

Appendix A

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

Product Name: WIFI Music box

Trade Mark: **AUGUST**[®]

Test Model: WR320B

FCC ID: 2A4RAWR320B

Environmental Conditions

Temperature:	23.8℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Nancy Li
Supervised by:	Hugo Chen

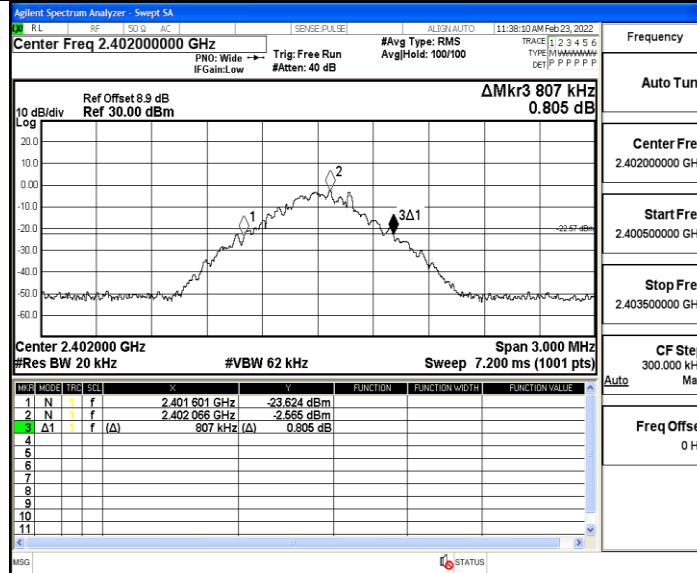
Appendix A: 20dB Emission Bandwidth

Test Result

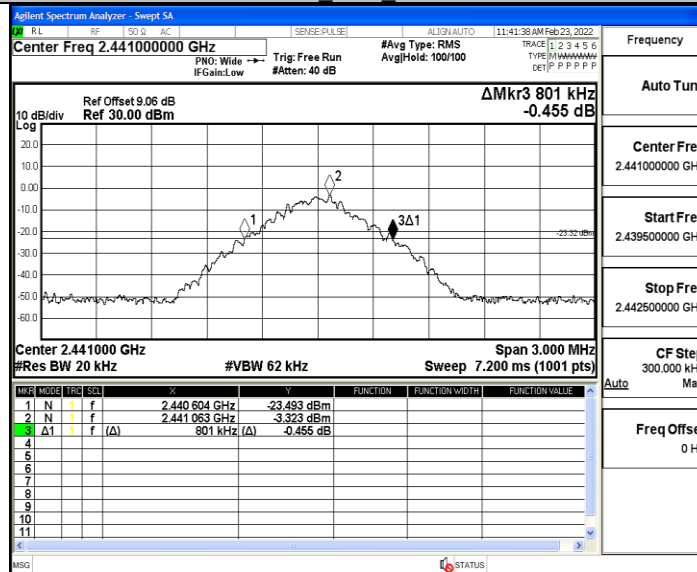
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.807	2401.601	2402.408	---	PASS
		2441	0.801	2440.604	2441.405	---	PASS
		2480	0.804	2479.604	2480.408	---	PASS
2DH5	Ant1	2402	1.317	2401.343	2402.660	---	PASS
		2441	1.257	2440.373	2441.630	---	PASS
		2480	1.314	2479.349	2480.663	---	PASS
3DH5	Ant1	2402	1.257	2401.364	2402.621	---	PASS
		2441	1.260	2440.361	2441.621	---	PASS
		2480	1.266	2479.361	2480.627	---	PASS

Test Graphs

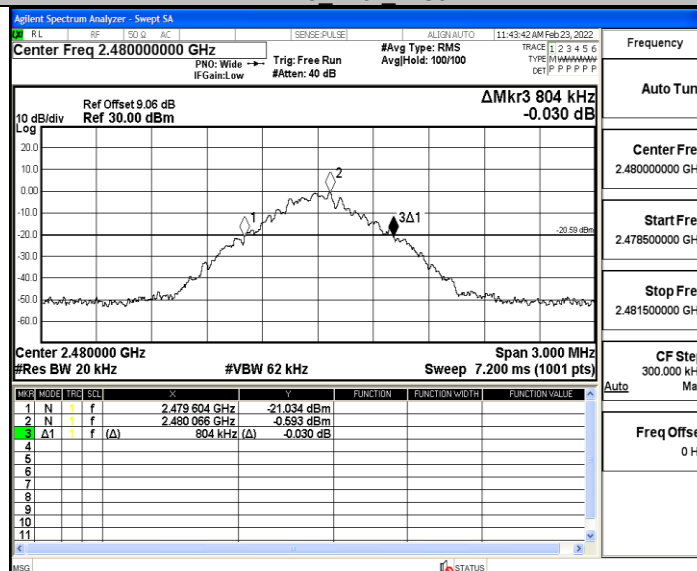
DH5_Ant1_2402



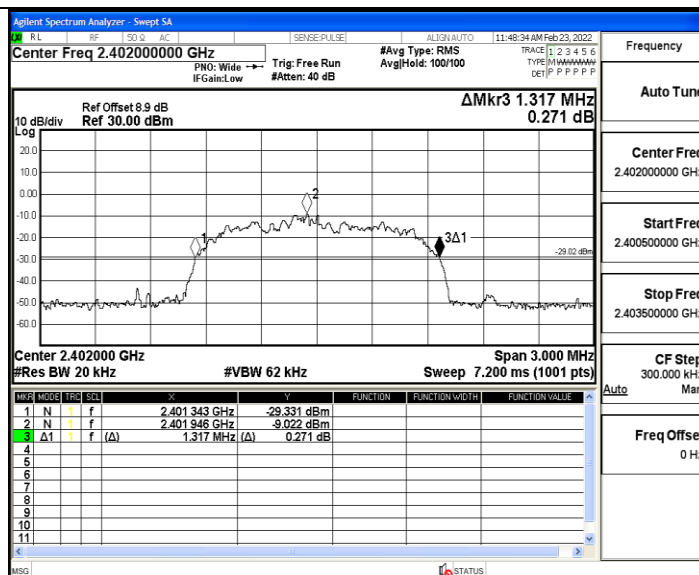
DH5_Ant1_2441



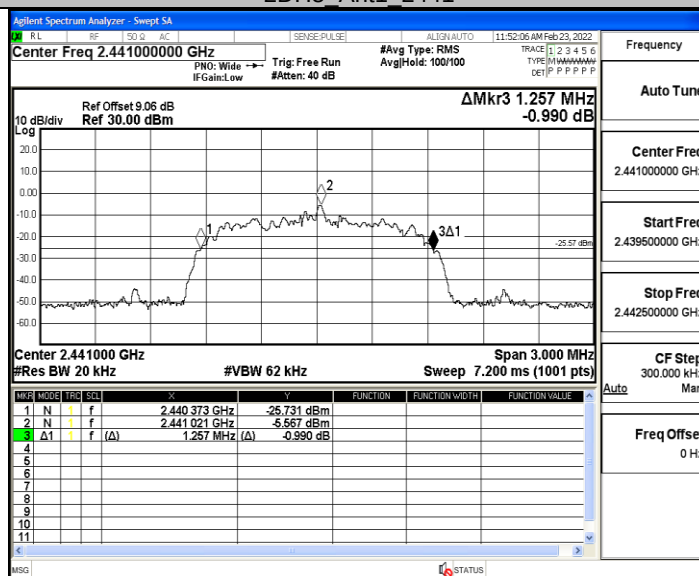
DH5_Ant1_2480



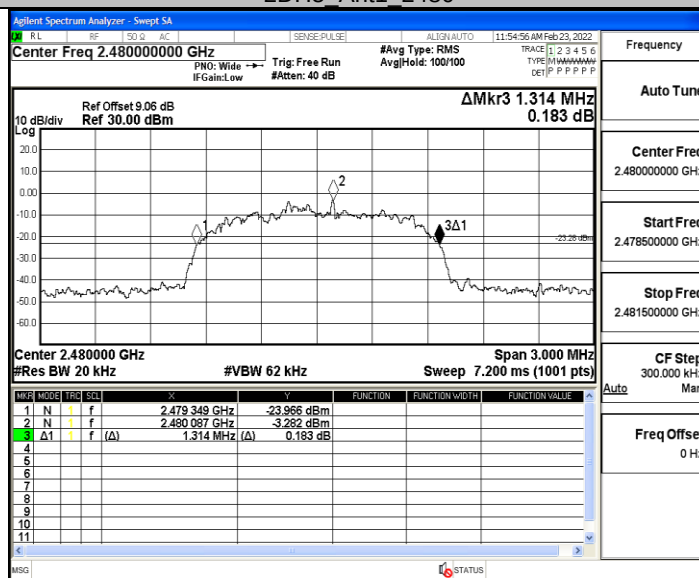
2DH5_Ant1_2402



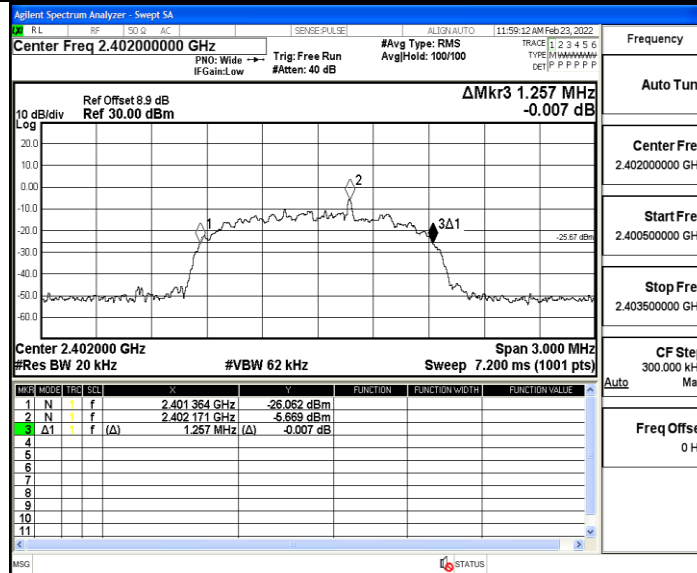
2DH5_Ant1_2441



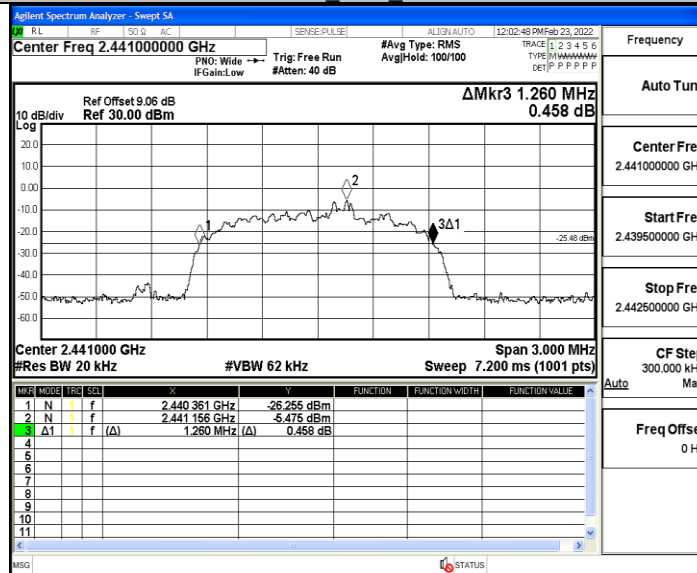
2DH5_Ant1_2480



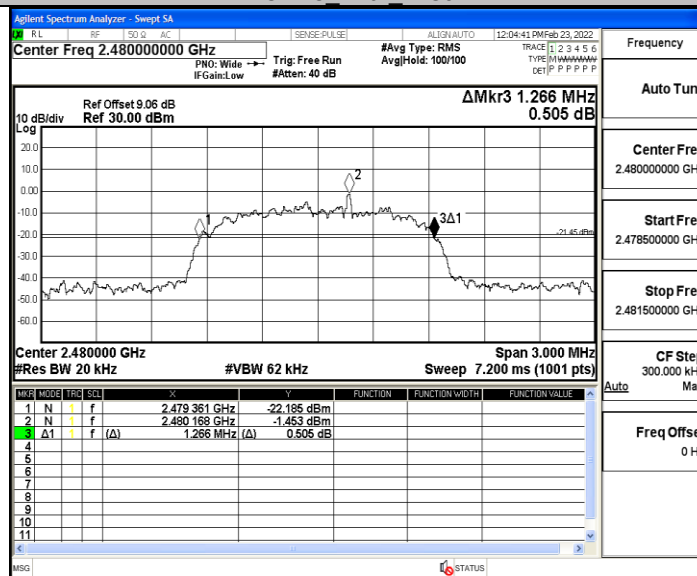
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



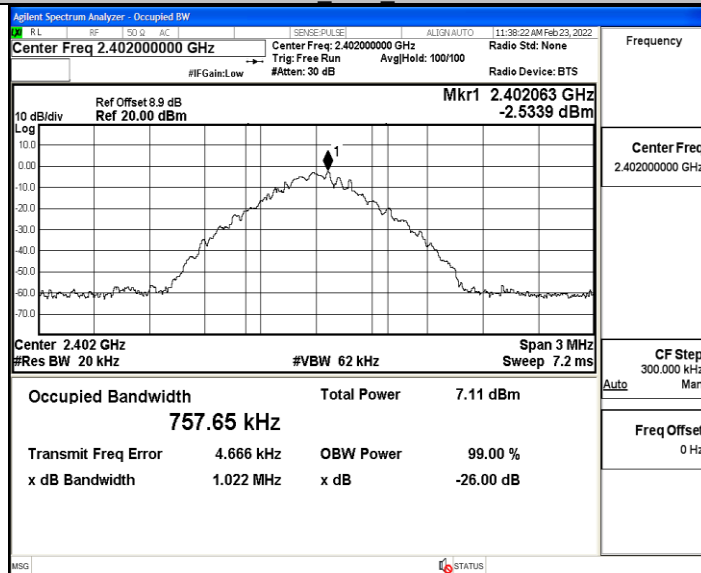
Appendix B: Occupied Channel Bandwidth

Test Result

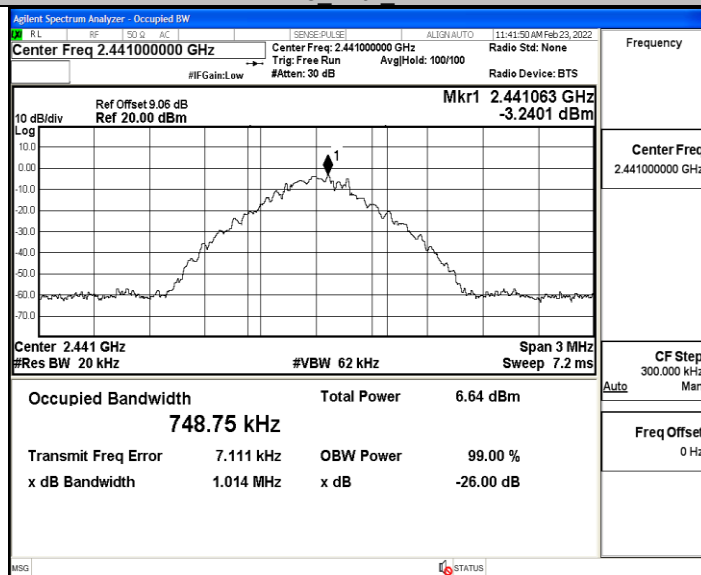
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.75765	2401.626	2402.383	---	PASS
		2441	0.74875	2440.633	2441.381	---	PASS
		2480	0.76094	2479.631	2480.392	---	PASS
2DH5	Ant1	2402	1.1675	2401.416	2402.584	---	PASS
		2441	1.1638	2440.420	2441.584	---	PASS
		2480	1.1760	2479.421	2480.597	---	PASS
3DH5	Ant1	2402	1.1566	2401.423	2402.579	---	PASS
		2441	1.1637	2440.418	2441.582	---	PASS
		2480	1.1776	2479.417	2480.595	---	PASS

Test Graphs

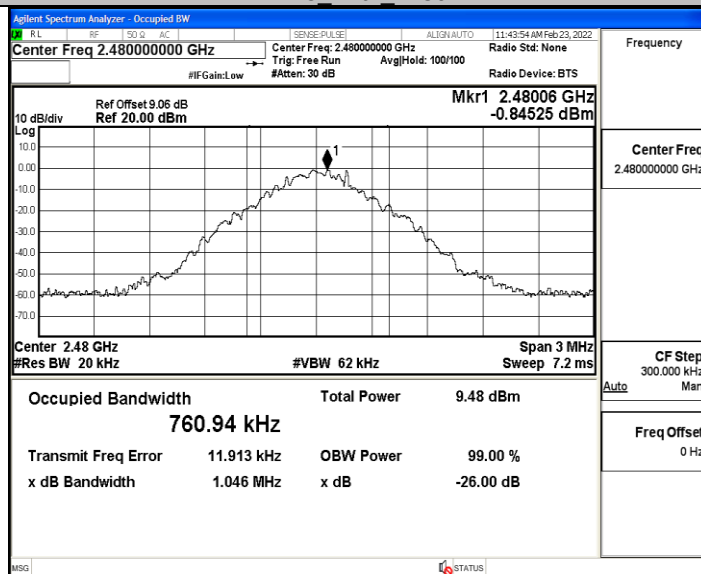
DH5_Ant1_2402



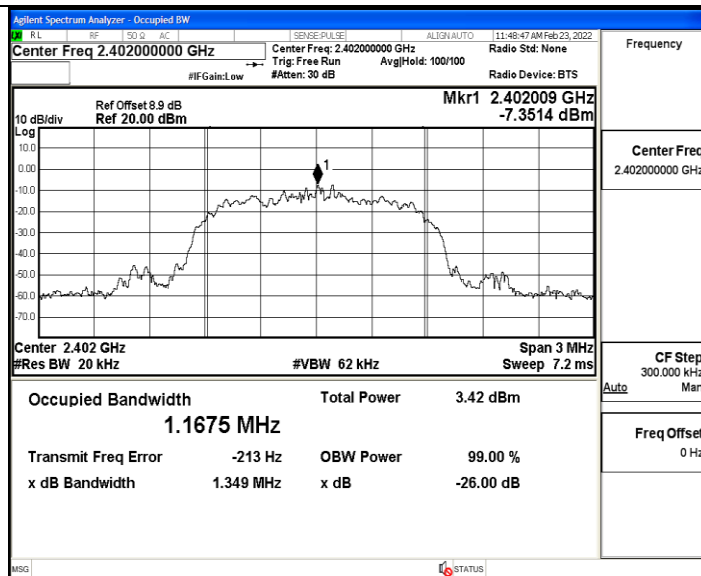
DH5_Ant1_2441



DH5_Ant1_2480



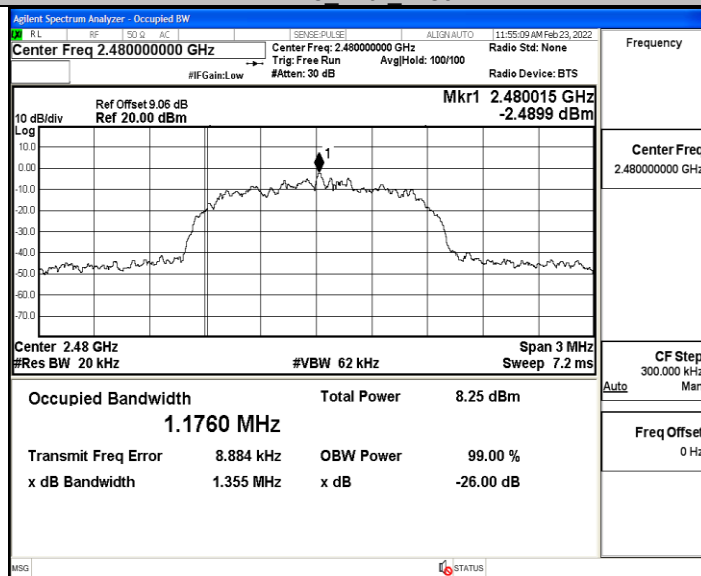
2DH5_Ant1_2402



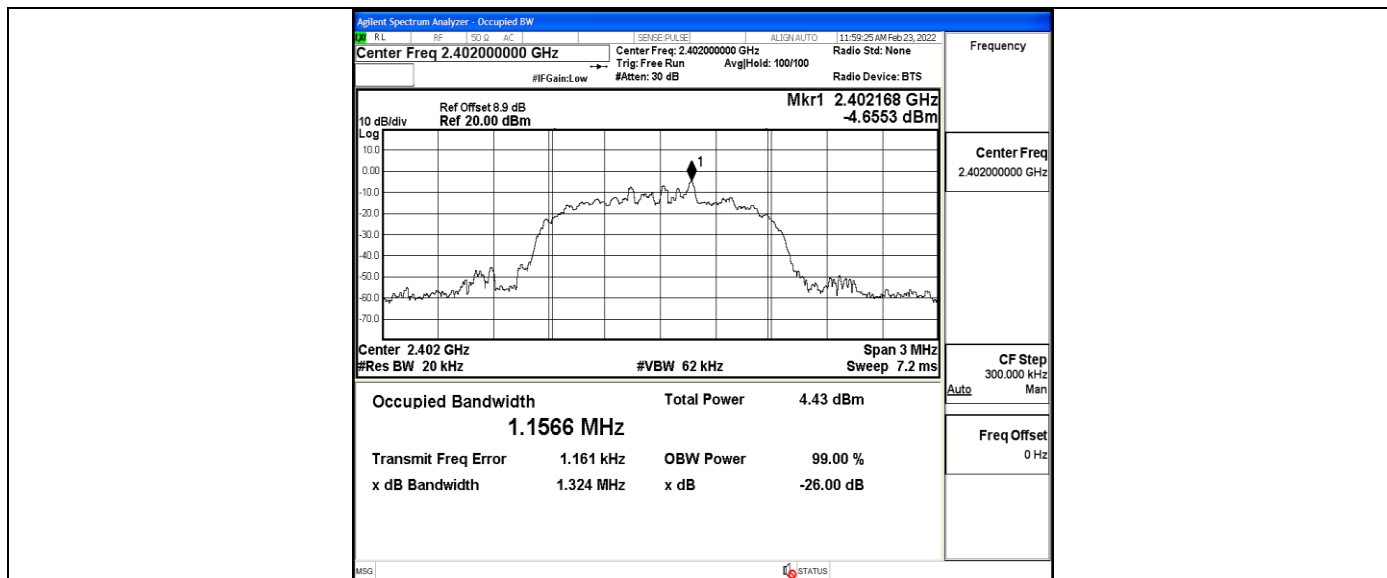
2DH5_Ant1_2441



2DH5_Ant1_2480



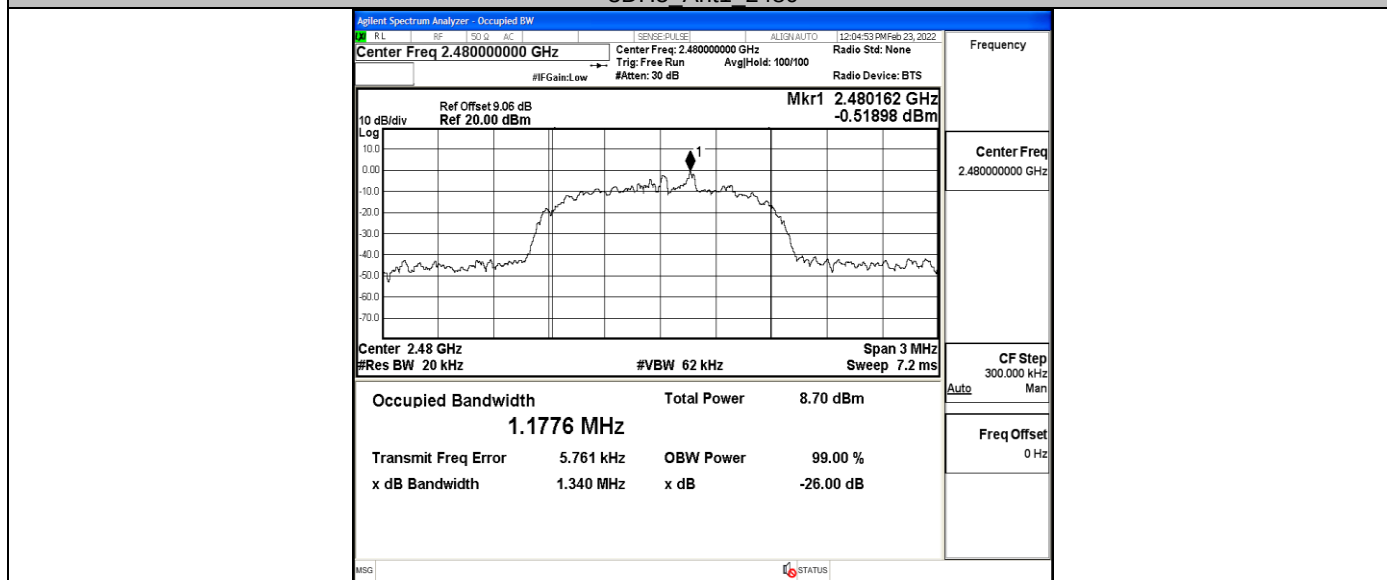
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



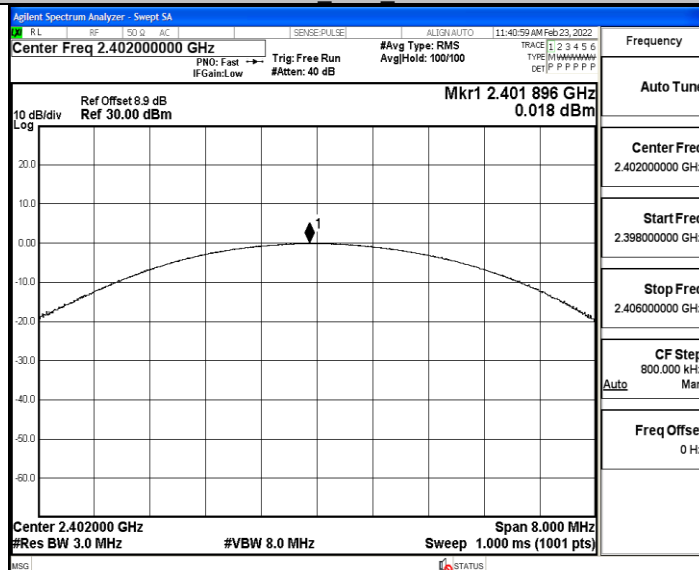
Appendix C: Maximum conducted output power

Test Result

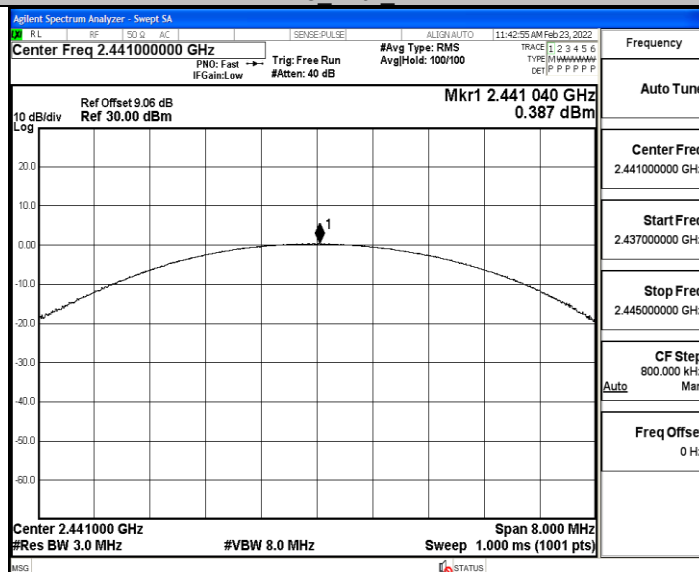
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	0.02	<=20.97	PASS
		2441	0.39	<=20.97	PASS
		2480	3.38	<=20.97	PASS
2DH5	Ant1	2402	-0.52	<=20.97	PASS
		2441	-0.05	<=20.97	PASS
		2480	3.31	<=20.97	PASS
3DH5	Ant1	2402	-0.61	<=20.97	PASS
		2441	0.09	<=20.97	PASS
		2480	4.01	<=20.97	PASS

Test Graphs

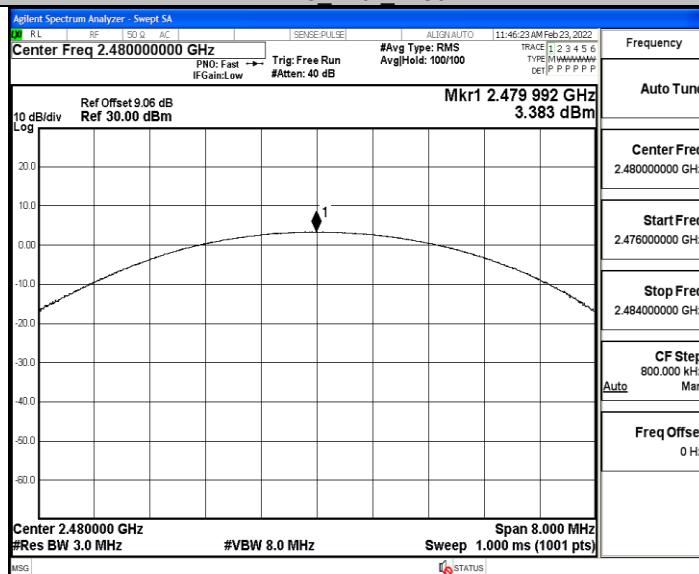
DH5_Ant1_2402



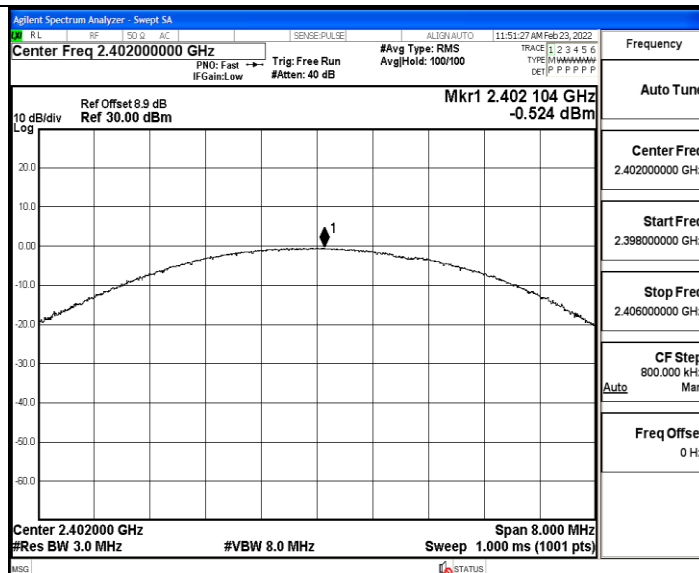
DH5_Ant1_2441



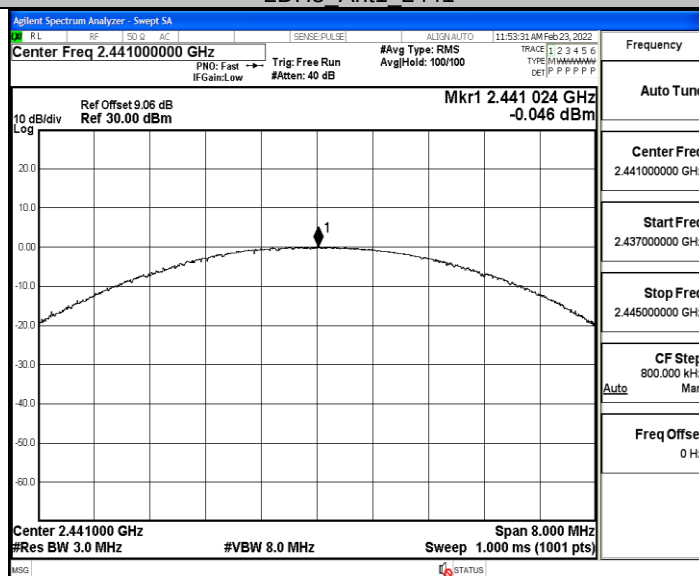
DH5_Ant1_2480



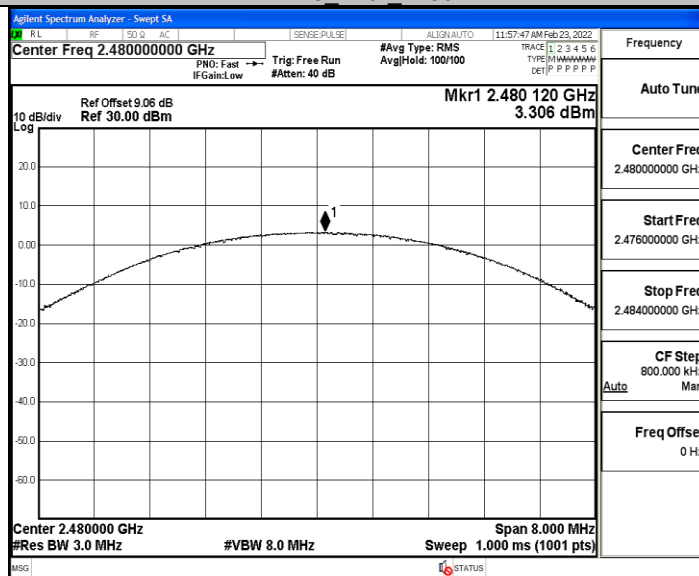
2DH5_Ant1_2402



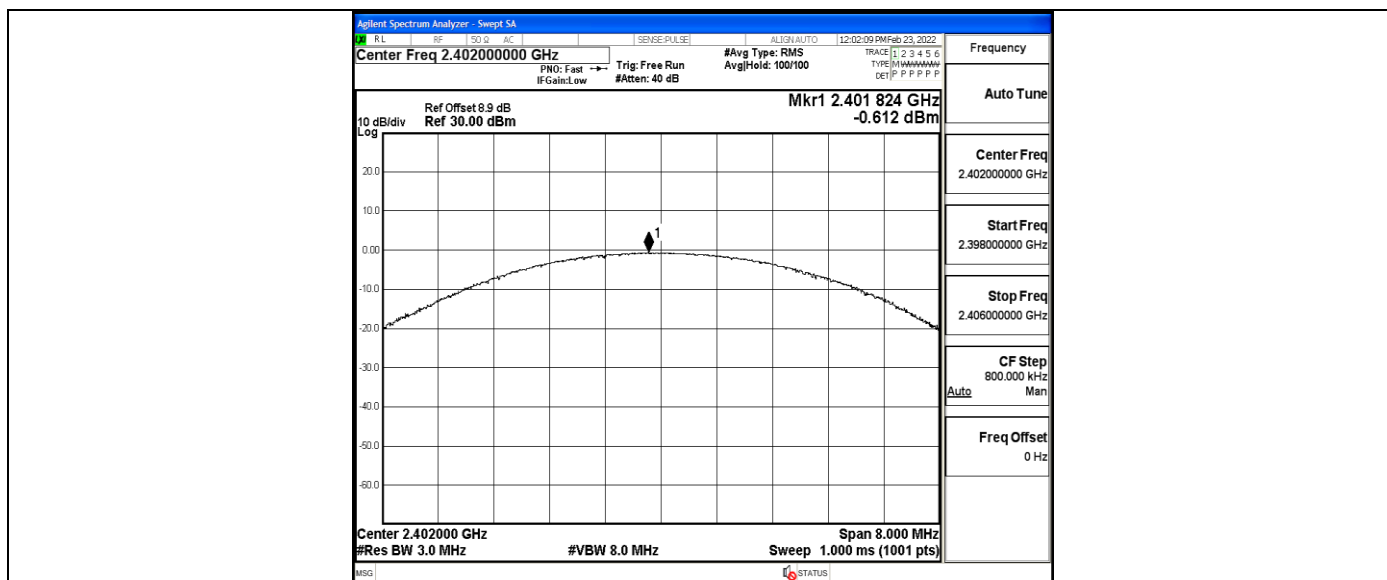
2DH5_Ant1_2441



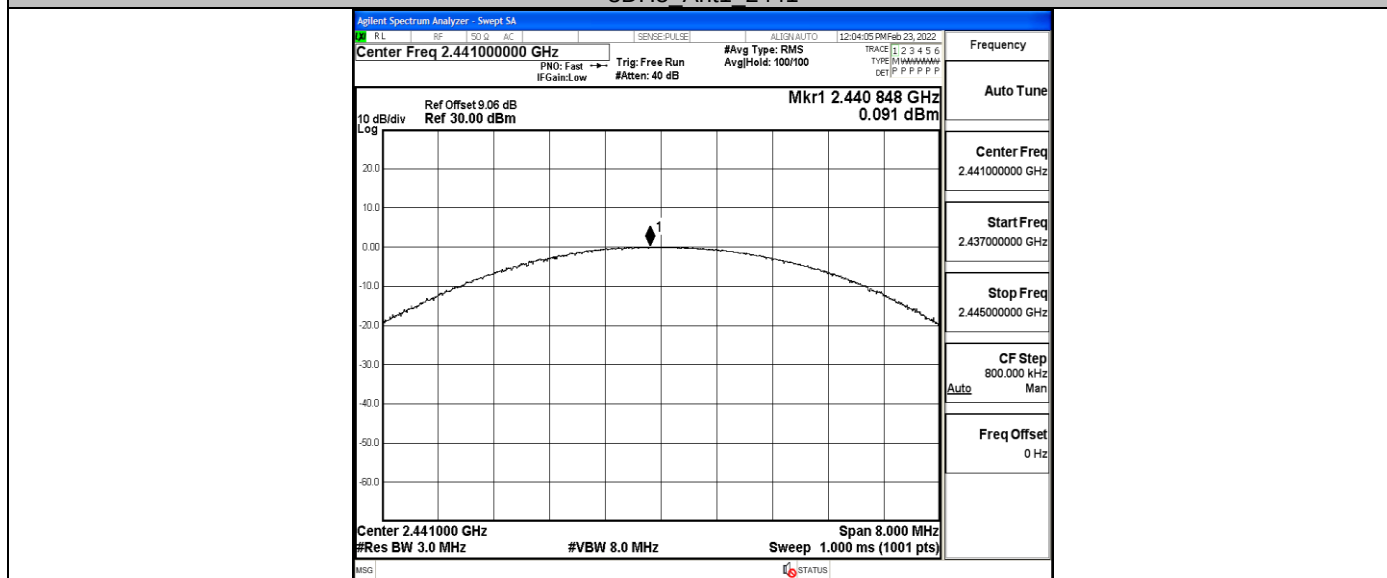
2DH5_Ant1_2480



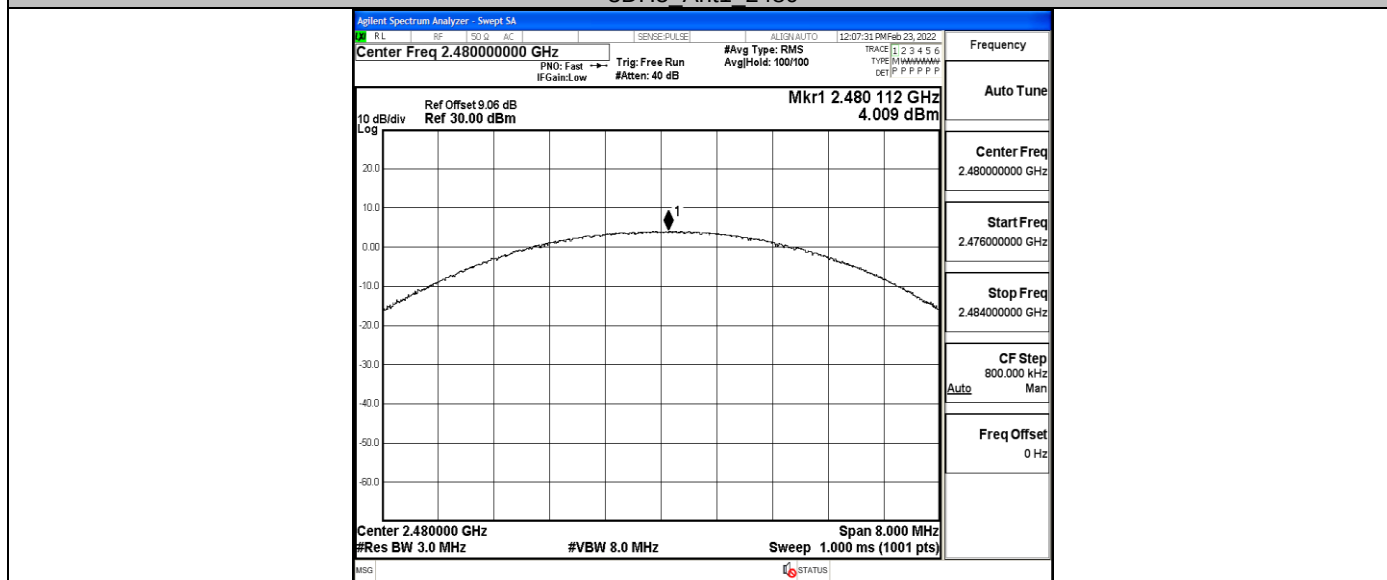
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



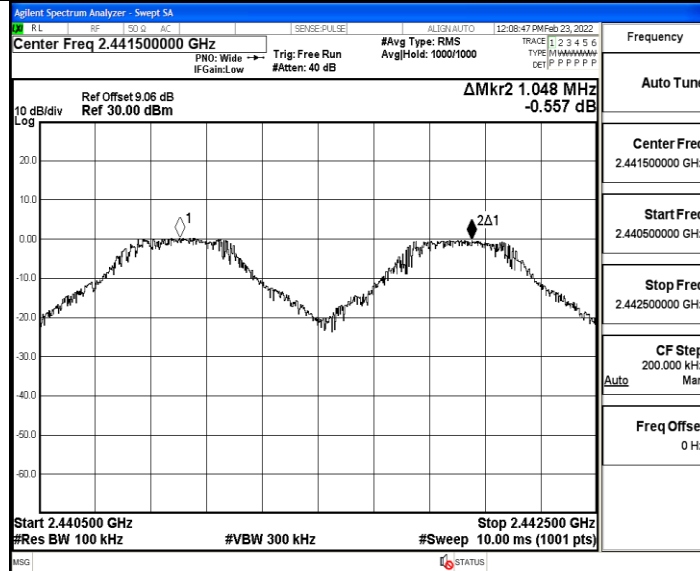
Appendix D: Carrier frequency separation

Test Result

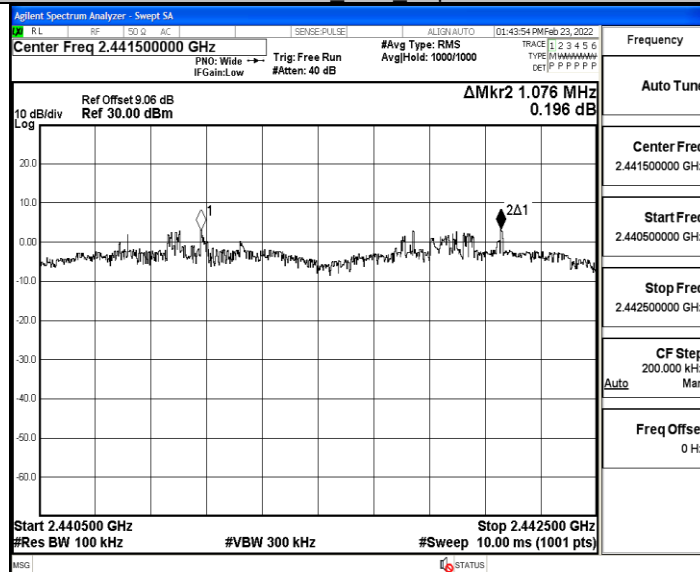
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.048	≥ 0.807	PASS
2DH5	Ant1	Hop	1.076	≥ 0.878	PASS
3DH5	Ant1	Hop	0.994	≥ 0.844	PASS

Test Graphs

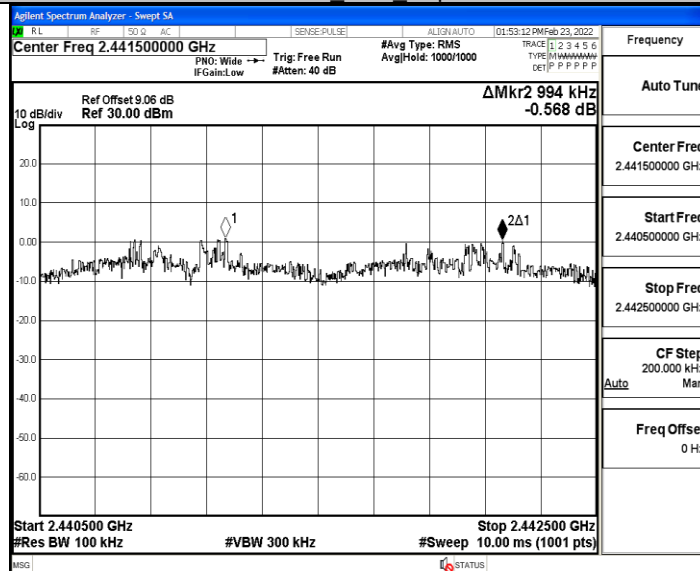
DH5 Ant1 Hop



2DH5 Ant1 Hop



3DH5 Ant1 Hop



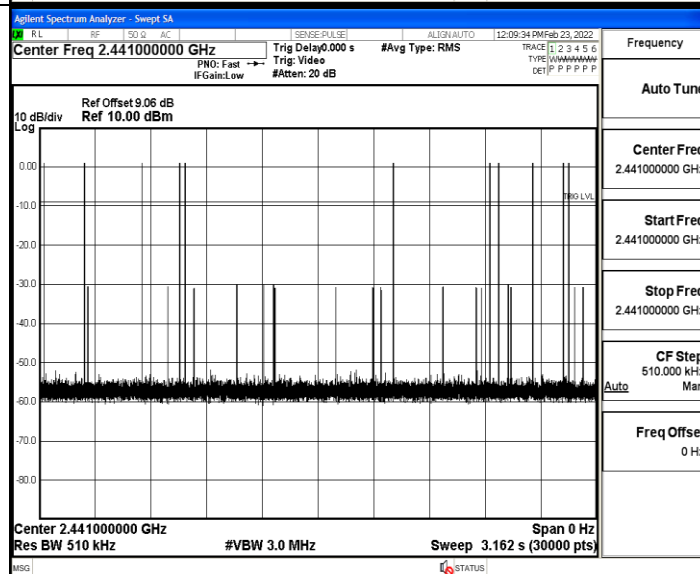
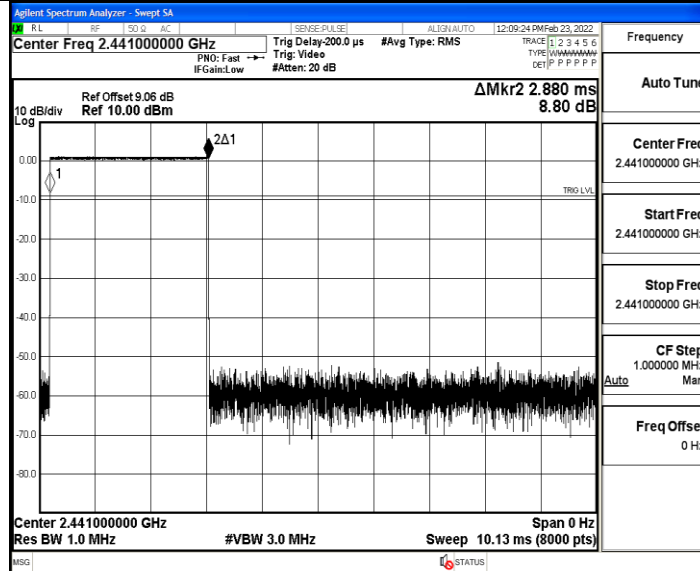
Appendix E: Time of occupancy

Test Result

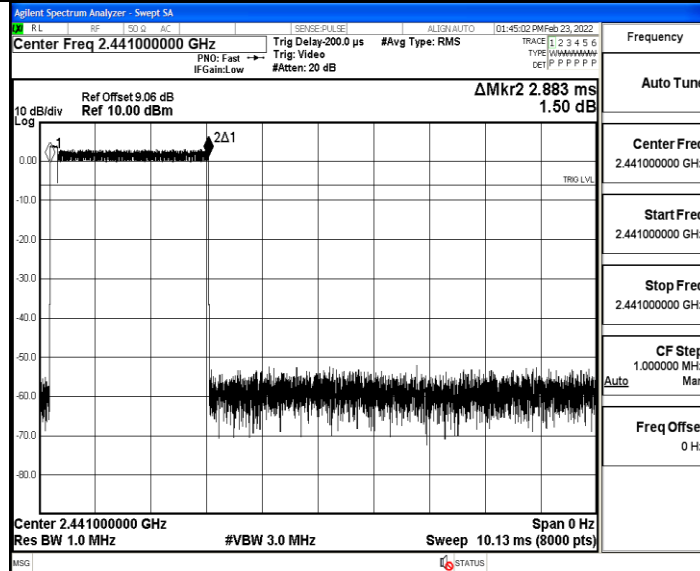
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	120	0.346	≤ 0.4	PASS
2DH5	Ant1	Hop	2.88	100	0.288	≤ 0.4	PASS
3DH5	Ant1	Hop	2.89	70	0.202	≤ 0.4	PASS

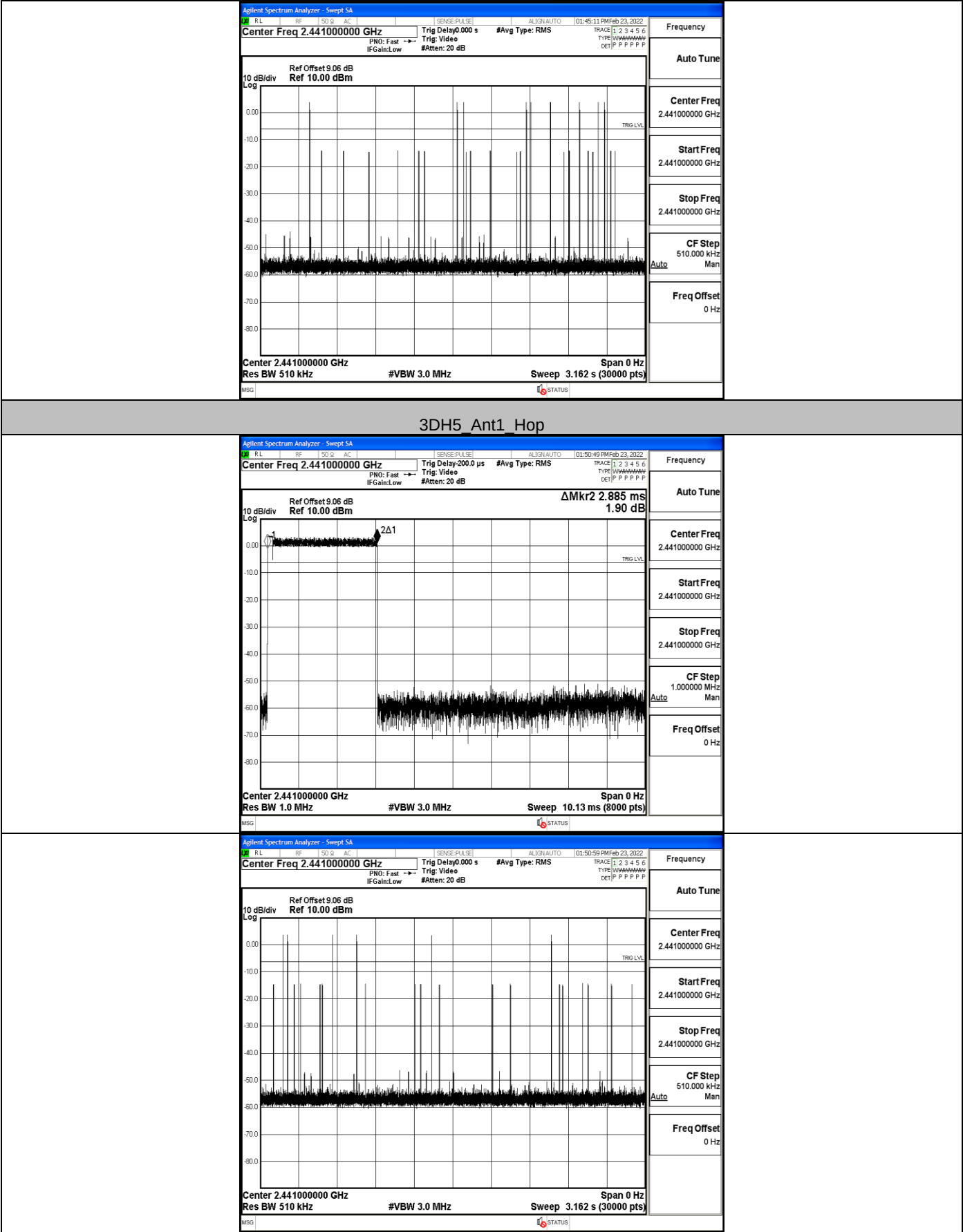
Test Graphs

DH5 Ant1_Hop



2DH5 Ant1_Hop





Agilent Spectrum Analyzer - Swept SA

RL

RF

50 Q

AC

SENSE: PULSES

ALIGN: AUTO

01:50:59 PM Feb 23, 2022

Center Freq 2.441000000 GHz

Trig Delay: 0.000 s

#Avg Type: RMS

TRIGGER: [1] 2 3 4 5 6

TYPE: (WMMMMMM)

DET: P P P P P P

Ref Offset 9.06 dB

Ref 10.00 dBm

10 dB/div

Log

0.00

-10.00

-20.00

-30.00

-40.00

-50.00

-60.00

-70.00

-80.00

Center 2.441000000 GHz

Res BW 510 kHz

#VBW 3.0 MHz

Sweep 3.162 s (30000 pts)

MSG

STATUS

Frequency

Auto Tune

Center Freq 2.441000000 GHz

Start Freq 2.441000000 GHz

Stop Freq 2.441000000 GHz

CF Step 510.000 kHz

Auto

Freq Offset 0 Hz

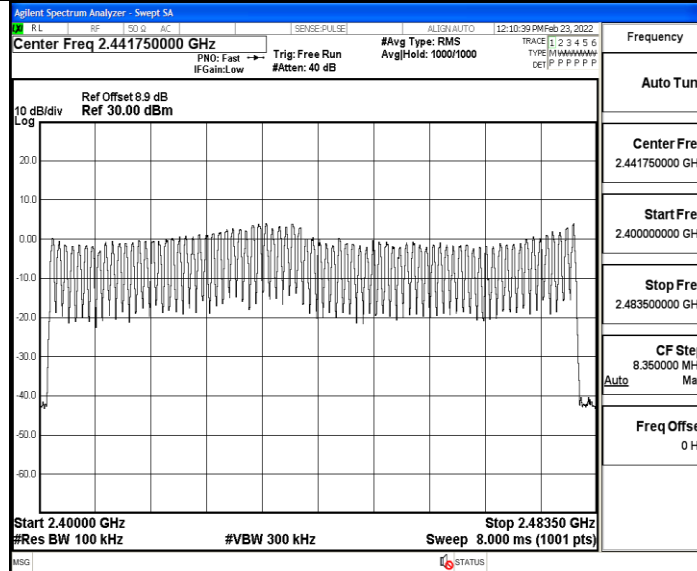
Appendix F: Number of hopping channels

Test Result

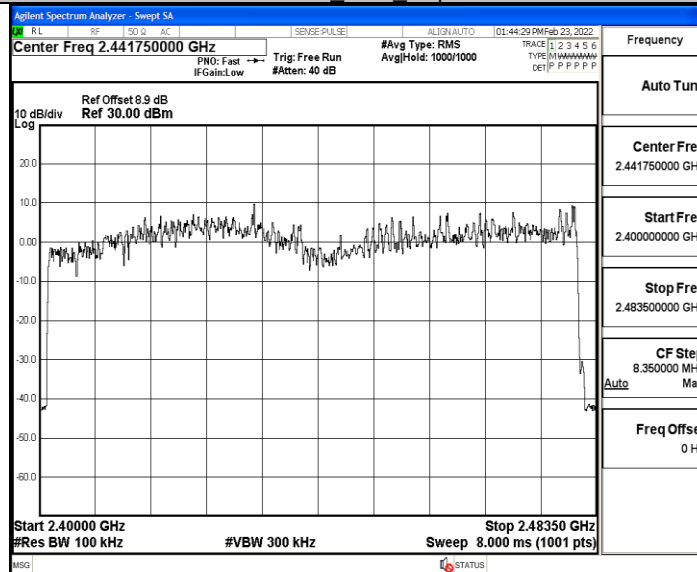
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	>=15	PASS
2DH5	Ant1	Hop	79	>=15	PASS
3DH5	Ant1	Hop	79	>=15	PASS

Test Graphs

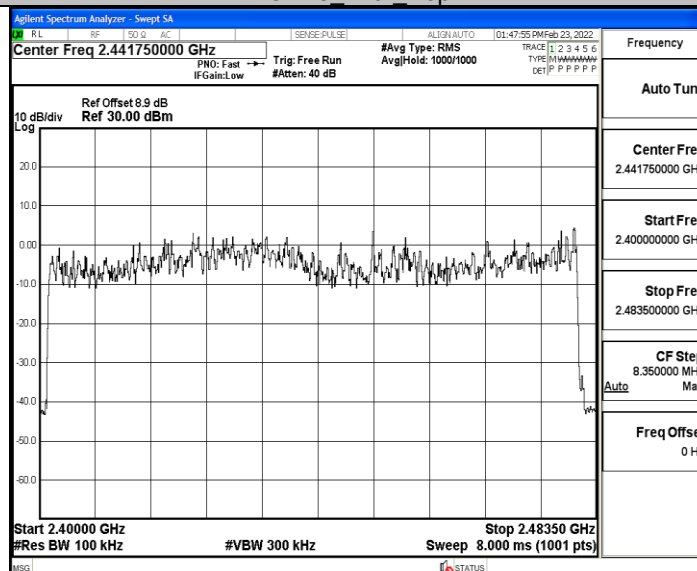
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



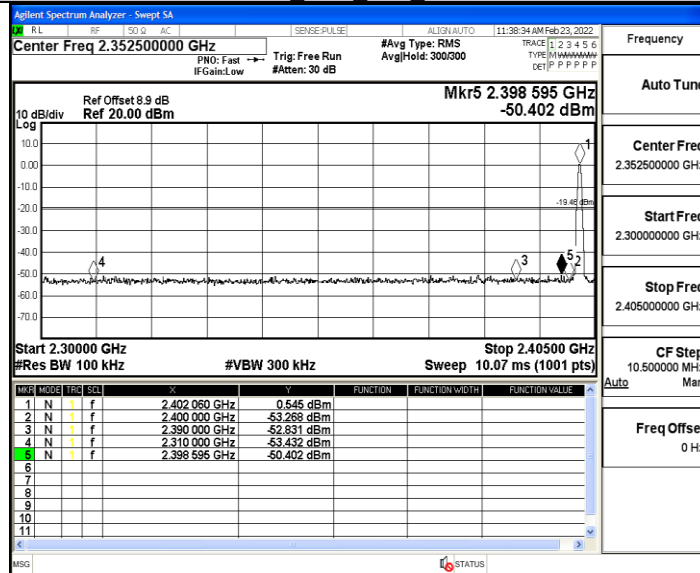
Appendix G: Band edge measurements

Test Result

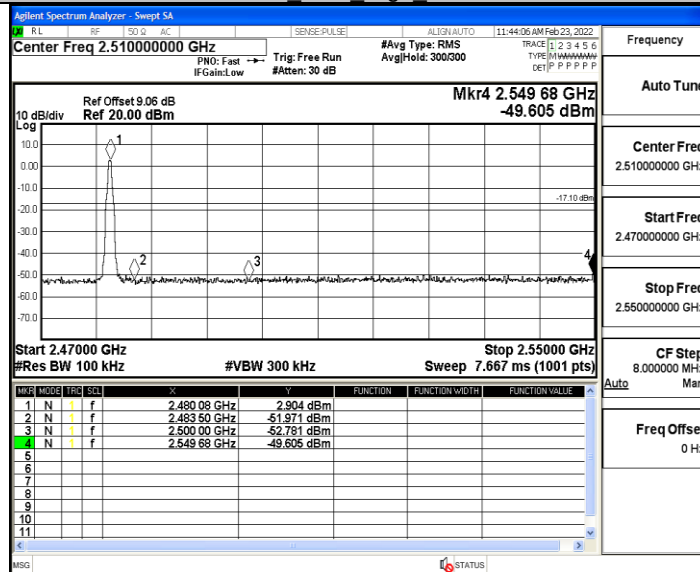
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	0.55	-50.4	≤ -19.46	PASS
		High	2480	2.90	-49.61	≤ -17.1	PASS
		Low	Hop_2402	-0.96	-51.15	≤ -20.96	PASS
		High	Hop_2480	3.85	-49.08	≤ -16.15	PASS
2DH5	Ant1	Low	2402	-1.89	-49.9	≤ -21.89	PASS
		High	2480	2.66	-49.39	≤ -17.34	PASS
		Low	Hop_2402	-0.87	-51.3	≤ -20.87	PASS
		High	Hop_2480	6.28	-49.58	≤ -13.72	PASS
3DH5	Ant1	Low	2402	-3.18	-50.64	≤ -23.18	PASS
		High	2480	3.50	-49.65	≤ -16.5	PASS
		Low	Hop_2402	-1.72	-51.2	≤ -21.72	PASS
		High	Hop_2480	4.41	-49.96	≤ -15.59	PASS

Test Graphs

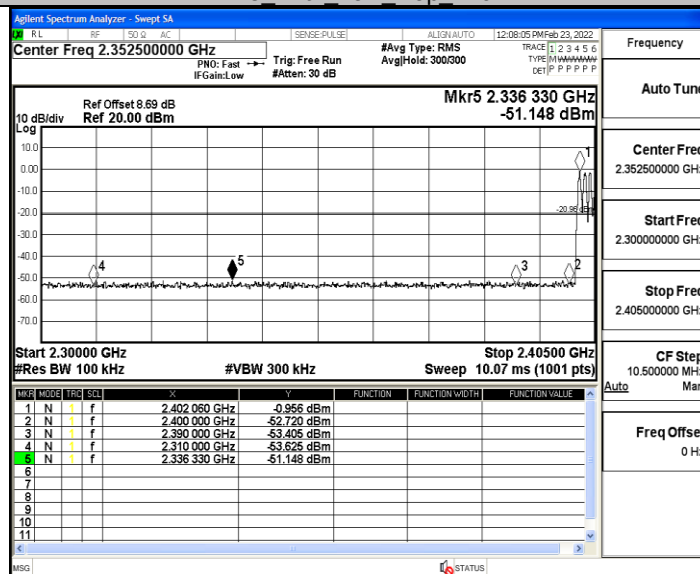
DH5_Ant1_Low_2402



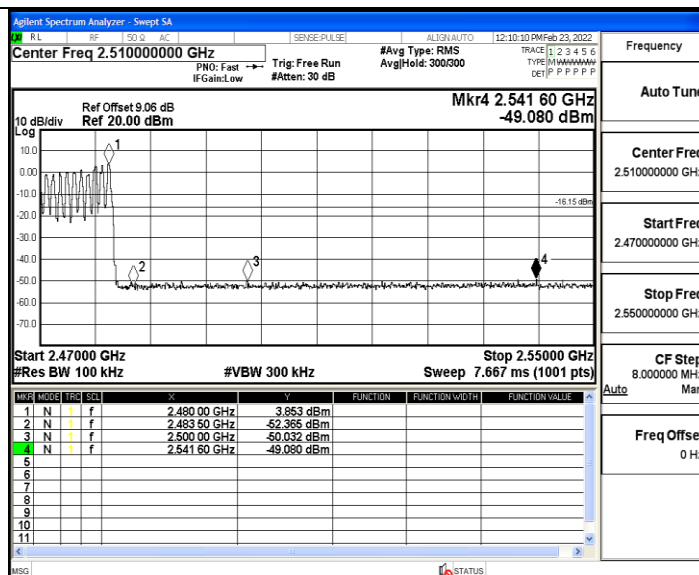
DH5_Ant1_High_2480



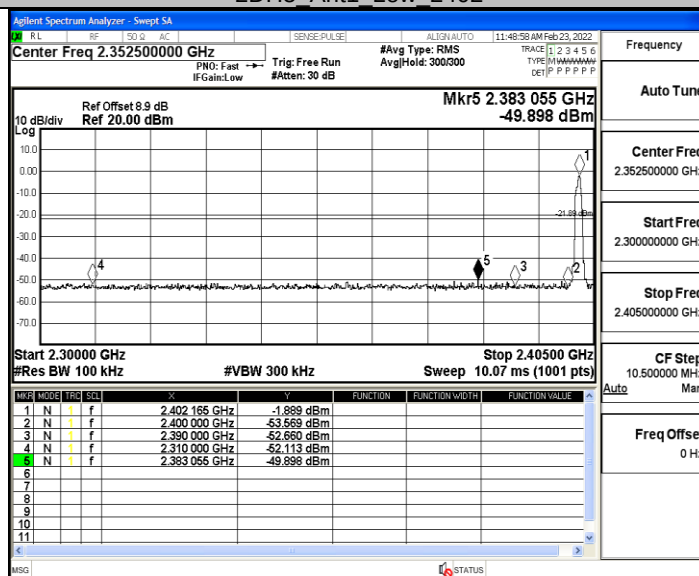
DH5_Ant1_Low_Hop_2402



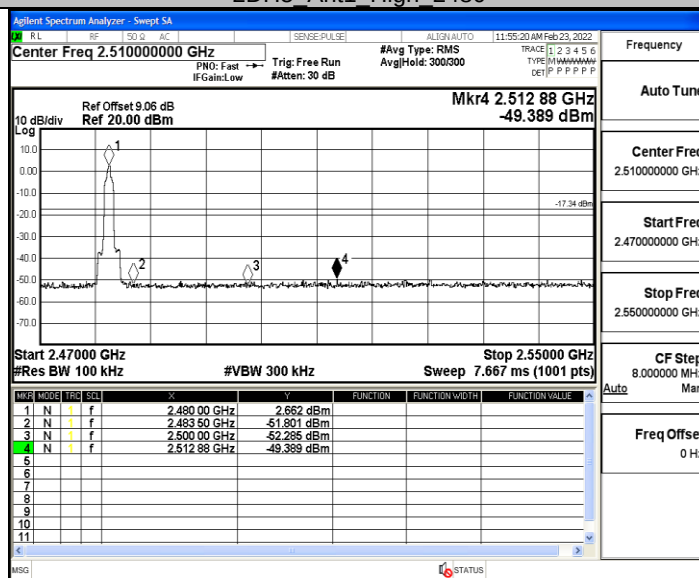
DH5_Ant1_High_Hop_2480



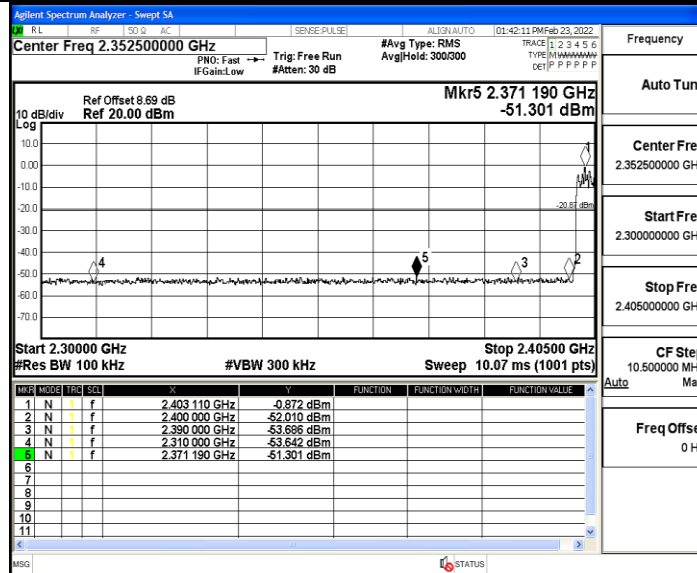
2DH5 Ant1 Low 2402



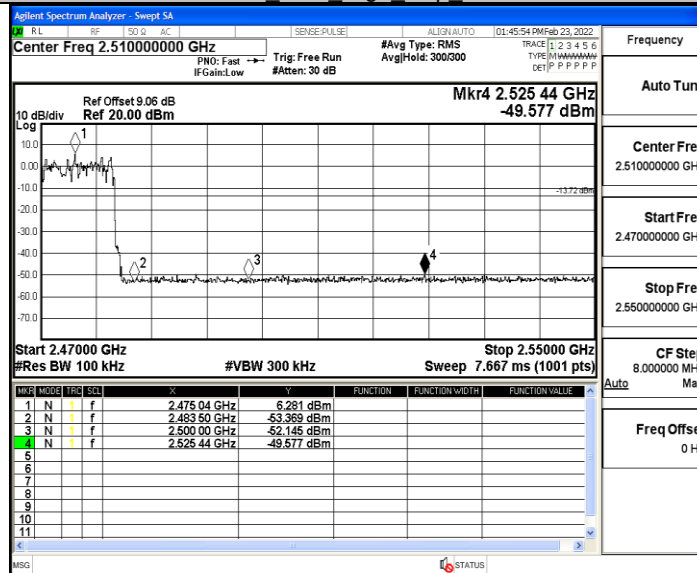
2DH5 Ant1 High 2480



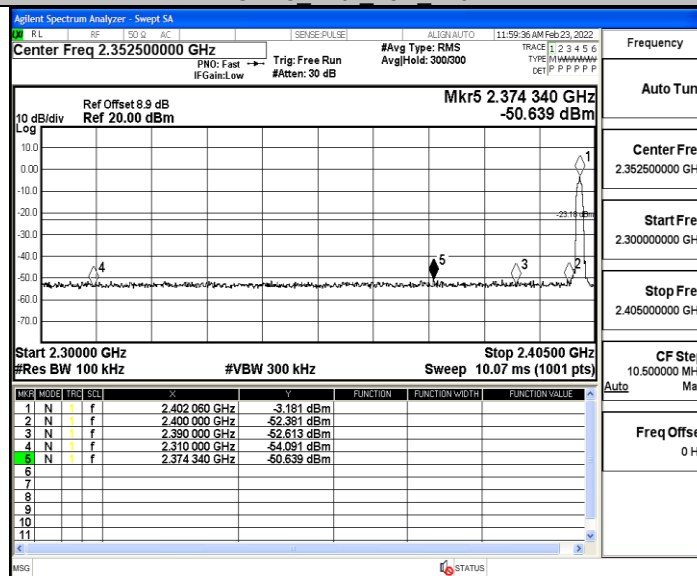
2DH5 Ant1 Low Hop 2402



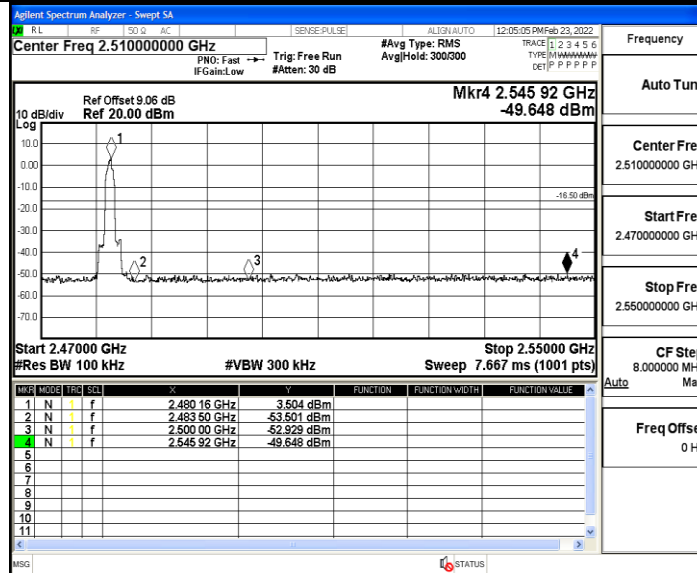
2DH5 Ant1 High Hop 2480



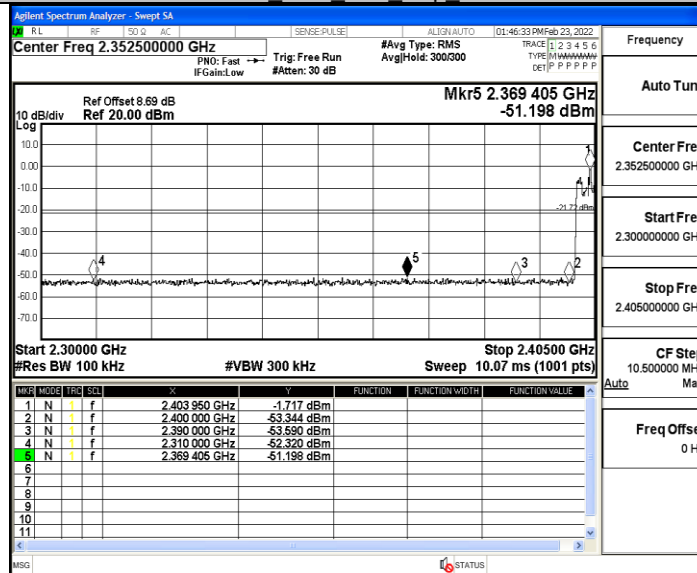
3DH5 Ant1 Low 2402



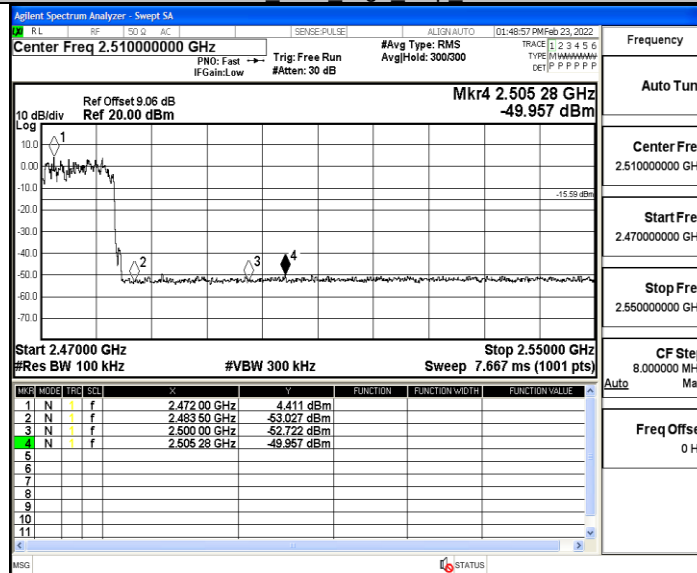
3DH5 Ant1 High 2480



3DH5 Ant1 Low Hop 2402



3DH5 Ant1 High Hop 2480



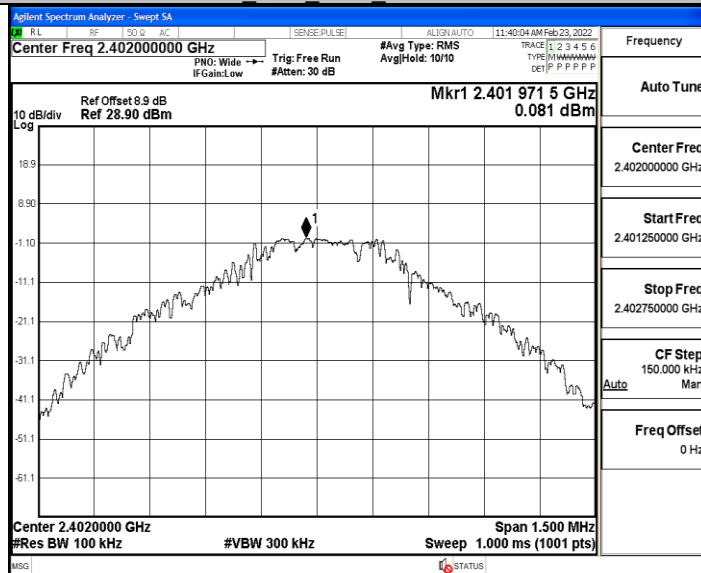
Appendix H: Conducted Spurious Emission

Test Result

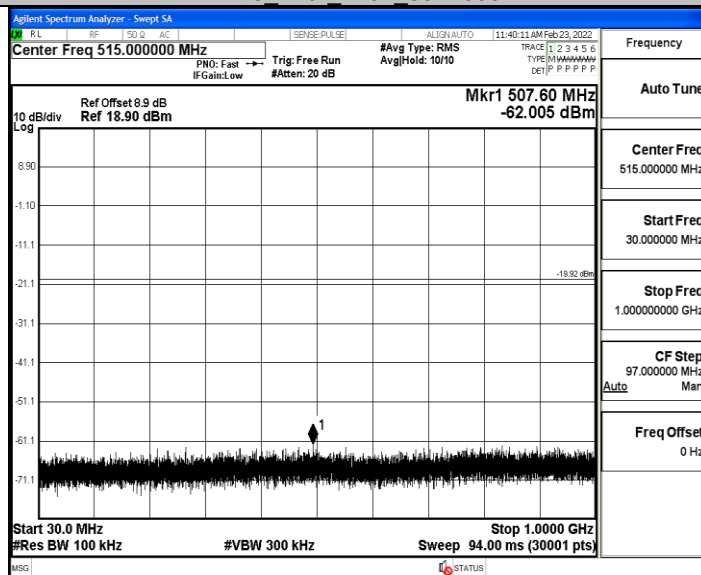
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	0.08	0.08	---	PASS
			30~1000	0.08	-62.01	≤-19.92	PASS
			1000~26500	0.08	-52.61	≤-19.92	PASS
		2441	Reference	-0.71	-0.71	---	PASS
			30~1000	-0.71	-61.87	≤-20.71	PASS
			1000~26500	-0.71	-52.94	≤-20.71	PASS
		2480	Reference	2.29	2.29	---	PASS
			30~1000	2.29	-61.35	≤-17.71	PASS
			1000~26500	2.29	-53.31	≤-17.71	PASS
2DH5	Ant1	2402	Reference	-6.17	-6.17	---	PASS
			30~1000	-6.17	-62.3	≤-26.17	PASS
			1000~26500	-6.17	-52.93	≤-26.17	PASS
		2441	Reference	-1.55	-1.55	---	PASS
			30~1000	-1.55	-60.25	≤-21.55	PASS
			1000~26500	-1.55	-51.9	≤-21.55	PASS
		2480	Reference	1.79	1.79	---	PASS
			30~1000	1.79	-61.55	≤-18.21	PASS
			1000~26500	1.79	-52.79	≤-18.21	PASS
3DH5	Ant1	2402	Reference	-3.18	-3.18	---	PASS
			30~1000	-3.18	-61.9	≤-23.18	PASS
			1000~26500	-3.18	-52.6	≤-23.18	PASS
		2441	Reference	-5.06	-5.06	---	PASS
			30~1000	-5.06	-61.9	≤-25.06	PASS
			1000~26500	-5.06	-52.69	≤-25.06	PASS
		2480	Reference	-0.23	-0.23	---	PASS
			30~1000	-0.23	-61.98	≤-20.23	PASS
			1000~26500	-0.23	-52.18	≤-20.23	PASS

Test Graphs

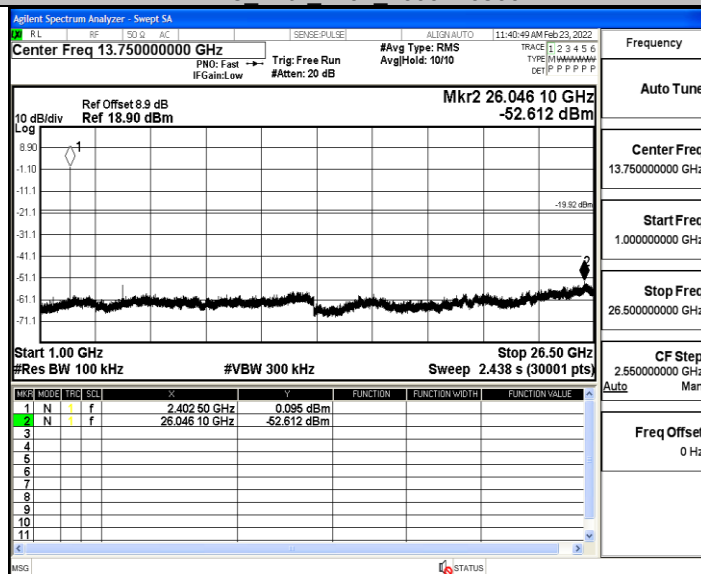
DH5_Ant1_2402_0-Reference



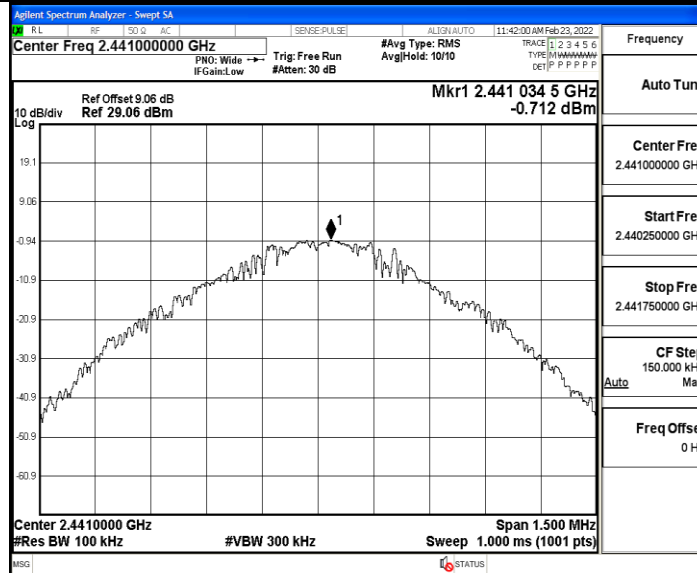
DH5_Ant1_2402_30-1000



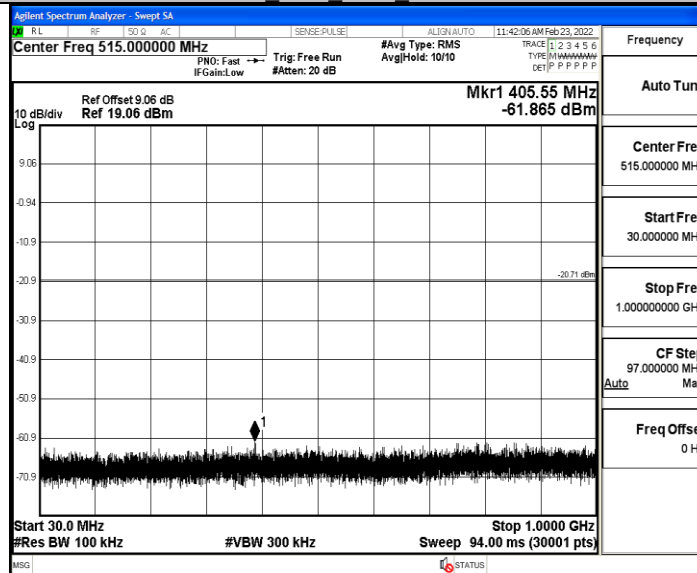
DH5_Ant1_2402_1000-26500



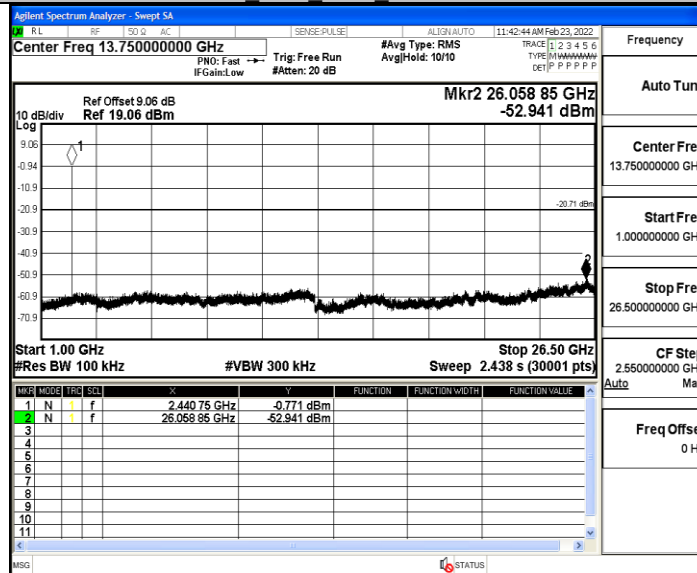
DH5_Ant1_2441_0-Reference



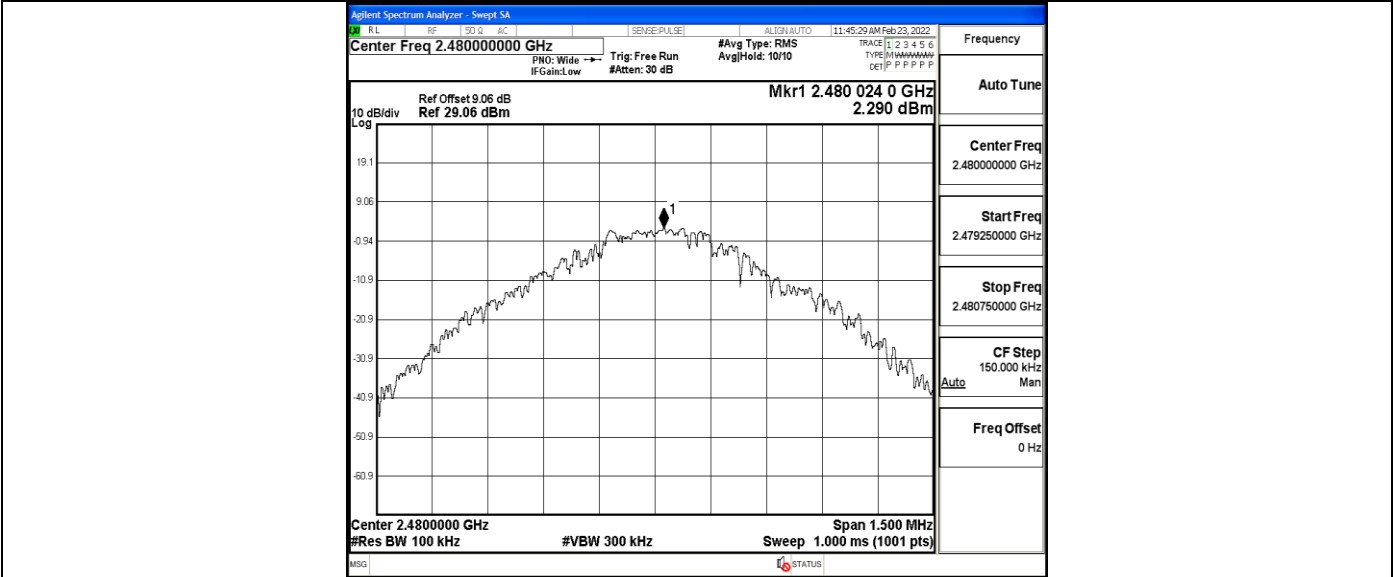
DH5_Ant1_2441_30~1000



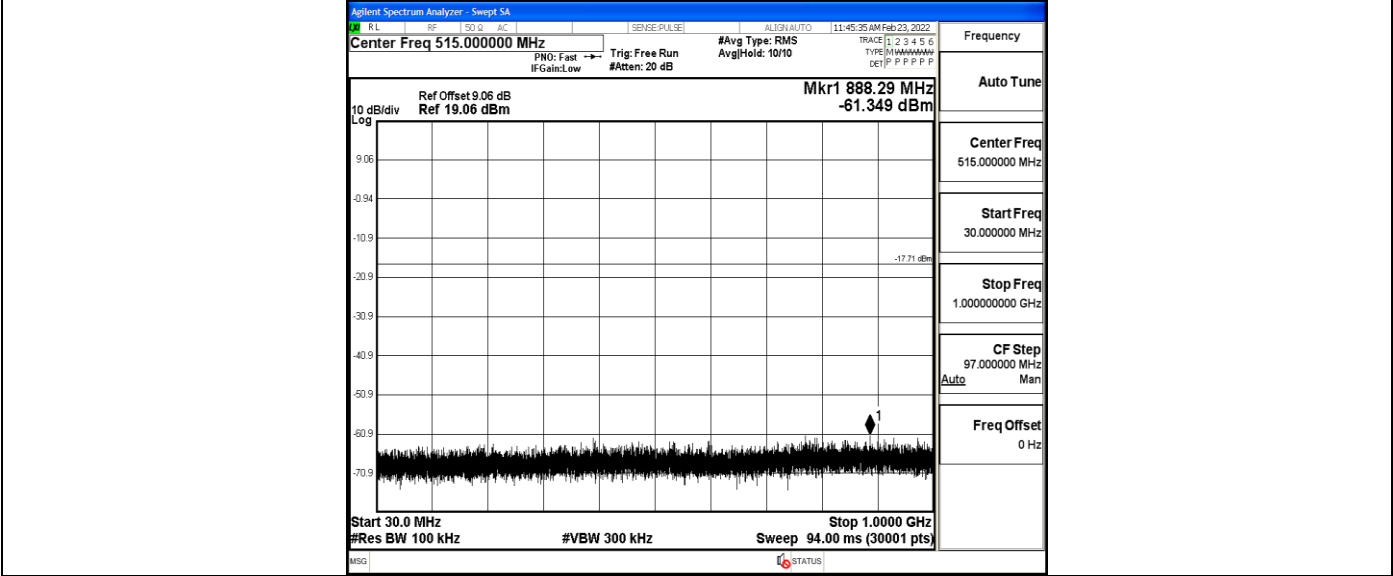
DH5_Ant1_2441_1000~26500



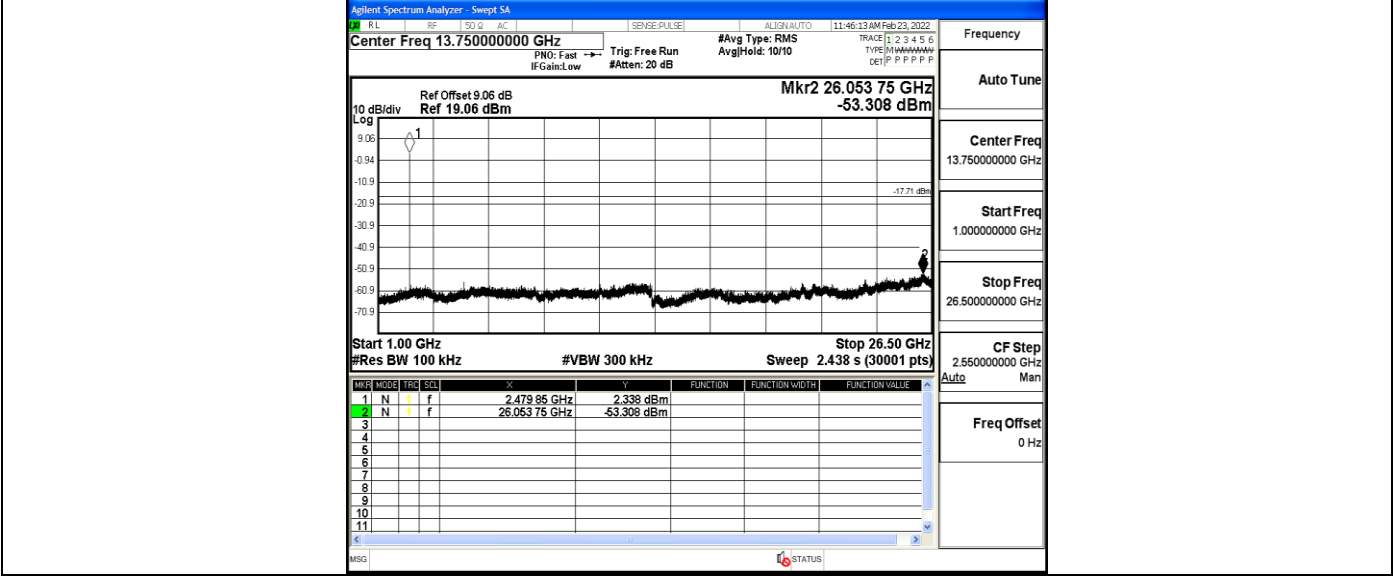
DH5_Ant1_2480_0~Reference



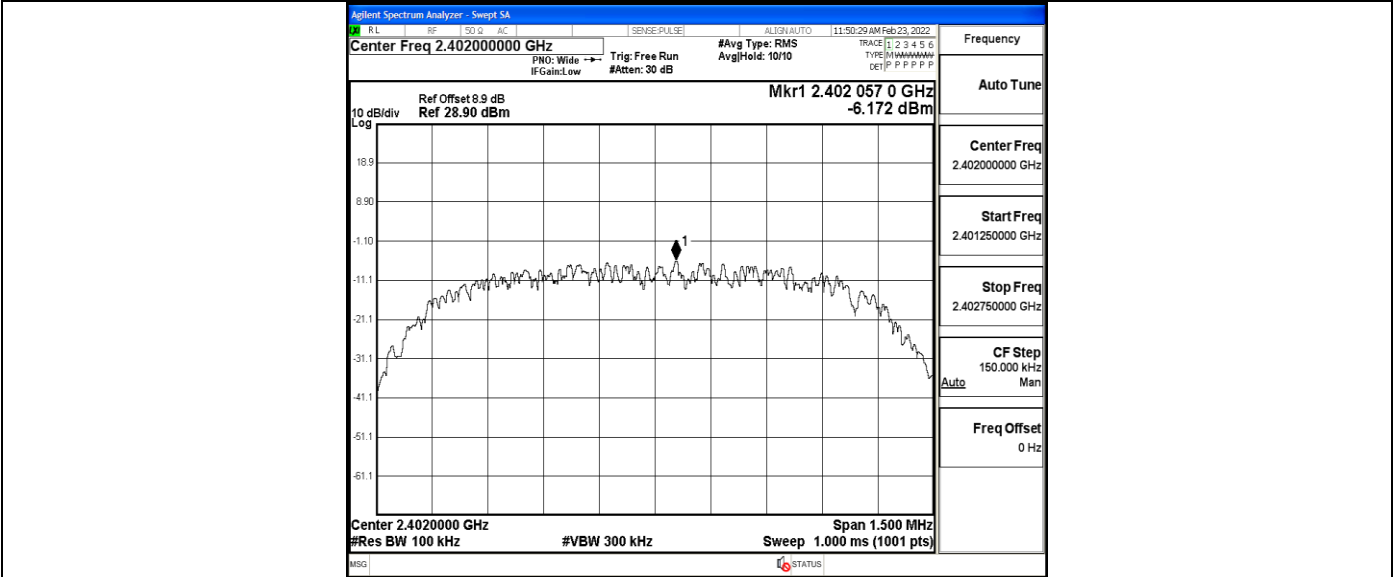
DH5_Ant1_2480_30~1000



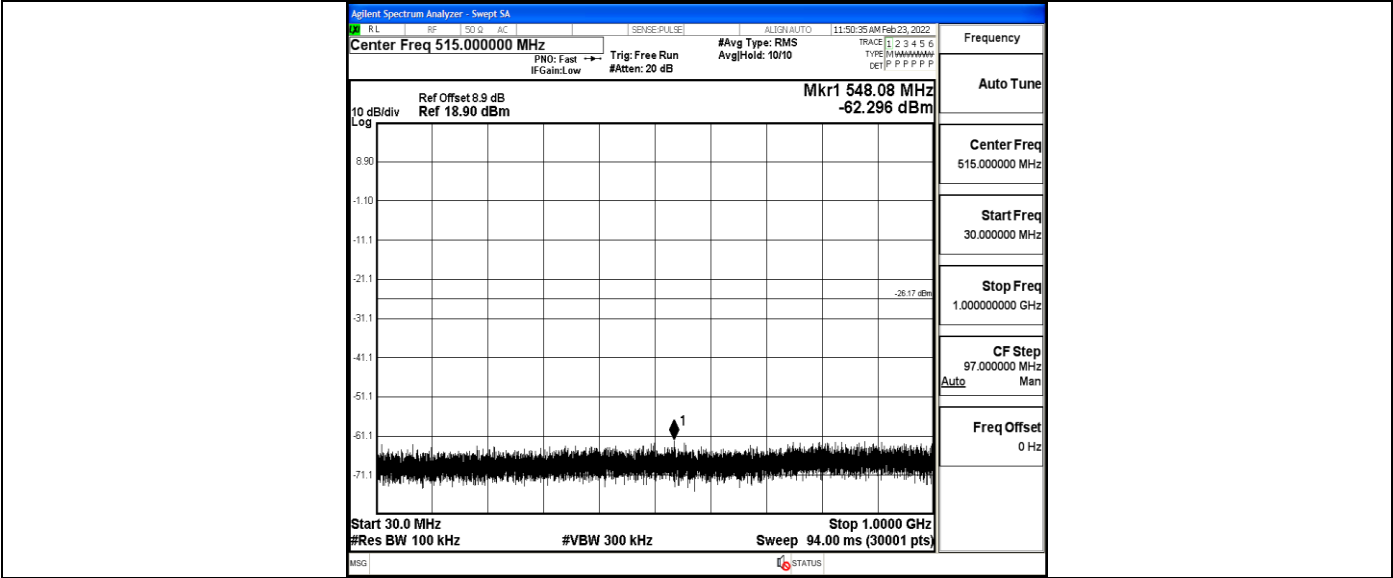
DH5_Ant1_2480_1000~26500



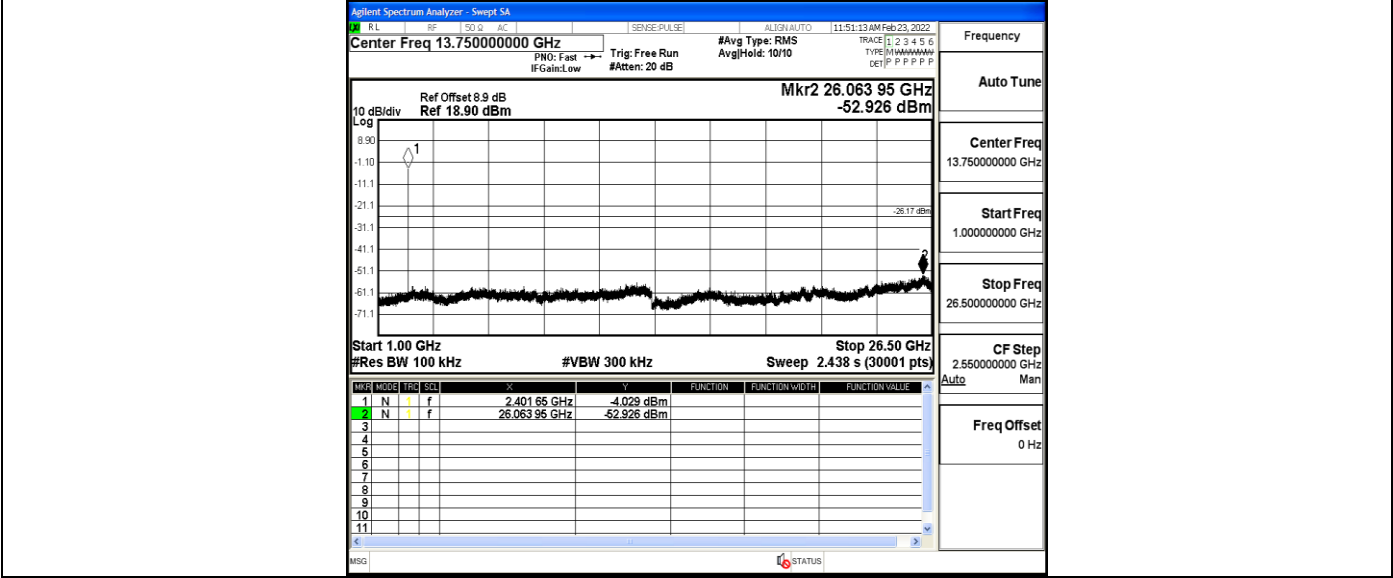
2DH5_Ant1_2402_0~Reference



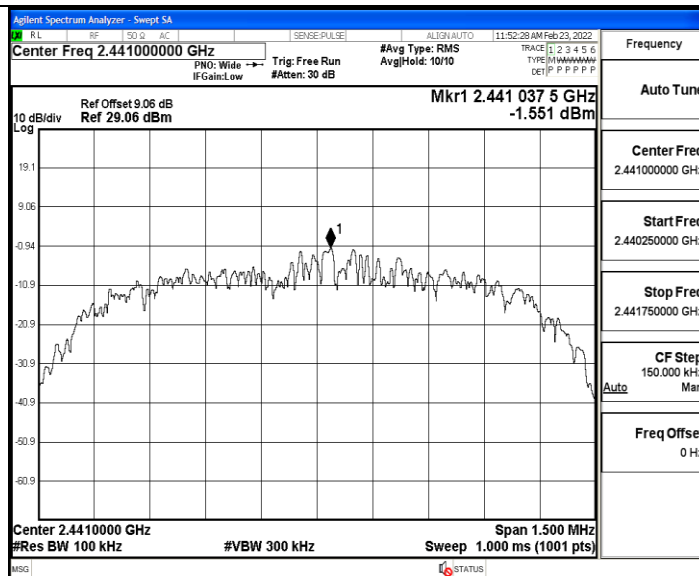
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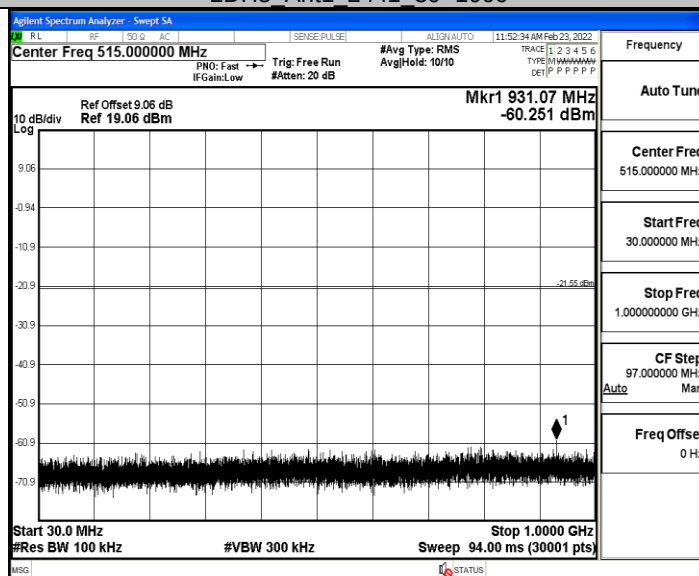
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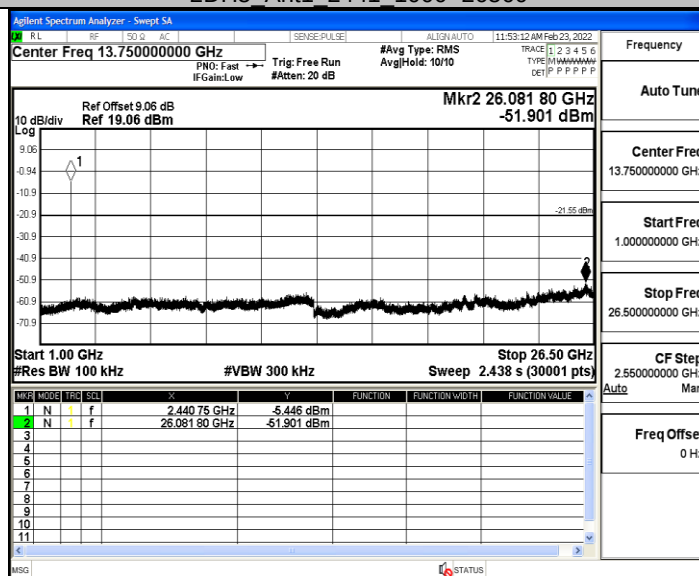
2DH5_Ant1_2441_0~Reference



2DH5 Ant1 2441 30~1000



2DH5 Ant1 2441 1000~26500



2DH5 Ant1 2480 0~Reference