

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Bluetooth headset
Test Model:	P2961
Sample ID:	HC-C-202409-0146-01-01-2#
Environmental Conditions	
Temperature:	23.8°C
Relative Humidity:	48%
Test Voltage:	DC 3.7V
Test Engineer:	Rick chen
Note: For a more detailed features description, please refer to the report TBR-C-202409-0146-2 The report only show the worst case data.	

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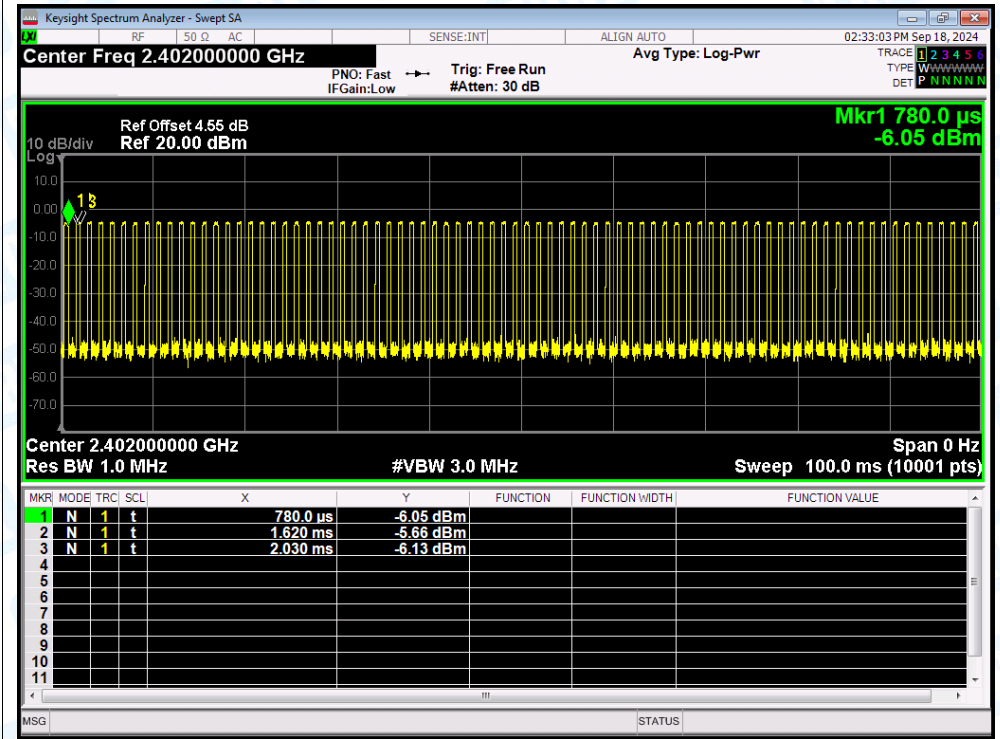
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1. Duty Cycle

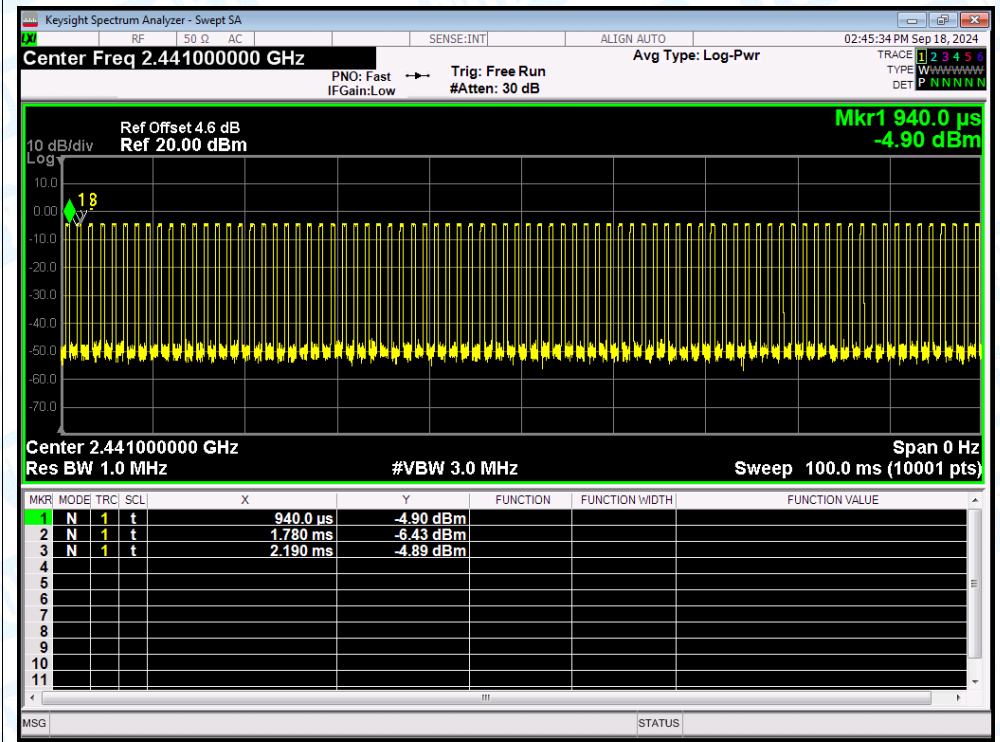
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2402	Ant1	33.6	4.74	2.38
NVNT	2-DH1	2441	Ant1	33.6	4.74	2.38
NVNT	2-DH1	2480	Ant1	33.6	4.74	2.38
NVNT	3-DH1	2402	Ant1	34.4	4.63	2.33
NVNT	3-DH1	2441	Ant1	33.6	4.74	2.38
NVNT	3-DH1	2480	Ant1	34.4	4.63	2.33

Test Graphs

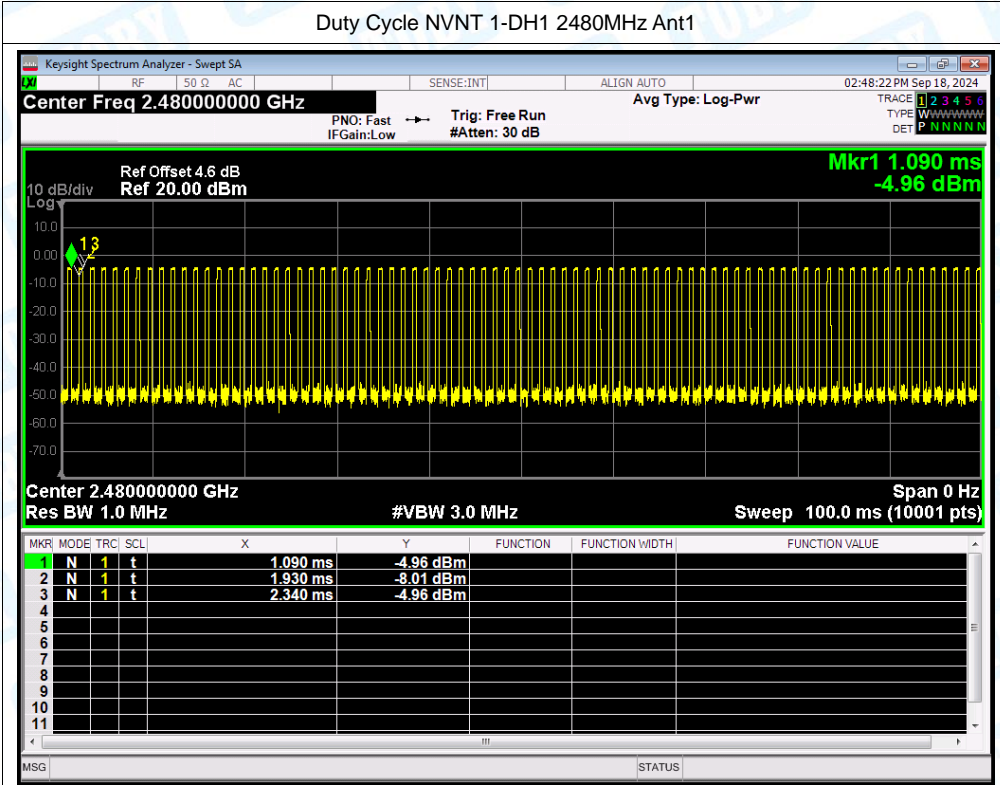
Duty Cycle NVNT 1-DH1 2402MHz Ant1



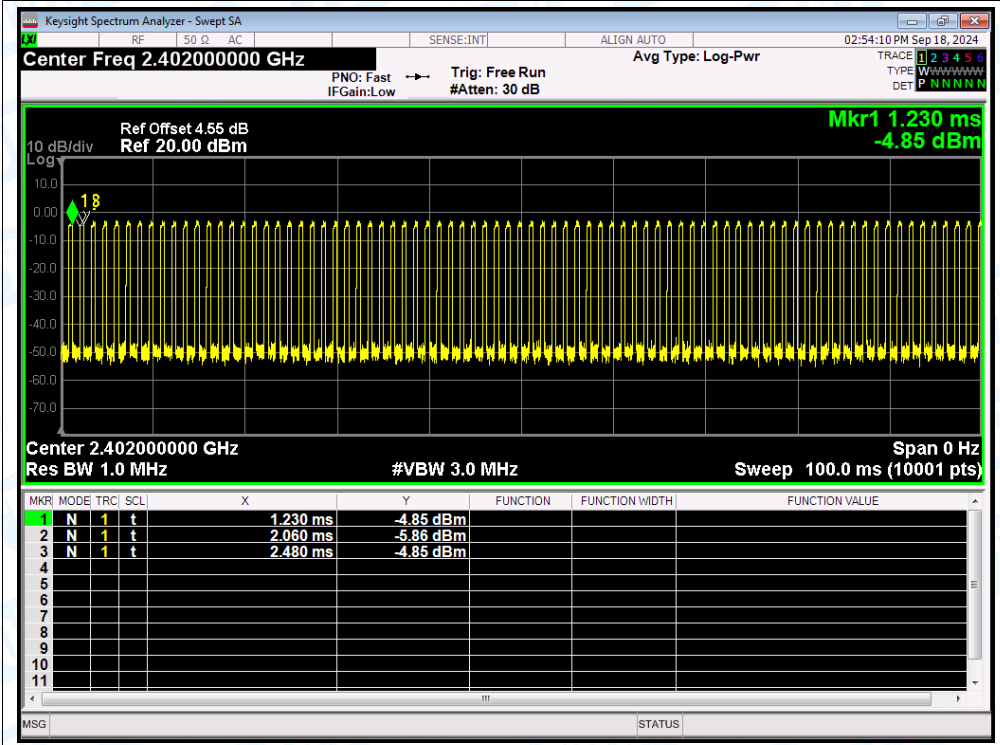
Duty Cycle NVNT 1-DH1 2441MHz Ant1



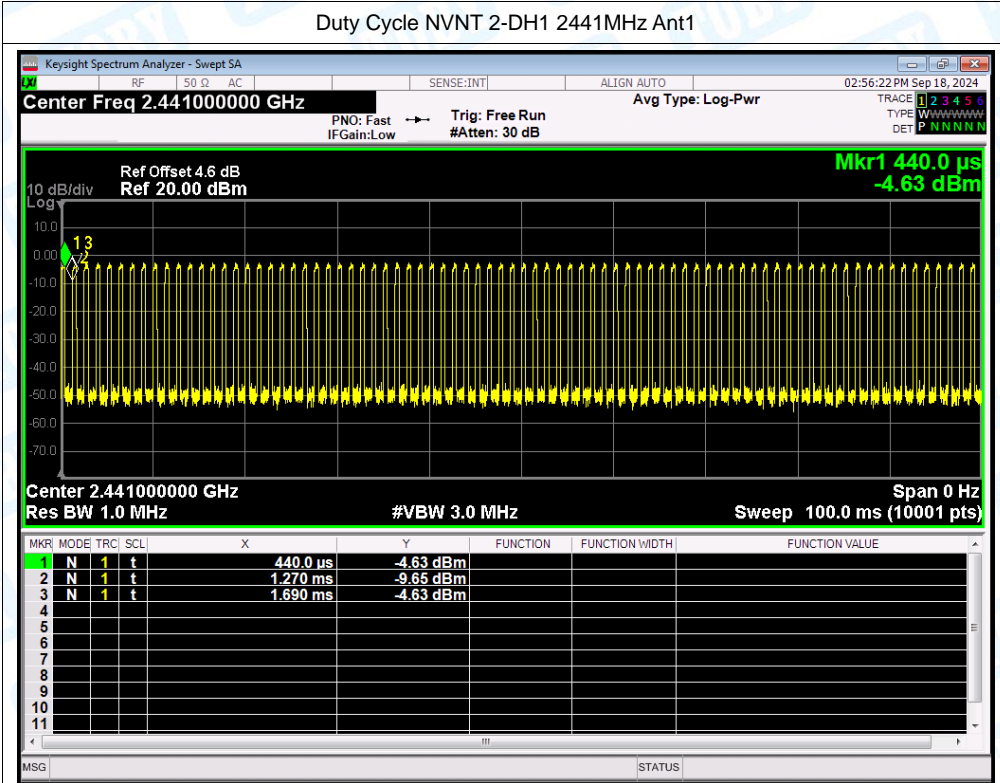
Duty Cycle NVNT 1-DH1 2480MHz Ant1



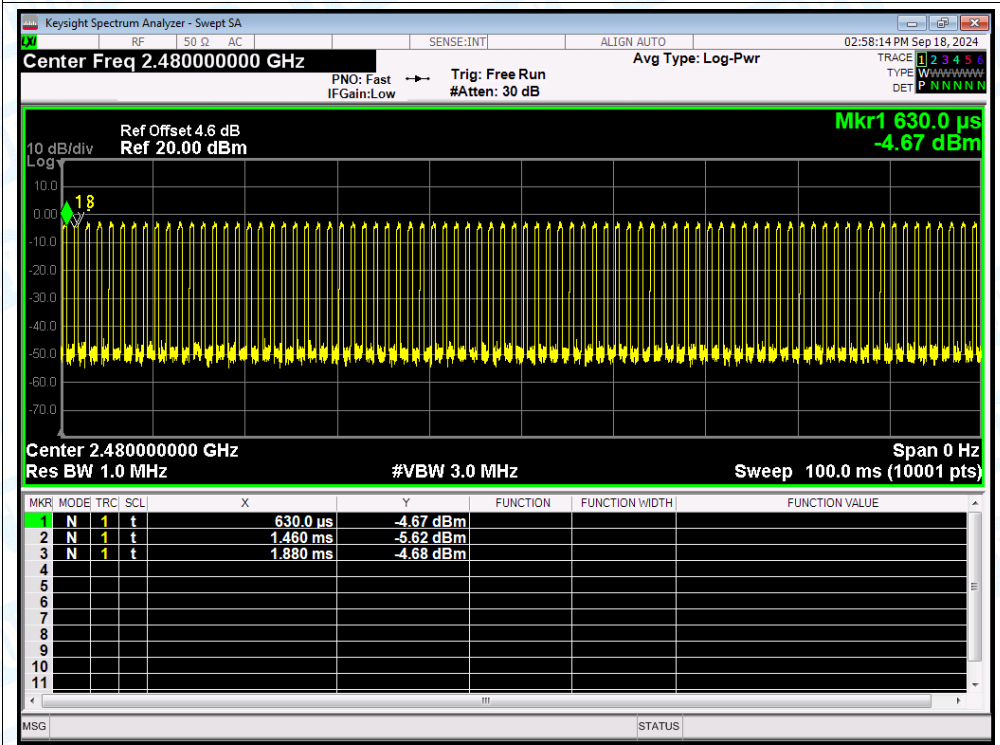
Duty Cycle NVNT 2-DH1 2402MHz Ant1



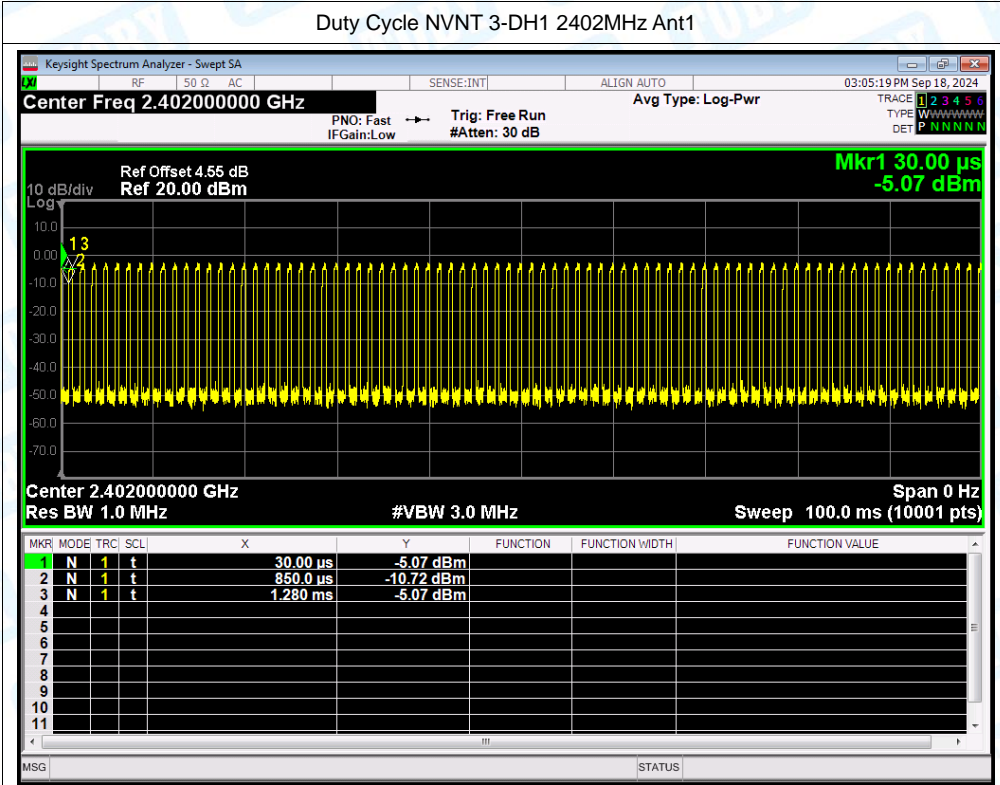
Duty Cycle NVNT 2-DH1 2441MHz Ant1



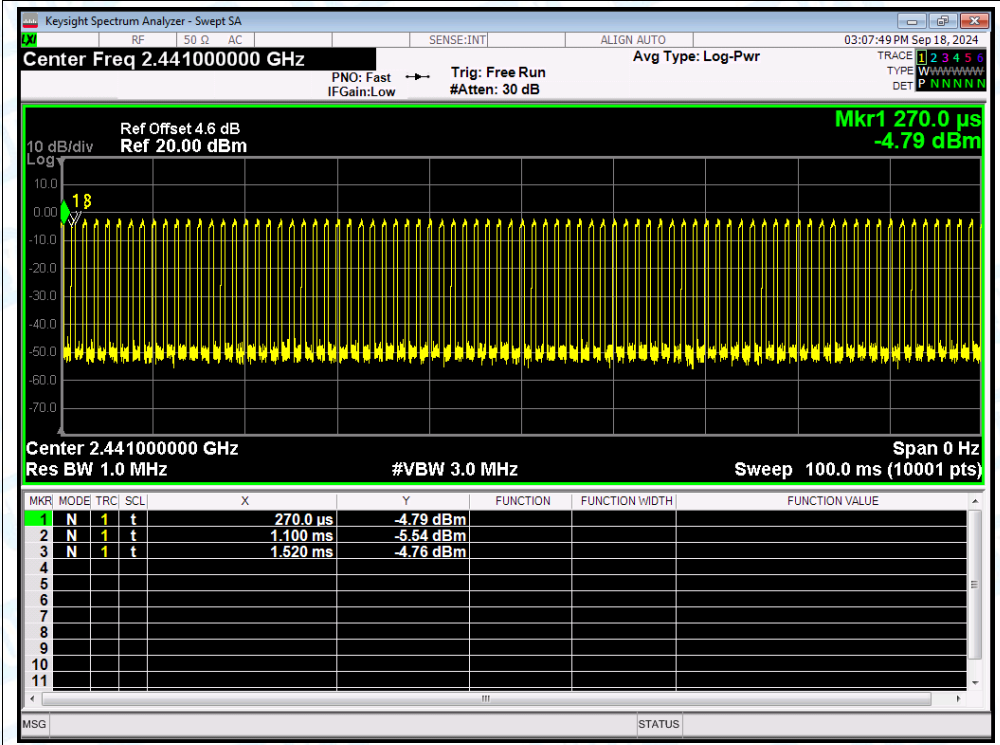
Duty Cycle NVNT 2-DH1 2480MHz Ant1

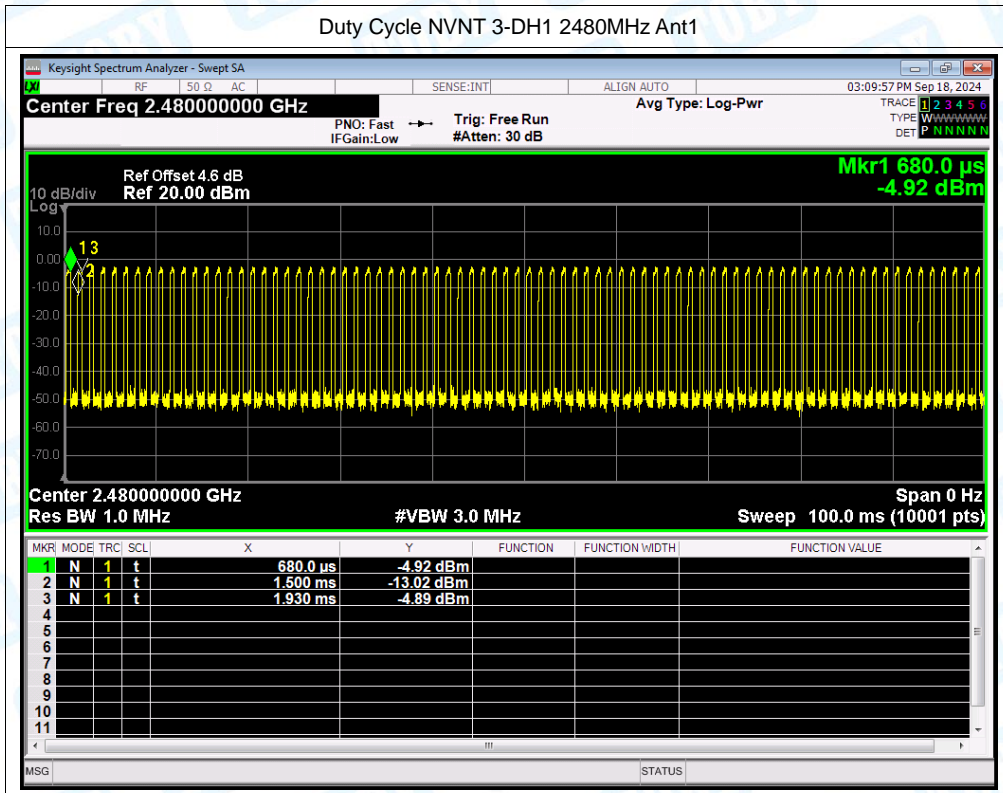


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



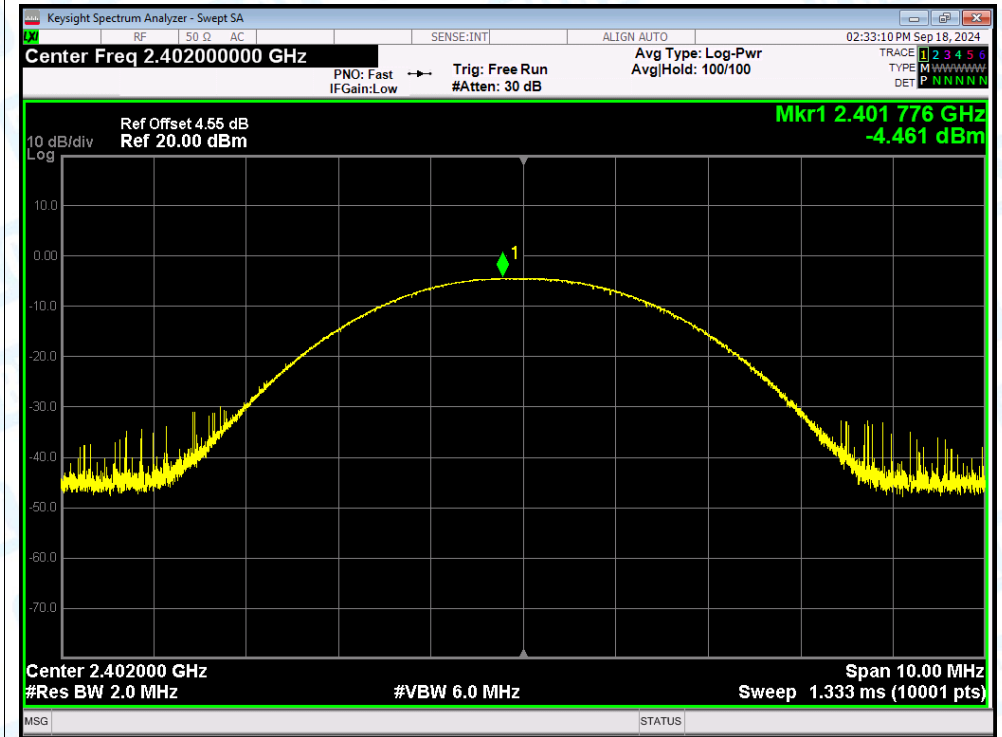


2. Maximum Conducted Output Power

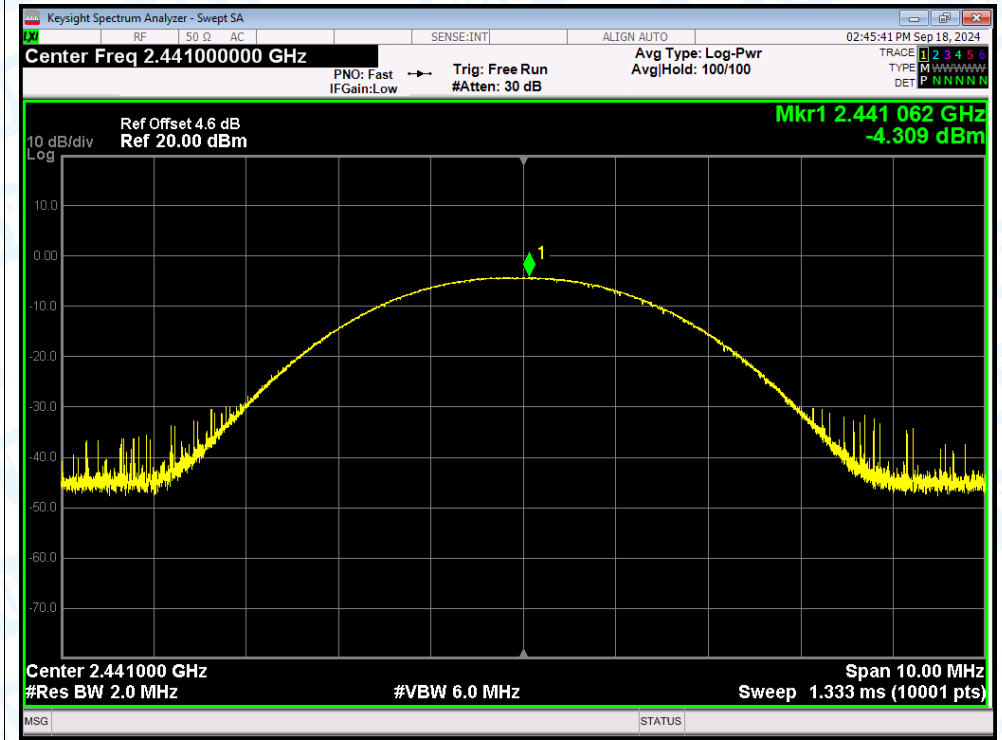
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	-4.461	20.6	Pass
NVNT	1-DH1	2441	Ant1	-4.309	20.6	Pass
NVNT	1-DH1	2480	Ant1	-4.446	20.6	Pass
NVNT	2-DH1	2402	Ant1	-2.579	20.6	Pass
NVNT	2-DH1	2441	Ant1	-2.318	20.6	Pass
NVNT	2-DH1	2480	Ant1	-2.421	20.6	Pass
NVNT	3-DH1	2402	Ant1	-2.257	20.6	Pass
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NVNT	3-DH1	2480	Ant1	-2.071	20.6	Pass

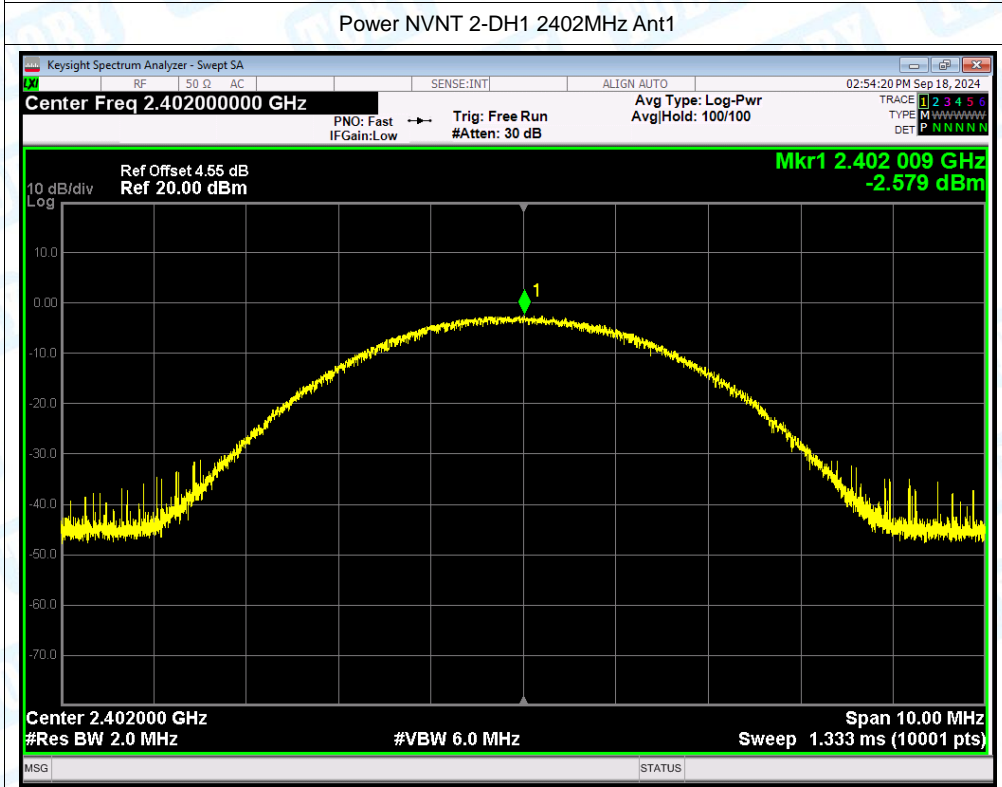
Test Graphs

Power NVNT 1-DH1 2402MHz Ant1

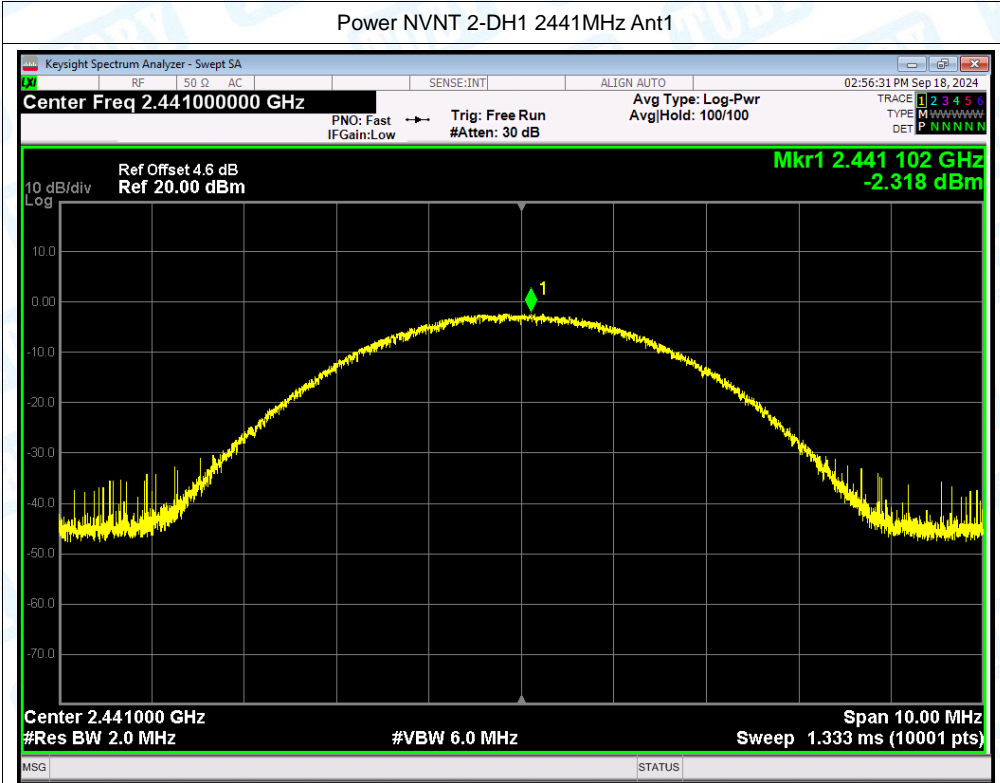


Power NVNT 1-DH1 2441MHz Ant1

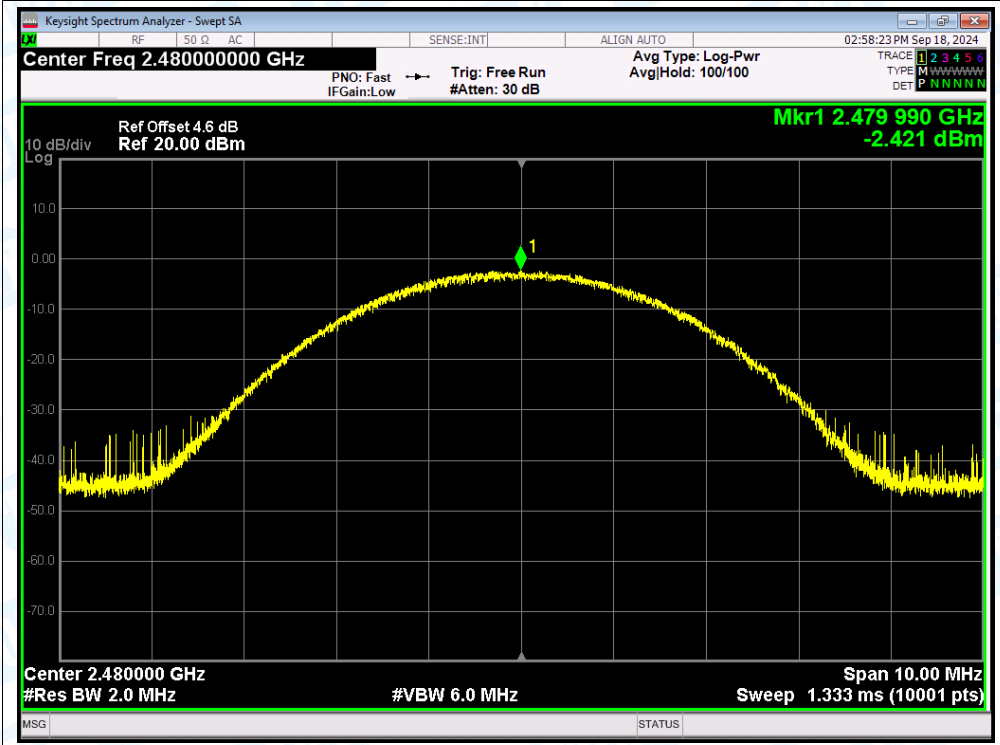


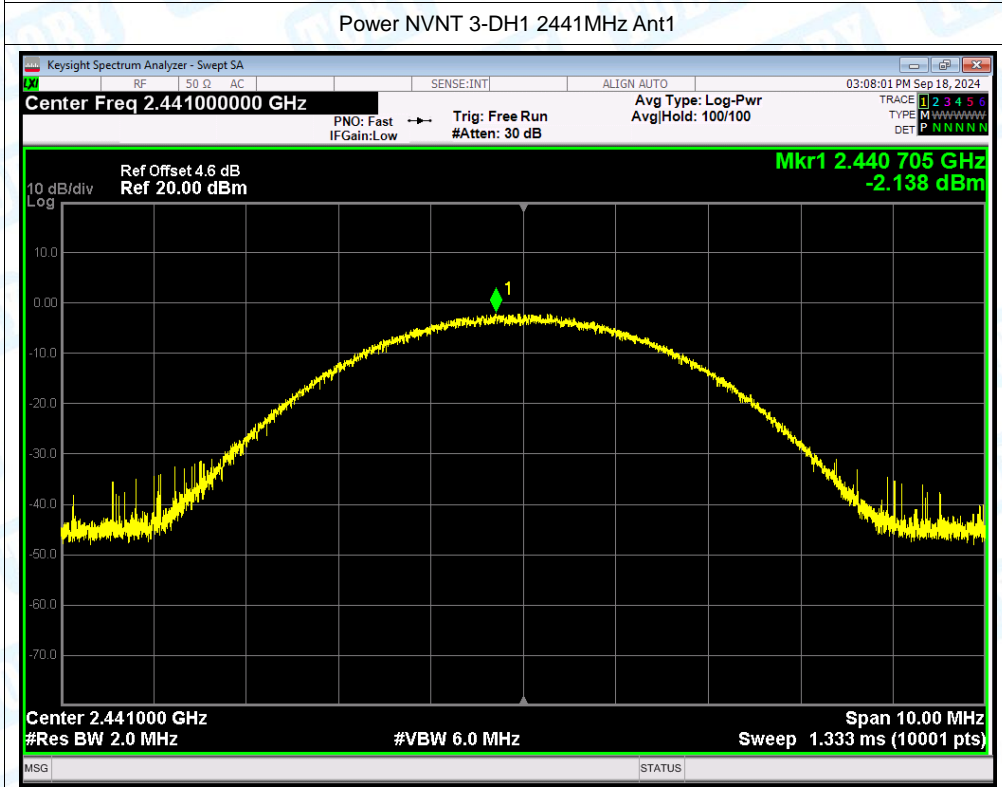
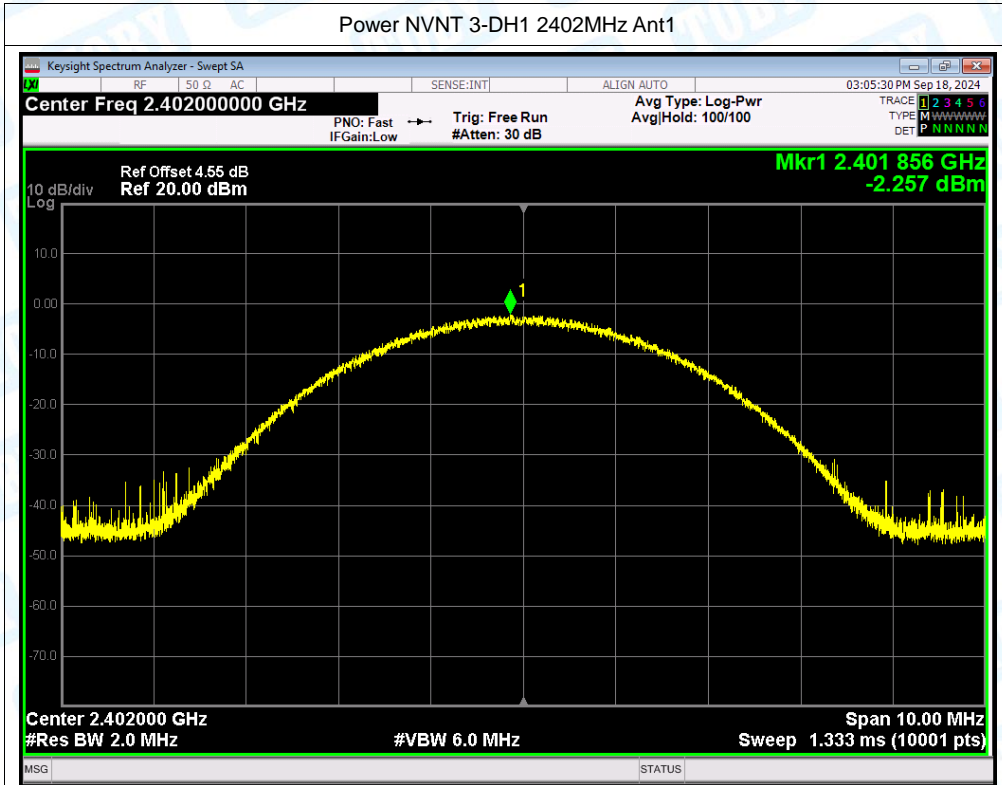


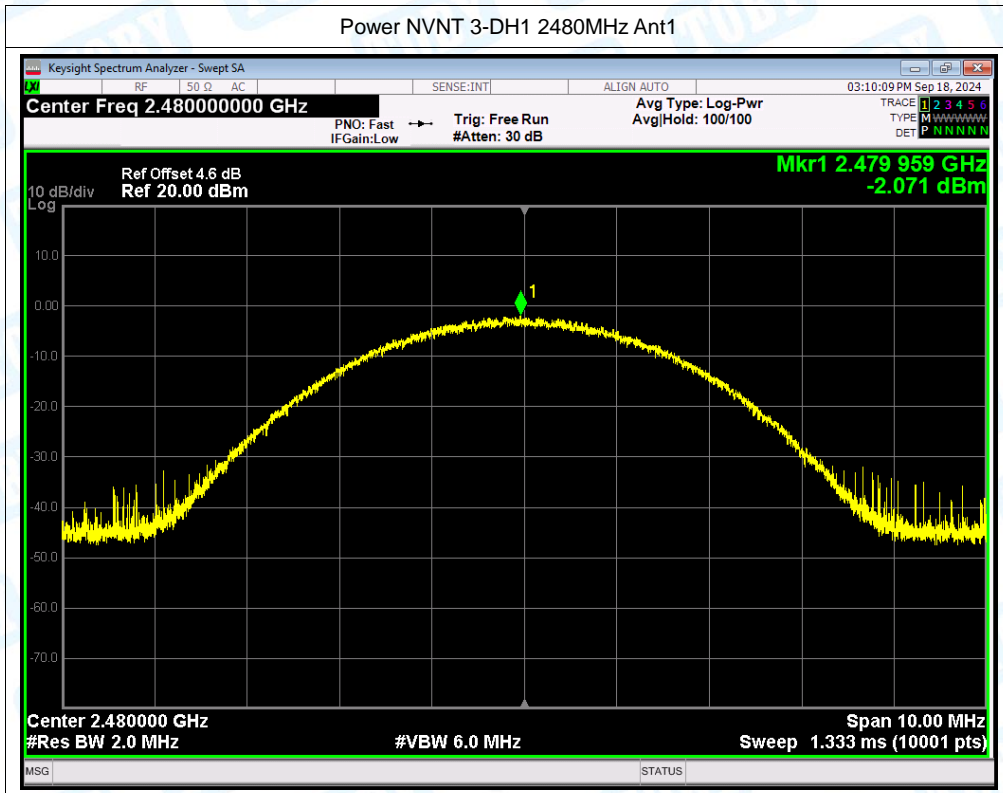
Power NVNT 2-DH1 2441MHz Ant1



Power NVNT 2-DH1 2480MHz Ant1





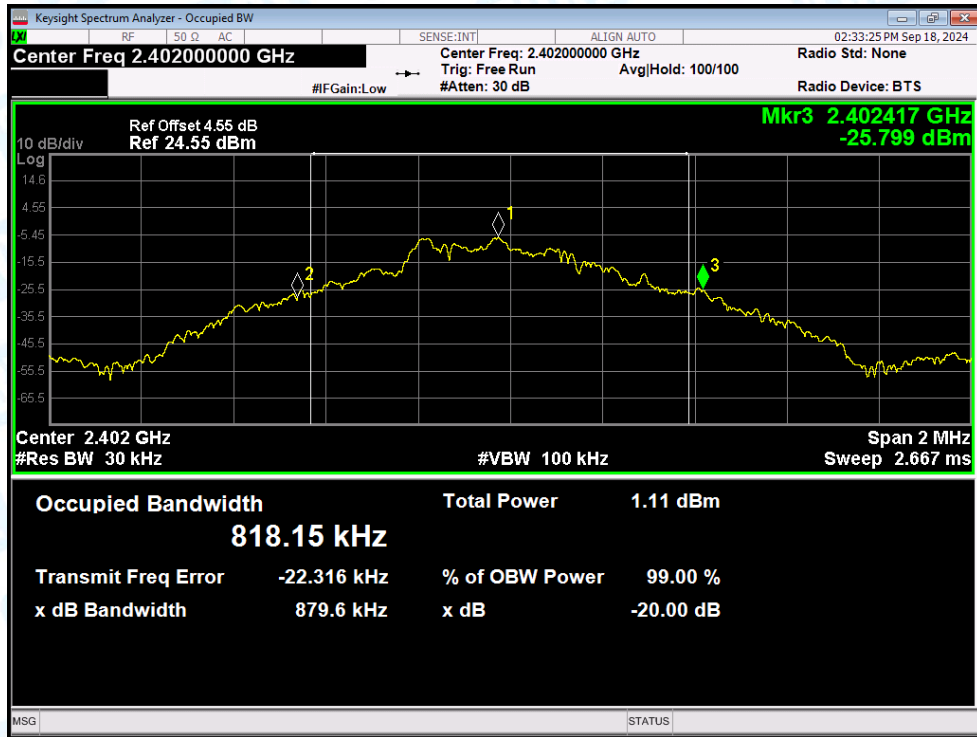


3. -20dB Bandwidth

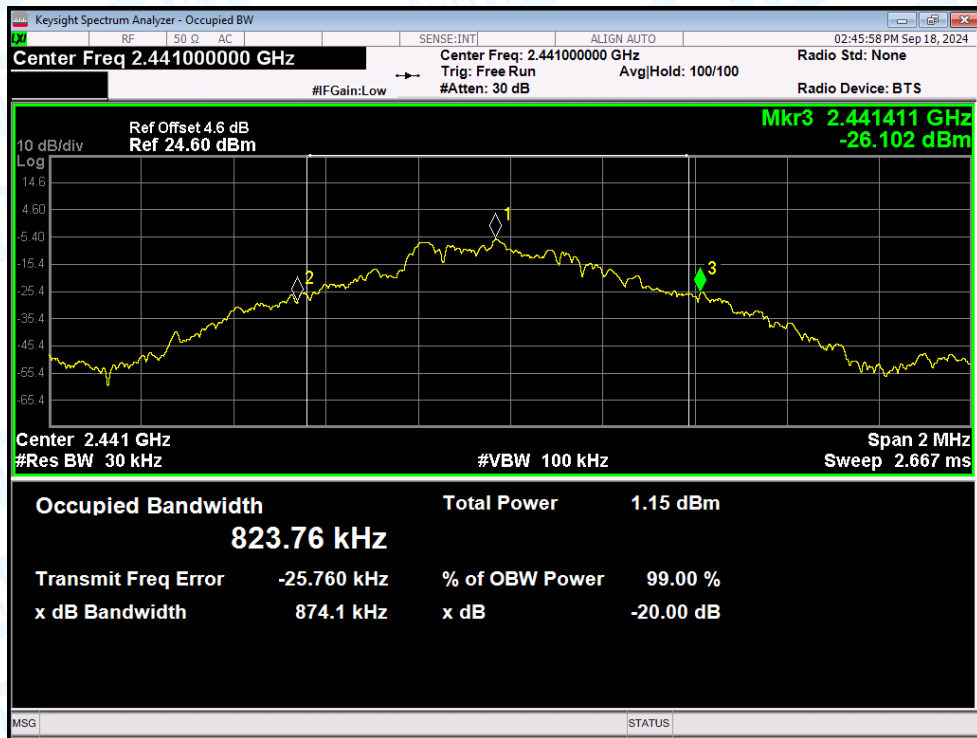
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.88	----	Pass
NVNT	1-DH1	2441	Ant1	0.87	----	Pass
NVNT	1-DH1	2480	Ant1	0.88	----	Pass
NVNT	2-DH1	2402	Ant1	1.24	----	Pass
NVNT	2-DH1	2441	Ant1	1.25	----	Pass
NVNT	2-DH1	2480	Ant1	1.23	----	Pass
NVNT	3-DH1	2402	Ant1	1.21	----	Pass
NVNT	3-DH1	2441	Ant1	1.21	----	Pass
NVNT	3-DH1	2480	Ant1	1.21	----	Pass

Test Graphs

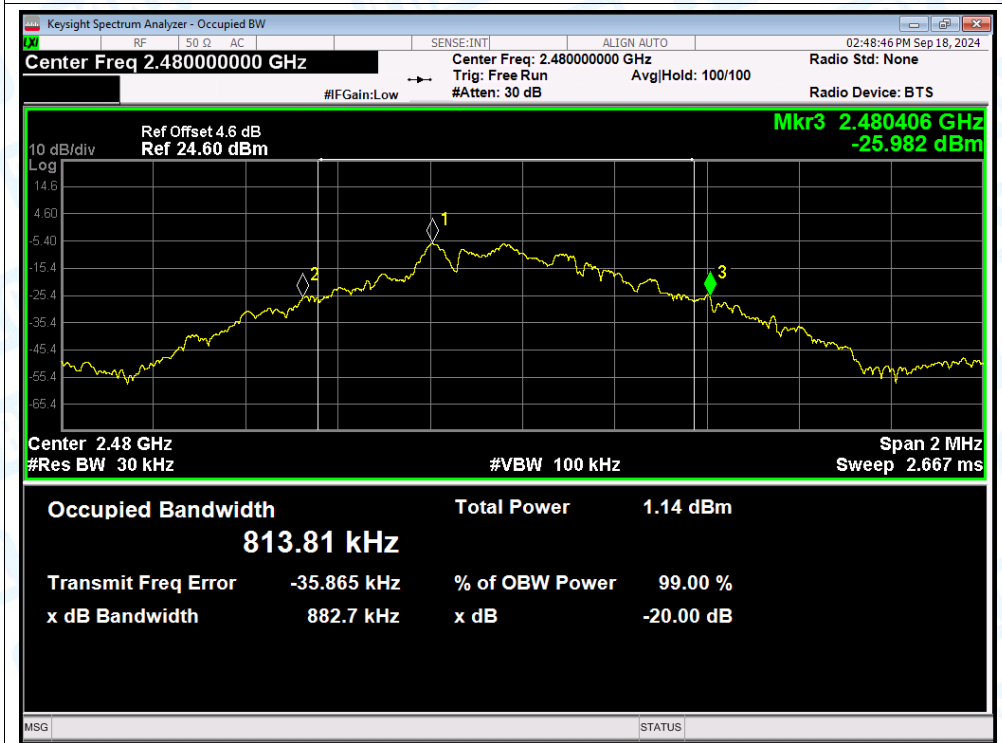
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



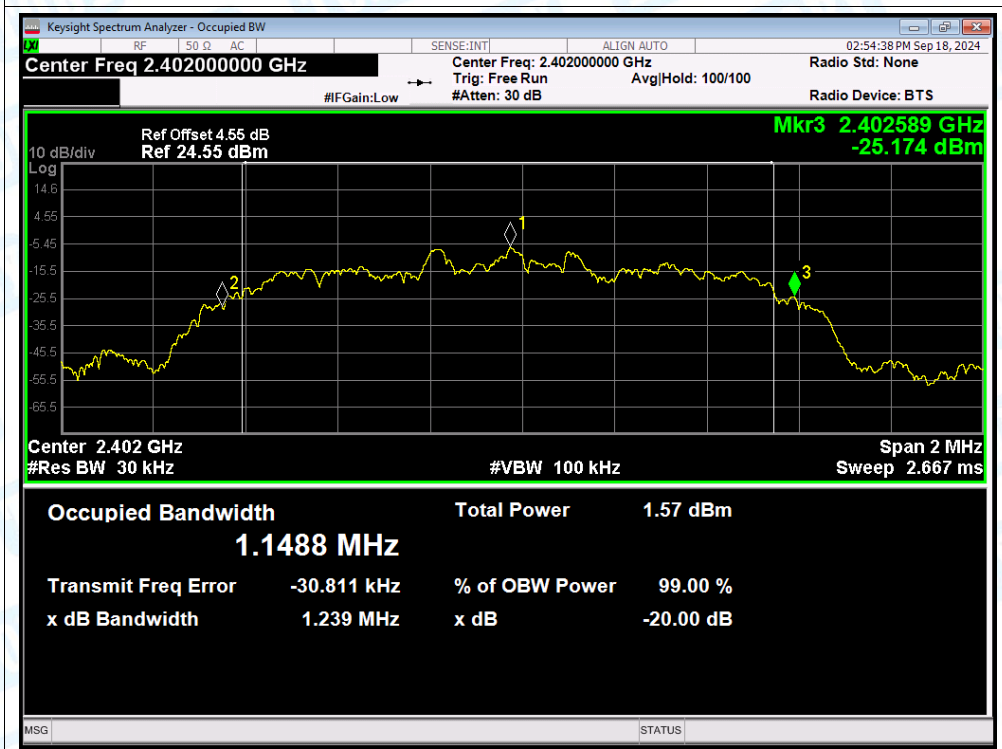
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



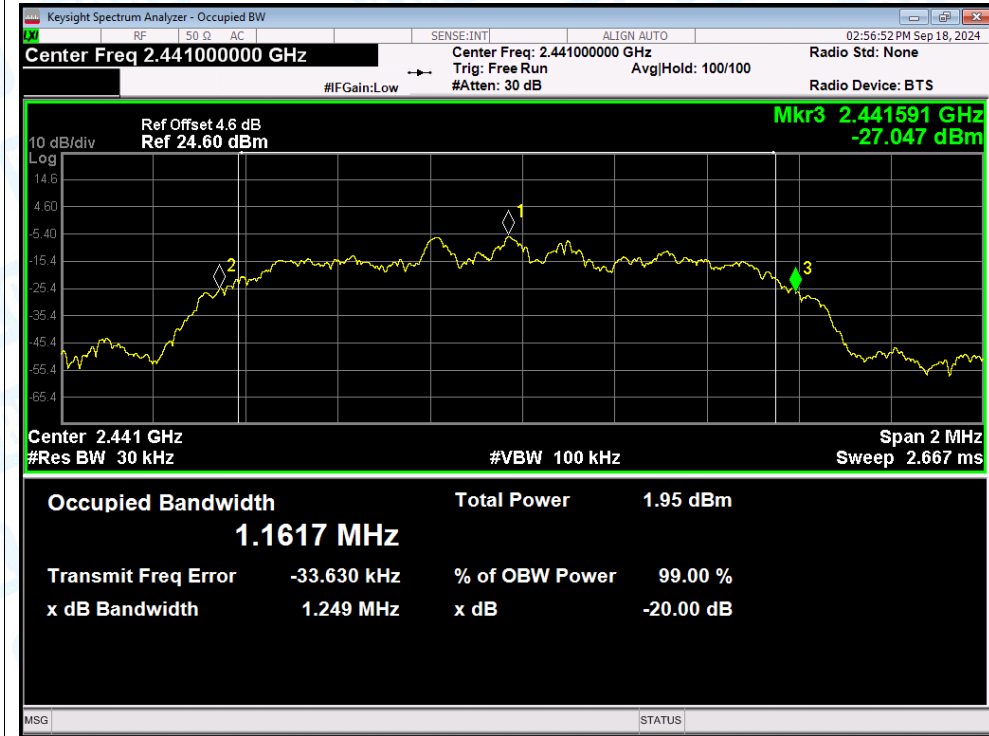
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



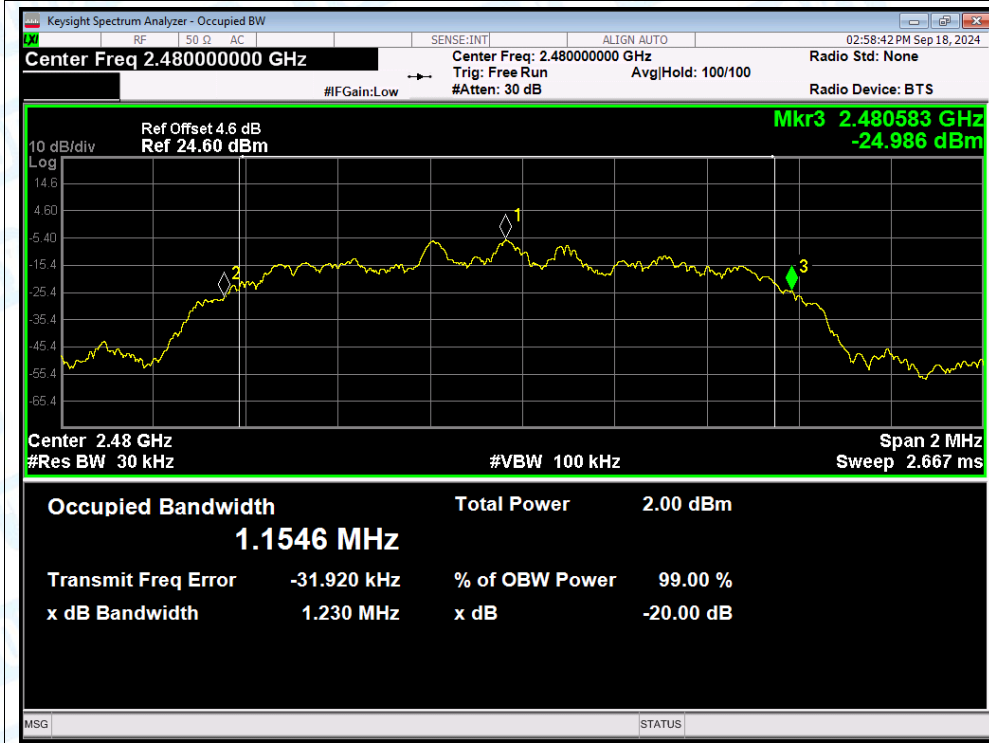
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



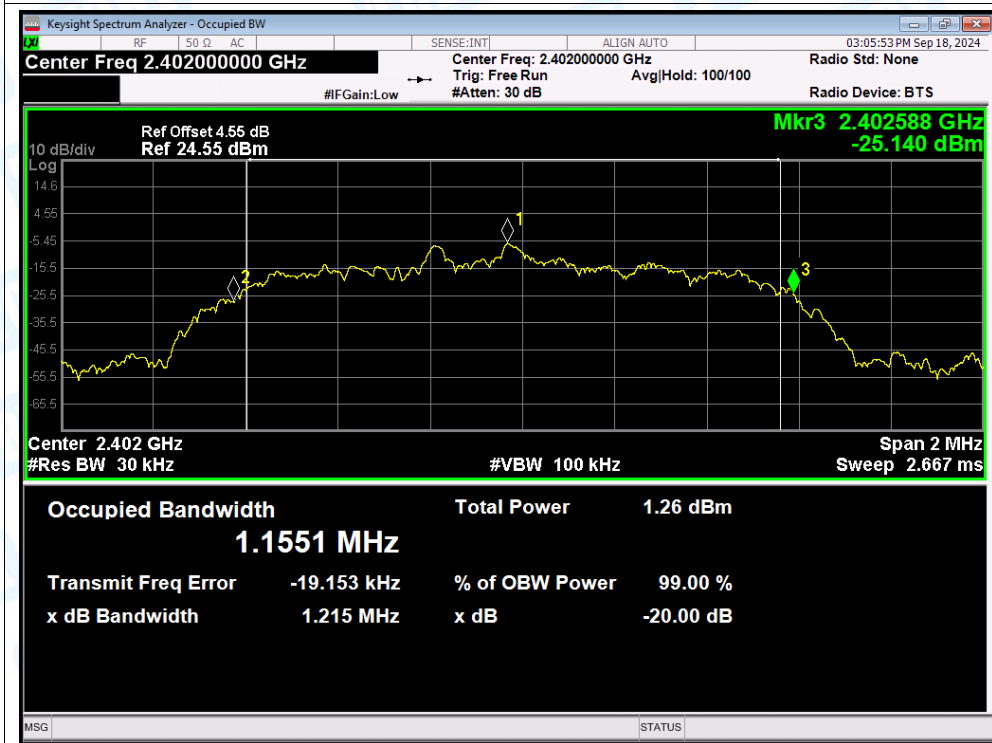
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



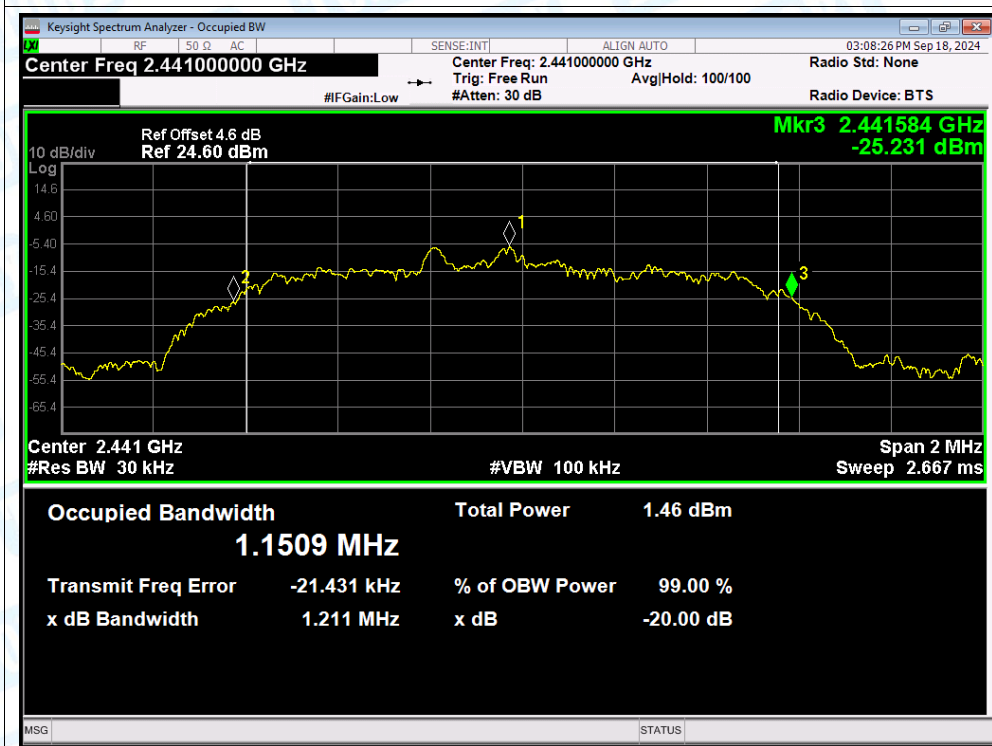
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

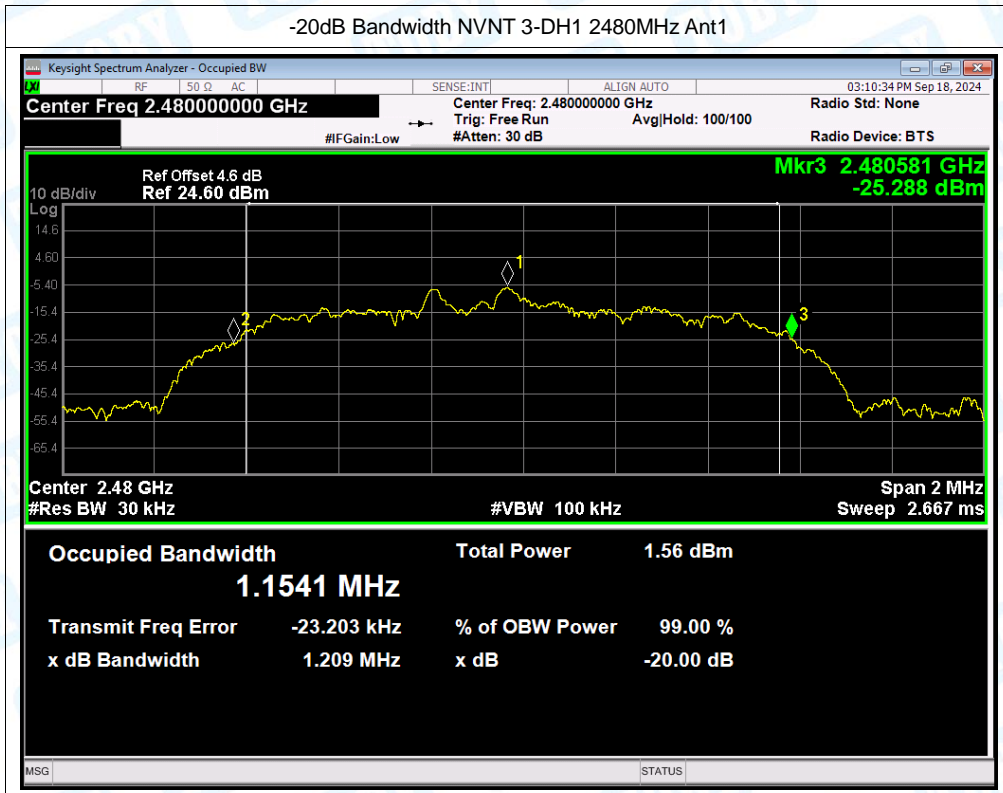


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



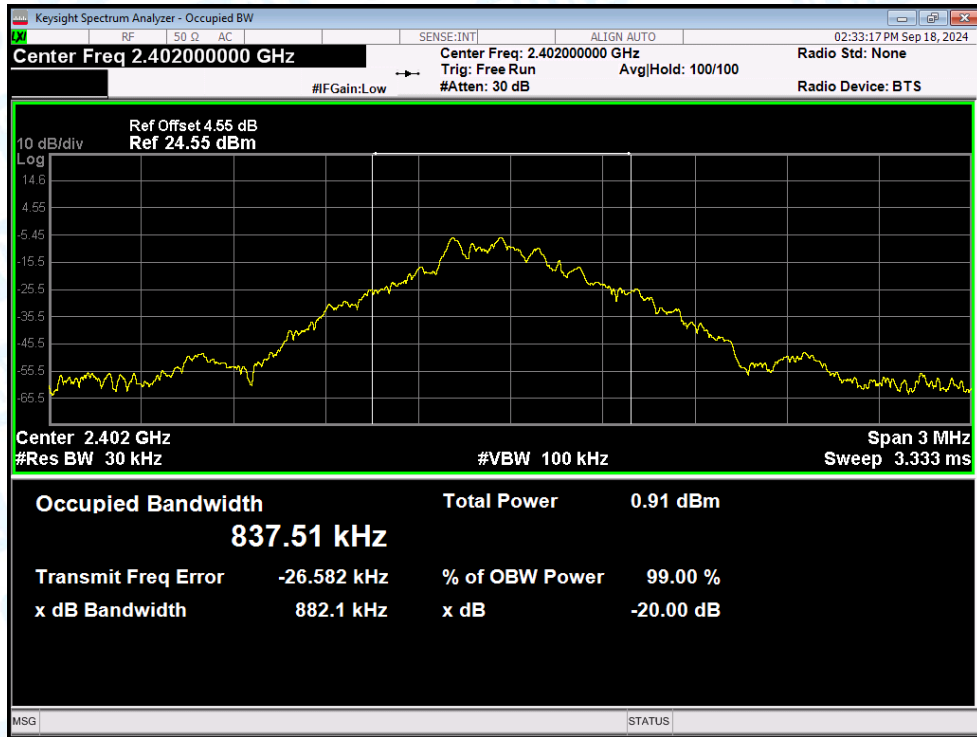


4. Occupied Channel Bandwidth

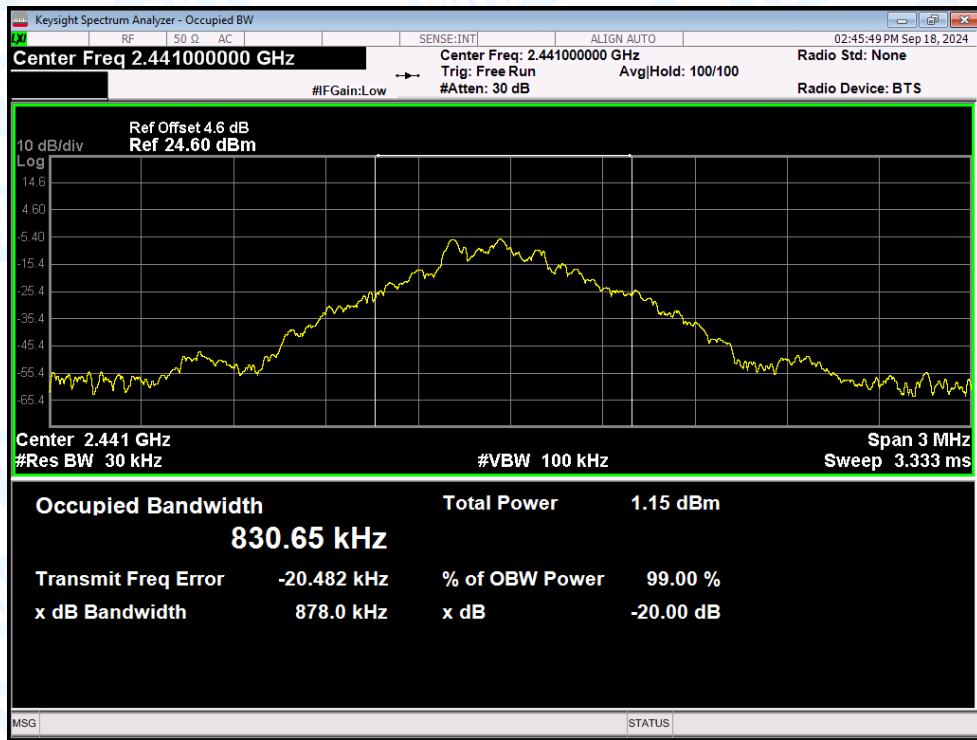
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.838
NVNT	1-DH1	2441	Ant1	0.831
NVNT	1-DH1	2480	Ant1	0.824
NVNT	2-DH1	2402	Ant1	1.176
NVNT	2-DH1	2441	Ant1	1.132
NVNT	2-DH1	2480	Ant1	1.155
NVNT	3-DH1	2402	Ant1	1.156
NVNT	3-DH1	2441	Ant1	1.151
NVNT	3-DH1	2480	Ant1	1.153

Test Graphs

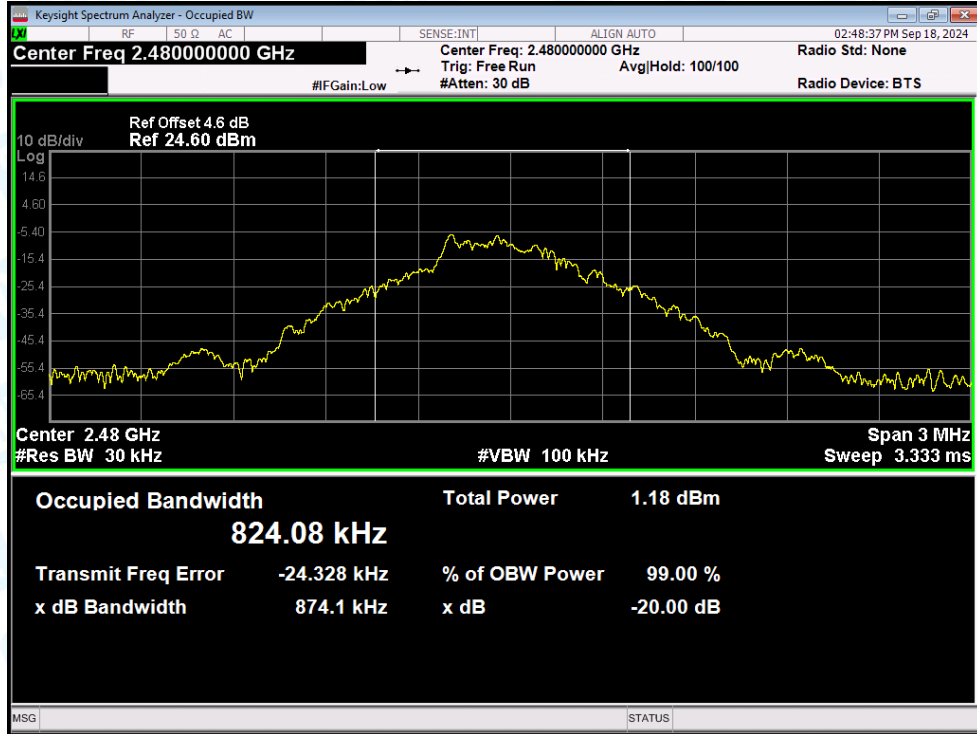
OBW NVNT 1-DH1 2402MHz Ant1



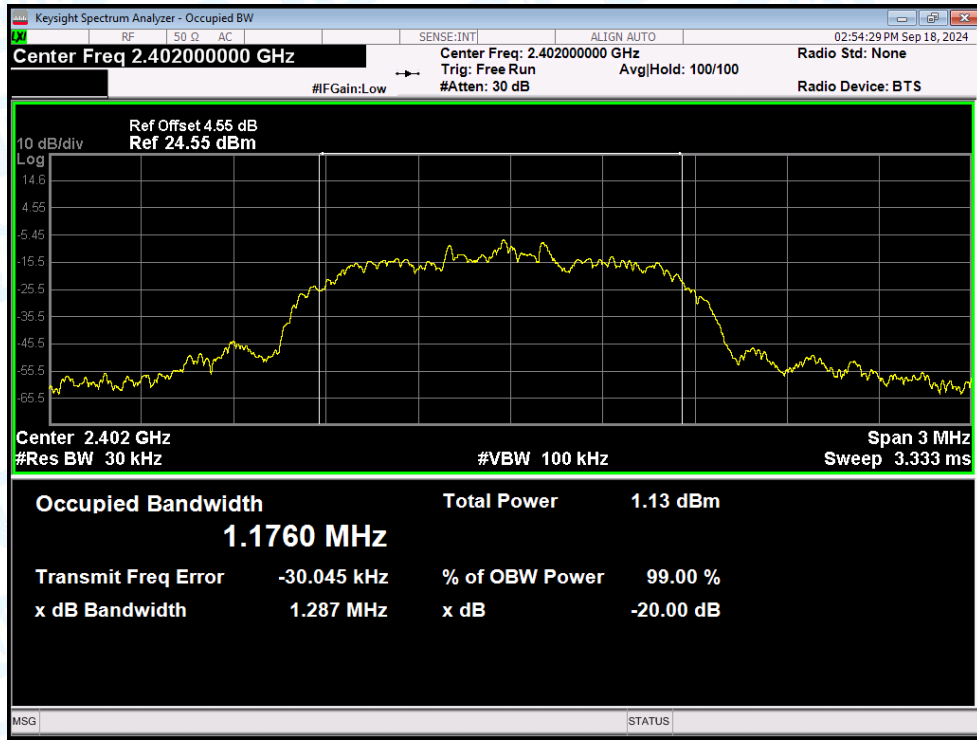
OBW NVNT 1-DH1 2441MHz Ant1



OBW NVNT 1-DH1 2480MHz Ant1



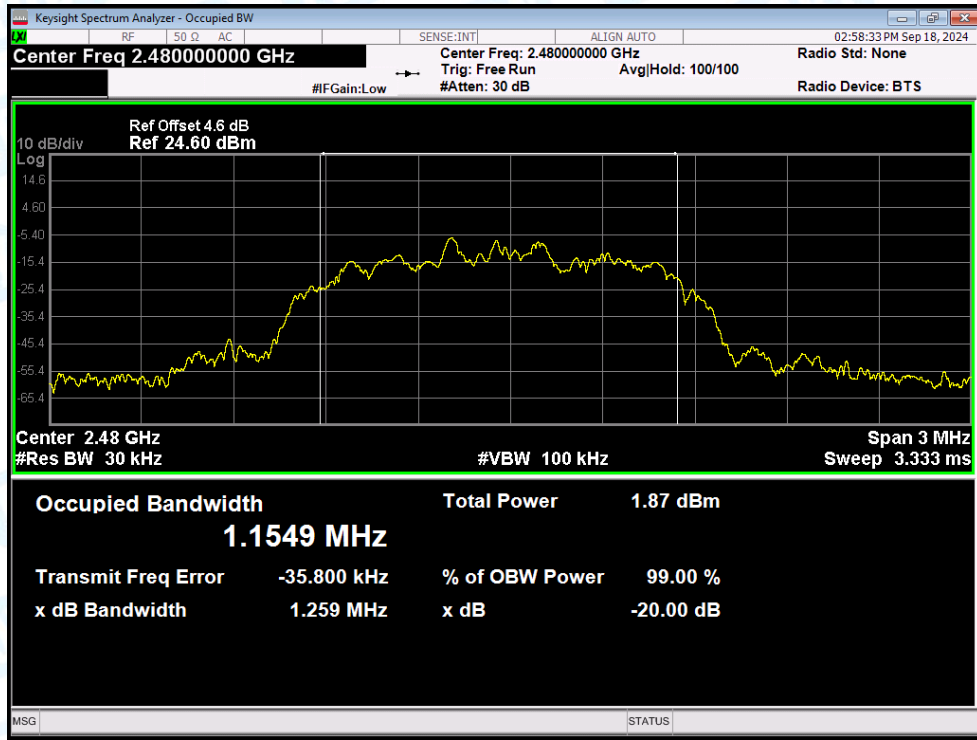
OBW NVNT 2-DH1 2402MHz Ant1



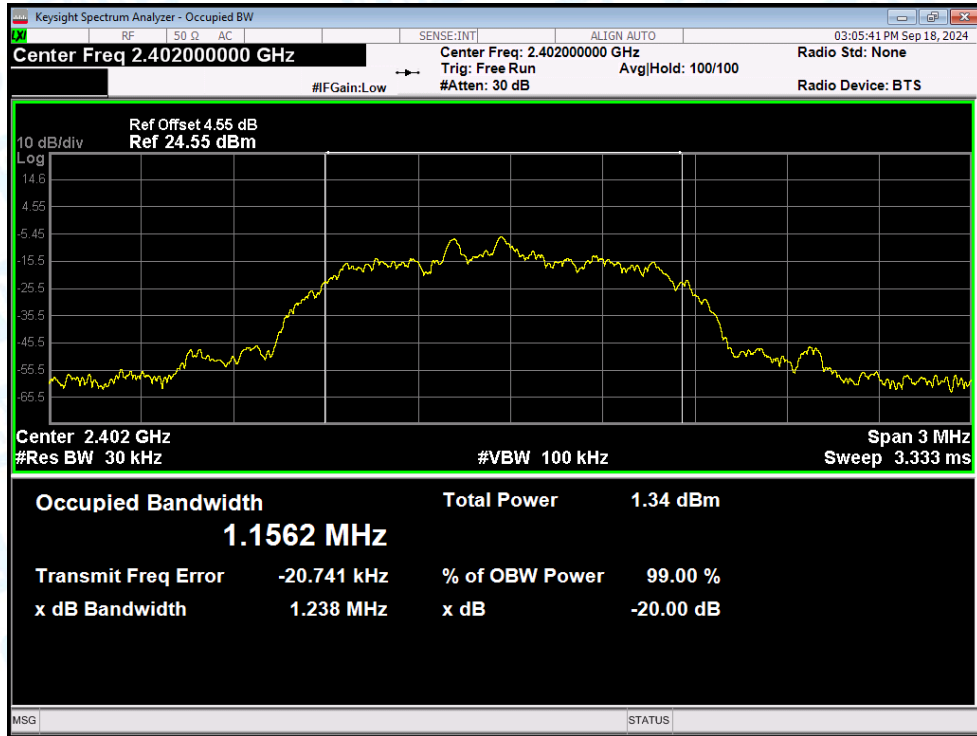
OBW NVNT 2-DH1 2441MHz Ant1



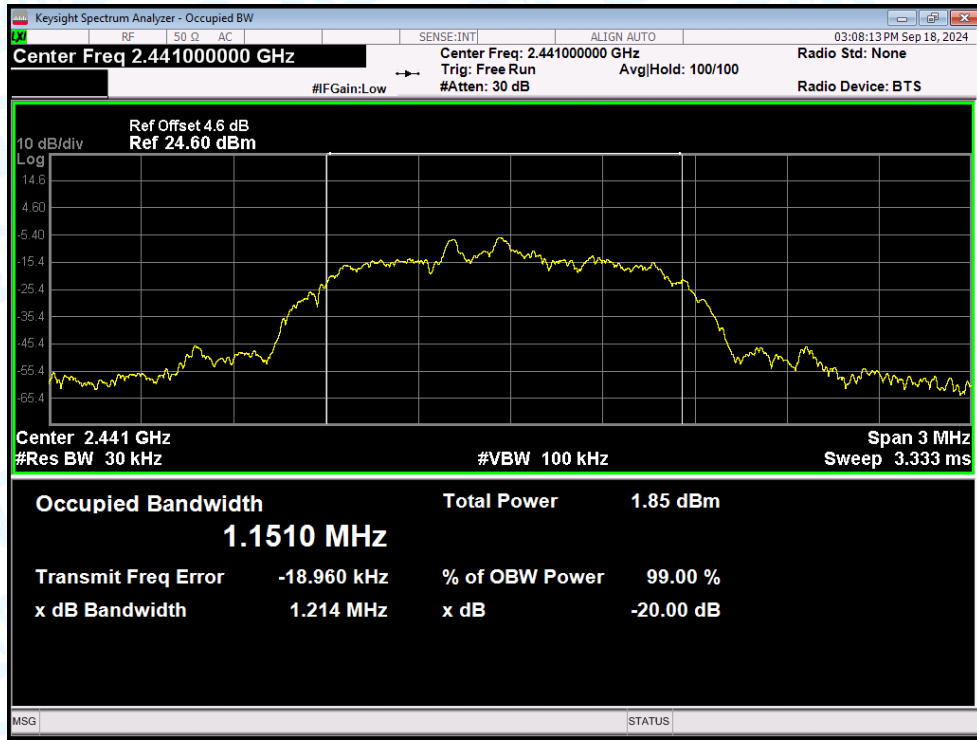
OBW NVNT 2-DH1 2480MHz Ant1

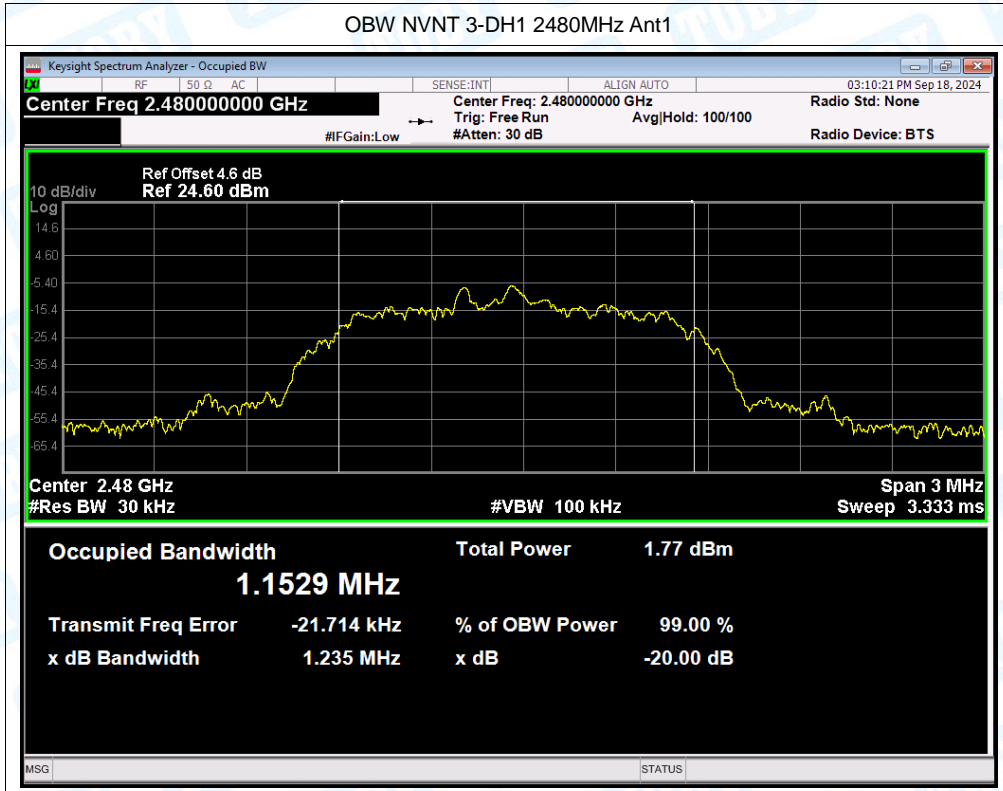


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



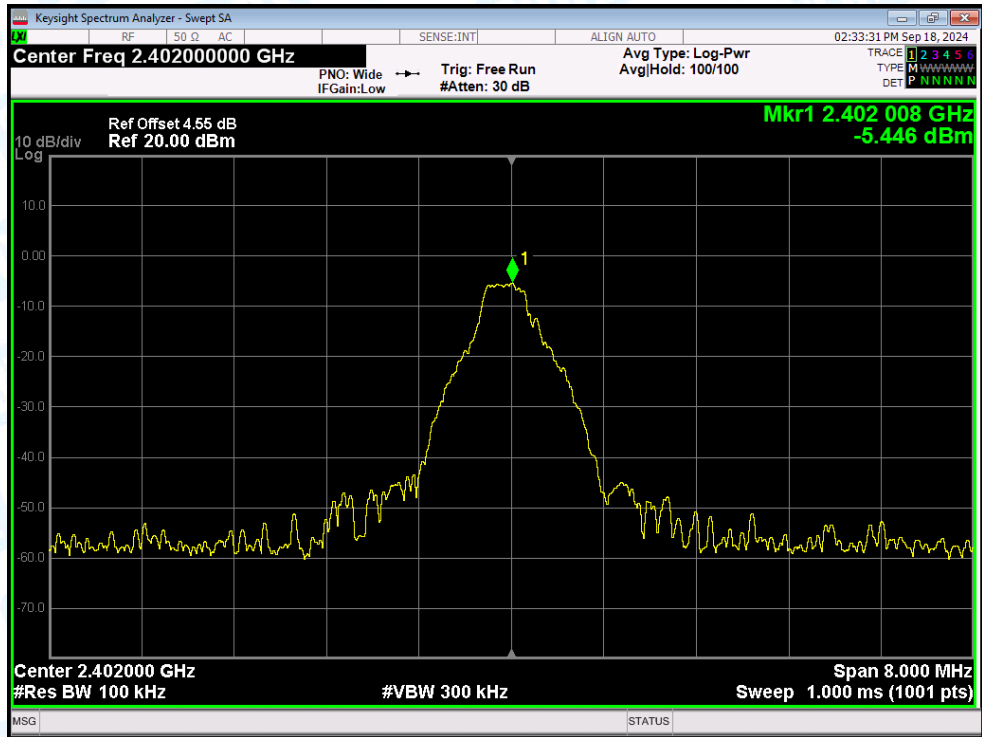


5. Band Edge

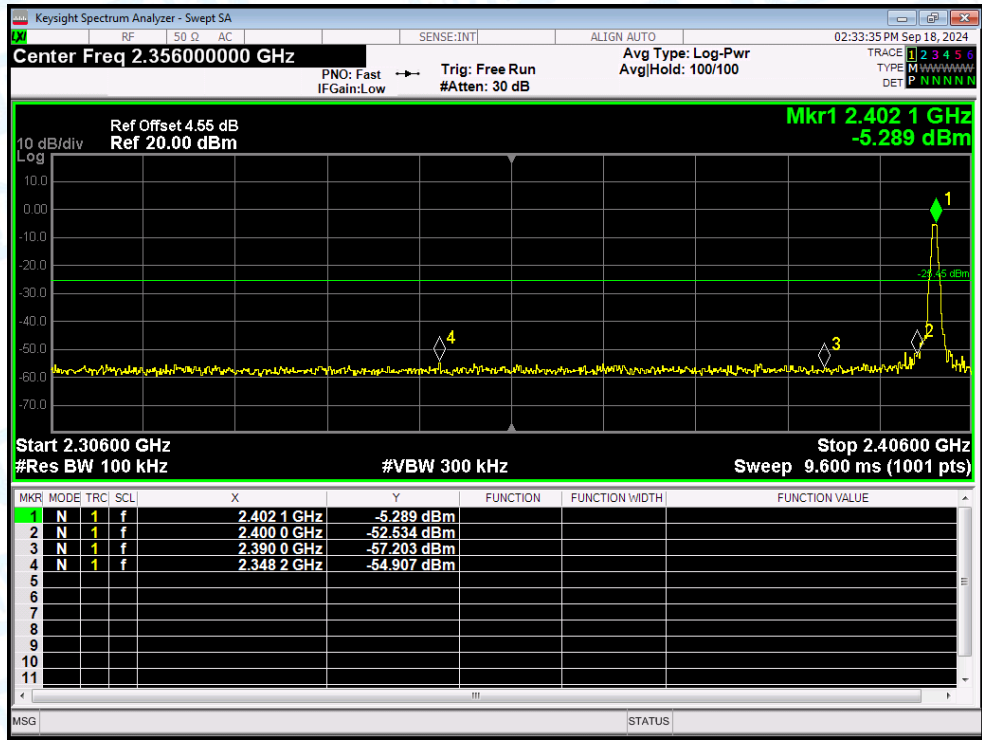
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-49.46	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-47.74	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-48.66	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-47.93	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-49.93	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-48.87	-20	Pass

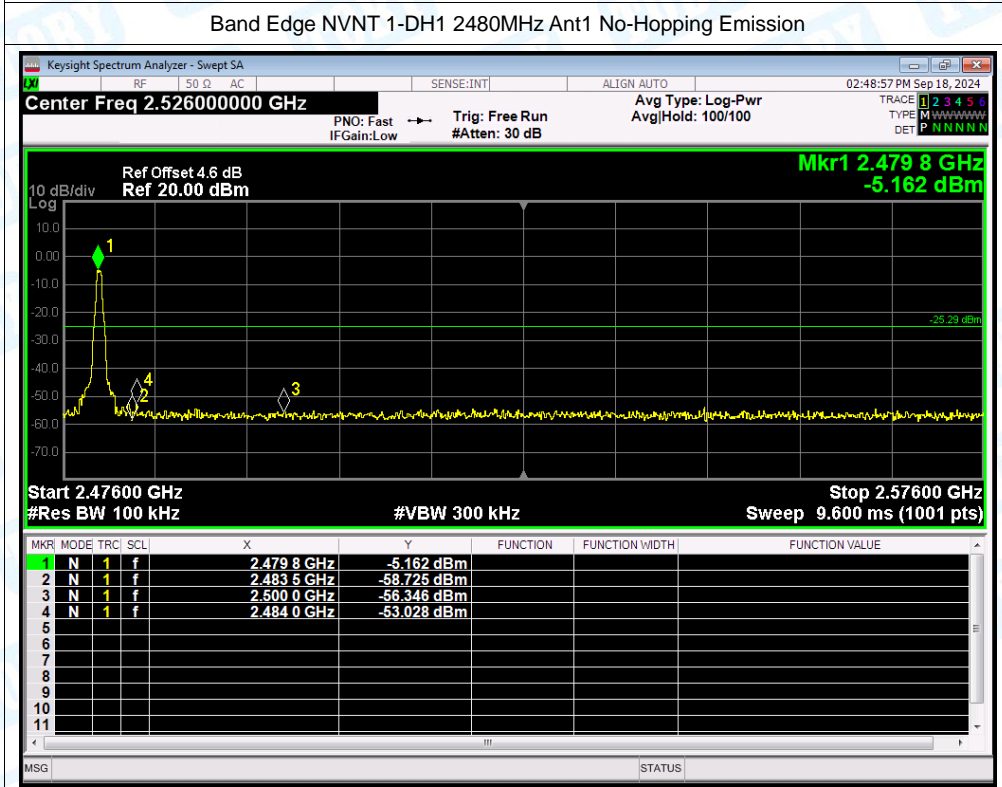
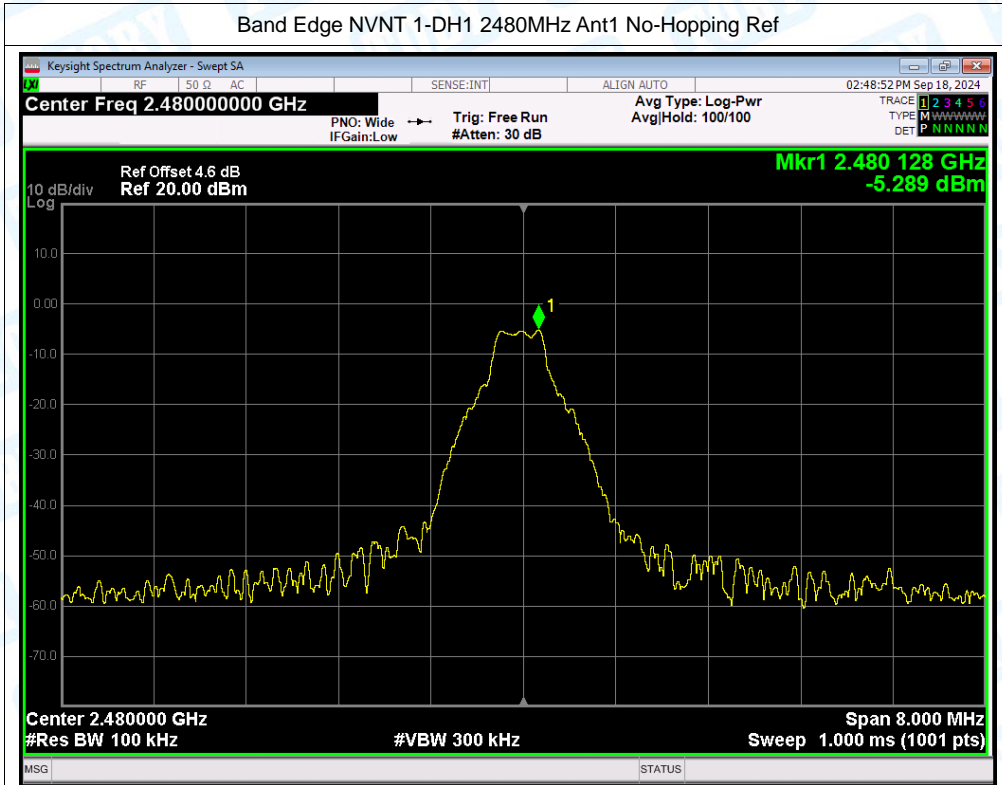
Test Graphs

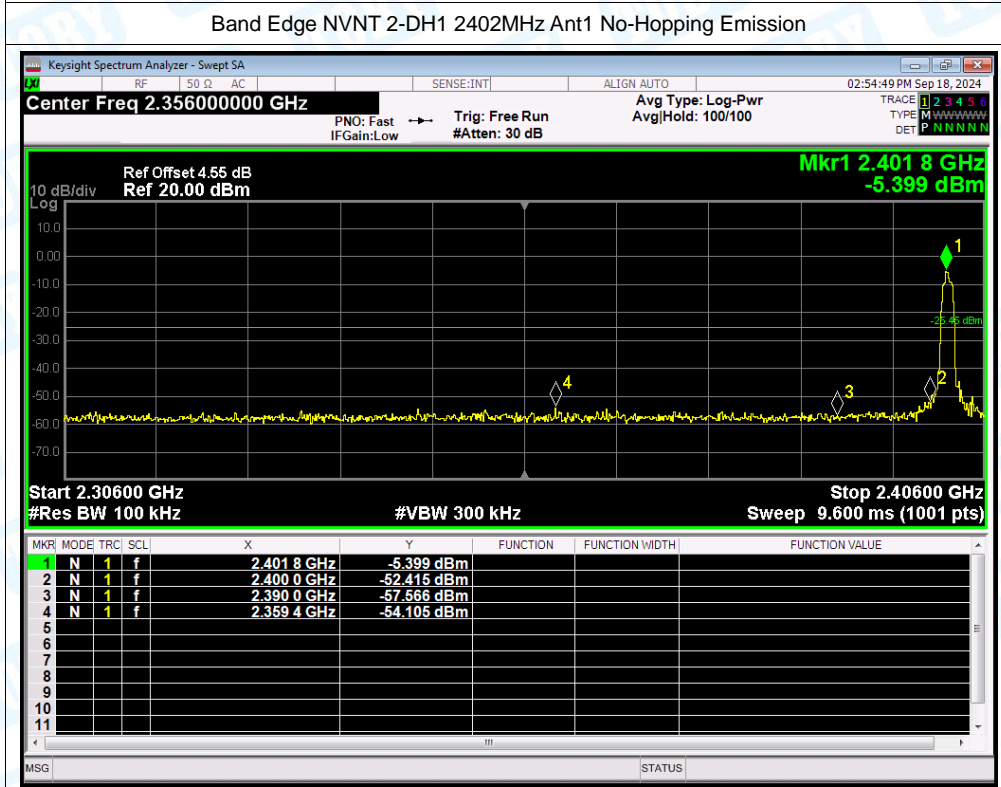
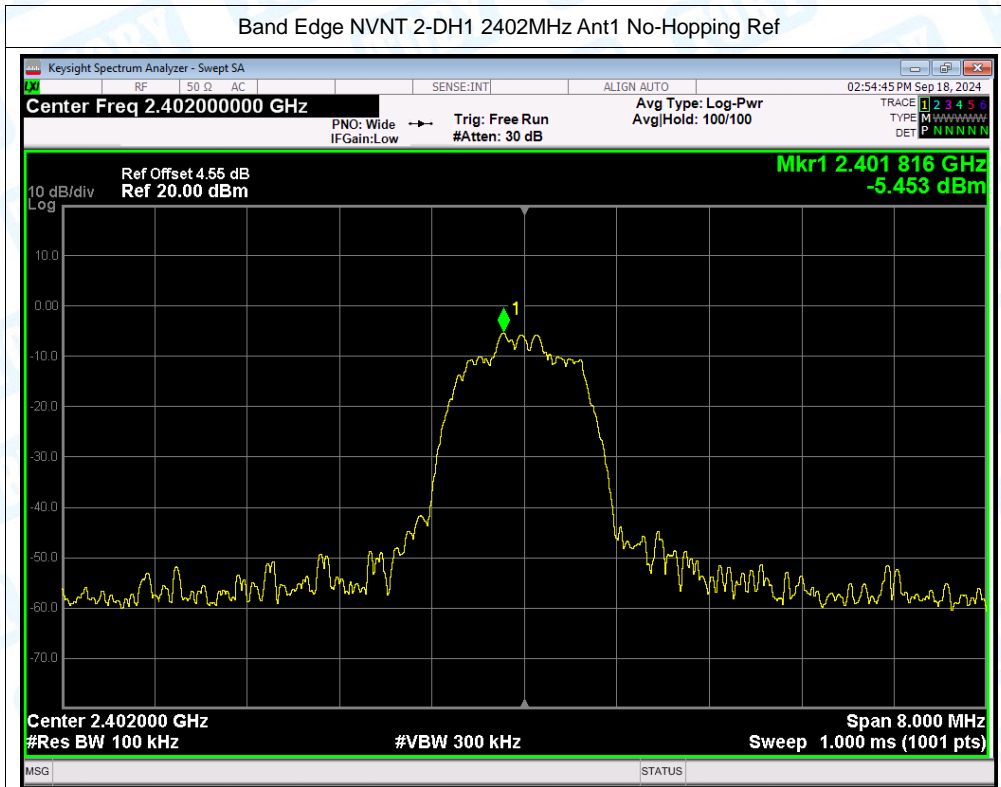
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref

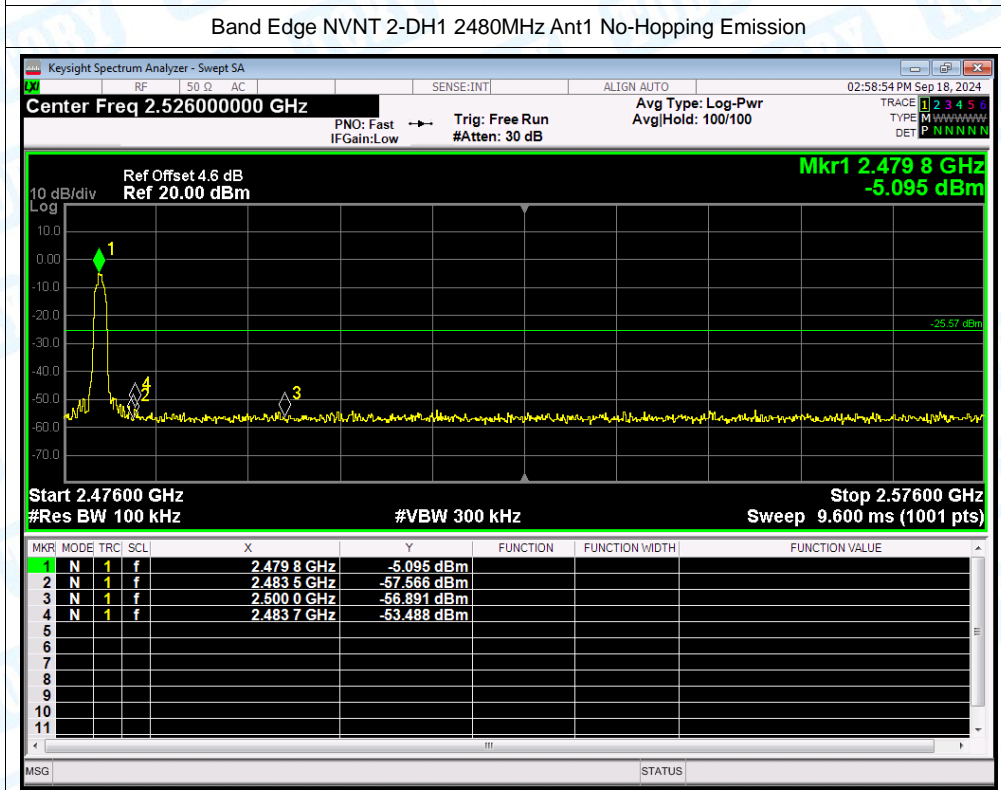
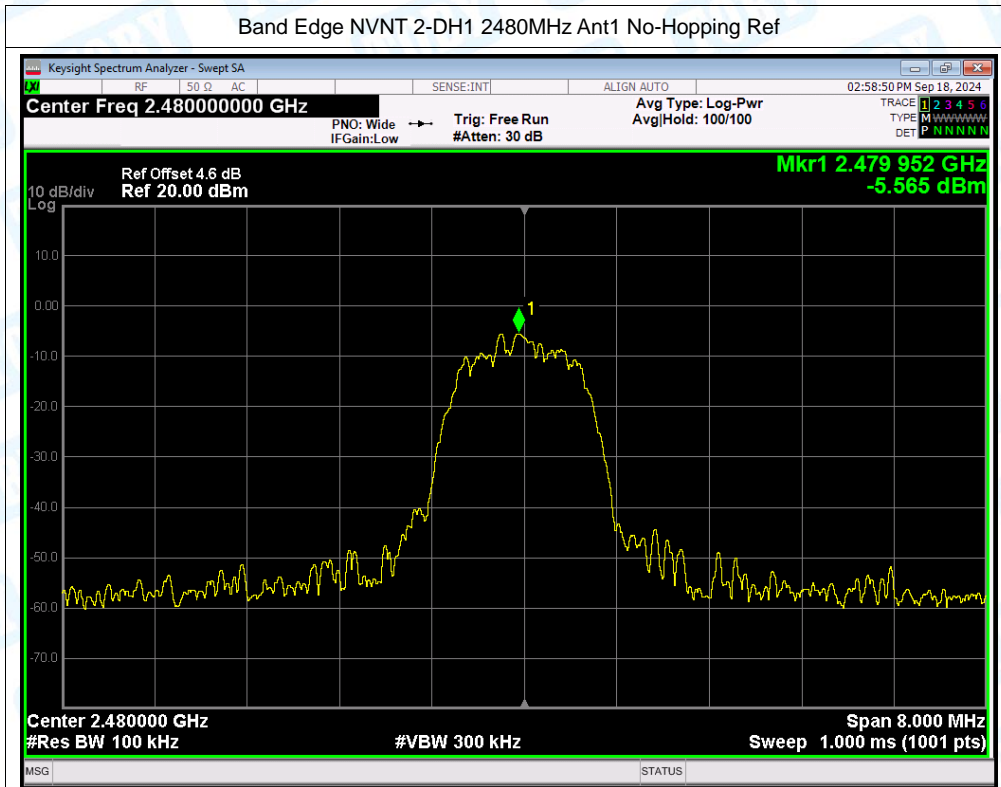


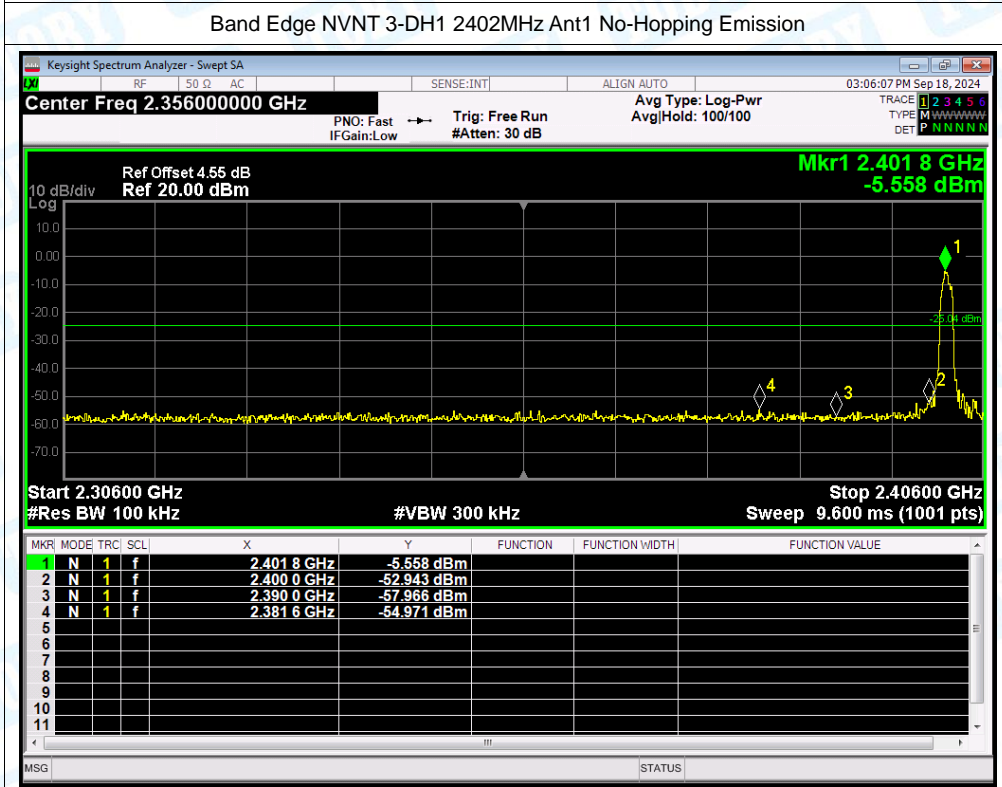
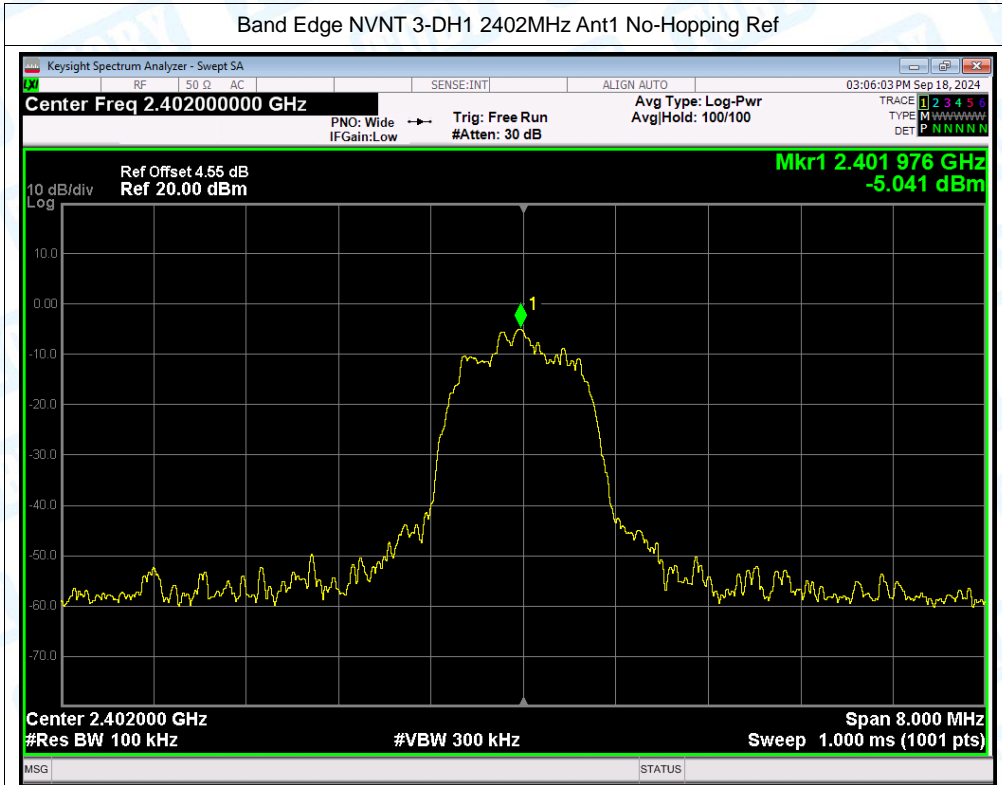
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

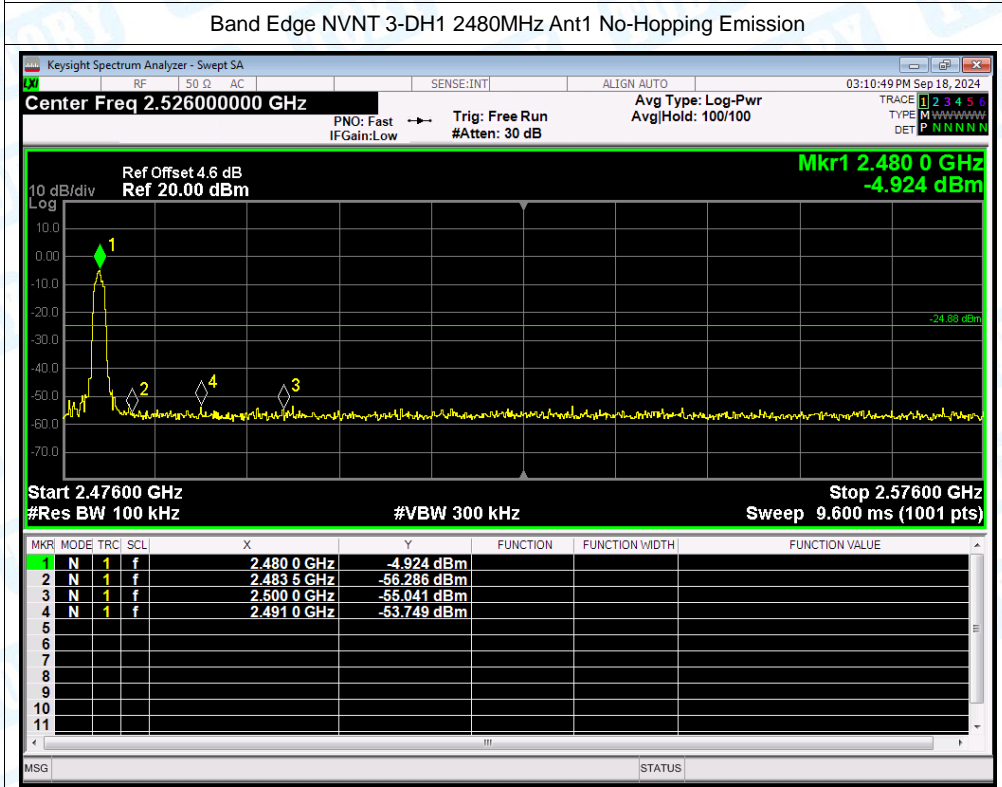
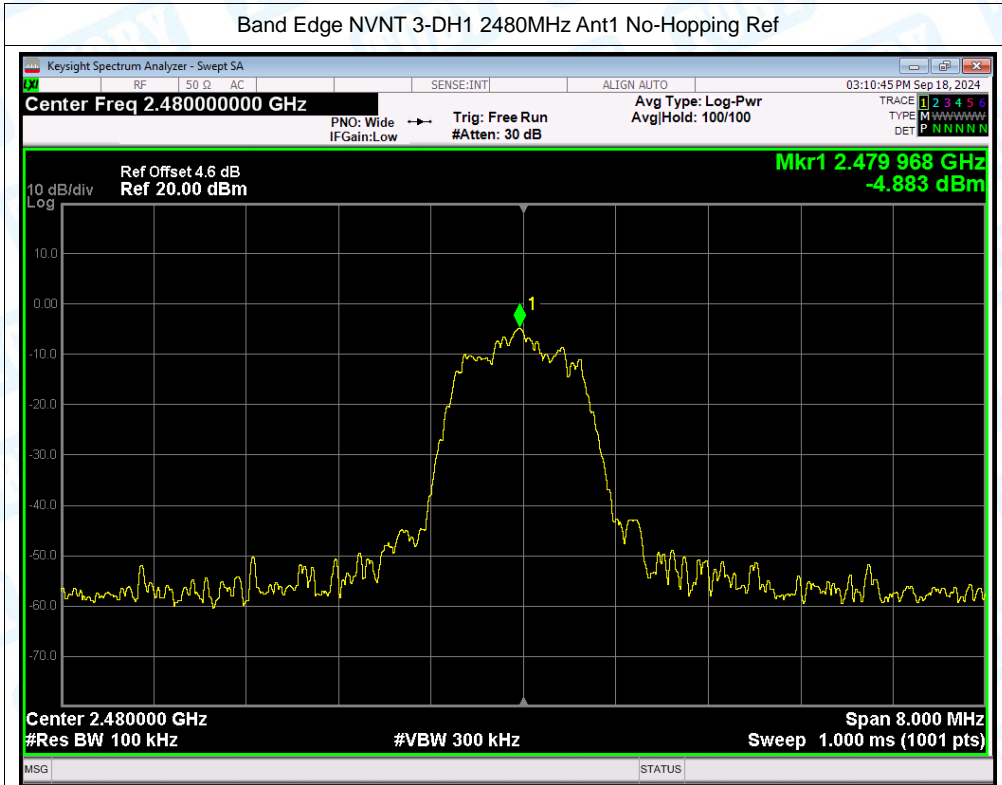










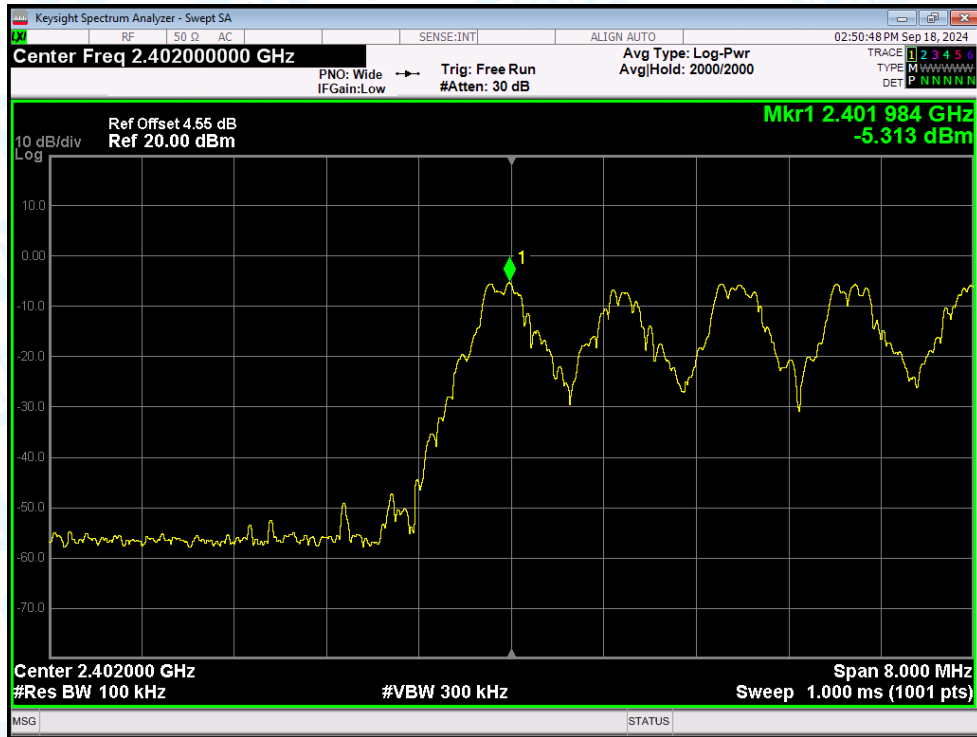


6. Band Edge(Hopping)

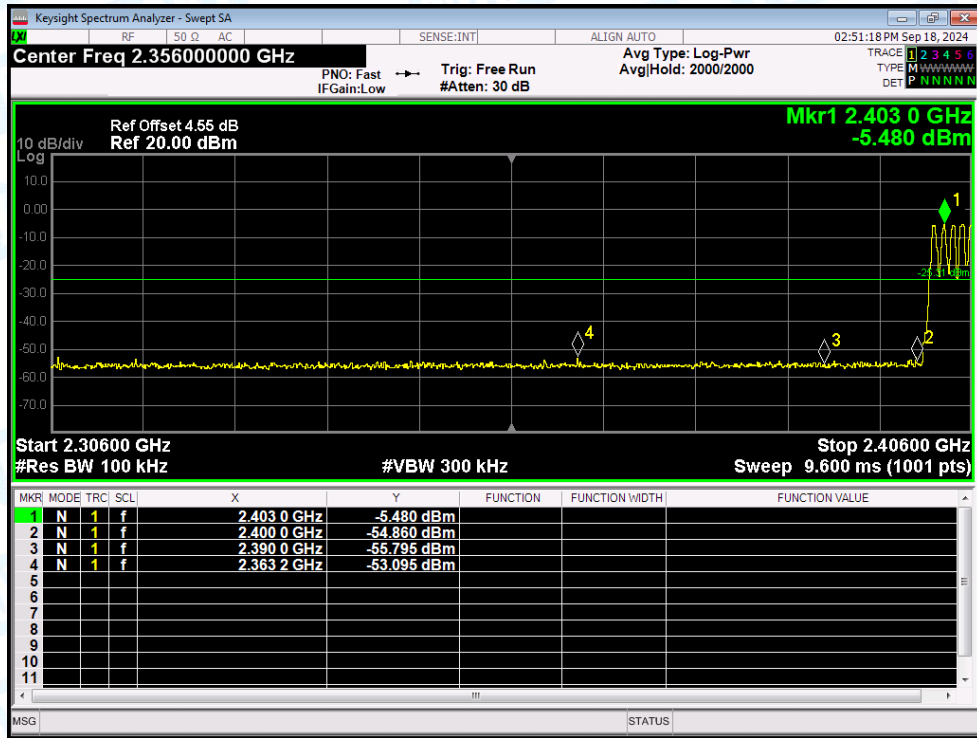
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-47.78	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-48.67	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-47.07	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-48.16	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-48.78	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-48.80	-20	Pass

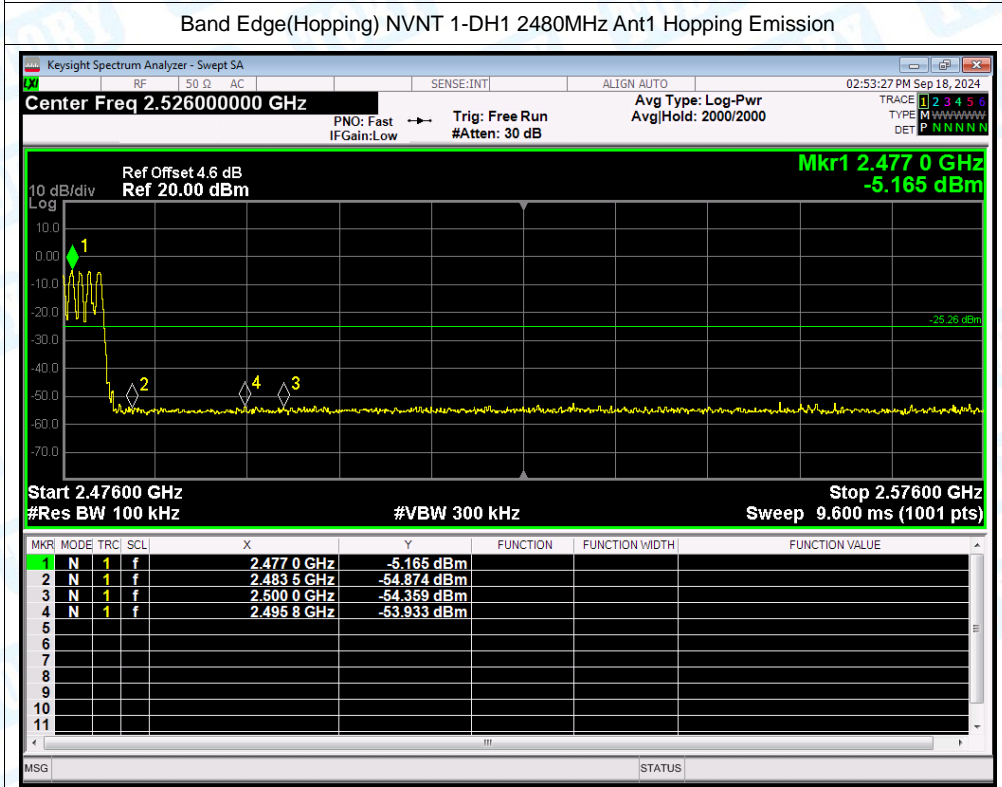
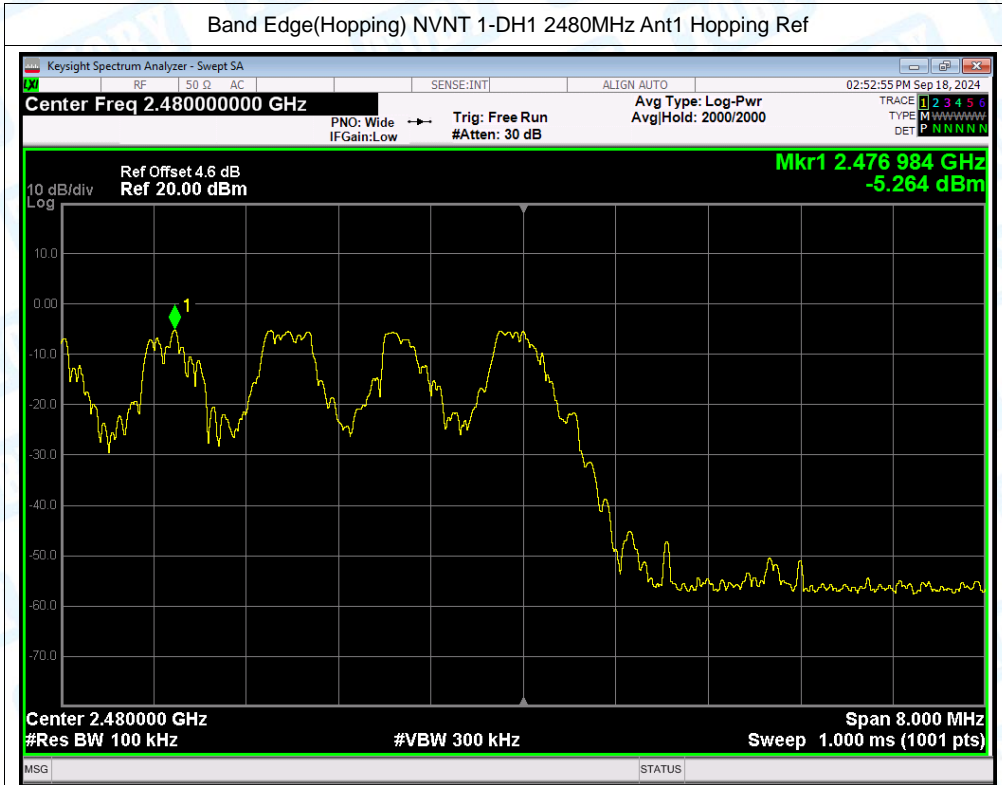
Test Graphs

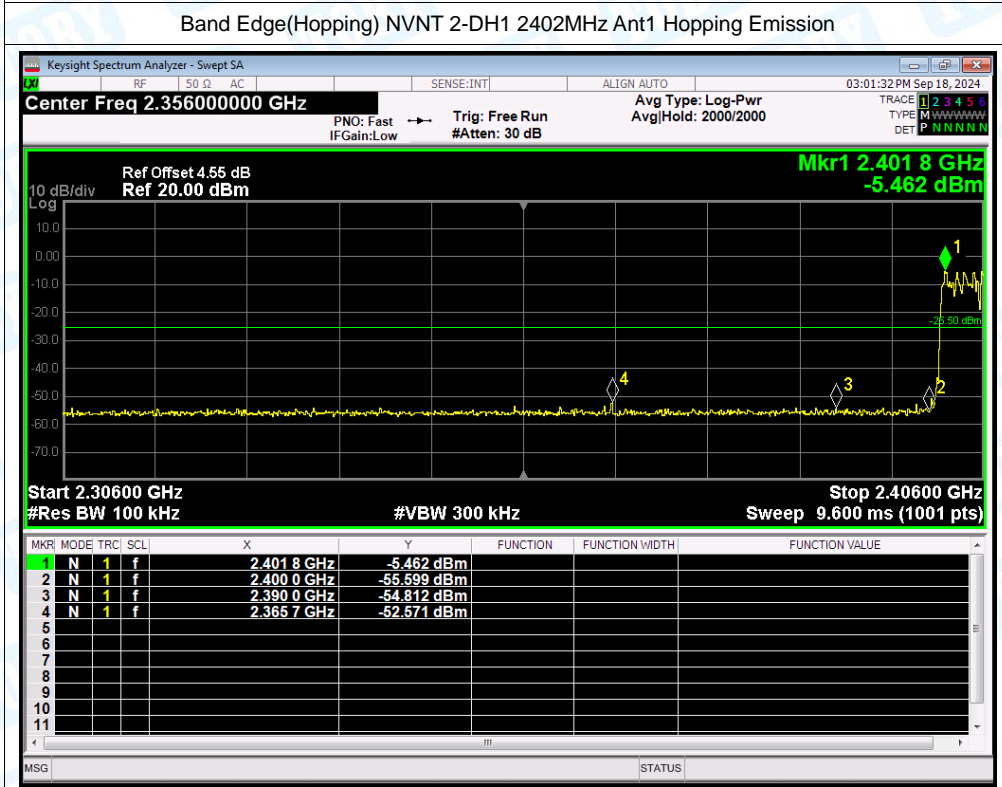
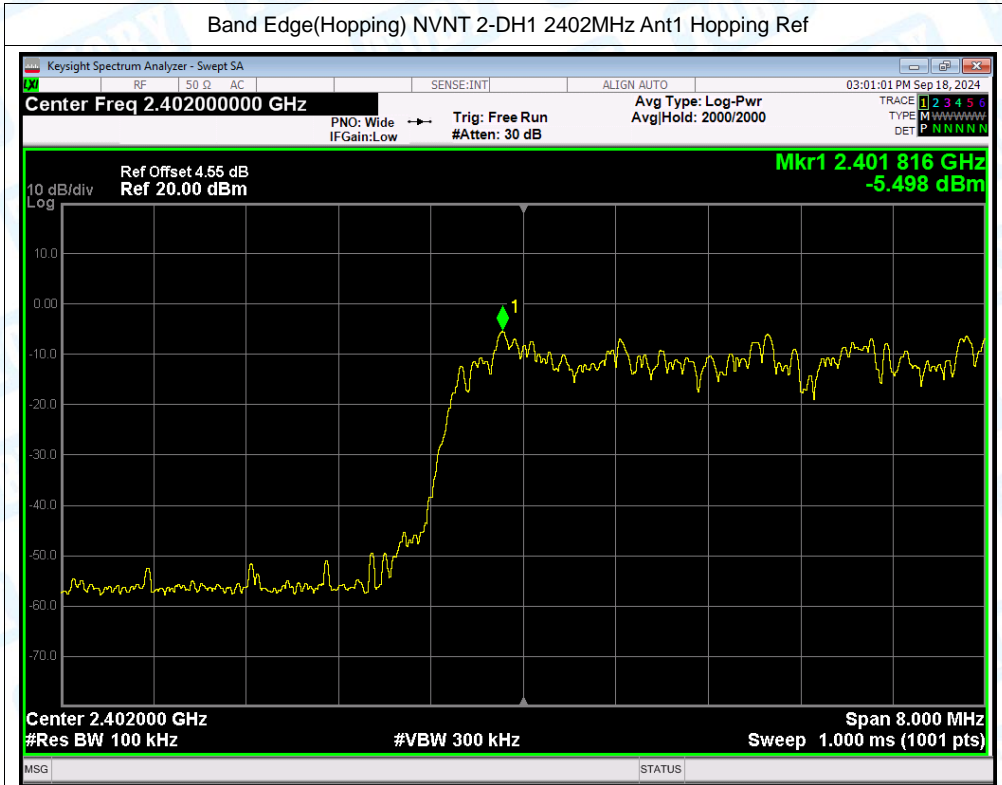
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

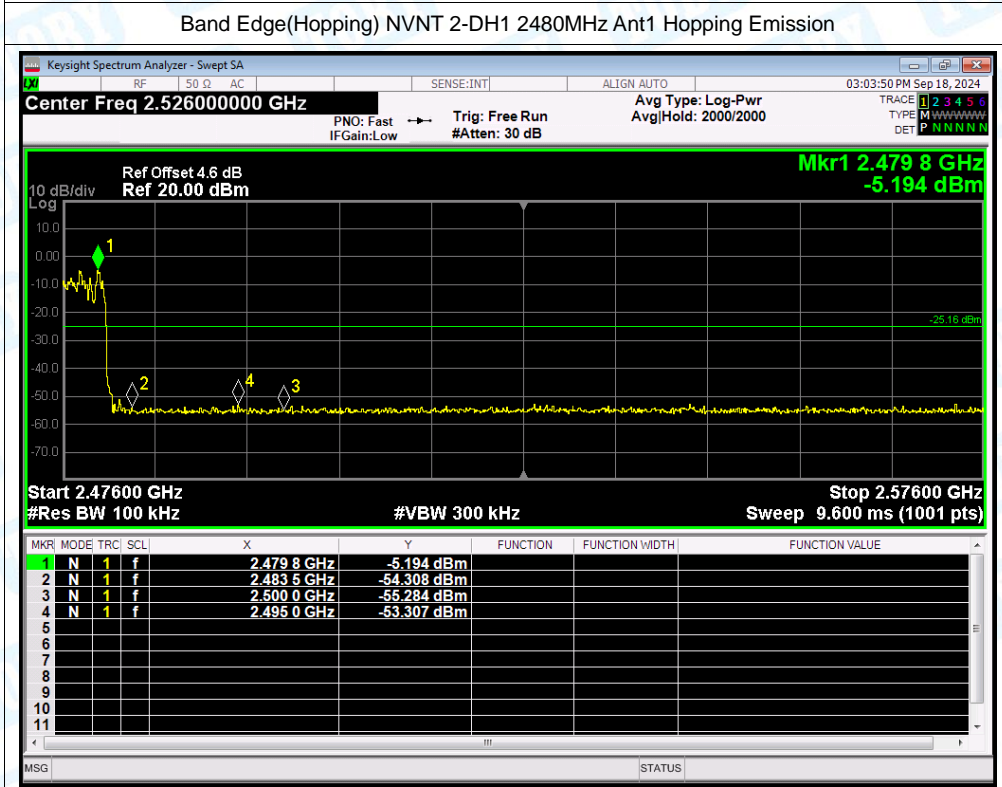
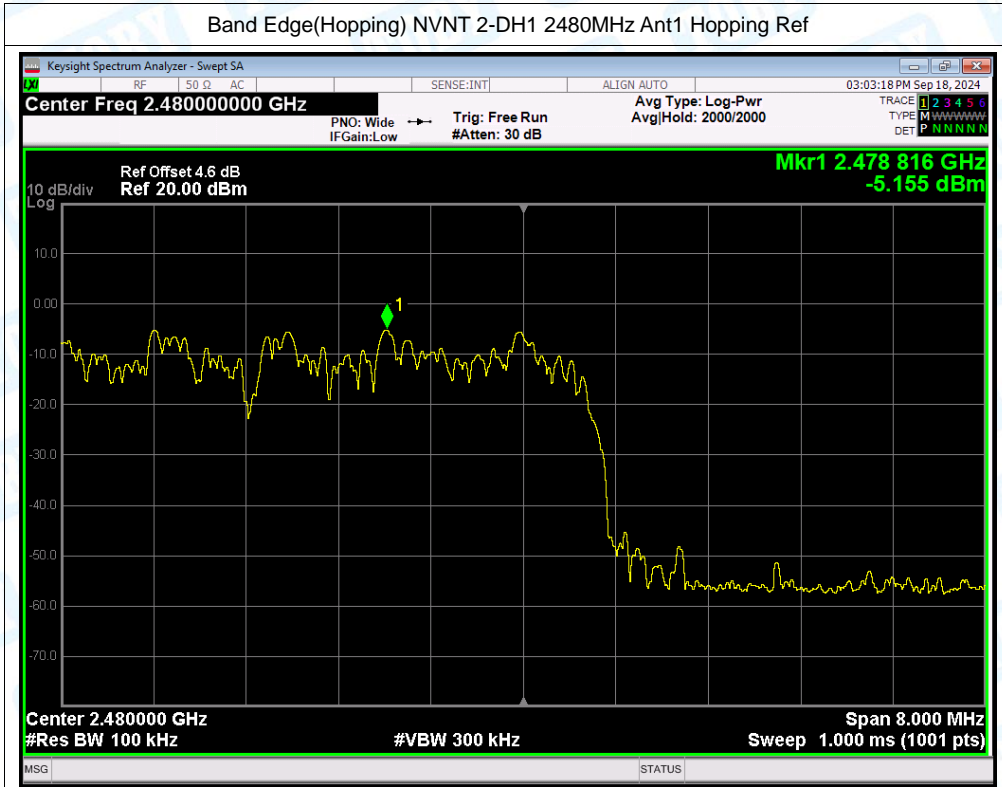


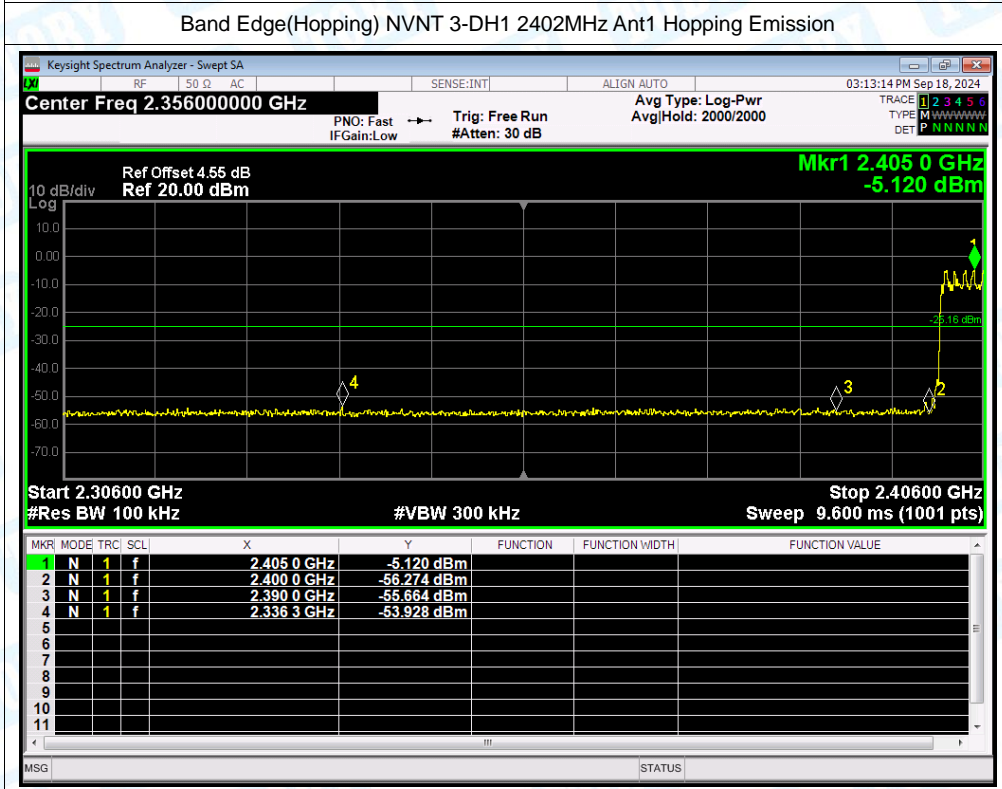
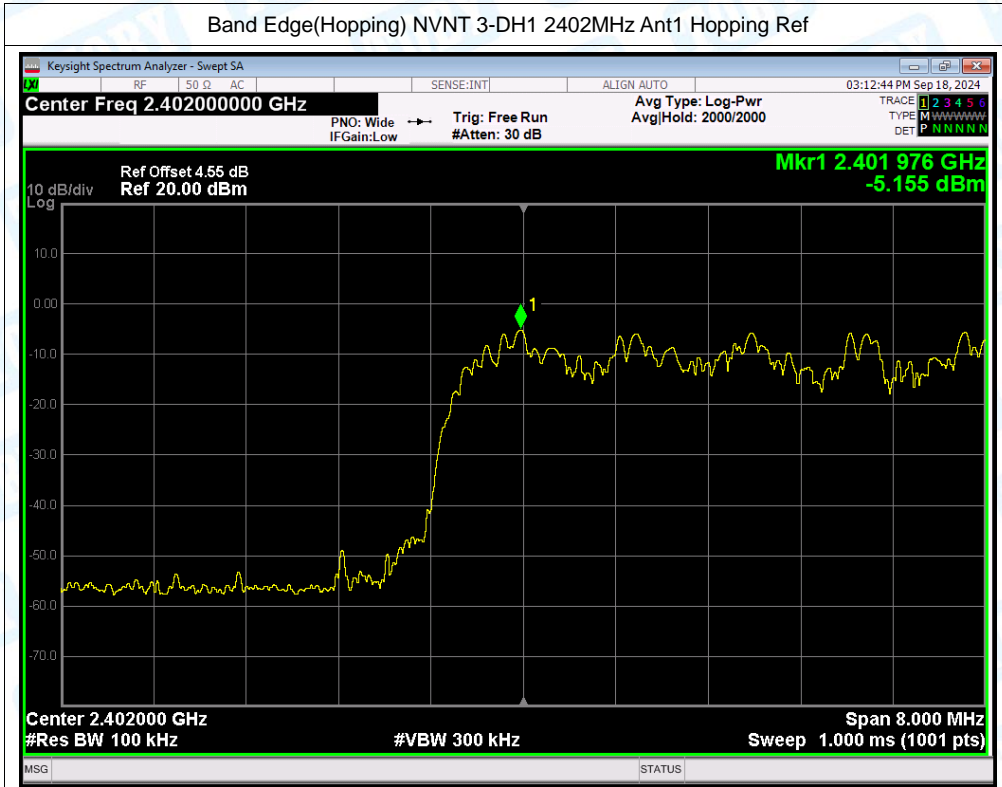
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

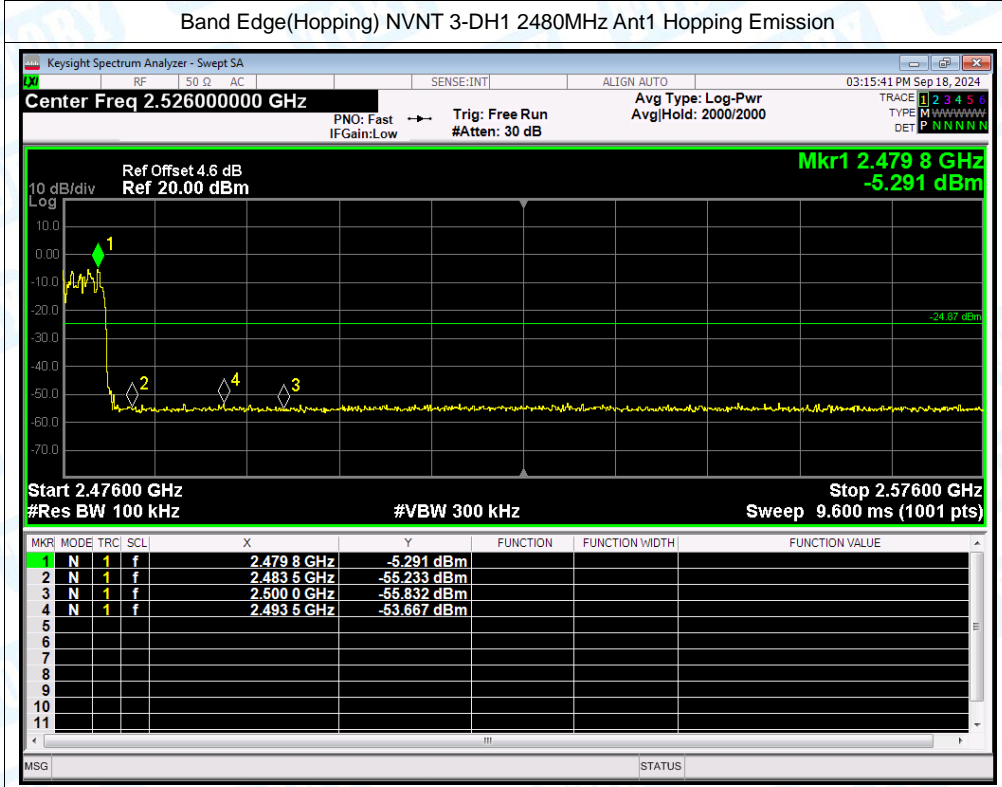
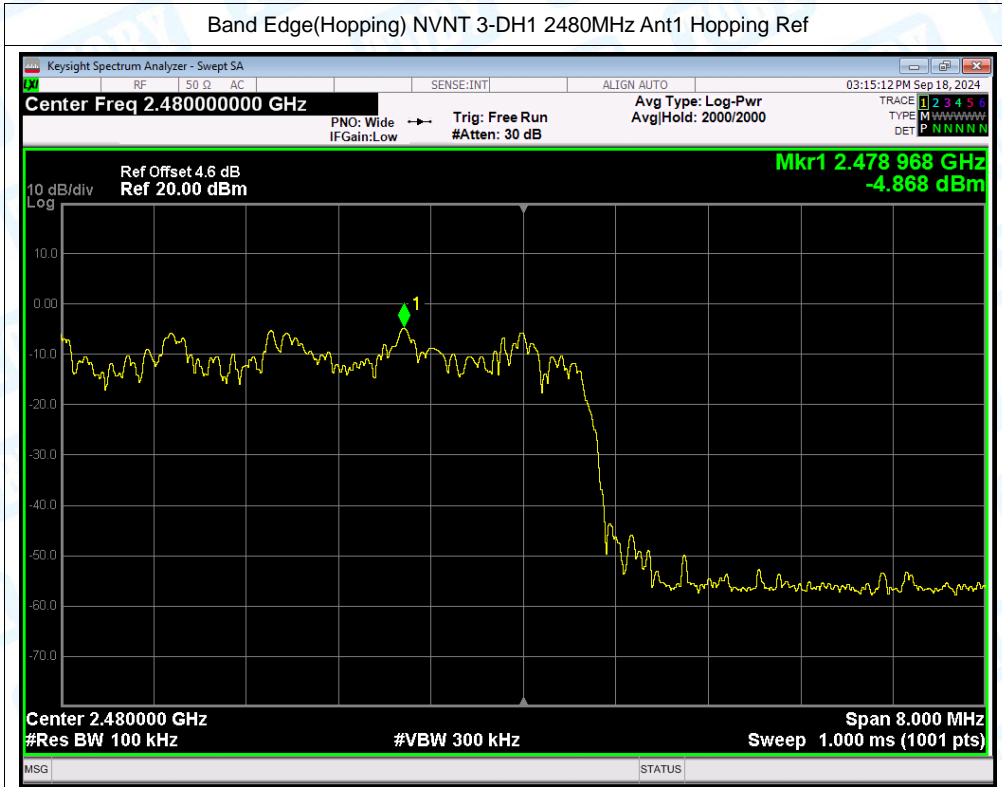










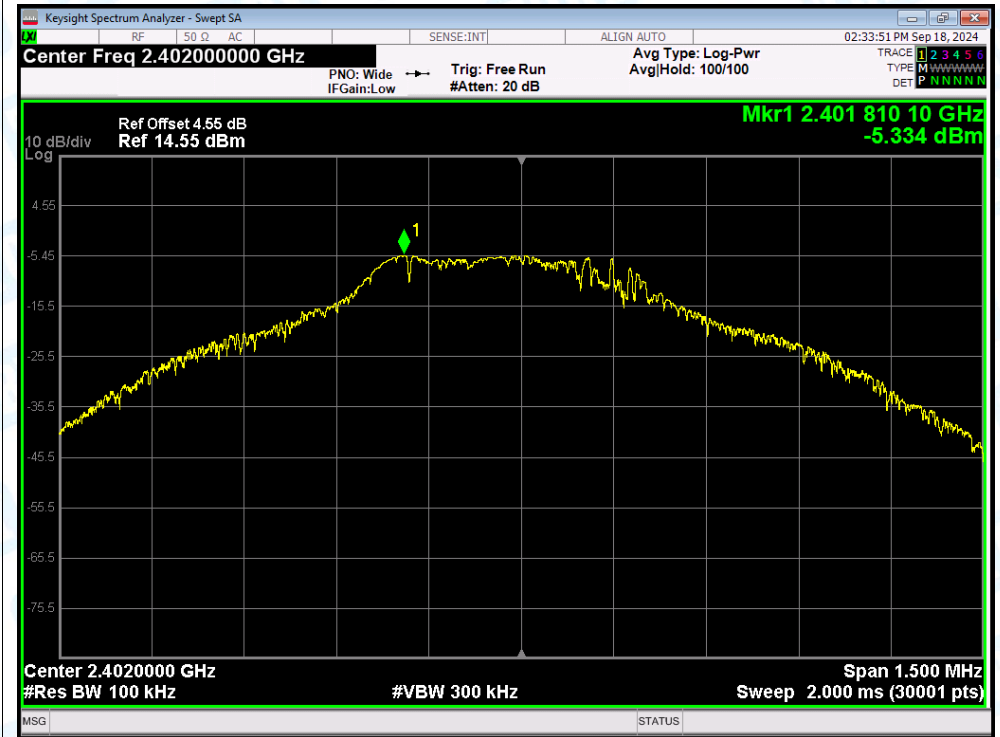


7. Conducted RF Spurious Emission

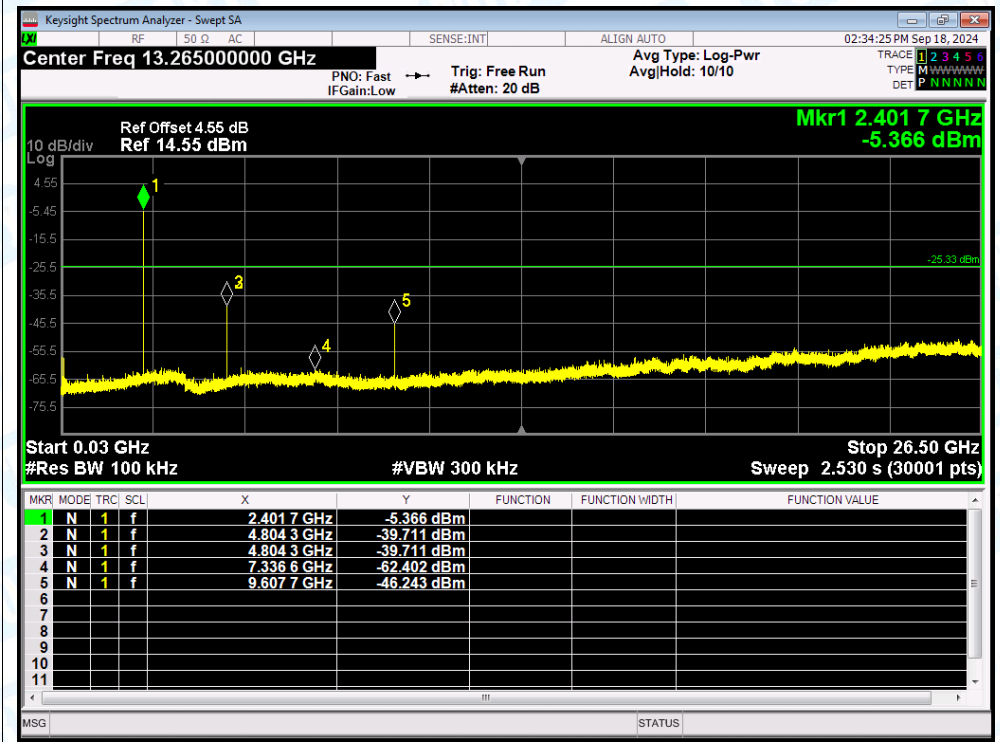
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-34.38	-20	Pass
NVNT	1-DH1	2441	Ant1	-35.65	-20	Pass
NVNT	1-DH1	2480	Ant1	-35.82	-20	Pass
NVNT	2-DH1	2402	Ant1	-34.11	-20	Pass
NVNT	2-DH1	2441	Ant1	-36.14	-20	Pass
NVNT	2-DH1	2480	Ant1	-34.44	-20	Pass
NVNT	3-DH1	2402	Ant1	-35.41	-20	Pass
NVNT	3-DH1	2441	Ant1	-34.34	-20	Pass
NVNT	3-DH1	2480	Ant1	-37.98	-20	Pass

Test Graphs

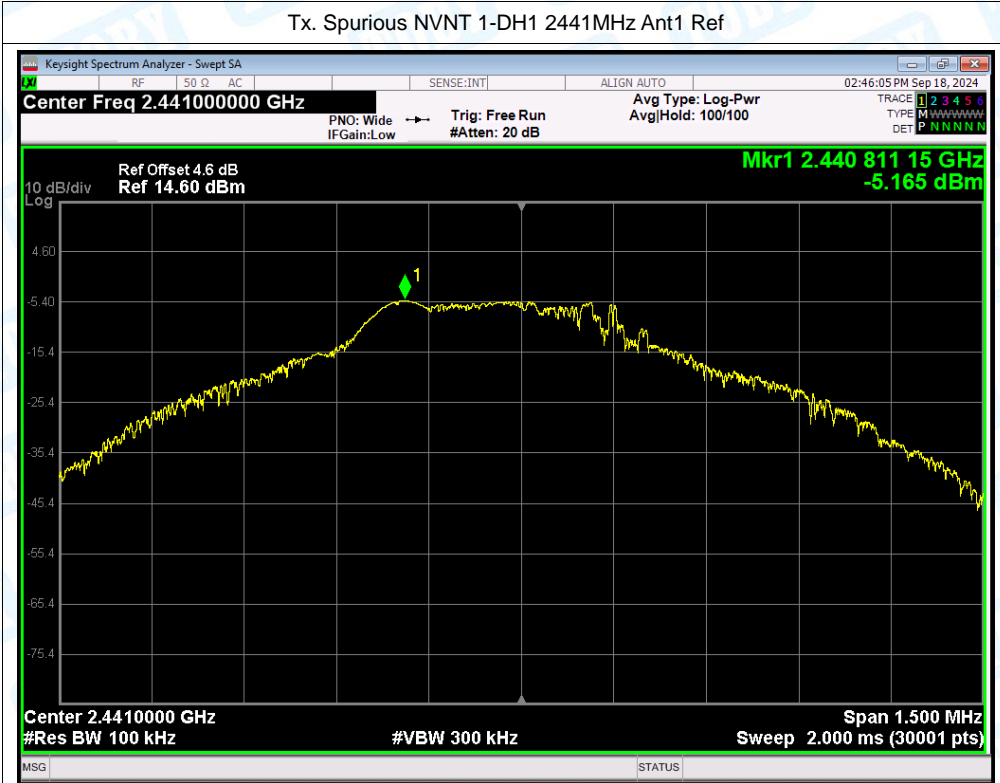
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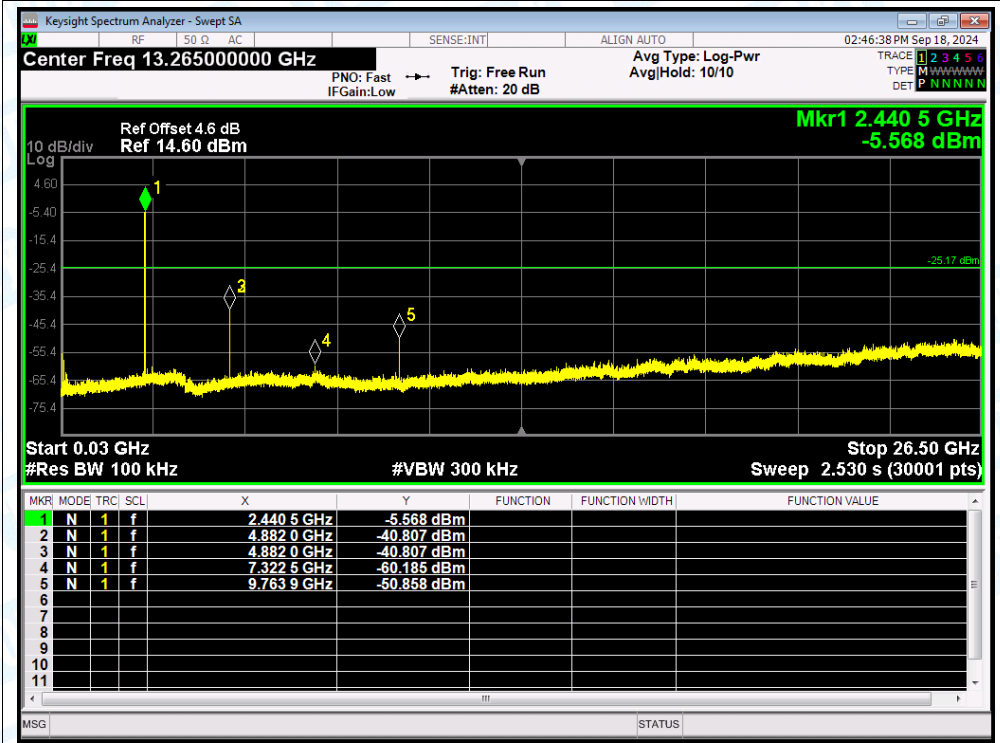
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



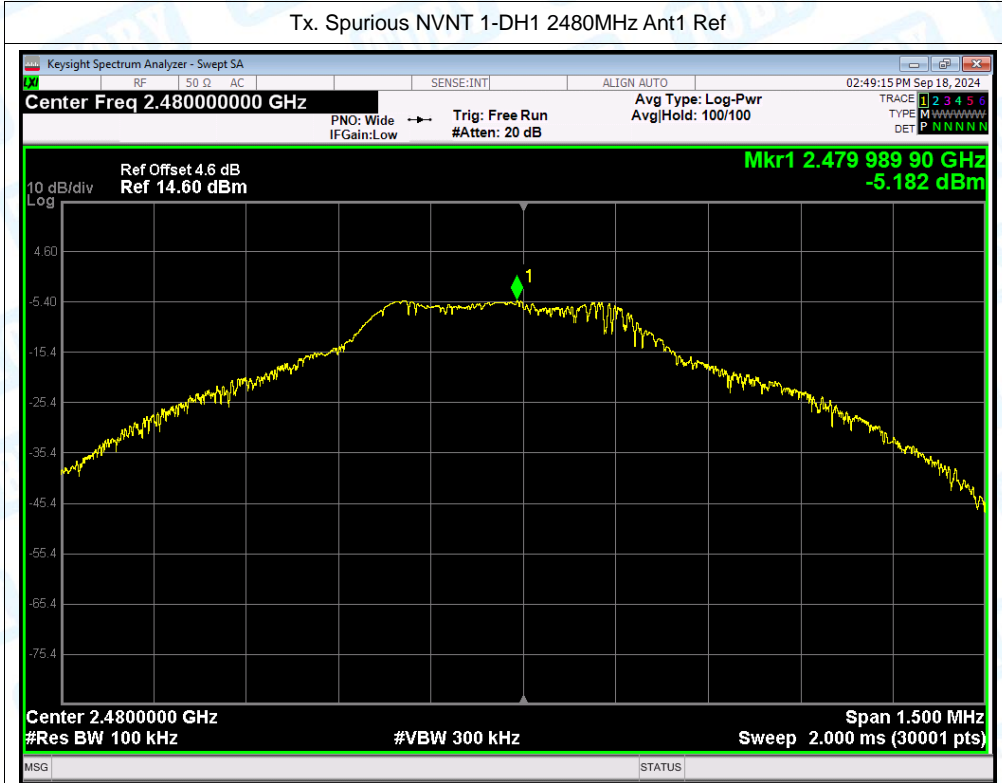
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



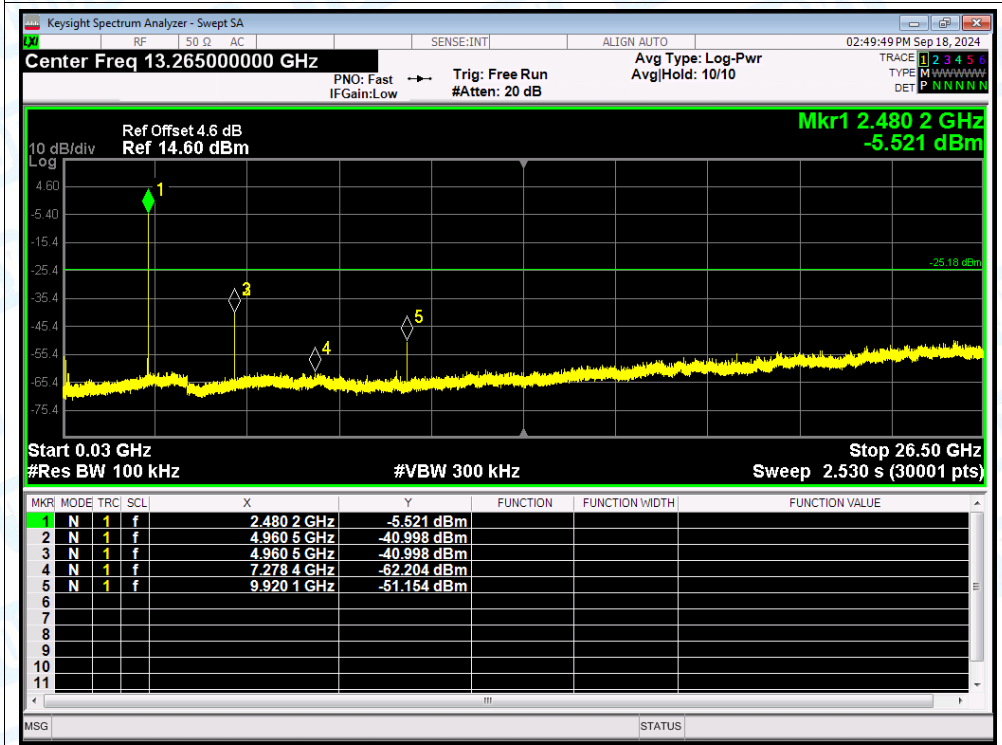
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



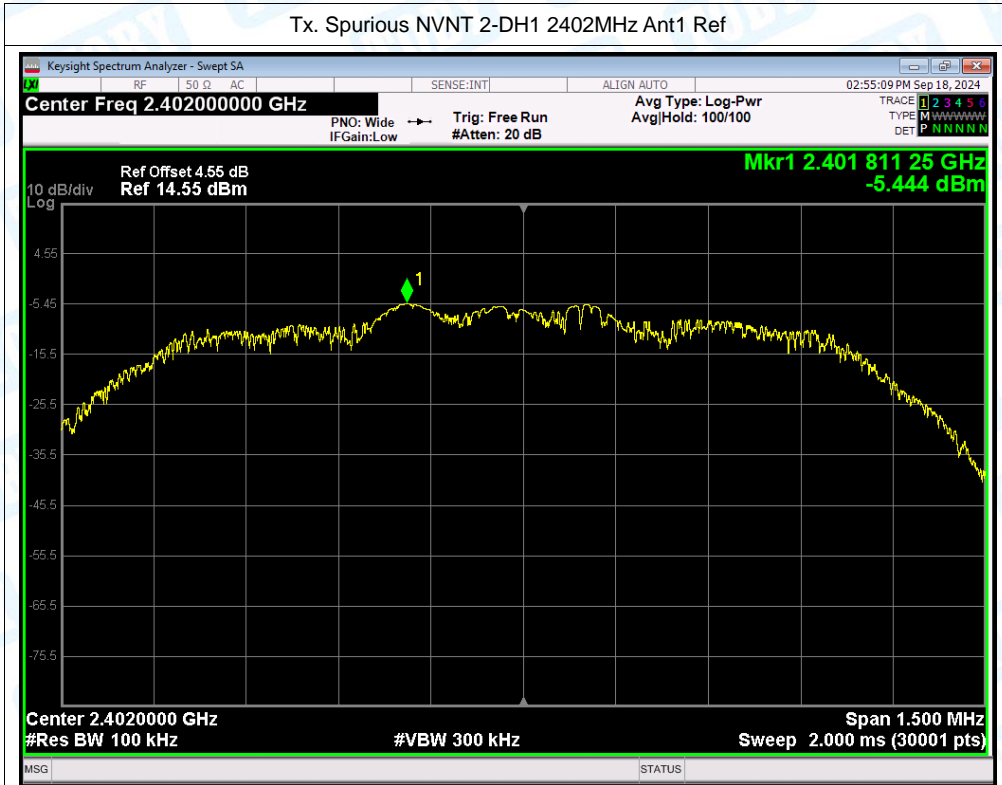
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



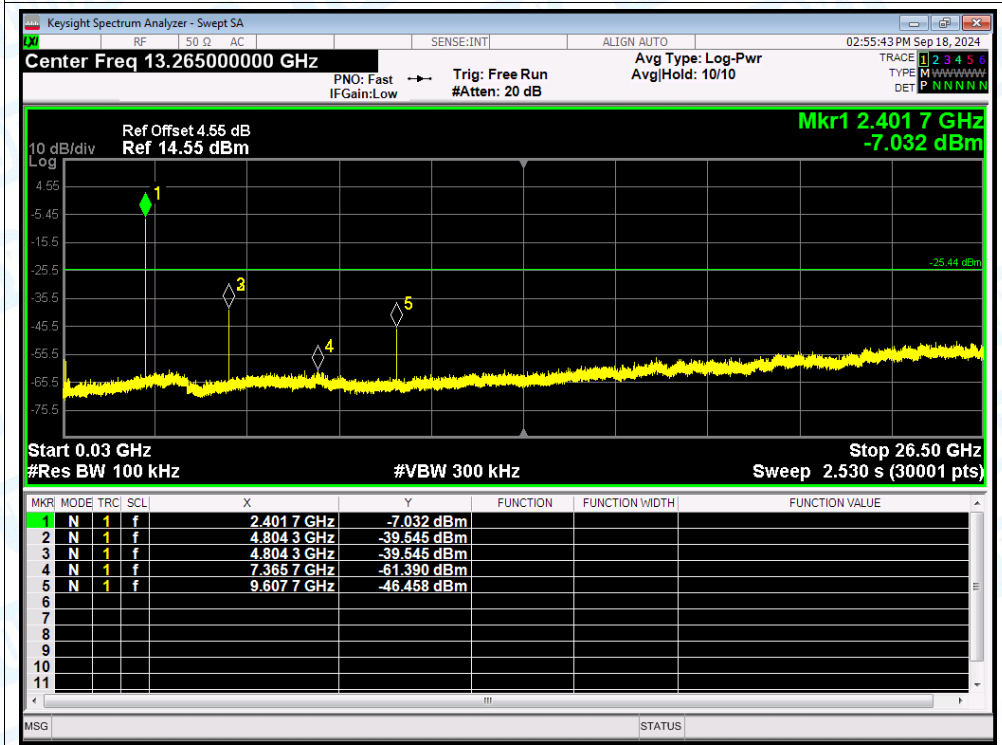
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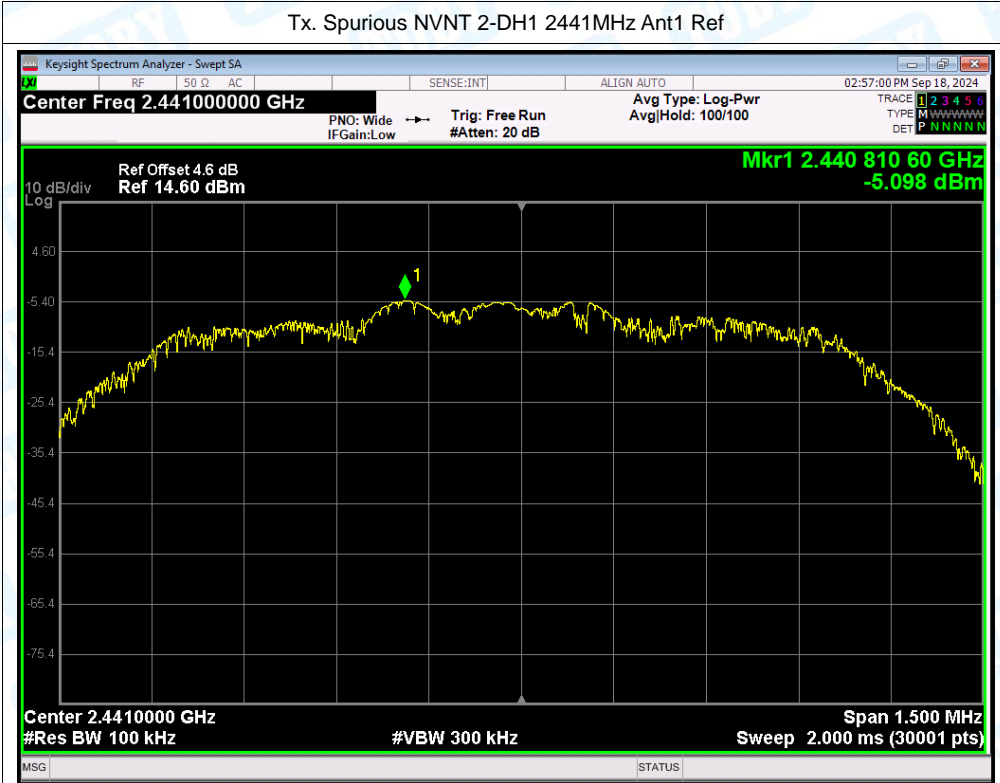
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



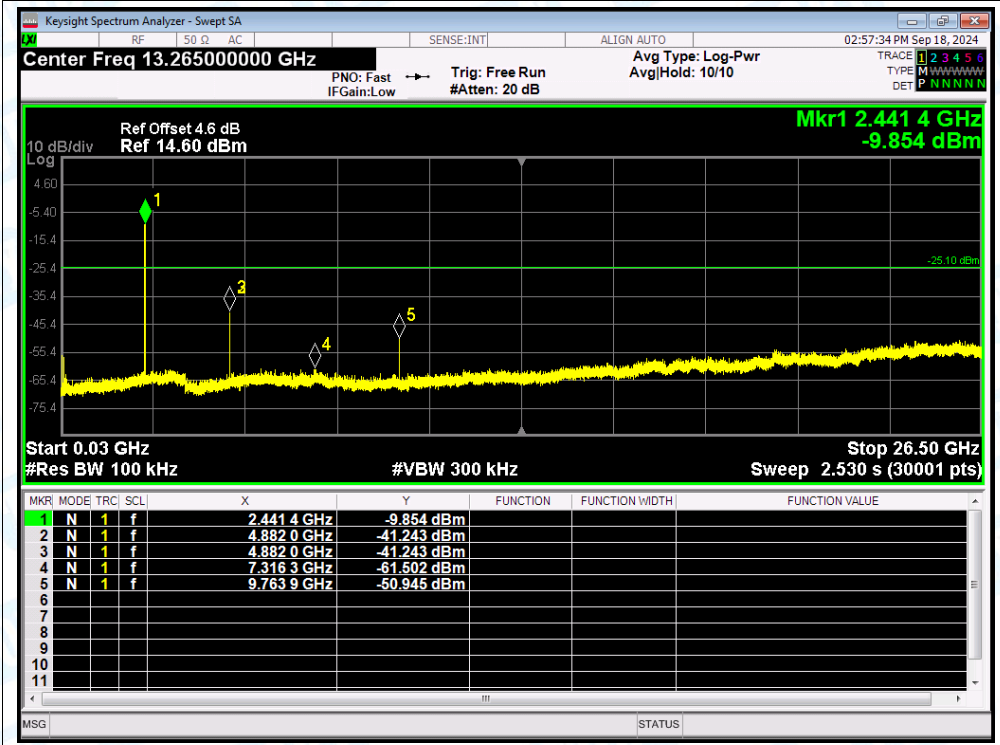
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



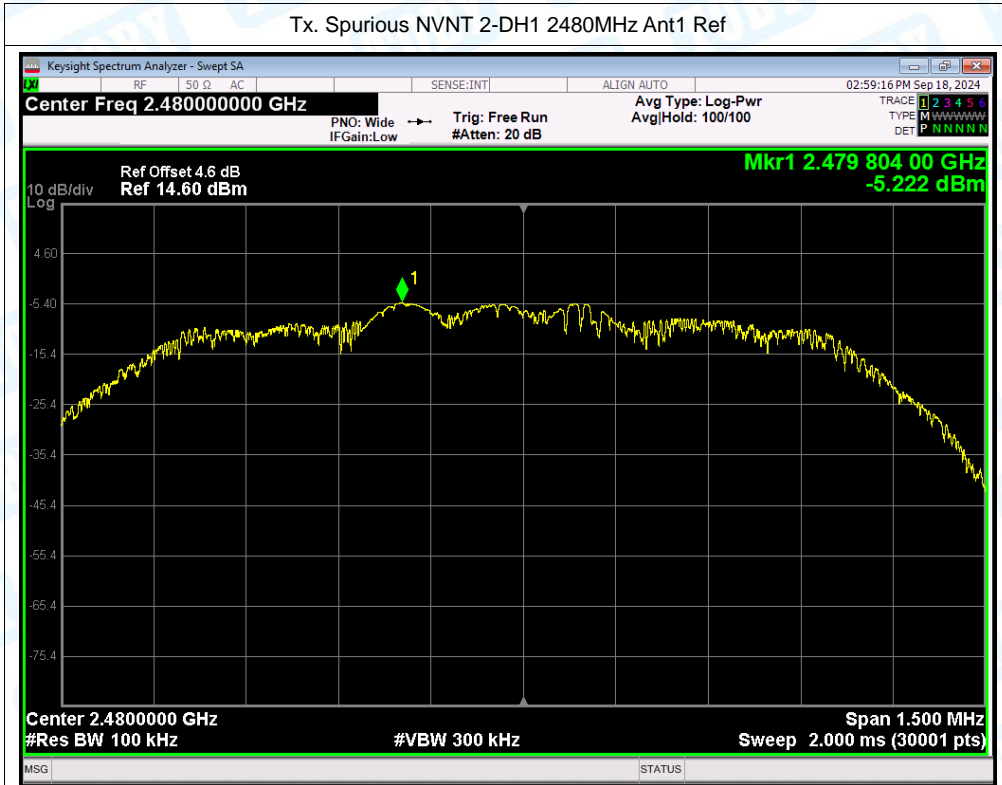
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



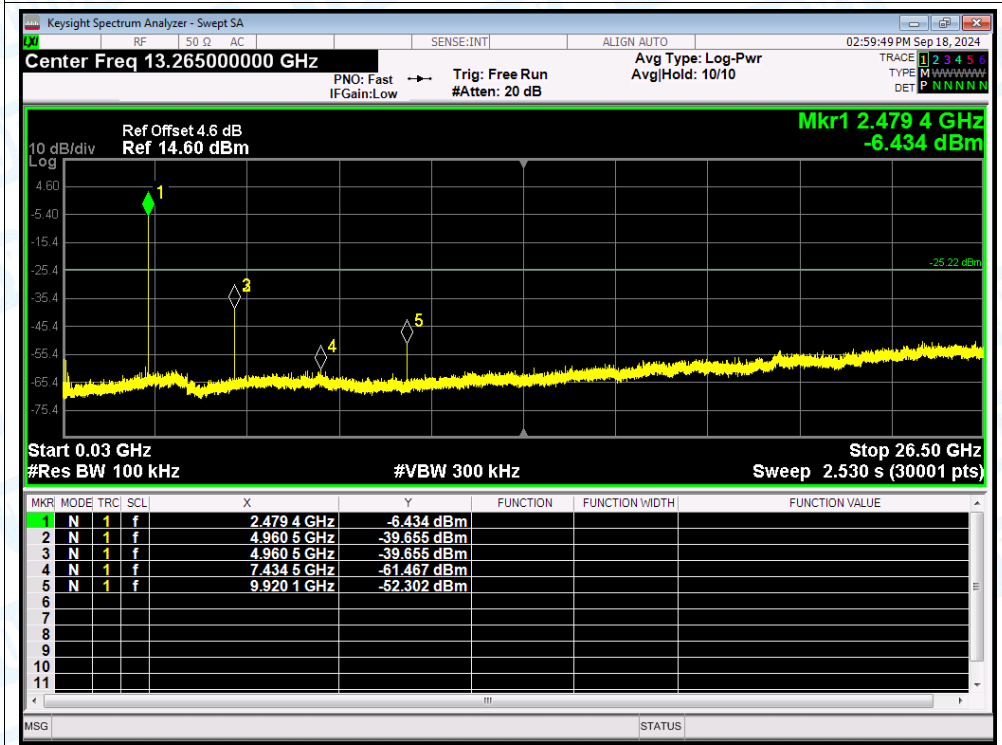
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



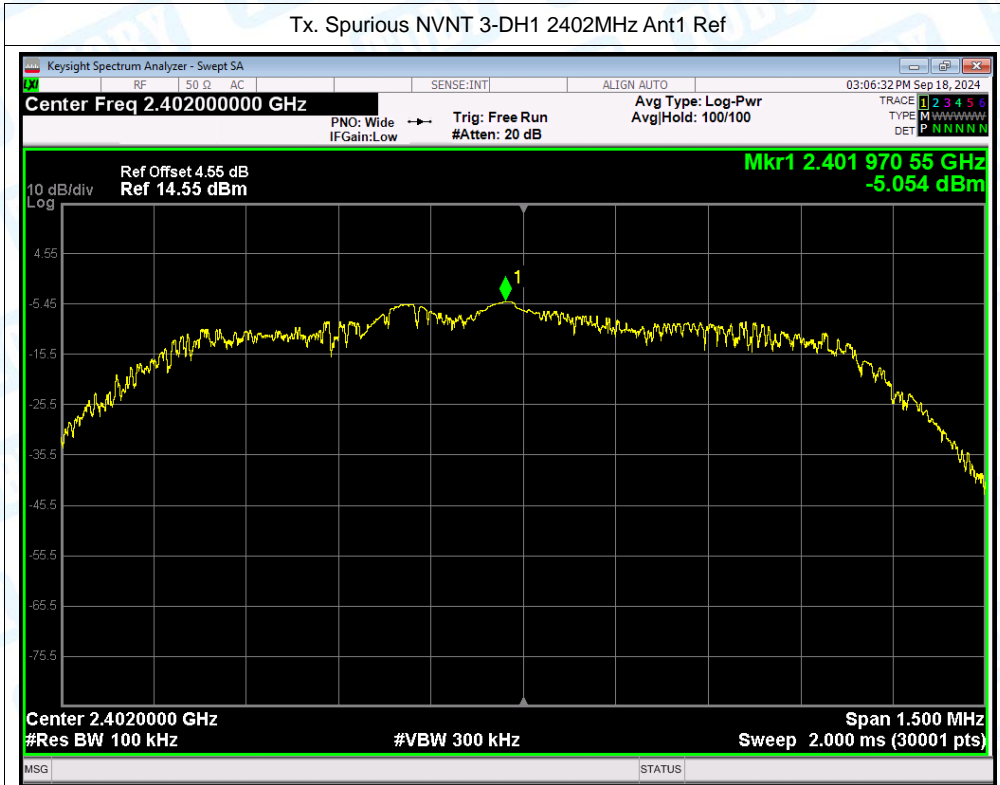
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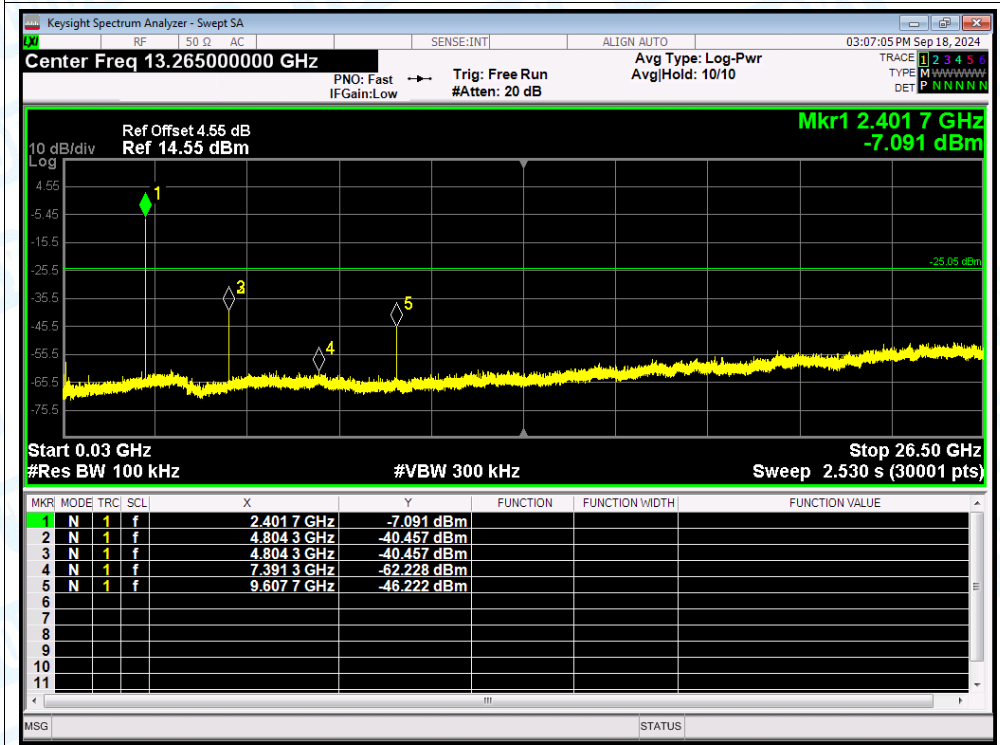
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



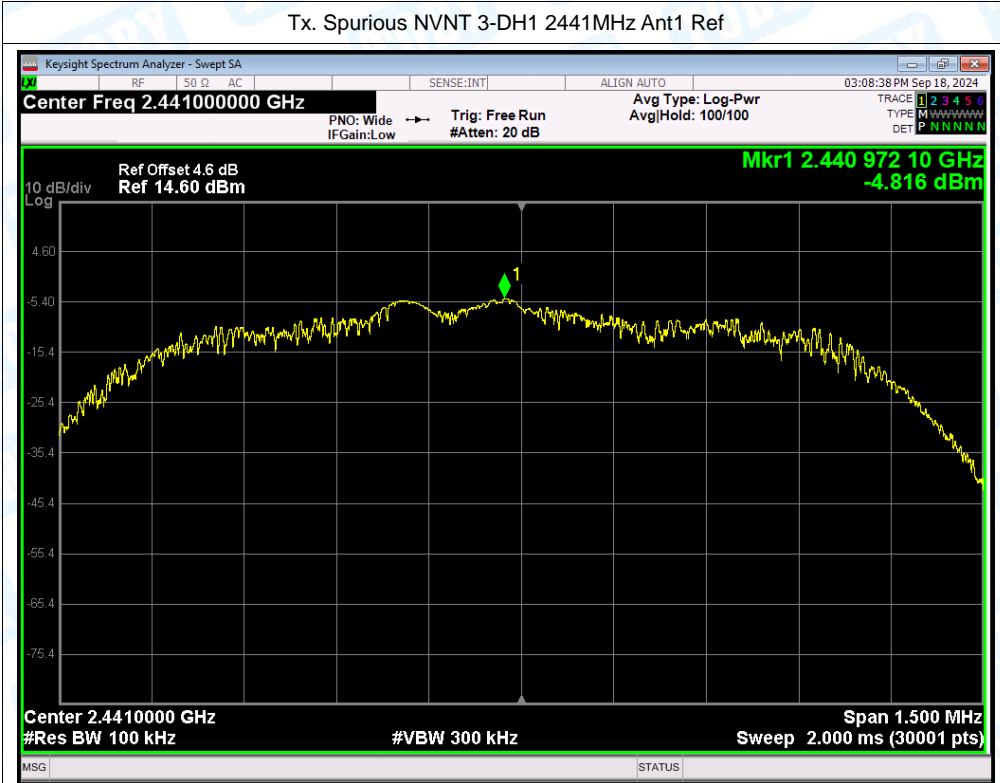
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



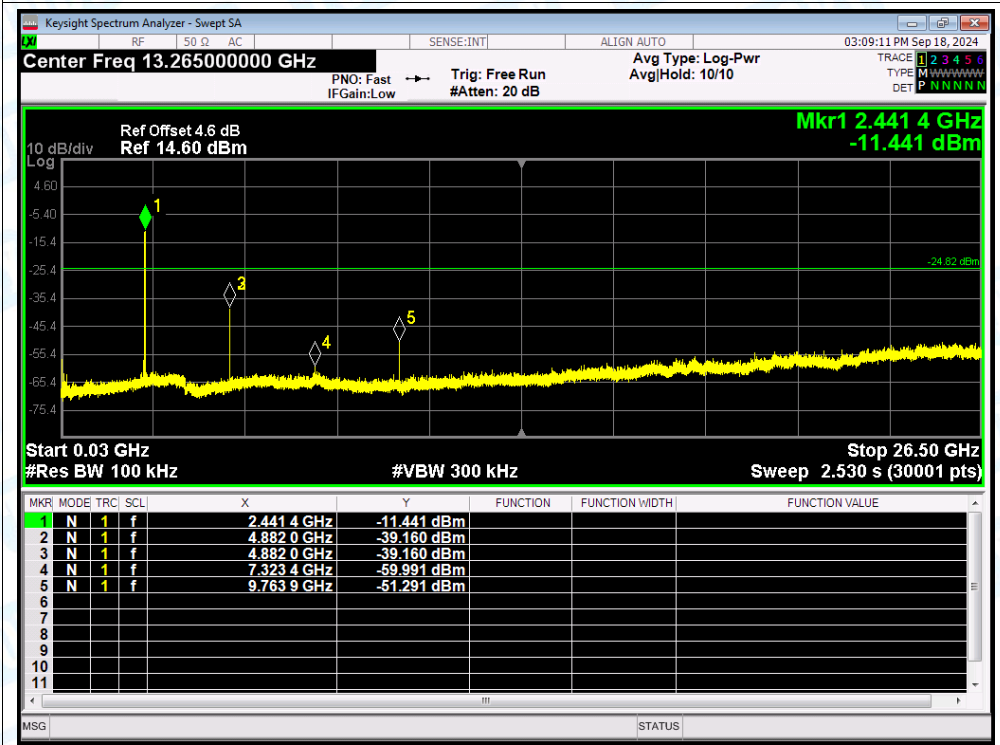
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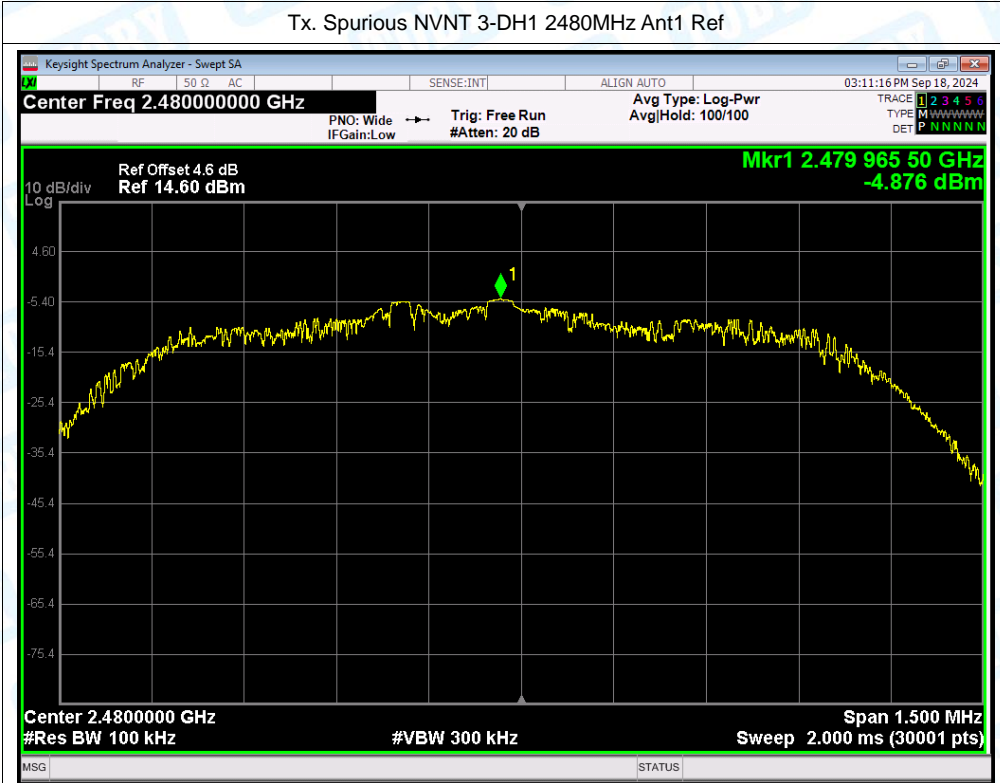
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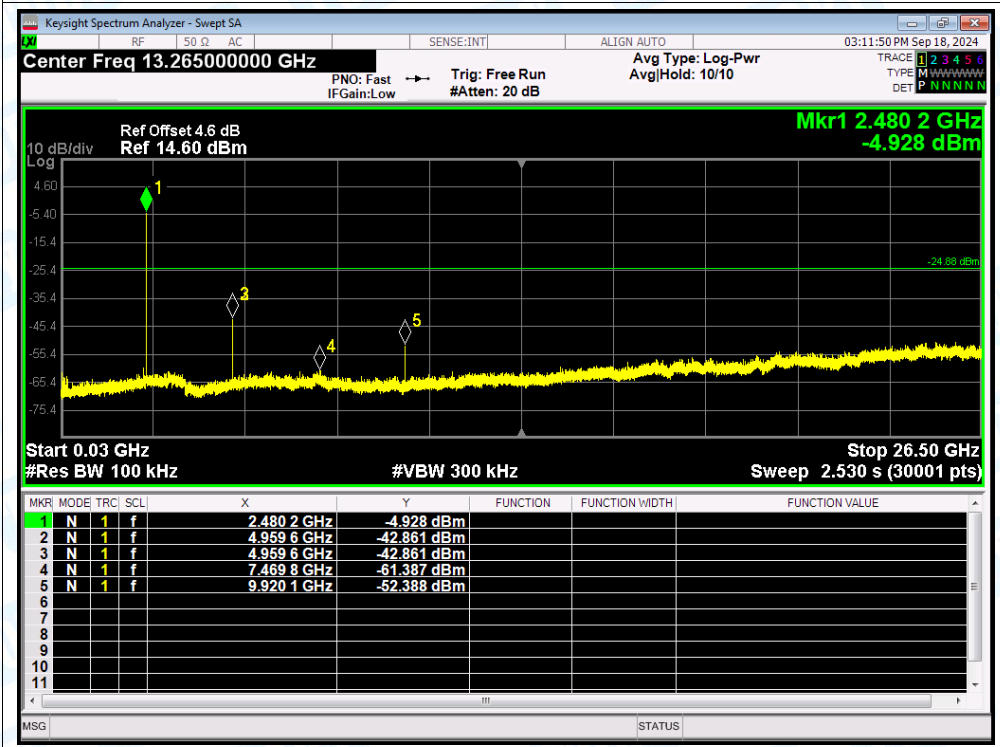
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

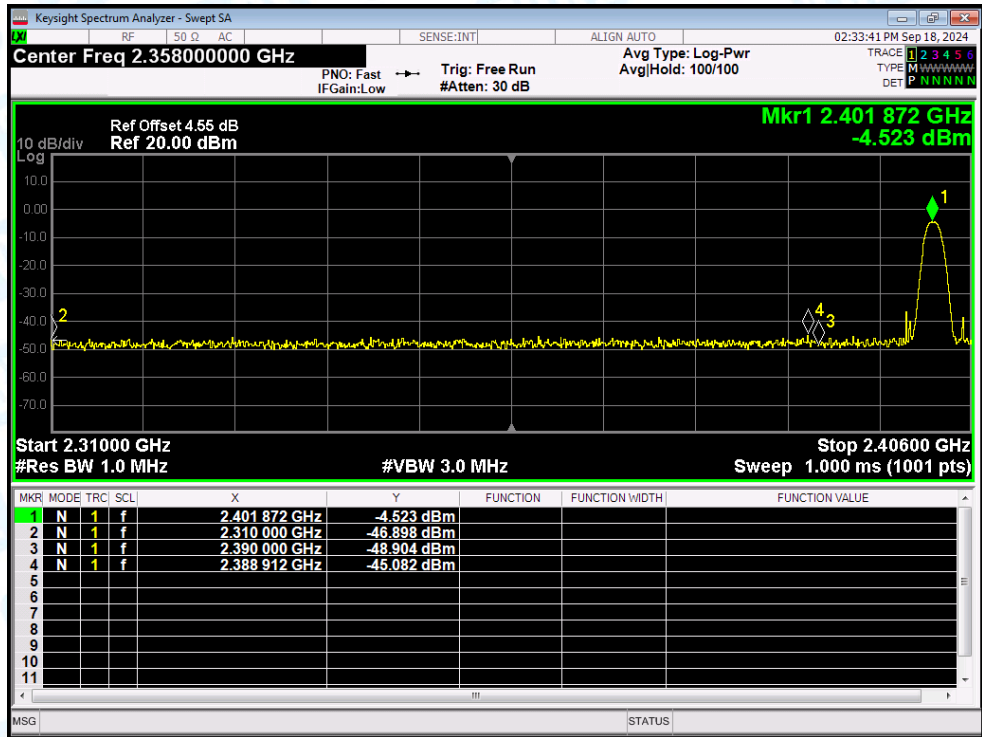


8. Restrict Band

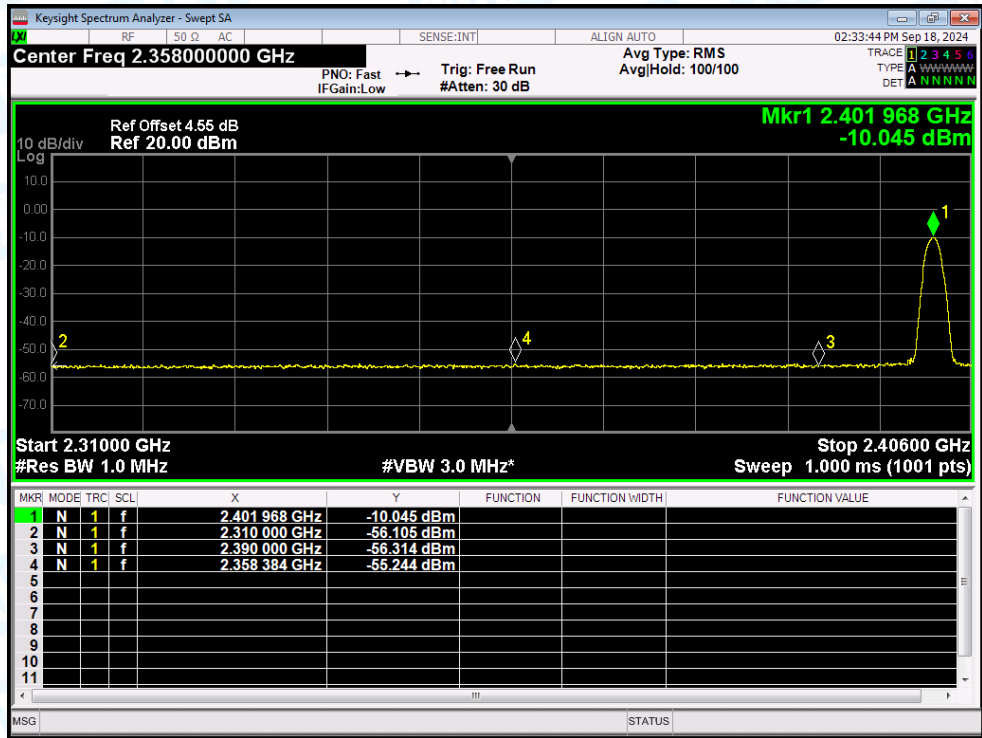
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-46.9	6.4	-	54.76	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.11	6.4	4.84	50.39	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2388.912	-45.08	6.4	-	56.58	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2358.384	-55.24	6.4	4.84	51.26	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.9	6.4	-	52.76	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.31	6.4	4.84	50.19	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-47.15	6.4	-	54.51	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-55.67	6.4	4.84	50.83	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.752	-40.42	6.4	-	61.24	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2487.76	-54.64	6.4	4.84	51.86	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-45.84	6.4	-	55.82	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.4	6.4	4.84	51.1	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.75	6.4	-	52.91	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.64	6.4	4.74	49.76	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2345.04	-45.24	6.4	-	56.42	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2389.872	-55.38	6.4	4.74	51.02	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-48.43	6.4	-	53.23	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.98	6.4	4.74	50.42	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-48.48	6.4	-	53.18	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.25	6.4	4.74	51.15	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.848	-42.21	6.4	-	59.45	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2486.968	-54.59	6.4	4.74	51.81	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-46.84	6.4	-	54.82	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.61	6.4	4.74	50.79	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.08	6.4	-	53.58	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.06	6.4	4.63	50.23	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2383.632	-45.2	6.4	-	56.46	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2347.92	-55.34	6.4	4.63	50.95	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-47.54	6.4	-	54.12	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-56.33	6.4	4.63	49.96	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-46.18	6.4	-	55.48	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-55.48	6.4	4.63	50.81	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2493.904	-44.27	6.4	-	57.39	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.704	-54.46	6.4	4.63	51.83	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47	6.4	-	54.66	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.49	6.4	4.63	50.8	Average	54	Pass

Test Graphs

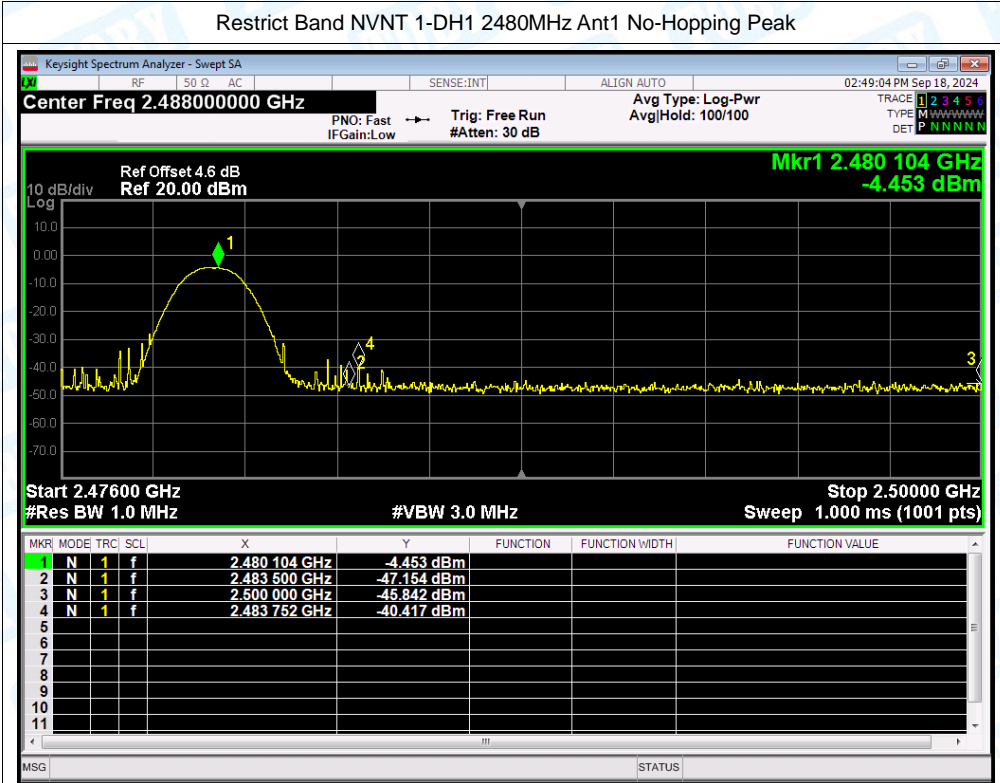
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



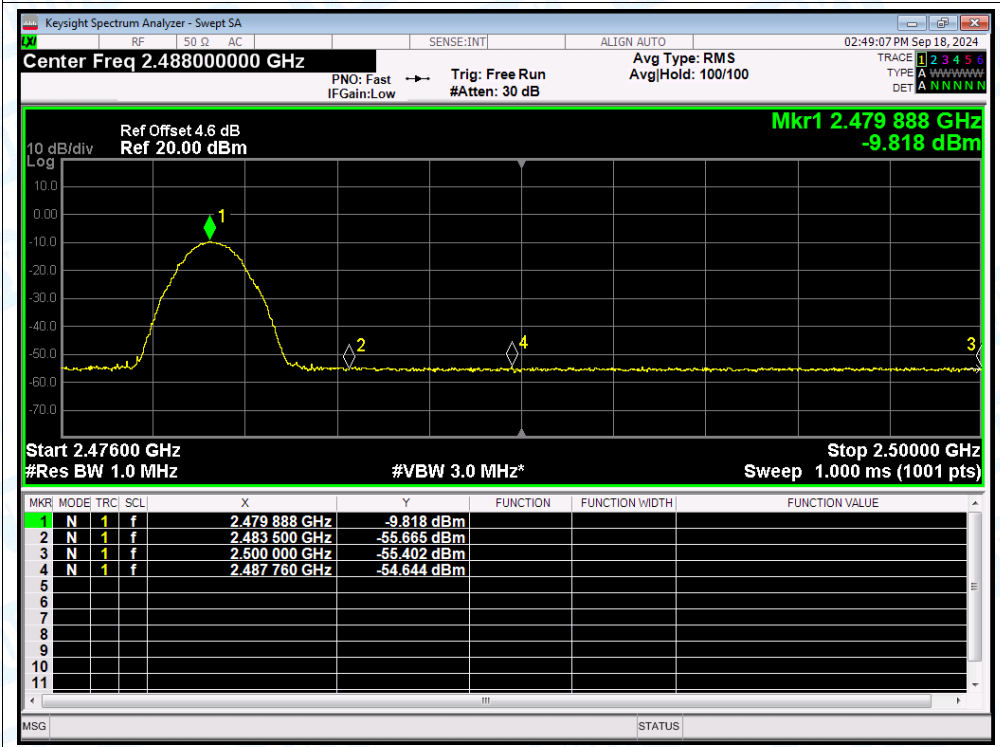
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



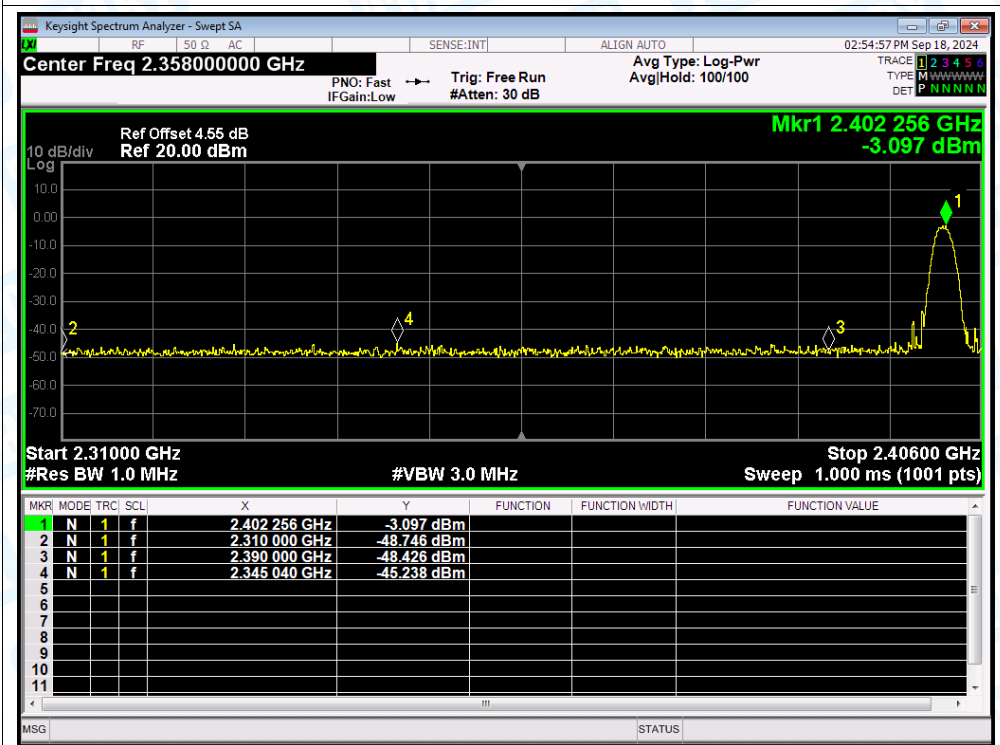
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



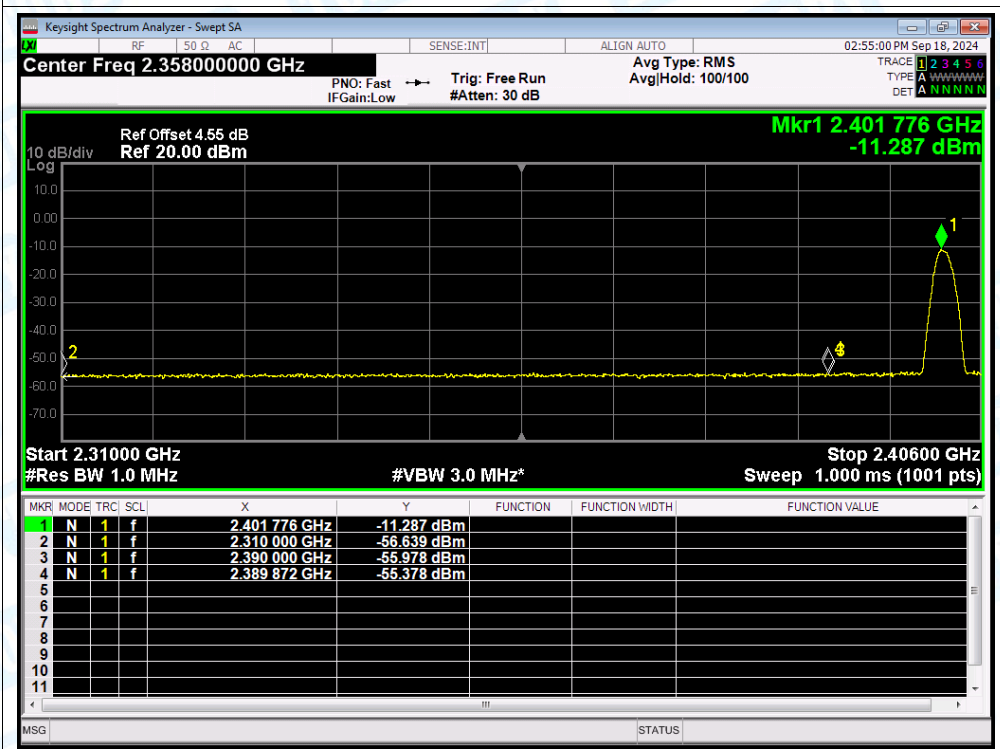
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



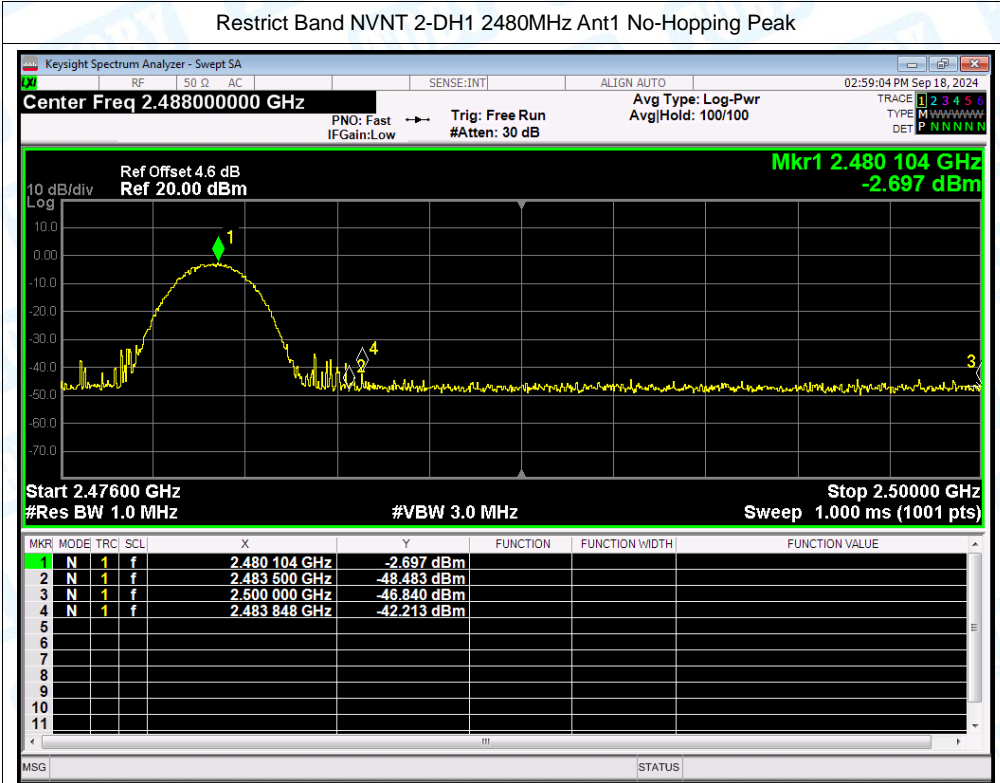
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



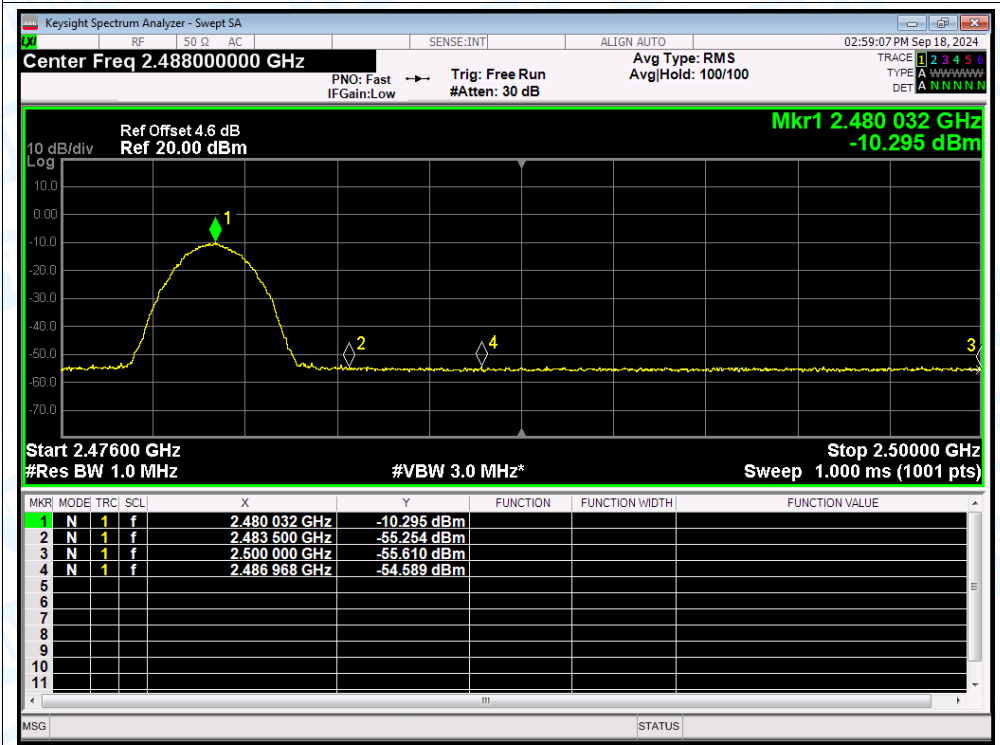
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



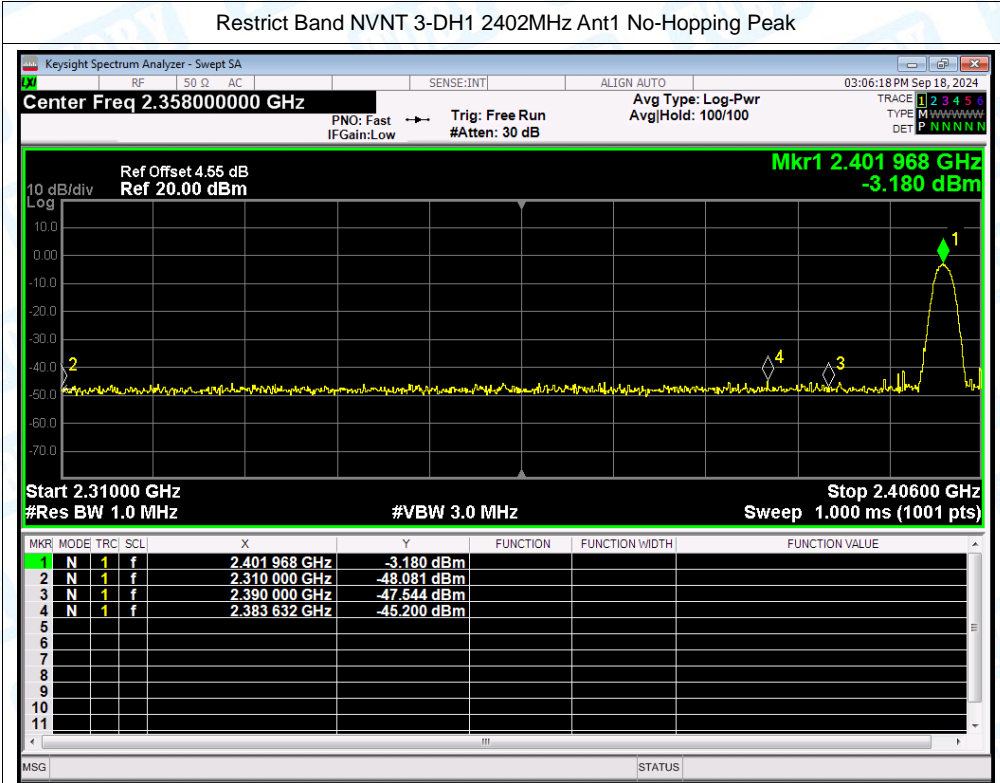
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



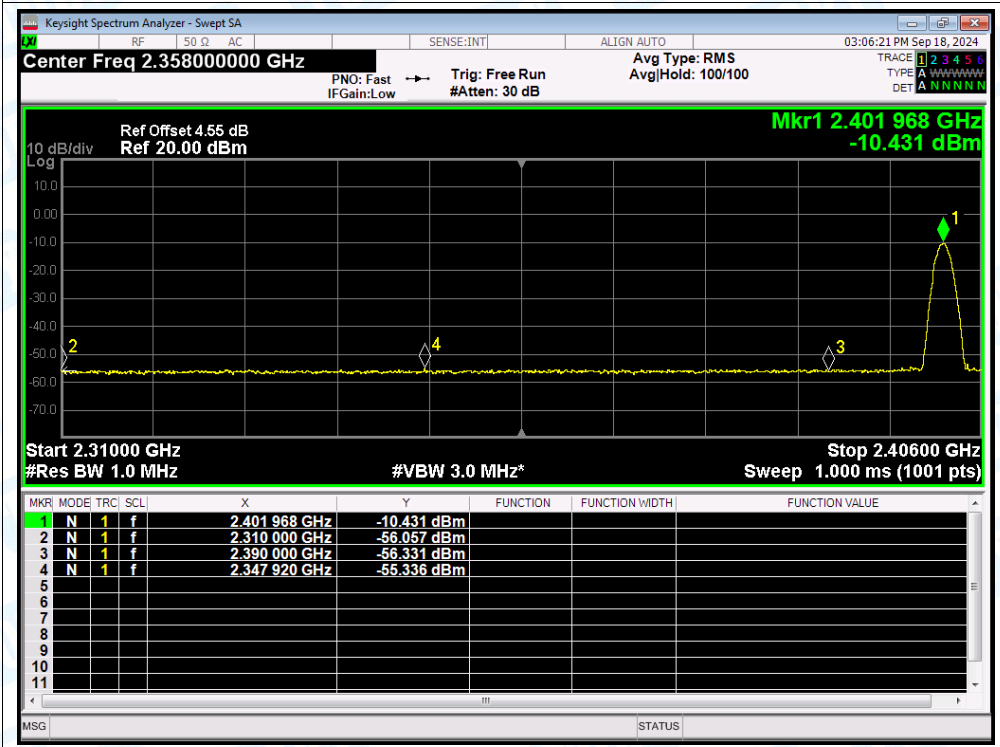
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



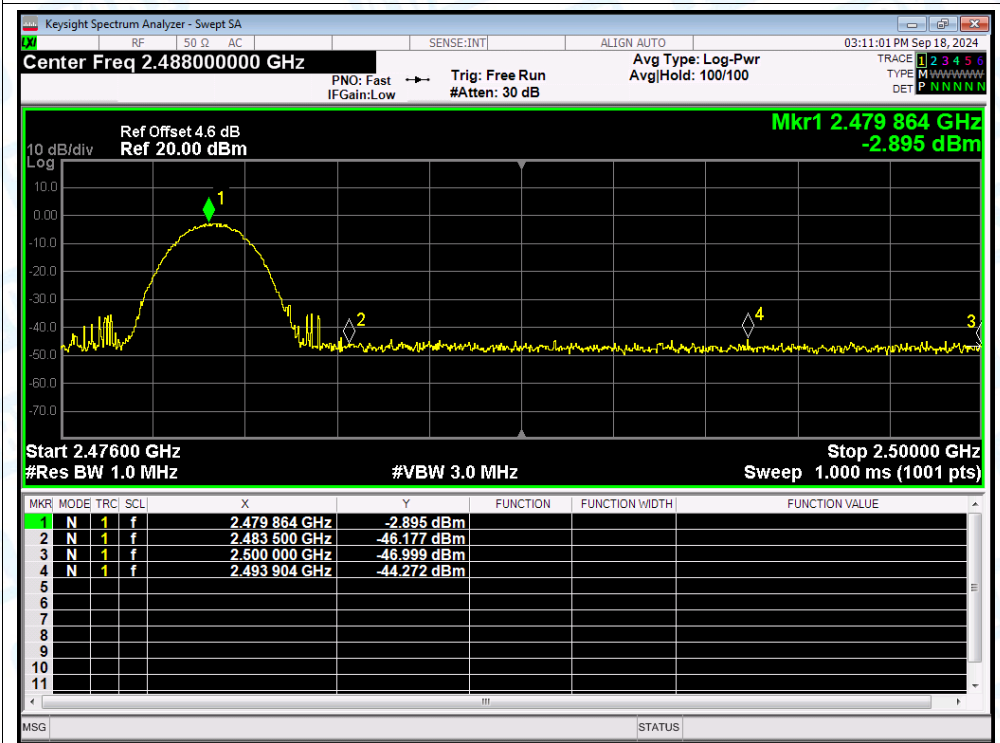
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



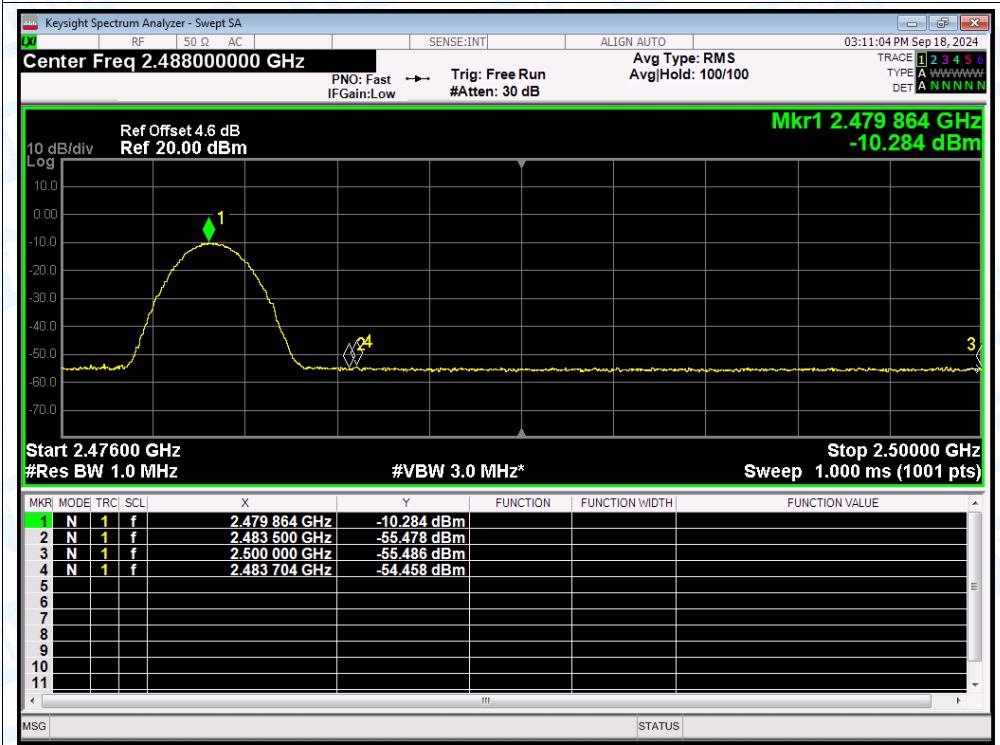
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



Restrict Band NVNT 3-DH1 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH1 2480MHz Ant1 No-Hopping Average

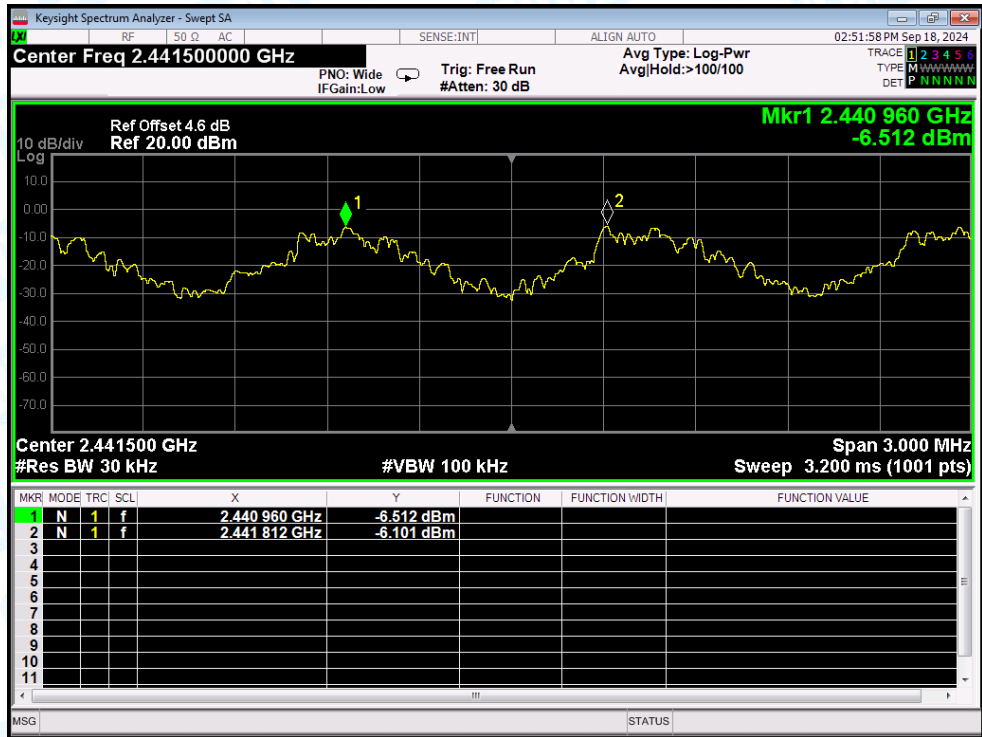


9. Carrier Frequencies Separation

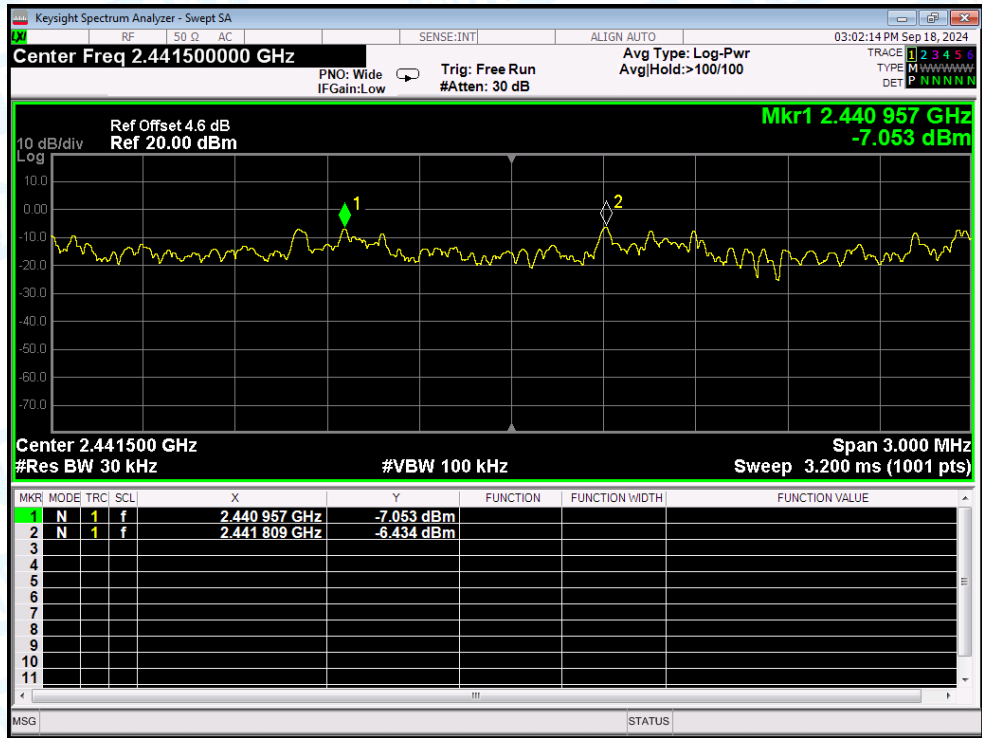
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.96	2441.812	0.852	0.587	Pass
NVNT	2-DH1	Ant1	2440.957	2441.809	0.852	0.833	Pass
NVNT	3-DH1	Ant1	2440.966	2441.968	1.002	0.807	Pass

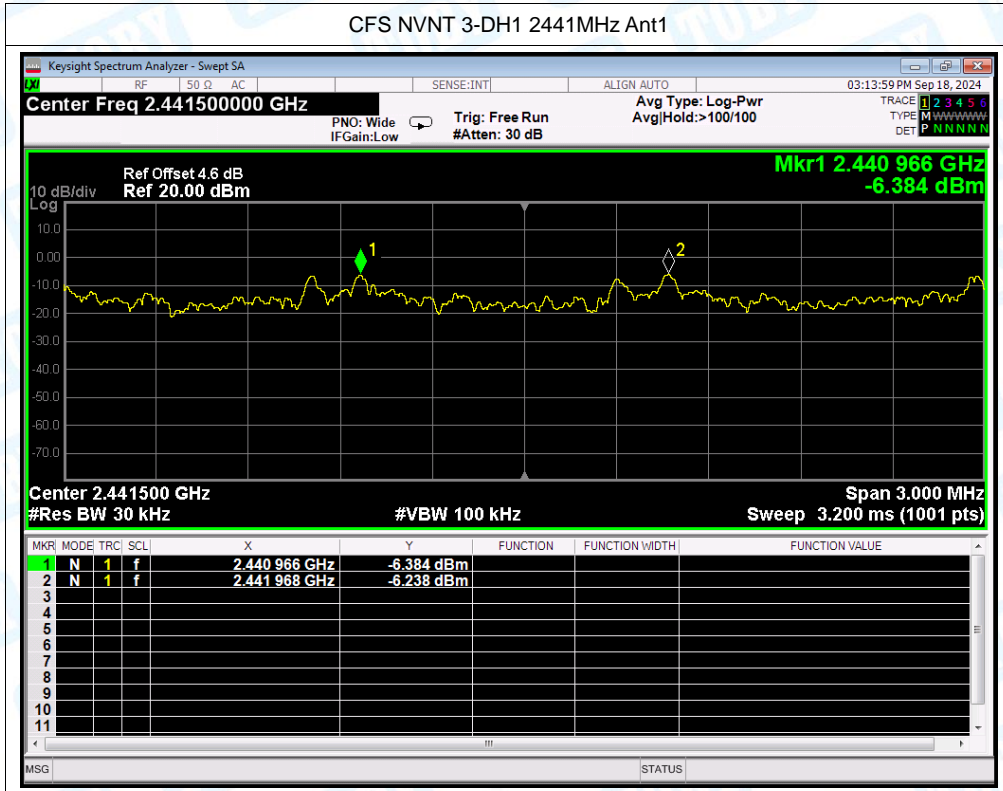
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



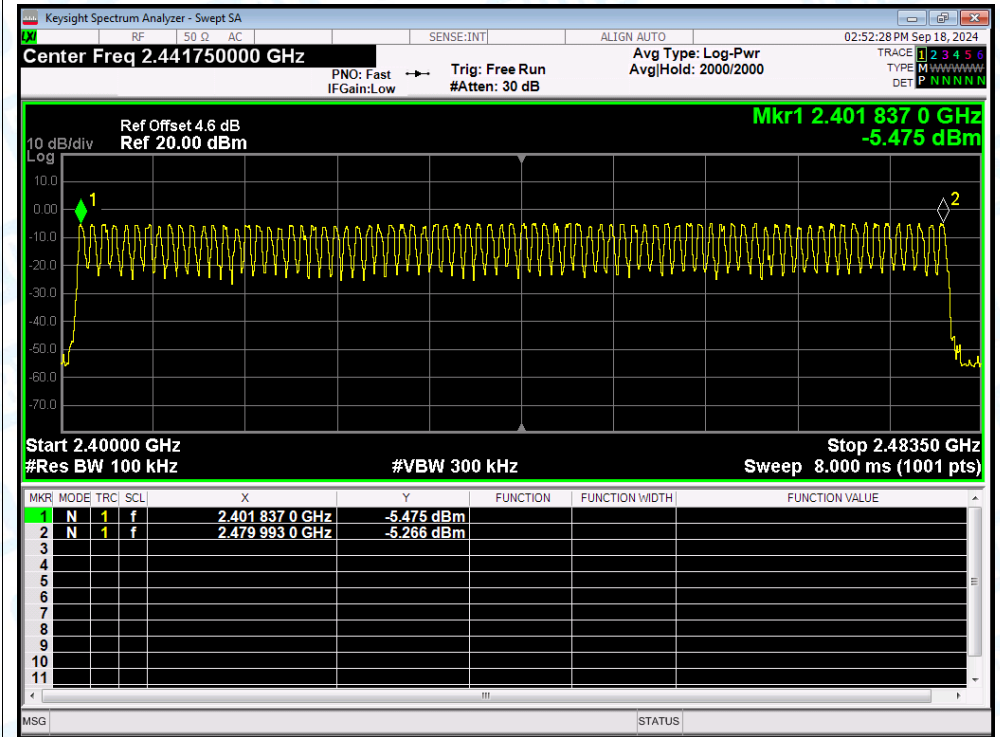


10. Number of Hopping Channel

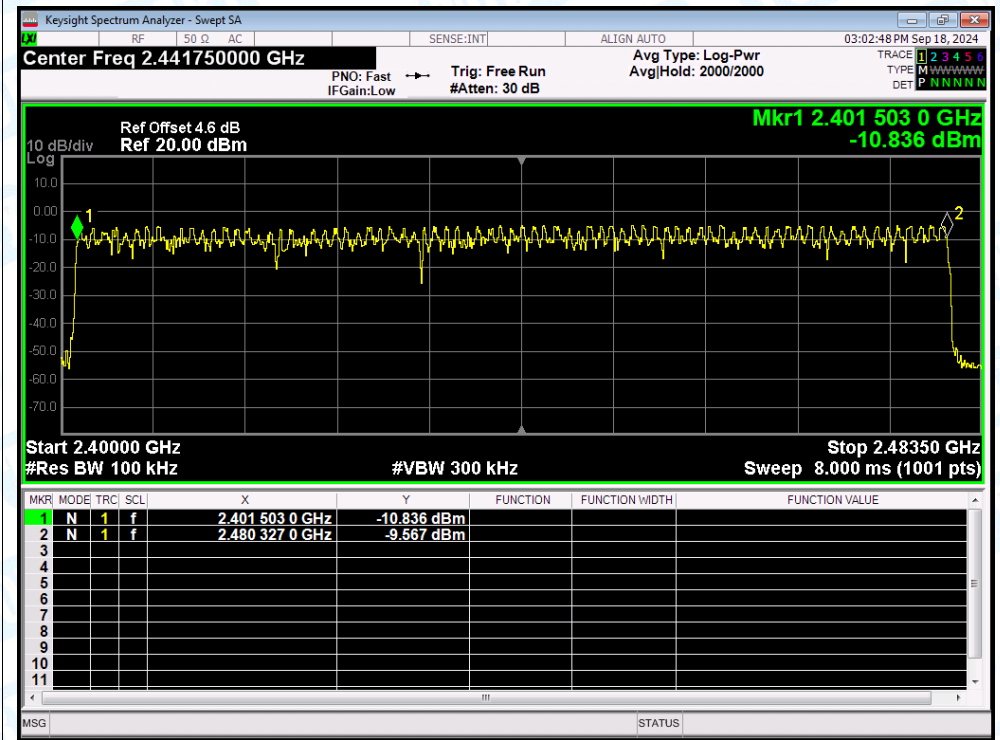
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

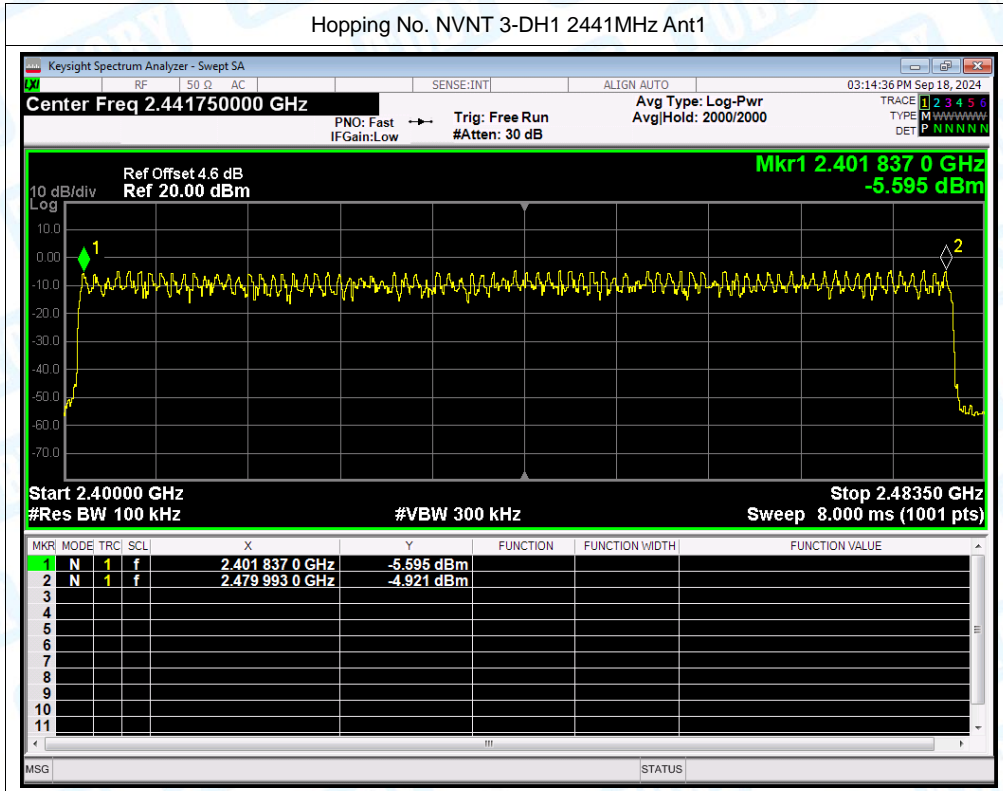
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



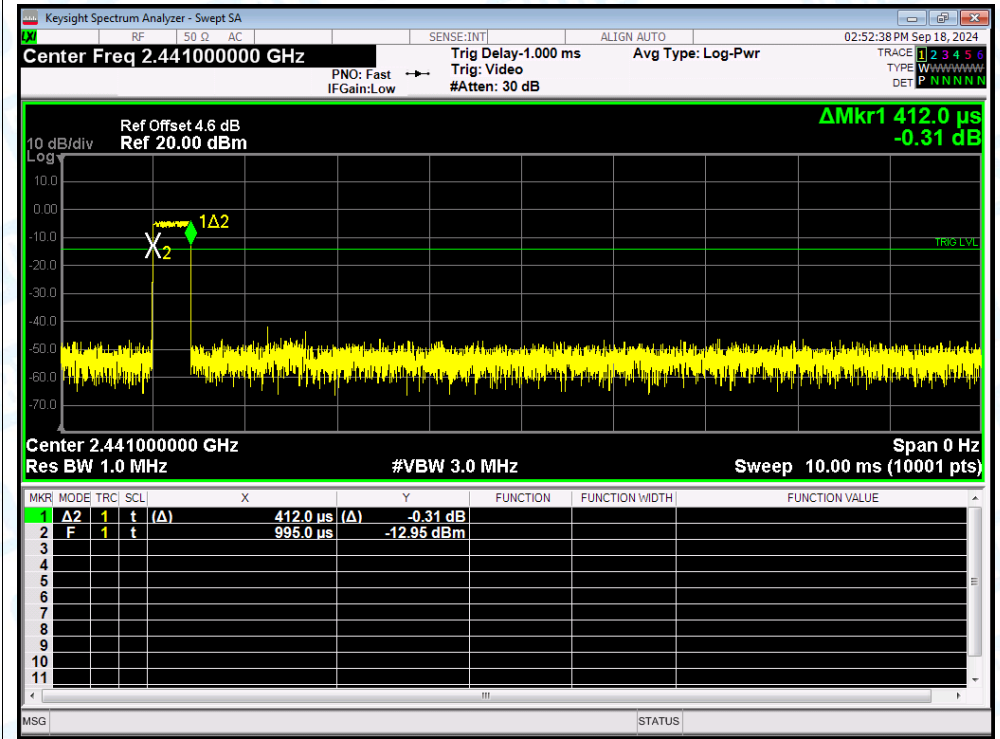


11. Dwell Time

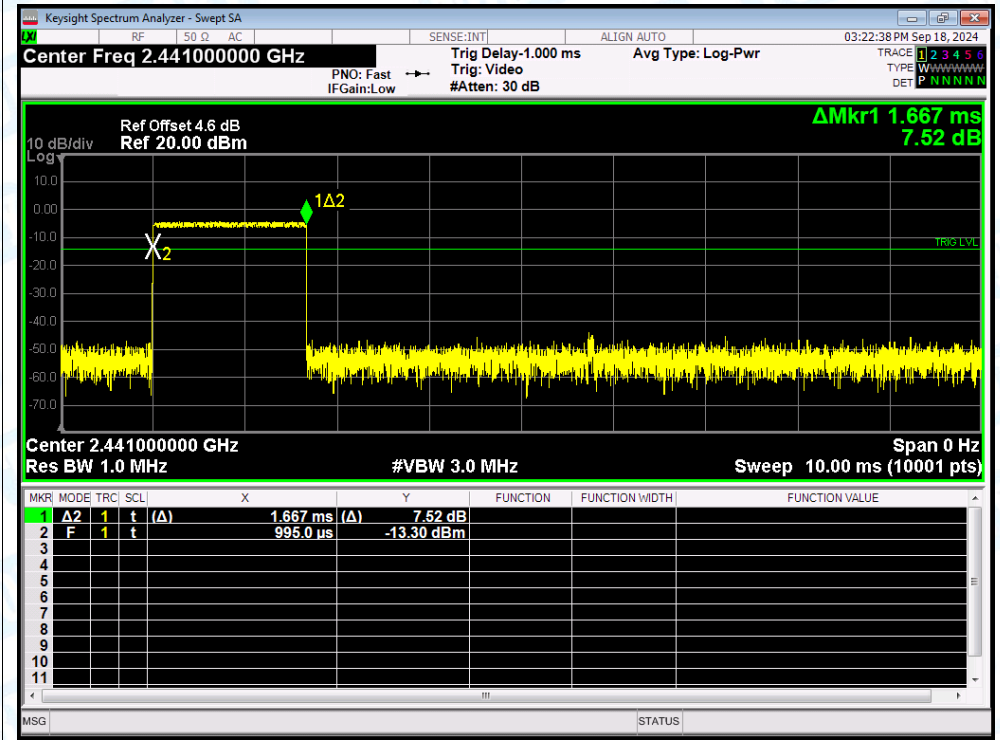
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.412	131.84	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.667	266.72	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.915	310.933	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.42	134.4	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.672	267.52	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.92	311.467	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.423	135.36	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.673	267.68	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.923	311.787	31600	400	Pass

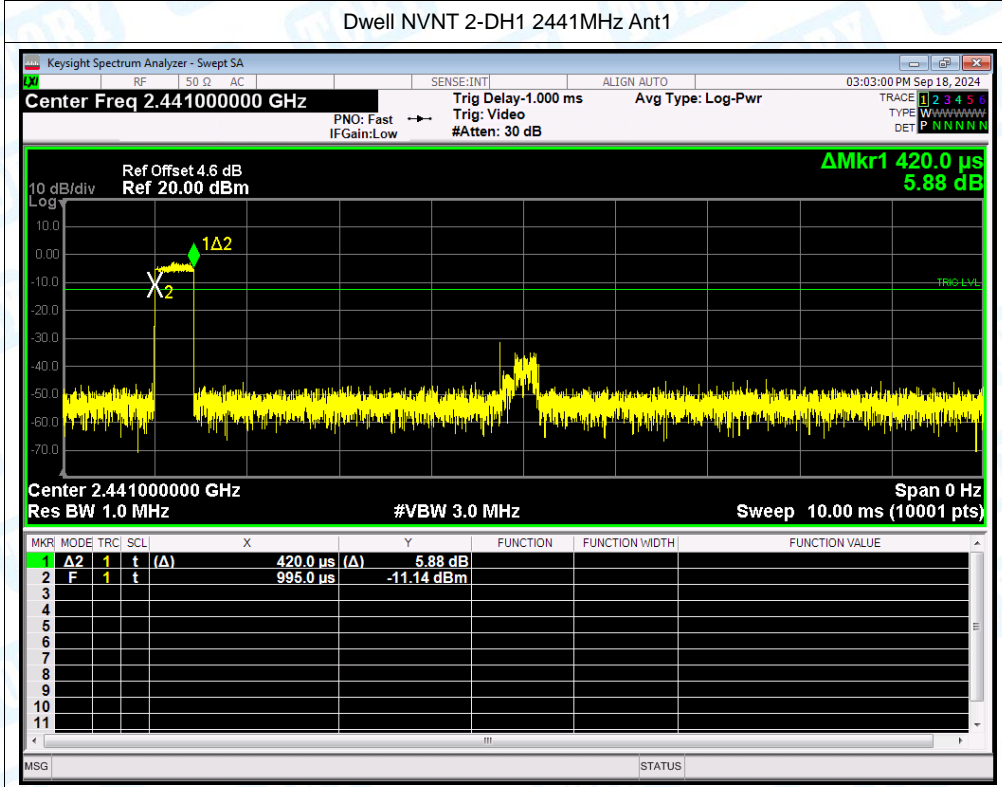
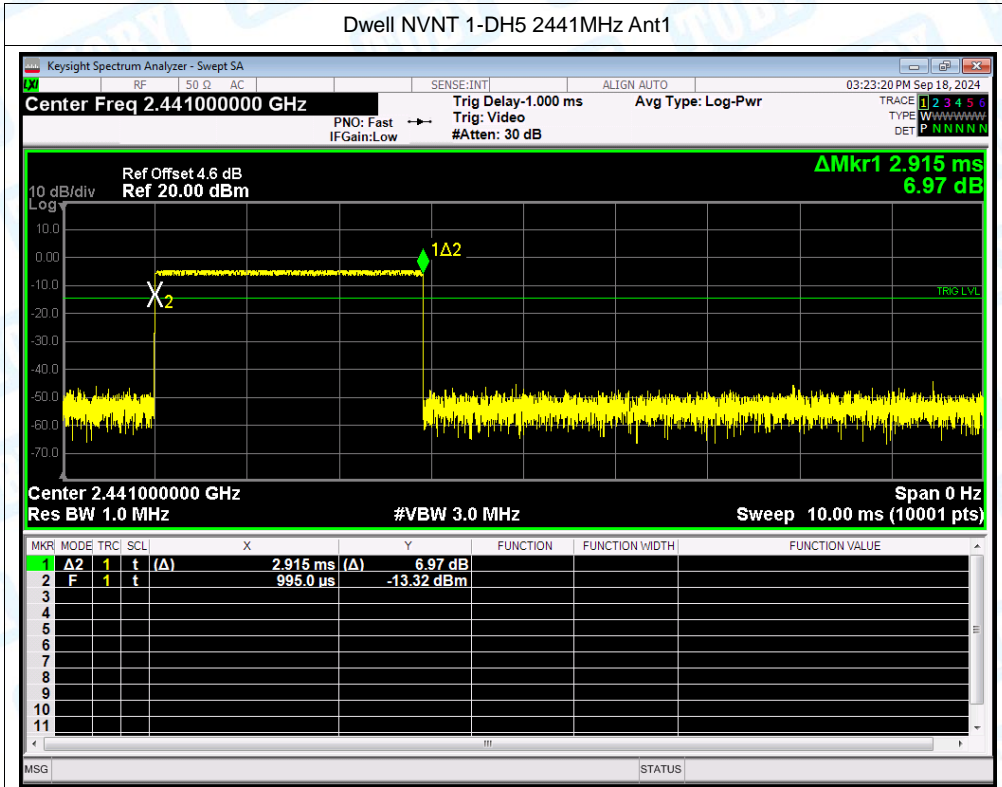
Test Graphs

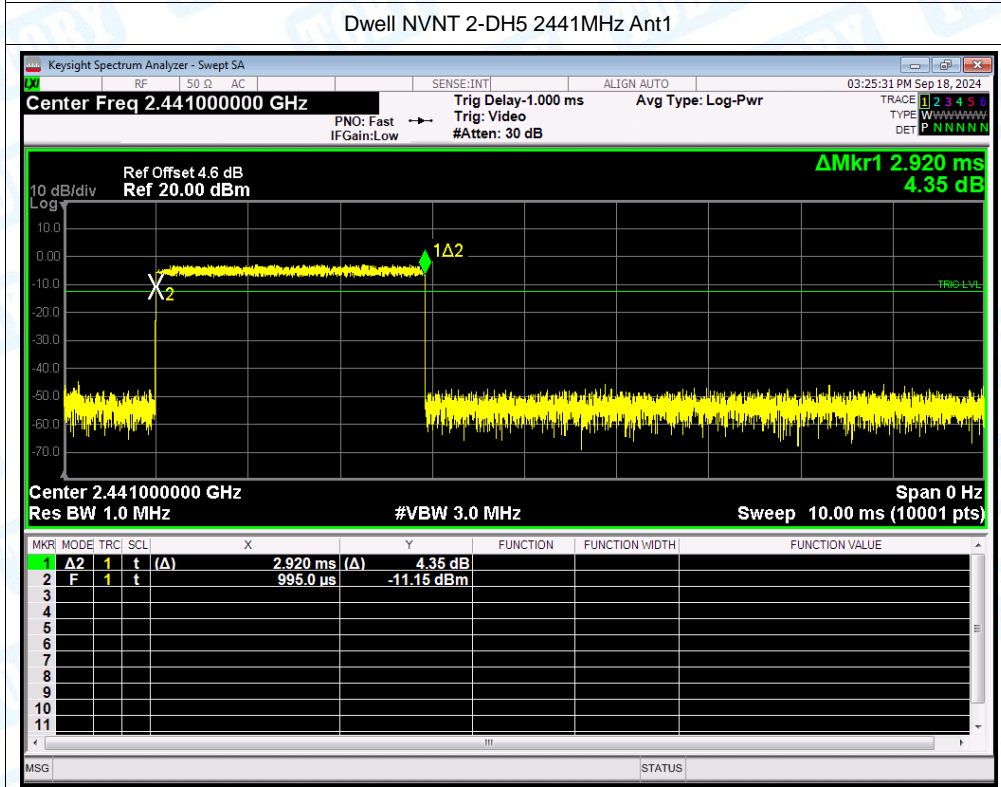
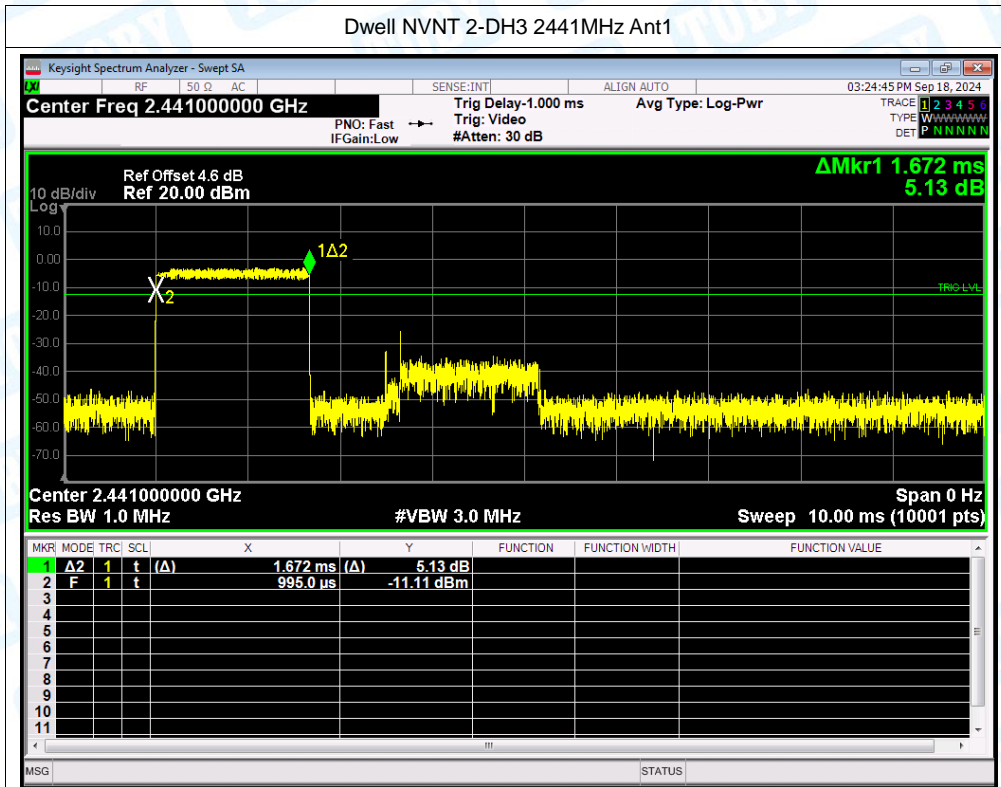
Dwell NVNT 1-DH1 2441MHz Ant1

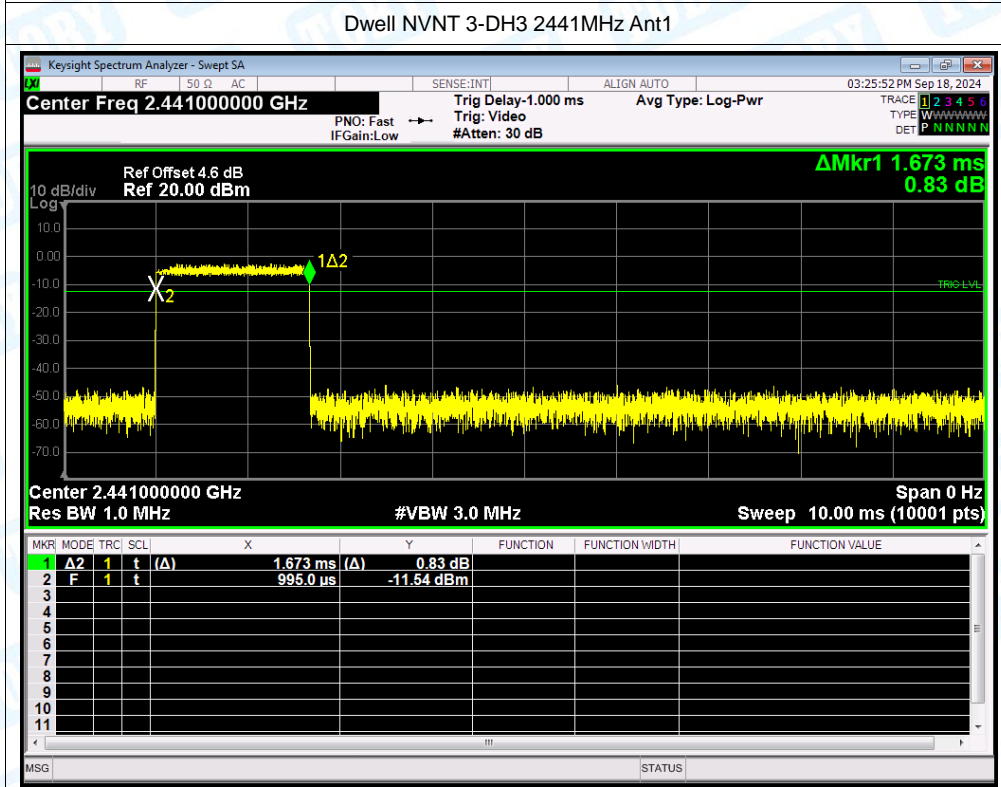
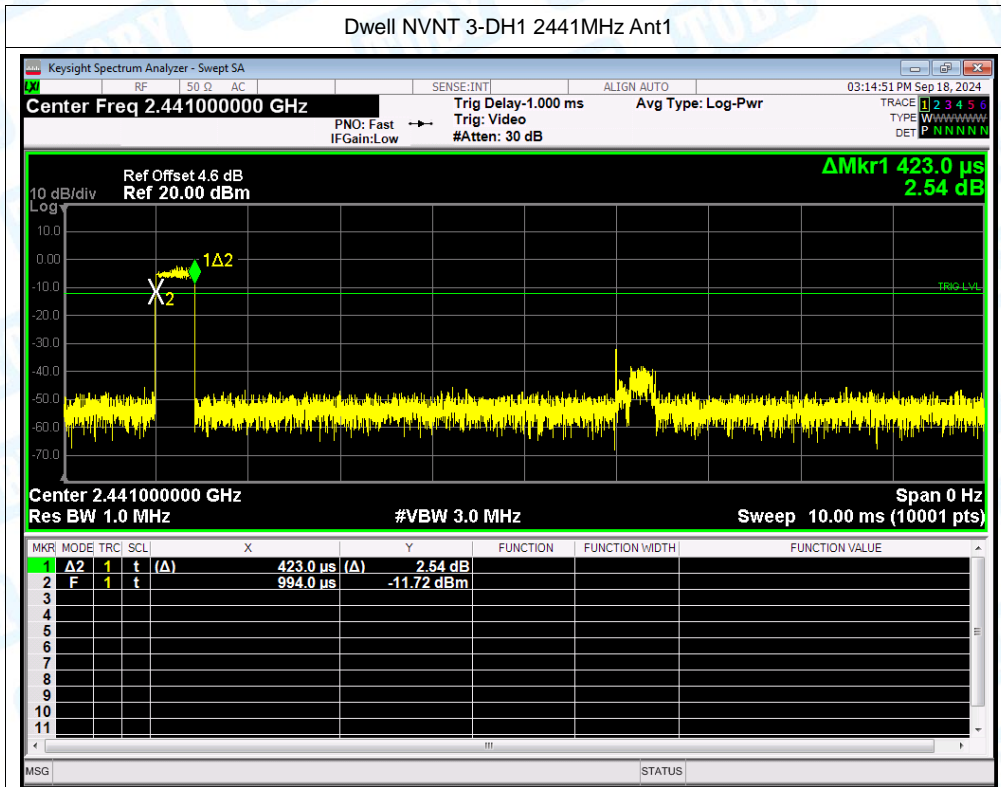


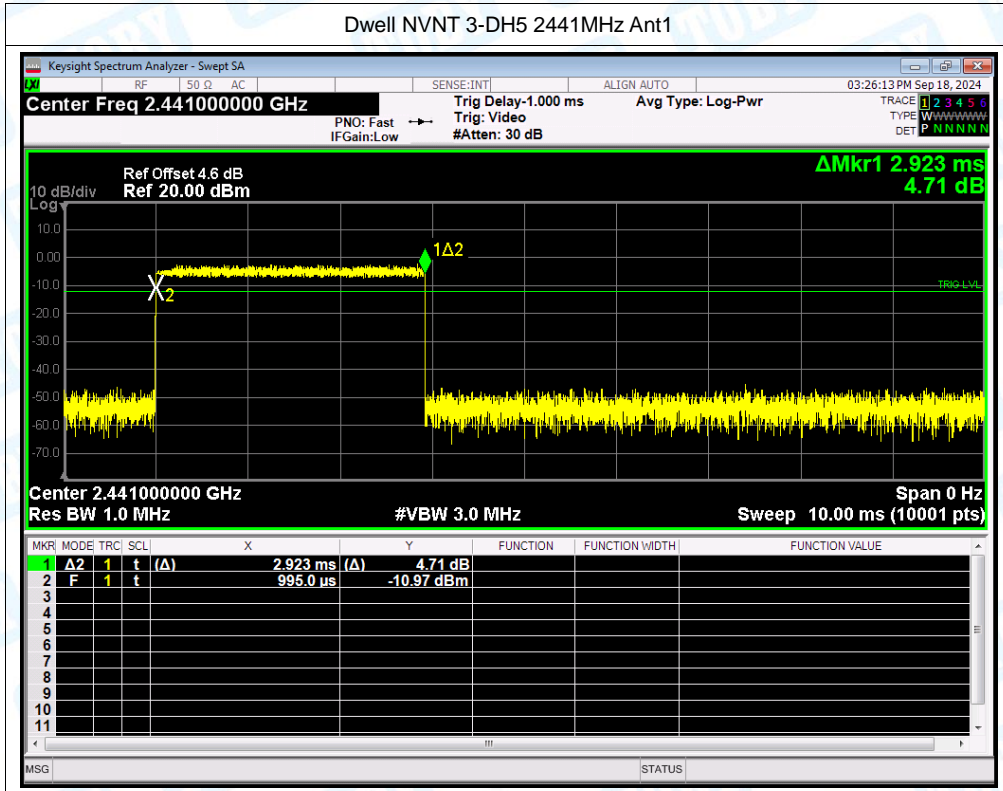
Dwell NVNT 1-DH3 2441MHz Ant1











-----END OF THE REPORT-----