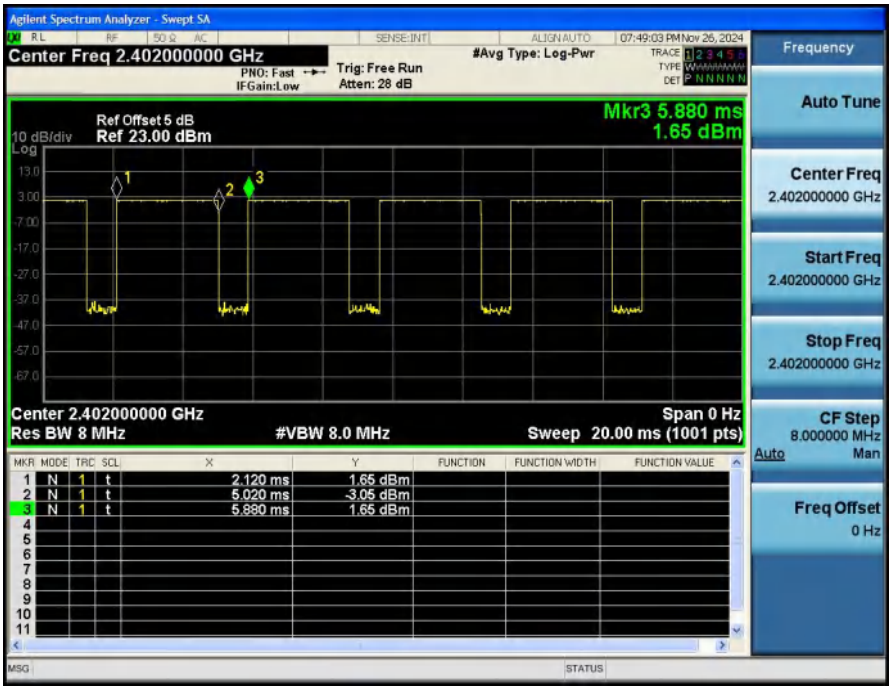
Appendix Test Data

Report No.:	1812C40147812501	Test Sample No.:	1-2-2
Start Test Date:	2024.11.21	Finish Test Date:	2025.3.25
Test Engineer:	Jokes Huang	Auditor:	Justin Feng
Temperature:	21.3℃	Relative Humidity:	40%
Pressure:	101kPa		

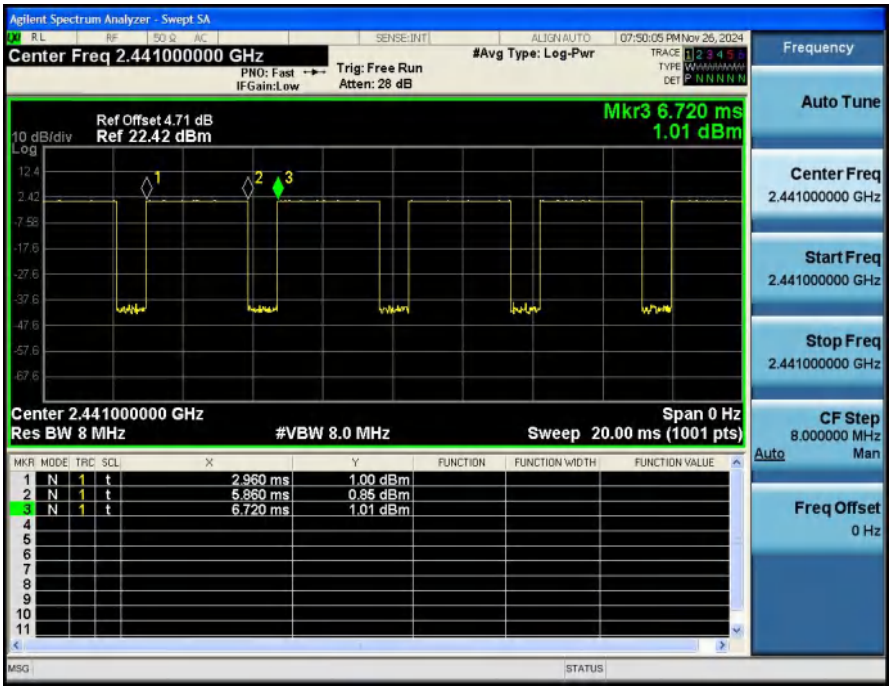
Appendix A: Duty Cycle

Condition	Antenna	Rate	Frequency (MHz)	Dutycycle(%)	Duty_factor
NVNT	ANT1	1-DH5	2402.00	77.66	1.10
NVNT	ANT1	1-DH5	2441.00	77.66	1.10
NVNT	ANT1	1-DH5	2480.00	77.54	1.10
NVNT	ANT1	2-DH5	2402.00	77.13	1.13
NVNT	ANT1	2-DH5	2441.00	77.66	1.10
NVNT	ANT1	2-DH5	2480.00	77.54	1.10
NVNT	ANT1	3-DH5	2402.00	78.07	1.07
NVNT	ANT1	3-DH5	2441.00	77.66	1.10
NVNT	ANT1	3-DH5	2480.00	77.66	1.10

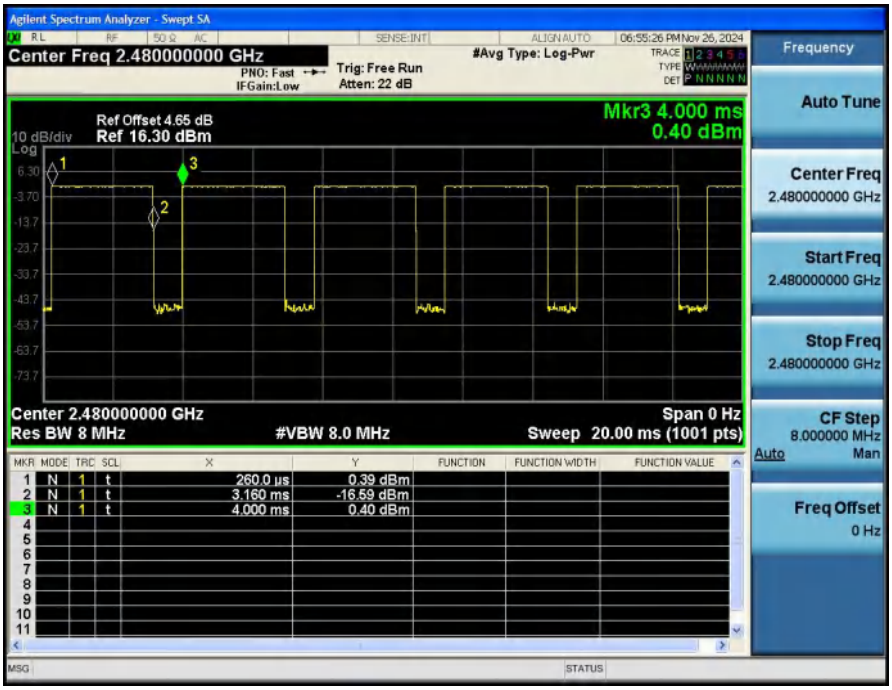
Duty_Cycle_NVNT_ANT1_1-DH5_2402



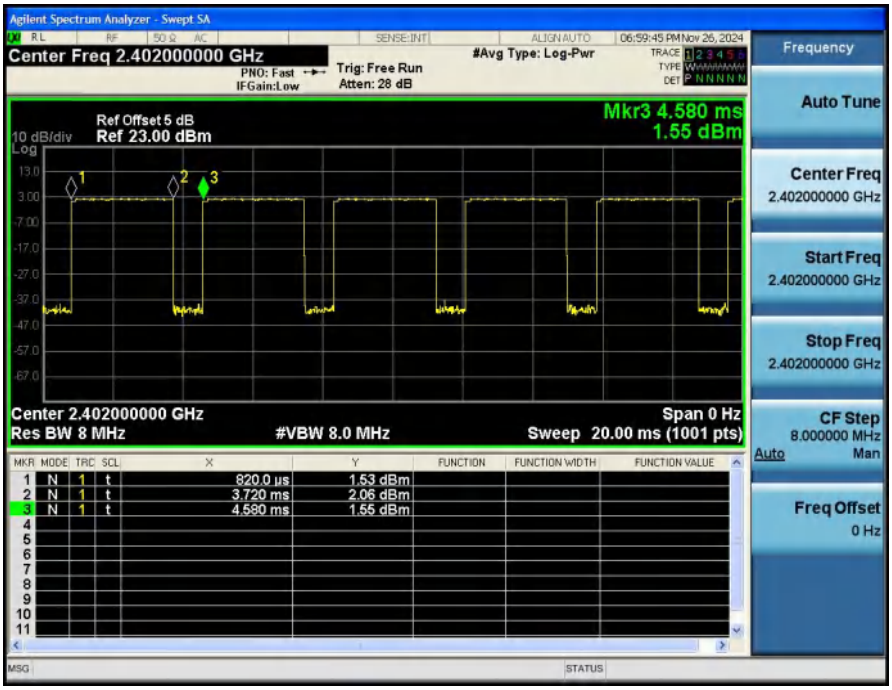
Duty_Cycle_NVNT_ANT1_1-DH5_2441



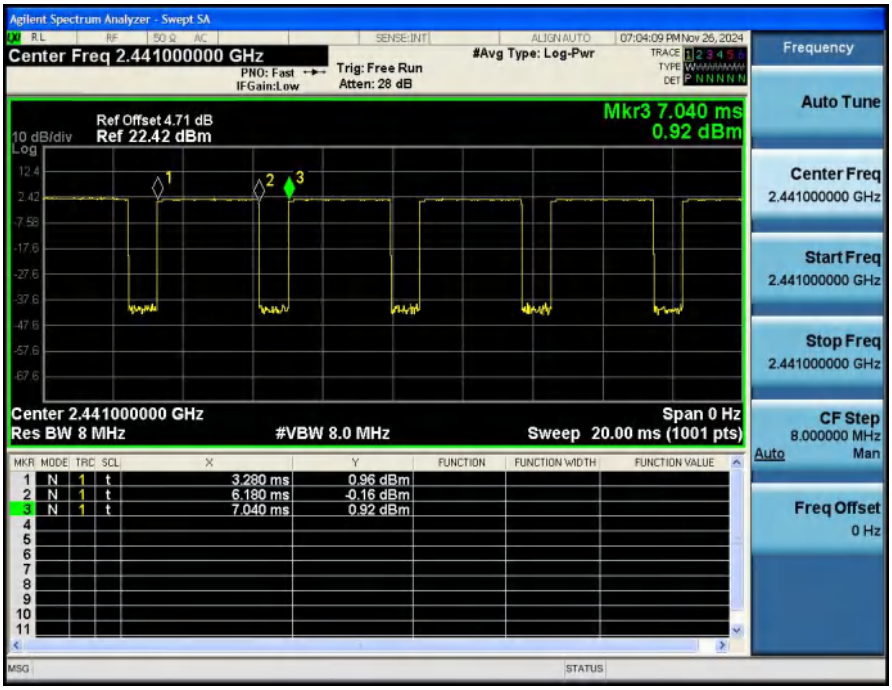
Duty_Cycle_NVNT_ANT1_1-DH5_2480



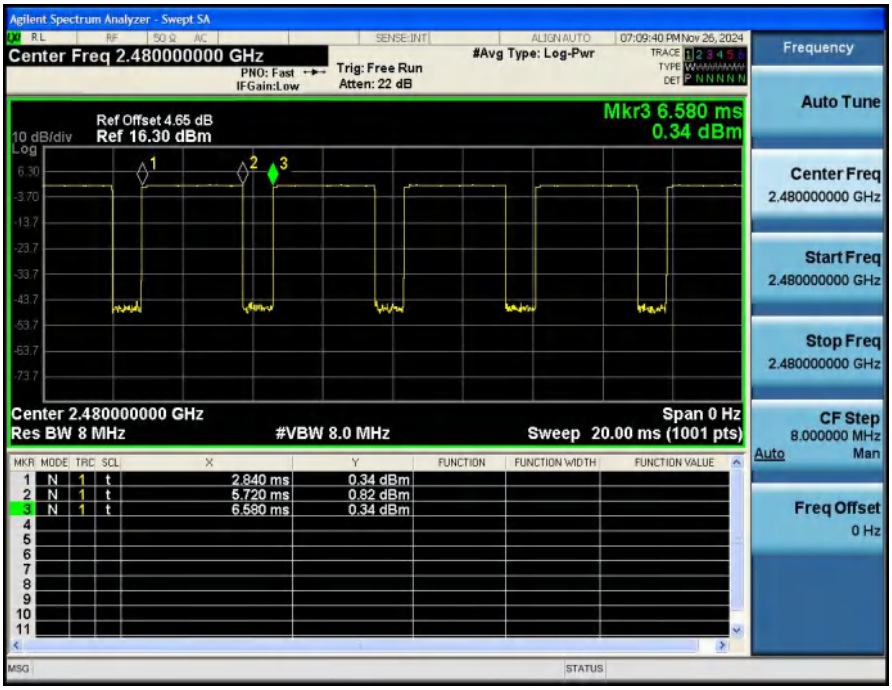
Duty_Cycle_NVNT_ANT1_2-DH5_2402



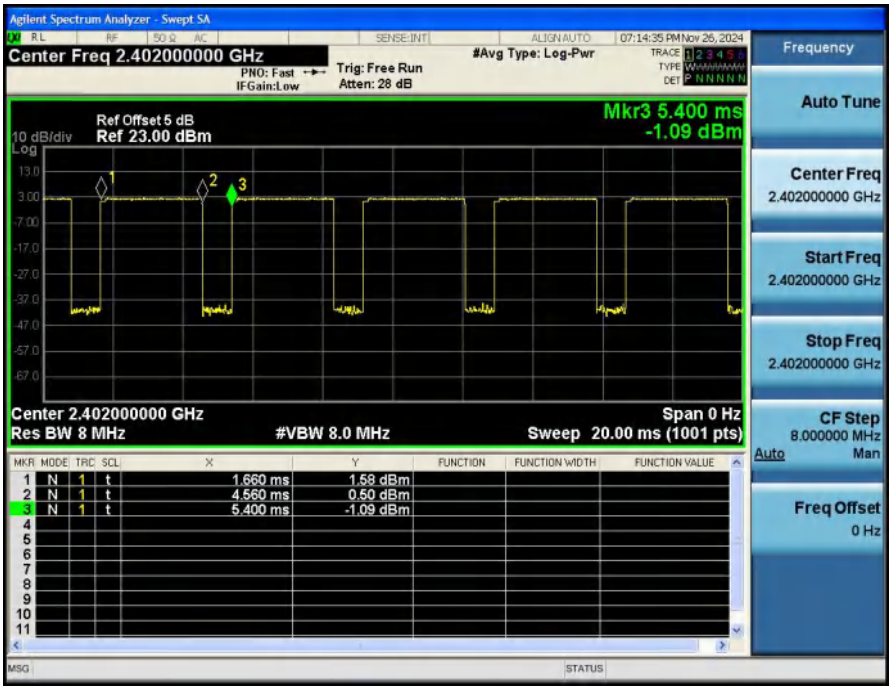
Duty_Cycle_NVNT_ANT1_2-DH5_2441



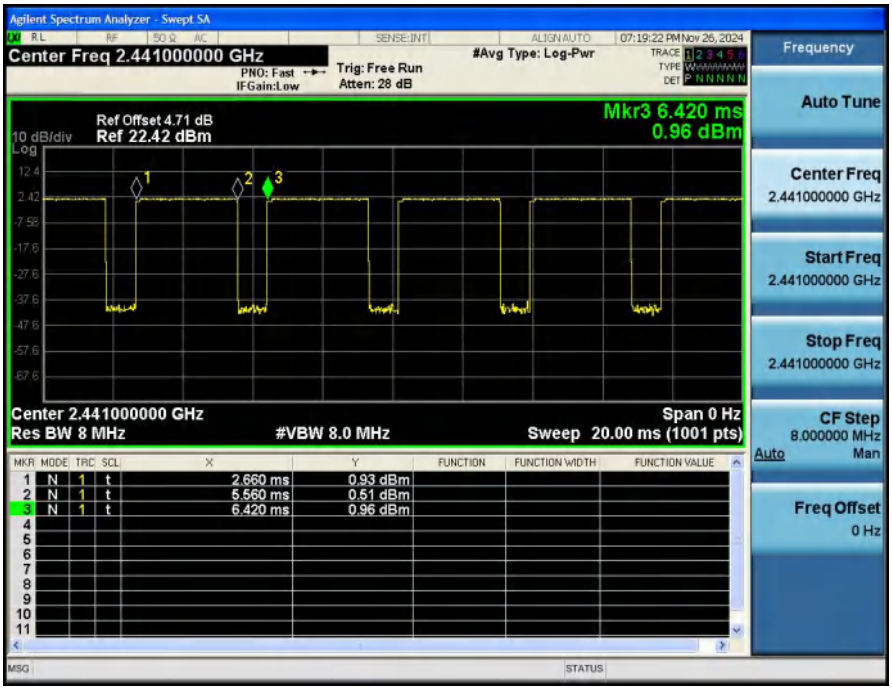
Duty_Cycle_NVNT_ANT1_2-DH5_2480



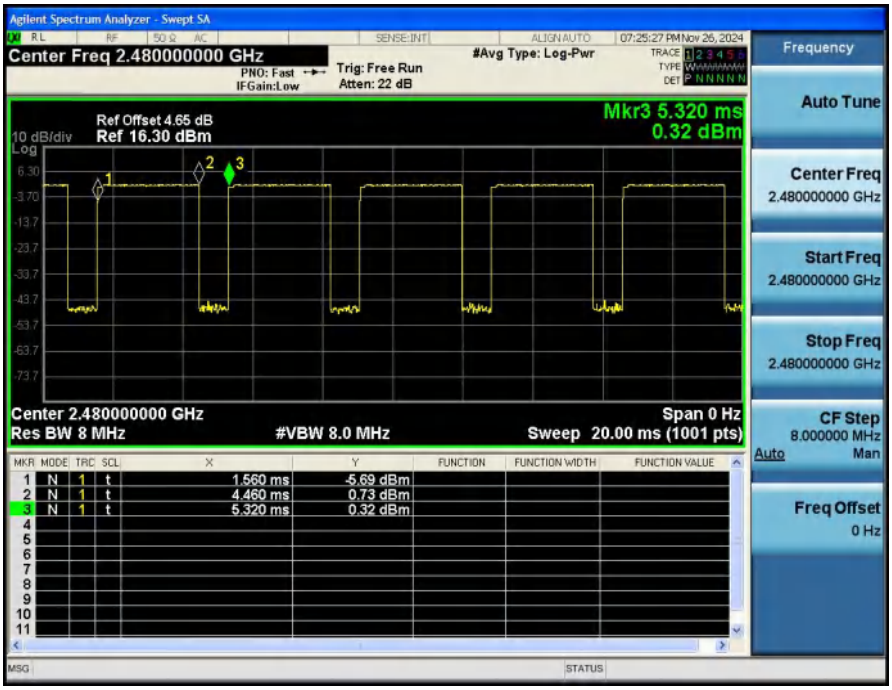
Duty_Cycle_NVNT_ANT1_3-DH5_2402



Duty_Cycle_NVNT_ANT1_3-DH5_2441



Duty_Cycle_NVNT_ANT1_3-DH5_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 22 dB
#Avg Type: Log-Pwr
07:25:27 PM Nov 26, 2024
Ref Offset 4.65 dB
10 dB/div
Ref 16.30 dBm
Log
Mkr3 5.320 ms
0.32 dBm
Center 2.480000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 20.00 ms (1001 pts)
1 N 1 t 1.560 ms -5.69 dBm
2 N 1 t 4.460 ms 0.73 dBm
3 N 1 t 5.320 ms 0.32 dBm
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.480000000 GHz
Stop Freq
2.480000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz

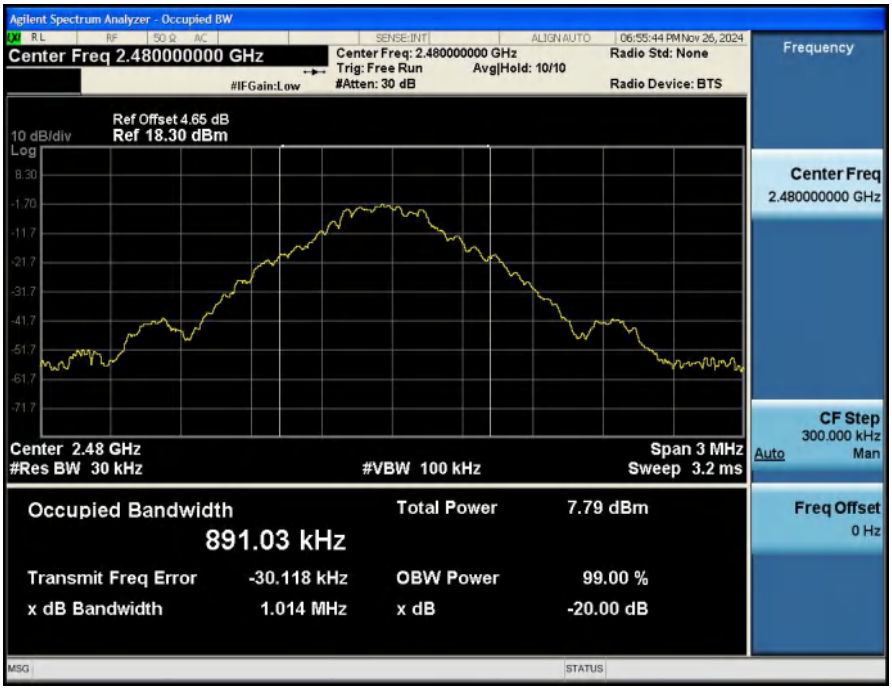
Appendix B: -20dB Bandwidth

Condition	Antenna	Modulation	Frequency (MHz)	-20dB BW(MHz)	if larger than CFS
NVNT	ANT1	1-DH5	2402.00	0.865	No
NVNT	ANT1	1-DH5	2441.00	0.871	No
NVNT	ANT1	1-DH5	2480.00	1.014	Yes
NVNT	ANT1	2-DH5	2402.00	1.286	Yes
NVNT	ANT1	2-DH5	2441.00	1.290	Yes
NVNT	ANT1	2-DH5	2480.00	1.312	Yes
NVNT	ANT1	3-DH5	2402.00	1.291	Yes
NVNT	ANT1	3-DH5	2441.00	1.299	Yes
NVNT	ANT1	3-DH5	2480.00	1.304	Yes

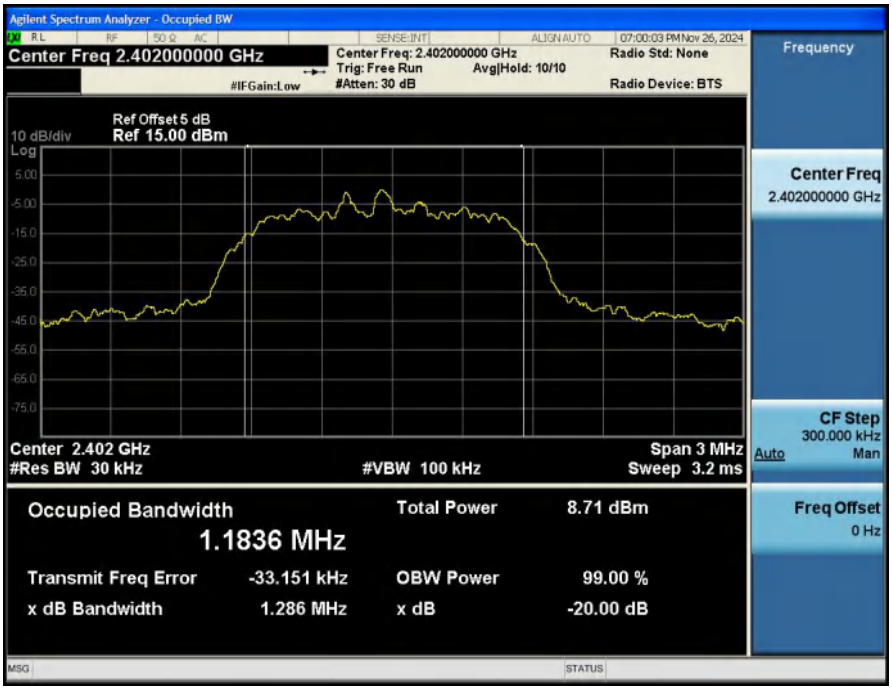
-20dB_Bandwidth_NVNT_ANT1_1-DH5_2402_00

-20dB_Bandwidth_NVNT_ANT1_1-DH5_2441_00

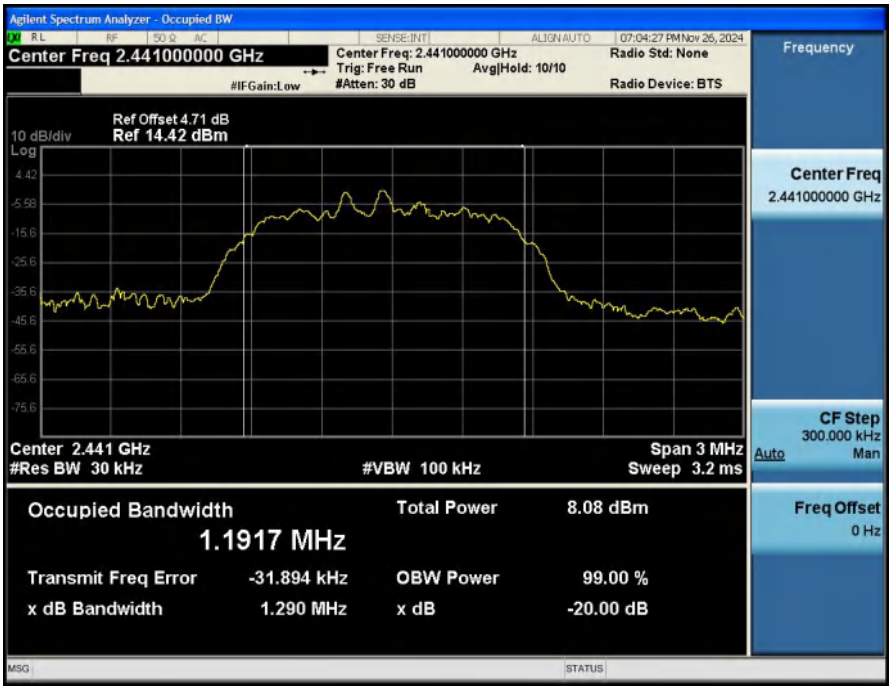
-20dB_Bandwidth_NVNT_ANT1_1-DH5_2480_00



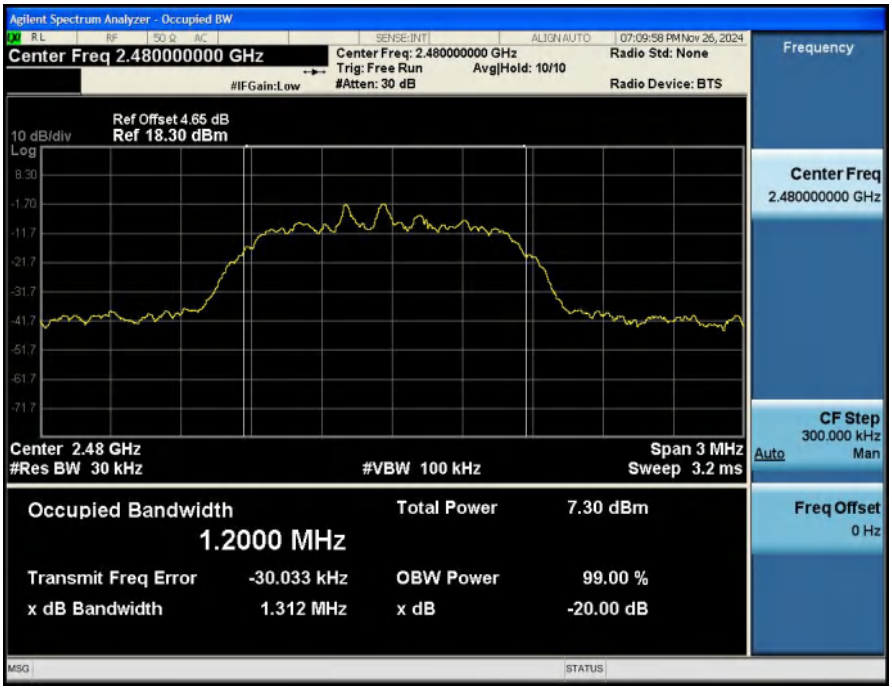
-20dB_Bandwidth_NVNT_ANT1_2-DH5_2402_00



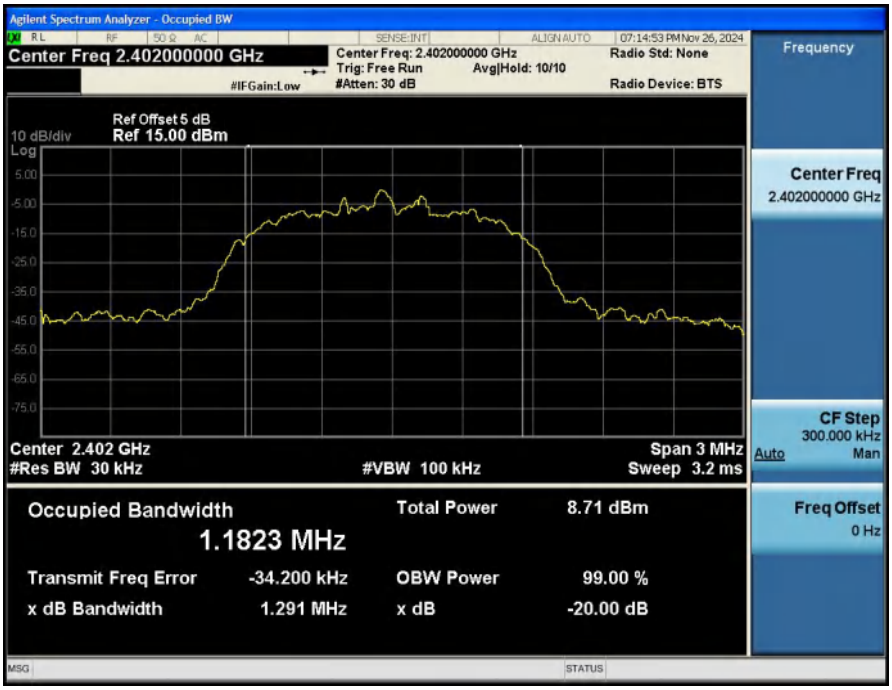
-20dB_Bandwidth_NVNT_ANT1_2-DH5_2441_00



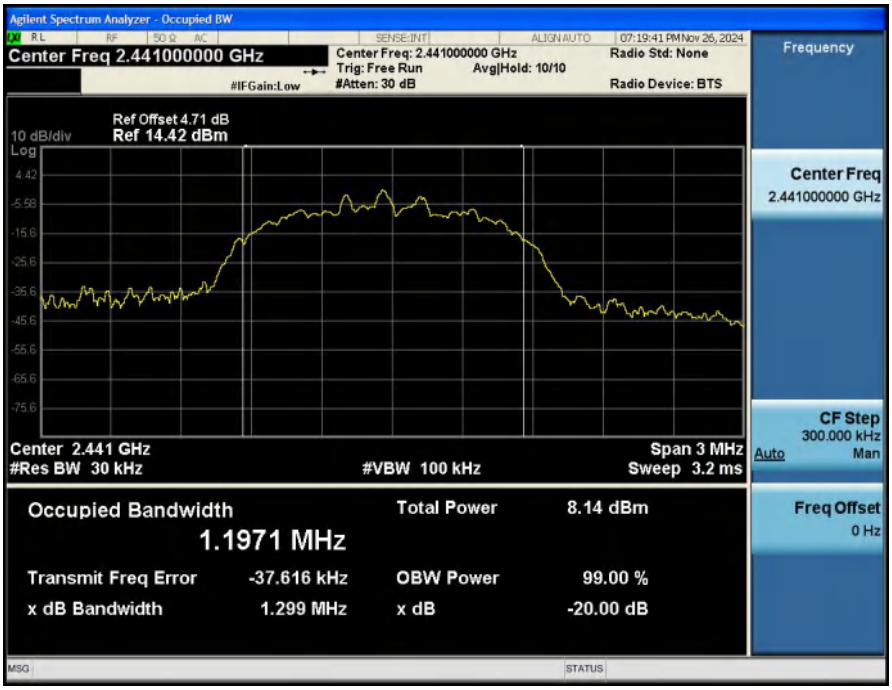
-20dB_Bandwidth_NVNT_ANT1_2-DH5_2480_00



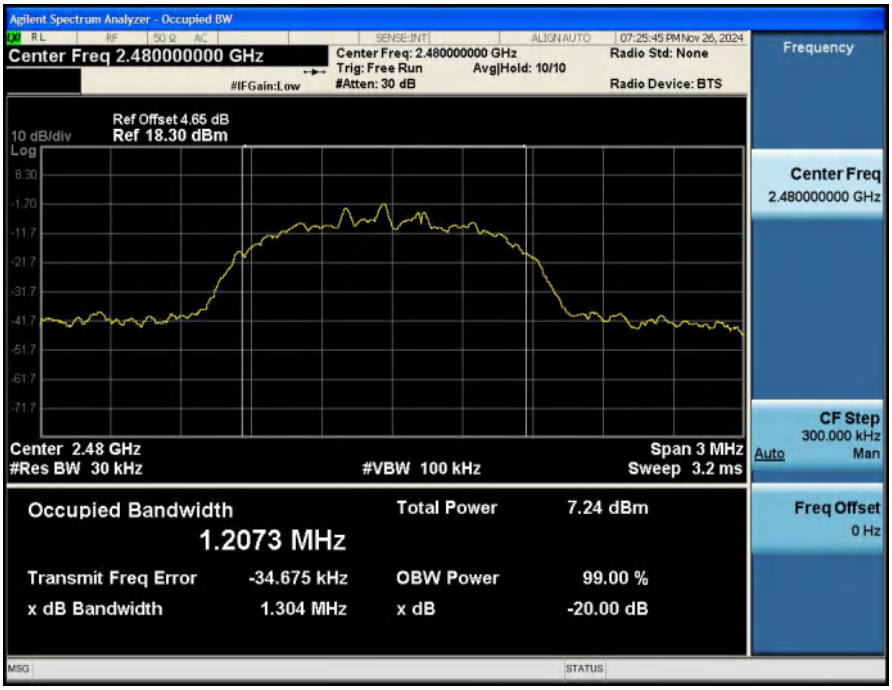
-20dB_Bandwidth_NVNT_ANT1_3-DH5_2402_00



-20dB_Bandwidth_NVNT_ANT1_3-DH5_2441_00



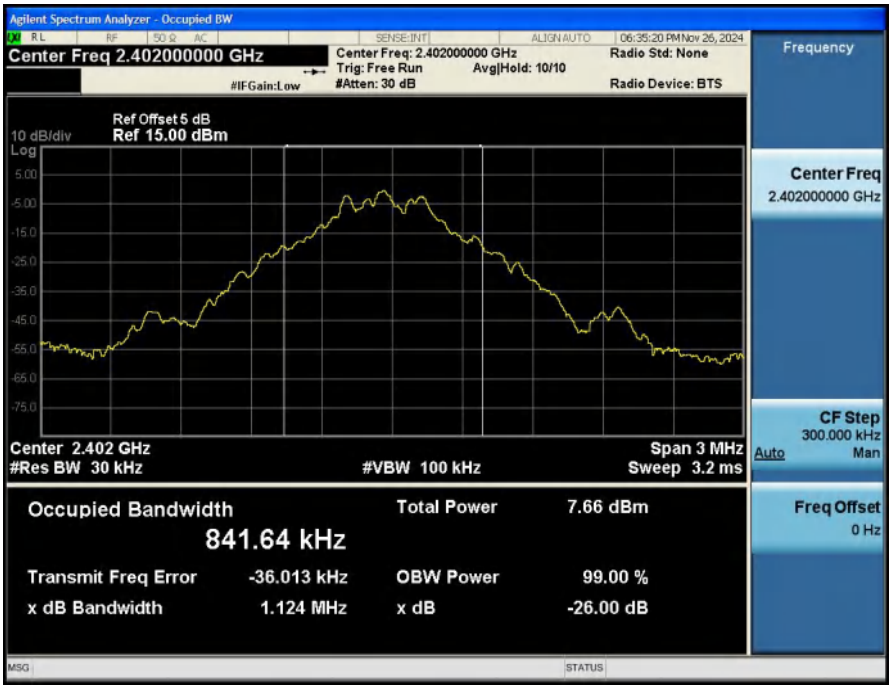
-20dB_Bandwidth_NVNT_ANT1_3-DH5_2480_00



Appendix C: 99% Occupied Bandwidth

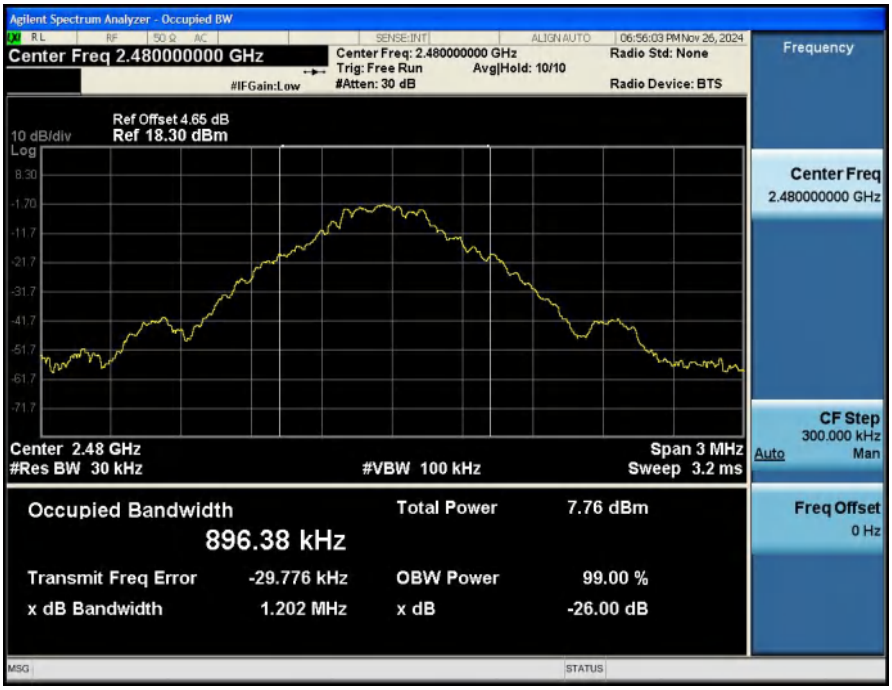
Condition	Antenna	Modulation	Frequency (MHz)	99%%BW(MHz)
NVNT	ANT1	1-DH5	2402.00	0.842
NVNT	ANT1	1-DH5	2441.00	0.853
NVNT	ANT1	1-DH5	2480.00	0.896
NVNT	ANT1	2-DH5	2402.00	1.180
NVNT	ANT1	2-DH5	2441.00	1.195
NVNT	ANT1	2-DH5	2480.00	1.200
NVNT	ANT1	3-DH5	2402.00	1.177
NVNT	ANT1	3-DH5	2441.00	1.202
NVNT	ANT1	3-DH5	2480.00	1.205

99%_Occupied_Bandwidth_NVNT_ANT1_1-DH5_2402_00

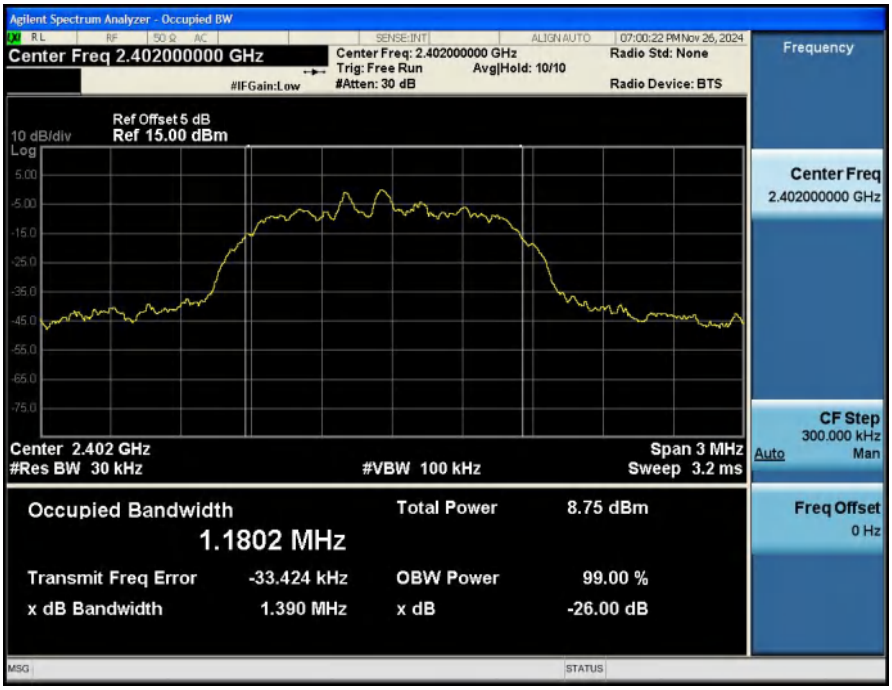


99%_Occupied_Bandwidth_NVNT_ANT1_1-DH5_2441_00

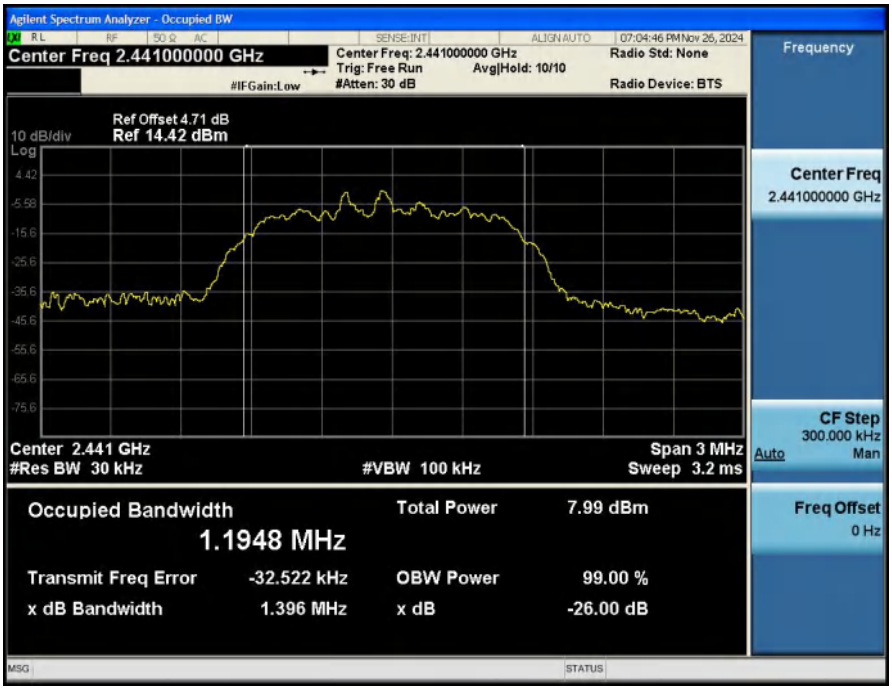
99%_Occupied_Bandwidth_NVNT_ANT1_1-DH5_2480_00



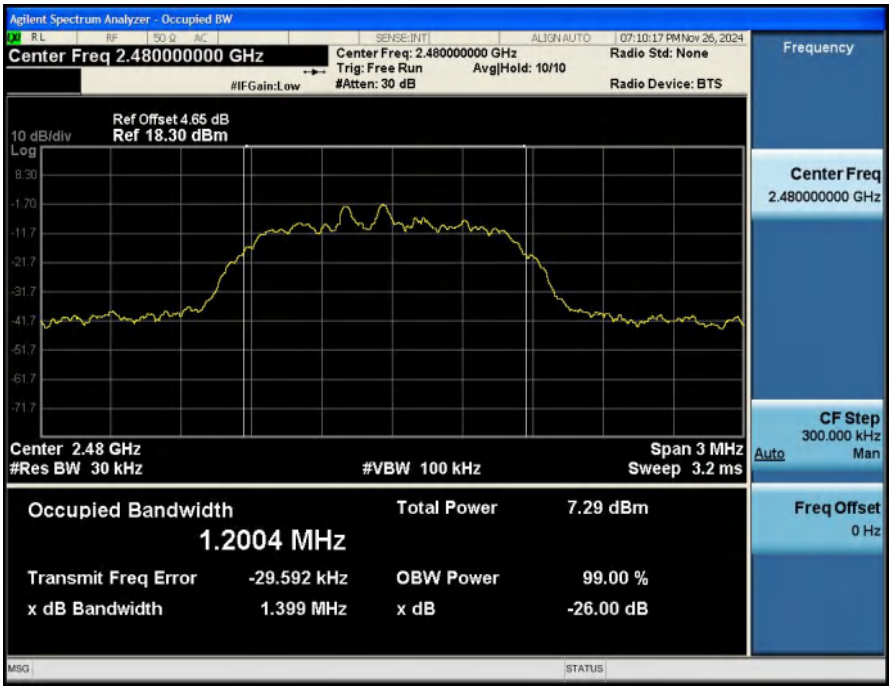
99%_Occupied_Bandwidth_NVNT_ANT1_2-DH5_2402_00



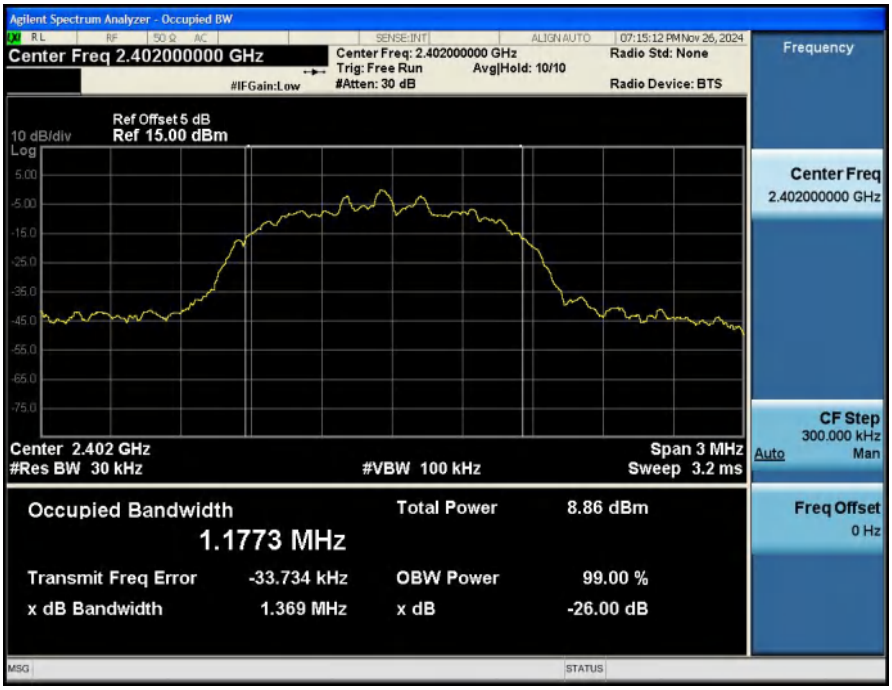
99%_Occupied_Bandwidth_NVNT_ANT1_2-DH5_2441_00



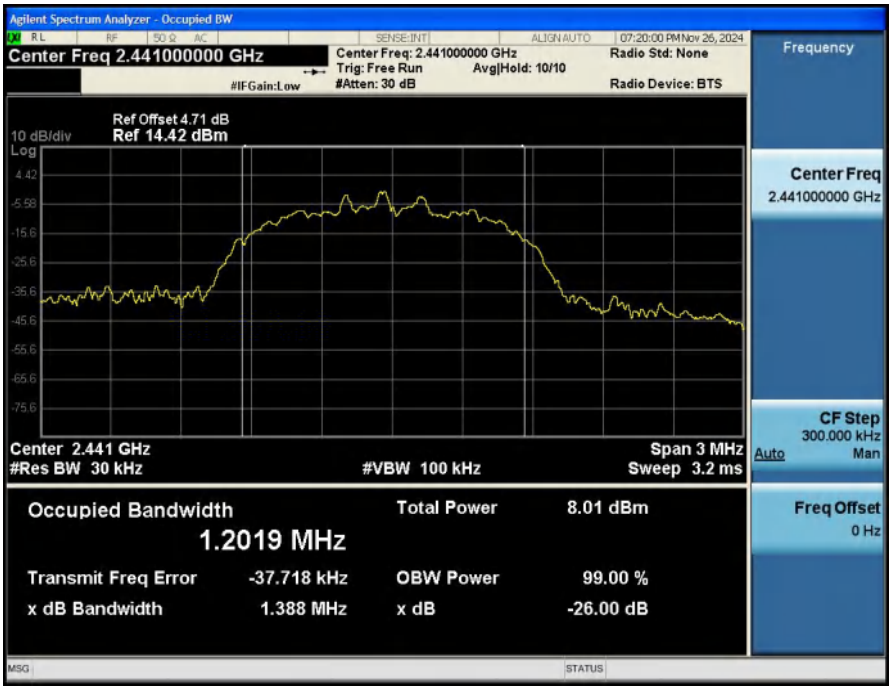
99%_Occupied_Bandwidth_NVNT_ANT1_2-DH5_2480_00



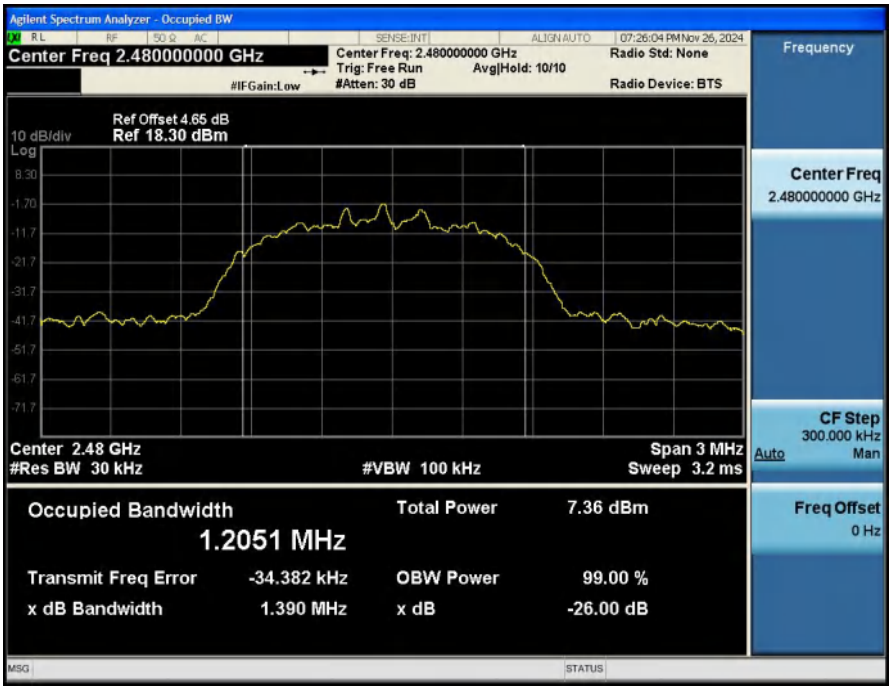
99%_Occupied_Bandwidth_NVNT_ANT1_3-DH5_2402_00



99%_Occupied_Bandwidth_NVNT_ANT1_3-DH5_2441_00



99%_Occupied_Bandwidth_NVNT_ANT1_3-DH5_2480_00



Appendix D: Peak Output Power

Condition	Antenna	Modulation	Frequency (MHz)	Max. Conducted Power(dBm)	Max. Conducted Power(mW)	Limit(mW)	Result
NVNT	ANT1	1-DH5	2402.00	1.45	1.40	125	Pass
NVNT	ANT1	1-DH5	2441.00	0.93	1.24	125	Pass
NVNT	ANT1	1-DH5	2480.00	0.35	1.08	125	Pass
NVNT	ANT1	2-DH5	2402.00	2.27	1.69	125	Pass
NVNT	ANT1	2-DH5	2441.00	1.99	1.58	125	Pass
NVNT	ANT1	2-DH5	2480.00	1.00	1.26	125	Pass
NVNT	ANT1	3-DH5	2402.00	2.60	1.82	125	Pass
NVNT	ANT1	3-DH5	2441.00	2.35	1.72	125	Pass
NVNT	ANT1	3-DH5	2480.00	1.18	1.31	125	Pass

Peak_Output_Power_NVNT_ANT1_1-DH5_2402_00

Peak_Output_Power_NVNT_ANT1_1-DH5_2441_00

Peak_Output_Power_NVNT_ANT1_1-DH5_2480_00

Peak_Output_Power_NVNT_ANT1_2-DH5_2402_00

Peak_Output_Power_NVNT_ANT1_2-DH5_2441_00

Peak_Output_Power_NVNT_ANT1_2-DH5_2480_00

Peak_Output_Power_NVNT_ANT1_3-DH5_2402_00

Peak_Output_Power_NVNT_ANT1_3-DH5_2441_00

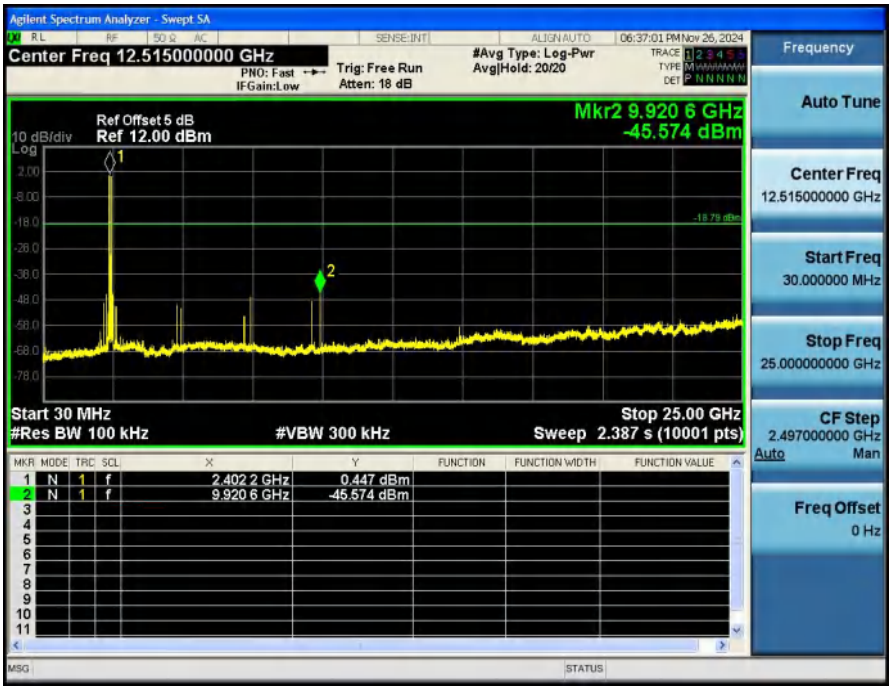
Peak_Output_Power_NVNT_ANT1_3-DH5_2480_00

Appendix E: Spurious Emissions

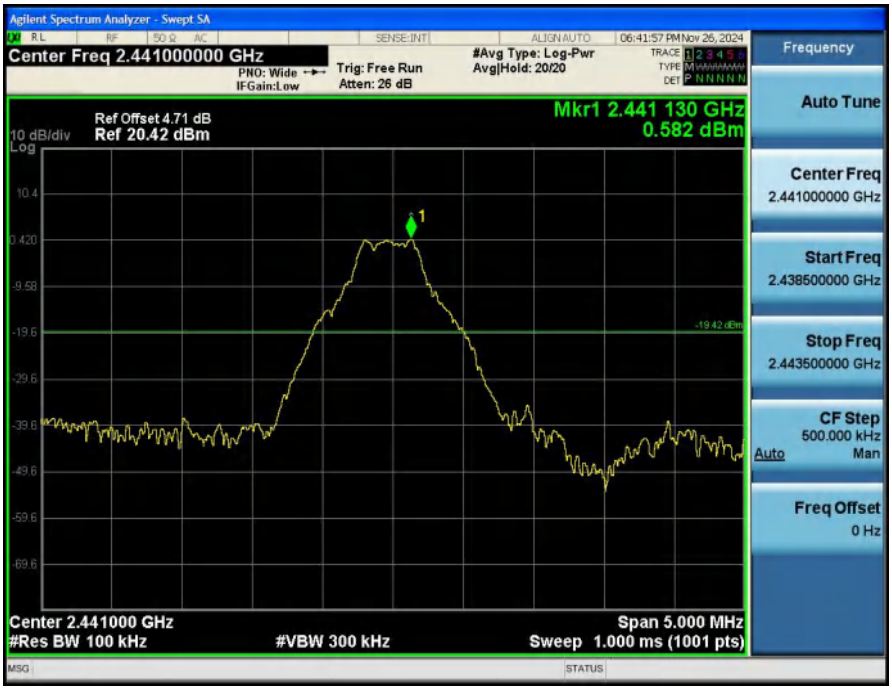
Condition	Antenna	Modulation	TX Mode	Spurious MAX.Value(dBm)	Limit	Result
NVNT	ANT1	1-DH5	2402.00	-45.574	-18.786	Pass
NVNT	ANT1	1-DH5	2441.00	-45.457	-19.418	Pass
NVNT	ANT1	1-DH5	2480.00	-46.437	-19.819	Pass
NVNT	ANT1	2-DH5	2402.00	-48.130	-18.594	Pass
NVNT	ANT1	2-DH5	2441.00	-48.242	-19.215	Pass
NVNT	ANT1	2-DH5	2480.00	-46.684	-19.790	Pass
NVNT	ANT1	3-DH5	2402.00	-47.897	-18.720	Pass
NVNT	ANT1	3-DH5	2441.00	-48.360	-19.194	Pass
NVNT	ANT1	3-DH5	2480.00	-47.125	-19.829	Pass

1_Reference_Level_NVNT_ANT1_1-DH5_2402_00

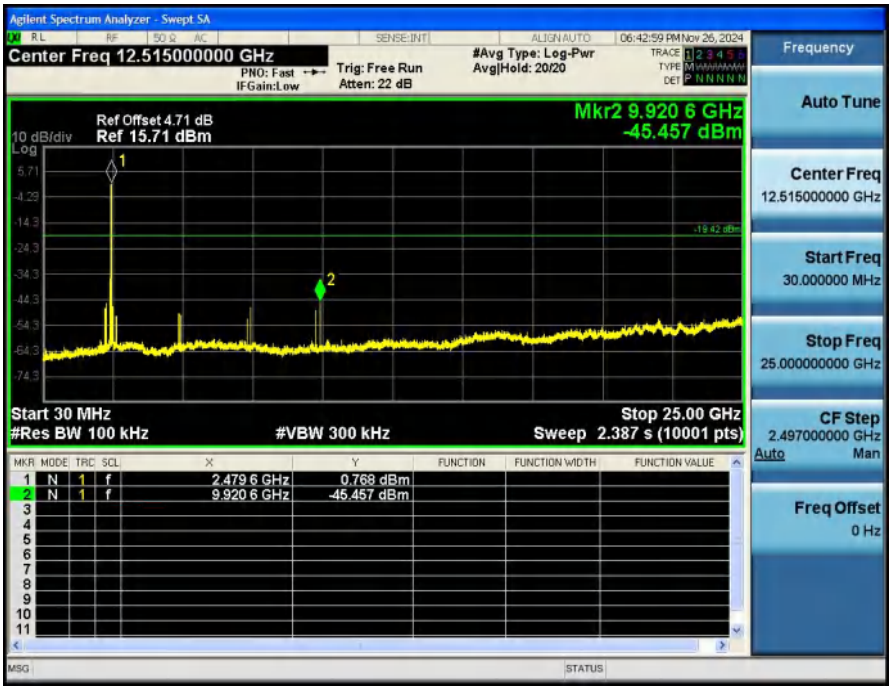
2_Spurious_Emissions_NVNT_ANT1_1-DH5_2402_00



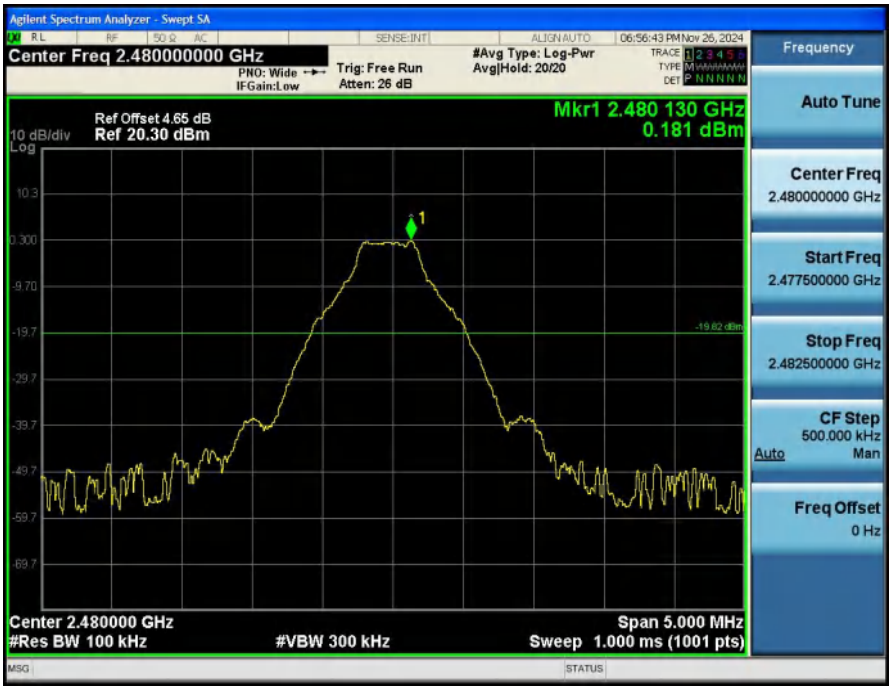
1_Reference_Level_NVNT_ANT1_1-DH5_2441_00



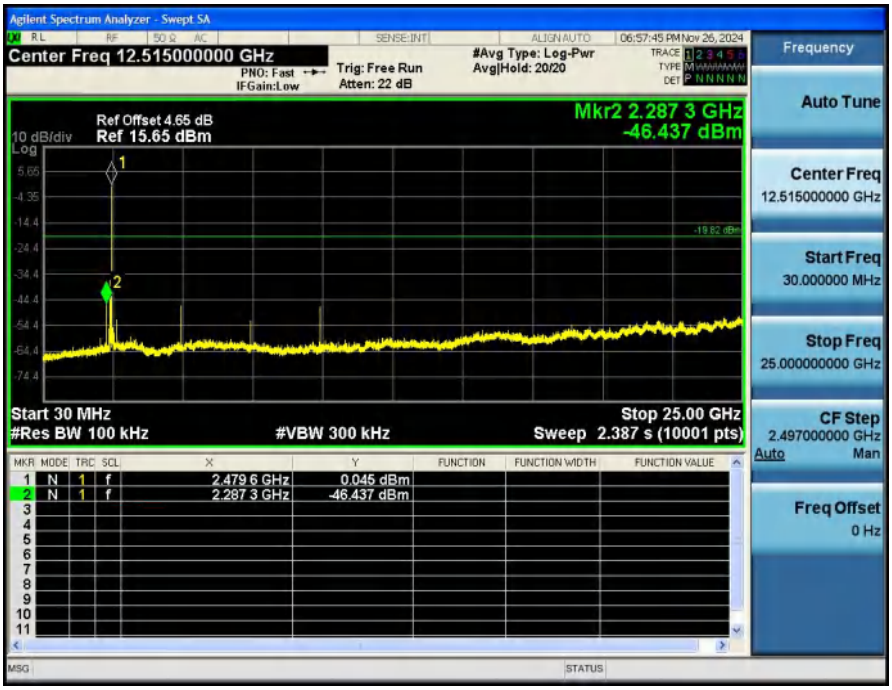
2_Spurious_Emissions_NVNT_ANT1_1-DH5_2441_00



1_Reference_Level_NVNT_ANT1_1-DH5_2480_00

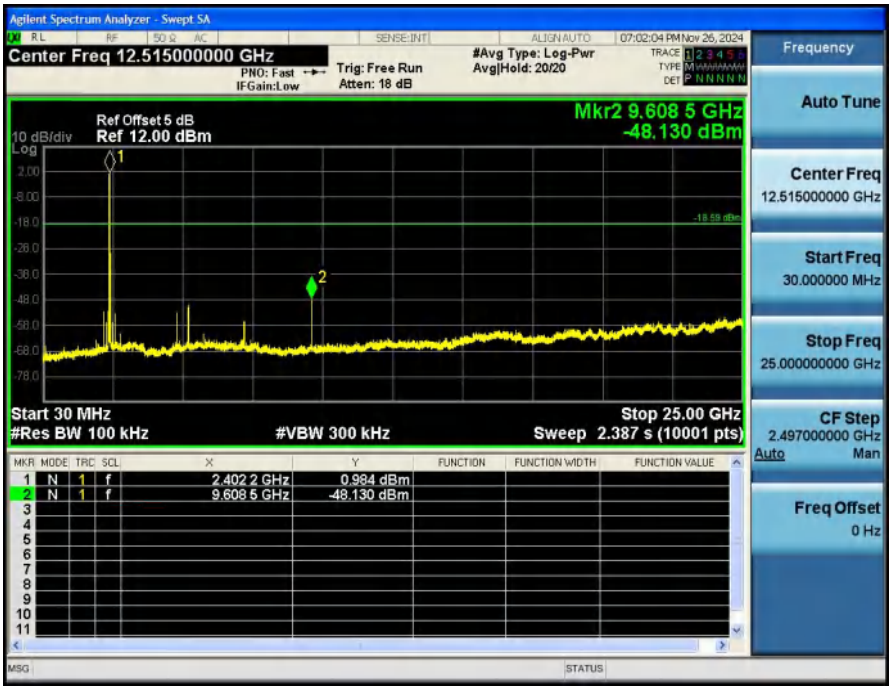


2_Spurious_Emissions_NVNT_ANT1_1-DH5_2480_00



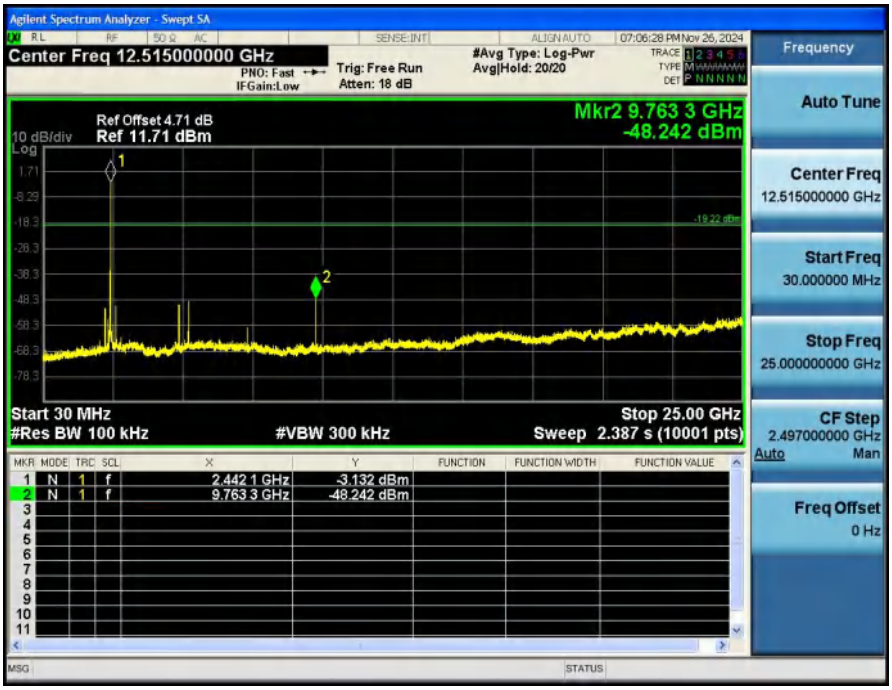
1_Reference_Level_NVNT_ANT1_2-DH5_2402_00

2_Spurious_Emissions_NVNT_ANT1_2-DH5_2402_00



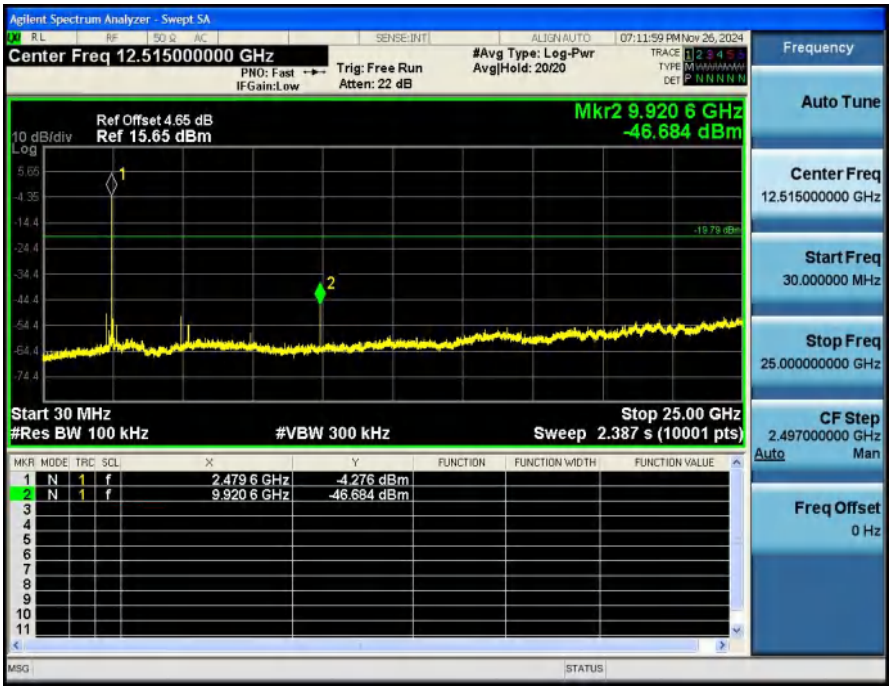
1_Reference_Level_NVNT_ANT1_2-DH5_2441_00

2_Spurious_Emissions_NVNT_ANT1_2-DH5_2441_00



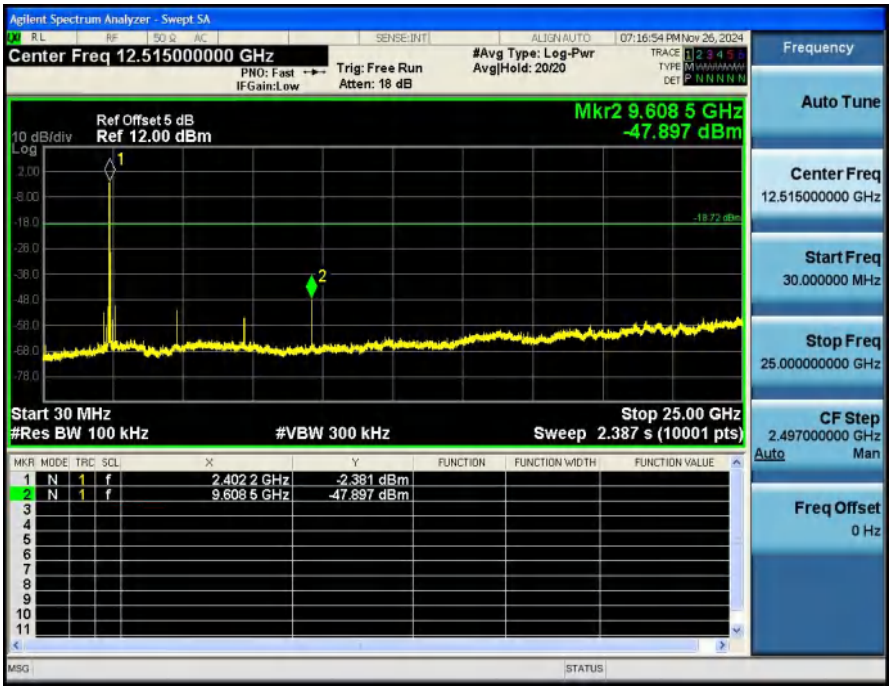
1_Reference_Level_NVNT_ANT1_2-DH5_2480_00

2_Spurious_Emissions_NVNT_ANT1_2-DH5_2480_00



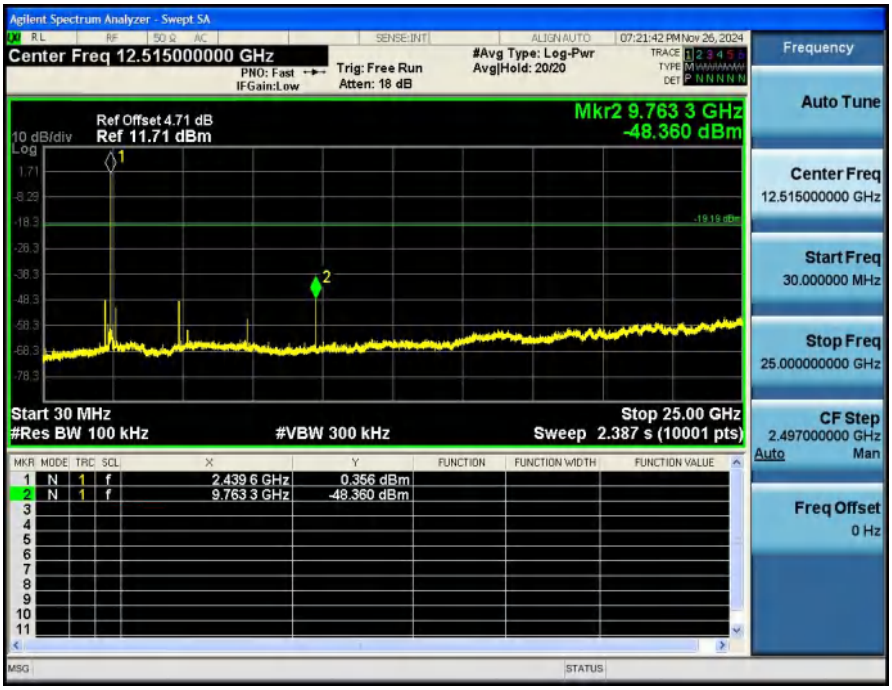
1_Reference_Level_NVNT_ANT1_3-DH5_2402_00

2_Spurious_Emissions_NVNT_ANT1_3-DH5_2402_00



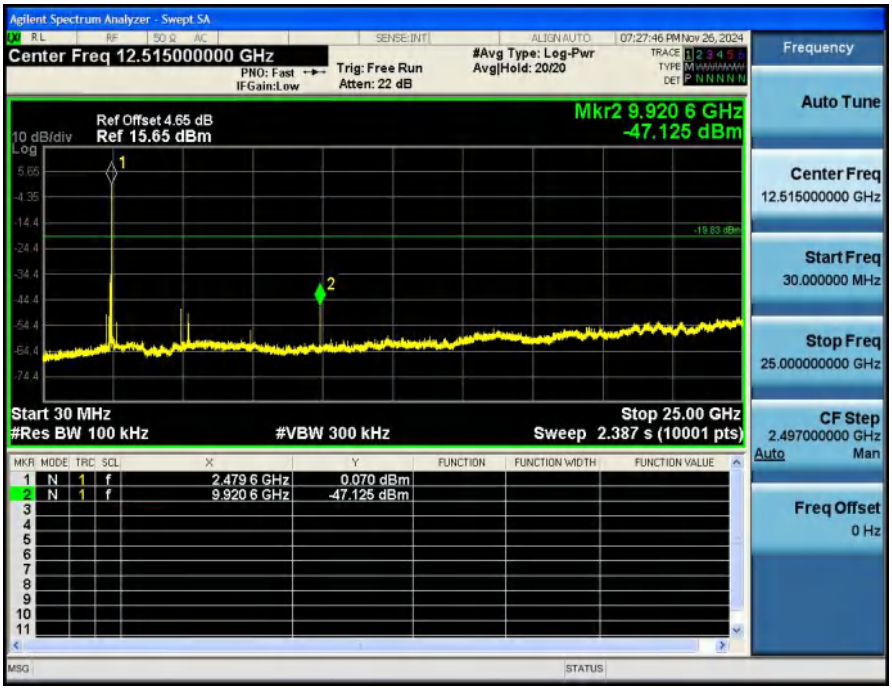
1_Reference_Level_NVNT_ANT1_3-DH5_2441_00

2_Spurious_Emissions_NVNT_ANT1_3-DH5_2441_00



1_Reference_Level_NVNT_ANT1_3-DH5_2480_00

2_Spurious_Emissions_NVNT_ANT1_3-DH5_2480_00

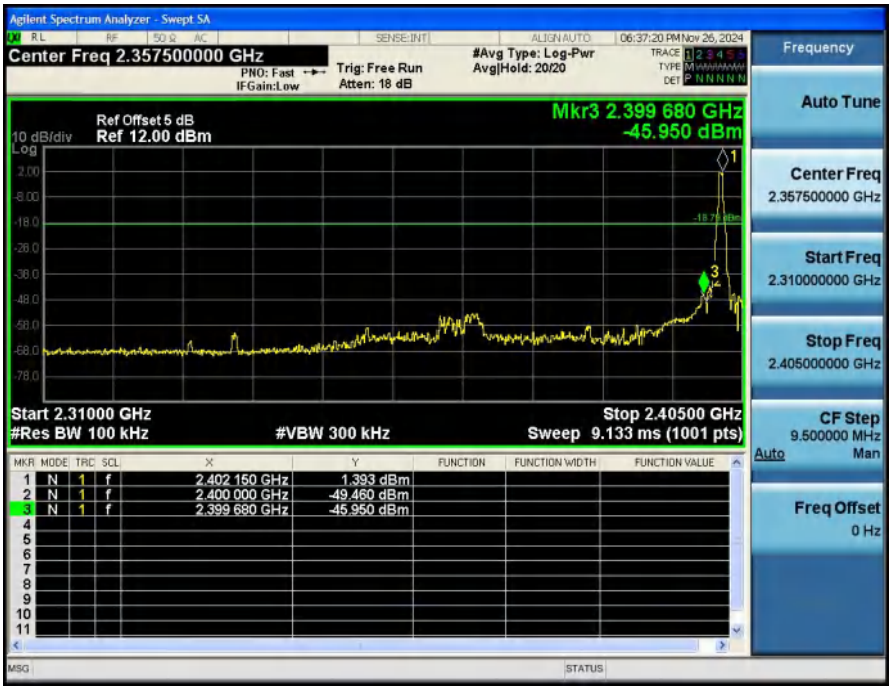

Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 22 dB
#Avg Type: Log-Pwr
Avg|Hold: 20/20
07:27:46 PM Nov 26, 2024
Ref Offset 4.65 dB
10 dB/div
Log
Ref 15.65 dBm
Mkr2 9.920 6 GHz
-47.125 dBm
-19.83 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.387 s (10001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.479 6 GHz 0.070 dBm
2 N 1 f 9.920 6 GHz -47.125 dBm
Frequency
Auto Tune
Center Freq
12.515000000 GHz
Start Freq
30.000000 MHz
Stop Freq
25.000000000 GHz
CF Step
2.497000000 GHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

Appendix F: Bandedge

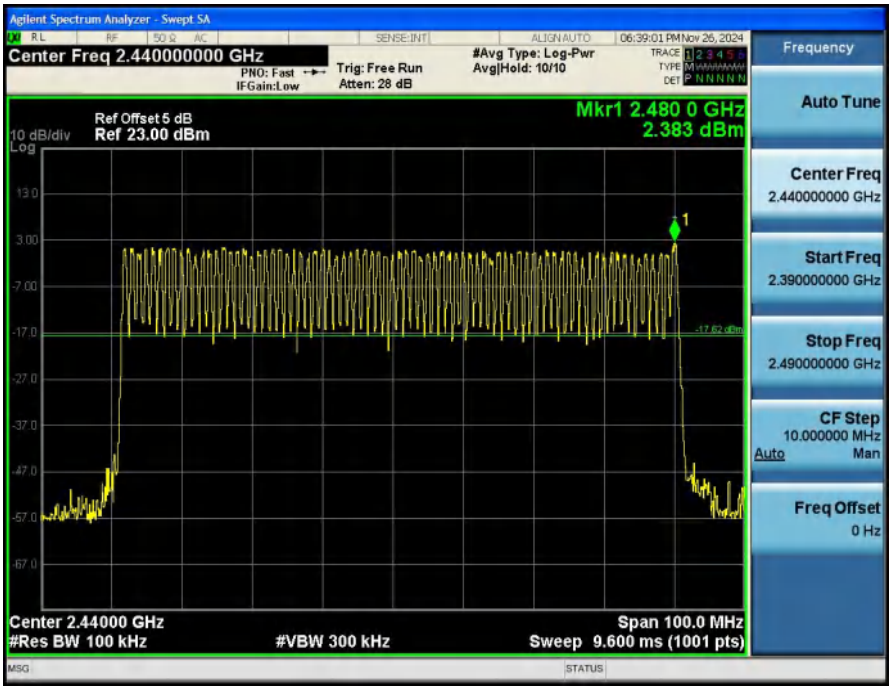
Condition	Antenna	Modulation	TX Mode	Bandedge MAX.Value	Limit	Result
NVNT	ANT1	1-DH5	2402.00	-45.950	-18.786	Pass
NVNT	ANT1	1-DH5	Hopping_LCH	-46.467	-17.617	Pass
NVNT	ANT1	1-DH5	2480.00	-58.284	-19.819	Pass
NVNT	ANT1	1-DH5	Hopping_HCH	-49.600	-19.258	Pass
NVNT	ANT1	2-DH5	2402.00	-51.935	-18.594	Pass
NVNT	ANT1	2-DH5	Hopping_LCH	-49.523	-18.547	Pass
NVNT	ANT1	2-DH5	2480.00	-58.576	-19.790	Pass
NVNT	ANT1	2-DH5	Hopping_HCH	-48.979	-18.899	Pass
NVNT	ANT1	3-DH5	2402.00	-51.057	-18.720	Pass
NVNT	ANT1	3-DH5	Hopping_LCH	-57.832	-18.581	Pass
NVNT	ANT1	3-DH5	2480.00	-59.627	-19.829	Pass
NVNT	ANT1	3-DH5	Hopping_HCH	-46.553	-19.068	Pass

1_Reference_Level_NVNT_ANT1_1-DH5_2402_00

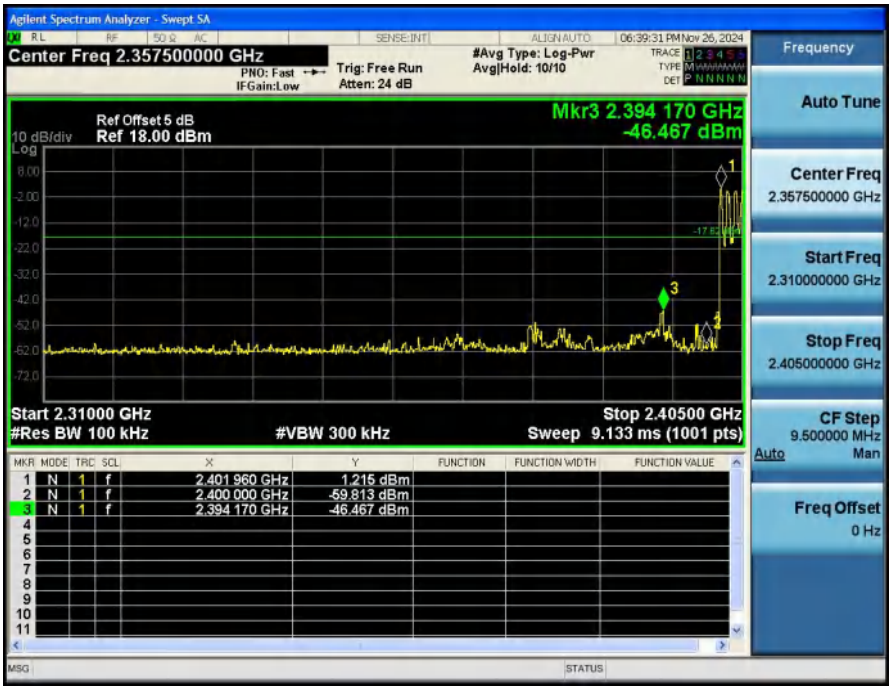
2_Bandedge_NVNT_ANT1_1-DH5_2402_00



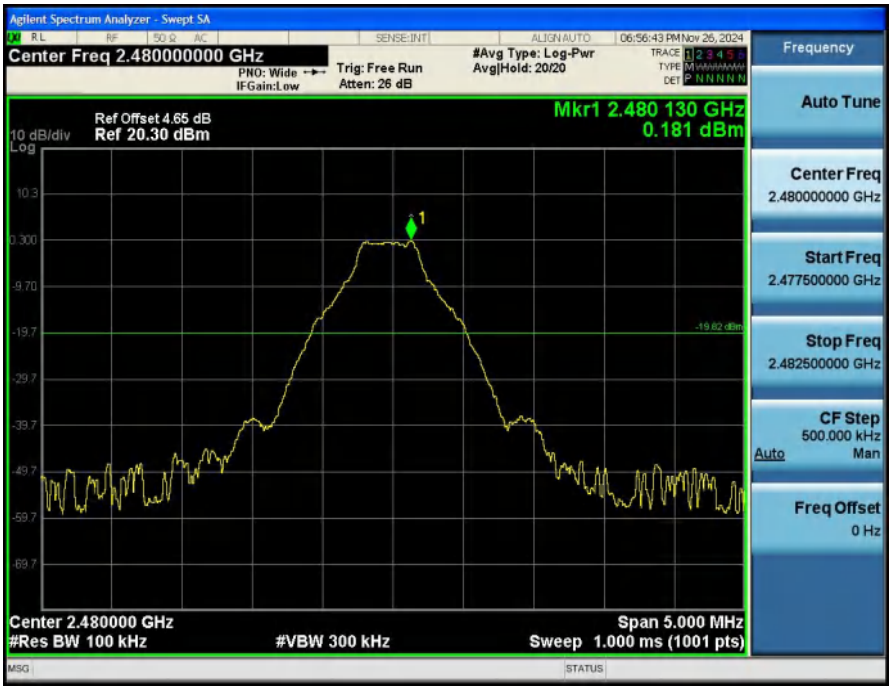
1_Reference_Level_Hopping_NVNT_ANT1_1-DH5_Hopping



2_Band_Edge_(Hopping)_NVNT_ANT1_1-DH5_Hopping

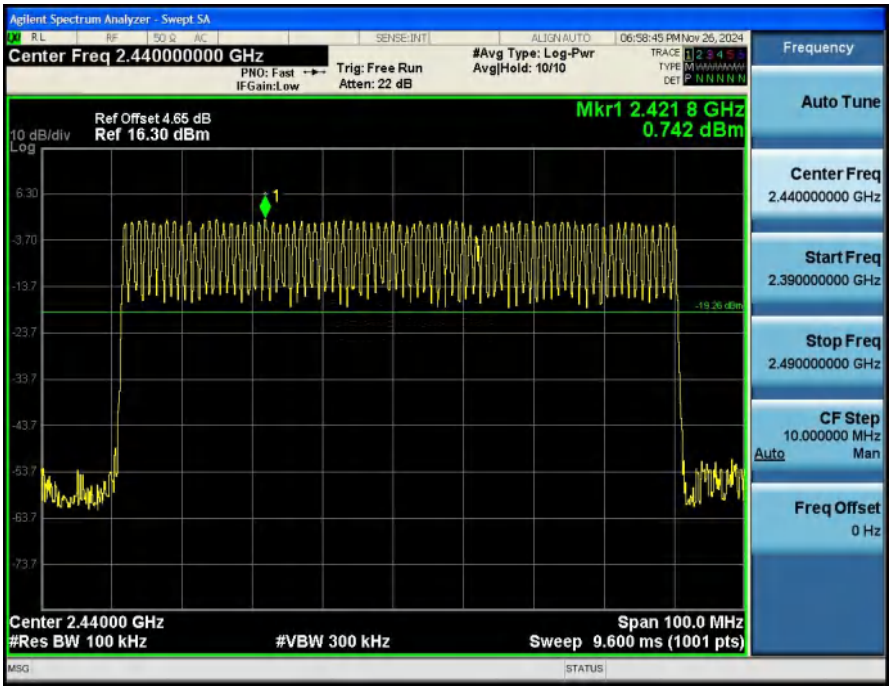


1_Reference_Level_NVNT_ANT1_1-DH5_2480_00

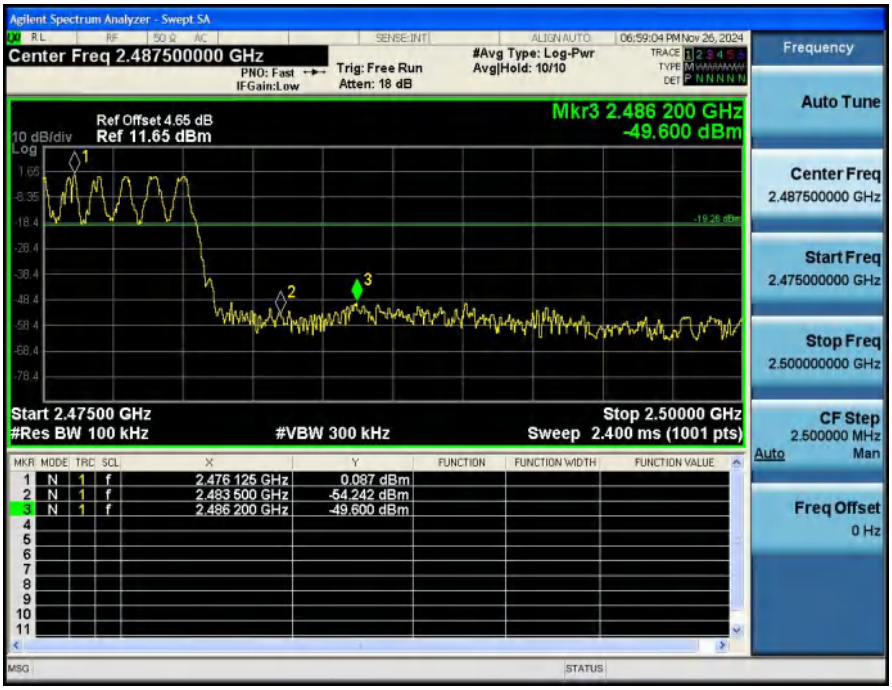


2_Bandedge_NVNT_ANT1_1-DH5_2480_00

1_Reference_Level_Hopping_NVNT_ANT1_1-DH5_Hopping

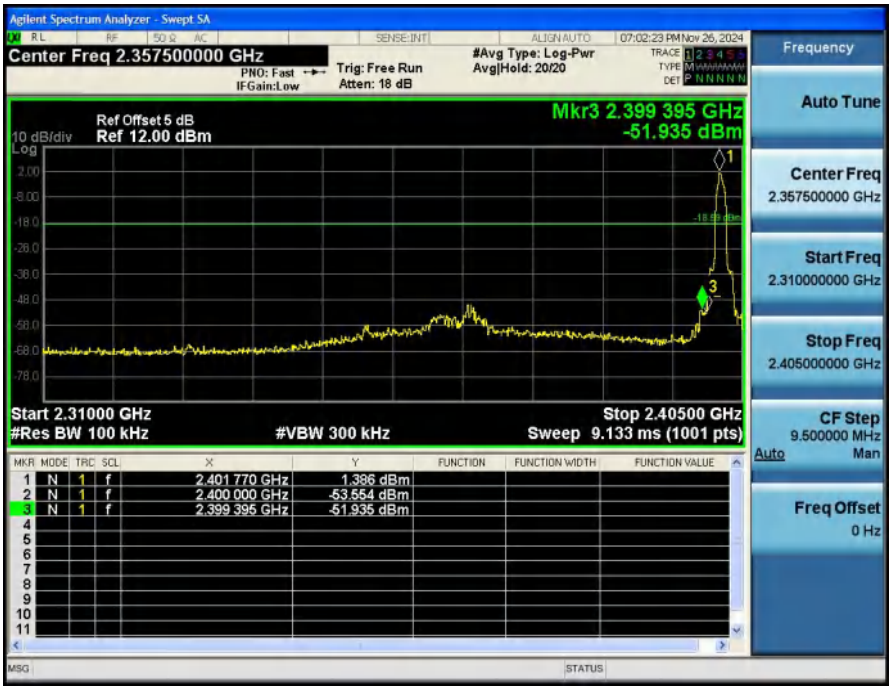


2_Band_Edge_(Hopping)_NVNT_ANT1_1-DH5_Hopping

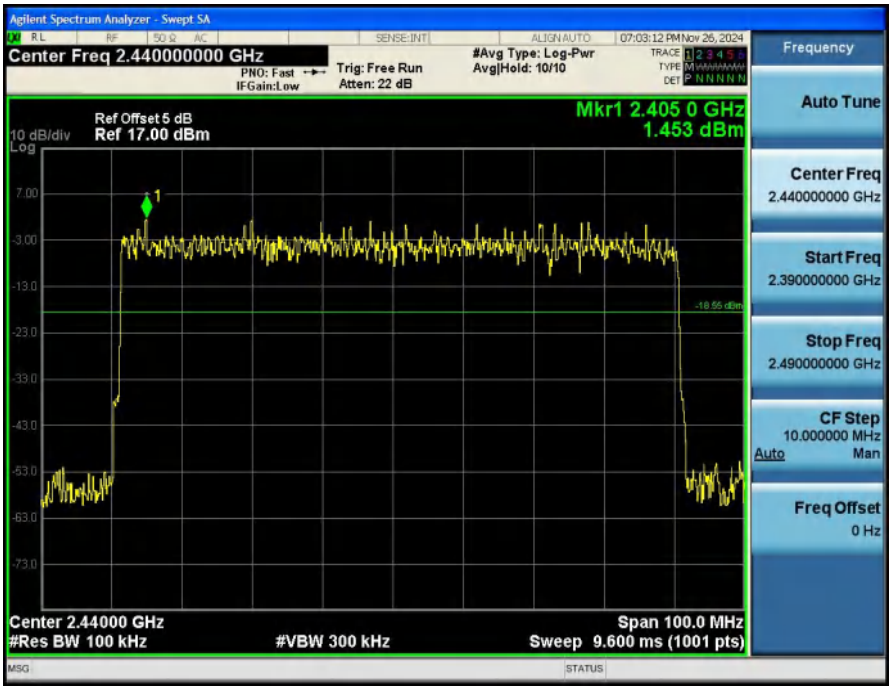


1_Reference_Level_NVNT_ANT1_2-DH5_2402_00

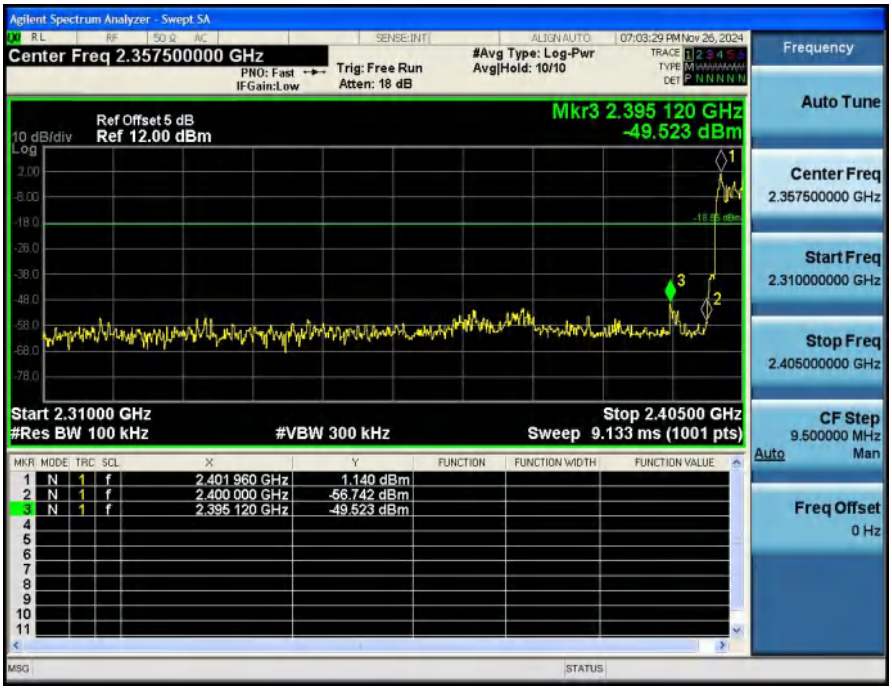
2_Bandedge_NVNT_ANT1_2-DH5_2402_00



1_Reference_Level_Hopping_NVNT_ANT1_2-DH5_Hopping

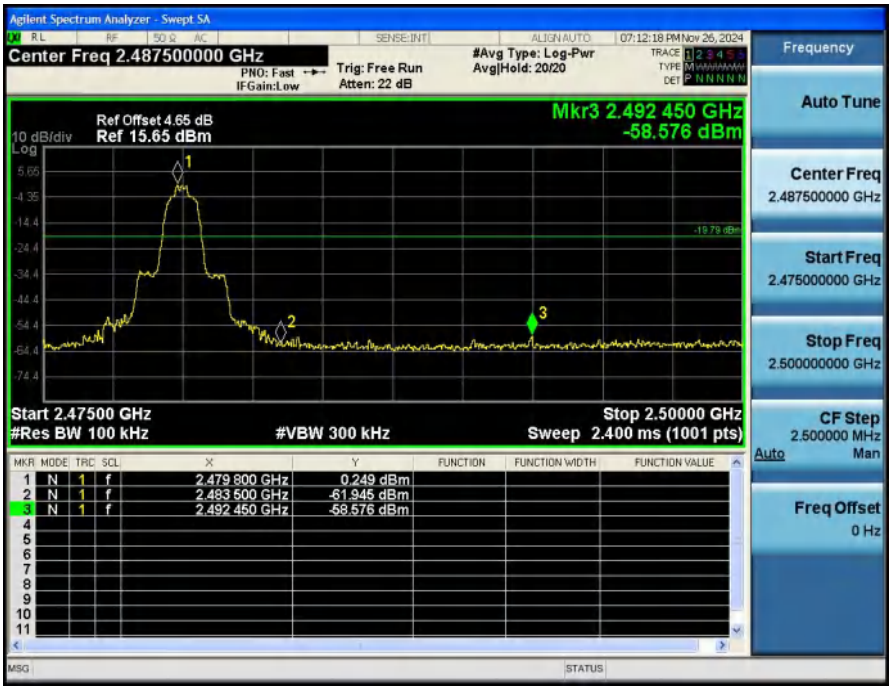


2_Band_Edge_(Hopping)_NVNT_ANT1_2-DH5_Hopping

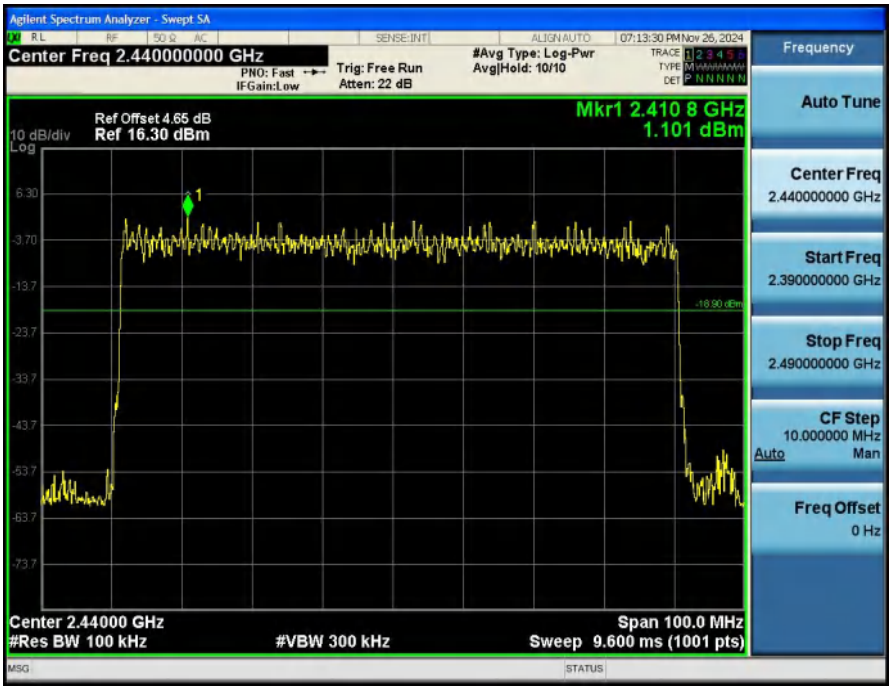


1_Reference_Level_NVNT_ANT1_2-DH5_2480_00

2_Bandedge_NVNT_ANT1_2-DH5_2480_00



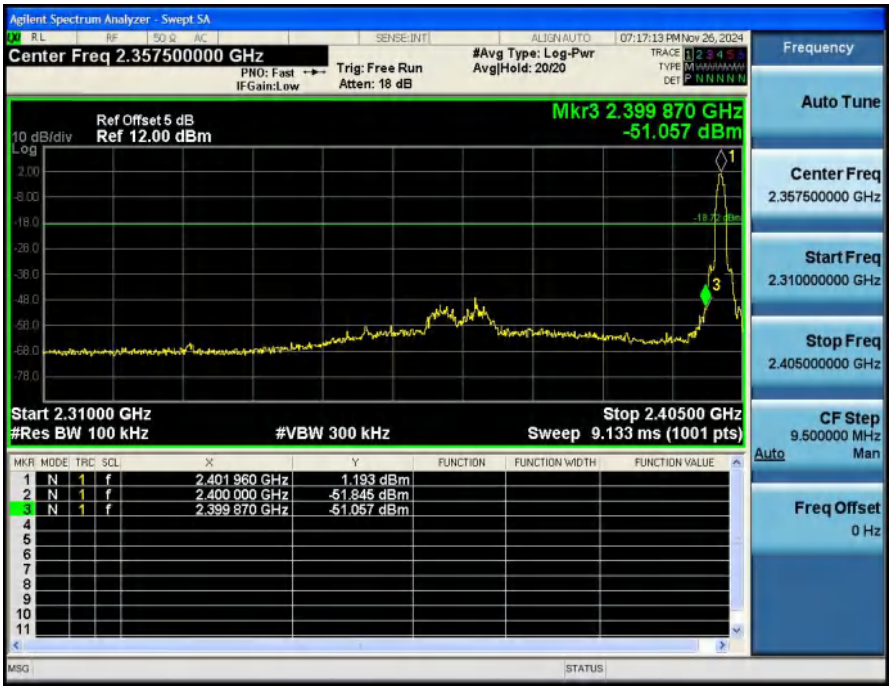
1_Reference_Level_Hopping_NVNT_ANT1_2-DH5_Hopping



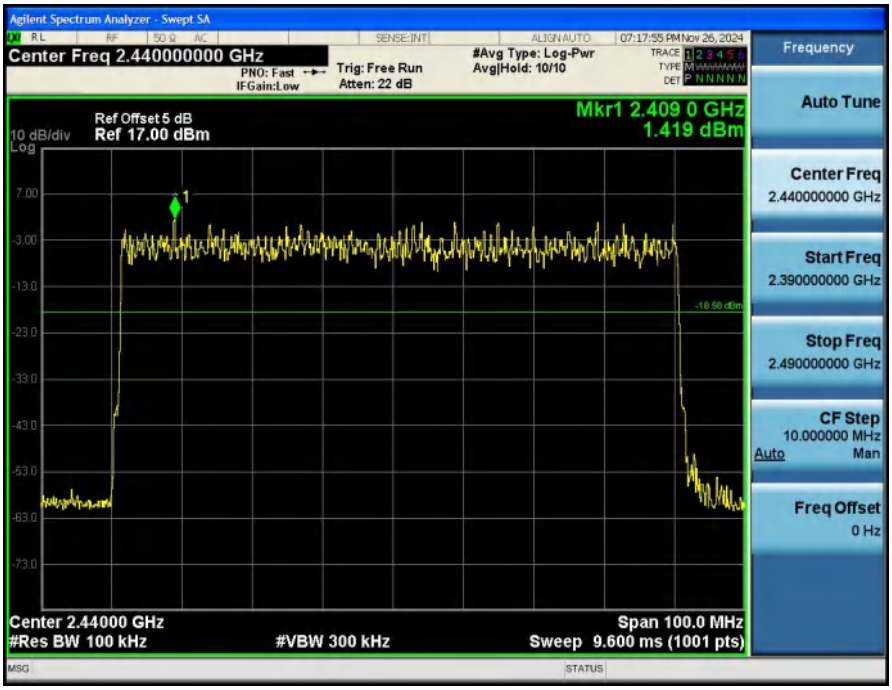
2_Band_Edge_(Hopping)_NVNT_ANT1_2-DH5_Hopping

1_Reference_Level_NVNT_ANT1_3-DH5_2402_00

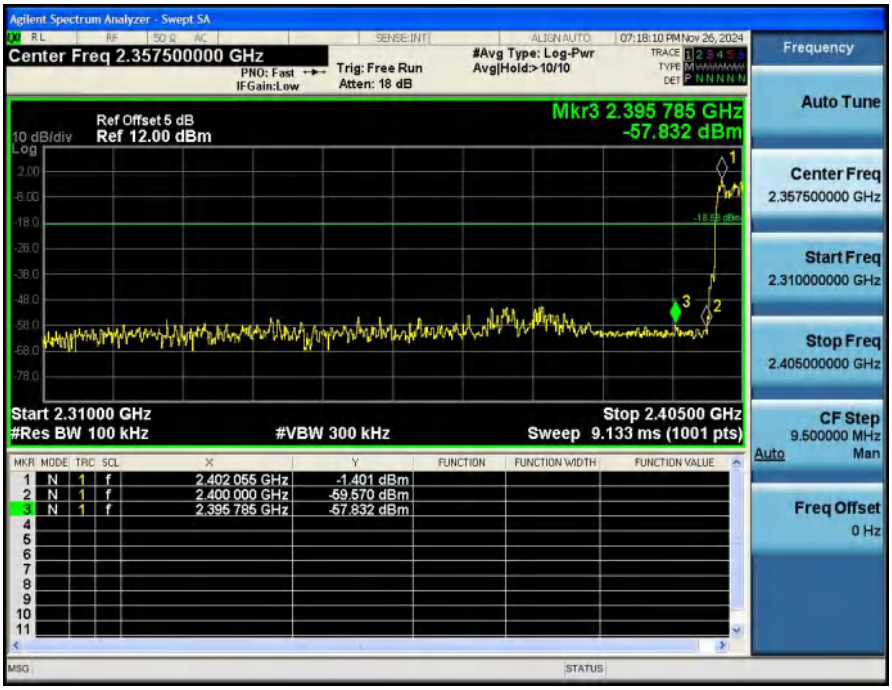
2_Bandedge_NVNT_ANT1_3-DH5_2402_00



1_Reference_Level_Hopping_NVNT_ANT1_3-DH5_Hopping

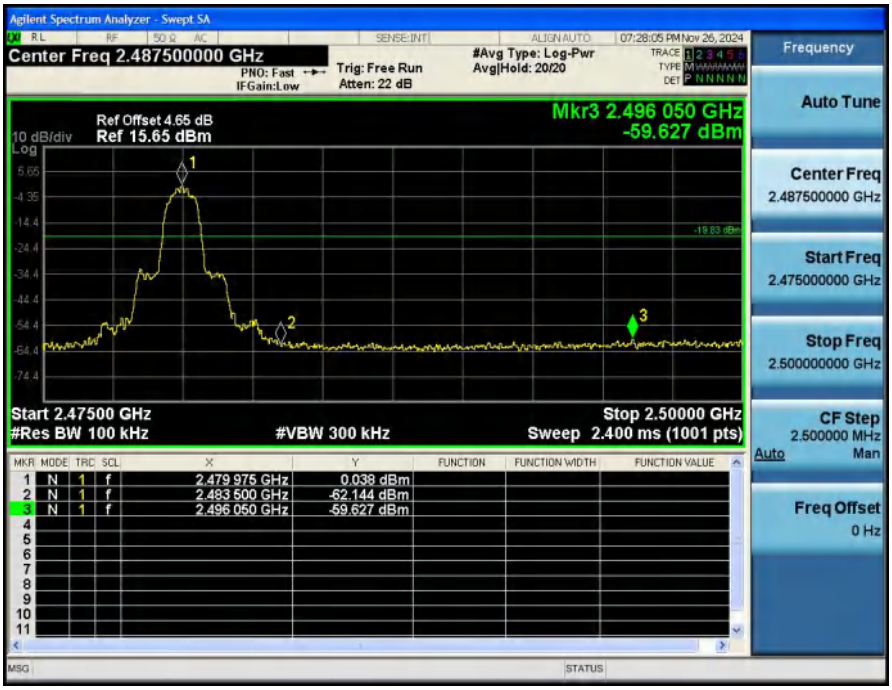


2_Band_Edge_(Hopping)_NVNT_ANT1_3-DH5_Hopping

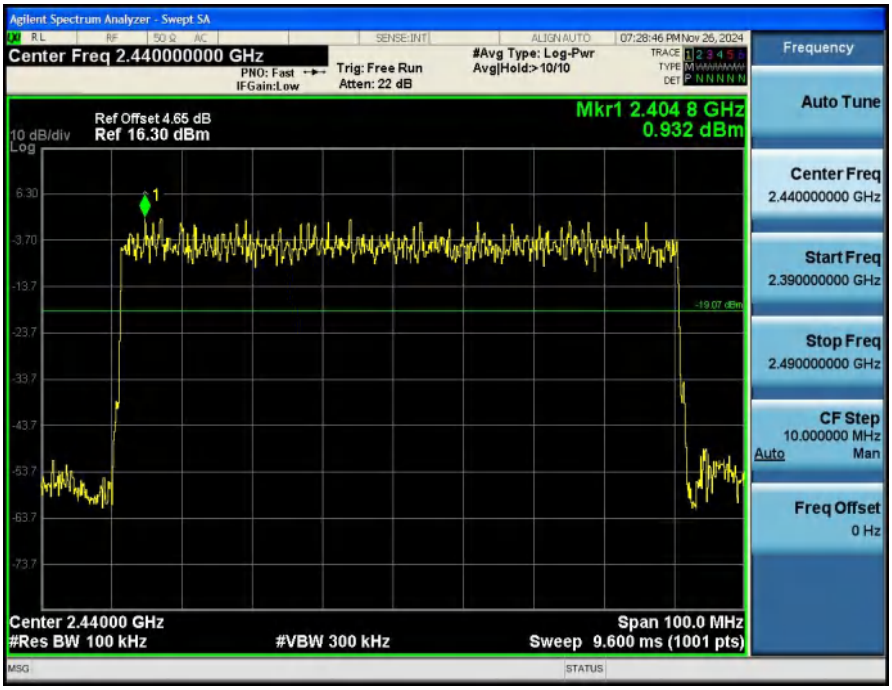


1_Reference_Level_NVNT_ANT1_3-DH5_2480_00

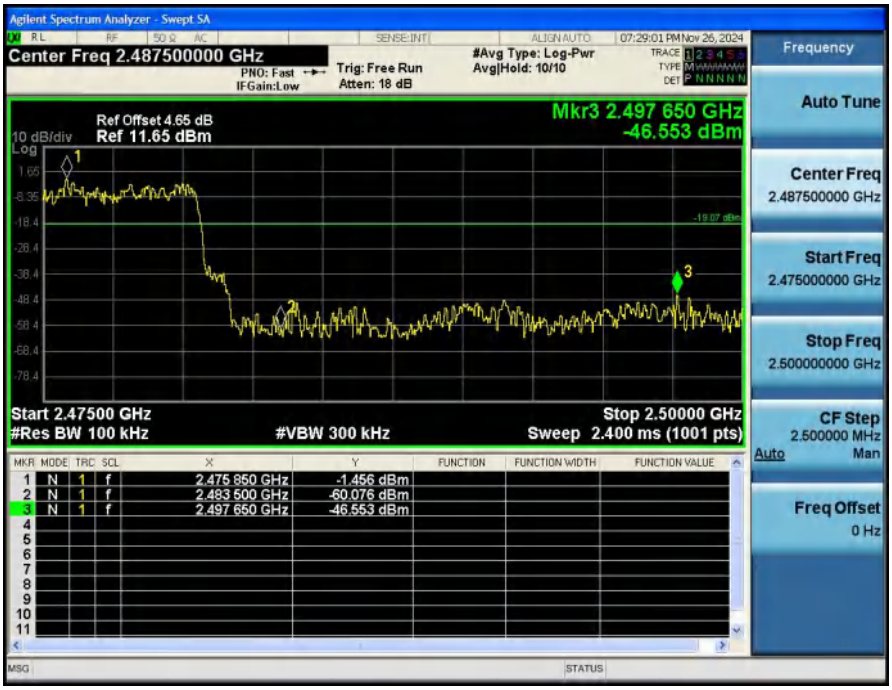
2_Bandedge_NVNT_ANT1_3-DH5_2480_00



1_Reference_Level_Hopping_NVNT_ANT1_3-DH5_Hopping



2_Band_Edge_(Hopping)_NVNT_ANT1_3-DH5_Hopping


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.487500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 18 dB
#Avg Type: Log-Pwr
Avg|Hold: 10/10
07:29:01 PM Nov 26, 2024
Ref Offset 4.65 dB
10 dB/div
Log
Ref 11.65 dBm
Mkr3 2.497 650 GHz
-46.553 dBm
Start 2.47500 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.50000 GHz
Sweep 2.400 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.475 850 GHz -1.456 dBm
2 N 1 f 2.483 500 GHz -60.076 dBm
3 N 1 f 2.497 650 GHz -46.553 dBm
Frequency
Auto Tune
Center Freq
2.487500000 GHz
Start Freq
2.475000000 GHz
Stop Freq
2.500000000 GHz
CF Step
2.500000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

Appendix G: Carrier Frequencies Separation (Hopping)

Condition	Antenna	Modulation	Frequency(MHz)	Hopping NO.0 (MHz)	Hopping NO.1 (MHz)	Carrier Frequencies Separation(MHz)	Limit(MHz)	Result
NVNT	ANT1	1-DH5	2441.00	2440.960	2441.959	1.00	0.676	Pass
NVNT	ANT1	2-DH5	2441.00	2441.077	2441.995	0.92	0.874	Pass
NVNT	ANT1	3-DH5	2441.00	2440.969	2442.136	1.17	0.869	Pass

Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_1-DH5_Hopping

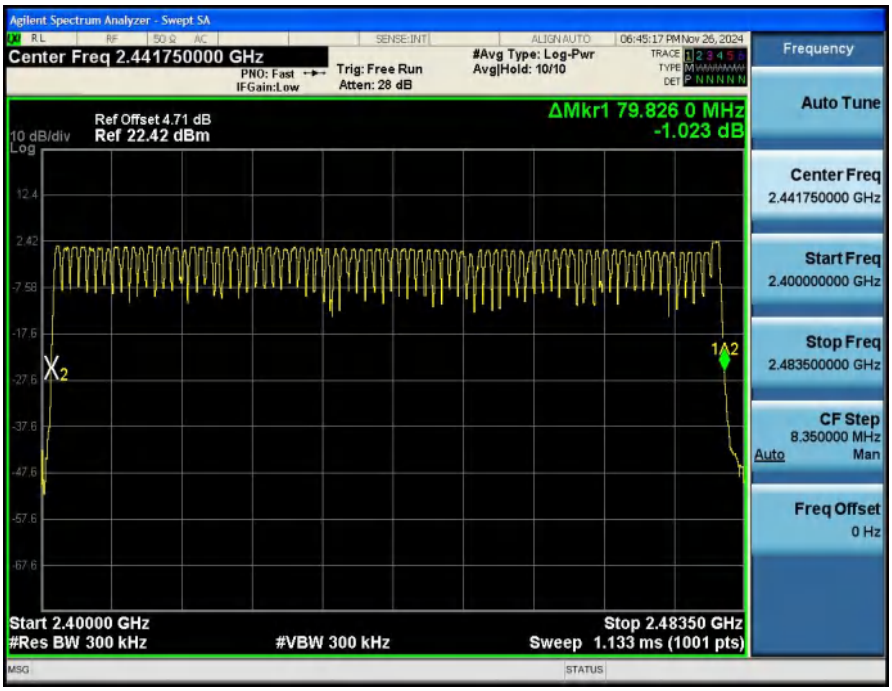
Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_2-DH5_Hopping

Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_3-DH5_Hopping

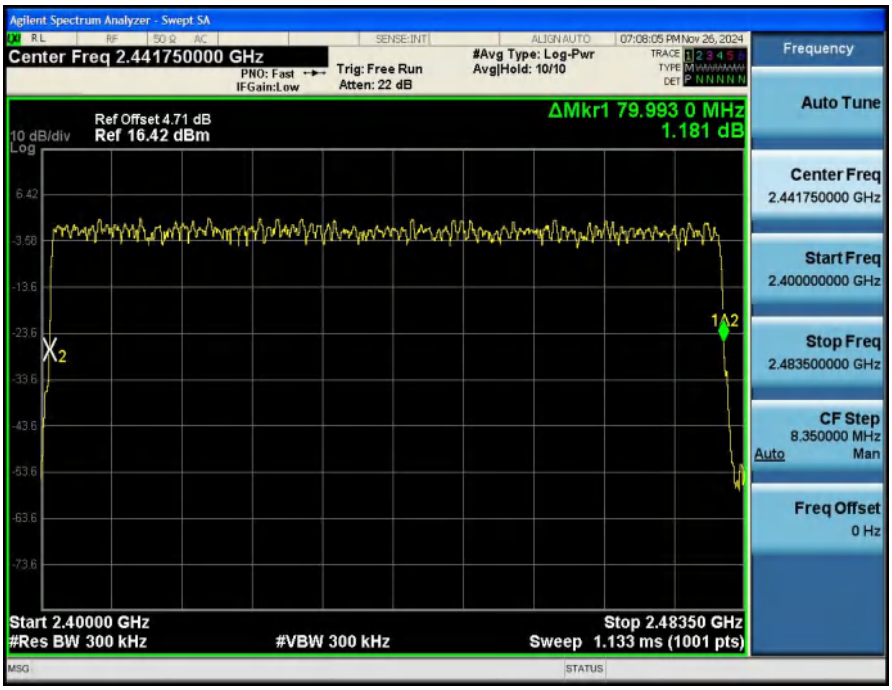
Appendix H: Number of Hopping Channel (Hopping)

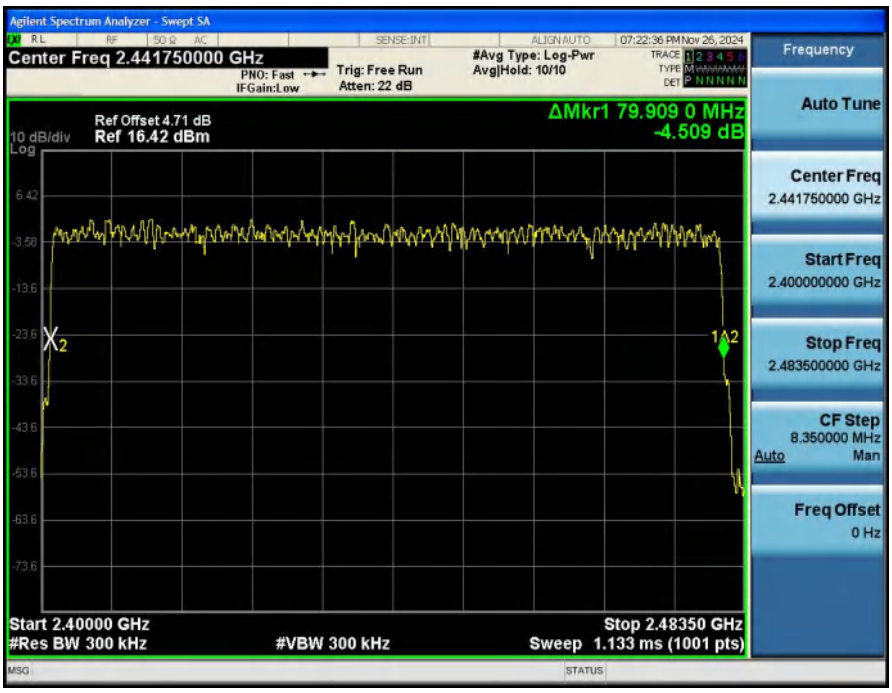
Condition	Antenna	Modulation	Hopping Num	Limit	Result
NVNT	ANT1	1-DH5	79	15	Pass
NVNT	ANT1	2-DH5	79	15	Pass
NVNT	ANT1	3-DH5	79	15	Pass

Number_of_Hopping_Channel_(Hopping)_NVNT_ANT1_1-DH5_Hopping



Number_of_Hopping_Channel_(Hopping)_NVNT_ANT1_2-DH5_Hopping

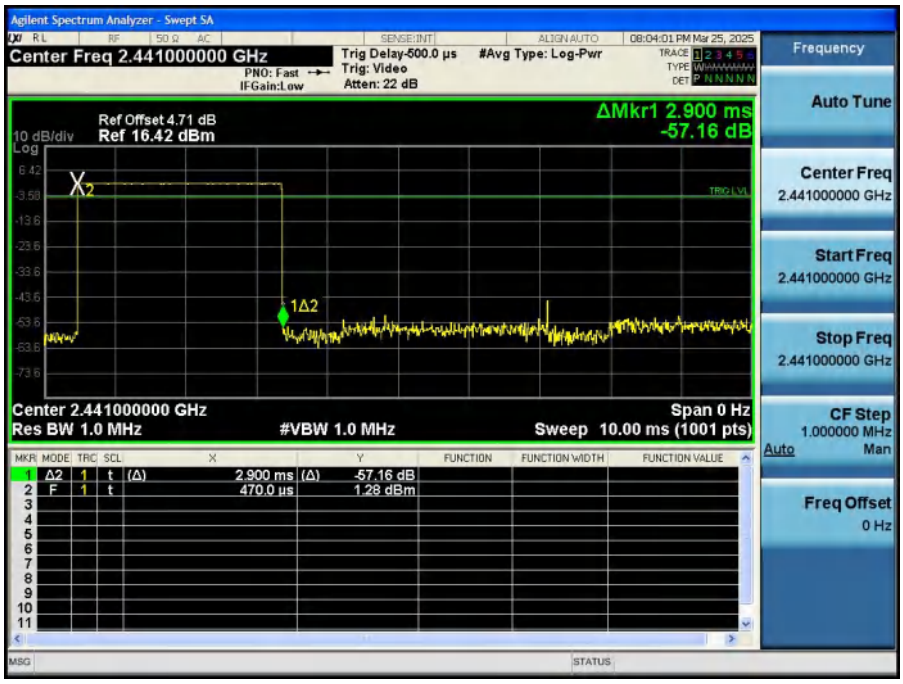


Number_of_Hopping_Channel_(Hopping)_NVNT_ANT1_3-DH5_Hopping


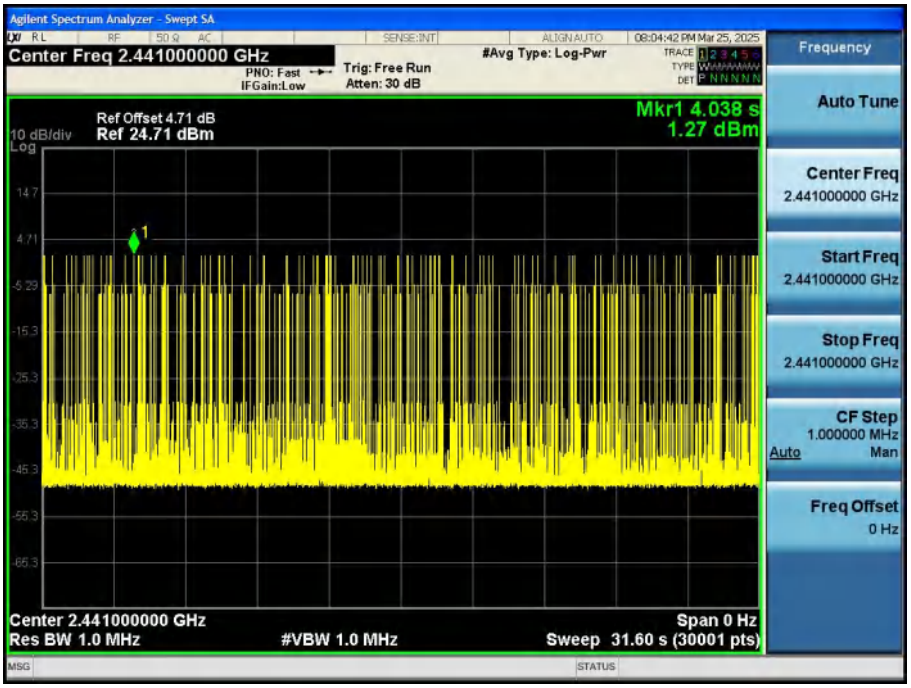
Appendix I: Dwell Time (Hopping)

Condition	Antenna	Packet Type	Pulse Time(ms)	Hops	Dwell Time(ms)	Limit(s)	Result
NVNT	ANT1	1-DH5	2.900	107.00	310.300	0.40	Pass
NVNT	ANT1	2-DH5	2.893	114.00	329.802	0.40	Pass
NVNT	ANT1	3-DH5	2.896	106.00	306.976	0.40	Pass
NVNT	ANT1	1-DH1	0.385	320.00	123.200	0.40	Pass
NVNT	ANT1	1-DH3	1.641	155.00	254.355	0.40	Pass
NVNT	ANT1	2-DH1	0.393	318.00	124.974	0.40	Pass
NVNT	ANT1	2-DH3	1.645	149.00	245.105	0.40	Pass
NVNT	ANT1	3-DH1	0.393	319.00	125.367	0.40	Pass
NVNT	ANT1	3-DH3	1.644	165.00	271.260	0.40	Pass

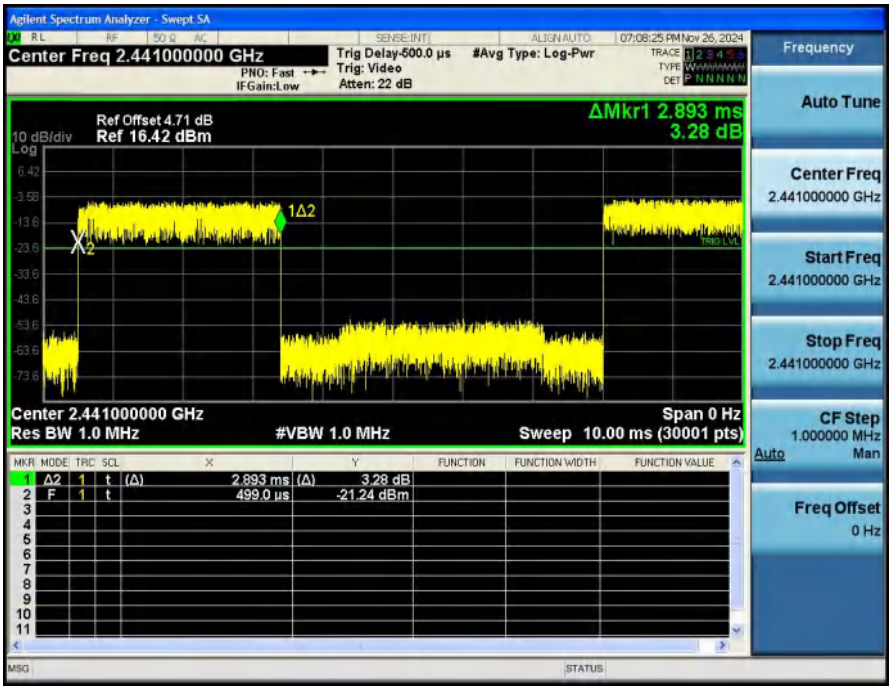
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH5_2441_00_One_Burst_Time



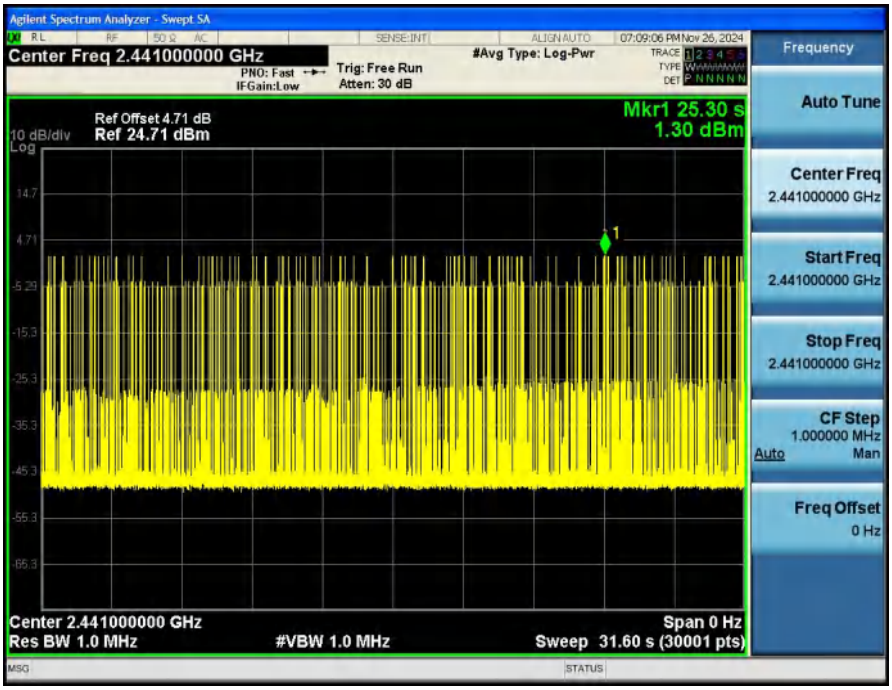
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH5_2441_00_Accumulated



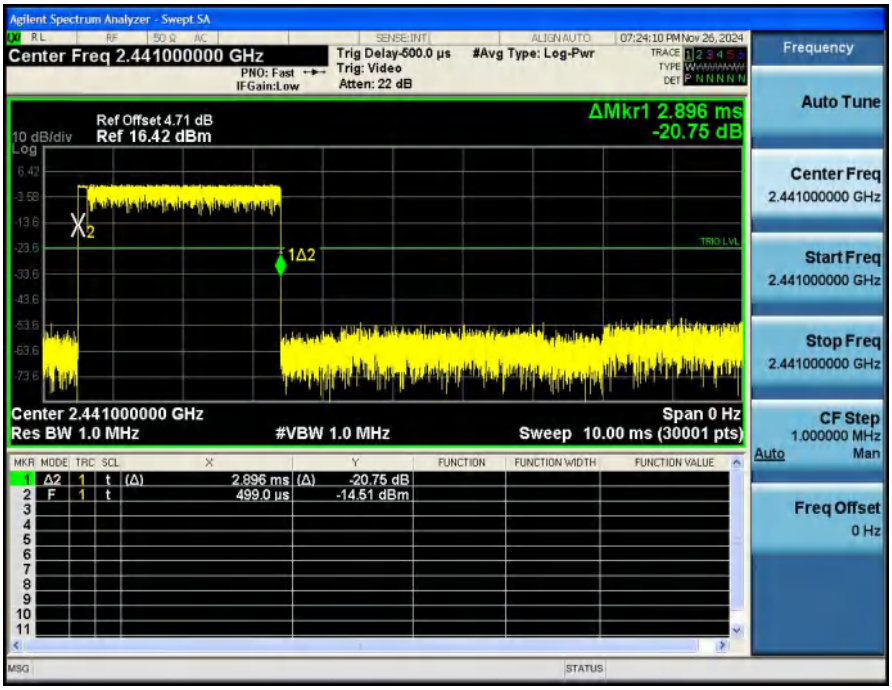
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH5_2441_00_One_Burst_Time



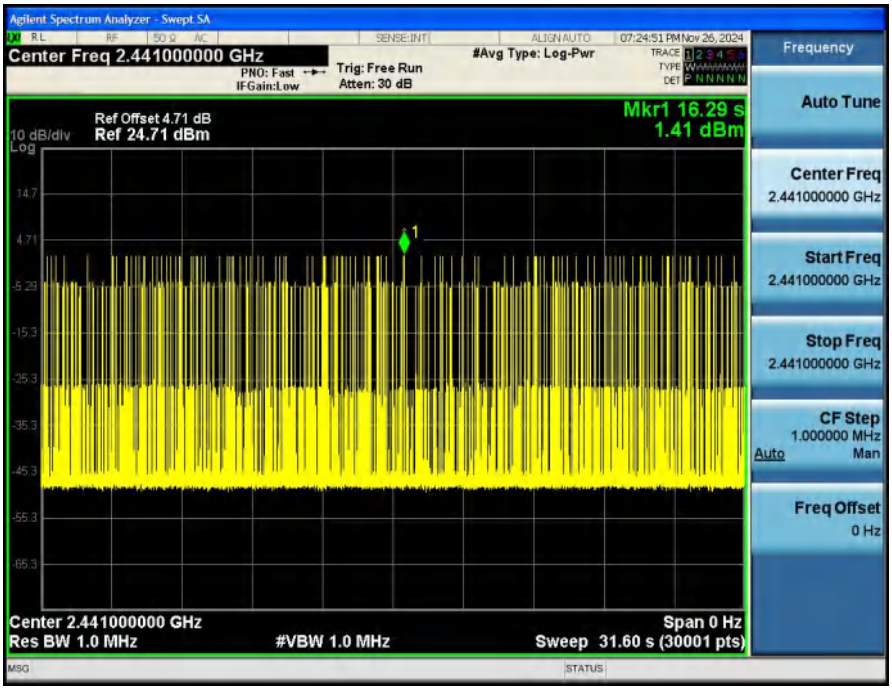
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH5_2441_00_Accumulated



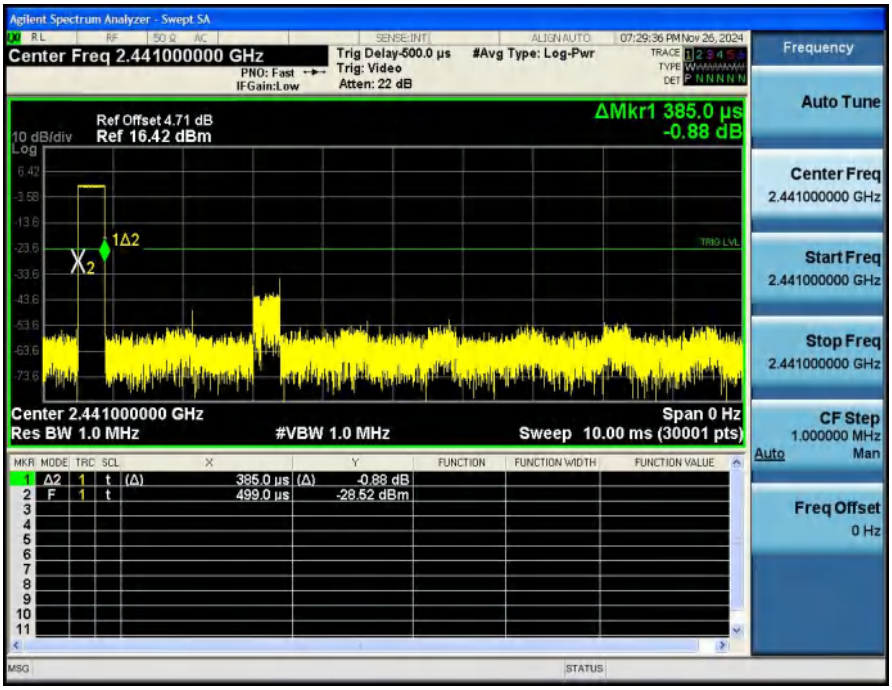
Dwell_Time_(Hopping)_NVNT_ANT1_3-DH5_2441_00_One_Burst_Time



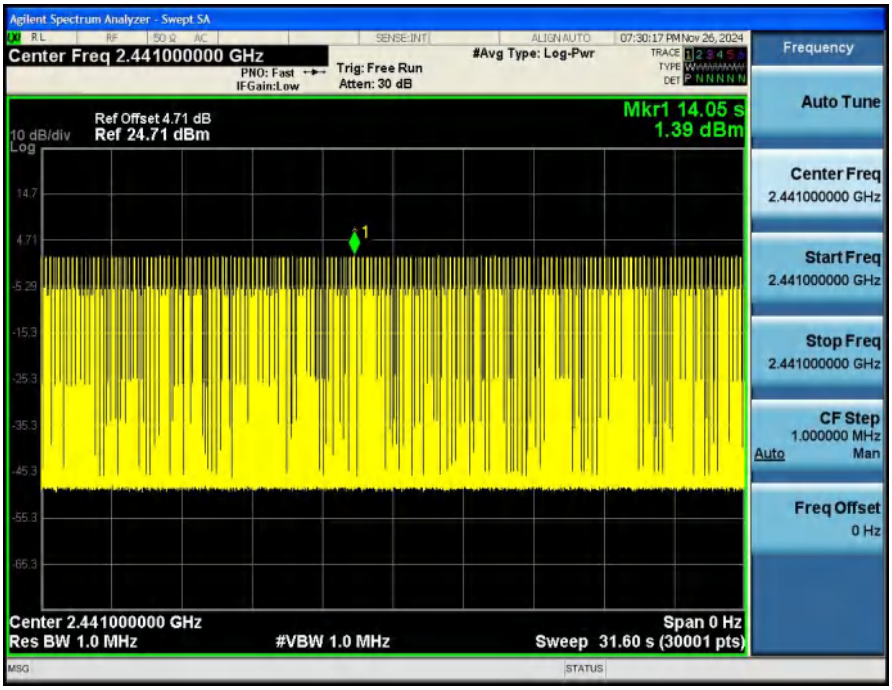
Dwell_Time_(Hopping)_NVNT_ANT1_3-DH5_2441_00_Accumulated



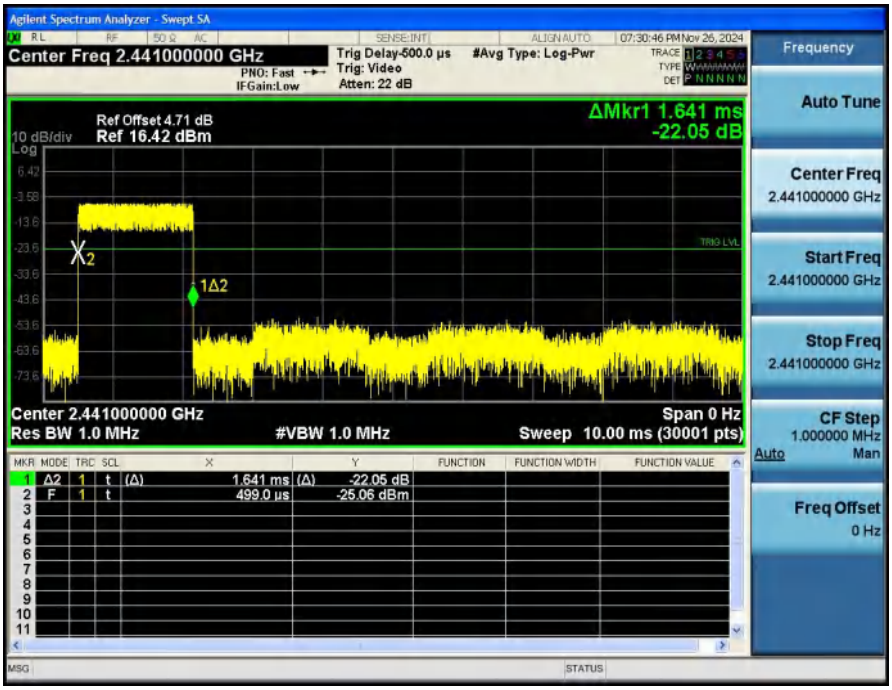
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH1_2441_00_One_Burst_Time



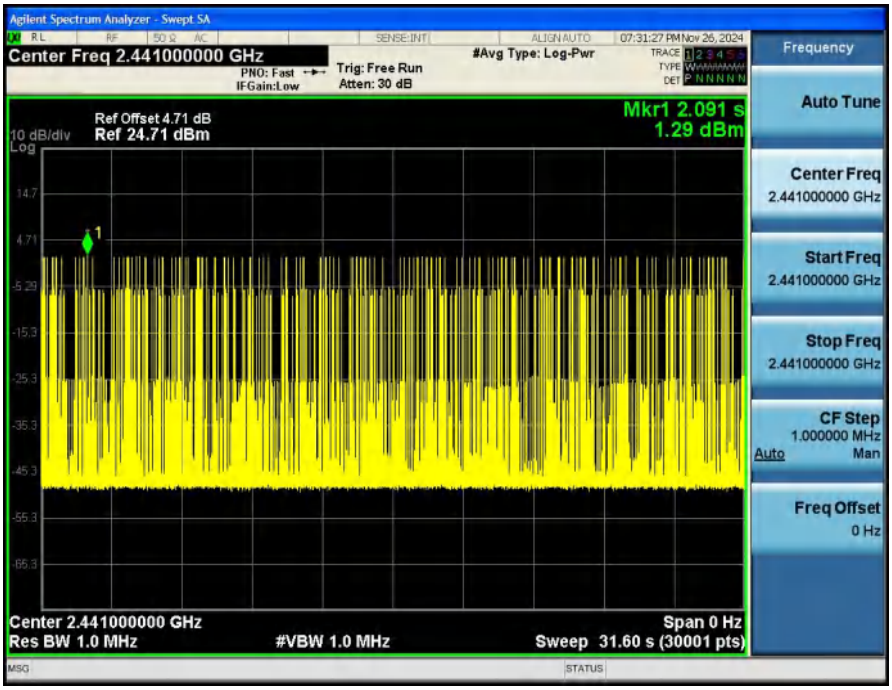
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH1_2441_00_Accumulated



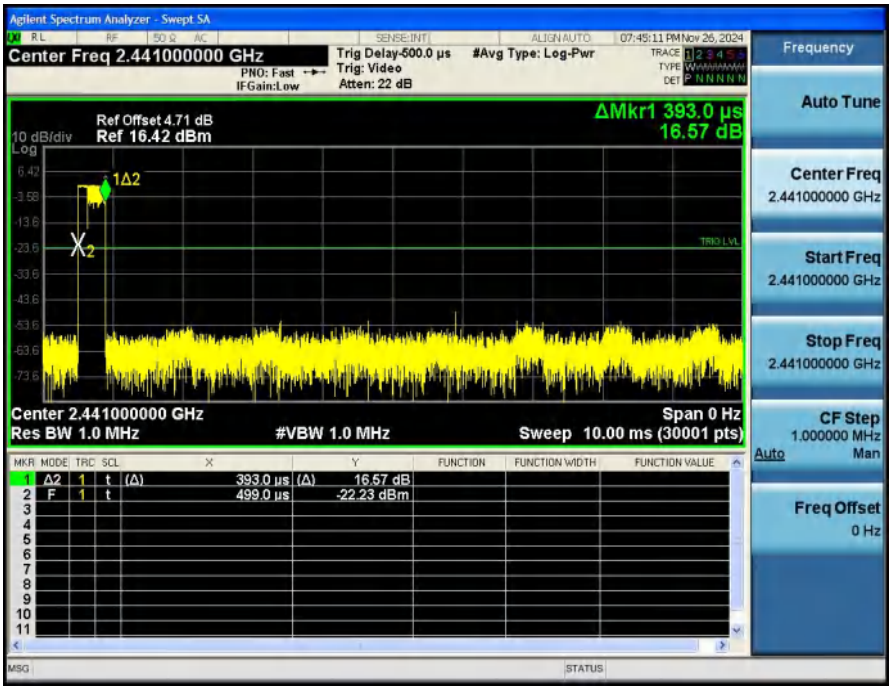
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH3_2441_00_One_Burst_Time



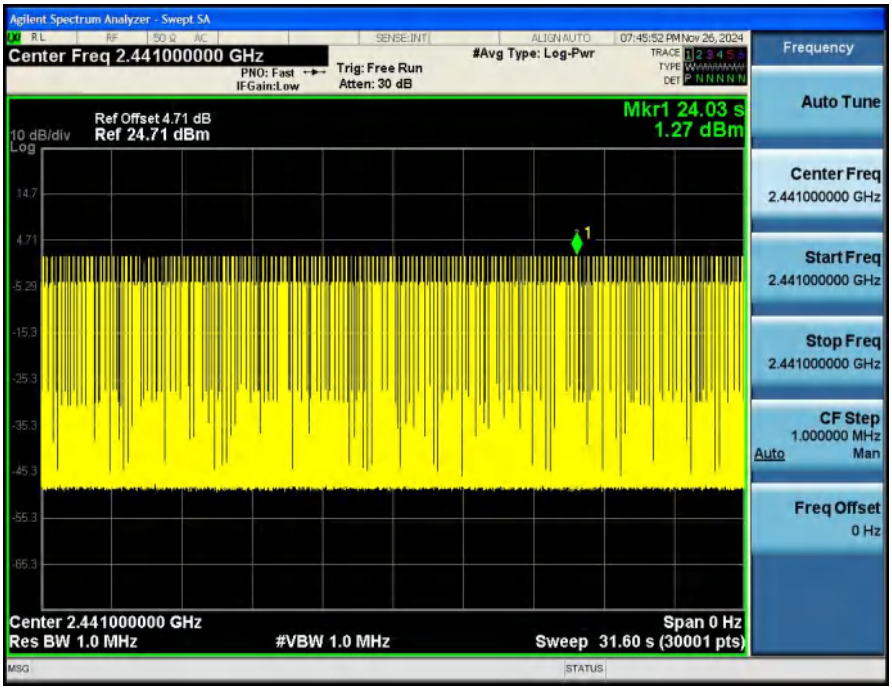
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH3_2441_00_Accumulated



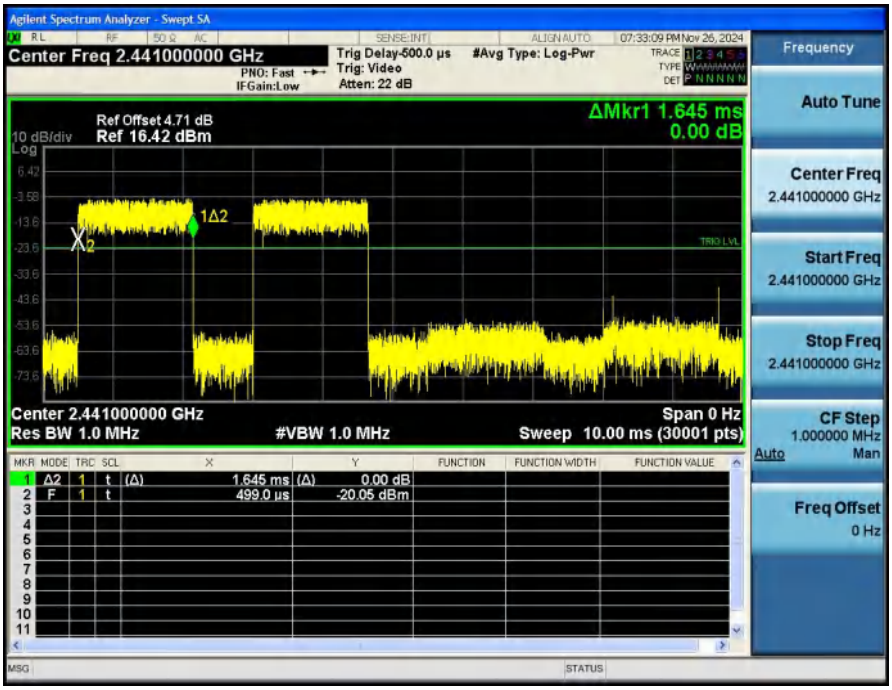
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH1_2441_00_One_Burst_Time



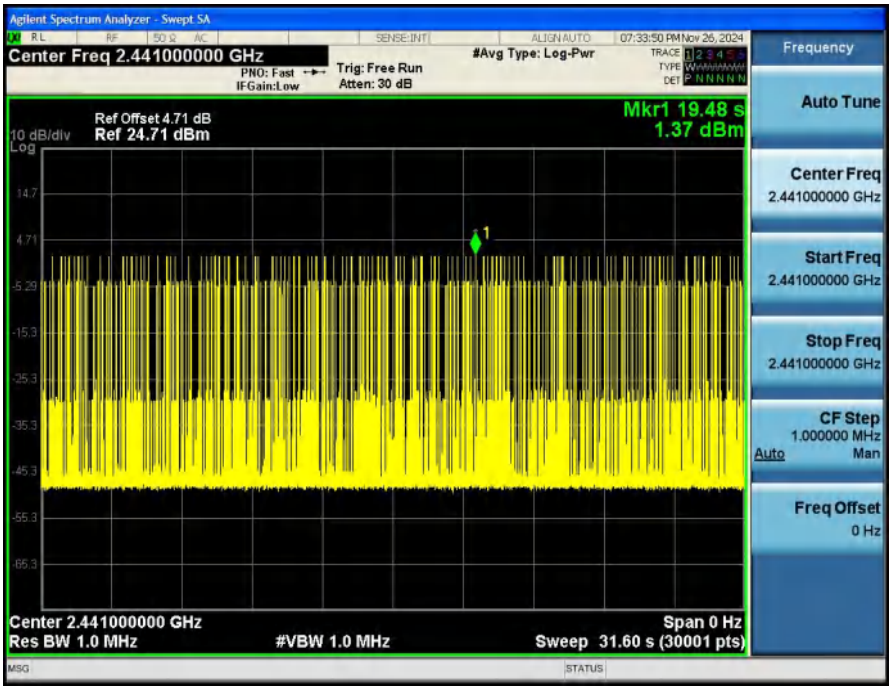
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH1_2441_00_Accumulated



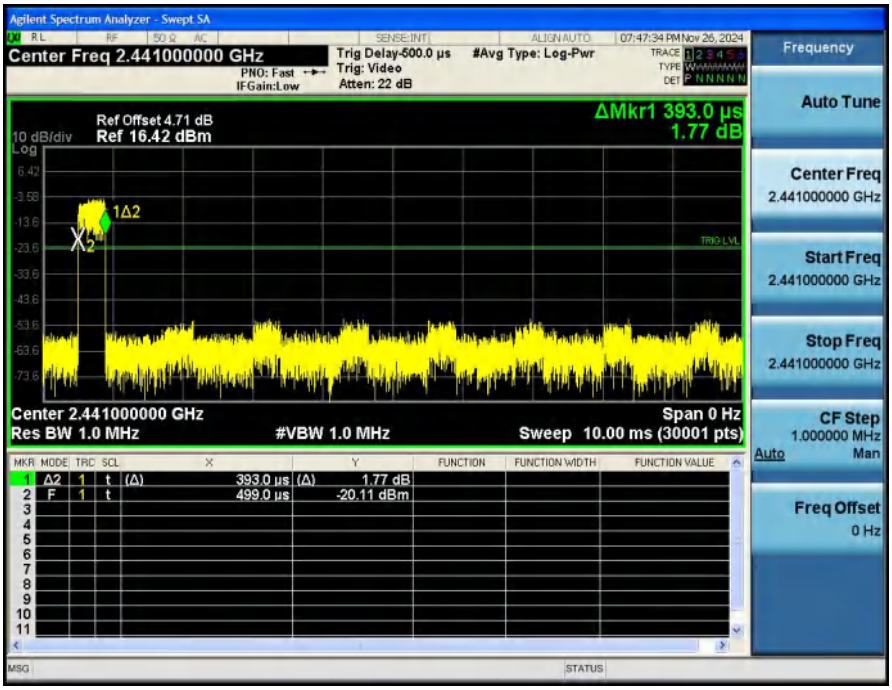
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH3_2441_00_One_Burst_Time



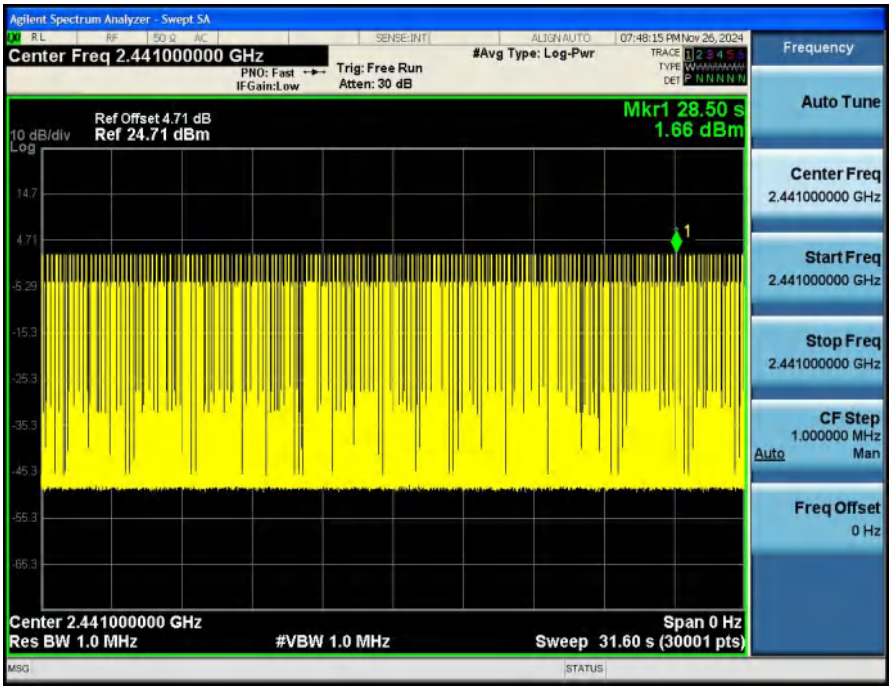
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH3_2441_00_Accumulated



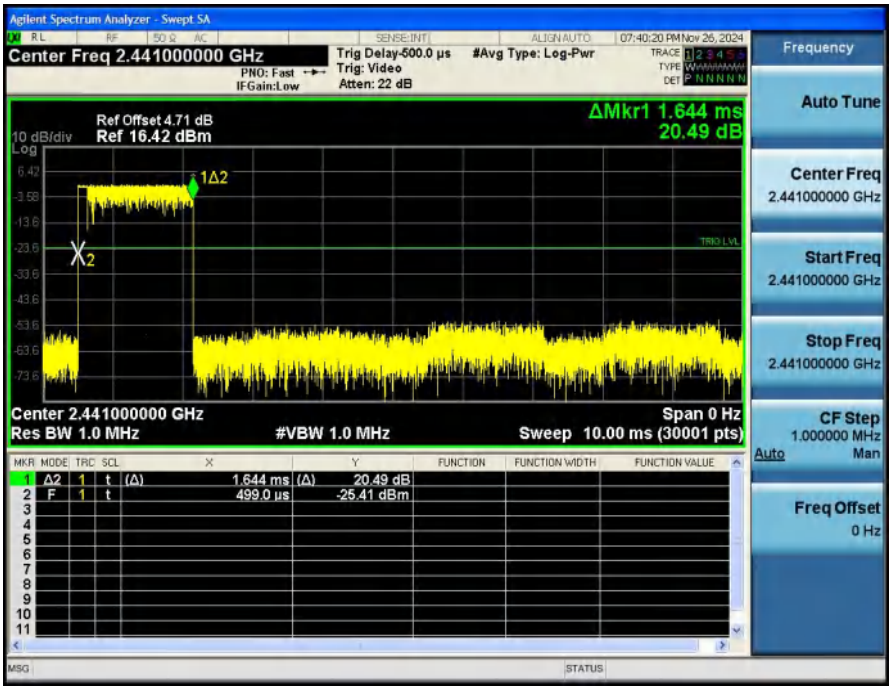
Dwell_Time_(Hopping)_NVNT_ANT1_3-DH1_2441_00_One_Burst_Time



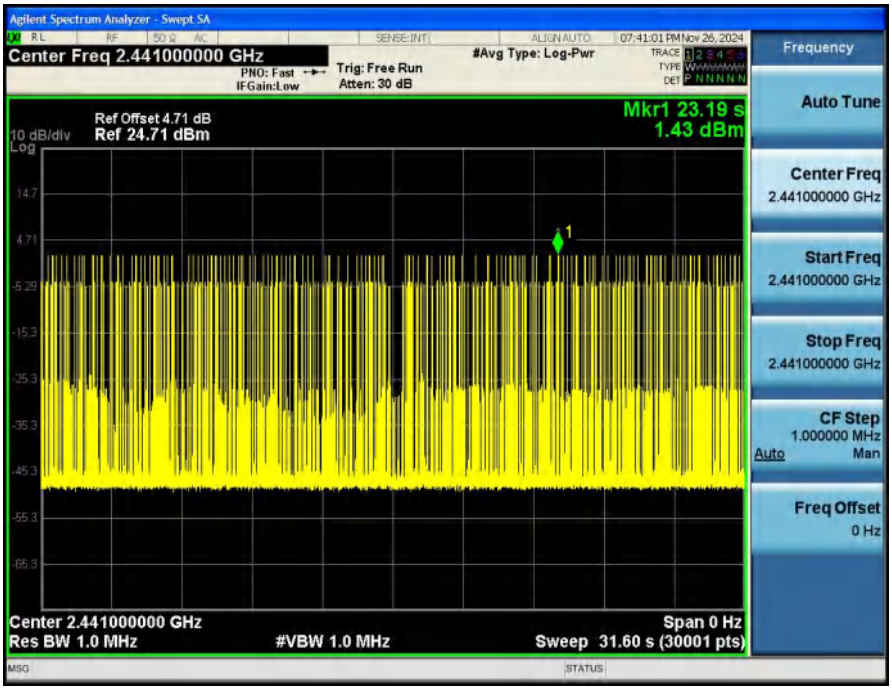
Dwell_Time_(Hopping)_NVNT_ANT1_3-DH1_2441_00_Accumulated



Dwell_Time_(Hopping)_NVNT_ANT1_3-DH3_2441_00_One_Burst_Time



Dwell_Time_(Hopping)_NVNT_ANT1_3-DH3_2441_00_Accumulated


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
#Avg Type: Log-Pwr
07:41:01 PM Nov 26, 2024
Ref Offset 4.71 dB
10 dB/div
Log
Ref 24.71 dBm
Mkr1 23.19 s
1.43 dBm
14.7
4.71
-5.29
-15.3
-25.3
-35.3
-45.3
-55.3
-65.3
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 31.60 s (30001 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
MSG
STATUS

---END---