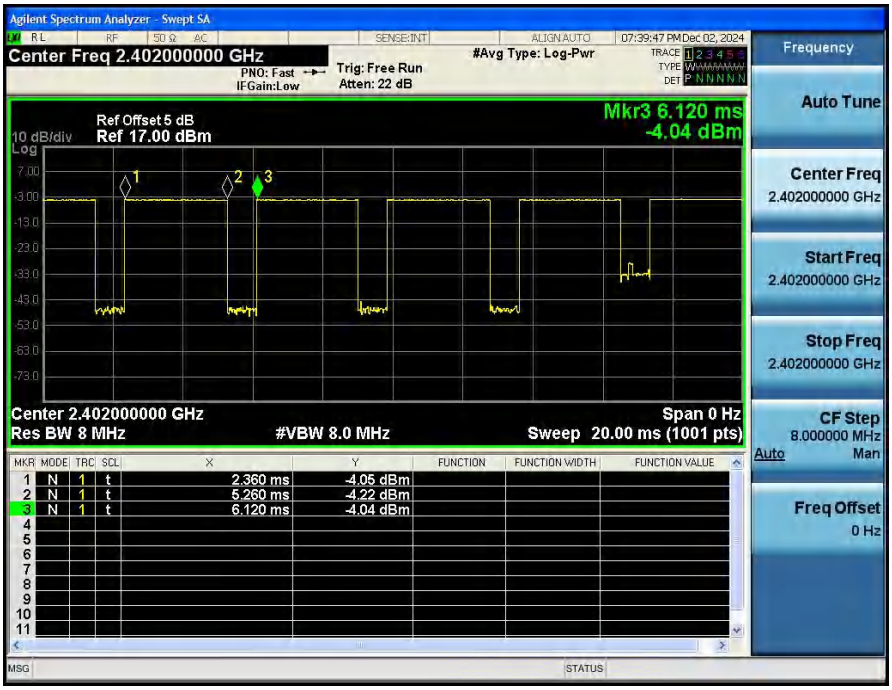
Appendix Test Data

Report No.:	1812C40007212501	Test Sample No.:	1-2-2
Start Test Date:	2024.11.25	Finish Test Date:	2024.12.2
Test Engineer:	Jokes Huang	Auditor:	Justin Feng
Temperature:	25.5℃	Relative Humidity:	47%
Pressure:	101kPa		

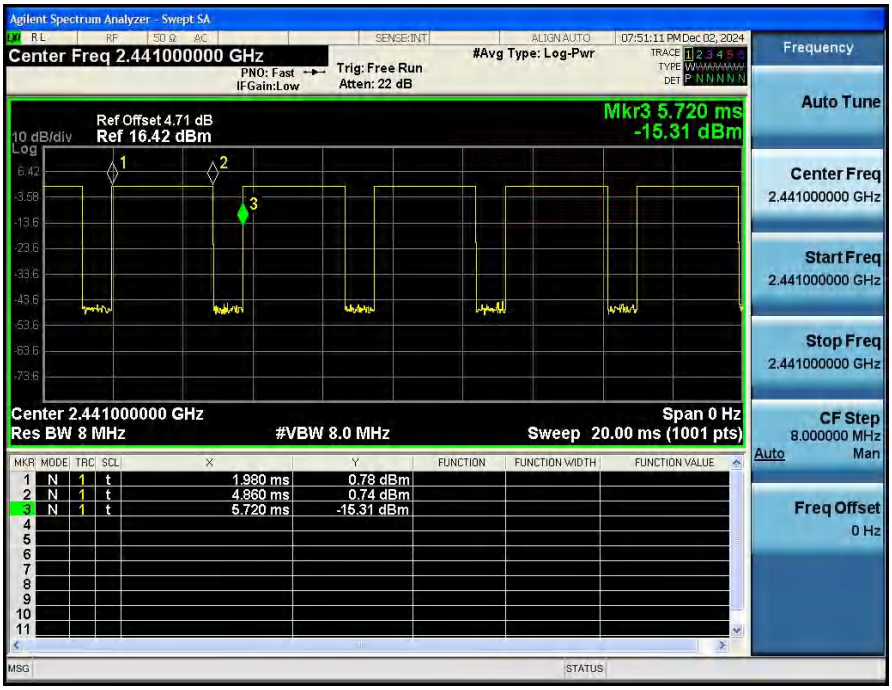
Appendix A: Duty Cycle

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

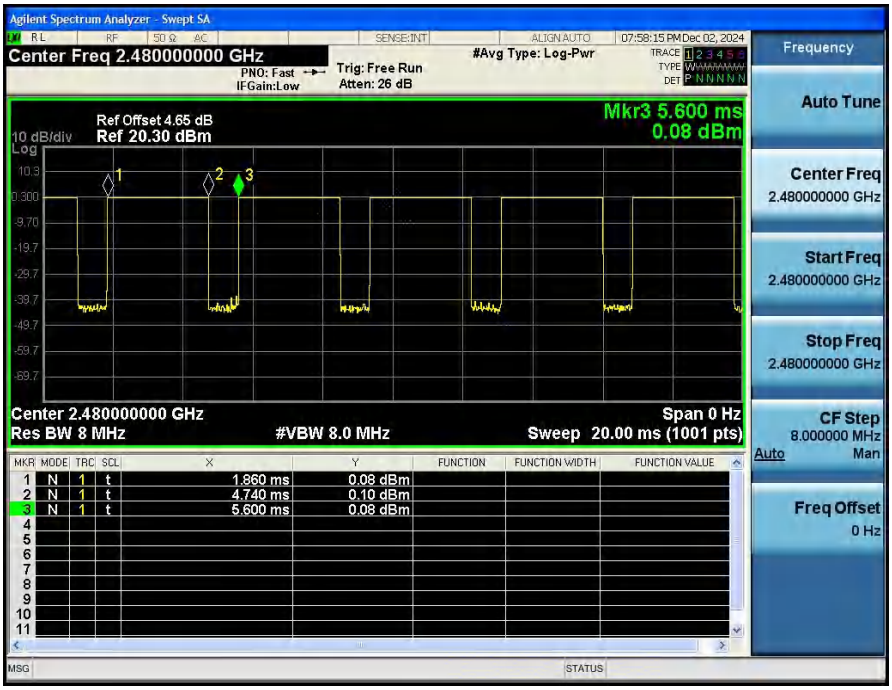
Duty_Cycle_NVNT_ANT1_1-DH5_2402



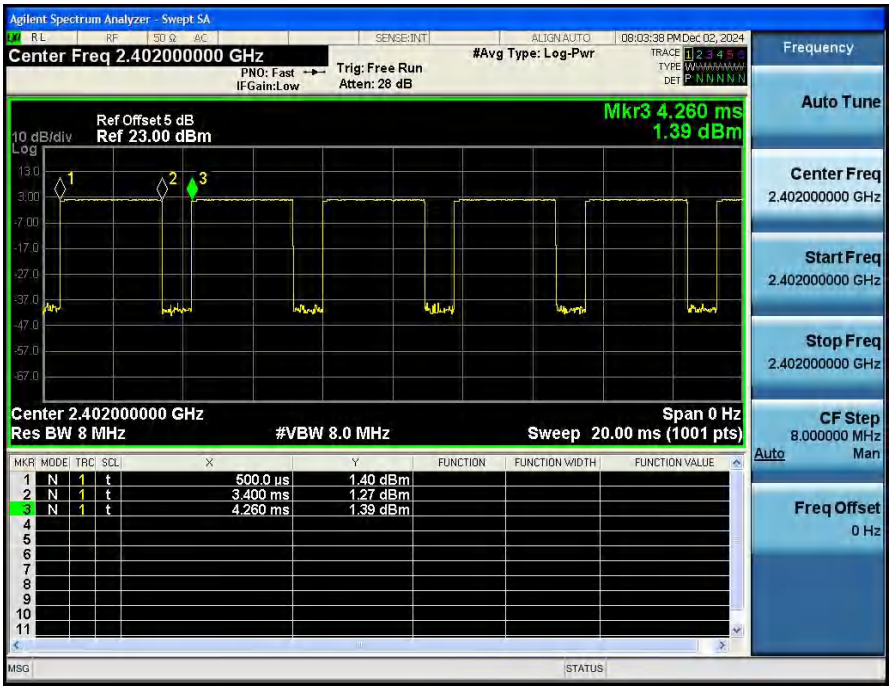
Duty_Cycle_NVNT_ANT1_1-DH5_2441



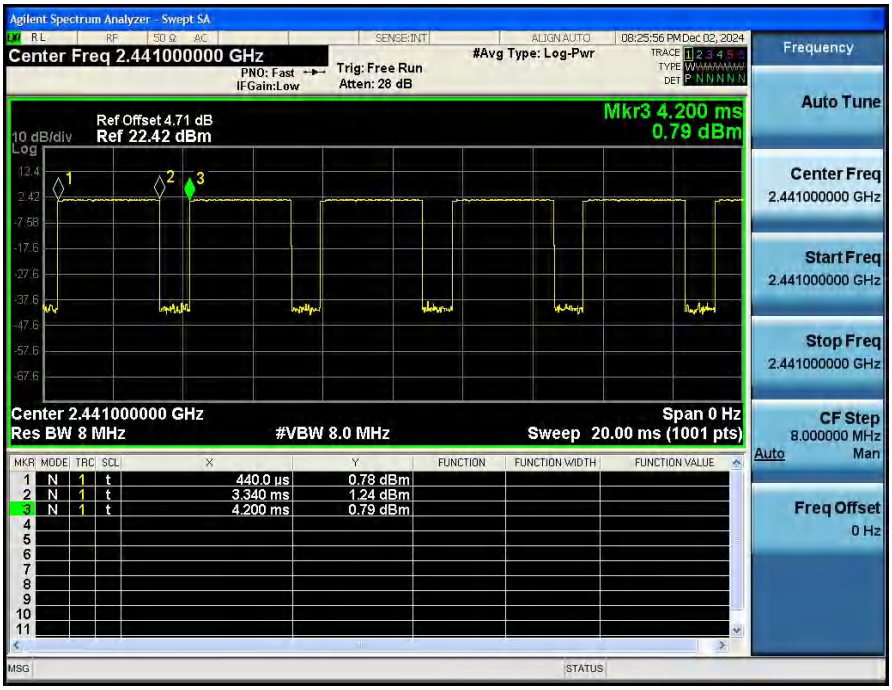
Duty_Cycle_NVNT_ANT1_1-DH5_2480



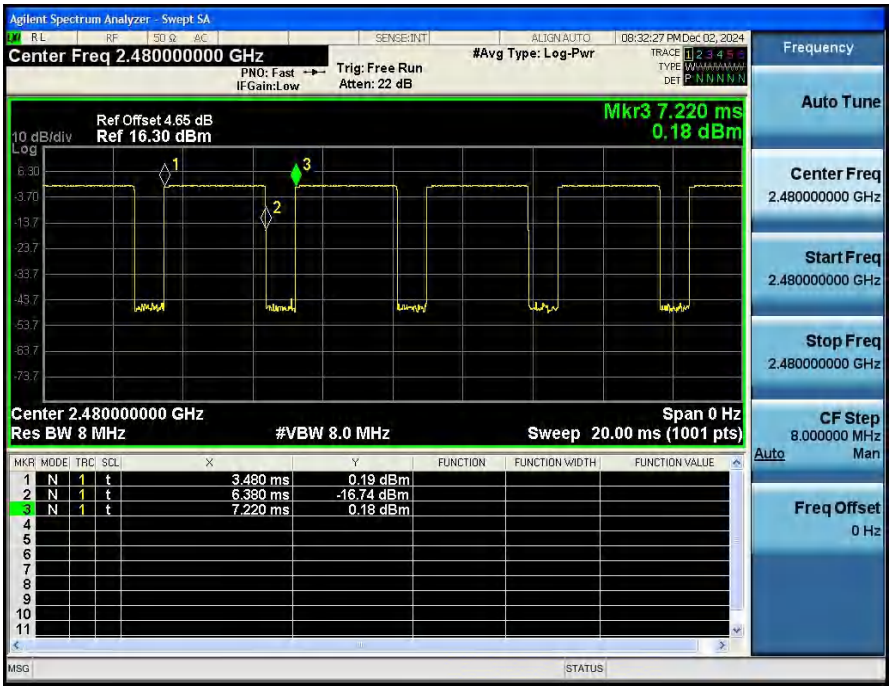
Duty_Cycle_NVNT_ANT1_2-DH5_2402



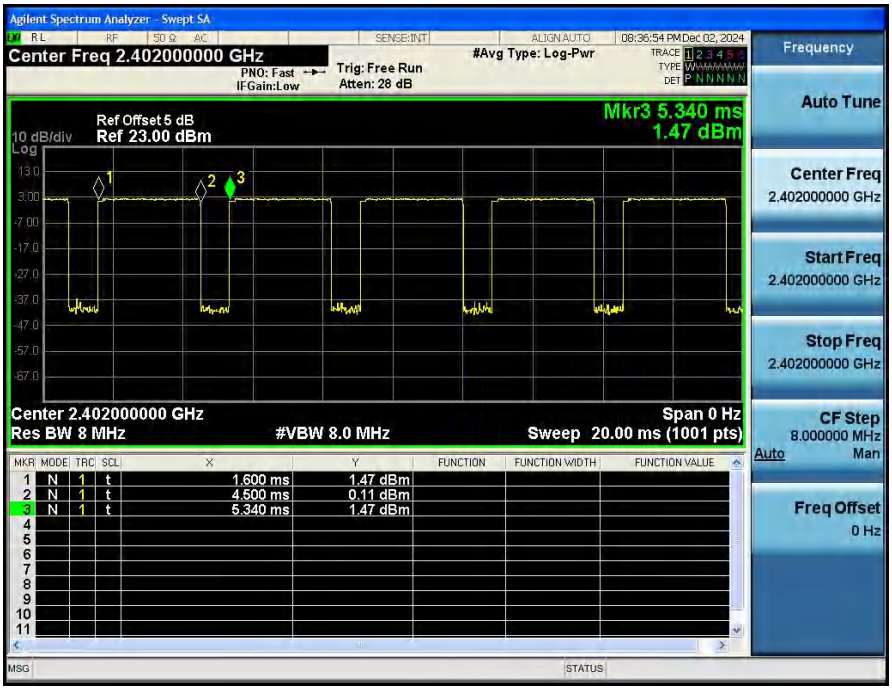
Duty_Cycle_NVNT_ANT1_2-DH5_2441



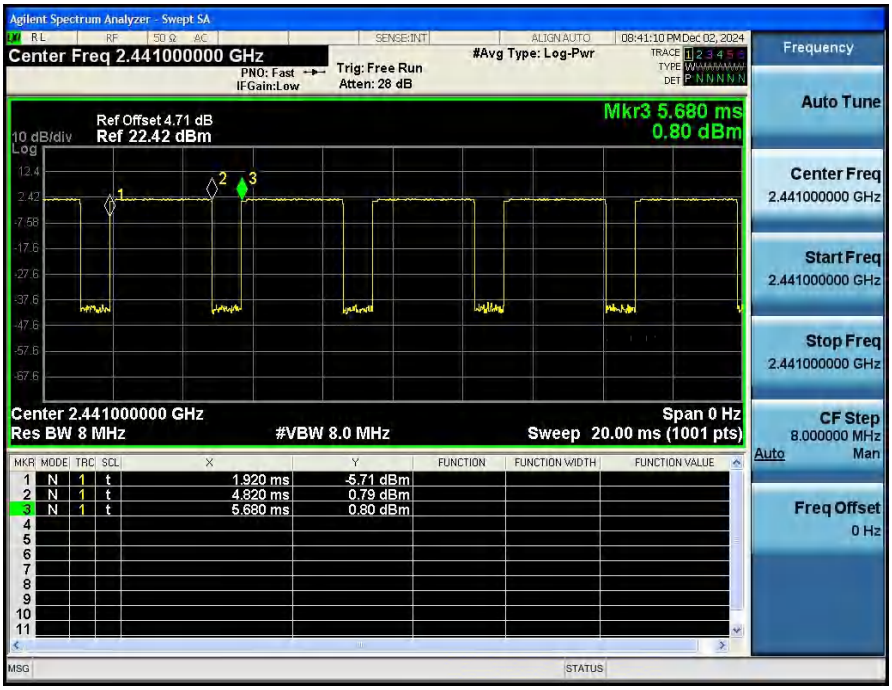
Duty_Cycle_NVNT_ANT1_2-DH5_2480



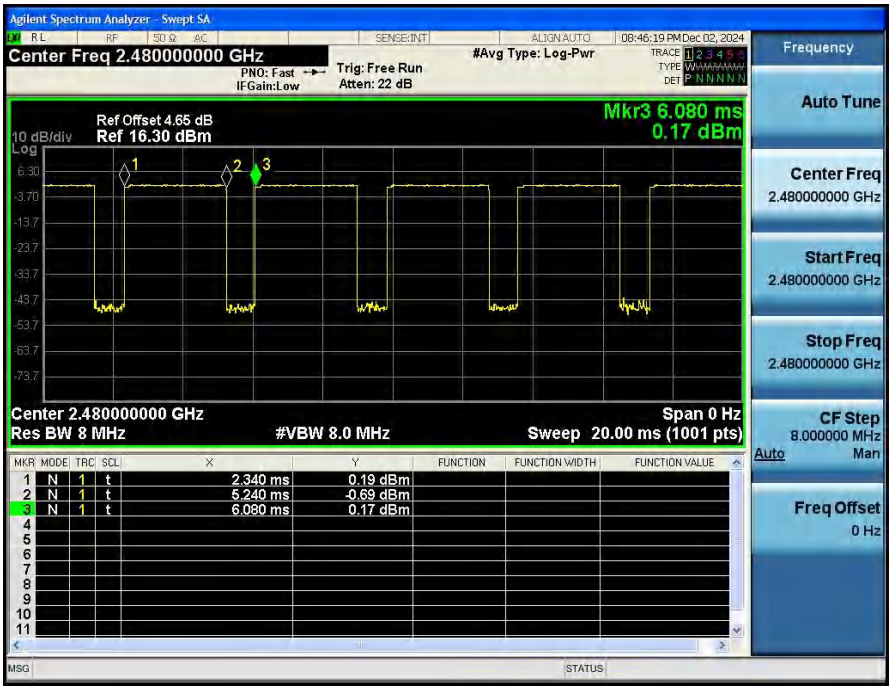
Duty_Cycle_NVNT_ANT1_3-DH5_2402



Duty_Cycle_NVNT_ANT1_3-DH5_2441



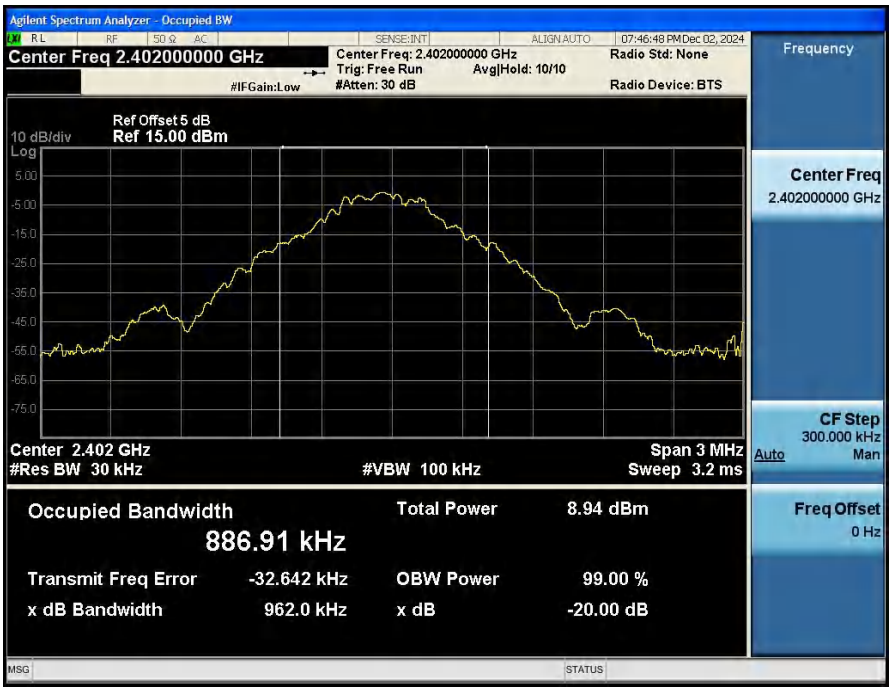
Duty_Cycle_NVNT_ANT1_3-DH5_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 22 dB
#Avg Type: Log-Pwr
08:46:19 PM Dec 02, 2024
Ref Offset 4.65 dB
10 dB/div
Log
Ref 16.30 dBm
Mkr3 6.080 ms
0.17 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 2.340 ms 0.19 dBm
2 N 1 t 5.240 ms -0.69 dBm
3 N 1 t 6.080 ms 0.17 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

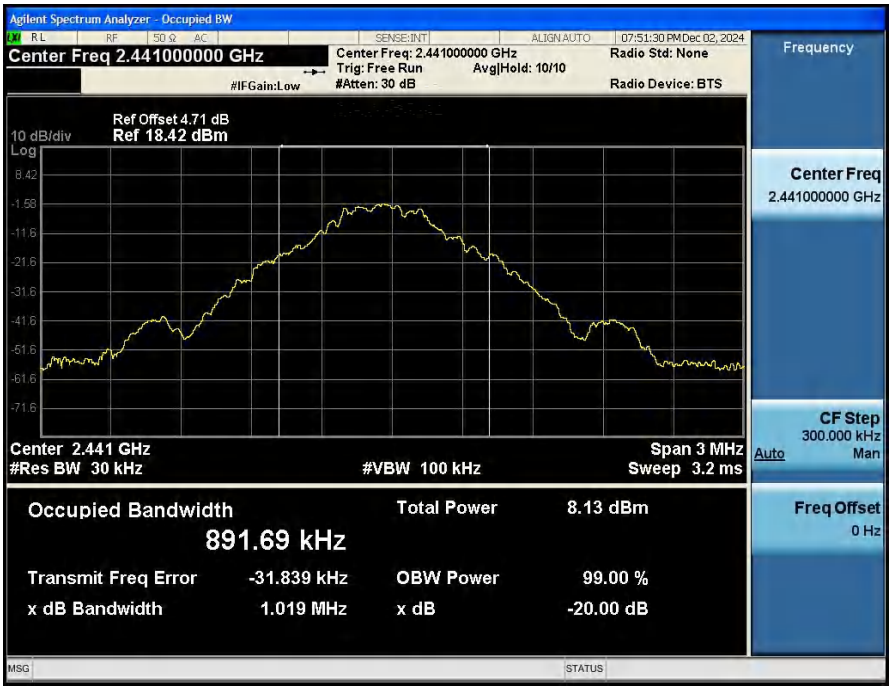
Appendix B: -20dB Bandwidth

Condition	Antenna	Modulation	Frequency (MHz)	-20dB BW(MHz)	if larger than CFS
NVNT	ANT1	1-DH5	2402.00	0.962	No
NVNT	ANT1	1-DH5	2441.00	1.019	Yes
NVNT	ANT1	1-DH5	2480.00	1.024	Yes
NVNT	ANT1	2-DH5	2402.00	1.312	Yes
NVNT	ANT1	2-DH5	2441.00	1.317	Yes
NVNT	ANT1	2-DH5	2480.00	1.320	Yes
NVNT	ANT1	3-DH5	2402.00	1.297	Yes
NVNT	ANT1	3-DH5	2441.00	1.308	Yes
NVNT	ANT1	3-DH5	2480.00	1.310	Yes

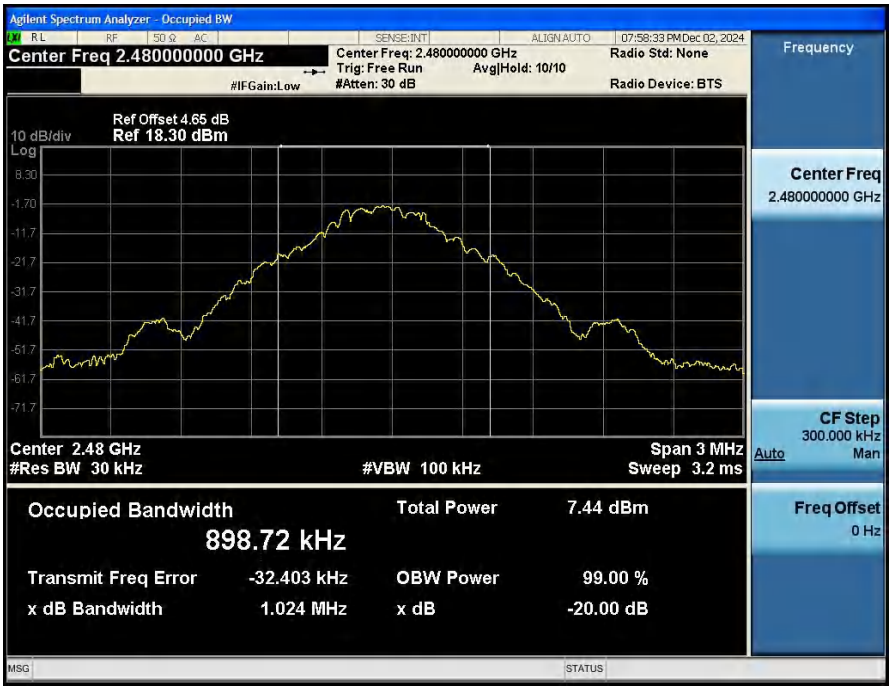
-20dB_Bandwidth_NVNT_ANT1_1-DH5_2402_00



-20dB_Bandwidth_NVNT_ANT1_1-DH5_2441_00



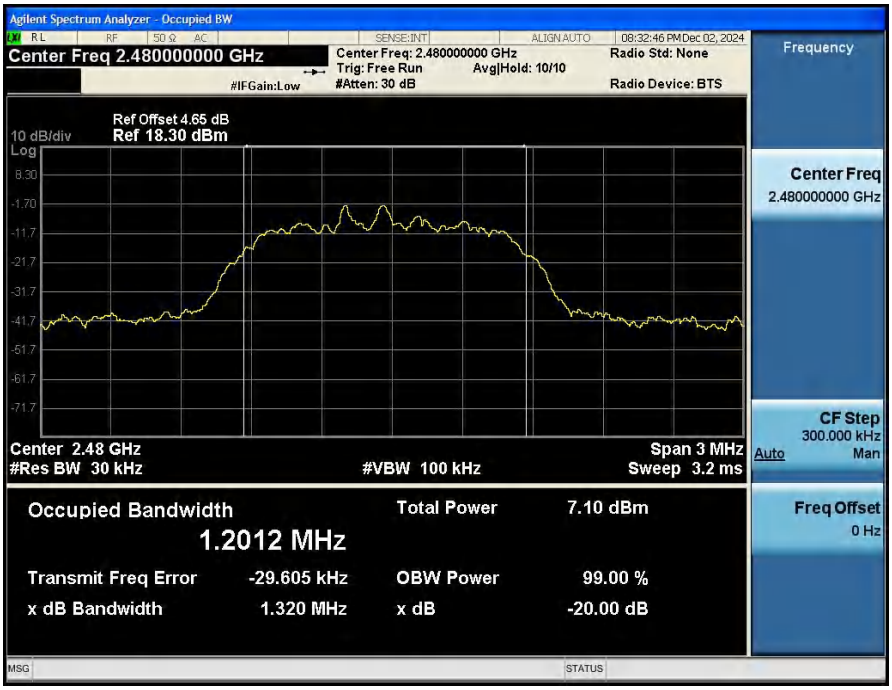
-20dB_Bandwidth_NVNT_ANT1_1-DH5_2480_00



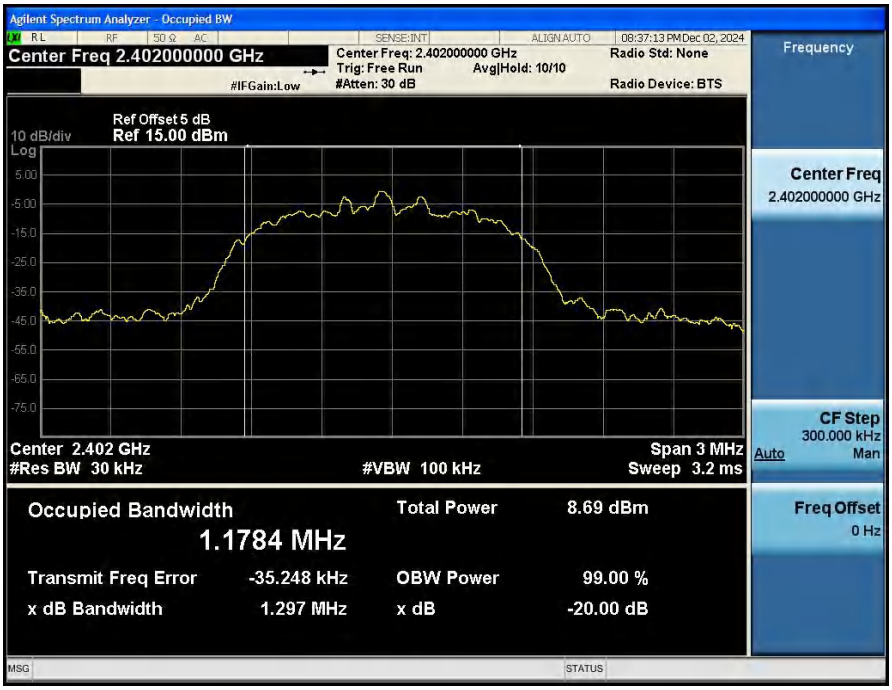
-20dB_Bandwidth_NVNT_ANT1_2-DH5_2402_00

-20dB_Bandwidth_NVNT_ANT1_2-DH5_2441_00

-20dB_Bandwidth_NVNT_ANT1_2-DH5_2480_00

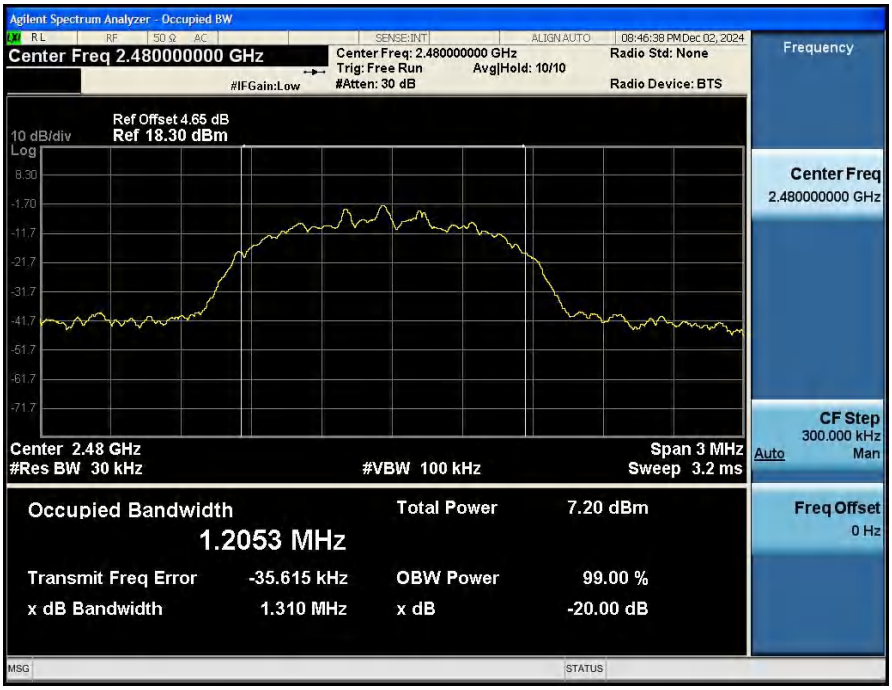


-20dB_Bandwidth_NVNT_ANT1_3-DH5_2402_00



-20dB_Bandwidth_NVNT_ANT1_3-DH5_2441_00

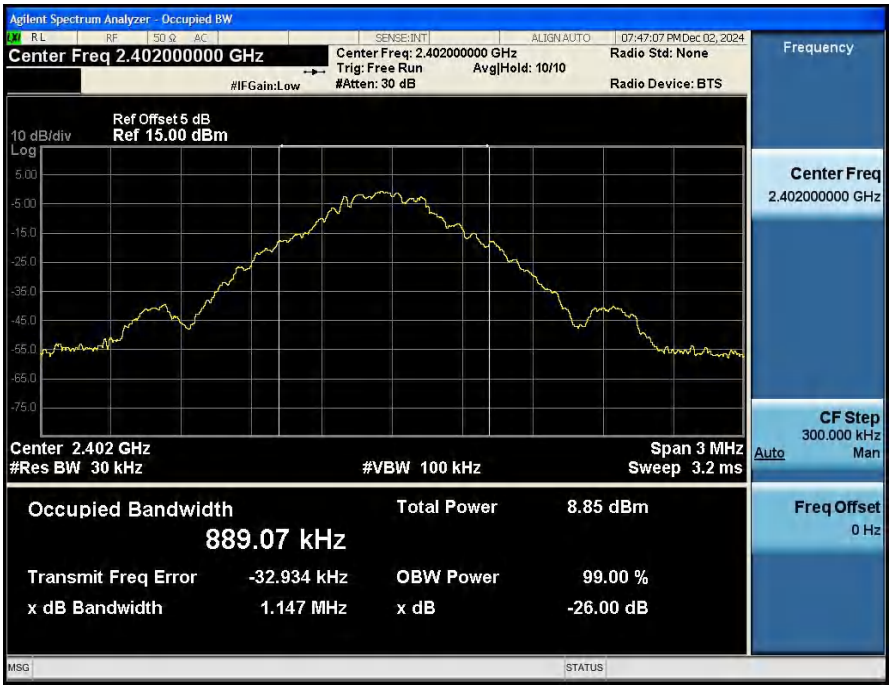
-20dB_Bandwidth_NVNT_ANT1_3-DH5_2480_00



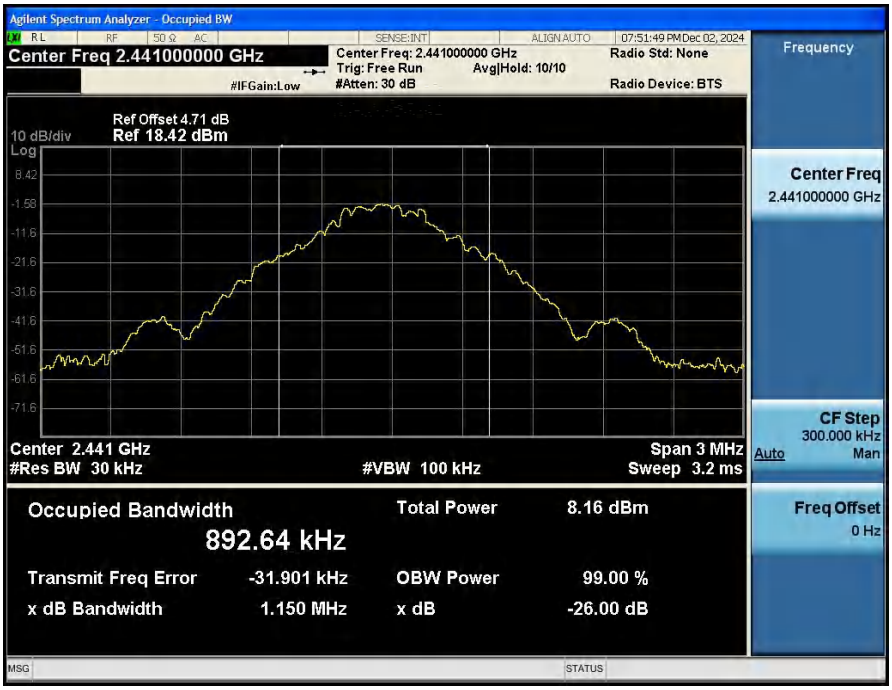
Appendix C: 99% Occupied Bandwidth

Condition	Antenna	Modulation	Frequency (MHz)	99%BW(MHz)
NVNT	ANT1	1-DH5	2402.00	0.889
NVNT	ANT1	1-DH5	2441.00	0.893
NVNT	ANT1	1-DH5	2480.00	0.903
NVNT	ANT1	2-DH5	2402.00	1.186
NVNT	ANT1	2-DH5	2441.00	1.191
NVNT	ANT1	2-DH5	2480.00	1.200
NVNT	ANT1	3-DH5	2402.00	1.179
NVNT	ANT1	3-DH5	2441.00	1.196
NVNT	ANT1	3-DH5	2480.00	1.206

99%_Occupied_Bandwidth_NVNT_ANT1_1-DH5_2402_00

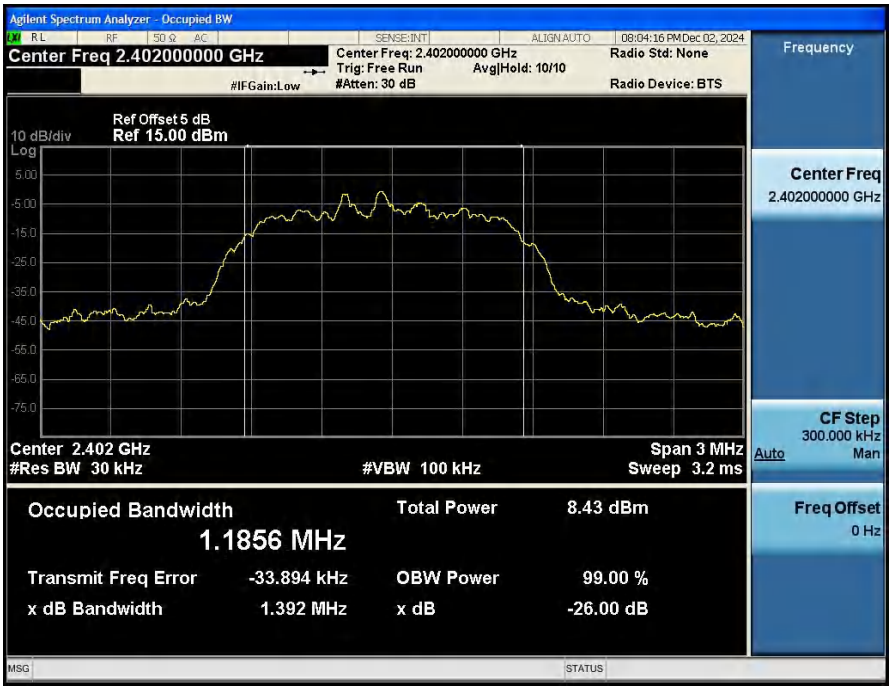


99%_Occupied_Bandwidth_NVNT_ANT1_1-DH5_2441_00



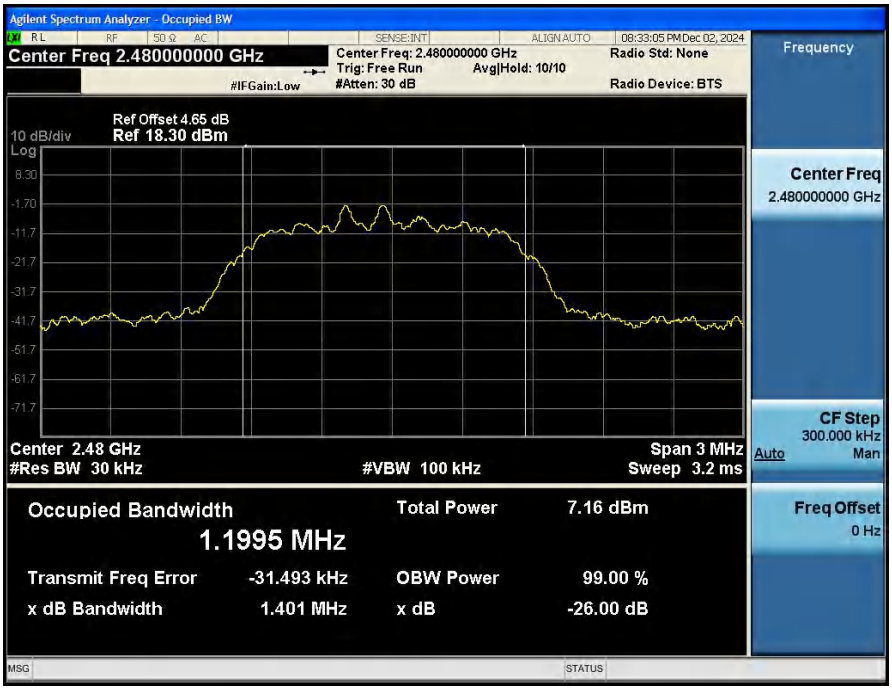
99%_Occupied_Bandwidth_NVNT_ANT1_1-DH5_2480_00

99%_Occupied_Bandwidth_NVNT_ANT1_2-DH5_2402_00

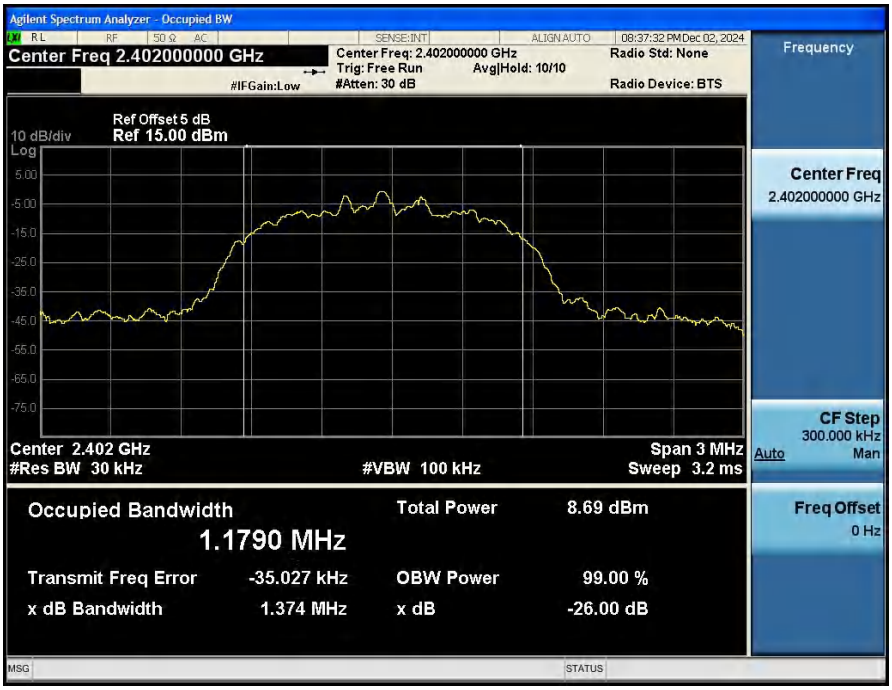


99%_Occupied_Bandwidth_NVNT_ANT1_2-DH5_2441_00

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	0.77	1.19	125	Pass
NVNT	ANT1	1-DH5	2480.00	0.14	1.03	125	Pass
NVNT	ANT1	2-DH5	2402.00	2.13	1.63	125	Pass
NVNT	ANT1	2-DH5	2441.00	1.49	1.41	125	Pass
NVNT	ANT1	2-DH5	2480.00	0.83	1.21	125	Pass
NVNT	ANT1	3-DH5	2402.00	**2.54**	1.80	125	Pass
NVNT	ANT1	3-DH5	2441.00	1.80	1.51	125	Pass
NVNT	ANT1	3-DH5	2480.00	1.02	1.27	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

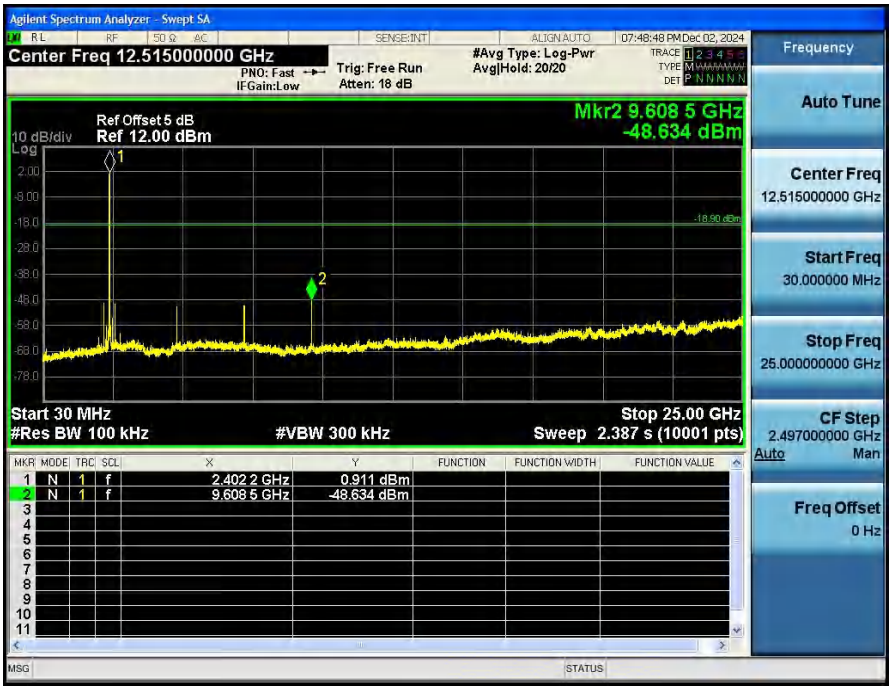
Peak_Output_Power_NVNT_ANT1_3-DH5_2480_00

Appendix E: Spurious Emissions

Condition	Antenna	Modulation	TX Mode	Spurious MAX.Value(dBm)	Limit	Result
NVNT	ANT1	1-DH5	2402.00	-48.634	-18.900	Pass
NVNT	ANT1	1-DH5	2441.00	-47.581	-19.548	Pass
NVNT	ANT1	1-DH5	2480.00	-46.748	-20.038	Pass
NVNT	ANT1	2-DH5	2402.00	-42.270	-18.770	Pass
NVNT	ANT1	2-DH5	2441.00	-46.850	-19.454	Pass
NVNT	ANT1	2-DH5	2480.00	-46.968	-20.296	Pass
NVNT	ANT1	3-DH5	2402.00	-47.857	-18.806	Pass
NVNT	ANT1	3-DH5	2441.00	-45.692	-19.401	Pass
NVNT	ANT1	3-DH5	2480.00	-46.801	-20.082	Pass

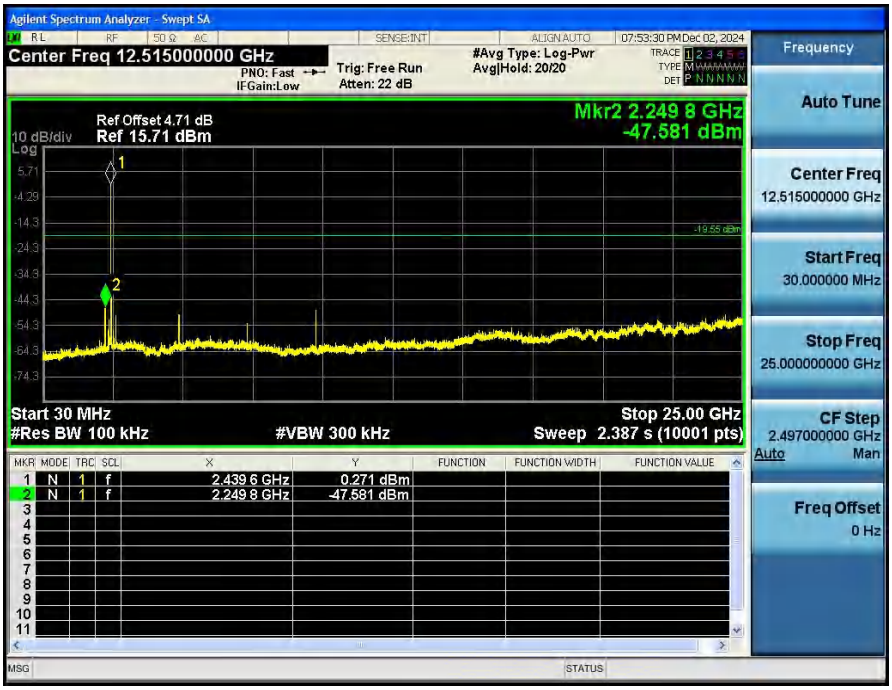
1_Reference_Level_NVNT_ANT1_1-DH5_2402_00

2_Spurious_Emissions_NVNT_ANT1_1-DH5_2402_00



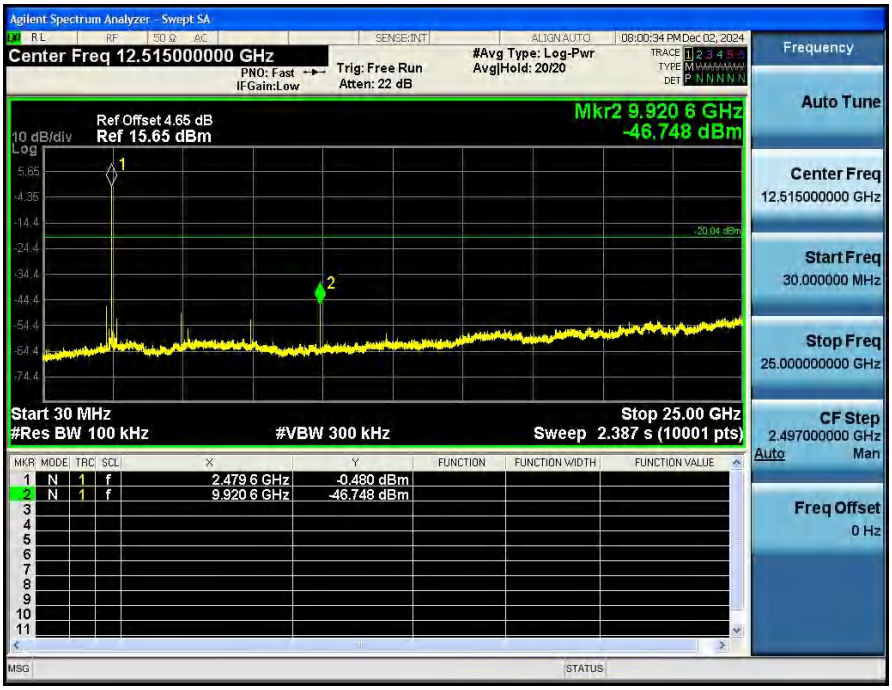
1_Reference_Level_NVNT_ANT1_1-DH5_2441_00

2_Spurious_Emissions_NVNT_ANT1_1-DH5_2441_00



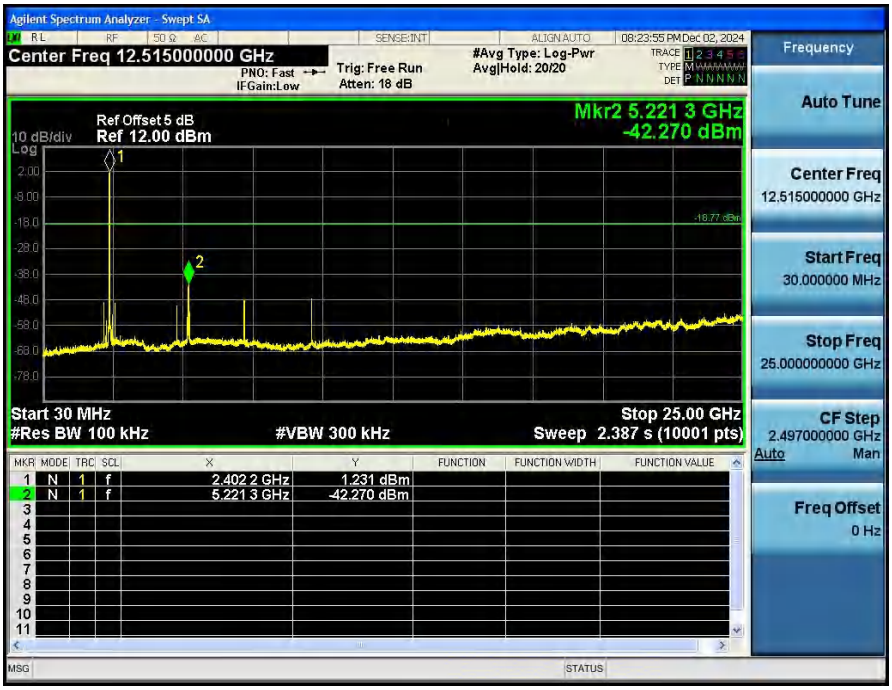
1_Reference_Level_NVNT_ANT1_1-DH5_2480_00

2_Spurious_Emissions_NVNT_ANT1_1-DH5_2480_00



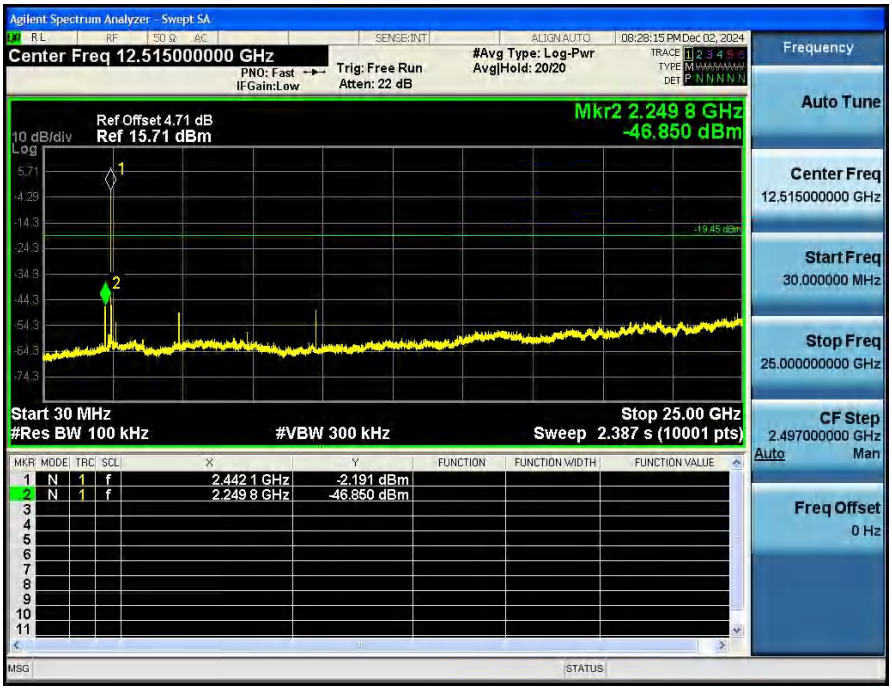
1_Reference_Level_NVNT_ANT1_2-DH5_2402_00

2_Spurious_Emissions_NVNT_ANT1_2-DH5_2402_00



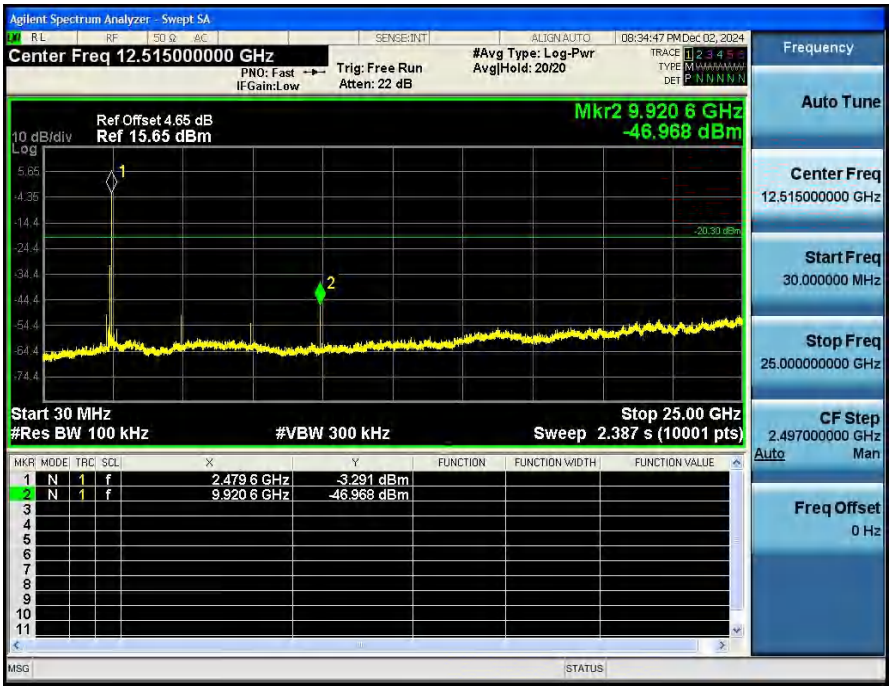
1_Reference_Level_NVNT_ANT1_2-DH5_2441_00

2_Spurious_Emissions_NVNT_ANT1_2-DH5_2441_00



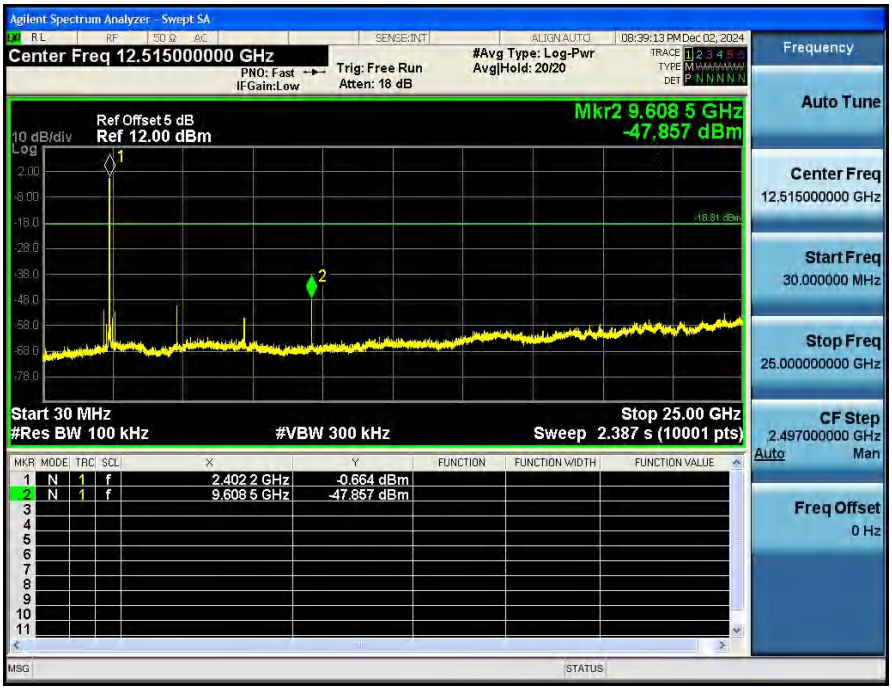
1_Reference_Level_NVNT_ANT1_2-DH5_2480_00

2_Spurious_Emissions_NVNT_ANT1_2-DH5_2480_00



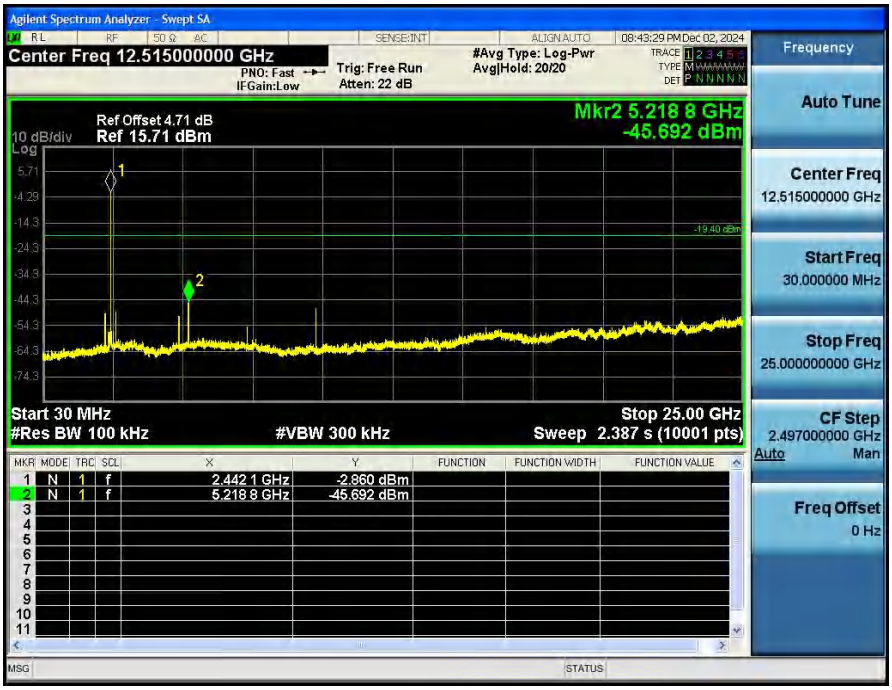
1_Reference_Level_NVNT_ANT1_3-DH5_2402_00

2_Spurious_Emissions_NVNT_ANT1_3-DH5_2402_00



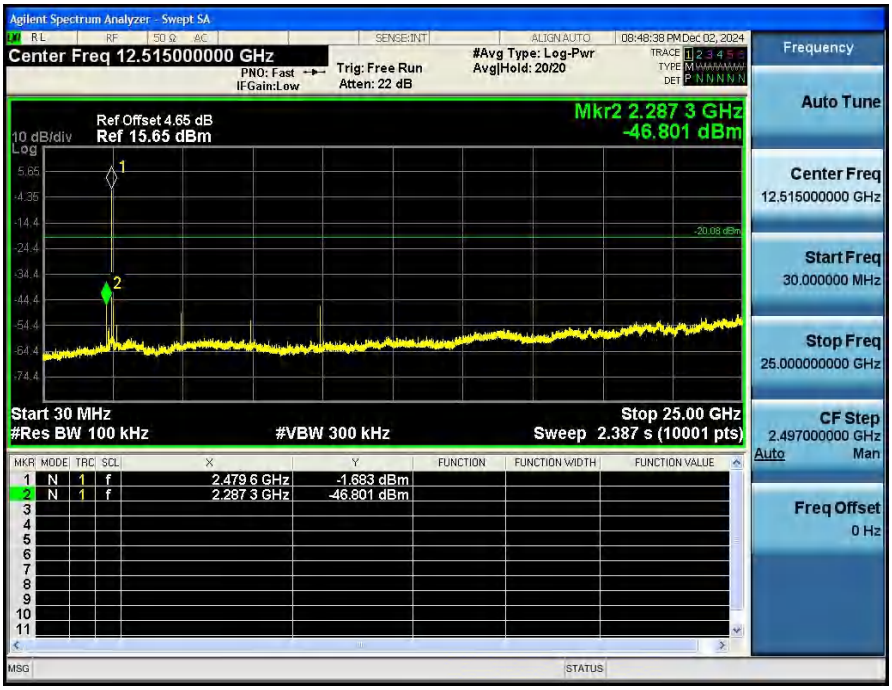
1_Reference_Level_NVNT_ANT1_3-DH5_2441_00

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

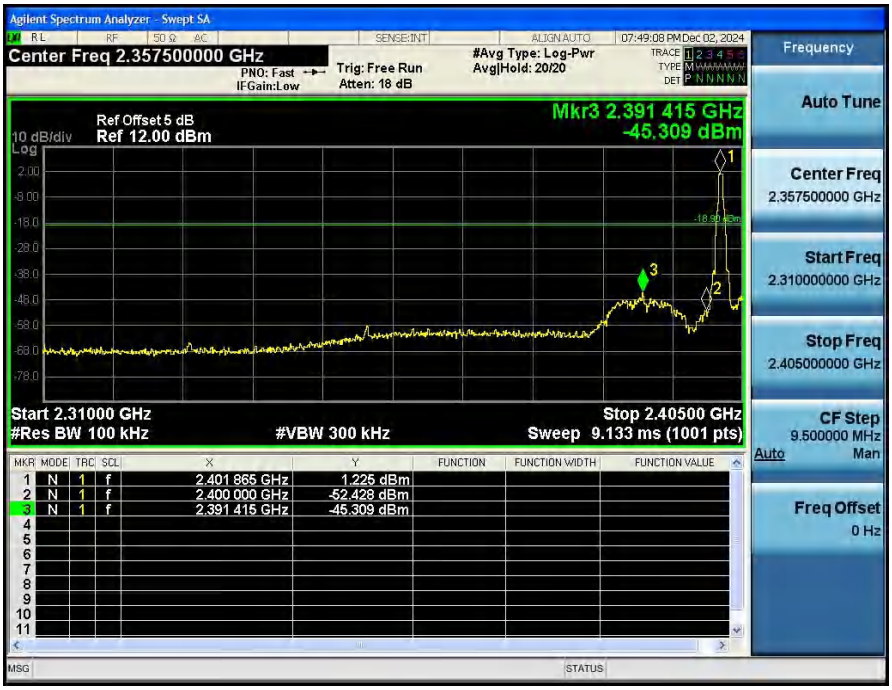

Agilent Spectrum Analyzer - Swept SA
Center Freq 12.515000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 22 dB
#Avg Type: Log-Pwr
Avg|Hold: 20/20
08:48:38 PM Dec 02, 2024
Ref Offset 4.65 dB
10 dB/div
Log
Ref 15.65 dBm
Mkr2 2.287 3 GHz
-46.801 dBm
-20.08 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
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 -1.683 dBm
2 N 1 f 2.287 3 GHz -46.801 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

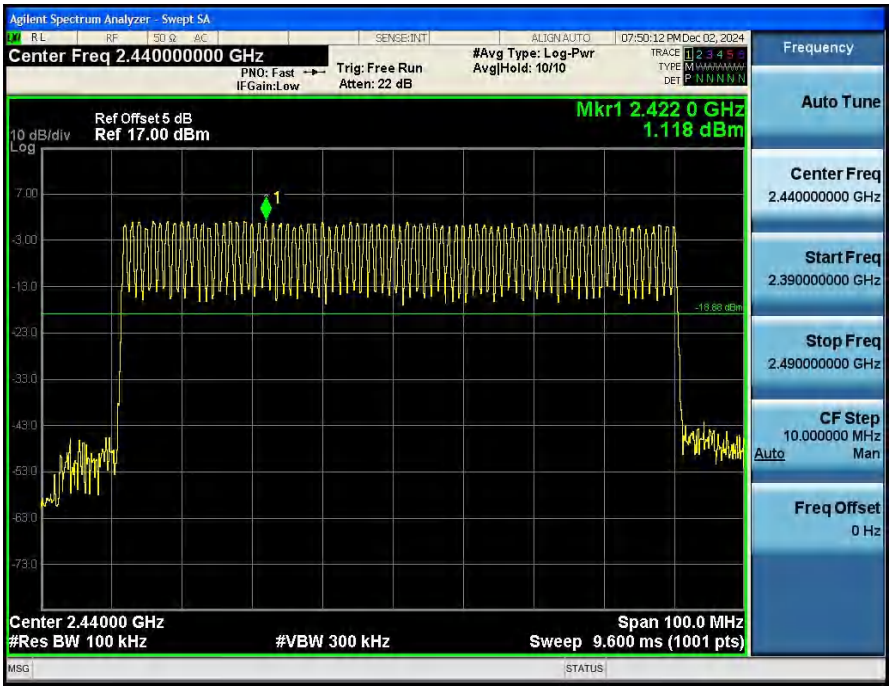
Condition	Antenna	Modulation	TX Mode	Bandedge MAX.Value	Limit	Result
NVNT	ANT1	1-DH5	2402.00	-45.309	-18.900	Pass
NVNT	ANT1	1-DH5	Hopping_LCH	-45.668	-18.882	Pass
NVNT	ANT1	1-DH5	2480.00	-57.398	-20.038	Pass
NVNT	ANT1	1-DH5	Hopping_HCH	-43.730	-19.119	Pass
NVNT	ANT1	2-DH5	2402.00	-46.133	-18.770	Pass
NVNT	ANT1	2-DH5	Hopping_LCH	-54.549	-18.691	Pass
NVNT	ANT1	2-DH5	2480.00	-58.348	-20.296	Pass
NVNT	ANT1	2-DH5	Hopping_HCH	-44.759	-19.033	Pass
NVNT	ANT1	3-DH5	2402.00	-47.629	-18.806	Pass
NVNT	ANT1	3-DH5	Hopping_LCH	-56.130	-18.699	Pass
NVNT	ANT1	3-DH5	2480.00	-57.439	-20.082	Pass
NVNT	ANT1	3-DH5	Hopping_HCH	-42.681	-19.354	Pass

1_Reference_Level_NVNT_ANT1_1-DH5_2402_00

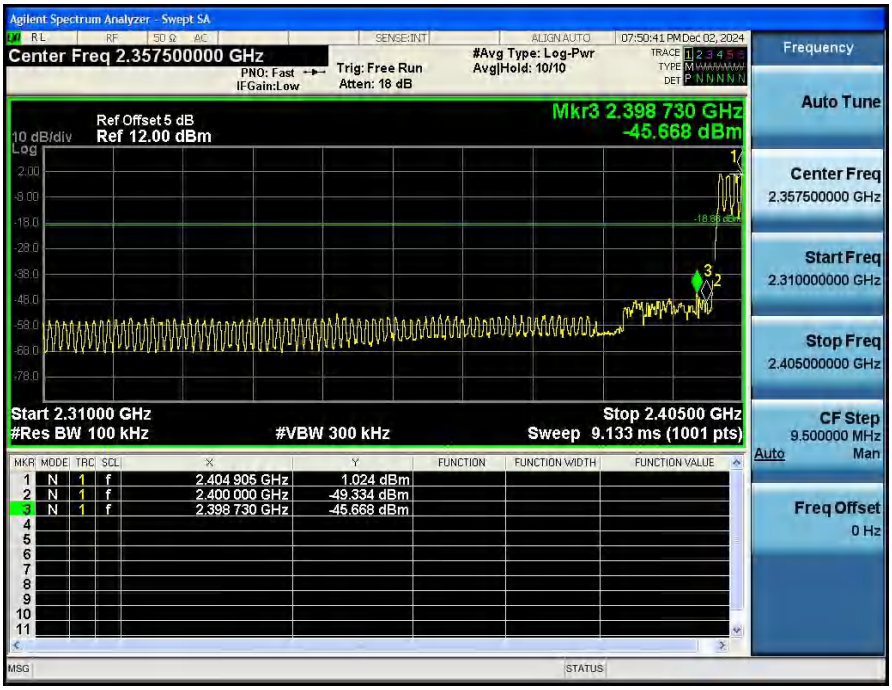
2_Bandedge_NVNT_ANT1_1-DH5_2402_00



1_Reference_Level_Hopping_NVNT_ANT1_1-DH5_Hopping

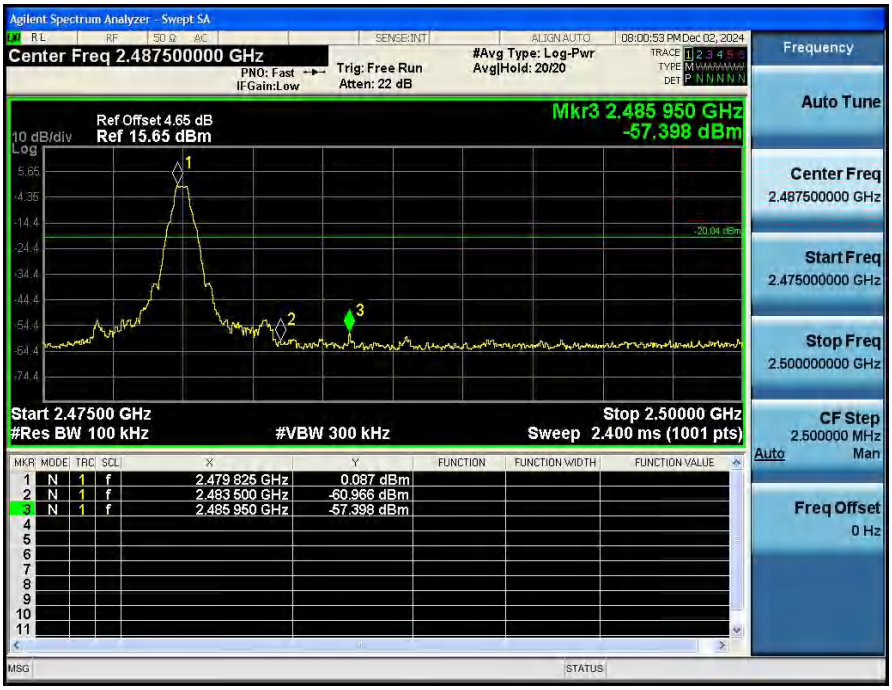


2_Band_Edge_(Hopping)_NVNT_ANT1_1-DH5_Hopping

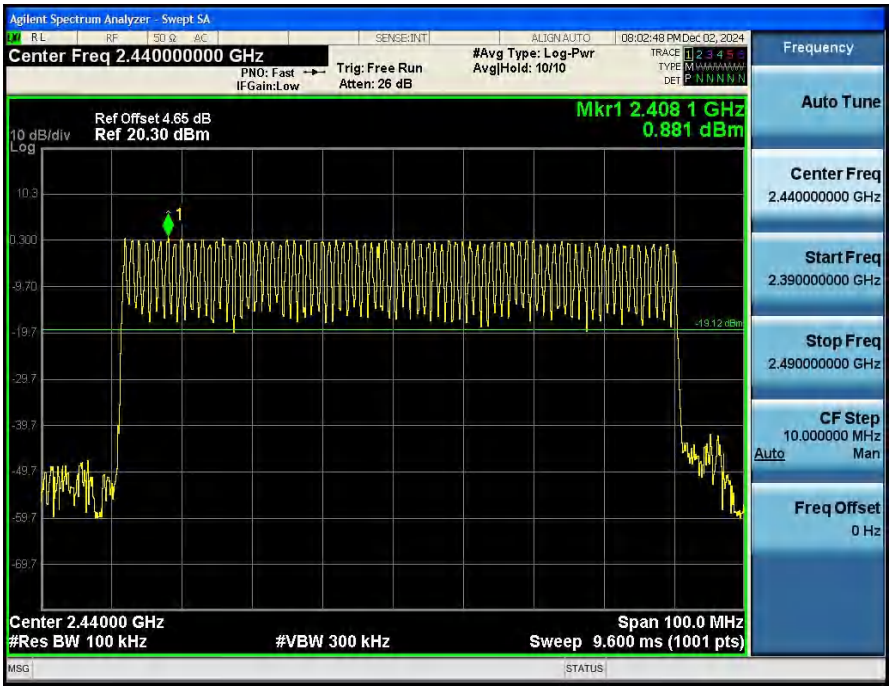


1_Reference_Level_NVNT_ANT1_1-DH5_2480_00

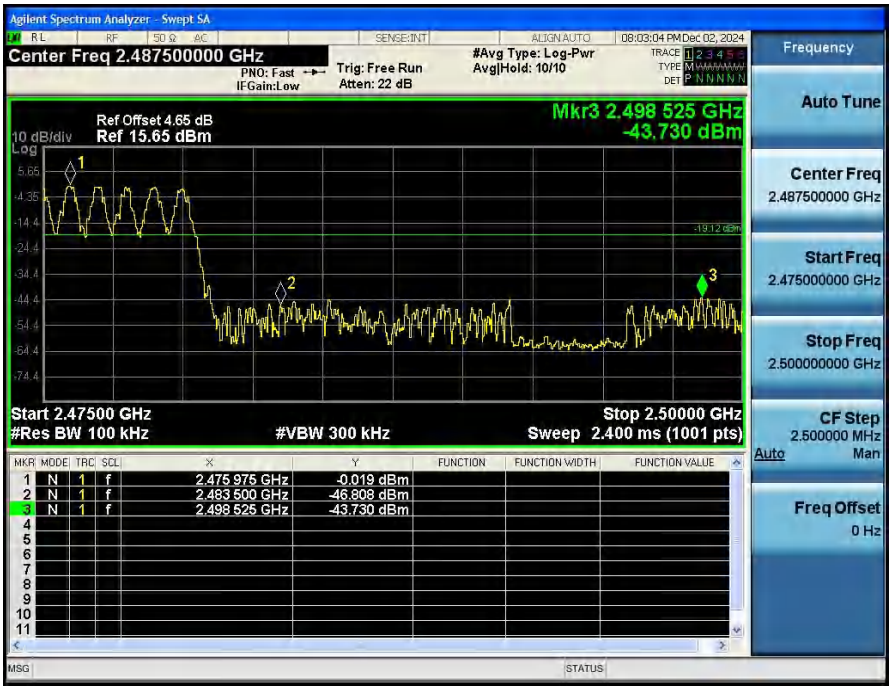
2_Bandedge_NVNT_ANT1_1-DH5_2480_00



1_Reference_Level_Hopping_NVNT_ANT1_1-DH5_Hopping

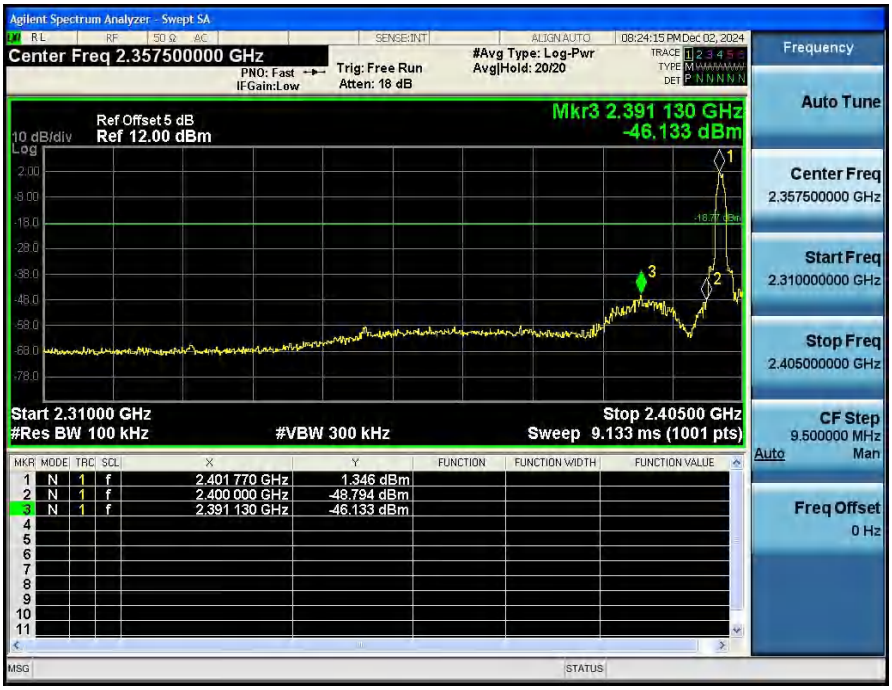


2_Band_Edge_(Hopping)_NVNT_ANT1_1-DH5_Hopping

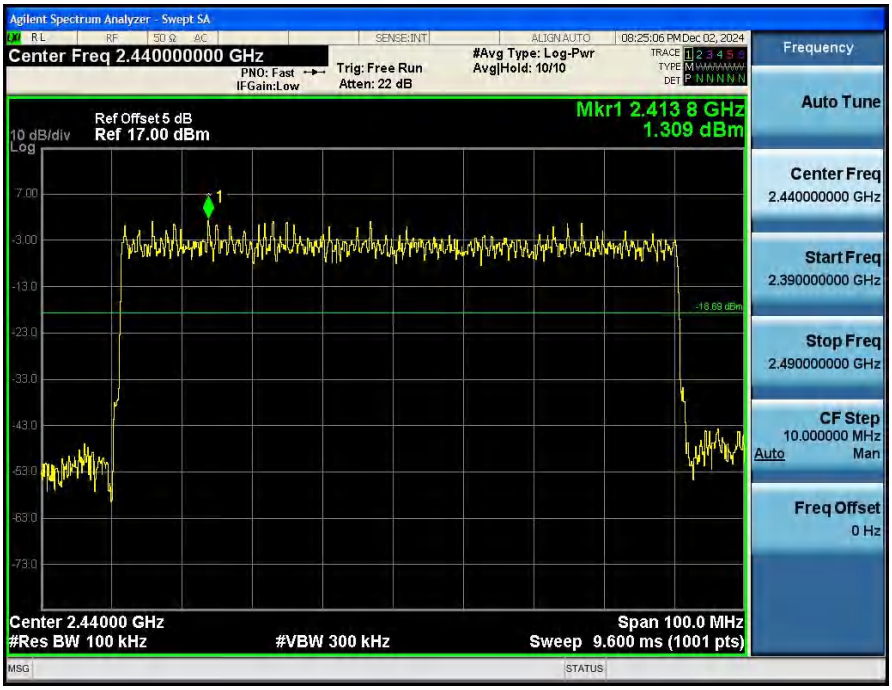


1_Reference_Level_NVNT_ANT1_2-DH5_2402_00

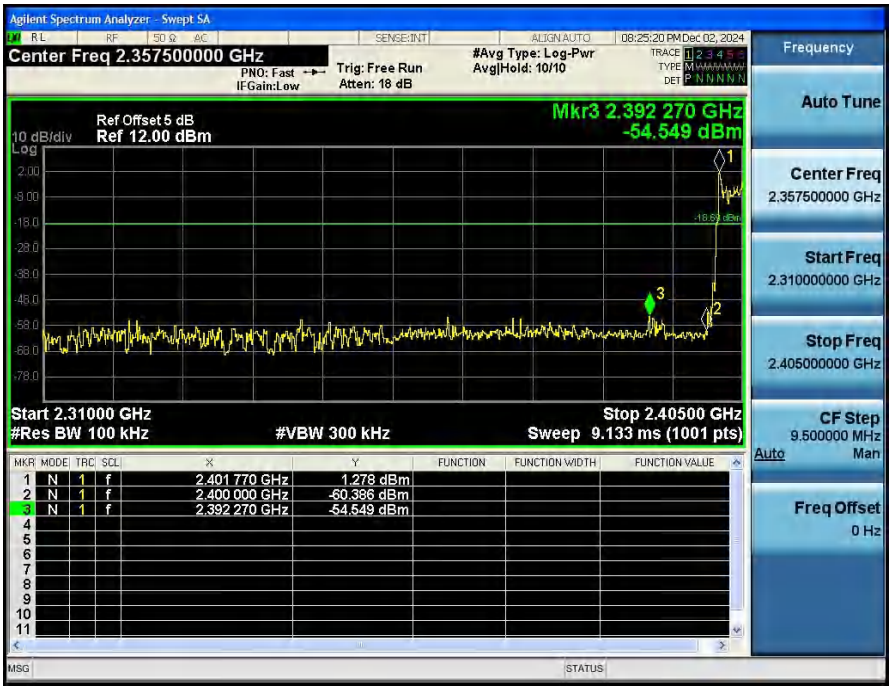
2_Bandedge_NVNT_ANT1_2-DH5_2402_00



1_Reference_Level_Hopping_NVNT_ANT1_2-DH5_Hopping



2_Band_Edge_(Hopping)_NVNT_ANT1_2-DH5_Hopping

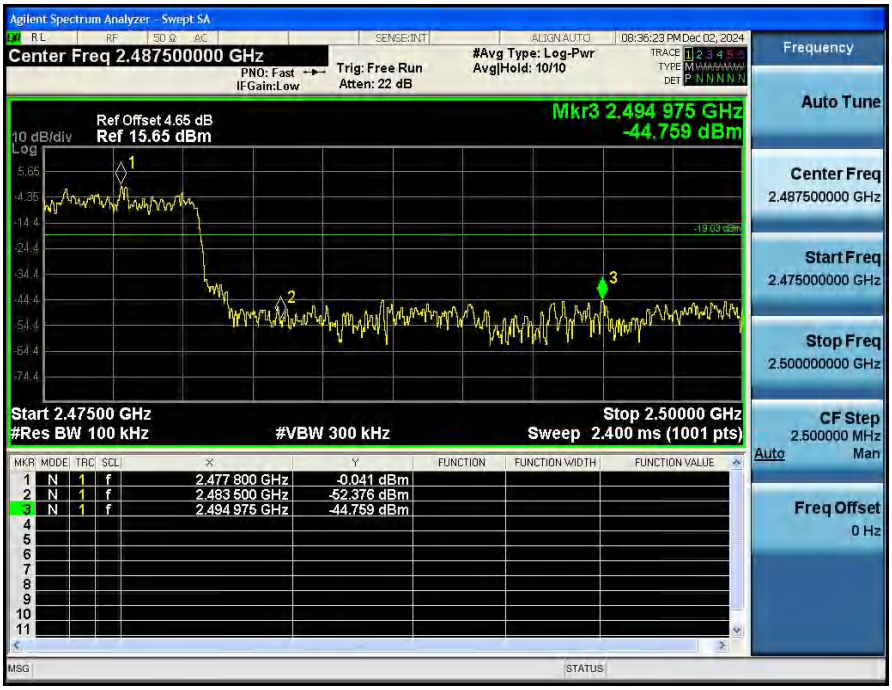


1_Reference_Level_NVNT_ANT1_2-DH5_2480_00

2_Bandedge_NVNT_ANT1_2-DH5_2480_00

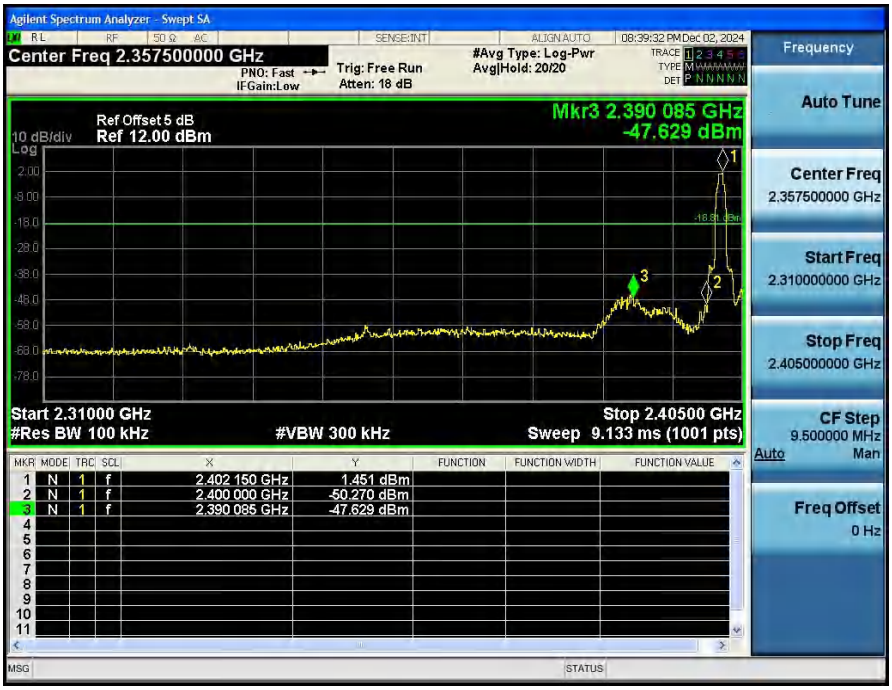
1_Reference_Level_Hopping_NVNT_ANT1_2-DH5_Hopping

2_Band_Edge_(Hopping)_NVNT_ANT1_2-DH5_Hopping

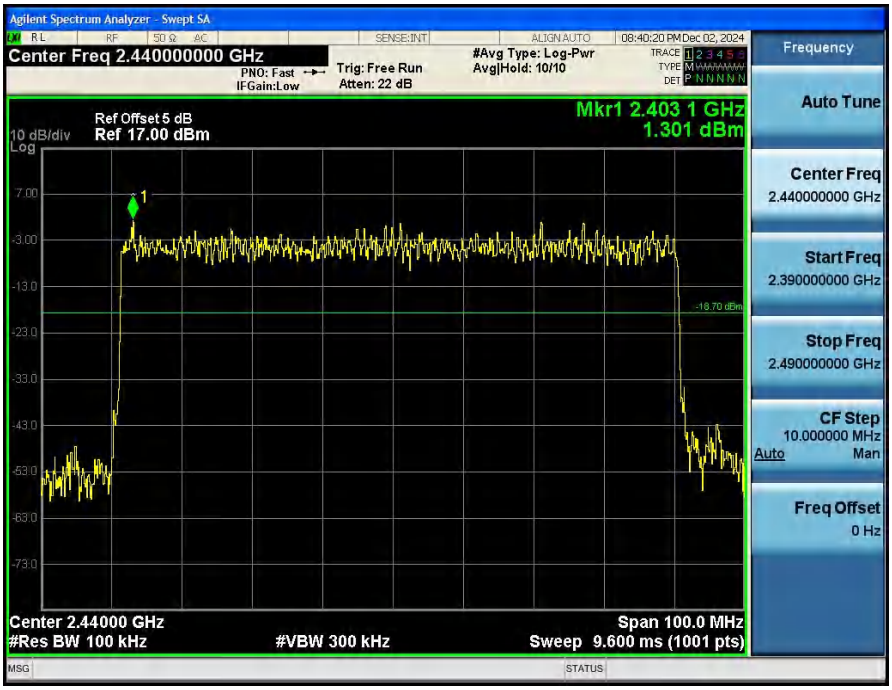


1_Reference_Level_NVNT_ANT1_3-DH5_2402_00

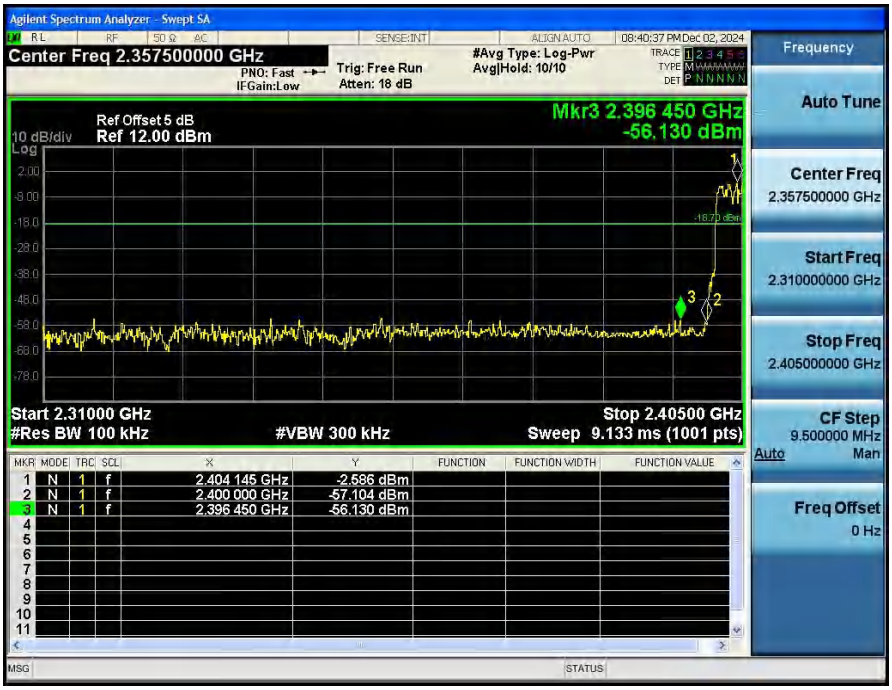
2_Bandedge_NVNT_ANT1_3-DH5_2402_00



1_Reference_Level_Hopping_NVNT_ANT1_3-DH5_Hopping



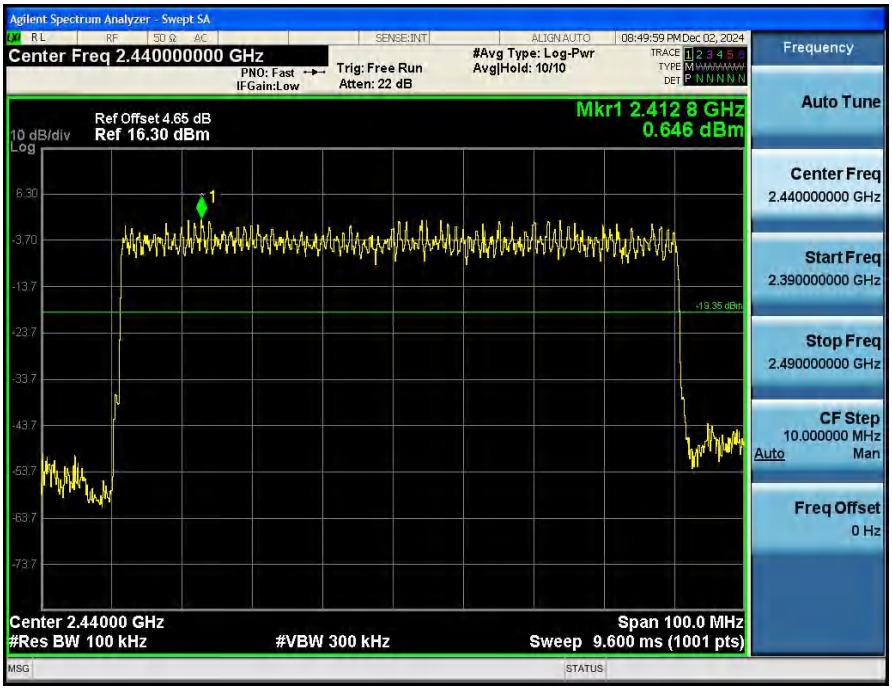
2_Band_Edge_(Hopping)_NVNT_ANT1_3-DH5_Hopping



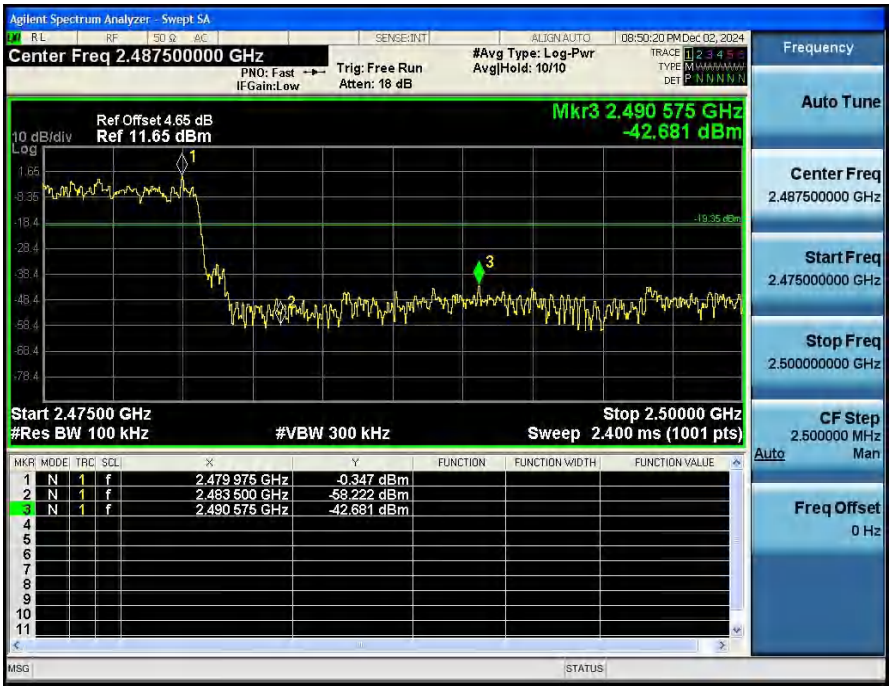
1_Reference_Level_NVNT_ANT1_3-DH5_2480_00

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

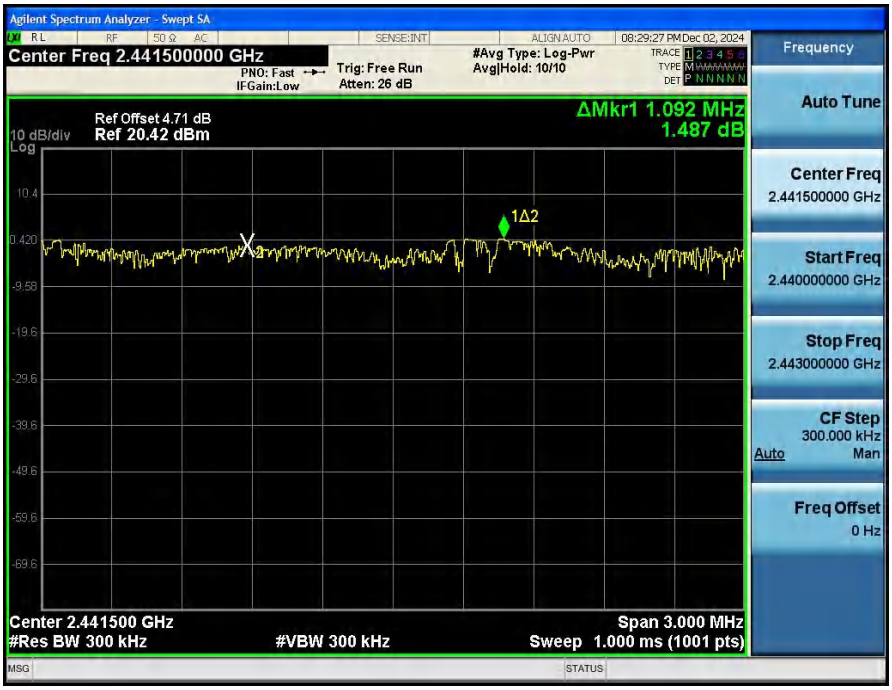

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.487500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 18 dB
#Avg Type: Log-Pwr
Avg|Hold: 10/10
08:50:20 PM Dec 02, 2024
Ref Offset 4.65 dB
10 dB/div
Log
Ref 11.65 dBm
Mkr3 2.490 575 GHz
-42.681 dBm
-19.35 dBm
Start 2.47500 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.50000 GHz
Sweep 2.400 ms (1001 pts)
1 N 1 f 2.479 975 GHz -0.347 dBm
2 N 1 f 2.483 500 GHz -58.222 dBm
3 N 1 f 2.490 575 GHz -42.681 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	2440.981	2441.803	0.82	0.683	Pass
NVNT	ANT1	2-DH5	2441.00	2440.879	2441.971	1.09	0.880	Pass
NVNT	ANT1	3-DH5	2441.00	2440.984	2442.133	1.15	0.873	Pass

Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_1-DH5_Hopping

Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_2-DH5_Hopping

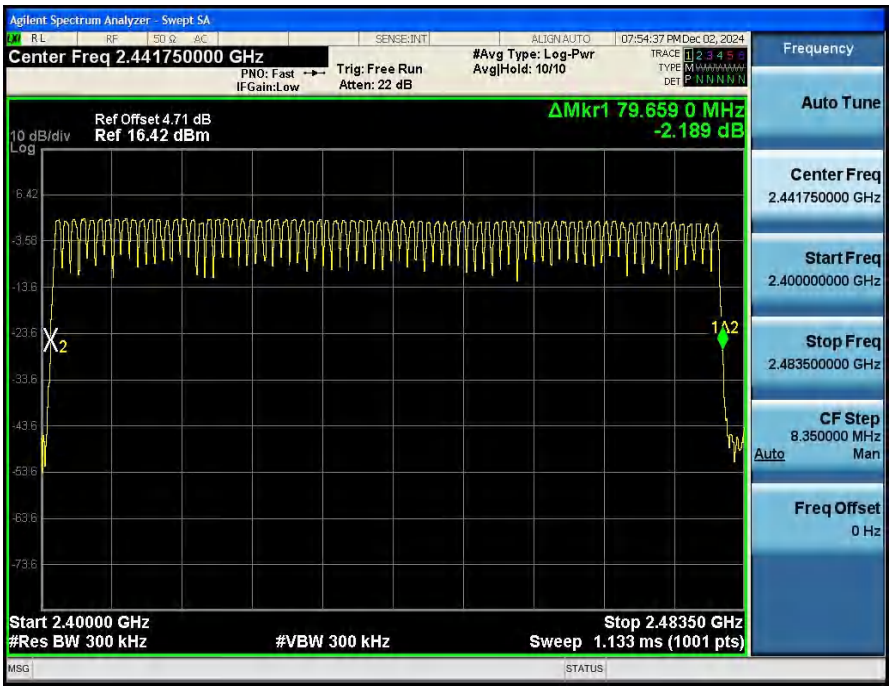


Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_3-DH5_Hopping

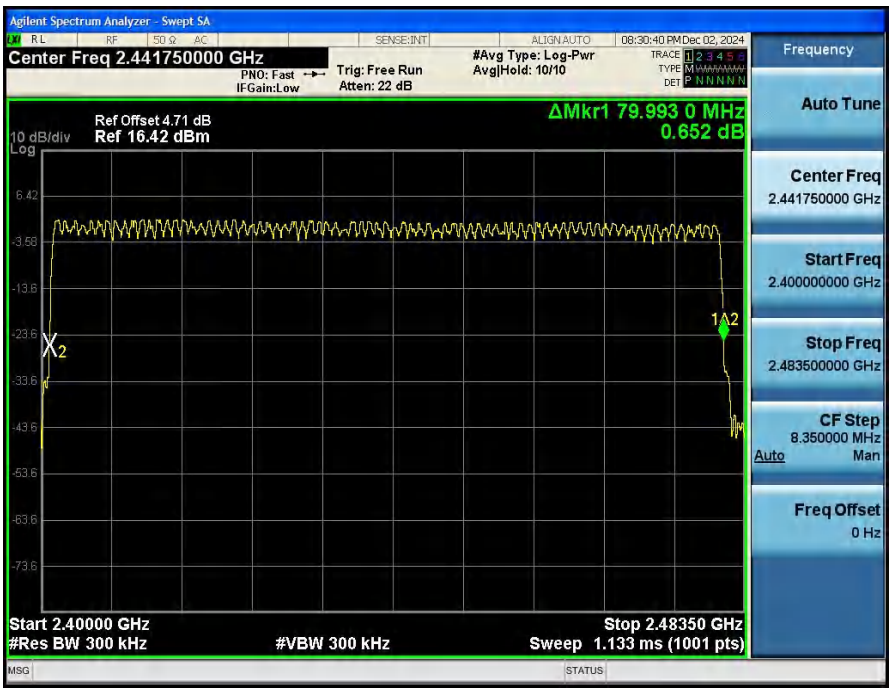
Appendix H: Number of Hopping Channel (Hopping)

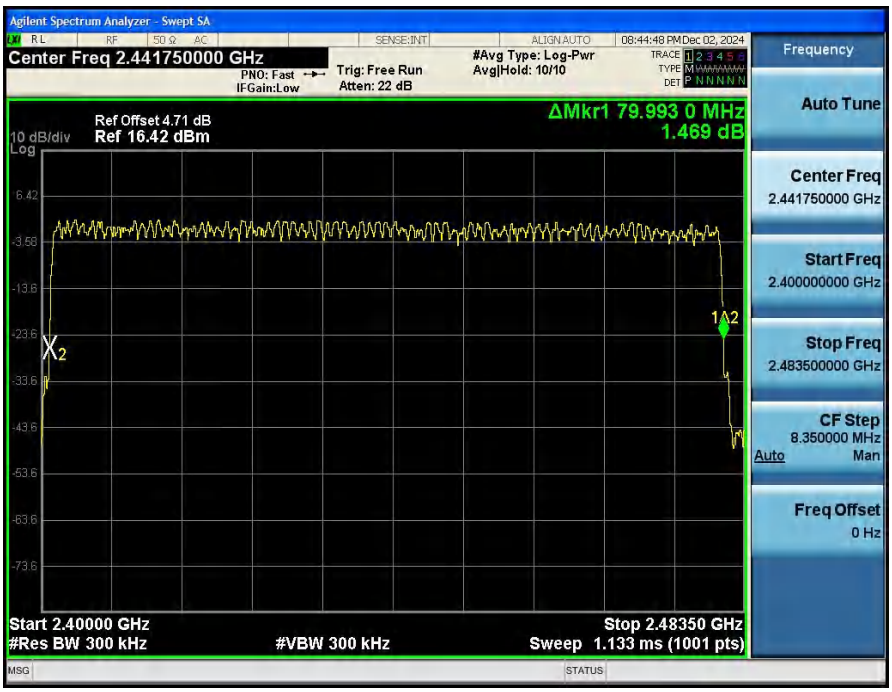
Condition	Antenna	Modulation	Hopping Num	Limit	Result
NVNT	ANT1	1-DH5	79	15	Pass
NVNT	ANT1	2-DH5	79	15	Pass
NVNT	ANT1	3-DH5	79	15	Pass

Number_of_Hopping_Channel_(Hopping)_NVNT_ANT1_1-DH5_Hopping



Number_of_Hopping_Channel_(Hopping)_NVNT_ANT1_2-DH5_Hopping

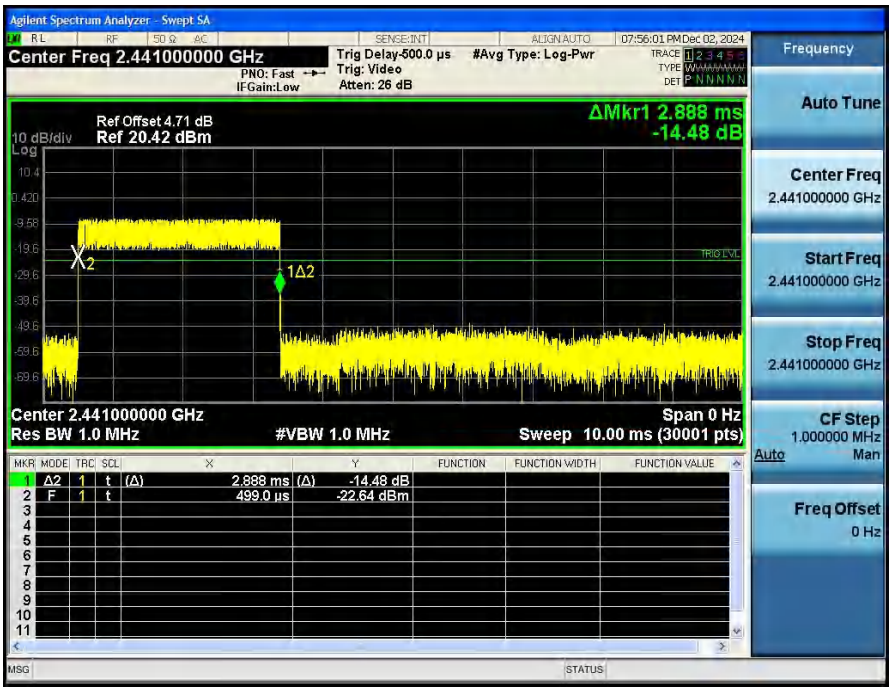


Number_of_Hopping_Channel_(Hopping)_NVNT_ANT1_3-DH5_Hopping


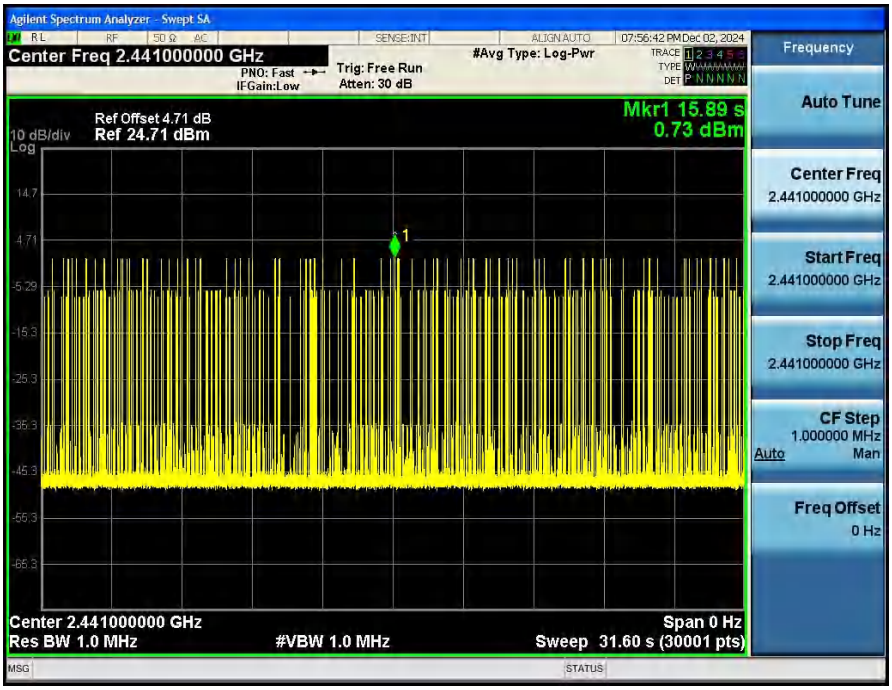
Appendix I: Dwell Time (Hopping)

Condition	Antenna	Packet Type	Pulse Time(ms)	Hops	Dwell Time(ms)	Limit(s)	Result
NVNT	ANT1	1-DH5	2.888	96.00	277.248	0.40	Pass
NVNT	ANT1	2-DH5	2.893	103.00	297.979	0.40	Pass
NVNT	ANT1	3-DH5	2.895	114.00	330.030	0.40	Pass
NVNT	ANT1	1-DH1	0.383	320.00	122.560	0.40	Pass
NVNT	ANT1	1-DH3	1.640	151.00	247.640	0.40	Pass
NVNT	ANT1	2-DH1	0.393	320.00	125.760	0.40	Pass
NVNT	ANT1	2-DH3	1.645	165.00	271.425	0.40	Pass
NVNT	ANT1	3-DH1	0.393	320.00	125.760	0.40	Pass
NVNT	ANT1	3-DH3	1.644	159.00	261.396	0.40	Pass

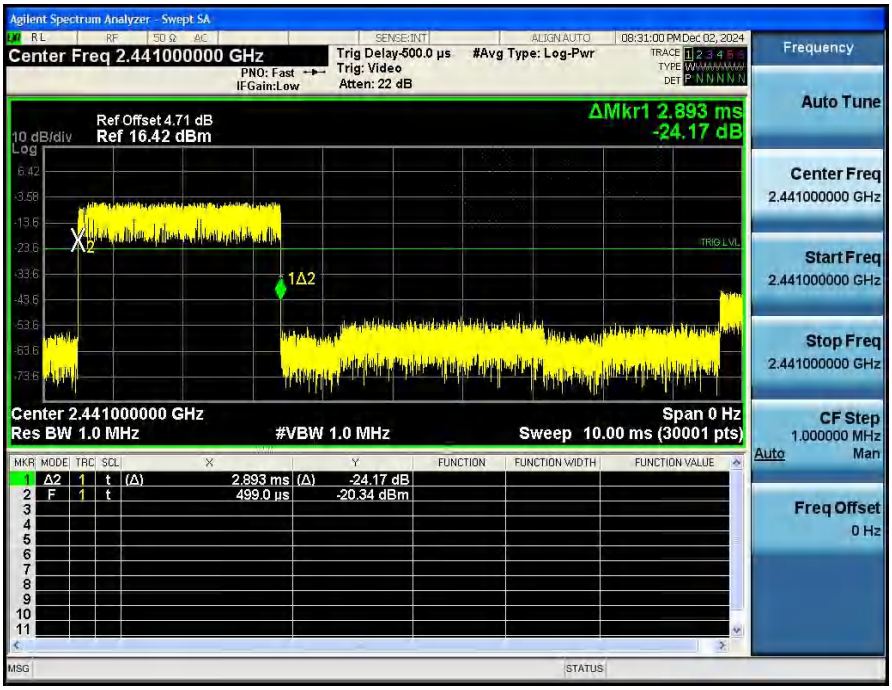
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH5_2441_00_One_Burst_Time



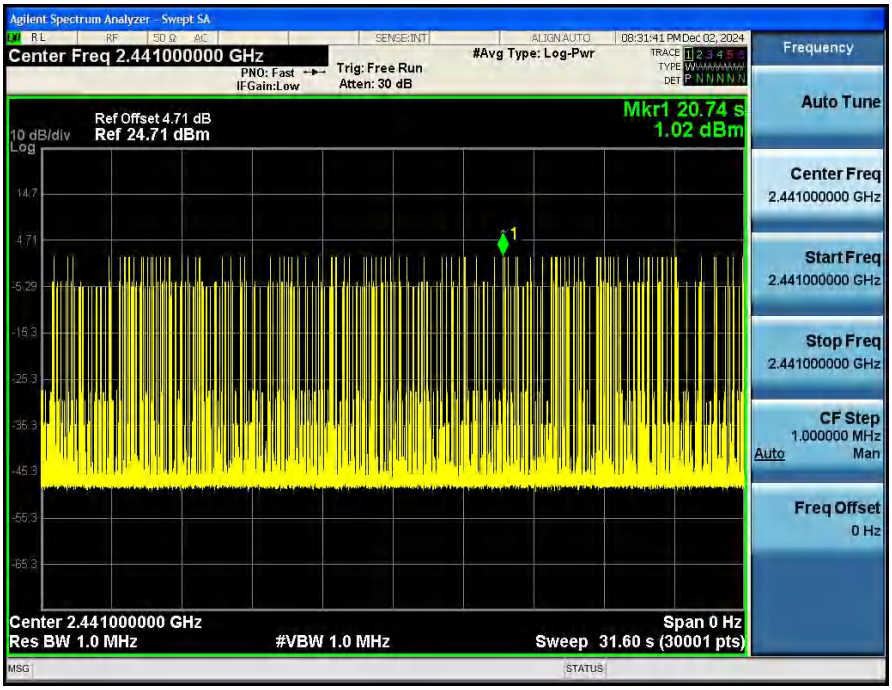
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH5_2441_00_Accumulated



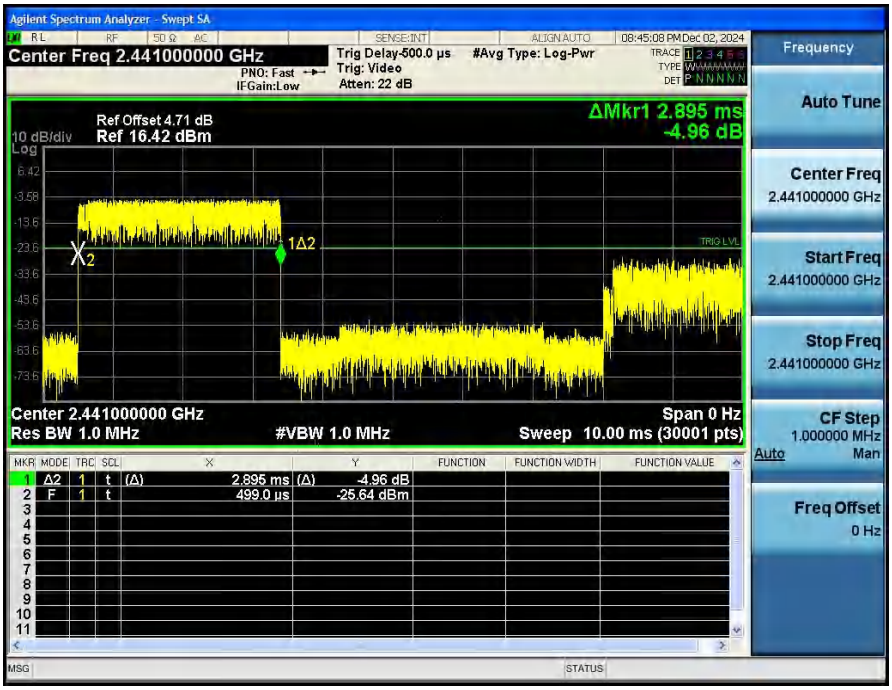
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH5_2441_00_One_Burst_Time



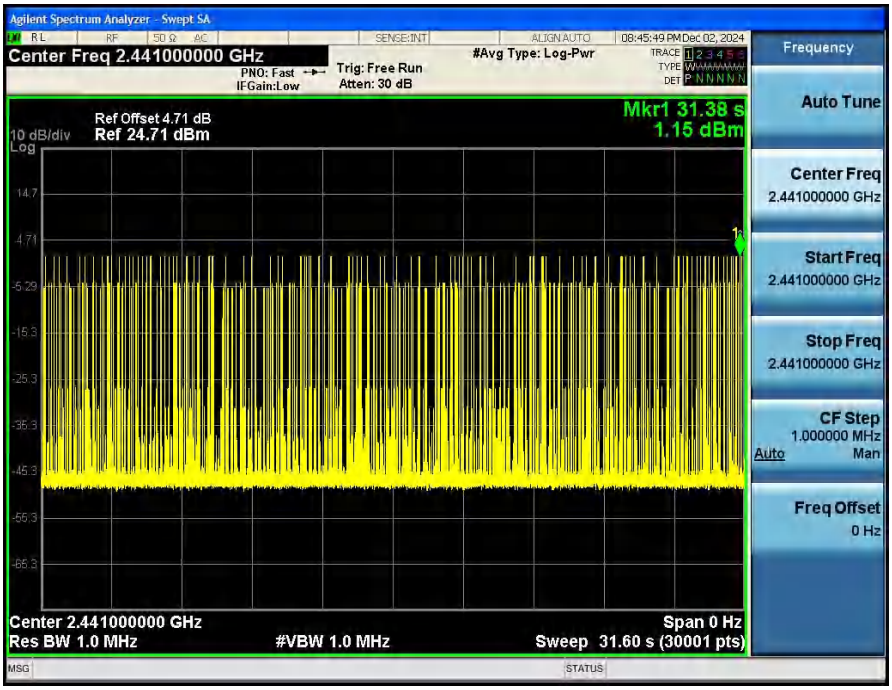
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH5_2441_00_Accumulated



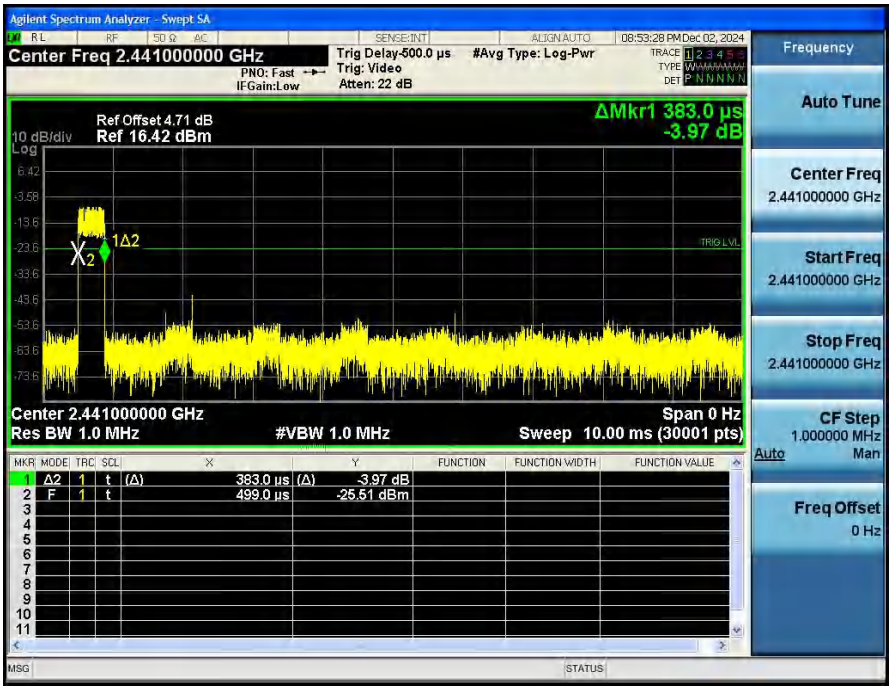
Dwell_Time_(Hopping)_NVNT_ANT1_3-DH5_2441_00_One_Burst_Time



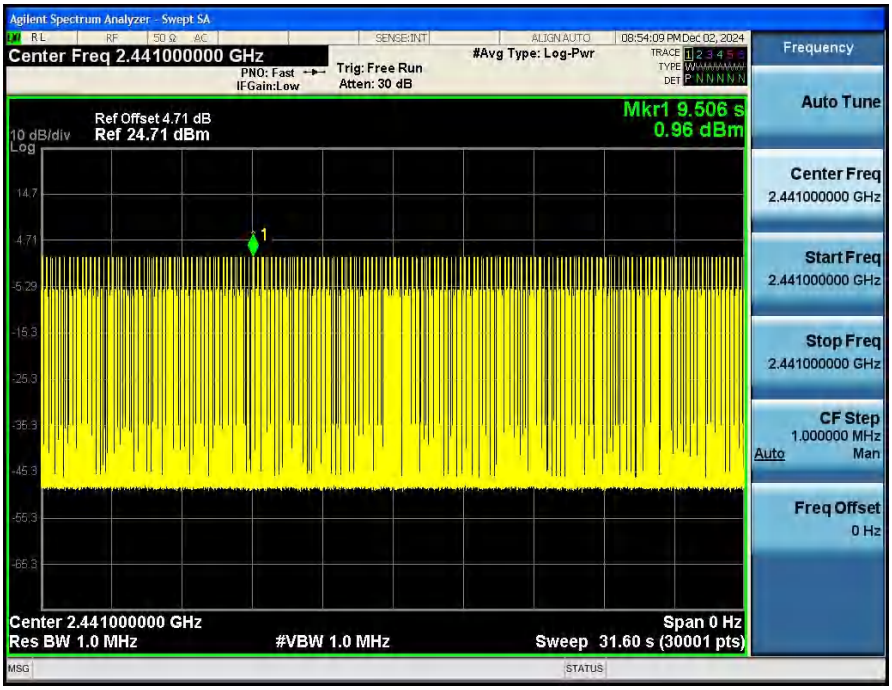
Dwell_Time_(Hopping)_NVNT_ANT1_3-DH5_2441_00_Accumulated



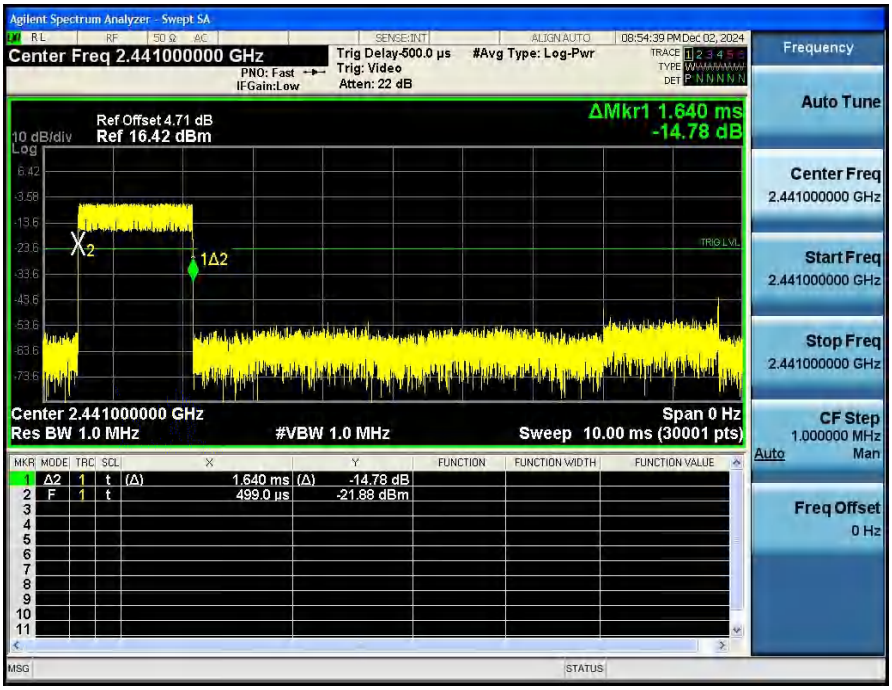
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH1_2441_00_One_Burst_Time



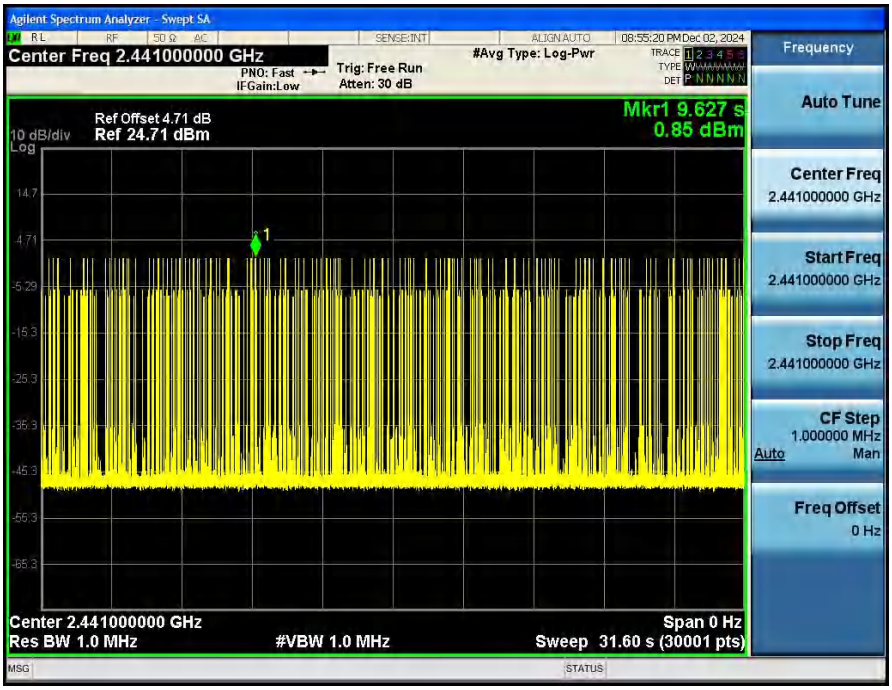
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH1_2441_00_Accumulated



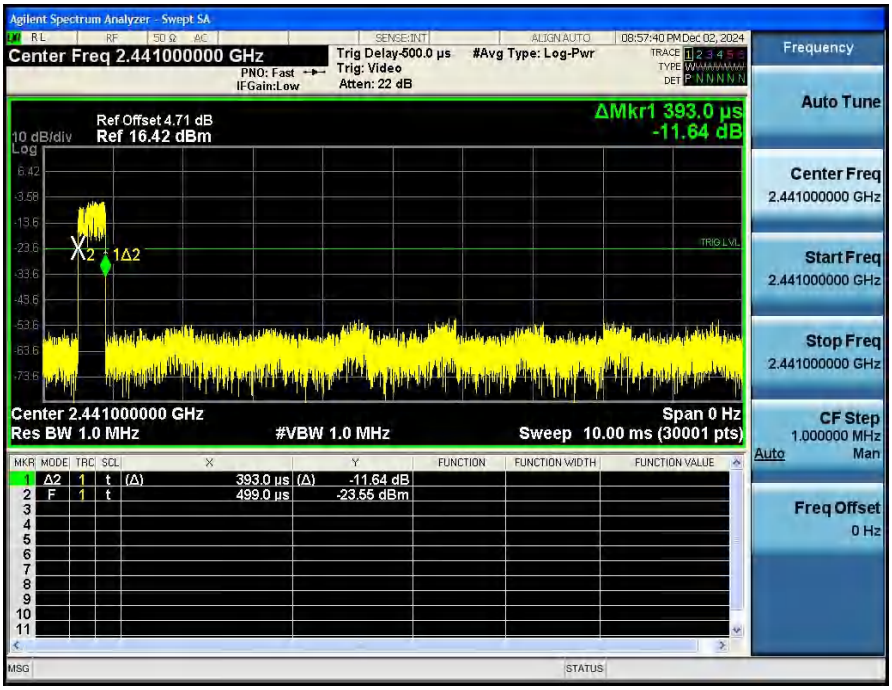
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH3_2441_00_One_Burst_Time



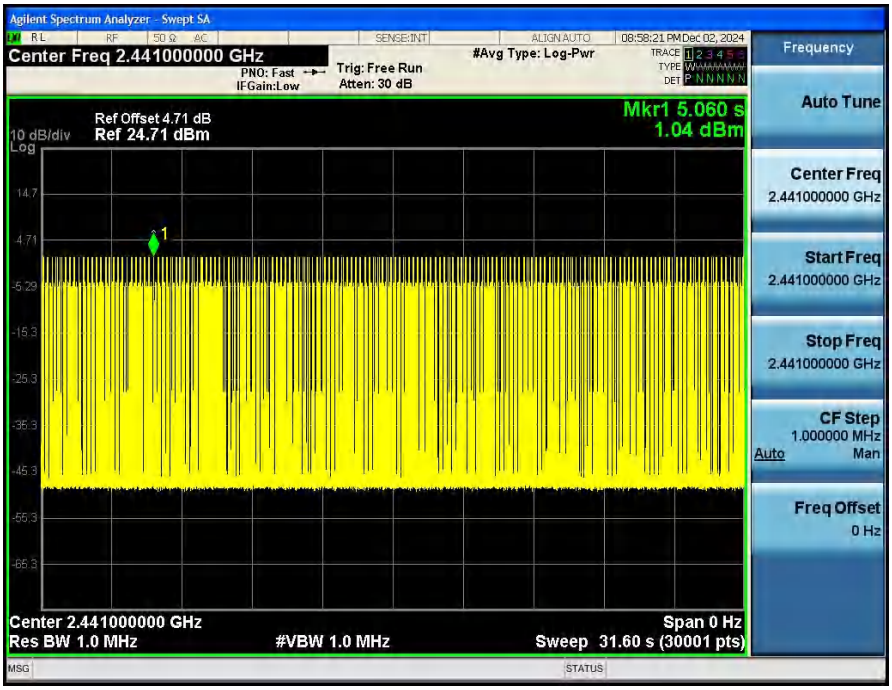
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH3_2441_00_Accumulated



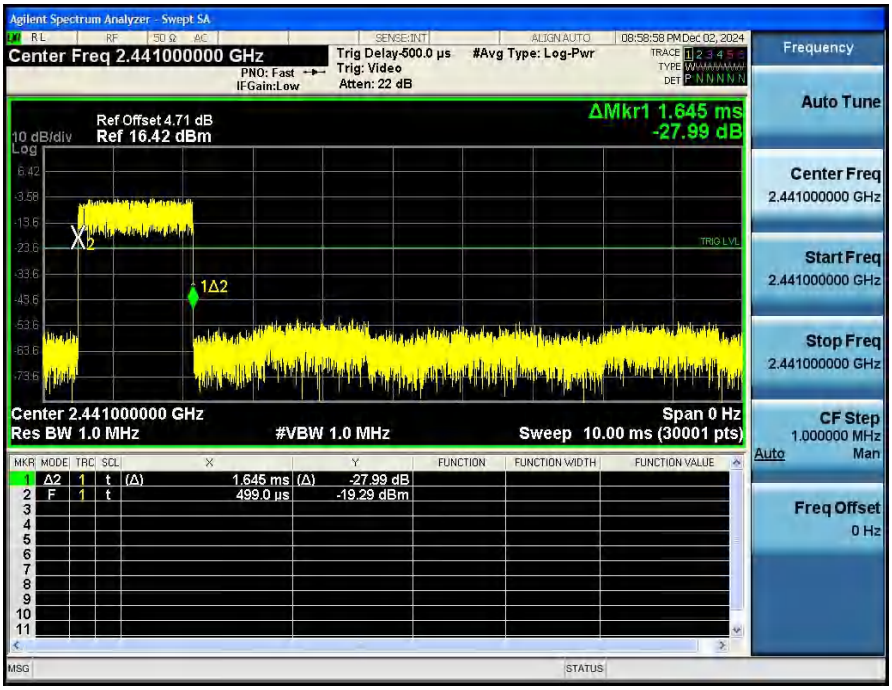
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH1_2441_00_One_Burst_Time



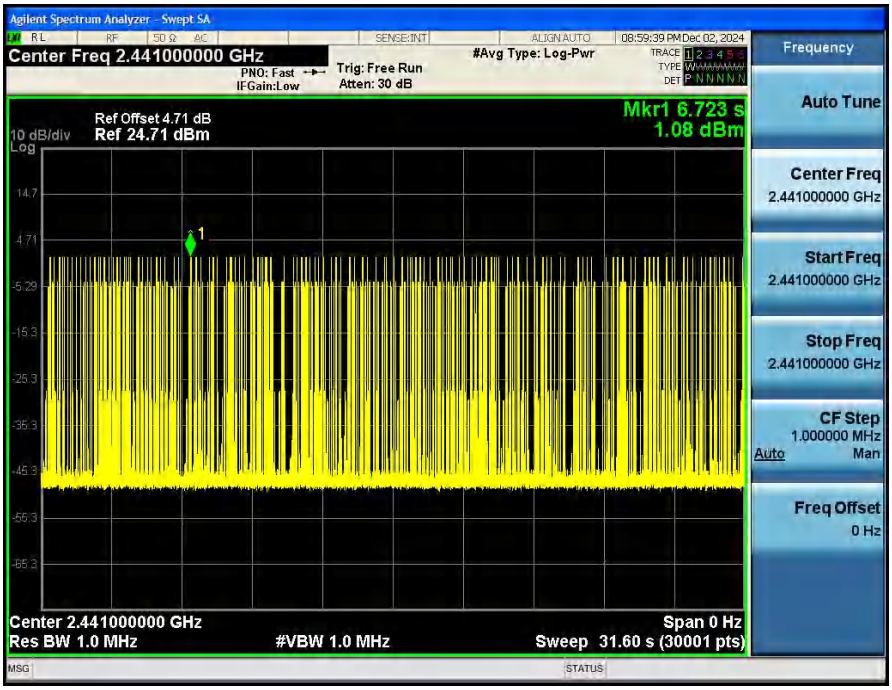
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH1_2441_00_Accumulated



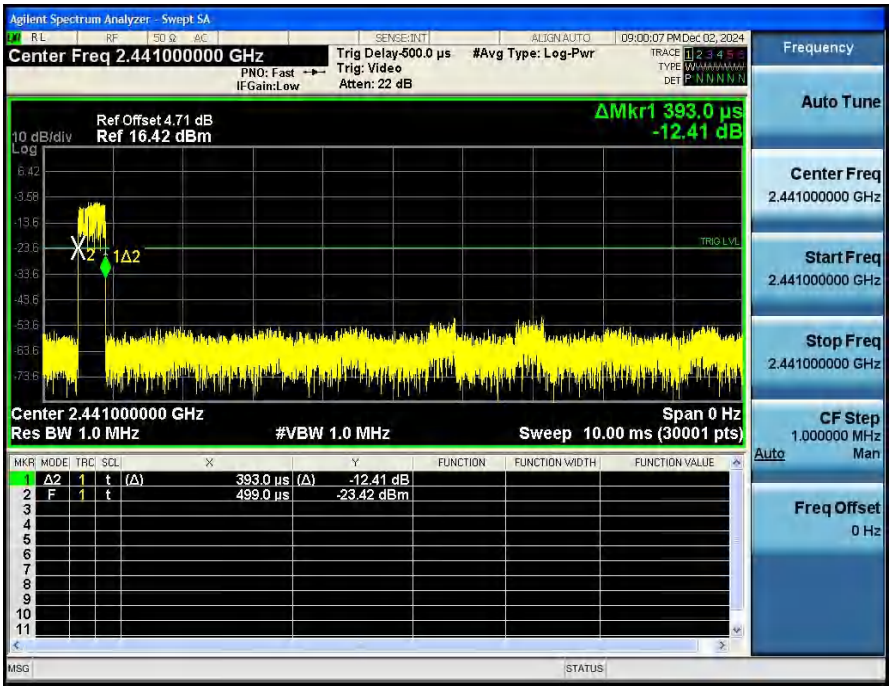
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH3_2441_00_One_Burst_Time



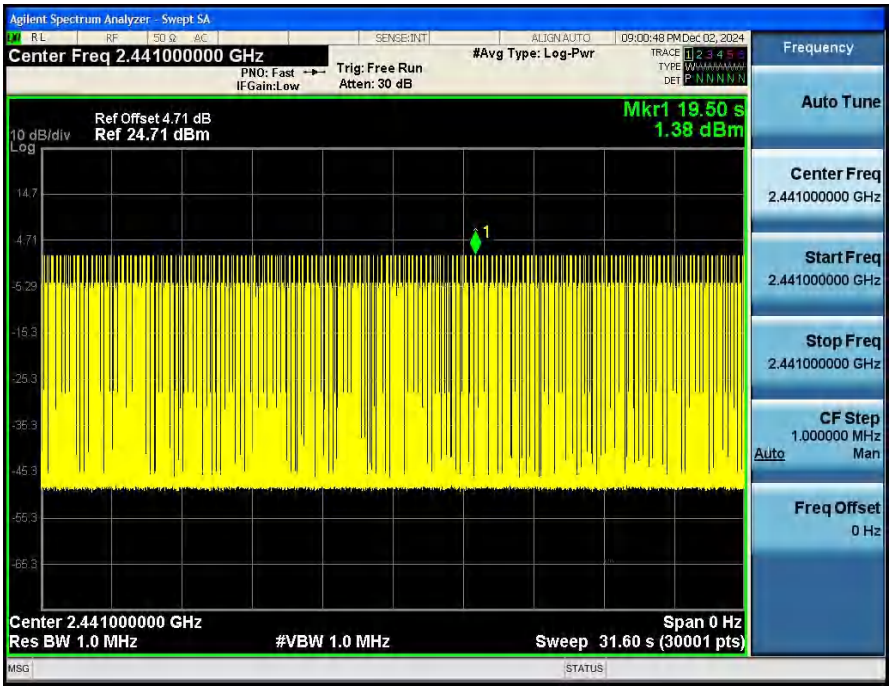
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH3_2441_00_Accumulated



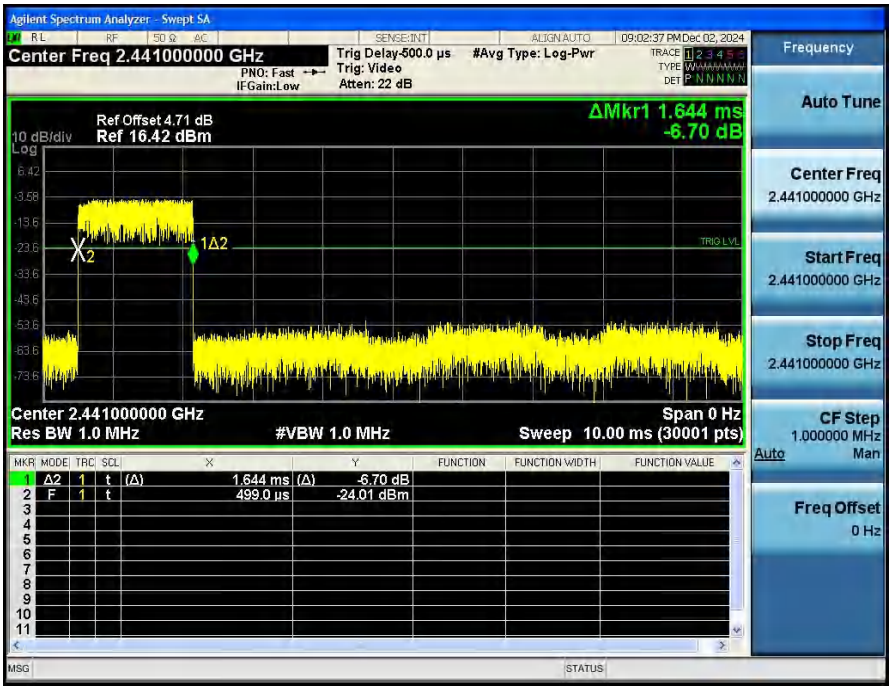
Dwell_Time_(Hopping)_NVNT_ANT1_3-DH1_2441_00_One_Burst_Time



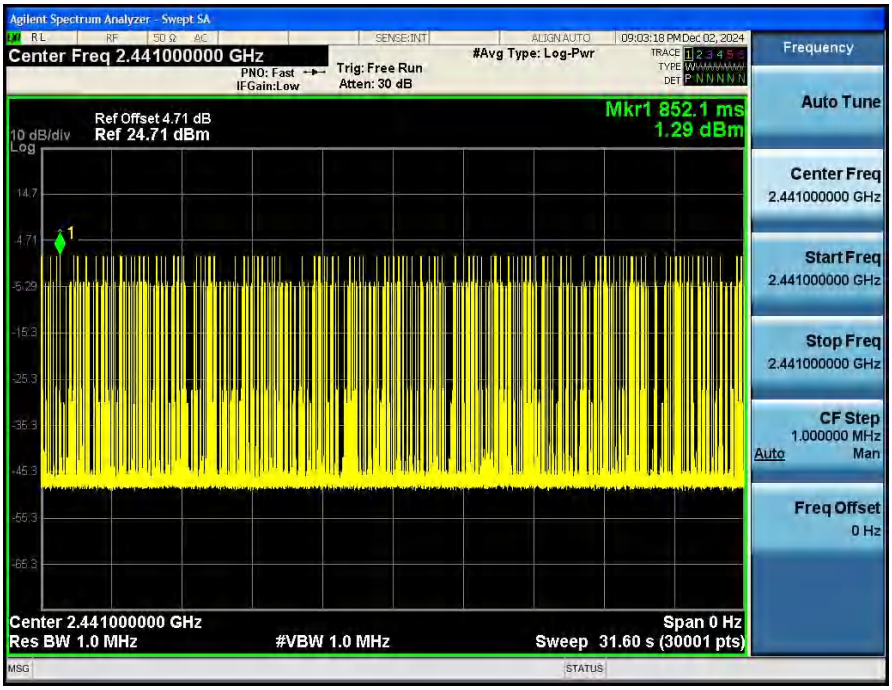
Dwell_Time_(Hopping)_NVNT_ANT1_3-DH1_2441_00_Accumulated



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
09:03:18 PM Dec 02, 2024
Ref Offset 4.71 dB
10 dB/div
Log
Ref 24.71 dBm
Mkr1 852.1 ms
1.29 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---