



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: KARAOKE PLAYER

Test Model: QY-K600

Environmental Conditions

Temperature:	23.4° C
Relative Humidity:	51.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling. Zhu
Supervised by:	Libu



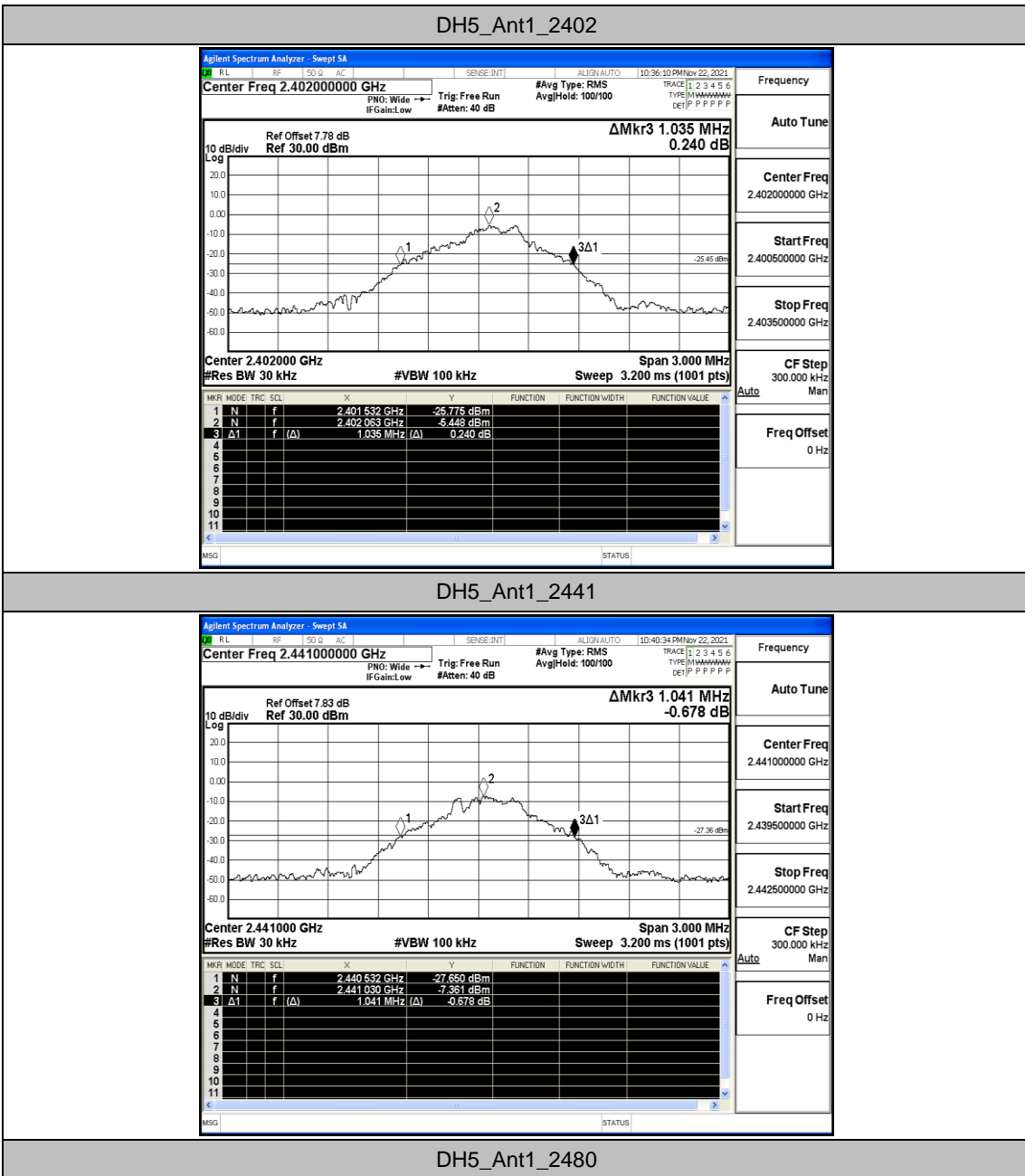
A.1 20dB Emission Bandwidth

Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.035	2401.532	2402.567	---	PASS
		2441	1.041	2440.532	2441.573	---	PASS
		2480	1.047	2479.526	2480.573	---	PASS
2DH5	Ant1	2402	1.299	2401.427	2402.726	---	PASS
		2441	1.314	2440.415	2441.729	---	PASS
		2480	1.287	2479.433	2480.720	---	PASS
3DH5	Ant1	2402	1.293	2401.403	2402.696	---	PASS
		2441	1.329	2440.391	2441.720	---	PASS
		2480	1.293	2479.400	2480.693	---	PASS



Test Graphs


DH5_Ant1_2441

Center Freq 2.441000000 GHz

#Res BW 30 kHz #VBW 100 kHz Span 3.000 MHz

Sweep 3.200 ms (1001 pts)

Frequency

Auto Tune

Center Freq 2.441000000 GHz

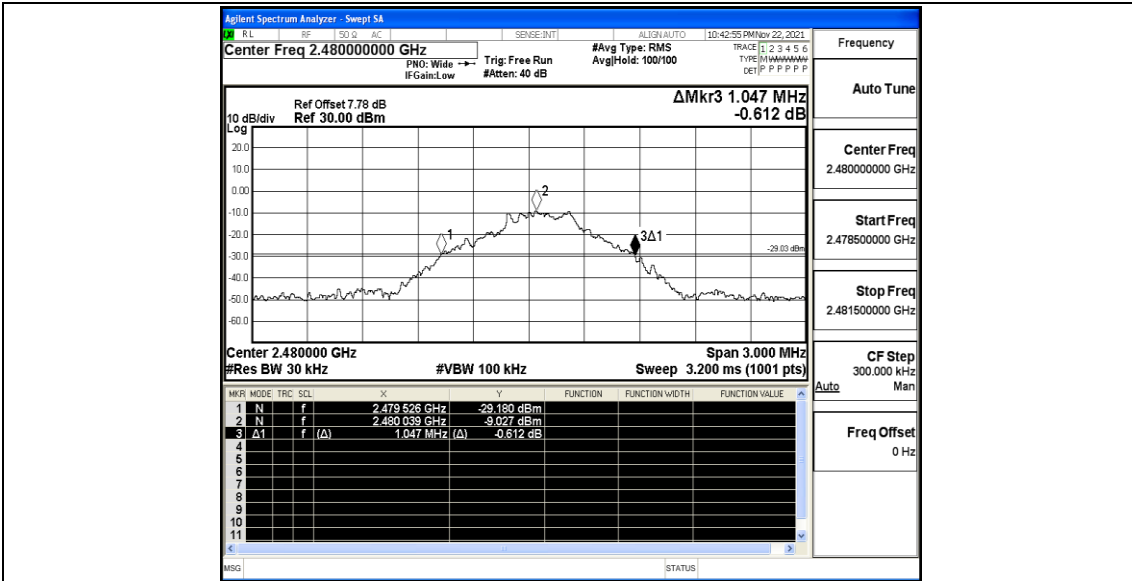
Start Freq 2.439500000 GHz

Stop Freq 2.442500000 GHz

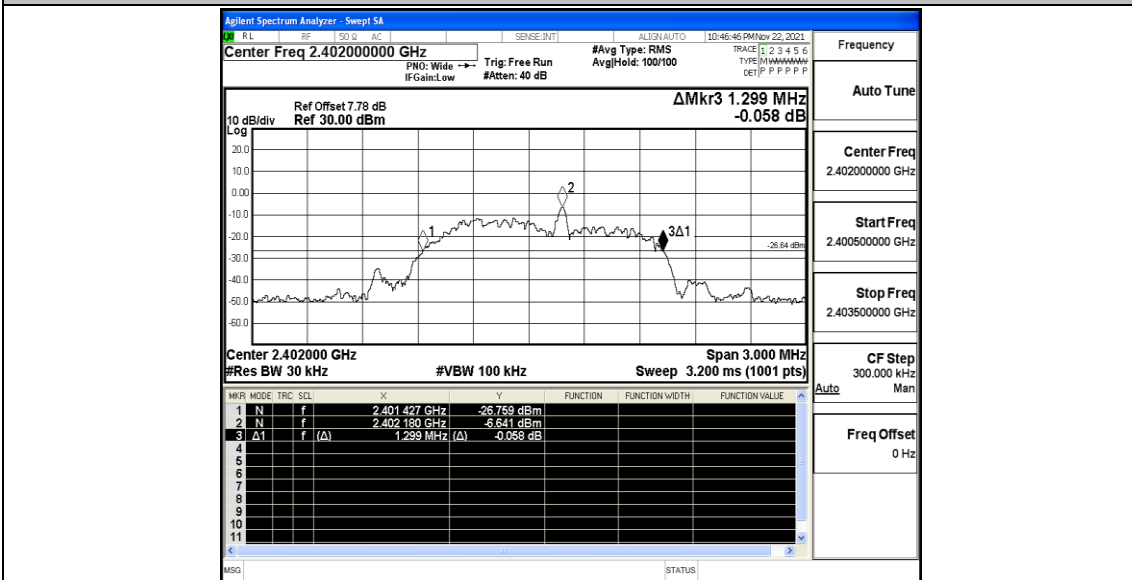
CF Step 300.000 kHz

Freq Offset 0 Hz

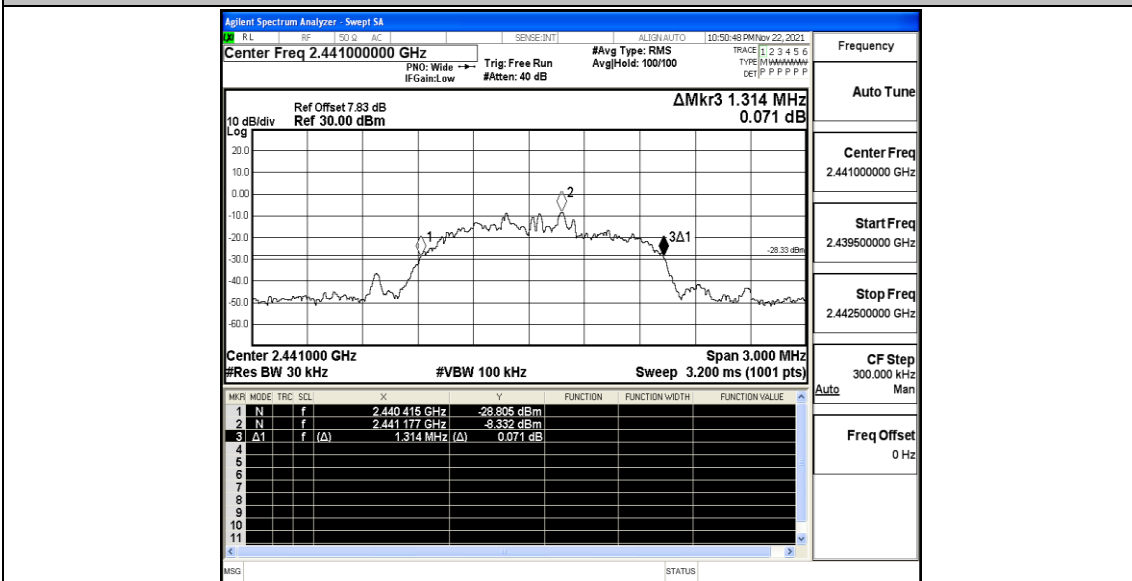
DH5_Ant1_2480



2DH5_Ant1_2402

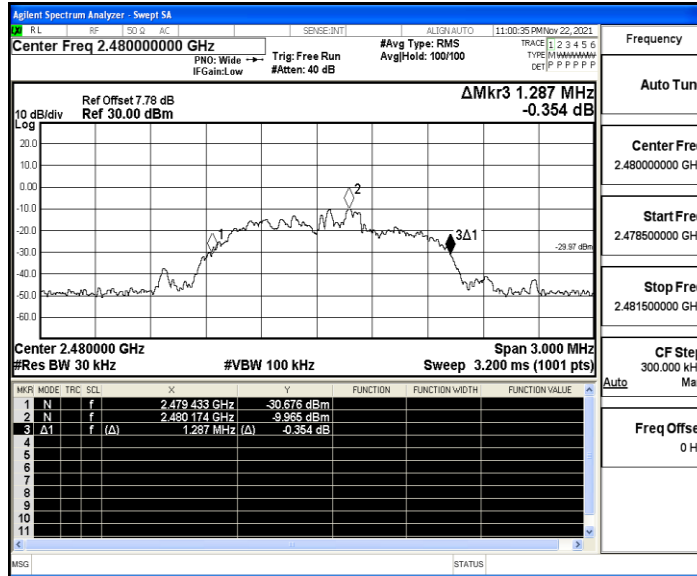


2DH5_Ant1_2441

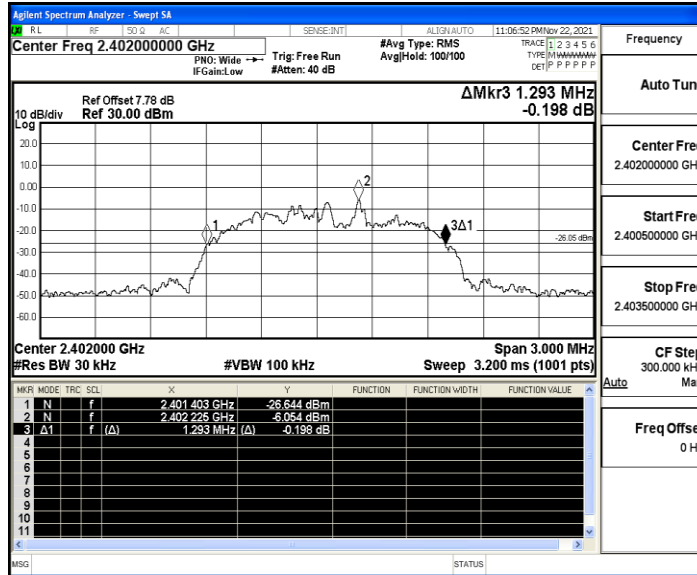




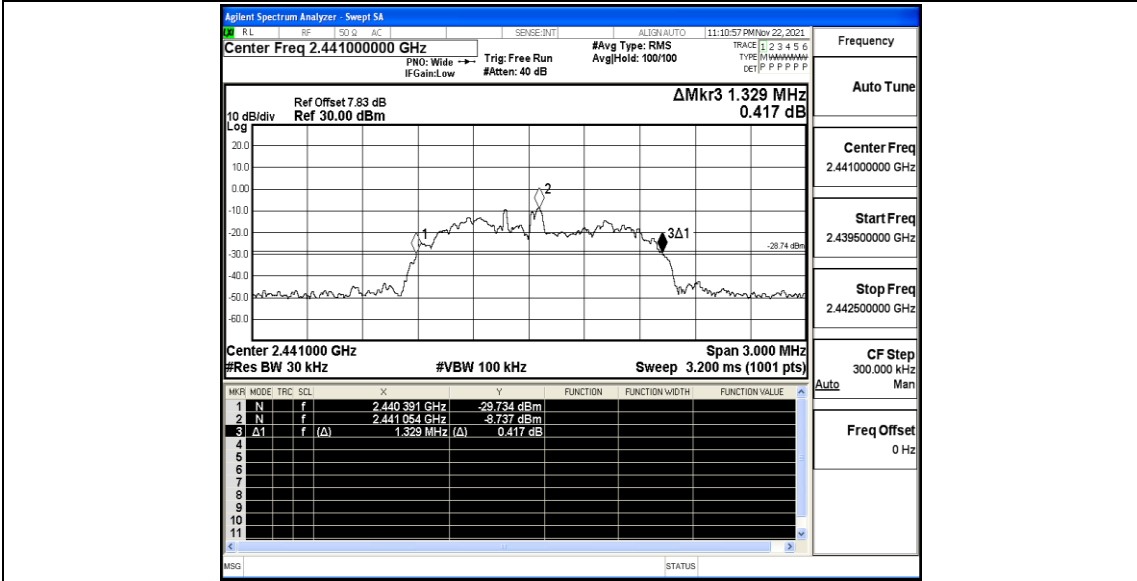
2DH5_Ant1_2480



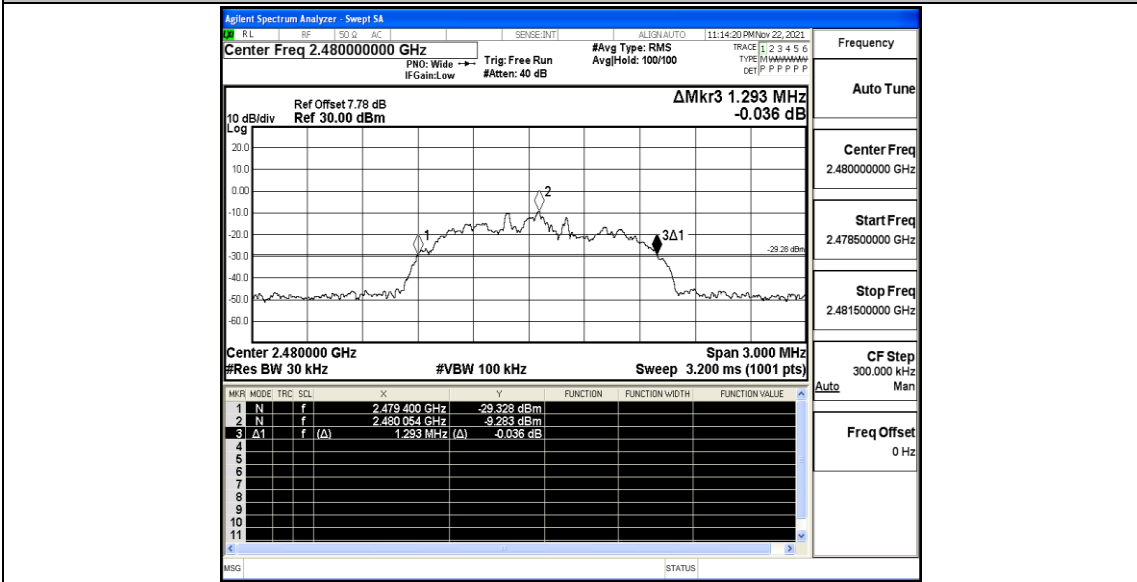
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



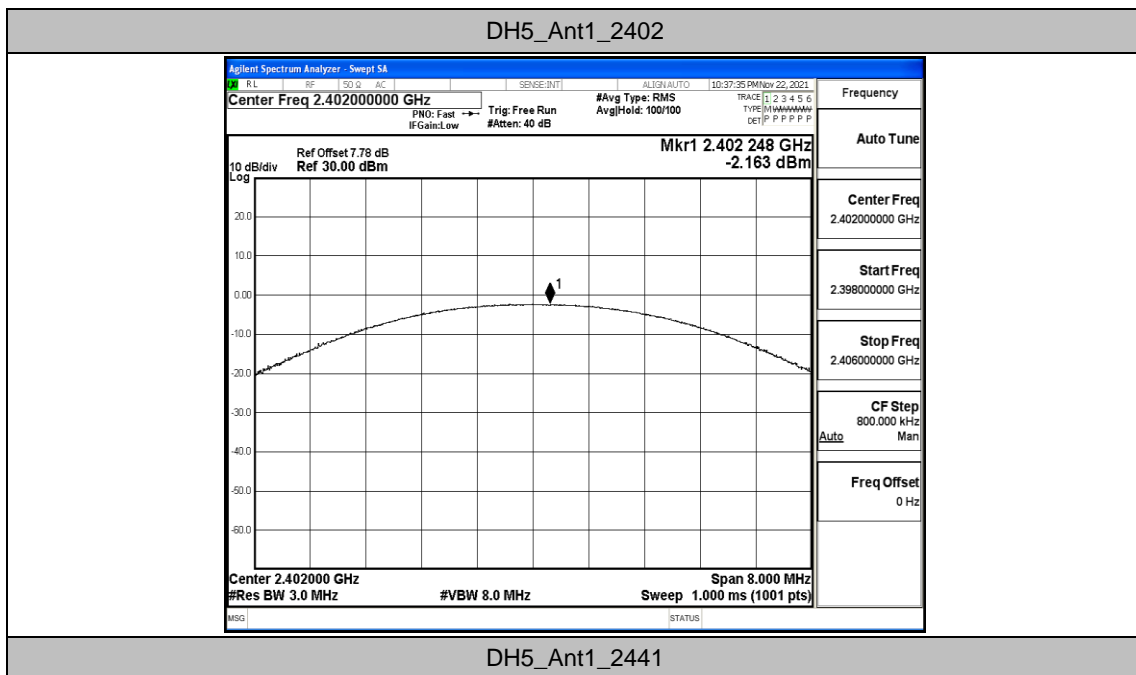


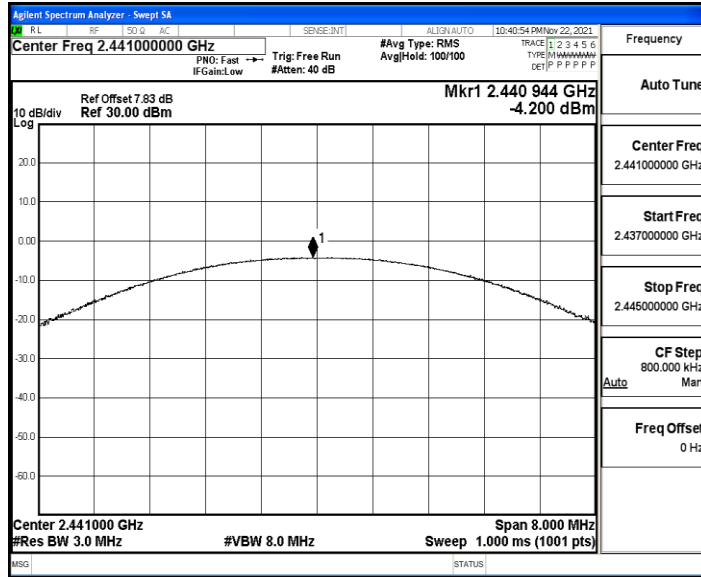
A.2 Maximum conducted output power

Test Result

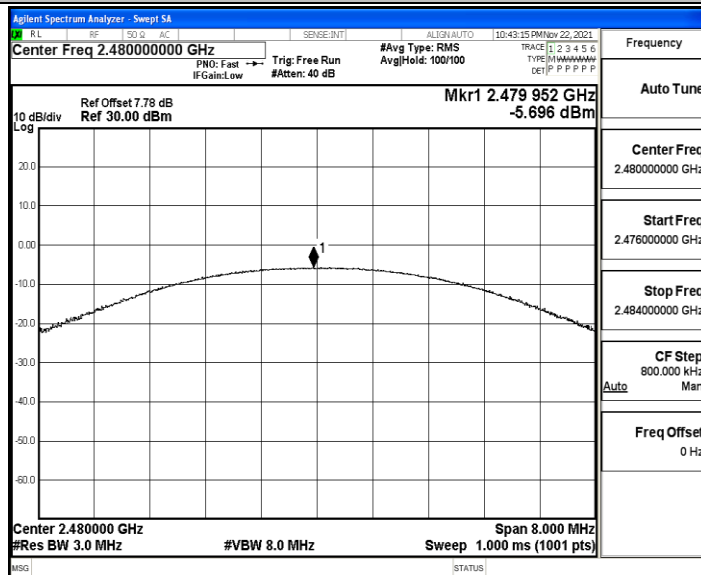
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-2.16	≤20.97	PASS
		2441	-4.2	≤20.97	PASS
		2480	-5.7	≤20.97	PASS
2DH5	Ant1	2402	-2.62	≤20.97	PASS
		2441	-4.33	≤20.97	PASS
		2480	-5.94	≤20.97	PASS
3DH5	Ant1	2402	-2.81	≤20.97	PASS
		2441	-4.4	≤20.97	PASS
		2480	-5.91	≤20.97	PASS

Test Graphs

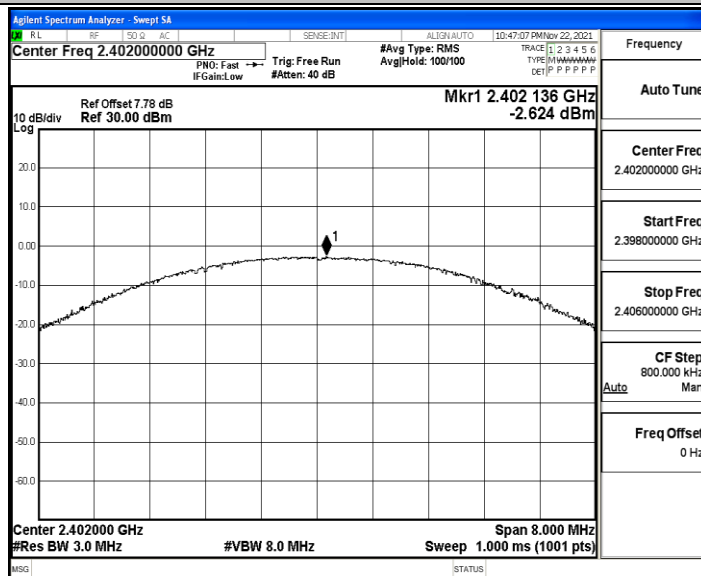




DH5_Ant1_2480

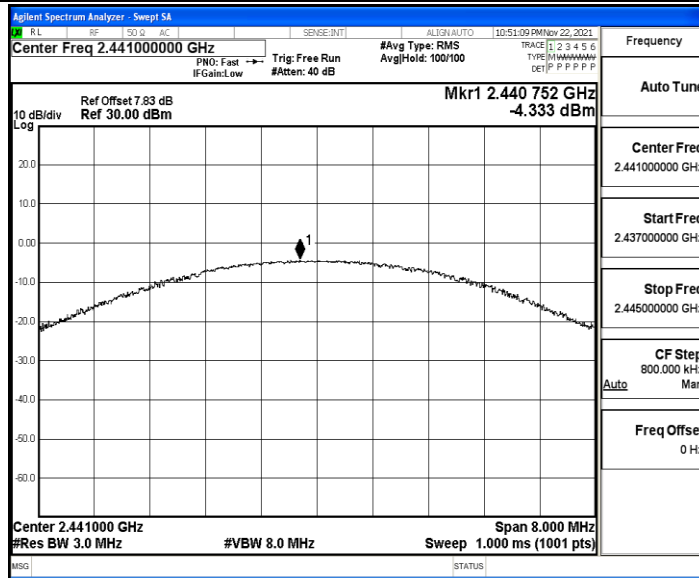


2DH5_Ant1_2402

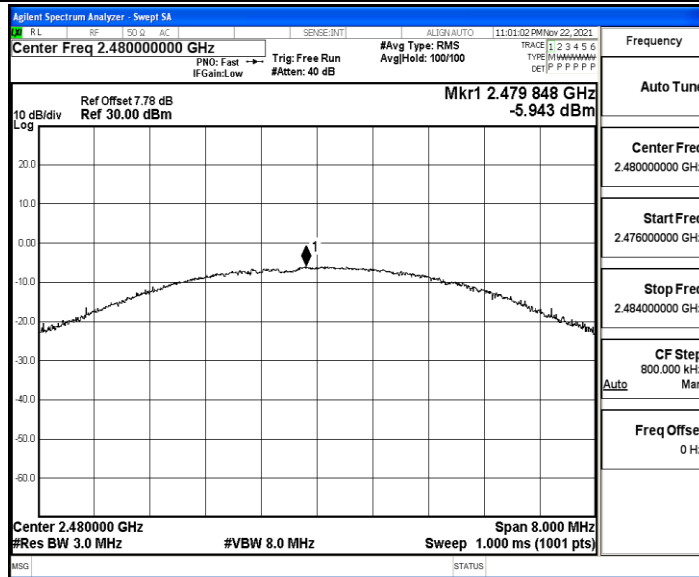




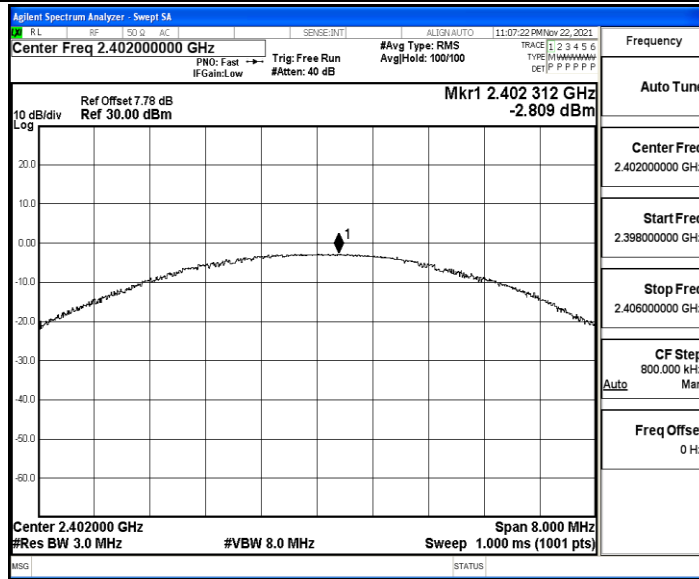
2DH5_Ant1_2441



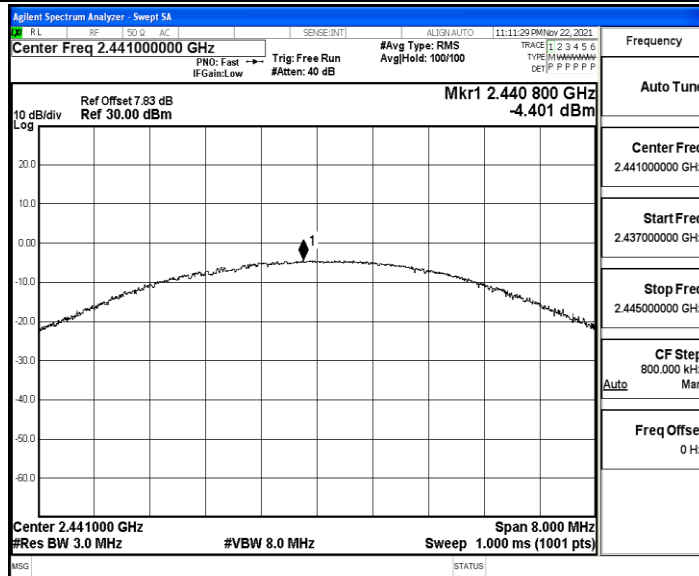
2DH5_Ant1_2480



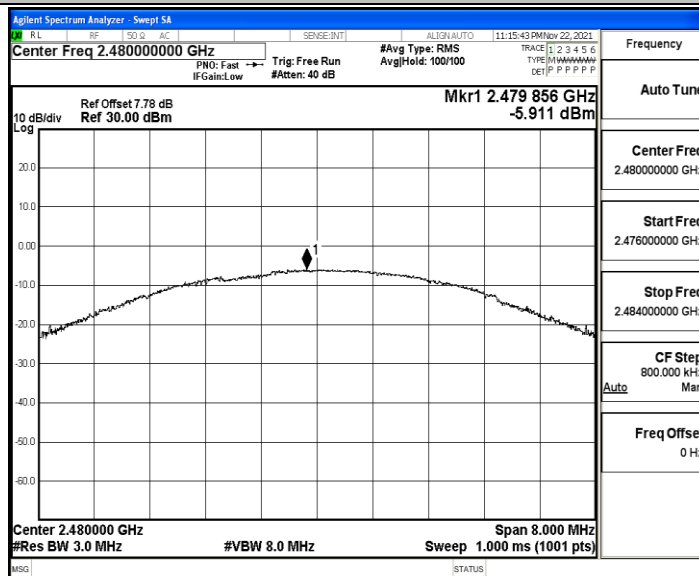
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



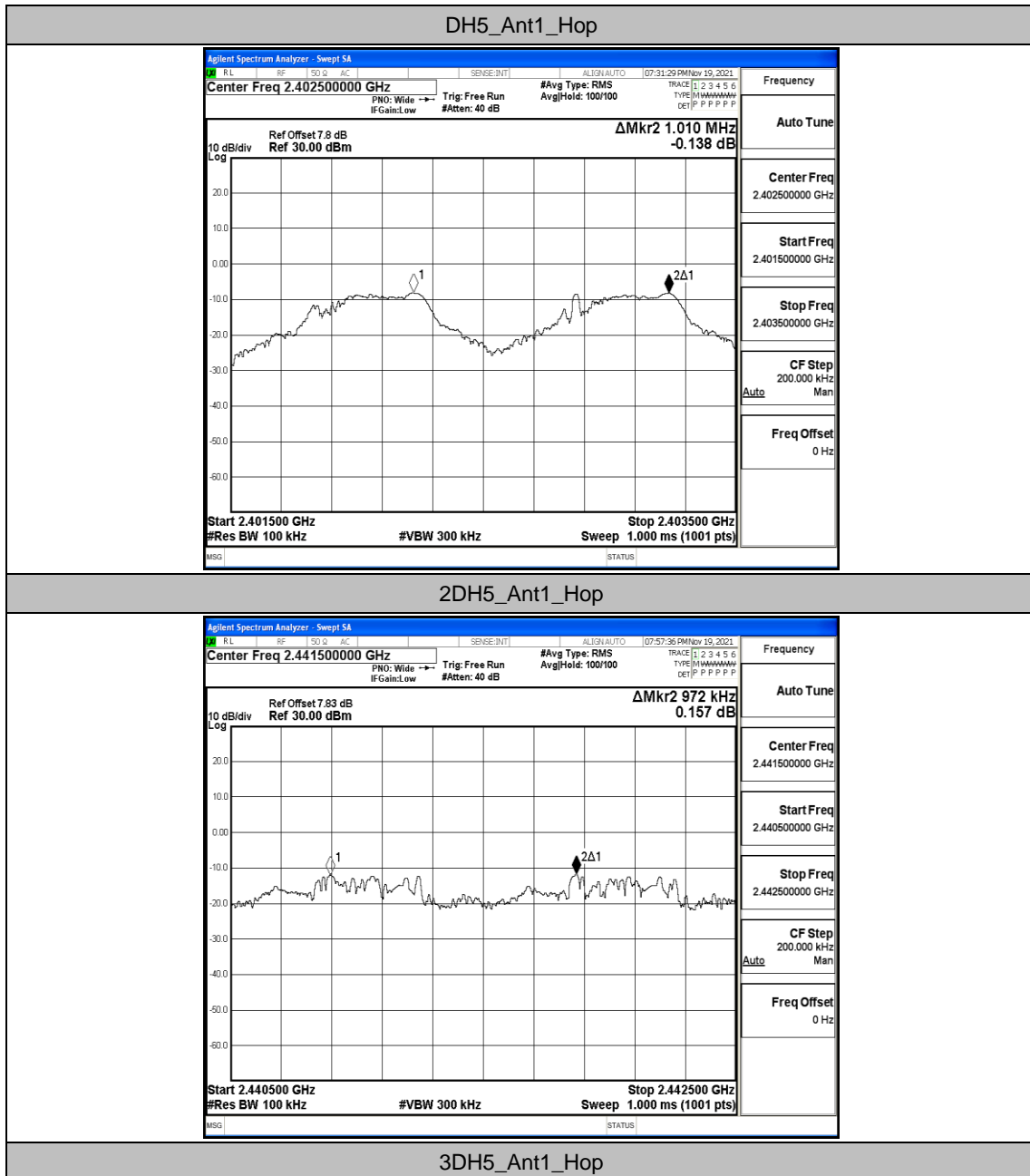


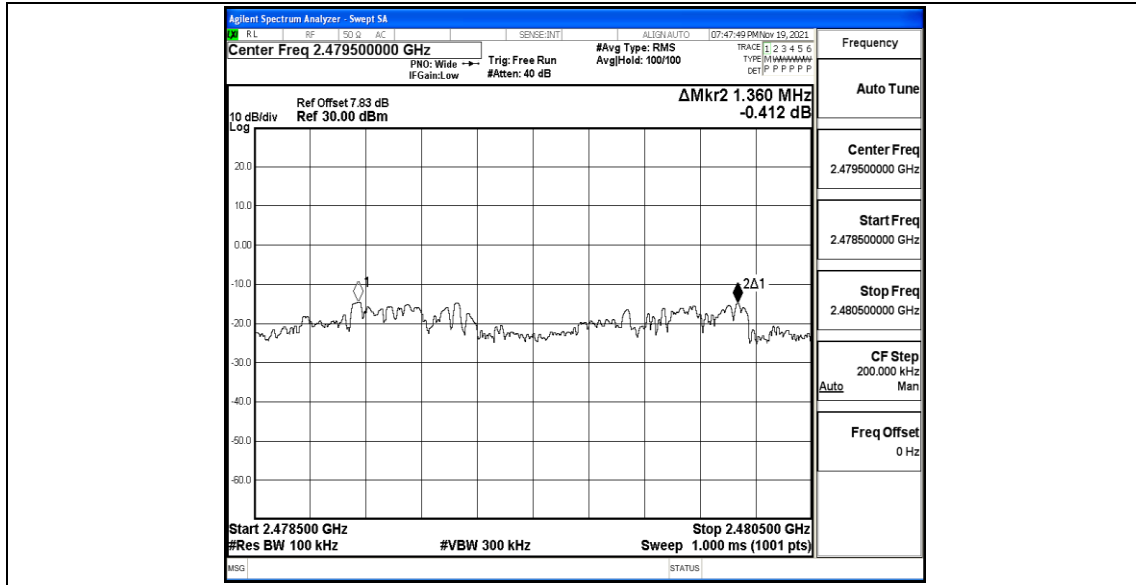
A.3 Carrier frequency separation

Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.01	≥0.698	PASS
2DH5	Ant1	Hop	0.972	≥0.876	PASS
3DH5	Ant1	Hop	1.36	≥0.886	PASS

Test Graphs







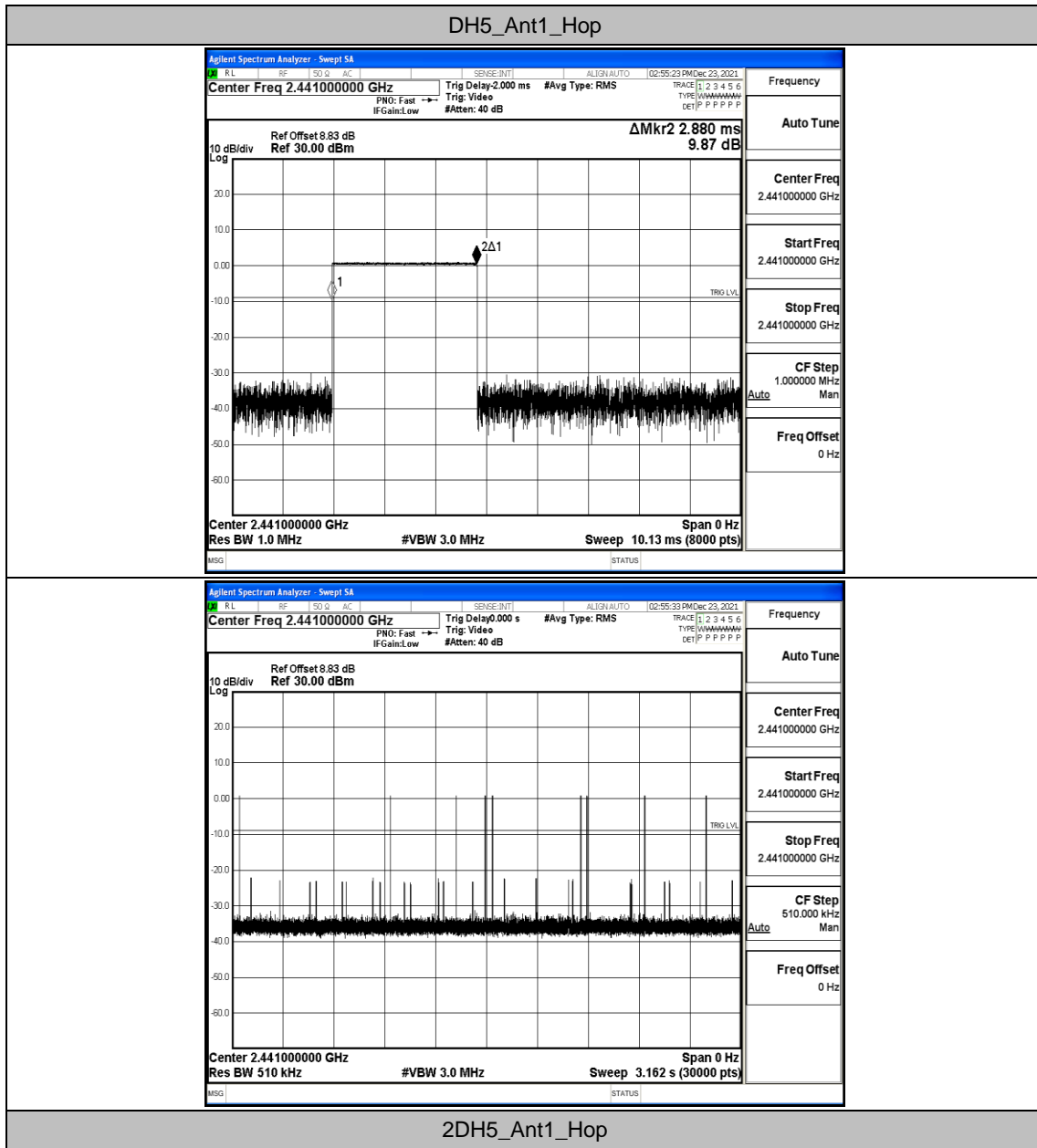
A.4 Time of occupancy

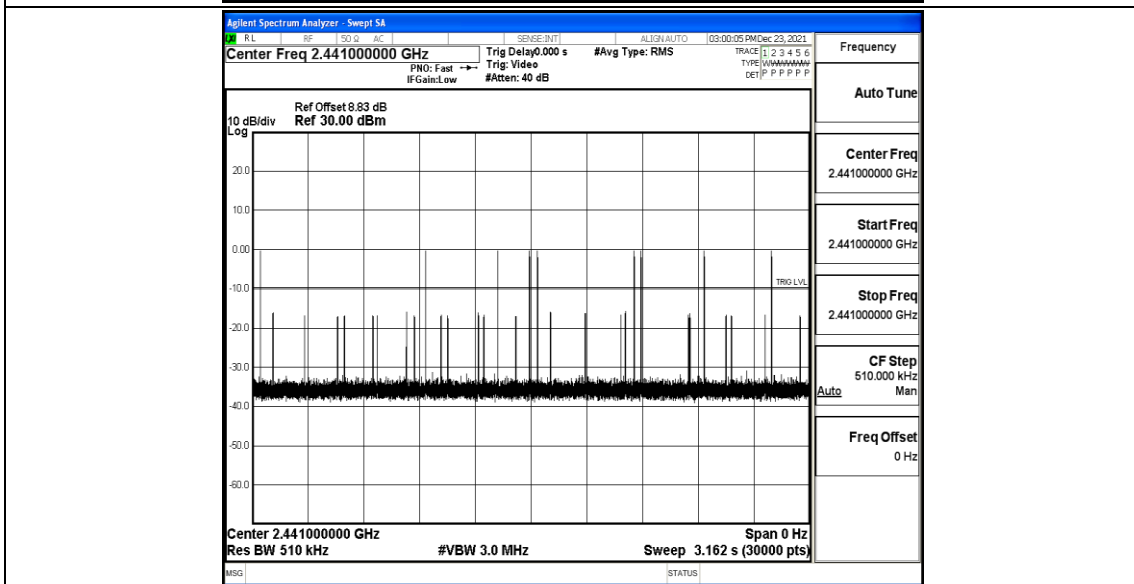
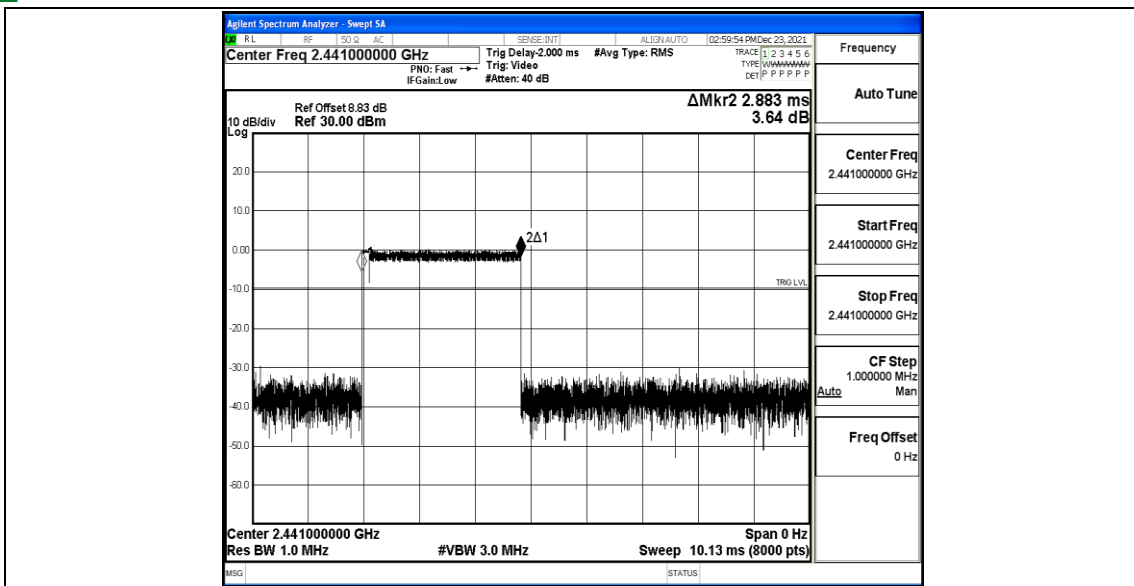
Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	100	0.288	≤0.4	PASS
2DH5	Ant1	Hop	2.88	100	0.288	≤0.4	PASS
3DH5	Ant1	Hop	2.89	100	0.289	≤0.4	PASS

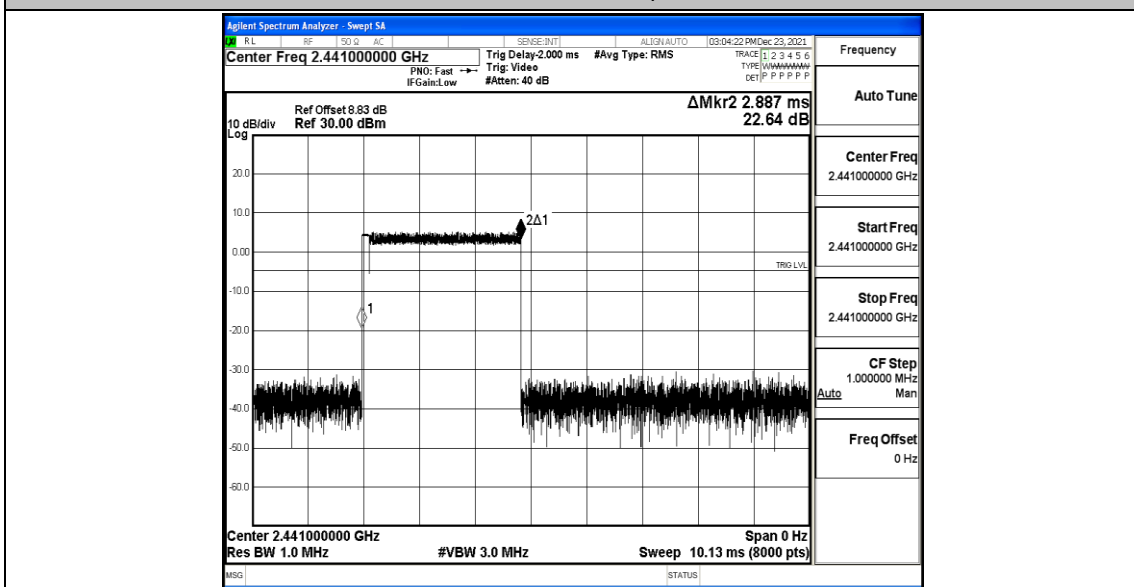


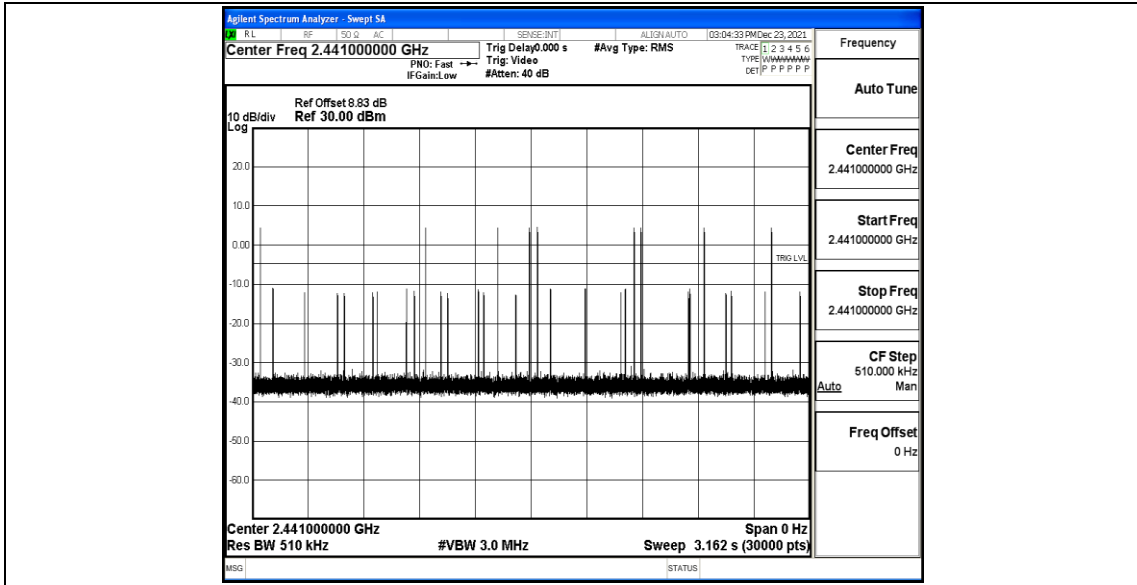
Test Graphs





3DH5_Ant1_Hop





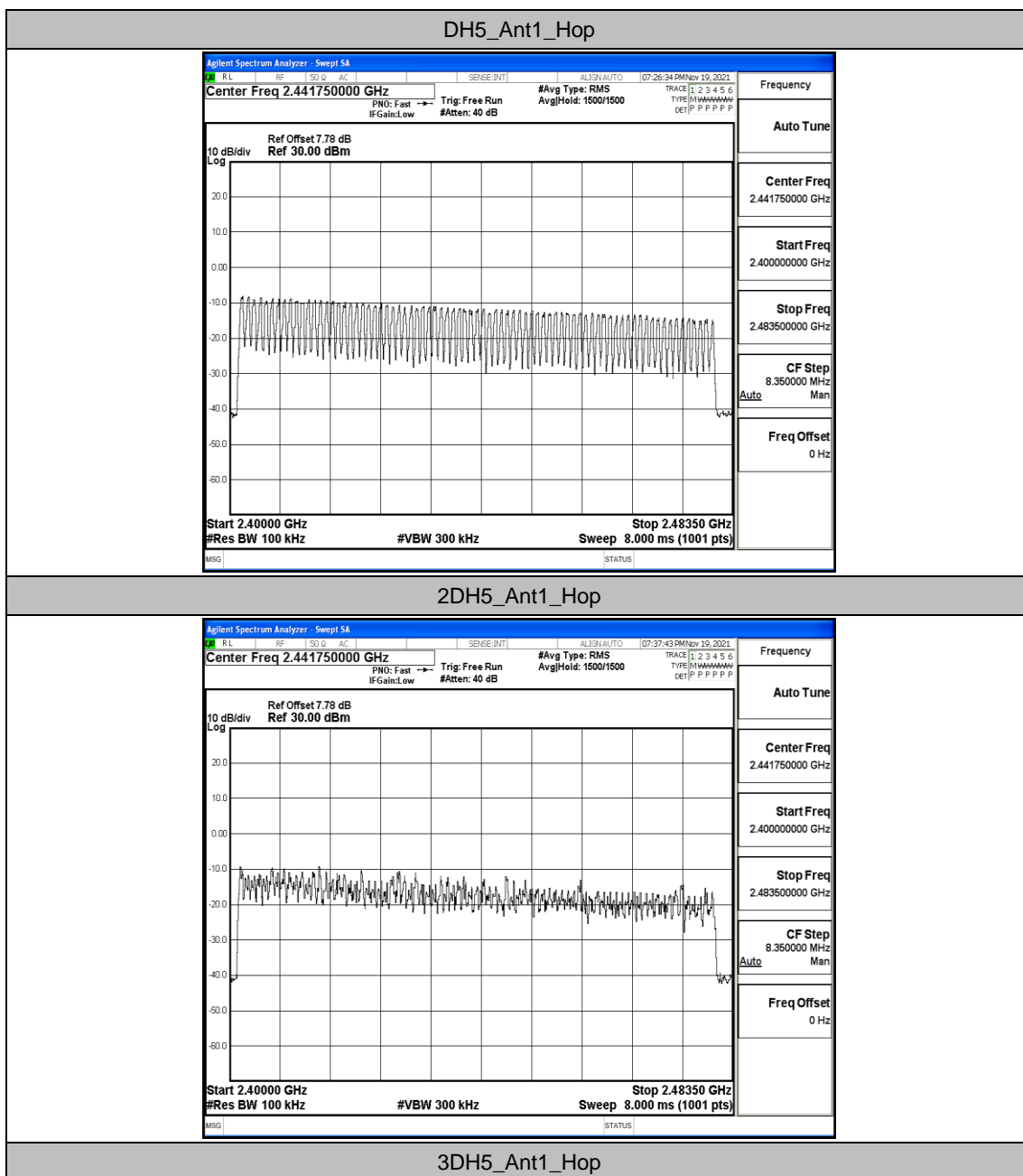


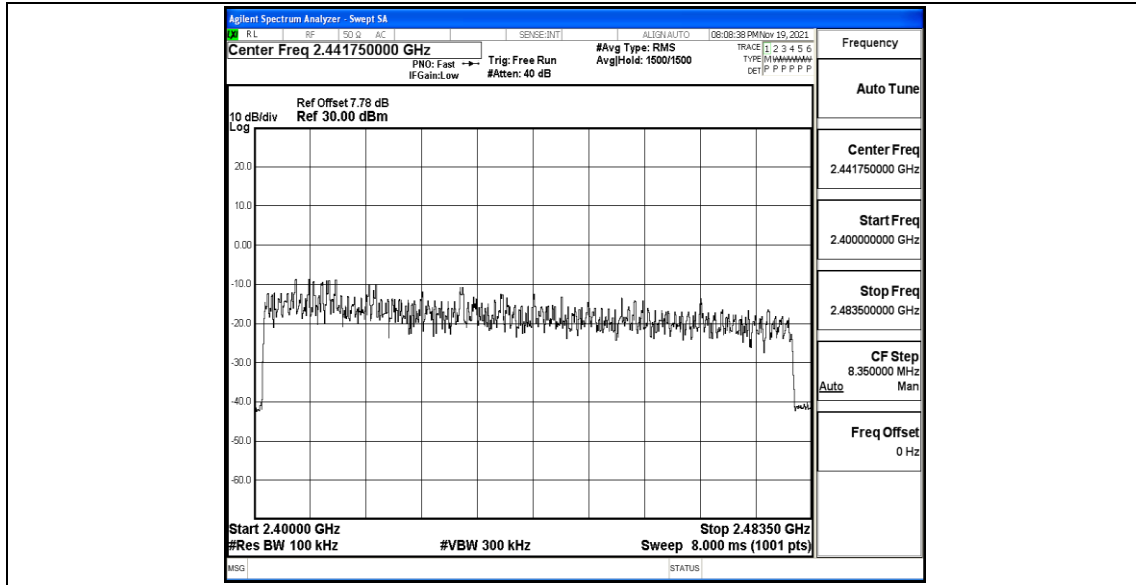
A.5 Number of hopping channels

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







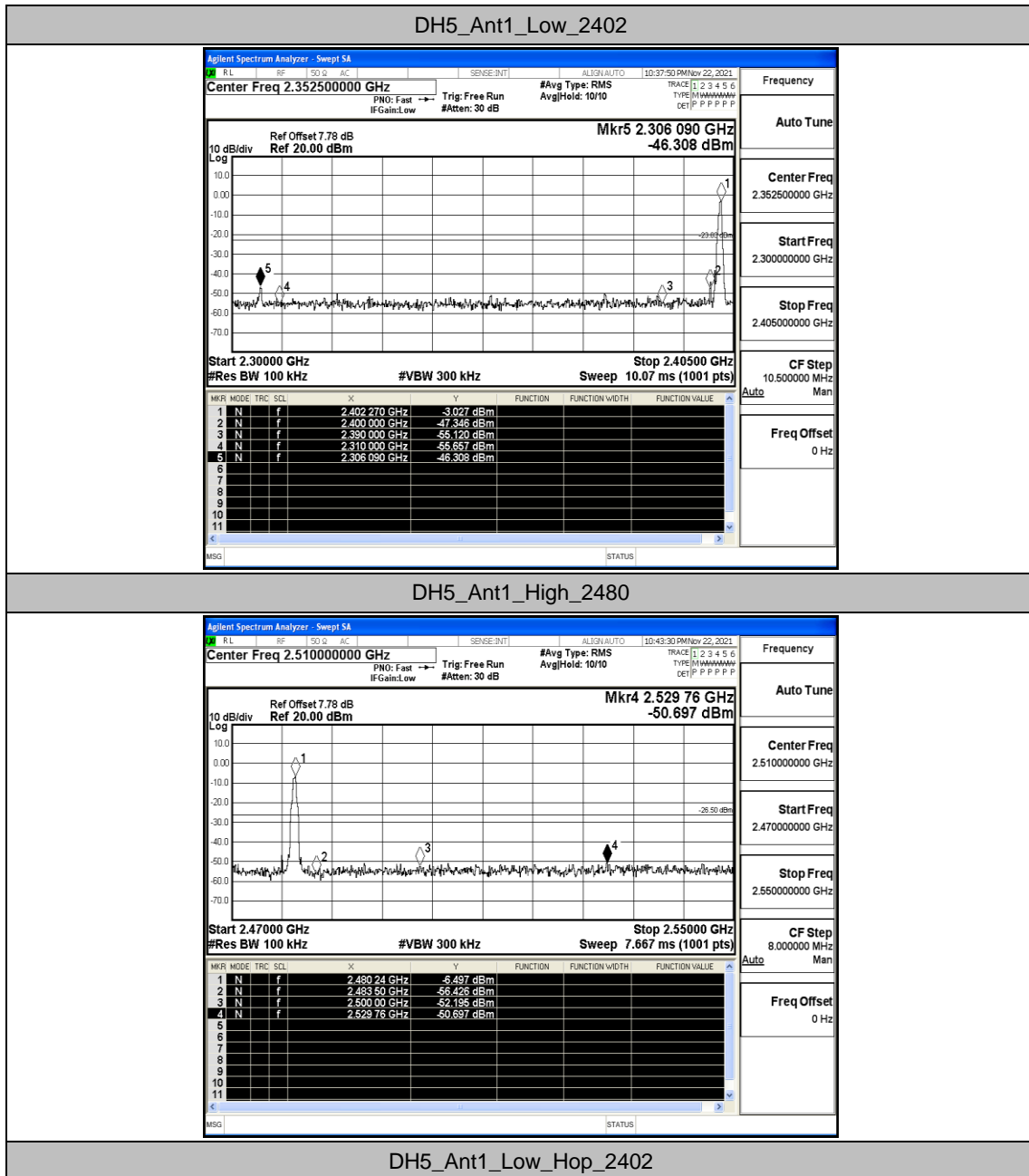
A.6 Band edge measurements

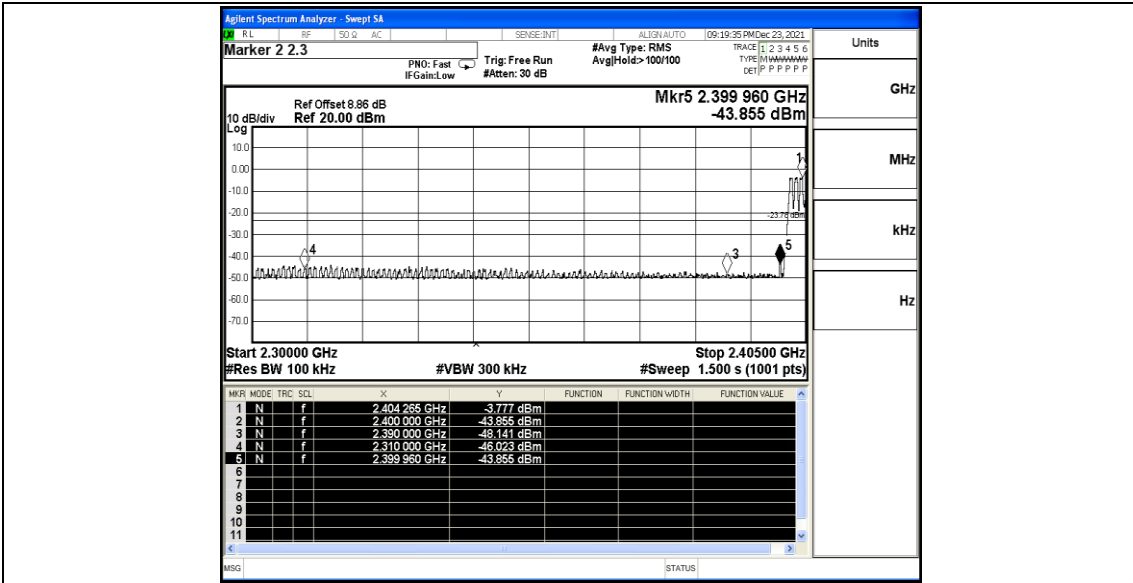
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-3.03	-46.31	≤-23.03	PASS
		High	2480	-6.50	-50.7	≤-26.5	PASS
		Low	Hop_2402	-3.78	-43.86	≤-23.78	PASS
		High	Hop_2480	-6.95	-46.48	≤-26.95	PASS
2DH5	Ant1	Low	2402	-6.68	-44.9	≤-26.68	PASS
		High	2480	-6.66	-50.41	≤-26.66	PASS
		Low	Hop_2402	-5.45	-46.24	≤-25.45	PASS
		High	Hop_2480	-7.31	-46.62	≤-27.31	PASS
3DH5	Ant1	Low	2402	-4.59	-45.83	≤-24.59	PASS
		High	2480	-10.36	-49.91	≤-30.36	PASS
		Low	Hop_2402	-5.23	-44.95	≤-25.23	PASS
		High	Hop_2480	-7.41	-47.35	≤-27.41	PASS

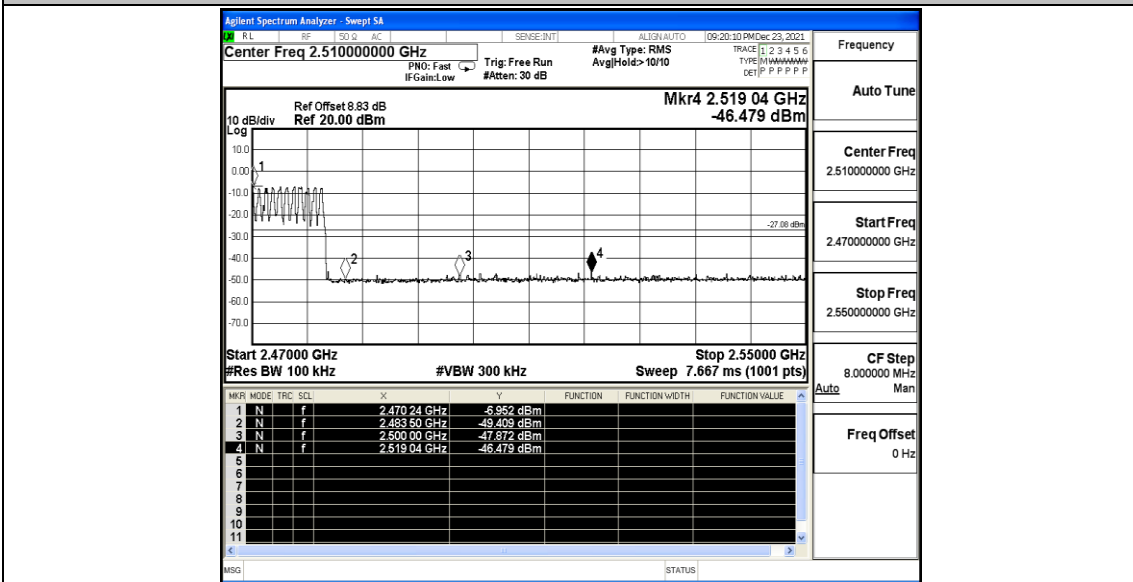


Test Graphs

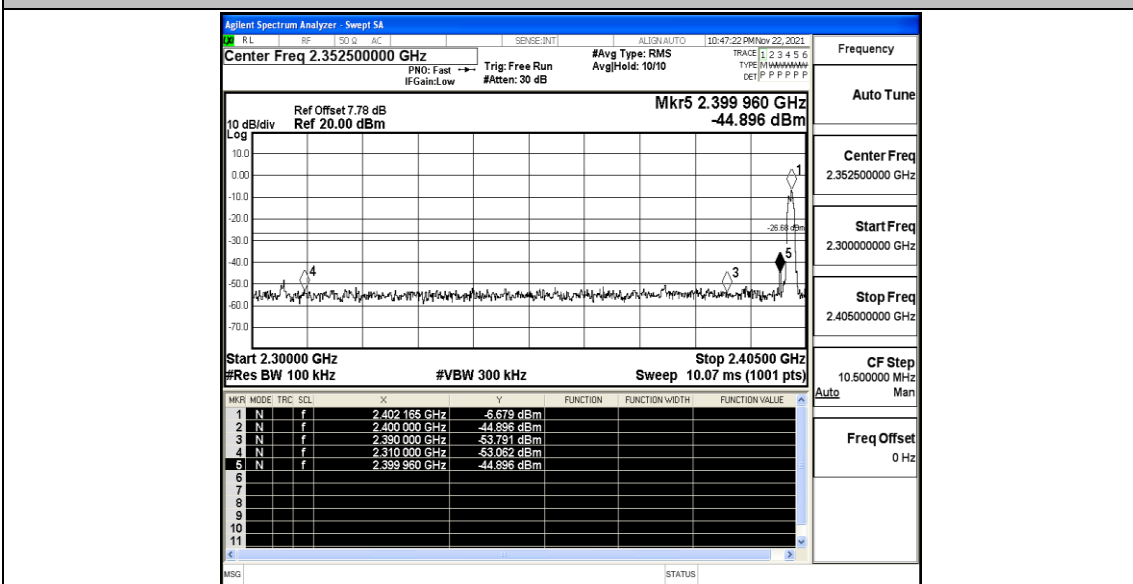




DH5_Ant1_Low_Hop_2480

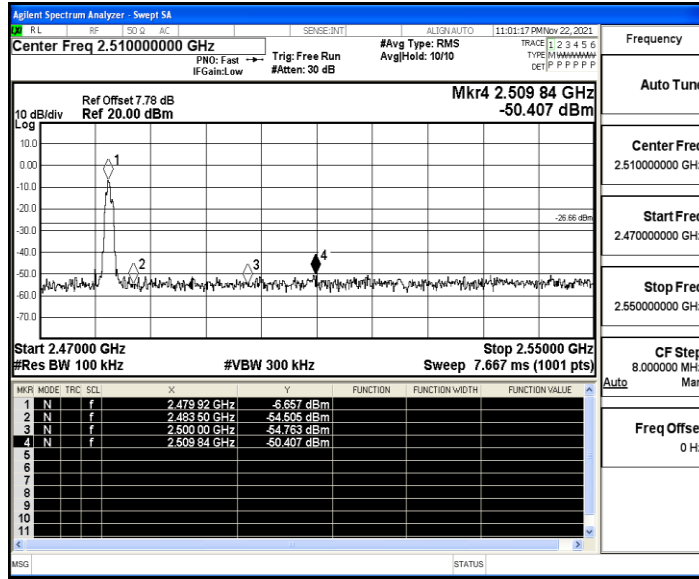


2DH5_Ant1_Low_2402

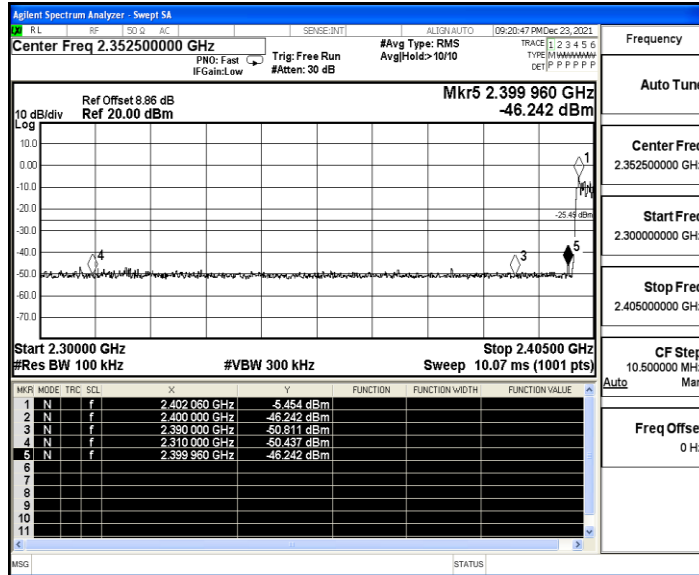




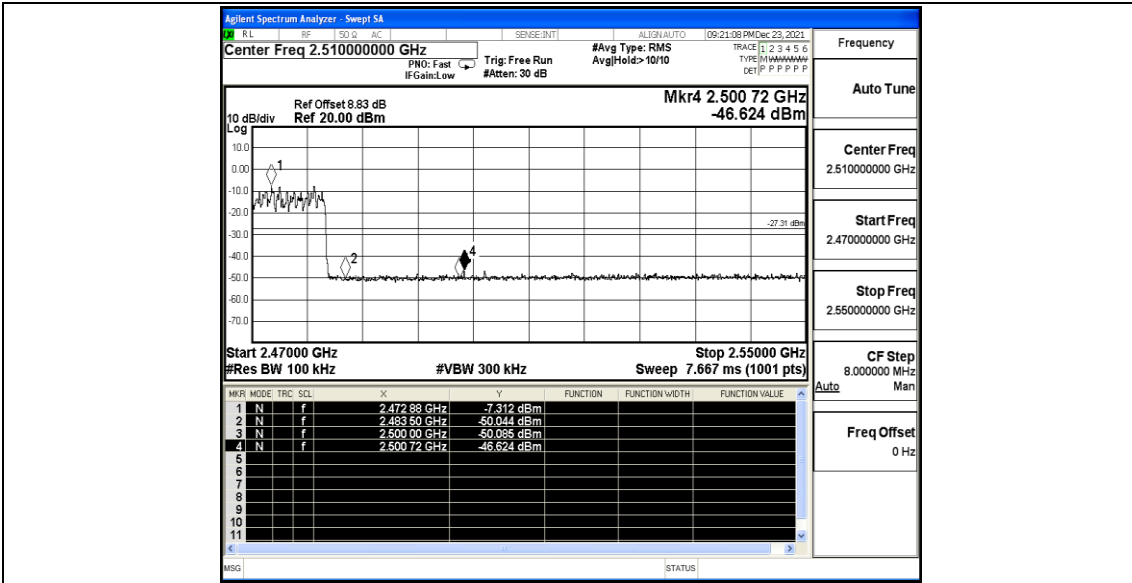
2DH5_Ant1_High_2480



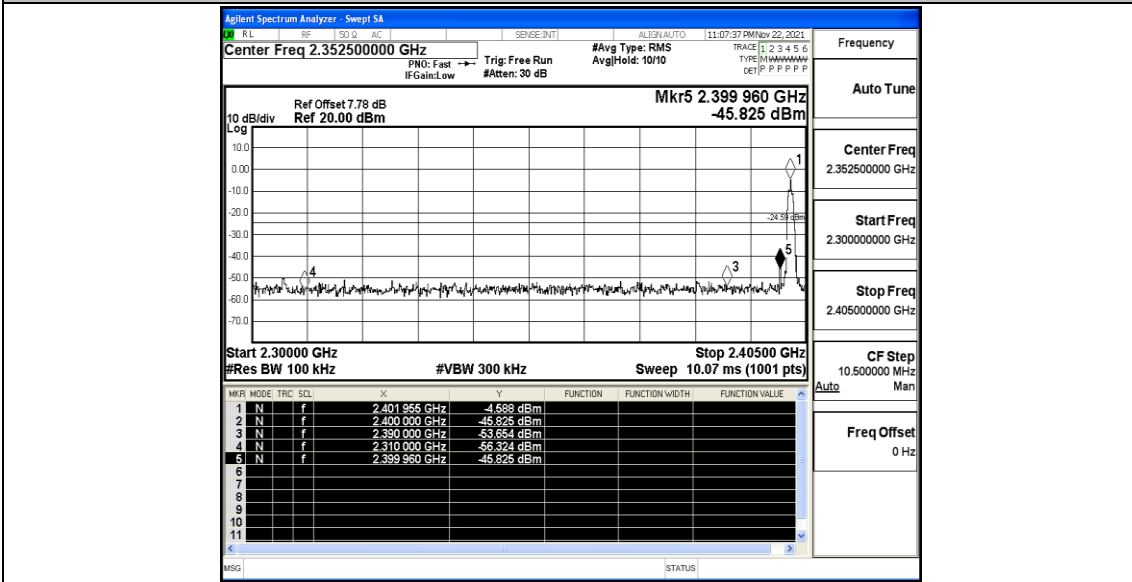
2DH5_Ant1_Low_Hop_2402



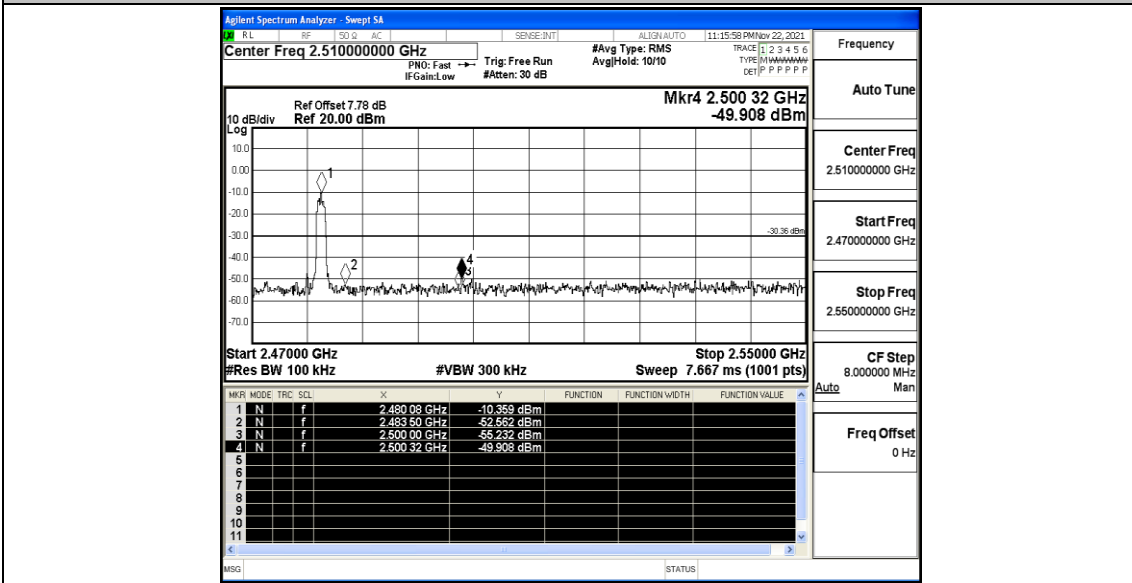
2DH5_Ant1_High_Hop_2480



3DH5_Ant1_Low_2402

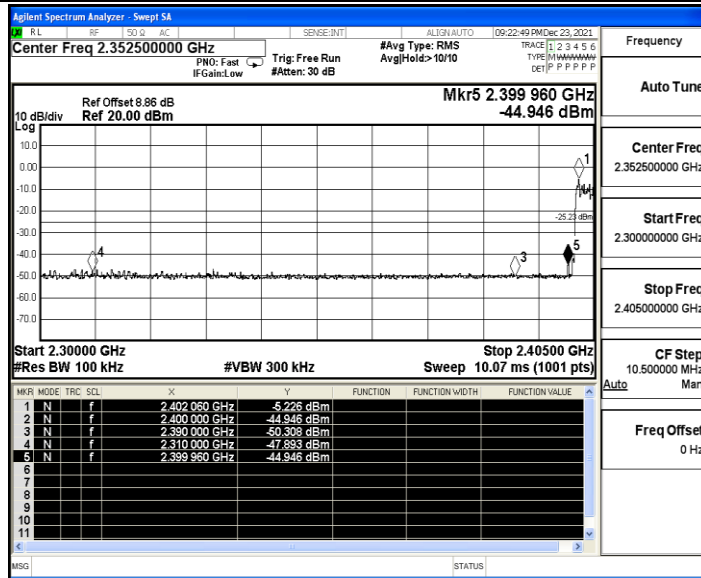


3DH5_Ant1_High_2480

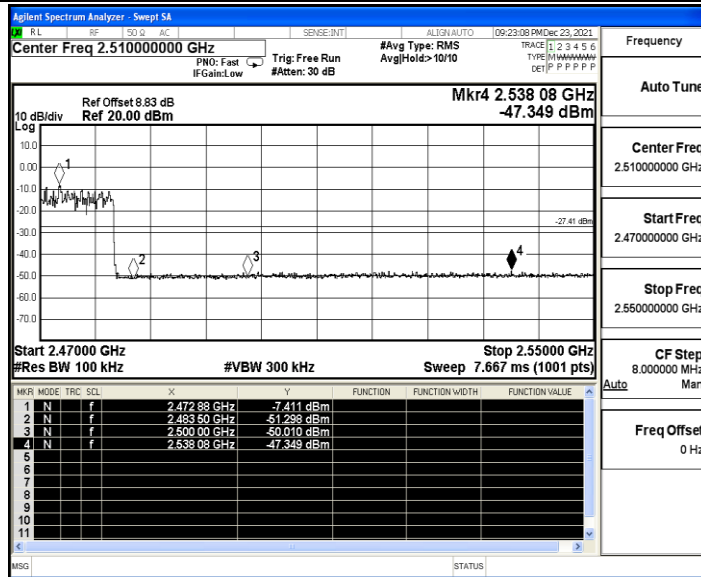




3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480





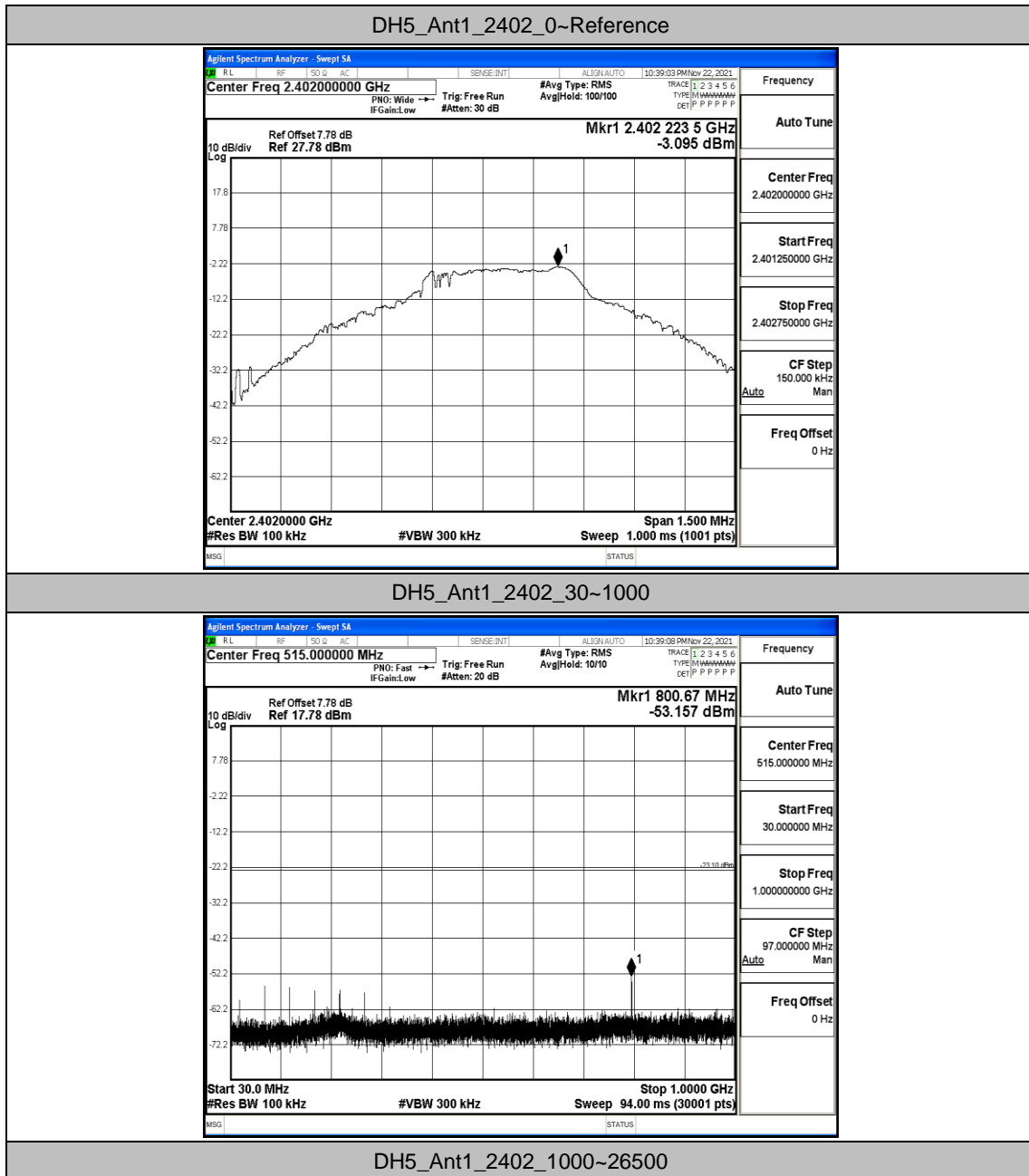
A.7 Conducted Spurious Emission

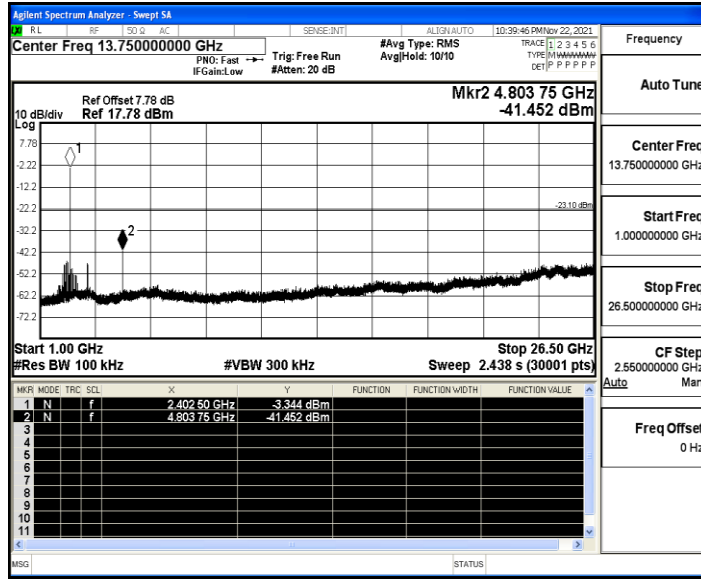
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-3.10	-3.10	---	PASS
			30~1000	-3.10	-53.16	≤-23.1	PASS
			1000~26500	-3.10	-41.45	≤-23.1	PASS
		2441	Reference	-4.92	-4.92	---	PASS
			30~1000	-4.92	-53.86	≤-24.92	PASS
			1000~26500	-4.92	-47.18	≤-24.92	PASS
		2480	Reference	-6.57	-6.57	---	PASS
			30~1000	-6.57	-54.95	≤-26.57	PASS
			1000~26500	-6.57	-47.43	≤-26.57	PASS
2DH5	Ant1	2402	Reference	-3.28	-3.28	---	PASS
			30~1000	-3.28	-54.77	≤-23.28	PASS
			1000~26500	-3.28	-44.92	≤-23.28	PASS
		2441	Reference	-5.09	-5.09	---	PASS
			30~1000	-5.09	-54.56	≤-25.09	PASS
			1000~26500	-5.09	-47.15	≤-25.09	PASS
		2480	Reference	-6.97	-6.97	---	PASS
			30~1000	-6.97	-54.55	≤-26.97	PASS
			1000~26500	-6.97	-47.29	≤-26.97	PASS
3DH5	Ant1	2402	Reference	-3.63	-3.63	---	PASS
			30~1000	-3.63	-54.9	≤-23.63	PASS
			1000~26500	-3.63	-46.72	≤-23.63	PASS
		2441	Reference	-6.11	-6.11	---	PASS
			30~1000	-6.11	-54.95	≤-26.11	PASS
			1000~26500	-6.11	-46.86	≤-26.11	PASS
		2480	Reference	-7.18	-7.18	---	PASS
			30~1000	-7.18	-54.9	≤-27.18	PASS
			1000~26500	-7.18	-46.93	≤-27.18	PASS

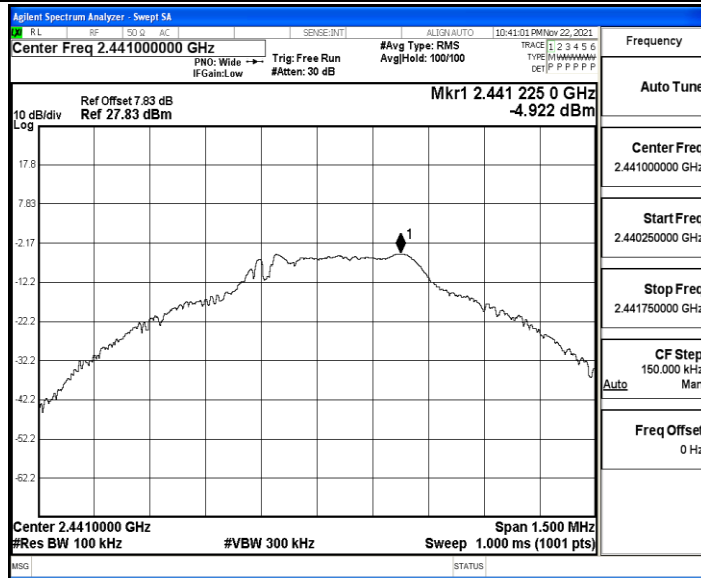


Test Graphs

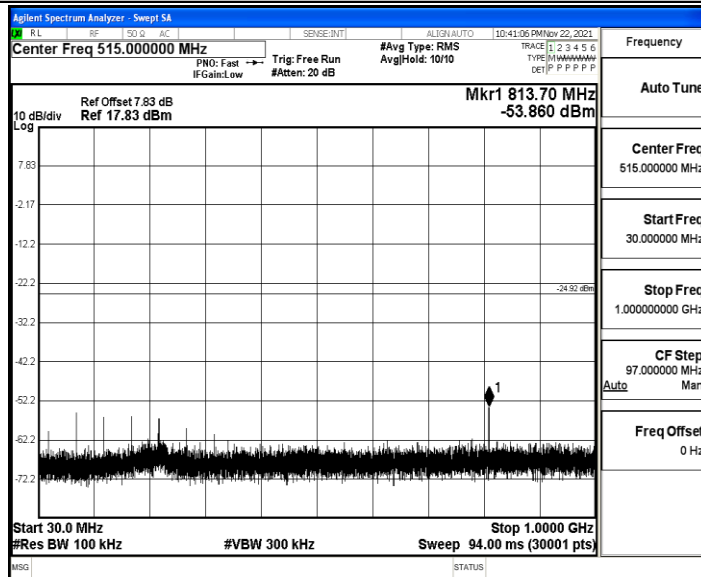




DH5_Ant1_2441_0-Reference

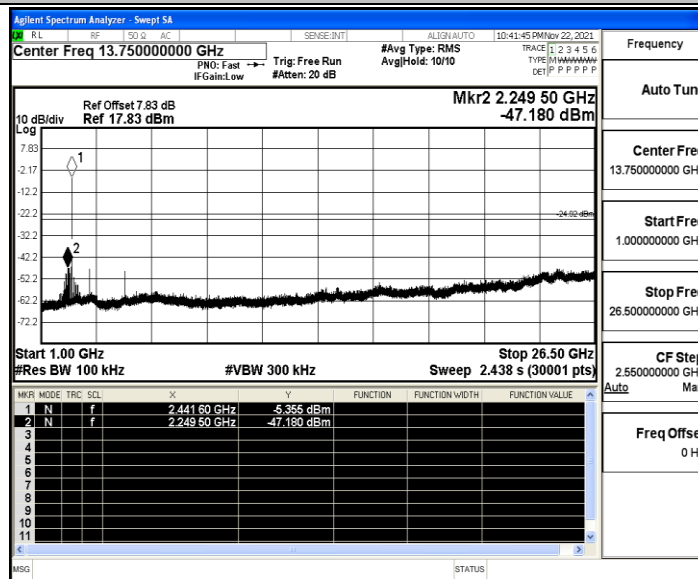


DH5_Ant1_2441_30~1000

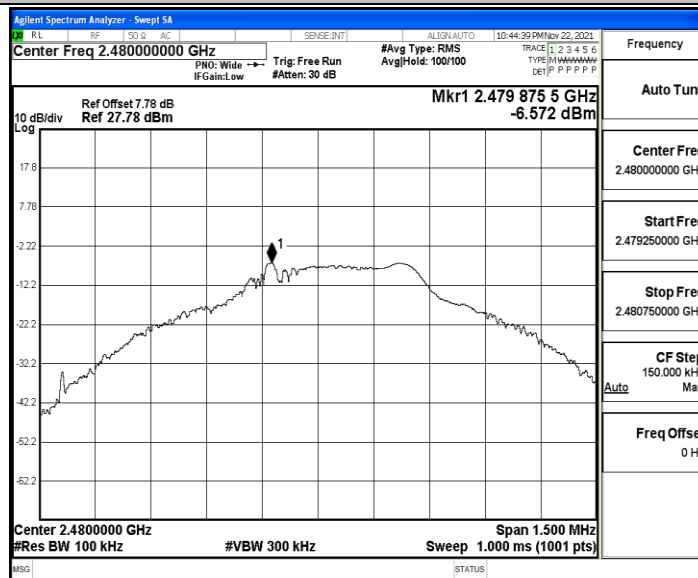




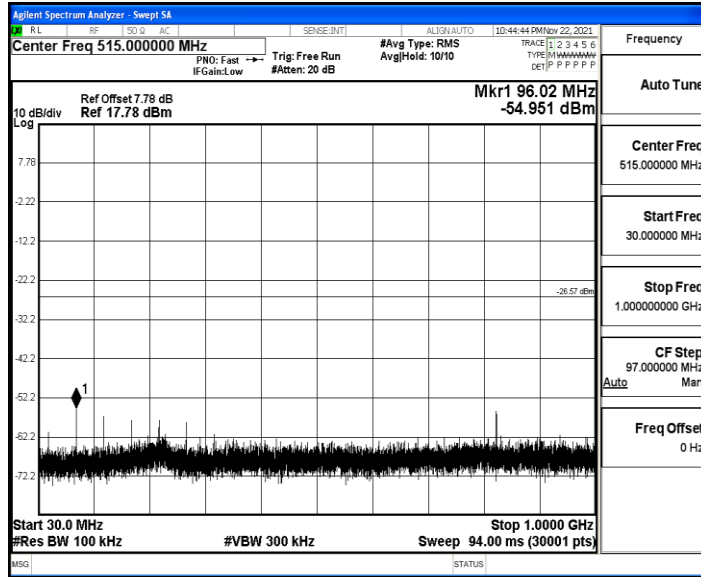
DH5_Ant1_2441_1000~26500



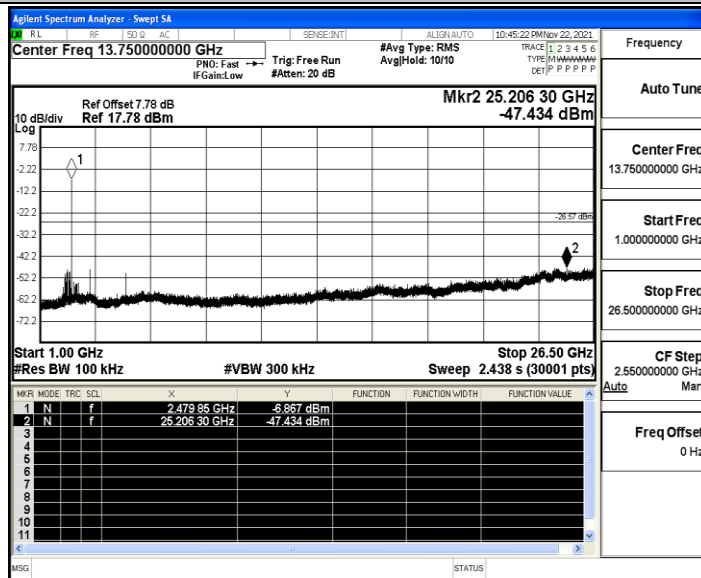
DH5_Ant1_2480_0~Reference



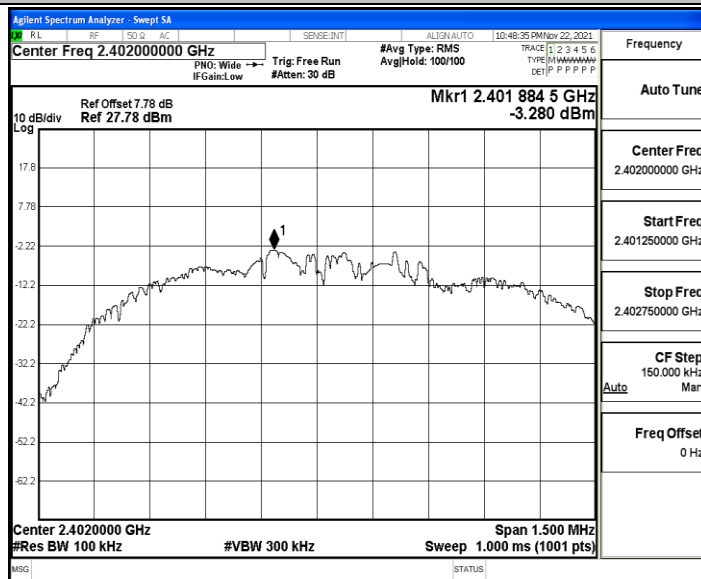
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

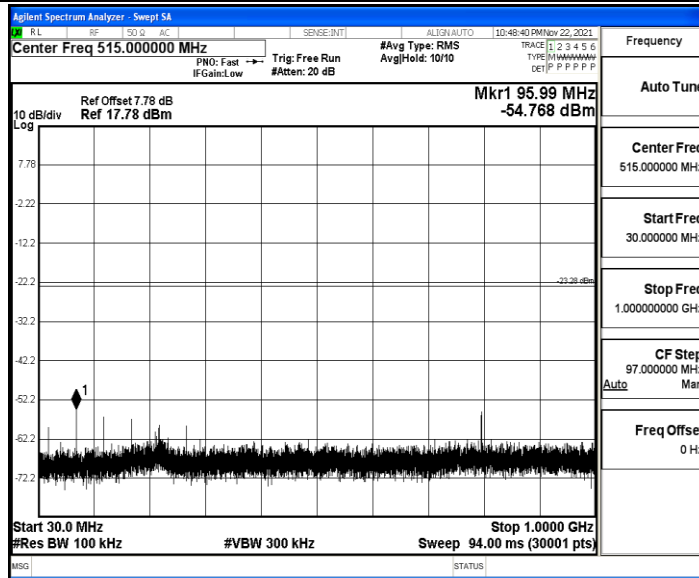


2DH5_Ant1_2402_0~Reference

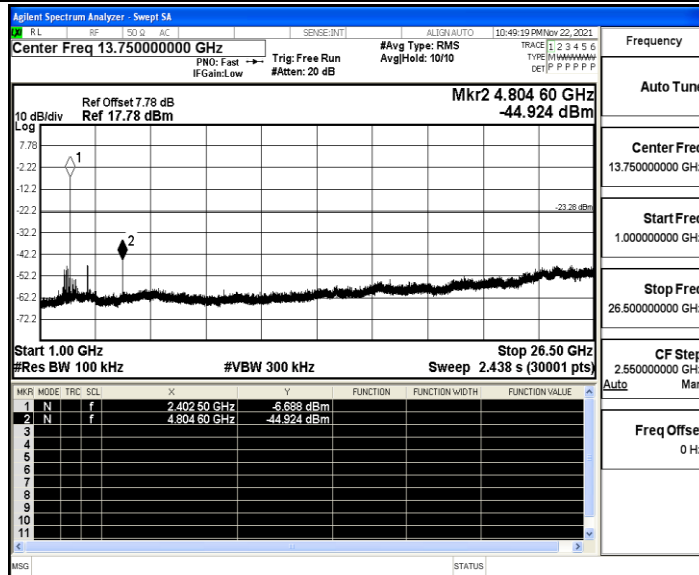




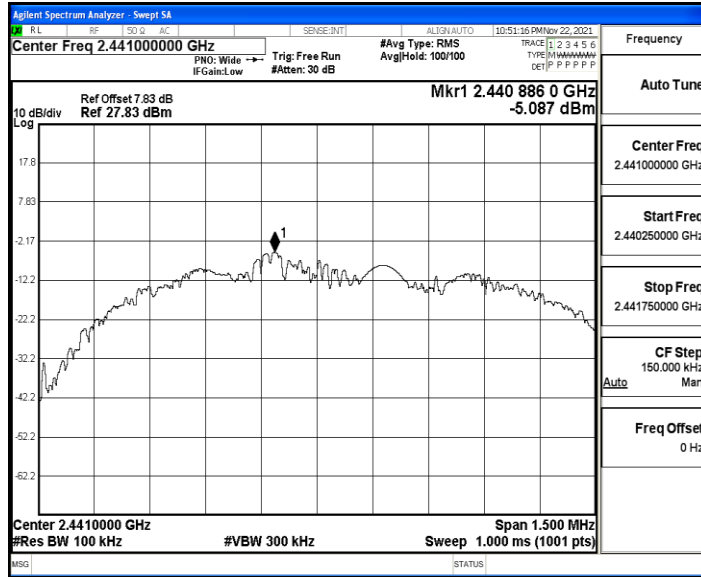
2DH5_Ant1_2402_30~1000



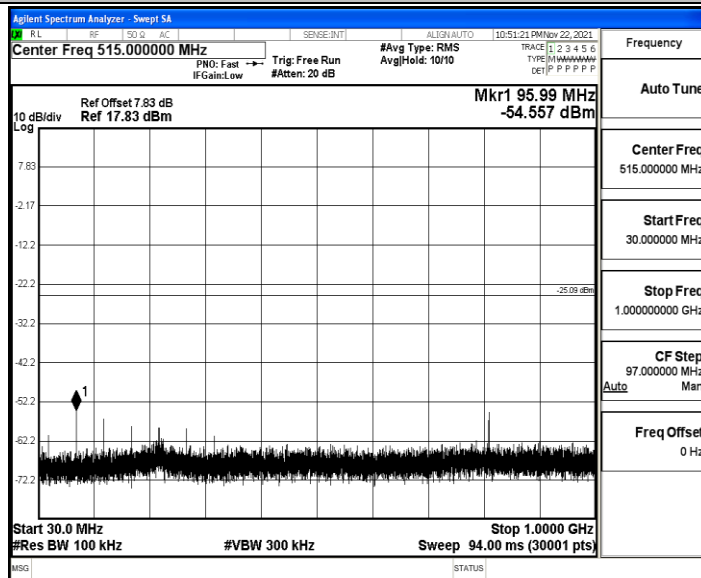
2DH5_Ant1_2402_1000~26500



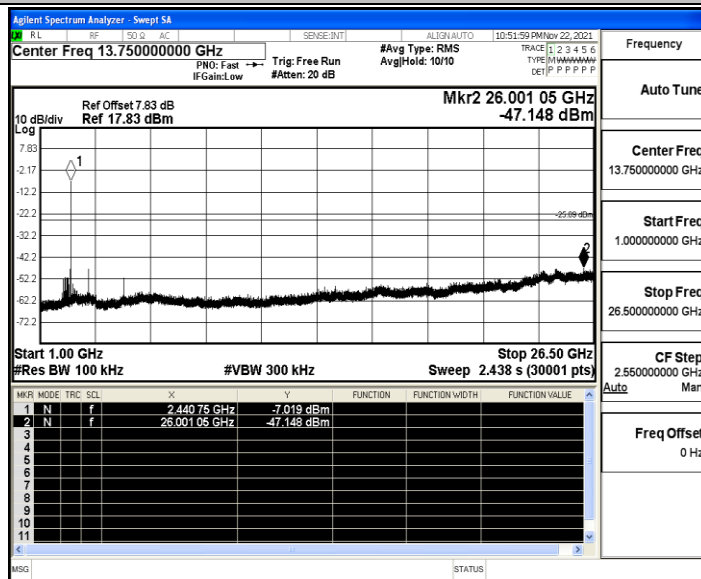
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000

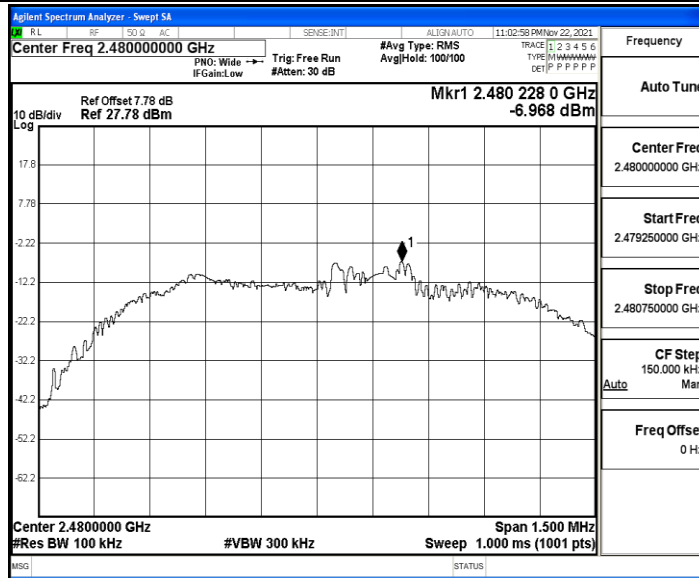


2DH5_Ant1_2441_1000~26500

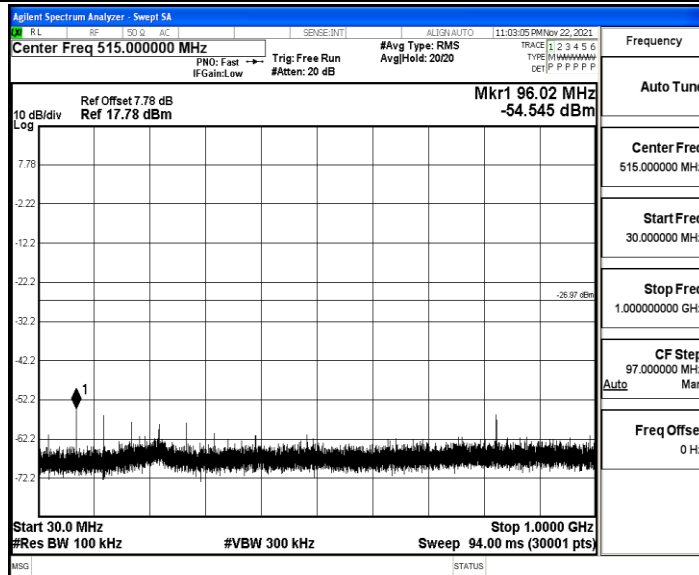




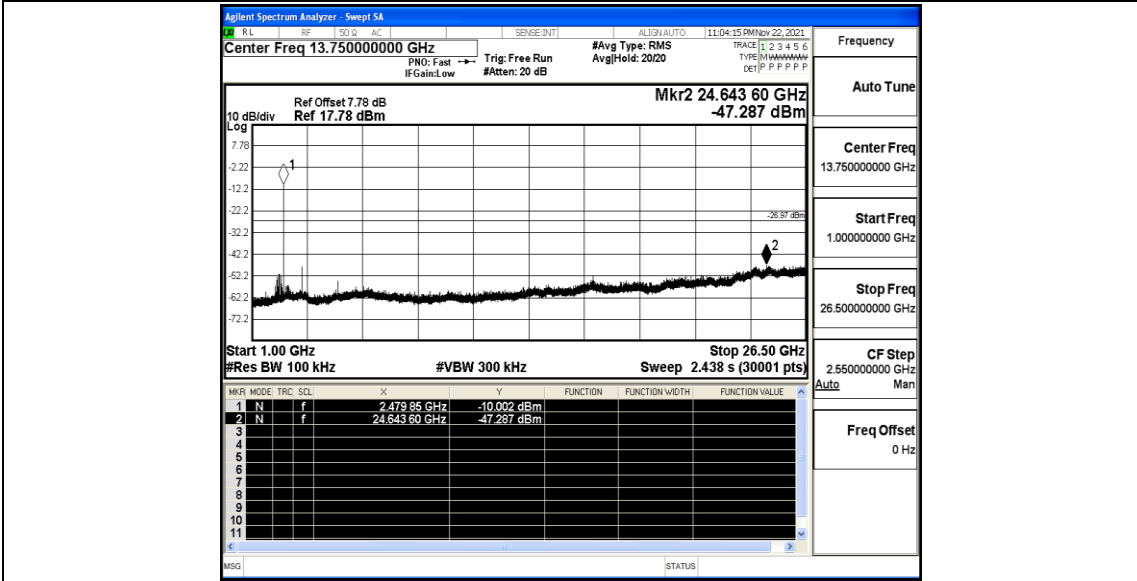
2DH5_Ant1_2480_0~Reference



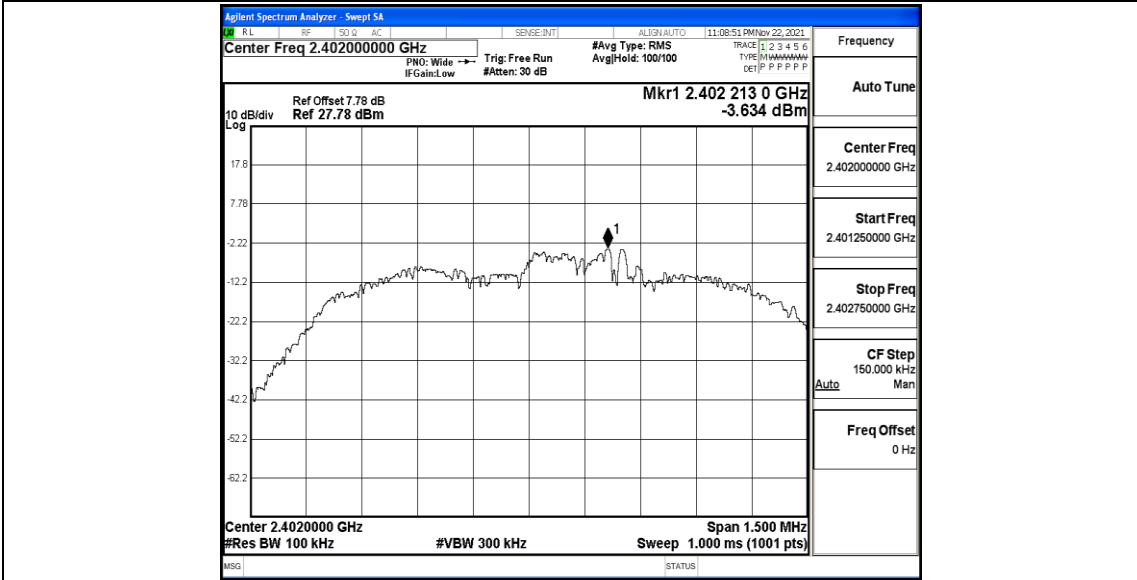
2DH5_Ant1_2480_30~1000



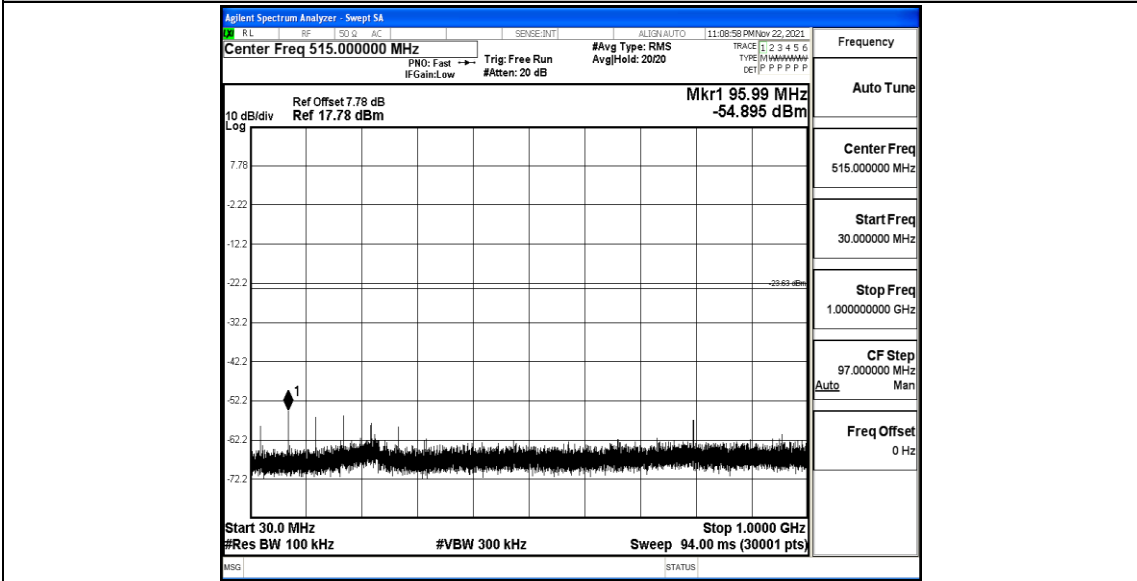
2DH5_Ant1_2480_1000~26500



3DH5_Ant1_2402_0-Reference

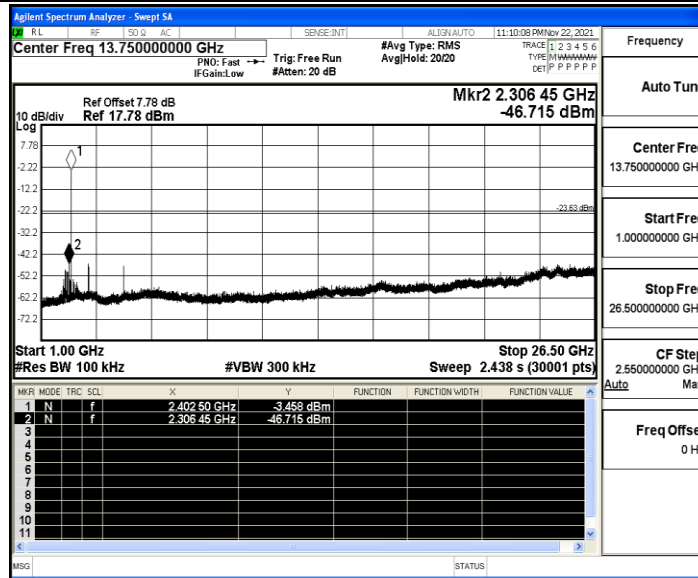


3DH5_Ant1_2402_30~1000

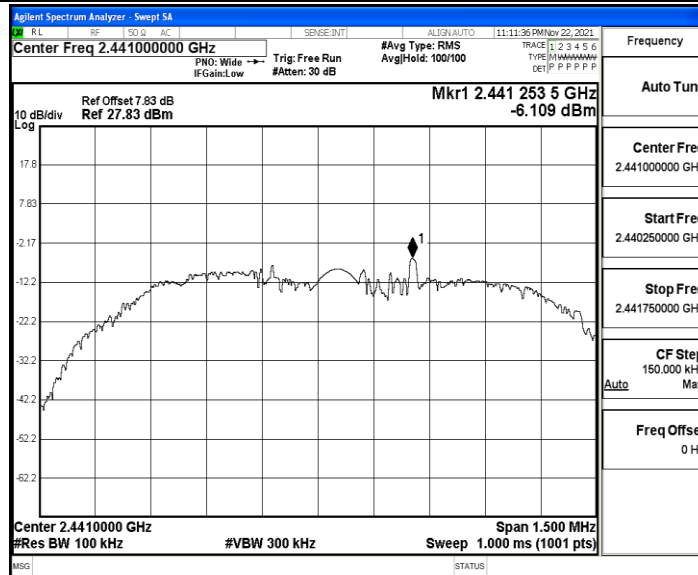




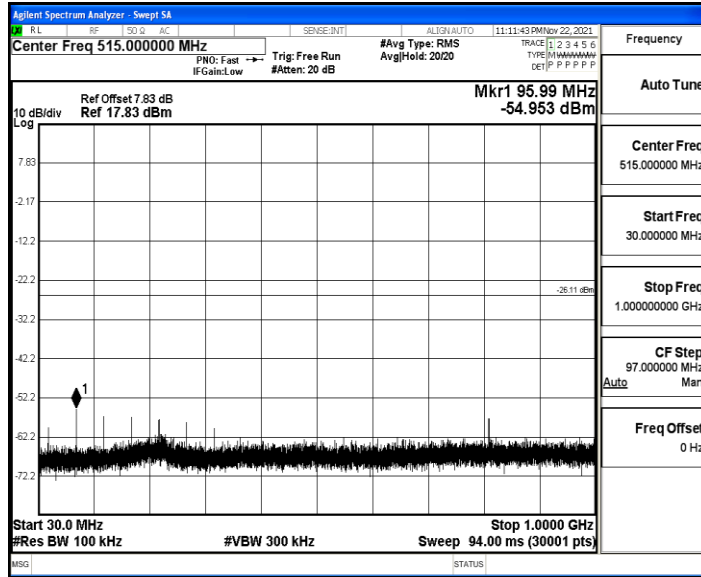
3DH5_Ant1_2402_1000~26500



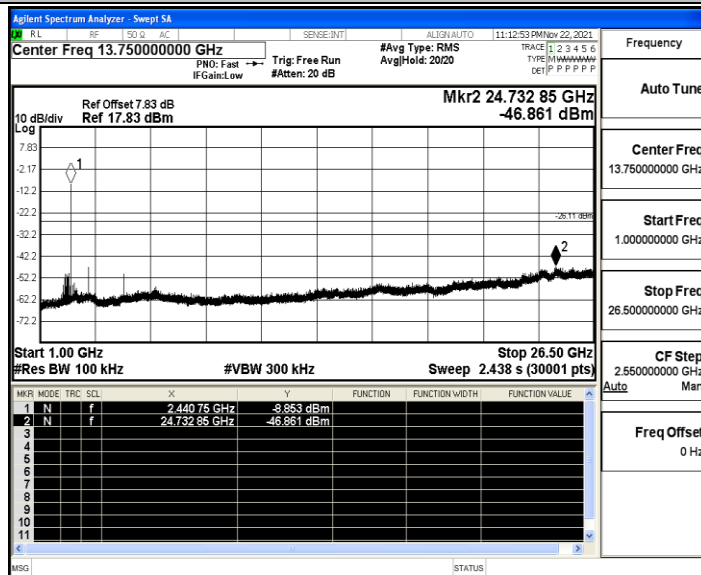
3DH5_Ant1_2441_0~Reference



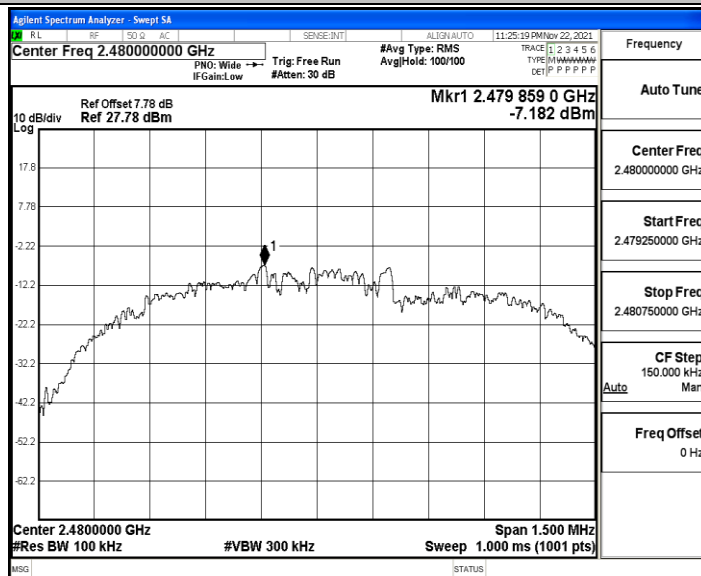
3DH5_Ant1_2441_30~1000



3DH5_Ant1_2441_1000~26500

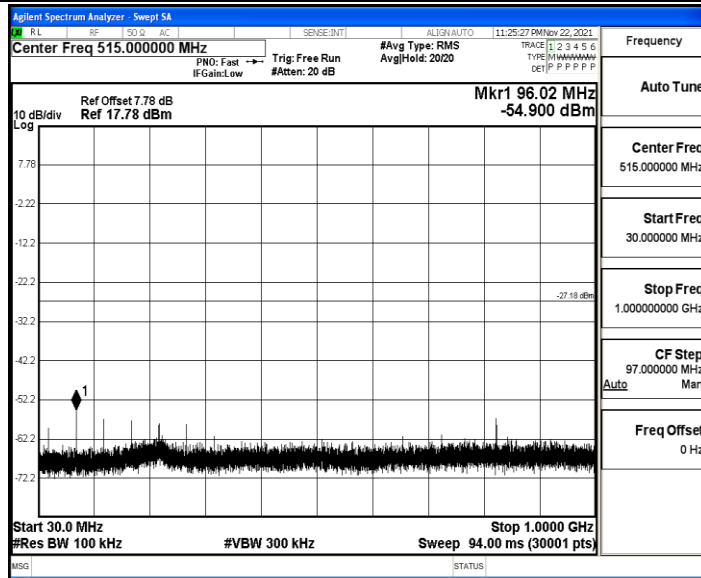


3DH5_Ant1_2480_0~Reference

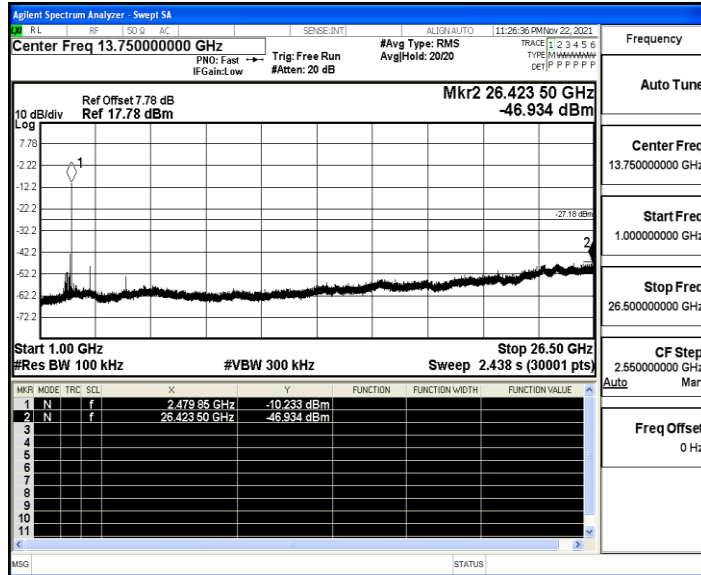




3DH5_Ant1_2480_30~1000



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	-49.02	≤-41.20	46.18	≤54	PASS
				AV	2378.015	-46.67	≤-41.20	48.53	≤54	PASS
				AV	2390.000	-47.79	≤-41.20	47.41	≤54	PASS
				Peak	2310.000	-41.17	≤-21.20	54.03	≤74	PASS
				Peak	2359.325	-37.85	≤-21.20	57.35	≤74	PASS
				Peak	2390.000	-40.28	≤-21.20	54.92	≤74	PASS
		High	2480	AV	2483.500	-48.16	≤-41.20	47.04	≤54	PASS
				AV	2491.680	-47.92	≤-41.20	47.28	≤54	PASS
				AV	2500.000	-48.07	≤-41.20	47.13	≤54	PASS
				Peak	2483.500	-40.14	≤-21.20	55.06	≤74	PASS
				Peak	2498.800	-37.75	≤-21.20	57.45	≤74	PASS
				Peak	2500.000	-40.34	≤-21.20	54.86	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.99	≤-41.20	46.21	≤54	PASS
				AV	2378.435	-47.55	≤-41.20	47.65	≤54	PASS
				AV	2390.000	-48.28	≤-41.20	46.92	≤54	PASS
				Peak	2310.000	-42.37	≤-21.20	52.83	≤74	PASS
				Peak	2321.945	-38.42	≤-21.20	56.78	≤74	PASS
				Peak	2390.000	-42.47	≤-21.20	52.73	≤74	PASS
		High	2480	AV	2483.500	-48.05	≤-41.20	47.15	≤54	PASS
				AV	2495.280	-47.85	≤-41.20	47.35	≤54	PASS
				AV	2500.000	-48.06	≤-41.20	47.14	≤54	PASS
				Peak	2483.500	-42.47	≤-21.20	52.73	≤74	PASS
				Peak	2486.000	-38.34	≤-21.20	56.86	≤74	PASS
				Peak	2500.000	-41.66	≤-21.20	53.54	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.98	≤-41.20	46.22	≤54	PASS
				AV	2378.015	-47.62	≤-41.20	47.58	≤54	PASS
				AV	2390.000	-48.3	≤-41.20	46.90	≤54	PASS
				Peak	2310.000	-42.28	≤-21.20	52.92	≤74	PASS
				Peak	2365.625	-39.33	≤-21.20	55.87	≤74	PASS
				Peak	2390.000	-41.59	≤-21.20	53.61	≤74	PASS
		High	2480	AV	2483.500	-47.03	≤-41.20	48.17	≤54	PASS
				AV	2499.680	-46.92	≤-41.20	48.28	≤54	PASS
				AV	2500.000	-47.17	≤-41.20	48.03	≤54	PASS
				Peak	2483.500	-42.39	≤-21.20	52.81	≤74	PASS
				Peak	2497.040	-39.01	≤-21.20	56.19	≤74	PASS
				Peak	2500.000	-40.89	≤-21.20	54.31	≤74	PASS

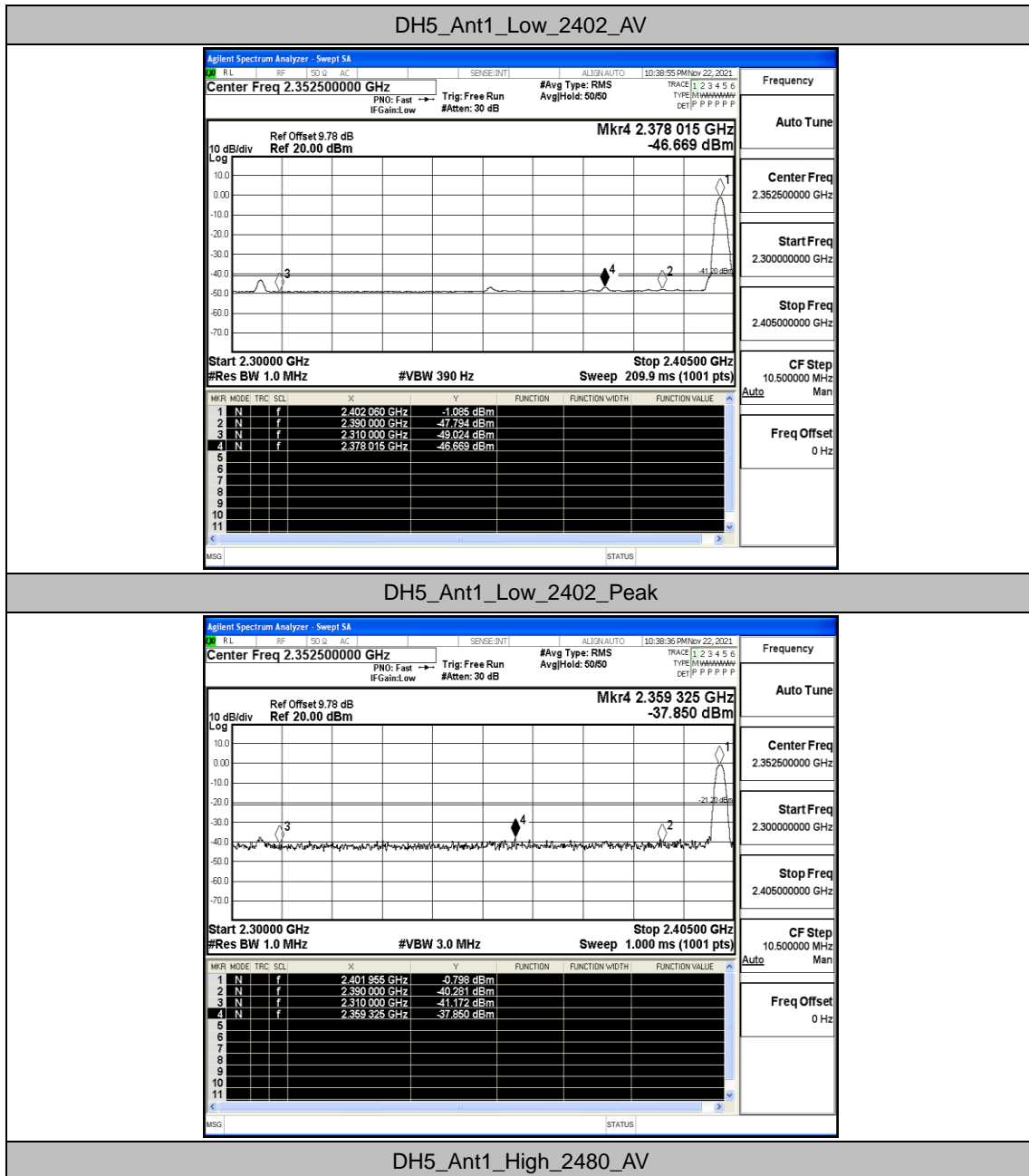


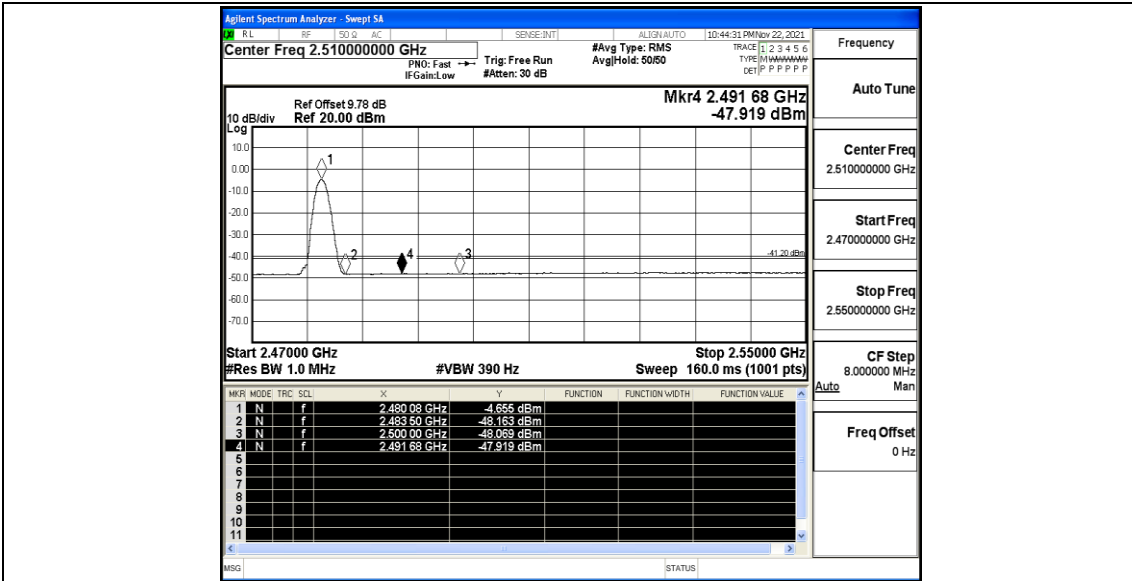
Note:

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.

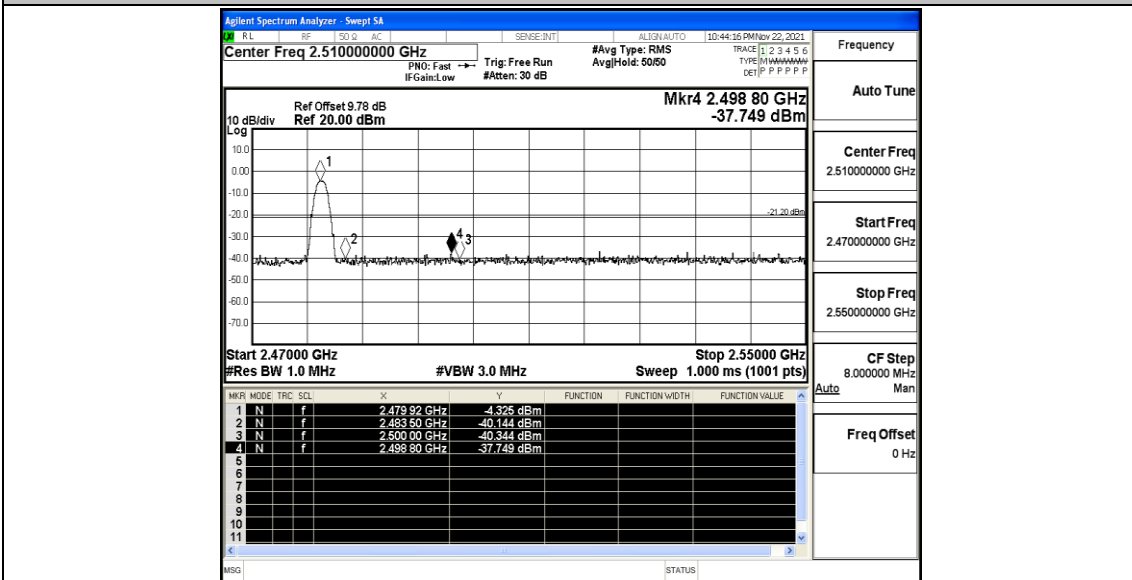


Test Graphs

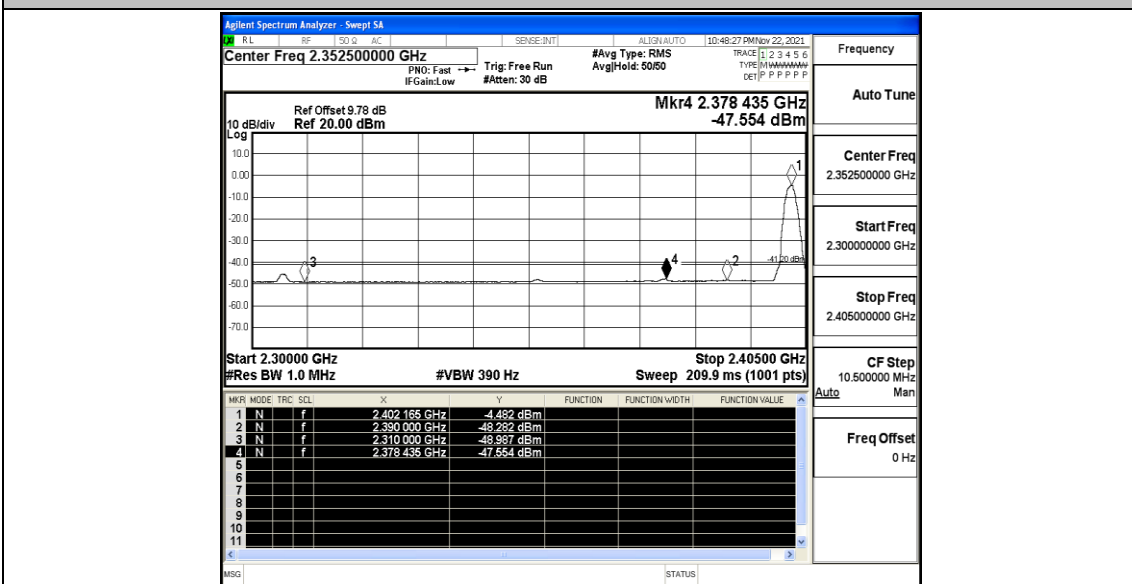




DH5_Ant1_High_2480_Peak

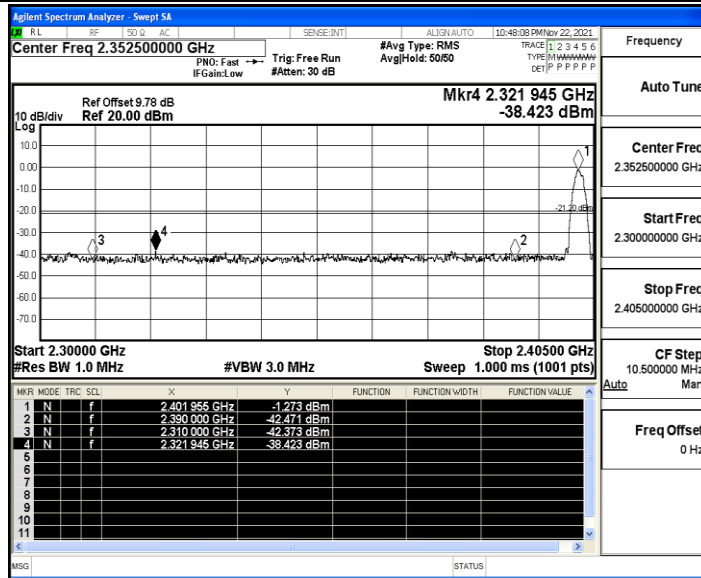


2DH5_Ant1_Low_2402_AV



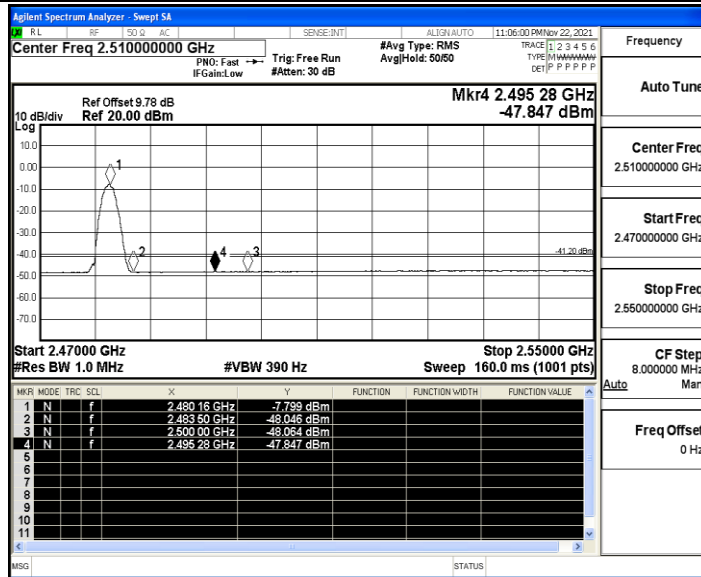


2DH5_Ant1_Low_2402_Peak



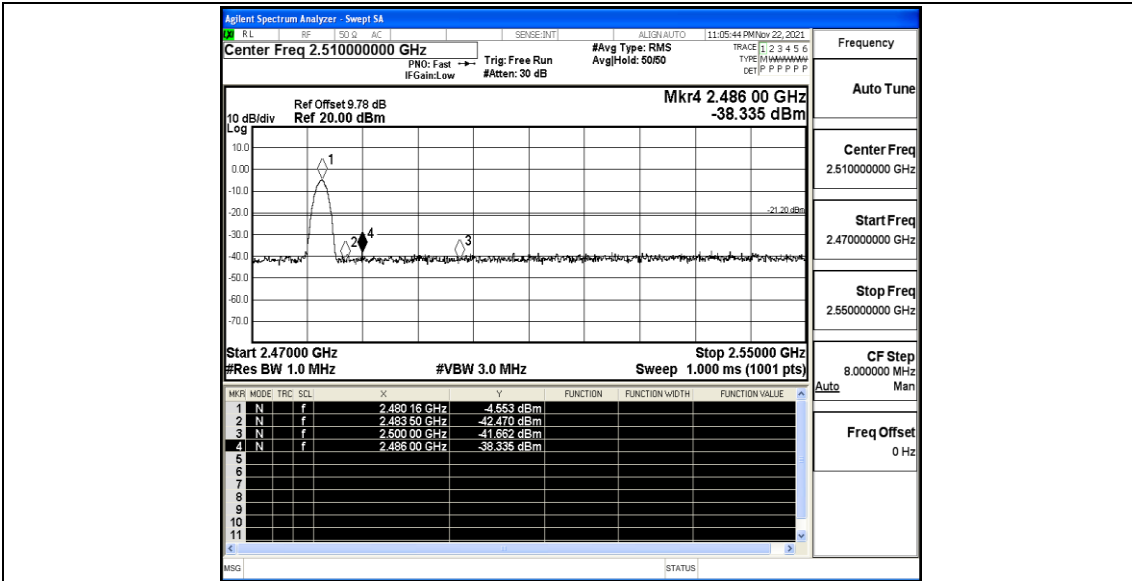
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Center Freq	2.352500000 GHz
Start Freq	2.300000000 GHz
Stop Freq	2.405000000 GHz
CF Step	10.500000 MHz
Auto	Man
Freq Offset	0 Hz

2DH5_Ant1_High_2480_AV

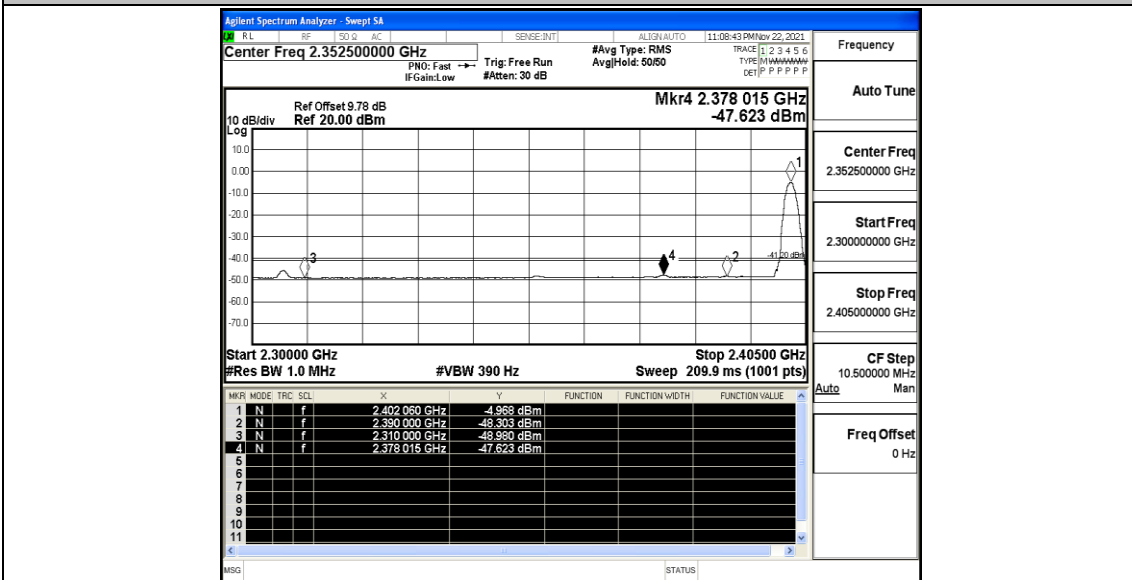


Frequency	Auto Tune
Center Freq	2.510000000 GHz
Start Freq	2.470000000 GHz
Stop Freq	2.550000000 GHz
CF Step	8.000000 MHz
Auto	Man
Freq Offset	0 Hz

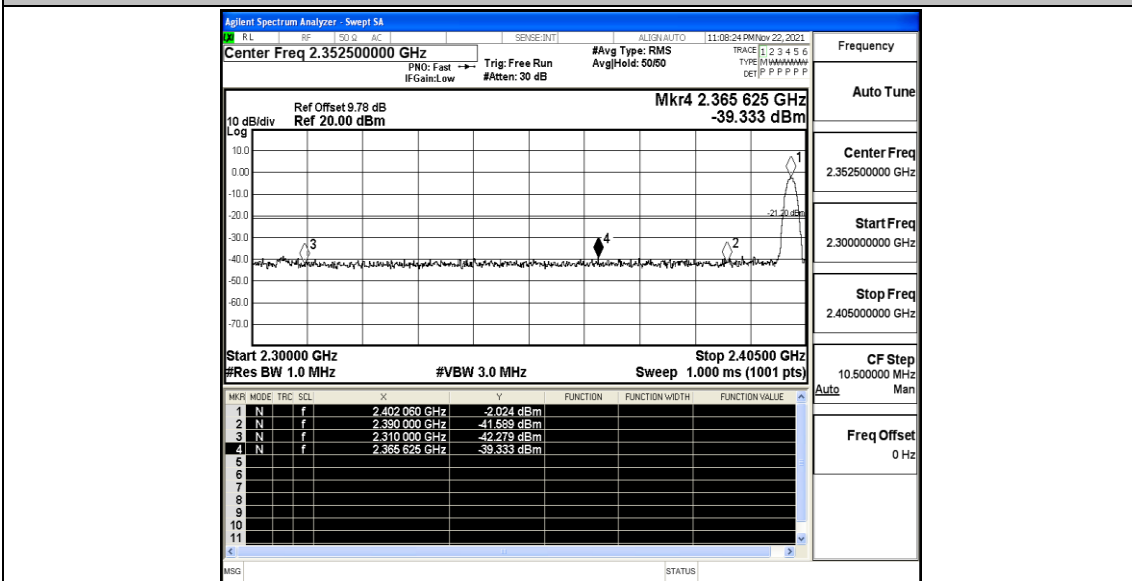
2DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_2402_AV

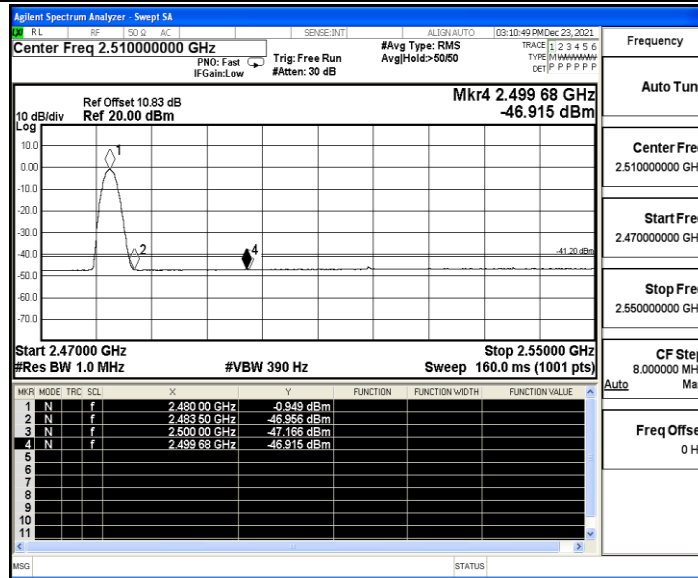


3DH5_Ant1_Low_2402_Peak





3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak

