Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Rugged Tablet

Test Model: LT901

Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling Zhu
Supervised by:	Li huan

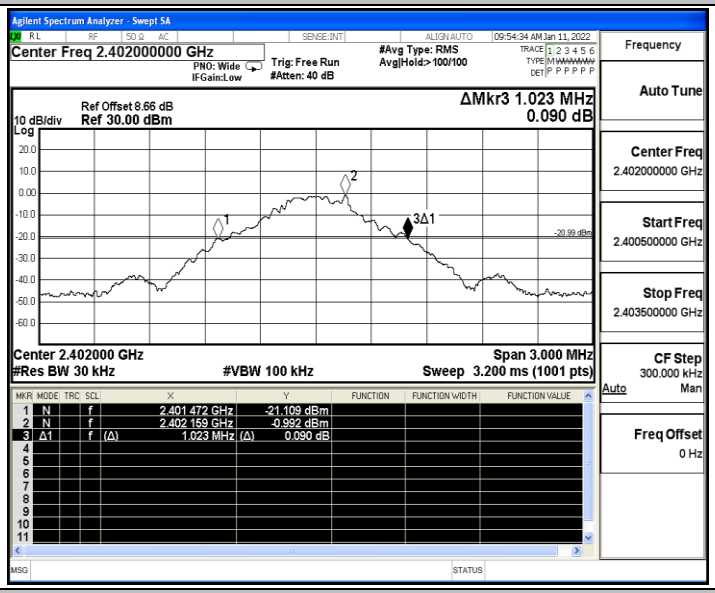
A.1 20dB Emission Bandwidth

Test Result

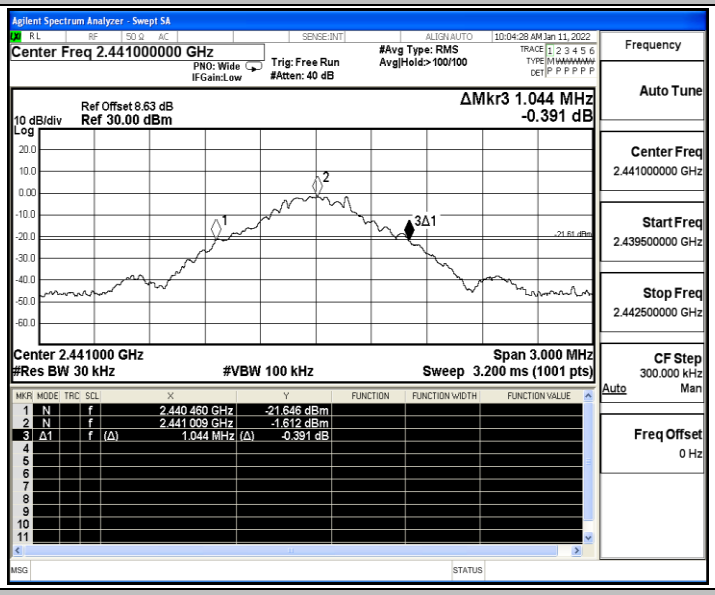
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant	2402	1.023	2401.472	2402.495	---	---
		2441	1.044	2440.460	2441.504	---	---
		2480	1.044	2479.457	2480.501	---	---
2DH5	Ant	2402	1.293	2401.361	2402.654	---	---
		2441	1.293	2440.361	2441.654	---	---
		2480	1.293	2479.361	2480.654	---	---
3DH5	Ant	2402	1.296	2401.349	2402.645	---	---
		2441	1.302	2440.346	2441.648	---	---
		2480	1.296	2479.349	2480.645	---	---

Test Graphs

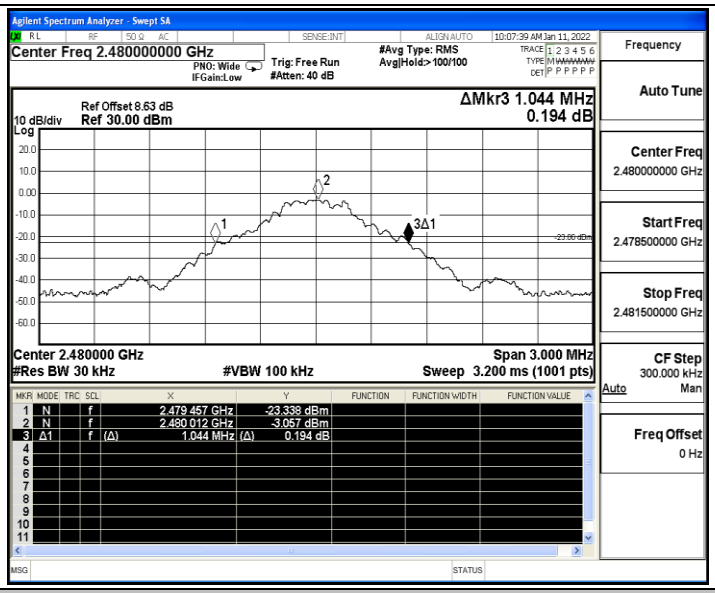
DH5_Ant_2402



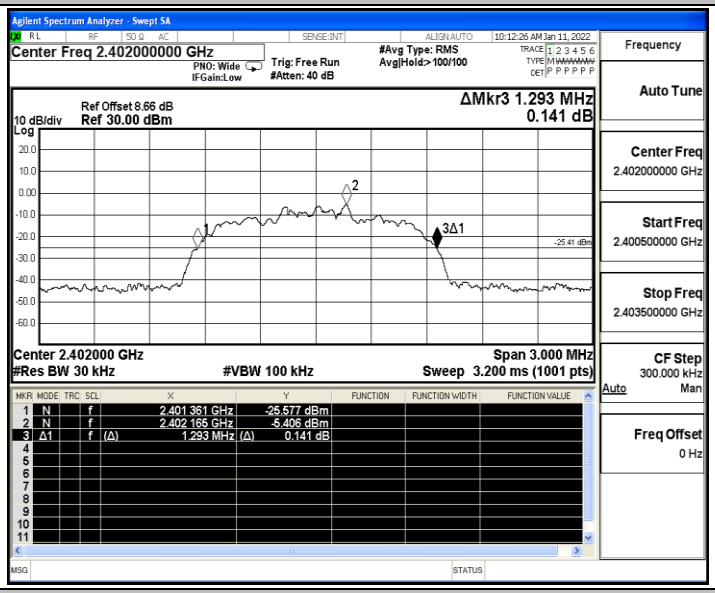
DH5_Ant_2441



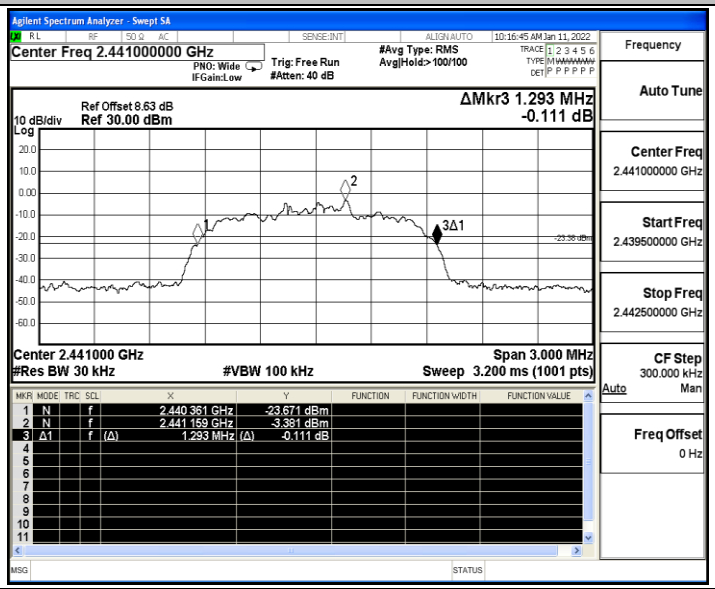
DH5_Ant_2480

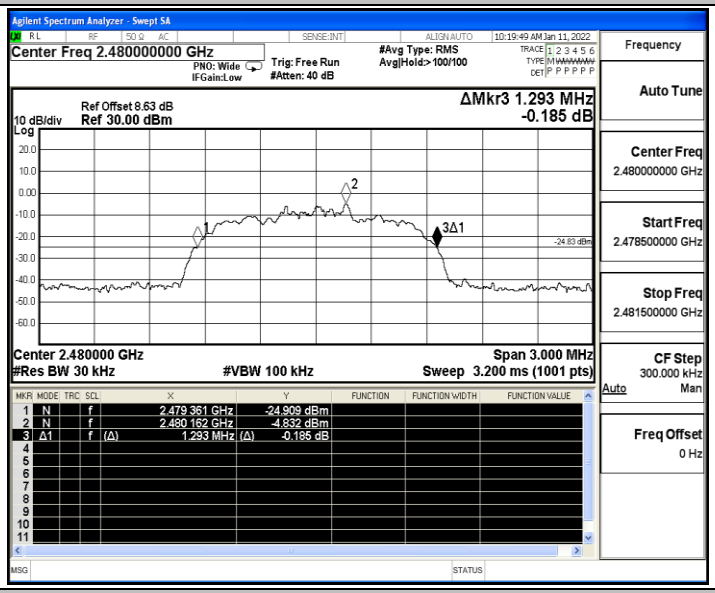
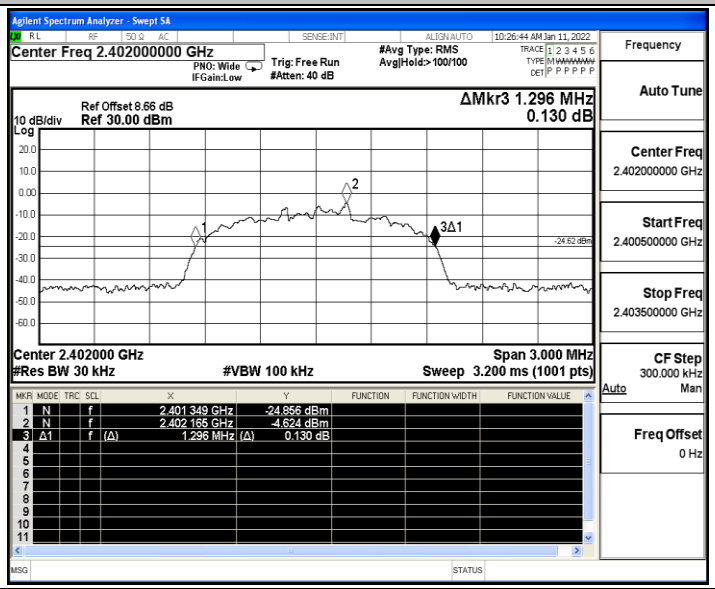


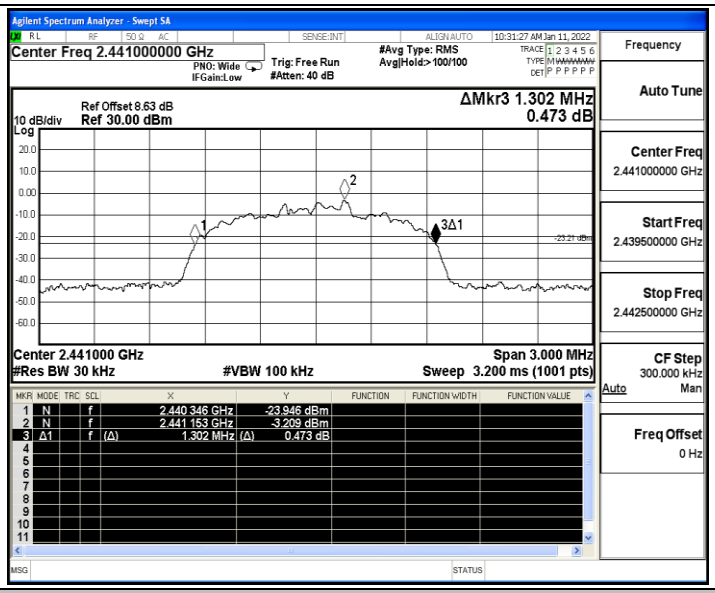
2DH5_Ant_2402



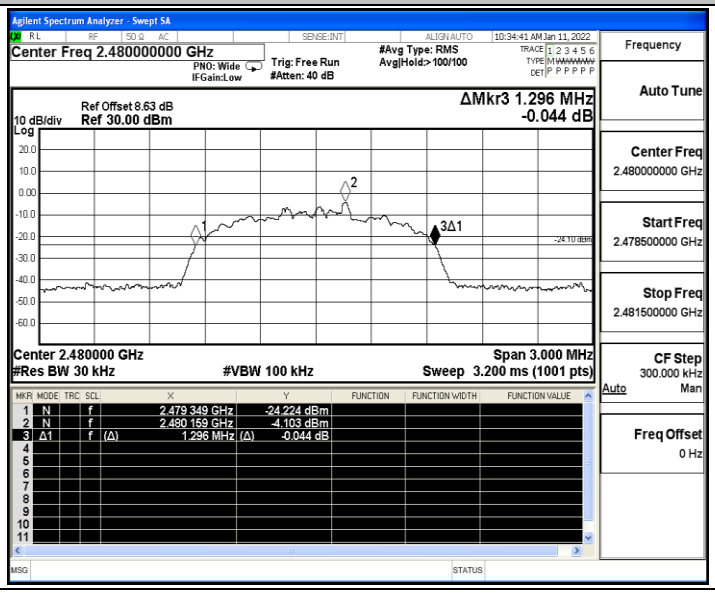
2DH5_Ant_2441



2DH5_Ant_2480

3DH5_Ant_2402

3DH5_Ant_2441



3DH5_Ant_2480



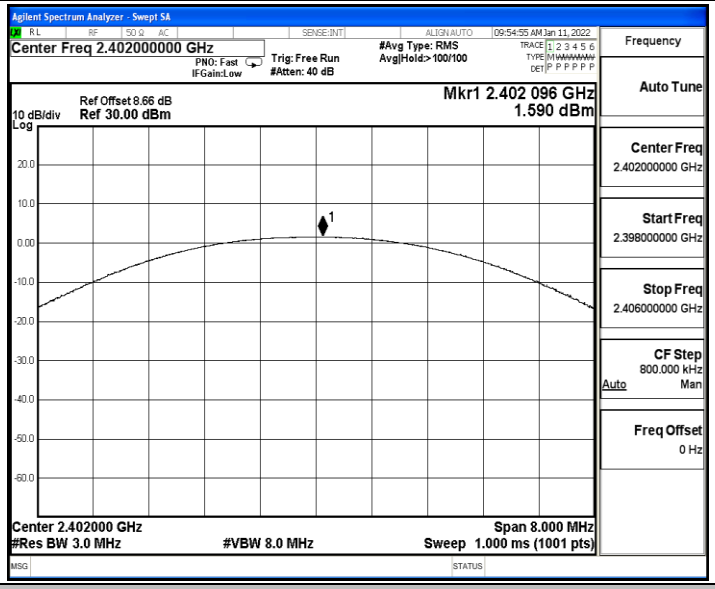
A.2 Maximum conducted output power

Test Result

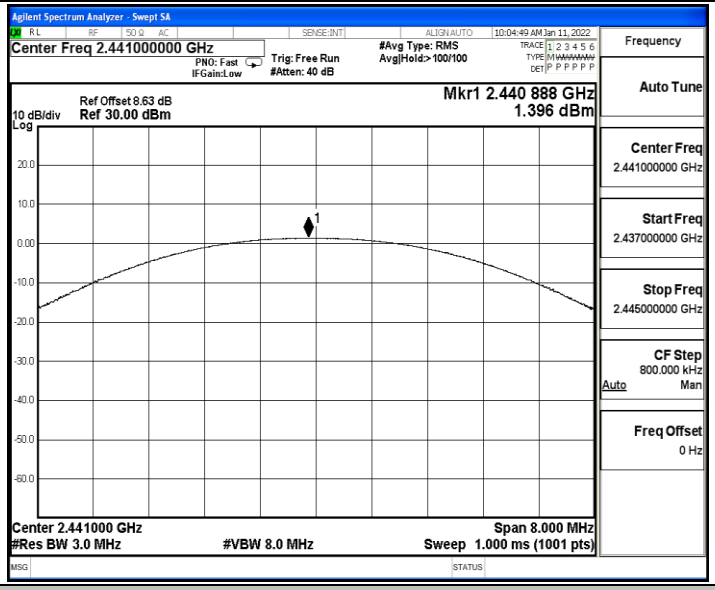
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant	2402	1.59	≤20.97	PASS
		2441	1.40	≤20.97	PASS
		2480	0.03	≤20.97	PASS
2DH5	Ant	2402	-1.07	≤20.97	PASS
		2441	0.62	≤20.97	PASS
		2480	-0.80	≤20.97	PASS
3DH5	Ant	2402	-0.92	≤20.97	PASS
		2441	0.74	≤20.97	PASS
		2480	-0.75	≤20.97	PASS

Test Graphs

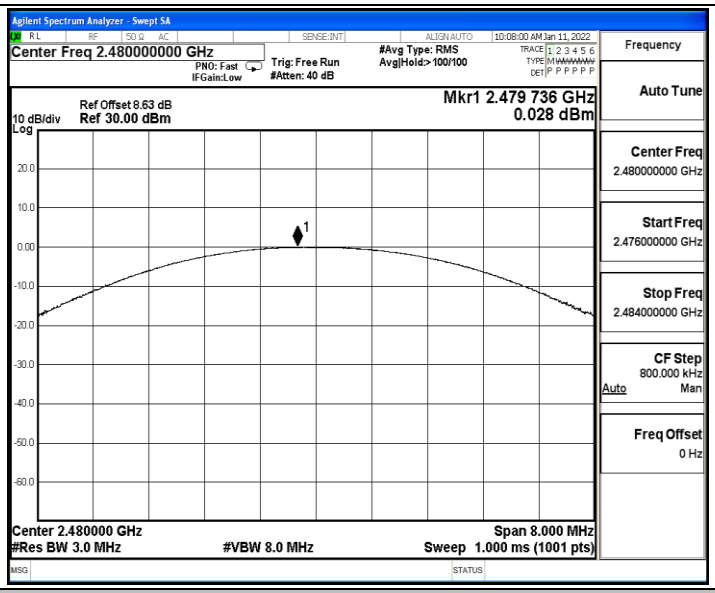
DH5_Ant_2402



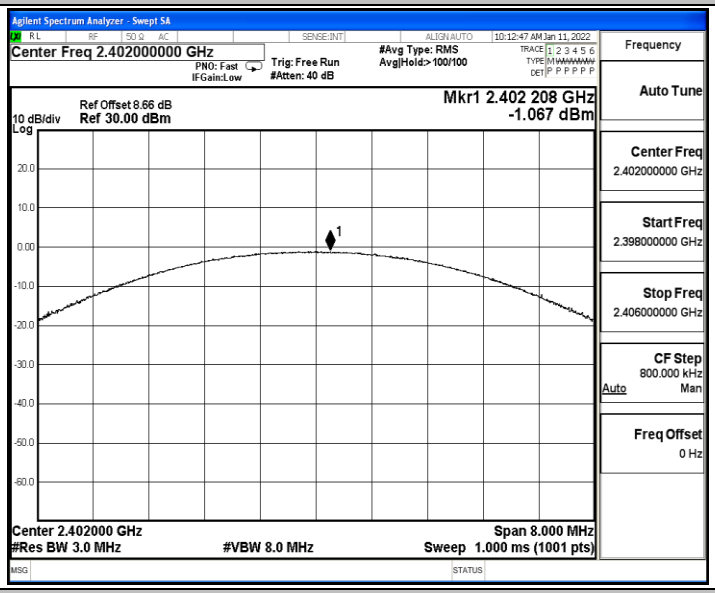
DH5_Ant_2441



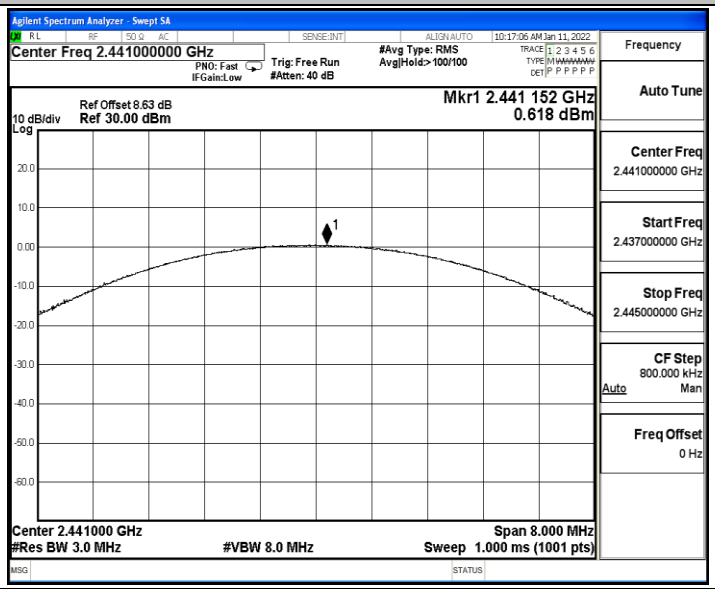
DH5_Ant_2480

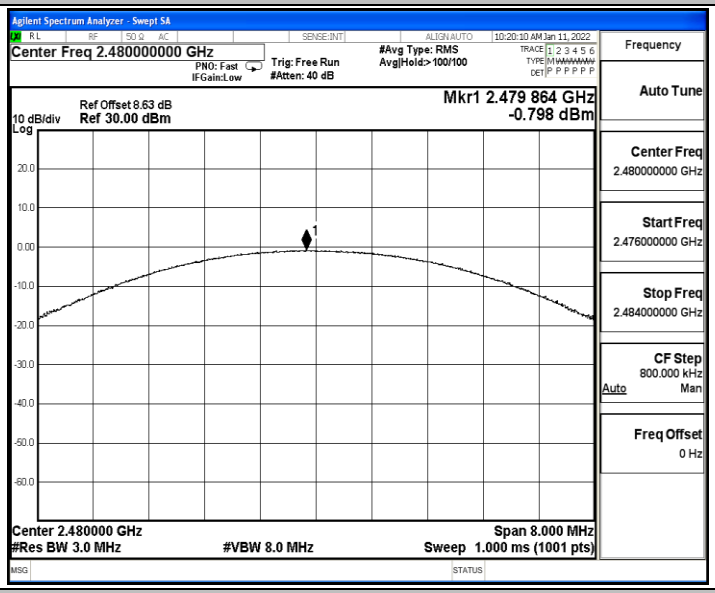
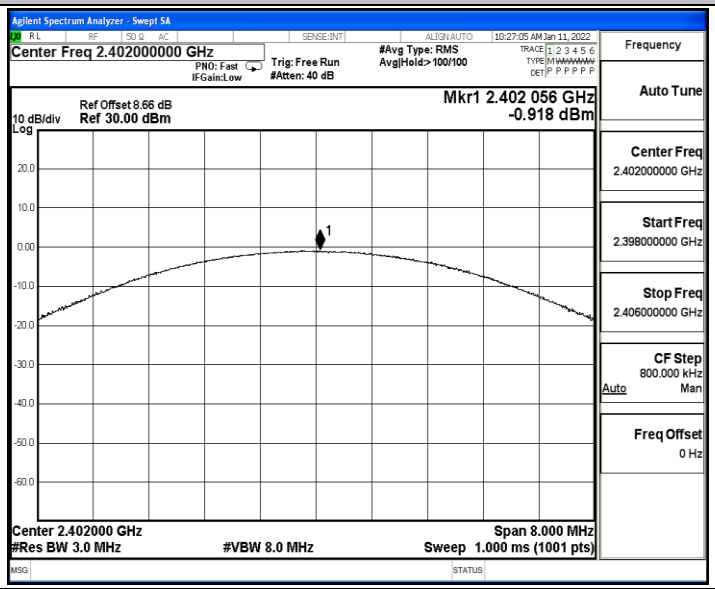


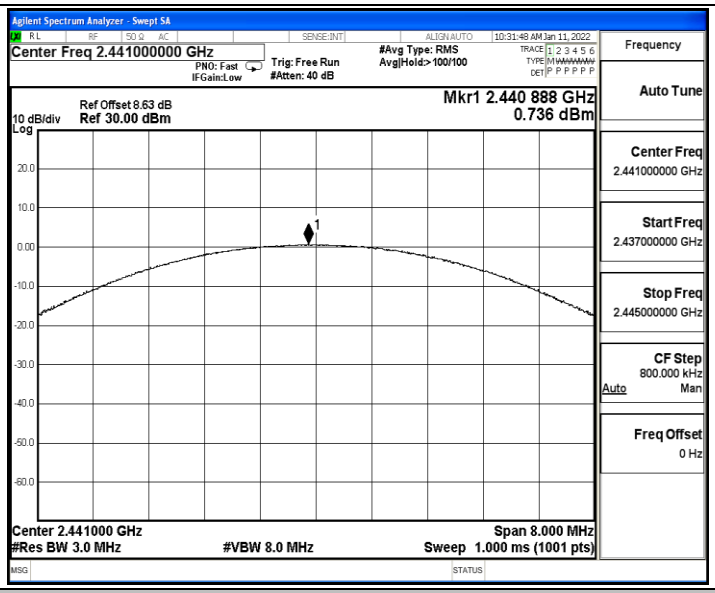
2DH5_Ant_2402



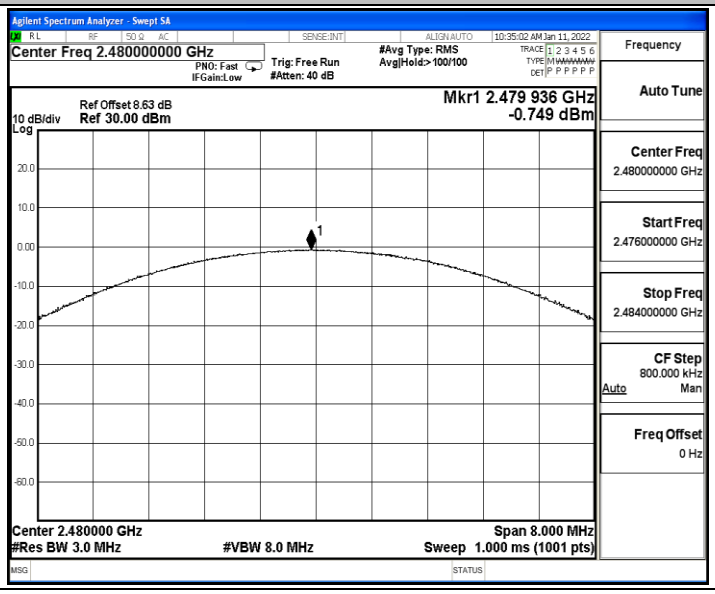
2DH5_Ant_2441



2DH5_Ant_2480

3DH5_Ant_2402

3DH5_Ant_2441



3DH5_Ant_2480



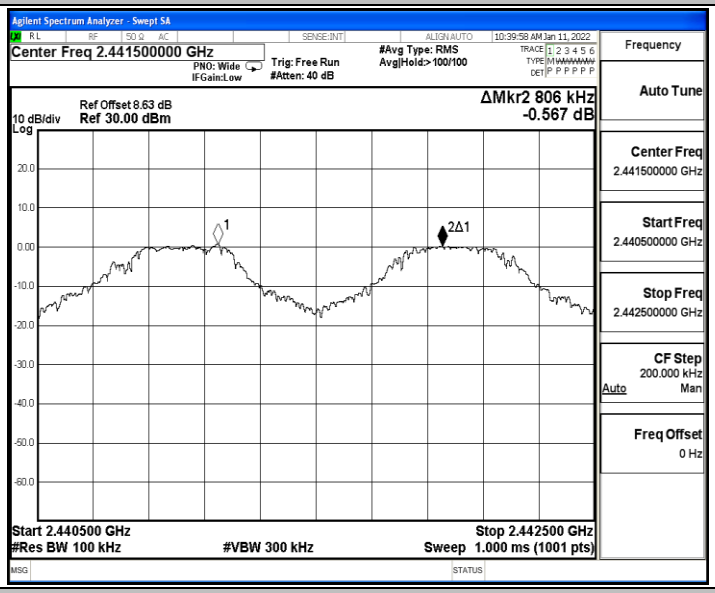
A.3 Carrier frequency separation

Test Result

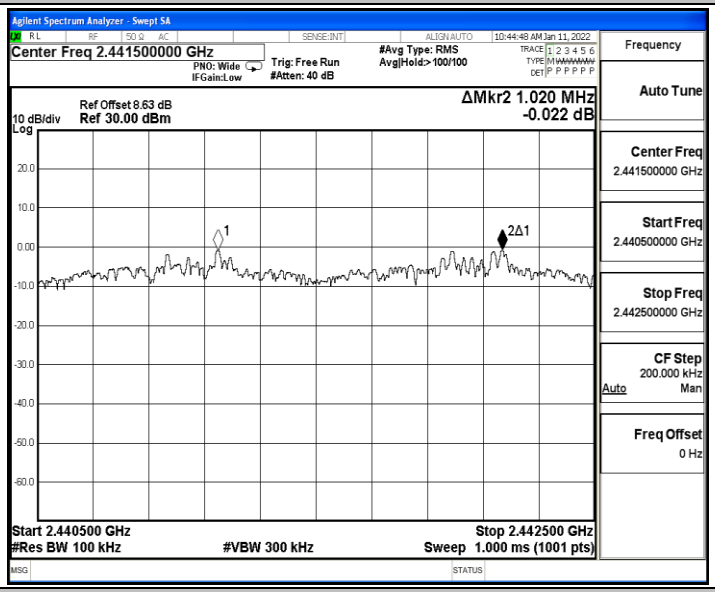
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant	Hop	0.806	≥0.696	PASS
2DH5	Ant	Hop	1.02	≥0.862	PASS
3DH5	Ant	Hop	0.934	≥0.868	PASS

Test Graphs

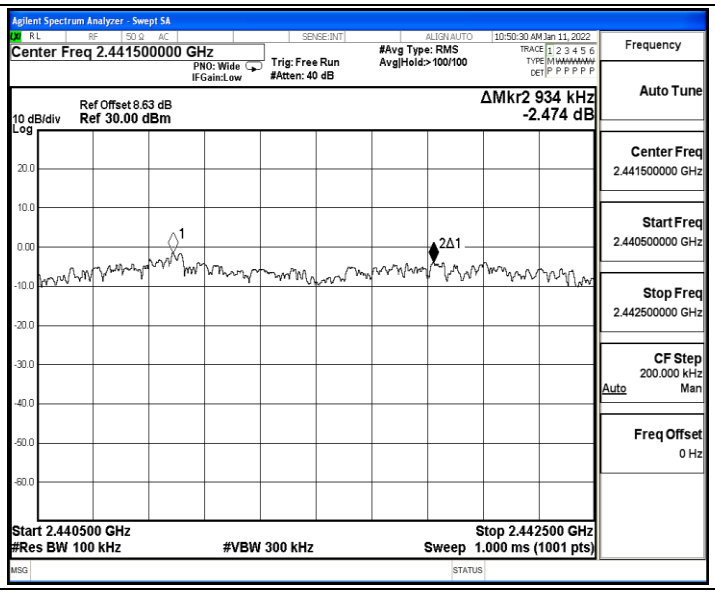
DH5_Ant_Hop



2DH5_Ant_Hop



3DH5_Ant_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
10:50:30 AM Jan 11, 2022
Ref Offset 8.63 dB
10 dB/div
Log
Ref 30.00 dBm
ΔMkr2 934 kHz
-2.474 dB
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
1
2Δ1
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
MSG
STATUS

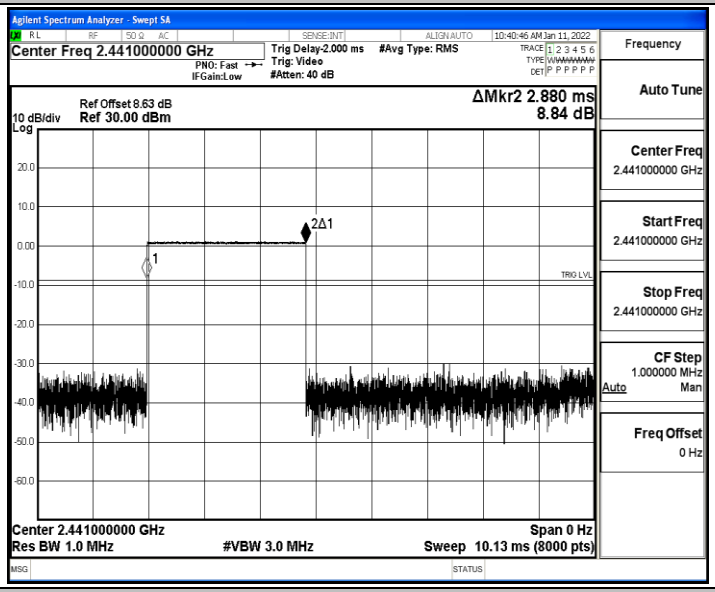
A.4 Time of occupancy

Test Result

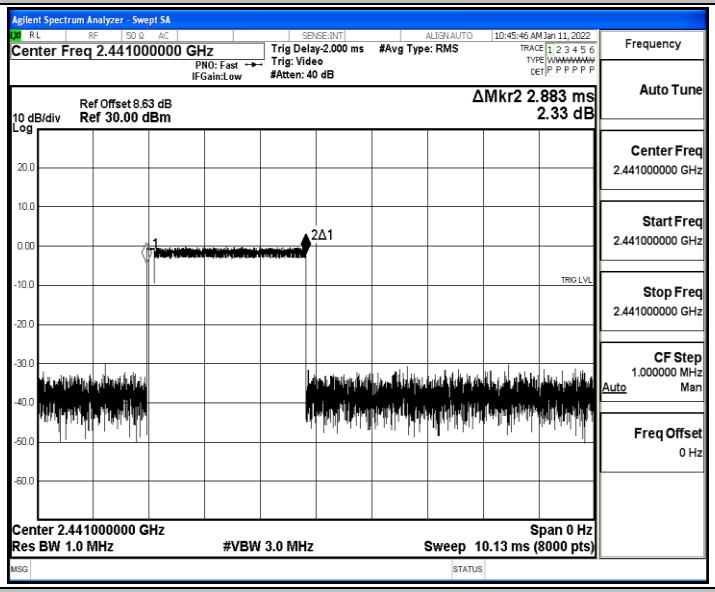
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant	Hop	2.88	106.67	0.307	≤0.4	PASS
2DH5	Ant	Hop	2.88	106.67	0.307	≤0.4	PASS
3DH5	Ant	Hop	2.89	106.67	0.308	≤0.4	PASS

Test Graphs

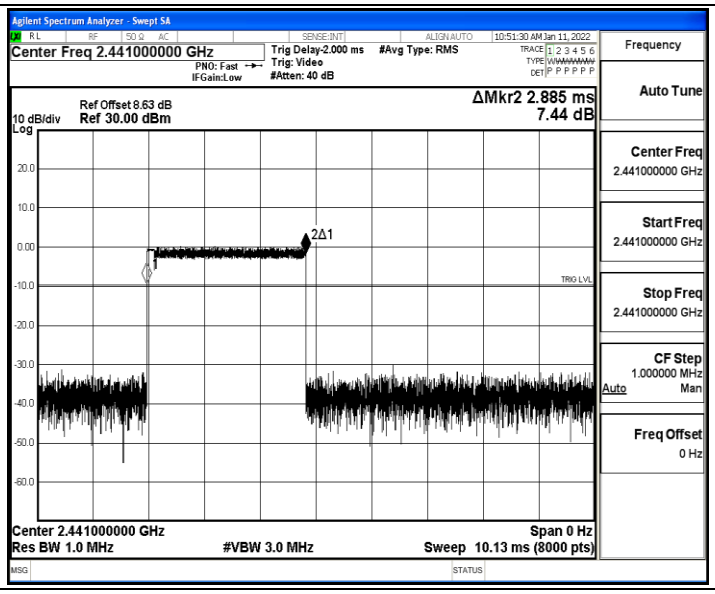
DH5_Ant_Hop



2DH5_Ant_Hop



3DH5_Ant_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-2.000 ms
Trig: Video
#Avg Type: RMS
#Atten: 40 dB
10:51:30 AM Jan 11, 2022
Ref Offset 8.63 dB
10 dB/div Ref 30.00 dBm
Log
ΔMkr2 2.885 ms
7.44 dB
2Δ1
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

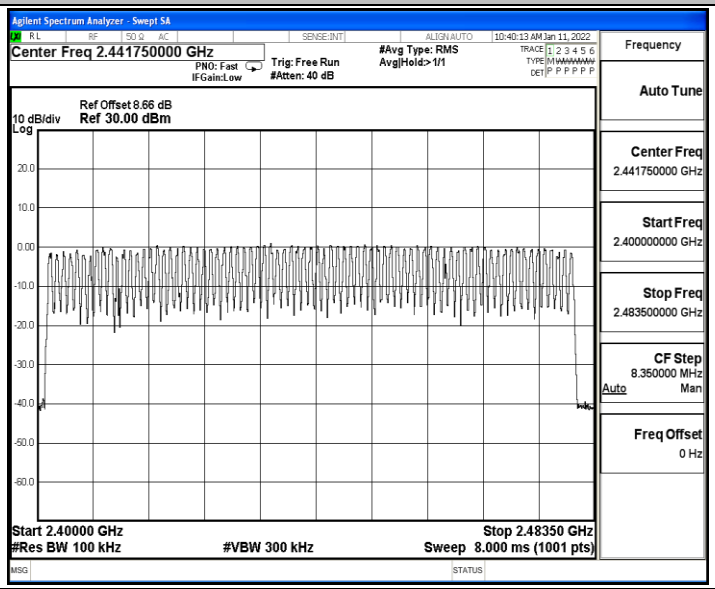
A.5 Number of hopping channels

Test Result

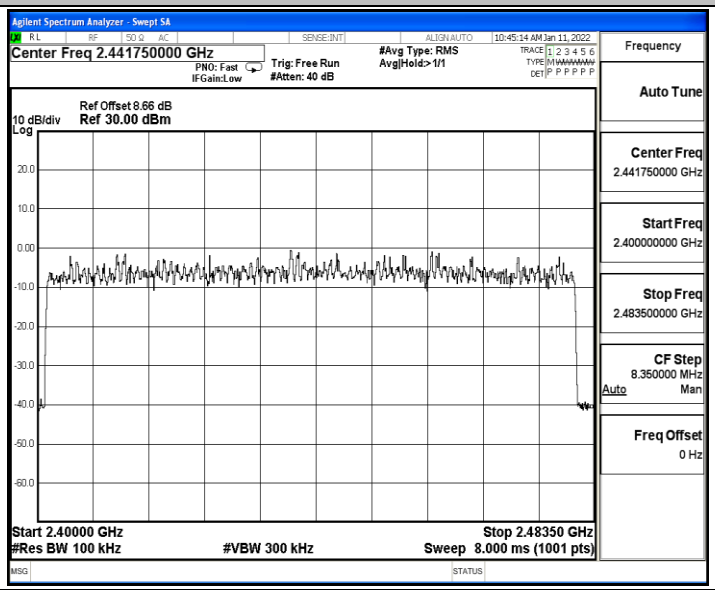
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant	Hop	79	≥15	PASS
2DH5	Ant	Hop	79	≥15	PASS
3DH5	Ant	Hop	79	≥15	PASS

Test Graphs

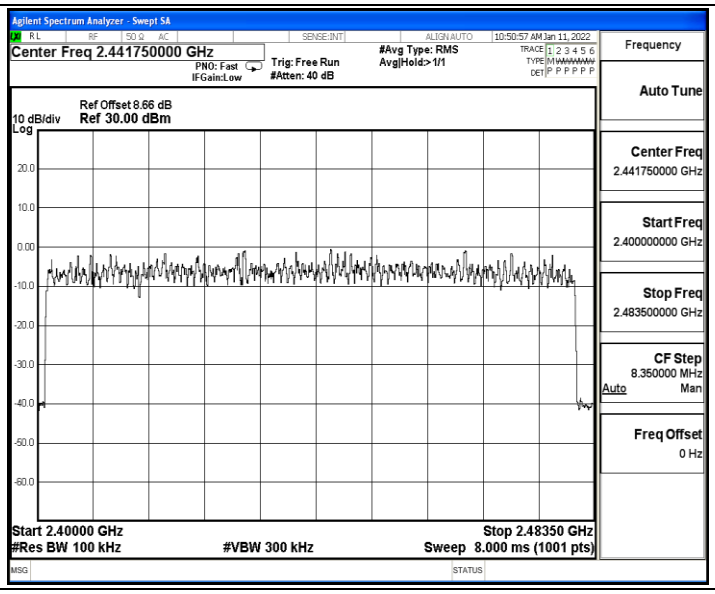
DH5_Ant_Hop



2DH5_Ant_Hop



3DH5_Ant_Hop


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
10:50:57 AM Jan 11, 2022
Ref Offset 8.66 dB
10 dB/div
Log
Ref 30.00 dBm
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
Start 2.40000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.48350 GHz
Sweep 8.000 ms (1001 pts)
Frequency
Auto Tune
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
MSG
STATUS

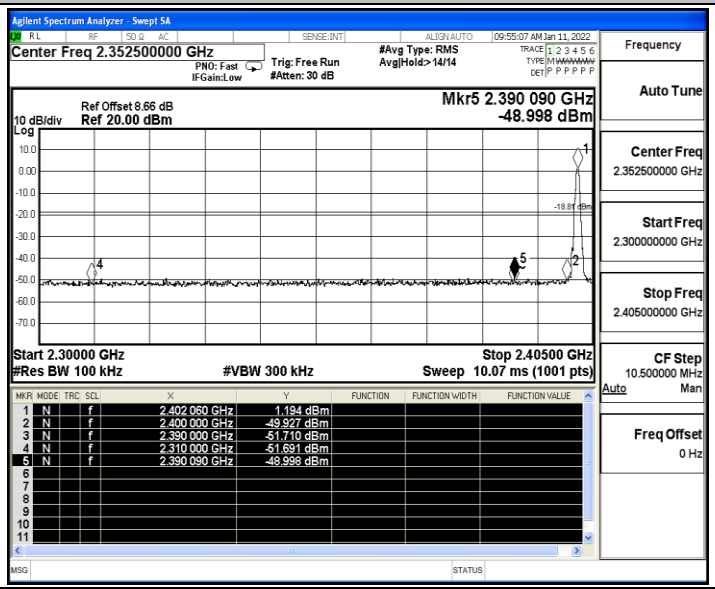
A.6 Band edge measurements

Test Result

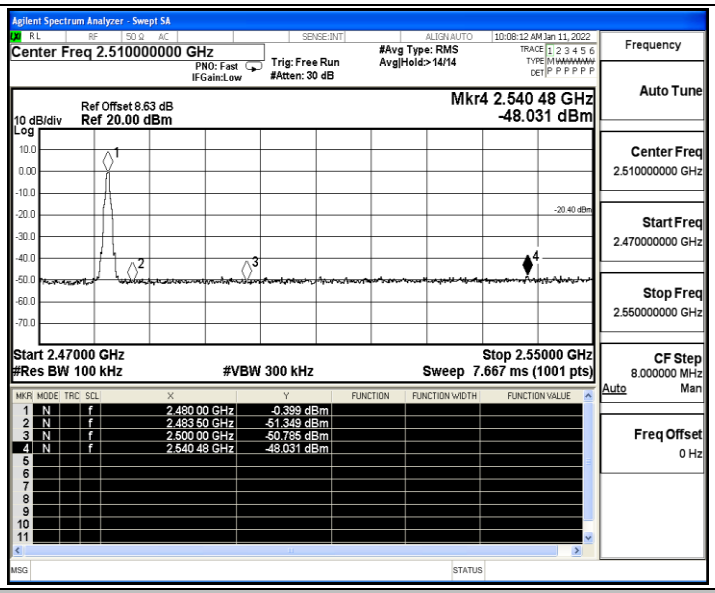
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	Low	2402	1.19	-49	≤-18.81	PASS
		High	2480	-0.40	-48.03	≤-20.4	PASS
		Low	Hop_2402	-1.29	-48.93	≤-21.29	PASS
		High	Hop_2480	-0.17	-47.34	≤-20.17	PASS
2DH5	Ant	Low	2402	-4.23	-49.05	≤-24.23	PASS
		High	2480	-2.12	-47.83	≤-22.12	PASS
		Low	Hop_2402	-2.81	-49.83	≤-22.81	PASS
		High	Hop_2480	-4.39	-47.96	≤-24.39	PASS
3DH5	Ant	Low	2402	-2.31	-49.21	≤-22.31	PASS
		High	2480	-2.42	-47.92	≤-22.42	PASS
		Low	Hop_2402	-4.12	-49.35	≤-24.12	PASS
		High	Hop_2480	-3.84	-47.99	≤-23.84	PASS

Test Graphs

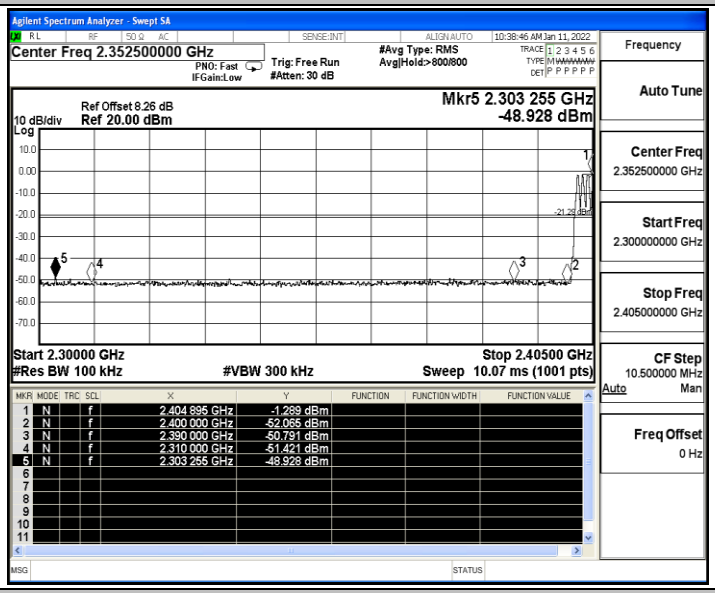
DH5_Ant_Low_2402



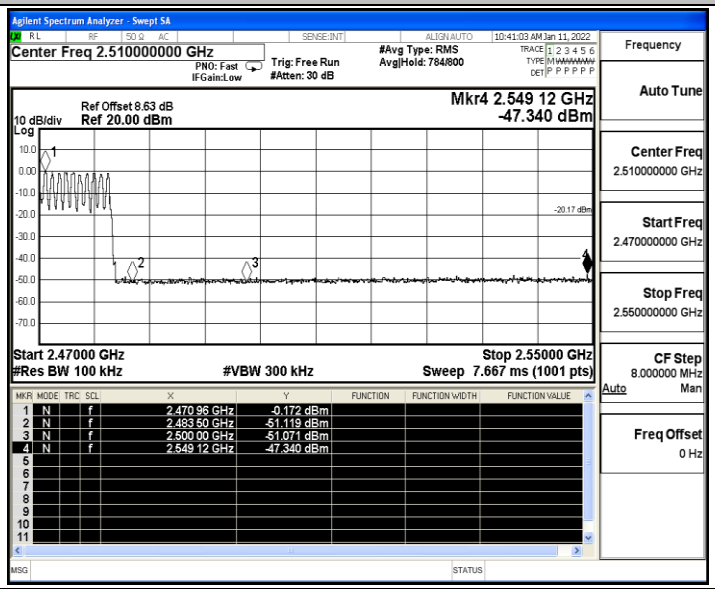
DH5_Ant_High_2480

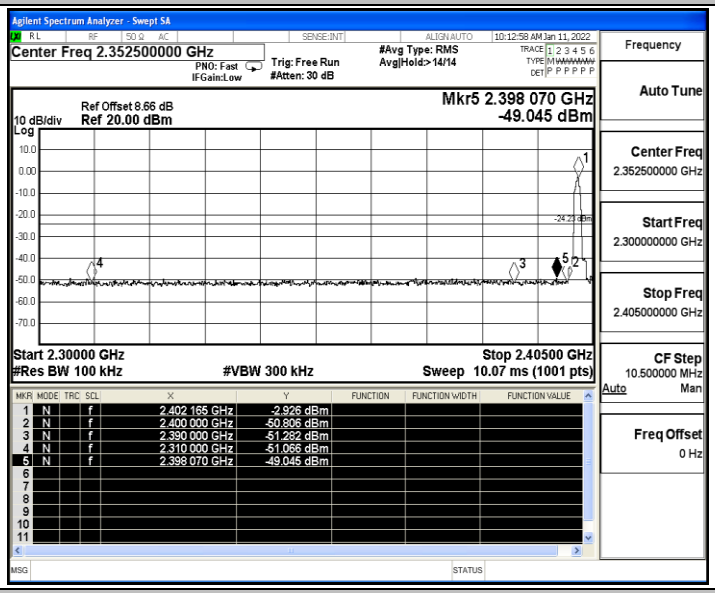
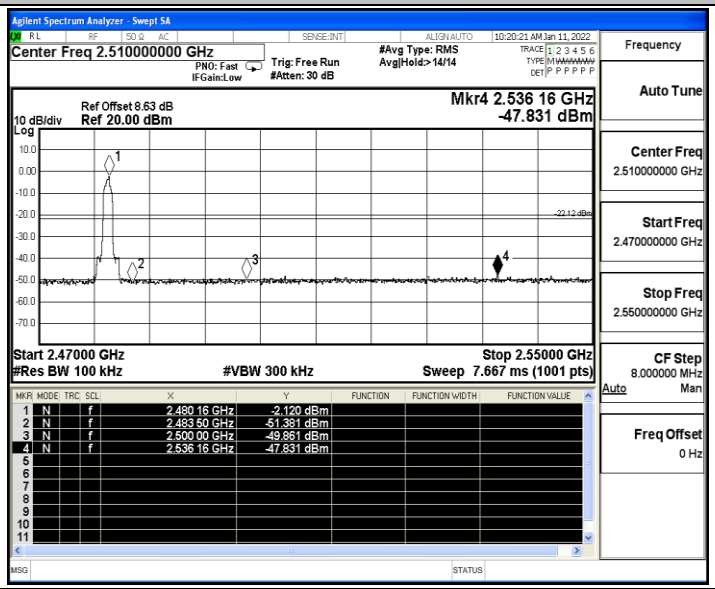


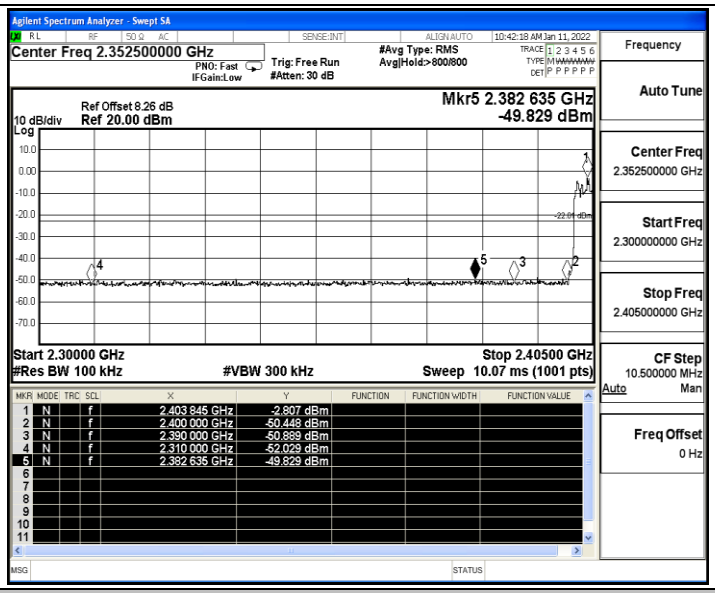
DH5_Ant_Low_Hop_2402



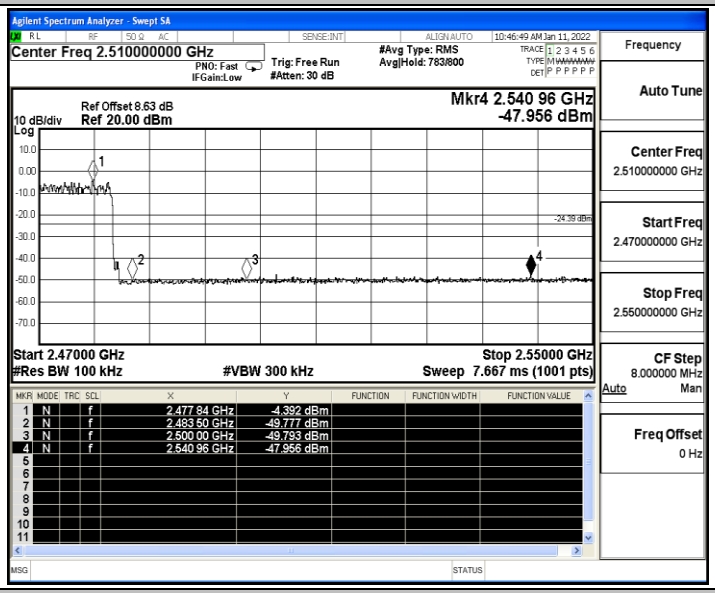
DH5_Ant_High_Hop_2480



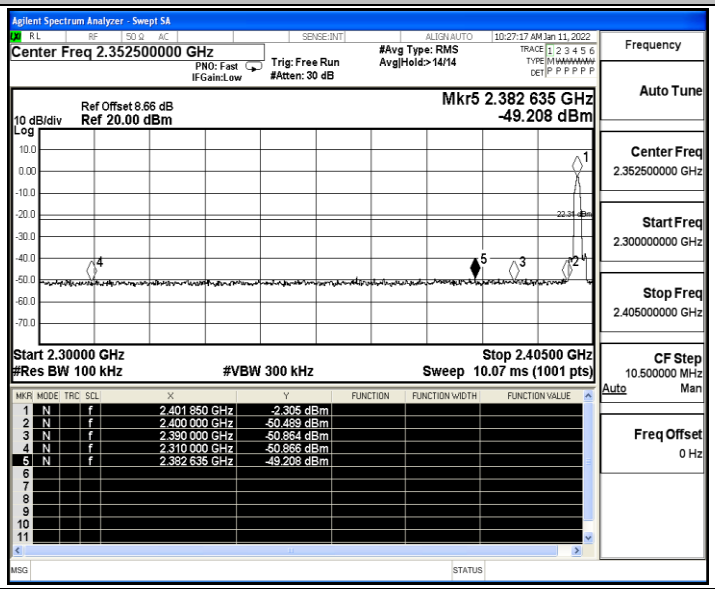
2DH5_Ant_Low_2402

2DH5_Ant_High_2480

2DH5_Ant_Low_Hop_2402

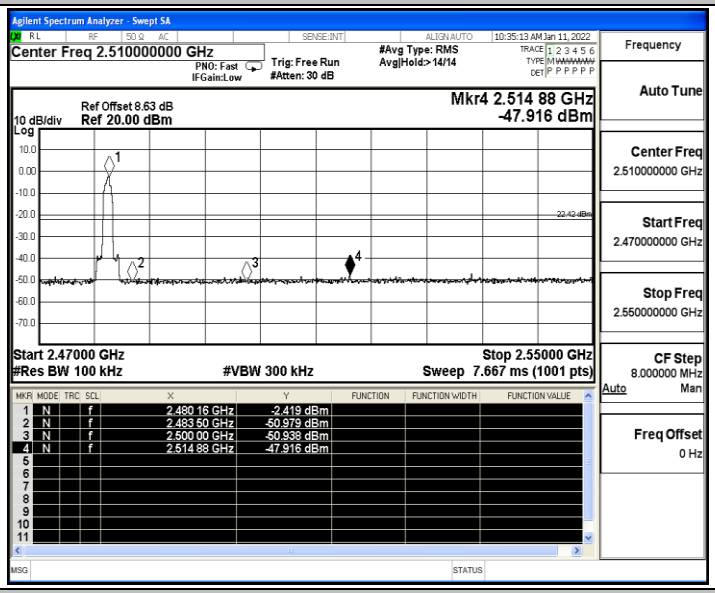
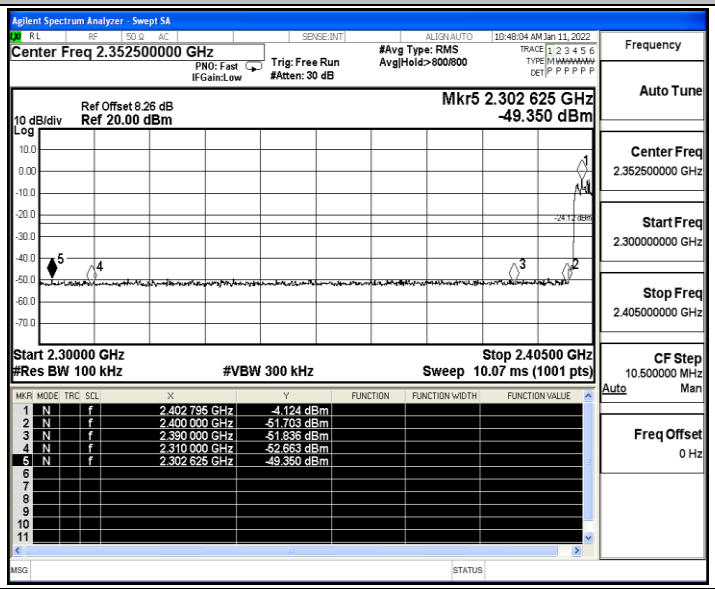


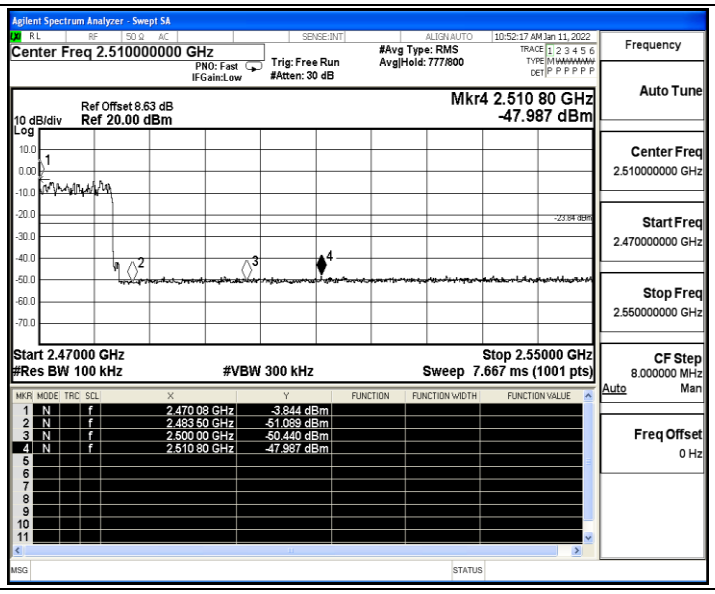
2DH5_Ant_High_Hop_2480



3DH5_Ant_Low_2402



3DH5_Ant_High_2480

3DH5_Ant_Low_Hop_2402

3DH5_Ant_High_Hop_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.510000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 7777/800
10:52:17 AM Jan 11, 2022
Ref Offset 8.63 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr4 2.510 80 GHz
-47.987 dBm
Start 2.47000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.55000 GHz
Sweep 7.667 ms (1001 pts)
1 N 1 f 2.470 08 GHz -3.844 dBm
2 N 1 f 2.483 50 GHz -51.089 dBm
3 N 1 f 2.500 00 GHz -50.440 dBm
4 N 1 f 2.510 80 GHz -47.987 dBm
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

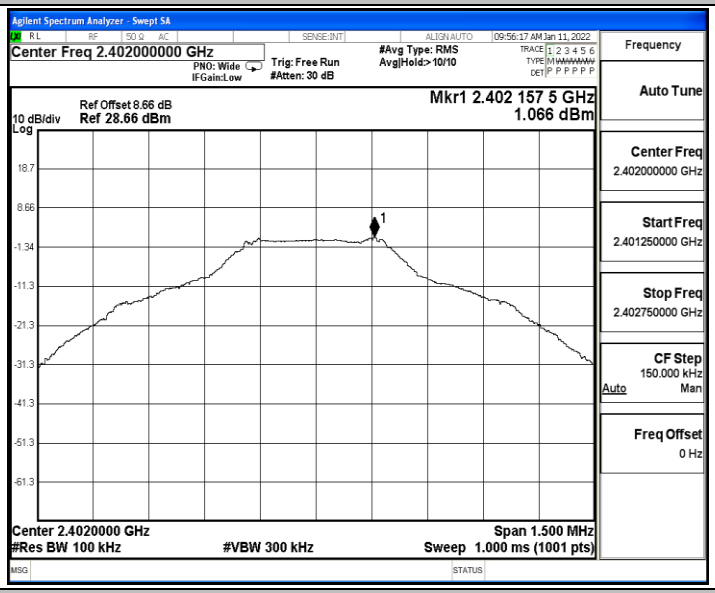
A.7 Conducted Spurious Emission

Test Result

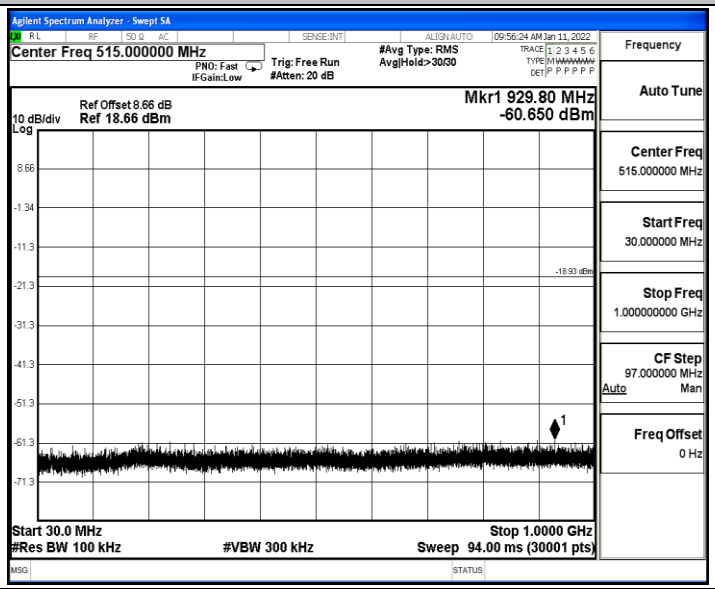
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	2402	Reference	1.07	1.07	---	PASS
			30~1000	1.07	-60.65	≤-18.93	PASS
			1000~26500	1.07	-46.55	≤-18.93	PASS
		2441	Reference	0.77	0.77	---	PASS
			30~1000	0.77	-60.8	≤-19.23	PASS
			1000~26500	0.77	-46.26	≤-19.23	PASS
		2480	Reference	-0.72	-0.72	---	PASS
			30~1000	-0.72	-60.44	≤-20.72	PASS
			1000~26500	-0.72	-45.25	≤-20.72	PASS
2DH5	Ant	2402	Reference	-2.38	-2.38	---	PASS
			30~1000	-2.38	-60.09	≤-22.38	PASS
			1000~26500	-2.38	-46.22	≤-22.38	PASS
		2441	Reference	-0.80	-0.80	---	PASS
			30~1000	-0.80	-60.91	≤-20.8	PASS
			1000~26500	-0.80	-46.09	≤-20.8	PASS
		2480	Reference	-2.09	-2.09	---	PASS
			30~1000	-2.09	-60.06	≤-22.09	PASS
			1000~26500	-2.09	-46.57	≤-22.09	PASS
3DH5	Ant	2402	Reference	-2.28	-2.28	---	PASS
			30~1000	-2.28	-50.42	≤-22.28	PASS
			1000~26500	-2.28	-45.66	≤-22.28	PASS
		2441	Reference	-0.74	-0.74	---	PASS
			30~1000	-0.74	-60.94	≤-20.74	PASS
			1000~26500	-0.74	-46.43	≤-20.74	PASS
		2480	Reference	-2.03	-2.03	---	PASS
			30~1000	-2.03	-60.98	≤-22.03	PASS
			1000~26500	-2.03	-45.75	≤-22.03	PASS

Test Graphs

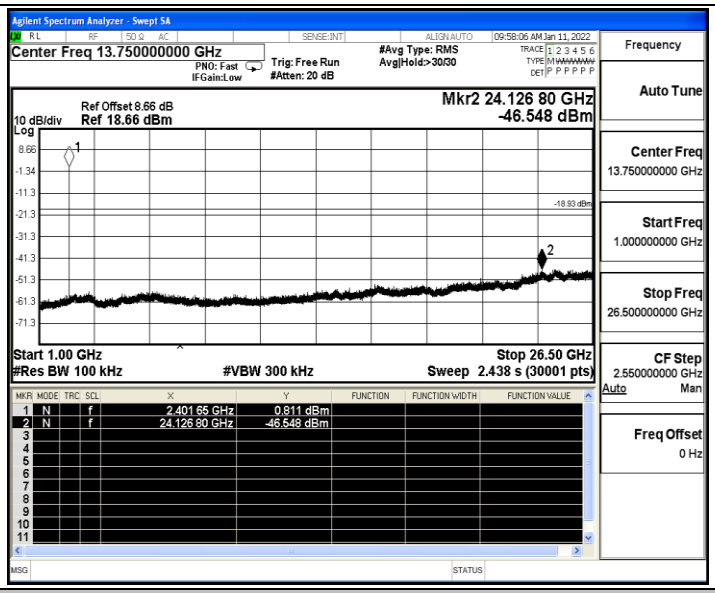
DH5_Ant_2402_0~Reference



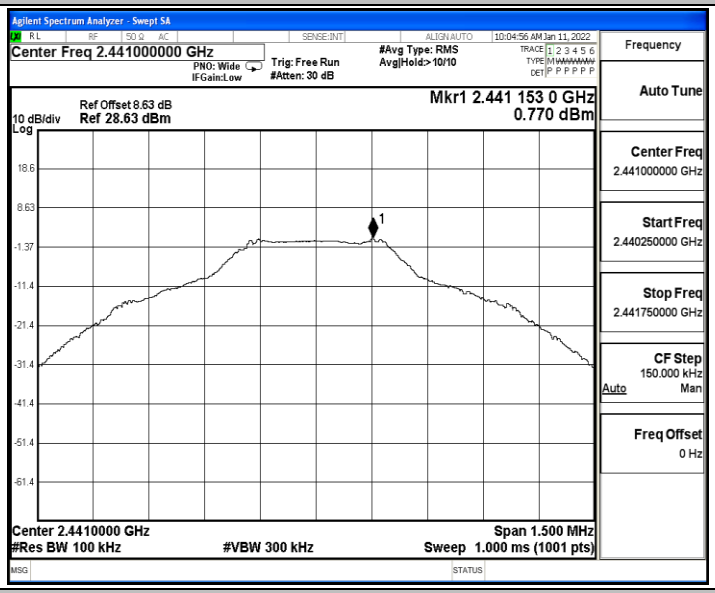
DH5_Ant_2402_30~1000



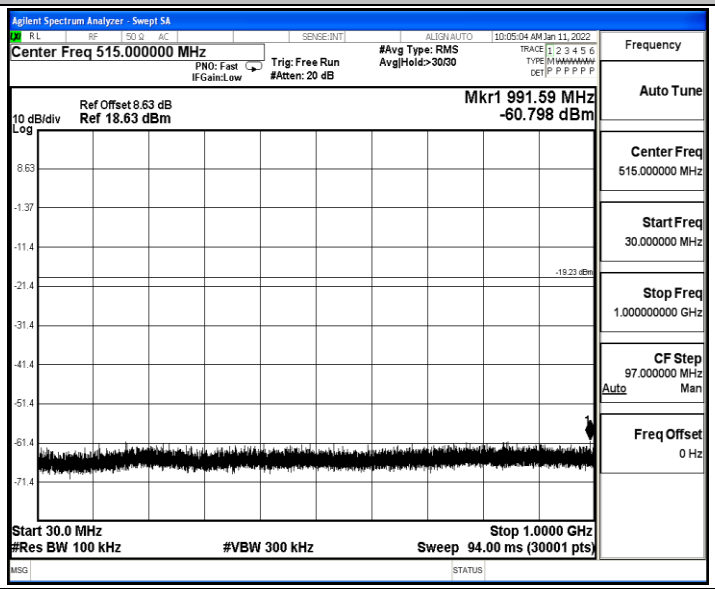
DH5_Ant_2402_1000~26500

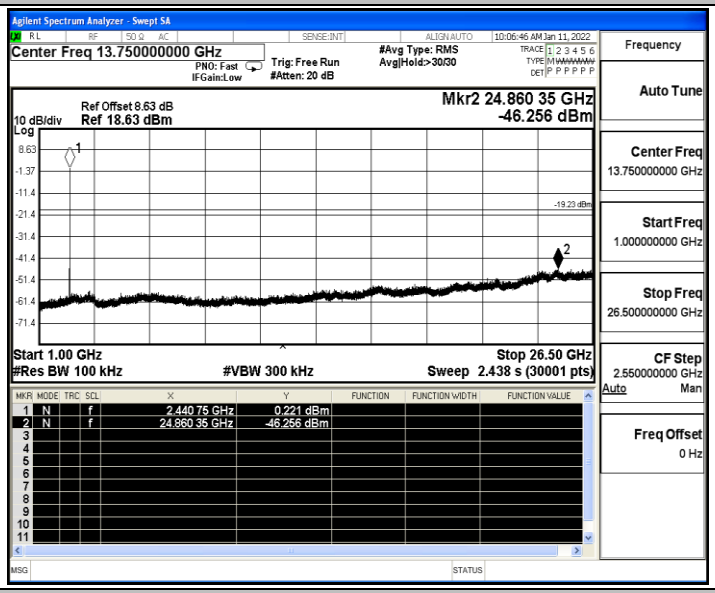
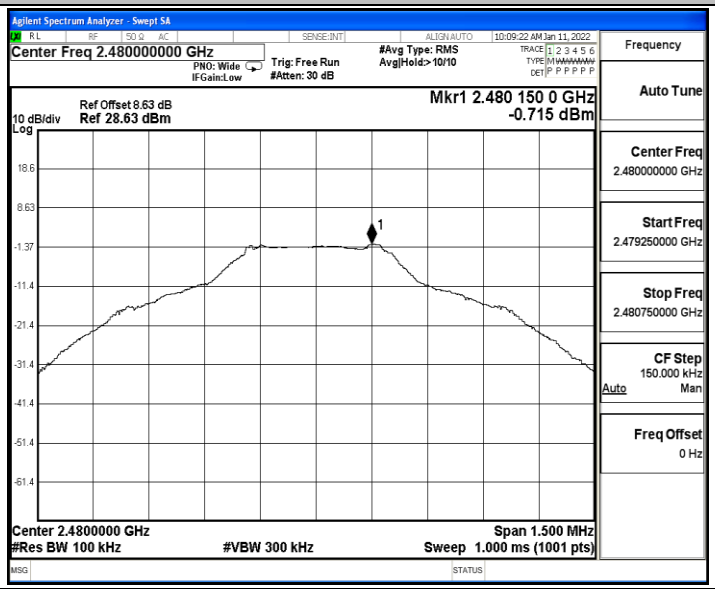


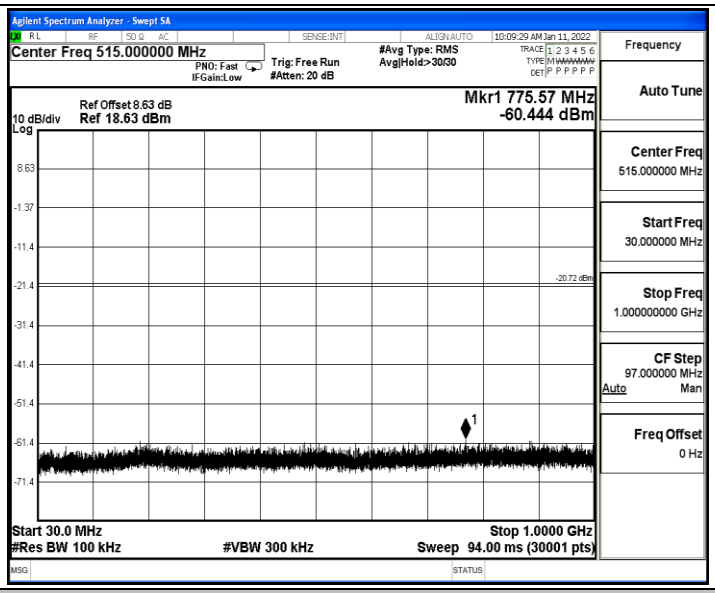
DH5_Ant_2441_0~Reference



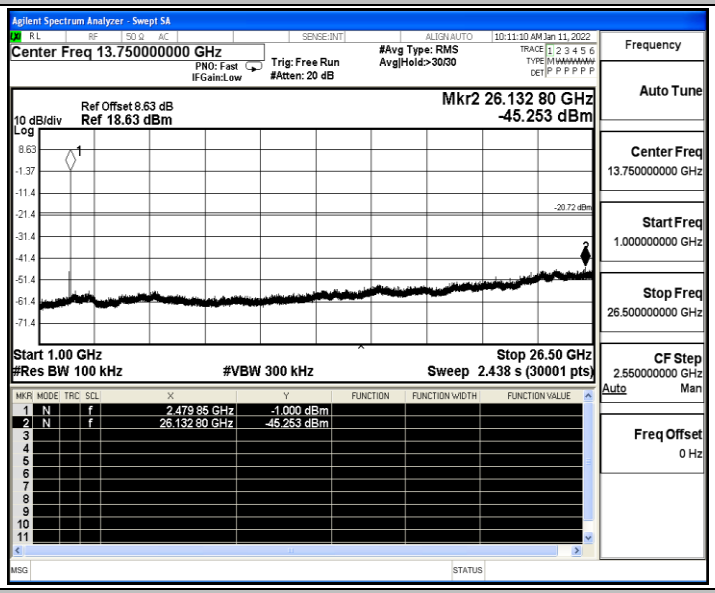
DH5_Ant_2441_30~1000



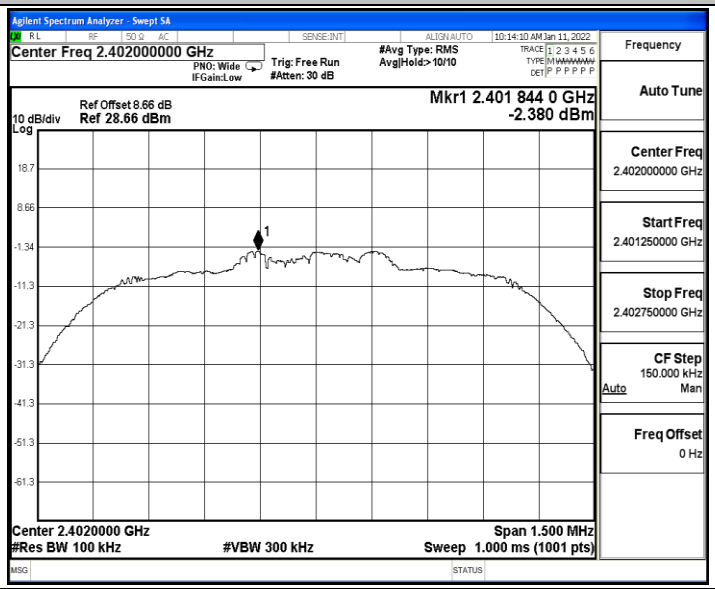
DH5_Ant_2441_1000~26500

DH5_Ant_2480_0~Reference

DH5_Ant_2480_30~1000

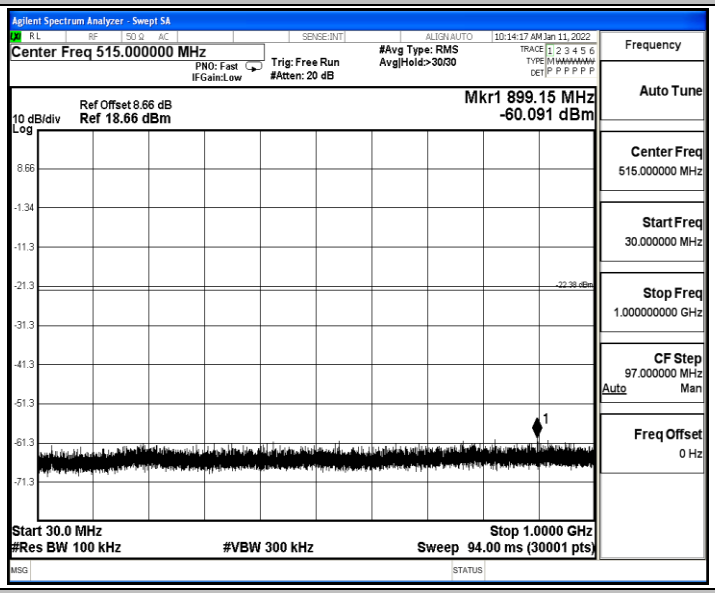


DH5_Ant_2480_1000~26500



2DH5_Ant_2402_0~Reference



2DH5_Ant_2402_30~1000

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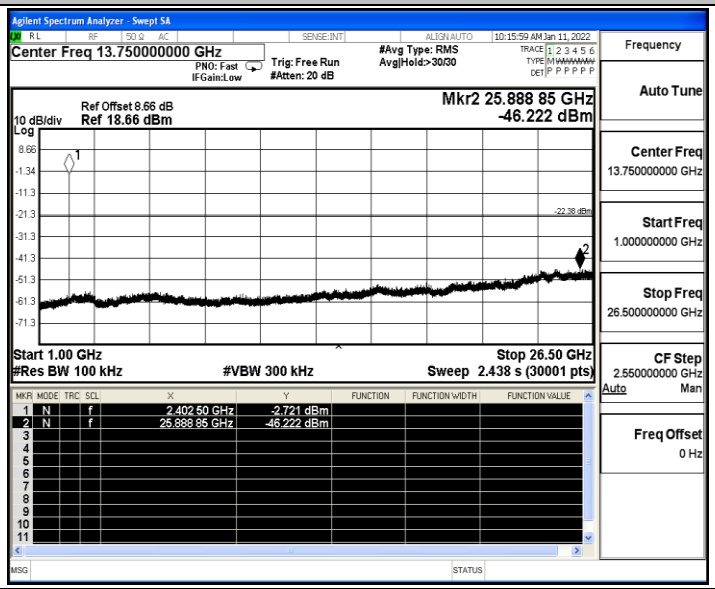
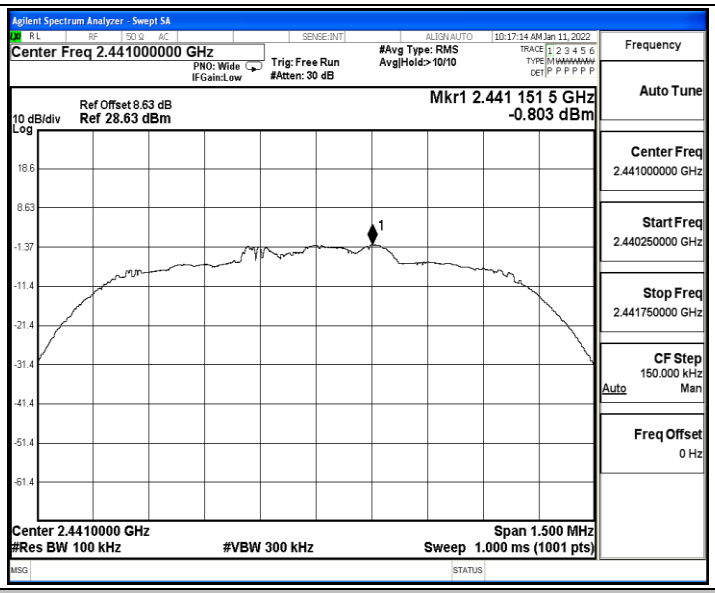
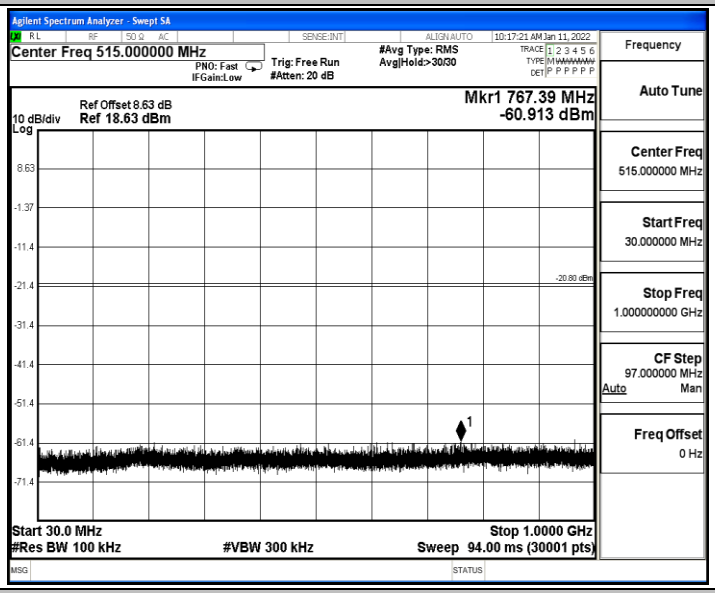
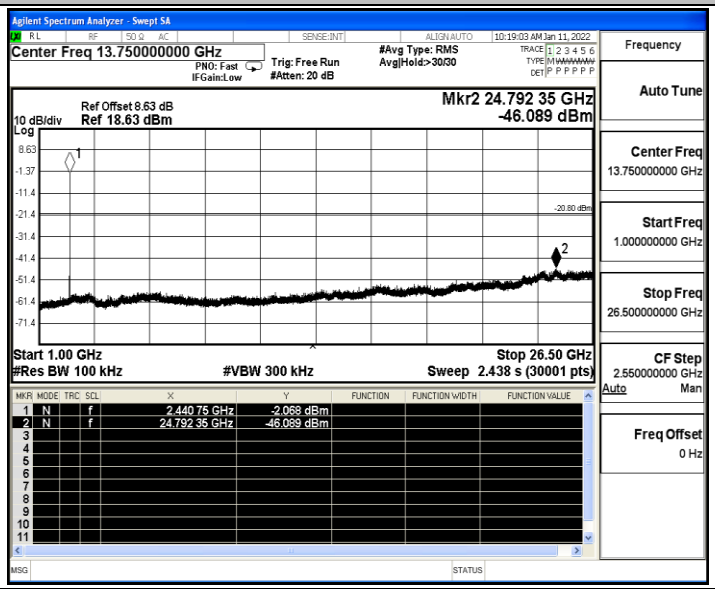

2DH5_Ant_2441_0~Reference

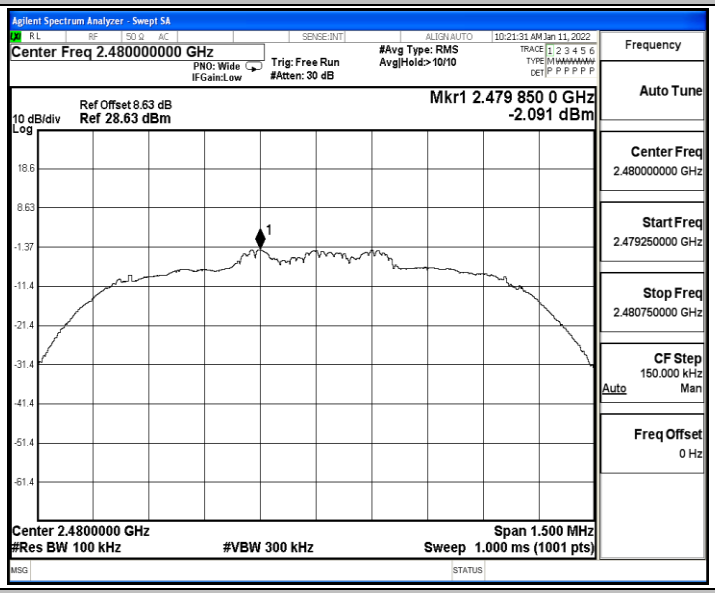
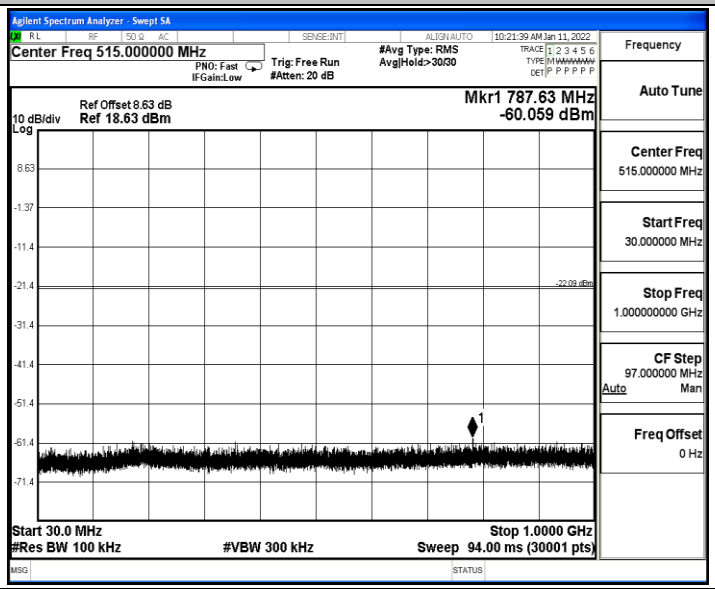


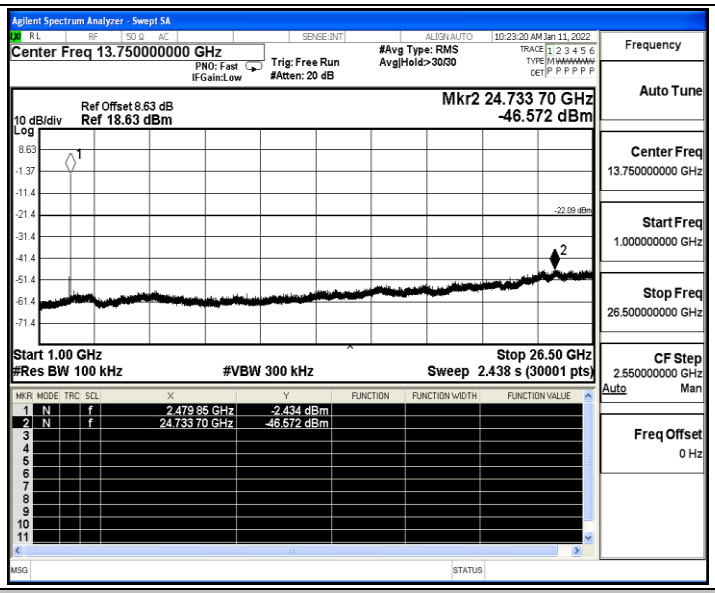
2DH5_Ant_2441_30~1000



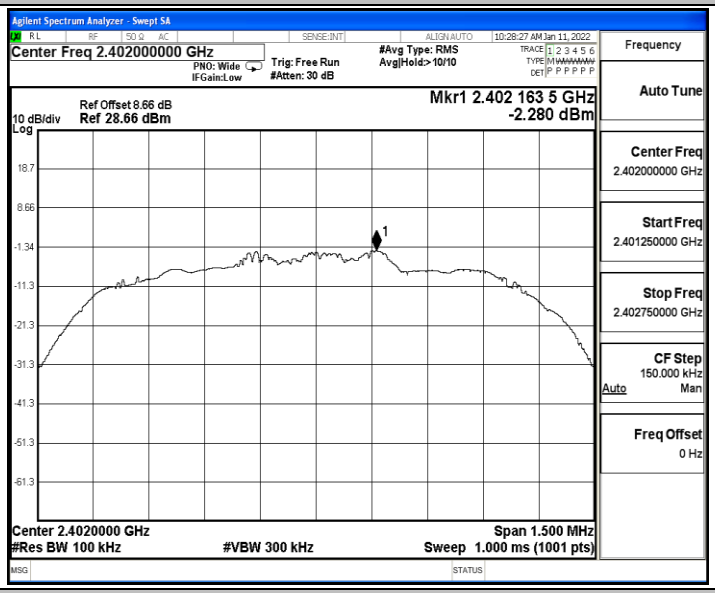
2DH5_Ant_2441_1000~26500



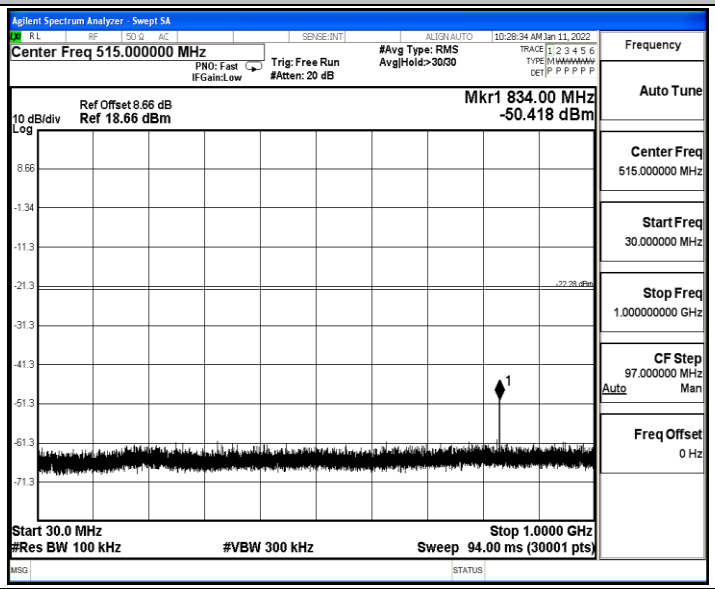
2DH5_Ant_2480_0~Reference

2DH5_Ant_2480_30~1000

2DH5_Ant_2480_1000~26500

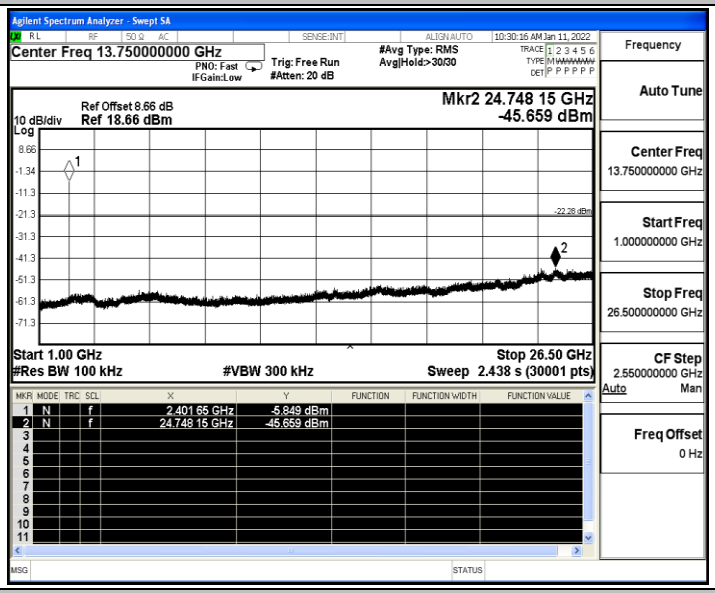


3DH5_Ant_2402_0~Reference



3DH5_Ant_2402_30~1000



3DH5_Ant_2402_1000~26500

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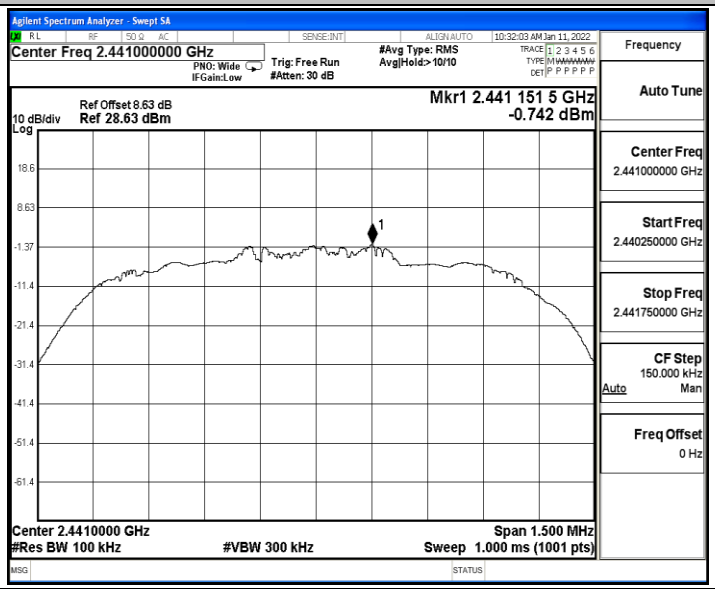
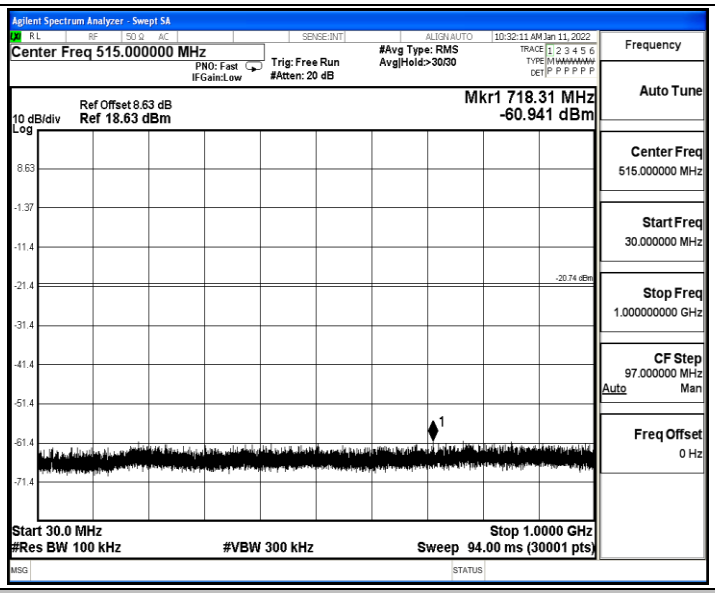
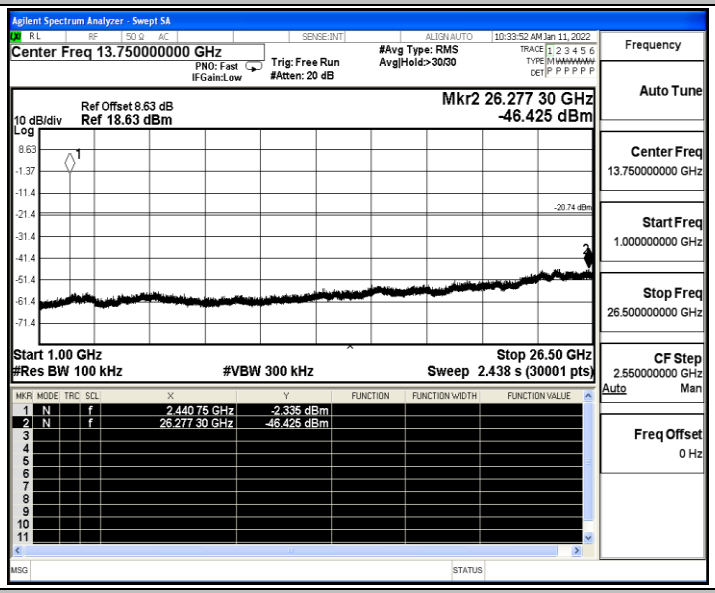
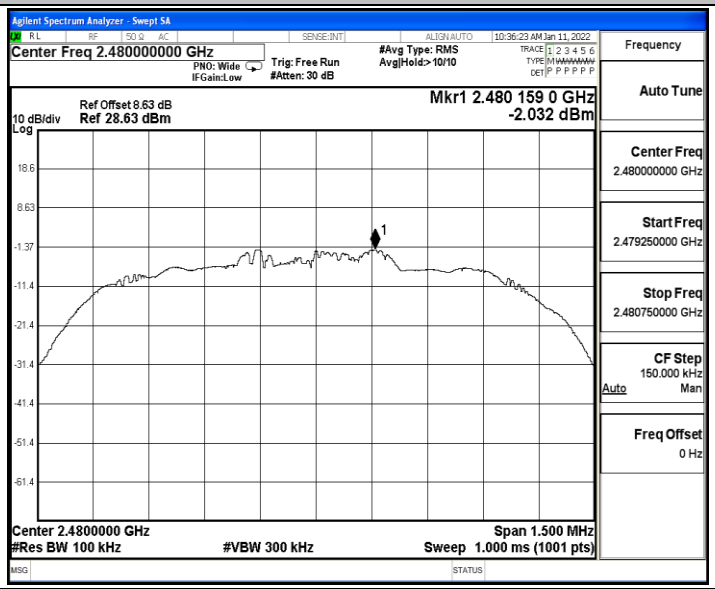

3DH5_Ant_2441_30~1000

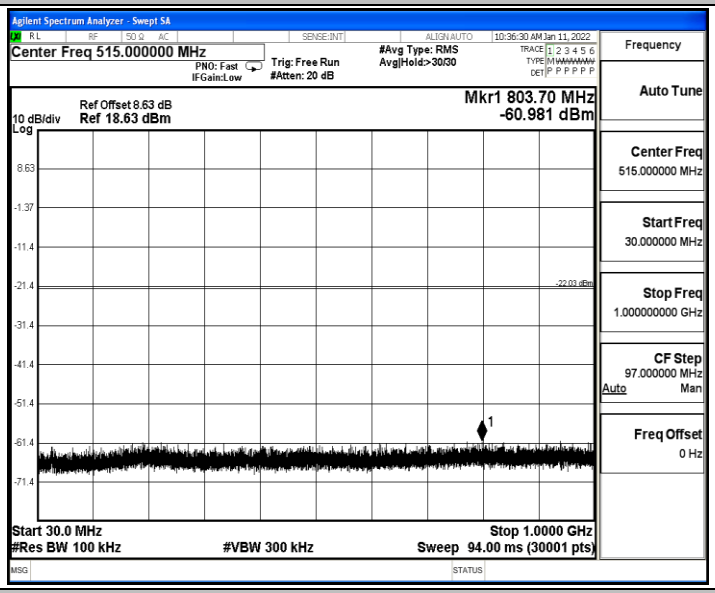
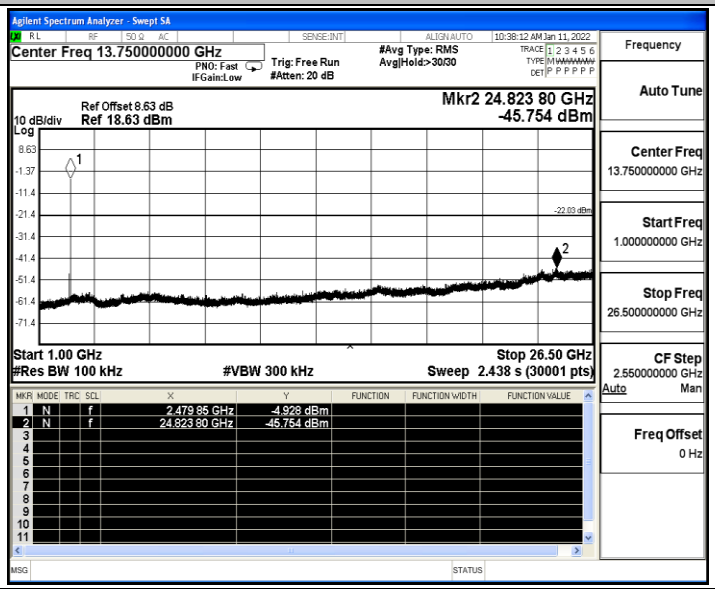


3DH5_Ant_2441_1000~26500



3DH5_Ant_2480_0~Reference



3DH5_Ant_2480_30~1000

3DH5_Ant_2480_1000~26500


A.8 Emissions in Restricted Bands

Test Result

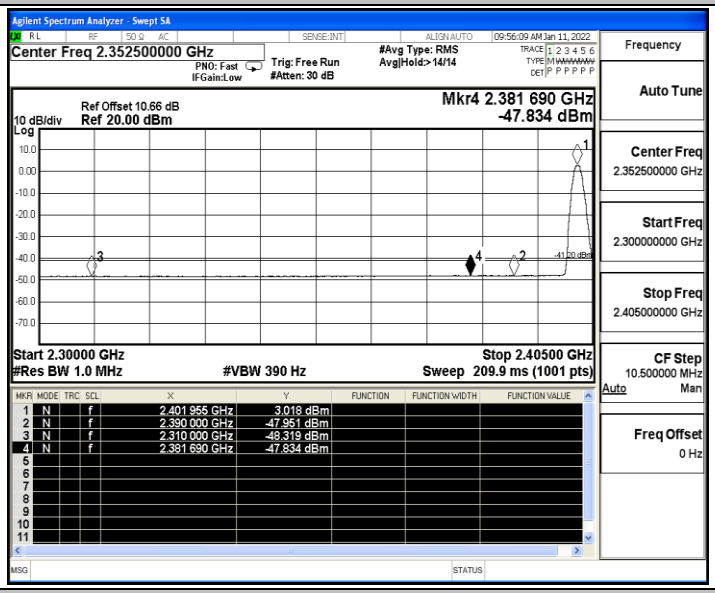
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant	Low	2402	AV	2310.000	-48.49	≤-41.20	46.71	≤54	PASS
				AV	2381.690	-47.83	≤-41.20	47.37	≤54	PASS
				AV	2390.000	-48.04	≤-41.20	47.16	≤54	PASS
				Peak	2310.000	-39.2	≤-21.20	56.00	≤74	PASS
				Peak	2371.505	-36.72	≤-21.20	58.48	≤74	PASS
				Peak	2390.000	-38.55	≤-21.20	56.65	≤74	PASS
		High	2480	AV	2483.500	-47.41	≤-41.20	47.79	≤54	PASS
				AV	2499.840	-47.26	≤-41.20	47.94	≤54	PASS
				AV	2500.000	-47.4	≤-41.20	47.80	≤54	PASS
				Peak	2483.500	-37.89	≤-21.20	57.31	≤74	PASS
				Peak	2489.040	-36.18	≤-21.20	59.02	≤74	PASS
				Peak	2500.000	-38.21	≤-21.20	56.99	≤74	PASS
2DH5	Ant	Low	2402	AV	2310.000	-48.44	≤-41.20	46.76	≤54	PASS
				AV	2388.305	-47.79	≤-41.20	47.41	≤54	PASS
				AV	2390.000	-47.97	≤-41.20	47.23	≤54	PASS
				Peak	2310.000	-38.44	≤-21.20	56.76	≤74	PASS
				Peak	2385.365	-36.3	≤-21.20	58.90	≤74	PASS
				Peak	2390.000	-38.43	≤-21.20	56.77	≤74	PASS
		High	2480	AV	2483.500	-47.33	≤-41.20	47.87	≤54	PASS
				AV	2499.760	-47.19	≤-41.20	48.01	≤54	PASS
				AV	2500.000	-47.27	≤-41.20	47.93	≤54	PASS
				Peak	2483.500	-37.88	≤-21.20	57.32	≤74	PASS
				Peak	2486.160	-36.26	≤-21.20	58.94	≤74	PASS
				Peak	2500.000	-38.62	≤-21.20	56.58	≤74	PASS
3DH5	Ant	Low	2402	AV	2310.000	-48.36	≤-41.20	46.84	≤54	PASS
				AV	2381.585	-47.79	≤-41.20	47.41	≤54	PASS
				AV	2390.000	-47.98	≤-41.20	47.22	≤54	PASS
				Peak	2310.000	-39.18	≤-21.20	56.02	≤74	PASS
				Peak	2380.010	-36.54	≤-21.20	58.66	≤74	PASS
				Peak	2390.000	-38.53	≤-21.20	56.67	≤74	PASS
		High	2480	AV	2483.500	-47.31	≤-41.20	47.89	≤54	PASS
				AV	2498.320	-47.24	≤-41.20	47.96	≤54	PASS
				AV	2500.000	-47.32	≤-41.20	47.88	≤54	PASS
				Peak	2483.500	-37.84	≤-21.20	57.36	≤74	PASS
				Peak	2499.040	-36.63	≤-21.20	58.57	≤74	PASS
				Peak	2500.000	-37.87	≤-21.20	57.33	≤74	PASS

Note：

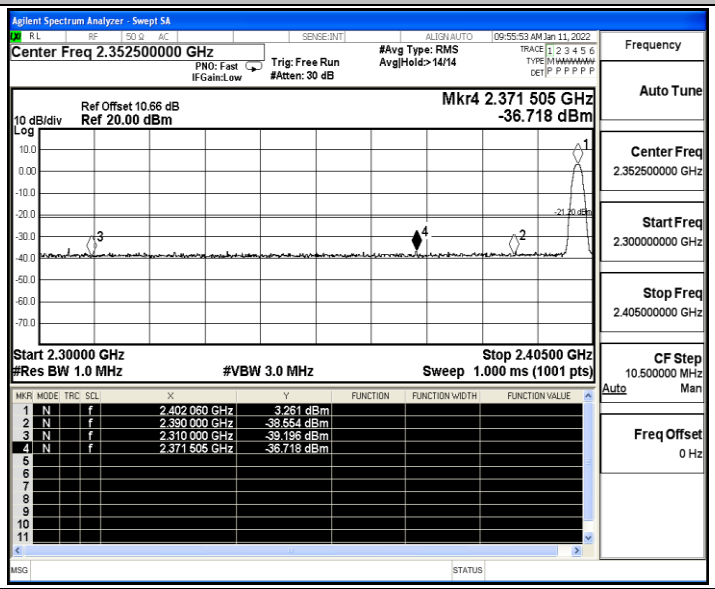
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

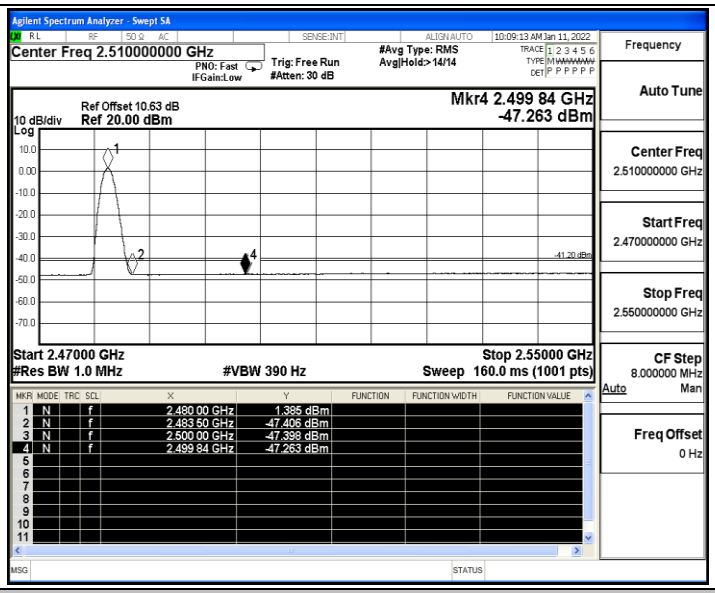
DH5_Ant_Low_2402_AV



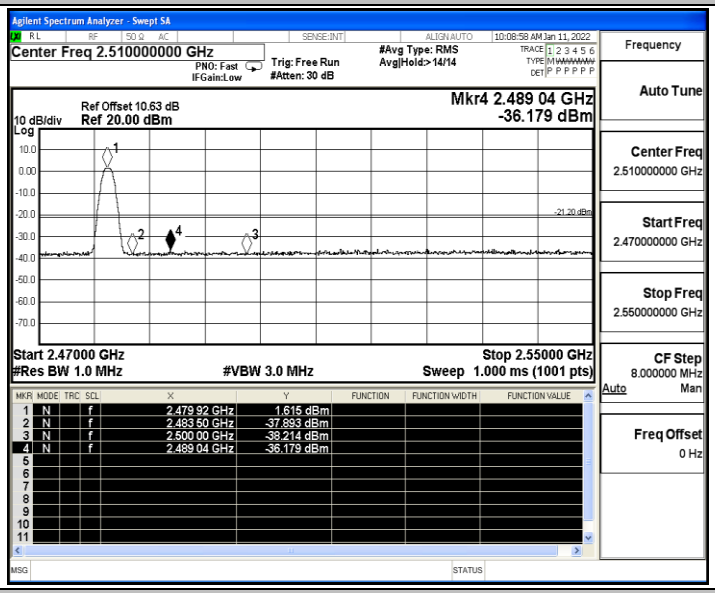
DH5_Ant_Low_2402_Peak



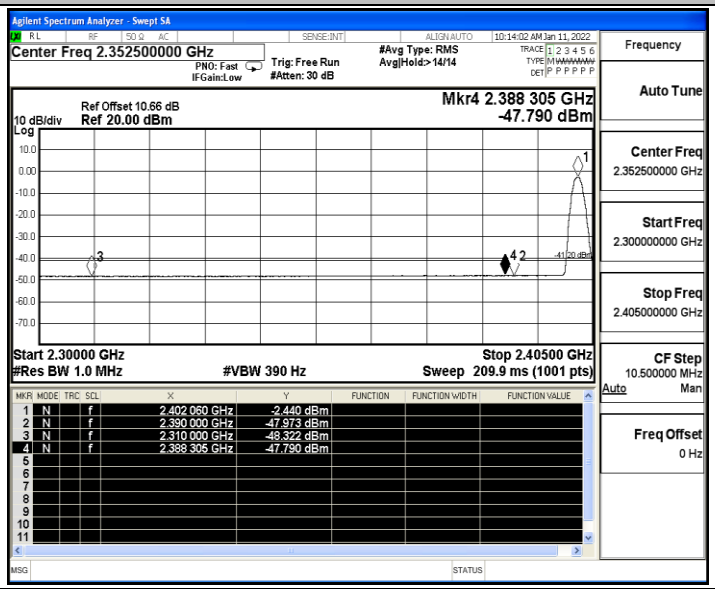
DH5_Ant_High_2480_AV



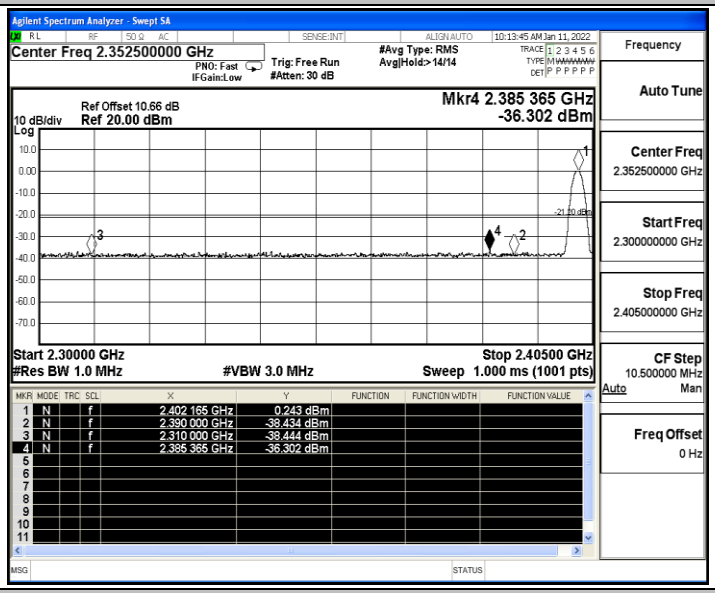
DH5_Ant_High_2480_Peak



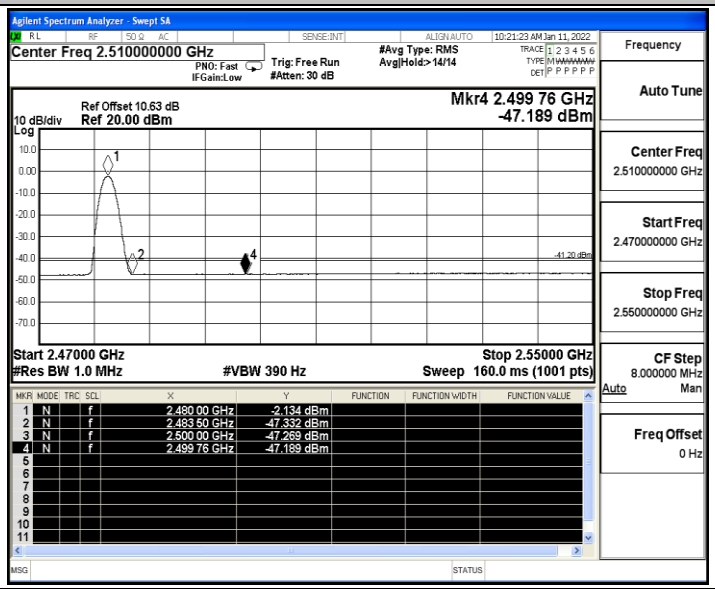
2DH5_Ant_Low_2402_AV



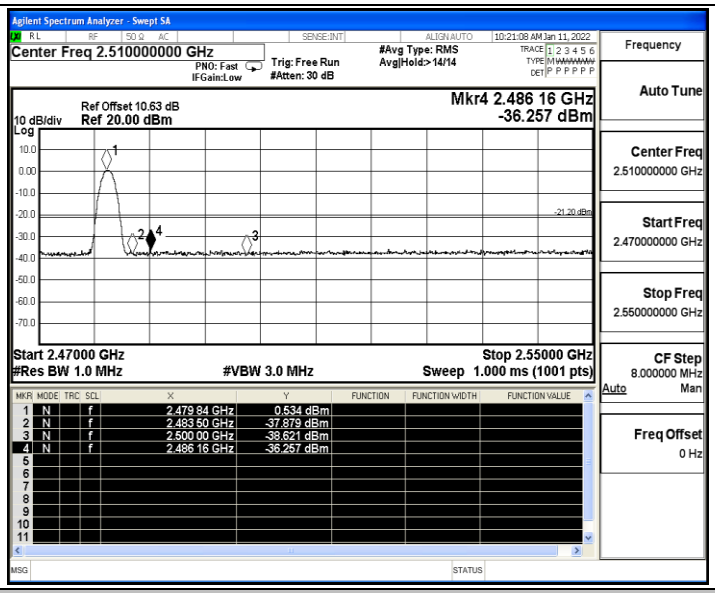
2DH5_Ant_Low_2402_Peak



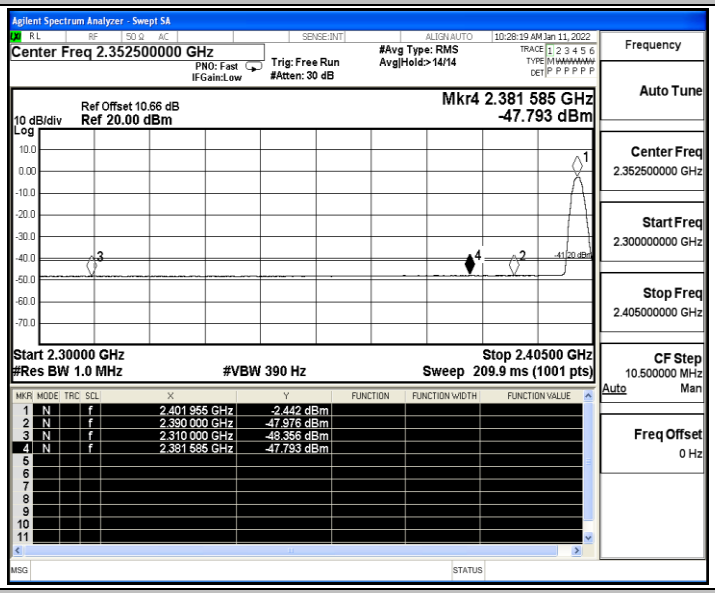
2DH5_Ant_High_2480_AV



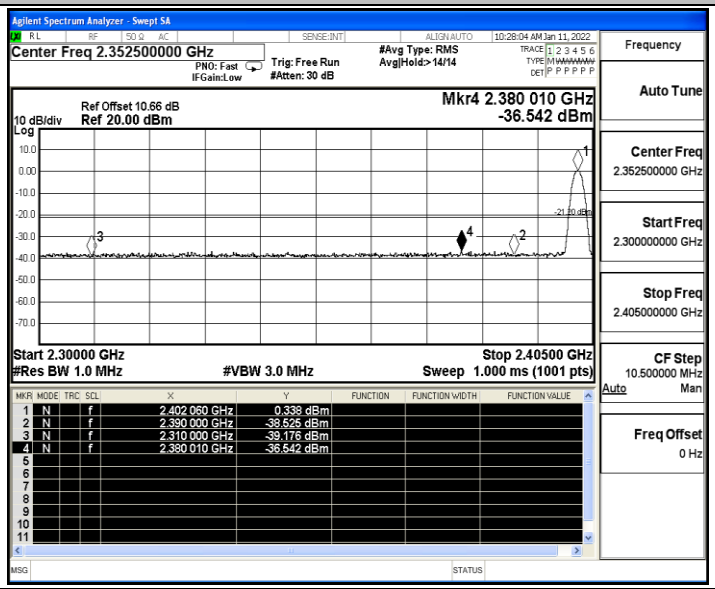
2DH5_Ant_High_2480_Peak

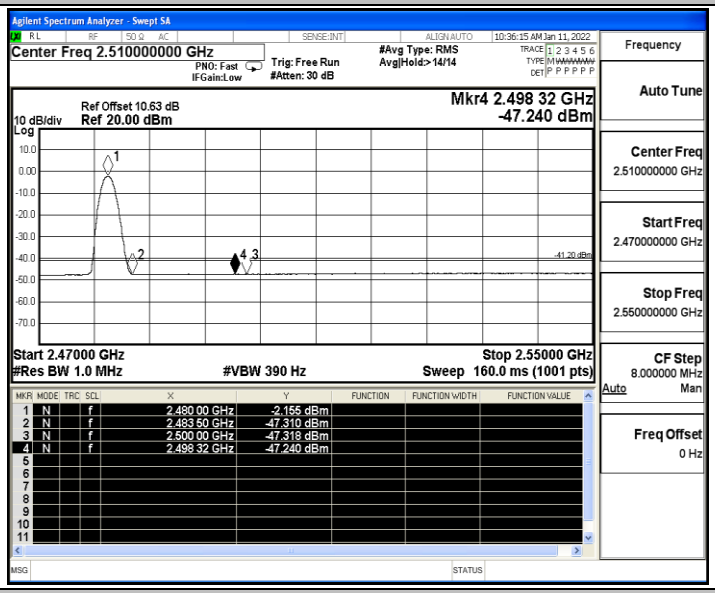


3DH5_Ant_Low_2402_AV



3DH5_Ant_Low_2402_Peak



3DH5_Ant_High_2480_AV

3DH5_Ant_High_2480_Peak