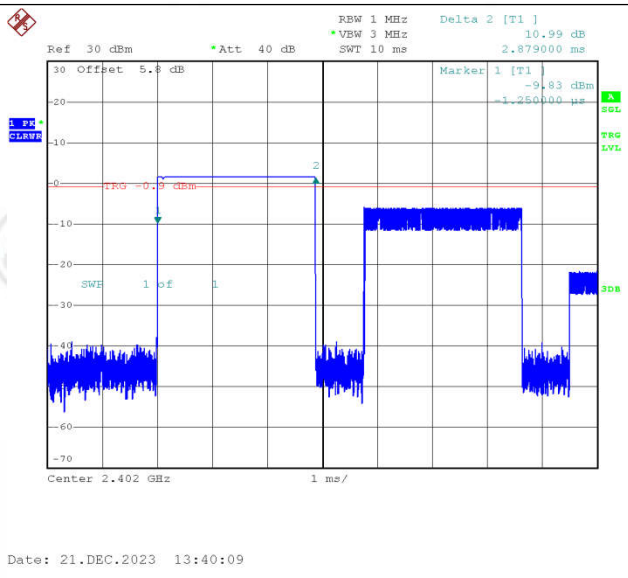
Date: 21.DEC.2023 13:40:48

DH3_Ant1_2402

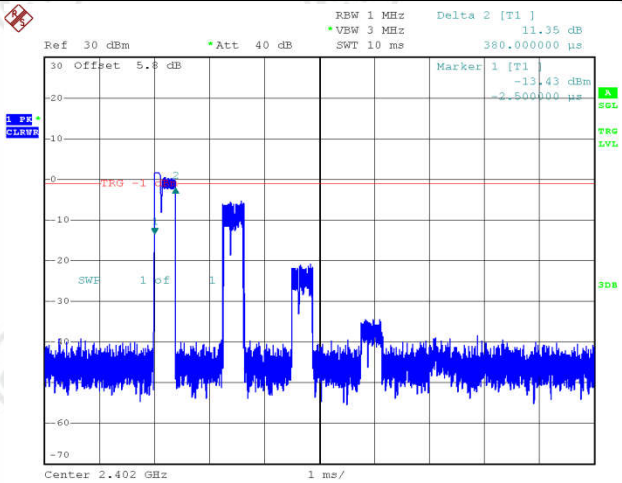


Date: 21.DEC.2023 13:41:39

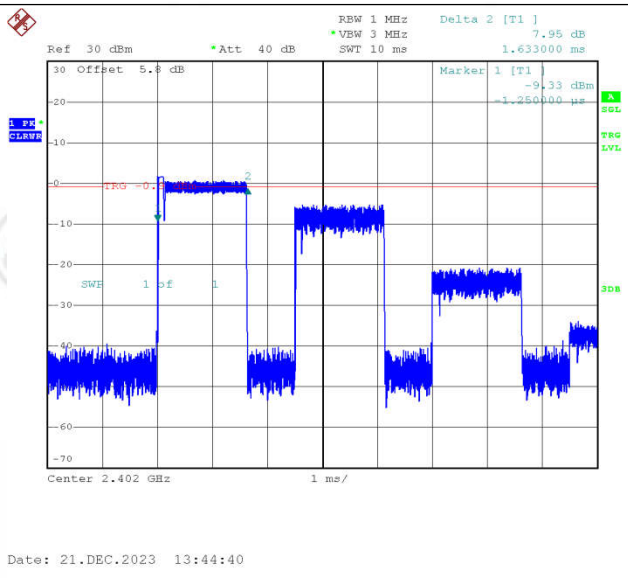
DH5_Ant1_2402



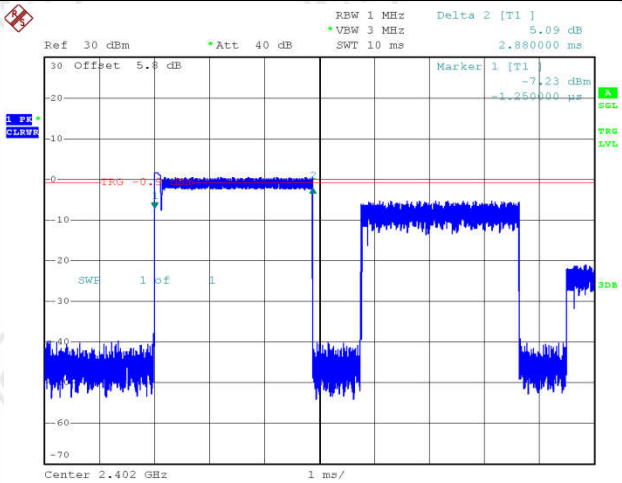
2DH1_Ant1_2402



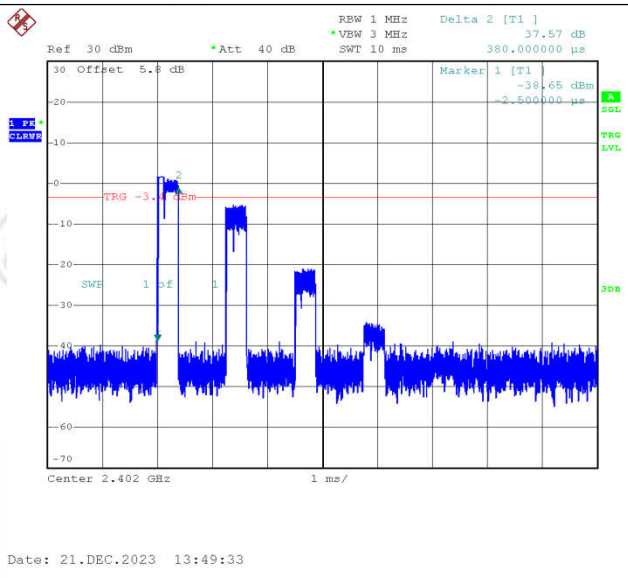
2DH3_Ant1_2402



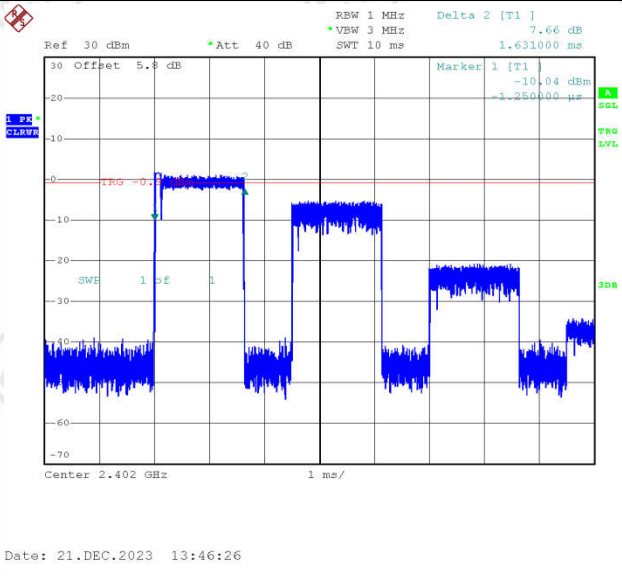
2DH5_Ant1_2402



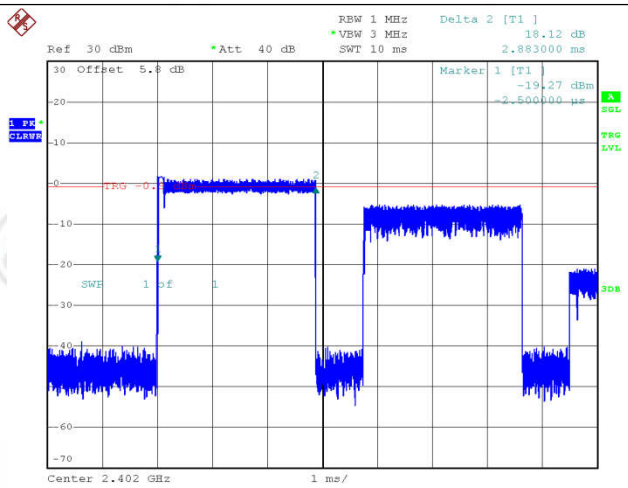
3DH1_Ant1_2402



3DH3_Ant1_2402



3DH5_Ant1_2402



Date: 21.DEC.2023 13:45:19

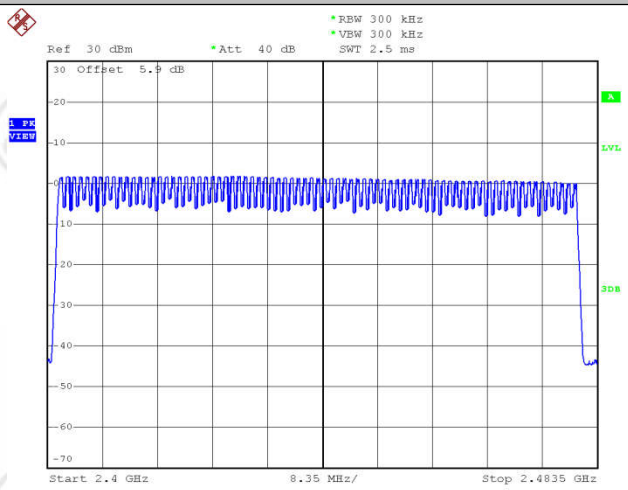
Appendix F: Number of hopping channels

Test Result

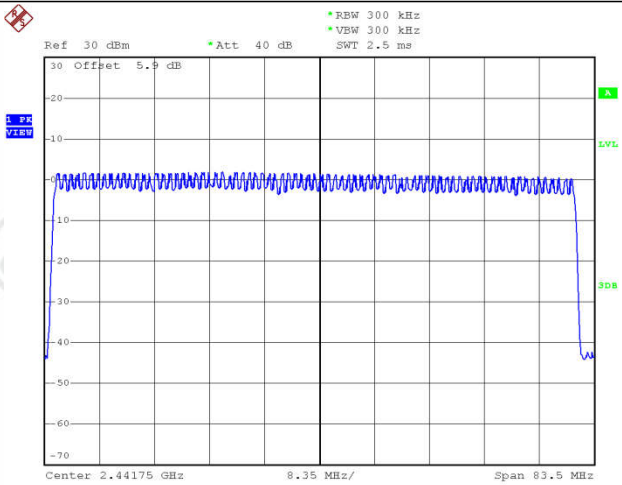
Test Mode	Antenna	Frequency [MHz]	Result [Num]	Limit [Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

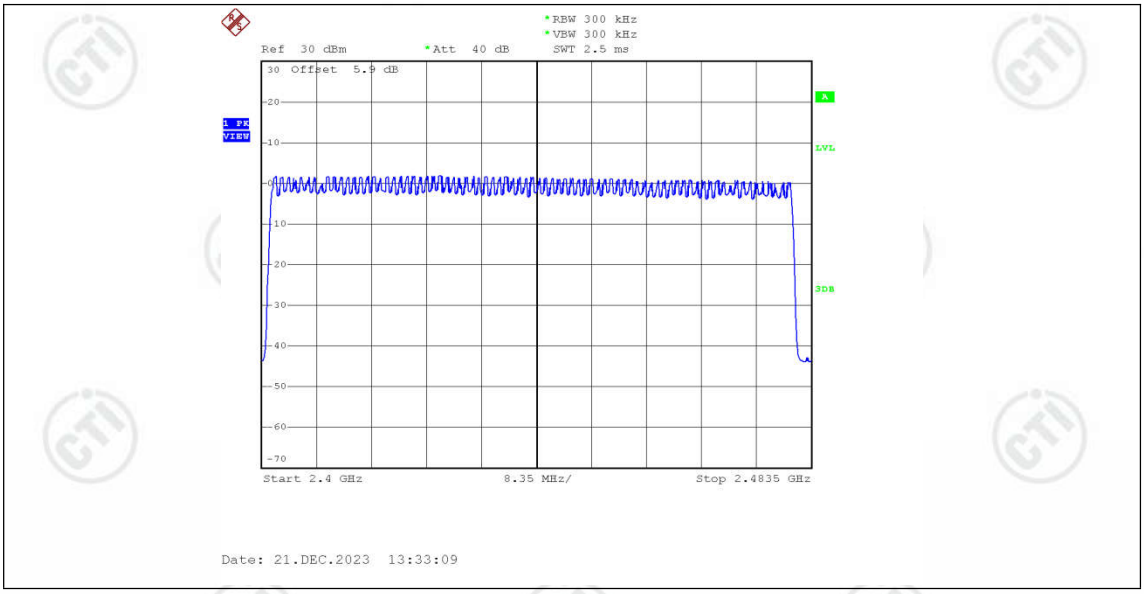
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop


RBW 300 kHz
VBW 300 kHz
Ref 30 dBm
Att 40 dB
SWT 2.5 ms
30 Offset 5.9 dB
A
LVL
3DB
Start 2.4 GHz
8.35 MHz/
Stop 2.4835 GHz
Date: 21.DEC.2023 13:33:09

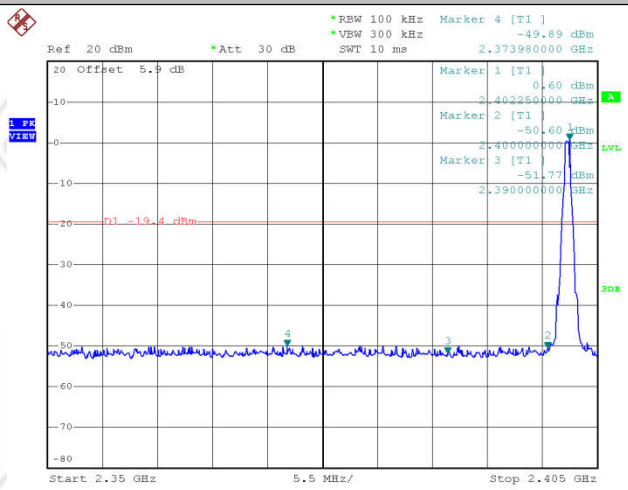
Appendix G: Band edge measurements

Test Result

Test Mode	Antenna	ChName	Frequency [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	0.60	-49.89	≤-19.4	PASS
		High	2480	-0.23	-48.91	≤-20.23	PASS
		Low	Hop_2402	1.42	-48.91	≤-18.58	PASS
		High	Hop_2480	0.20	-48.84	≤-19.8	PASS
2DH5	Ant1	Low	2402	0.62	-49.03	≤-19.38	PASS
		High	2480	-0.69	-49.53	≤-20.69	PASS
		Low	Hop_2402	1.82	-48.75	≤-18.18	PASS
		High	Hop_2480	0.35	-48.52	≤-19.65	PASS
3DH5	Ant1	Low	2402	-0.38	-49.22	≤-20.38	PASS
		High	2480	0.25	-49.37	≤-19.75	PASS
		Low	Hop_2402	1.08	-49.07	≤-18.92	PASS
		High	Hop_2480	-0.83	-48.93	≤-20.83	PASS

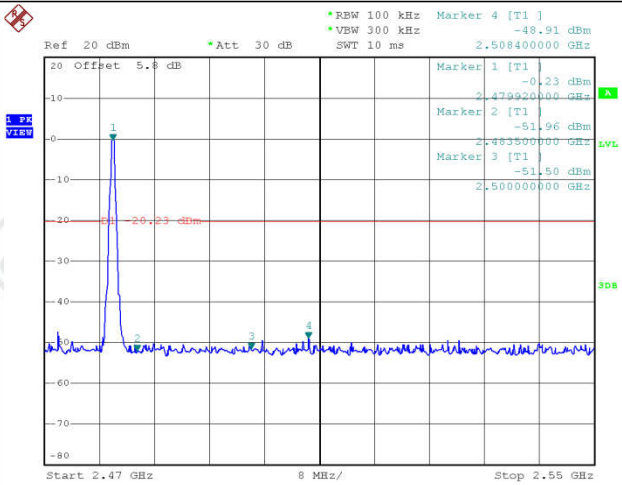
Test Graphs

DH5_Ant1_Low_2402



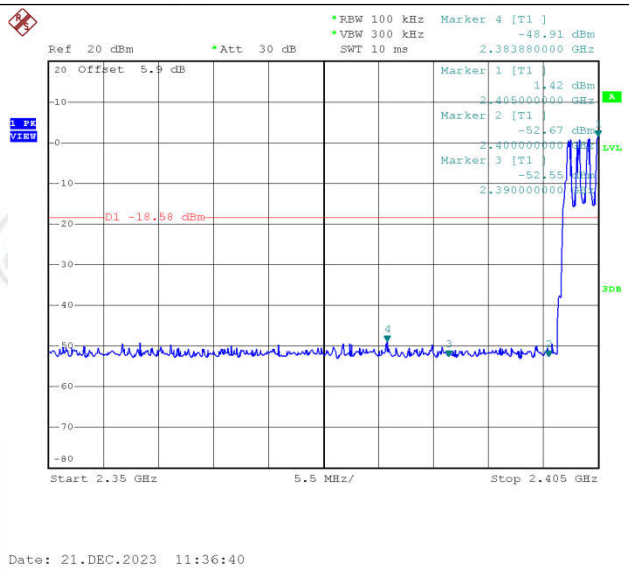
Date: 21.DEC.2023 10:16:28

DH5_Ant1_High_2480

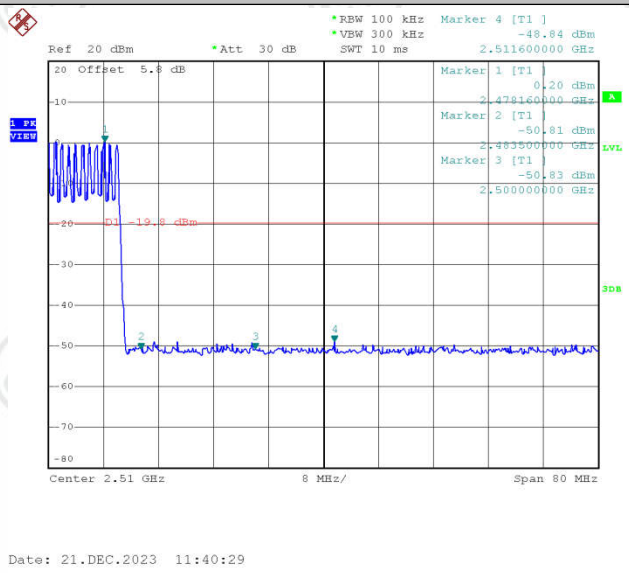


Date: 21.DEC.2023 10:13:15

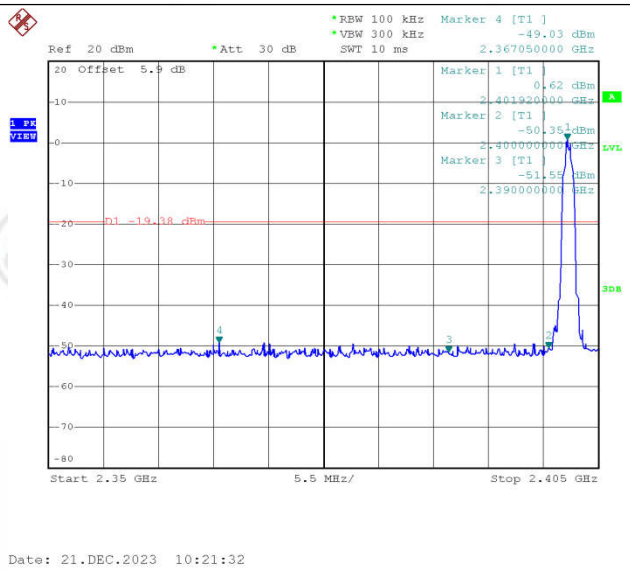
DH5_Ant1_Low_Hop_2402



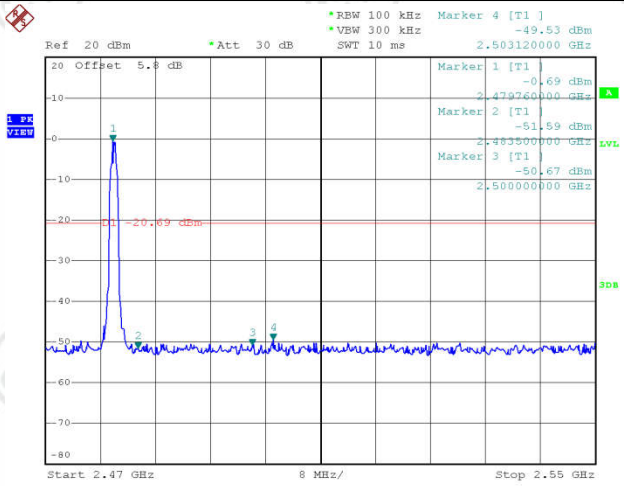
DH5_Ant1_High_Hop_2480



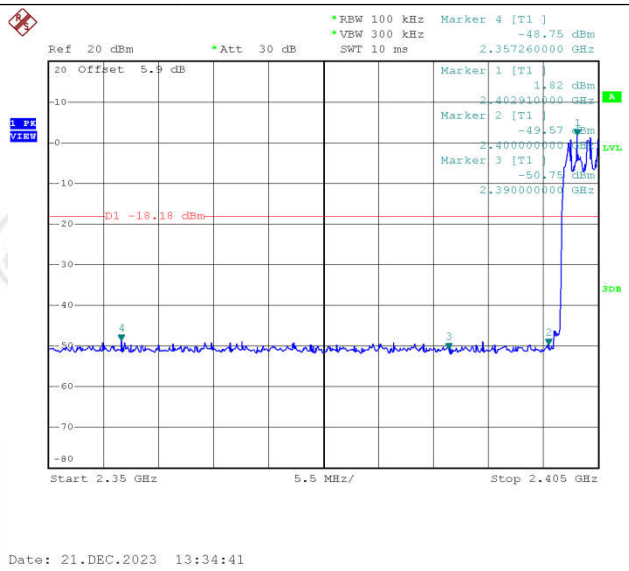
2DH5_Ant1_Low_2402



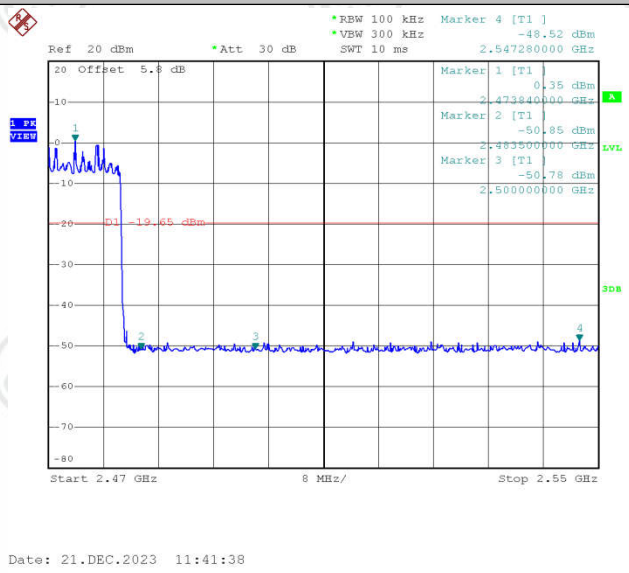
2DH5_Ant1_High_2480



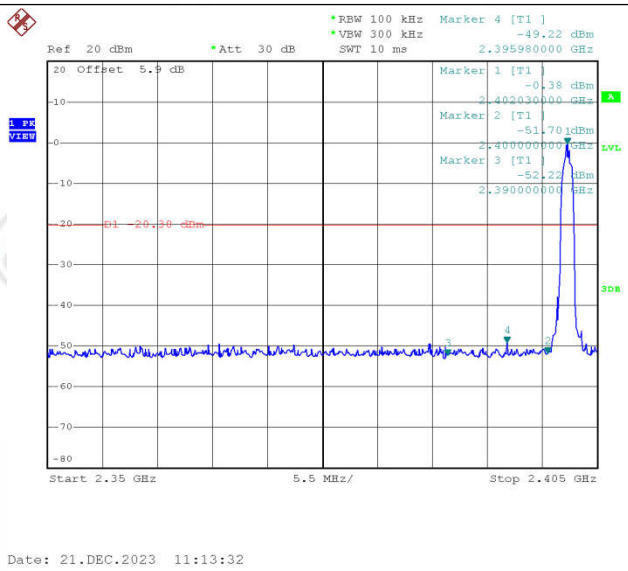
2DH5_Ant1_Low_Hop_2402



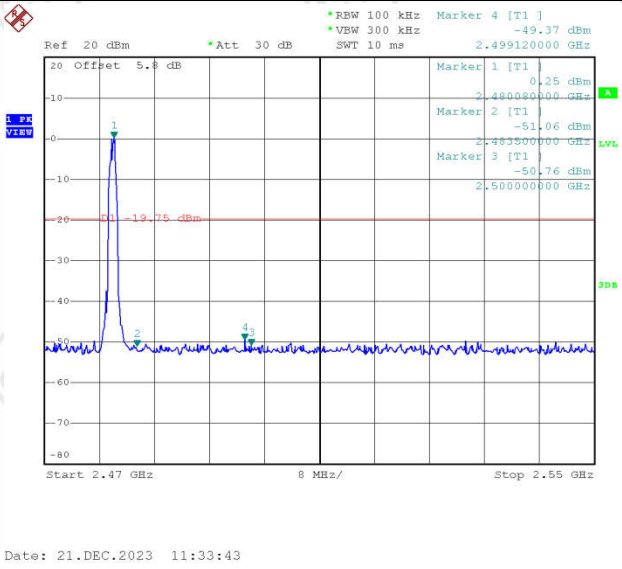
2DH5_Ant1_High_Hop_2480



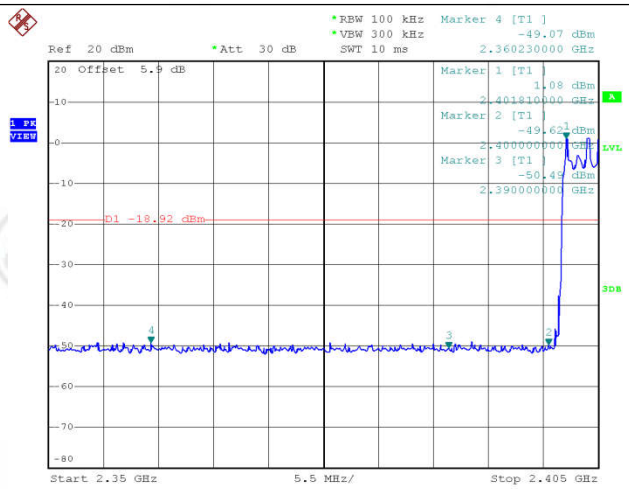
3DH5_Ant1_Low_2402



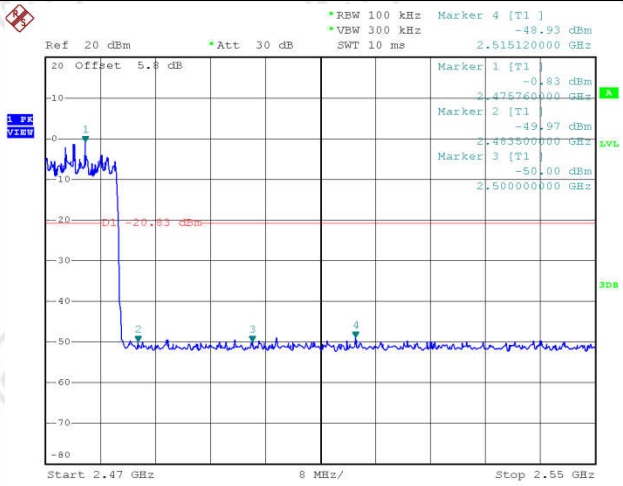
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



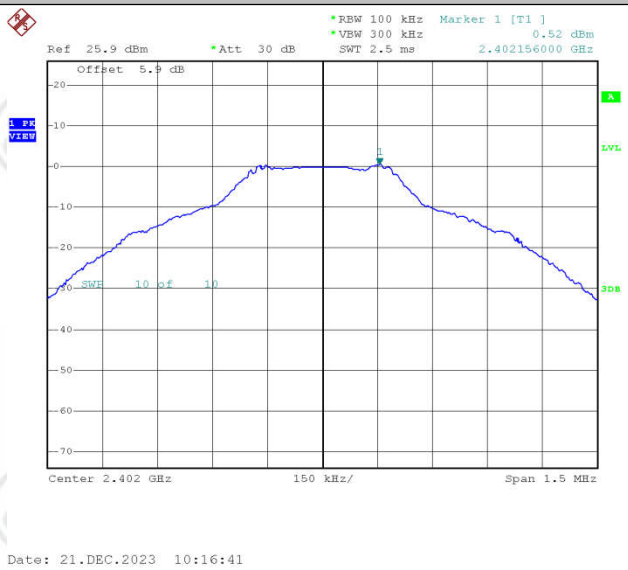
Appendix H: Conducted Spurious Emission

Test Result

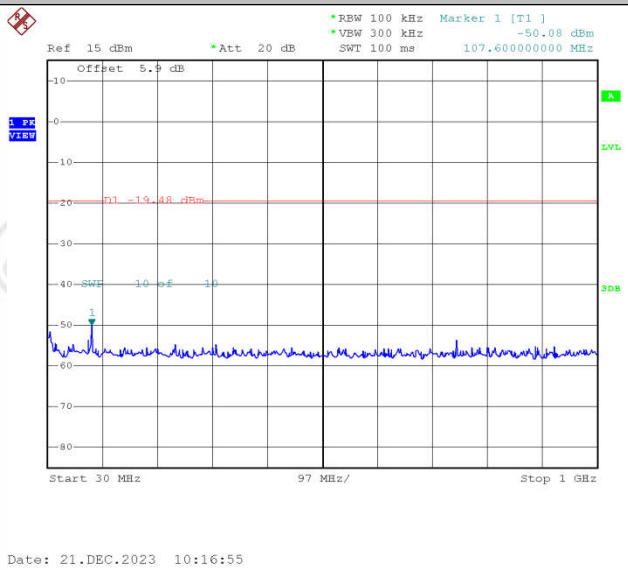
Test Mode	Antenna	Frequency [MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	0.52	0.52	---	PASS
			30~1000	0.52	-50.08	≤-19.48	PASS
			1000~26500	0.52	-46.43	≤-19.48	PASS
		2441	Reference	0.62	0.62	---	PASS
			30~1000	0.62	-52.19	≤-19.38	PASS
			1000~26500	0.62	-45.79	≤-19.38	PASS
		2480	Reference	-0.09	-0.09	---	PASS
			30~1000	-0.09	-52.25	≤-20.09	PASS
			1000~26500	-0.09	-46	≤-20.09	PASS
2DH5	Ant1	2402	Reference	0.52	0.52	---	PASS
			30~1000	0.52	-52.97	≤-19.48	PASS
			1000~26500	0.52	-45.9	≤-19.48	PASS
		2441	Reference	0.68	0.68	---	PASS
			30~1000	0.68	-47.46	≤-19.32	PASS
			1000~26500	0.68	-45.59	≤-19.32	PASS
		2480	Reference	0.01	0.01	---	PASS
			30~1000	0.01	-51.5	≤-19.99	PASS
			1000~26500	0.01	-46.45	≤-19.99	PASS
3DH5	Ant1	2402	Reference	0.68	0.68	---	PASS
			30~1000	0.68	-52.32	≤-19.32	PASS
			1000~26500	0.68	-45.66	≤-19.32	PASS
		2441	Reference	0.36	0.36	---	PASS
			30~1000	0.36	-50.35	≤-19.64	PASS
			1000~26500	0.36	-46.08	≤-19.64	PASS
		2480	Reference	0.11	0.11	---	PASS
			30~1000	0.11	-49.1	≤-19.89	PASS
			1000~26500	0.11	-41.96	≤-19.89	PASS

Test Graphs

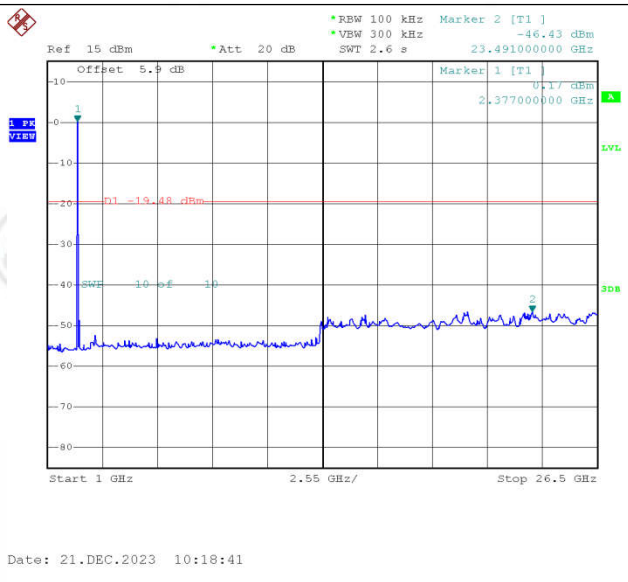
DH5_Ant1_2402_0~Reference



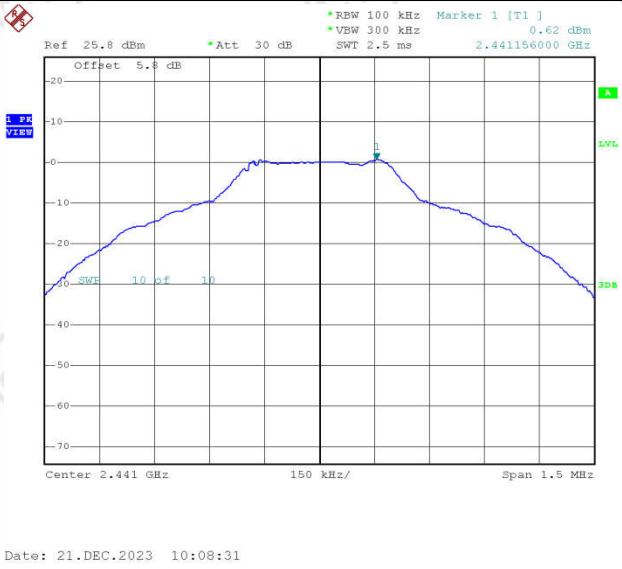
DH5_Ant1_2402_30~1000



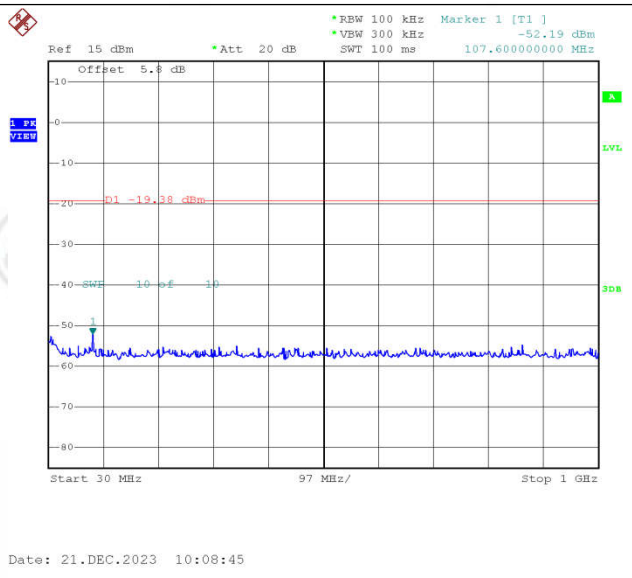
DH5_Ant1_2402_1000~26500



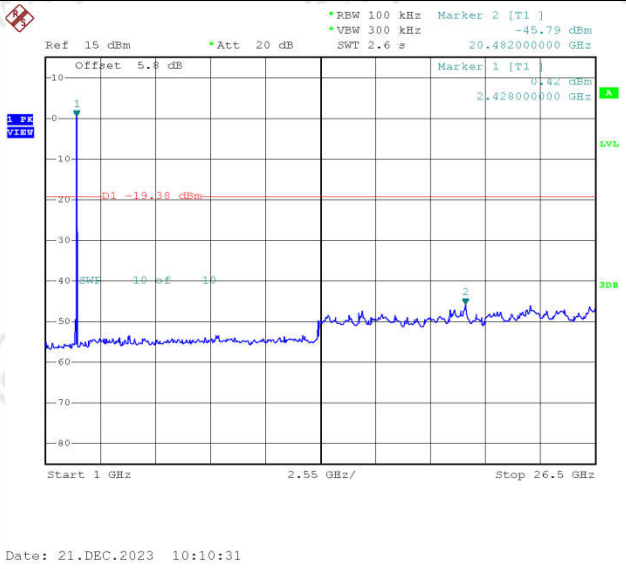
DH5_Ant1_2441_0~Reference



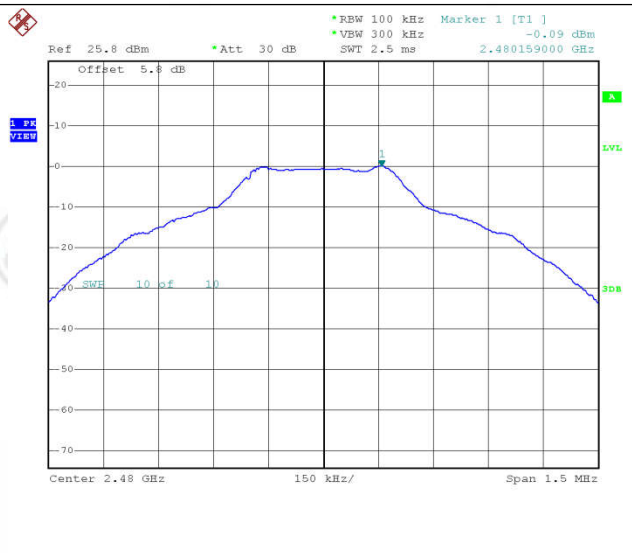
DH5_Ant1_2441_30~1000



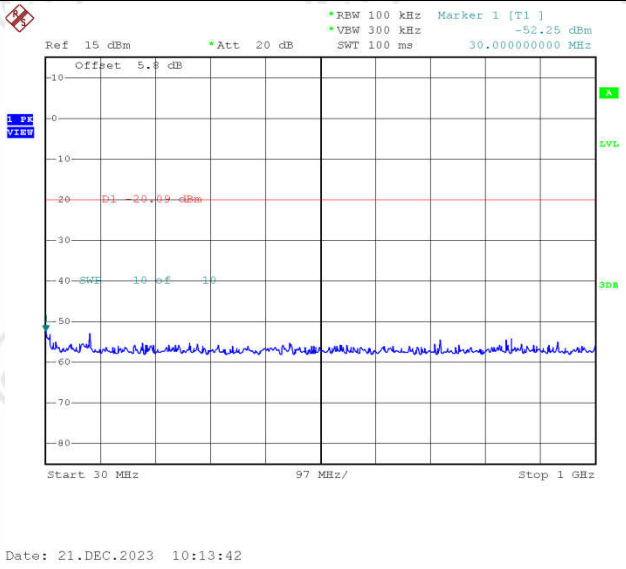
DH5_Ant1_2441_1000~26500



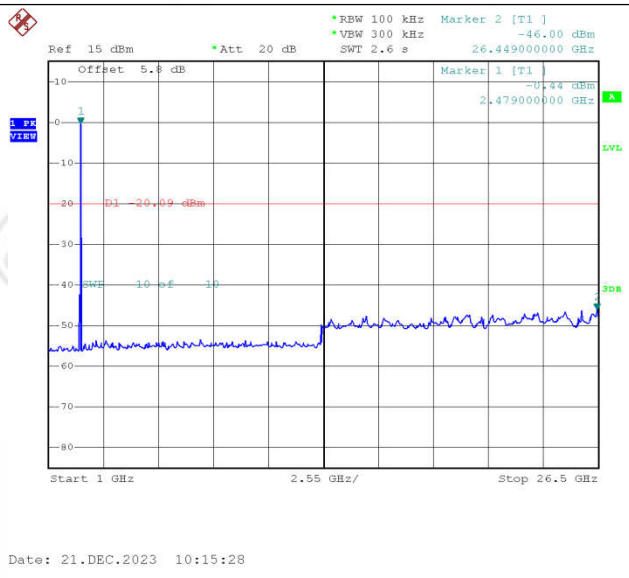
DH5_Ant1_2480_0~Reference



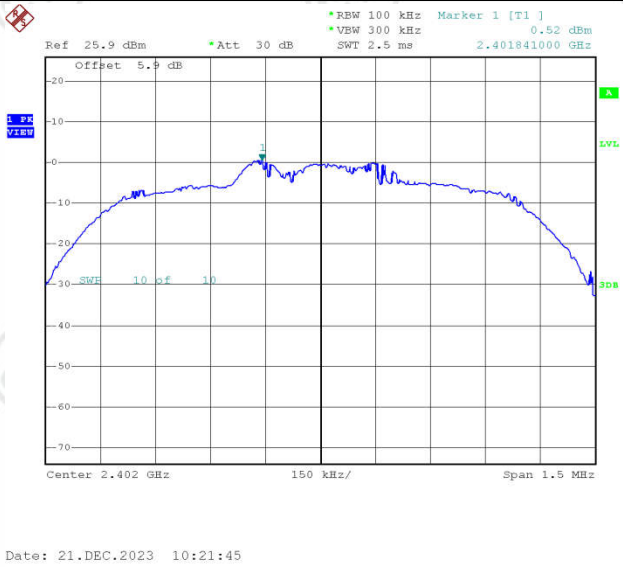
DH5_Ant1_2480_30~1000



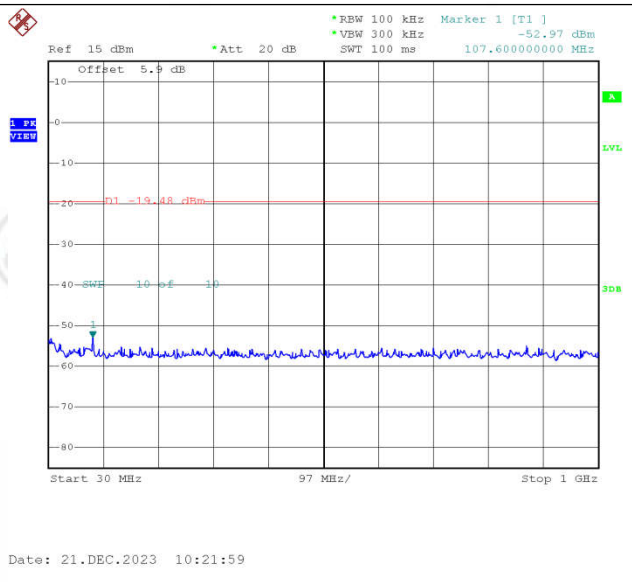
DH5_Ant1_2480_1000~26500



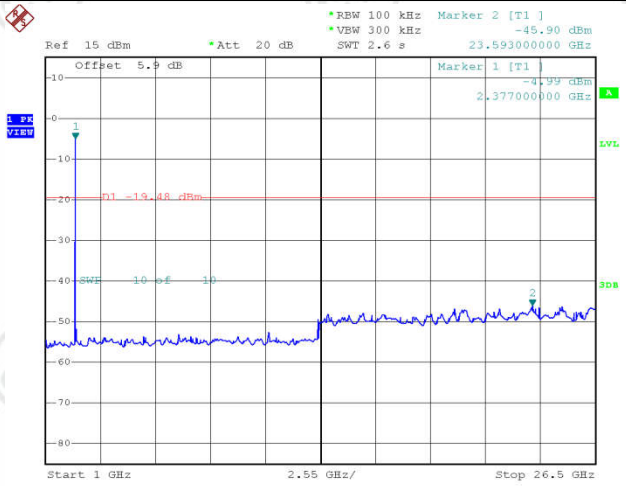
2DH5_Ant1_2402_0~Reference



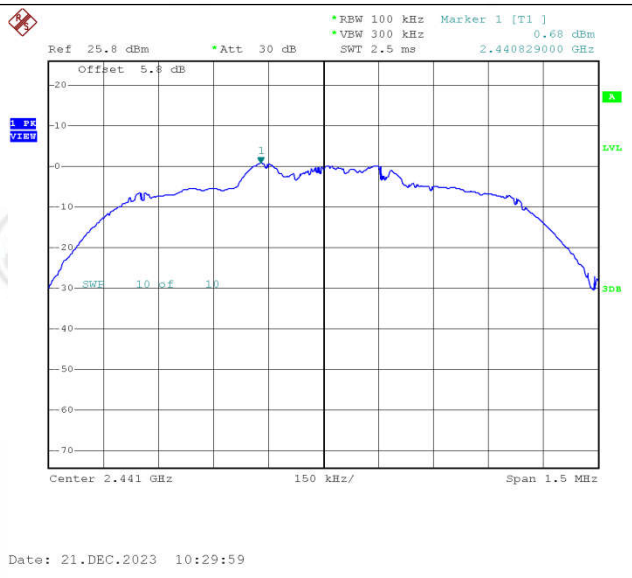
2DH5_Ant1_2402_30~1000



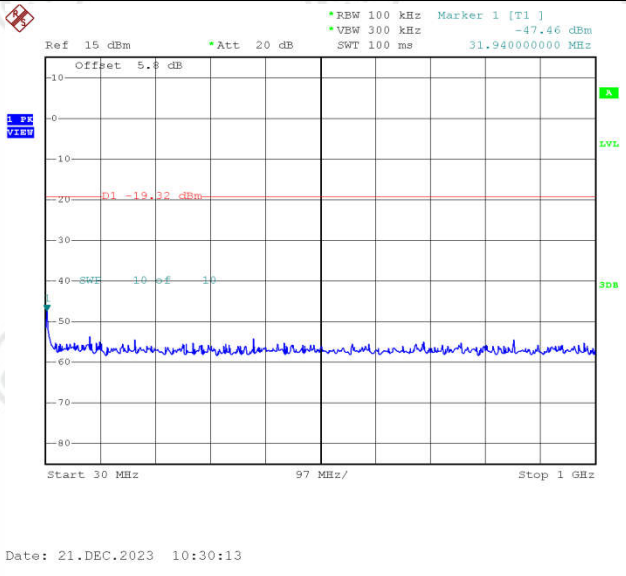
2DH5_Ant1_2402_1000~26500



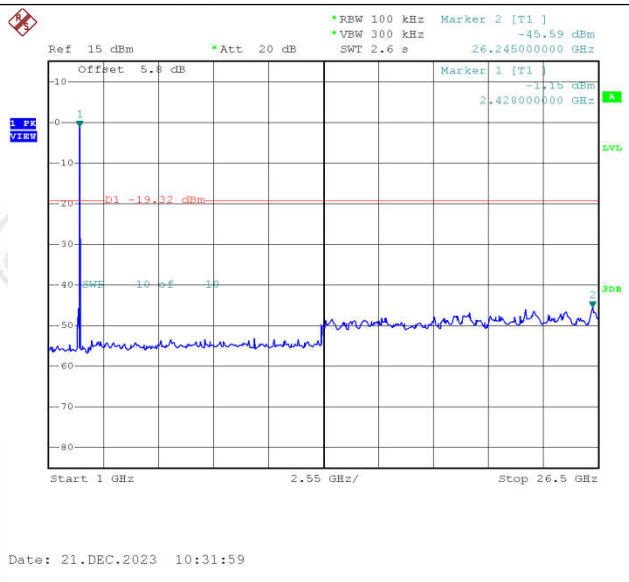
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000



2DH5_Ant1_2441_1000~26500



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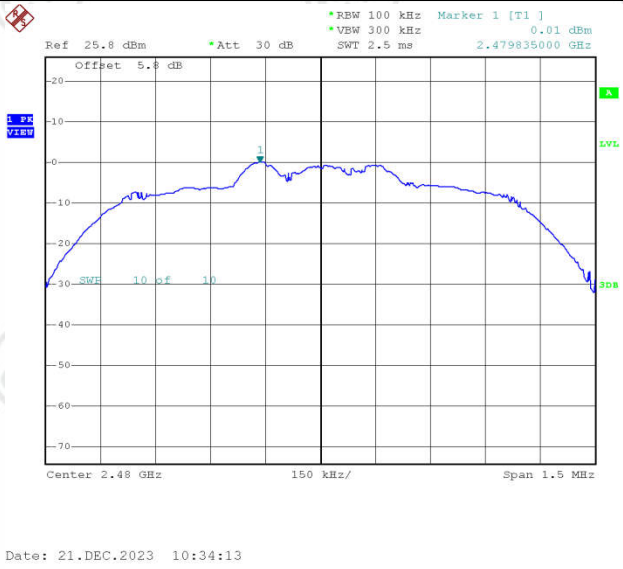
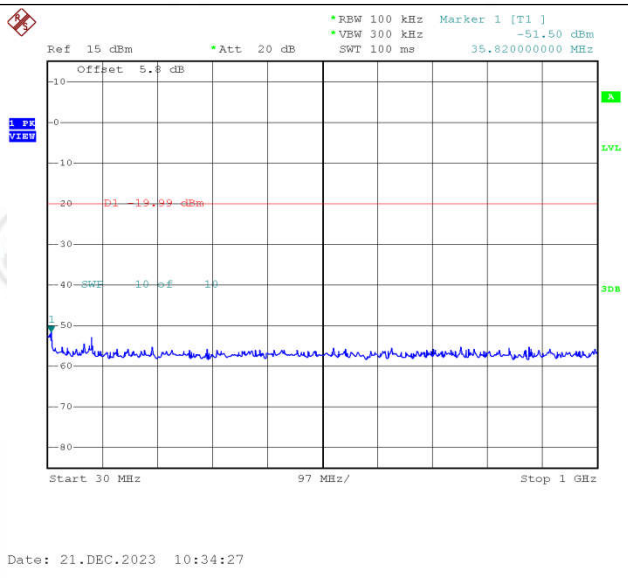
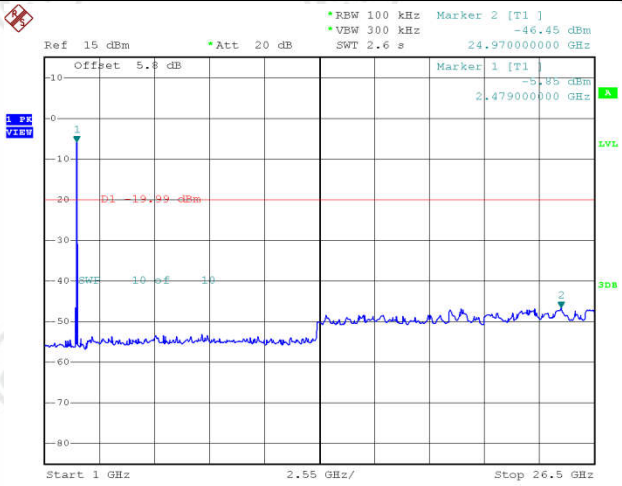


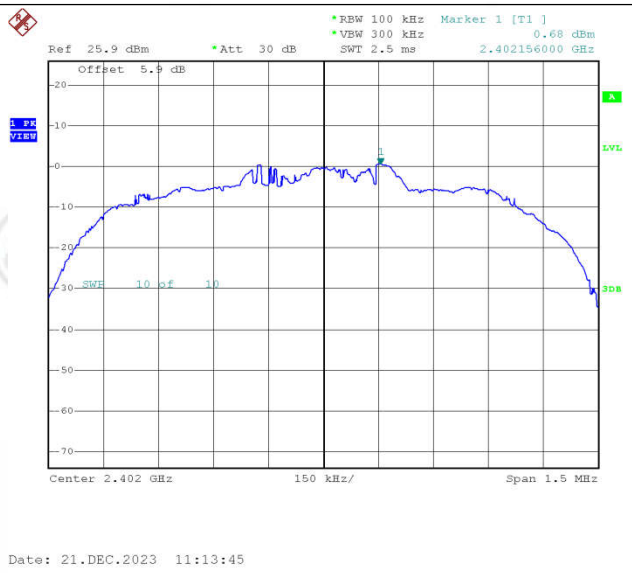
2DH5_Ant1_2480_30~1000



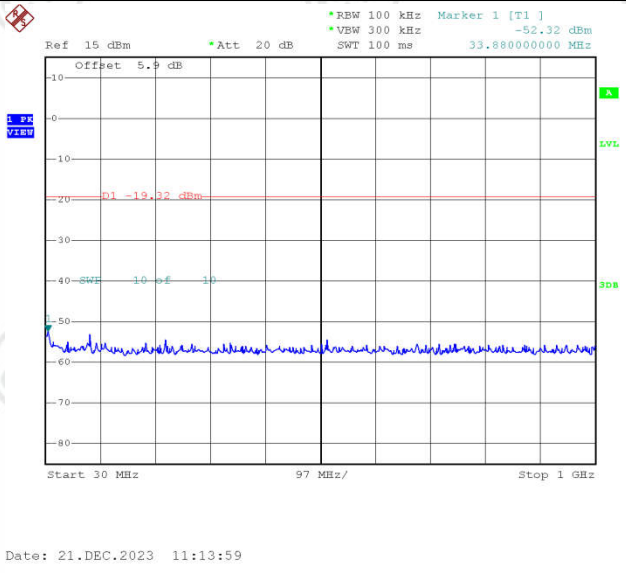
2DH5_Ant1_2480_1000~26500



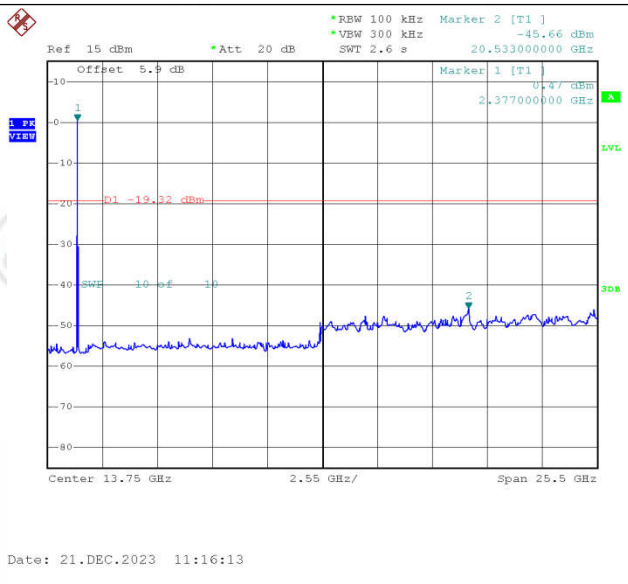
3DH5_Ant1_2402_0~Reference



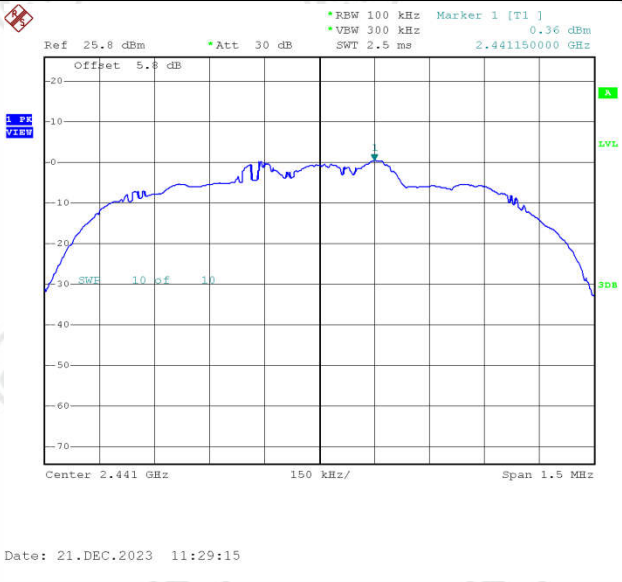
3DH5_Ant1_2402_30~1000



3DH5_Ant1_2402_1000~26500



3DH5_Ant1_2441_0~Reference



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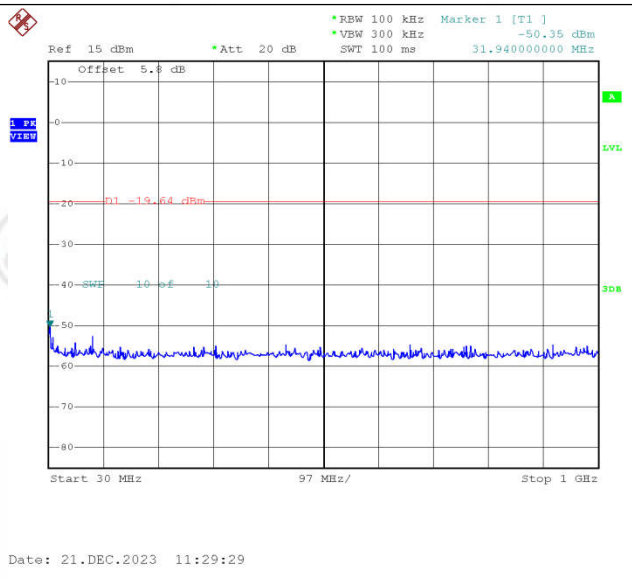
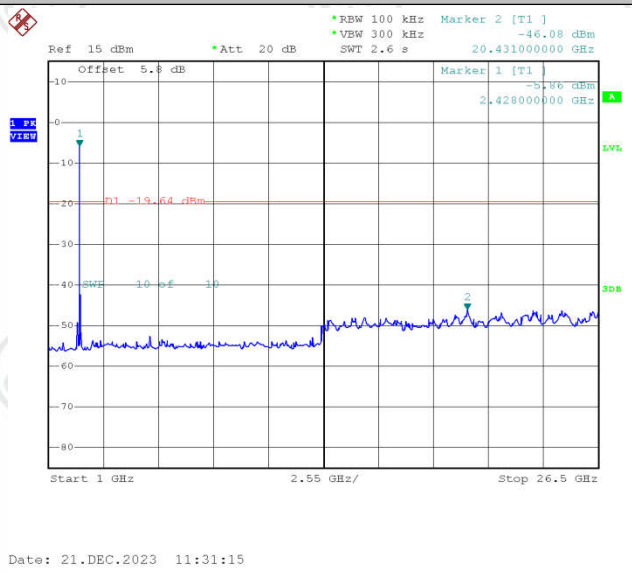
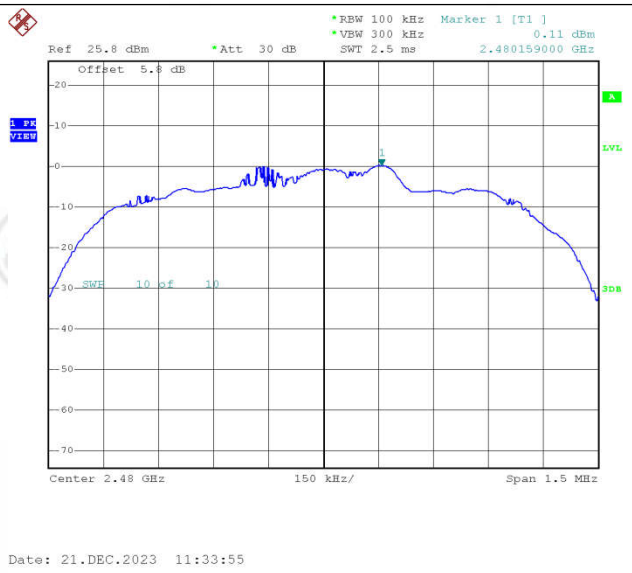


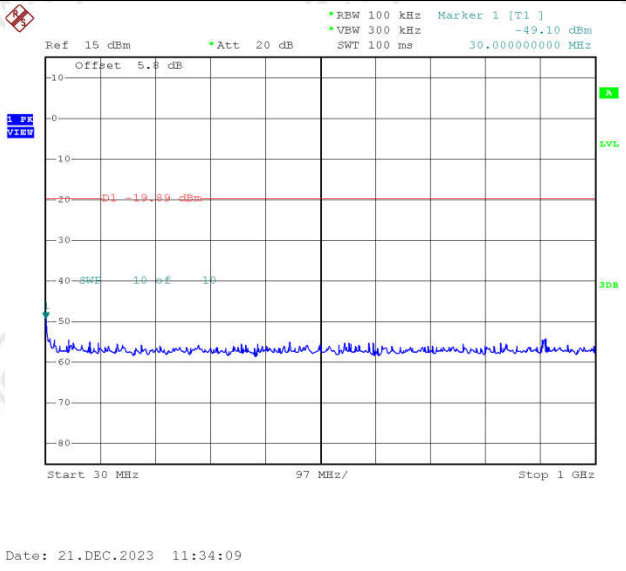
3DH5_Ant1_2441_1000~26500



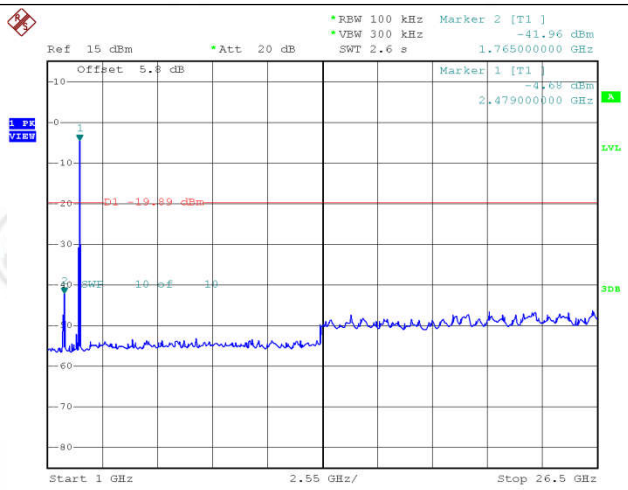
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500



Date: 21.DEC.2023 11:35:56

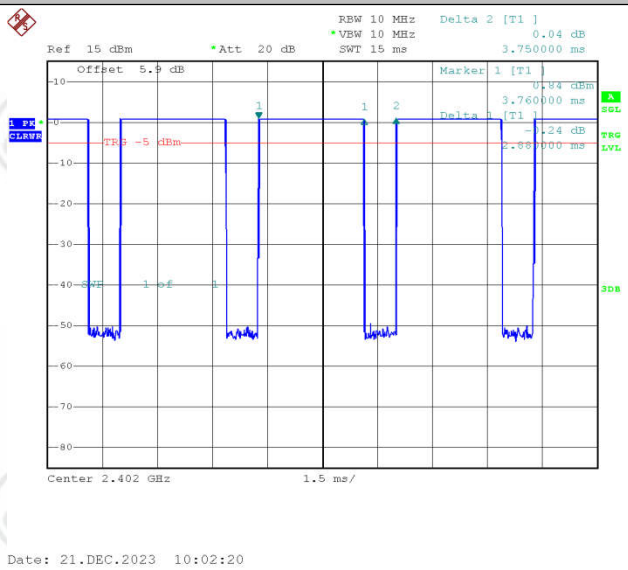
Appendix I: Duty Cycle

Test Result

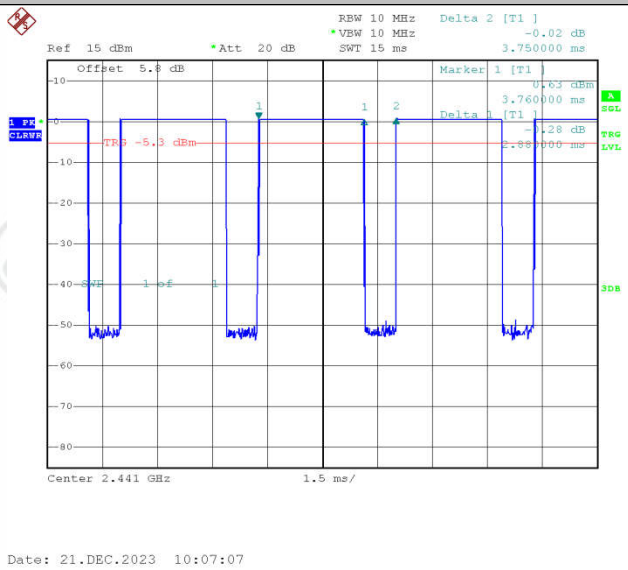
Test Mode	Antenna	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor [dB]
DH5	Ant1	2402	2.88	3.75	76.80	1.15
		2441	2.88	3.75	76.80	1.15
		2480	2.88	3.75	76.80	1.15
2DH5	Ant1	2402	2.88	3.75	76.80	1.15
		2441	2.88	3.75	76.80	1.15
		2480	2.88	3.75	76.80	1.15
3DH5	Ant1	2402	2.88	3.75	76.80	1.15
		2441	0.02	0.45	4.44	13.53
		2480	2.88	3.75	76.80	1.15

Test Graphs

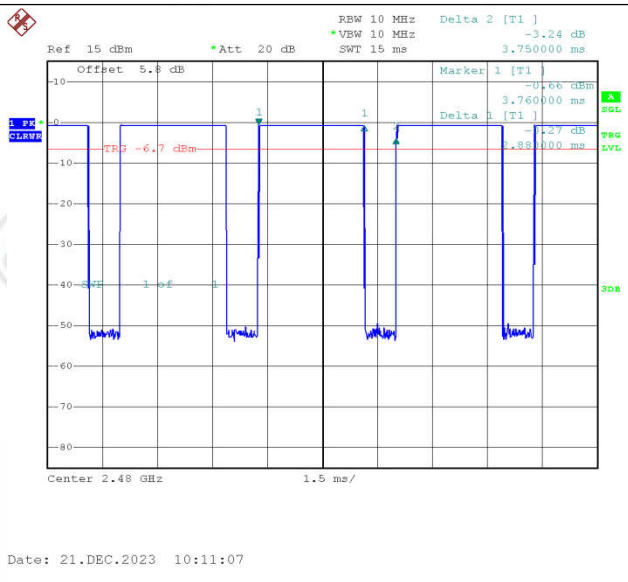
DH5_Ant1_2402



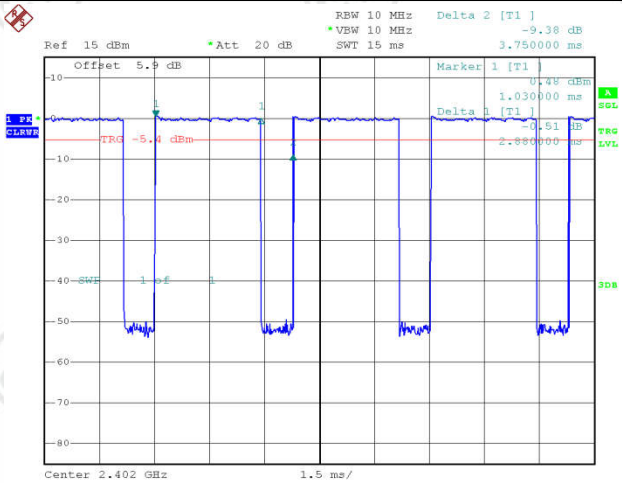
DH5_Ant1_2441



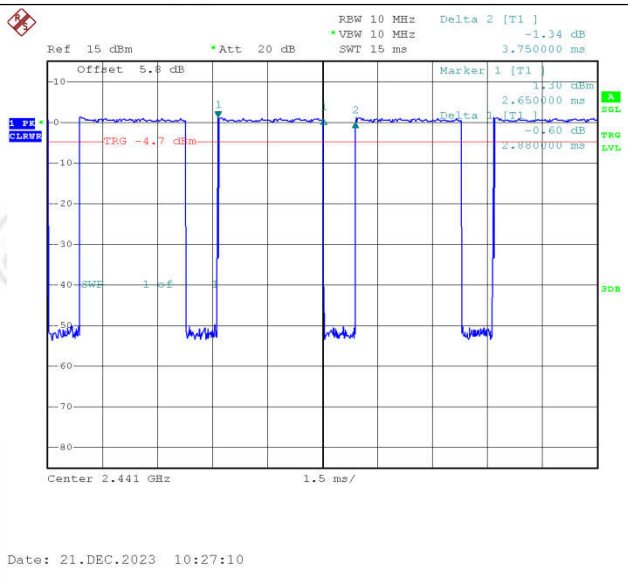
DH5_Ant1_2480



2DH5_Ant1_2402



2DH5_Ant1_2441



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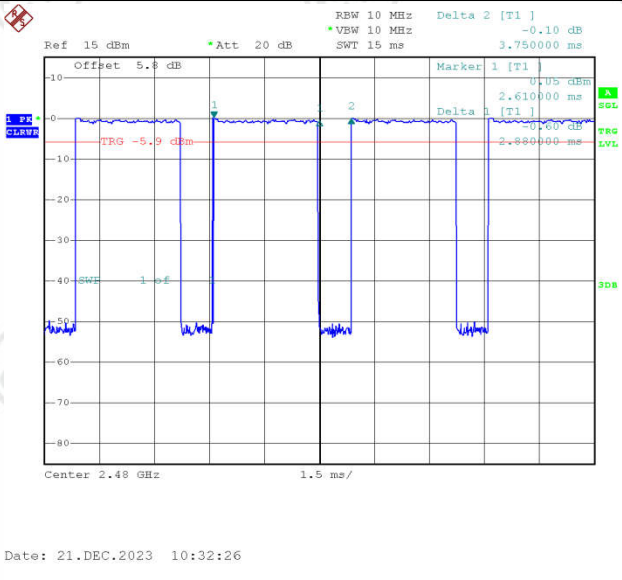

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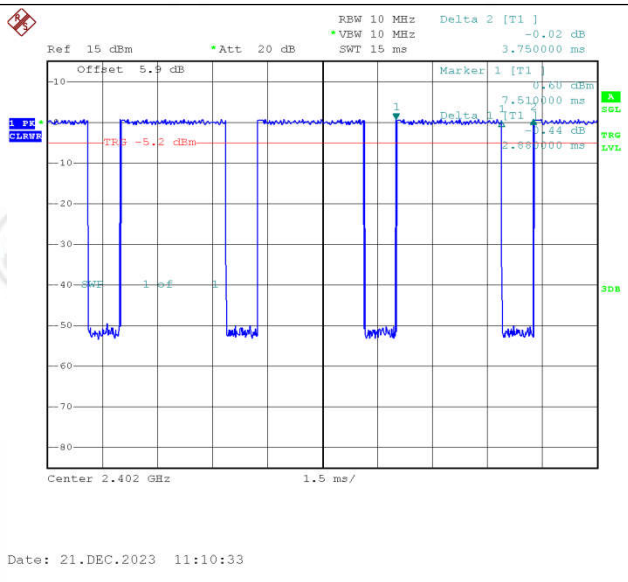

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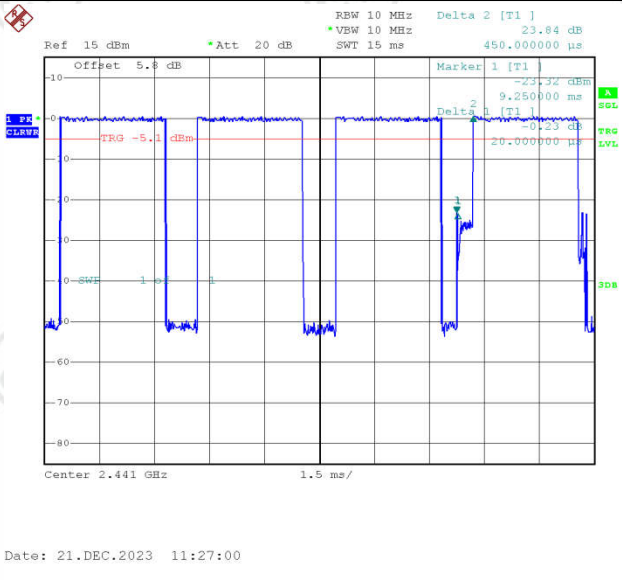

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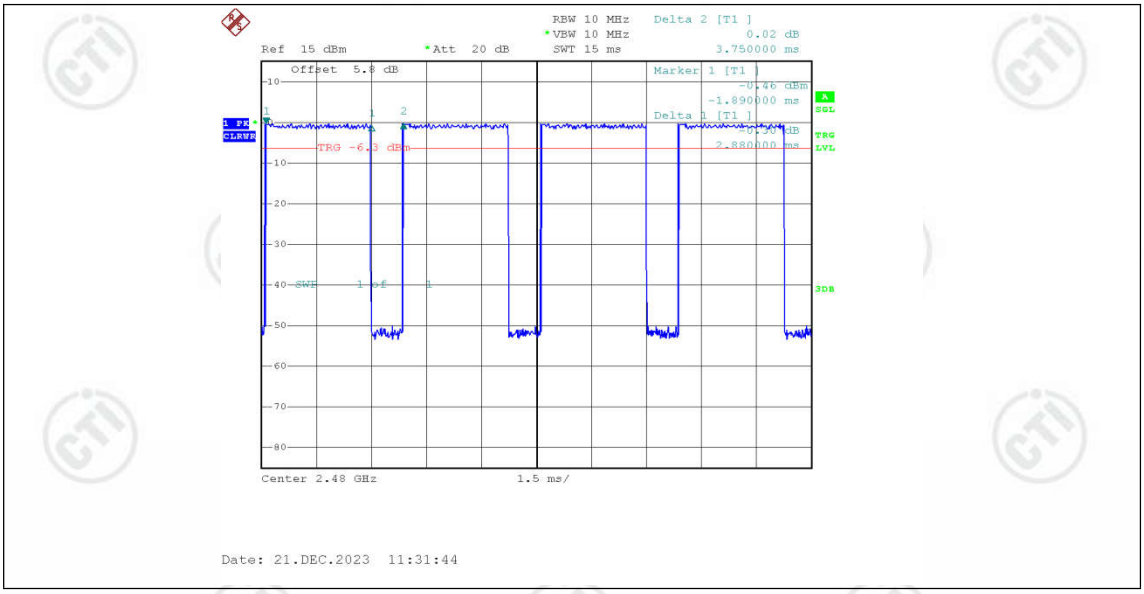

*** End of Report ***