

Appendix RF Test Data for BT

FCC ID : 2BEPT-NP-S501
Company : Newline Co., Ltd
EUT : NewPie 31
Model Number : NP-S501
Report No. : CTA25072901701
Reviewed By : Eric Wang

Appendix A: 20dB Emission Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.945	2401.550	2402.495	---	---
		2441	0.942	2440.547	2441.489	---	---
		2480	0.954	2479.544	2480.498	---	---
2DH5	Ant1	2402	1.302	2401.361	2402.663	---	---
		2441	1.278	2440.382	2441.660	---	---
		2480	1.278	2479.382	2480.660	---	---

Test Graphs

DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480



2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.87151	2401.5725	2402.4440	---	---
		2441	0.86173	2440.5759	2441.4376	---	---
		2480	0.86626	2479.5734	2480.4396	---	---
2DH5	Ant1	2402	1.1873	2401.4153	2402.6026	---	---
		2441	1.1823	2440.4172	2441.5995	---	---
		2480	1.1878	2479.4152	2480.6030	---	---

Test Graphs

DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480



2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



Appendix C: Maximum conducted output power

Test Result Peak

Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	0.39	≤20.97	PASS
		2441	-0.06	≤20.97	PASS
		2480	-0.29	≤20.97	PASS
2DH5	Ant1	2402	-0.42	≤20.97	PASS
		2441	-0.84	≤20.97	PASS
		2480	-1.08	≤20.97	PASS

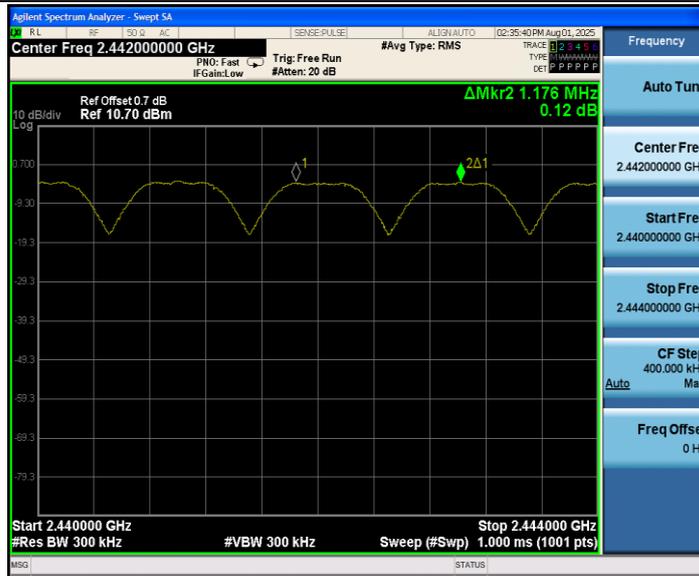
Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.176	≥ 0.636	PASS
2DH5	Ant1	Hop	1.272	≥ 0.868	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop

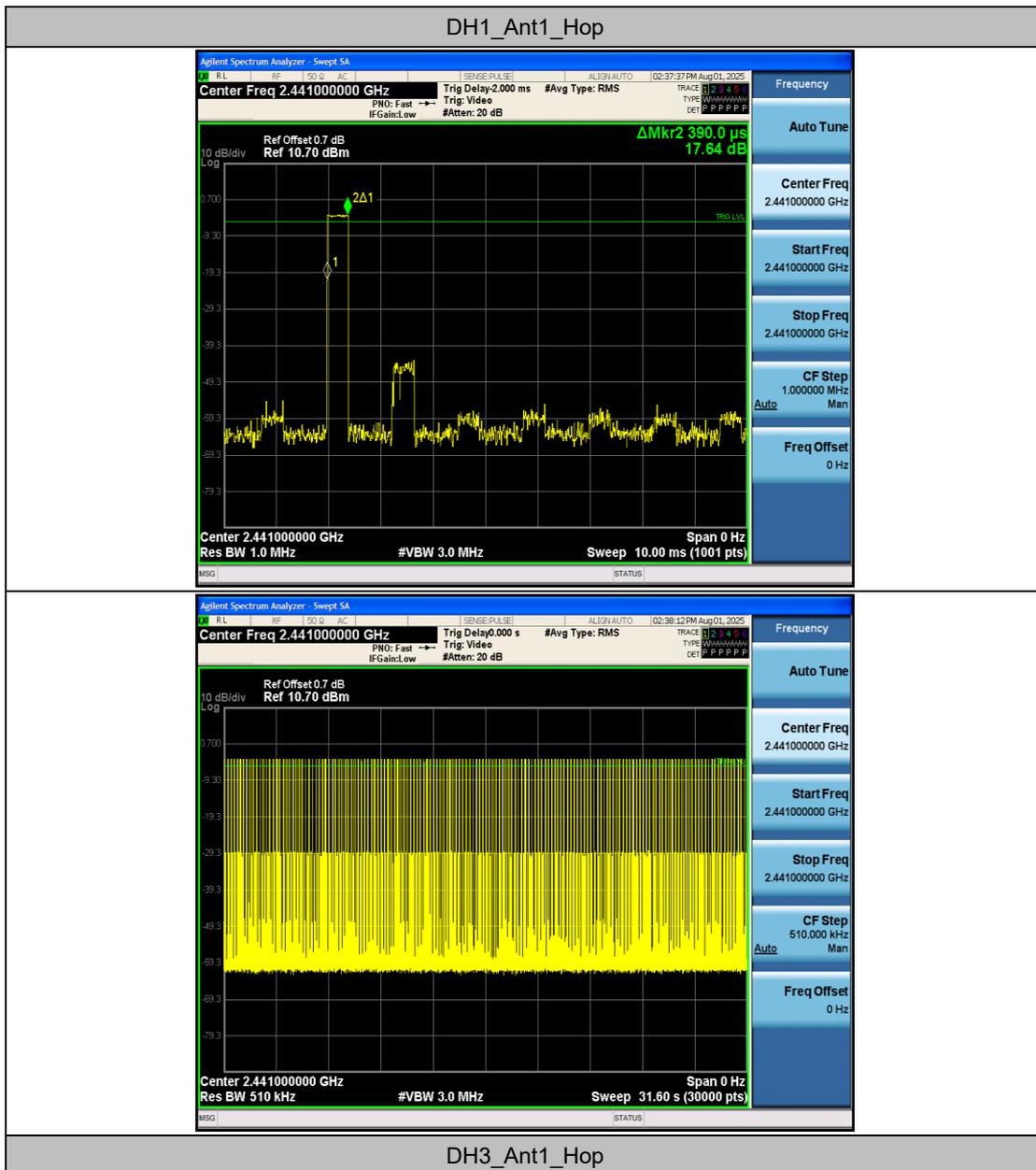


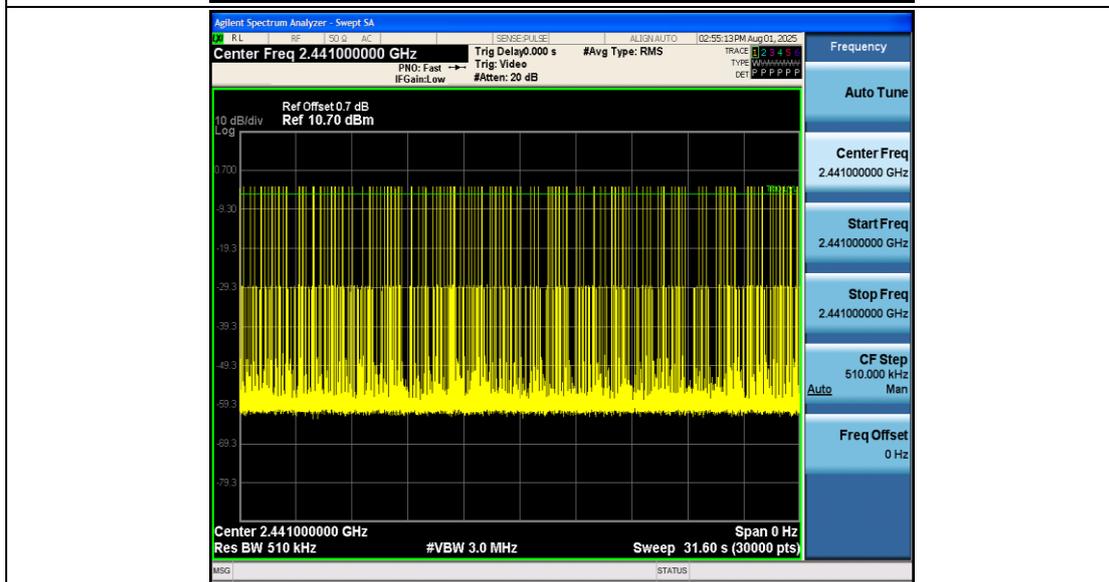
Appendix E: Time of occupancy

Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.390	314	0.122	≤0.4	PASS
DH3	Ant1	Hop	1.640	161	0.264	≤0.4	PASS
DH5	Ant1	Hop	2.900	106	0.307	≤0.4	PASS
2DH1	Ant1	Hop	0.400	312	0.125	≤0.4	PASS
2DH3	Ant1	Hop	1.650	153	0.252	≤0.4	PASS
2DH5	Ant1	Hop	2.900	107	0.31	≤0.4	PASS

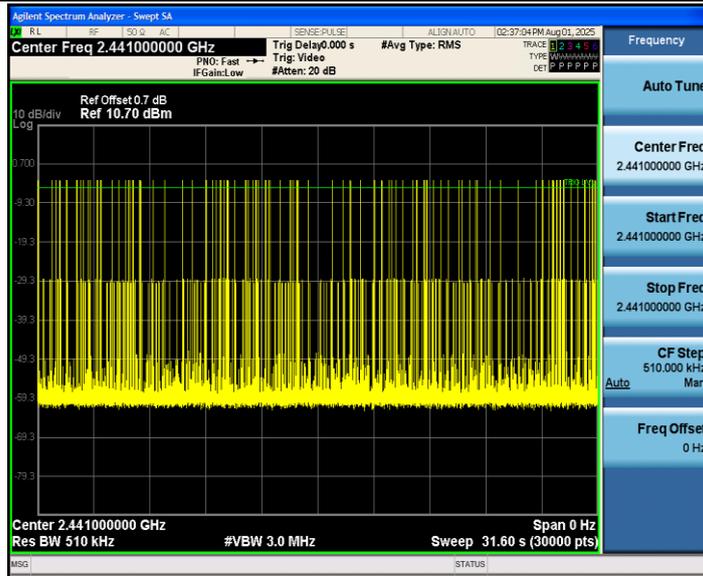
Test Graphs



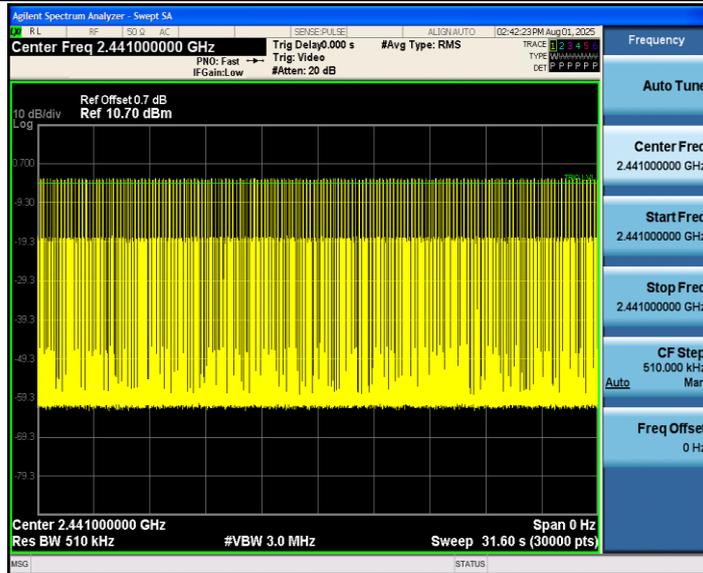


DH5_Ant1_Hop

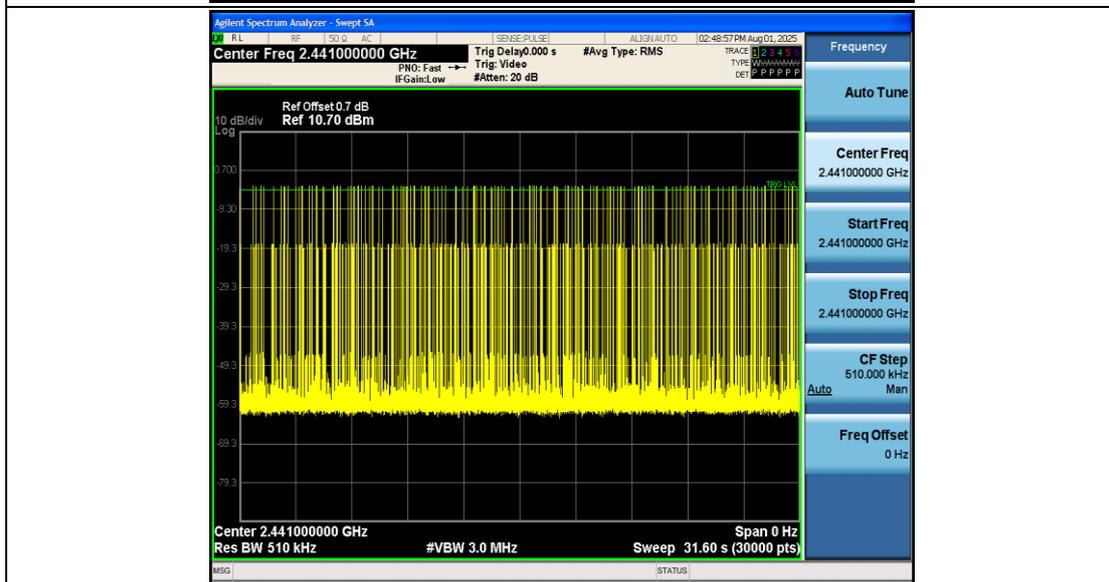




2DH1_Ant1_Hop

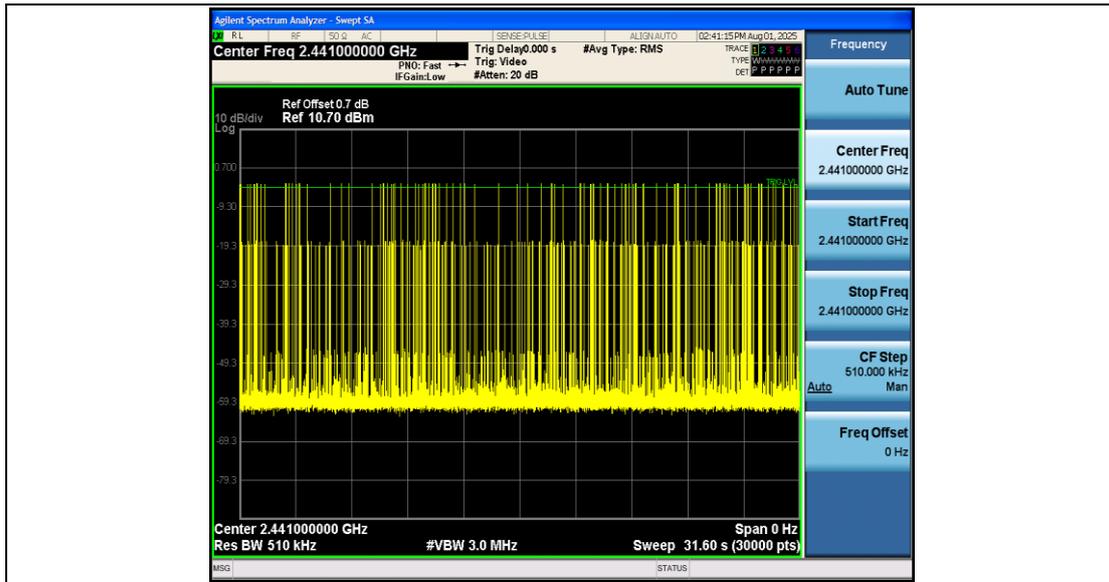


2DH3_Ant1_Hop



2DH5_Ant1_Hop



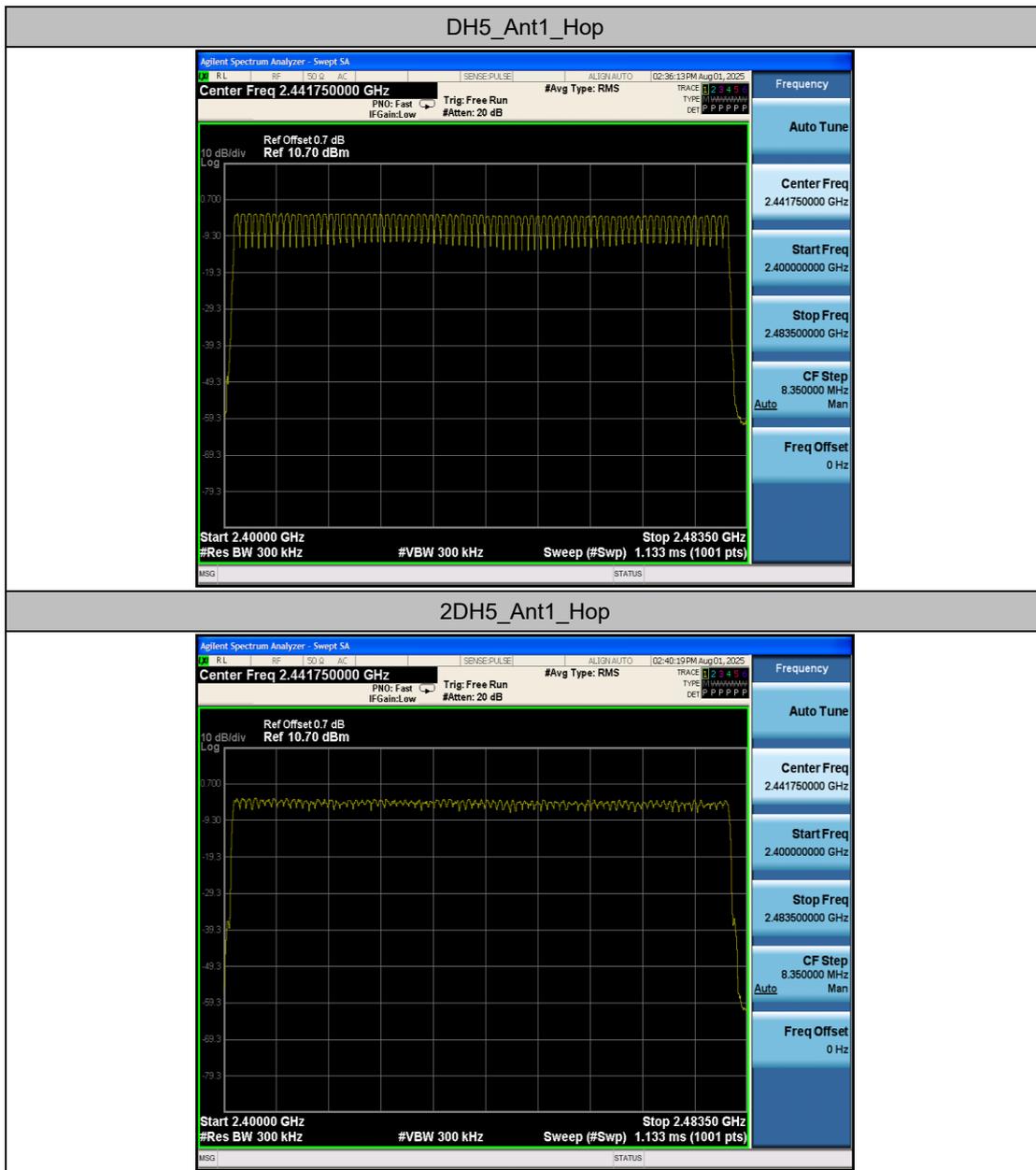


Appendix F: Number of hopping channels

Test Result

TestMode	Antenna	Freq(MHz)	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS

Test Graphs



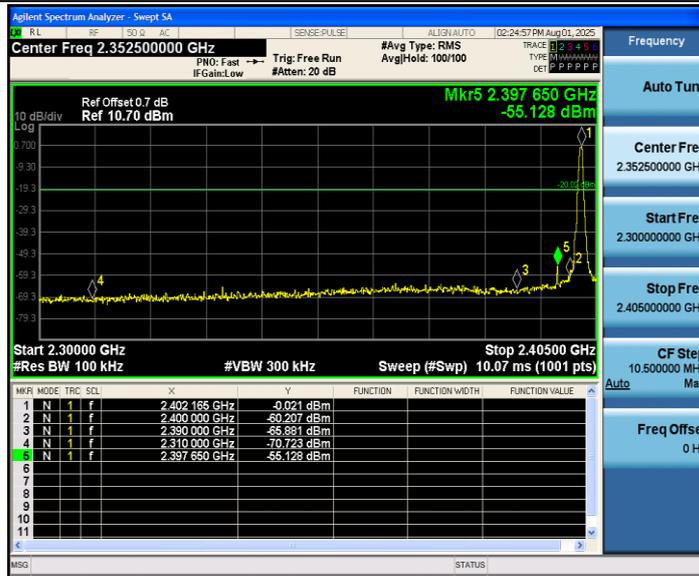
Appendix G: Band edge measurements

Test Result

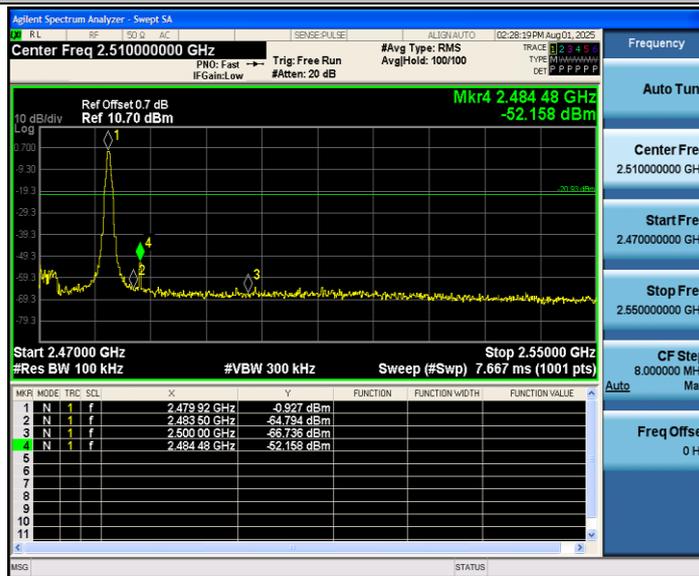
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.02	-55.13	≤-20.02	PASS
		High	2480	-0.93	-52.16	≤-20.93	PASS
		Low	Hop_2402	-3.89	-62.13	≤-23.89	PASS
		High	Hop_2480	-4.05	-63.88	≤-24.05	PASS
2DH5	Ant1	Low	2402	-3.44	-56.09	≤-23.44	PASS
		High	2480	-3.88	-52.02	≤-23.88	PASS
		Low	Hop_2402	-3.03	-62.12	≤-23.03	PASS
		High	Hop_2480	-6.81	-65.19	≤-26.81	PASS

Test Graphs

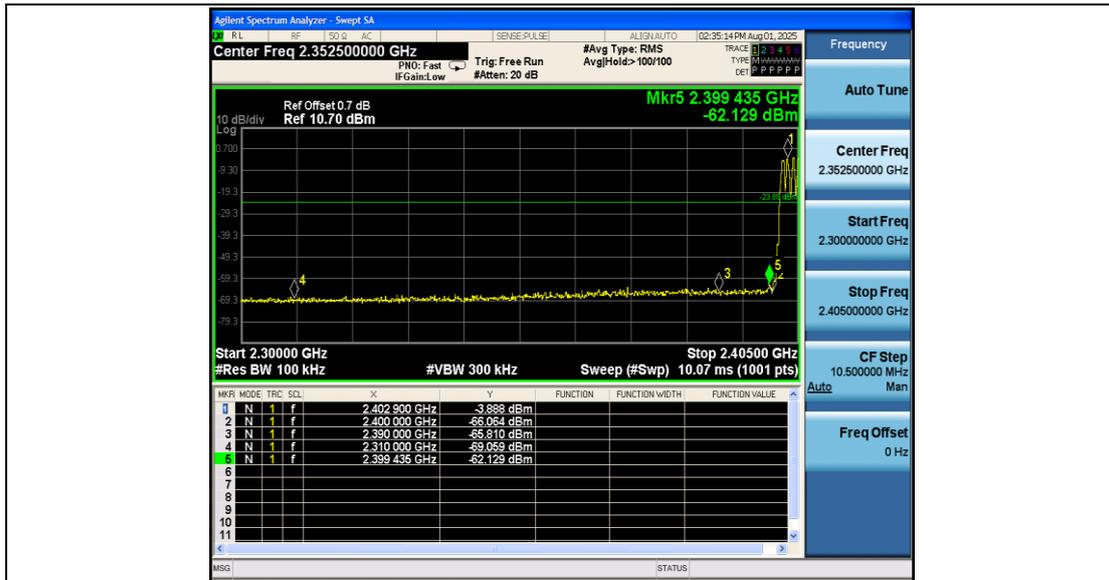
DH5_Ant1_Low_2402



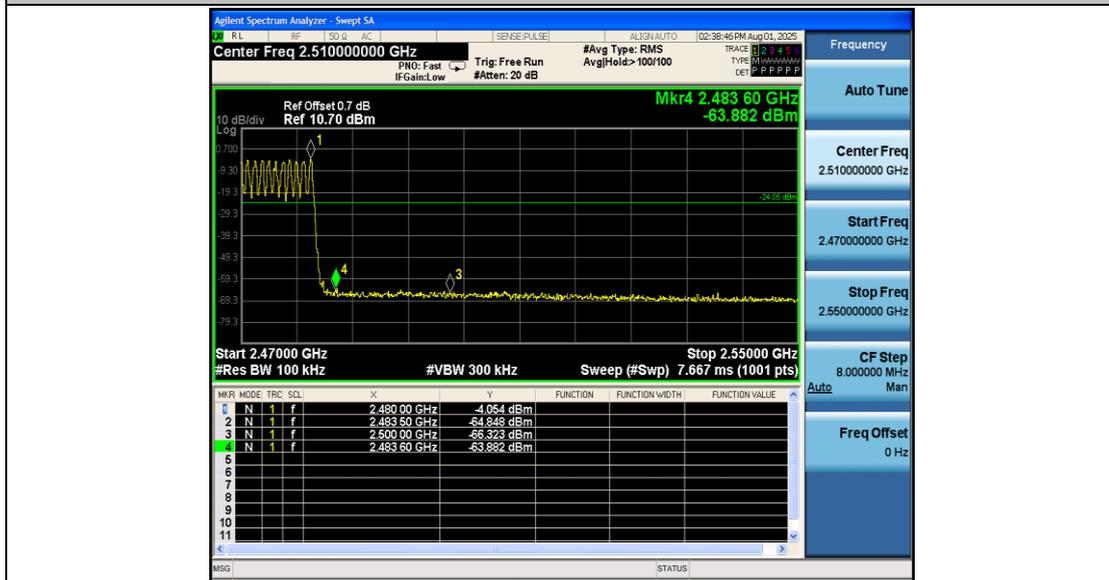
DH5_Ant1_High_2480



DH5_Ant1_Low_Hop_2402



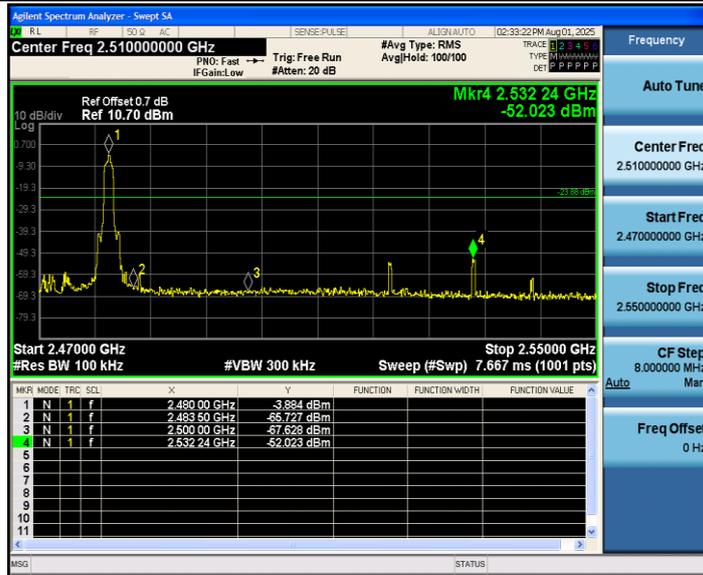
DH5_Ant1_High_Hop_2480



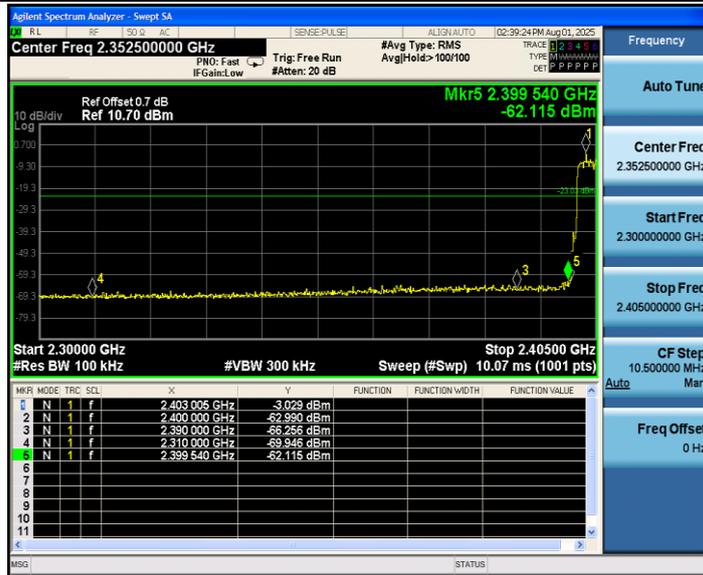
2DH5_Ant1_Low_2402



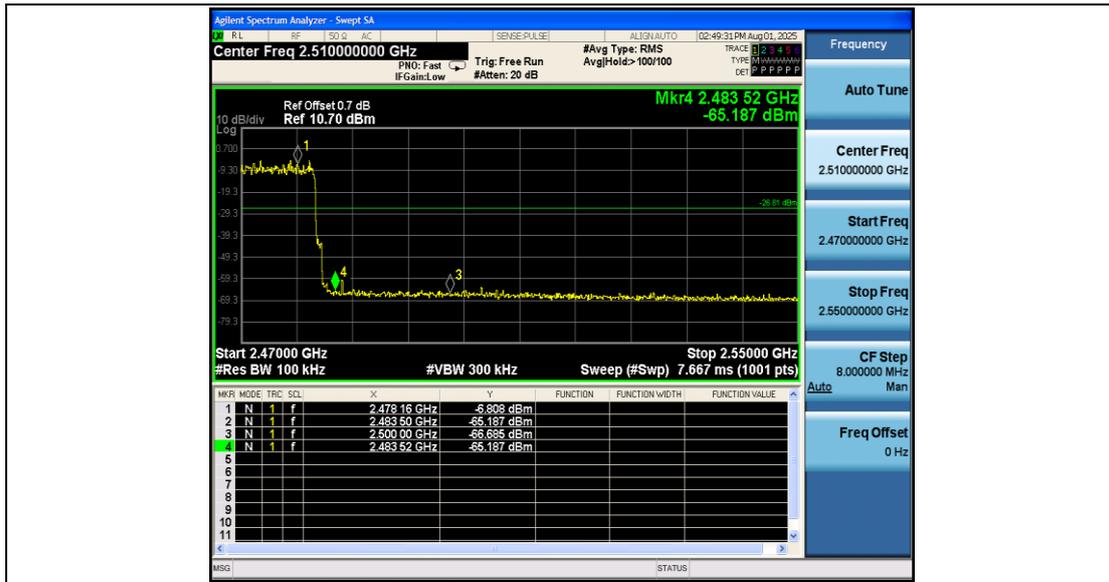
2DH5_Ant1_High_2480



2DH5_Ant1_Low_Hop_2402



2DH5_Ant1_High_Hop_2480



Appendix H: Conducted Spurious Emission

Test Result

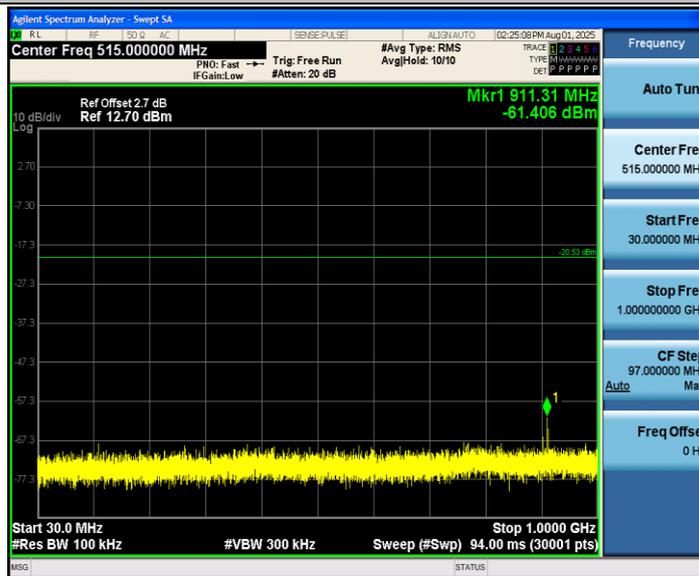
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-0.53	-0.53	---	PASS
			30~1000	-0.53	-61.41	≤-20.53	PASS
			1000~26500	-0.53	-42.77	≤-20.53	PASS
		2441	Reference	-1.24	-1.24	---	PASS
			30~1000	-1.24	-67.33	≤-21.24	PASS
			1000~26500	-1.24	-42.55	≤-21.24	PASS
		2480	Reference	-1.42	-1.42	---	PASS
			30~1000	-1.42	-67.61	≤-21.42	PASS
			1000~26500	-1.42	-42.17	≤-21.42	PASS
2DH5	Ant1	2402	Reference	-3.19	-3.19	---	PASS
			30~1000	-3.19	-67.44	≤-23.19	PASS
			1000~26500	-3.19	-49.63	≤-23.19	PASS
		2441	Reference	-5.34	-5.34	---	PASS
			30~1000	-5.34	-67.04	≤-25.34	PASS
			1000~26500	-5.34	-49.13	≤-25.34	PASS
		2480	Reference	-6.11	-6.11	---	PASS
			30~1000	-6.11	-65.1	≤-26.11	PASS
			1000~26500	-6.11	-47.65	≤-26.11	PASS

Test Graphs

DH5_Ant1_2402_0~Reference



DH5_Ant1_2402_30~1000



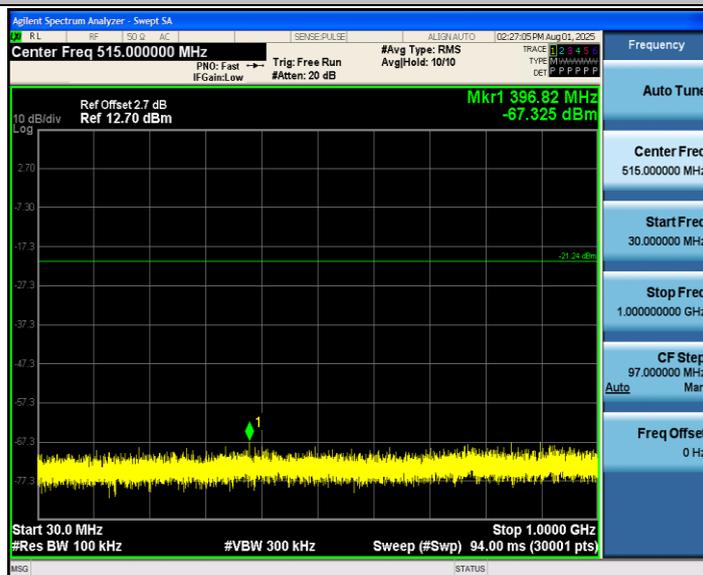
DH5_Ant1_2402_1000~26500



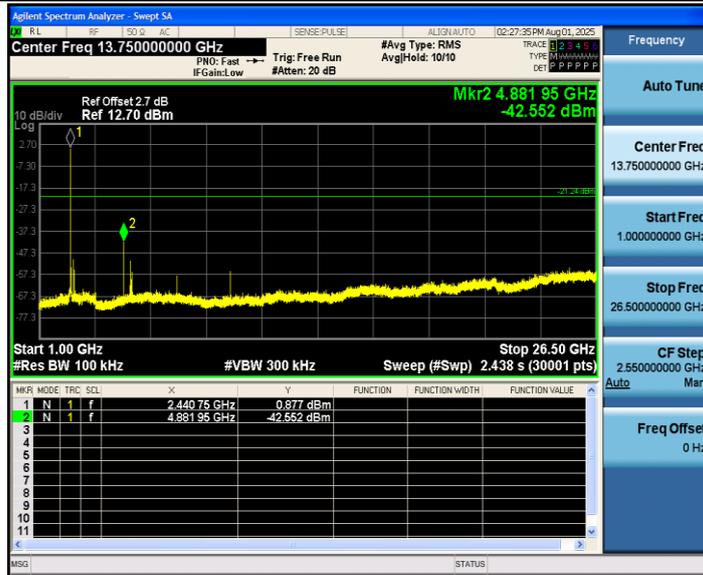
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



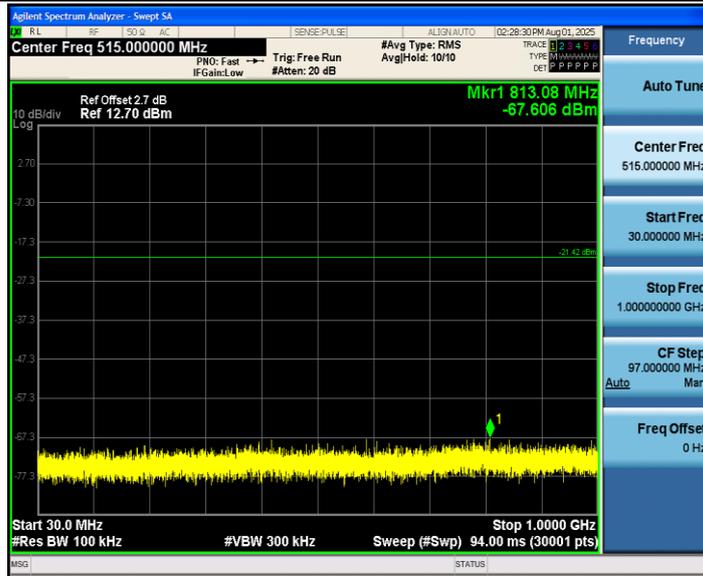
DH5_Ant1_2441_1000~26500



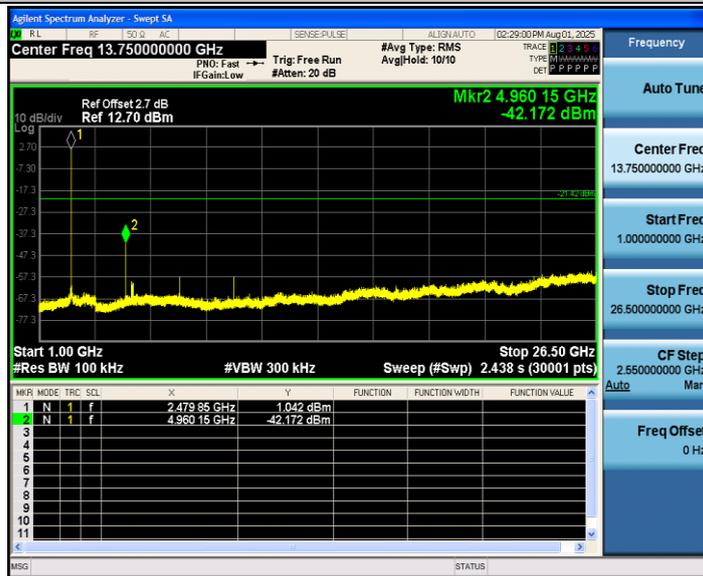
DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000



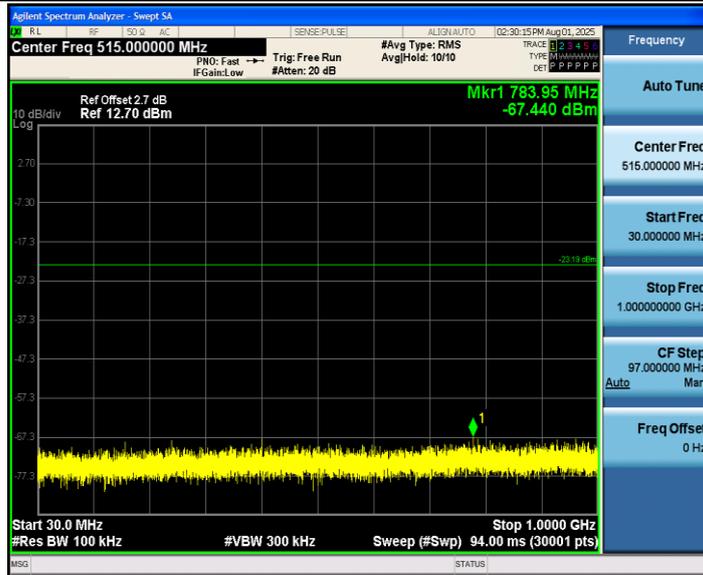
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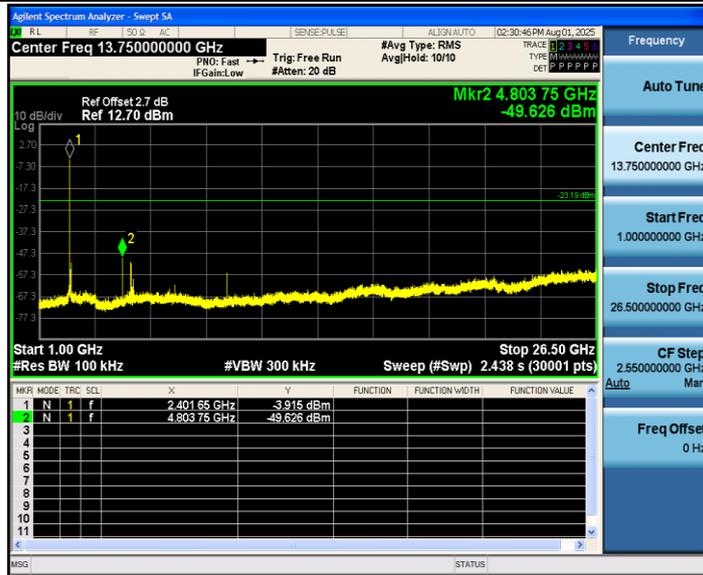
2DH5_Ant1_2402_0~Reference



2DH5_Ant1_2402_30~1000



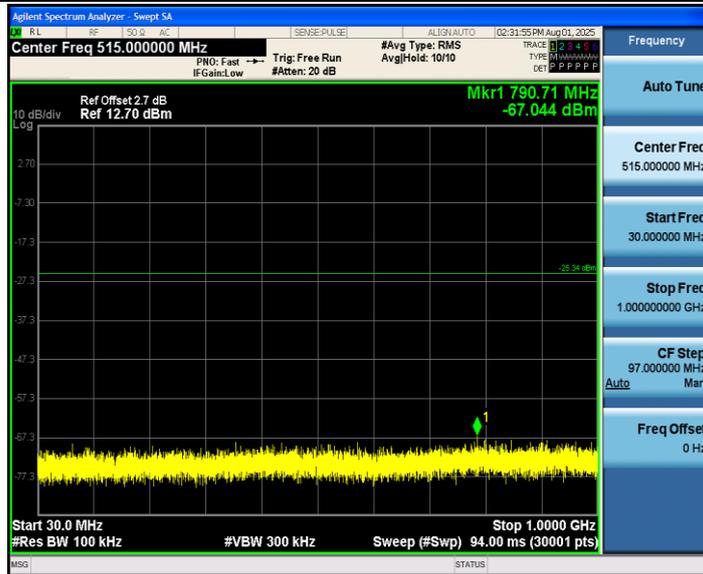
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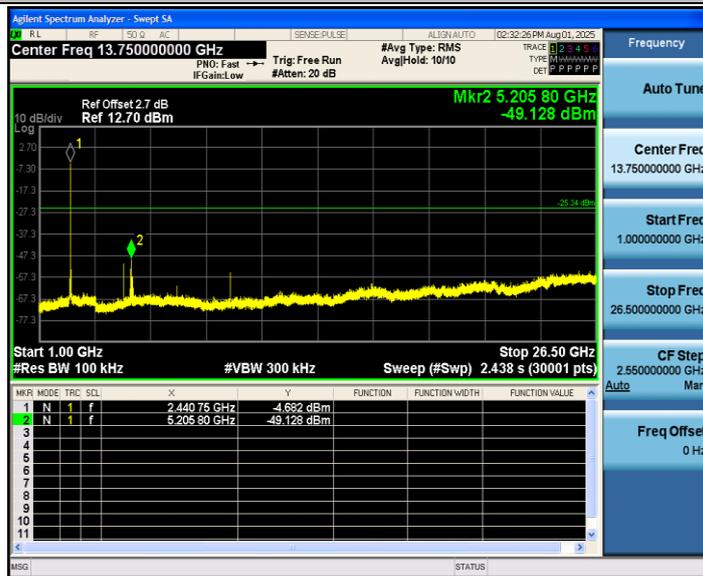
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000



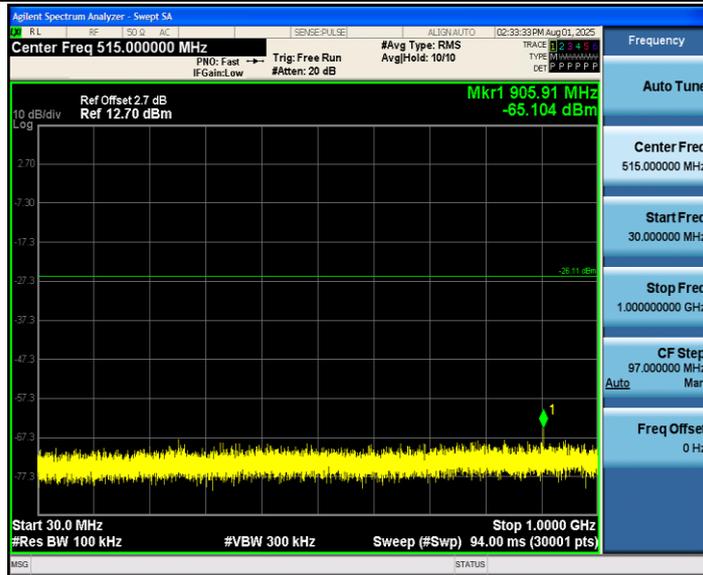
2DH5_Ant1_2441_1000~26500



2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000



2DH5_Ant1_2480_1000~26500



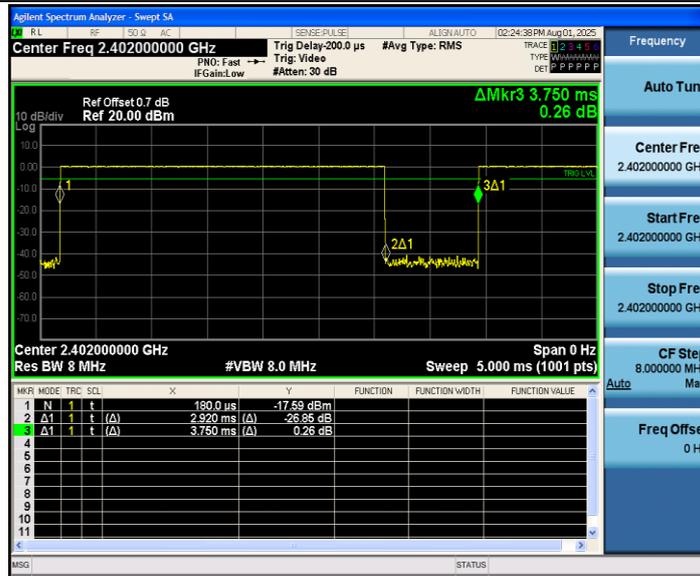
Appendix I: Duty Cycle

Test Result

TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	DC [%]	xFactor	Limit	Verdict
DH5	Ant1	2402	2.92	3.75	77.87	1.09	---	---
		2441	2.91	3.75	77.60	1.10	---	---
		2480	2.92	3.75	77.87	1.09	---	---
2DH5	Ant1	2402	2.92	3.75	77.87	1.09	---	---
		2441	2.92	3.75	77.87	1.09	---	---
		2480	2.92	3.75	77.87	1.09	---	---

Test Graphs

DH5_Ant1_2402



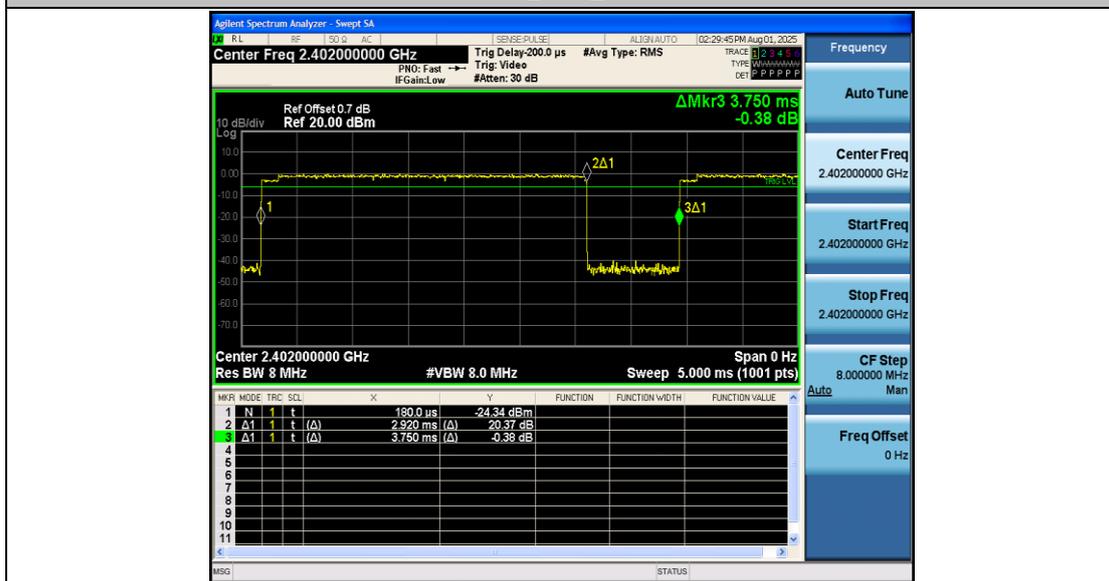
DH5_Ant1_2441



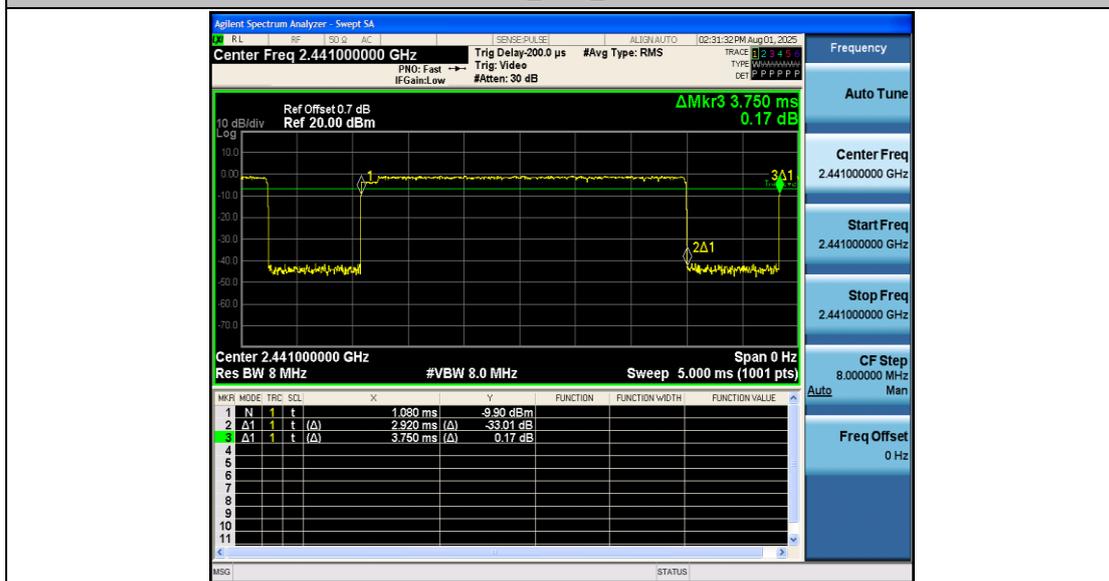
DH5_Ant1_2480



2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480

