Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Smart TV Box

Test Model: T95MAX

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Taylor Hu Taylor Hu
Supervised by:	Lihu Li Huan

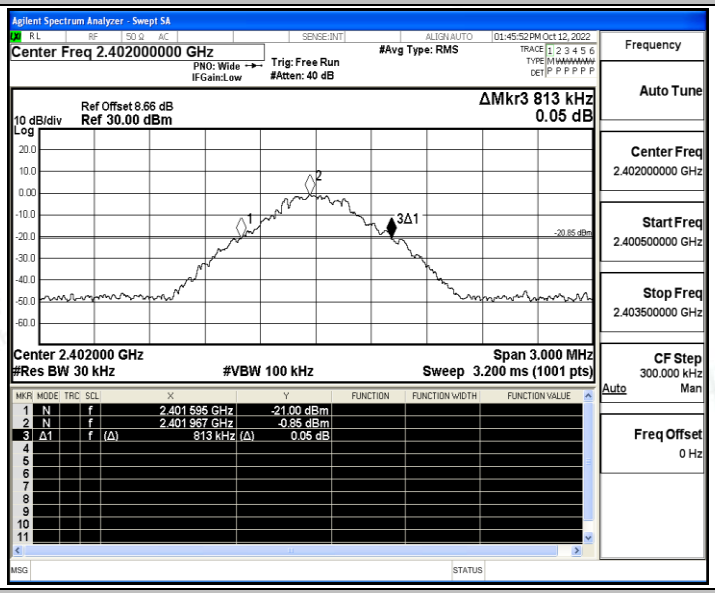
A.1 20dB Emission Bandwidth

Test Result

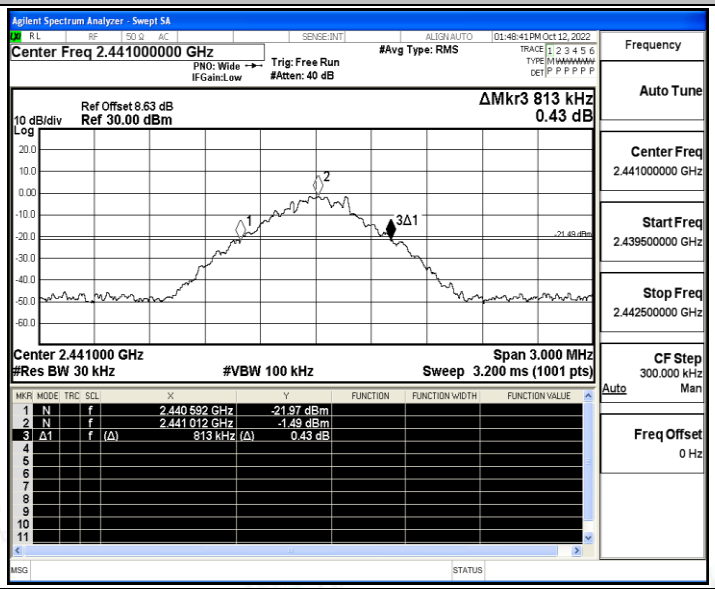
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Verdict
DH5	Ant	2402	0.813	2401.595	2402.408	---
		2441	0.813	2440.592	2441.405	---
		2480	0.861	2479.553	2480.414	---
2DH5	Ant	2402	1.290	2401.361	2402.651	---
		2441	1.278	2440.367	2441.645	---
		2480	1.269	2479.367	2480.636	---
3DH5	Ant	2402	1.290	2401.352	2402.642	---
		2441	1.275	2440.358	2441.633	---
		2480	1.290	2479.352	2480.642	---

Test Graphs

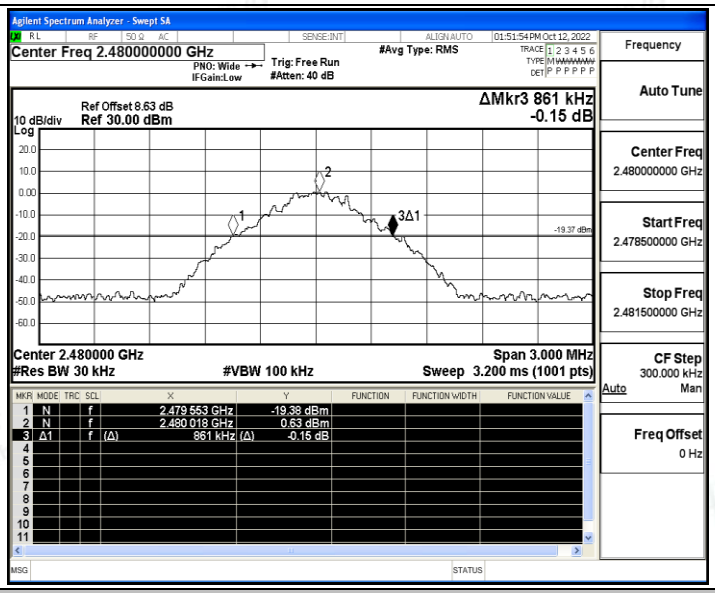
DH5_Ant_2402



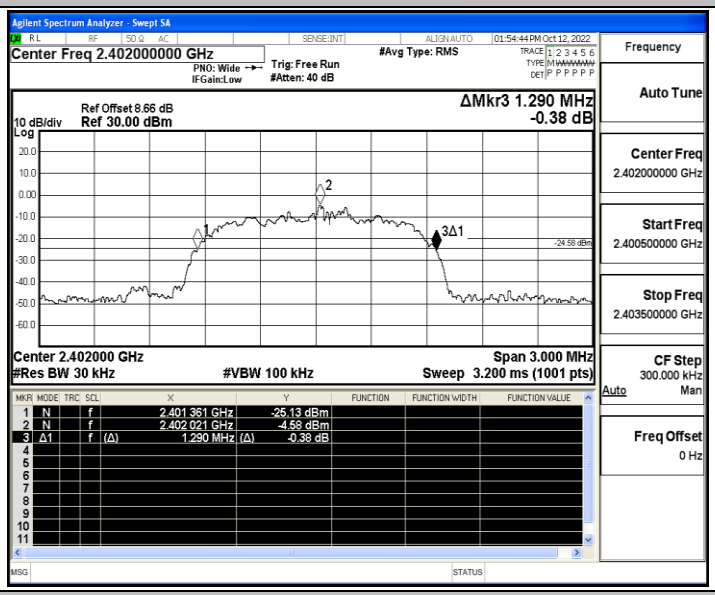
DH5_Ant_2441



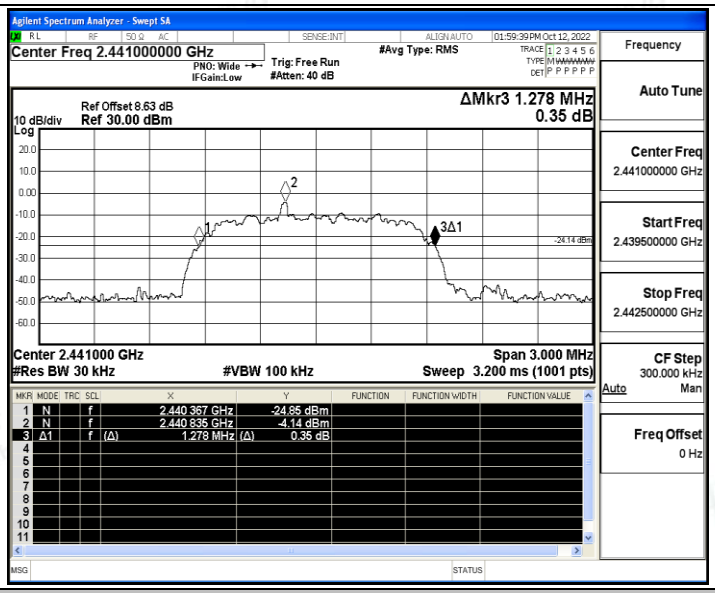
DH5_Ant_2480



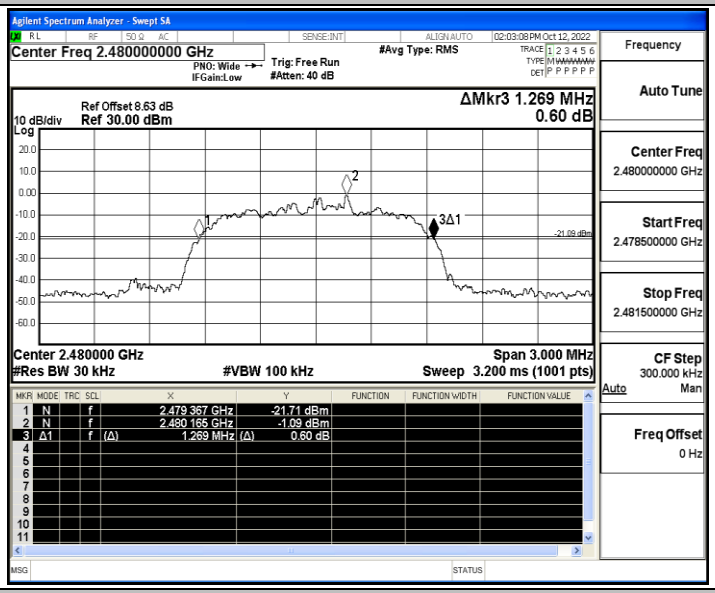
2DH5_Ant_2402



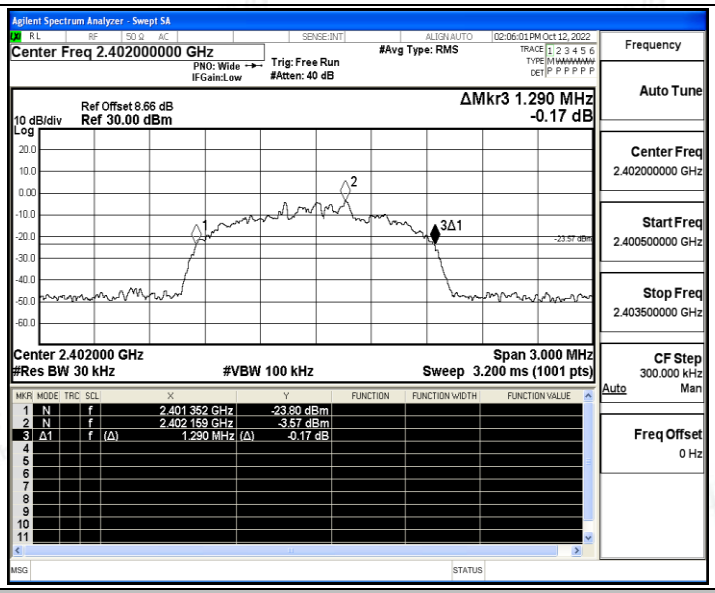
2DH5_Ant_2441



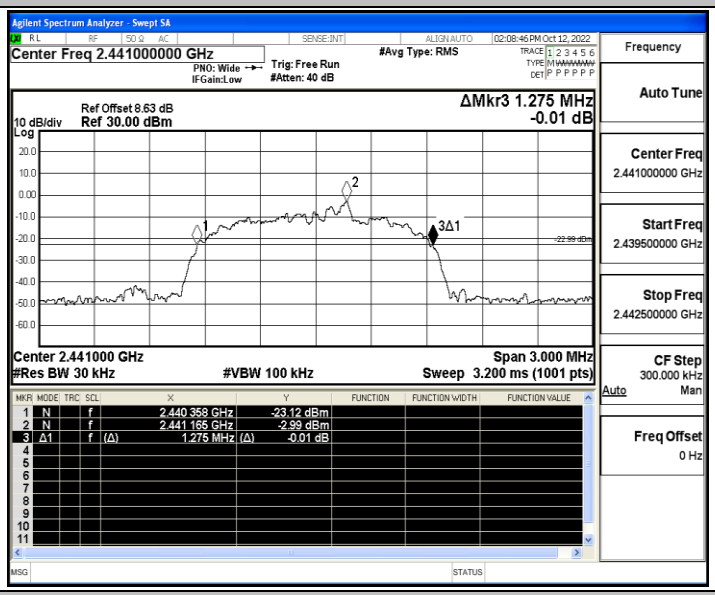
2DH5_Ant_2480



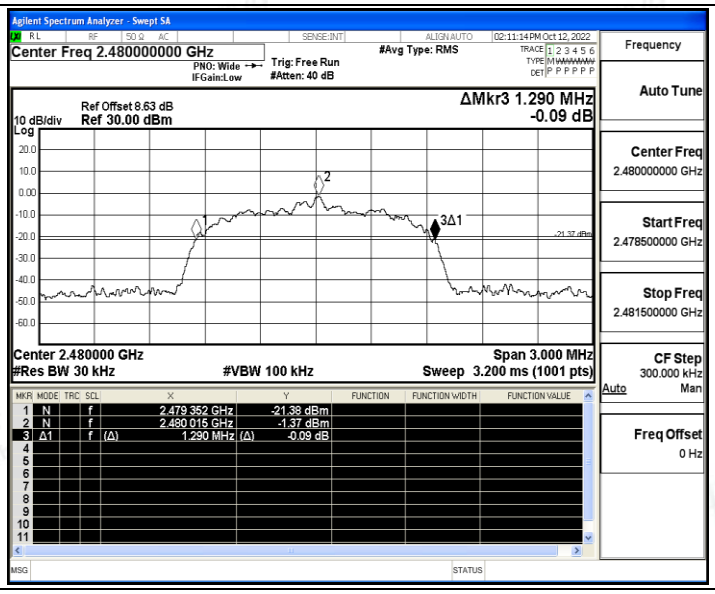
3DH5_Ant_2402



3DH5_Ant_2441



3DH5_Ant_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
02:11:14 PM Oct 12, 2022
Ref Offset 8.63 dB
10 dB/div Ref 30.00 dBm
Log
ΔMkr3 1.290 MHz
-0.09 dB
Center 2.480000 GHz
#Res BW 30 kHz
#VBW 100 kHz
Span 3.000 MHz
Sweep 3.200 ms (1001 pts)
1 N f 2.479 352 GHz -21.38 dBm
2 N f 2.480 015 GHz -1.37 dBm
3 Δ1 f (Δ) 1.290 MHz (Δ) -0.09 dB
Frequency
Auto Tune
Center Freq 2.480000000 GHz
Start Freq 2.478500000 GHz
Stop Freq 2.481500000 GHz
CF Step 300.000 kHz
Auto Man
Freq Offset 0 Hz

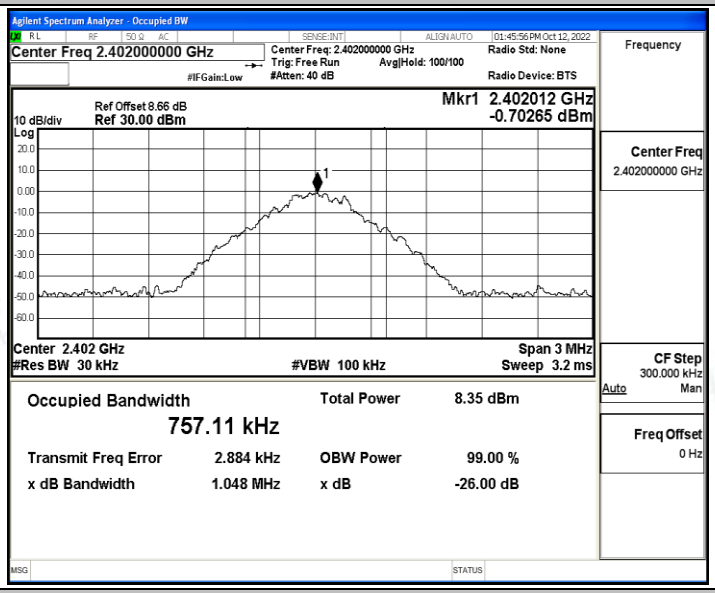
A.2 Occupied Channel Bandwidth

Test Result

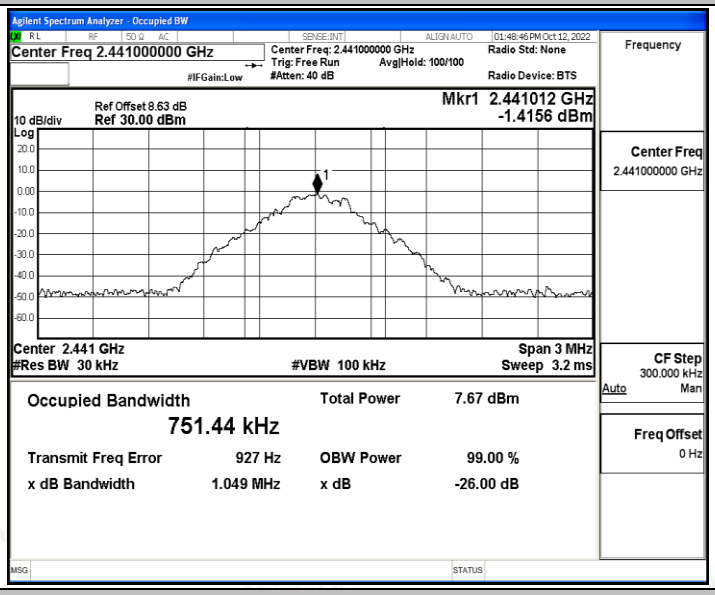
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant	2402	0.75711	2401.6243	2402.3814	---	---
		2441	0.75144	2440.6252	2441.3767	---	---
		2480	0.76174	2479.6190	2480.3807	---	---
2DH5	Ant	2402	1.1721	2401.4123	2402.5844	---	---
		2441	1.1625	2440.4119	2441.5744	---	---
		2480	1.1735	2479.4071	2480.5806	---	---
3DH5	Ant	2402	1.1613	2401.4157	2402.5770	---	---
		2441	1.1666	2440.4136	2441.5802	---	---
		2480	1.1712	2479.4087	2480.5799	---	---

Test Graphs

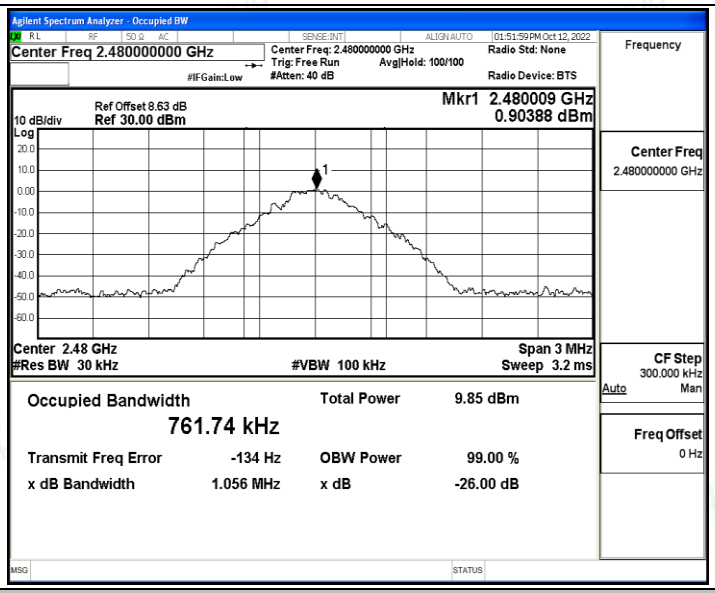
DH5_Ant_2402



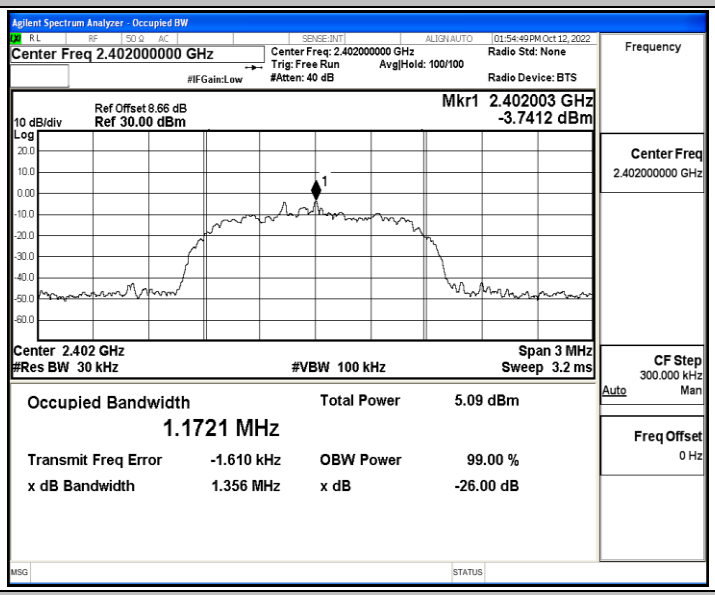
DH5_Ant_2441



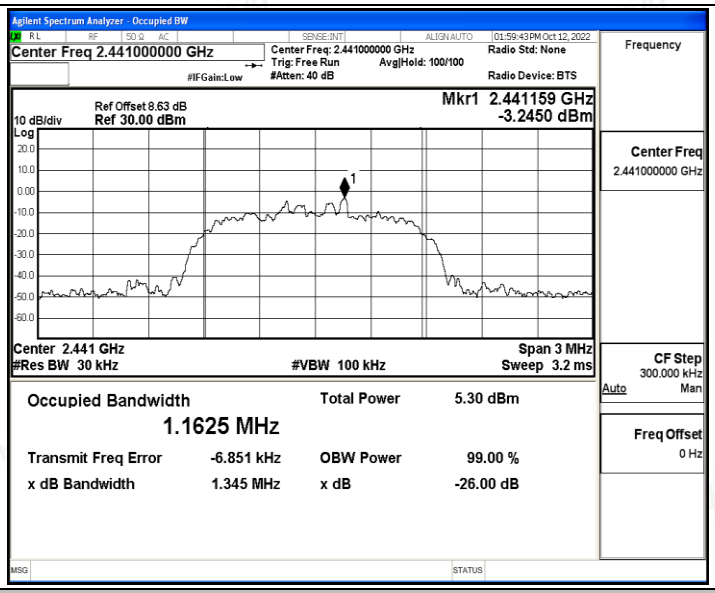
DH5_Ant_2480



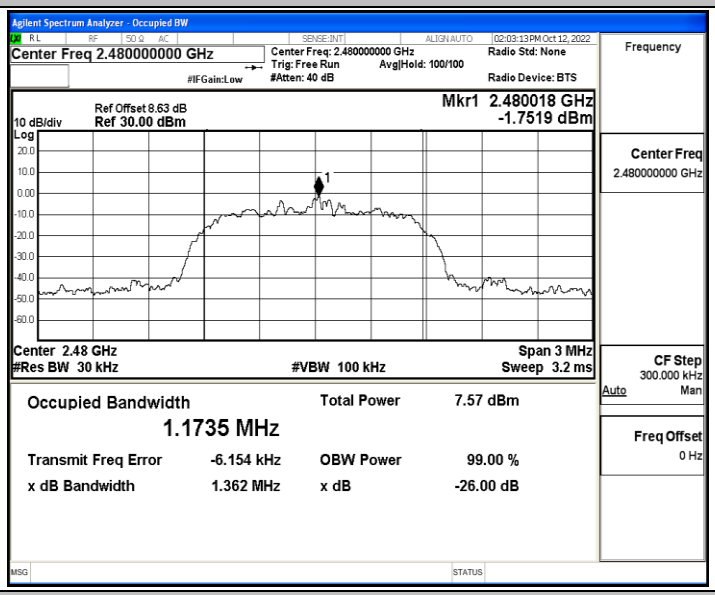
2DH5_Ant_2402



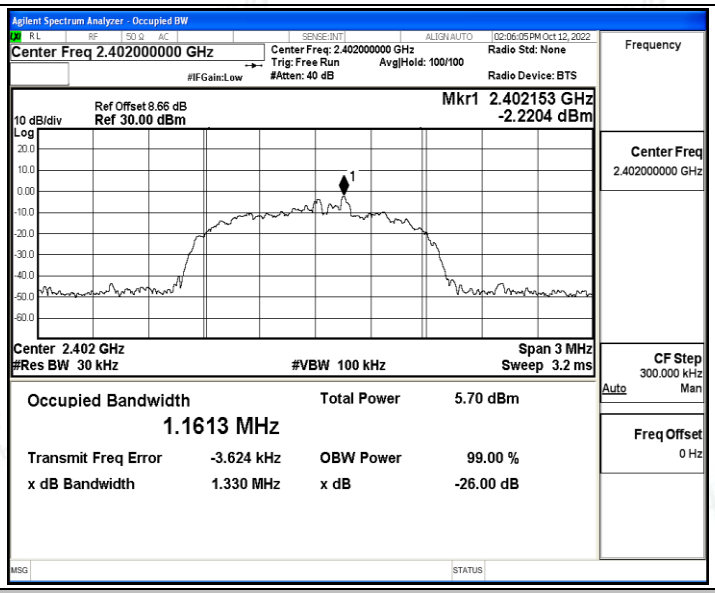
2DH5_Ant_2441



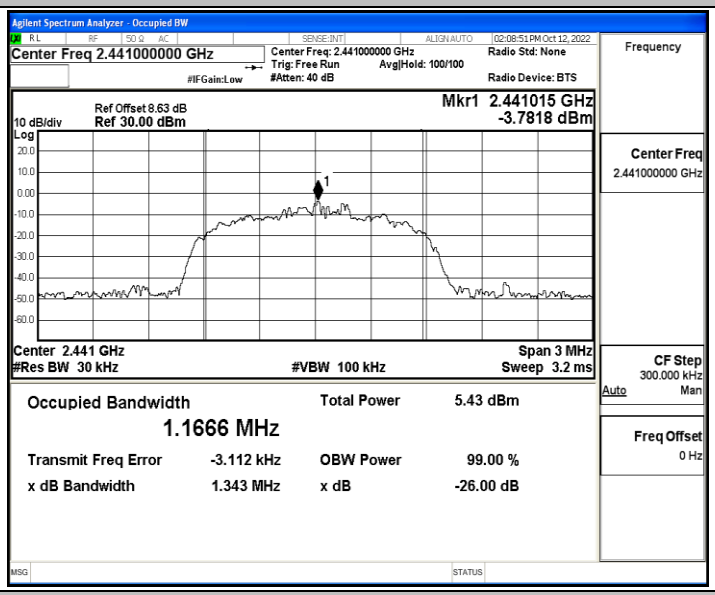
2DH5_Ant_2480



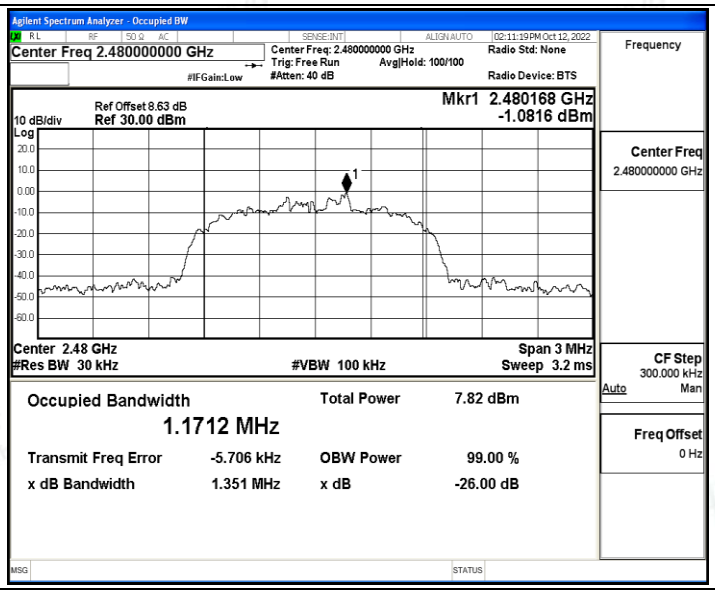
3DH5_Ant_2402



3DH5_Ant_2441



3DH5_Ant_2480


Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.480000000 GHz
Center Freq: 2.480000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 40 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
02:11:19 PM Oct 12, 2022
Frequency
Ref Offset 8.63 dB
10 dB/div
Ref 30.00 dBm
Log
Mkr1 2.480168 GHz
-1.0816 dBm
Center Freq
2.480000000 GHz
Center 2.48 GHz
#Res BW 30 kHz
#VBW 100 kHz
Span 3 MHz
Sweep 3.2 ms
CF Step
300.000 kHz
Auto
Man
Occupied Bandwidth
1.1712 MHz
Total Power 7.82 dBm
Transmit Freq Error -5.706 kHz
OBW Power 99.00 %
x dB Bandwidth 1.351 MHz
x dB -26.00 dB
Freq Offset
0 Hz
MSG
STATUS

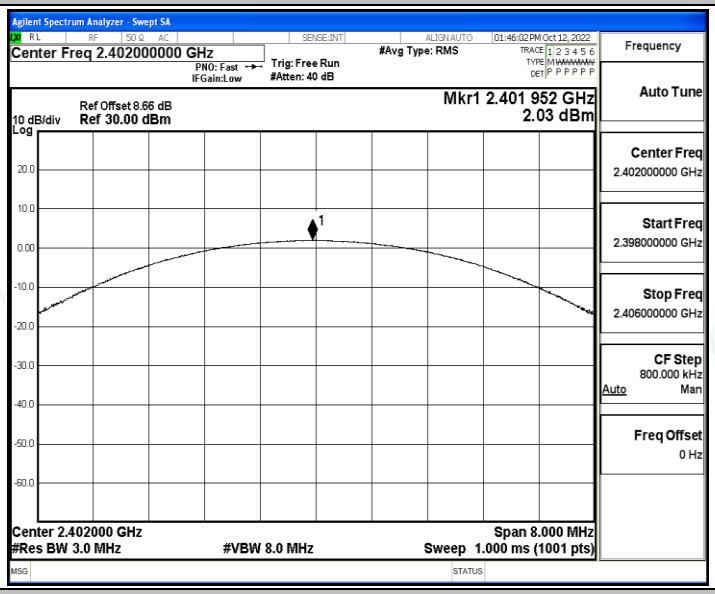
A.3 Maximum conducted output power

Test Result

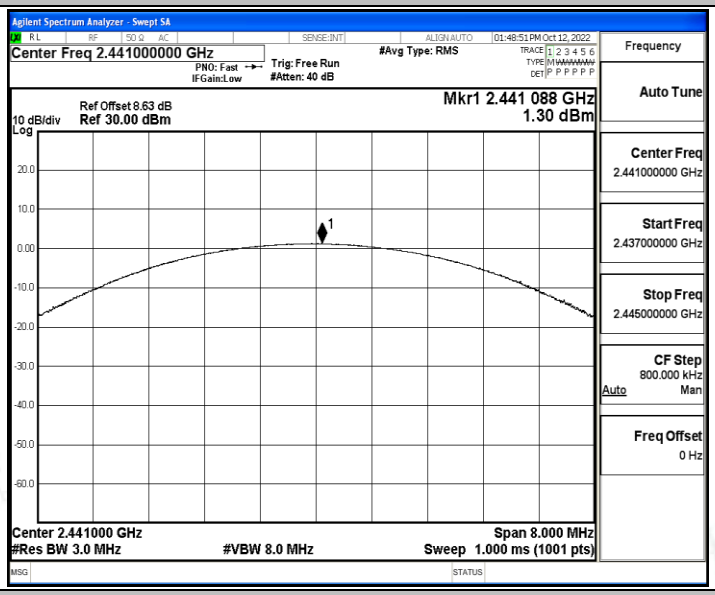
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant	2402	2.03	≤21	PASS
		2441	1.30	≤21	PASS
		2480	3.66	≤21	PASS
2DH5	Ant	2402	0.39	≤21	PASS
		2441	0.45	≤21	PASS
		2480	2.89	≤21	PASS
3DH5	Ant	2402	0.47	≤21	PASS
		2441	0.32	≤21	PASS
		2480	2.88	≤21	PASS

Test Graphs

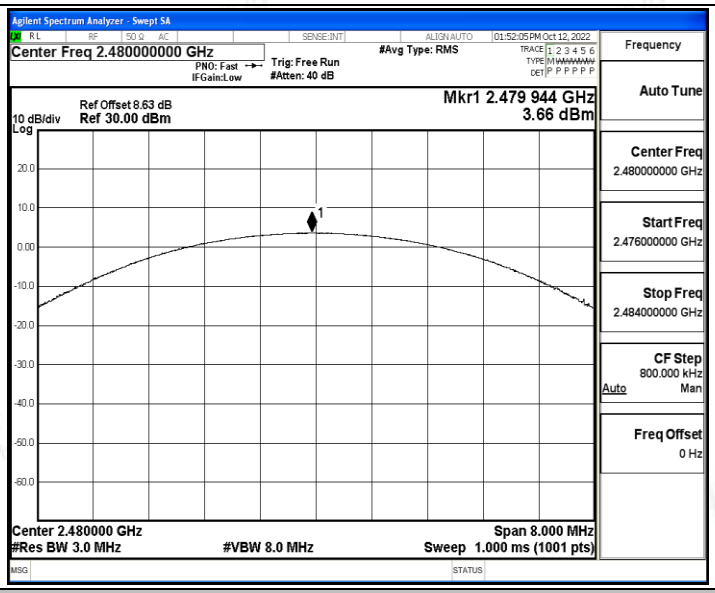
DH5_Ant_2402



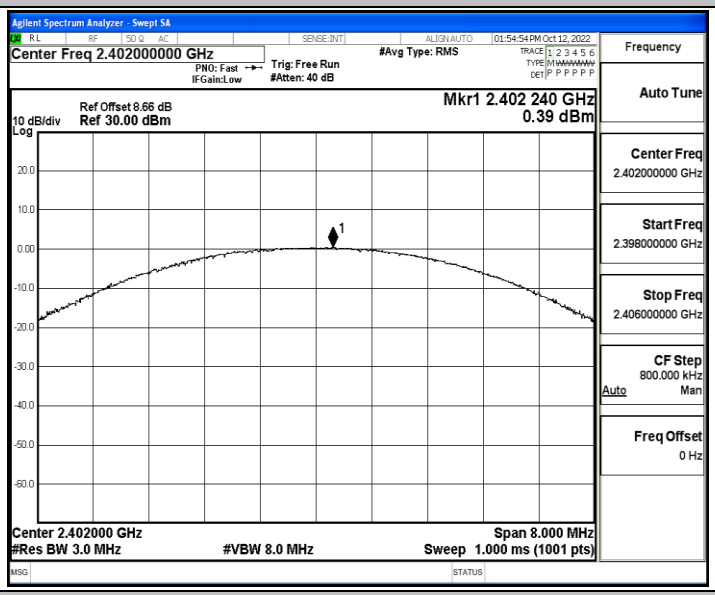
DH5_Ant_2441



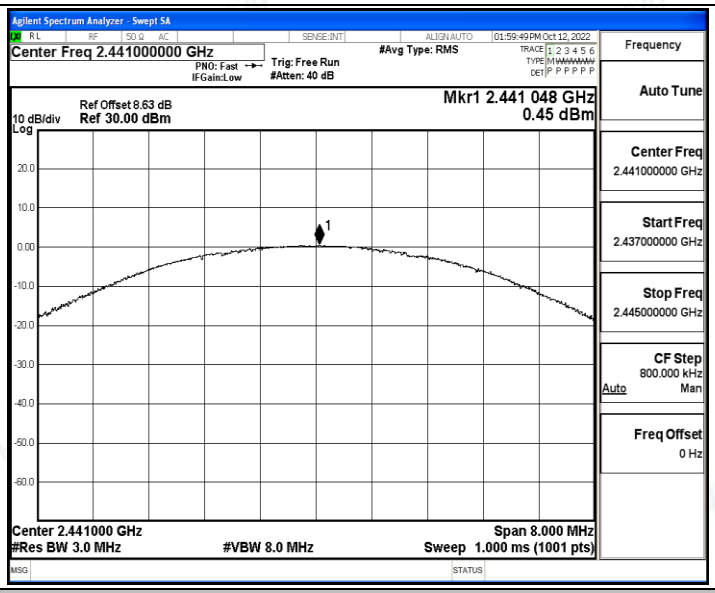
DH5_Ant_2480



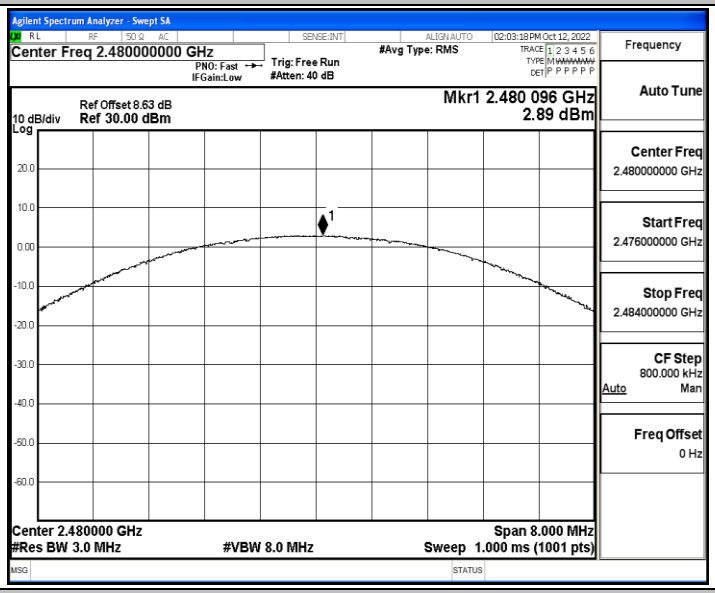
2DH5_Ant_2402



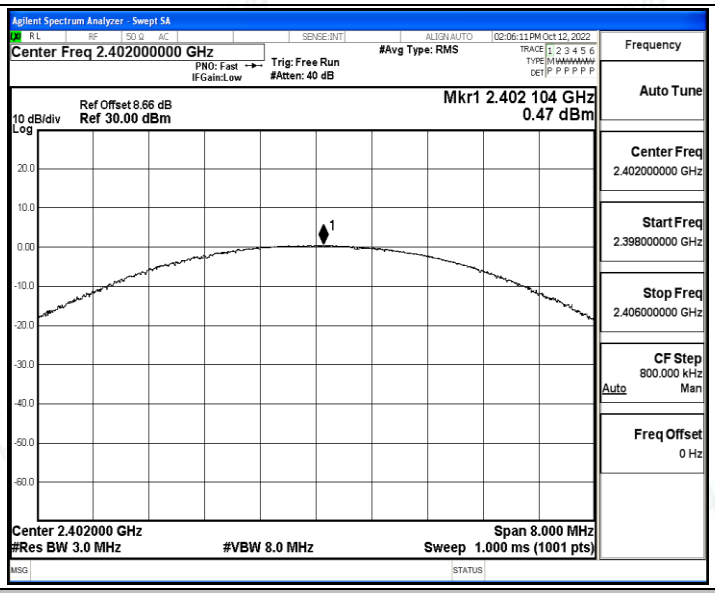
2DH5_Ant_2441



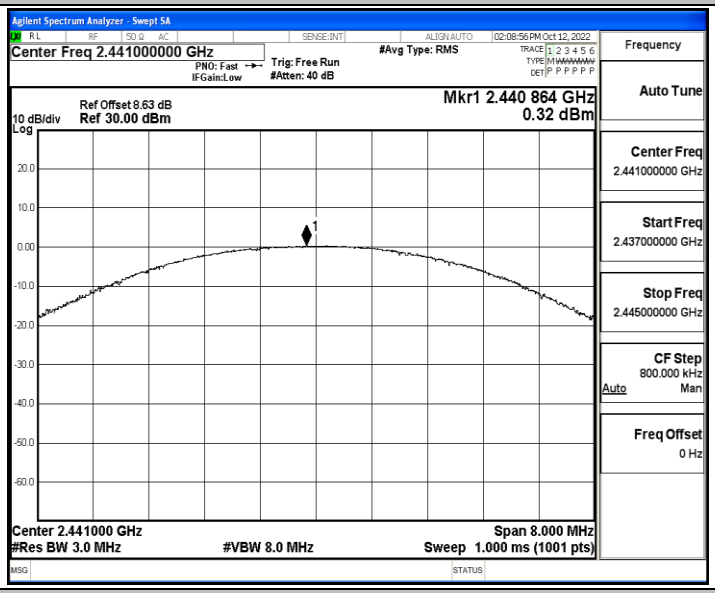
2DH5_Ant_2480



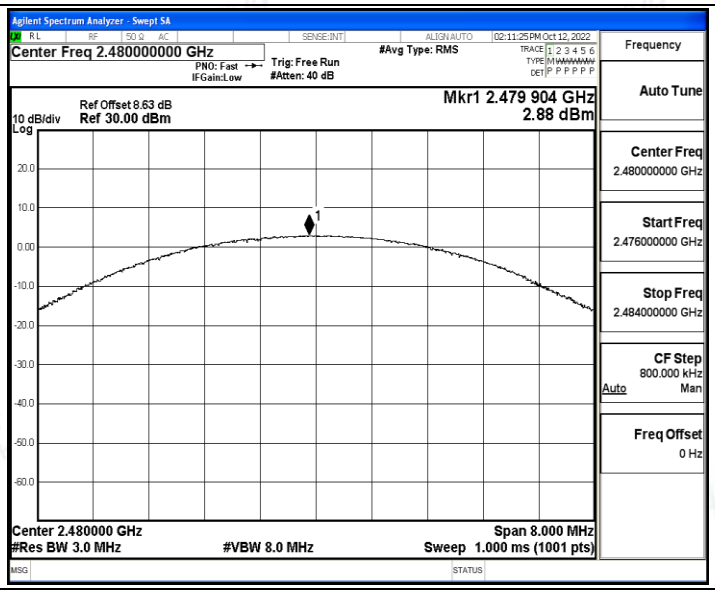
3DH5_Ant_2402



3DH5_Ant_2441



3DH5_Ant_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
02:11:25 PM Oct 12, 2022
Ref Offset 8.63 dB
10 dB/div Ref 30.00 dBm
Log
Mkr1 2.479 904 GHz
2.88 dBm
Center 2.480000 GHz
#Res BW 3.0 MHz
#VBW 8.0 MHz
Span 8.000 MHz
Sweep 1.000 ms (1001 pts)
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.476000000 GHz
Stop Freq
2.484000000 GHz
CF Step
800.000 kHz
Auto Man
Freq Offset
0 Hz

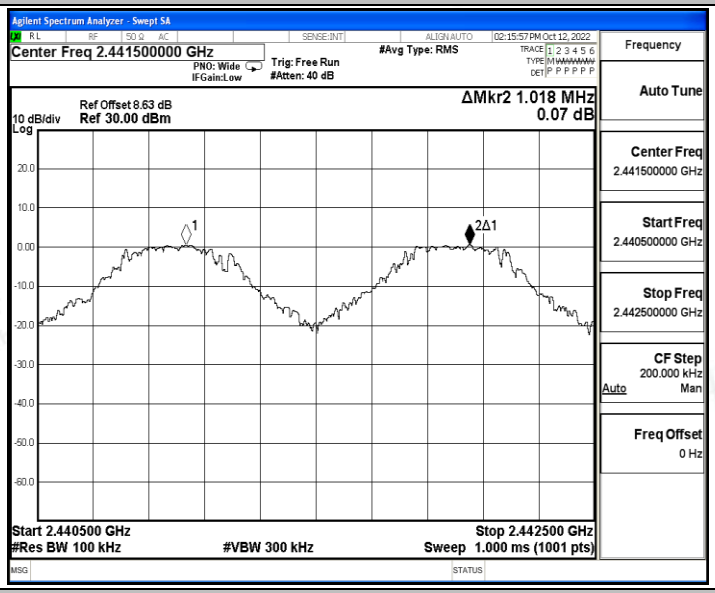
A.4 Carrier frequency separation

Test Result

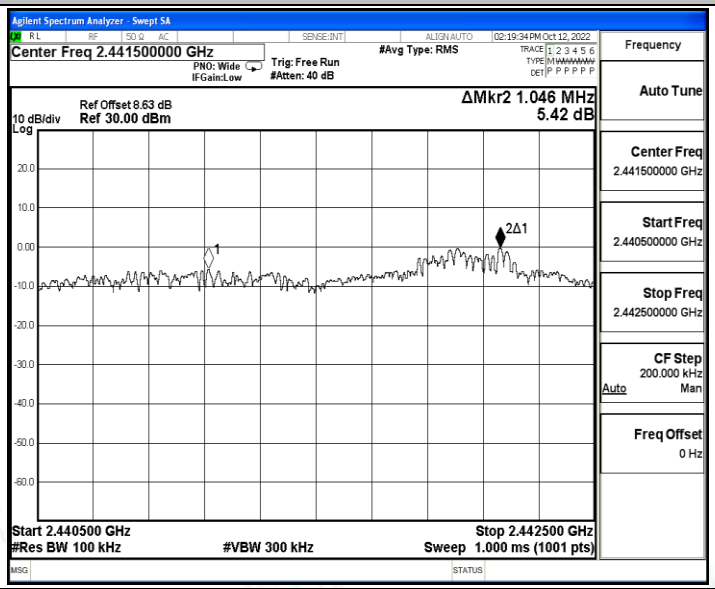
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant	Hop	1.018	≥0.574	PASS
2DH5	Ant	Hop	1.046	≥0.860	PASS
3DH5	Ant	Hop	1.054	≥0.860	PASS

Test Graphs

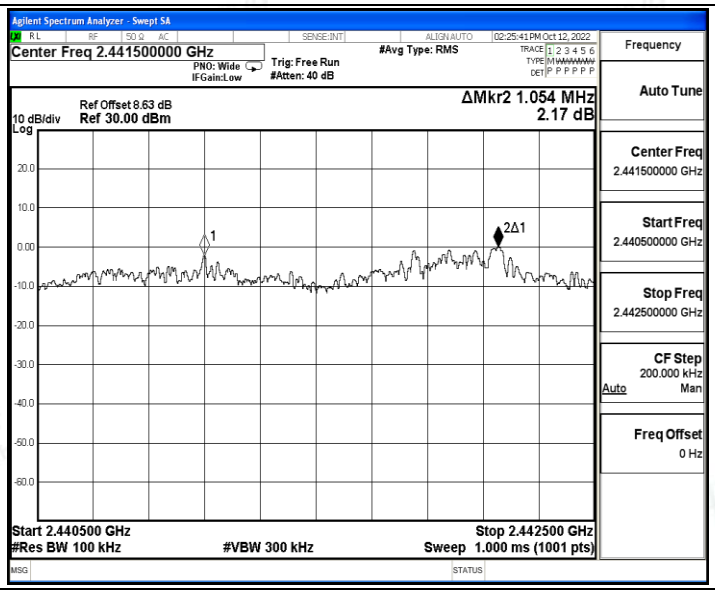
DH5_Ant_Hop



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
02:25:41 PM Oct 12, 2022
Frequency
Auto Tune
Ref Offset 8.63 dB
10 dB/div Ref 30.00 dBm
Log
ΔMkr2 1.054 MHz
2.17 dB
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
Start 2.440500 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.442500 GHz
Sweep 1.000 ms (1001 pts)

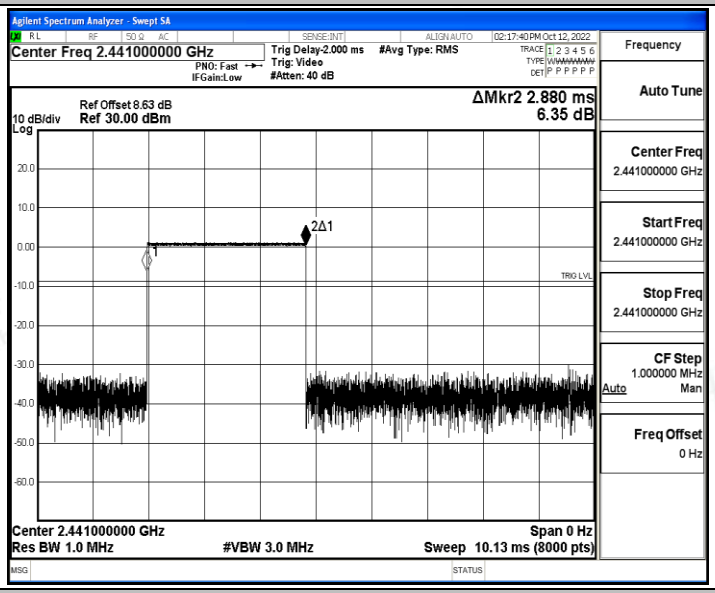
A.5 Time of occupancy

Test Result

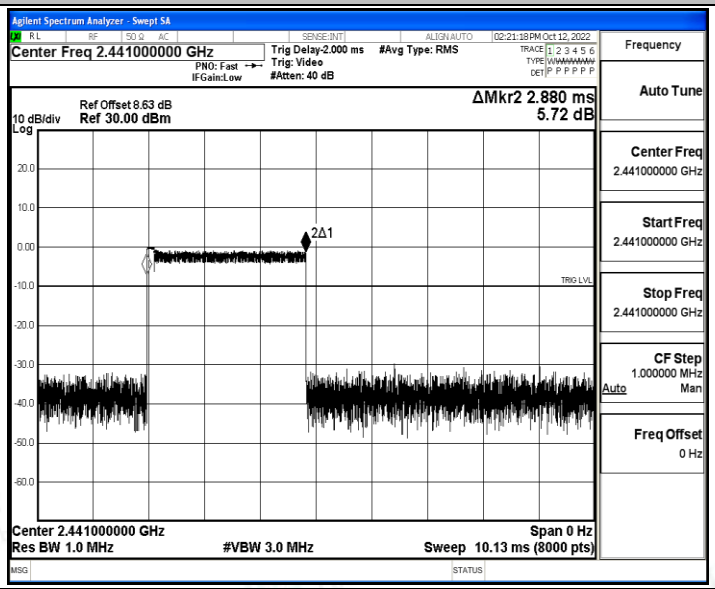
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant	Hop	2.88	106.67	0.307	≤0.4	PASS
2DH5	Ant	Hop	2.88	106.67	0.307	≤0.4	PASS
3DH5	Ant	Hop	2.89	106.67	0.308	≤0.4	PASS

Test Graphs

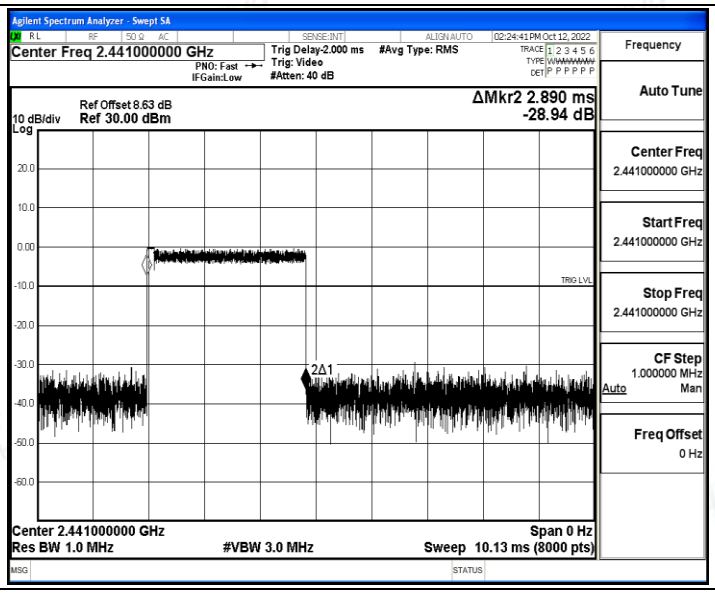
DH5_Ant_Hop



2DH5_Ant_Hop



3DH5_Ant_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
Trig Delay-2.000 ms
Trig: Video
#Atten: 40 dB
#Avg Type: RMS
02:24:41 PM Oct 12, 2022
Frequency
Auto Tune
Ref Offset 8.63 dB
10 dB/div Ref 30.00 dBm
Log
ΔMkr2 2.890 ms
-28.94 dB
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
Center 2.441000000 GHz
Span 0 Hz
Res BW 1.0 MHz
#VBW 3.0 MHz
Sweep 10.13 ms (8000 pts)

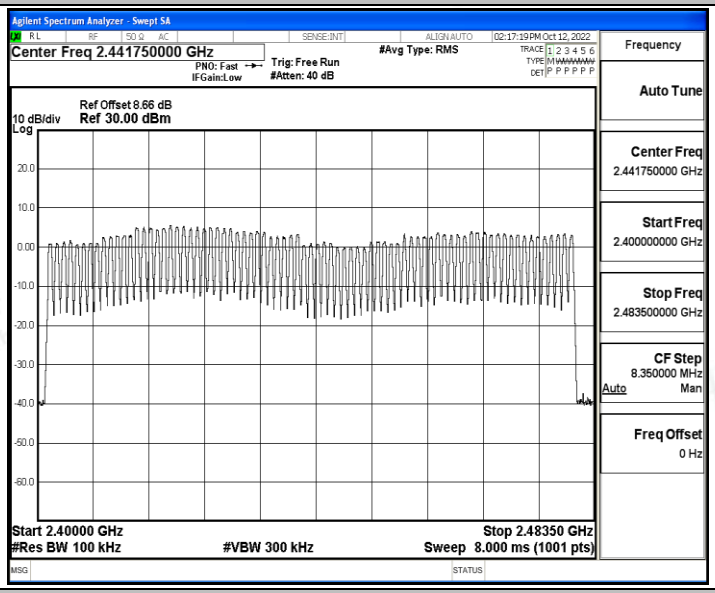
A.6 Number of hopping channels

Test Result

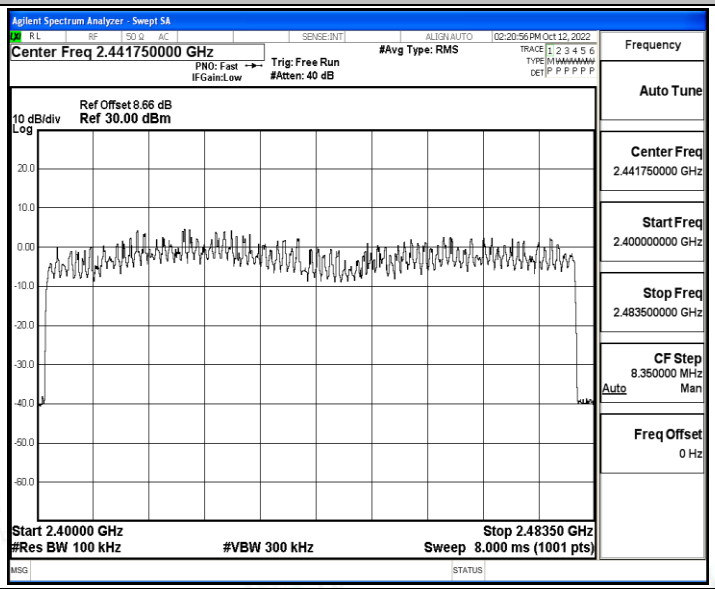
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant	Hop	79	≥15	PASS
2DH5	Ant	Hop	79	≥15	PASS
3DH5	Ant	Hop	79	≥15	PASS

Test Graphs

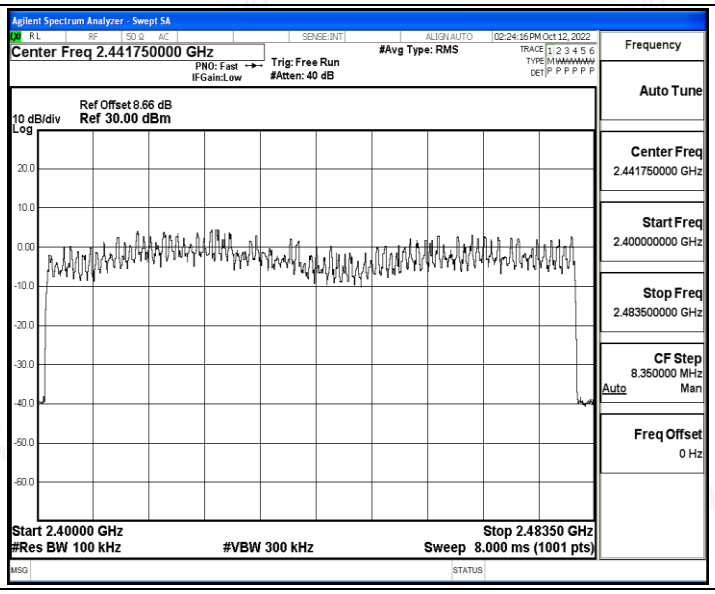
DH5_Ant_Hop



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
02:24:16 PM Oct 12, 2022
Ref Offset 8.66 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

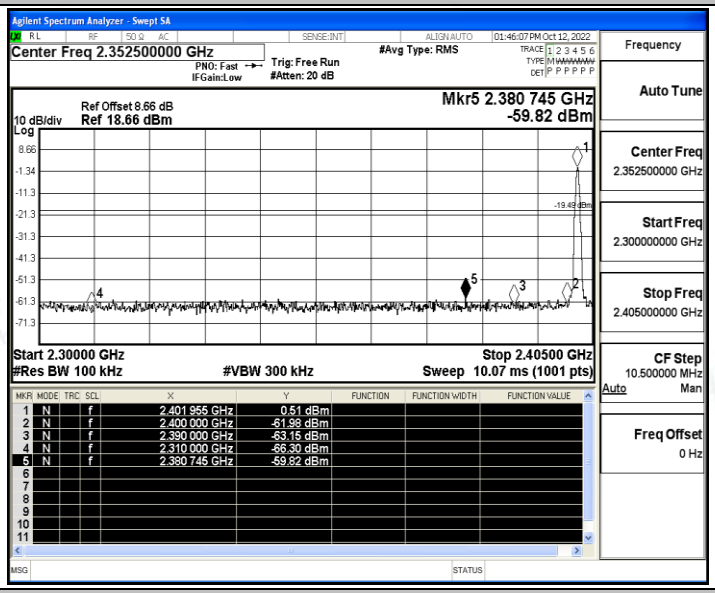
A.7 Band edge measurements

Test Result

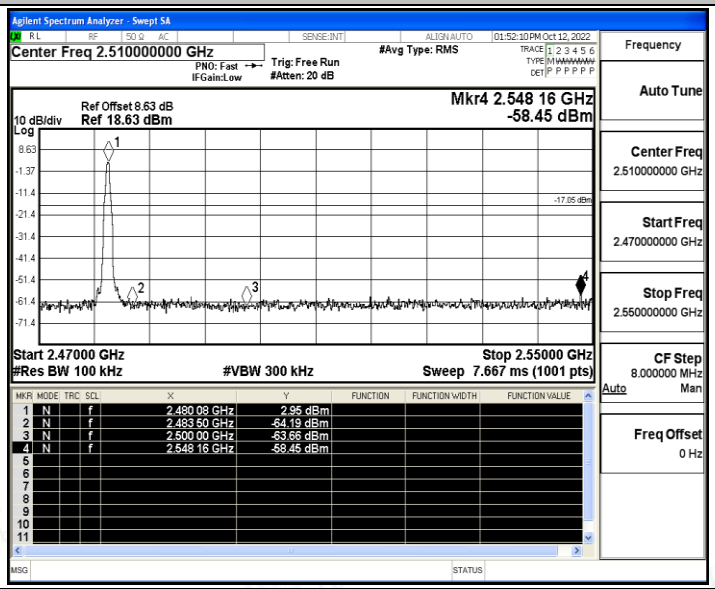
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	Low	2402	0.51	-59.82	≤-19.49	PASS
		High	2480	2.95	-58.45	≤-17.05	PASS
		Low	Hop_2402	1.11	-58.92	≤-18.9	PASS
		High	Hop_2480	3.02	-57.73	≤-16.98	PASS
2DH5	Ant	Low	2402	-5.19	-60.11	≤-25.19	PASS
		High	2480	-2.41	-58.24	≤-22.41	PASS
		Low	Hop_2402	-5.27	-58.41	≤-25.27	PASS
		High	Hop_2480	2.11	-56.49	≤-17.9	PASS
3DH5	Ant	Low	2402	-2.09	-60.38	≤-22.09	PASS
		High	2480	-2.18	-59.02	≤-22.18	PASS
		Low	Hop_2402	-5.73	-58.61	≤-25.73	PASS
		High	Hop_2480	1.84	-57.43	≤-18.16	PASS

Test Graphs

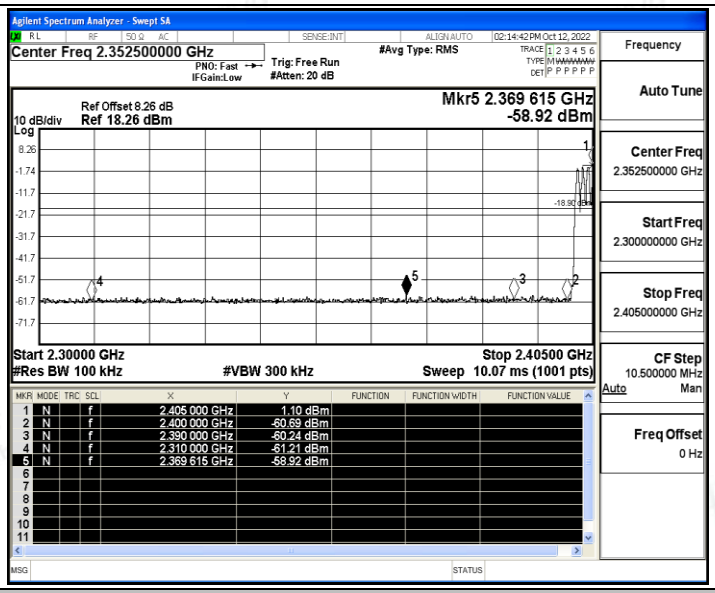
DH5_Ant_Low_2402



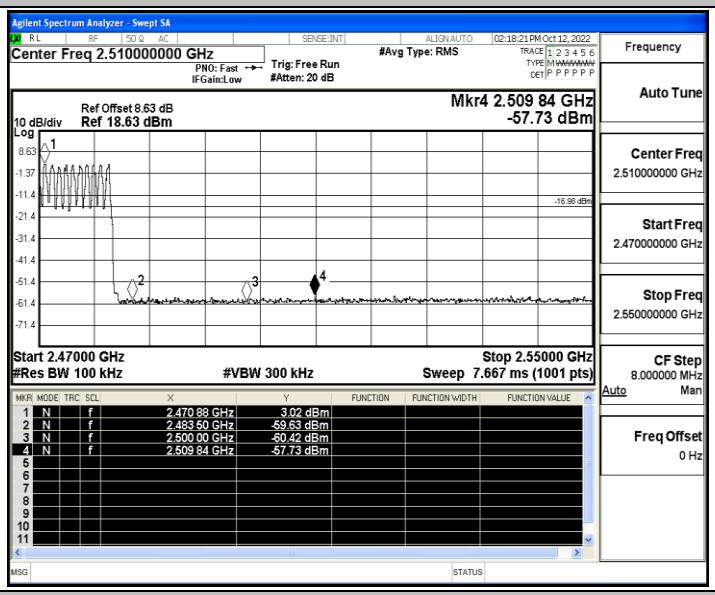
DH5_Ant_High_2480



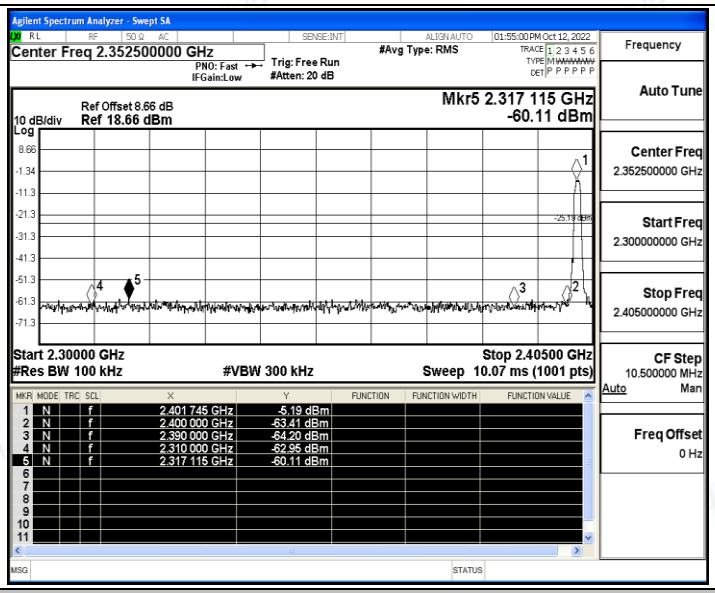
DH5_Ant_Low_Hop_2402



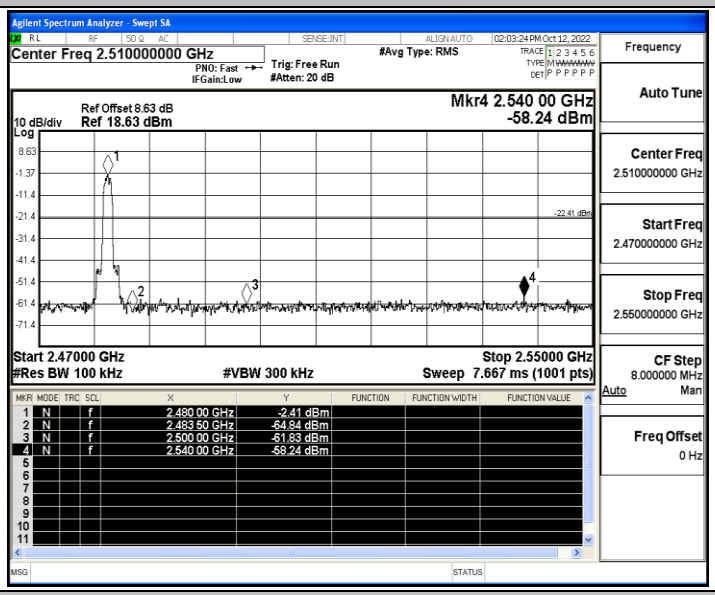
DH5_Ant_High_Hop_2480



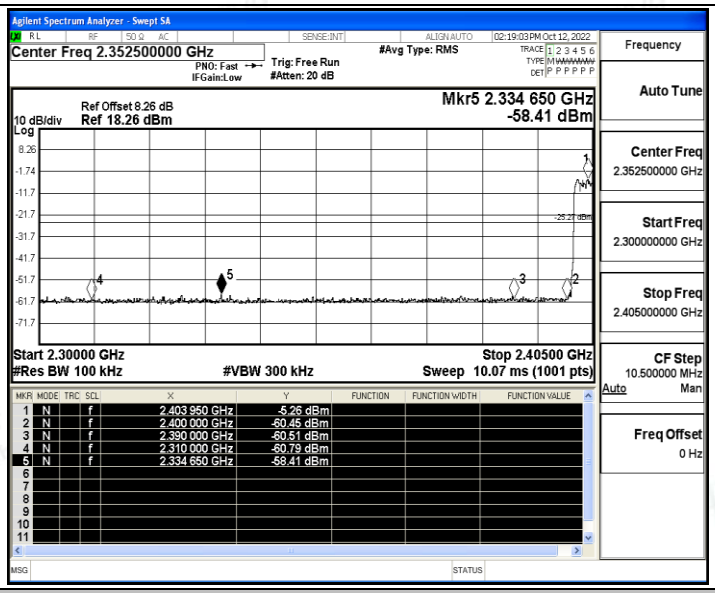
2DH5_Ant_Low_2402



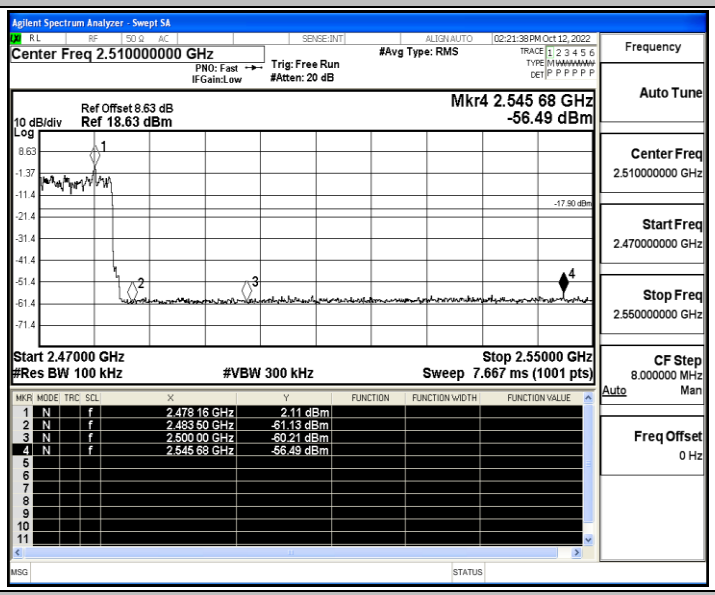
2DH5_Ant_High_2480



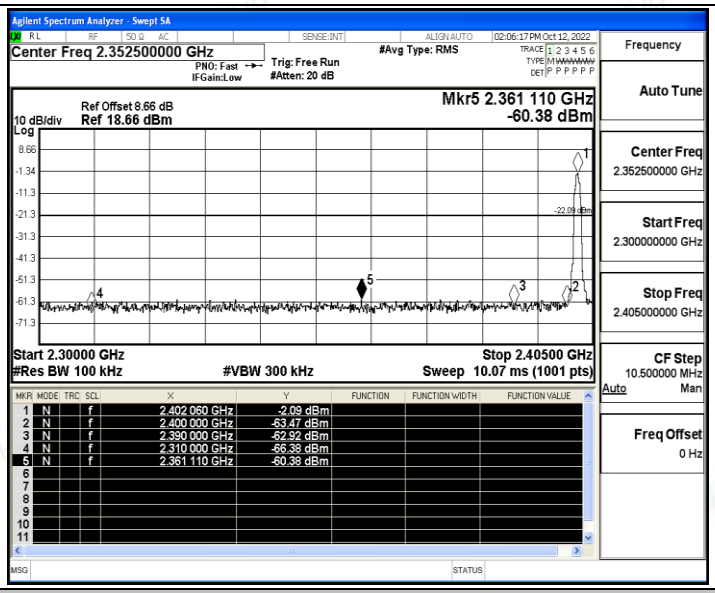
2DH5_Ant_Low_Hop_2402



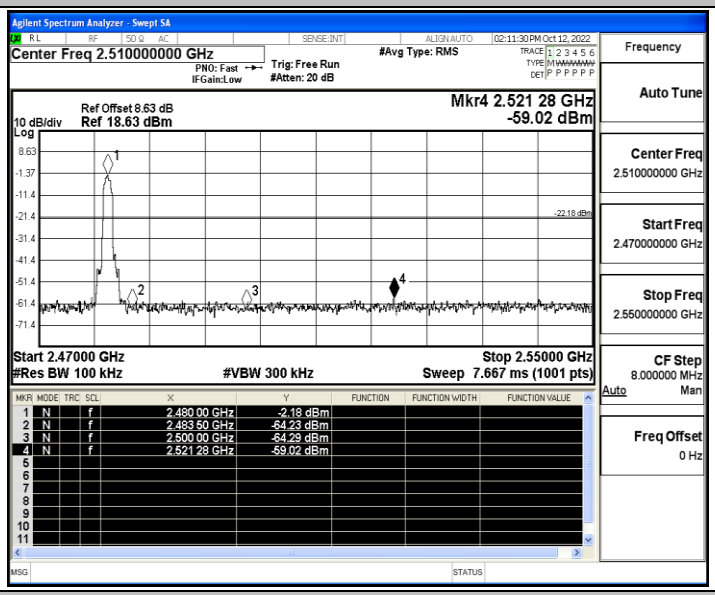
2DH5_Ant_High_Hop_2480



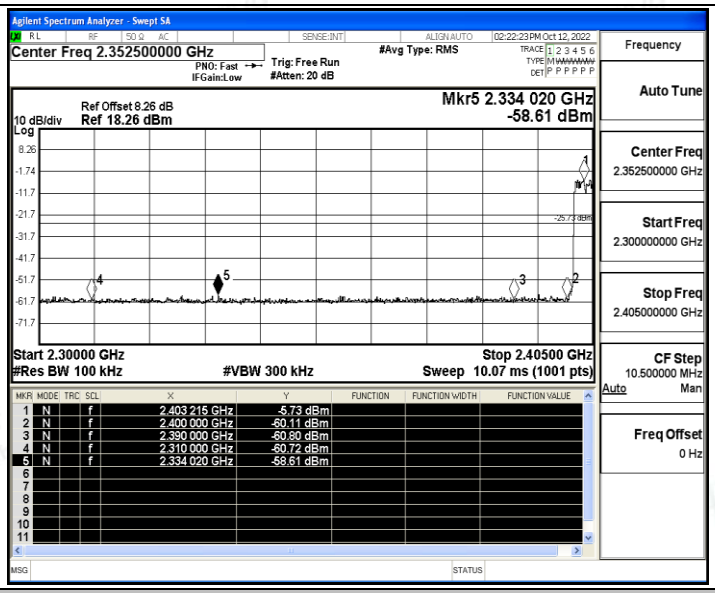
3DH5_Ant_Low_2402



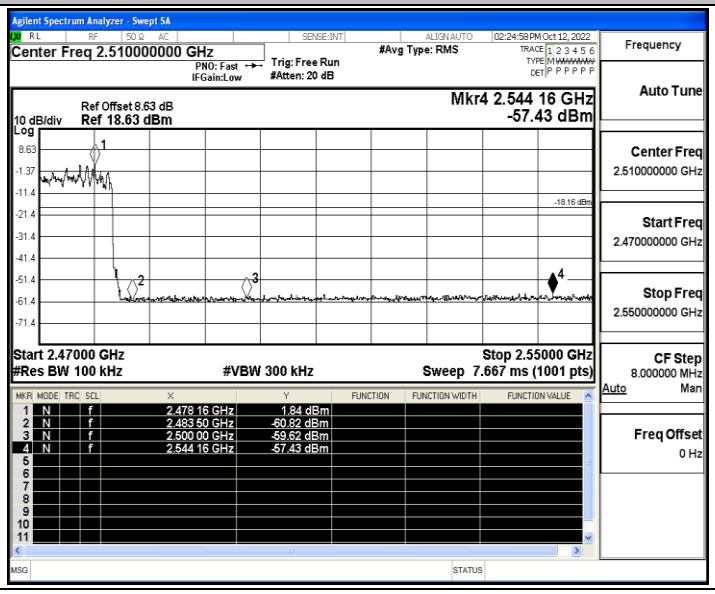
3DH5_Ant_High_2480



3DH5_Ant_Low_Hop_2402



3DH5_Ant_High_Hop_2480



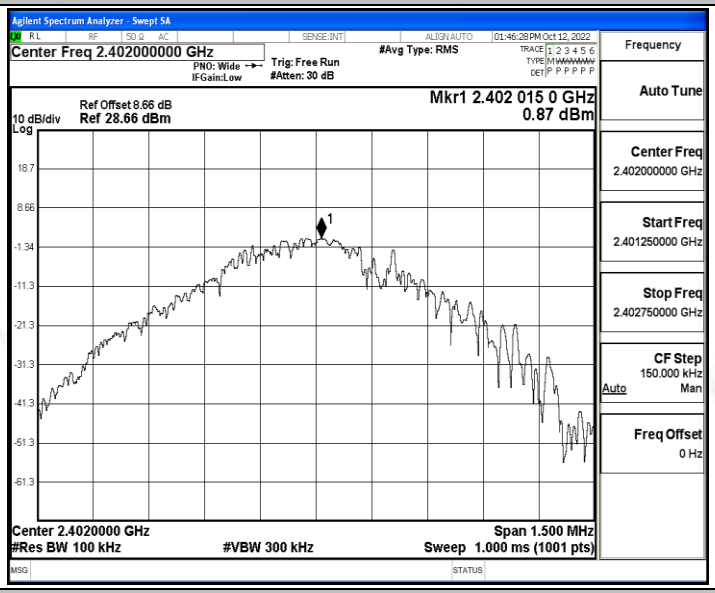
A.8 Conducted Spurious Emission

Test Result

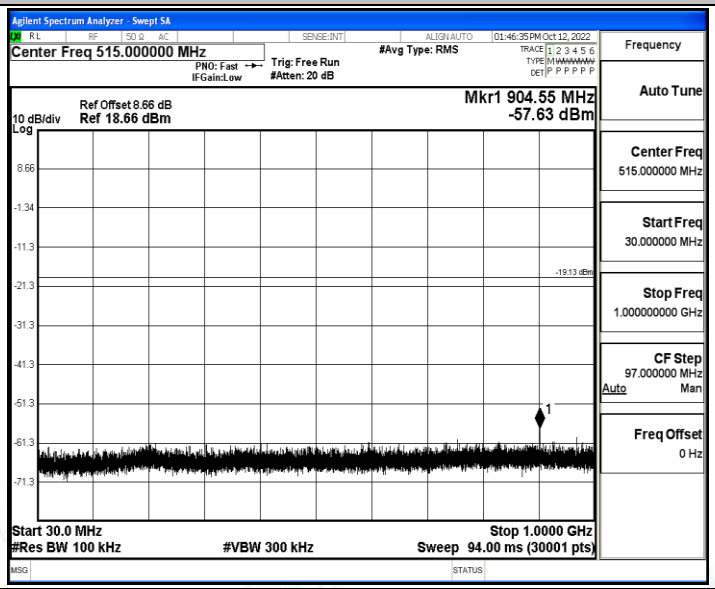
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	2402	Reference	0.87	0.87	---	PASS
			30~1000	0.87	-57.63	≤-19.13	PASS
			1000~26500	0.87	-46.13	≤-19.13	PASS
		2441	Reference	-0.12	-0.12	---	PASS
			30~1000	-0.12	-60.86	≤-20.12	PASS
			1000~26500	-0.12	-46.07	≤-20.12	PASS
		2480	Reference	2.64	2.64	---	PASS
			30~1000	2.64	-60.73	≤-17.36	PASS
			1000~26500	2.64	-45.26	≤-17.36	PASS
2DH5	Ant	2402	Reference	-4.62	-4.62	---	PASS
			30~1000	-4.62	-60.65	≤-24.62	PASS
			1000~26500	-4.62	-45.81	≤-24.62	PASS
		2441	Reference	-4.76	-4.76	---	PASS
			30~1000	-4.76	-60.53	≤-24.76	PASS
			1000~26500	-4.76	-46.21	≤-24.76	PASS
		2480	Reference	-2.28	-2.28	---	PASS
			30~1000	-2.28	-60.34	≤-22.28	PASS
			1000~26500	-2.28	-45.7	≤-22.28	PASS
3DH5	Ant	2402	Reference	-4.68	-4.68	---	PASS
			30~1000	-4.68	-60.72	≤-24.68	PASS
			1000~26500	-4.68	-45.01	≤-24.68	PASS
		2441	Reference	-5.07	-5.07	---	PASS
			30~1000	-5.07	-60.62	≤-25.07	PASS
			1000~26500	-5.07	-46.17	≤-25.07	PASS
		2480	Reference	-2.38	-2.38	---	PASS
			30~1000	-2.38	-60.35	≤-22.38	PASS
			1000~26500	-2.38	-45.36	≤-22.38	PASS

Test Graphs

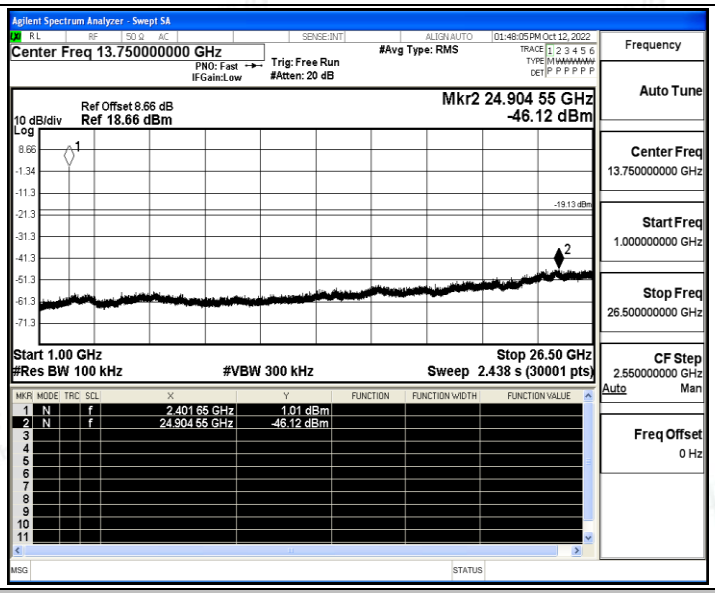
DH5_Ant_2402_0~Reference



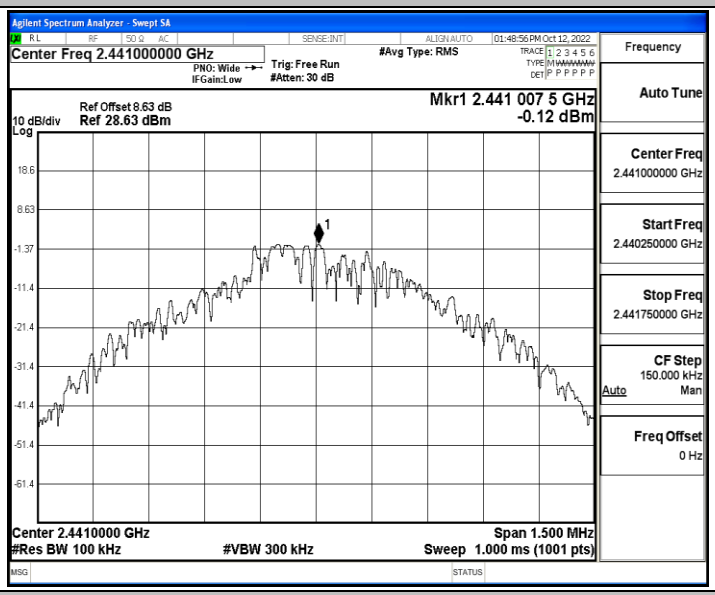
DH5_Ant_2402_30~1000



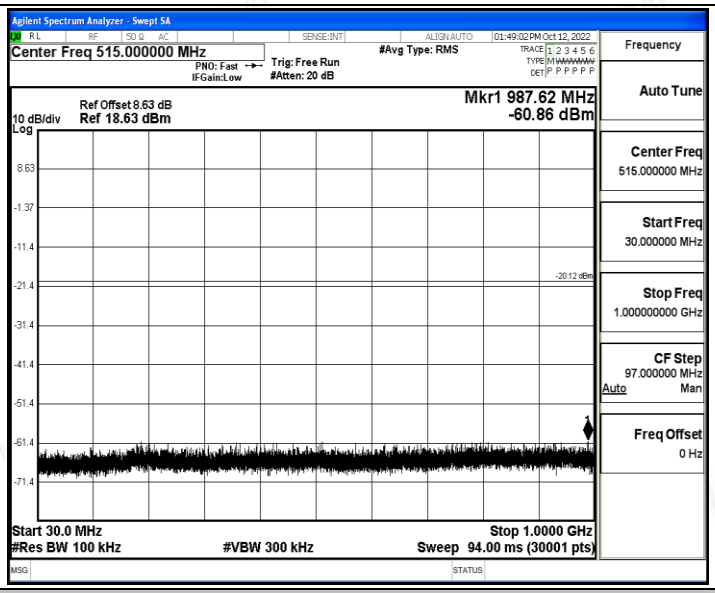
DH5_Ant_2402_1000~26500



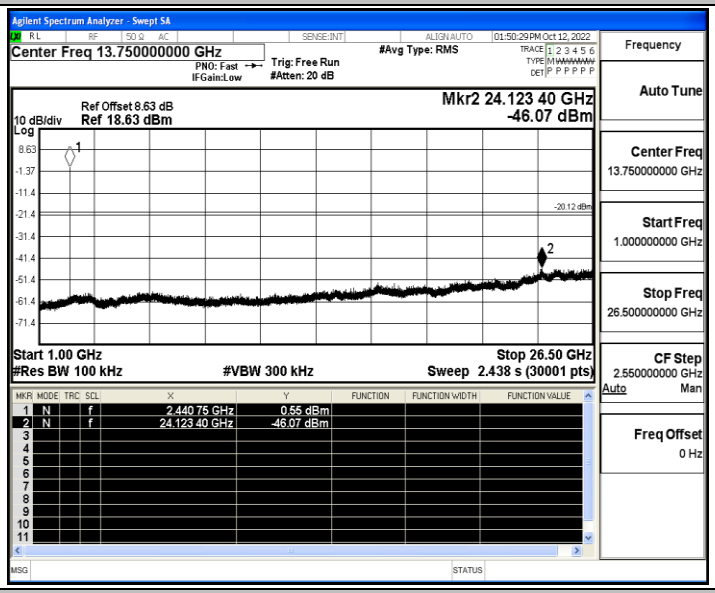
DH5_Ant_2441_0~Reference



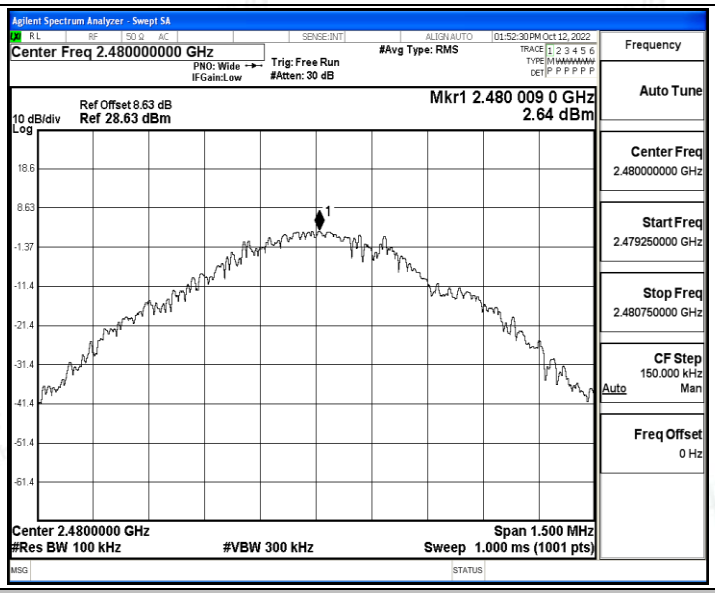
DH5_Ant_2441_30~1000



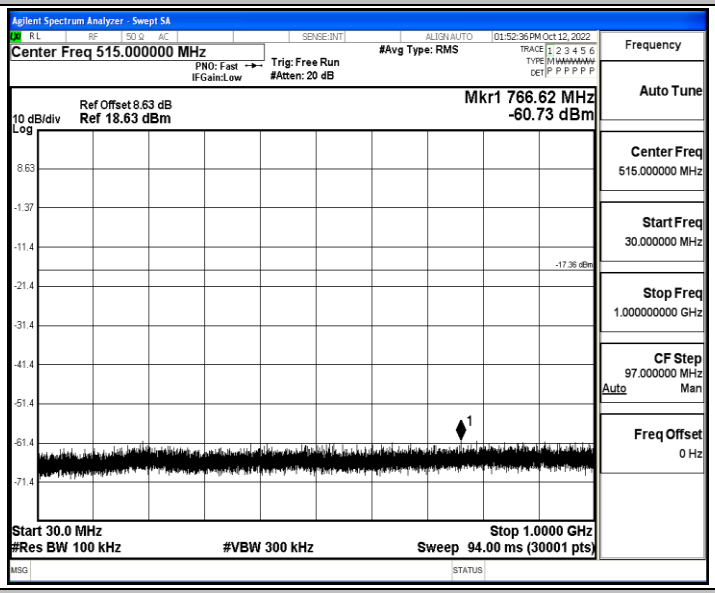
DH5_Ant_2441_1000~26500



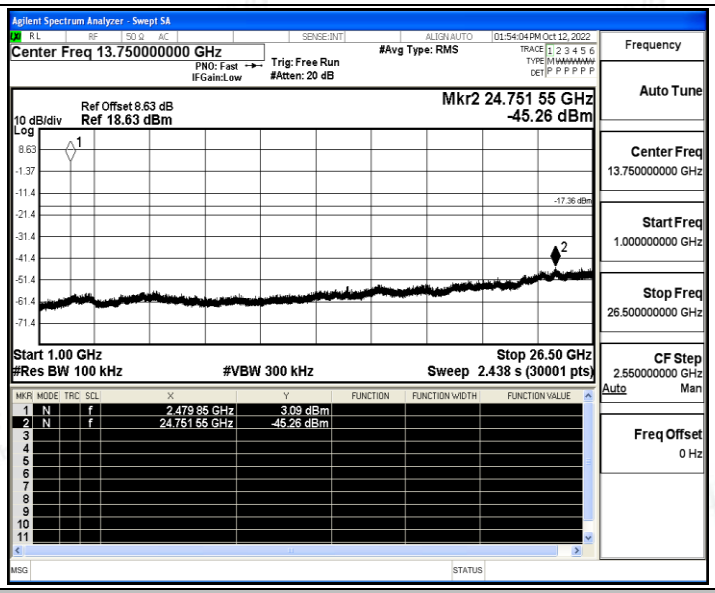
DH5_Ant_2480_0~Reference



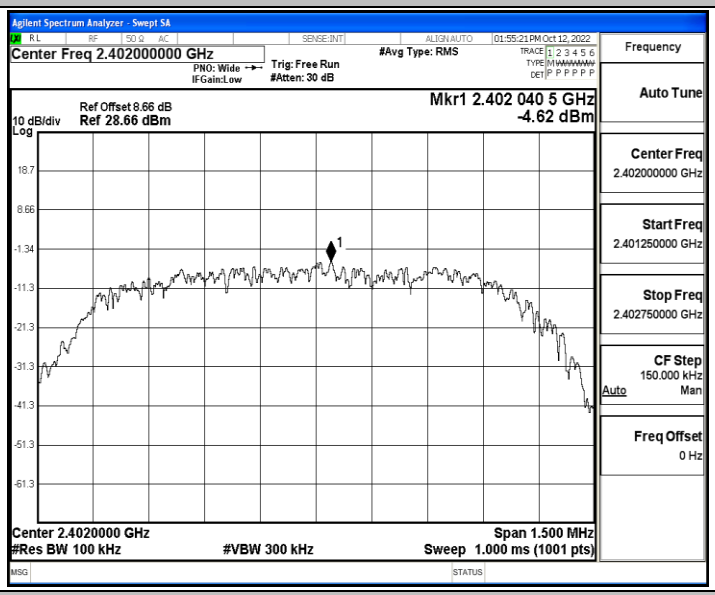
DH5_Ant_2480_30~1000



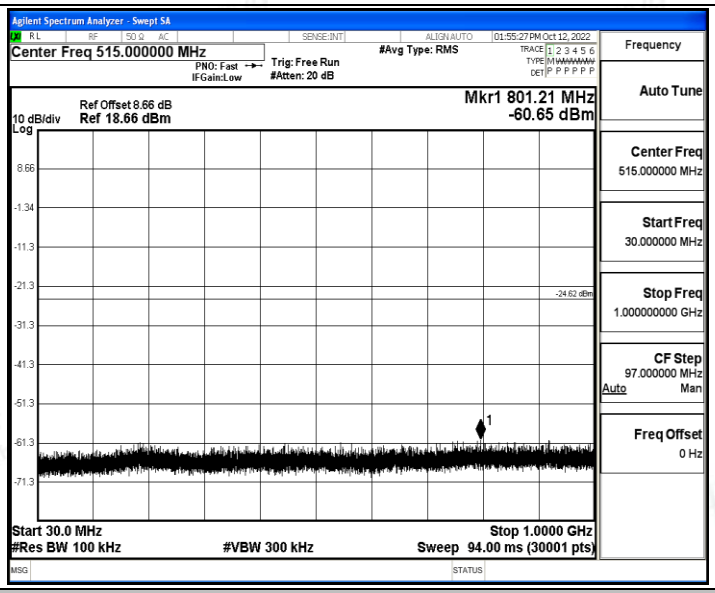
DH5_Ant_2480_1000~26500



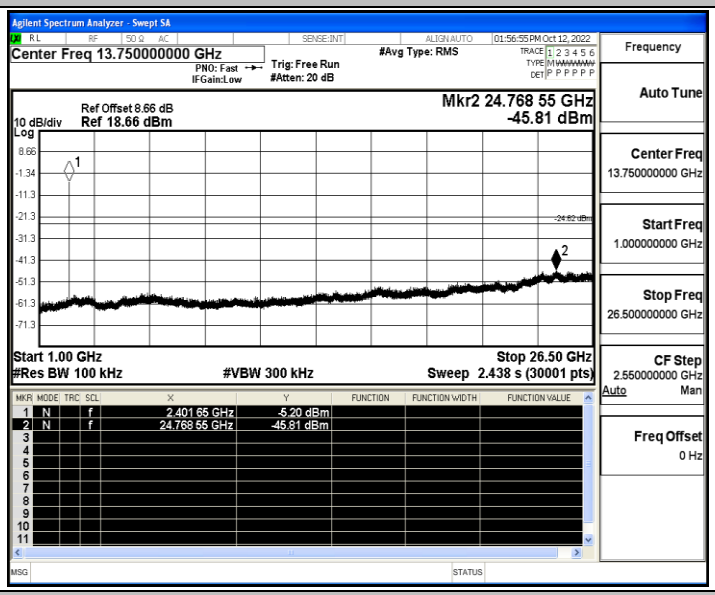
2DH5_Ant_2402_0~Reference



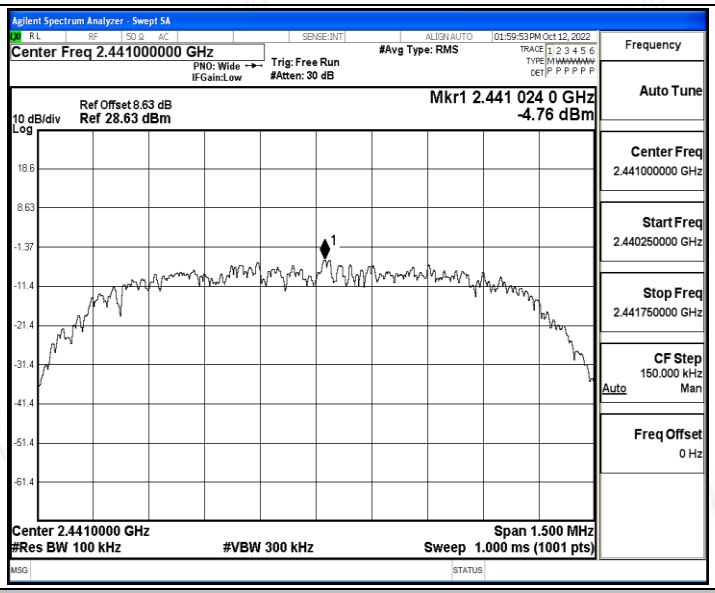
2DH5_Ant_2402_30~1000



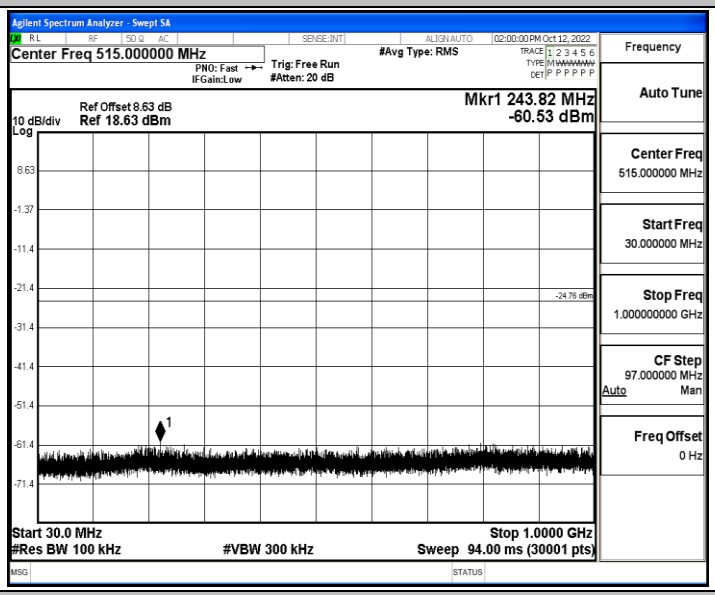
2DH5_Ant_2402_1000~26500



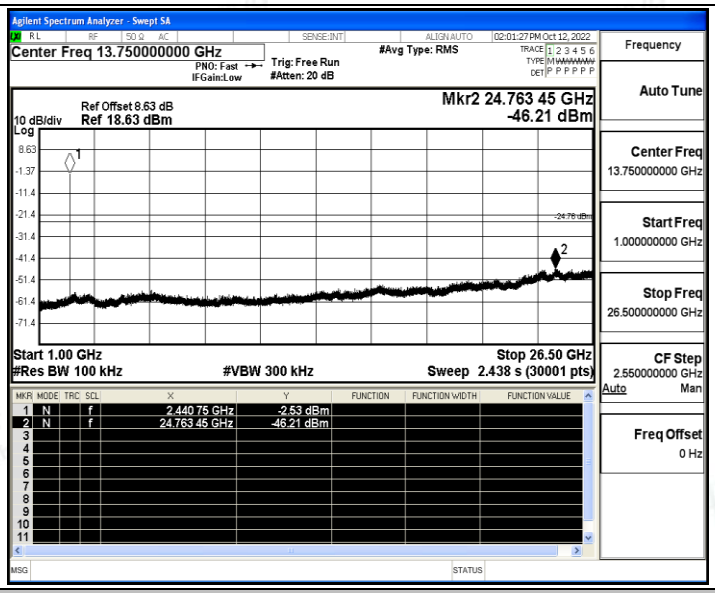
2DH5_Ant_2441_0~Reference



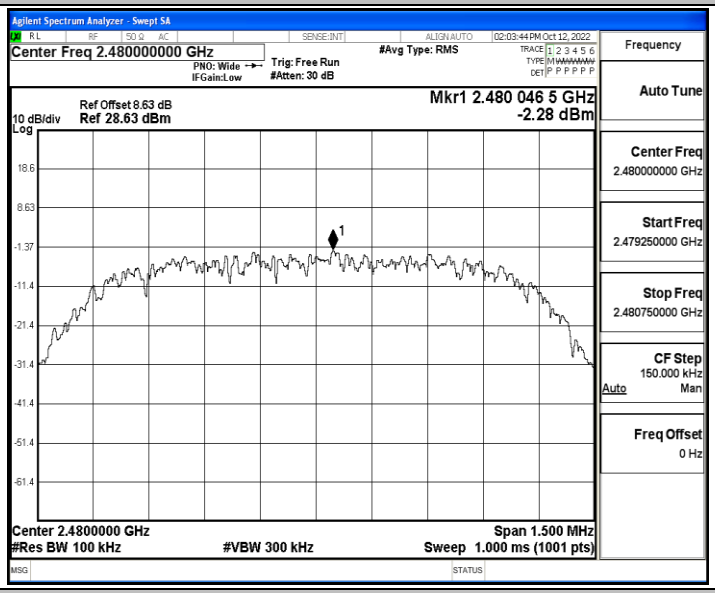
2DH5_Ant_2441_30~1000



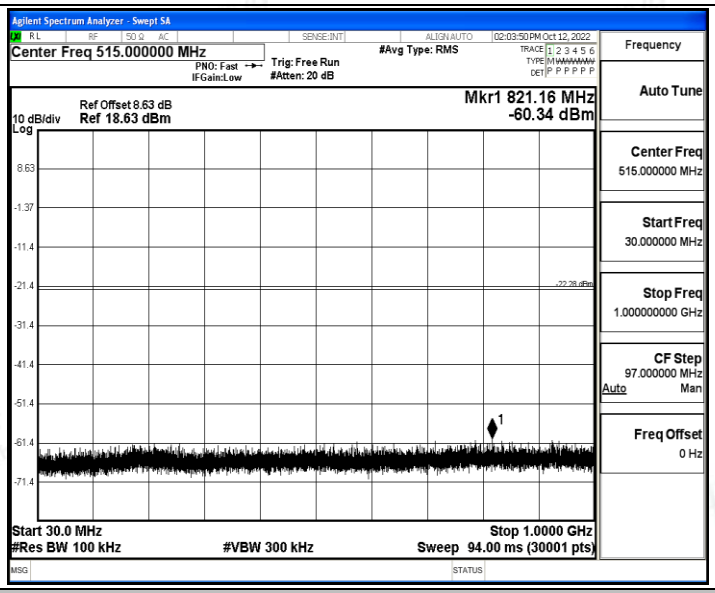
2DH5_Ant_2441_1000~26500



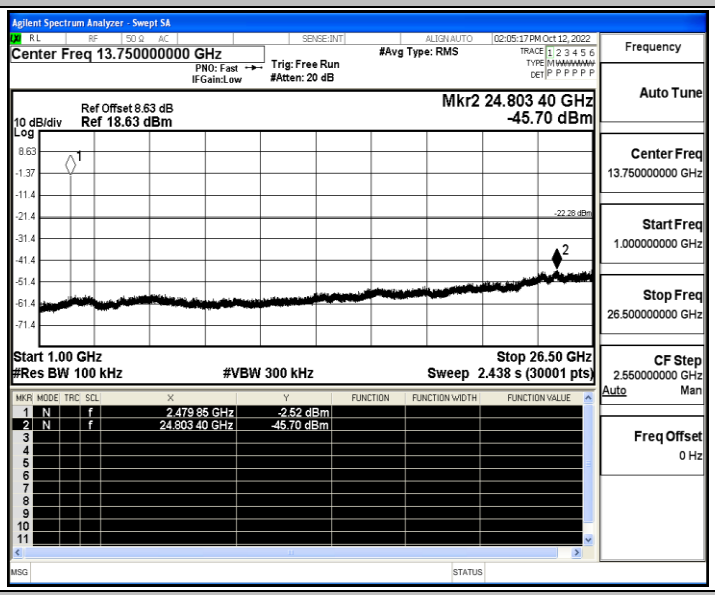
2DH5_Ant_2480_0~Reference



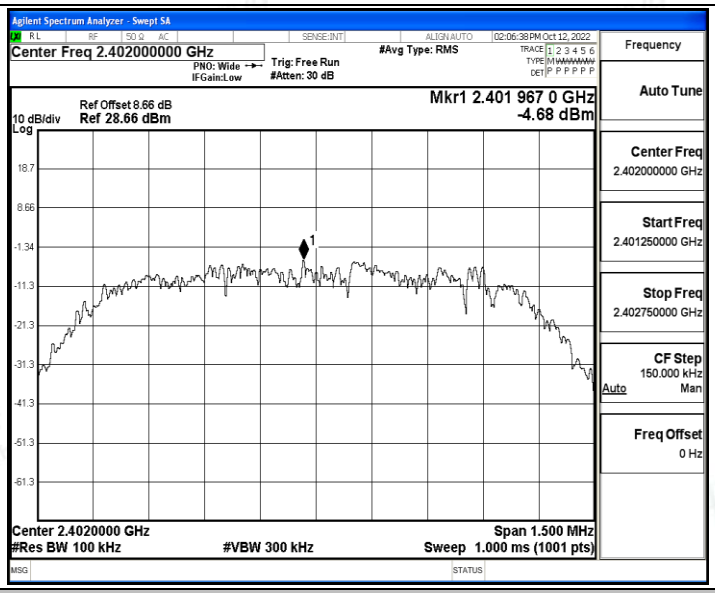
2DH5_Ant_2480_30~1000



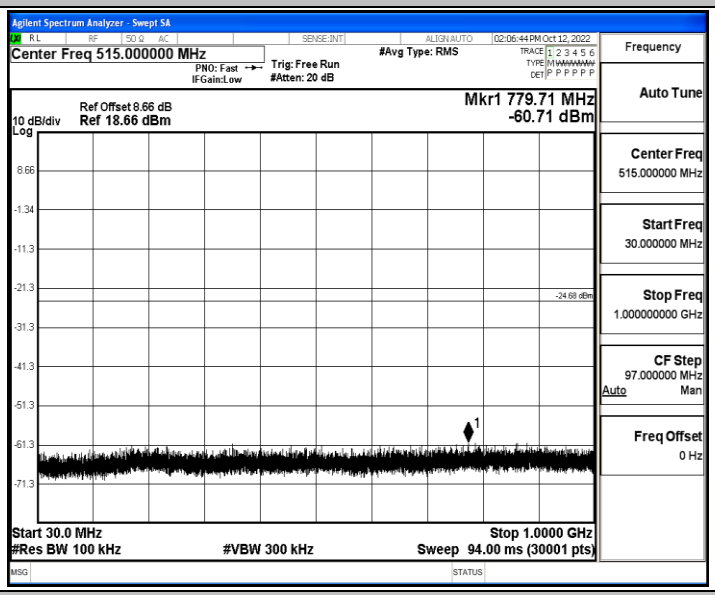
2DH5_Ant_2480_1000~26500



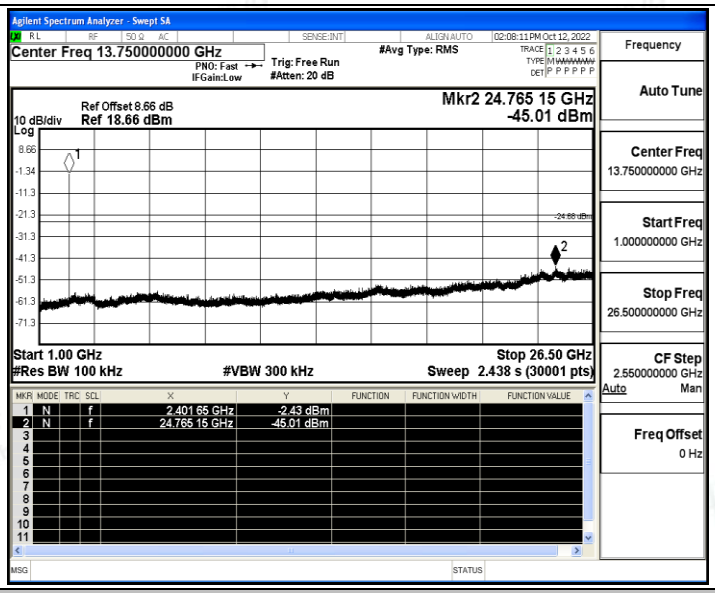
3DH5_Ant_2402_0~Reference



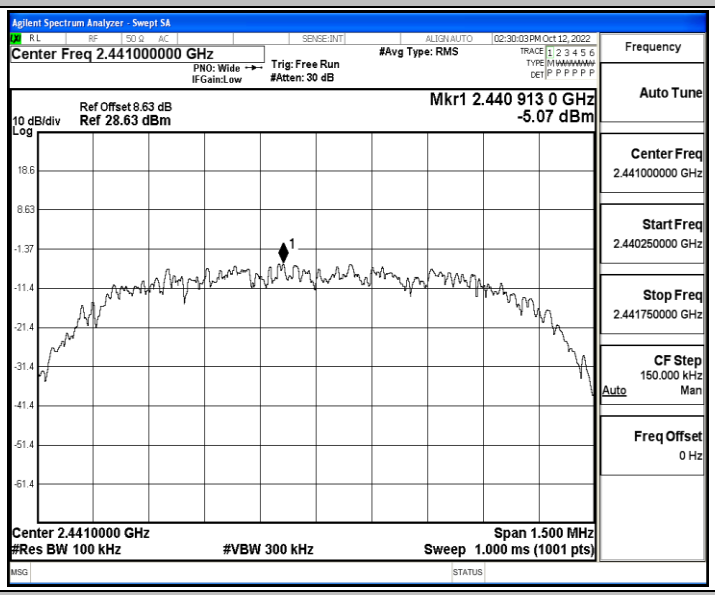
3DH5_Ant_2402_30~1000



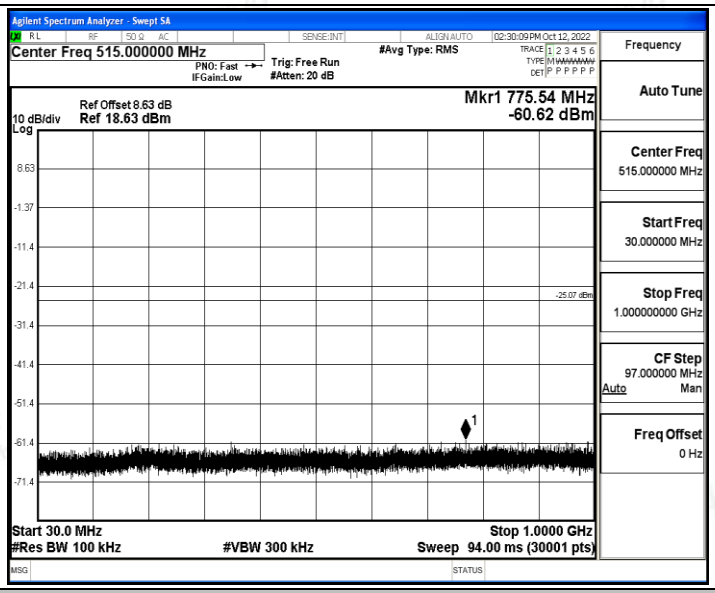
3DH5_Ant_2402_1000~26500



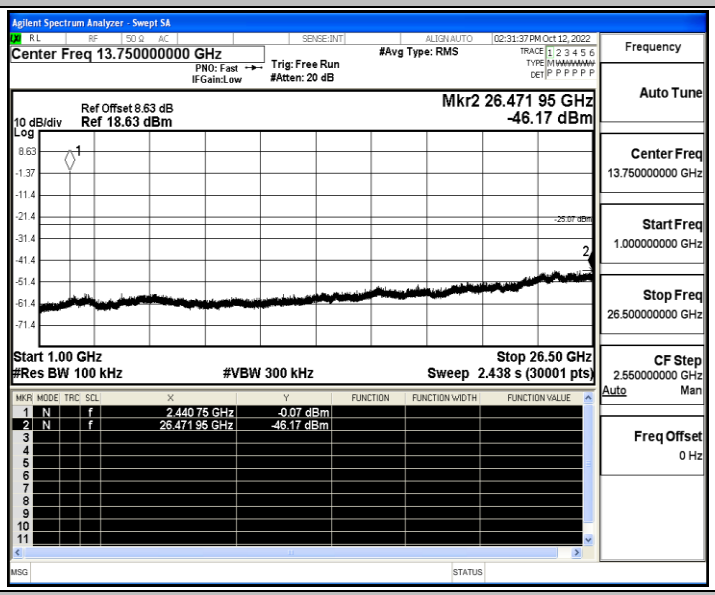
3DH5_Ant_2441_0~Reference



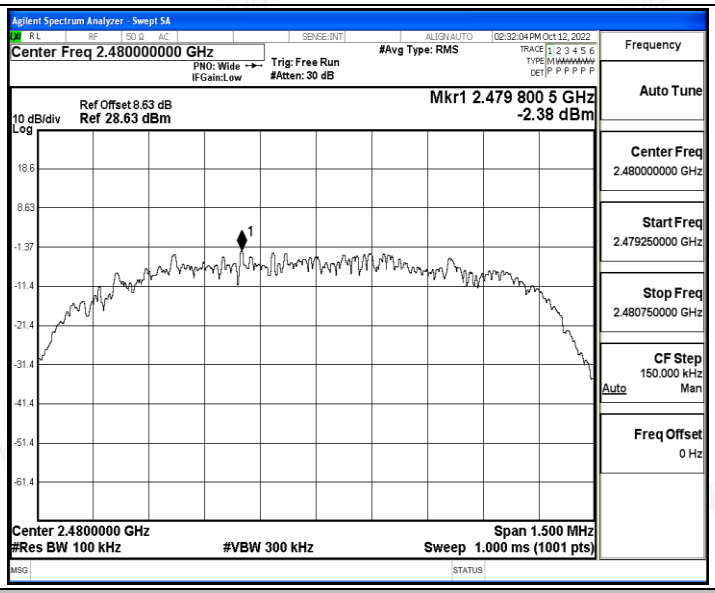
3DH5_Ant_2441_30~1000



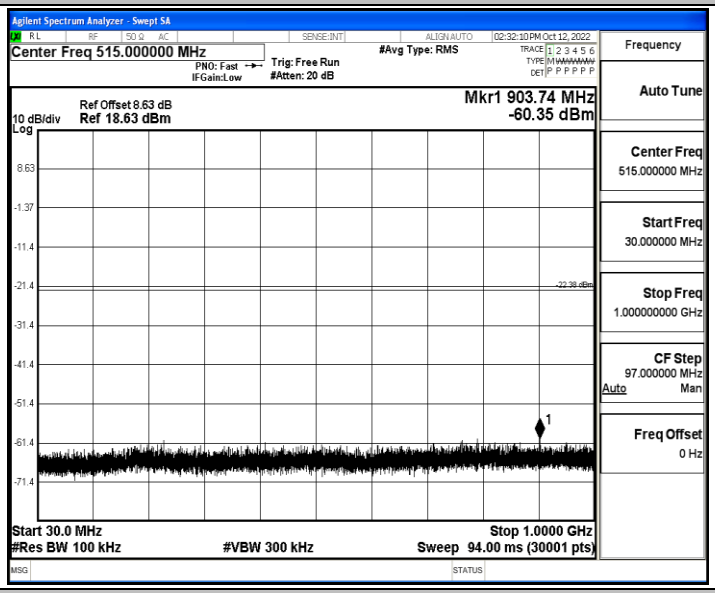
3DH5_Ant_2441_1000~26500



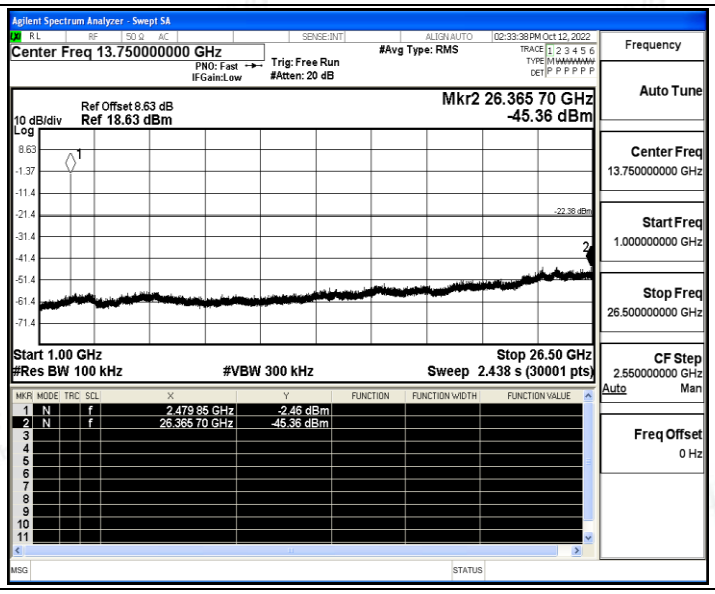
3DH5_Ant_2480_0~Reference



3DH5_Ant_2480_30~1000



3DH5_Ant_2480_1000~26500


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.750000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
02:33:38 PM Oct 12, 2022
Ref Offset 8.63 dB
10 dB/div Ref 18.63 dBm
Log
Mkr2 26.365 70 GHz
-45.36 dBm
-22.36 dBm
Start 1.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26.50 GHz
Sweep 2.438 s (30001 pts)
1 N f 2.479 85 GHz -2.46 dBm
2 N f 26.365 70 GHz -45.36 dBm
Frequency
Auto Tune
Center Freq
13.750000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
26.500000000 GHz
CF Step
2.550000000 GHz
Auto Man
Freq Offset
0 Hz

A.9 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	-58.04	≤-41.20	37.16	≤54	PASS
				AV	2389.040	-57.45	≤-41.20	37.75	≤54	PASS
				AV	2390.000	-57.7	≤-41.20	37.50	≤54	PASS
				Peak	2310.000	-52.85	≤-21.20	42.35	≤74	PASS
				Peak	2317.325	-47.93	≤-21.20	47.27	≤74	PASS
				Peak	2390.000	-53.07	≤-21.20	42.13	≤74	PASS
		High	2480	AV	2483.500	-53.94	≤-41.20	41.26	≤54	PASS
				AV	2483.520	-53.94	≤-41.20	41.26	≤54	PASS
				AV	2500.000	-56.97	≤-41.20	38.23	≤54	PASS
				Peak	2483.500	-51.95	≤-21.20	43.25	≤74	PASS
				Peak	2495.680	-48.25	≤-21.20	46.95	≤74	PASS
				Peak	2500.000	-50.98	≤-21.20	44.22	≤74	PASS
2DH5	Ant	Low	2402	AV	2310.000	-58.03	≤-41.20	37.17	≤54	PASS
				AV	2388.830	-57.43	≤-41.20	37.77	≤54	PASS
				AV	2390.000	-57.64	≤-41.20	37.56	≤54	PASS
				Peak	2310.000	-53.93	≤-21.20	41.27	≤74	PASS
				Peak	2334.335	-48.23	≤-21.20	46.97	≤74	PASS
				Peak	2390.000	-52.45	≤-21.20	42.75	≤74	PASS
		High	2480	AV	2483.500	-53.72	≤-41.20	41.48	≤54	PASS
				AV	2483.520	-53.72	≤-41.20	41.48	≤54	PASS
				AV	2500.000	-56.95	≤-41.20	38.25	≤54	PASS
				Peak	2483.500	-52.12	≤-21.20	43.08	≤74	PASS
				Peak	2495.600	-46.66	≤-21.20	48.54	≤74	PASS
				Peak	2500.000	-50.83	≤-21.20	44.37	≤74	PASS
3DH5	Ant	Low	2402	AV	2310.000	-58.01	≤-41.20	37.19	≤54	PASS
				AV	2384.840	-57.44	≤-41.20	37.76	≤54	PASS
				AV	2390.000	-57.66	≤-41.20	37.54	≤54	PASS
				Peak	2310.000	-51.49	≤-21.20	43.71	≤74	PASS
				Peak	2388.830	-47.01	≤-21.20	48.19	≤74	PASS
				Peak	2390.000	-51.2	≤-21.20	44.00	≤74	PASS
		High	2480	AV	2483.500	-53.69	≤-41.20	41.51	≤54	PASS
				AV	2483.520	-53.69	≤-41.20	41.51	≤54	PASS
				AV	2500.000	-57.13	≤-41.20	38.07	≤54	PASS
				Peak	2483.500	-50.92	≤-21.20	44.28	≤74	PASS
				Peak	2488.400	-48.47	≤-21.20	46.73	≤74	PASS

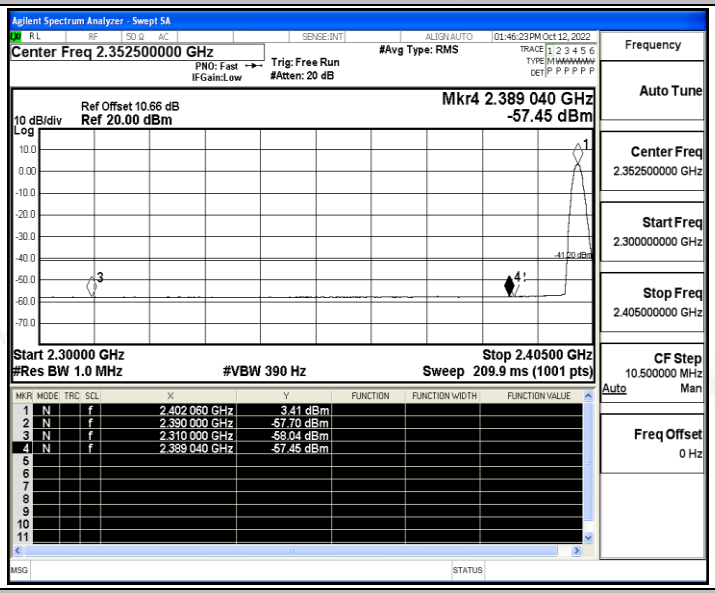
				Peak	2500.000	-49.23	≤-21.20	45.97	≤74	PASS

Note：

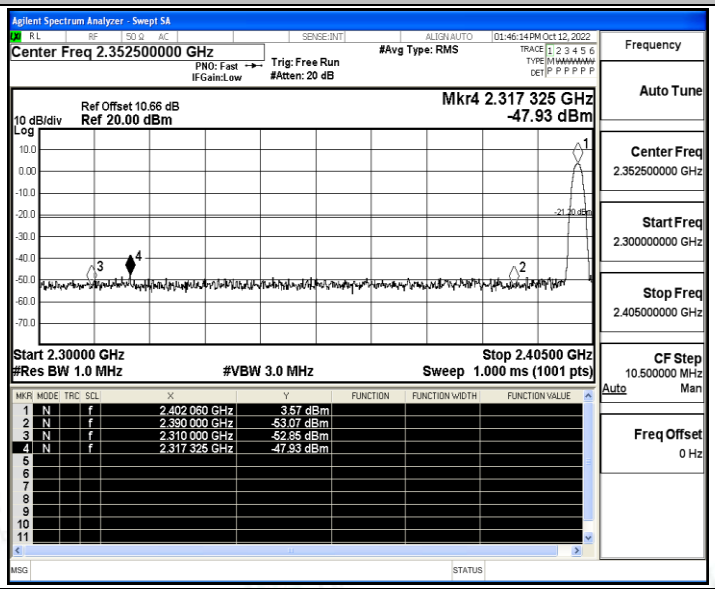
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

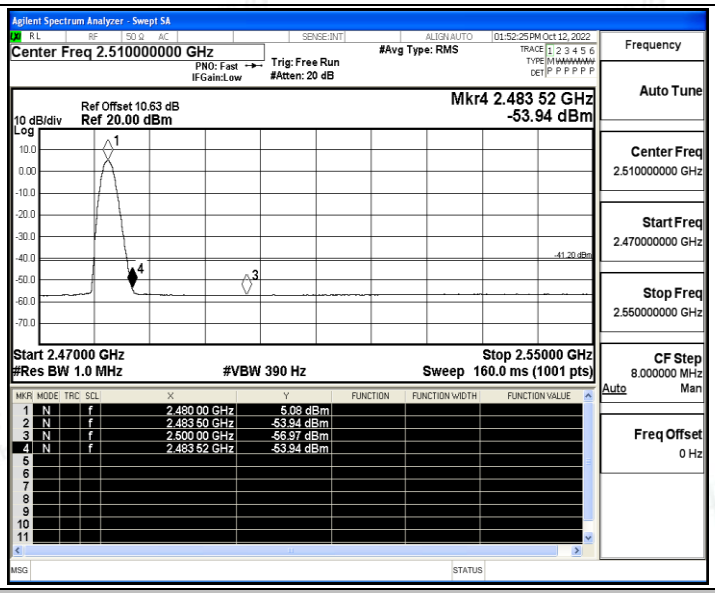
DH5_Ant_Low_2402_AV



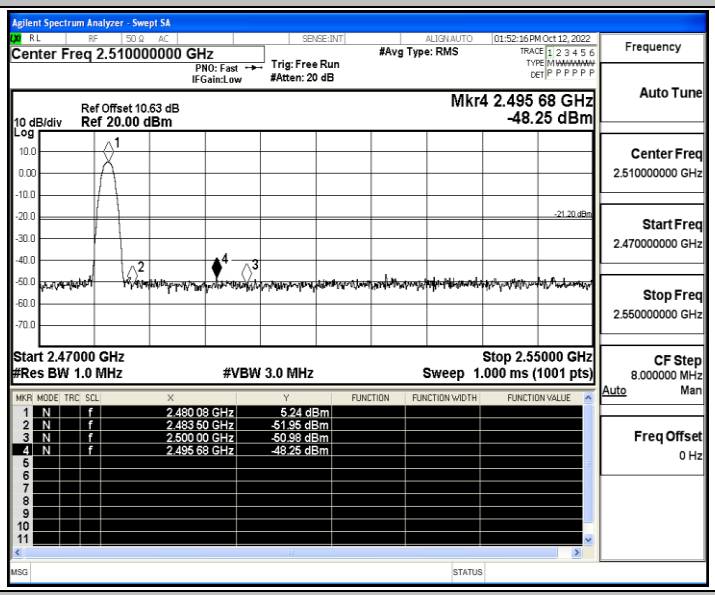
DH5_Ant_Low_2402_Peak



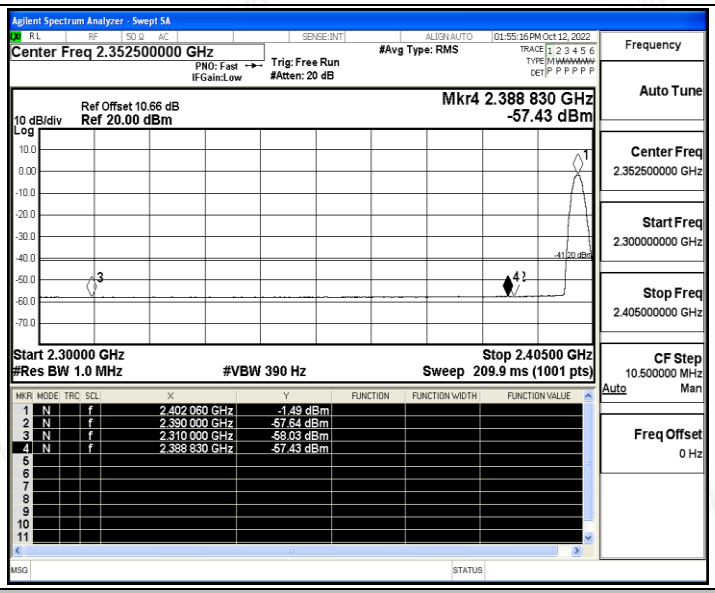
DH5_Ant_High_2480_AV



DH5_Ant_High_2480_Peak



2DH5_Ant_Low_2402_AV



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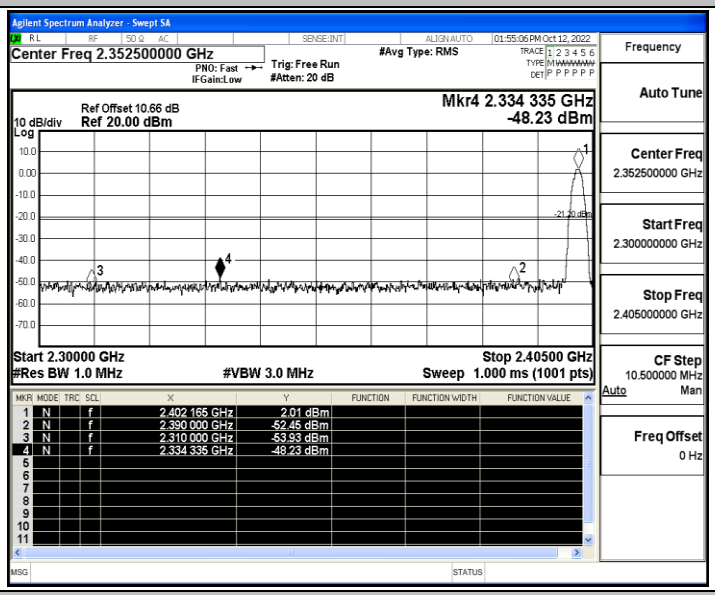

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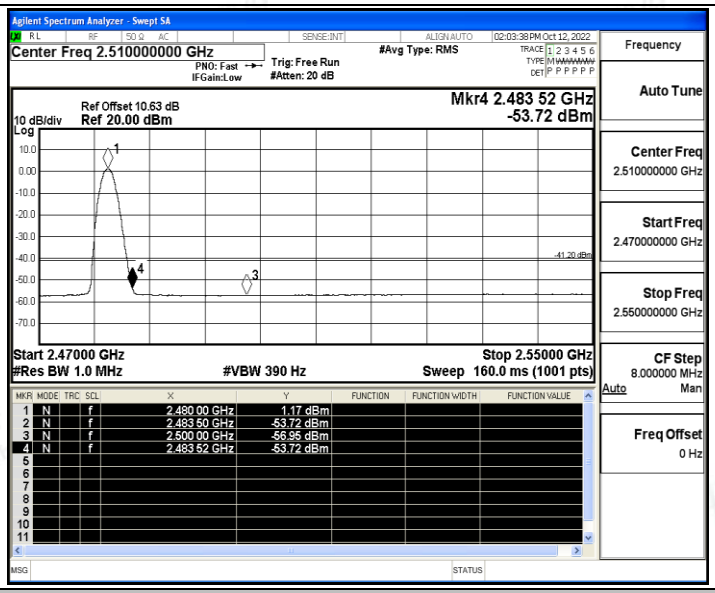

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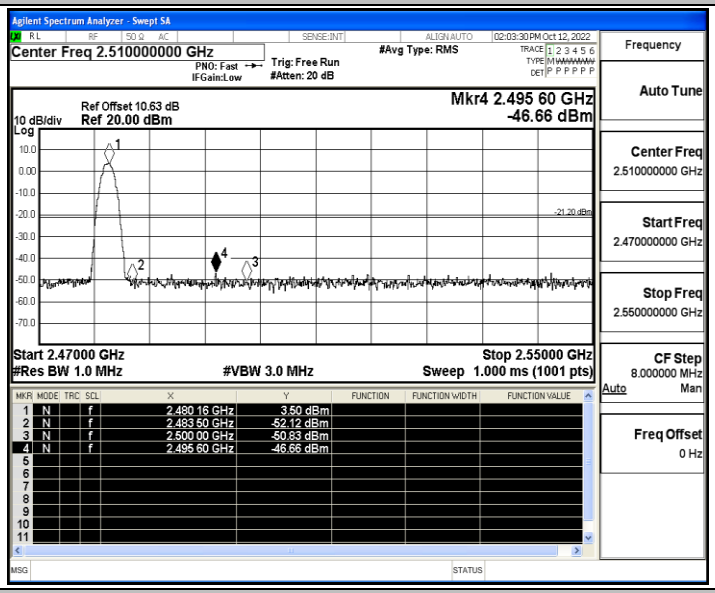
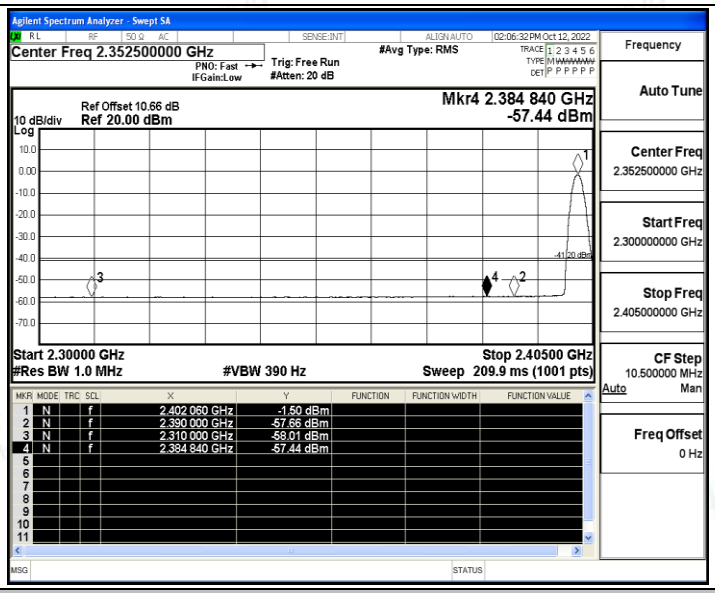


3DH5_Ant_Low_2402_AV



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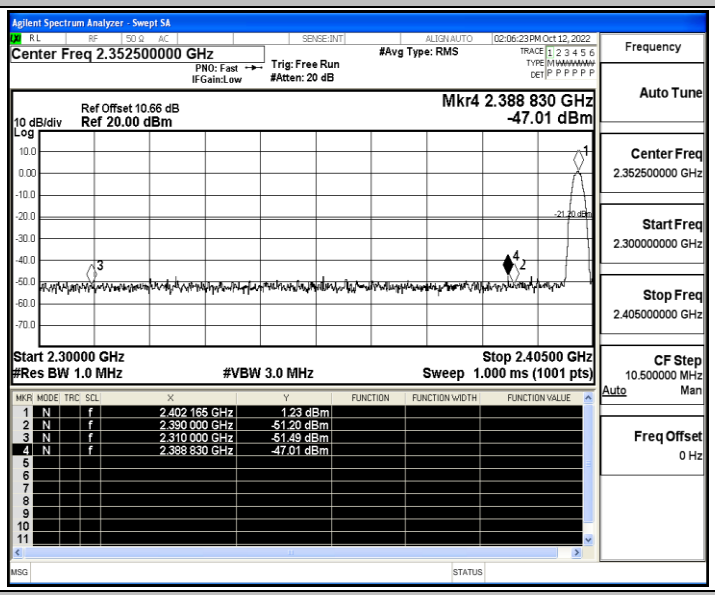
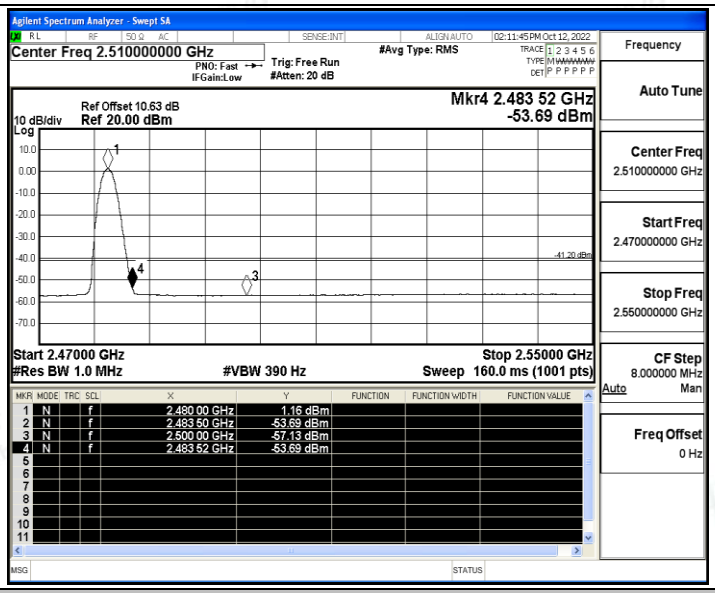
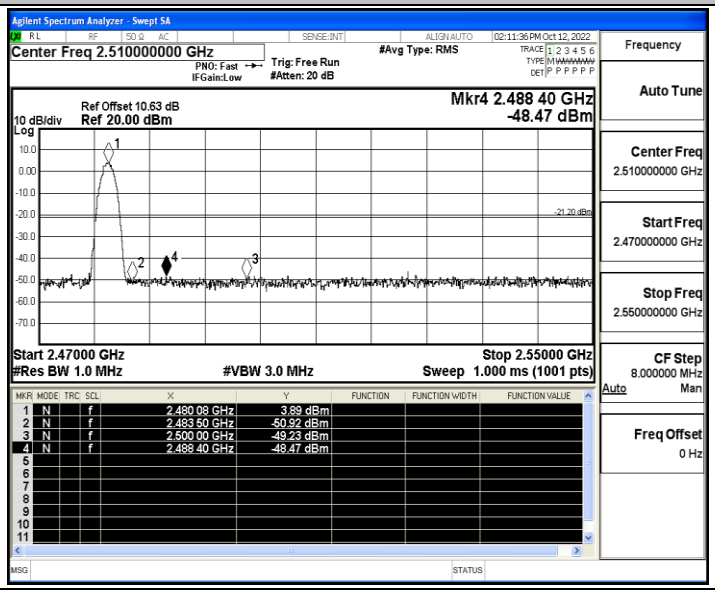


3DH5_Ant_High_2480_AV



3DH5_Ant_High_2480_Peak