



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Turntable with Bluetooth Transmitter

Test Model: ITTB401DW

Environmental Conditions

Temperature:	21.2° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Ken He
Supervised by:	Li Huan



A.1 20dB Emission Bandwidth

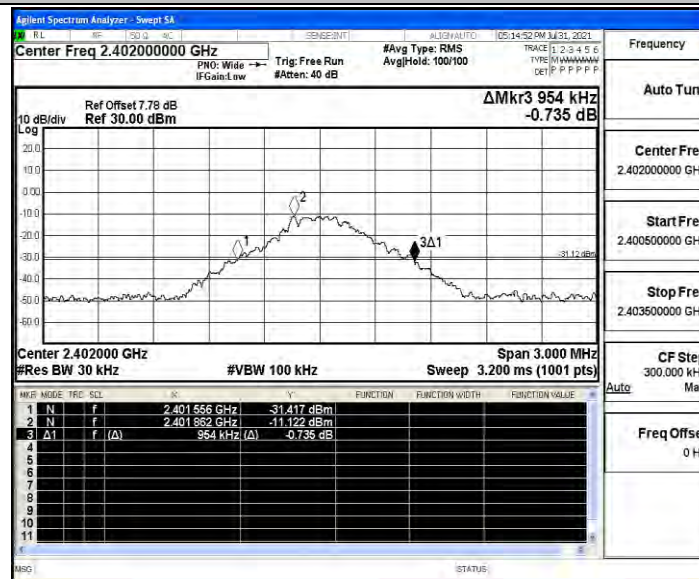
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.954	2401.556	2402.510	---	PASS
		2441	0.963	2440.550	2441.513	---	PASS
		2480	0.960	2479.553	2480.513	---	PASS
2DH5	Ant1	2402	1.284	2401.388	2402.672	---	PASS
		2441	1.323	2440.358	2441.681	---	PASS
		2480	1.341	2479.349	2480.690	---	PASS
3DH5	Ant1	2402	1.305	2401.373	2402.678	---	PASS
		2441	1.314	2440.367	2441.681	---	PASS
		2480	1.275	2479.376	2480.651	---	PASS

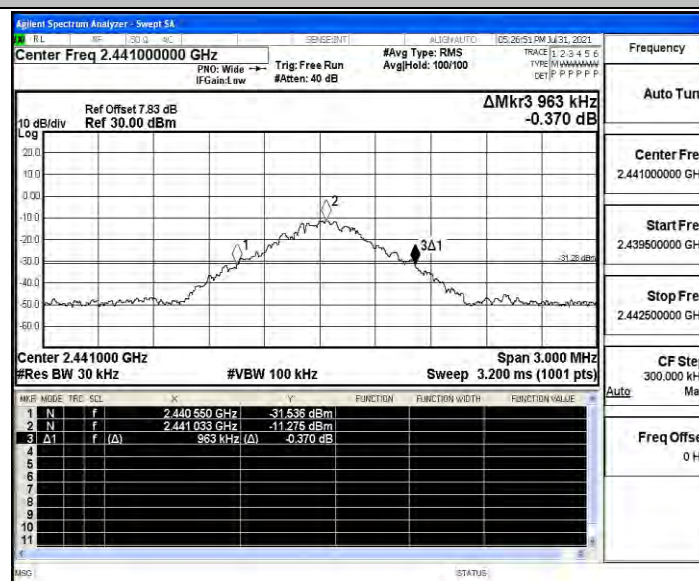


Test Graphs

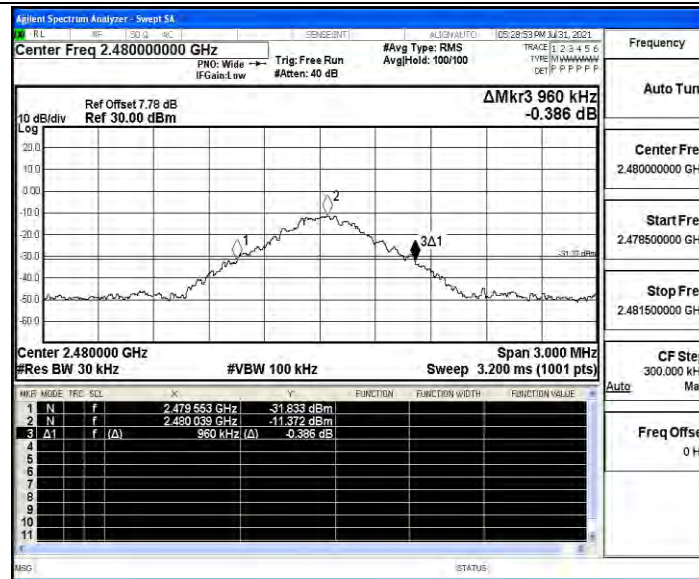
DH5_Ant1_2402



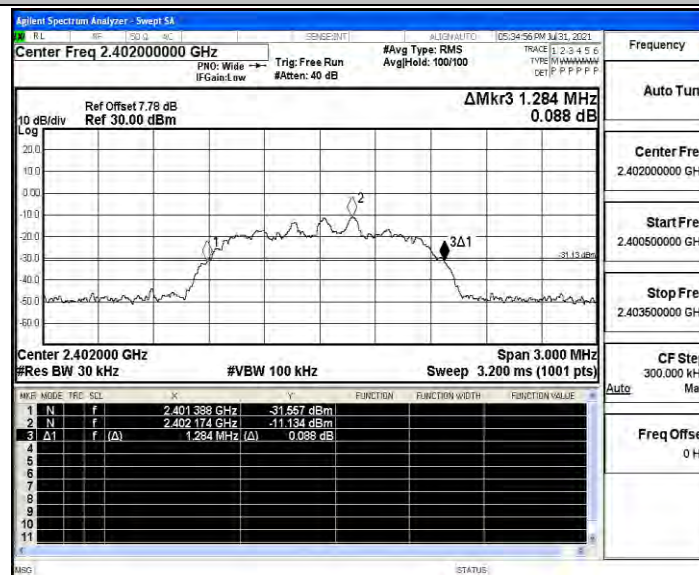
DH5_Ant1_2441



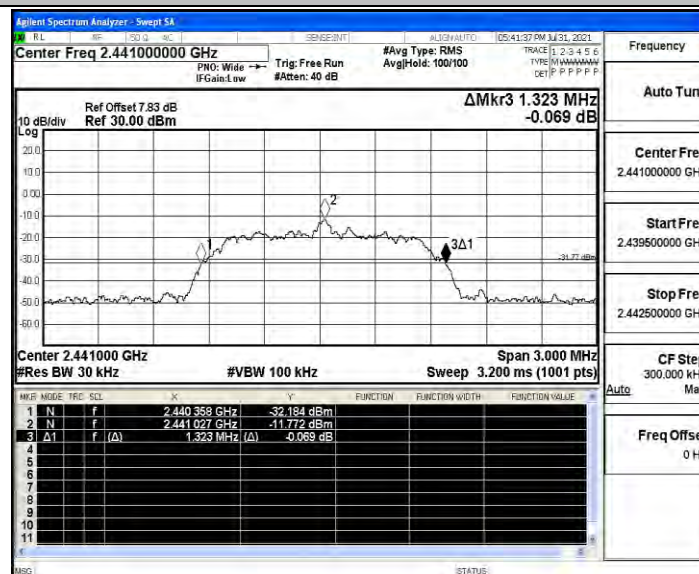
DH5_Ant1_2480



2DH5_Ant1_2402

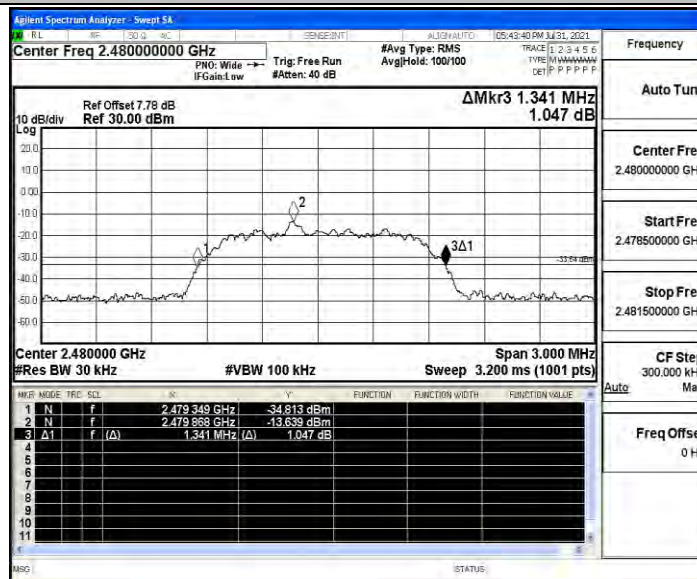


2DH5_Ant1_2441

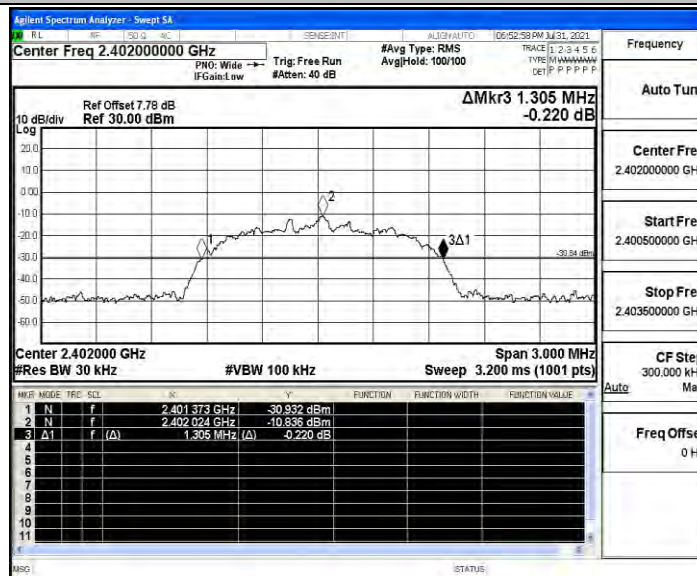




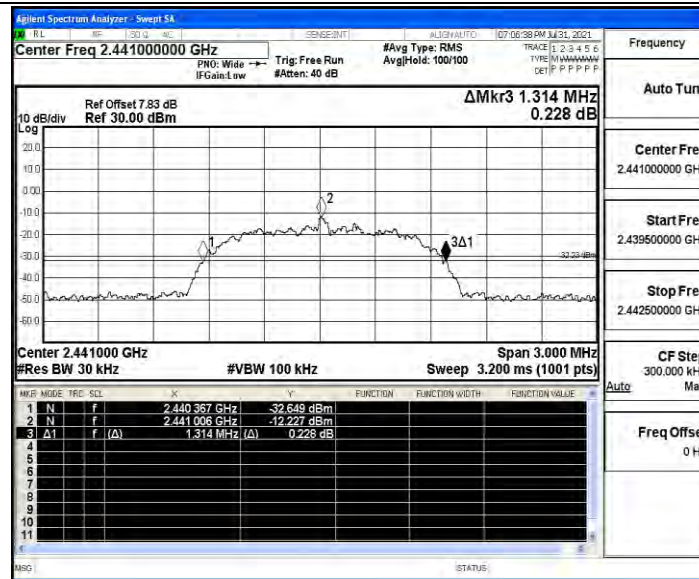
2DH5_Ant1_2480



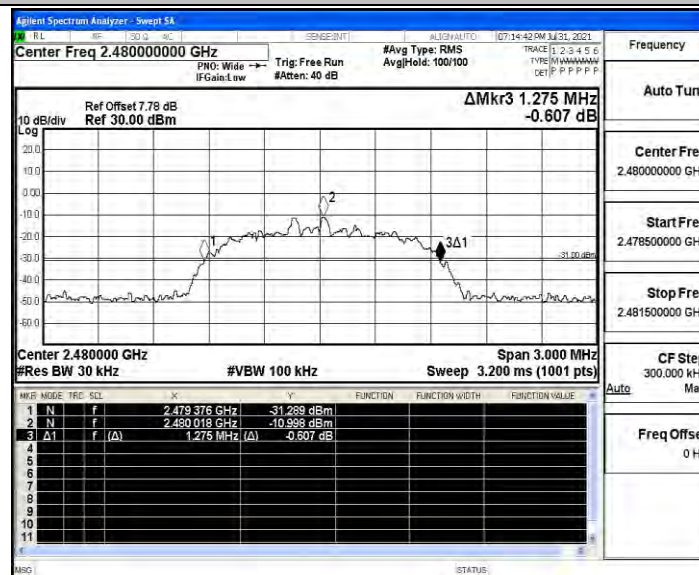
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





A.2 Occupied Channel Bandwidth

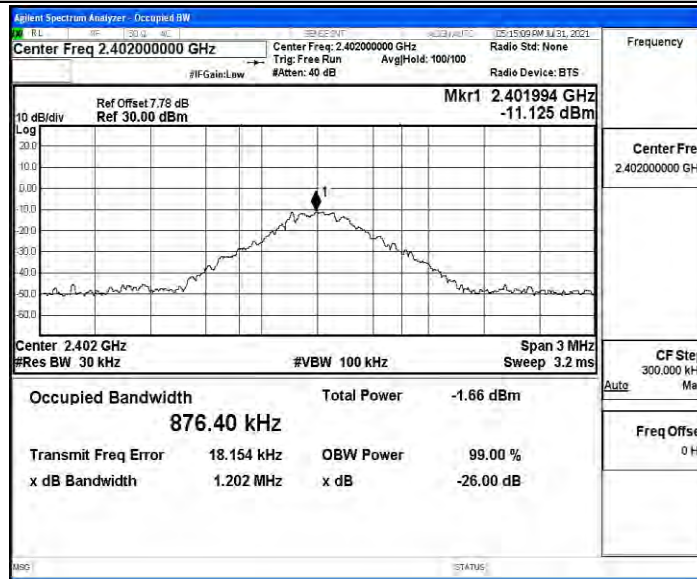
Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.87640	2401.580	2402.456	---	PASS
		2441	0.88925	2440.577	2441.467	---	PASS
		2480	0.90697	2479.569	2480.476	---	PASS
2DH5	Ant1	2402	1.1983	2401.422	2402.620	---	PASS
		2441	1.1977	2440.421	2441.619	---	PASS
		2480	1.2025	2479.423	2480.626	---	PASS
3DH5	Ant1	2402	1.1867	2401.431	2402.618	---	PASS
		2441	1.2276	2440.402	2441.630	---	PASS
		2480	1.2086	2479.415	2480.624	---	PASS

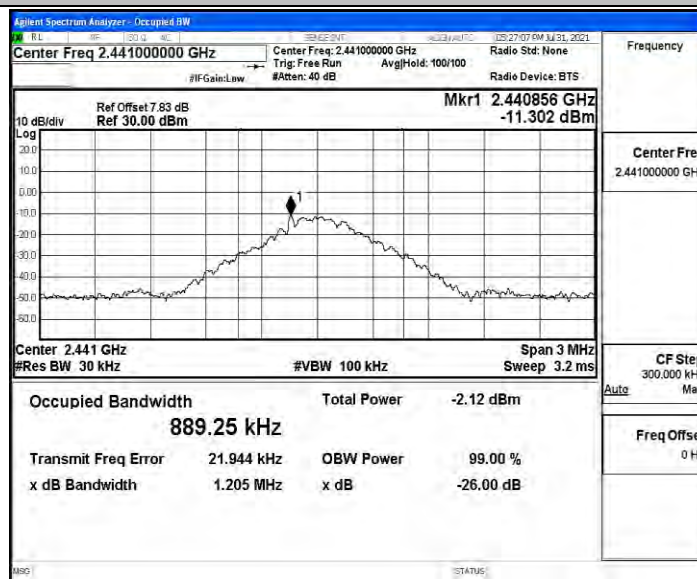


Test Graphs

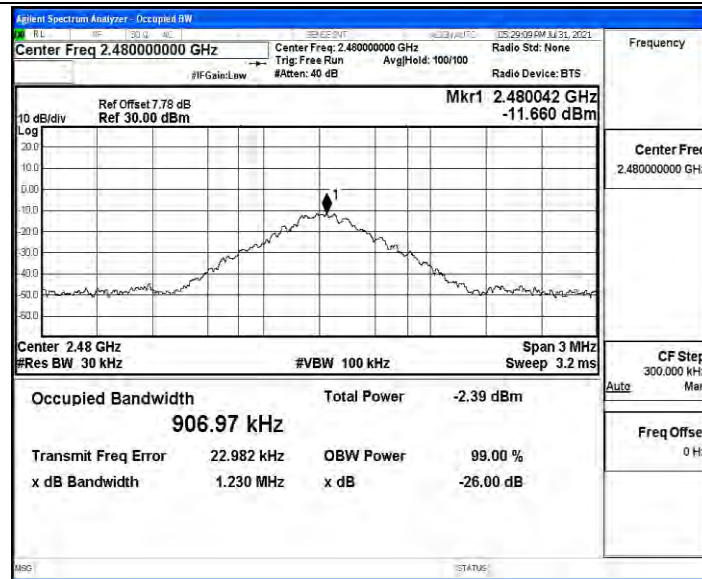
DH5_Ant1_2402



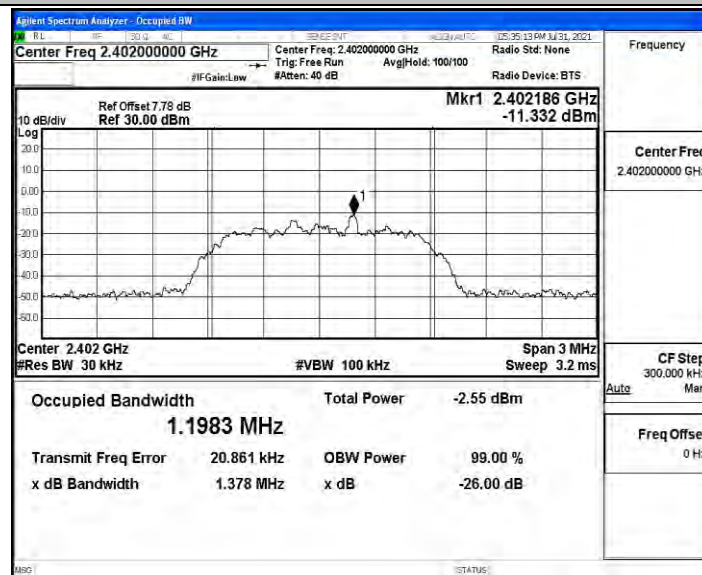
DH5_Ant1_2441



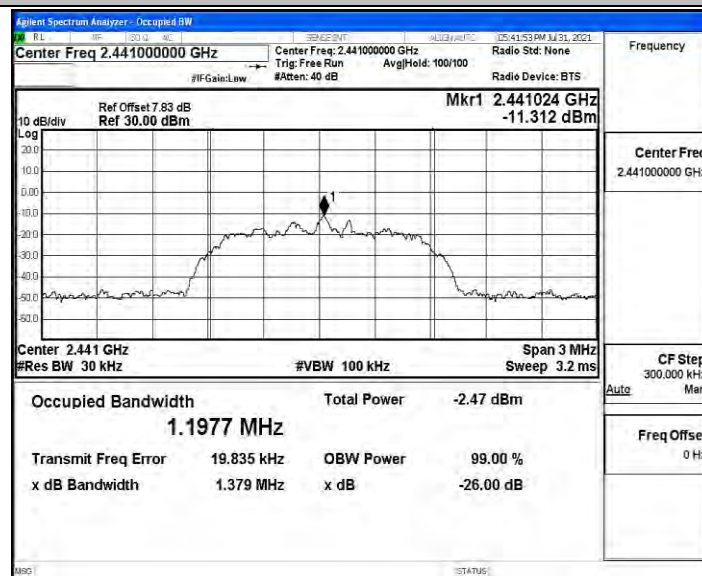
DH5_Ant1_2480



2DH5_Ant1_2402

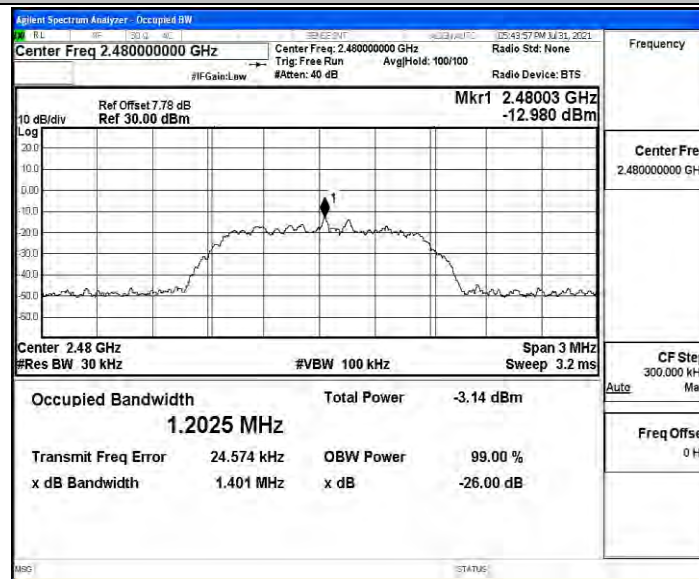


2DH5_Ant1_2441

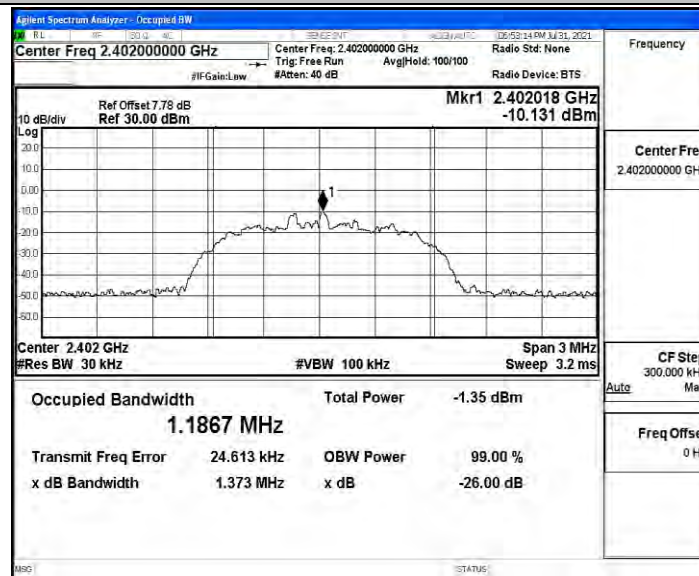




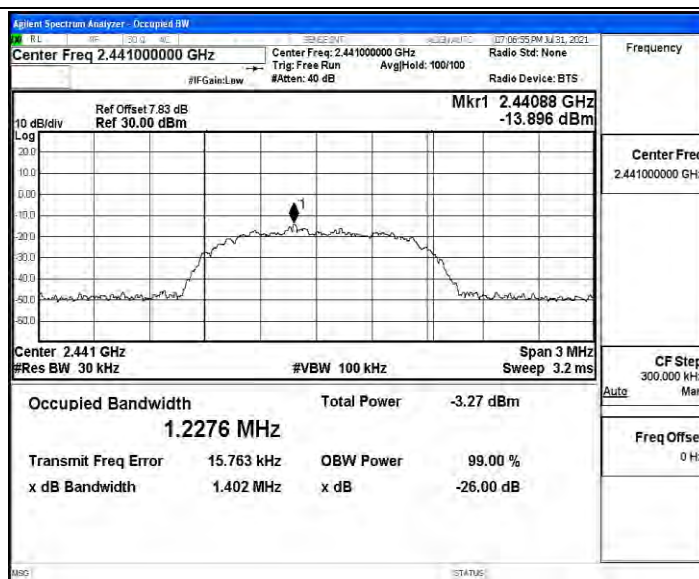
2DH5_Ant1_2480



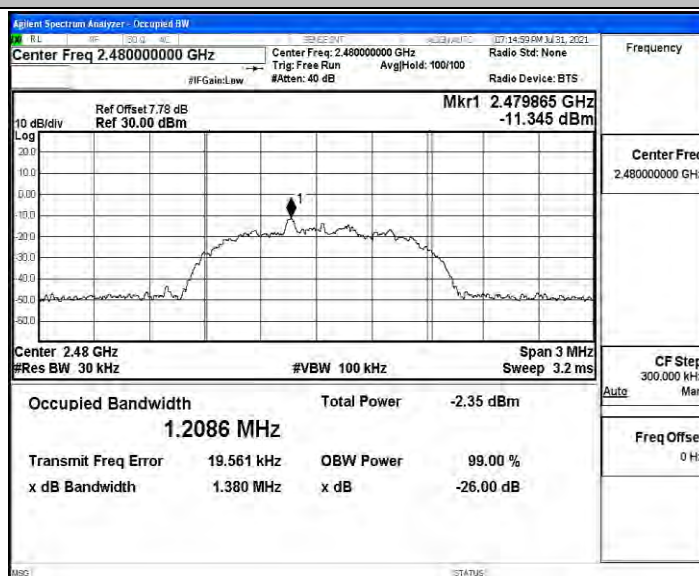
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





A.3 Maximum conducted output power

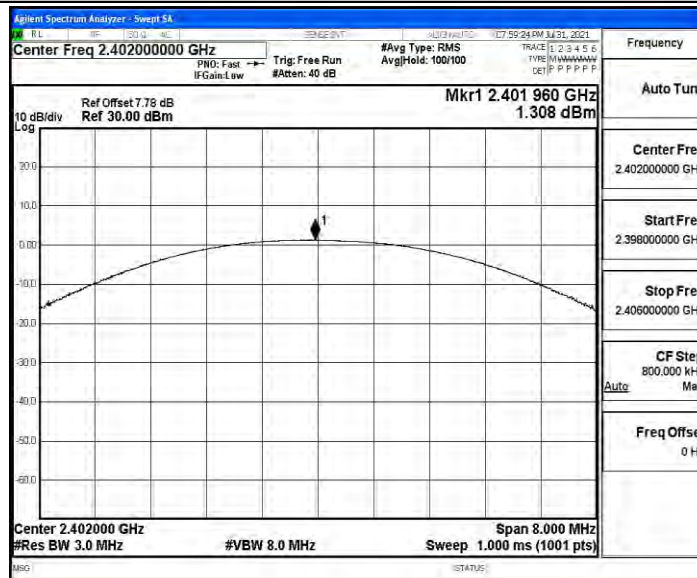
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	1.31	≤30	PASS
		2441	1.08	≤30	PASS
		2480	0.46	≤30	PASS
2DH5	Ant1	2402	1.96	≤20.97	PASS
		2441	1.47	≤20.97	PASS
		2480	0.73	≤20.97	PASS
3DH5	Ant1	2402	2.2	≤20.97	PASS
		2441	1.71	≤20.97	PASS
		2480	0.83	≤20.97	PASS

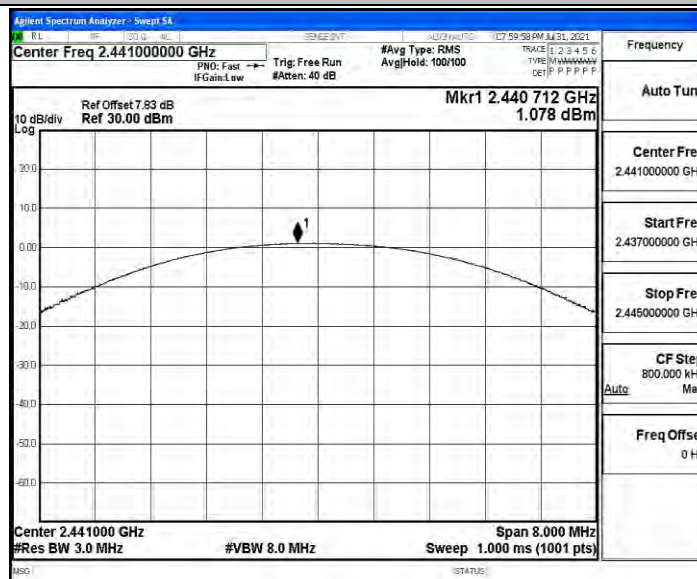


Test Graphs

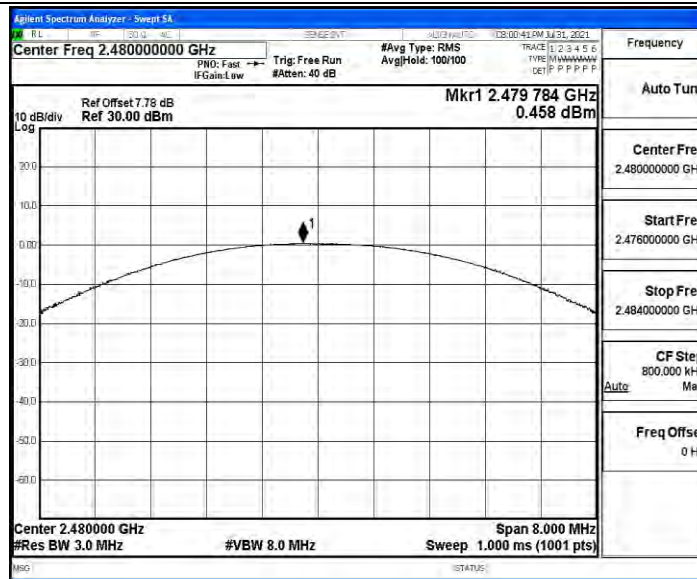
DH5_Ant1_2402



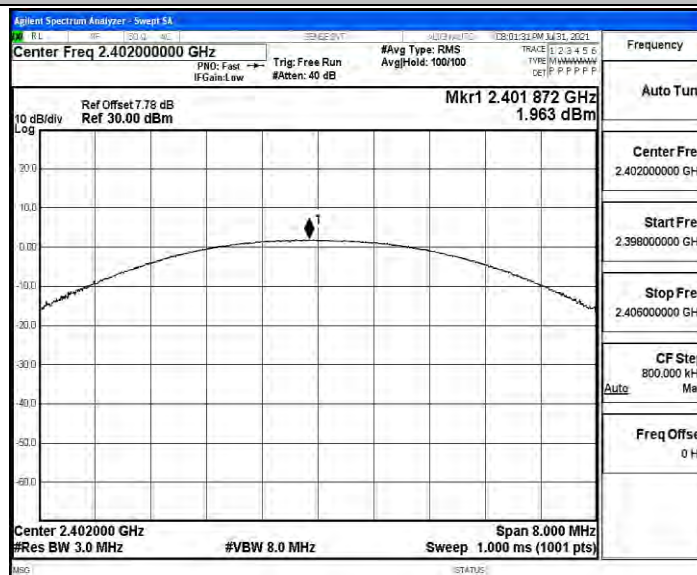
DH5_Ant1_2441



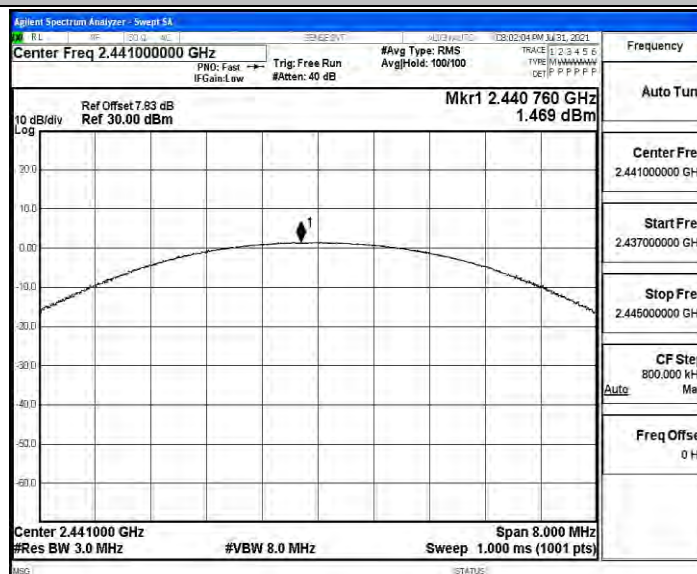
DH5_Ant1_2480



2DH5_Ant1_2402

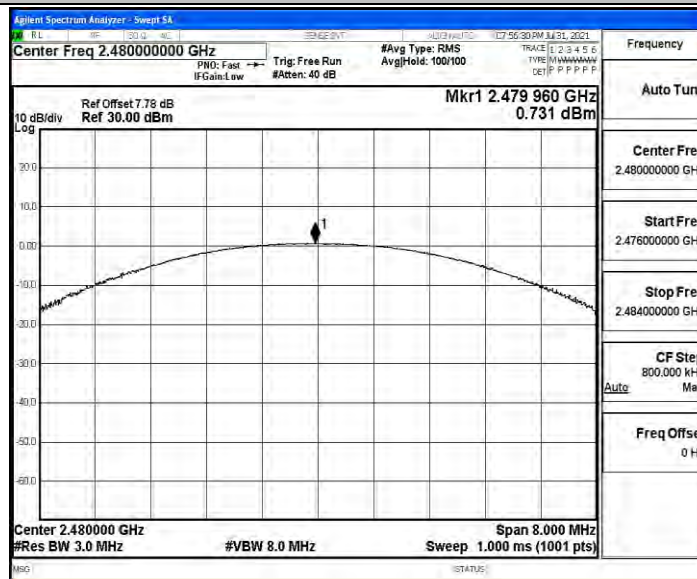


2DH5_Ant1_2441

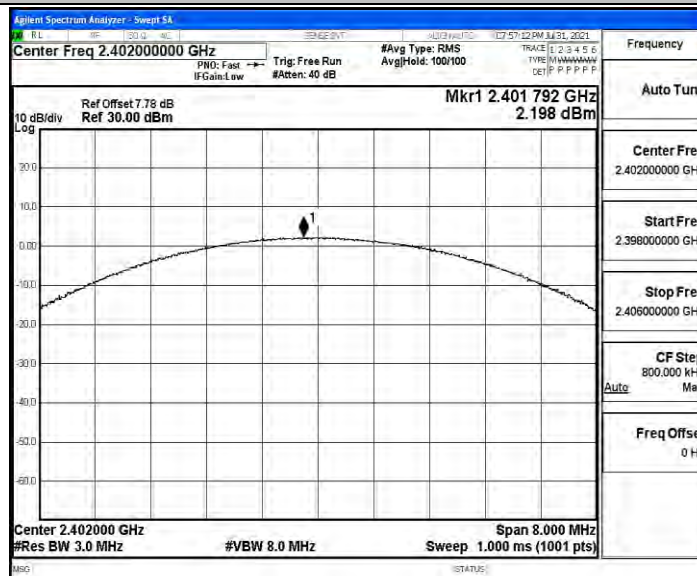




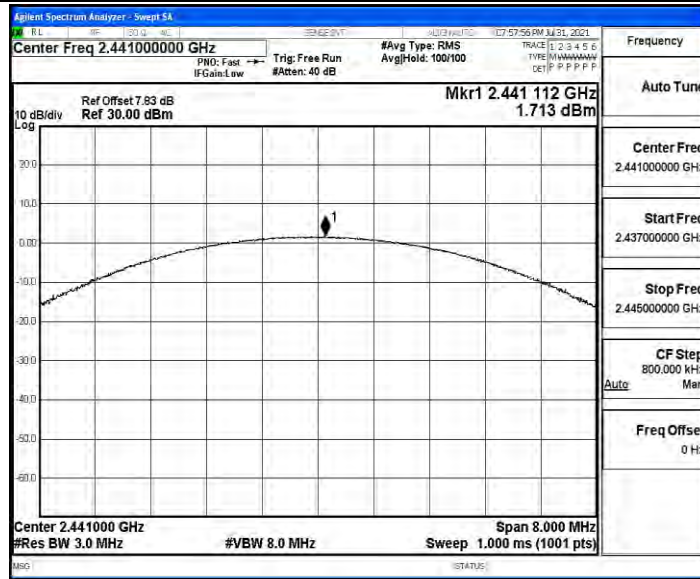
2DH5_Ant1_2480



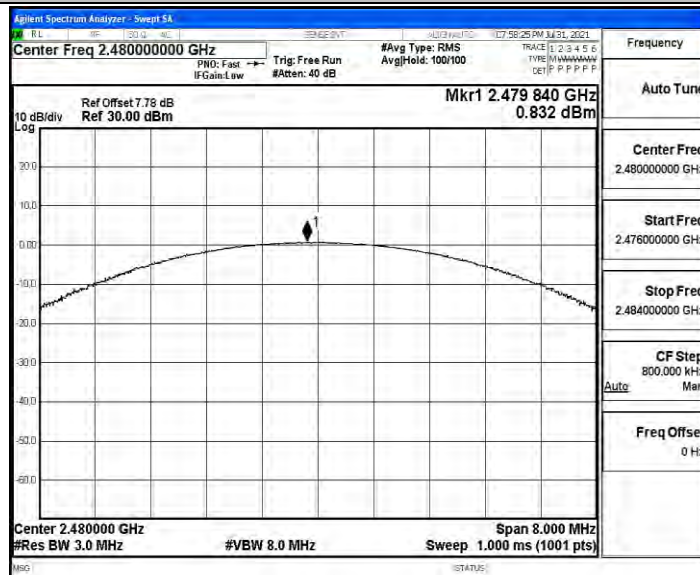
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





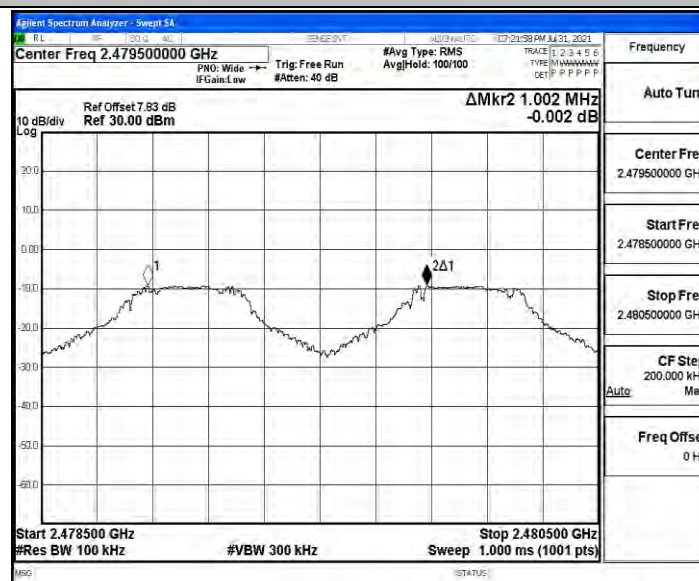
A.4 Carrier frequency separation

Test Result

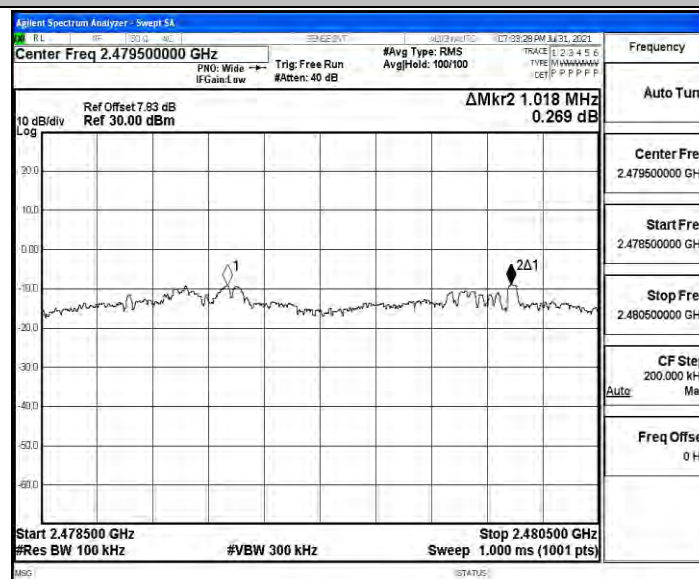
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.002	≥ 0.963	PASS
2DH5	Ant1	Hop	1.018	≥ 0.894	PASS
3DH5	Ant1	Hop	1.31	≥ 0.876	PASS

Test Graphs

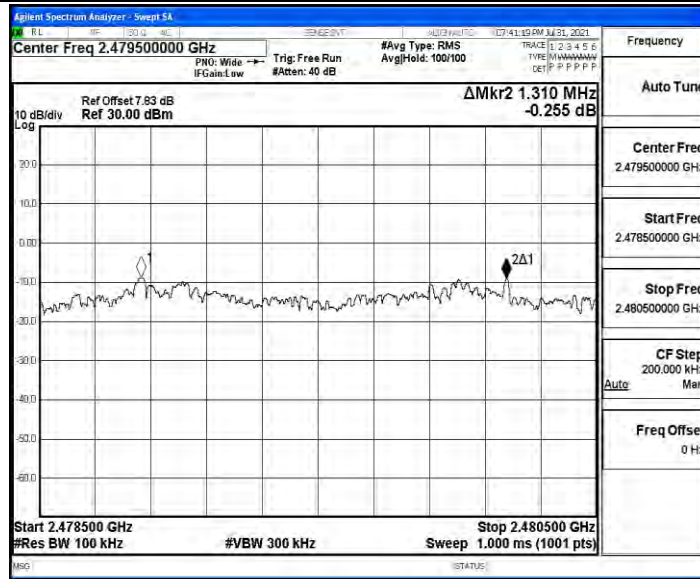
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



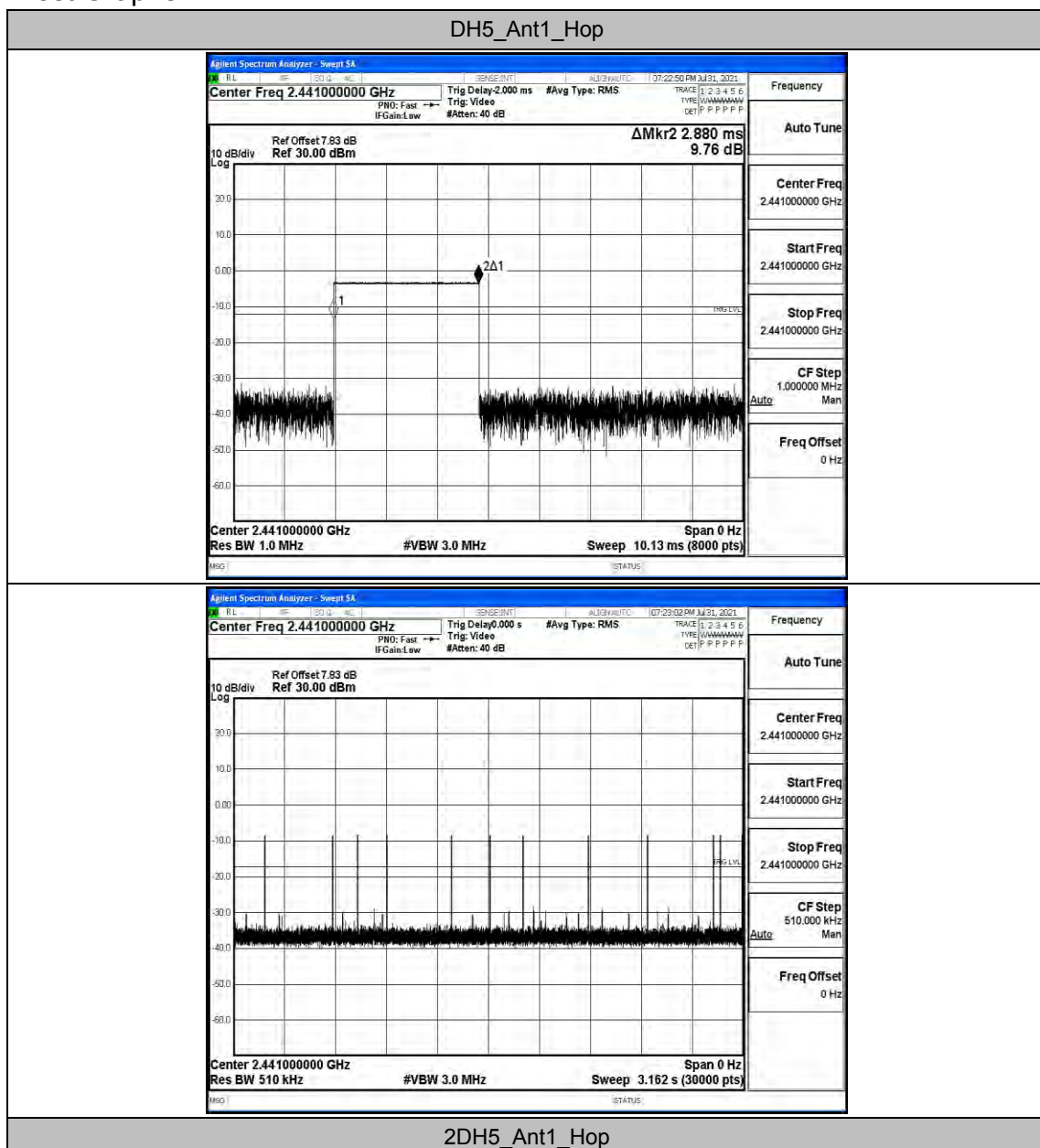


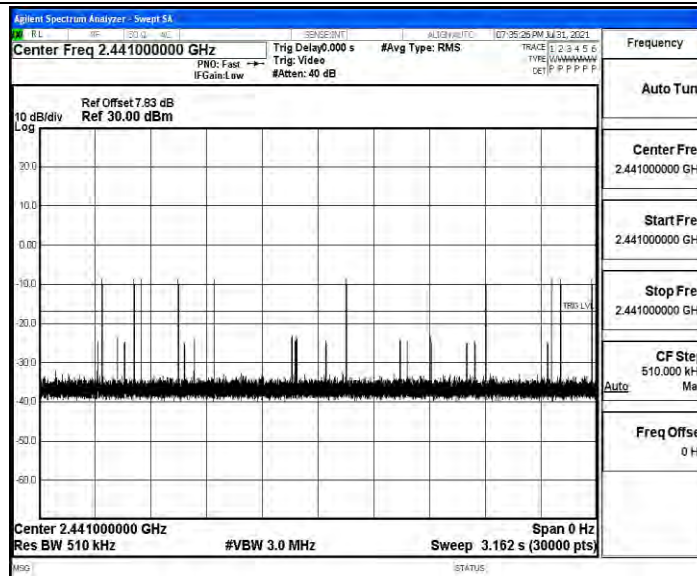
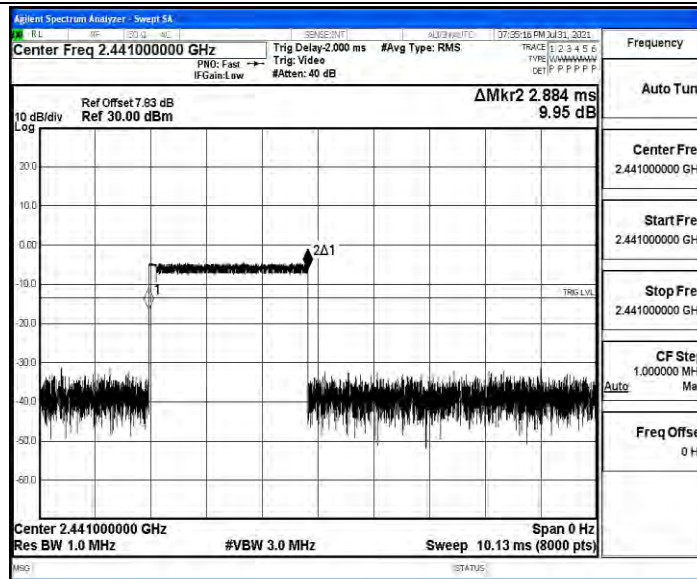
A.5 Time of occupancy

Test Result

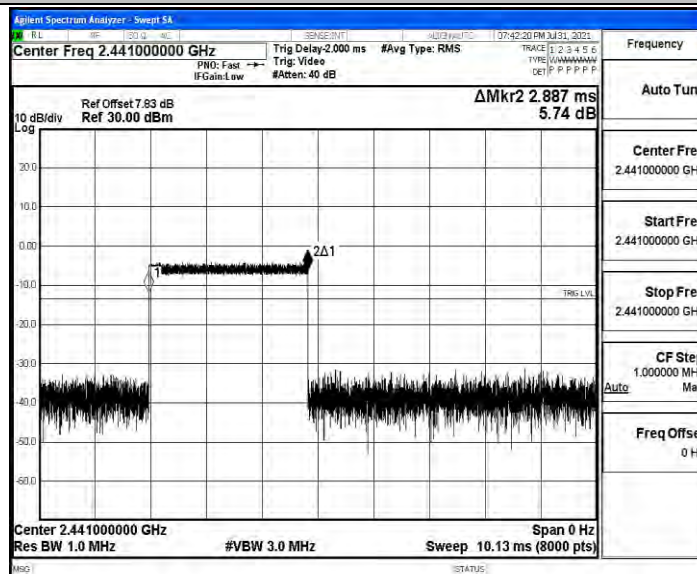
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.880	110	0.317	≤0.4	PASS
2DH5	Ant1	Hop	2.884	110	0.317	≤0.4	PASS
3DH5	Ant1	Hop	2.887	90	0.26	≤0.4	PASS

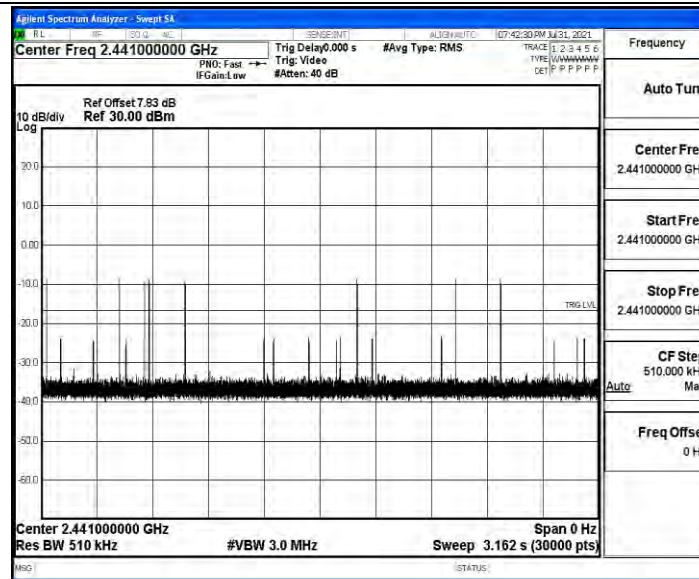
Test Graphs





3DH5_Ant1_Hop







A.6 Number of hopping channels

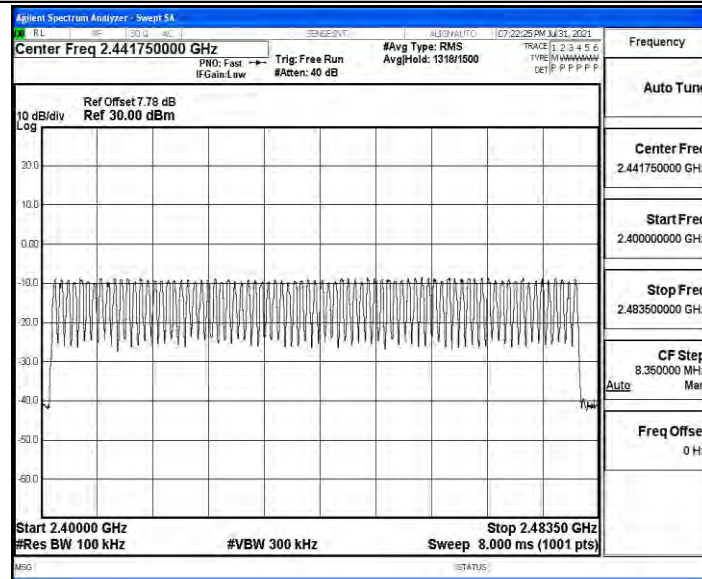
Test Result

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

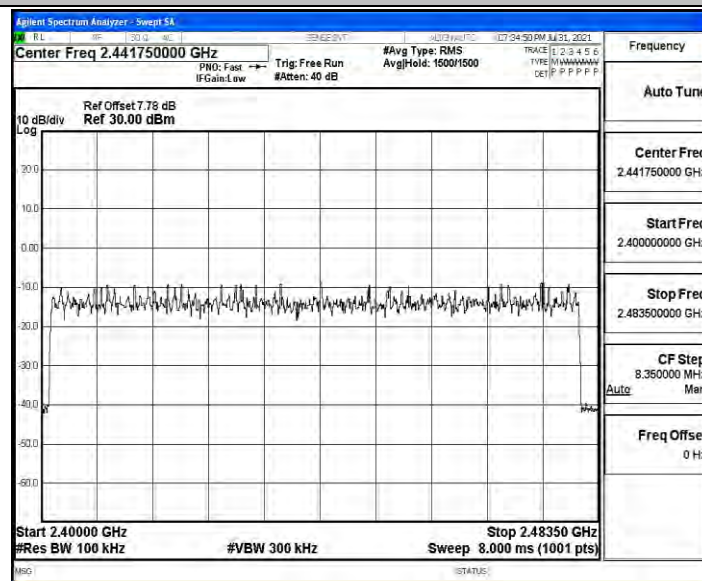


Test Graphs

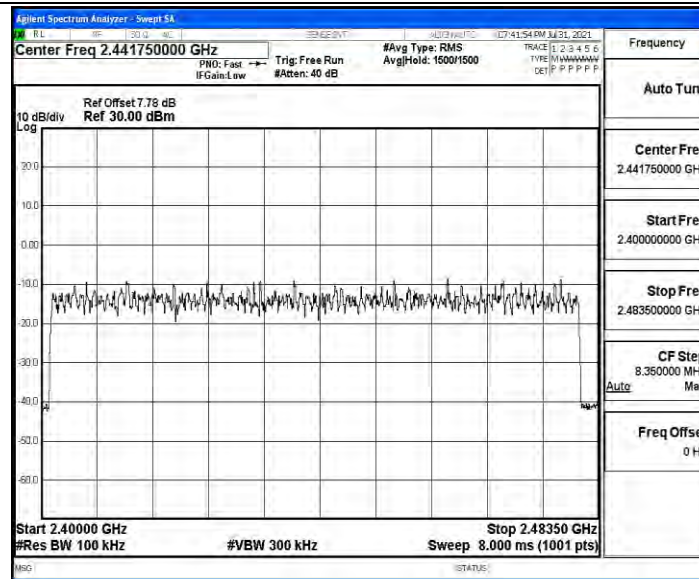
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop





A.7 Band edge measurements

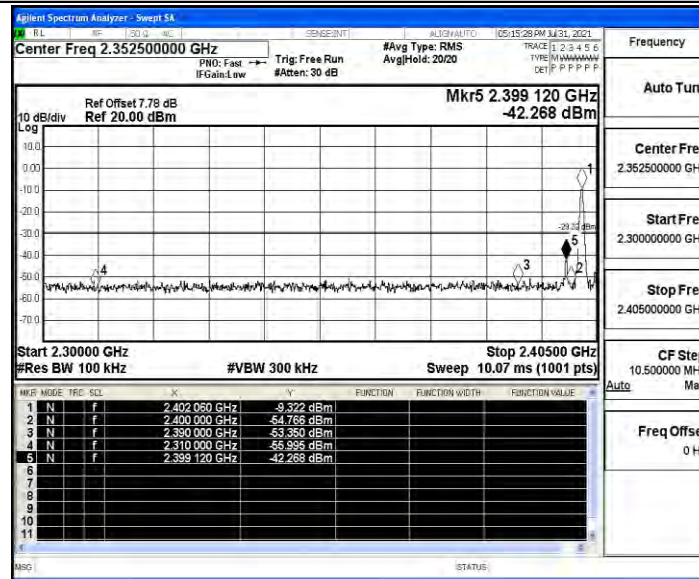
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-9.32	-42.27	≤ -29.32	PASS
		High	2480	-9.03	-47.2	≤ -29.03	PASS
		Low	Hop_2402	-8.96	-49.47	≤ -28.96	PASS
		High	Hop_2480	-0.28	-46.72	≤ -20.28	PASS
2DH5	Ant1	Low	2402	-8.79	-43.72	≤ -28.79	PASS
		High	2480	-8.89	-48.66	≤ -28.89	PASS
		Low	Hop_2402	-12.74	-49.71	≤ -32.74	PASS
		High	Hop_2480	-11.94	-48.7	≤ -31.94	PASS
3DH5	Ant1	Low	2402	-7.95	-42.74	≤ -27.95	PASS
		High	2480	-8.68	-48.67	≤ -28.68	PASS
		Low	Hop_2402	-9.93	-49.74	≤ -29.93	PASS
		High	Hop_2480	-10.10	-48.42	≤ -30.1	PASS

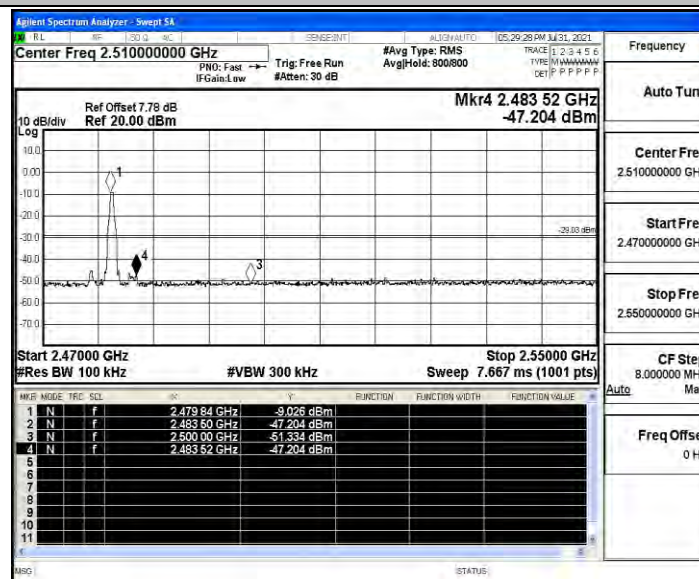


Test Graphs

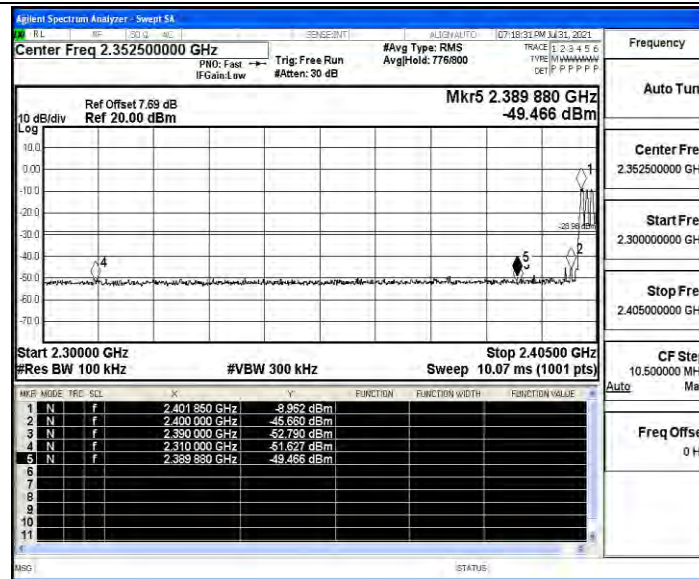
DH5_Ant1_Low_2402



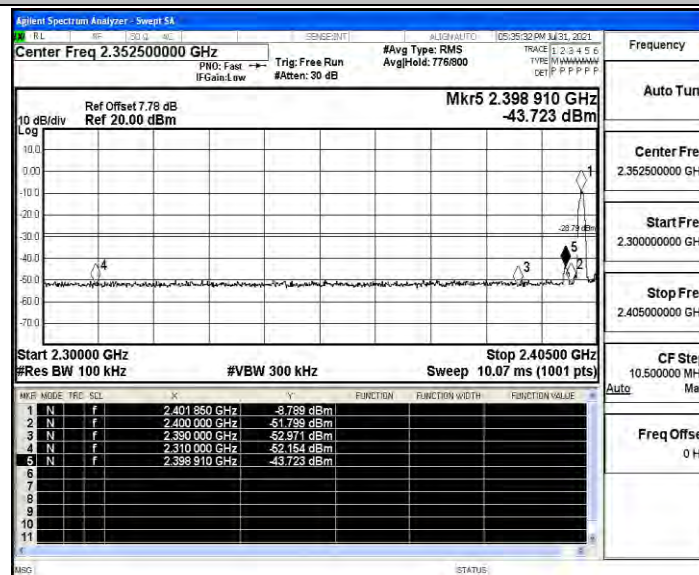
DH5_Ant1_High_2480



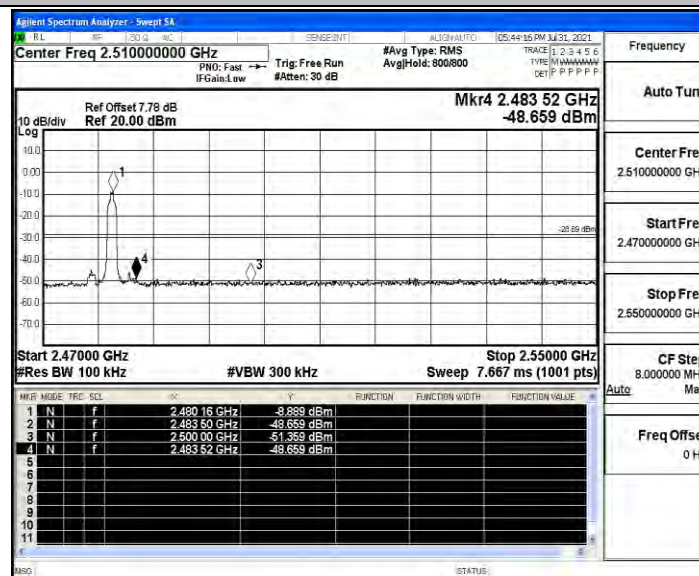
DH5_Ant1_Low_Hop_2402



2DH5_Ant1_Low_2402

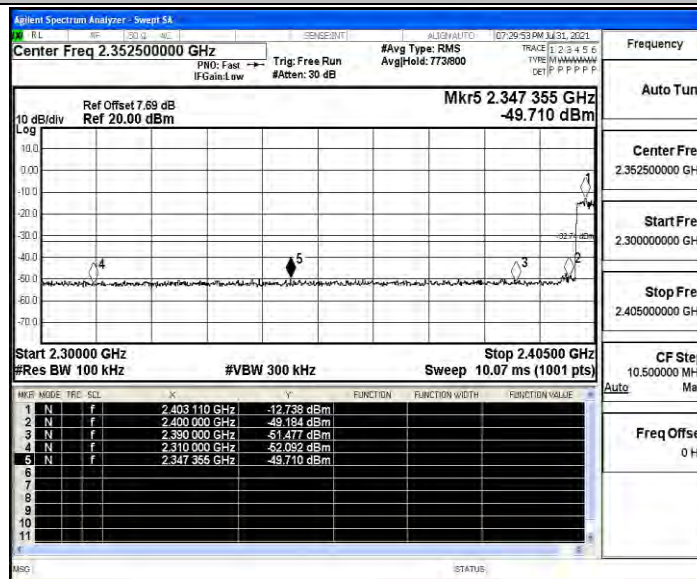


2DH5_Ant1_High_2480

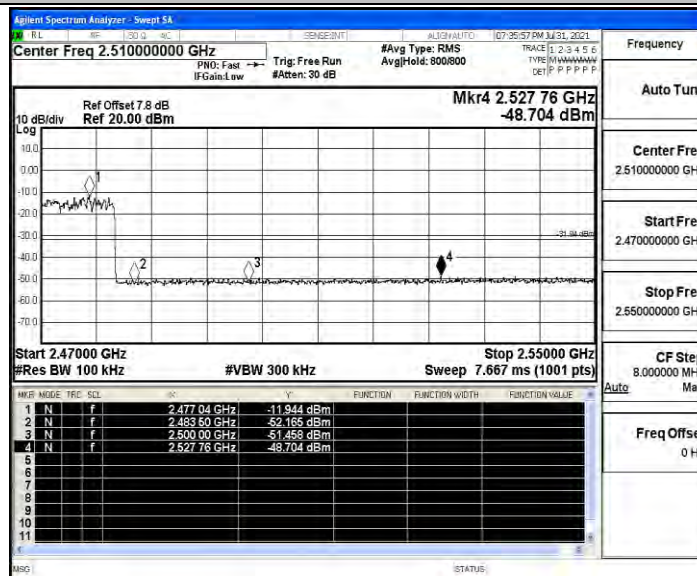




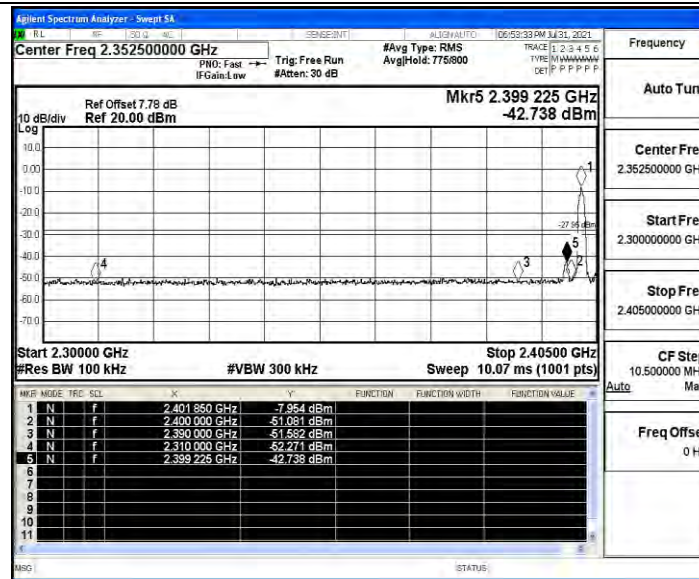
2DH5_Ant1_Low_Hop_2402



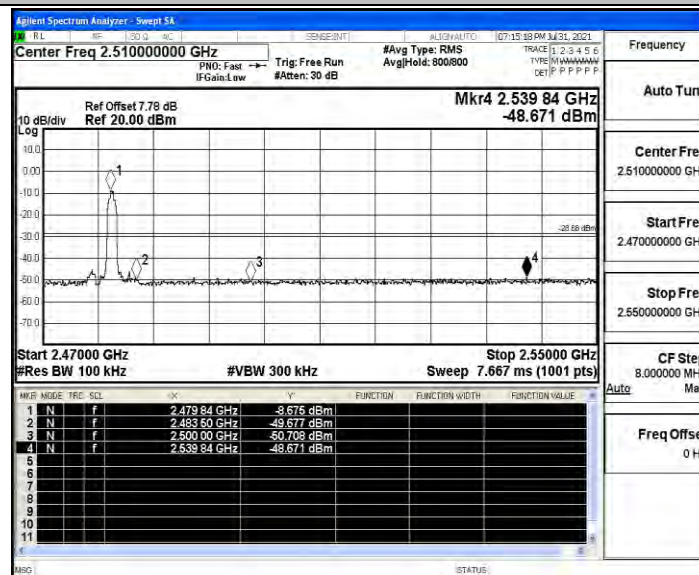
2DH5_Ant1_High_Hop_2480



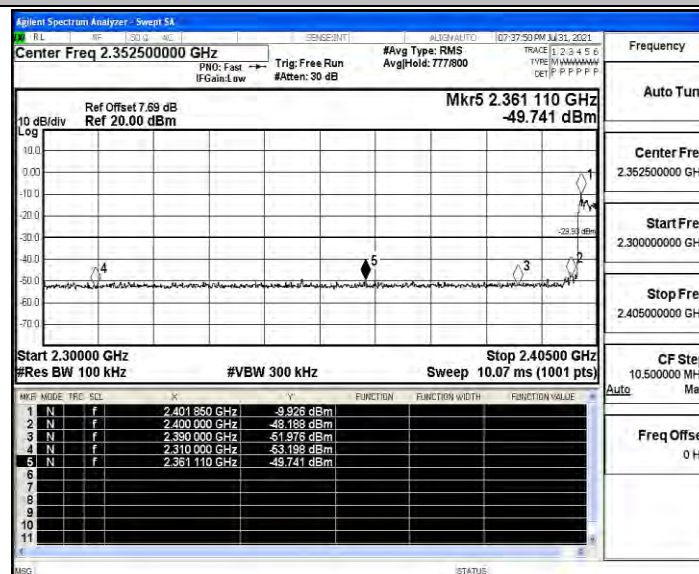
3DH5_Ant1_Low_2402



3DH5_Ant1_High_2480

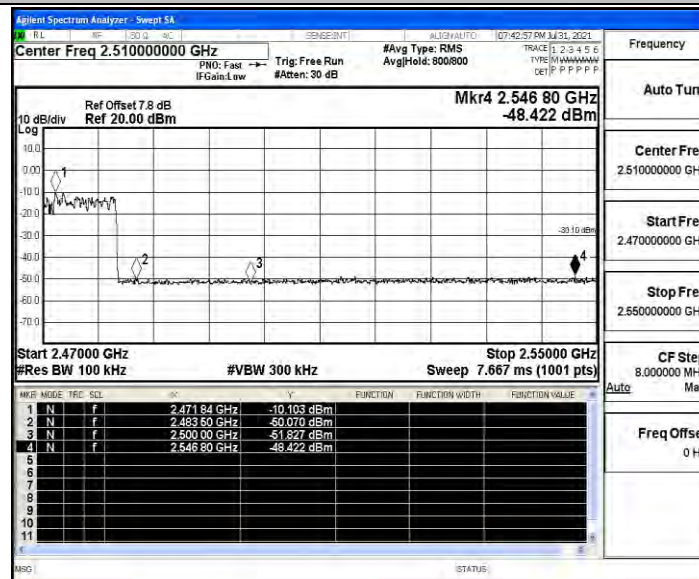


3DH5_Ant1_Low_Hop_2402





3DH5_Ant1_High_Hop_2480





A.8 Conducted Spurious Emission

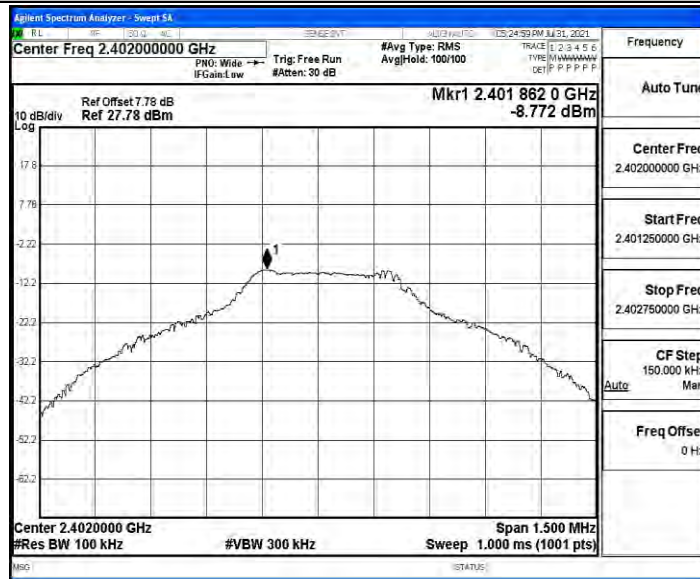
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-8.77	-8.77	---	PASS
			30~1000	-8.77	-50.2	≤ -28.77	PASS
			1000~26500	-8.77	-47.75	≤ -28.77	PASS
		2441	Reference	-9.57	-9.57	---	PASS
			30~1000	-9.57	-49.69	≤ -29.57	PASS
			1000~26500	-9.57	-47.41	≤ -29.57	PASS
		2480	Reference	-9.03	-9.03	---	PASS
			30~1000	-9.03	-48.92	≤ -29.03	PASS
			1000~26500	-9.03	-47.5	≤ -29.03	PASS
2DH5	Ant1	2402	Reference	-8.89	-8.89	---	PASS
			30~1000	-8.89	-49.21	≤ -28.89	PASS
			1000~26500	-8.89	-46.96	≤ -28.89	PASS
		2441	Reference	-10.07	-10.07	---	PASS
			30~1000	-10.07	-49.99	≤ -30.07	PASS
			1000~26500	-10.07	-47.38	≤ -30.07	PASS
		2480	Reference	-8.98	-8.98	---	PASS
			30~1000	-8.98	-50.38	≤ -28.98	PASS
			1000~26500	-8.98	-46.92	≤ -28.98	PASS
3DH5	Ant1	2402	Reference	-9.10	-9.10	---	PASS
			30~1000	-9.10	-48.76	≤ -29.1	PASS
			1000~26500	-9.10	-46.94	≤ -29.1	PASS
		2441	Reference	-9.04	-9.04	---	PASS
			30~1000	-9.04	-47.81	≤ -29.04	PASS
			1000~26500	-9.04	-42.82	≤ -29.04	PASS
		2480	Reference	-8.79	-8.79	---	PASS
			30~1000	-8.79	-48.39	≤ -28.79	PASS
			1000~26500	-8.79	-47.11	≤ -28.79	PASS

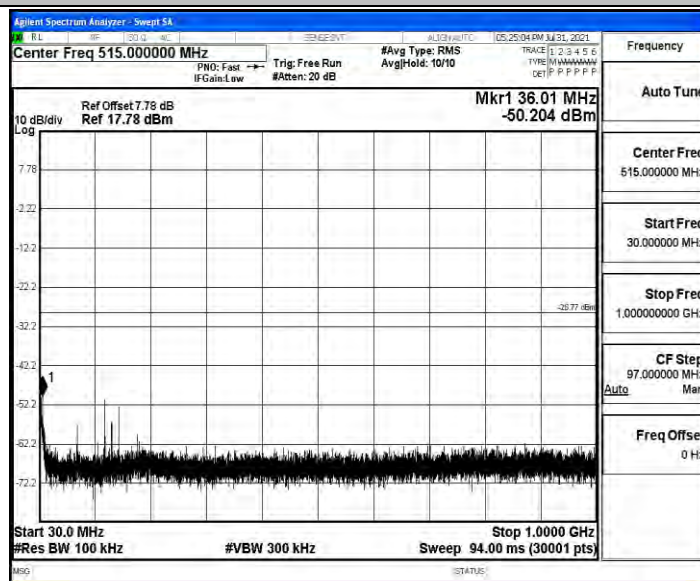


Test Graphs

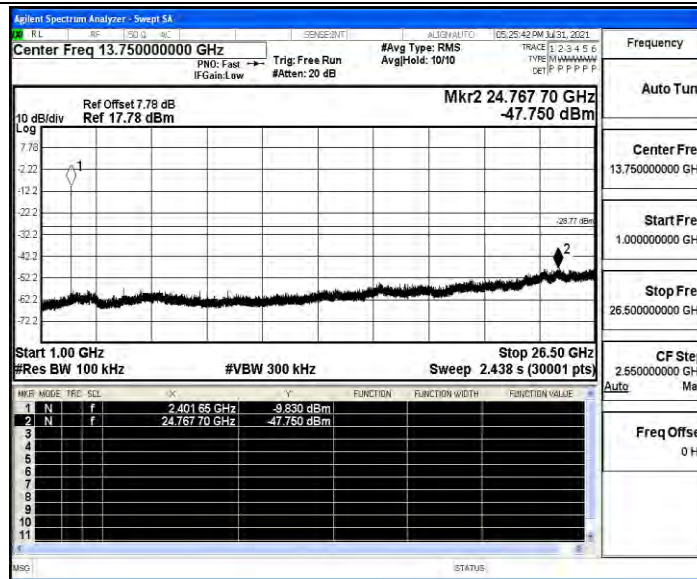
DH5_Ant1_2402_0~Reference



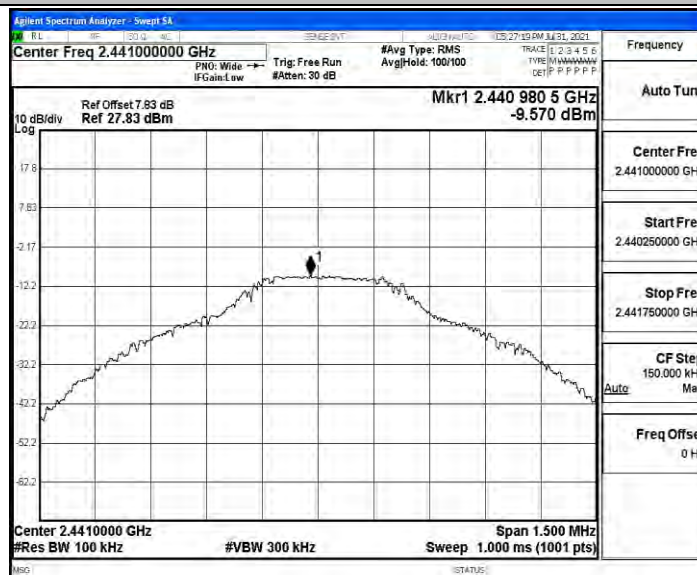
DH5_Ant1_2402_30~1000



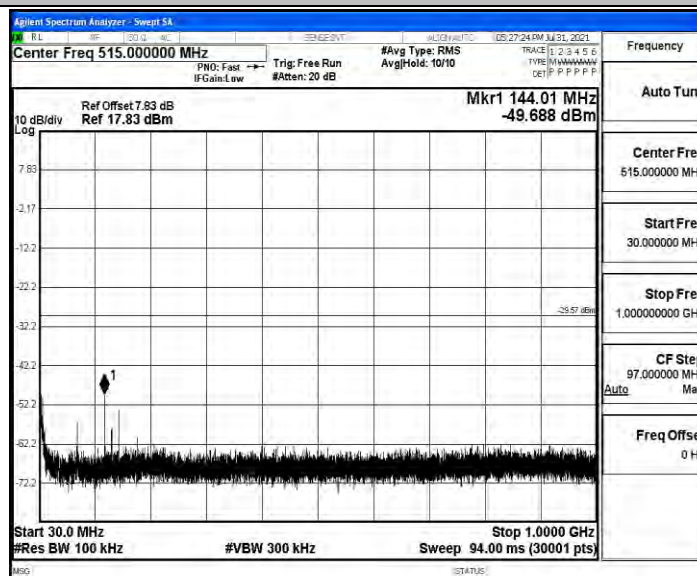
DH5_Ant1_2402_1000~26500



DH5_Ant1_2441_0~Reference

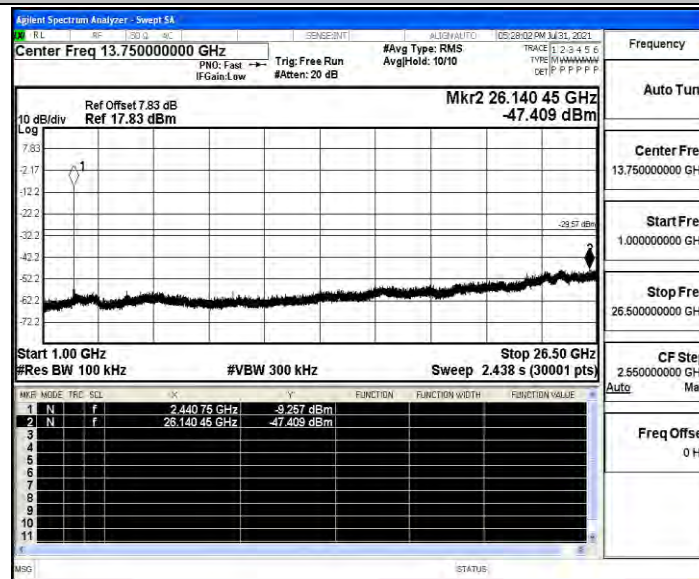


DH5_Ant1_2441_30~1000

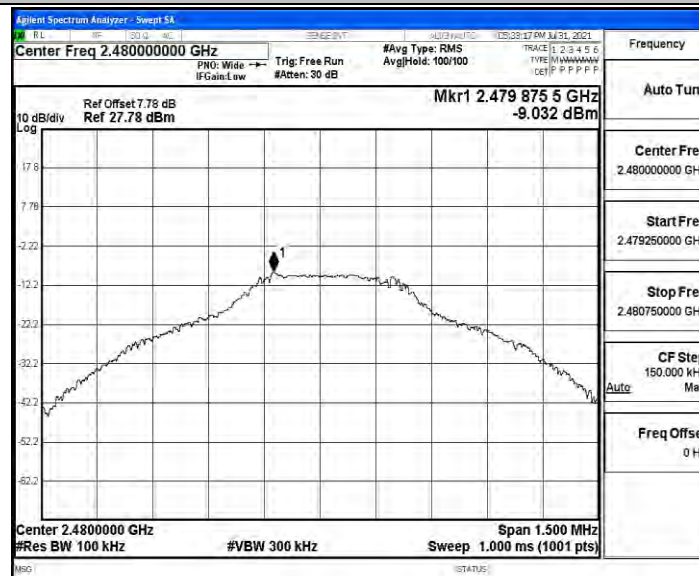




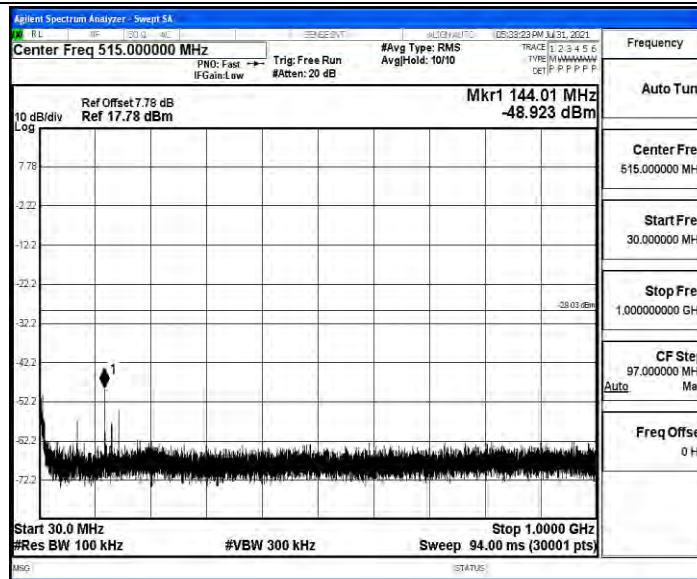
DH5_Ant1_2441_1000~26500



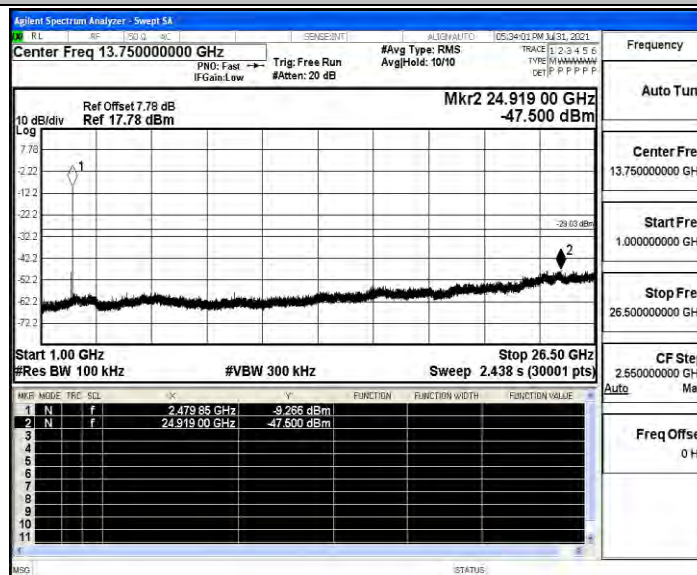
DH5_Ant1_2480_0~Reference



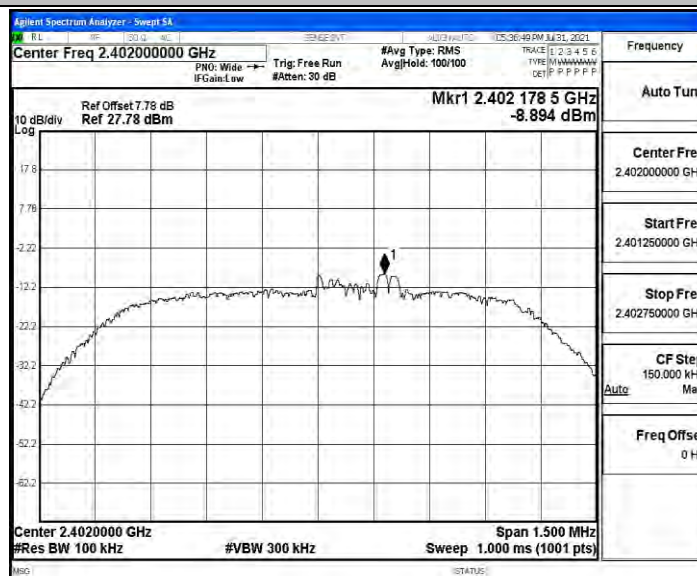
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

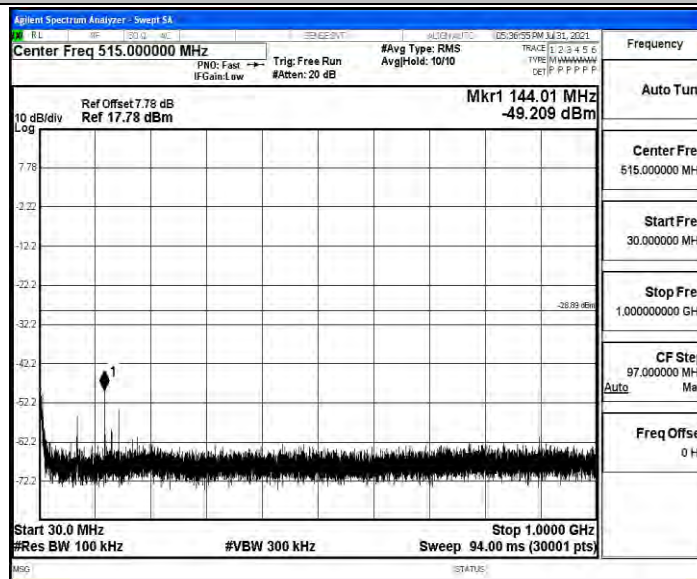


2DH5_Ant1_2402_0~Reference

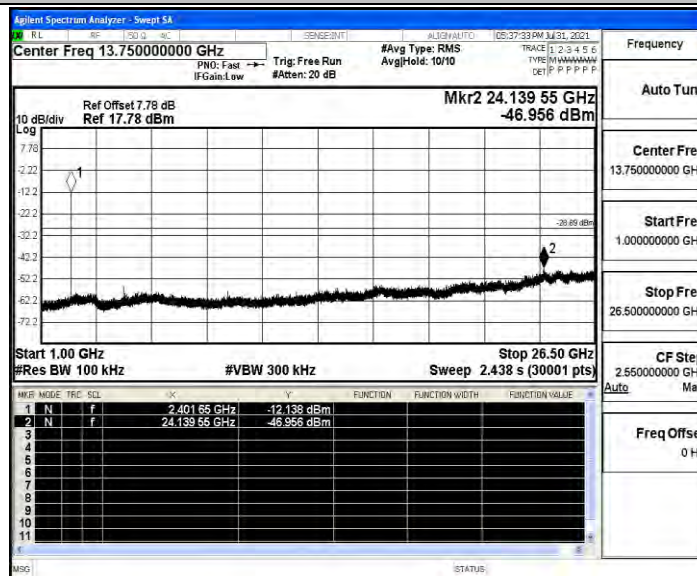




2DH5_Ant1_2402_30~1000



2DH5_Ant1_2402_1000~26500



2DH5_Ant1_2441_0~Reference

Agilent Spectrum Analyzer - Sweep SA

RL RF 30 GHz AC

SENSE INT

ALG: SW AUTO

05:42:49 PM 3/31, 2021

Center Freq 13.750000000 GHz

Trace 1: 2,3,4,5,6
TYPE: N/A
DET: P P P P P

PNO: Fast
IF Gain: Low

Trig: Free Run
#Atten: 20 dB

#Avg Type: RMS
Avg Hold: 10/10

Frequency

Auto Tun

Ref Offset 7.83 dB
Ref 17.83 dBm

Mkr 25.998 50 GHz
-47.379 dBm

10 dB/div
Log

7.83
-1.17
-12.2
-22.2
-32.2
-42.2
-52.2
-62.2
-72.2

30.07 dBm

Start 1.00 GHz
#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.438 s (30001 pts)

Stop 26.50 GHz

CF Ste

2.550000000 GHz

Stop Freq

26.500000000 GHz

Auto

Ma

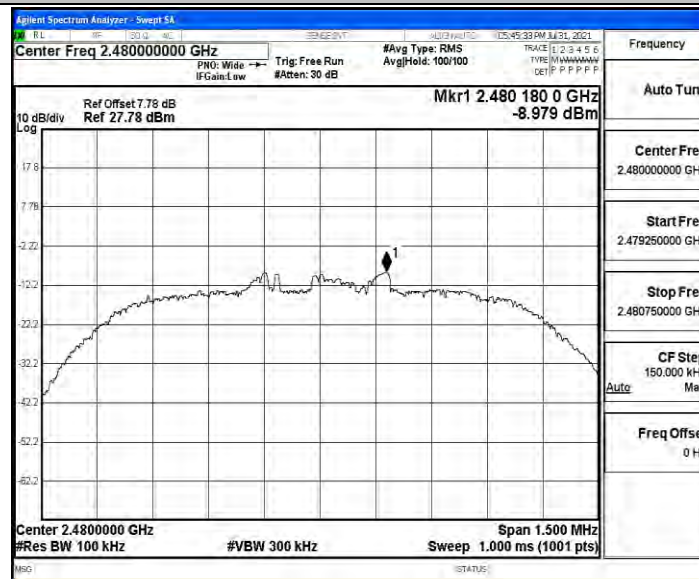
MNR	MODE	TRIG	SCN	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	F		2.440 75 GHz	-13.483 dBm			
2	N	F		25.998 50 GHz	-47.379 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								

Freq Offset

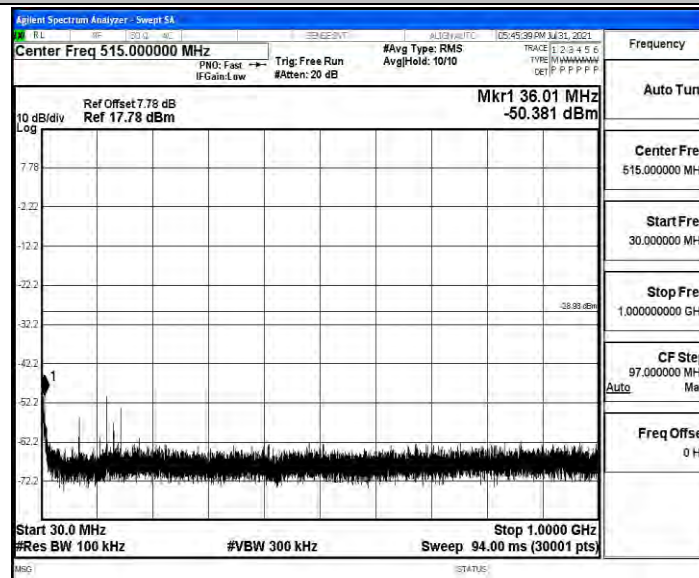
0 Hz



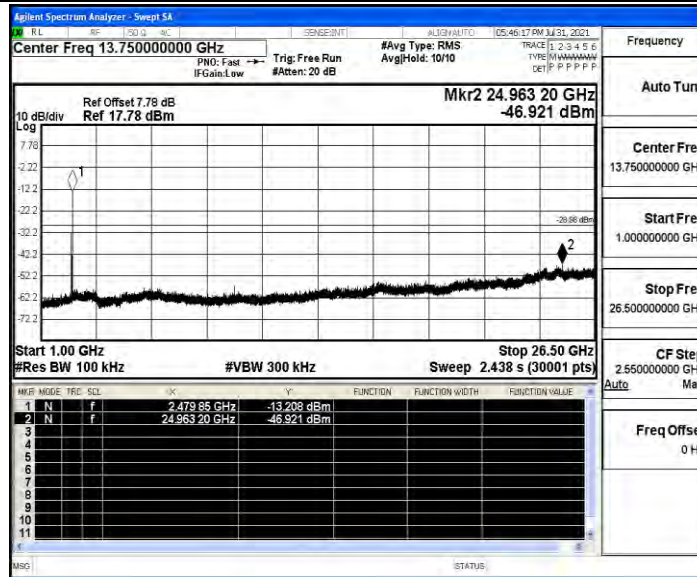
2DH5_Ant1_2480_0~Reference



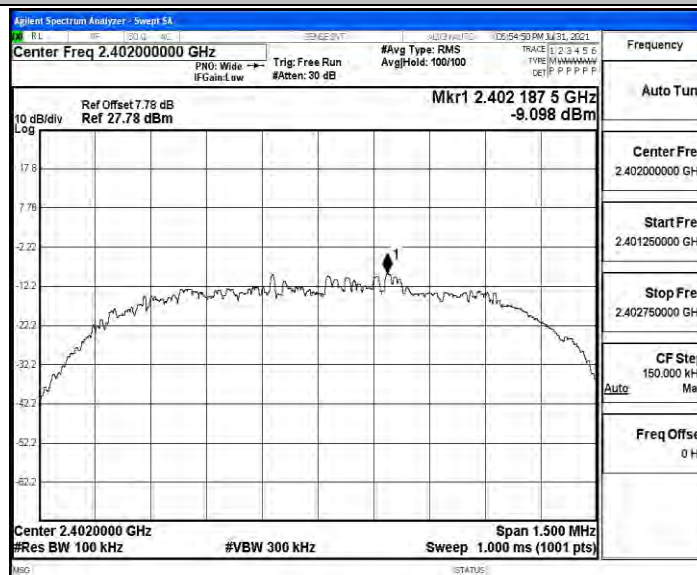
2DH5_Ant1_2480_30~1000



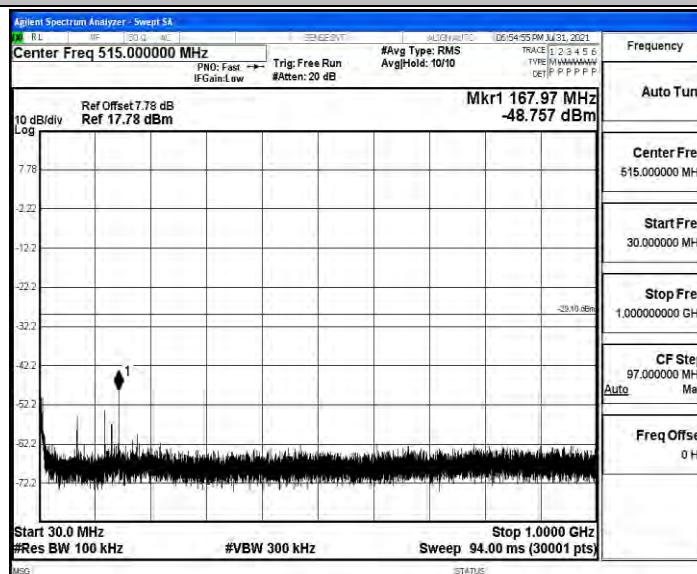
2DH5_Ant1_2480_1000~26500



3DH5_Ant1_2402_0~Reference

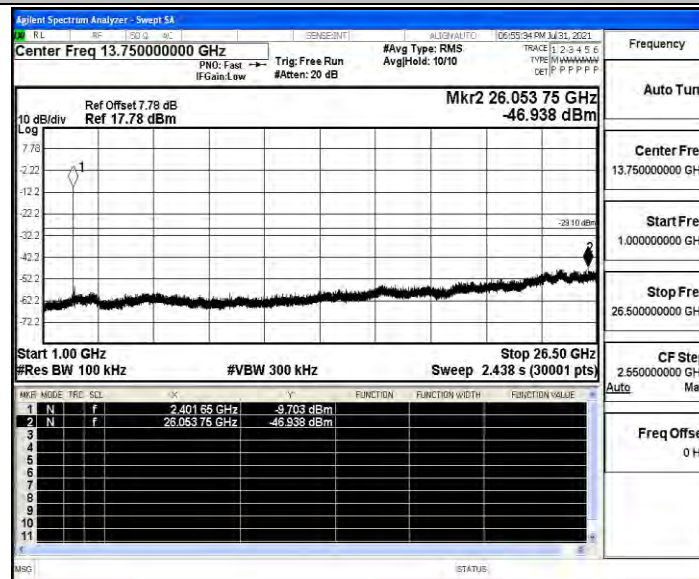


3DH5_Ant1_2402_30~1000

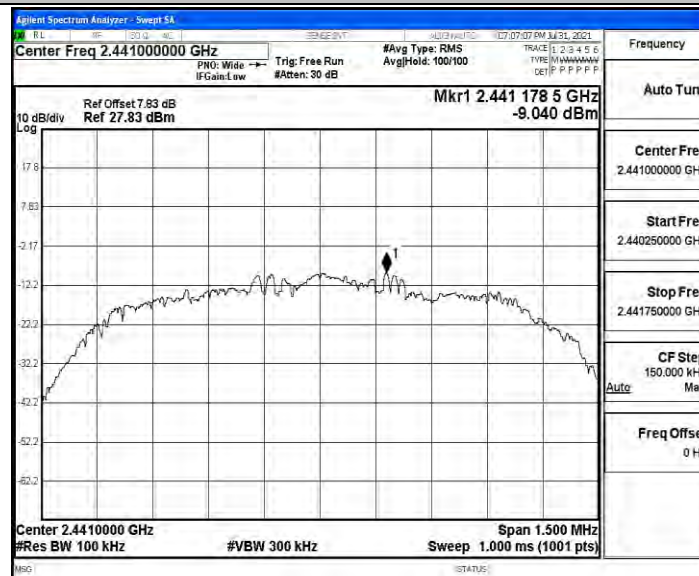




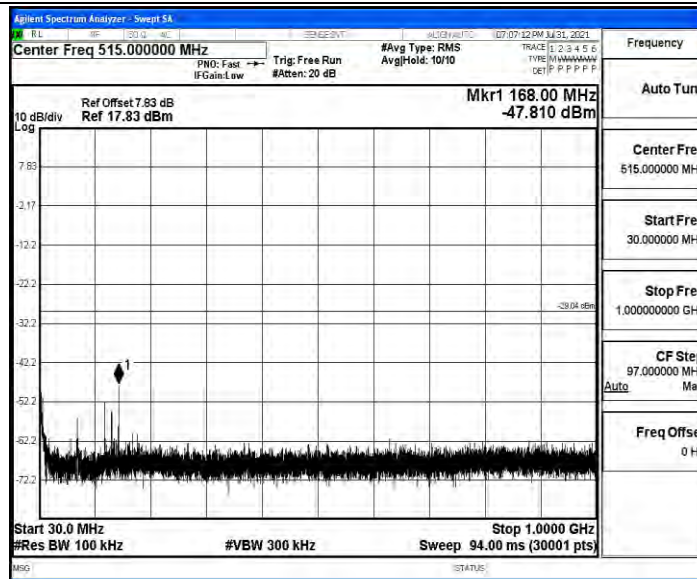
3DH5_Ant1_2402_1000~26500



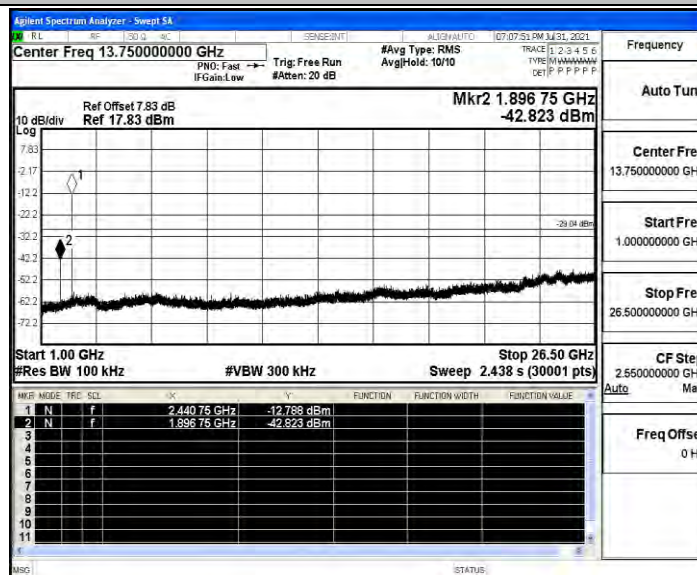
3DH5_Ant1_2441_0~Reference



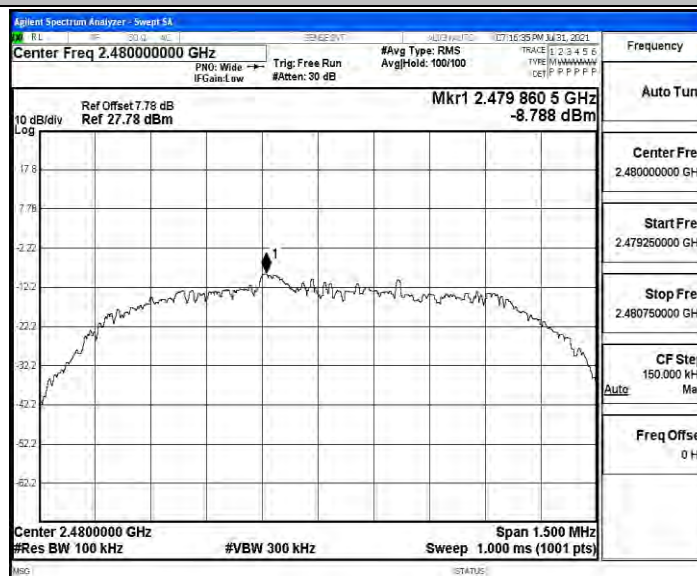
3DH5_Ant1_2441_30~1000



3DH5_Ant1_2441_1000~26500

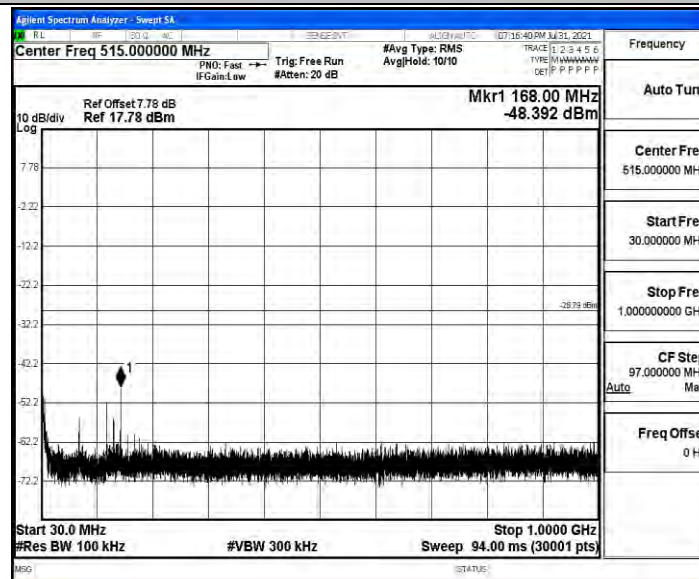


3DH5_Ant1_2480_0~Reference

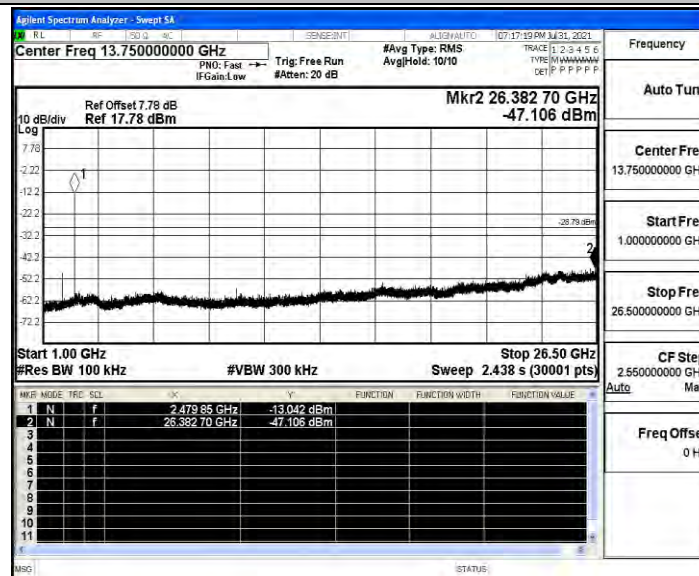




3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500





A.9 Emissions in Restricted Bands

Test Result

TestMode	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	2402	AV	2310.000	-49.44	≤-41.20	45.76	≤54	PASS
		AV	2378.015	-48.78	≤-41.20	46.42	≤54	PASS
		AV	2390.000	-49.01	≤-41.20	46.19	≤54	PASS
		Peak	2310.000	-42.96	≤-21.20	52.24	≤74	PASS
		Peak	2339.270	-39.25	≤-21.20	55.95	≤74	PASS
		Peak	2390.000	-44.57	≤-21.20	50.63	≤74	PASS
	2480	AV	2483.500	-46.64	≤-41.20	48.56	≤54	PASS
		AV	2483.520	-46.64	≤-41.20	48.56	≤54	PASS
		AV	2500.000	-48.39	≤-41.20	46.81	≤54	PASS
		Peak	2483.500	-38.28	≤-21.20	56.92	≤74	PASS
		Peak	2483.520	-38.28	≤-21.20	56.92	≤74	PASS
		Peak	2500.000	-43.2	≤-21.20	52.00	≤74	PASS
	Hop_24 02	Peak	2310.000	-40.21	≤-21.20	54.99	≤74	PASS
		Peak	2372.555	-37.46	≤-21.20	57.74	≤74	PASS
		Peak	2390.000	-40.92	≤-21.20	54.28	≤74	PASS
	Hop_24 80	Peak	2483.500	-33.28	≤-21.20	61.92	≤74	PASS
		Peak	2500.000	-36.31	≤-21.20	58.89	≤74	PASS
2DH5	2402	AV	2310.000	-49.11	≤-41.20	46.09	≤54	PASS
		AV	2378.750	-48.46	≤-41.20	46.74	≤54	PASS
		AV	2390.000	-48.75	≤-41.20	46.45	≤54	PASS
		Peak	2310.000	-43.84	≤-21.20	51.36	≤74	PASS
		Peak	2355.125	-39.55	≤-21.20	55.65	≤74	PASS
		Peak	2390.000	-43.51	≤-21.20	51.69	≤74	PASS
	2480	AV	2483.500	-47.05	≤-41.20	48.15	≤54	PASS
		AV	2483.520	-47.05	≤-41.20	48.15	≤54	PASS
		AV	2500.000	-47.99	≤-41.20	47.21	≤54	PASS
		Peak	2483.500	-40.57	≤-21.20	54.63	≤74	PASS
		Peak	2491.440	-38.77	≤-21.20	56.43	≤74	PASS
		Peak	2500.000	-41.51	≤-21.20	53.69	≤74	PASS
	Hop_24 02	Peak	2310.000	-41.59	≤-21.20	53.61	≤74	PASS
		Peak	2378.540	-36.65	≤-21.20	58.55	≤74	PASS
		Peak	2390.000	-40.54	≤-21.20	54.66	≤74	PASS
	Hop_24 80	Peak	2483.500	-36.23	≤-21.20	58.97	≤74	PASS
		Peak	2484.000	-34.79	≤-21.20	60.41	≤74	PASS
		Peak	2500.000	-39.73	≤-21.20	55.47	≤74	PASS
3DH5	2402	AV	2310.000	-49	≤-41.20	46.20	≤54	PASS



		AV	2387.360	-48.43	≤ -41.20	46.77	≤ 54	PASS
		AV	2390.000	-48.77	≤ -41.20	46.43	≤ 54	PASS
		Peak	2310.000	-44.66	≤ -21.20	50.54	≤ 74	PASS
		Peak	2381.690	-39.47	≤ -21.20	55.73	≤ 74	PASS
		Peak	2390.000	-40.75	≤ -21.20	54.45	≤ 74	PASS
	2480	AV	2483.500	-46.95	≤ -41.20	48.25	≤ 54	PASS
		AV	2483.520	-46.95	≤ -41.20	48.25	≤ 54	PASS
		AV	2500.000	-48.02	≤ -41.20	47.18	≤ 54	PASS
		Peak	2483.500	-40.37	≤ -21.20	54.83	≤ 74	PASS
		Peak	2494.320	-38.14	≤ -21.20	57.06	≤ 74	PASS
		Peak	2500.000	-40.55	≤ -21.20	54.65	≤ 74	PASS
	Hop_24 02	Peak	2310.000	-40.95	≤ -21.20	54.25	≤ 74	PASS
		Peak	2376.650	-38.87	≤ -21.20	56.33	≤ 74	PASS
		Peak	2390.000	-40.27	≤ -21.20	54.93	≤ 74	PASS
	Hop_24 80	Peak	2483.500	-38.67	≤ -21.20	56.53	≤ 74	PASS
		Peak	2483.760	-35.65	≤ -21.20	59.55	≤ 74	PASS
		Peak	2500.000	-38.58	≤ -21.20	56.62	≤ 74	PASS

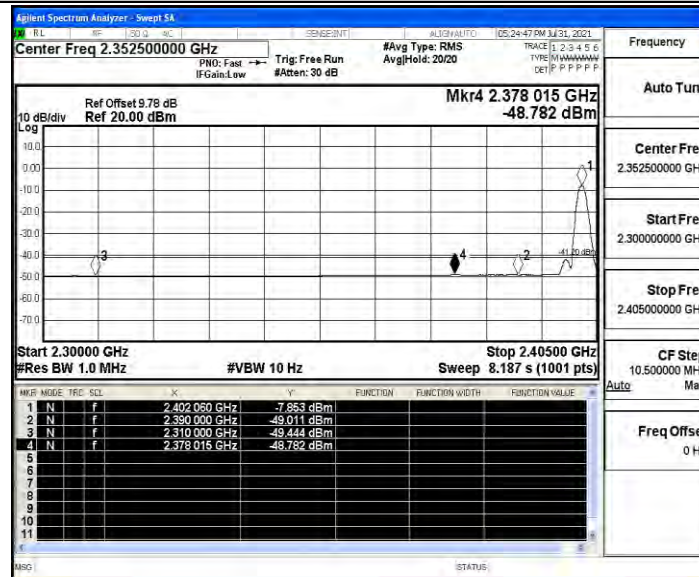
Note:

1. The Antenna Gain is compensated in the graph.
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.

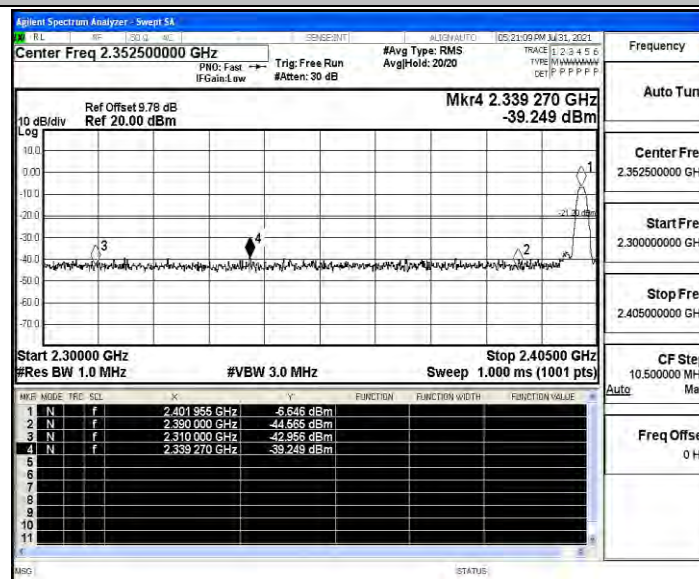


Test Graphs

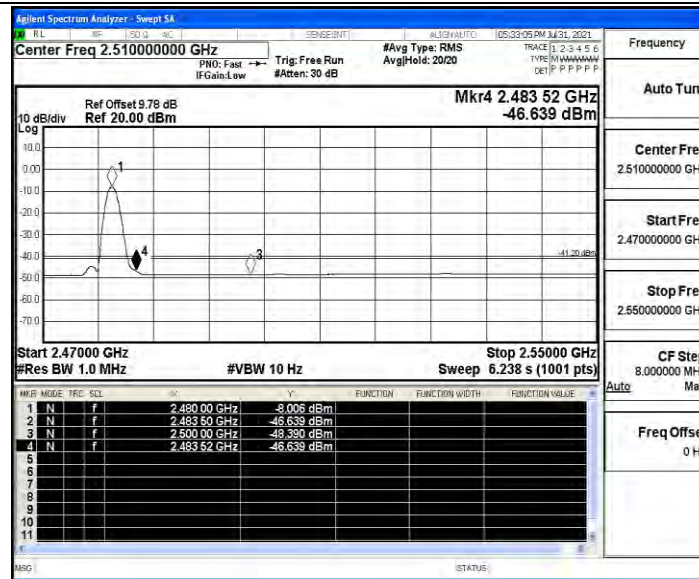
DH5_Ant1_Low_2402_AV



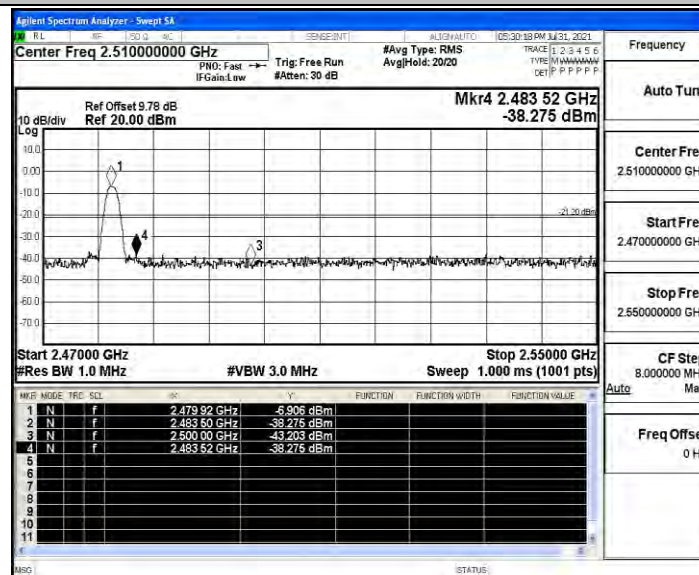
DH5_Ant1_Low_2402_Peak



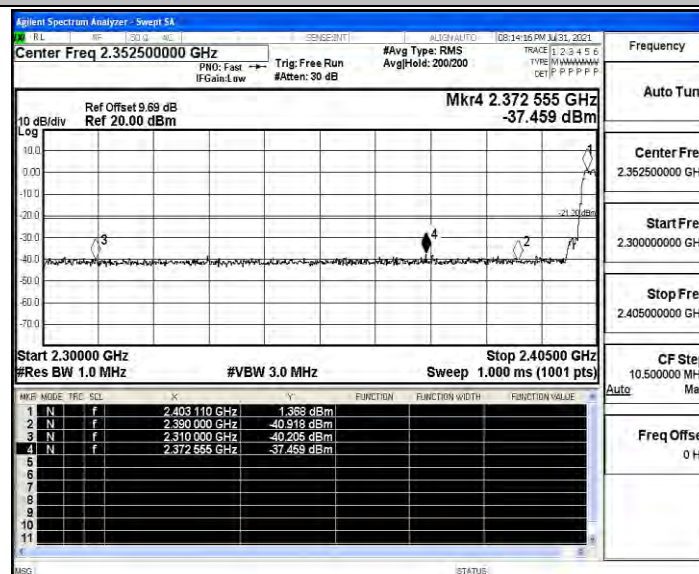
DH5_Ant1_High_2480_AV



DH5_Ant1_High_2480_Peak

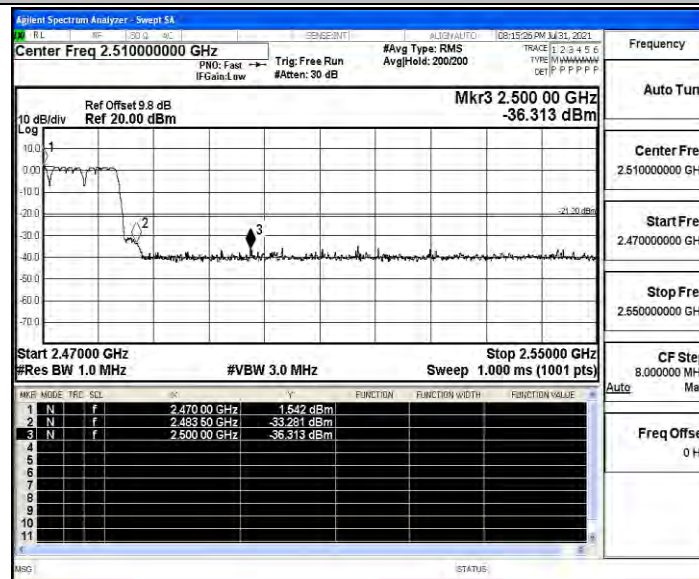


DH5_Ant1_Low_Hop_2402_Peak

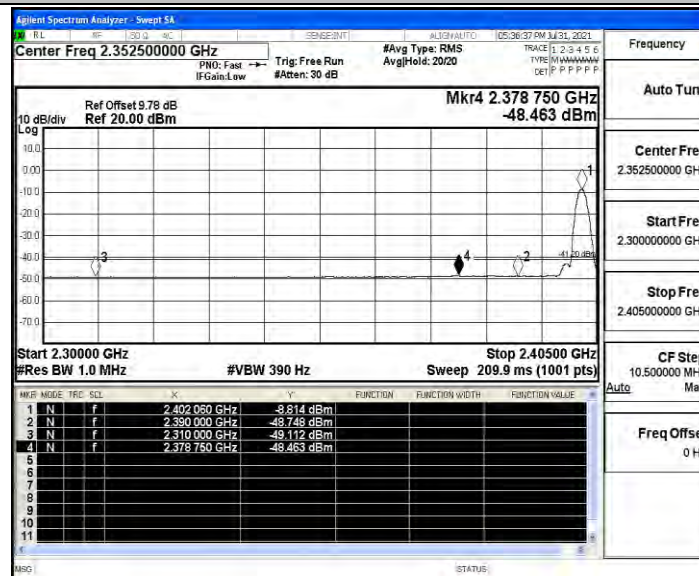




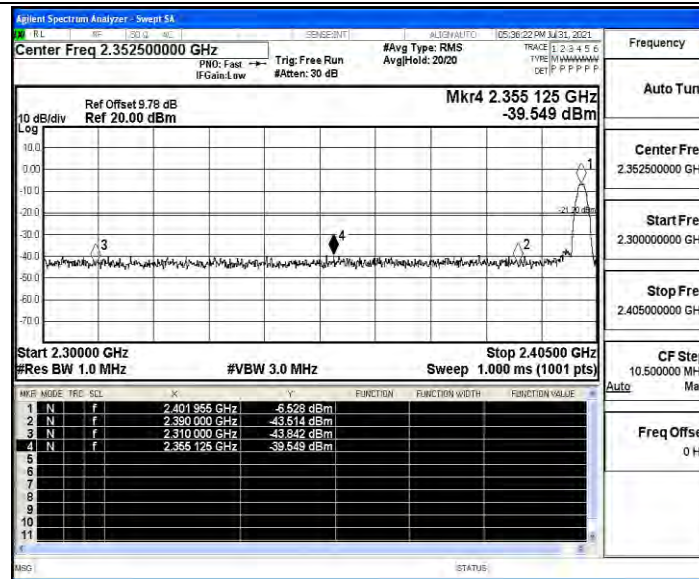
DH5_Ant1_High_Hop_2480_Peak



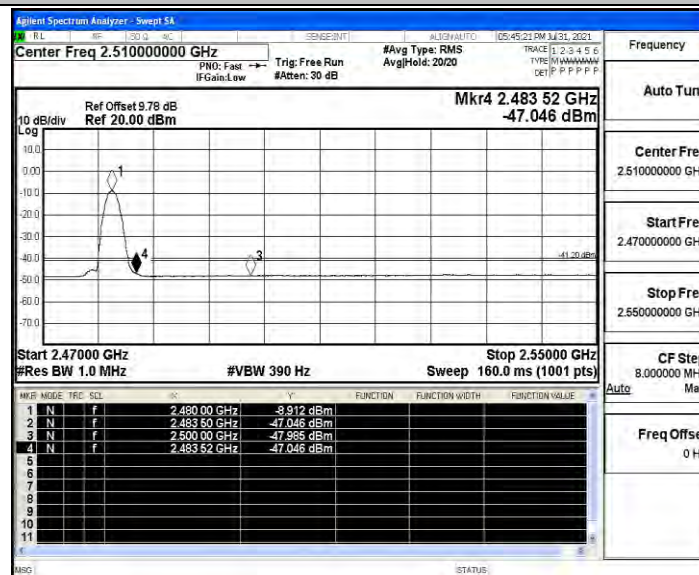
2DH5_Ant1_Low_2402_AV



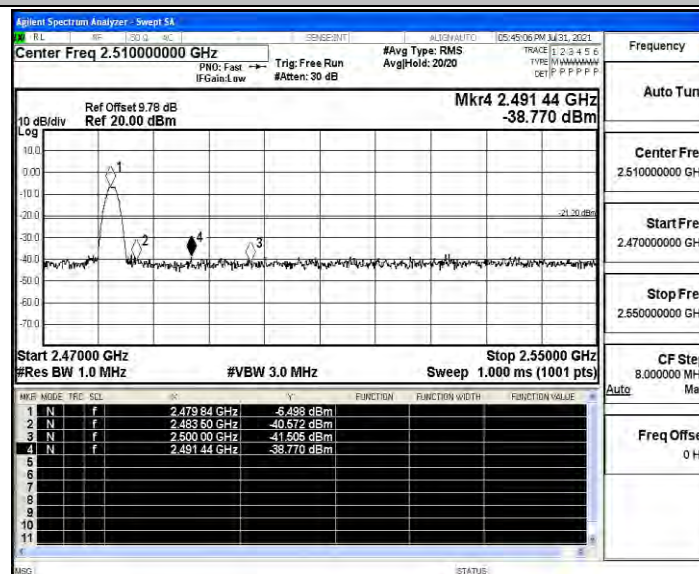
2DH5_Ant1_Low_2402_Peak



2DH5_Ant1_High_2480_AV

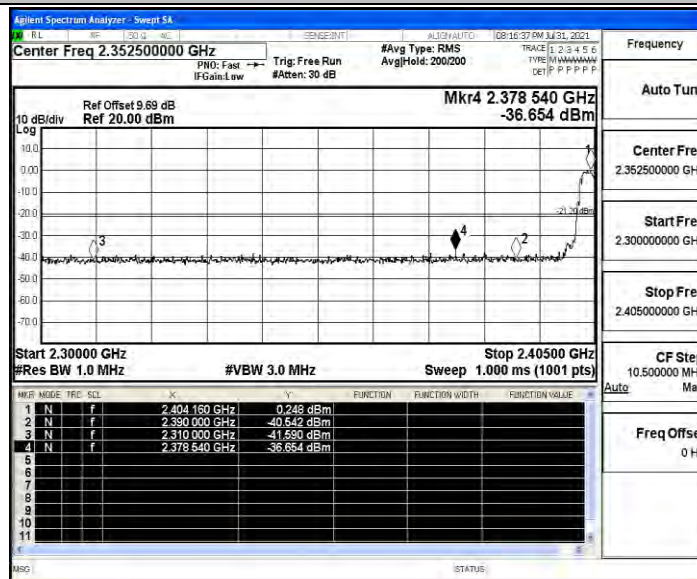


2DH5_Ant1_High_2480_Peak

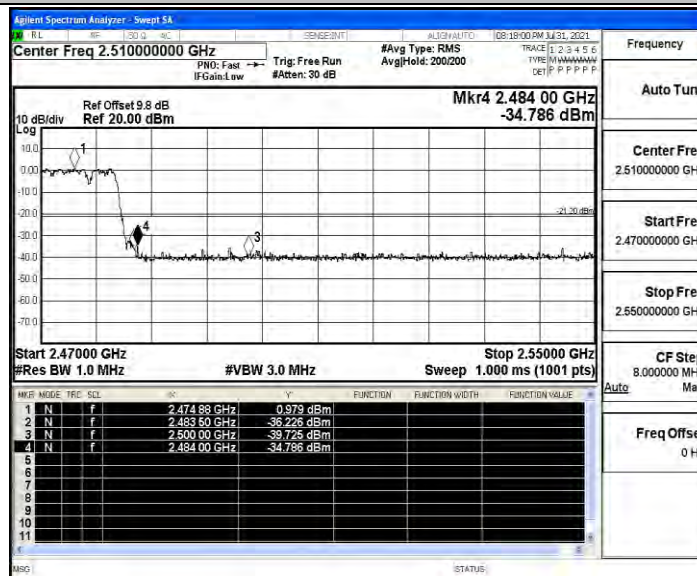




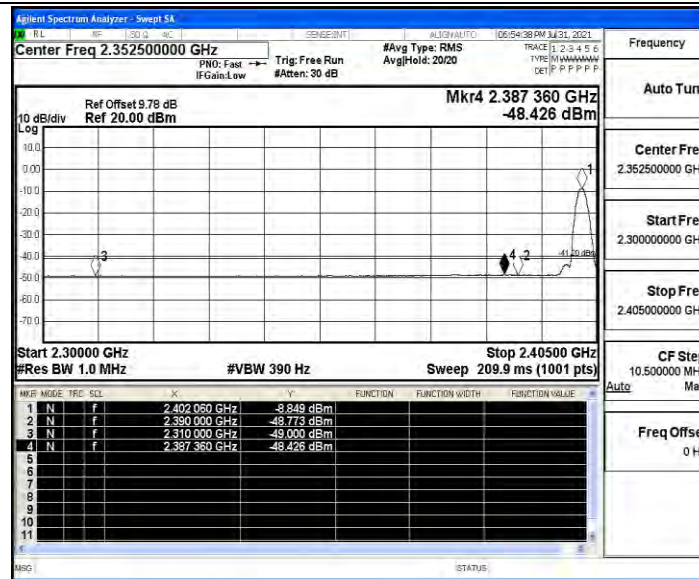
2DH5_Ant1_Low_Hop_2402_Peak



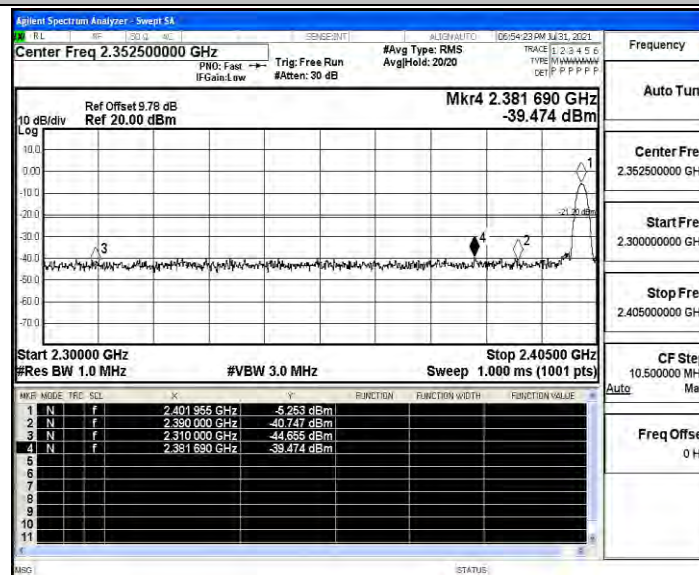
2DH5_Ant1_High_Hop_2480_Peak



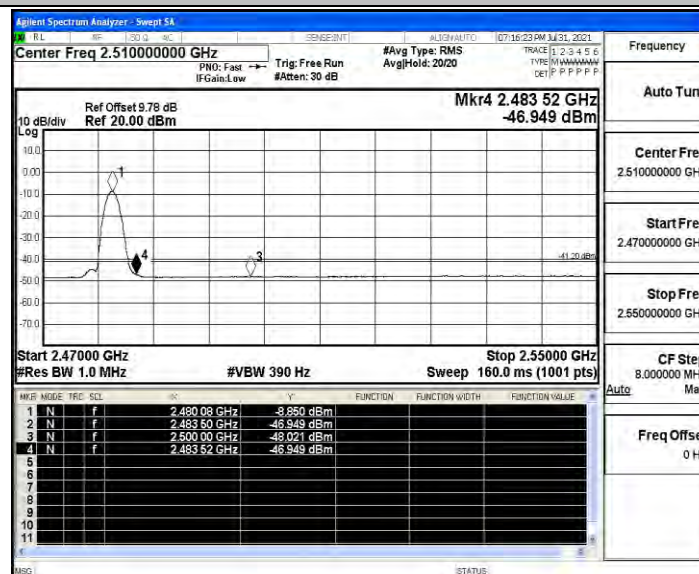
3DH5_Ant1_Low_2402_AV



3DH5_Ant1_Low_2402_Peak

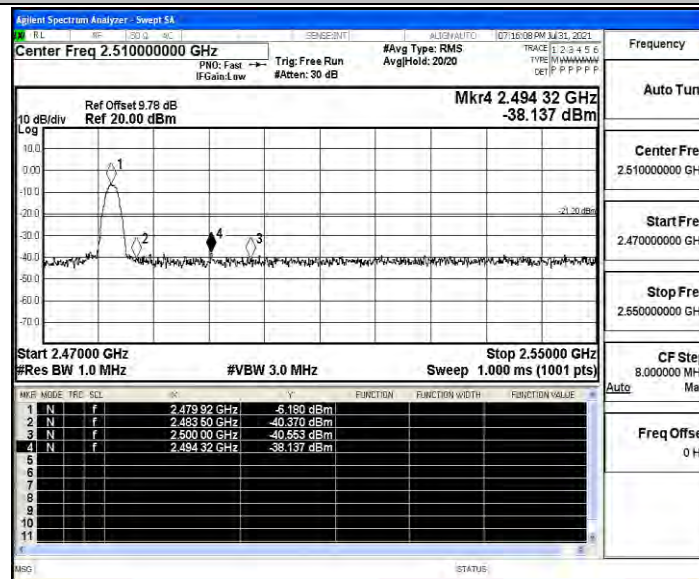


3DH5_Ant1_High_2480_AV

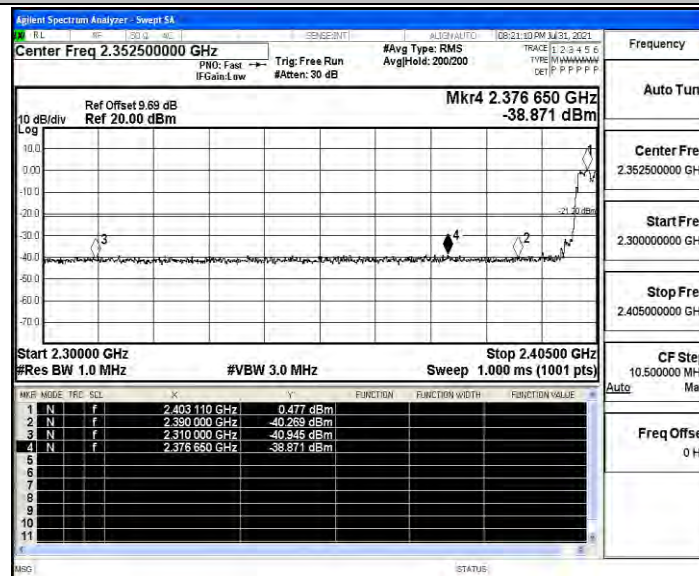




3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak



3DH5_Ant1_High_Hop_2480_Peak

