Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: VIDEO PROJECTOR

Test Model: JQ901A

Environmental Conditions

Temperature:	21.1 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Wunder Wu
Supervised by:	Huan Li

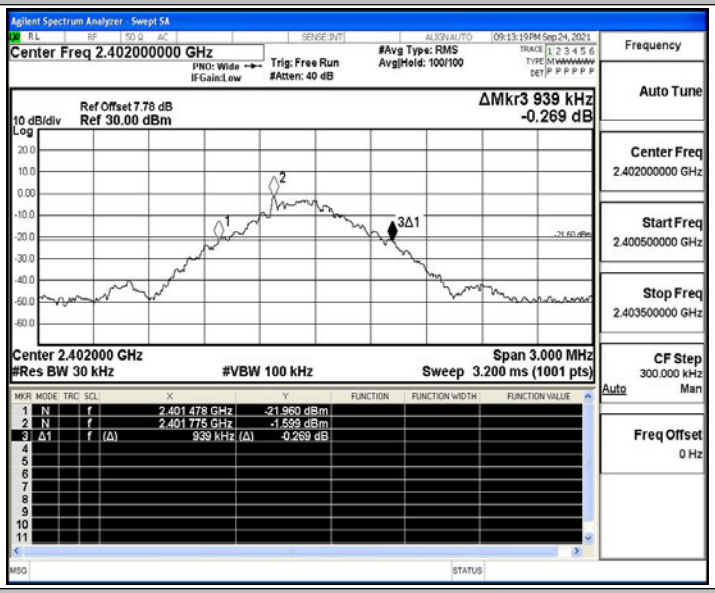
A.1 20dB Emission Bandwidth

Test Result

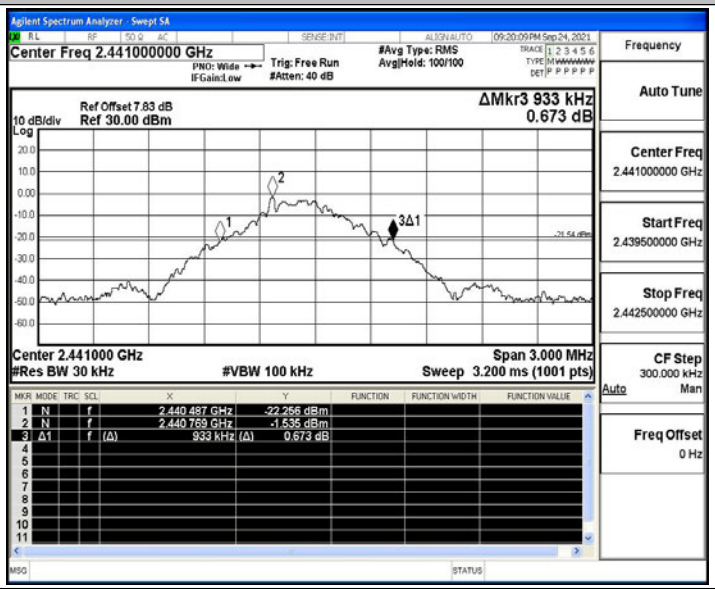
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.939	2401.478	2402.417	---	PASS
		2441	0.933	2440.487	2441.420	---	PASS
		2480	0.969	2479.463	2480.432	---	PASS
2DH5	Ant1	2402	1.314	2401.280	2402.594	---	PASS
		2441	1.287	2440.301	2441.588	---	PASS
		2480	1.278	2479.304	2480.582	---	PASS
3DH5	Ant1	2402	1.344	2401.265	2402.609	---	PASS
		2441	1.296	2440.289	2441.585	---	PASS
		2480	1.242	2479.307	2480.549	---	PASS

Test Graphs

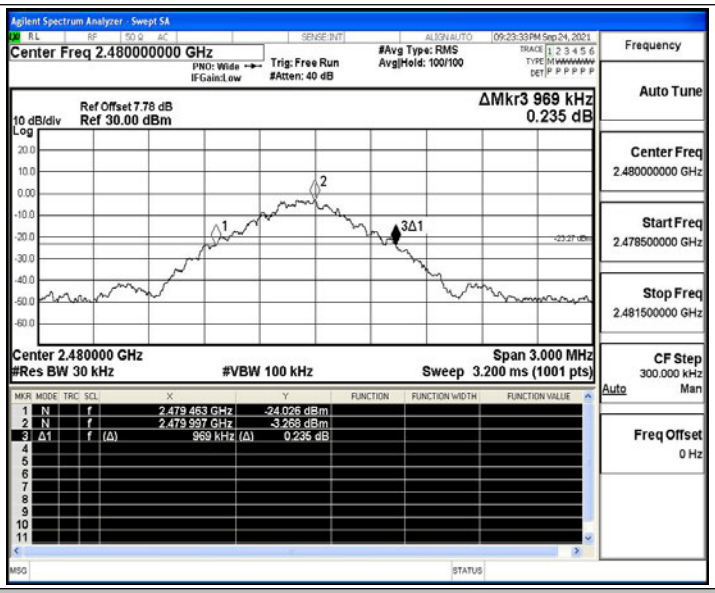
DH5_Ant1_2402



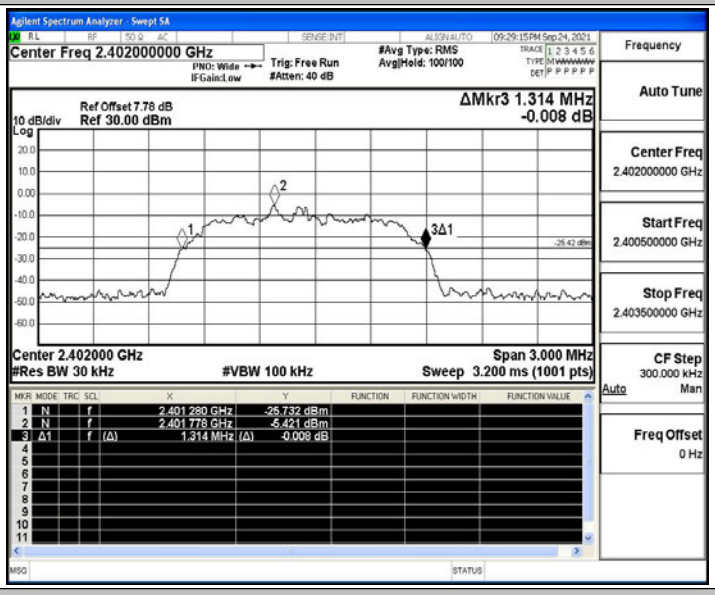
DH5_Ant1_2441



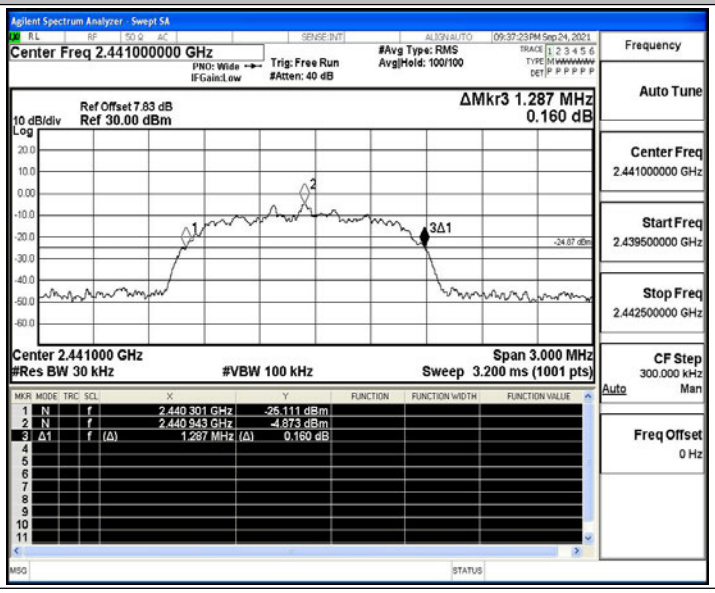
DH5_Ant1_2480

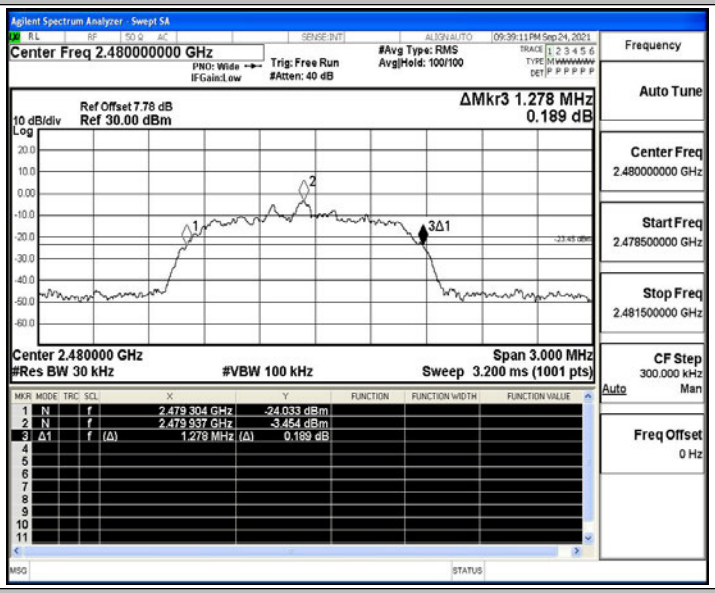
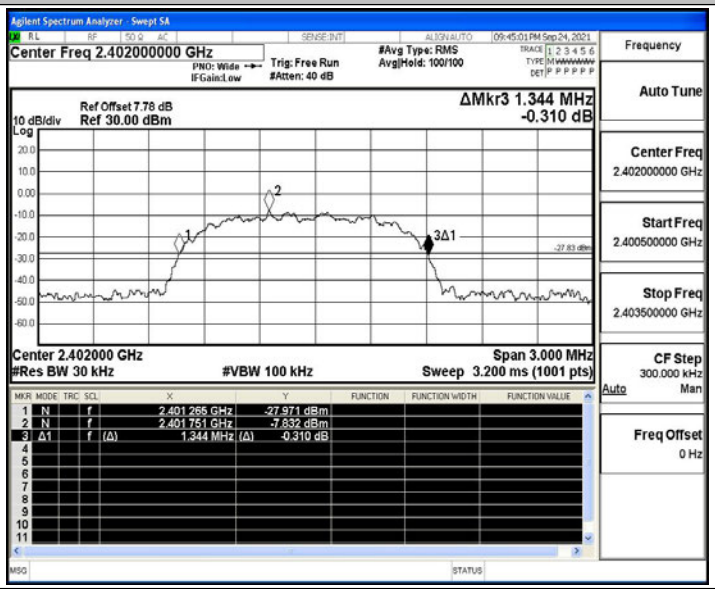


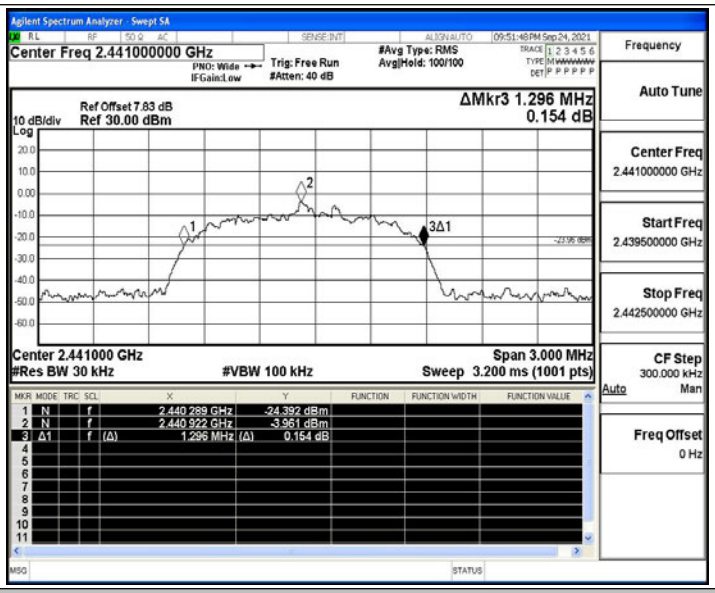
2DH5_Ant1_2402



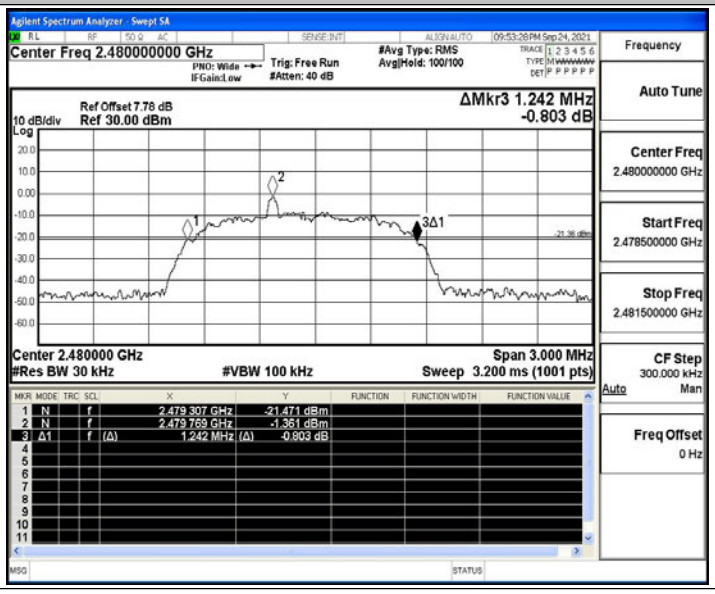
2DH5_Ant1_2441



2DH5_Ant1_2480

3DH5_Ant1_2402

3DH5_Ant1_2441



3DH5_Ant1_2480



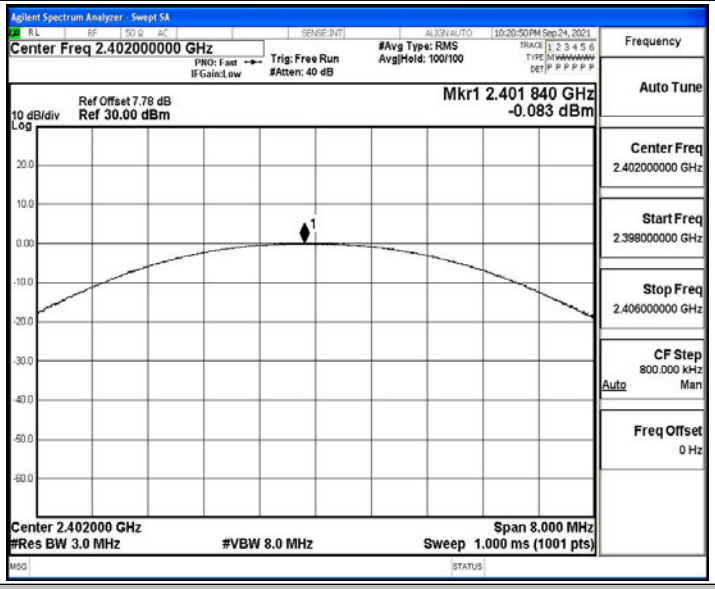
A.2 Maximum conducted output power

Test Result

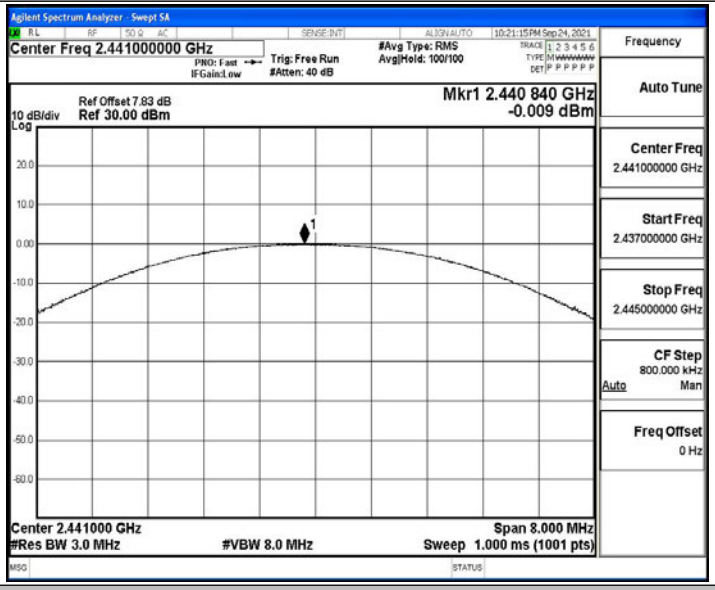
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-0.08	≤20.97	PASS
		2441	-0.01	≤20.97	PASS
		2480	0.01	≤20.97	PASS
2DH5	Ant1	2402	-0.2	≤20.97	PASS
		2441	-0.29	≤20.97	PASS
		2480	-0.01	≤20.97	PASS
3DH5	Ant1	2402	-0.13	≤20.97	PASS
		2441	-0.2	≤20.97	PASS
		2480	0.02	≤20.97	PASS

Test Graphs

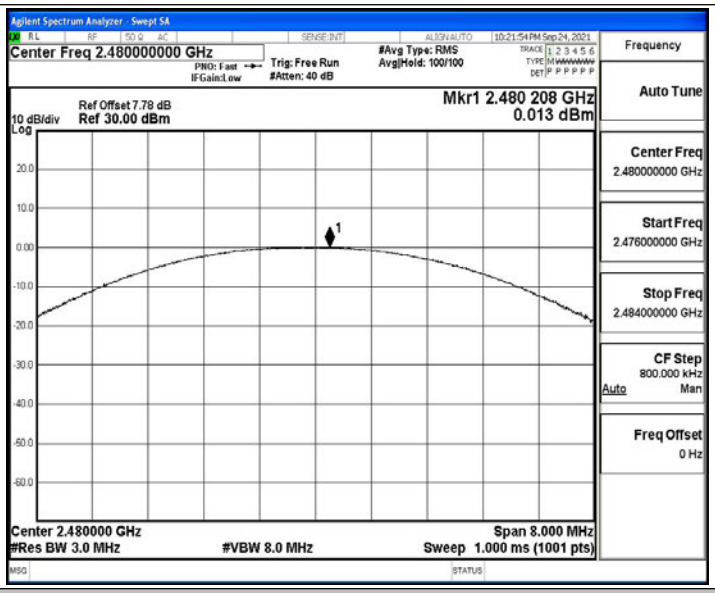
DH5_Ant1_2402



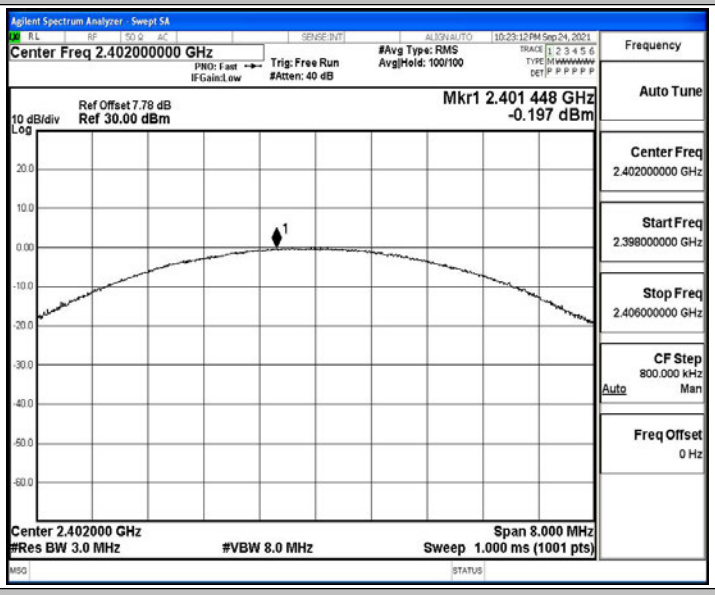
DH5_Ant1_2441



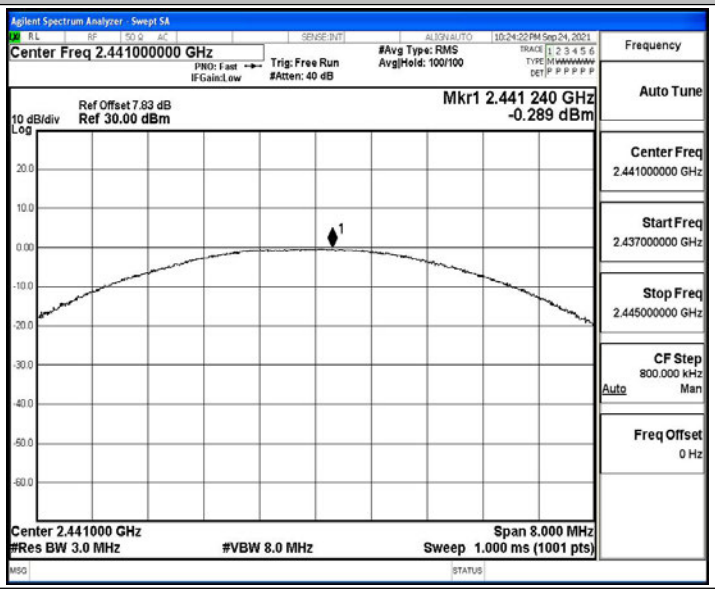
DH5_Ant1_2480



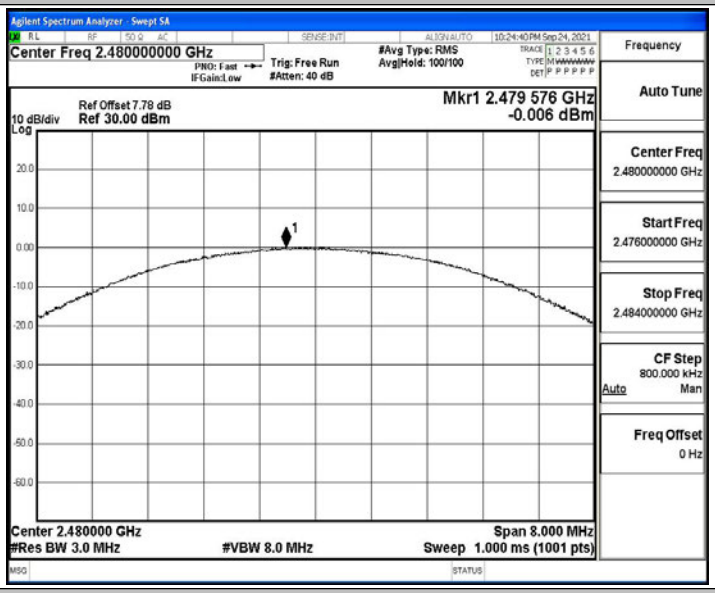
2DH5_Ant1_2402



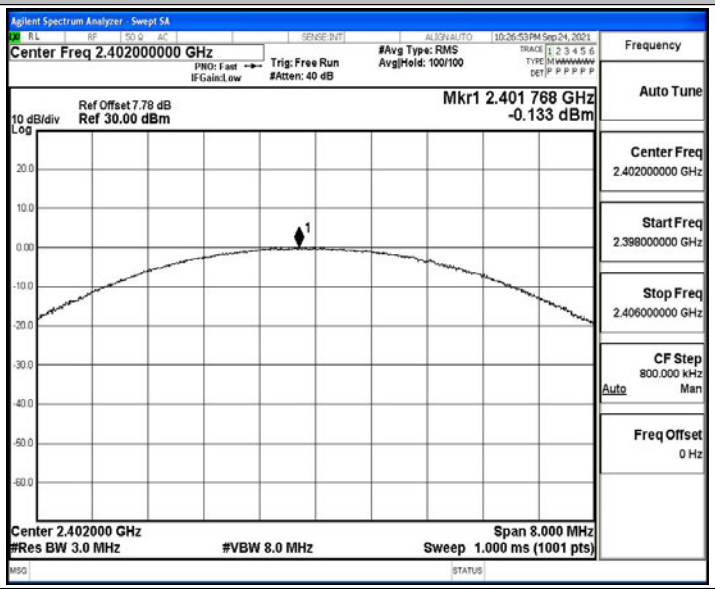
2DH5_Ant1_2441



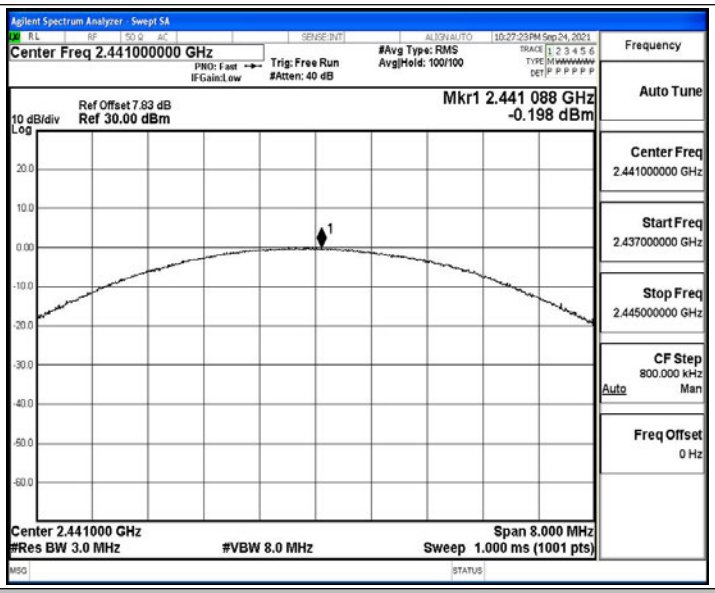
2DH5_Ant1_2480



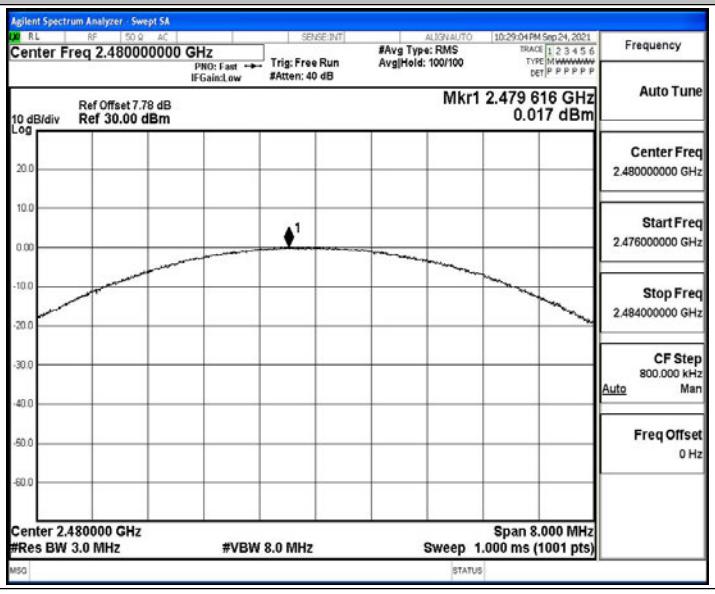
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



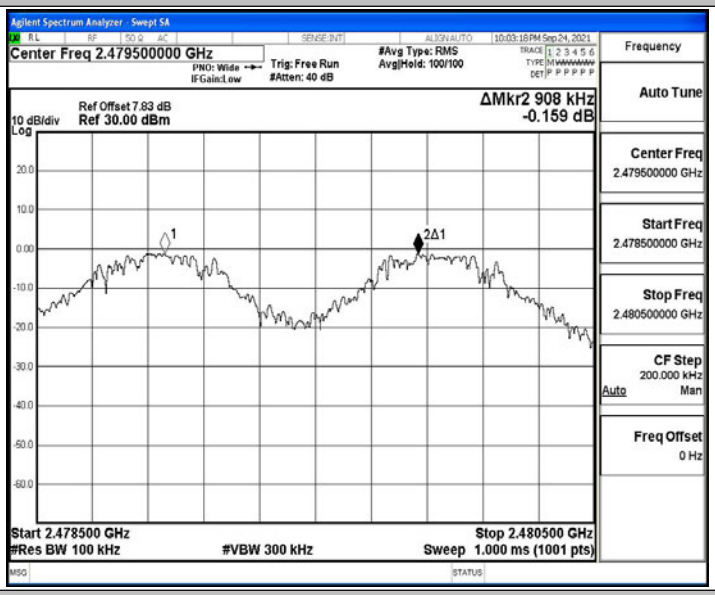
A.3 Carrier frequency separation

Test Result

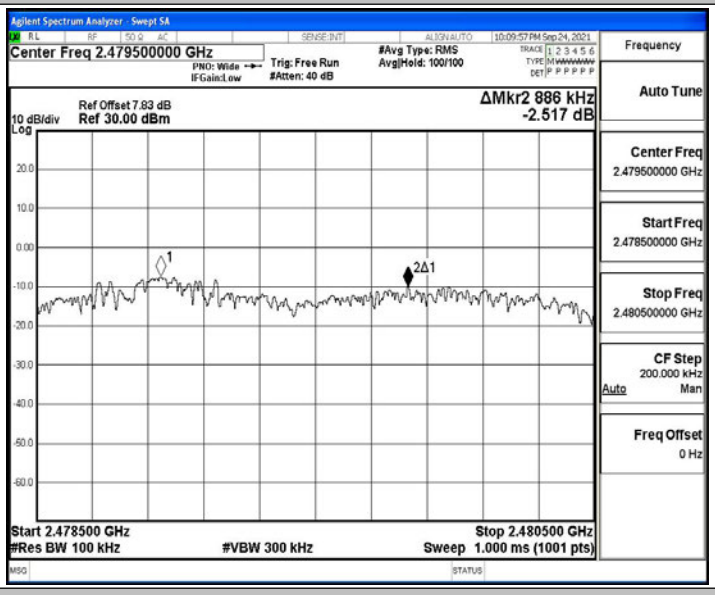
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.908	≥0.646	PASS
2DH5	Ant1	Hop	0.886	≥0.876	PASS
3DH5	Ant1	Hop	1.166	≥0.896	PASS

Test Graphs

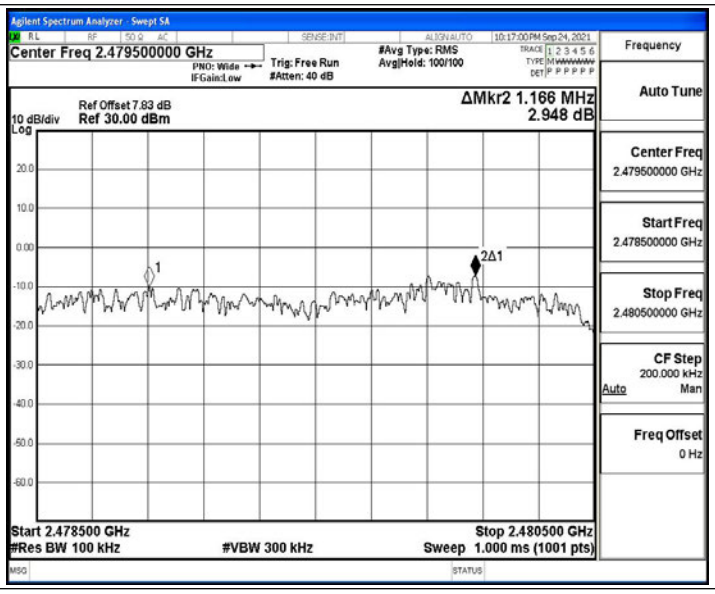
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.479500000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
10:17:00 PM Sep 24, 2021
Ref Offset 7.83 dB
10 dB/div Ref 30.00 dBm
Log
ΔMkr2 1.166 MHz
2.948 dB
1
2Δ1
Start 2.478500 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.480500 GHz
Sweep 1.000 ms (1001 pts)
Frequency
Auto Tune
Center Freq
2.479500000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.480500000 GHz
CF Step
200.000 kHz
Auto
Man
Freq Offset
0 Hz

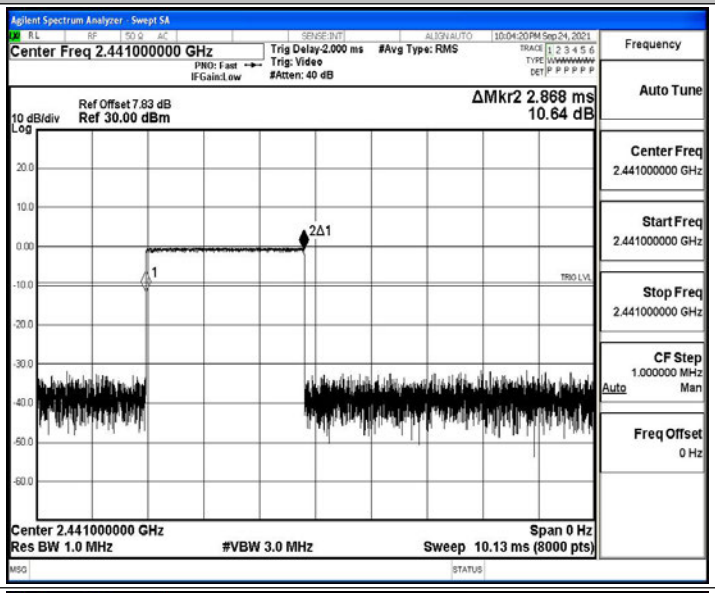
A.4 Time of occupancy

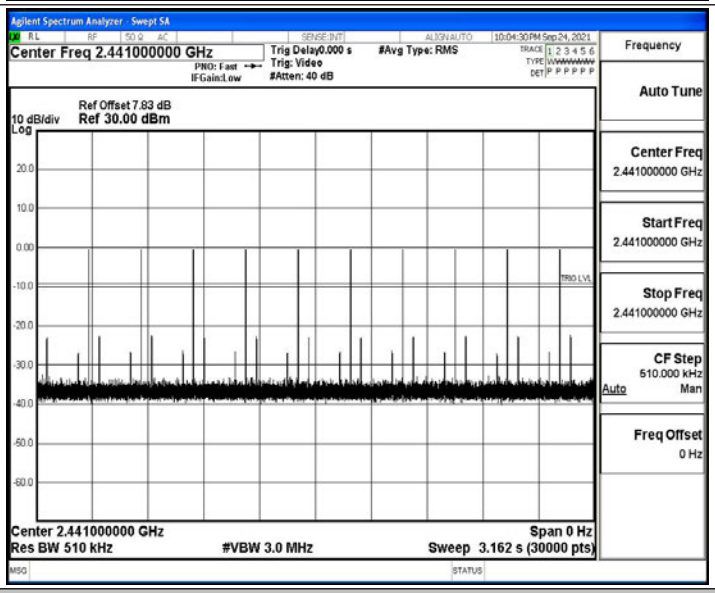
Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.87	110	0.315	≤0.4	PASS
2DH5	Ant1	Hop	2.88	110	0.317	≤0.4	PASS
3DH5	Ant1	Hop	2.88	110	0.317	≤0.4	PASS

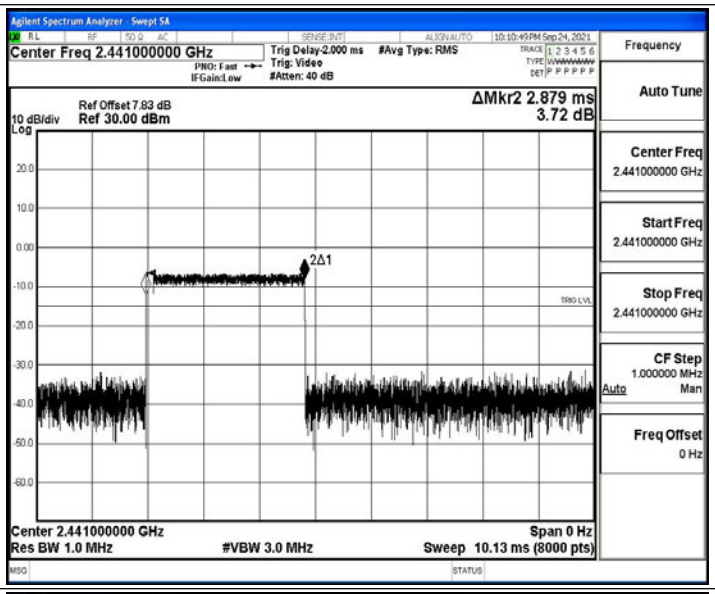
Test Graphs

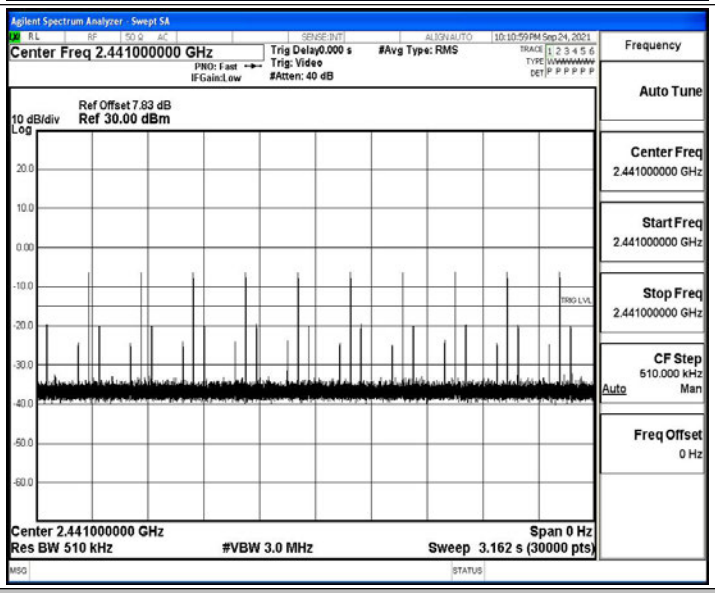
DH5_Ant1_Hop



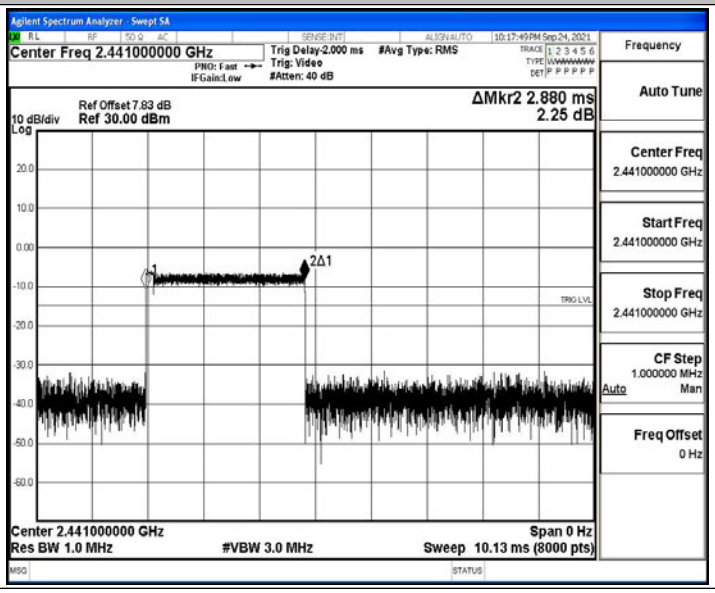


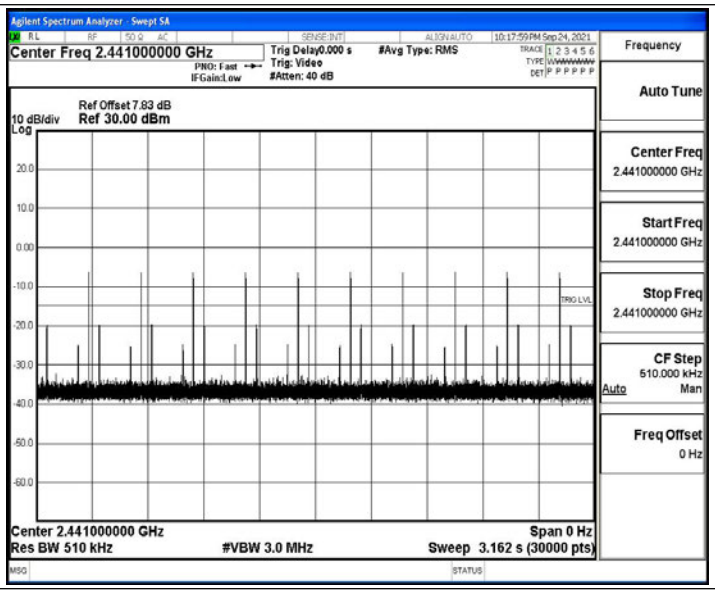
2DH5_Ant1_Hop





3DH5_Ant1_Hop




Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay0.000 s
Trig: Video
#Atten: 40 dB
#Avg Type: RMS
10:17:59 PM Sep 24, 2021
Ref Offset 7.83 dB
10 dB/div Ref 30.00 dBm
Log
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
TRIG LVL
Center 2.441000000 GHz
Res BW 510 kHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 3.162 s (30000 pts)
MSG
STATUS
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
510.000 kHz
Auto
Man
Freq Offset
0 Hz

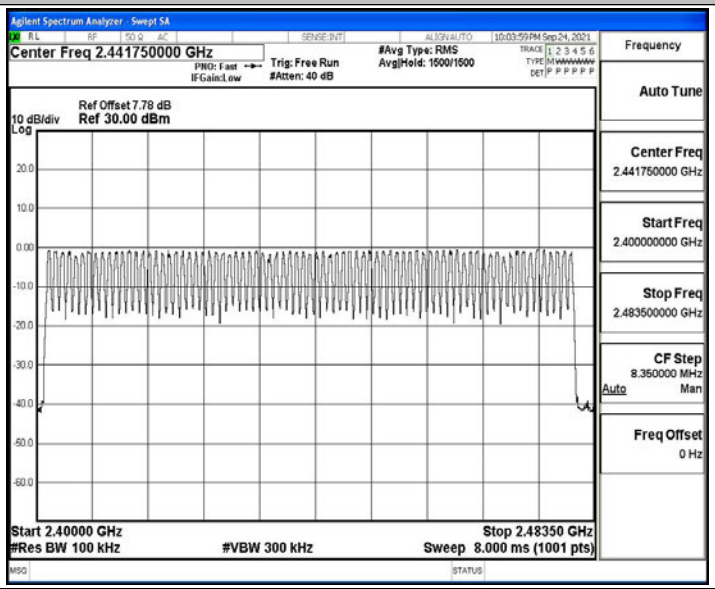
A.5 Number of hopping channels

Test Result

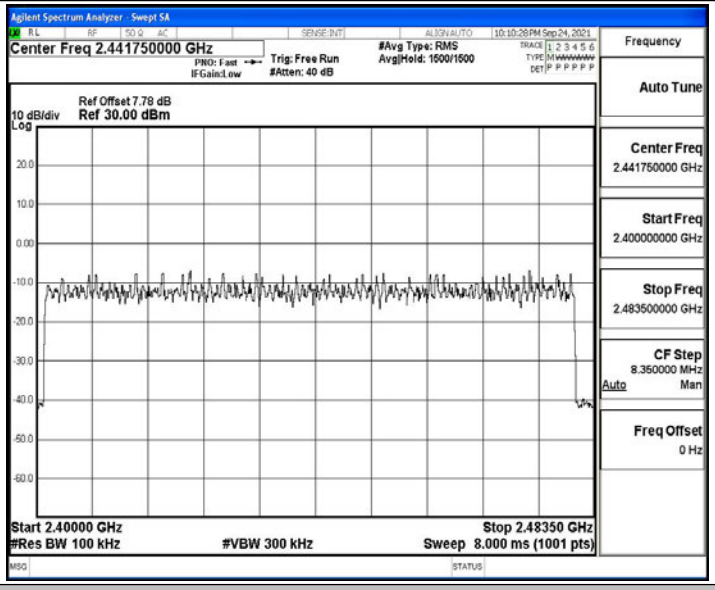
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

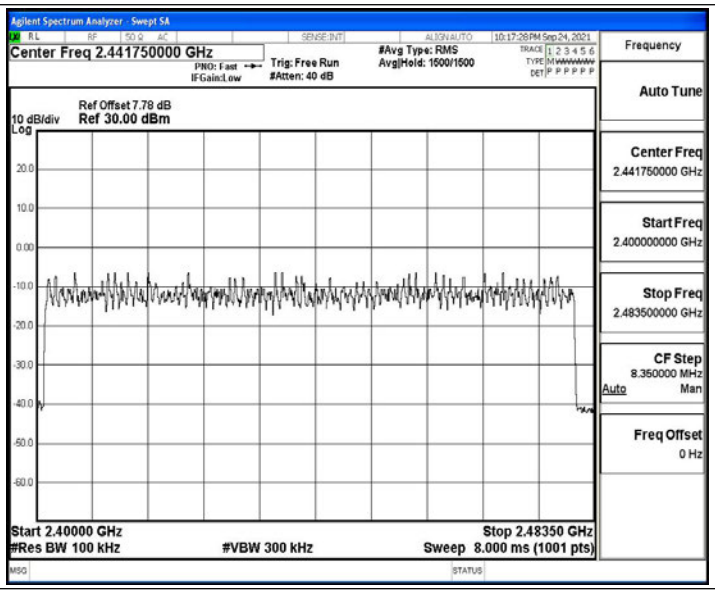
DH5_Ant1_Hop



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: 1500/1500
10:17:26 PM Sep 24, 2021
Ref Offset 7.78 dB
10 dB/div Ref 30.00 dBm
Log
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

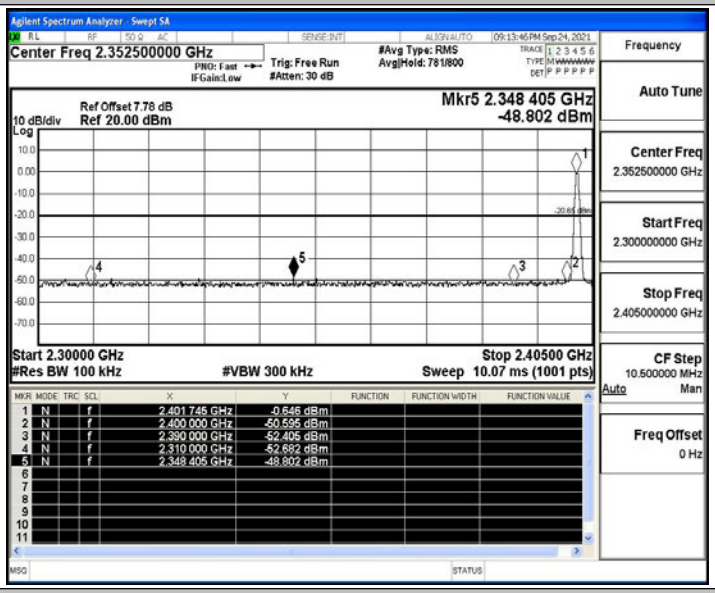
A.6 Band edge measurements

Test Result

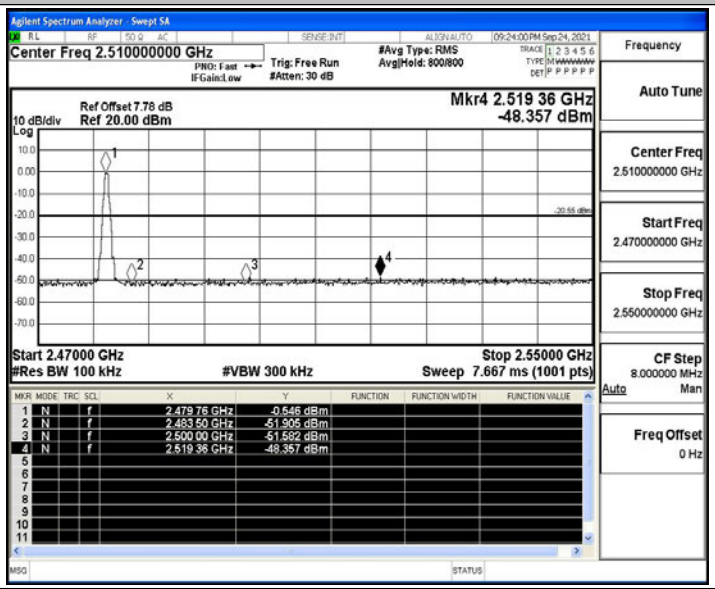
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.65	-48.8	≤-20.65	PASS
		High	2480	-0.55	-48.36	≤-20.55	PASS
		Low	Hop_2402	-1.24	-49.42	≤-21.24	PASS
		High	Hop_2480	-0.57	-48.27	≤-20.57	PASS
2DH5	Ant1	Low	2402	-1.28	-49.39	≤-21.28	PASS
		High	2480	-0.63	-47.86	≤-20.63	PASS
		Low	Hop_2402	-10.69	-49.54	≤-30.69	PASS
		High	Hop_2480	-10.12	-48.97	≤-30.12	PASS
3DH5	Ant1	Low	2402	-0.70	-49.35	≤-20.7	PASS
		High	2480	-0.50	-48.36	≤-20.5	PASS
		Low	Hop_2402	-8.34	-49.41	≤-28.34	PASS
		High	Hop_2480	-6.20	-48.02	≤-26.2	PASS

Test Graphs

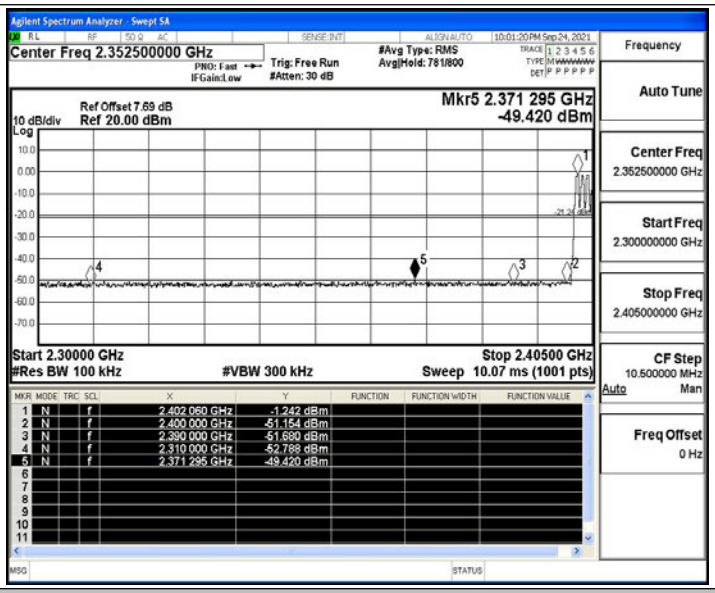
DH5_Ant1_Low_2402



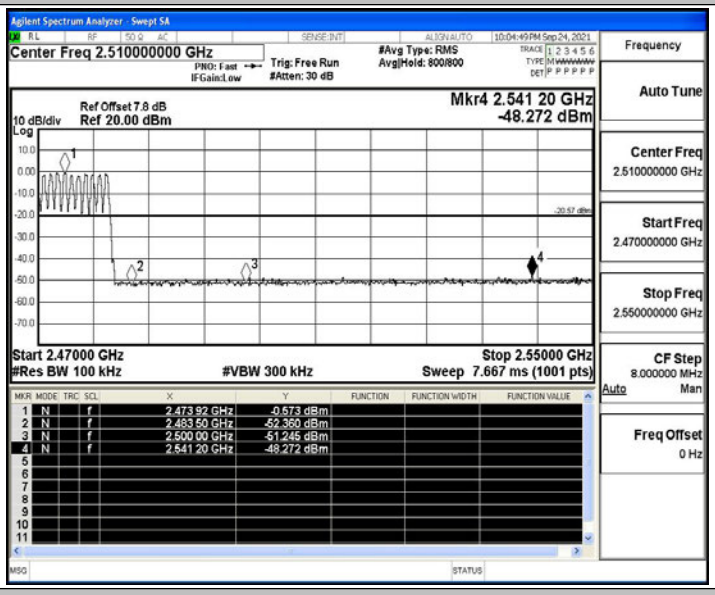
DH5_Ant1_High_2480



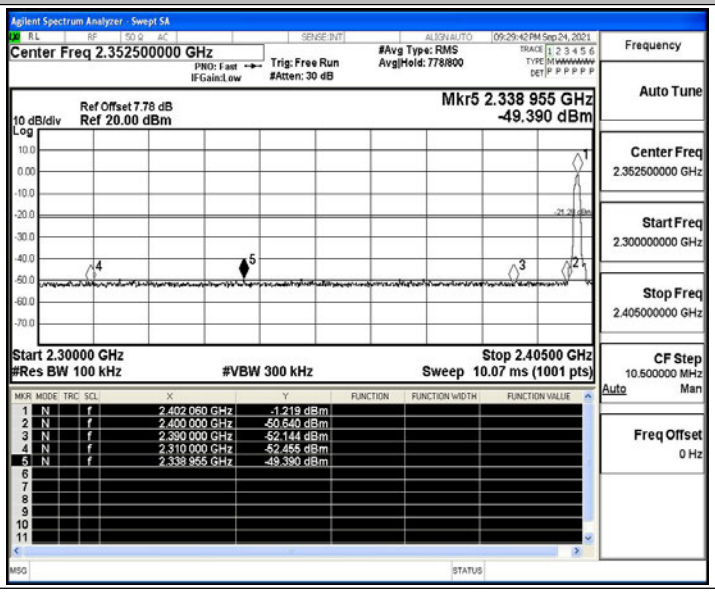
DH5_Ant1_Low_Hop_2402

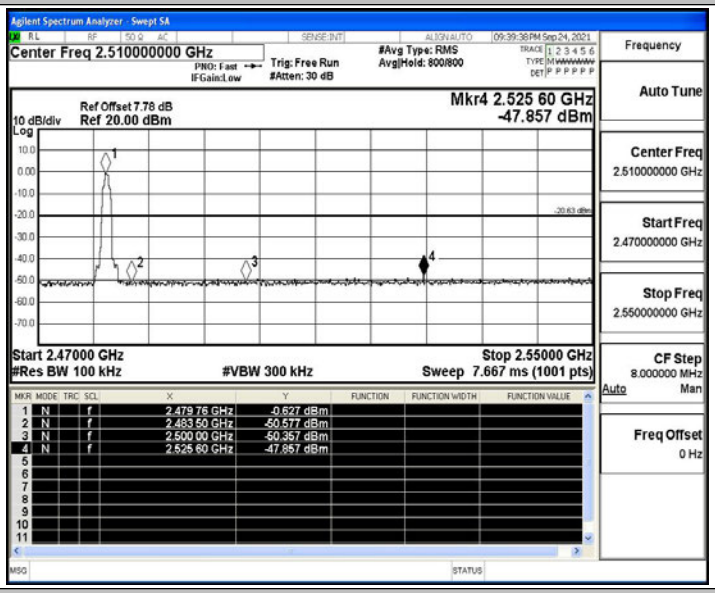
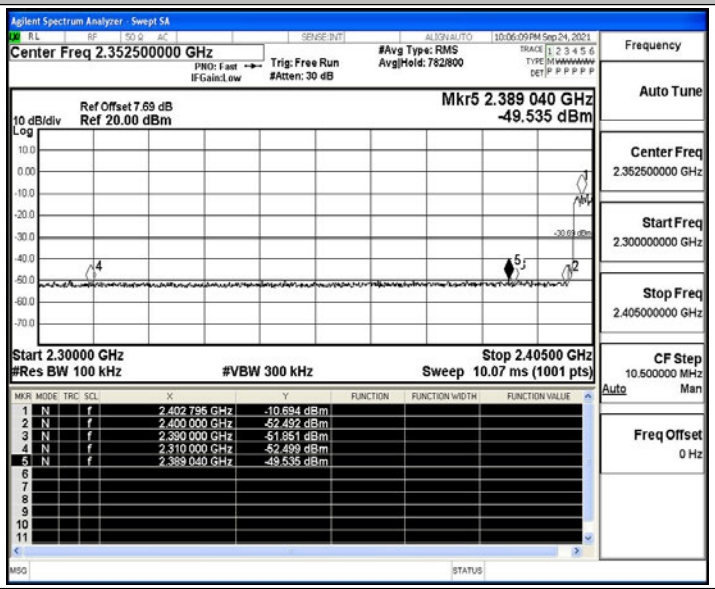


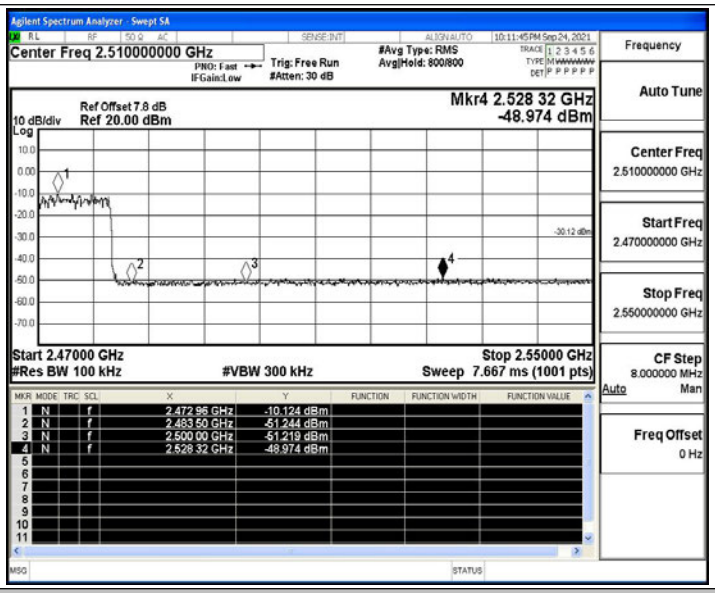
DH5_Ant1_High_Hop_2480



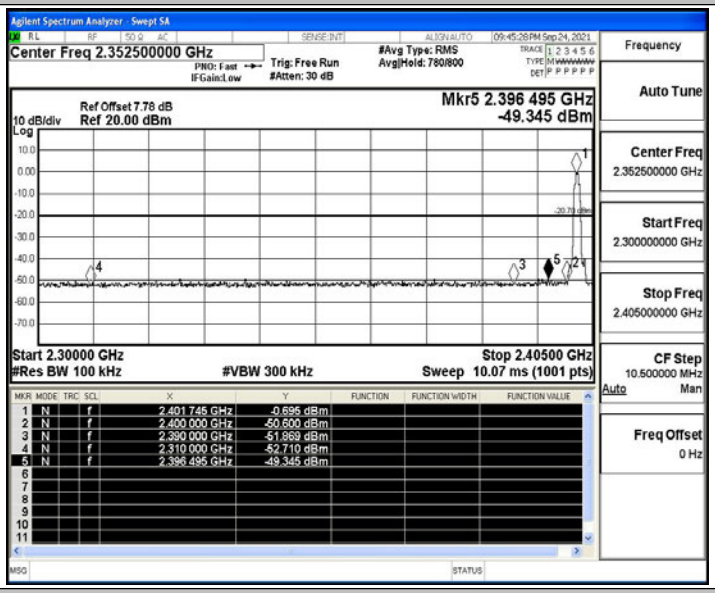
2DH5_Ant1_Low_2402



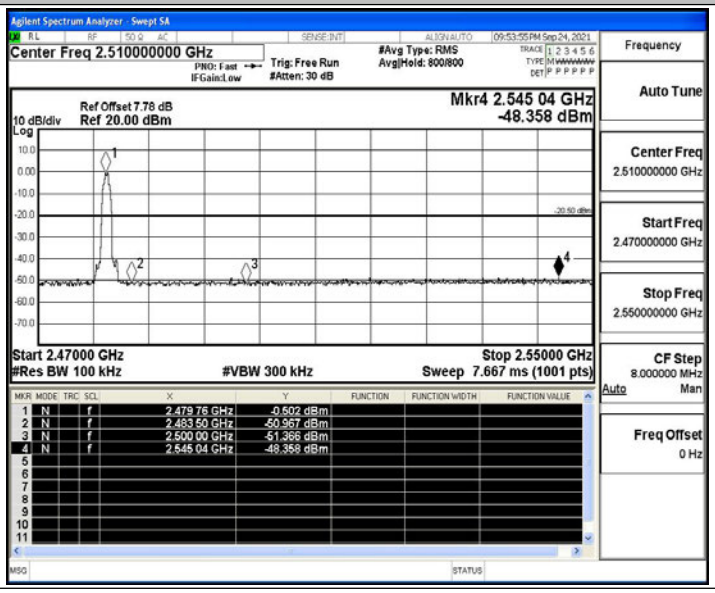
2DH5_Ant1_High_2480

2DH5_Ant1_Low_Hop_2402

2DH5_Ant1_High_Hop_2480

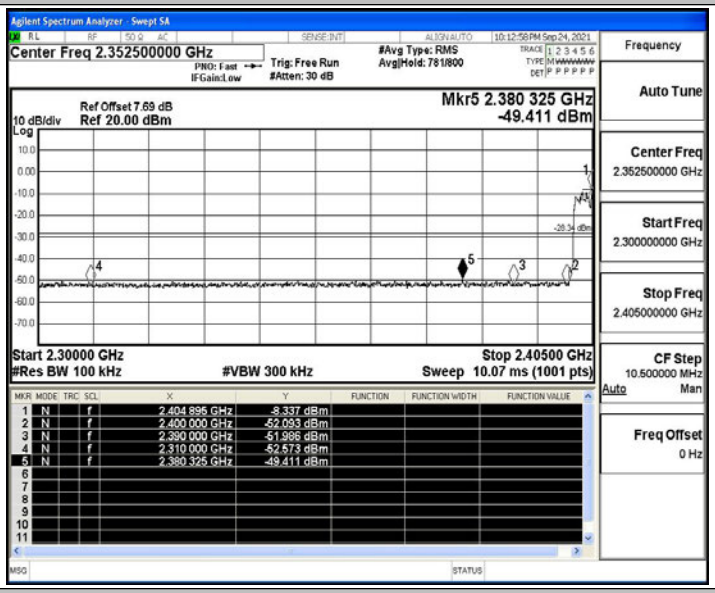
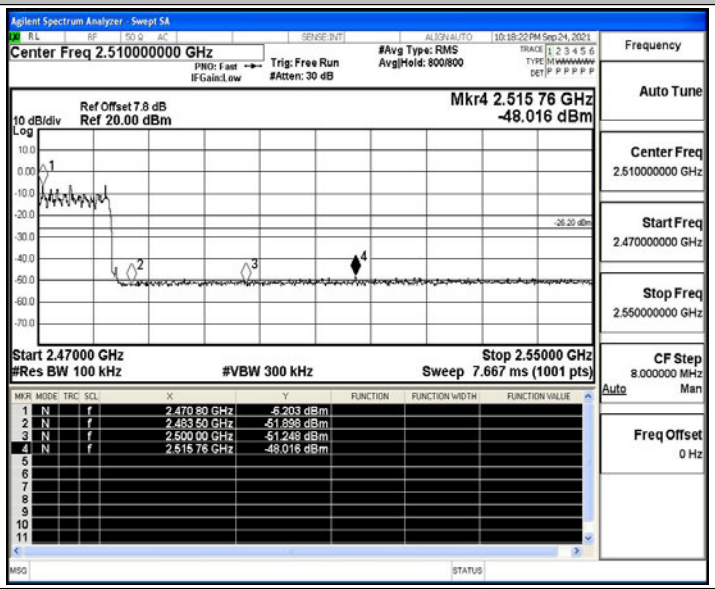


3DH5_Ant1_Low_2402



3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402

3DH5_Ant1_High_Hop_2480


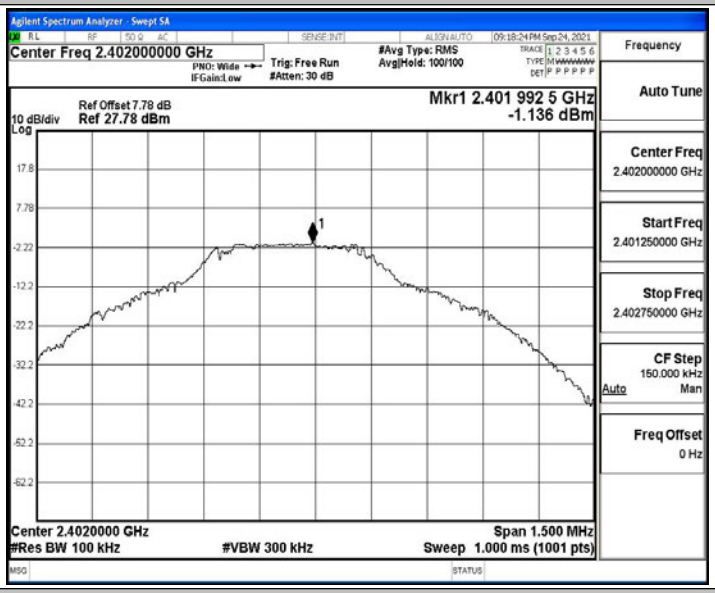
A.7 Conducted Spurious Emission

Test Result

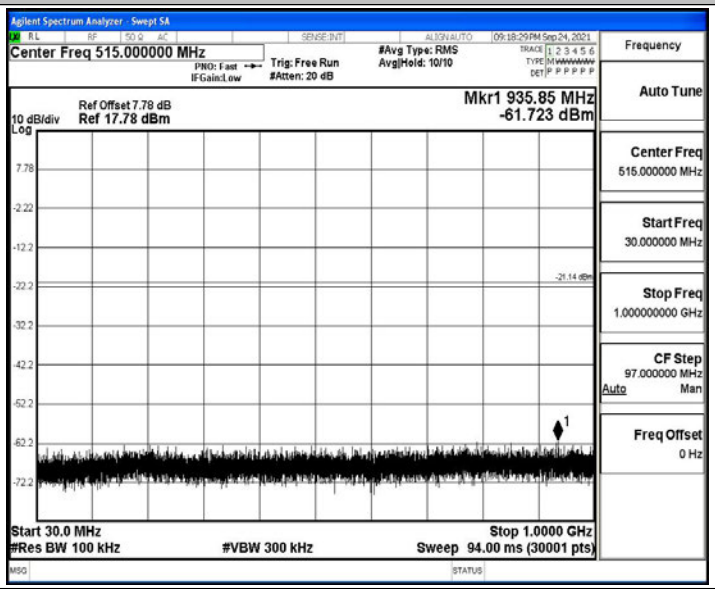
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-1.14	-1.14	---	PASS
			30~1000	-1.14	-61.72	≤-21.14	PASS
			1000~26500	-1.14	-47.41	≤-21.14	PASS
		2441	Reference	-0.71	-0.71	---	PASS
			30~1000	-0.71	-61.81	≤-20.71	PASS
			1000~26500	-0.71	-48.01	≤-20.71	PASS
		2480	Reference	-1.10	-1.10	---	PASS
			30~1000	-1.10	-61.63	≤-21.1	PASS
			1000~26500	-1.10	-47.91	≤-21.1	PASS
2DH5	Ant1	2402	Reference	-5.14	-5.14	---	PASS
			30~1000	-5.14	-60.72	≤-25.14	PASS
			1000~26500	-5.14	-47.35	≤-25.14	PASS
		2441	Reference	-3.10	-3.10	---	PASS
			30~1000	-3.10	-61.56	≤-23.1	PASS
			1000~26500	-3.10	-47.72	≤-23.1	PASS
		2480	Reference	-1.37	-1.37	---	PASS
			30~1000	-1.37	-61.34	≤-21.37	PASS
			1000~26500	-1.37	-47.32	≤-21.37	PASS
3DH5	Ant1	2402	Reference	-0.63	-0.63	---	PASS
			30~1000	-0.63	-61.57	≤-20.63	PASS
			1000~26500	-0.63	-47.55	≤-20.63	PASS
		2441	Reference	-1.69	-1.69	---	PASS
			30~1000	-1.69	-60.93	≤-21.69	PASS
			1000~26500	-1.69	-47.02	≤-21.69	PASS
		2480	Reference	-0.71	-0.71	---	PASS
			30~1000	-0.71	-61.9	≤-20.71	PASS
			1000~26500	-0.71	-46.25	≤-20.71	PASS

Test Graphs

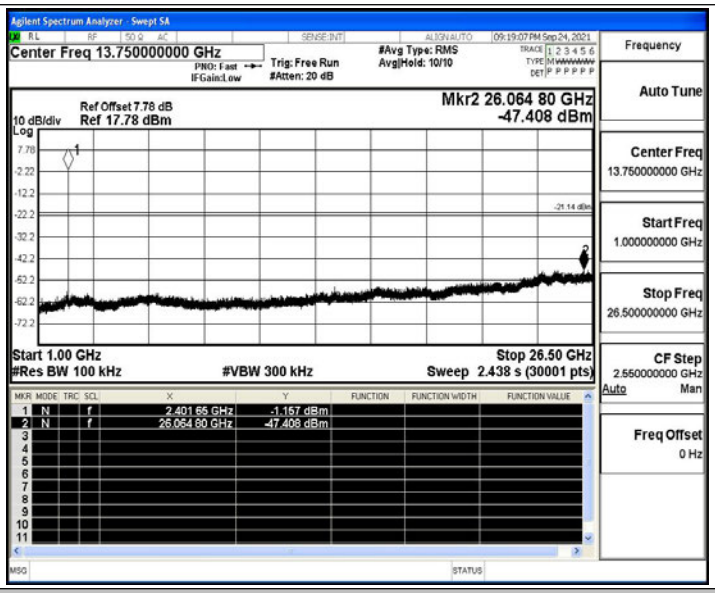
DH5_Ant1_2402_0~Reference



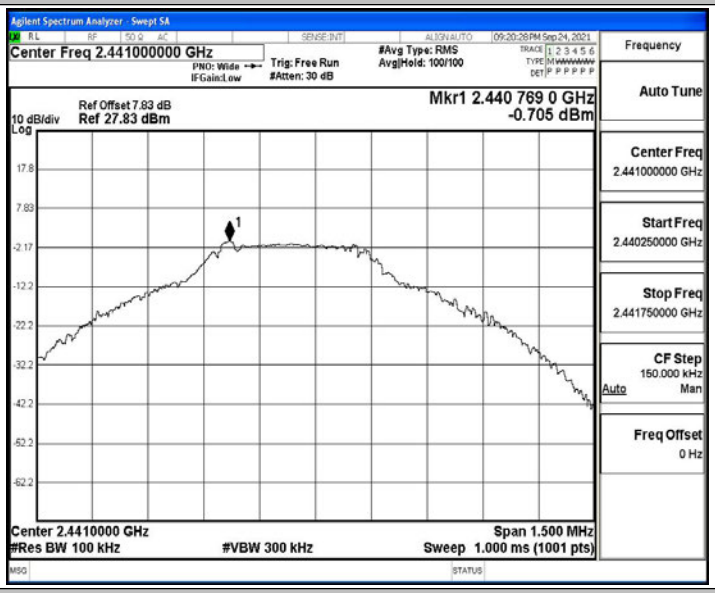
DH5_Ant1_2402_30~1000



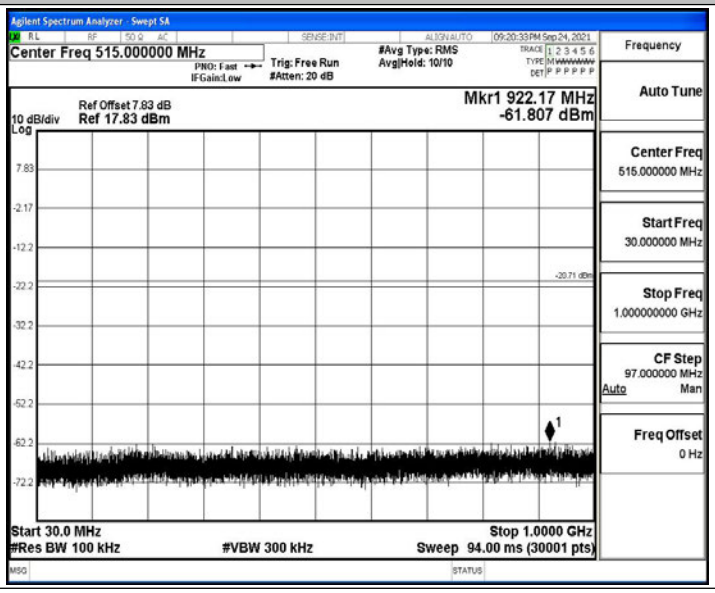
DH5_Ant1_2402_1000~26500



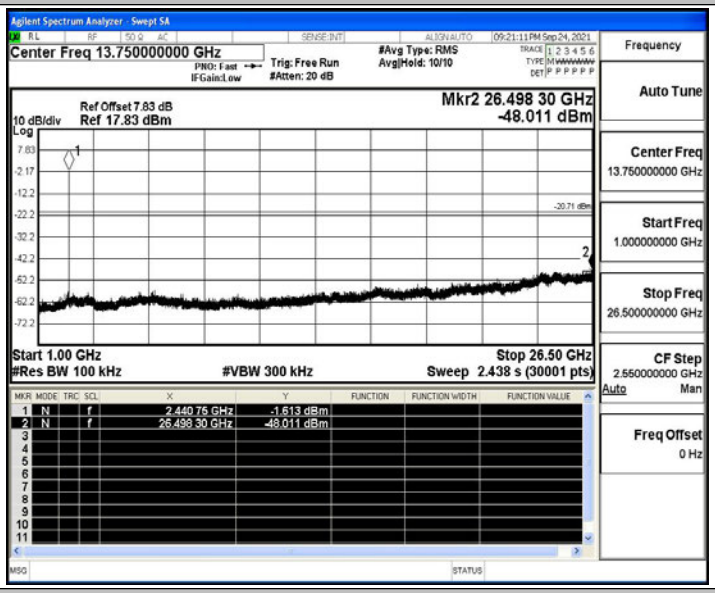
DH5_Ant1_2441_0~Reference



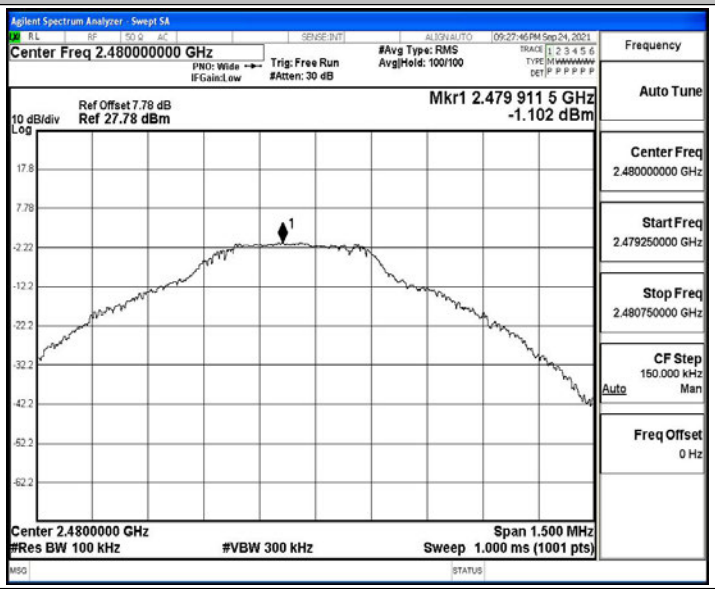
DH5_Ant1_2441_30~1000



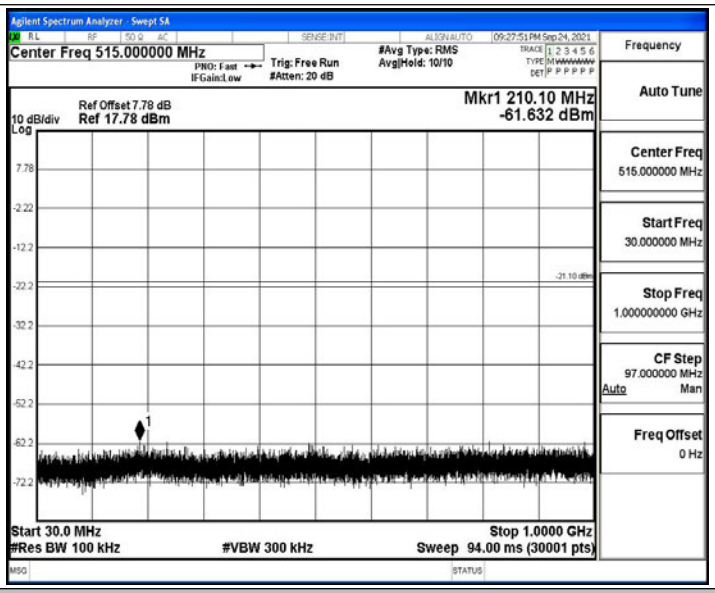
DH5_Ant1_2441_1000~26500



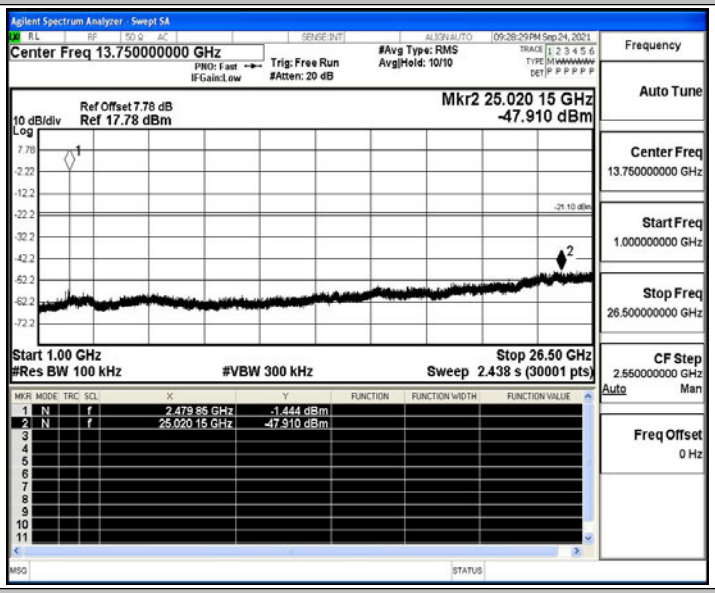
DH5_Ant1_2480_0~Reference



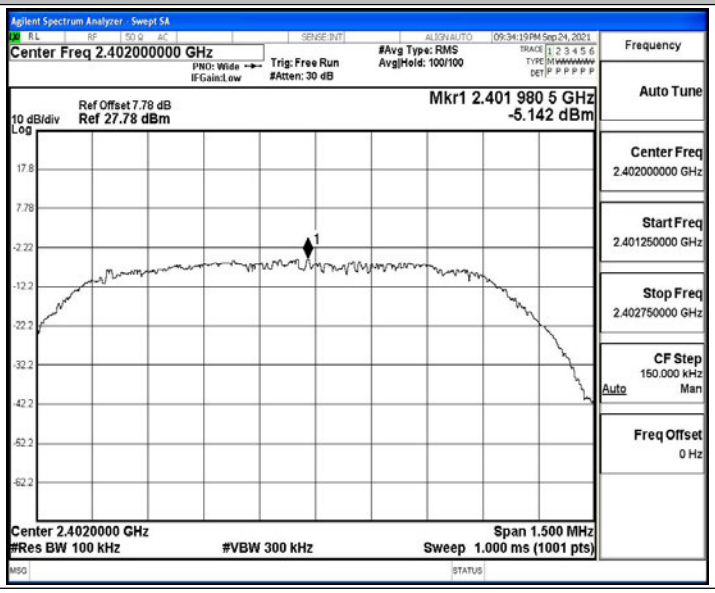
DH5_Ant1_2480_30~1000



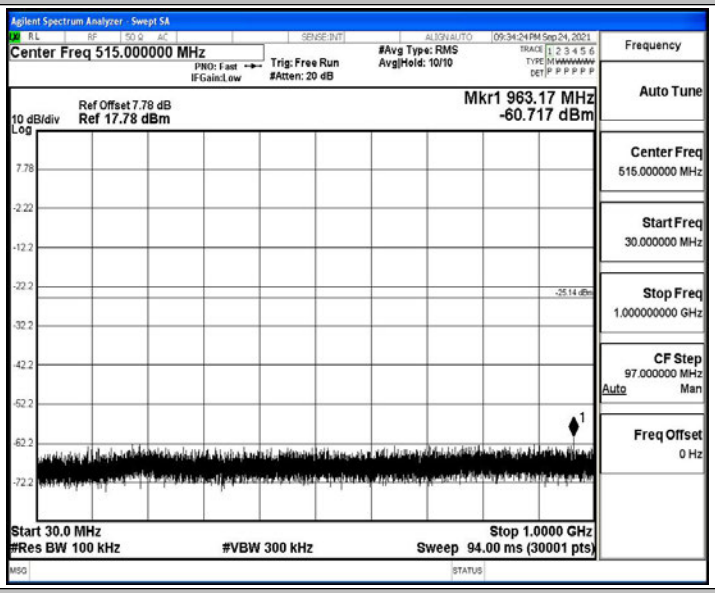
DH5_Ant1_2480_1000~26500



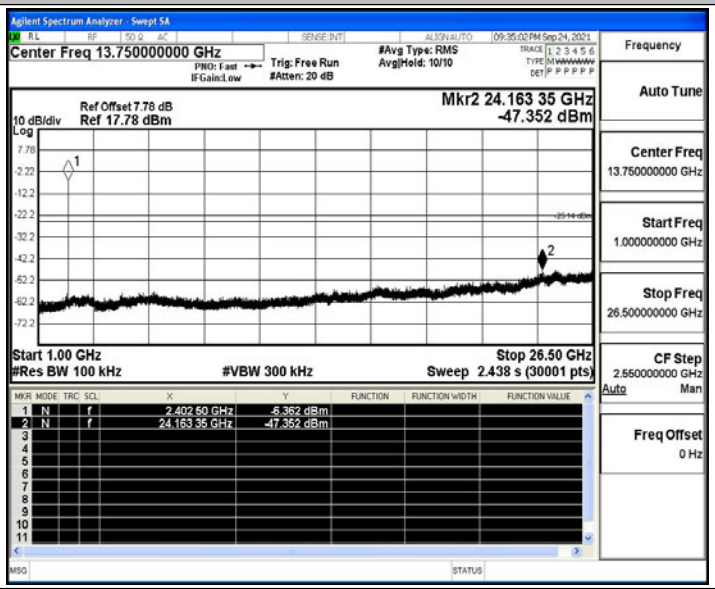
2DH5_Ant1_2402_0~Reference



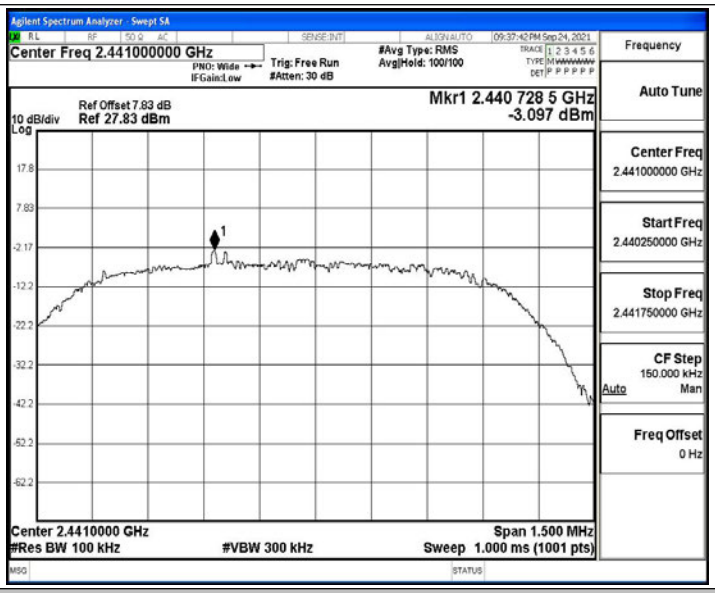
2DH5_Ant1_2402_30~1000



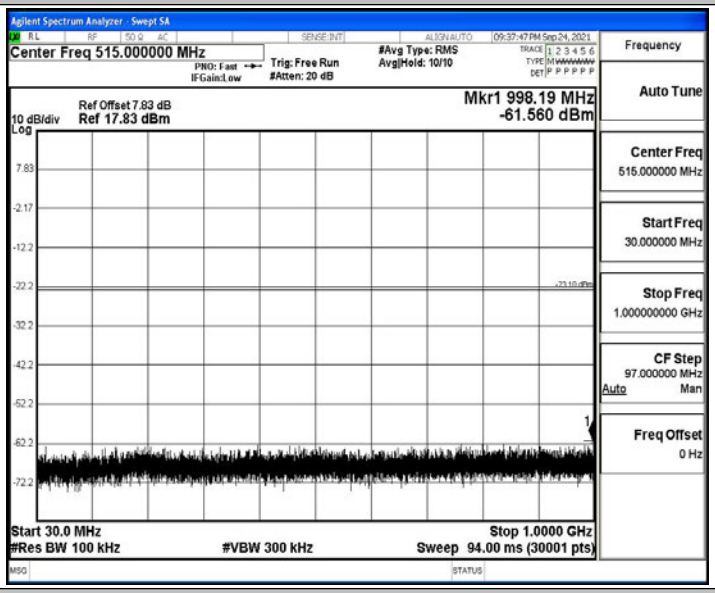
2DH5_Ant1_2402_1000~26500



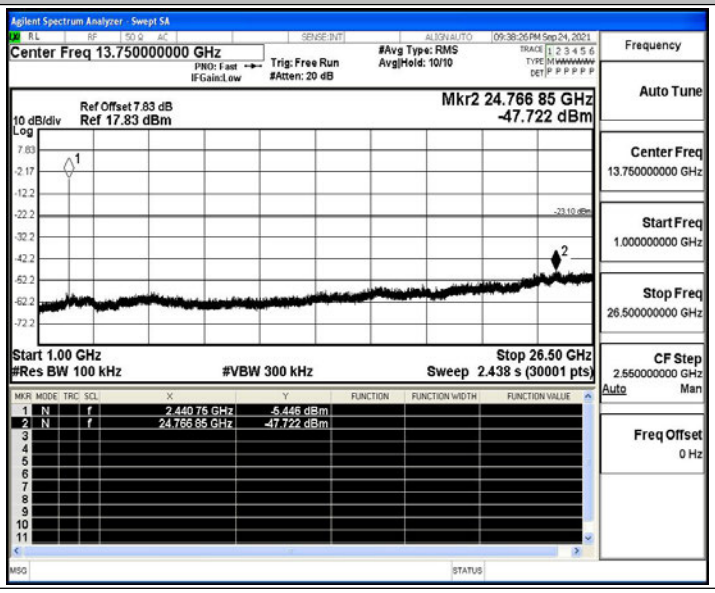
2DH5_Ant1_2441_0~Reference



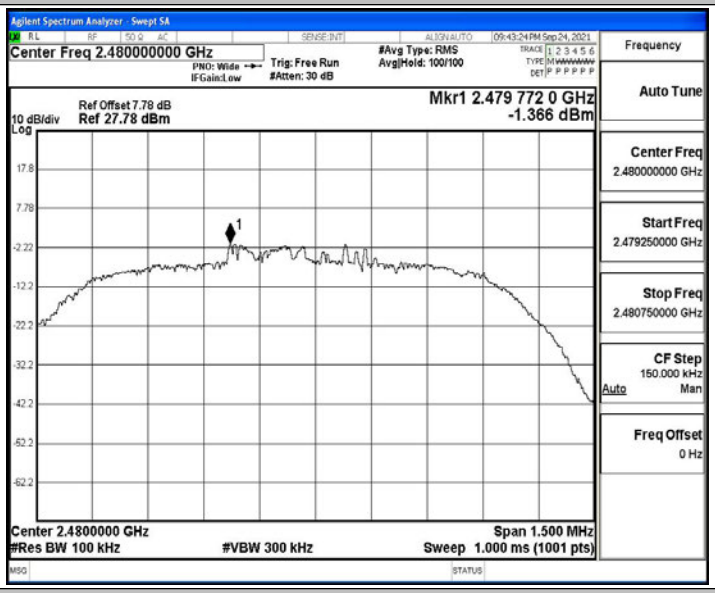
2DH5_Ant1_2441_30~1000



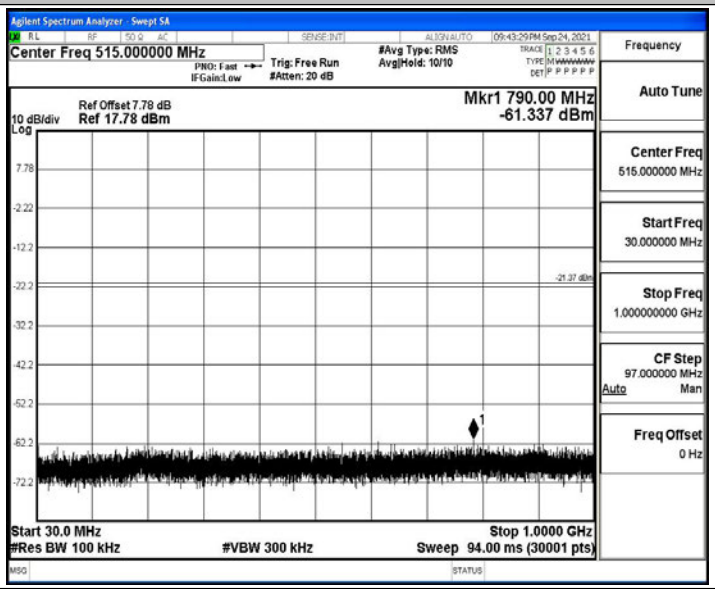
2DH5_Ant1_2441_1000~26500



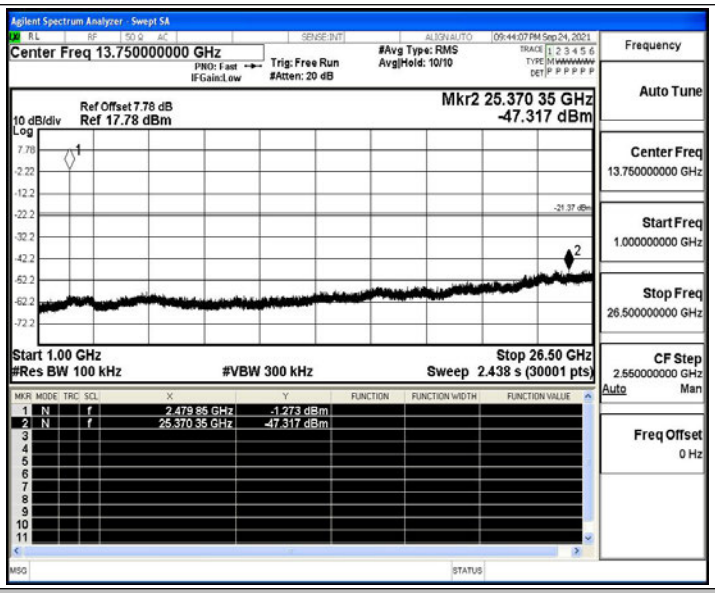
2DH5_Ant1_2480_0~Reference



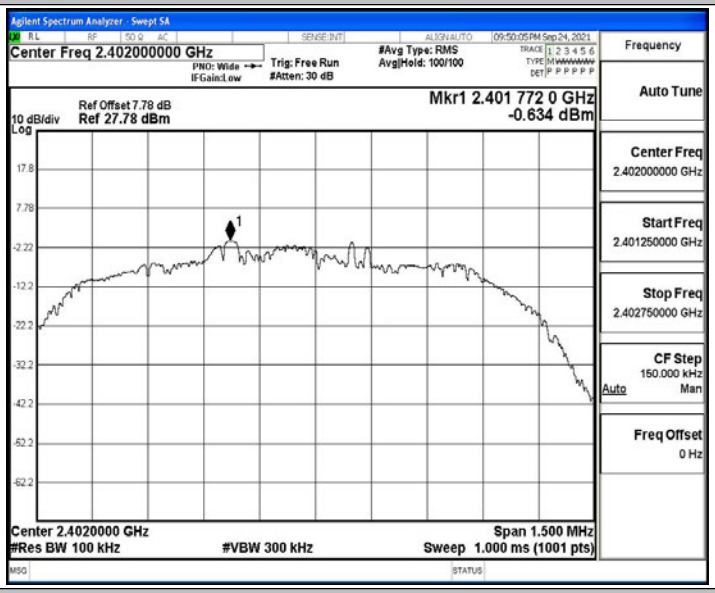
2DH5_Ant1_2480_30~1000



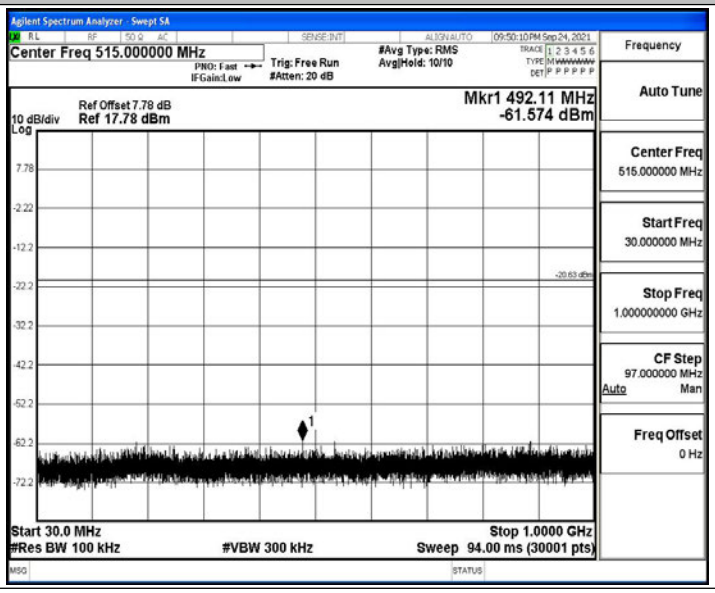
2DH5_Ant1_2480_1000~26500

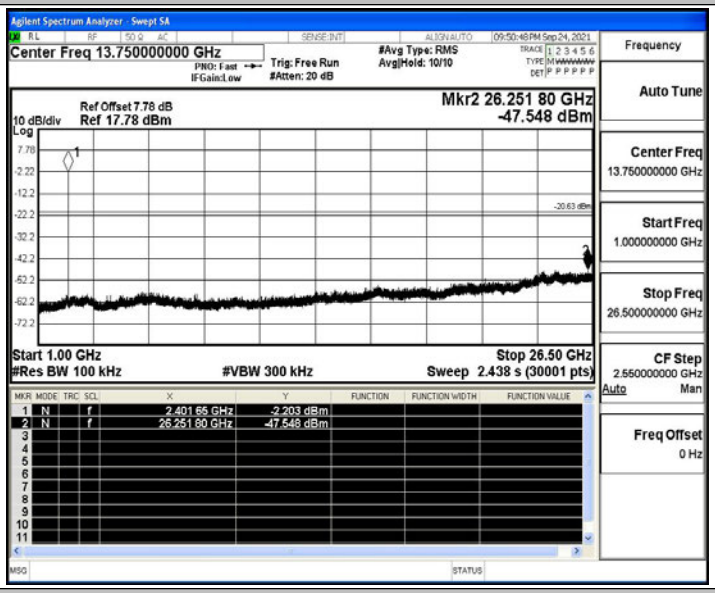
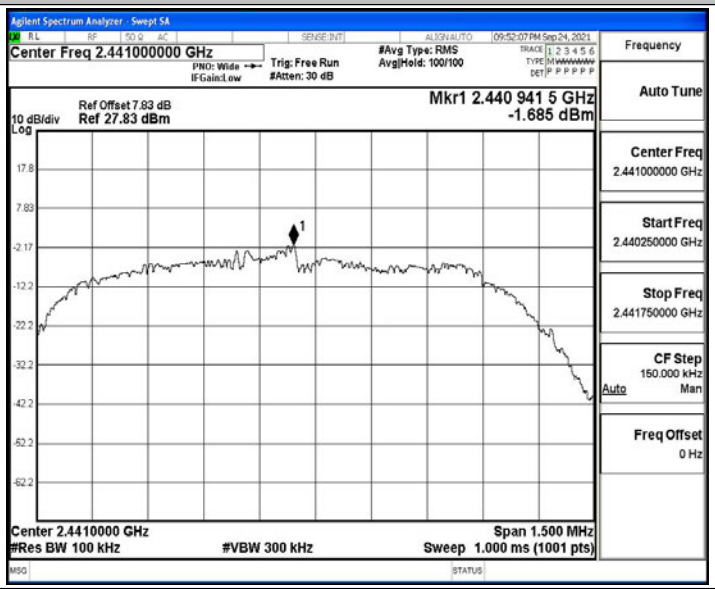


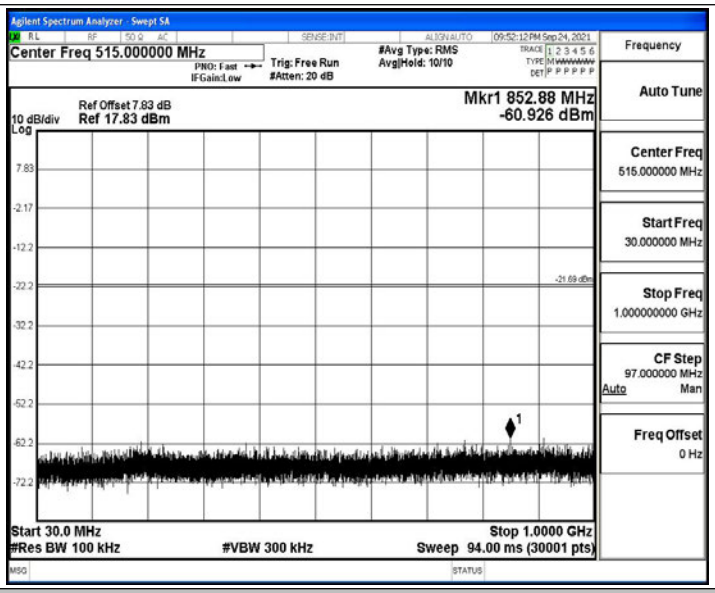
3DH5_Ant1_2402_0~Reference



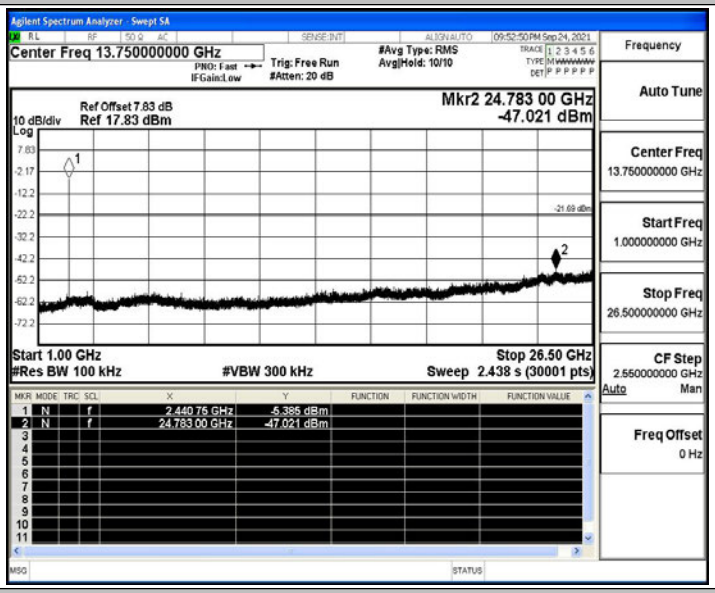
3DH5_Ant1_2402_30~1000



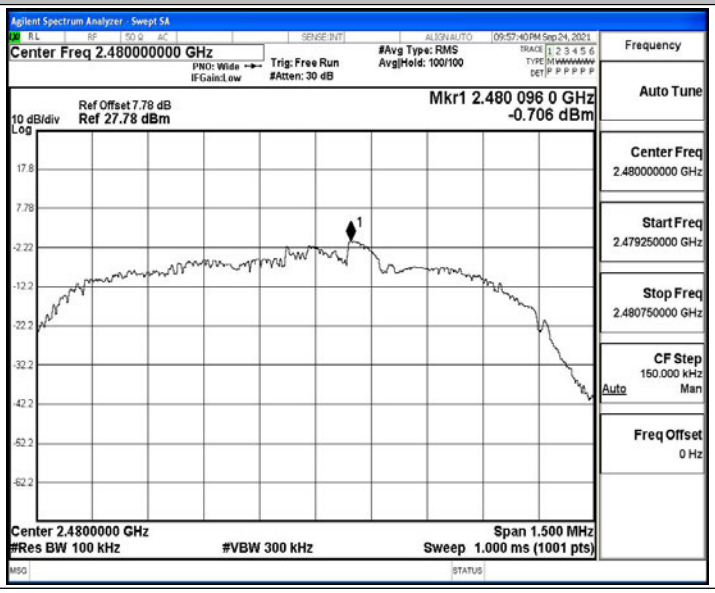
3DH5_Ant1_2402_1000~26500

3DH5_Ant1_2441_0~Reference

3DH5_Ant1_2441_30~1000

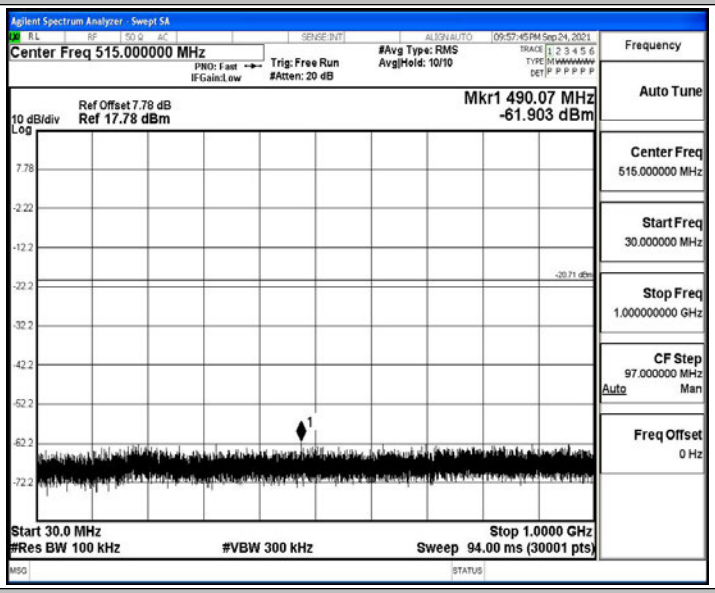
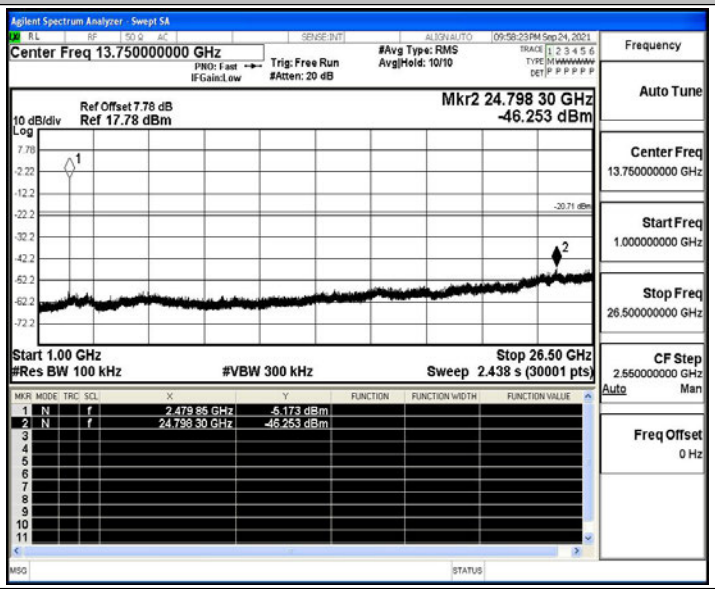


3DH5_Ant1_2441_1000~26500



3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000

3DH5_Ant1_2480_1000~26500


A.8 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-48.59	≤-41.20	46.61	≤54	PASS
				AV	2357.225	-47.99	≤-41.20	47.21	≤54	PASS
				AV	2390.000	-48.52	≤-41.20	46.68	≤54	PASS
				Peak	2310.000	-39.83	≤-21.20	55.37	≤74	PASS
				Peak	2312.495	-38.3	≤-21.20	56.90	≤74	PASS
				Peak	2390.000	-40.46	≤-21.20	54.74	≤74	PASS
		High	2480	AV	2483.500	-47.95	≤-41.20	47.25	≤54	PASS
				AV	2499.200	-47.84	≤-41.20	47.36	≤54	PASS
				AV	2500.000	-47.9	≤-41.20	47.30	≤54	PASS
				Peak	2483.500	-39.43	≤-21.20	55.77	≤74	PASS
				Peak	2488.640	-37.13	≤-21.20	58.07	≤74	PASS
				Peak	2500.000	-40.18	≤-21.20	55.02	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.73	≤-41.20	46.47	≤54	PASS
				AV	2357.330	-48.31	≤-41.20	46.89	≤54	PASS
				AV	2390.000	-48.49	≤-41.20	46.71	≤54	PASS
				Peak	2310.000	-40.78	≤-21.20	54.42	≤74	PASS
				Peak	2368.565	-37.42	≤-21.20	57.78	≤74	PASS
				Peak	2390.000	-40.05	≤-21.20	55.15	≤74	PASS
		High	2480	AV	2483.500	-47.84	≤-41.20	47.36	≤54	PASS
				AV	2483.520	-47.84	≤-41.20	47.36	≤54	PASS
				AV	2500.000	-47.93	≤-41.20	47.27	≤54	PASS
				Peak	2483.500	-39.48	≤-21.20	55.72	≤74	PASS
				Peak	2489.360	-37.73	≤-21.20	57.47	≤74	PASS
				Peak	2500.000	-39.77	≤-21.20	55.43	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.77	≤-41.20	46.43	≤54	PASS
				AV	2357.120	-48.28	≤-41.20	46.92	≤54	PASS
				AV	2390.000	-48.54	≤-41.20	46.66	≤54	PASS
				Peak	2310.000	-41.21	≤-21.20	53.99	≤74	PASS
				Peak	2326.670	-38.02	≤-21.20	57.18	≤74	PASS
				Peak	2390.000	-39.39	≤-21.20	55.81	≤74	PASS
		High	2480	AV	2483.500	-47.91	≤-41.20	47.29	≤54	PASS
				AV	2498.640	-47.82	≤-41.20	47.38	≤54	PASS
				AV	2500.000	-47.99	≤-41.20	47.21	≤54	PASS
				Peak	2483.500	-39.46	≤-21.20	55.74	≤74	PASS
				Peak	2485.600	-37.63	≤-21.20	57.57	≤74	PASS

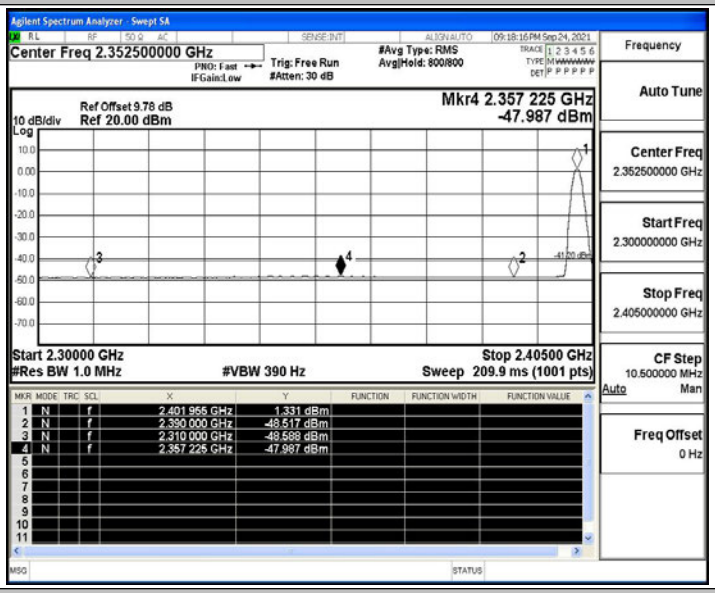
				Peak	2500.000	-39.32	≤-21.20	55.88	≤74	PASS

Note：

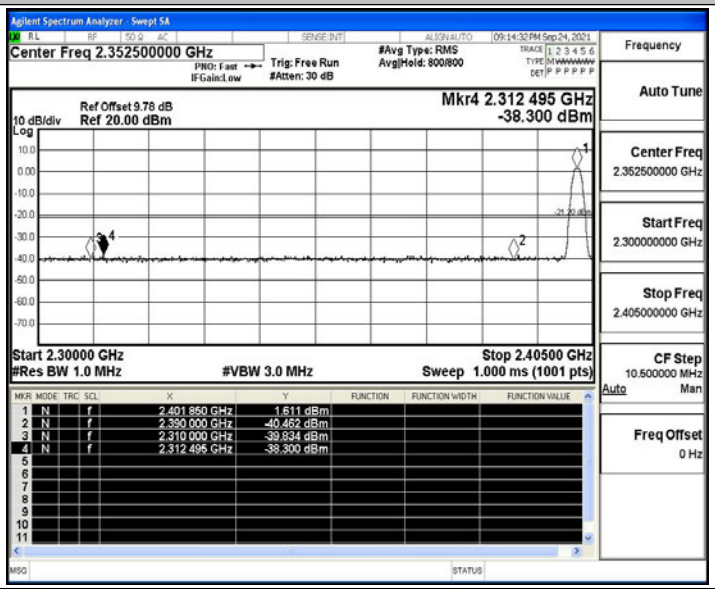
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

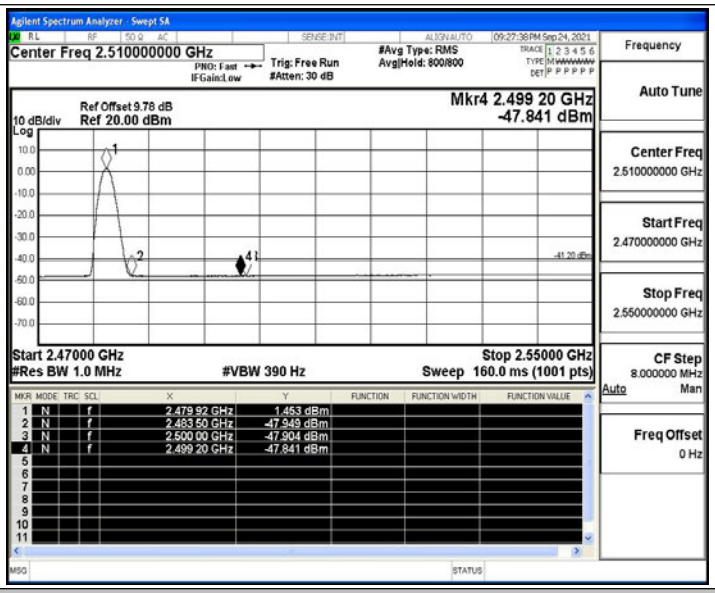
DH5_Ant1_Low_2402_AV



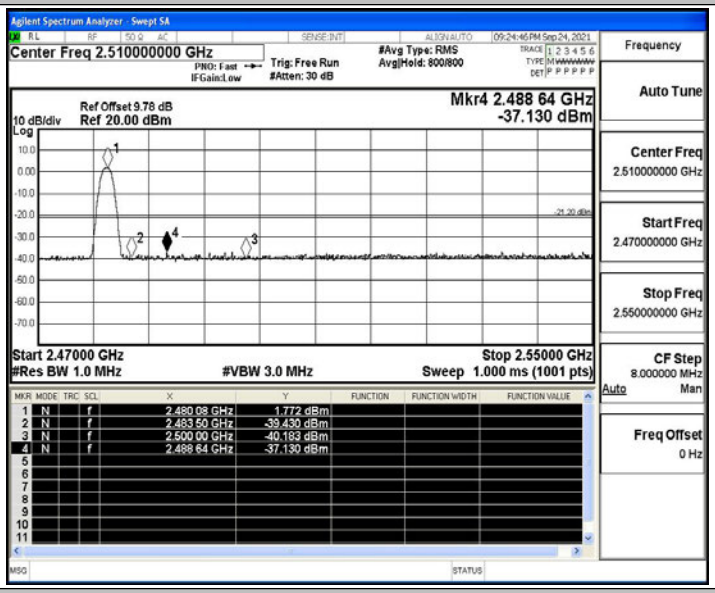
DH5_Ant1_Low_2402_Peak



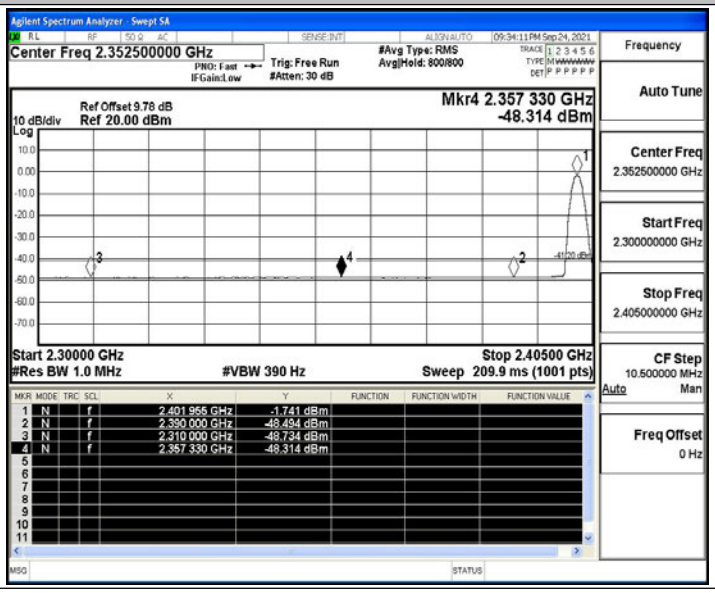
DH5_Ant1_High_2480_AV

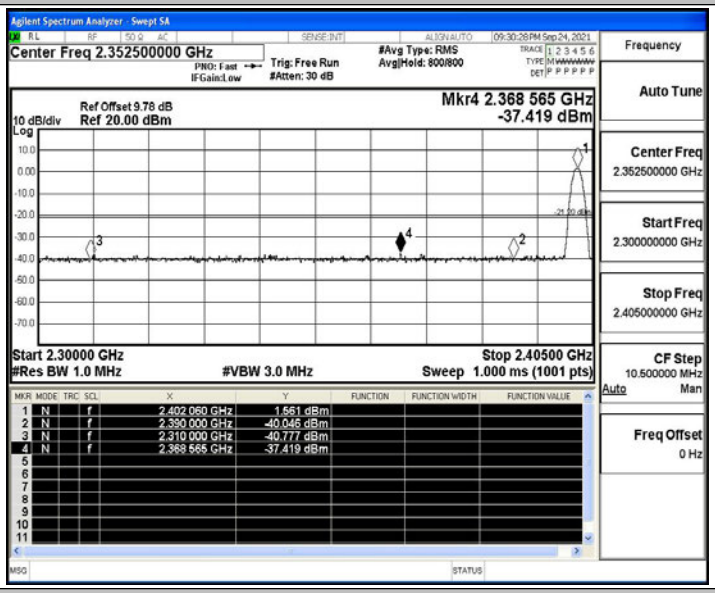
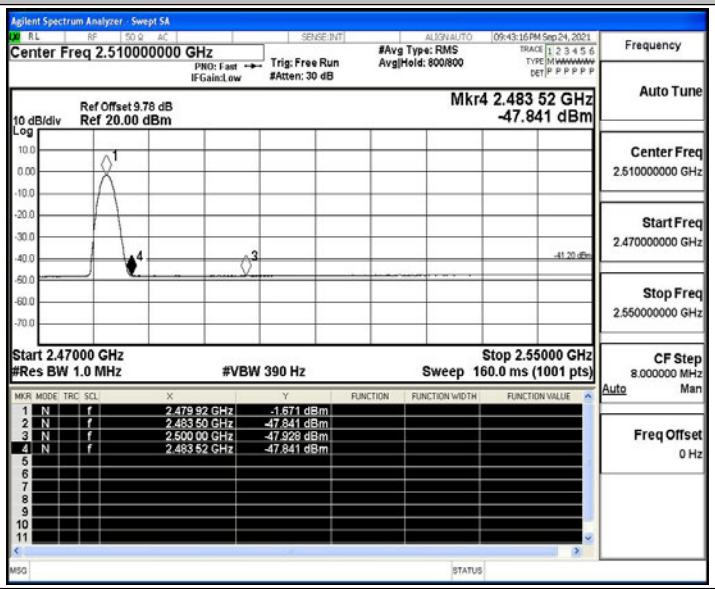


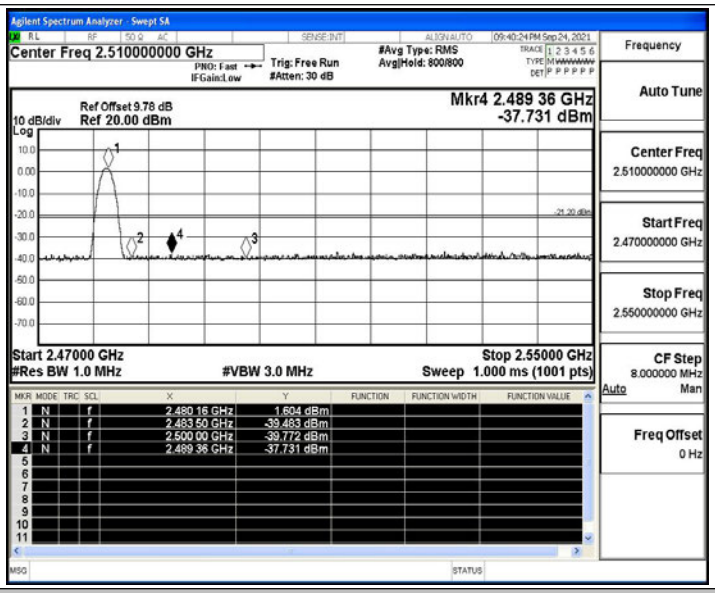
DH5_Ant1_High_2480_Peak



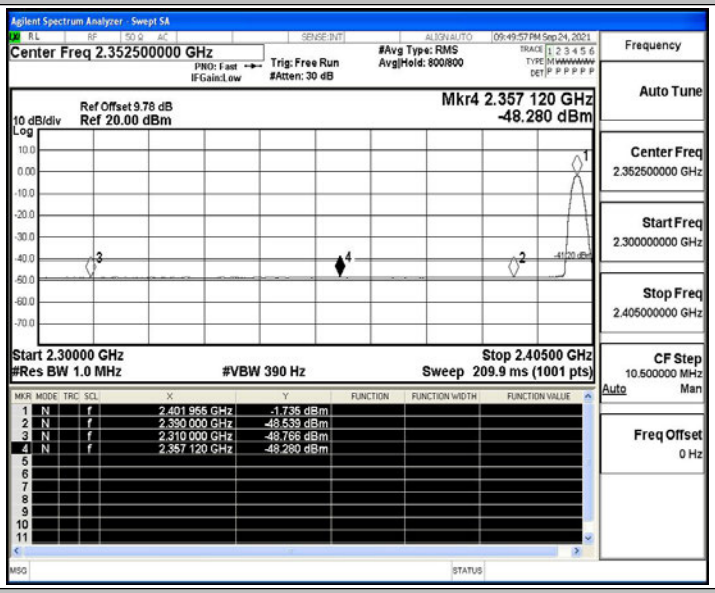
2DH5_Ant1_Low_2402_AV



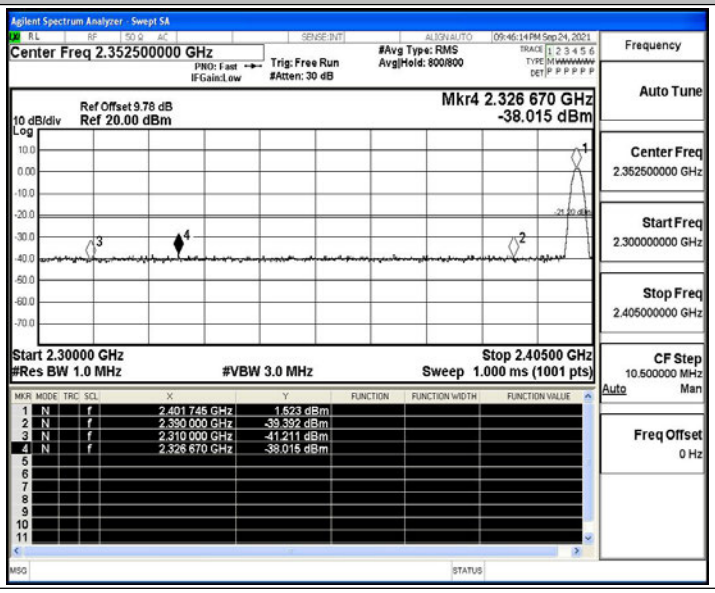
2DH5_Ant1_Low_2402_Peak

2DH5_Ant1_High_2480_AV

2DH5_Ant1_High_2480_Peak

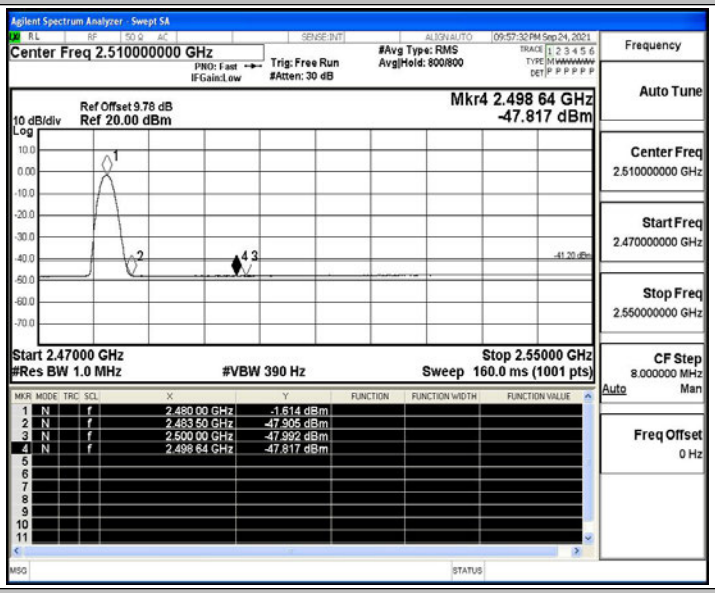


3DH5_Ant1_Low_2402_AV



3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV

3DH5_Ant1_High_2480_Peak