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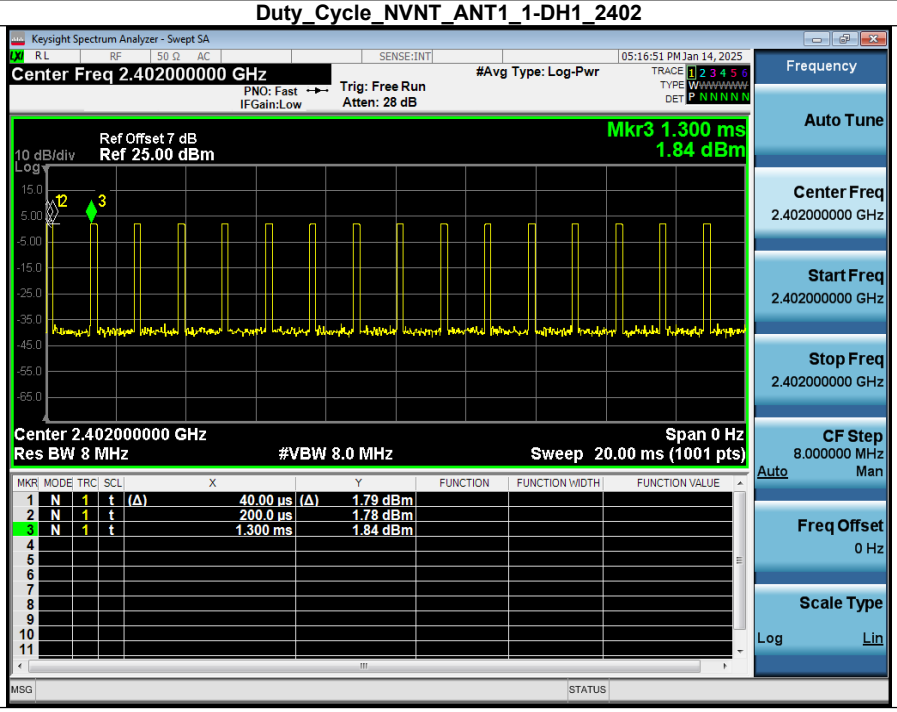
FCC ID:QIC-MSE12
IC:30055-MSE12
FCC_BT (Part15.247) Test Data

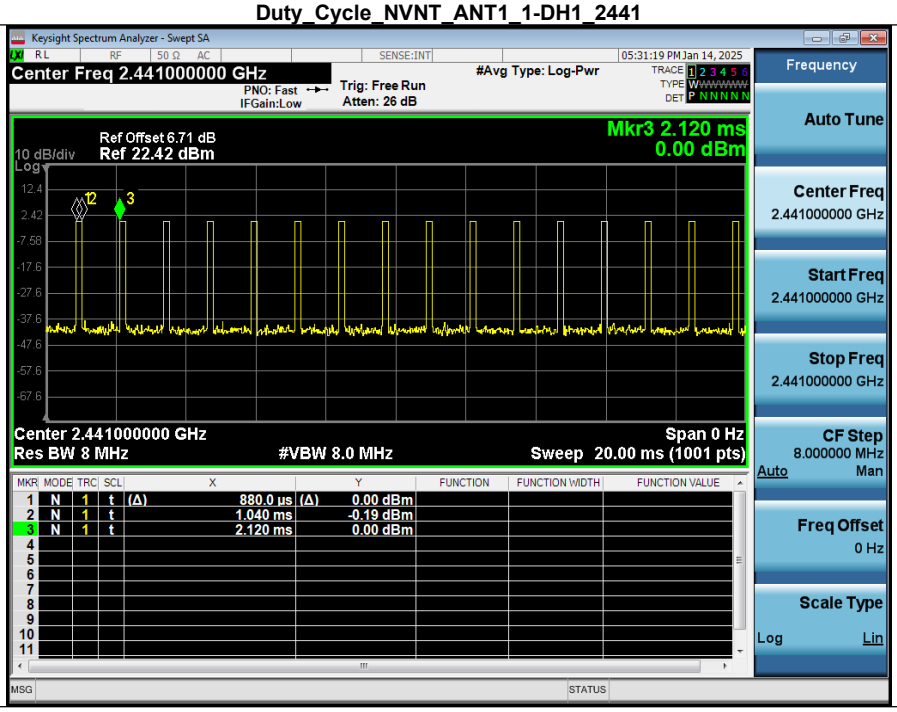
1. Duty Cycle

Condition	Antenna	Rate	Frequency (MHz)	Dutycycle(%)	Duty_factor
NVNT	ANT1	1-DH1	2402.00	12.70	8.96
NVNT	ANT1	1-DH1	2441.00	12.90	8.89
NVNT	ANT1	1-DH1	2480.00	12.70	8.96
NVNT	ANT1	2-DH1	2402.00	14.29	8.45
NVNT	ANT1	2-DH1	2441.00	14.29	8.45
NVNT	ANT1	2-DH1	2480.00	12.90	8.89
NVNT	ANT1	3-DH1	2402.00	12.90	8.89
NVNT	ANT1	3-DH1	2441.00	12.90	8.89
NVNT	ANT1	3-DH1	2480.00	12.70	8.96

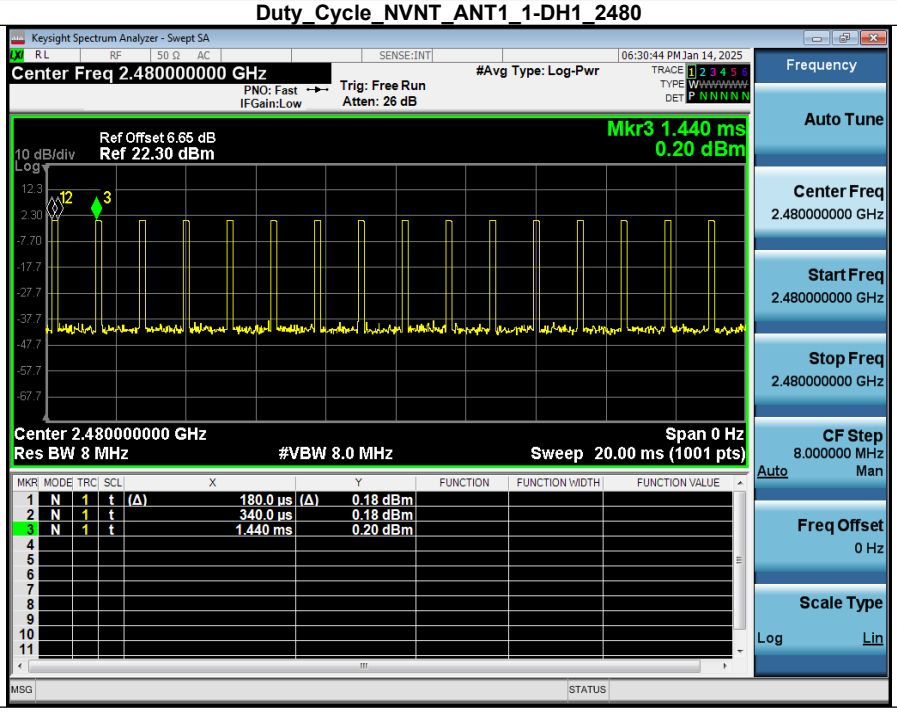
Duty_Cycle_NVNT_ANT1_1-DH1_2402



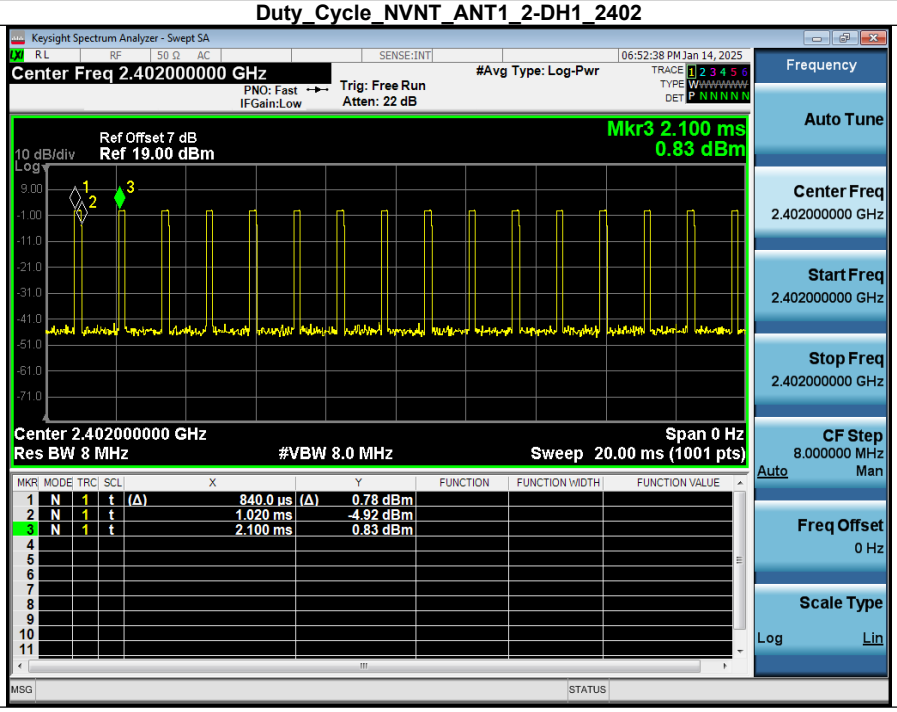
Duty_Cycle_NVNT_ANT1_1-DH1_2441



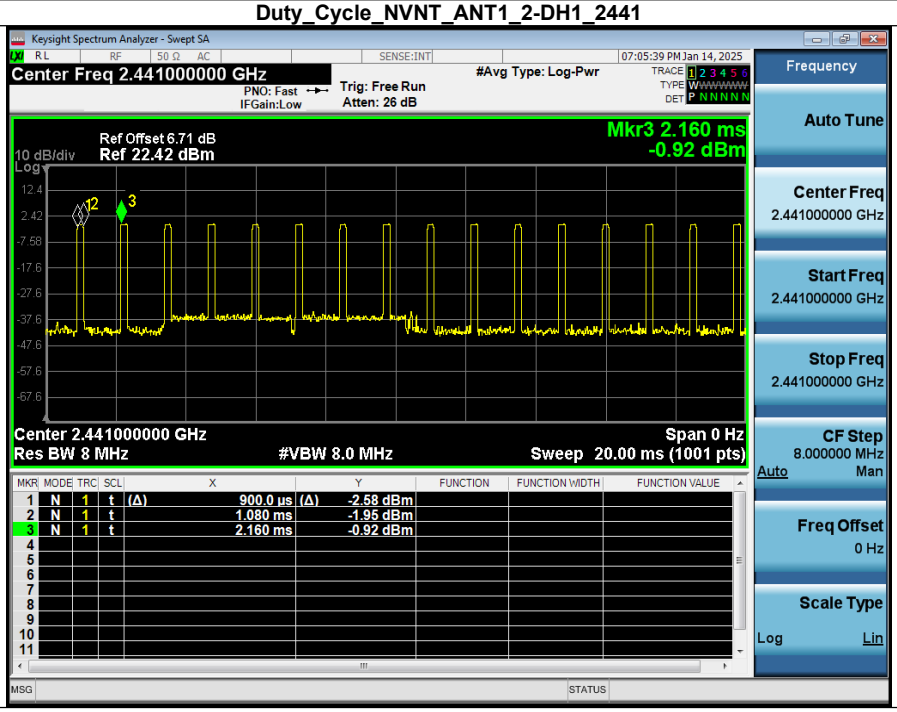
Duty_Cycle_NVNT_ANT1_1-DH1_2480



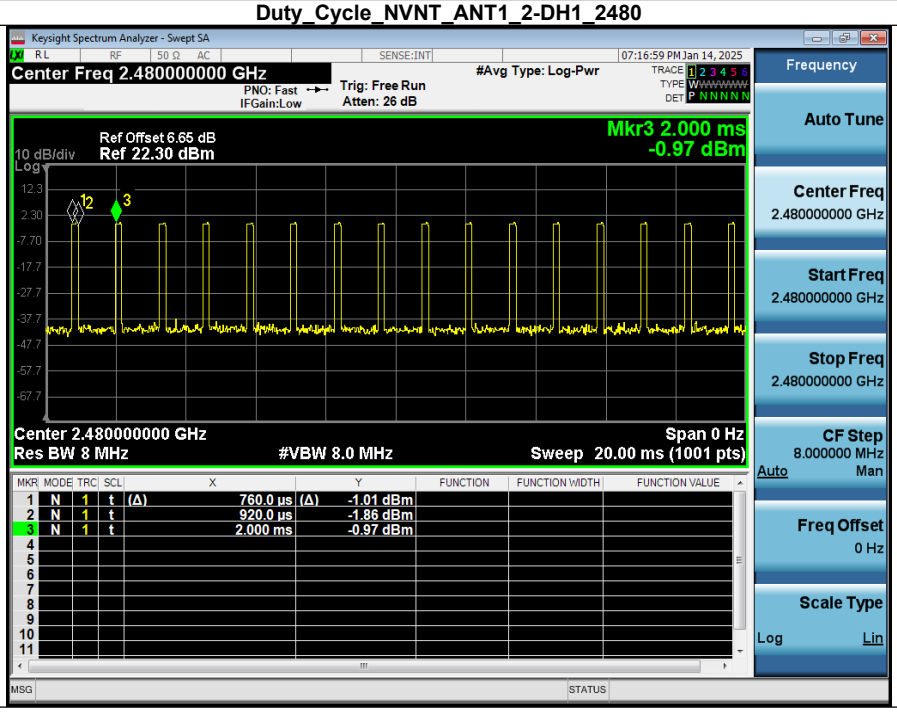
Duty_Cycle_NVNT_ANT1_2-DH1_2402



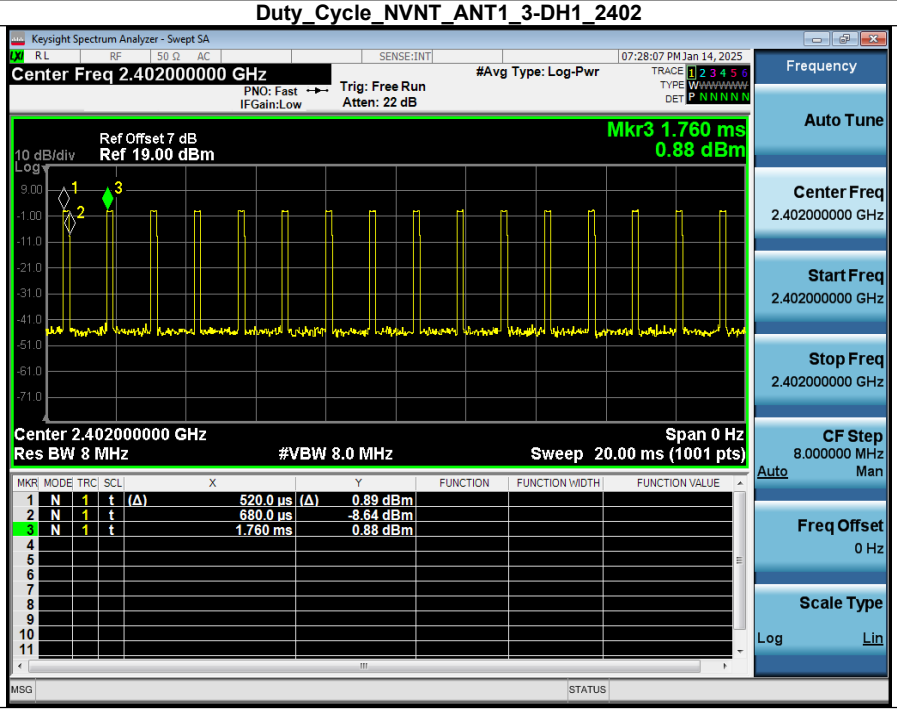
Duty_Cycle_NVNT_ANT1_2-DH1_2441



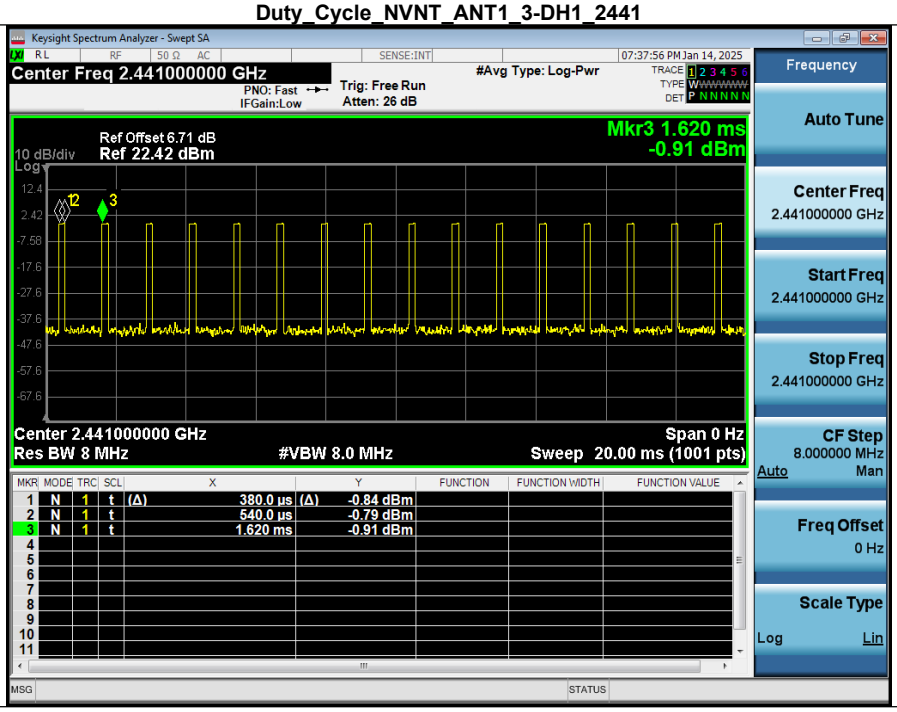
Duty_Cycle_NVNT_ANT1_2-DH1_2480



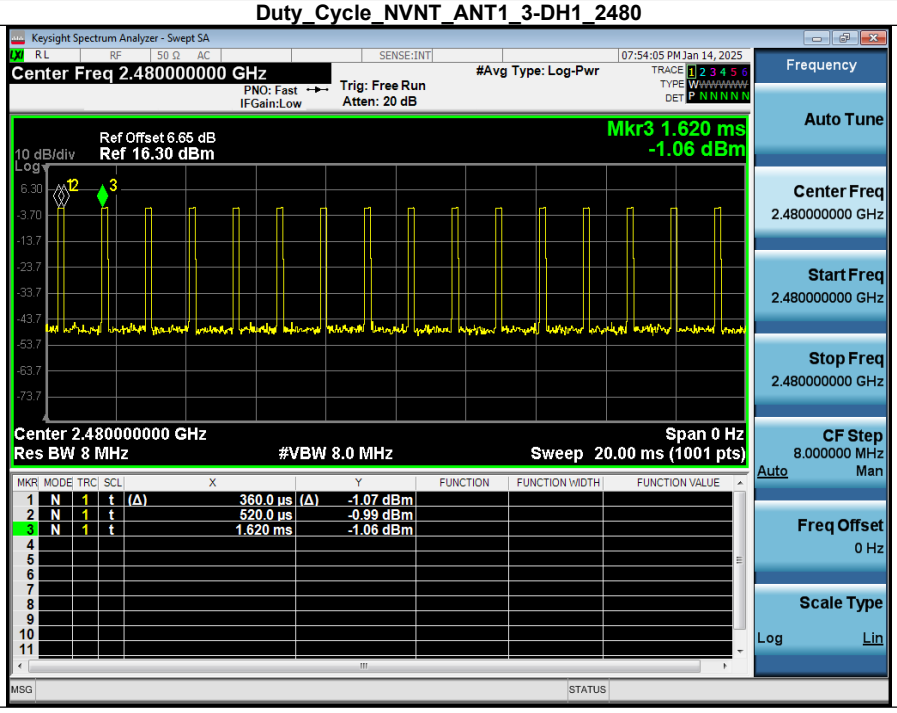
Duty_Cycle_NVNT_ANT1_3-DH1_2402



Duty_Cycle_NVNT_ANT1_3-DH1_2441



Duty_Cycle_NVNT_ANT1_3-DH1_2480



2. -20dB Bandwidth

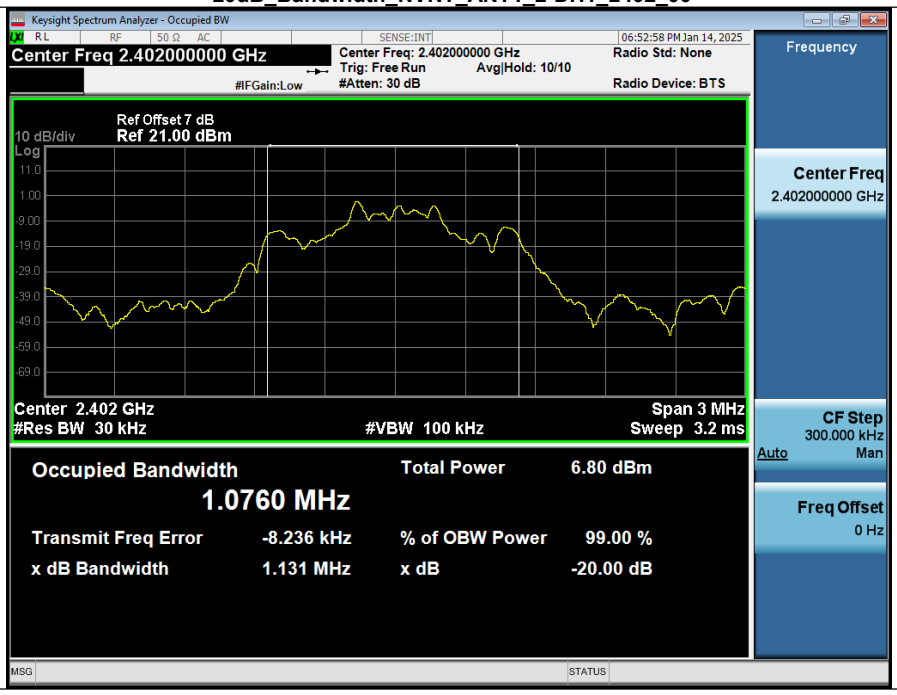
Condition	Antenna	Modulation	Frequency (MHz)	-20dB BW(MHz)	if larger than CFS
NVNT	ANT1	1-DH1	2402.00	0.899	No
NVNT	ANT1	1-DH1	2441.00	0.899	No
NVNT	ANT1	1-DH1	2480.00	0.898	No
NVNT	ANT1	2-DH1	2402.00	1.131	Yes
NVNT	ANT1	2-DH1	2441.00	1.129	Yes
NVNT	ANT1	2-DH1	2480.00	1.129	Yes
NVNT	ANT1	3-DH1	2402.00	1.156	Yes
NVNT	ANT1	3-DH1	2441.00	1.159	Yes
NVNT	ANT1	3-DH1	2480.00	1.157	Yes

-20dB_Bandwidth_NVNT_ANT1_1-DH1_2402_00

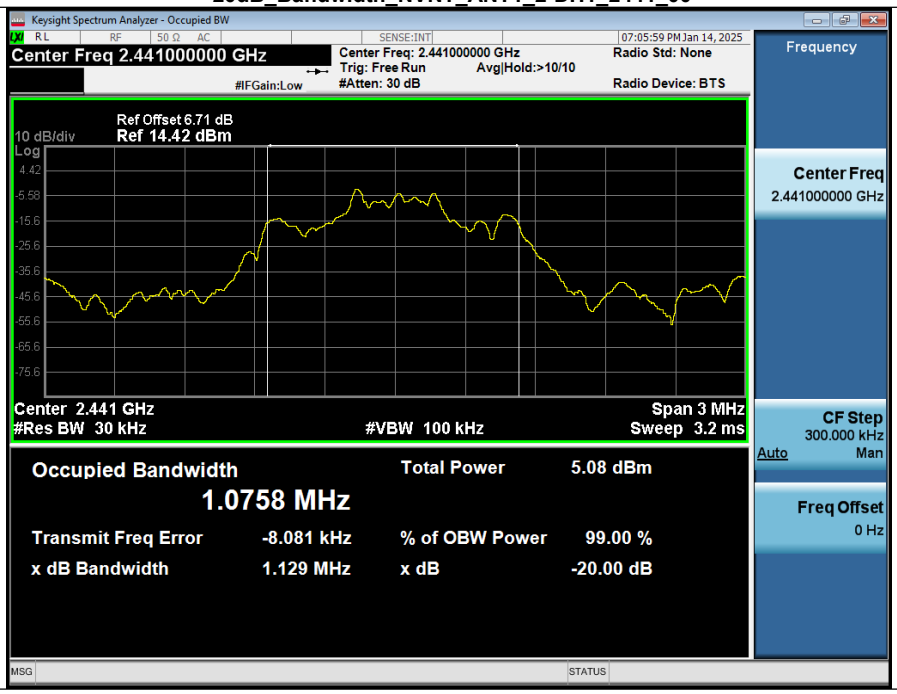
-20dB_Bandwidth_NVNT_ANT1_1-DH1_2441_00

-20dB_Bandwidth_NVNT_ANT1_1-DH1_2480_00

-20dB_Bandwidth_NVNT_ANT1_2-DH1_2402_00

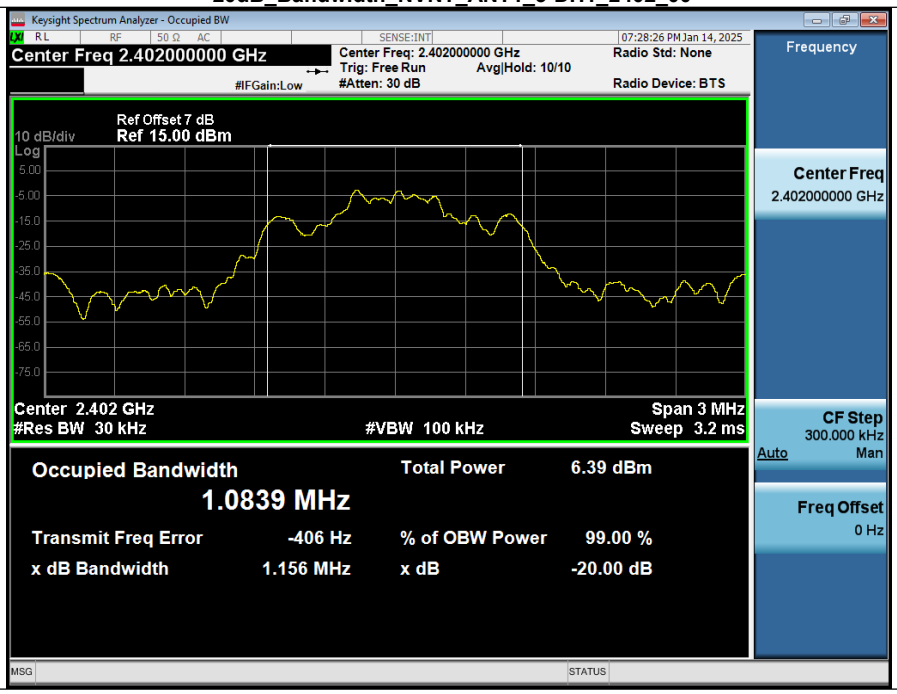


-20dB_Bandwidth_NVNT_ANT1_2-DH1_2441_00

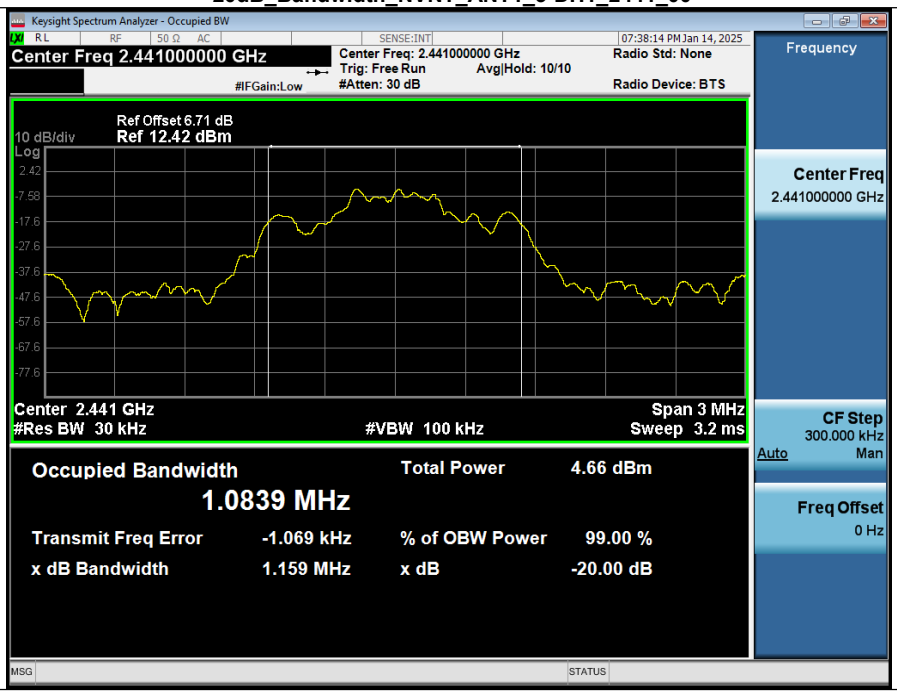


-20dB_Bandwidth_NVNT_ANT1_2-DH1_2480_00

-20dB_Bandwidth_NVNT_ANT1_3-DH1_2402_00



-20dB_Bandwidth_NVNT_ANT1_3-DH1_2441_00

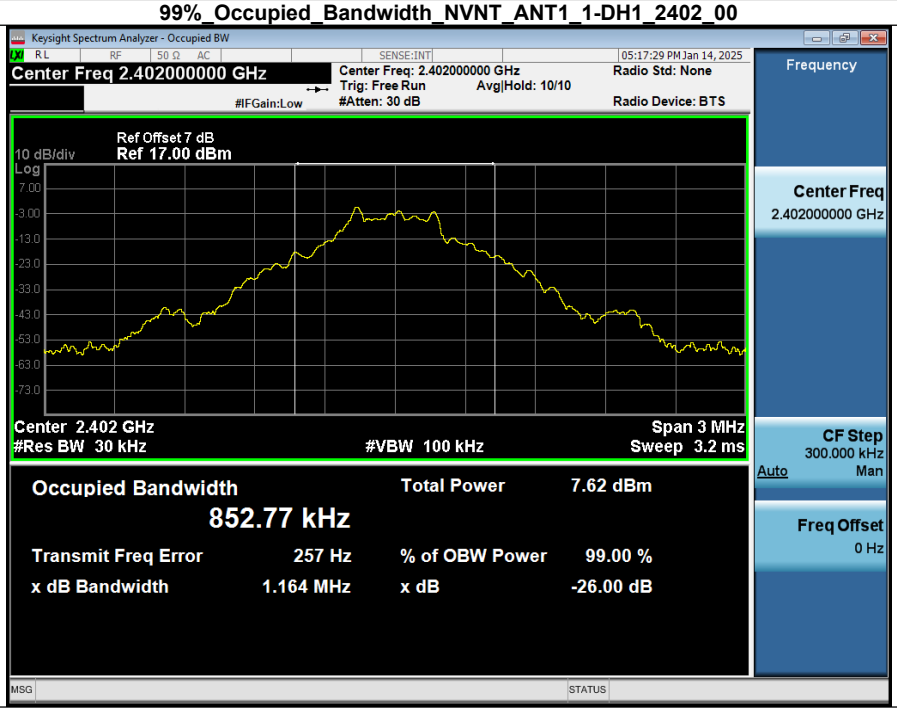


-20dB_Bandwidth_NVNT_ANT1_3-DH1_2480_00

3. 99% Occupied Bandwidth

Condition	Antenna	Modulation	Frequency (MHz)	99%%BW(MHz)
NVNT	ANT1	1-DH1	2402.00	0.853
NVNT	ANT1	1-DH1	2441.00	0.856
NVNT	ANT1	1-DH1	2480.00	0.859
NVNT	ANT1	2-DH1	2402.00	1.075
NVNT	ANT1	2-DH1	2441.00	1.075
NVNT	ANT1	2-DH1	2480.00	1.074
NVNT	ANT1	3-DH1	2402.00	1.084
NVNT	ANT1	3-DH1	2441.00	1.084
NVNT	ANT1	3-DH1	2480.00	1.082

99%_Occupied_Bandwidth_NVNT_ANT1_1-DH1_2402_00



99%_Occupied_Bandwidth_NVNT_ANT1_1-DH1_2441_00

99%_Occupied_Bandwidth_NVNT_ANT1_1-DH1_2480_00

99%_Occupied_Bandwidth_NVNT_ANT1_2-DH1_2402_00

99%_Occupied_Bandwidth_NVNT_ANT1_2-DH1_2441_00

99%_Occupied_Bandwidth_NVNT_ANT1_2-DH1_2480_00

99%_Occupied_Bandwidth_NVNT_ANT1_3-DH1_2402_00

99%_Occupied_Bandwidth_NVNT_ANT1_3-DH1_2441_00

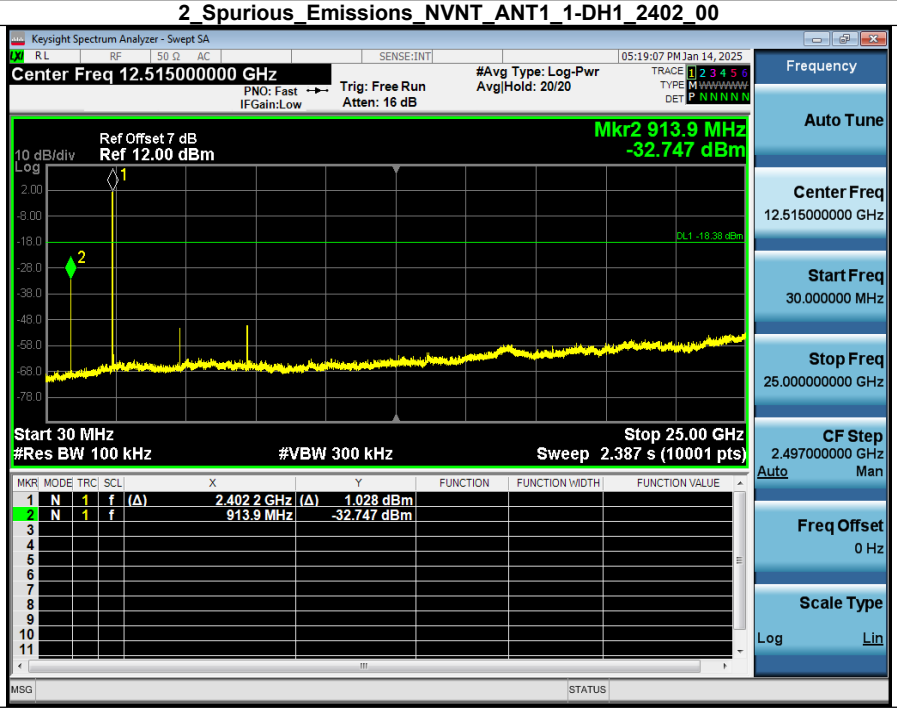
99%_Occupied_Bandwidth_NVNT_ANT1_3-DH1_2480_00

5. Spurious Emissions

Condition	Antenna	Modulation	TX Mode	Ref_level(dBm)	Spurious MAX.Value(dBm)	Limit	Result
NVNT	ANT1	1-DH1	2402.00	1.618	-32.747	-18.382	Pass
NVNT	ANT1	1-DH1	2441.00	-0.261	-49.522	-20.261	Pass
NVNT	ANT1	1-DH1	2480.00	-0.128	-49.201	-20.128	Pass
NVNT	ANT1	2-DH1	2402.00	0.650	-48.813	-19.350	Pass
NVNT	ANT1	2-DH1	2441.00	-1.061	-54.616	-21.061	Pass
NVNT	ANT1	2-DH1	2480.00	-1.252	-53.972	-21.252	Pass
NVNT	ANT1	3-DH1	2402.00	0.677	-49.251	-19.323	Pass
NVNT	ANT1	3-DH1	2441.00	-1.032	-54.803	-21.032	Pass
NVNT	ANT1	3-DH1	2480.00	-1.266	-54.913	-21.266	Pass

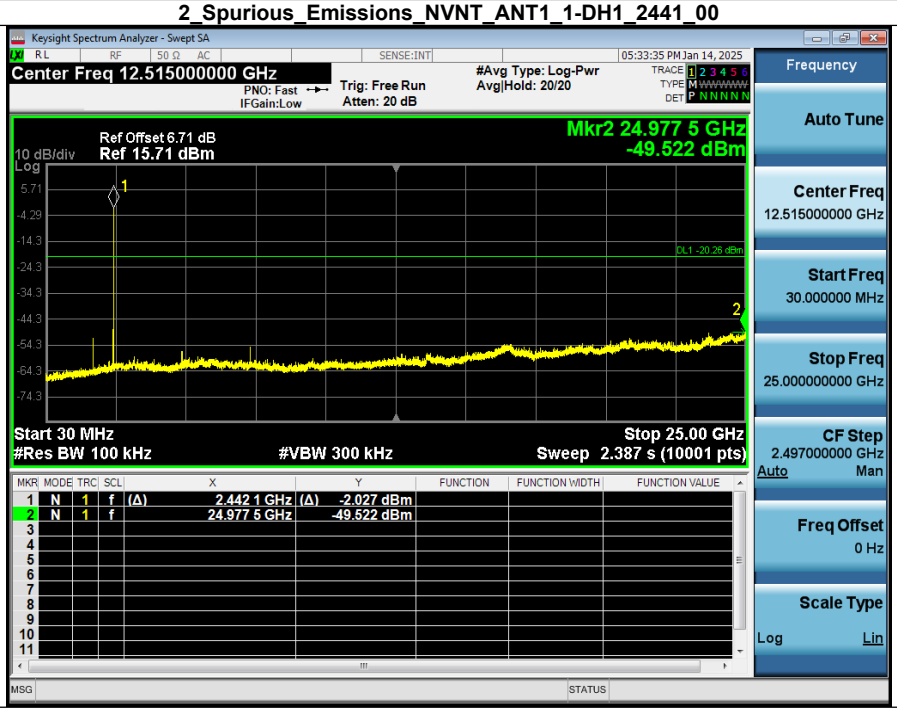
1_Reference_Level_NVNT_ANT1_1-DH1_2402_00

2_Spurious_Emissions_NVNT_ANT1_1-DH1_2402_00

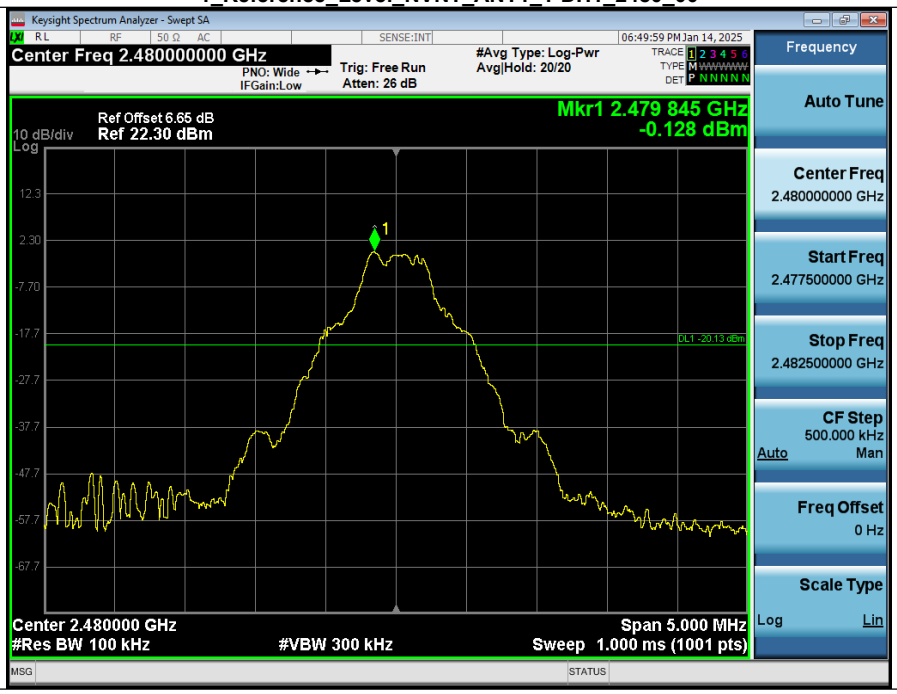


1_Reference_Level_NVNT_ANT1_1-DH1_2441_00

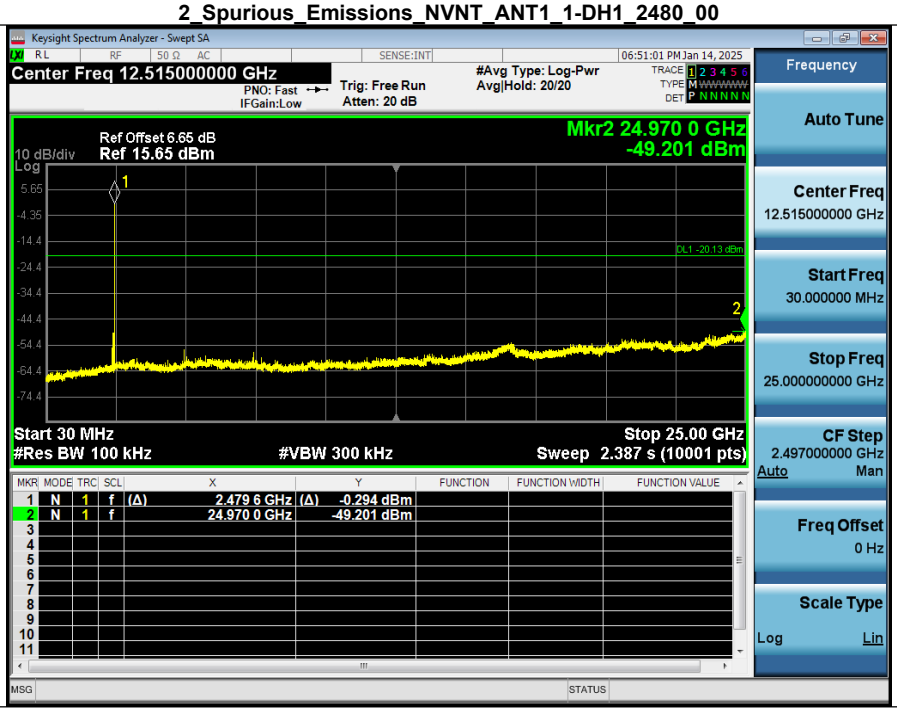
2_Spurious_Emissions_NVNT_ANT1_1-DH1_2441_00



1_Reference_Level_NVNT_ANT1_1-DH1_2480_00

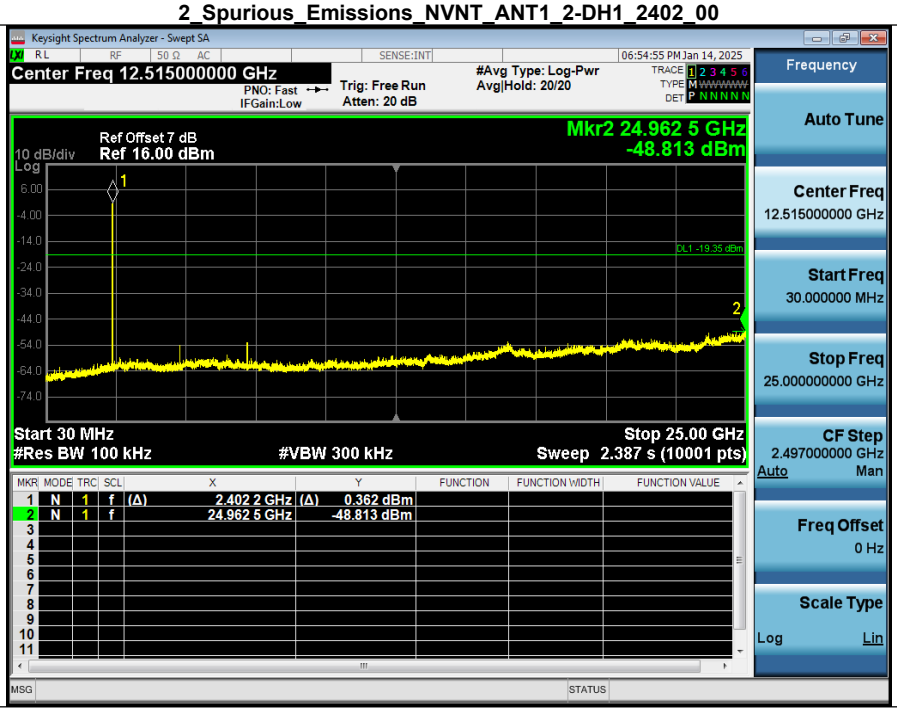


2_Spurious_Emissions_NVNT_ANT1_1-DH1_2480_00



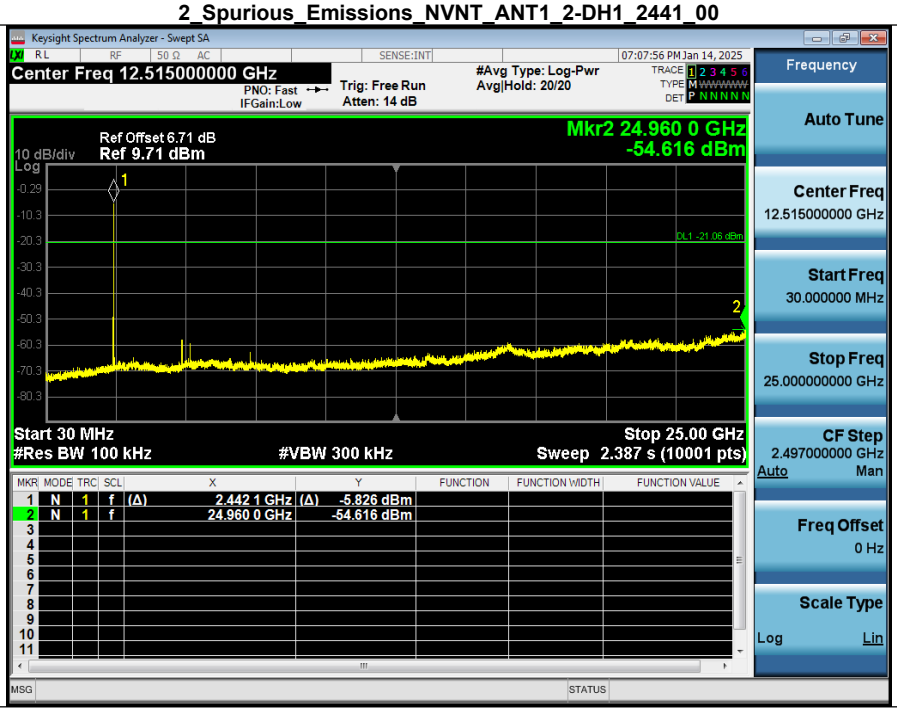
1_Reference_Level_NVNT_ANT1_2-DH1_2402_00

2_Spurious_Emissions_NVNT_ANT1_2-DH1_2402_00



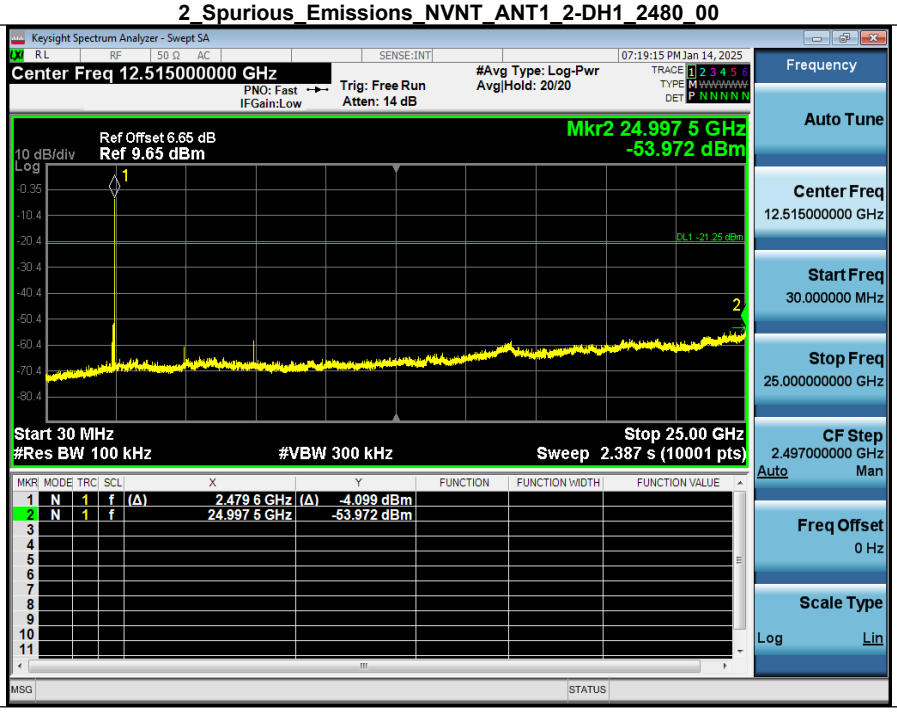
1_Reference_Level_NVNT_ANT1_2-DH1_2441_00

2_Spurious_Emissions_NVNT_ANT1_2-DH1_2441_00



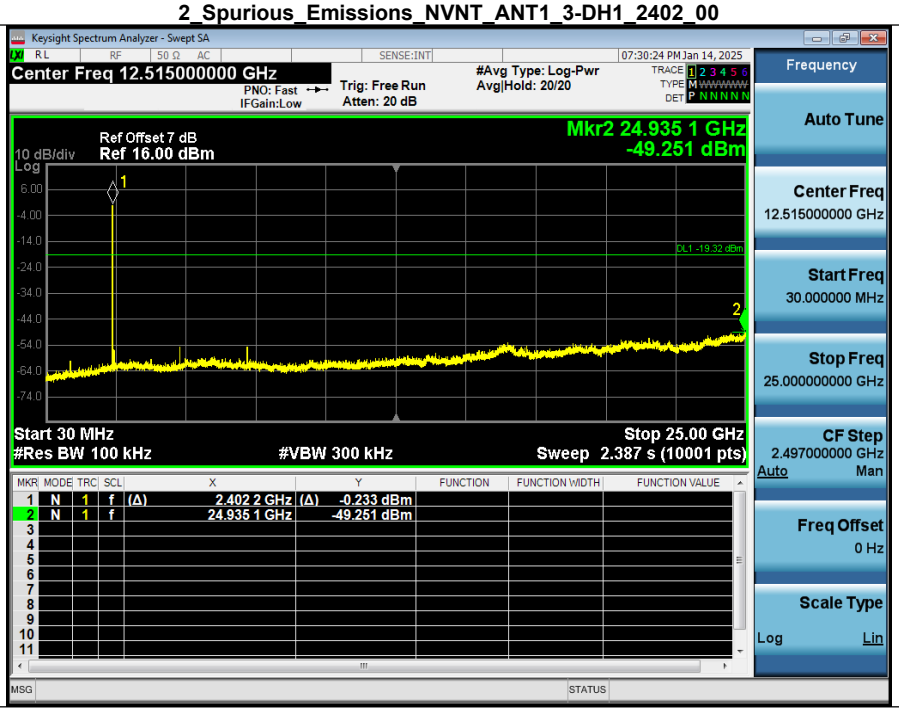
1_Reference_Level_NVNT_ANT1_2-DH1_2480_00

2_Spurious_Emissions_NVNT_ANT1_2-DH1_2480_00



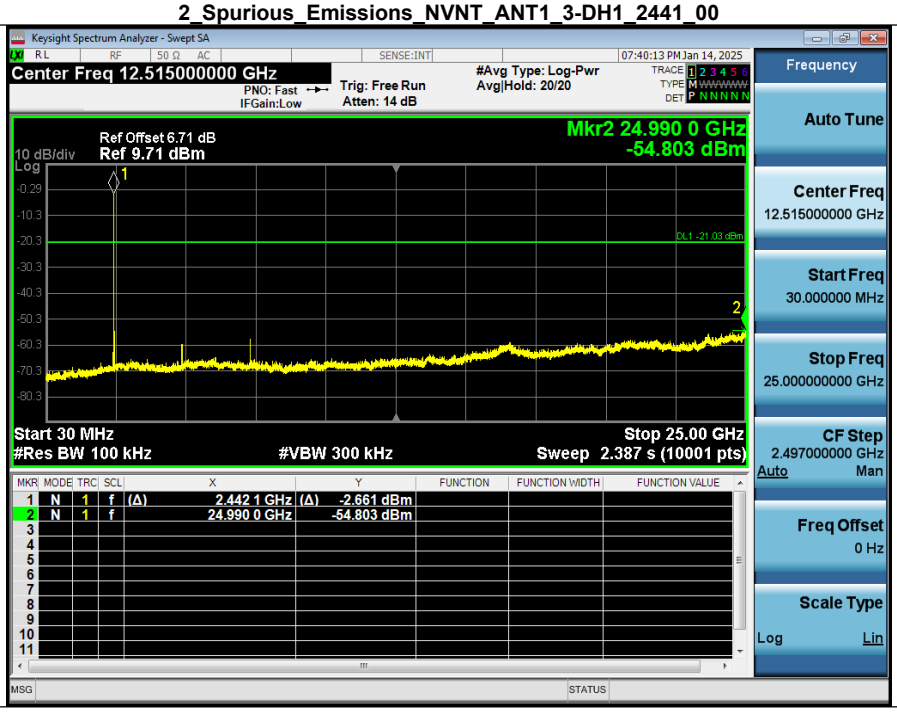
1_Reference_Level_NVNT_ANT1_3-DH1_2402_00

2_Spurious_Emissions_NVNT_ANT1_3-DH1_2402_00



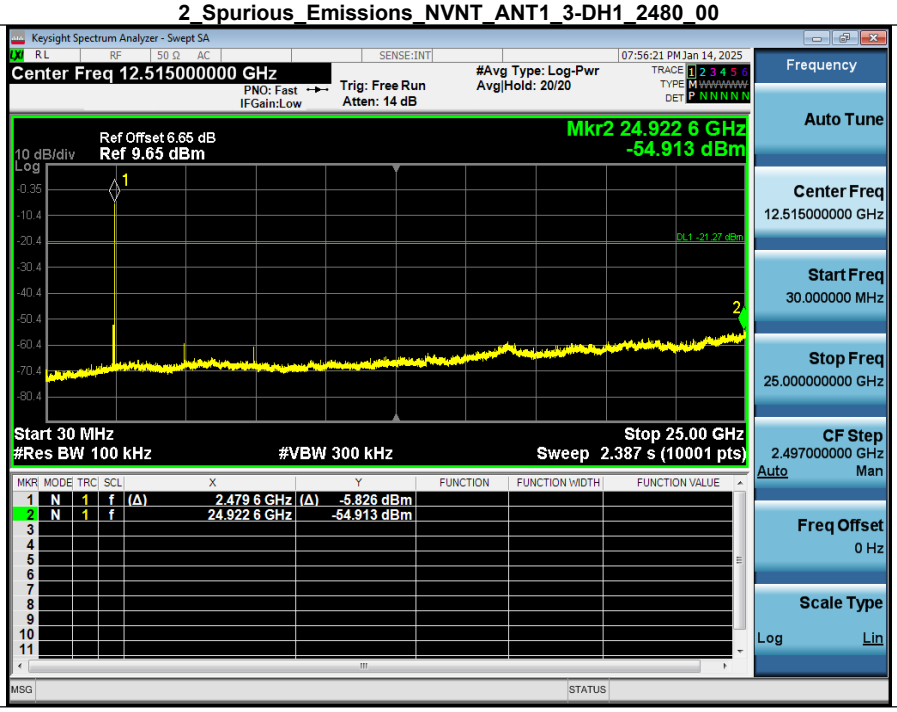
1_Reference_Level_NVNT_ANT1_3-DH1_2441_00

2_Spurious_Emissions_NVNT_ANT1_3-DH1_2441_00



1_Reference_Level_NVNT_ANT1_3-DH1_2480_00

2_Spurious_Emissions_NVNT_ANT1_3-DH1_2480_00

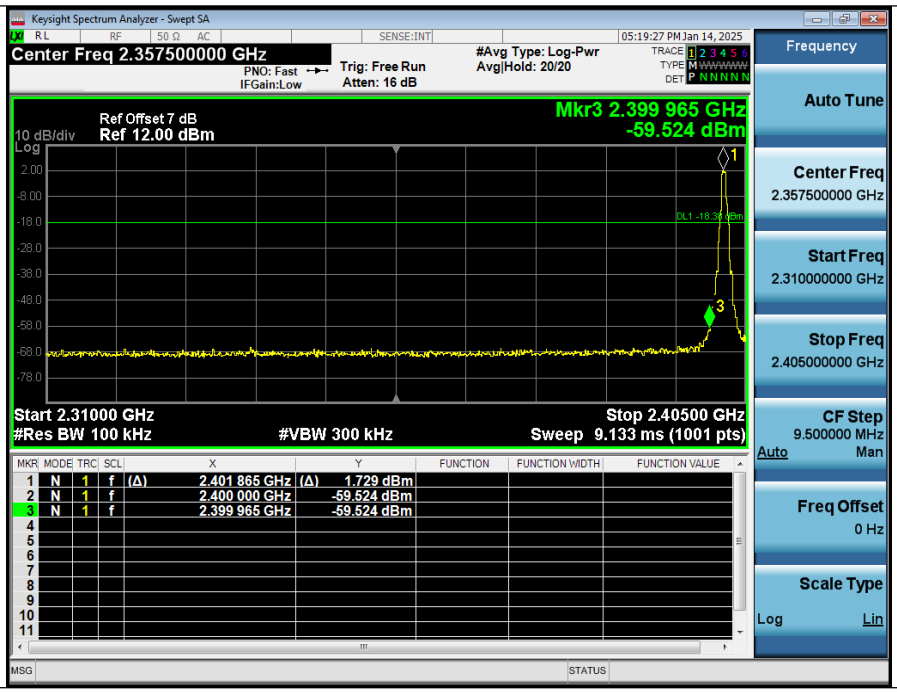


6. Bandedge

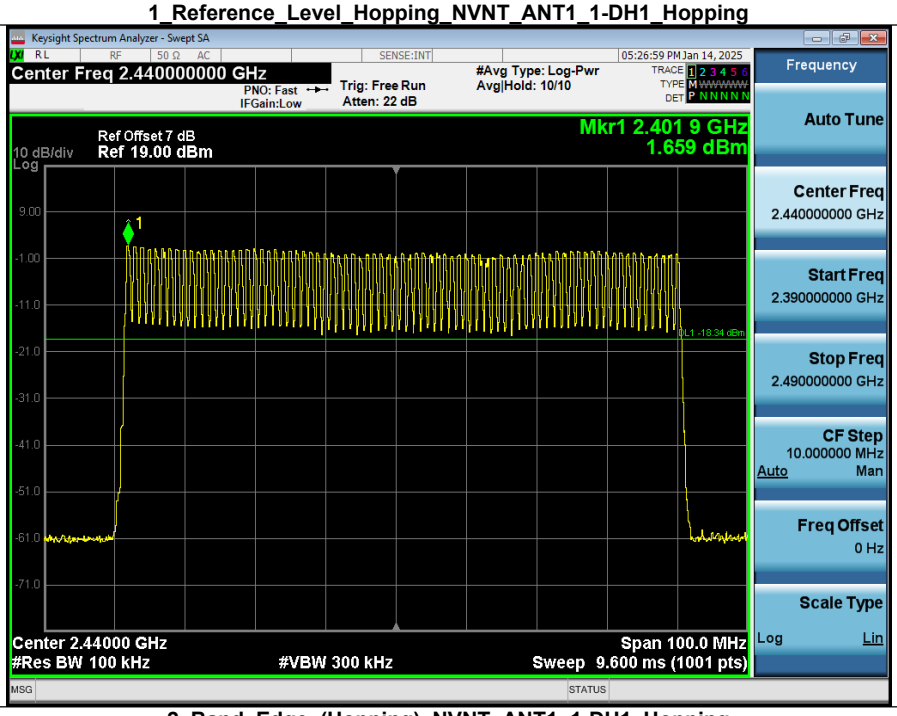
Condition	Antenna	Modulation	TX Mode	Ref_level(dBm)	Bandedge MAX.Value	Limit	Result
NVNT	ANT1	1-DH1	2402.00	1.618	-59.524	-18.382	Pass
NVNT	ANT1	1-DH1	Hopping_LCH	1.659	-60.996	-18.341	Pass
NVNT	ANT1	1-DH1	2480.00	-0.095	-62.099	-20.095	Pass
NVNT	ANT1	1-DH1	Hopping_HCH	1.183	-60.910	-18.817	Pass
NVNT	ANT1	2-DH1	2402.00	0.650	-57.109	-19.350	Pass
NVNT	ANT1	2-DH1	Hopping_LCH	0.608	-58.997	-19.392	Pass
NVNT	ANT1	2-DH1	2480.00	-1.252	-62.820	-21.252	Pass
NVNT	ANT1	2-DH1	Hopping_HCH	0.273	-61.957	-19.727	Pass
NVNT	ANT1	3-DH1	2402.00	0.677	-54.484	-19.323	Pass
NVNT	ANT1	3-DH1	Hopping_LCH	0.685	-59.458	-19.315	Pass
NVNT	ANT1	3-DH1	2480.00	-1.266	-61.586	-21.266	Pass
NVNT	ANT1	3-DH1	Hopping_HCH	0.341	-64.529	-19.659	Pass

1_Reference_Level_NVNT_ANT1_1-DH1_2402_00

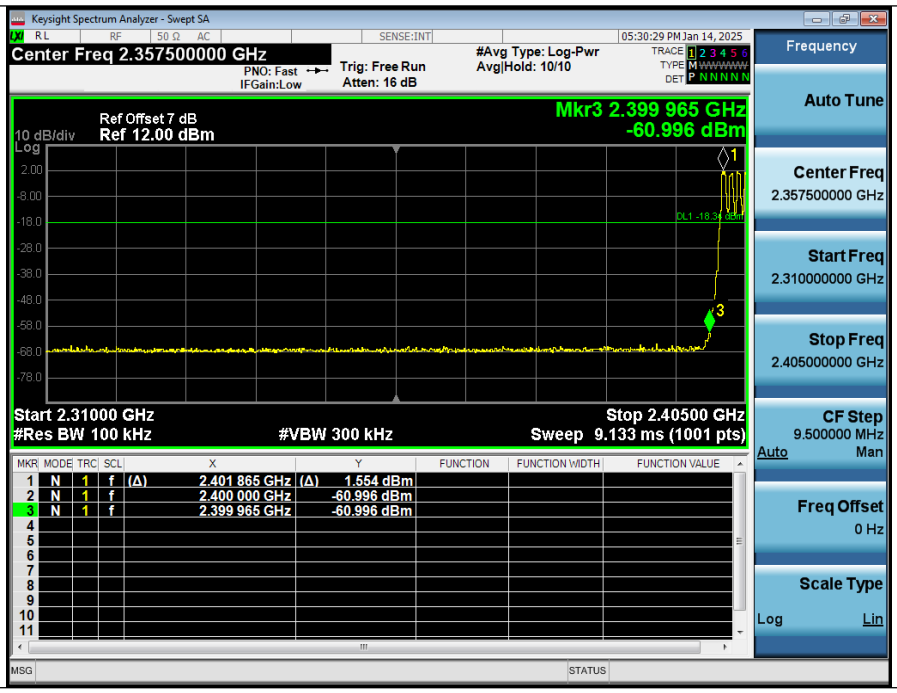
2_Bandedge_NVNT_ANT1_1-DH1_2402_00



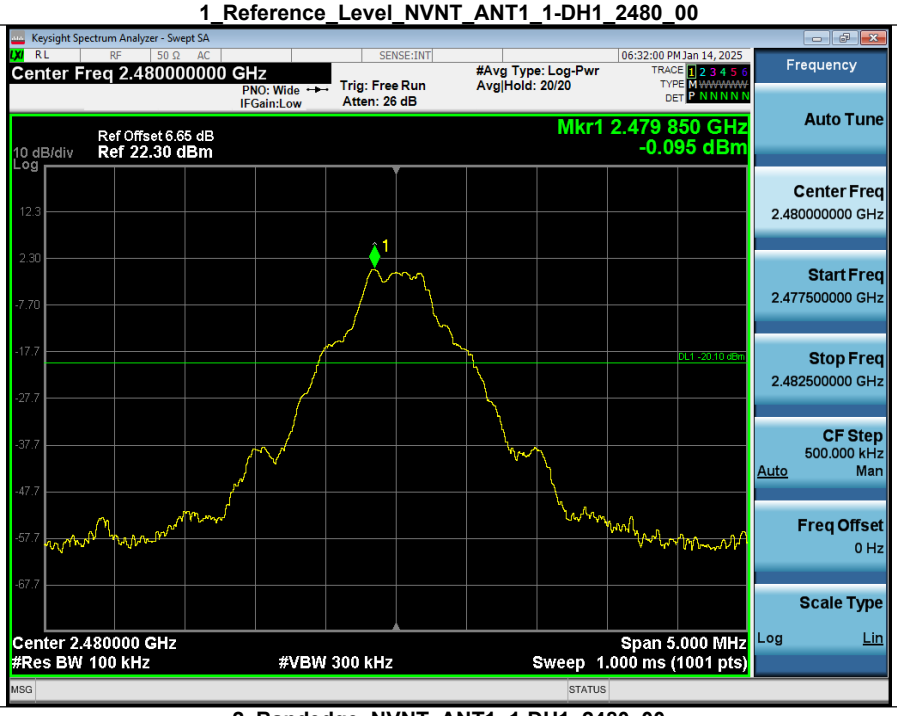
1_Reference_Level_Hopping_NVNT_ANT1_1-DH1_Hopping



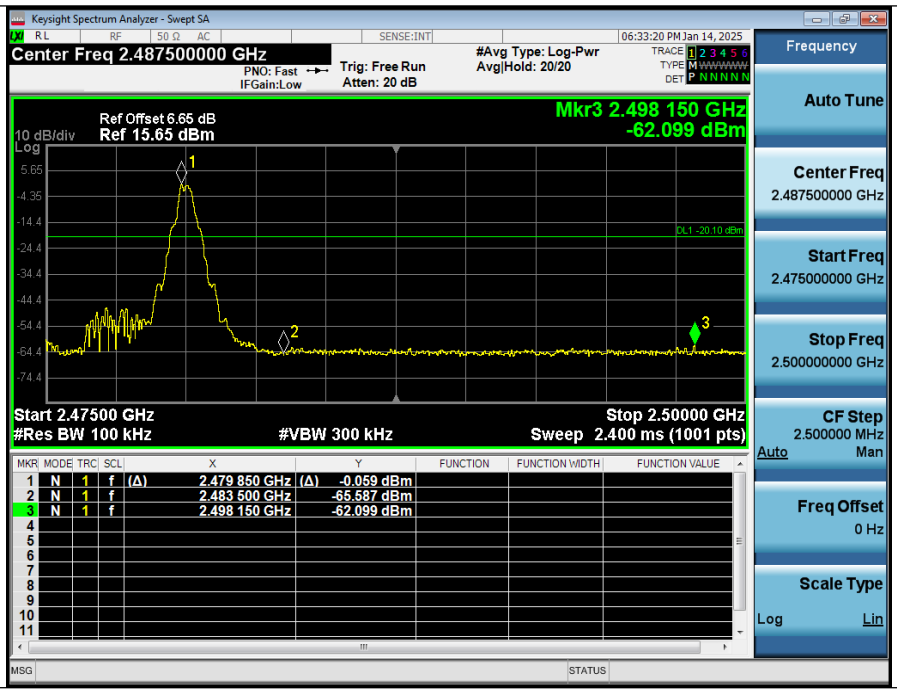
2_Band_Edge_(Hopping)_NVNT_ANT1_1-DH1_Hopping



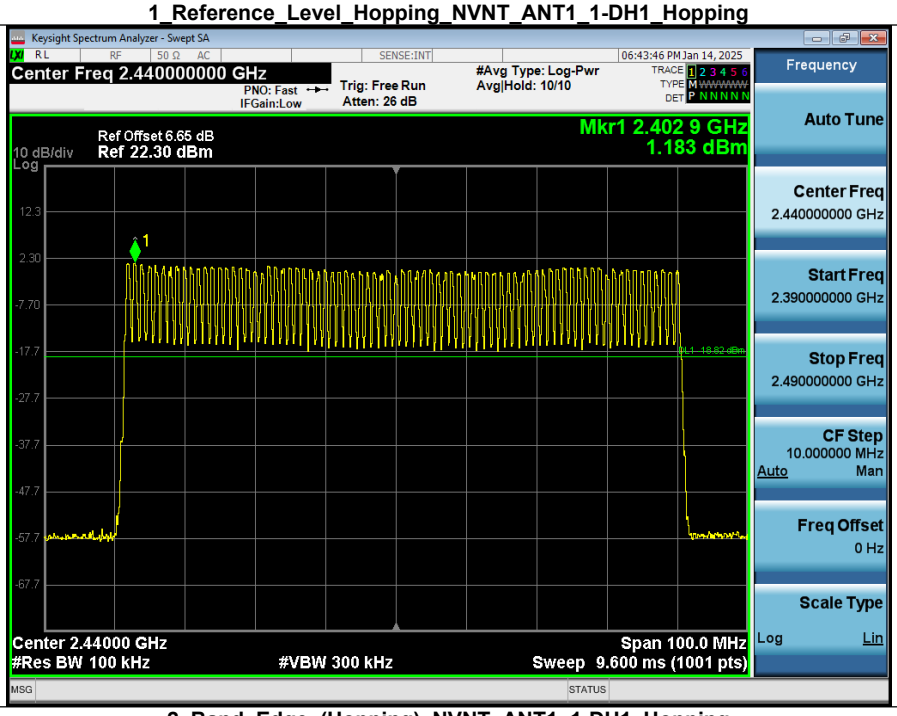
1_Reference_Level_NVNT_ANT1_1-DH1_2480_00



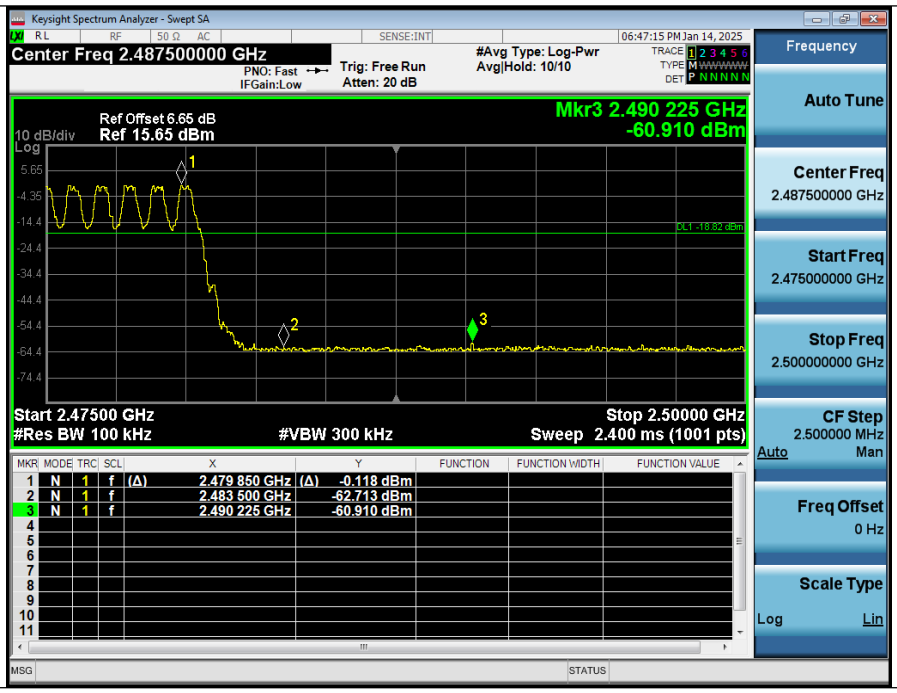
2_Bandedge_NVNT_ANT1_1-DH1_2480_00



1_Reference_Level_Hopping_NVNT_ANT1_1-DH1_Hopping

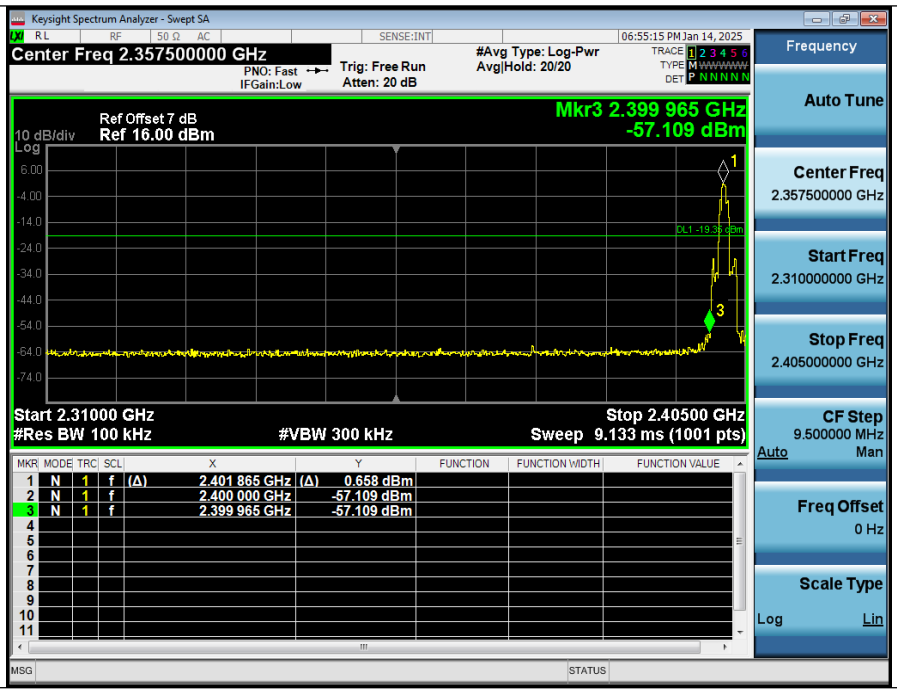


2_Band_Edge_(Hopping)_NVNT_ANT1_1-DH1_Hopping

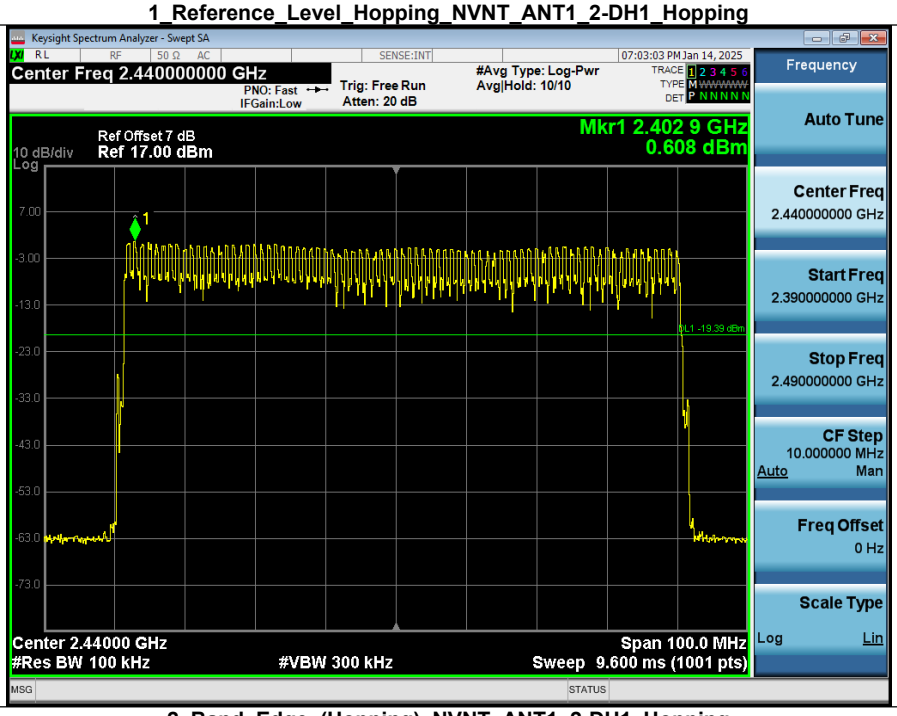


1_Reference_Level_NVNT_ANT1_2-DH1_2402_00

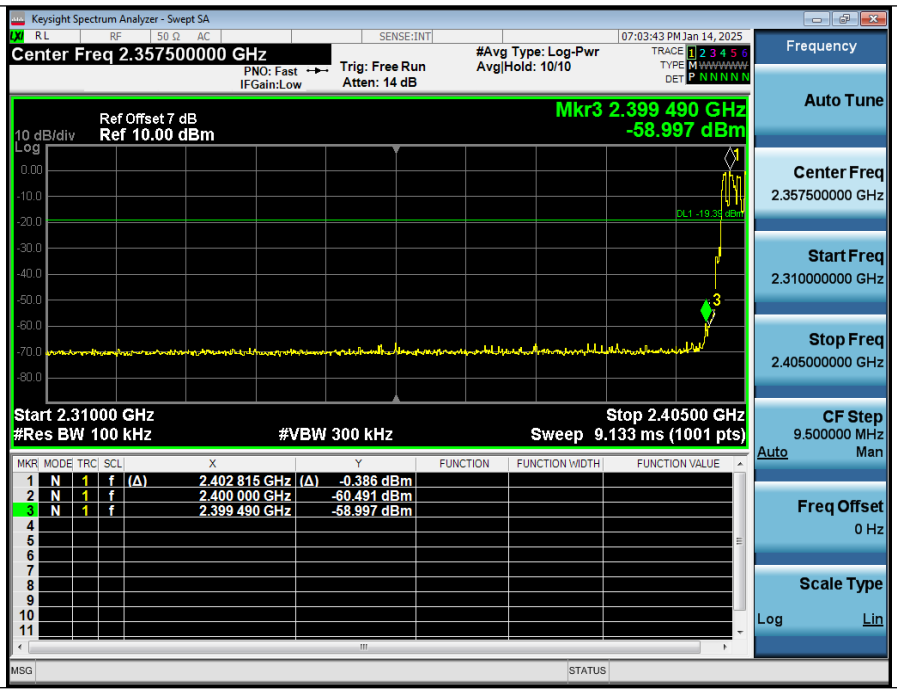
2_Bandedge_NVNT_ANT1_2-DH1_2402_00



1_Reference_Level_Hopping_NVNT_ANT1_2-DH1_Hopping

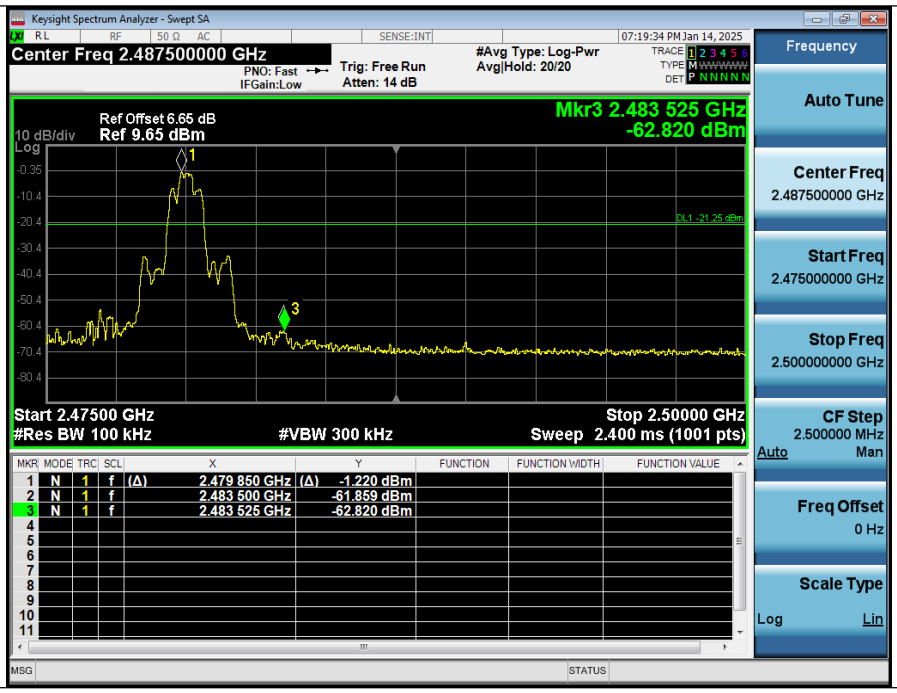


2_Band_Edge_(Hopping)_NVNT_ANT1_2-DH1_Hopping

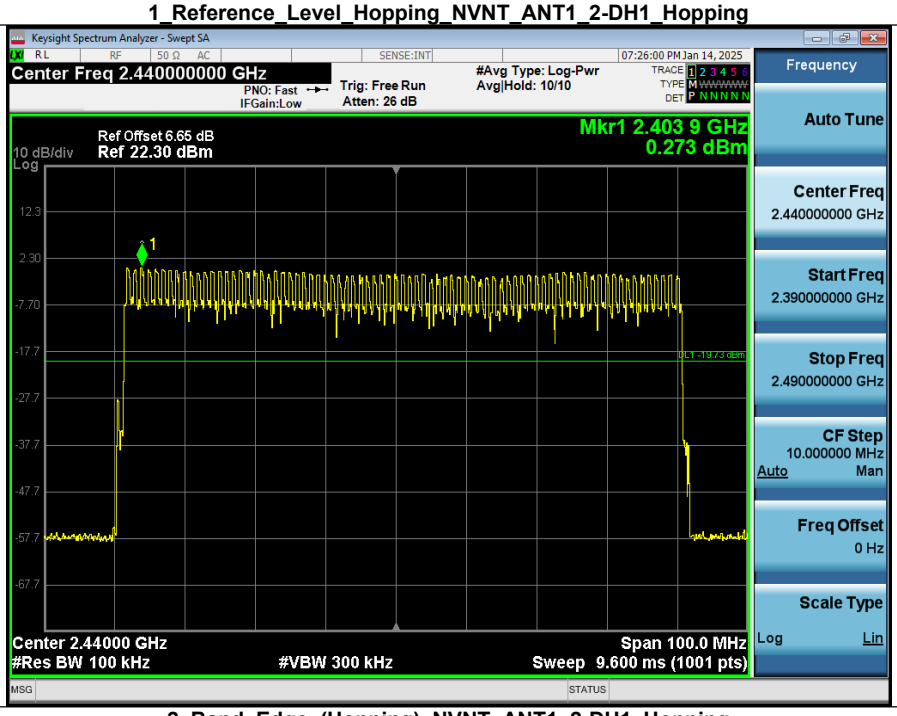


1_Reference_Level_NVNT_ANT1_2-DH1_2480_00

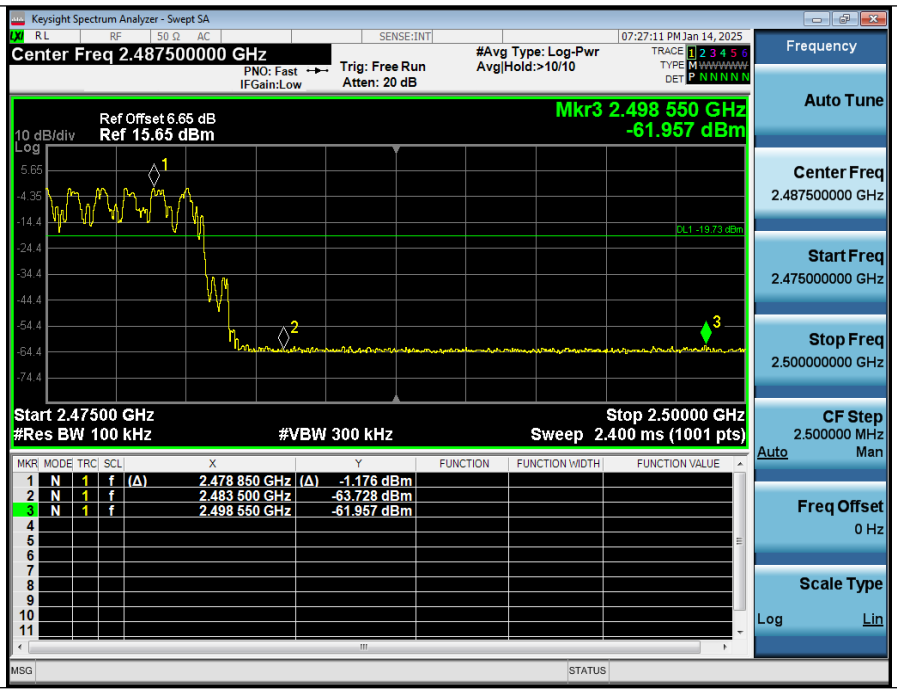
2_Bandedge_NVNT_ANT1_2-DH1_2480_00



1_Reference_Level_Hopping_NVNT_ANT1_2-DH1_Hopping

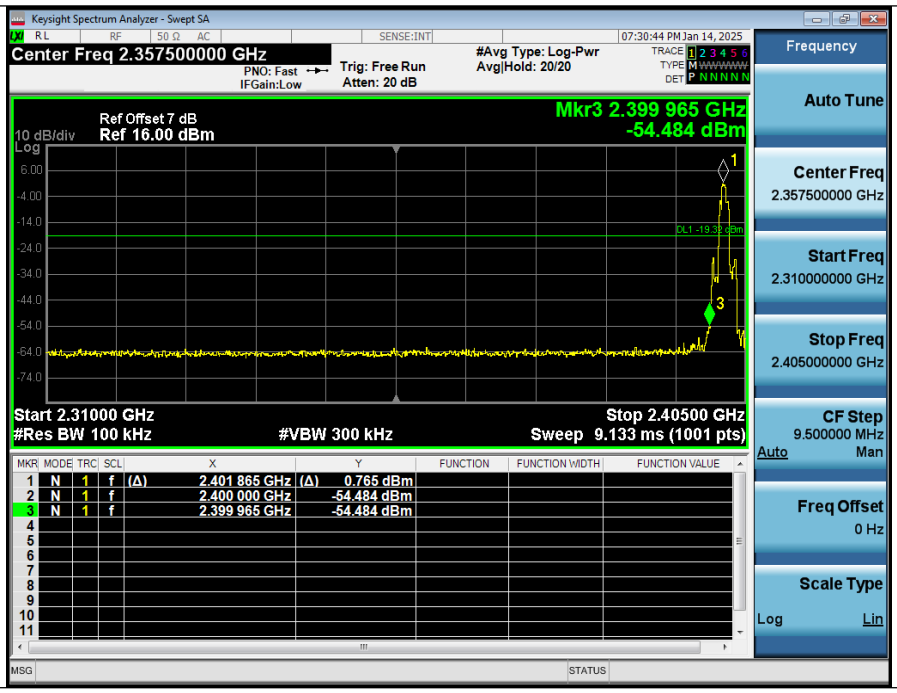


2_Band_Edge_(Hopping)_NVNT_ANT1_2-DH1_Hopping

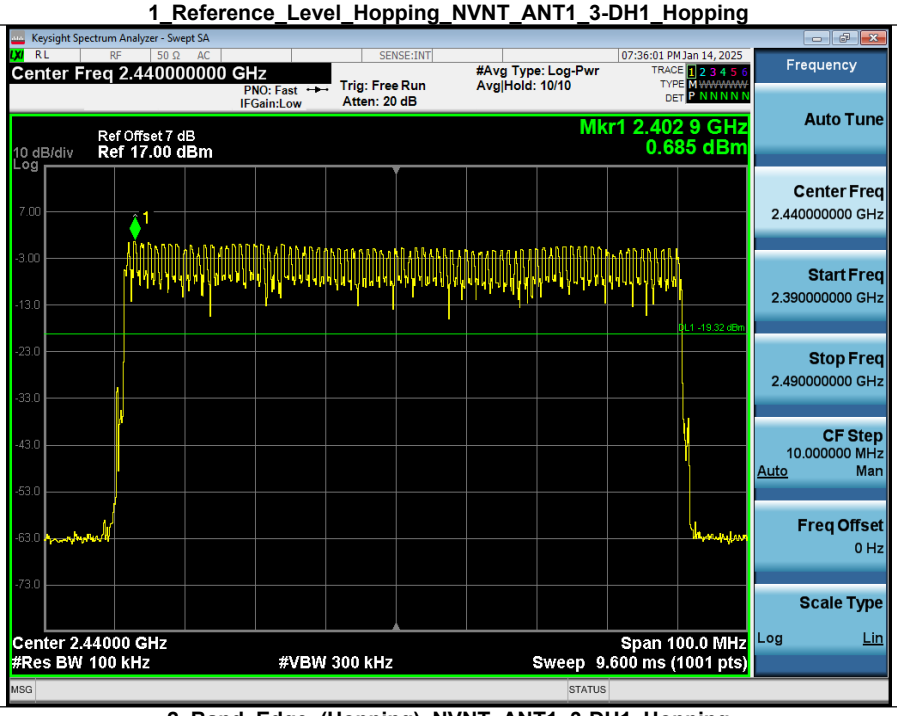


1_Reference_Level_NVNT_ANT1_3-DH1_2402_00

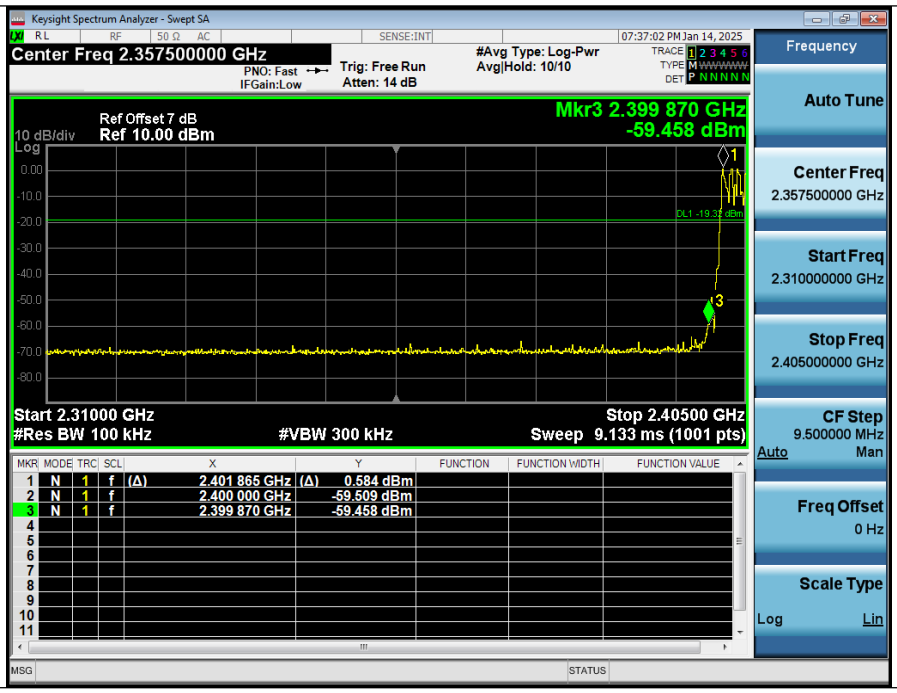
2_Bandedge_NVNT_ANT1_3-DH1_2402_00



1_Reference_Level_Hopping_NVNT_ANT1_3-DH1_Hopping

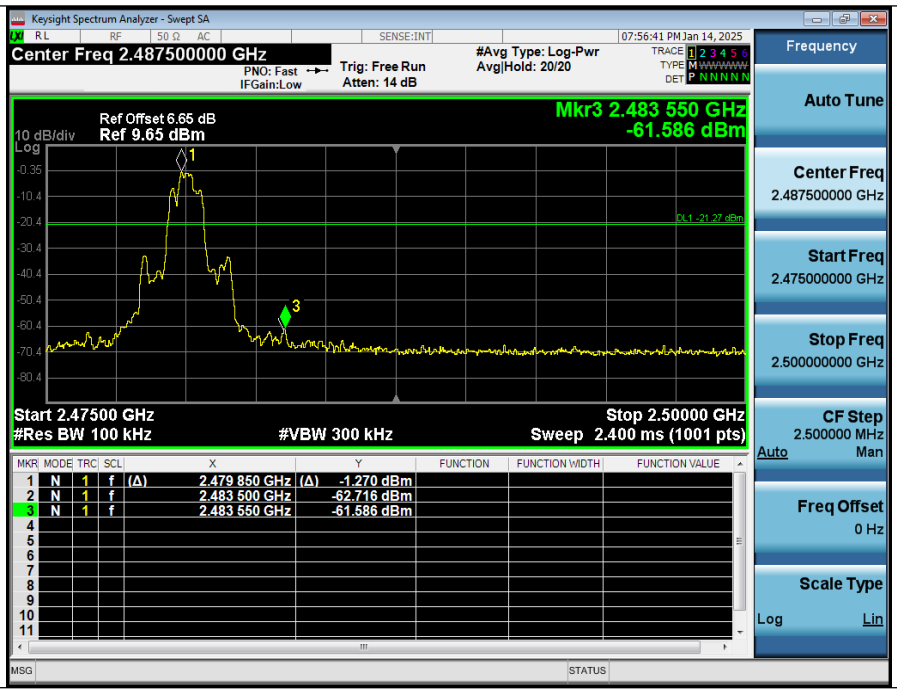


2_Band_Edge_(Hopping)_NVNT_ANT1_3-DH1_Hopping

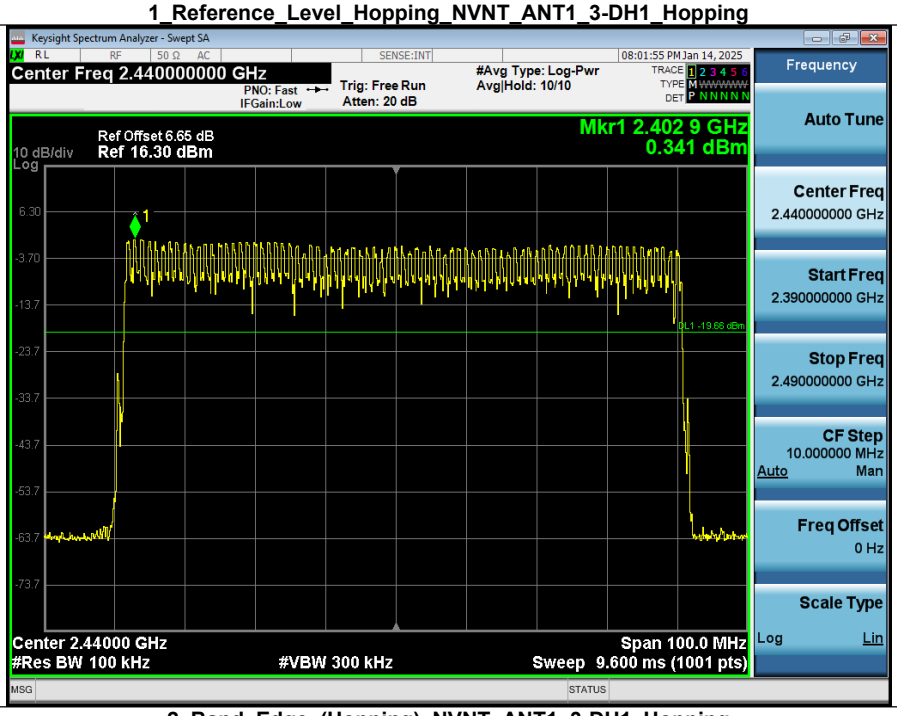


1_Reference_Level_NVNT_ANT1_3-DH1_2480_00

2_Bandedge_NVNT_ANT1_3-DH1_2480_00



1_Reference_Level_Hopping_NVNT_ANT1_3-DH1_Hopping



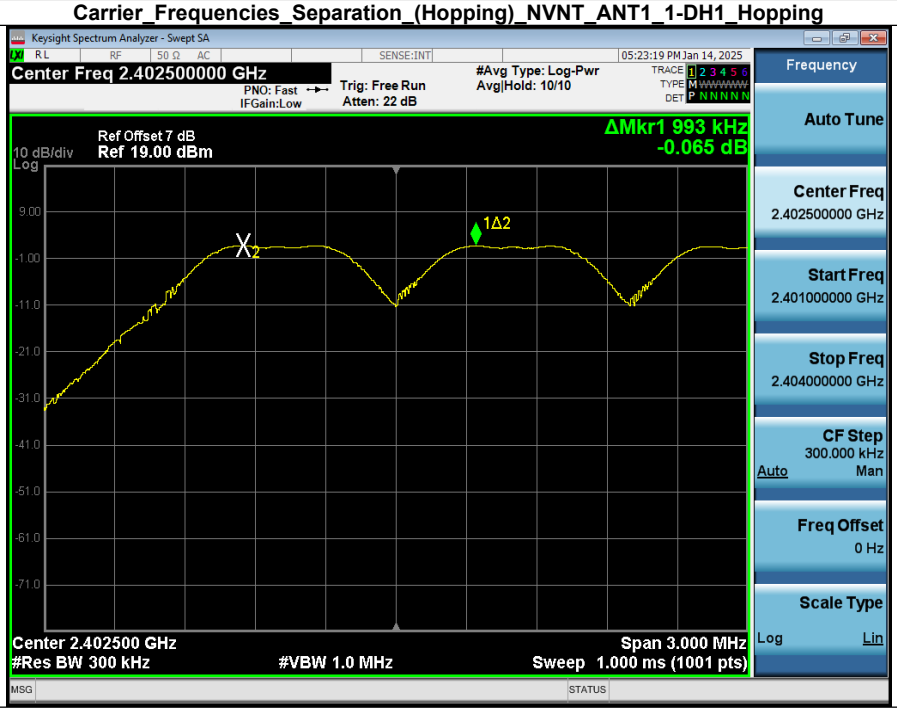
2_Band_Edge_(Hopping)_NVNT_ANT1_3-DH1_Hopping

Keysight Spectrum Analyzer - Swept SA
Center Freq 2.487500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 14 dB
#Avg Type: Log-Pwr
Avg|Hold:>10/10
08:03:37 PM Jan 14, 2025
Ref Offset 6.65 dB
10 dB/div
Ref 9.65 dBm
Mkr3 2.483 525 GHz
-64.529 dBm
DL1 -19.66 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 (Δ) 2.476 850 GHz (Δ) -1.337 dBm
2 N 1 f 2.483 500 GHz -63.678 dBm
3 N 1 f 2.483 525 GHz -64.529 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
Scale Type
Log
Lin

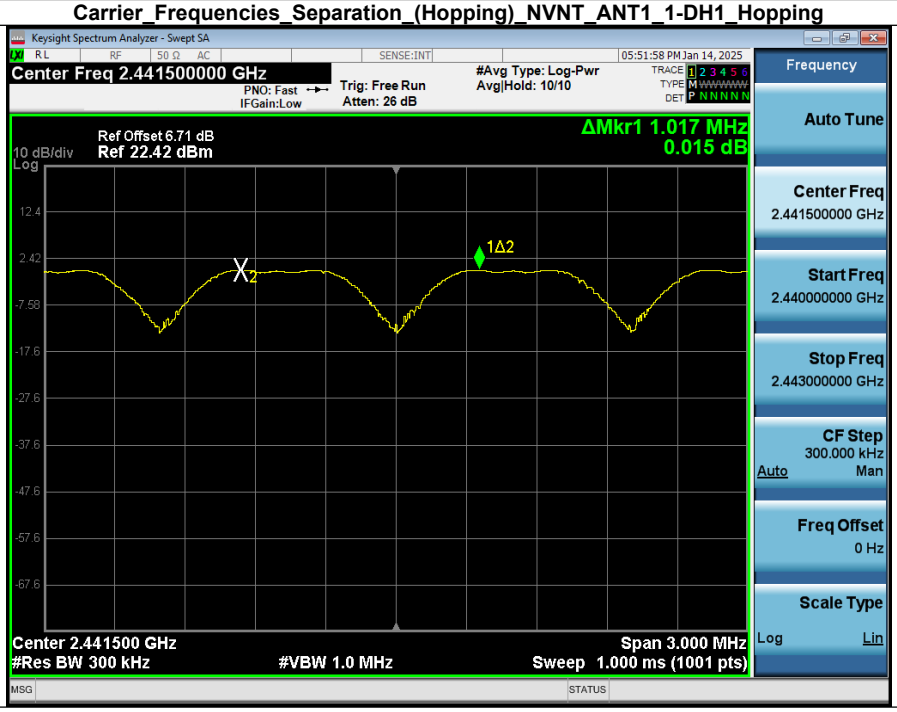
7. Carrier Frequencies Separation (Hopping)

Condition	Antenna	Modulation	Frequency(MHz)	Hopping NO.0 (MHz)	Hopping NO.1 (MHz)	Carrier Frequencies Separation(MHz)	Limit(MHz)	Result
NVNT	ANT1	1-DH1	2402.00	2401.849	2402.842	0.99	0.899	Pass
NVNT	ANT1	1-DH1	2441.00	2440.837	2441.854	1.02	0.899	Pass
NVNT	ANT1	1-DH1	2480.00	2478.855	2480.157	1.30	0.898	Pass
NVNT	ANT1	2-DH1	2402.00	2401.849	2402.842	0.99	0.754	Pass
NVNT	ANT1	2-DH1	2441.00	2441.161	2442.163	1.00	0.753	Pass
NVNT	ANT1	2-DH1	2480.00	2479.161	2480.169	1.01	0.753	Pass
NVNT	ANT1	3-DH1	2402.00	2401.852	2402.854	1.00	0.771	Pass
NVNT	ANT1	3-DH1	2441.00	2440.852	2442.157	1.30	0.773	Pass
NVNT	ANT1	3-DH1	2480.00	2478.846	2480.157	1.31	0.771	Pass

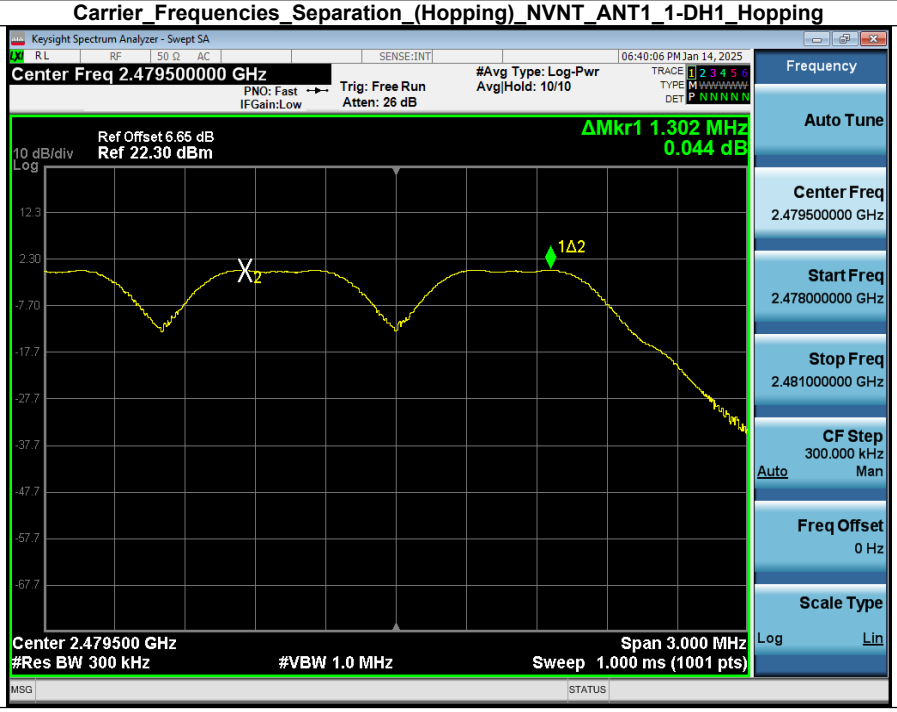
Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_1-DH1_Hopping



Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_1-DH1_Hopping

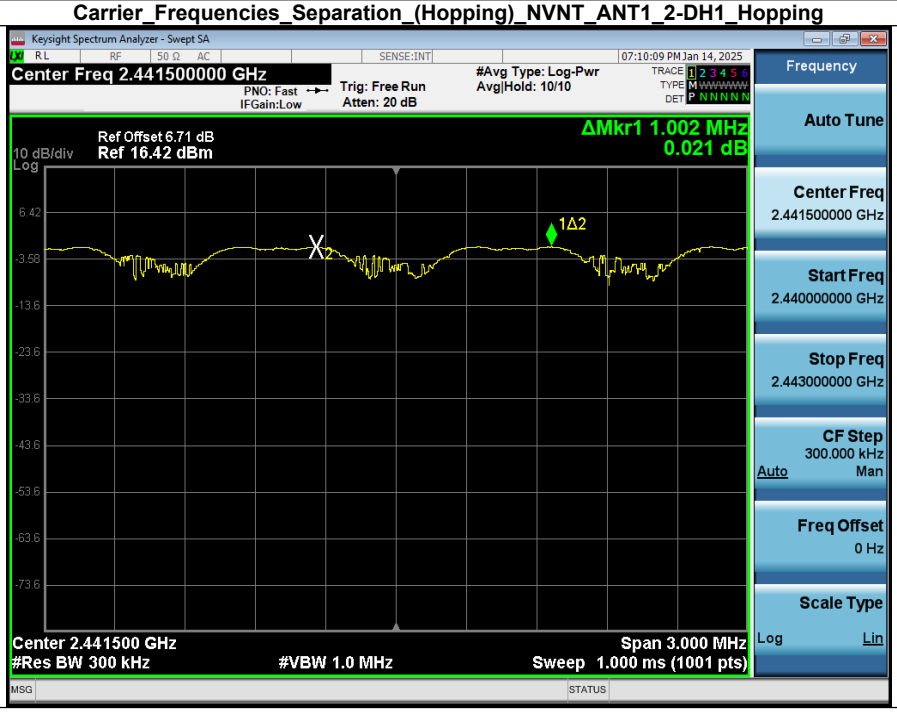


Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_1-DH1_Hopping

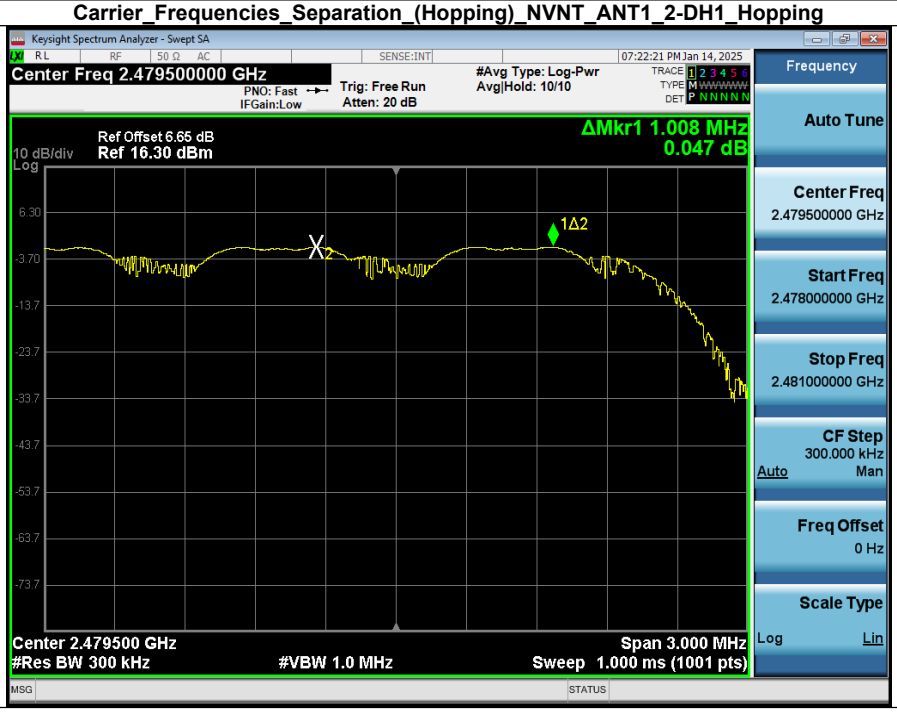


Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_2-DH1_Hopping

Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_2-DH1_Hopping

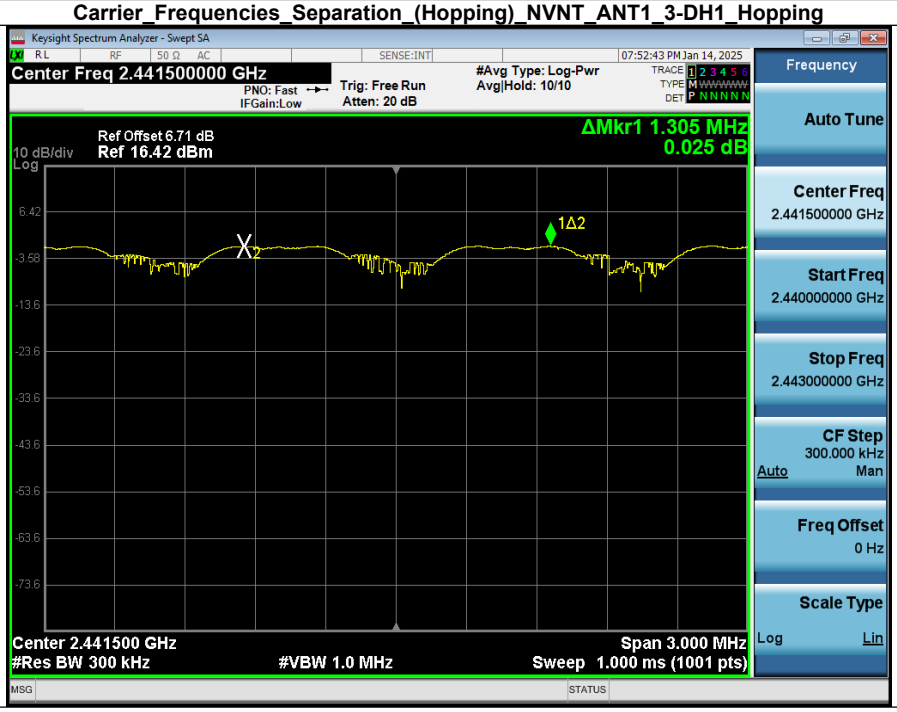


Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_2-DH1_Hopping

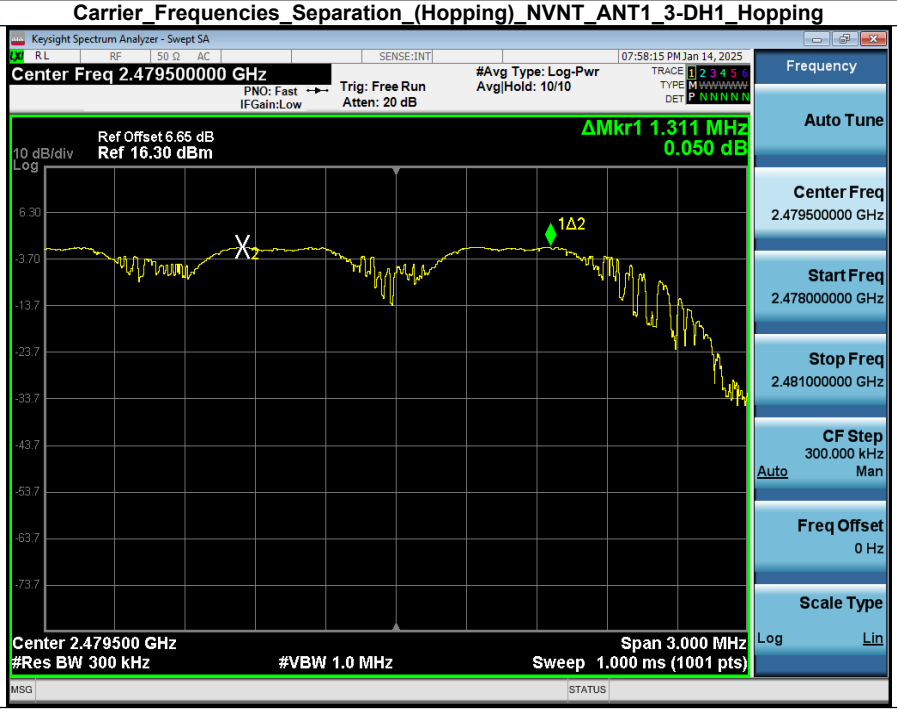


Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_3-DH1_Hopping

Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_3-DH1_Hopping



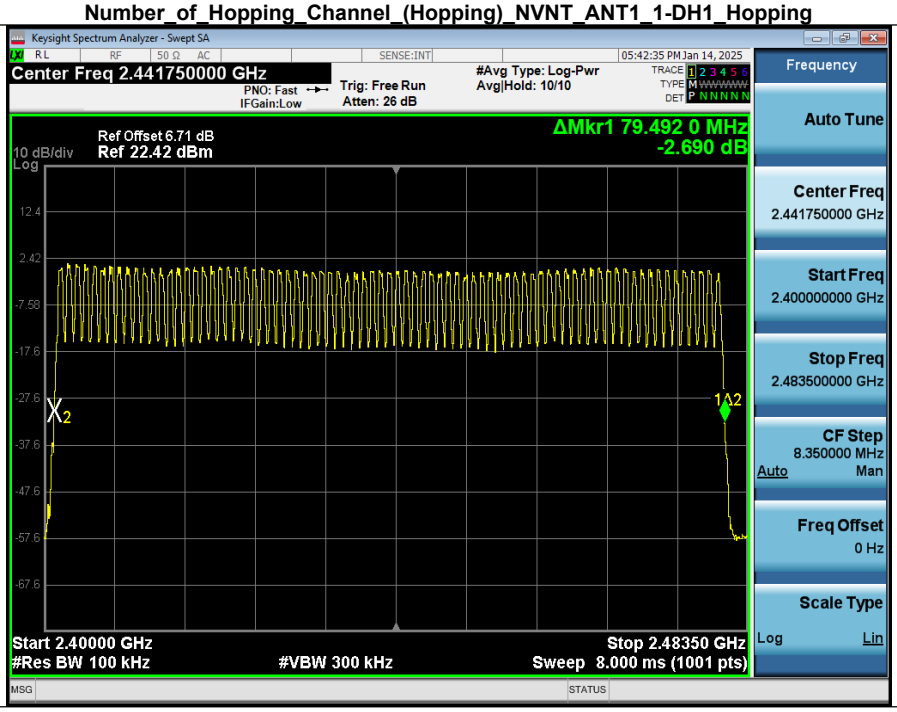
Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_3-DH1_Hopping



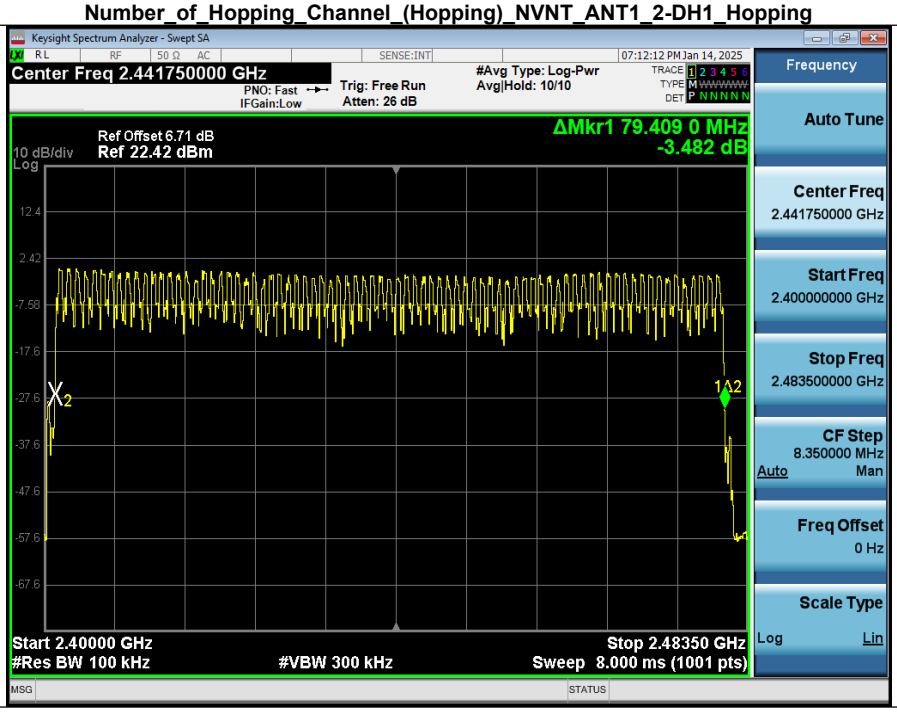
8. Number of Hopping Channel (Hopping)

Condition	Antenna	Modulation	Hopping Num	Limit	Result
NVNT	ANT1	1-DH1	79	15	Pass
NVNT	ANT1	2-DH1	79	15	Pass
NVNT	ANT1	3-DH1	79	15	Pass

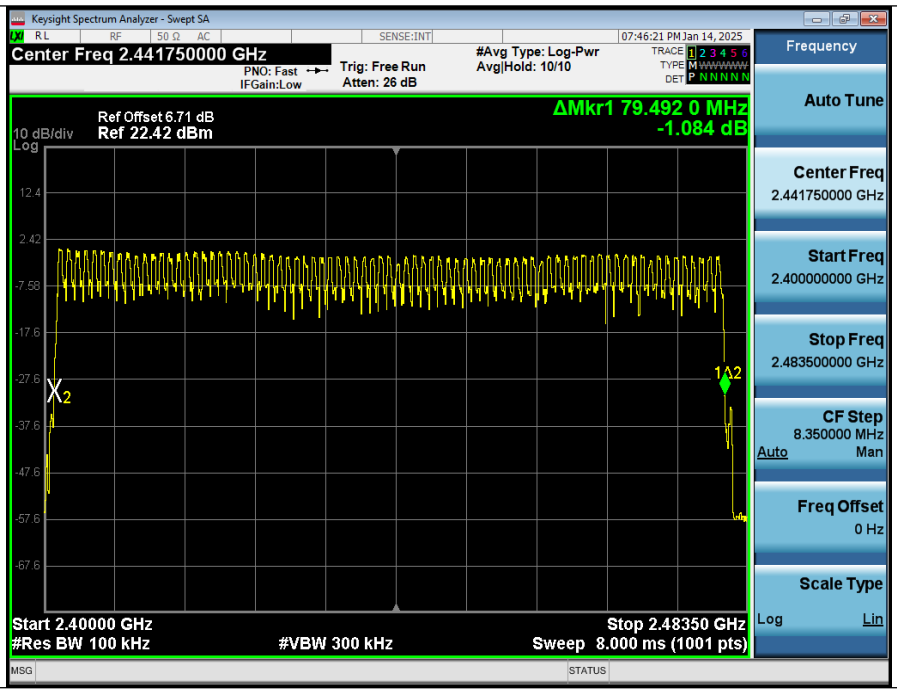
Number_of_Hopping_Channel_(Hopping)_NVNT_ANT1_1-DH1_Hopping



Number_of_Hopping_Channel_(Hopping)_NVNT_ANT1_2-DH1_Hopping



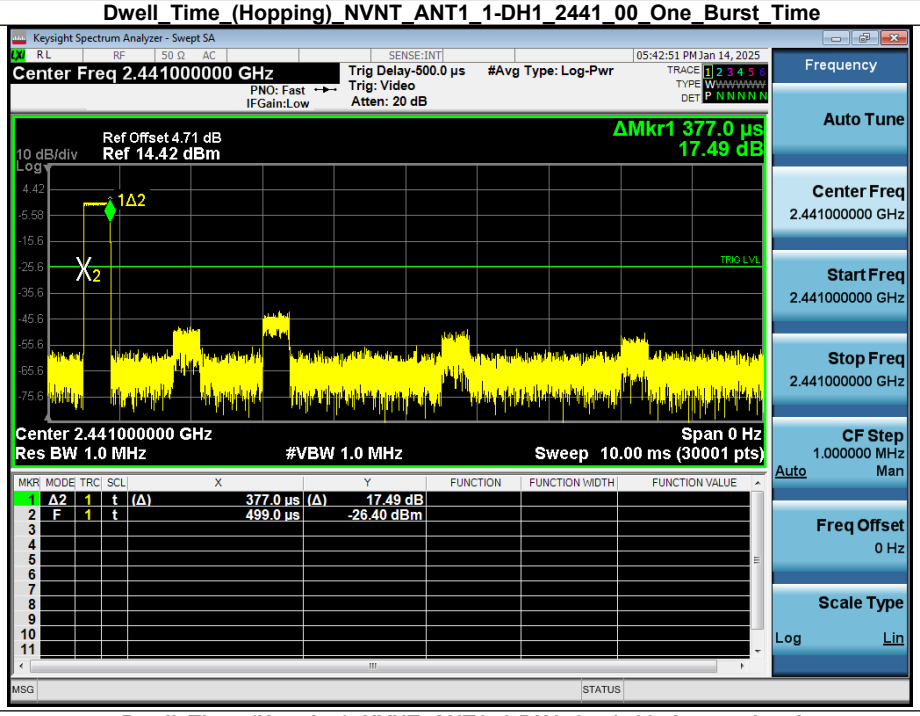
Number_of_Hopping_Channel_(Hopping)_NVNT_ANT1_3-DH1_Hopping


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441750000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 26 dB
#Avg Type: Log-Pwr
Avg|Hold: 10/10
07:46:21 PM Jan 14, 2025
Ref Offset 6.71 dB
10 dB/div
Ref 22.42 dBm
Log
ΔMkr1 79.492 0 MHz
-1.084 dB
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
Scale Type
Log
Lin

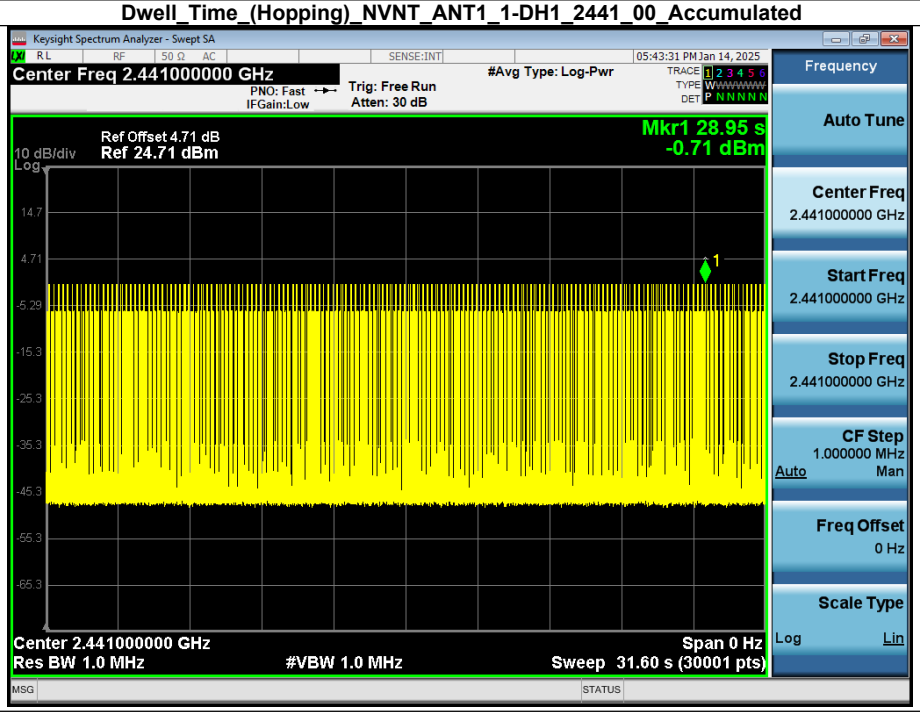
9. Dwell Time (Hopping)

Condition	Antenna	Packet Type	Pulse Time(ms)	Hops	Dwell Time(ms)	Limit(s)	Result
NVNT	ANT1	1-DH1	0.377	318.00	119.886	0.40	Pass
NVNT	ANT1	2-DH1	0.387	320.00	123.840	0.40	Pass
NVNT	ANT1	3-DH1	0.388	320.00	124.160	0.40	Pass
NVNT	ANT1	1-DH3	1.633	168.00	274.344	0.40	Pass
NVNT	ANT1	1-DH5	2.881	112.00	322.672	0.40	Pass
NVNT	ANT1	2-DH3	1.639	166.00	272.074	0.40	Pass
NVNT	ANT1	2-DH5	2.887	119.00	343.553	0.40	Pass
NVNT	ANT1	3-DH3	1.638	153.00	250.614	0.40	Pass
NVNT	ANT1	3-DH5	2.890	105.00	303.450	0.40	Pass

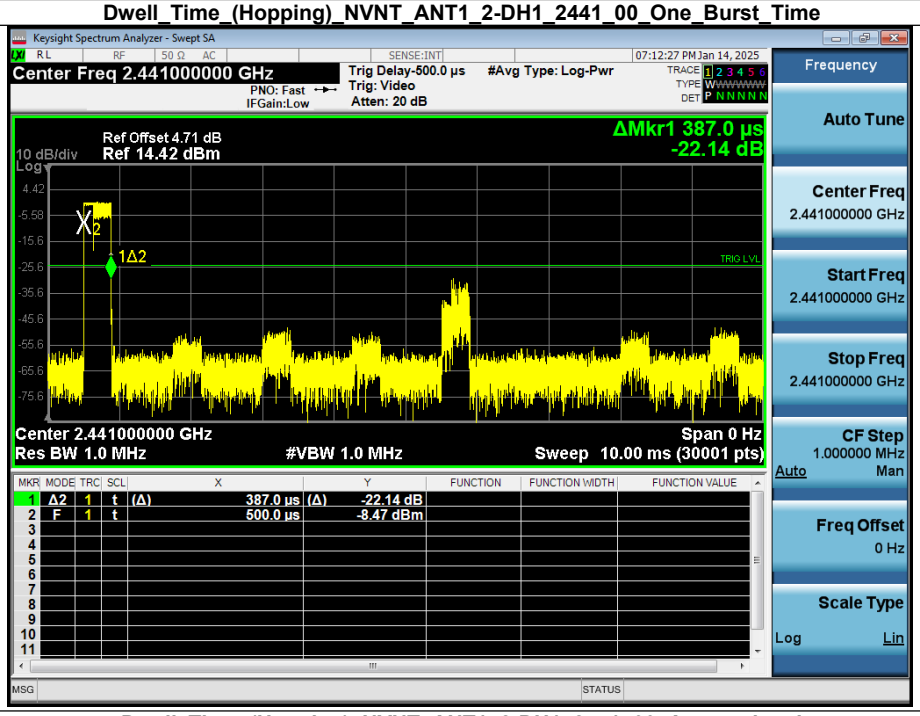
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH1_2441_00_One_Burst_Time



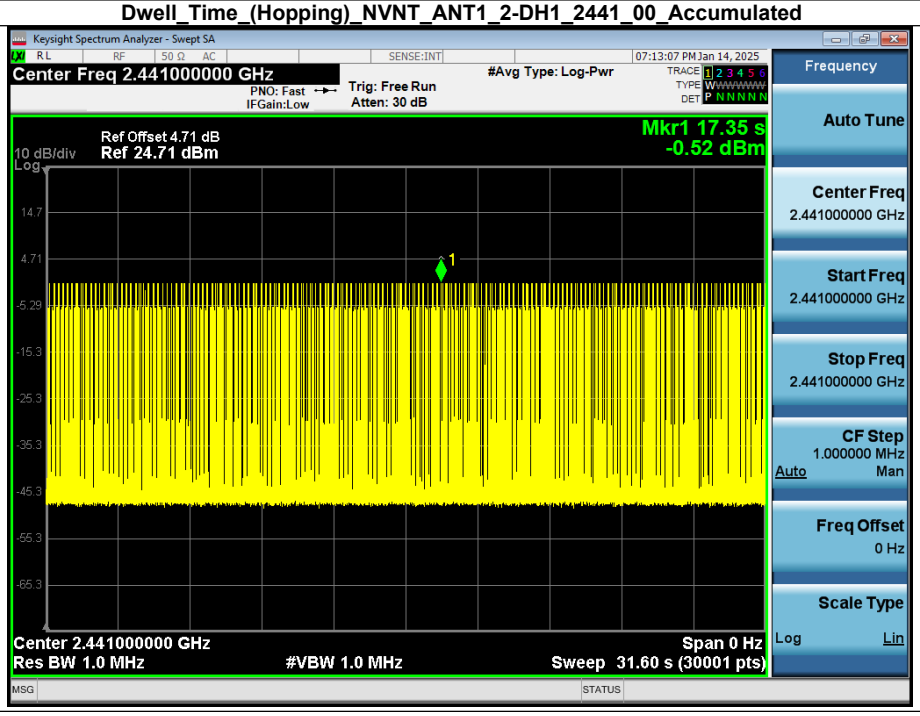
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH1_2441_00_Accumulated



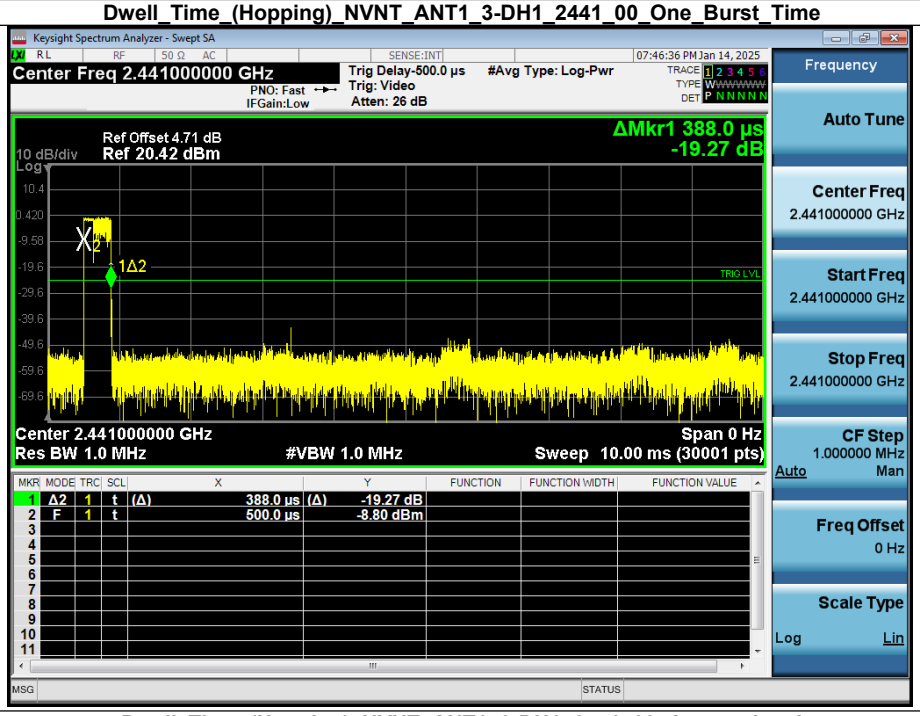
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH1_2441_00_One_Burst_Time



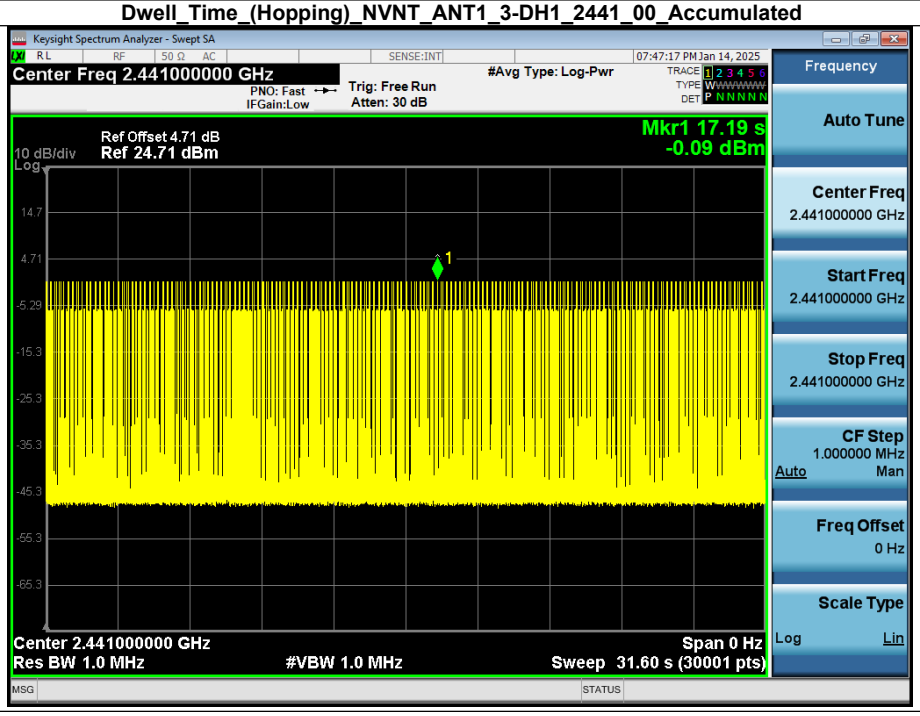
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH1_2441_00_Accumulated



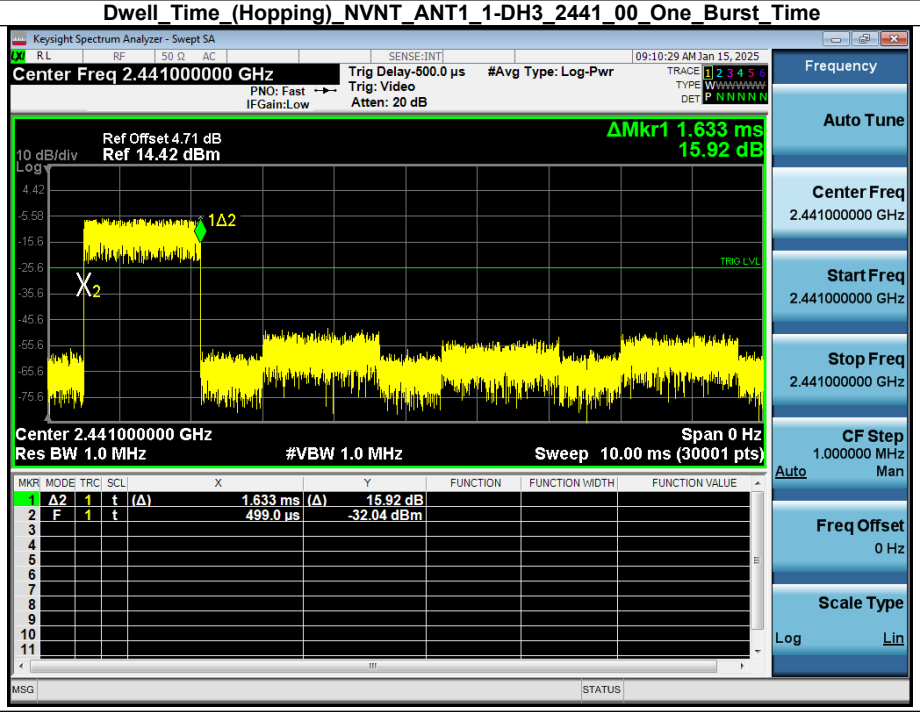
Dwell_Time_(Hopping)_NVNT_ANT1_3-DH1_2441_00_One_Burst_Time



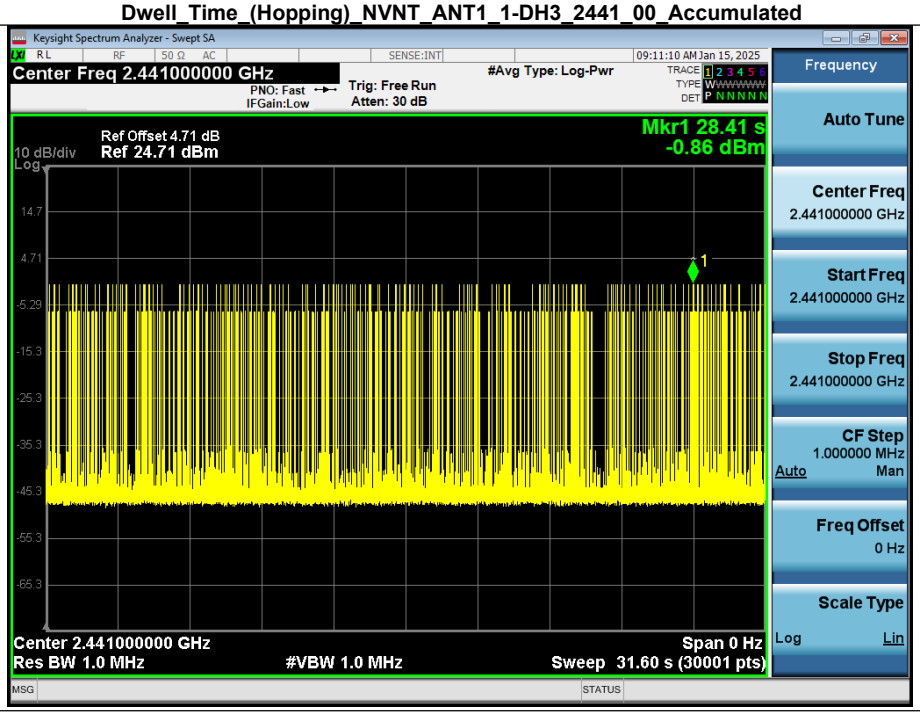
Dwell_Time_(Hopping)_NVNT_ANT1_3-DH1_2441_00_Accumulated



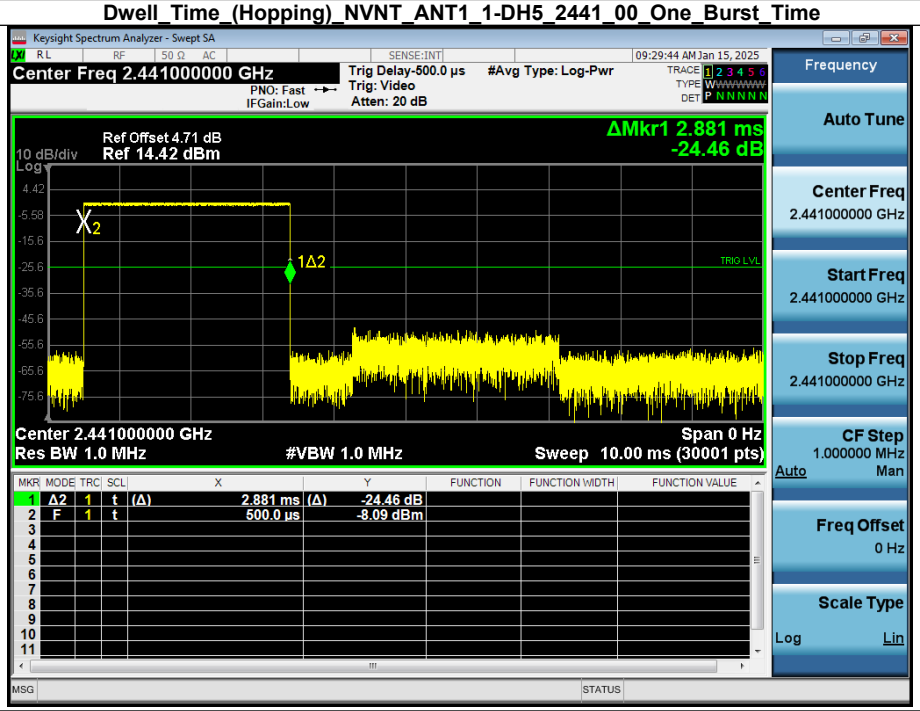
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH3_2441_00_One_Burst_Time



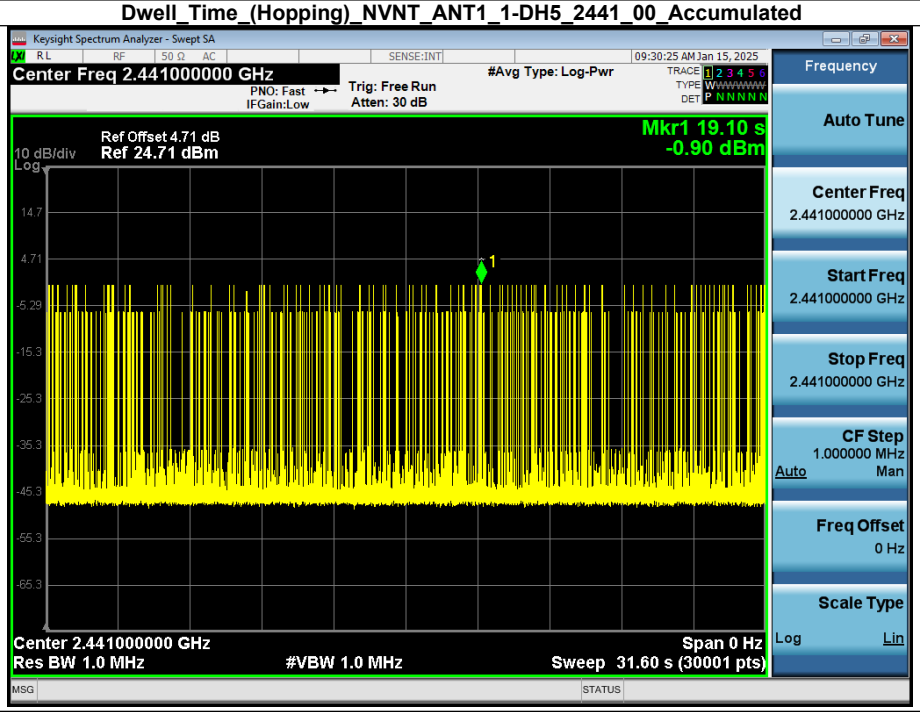
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH3_2441_00_Accumulated



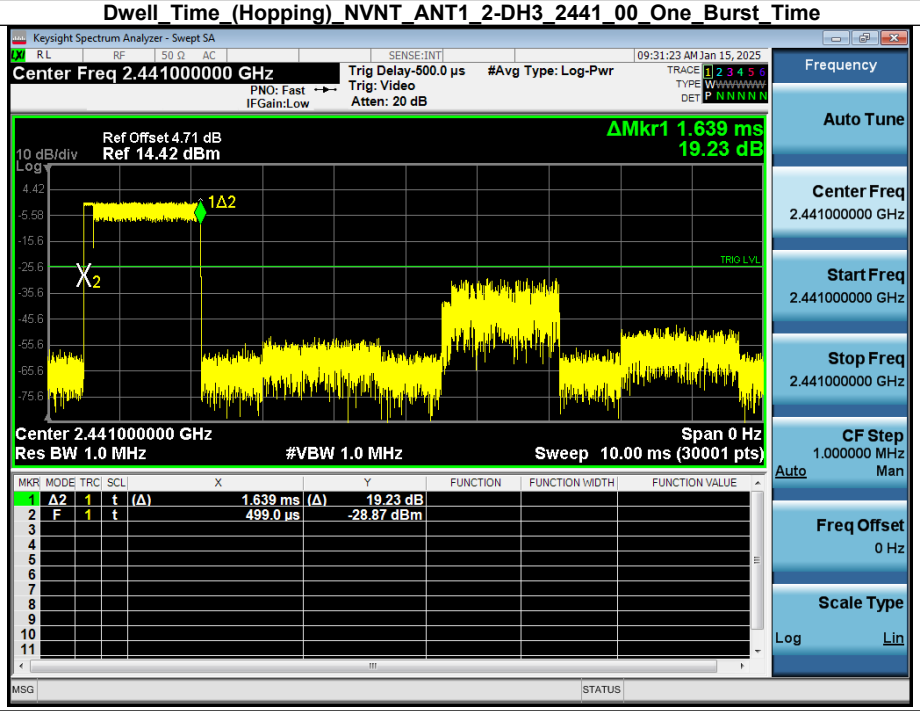
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH5_2441_00_One_Burst_Time



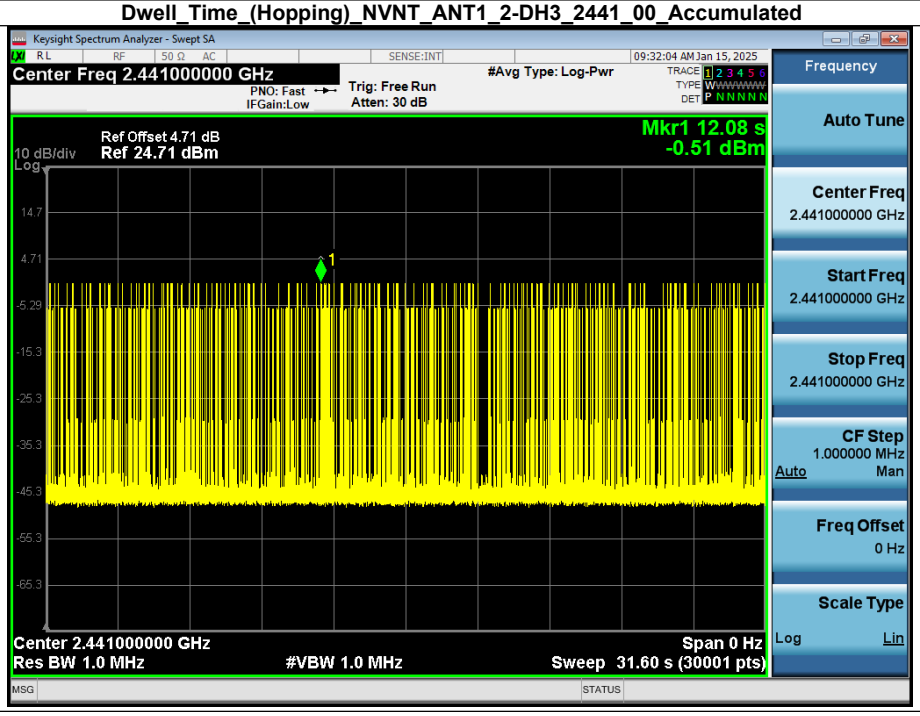
Dwell_Time_(Hopping)_NVNT_ANT1_1-DH5_2441_00_Accumulated



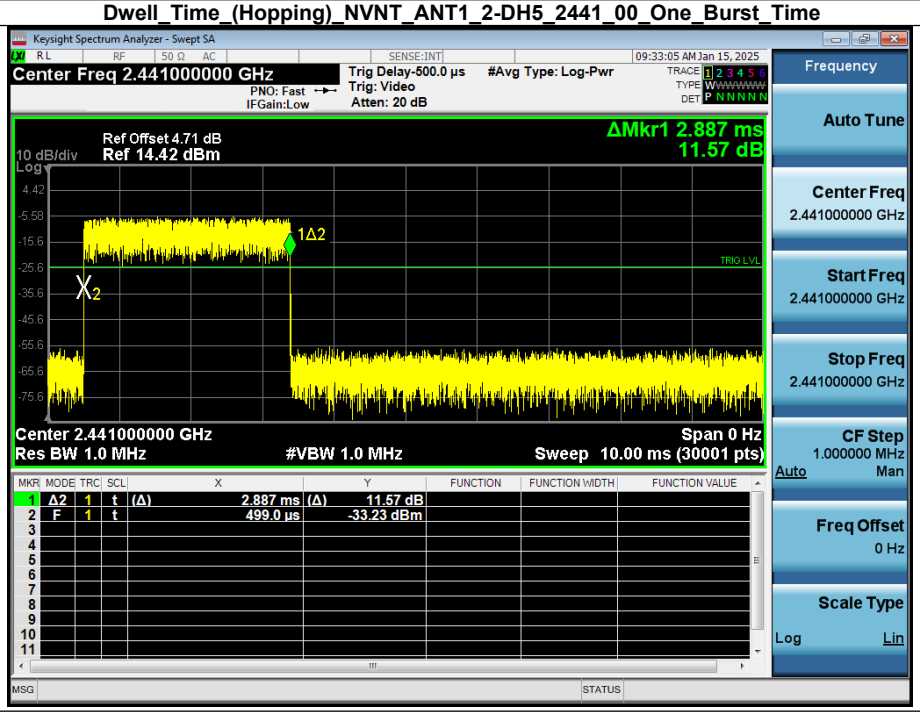
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH3_2441_00_One_Burst_Time



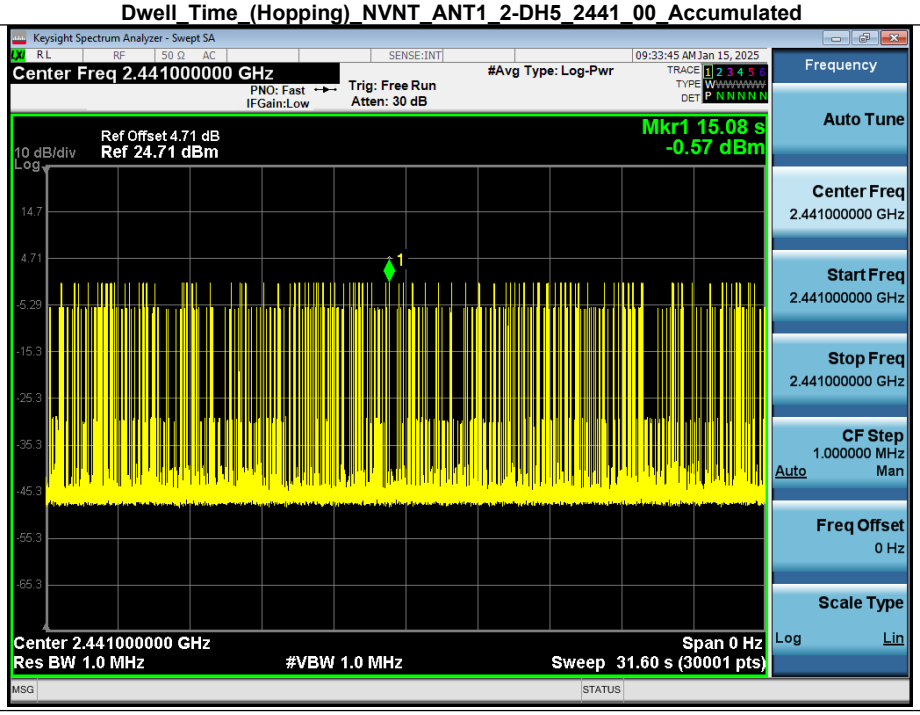
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH3_2441_00_Accumulated



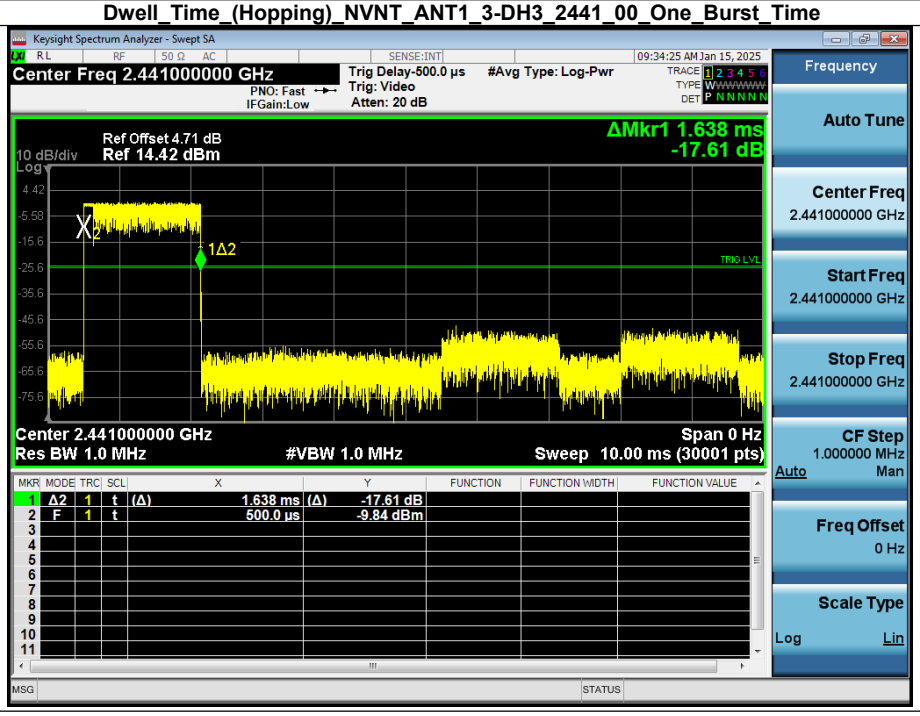
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH5_2441_00_One_Burst_Time



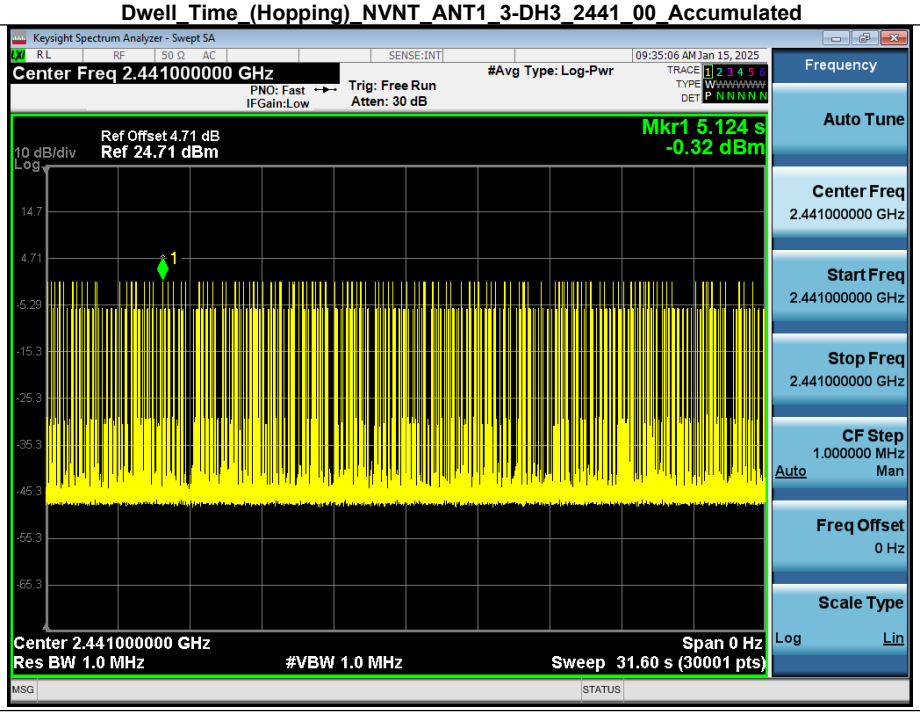
Dwell_Time_(Hopping)_NVNT_ANT1_2-DH5_2441_00_Accumulated



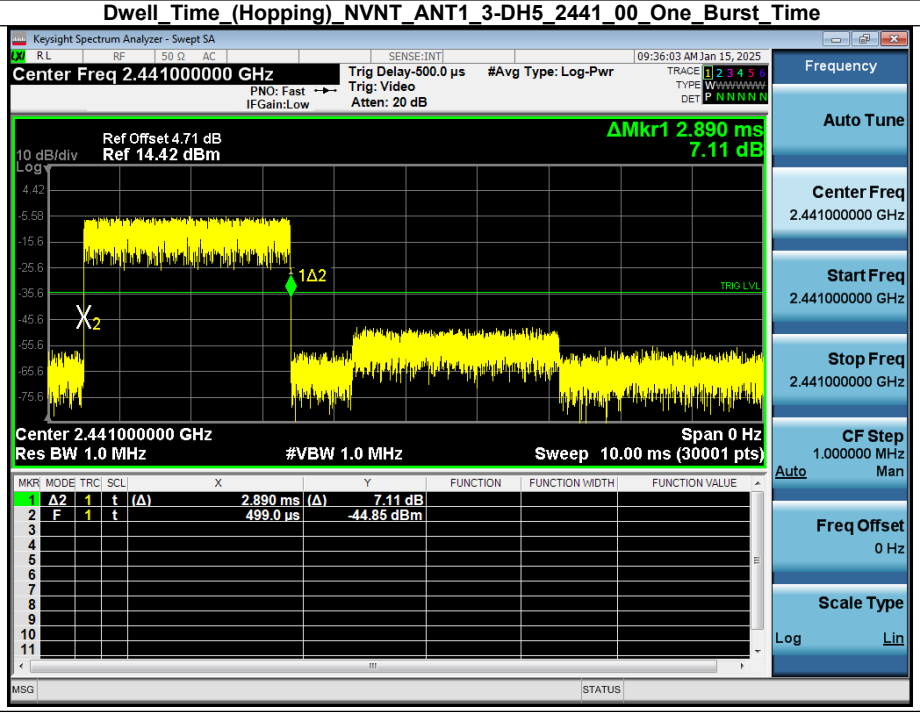
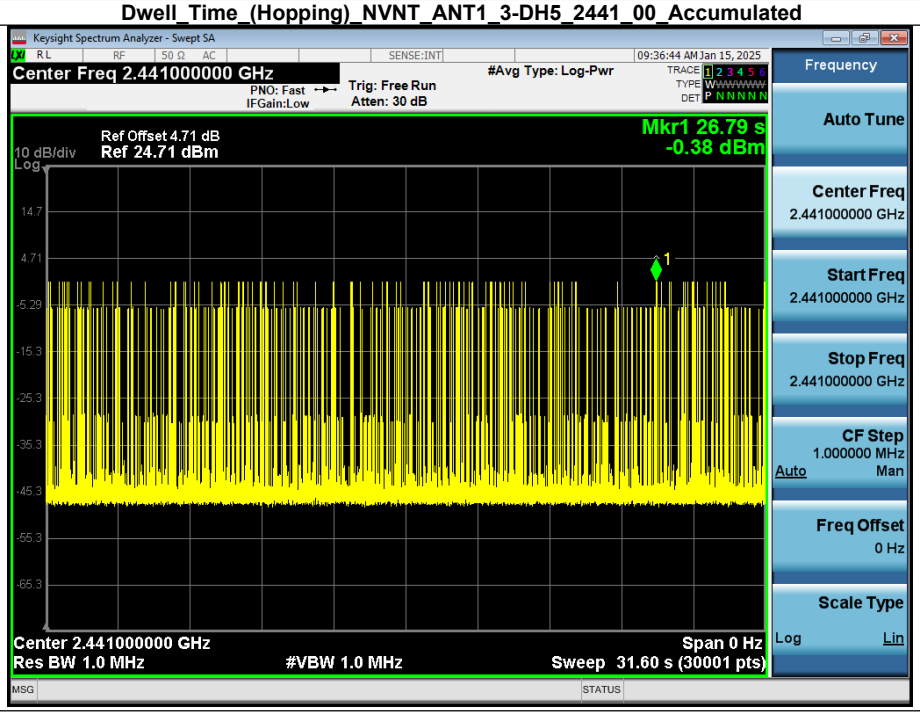
Dwell_Time_(Hopping)_NVNT_ANT1_3-DH3_2441_00_One_Burst_Time



Dwell_Time_(Hopping)_NVNT_ANT1_3-DH3_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