

Appendix Test Data for BT(BDR/EDR) (Conducted Measurement)

Product Name: Bluetooth Mechanical Keyboard

Trade Mark: Keychron

Test Model: Keychron K13 Pro

FCC ID: 2ASF4-K13PRO

Environmental Conditions

Temperature:	25.5°C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

Appendix A: 20dB Emission Bandwidth

Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.008	2401.475	2402.483	---	---
		2441	1.017	2440.472	2441.489	---	---
		2480	0.864	2479.541	2480.405	---	---

Test Graphs

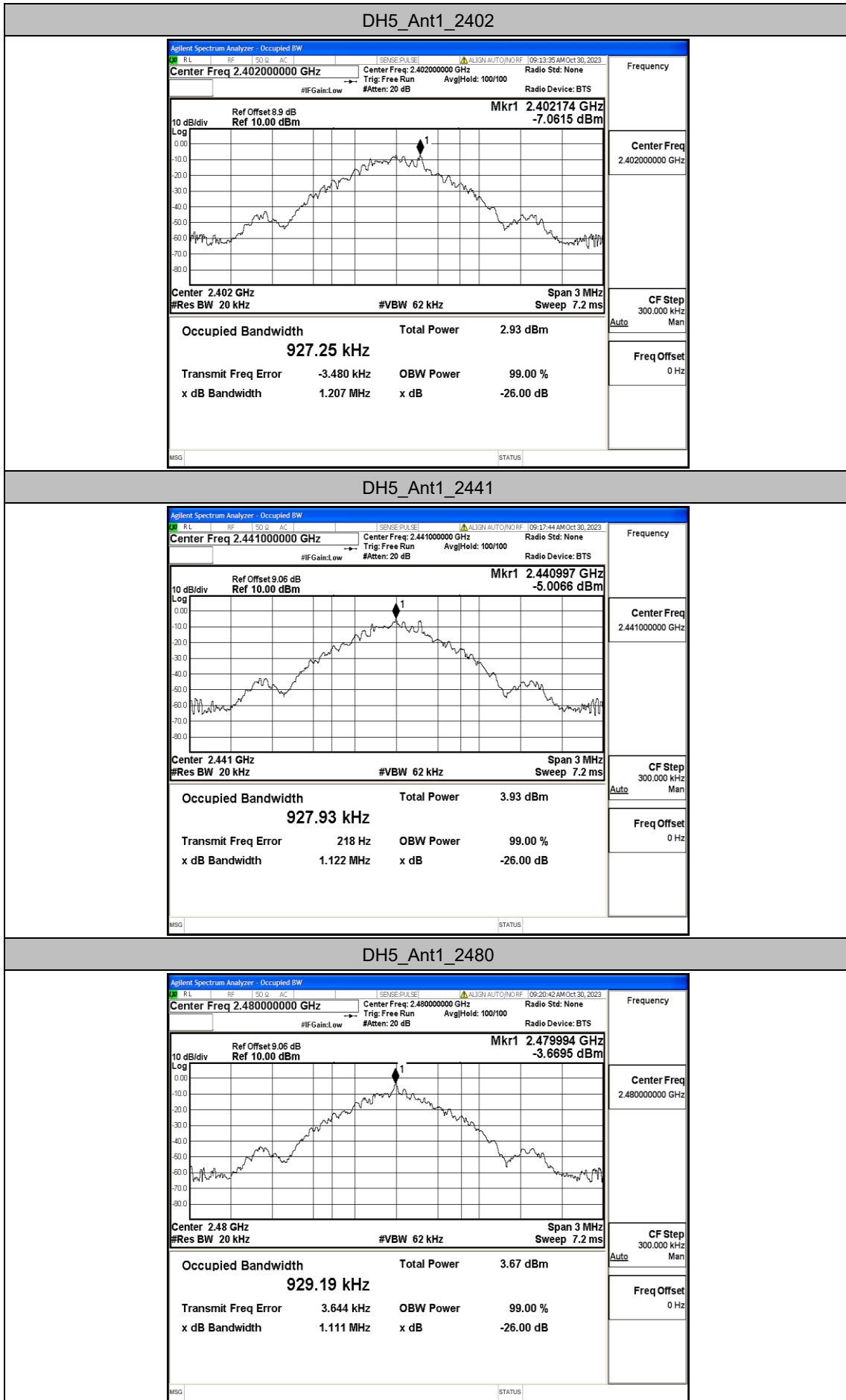


Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.92725	2401.5329	2402.4601	---	---
		2441	0.92793	2440.5363	2441.4642	---	---
		2480	0.92919	2479.5390	2480.4682	---	---

Test Graphs

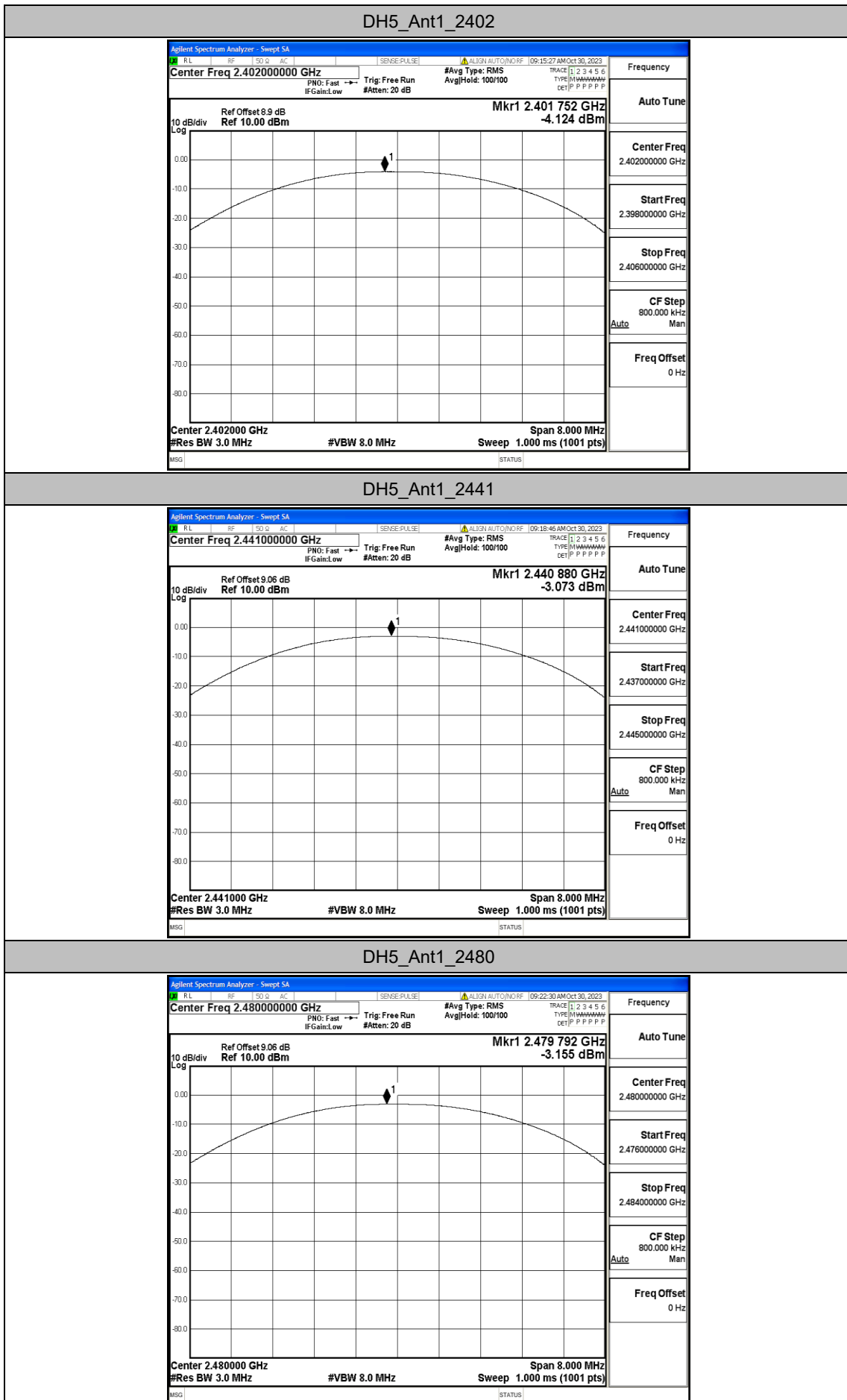


Appendix C: Maximum Peak conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-4.12	≤20.97	PASS
		2441	-3.07	≤20.97	PASS
		2480	-3.16	≤20.97	PASS

Test Graphs

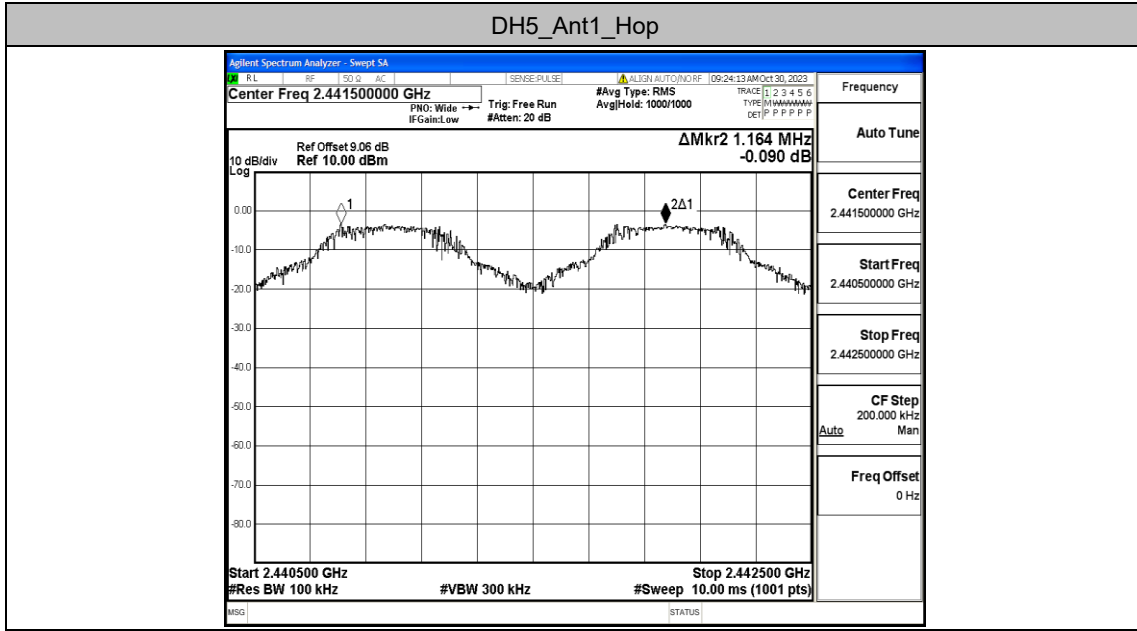


Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.164	≥1.017	PASS

Test Graphs

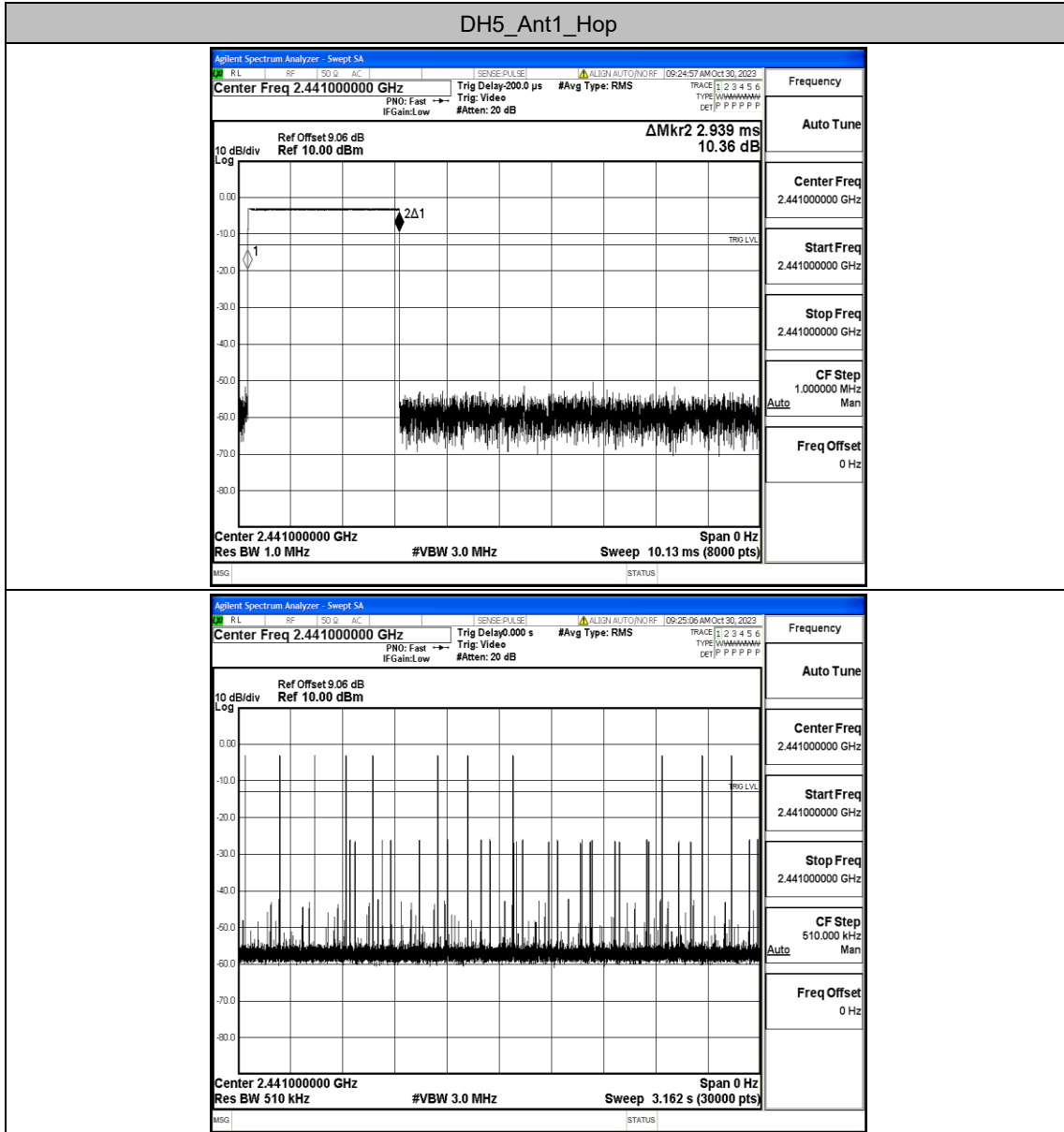


Appendix E: Time of occupancy

Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.939	120	0.353	≤0.4	PASS

Test Graphs

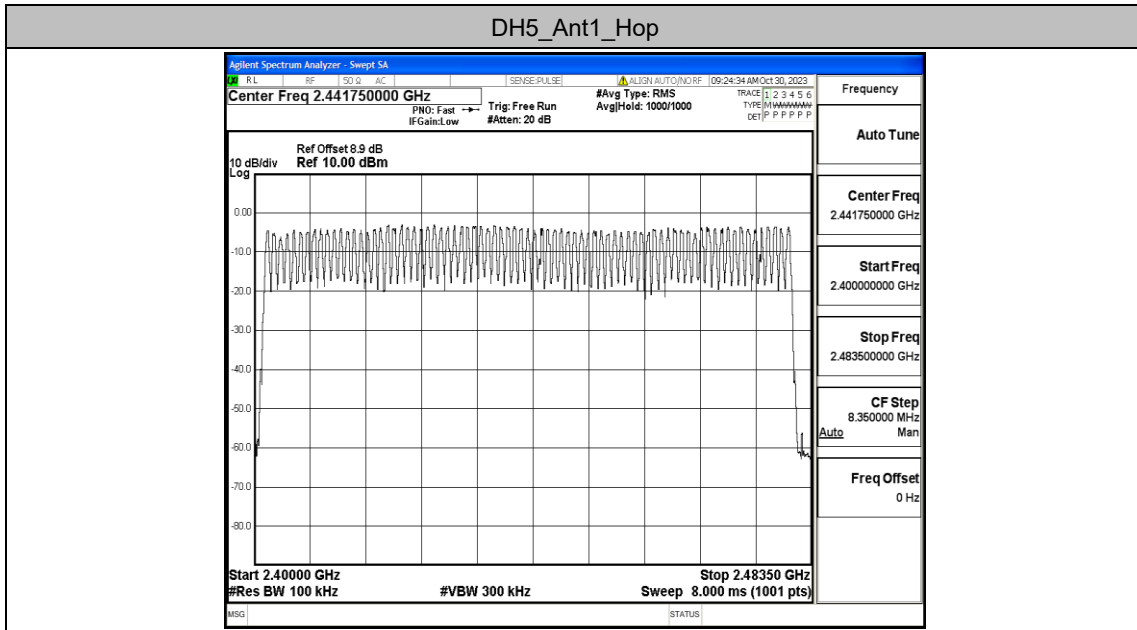


Appendix F: Number of hopping channels

Test Result

TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS

Test Graphs



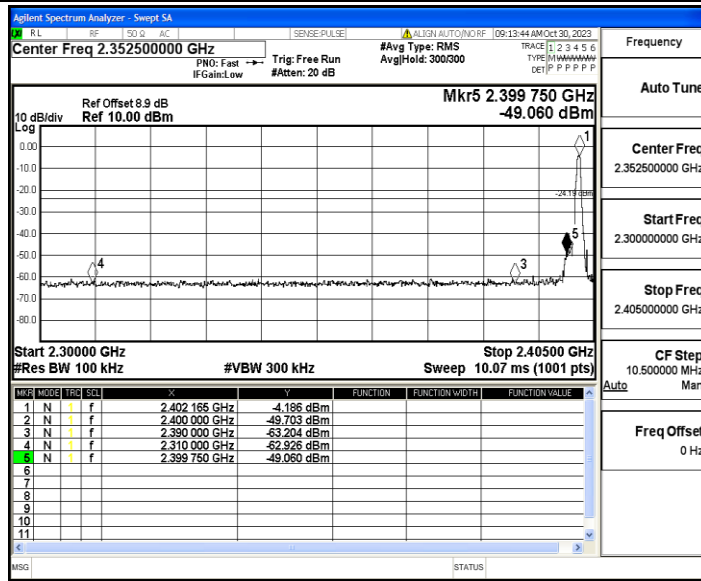
Appendix G: Band edge measurements

Test Result

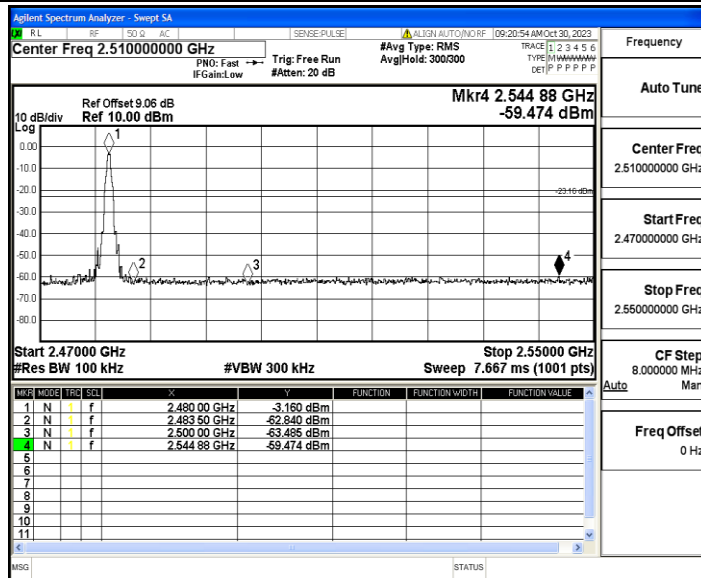
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-4.19	-49.06	≤-24.19	PASS
		High	2480	-3.16	-59.47	≤-23.16	PASS
		Low	Hop_2402	-4.54	-60.68	≤-24.54	PASS
		High	Hop_2480	-3.13	-59.32	≤-23.13	PASS

Test Graphs

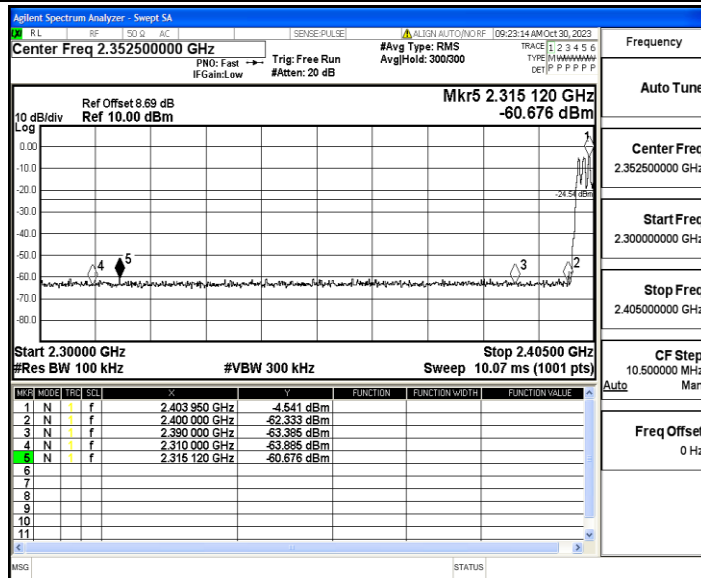
DH5_Ant1_Low_2402



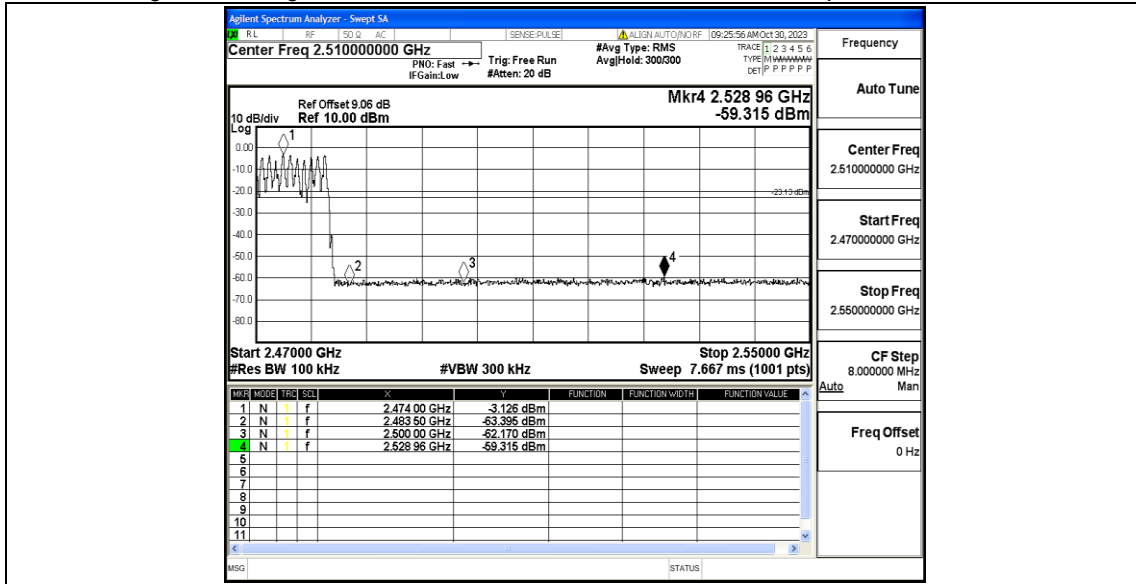
DH5_Ant1_High_2480



DH5_Ant1_Low_Hop_2402



DH5_Ant1_High_Hop_2480

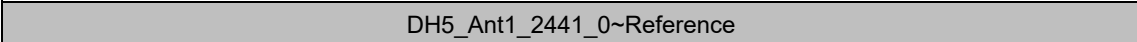
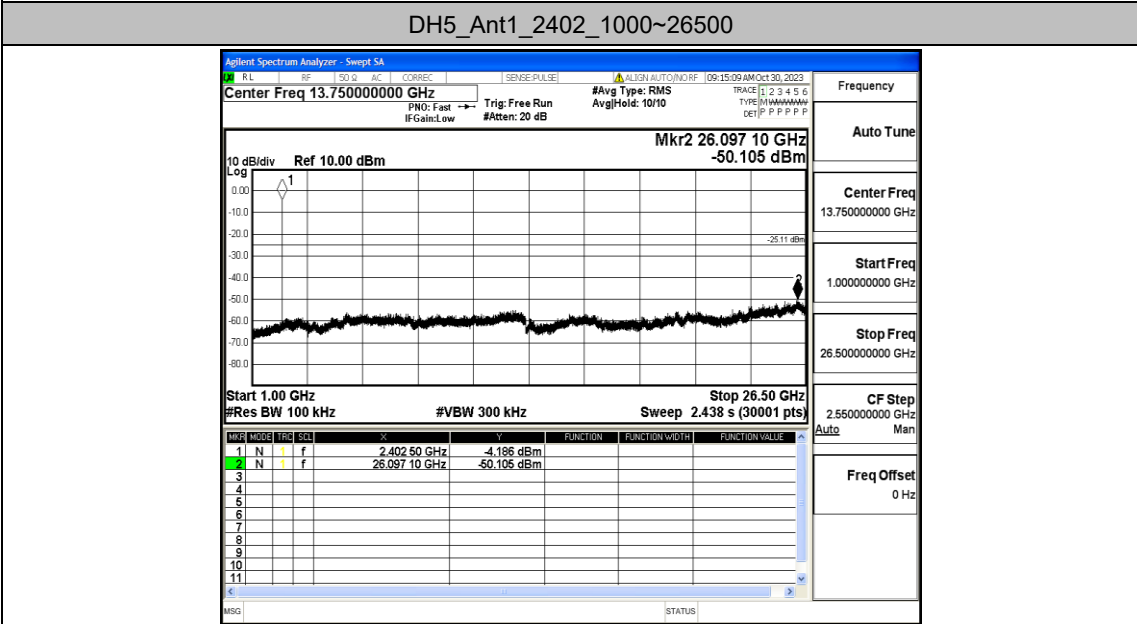
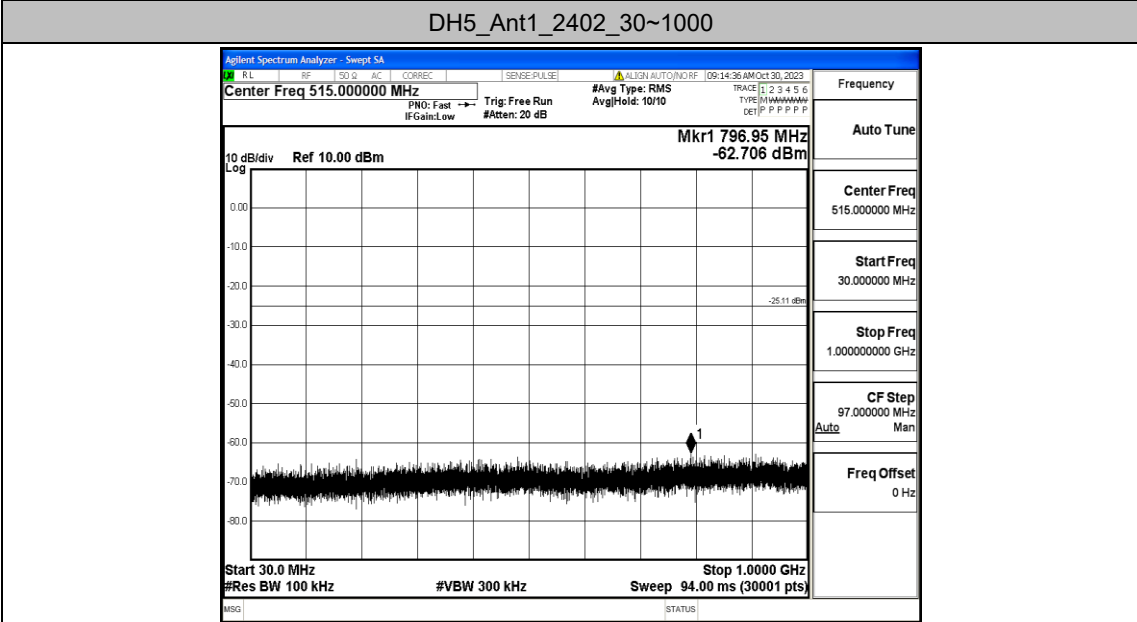
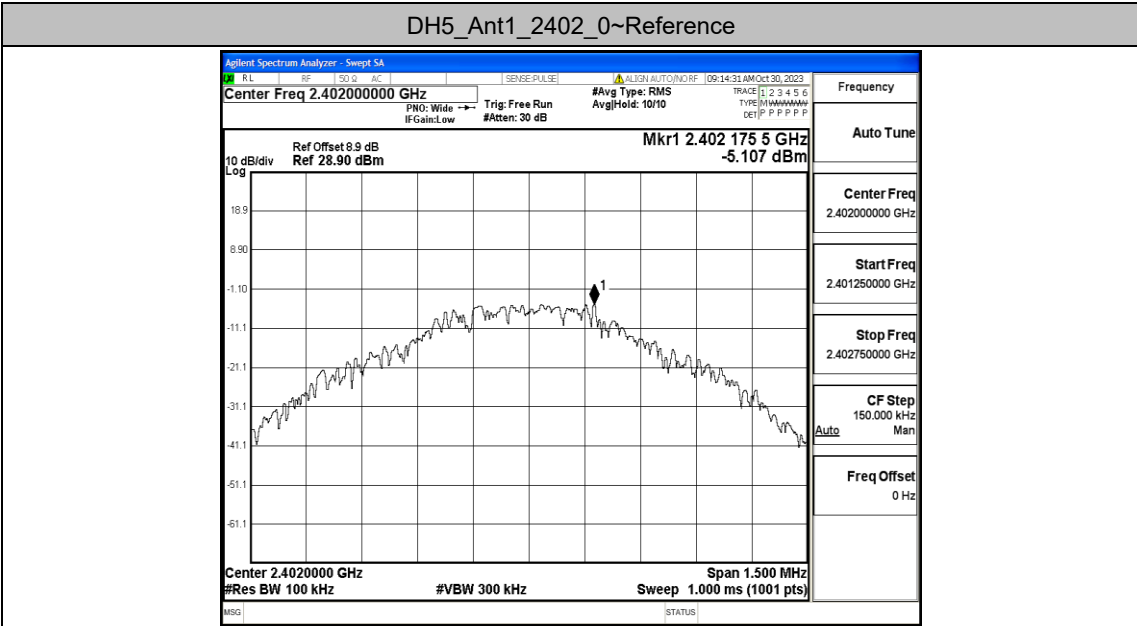


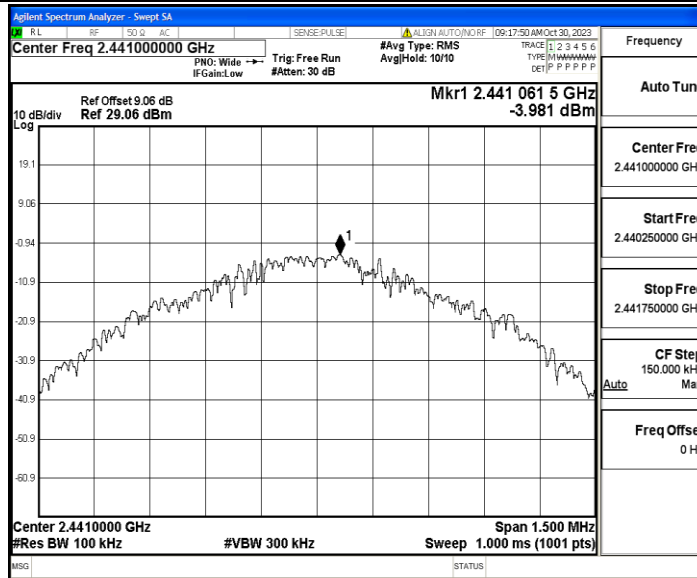
Appendix H: Conducted Spurious Emission

Test Result

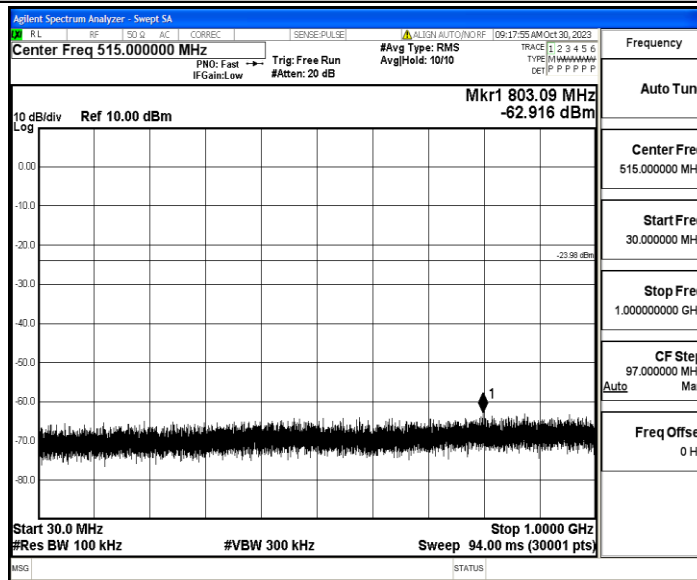
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-5.11	-5.11	---	PASS
			30~1000	-5.11	-62.71	≤-25.11	PASS
			1000~26500	-5.11	-50.11	≤-25.11	PASS
		2441	Reference	-3.98	-3.98	---	PASS
			30~1000	-3.98	-62.92	≤-23.98	PASS
			1000~26500	-3.98	-50.45	≤-23.98	PASS
		2480	Reference	-4.12	-4.12	---	PASS
			30~1000	-4.12	-62.45	≤-24.12	PASS
			1000~26500	-4.12	-50.21	≤-24.12	PASS

Test Graphs

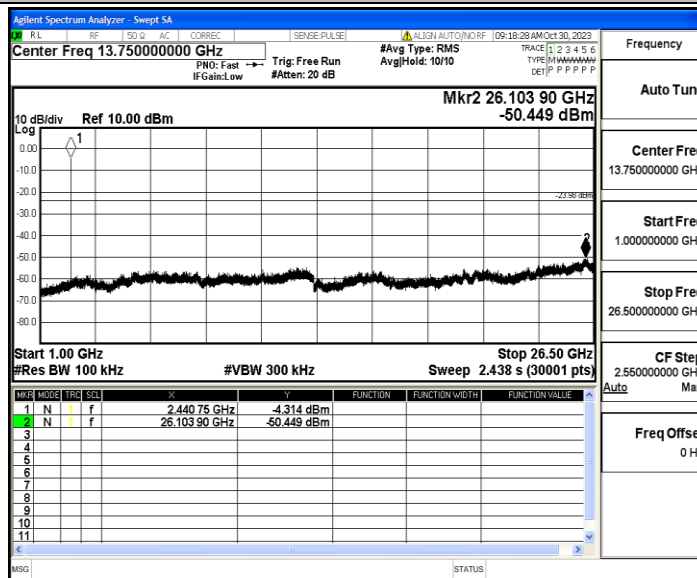




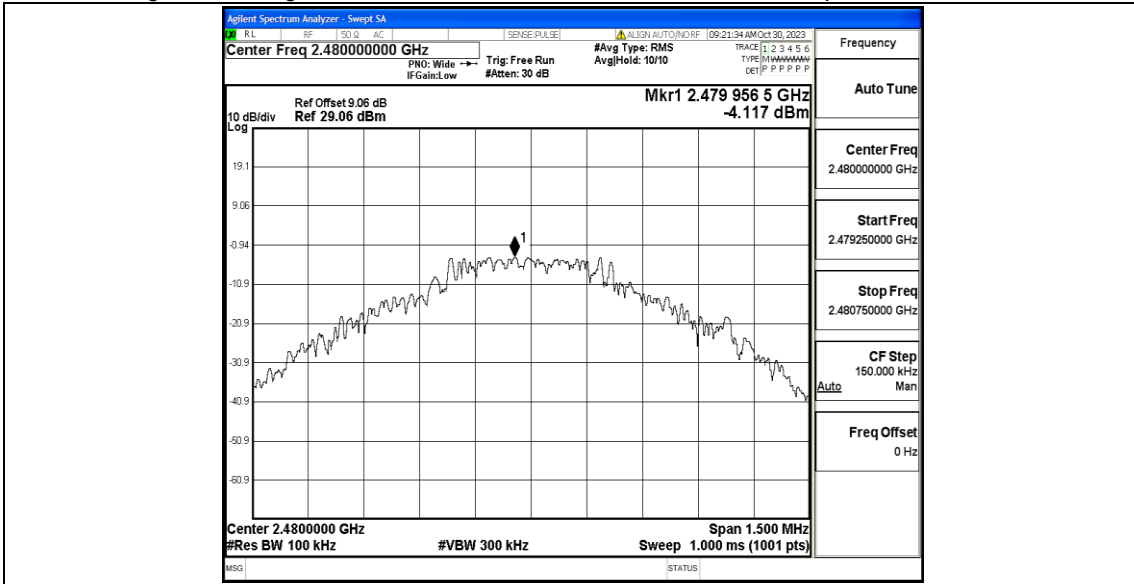
DH5_Ant1_2441_30~1000



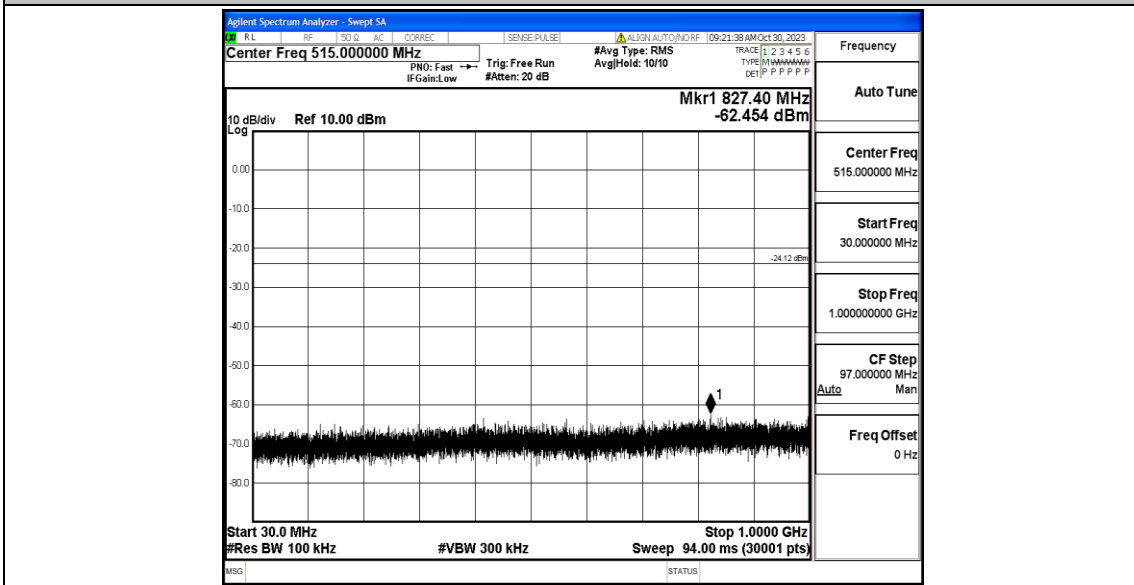
DH5_Ant1_2441_1000~26500



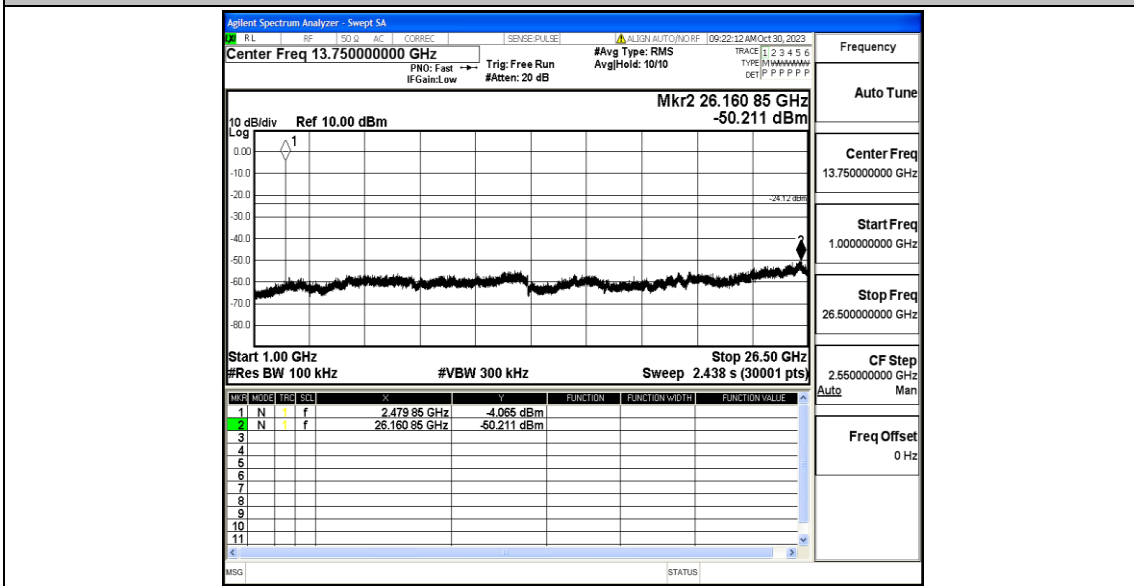
DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

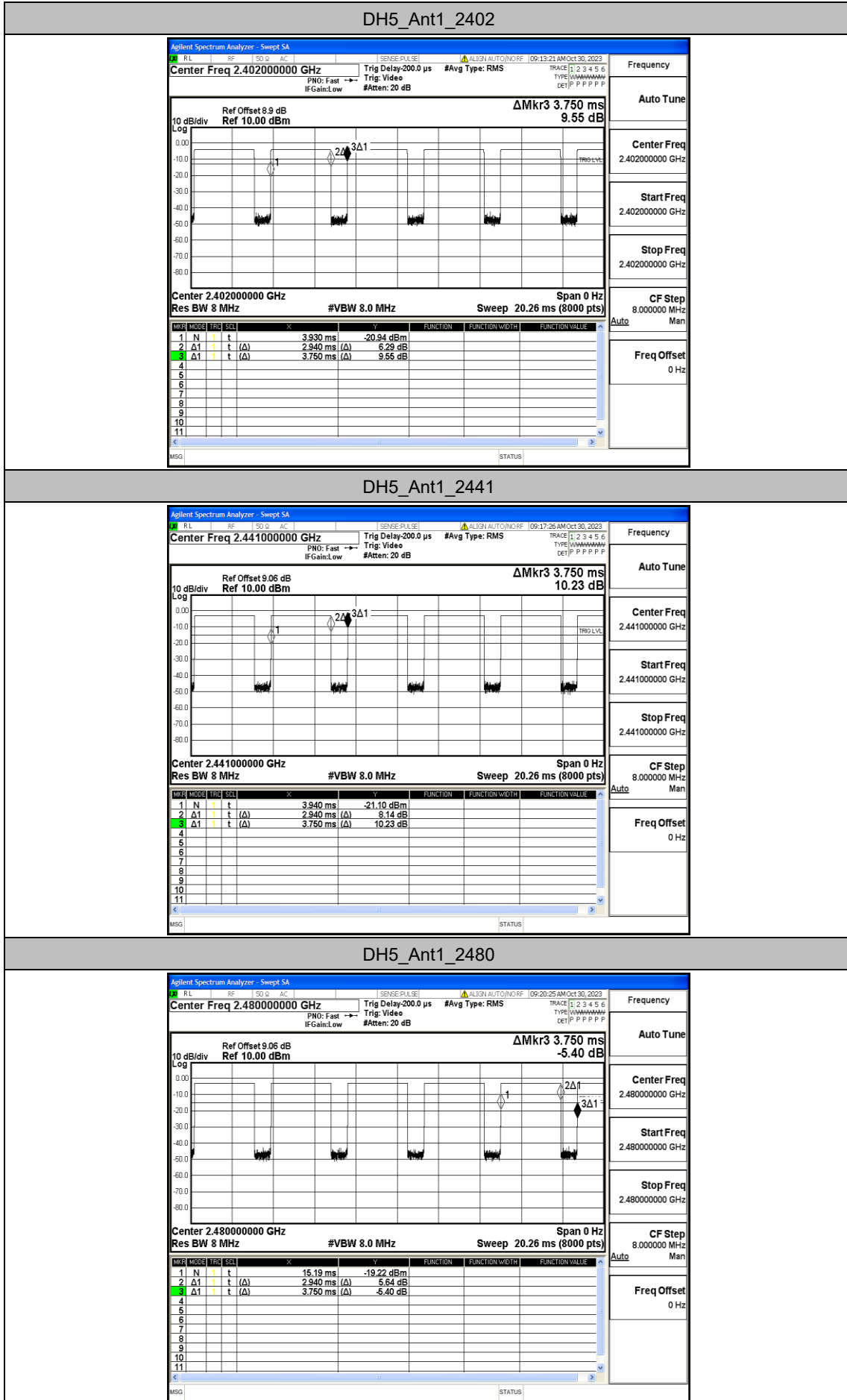


Appendix I: Duty Cycle

Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T[kHz]
DH5	Ant1	2402	2.94	3.75	78.40	0.34
		2441	2.94	3.75	78.40	0.34
		2480	2.94	3.75	78.40	0.34

Test Graphs



Appendix J: Emissions in Restricted Bands

Test Result

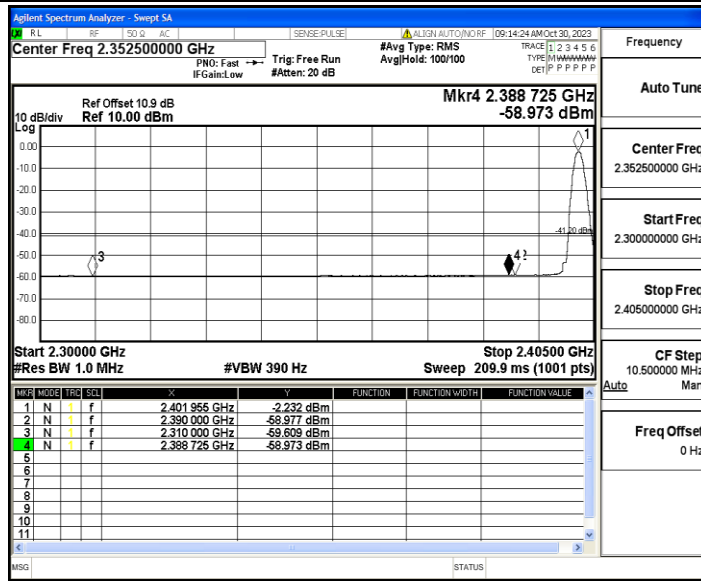
TestMode	Antenna	ChName	Channel	Detector	Freq(MHz)	Result(dBm)	Limit(dBm)	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-59.61	≤-41.20	PASS
				AV	2388.725	-58.97	≤-41.20	PASS
				AV	2390.000	-58.98	≤-41.20	PASS
				Peak	2310.000	-51.59	≤-21.20	PASS
				Peak	2389.355	-48.89	≤-21.20	PASS
				Peak	2390.000	-49.84	≤-21.20	PASS
		High	2480	AV	2483.500	-56.99	≤-41.20	PASS
				AV	2483.520	-56.99	≤-41.20	PASS
				AV	2500.000	-58.54	≤-41.20	PASS
				Peak	2483.500	-52.28	≤-21.20	PASS
				Peak	2487.280	-49.18	≤-21.20	PASS
				Peak	2500.000	-51.56	≤-21.20	PASS

Note:

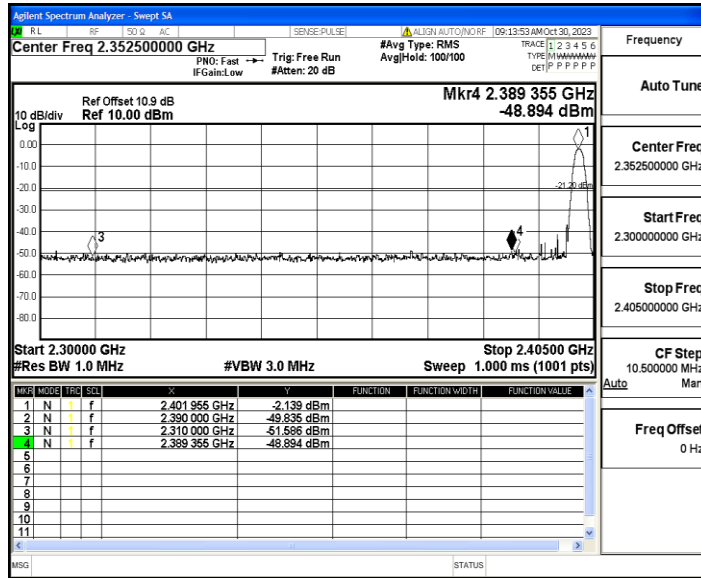
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

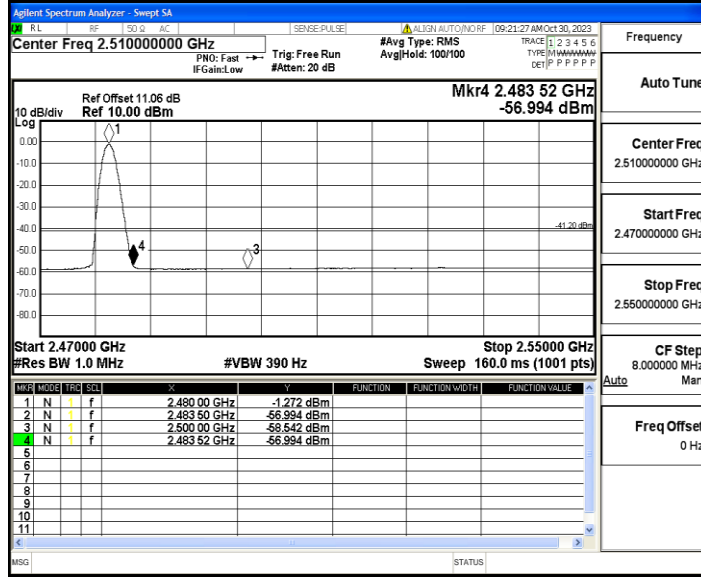
DH5_Ant1_Low_2402_AV



DH5_Ant1_Low_2402_Peak



DH5_Ant1_High_2480_AV



DH5_Ant1_High_2480_Peak

