

Appendix RF test data for BT

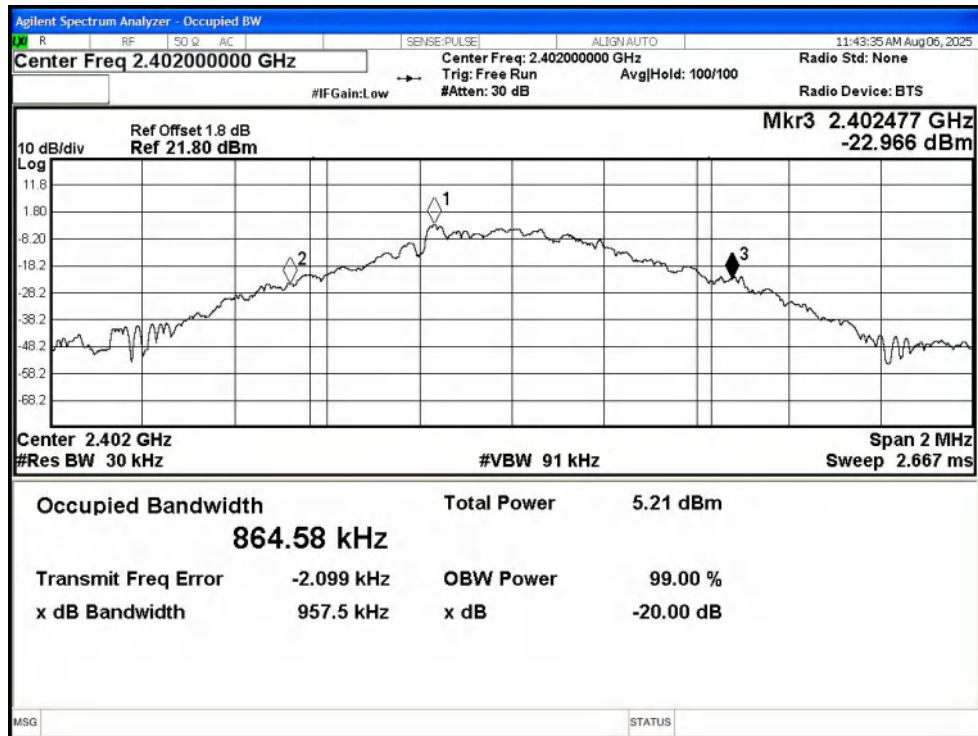


A.1 -20dB Bandwidth

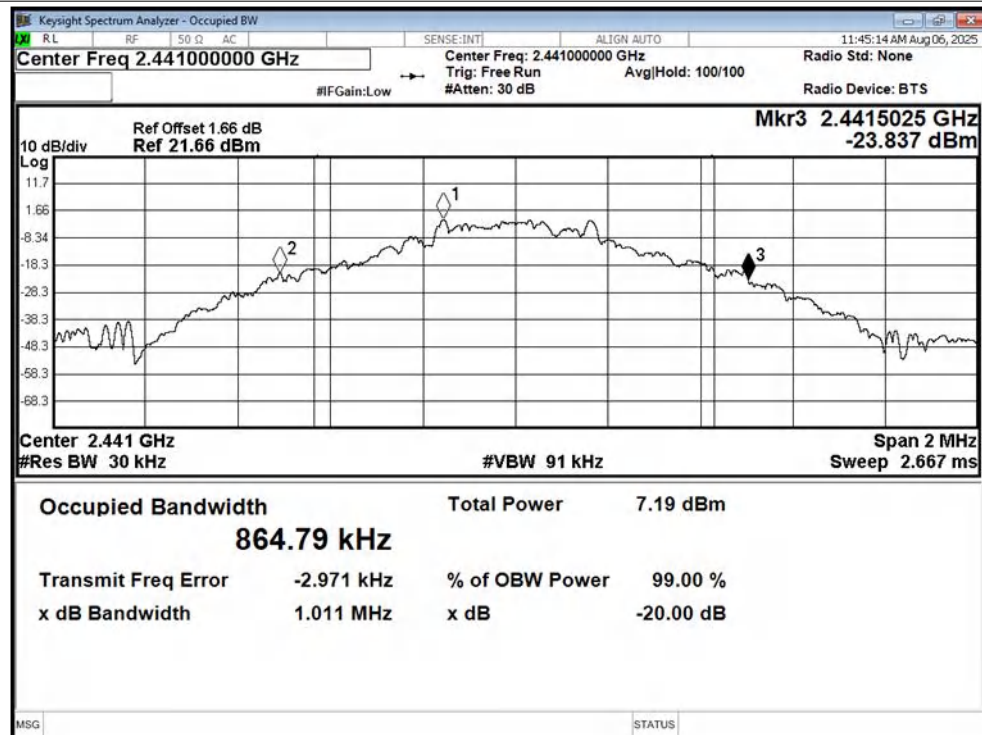
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.958	N/A	Pass
NVNT	1-DH5	2441	Ant1	1.011	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.958	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.288	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.285	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.287	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.299	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.309	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.298	N/A	Pass

Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



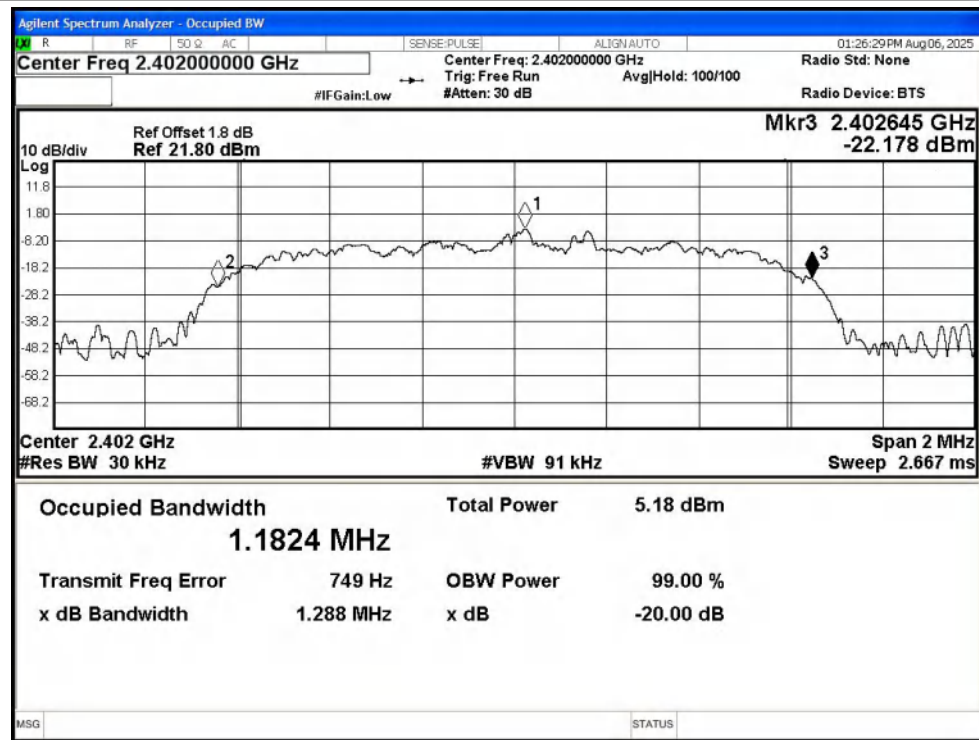
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



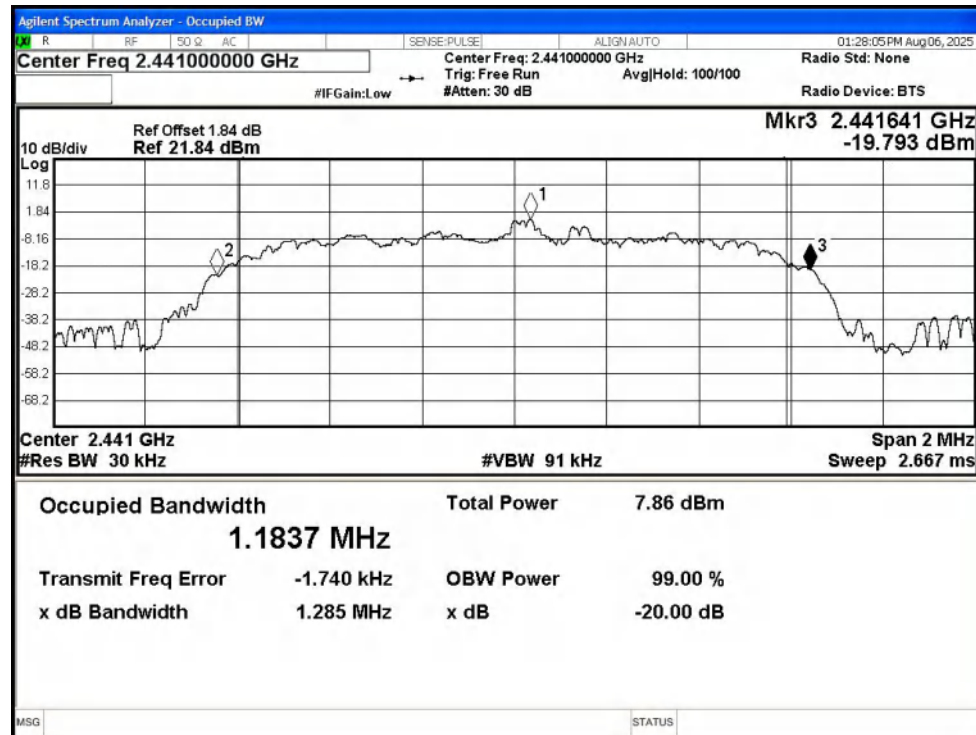
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



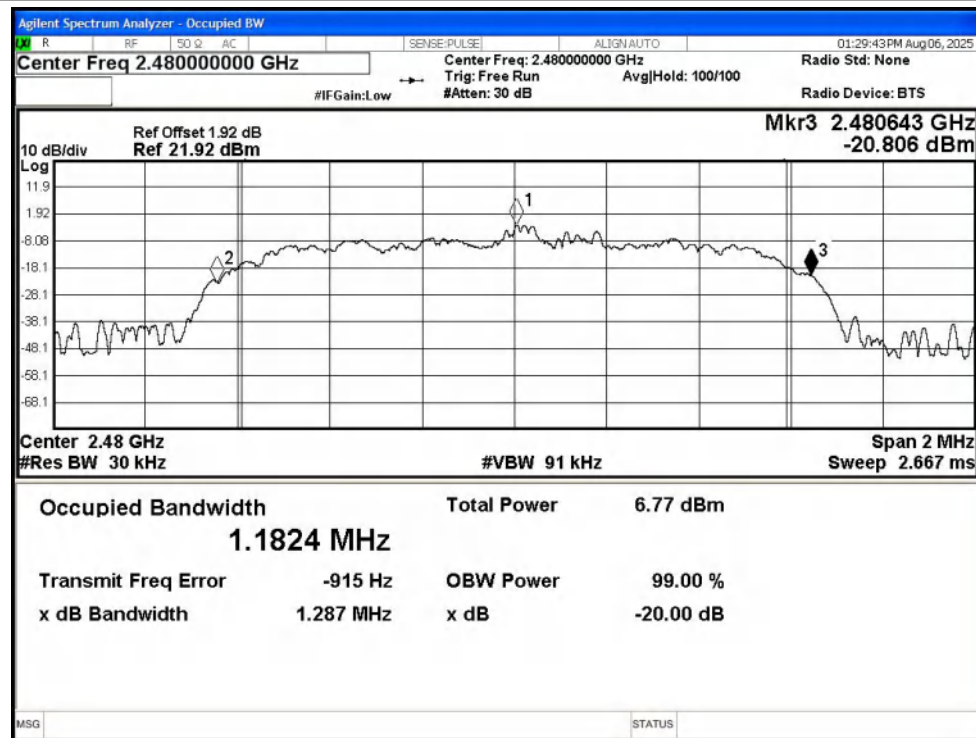
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



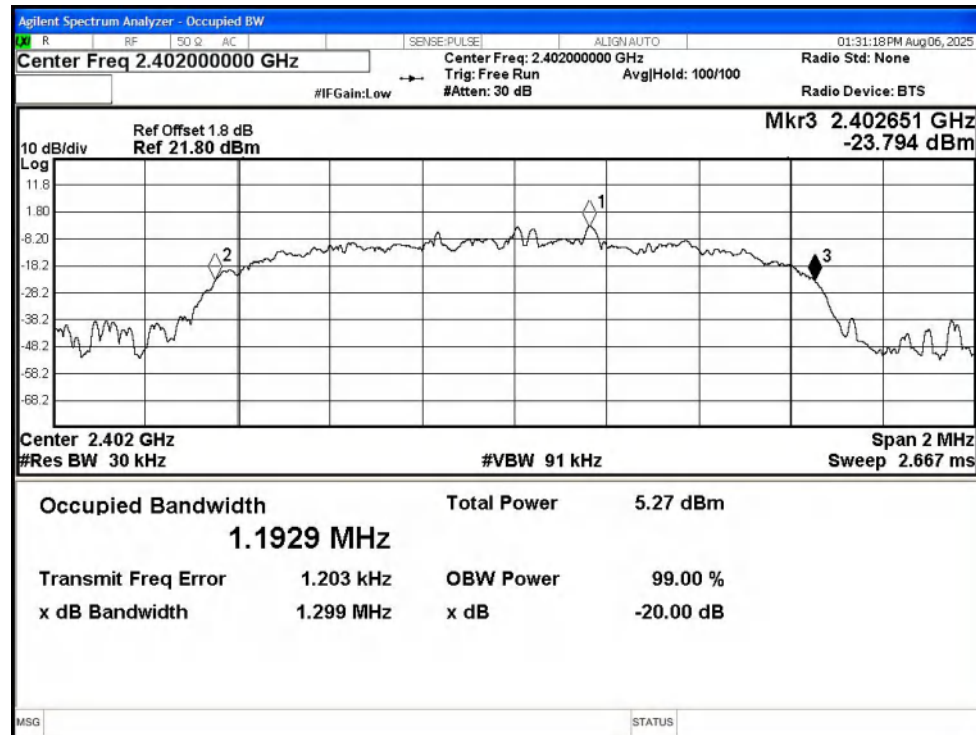
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



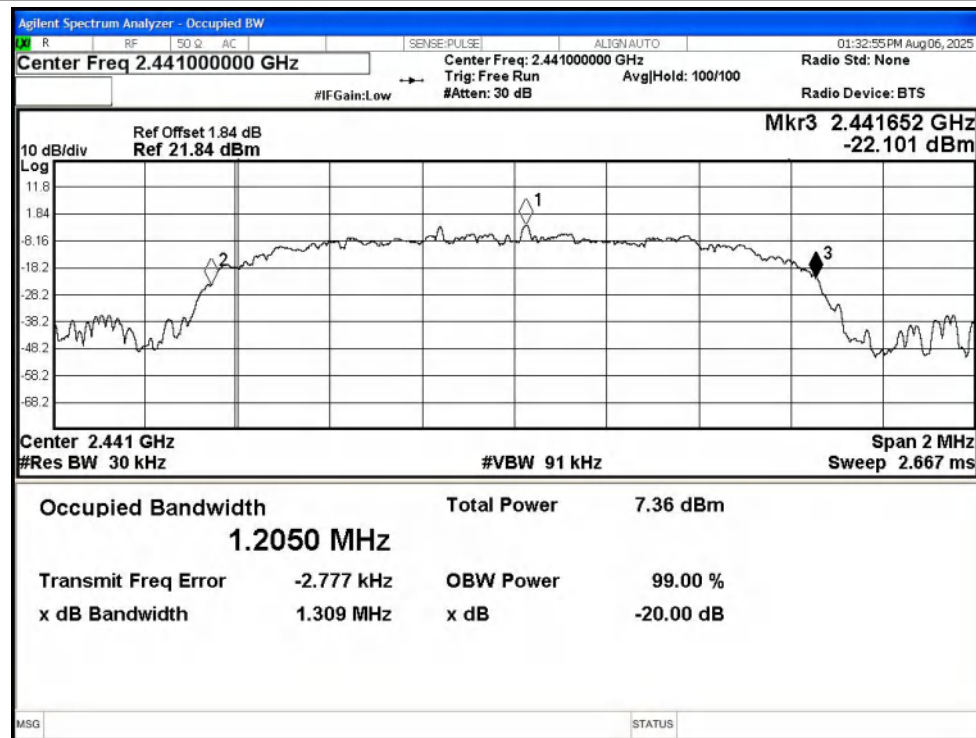
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



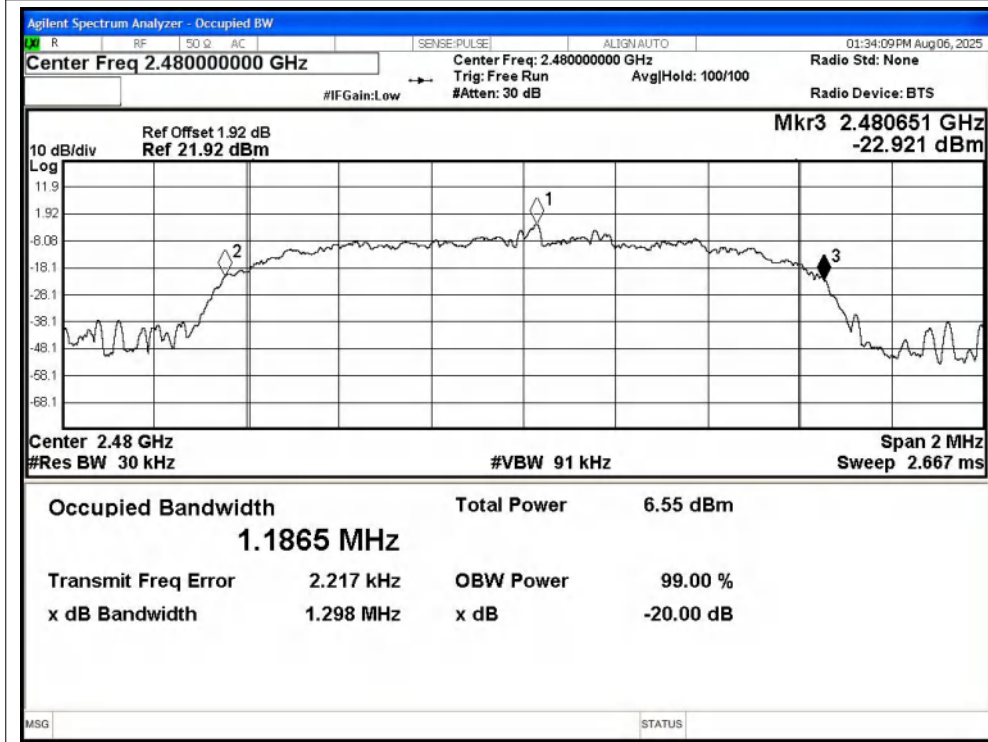
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

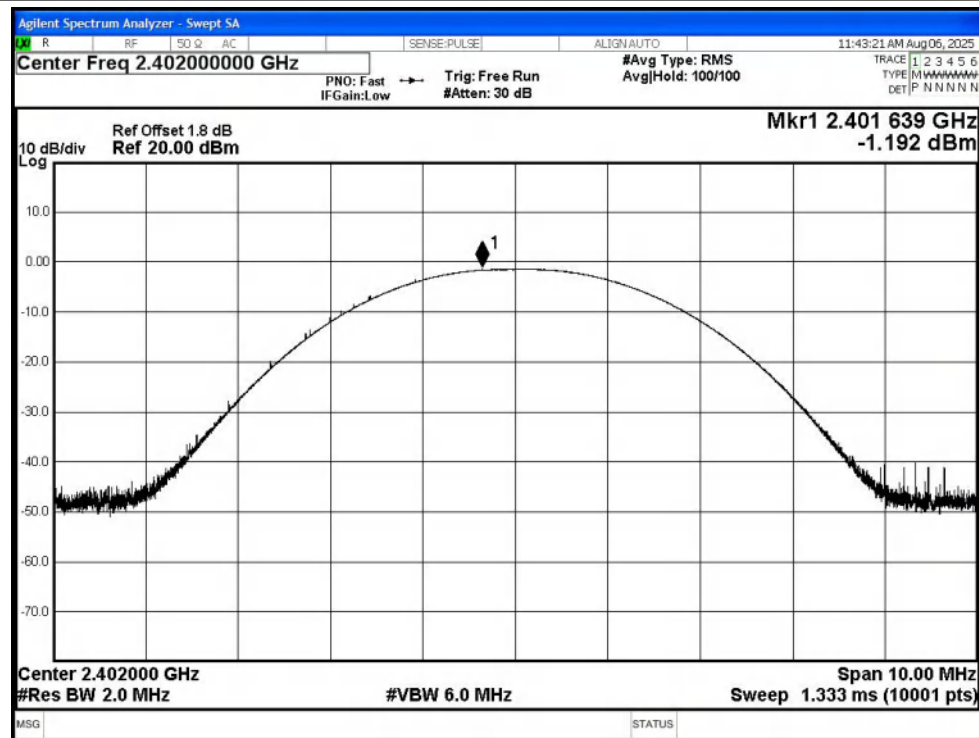


A.2 Maximum Peak Conducted Output Power

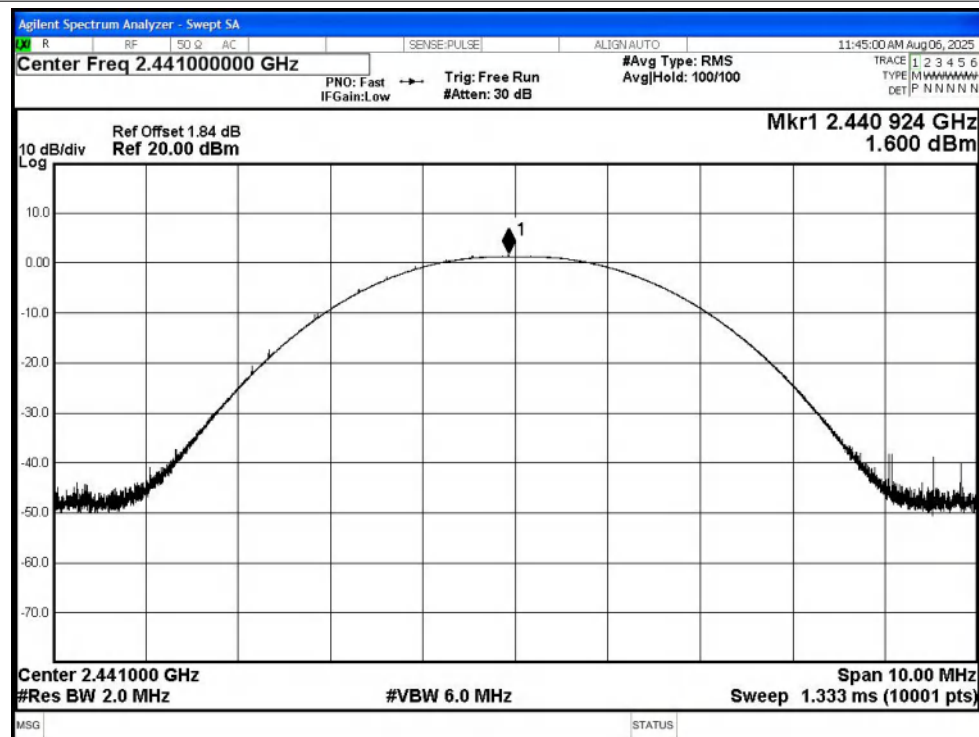
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.19	21	Pass
NVNT	1-DH5	2441	Ant1	1.6	21	Pass
NVNT	1-DH5	2480	Ant1	0.49	21	Pass
NVNT	2-DH5	2402	Ant1	0.84	21	Pass
NVNT	2-DH5	2441	Ant1	3.41	21	Pass
NVNT	2-DH5	2480	Ant1	2.14	21	Pass
NVNT	3-DH5	2402	Ant1	1.25	21	Pass
NVNT	3-DH5	2441	Ant1	3.73	21	Pass
NVNT	3-DH5	2480	Ant1	2.38	21	Pass

Test Graphs

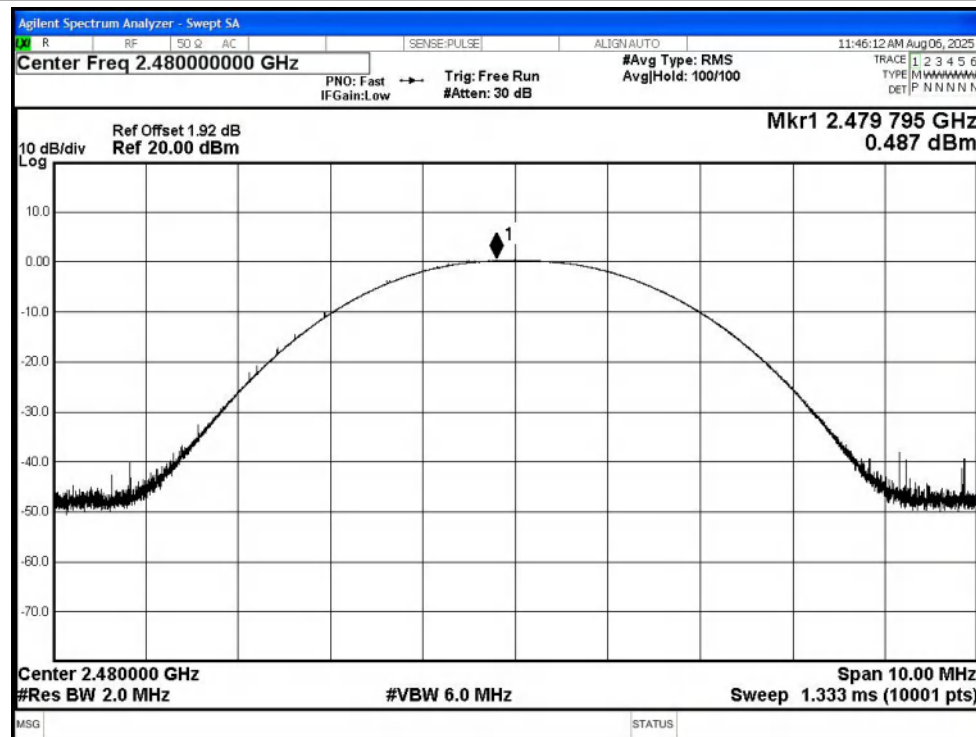
Power NVNT 1-DH5 2402MHz Ant1



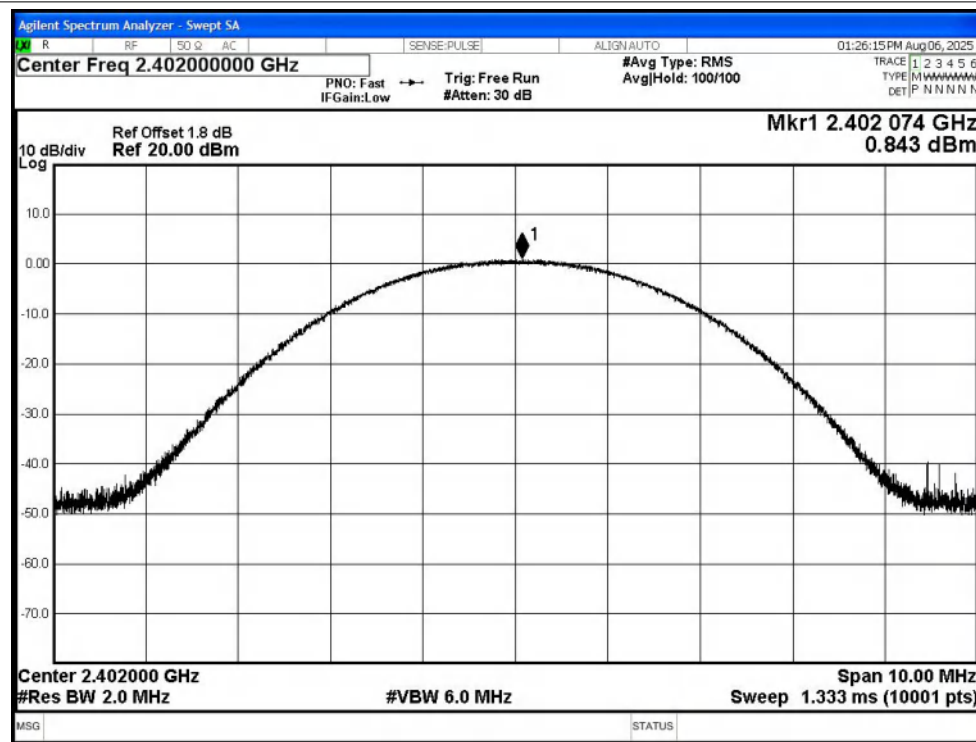
Power NVNT 1-DH5 2441MHz Ant1



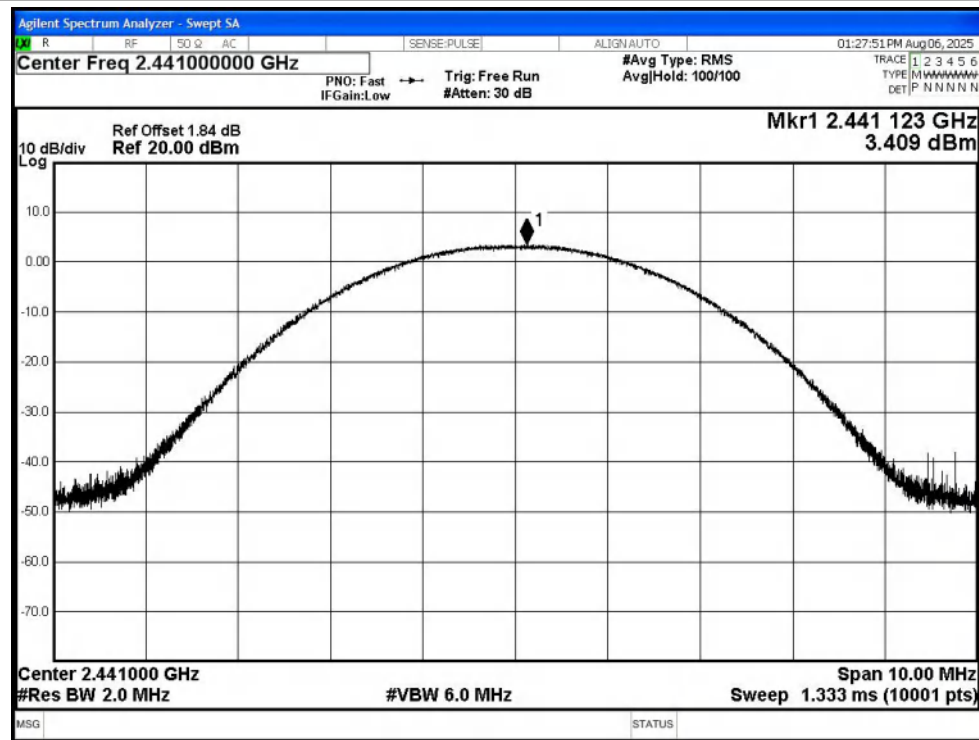
Power NVNT 1-DH5 2480MHz Ant1



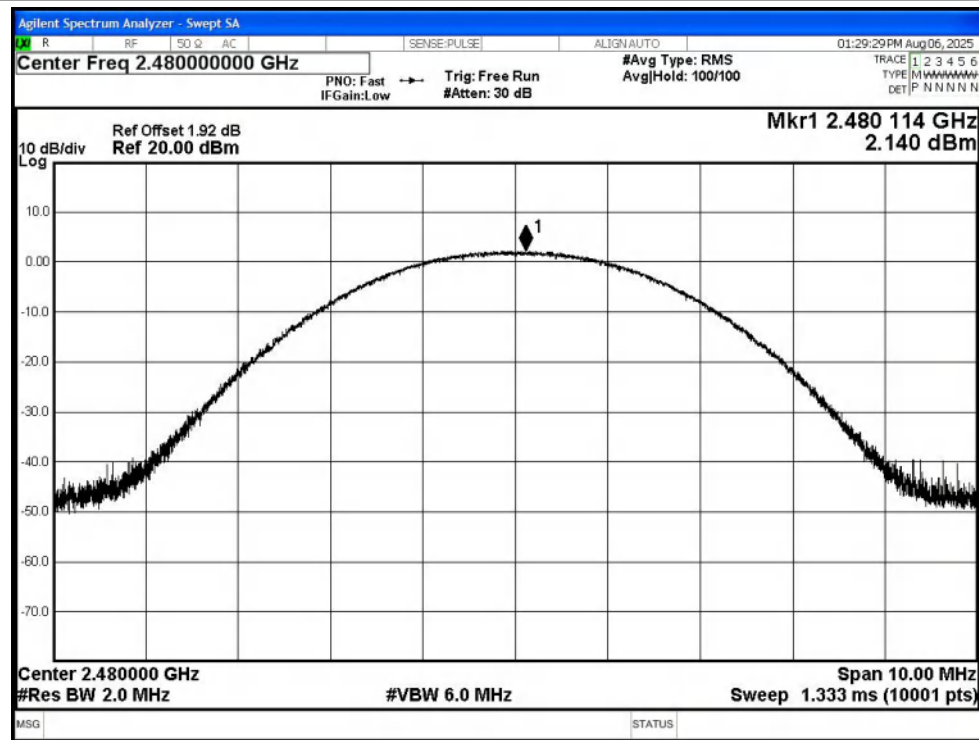
Power NVNT 2-DH5 2402MHz Ant1



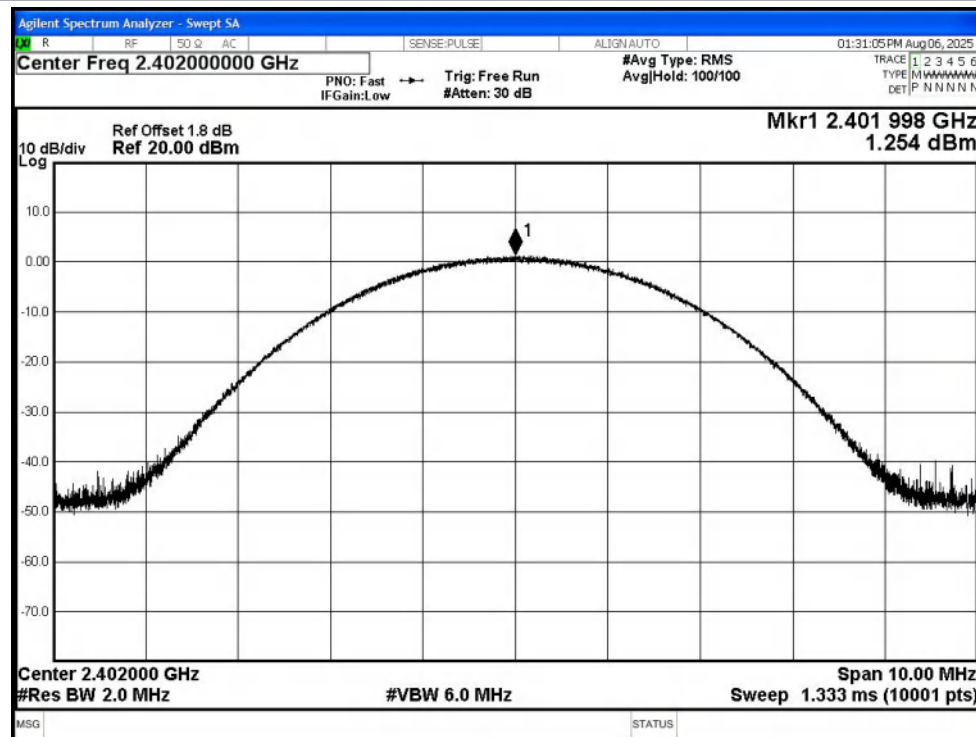
Power NVNT 2-DH5 2441MHz Ant1



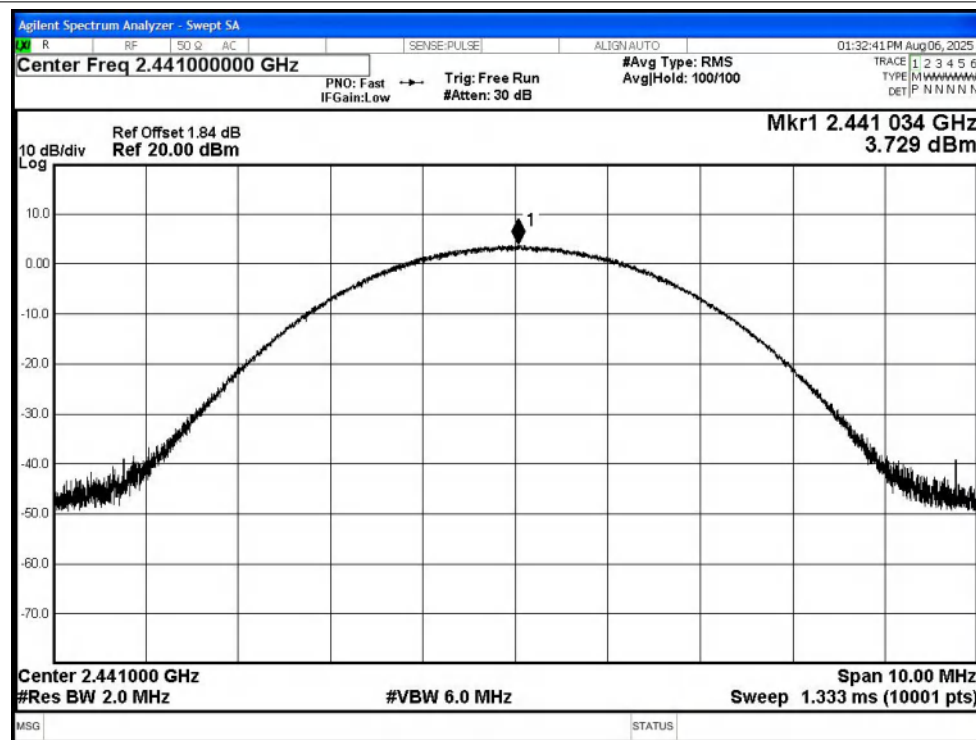
Power NVNT 2-DH5 2480MHz Ant1



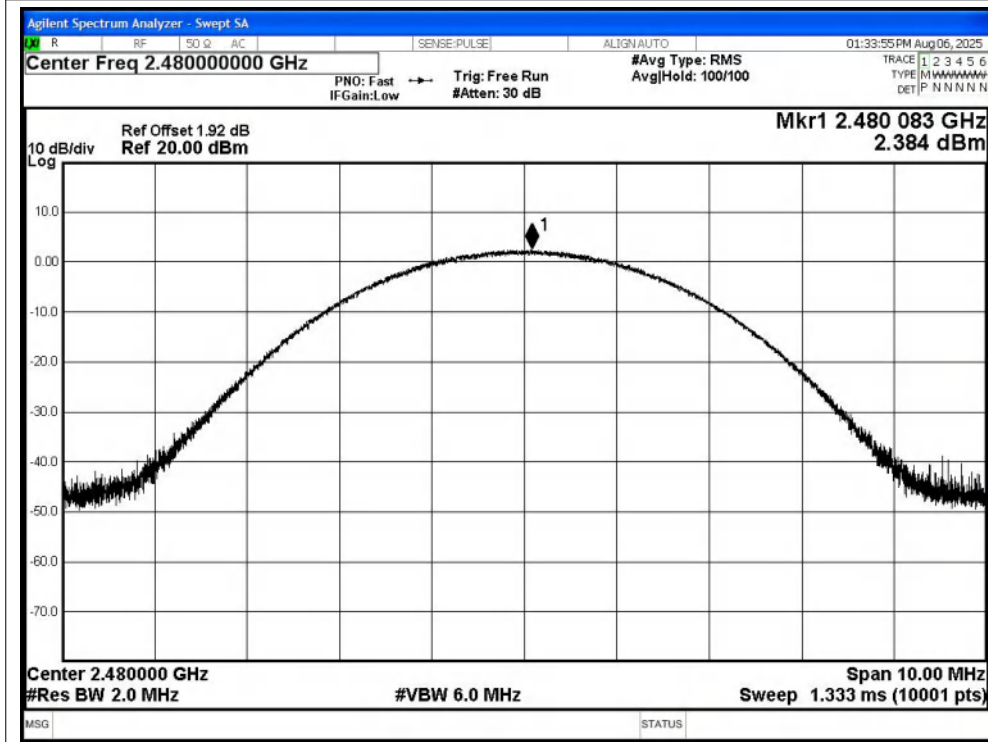
Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



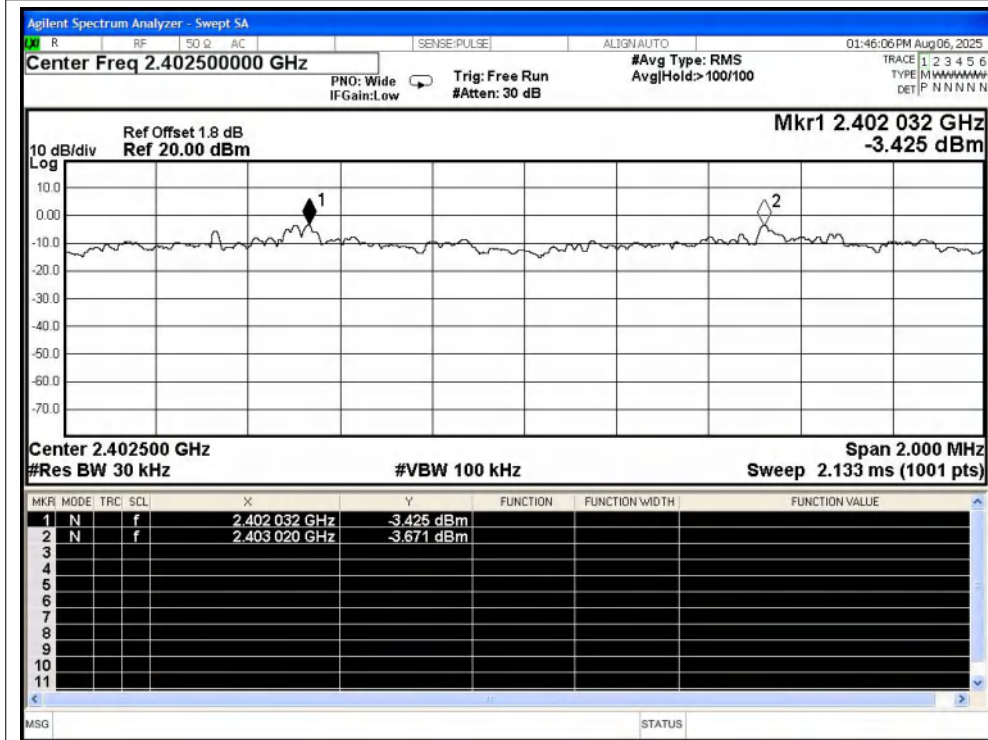
Power NVNT 3-DH5 2480MHz Ant1



A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.03	2402.968	0.964	0.64	Pass
NVNT	2-DH5	Ant1	2402.002	2403.018	1.016	0.859	Pass
NVNT	3-DH5	Ant1	2402.032	2403.02	0.988	0.873	Pass

CFS NVNT 3-DH5 2402MHz Ant1



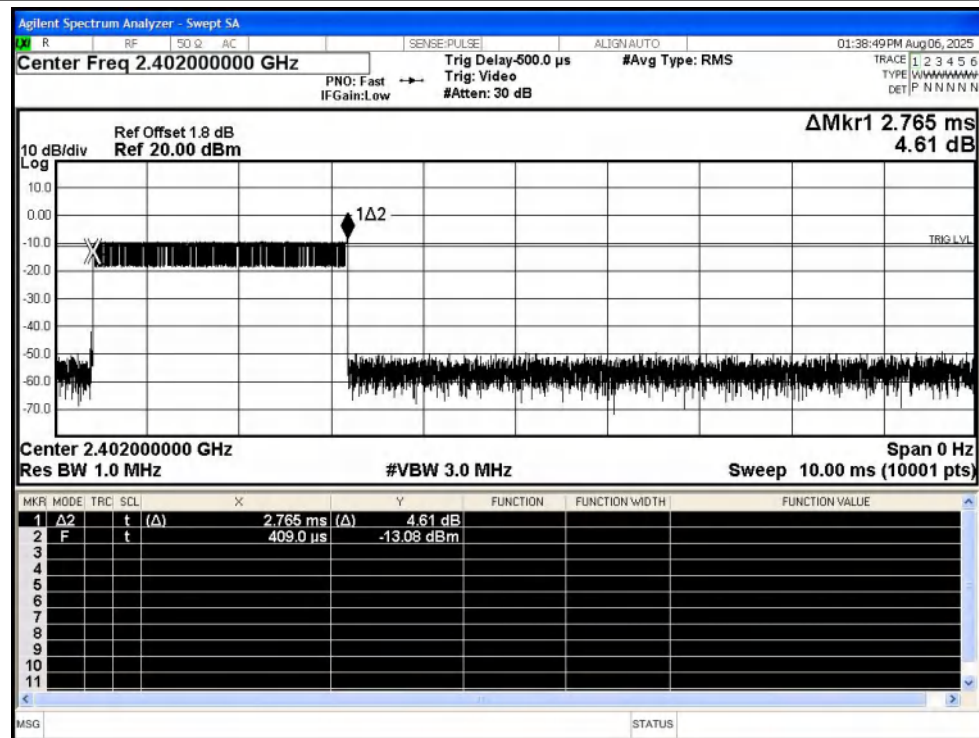


A.4 Dwell Time

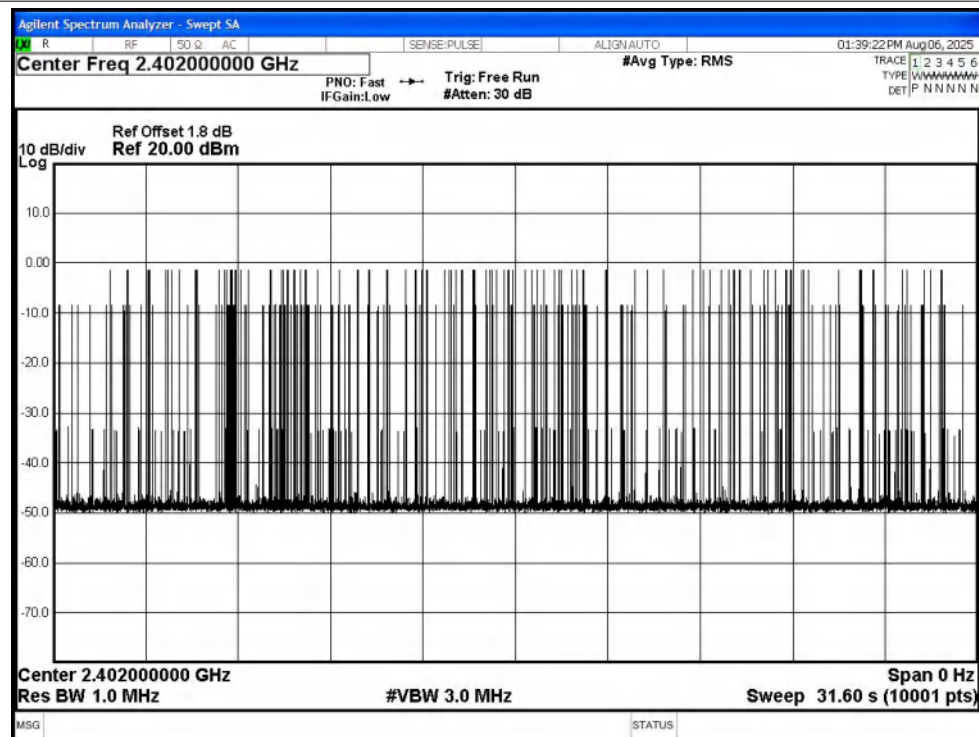
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.765	279.265	101	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	286.902	99	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	298.391	103	31600	400	Pass

Test Graphs

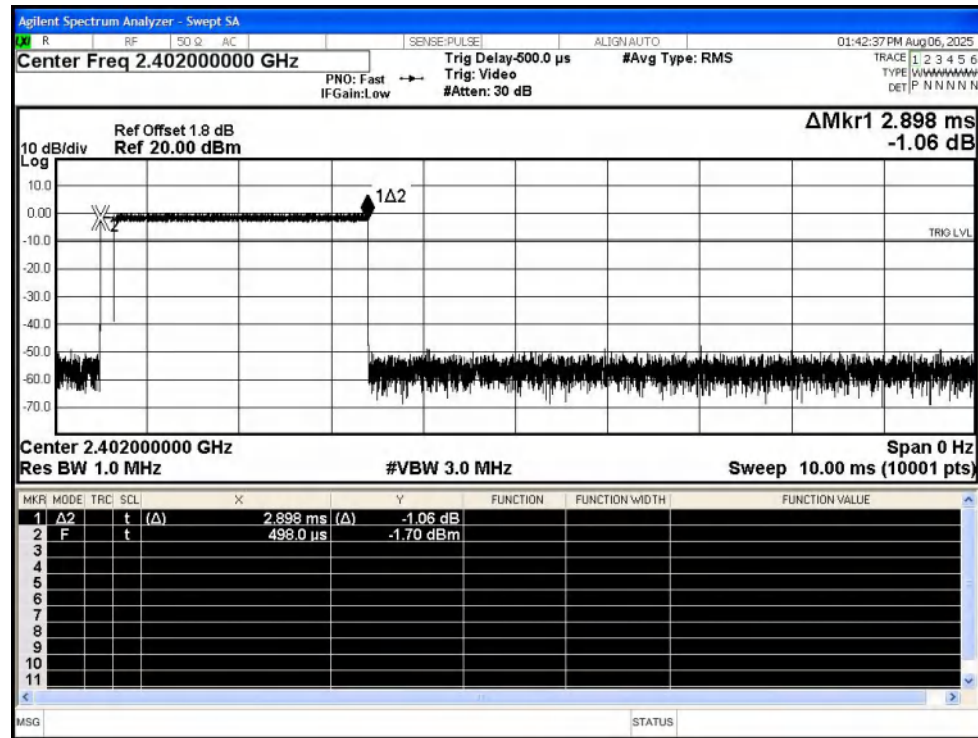
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



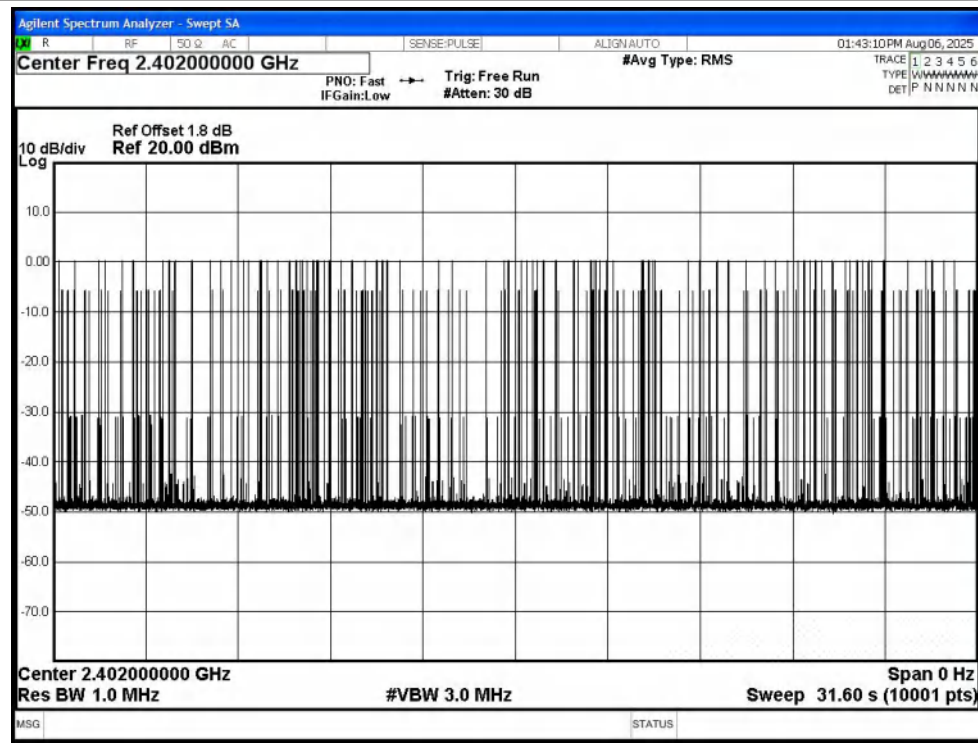
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



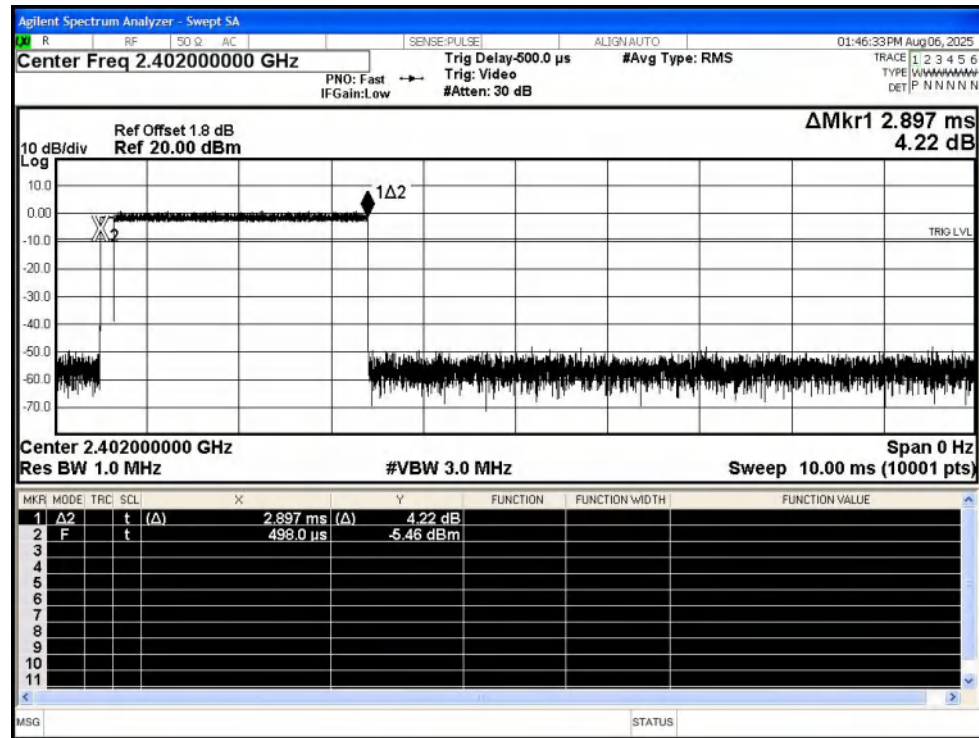
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



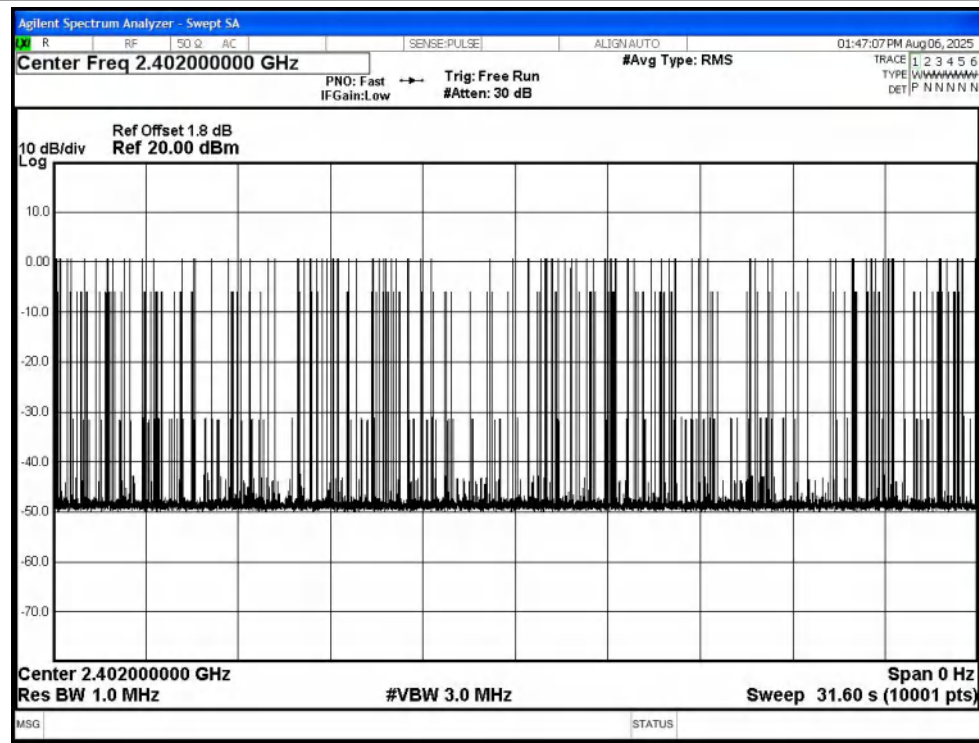
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated



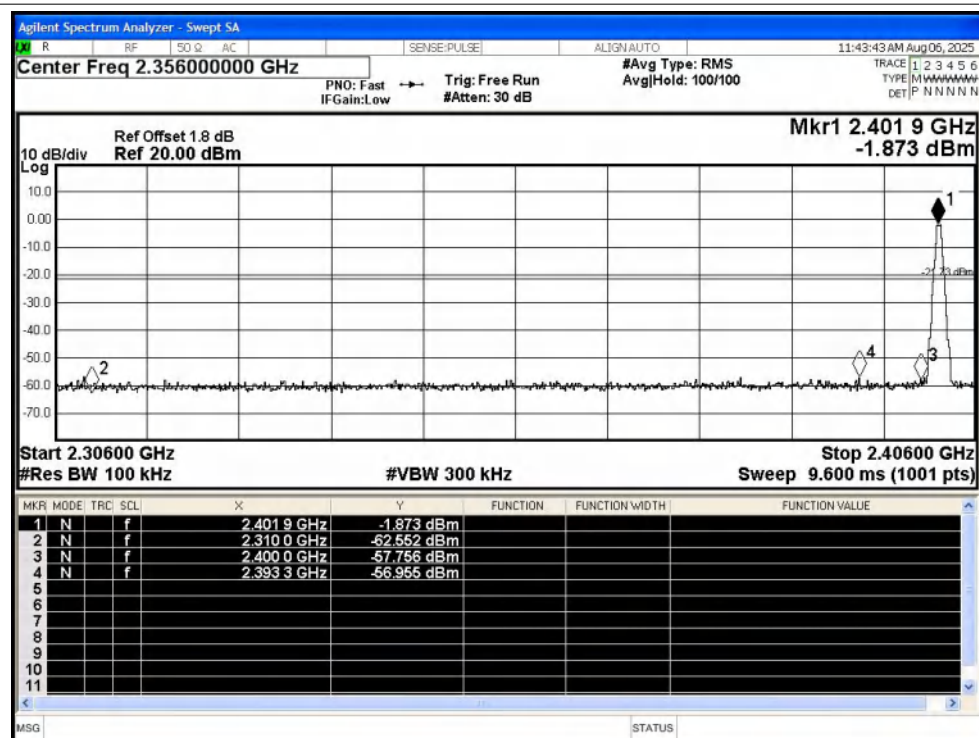


A.5 Number of Hopping Channel

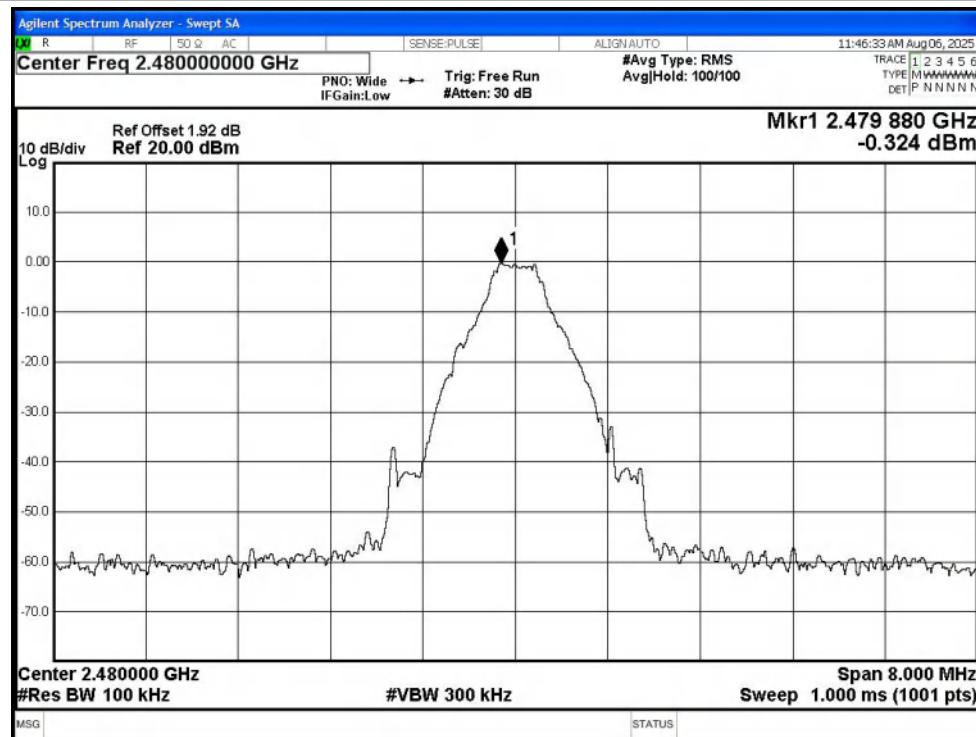
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

A.6 Band Edge

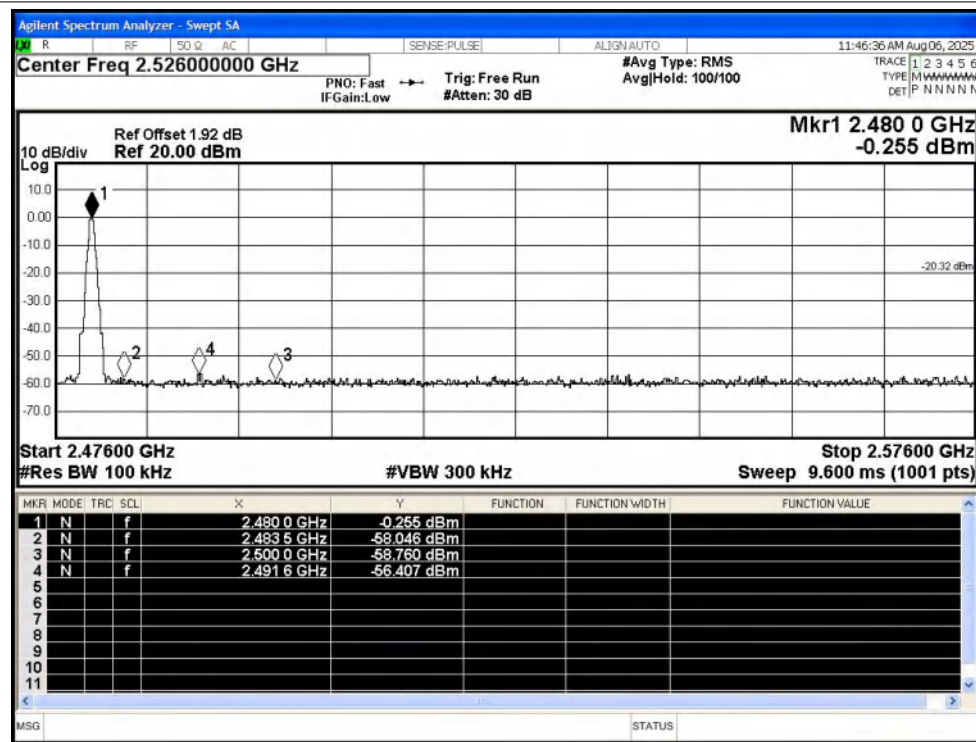
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-55.23	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-56.08	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-51.65	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-56.54	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-51.82	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-54.63	-20	Pass

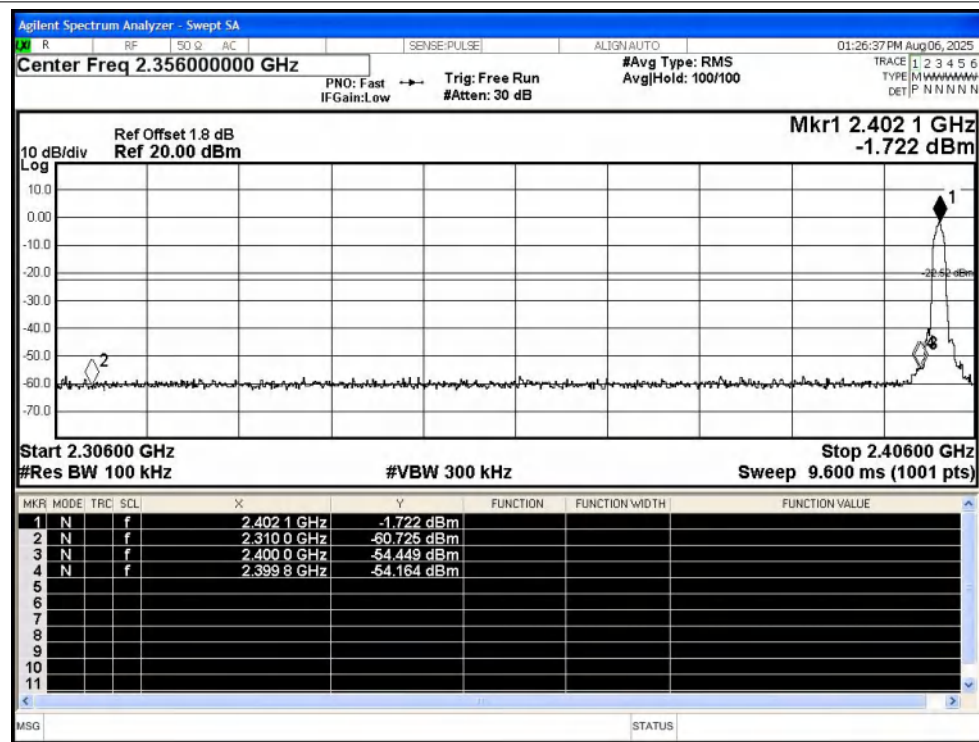
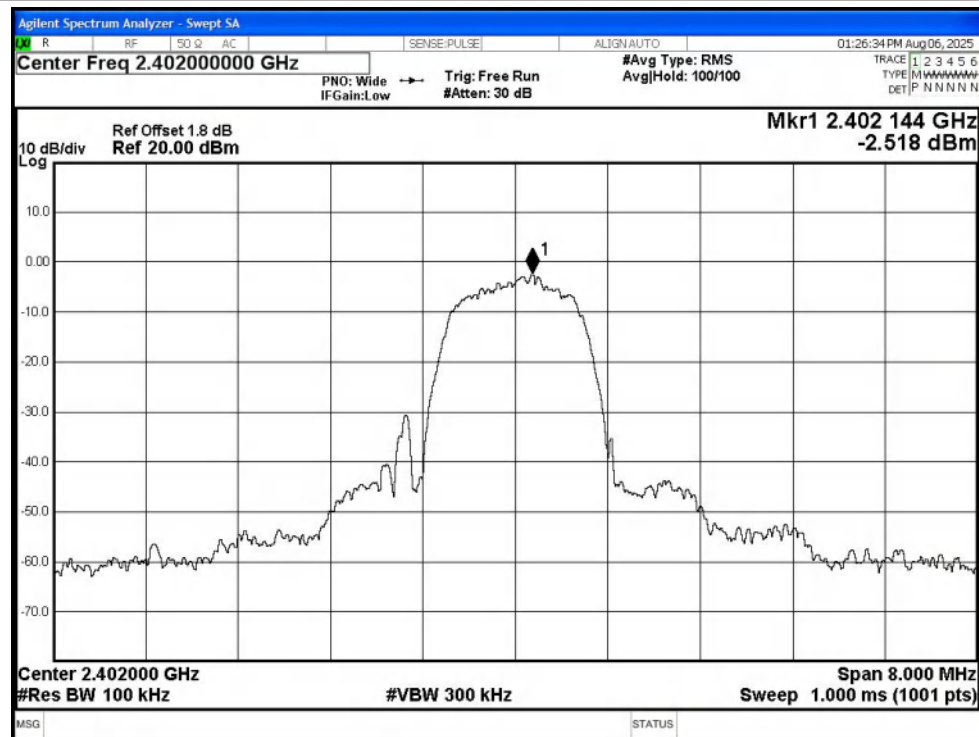


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

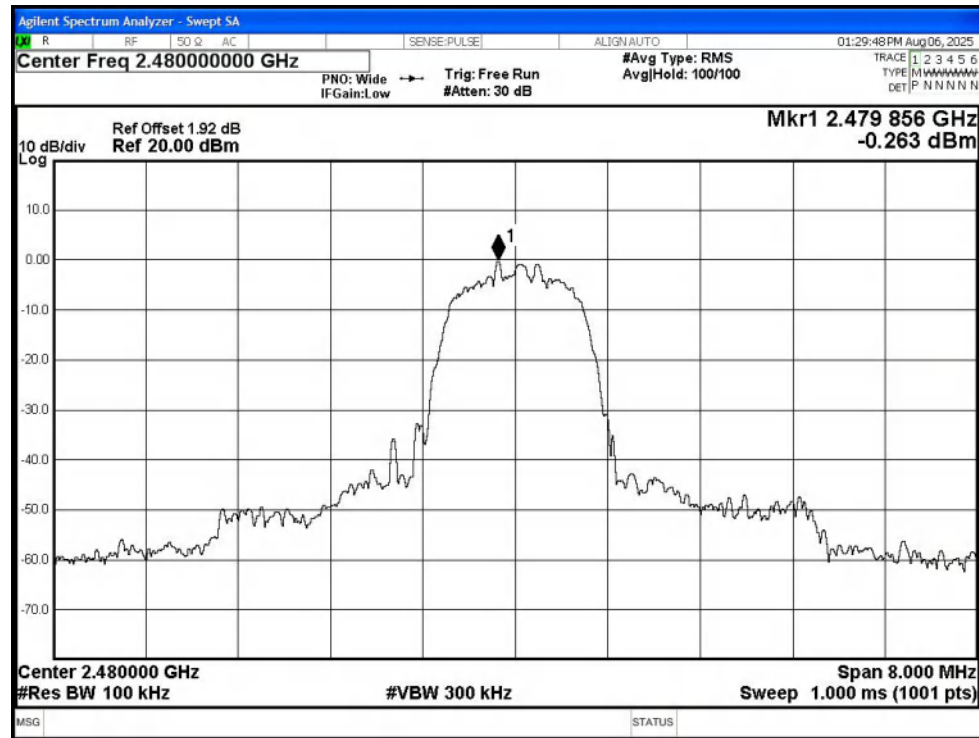


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

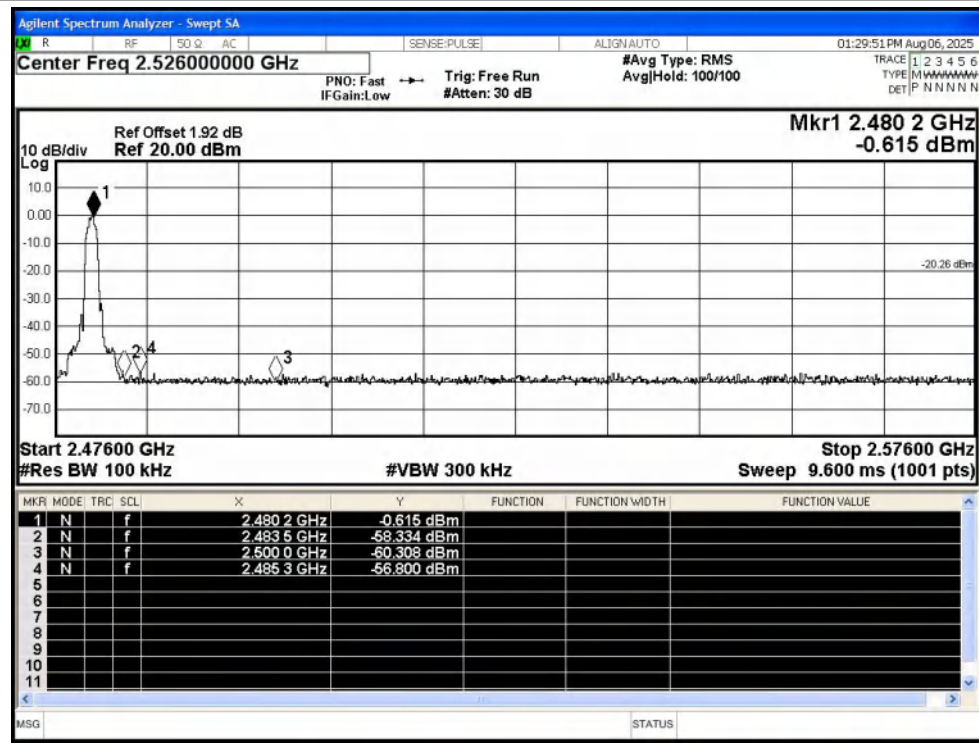


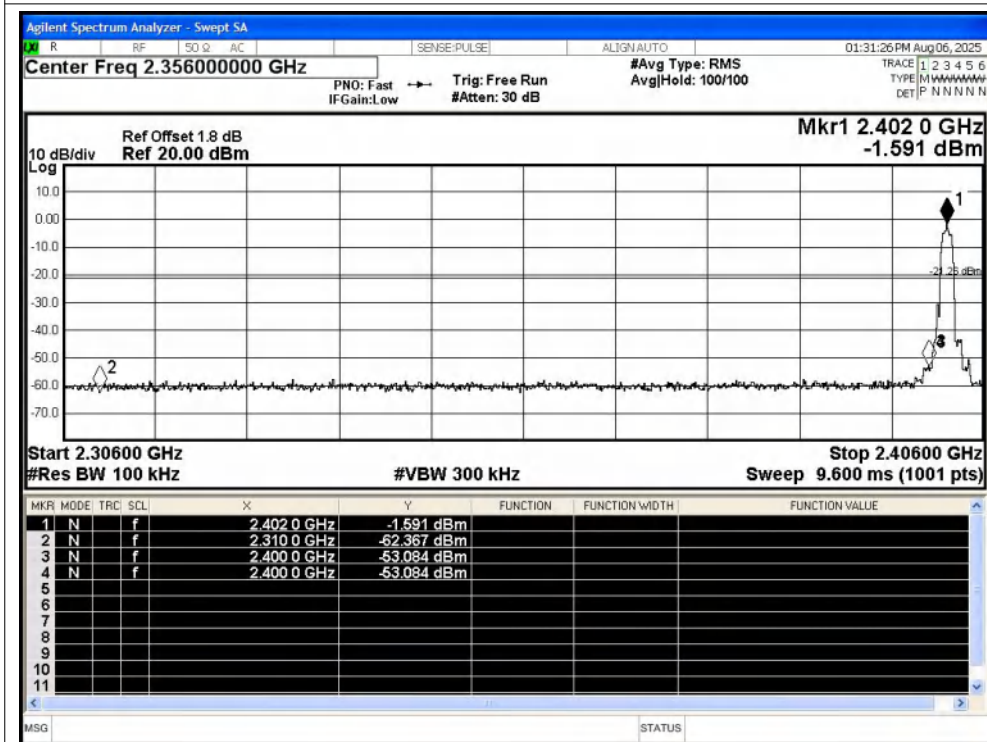


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

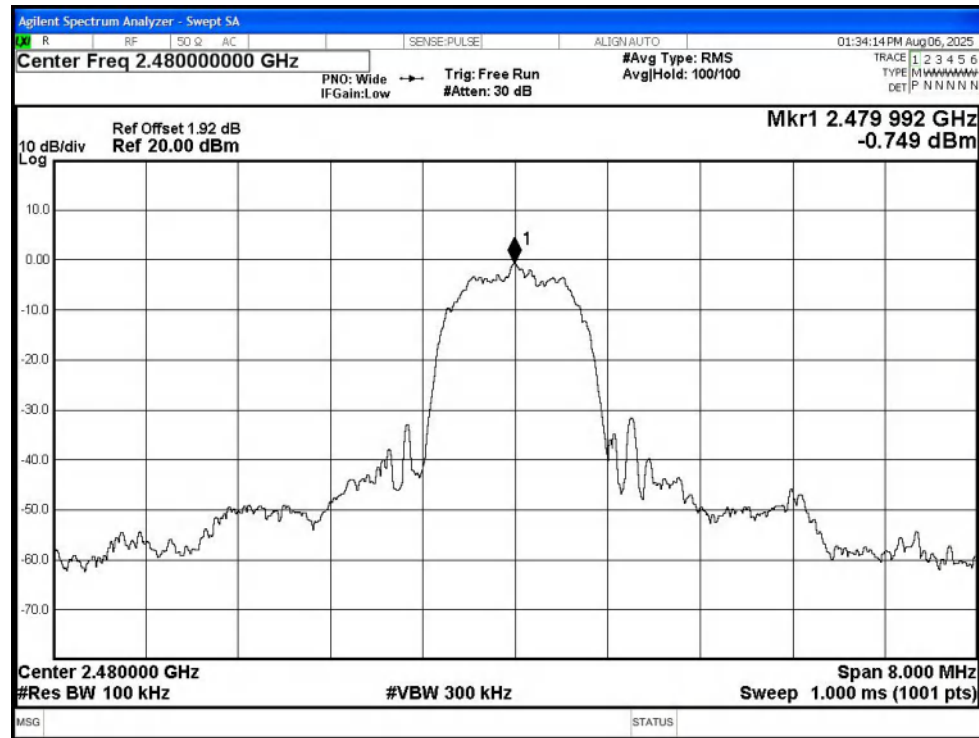


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

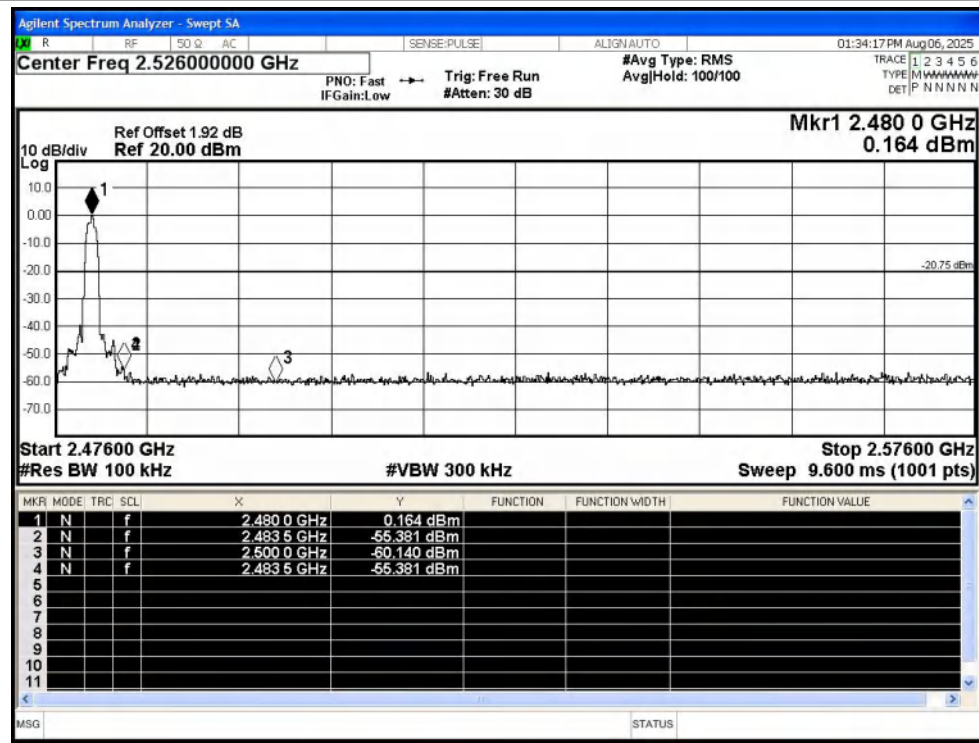




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Emission

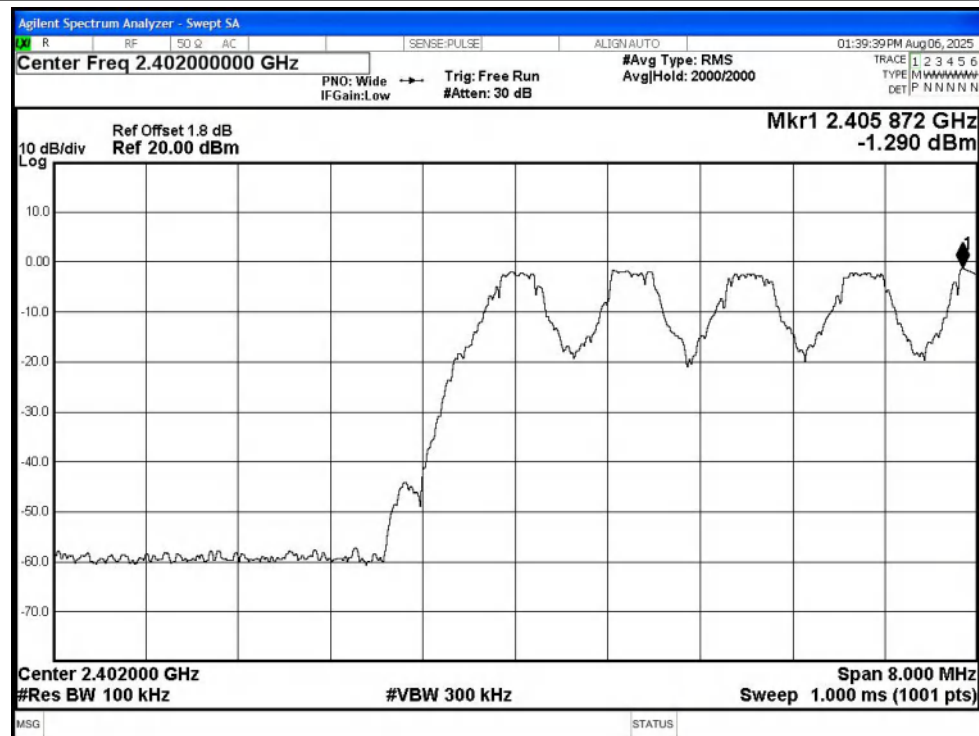




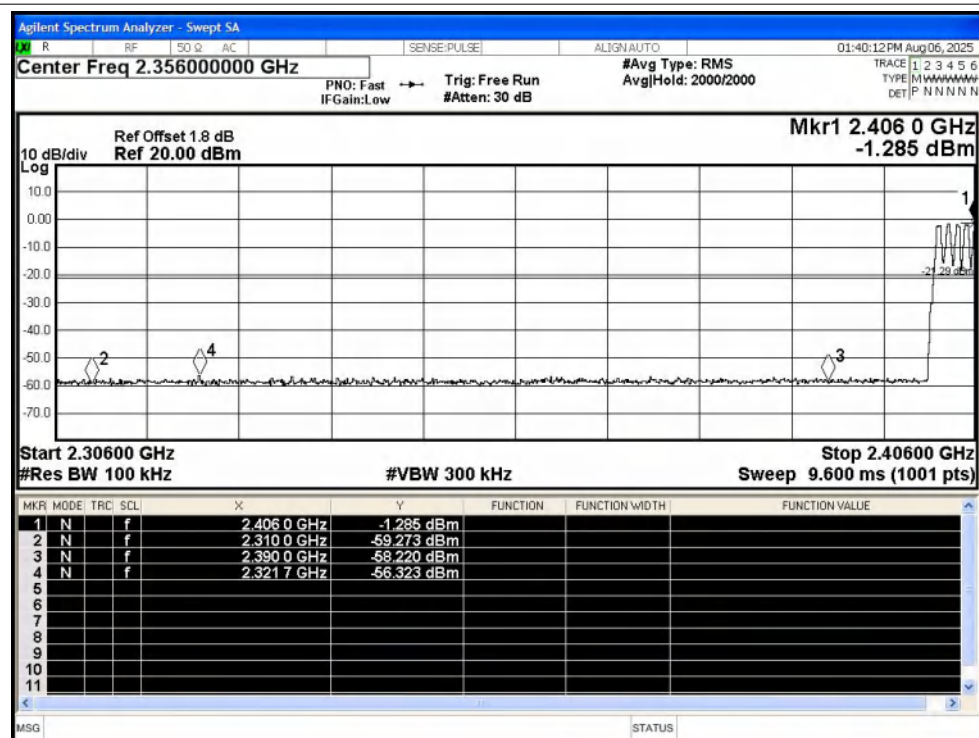
(Hopping)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-55.03	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-55.91	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-55.41	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-55.52	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-54.65	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-53.62	-20	Pass

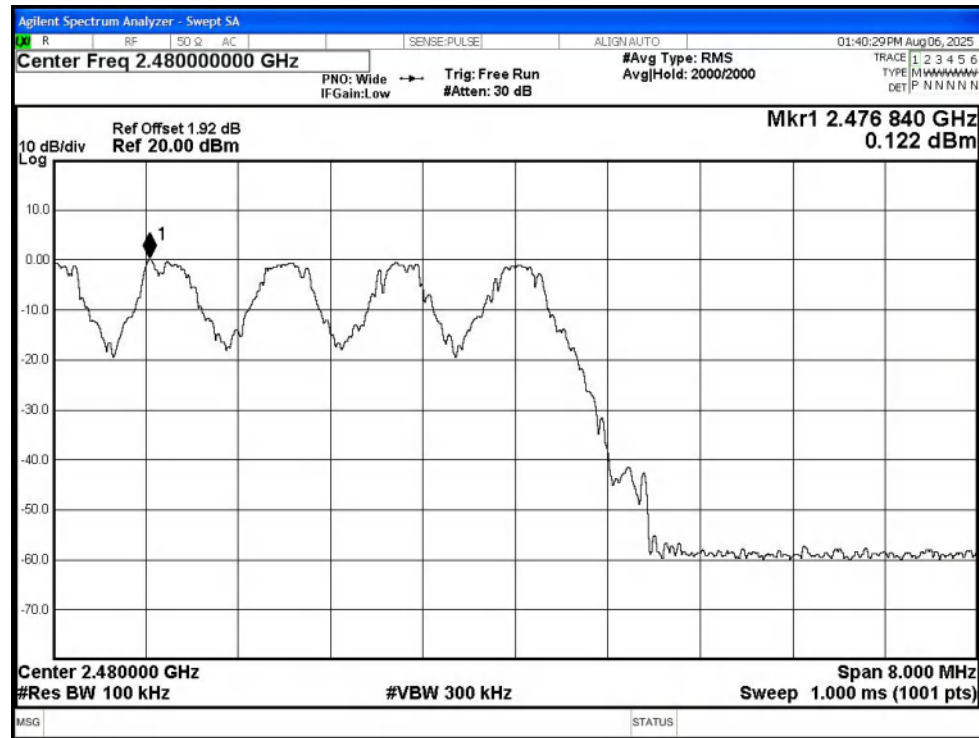
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



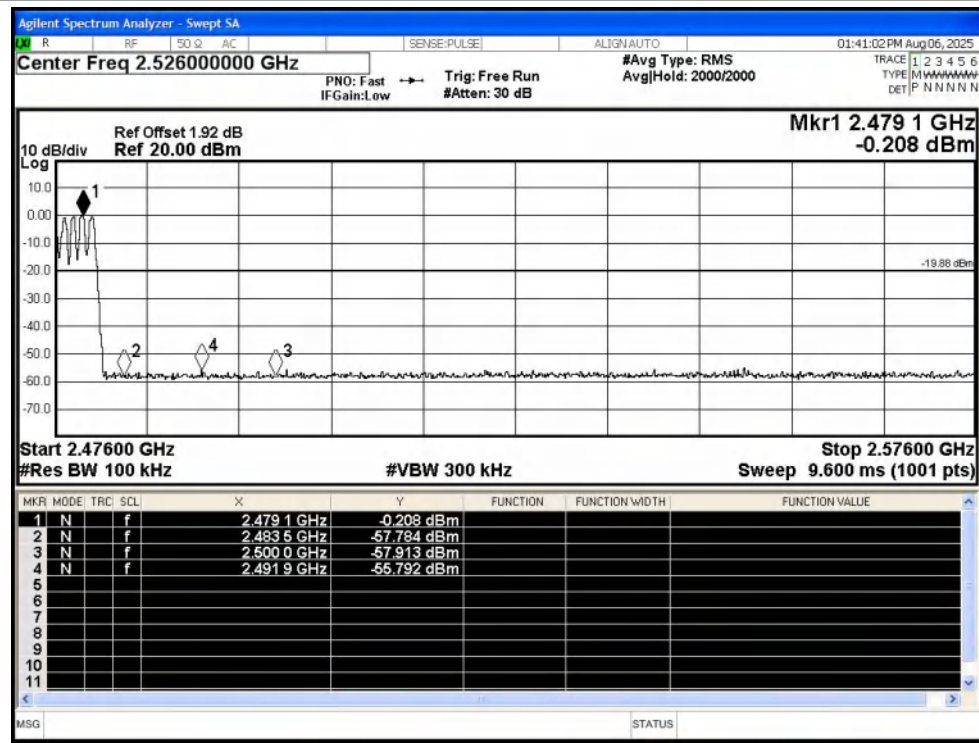
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



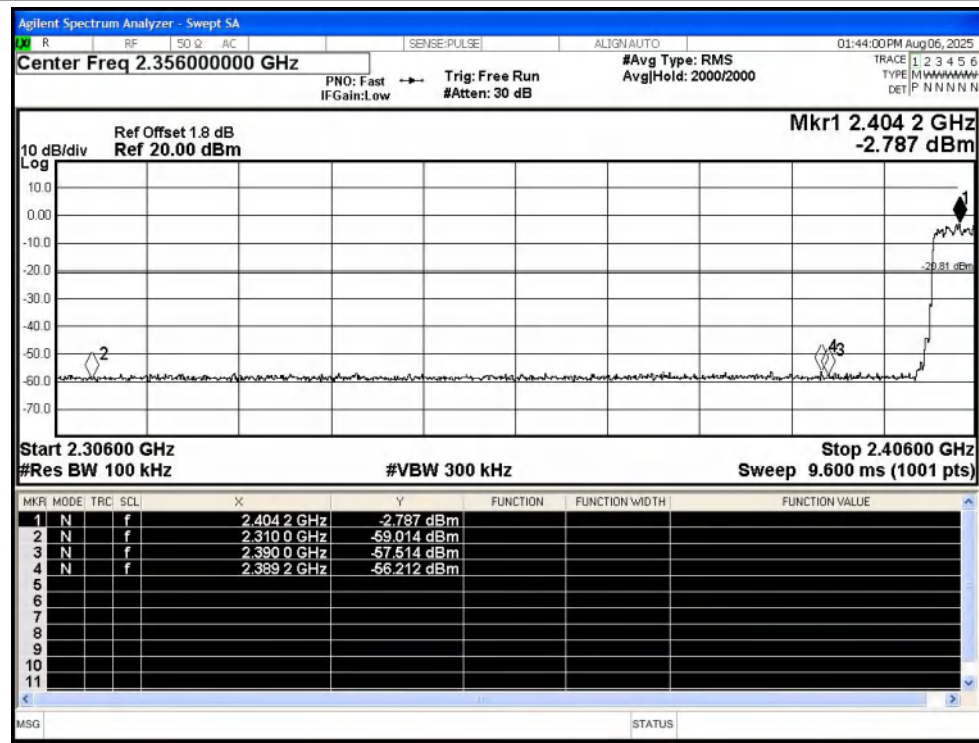
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



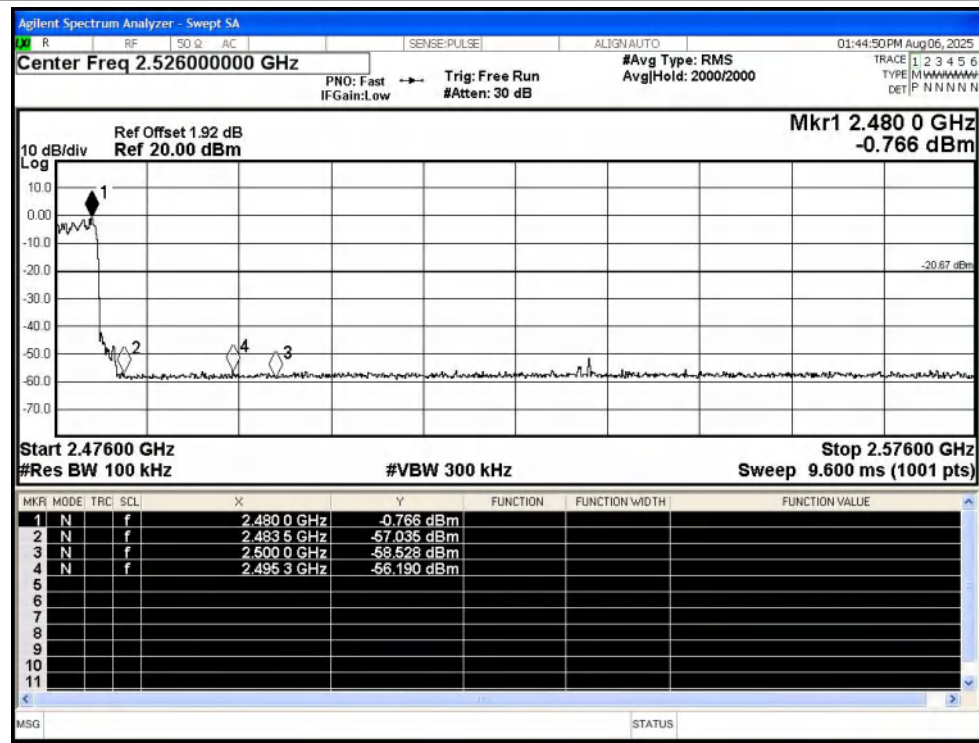
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



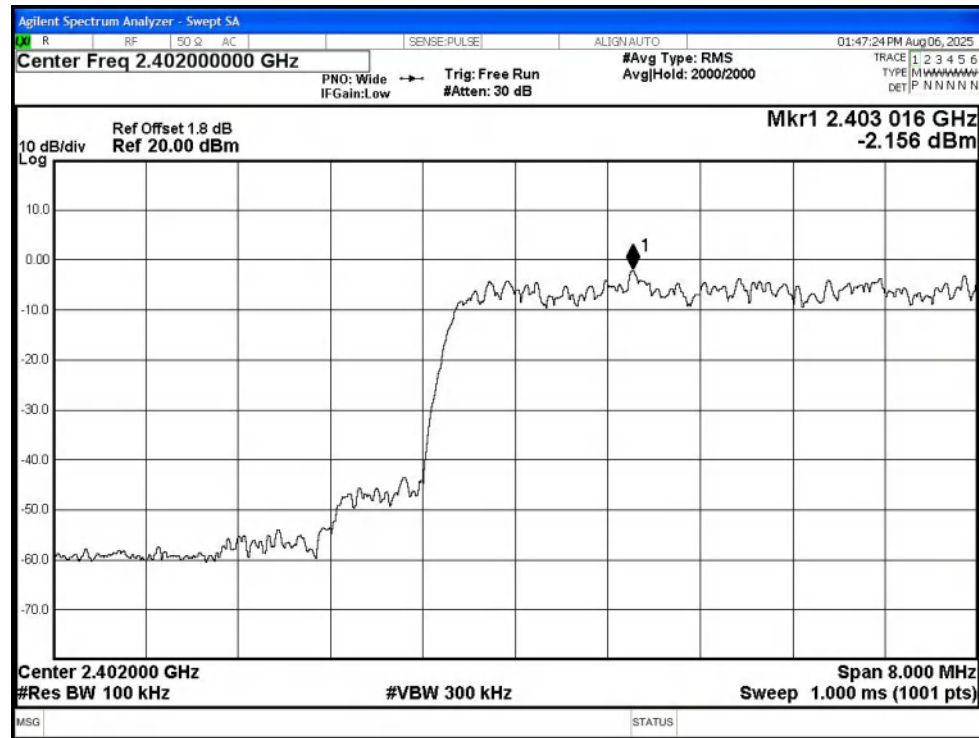
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



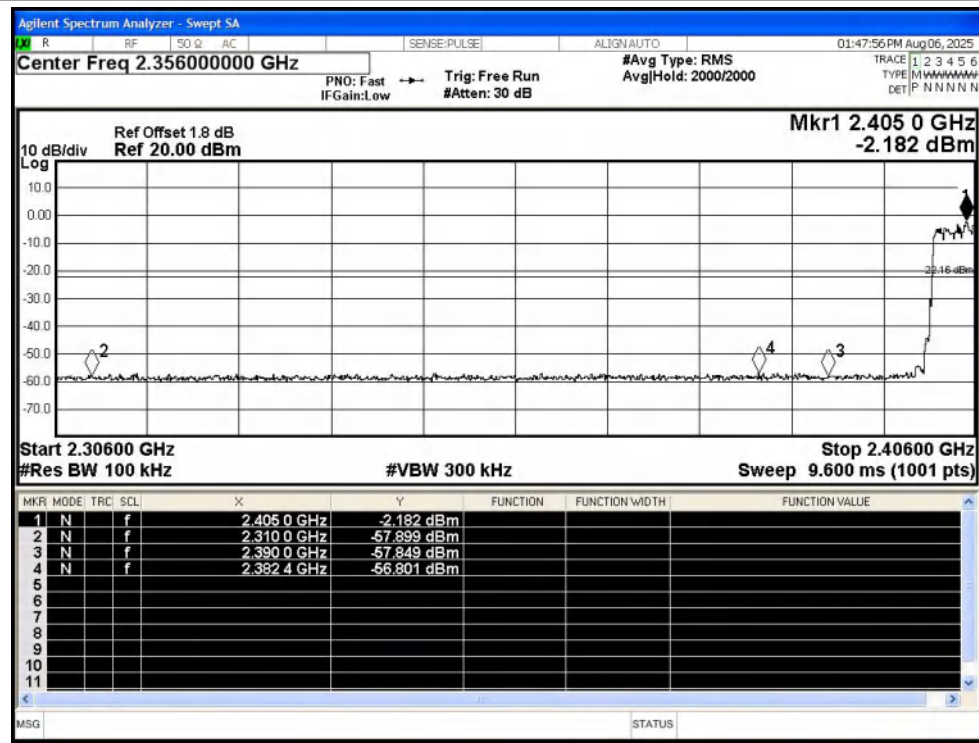
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



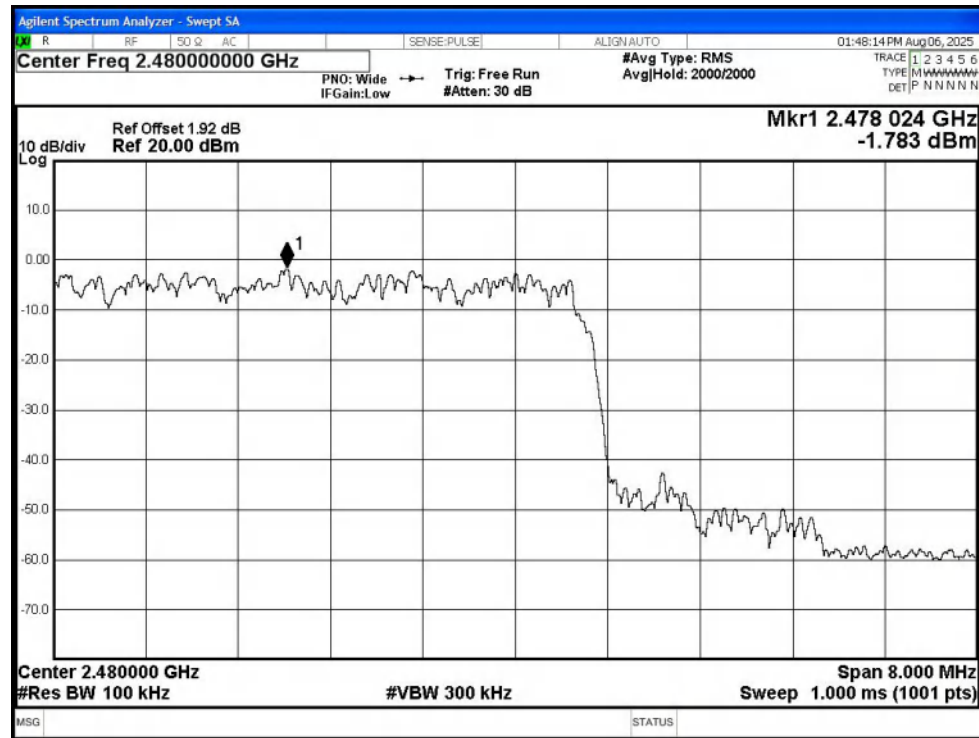
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



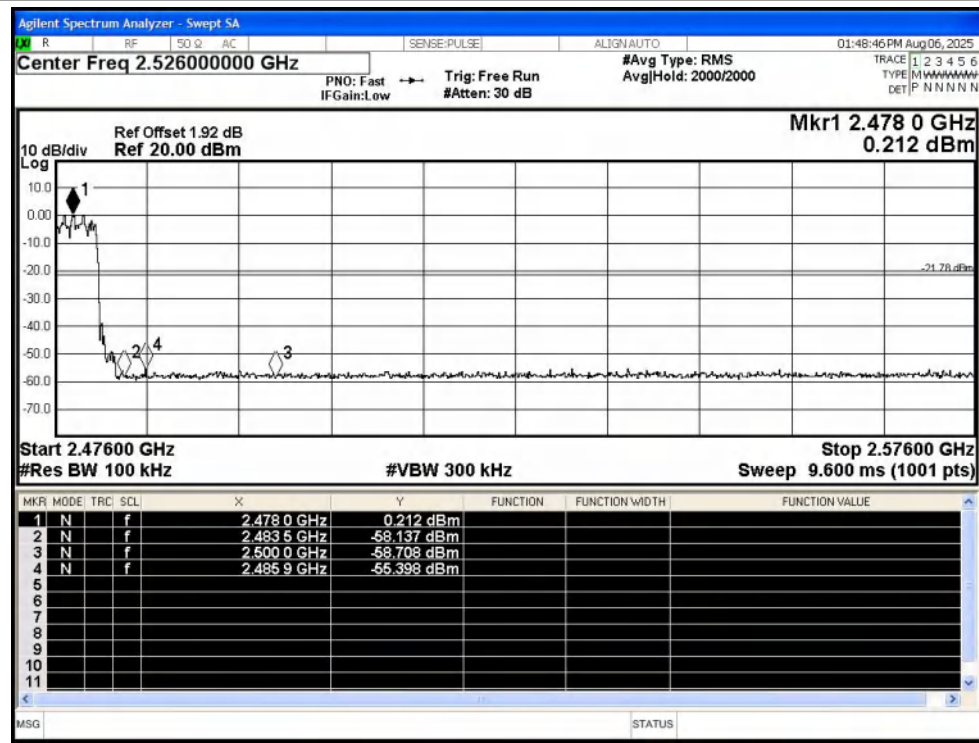
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref

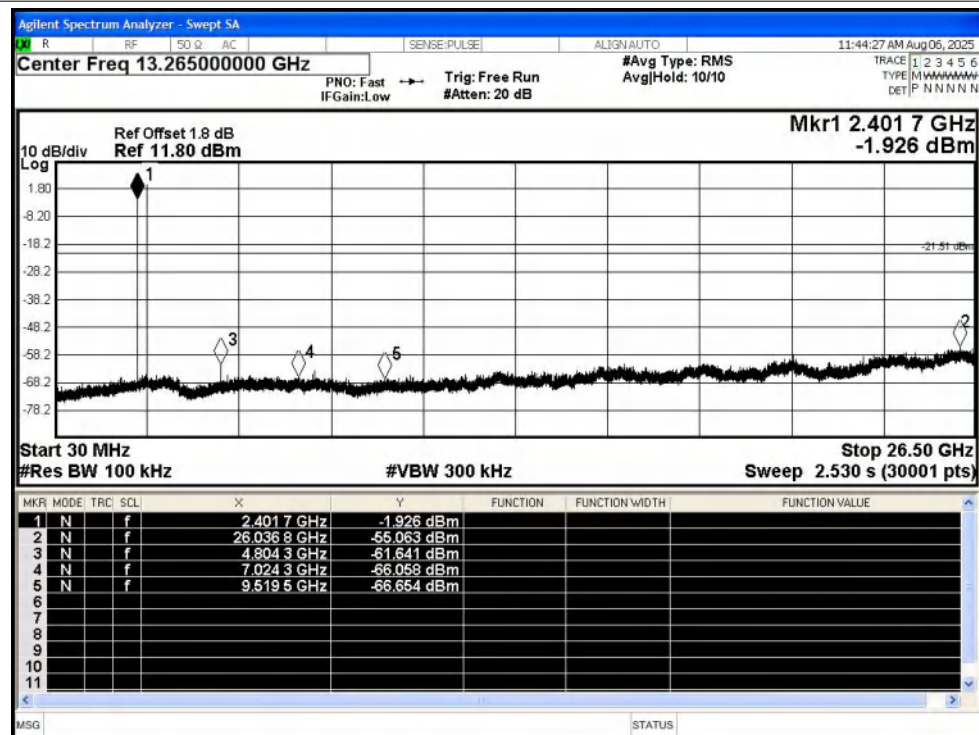


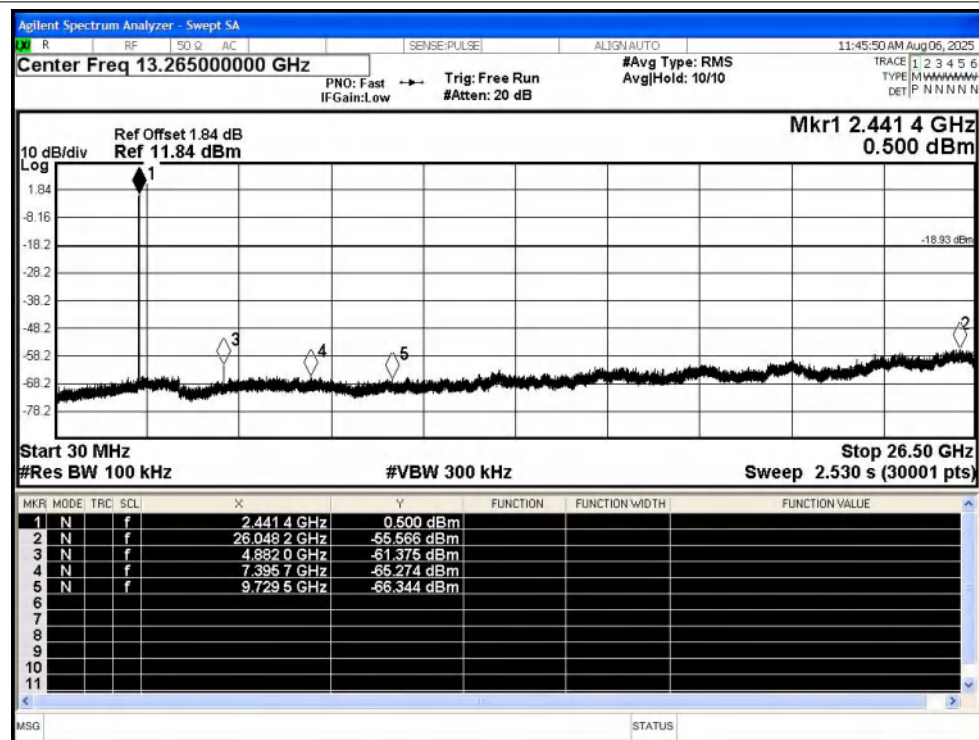
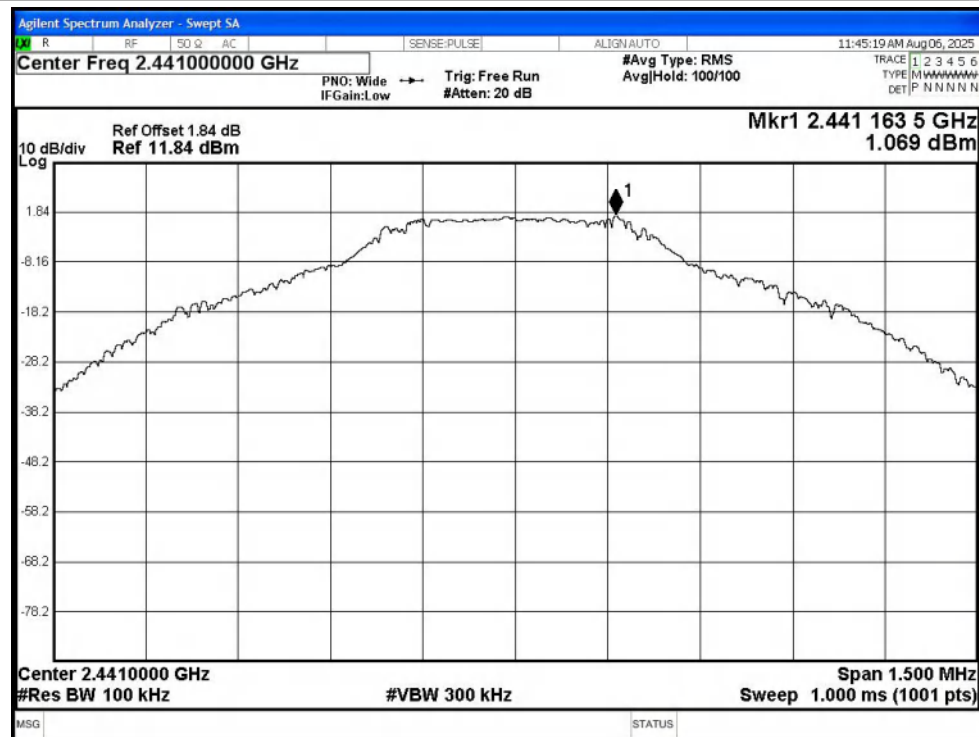
Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Emission



A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-53.56	-20	Pass
NVNT	1-DH5	2441	Ant1	-56.64	-20	Pass
NVNT	1-DH5	2480	Ant1	-55.75	-20	Pass
NVNT	2-DH5	2402	Ant1	-53.66	-20	Pass
NVNT	2-DH5	2441	Ant1	-56.98	-20	Pass
NVNT	2-DH5	2480	Ant1	-55.52	-20	Pass
NVNT	3-DH5	2402	Ant1	-54.33	-20	Pass
NVNT	3-DH5	2441	Ant1	-56.54	-20	Pass
NVNT	3-DH5	2480	Ant1	-55.36	-20	Pass





Agilent Spectrum Analyzer - Swept SA

11:46:49 AM Aug 06, 2025

Center Freq 2.48000000 GHz

PNO: Wide IF Gain: Low Trig: Free Run #Atten: 20 dB

#Avg Type: RMS Avg Hold: 100/100

Ref Offset 1.92 dB Ref 11.92 dBm

Mkr1 2.479 838 0 GHz 0.127 dBm

10 dB/div Log

The spectrum analyzer display shows a swept signal. The vertical axis is labeled '10 dB/div Log' and ranges from -78.1 to 1.92 dBm. The horizontal axis represents frequency, with a center frequency of 2.48000000 GHz and a span of 1.500 MHz. A peak marker is placed at 2.4798380 GHz with a level of 0.127 dBm. The signal shows a broad peak around the center frequency, with some noise and a slight dip at the marker position. The bottom of the display shows the resolution bandwidth (#Res BW 100 kHz) and the sweep time (Sweep 1.000 ms (1001 pts)).

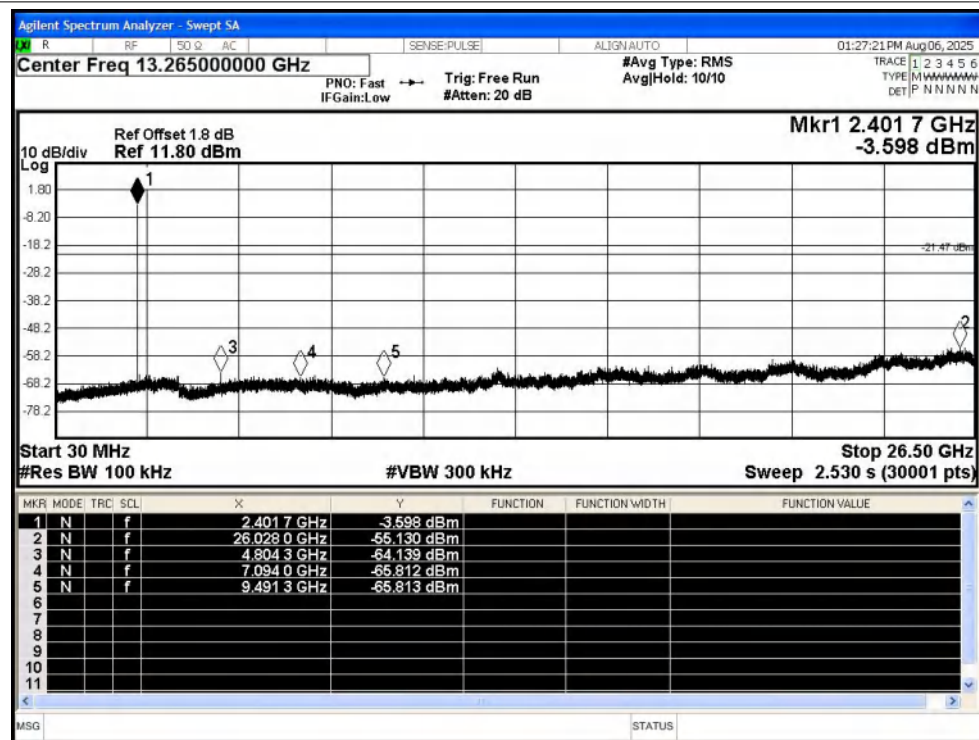
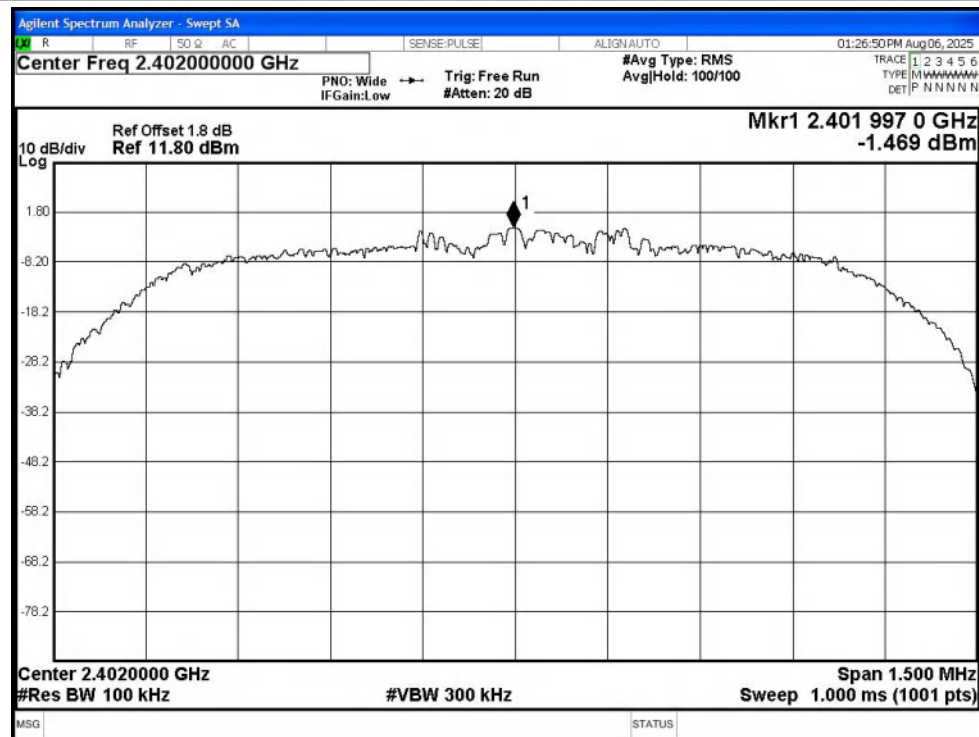
Center 2.4800000 GHz

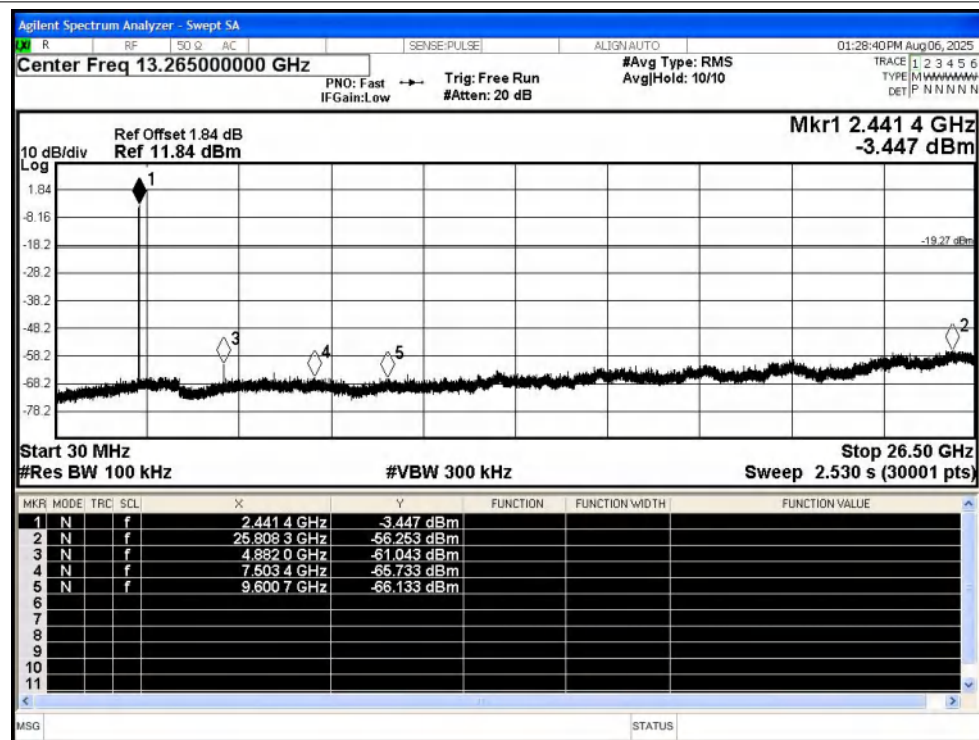
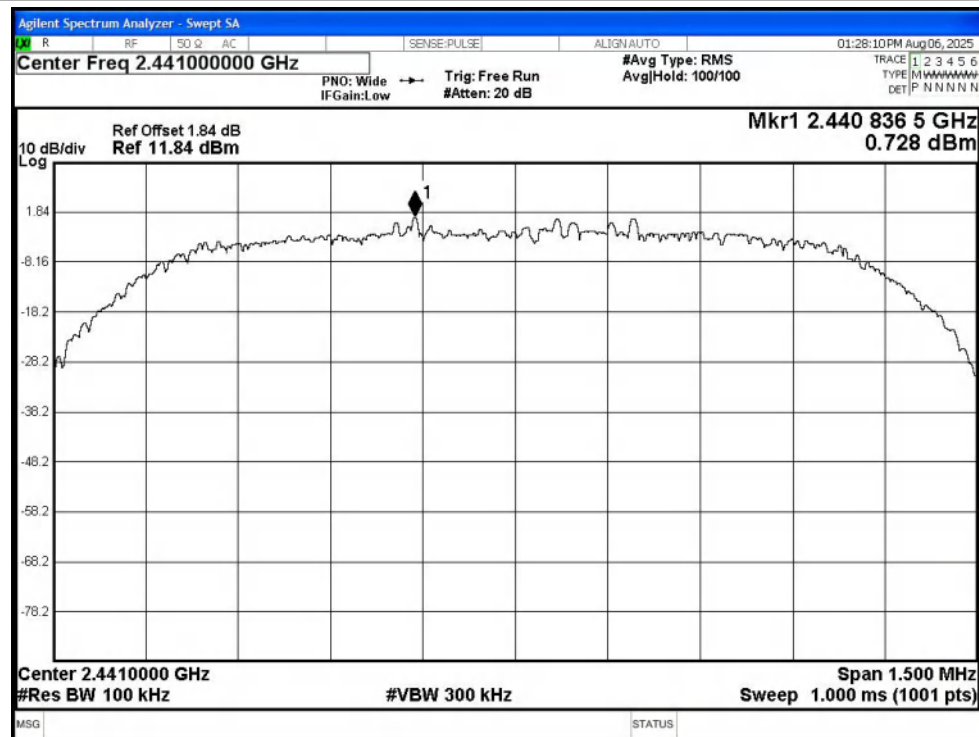
#Res BW 100 kHz

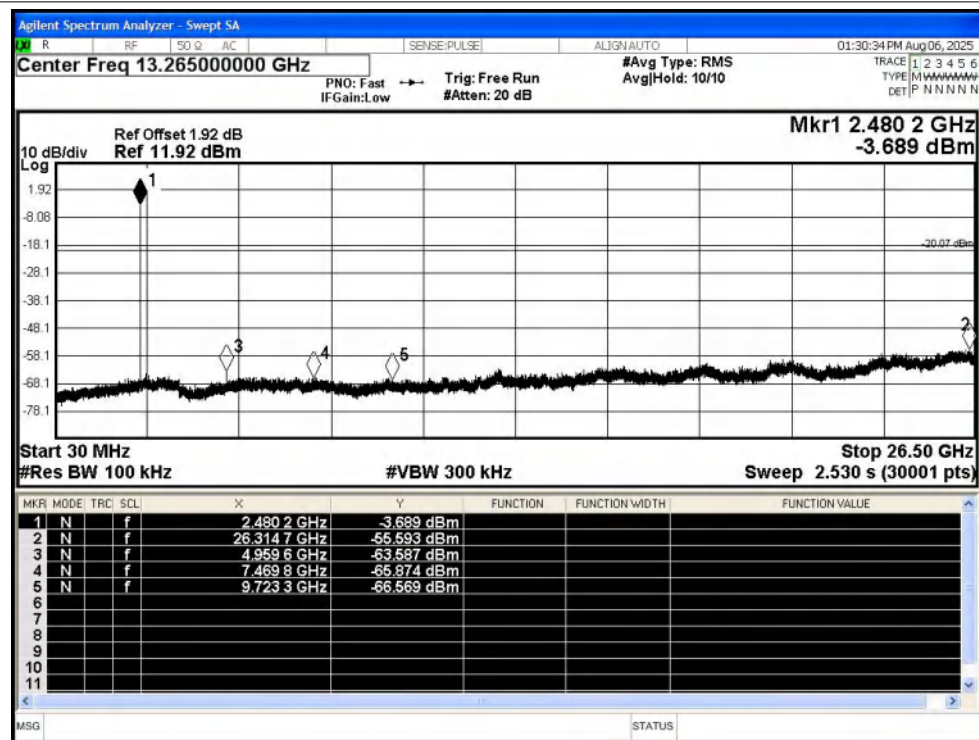
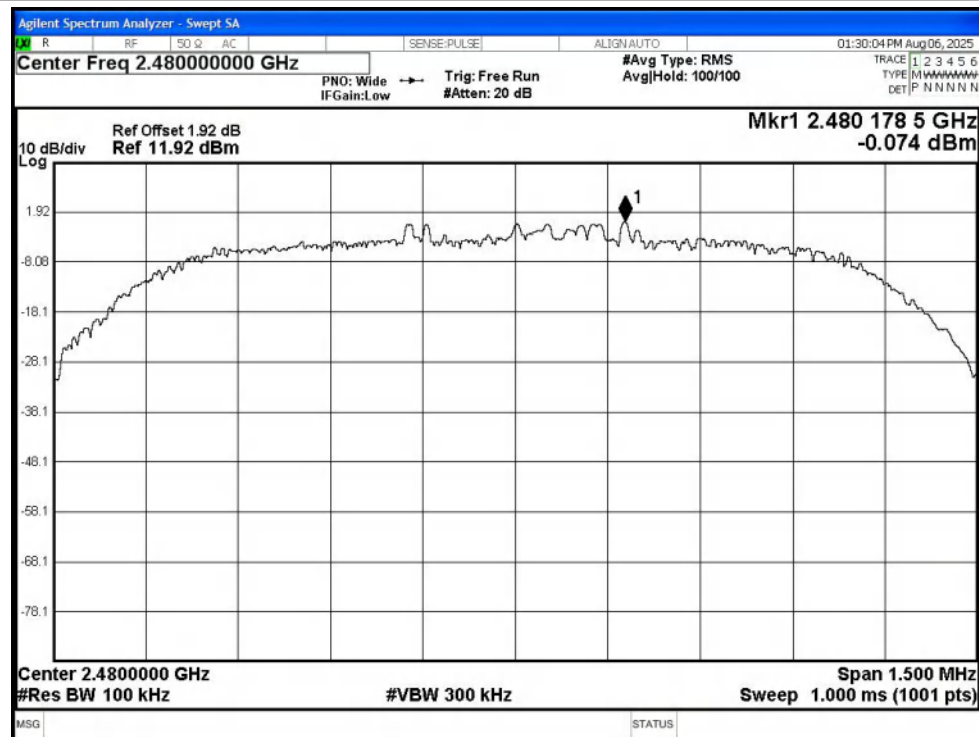
#VBW 300 kHz

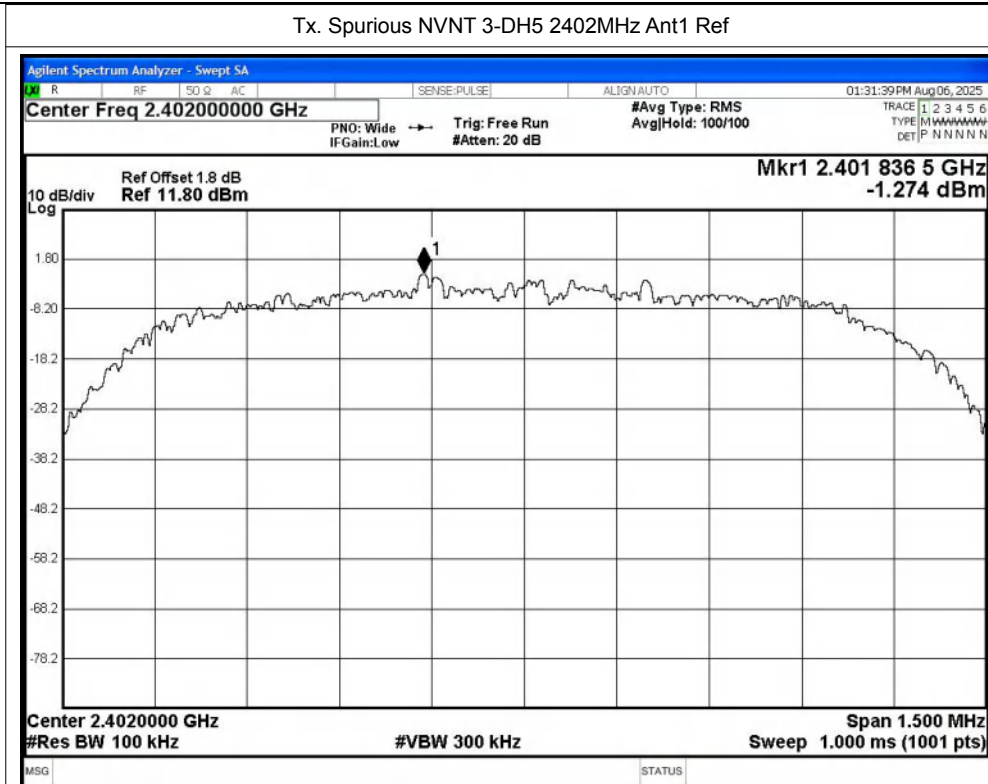
Span 1.500 MHz

Sweep 1.000 ms (1001 pts)

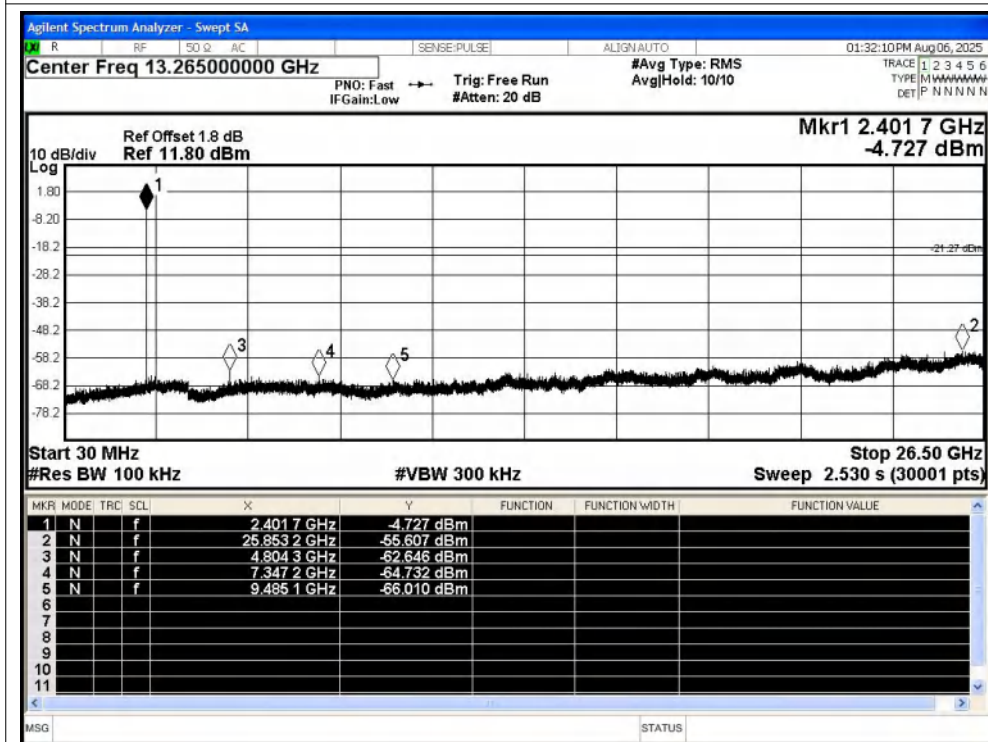


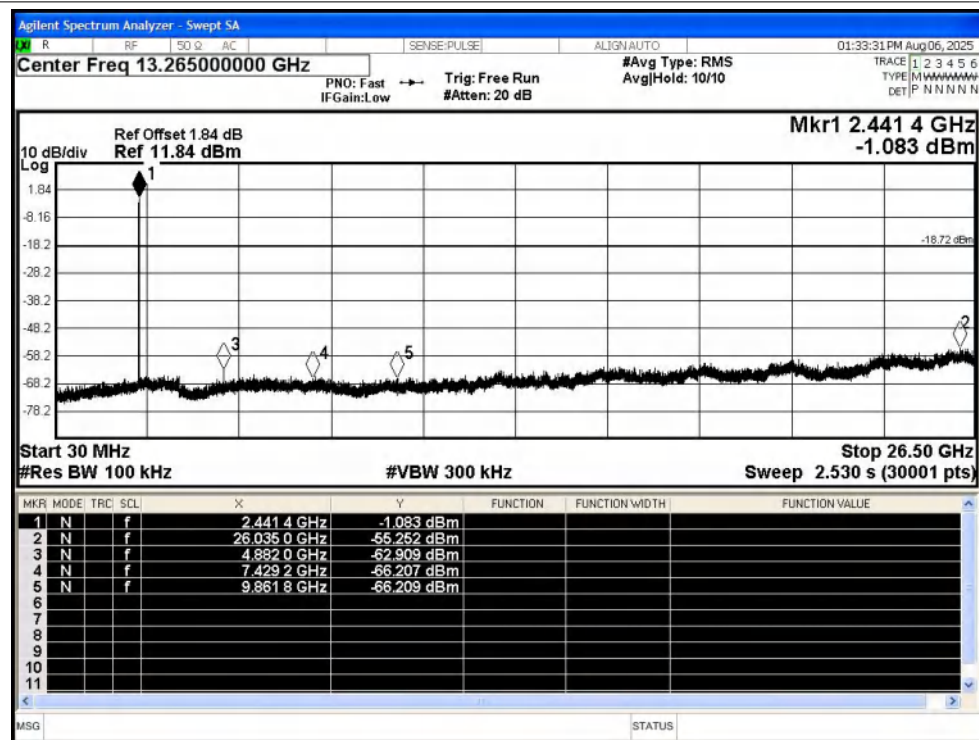
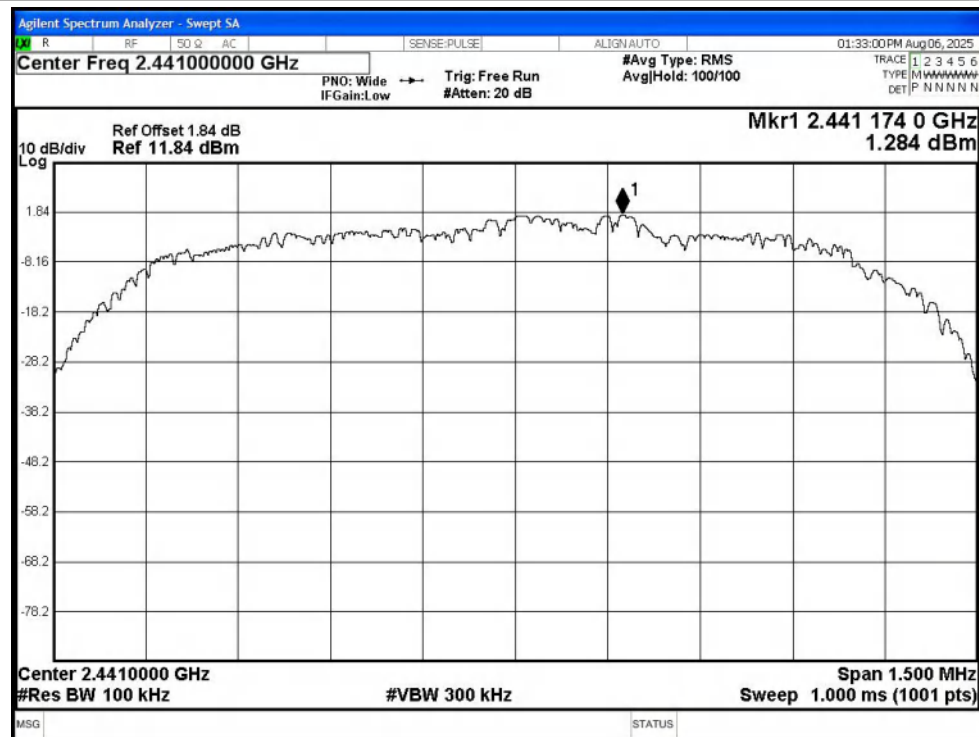


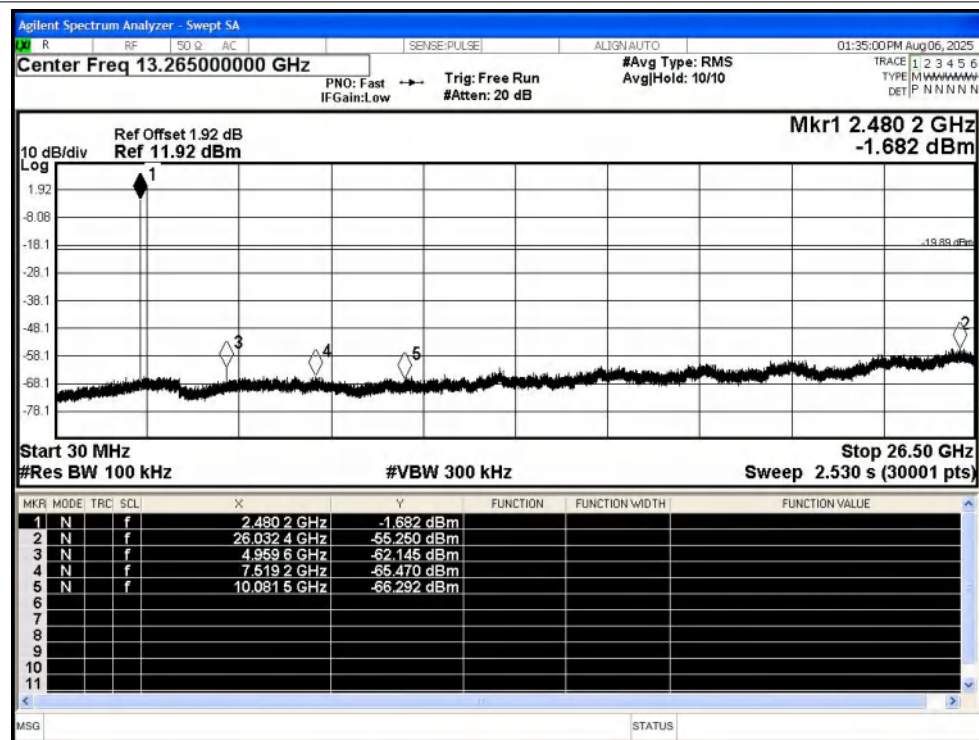
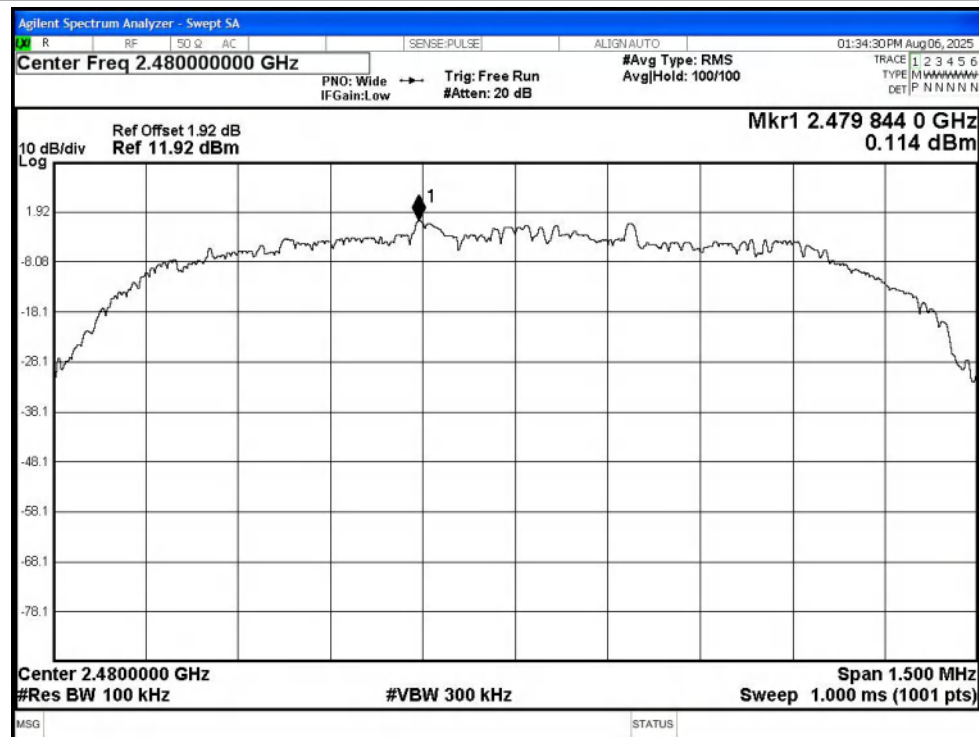




Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission





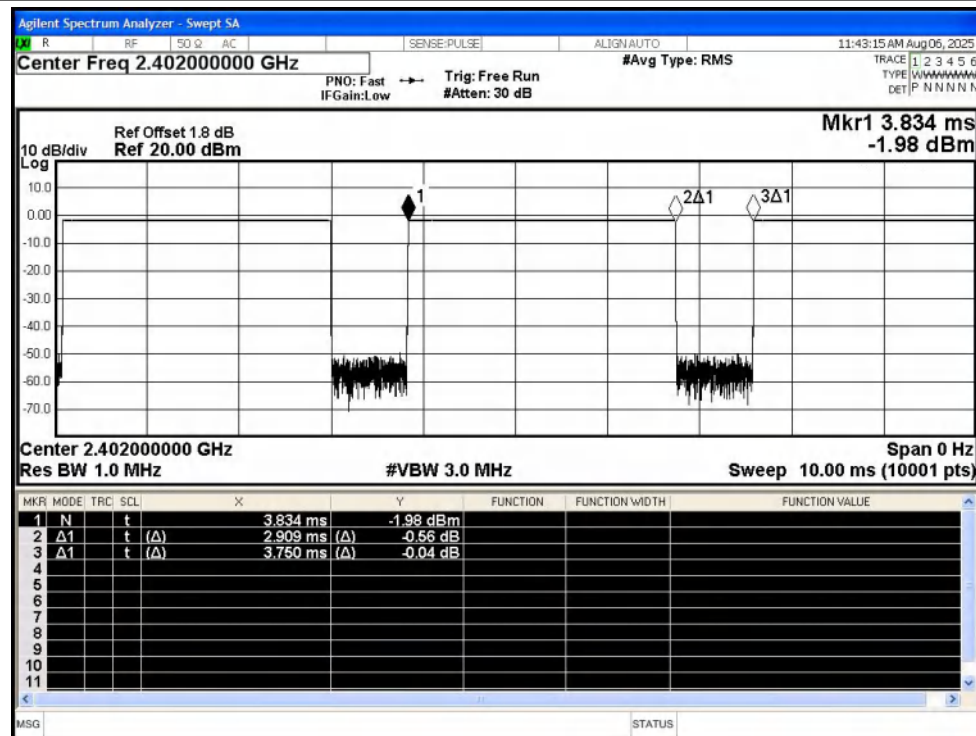


A.8 Duty Cycle

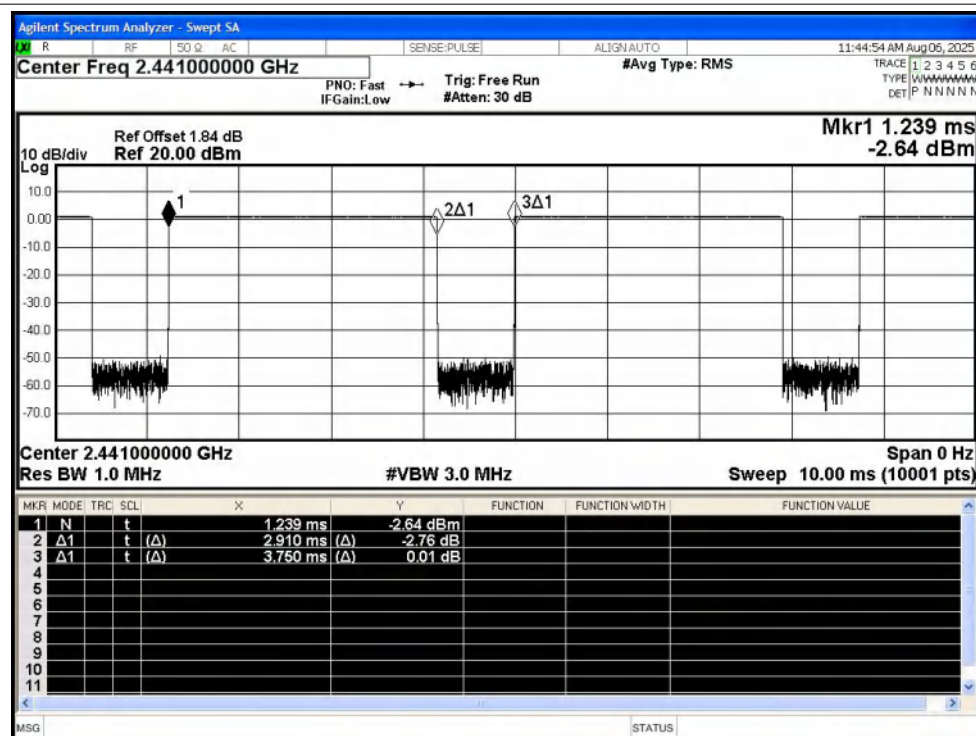
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.57	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	56.53	2.48	0.49
NVNT	2-DH5	2441	Ant1	56.53	2.48	0.49
NVNT	2-DH5	2480	Ant1	76.38	1.17	0.36
NVNT	3-DH5	2402	Ant1	56.53	2.48	0.49
NVNT	3-DH5	2441	Ant1	97.22	0.12	7.14
NVNT	3-DH5	2480	Ant1	77.28	1.12	0.35

Test Graphs

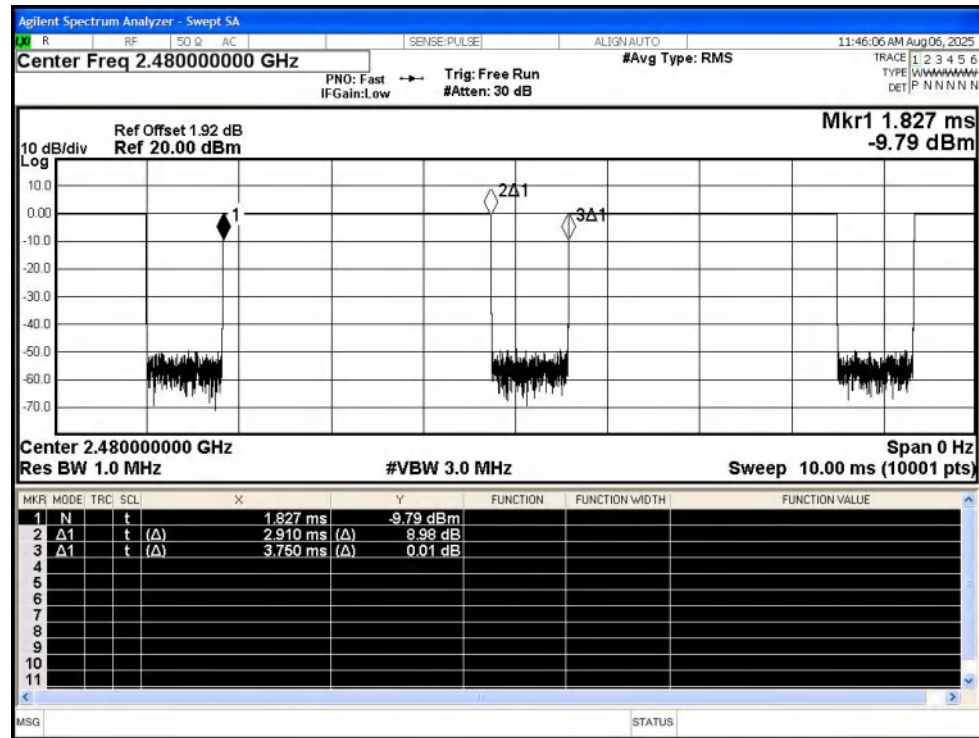
Duty Cycle NVNT 1-DH5 2402MHz Ant1



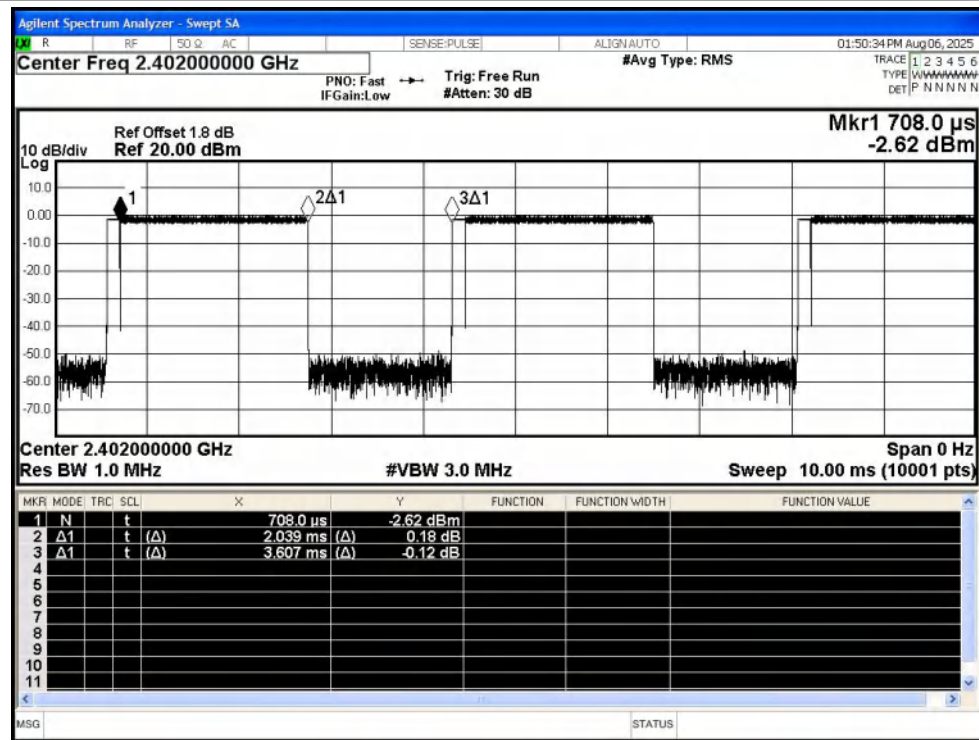
Duty Cycle NVNT 1-DH5 2441MHz Ant1



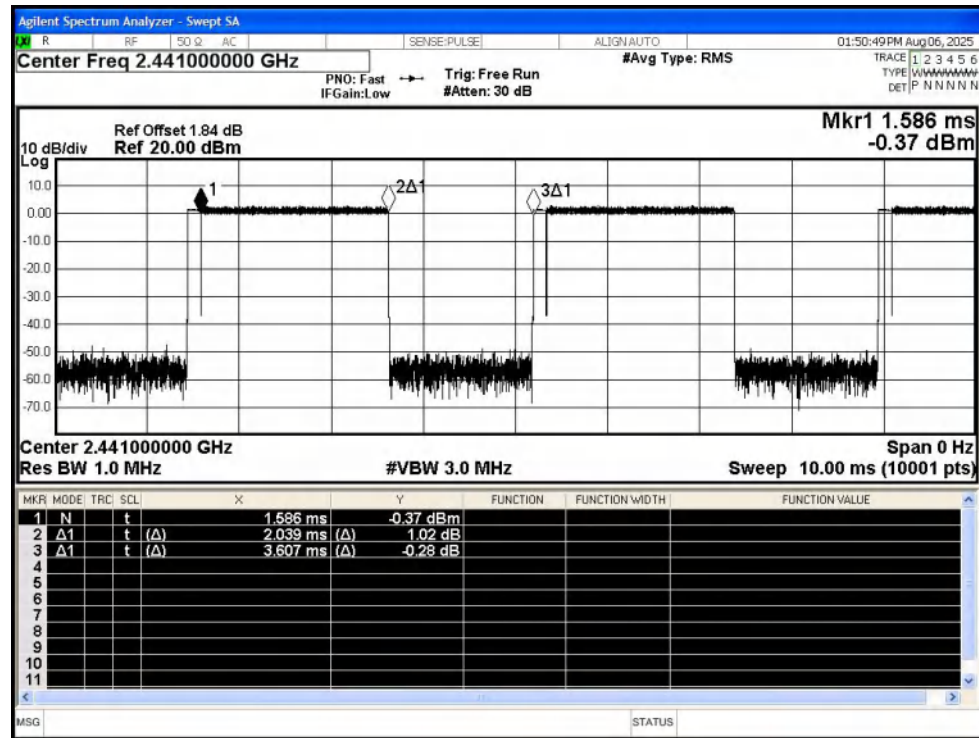
Duty Cycle NVNT 1-DH5 2480MHz Ant1



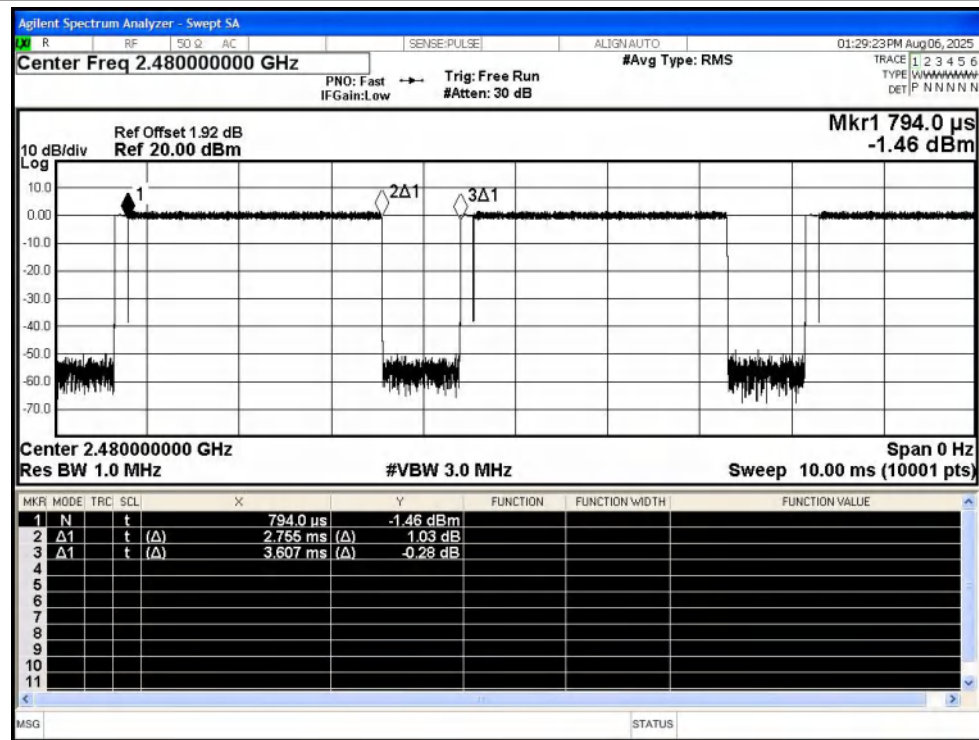
Duty Cycle NVNT 2-DH5 2402MHz Ant1



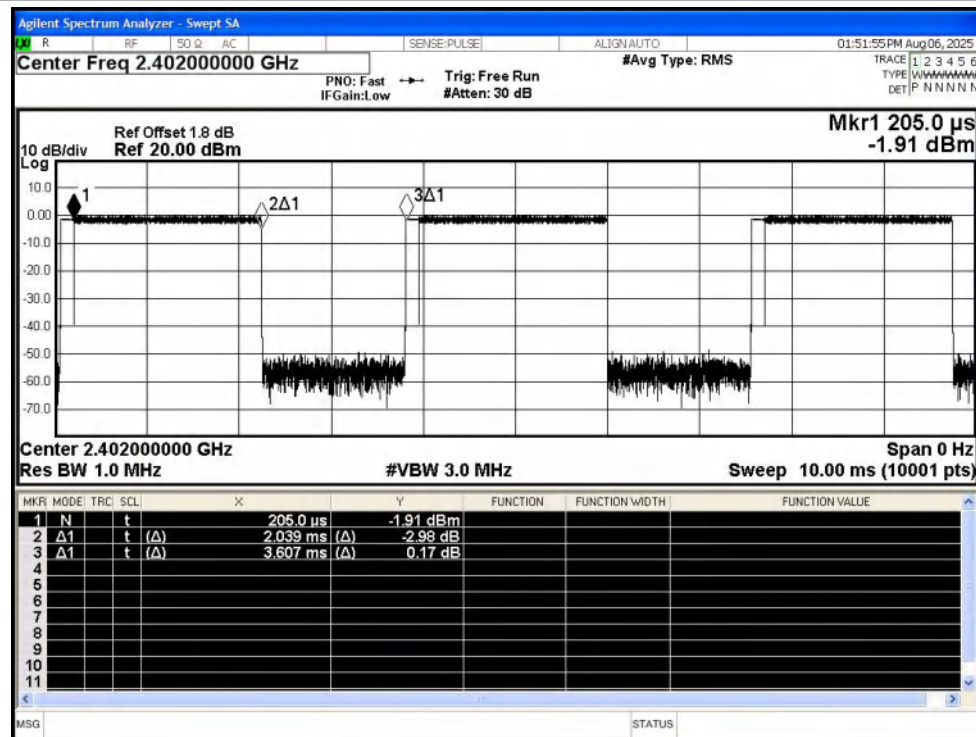
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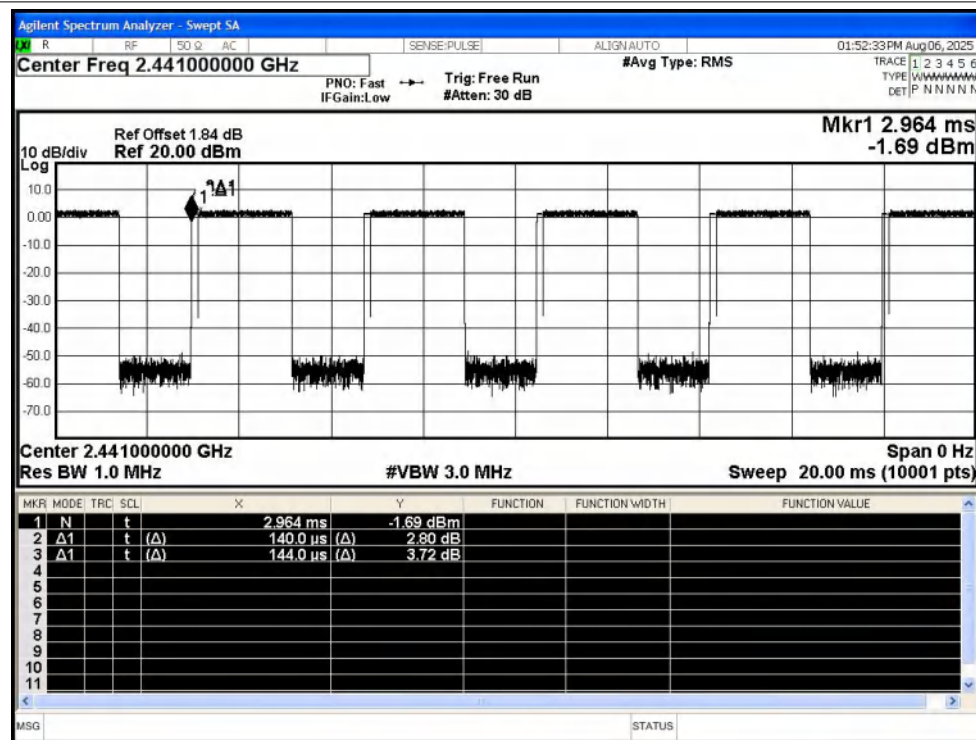
Duty Cycle NVNT 2-DH5 2480MHz Ant1



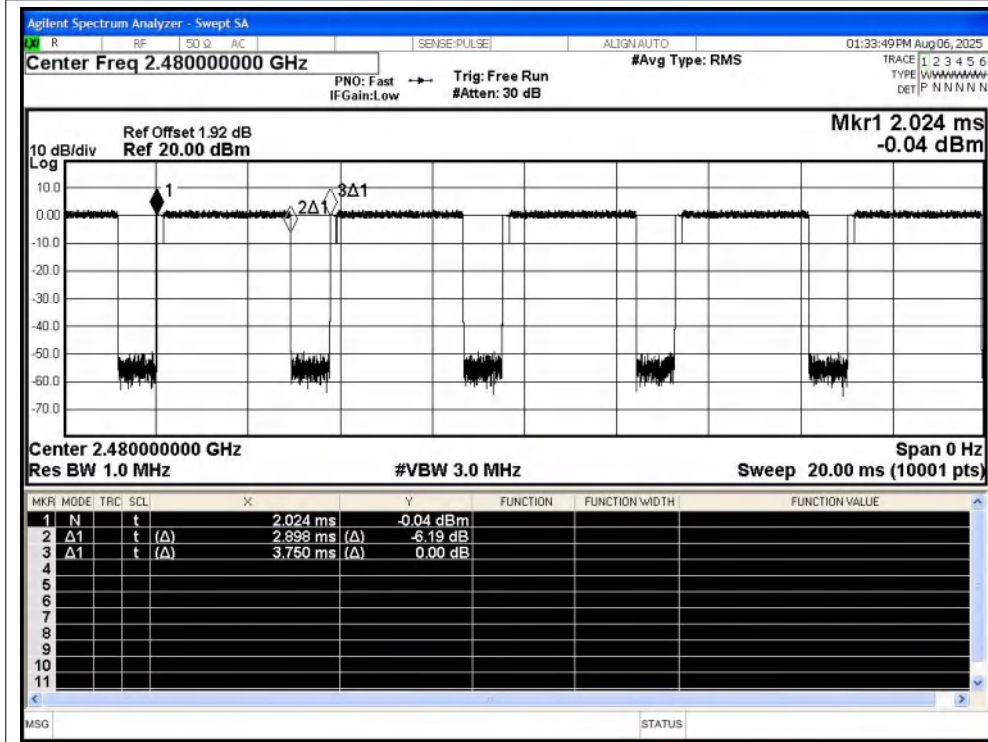
Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



Duty Cycle NVNT 3-DH5 2480MHz Ant1

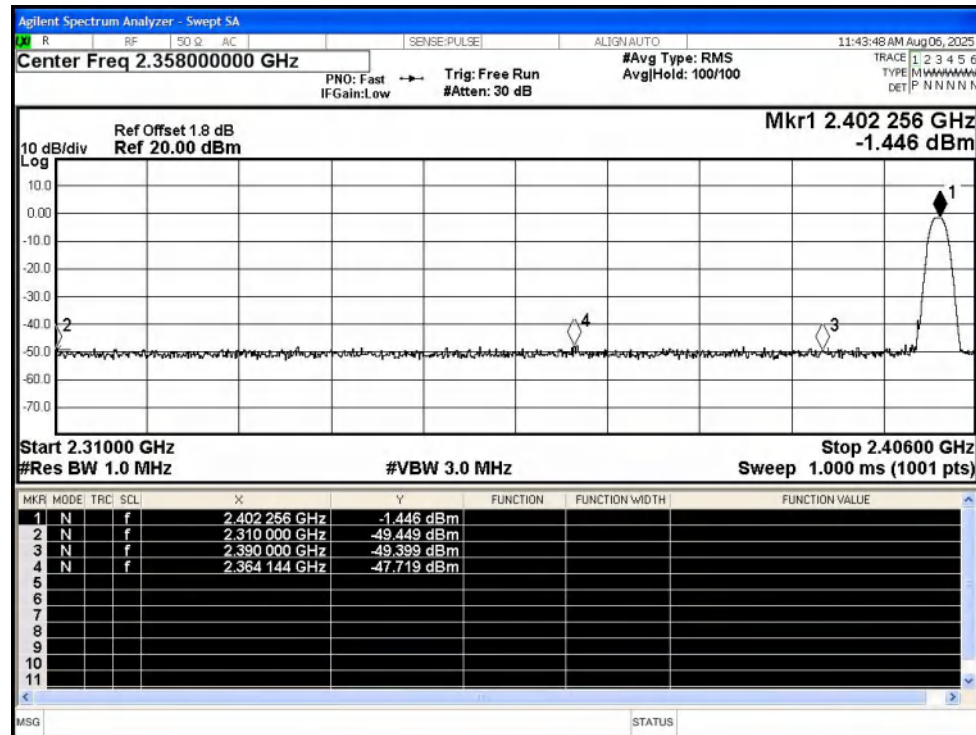


A.9 Restrict Band

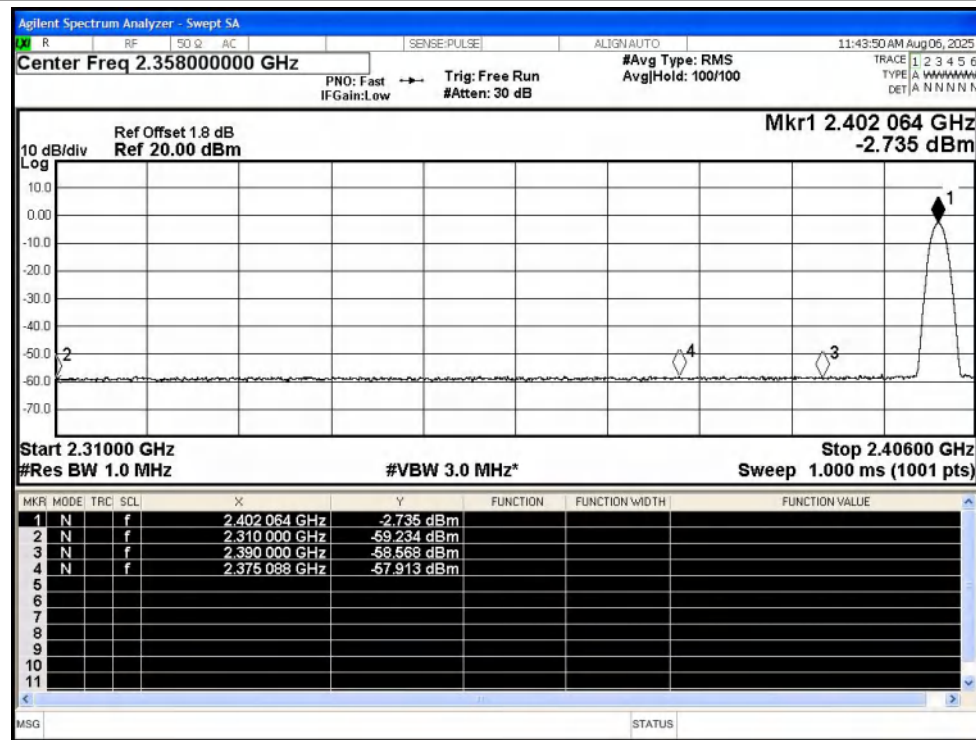
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-49.45	3.31	-	49.12	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-59.23	3.31	1.1	40.44	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2364.144	-47.72	3.31	-	50.85	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2375.088	-57.91	3.31	1.1	41.76	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-49.4	3.31	-	49.17	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.57	3.31	1.1	41.10	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-48.96	3.31	-	49.61	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.61	3.31	1.1	42.06	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.608	-45.11	3.31	-	53.46	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.728	-57.17	3.31	1.1	42.50	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.6	3.31	-	47.97	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-58.66	3.31	1.1	41.01	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.82	3.31	-	47.75	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.56	3.31	2.48	39.01	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2380.272	-47.86	3.31	-	50.71	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2357.808	-58.02	3.31	2.48	40.55	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.28	3.31	-	48.29	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.86	3.31	2.48	39.71	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-45.23	3.31	-	53.34	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.24	3.31	1.17	42.50	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2484.28	-44.55	3.31	-	54.02	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.584	-56.54	3.31	1.17	43.20	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.77	3.31	-	47.80	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.12	3.31	1.17	41.62	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-52.28	3.31	-	46.29	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-59.56	3.31	2.48	39.01	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2350.704	-47.58	3.31	-	50.99	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2389.104	-57.84	3.31	2.48	40.73	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.76	3.31	-	47.81	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.57	3.31	2.48	40.00	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-47.34	3.31	-	51.23	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-56.84	3.31	1.12	42.85	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2485.24	-44.81	3.31	-	53.76	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.56	-56.45	3.31	1.12	43.24	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-49.96	3.31	-	48.61	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.7	3.31	1.12	40.99	Average	54	Pass

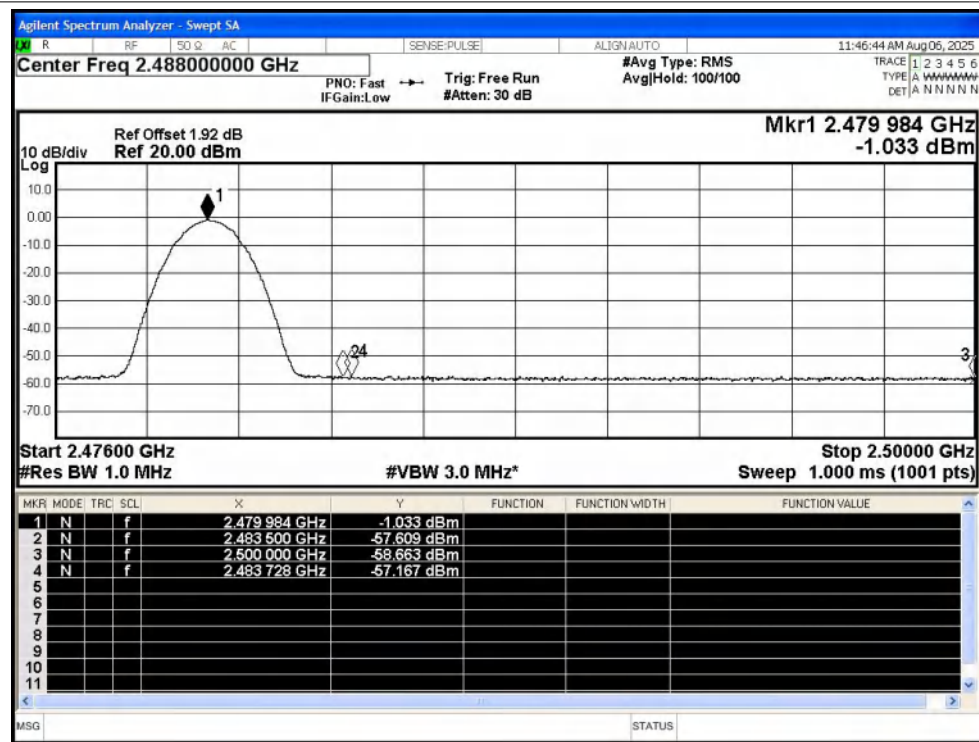
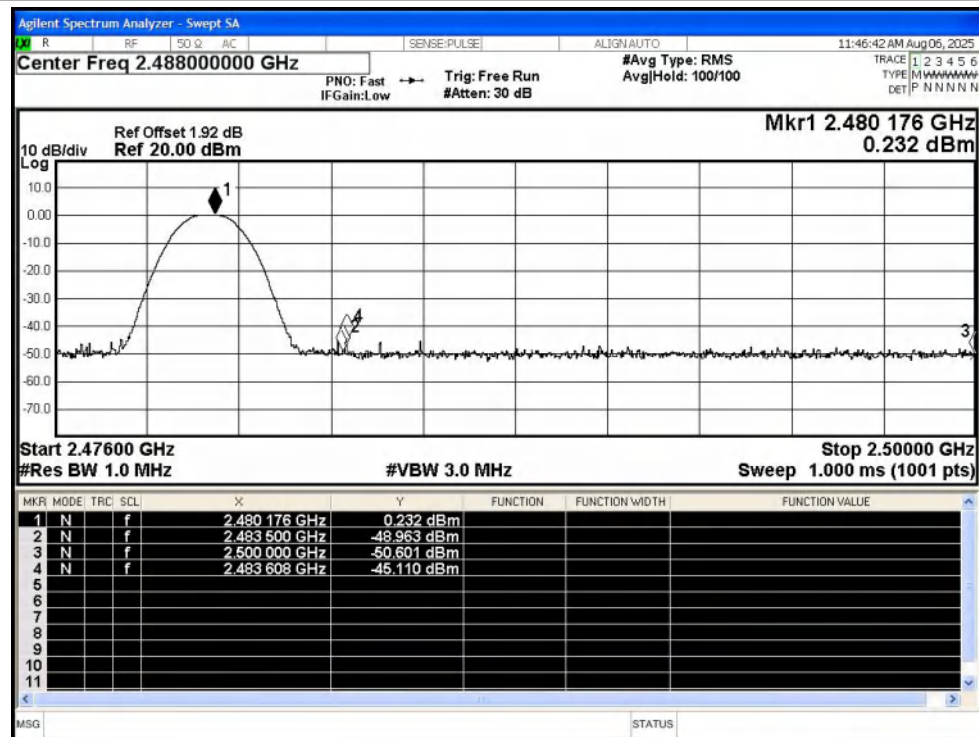
Test Graphs

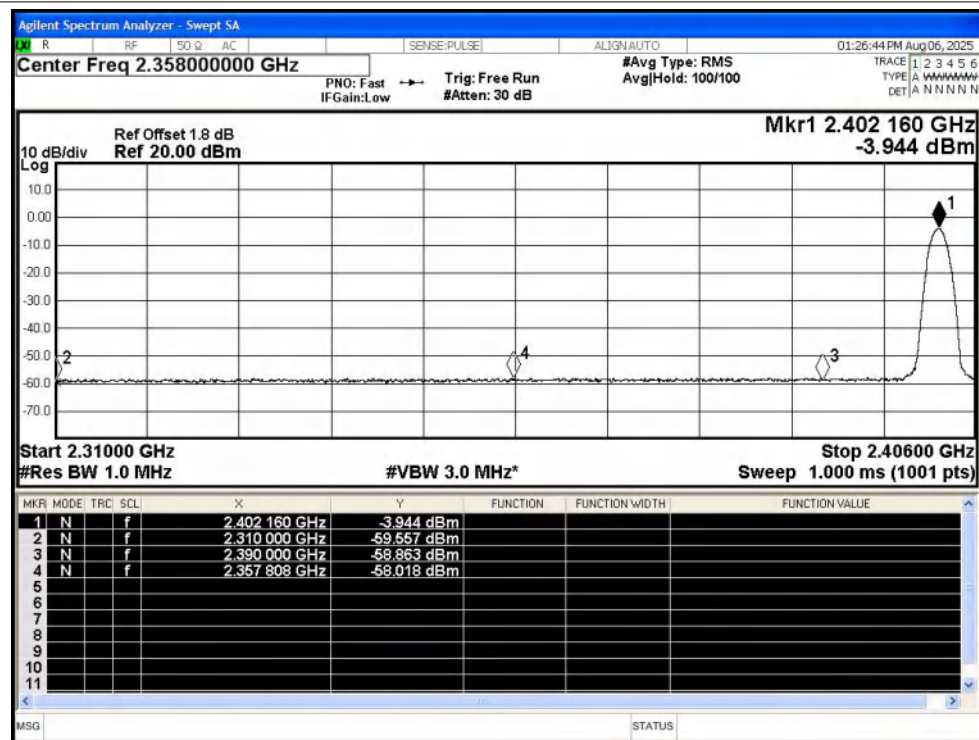
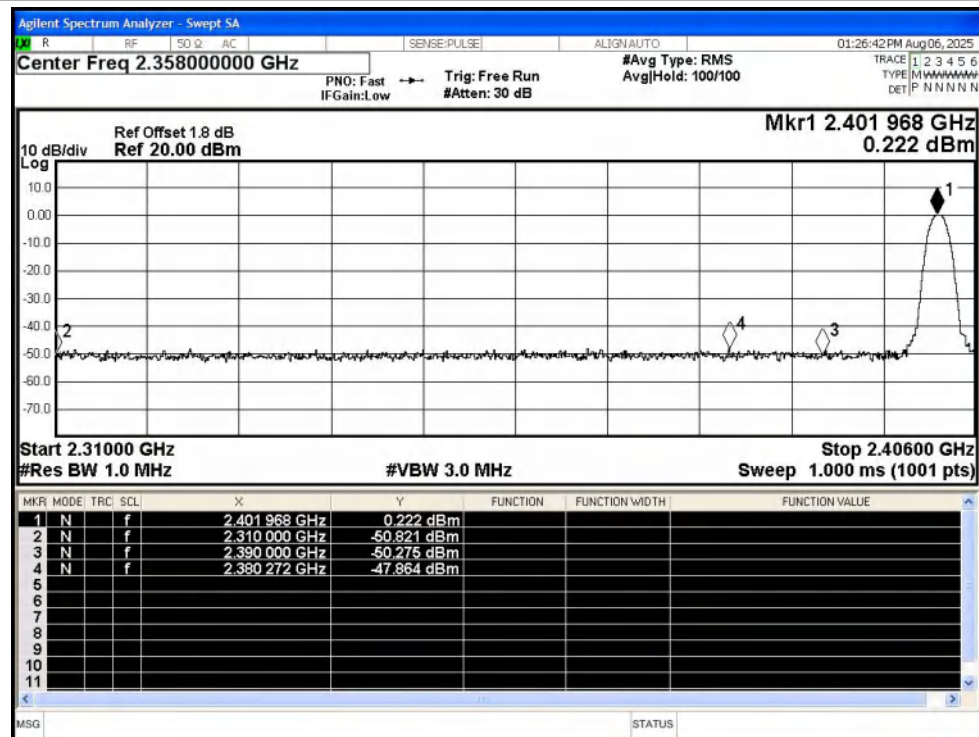
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak

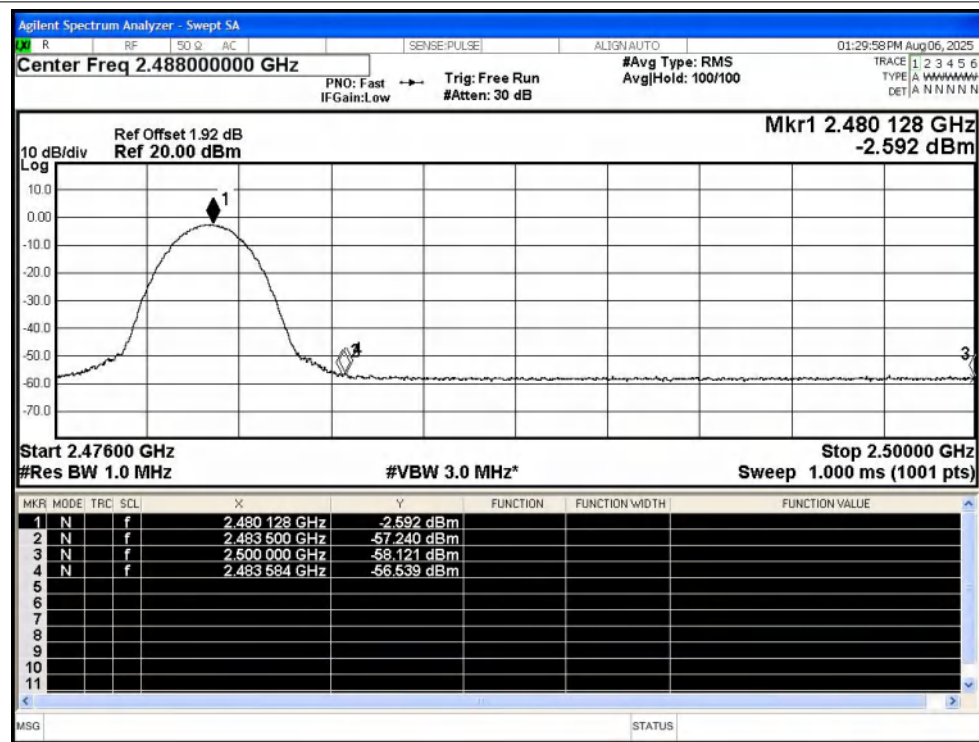
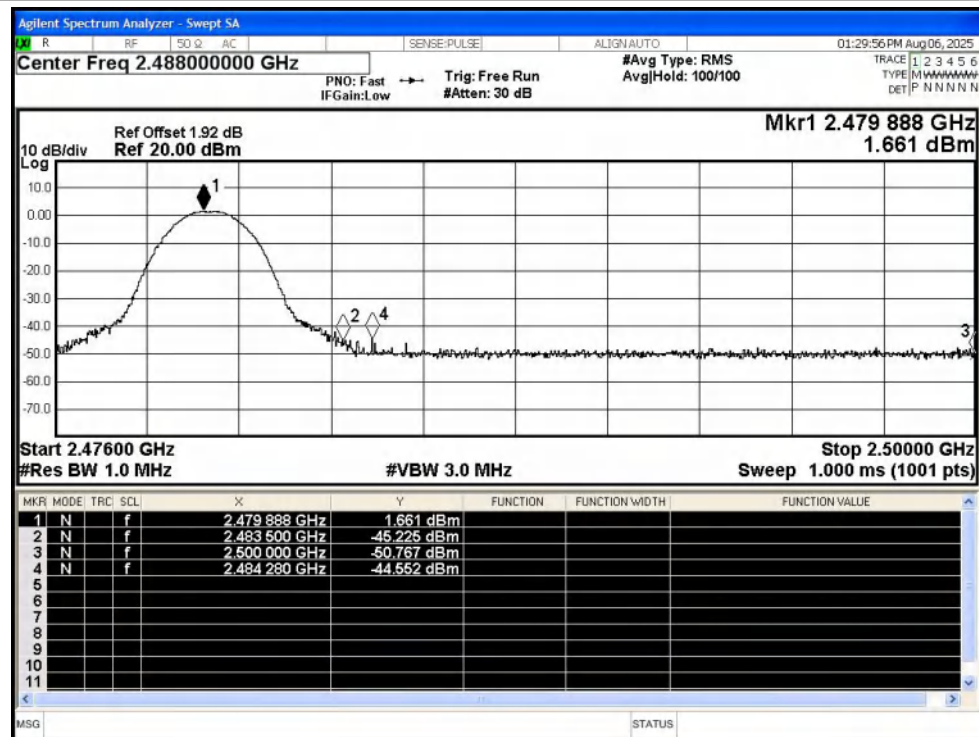


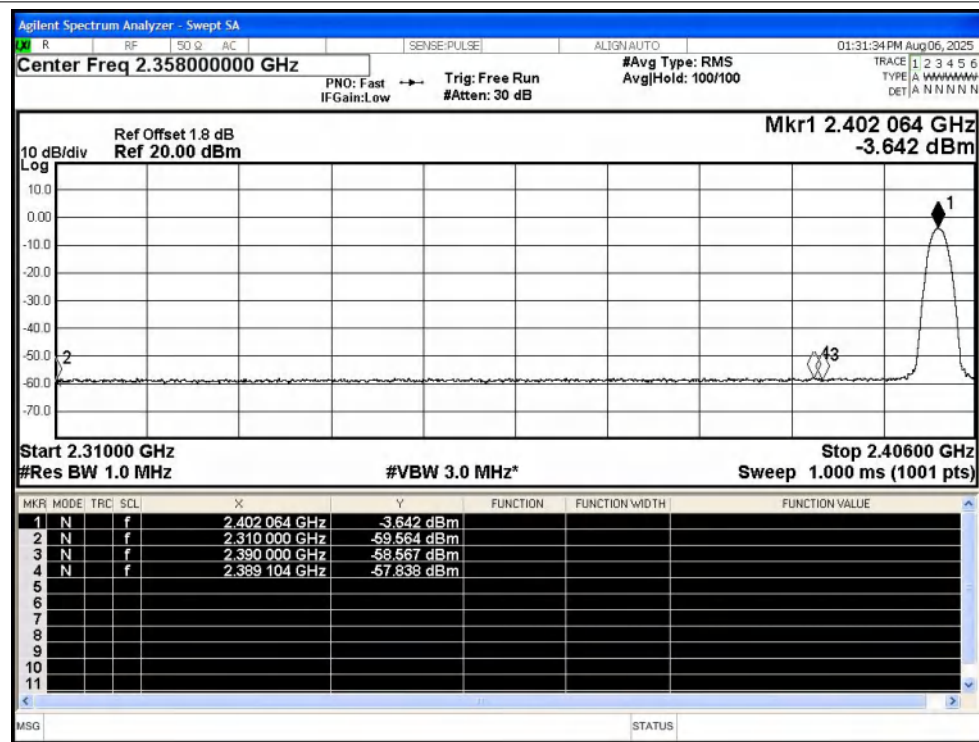
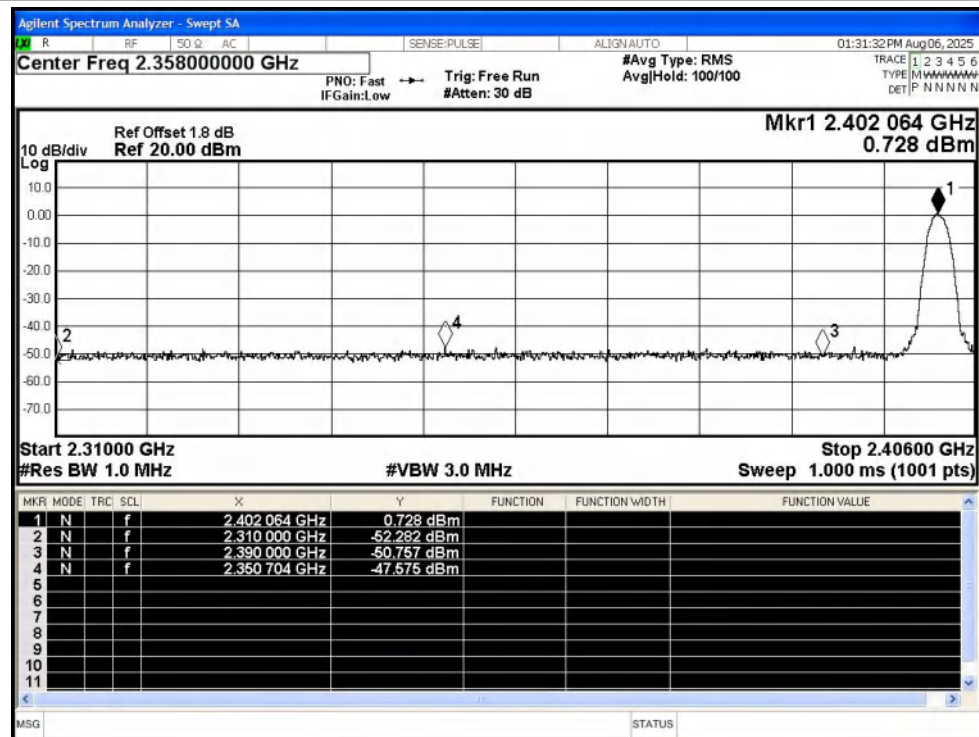
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



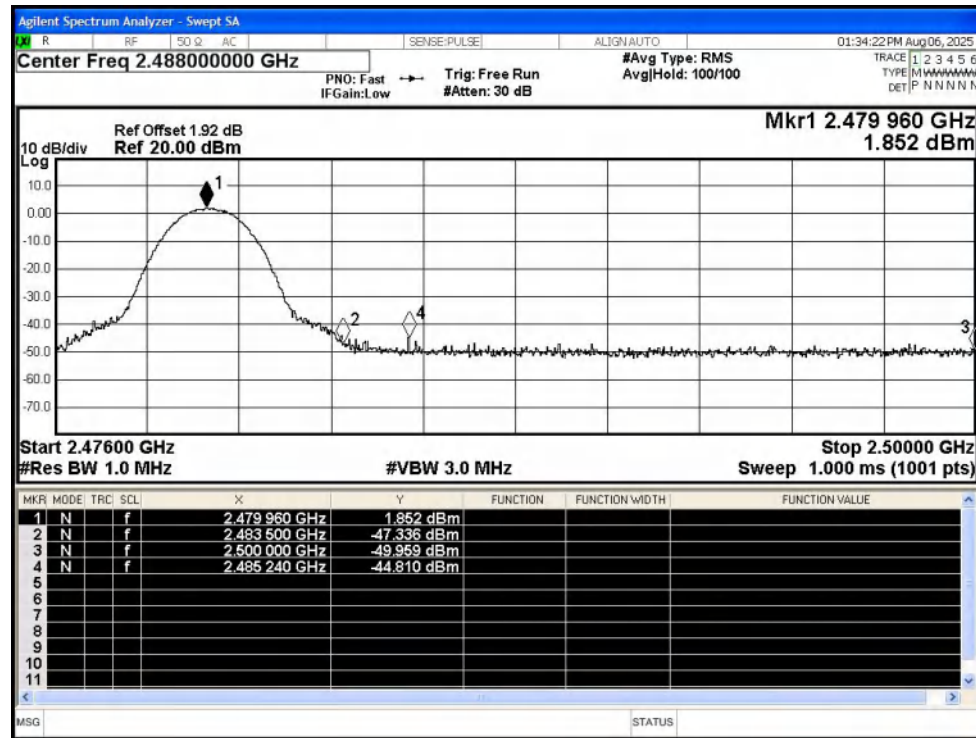








Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Average

