

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	SOUNDBAR SPEAKER
Test Model:	HC-C-202407-0205-02-01
Sample ID:	4001976
Environmental Conditions	
Temperature:	24.1 °C
Relative Humidity:	49%
Test Voltage:	DC 5V
Test Engineer:	ZKN zhou
Note: For a more detailed features description, please refer to the report TBR-C-202407-0205-11 The report only show the worst case data.	

Contents

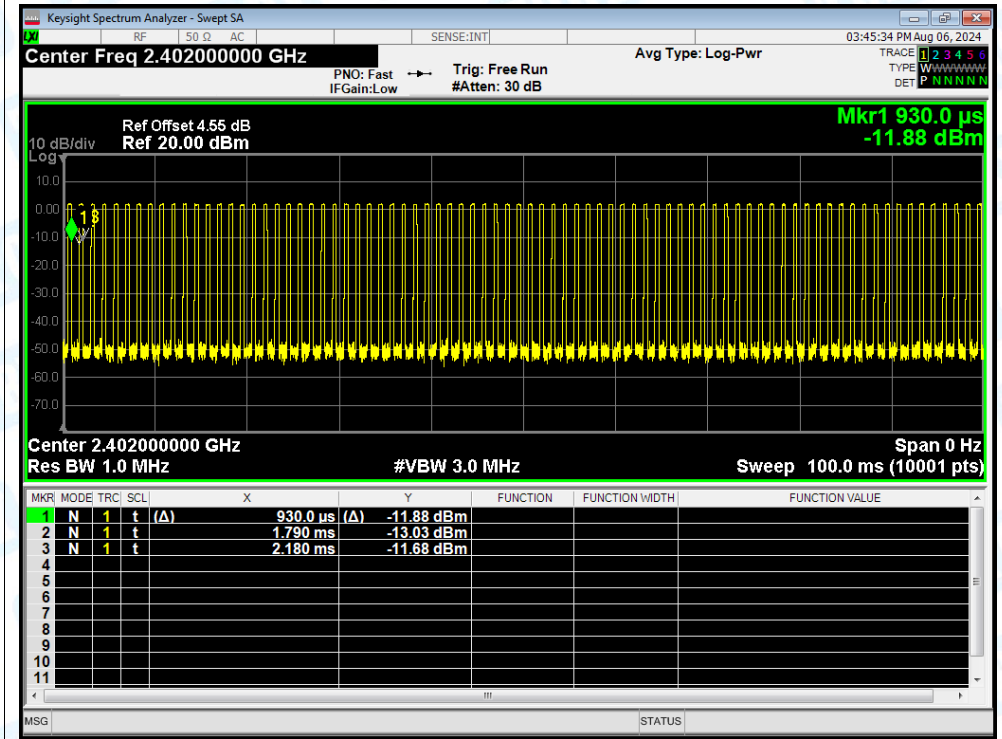
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1. Duty Cycle

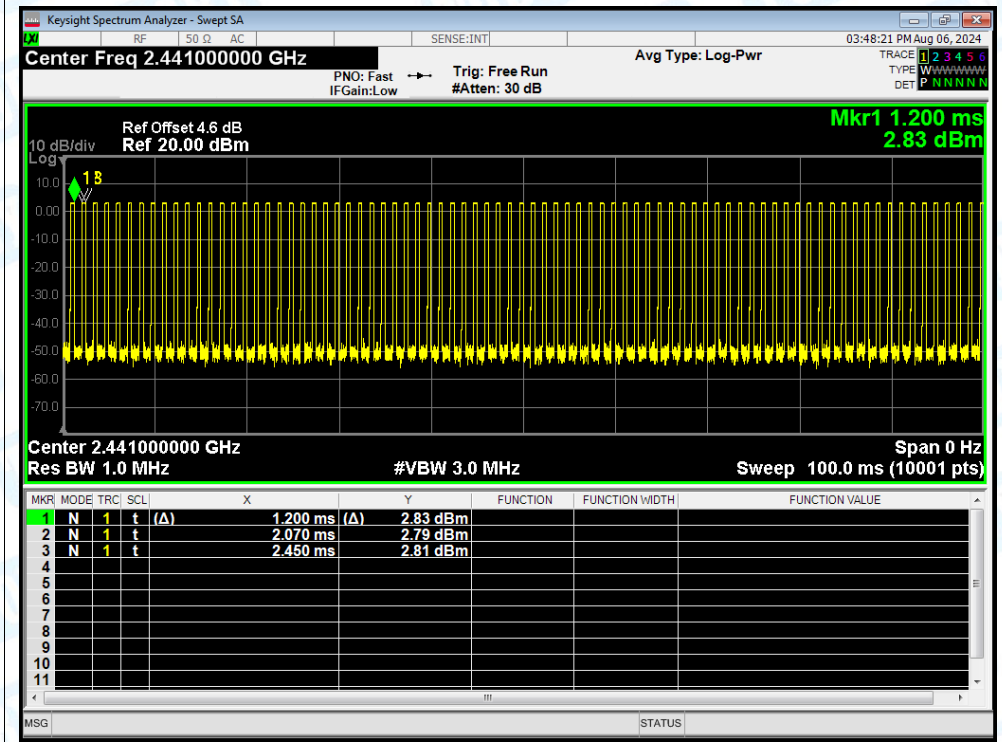
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	30.95	5.09	2.56
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2480	Ant1	31.2	5.06	2.56

Test Graphs

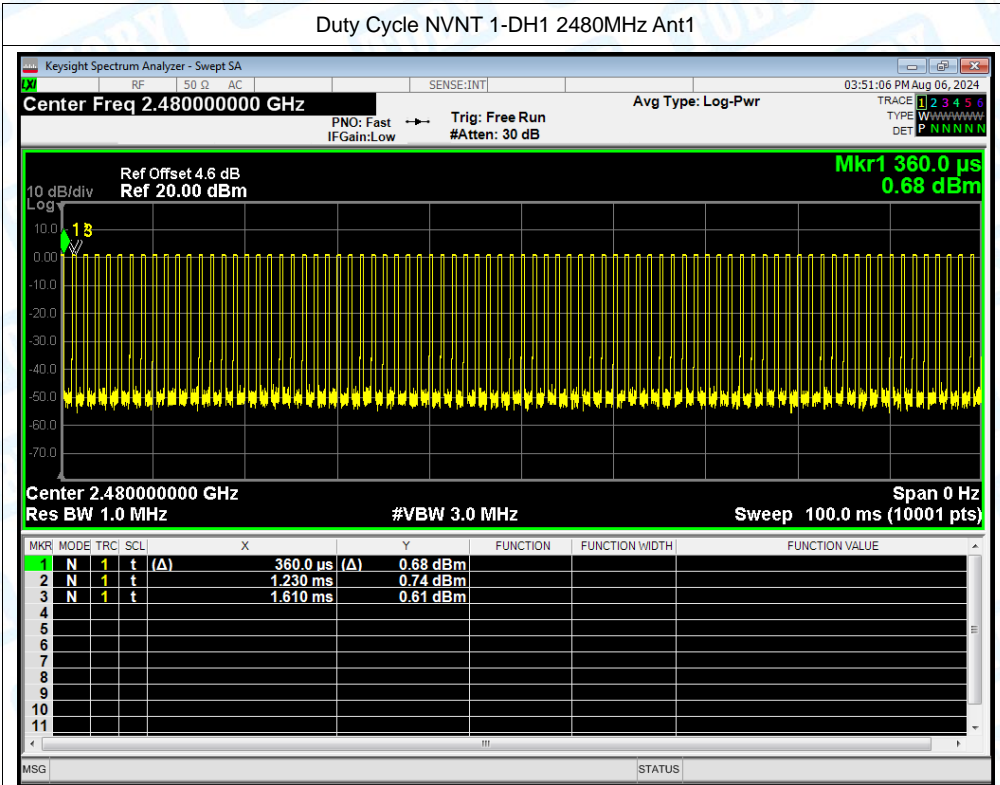
Duty Cycle NVNT 1-DH1 2402MHz Ant1



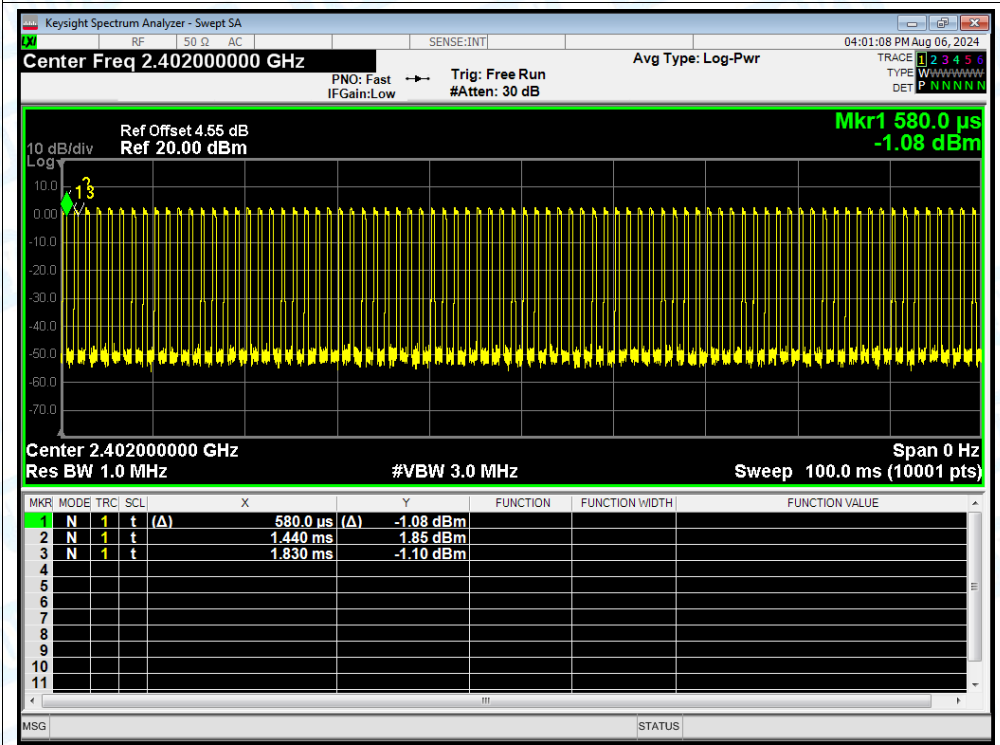
Duty Cycle NVNT 1-DH1 2441MHz Ant1



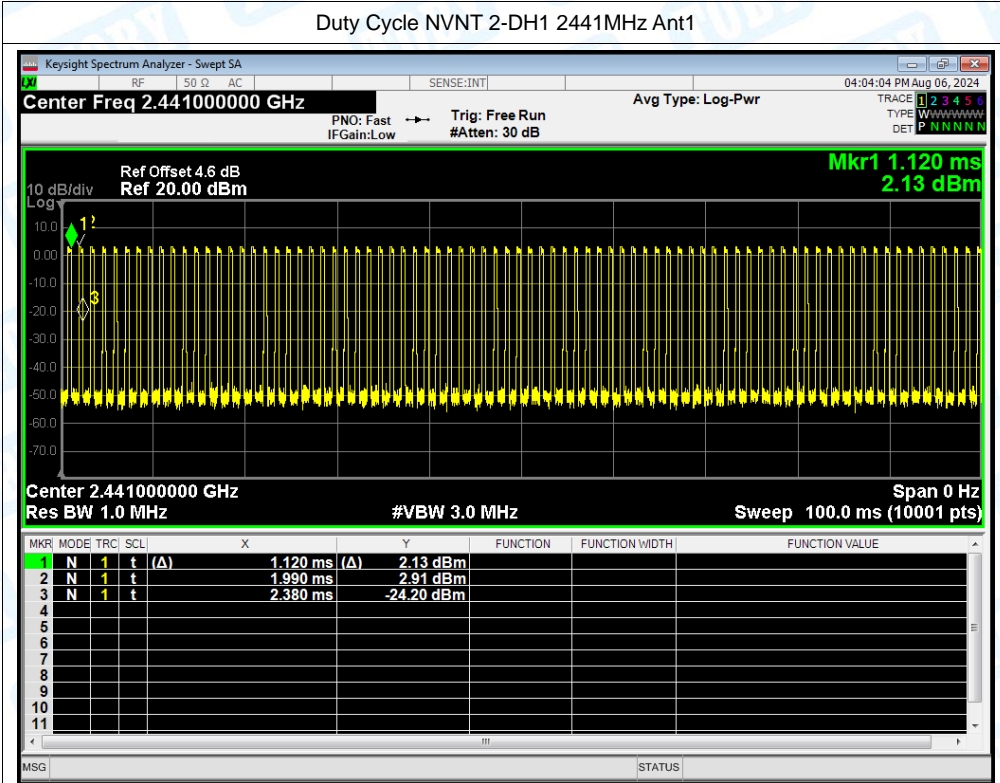
Duty Cycle NVNT 1-DH1 2480MHz Ant1



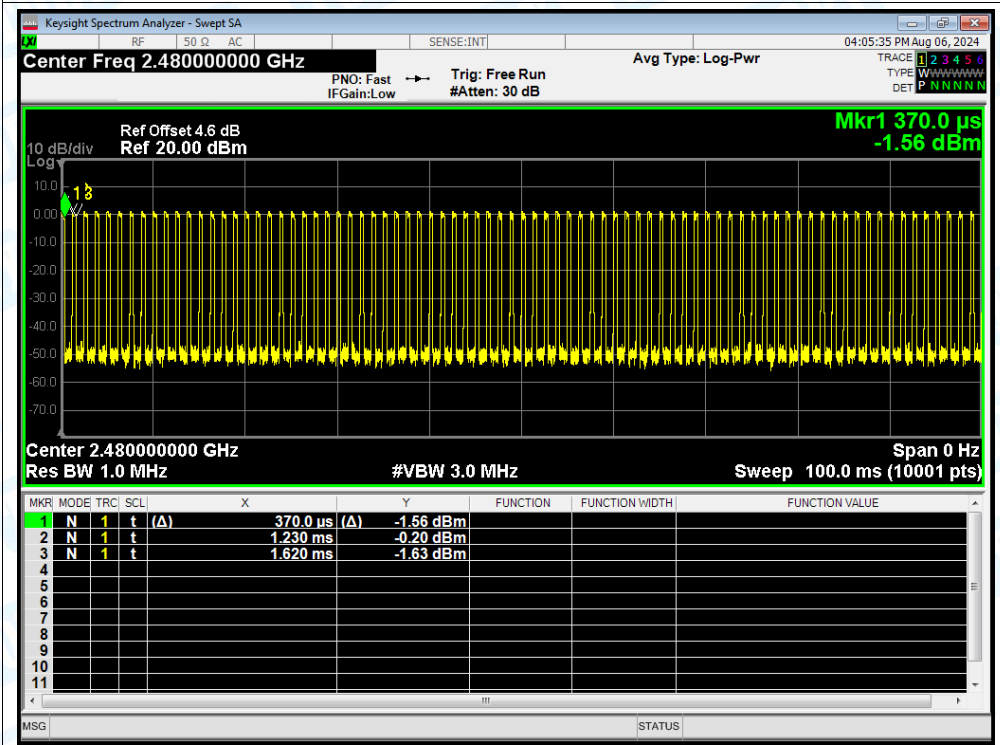
Duty Cycle NVNT 2-DH1 2402MHz Ant1



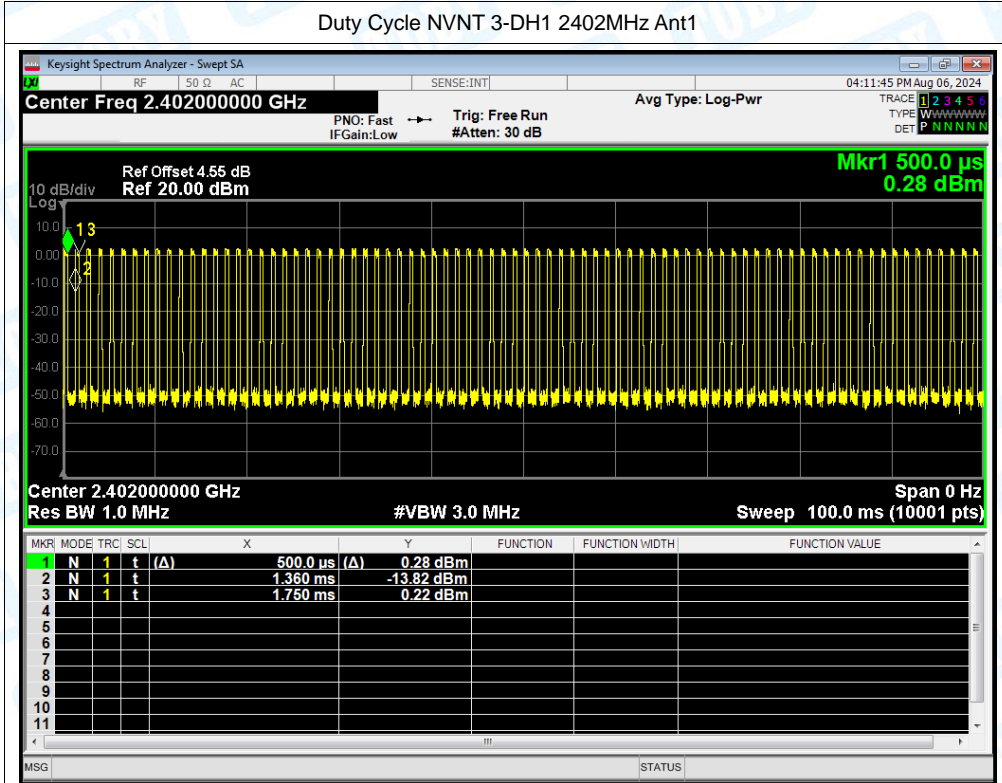
Duty Cycle NVNT 2-DH1 2441MHz Ant1



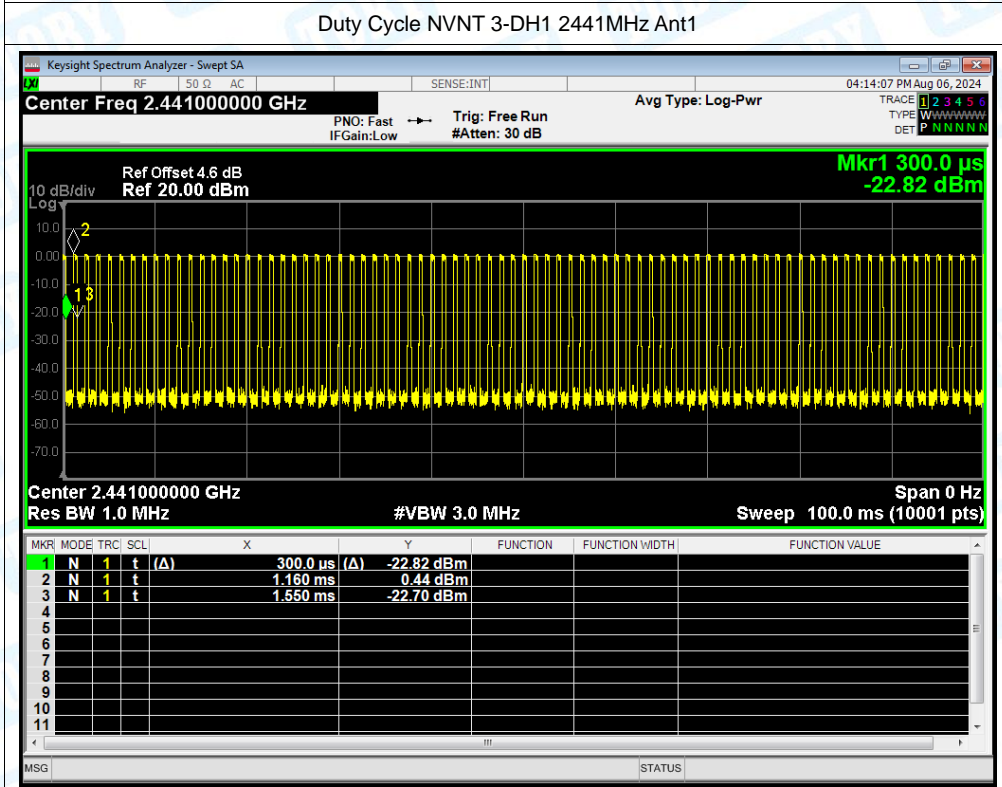
Duty Cycle NVNT 2-DH1 2480MHz Ant1

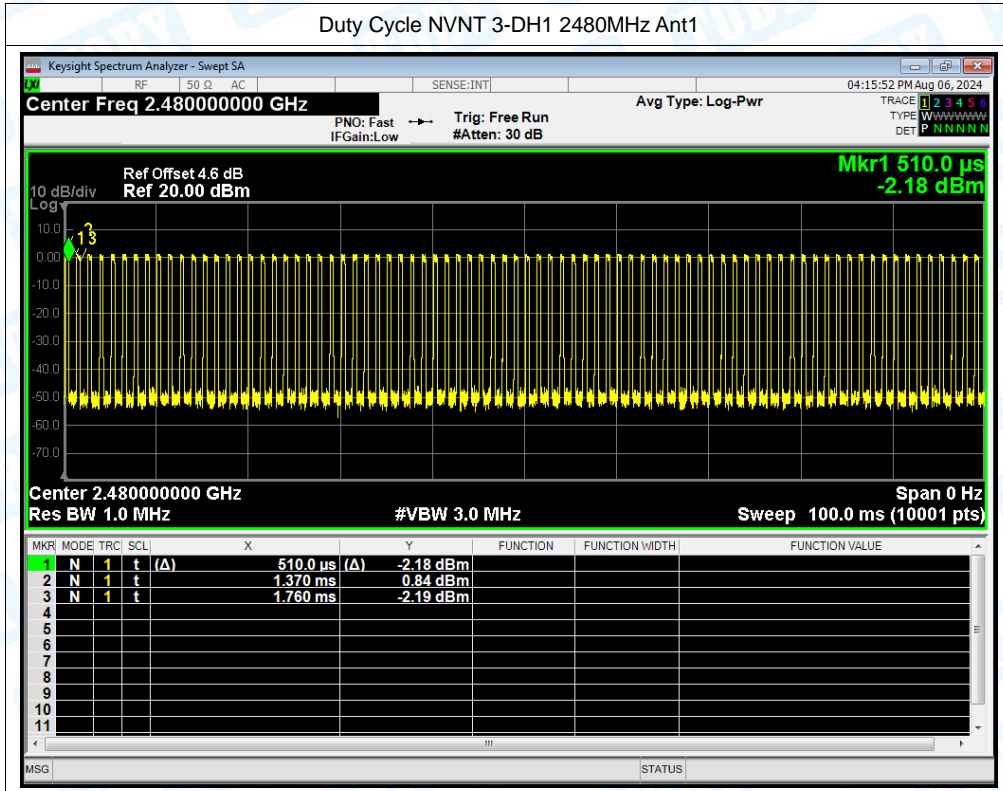


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



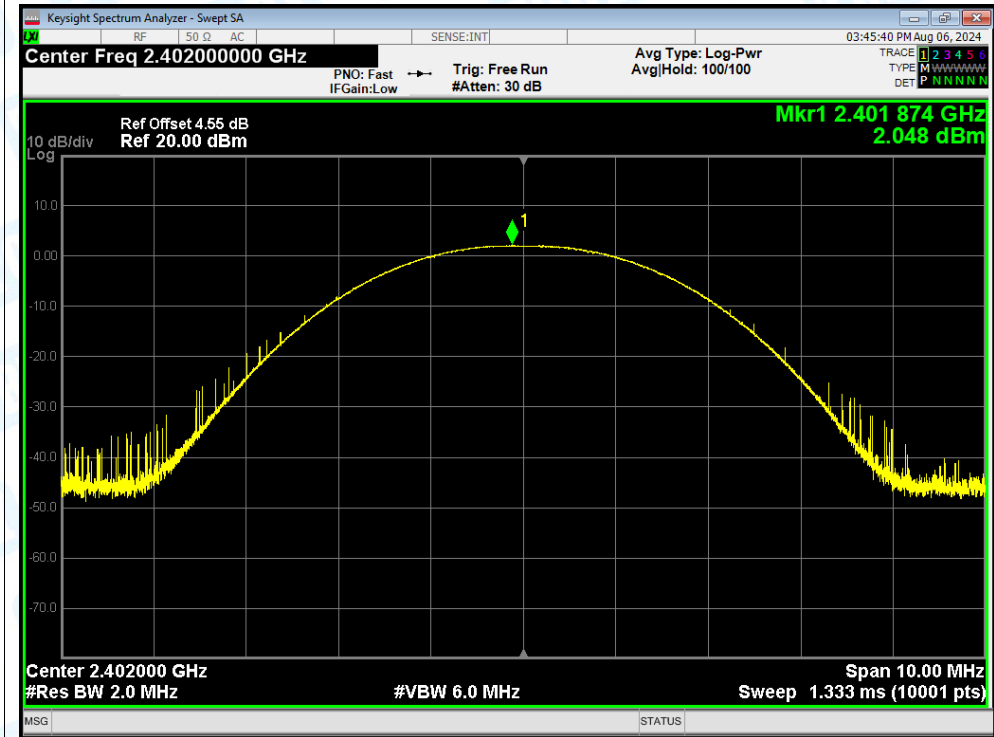


2. Maximum Conducted Output Power

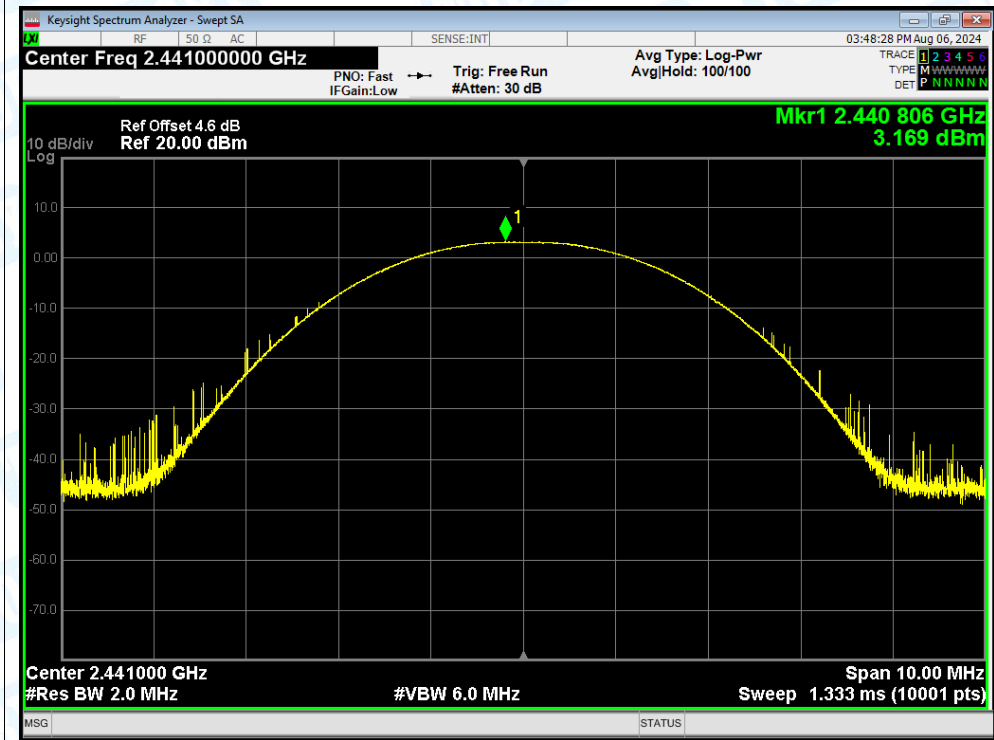
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	2.048	21	Pass
NVNT	1-DH1	2441	Ant1	3.169	21	Pass
NVNT	1-DH1	2480	Ant1	1.115	21	Pass
NVNT	1-DH3	2441	Ant1	3.291	21	Pass
NVNT	1-DH5	2441	Ant1	3.223	21	Pass
NVNT	2-DH1	2402	Ant1	2.384	21	Pass
NVNT	2-DH1	2441	Ant1	3.327	21	Pass
NVNT	2-DH1	2480	Ant1	1.215	21	Pass
NVNT	2-DH3	2441	Ant1	3.212	21	Pass
NVNT	2-DH5	2441	Ant1	3.221	21	Pass
NVNT	3-DH1	2402	Ant1	2.881	21	Pass
NVNT	3-DH1	2441	Ant1	3.598	21	Pass
NVNT	3-DH1	2480	Ant1	1.327	21	Pass
NVNT	3-DH3	2441	Ant1	3.608	21	Pass
NVNT	3-DH5	2441	Ant1	3.668	21	Pass

Test Graphs

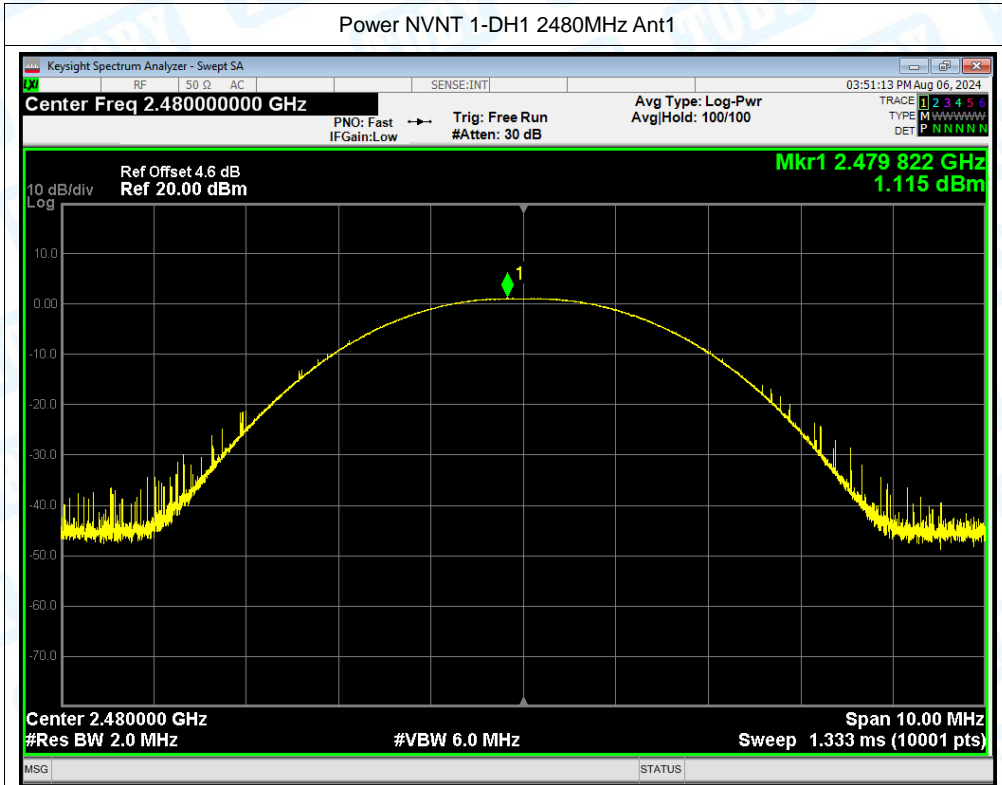
Power NVNT 1-DH1 2402MHz Ant1



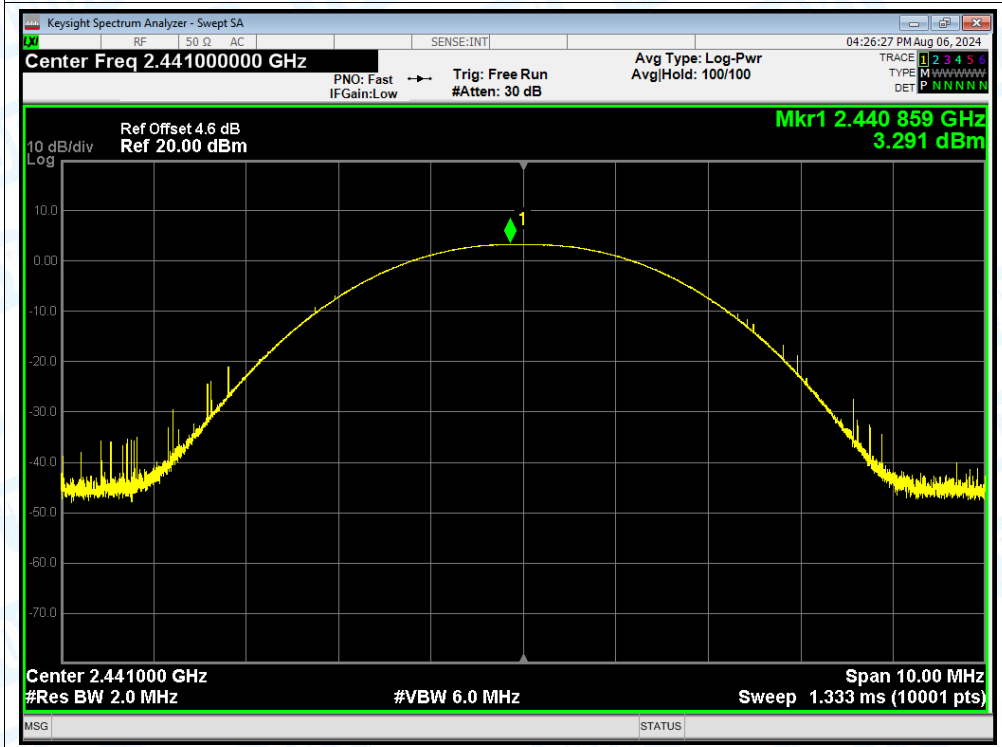
Power NVNT 1-DH1 2441MHz Ant1



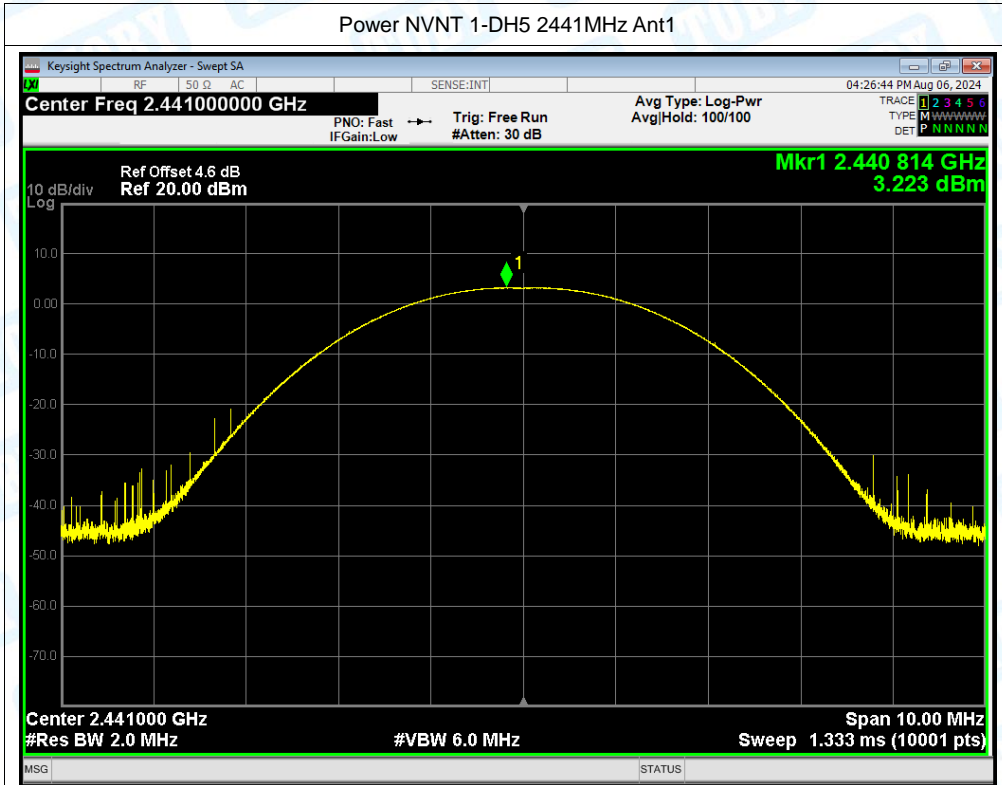
Power NVNT 1-DH1 2480MHz Ant1



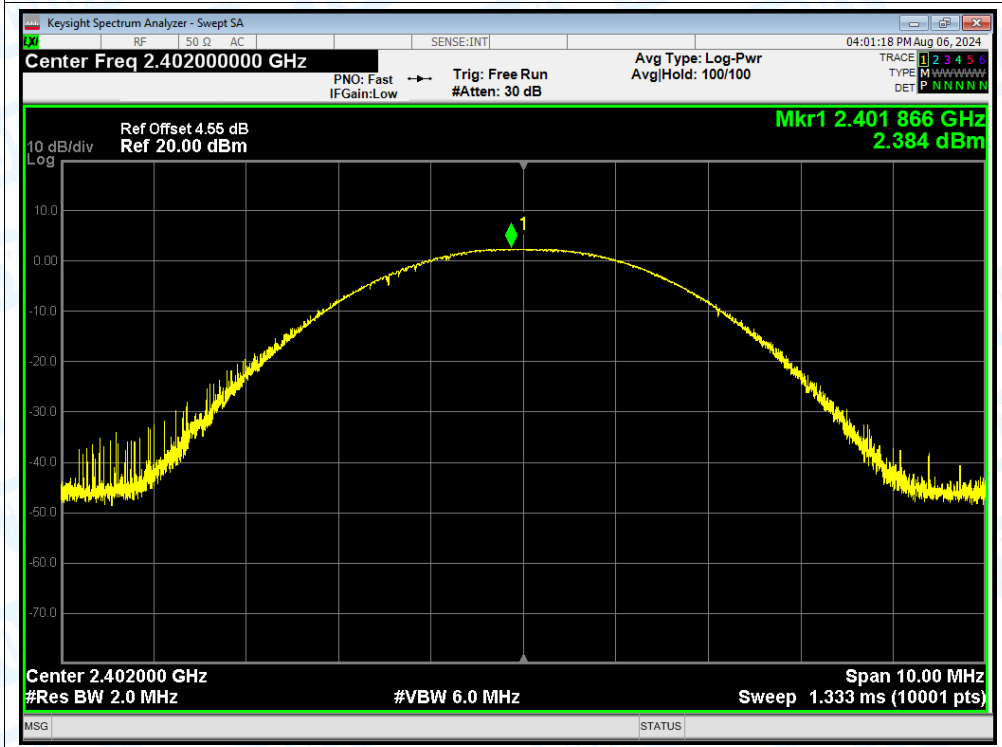
Power NVNT 1-DH3 2441MHz Ant1



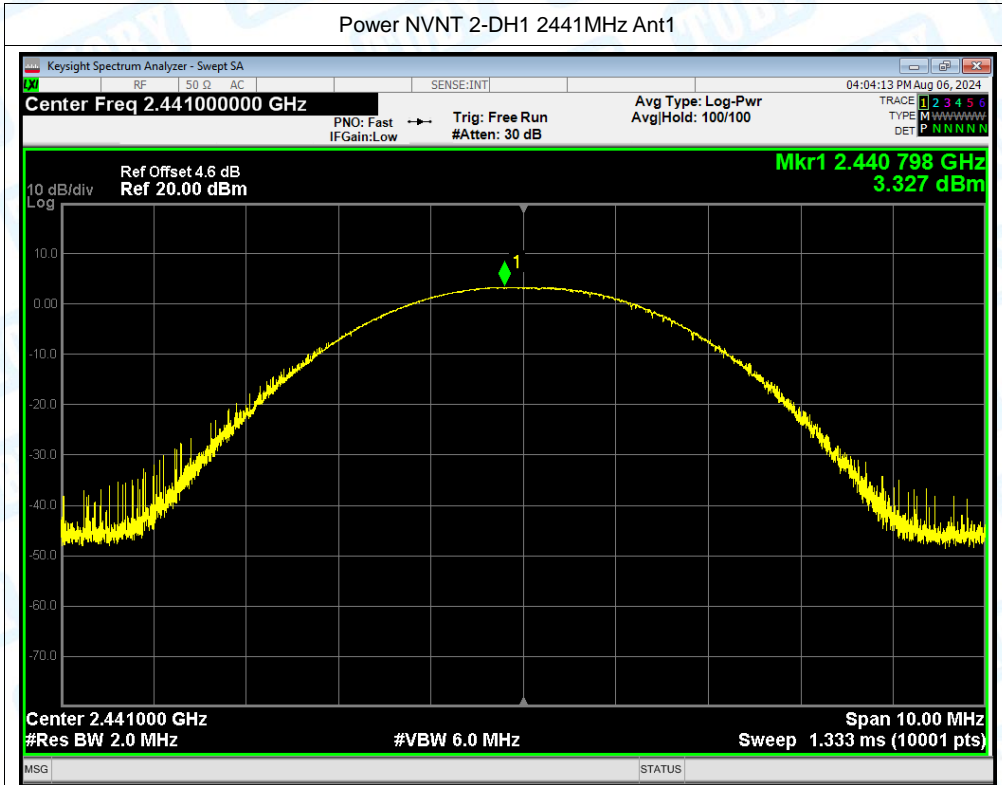
Power NVNT 1-DH5 2441MHz Ant1



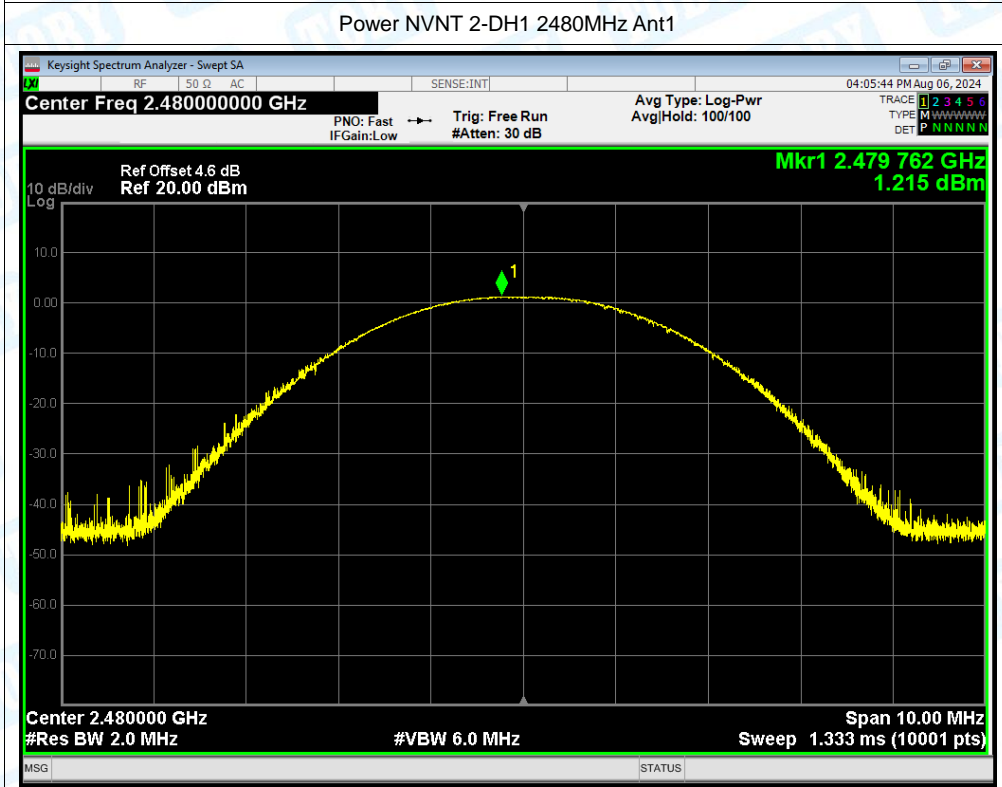
Power NVNT 2-DH1 2402MHz Ant1

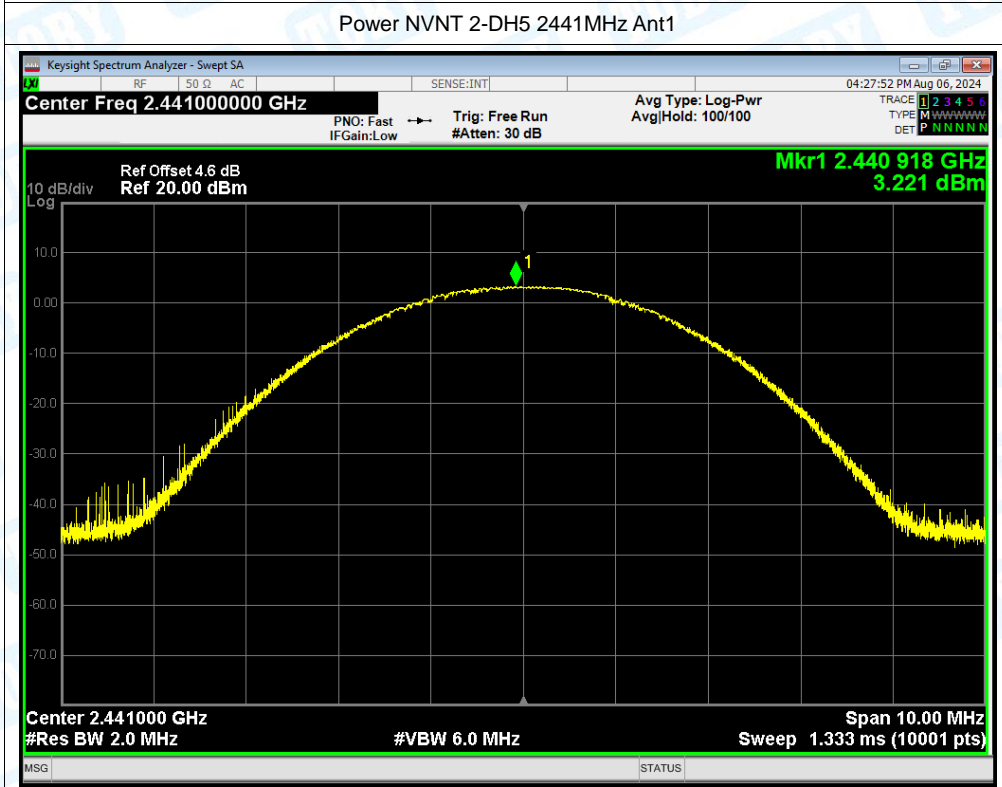
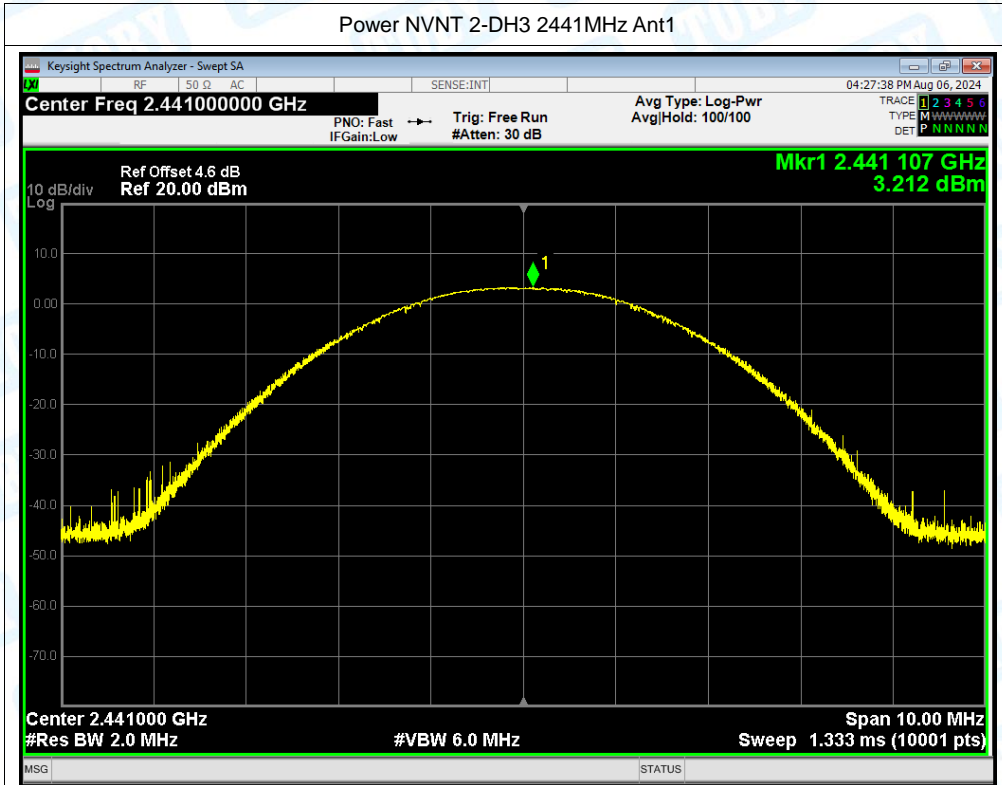


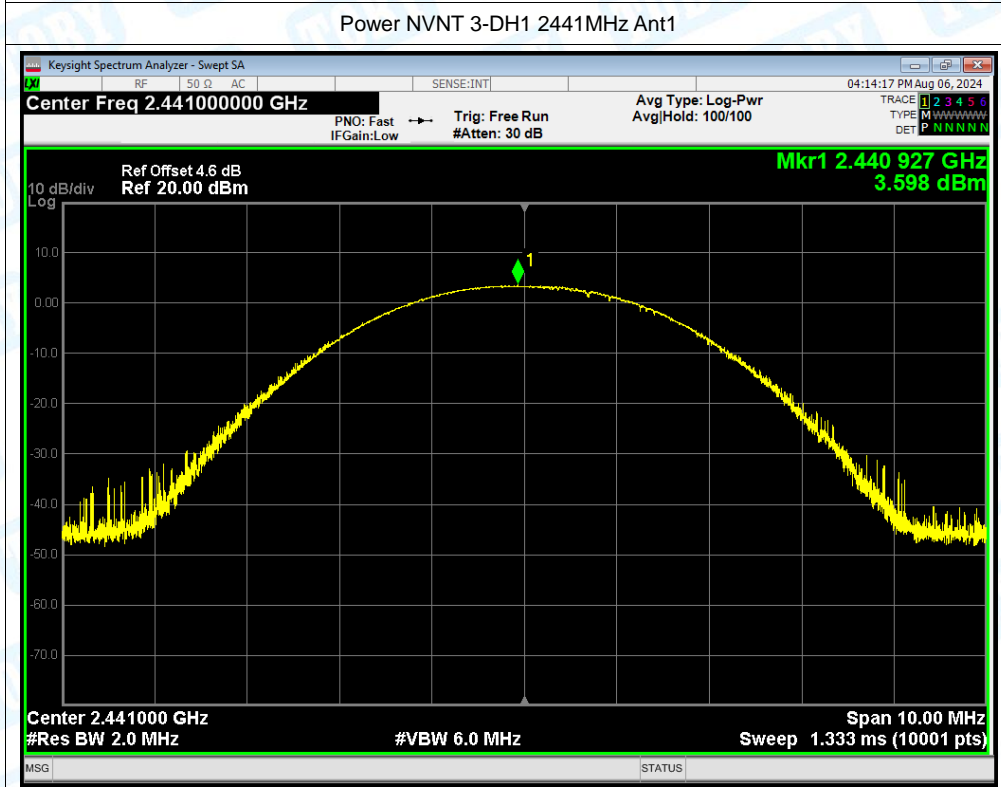
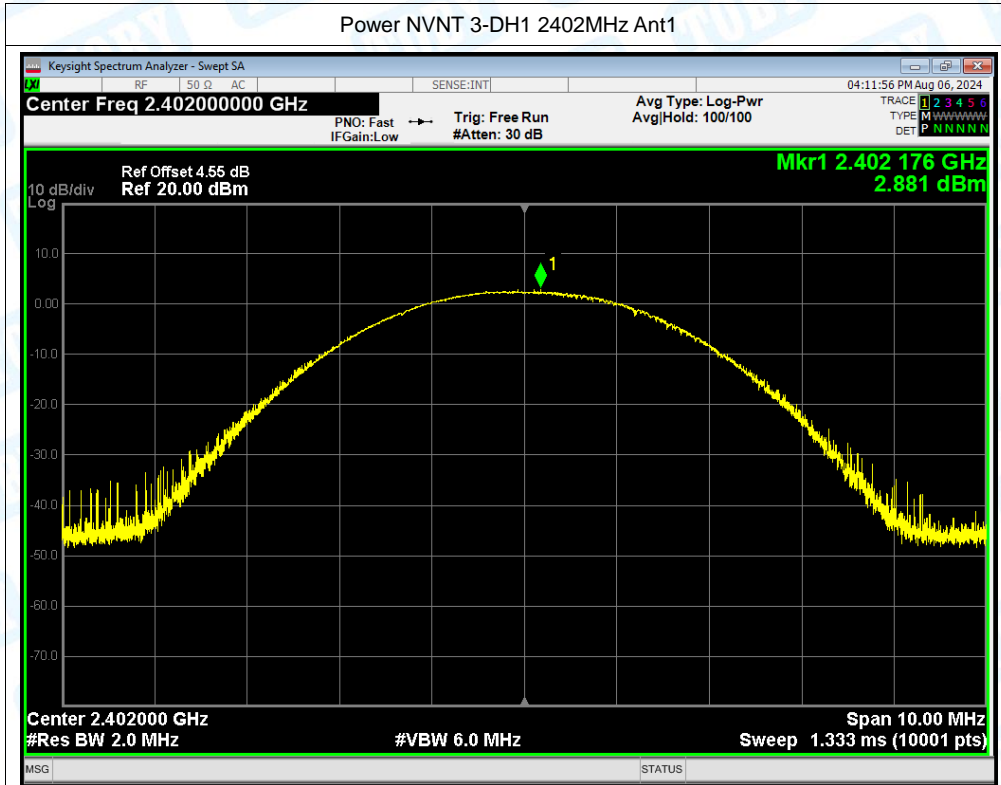
Power NVNT 2-DH1 2441MHz Ant1

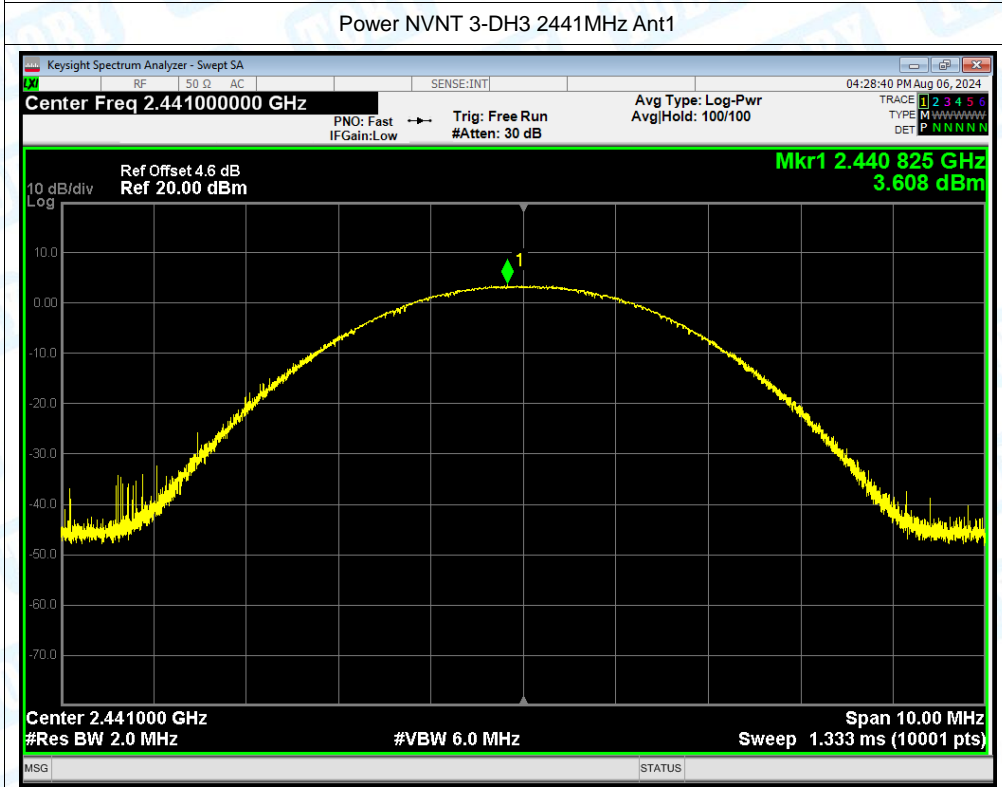
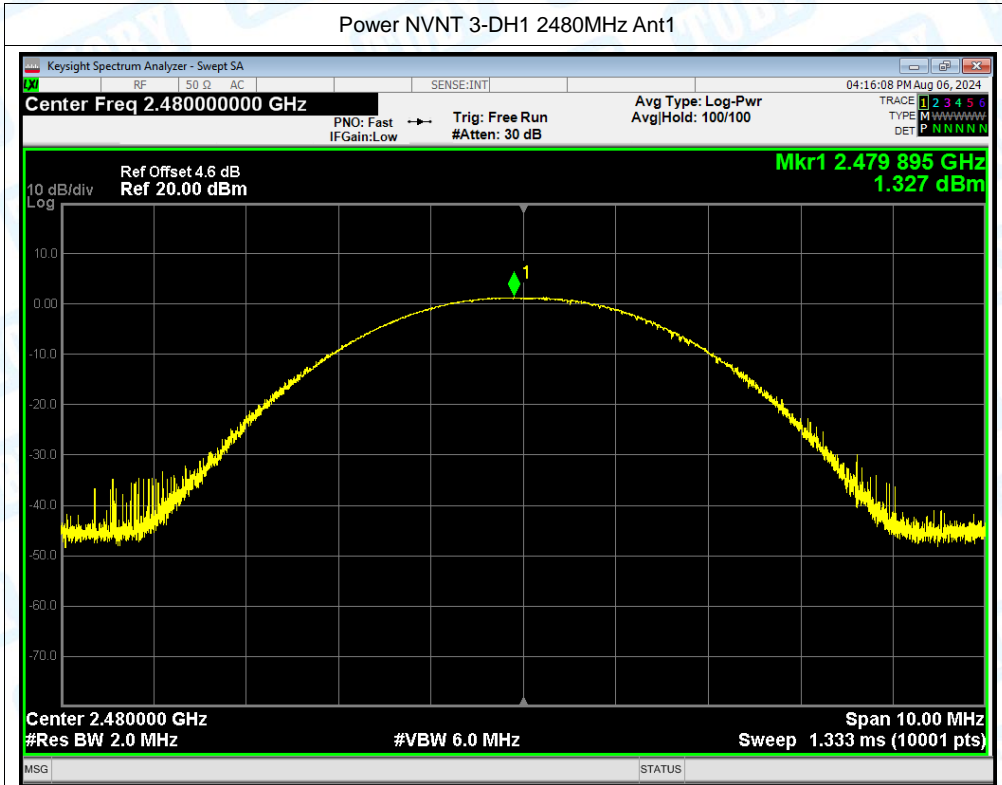


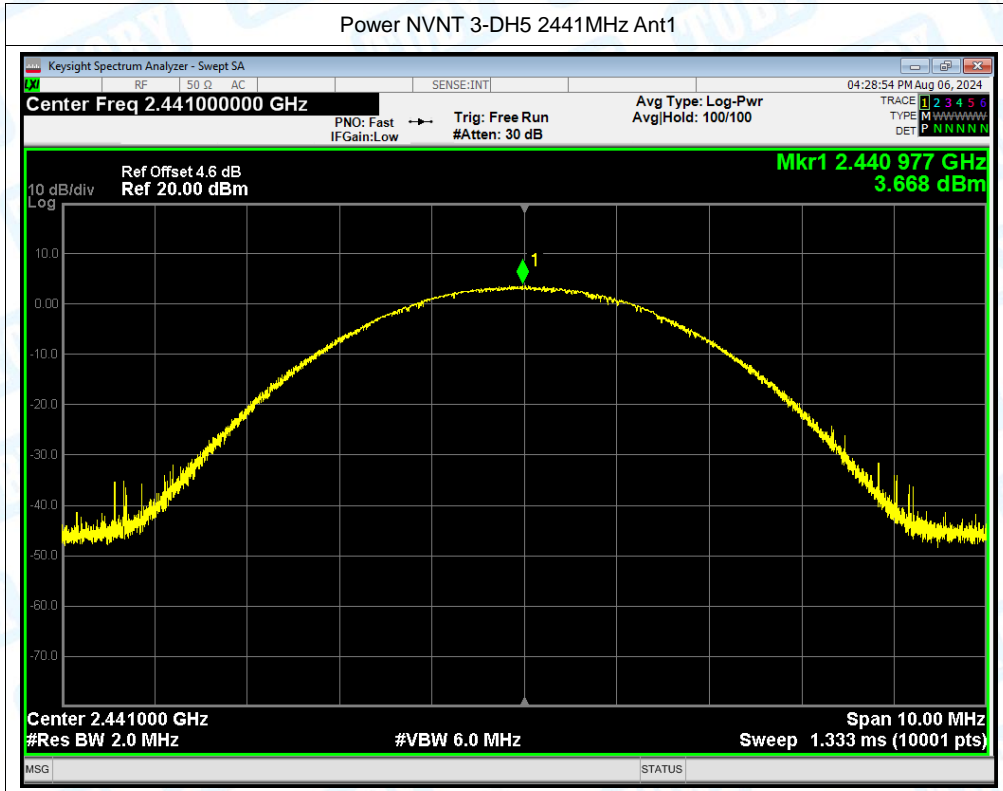
Power NVNT 2-DH1 2480MHz Ant1









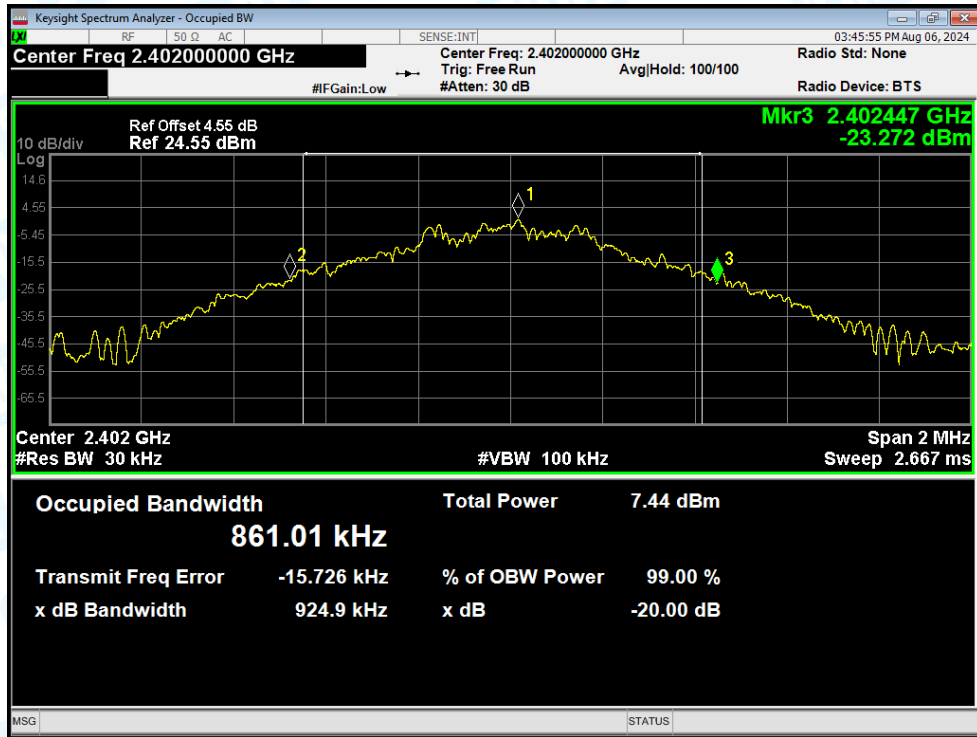


3. -20dB Bandwidth

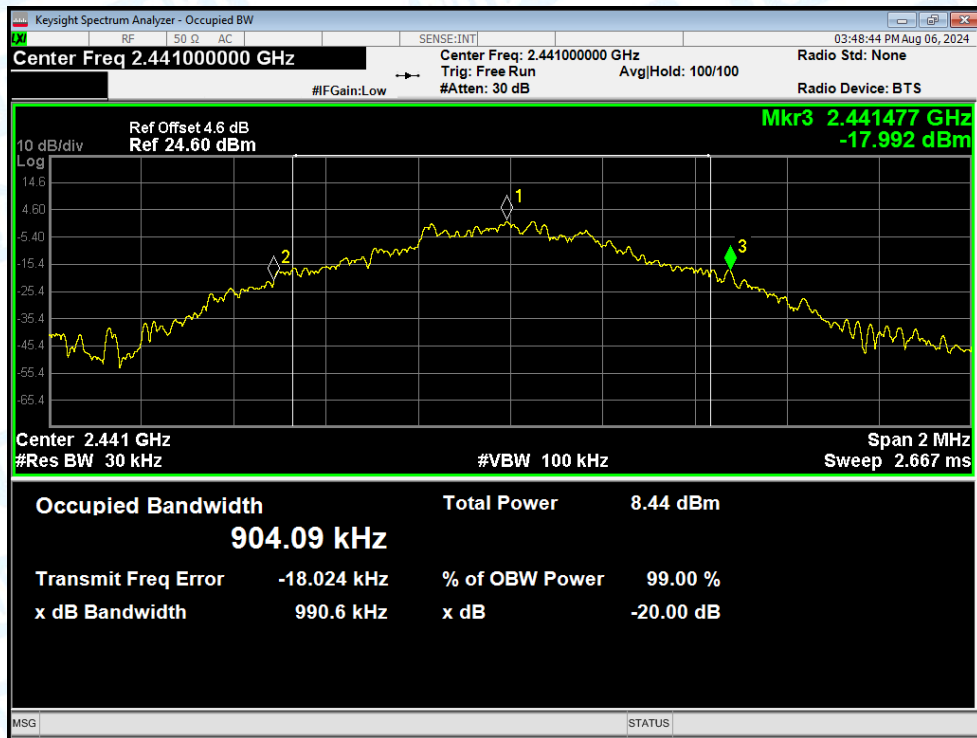
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.92	0	Pass
NVNT	1-DH1	2441	Ant1	0.99	0	Pass
NVNT	1-DH1	2480	Ant1	0.86	0	Pass
NVNT	2-DH1	2402	Ant1	1.24	0	Pass
NVNT	2-DH1	2441	Ant1	1.24	0	Pass
NVNT	2-DH1	2480	Ant1	1.3	0	Pass
NVNT	3-DH1	2402	Ant1	1.26	0	Pass
NVNT	3-DH1	2441	Ant1	1.3	0	Pass
NVNT	3-DH1	2480	Ant1	1.3	0	Pass

Test Graphs

-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



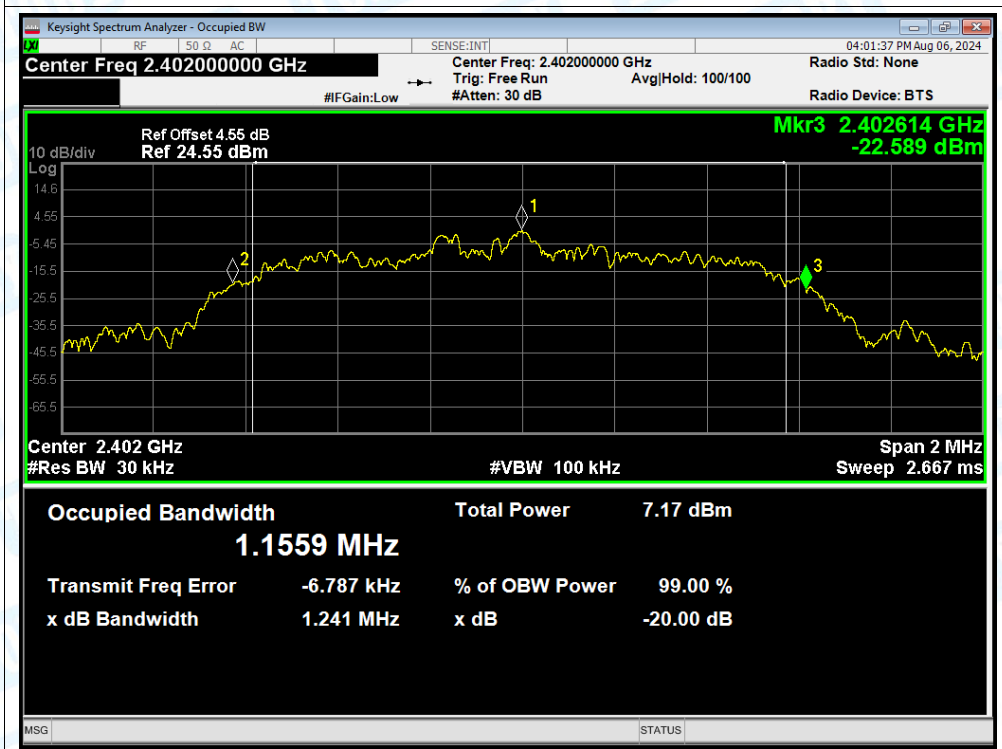
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



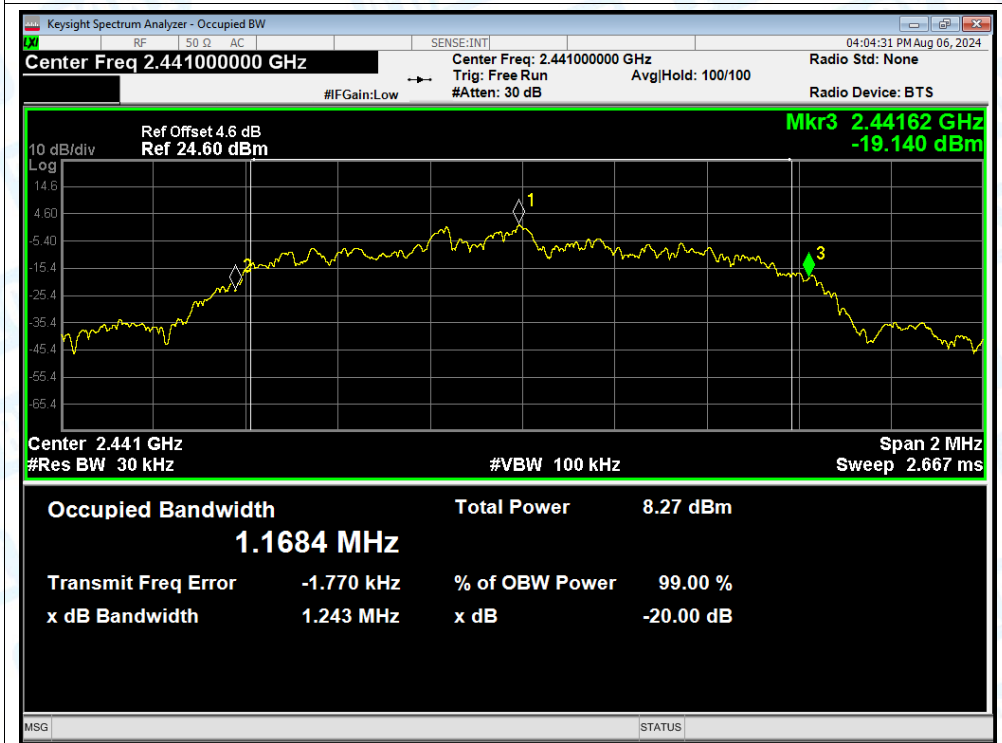
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



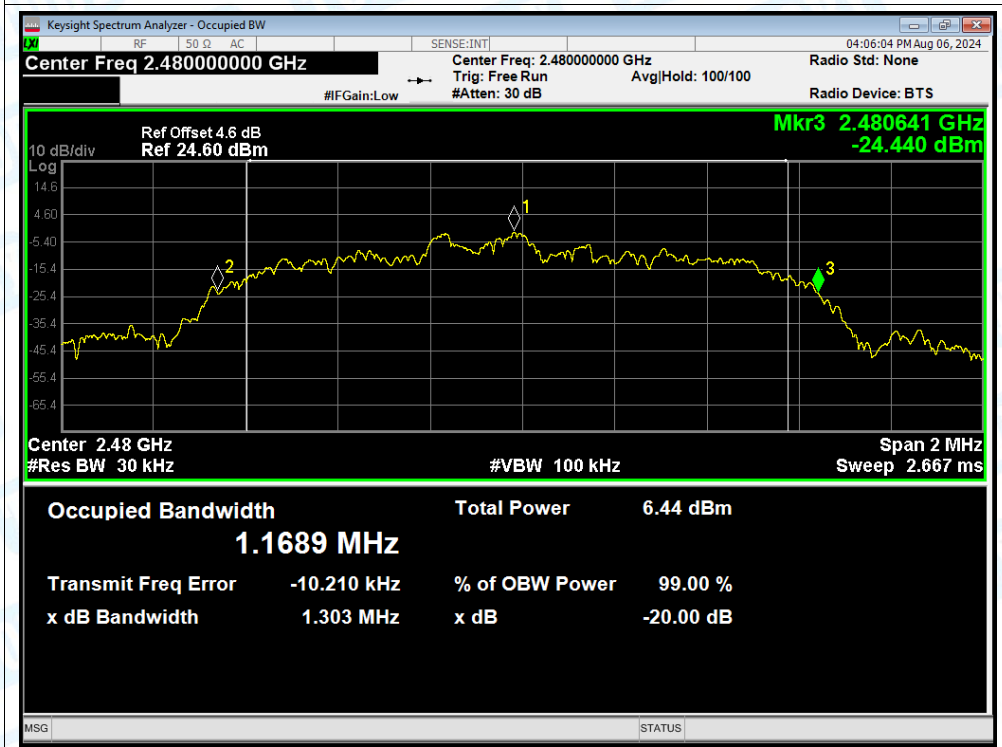
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



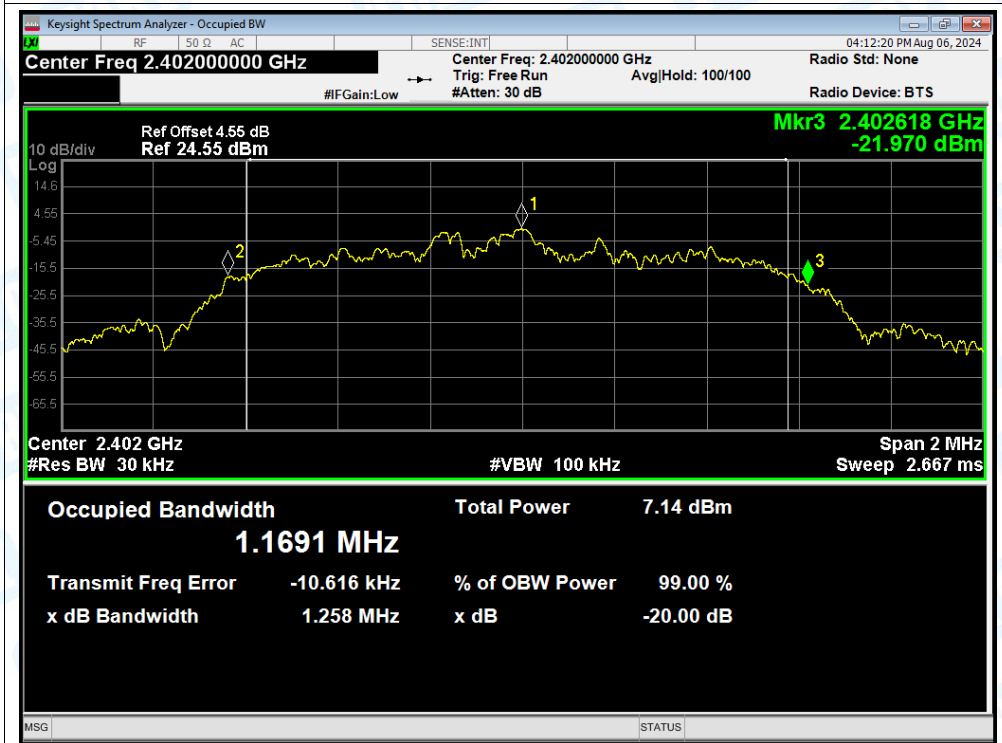
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



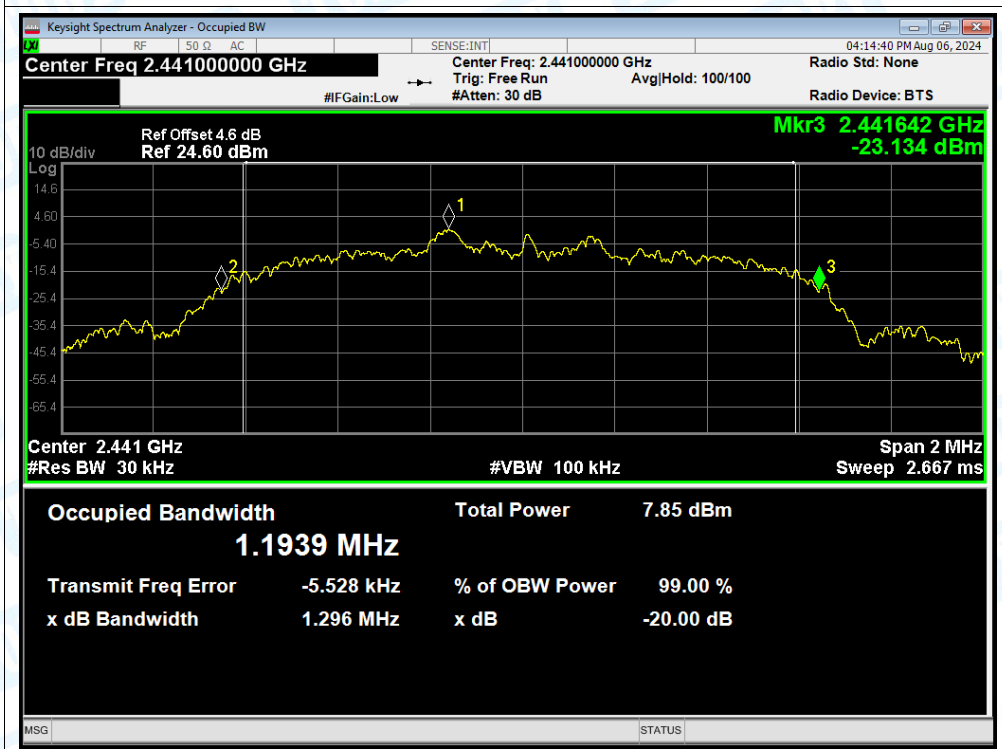
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

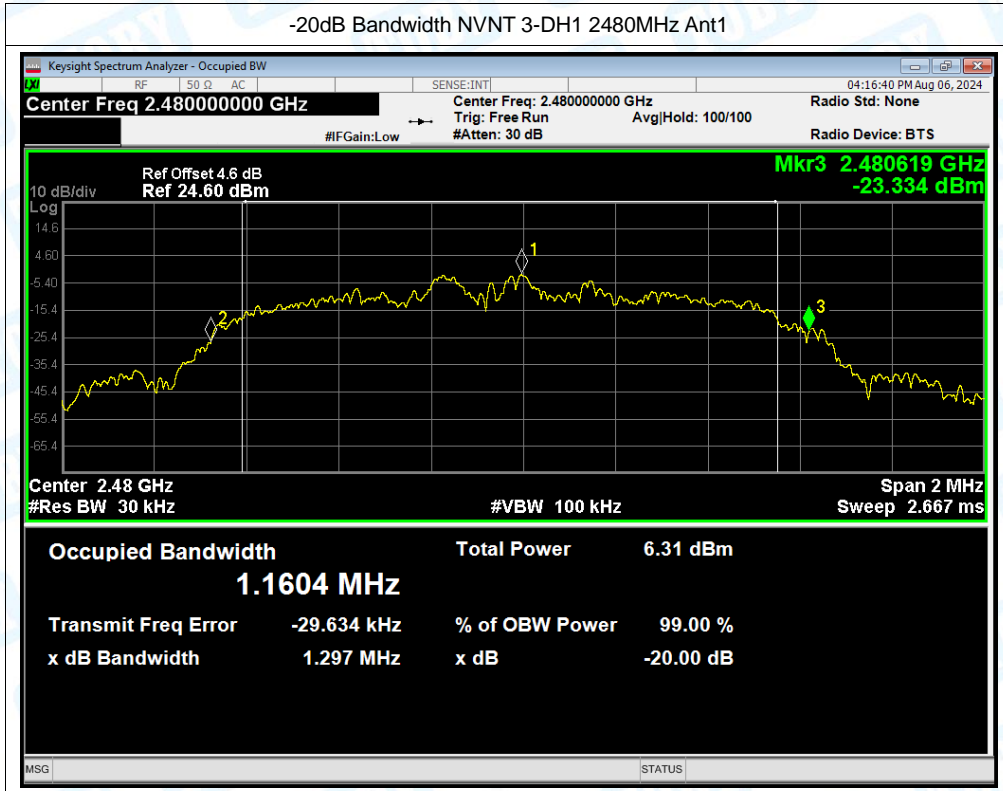


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



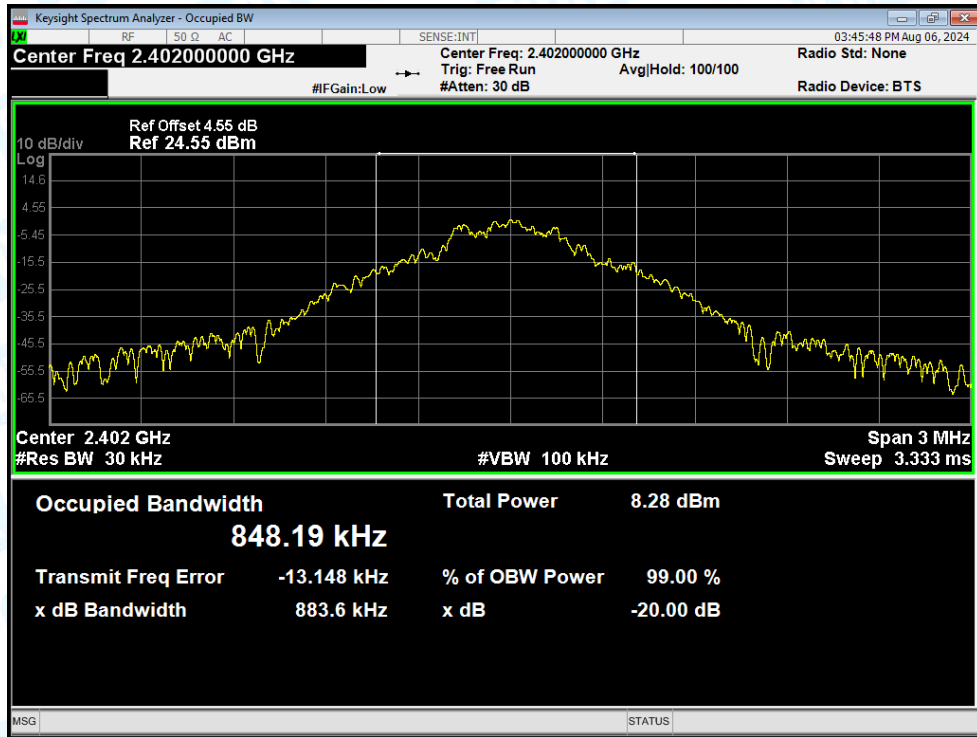


4. Occupied Channel Bandwidth

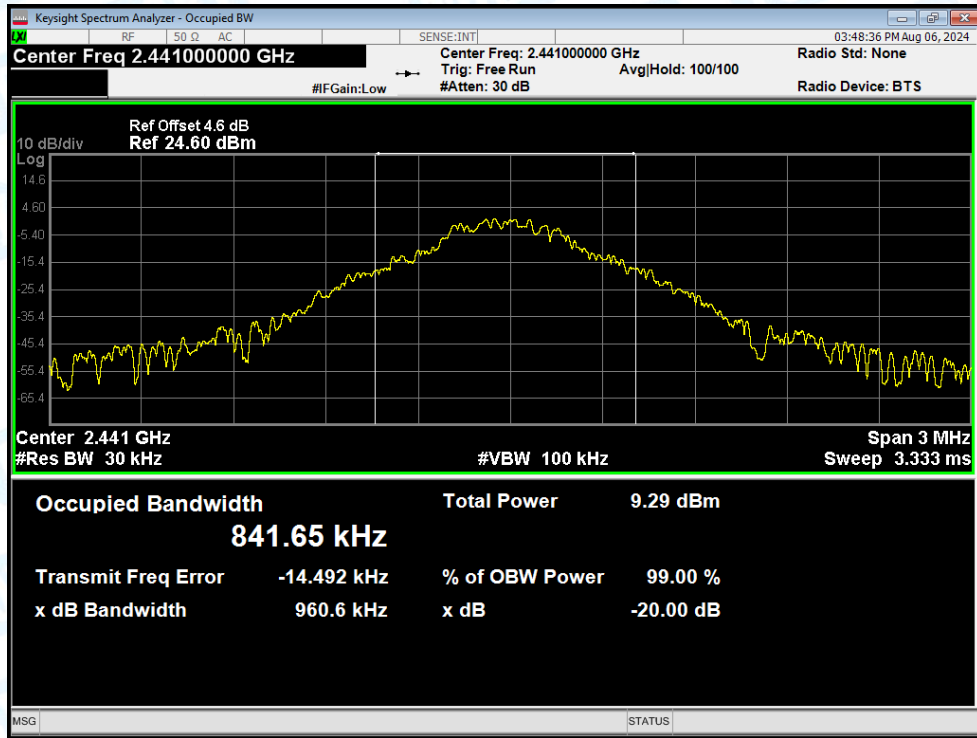
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.848
NVNT	1-DH1	2441	Ant1	0.842
NVNT	1-DH1	2480	Ant1	0.866
NVNT	2-DH1	2402	Ant1	1.147
NVNT	2-DH1	2441	Ant1	1.167
NVNT	2-DH1	2480	Ant1	1.154
NVNT	3-DH1	2402	Ant1	1.155
NVNT	3-DH1	2441	Ant1	1.179
NVNT	3-DH1	2480	Ant1	1.17

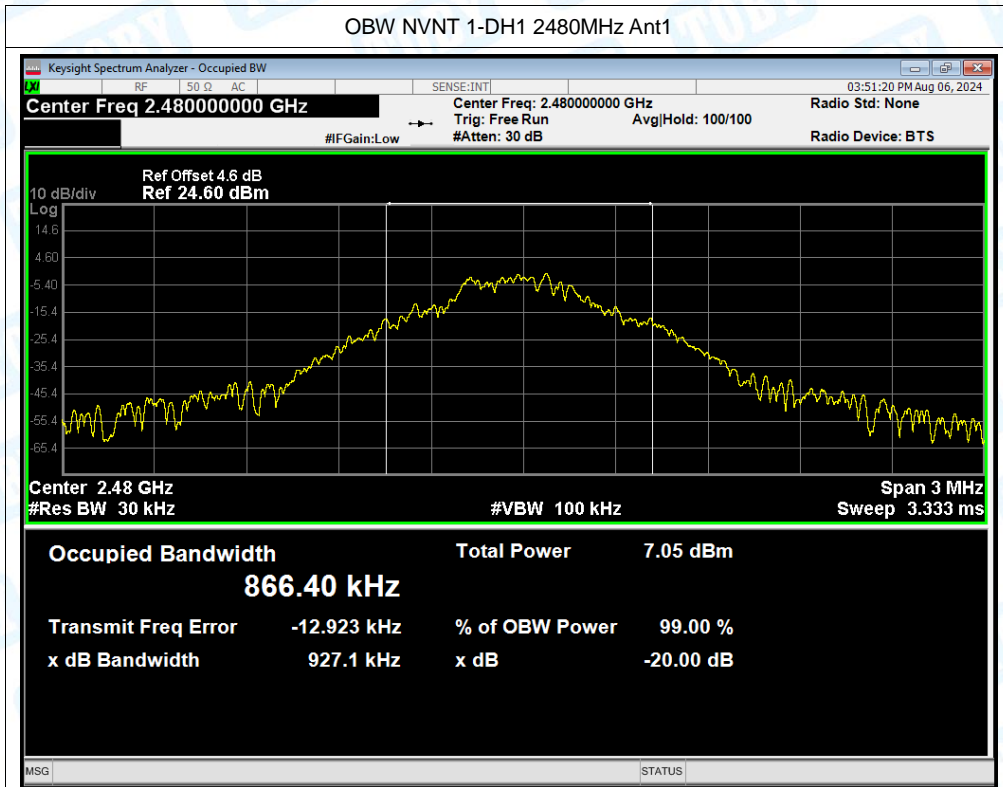
Test Graphs

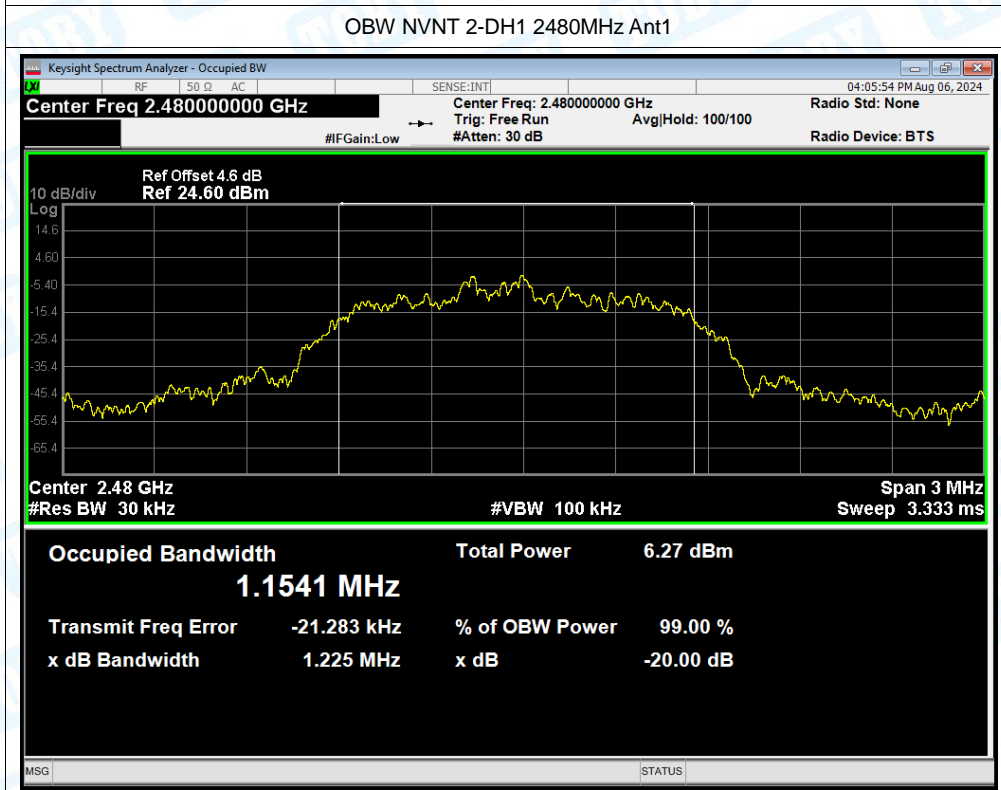
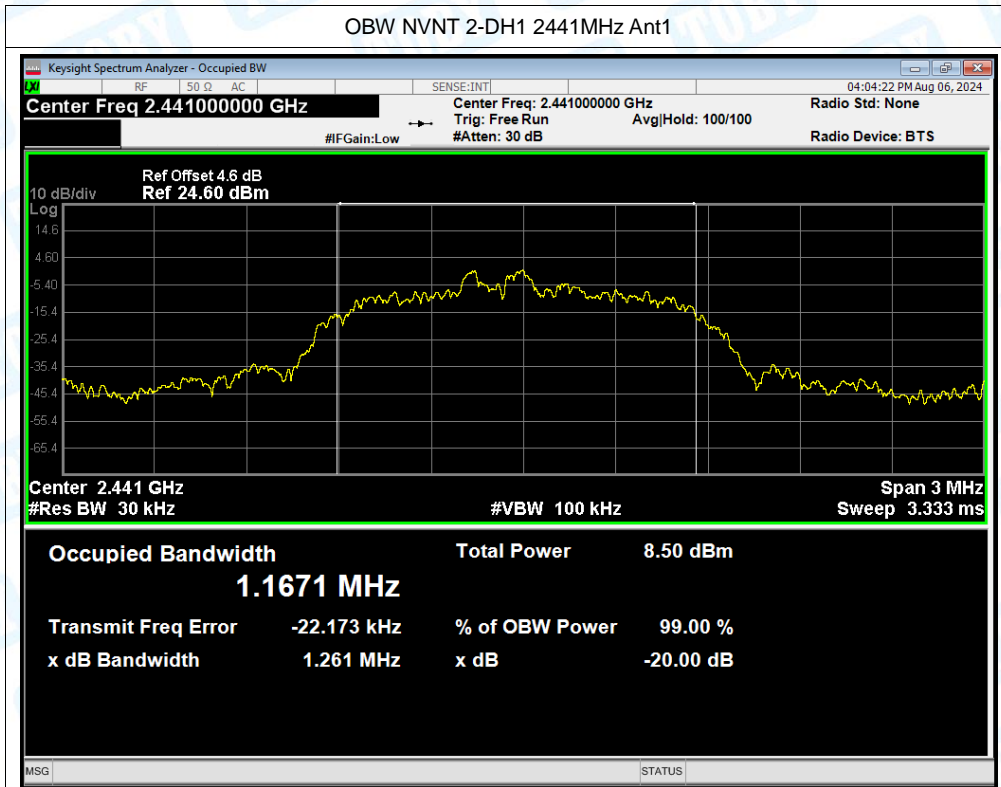
OBW NVNT 1-DH1 2402MHz Ant1



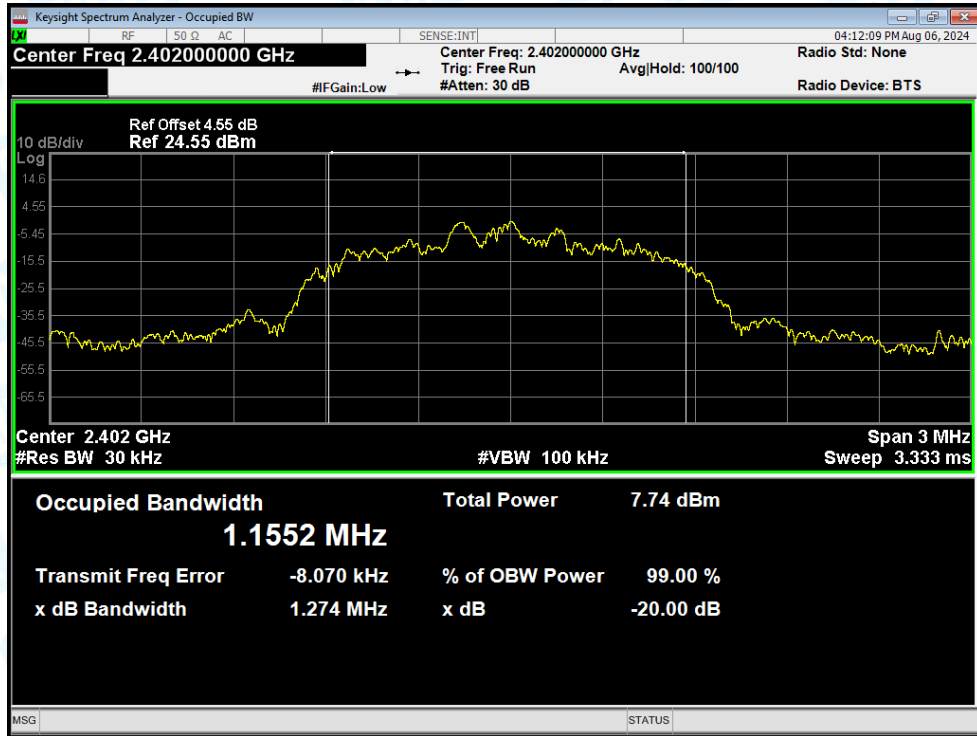
OBW NVNT 1-DH1 2441MHz Ant1



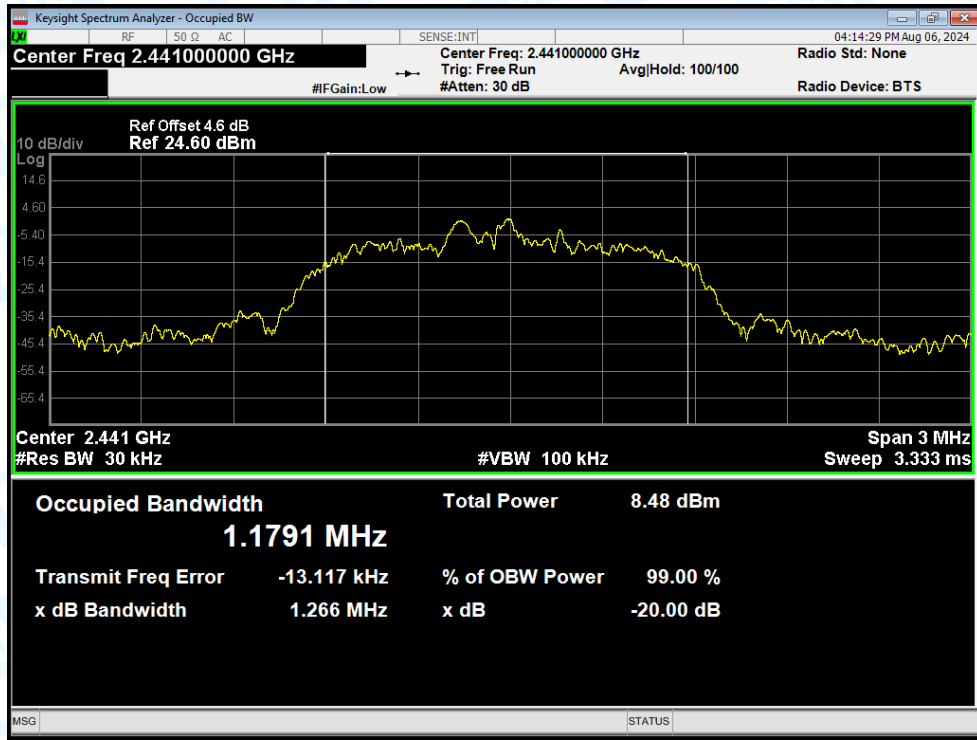


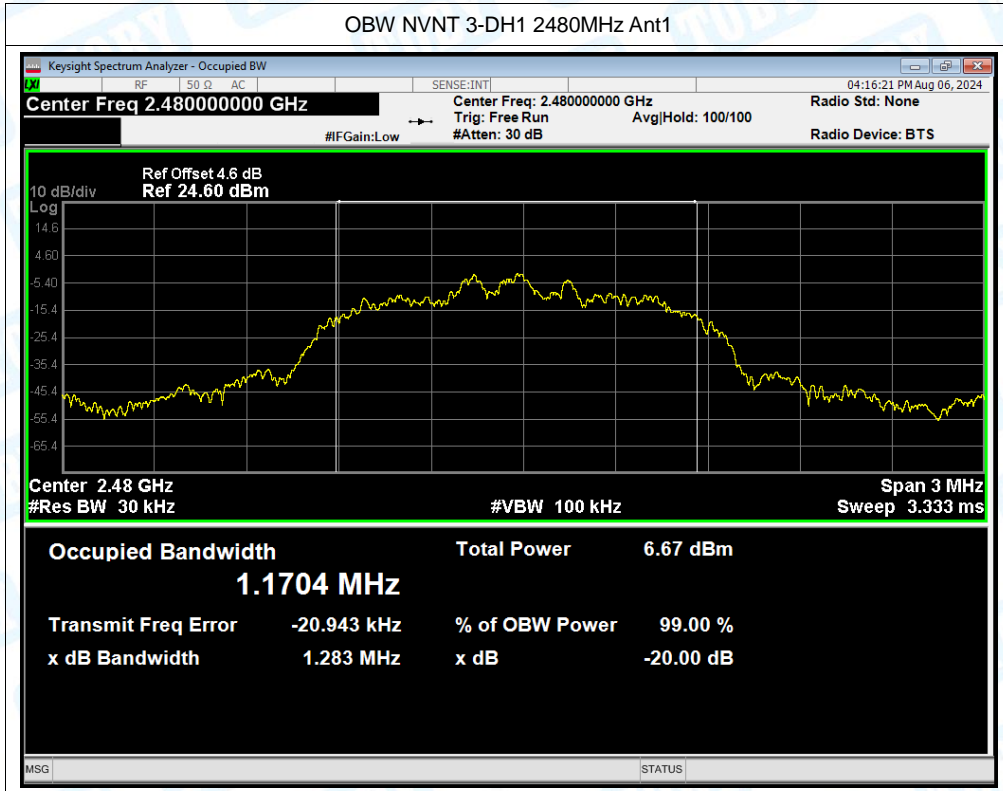


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



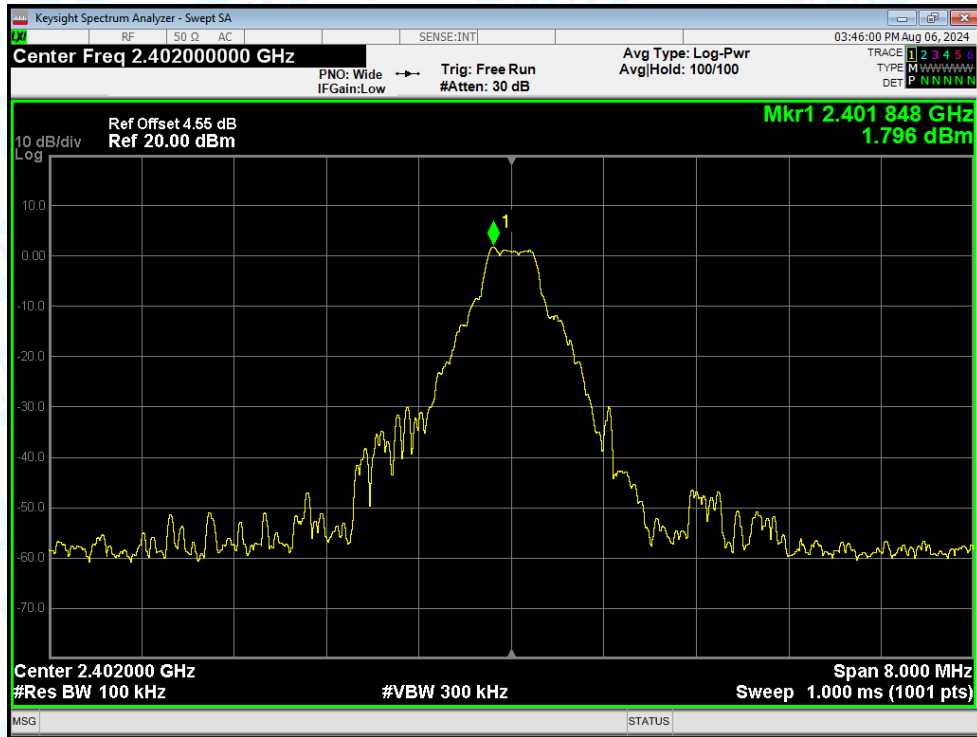


5. Band Edge

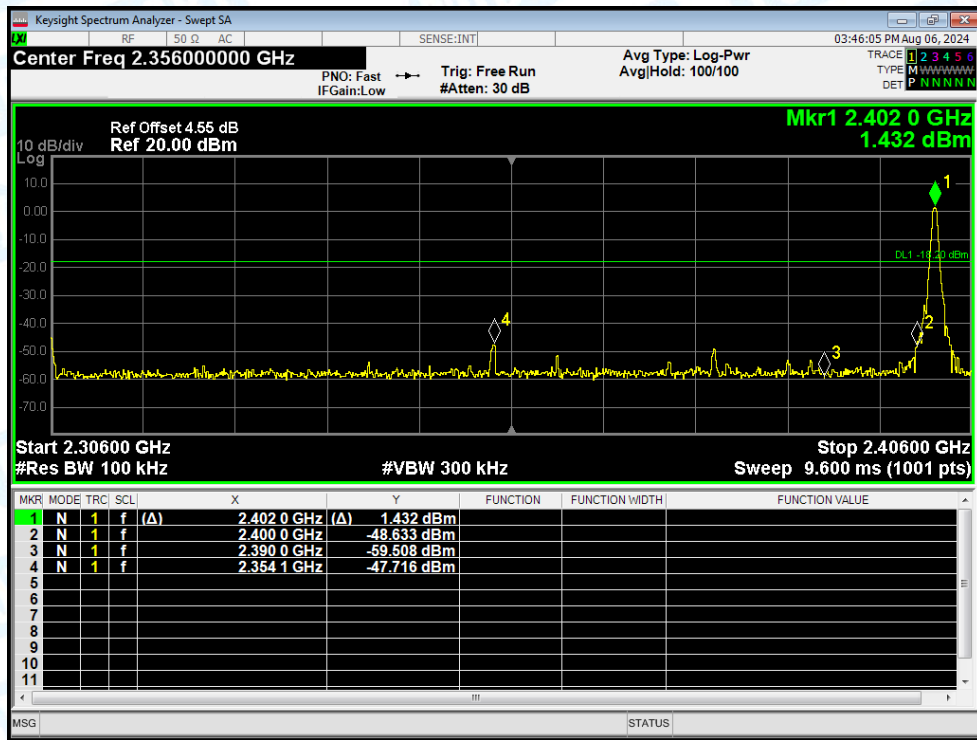
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-49.52	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-55.22	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-50.31	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-55.79	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-48.58	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-55.84	-20	Pass

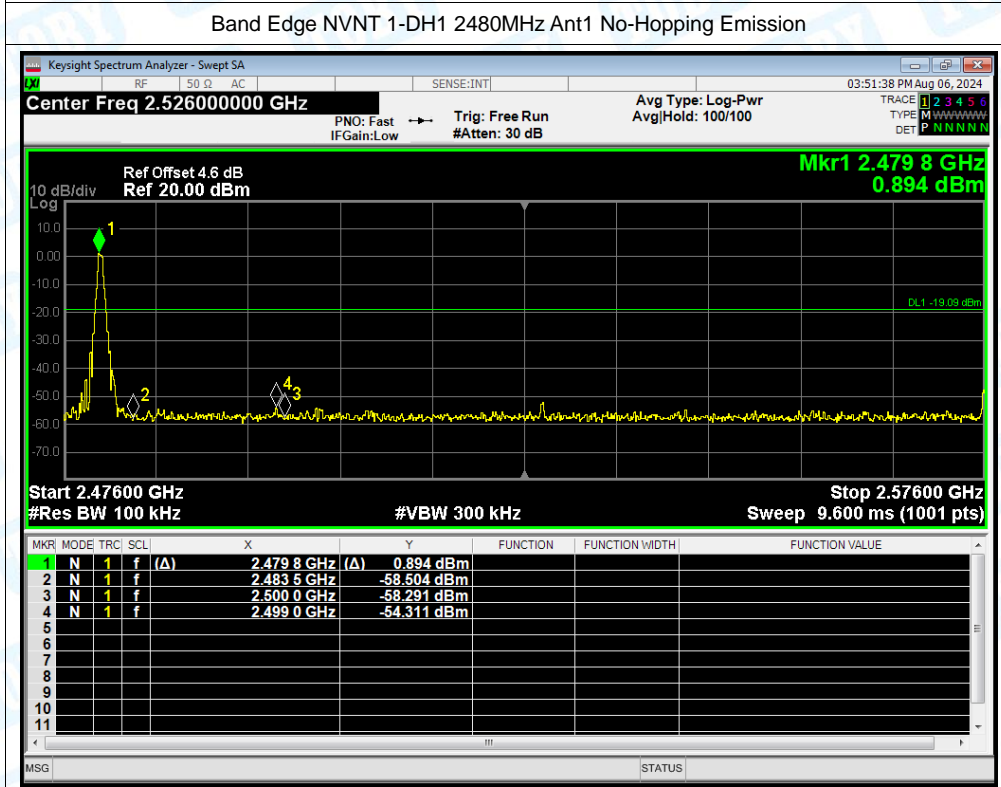
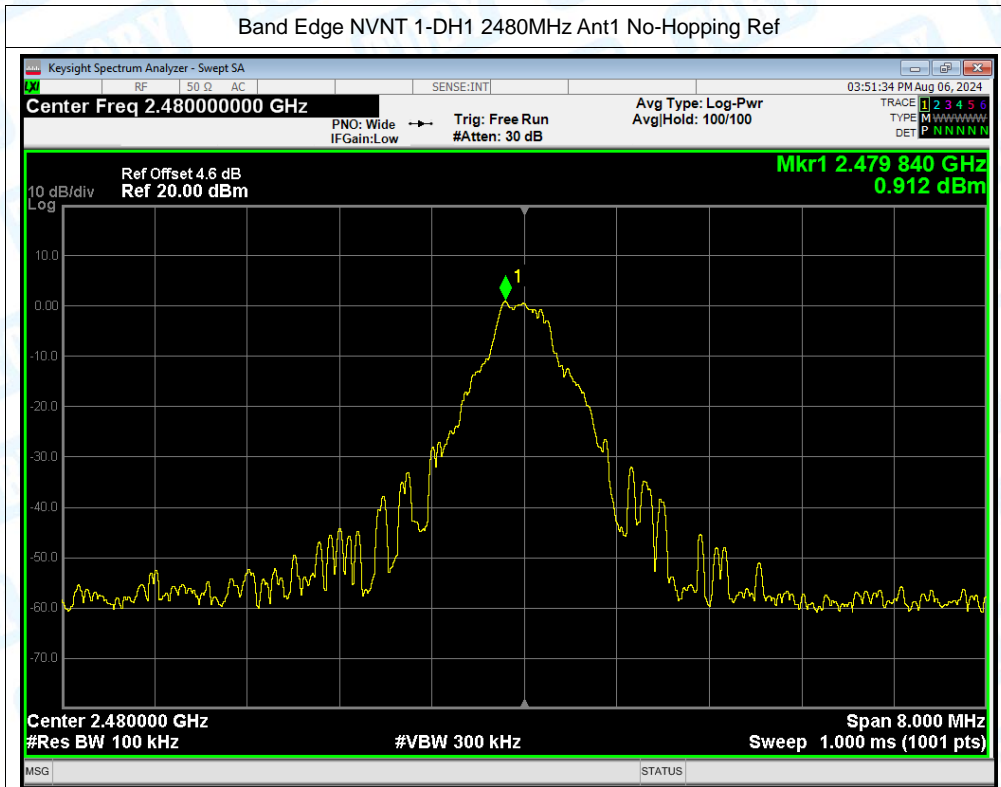
Test Graphs

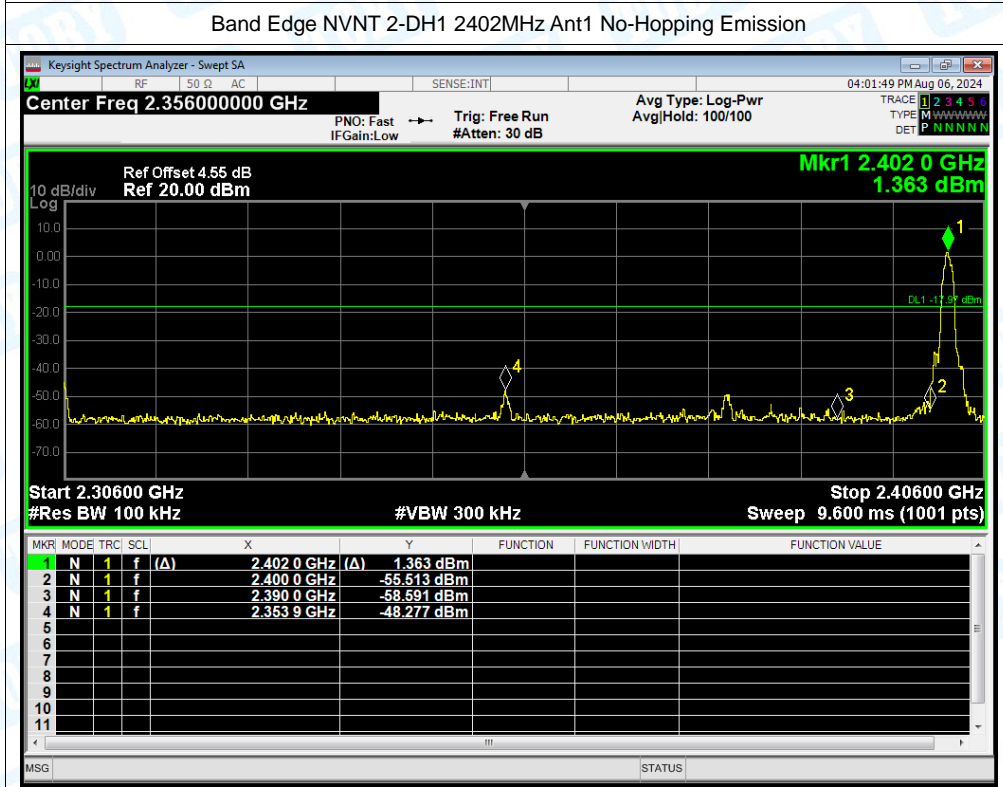
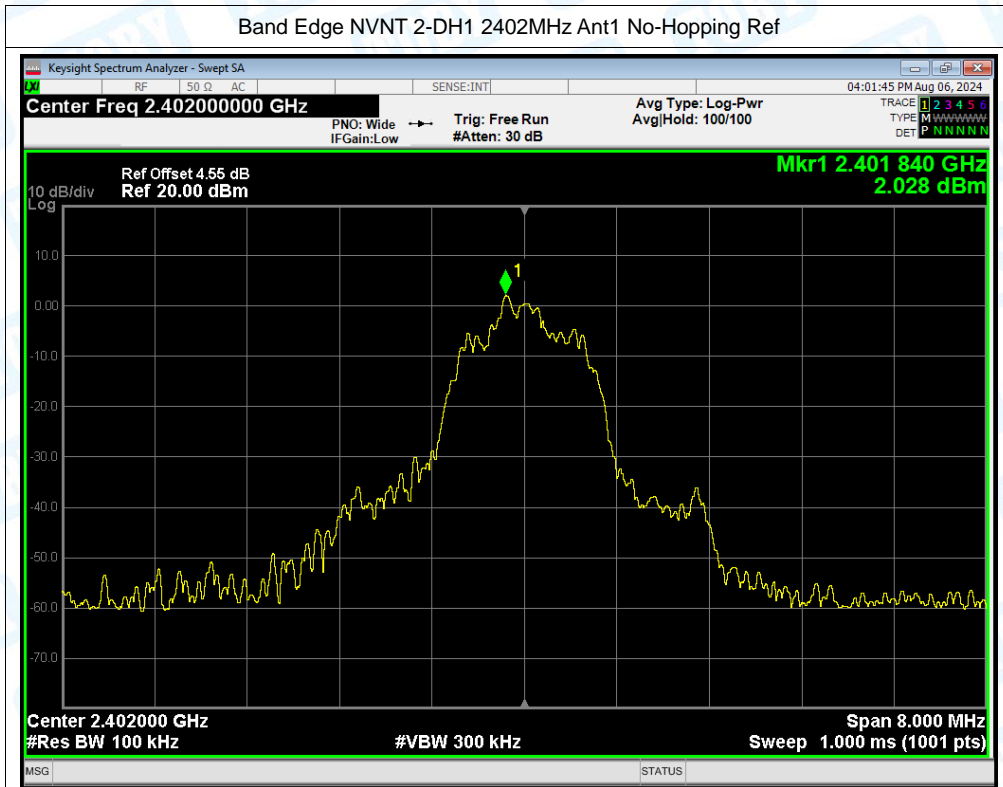
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref

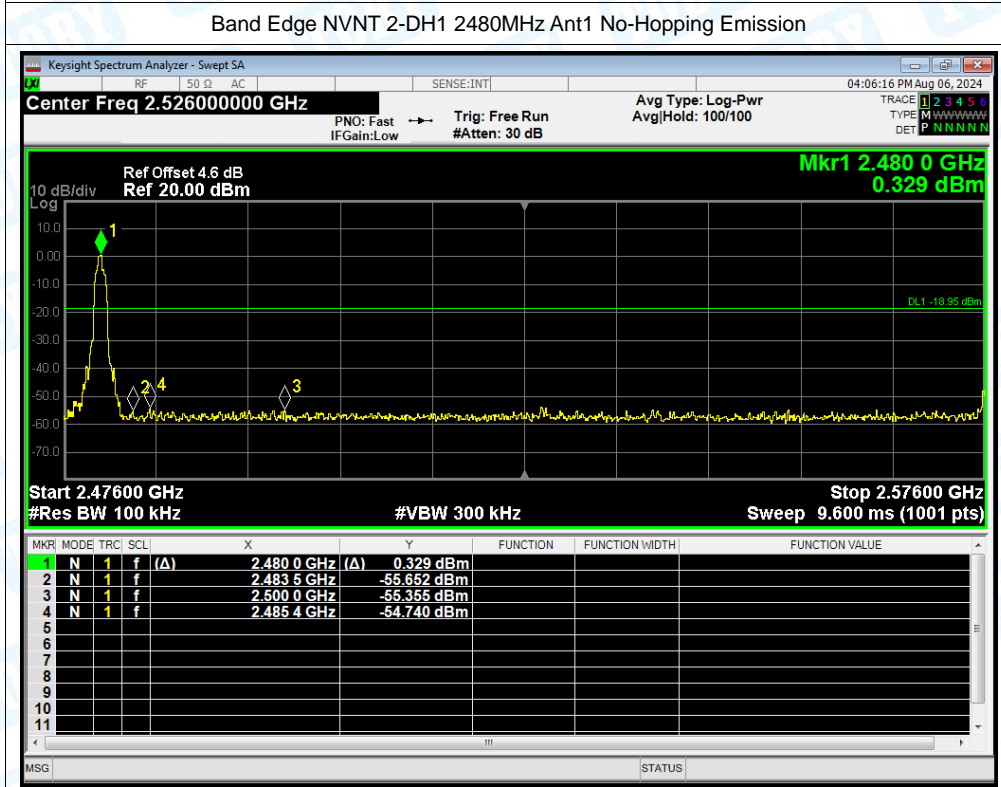
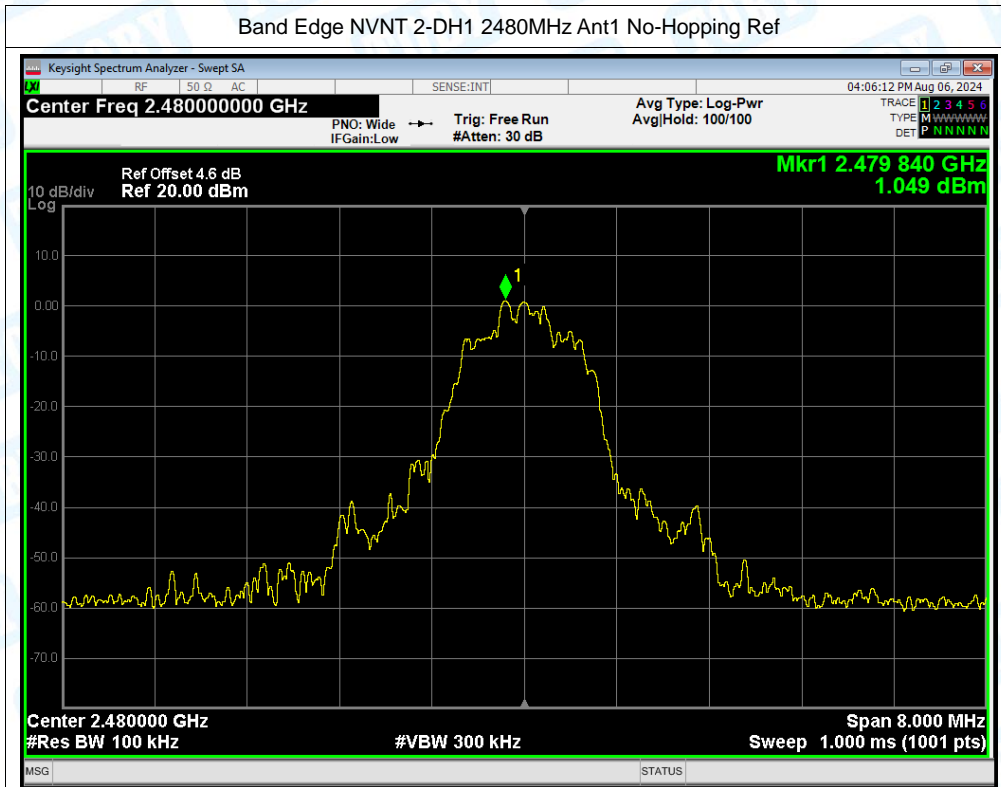


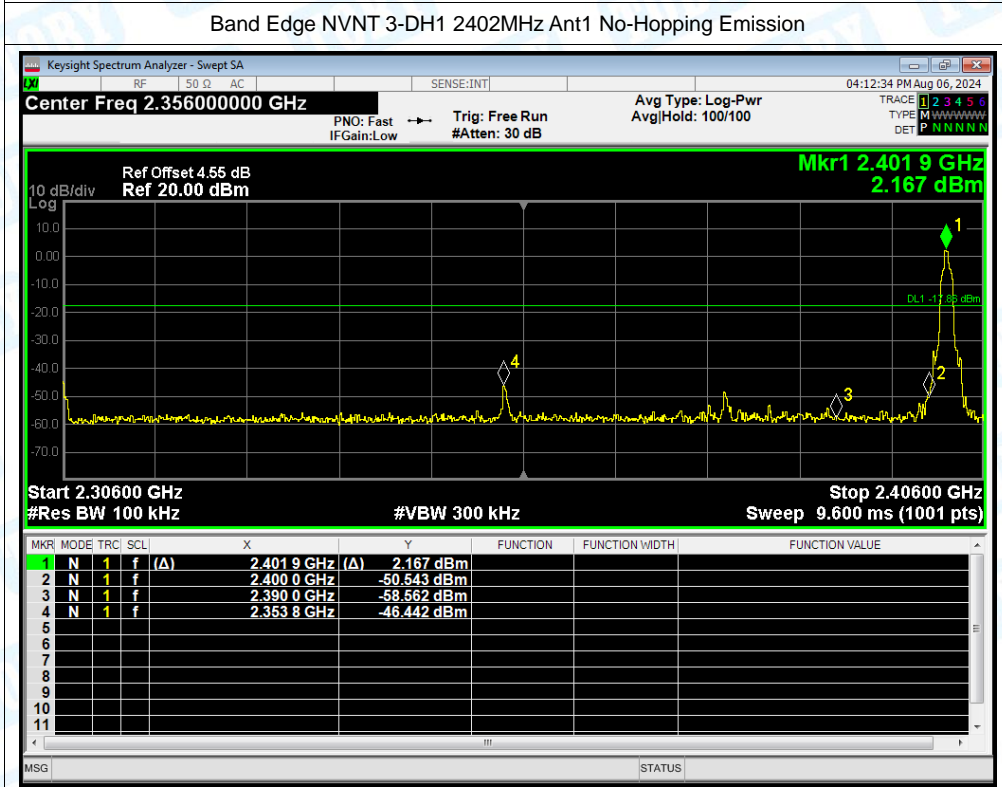
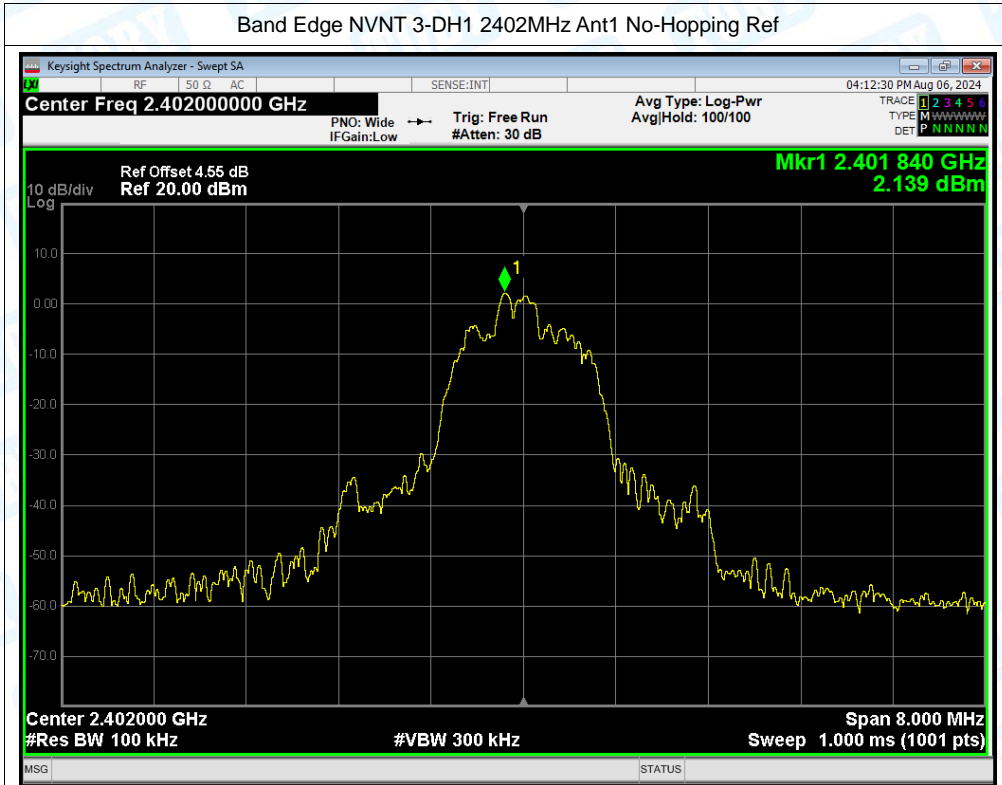
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

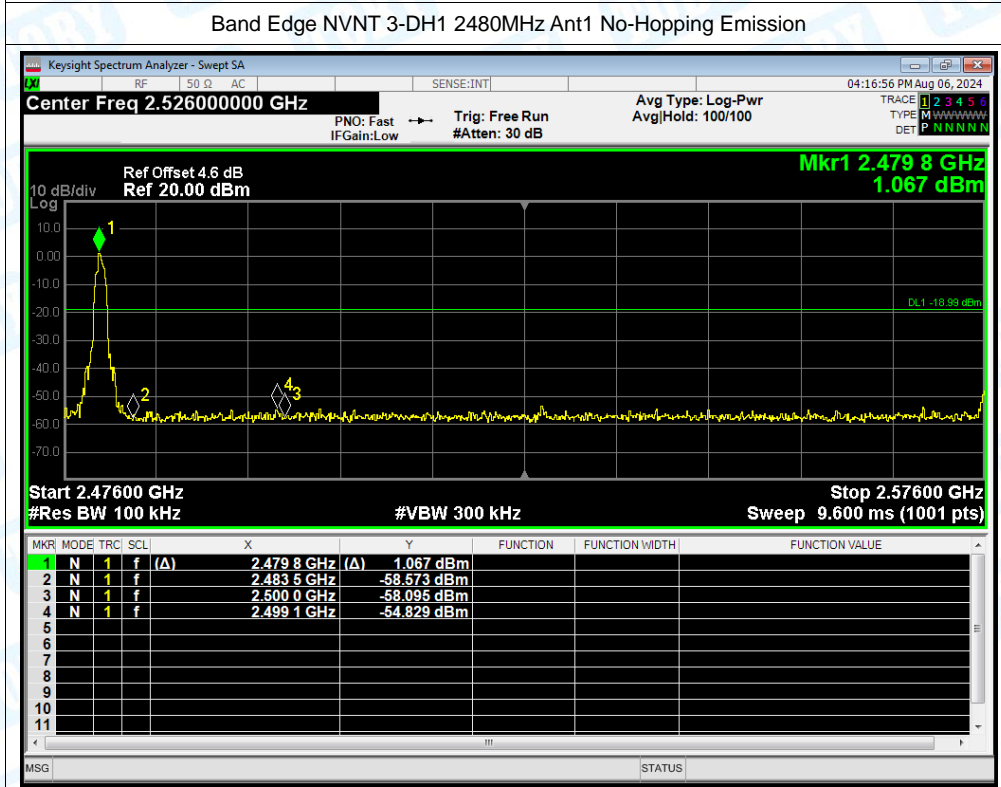
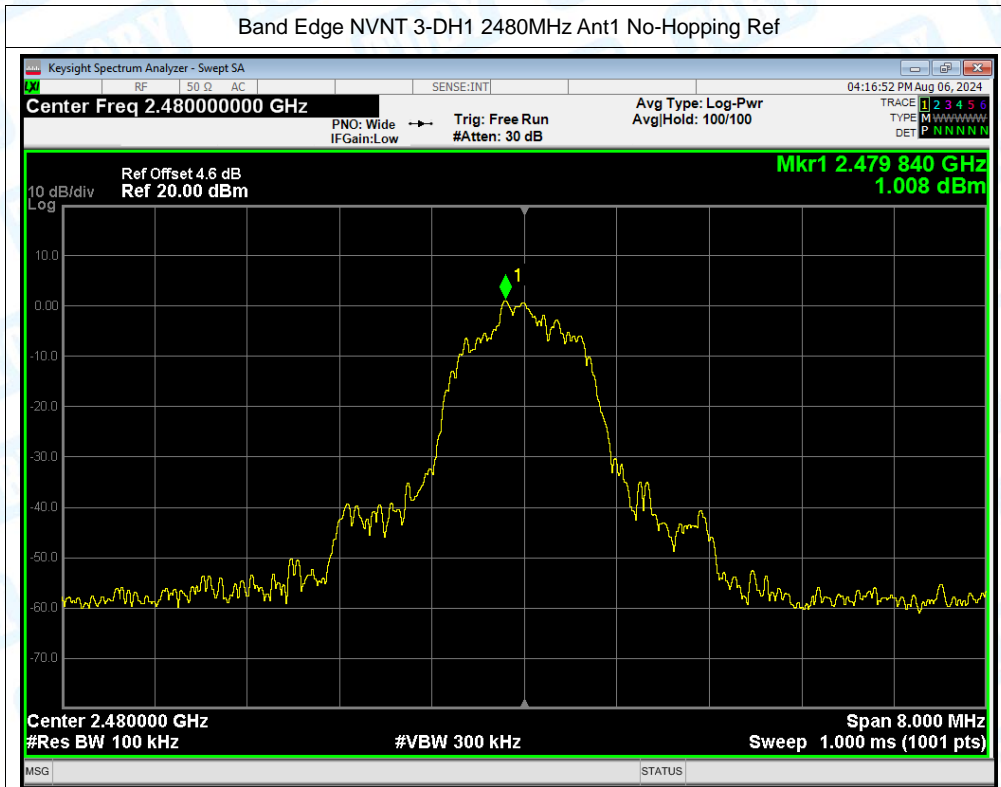










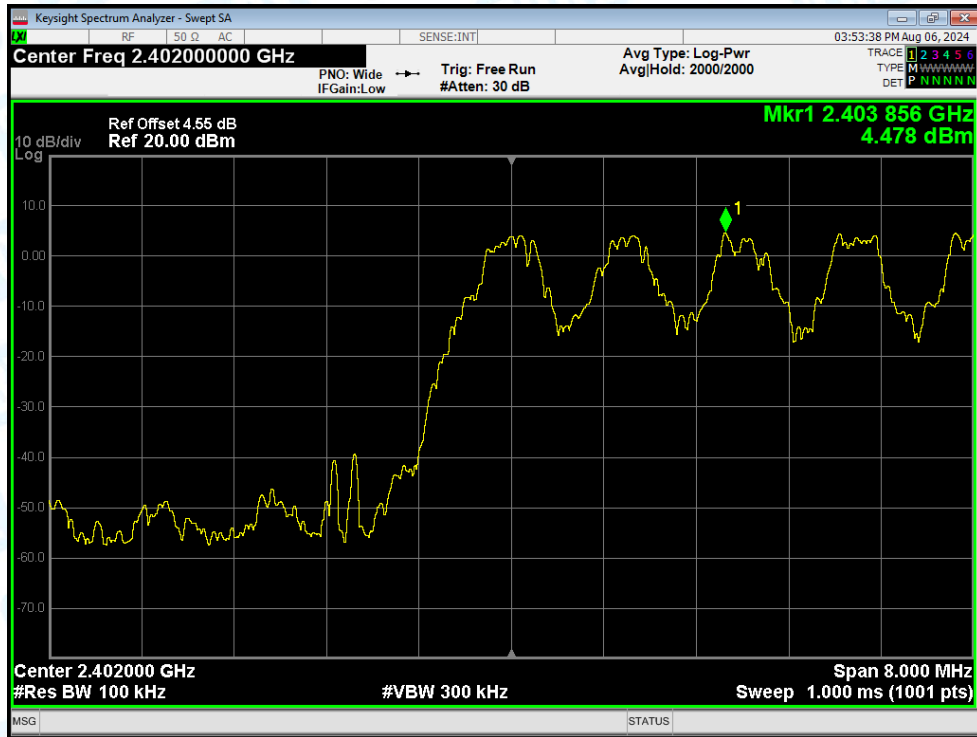


6. Band Edge(Hopping)

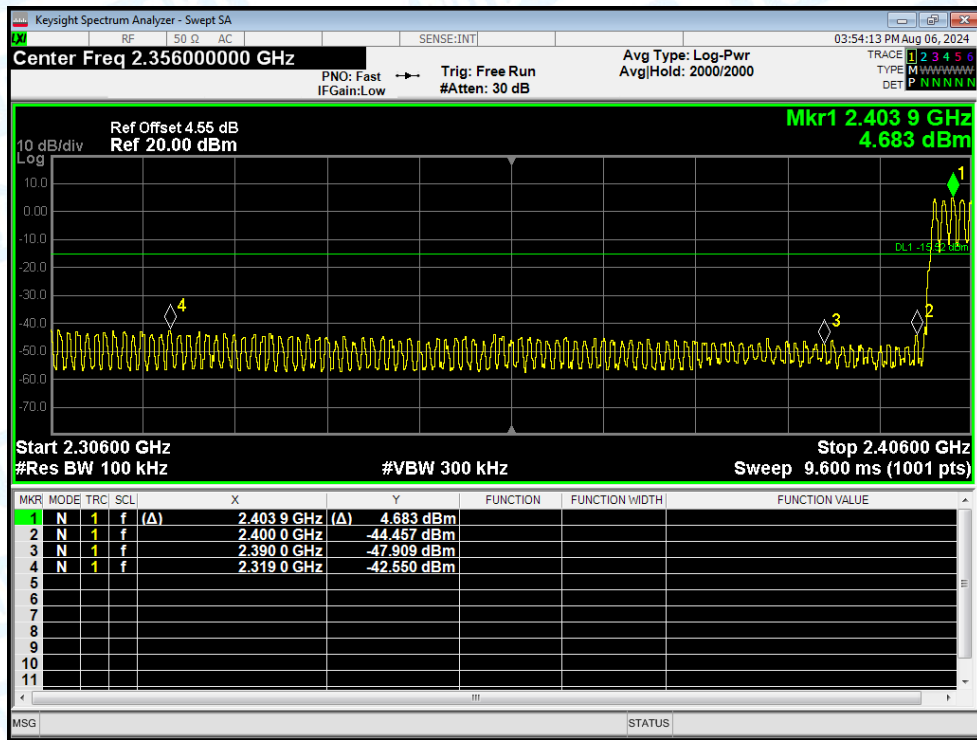
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-47.03	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-44.17	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-47.05	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-45.36	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-47.27	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-46.21	-20	Pass

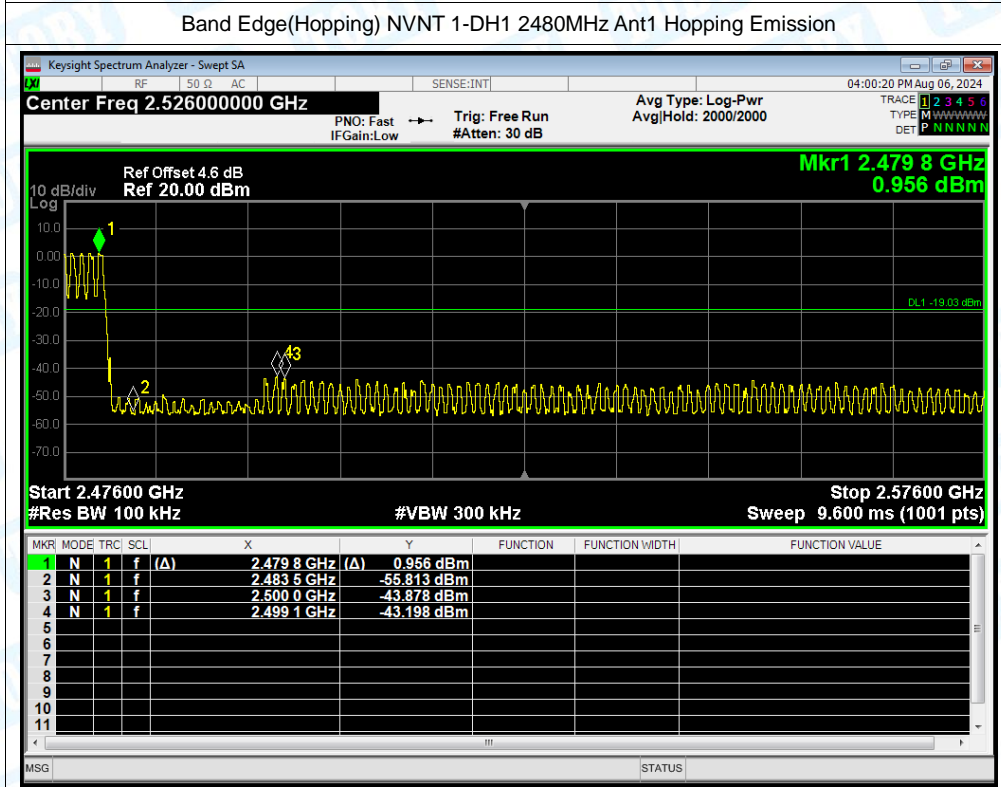
Test Graphs

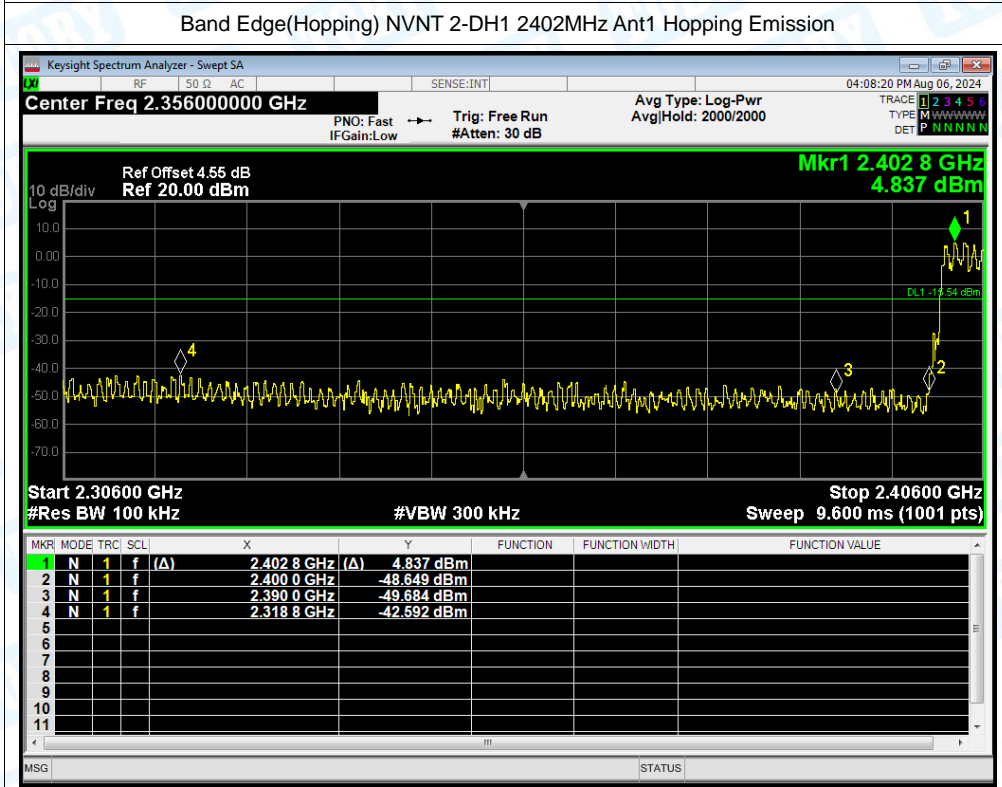
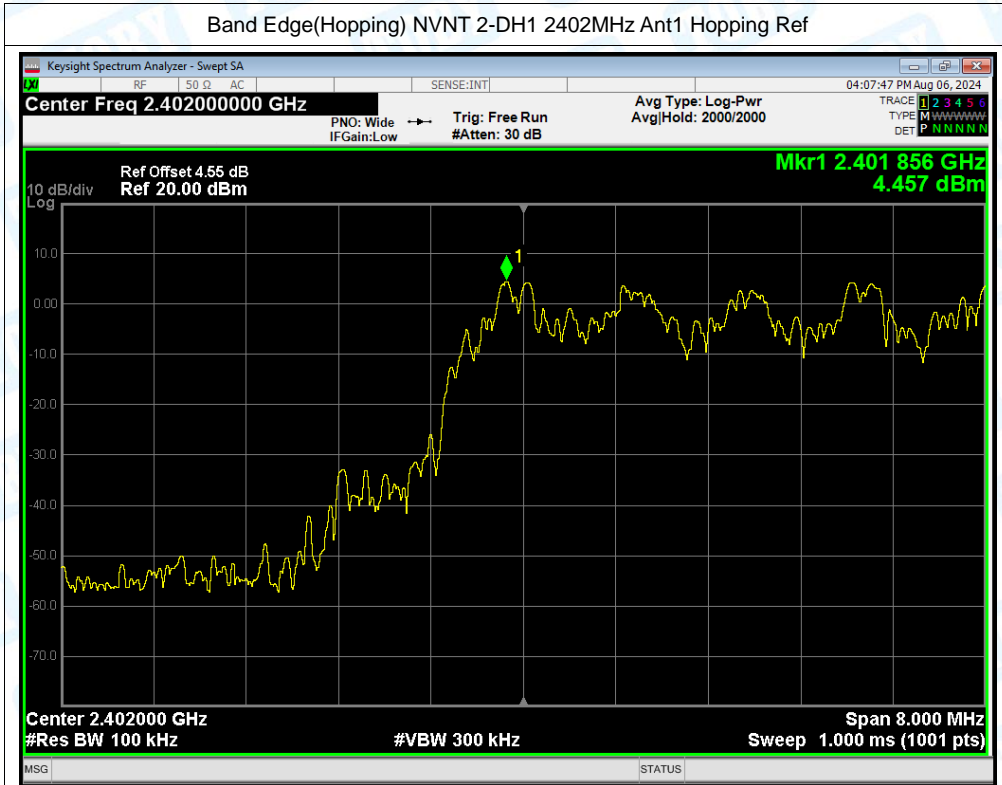
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

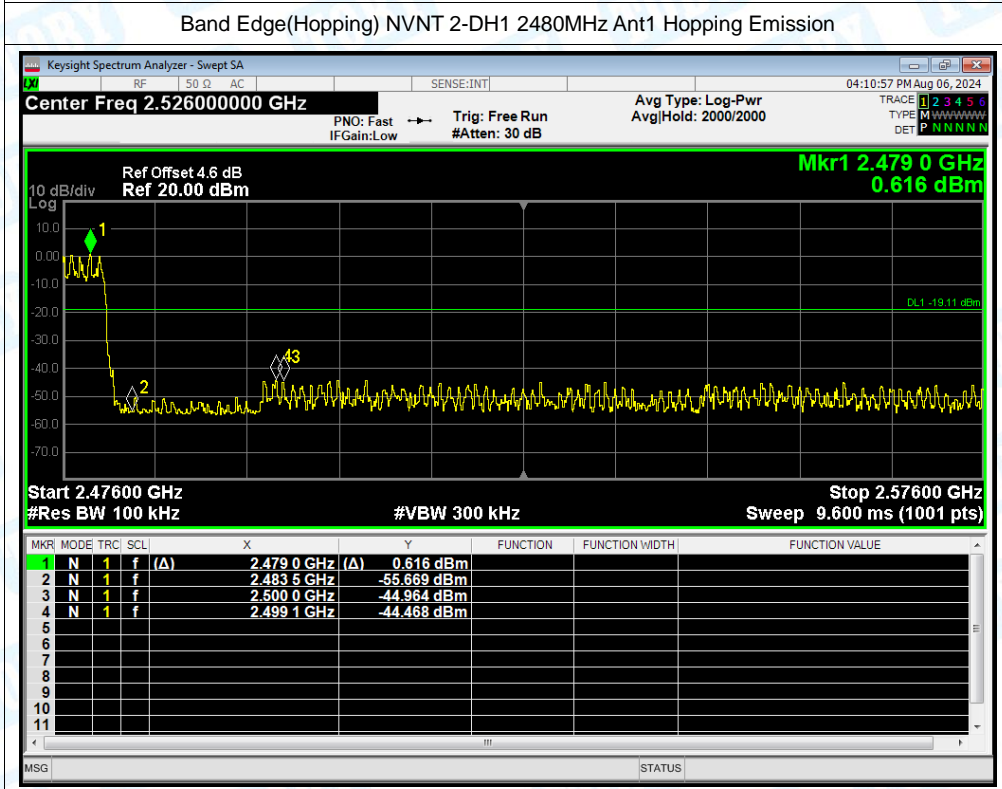


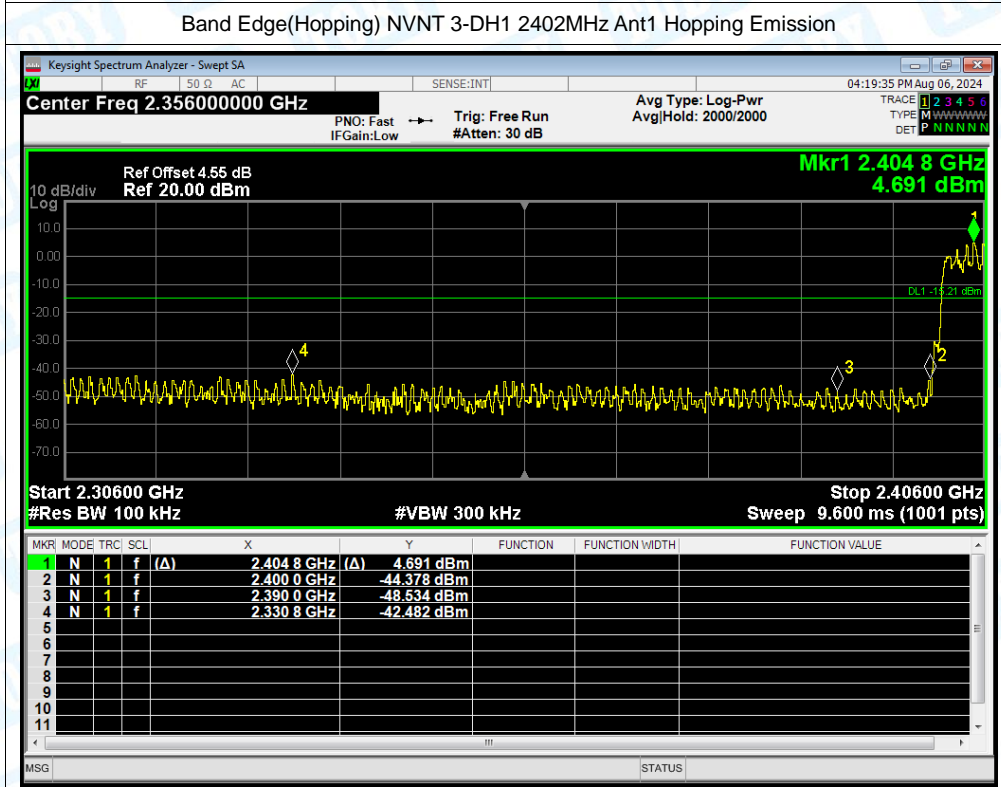
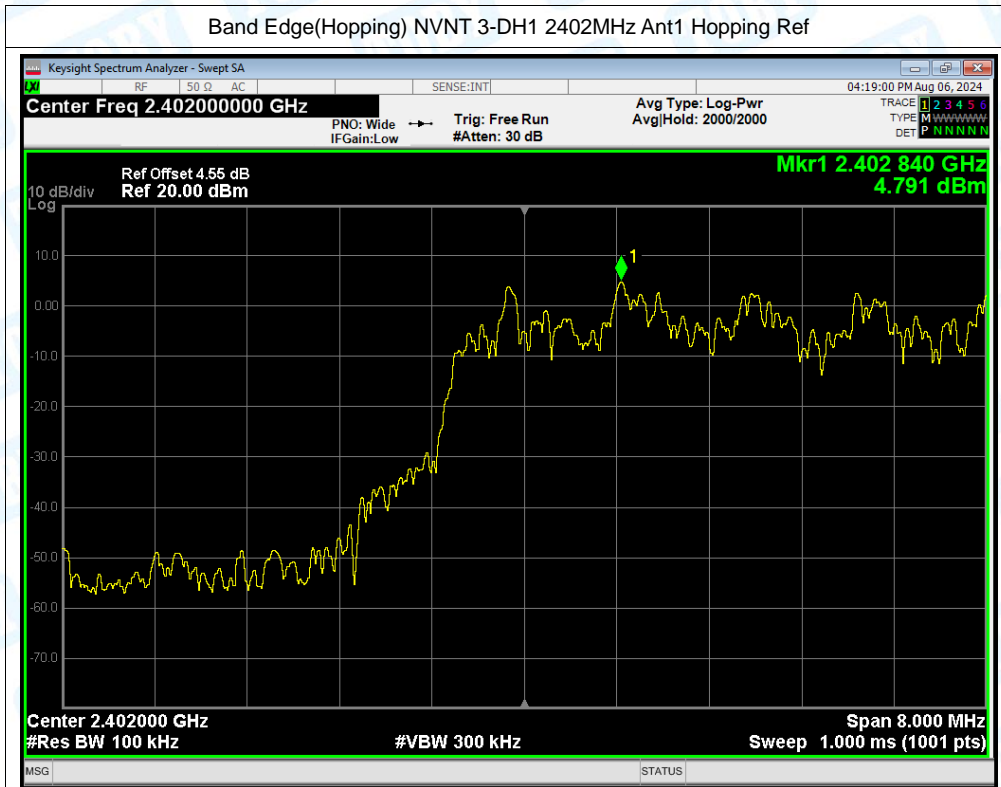
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

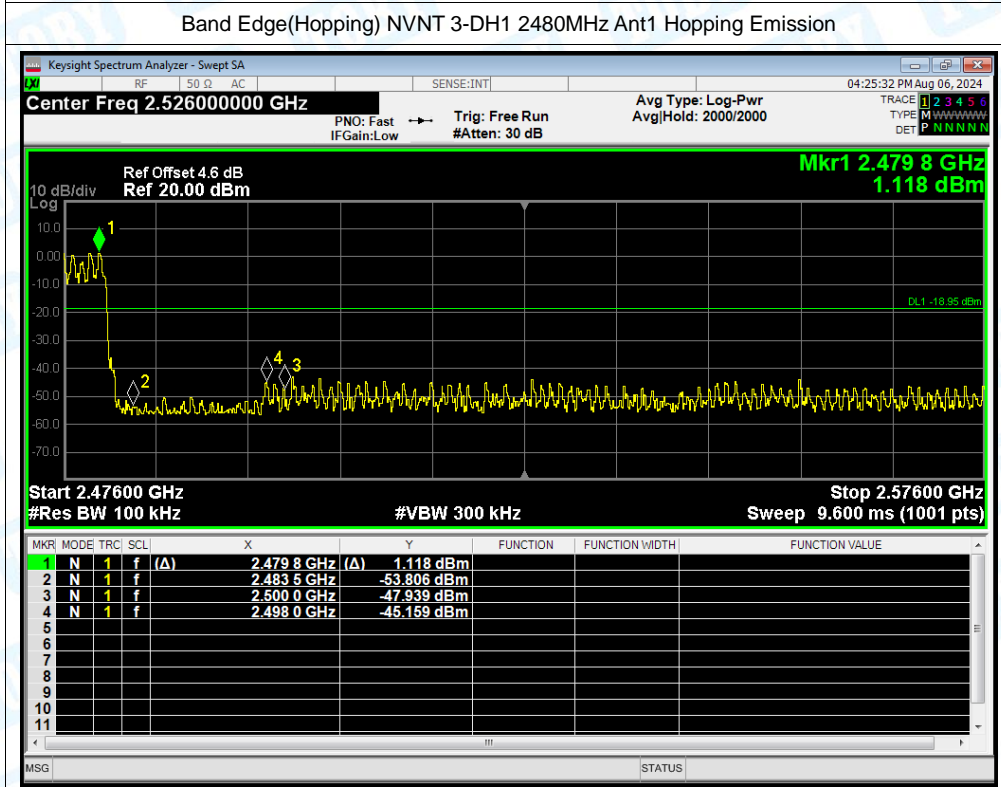










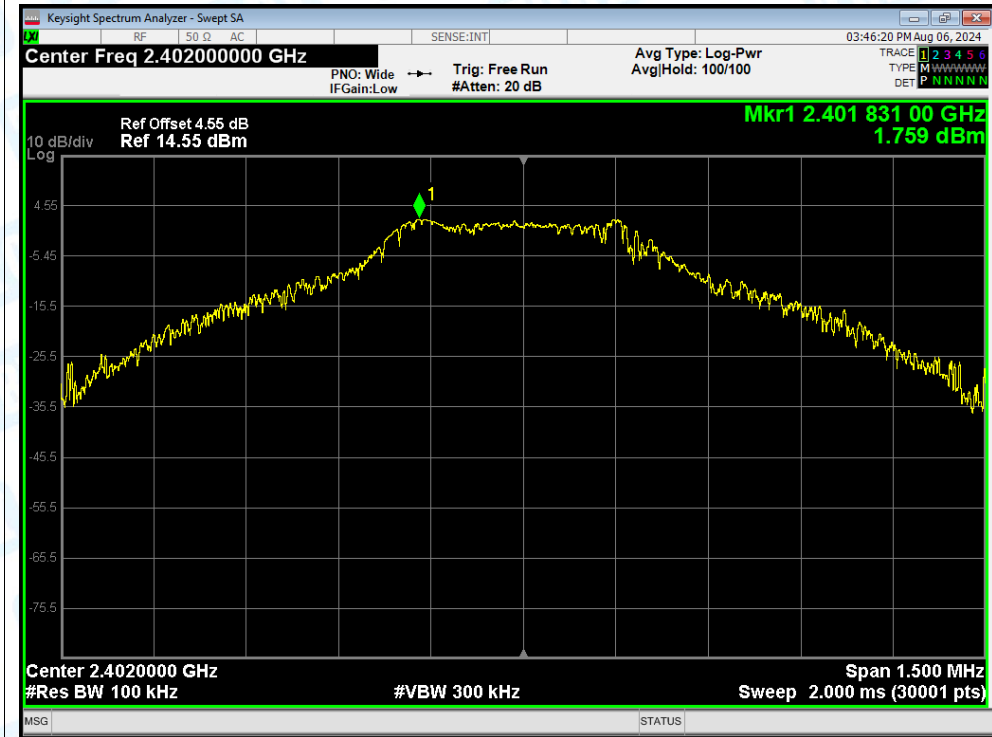


7. Conducted RF Spurious Emission

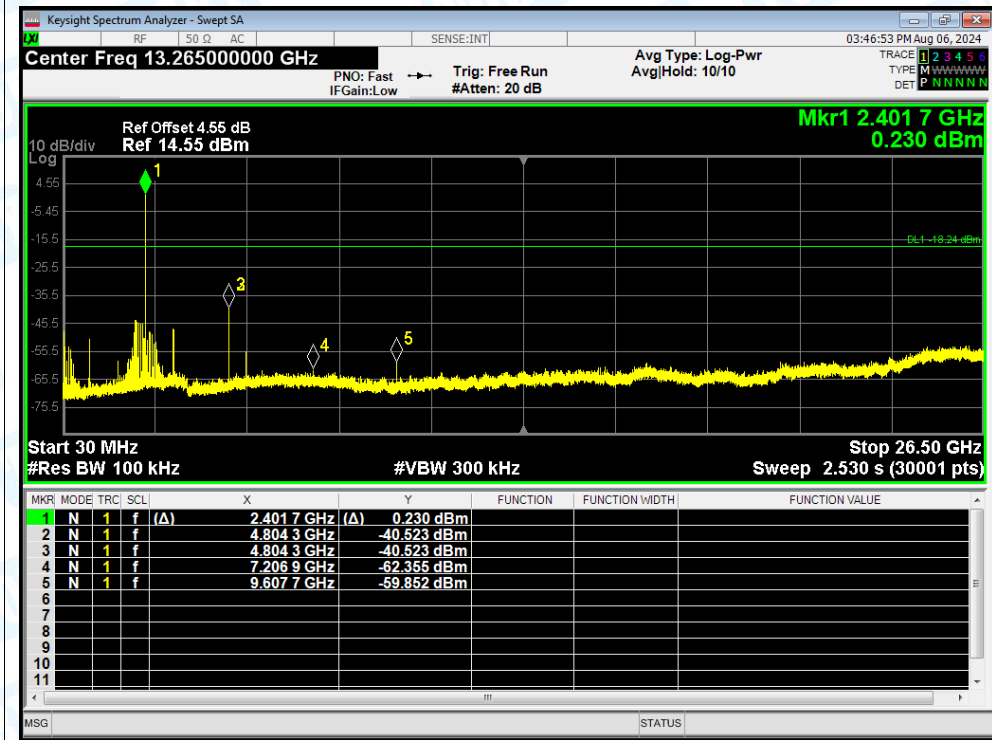
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-42.28	-20	Pass
NVNT	1-DH1	2441	Ant1	-45.91	-20	Pass
NVNT	1-DH1	2480	Ant1	-41.46	-20	Pass
NVNT	2-DH1	2402	Ant1	-37.93	-20	Pass
NVNT	2-DH1	2441	Ant1	-39.59	-20	Pass
NVNT	2-DH1	2480	Ant1	-44.46	-20	Pass
NVNT	3-DH1	2402	Ant1	-37.83	-20	Pass
NVNT	3-DH1	2441	Ant1	-41.13	-20	Pass
NVNT	3-DH1	2480	Ant1	-41.48	-20	Pass

Test Graphs

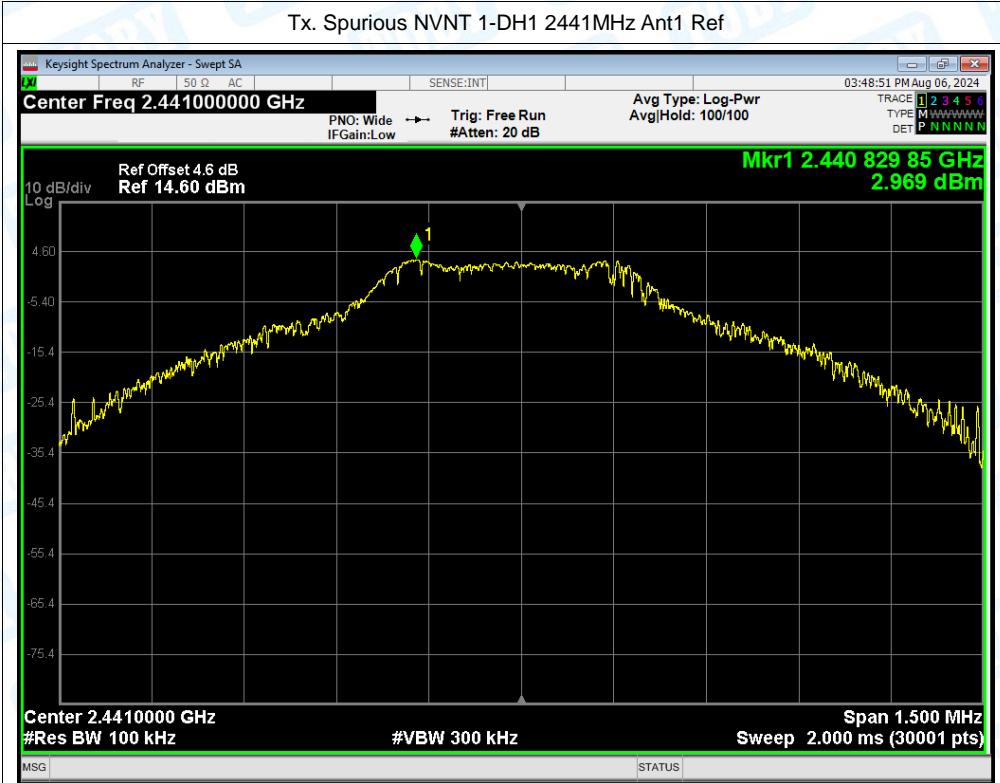
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



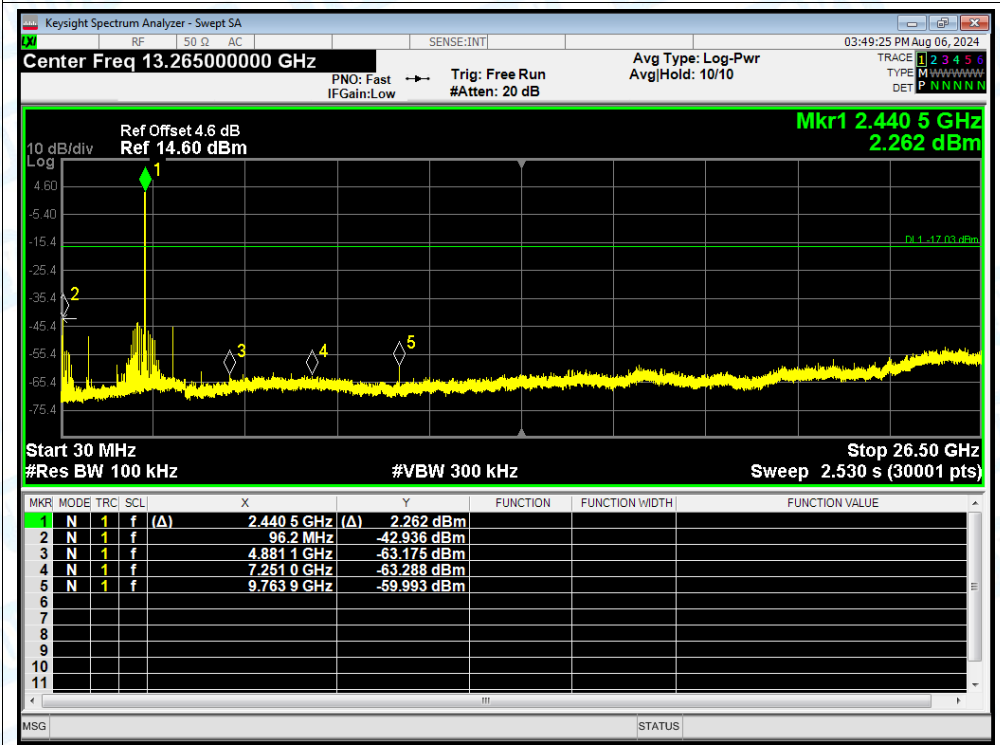
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



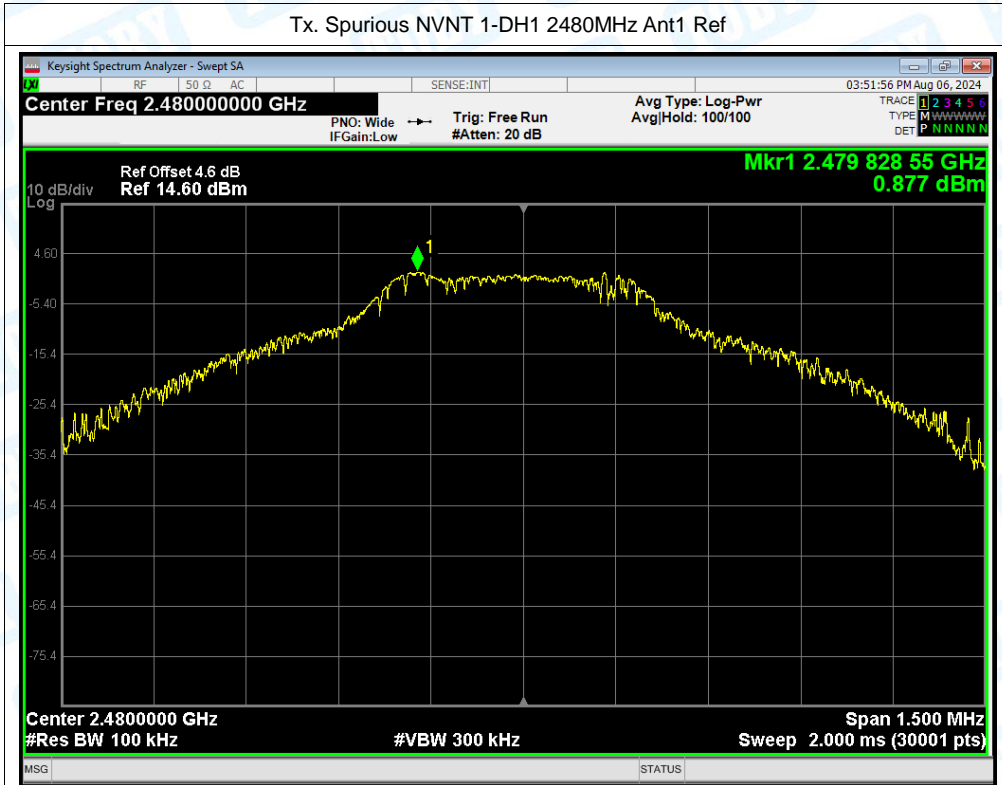
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



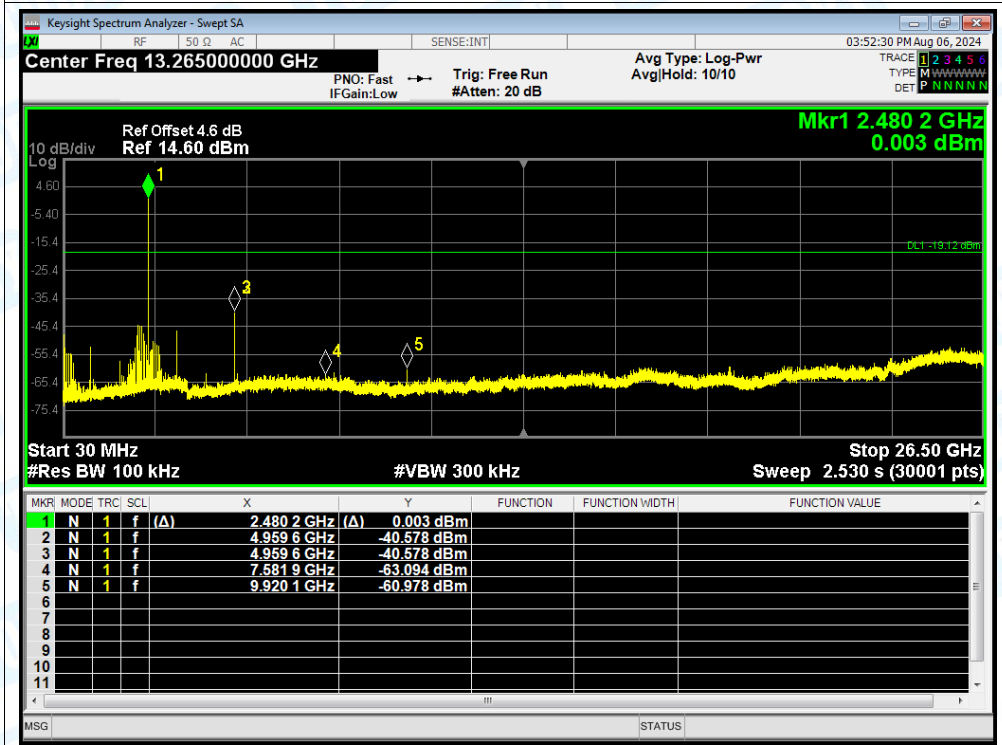
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



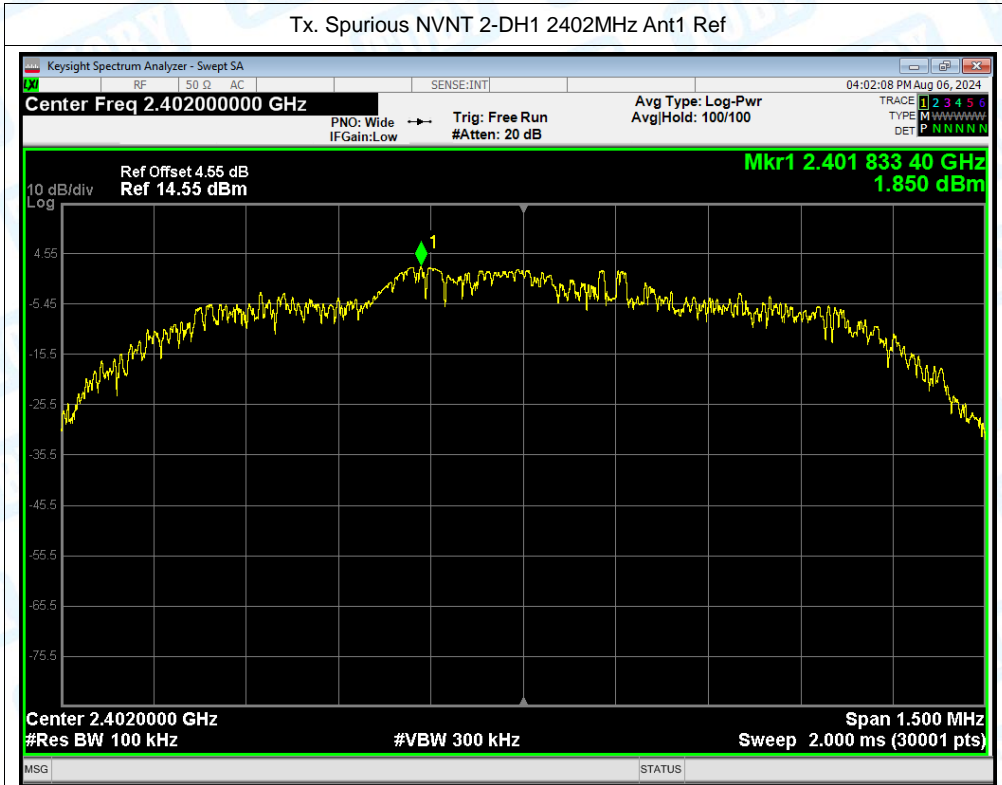
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



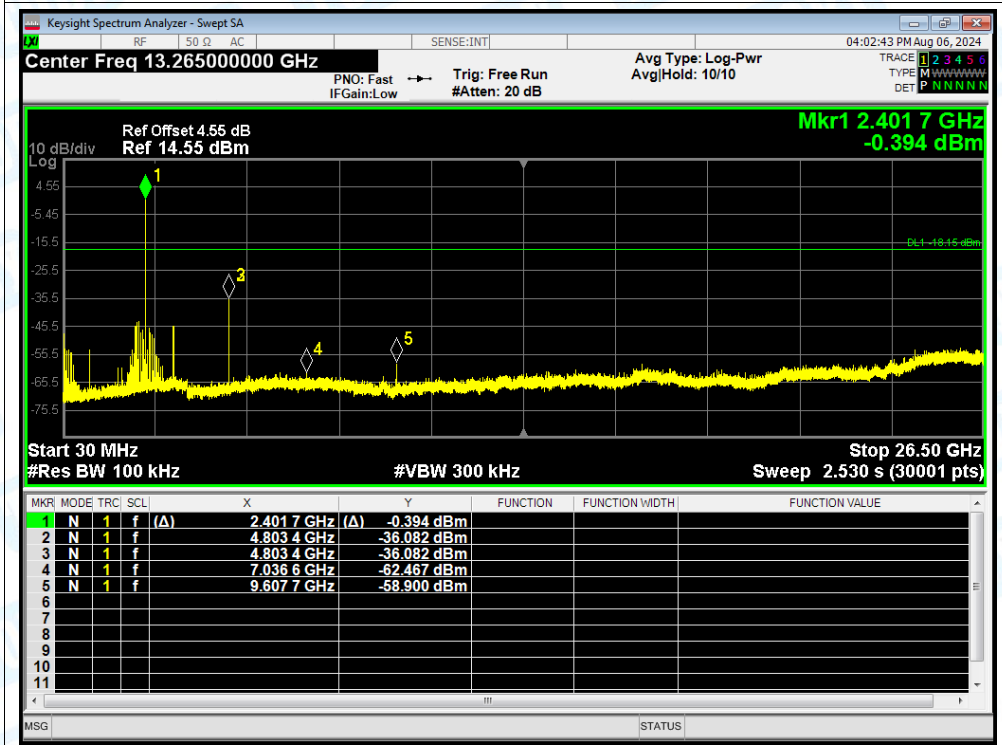
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



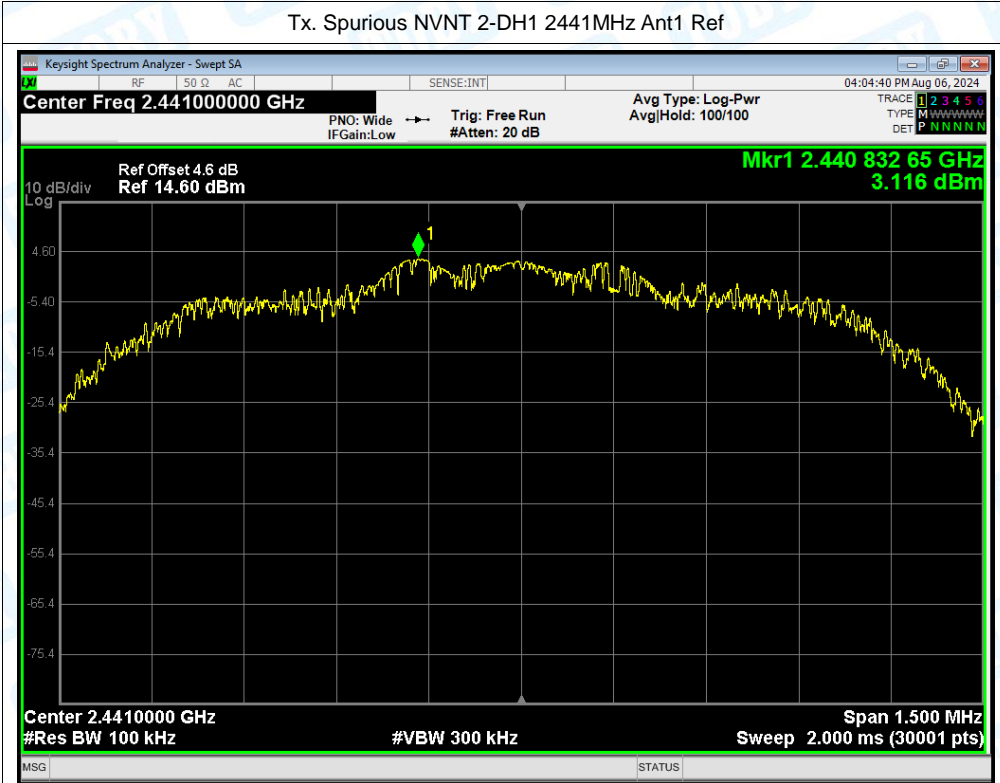
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



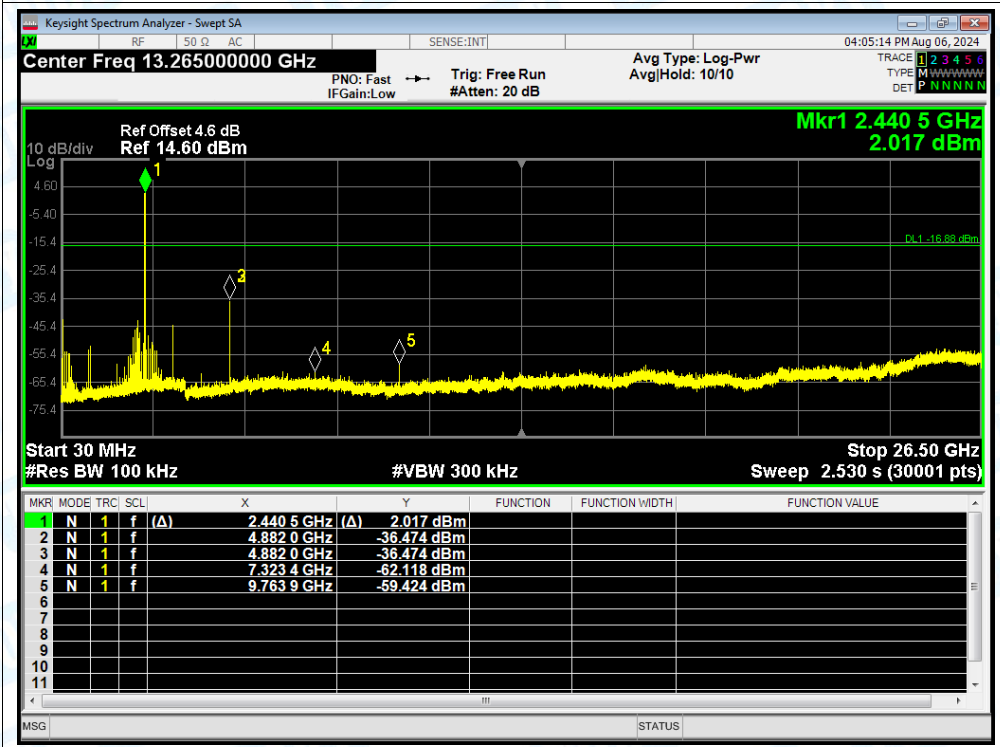
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



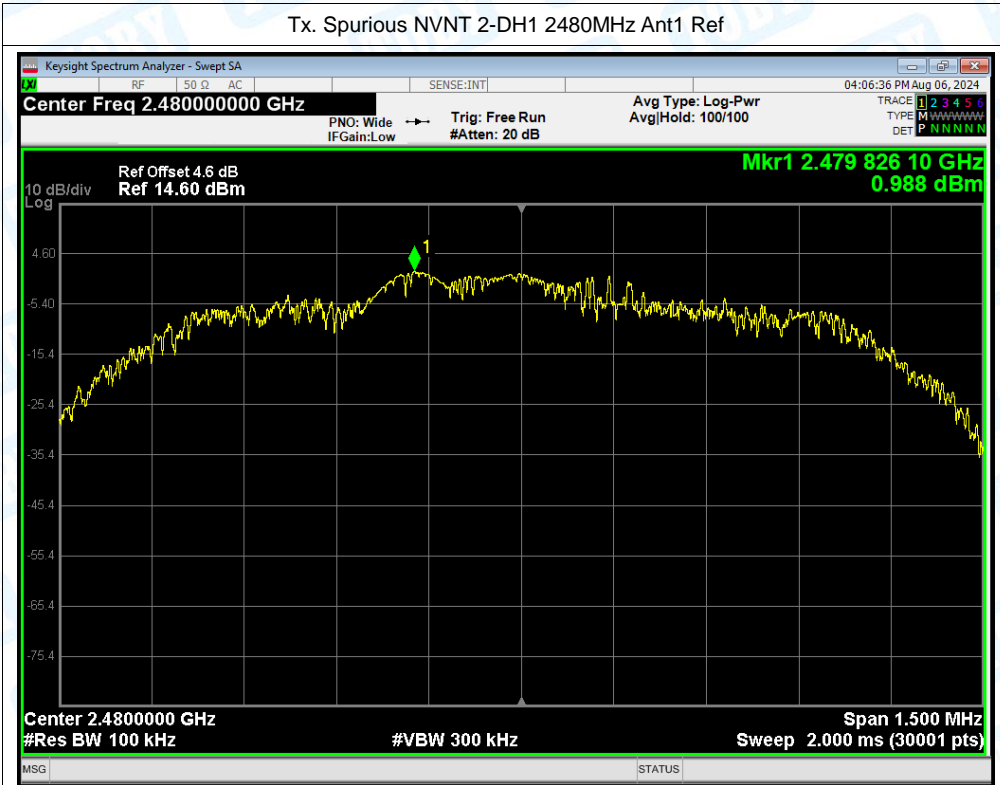
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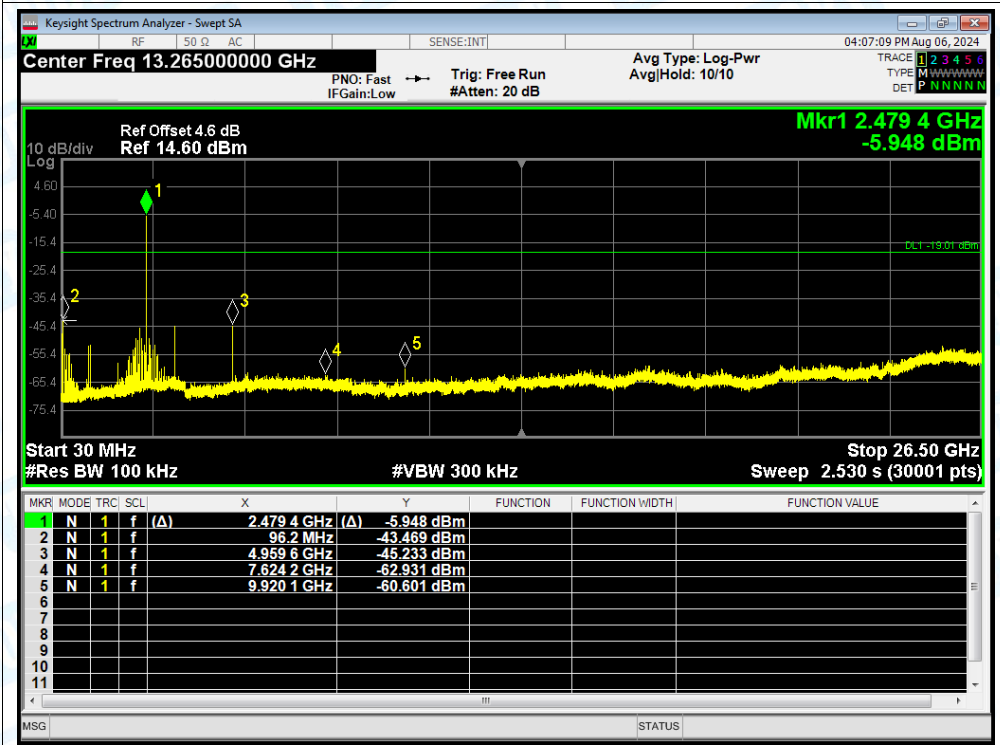
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



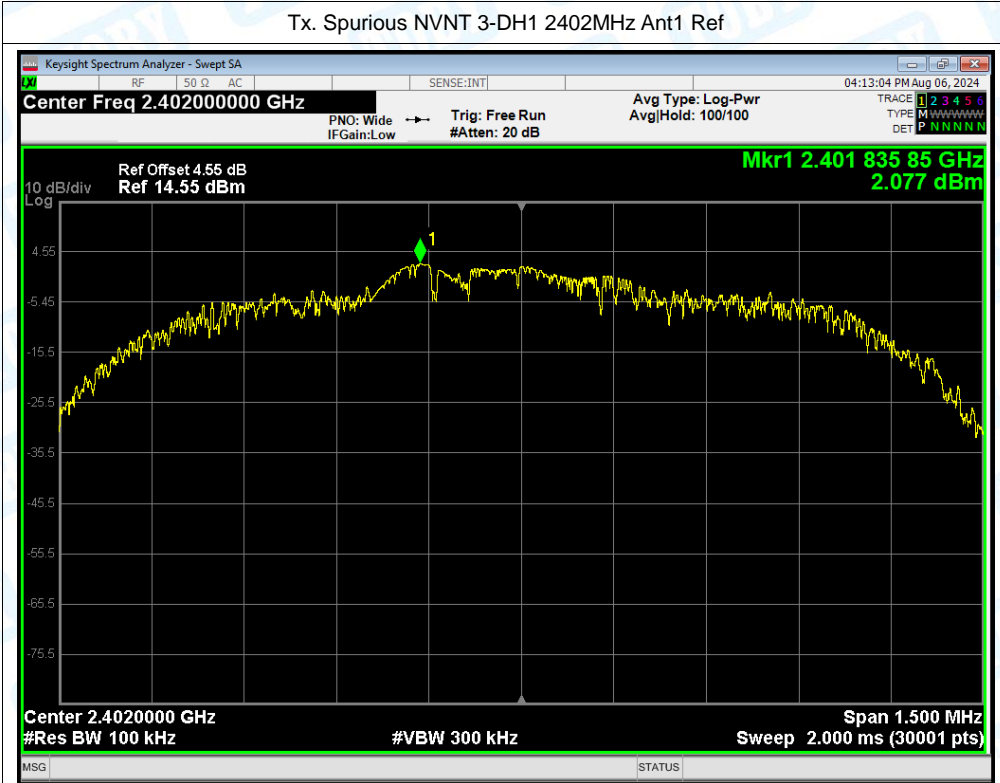
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



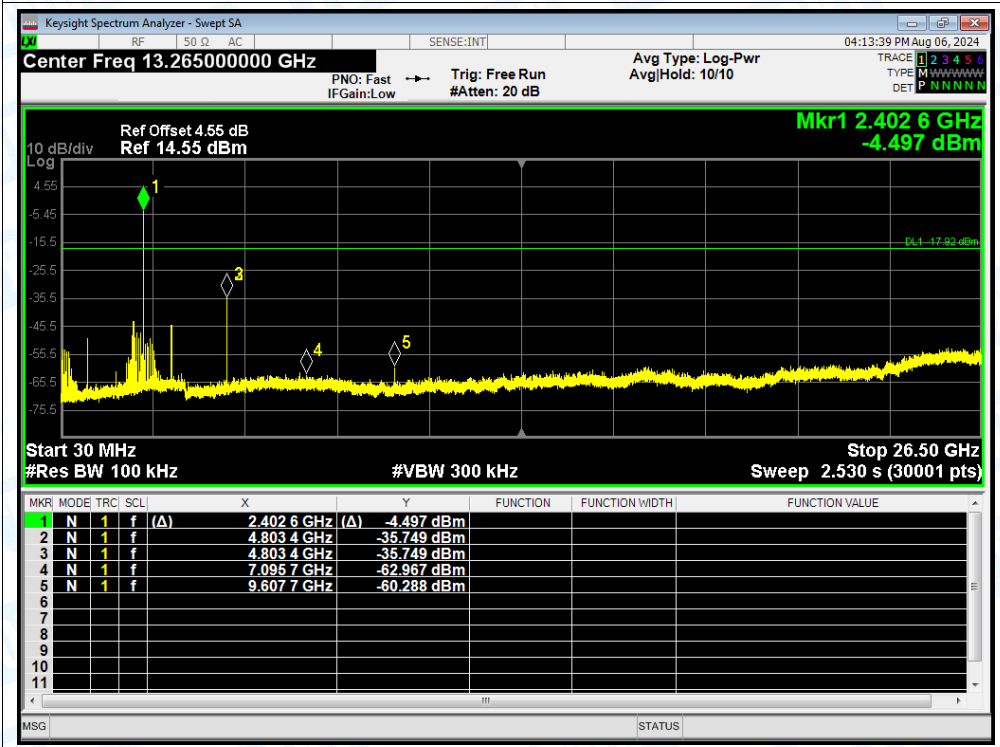
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



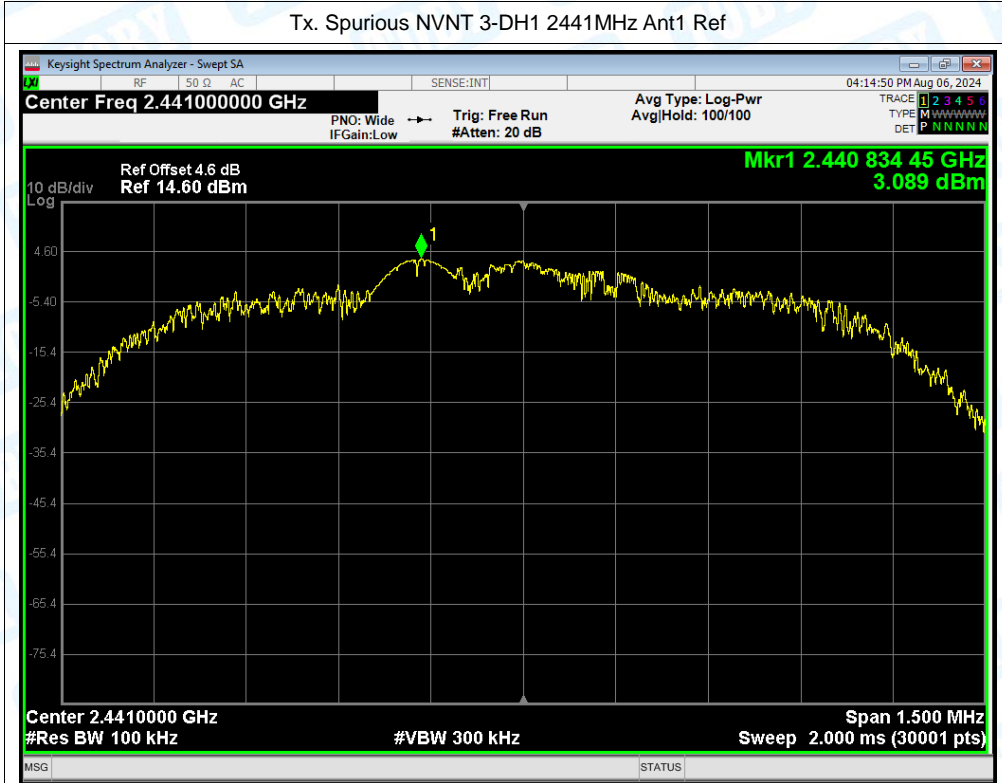
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



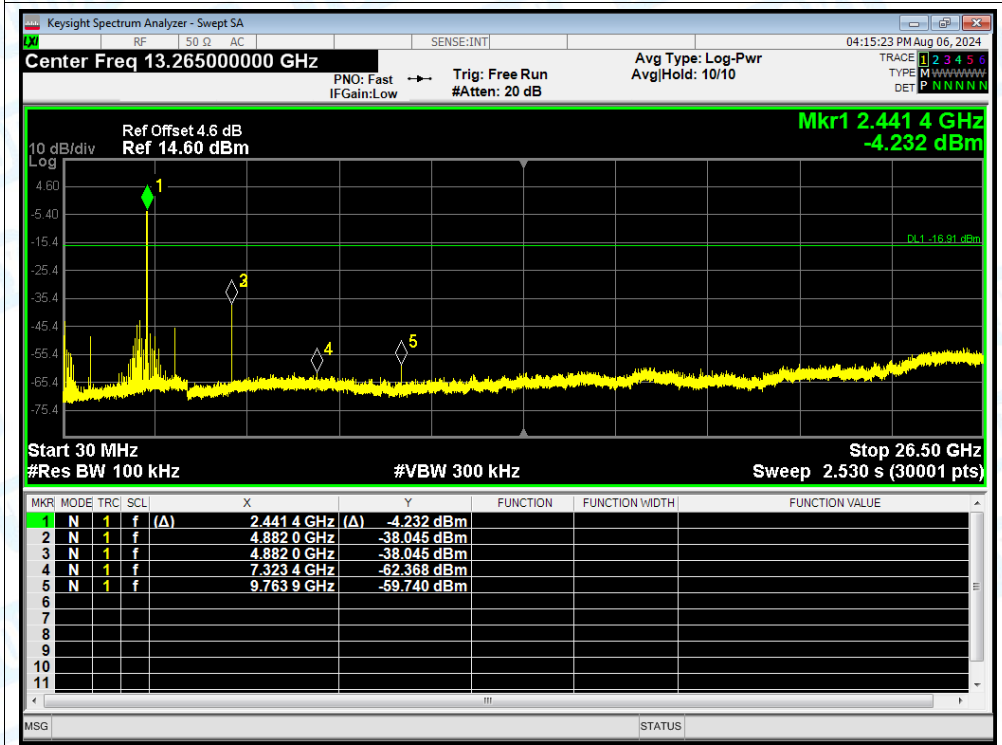
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



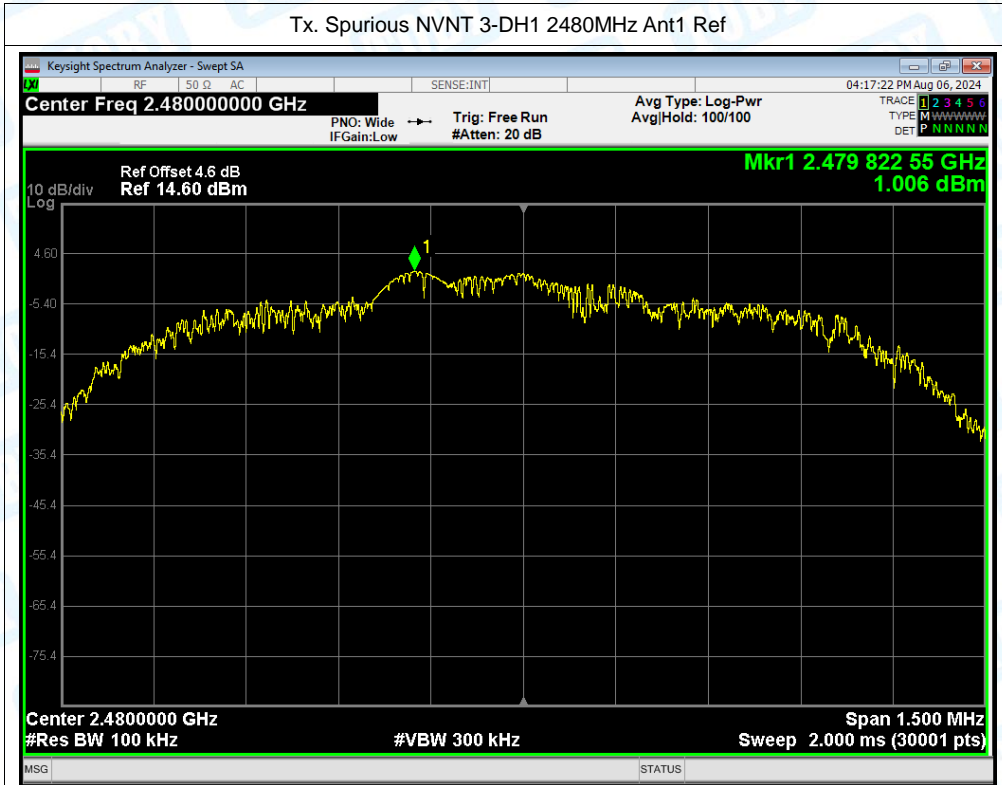
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



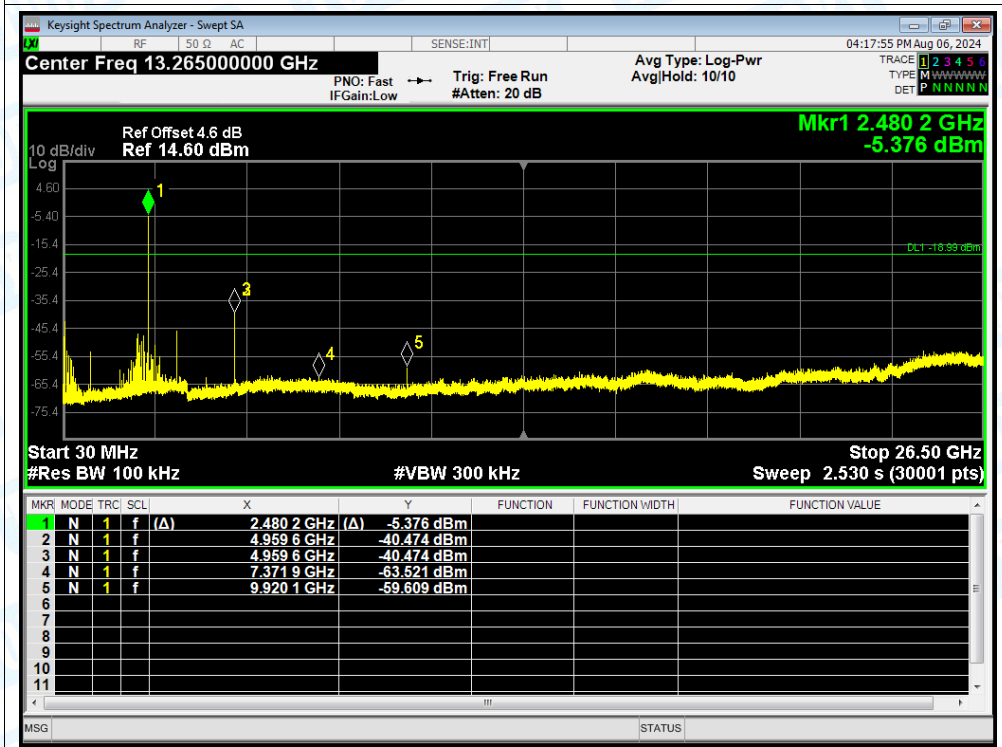
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

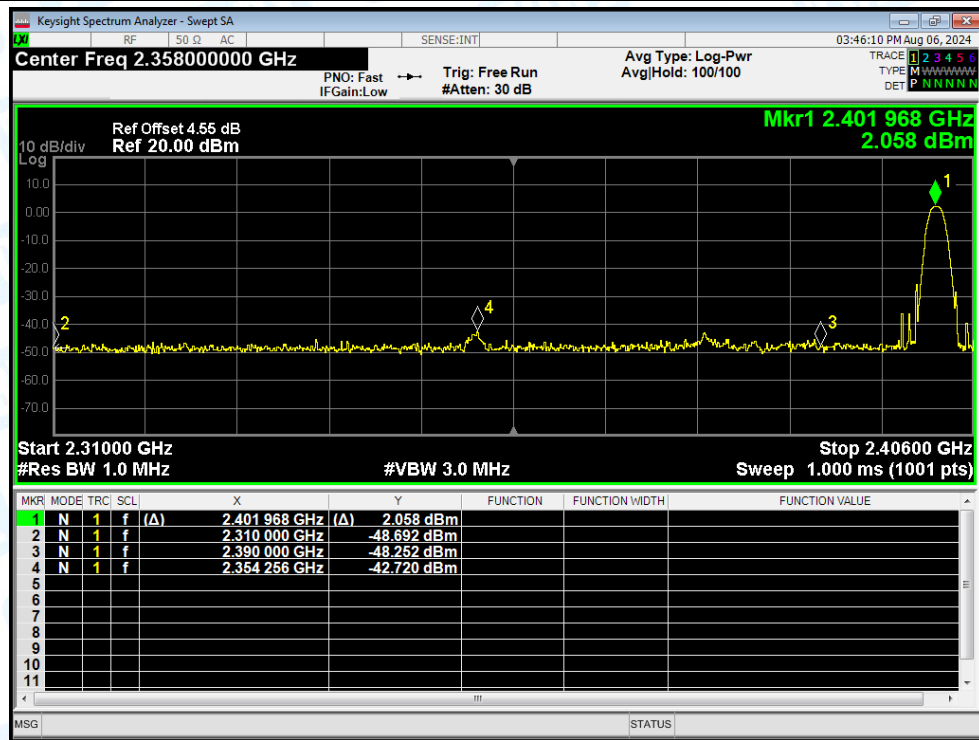


8. Restrict Band

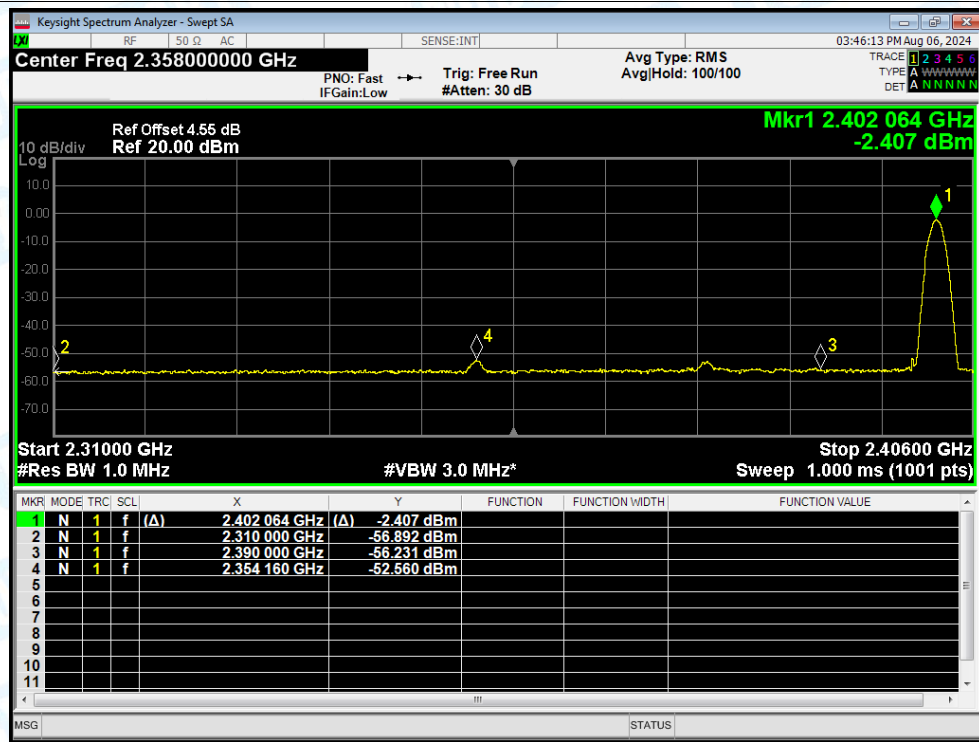
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-48.69	2	-	48.57	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.89	2	5.06	45.43	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2354.256	-42.72	2	-	54.54	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2354.16	-52.56	2	5.06	49.76	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.25	2	-	49.01	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.23	2	5.06	46.09	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-48.62	2	-	48.64	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-55.91	2	5.17	46.52	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.608	-40.86	2	-	56.4	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2485.408	-55	2	5.17	47.43	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-48.29	2	-	48.97	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-56.02	2	5.17	46.41	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.67	2	-	48.59	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.81	2	5.06	45.51	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2354.544	-42.93	2	-	54.33	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2378.064	-52.96	2	5.06	49.36	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.43	2	-	49.83	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.5	2	5.06	46.82	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-47.83	2	-	49.43	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-56.35	2	5.06	45.97	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2496.448	-44.67	2	-	52.59	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2499.4	-54.89	2	5.06	47.43	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.82	2	-	49.44	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-56.1	2	5.06	46.22	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-49.33	2	-	47.93	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-57.13	2	5.06	45.19	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2353.776	-43.26	2	-	54	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2354.256	-53.29	2	5.06	49.03	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-48.97	2	-	48.29	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.92	2	5.06	46.4	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-47.38	2	-	49.88	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-56.65	2	5.06	45.67	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2496.616	-44.73	2	-	52.53	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2492.752	-55.05	2	5.06	47.27	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.74	2	-	49.52	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.98	2	5.06	46.34	Average	54	Pass

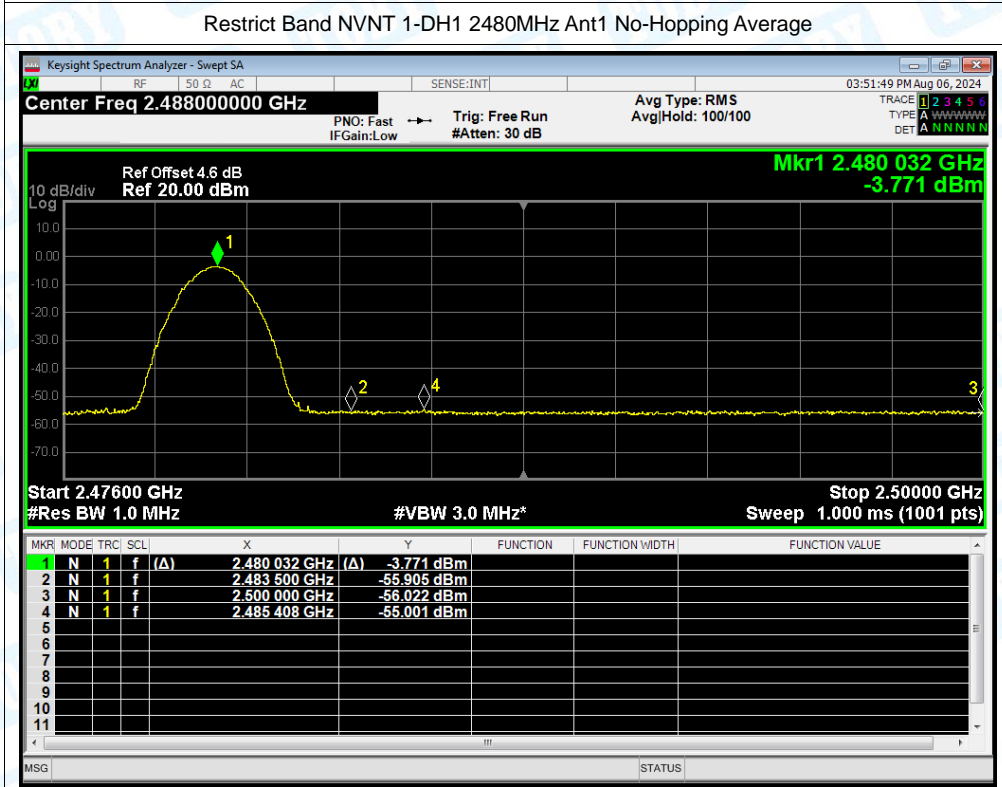
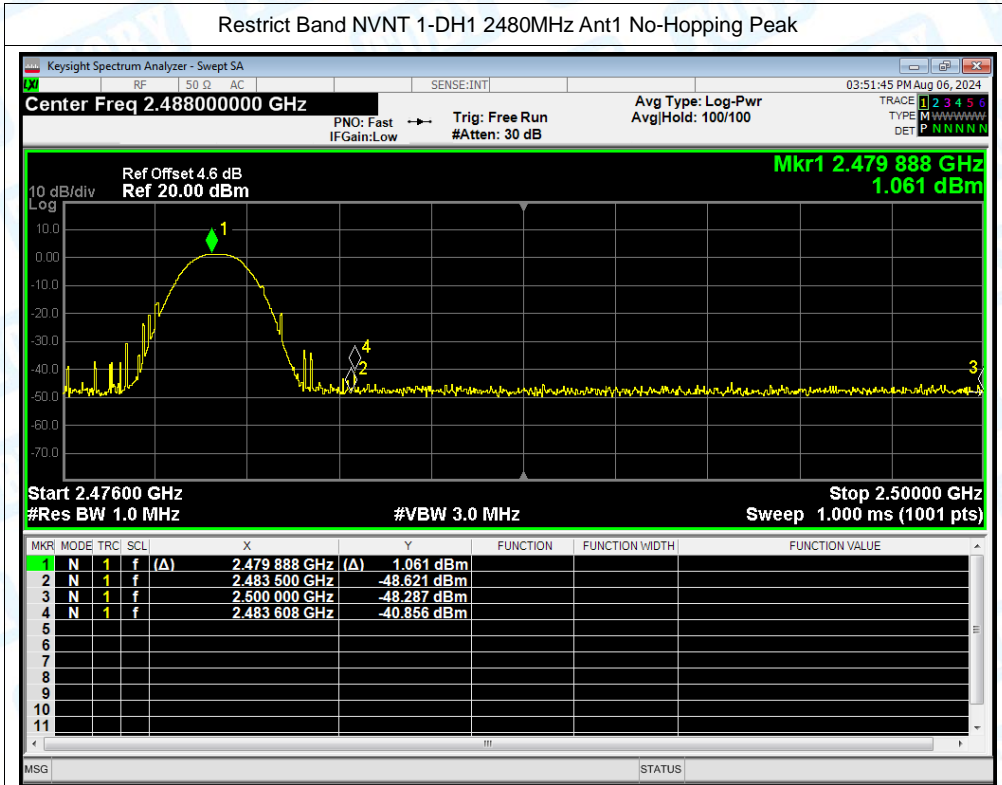
Test Graphs

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

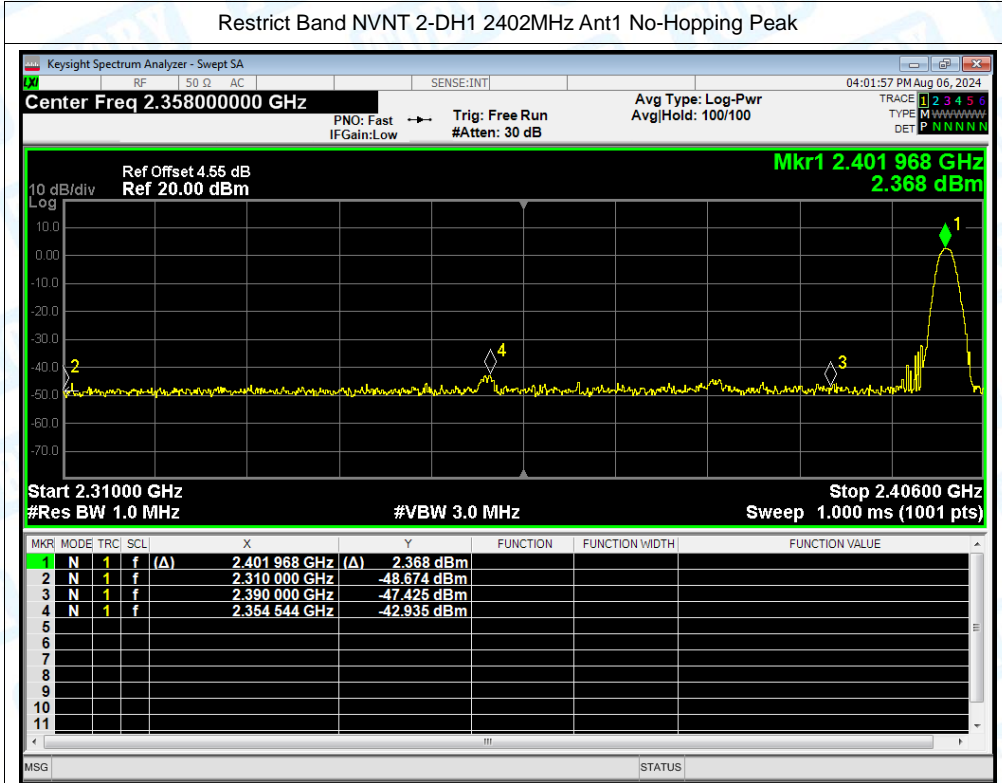


Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average

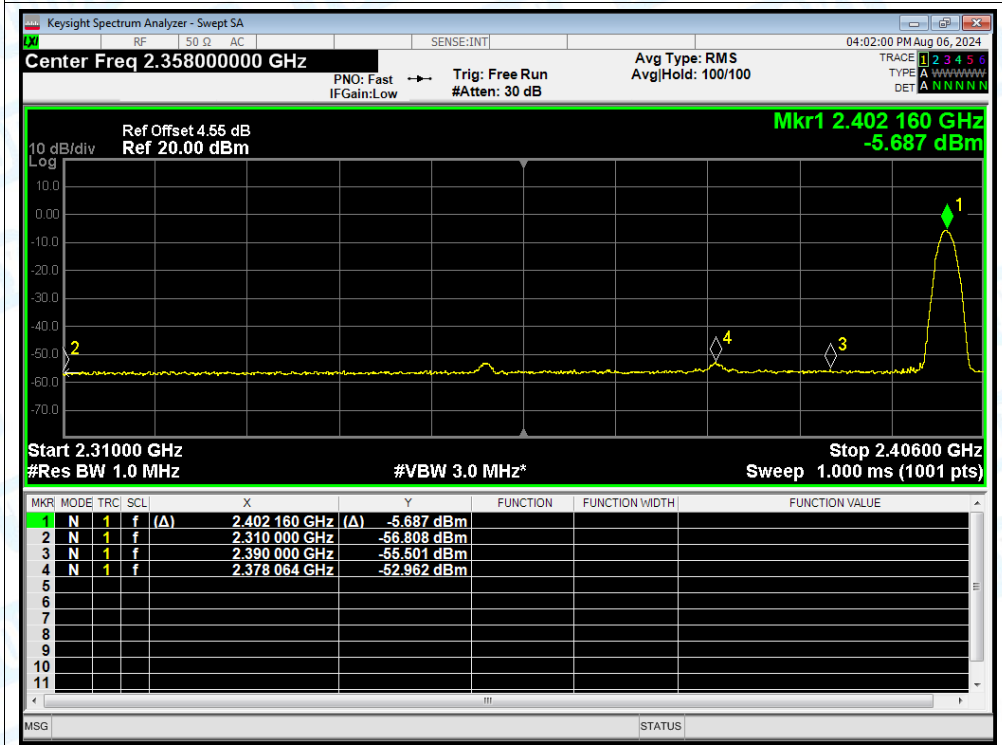


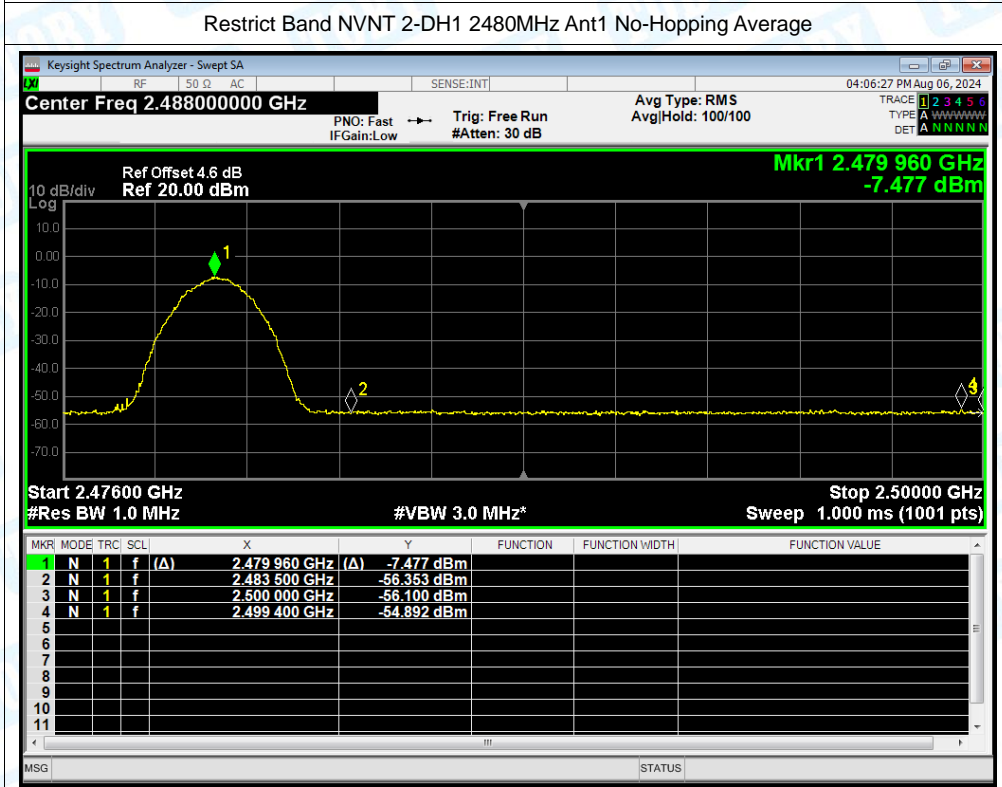
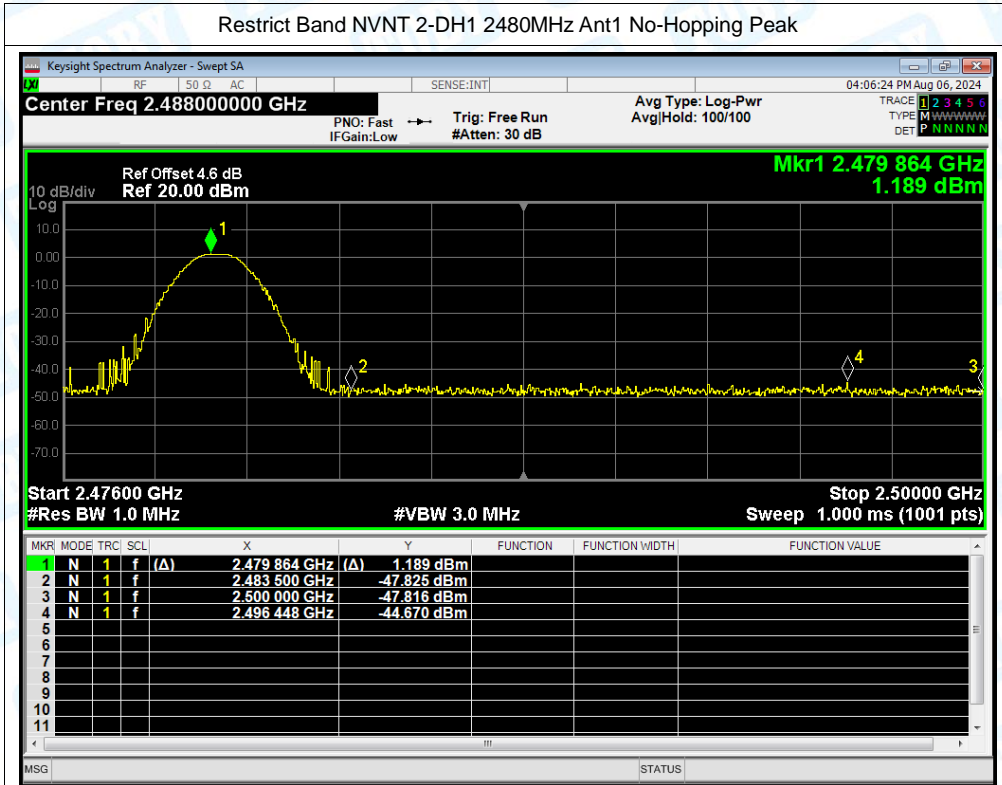


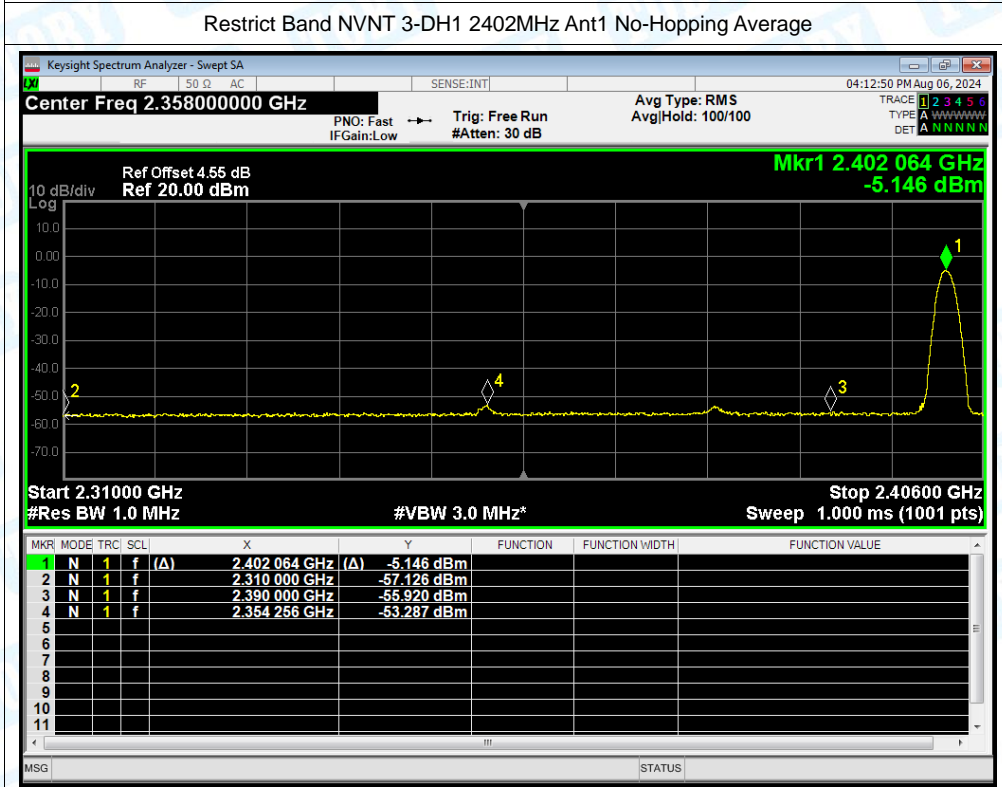
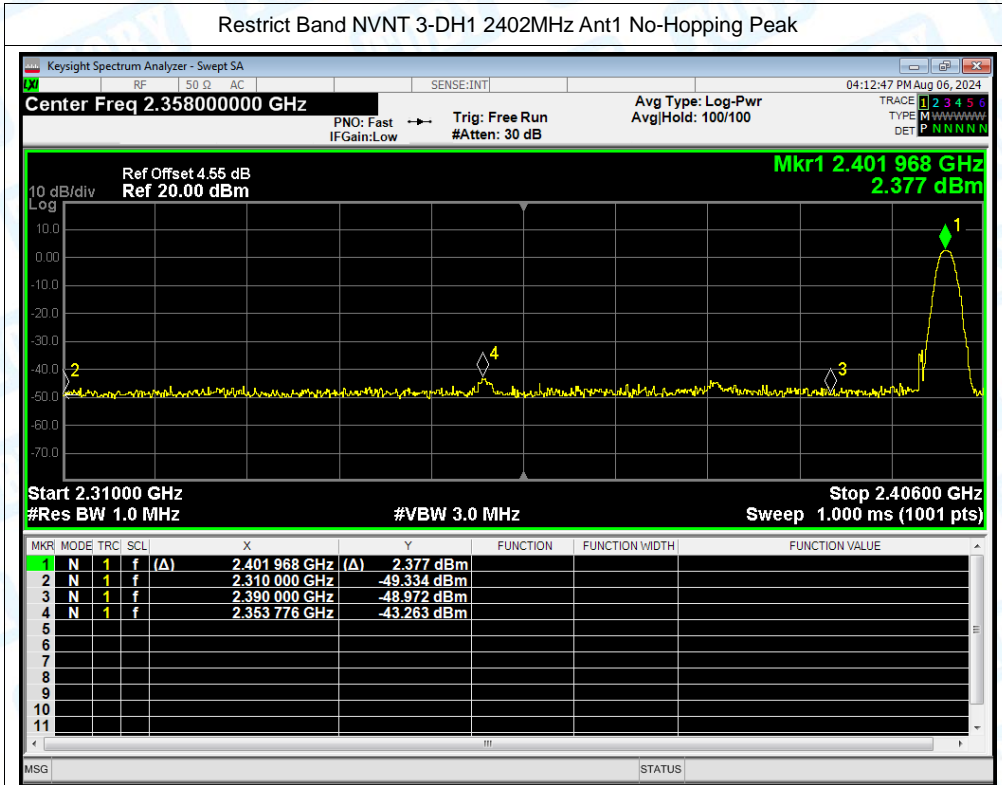
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



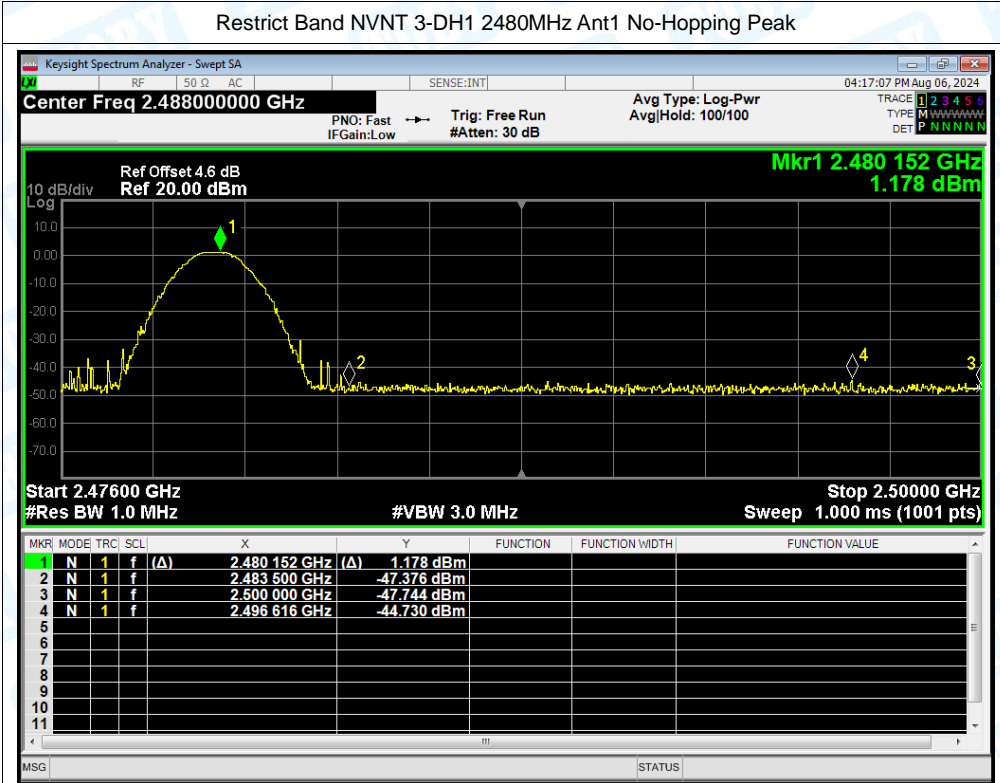
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



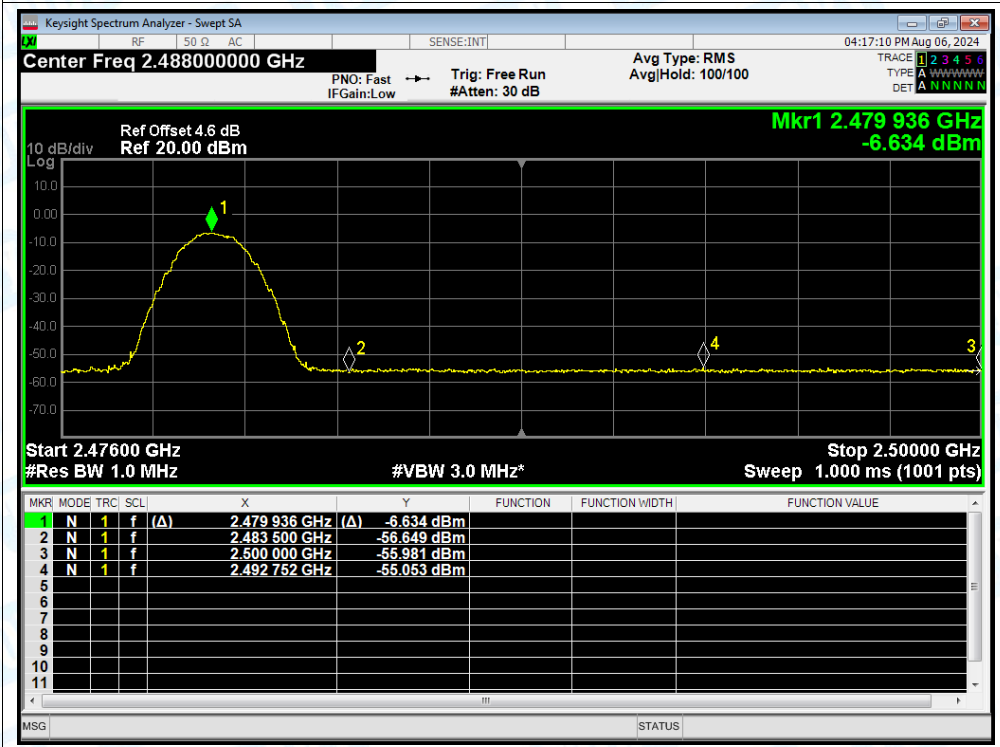




Restrict Band NVNT 3-DH1 2480MHz Ant1 No-Hopping Peak



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

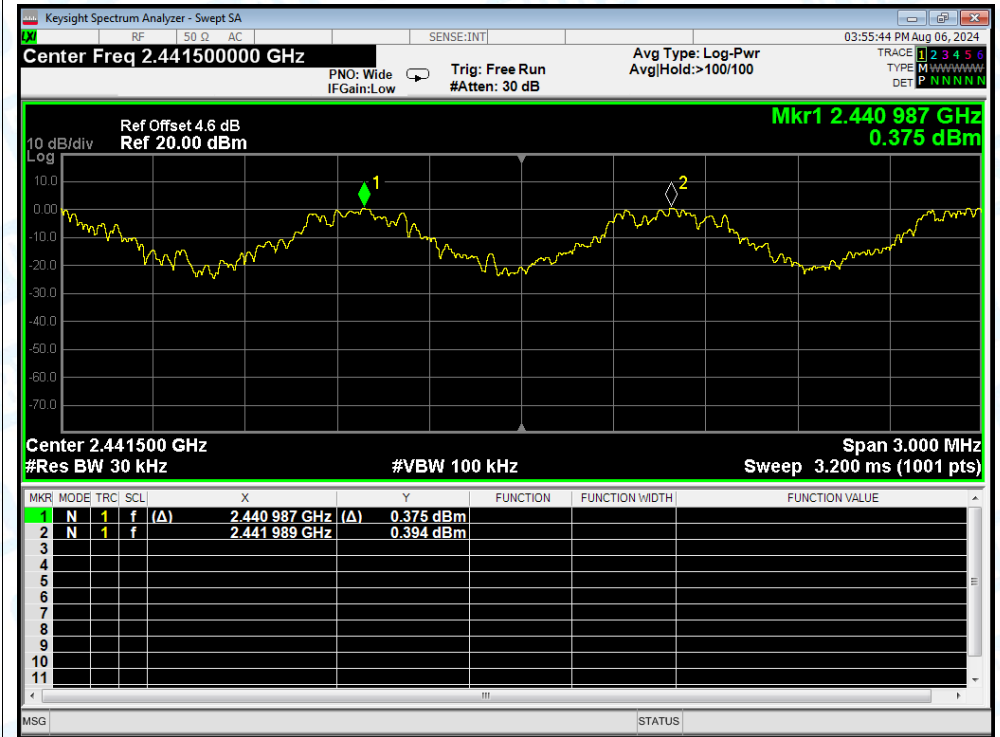


9. Carrier Frequencies Separation

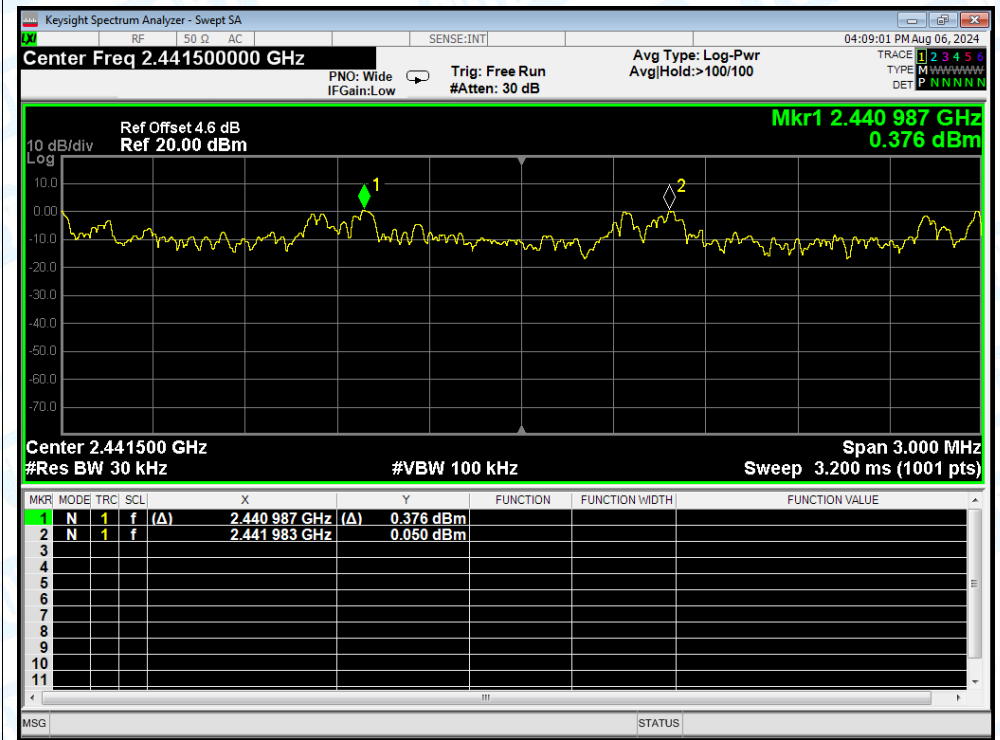
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.987	2441.989	1.002	0.66	Pass
NVNT	2-DH1	Ant1	2440.987	2441.983	0.996	0.827	Pass
NVNT	3-DH1	Ant1	2440.999	2441.992	0.993	0.867	Pass

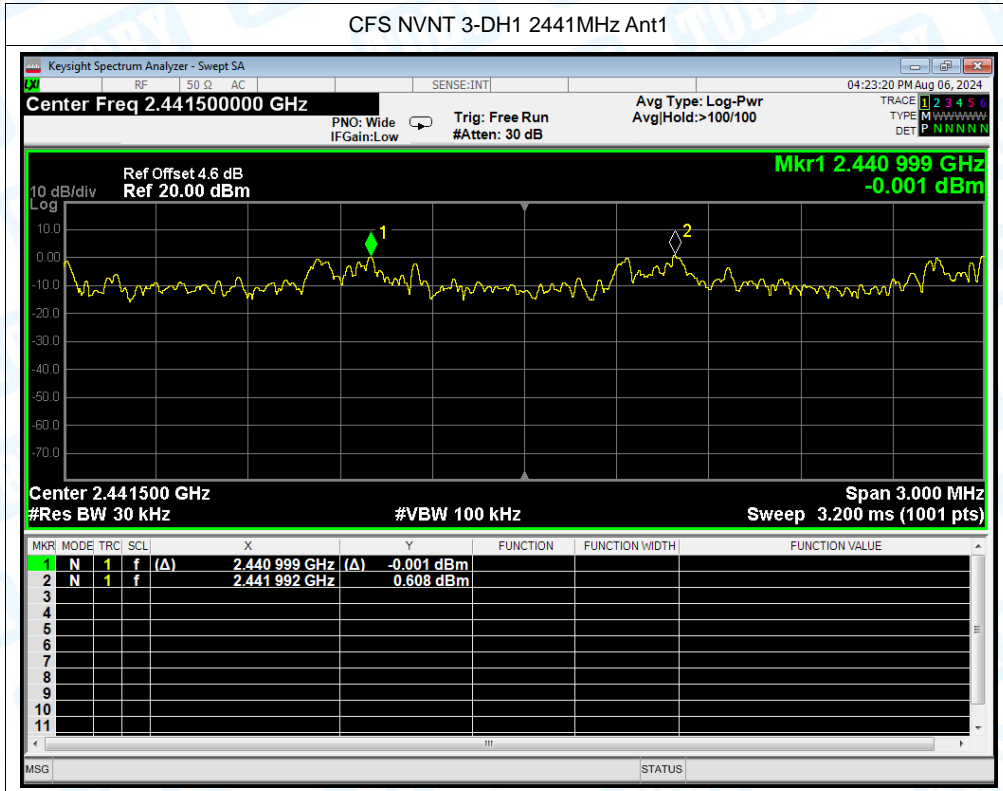
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



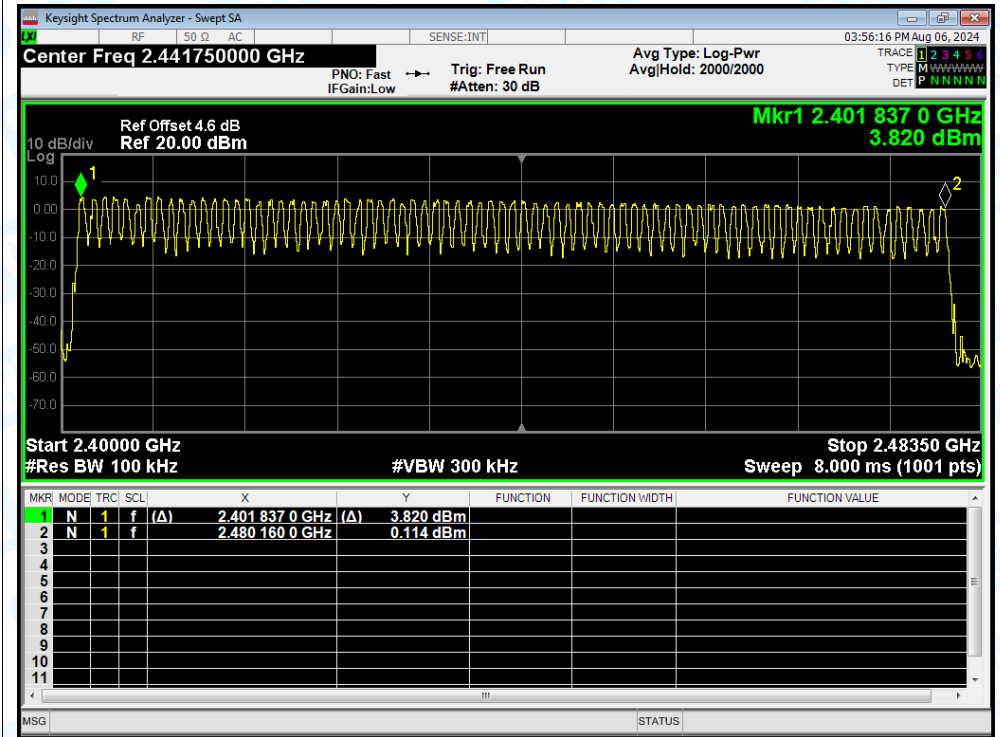


10. Number of Hopping Channel

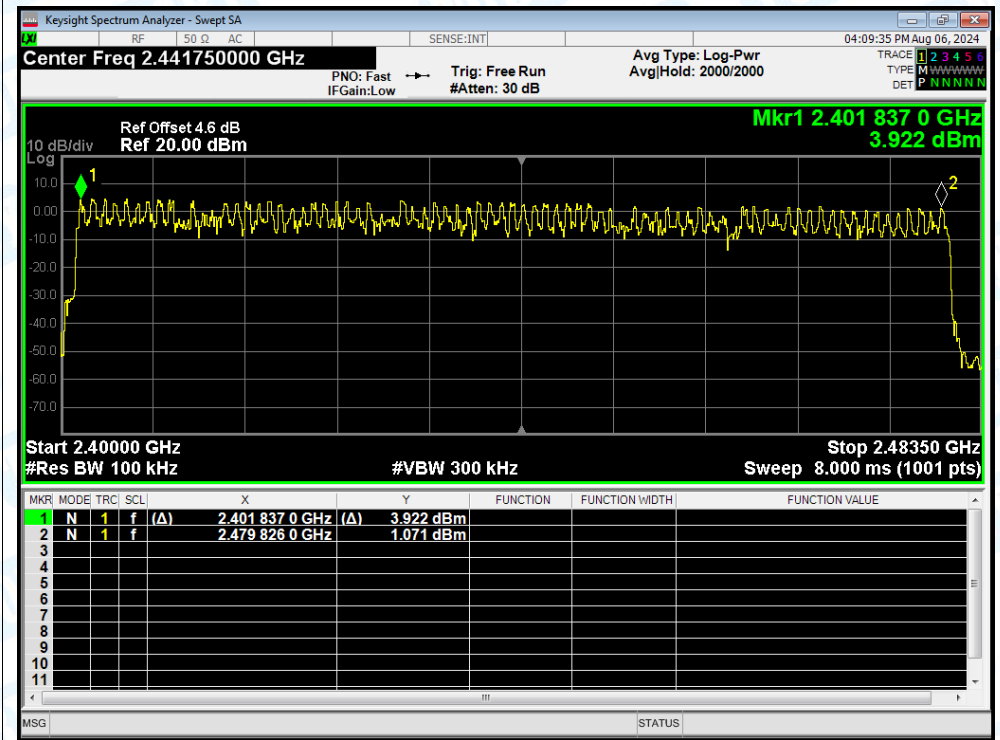
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

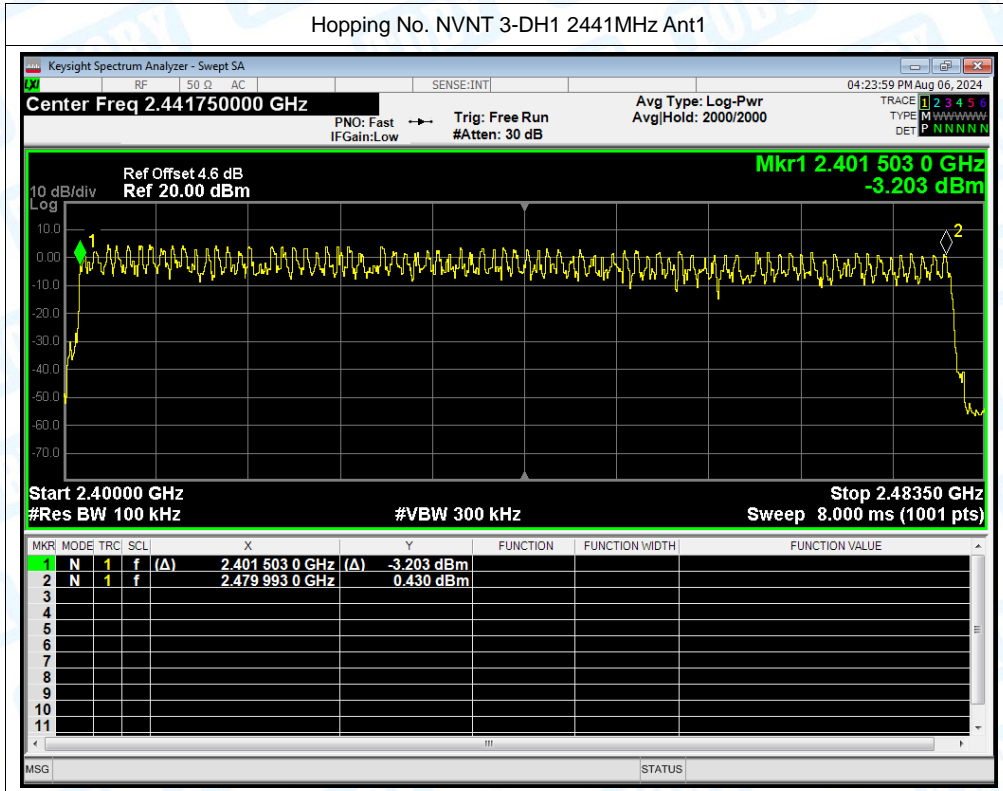
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



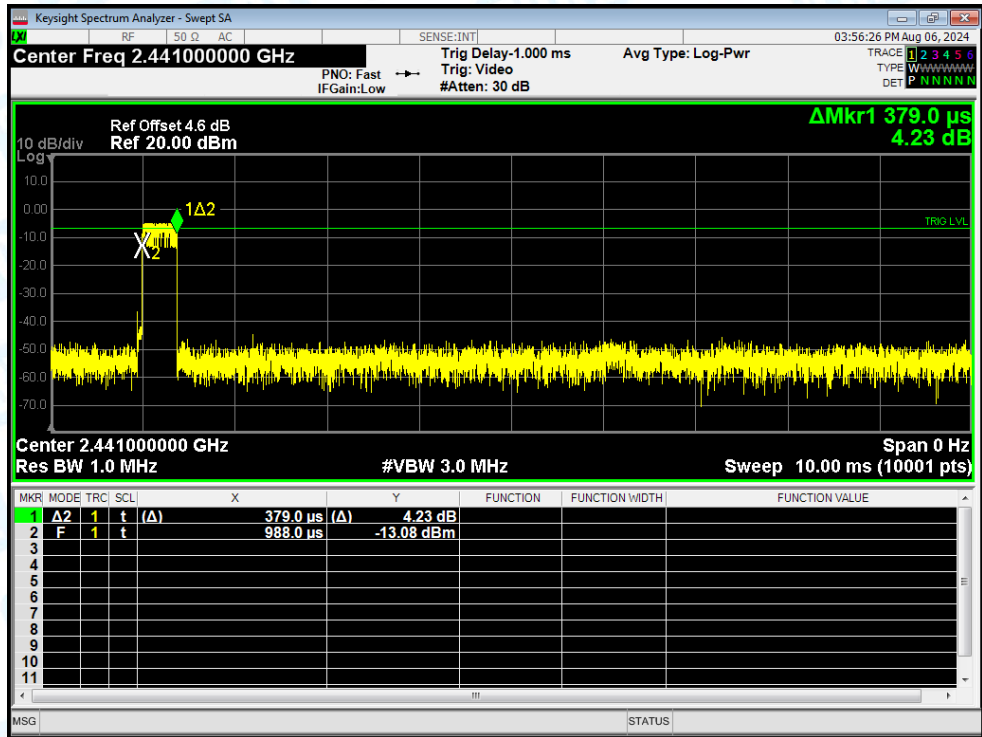


11. Dwell Time

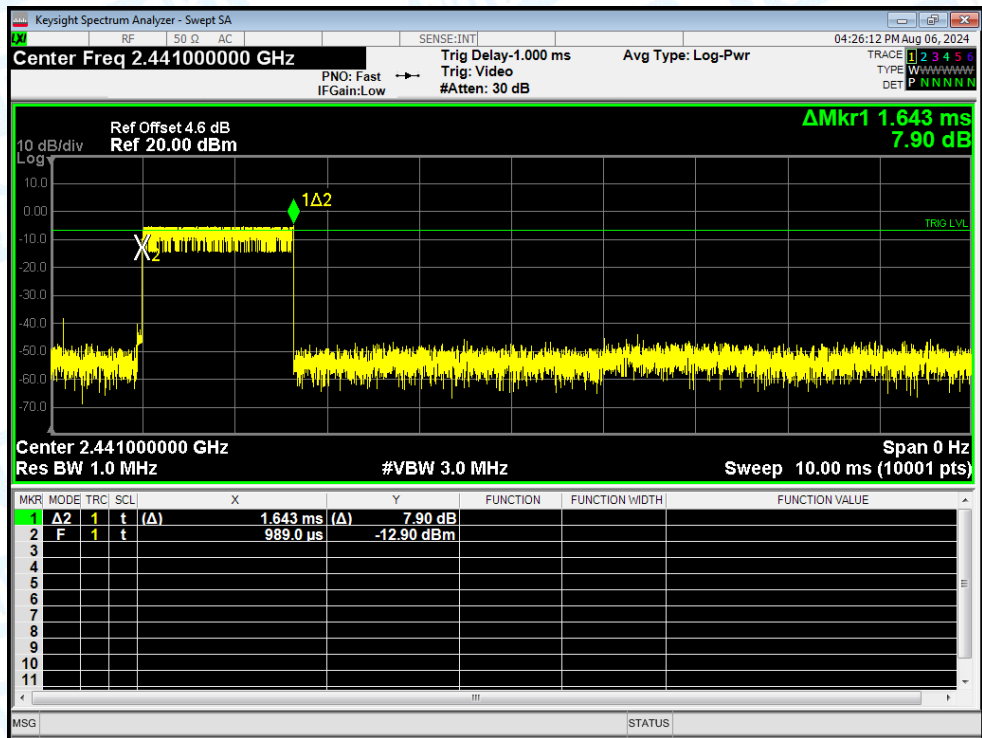
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.379	121.28	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.643	262.88	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.891	308.373	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.386	123.52	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.886	307.84	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.387	123.84	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.636	261.76	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.887	307.947	31600	400	Pass

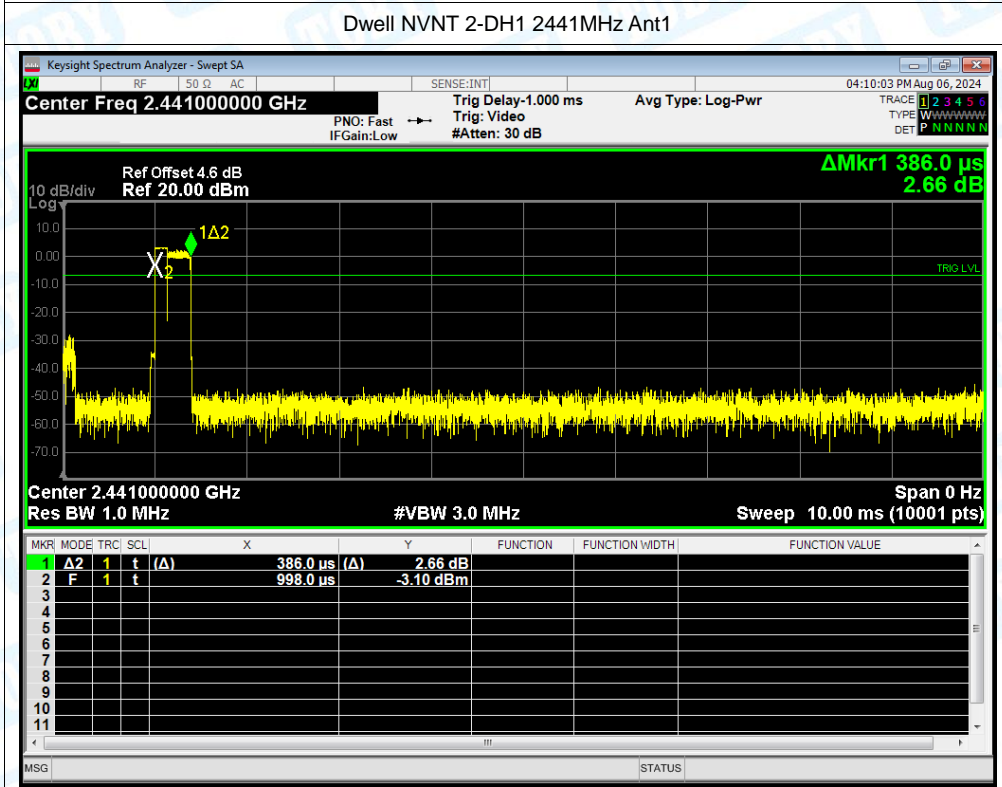
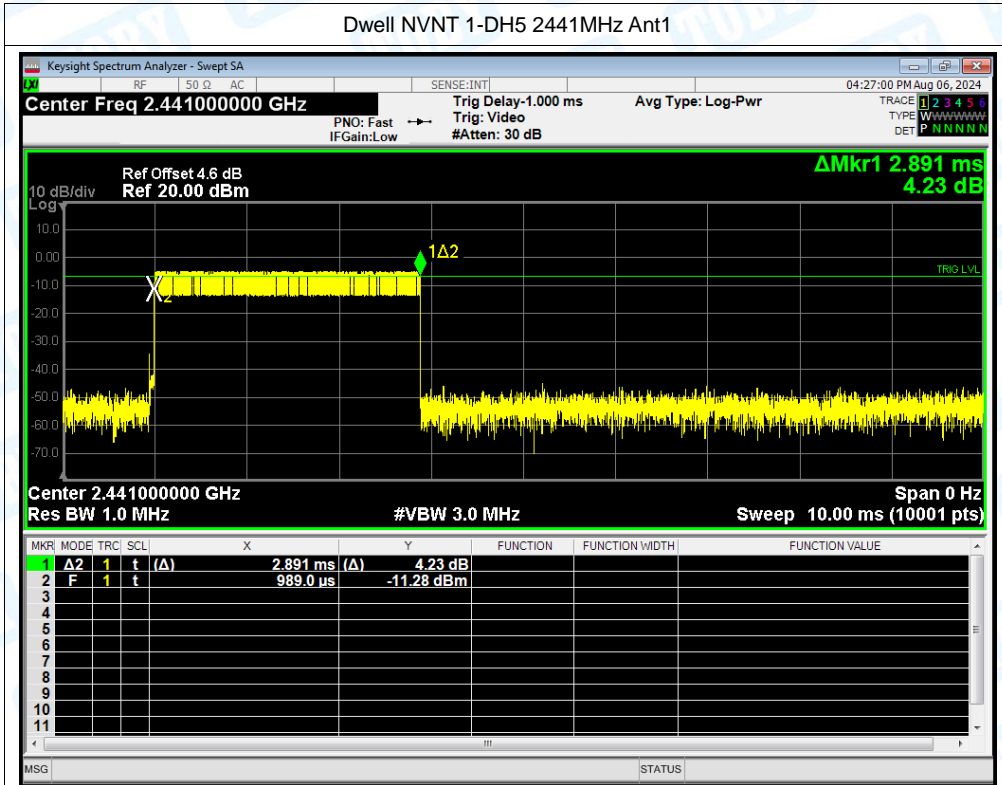
Test Graphs

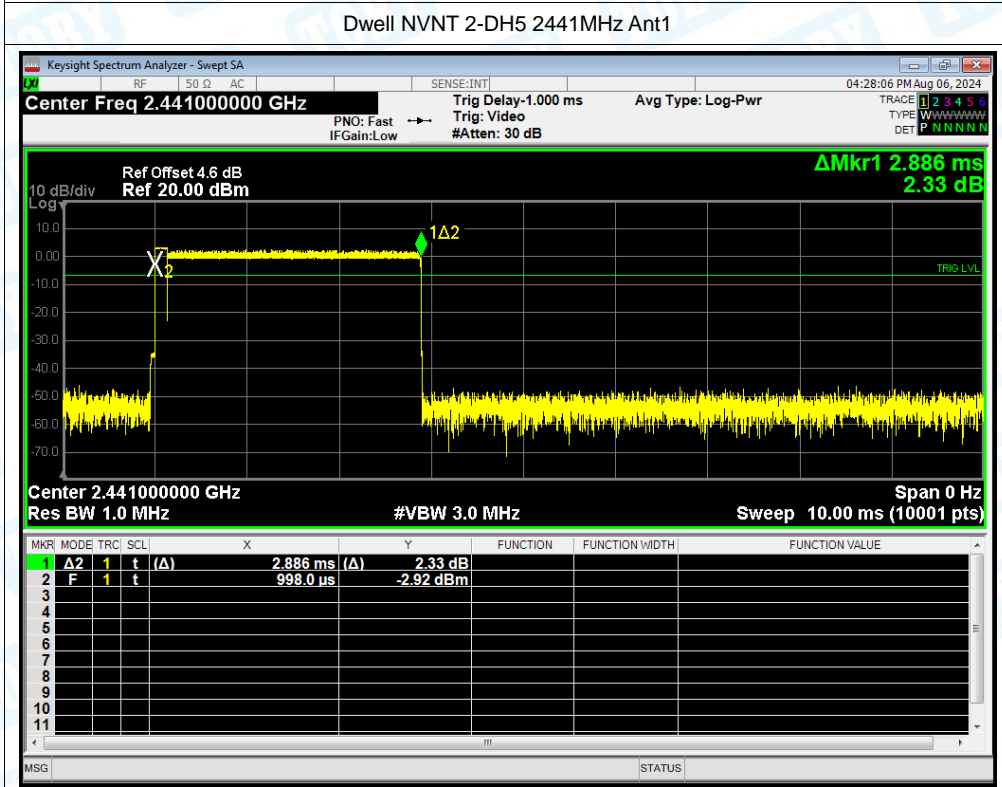
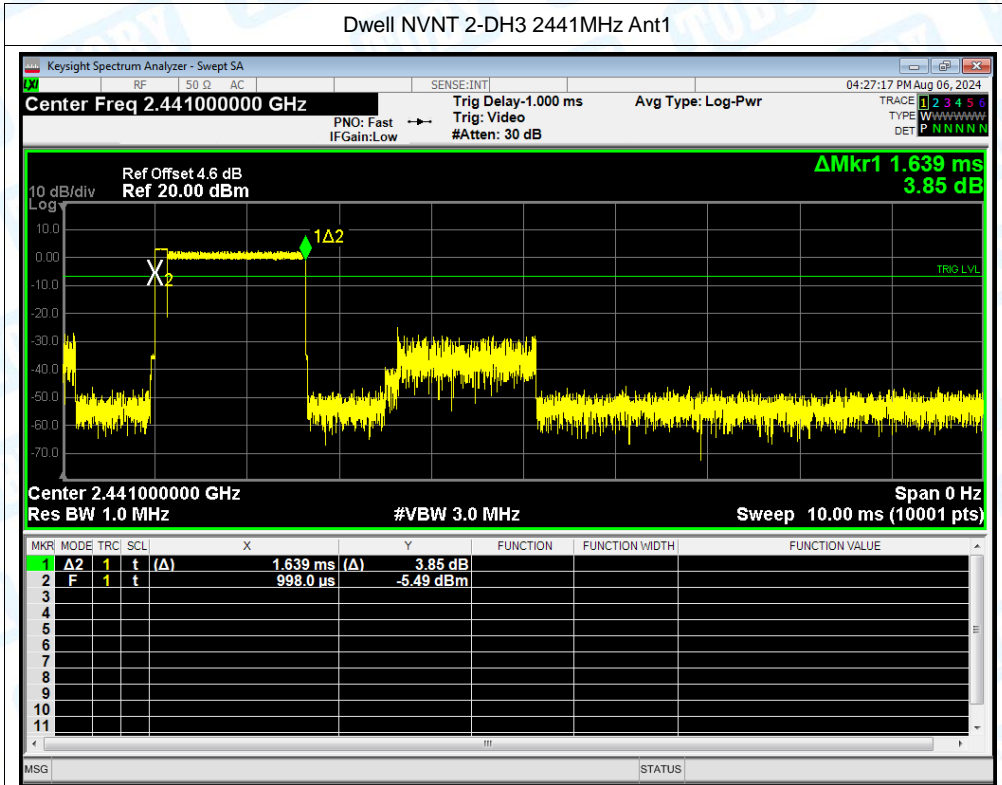
Dwell NVNT 1-DH1 2441MHz Ant1

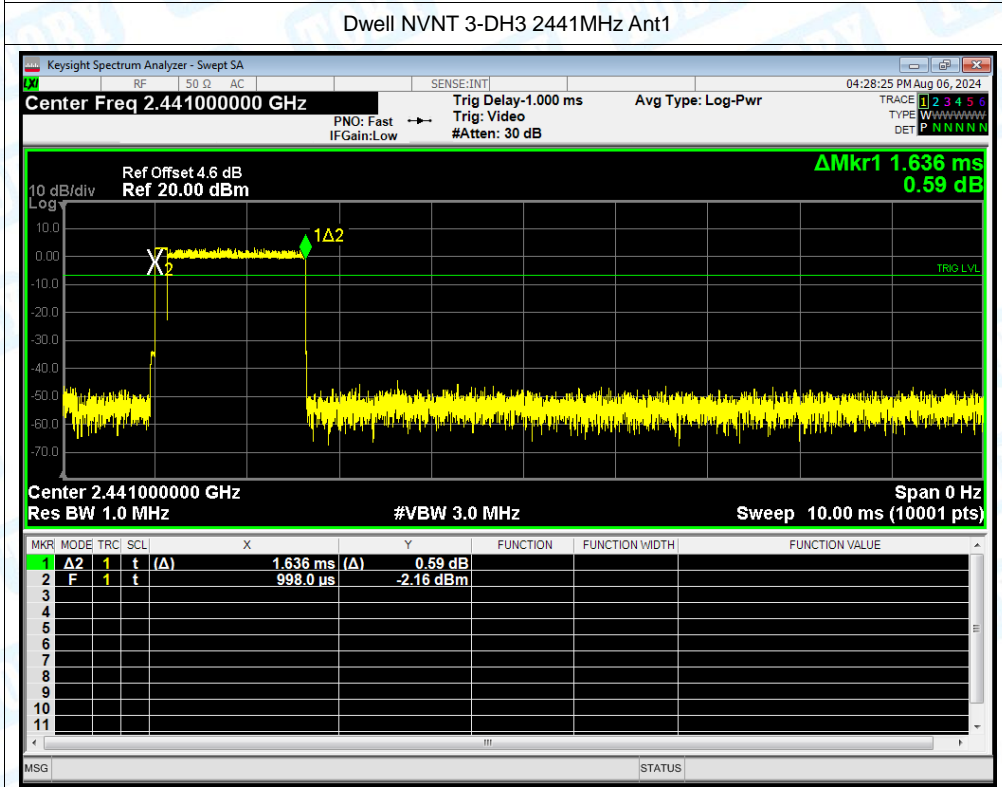
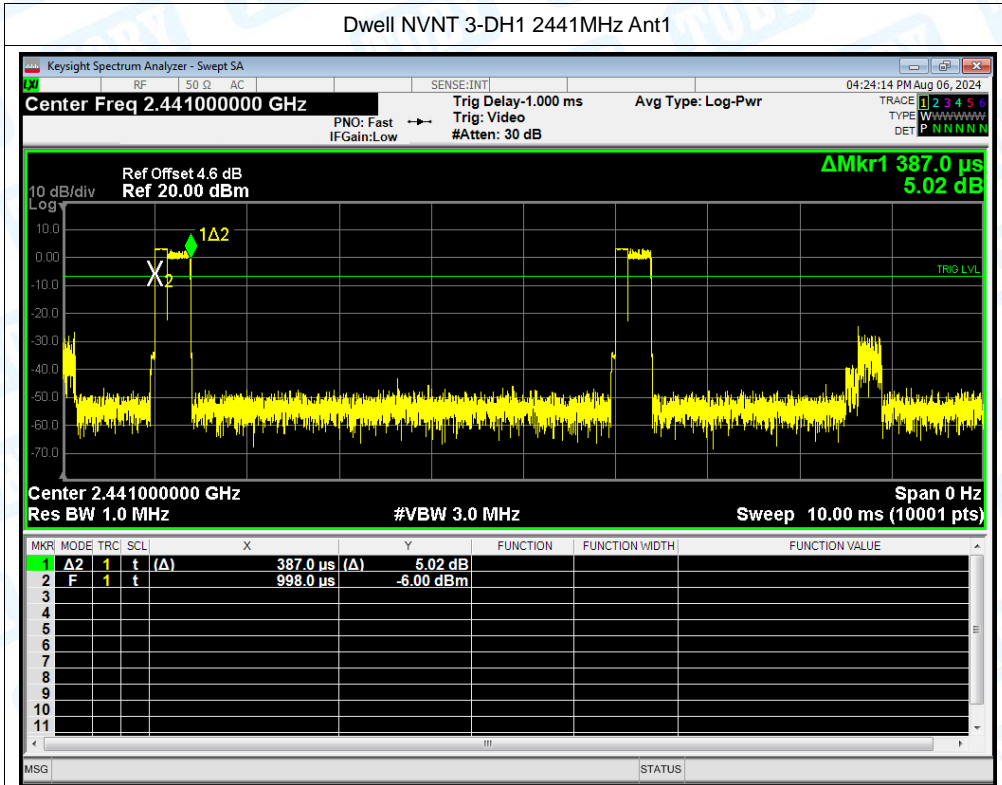


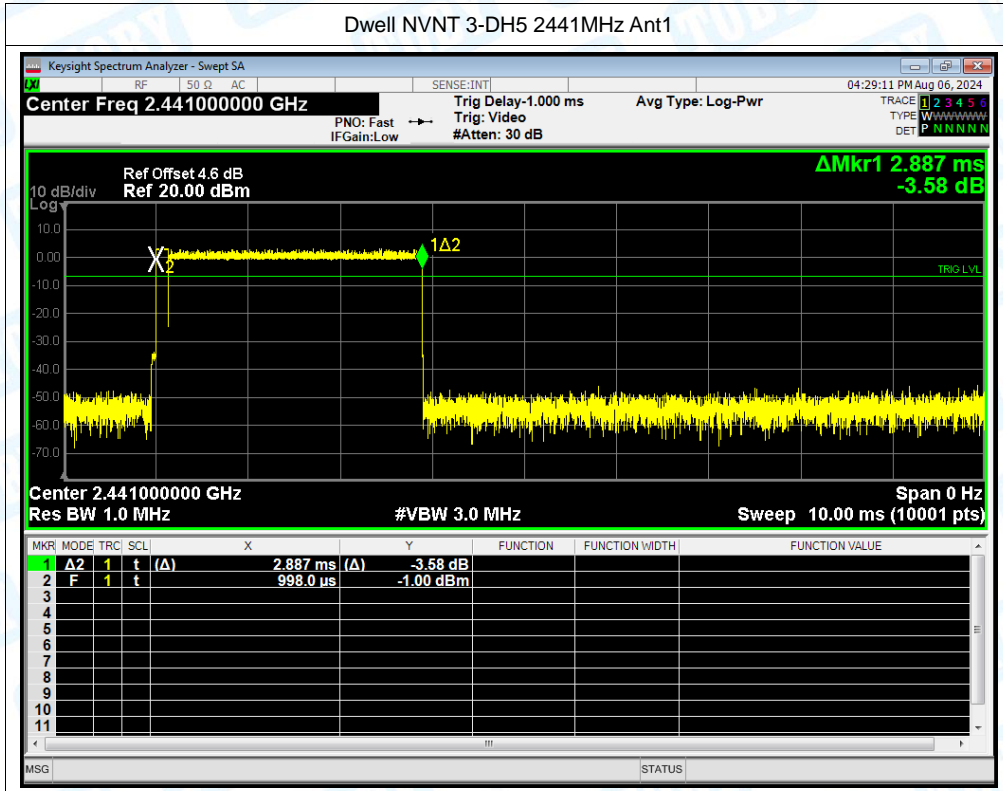
Dwell NVNT 1-DH3 2441MHz Ant1











---- END OF REPORT ----