

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

**Product Name: Bluetooth Mechanical Keyboard**

**Trade Mark: Keychron**

**Test Model: Keychron K4 Pro**

**FCC ID: 2ASF4-K4PRO**

### Environmental Conditions

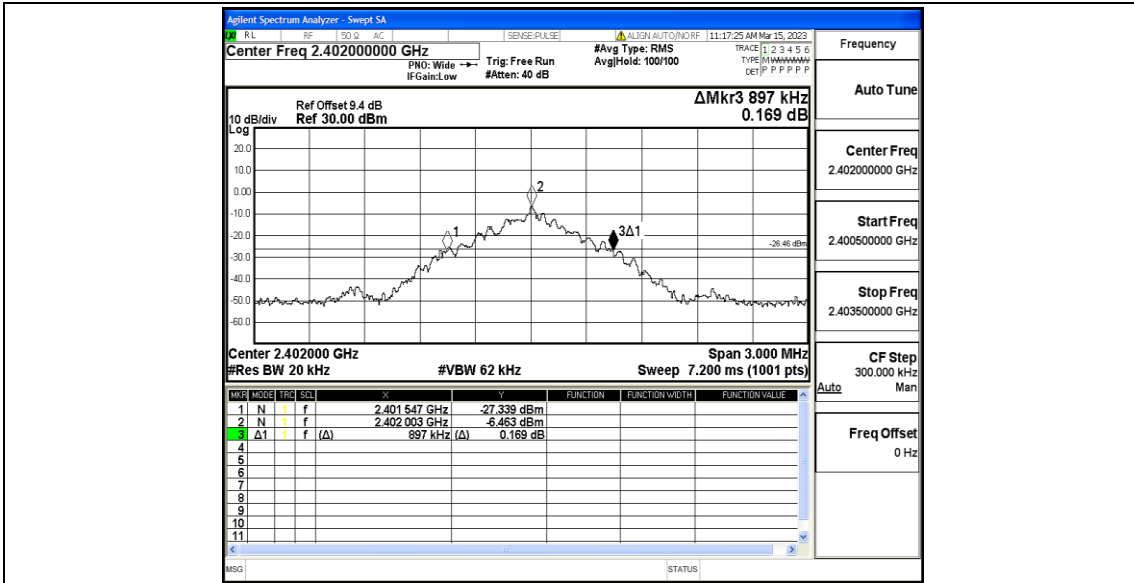
Temperature:	22.8° C
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

## Appendix A: 20dB Emission Bandwidth

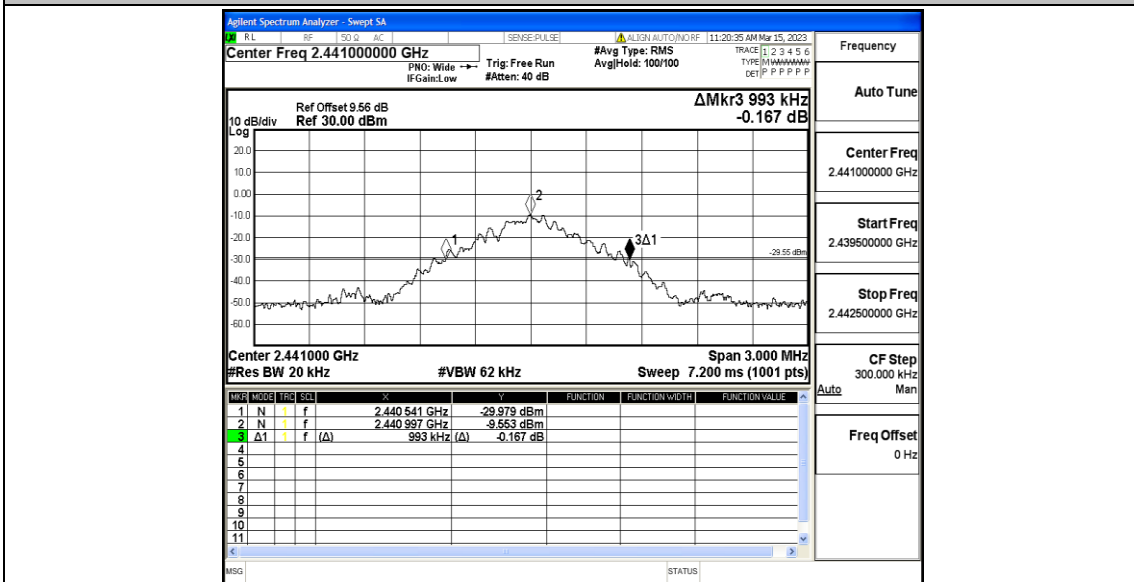
### Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.897	2401.547	2402.444	---	---
		2441	0.993	2440.541	2441.534	---	---
		2480	0.867	2479.550	2480.417	---	---

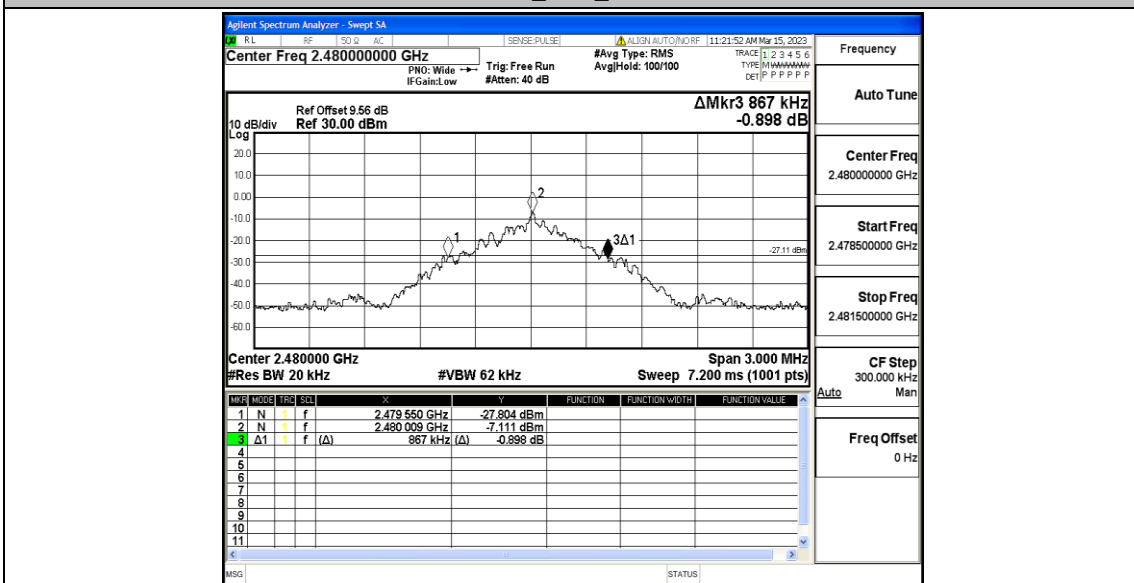
Test Graphs



DH5\_Ant1\_2402



DH5\_Ant1\_2441



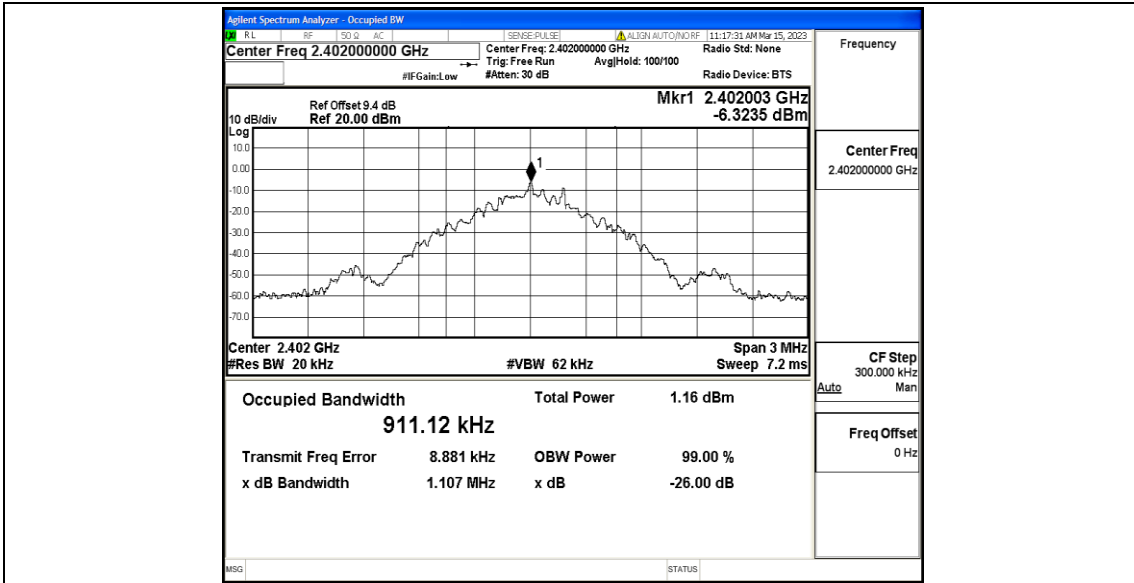
DH5\_Ant1\_2480

## Appendix B: Occupied Channel Bandwidth

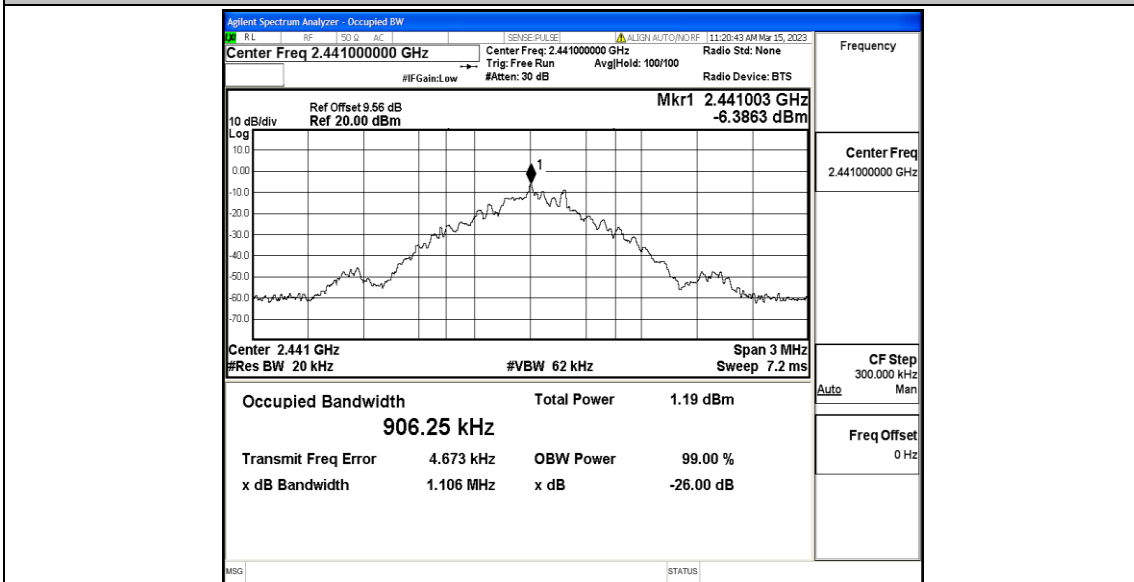
### Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.91112	2401.5533	2402.4644	---	---
		2441	0.90625	2440.5515	2441.4578	---	---
		2480	0.91163	2479.5471	2480.4587	---	---

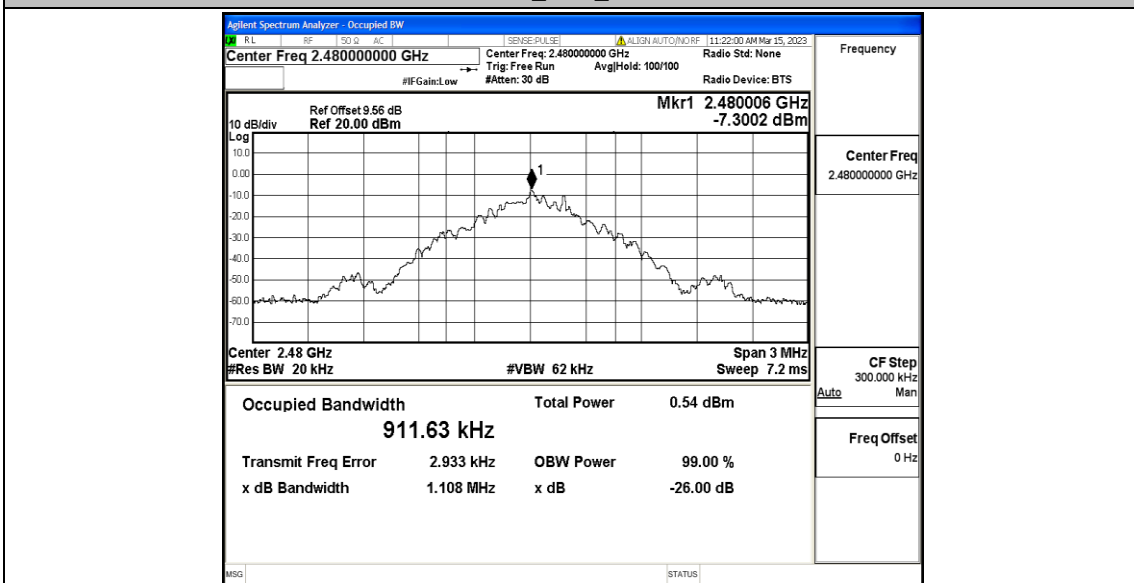
Test Graphs



DH5\_Ant1\_2402



DH5\_Ant1\_2441



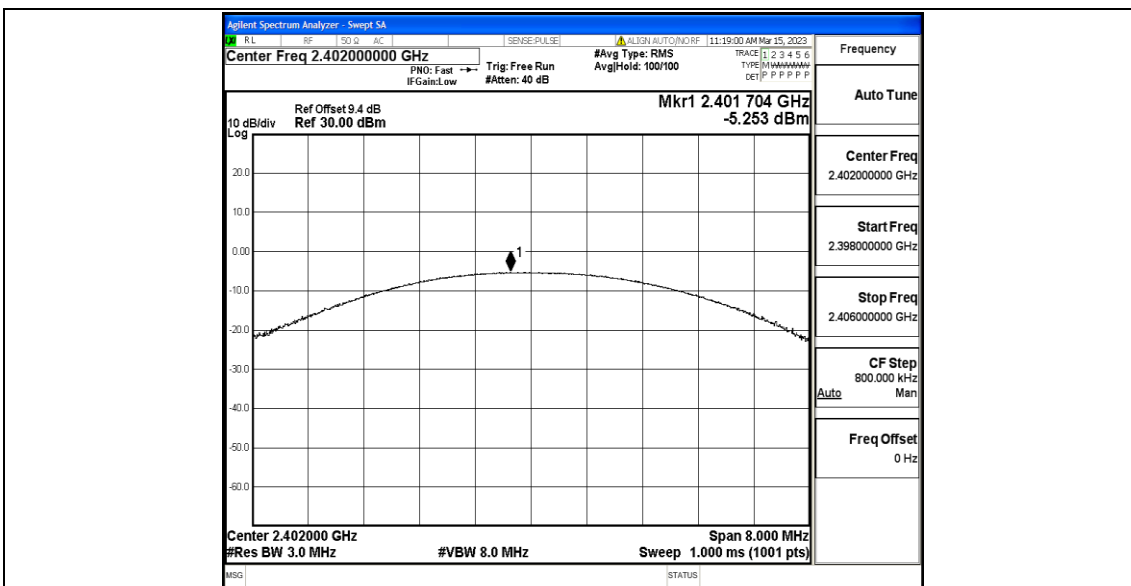
DH5\_Ant1\_2480

## Appendix C: Maximum Peak conducted output power

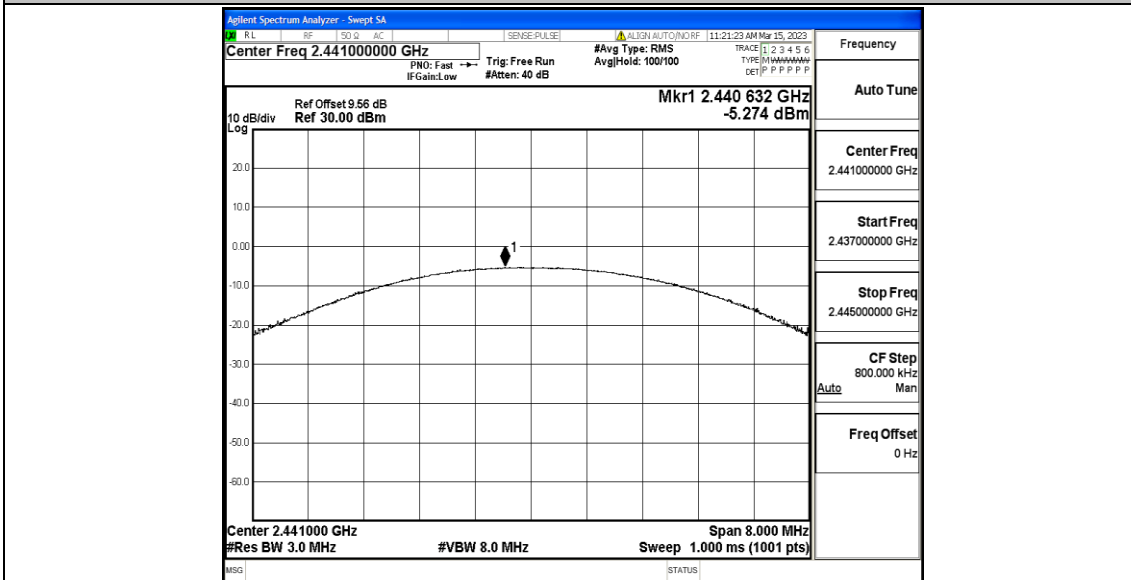
### Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-5.25	≤20.97	PASS
		2441	-5.27	≤20.97	PASS
		2480	-5.85	≤20.97	PASS

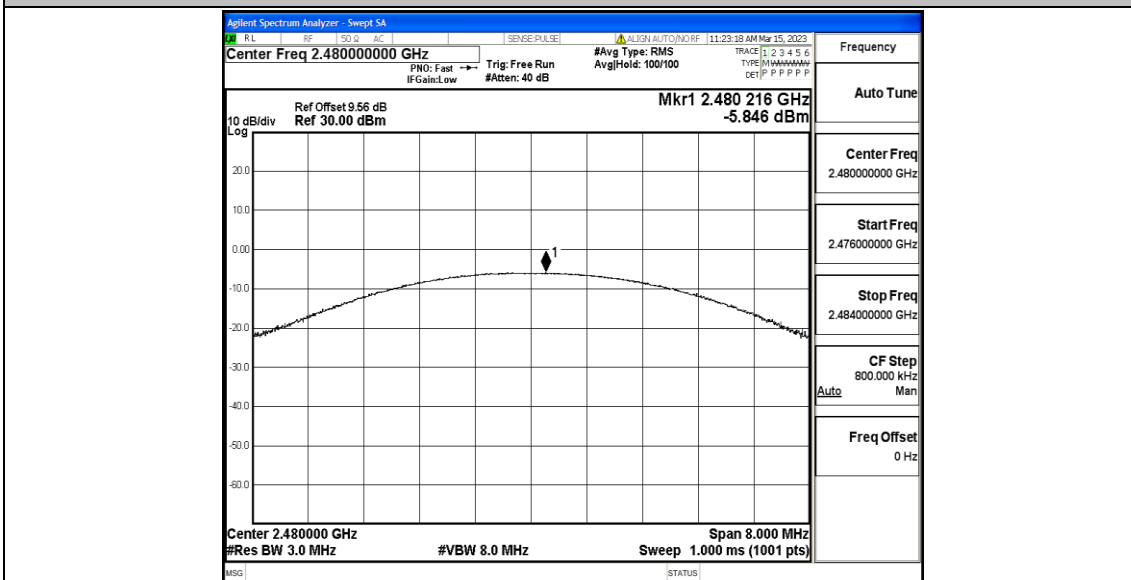
### Test Graphs



DH5\_Ant1\_2402



DH5\_Ant1\_2441



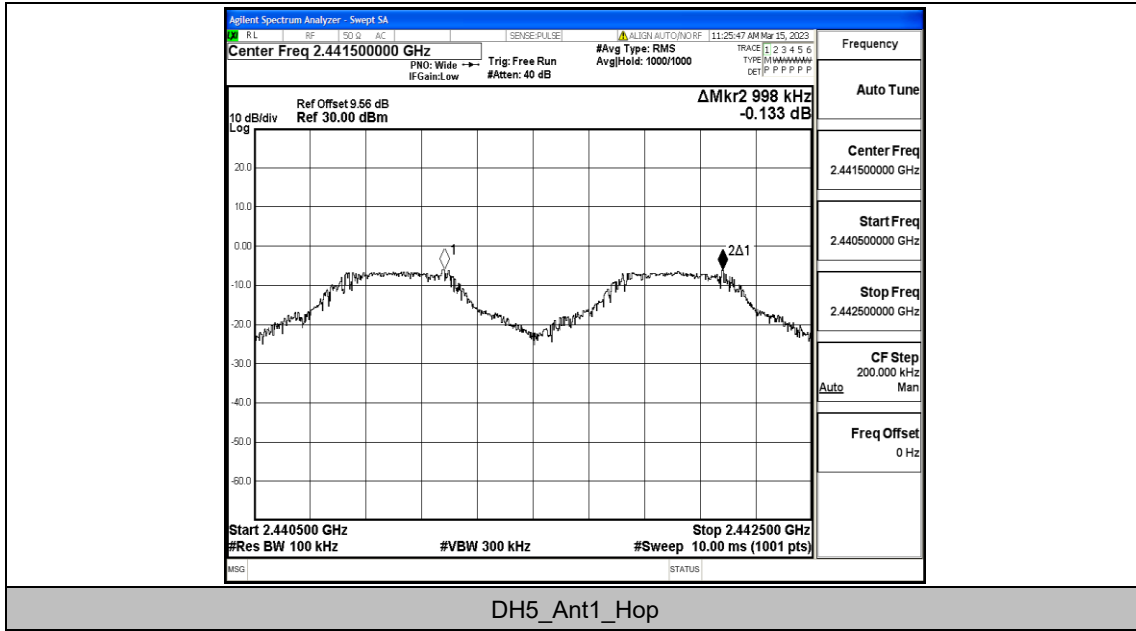
DH5\_Ant1\_2480

## Appendix D: Carrier frequency separation

### Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.998	≥0.993	PASS

### Test Graphs



DH5\_Ant1\_Hop

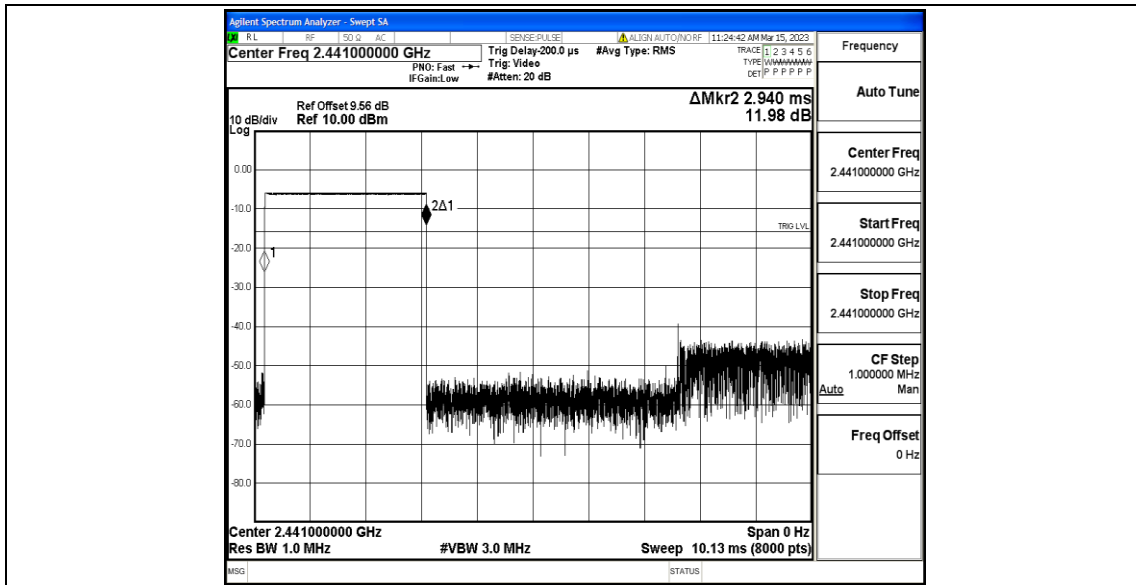


## Appendix E: Time of occupancy

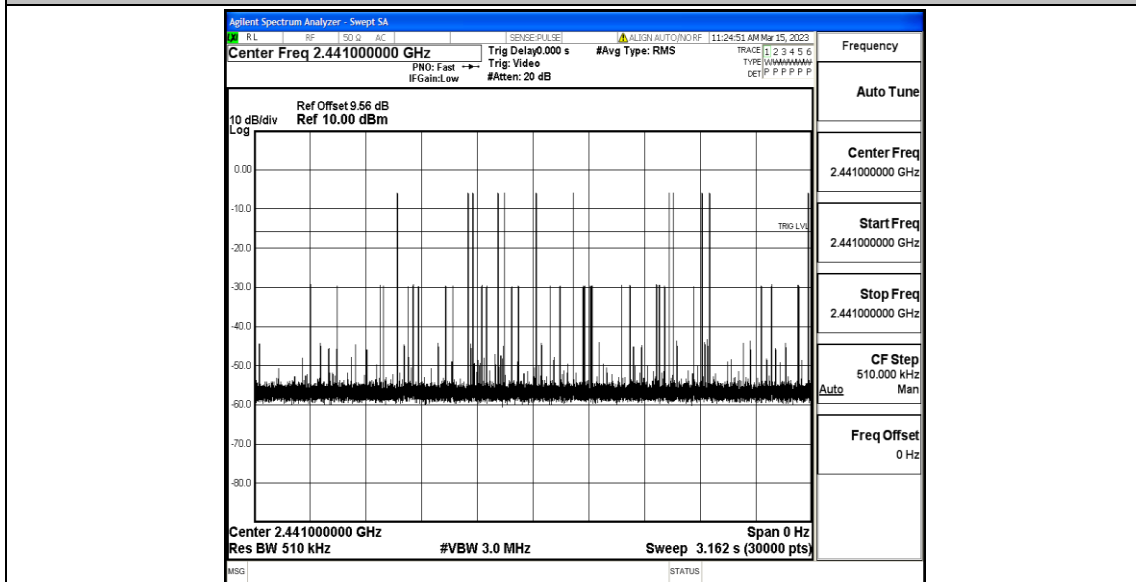
### Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.940	130	0.382	≤0.4	PASS

### Test Graphs



DH5\_Ant1\_Hop



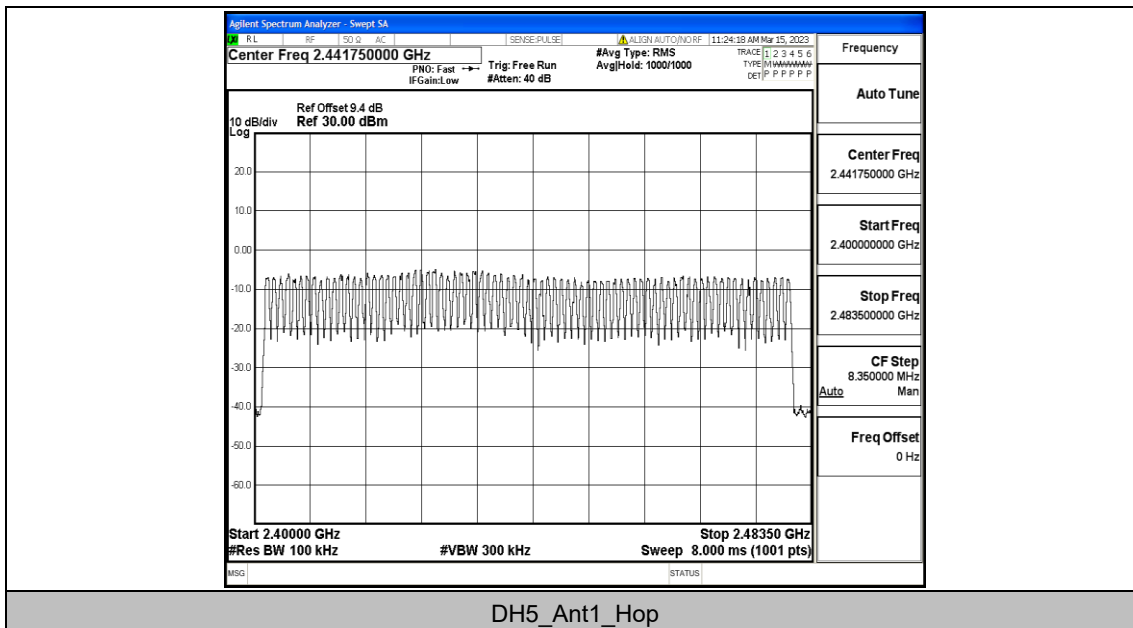
DH5\_Ant1\_Hop

## Appendix F: Number of hopping channels

### Test Result

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

### Test Graphs

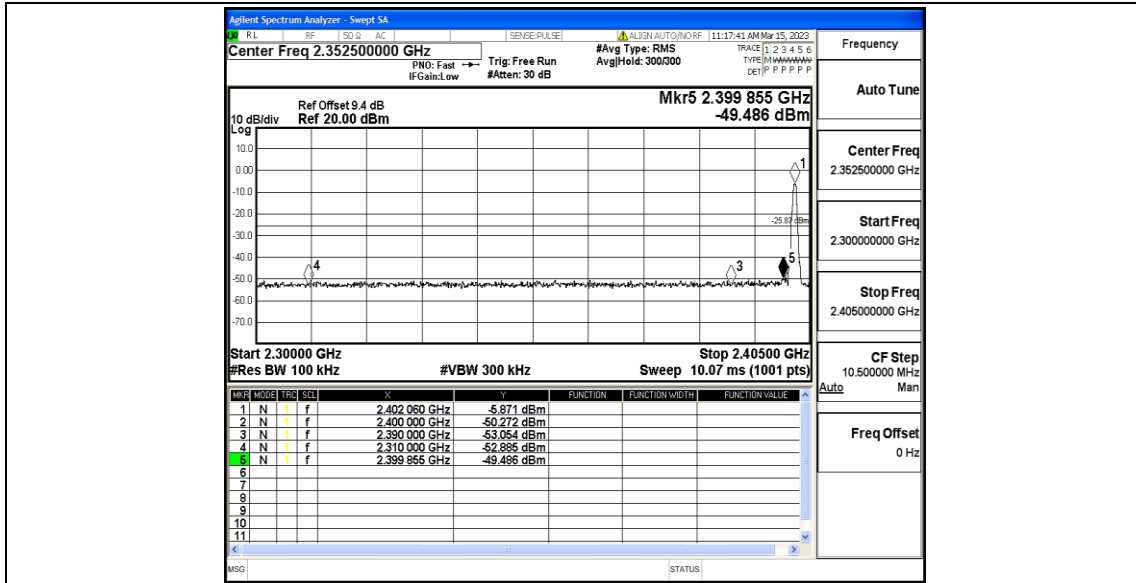


## Appendix G: Band edge measurements

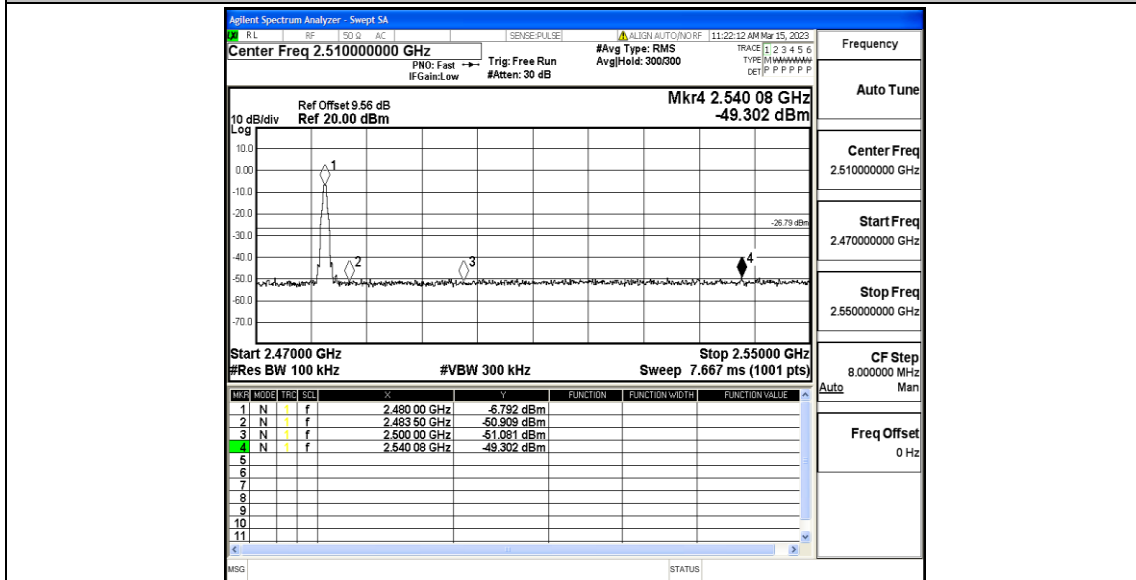
### Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-5.87	-49.49	≤-25.87	PASS
		High	2480	-6.79	-49.3	≤-26.79	PASS
		Low	Hop_2402	-6.48	-49.58	≤-26.48	PASS
		High	Hop_2480	-6.73	-49.24	≤-26.73	PASS

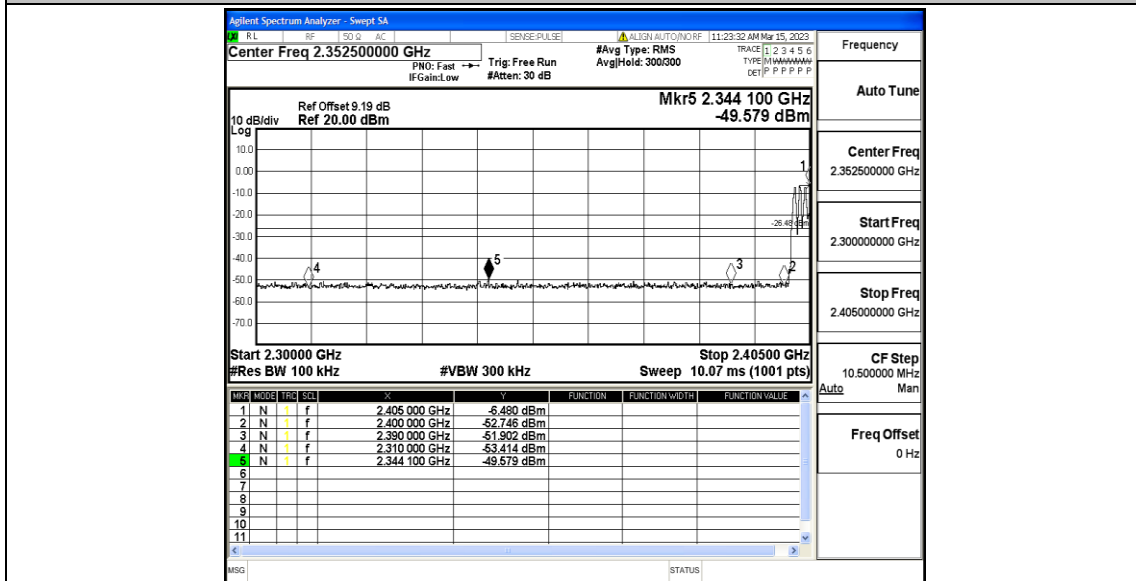
### Test Graphs



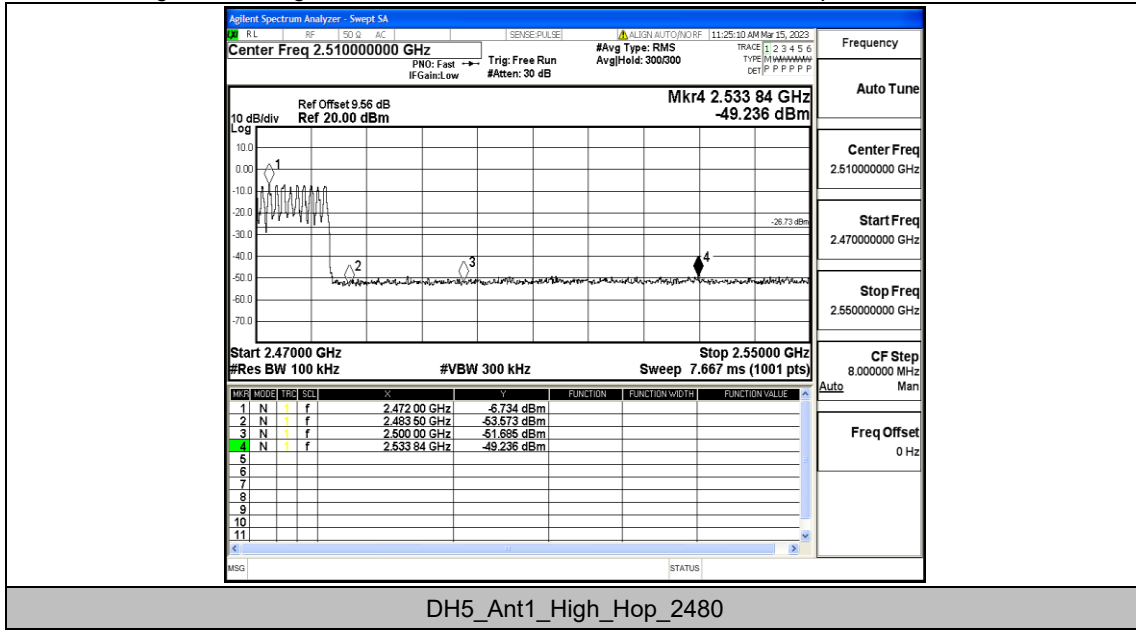
DH5\_Ant1\_Low\_2402



DH5\_Ant1\_High\_2480



DH5\_Ant1\_Low\_Hop\_2402



DH5\_Ant1\_High\_Hop\_2480

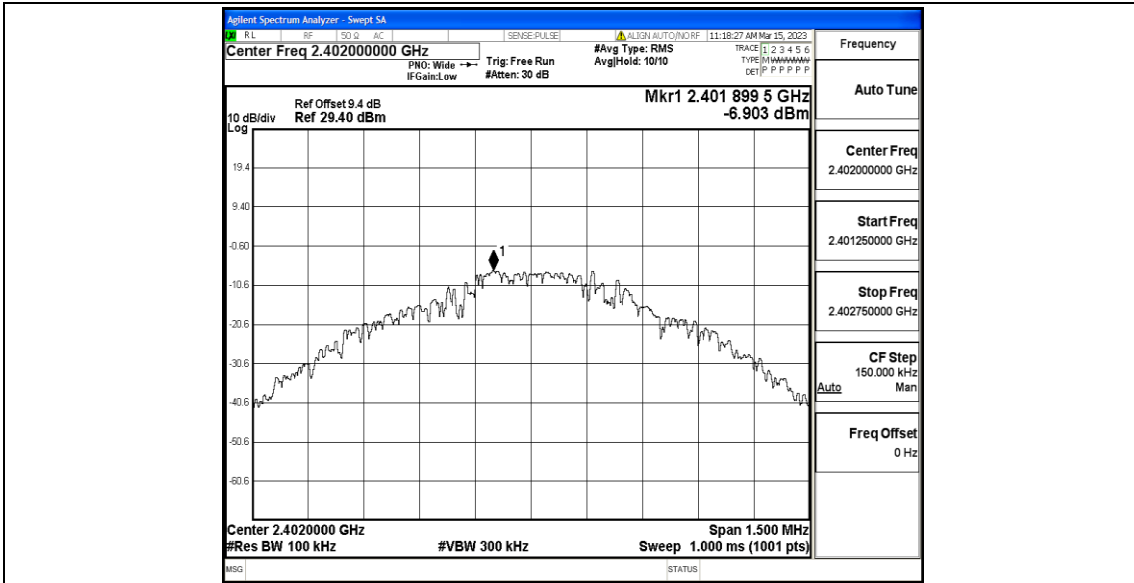
## Appendix H: Conducted Spurious Emission

### Test Result

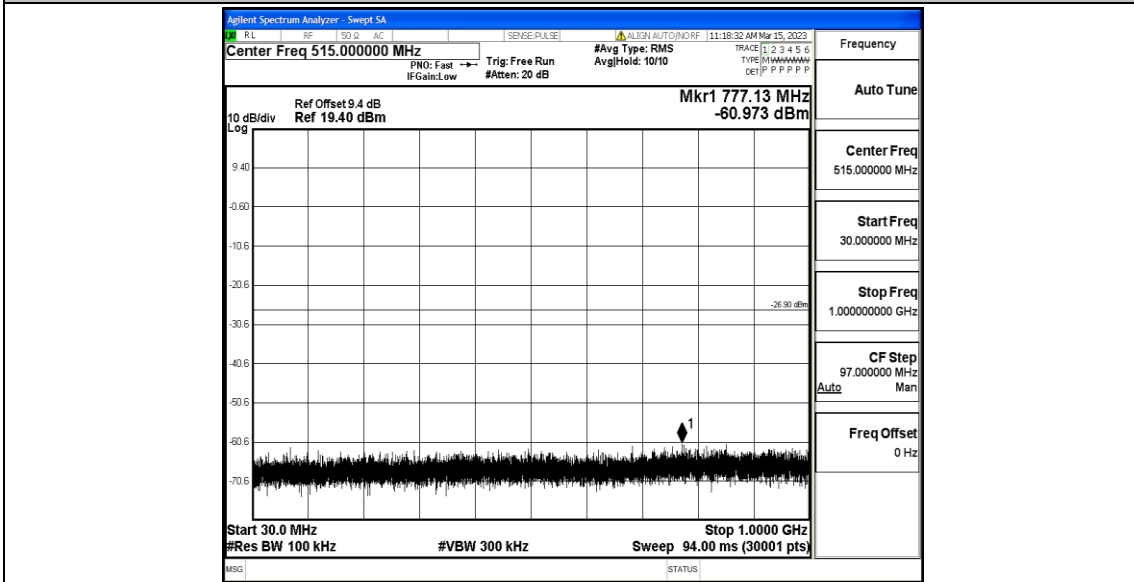
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-6.90	-6.90	---	PASS
			30~1000	-6.90	-60.97	≤-26.9	PASS
			1000~26500	-6.90	-50.18	≤-26.9	PASS
		2441	Reference	-6.21	-6.21	---	PASS
			30~1000	-6.21	-61.14	≤-26.21	PASS
			1000~26500	-6.21	-51.62	≤-26.21	PASS
		2480	Reference	-7.38	-7.38	---	PASS
			30~1000	-7.38	-60.84	≤-27.38	PASS
			1000~26500	-7.38	-51.68	≤-27.38	PASS



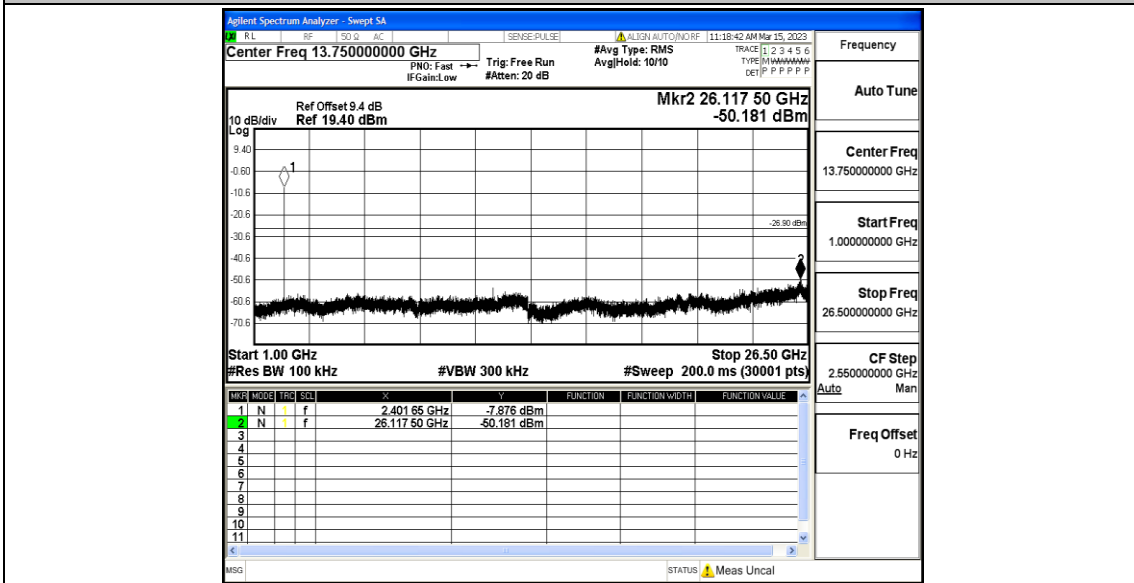
### Test Graphs



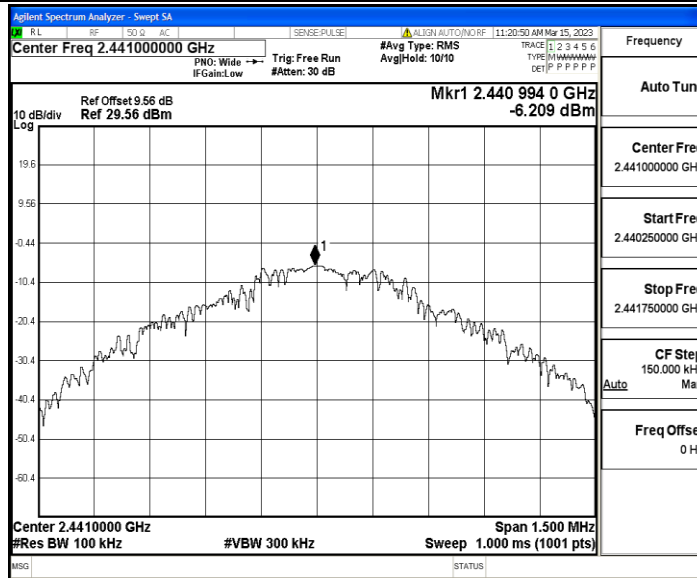
DH5\_Ant1\_2402\_0~Reference



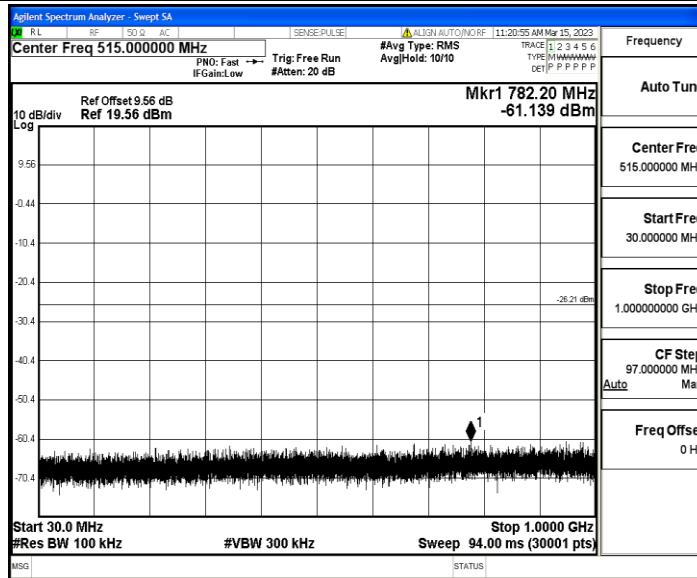
DH5\_Ant1\_2402\_30~1000



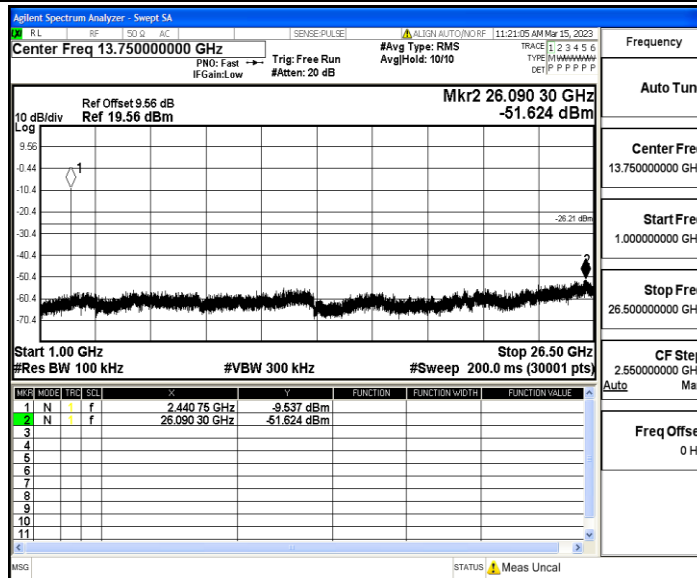
DH5\_Ant1\_2402\_1000~26500



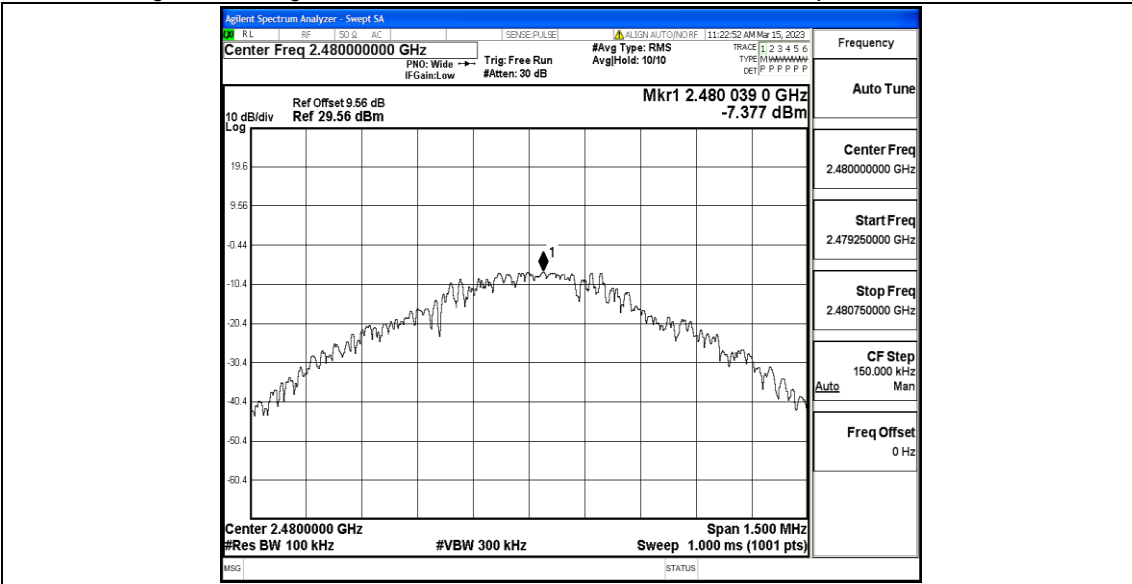
DH5\_Ant1\_2441\_0~Reference



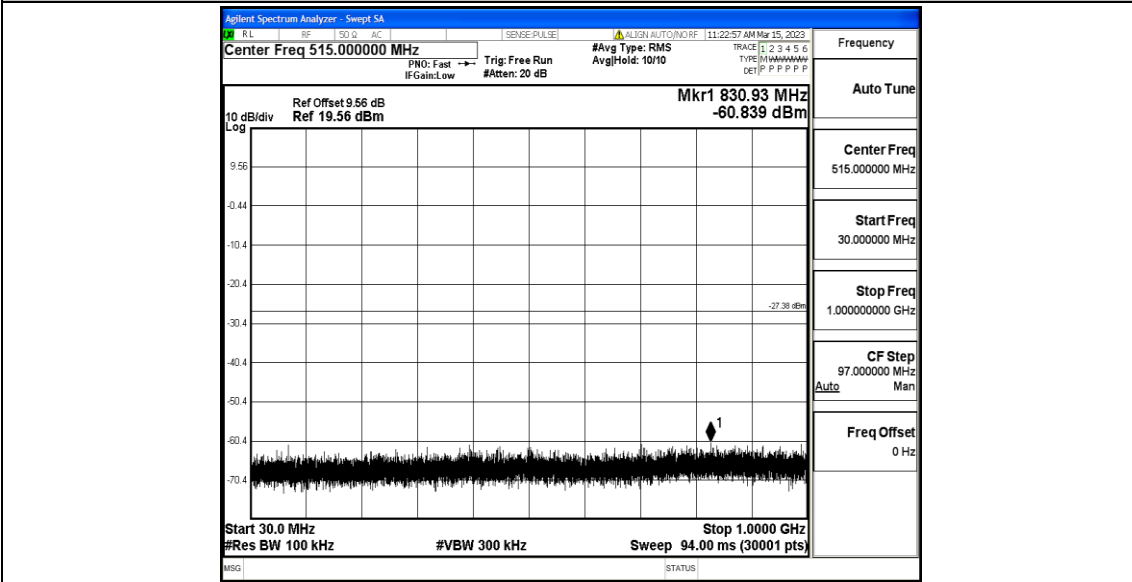
DH5\_Ant1\_2441\_30~1000



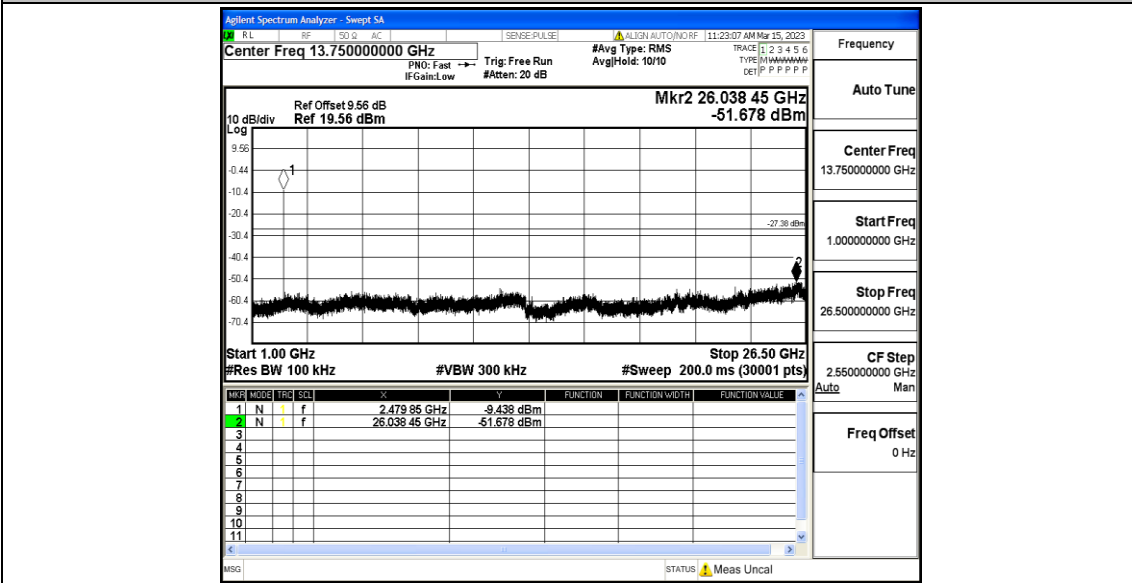
DH5\_Ant1\_2441\_1000~26500



DH5\_Ant1\_2480\_0~Reference



DH5\_Ant1\_2480\_30~1000



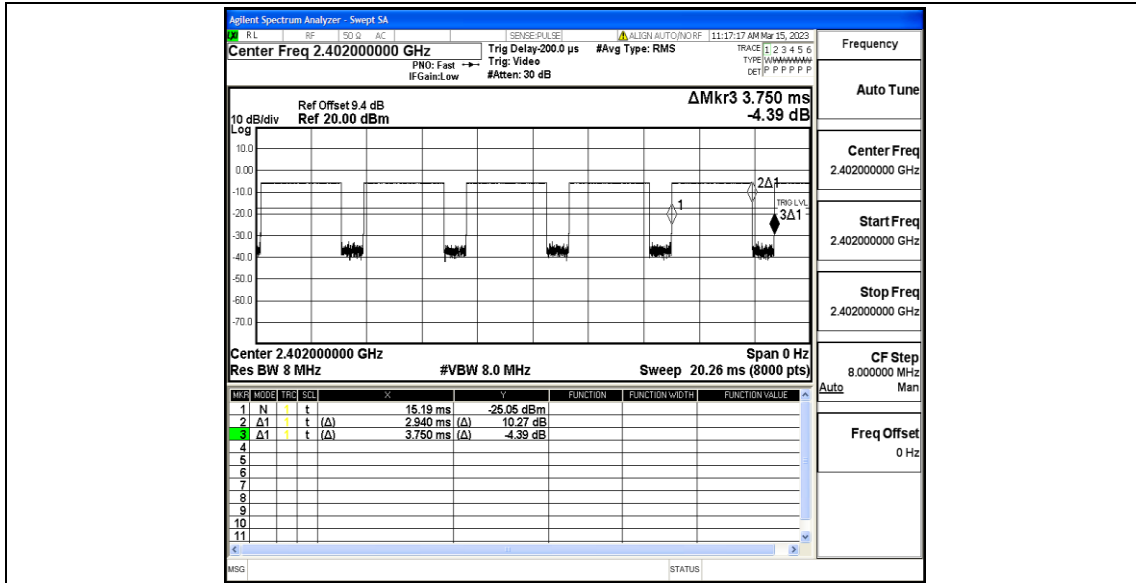
DH5\_Ant1\_2480\_1000~26500

## Appendix I: Duty Cycle

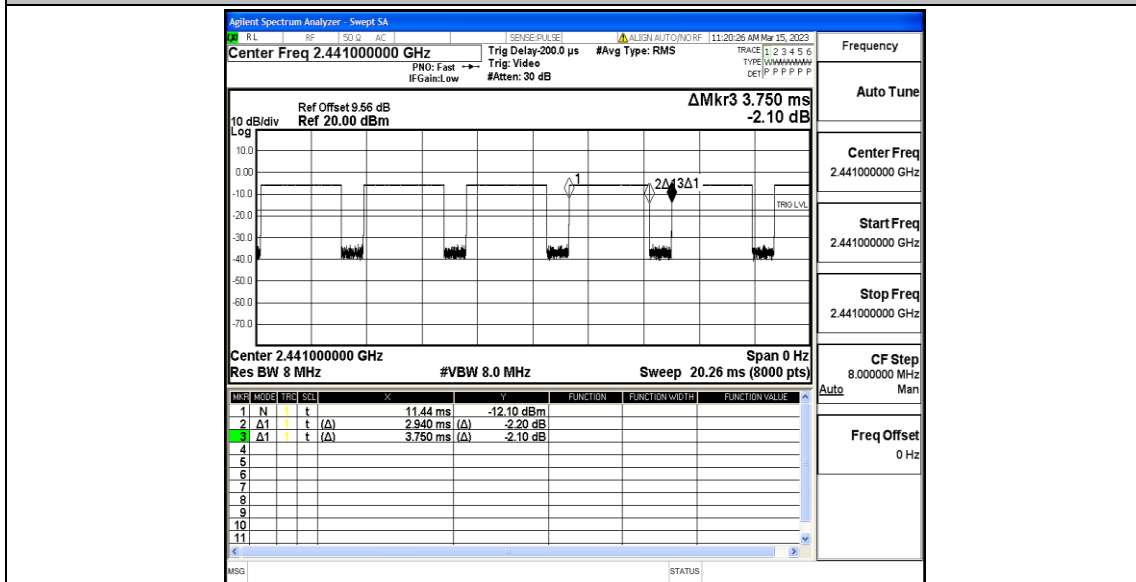
### Test Result

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

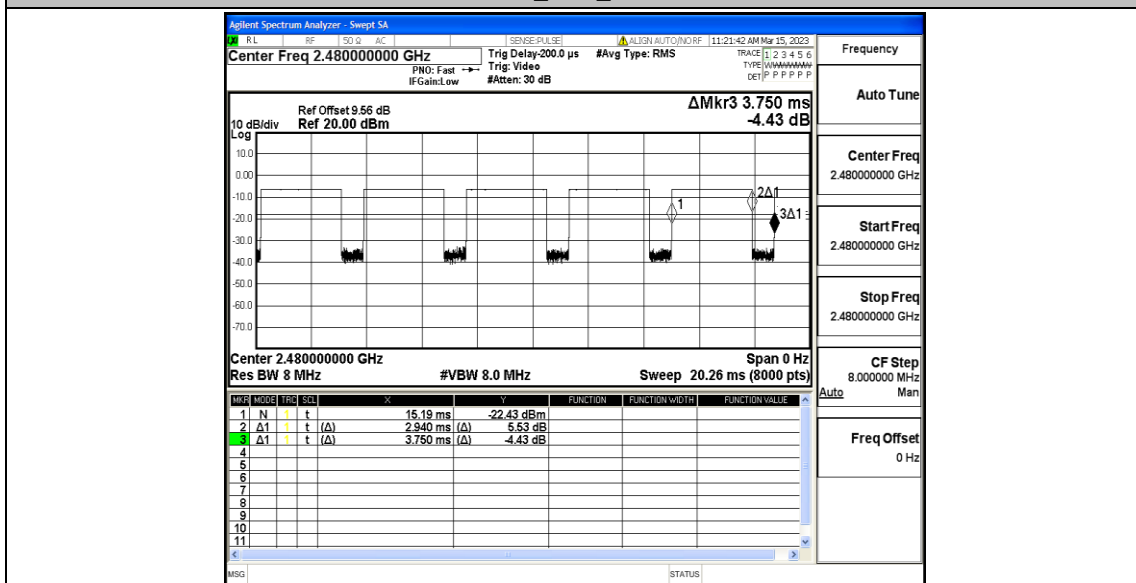
### Test Graphs



DH5\_Ant1\_2402



DH5\_Ant1\_2441



DH5\_Ant1\_2480

## Appendix J: Emissions in Restricted Bands

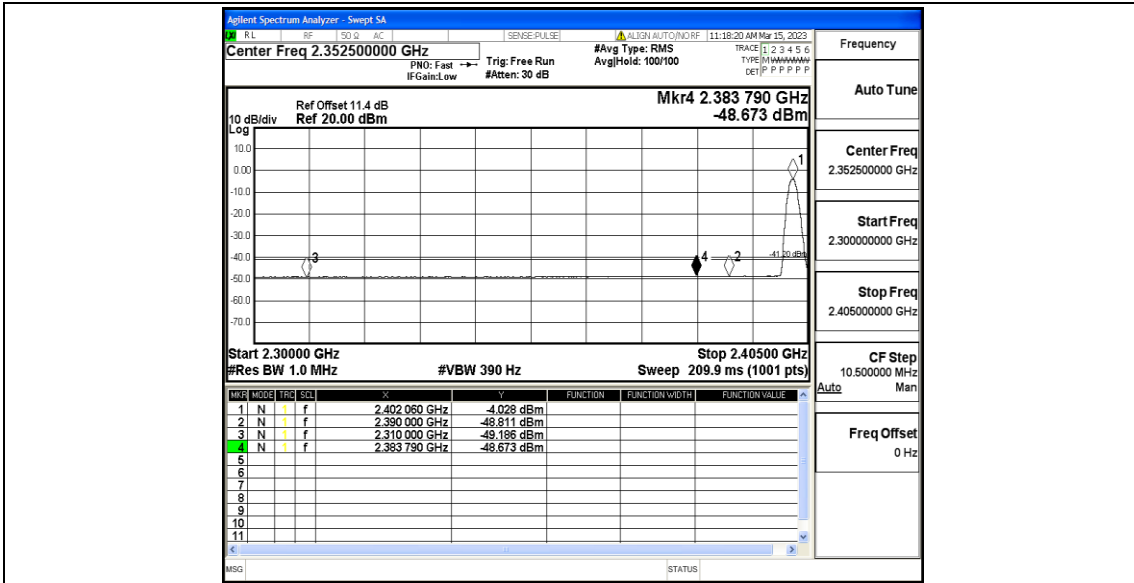
### Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq(MHz)	Result(dBm)	Limit(dBm)	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-49.19	≤-41.20	PASS
				AV	2383.790	-48.67	≤-41.20	PASS
				AV	2390.000	-48.81	≤-41.20	PASS
				Peak	2310.000	-40.9	≤-21.20	PASS
				Peak	2334.230	-38.97	≤-21.20	PASS
				Peak	2390.000	-41.17	≤-21.20	PASS
		High	2480	AV	2483.500	-48.21	≤-41.20	PASS
				AV	2498.400	-47.95	≤-41.20	PASS
				AV	2500.000	-48.15	≤-41.20	PASS
				Peak	2483.500	-41.68	≤-21.20	PASS
				Peak	2495.520	-38.09	≤-21.20	PASS
				Peak	2500.000	-40.14	≤-21.20	PASS

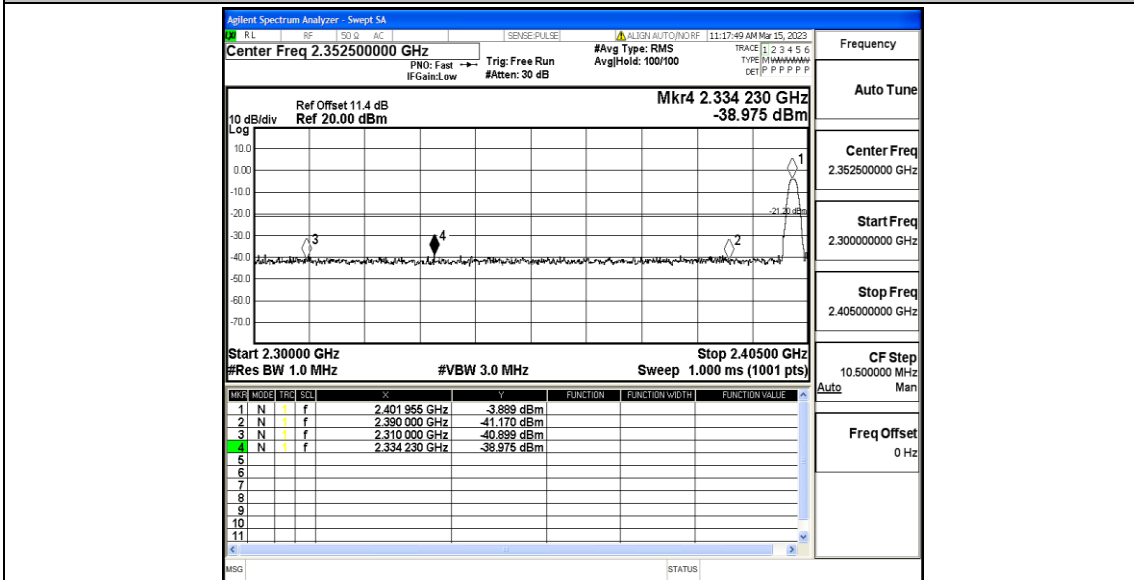
Note:

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.

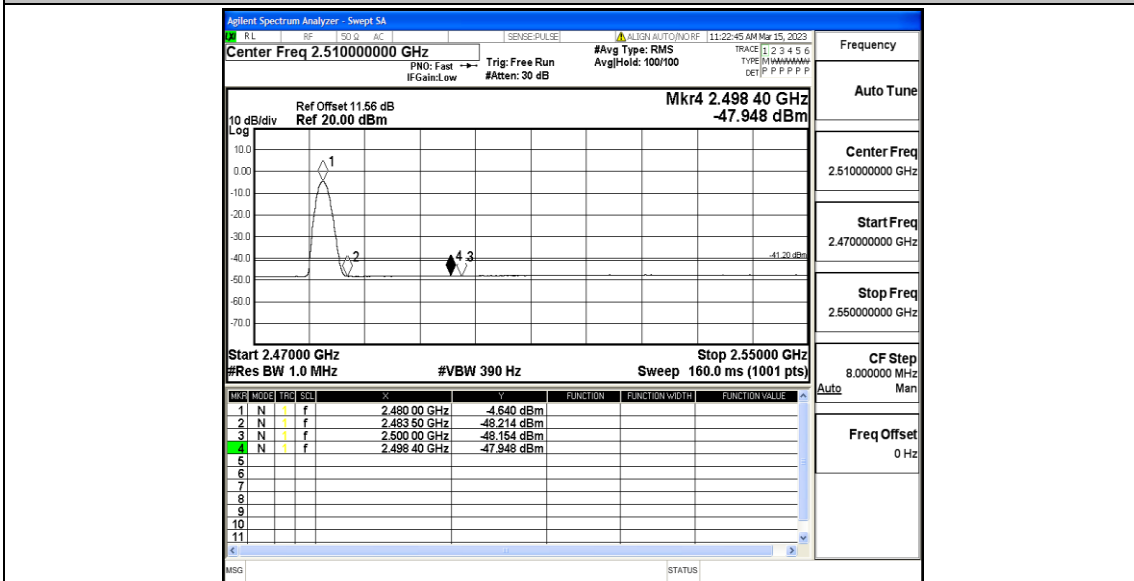
Test Graphs



DH5\_Ant1\_Low\_2402\_AV



DH5\_Ant1\_Low\_2402\_Peak



DH5\_Ant1\_High\_2480\_AV

