



Appendix A

RF Test Data for BT V5.0(DSS) (Conducted Measurement)

Product Name: PROJECTOR

Test Model: V6

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	 Mark Chen
Supervised by:	 Li Huan

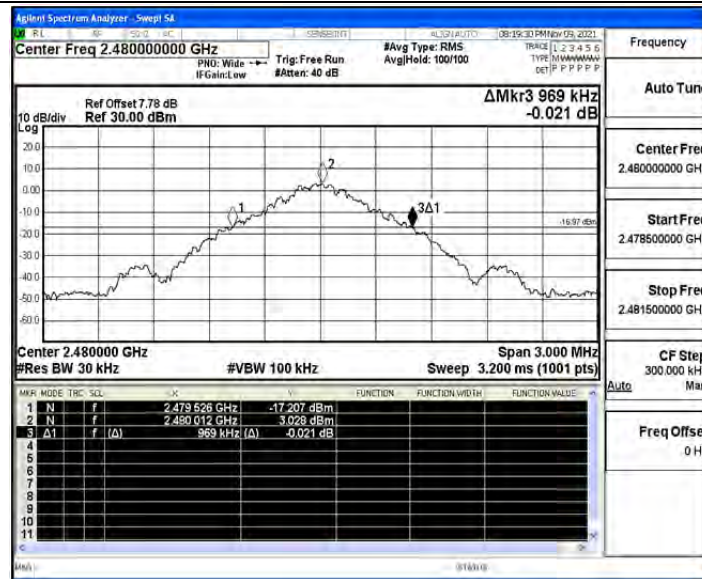


A.1 20dB Emission Bandwidth

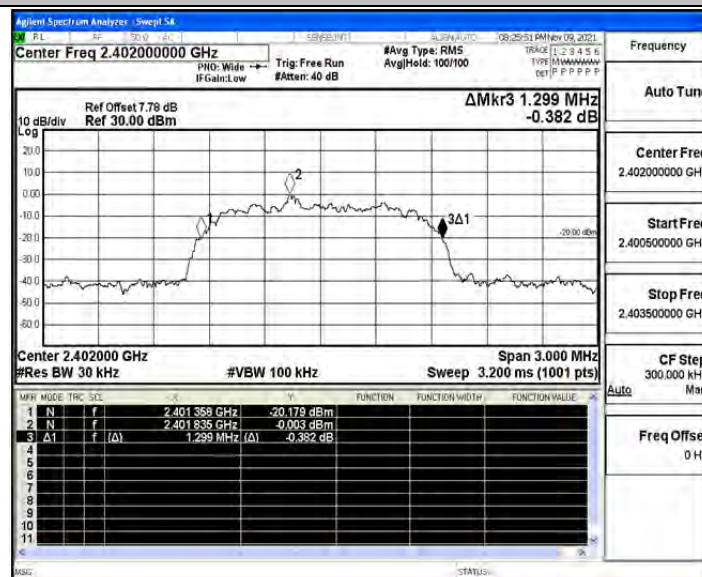
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.041	2401.460	2402.501	---	PASS
		2441	0.978	2440.523	2441.501	---	PASS
		2480	0.969	2479.526	2480.495	---	PASS
2DH5	Ant1	2402	1.299	2401.358	2402.657	---	PASS
		2441	1.284	2440.364	2441.648	---	PASS
		2480	1.326	2479.334	2480.660	---	PASS
3DH5	Ant1	2402	1.299	2401.352	2402.651	---	PASS
		2441	1.320	2440.343	2441.663	---	PASS
		2480	1.311	2479.340	2480.651	---	PASS

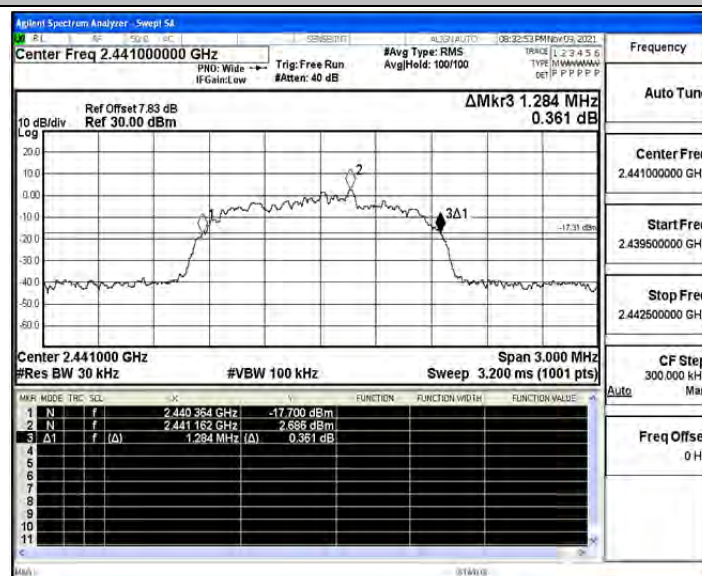




2DH5_Ant1_2402

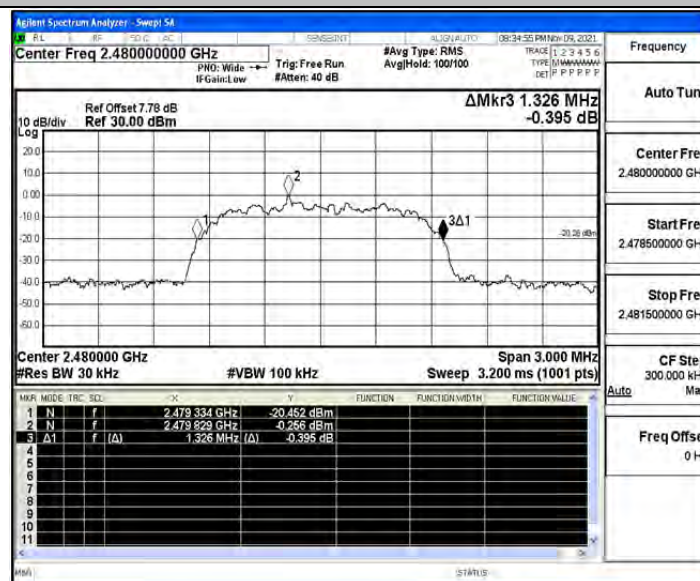


2DH5_Ant1_2441

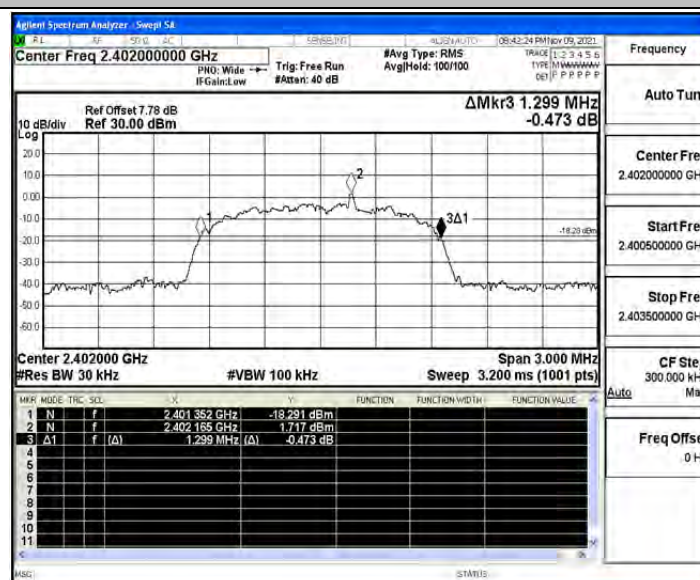




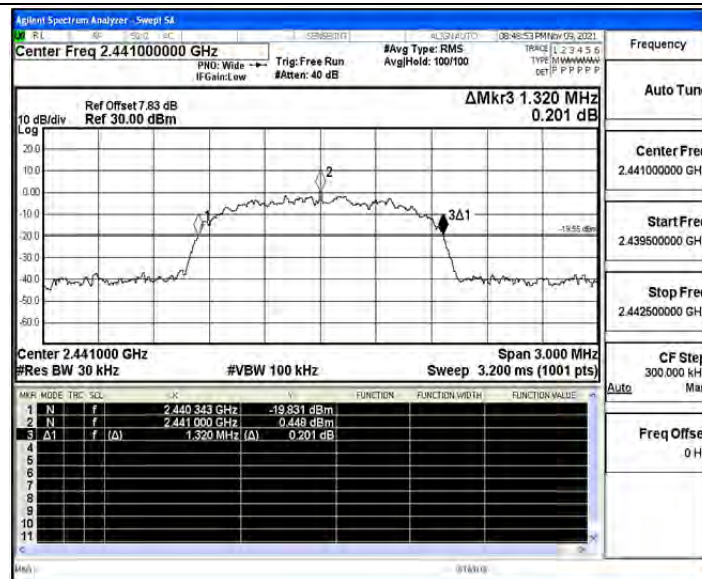
2DH5_Ant1_2480



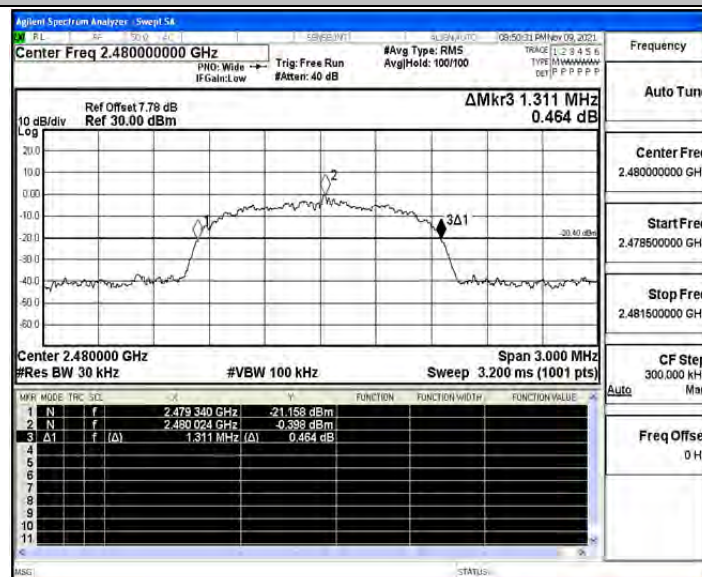
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





A.2 Maximum peak conducted output power

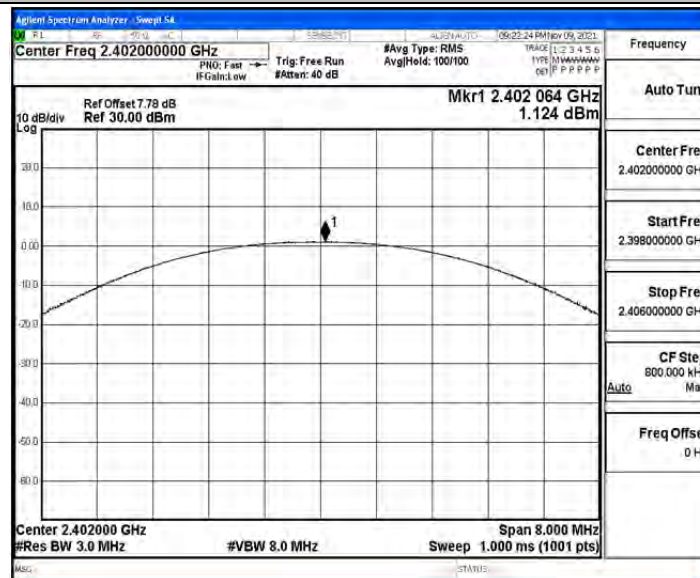
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	1.12	≤20.97	PASS
		2441	2.27	≤20.97	PASS
		2480	0.77	≤20.97	PASS
2DH5	Ant1	2402	0.14	≤20.97	PASS
		2441	1.39	≤20.97	PASS
		2480	-0.06	≤20.97	PASS
3DH5	Ant1	2402	0.26	≤20.97	PASS
		2441	1.53	≤20.97	PASS
		2480	0.12	≤20.97	PASS

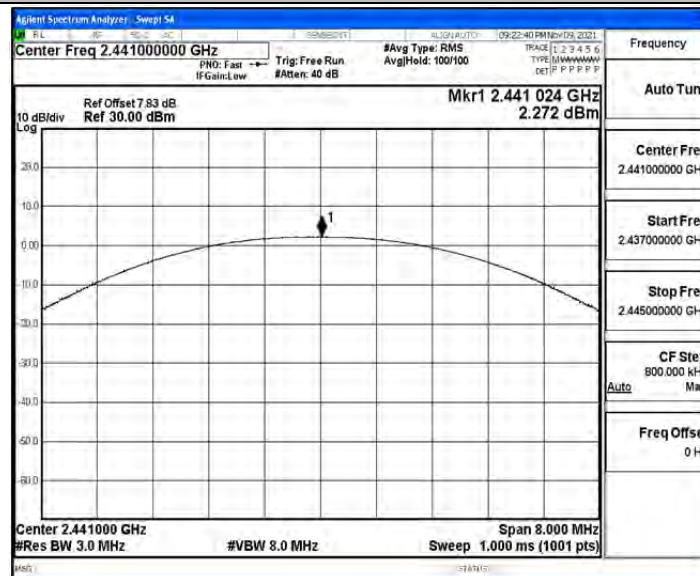


Test Graphs

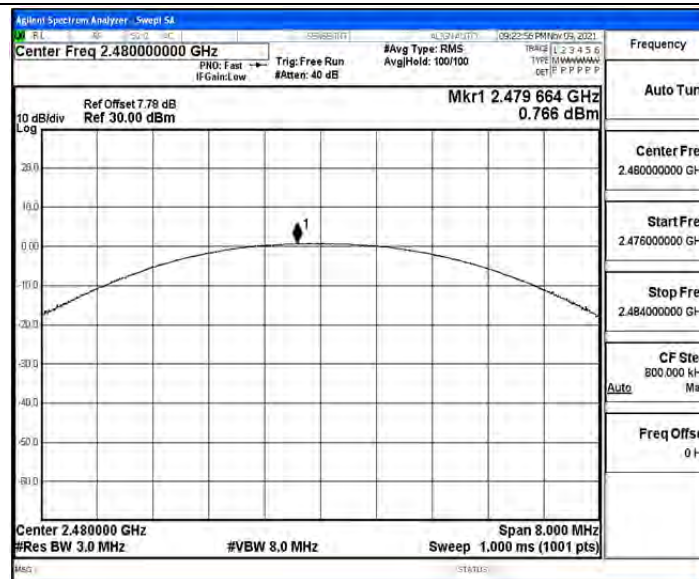
DH5_Ant1_2402



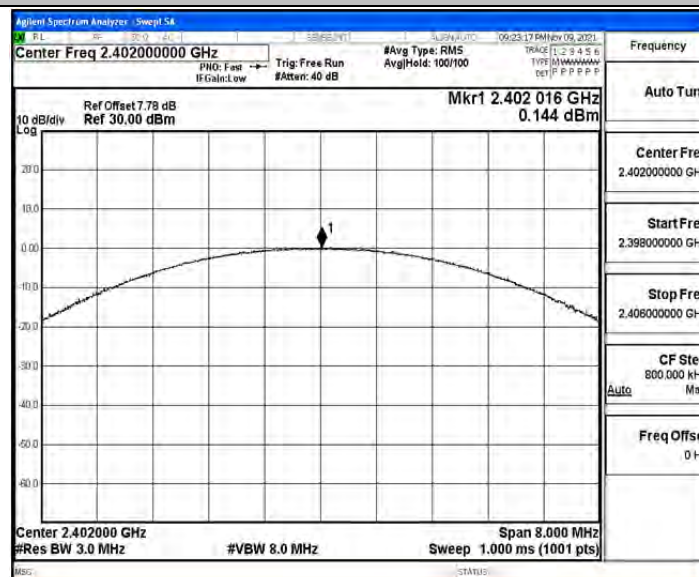
DH5_Ant1_2441



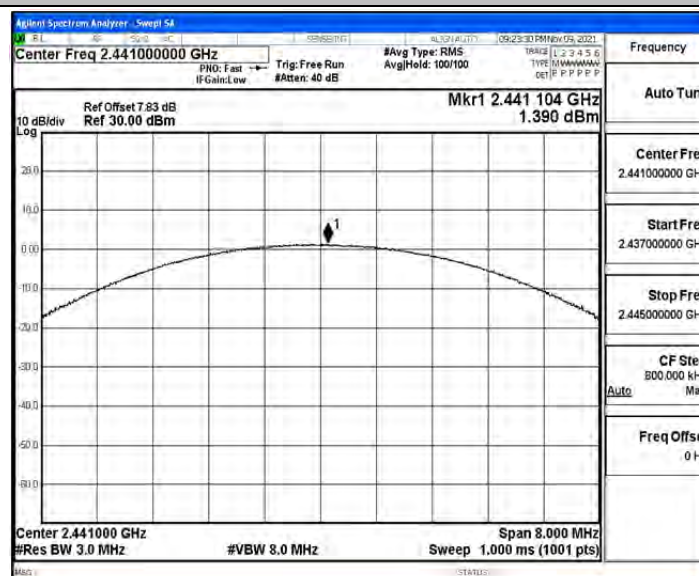
DH5_Ant1_2480



2DH5_Ant1_2402

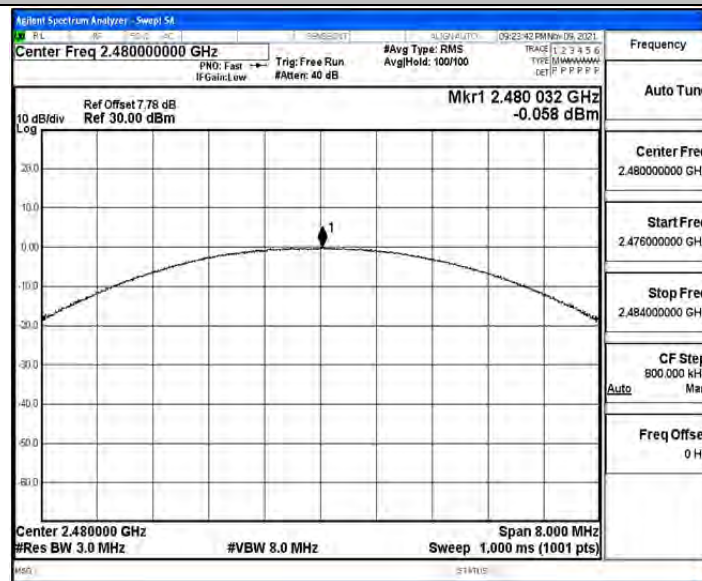


2DH5_Ant1_2441

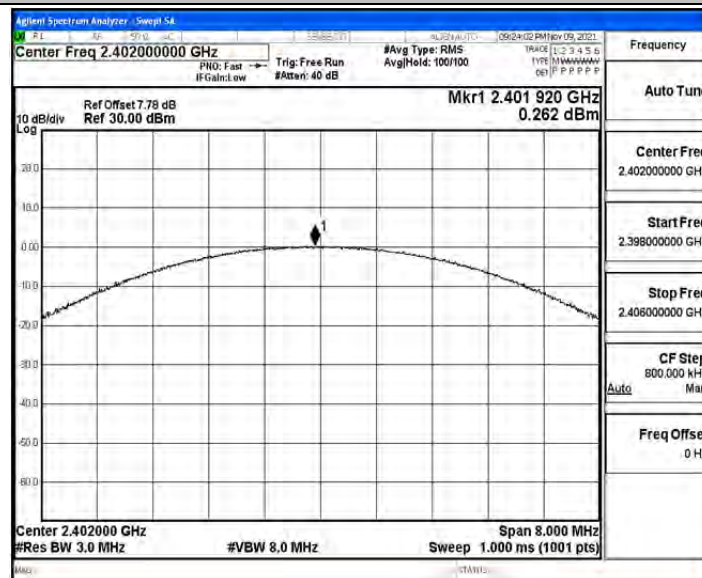




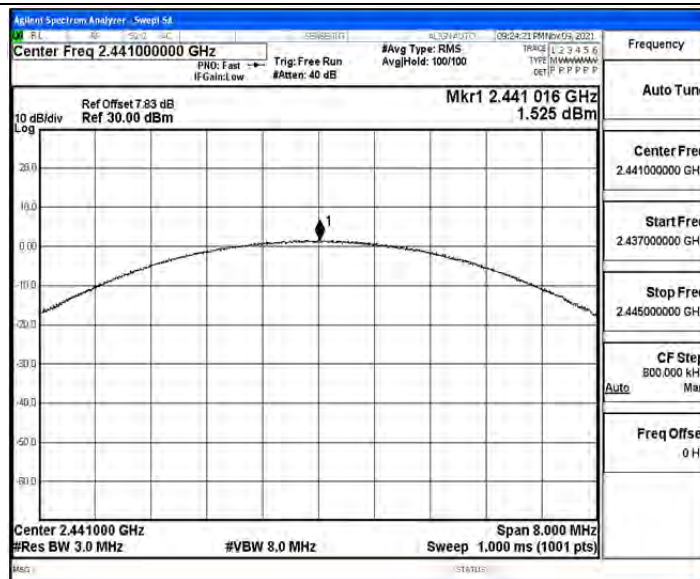
2DH5_Ant1_2480



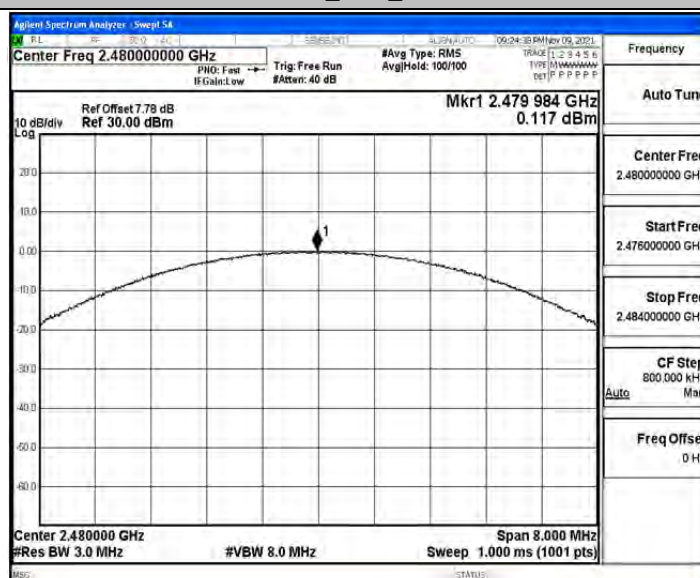
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





A.3 Carrier frequency separation

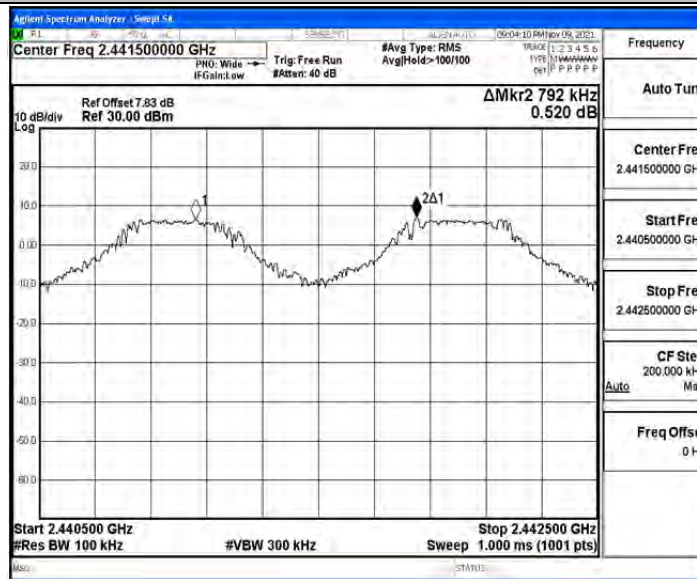
Test Result

TestMode	Antenna	Channel	Result[M/Hz]	Limit[M/Hz]	Verdict
DH5	Ant1	Hop	0.792	≥ 0.528	PASS
2DH5	Ant1	Hop	0.98	≥ 0.653	PASS
3DH5	Ant1	Hop	1.176	≥ 0.784	PASS

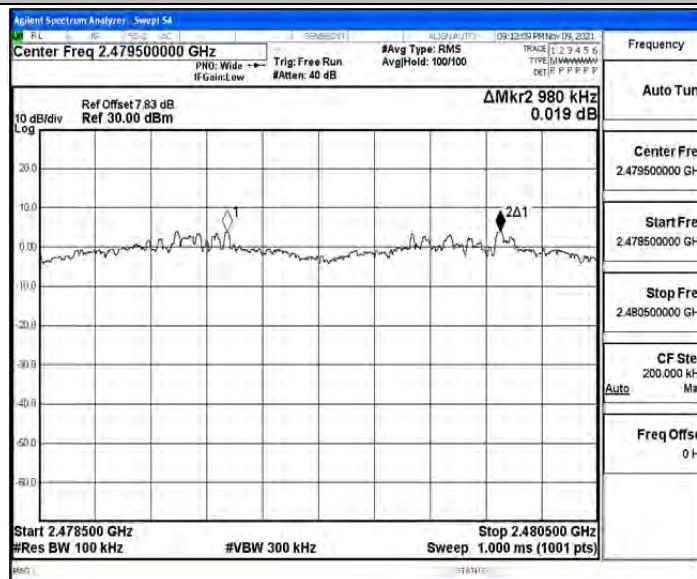


Test Graphs

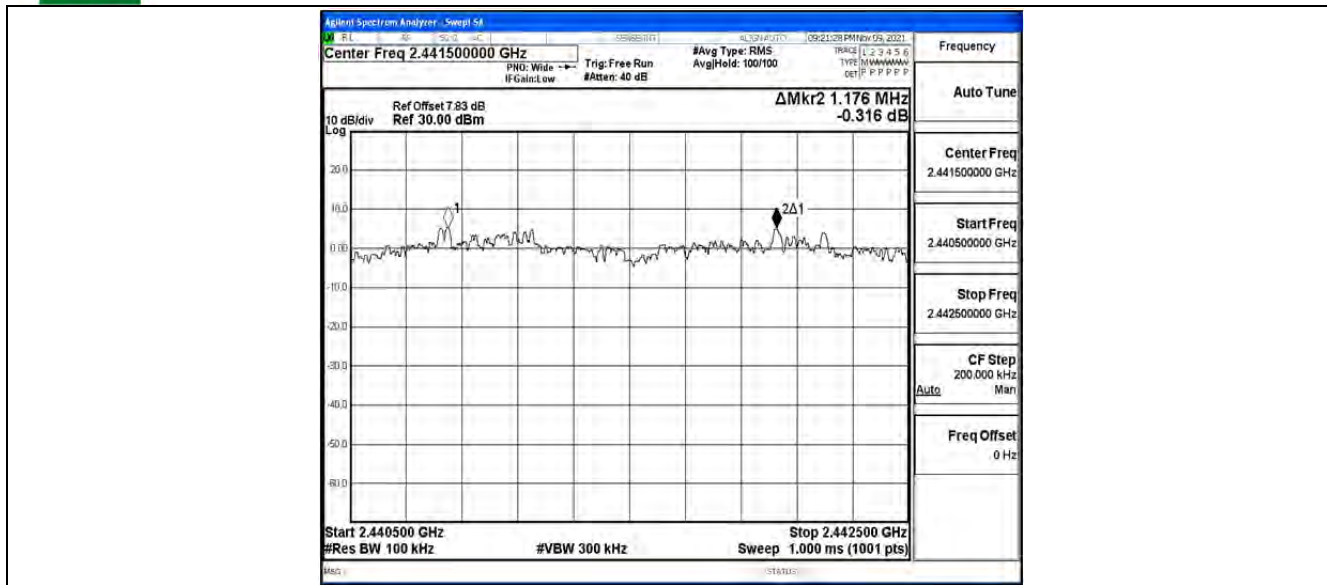
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop

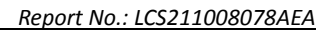




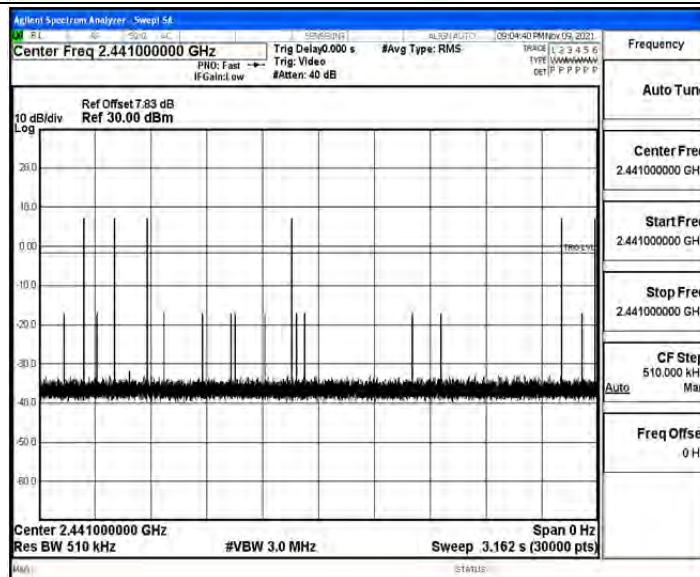
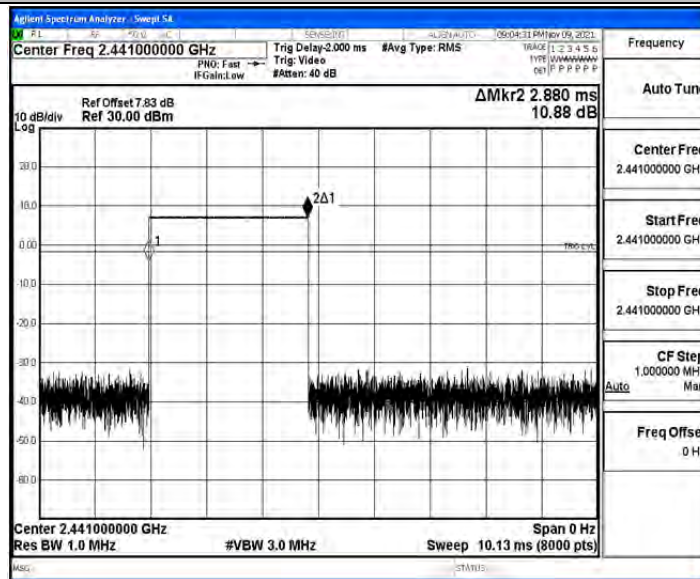
A.4 Time of occupancy

Test Result

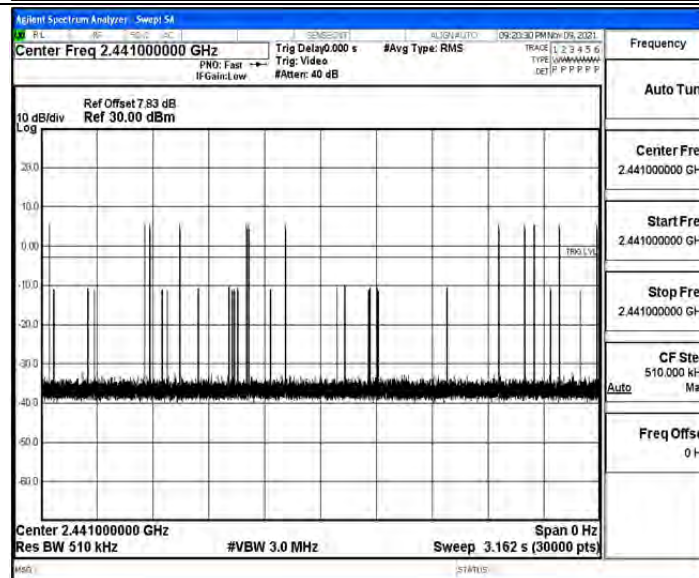
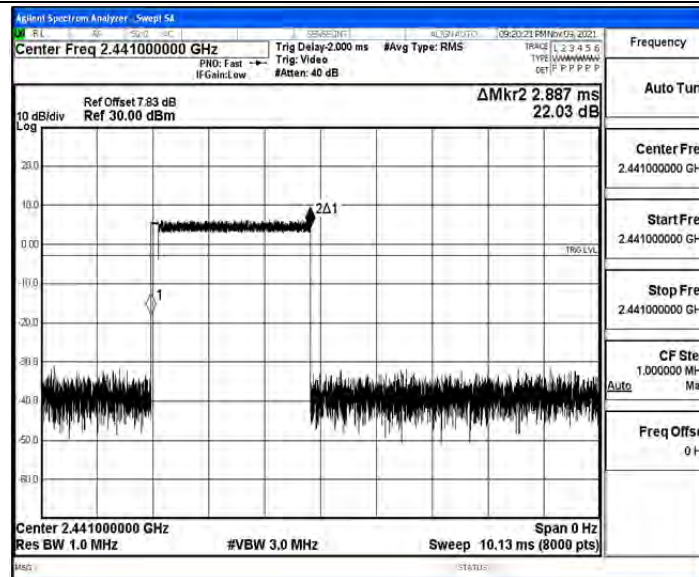
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	70	0.202	≤0.4	PASS
2DH5	Ant1	Hop	2.89	130	0.376	≤0.4	PASS
3DH5	Ant1	Hop	2.89	130	0.376	≤0.4	PASS



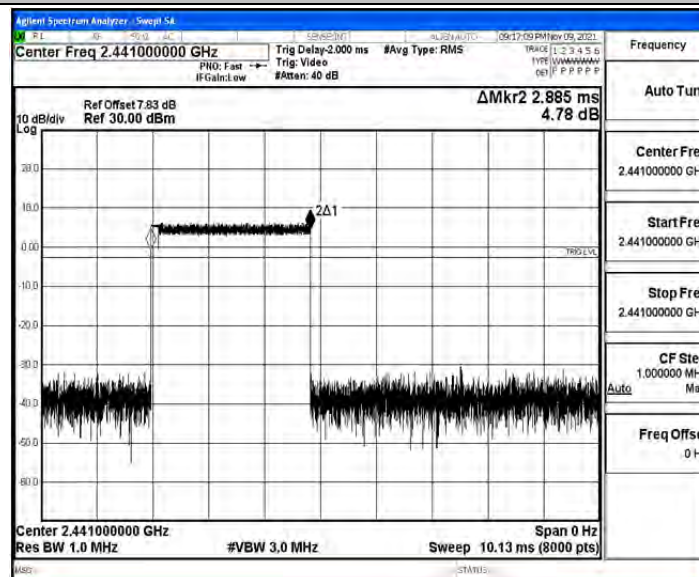
DH5_Ant1_Hop

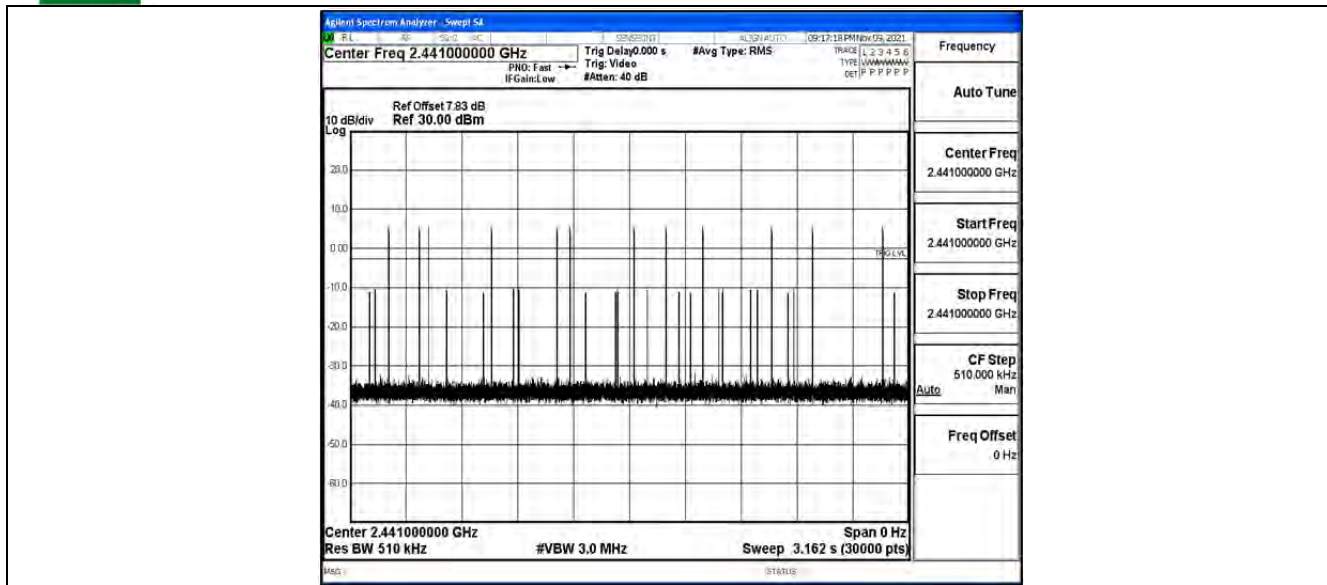


2DH5_Ant1_Hop



3DH5_Ant1_Hop







A.5 Number of hopping channels

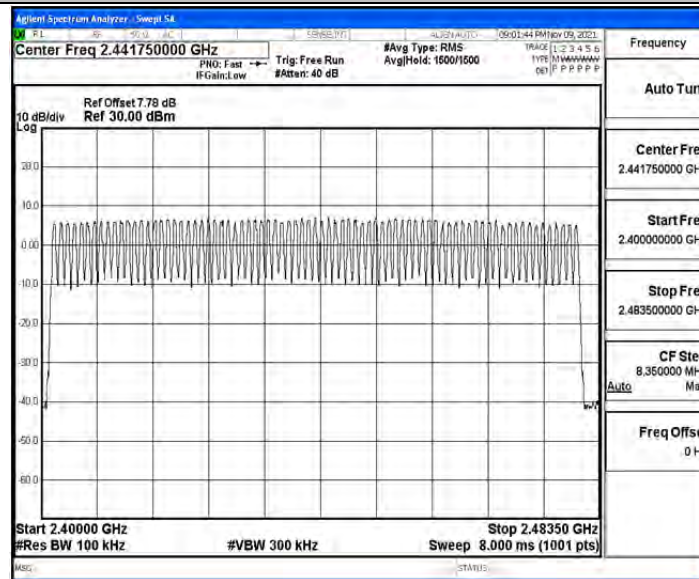
Test Result

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

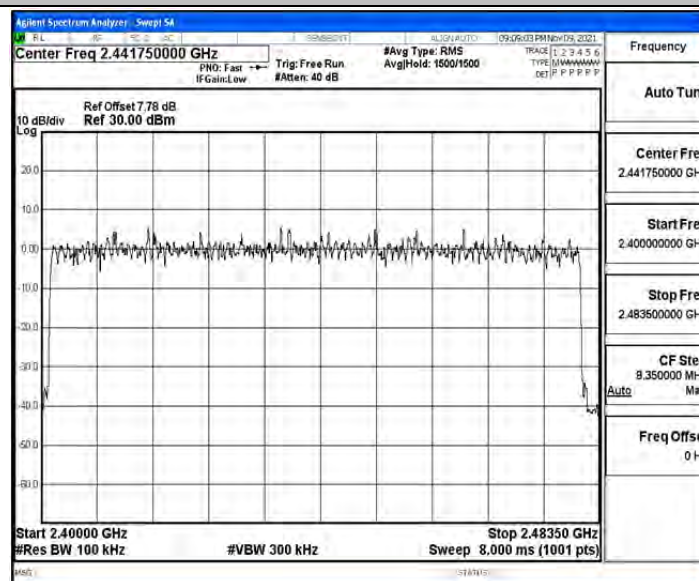


Test Graphs

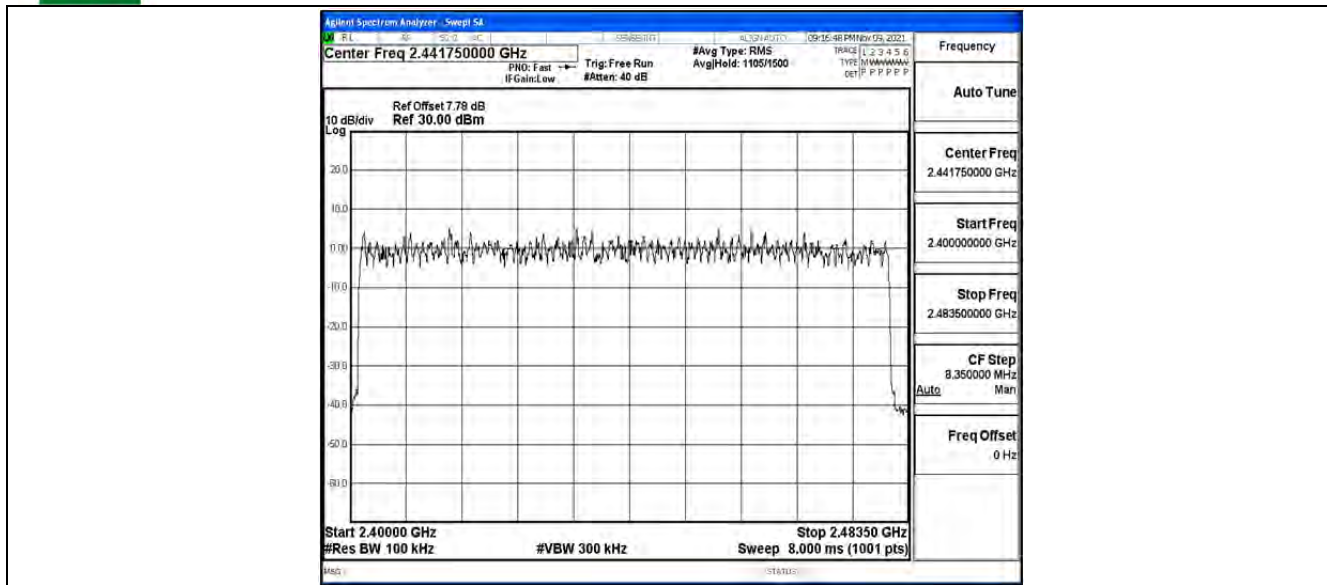
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop





A.6 Band edge measurements

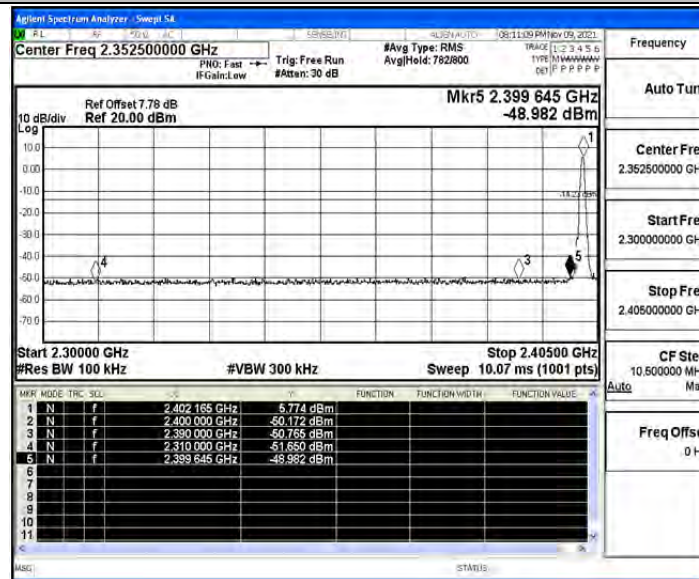
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	5.77	-48.98	≤ -14.23	PASS
		High	2480	5.42	-48.5	≤ -14.58	PASS
		Low	Hop_2402	5.51	-49.61	≤ -14.49	PASS
		High	Hop_2480	6.00	-47.07	≤ -14	PASS
2DH5	Ant1	Low	2402	2.86	-49.25	≤ -17.14	PASS
		High	2480	4.08	-48.3	≤ -15.92	PASS
		Low	Hop_2402	0.68	-49.74	≤ -19.32	PASS
		High	Hop_2480	4.27	-48.92	≤ -15.73	PASS
3DH5	Ant1	Low	2402	4.26	-48.52	≤ -15.74	PASS
		High	2480	4.20	-48.07	≤ -15.81	PASS
		Low	Hop_2402	2.22	-49.65	≤ -17.78	PASS
		High	Hop_2480	4.11	-48.89	≤ -15.89	PASS

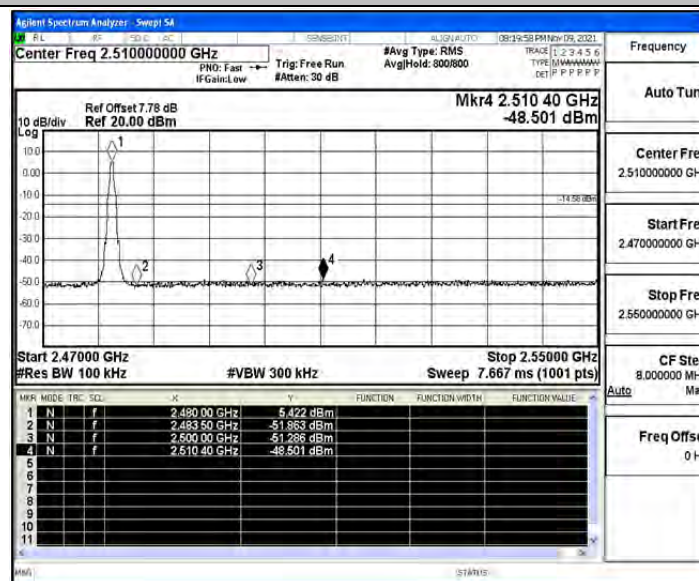


Test Graphs

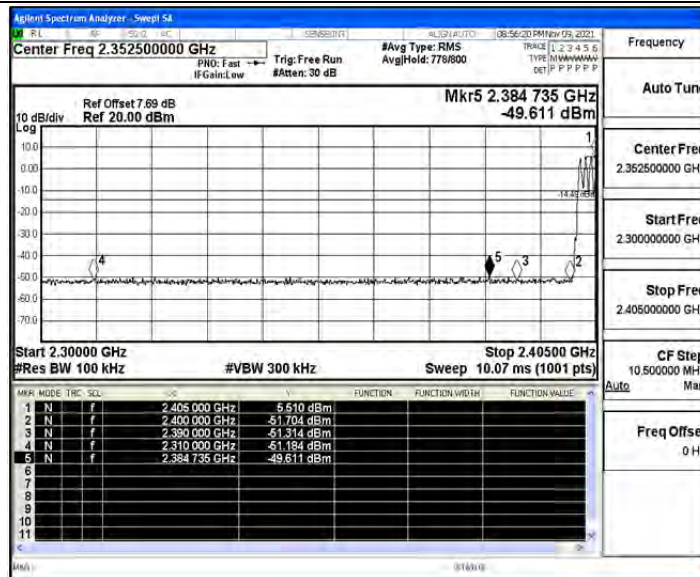
DH5_Ant1_Low_2402



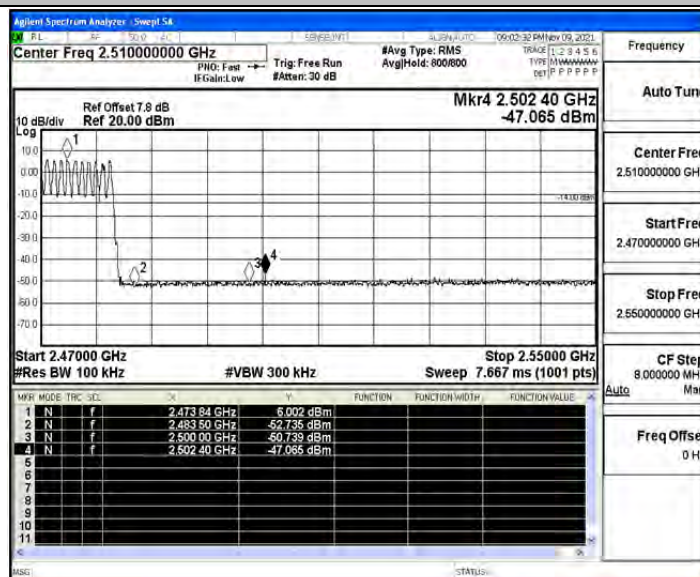
DH5_Ant1_High_2480



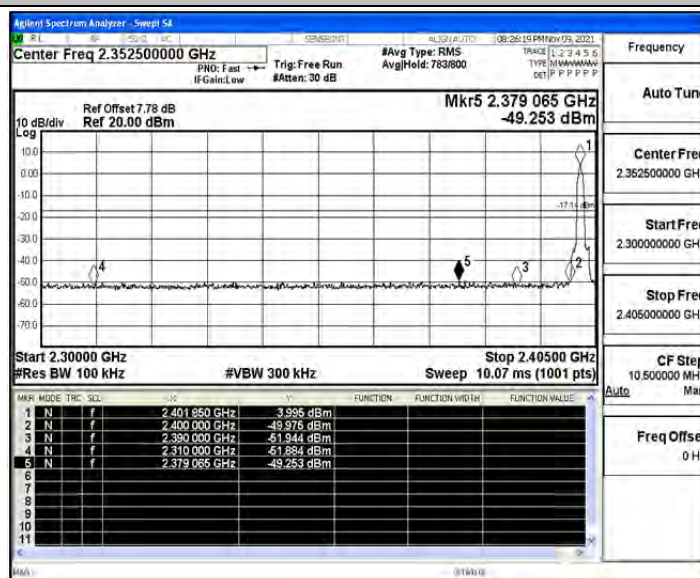
DH5_Ant1_Low_Hop_2402



DH5_Ant1_High_Hop_2480

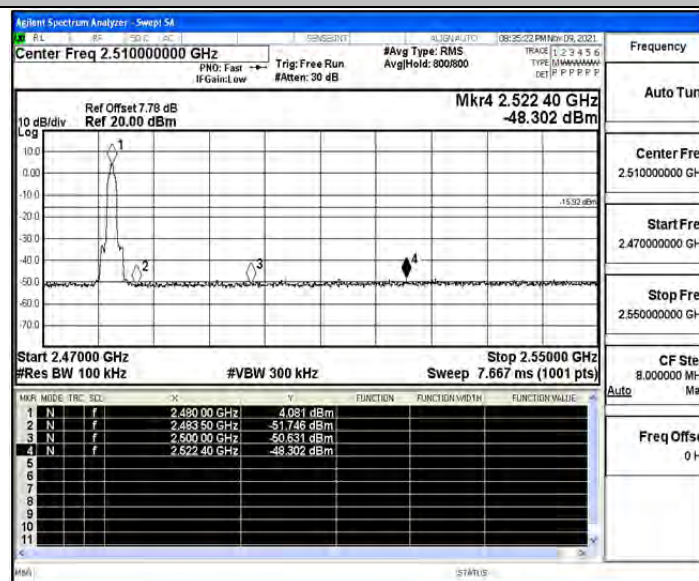


2DH5_Ant1_Low_2402

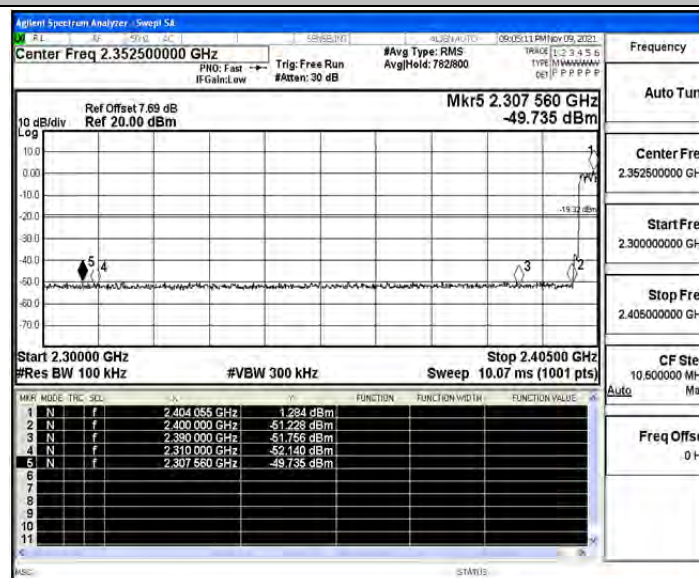




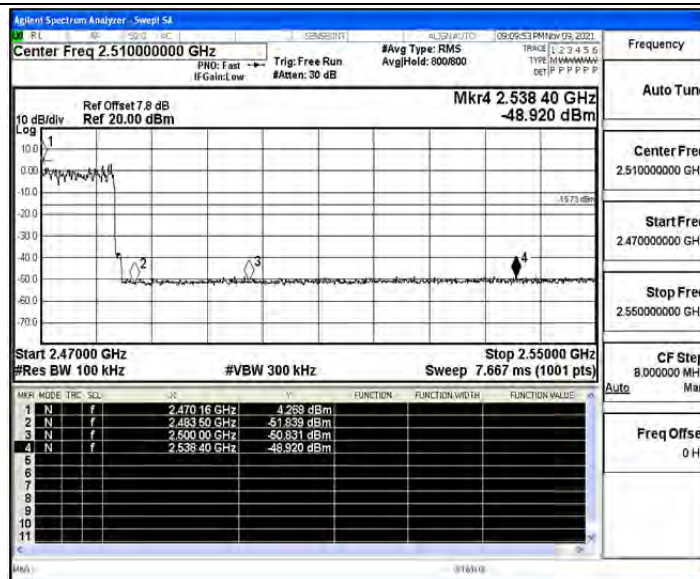
2DH5_Ant1_High_2480



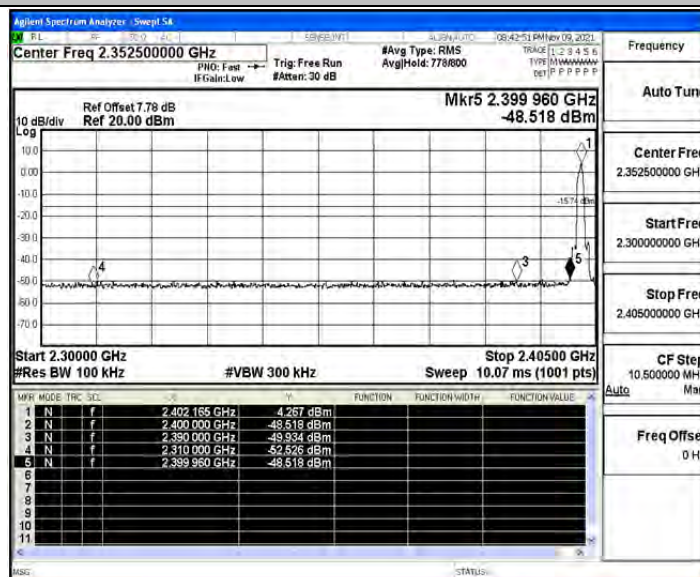
2DH5_Ant1_Low_Hop_2402



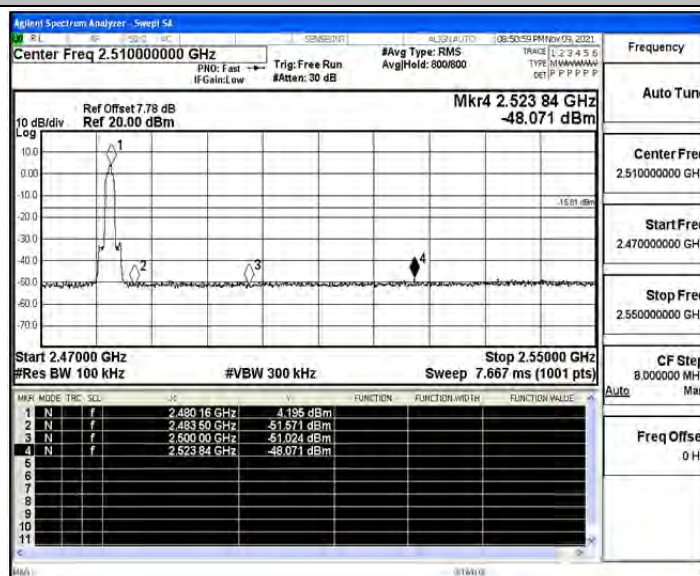
2DH5_Ant1_High_Hop_2480



3DH5_Ant1_Low_2402

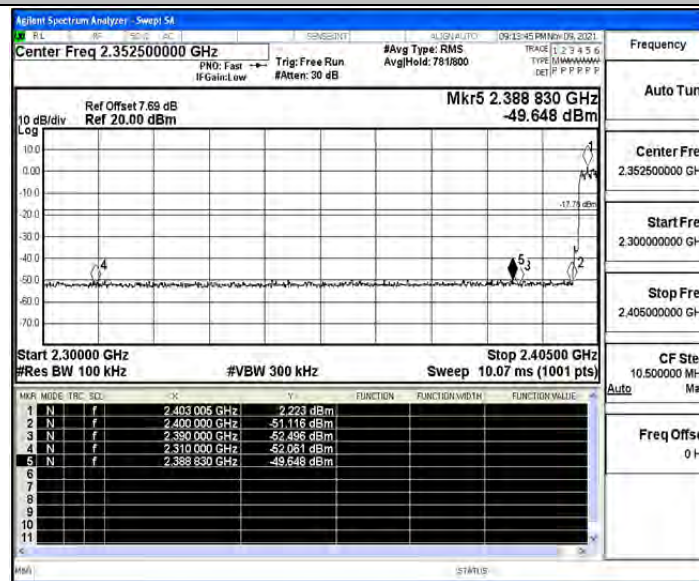


3DH5_Ant1_High_2480

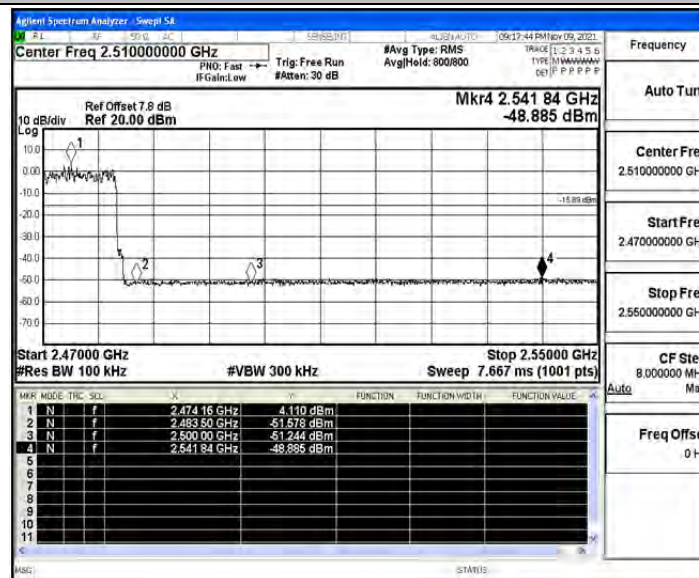




3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480





A.7 Conducted Spurious Emission

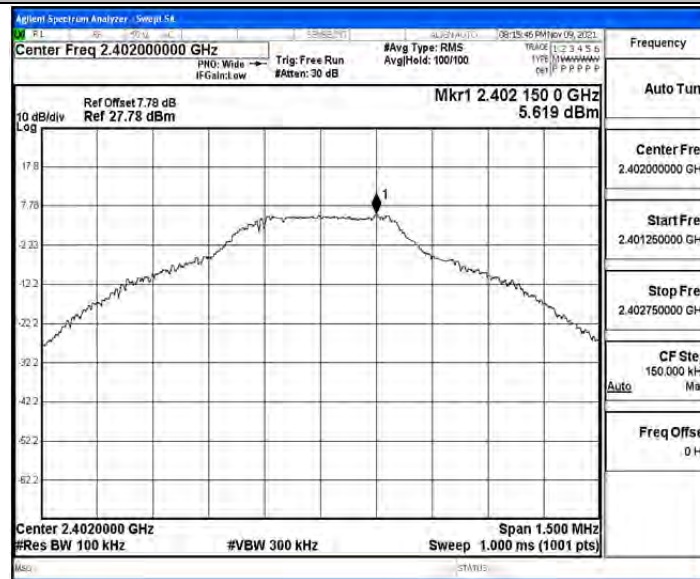
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	5.62	5.62	---	PASS
			30~1000	5.62	-61.8	≤ -14.38	PASS
			1000~26500	5.62	-47.42	≤ -14.38	PASS
		2441	Reference	6.95	6.95	---	PASS
			30~1000	6.95	-61.78	≤ -13.05	PASS
			1000~26500	6.95	-47.5	≤ -13.05	PASS
		2480	Reference	5.45	5.45	---	PASS
			30~1000	5.45	-60.5	≤ -14.55	PASS
			1000~26500	5.45	-47.62	≤ -14.55	PASS
2DH5	Ant1	2402	Reference	4.03	4.03	---	PASS
			30~1000	4.03	-61.87	≤ -15.97	PASS
			1000~26500	4.03	-47.77	≤ -15.97	PASS
		2441	Reference	5.24	5.24	---	PASS
			30~1000	5.24	-56.83	≤ -14.76	PASS
			1000~26500	5.24	-47.39	≤ -14.76	PASS
		2480	Reference	3.96	3.96	---	PASS
			30~1000	3.96	-50.58	≤ -16.04	PASS
			1000~26500	3.96	-46.81	≤ -16.04	PASS
3DH5	Ant1	2402	Reference	0.97	0.97	---	PASS
			30~1000	0.97	-54.31	≤ -19.03	PASS
			1000~26500	0.97	-46.96	≤ -19.03	PASS
		2441	Reference	5.30	5.30	---	PASS
			30~1000	5.30	-54.72	≤ -14.7	PASS
			1000~26500	5.30	-46.06	≤ -14.7	PASS
		2480	Reference	1.30	1.30	---	PASS
			30~1000	1.30	-58.94	≤ -18.7	PASS
			1000~26500	1.30	-46.64	≤ -18.7	PASS

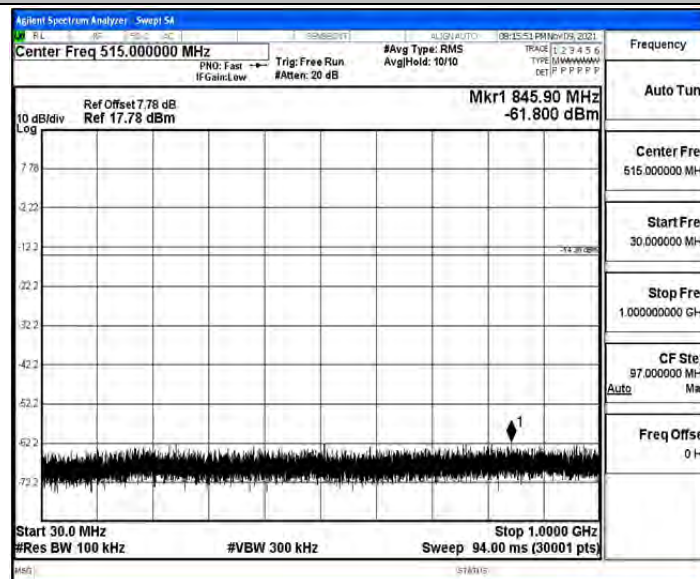


Test Graphs

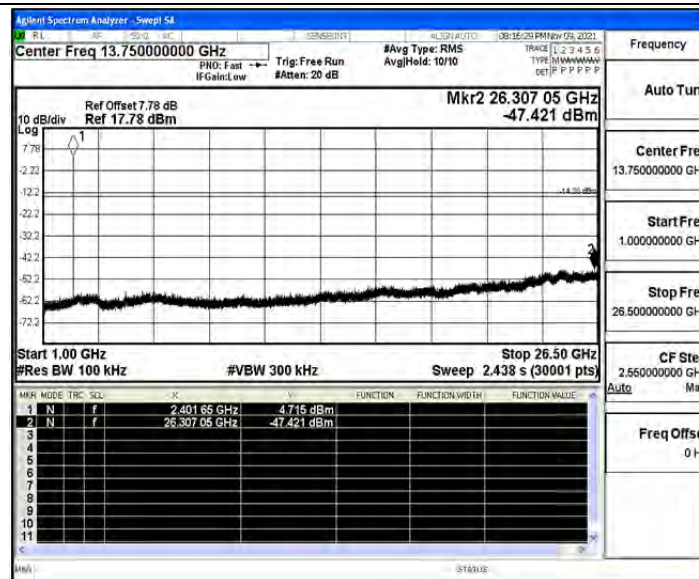
DH5_Ant1_2402_0~Reference



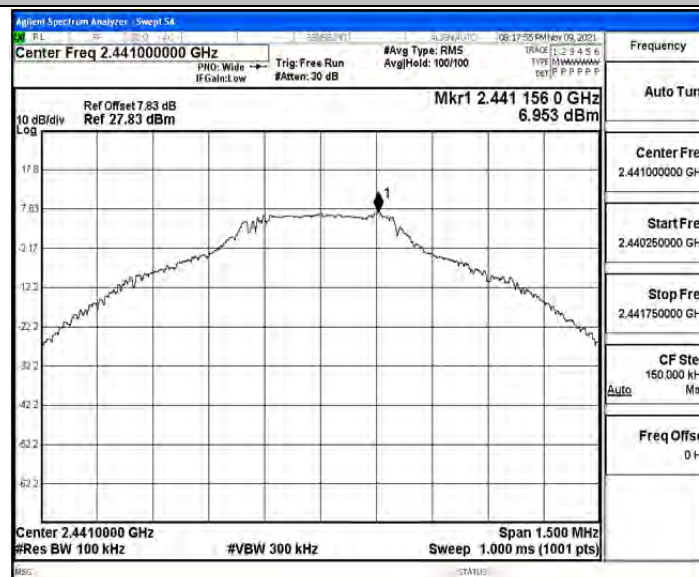
DH5_Ant1_2402_30~1000



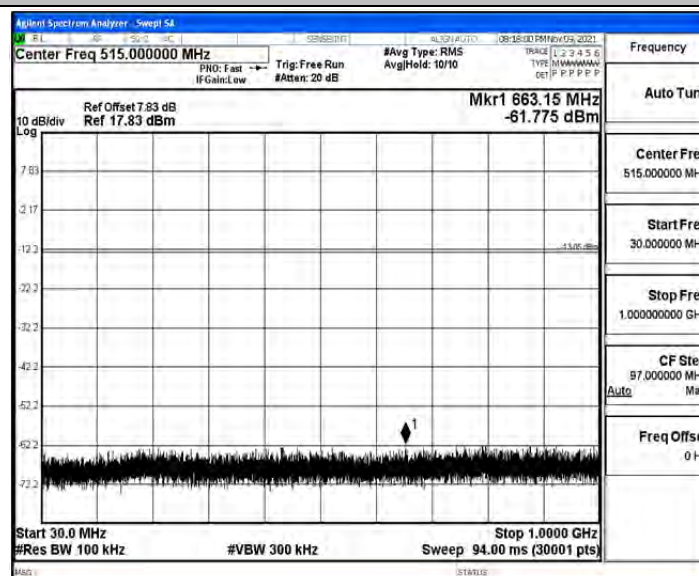
DH5_Ant1_2402_1000~26500



DH5_Ant1_2441_0-Reference

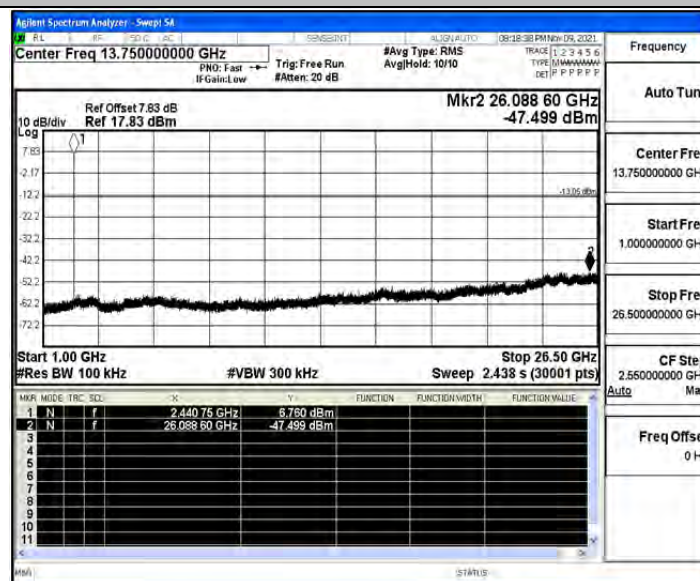


DH5_Ant1_2441_30~1000

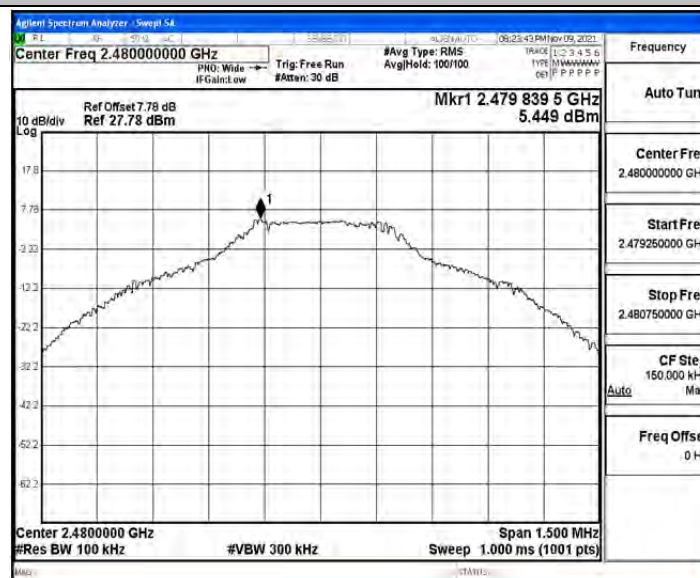




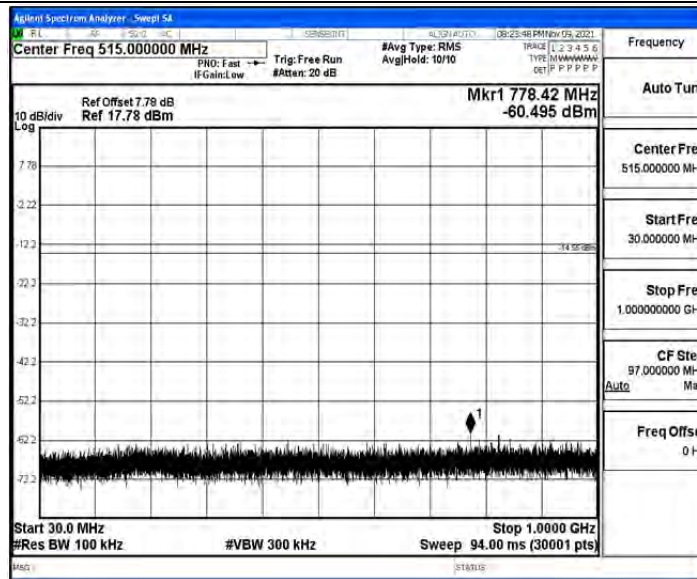
DH5_Ant1_2441_1000~26500



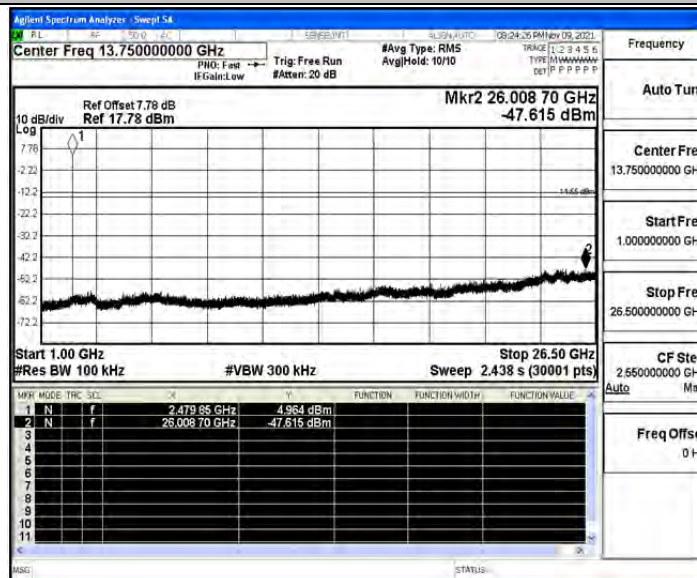
DH5_Ant1_2480_0~Reference



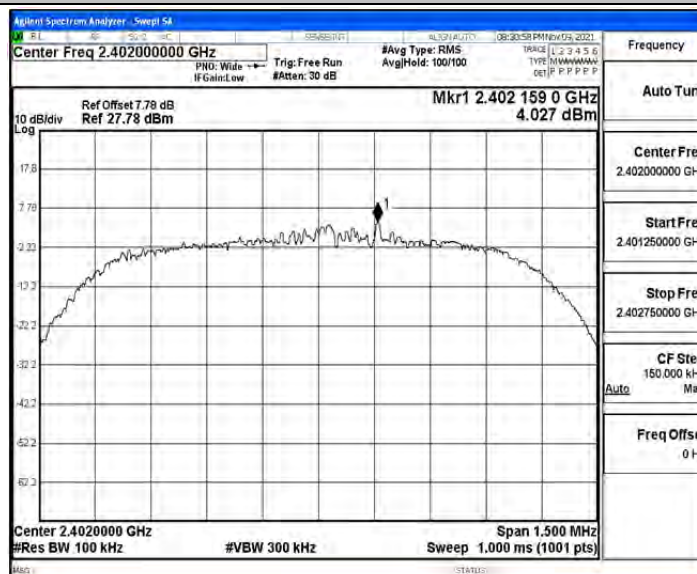
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

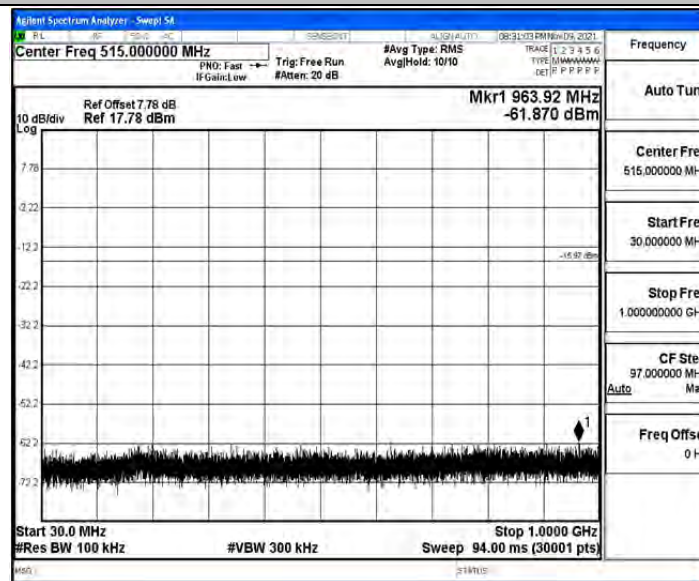


2DH5_Ant1_2402_0~Reference

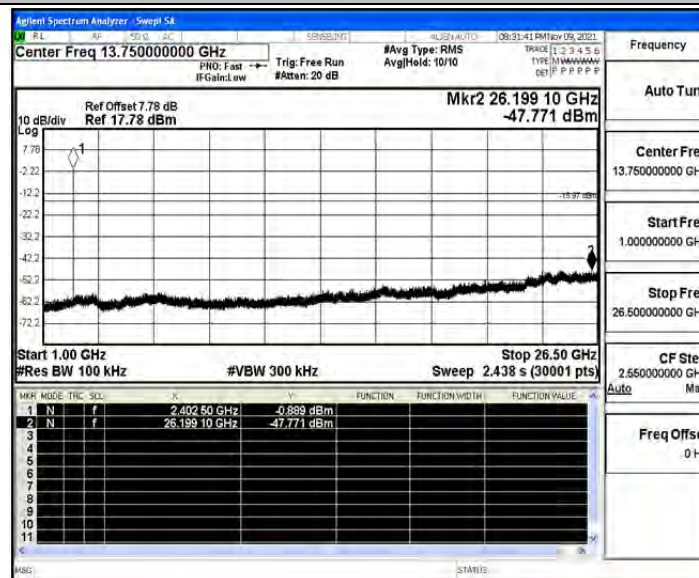




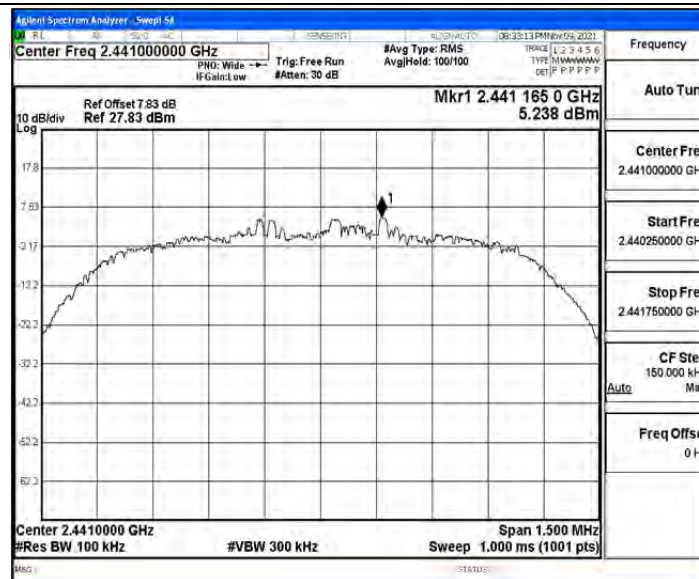
2DH5_Ant1_2402_30~1000



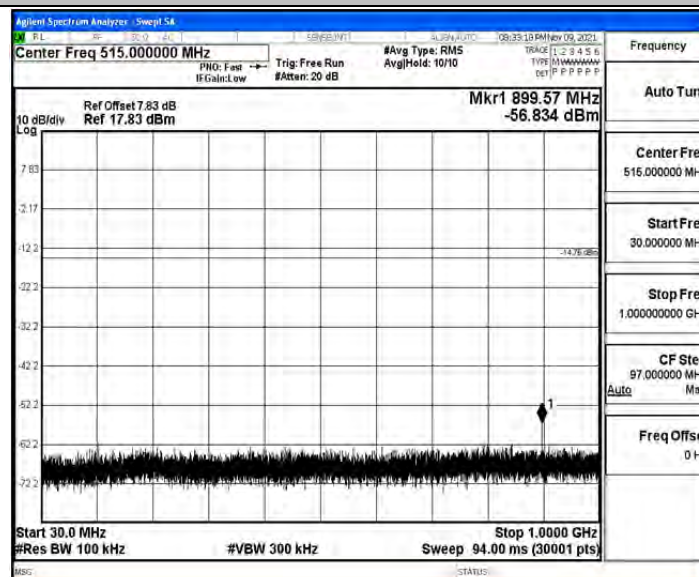
2DH5_Ant1_2402_1000~26500



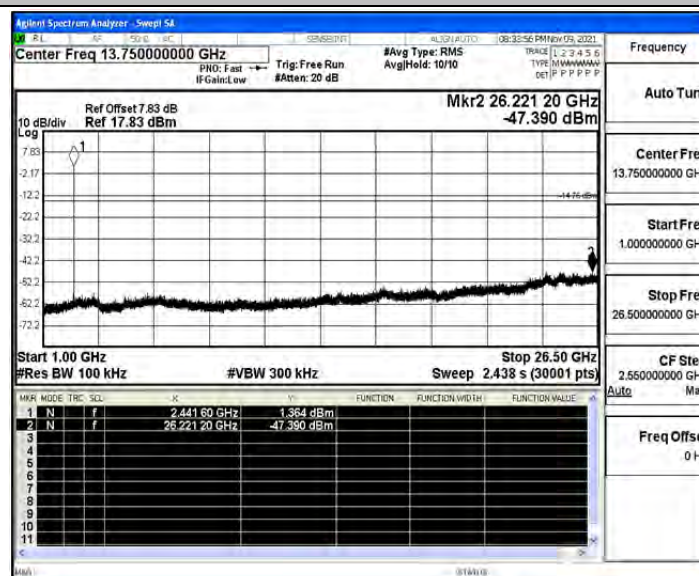
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000

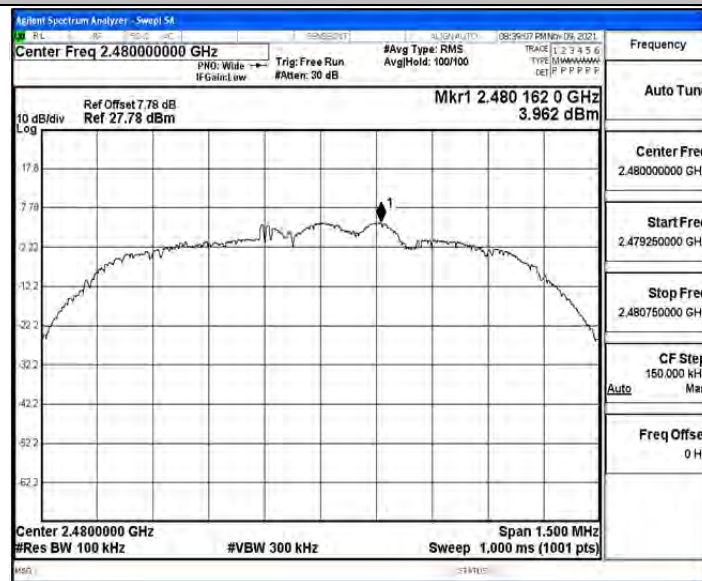


2DH5_Ant1_2441_1000~26500

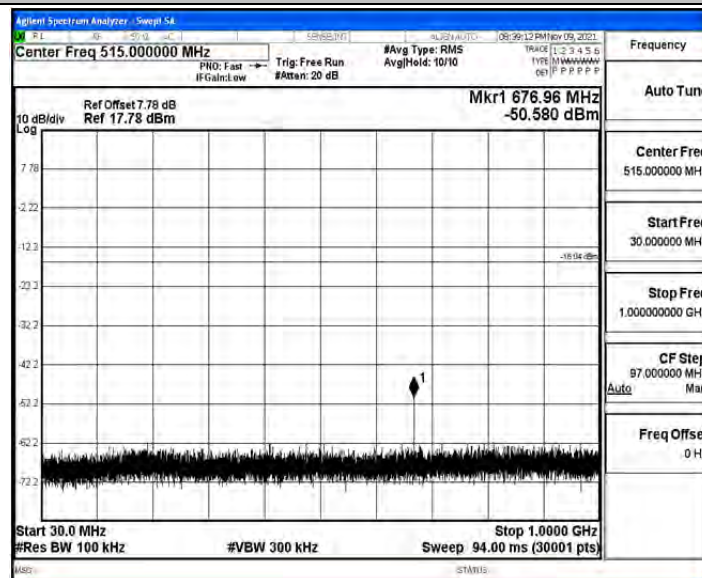




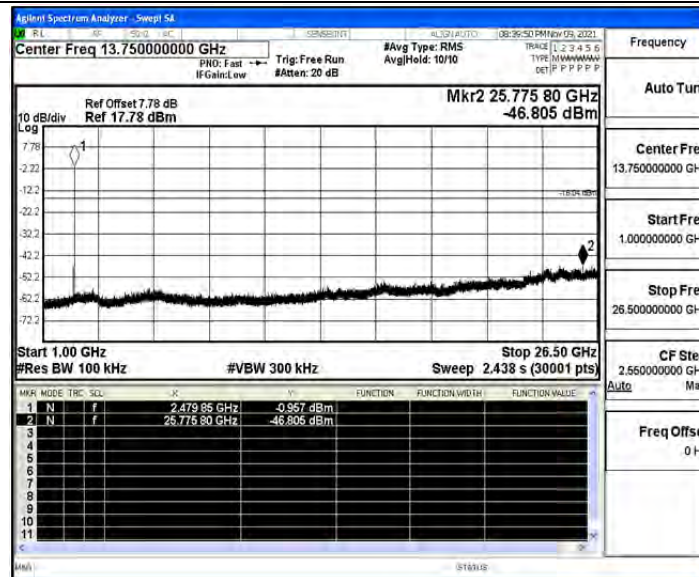
2DH5_Ant1_2480_0~Reference



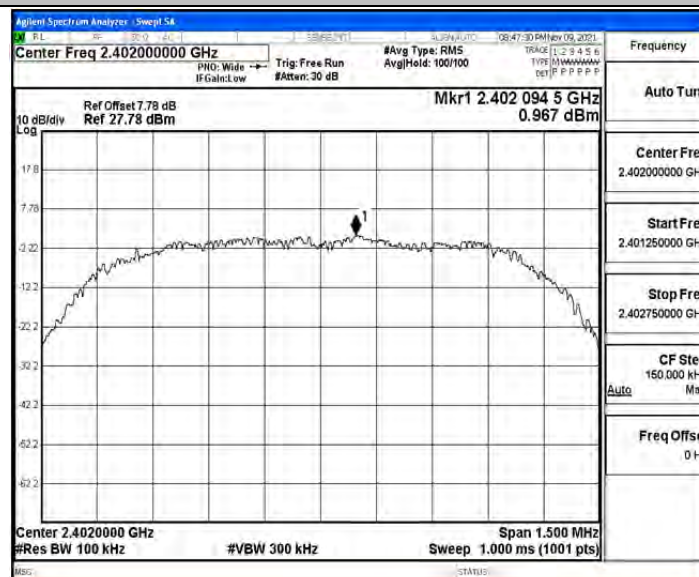
2DH5_Ant1_2480_30~1000



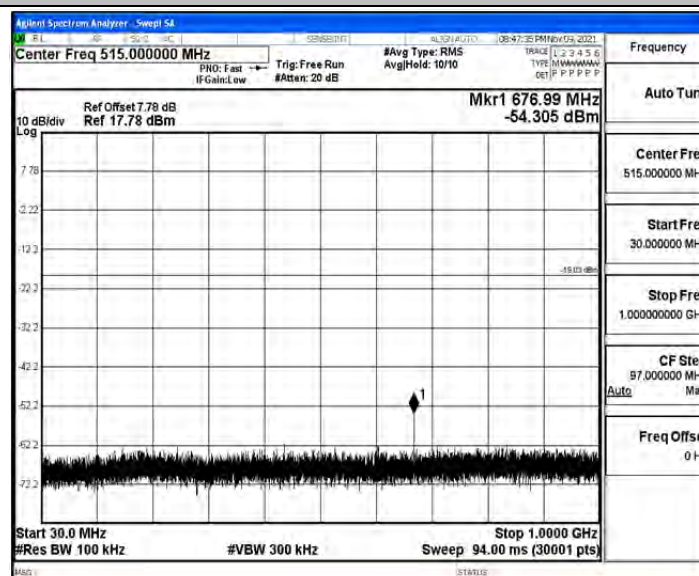
2DH5_Ant1_2480_1000~26500



3DH5_Ant1_2402_0~Reference

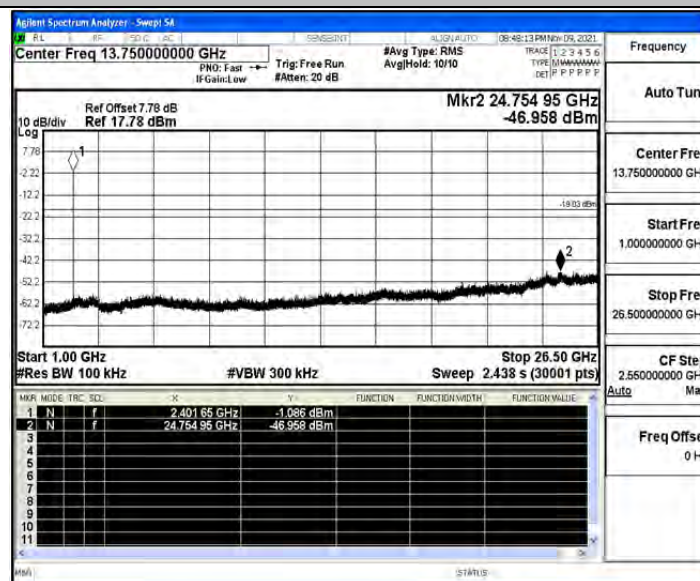


3DH5_Ant1_2402_30~1000

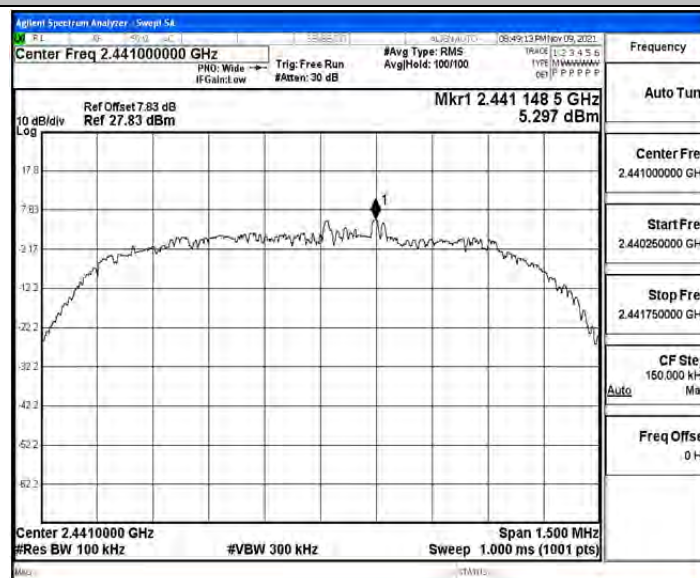




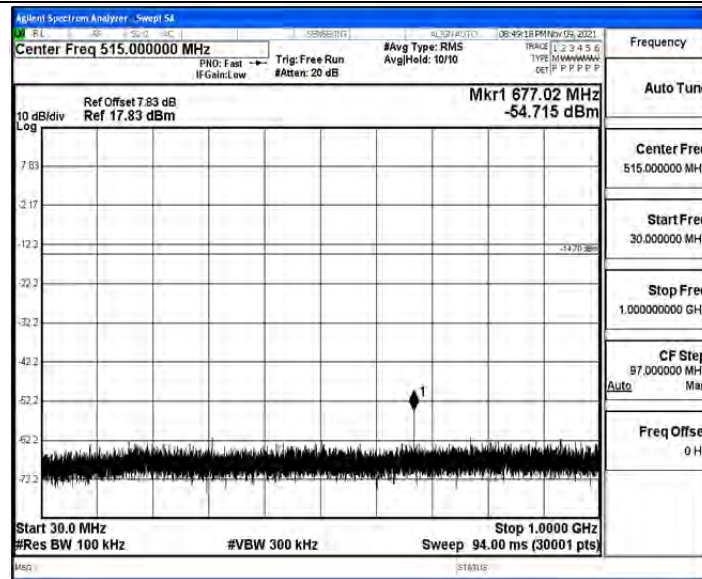
3DH5_Ant1_2402_1000~26500



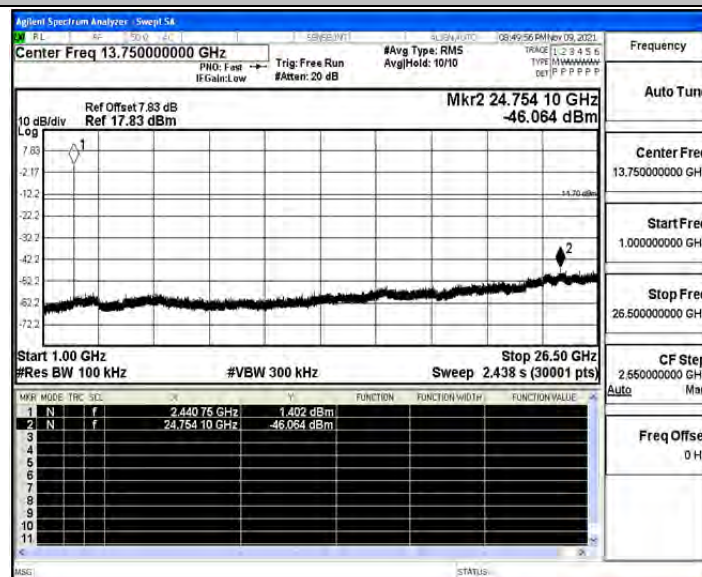
3DH5_Ant1_2441_0~Reference



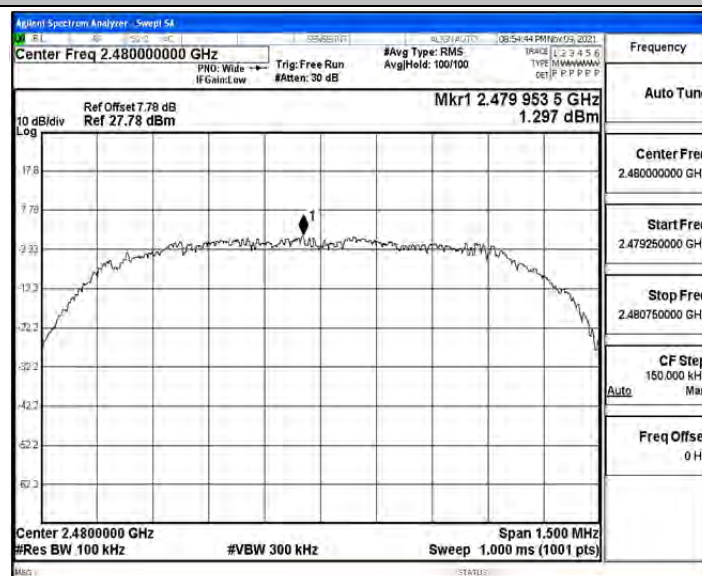
3DH5_Ant1_2441_30~1000



3DH5_Ant1_2441_1000~26500

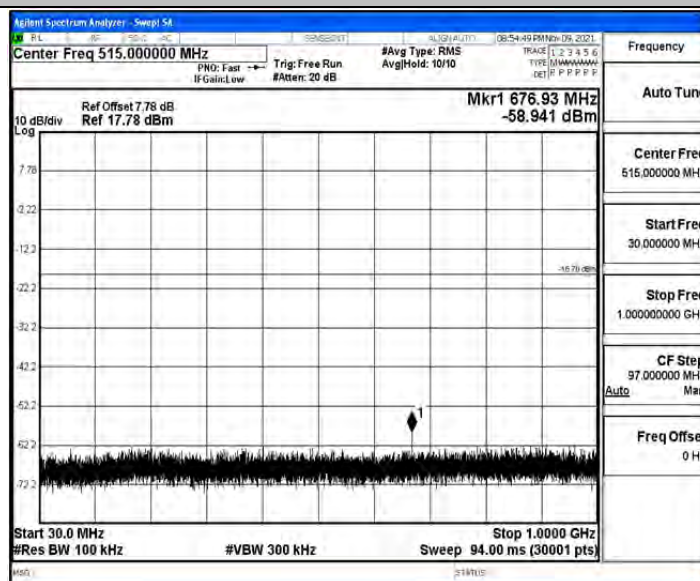


3DH5_Ant1_2480_0~Reference

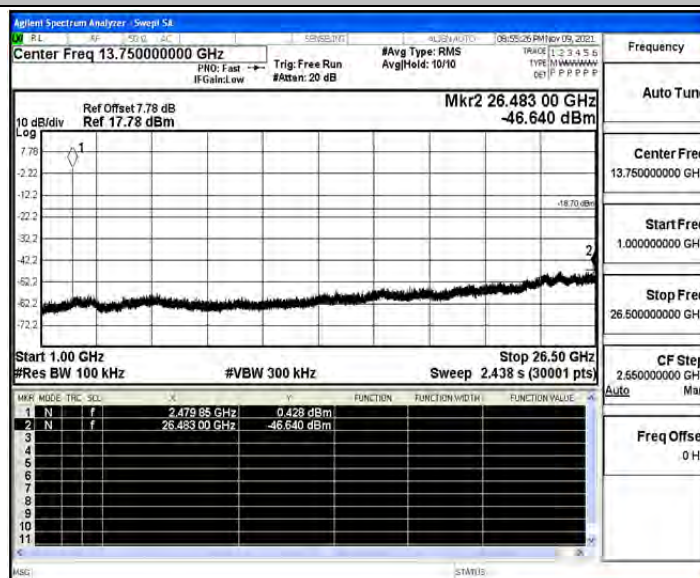




3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500





A.8 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-48.91	≤-41.20	46.29	≤54	PASS
				AV	2387.990	-48.4	≤-41.20	46.80	≤54	PASS
				AV	2390.000	-48.54	≤-41.20	46.66	≤54	PASS
				Peak	2310.000	-41.05	≤-21.20	54.15	≤74	PASS
				Peak	2323.625	-38.15	≤-21.20	57.05	≤74	PASS
				Peak	2390.000	-40.15	≤-21.20	55.05	≤74	PASS
		High	2480	AV	2483.500	-47.16	≤-41.20	48.04	≤54	PASS
				AV	2483.520	-47.16	≤-41.20	48.04	≤54	PASS
				AV	2500.000	-47.87	≤-41.20	47.33	≤54	PASS
				Peak	2483.500	-39.67	≤-21.20	55.53	≤74	PASS
				Peak	2488.080	-37.87	≤-21.20	57.33	≤74	PASS
				Peak	2500.000	-39.93	≤-21.20	55.27	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-41.5	≤-21.20	53.70	≤74	PASS
				Peak	2375.810	-37.76	≤-21.20	57.44	≤74	PASS
				Peak	2390.000	-40.63	≤-21.20	54.57	≤74	PASS
		High	Hop_2480	Peak	2483.500	-40.12	≤-21.20	55.08	≤74	PASS
				Peak	2484.880	-37.77	≤-21.20	57.43	≤74	PASS
				Peak	2500.000	-39.08	≤-21.20	56.12	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.89	≤-41.20	46.31	≤54	PASS
				AV	2389.565	-48.41	≤-41.20	46.79	≤54	PASS
				AV	2390.000	-48.51	≤-41.20	46.69	≤54	PASS
				Peak	2310.000	-41.43	≤-21.20	53.77	≤74	PASS
				Peak	2343.155	-38.44	≤-21.20	56.76	≤74	PASS
				Peak	2390.000	-40.9	≤-21.20	54.30	≤74	PASS
		High	2480	AV	2483.500	-47	≤-41.20	48.20	≤54	PASS
				AV	2483.520	-47	≤-41.20	48.20	≤54	PASS
				AV	2500.000	-47.83	≤-41.20	47.37	≤54	PASS
				Peak	2483.500	-40.37	≤-21.20	54.83	≤74	PASS
				Peak	2499.040	-37.4	≤-21.20	57.80	≤74	PASS
				Peak	2500.000	-37.16	≤-21.20	58.04	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-39.28	≤-21.20	55.92	≤74	PASS
				Peak	2332.340	-37.9	≤-21.20	57.30	≤74	PASS
				Peak	2390.000	-39.9	≤-21.20	55.30	≤74	PASS
		High	Hop_2480	Peak	2483.500	-40.4	≤-21.20	54.80	≤74	PASS
				Peak	2496.480	-37.5	≤-21.20	57.70	≤74	PASS
				Peak	2500.000	-39.05	≤-21.20	56.15	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.91	≤-41.20	46.29	≤54	PASS



				AV	2389.985	-48.36	≤-41.20	46.84	≤54	PASS
				AV	2390.000	-48.36	≤-41.20	46.84	≤54	PASS
				Peak	2310.000	-40.03	≤-21.20	55.17	≤74	PASS
				Peak	2384.525	-37.55	≤-21.20	57.65	≤74	PASS
				Peak	2390.000	-39.11	≤-21.20	56.09	≤74	PASS
		High	2480	AV	2483.500	-46.91	≤-41.20	48.29	≤54	PASS
				AV	2483.520	-46.91	≤-41.20	48.29	≤54	PASS
				AV	2500.000	-47.92	≤-41.20	47.28	≤54	PASS
				Peak	2483.500	-38.73	≤-21.20	56.47	≤74	PASS
				Peak	2492.720	-37.94	≤-21.20	57.26	≤74	PASS
				Peak	2500.000	-39.61	≤-21.20	55.59	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-39.22	≤-21.20	55.98	≤74	PASS
				Peak	2320.055	-36.98	≤-21.20	58.22	≤74	PASS
				Peak	2390.000	-40.56	≤-21.20	54.64	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-40.58	≤-21.20	54.62	≤74	PASS
				Peak	2484.000	-37.69	≤-21.20	57.51	≤74	PASS
				Peak	2500.000	-39.27	≤-21.20	55.93	≤74	PASS

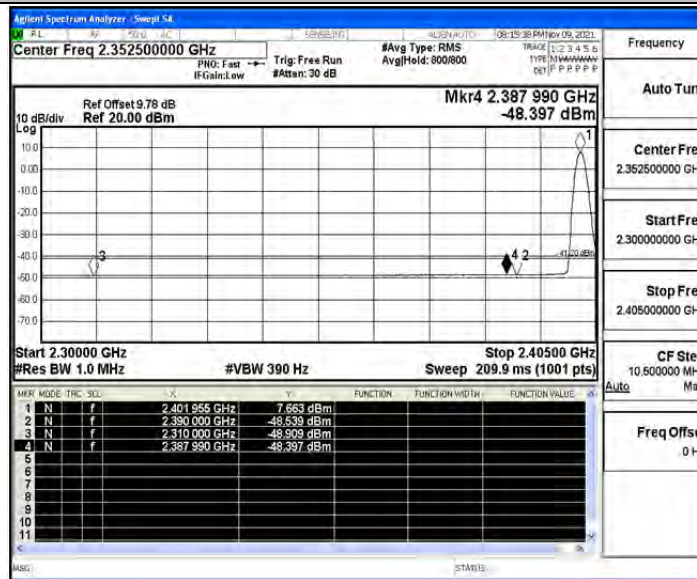
Note:

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.

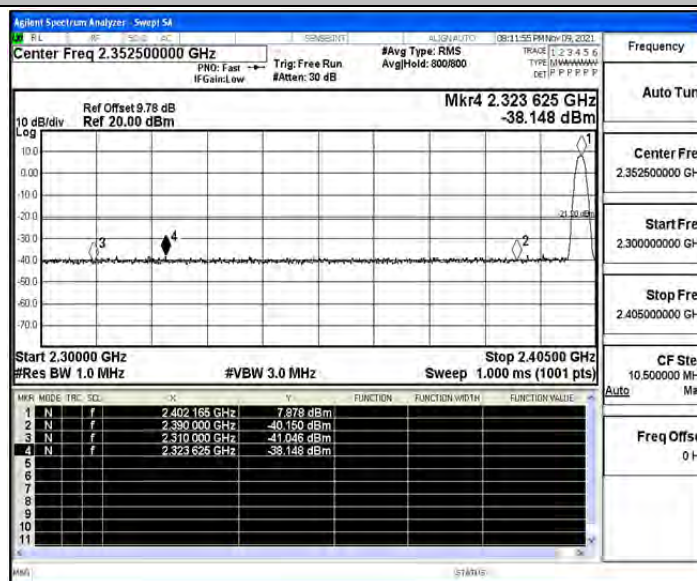


Test Graphs

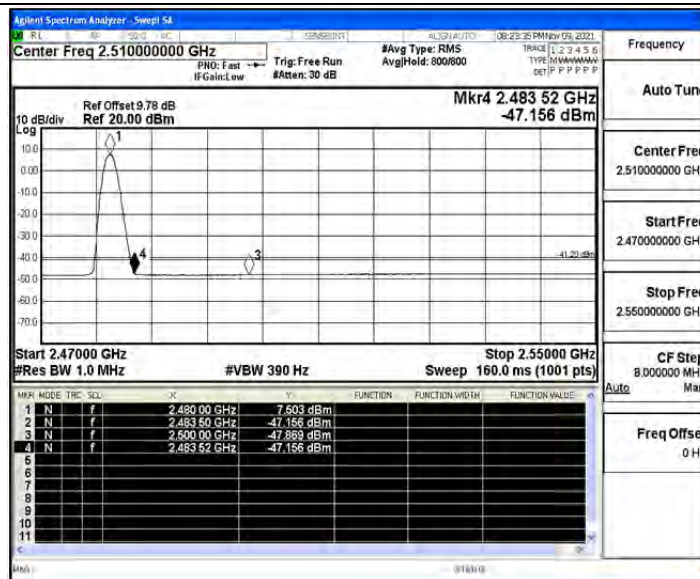
DH5_Ant1_Low_2402_AV



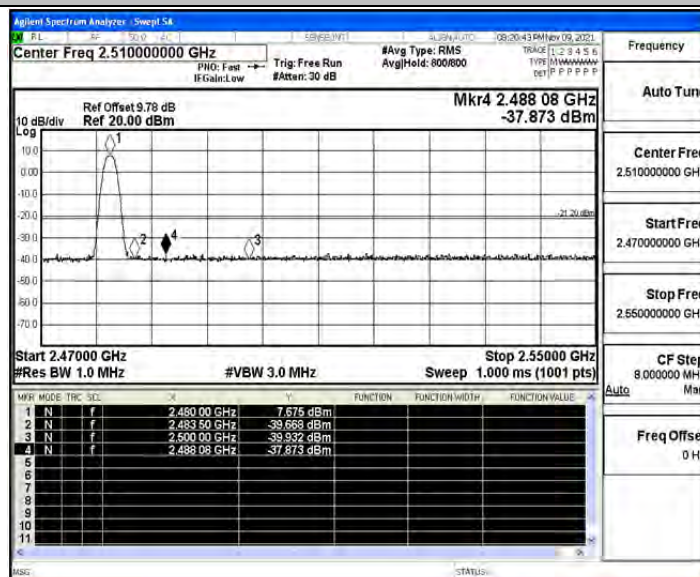
DH5_Ant1_Low_2402_Peak



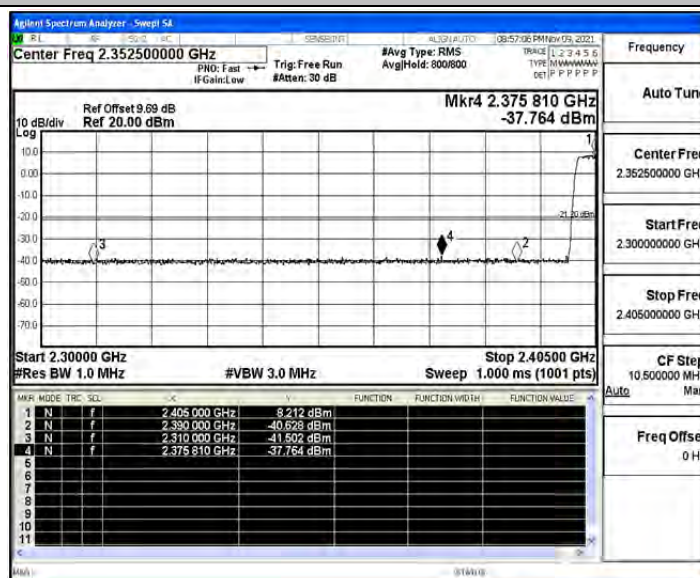
DH5_Ant1_High_2480_AV



DH5_Ant1_High_2480_Peak



DH5_Ant1_Low_Hop_2402_Peak





Agilent Spectrum Analyzer - Sweep 54

Center Freq 2.510000000 GHz #Avg Type: RMS Avg/Hold: 800/800
 PNO: Fast → IF Gain: Low #Atten: 30 dB TRAC: [1] 2 3 4 5 6
 TYPE: [MANUAL] DET: [PPPP PP]

Mkr4 2.484 88 GHz
 -37.774 dBm

Ref Offset 9.8 dB
 Ref 20.00 dBm

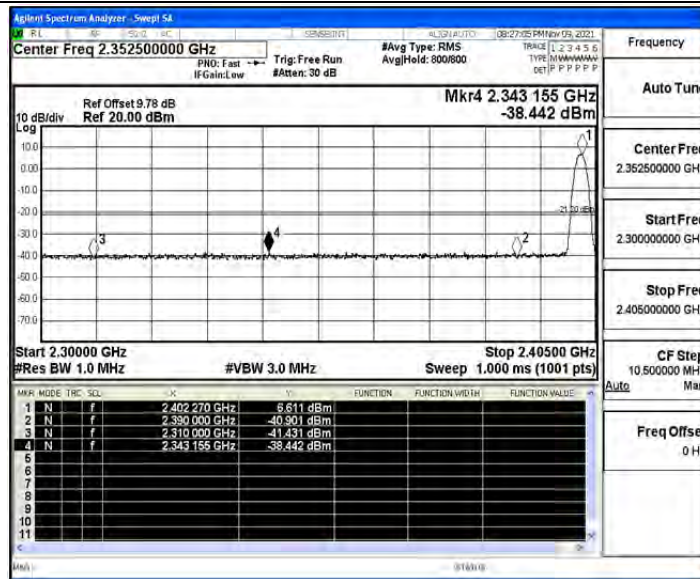
10 dB/div
 Log

Start 2.47000000 GHz Stop 2.55000000 GHz
 #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts)

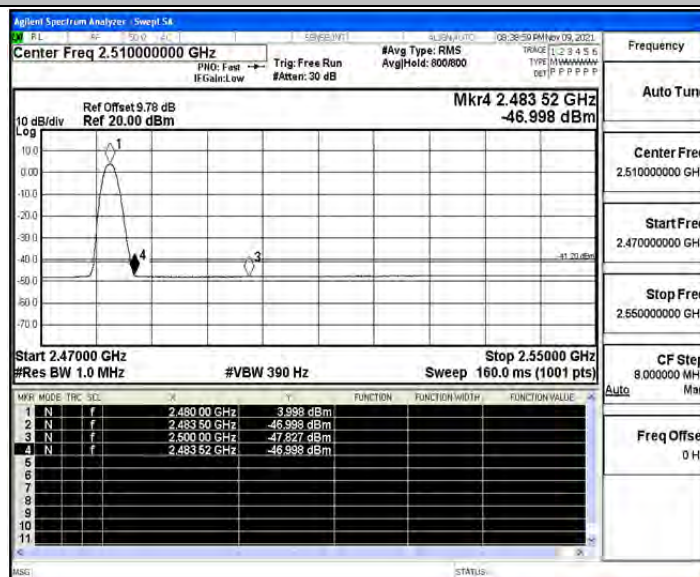
MKR	MODE	FREQ	LEVEL	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f	2.470 16 GHz	-8 222 dBm		
2	N	f	2.483 50 GHz	-40 119 dBm		
3	N	f	2.500 00 GHz	-39 076 dBm		
4	N	f	2.484 88 GHz	-37 774 dBm		

[illegible]

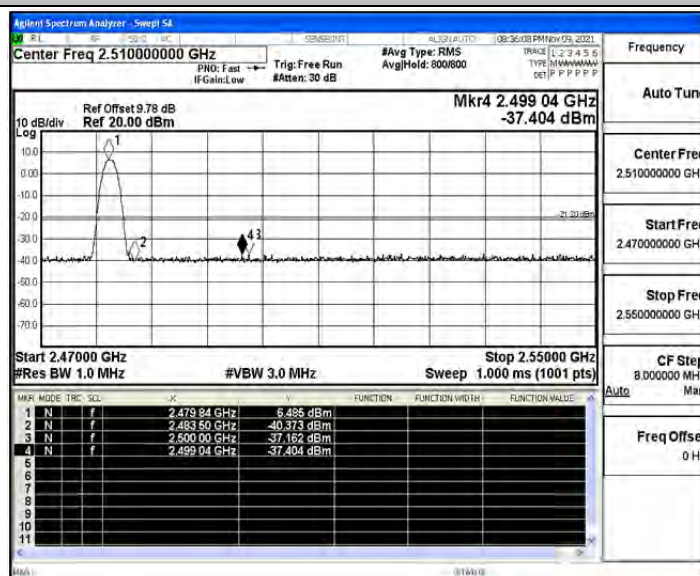
44 / 49



2DH5_Ant1_High_2480_AV

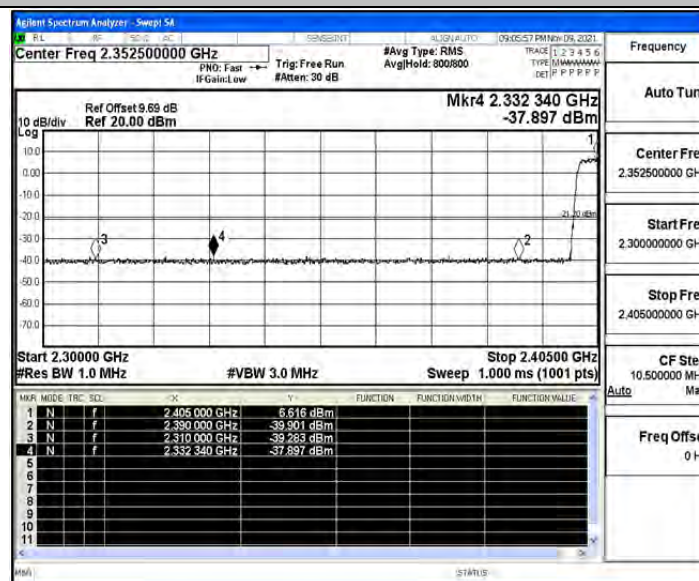


2DH5_Ant1_High_2480_Peak





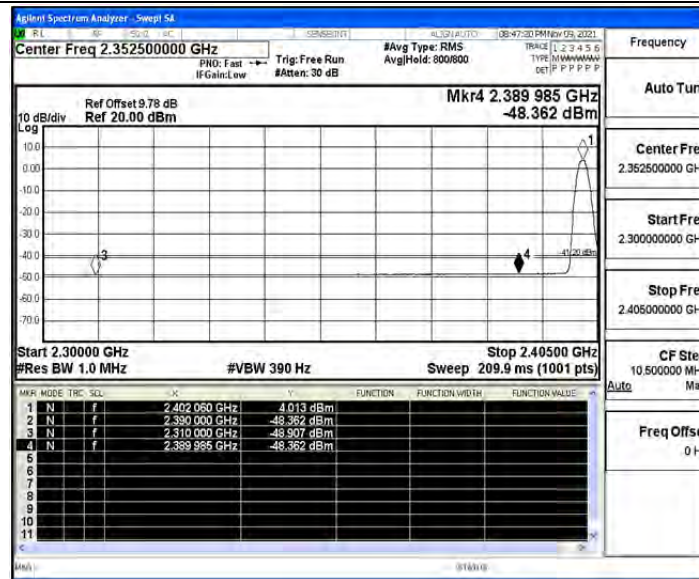
2DH5_Ant1_Low_Hop_2402_Peak



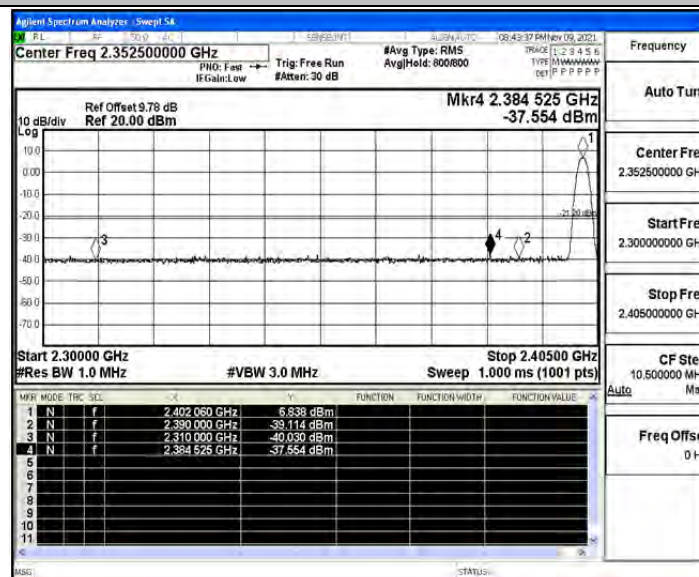
2DH5_Ant1_High_Hop_2480_Peak



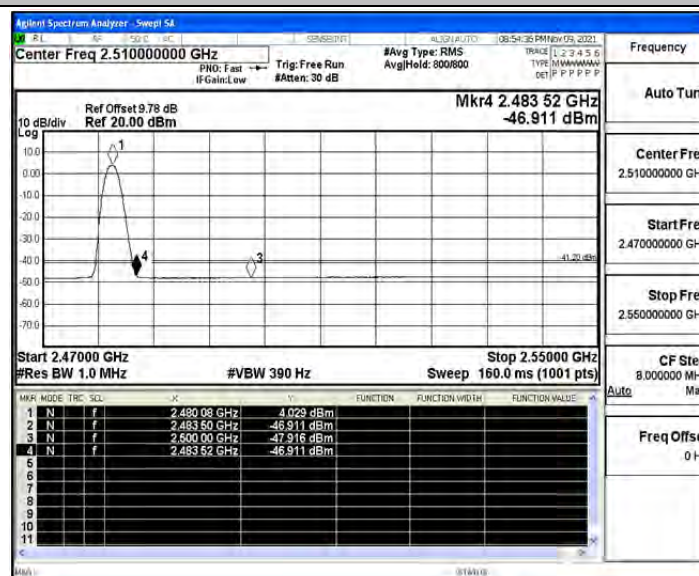
3DH5_Ant1_Low_2402_AV



3DH5_Ant1_Low_2402_Peak

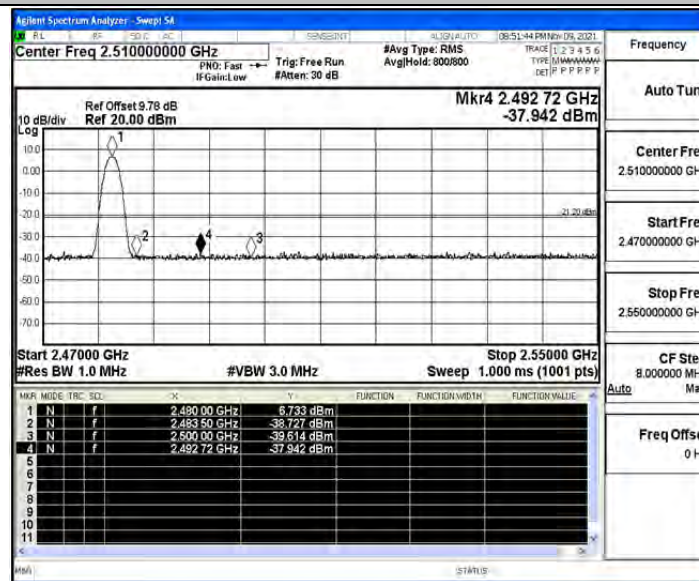


3DH5_Ant1_High_2480_AV

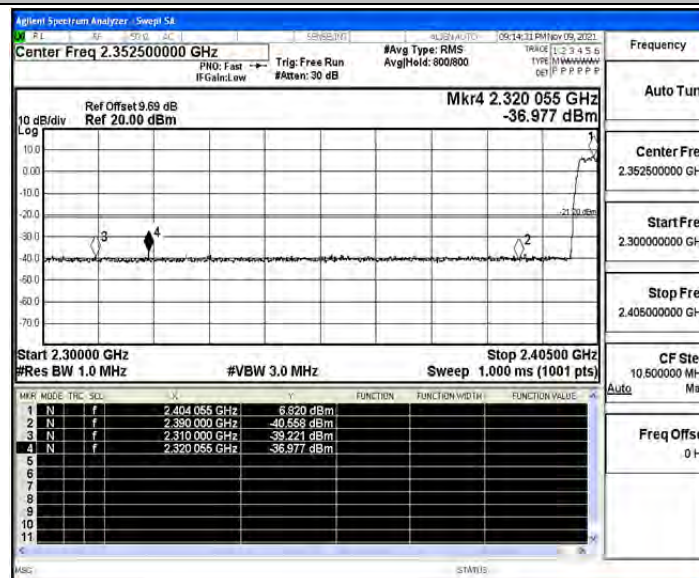




3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak



3DH5_Ant1_High_Hop_2480_Peak

