

**RF Test Data for BT(BDR/EDR) (Conducted Measurement)****Product Name: TRUE WIRELESS EARBUDS****Trade Mark: N/A****Test Model: RT37D****FCC ID: 2ATOY-RT37D****Environmental Conditions**

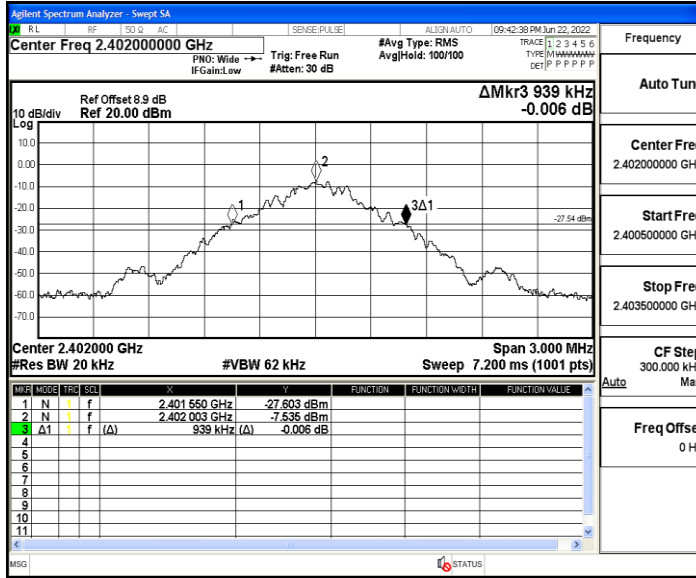
Temperature:	25.5°C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

**Appendix A: 20dB Emission Bandwidth****Test Result**

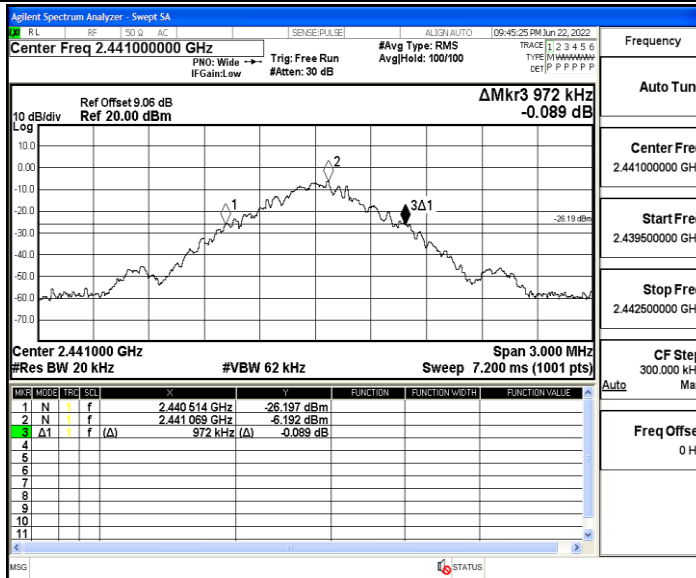
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.939	2401.550	2402.489	---	---
		2441	0.972	2440.514	2441.486	---	---
		2480	0.993	2479.502	2480.495	---	---
2DH5	Ant1	2402	1.308	2401.352	2402.660	---	---
		2441	1.272	2440.370	2441.642	---	---
		2480	1.320	2479.349	2480.669	---	---

Test Graphs

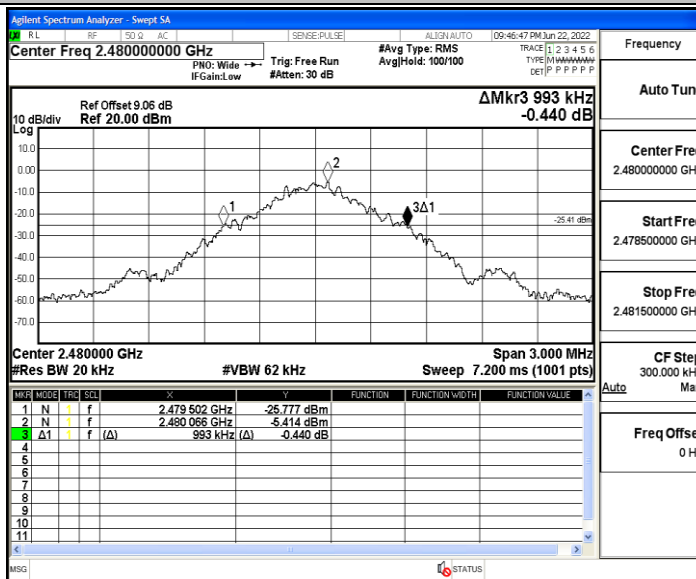
DH5\_Ant1\_2402



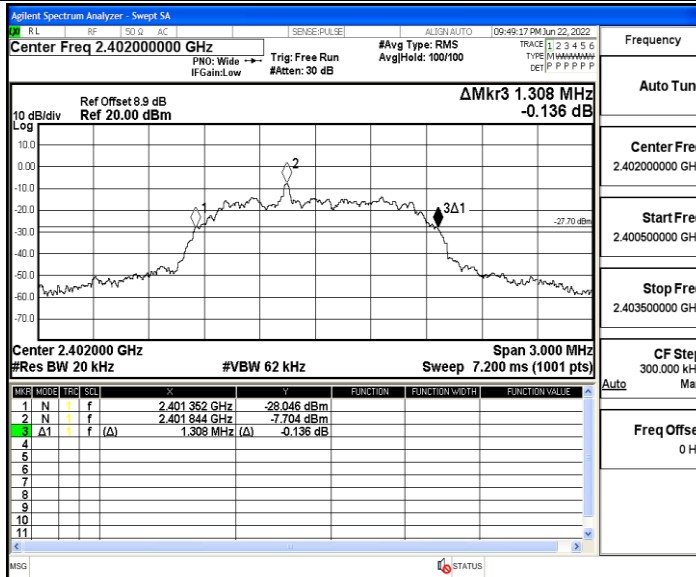
DH5\_Ant1\_2441



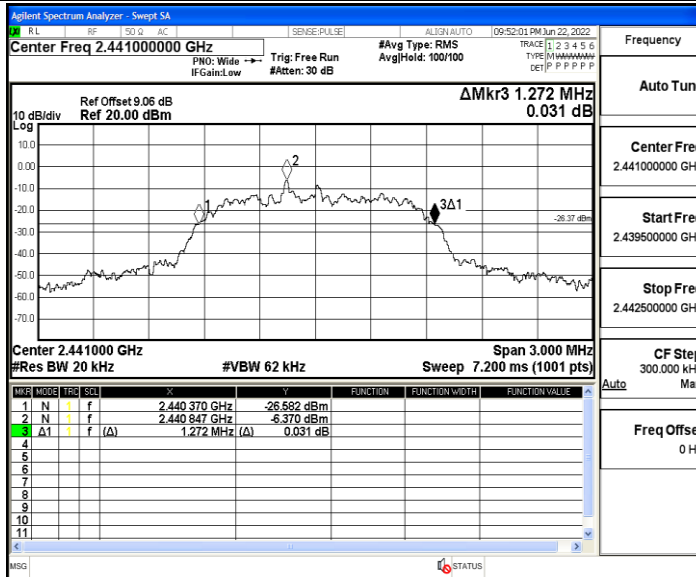
DH5\_Ant1\_2480



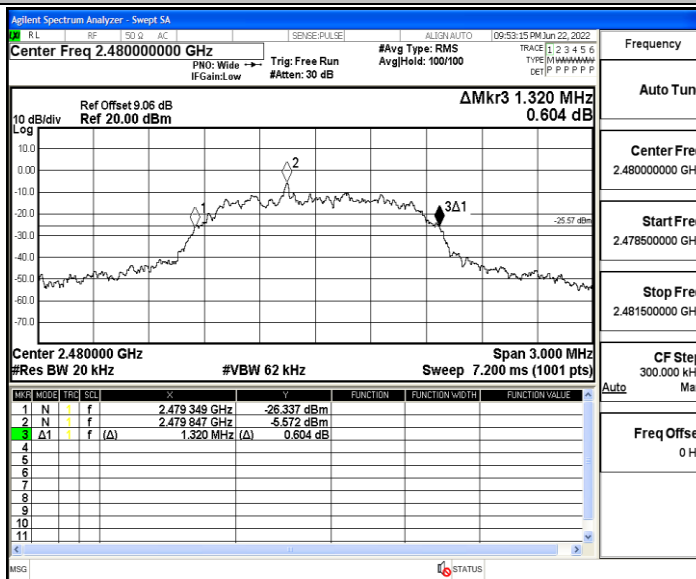
2DH5\_Ant1\_2402



2DH5\_Ant1\_2441



2DH5\_Ant1\_2480



## Appendix B: Occupied Channel Bandwidth

### Test Result

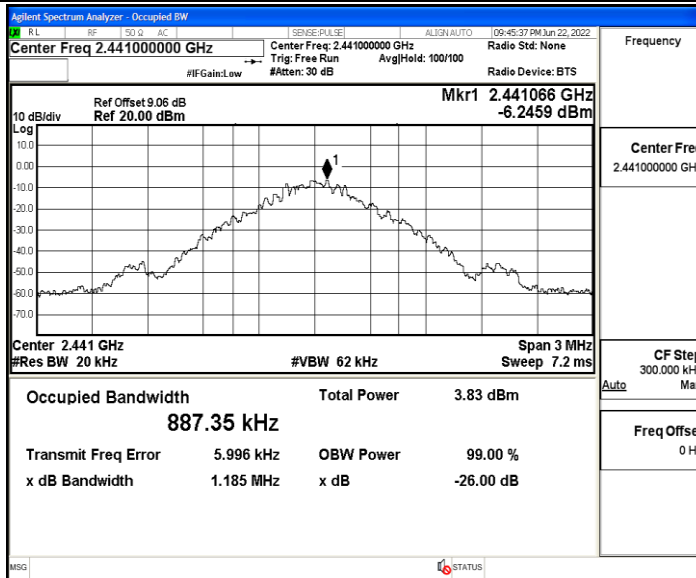
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.89088	2401.563	2402.454	---	---
		2441	0.88735	2440.562	2441.450	---	---
		2480	0.89095	2479.558	2480.449	---	---
2DH5	Ant1	2402	1.1990	2401.411	2402.610	---	---
		2441	1.2021	2440.411	2441.613	---	---
		2480	1.1997	2479.412	2480.612	---	---

Test Graphs

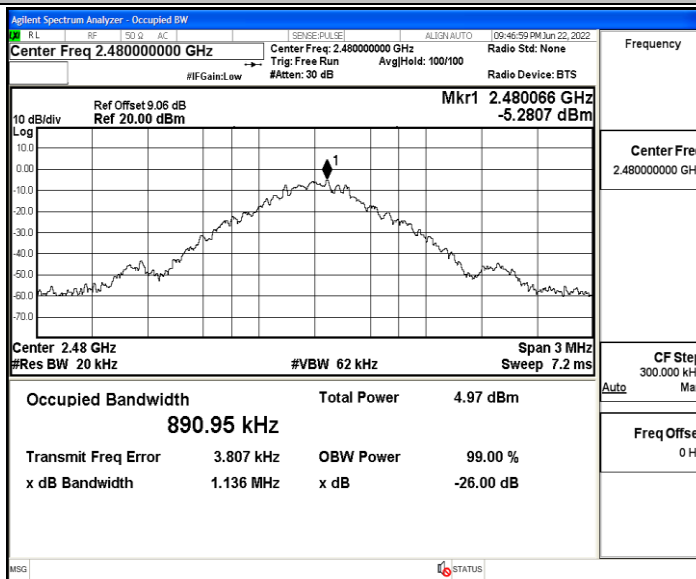
DH5\_Ant1\_2402



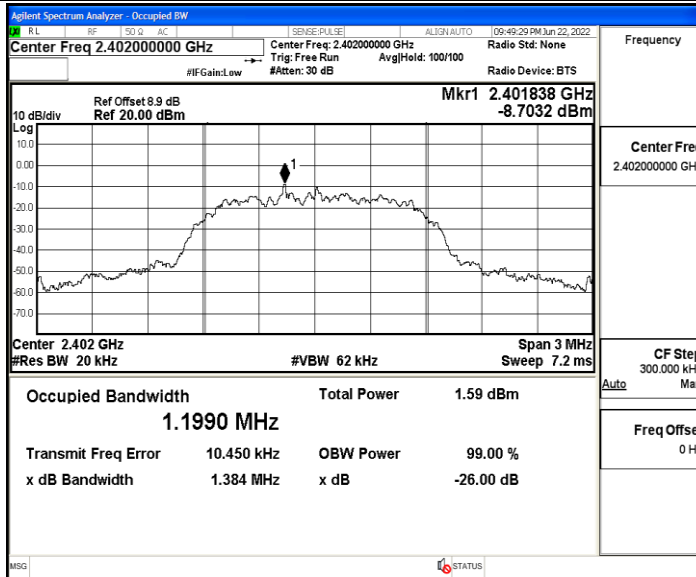
DH5\_Ant1\_2441



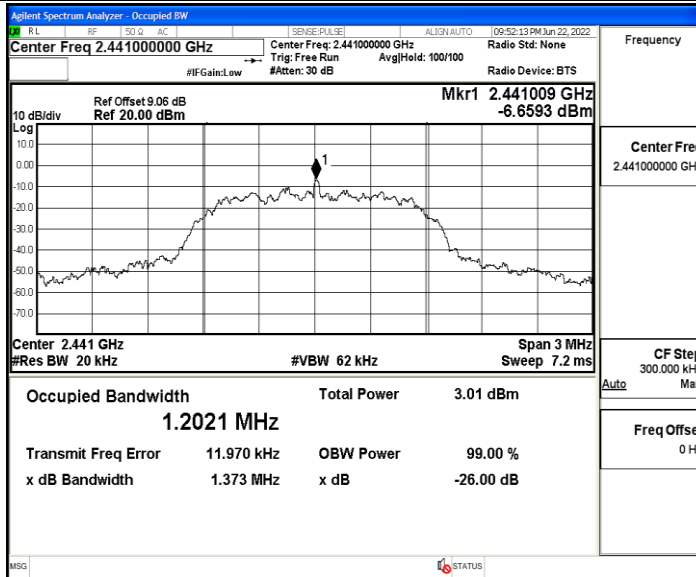
DH5\_Ant1\_2480



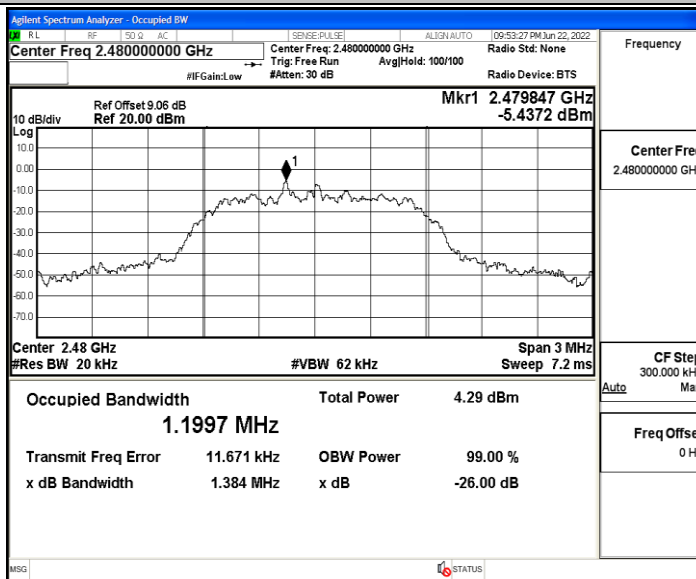
2DH5\_Ant1\_2402



2DH5\_Ant1\_2441



2DH5\_Ant1\_2480



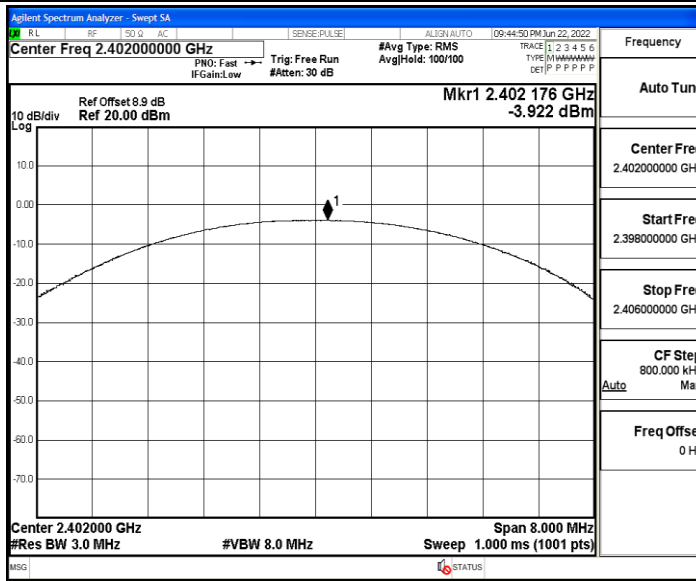
## Appendix C: Maximum Peak conducted output power

### Test Result

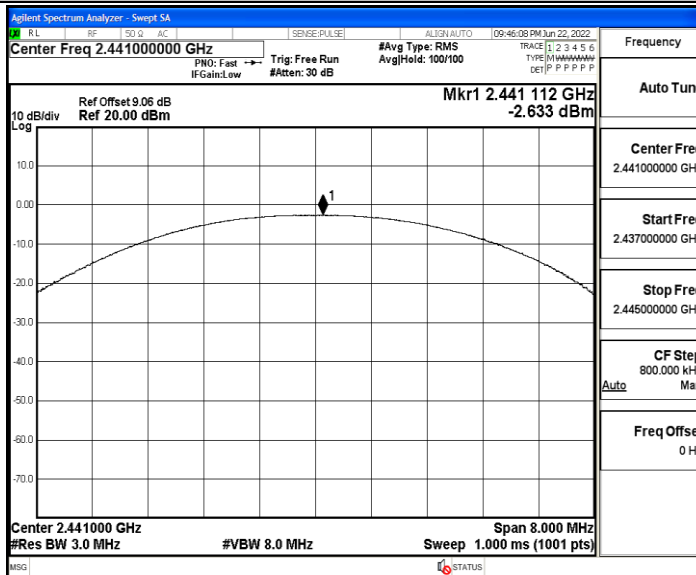
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-3.92	≤30	PASS
		2441	-2.63	≤30	PASS
		2480	-1.69	≤30	PASS
2DH5	Ant1	2402	-3.11	≤20.97	PASS
		2441	-1.85	≤20.97	PASS
		2480	-0.93	≤20.97	PASS

### Test Graphs

DH5\_Ant1\_2402

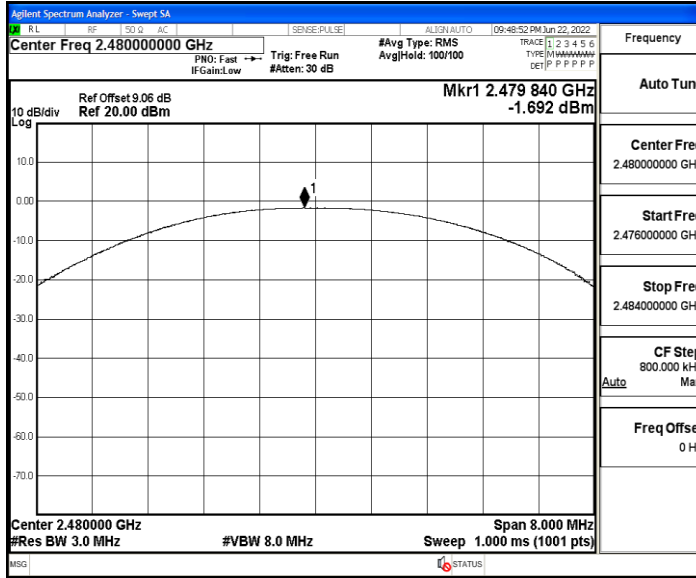


DH5\_Ant1\_2441

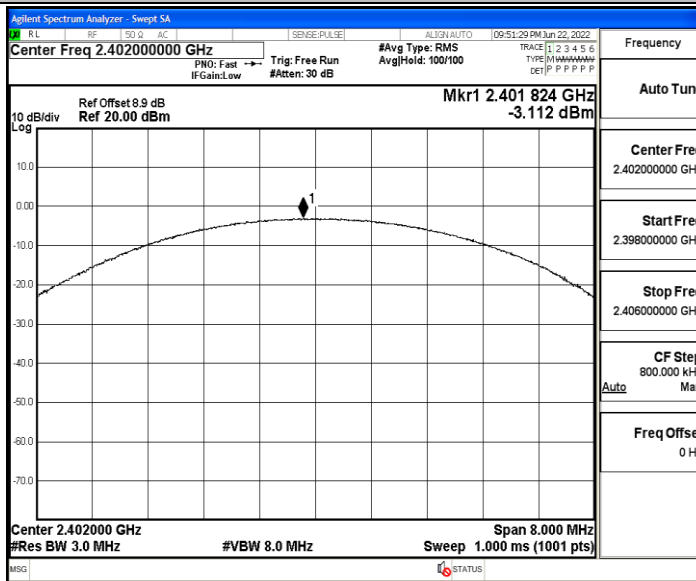


DH5\_Ant1\_2480

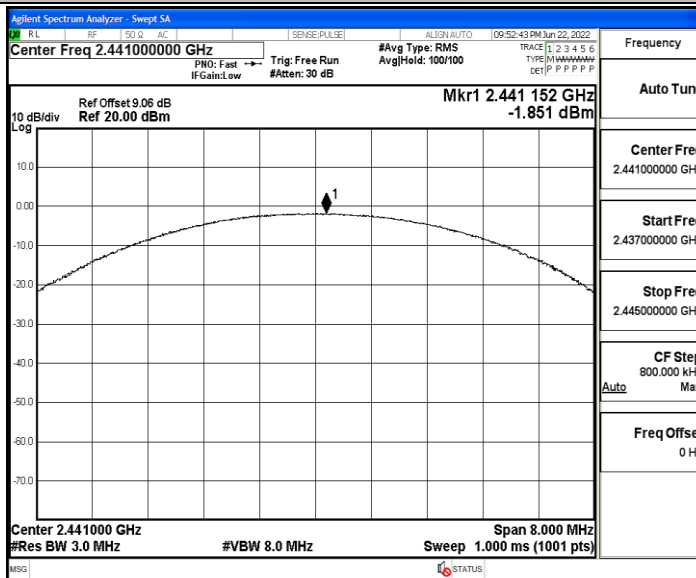




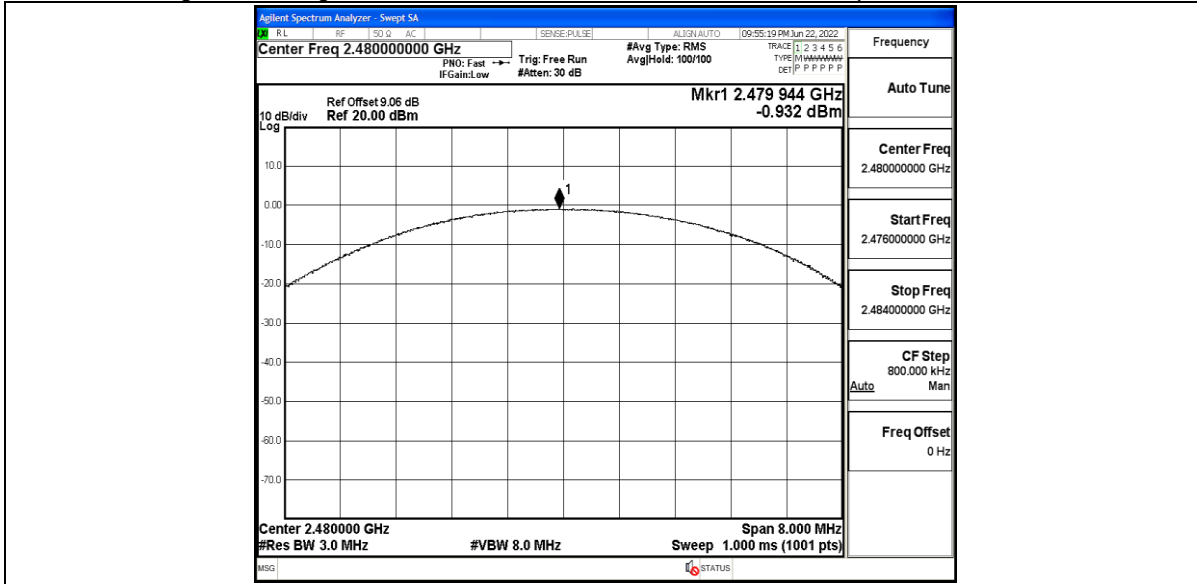
2DH5\_Ant1\_2402



2DH5\_Ant1\_2441



2DH5\_Ant1\_2480



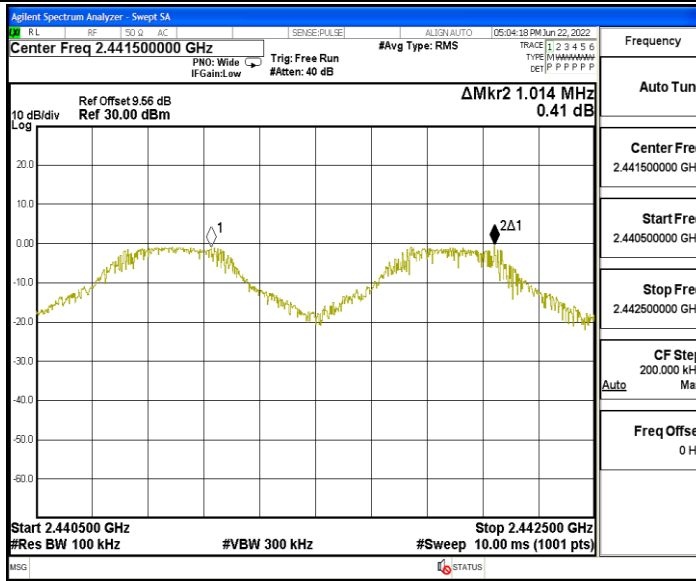
## Appendix D: Carrier frequency separation

### Test Result

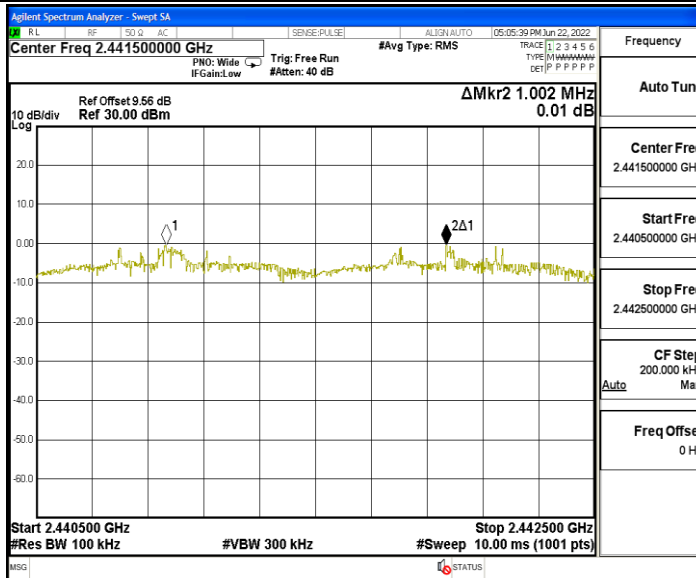
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.014	$\geq 0.936$	PASS
2DH5	Ant1	Hop	1.002	$\geq 0.882$	PASS

Test Graphs

DH5\_Ant1\_Hop



2DH5\_Ant1\_Hop



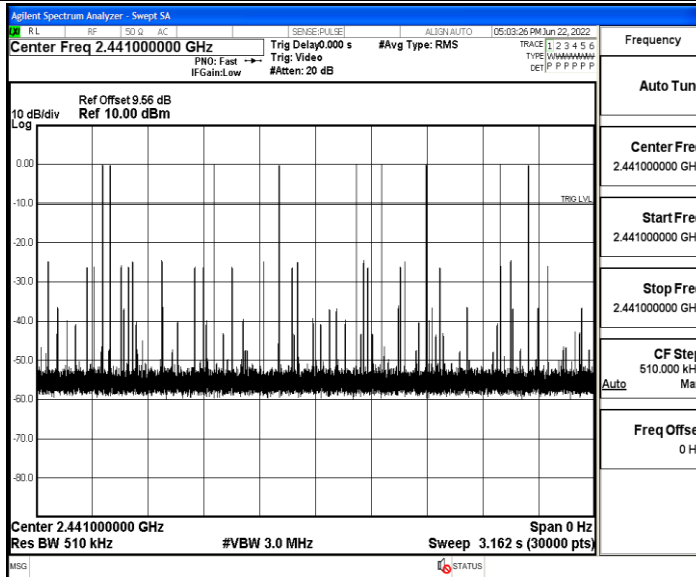
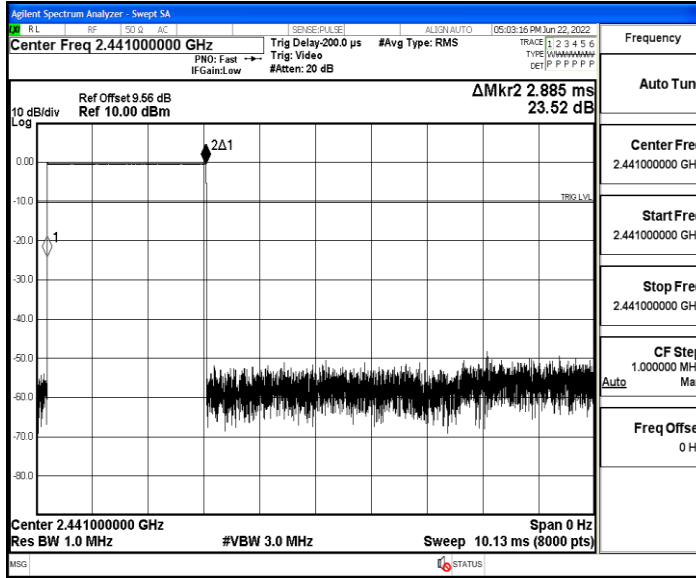
## Appendix E: Time of occupancy

### Test Result

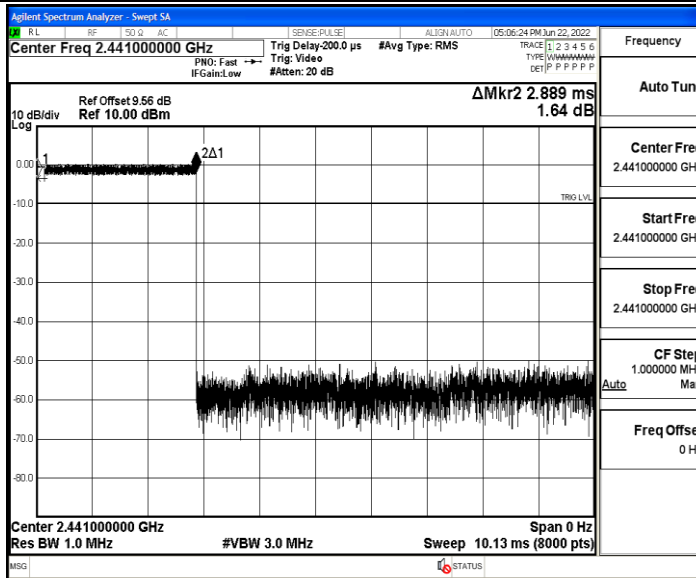
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.89	100	0.289	≤0.4	PASS
2DH5	Ant1	Hop	2.89	70	0.202	≤0.4	PASS

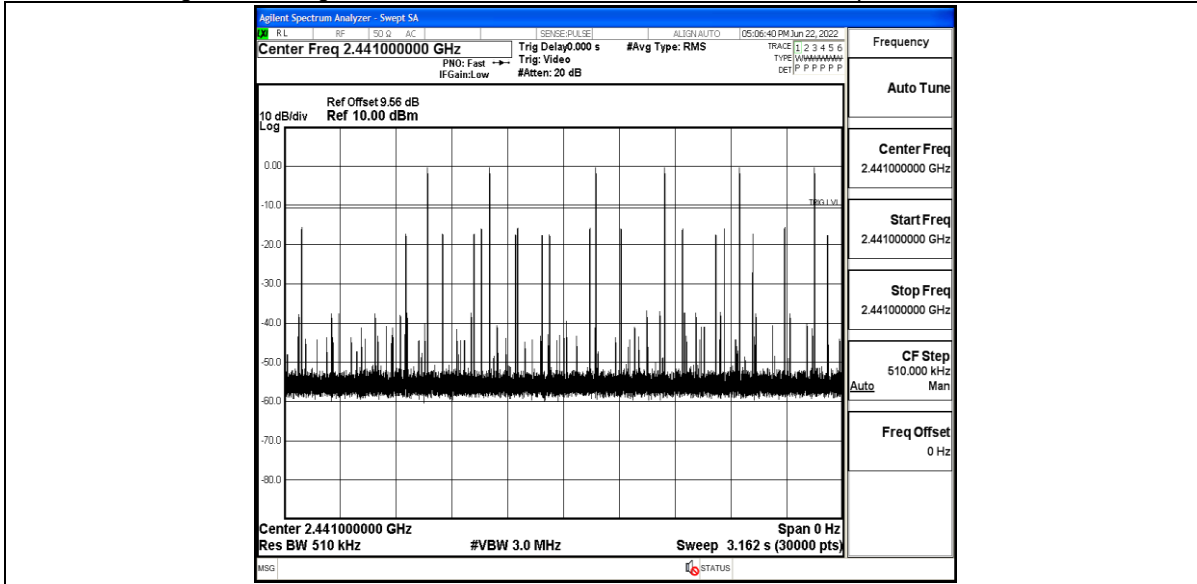
### Test Graphs

#### DH5\_Ant1\_Hop



#### 2DH5\_Ant1\_Hop





## Appendix F: Number of hopping channels

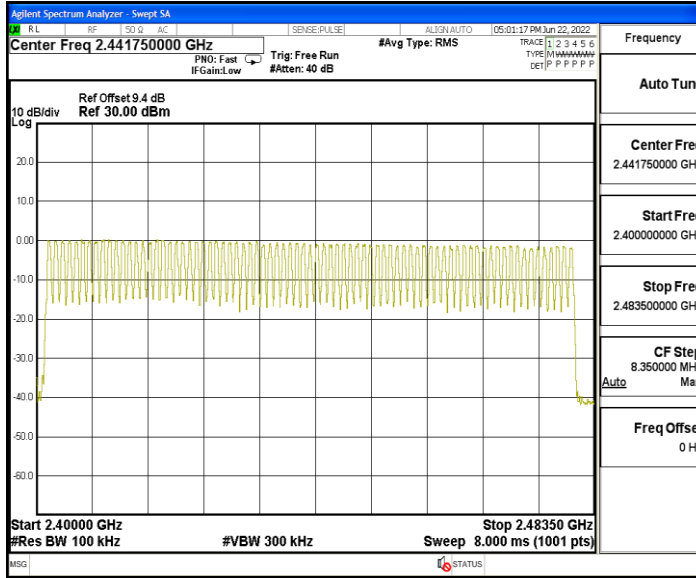
### Test Result

TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS

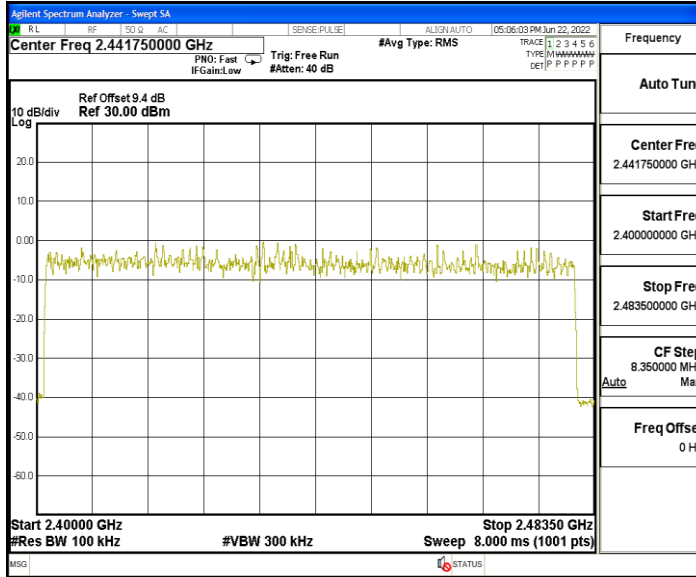


### Test Graphs

DH5\_Ant1\_Hop



2DH5\_Ant1\_Hop



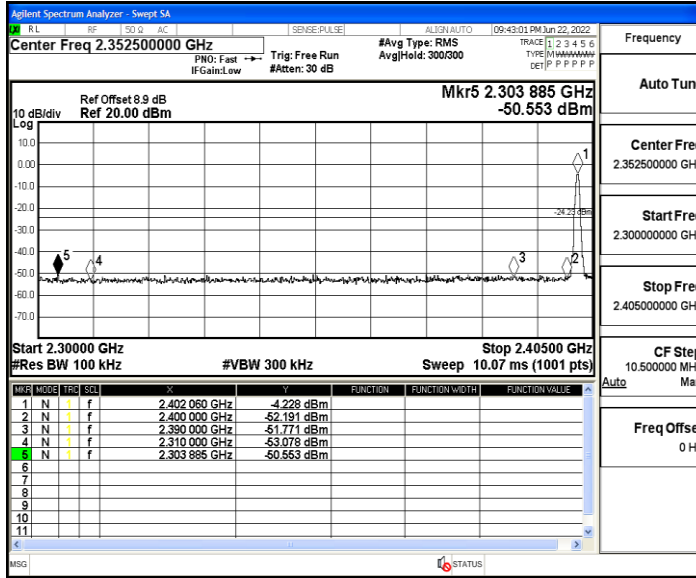
## Appendix G: Band edge measurements

### Test Result

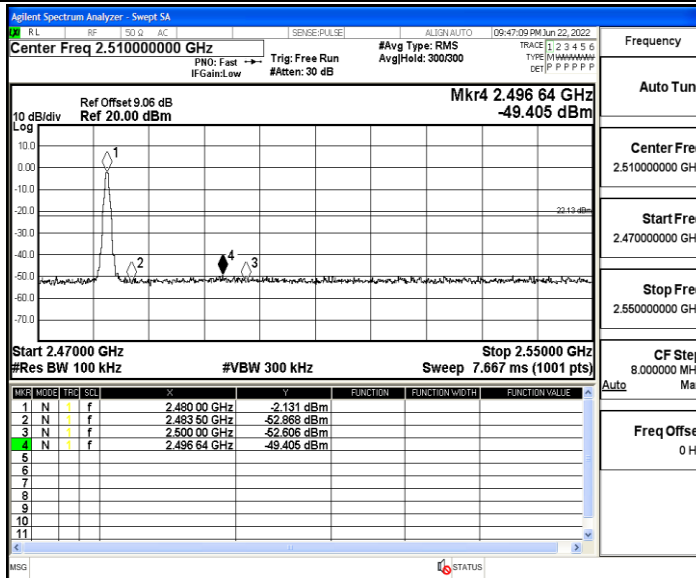
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-4.23	-50.55	$\leq -24.23$	PASS
		High	2480	-2.13	-49.41	$\leq -22.13$	PASS
		Low	Hop_2402	-1.09	-50.06	$\leq -21.09$	PASS
		High	Hop_2480	-1.15	-49.25	$\leq -21.15$	PASS
2DH5	Ant1	Low	2402	-4.19	-50.61	$\leq -24.19$	PASS
		High	2480	-2.28	-48.99	$\leq -22.28$	PASS
		Low	Hop_2402	-3.28	-48.99	$\leq -23.28$	PASS
		High	Hop_2480	-4.97	-49.35	$\leq -24.97$	PASS

Test Graphs

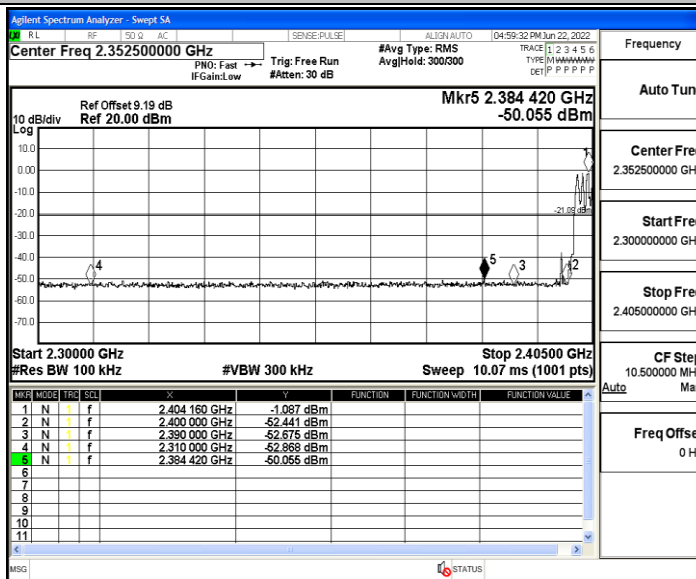
DH5\_Ant1\_Low\_2402



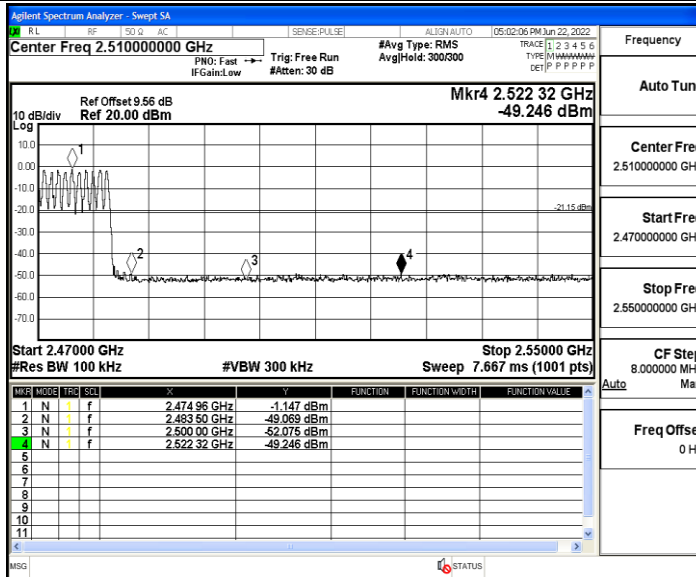
DH5\_Ant1\_High\_2480



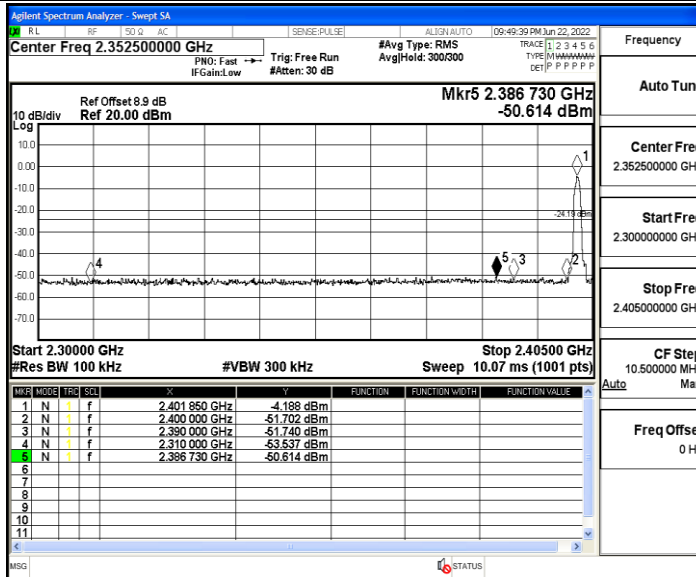
DH5\_Ant1\_Low\_Hop\_2402



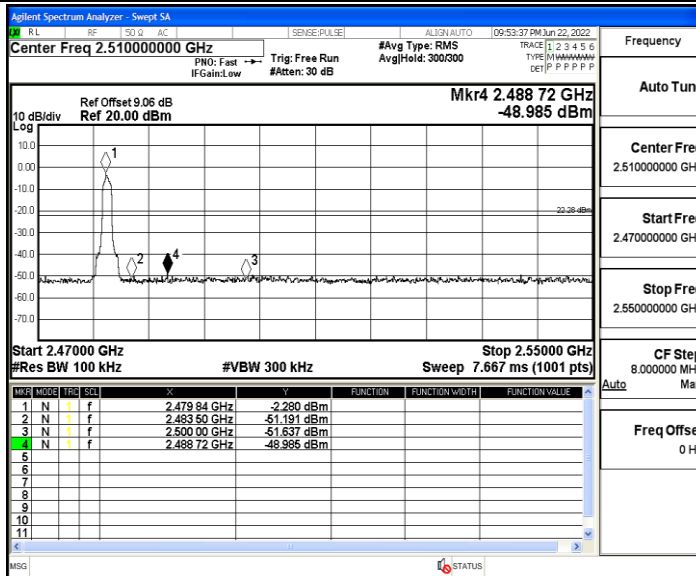
DH5\_Ant1\_High\_Hop\_2480



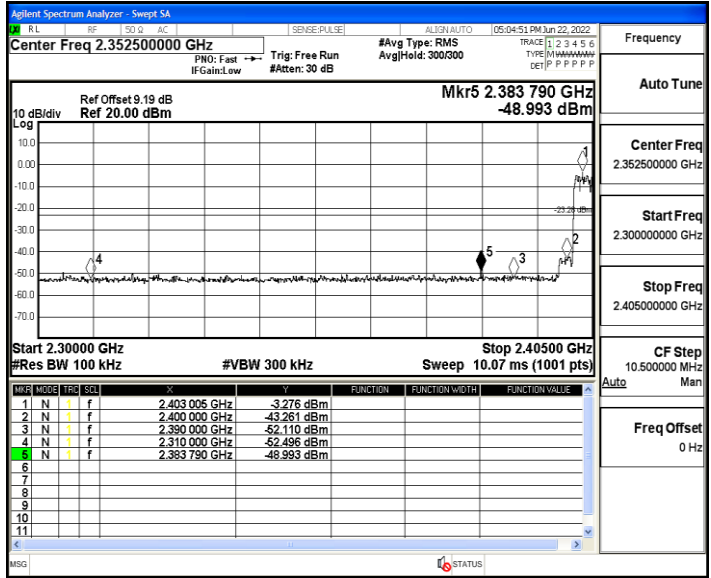
2DH5\_Ant1\_Low\_2402



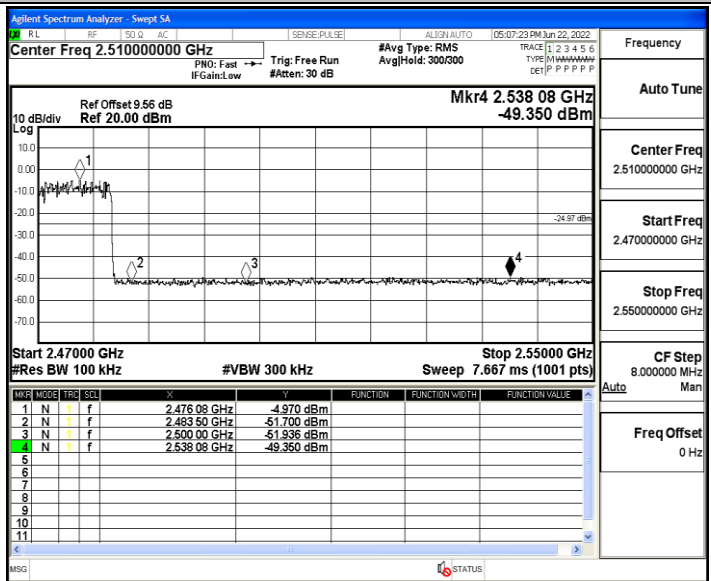
2DH5\_Ant1\_High\_2480



2DH5\_Ant1\_Low\_Hop\_2402



2DH5\_Ant1\_High\_Hop\_2480



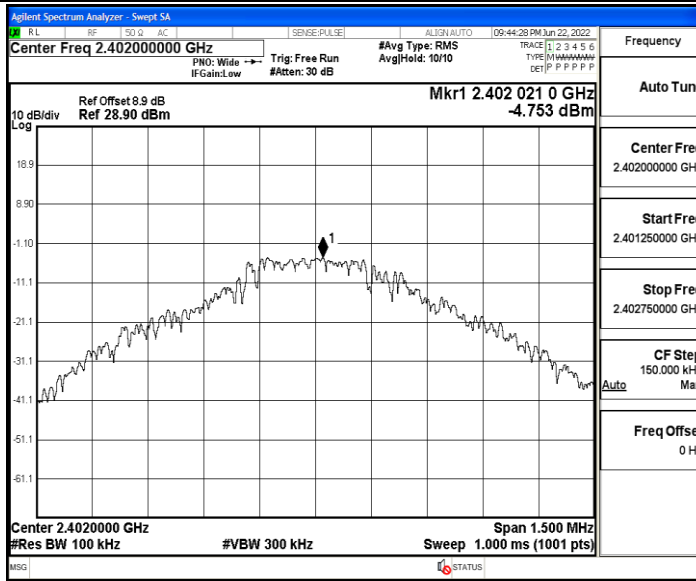
## Appendix H: Conducted Spurious Emission

### Test Result

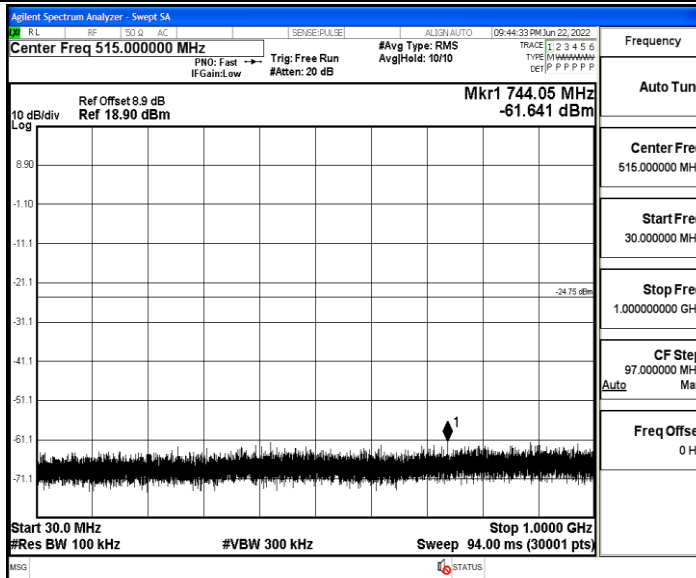
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-4.75	-4.75	---	PASS
			30~1000	-4.75	-61.64	≤-24.75	PASS
			1000~26500	-4.75	-50.76	≤-24.75	PASS
		2441	Reference	-3.32	-3.32	---	PASS
			30~1000	-3.32	-61.2	≤-23.32	PASS
			1000~26500	-3.32	-47.43	≤-23.32	PASS
		2480	Reference	-2.65	-2.65	---	PASS
			30~1000	-2.65	-61.71	≤-22.65	PASS
			1000~26500	-2.65	-49.97	≤-22.65	PASS
2DH5	Ant1	2402	Reference	-7.16	-7.16	---	PASS
			30~1000	-7.16	-61.79	≤-27.16	PASS
			1000~26500	-7.16	-50.84	≤-27.16	PASS
		2441	Reference	-6.07	-6.07	---	PASS
			30~1000	-6.07	-60.75	≤-26.07	PASS
			1000~26500	-6.07	-50.72	≤-26.07	PASS
		2480	Reference	-3.44	-3.44	---	PASS
			30~1000	-3.44	-61.31	≤-23.44	PASS
			1000~26500	-3.44	-50.45	≤-23.44	PASS

Test Graphs

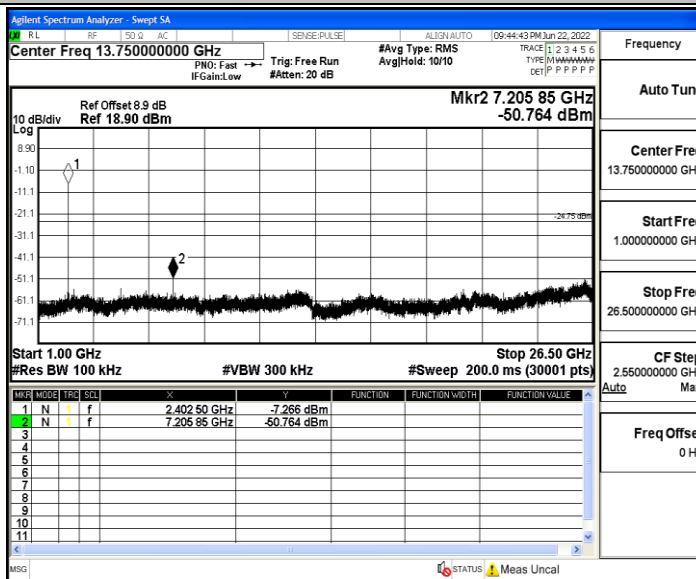
DH5\_Ant1\_2402\_0~Reference



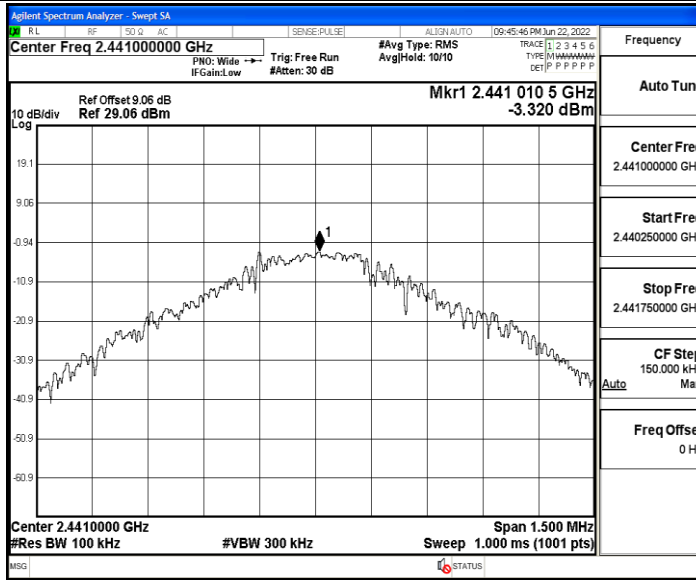
DH5\_Ant1\_2402\_30~1000



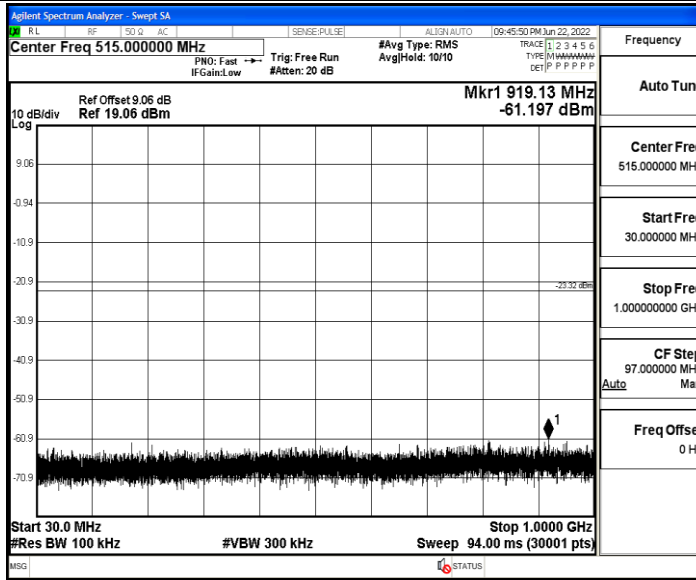
DH5\_Ant1\_2402\_1000~26500



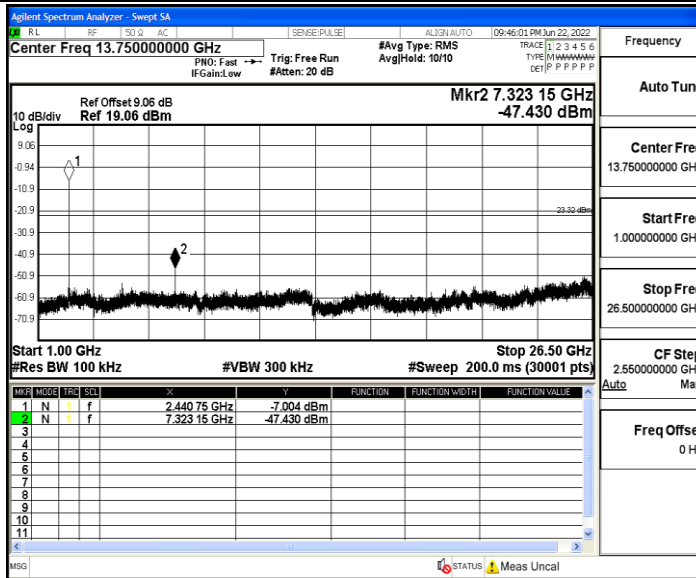
DH5\_Ant1\_2441\_0~Reference



DH5\_Ant1\_2441\_30~1000

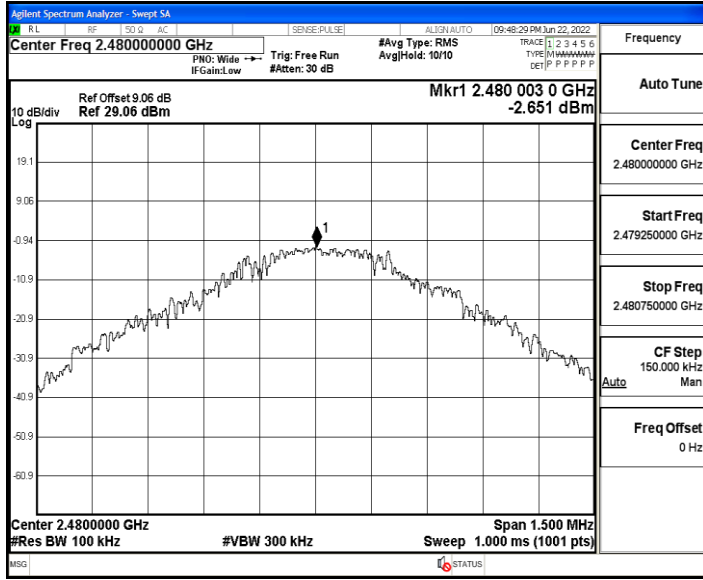


DH5\_Ant1\_2441\_1000~26500

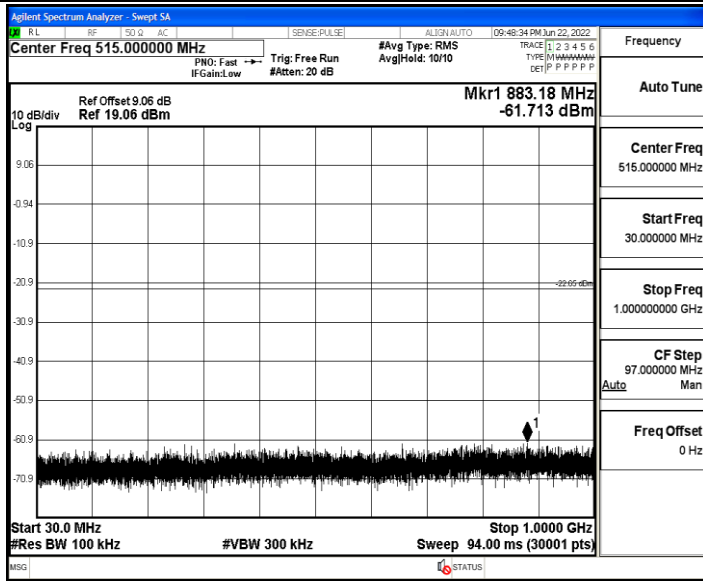


DH5\_Ant1\_2480\_0~Reference

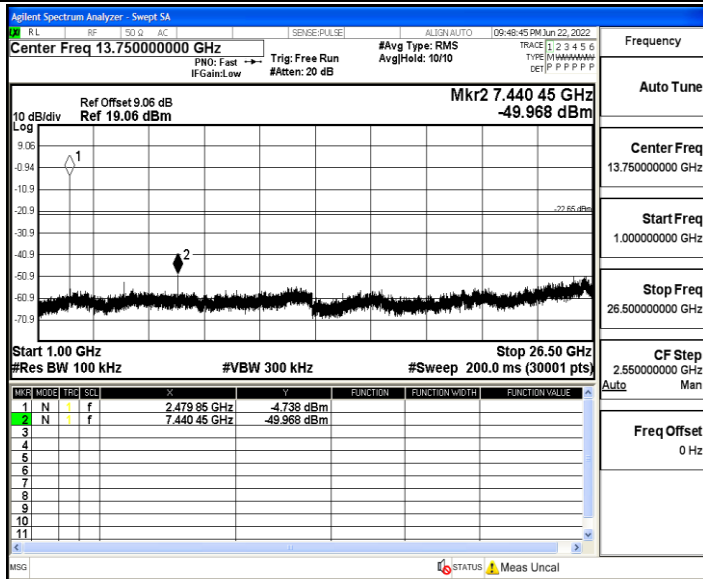




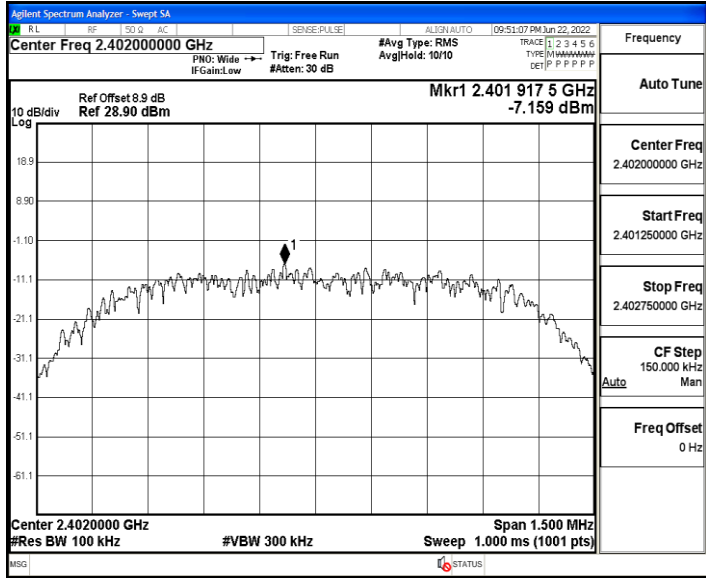
DH5\_Ant1\_2480\_30~1000



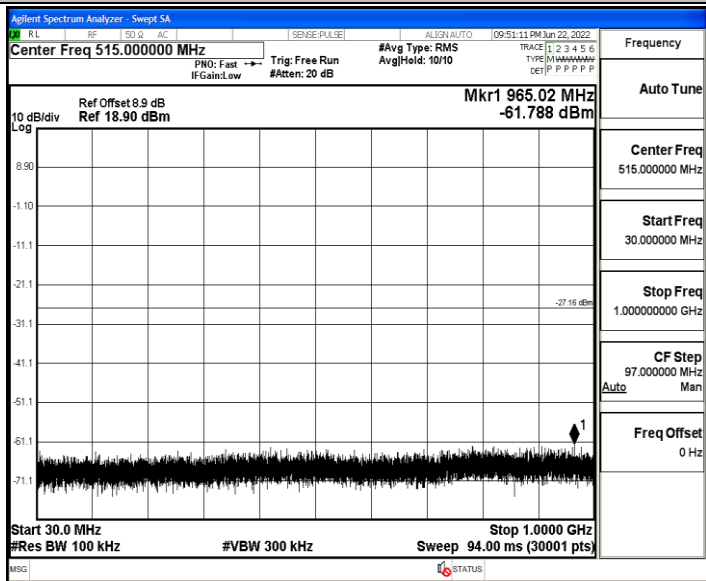
DH5\_Ant1\_2480\_1000~26500



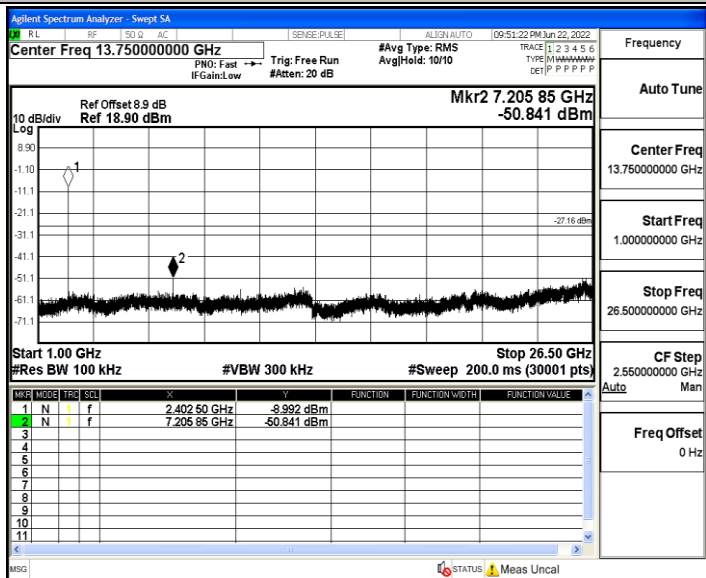
2DH5\_Ant1\_2402\_0~Reference



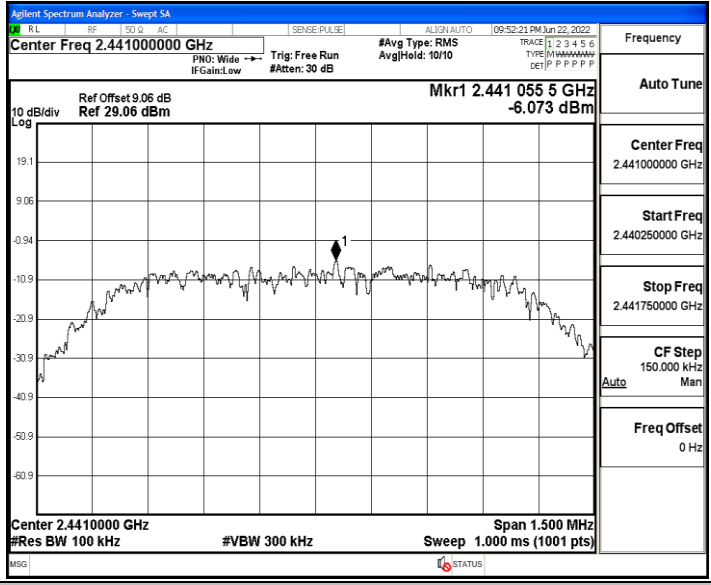
2DH5\_Ant1\_2402\_30~1000



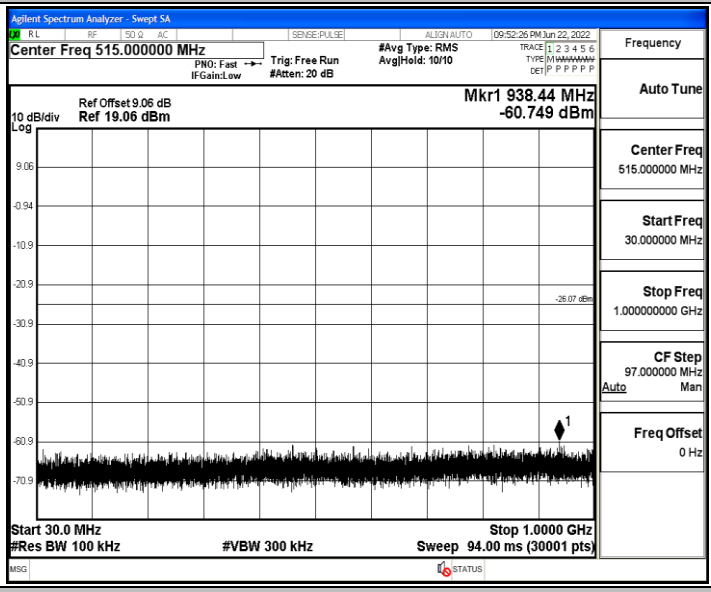
2DH5\_Ant1\_2402\_1000~26500



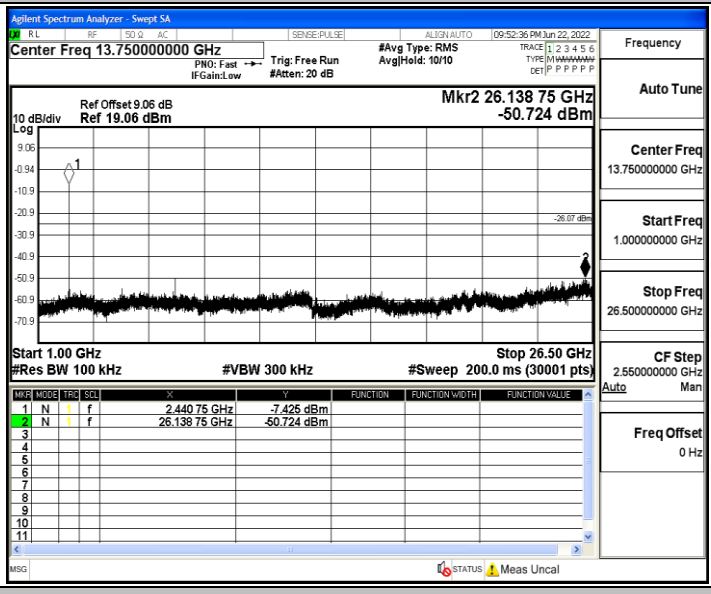
2DH5\_Ant1\_2441\_0~Reference



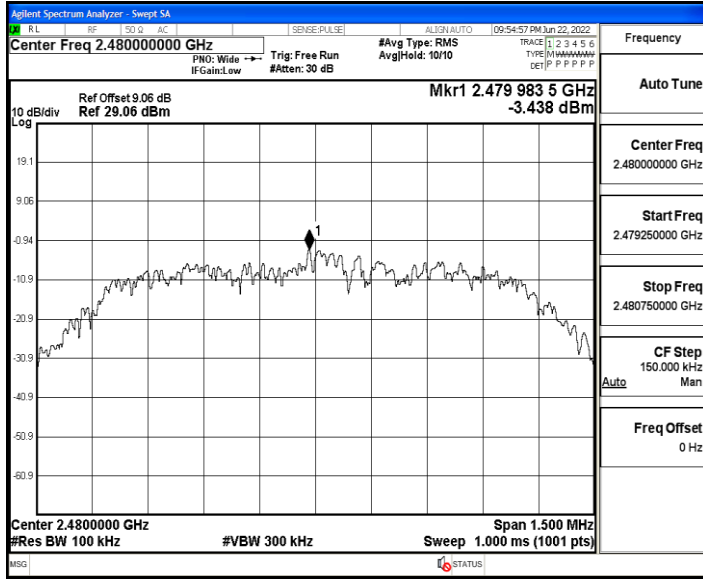
2DH5\_Ant1\_2441\_30~1000



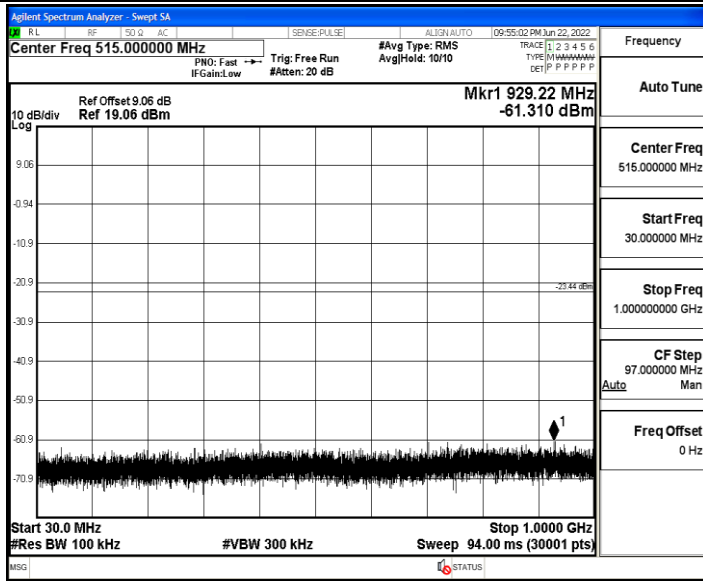
2DH5\_Ant1\_2441\_1000~26500



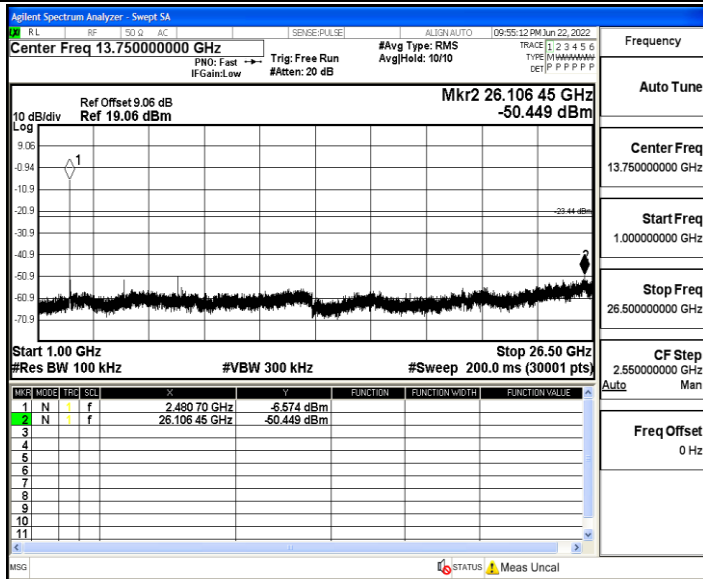
2DH5\_Ant1\_2480\_0~Reference



2DH5\_Ant1\_2480\_30~1000



2DH5\_Ant1\_2480\_1000~26500



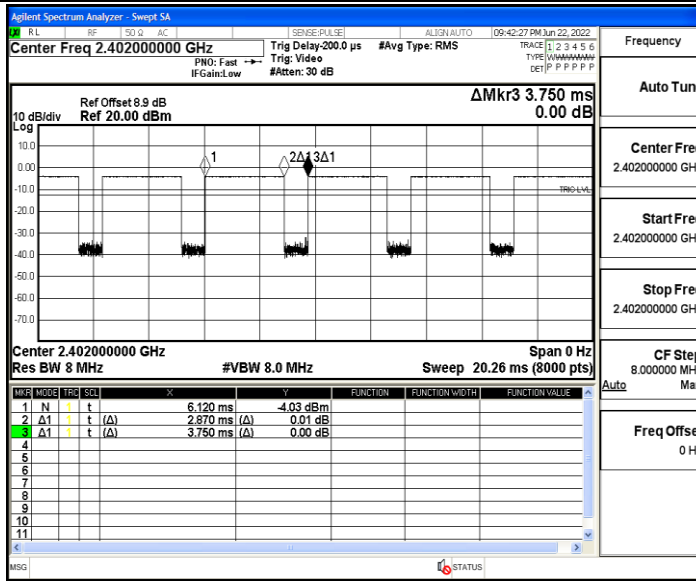
## Appendix I: Duty Cycle

### Test Result

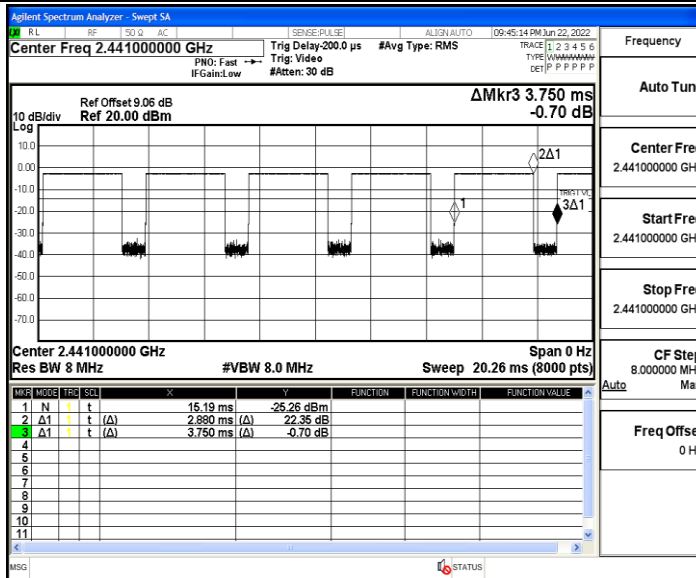
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T[kHz]
DH5	Ant1	2402	2.87	3.75	76.53	0.35
		2441	2.88	3.75	76.80	0.35
		2480	2.88	3.75	76.80	0.35
2DH5	Ant1	2402	2.88	3.75	76.80	0.35
		2441	2.88	3.75	76.80	0.35
		2480	2.88	3.75	76.80	0.35

Test Graphs

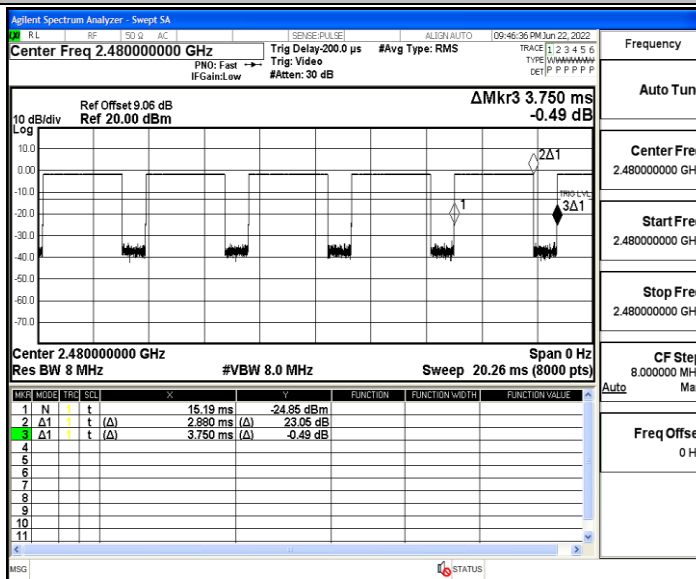
DH5\_Ant1\_2402



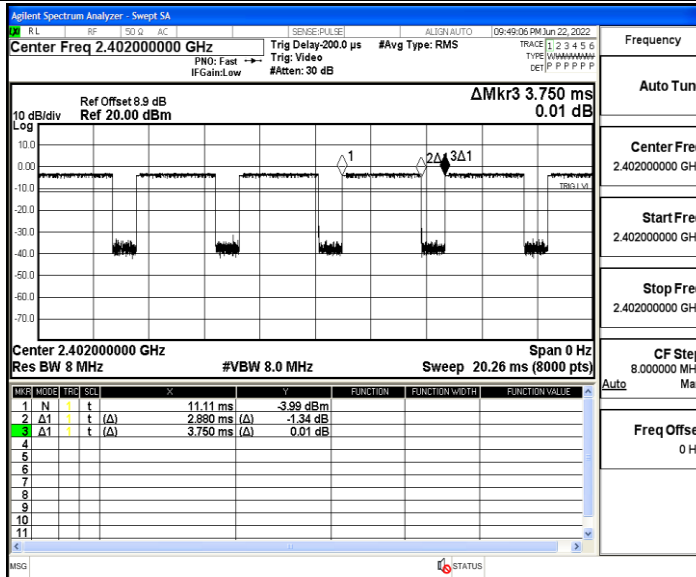
DH5\_Ant1\_2441



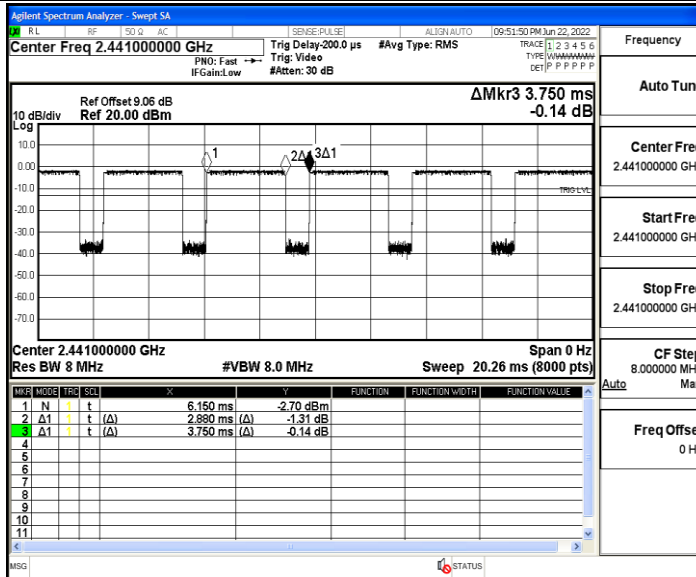
DH5\_Ant1\_2480



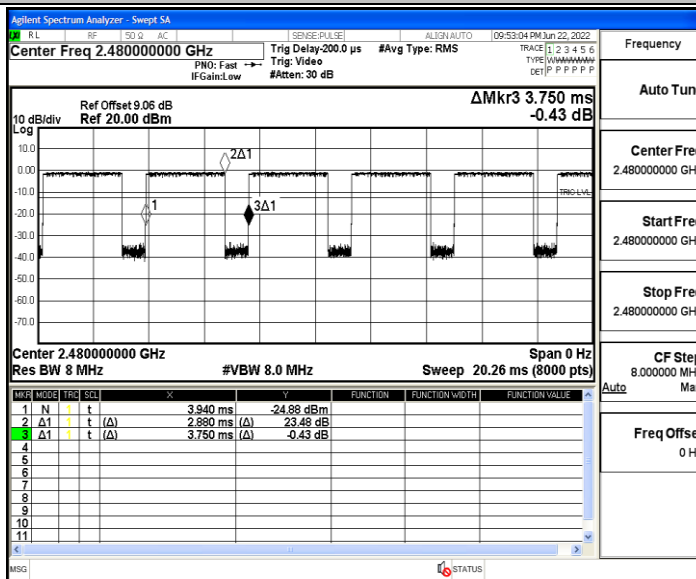
2DH5\_Ant1\_2402



2DH5\_Ant1\_2441



2DH5\_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	-47.22	≤-41.20	PASS
				AV	2382.215	-46.18	≤-41.20	PASS
				AV	2390.000	-46.49	≤-41.20	PASS
				Peak	2310.000	-39.03	≤-21.20	PASS
				Peak	2387.360	-36.81	≤-21.20	PASS
				Peak	2390.000	-40.06	≤-21.20	PASS
		High	2480	AV	2483.500	-45.79	≤-41.20	PASS
				AV	2499.120	-45.19	≤-41.20	PASS
				AV	2500.000	-45.28	≤-41.20	PASS
				Peak	2483.500	-39.62	≤-21.20	PASS
				Peak	2499.120	-36.63	≤-21.20	PASS
				Peak	2500.000	-38.94	≤-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-47.27	≤-41.20	PASS
				AV	2381.585	-46.15	≤-41.20	PASS
				AV	2390.000	-46.56	≤-41.20	PASS
				Peak	2310.000	-40.83	≤-21.20	PASS
				Peak	2368.460	-35.61	≤-21.20	PASS
				Peak	2390.000	-37.81	≤-21.20	PASS
		High	2480	AV	2483.500	-45.89	≤-41.20	PASS
				AV	2499.200	-45.19	≤-41.20	PASS
				AV	2500.000	-45.23	≤-41.20	PASS
				Peak	2483.500	-38.37	≤-21.20	PASS
				Peak	2497.280	-36.32	≤-21.20	PASS
				Peak	2500.000	-38.19	≤-21.20	PASS

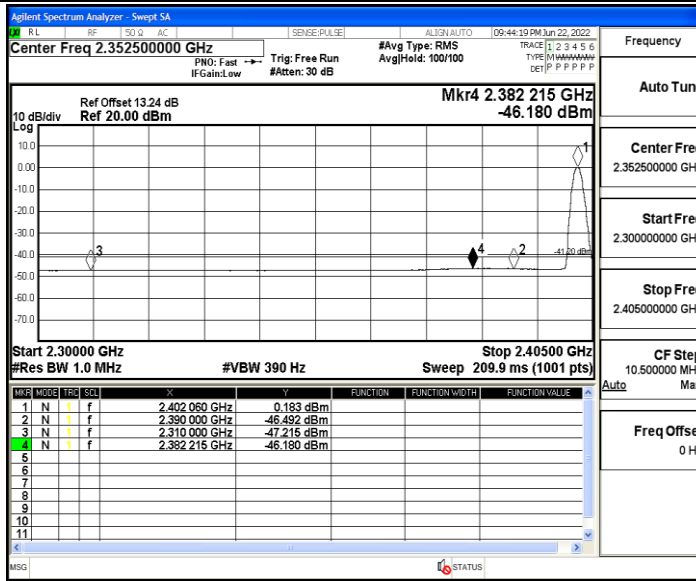
Note:

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.

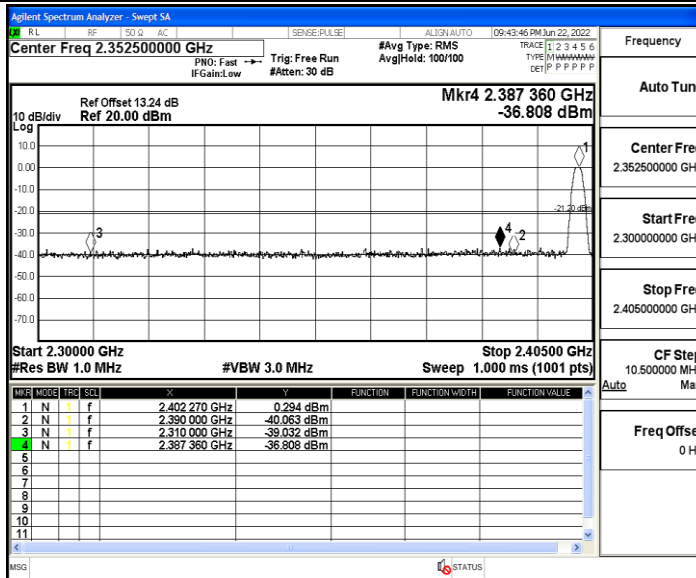


Test Graphs

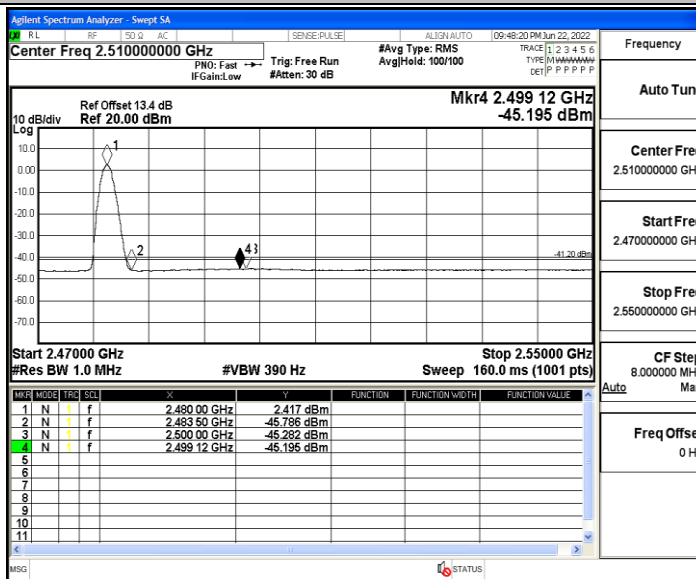
DH5\_Ant1\_Low\_2402\_AV



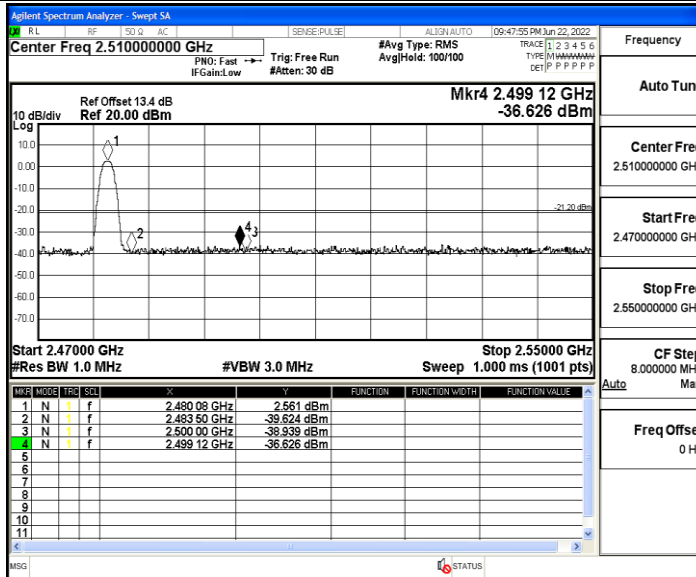
DH5\_Ant1\_Low\_2402\_Peak



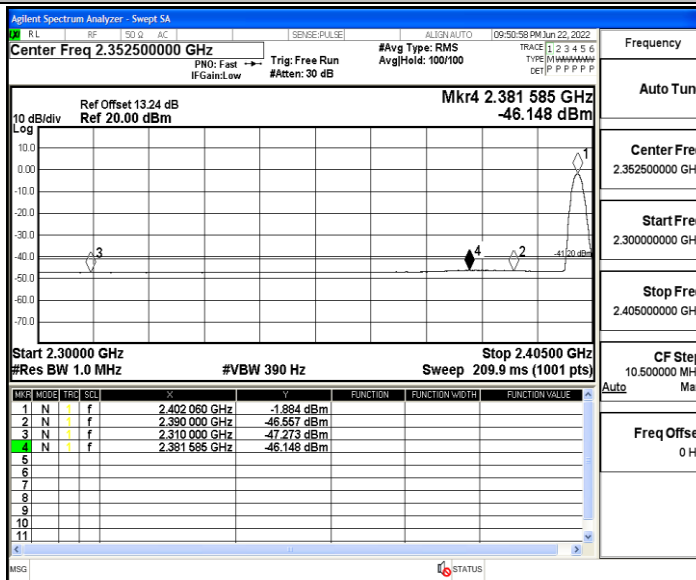
DH5\_Ant1\_High\_2480\_AV



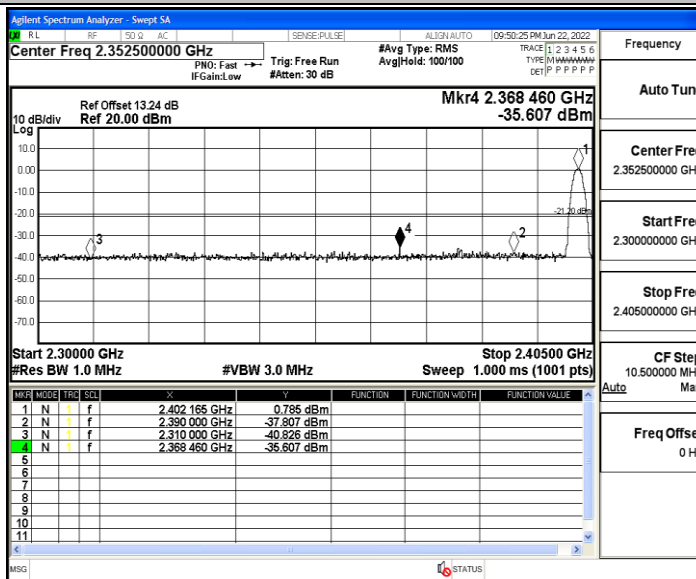
DH5\_Ant1\_High\_2480\_Peak



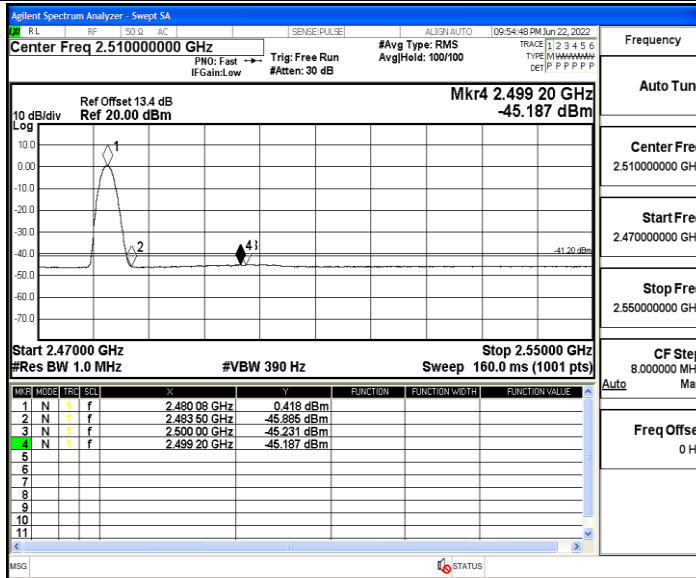
2DH5\_Ant1\_Low\_2402\_AV



2DH5\_Ant1\_Low\_2402\_Peak



2DH5\_Ant1\_High\_2480\_AV



2DH5\_Ant1\_High\_2480\_Peak

