



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Wireless Speaker

Test Model: XY-AU007

Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	monkey.Li Monkey Li
Supervised by:	Li Huan Li Huan



A.1 20dB Emission Bandwidth

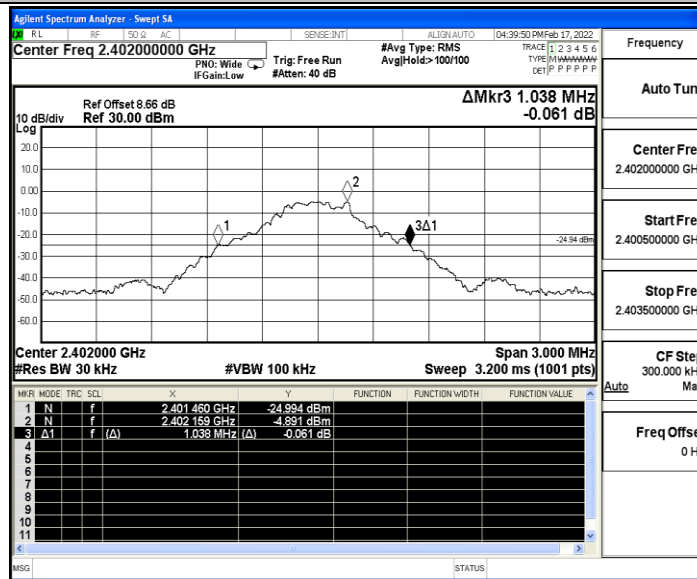
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant	2402	1.038	2401.460	2402.498	---	---
		2441	1.041	2440.460	2441.501	---	---
		2480	1.032	2479.463	2480.495	---	---
2DH5	Ant	2402	1.320	2401.331	2402.651	---	---
		2441	1.311	2440.337	2441.648	---	---
		2480	1.290	2479.355	2480.645	---	---
3DH5	Ant	2402	1.293	2401.346	2402.639	---	---
		2441	1.290	2440.346	2441.636	---	---
		2480	1.290	2479.346	2480.636	---	---

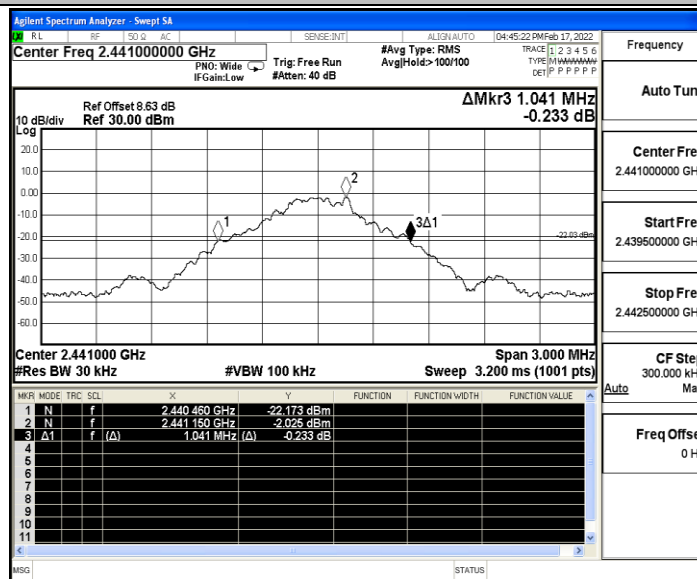


Test Graphs

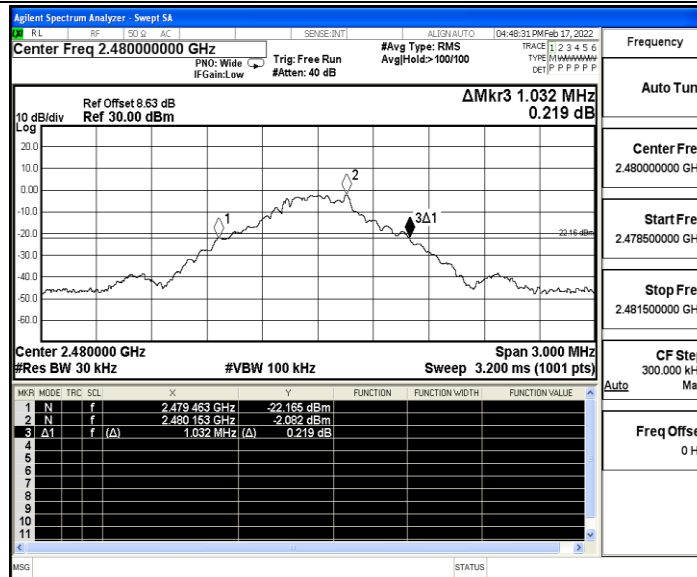
DH5_Ant_2402



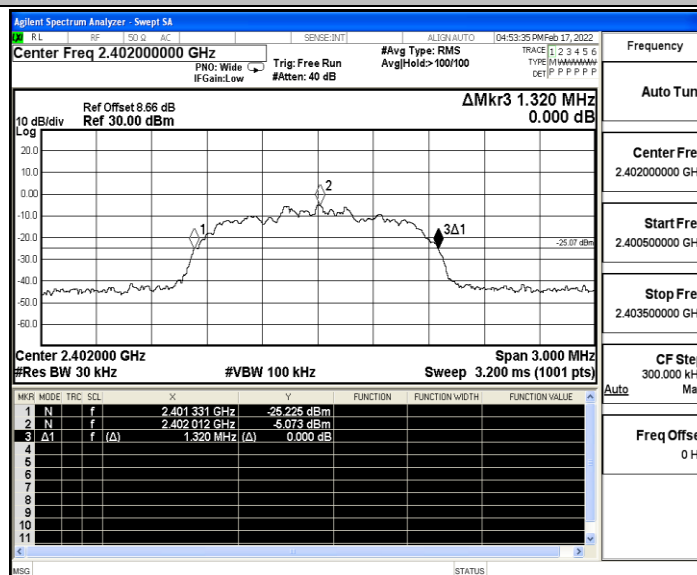
DH5_Ant_2441



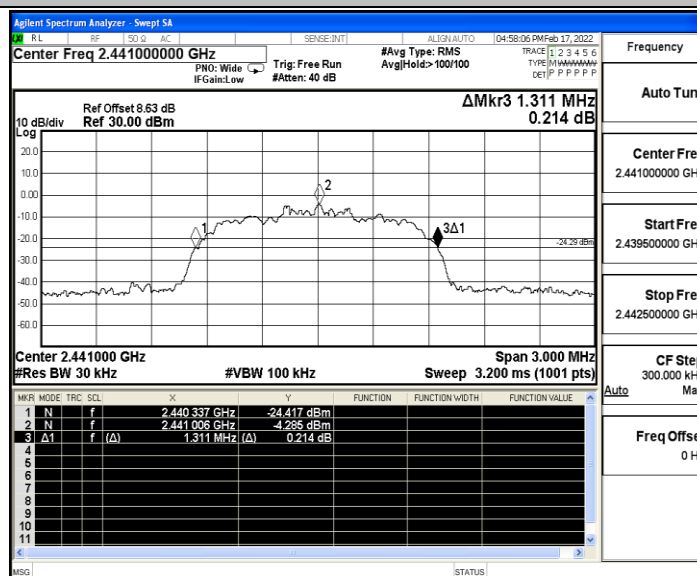
DH5_Ant_2480



2DH5_Ant_2402

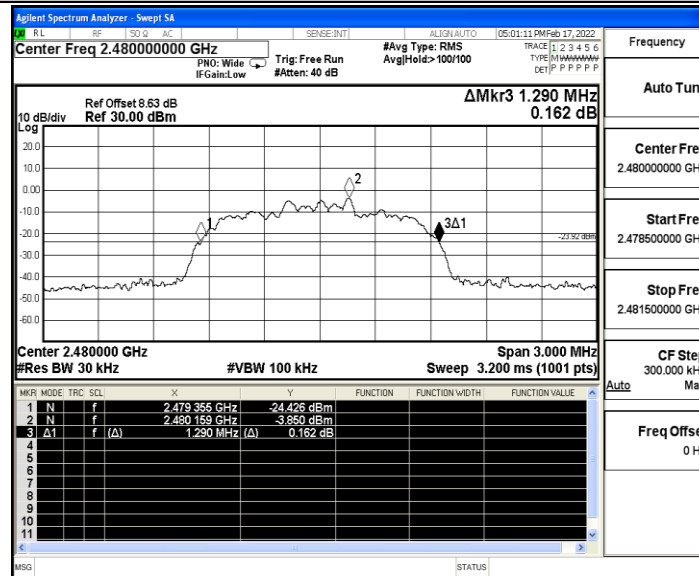


2DH5_Ant_2441

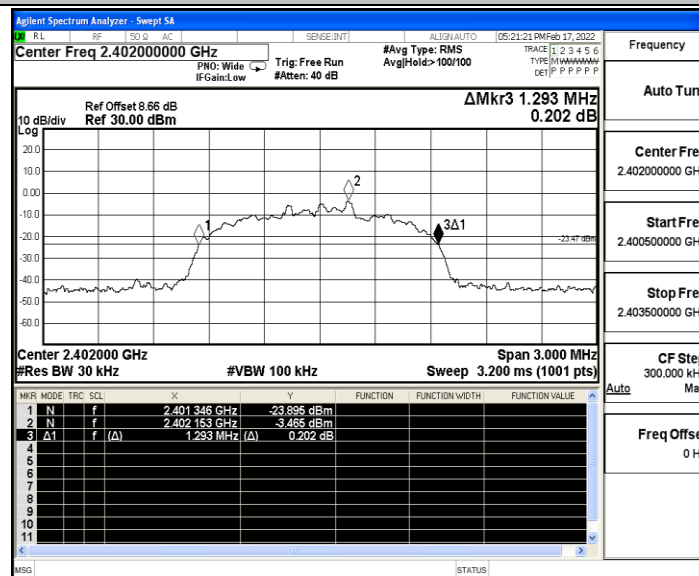




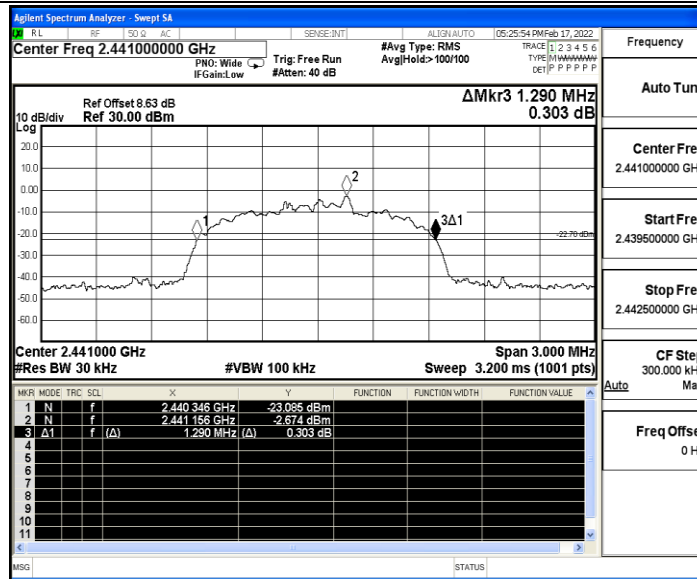
2DH5_Ant_2480



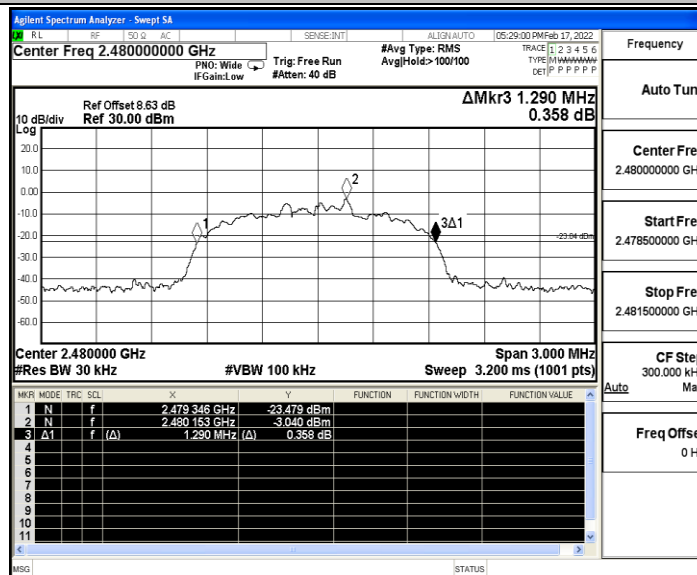
3DH5_Ant_2402



3DH5_Ant_2441



3DH5_Ant_2480





A.2 Maximum peak conducted output power

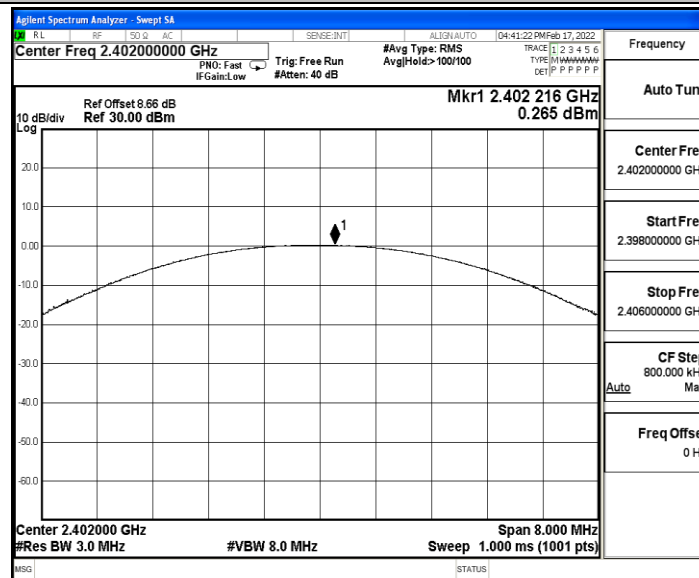
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant	2402	0.27	≤ 20.97	PASS
		2441	0.90	≤ 20.97	PASS
		2480	0.65	≤ 20.97	PASS
2DH5	Ant	2402	0.04	≤ 20.97	PASS
		2441	0.56	≤ 20.97	PASS
		2480	0.45	≤ 20.97	PASS
3DH5	Ant	2402	0.16	≤ 20.97	PASS
		2441	0.82	≤ 20.97	PASS
		2480	0.55	≤ 20.97	PASS

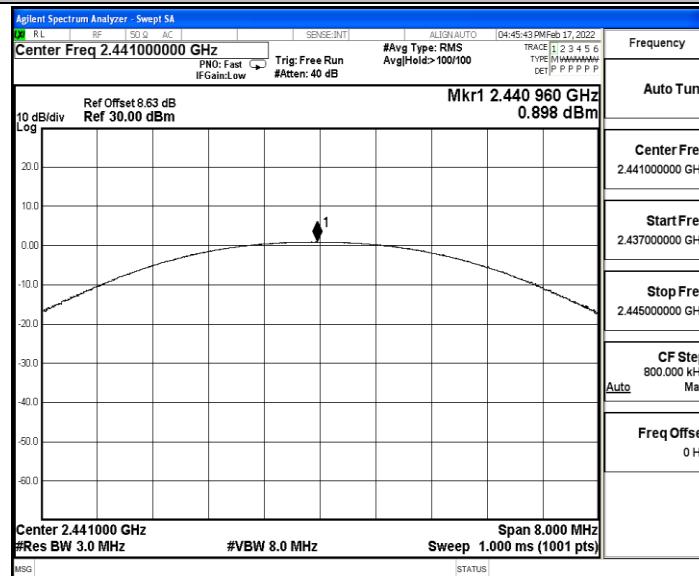


Test Graphs

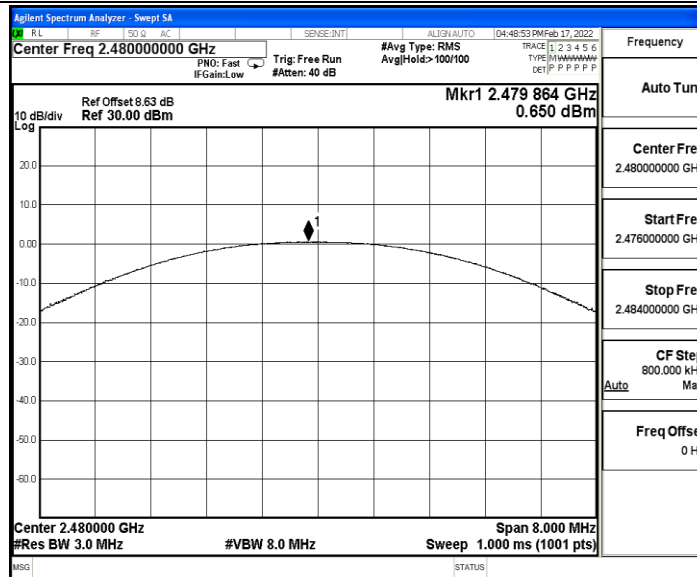
DH5_Ant_2402



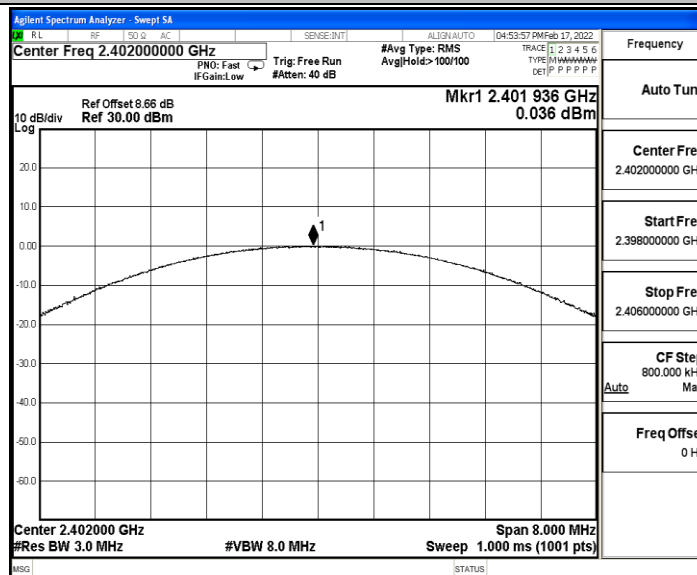
DH5_Ant_2441



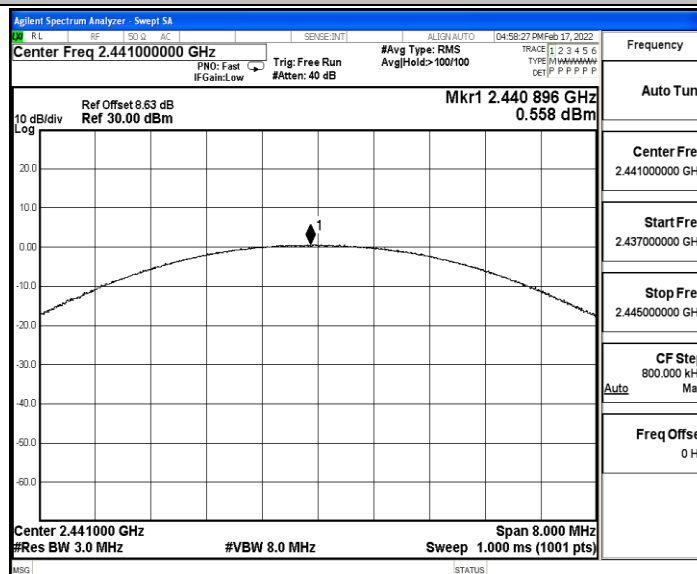
DH5_Ant_2480



2DH5_Ant_2402

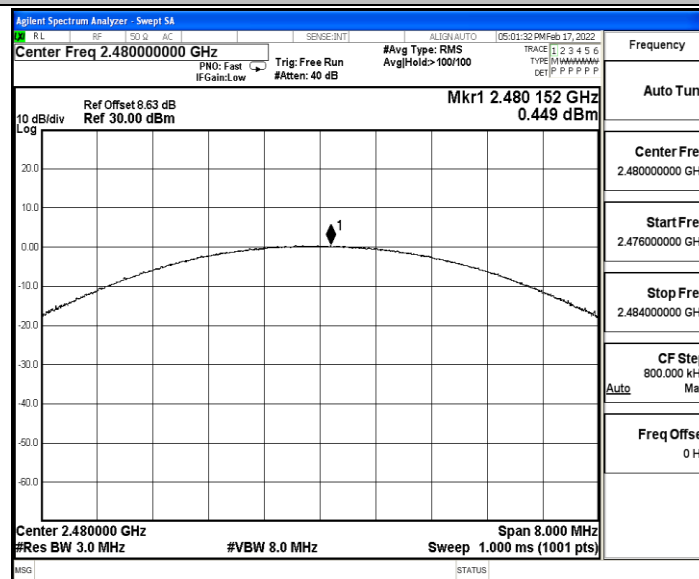


2DH5_Ant_2441

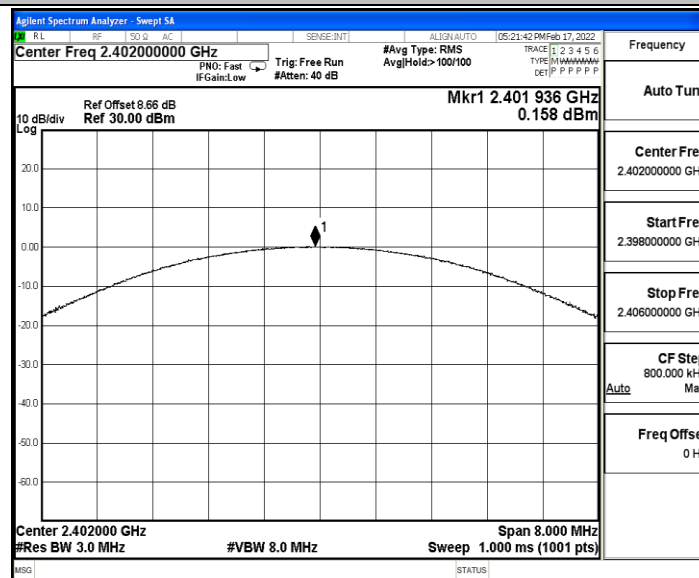




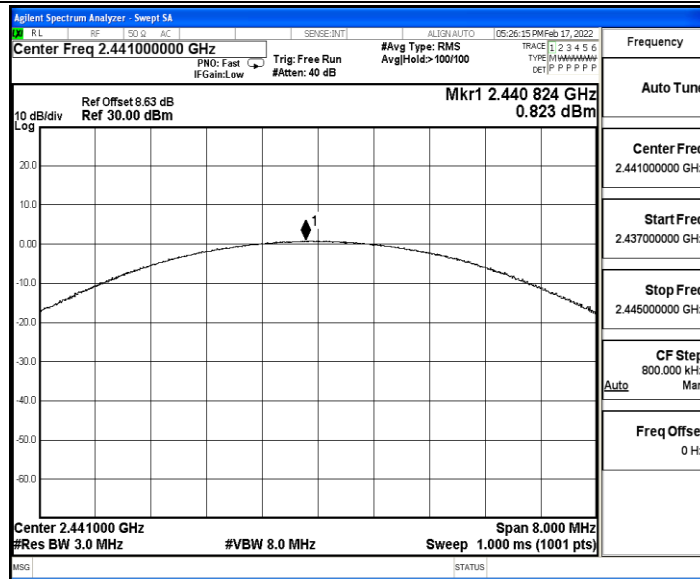
2DH5_Ant_2480



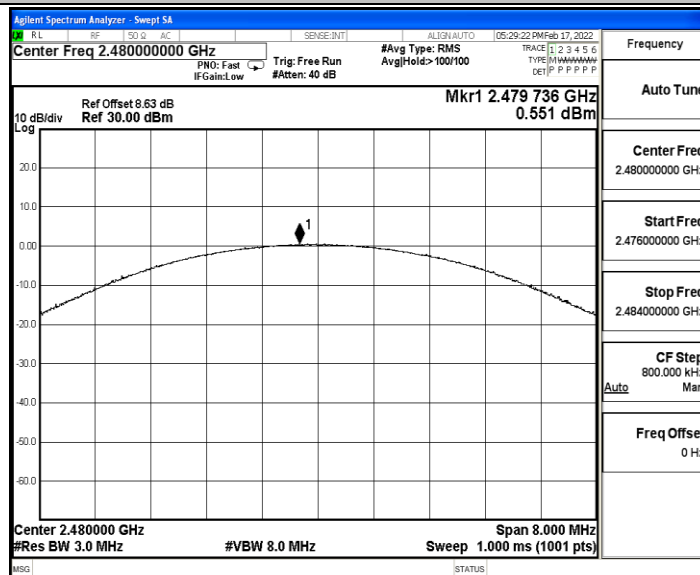
3DH5_Ant_2402



3DH5_Ant_2441



3DH5_Ant_2480





A.3 Carrier frequency separation

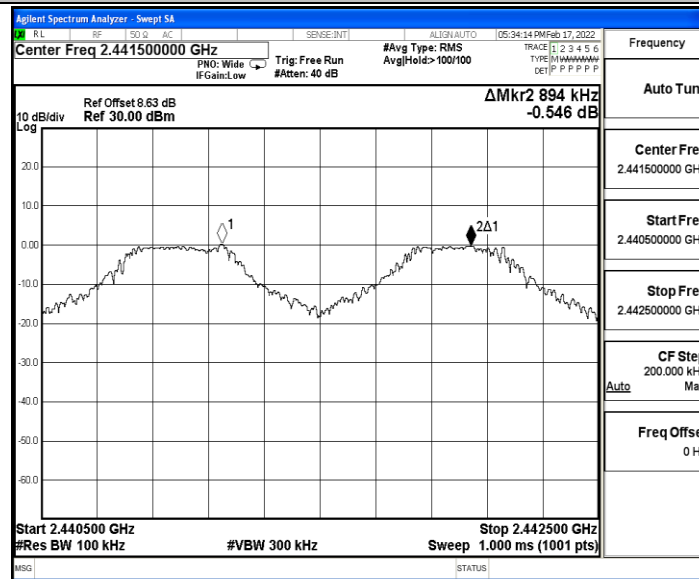
Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant	Hop	0.894	≥ 0.694	PASS
2DH5	Ant	Hop	0.948	≥ 0.880	PASS
3DH5	Ant	Hop	0.950	≥ 0.862	PASS

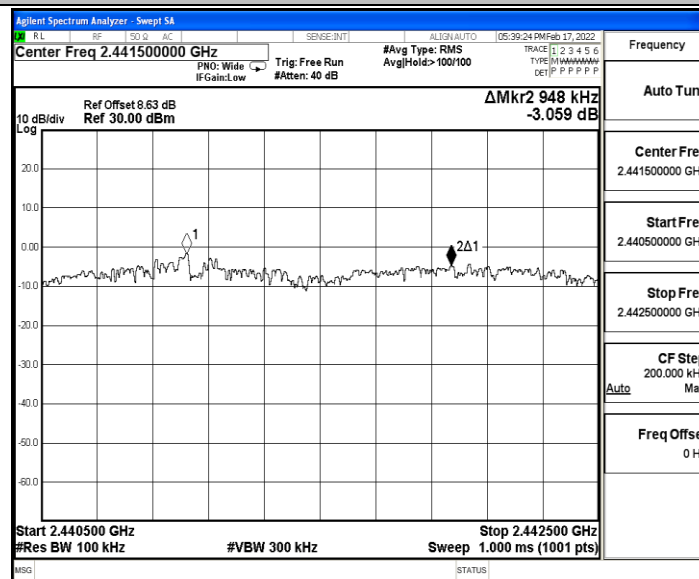


Test Graphs

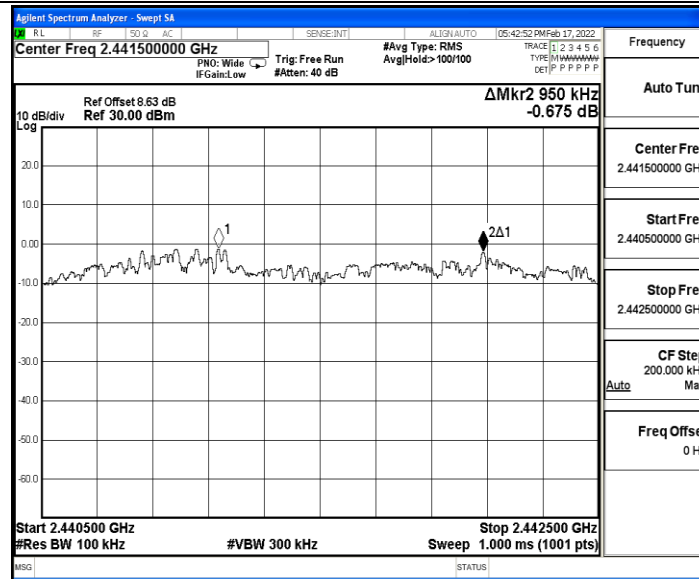
DH5_Ant_Hop



2DH5_Ant_Hop



3DH5_Ant_Hop





A.4 Time of occupancy

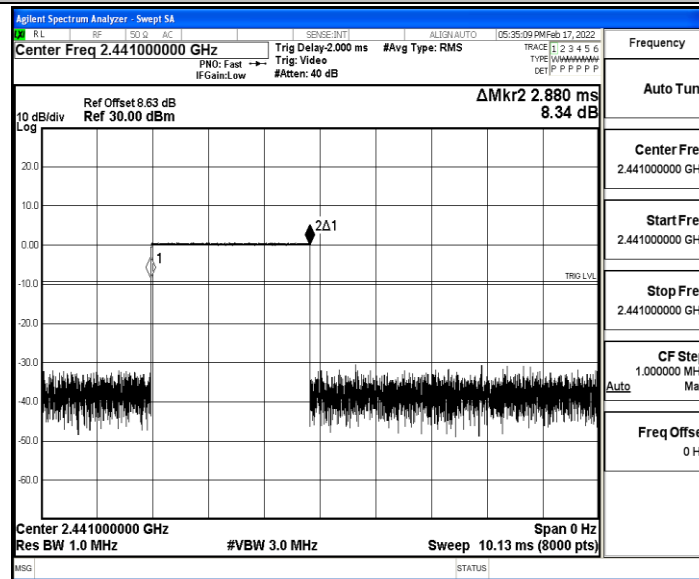
Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant	Hop	2.88	106.67	0.307	≤0.4	PASS
2DH5	Ant	Hop	2.88	106.67	0.307	≤0.4	PASS
3DH5	Ant	Hop	2.89	106.67	0.308	≤0.4	PASS

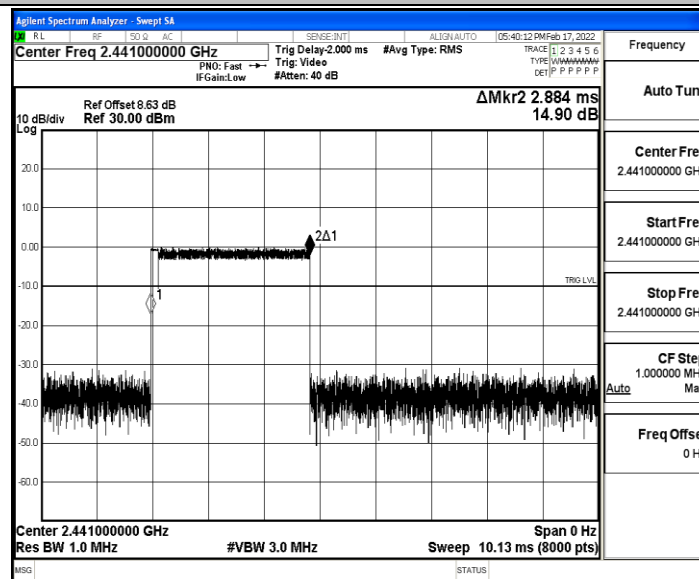


Test Graphs

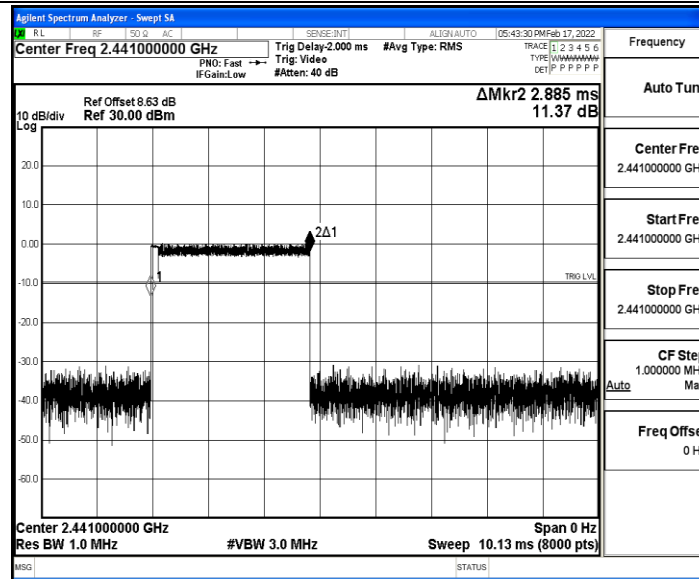
DH5_Ant_Hop



2DH5_Ant_Hop



3DH5_Ant_Hop





A.5 Number of hopping channels

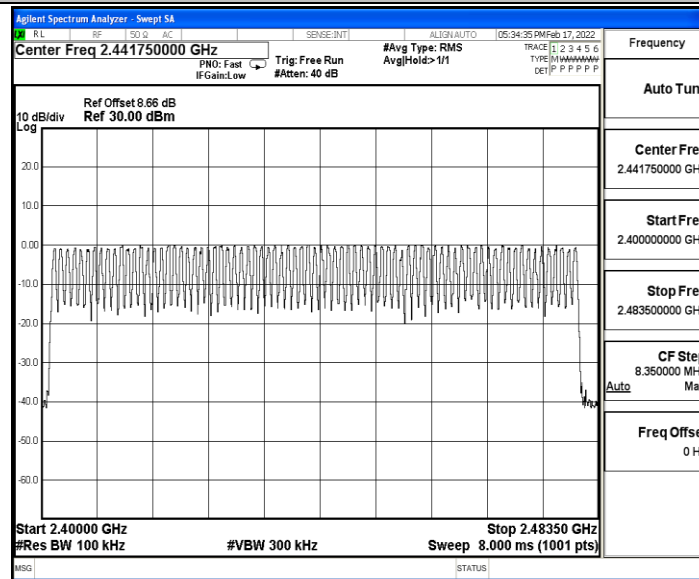
Test Result

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

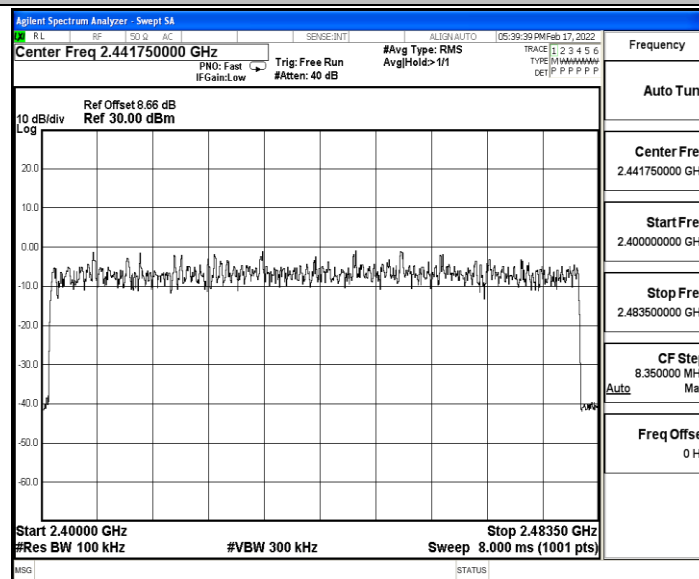


Test Graphs

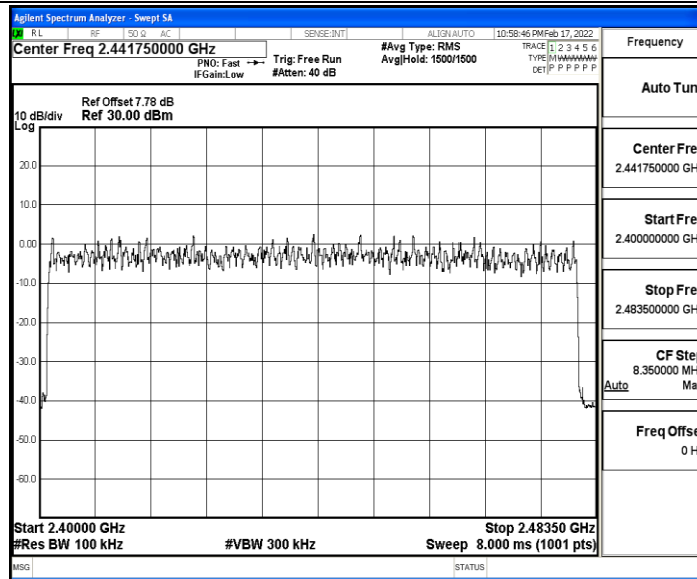
DH5_Ant_Hop



2DH5_Ant_Hop



3DH5_Ant_Hop





A.6 Band edge measurements

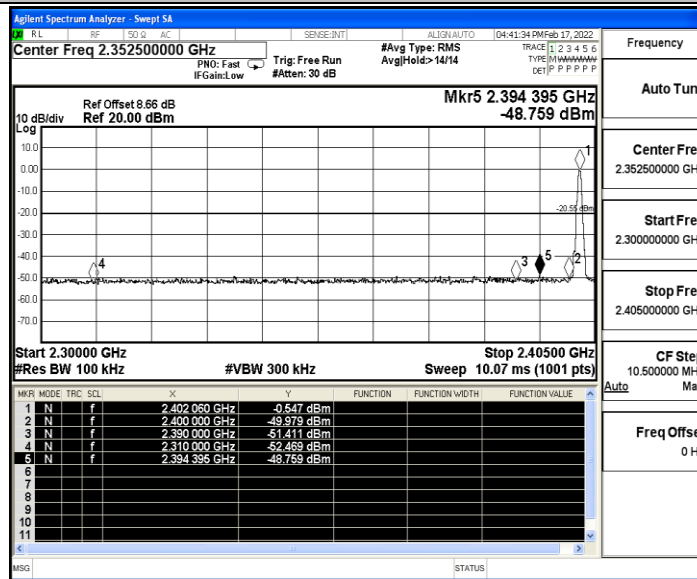
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	Low	2402	-0.55	-48.76	≤ -20.55	PASS
		High	2480	0.00	-47.59	≤ -20	PASS
		Low	Hop_2402	-1.30	-49.1	≤ -21.3	PASS
		High	Hop_2480	-0.08	-48.07	≤ -20.08	PASS
2DH5	Ant	Low	2402	-4.19	-48.69	≤ -24.19	PASS
		High	2480	-0.94	-48.1	≤ -20.94	PASS
		Low	Hop_2402	-5.53	-49.19	≤ -25.53	PASS
		High	Hop_2480	-1.97	-41.49	≤ -21.97	PASS
3DH5	Ant	Low	2402	-2.39	-48.38	≤ -22.39	PASS
		High	2480	-0.87	-47.68	≤ -20.87	PASS
		Low	Hop_2402	-4.43	-49.06	≤ -24.43	PASS
		High	Hop_2480	-1.13	-47.01	≤ -21.13	PASS

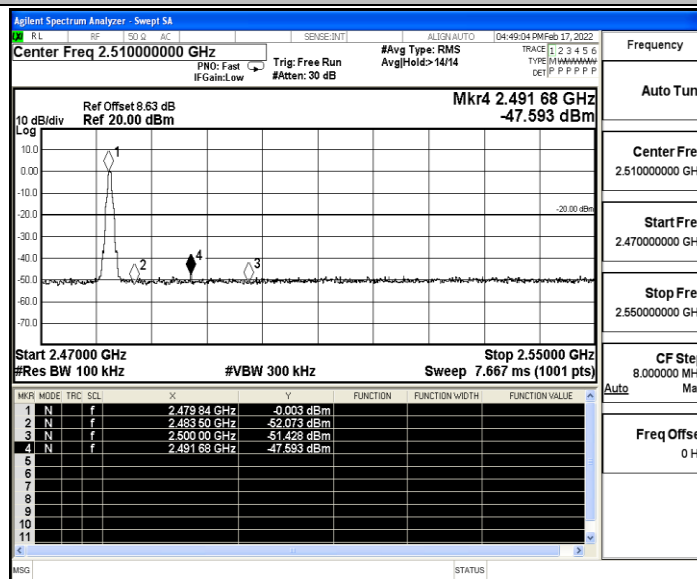


Test Graphs

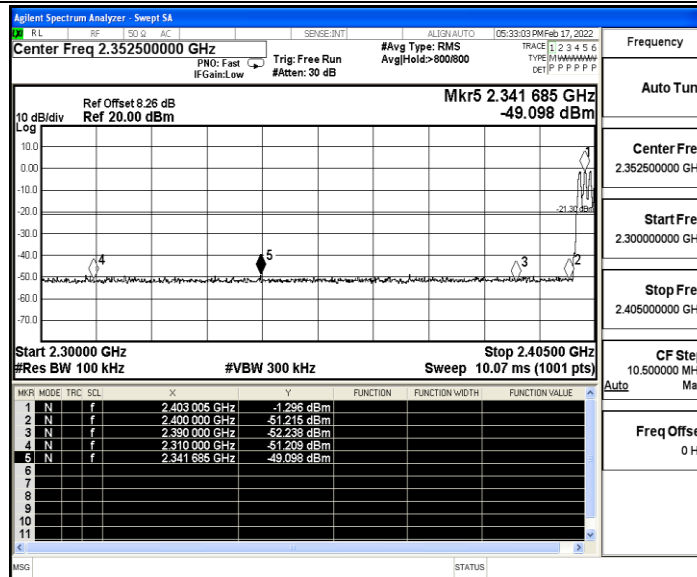
DH5_Ant_Low_2402



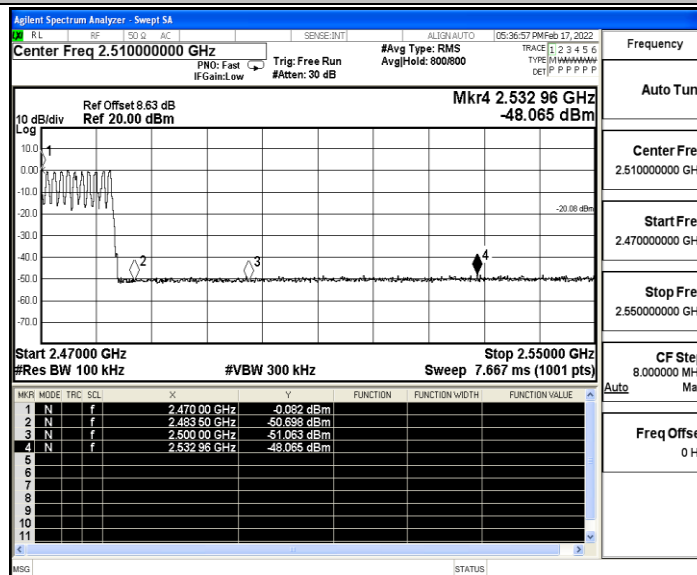
DH5_Ant_High_2480



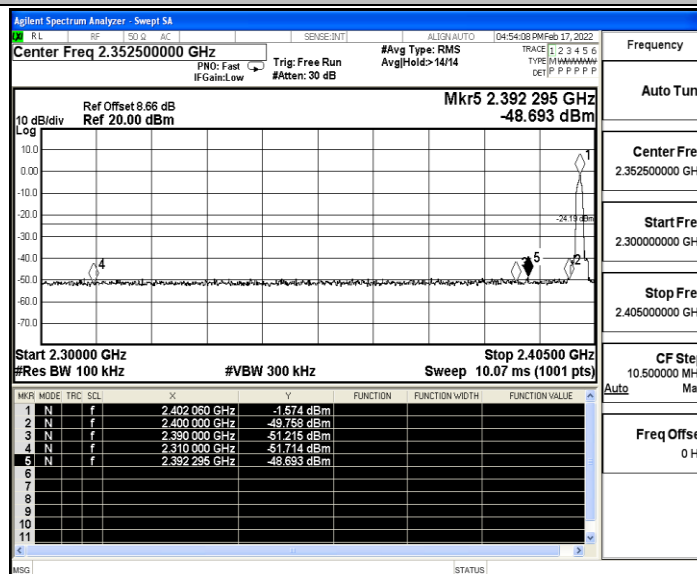
DH5_Ant_Low_Hop_2402



DH5_Ant_High_Hop_2480

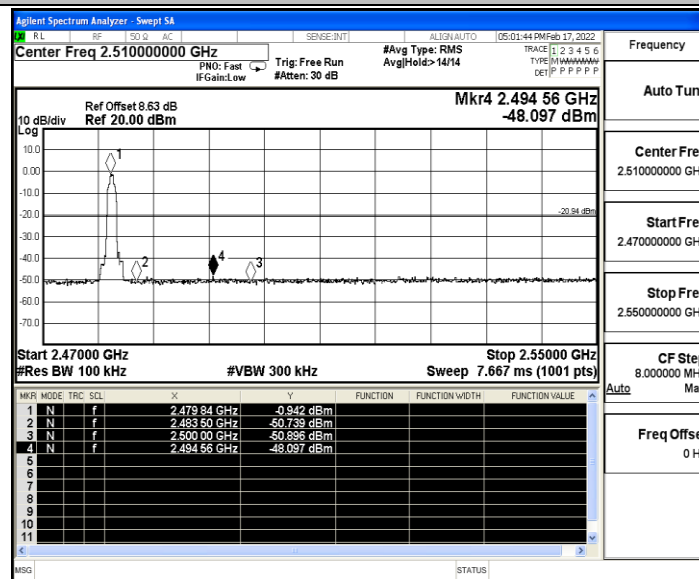


2DH5_Ant_Low_2402

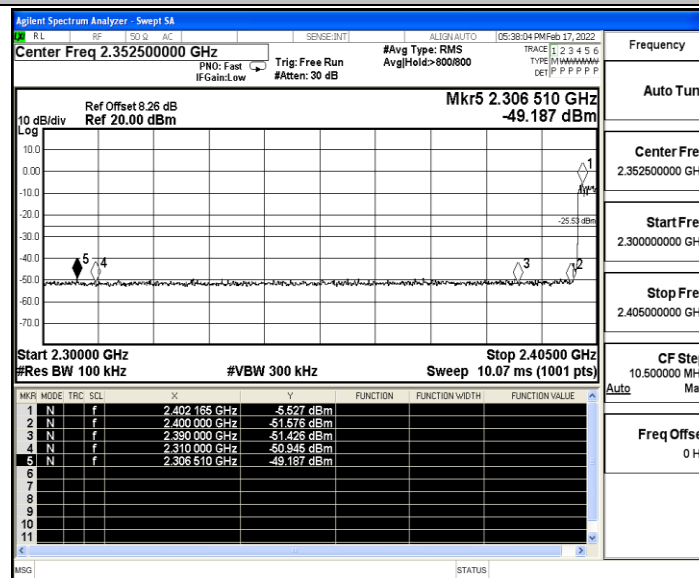




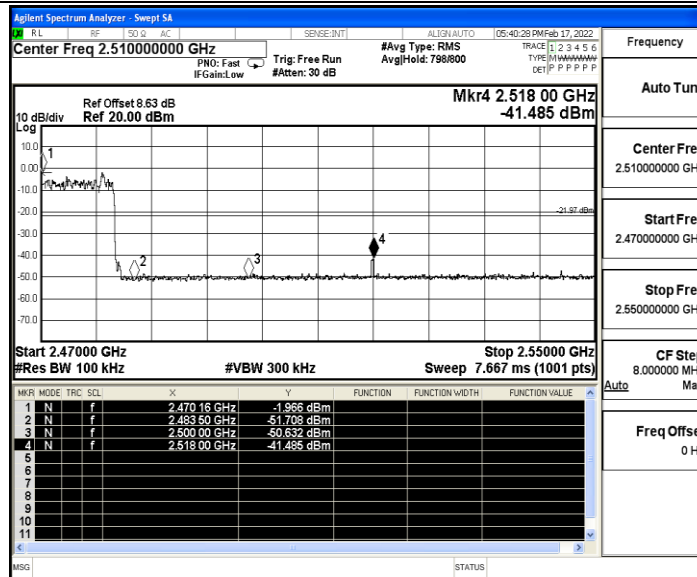
2DH5_Ant_High_2480



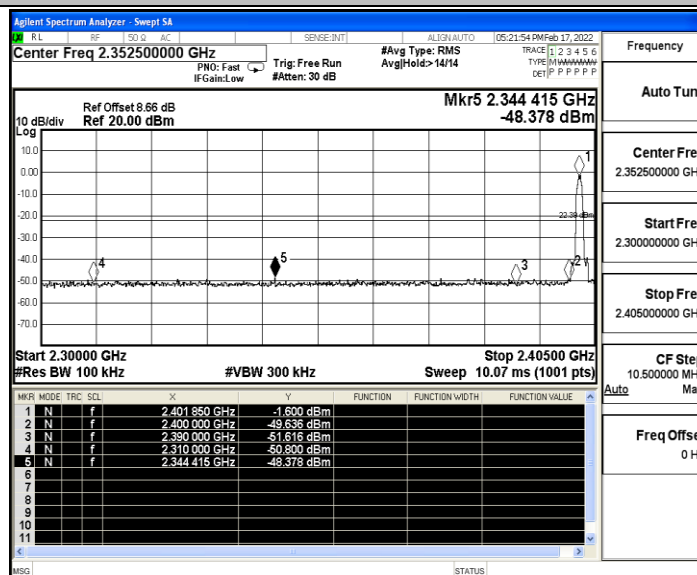
2DH5_Ant_Low_Hop_2402



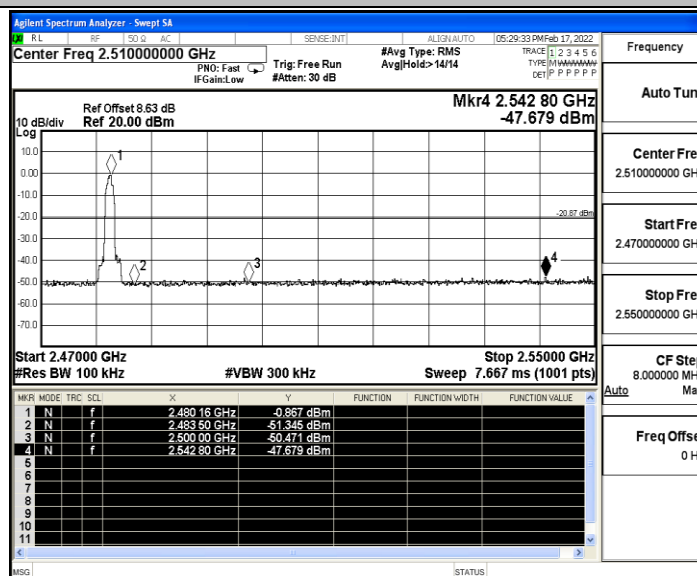
2DH5_Ant_High_Hop_2480



3DH5_Ant_Low_2402

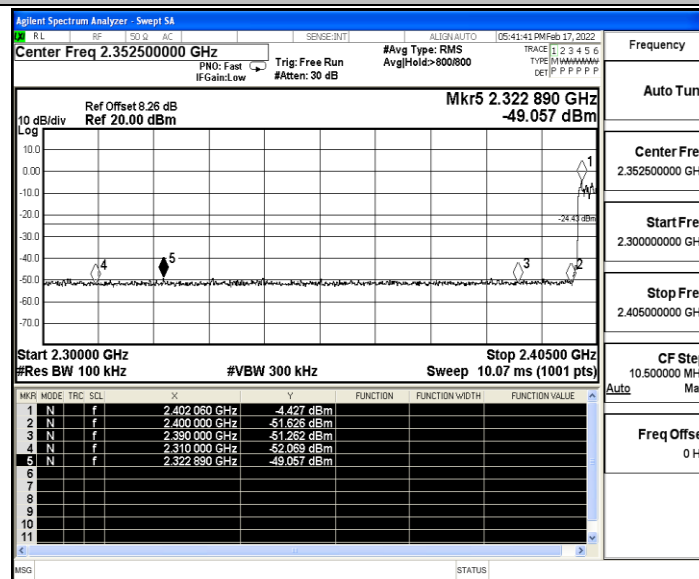


3DH5_Ant_High_2480

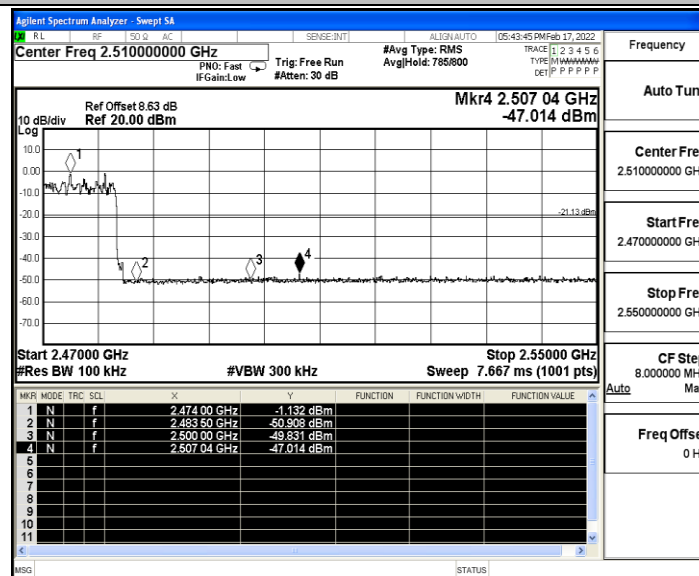




3DH5_Ant_Low_Hop_2402



3DH5_Ant_High_Hop_2480





A.7 Conducted Spurious Emission

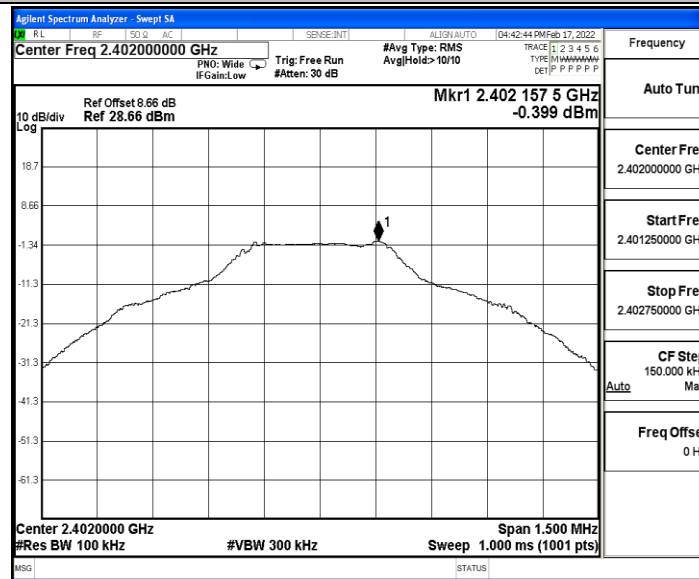
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	2402	Reference	-0.40	-0.40	---	PASS
			30~1000	-0.40	-60.8	≤ -20.4	PASS
			1000~26500	-0.40	-46.33	≤ -20.4	PASS
		2441	Reference	0.19	0.19	---	PASS
			30~1000	0.19	-60.21	≤ -19.81	PASS
			1000~26500	0.19	-45.9	≤ -19.81	PASS
		2480	Reference	-0.10	-0.10	---	PASS
			30~1000	-0.10	-60.69	≤ -20.1	PASS
			1000~26500	-0.10	-46.25	≤ -20.1	PASS
2DH5	Ant	2402	Reference	-1.30	-1.30	---	PASS
			30~1000	-1.30	-60.47	≤ -21.3	PASS
			1000~26500	-1.30	-46.05	≤ -21.3	PASS
		2441	Reference	-1.43	-1.43	---	PASS
			30~1000	-1.43	-60.18	≤ -21.43	PASS
			1000~26500	-1.43	-46.1	≤ -21.43	PASS
		2480	Reference	-0.92	-0.92	---	PASS
			30~1000	-0.92	-60.98	≤ -20.92	PASS
			1000~26500	-0.92	-46.01	≤ -20.92	PASS
3DH5	Ant	2402	Reference	-1.24	-1.24	---	PASS
			30~1000	-1.24	-60.16	≤ -21.24	PASS
			1000~26500	-1.24	-46.21	≤ -21.24	PASS
		2441	Reference	-0.64	-0.64	---	PASS
			30~1000	-0.64	-60.31	≤ -20.64	PASS
			1000~26500	-0.64	-46.14	≤ -20.64	PASS
		2480	Reference	-0.97	-0.97	---	PASS
			30~1000	-0.97	-60.91	≤ -20.97	PASS
			1000~26500	-0.97	-46.6	≤ -20.97	PASS

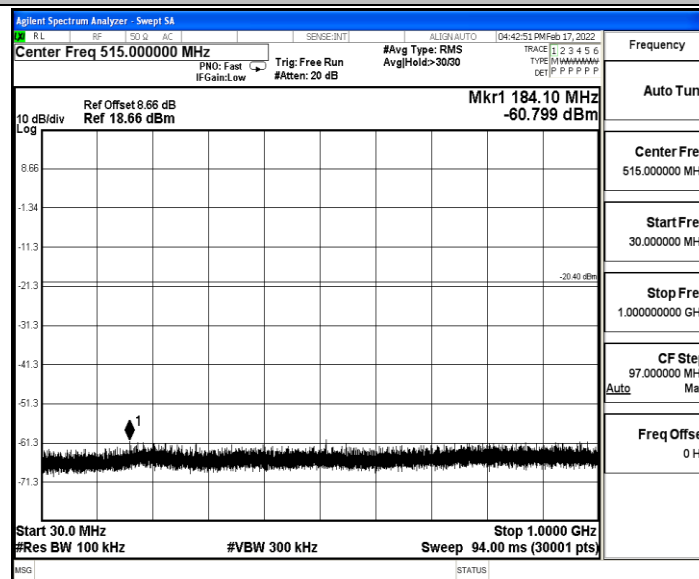


Test Graphs

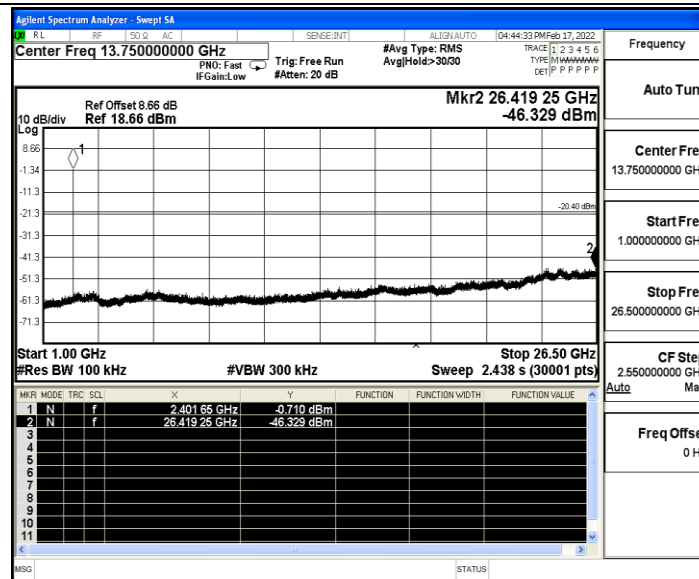
DH5_Ant_2402_0~Reference



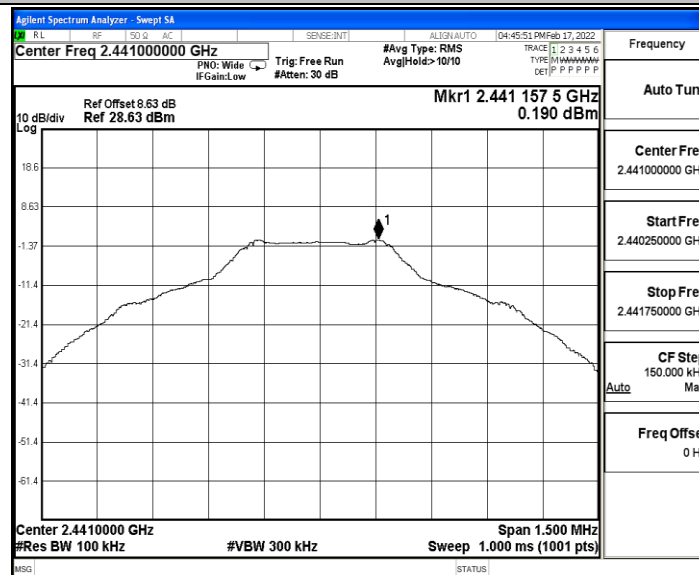
DH5_Ant_2402_30~1000



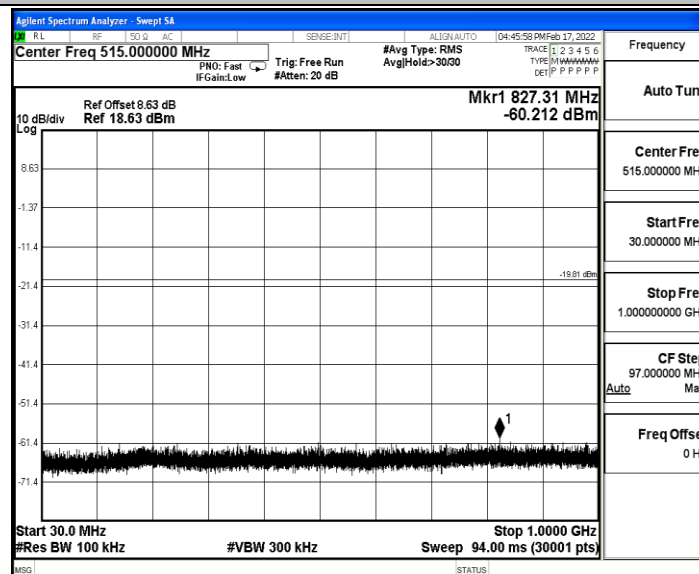
DH5_Ant_2402_1000~26500

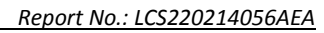


DH5_Ant_2441_0~Reference



DH5_Ant_2441_30~1000



[illegible]

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.48000000 GHz

Ref Offset 8.63 dB
Ref 28.63 dBm

Span 1.500 MHz
Res BW 100 kHz
Sweep 1.000 ms (1001 pts)

Frequency

Auto Tun

Center Freq 2.48000000 GHz

Start Freq 2.479250000 GHz

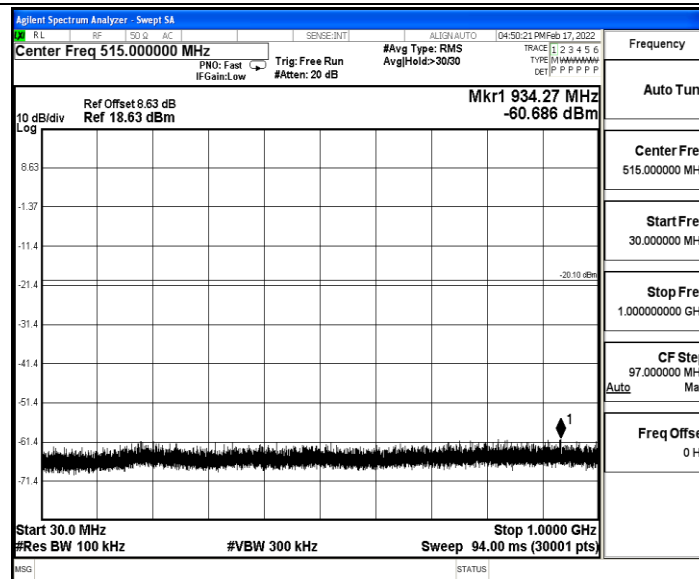
Stop Freq 2.480750000 GHz

CF Stop 150.000 kHz

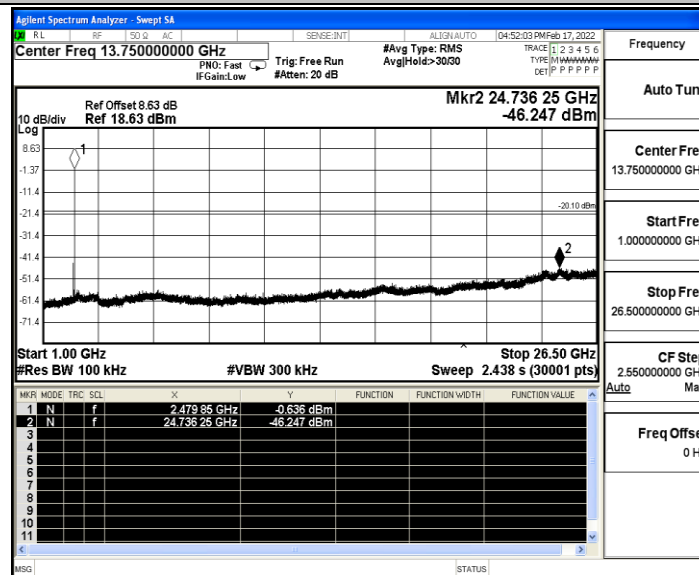
Auto

Freq Offset 0 Hz

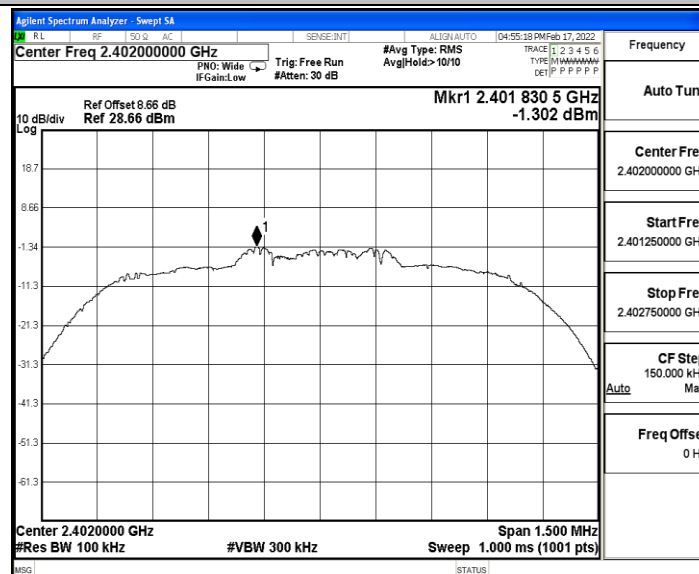
30 / 45



DH5_Ant_2480_1000~26500

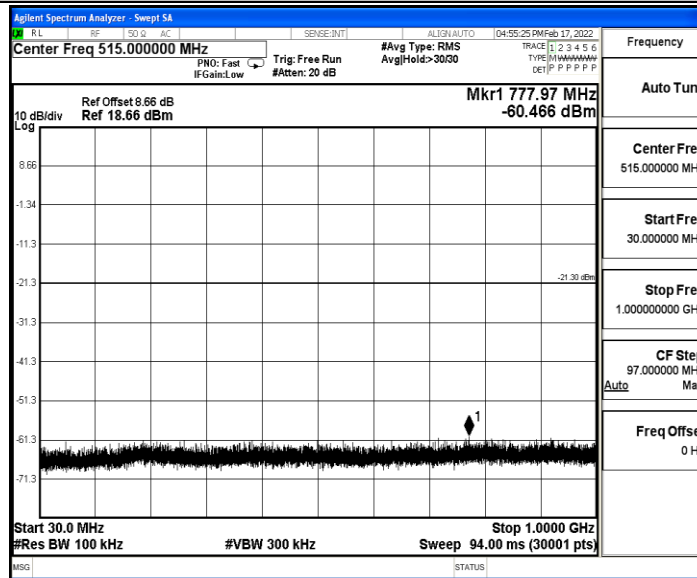


2DH5_Ant_2402_0~Reference

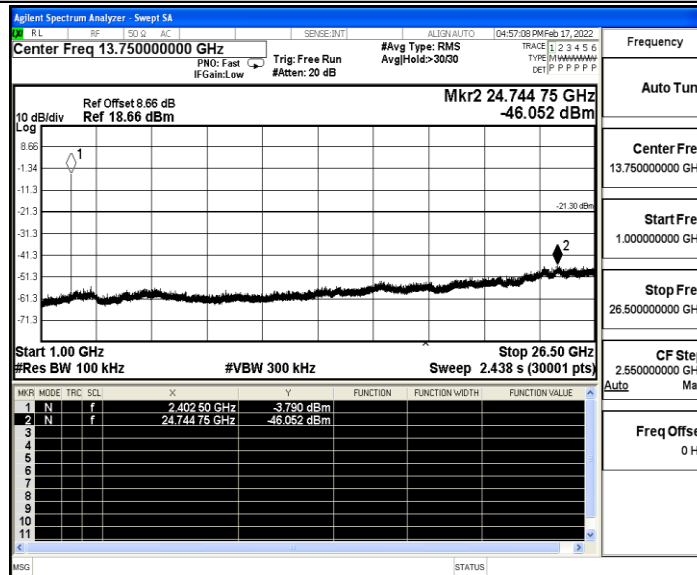




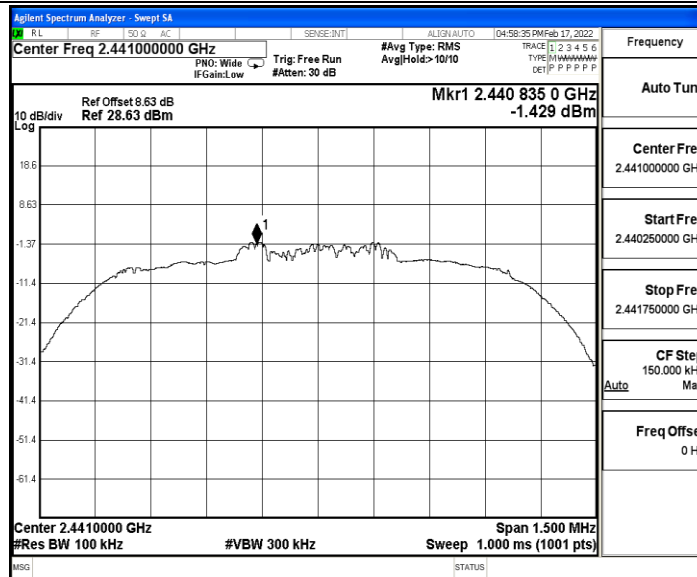
2DH5_Ant_2402_30~1000



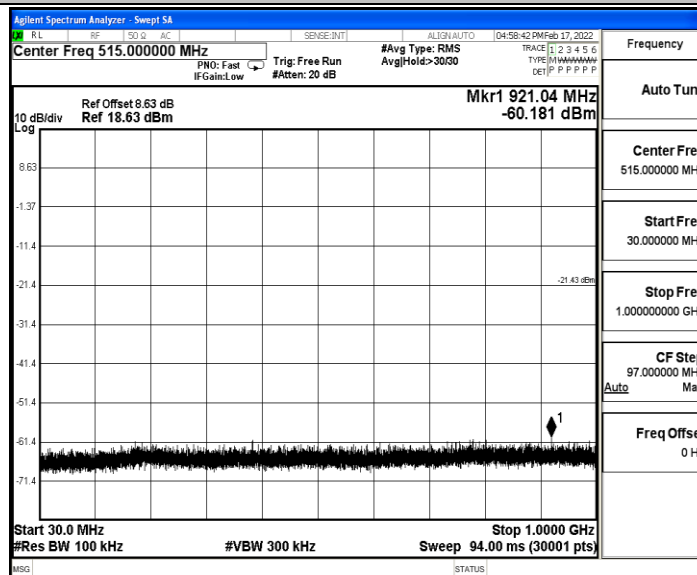
2DH5_Ant_2402_1000~26500



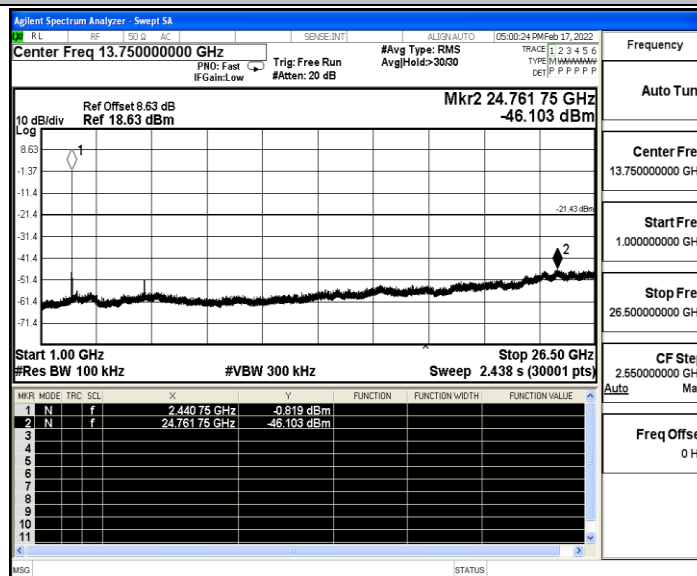
2DH5_Ant_2441_0~Reference



2DH5_Ant_2441_30~1000

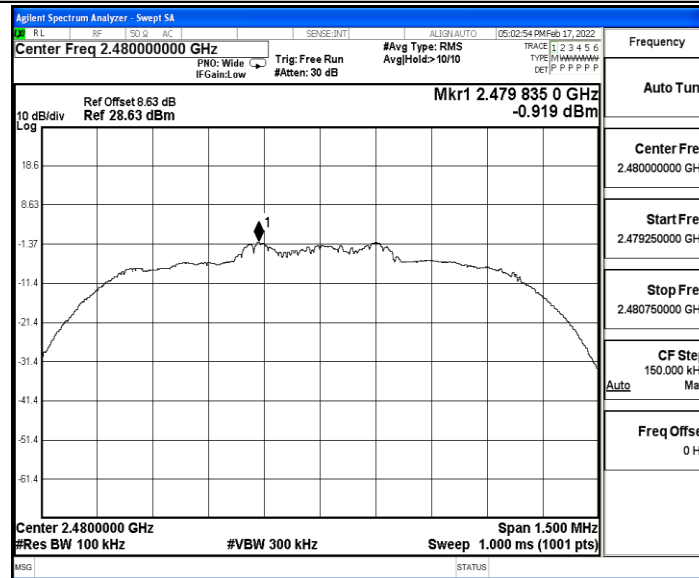


2DH5_Ant_2441_1000~26500

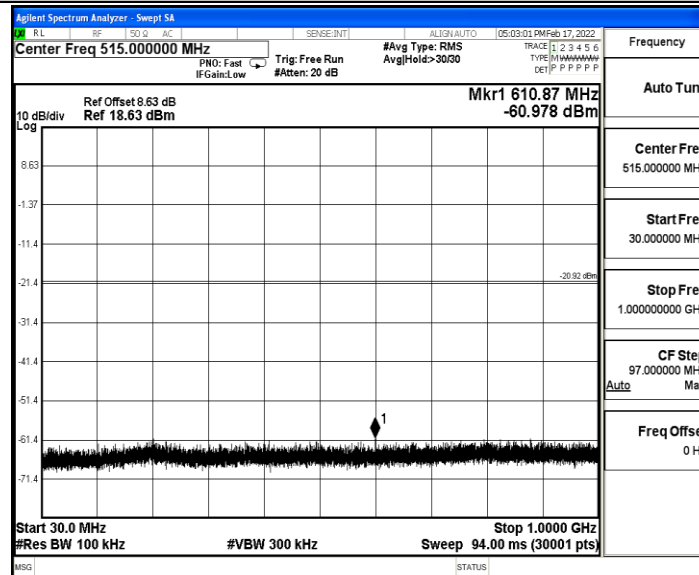




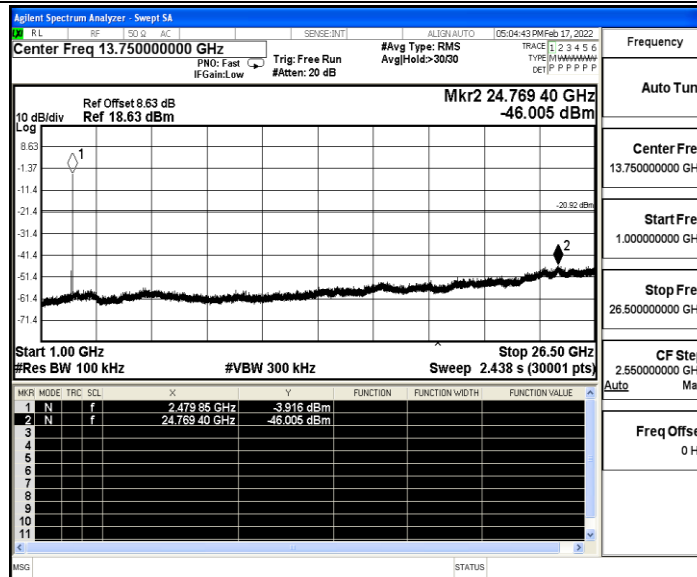
2DH5_Ant_2480_0~Reference



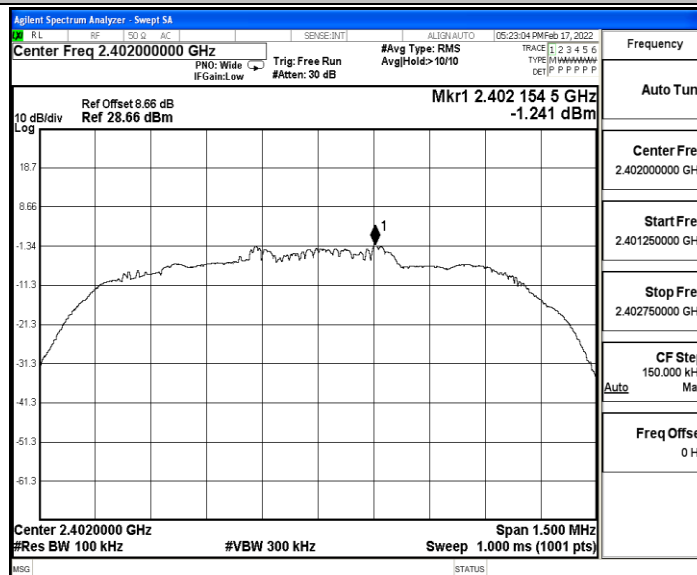
2DH5_Ant_2480_30~1000



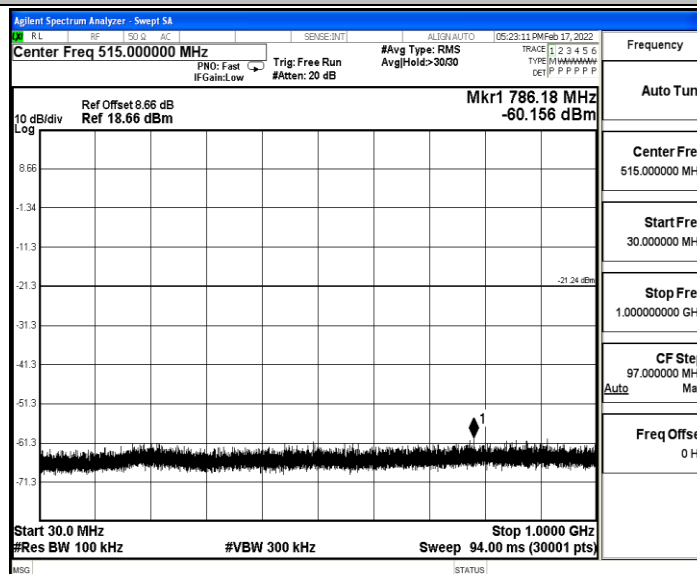
2DH5_Ant_2480_1000~26500



3DH5_Ant_2402_0~Reference

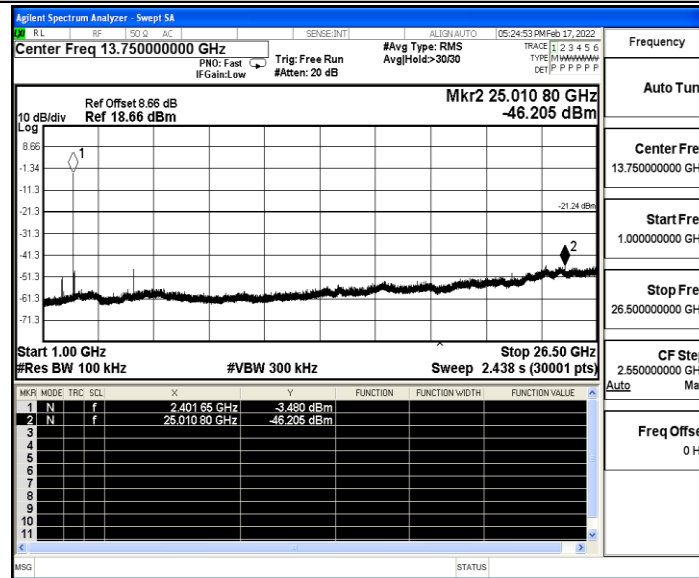


3DH5_Ant_2402_30~1000

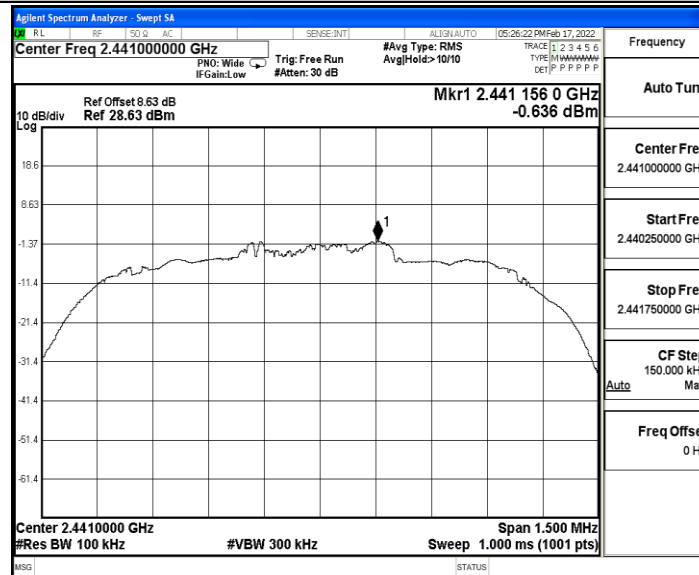




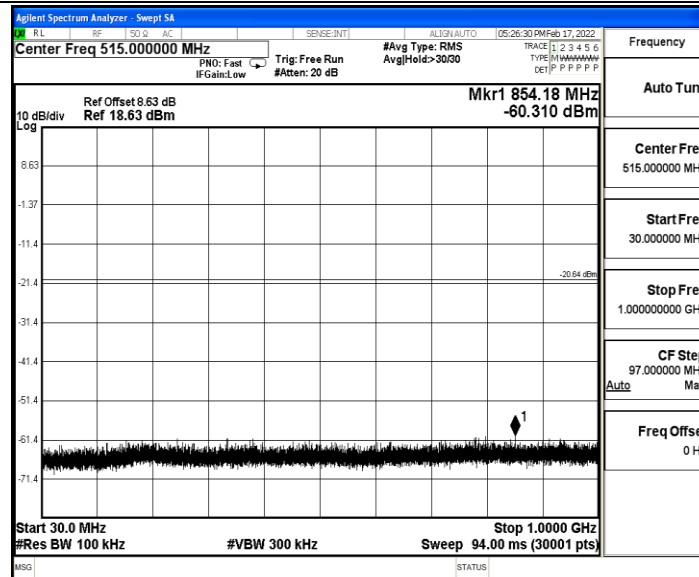
3DH5_Ant_2402_1000~26500



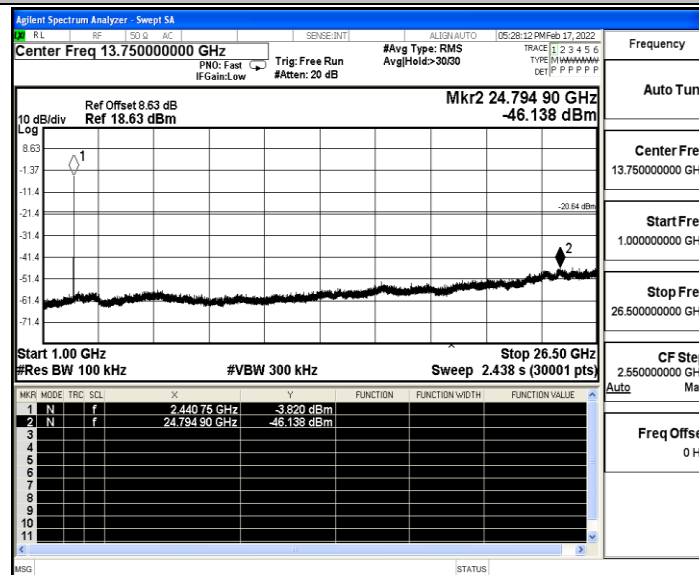
3DH5_Ant_2441_0~Reference



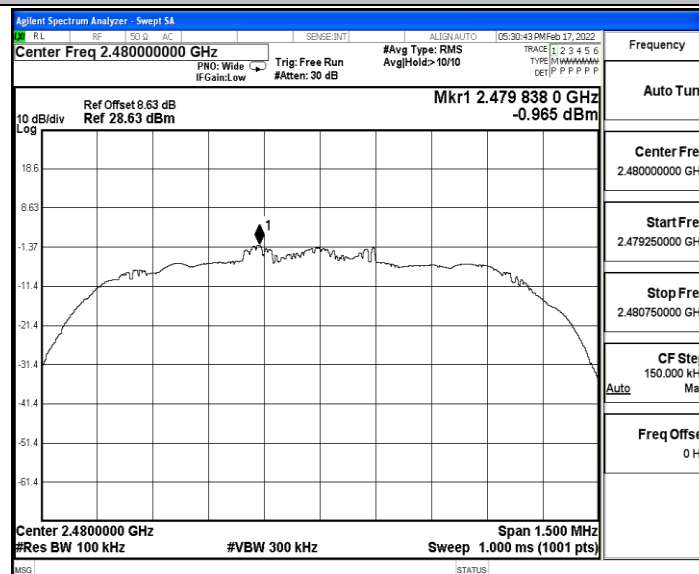
3DH5_Ant_2441_30~1000



3DH5_Ant_2441_1000~26500

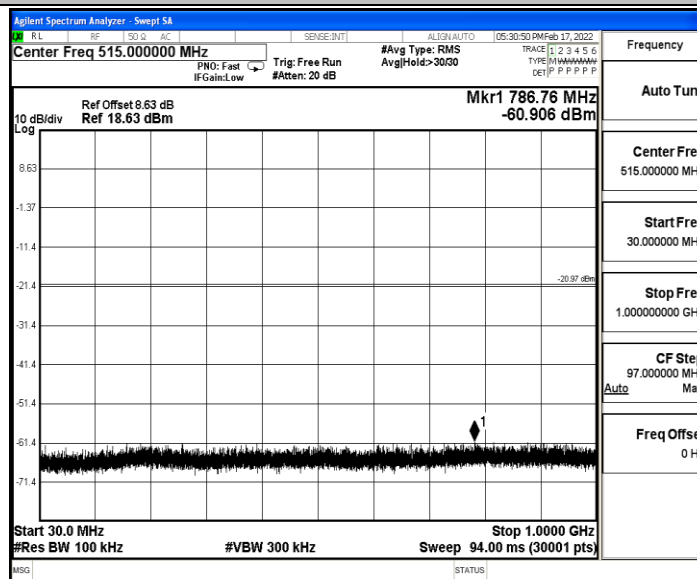


3DH5_Ant_2480_0~Reference

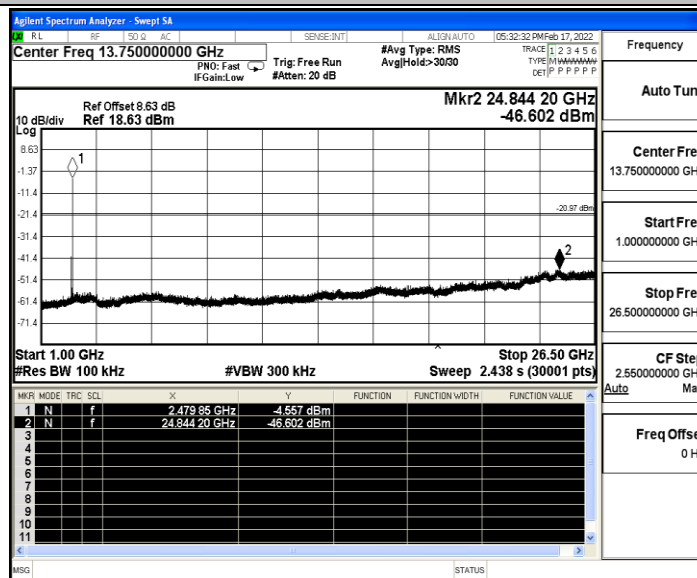




3DH5_Ant_2480_30~1000



3DH5_Ant_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	Ant	Low	2402	AV	2310.000	-48.26	≤-41.20	46.94	≤54	PASS
				AV	2389.670	-47.56	≤-41.20	47.64	≤54	PASS
				AV	2390.000	-47.89	≤-41.20	47.31	≤54	PASS
				Peak	2310.000	-37.87	≤-21.20	57.33	≤74	PASS
				Peak	2383.580	-36.66	≤-21.20	58.54	≤74	PASS
				Peak	2390.000	-37.75	≤-21.20	57.45	≤74	PASS
		High	2480	AV	2483.500	-47.26	≤-41.20	47.94	≤54	PASS
				AV	2499.600	-47.15	≤-41.20	48.05	≤54	PASS
				AV	2500.000	-47.31	≤-41.20	47.89	≤54	PASS
				Peak	2483.500	-38.07	≤-21.20	57.13	≤74	PASS
				Peak	2492.720	-36.29	≤-21.20	58.91	≤74	PASS
				Peak	2500.000	-38.12	≤-21.20	57.08	≤74	PASS
2DH5	Ant	Low	2402	AV	2310.000	-48.21	≤-41.20	46.99	≤54	PASS
				AV	2386.940	-47.73	≤-41.20	47.47	≤54	PASS
				AV	2390.000	-47.92	≤-41.20	47.28	≤54	PASS
				Peak	2310.000	-37.21	≤-21.20	57.99	≤74	PASS
				Peak	2378.015	-36.52	≤-21.20	58.68	≤74	PASS
				Peak	2390.000	-38.59	≤-21.20	56.61	≤74	PASS
		High	2480	AV	2483.500	-47.15	≤-41.20	48.05	≤54	PASS
				AV	2483.520	-47.15	≤-41.20	48.05	≤54	PASS
				AV	2500.000	-47.21	≤-41.20	47.99	≤54	PASS
				Peak	2483.500	-37.46	≤-21.20	57.74	≤74	PASS
				Peak	2493.520	-35.86	≤-21.20	59.34	≤74	PASS
				Peak	2500.000	-37.46	≤-21.20	57.74	≤74	PASS
3DH5	Ant	Low	2402	AV	2310.000	-48.19	≤-41.20	47.01	≤54	PASS
				AV	2385.785	-47.75	≤-41.20	47.45	≤54	PASS
				AV	2390.000	-47.95	≤-41.20	47.25	≤54	PASS
				Peak	2310.000	-37.78	≤-21.20	57.42	≤74	PASS
				Peak	2351.240	-36.33	≤-21.20	58.87	≤74	PASS
				Peak	2390.000	-38.41	≤-21.20	56.79	≤74	PASS
		High	2480	AV	2483.500	-47.2	≤-41.20	48.00	≤54	PASS
				AV	2483.520	-47.2	≤-41.20	48.00	≤54	PASS
				AV	2500.000	-47.16	≤-41.20	48.04	≤54	PASS
				Peak	2483.500	-38.03	≤-21.20	57.17	≤74	PASS
				Peak	2484.320	-35.86	≤-21.20	59.34	≤74	PASS
				Peak	2500.000	-37.87	≤-21.20	57.33	≤74	PASS



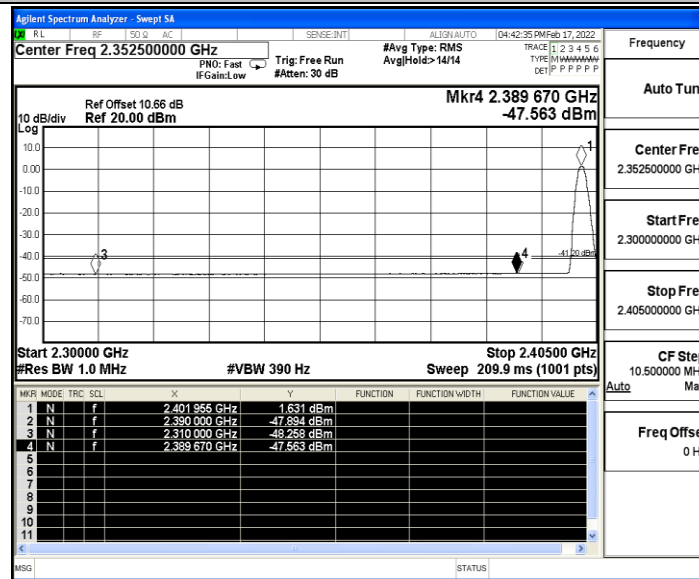
Note:

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.

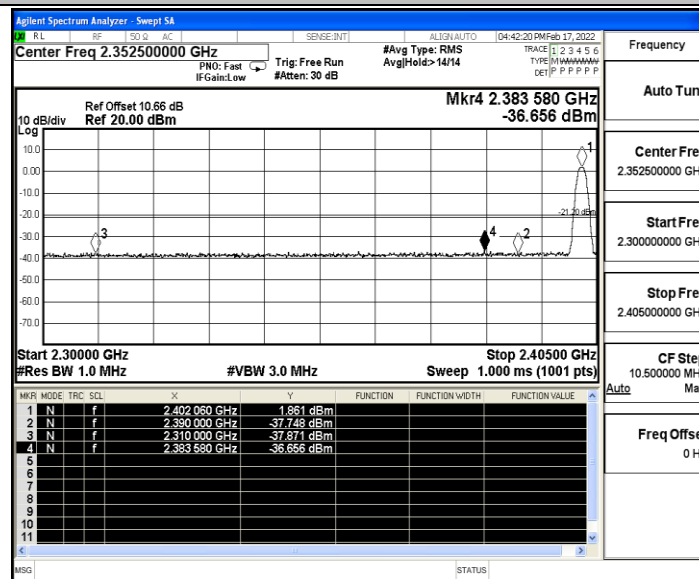


Test Graphs

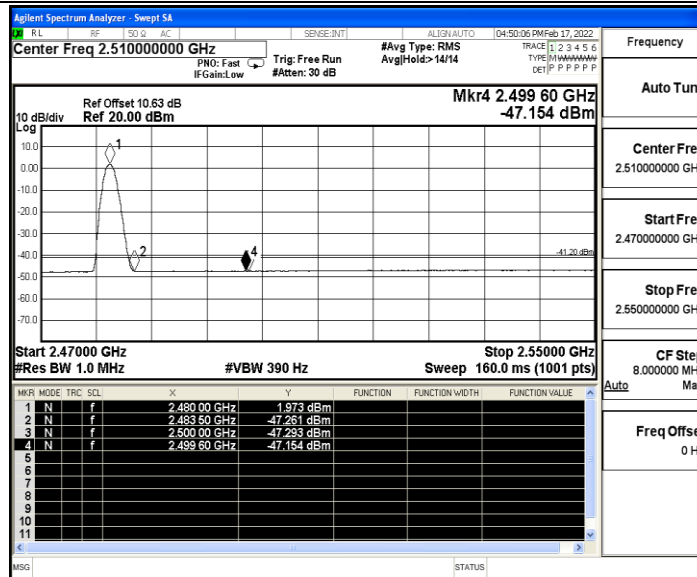
DH5_Ant_Low_2402_AV



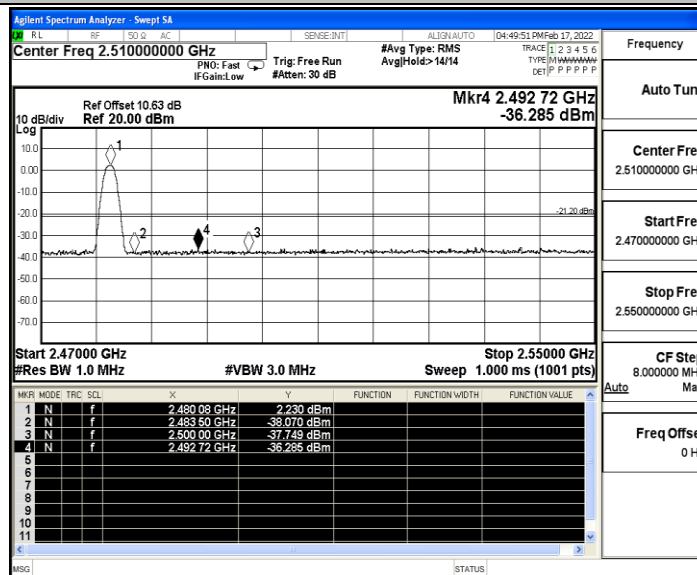
DH5_Ant_Low_2402_Peak



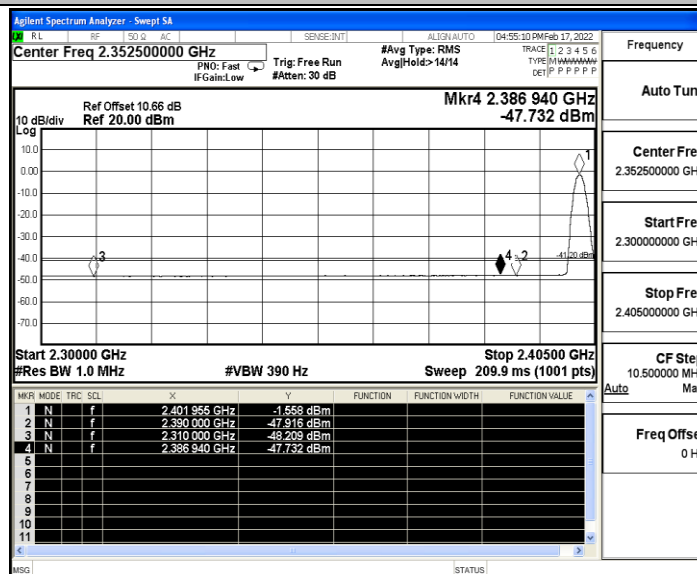
DH5_Ant_High_2480_AV



DH5_Ant_High_2480_Peak

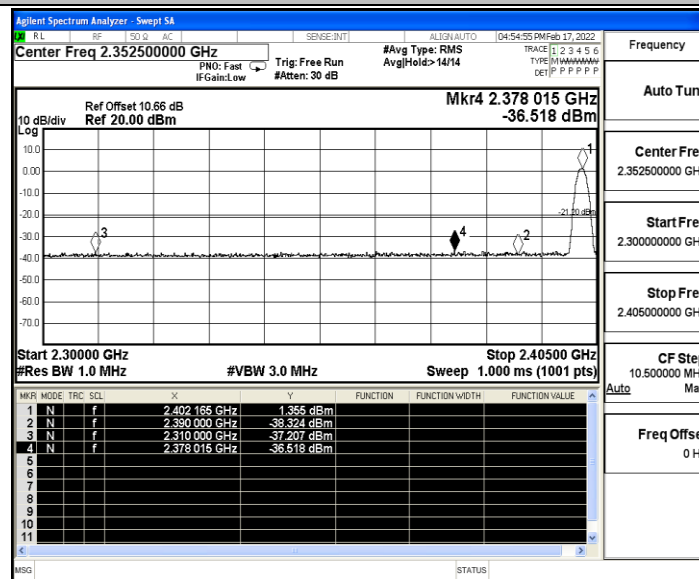


2DH5_Ant_Low_2402_AV

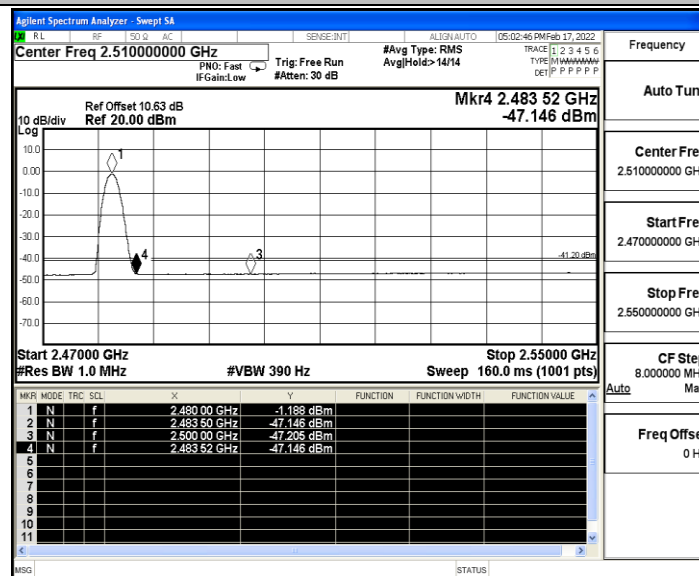




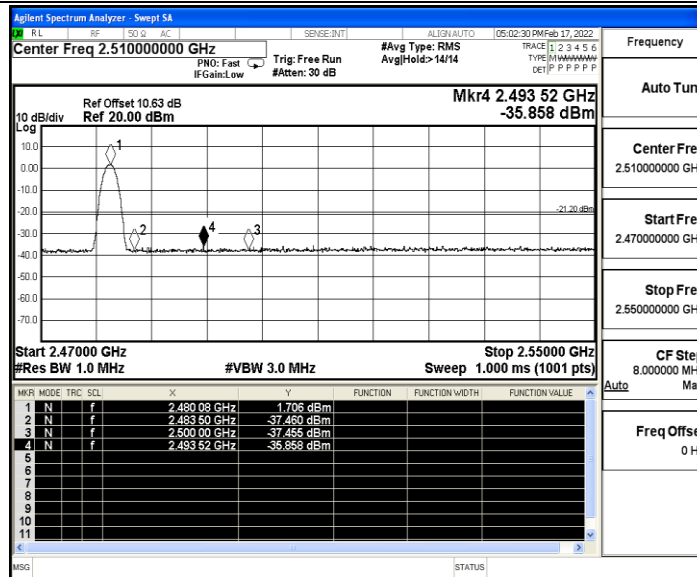
2DH5_Ant_Low_2402_Peak



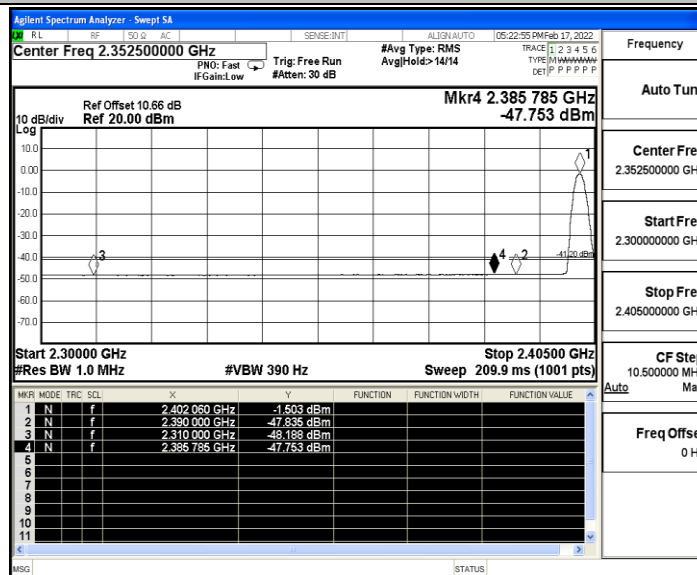
2DH5_Ant_High_2480_AV



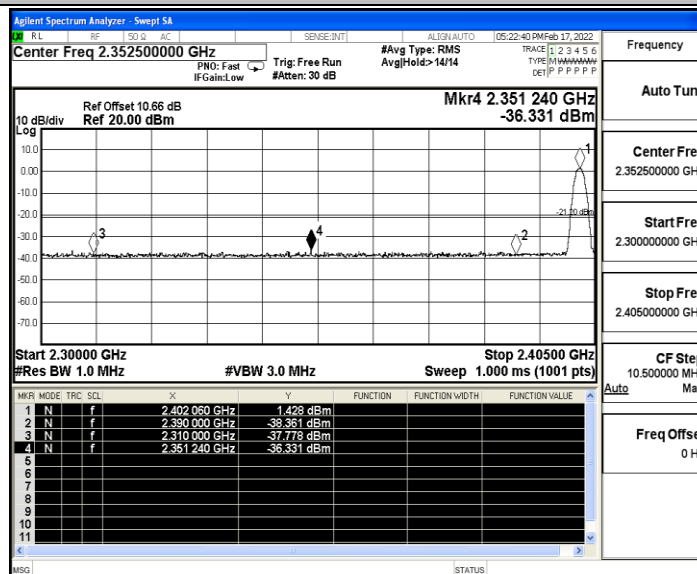
2DH5_Ant_High_2480_Peak



3DH5_Ant_Low_2402_AV

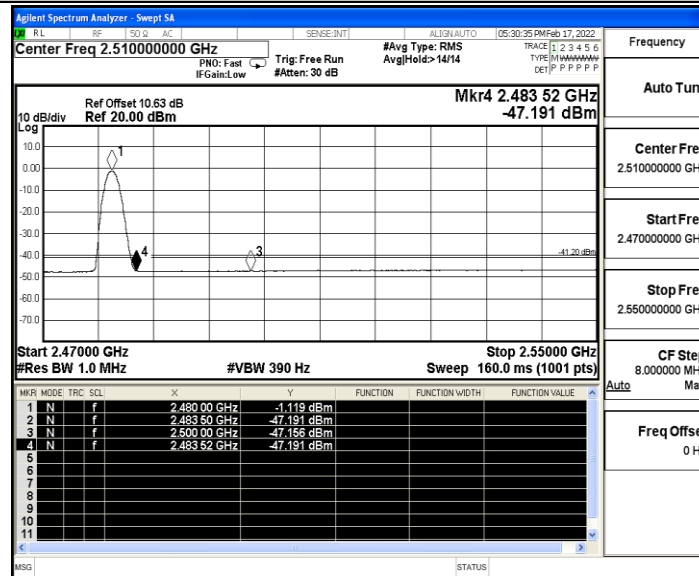


3DH5_Ant_Low_2402_Peak





3DH5_Ant_High_2480_AV



3DH5_Ant_High_2480_Peak

