

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Smart Watch
Test Model:	KE6
Sample ID:	HC-C-202404-0254-01-01
Environmental Conditions	
Temperature:	23°C
Relative Humidity:	46%
Test Voltage:	DC 3.8V
Test Engineer:	ZKN Zhou
Note: For a more detailed features description, please refer to the report TBR-C-202404-0254-91 The report only show the worst case data.	

Contents

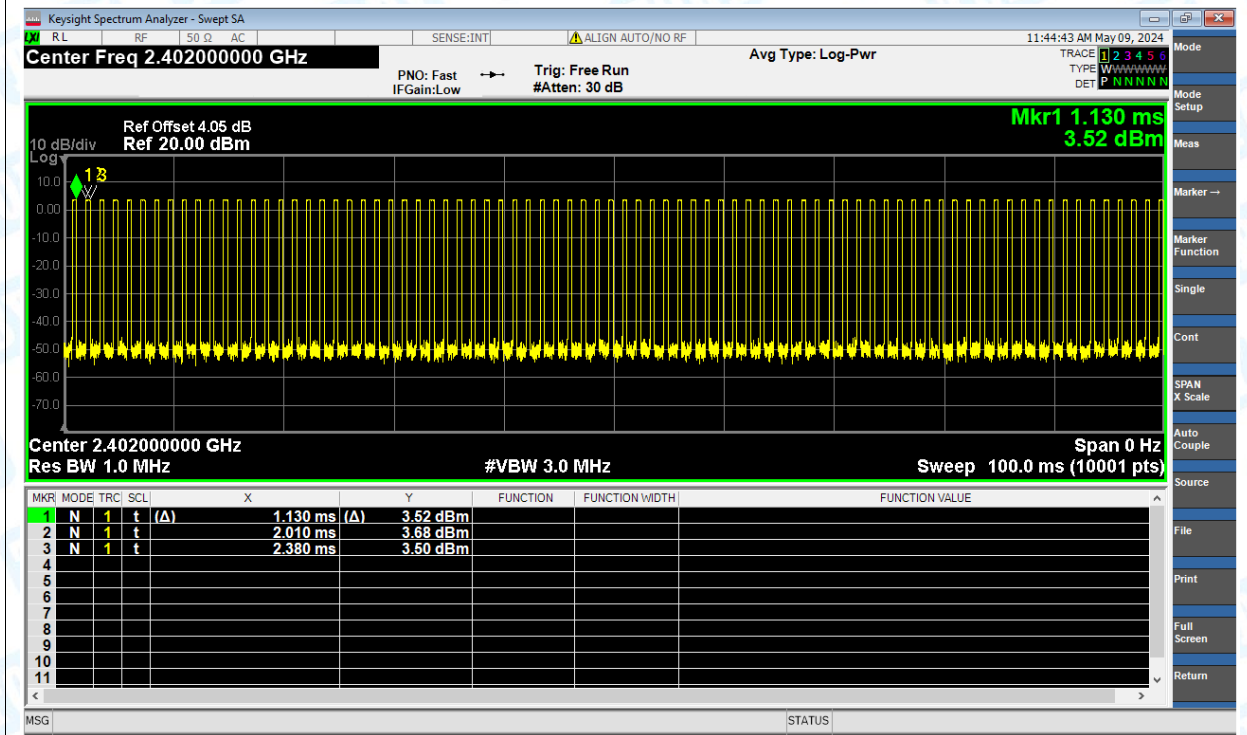
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1. Duty Cycle

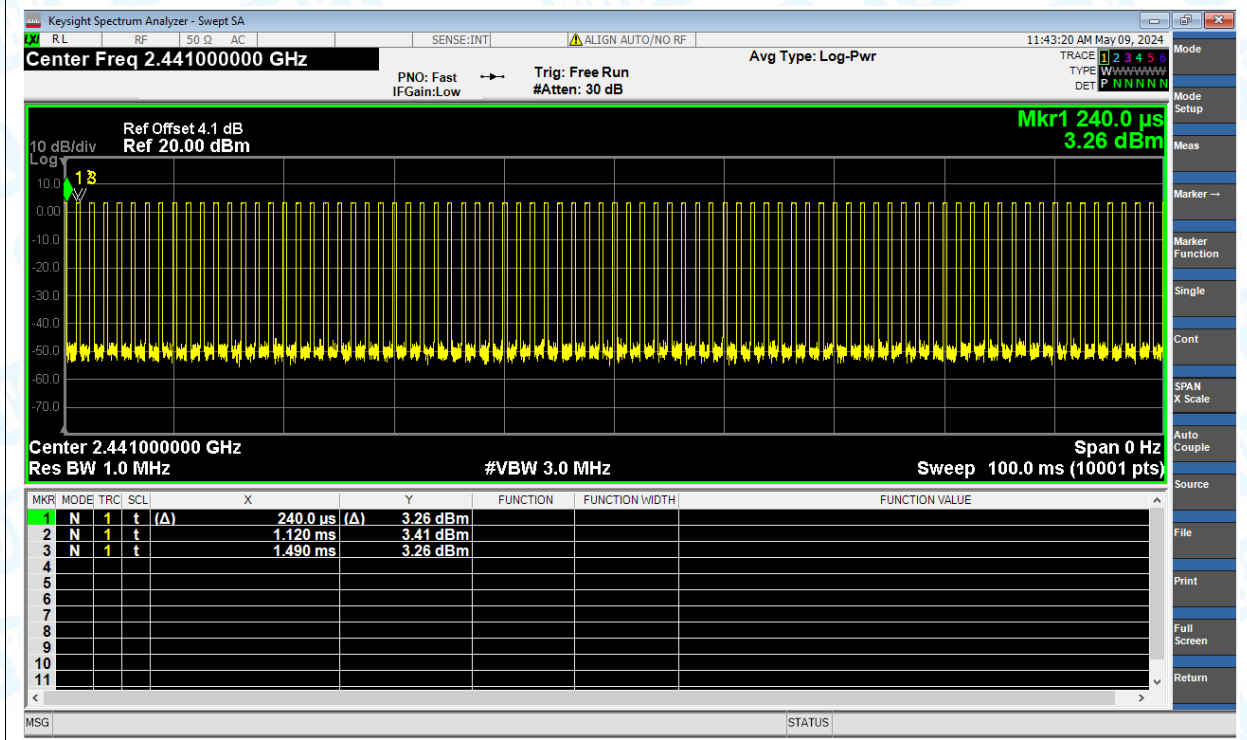
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	29.6	5.29	2.7
NVNT	1-DH1	2441	Ant1	29.6	5.29	2.7
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56
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	30.4	5.17	2.63

Test Graphs

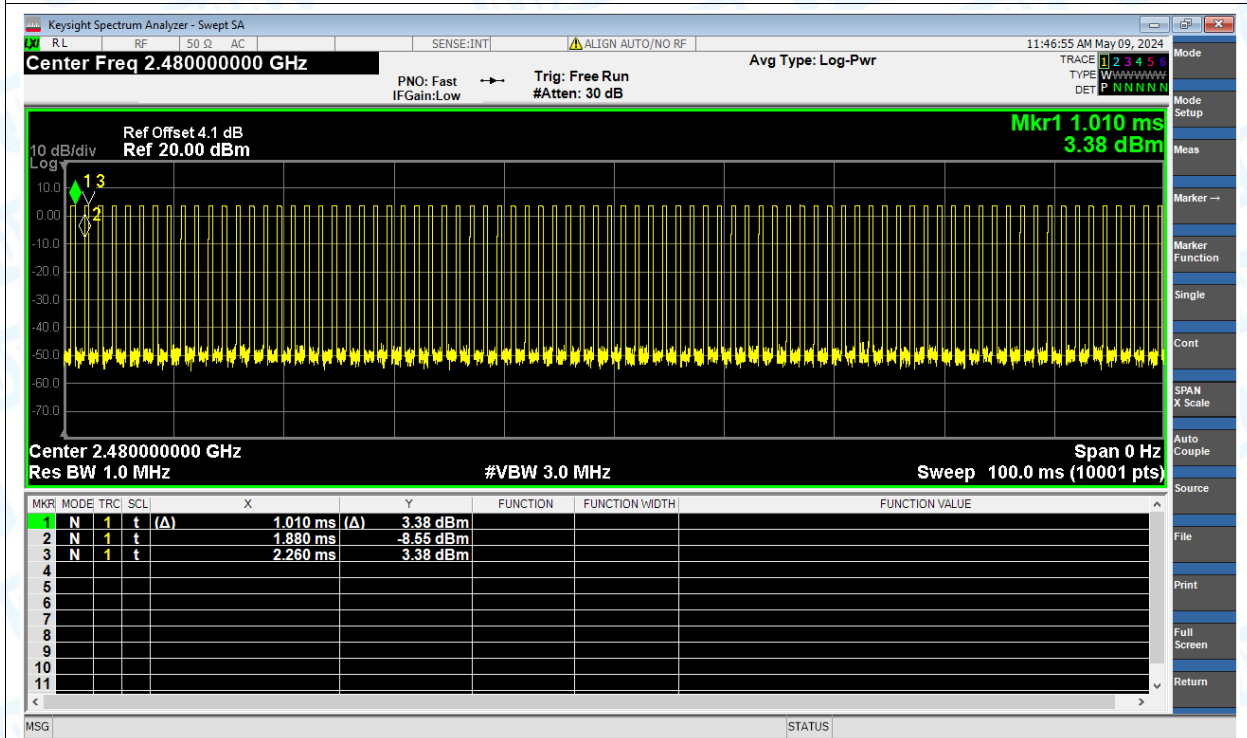
Duty Cycle NVNT 1-DH1 2402MHz Ant1



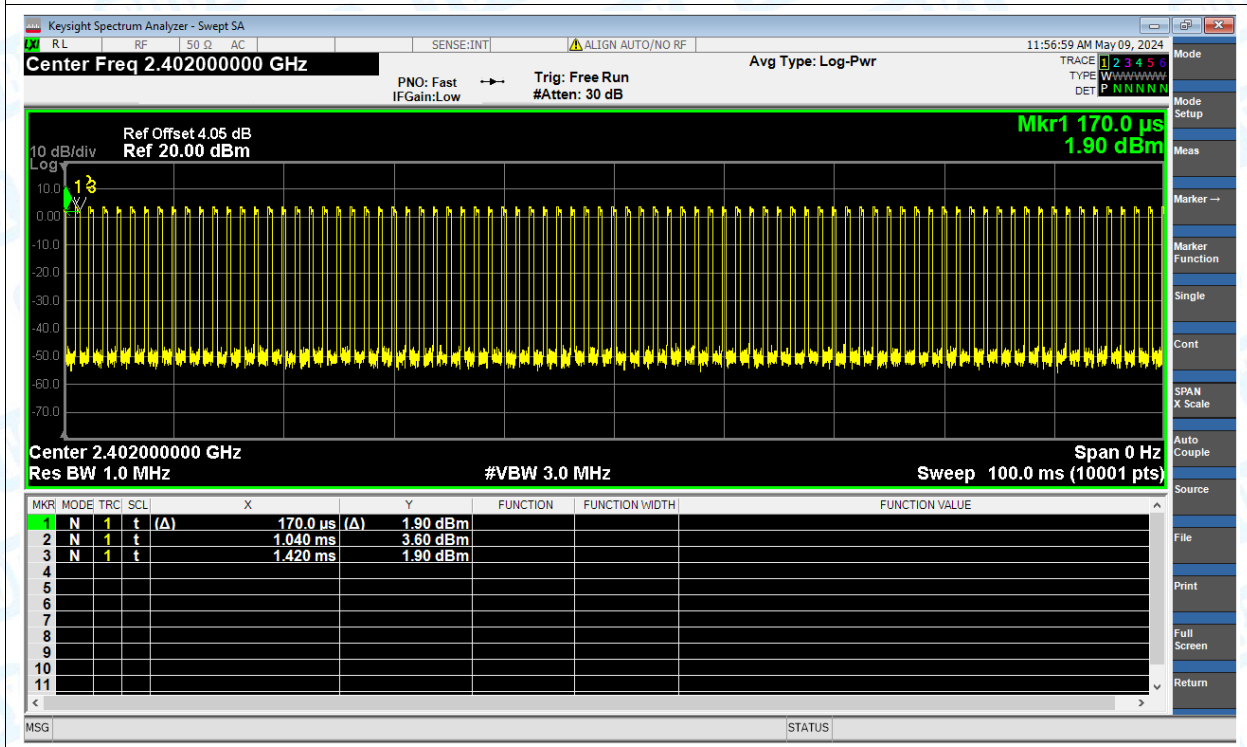
Duty Cycle NVNT 1-DH1 2441MHz Ant1



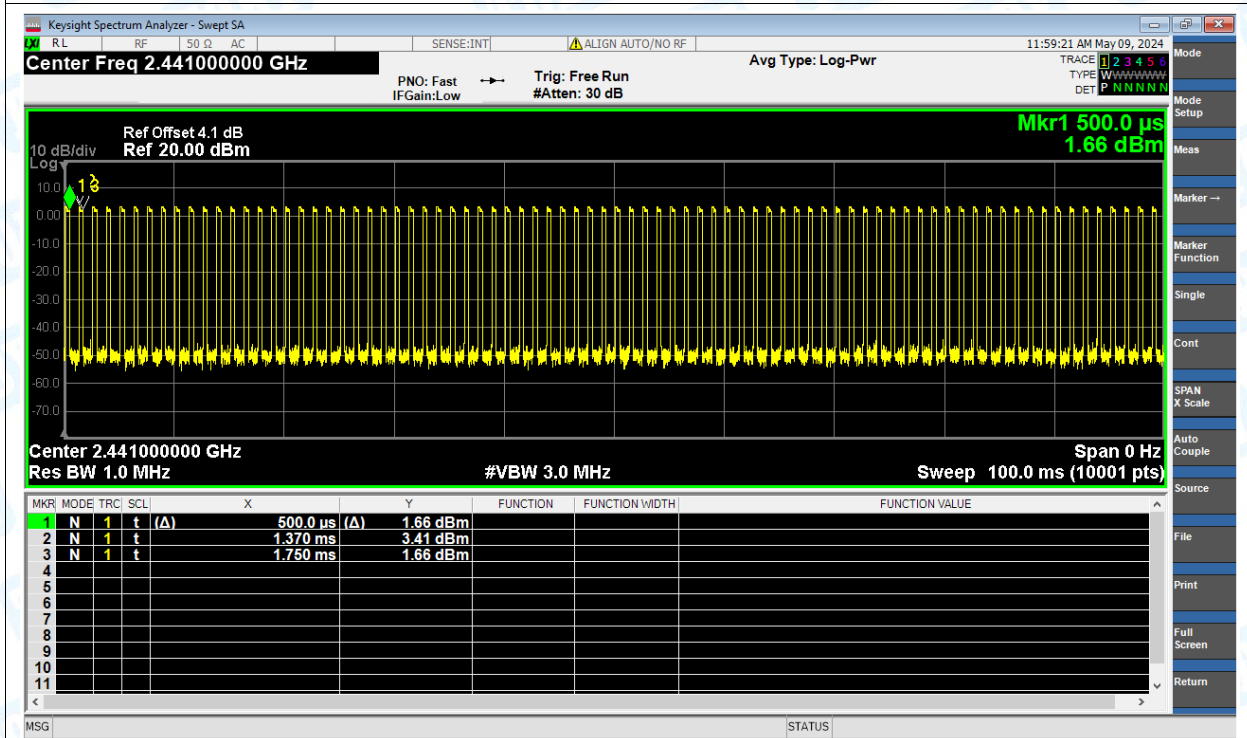
Duty Cycle NVNT 1-DH1 2480MHz Ant1



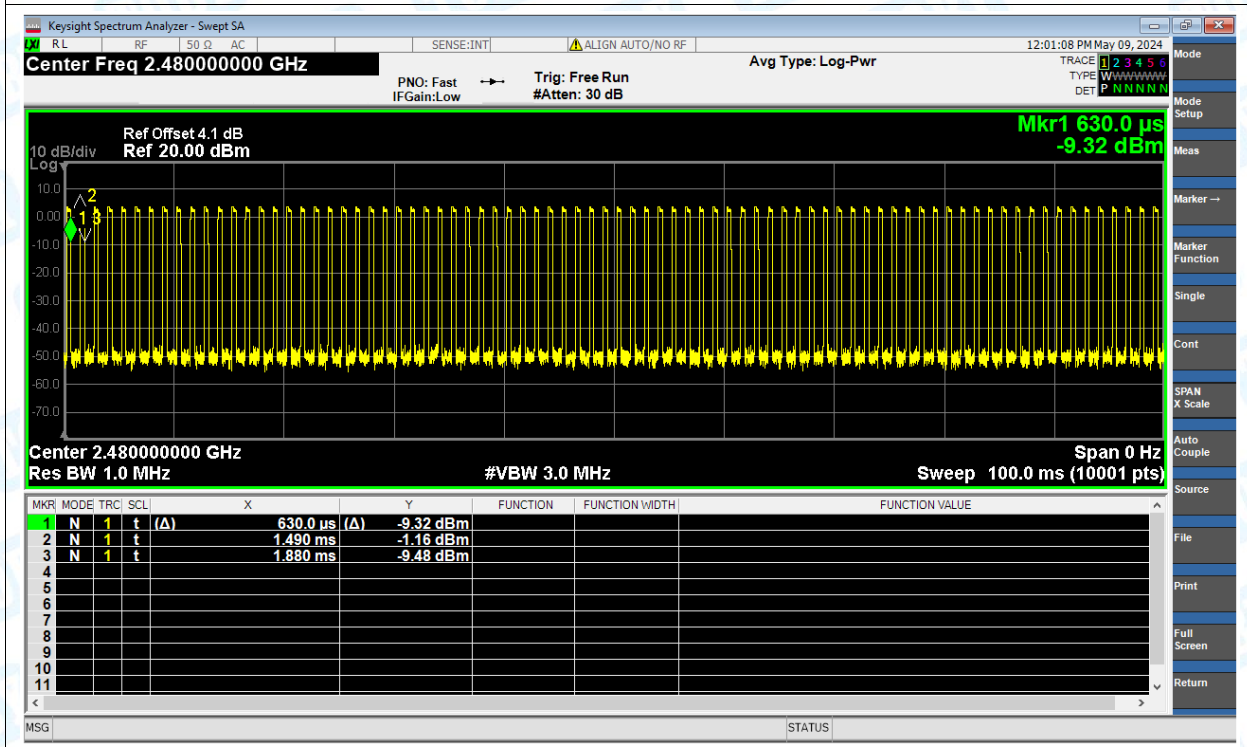
Duty Cycle NVNT 2-DH1 2402MHz Ant1



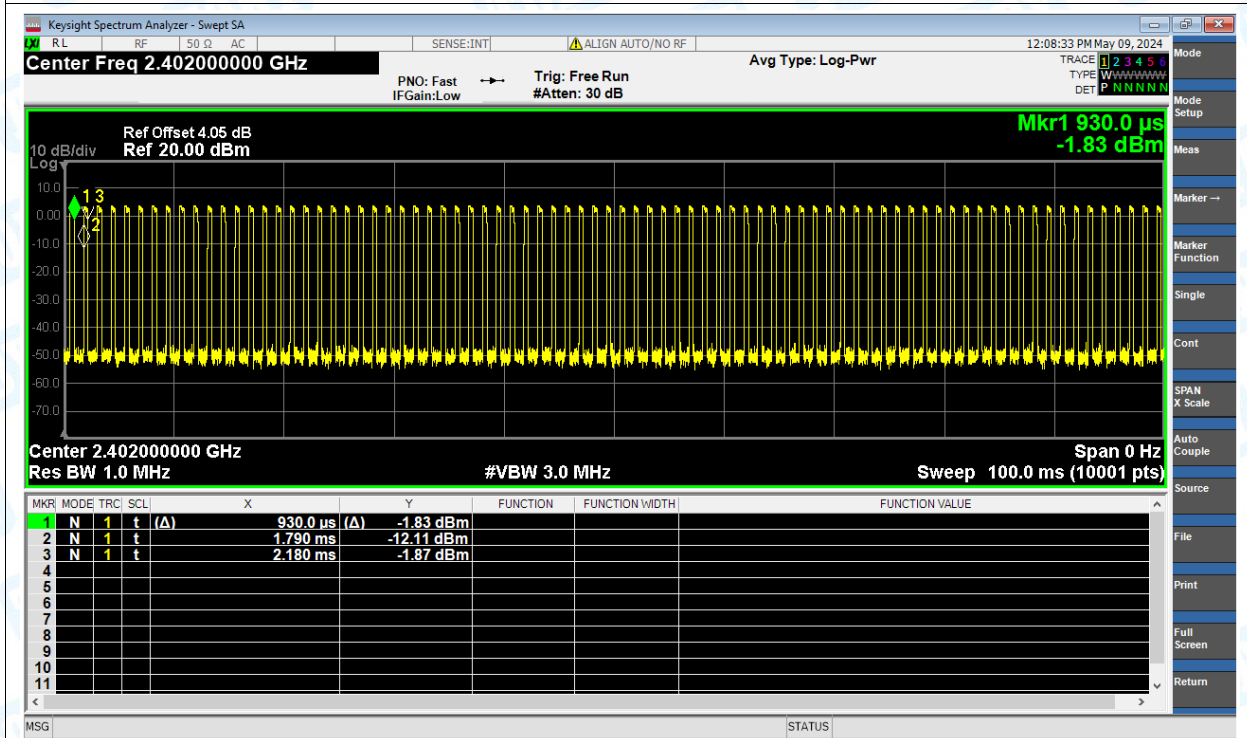
Duty Cycle NVNT 2-DH1 2441MHz Ant1



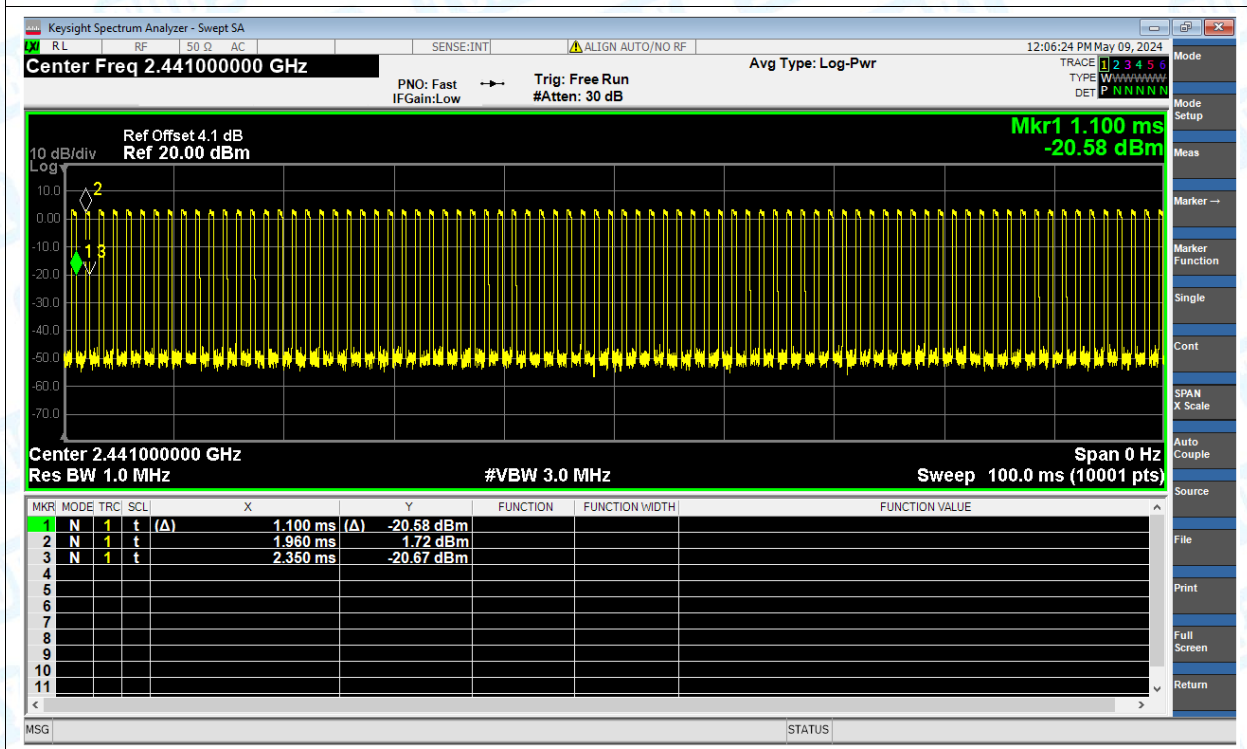
Duty Cycle NVNT 2-DH1 2480MHz Ant1

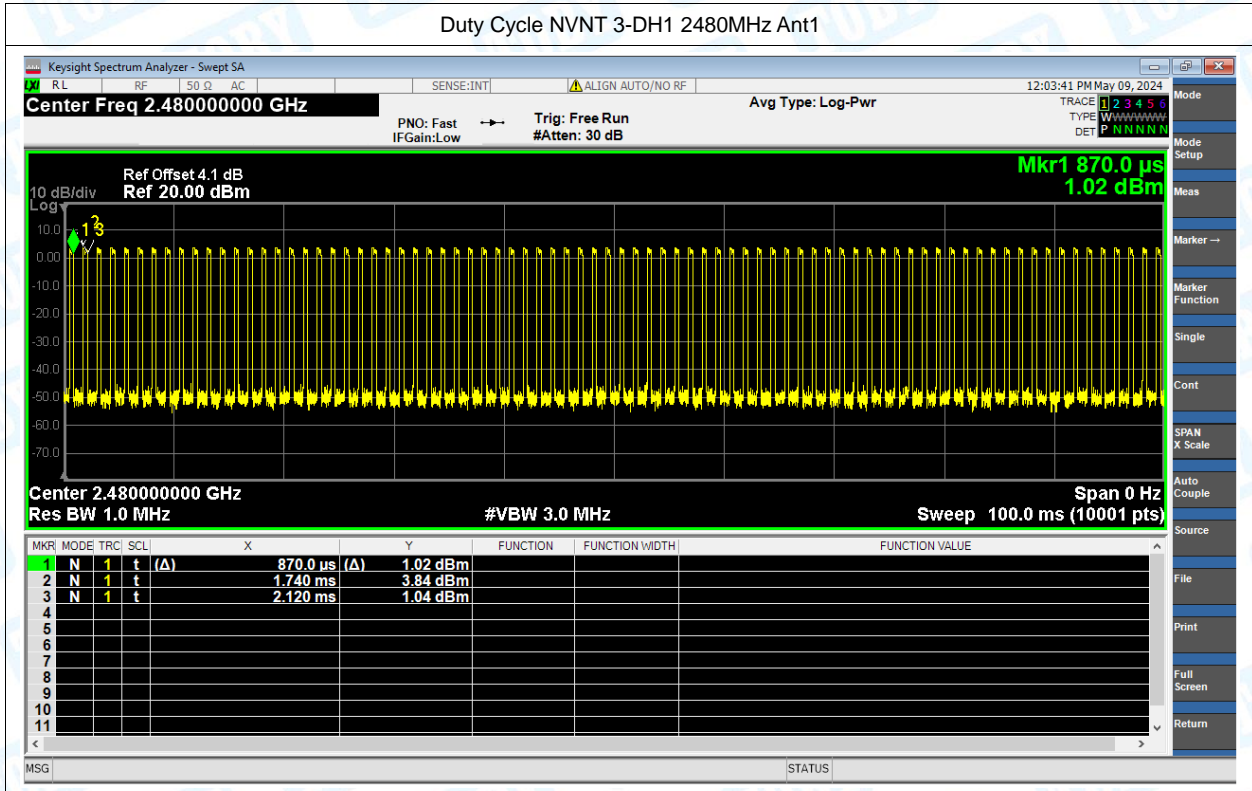


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



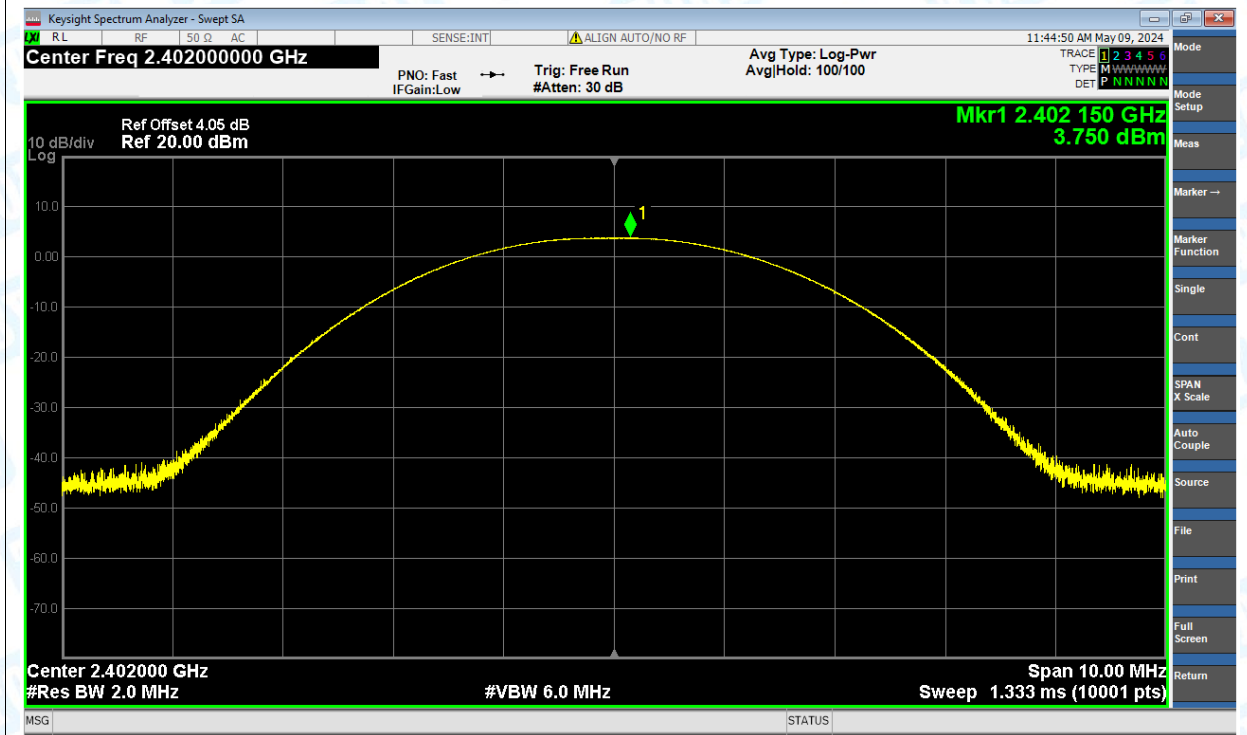


2. Maximum Conducted Output Power

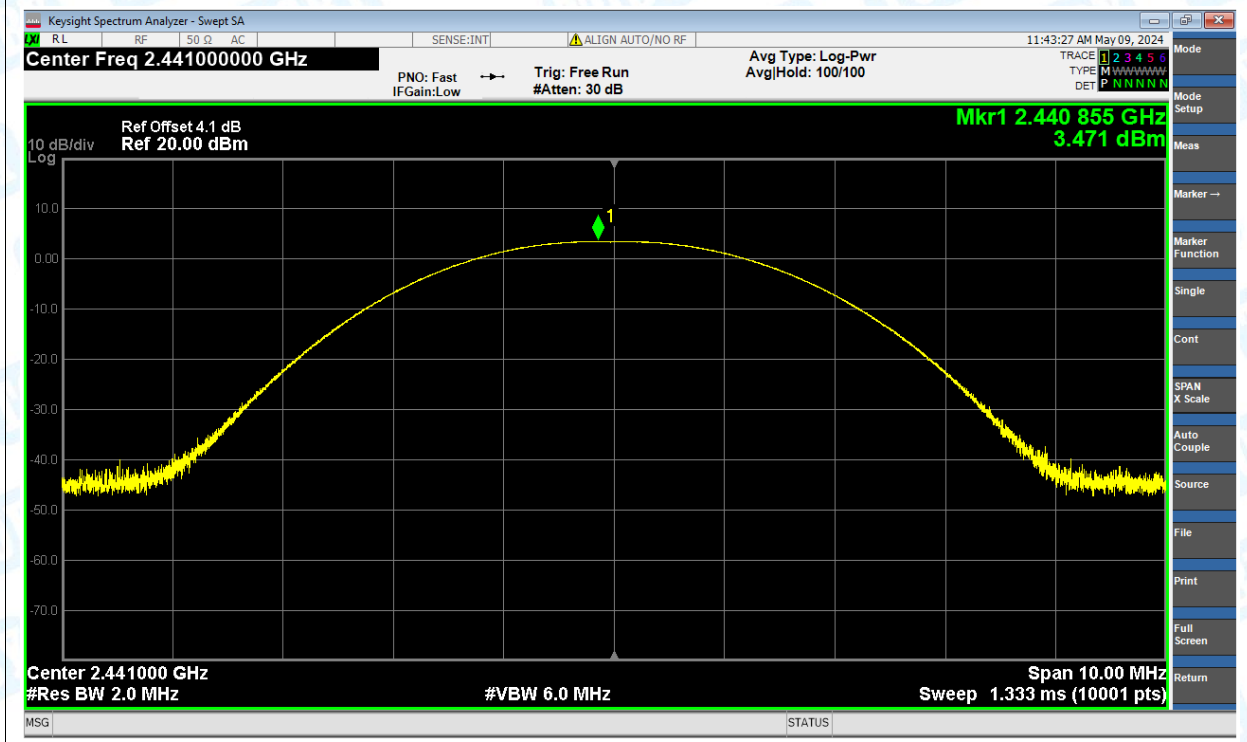
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	3.75	21	Pass
NVNT	1-DH1	2441	Ant1	3.471	21	Pass
NVNT	1-DH1	2480	Ant1	3.887	21	Pass
NVNT	1-DH3	2441	Ant1	3.487	21	Pass
NVNT	1-DH5	2441	Ant1	3.46	21	Pass
NVNT	2-DH1	2402	Ant1	3.782	21	Pass
NVNT	2-DH1	2441	Ant1	3.494	21	Pass
NVNT	2-DH1	2480	Ant1	3.887	21	Pass
NVNT	2-DH3	2441	Ant1	3.492	21	Pass
NVNT	2-DH5	2441	Ant1	3.463	21	Pass
NVNT	3-DH1	2402	Ant1	3.937	21	Pass
NVNT	3-DH1	2441	Ant1	3.672	21	Pass
NVNT	3-DH1	2480	Ant1	3.99	21	Pass
NVNT	3-DH3	2441	Ant1	3.792	21	Pass
NVNT	3-DH5	2441	Ant1	3.776	21	Pass

Test Graphs

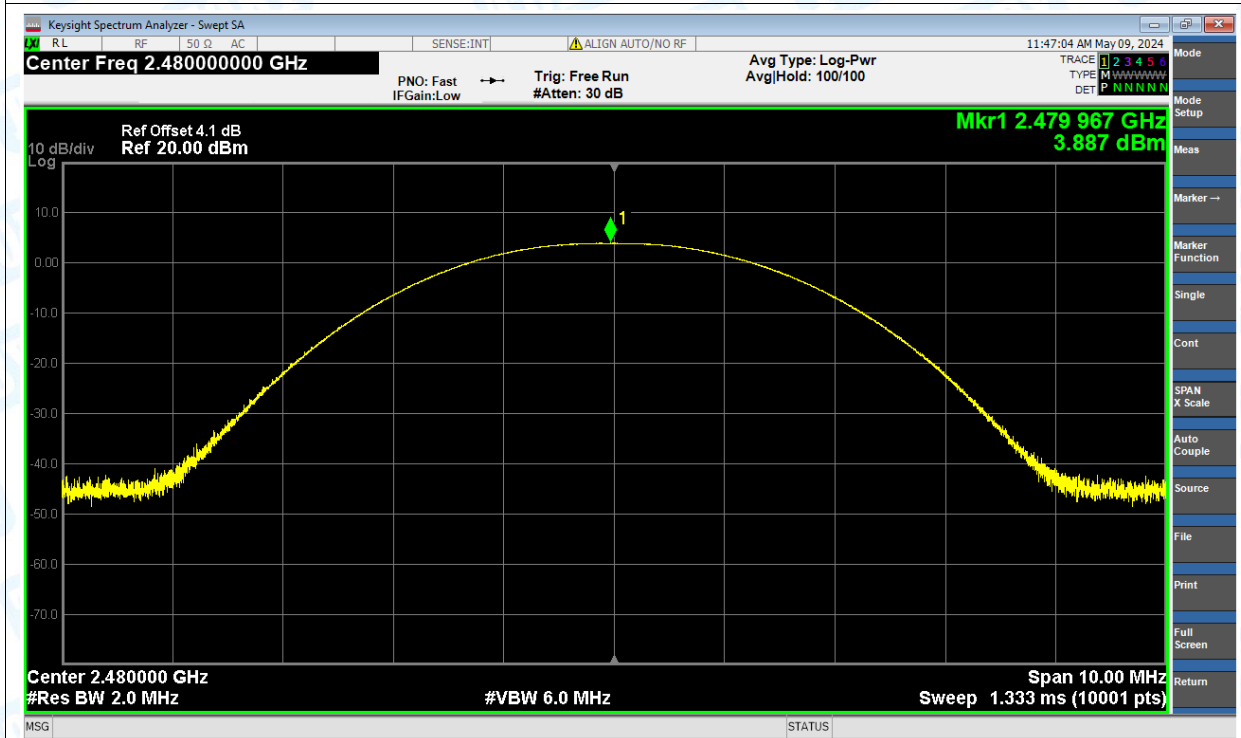
Power NVNT 1-DH1 2402MHz Ant1



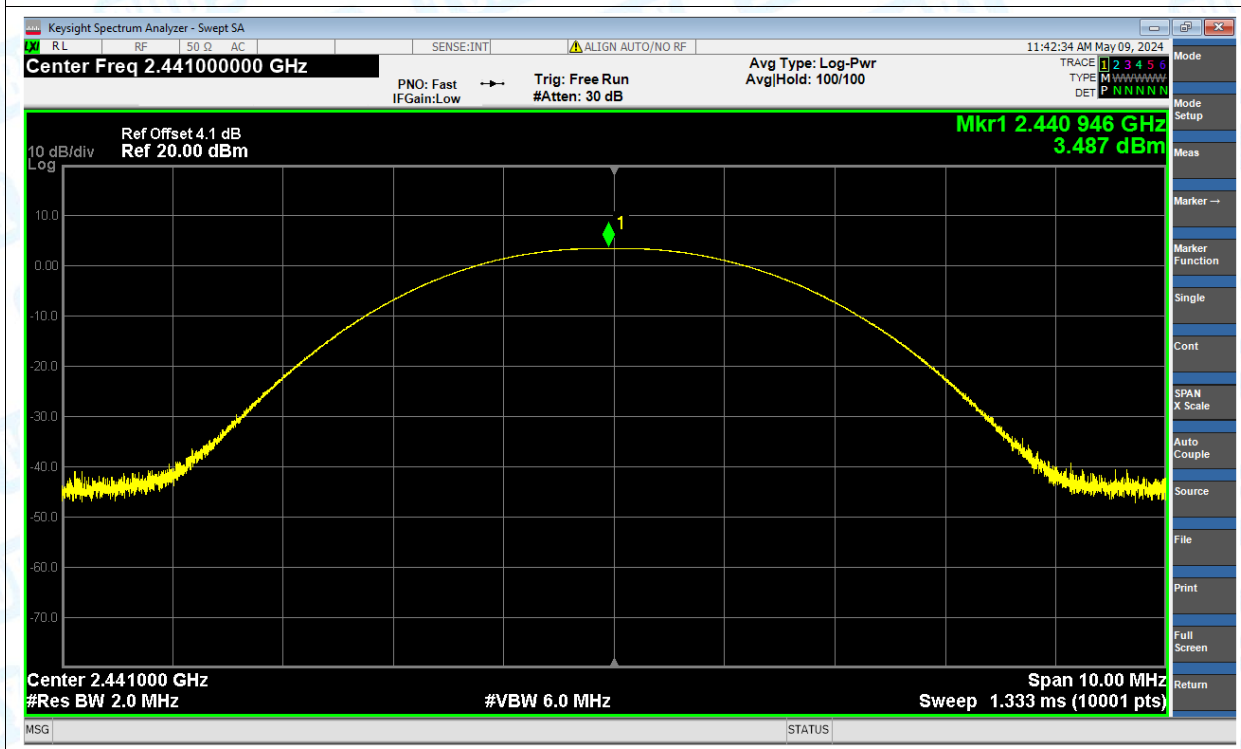
Power NVNT 1-DH1 2441MHz Ant1



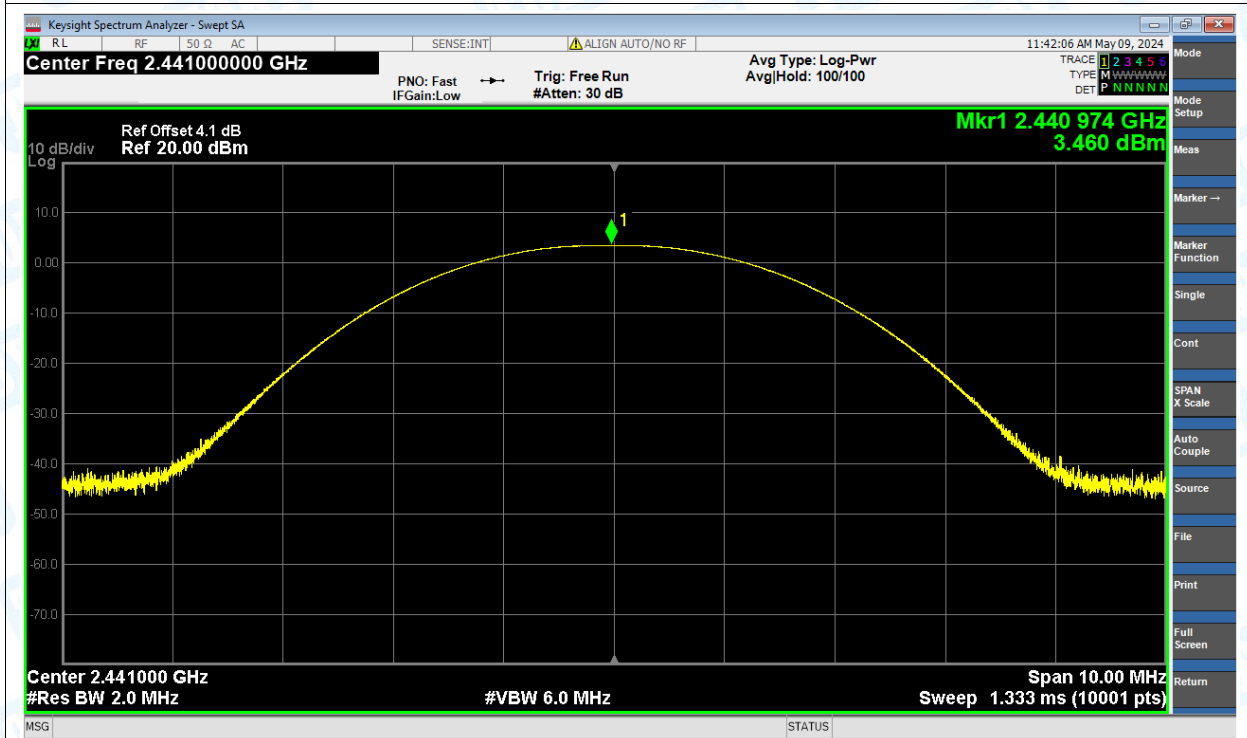
Power NVNT 1-DH1 2480MHz Ant1



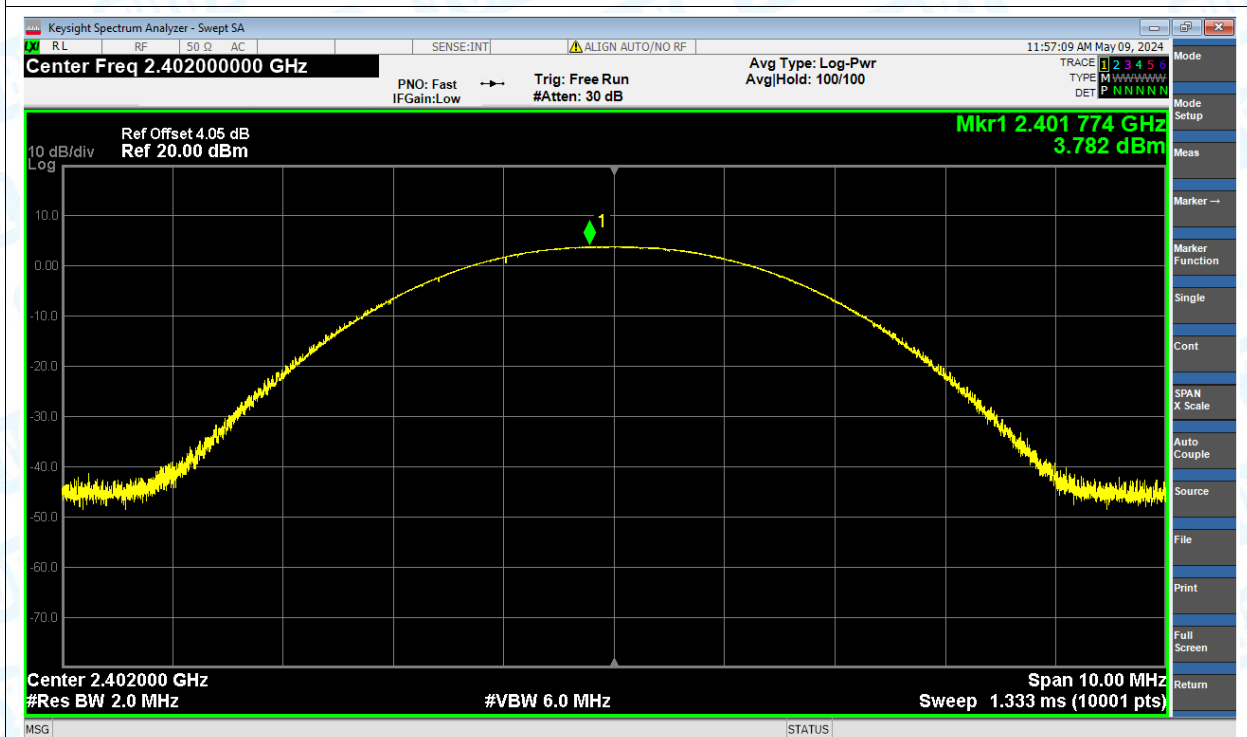
Power NVNT 1-DH3 2441MHz Ant1



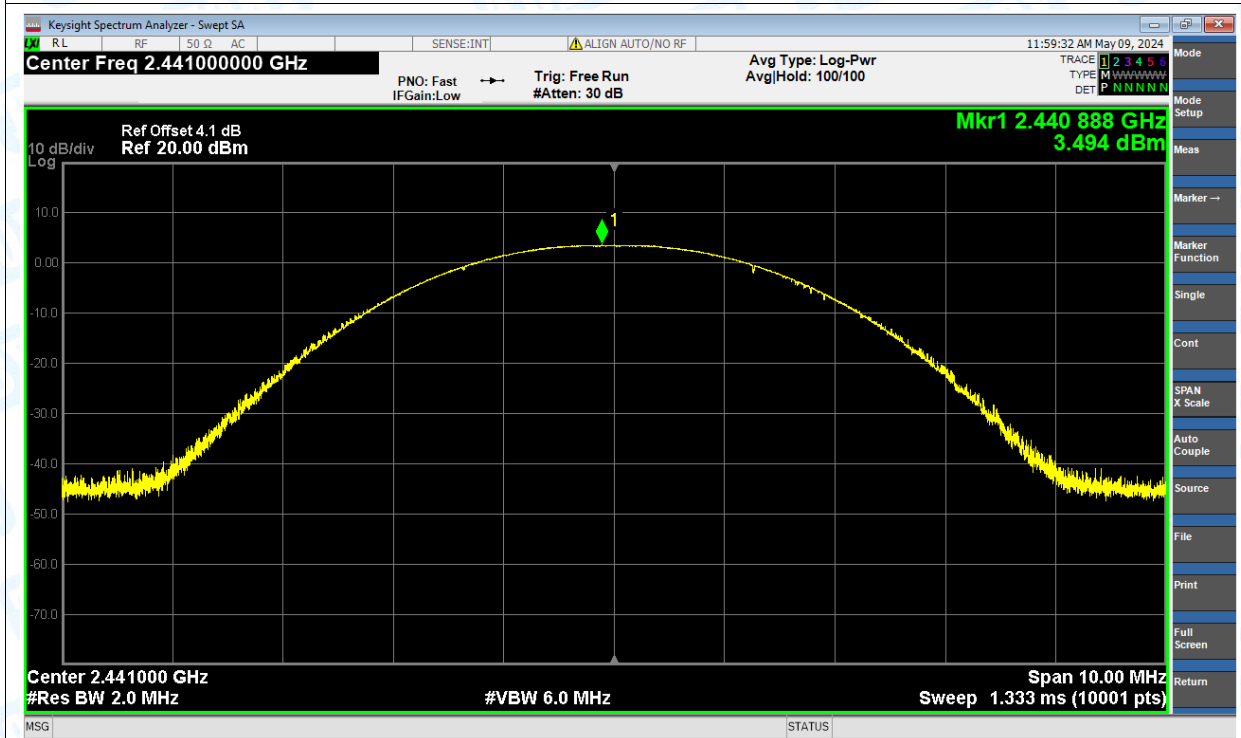
Power NVNT 1-DH5 2441MHz Ant1



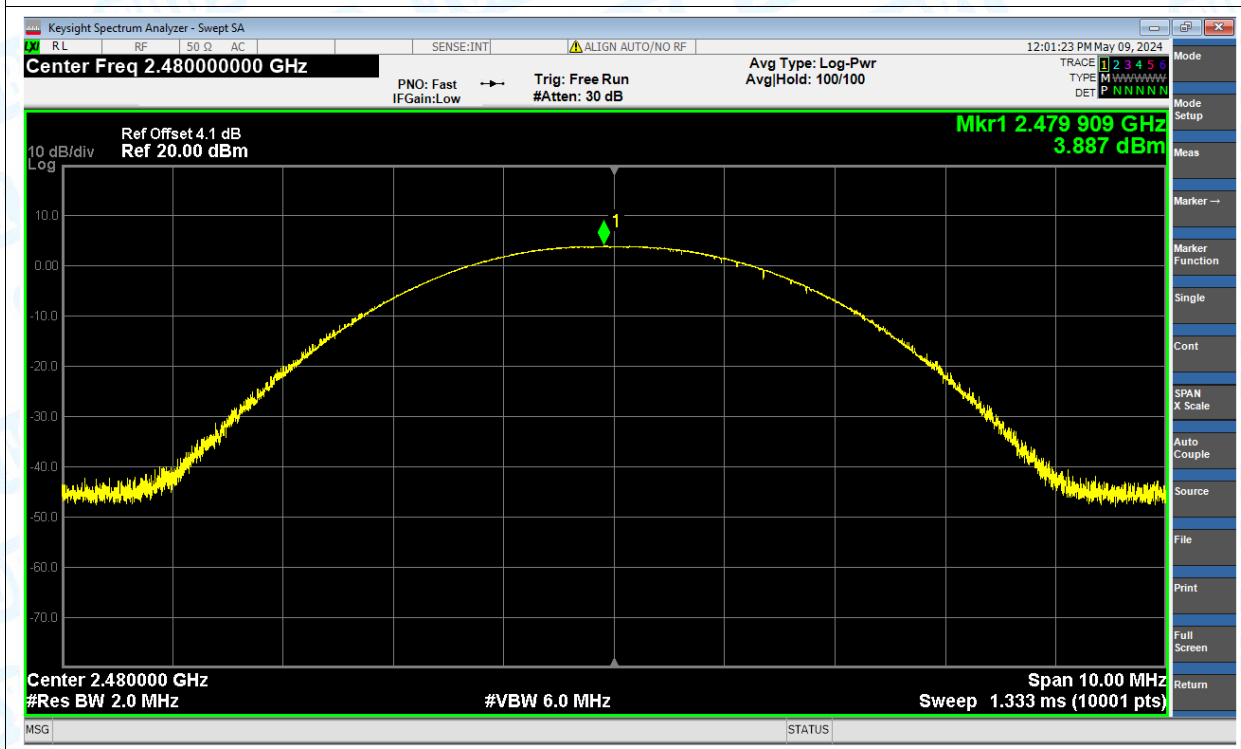
Power NVNT 2-DH1 2402MHz Ant1



Power NVNT 2-DH1 2441MHz Ant1



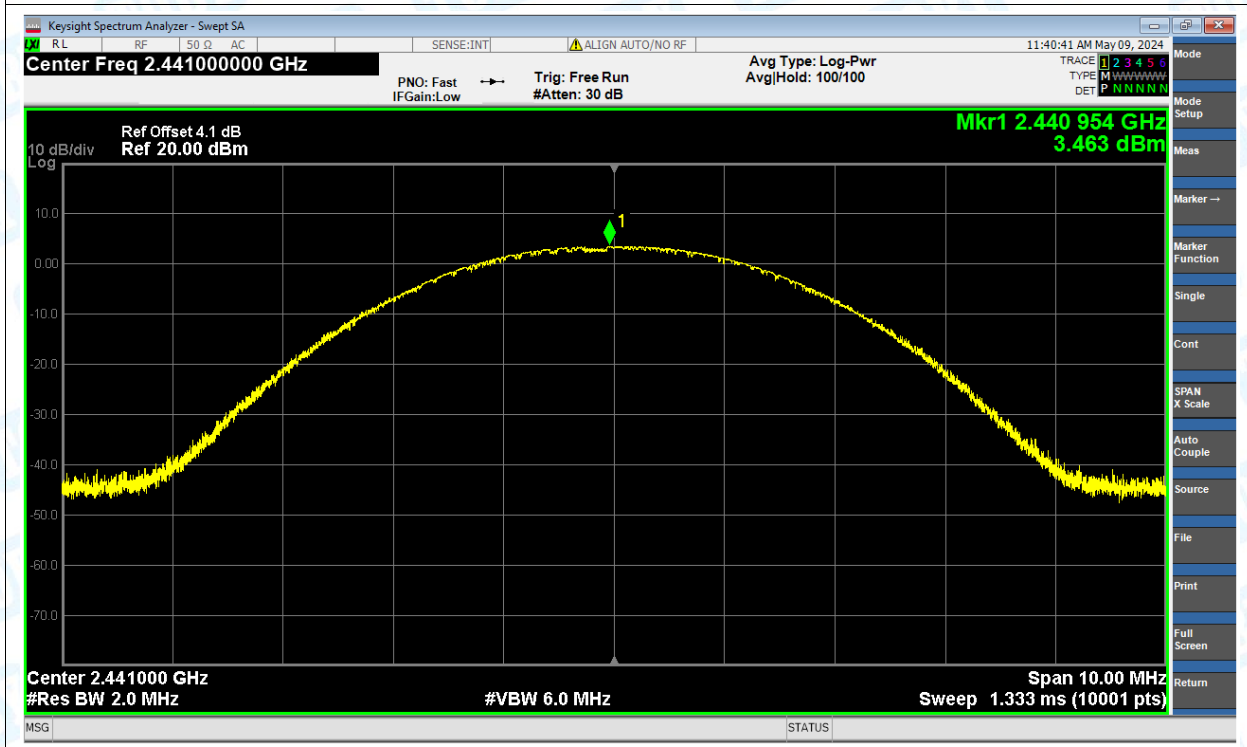
Power NVNT 2-DH1 2480MHz Ant1



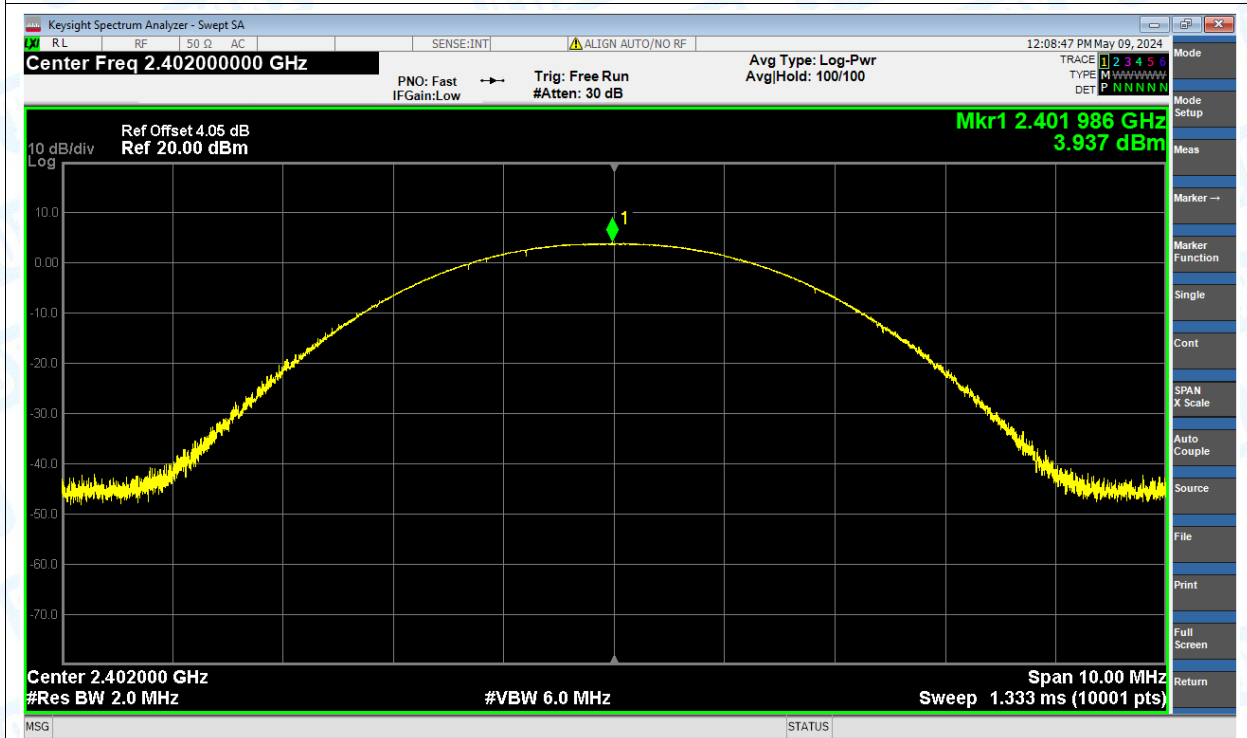
Power NVNT 2-DH3 2441MHz Ant1



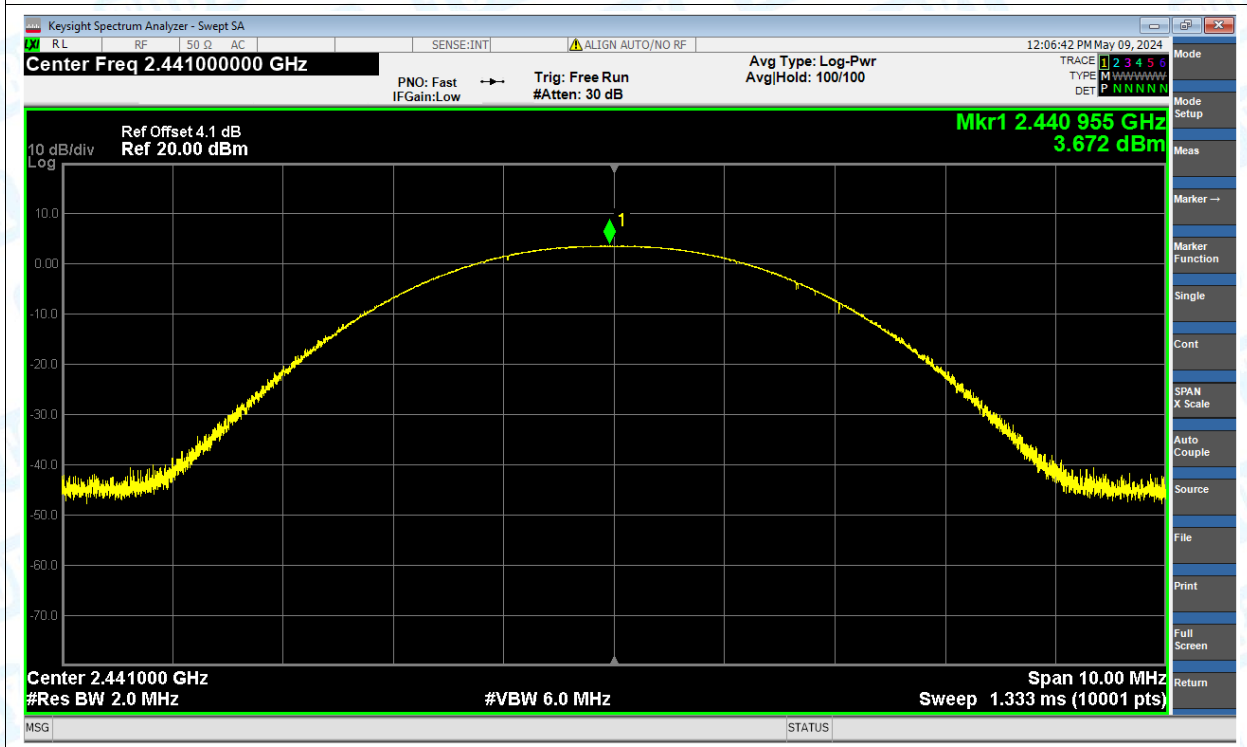
Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 3-DH1 2402MHz Ant1



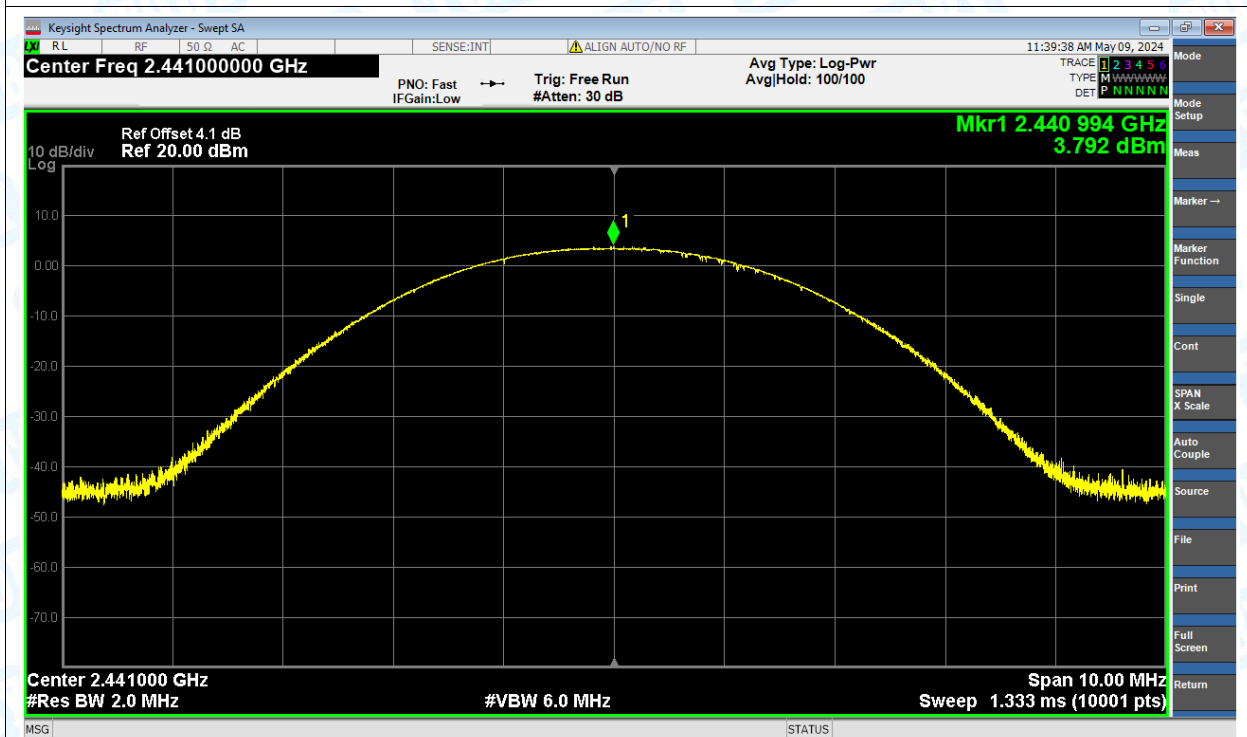
Power NVNT 3-DH1 2441MHz Ant1



Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1



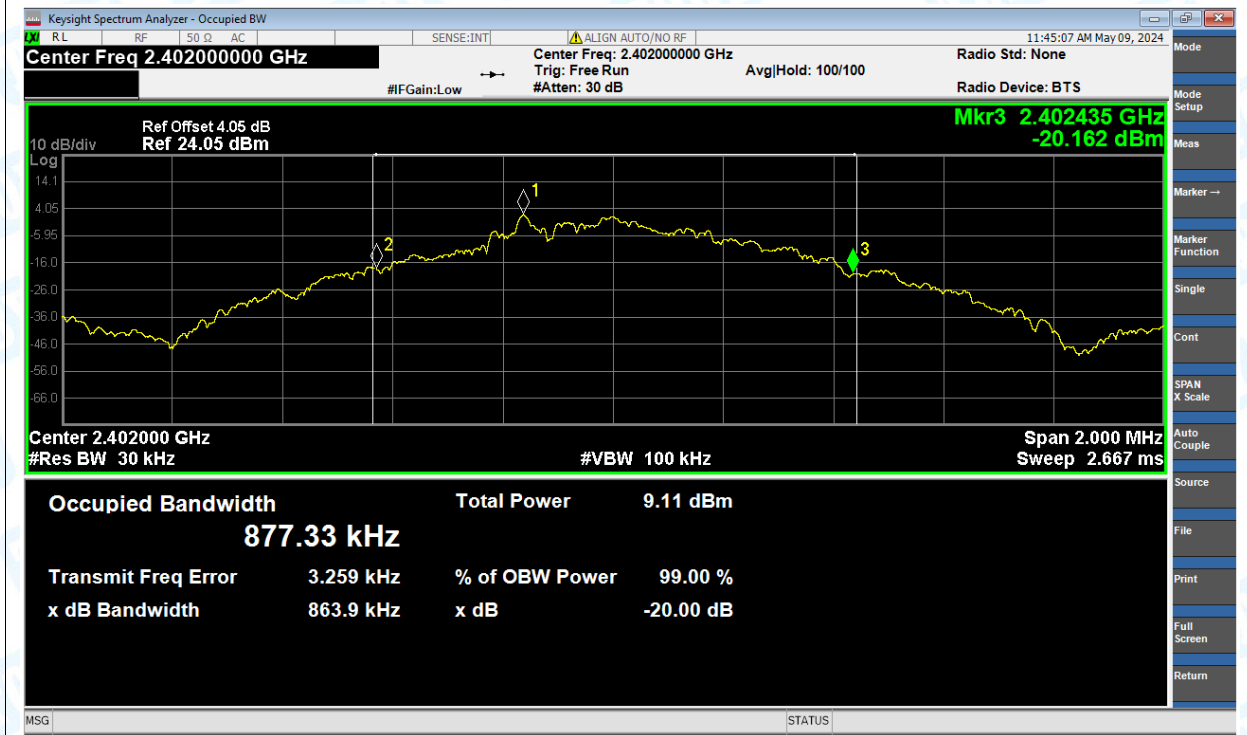


3. -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.86	0	Pass
NVNT	1-DH1	2441	Ant1	0.92	0	Pass
NVNT	1-DH1	2480	Ant1	0.85	0	Pass
NVNT	2-DH1	2402	Ant1	1.2	0	Pass
NVNT	2-DH1	2441	Ant1	1.18	0	Pass
NVNT	2-DH1	2480	Ant1	1.2	0	Pass
NVNT	3-DH1	2402	Ant1	1.2	0	Pass
NVNT	3-DH1	2441	Ant1	1.21	0	Pass
NVNT	3-DH1	2480	Ant1	1.2	0	Pass

Test Graphs

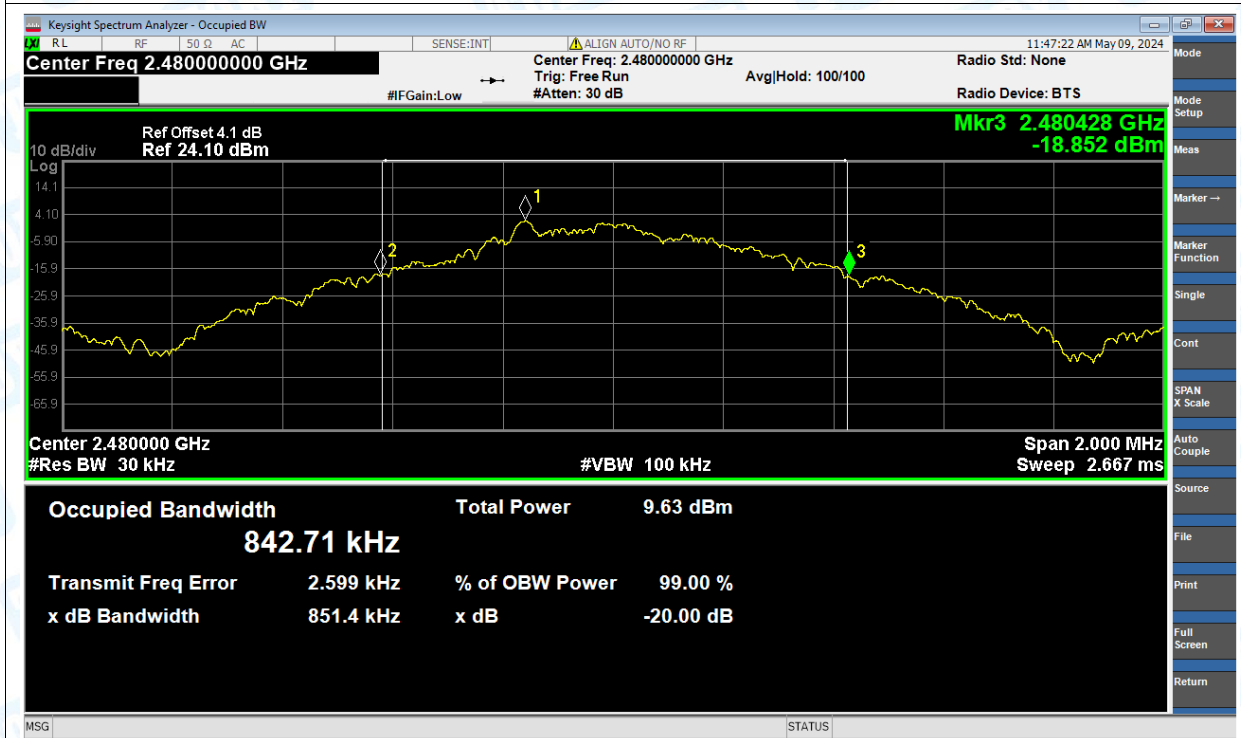
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



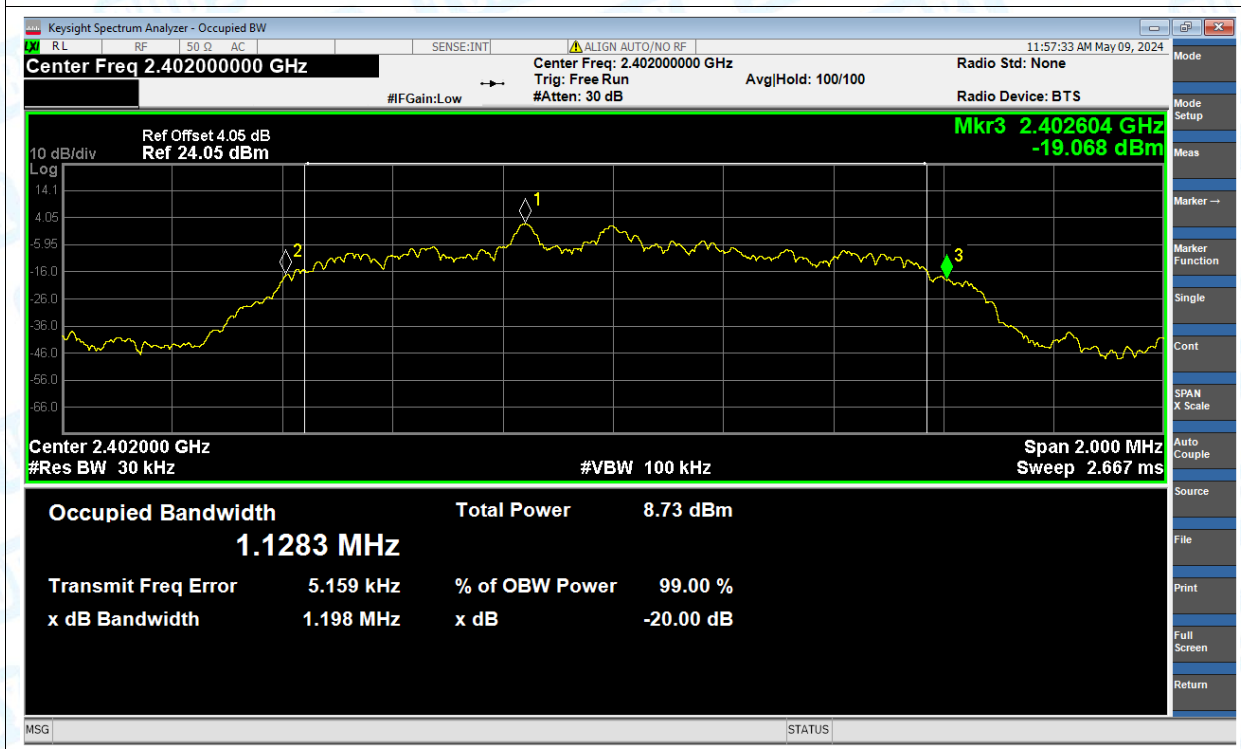
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



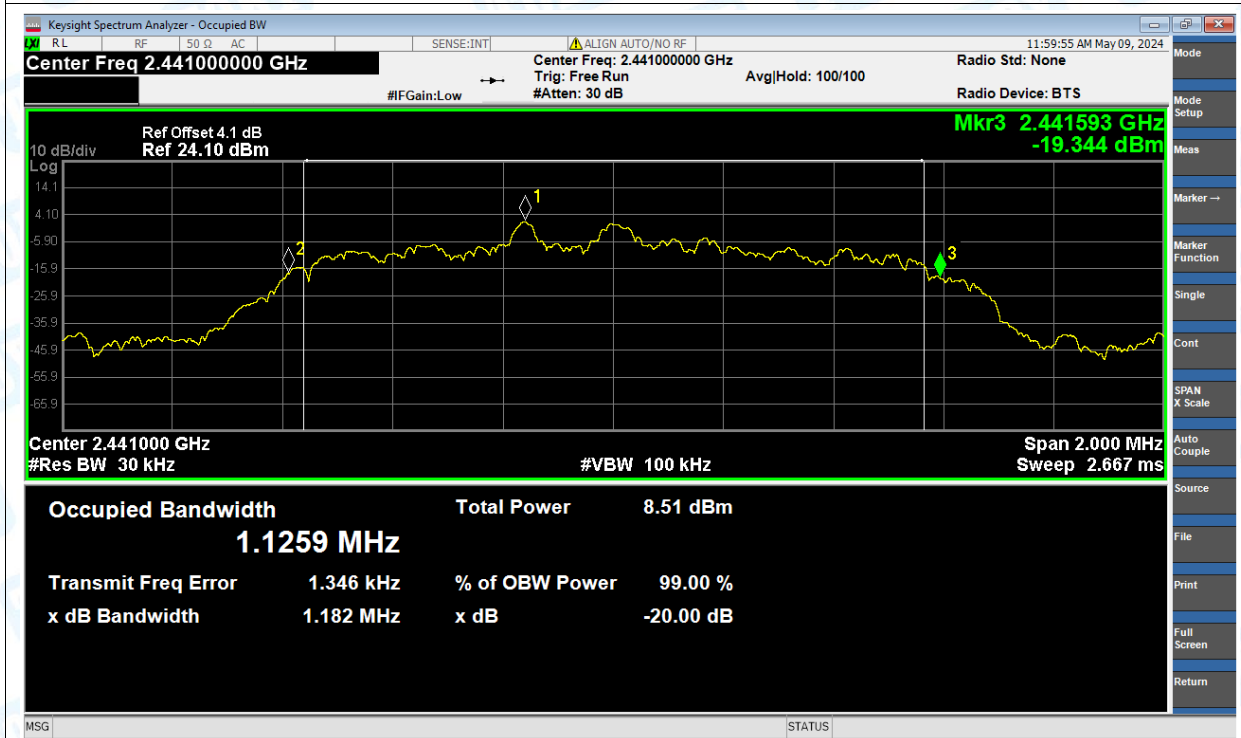
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



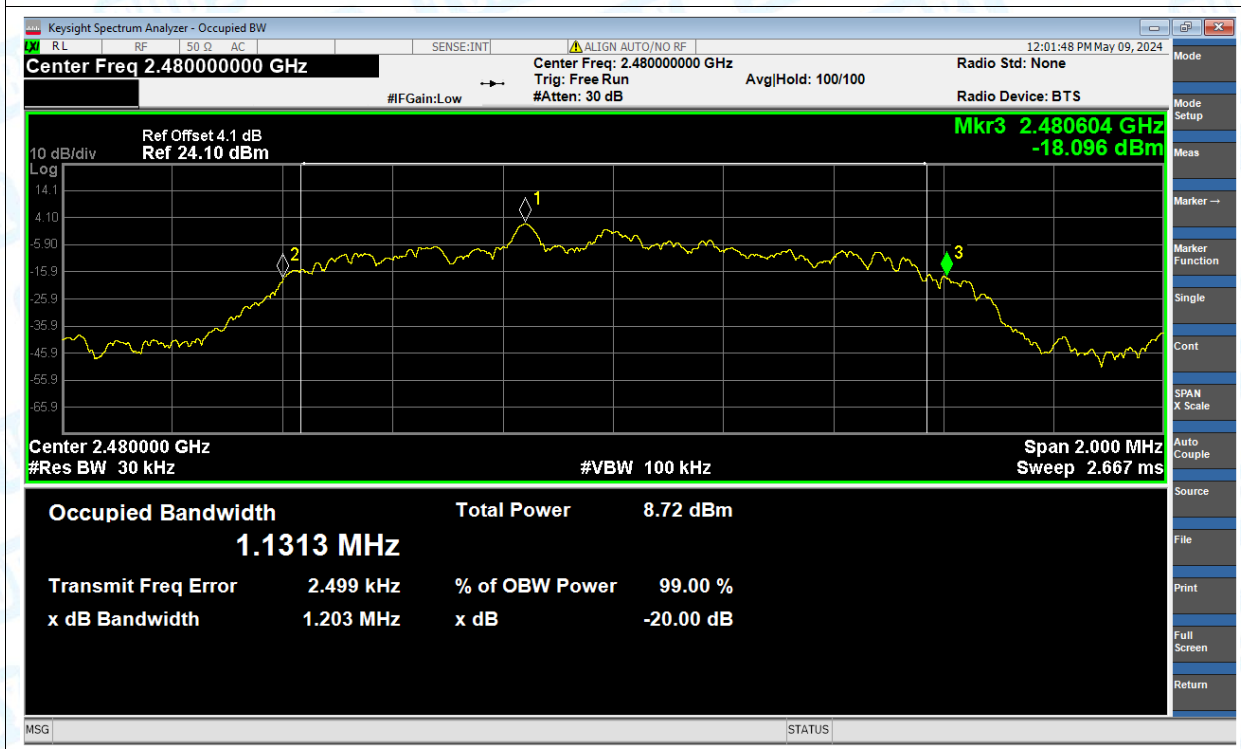
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



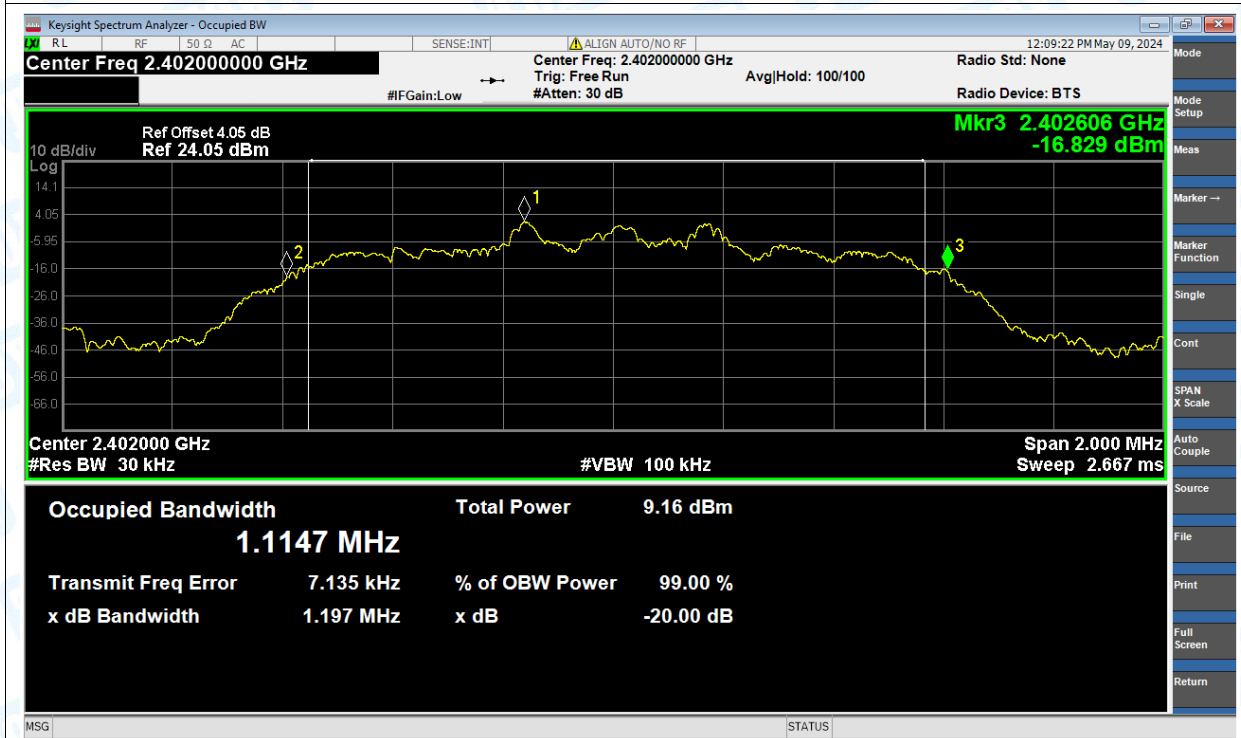
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



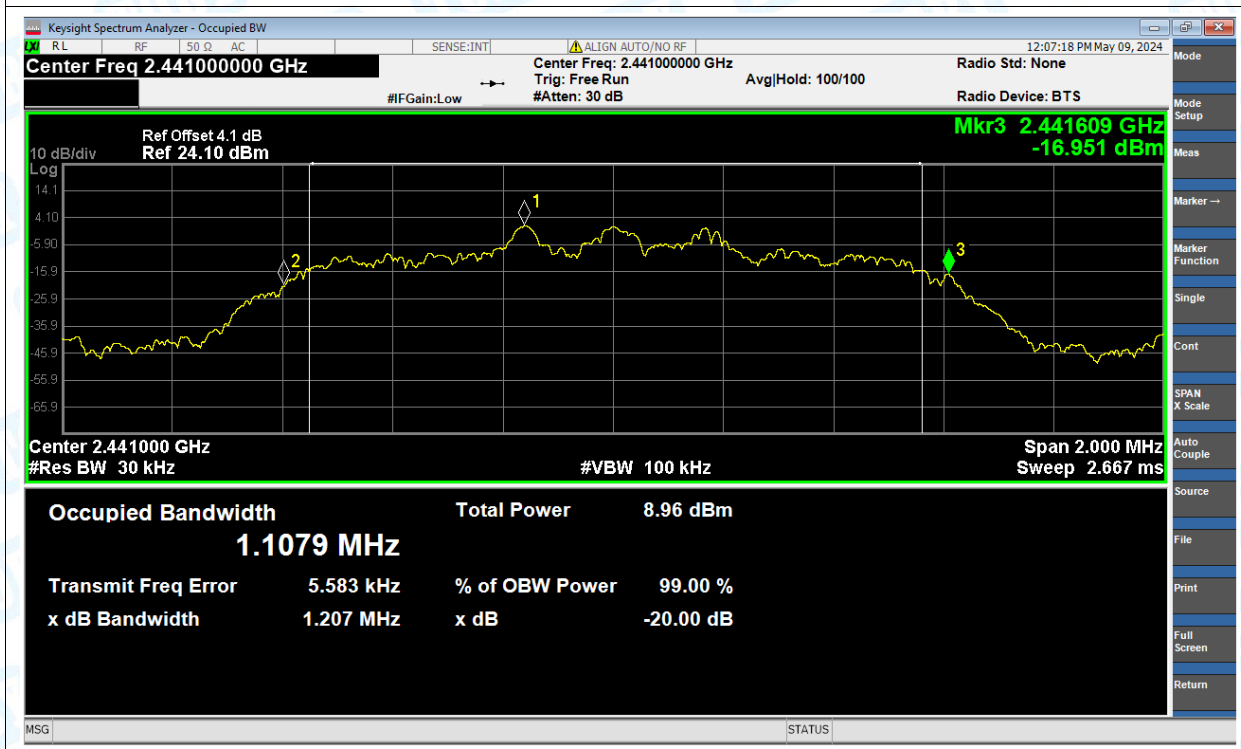
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

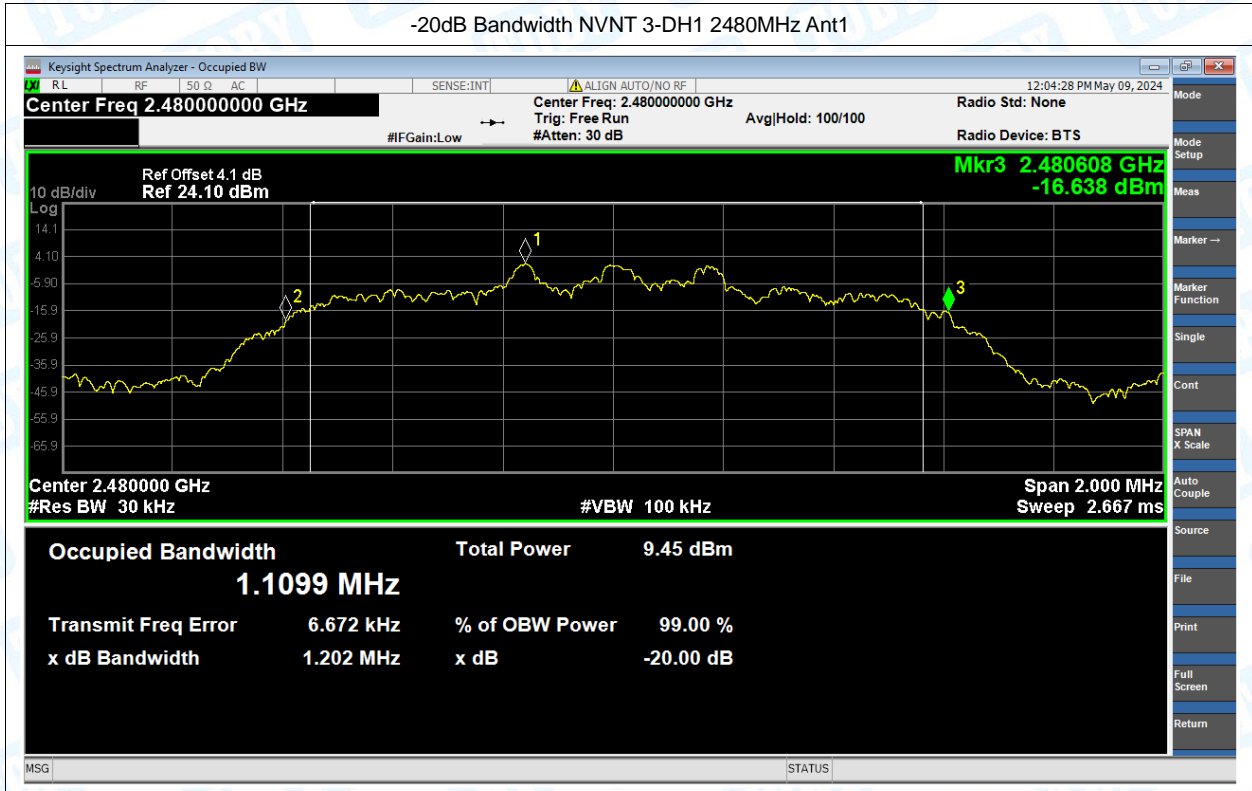


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



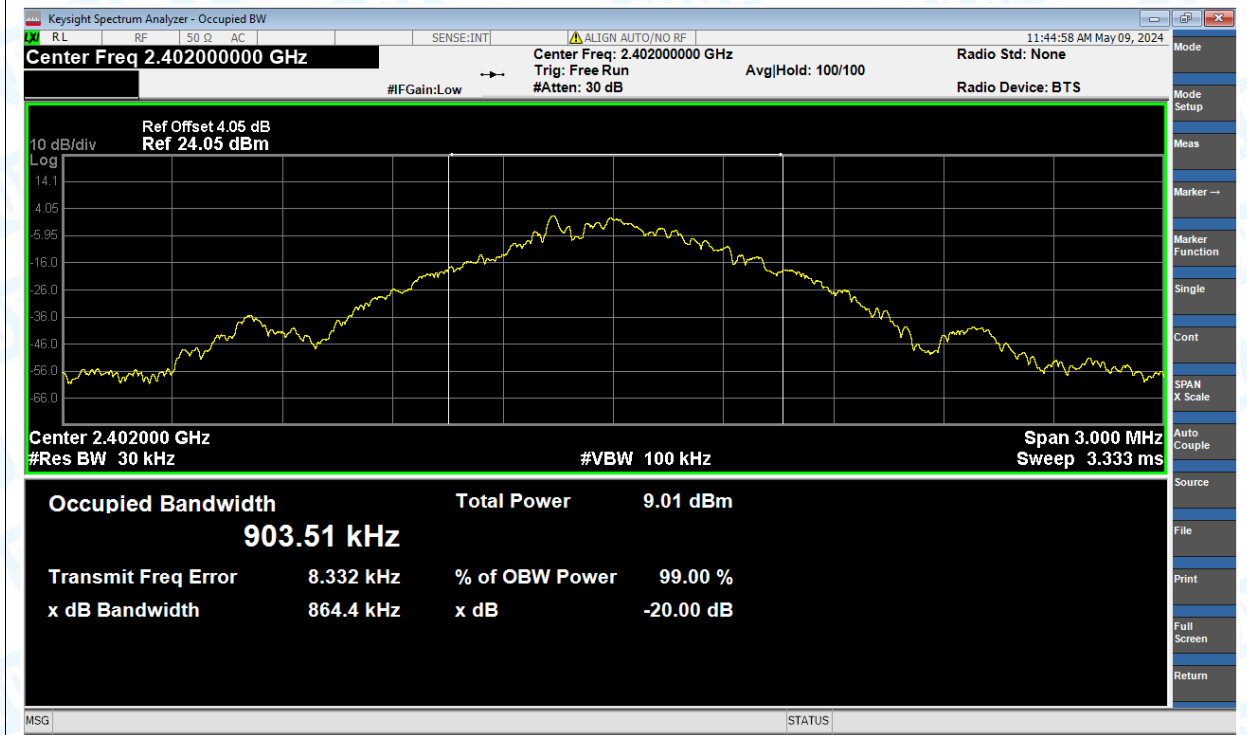


4. Occupied Channel Bandwidth

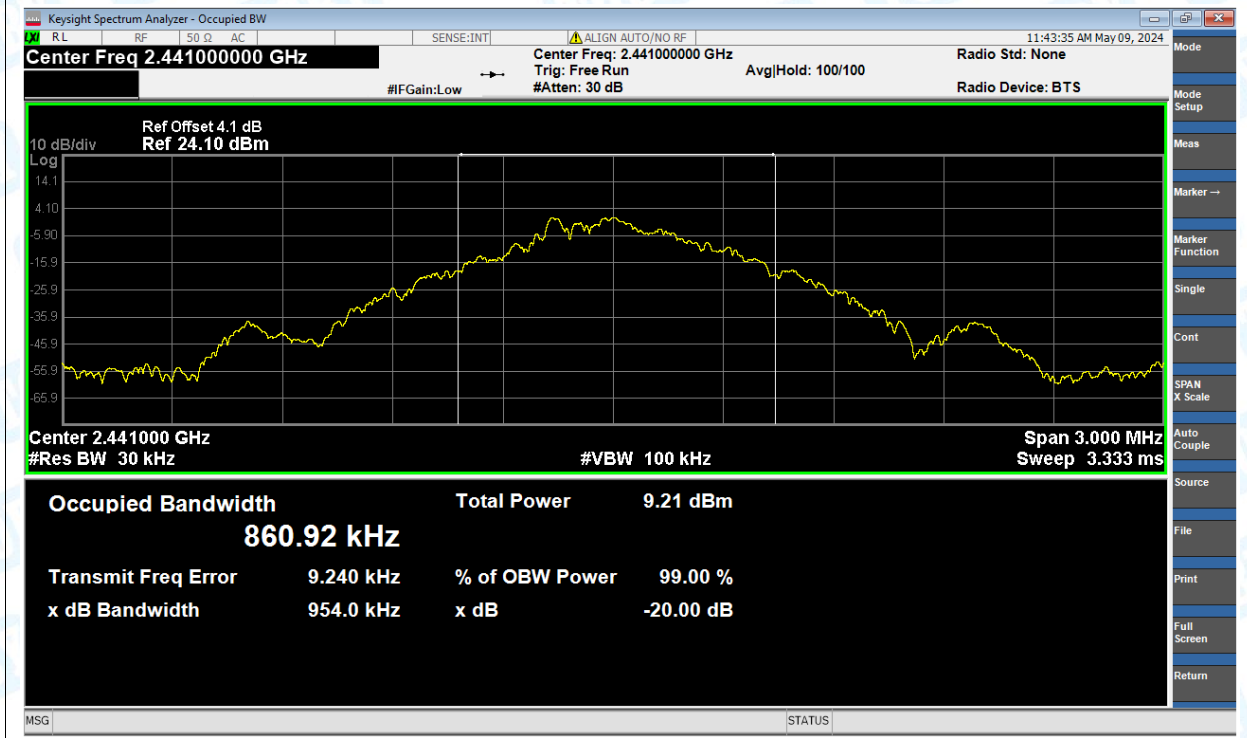
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.904
NVNT	1-DH1	2441	Ant1	0.861
NVNT	1-DH1	2480	Ant1	0.868
NVNT	2-DH1	2402	Ant1	1.124
NVNT	2-DH1	2441	Ant1	1.132
NVNT	2-DH1	2480	Ant1	1.129
NVNT	3-DH1	2402	Ant1	1.113
NVNT	3-DH1	2441	Ant1	1.119
NVNT	3-DH1	2480	Ant1	1.122

Test Graphs

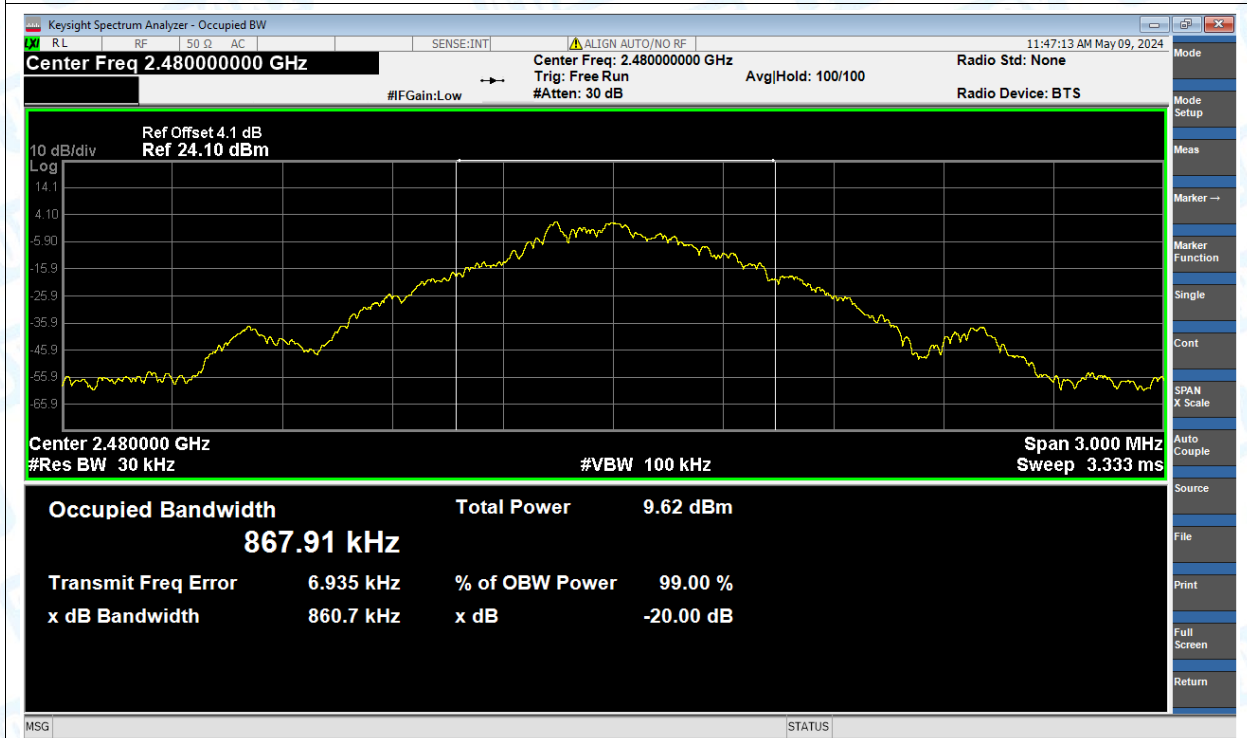
OBW NVNT 1-DH1 2402MHz Ant1



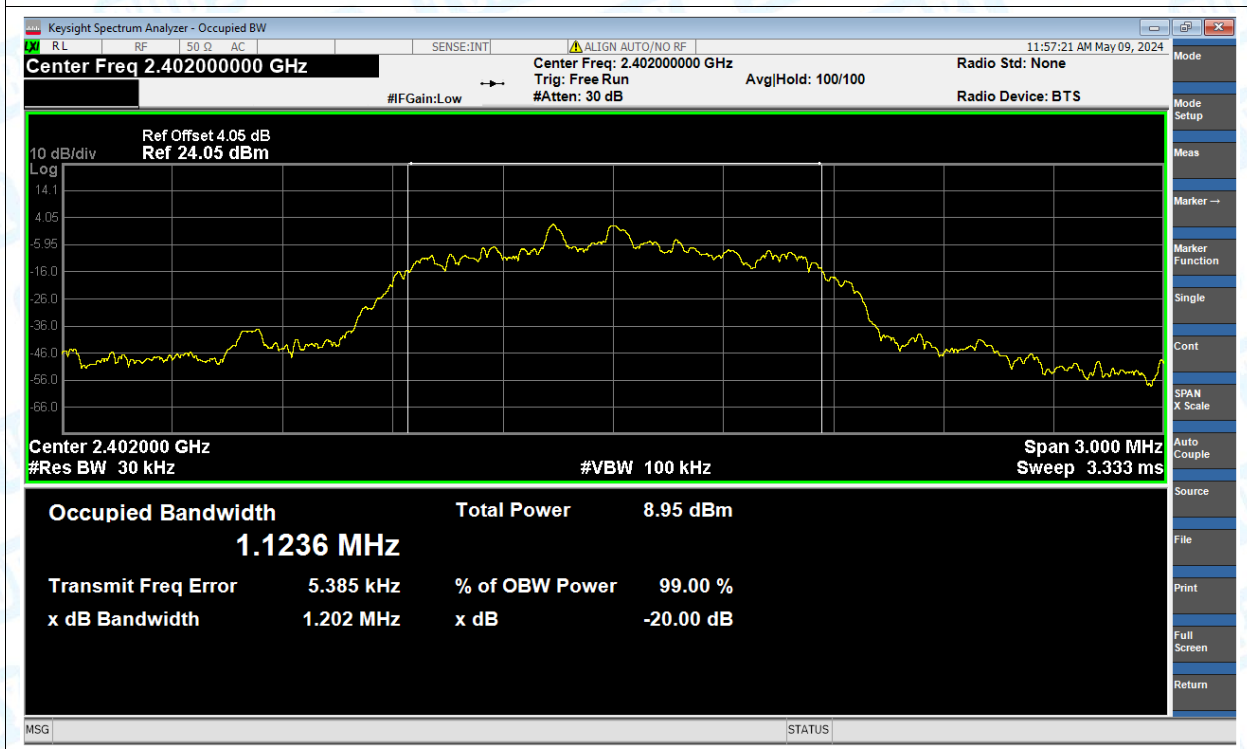
OBW NVNT 1-DH1 2441MHz Ant1



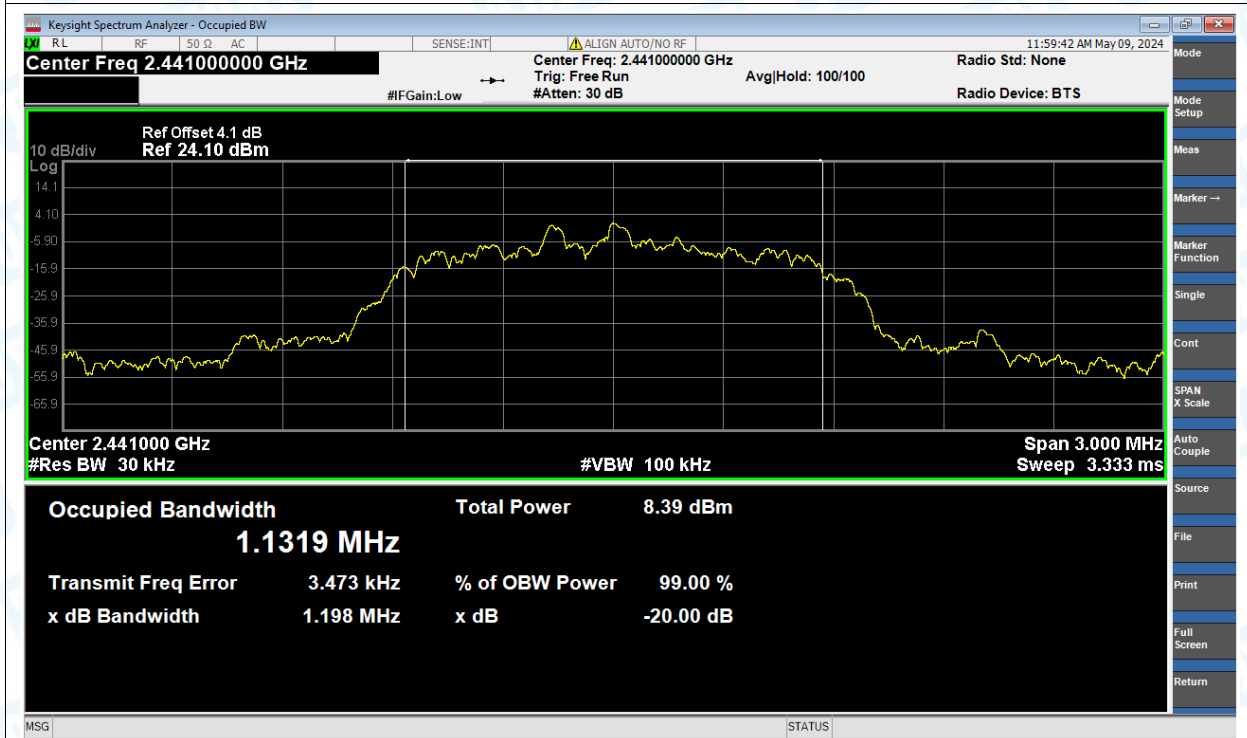
OBW NVNT 1-DH1 2480MHz Ant1



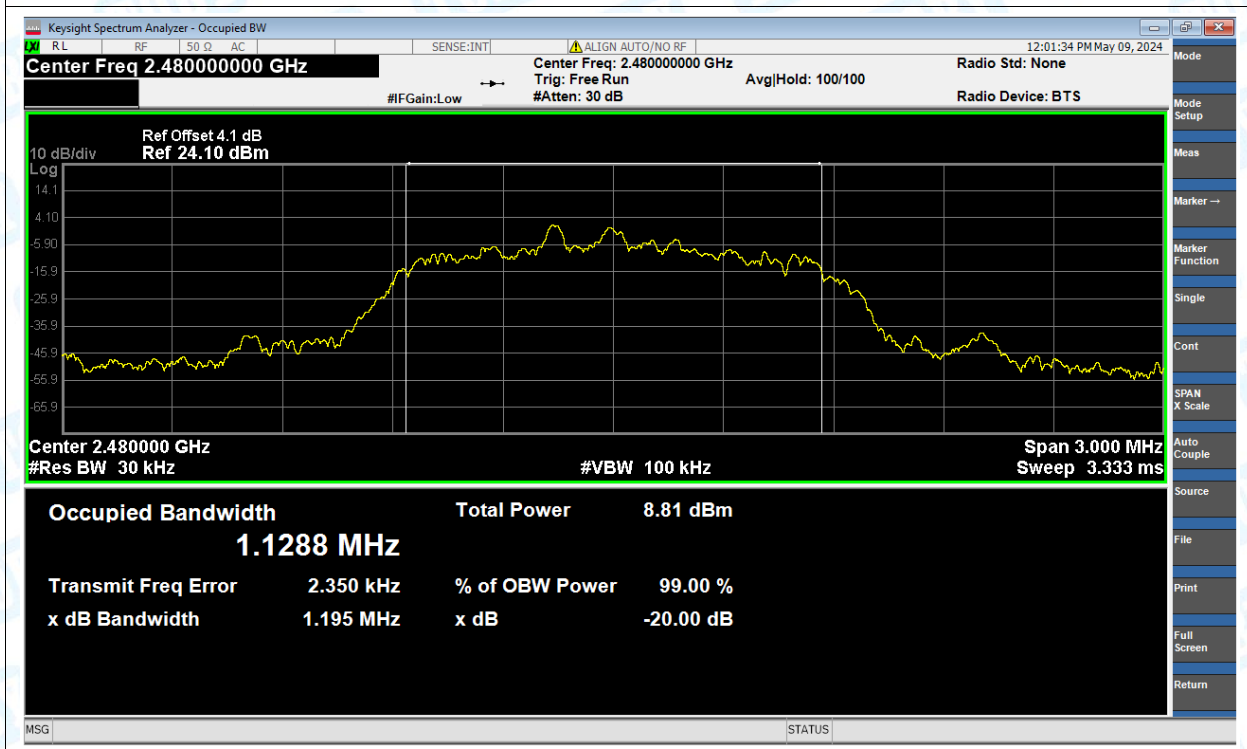
OBW NVNT 2-DH1 2402MHz Ant1



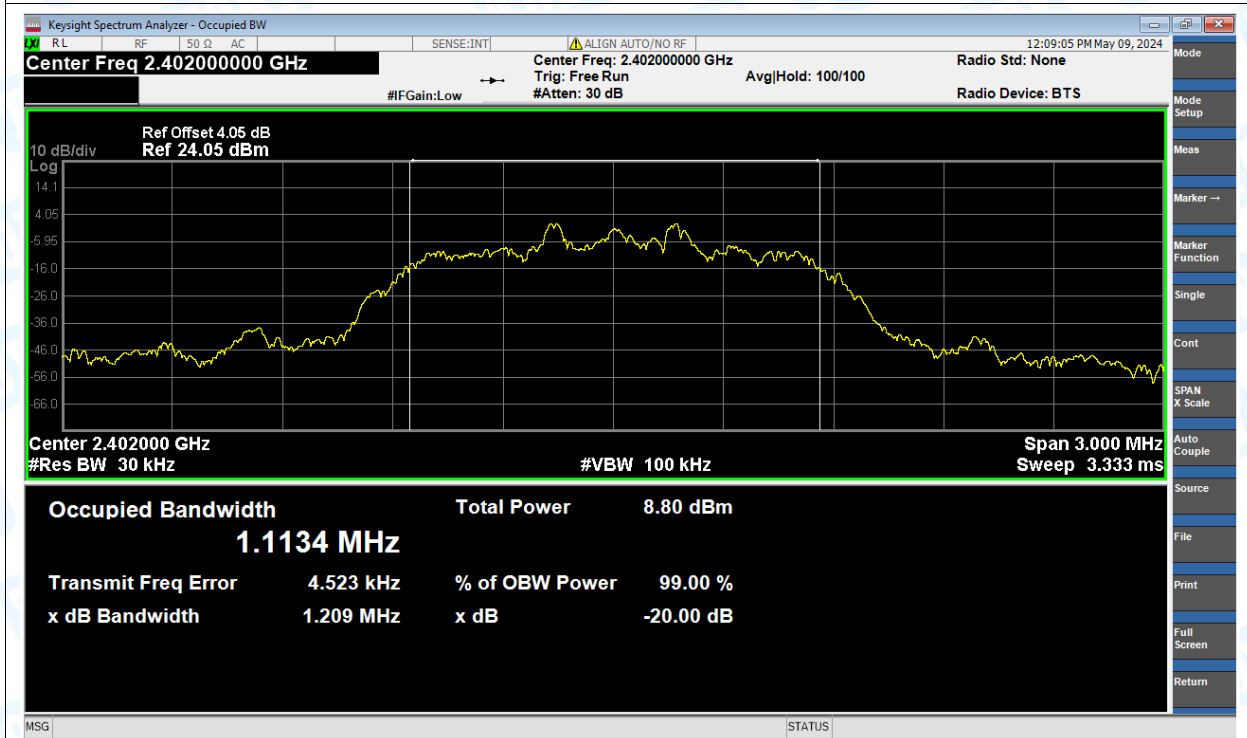
OBW NVNT 2-DH1 2441MHz Ant1



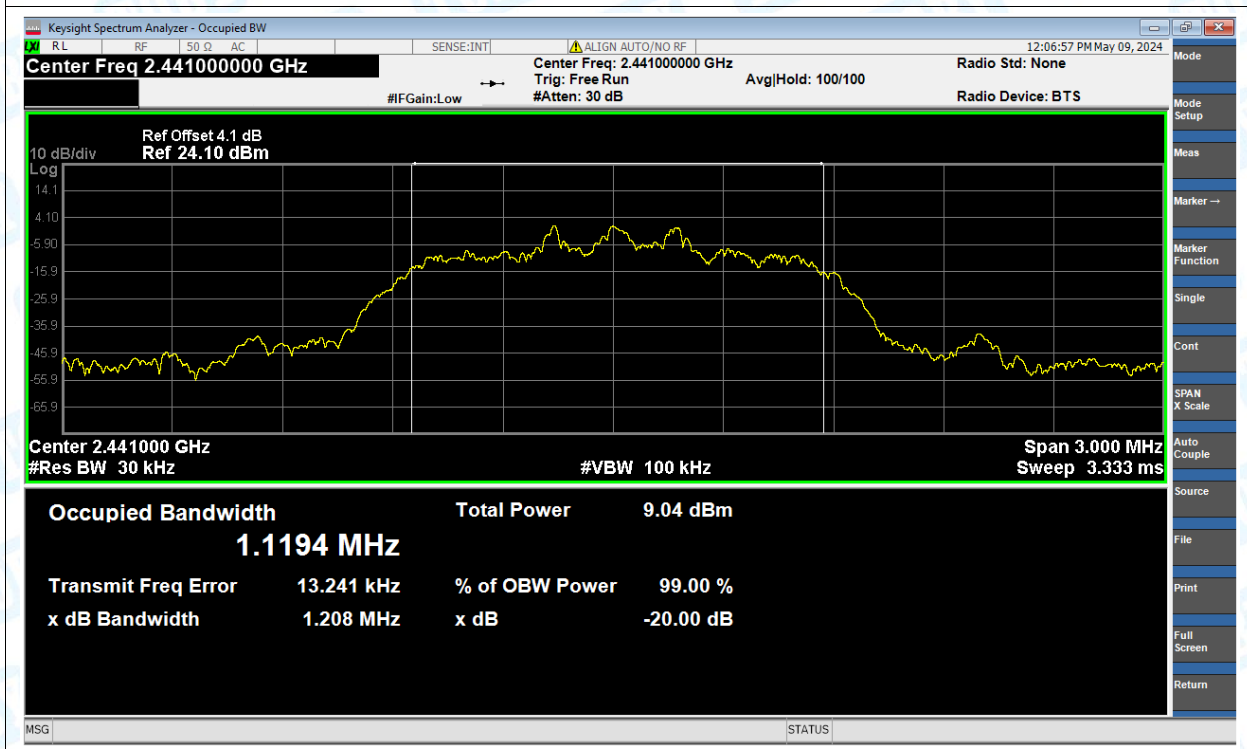
OBW NVNT 2-DH1 2480MHz Ant1

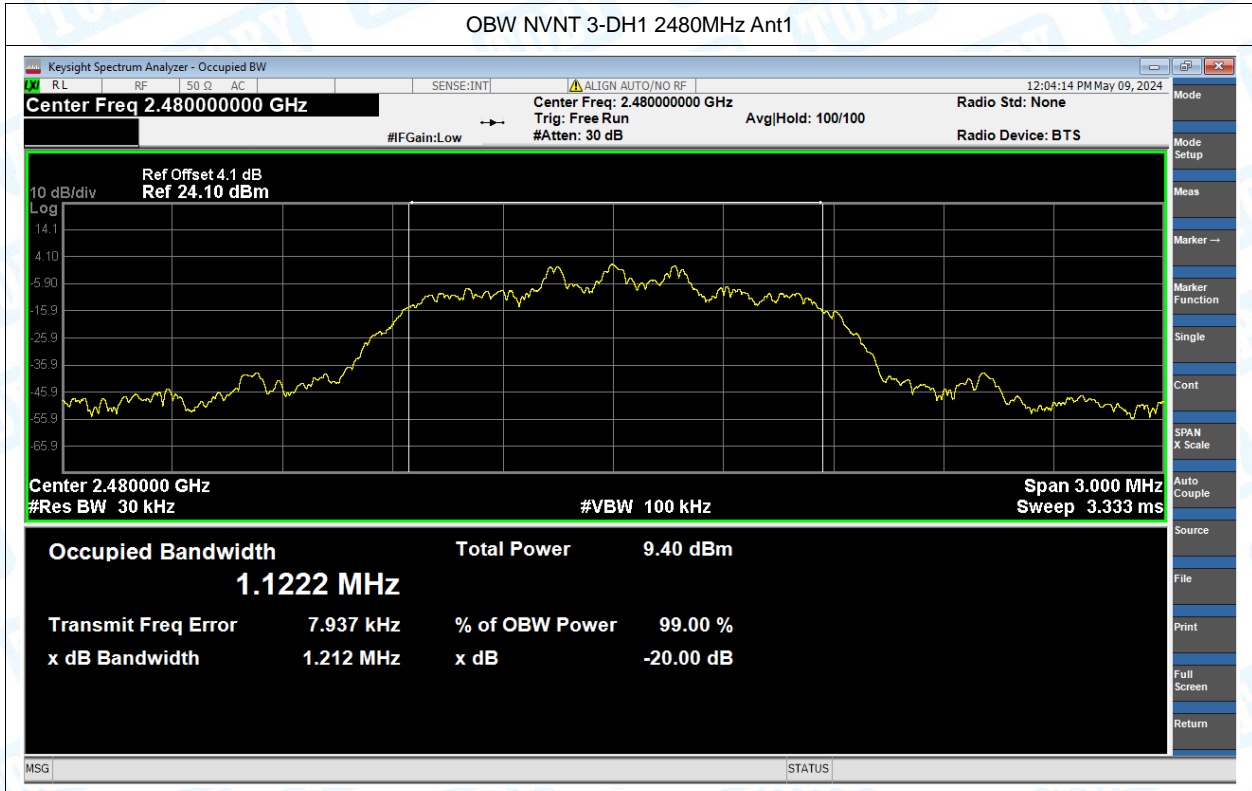


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1





5. Band Edge

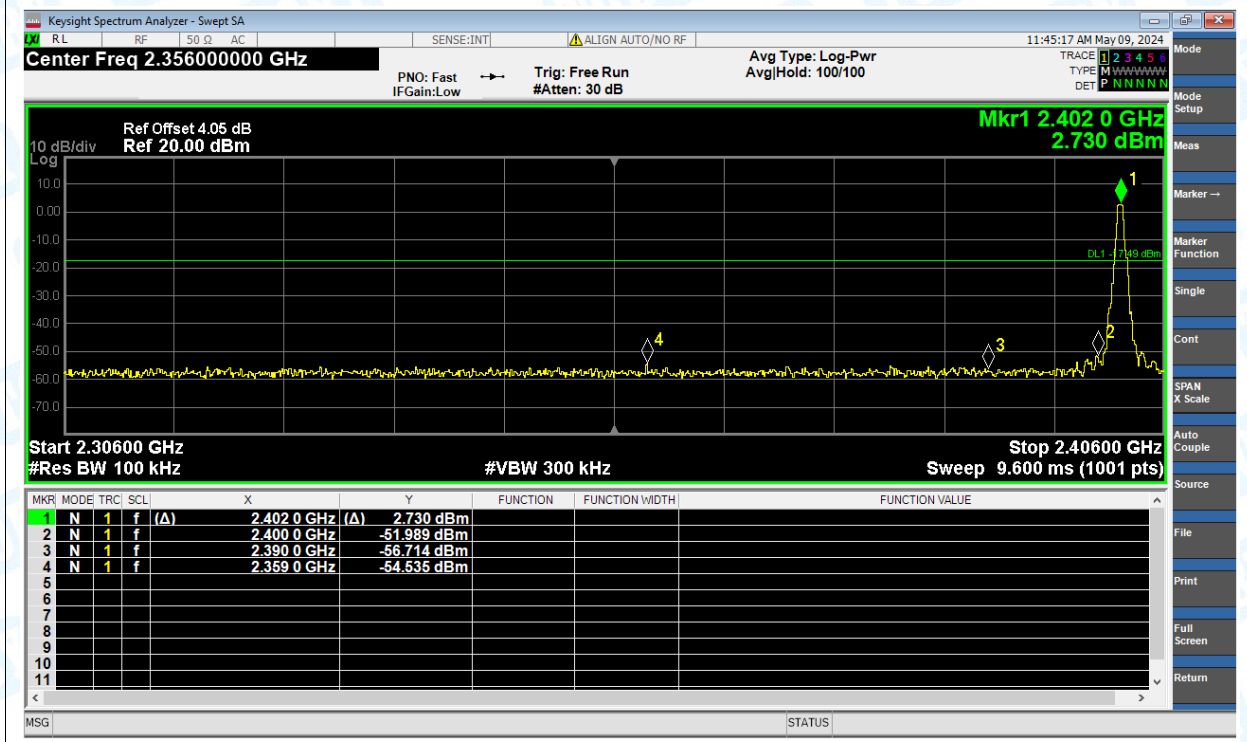
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-57.05	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-57.73	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-58.64	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-56.55	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-57.79	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-58.21	-20	Pass

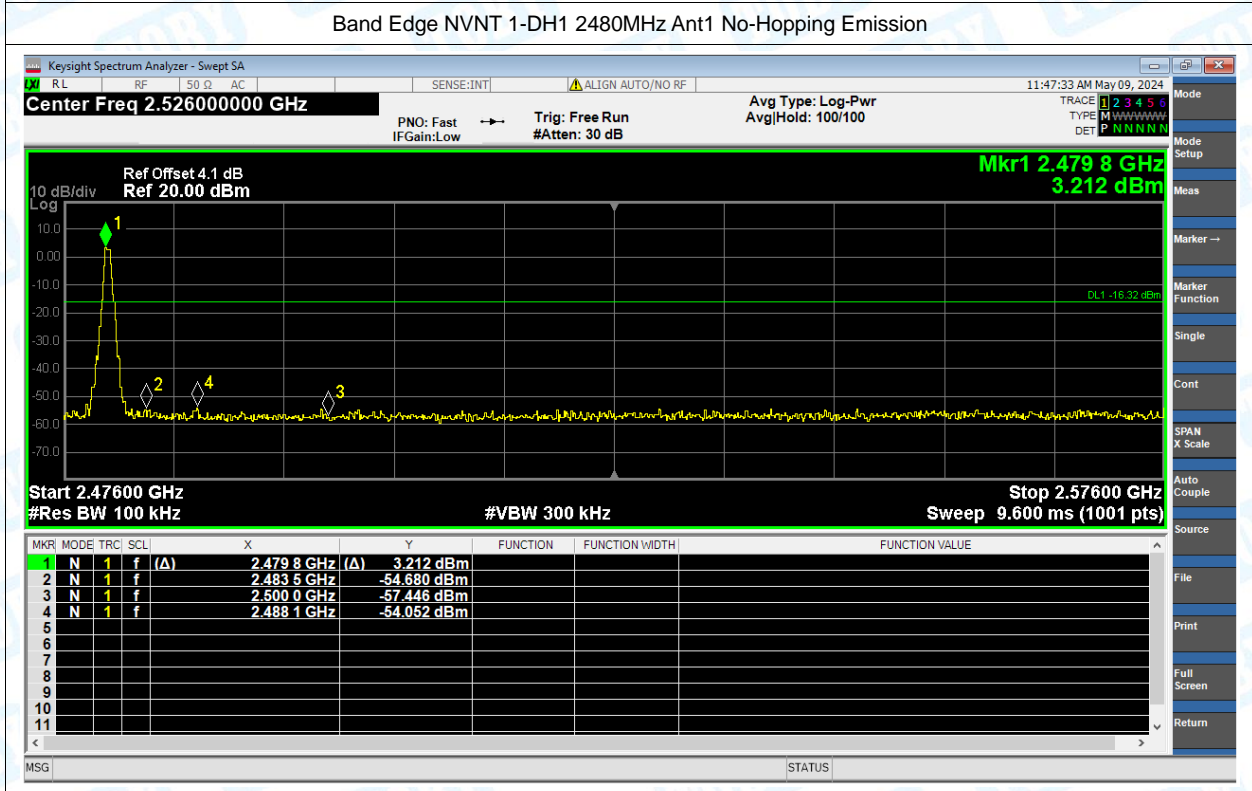
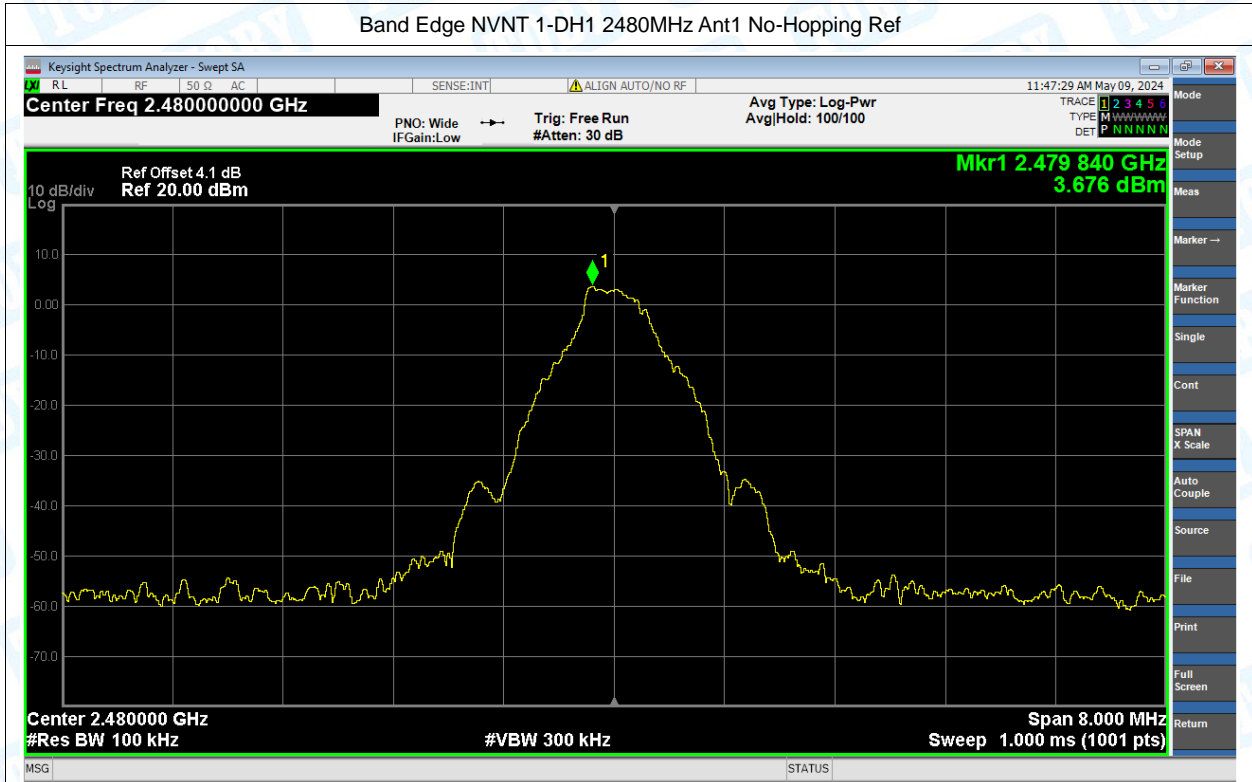
Test Graphs

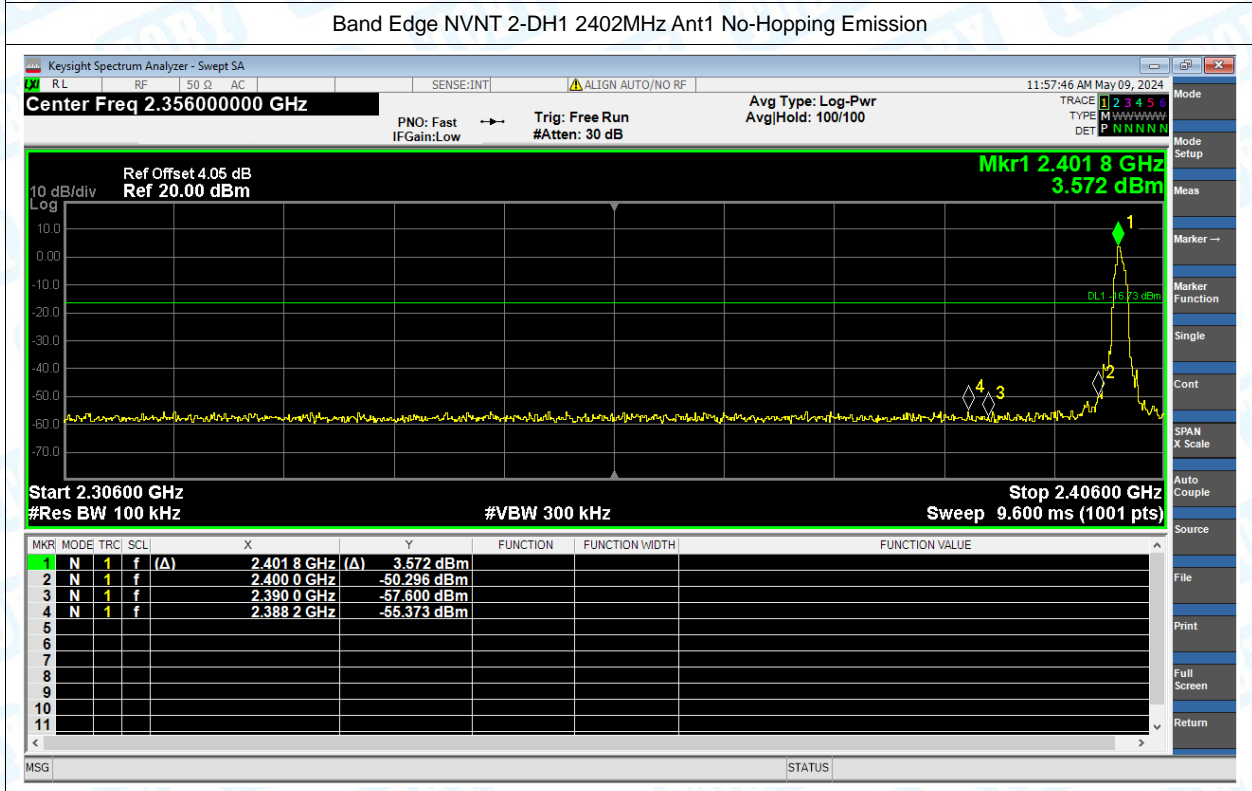
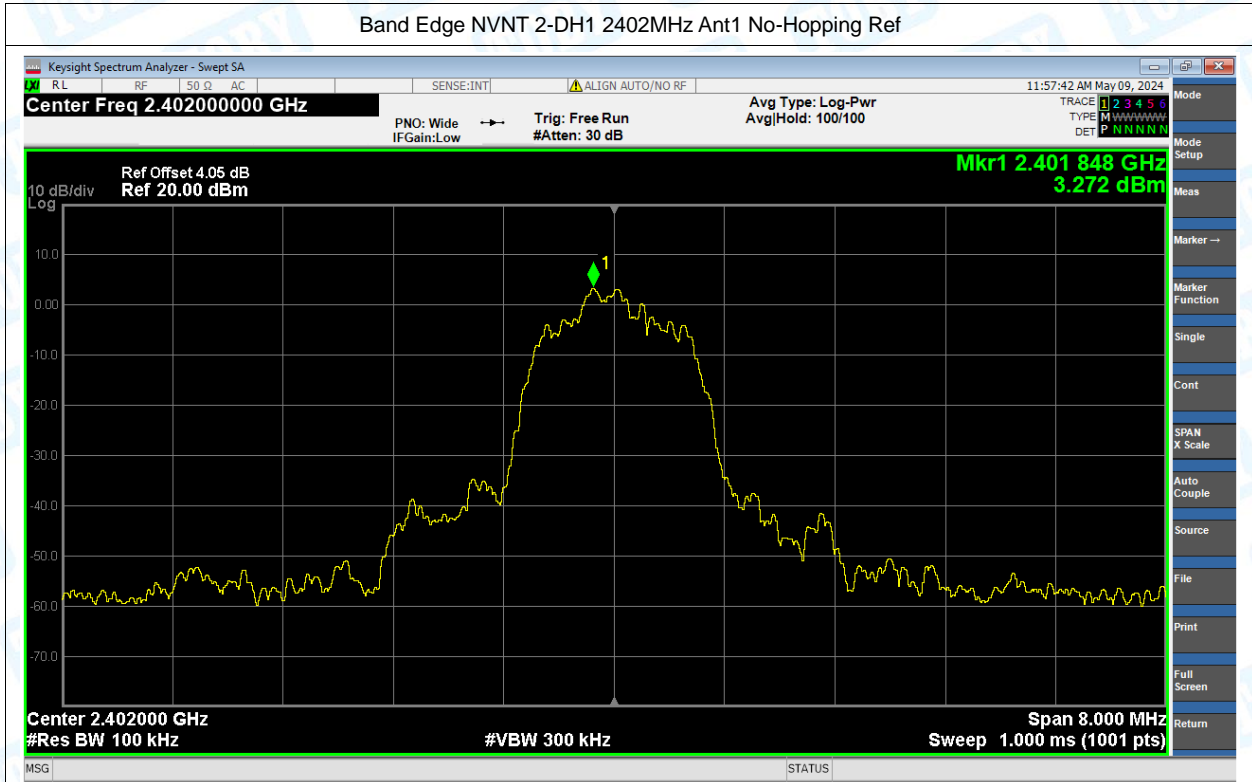
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref

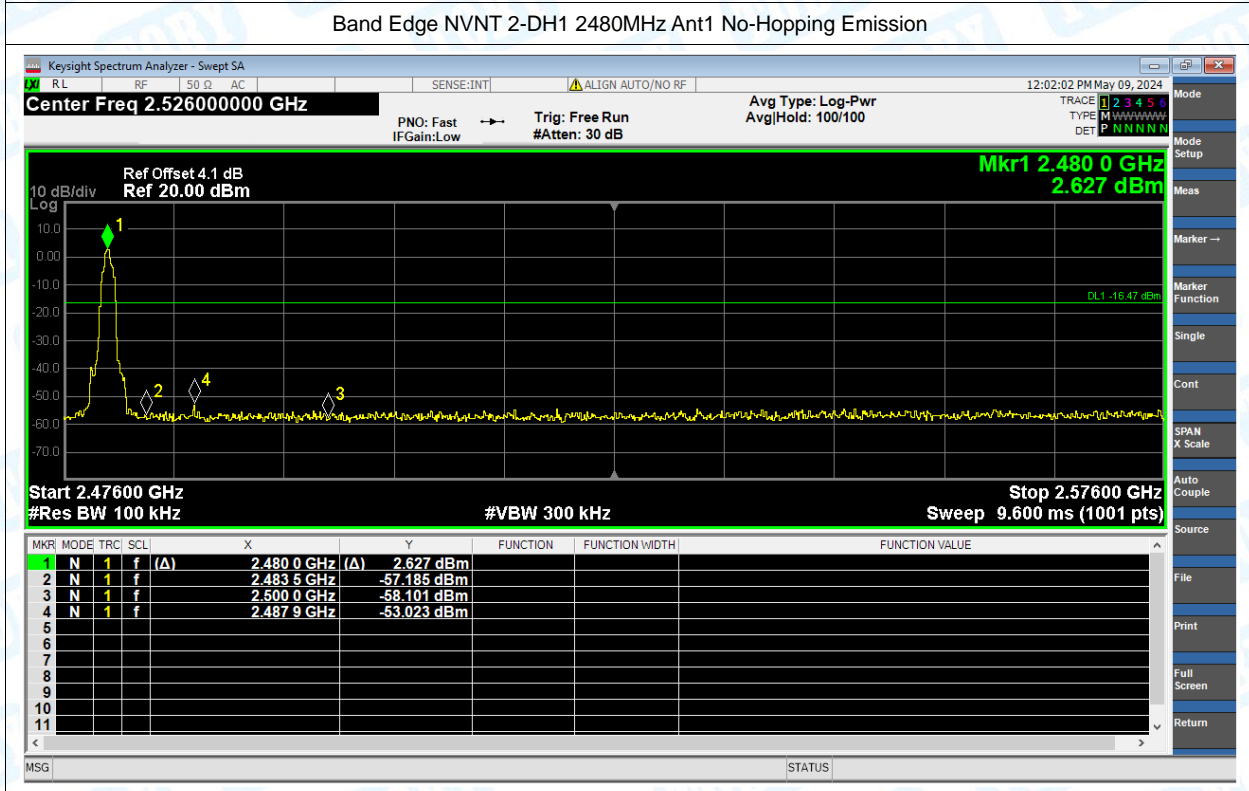
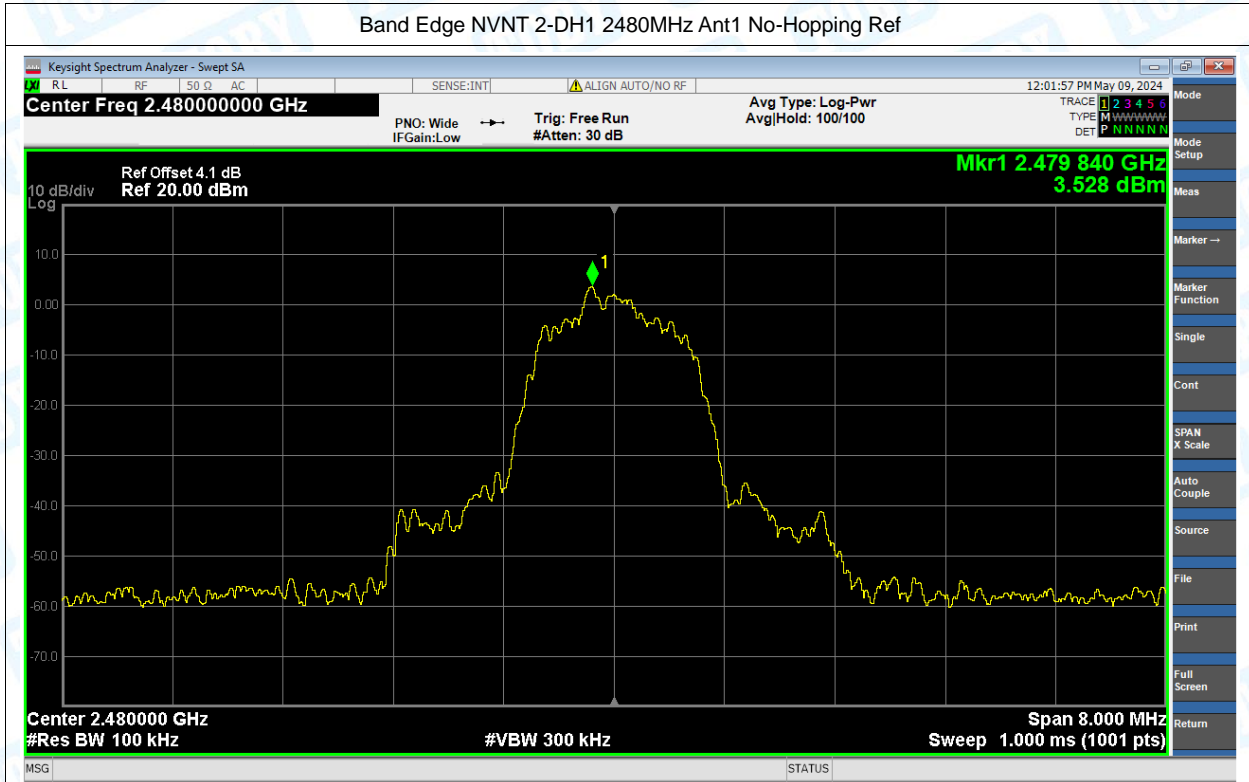


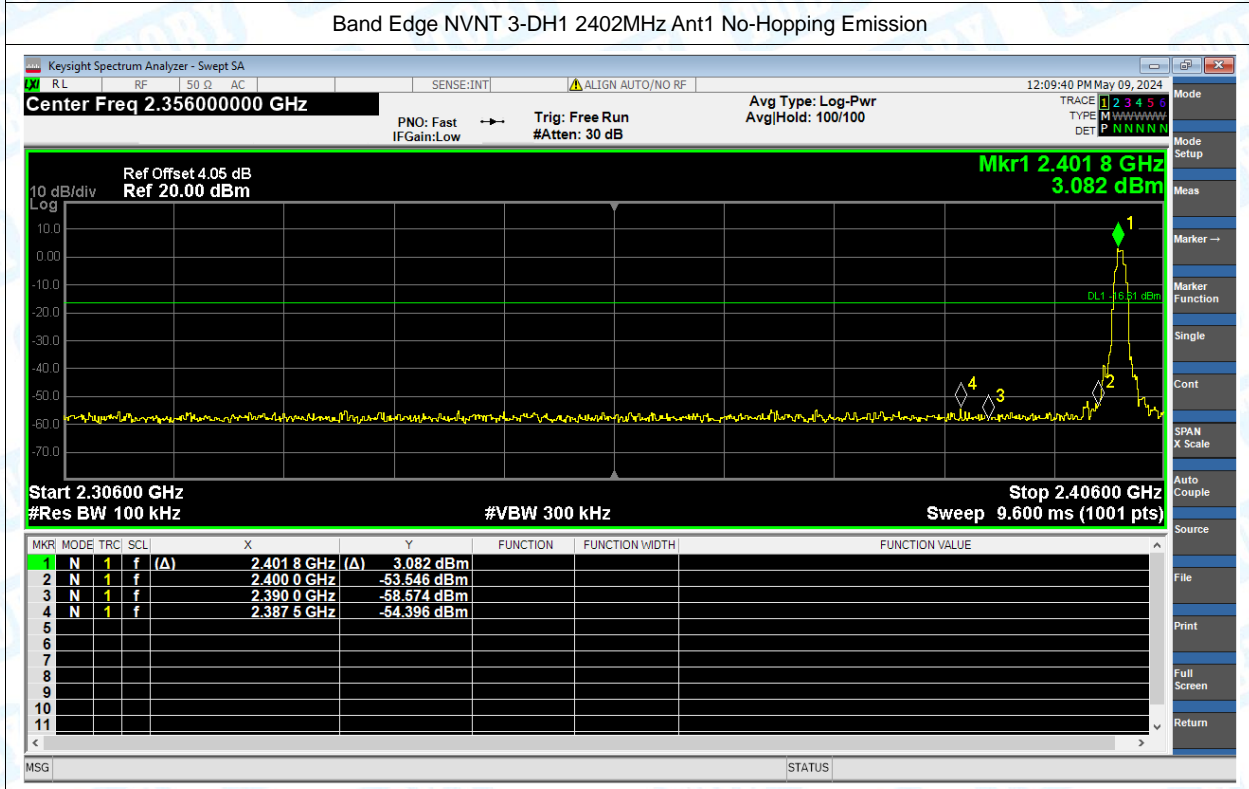
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



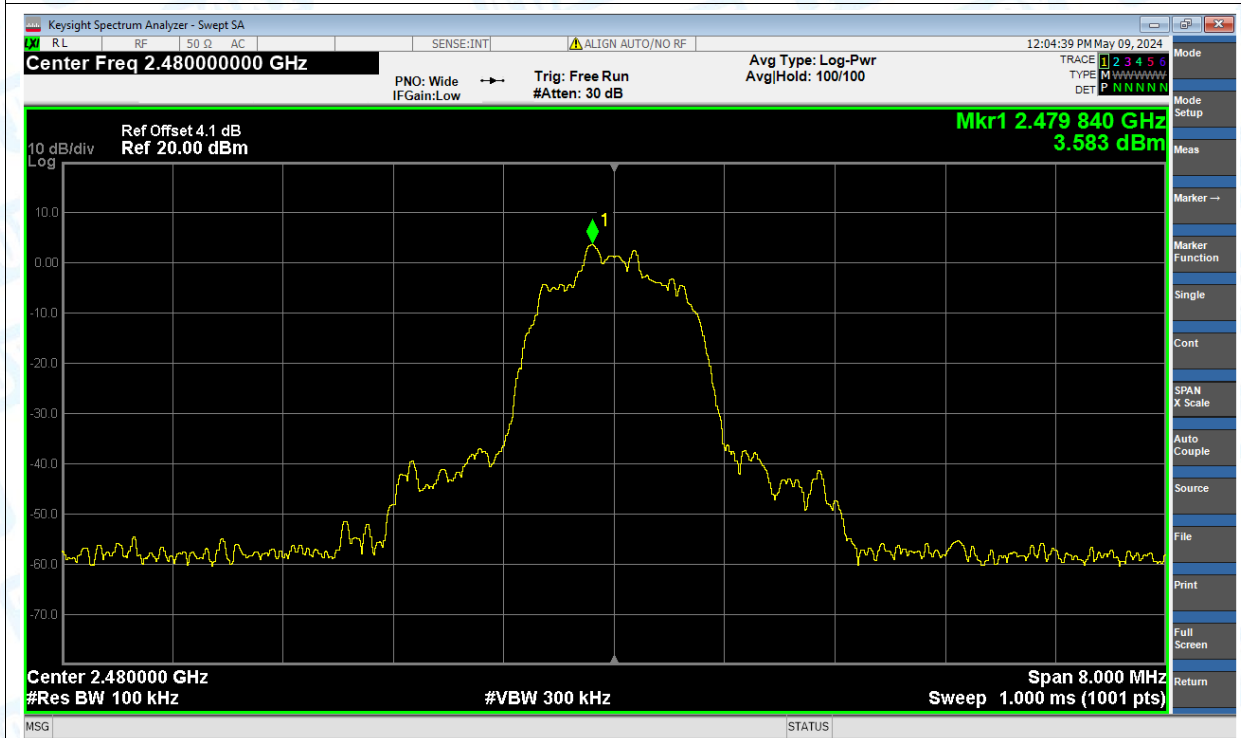




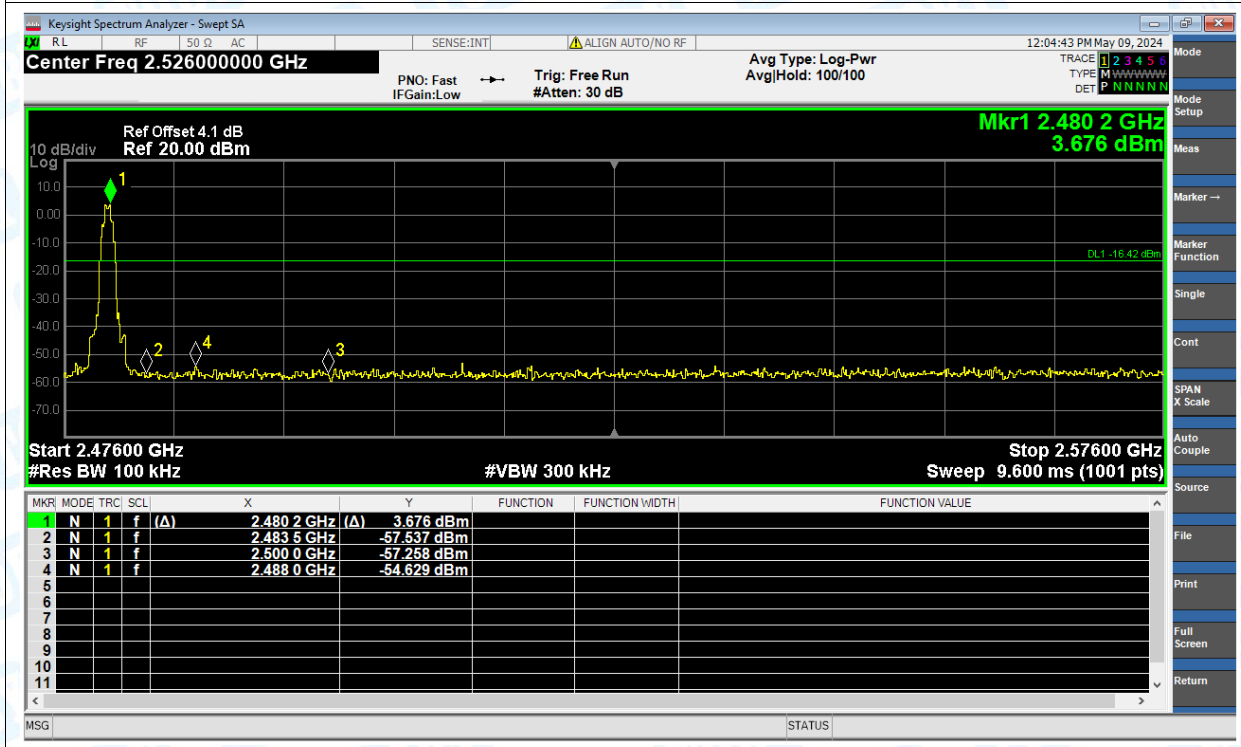




Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Emission

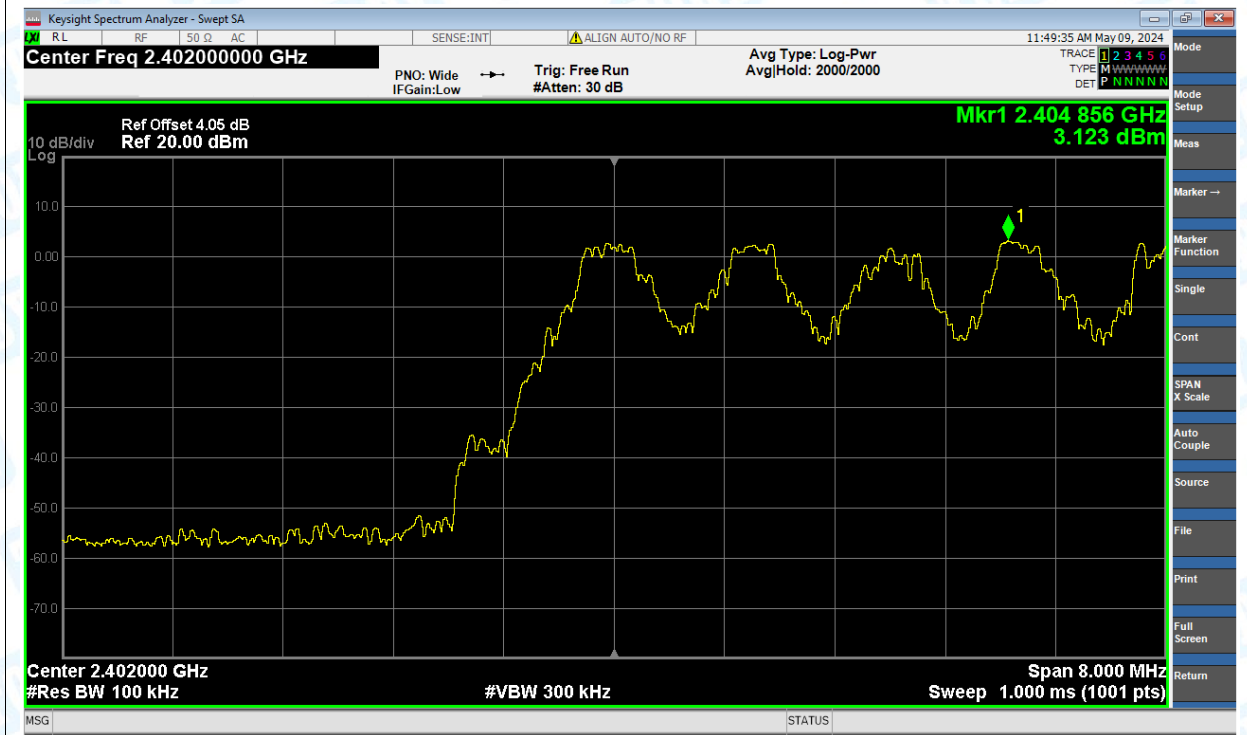


6. Band Edge(Hopping)

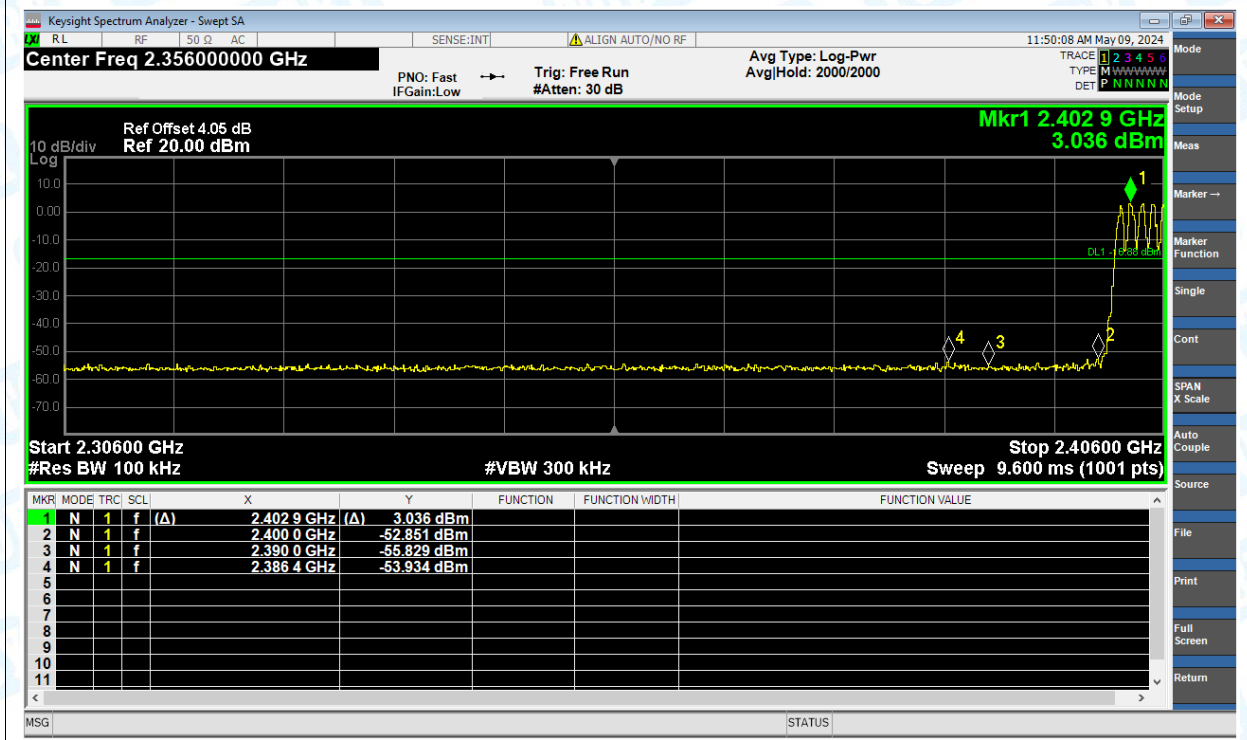
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-57.05	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-57.12	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-54.92	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-55.7	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-57.28	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-57.36	-20	Pass

Test Graphs

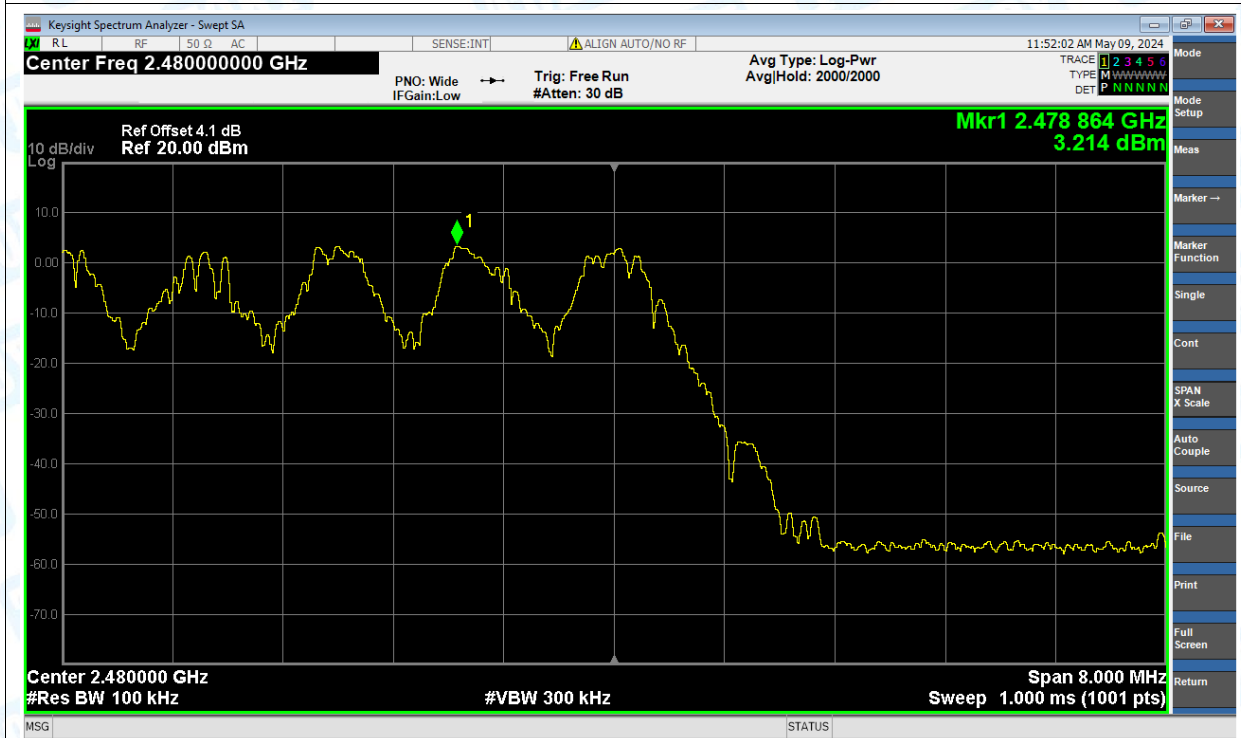
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



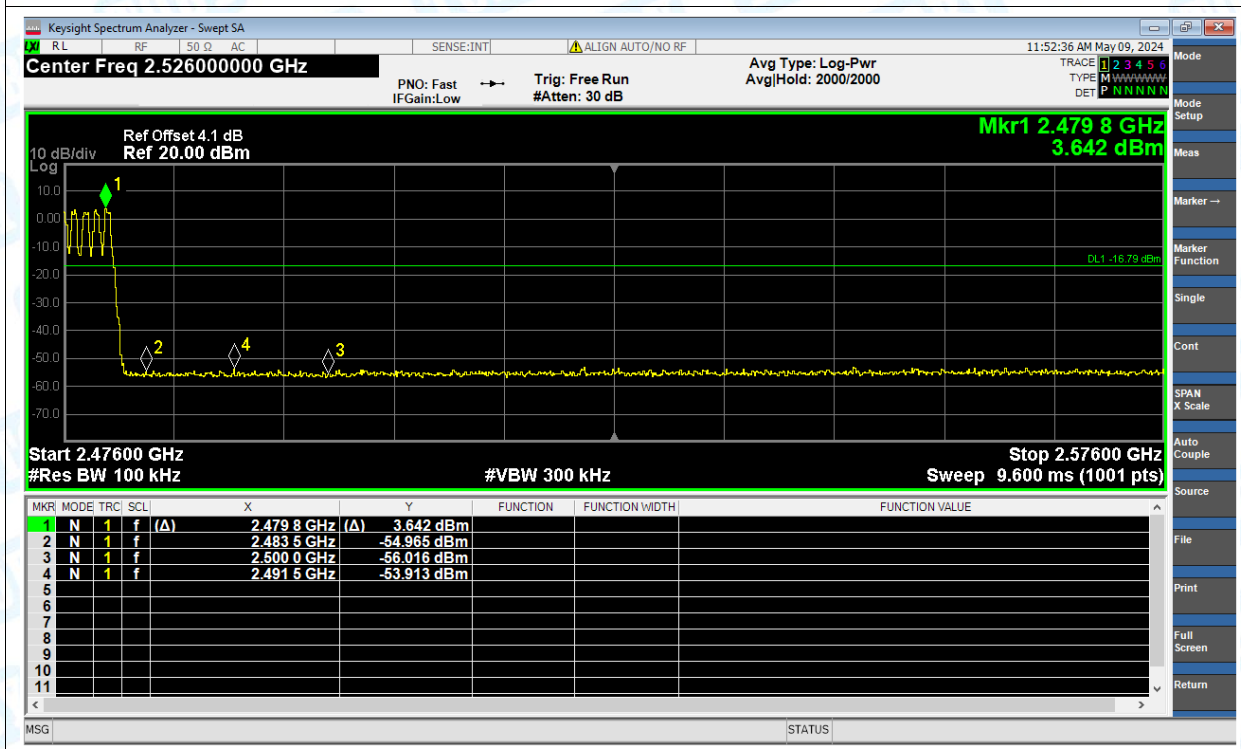
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



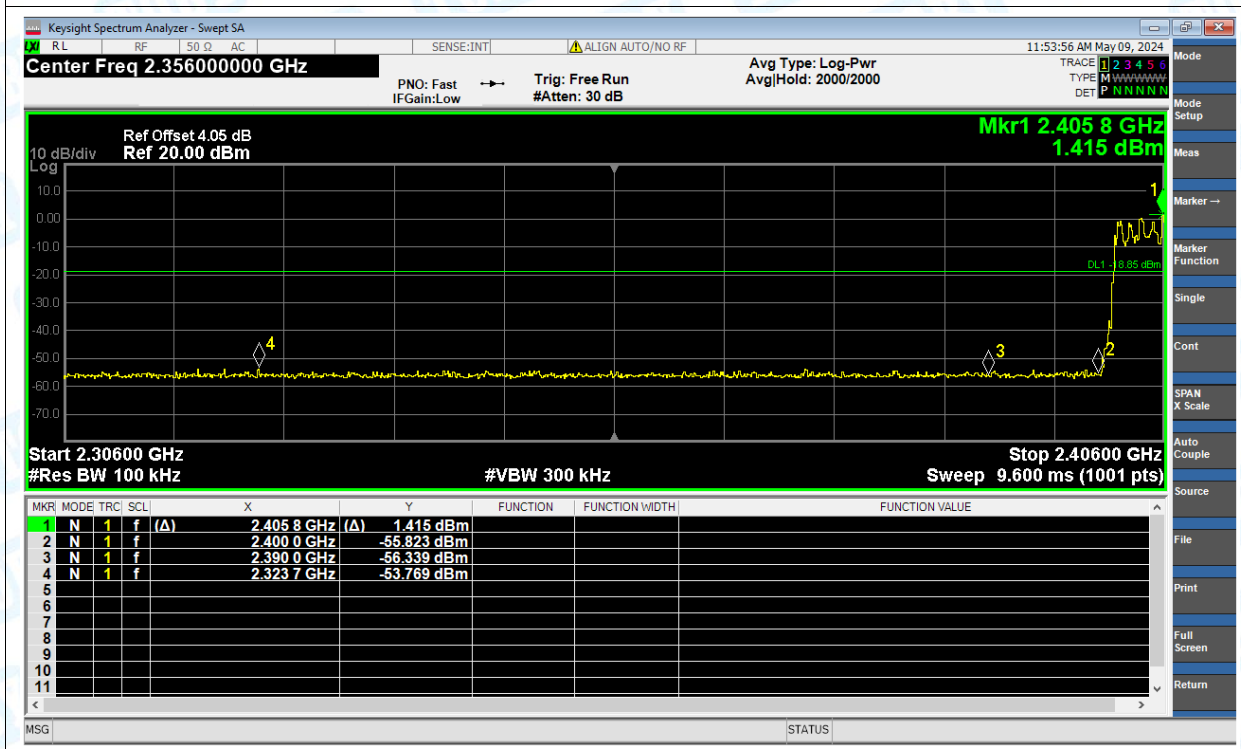
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



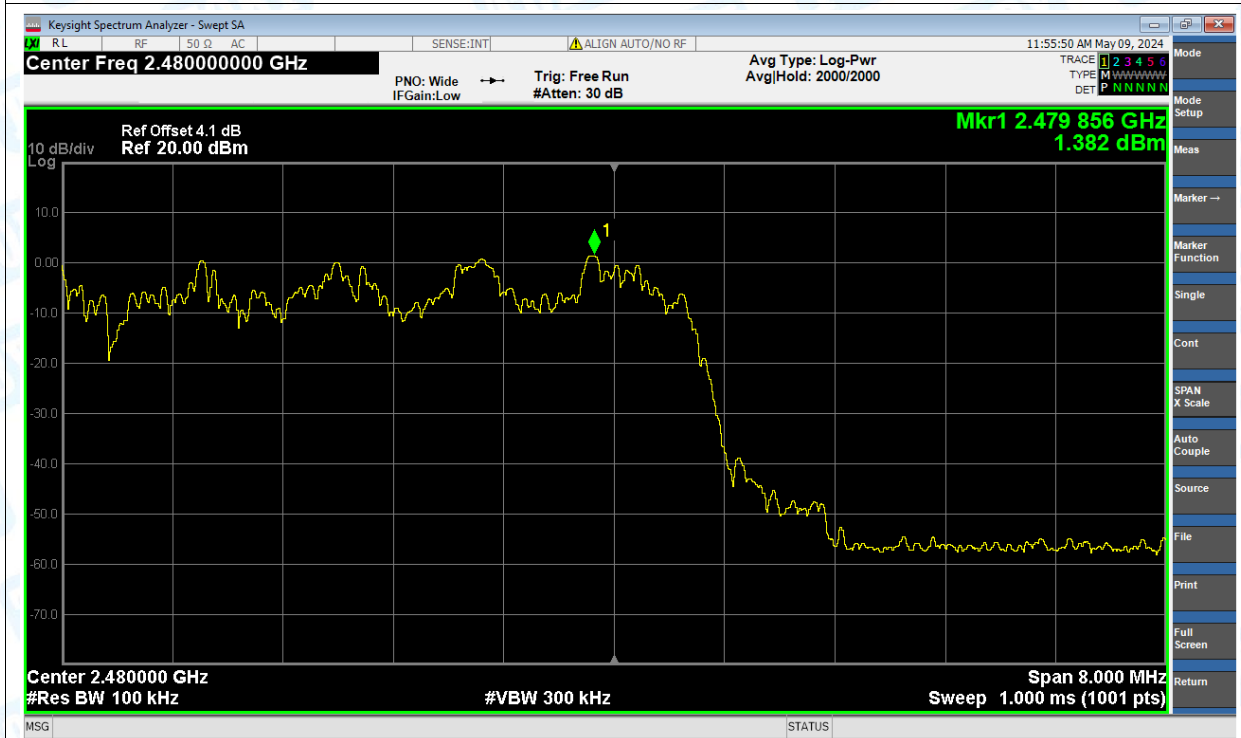
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



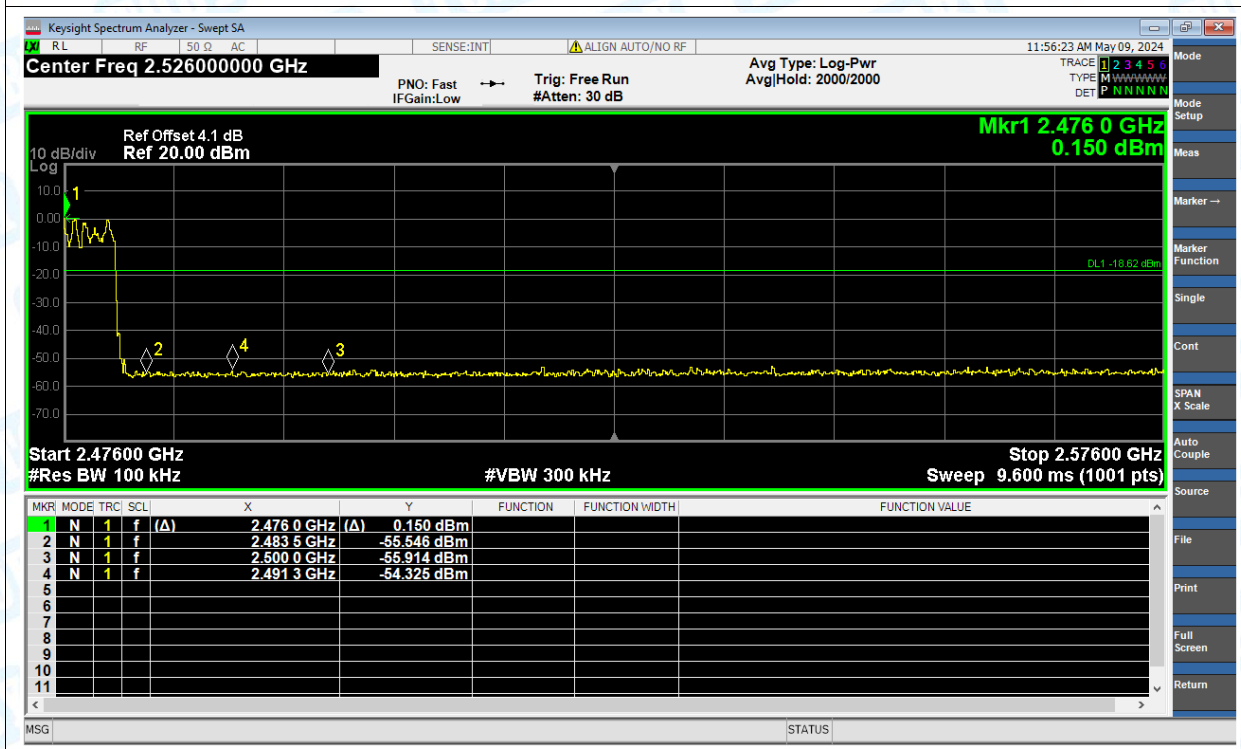
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



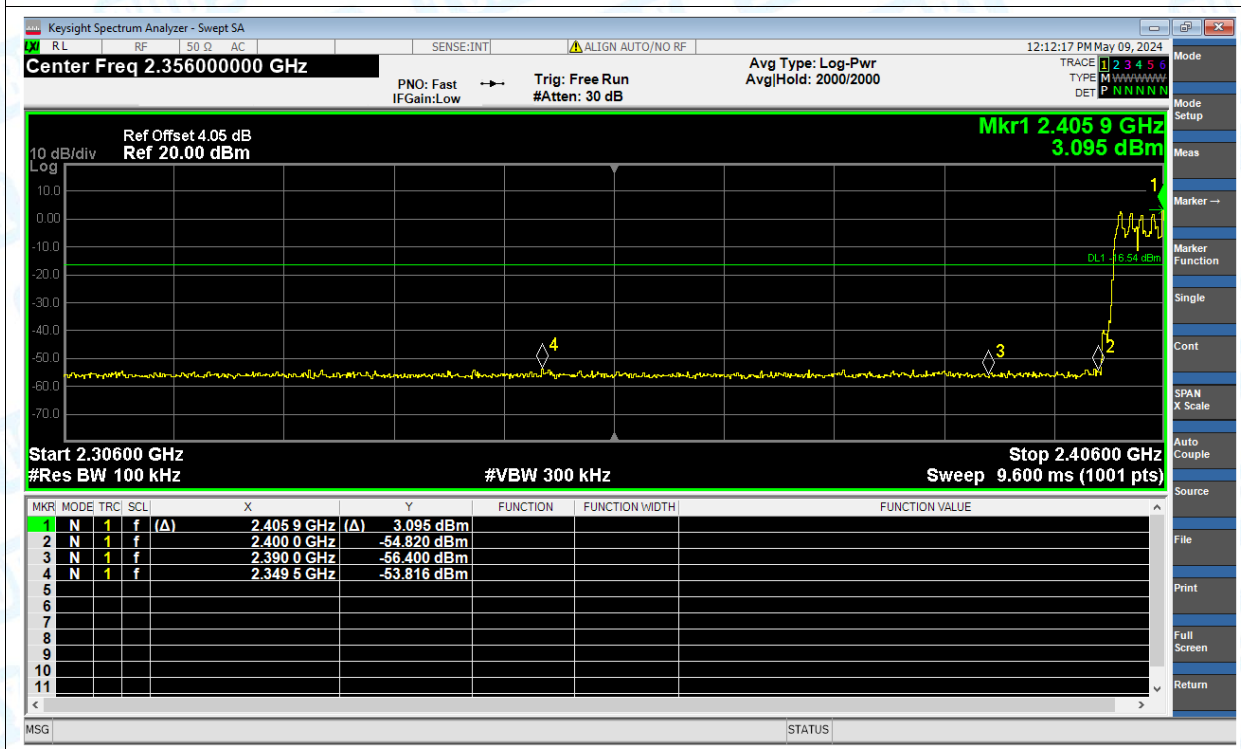
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



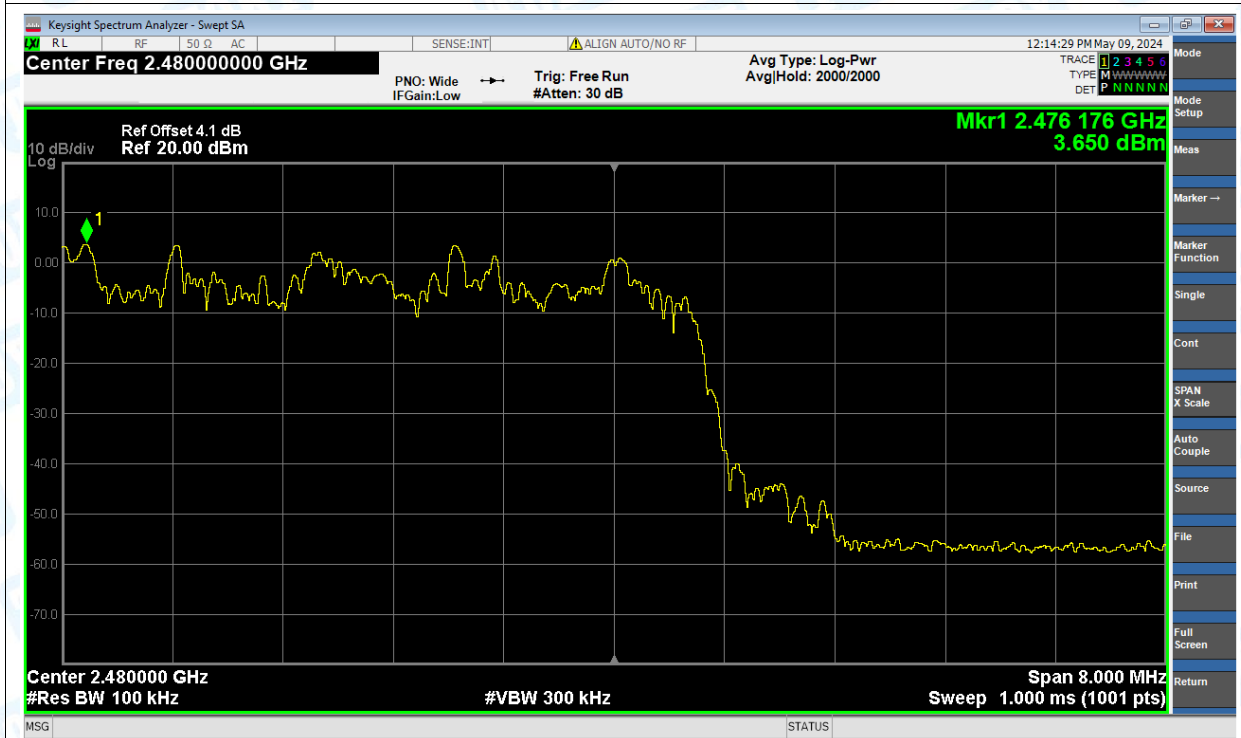
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



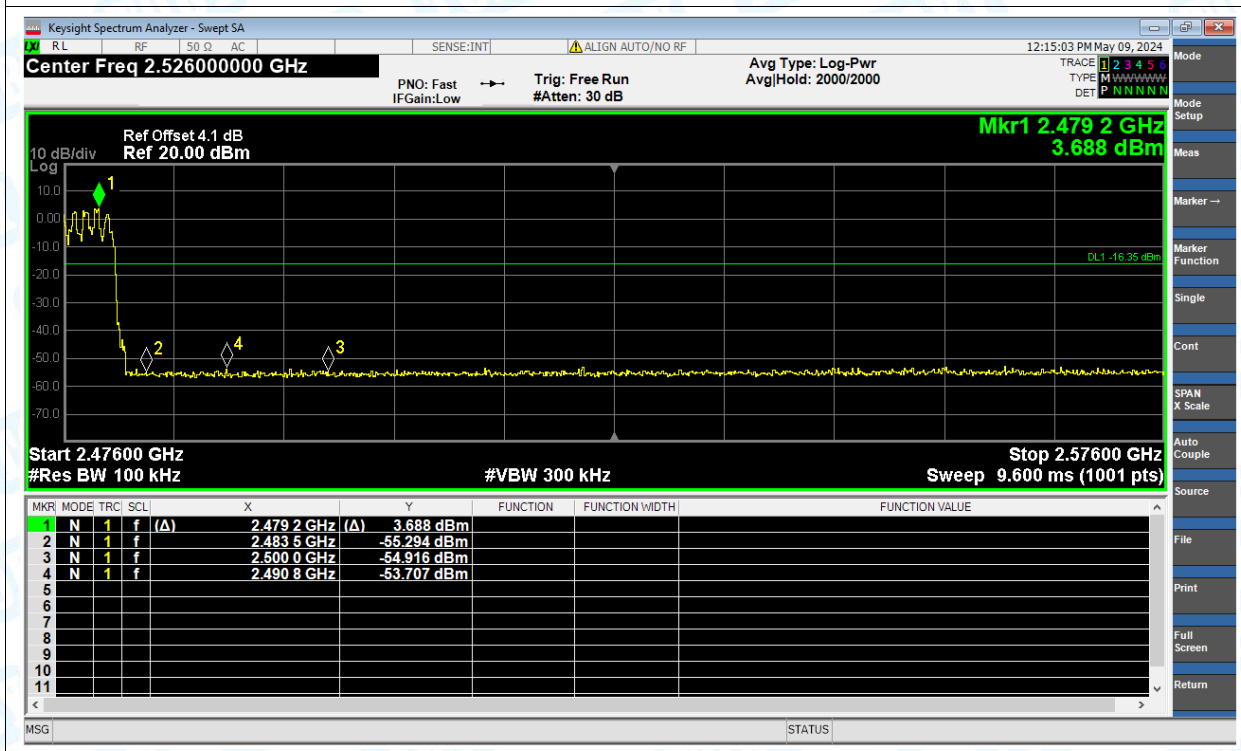
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Emission

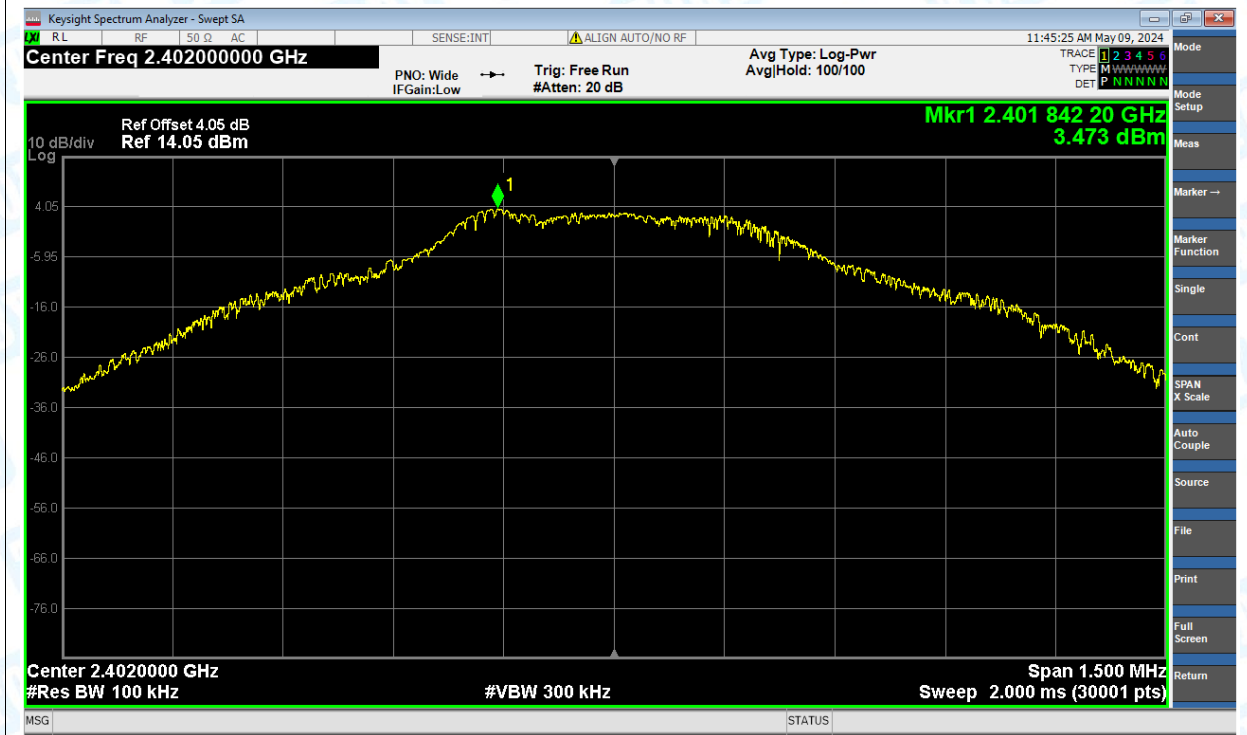


7. Conducted RF Spurious Emission

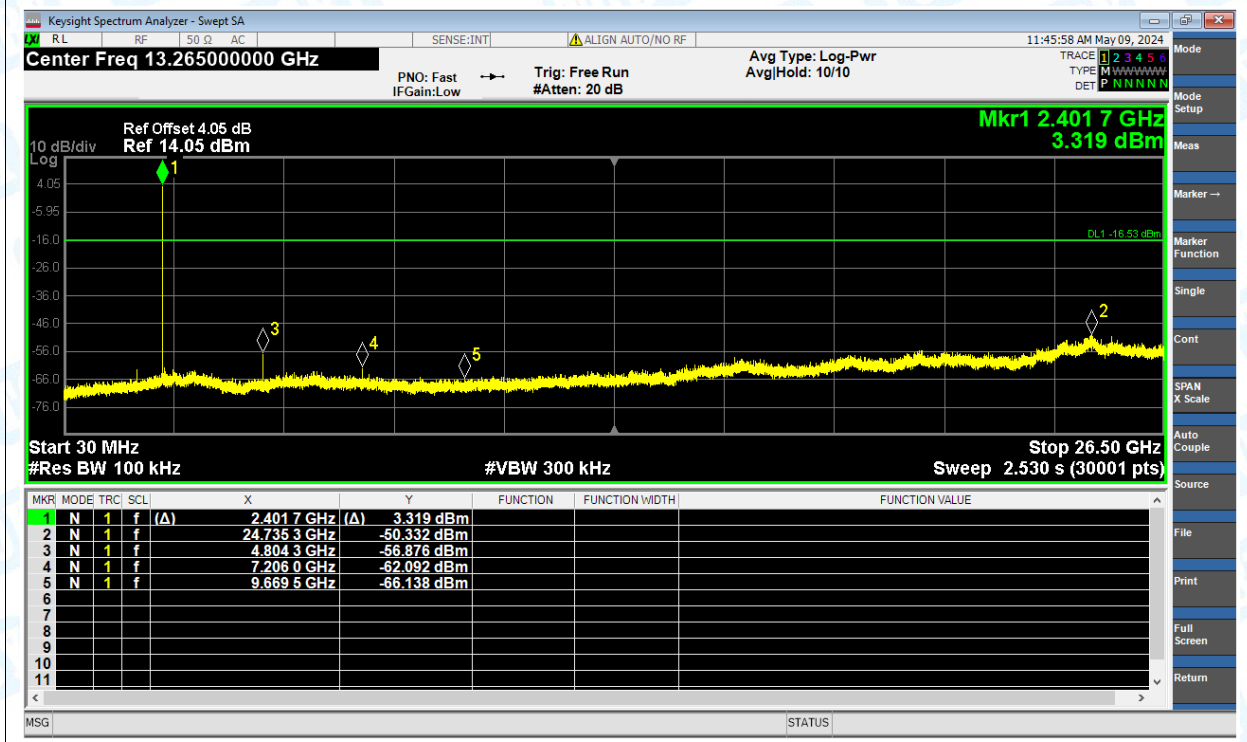
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-53.8	-20	Pass
NVNT	1-DH1	2441	Ant1	-53.59	-20	Pass
NVNT	1-DH1	2480	Ant1	-53.66	-20	Pass
NVNT	2-DH1	2402	Ant1	-53.53	-20	Pass
NVNT	2-DH1	2441	Ant1	-53.71	-20	Pass
NVNT	2-DH1	2480	Ant1	-54.09	-20	Pass
NVNT	3-DH1	2402	Ant1	-54.37	-20	Pass
NVNT	3-DH1	2441	Ant1	-51.95	-20	Pass
NVNT	3-DH1	2480	Ant1	-54.22	-20	Pass

Test Graphs

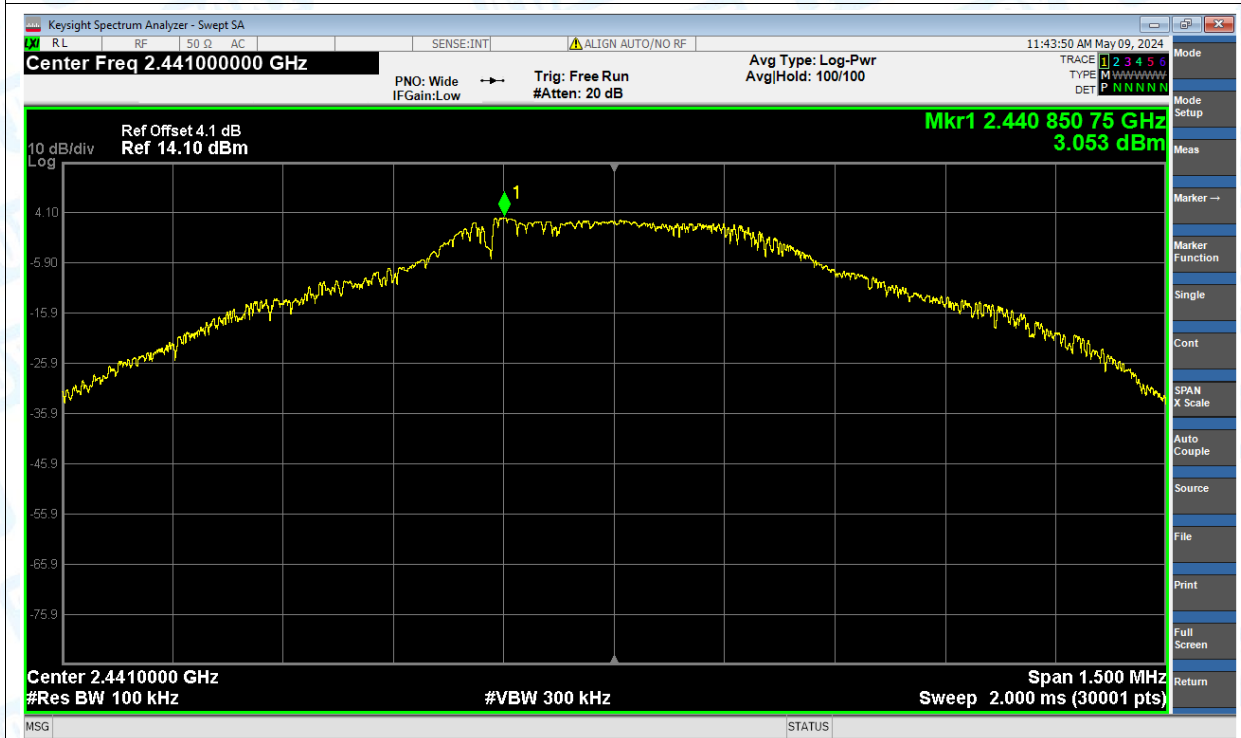
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



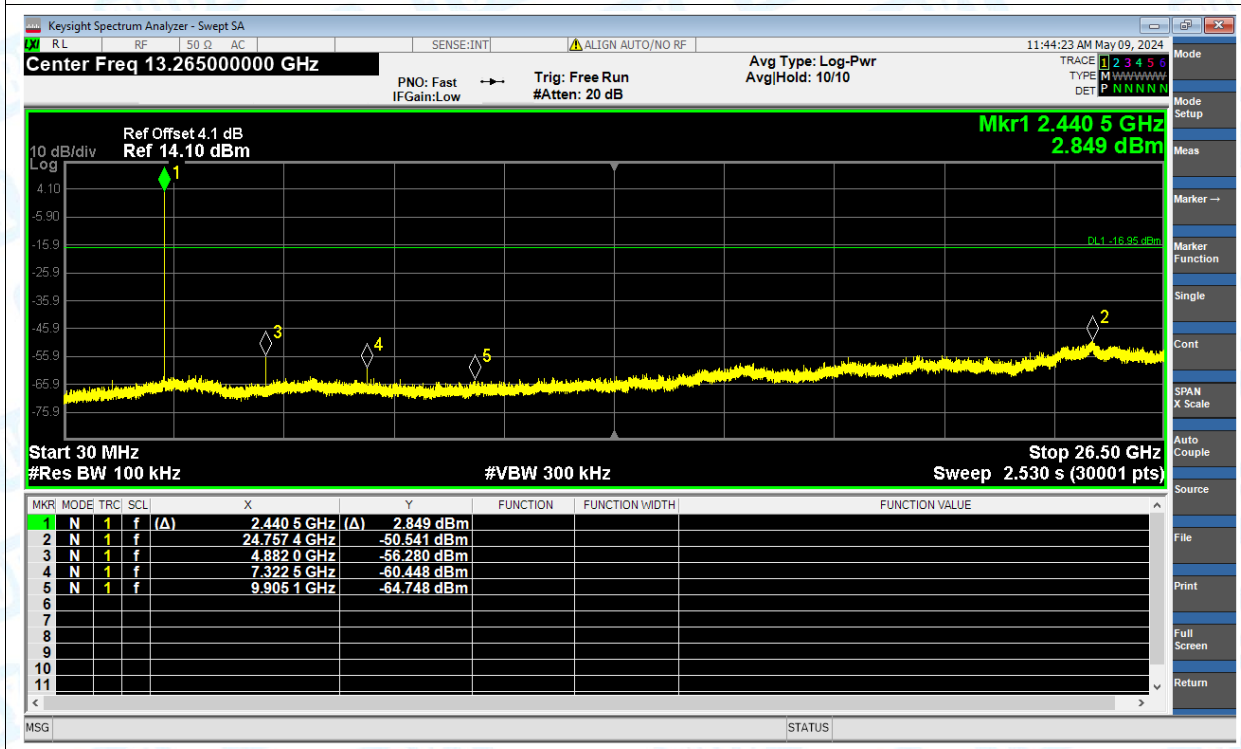
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



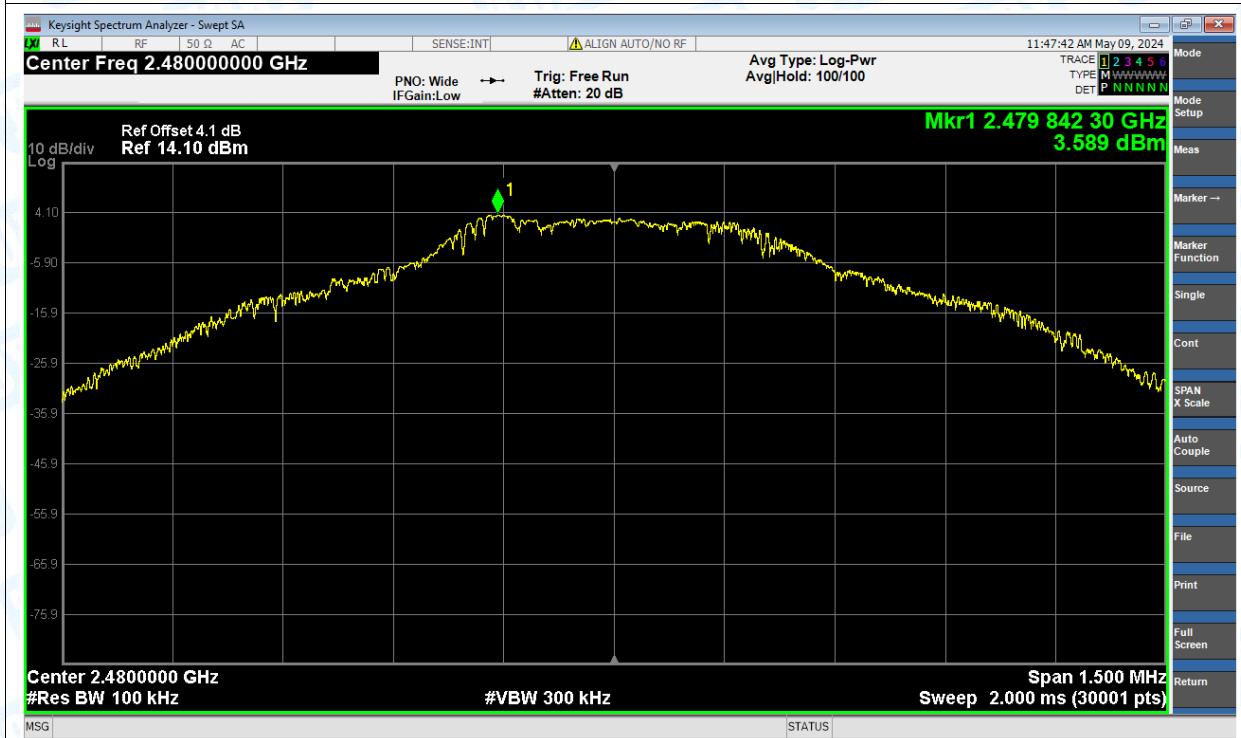
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



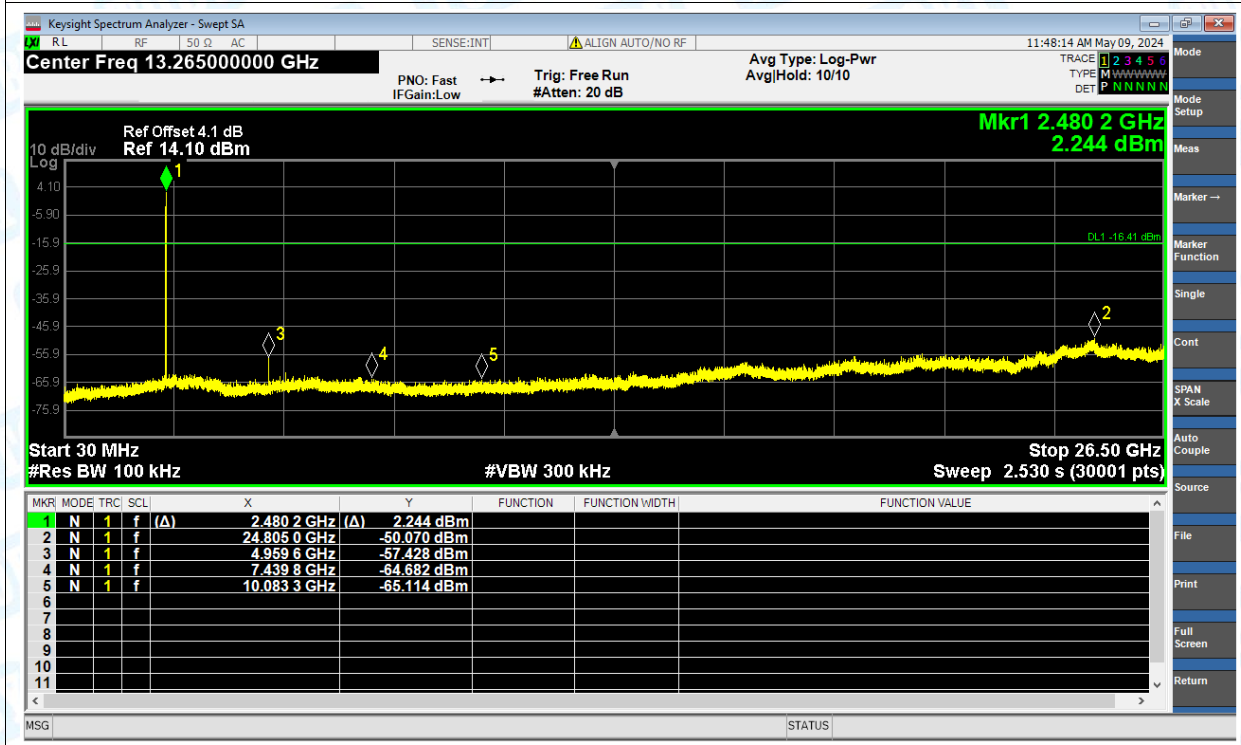
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



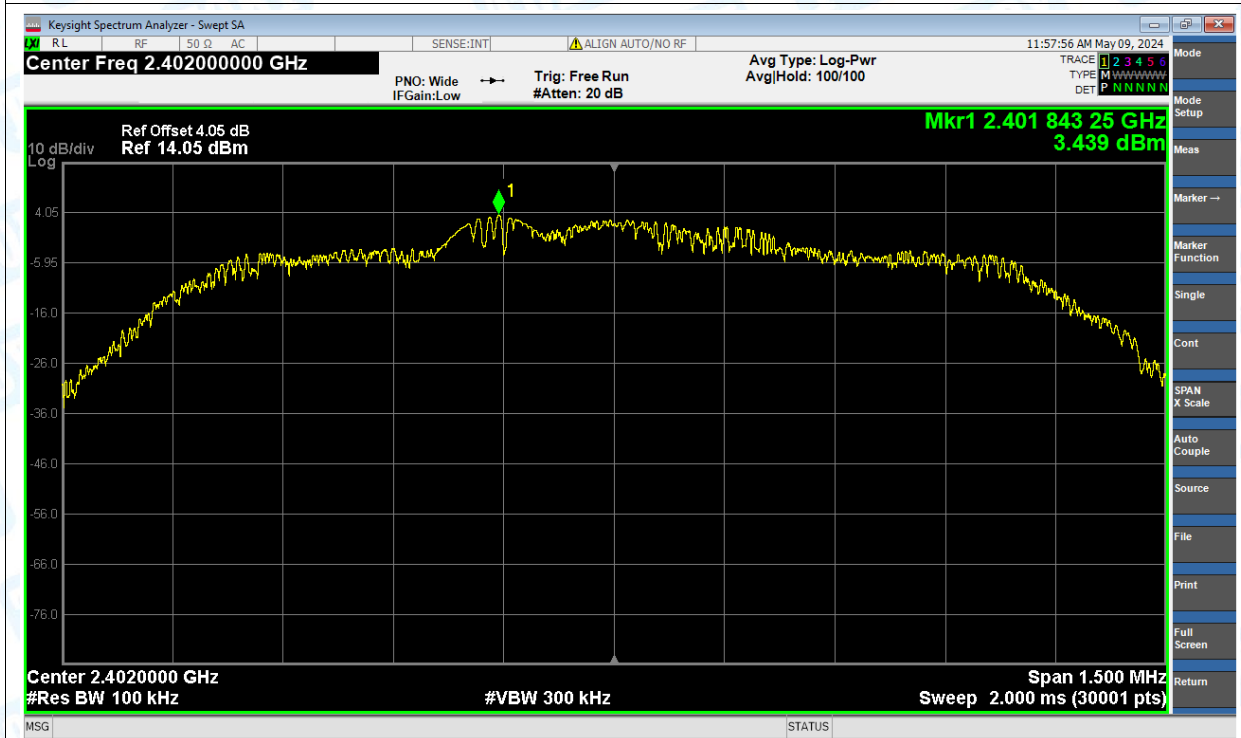
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



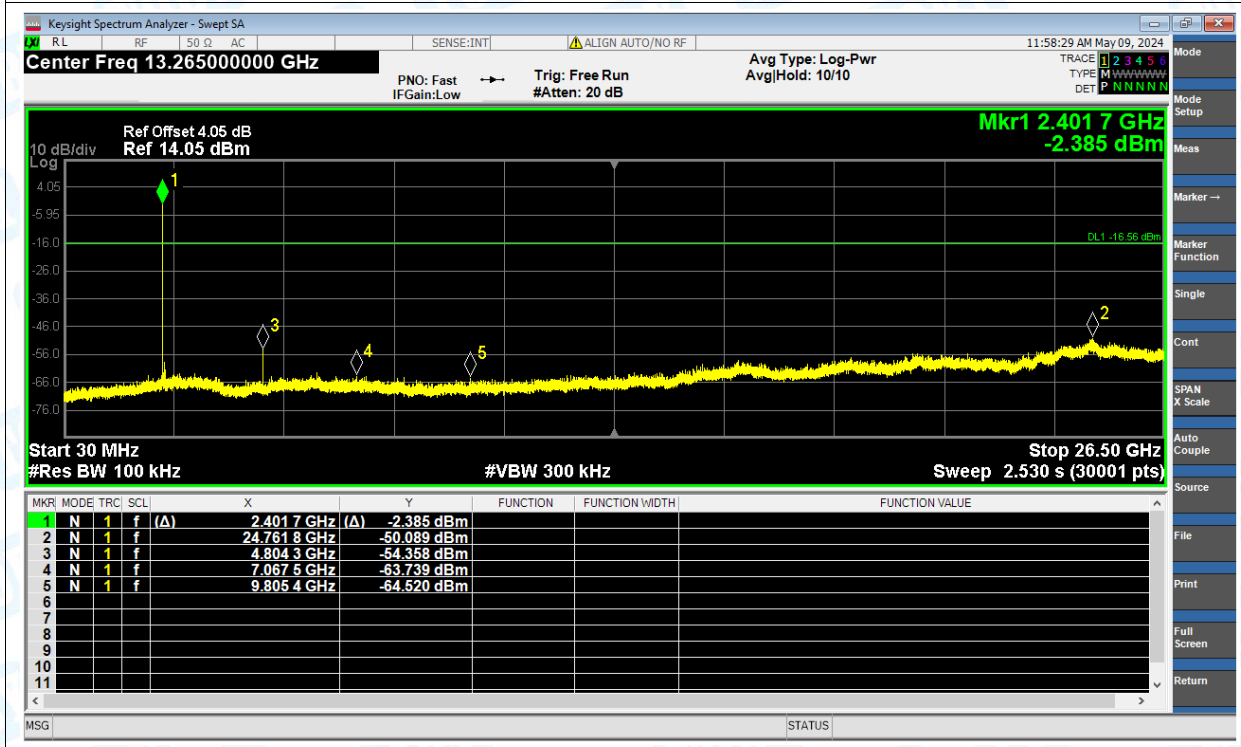
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



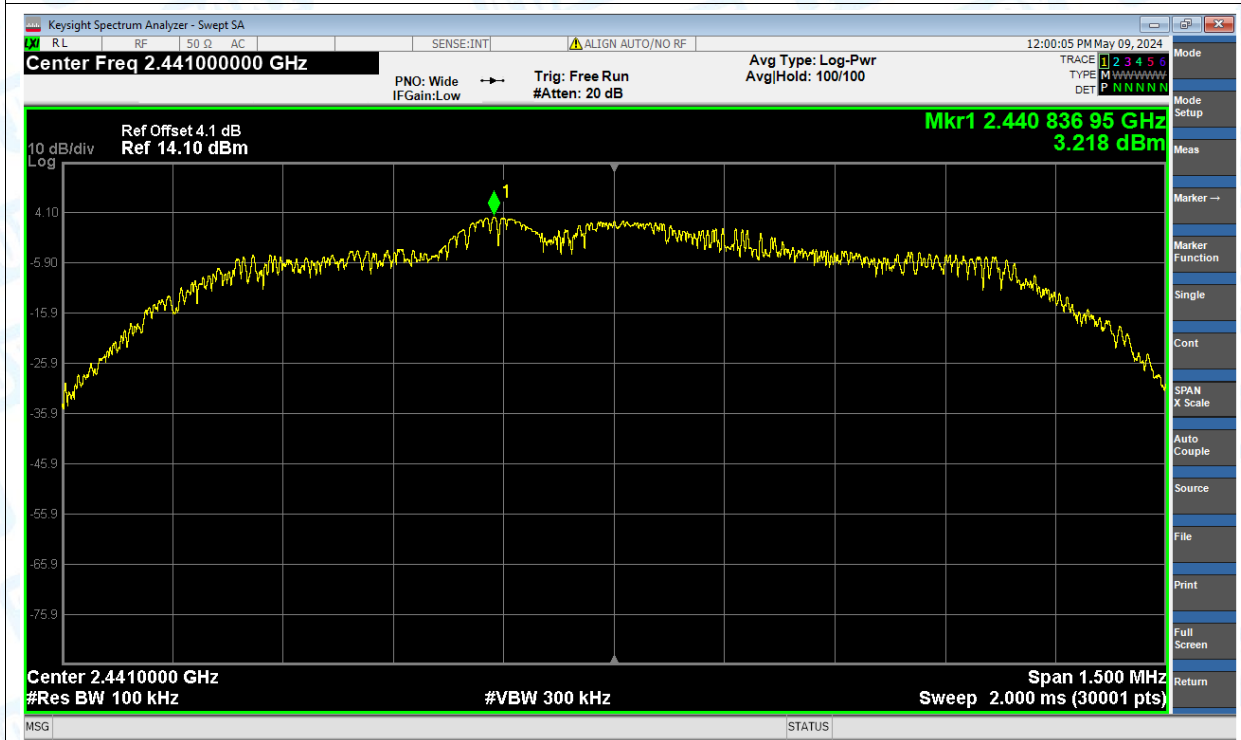
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



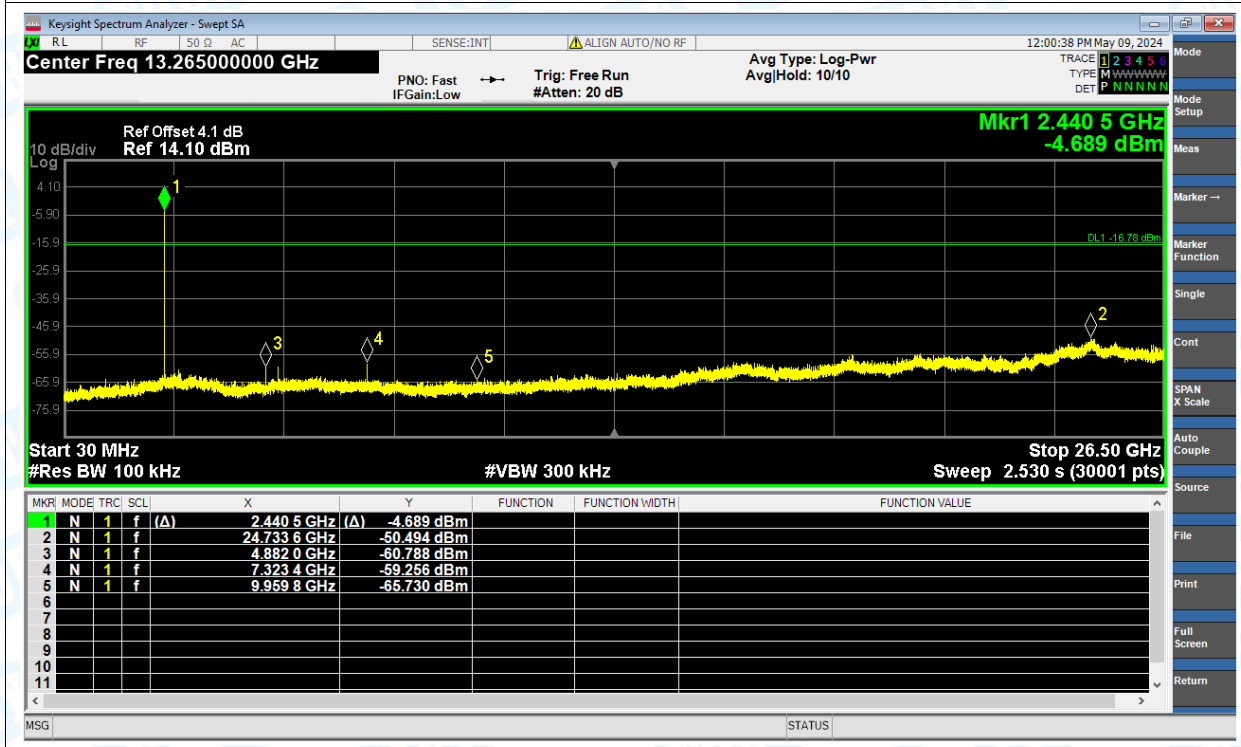
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



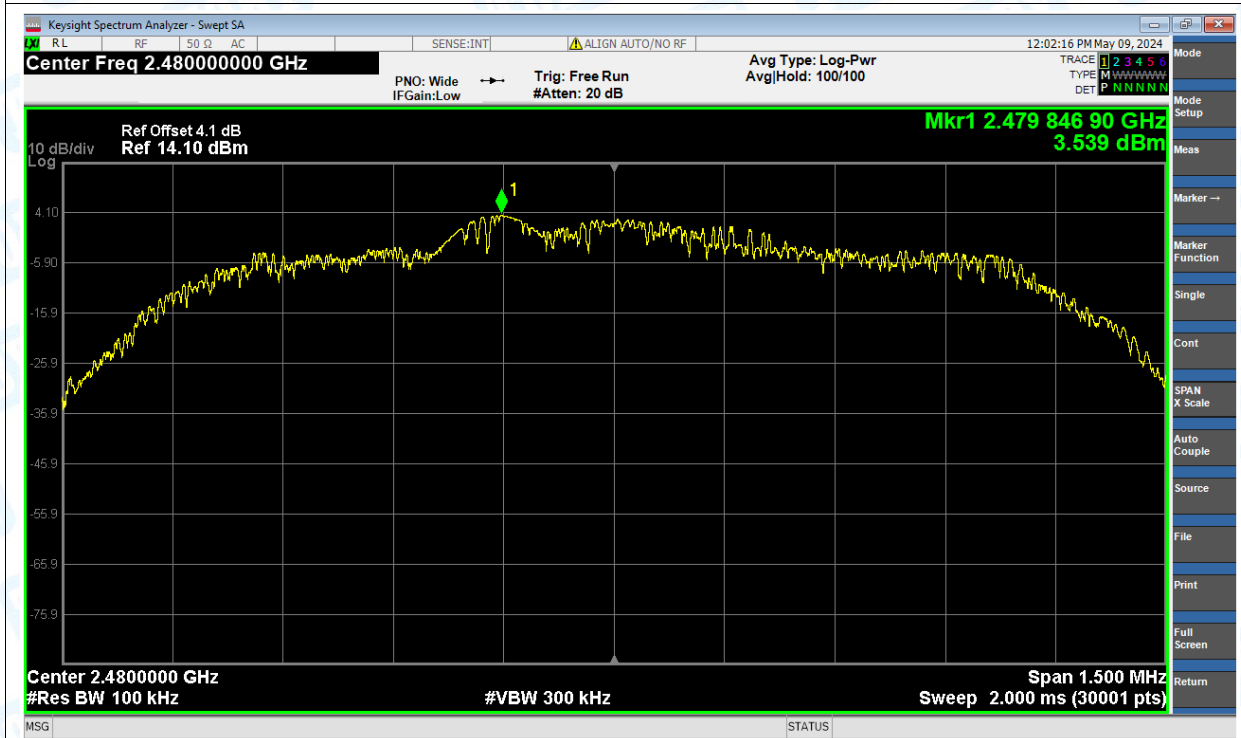
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



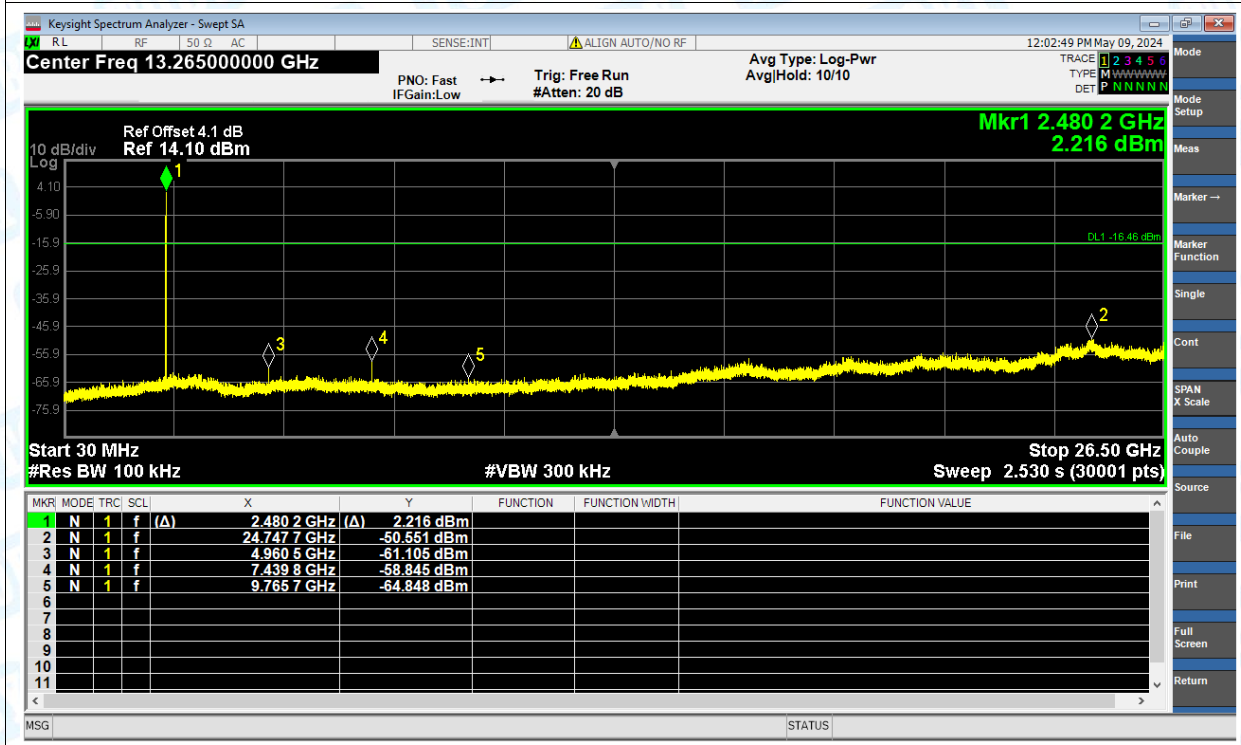
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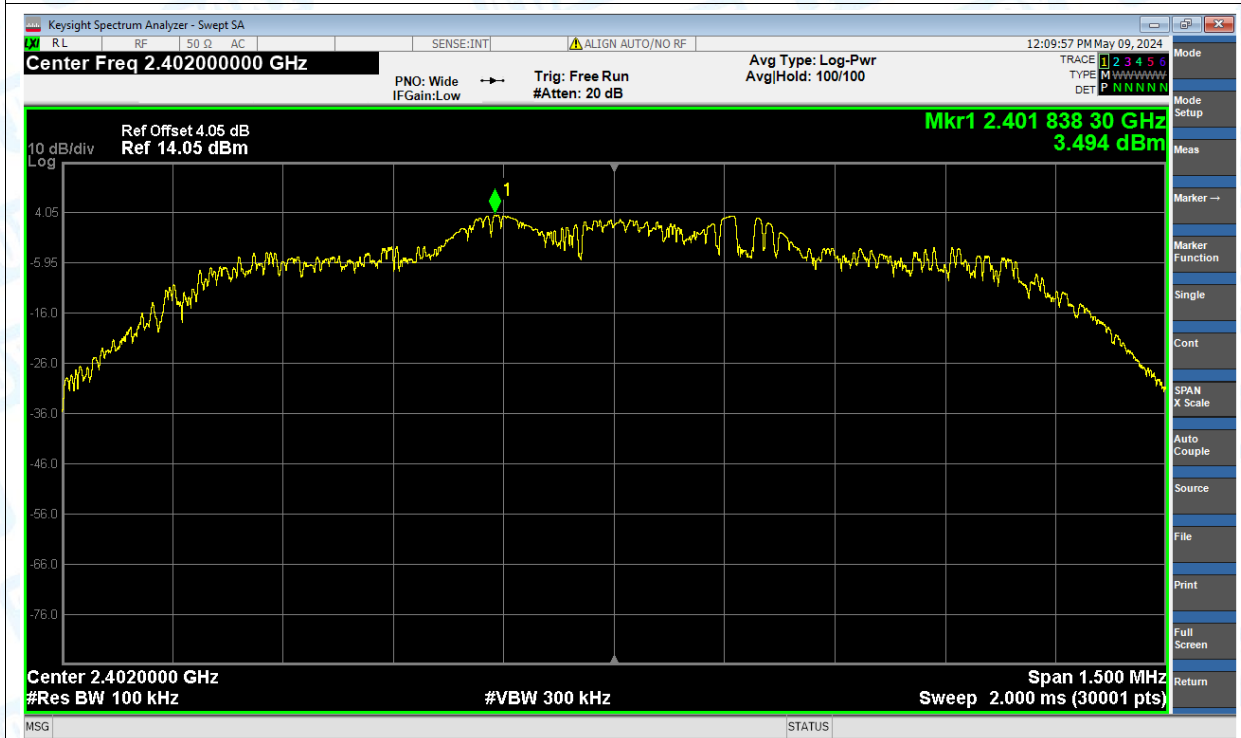
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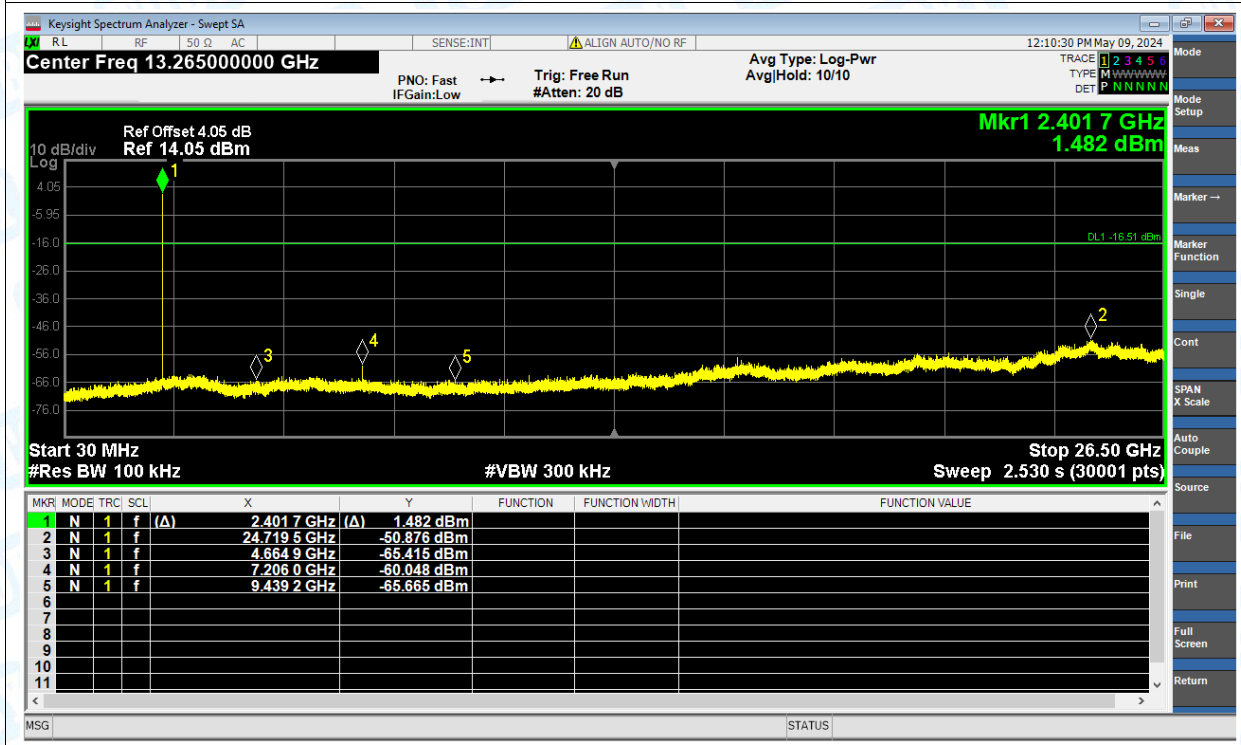
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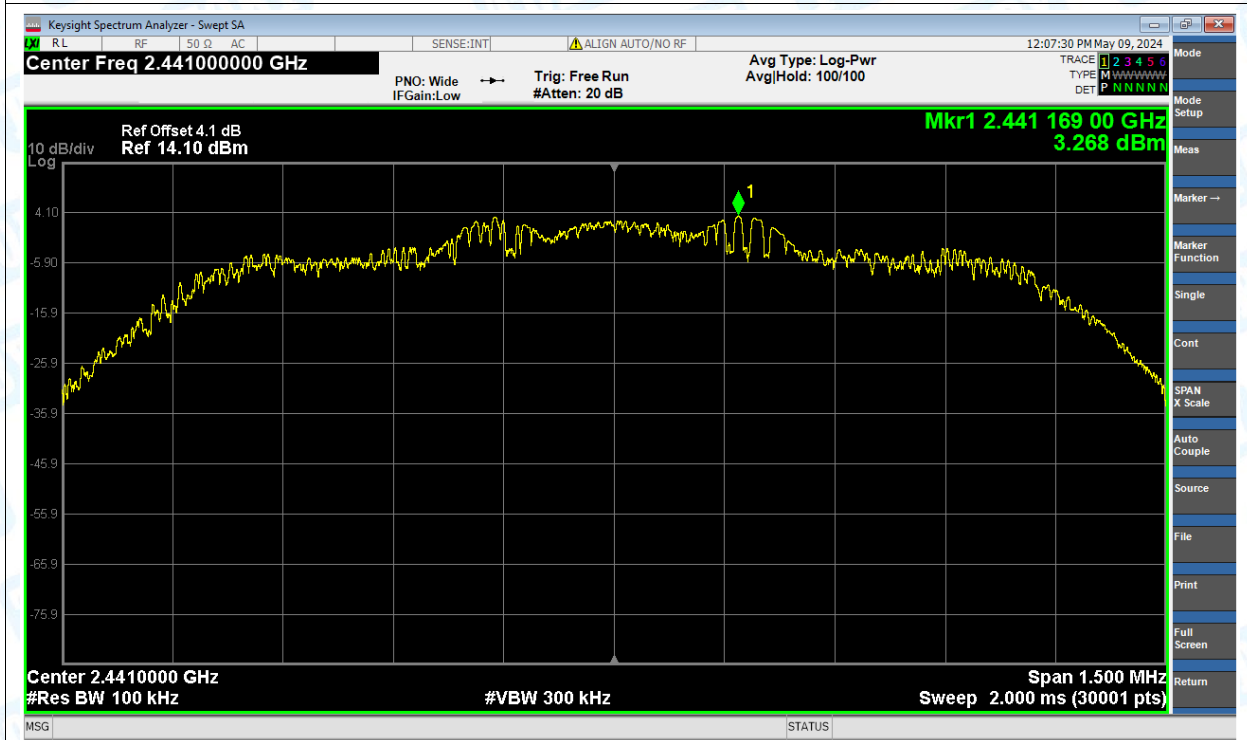
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



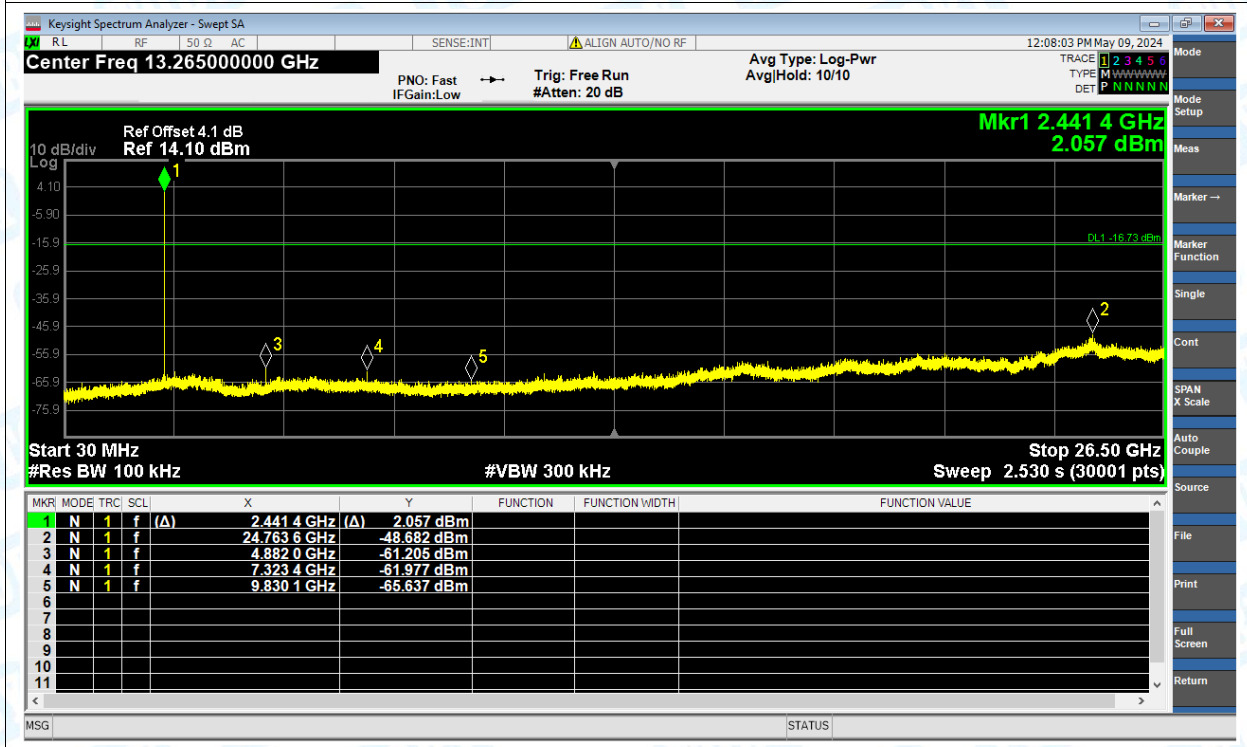
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



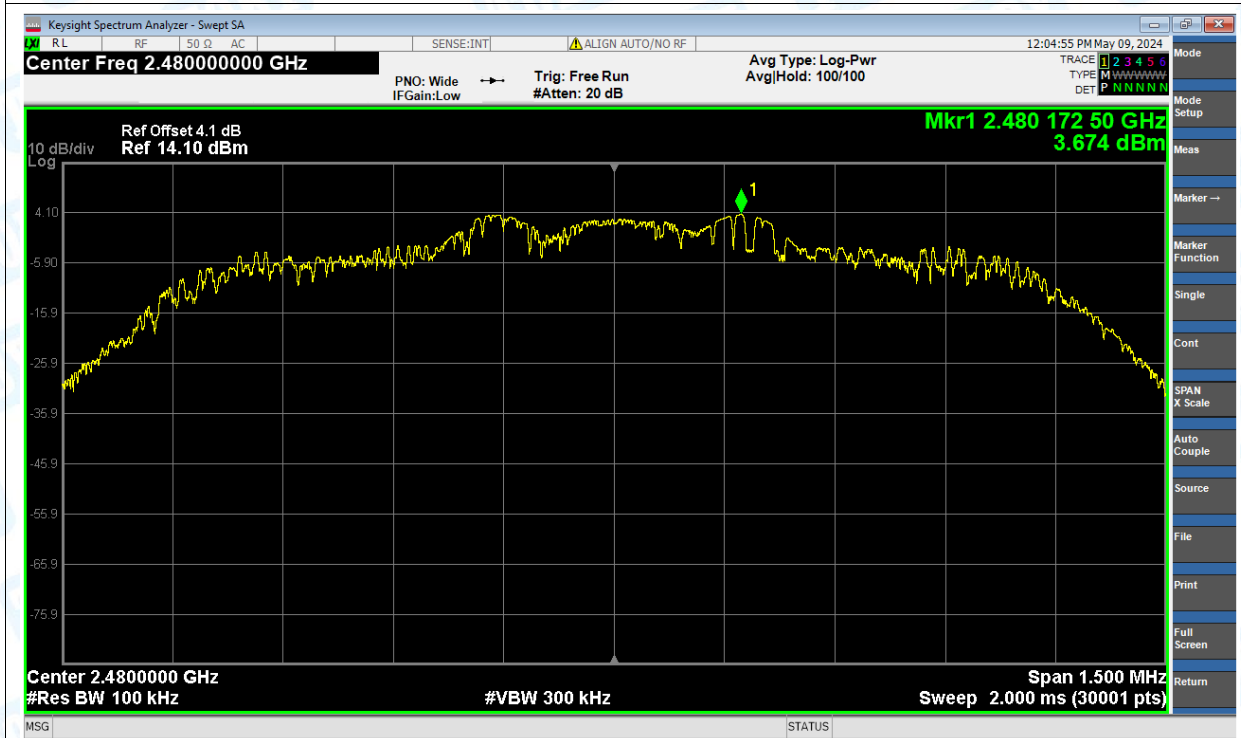
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



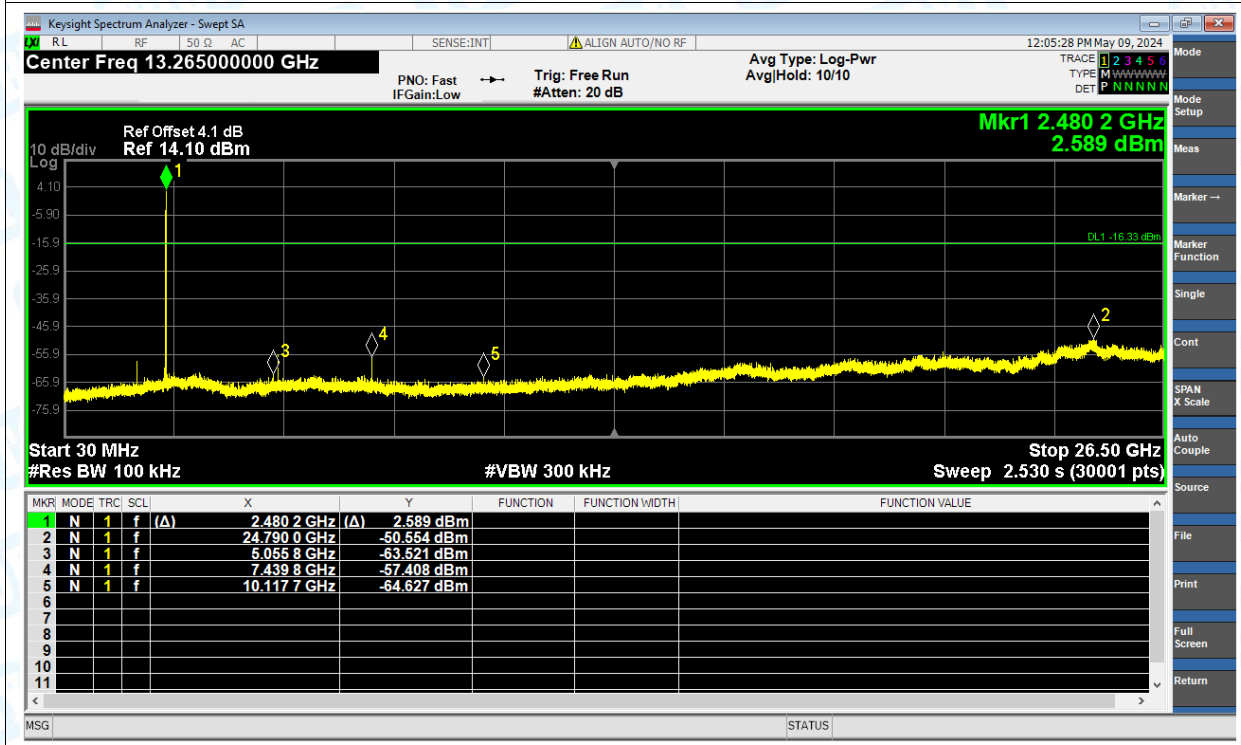
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

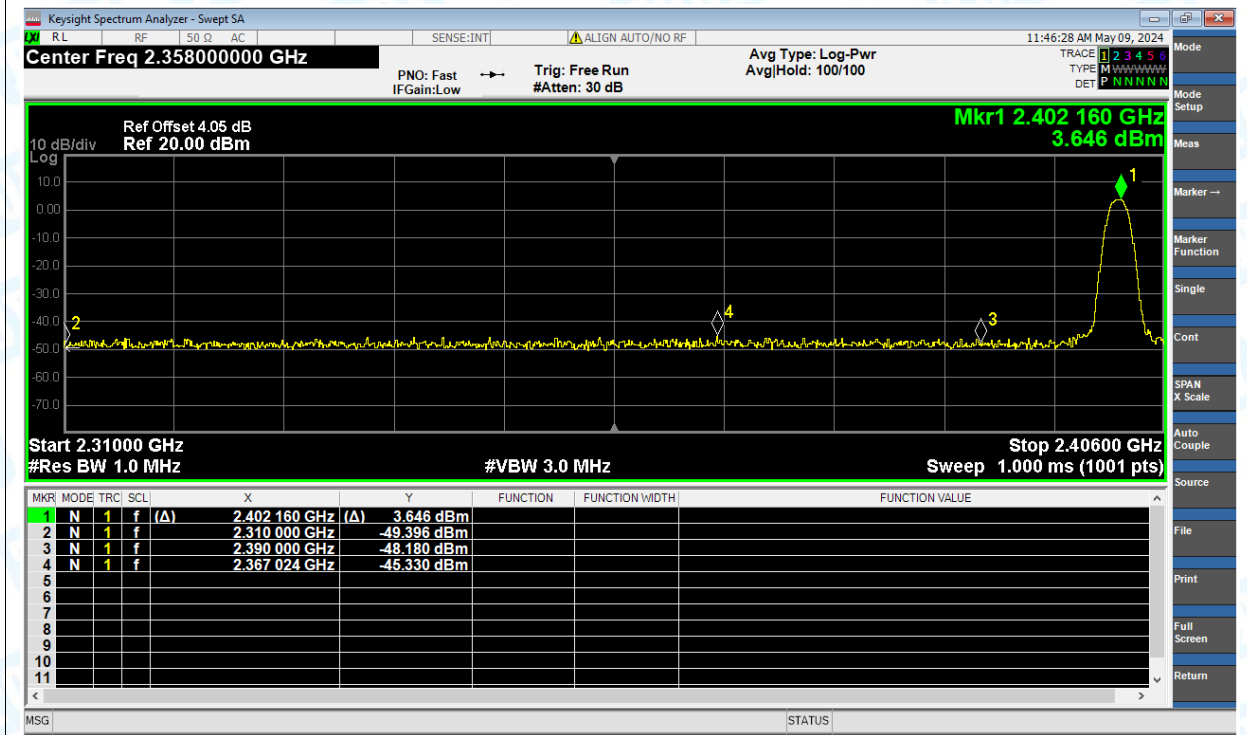


8. Restrict Band

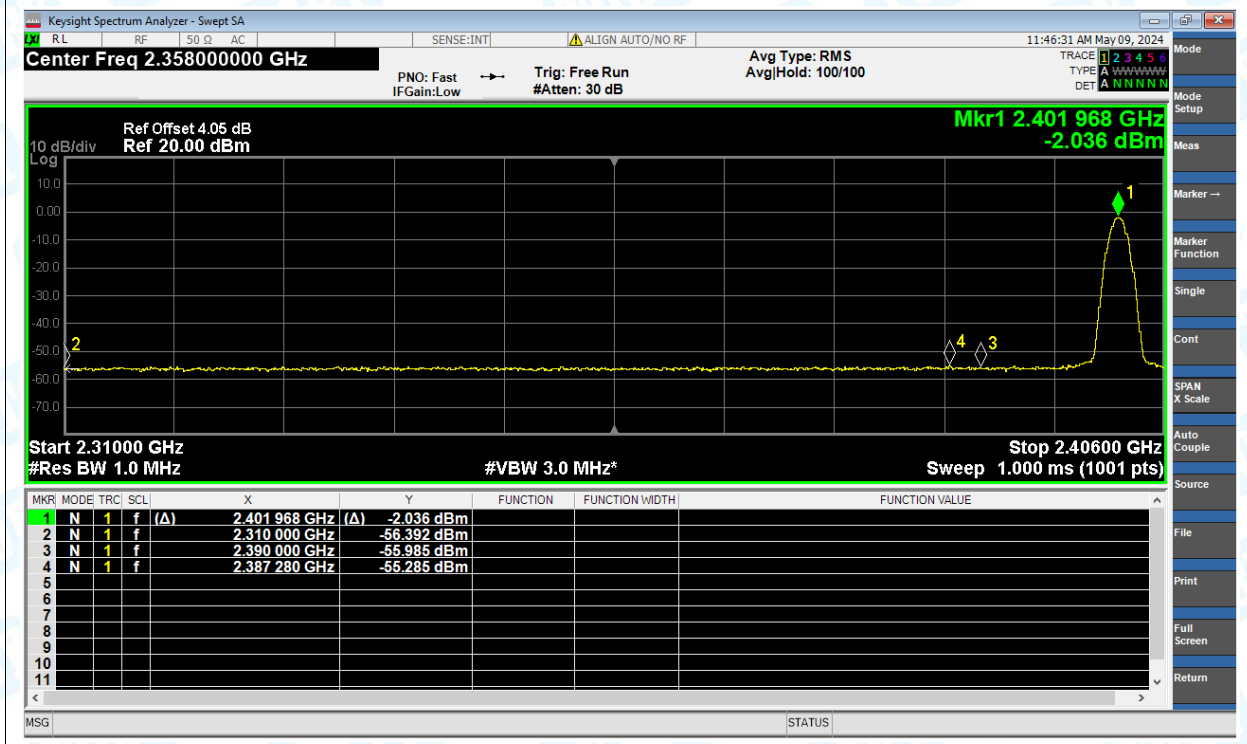
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-49.4	2	-	47.86	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.39	2	5.29	46.16	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2367.024	-45.33	2	-	51.93	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2387.28	-55.28	2	5.29	47.27	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.18	2	-	49.08	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.99	2	5.29	46.56	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-48.68	2	-	48.58	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-55	2	5.17	47.43	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2494.576	-43.56	2	-	53.7	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.512	-55	2	5.17	47.43	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-46.98	2	-	50.28	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.76	2	5.17	46.67	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-49.19	2	-	48.07	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.18	2	5.17	46.25	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2325.552	-45.09	2	-	52.17	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2311.248	-55.41	2	5.17	47.02	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-48.74	2	-	48.52	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.96	2	5.17	46.47	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-47.99	2	-	49.27	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.23	2	5.06	47.09	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2488.192	-44.89	2	-	52.37	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2488.048	-54.9	2	5.06	47.42	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.01	2	-	50.25	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-56.15	2	5.06	46.17	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.46	2	-	48.8	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.6	2	5.06	45.72	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2351.376	-44.69	2	-	52.57	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2370.096	-55.41	2	5.06	46.91	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-49.29	2	-	47.97	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-56.35	2	5.06	45.97	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-47.48	2	-	49.78	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-55.96	2	5.17	46.47	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2498.104	-45.22	2	-	52.04	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2495.512	-54.91	2	5.17	47.52	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-46.79	2	-	50.47	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.89	2	5.17	46.54	Average	54	Pass

Test Graphs

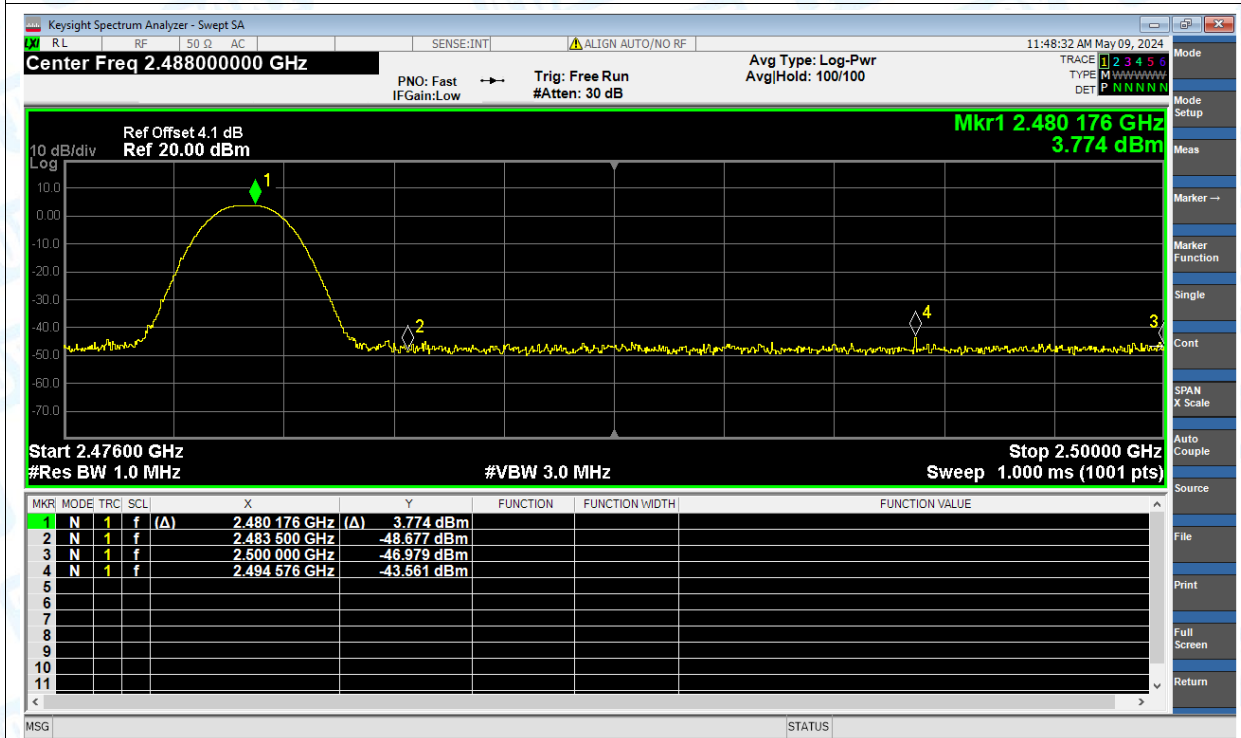
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



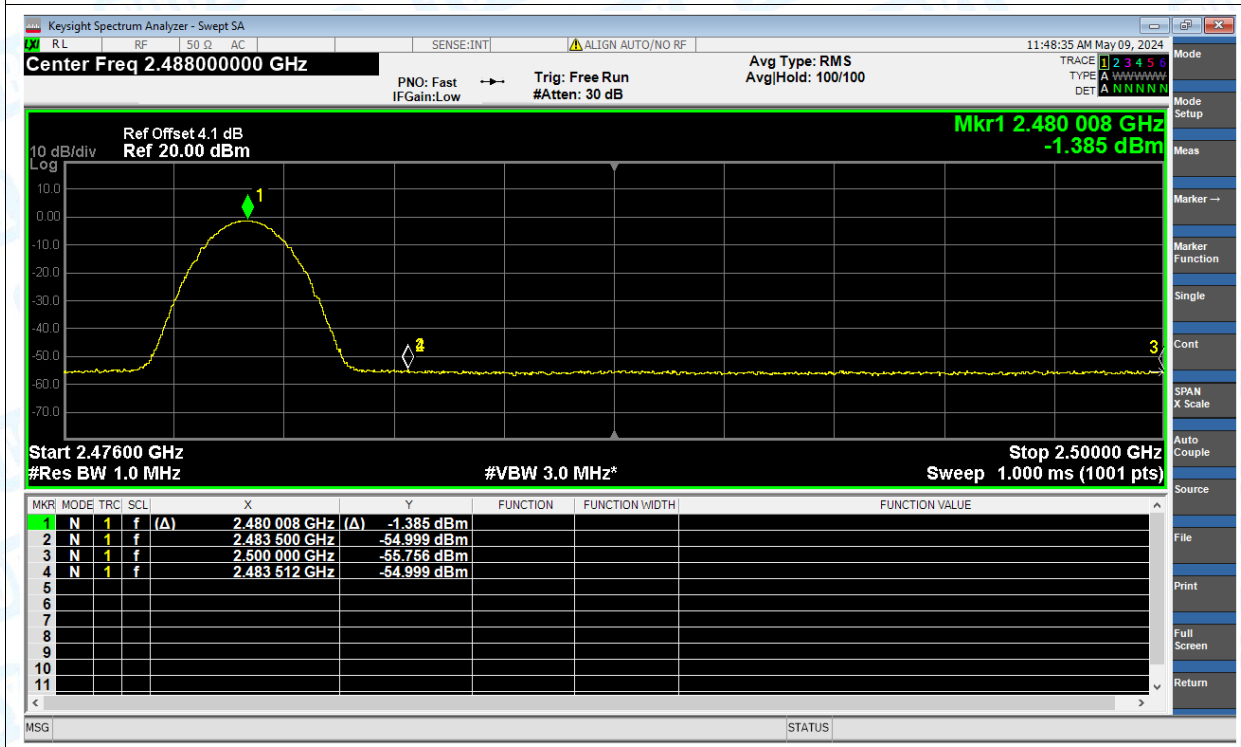
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



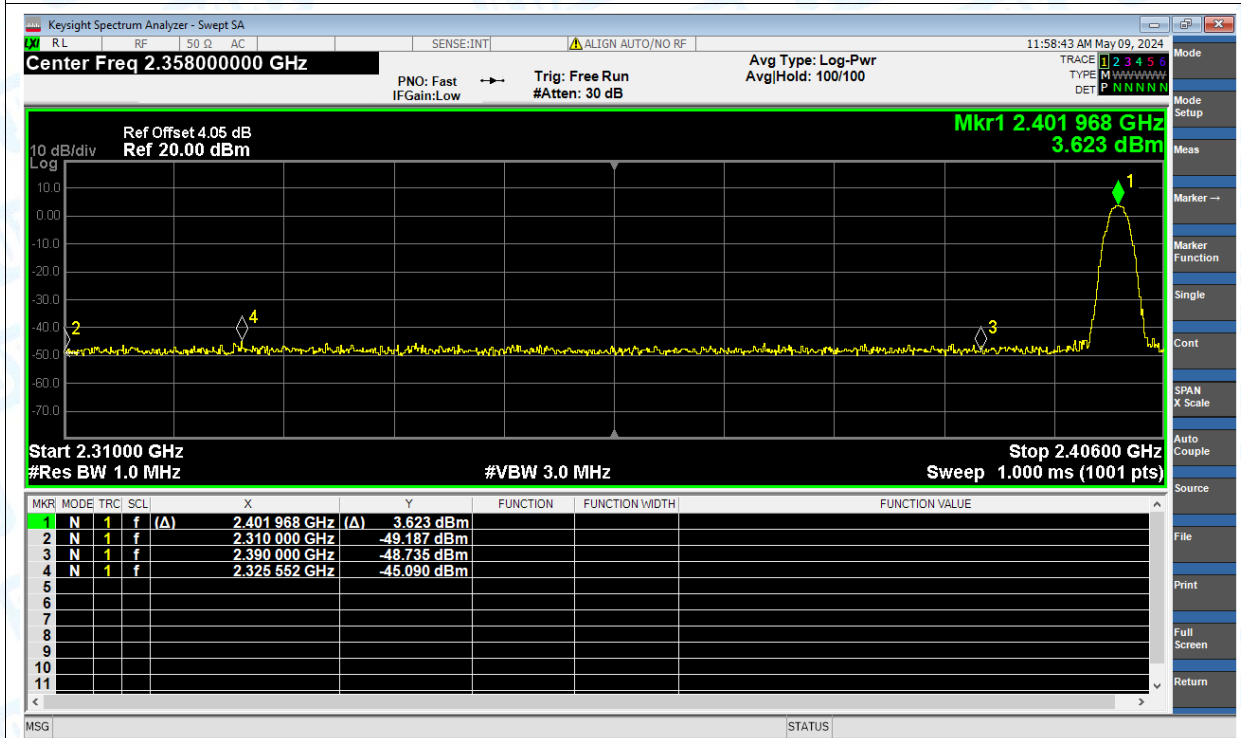
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



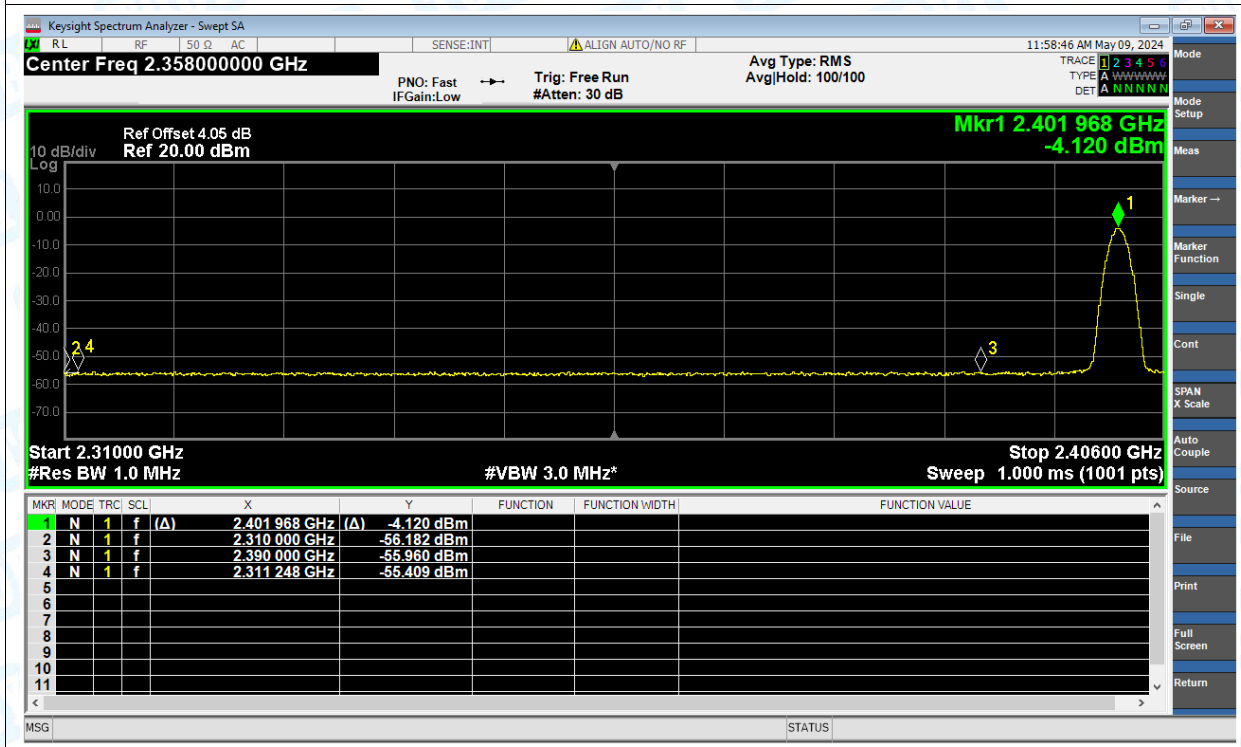
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



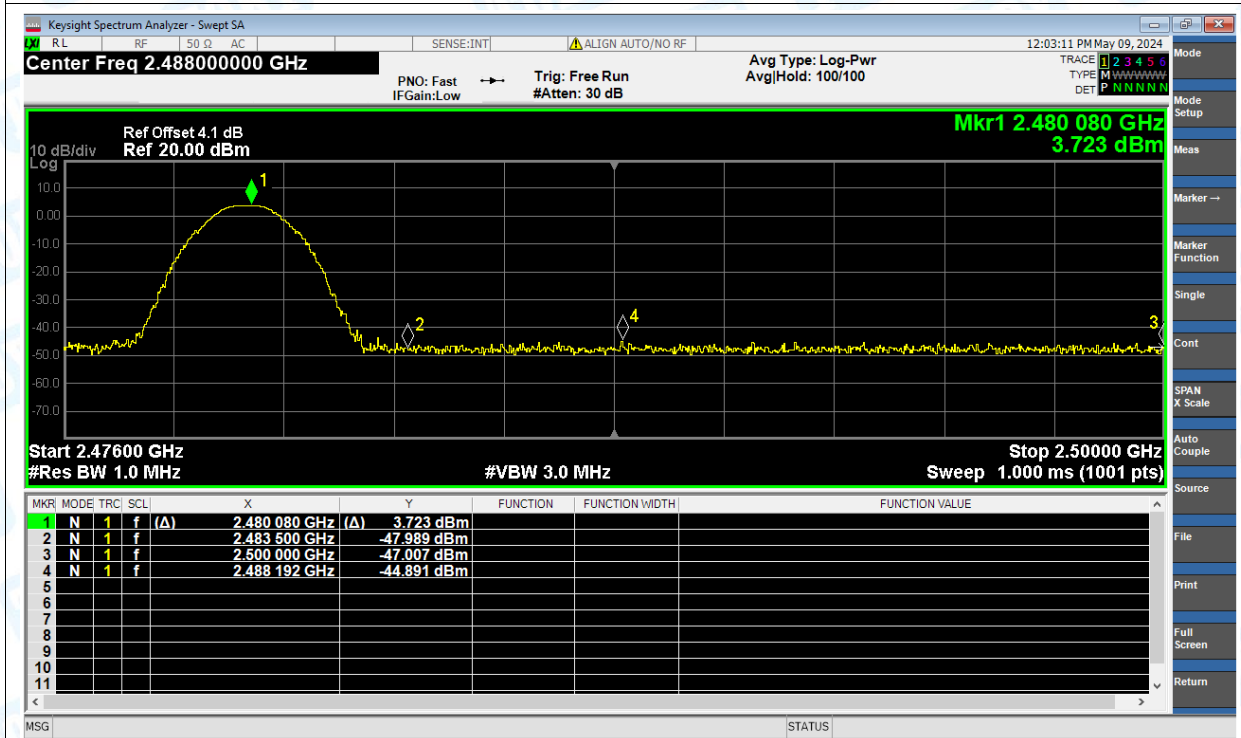
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



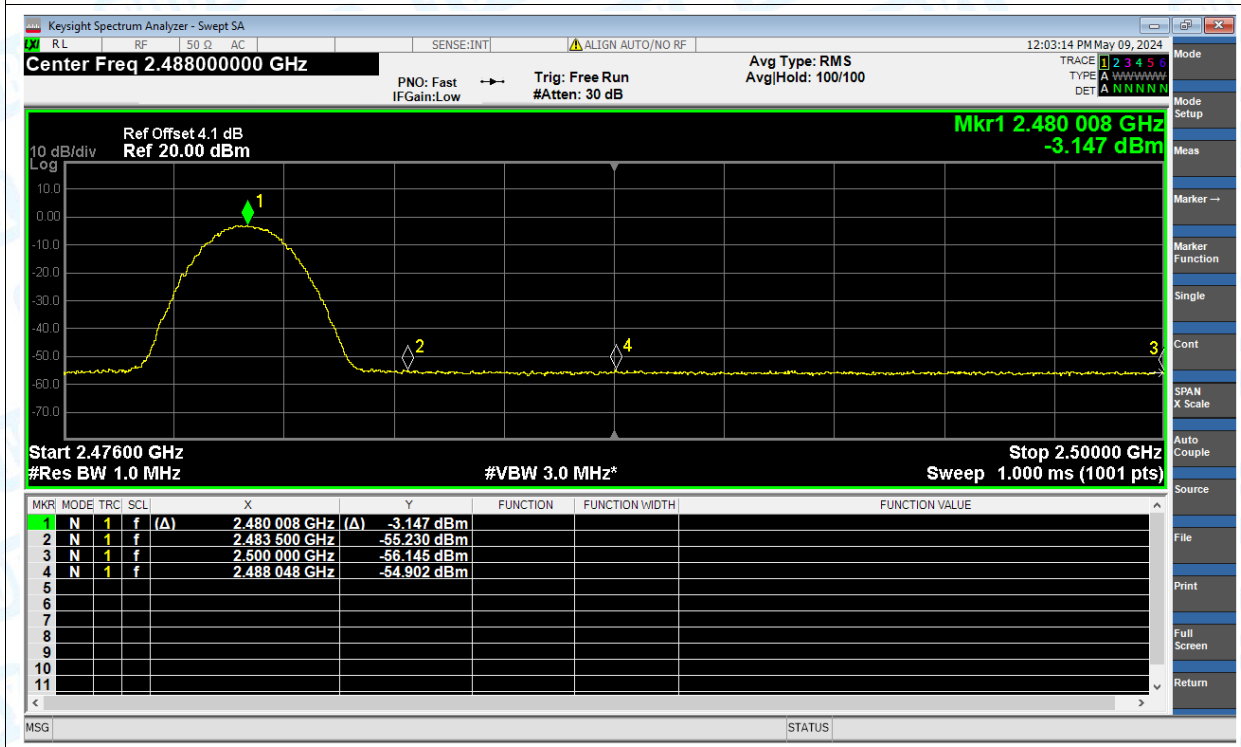
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



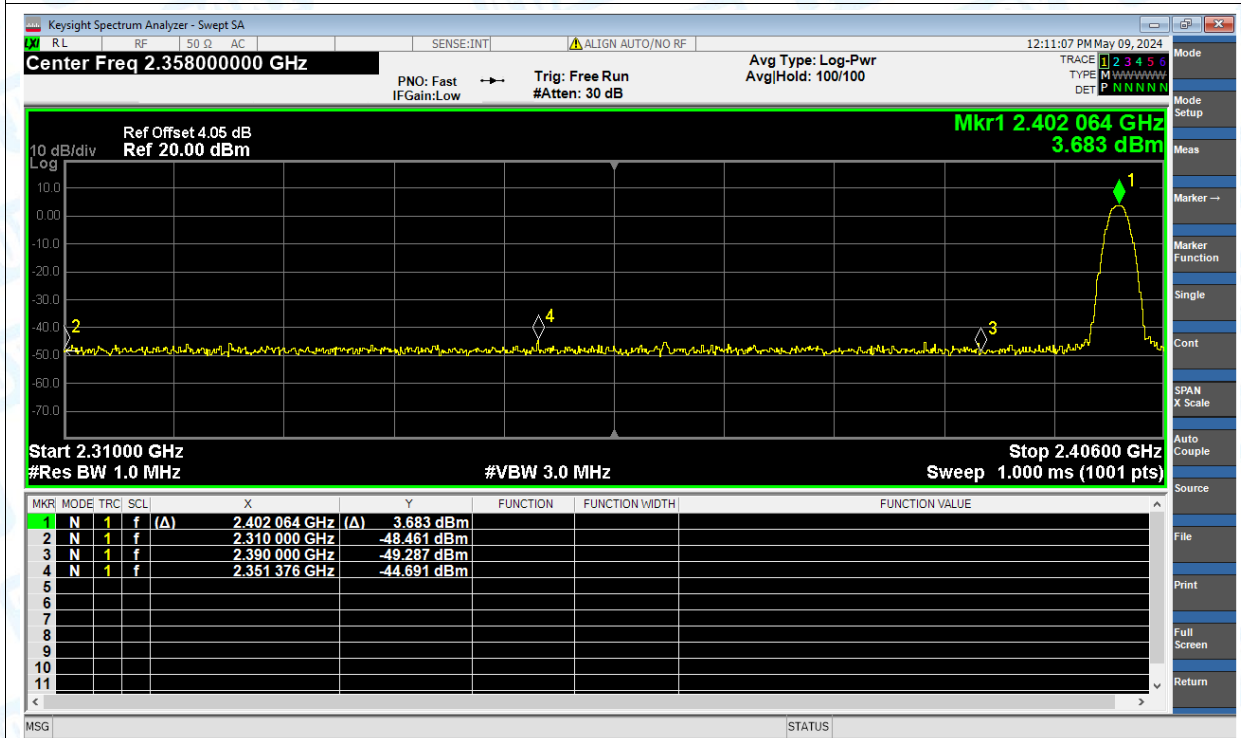
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



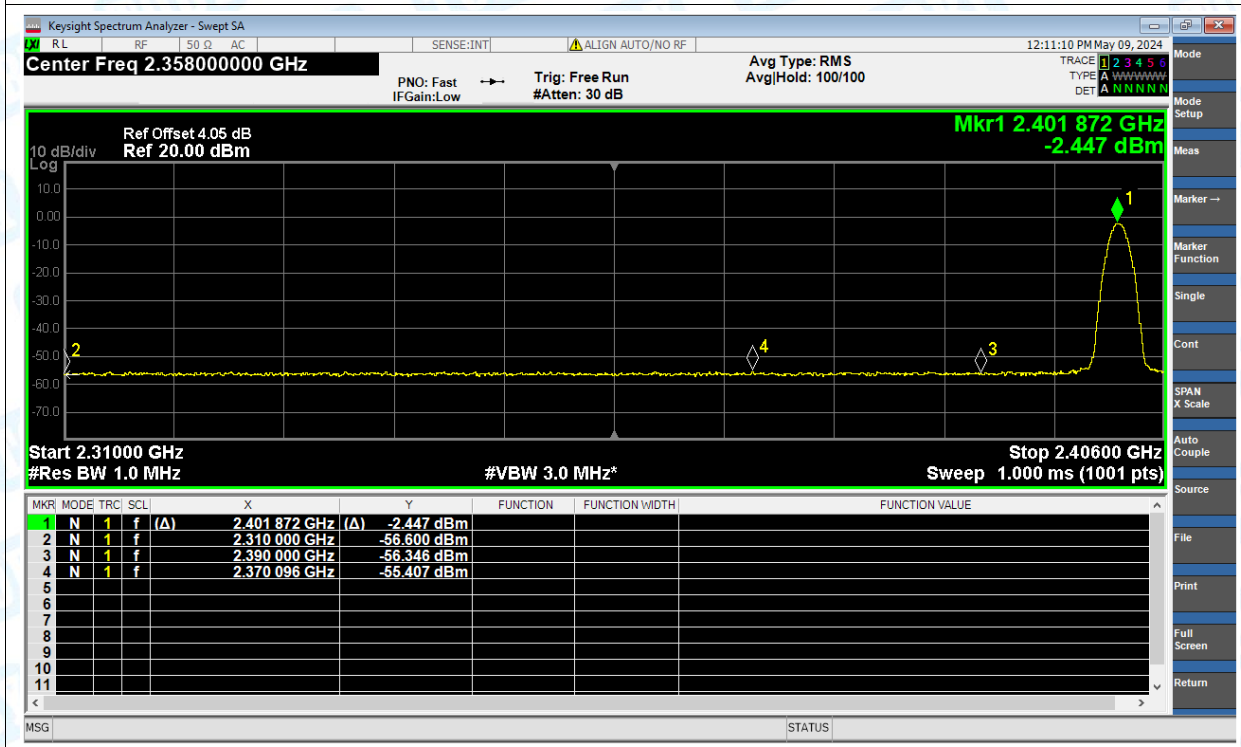
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



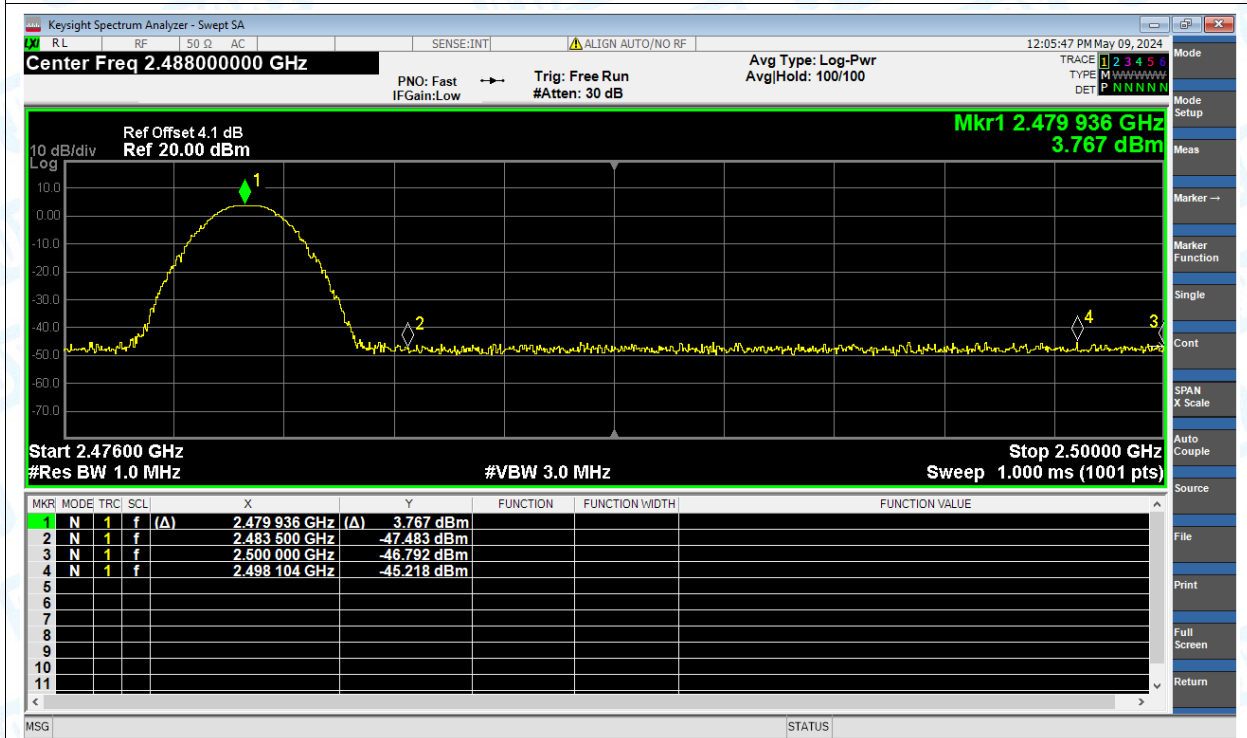
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



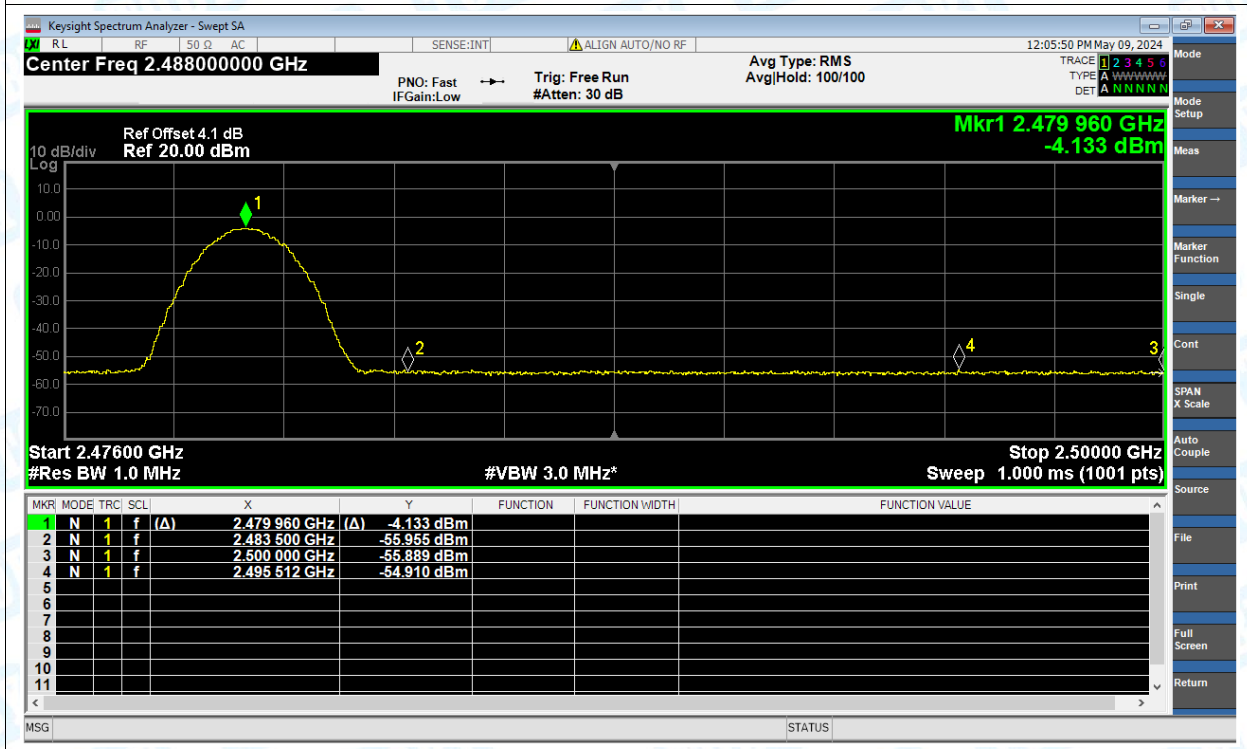
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

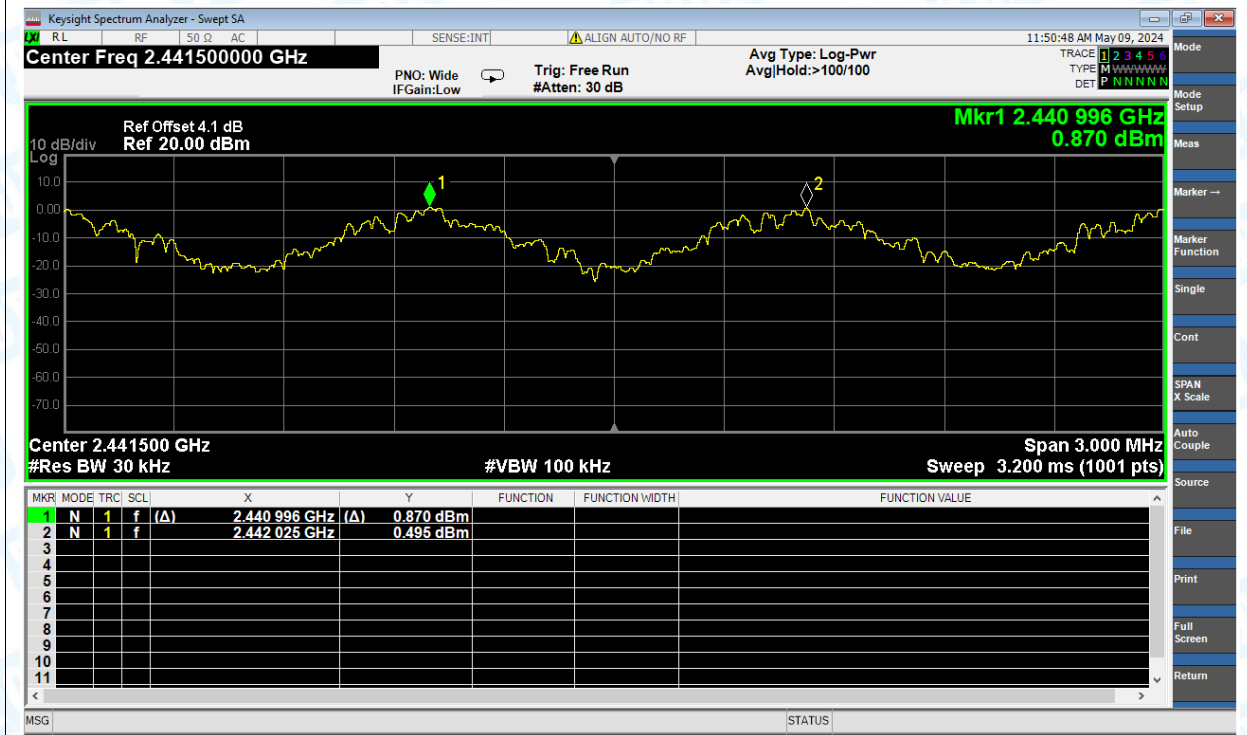


9. Carrier Frequencies Separation

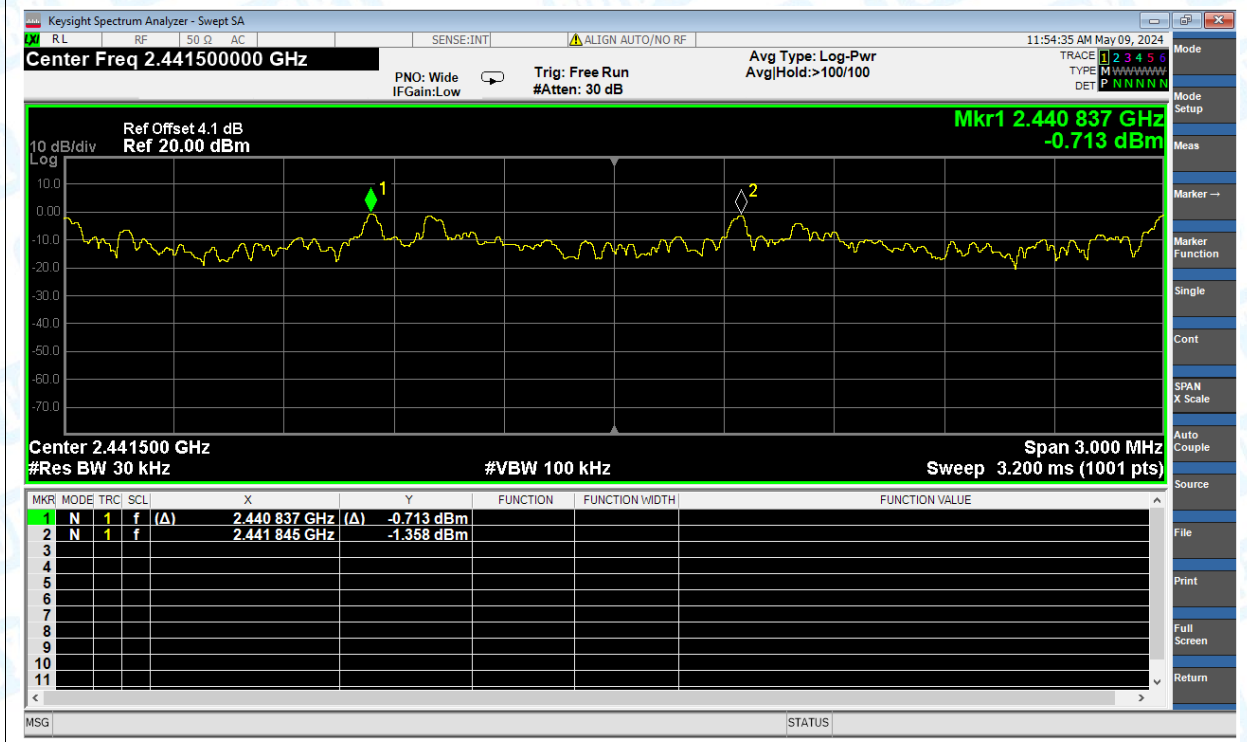
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.996	2442.025	1.029	0.613	Pass
NVNT	2-DH1	Ant1	2440.837	2441.845	1.008	0.025	Pass
NVNT	3-DH1	Ant1	2440.843	2442.166	1.323	0.807	Pass

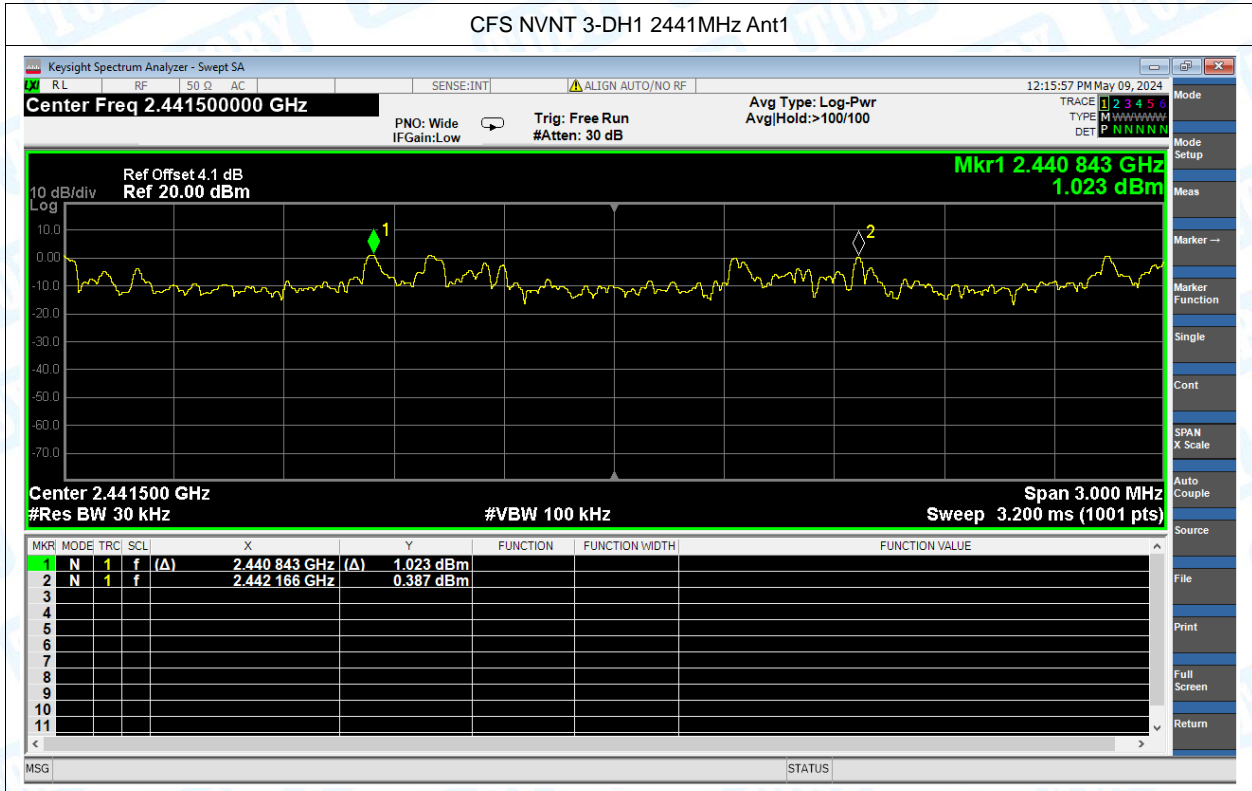
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



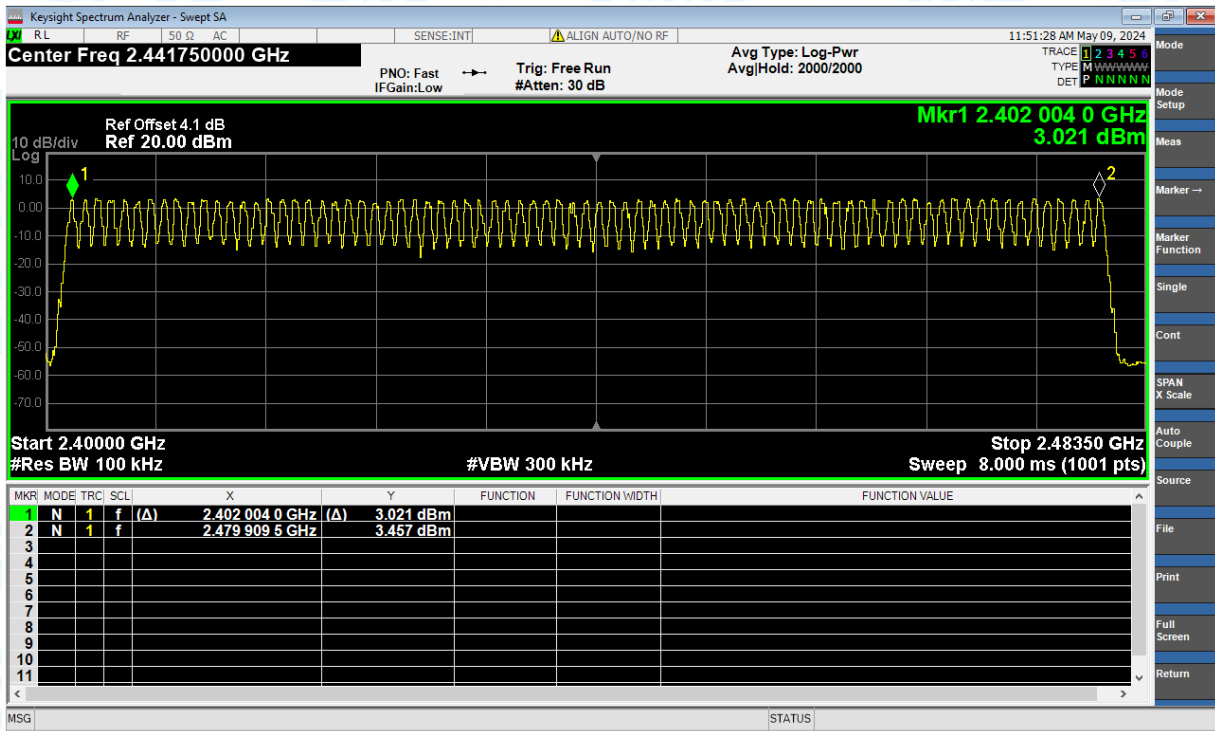


10. Number of Hopping Channel

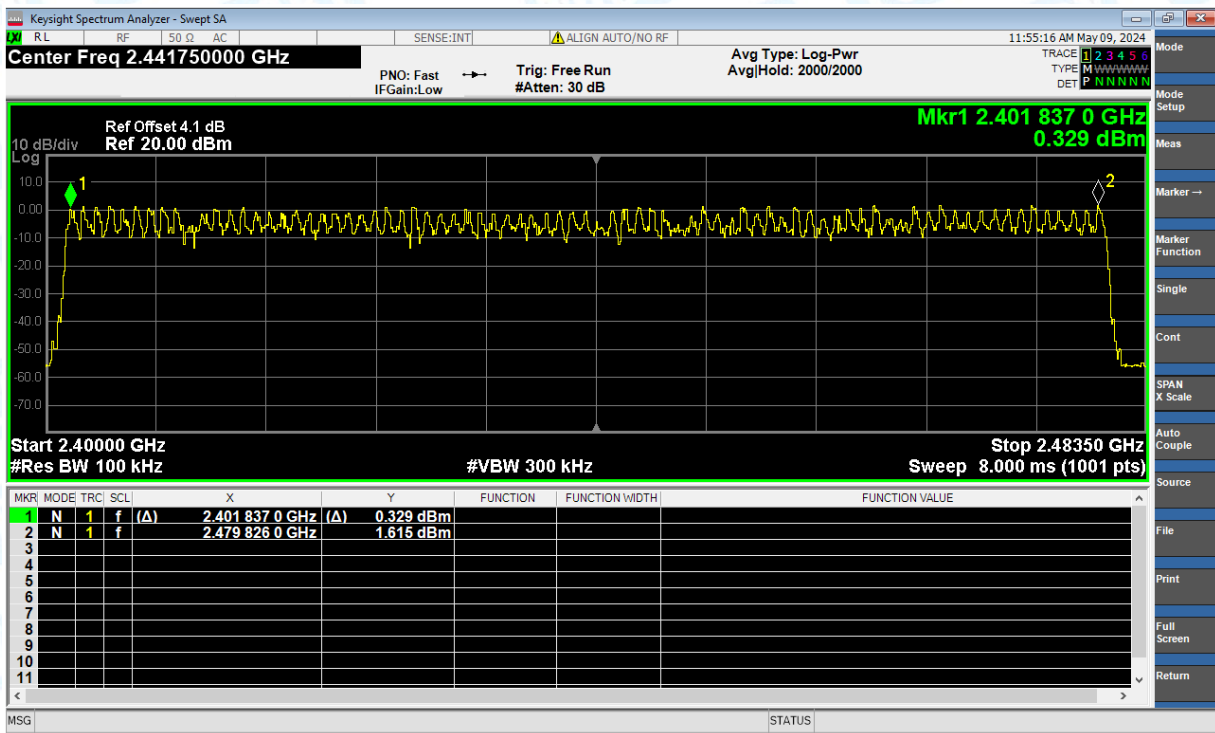
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

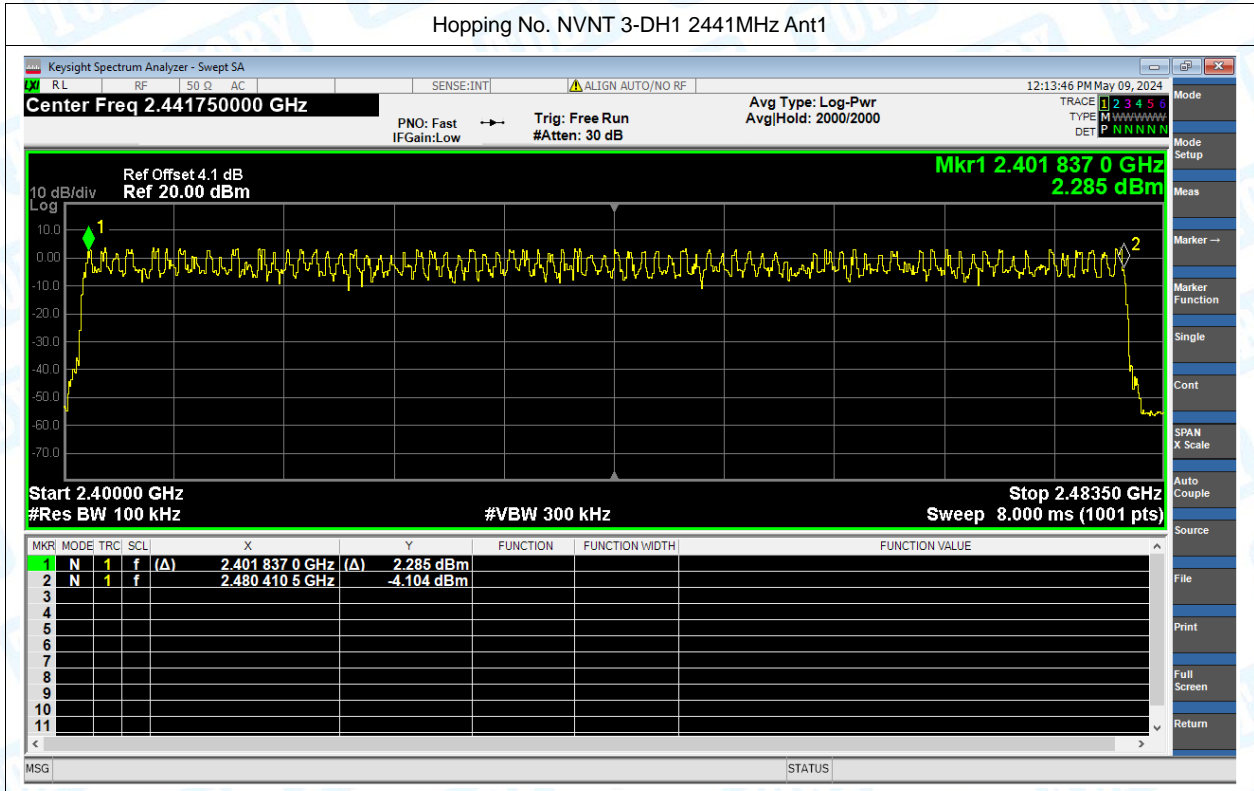
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



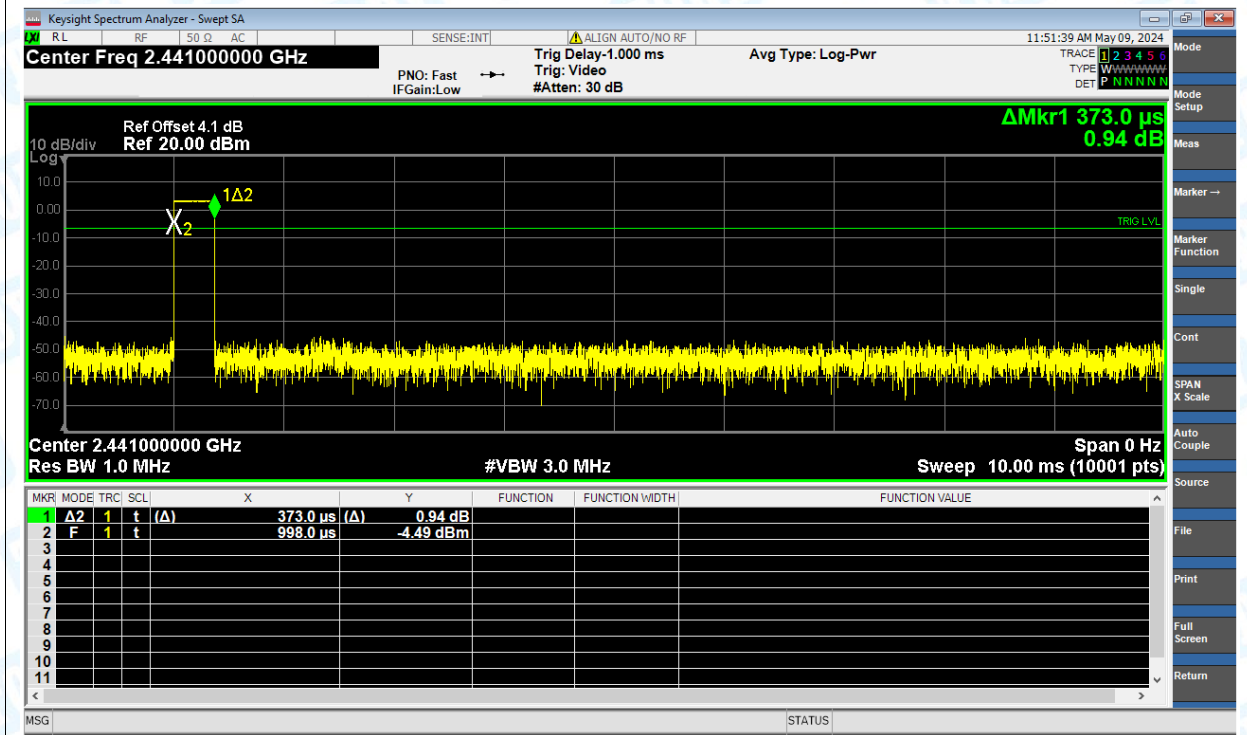


11. Dwell Time

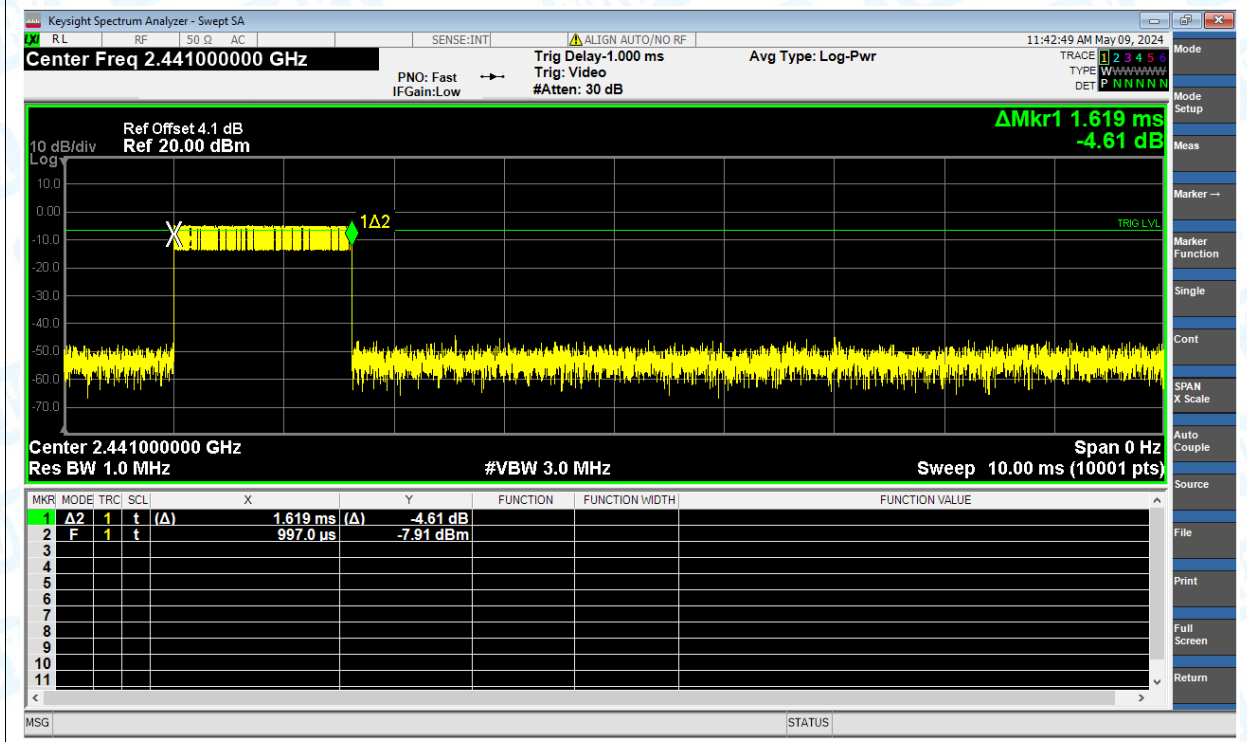
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.373	119.36	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.619	259.04	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.869	306.027	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.379	121.28	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.632	261.12	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.878	306.987	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.38	121.6	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.63	260.8	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.88	307.2	31600	400	Pass

Test Graphs

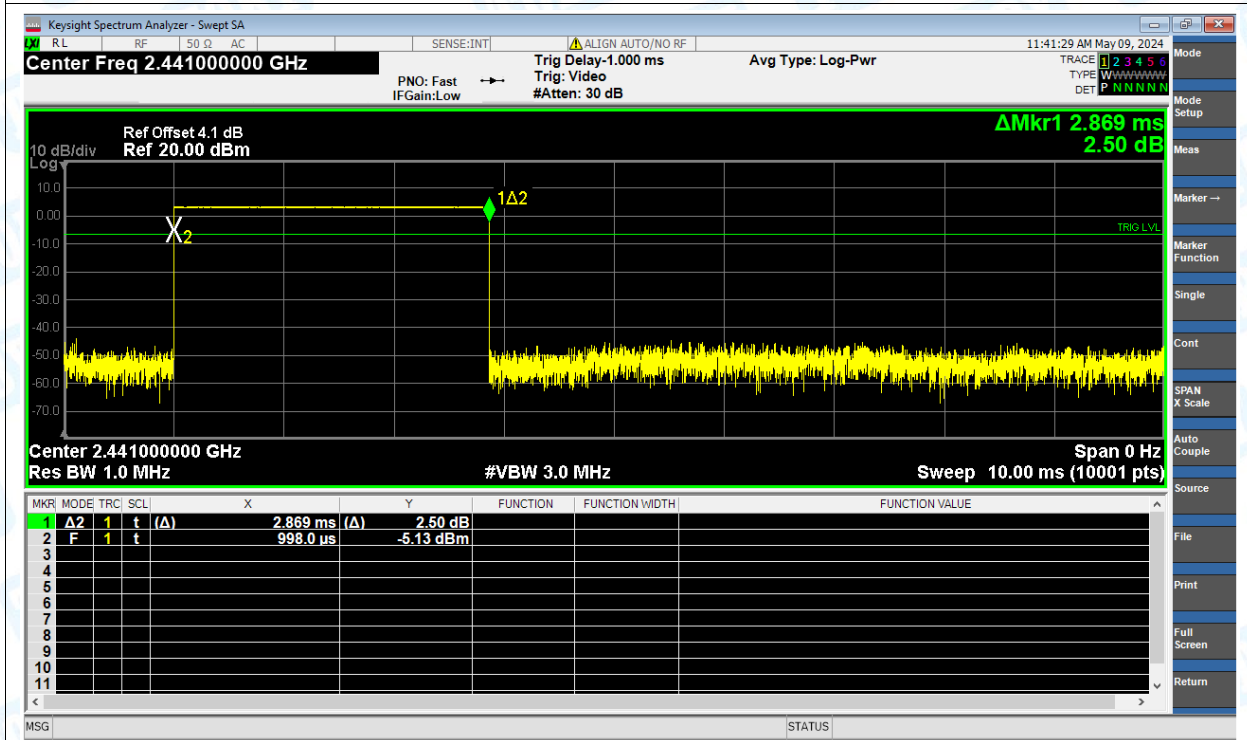
Dwell NVNT 1-DH1 2441MHz Ant1



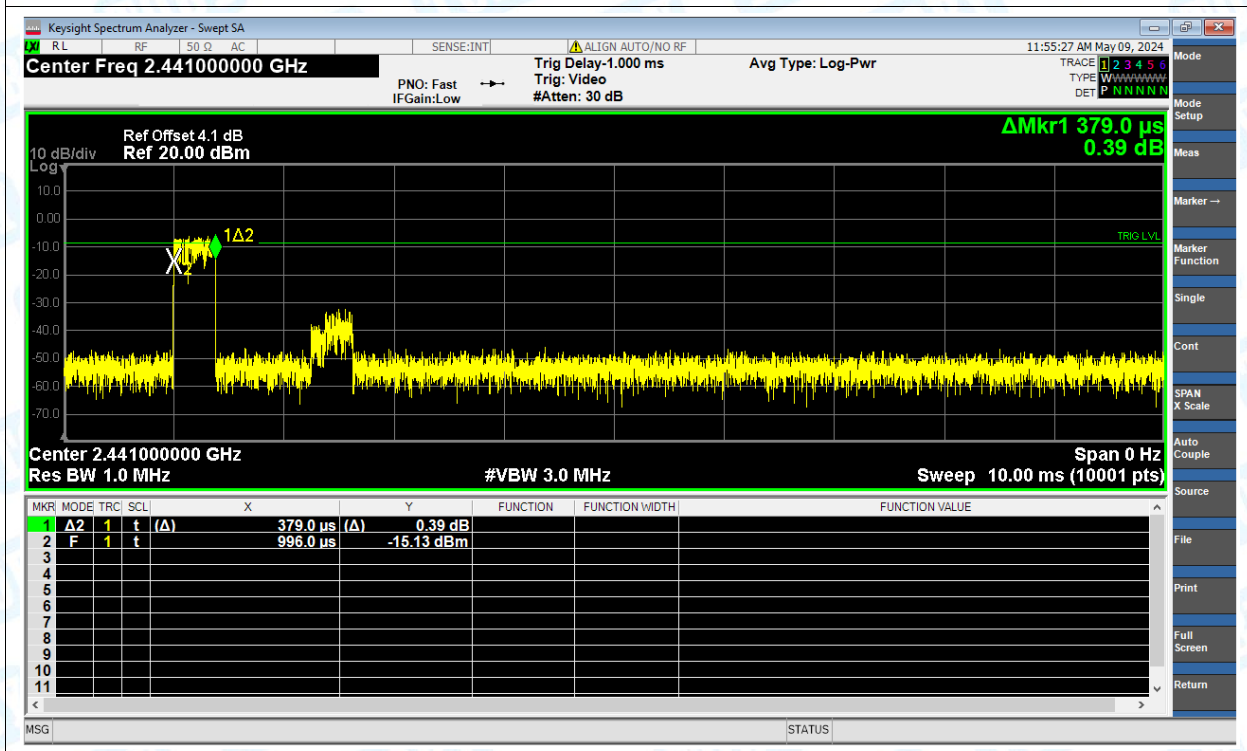
Dwell NVNT 1-DH3 2441MHz Ant1



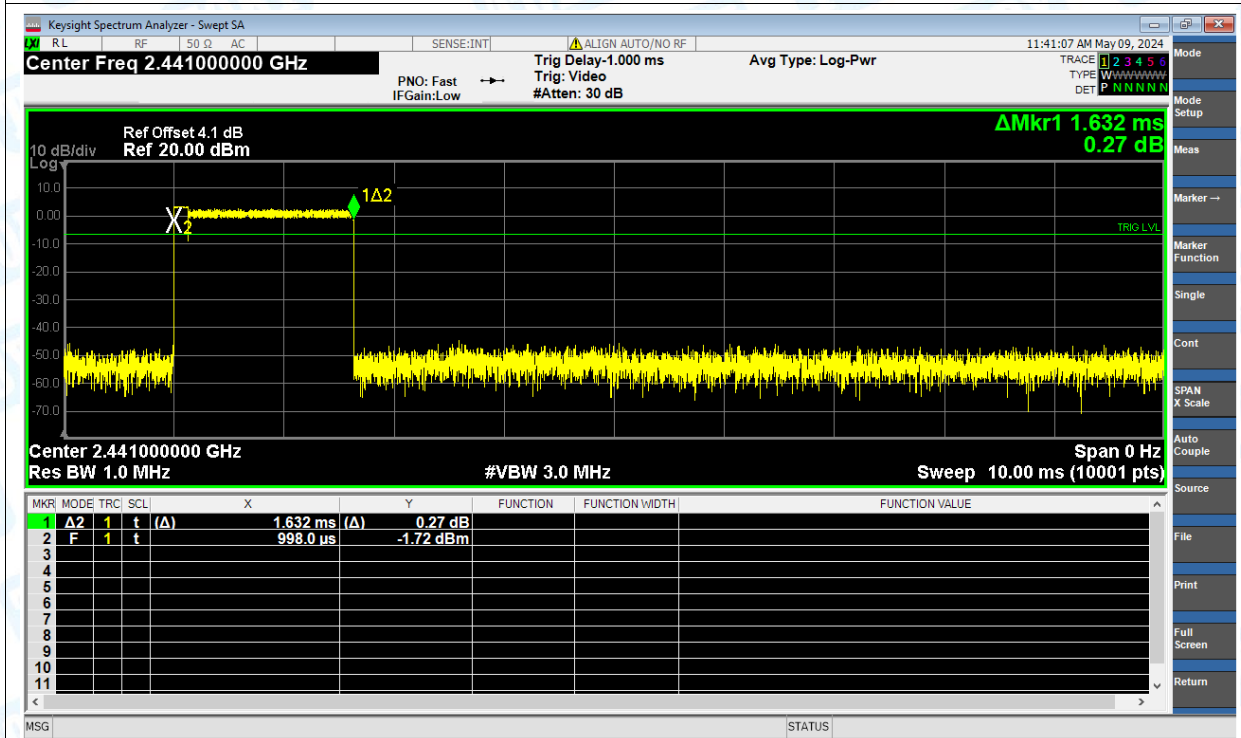
Dwell NVNT 1-DH5 2441MHz Ant1



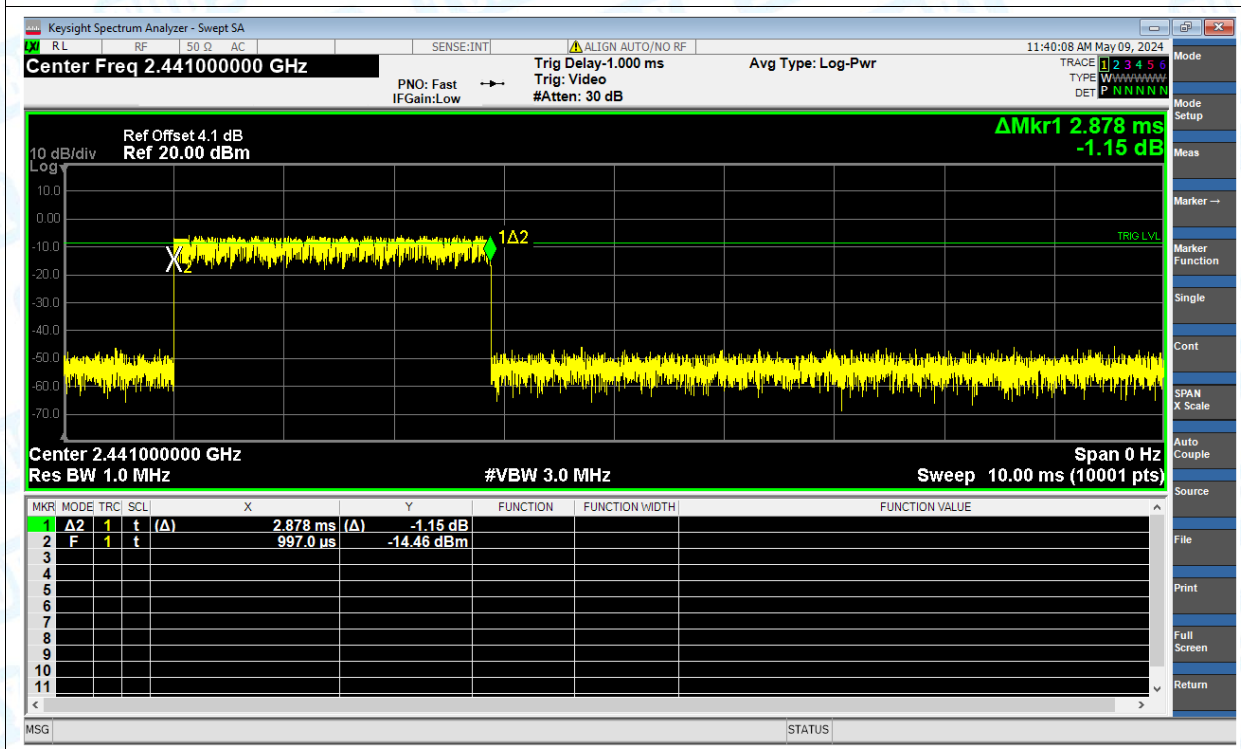
Dwell NVNT 2-DH1 2441MHz Ant1



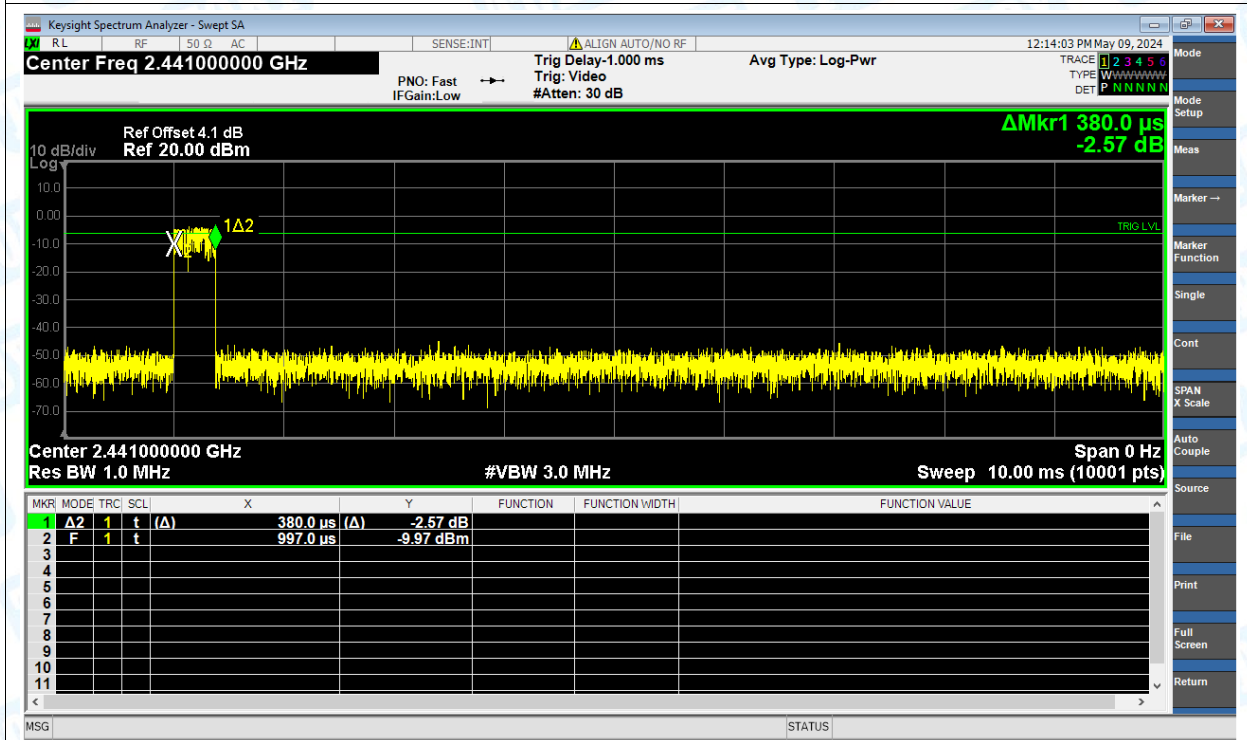
Dwell NVNT 2-DH3 2441MHz Ant1



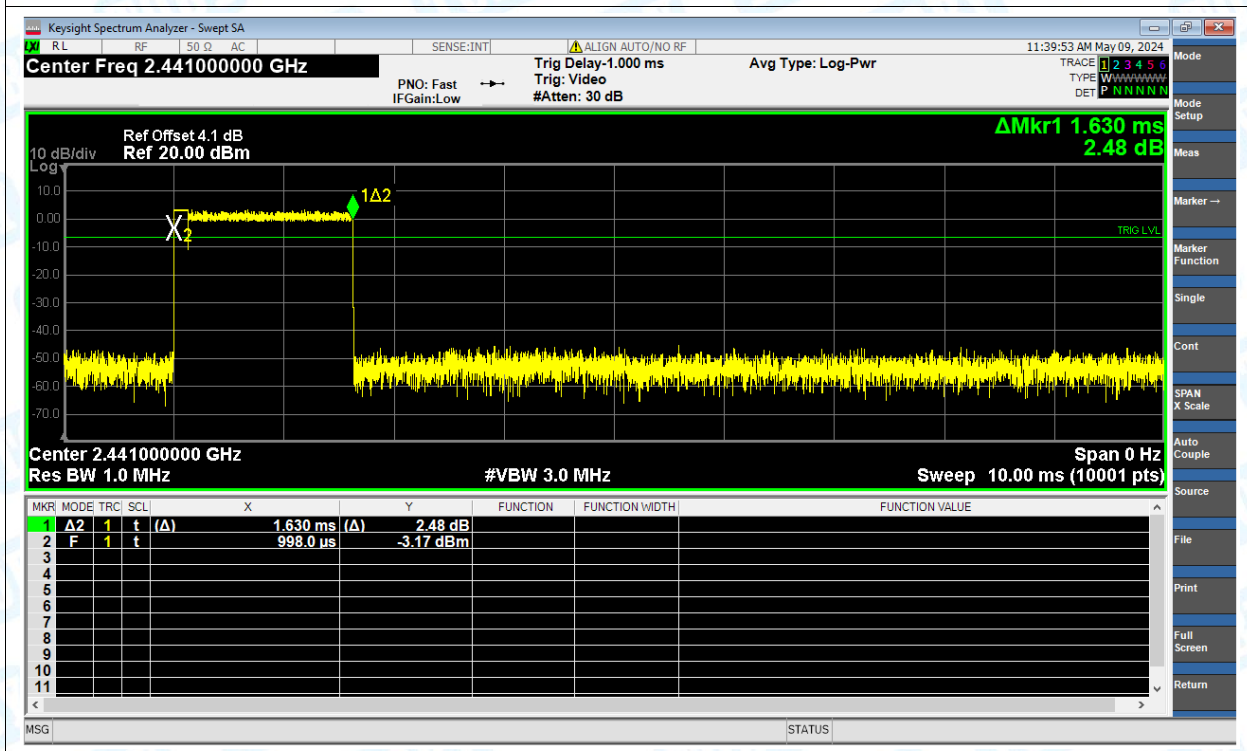
Dwell NVNT 2-DH5 2441MHz Ant1

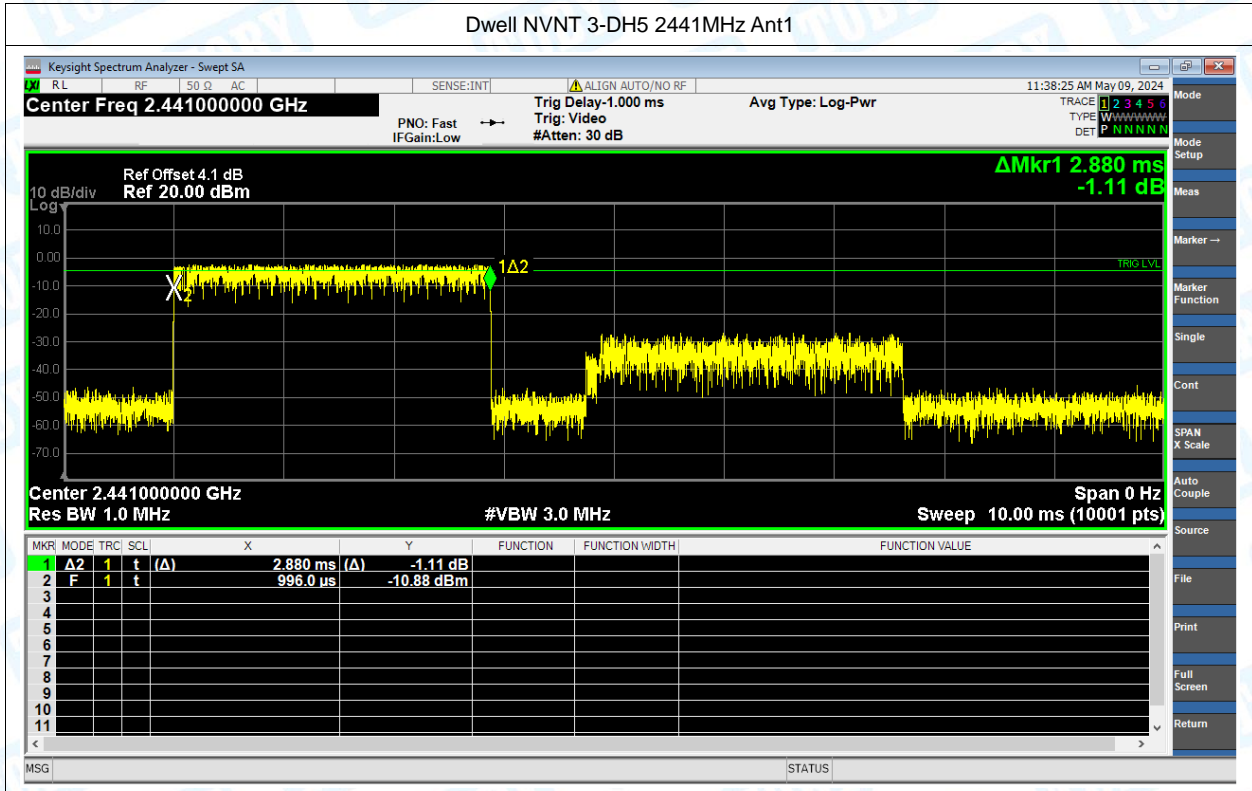


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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