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

Product Name: Bluetooth Headphone

Trade Mark: Justice, Vivitar, iVibes, iVibe

Test Model: TEM012

FCC ID: 2AL9B-TEM012

Environmental Conditions

Temperature:	22.8° C
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Nancy Li
Supervised by:	Hugo Chen

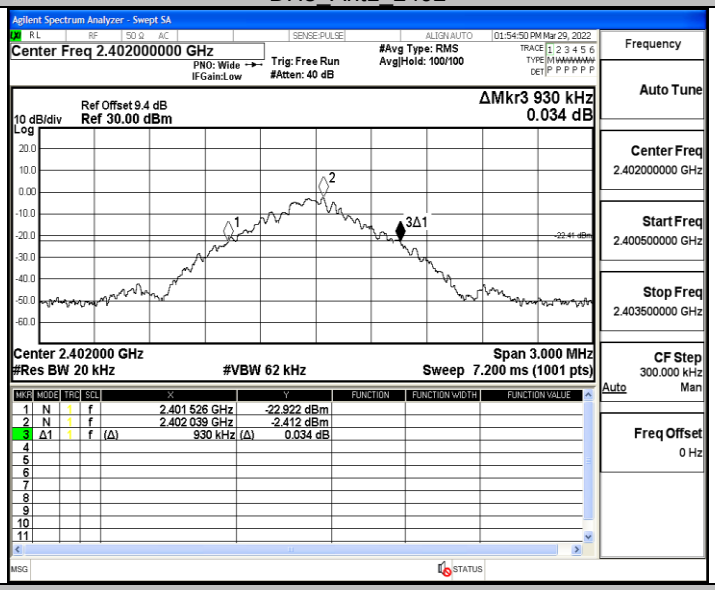
Appendix A: 20dB Emission Bandwidth

Test Result

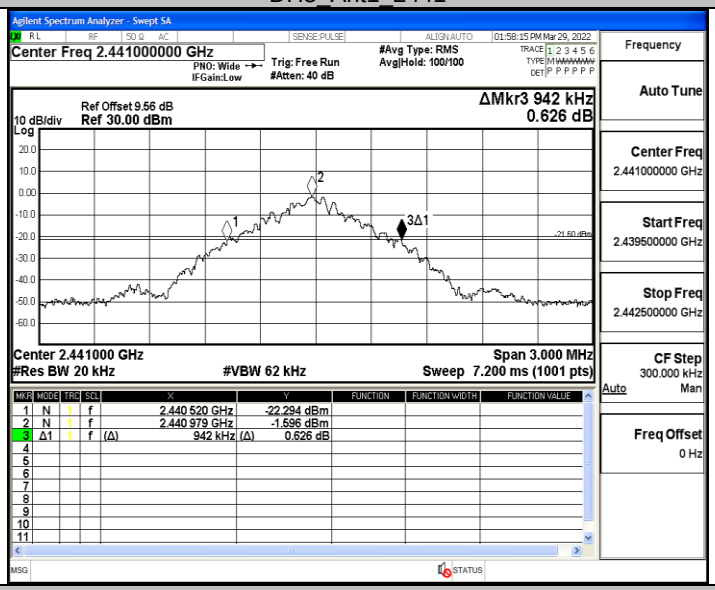
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.930	2401.526	2402.456	---	---
		2441	0.942	2440.520	2441.462	---	---
		2480	0.942	2479.520	2480.462	---	---
2DH5	Ant1	2402	1.314	2401.322	2402.636	---	---
		2441	1.335	2440.313	2441.648	---	---
		2480	1.353	2479.310	2480.663	---	---
3DH5	Ant1	2402	1.272	2401.334	2402.606	---	---
		2441	1.332	2440.307	2441.639	---	---
		2480	1.275	2479.337	2480.612	---	---

Test Graphs

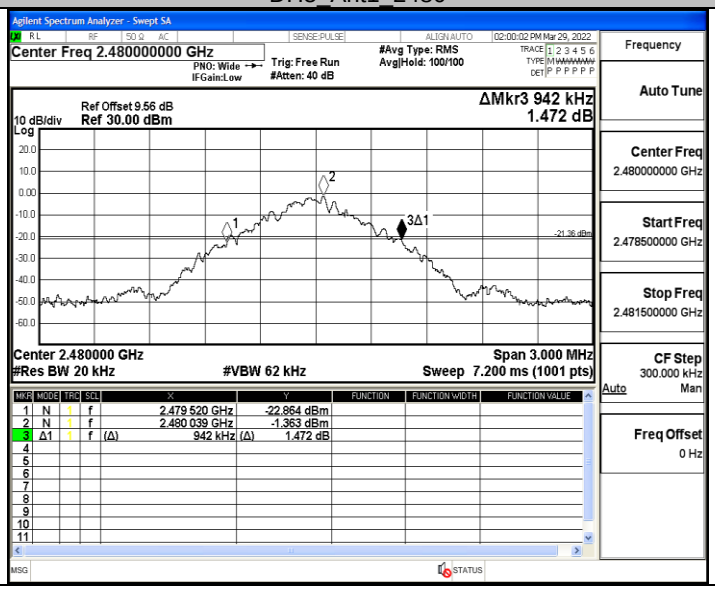
DH5_Ant1_2402



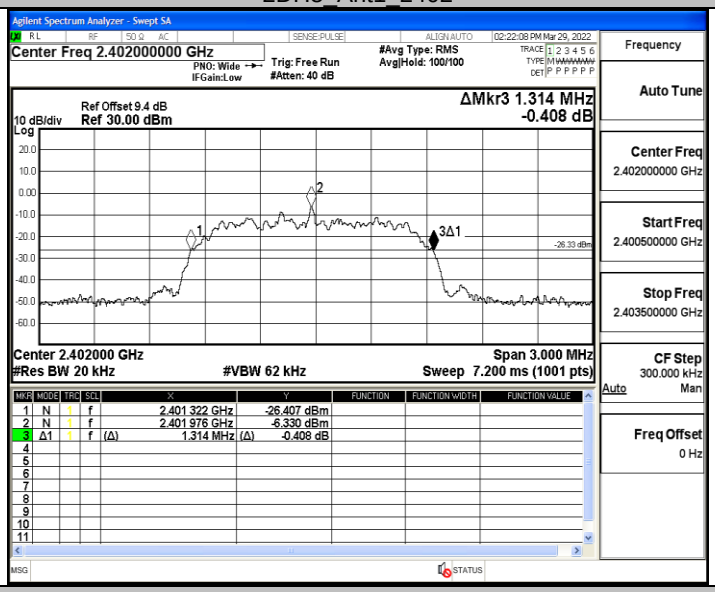
DH5_Ant1_2441



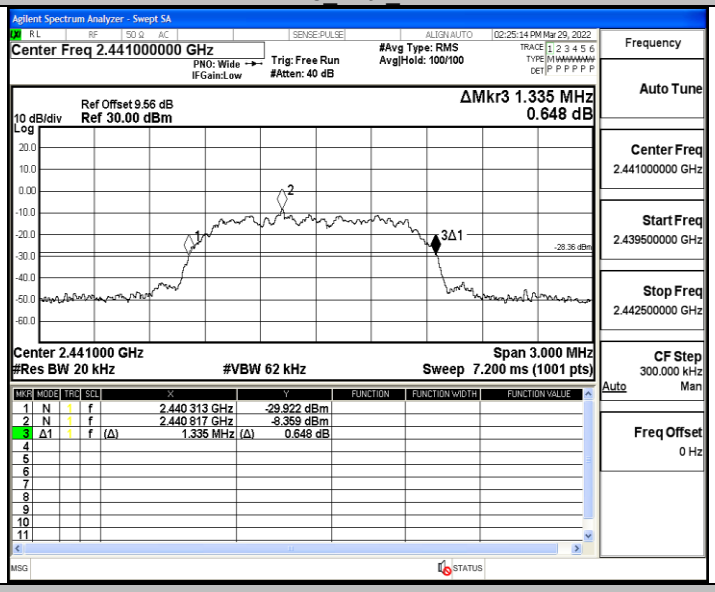
DH5_Ant1_2480



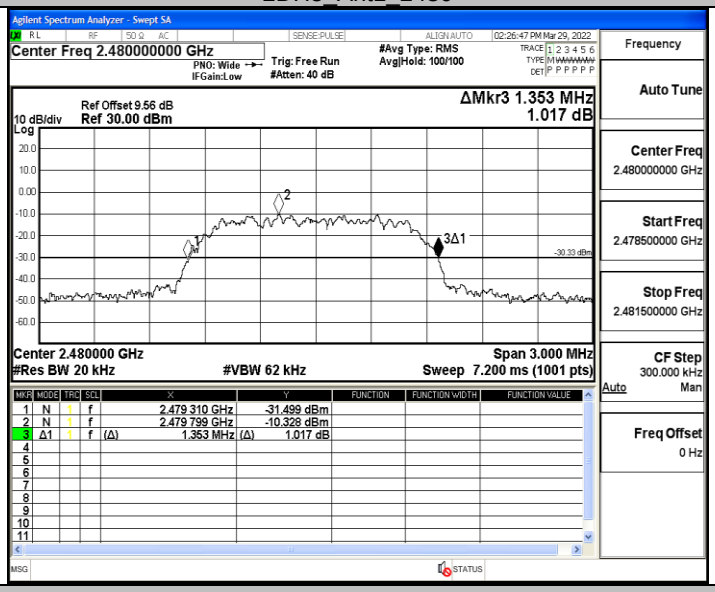
2DH5_Ant1_2402



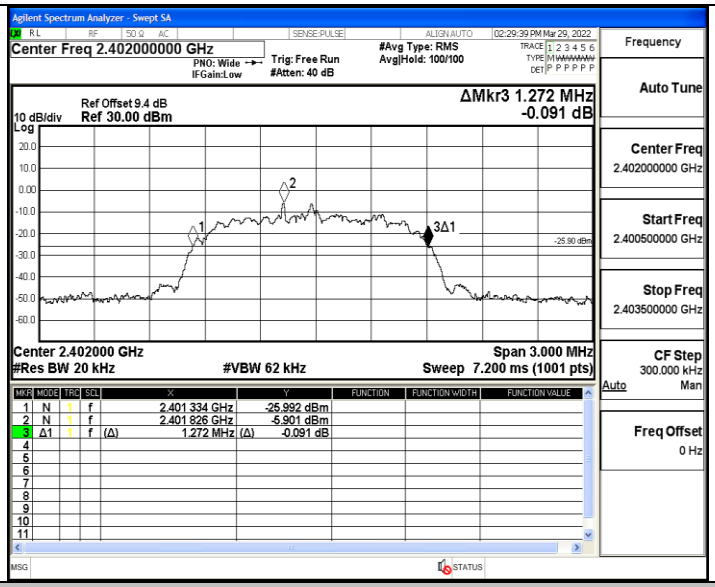
2DH5_Ant1_2441



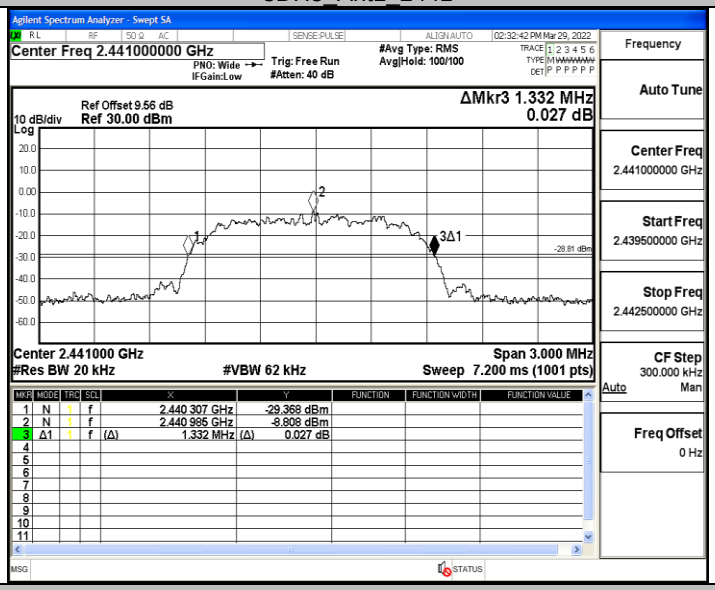
2DH5_Ant1_2480



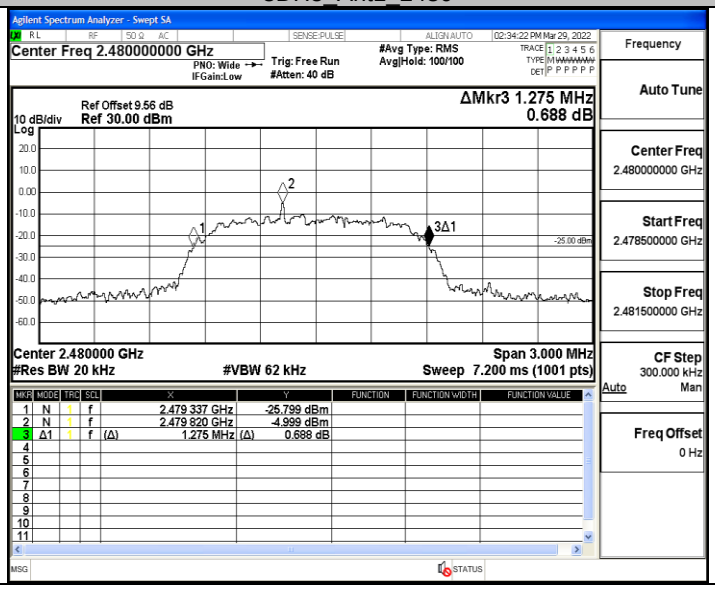
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



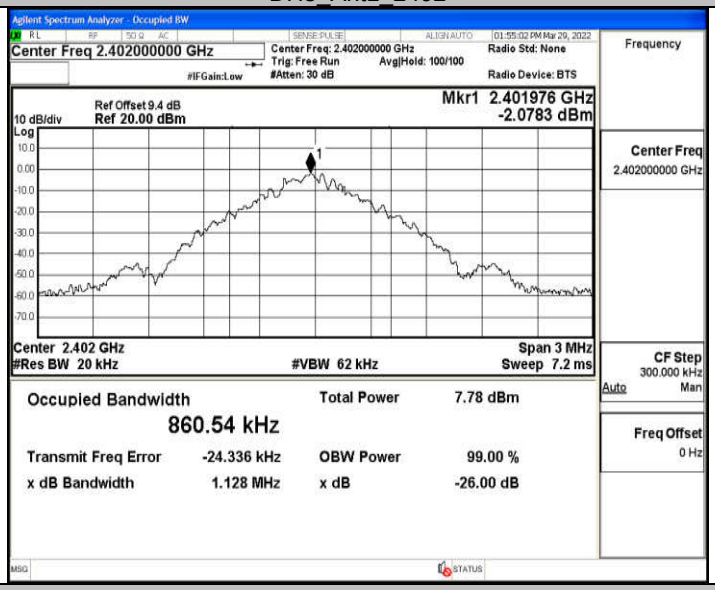
Appendix B: Occupied Channel Bandwidth

Test Result

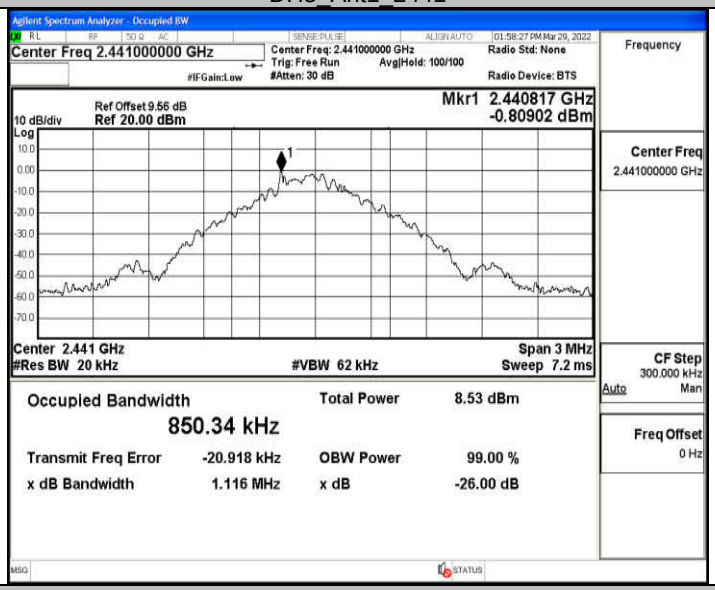
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.86054	2401.545	2402.406	---	---
		2441	0.85034	2440.554	2441.404	---	---
		2480	0.84796	2479.555	2480.403	---	---
2DH5	Ant1	2402	1.1867	2401.385	2402.572	---	---
		2441	1.1832	2440.389	2441.573	---	---
		2480	1.2070	2479.380	2480.587	---	---
3DH5	Ant1	2402	1.1941	2401.378	2402.572	---	---
		2441	1.1806	2440.388	2441.568	---	---
		2480	1.2052	2479.374	2480.579	---	---

Test Graphs

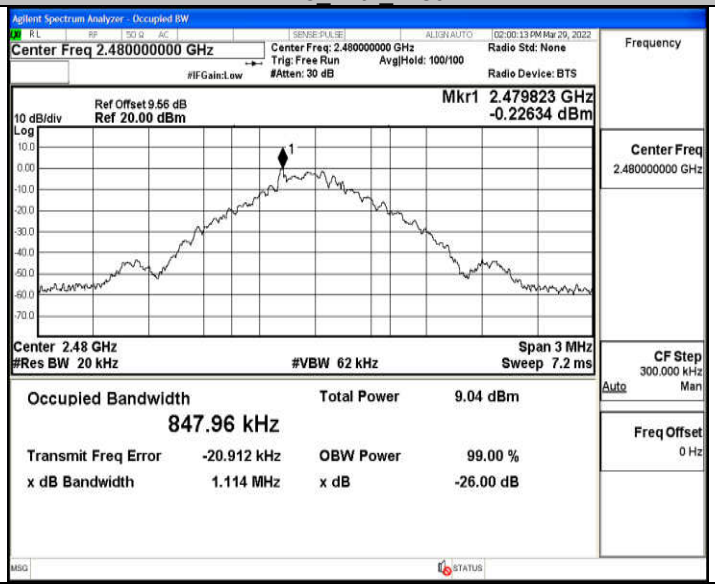
DH5_Ant1_2402



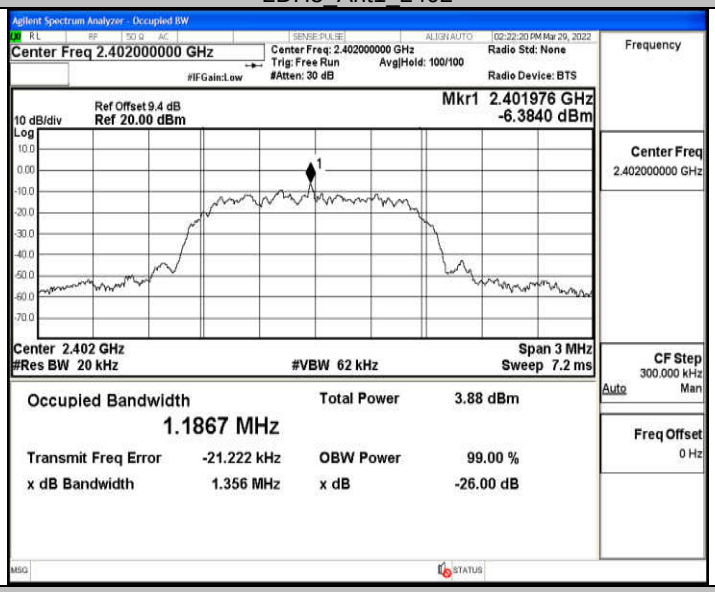
DH5_Ant1_2441



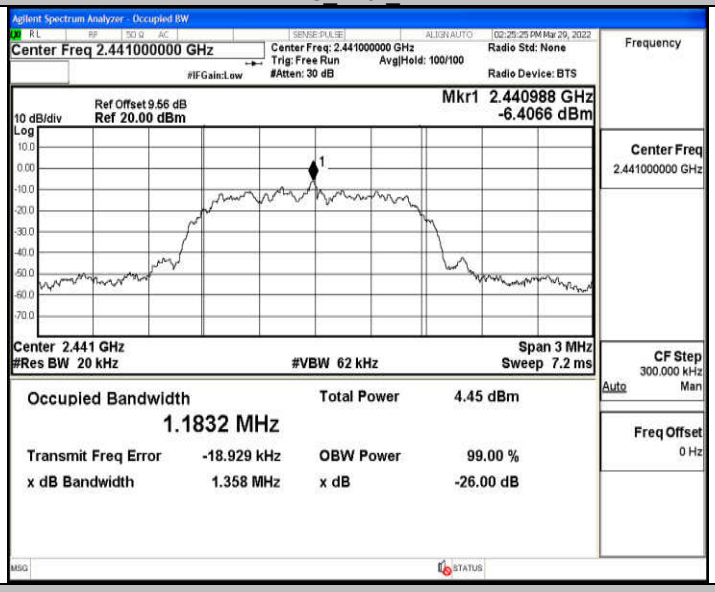
DH5_Ant1_2480



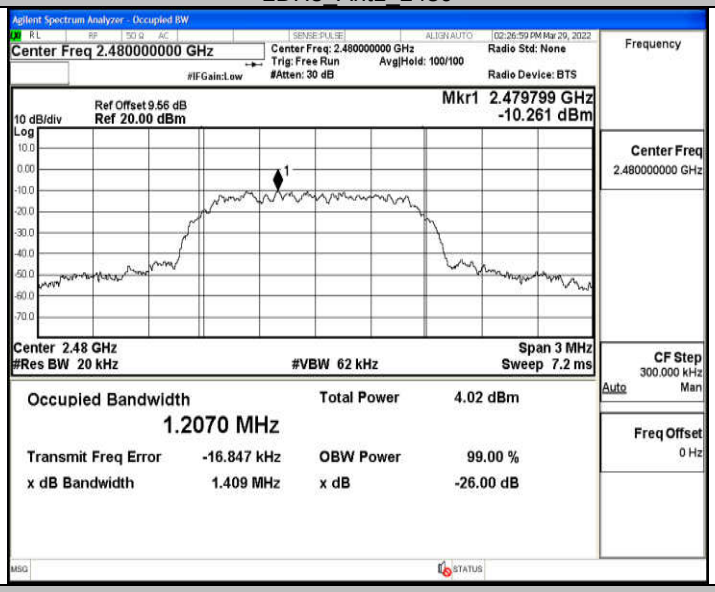
2DH5_Ant1_2402



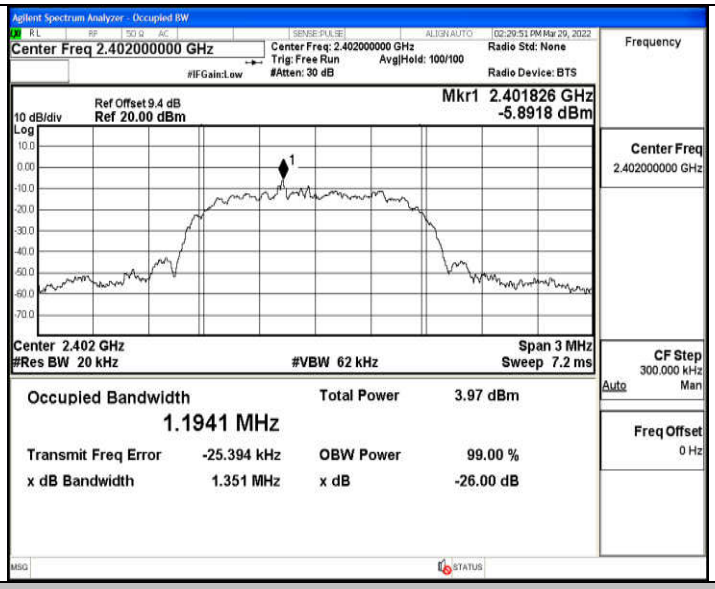
2DH5_Ant1_2441



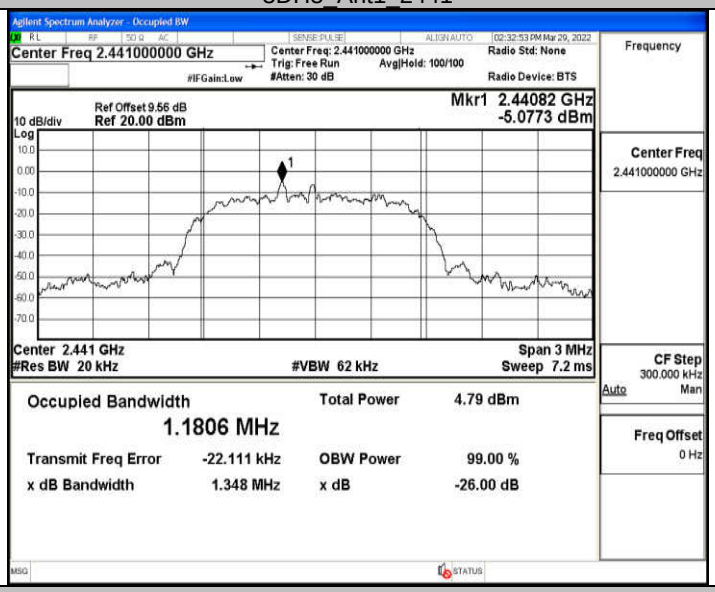
2DH5_Ant1_2480



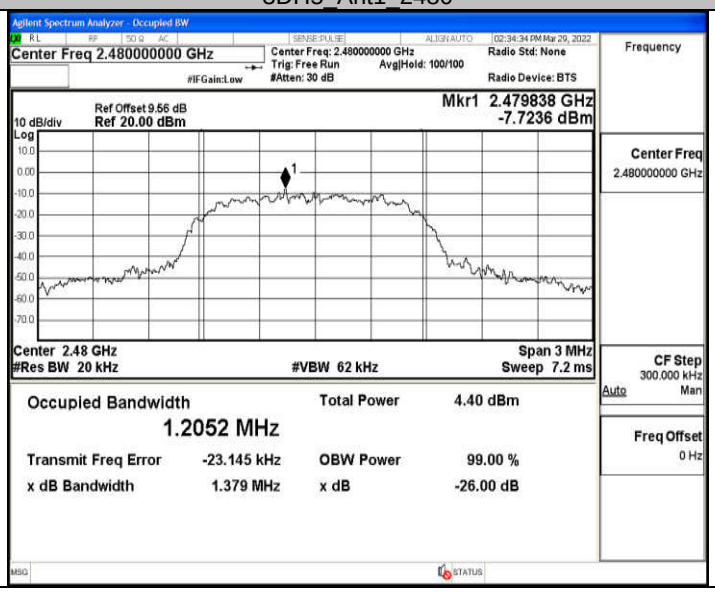
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



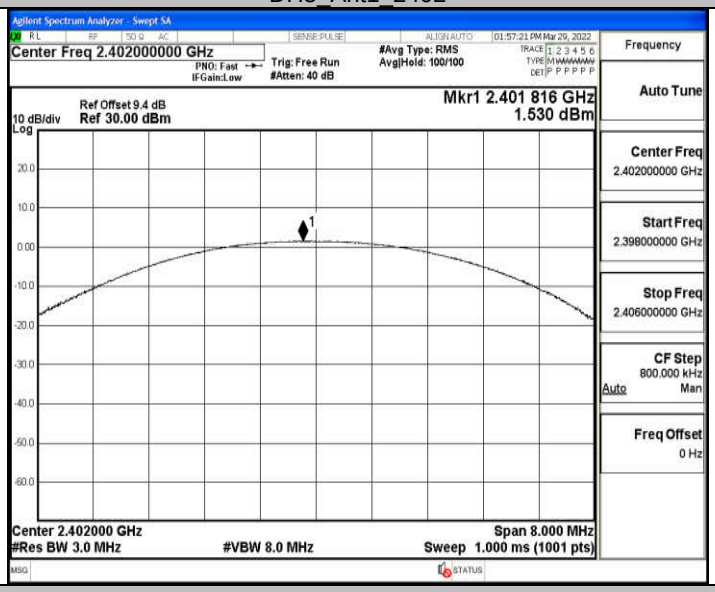
Appendix C: Maximum conducted output power

Test Result

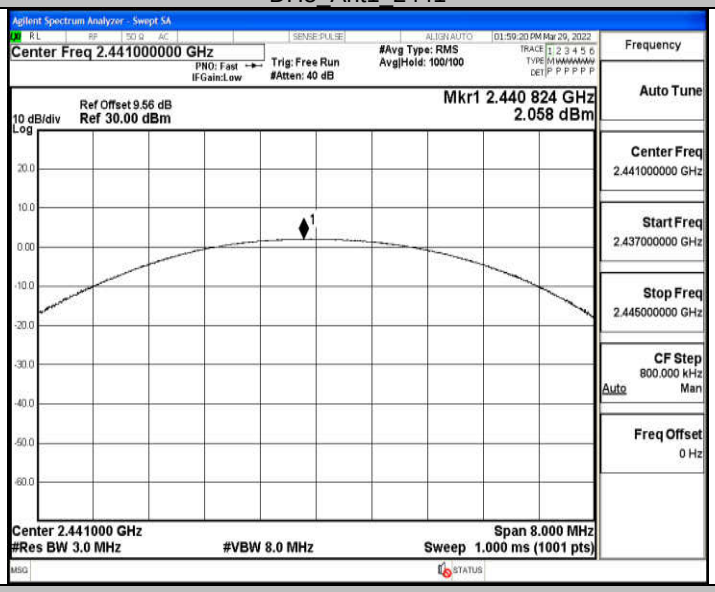
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	1.53	≤30	PASS
		2441	2.06	≤30	PASS
		2480	2.38	≤30	PASS
2DH5	Ant1	2402	0.31	≤20.97	PASS
		2441	0.84	≤20.97	PASS
		2480	0.9	≤20.97	PASS
3DH5	Ant1	2402	0.89	≤20.97	PASS
		2441	1.29	≤20.97	PASS
		2480	1.92	≤20.97	PASS

Test Graphs

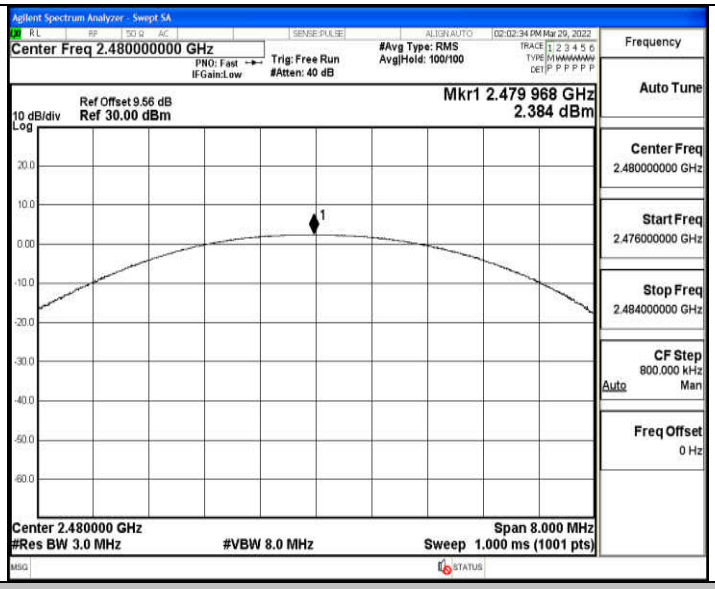
DH5_Ant1_2402



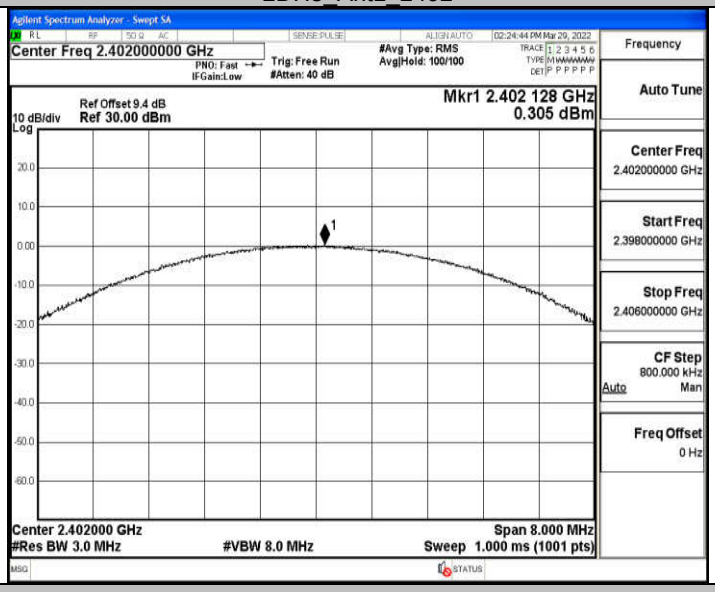
DH5_Ant1_2441



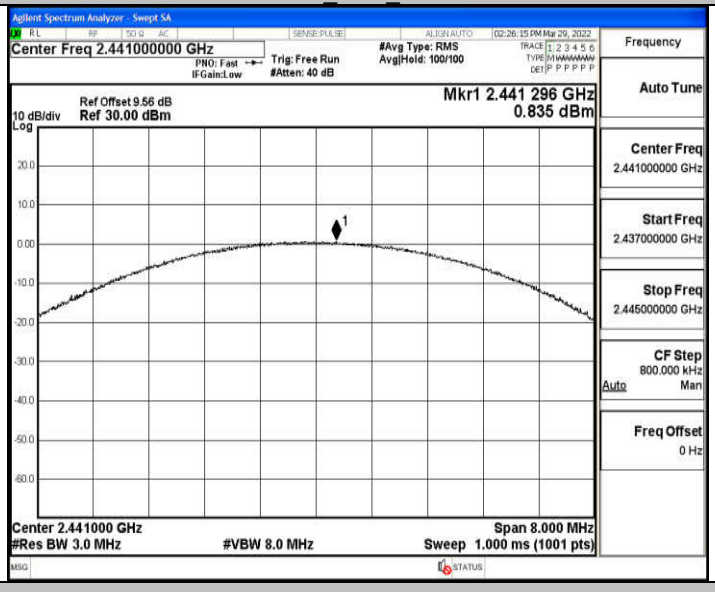
DH5_Ant1_2480



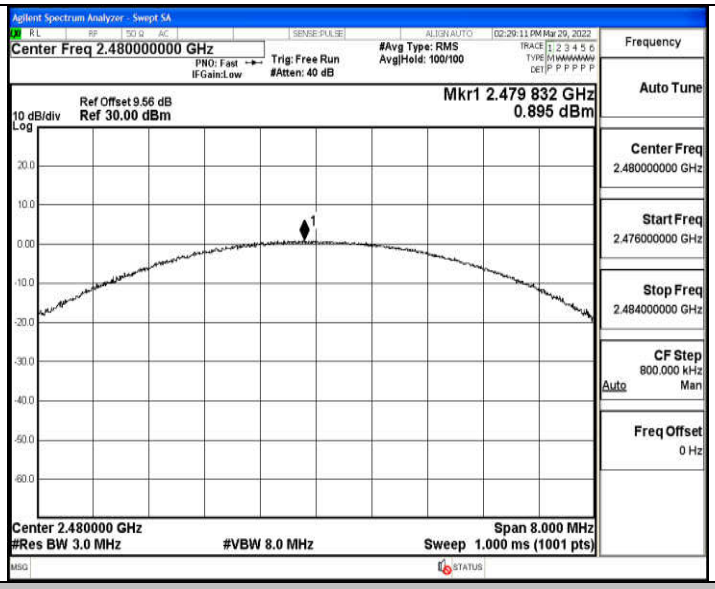
2DH5_Ant1_2402



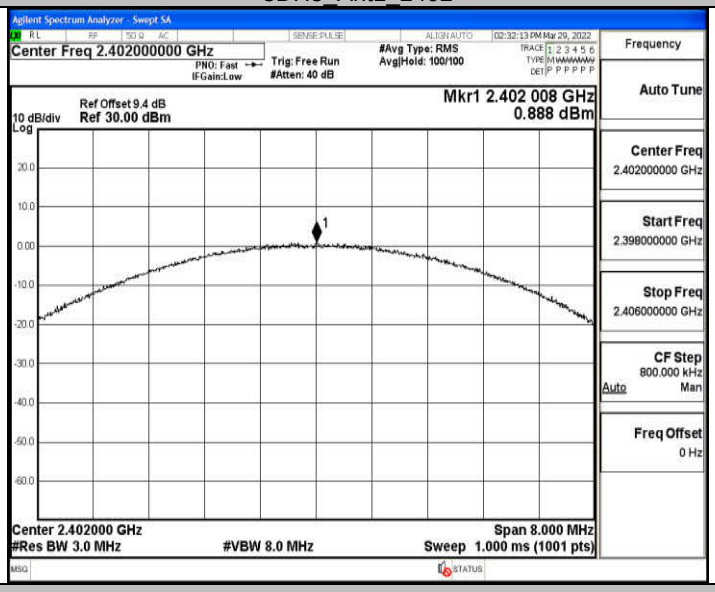
2DH5_Ant1_2441



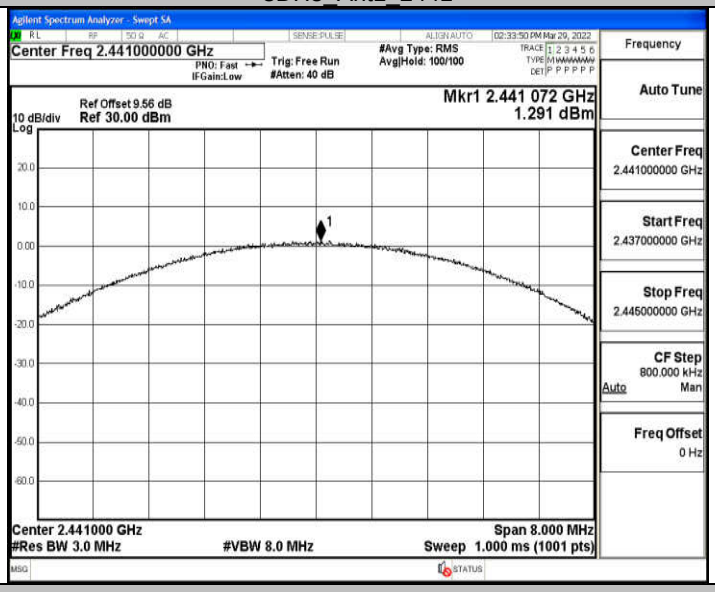
2DH5_Ant1_2480



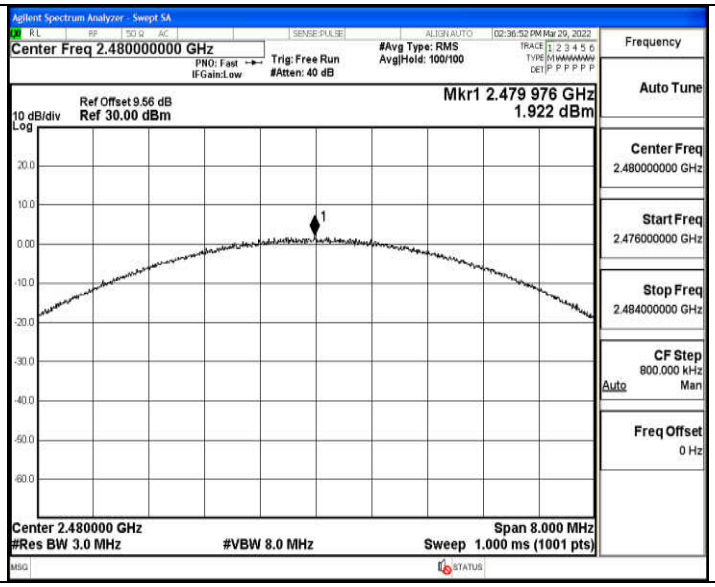
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
02:36:52 PM Mar 29, 2022
Ref Offset 9.56 dB
10 dB/div Ref 30.00 dBm
Log
Mkr1 2.479 976 GHz
1.922 dBm
Center 2.480000 GHz
#Res BW 3.0 MHz
#VBW 8.0 MHz
Span 8.000 MHz
Sweep 1.000 ms (1001 pts)
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.476000000 GHz
Stop Freq
2.484000000 GHz
CF Step
800.000 kHz
Auto
Man
Freq Offset
0 Hz

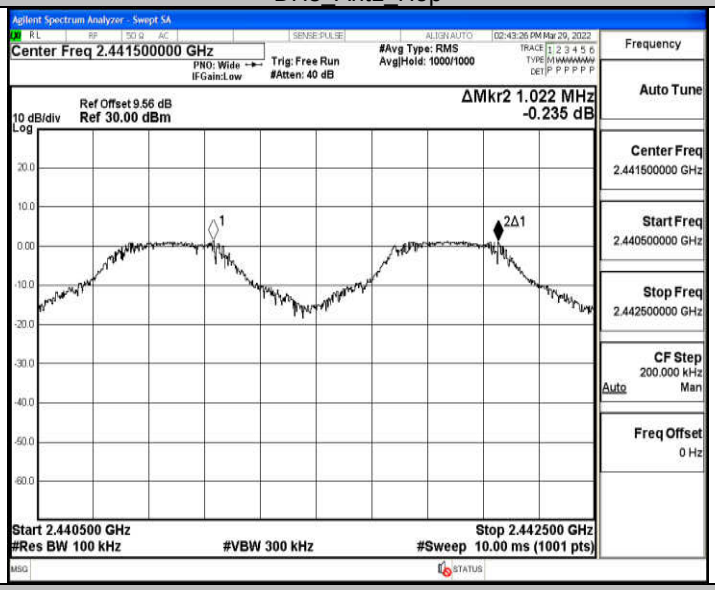
Appendix D: Carrier frequency separation

Test Result

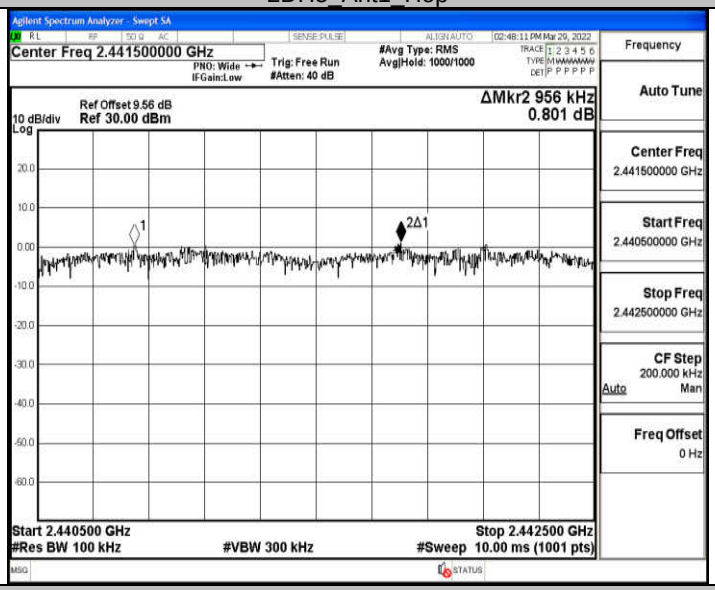
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.022	≥0.942	PASS
2DH5	Ant1	Hop	0.956	≥0.902	PASS
3DH5	Ant1	Hop	0.99	≥0.888	PASS

Test Graphs

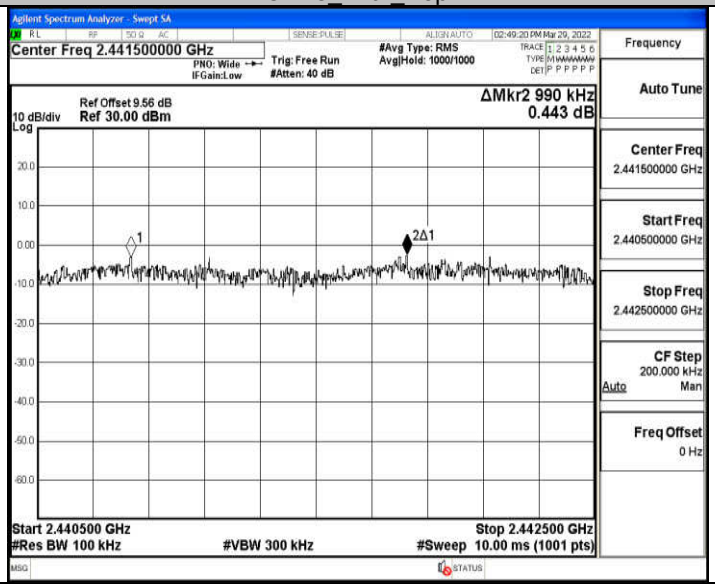
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



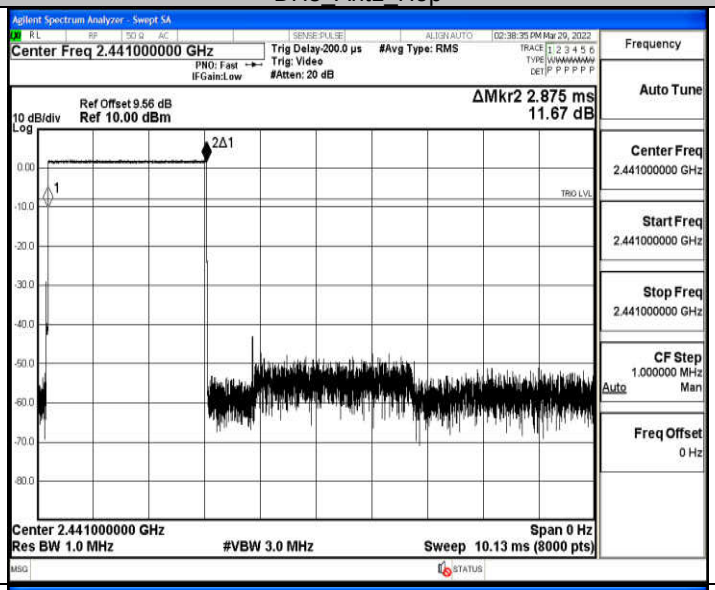
Appendix E: Time of occupancy

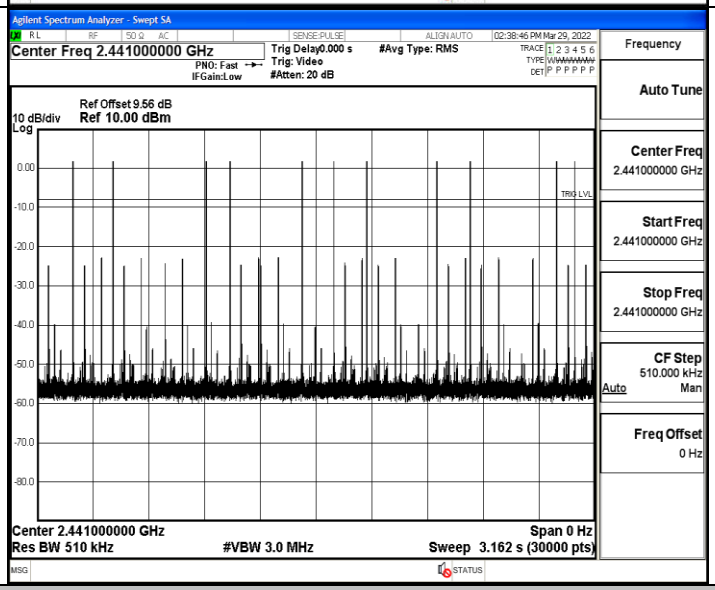
Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	120	0.345	≤0.4	PASS
2DH5	Ant1	Hop	2.88	120	0.345	≤0.4	PASS
3DH5	Ant1	Hop	2.88	120	0.346	≤0.4	PASS

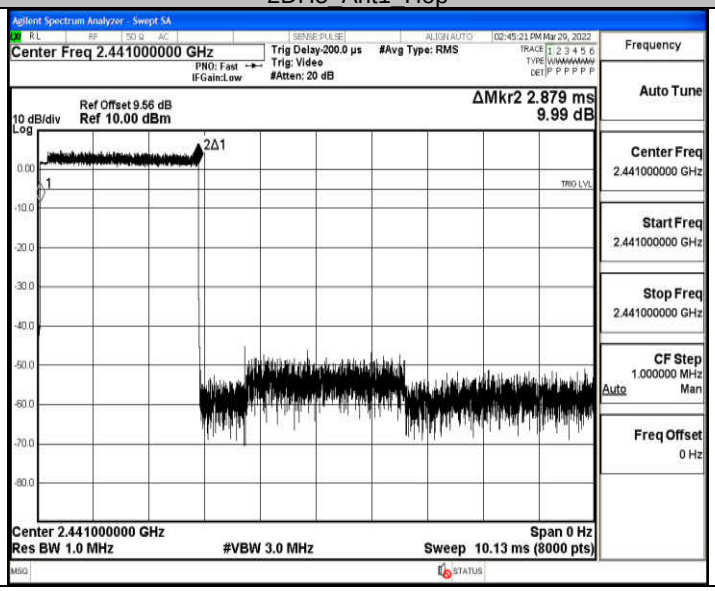
Test Graphs

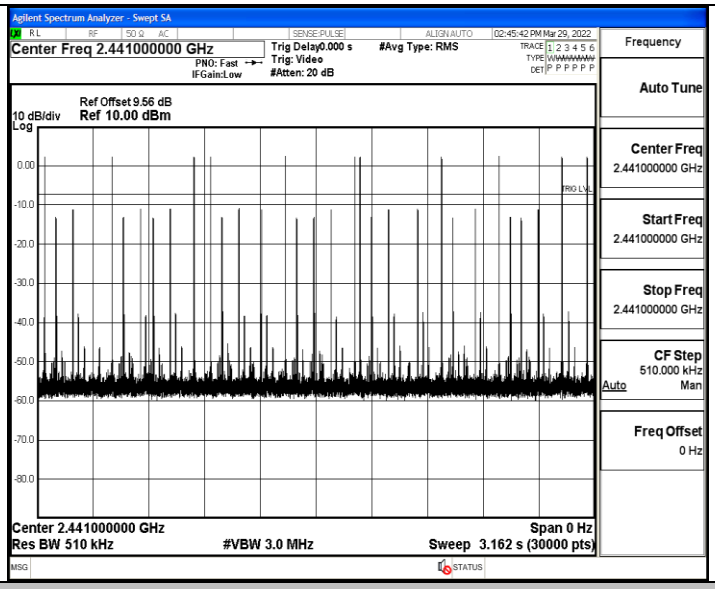
DH5_Ant1_Hop



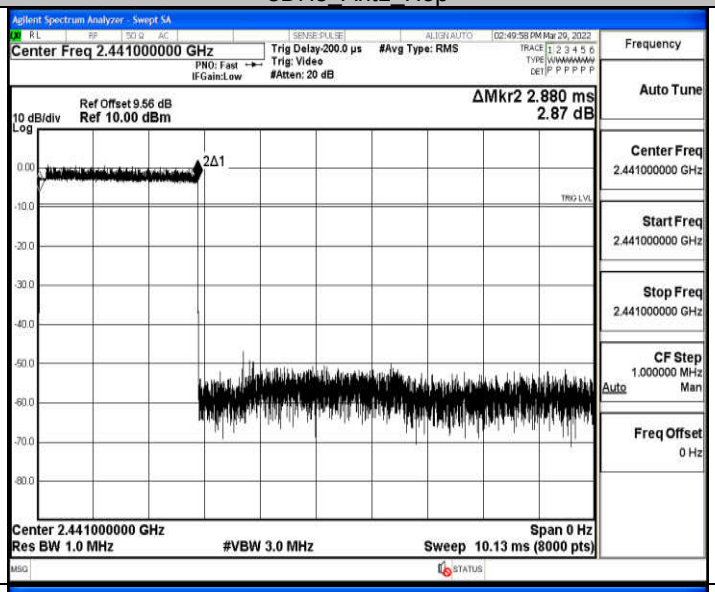


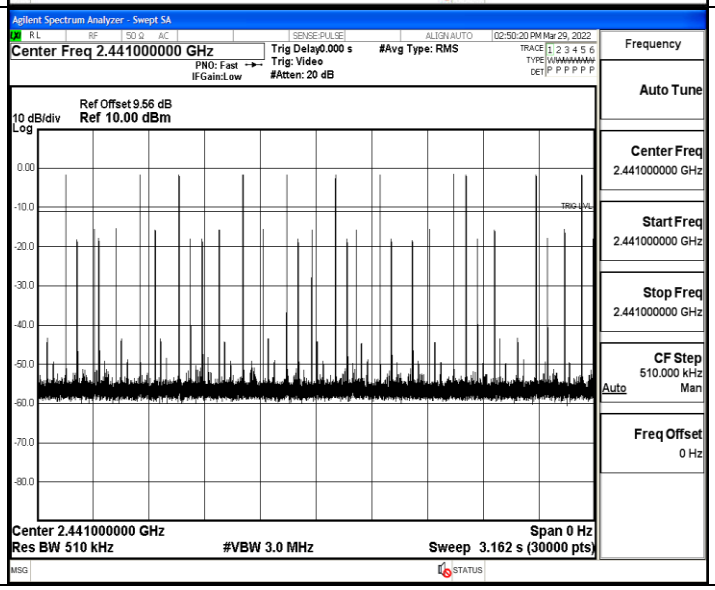
2DH5_Ant1_Hop





3DH5_Ant1_Hop





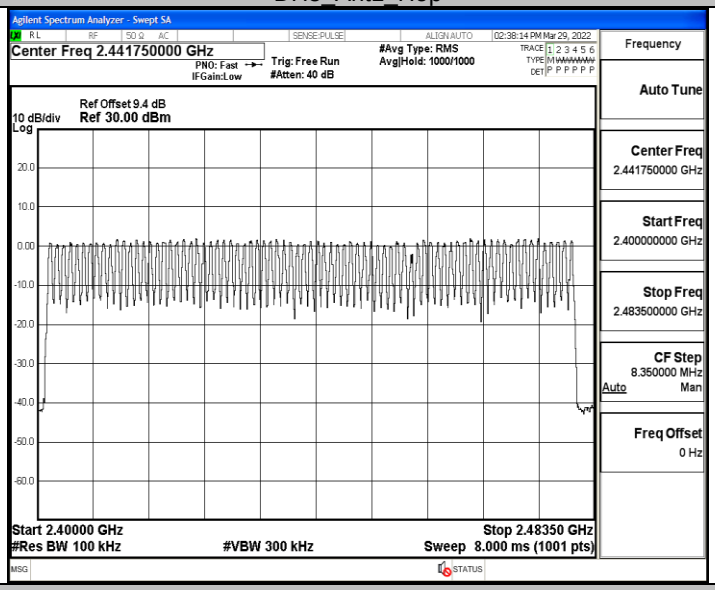
Appendix F: Number of hopping channels

Test Result

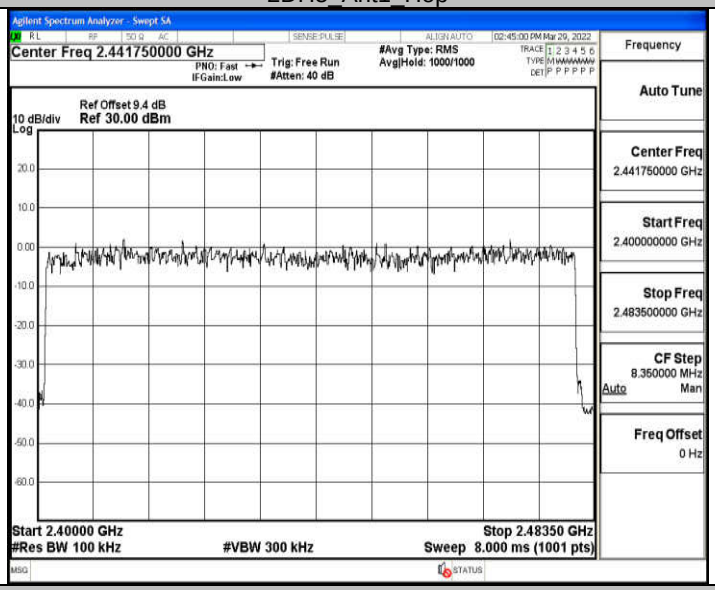
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

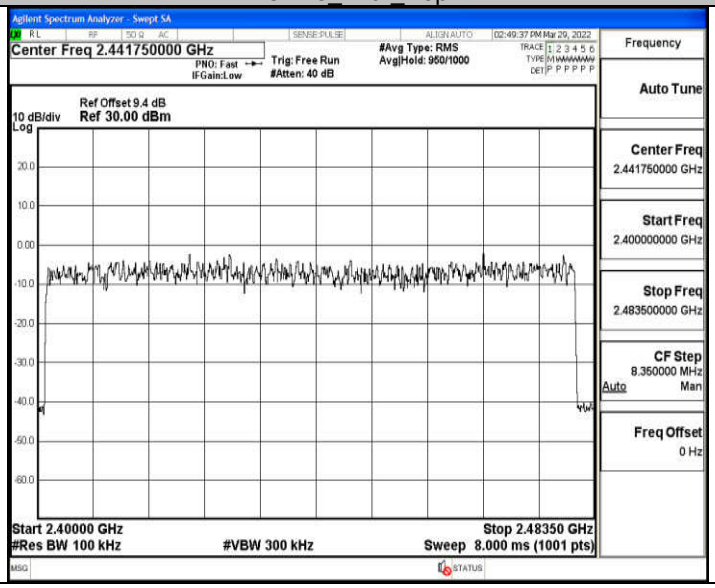
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



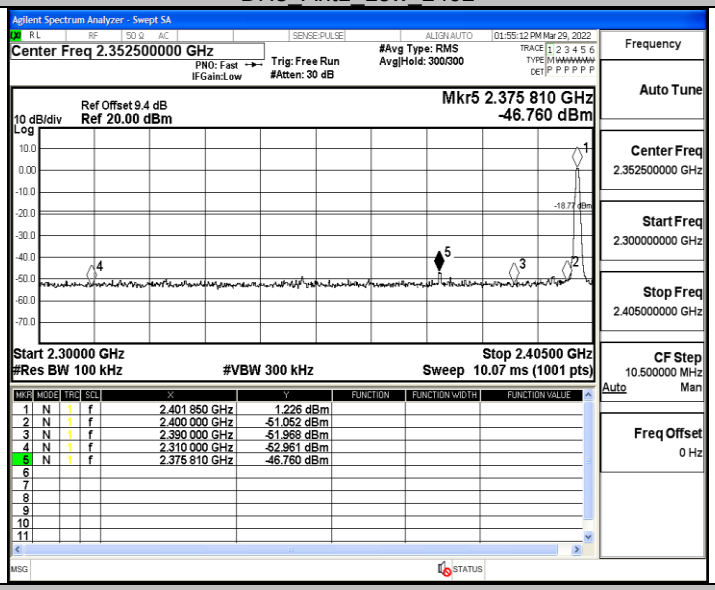
Appendix G: Band edge measurements

Test Result

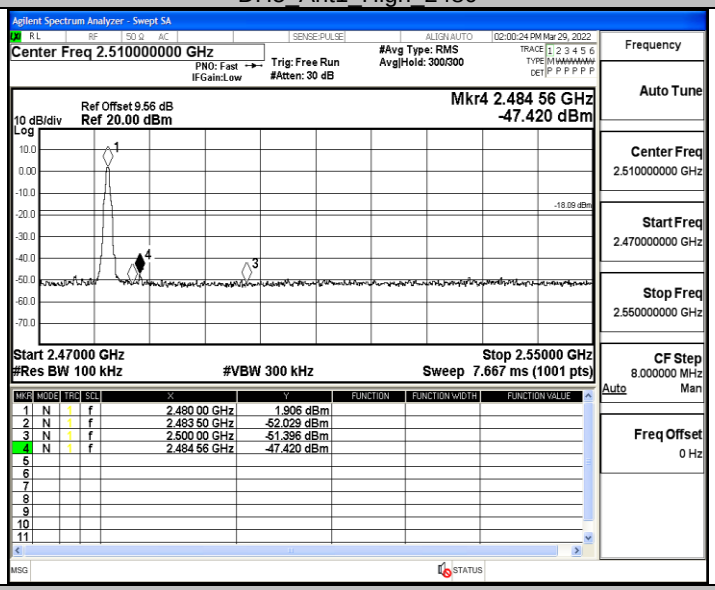
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	1.23	-46.76	≤-18.77	PASS
		High	2480	1.91	-47.42	≤-18.09	PASS
		Low	Hop_2402	-0.26	-46.94	≤-20.26	PASS
		High	Hop_2480	1.80	-47.87	≤-18.21	PASS
2DH5	Ant1	Low	2402	-3.41	-49.14	≤-23.41	PASS
		High	2480	-2.92	-48.87	≤-22.92	PASS
		Low	Hop_2402	-1.49	-47.61	≤-21.49	PASS
		High	Hop_2480	0.00	-48.76	≤-20	PASS
3DH5	Ant1	Low	2402	-3.05	-49.31	≤-23.05	PASS
		High	2480	-2.36	-48.32	≤-22.36	PASS
		Low	Hop_2402	-5.32	-48.78	≤-25.32	PASS
		High	Hop_2480	-3.62	-48.59	≤-23.62	PASS

Test Graphs

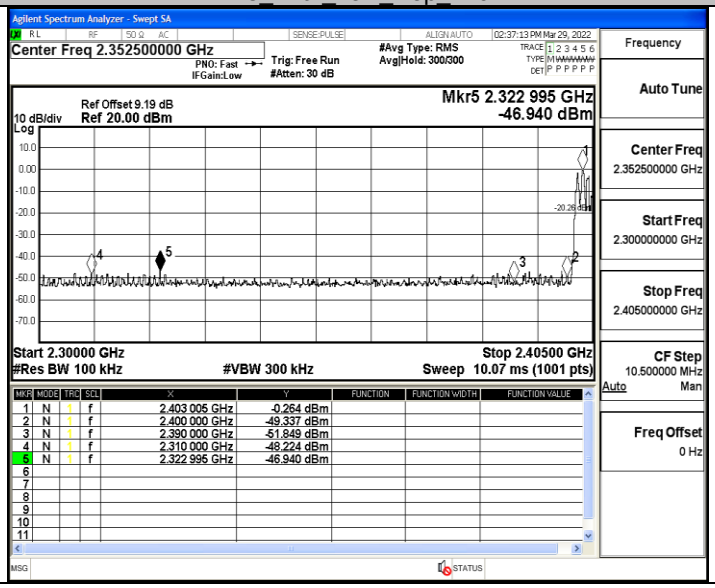
DH5_Ant1_Low_2402



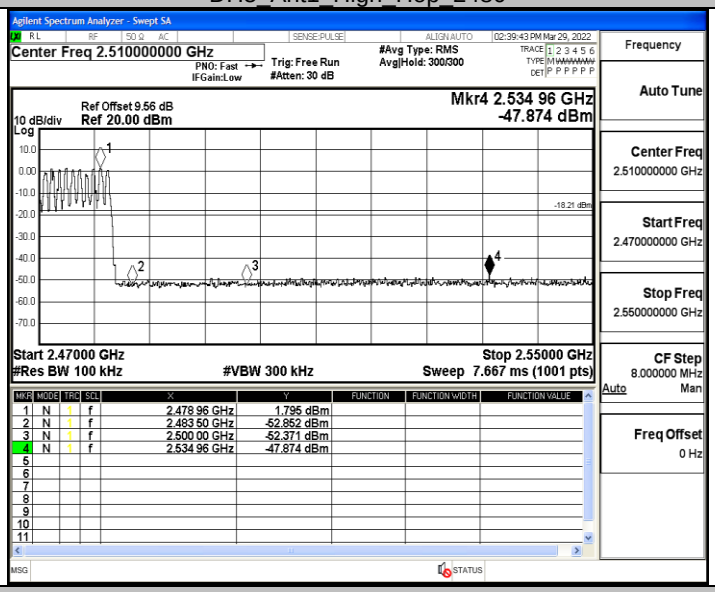
DH5_Ant1_High_2480



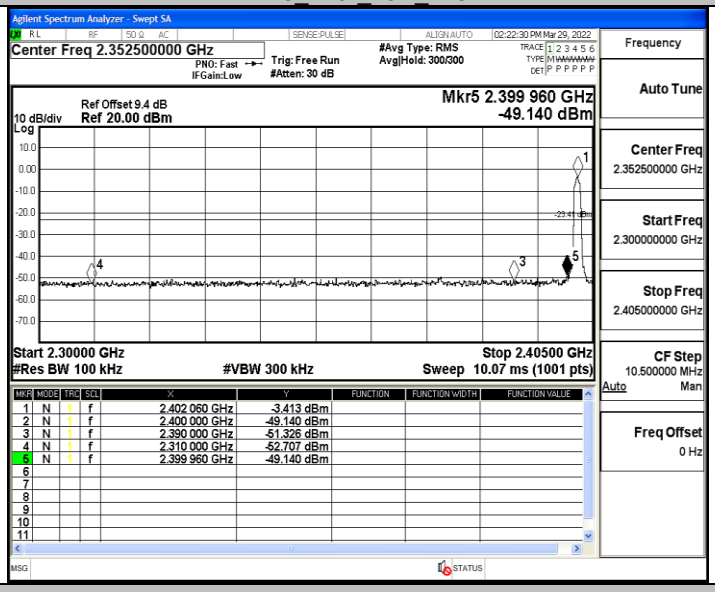
DH5_Ant1_Low_Hop_2402



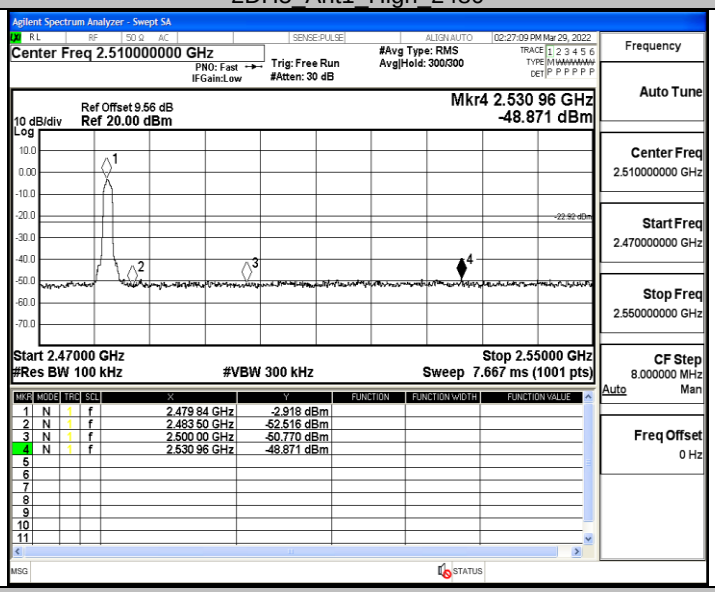
DH5_Ant1_High_Hop_2480



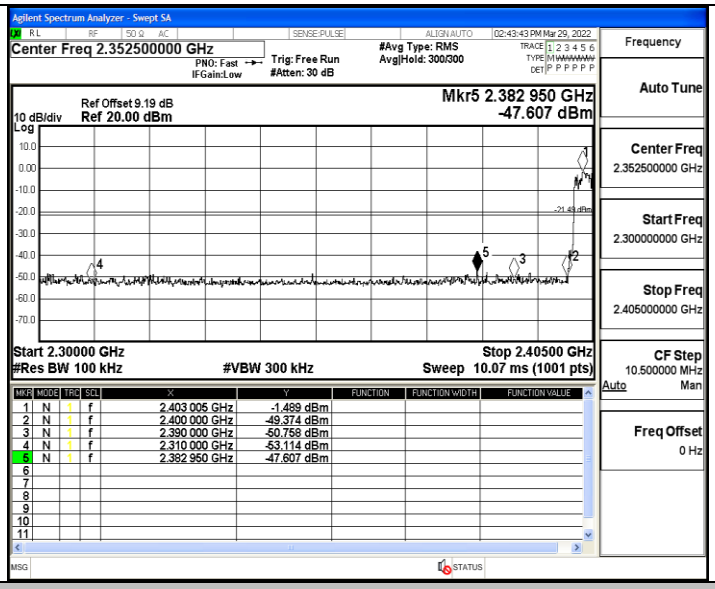
2DH5_Ant1_Low_2402



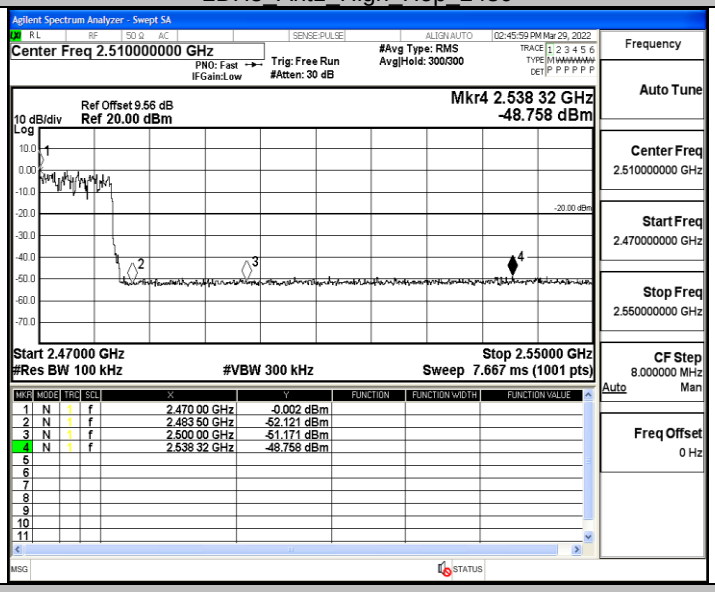
2DH5_Ant1_High_2480



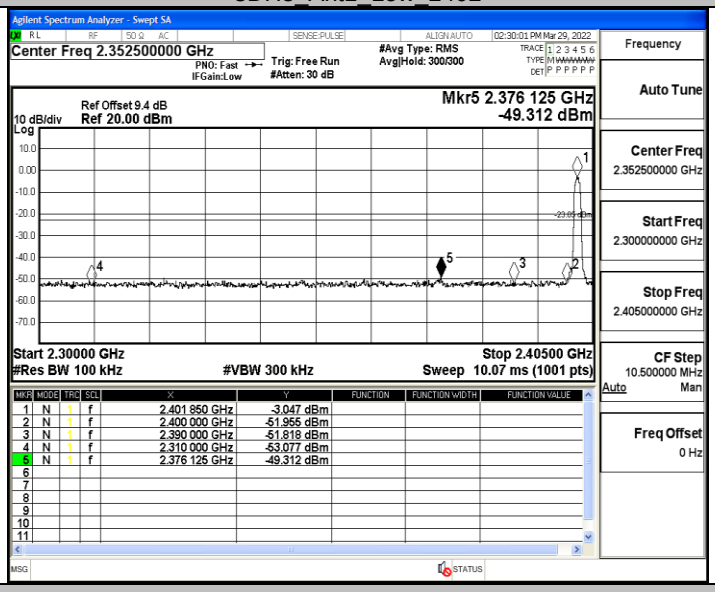
2DH5_Ant1_Low_Hop_2402



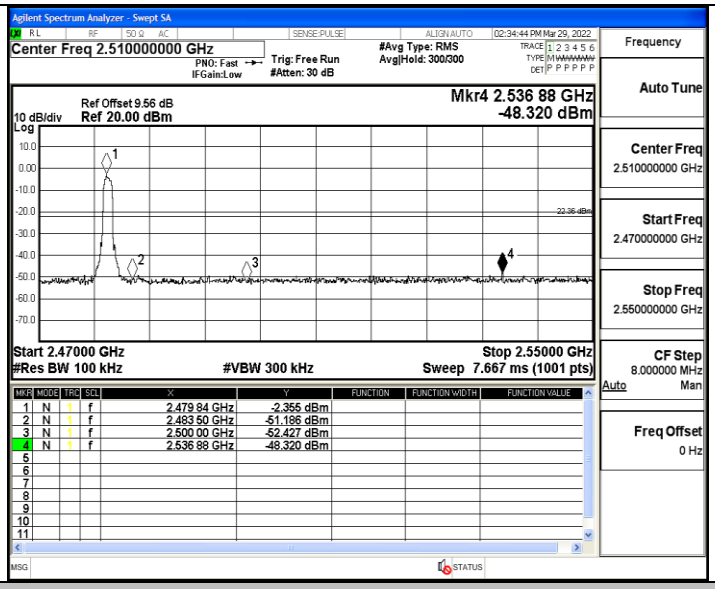
2DH5_Ant1_High_Hop_2480



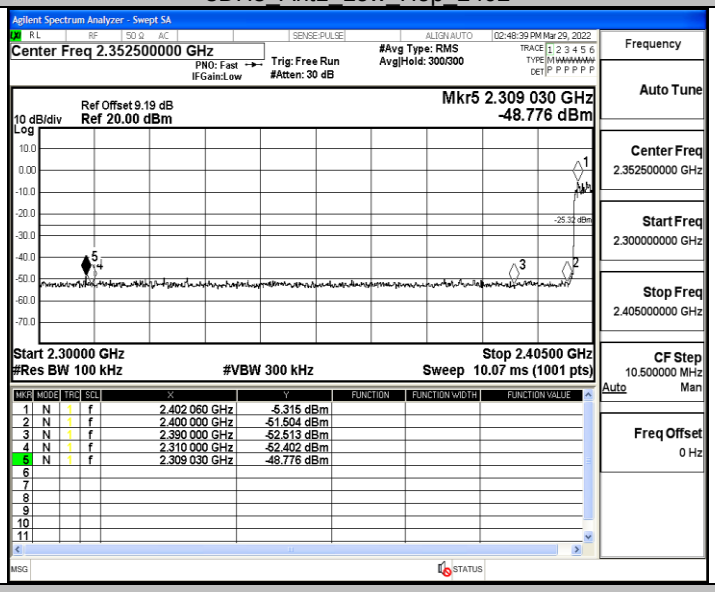
3DH5_Ant1_Low_2402



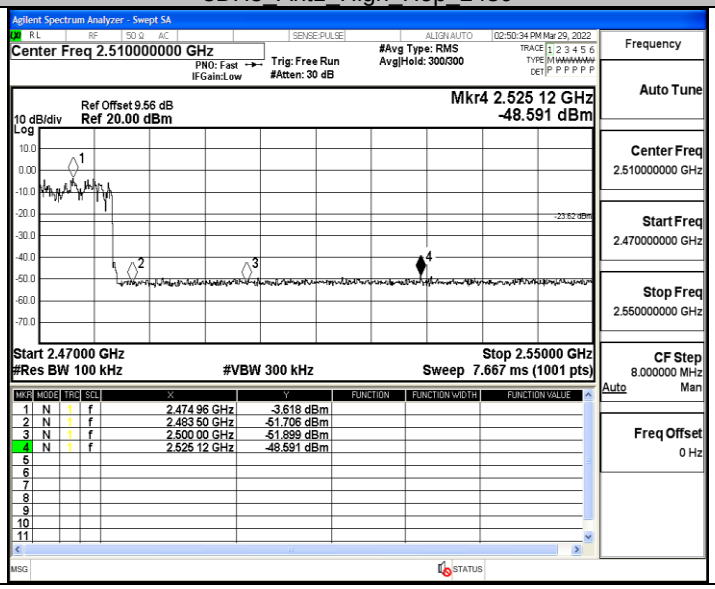
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



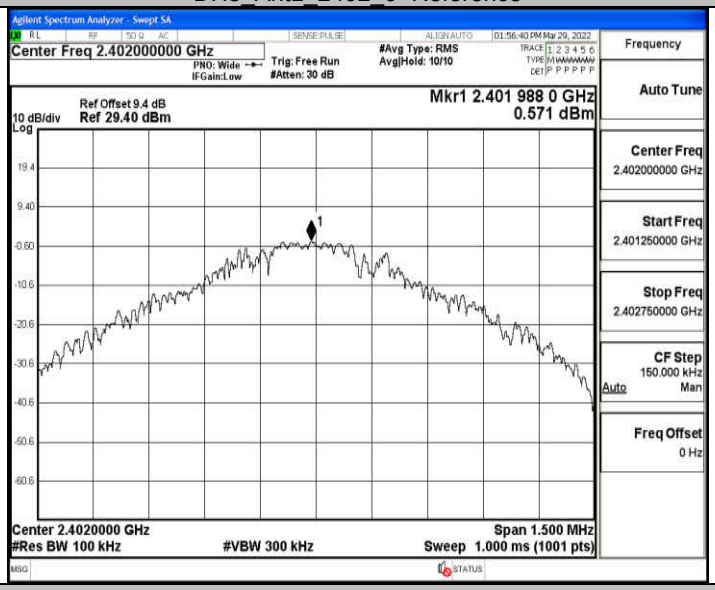
Appendix H: Conducted Spurious Emission

Test Result

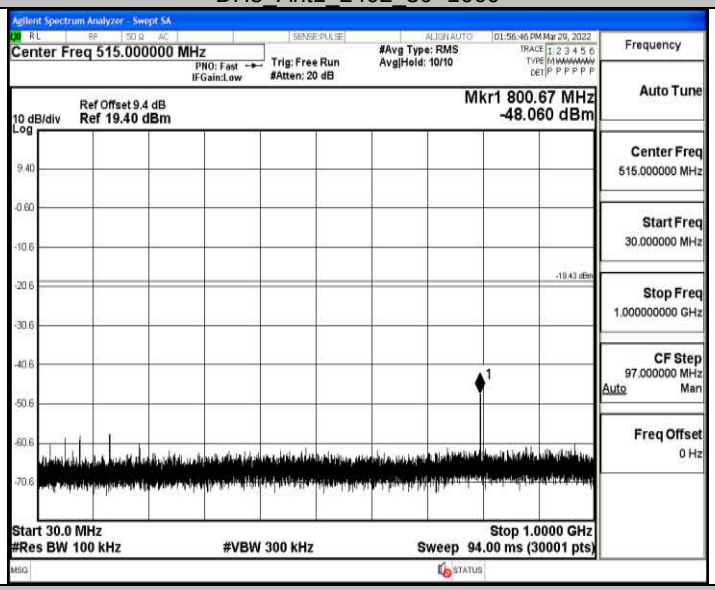
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	0.57	0.57	---	PASS
			30~1000	0.57	-48.06	≤-19.43	PASS
			1000~26500	0.57	-38	≤-19.43	PASS
		2441	Reference	1.25	1.25	---	PASS
			30~1000	1.25	-47.99	≤-18.75	PASS
			1000~26500	1.25	-35.56	≤-18.75	PASS
		2480	Reference	1.38	1.38	---	PASS
			30~1000	1.38	-48.08	≤-18.62	PASS
			1000~26500	1.38	-36.94	≤-18.62	PASS
2DH5	Ant1	2402	Reference	-5.82	-5.82	---	PASS
			30~1000	-5.82	-53.3	≤-25.82	PASS
			1000~26500	-5.82	-47.24	≤-25.82	PASS
		2441	Reference	-5.48	-5.48	---	PASS
			30~1000	-5.48	-53.97	≤-25.48	PASS
			1000~26500	-5.48	-46.83	≤-25.48	PASS
		2480	Reference	-4.45	-4.45	---	PASS
			30~1000	-4.45	-54.24	≤-24.45	PASS
			1000~26500	-4.45	-47.68	≤-24.45	PASS
3DH5	Ant1	2402	Reference	-4.12	-4.12	---	PASS
			30~1000	-4.12	-52.7	≤-24.12	PASS
			1000~26500	-4.12	-44.67	≤-24.12	PASS
		2441	Reference	-2.67	-2.67	---	PASS
			30~1000	-2.67	-54.54	≤-22.67	PASS
			1000~26500	-2.67	-43.56	≤-22.67	PASS
		2480	Reference	-4.97	-4.97	---	PASS
			30~1000	-4.97	-53.57	≤-24.97	PASS
			1000~26500	-4.97	-45.53	≤-24.97	PASS

Test Graphs

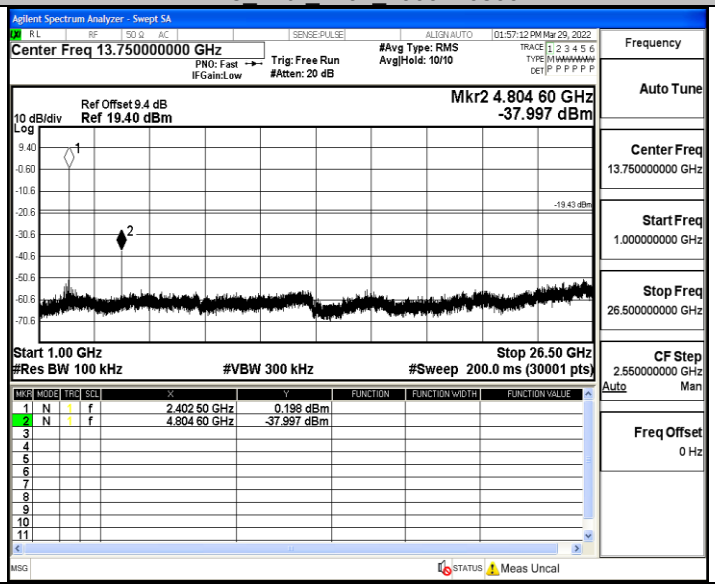
DH5_Ant1_2402_0~Reference



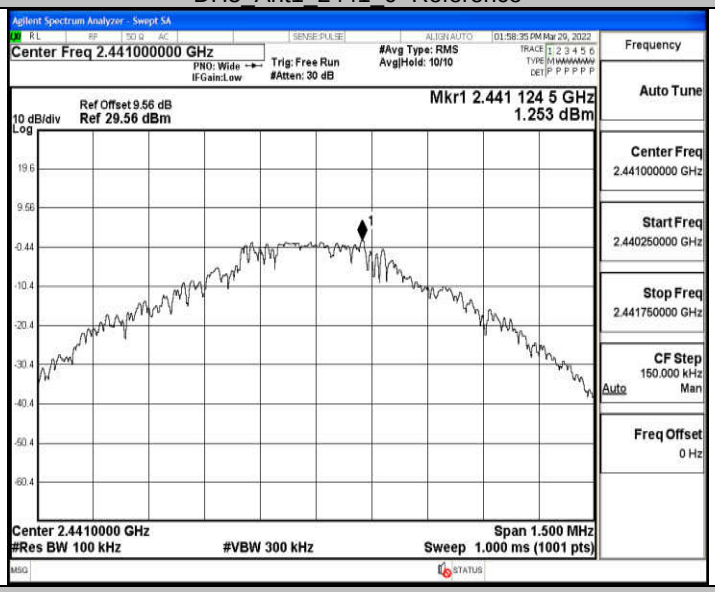
DH5_Ant1_2402_30~1000



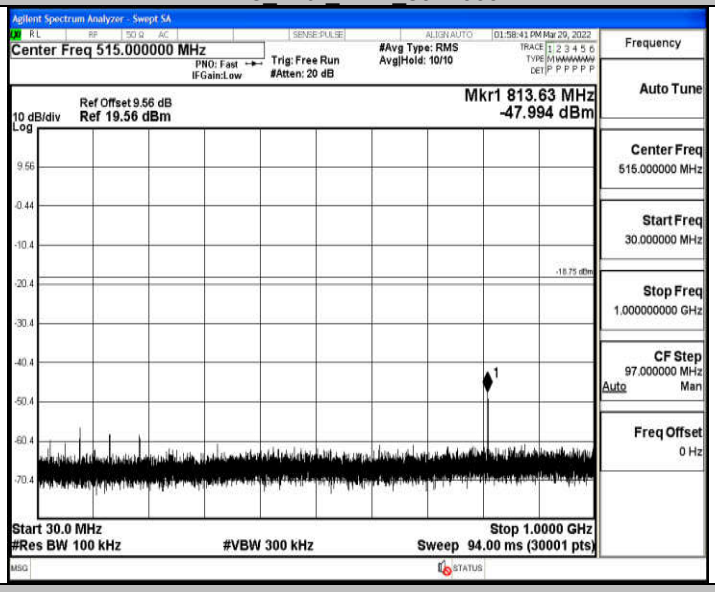
DH5_Ant1_2402_1000~26500



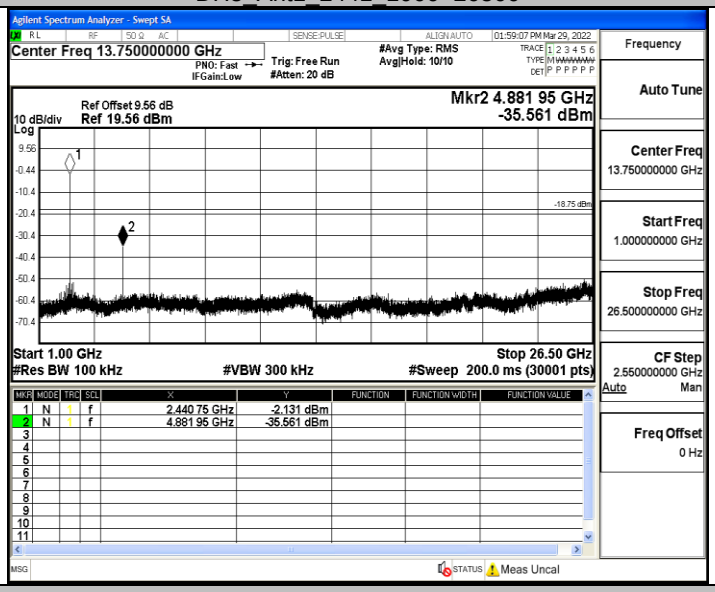
DH5_Ant1_2441_0~Reference



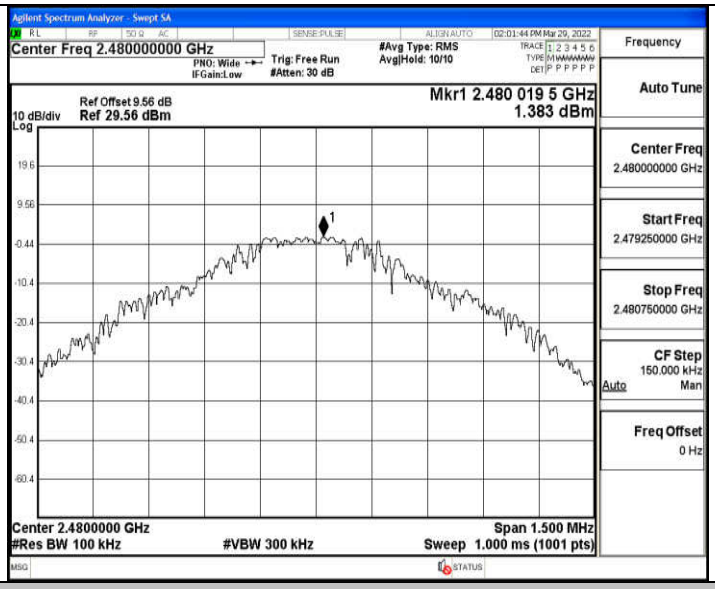
DH5_Ant1_2441_30~1000



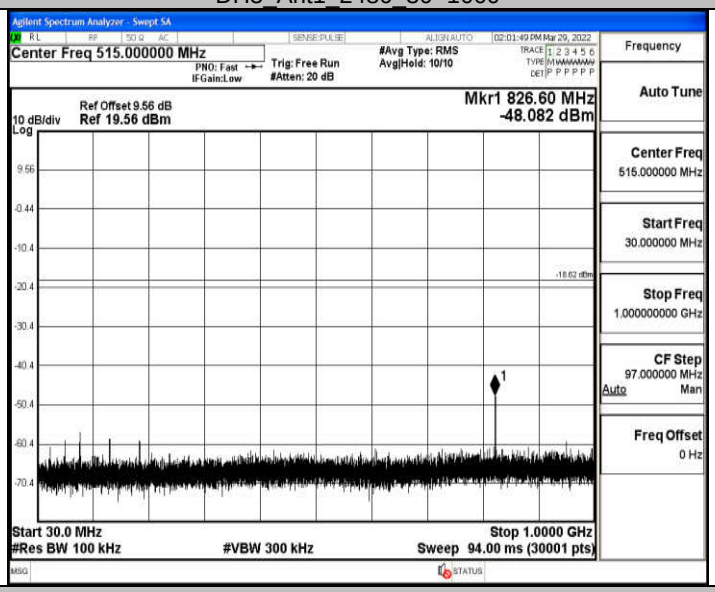
DH5_Ant1_2441_1000~26500



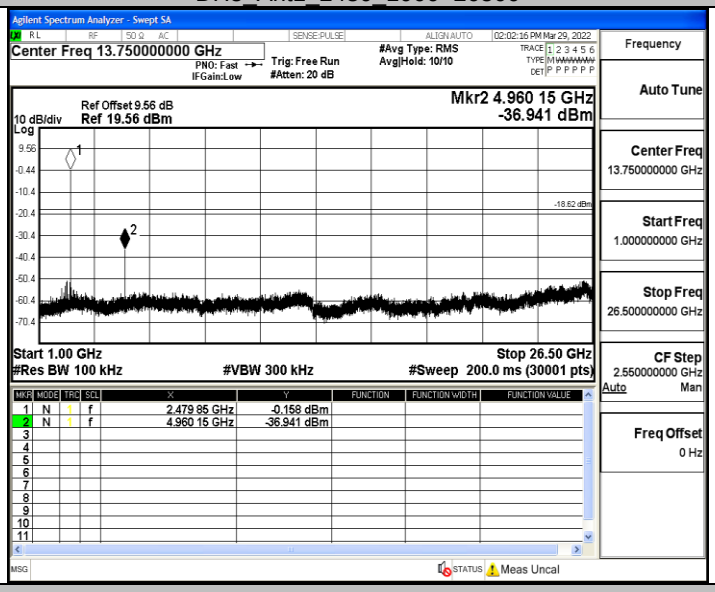
DH5_Ant1_2480_0~Reference



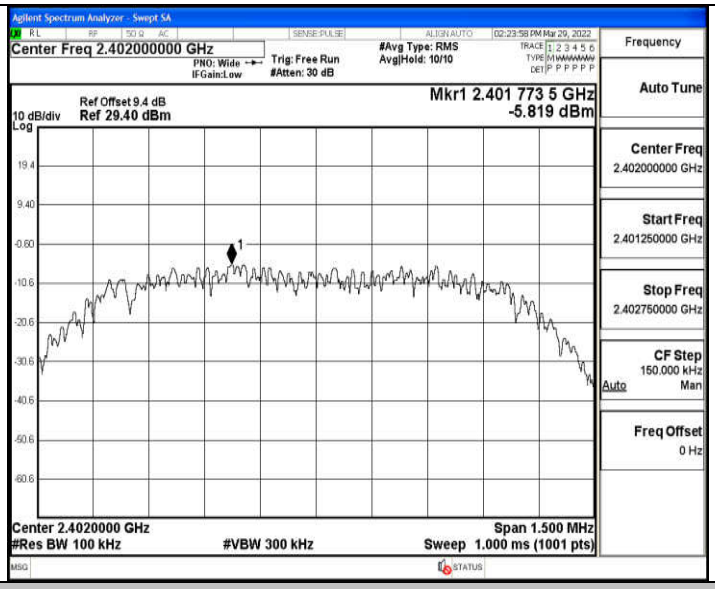
DH5_Ant1_2480_30~1000



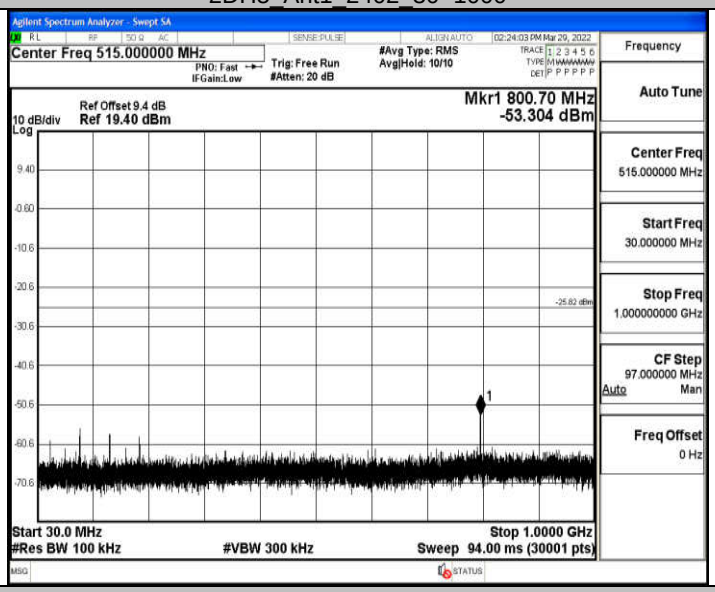
DH5_Ant1_2480_1000~26500



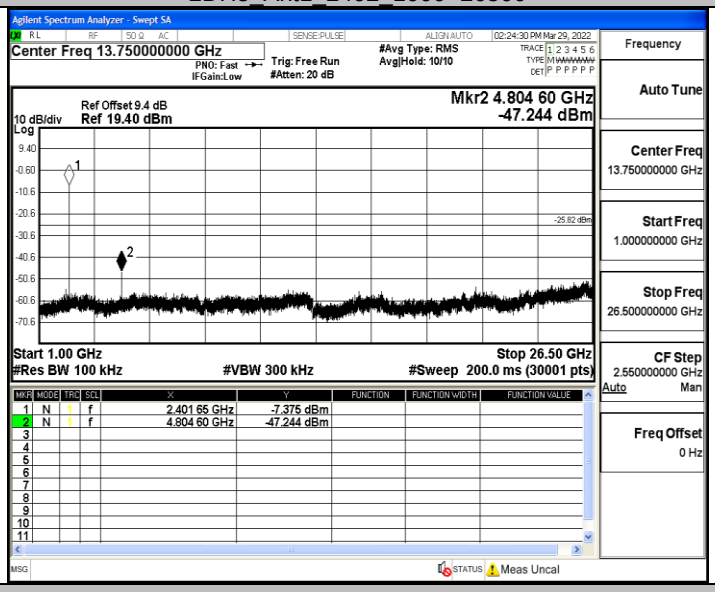
2DH5_Ant1_2402_0~Reference



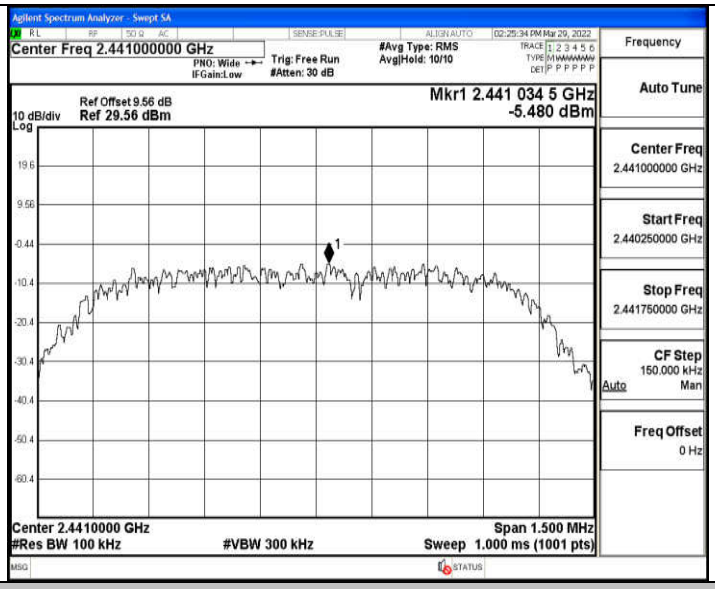
2DH5_Ant1_2402_30~1000



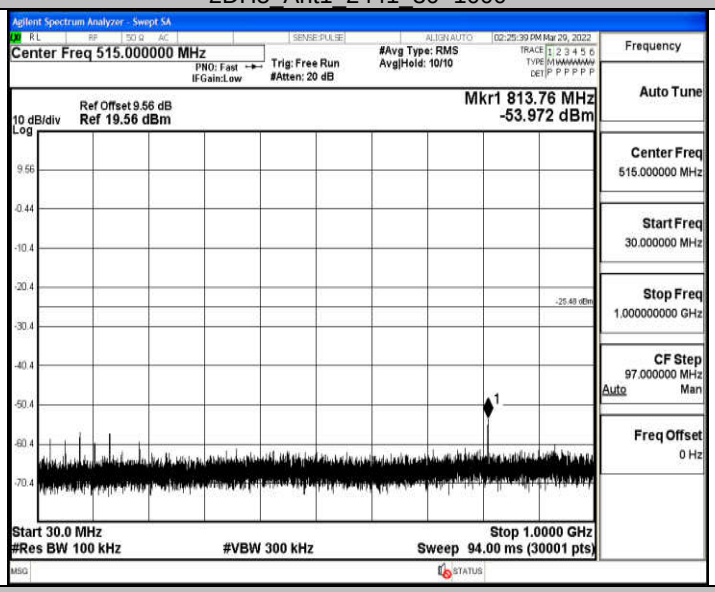
2DH5_Ant1_2402_1000~26500



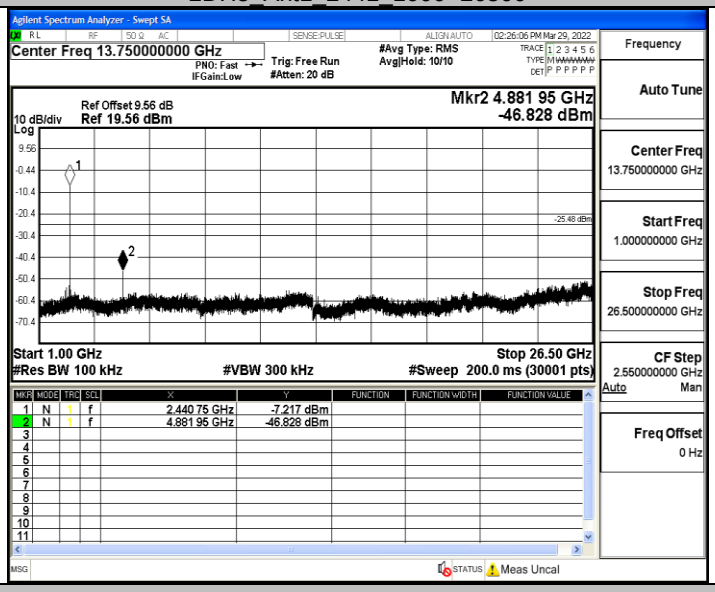
2DH5_Ant1_2441_0~Reference



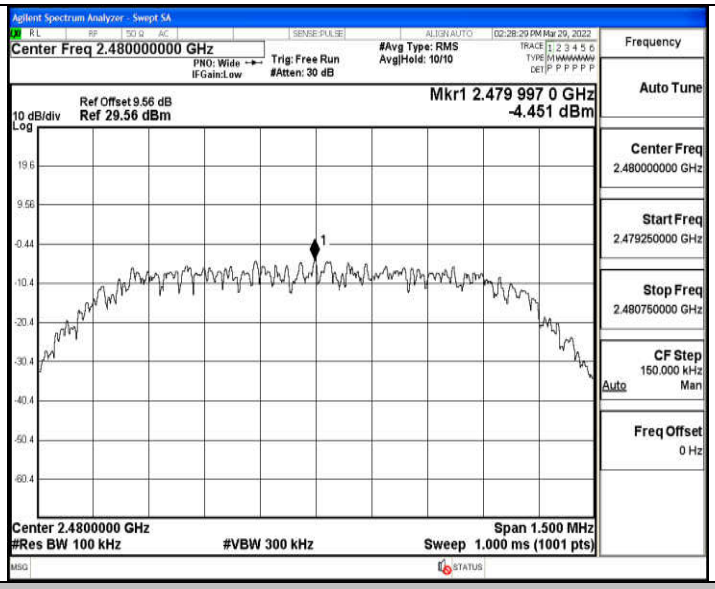
2DH5_Ant1_2441_30~1000



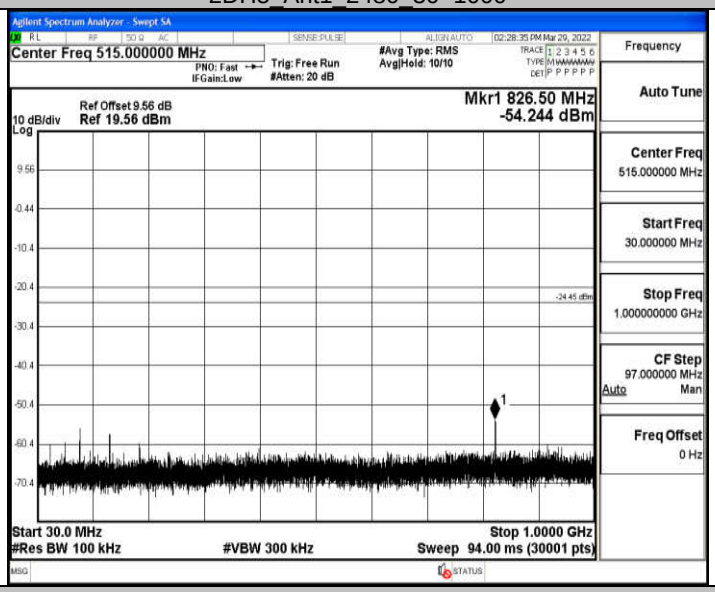
2DH5_Ant1_2441_1000~26500



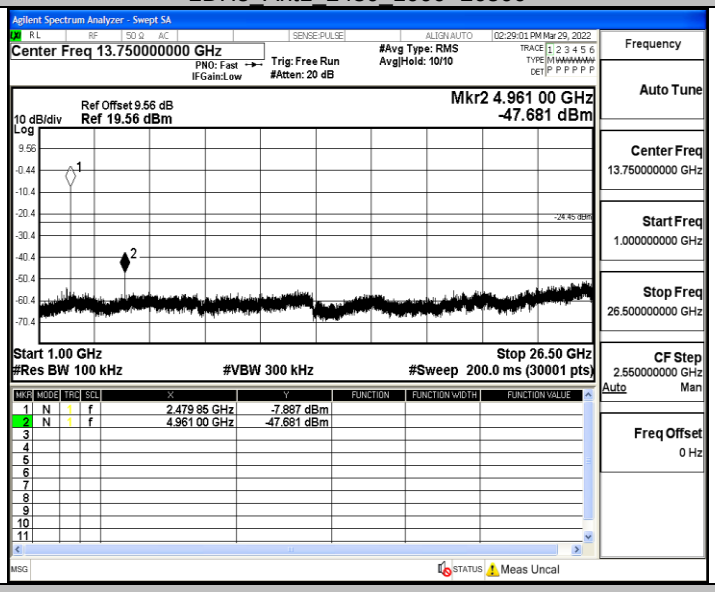
2DH5_Ant1_2480_0~Reference



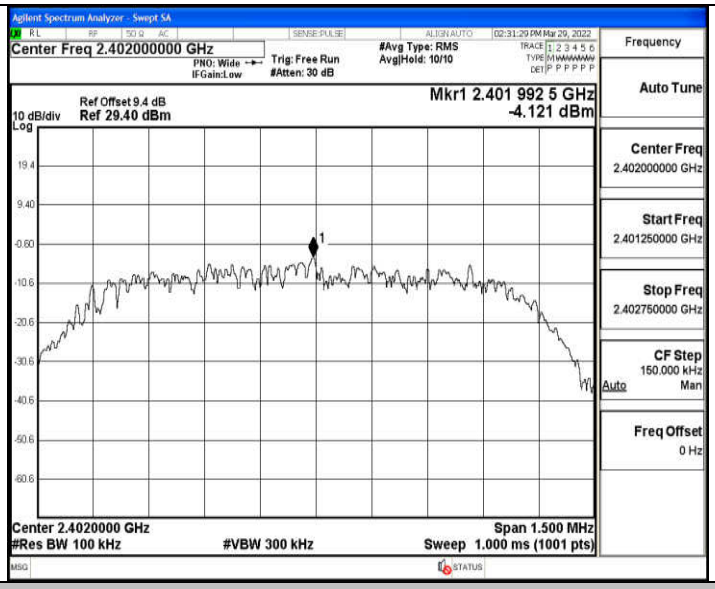
2DH5_Ant1_2480_30~1000



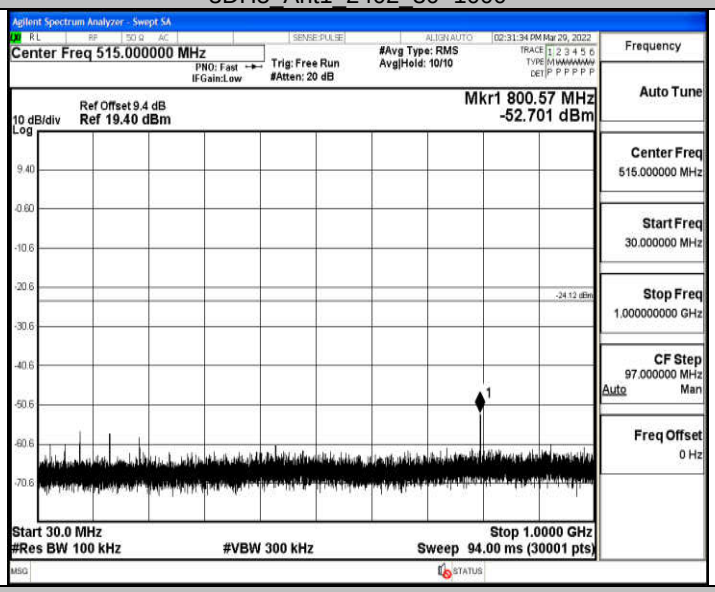
2DH5_Ant1_2480_1000~26500



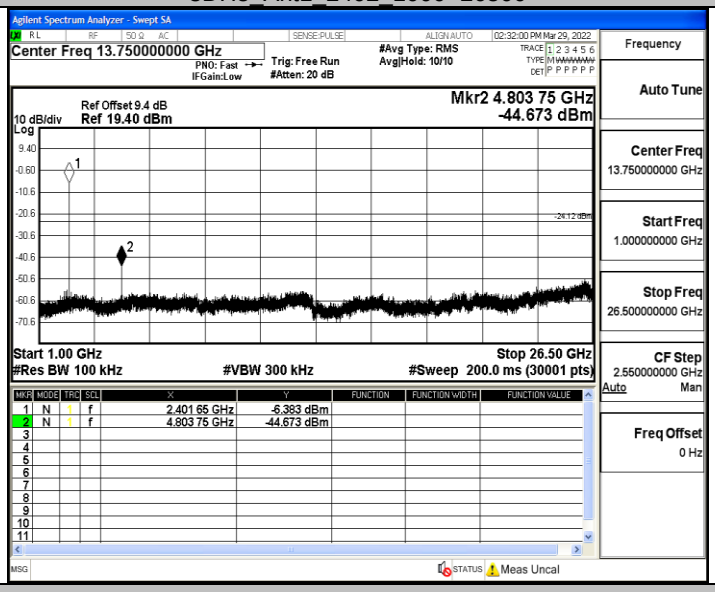
3DH5_Ant1_2402_0~Reference



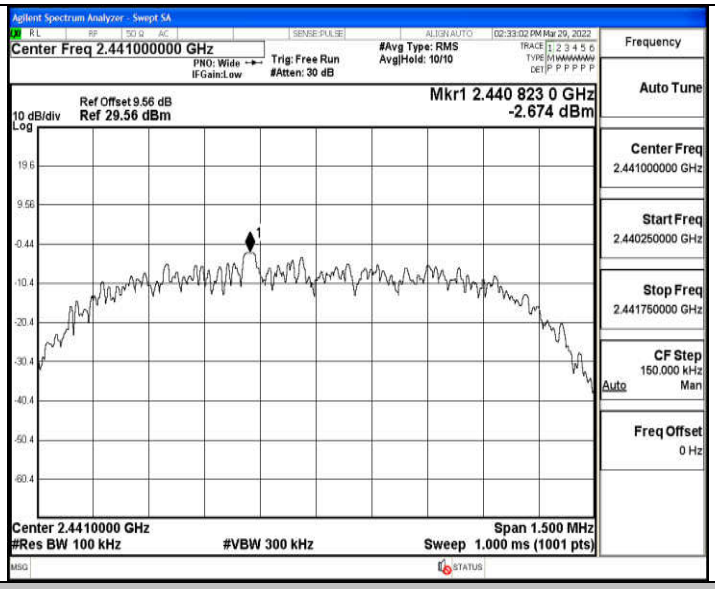
3DH5_Ant1_2402_30~1000



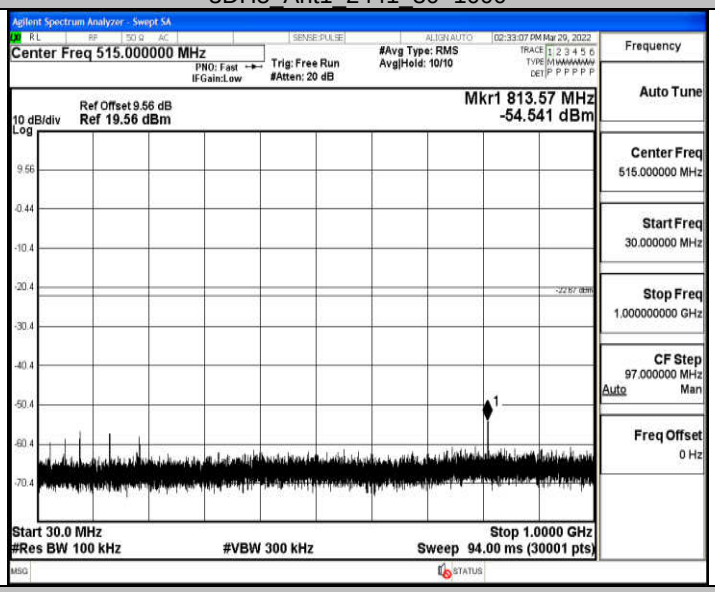
3DH5_Ant1_2402_1000~26500



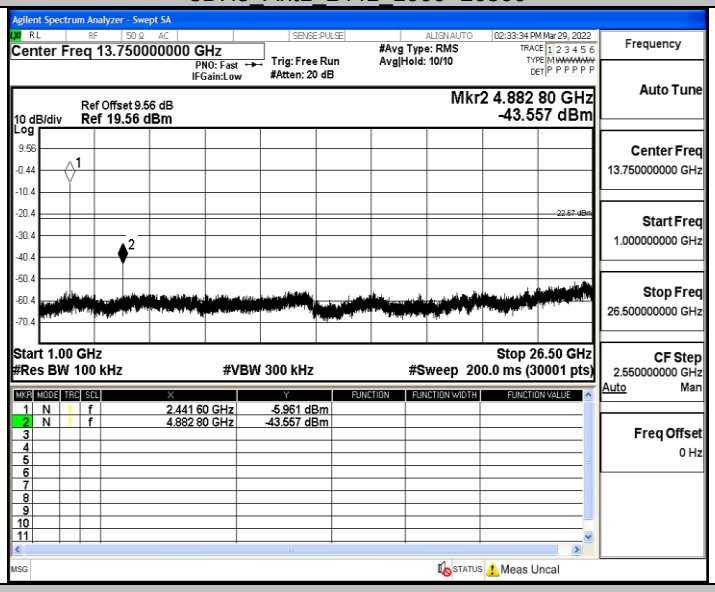
3DH5_Ant1_2441_0~Reference



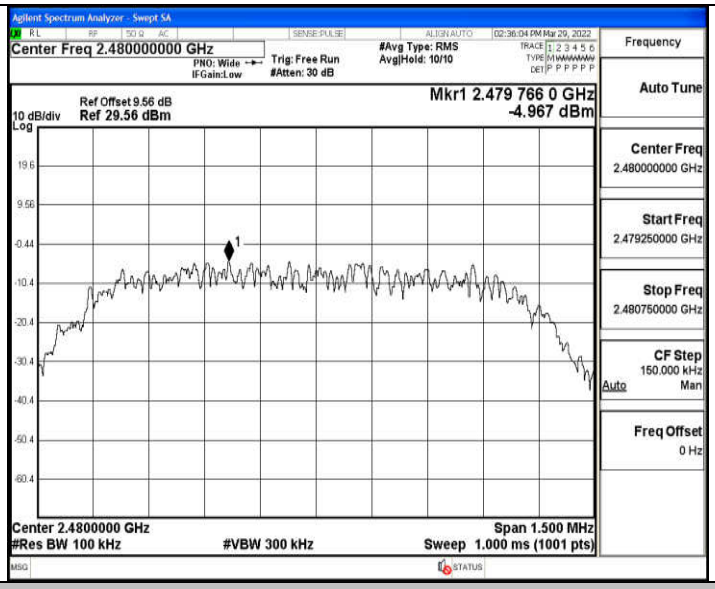
3DH5_Ant1_2441_30~1000



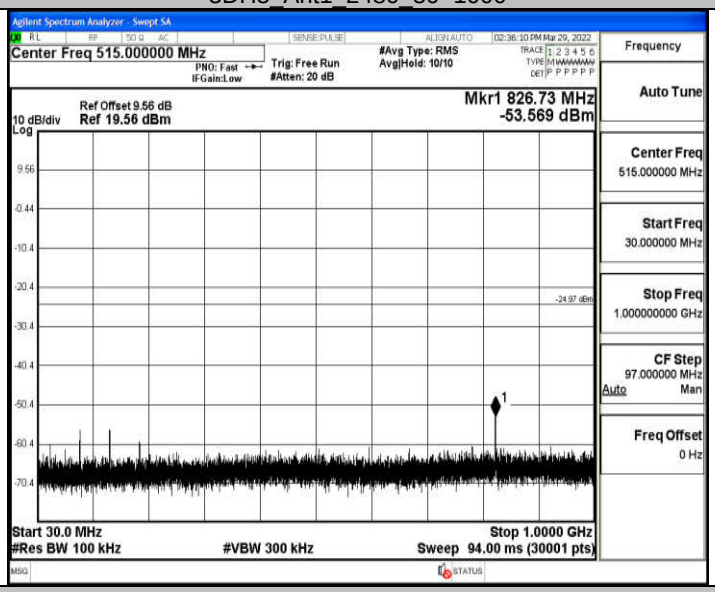
3DH5_Ant1_2441_1000~26500



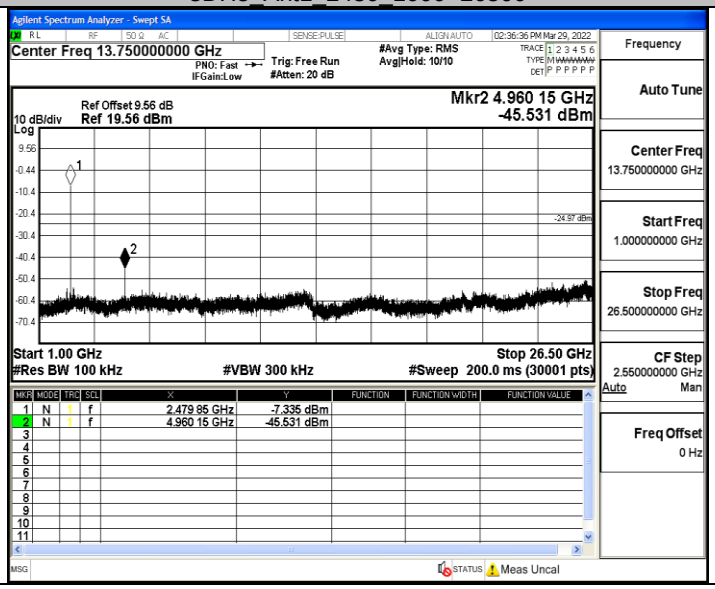
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500



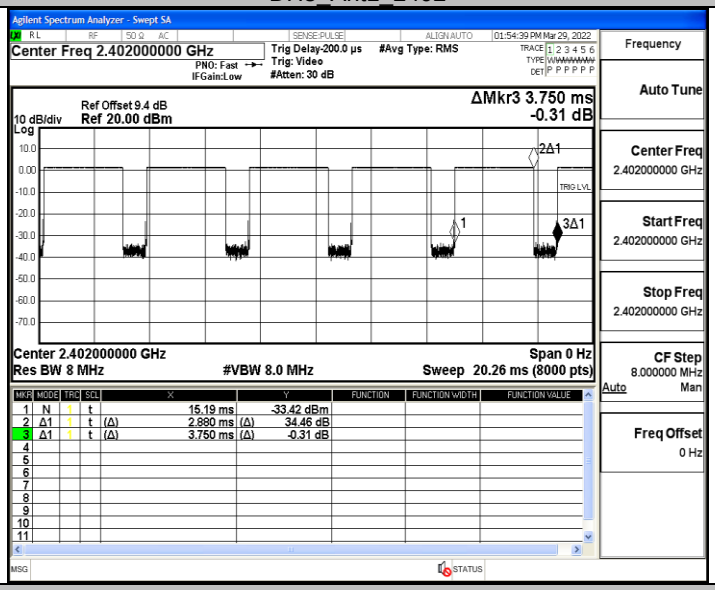
Appendix I: Duty Cycle

Test Result

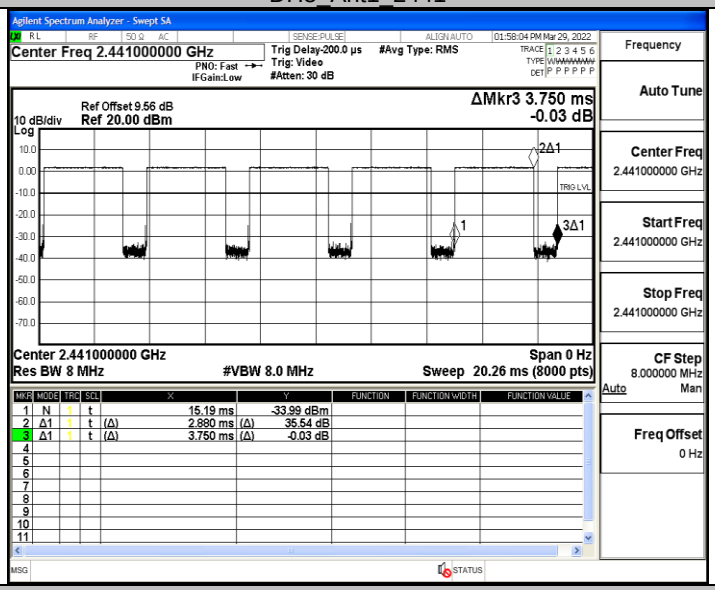
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T
DH5	Ant1	2402	2.88	3.75	76.80	0.35
		2441	2.88	3.75	76.80	0.35
		2480	2.88	3.75	76.80	0.35
2DH5	Ant1	2402	2.88	3.75	76.80	0.35
		2441	2.88	3.75	76.80	0.35
		2480	2.88	3.75	76.80	0.35
3DH5	Ant1	2402	2.88	3.75	76.80	0.35
		2441	2.88	3.75	76.80	0.35
		2480	2.88	3.75	76.80	0.35

Test Graphs

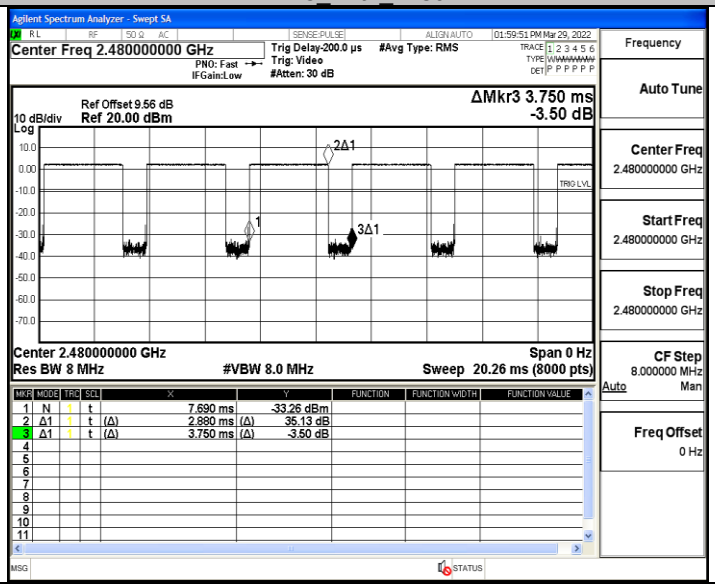
DH5_Ant1_2402



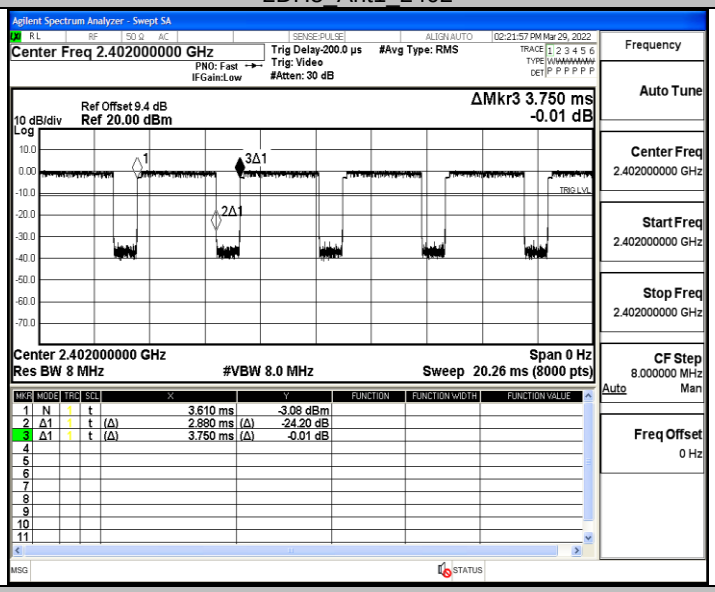
DH5_Ant1_2441



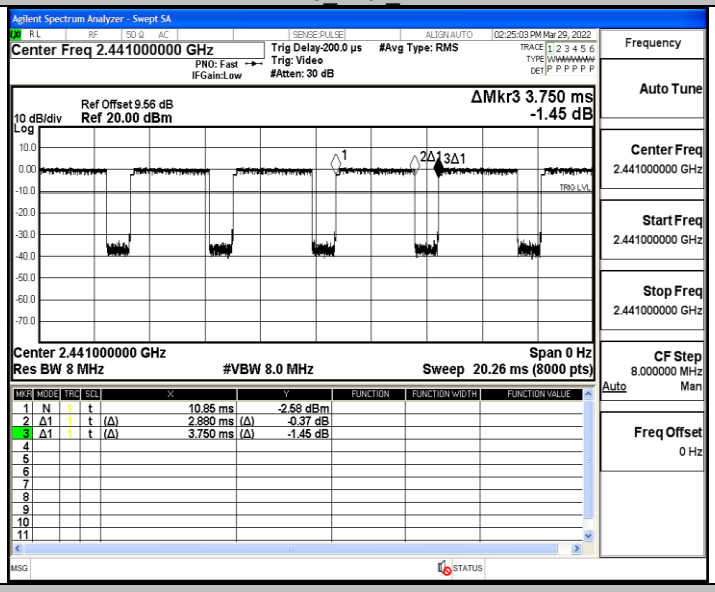
DH5_Ant1_2480



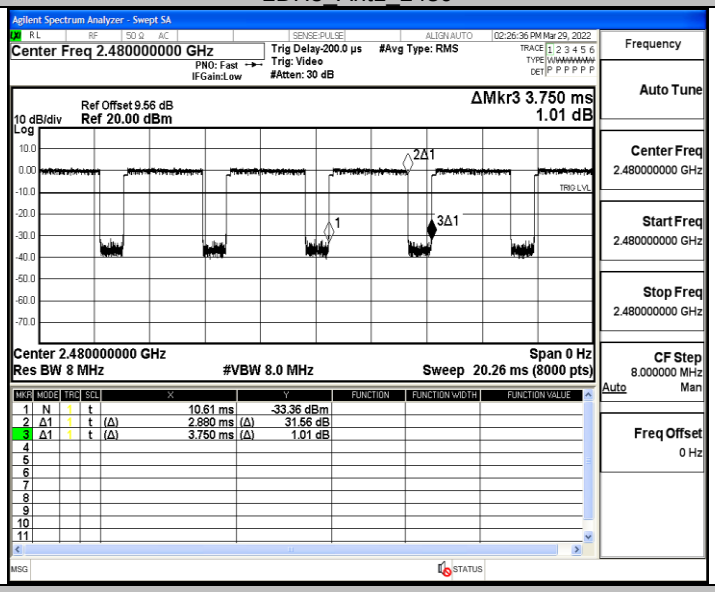
2DH5_Ant1_2402



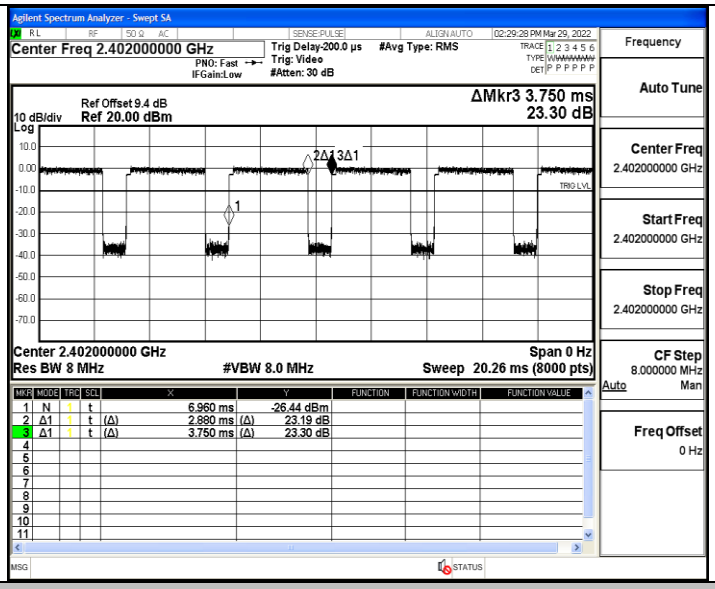
2DH5_Ant1_2441



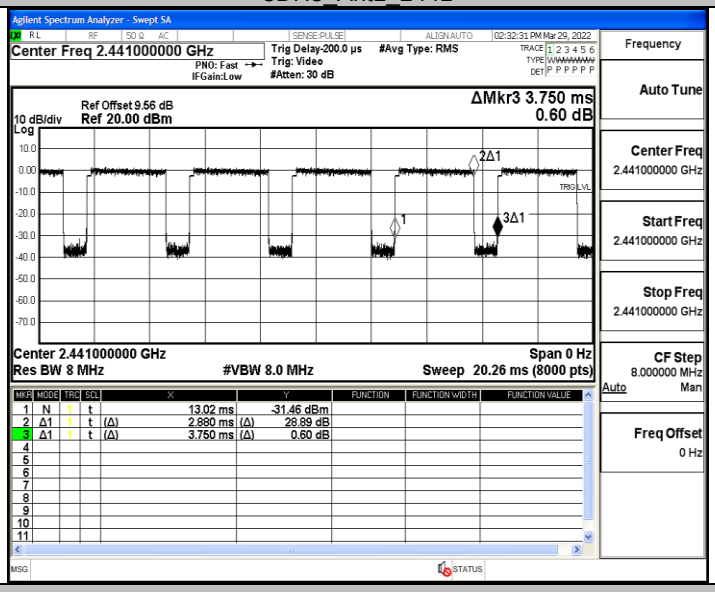
2DH5_Ant1_2480



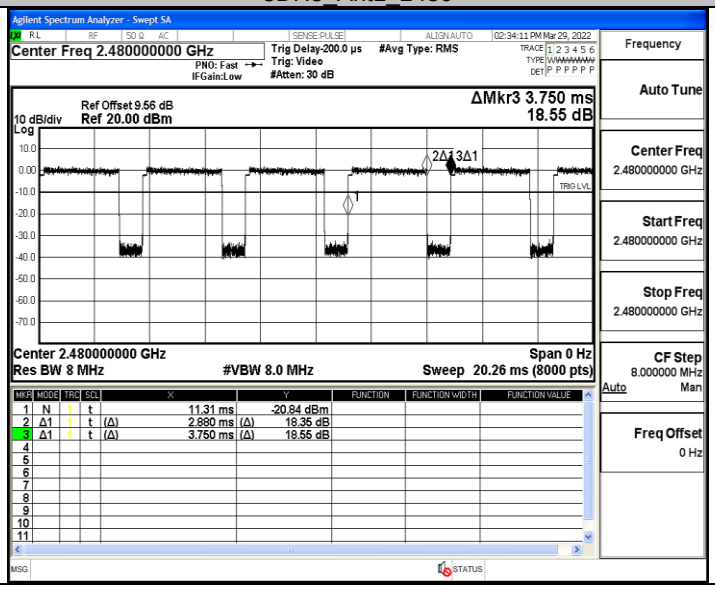
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



Appendix J: Emissions in Restricted Bands

Test Result

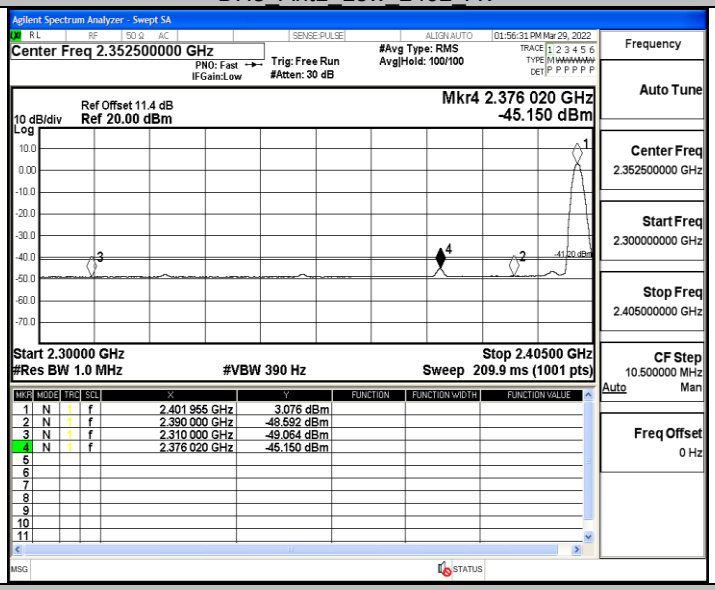
TestMode	Antenna	ChName	Channel	Detector	Freq(MHz)	Result(dBm)	Limit(dBm)	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-49.06	≤-41.20	PASS
				AV	2376.020	-45.15	≤-41.20	PASS
				AV	2390.000	-48.59	≤-41.20	PASS
				Peak	2310.000	-42.1	≤-21.20	PASS
				Peak	2375.810	-38.38	≤-21.20	PASS
				Peak	2390.000	-41.7	≤-21.20	PASS
		High	2480	AV	2483.500	-47.35	≤-41.20	PASS
				AV	2484.640	-46.09	≤-41.20	PASS
				AV	2500.000	-48.08	≤-41.20	PASS
				Peak	2483.500	-40.01	≤-21.20	PASS
				Peak	2486.720	-38.09	≤-21.20	PASS
				Peak	2500.000	-40.08	≤-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-49	≤-41.20	PASS
				AV	2376.020	-47.2	≤-41.20	PASS
				AV	2390.000	-48.75	≤-41.20	PASS
				Peak	2310.000	-41.26	≤-21.20	PASS
				Peak	2376.545	-37.54	≤-21.20	PASS
				Peak	2390.000	-43.05	≤-21.20	PASS
		High	2480	AV	2483.500	-47.86	≤-41.20	PASS
				AV	2484.640	-47.39	≤-41.20	PASS
				AV	2500.000	-48.07	≤-41.20	PASS
				Peak	2483.500	-40.51	≤-21.20	PASS
				Peak	2495.200	-38.88	≤-21.20	PASS
				Peak	2500.000	-42.26	≤-21.20	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-49.03	≤-41.20	PASS
				AV	2376.020	-47.19	≤-41.20	PASS
				AV	2390.000	-48.86	≤-41.20	PASS
				Peak	2310.000	-41.32	≤-21.20	PASS
				Peak	2326.250	-38.75	≤-21.20	PASS
				Peak	2390.000	-40.42	≤-21.20	PASS
		High	2480	AV	2483.500	-47.65	≤-41.20	PASS
				AV	2484.800	-47.43	≤-41.20	PASS
				AV	2500.000	-47.99	≤-41.20	PASS
				Peak	2483.500	-40.24	≤-21.20	PASS
				Peak	2490.000	-38.69	≤-21.20	PASS
				Peak	2500.000	-40.53	≤-21.20	PASS

Note：

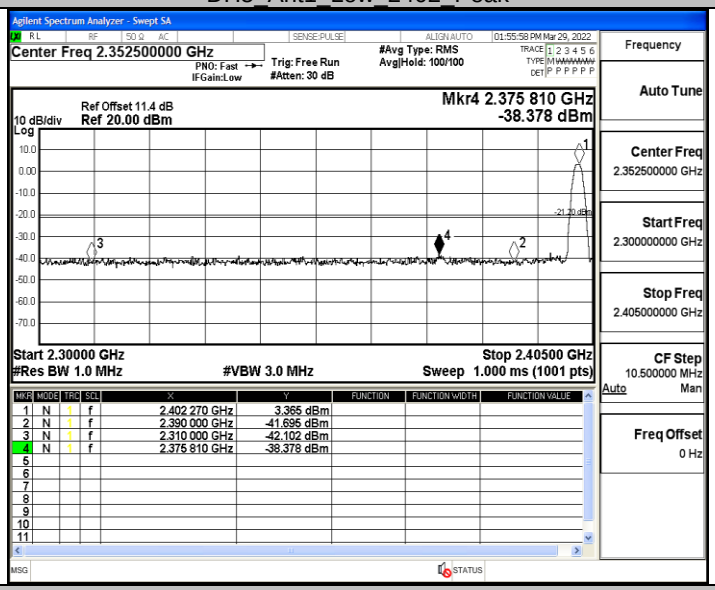
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

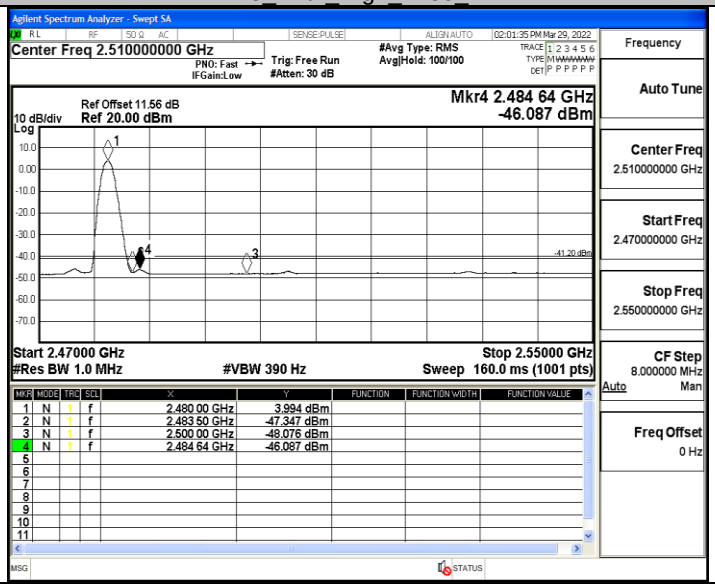
DH5_Ant1_Low_2402_AV



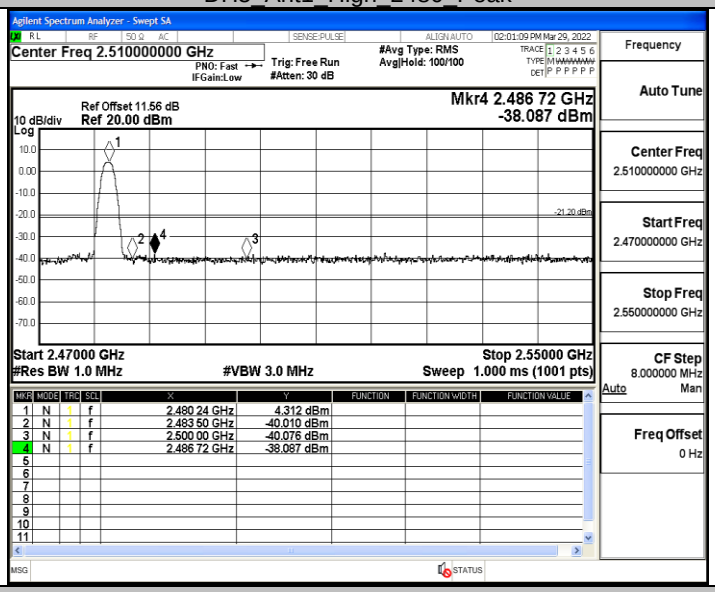
DH5_Ant1_Low_2402_Peak



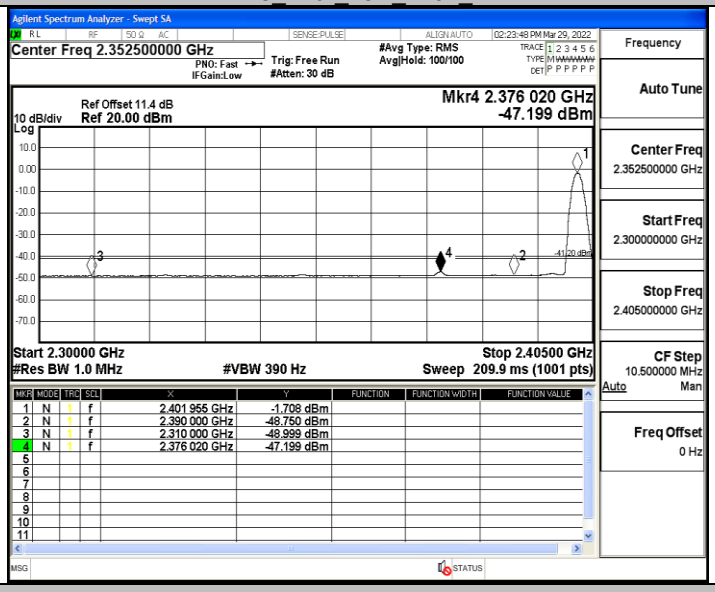
DH5_Ant1_High_2480_AV



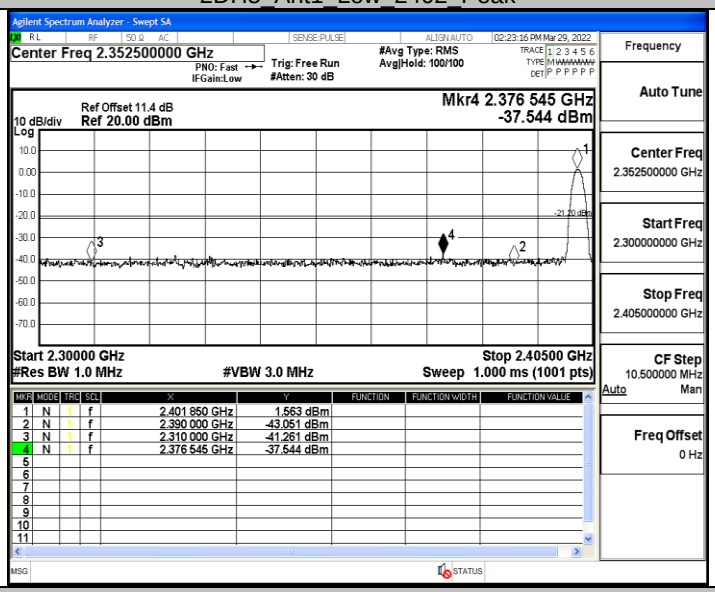
DH5_Ant1_High_2480_Peak



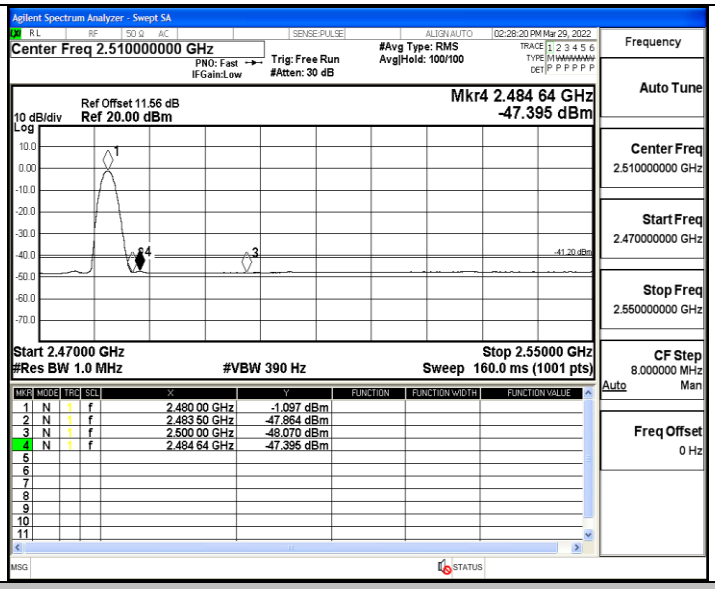
2DH5_Ant1_Low_2402_AV



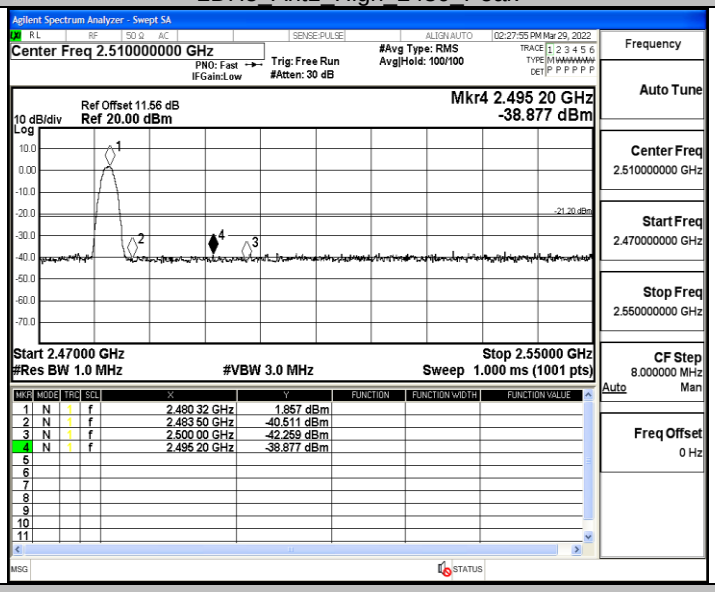
2DH5_Ant1_Low_2402_Peak



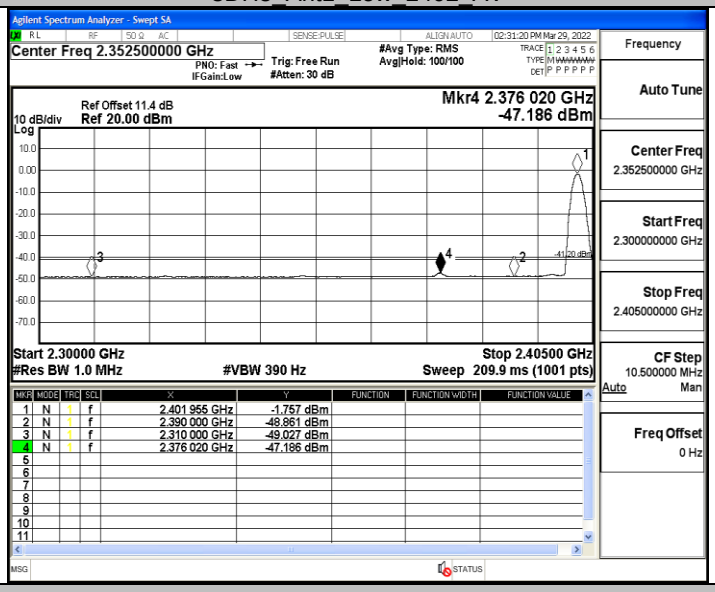
2DH5_Ant1_High_2480_AV



2DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_2402_AV



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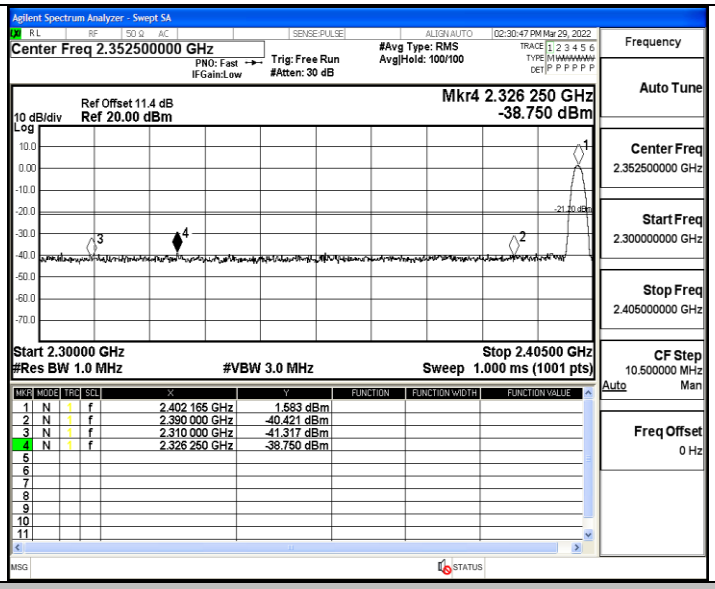

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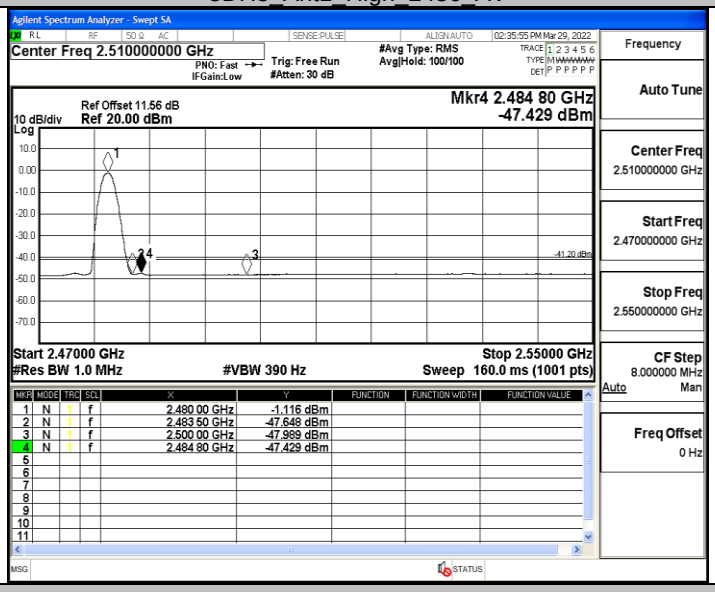

3DH5_Ant1_High_2480_Peak