

**RF Test Data for BT(BDR/EDR) (Conducted Measurement)****Product Name: 4K Set top box****Trade Mark: eSTREAM4K****Test Model: IPA1114HDW-02****FCC ID: 2AOVU-SN6BBAXS****IC: 25669-IPA1114HDWS****Environmental Conditions**

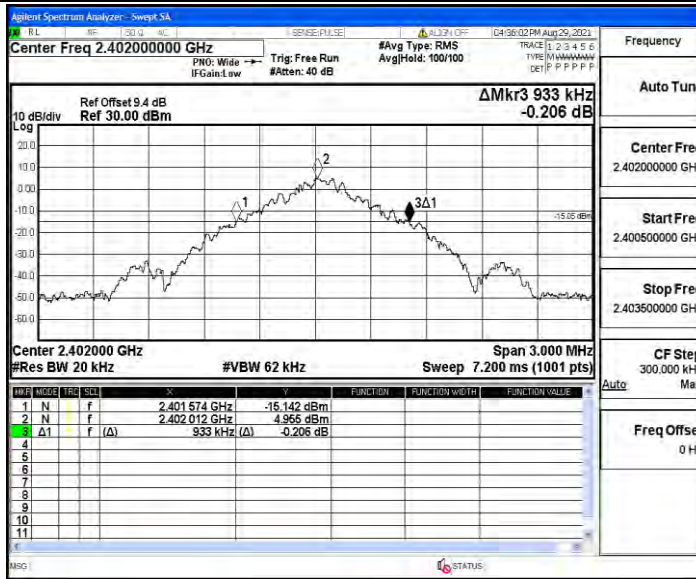
Temperature:	24.3°C
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

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

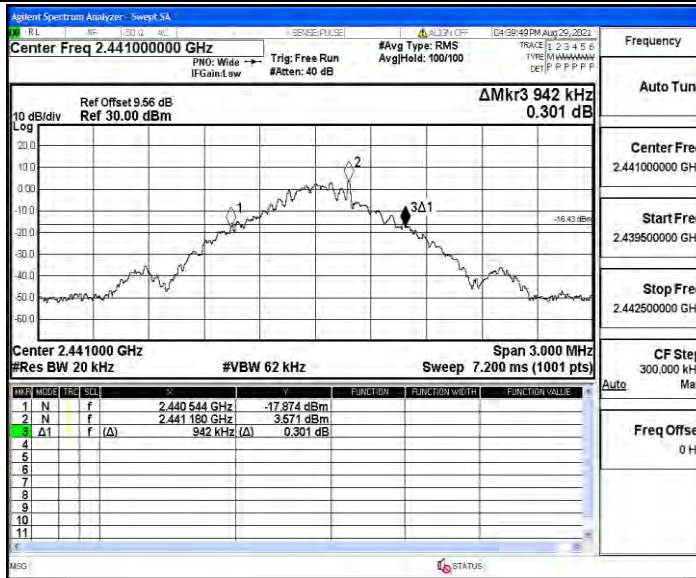
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.933	2401.574	2402.507	---	PASS
		2441	0.942	2440.544	2441.486	---	PASS
		2480	0.933	2479.553	2480.486	---	PASS
2DH5	Ant1	2402	1.338	2401.370	2402.708	---	PASS
		2441	1.350	2440.355	2441.705	---	PASS
		2480	1.347	2479.352	2480.699	---	PASS
3DH5	Ant1	2402	1.335	2401.361	2402.696	---	PASS
		2441	1.302	2440.373	2441.675	---	PASS
		2480	1.350	2479.343	2480.693	---	PASS

Test Graphs

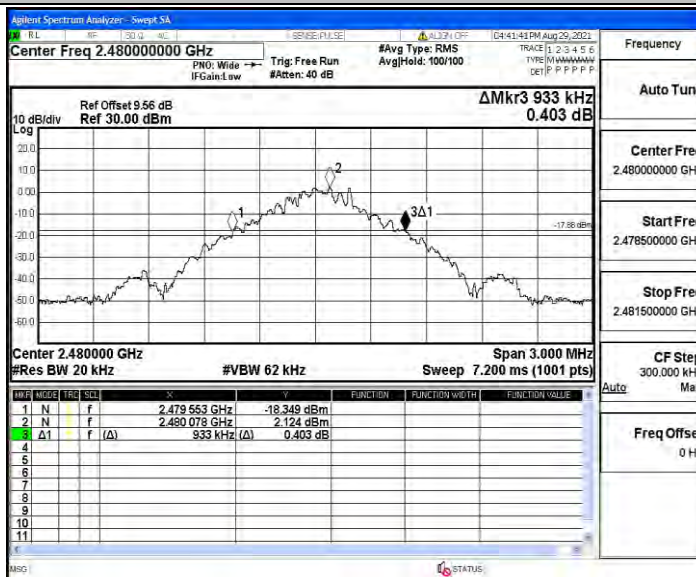
DH5\_Ant1\_2402



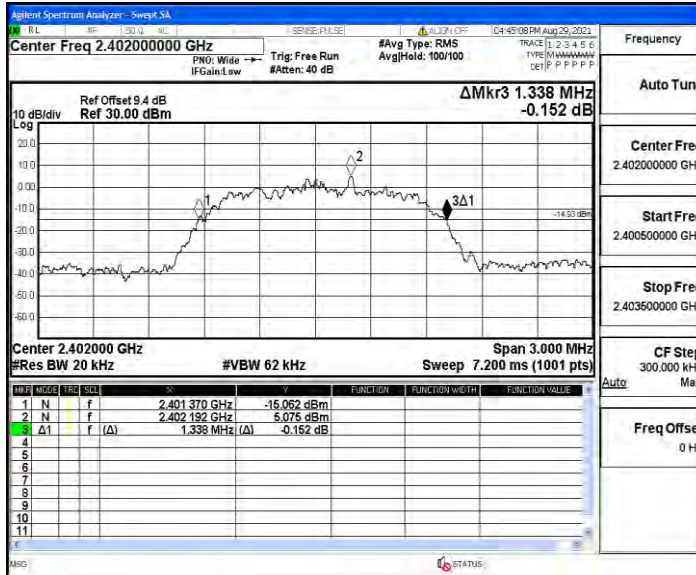
DH5\_Ant1\_2441



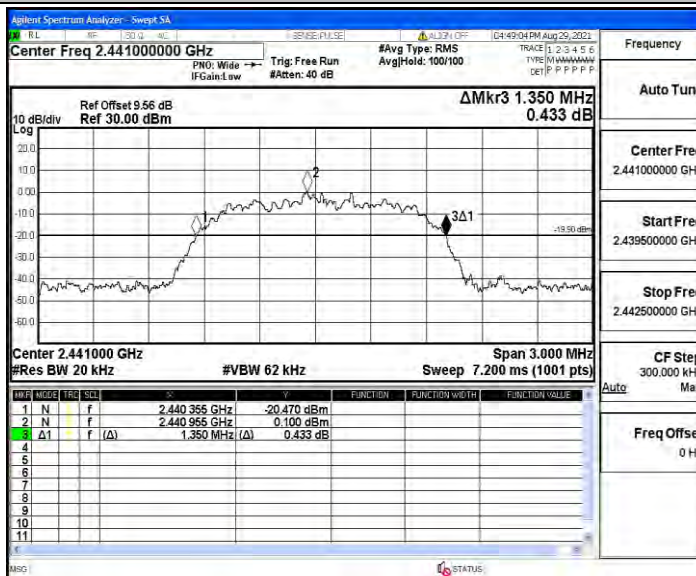
DH5\_Ant1\_2480



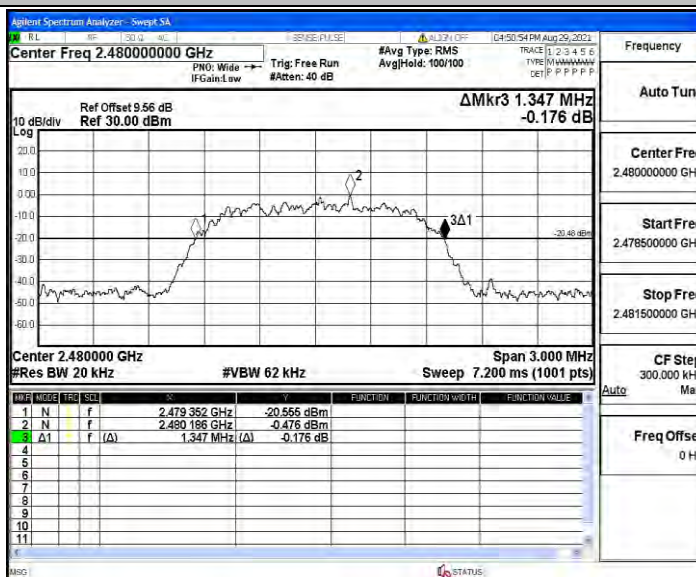
2DH5\_Ant1\_2402



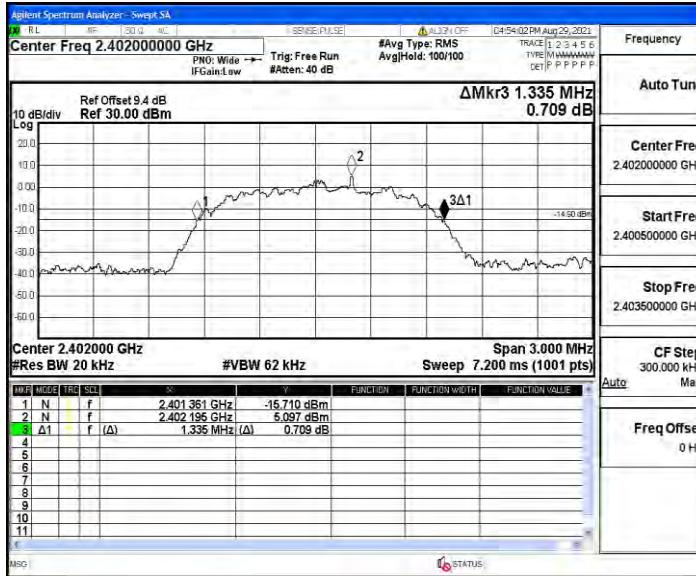
2DH5\_Ant1\_2441



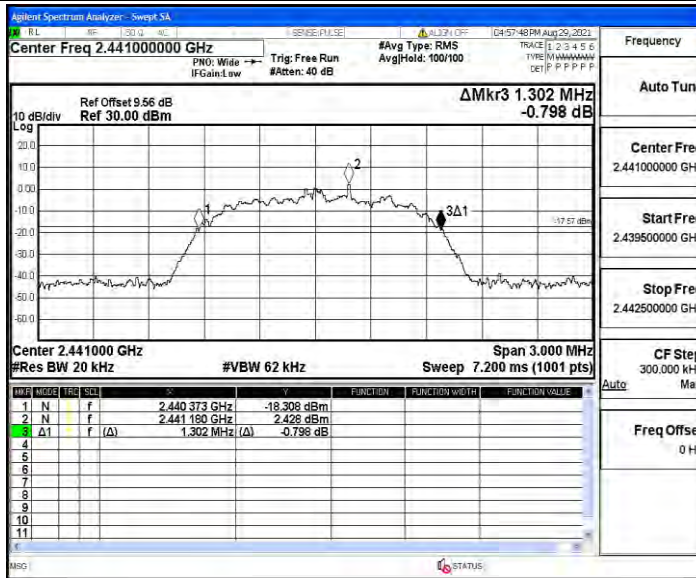
2DH5\_Ant1\_2480



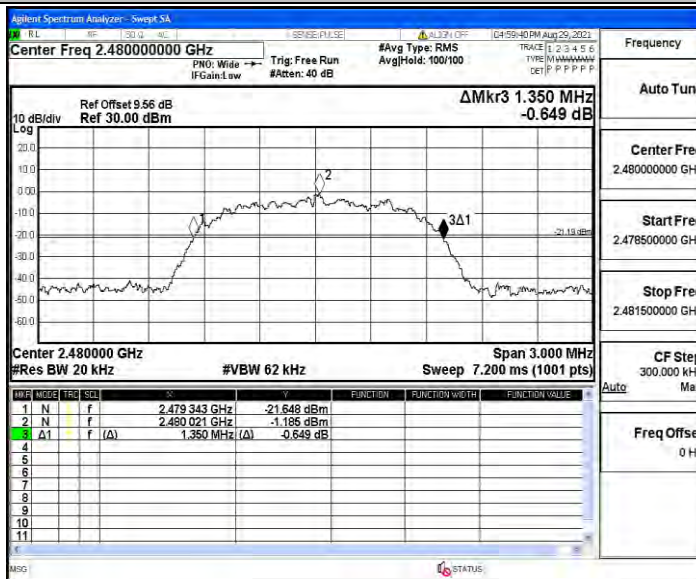
3DH5\_Ant1\_2402



3DH5\_Ant1\_2441



3DH5\_Ant1\_2480



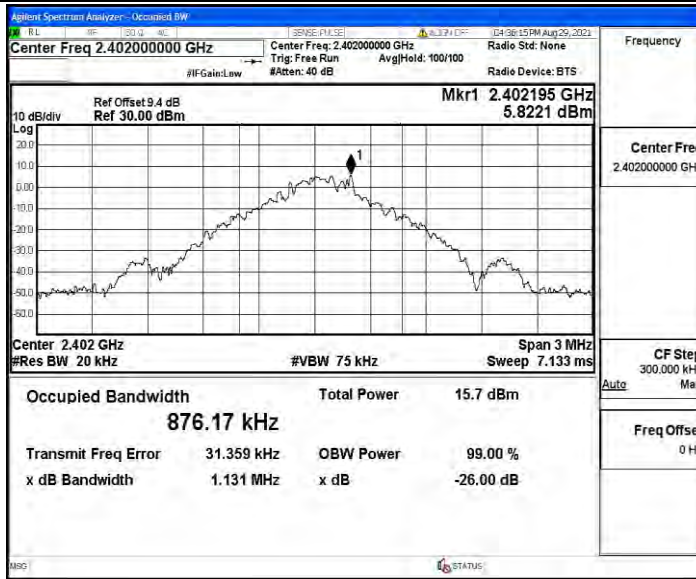
## Appendix B: Occupied Channel Bandwidth

### Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.87617	2401.593	2402.469	---	PASS
		2441	0.88953	2440.583	2441.473	---	PASS
		2480	0.87937	2479.576	2480.455	---	PASS
2DH5	Ant1	2402	1.2079	2401.428	2402.636	---	PASS
		2441	1.2122	2440.421	2441.633	---	PASS
		2480	1.2057	2479.417	2480.622	---	PASS
3DH5	Ant1	2402	1.2174	2401.416	2402.633	---	PASS
		2441	1.2104	2440.412	2441.622	---	PASS
		2480	1.2105	2479.405	2480.616	---	PASS

Test Graphs

DH5\_Ant1\_2402



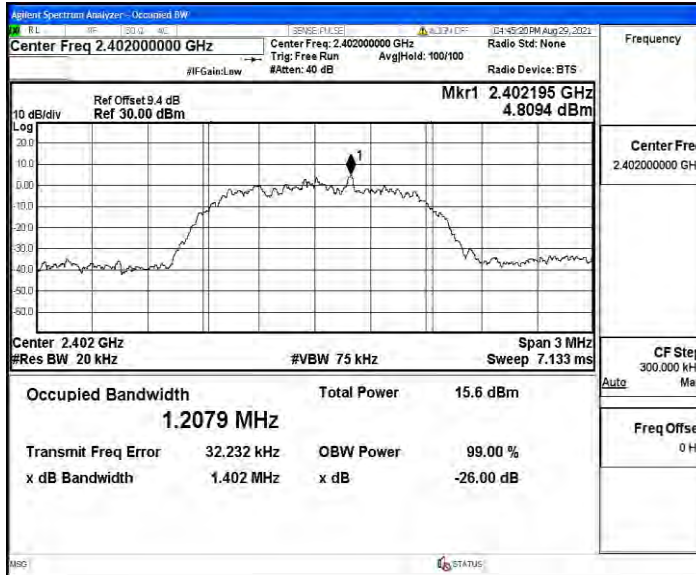
DH5\_Ant1\_2441



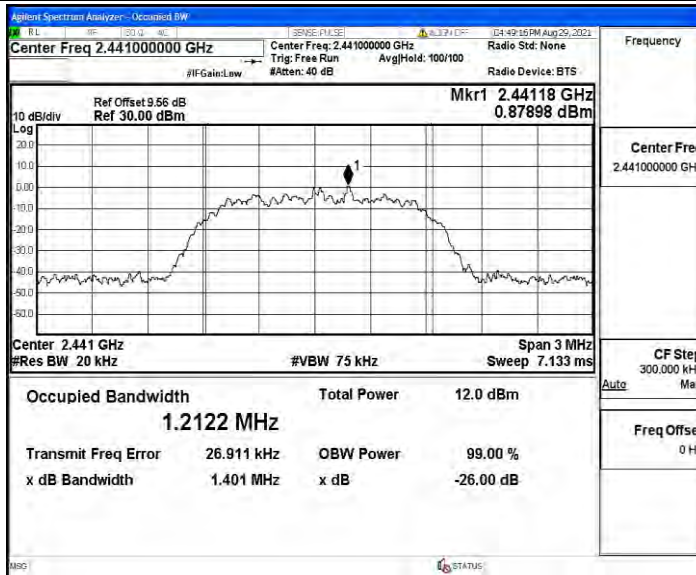
DH5\_Ant1\_2480



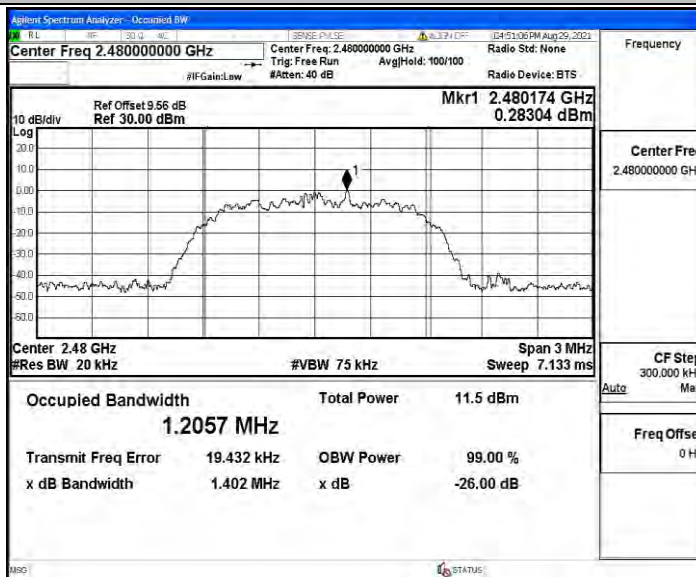
2DH5\_Ant1\_2402



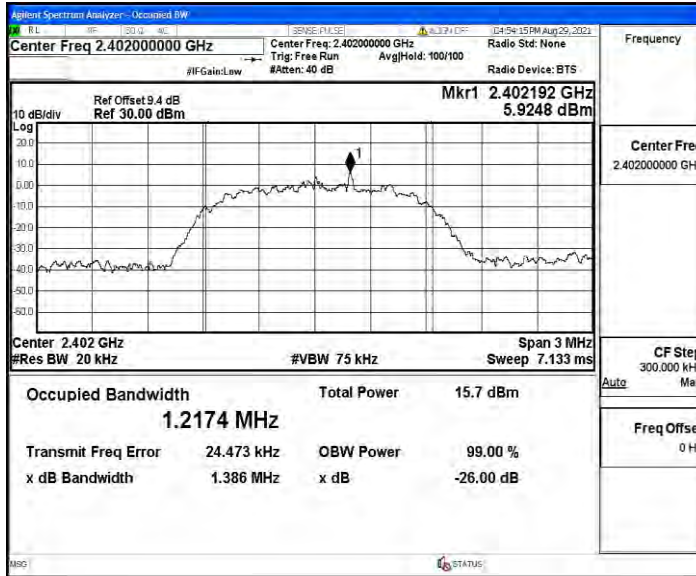
2DH5\_Ant1\_2441



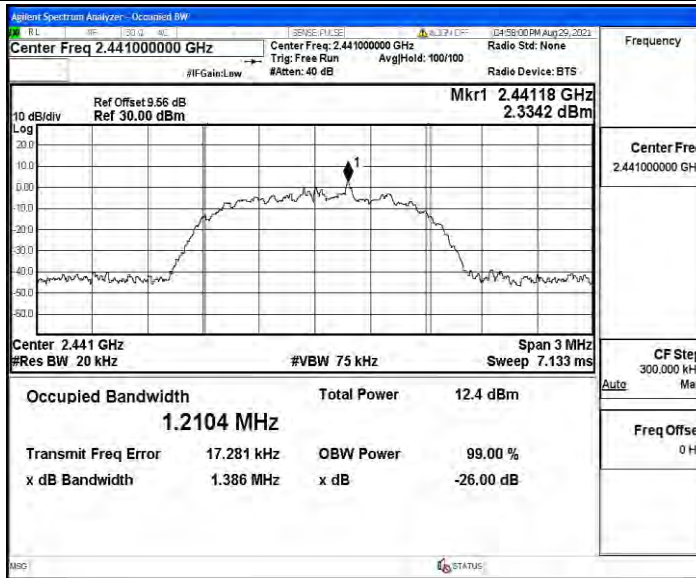
2DH5\_Ant1\_2480



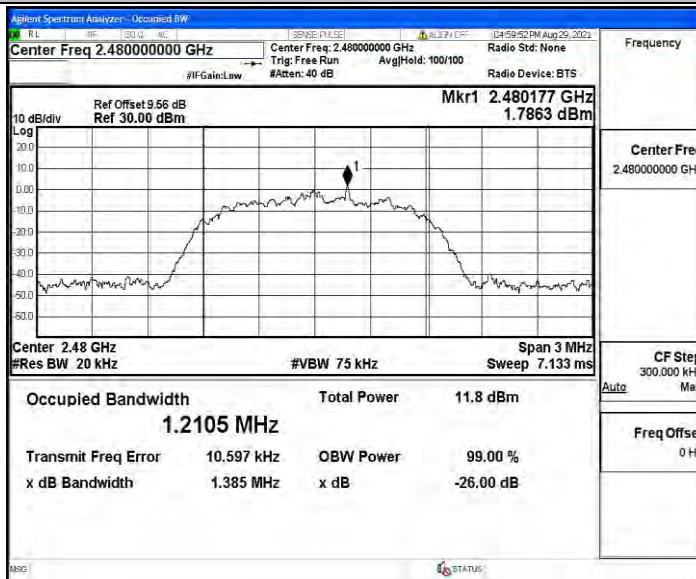
3DH5\_Ant1\_2402



3DH5\_Ant1\_2441



3DH5\_Ant1\_2480





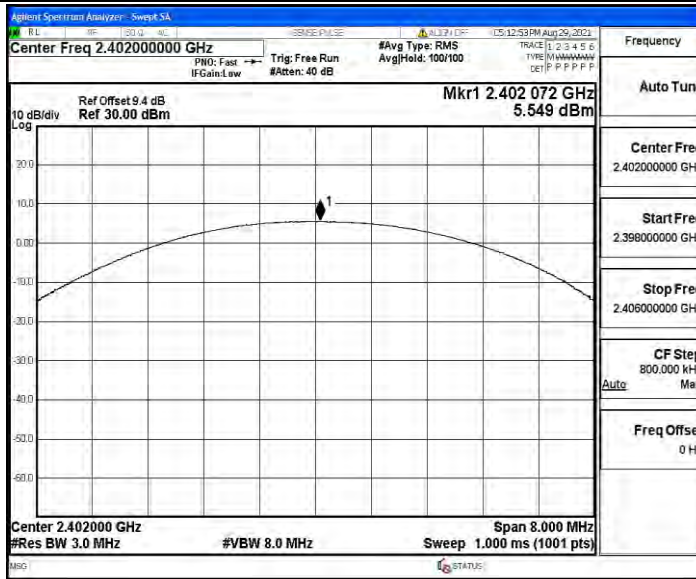
## Appendix C: Maximum conducted output power

### Test Result

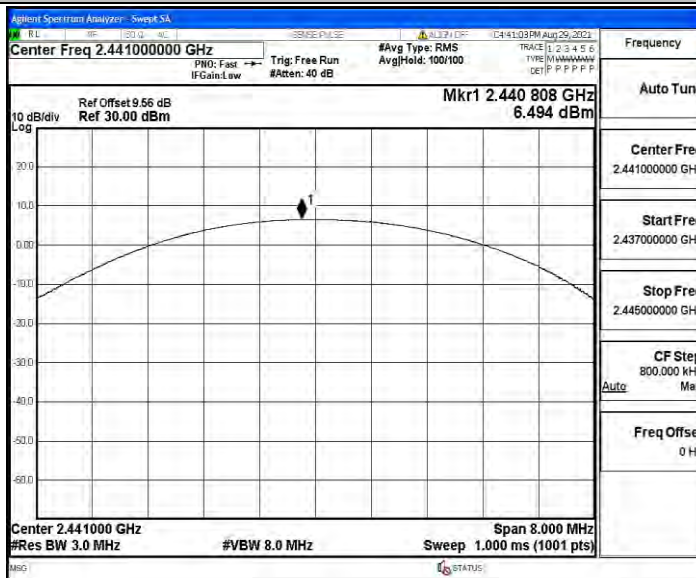
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	5.55	≤20.97	PASS
		2441	6.49	≤20.97	PASS
		2480	5.91	≤20.97	PASS
2DH5	Ant1	2402	6.55	≤20.97	PASS
		2441	7.43	≤20.97	PASS
		2480	6.79	≤20.97	PASS
3DH5	Ant1	2402	7.17	≤20.97	PASS
		2441	7.89	≤20.97	PASS
		2480	7.31	≤20.97	PASS

### Test Graphs

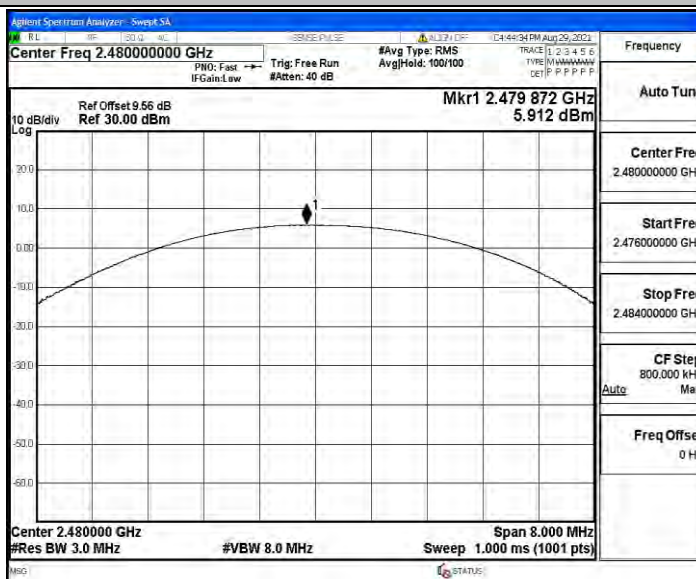
DH5\_Ant1\_2402



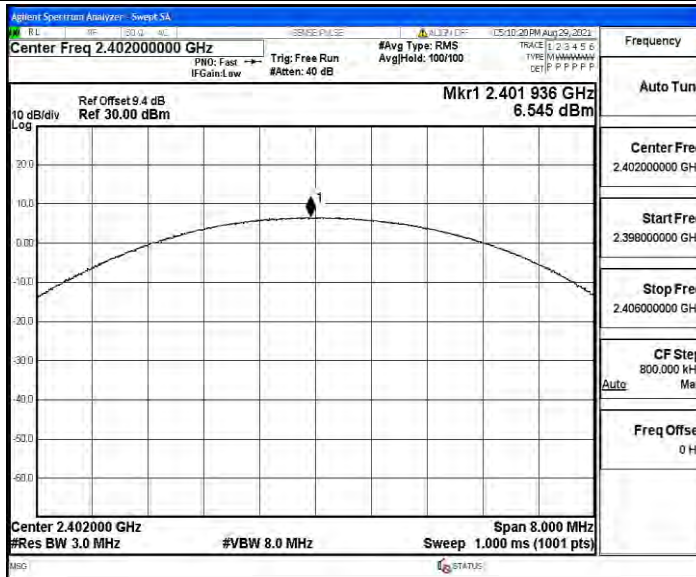
DH5\_Ant1\_2441



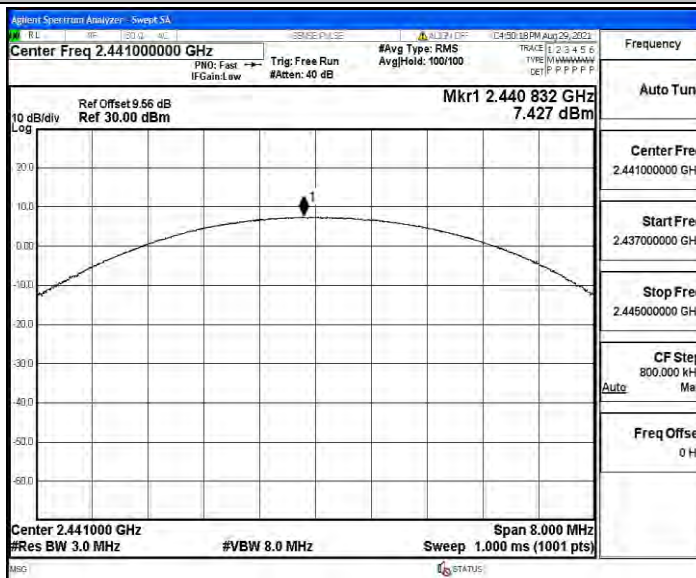
DH5\_Ant1\_2480



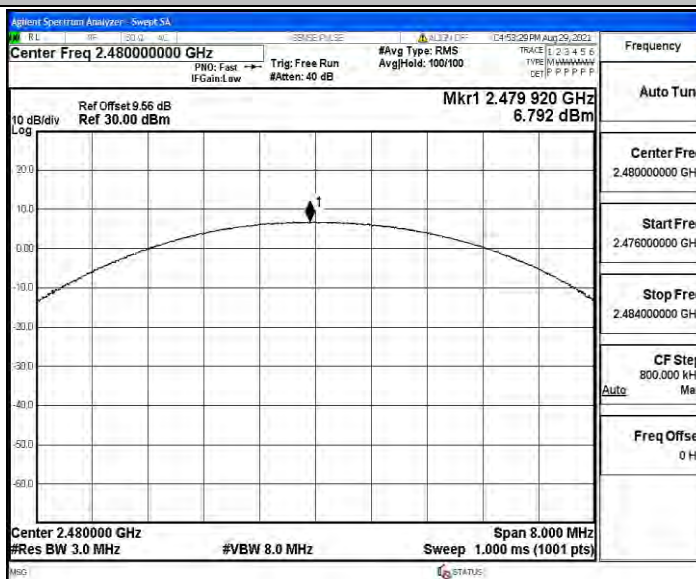
2DH5\_Ant1\_2402



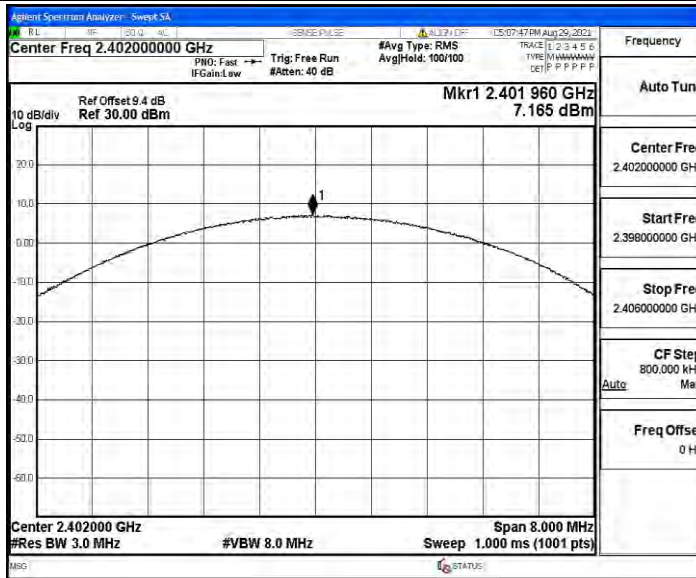
2DH5\_Ant1\_2441



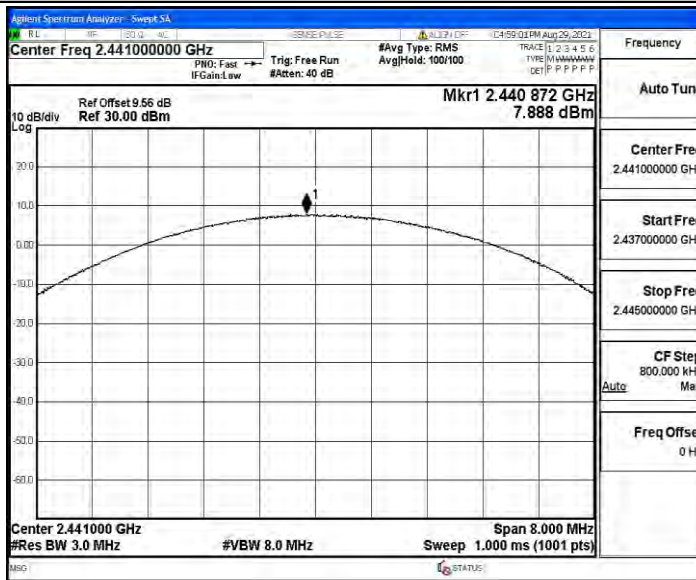
2DH5\_Ant1\_2480



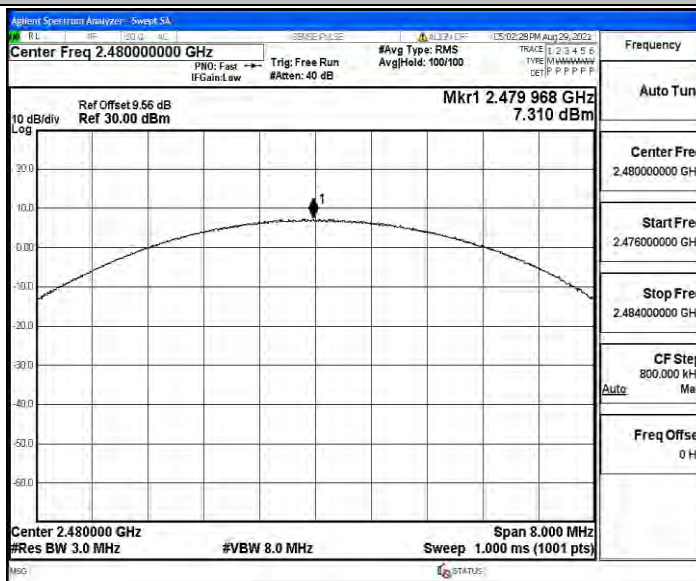
3DH5\_Ant1\_2402



3DH5\_Ant1\_2441



3DH5\_Ant1\_2480



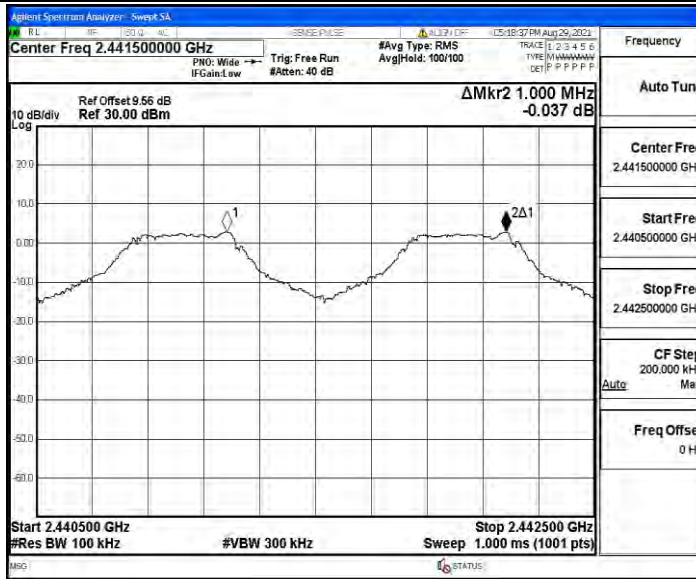
## Appendix D: Carrier frequency separation

### Test Result

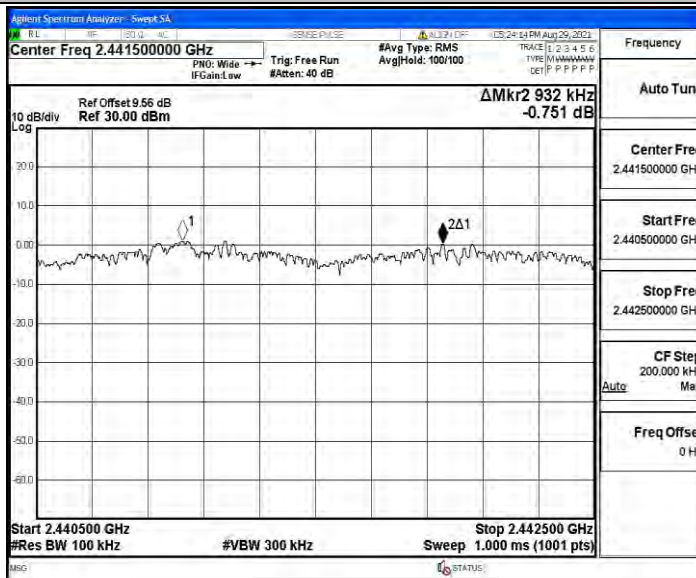
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.000	$\geq 0.942$	PASS
2DH5	Ant1	Hop	0.932	$\geq 0.900$	PASS
3DH5	Ant1	Hop	1.004	$\geq 0.900$	PASS

Test Graphs

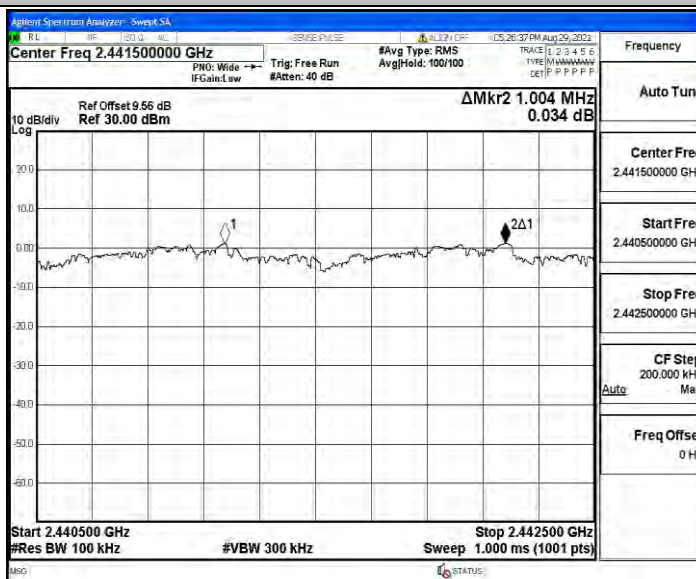
DH5\_Ant1\_Hop



2DH5\_Ant1\_Hop



3DH5\_Ant1\_Hop



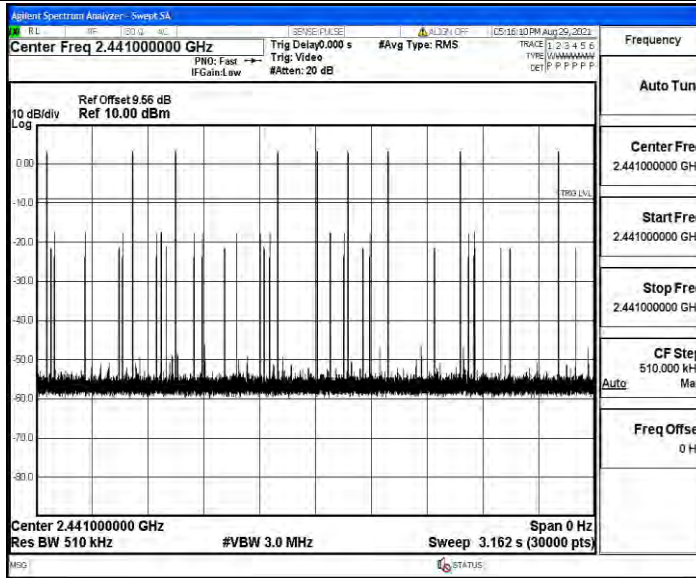
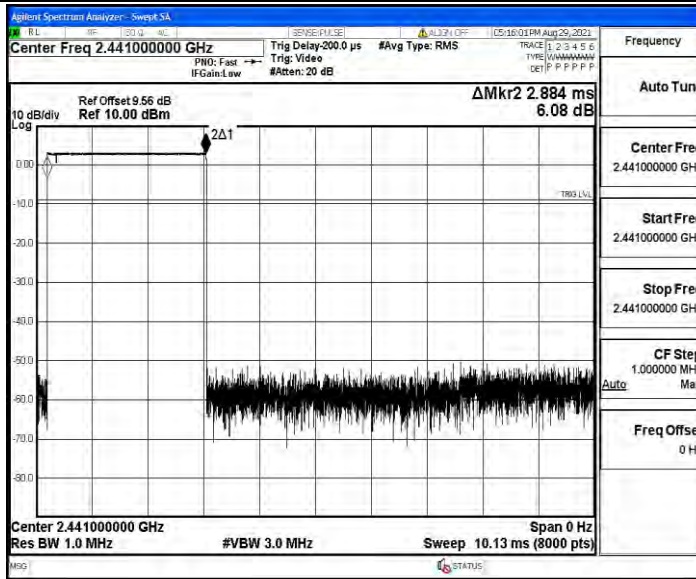
## Appendix E: Time of occupancy

### Test Result

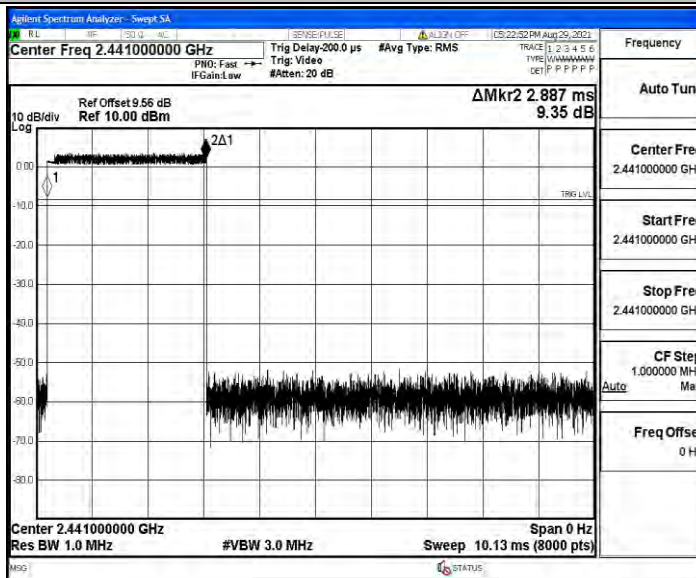
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	100	0.288	≤0.4	PASS
2DH5	Ant1	Hop	2.89	110	0.318	≤0.4	PASS
3DH5	Ant1	Hop	2.89	110	0.318	≤0.4	PASS

Test Graphs

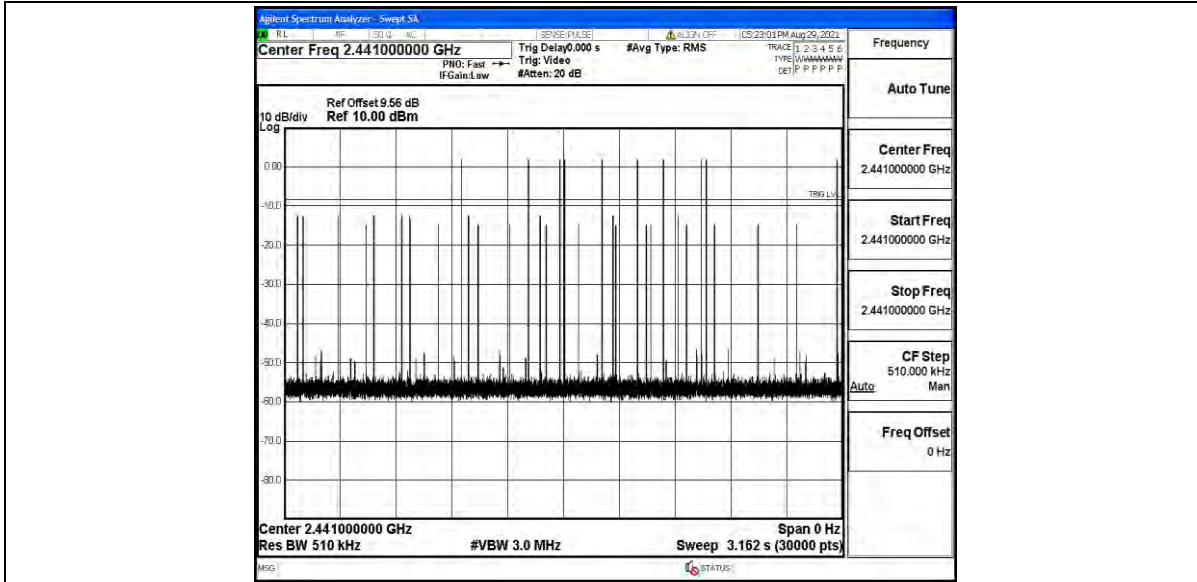
DH5\_Ant1\_Hop



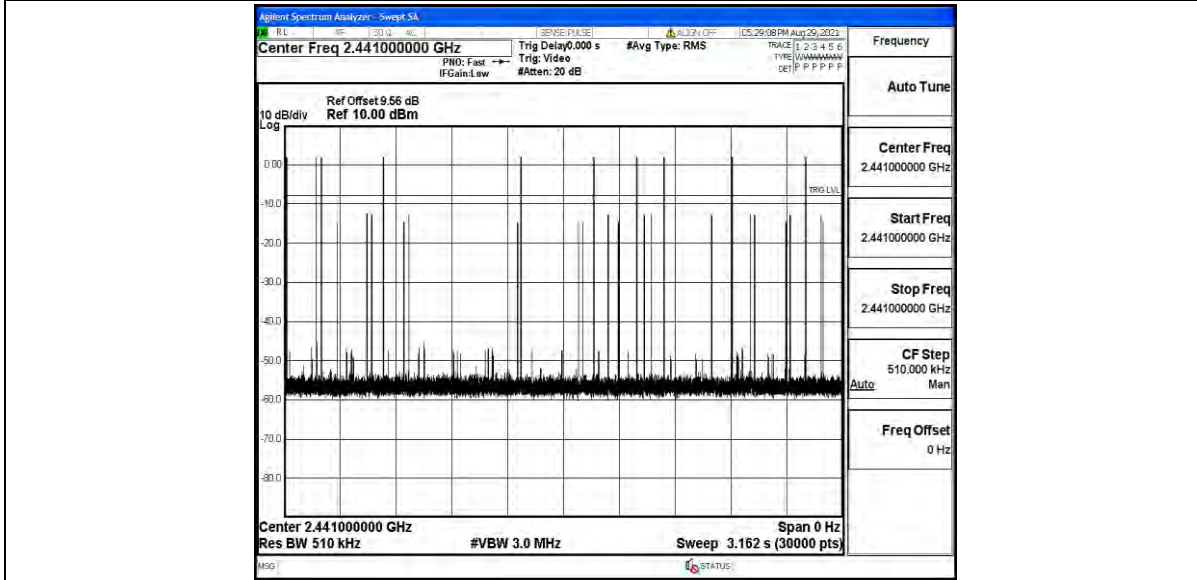
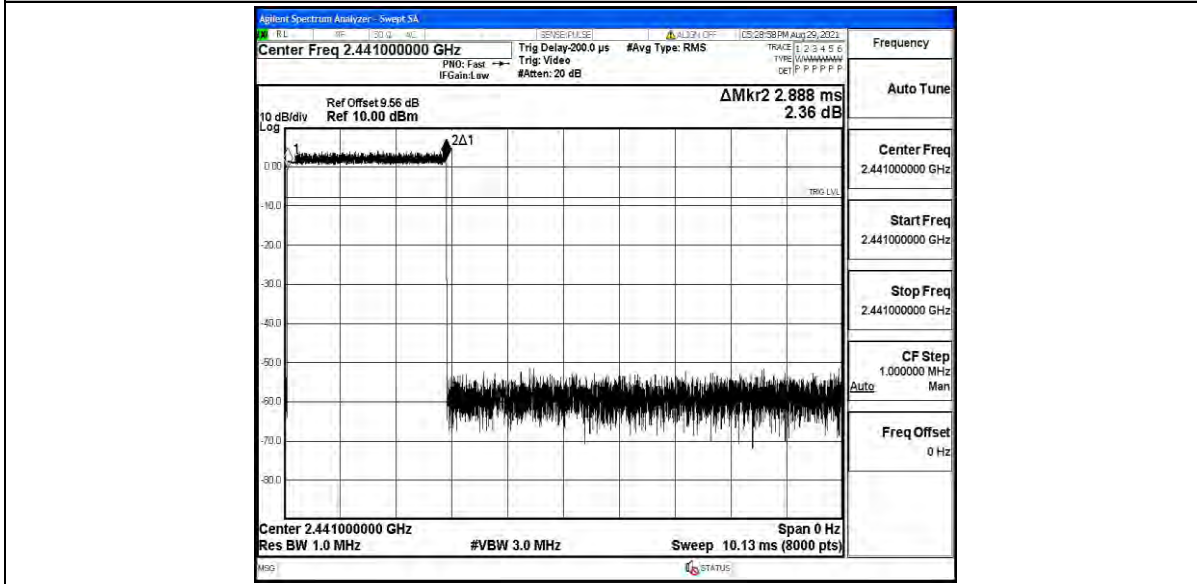
2DH5\_Ant1\_Hop







3DH5\_Ant1\_Hop



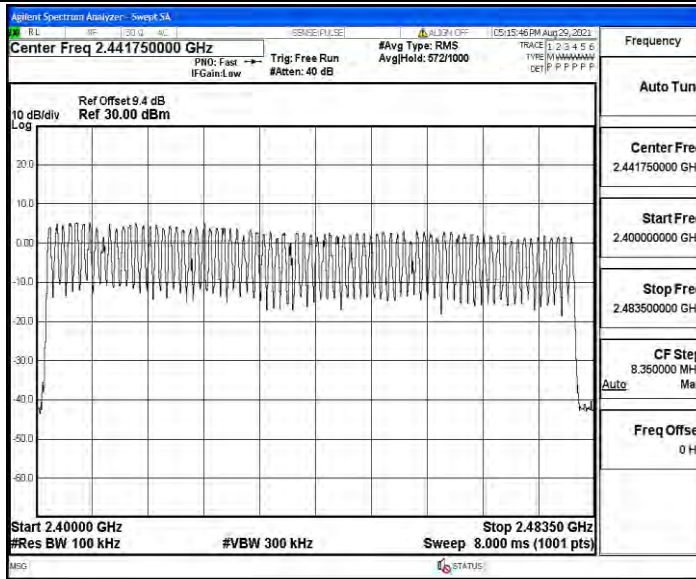
## Appendix F: Number of hopping channels

### Test Result

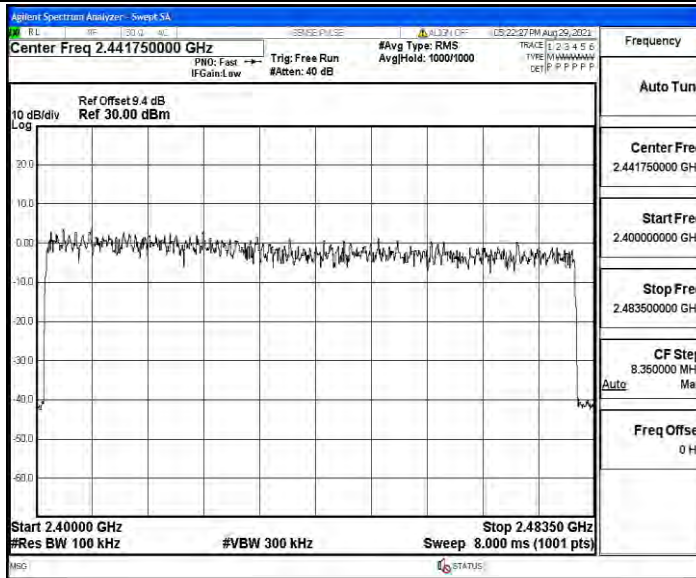
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

### Test Graphs

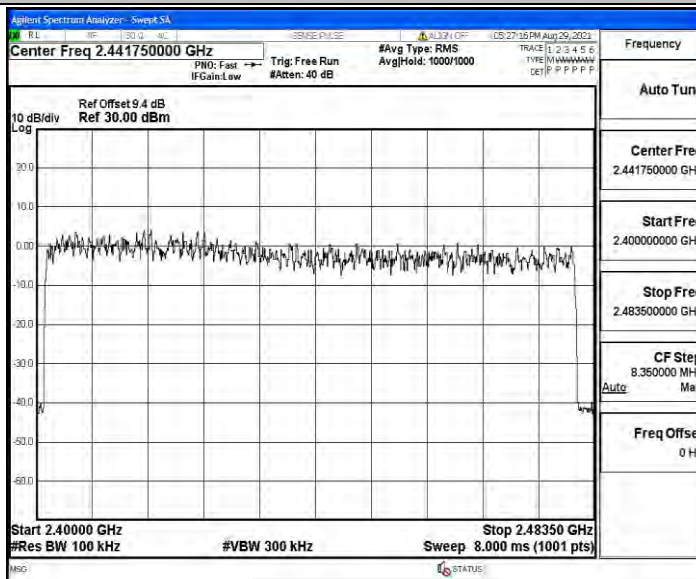
DH5\_Ant1\_Hop



2DH5\_Ant1\_Hop



3DH5\_Ant1\_Hop

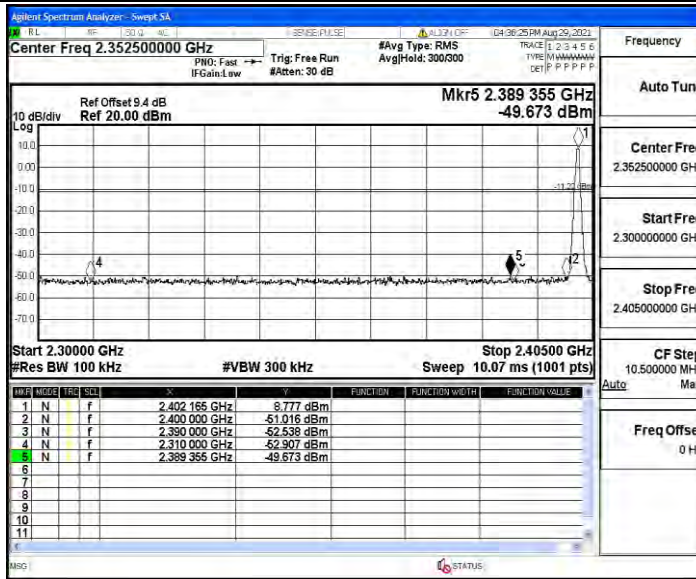


**Appendix G: Band edge measurements****Test Result**

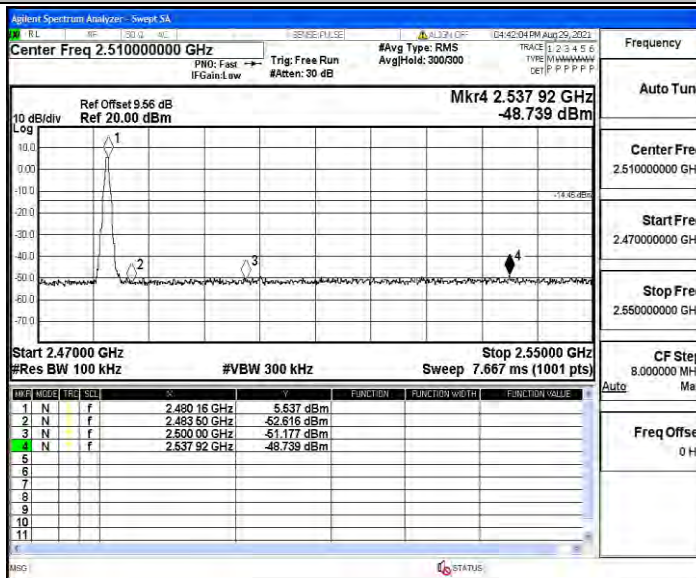
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	8.78	-49.67	≤-11.22	PASS
		High	2480	5.54	-48.74	≤-14.46	PASS
		Low	Hop_2402	4.89	-50.3	≤-15.11	PASS
		High	Hop_2480	2.10	-48.96	≤-17.9	PASS
2DH5	Ant1	Low	2402	8.48	-38.51	≤-11.52	PASS
		High	2480	4.24	-49.17	≤-15.77	PASS
		Low	Hop_2402	-0.03	-49.65	≤-20.03	PASS
		High	Hop_2480	-1.50	-49.34	≤-21.5	PASS
3DH5	Ant1	Low	2402	8.62	-40.38	≤-11.38	PASS
		High	2480	4.43	-49.04	≤-15.57	PASS
		Low	Hop_2402	1.66	-49.77	≤-18.34	PASS
		High	Hop_2480	0.73	-49.03	≤-19.27	PASS

Test Graphs

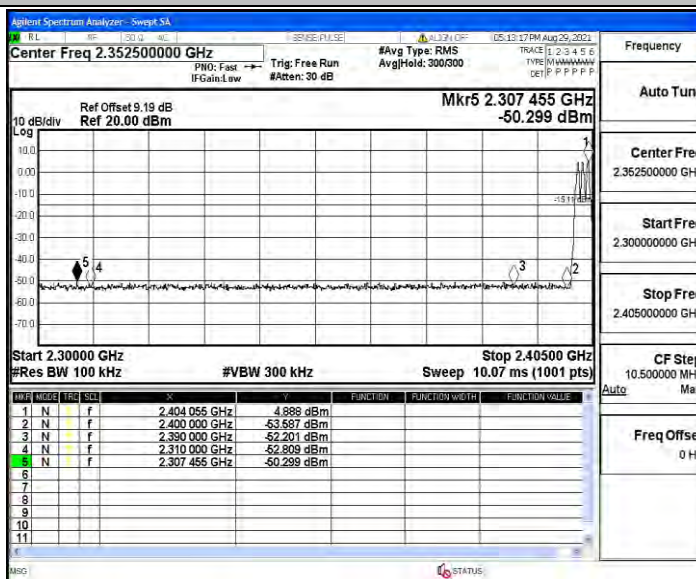
DH5\_Ant1\_Low\_2402



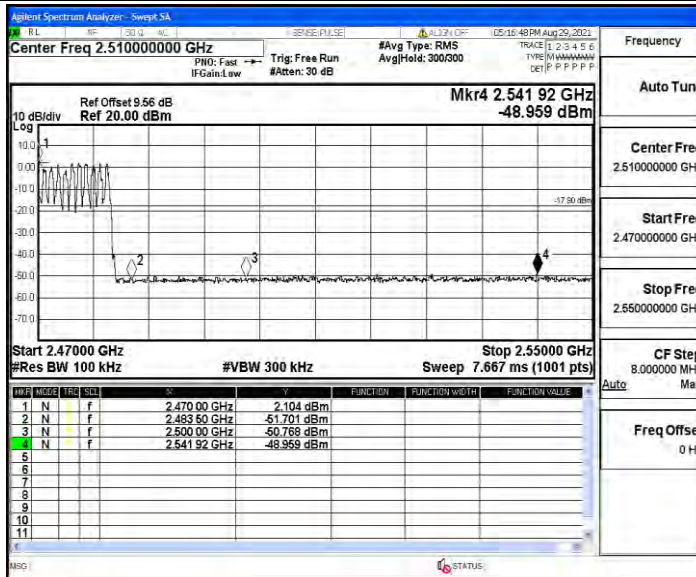
DH5\_Ant1\_High\_2480



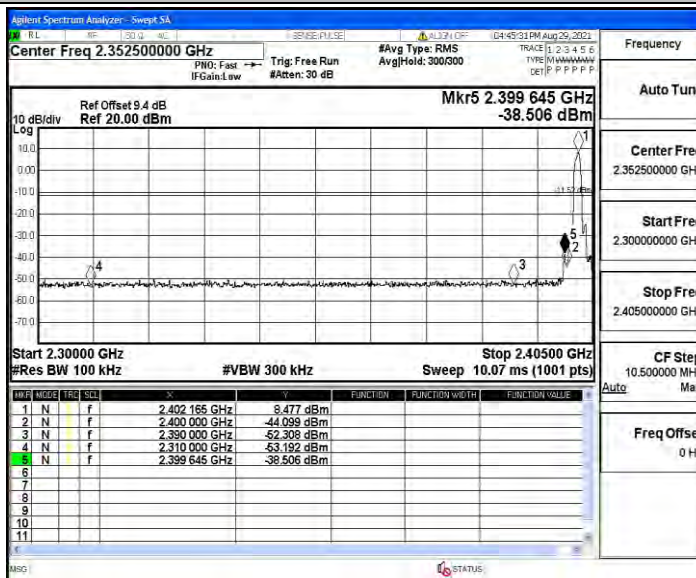
DH5\_Ant1\_Low\_Hop\_2402



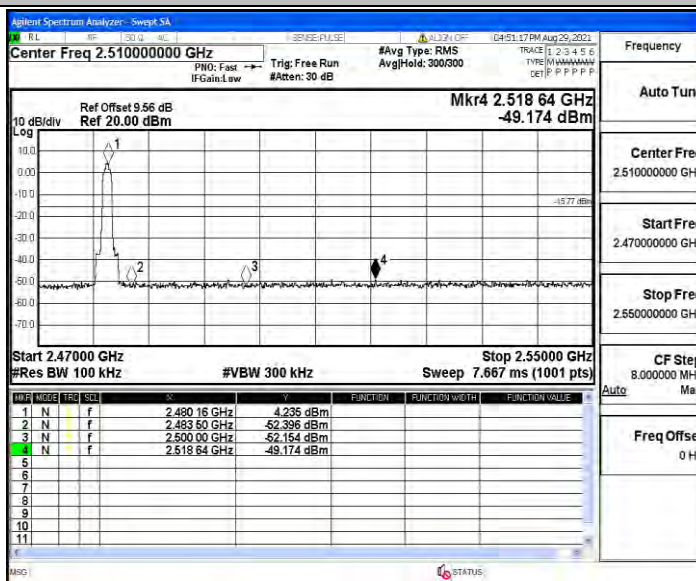
DH5\_Ant1\_High\_Hop\_2480



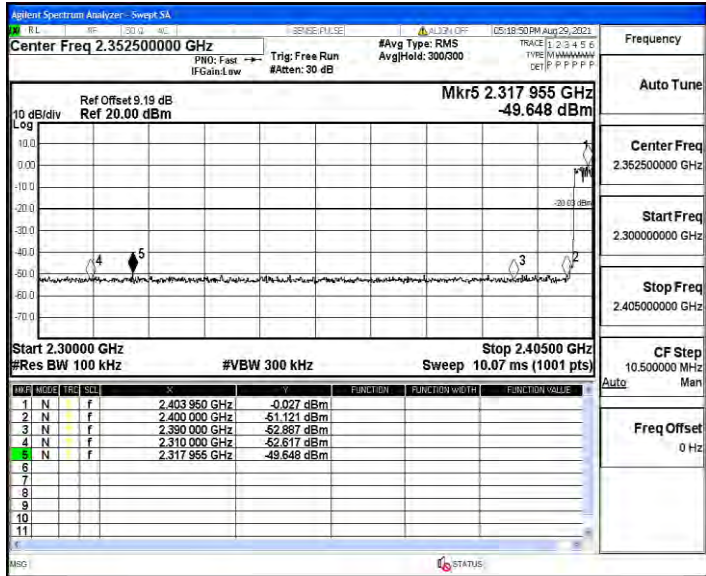
2DH5\_Ant1\_Low\_2402



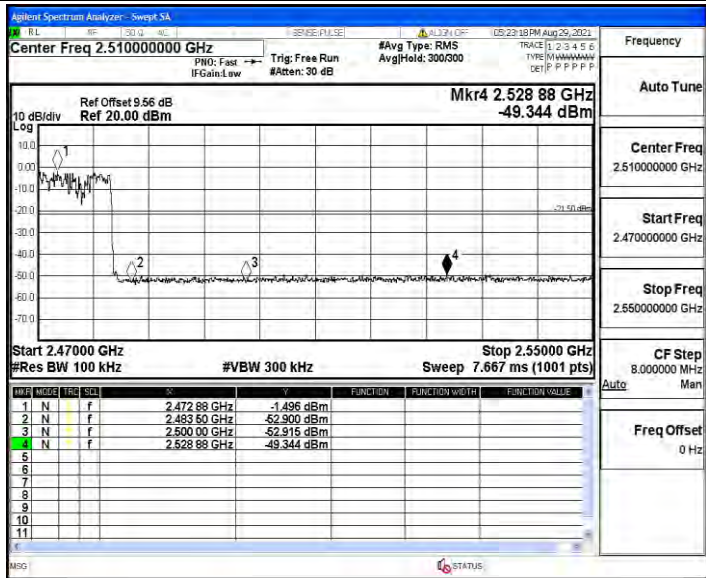
2DH5\_Ant1\_High\_2480



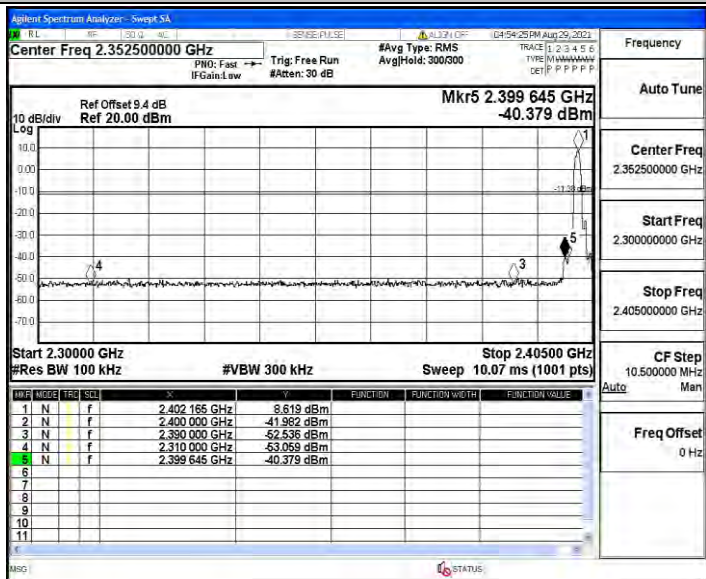
2DH5\_Ant1\_Low\_Hop\_2402



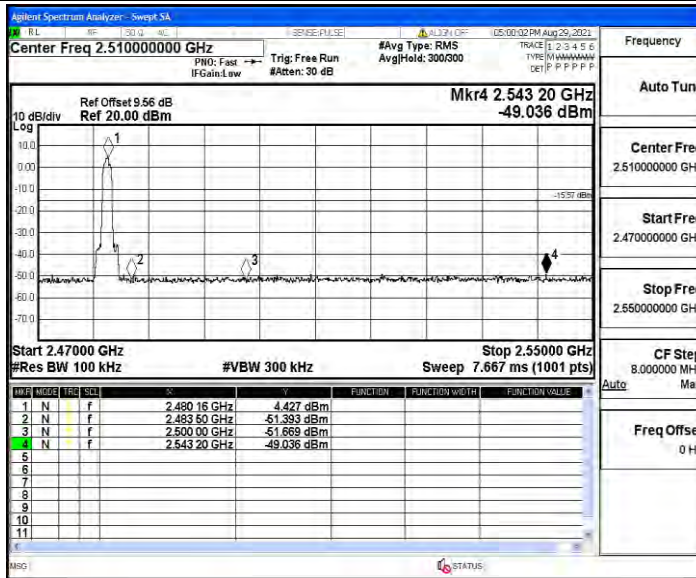
2DH5\_Ant1\_High\_Hop\_2480



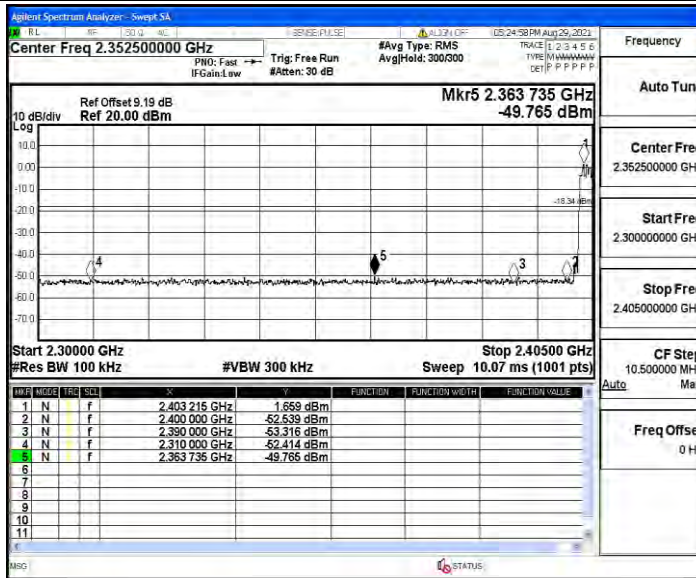
3DH5\_Ant1\_Low\_2402



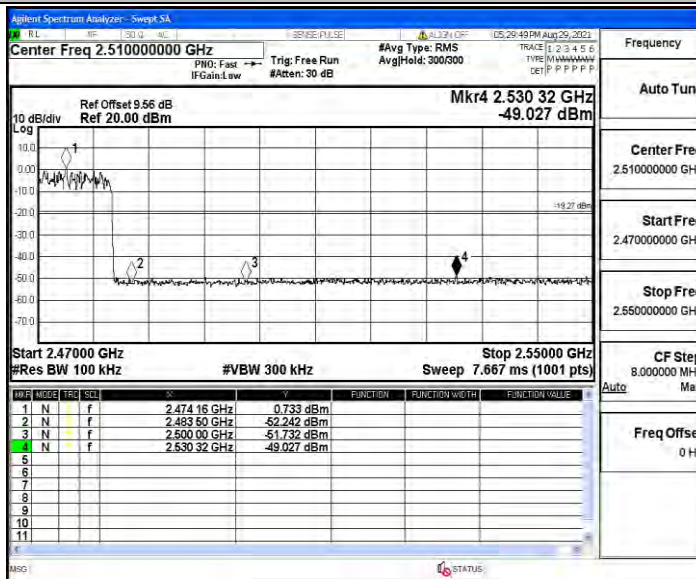
3DH5\_Ant1\_High\_2480



3DH5\_Ant1\_Low\_Hop\_2402



3DH5\_Ant1\_High\_Hop\_2480





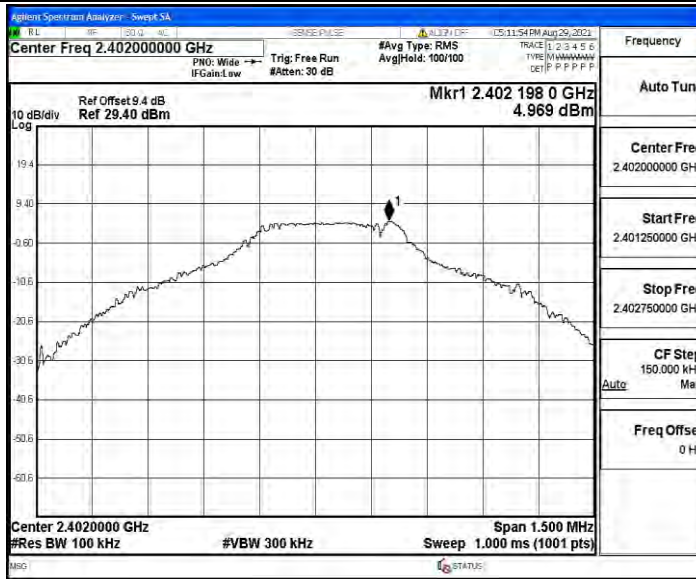
## Appendix H: Conducted Spurious Emission

### Test Result

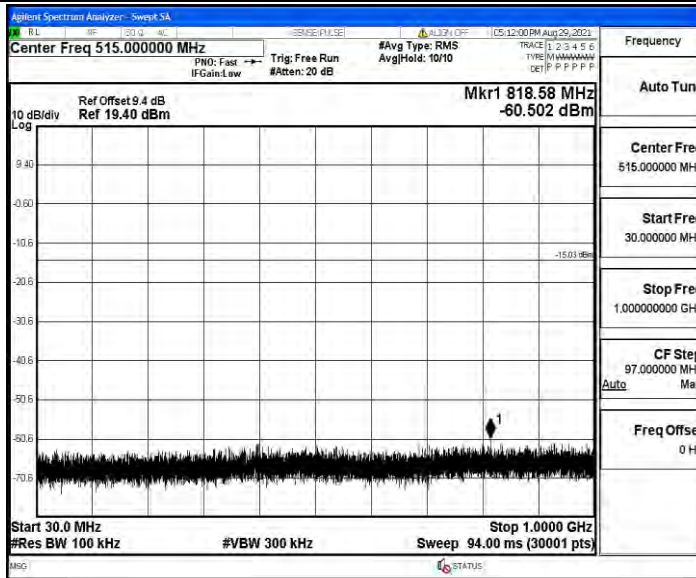
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	4.97	4.97	---	PASS
			30~1000	4.97	-60.5	≤-15.03	PASS
			1000~26500	4.97	-47.63	≤-15.03	PASS
		2441	Reference	6.20	6.20	---	PASS
			30~1000	6.20	-60.48	≤-13.8	PASS
			1000~26500	6.20	-49.6	≤-13.8	PASS
		2480	Reference	5.06	5.06	---	PASS
			30~1000	5.06	-61.25	≤-14.94	PASS
			1000~26500	5.06	-52.03	≤-14.94	PASS
2DH5	Ant1	2402	Reference	3.34	3.34	---	PASS
			30~1000	3.34	-61.07	≤-16.67	PASS
			1000~26500	3.34	-46.25	≤-16.67	PASS
		2441	Reference	4.54	4.54	---	PASS
			30~1000	4.54	-60.53	≤-15.46	PASS
			1000~26500	4.54	-48.29	≤-15.46	PASS
		2480	Reference	3.62	3.62	---	PASS
			30~1000	3.62	-60.65	≤-16.38	PASS
			1000~26500	3.62	-50.61	≤-16.38	PASS
3DH5	Ant1	2402	Reference	3.23	3.23	---	PASS
			30~1000	3.23	-60.91	≤-16.77	PASS
			1000~26500	3.23	-46.64	≤-16.77	PASS
		2441	Reference	4.98	4.98	---	PASS
			30~1000	4.98	-60.51	≤-15.02	PASS
			1000~26500	4.98	-48.73	≤-15.02	PASS
		2480	Reference	2.64	2.64	---	PASS
			30~1000	2.64	-61.1	≤-17.36	PASS
			1000~26500	2.64	-50.54	≤-17.36	PASS

Test Graphs

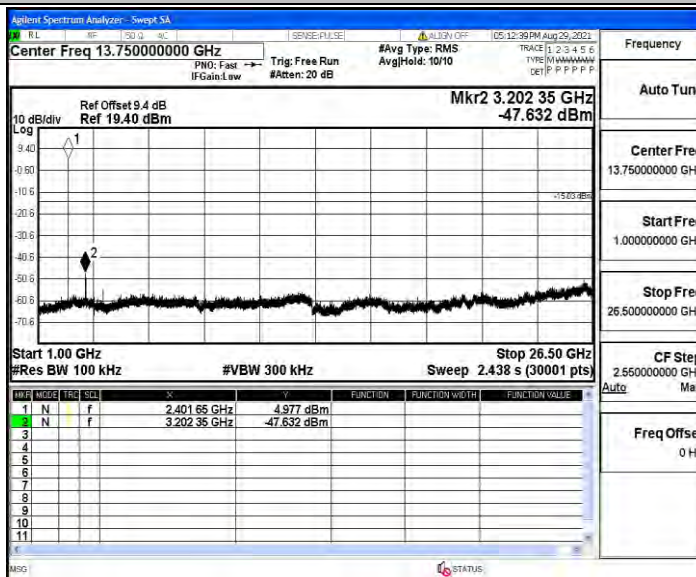
DH5\_Ant1\_2402\_0~Reference



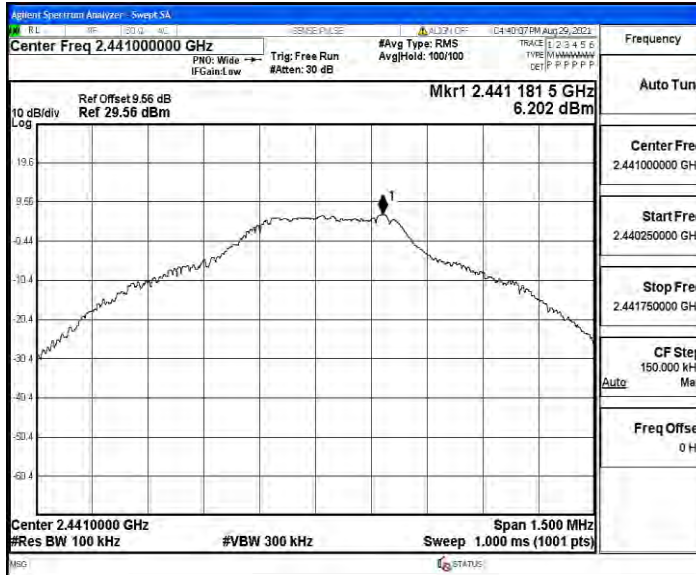
DH5\_Ant1\_2402\_30~1000



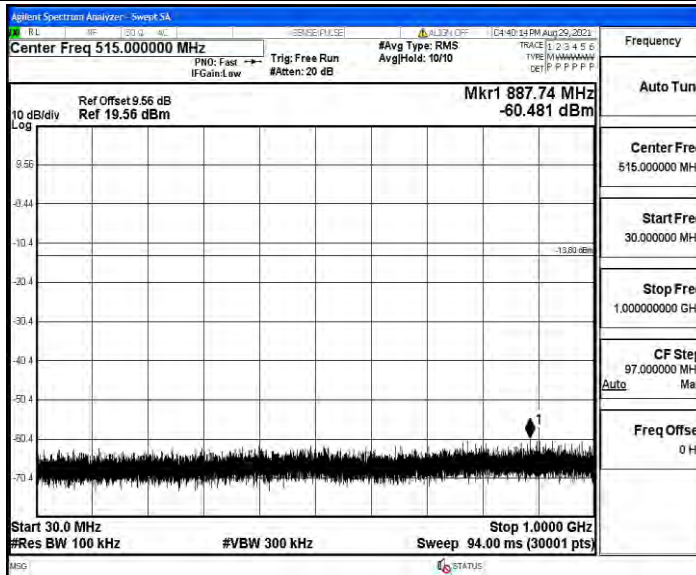
DH5\_Ant1\_2402\_1000~26500



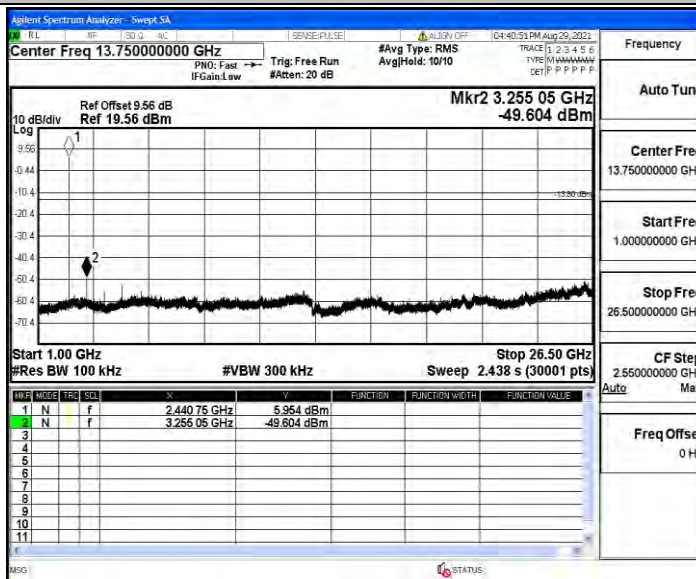
DH5\_Ant1\_2441\_0~Reference



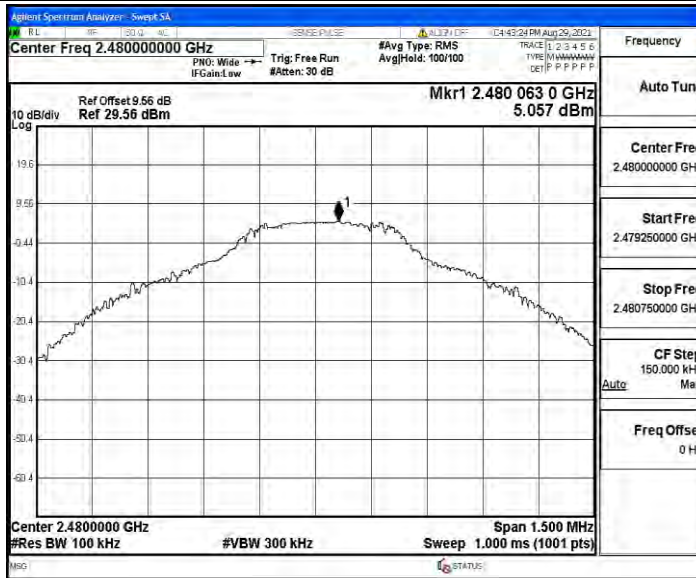
DH5\_Ant1\_2441\_30~1000



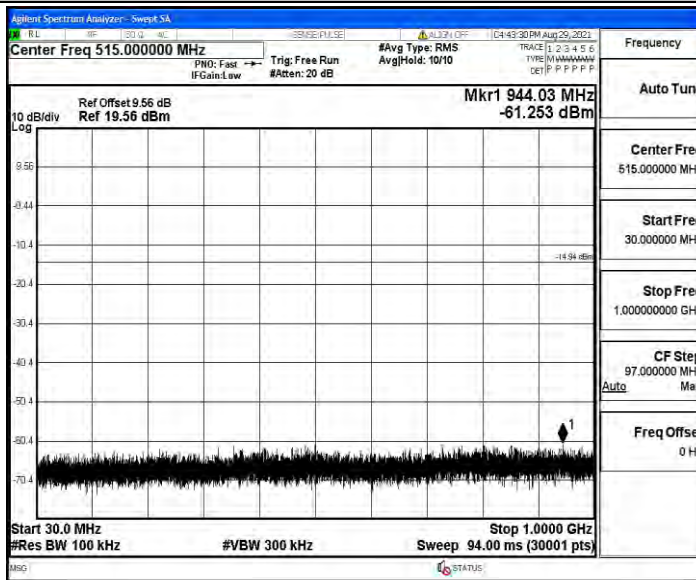
DH5\_Ant1\_2441\_1000~26500



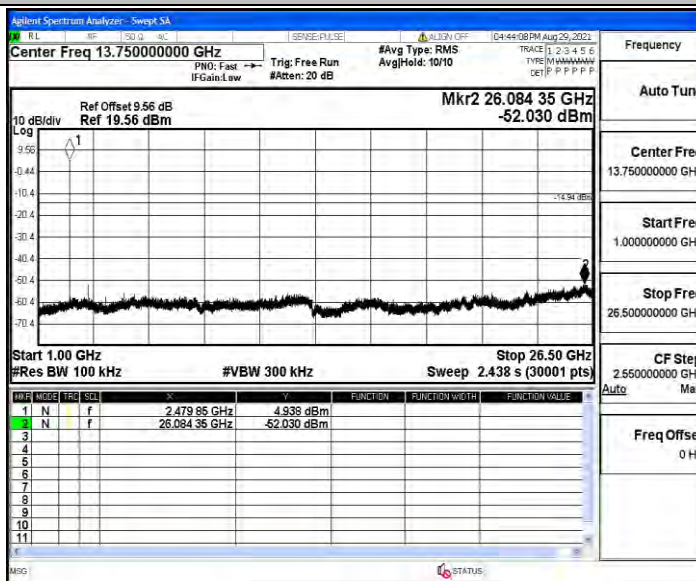
DH5\_Ant1\_2480\_0~Reference



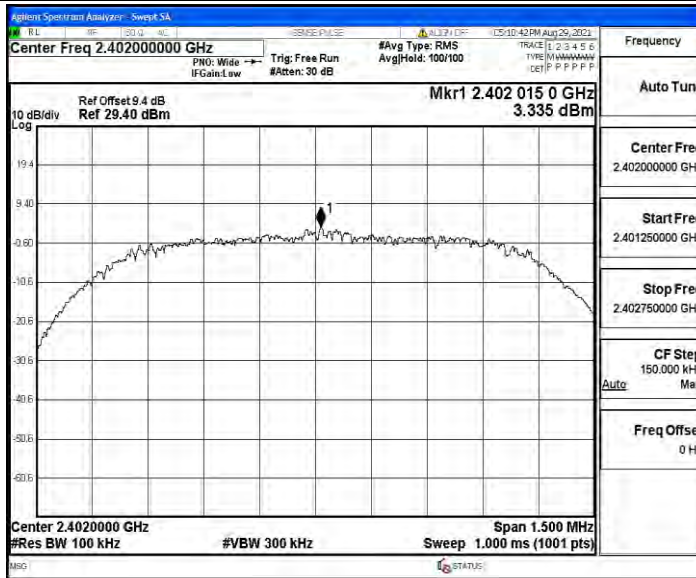
DH5\_Ant1\_2480\_30~1000



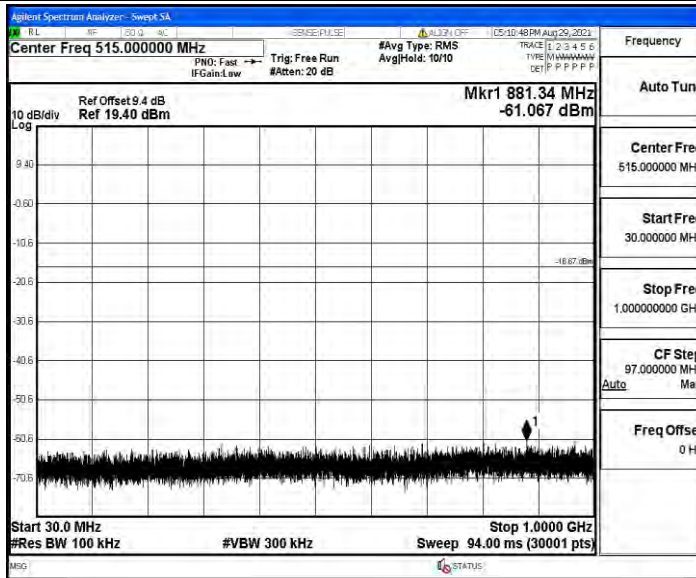
DH5\_Ant1\_2480\_1000~26500



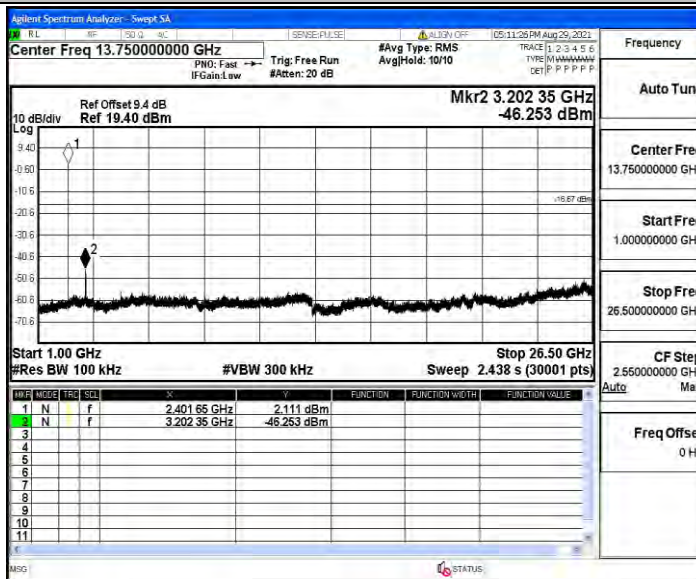
2DH5\_Ant1\_2402\_0~Reference



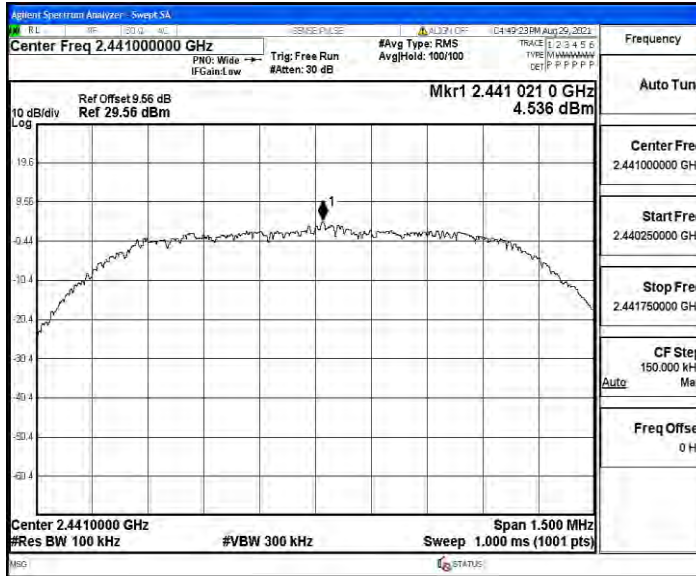
2DH5\_Ant1\_2402\_30~1000



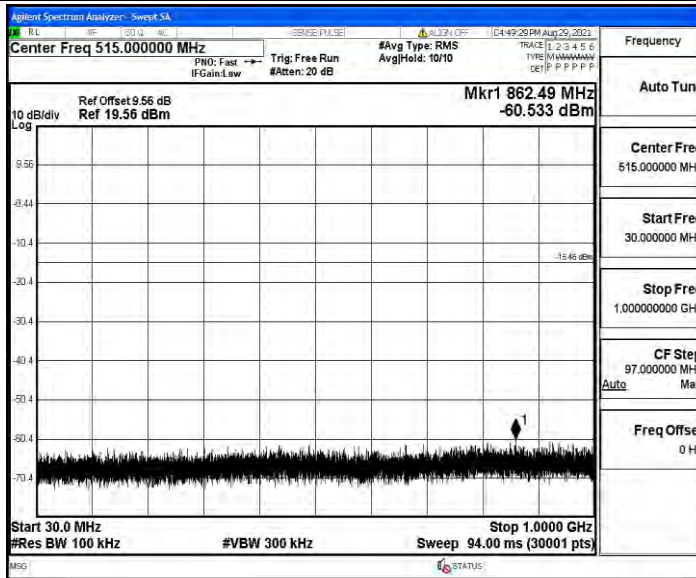
2DH5\_Ant1\_2402\_1000~26500



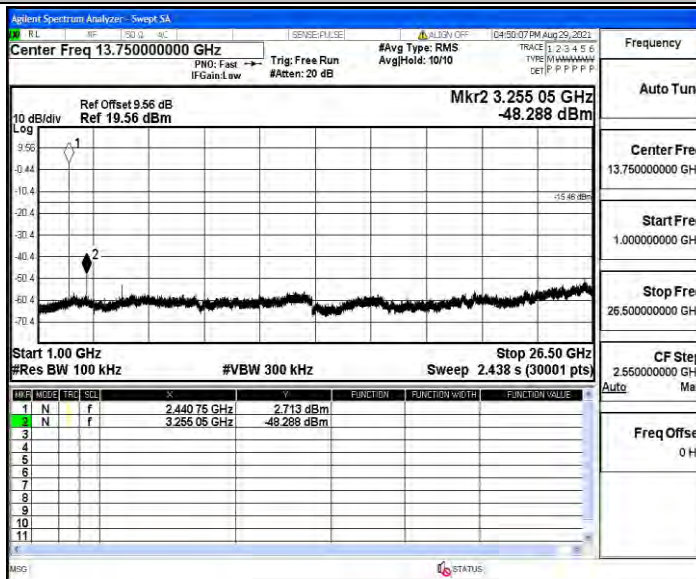
2DH5\_Ant1\_2441\_0~Reference



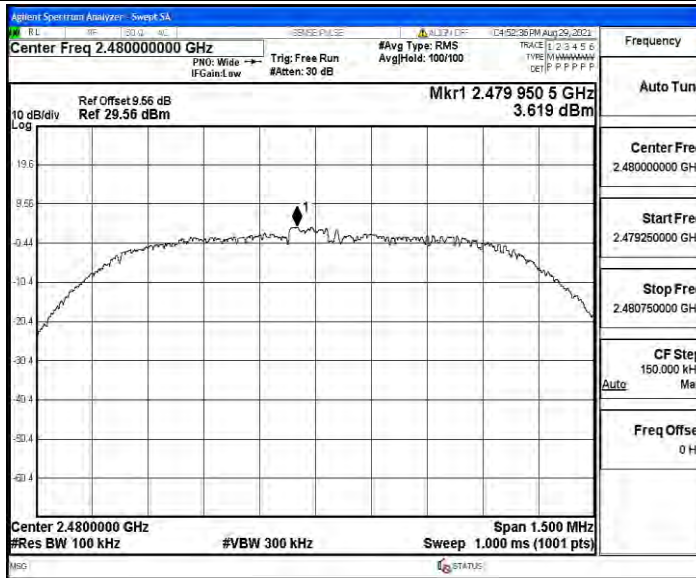
2DH5\_Ant1\_2441\_30~1000



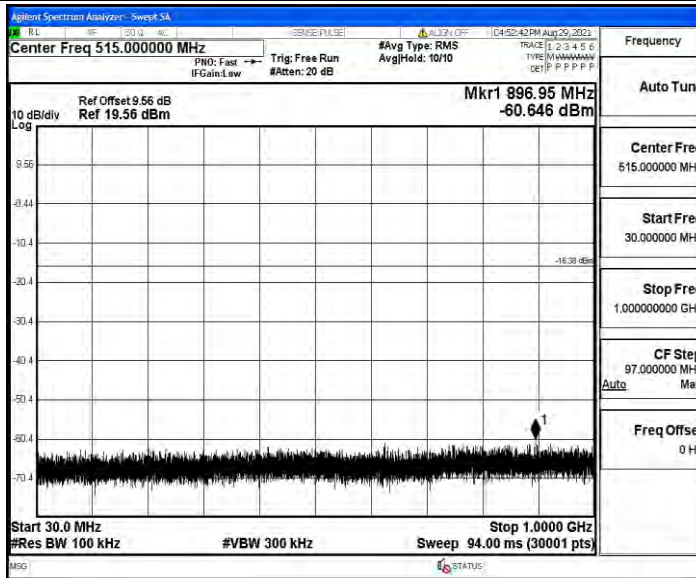
2DH5\_Ant1\_2441\_1000~26500



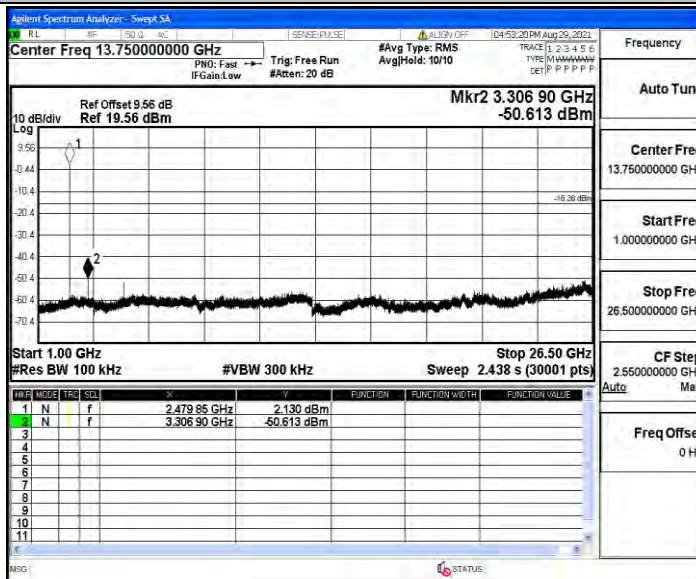
2DH5\_Ant1\_2480\_0~Reference



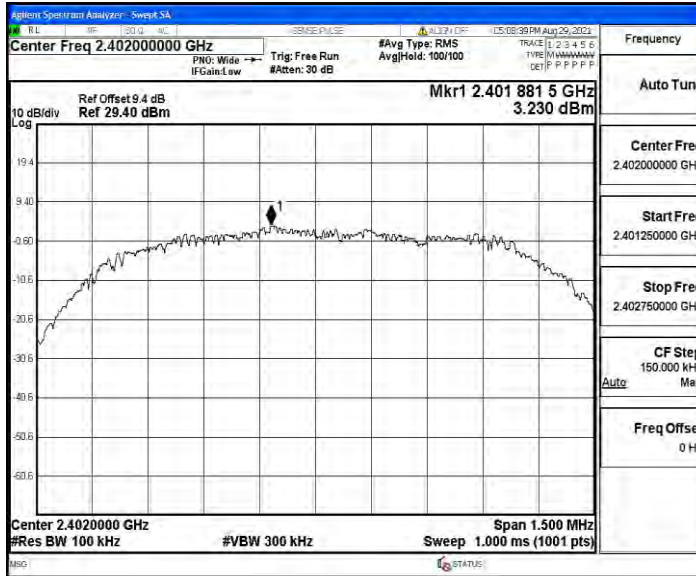
2DH5\_Ant1\_2480\_30~1000



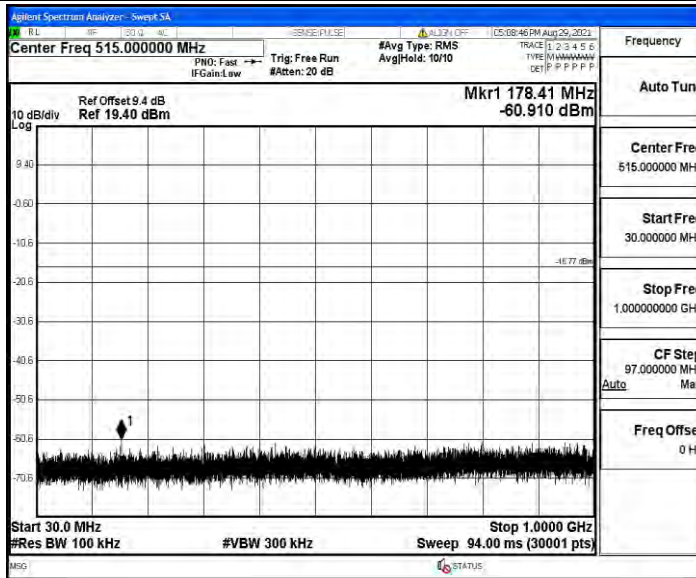
2DH5\_Ant1\_2480\_1000~26500



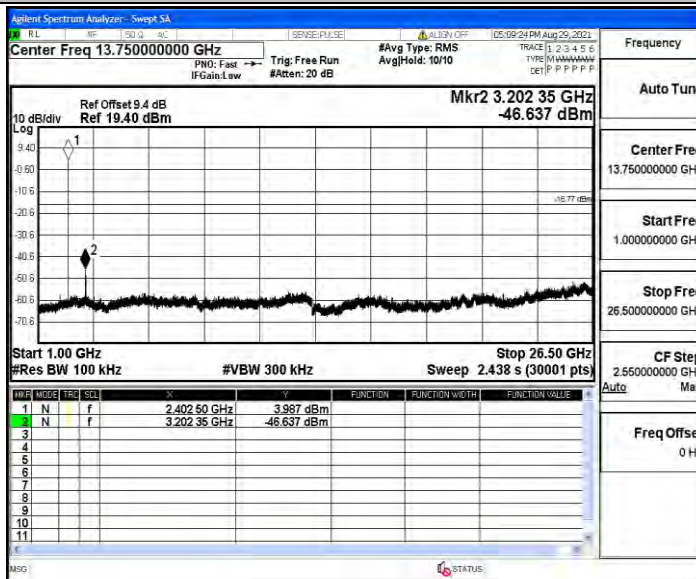
3DH5\_Ant1\_2402\_0~Reference



3DH5\_Ant1\_2402\_30~1000

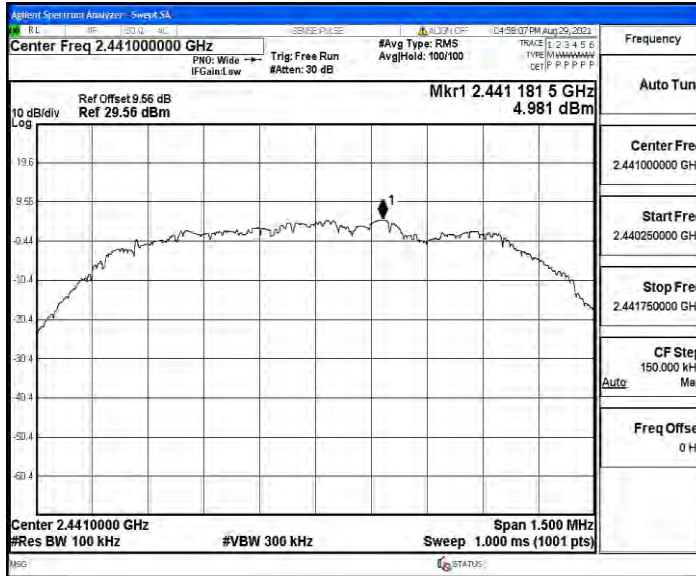


3DH5\_Ant1\_2402\_1000~26500

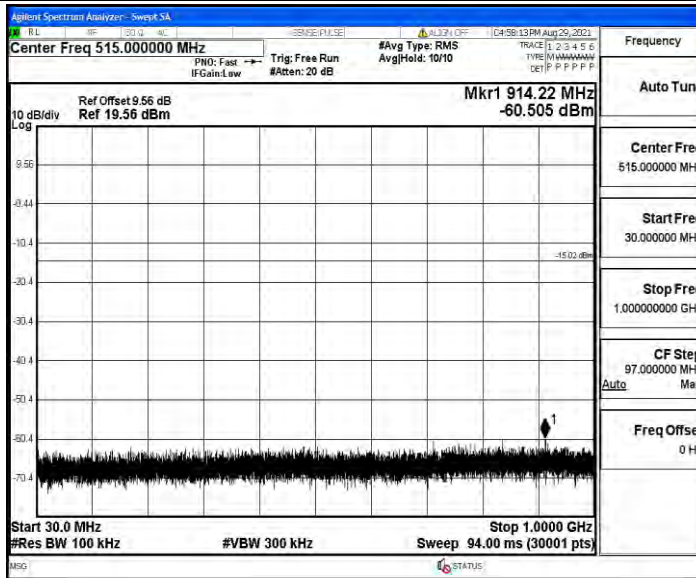


3DH5\_Ant1\_2441\_0~Reference

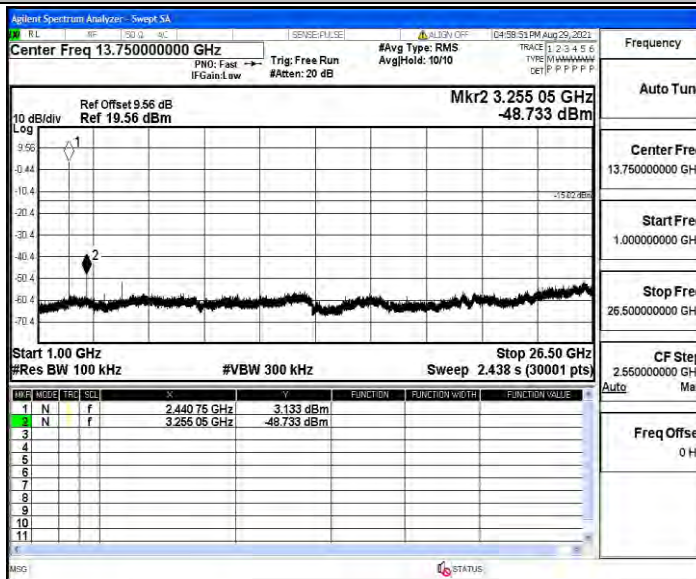




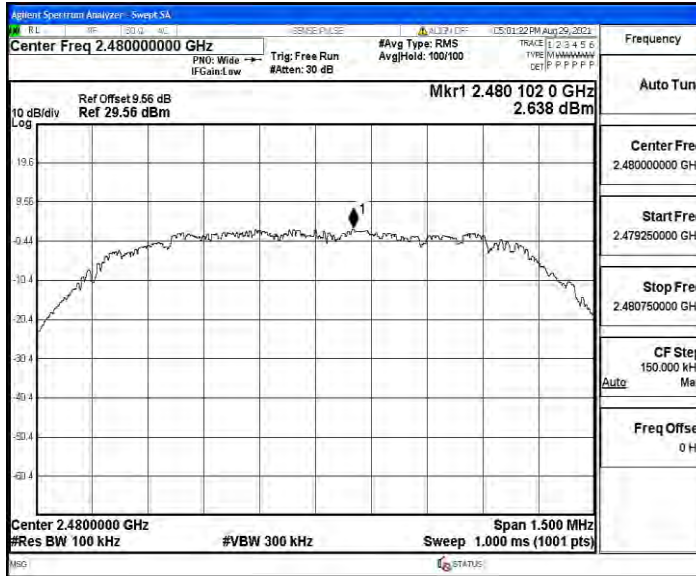
3DH5\_Ant1\_2441\_30~1000



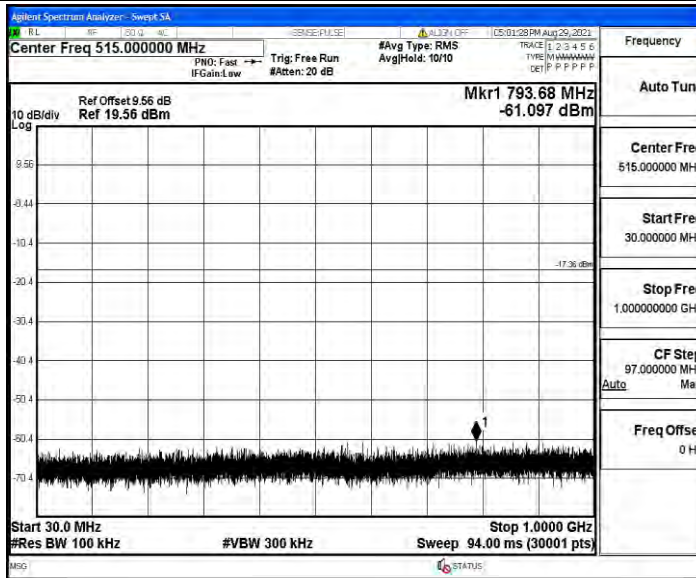
3DH5\_Ant1\_2441\_1000~26500



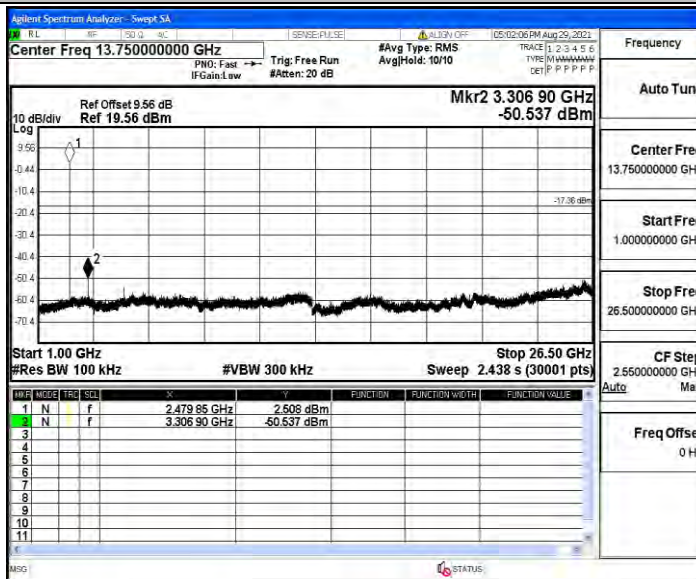
3DH5\_Ant1\_2480\_0~Reference



3DH5\_Ant1\_2480\_30~1000



3DH5\_Ant1\_2480\_1000~26500



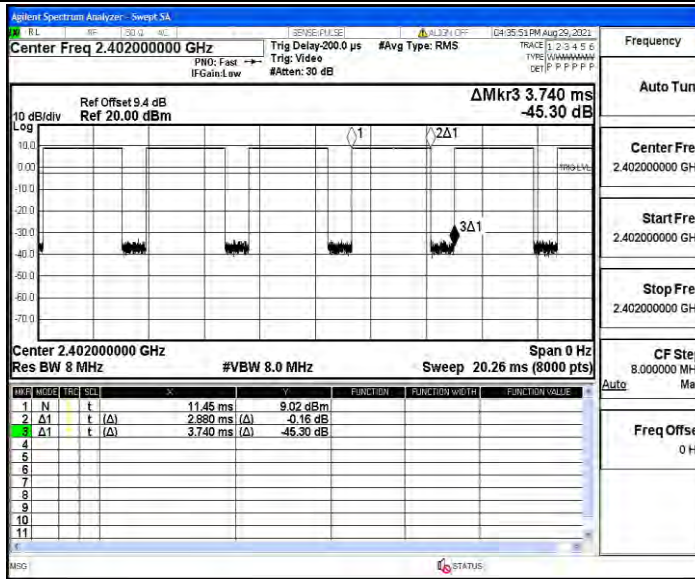
## Appendix I: Duty Cycle

### Test Result

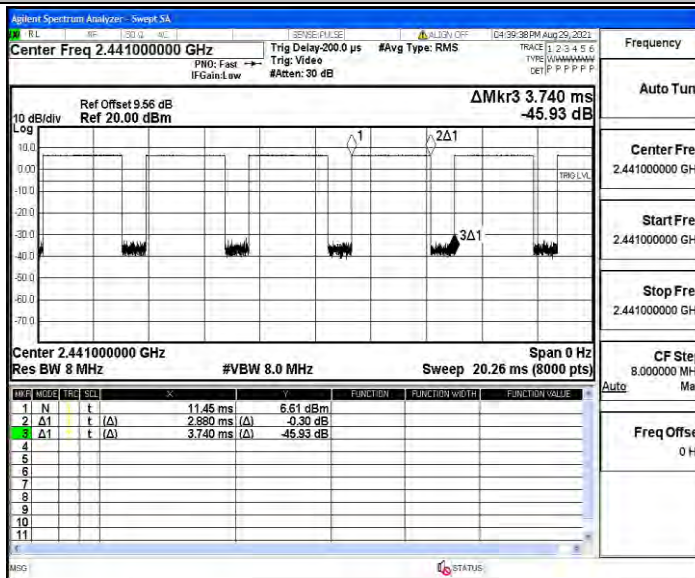
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/B [KHz]
DH5	Ant1	2402	2.88	3.73	77.21	0.3
		2441	2.88	3.73	77.21	0.3
		2480	2.88	3.73	77.21	0.3
2DH5	Ant1	2402	2.88	3.73	77.21	0.3
		2441	2.89	3.74	77.27	0.3
		2480	2.89	3.74	77.27	0.3
3DH5	Ant1	2402	2.89	3.74	77.27	0.3
		2441	2.89	3.73	77.48	0.3
		2480	2.89	3.73	77.48	0.3

Test Graphs

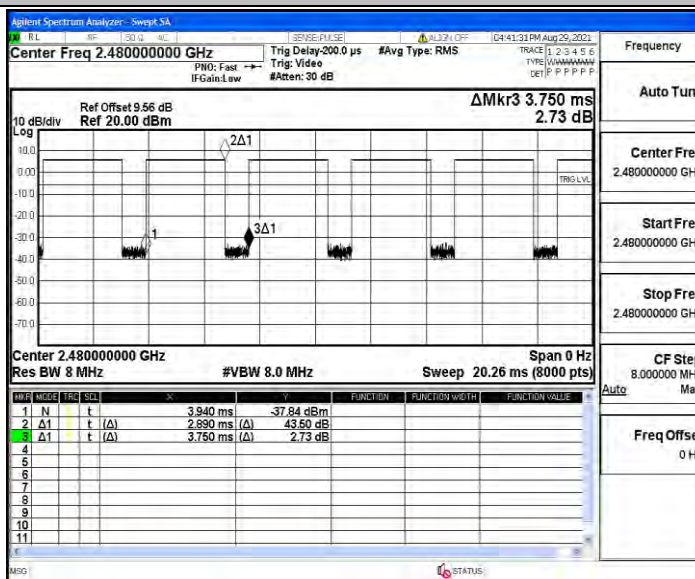
DH5\_Ant1\_2402



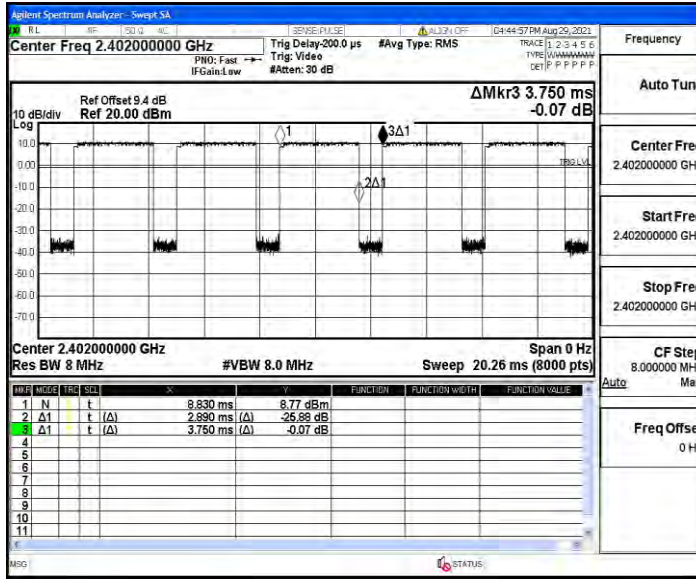
DH5\_Ant1\_2441



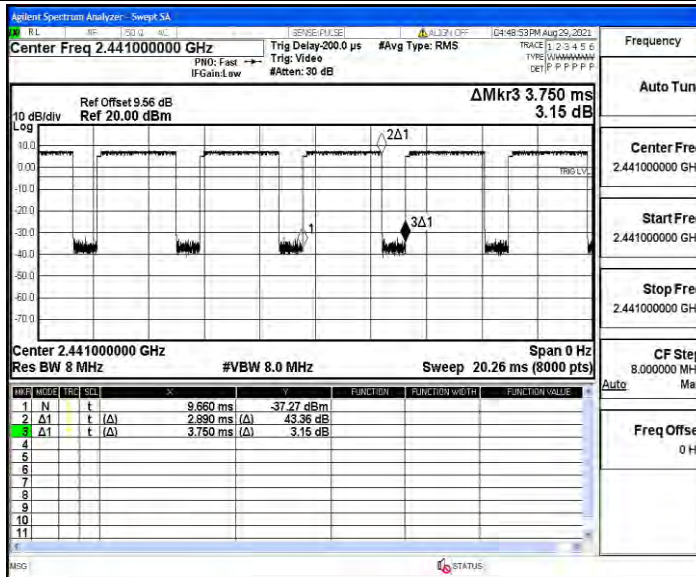
DH5\_Ant1\_2480



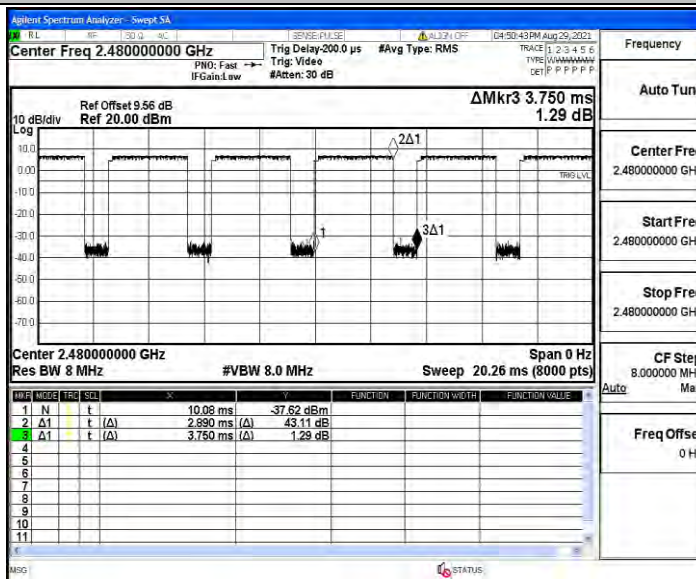
2DH5\_Ant1\_2402



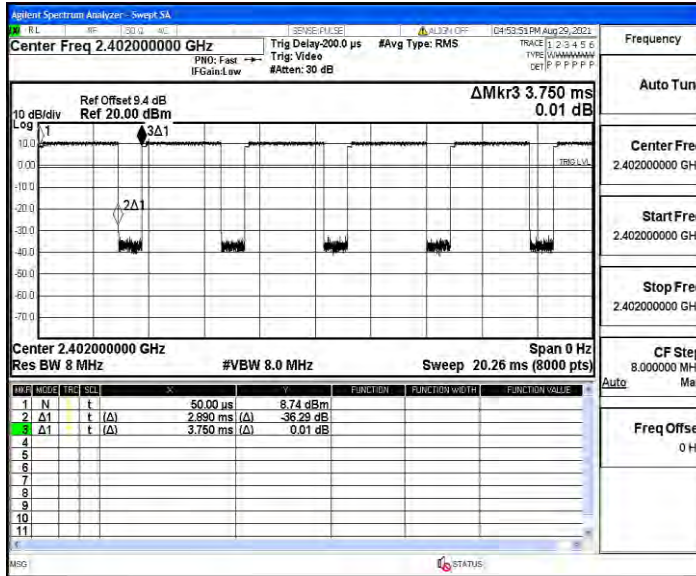
2DH5\_Ant1\_2441



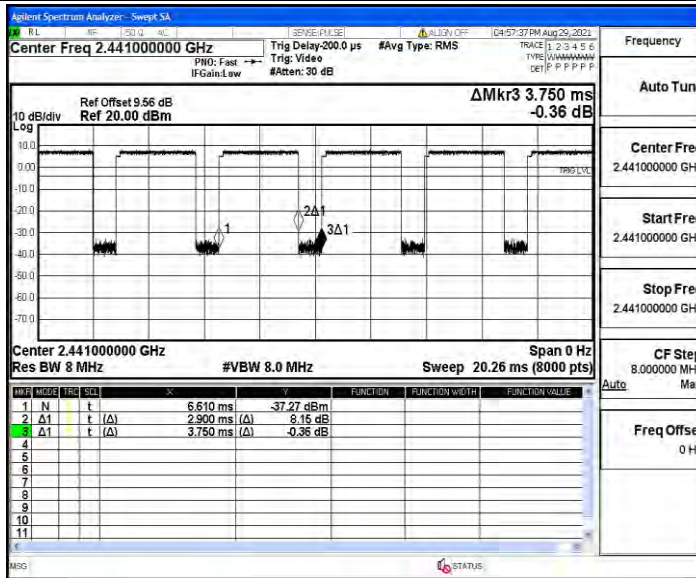
2DH5\_Ant1\_2480



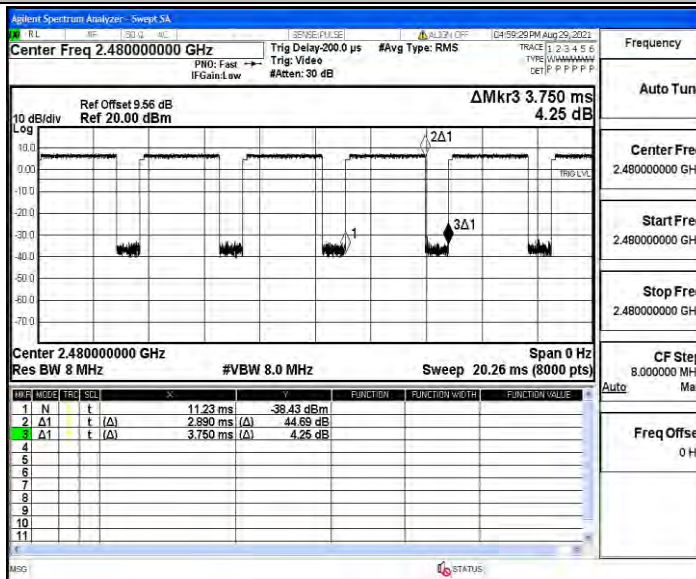
3DH5\_Ant1\_2402



3DH5\_Ant1\_2441



3DH5\_Ant1\_2480



## Appendix J: Emissions in Restricted Bands

### Test Result

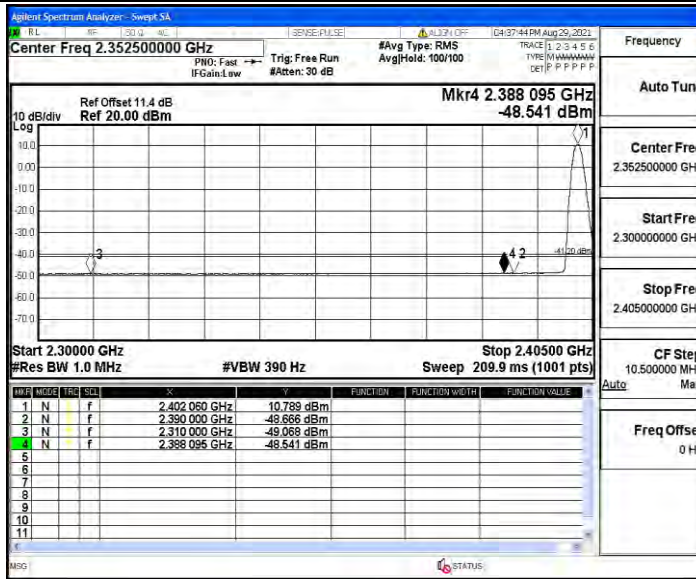
TestMode	Antenna	ChName	Channel	Detector	Freq(MHz)	Result(dBm)	Limit(dBm)	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-49.07	≤-41.20	PASS
				AV	2388.095	-48.54	≤-41.20	PASS
				AV	2390.000	-48.67	≤-41.20	PASS
				Peak	2310.000	-41.68	≤-21.20	PASS
				Peak	2389.250	-38.67	≤-21.20	PASS
				Peak	2390.000	-41.13	≤-21.20	PASS
		High	2480	AV	2483.500	-47.12	≤-41.20	PASS
				AV	2483.520	-47.12	≤-41.20	PASS
				AV	2500.000	-48.04	≤-41.20	PASS
				Peak	2483.500	-41.86	≤-21.20	PASS
				Peak	2497.440	-37.61	≤-21.20	PASS
				Peak	2500.000	-40.91	≤-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-49.03	≤-41.20	PASS
				AV	2389.565	-48.5	≤-41.20	PASS
				AV	2390.000	-48.63	≤-41.20	PASS
				Peak	2310.000	-42.82	≤-21.20	PASS
				Peak	2369.930	-38.99	≤-21.20	PASS
				Peak	2390.000	-42.28	≤-21.20	PASS
		High	2480	AV	2483.500	-46.71	≤-41.20	PASS
				AV	2483.520	-46.71	≤-41.20	PASS
				AV	2500.000	-47.99	≤-41.20	PASS
				Peak	2483.500	-39.67	≤-21.20	PASS
				Peak	2498.880	-38.31	≤-21.20	PASS
				Peak	2500.000	-40.78	≤-21.20	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-49.02	≤-41.20	PASS
				AV	2388.200	-48.48	≤-41.20	PASS
				AV	2390.000	-48.71	≤-41.20	PASS
				Peak	2310.000	-42.52	≤-21.20	PASS
				Peak	2352.395	-38.64	≤-21.20	PASS
				Peak	2390.000	-41.93	≤-21.20	PASS
		High	2480	AV	2483.500	-46.84	≤-41.20	PASS
				AV	2483.520	-46.84	≤-41.20	PASS
				AV	2500.000	-48.05	≤-41.20	PASS
				Peak	2483.500	-41.5	≤-21.20	PASS
				Peak	2486.000	-37.8	≤-21.20	PASS
				Peak	2500.000	-40.22	≤-21.20	PASS

Note:

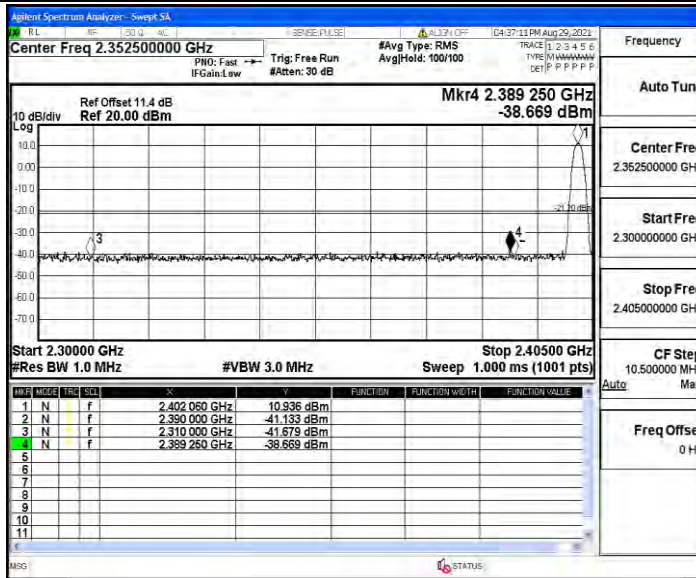
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

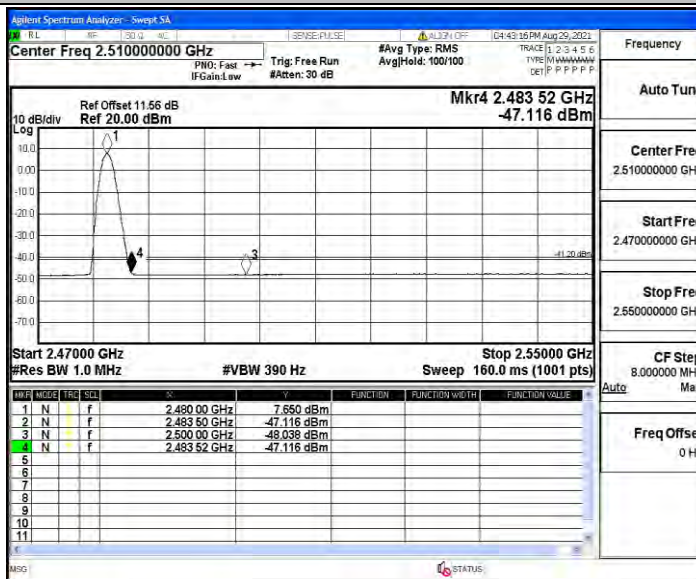
DH5\_Ant1\_Low\_2402\_AV



DH5\_Ant1\_Low\_2402\_Peak

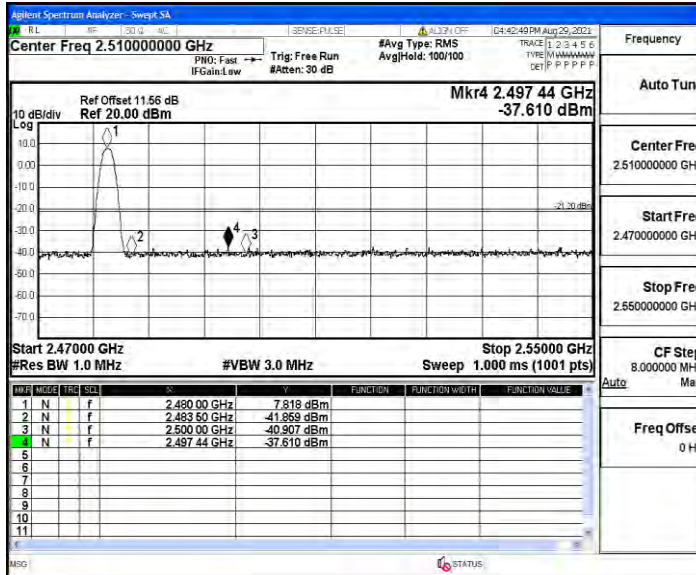


DH5\_Ant1\_High\_2480\_AV

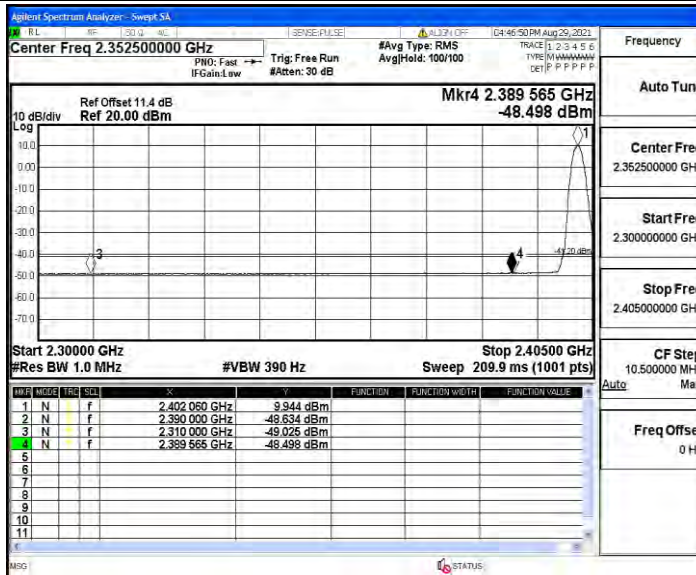




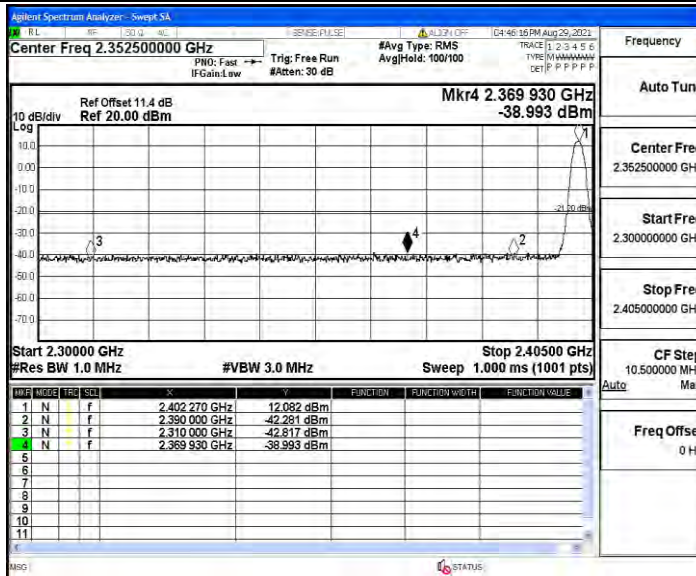
DH5\_Ant1\_High\_2480\_Peak



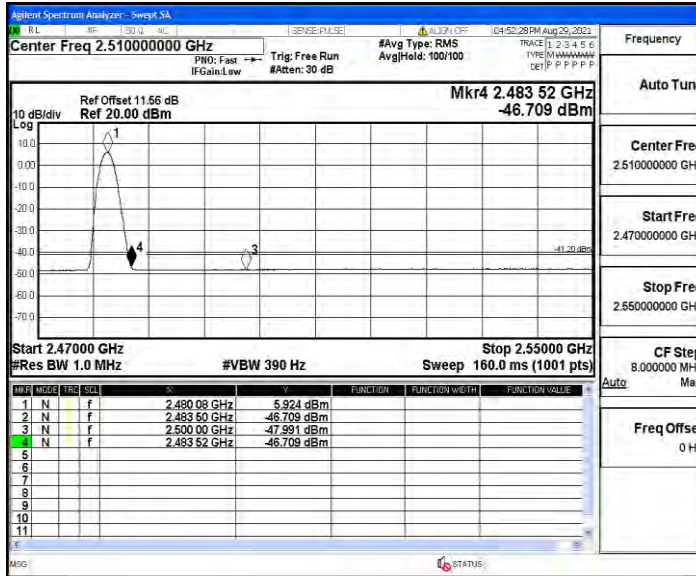
2DH5\_Ant1\_Low\_2402\_AV



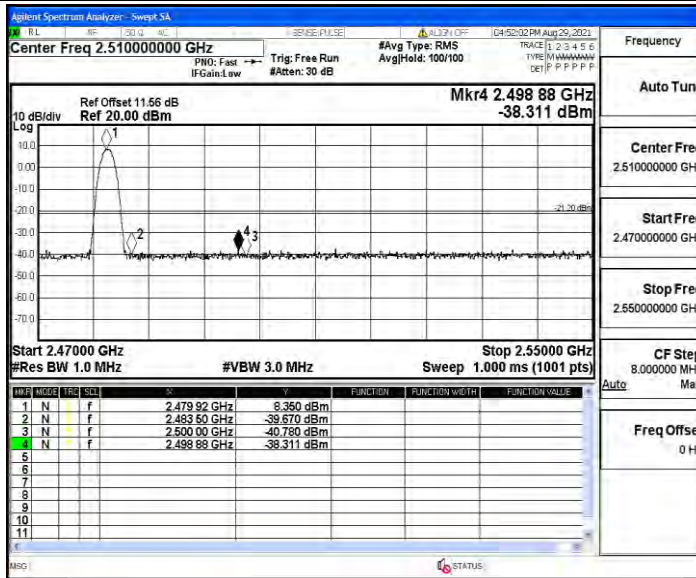
2DH5\_Ant1\_Low\_2402\_Peak



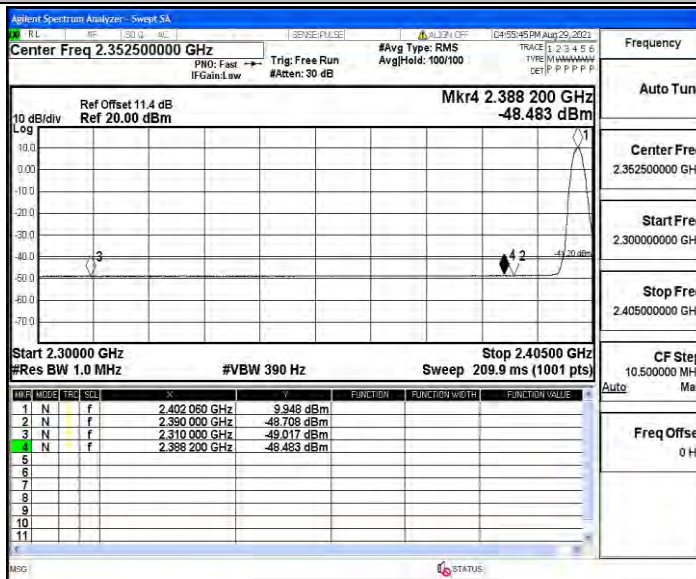
2DH5\_Ant1\_High\_2480\_AV



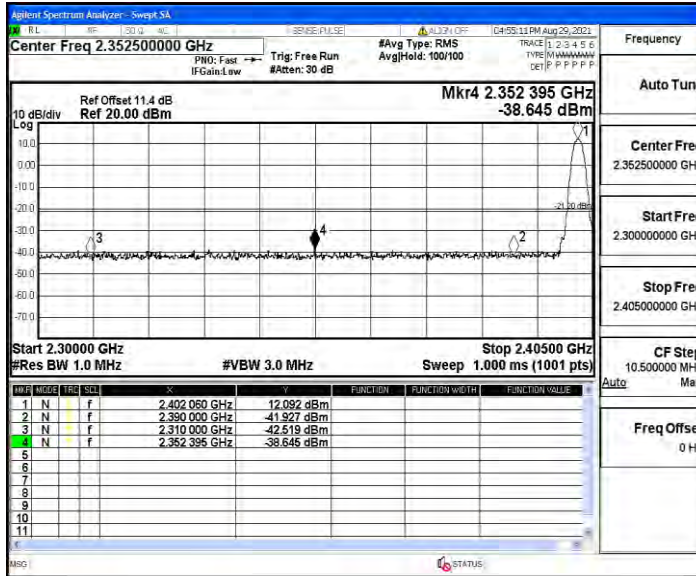
2DH5\_Ant1\_High\_2480\_Peak



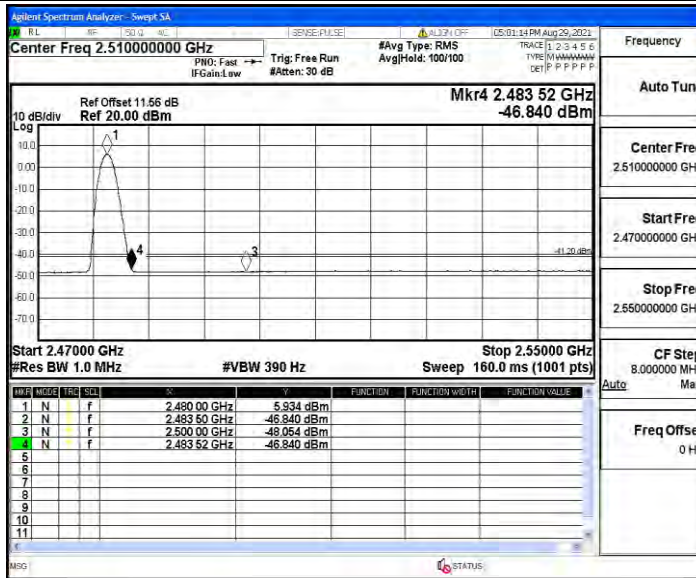
3DH5\_Ant1\_Low\_2402\_AV



3DH5\_Ant1\_Low\_2402\_Peak



3DH5\_Ant1\_High\_2480\_AV



3DH5\_Ant1\_High\_2480\_Peak

