Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Smart TV Box

Test Model: T95PLUS

Environmental Conditions

Temperature:	22.8° C
Relative Humidity:	53.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Bill Zhu
Supervised by:	Li Huan

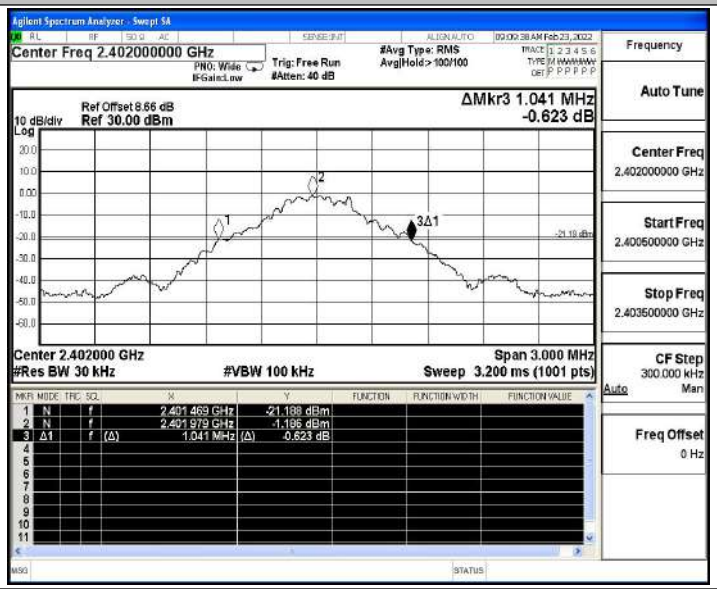
A.1 20dB Emission Bandwidth

Test Result

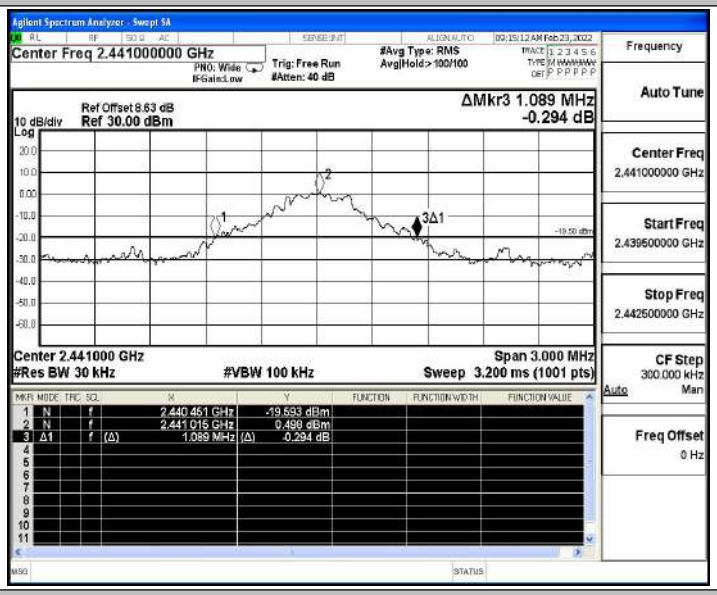
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.041	2401.469	2402.510	---	---
		2441	1.089	2440.451	2441.540	---	---
		2480	1.035	2479.472	2480.507	---	---
2DH5	Ant1	2402	1.323	2401.340	2402.663	---	---
		2441	1.290	2440.364	2441.654	---	---
		2480	1.326	2479.334	2480.660	---	---
3DH5	Ant1	2402	1.299	2401.352	2402.651	---	---
		2441	1.296	2440.352	2441.648	---	---
		2480	1.311	2479.346	2480.657	---	---

Test Graphs

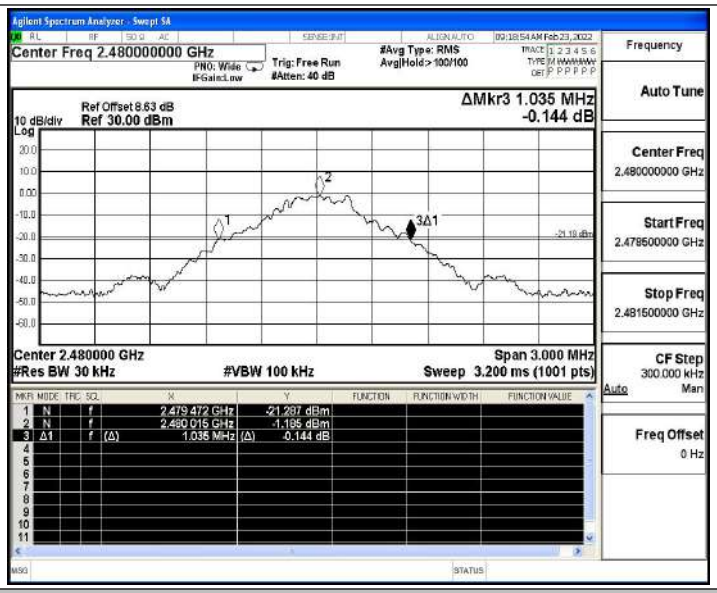
DH5_Ant1_2402



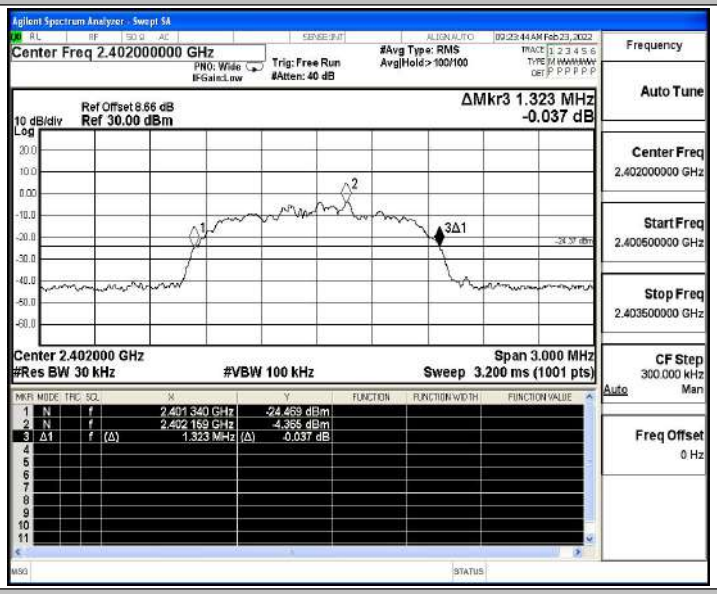
DH5_Ant1_2441



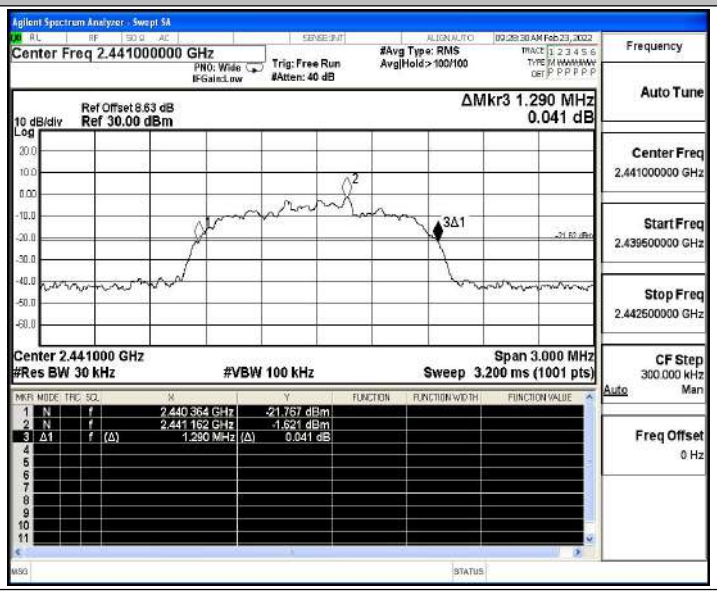
DH5_Ant1_2480



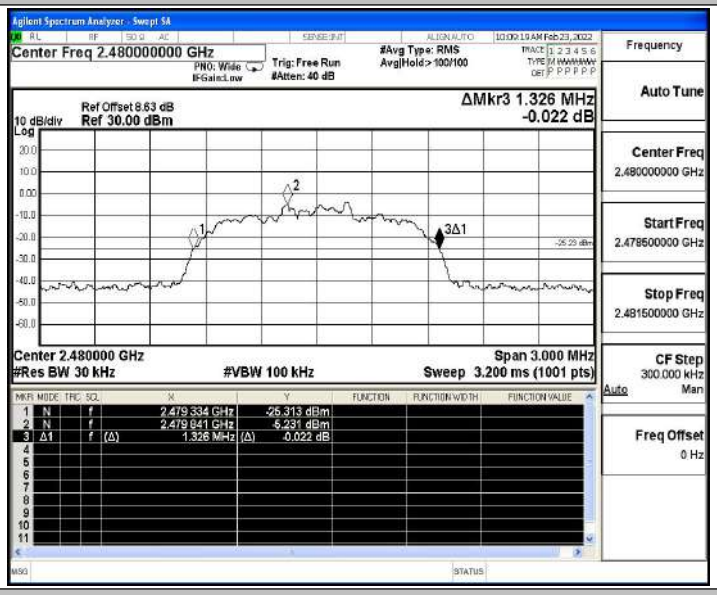
2DH5_Ant1_2402



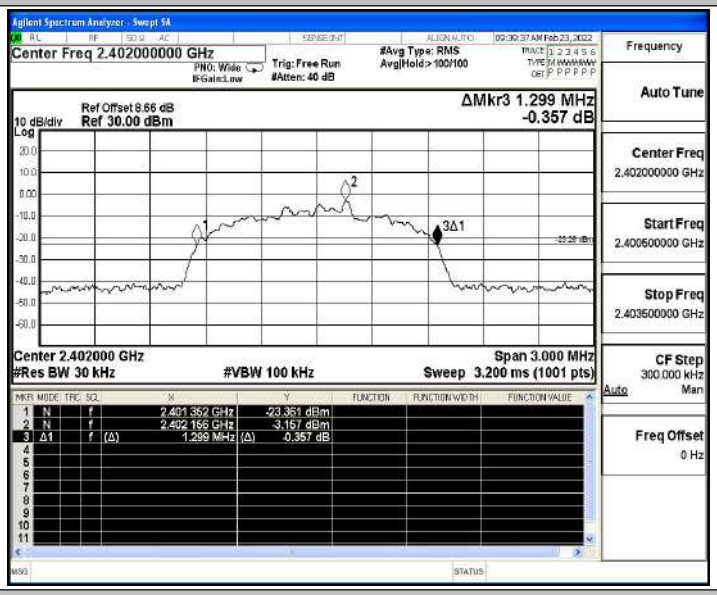
2DH5_Ant1_2441



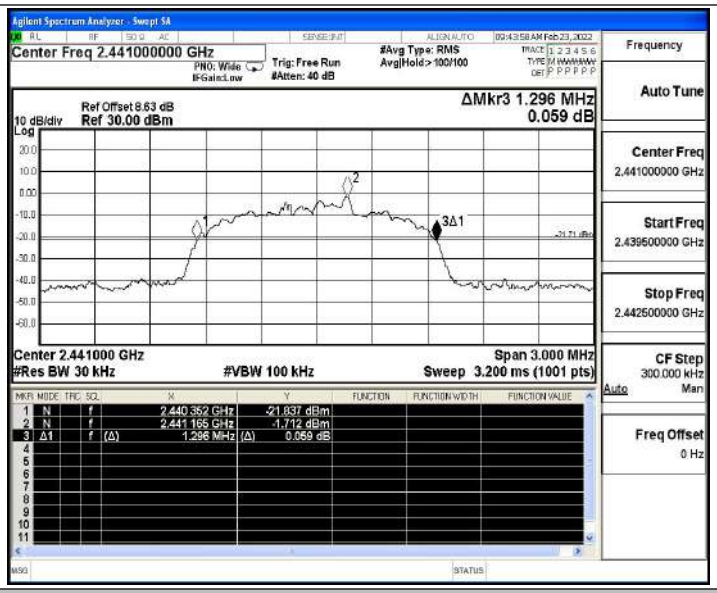
2DH5_Ant1_2480



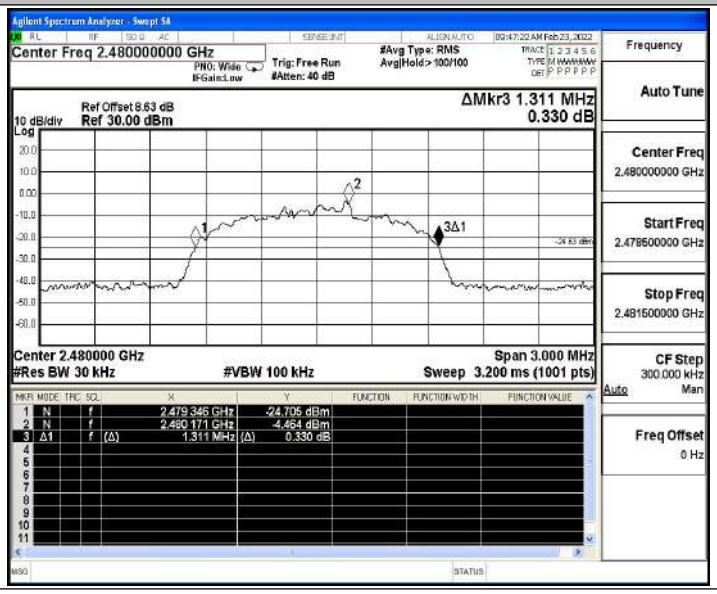
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



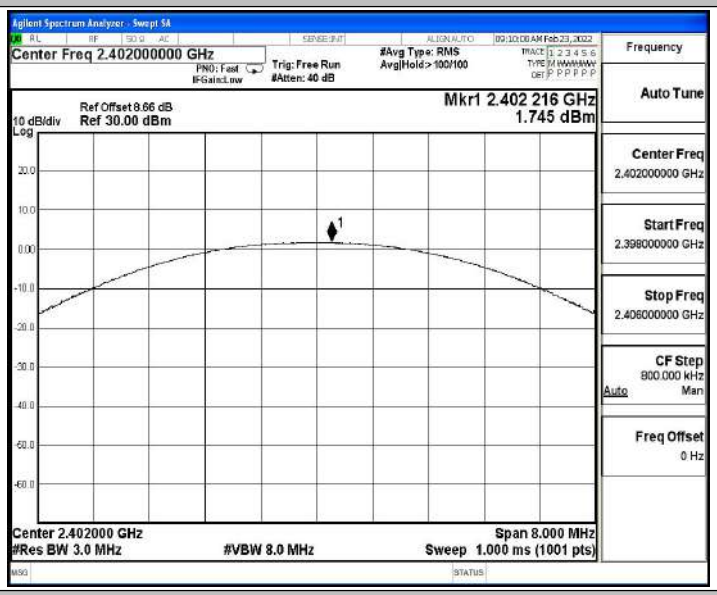
A.2 Maximum peak conducted output power

Test Result

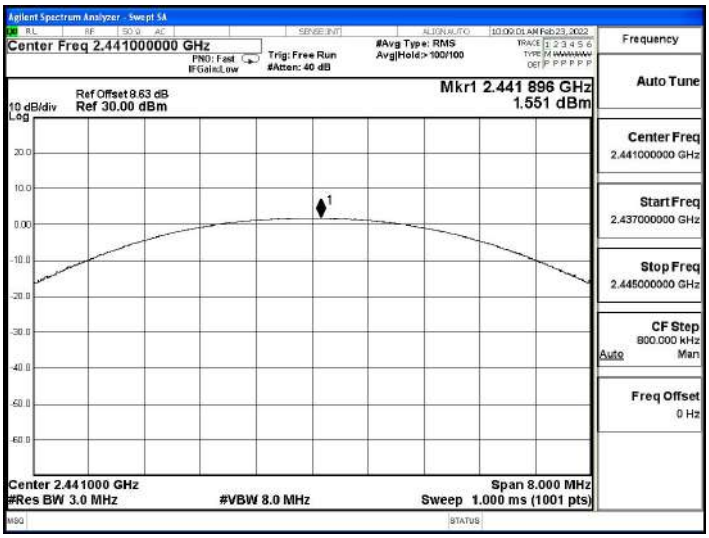
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	1.75	≤20.97	PASS
		2441	1.55	≤20.97	PASS
		2480	1.75	≤20.97	PASS
2DH5	Ant1	2402	0.81	≤20.97	PASS
		2441	2.35	≤20.97	PASS
		2480	0.8	≤20.97	PASS
3DH5	Ant1	2402	0.43	≤20.97	PASS
		2441	1.84	≤20.97	PASS
		2480	0.16	≤20.97	PASS

Test Graphs

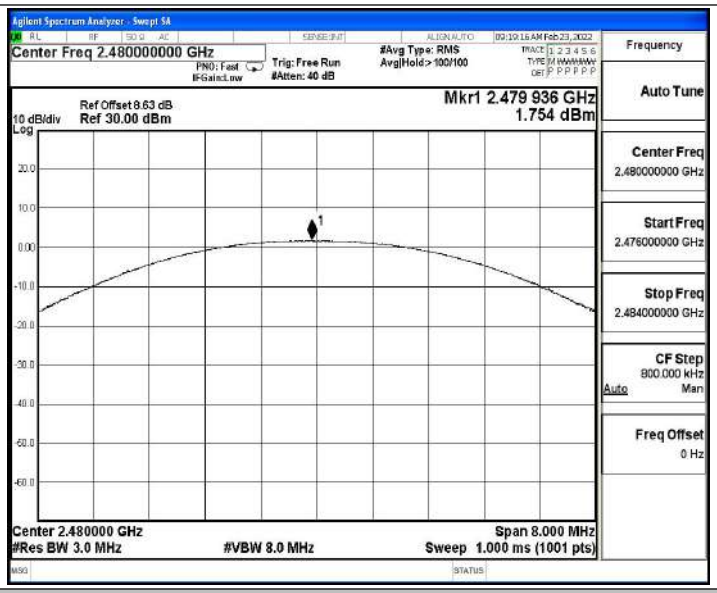
DH5_Ant1_2402



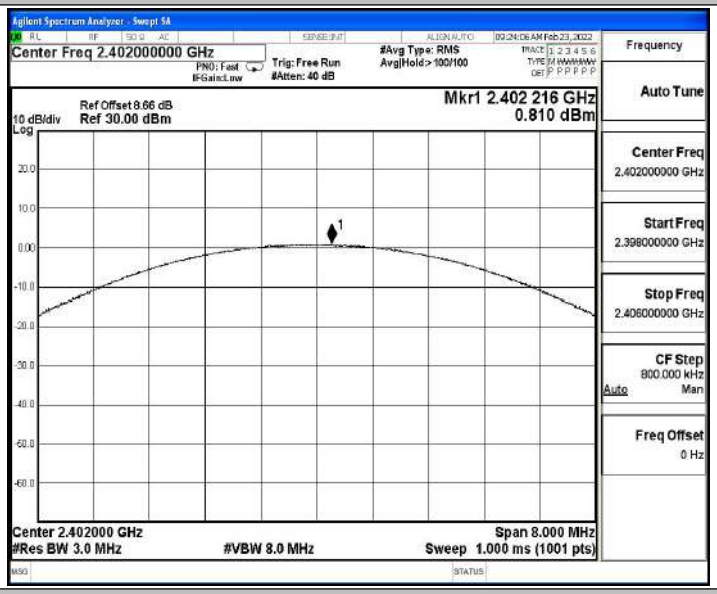
DH5_Ant1_2441



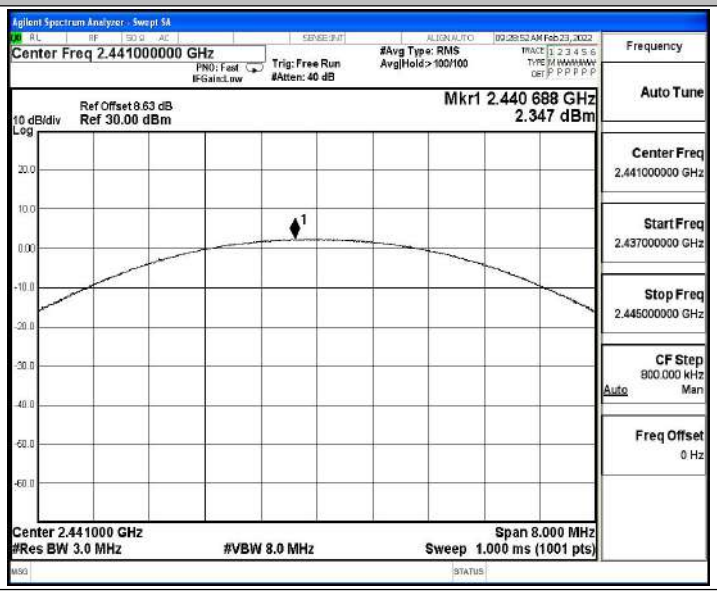
DH5_Ant1_2480



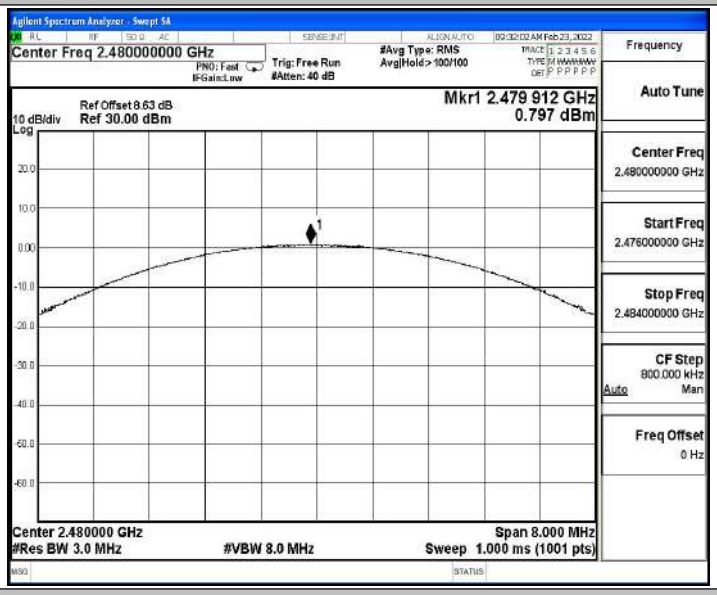
2DH5_Ant1_2402



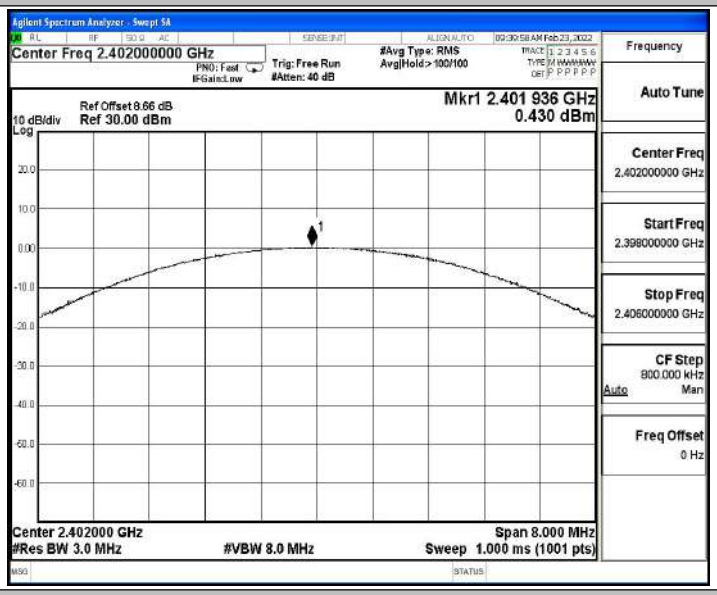
2DH5_Ant1_2441



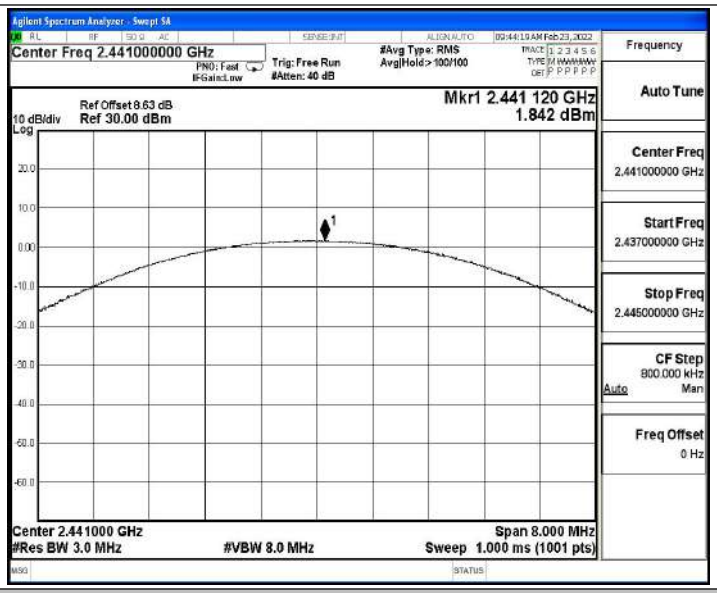
2DH5_Ant1_2480



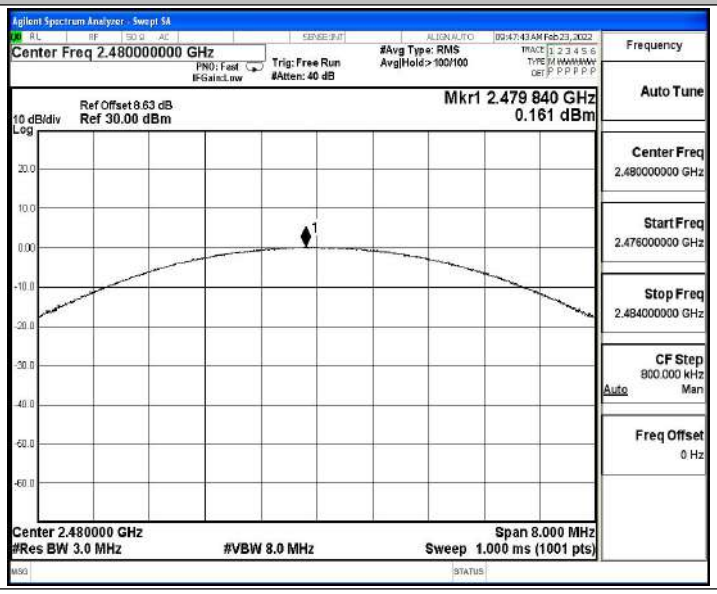
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



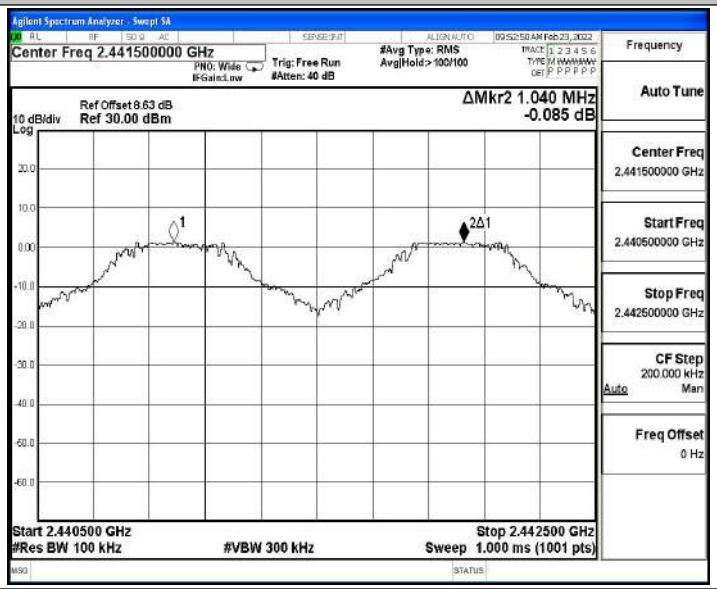
A.3 Carrier frequency separation

Test Result

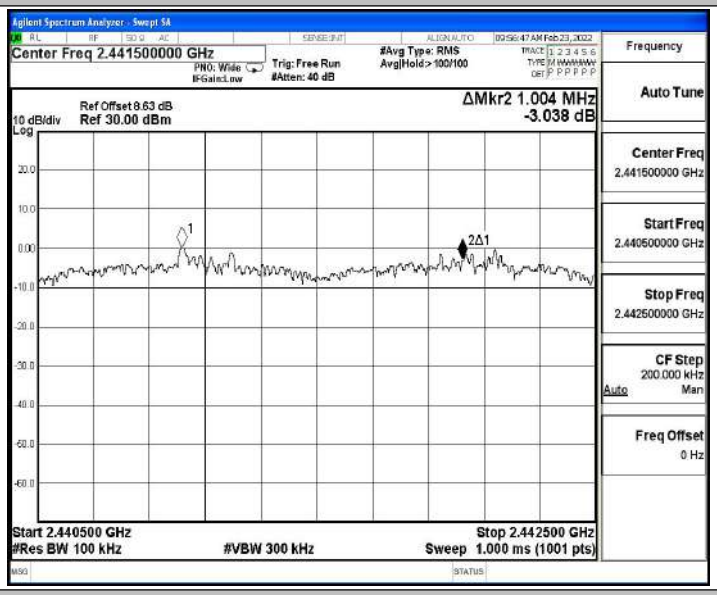
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.04	≥0.726	PASS
2DH5	Ant1	Hop	1.004	≥0.882	PASS
3DH5	Ant1	Hop	0.94	≥0.874	PASS

Test Graphs

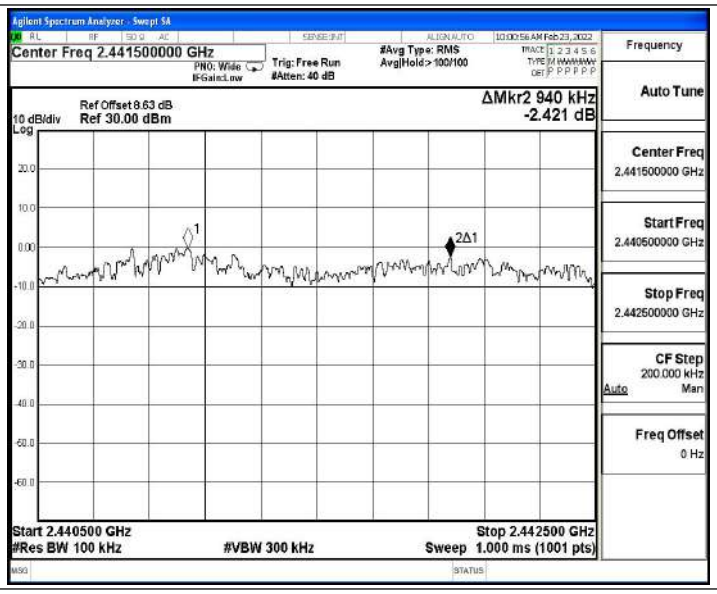
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441500000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold:>100/100
Ref Offset 8.63 dB
10 dB/div Ref 30.00 dBm
Log
ΔMkr2 940 kHz
-2.421 dB
Start 2.440500 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.442500 GHz
Sweep 1.000 ms (1001 pts)
Frequency
Auto Tune
Center Freq
2.441500000 GHz
Start Freq
2.440500000 GHz
Stop Freq
2.442500000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

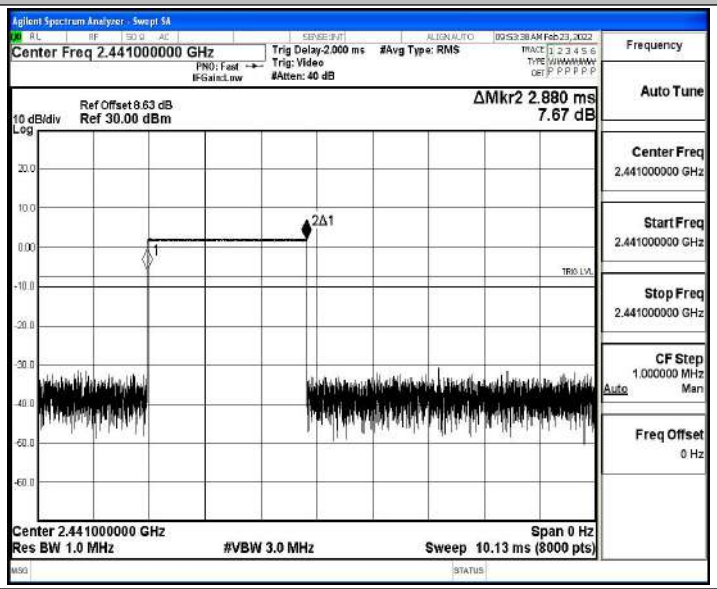
A.4 Time of occupancy

Test Result

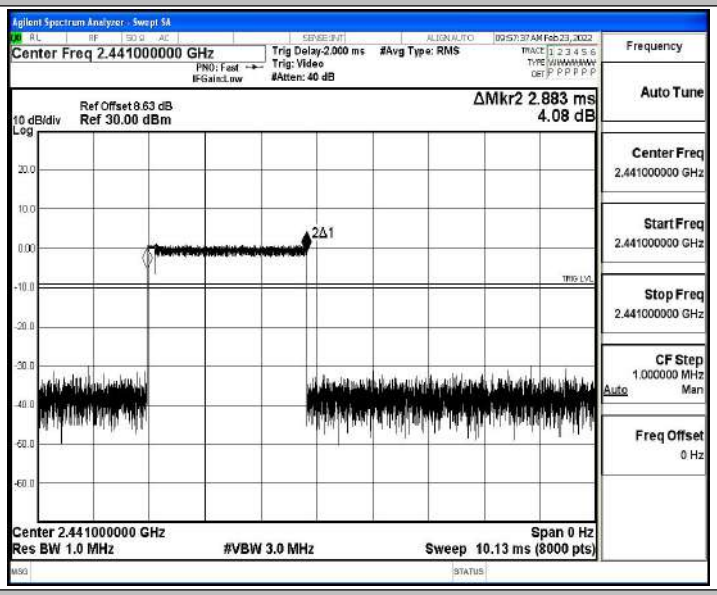
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	106.67	0.307	≤0.4	PASS
2DH5	Ant1	Hop	2.88	106.67	0.308	≤0.4	PASS
3DH5	Ant1	Hop	2.89	106.67	0.308	≤0.4	PASS

Test Graphs

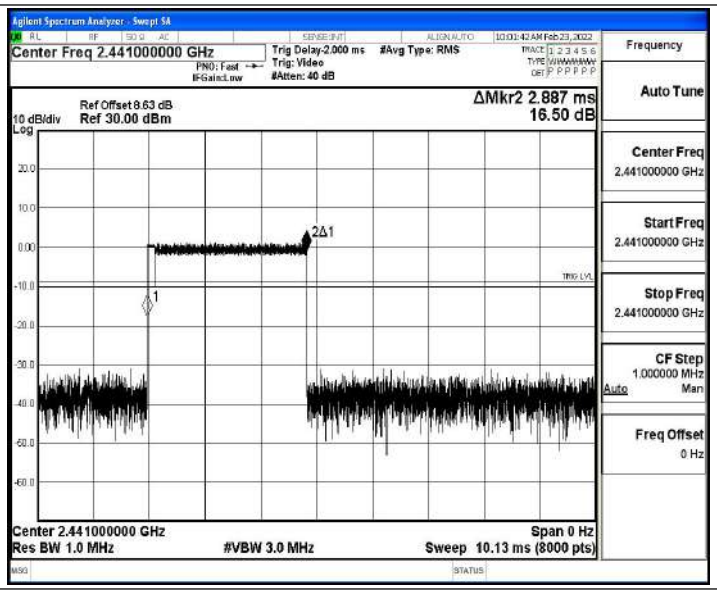
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
Trig Delay-2.000 ms
Trig: Video
#Atten: 40 dB
#Avg Type: RMS
Ref Offset 8.63 dB
10 dB/div Ref 30.00 dBm
Log
ΔMkr2 2.887 ms
16.50 dB
2Δ1
1
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 10.13 ms (8000 pts)
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz

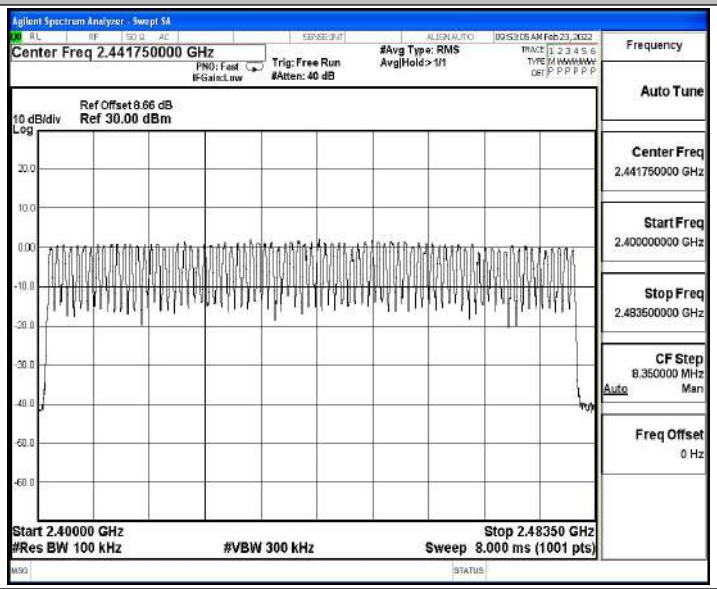
A.5 Number of hopping channels

Test Result

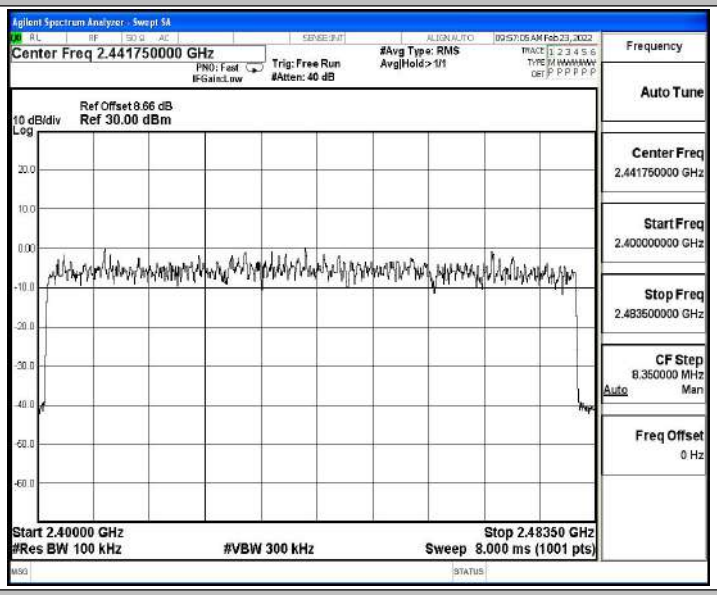
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

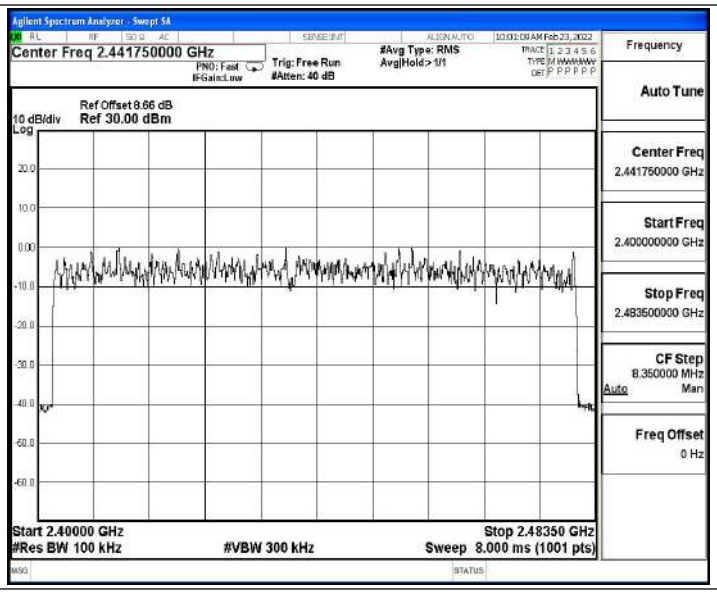
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441750000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold:>1/1
Frequency
Auto Tune
Ref Offset 8.66 dB
10 dB/div Ref 30.00 dBm
Log
Center Freq
2.441750000 GHz
Start Freq
2.400000000 GHz
Stop Freq
2.483500000 GHz
CF Step
8.350000 MHz
Auto Man
Freq Offset
0 Hz
Start 2.40000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.48350 GHz
Sweep 8.000 ms (1001 pts)

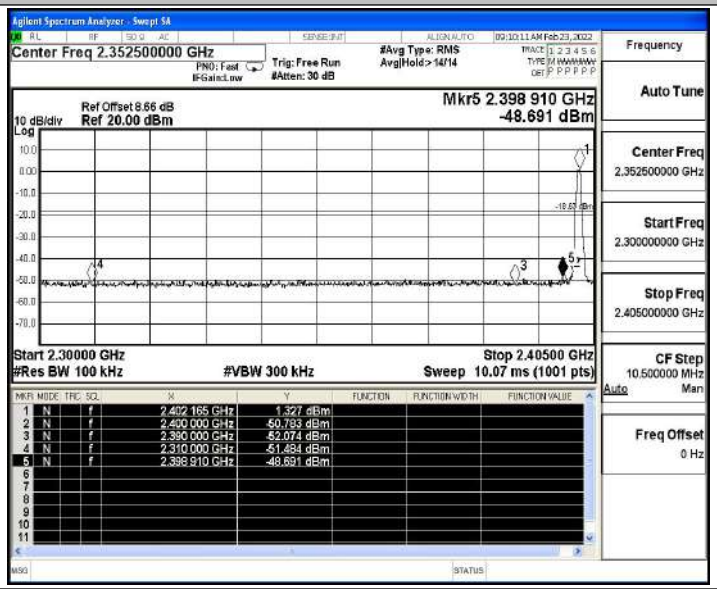
A.6 Band edge measurements

Test Result

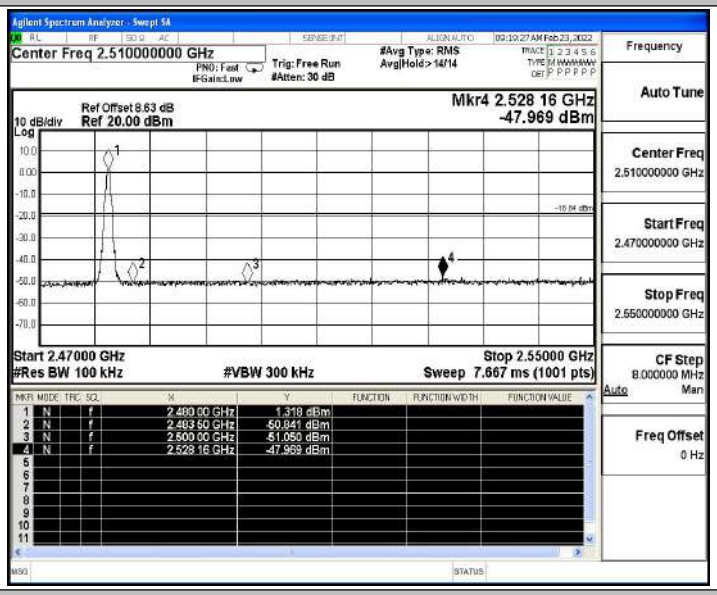
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	1.33	-48.69	≤-18.67	PASS
		High	2480	1.16	-47.97	≤-18.84	PASS
		Low	Hop_2402	0.08	-48.99	≤-19.93	PASS
		High	Hop_2480	0.49	-48.09	≤-19.51	PASS
2DH5	Ant1	Low	2402	-3.57	-48.92	≤-23.57	PASS
		High	2480	-0.81	-48.15	≤-20.81	PASS
		Low	Hop_2402	-4.05	-49.26	≤-24.05	PASS
		High	Hop_2480	-0.83	-48.28	≤-20.83	PASS
3DH5	Ant1	Low	2402	-1.25	-48.91	≤-21.25	PASS
		High	2480	-1.08	-47.62	≤-21.08	PASS
		Low	Hop_2402	-4.35	-49.56	≤-24.35	PASS
		High	Hop_2480	-2.67	-48.07	≤-22.67	PASS

Test Graphs

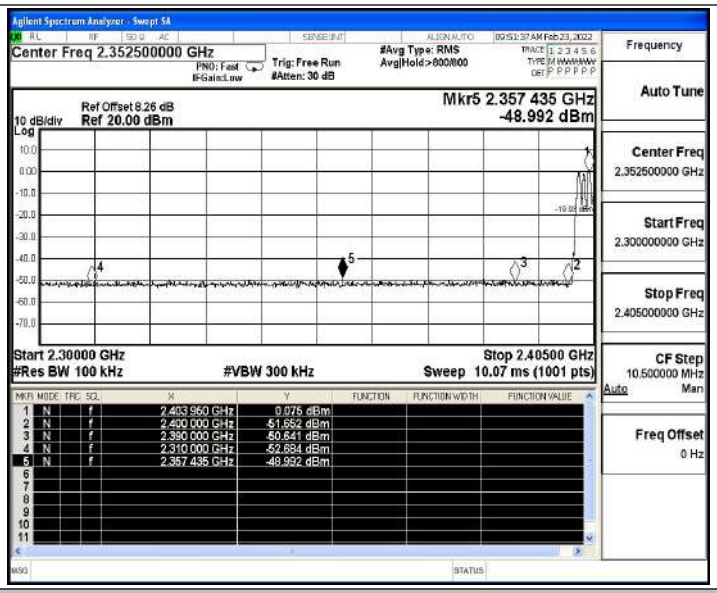
DH5_Ant1_Low_2402



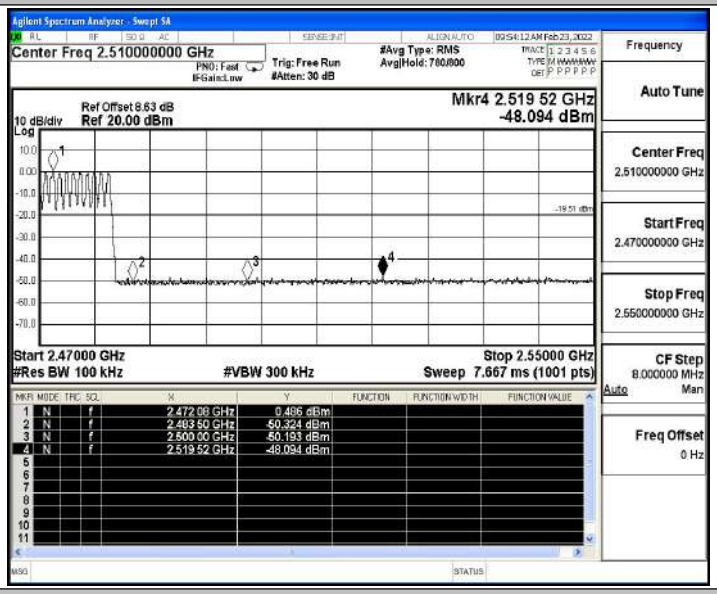
DH5_Ant1_High_2480



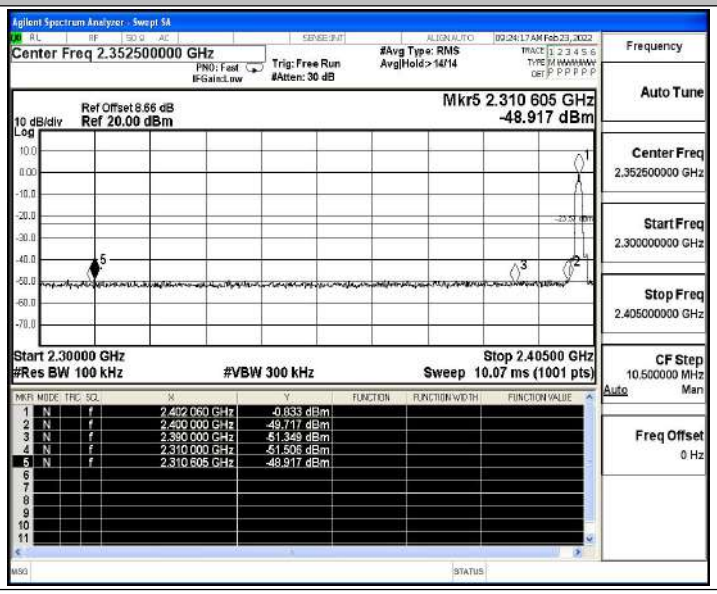
DH5_Ant1_Low_Hop_2402



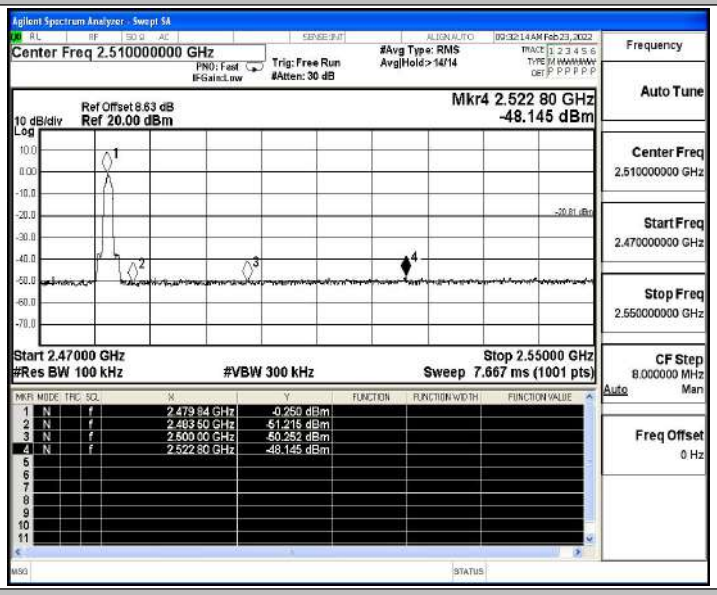
DH5_Ant1_High_Hop_2480



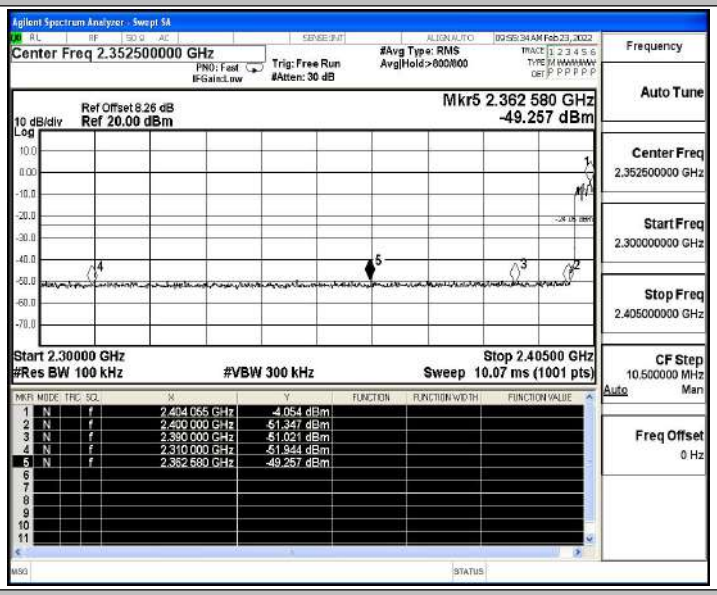
2DH5_Ant1_Low_2402



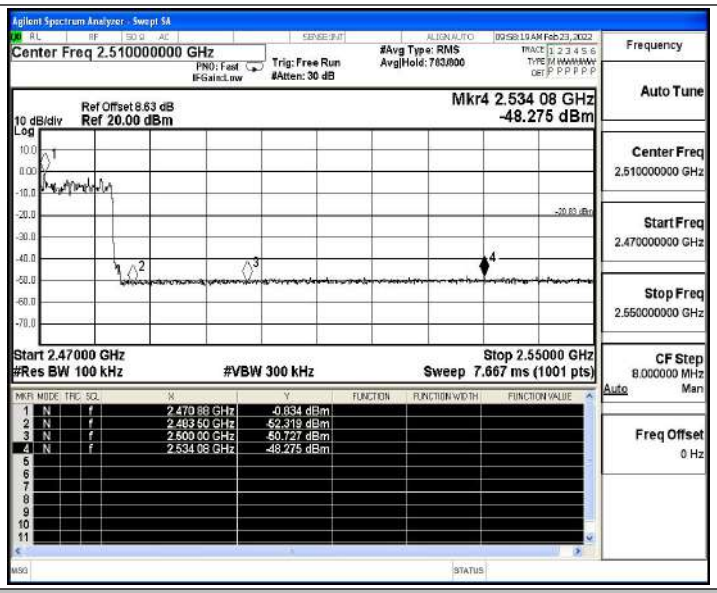
2DH5_Ant1_High_2480



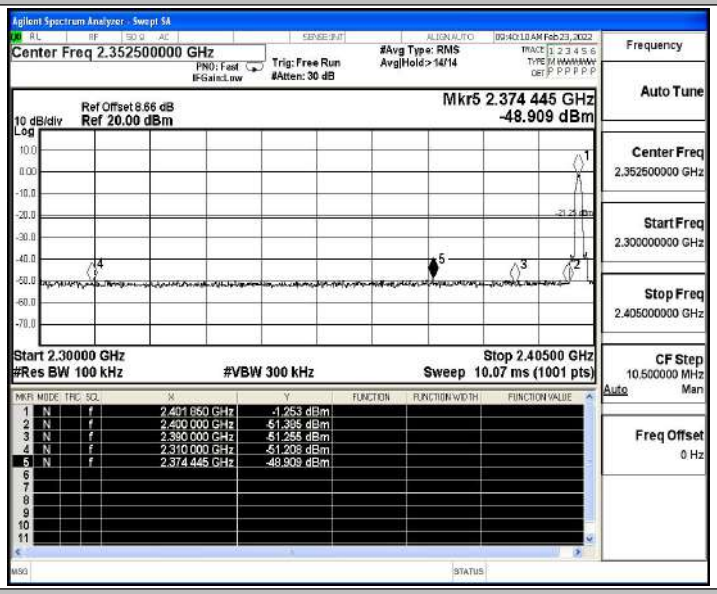
2DH5_Ant1_Low_Hop_2402



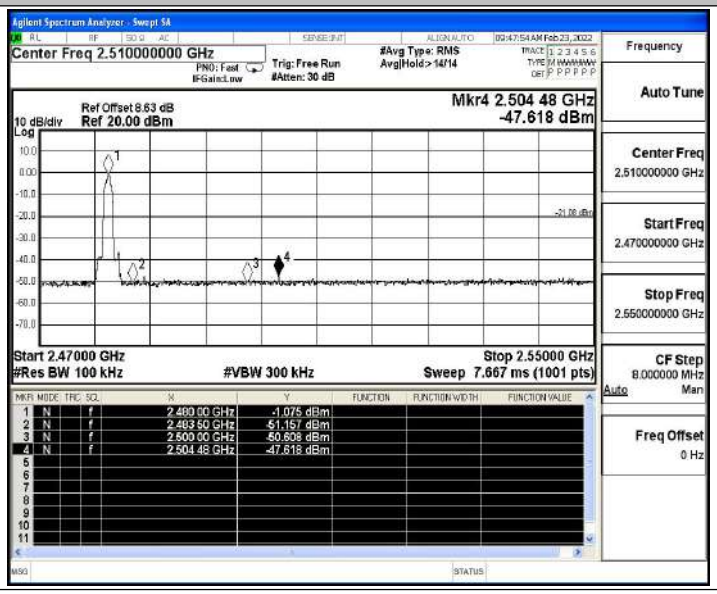
2DH5_Ant1_High_Hop_2480



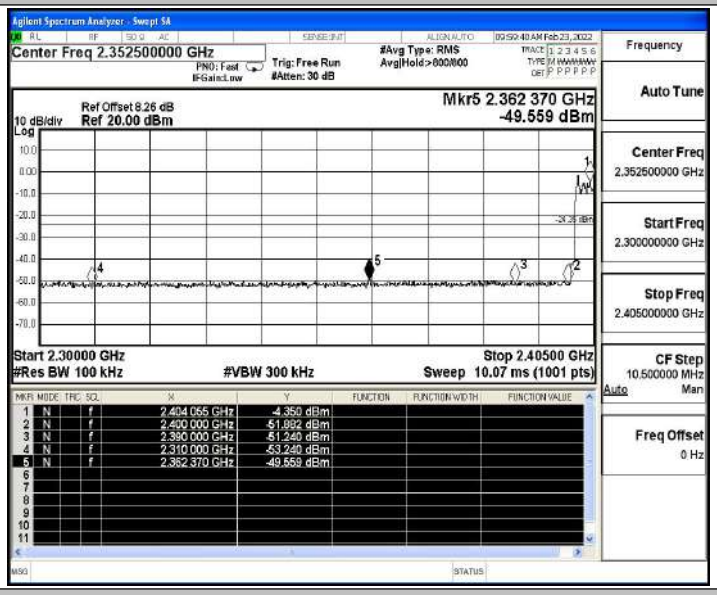
3DH5_Ant1_Low_2402



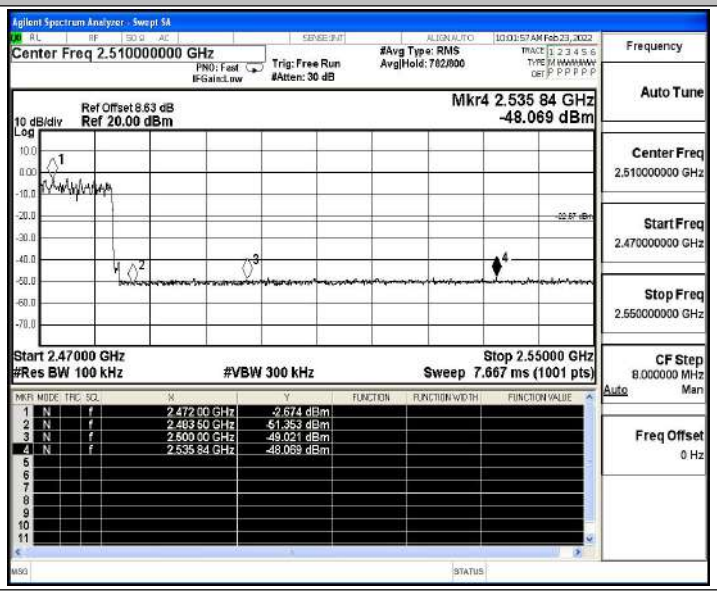
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



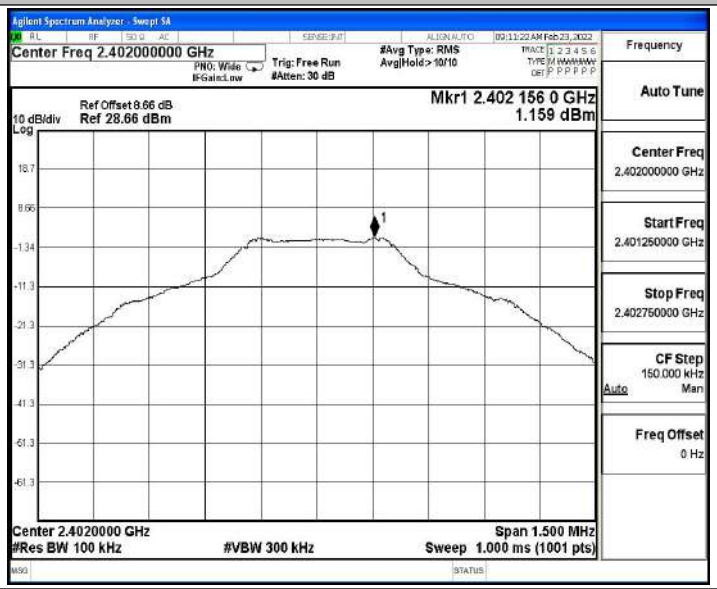
A.7 Conducted Spurious Emission

Test Result

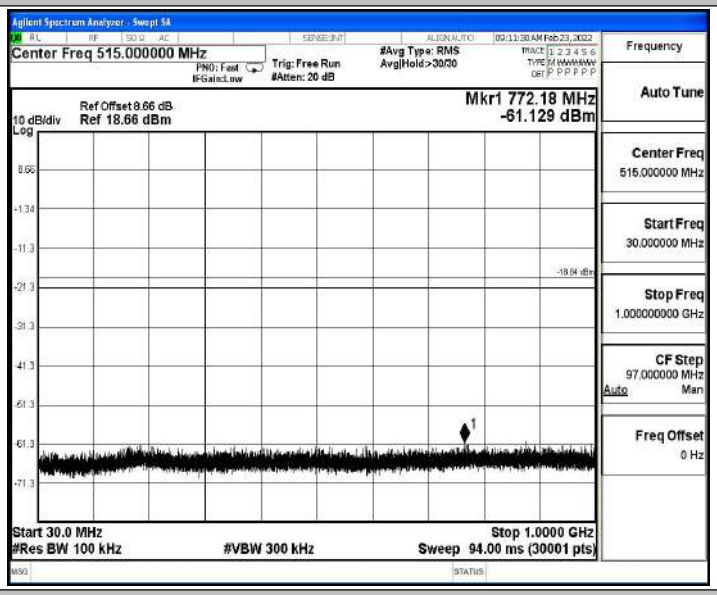
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	1.16	1.16	---	PASS
			30~1000	1.16	-61.13	≤-18.84	PASS
			1000~26500	1.16	-46.83	≤-18.84	PASS
		2441	Reference	2.81	2.81	---	PASS
			30~1000	2.81	-60.98	≤-17.19	PASS
			1000~26500	2.81	-45.93	≤-17.19	PASS
		2480	Reference	1.07	1.07	---	PASS
			30~1000	1.07	-61	≤-18.93	PASS
			1000~26500	1.07	-46.15	≤-18.93	PASS
2DH5	Ant1	2402	Reference	-0.43	-0.43	---	PASS
			30~1000	-0.43	-60.12	≤-20.43	PASS
			1000~26500	-0.43	-45.77	≤-20.43	PASS
		2441	Reference	1.14	1.14	---	PASS
			30~1000	1.14	-60.92	≤-18.86	PASS
			1000~26500	1.14	-46.31	≤-18.86	PASS
		2480	Reference	-0.34	-0.34	---	PASS
			30~1000	-0.34	-59.94	≤-20.34	PASS
			1000~26500	-0.34	-46.87	≤-20.34	PASS
3DH5	Ant1	2402	Reference	-1.20	-1.20	---	PASS
			30~1000	-1.20	-60.13	≤-21.2	PASS
			1000~26500	-1.20	-45.83	≤-21.2	PASS
		2441	Reference	0.42	0.42	---	PASS
			30~1000	0.42	-49.19	≤-19.58	PASS
			1000~26500	0.42	-46.55	≤-19.58	PASS
		2480	Reference	-1.16	-1.16	---	PASS
			30~1000	-1.16	-60.92	≤-21.16	PASS
			1000~26500	-1.16	-46.57	≤-21.16	PASS

Test Graphs

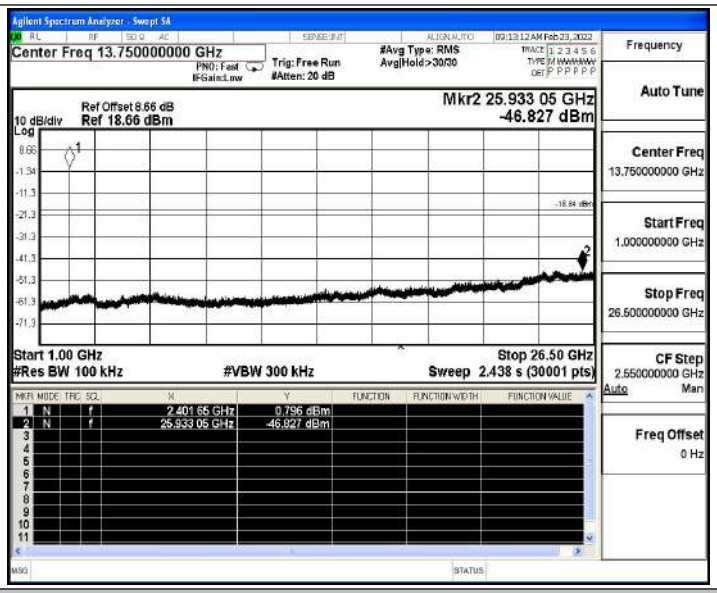
DH5_Ant1_2402_0~Reference



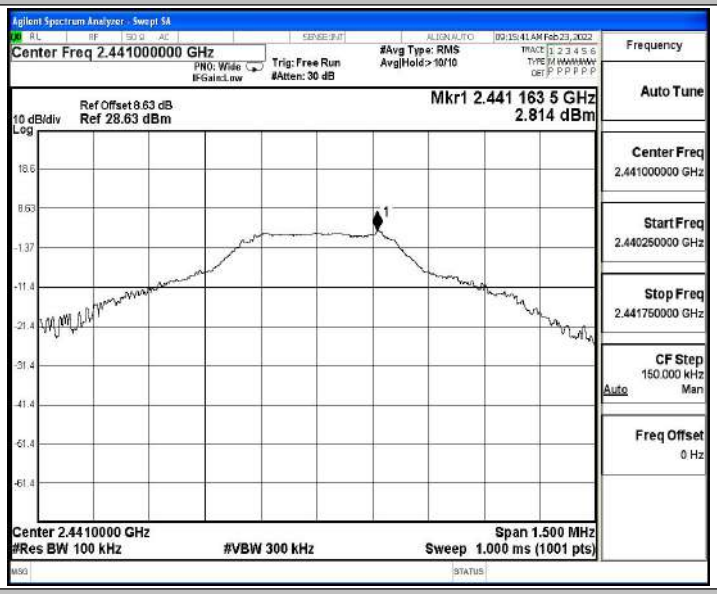
DH5_Ant1_2402_30~1000



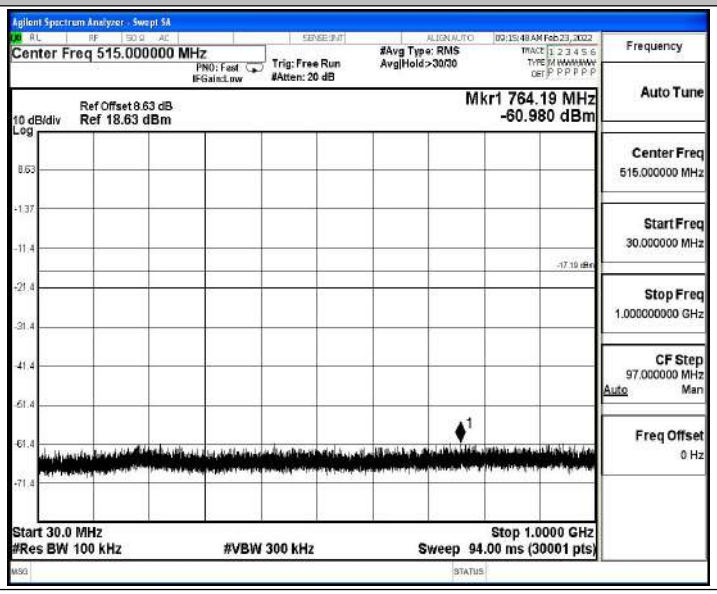
DH5_Ant1_2402_1000~26500



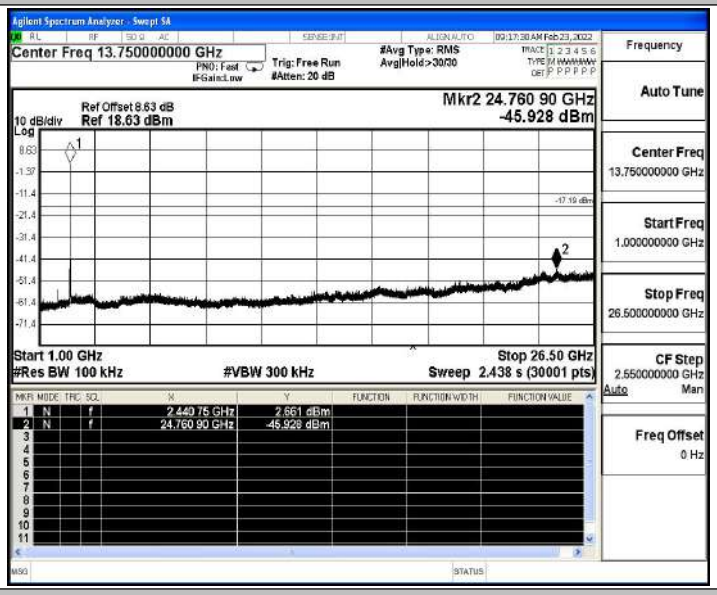
DH5_Ant1_2441_0~Reference



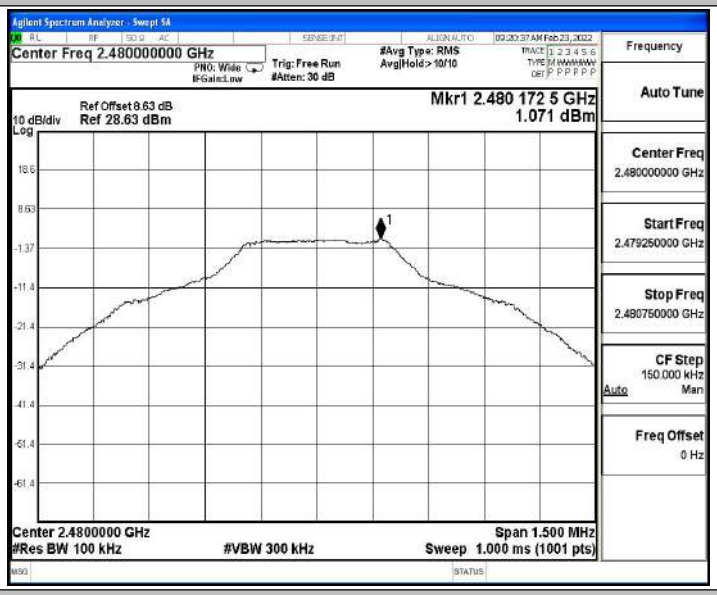
DH5_Ant1_2441_30~1000



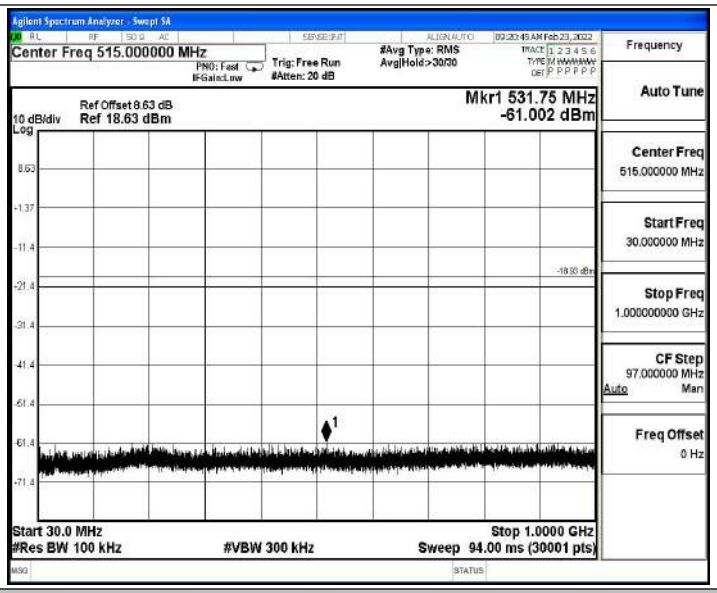
DH5_Ant1_2441_1000~26500



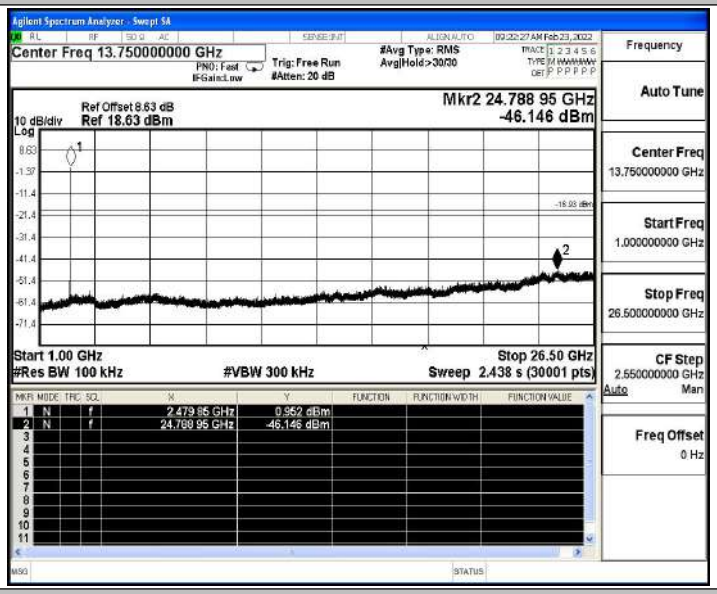
DH5_Ant1_2480_0~Reference



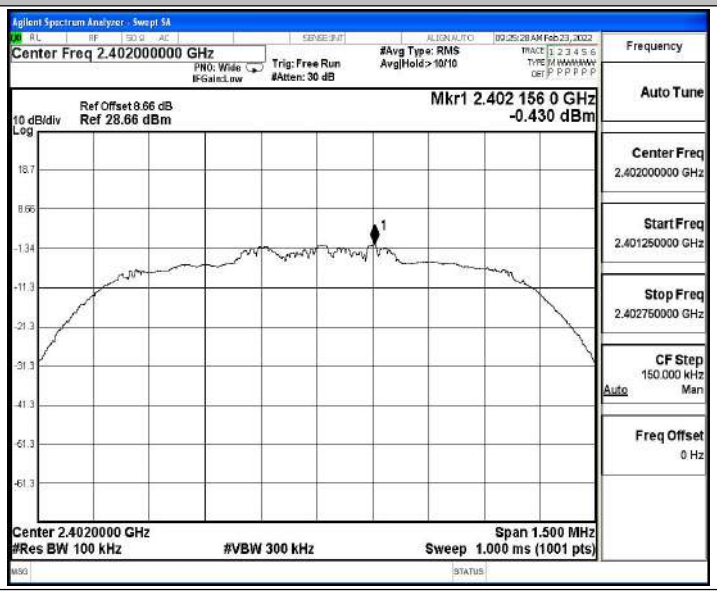
DH5_Ant1_2480_30~1000



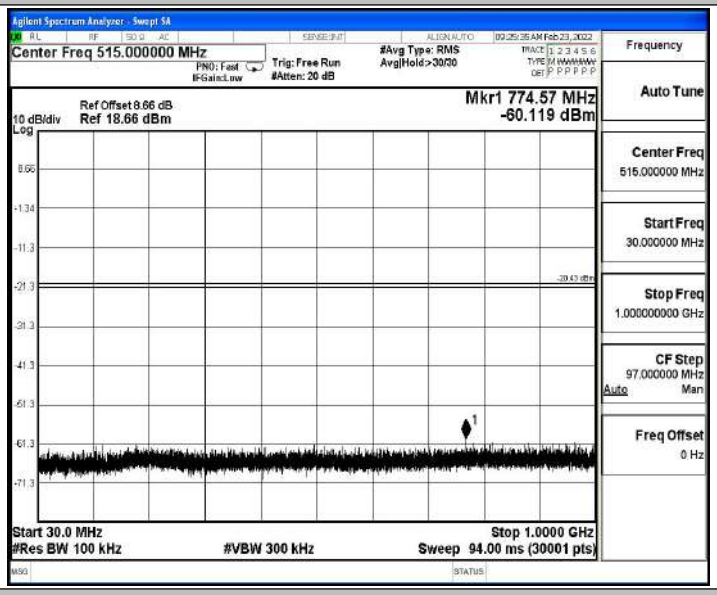
DH5_Ant1_2480_1000~26500



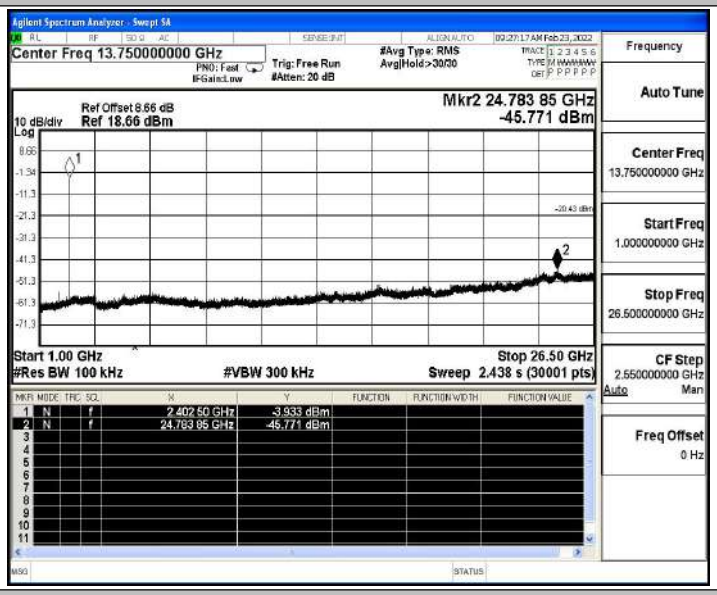
2DH5_Ant1_2402_0~Reference



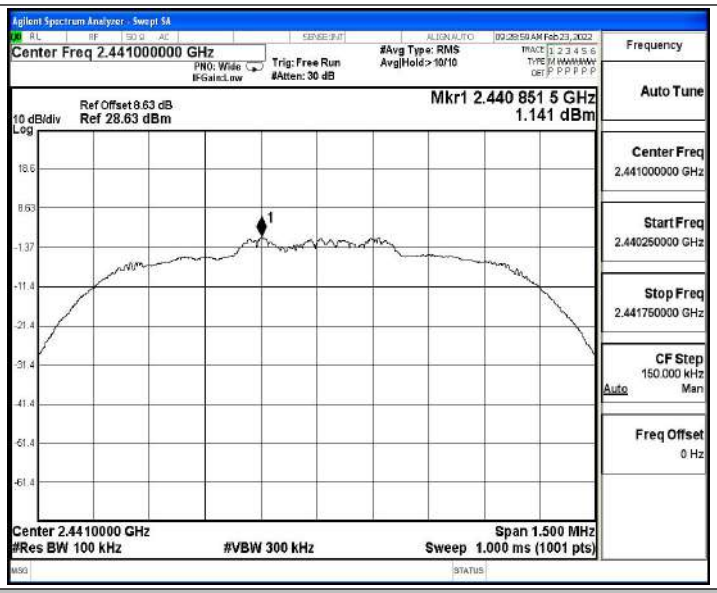
2DH5_Ant1_2402_30~1000



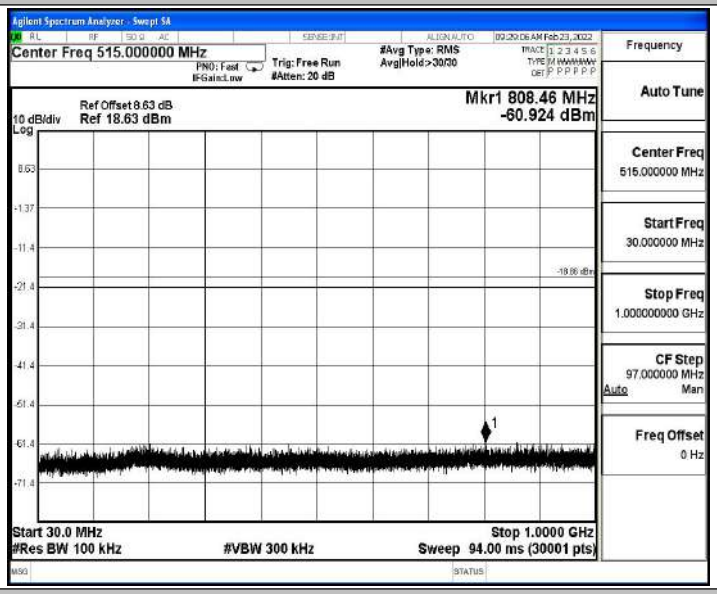
2DH5_Ant1_2402_1000~26500



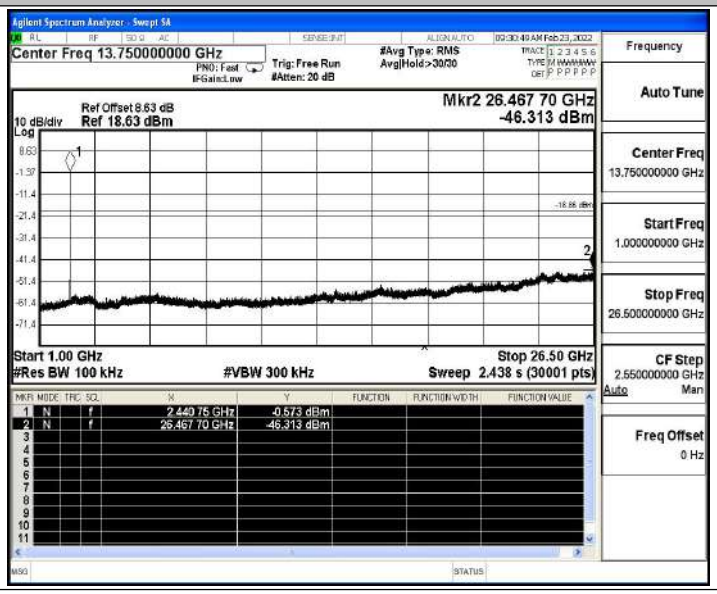
2DH5_Ant1_2441_0~Reference



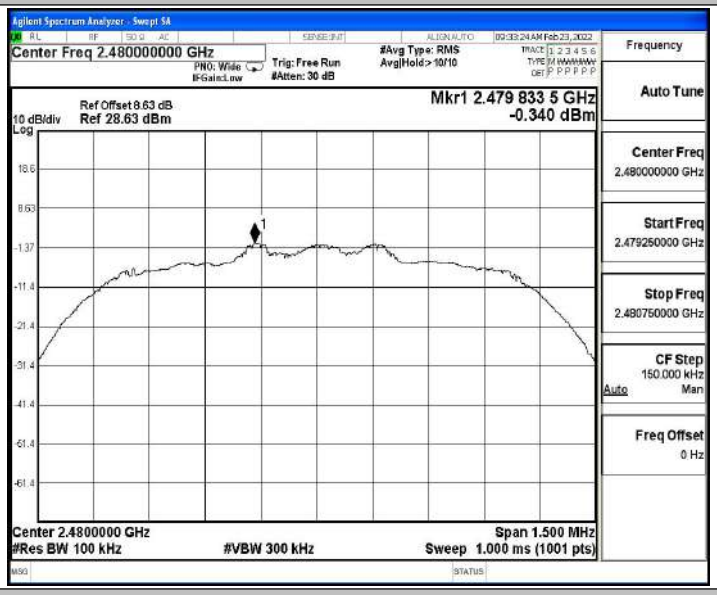
2DH5_Ant1_2441_30~1000



2DH5_Ant1_2441_1000~26500



2DH5_Ant1_2480_0~Reference



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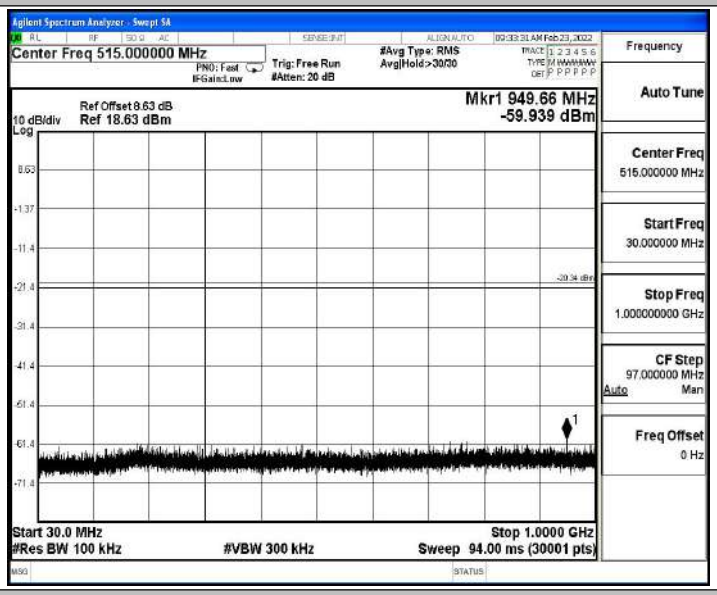
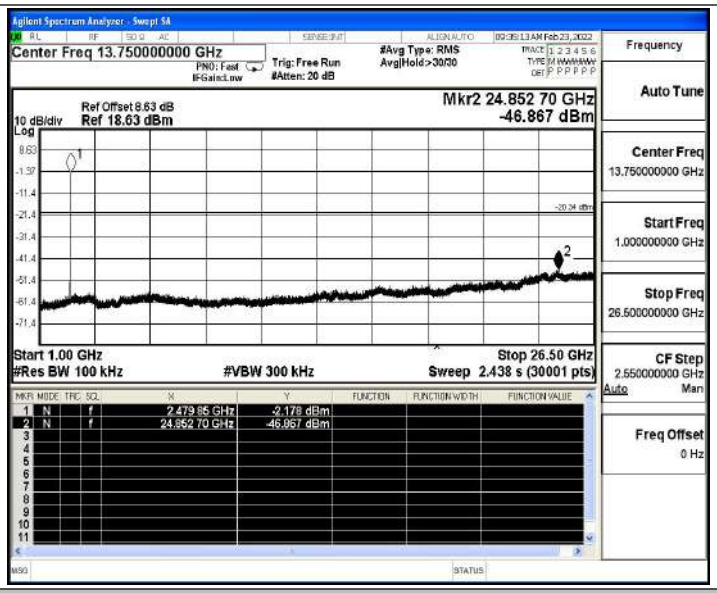
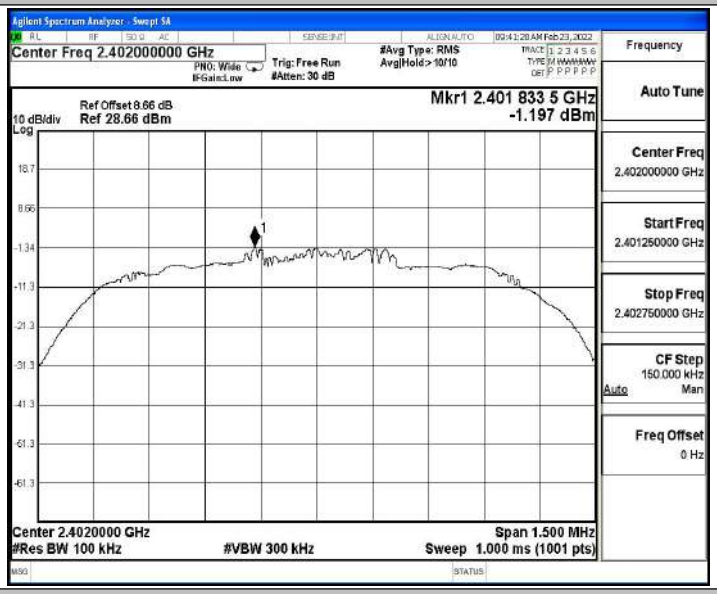


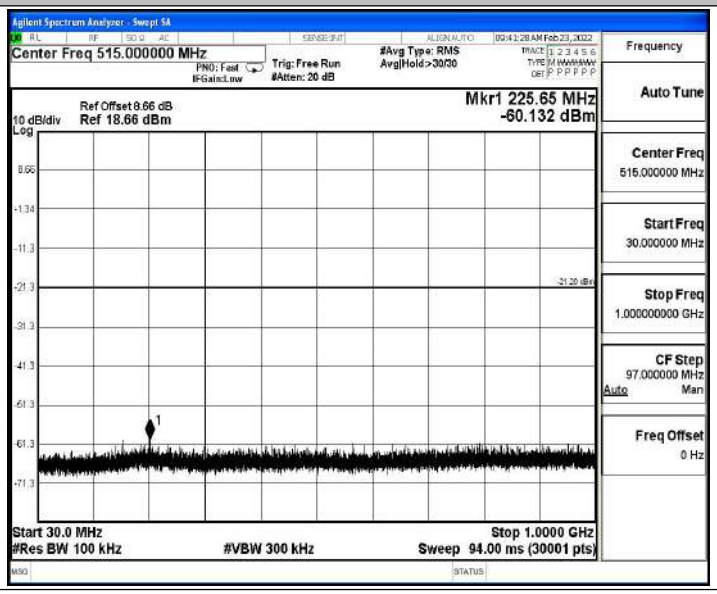
2DH5_Ant1_2480_1000~26500



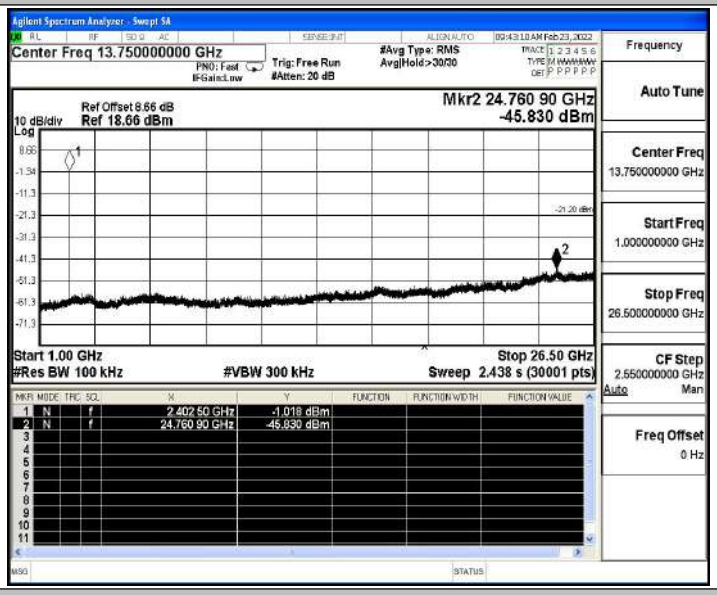
3DH5_Ant1_2402_0~Reference



3DH5_Ant1_2402_30~1000



3DH5_Ant1_2402_1000~26500



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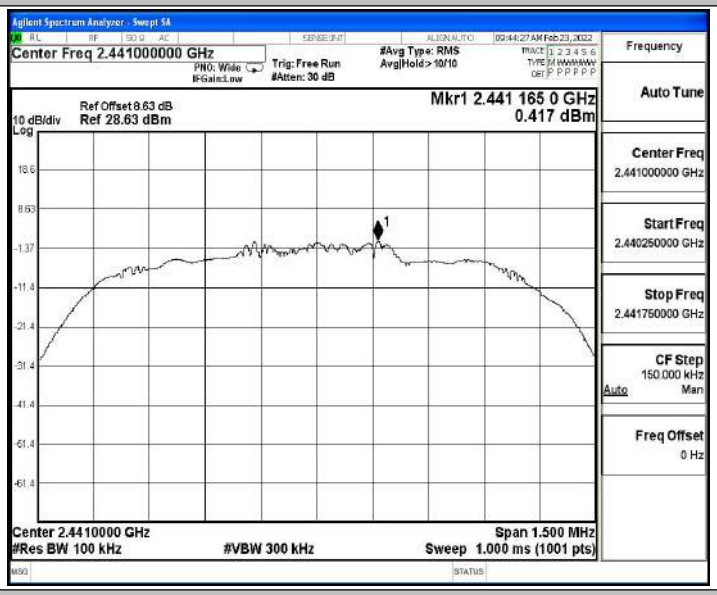
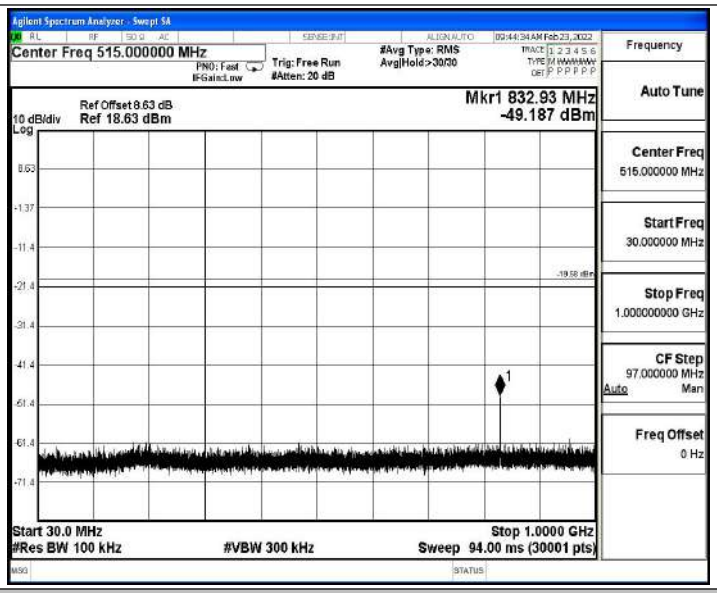
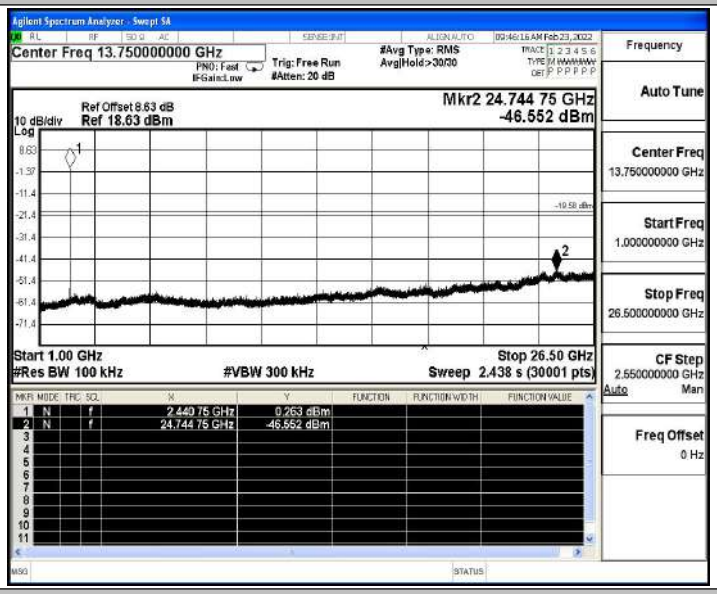


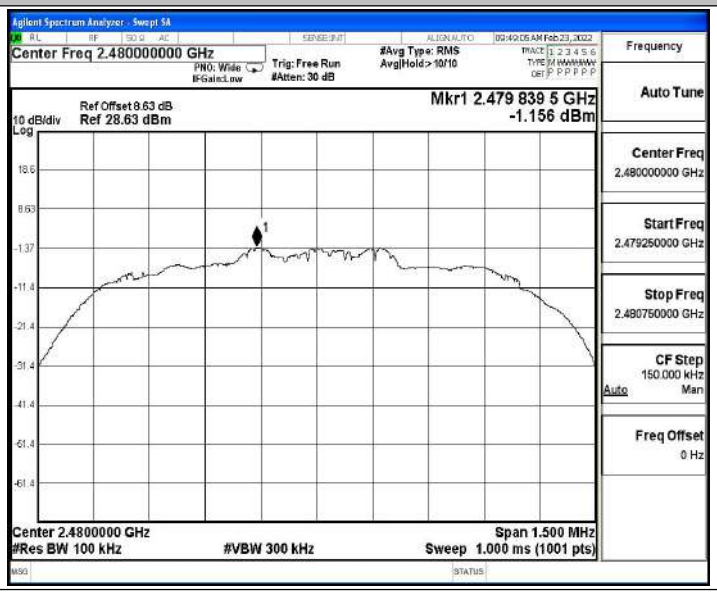
3DH5_Ant1_2441_30~1000



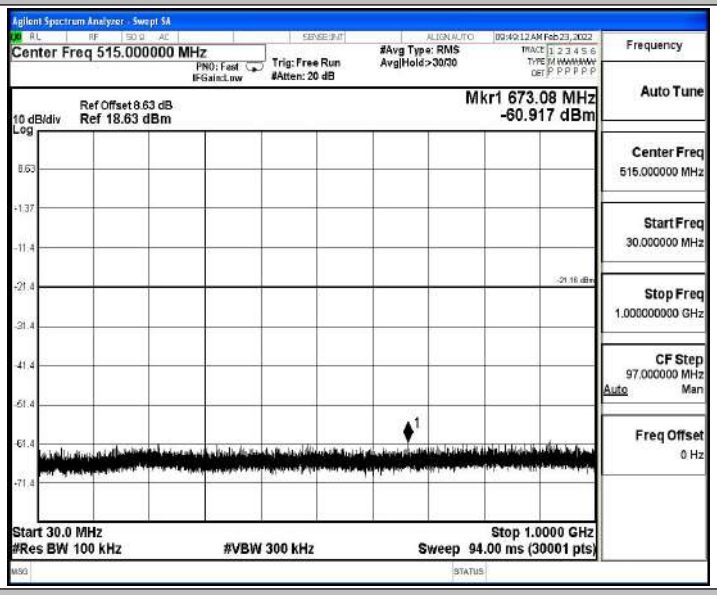
3DH5_Ant1_2441_1000~26500



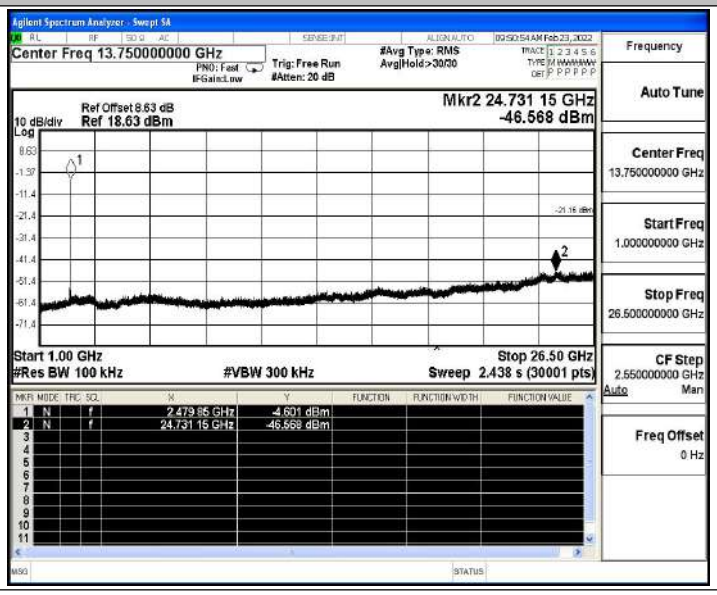
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500



A.8 Emissions in Restricted Bands

Test Result

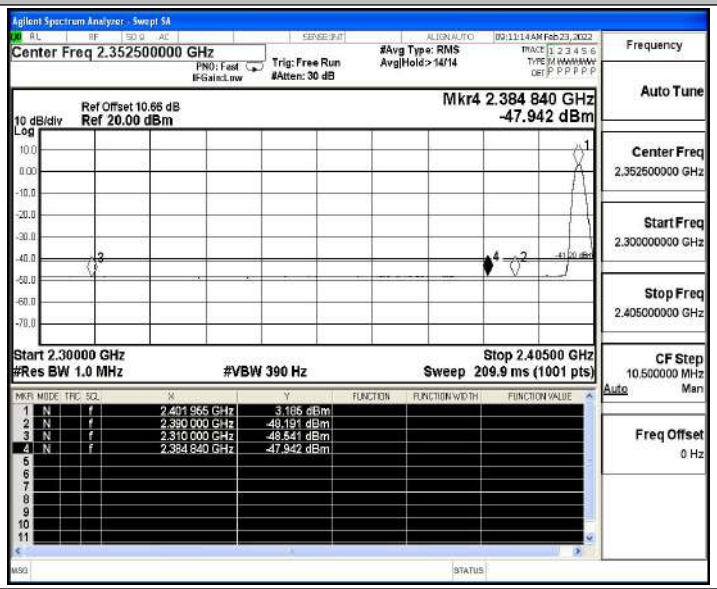
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-48.55	≤-41.20	46.65	≤54	PASS
				AV	2384.840	-47.94	≤-41.20	47.26	≤54	PASS
				AV	2390.000	-48.19	≤-41.20	47.01	≤54	PASS
				Peak	2310.000	-38.48	≤-21.20	56.72	≤74	PASS
				Peak	2377.805	-36.09	≤-21.20	59.11	≤74	PASS
				Peak	2390.000	-38.59	≤-21.20	56.61	≤74	PASS
		High	2480	AV	2483.500	-47.46	≤-41.20	47.74	≤54	PASS
				AV	2483.920	-47.44	≤-41.20	47.76	≤54	PASS
				AV	2500.000	-47.5	≤-41.20	47.70	≤54	PASS
				Peak	2483.500	-37.48	≤-21.20	57.72	≤74	PASS
				Peak	2499.200	-36.17	≤-21.20	59.03	≤74	PASS
				Peak	2500.000	-38.05	≤-21.20	57.15	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.47	≤-41.20	46.73	≤54	PASS
				AV	2389.565	-47.97	≤-41.20	47.23	≤54	PASS
				AV	2390.000	-48.16	≤-41.20	47.04	≤54	PASS
				Peak	2310.000	-39.82	≤-21.20	55.38	≤74	PASS
				Peak	2385.680	-37.29	≤-21.20	57.91	≤74	PASS
				Peak	2390.000	-38.38	≤-21.20	56.82	≤74	PASS
		High	2480	AV	2483.500	-47.41	≤-41.20	47.79	≤54	PASS
				AV	2483.520	-47.41	≤-41.20	47.79	≤54	PASS
				AV	2500.000	-47.57	≤-41.20	47.63	≤54	PASS
				Peak	2483.500	-38.25	≤-21.20	56.95	≤74	PASS
				Peak	2484.880	-36.54	≤-21.20	58.66	≤74	PASS
				Peak	2500.000	-37.46	≤-21.20	57.74	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.45	≤-41.20	46.75	≤54	PASS
				AV	2387.885	-47.88	≤-41.20	47.32	≤54	PASS
				AV	2390.000	-48.15	≤-41.20	47.05	≤54	PASS
				Peak	2310.000	-38.89	≤-21.20	56.31	≤74	PASS
				Peak	2375.600	-37.04	≤-21.20	58.16	≤74	PASS
				Peak	2390.000	-39.34	≤-21.20	55.86	≤74	PASS
		High	2480	AV	2483.500	-47.49	≤-41.20	47.71	≤54	PASS
				AV	2499.680	-47.36	≤-41.20	47.84	≤54	PASS
				AV	2500.000	-47.6	≤-41.20	47.60	≤54	PASS
				Peak	2483.500	-38.61	≤-21.20	56.59	≤74	PASS
				Peak	2499.760	-36.14	≤-21.20	59.06	≤74	PASS
				Peak	2500.000	-37.59	≤-21.20	57.61	≤74	PASS

Note：

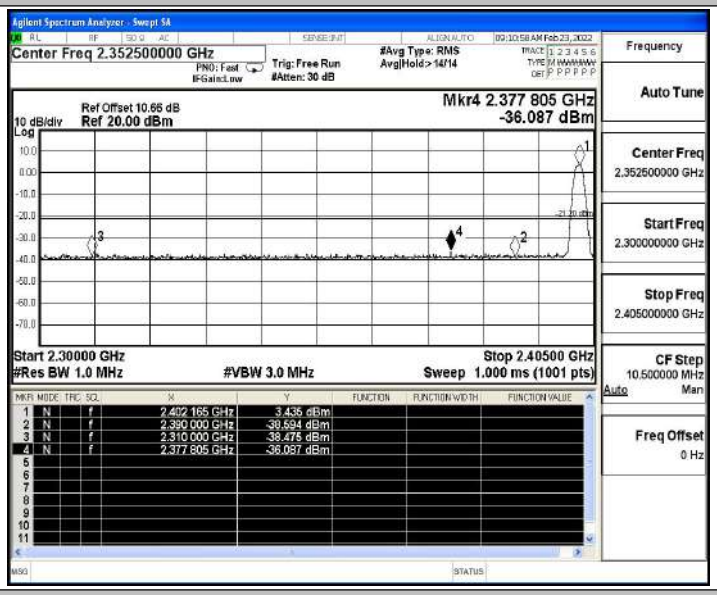
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

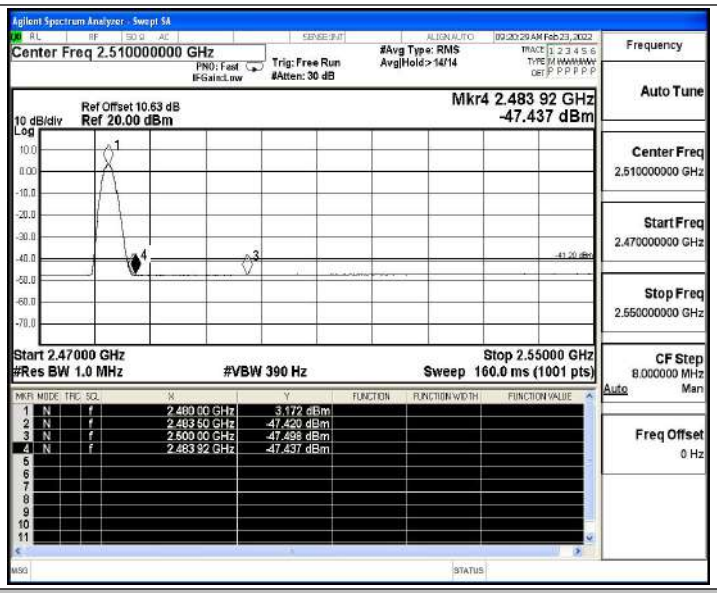
DH5_Ant1_Low_2402_AV



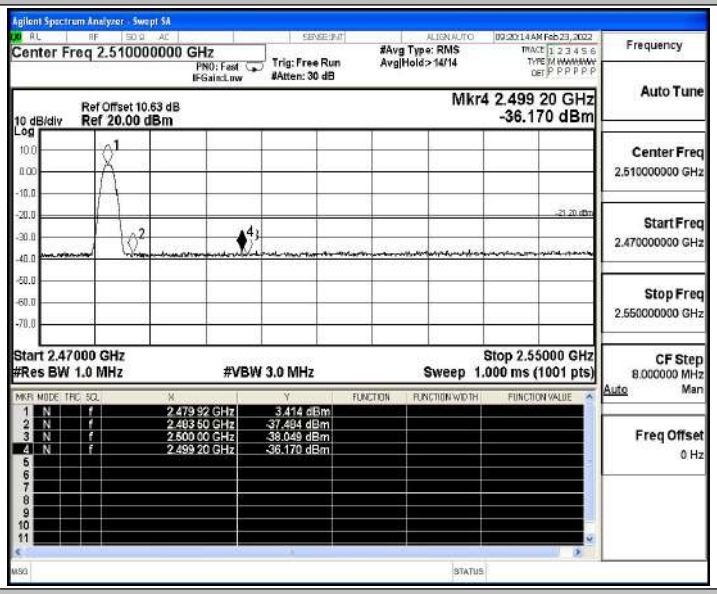
DH5_Ant1_Low_2402_Peak



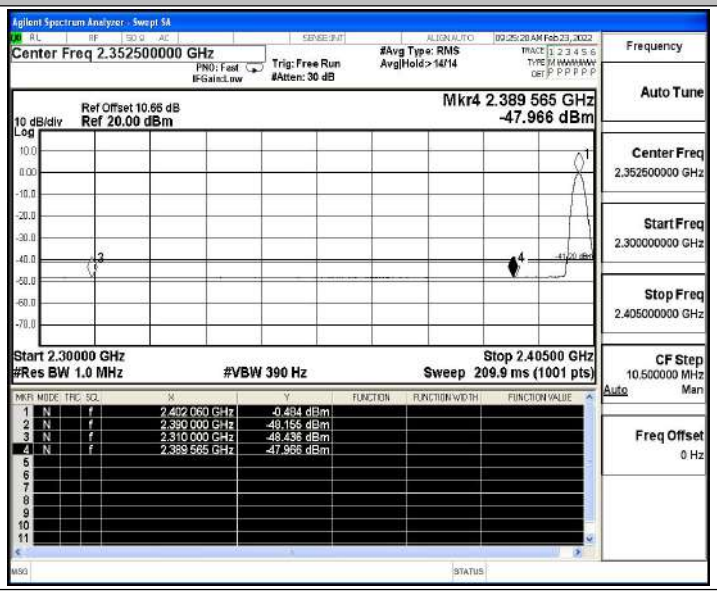
DH5_Ant1_High_2480_AV



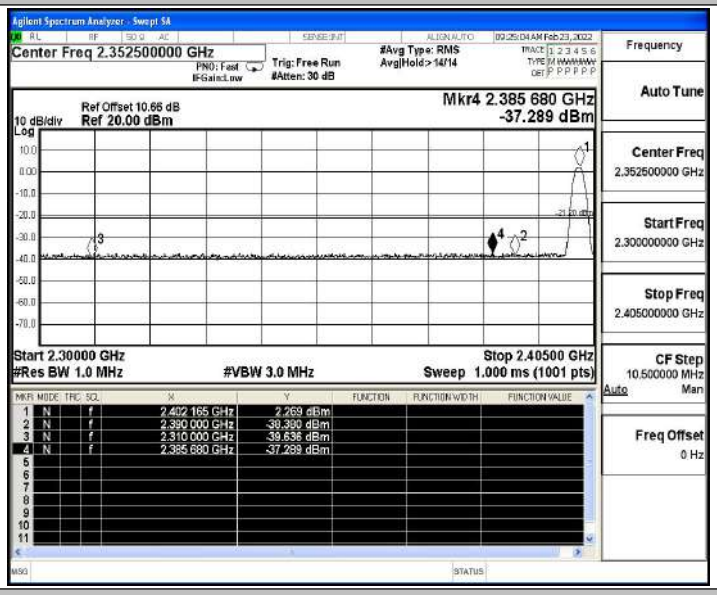
DH5_Ant1_High_2480_Peak



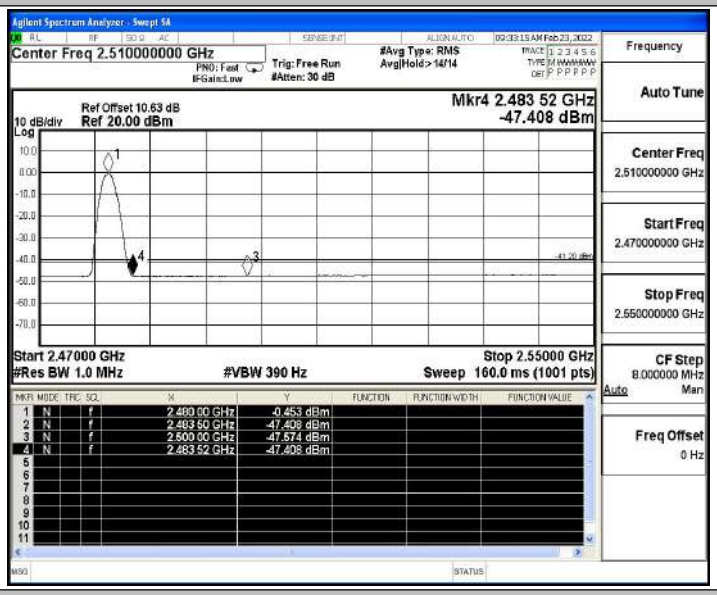
2DH5_Ant1_Low_2402_AV



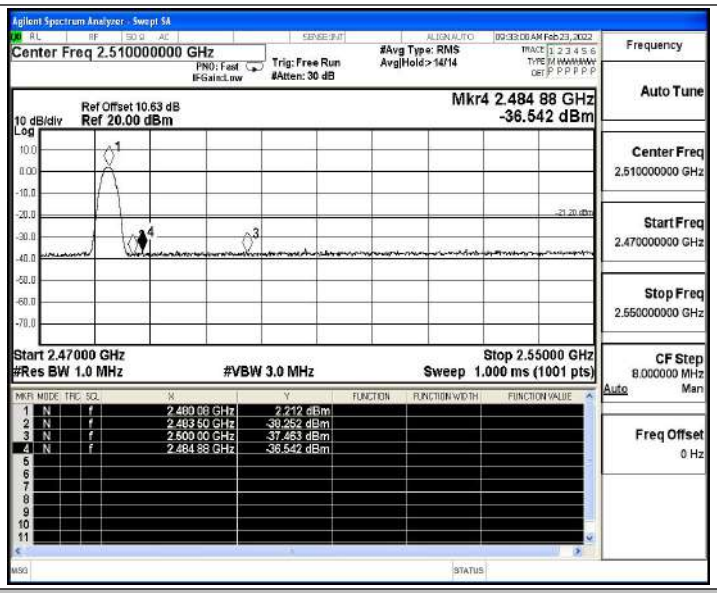
2DH5_Ant1_Low_2402_Peak



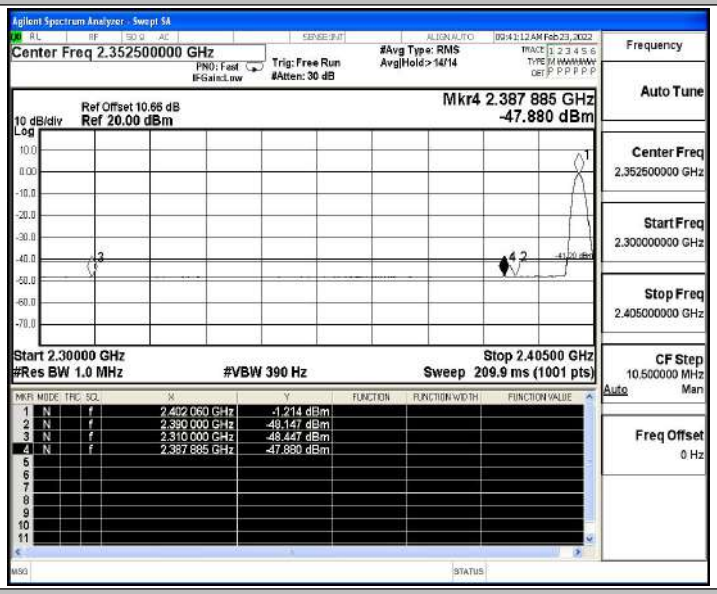
2DH5_Ant1_High_2480_AV



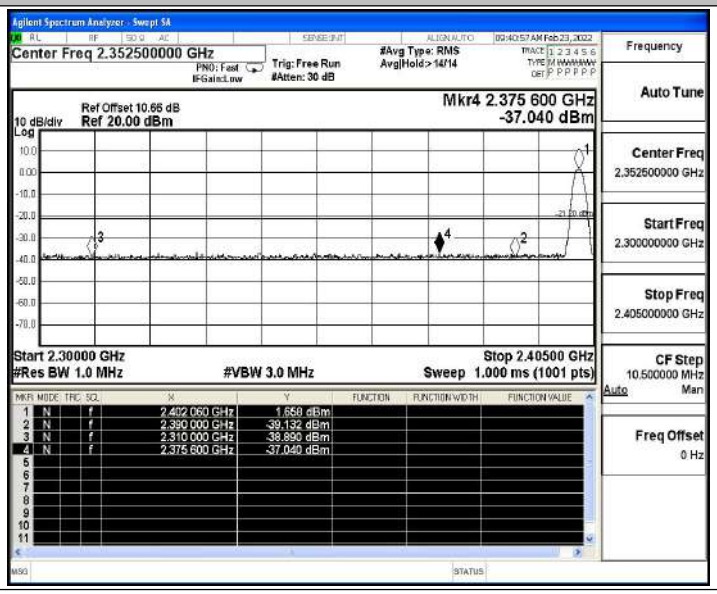
2DH5_Ant1_High_2480_Peak



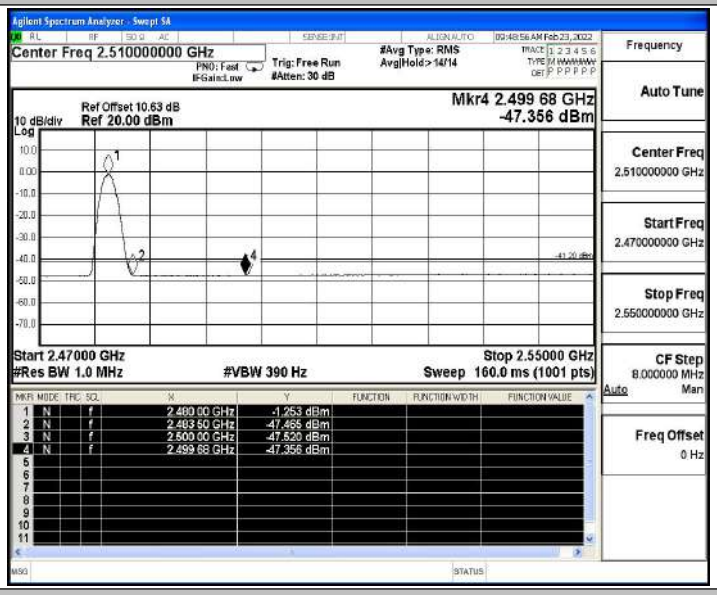
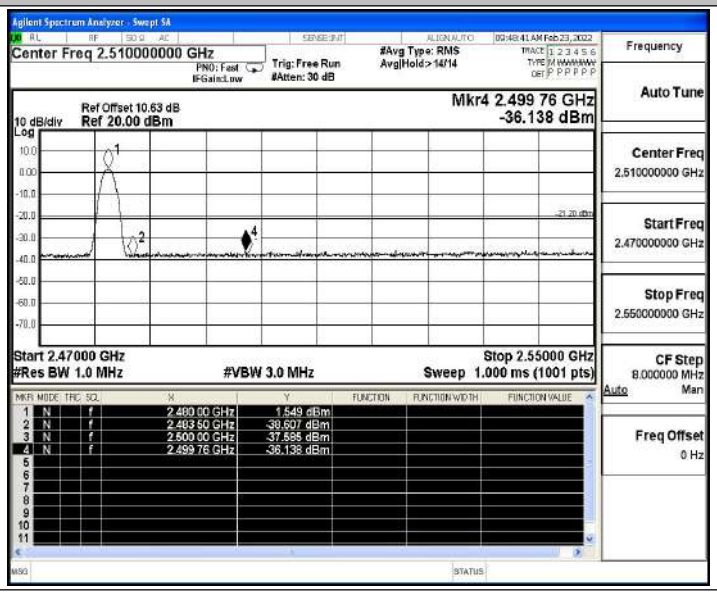
3DH5_Ant1_Low_2402_AV



3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak