

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
EUT Name:	Mobile Lidar Scanner
Model:	Lixel L2 Pro-16/120
Sample ID:	HC-C-202409-0005-5-01
Test Standard:	FCC Part 15.247
Environmental Conditions	
Ambient Temperature:	23.8℃
Ambient Humidity:	47%RH
Test Power Supply:	DC 14.4V
Test Engineer:	Jolin.li
Note: For a more detailed features description, please refer to the report TBR-C-202409-0005-111.	

Contents

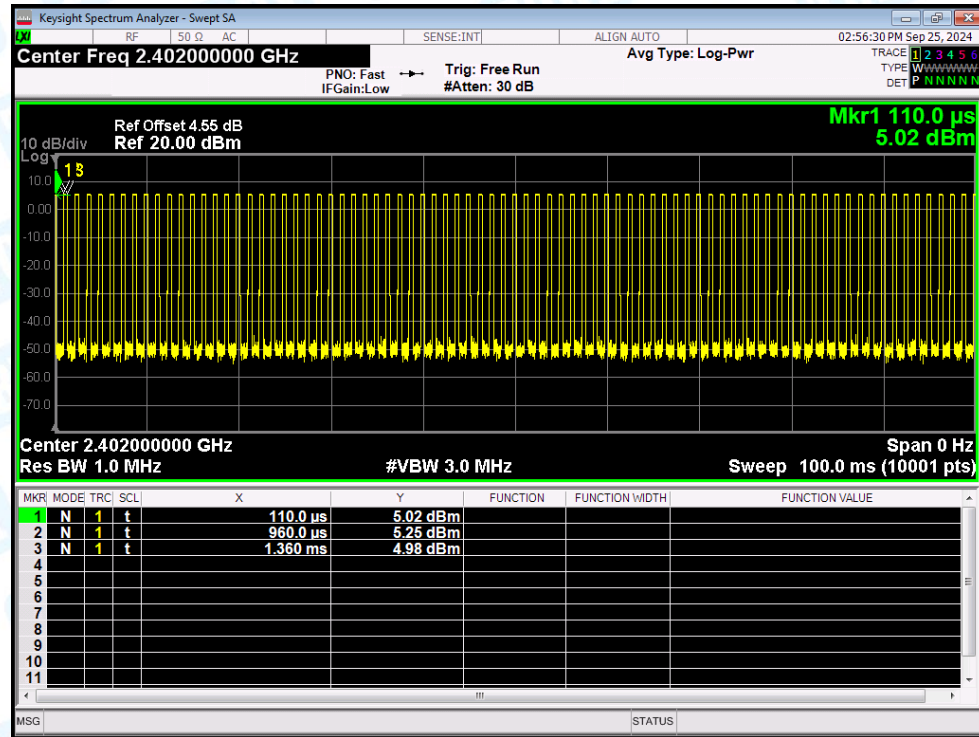
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1. Duty Cycle

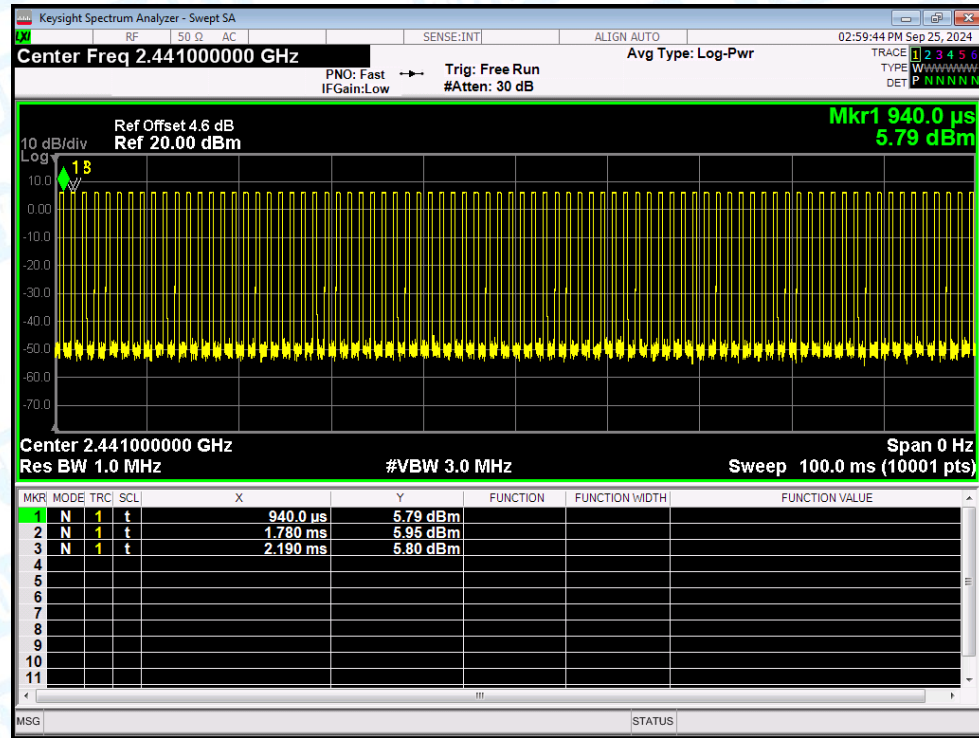
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	32	4.95	2.5
NVNT	1-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2402	Ant1	32	4.95	2.5
NVNT	2-DH1	2441	Ant1	32	4.95	2.5
NVNT	2-DH1	2480	Ant1	32	4.95	2.5
NVNT	3-DH1	2402	Ant1	32	4.95	2.5
NVNT	3-DH1	2441	Ant1	32	4.95	2.5
NVNT	3-DH1	2480	Ant1	32	4.95	2.5

Test Graphs

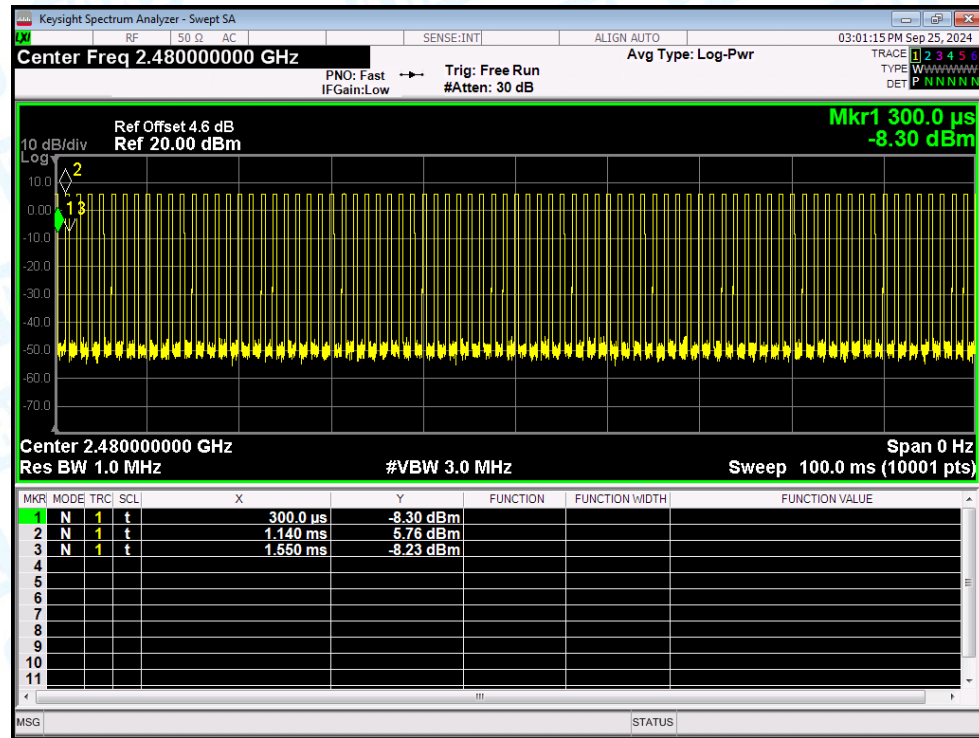
Duty Cycle NVNT 1-DH1 2402MHz Ant1



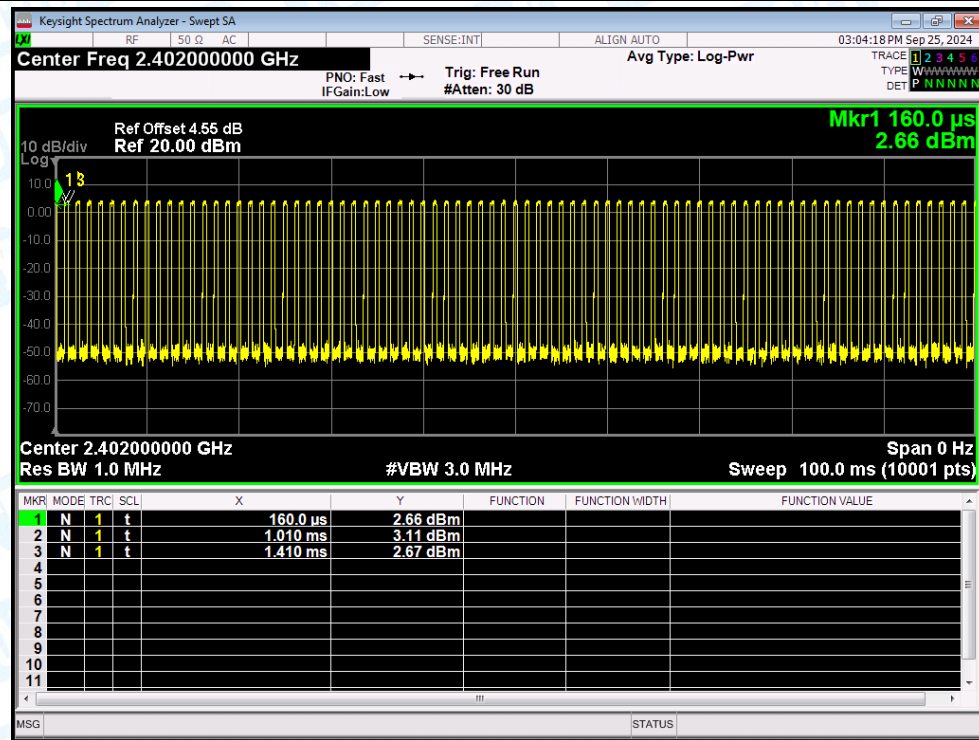
Duty Cycle NVNT 1-DH1 2441MHz Ant1



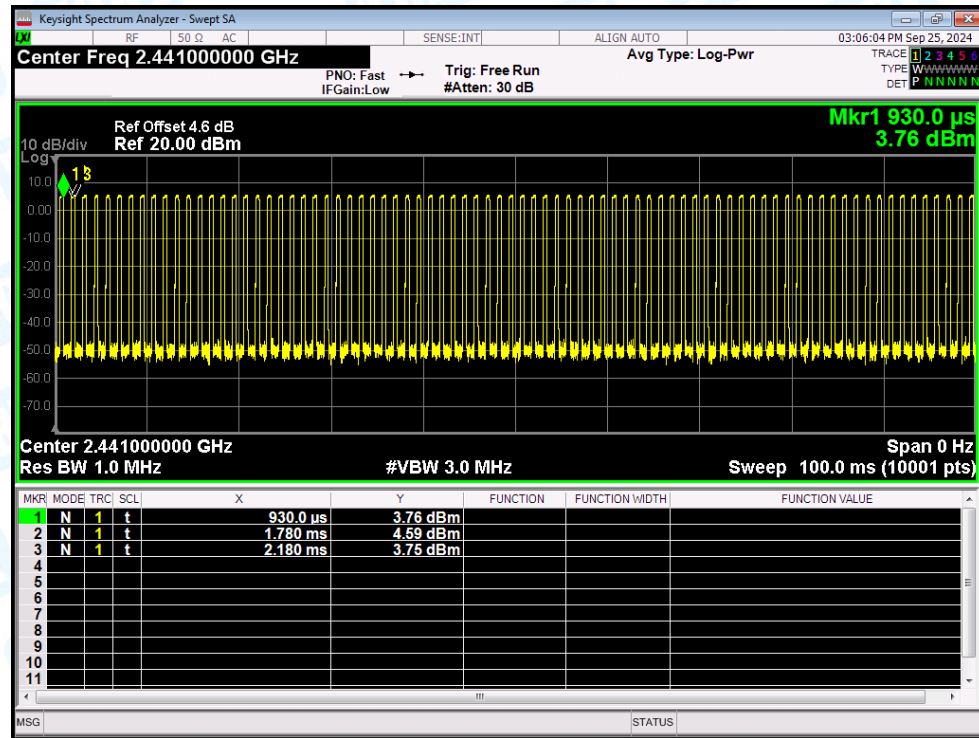
Duty Cycle NVNT 1-DH1 2480MHz Ant1



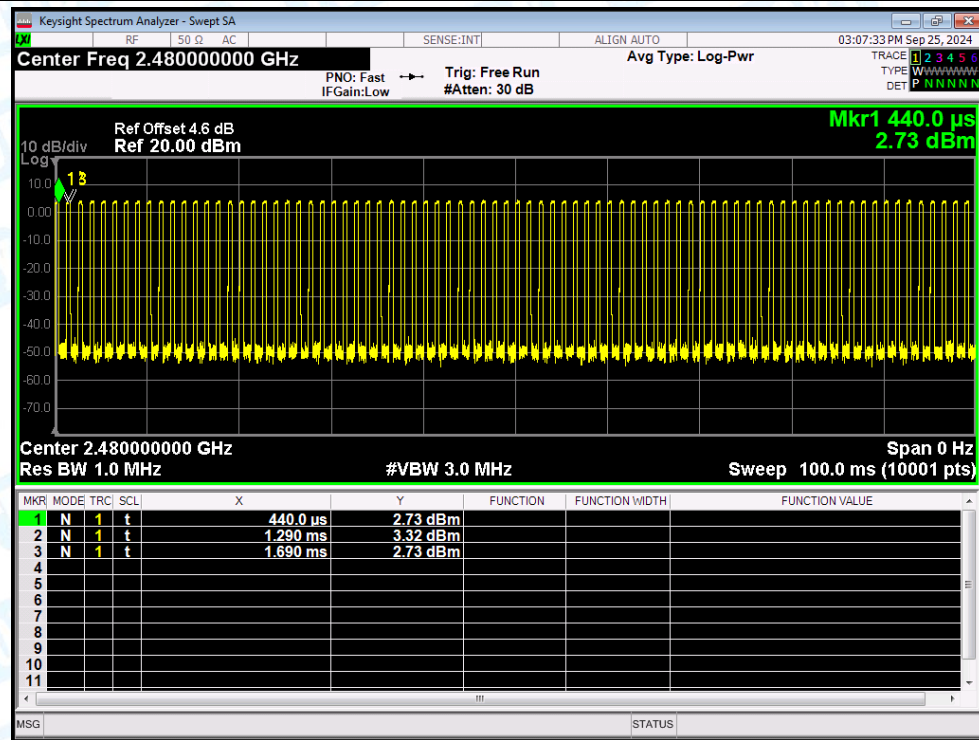
Duty Cycle NVNT 2-DH1 2402MHz Ant1



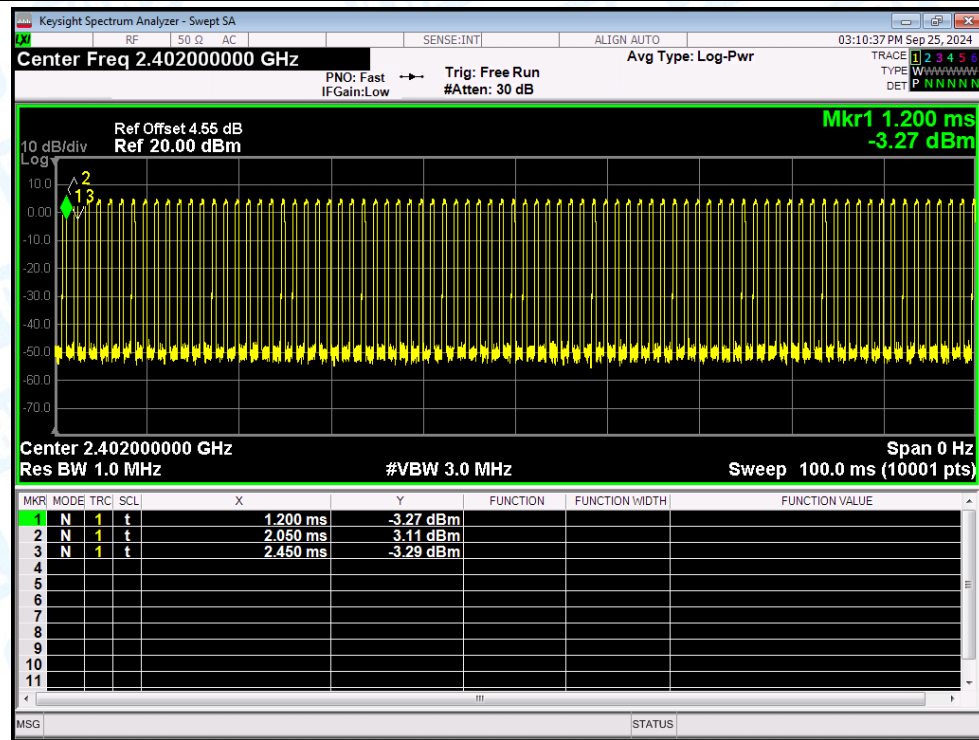
Duty Cycle NVNT 2-DH1 2441MHz Ant1



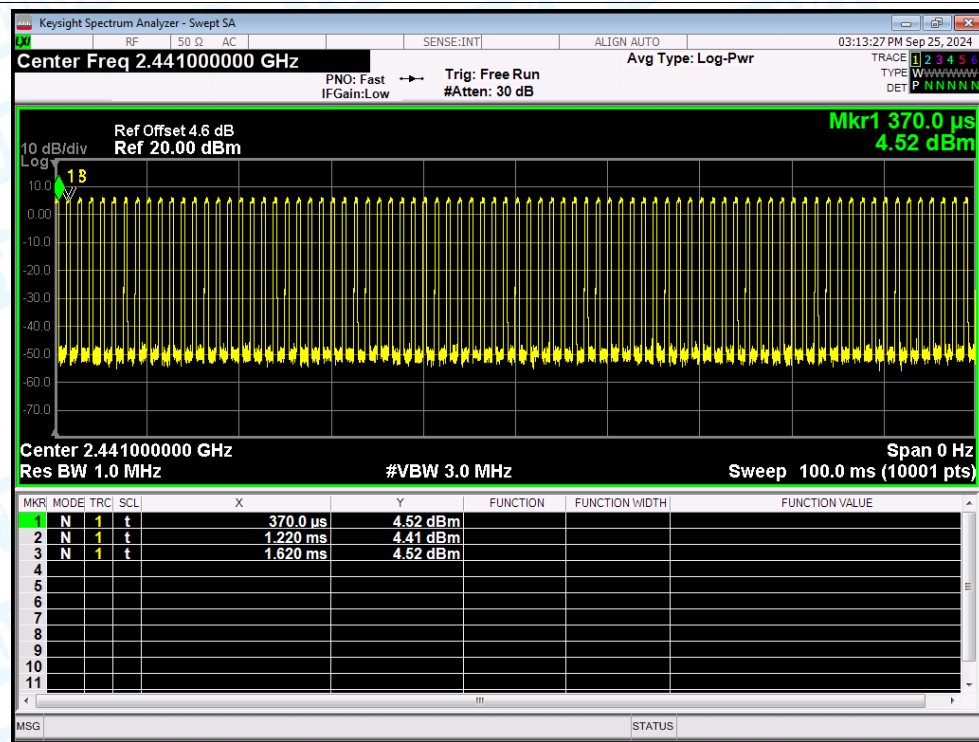
Duty Cycle NVNT 2-DH1 2480MHz Ant1

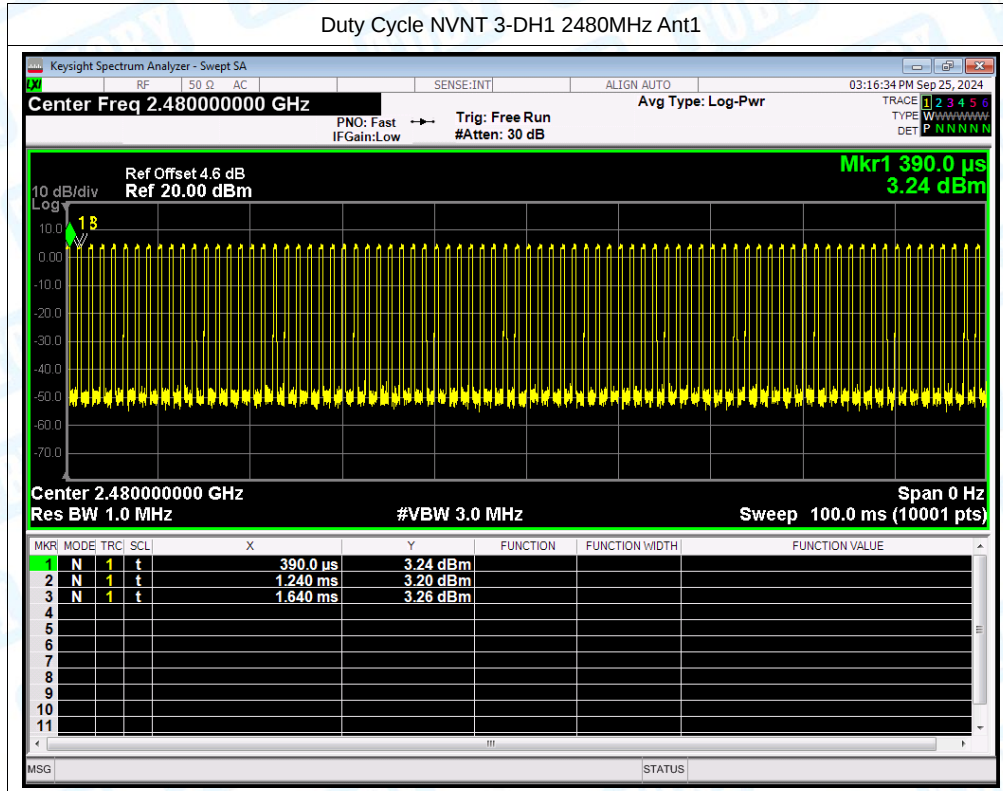


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



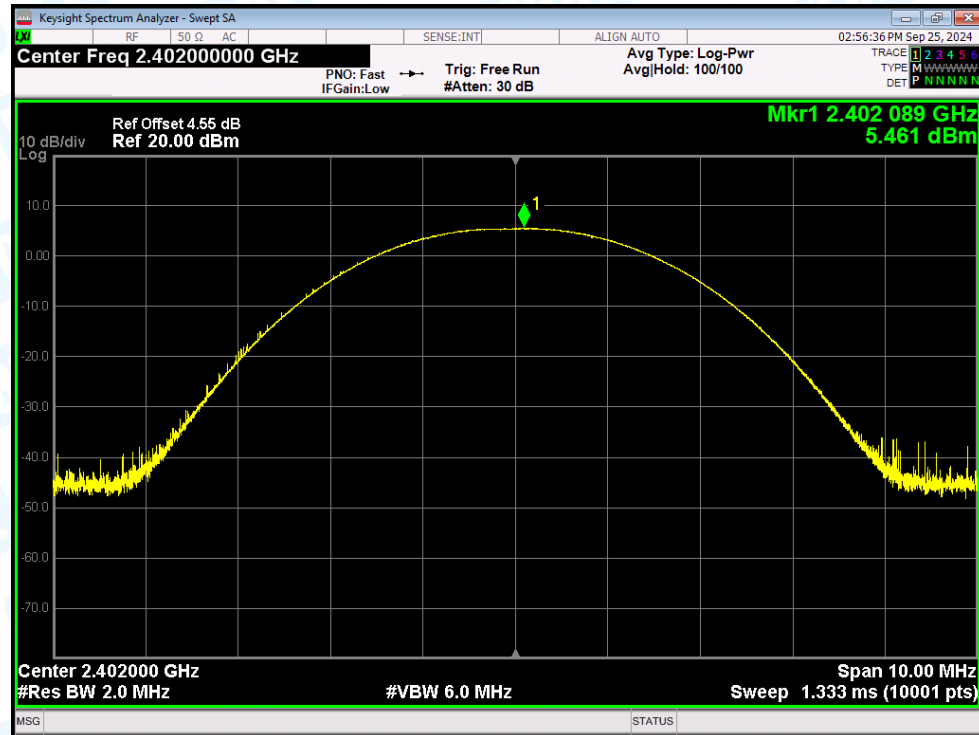


2. Maximum Conducted Output Power

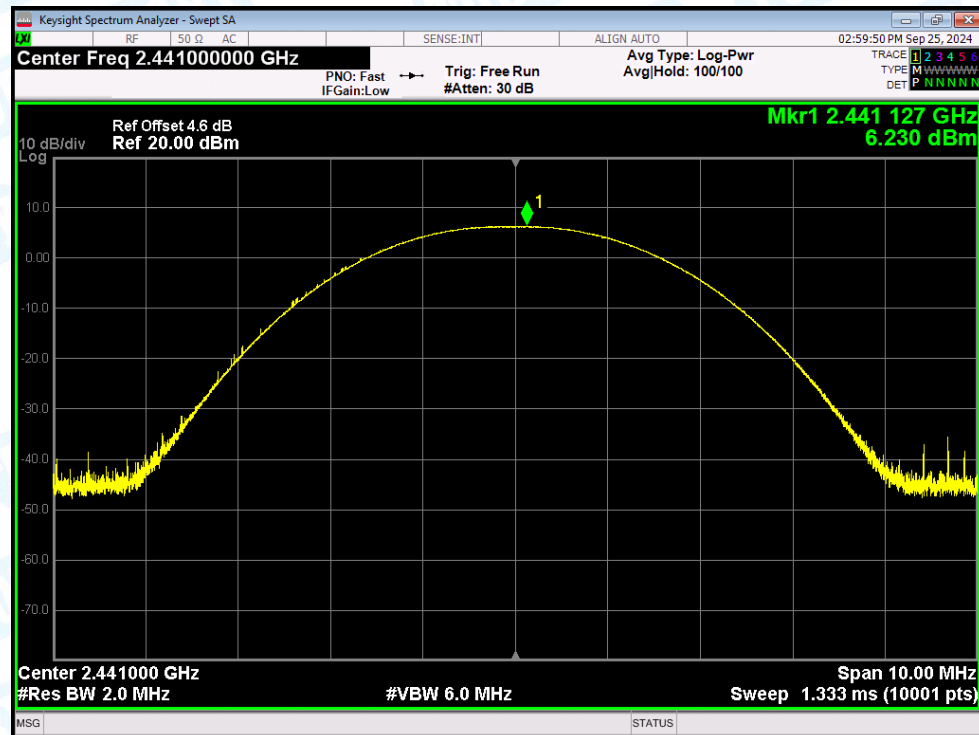
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	5.461	21	Pass
NVNT	1-DH1	2441	Ant1	6.23	21	Pass
NVNT	1-DH1	2480	Ant1	6.014	21	Pass
NVNT	1-DH3	2441	Ant1	6.525	21	Pass
NVNT	1-DH5	2441	Ant1	6.498	21	Pass
NVNT	2-DH1	2402	Ant1	4.815	21	Pass
NVNT	2-DH1	2441	Ant1	6.073	21	Pass
NVNT	2-DH1	2480	Ant1	4.838	21	Pass
NVNT	2-DH3	2441	Ant1	6.245	21	Pass
NVNT	2-DH5	2441	Ant1	6.234	21	Pass
NVNT	3-DH1	2402	Ant1	5.036	21	Pass
NVNT	3-DH1	2441	Ant1	6.519	21	Pass
NVNT	3-DH1	2480	Ant1	5.278	21	Pass
NVNT	3-DH3	2441	Ant1	6.516	21	Pass
NVNT	3-DH5	2441	Ant1	6.678	21	Pass

Test Graphs

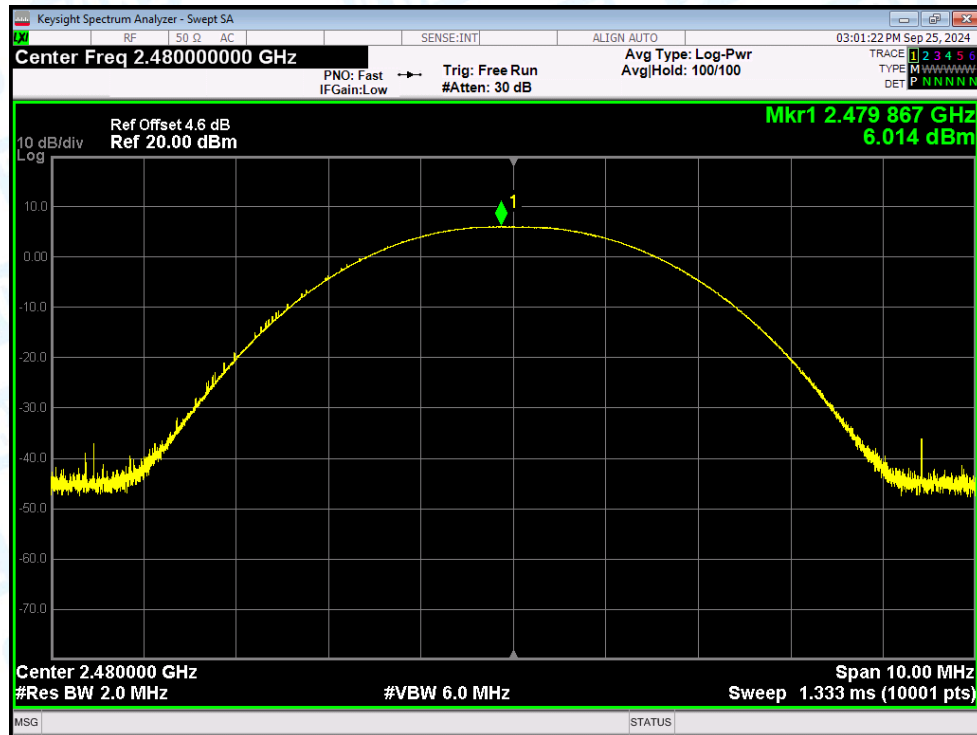
Power NVNT 1-DH1 2402MHz Ant1



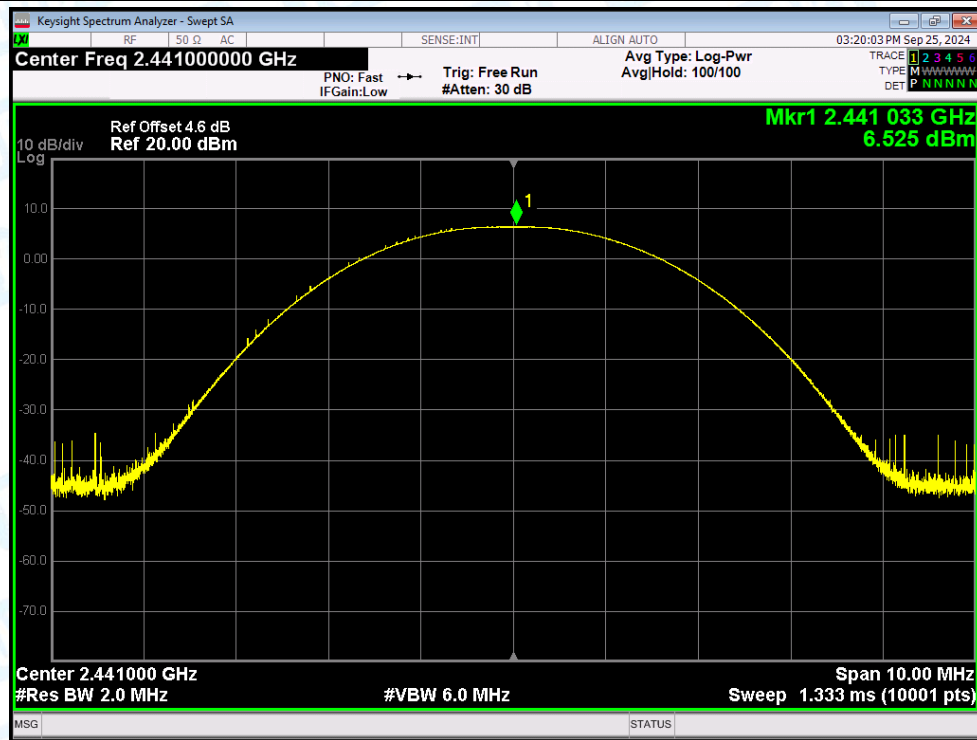
Power NVNT 1-DH1 2441MHz Ant1



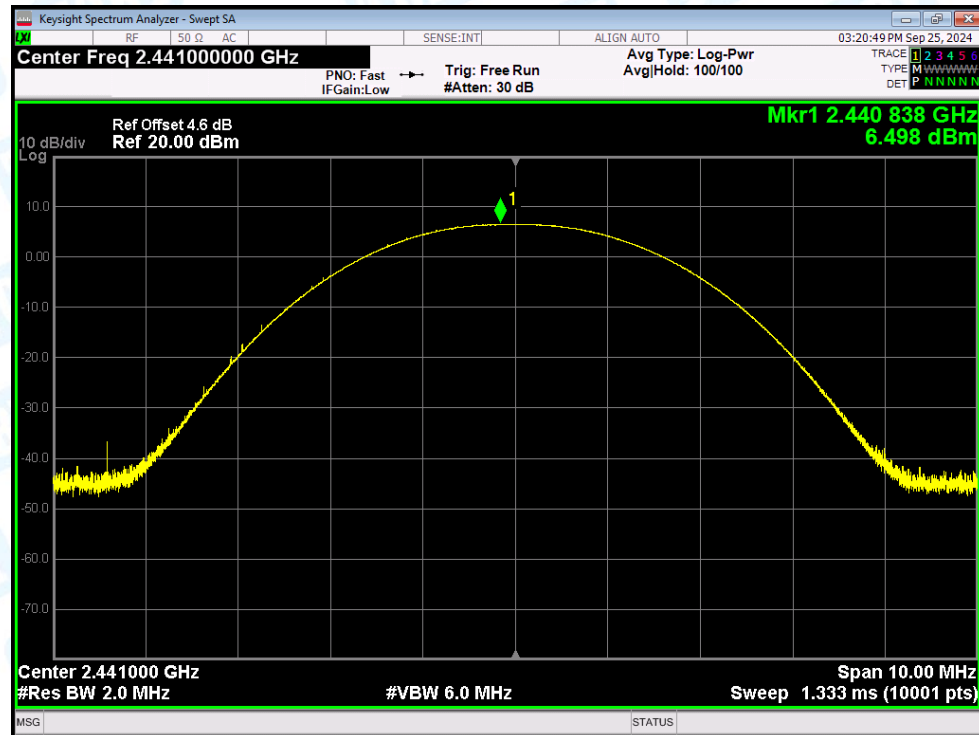
Power NVNT 1-DH1 2480MHz Ant1



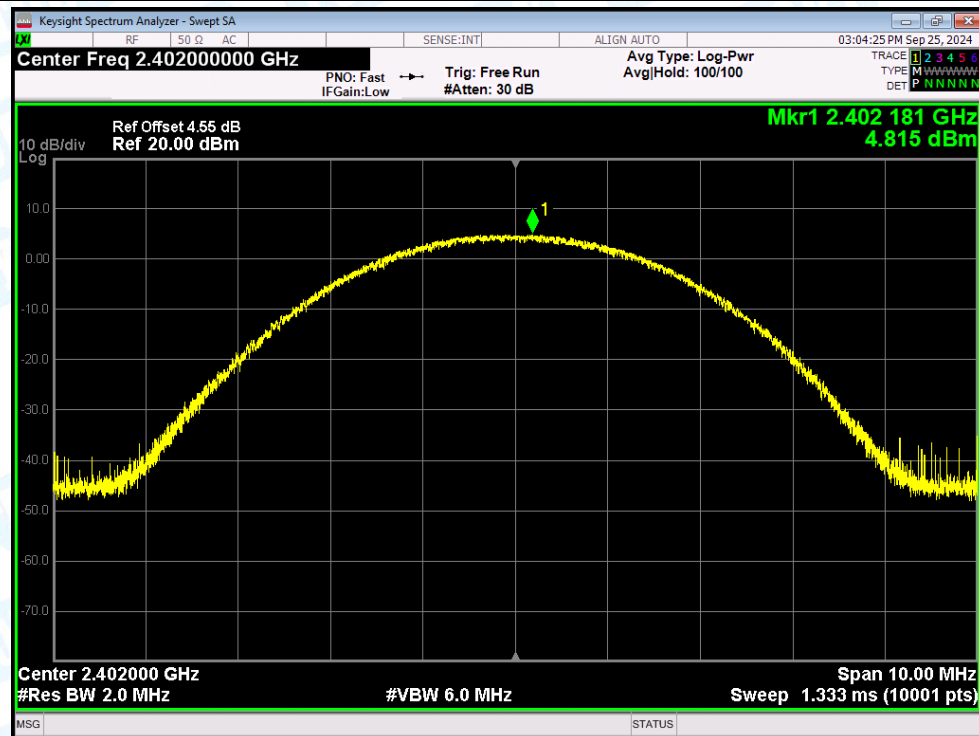
Power NVNT 1-DH3 2441MHz Ant1



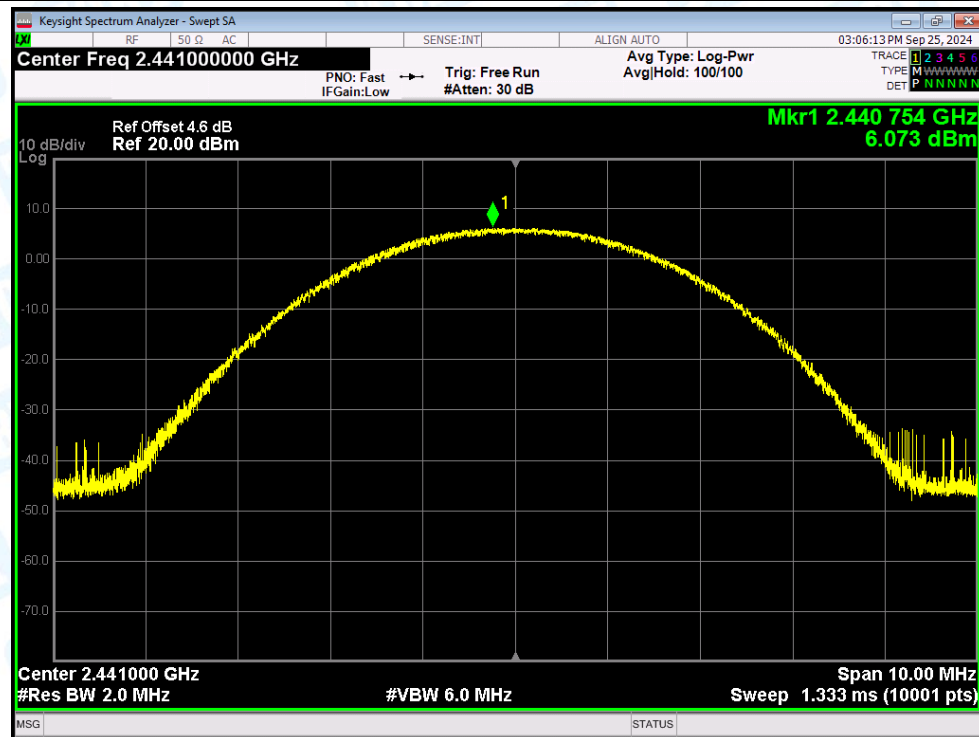
Power NVNT 1-DH5 2441MHz Ant1



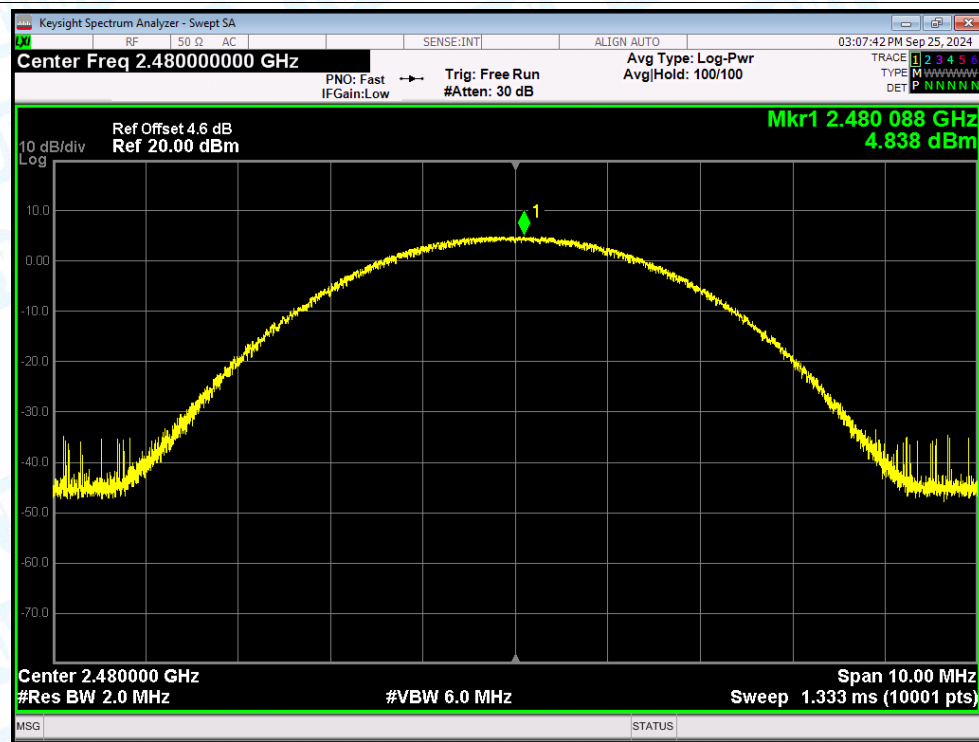
Power NVNT 2-DH1 2402MHz Ant1



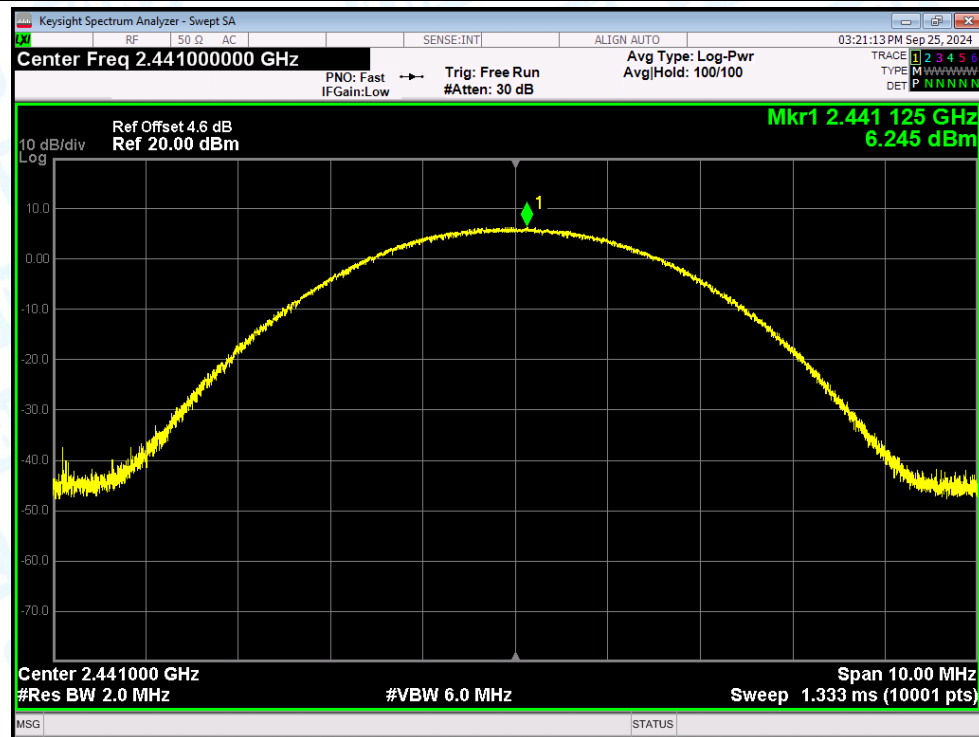
Power NVNT 2-DH1 2441MHz Ant1



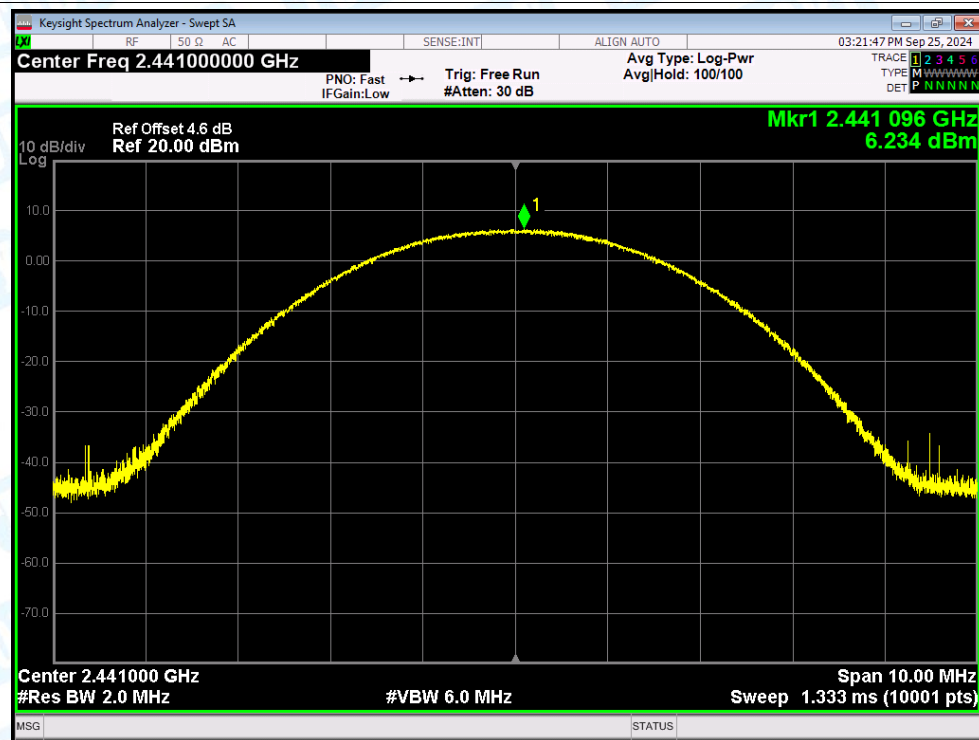
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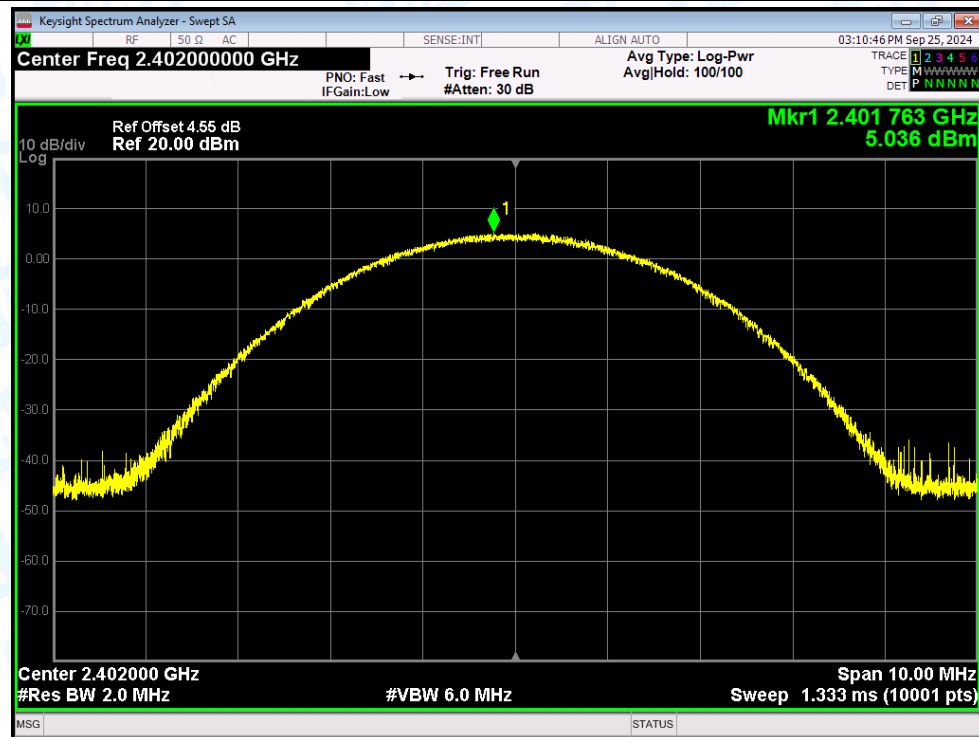
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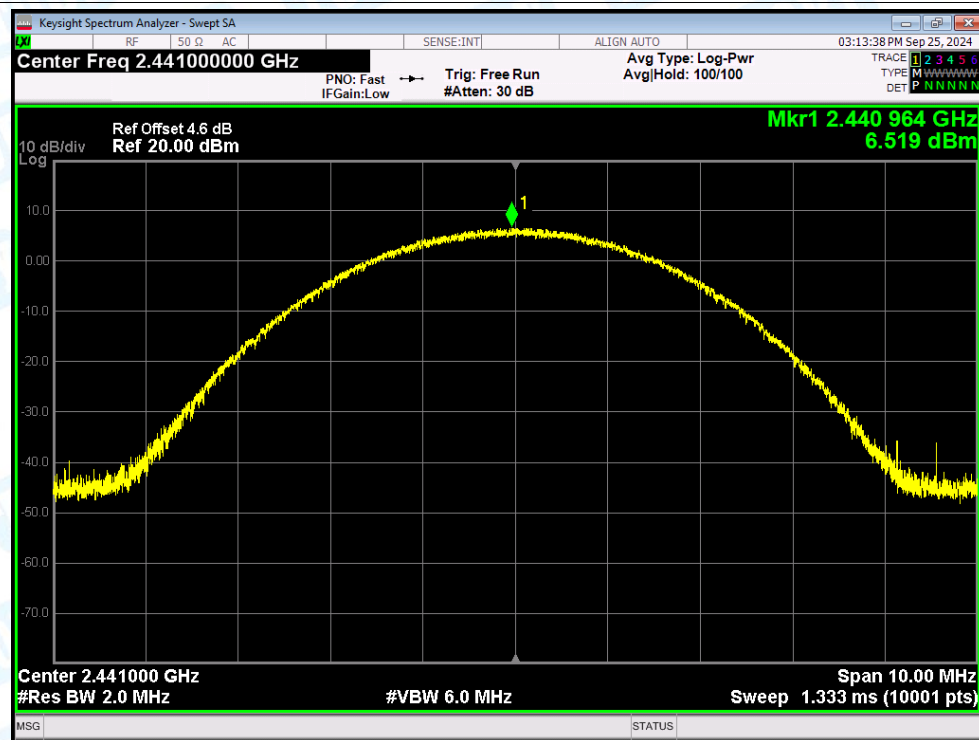
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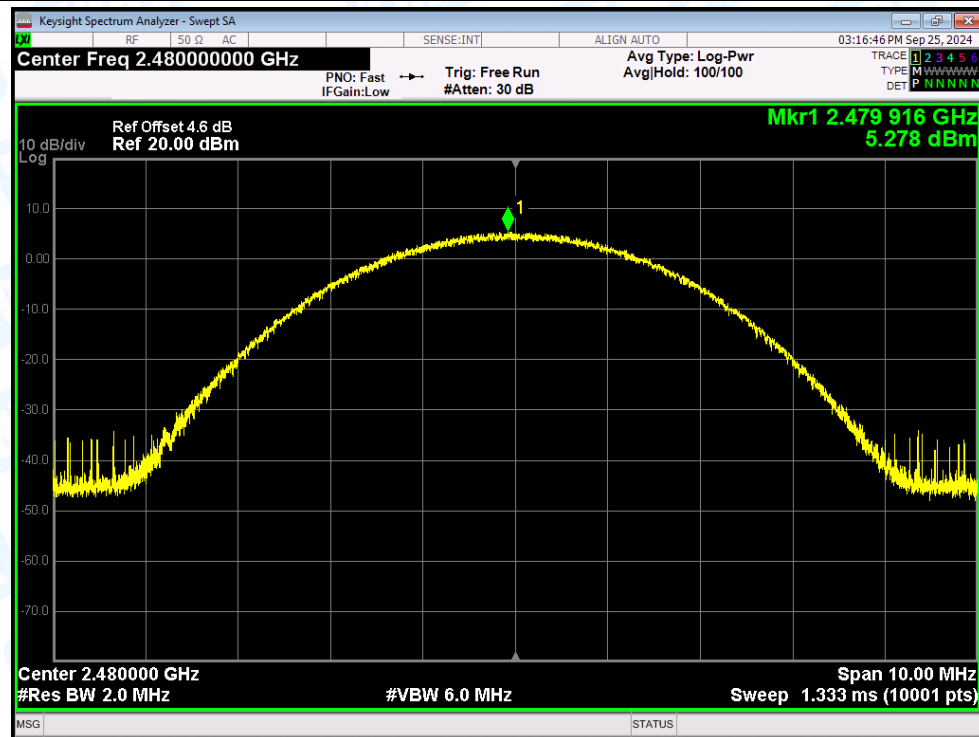
Power NVNT 3-DH1 2402MHz Ant1



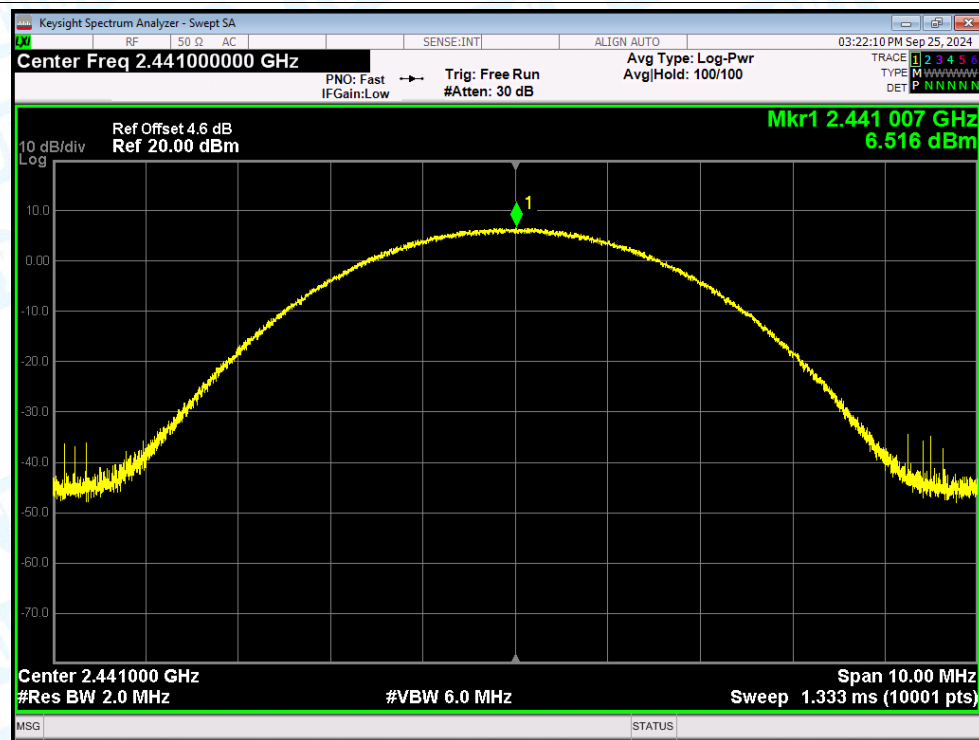
Power NVNT 3-DH1 2441MHz Ant1

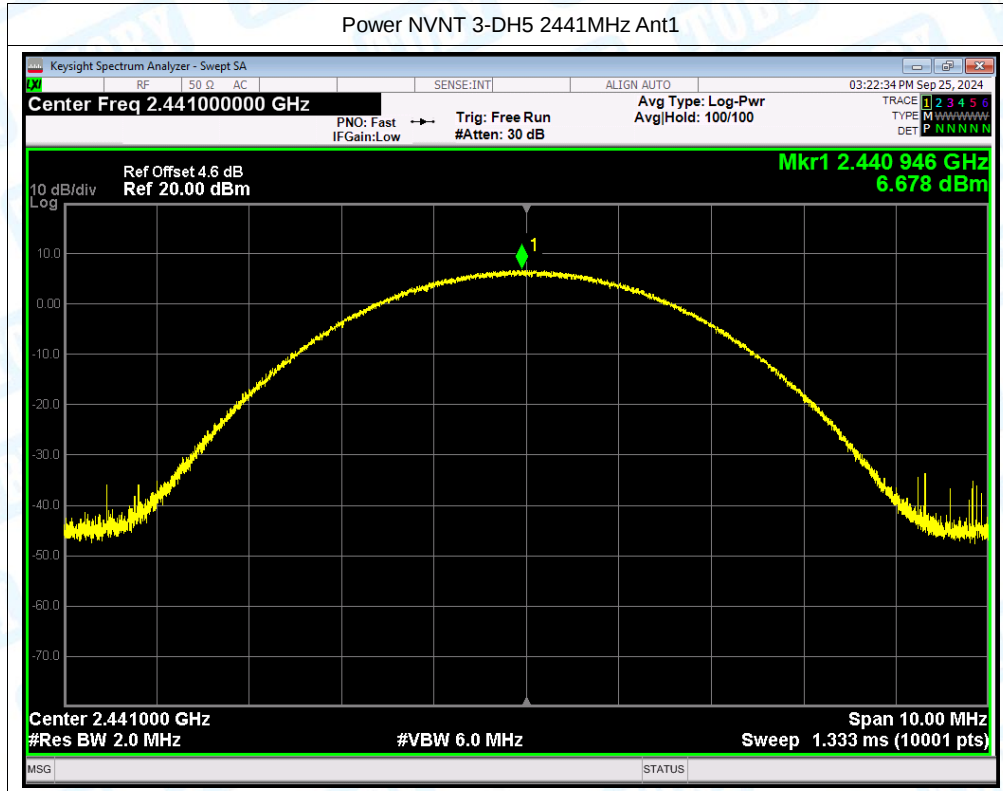


Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1



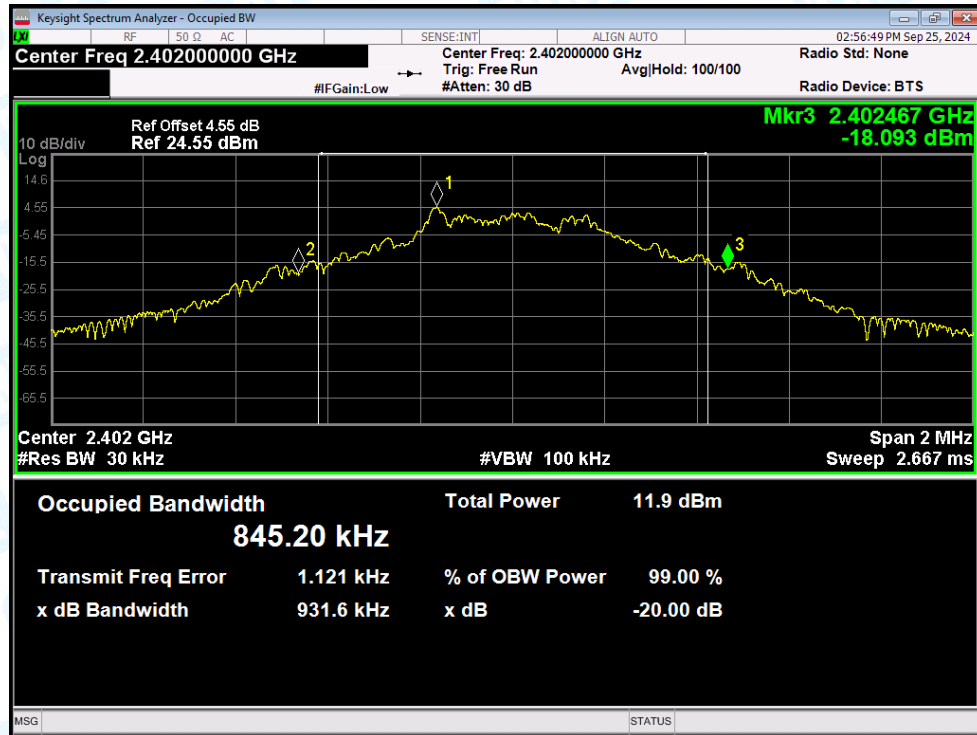


3. -20dB Bandwidth

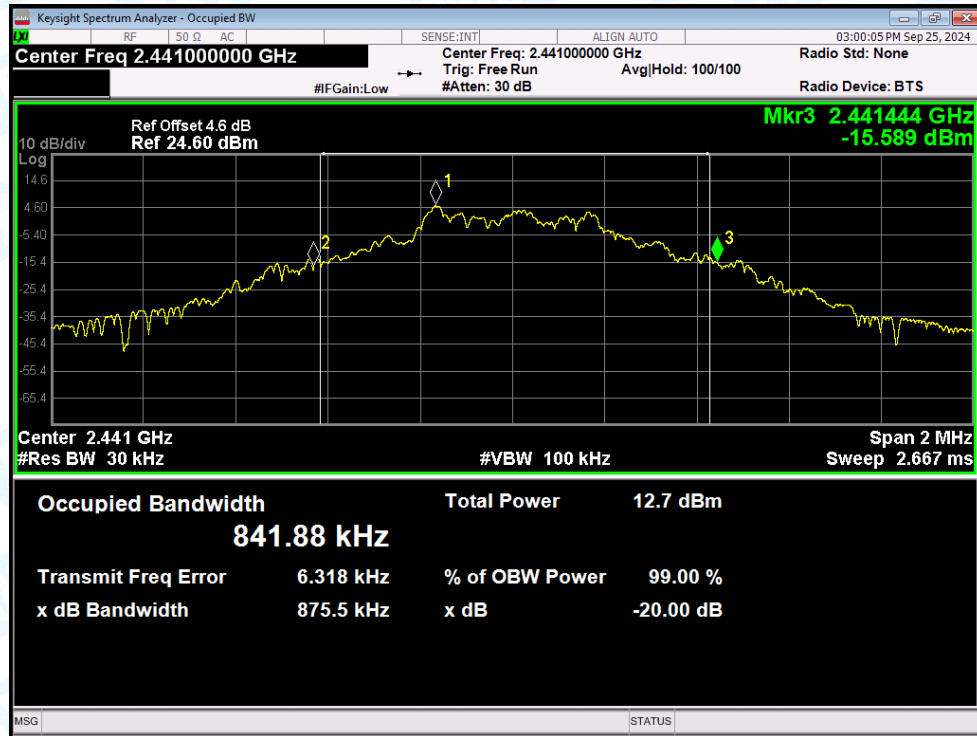
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.93	---	Pass
NVNT	1-DH1	2441	Ant1	0.88	---	Pass
NVNT	1-DH1	2480	Ant1	0.92	---	Pass
NVNT	2-DH1	2402	Ant1	1.26	---	Pass
NVNT	2-DH1	2441	Ant1	1.26	---	Pass
NVNT	2-DH1	2480	Ant1	1.26	---	Pass
NVNT	3-DH1	2402	Ant1	1.24	---	Pass
NVNT	3-DH1	2441	Ant1	1.25	---	Pass
NVNT	3-DH1	2480	Ant1	1.23	---	Pass

Test Graphs

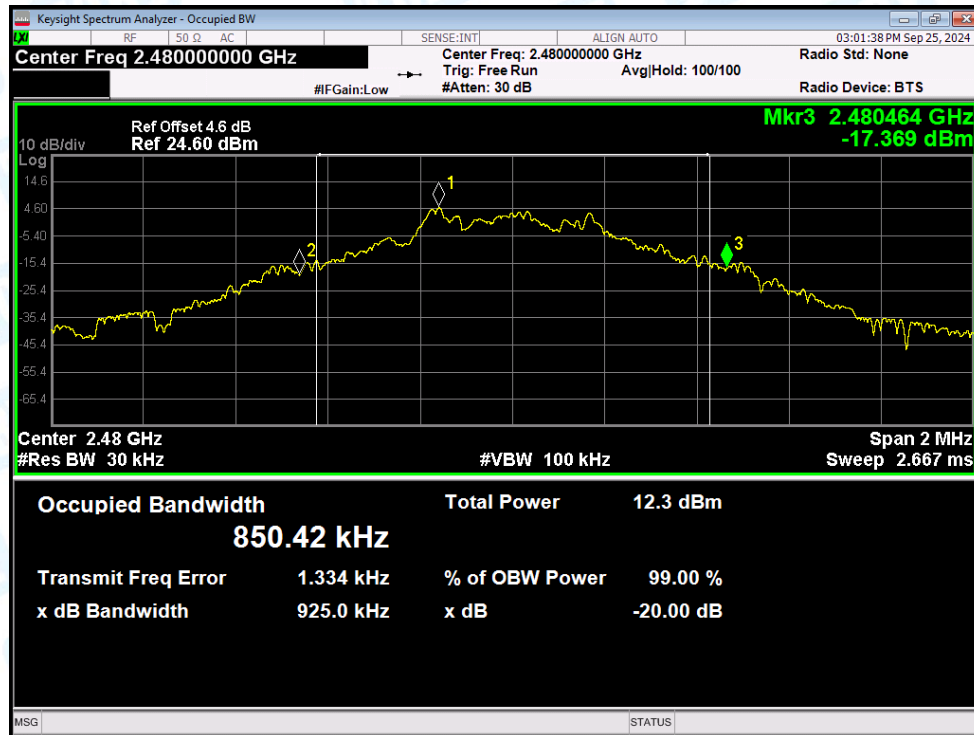
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



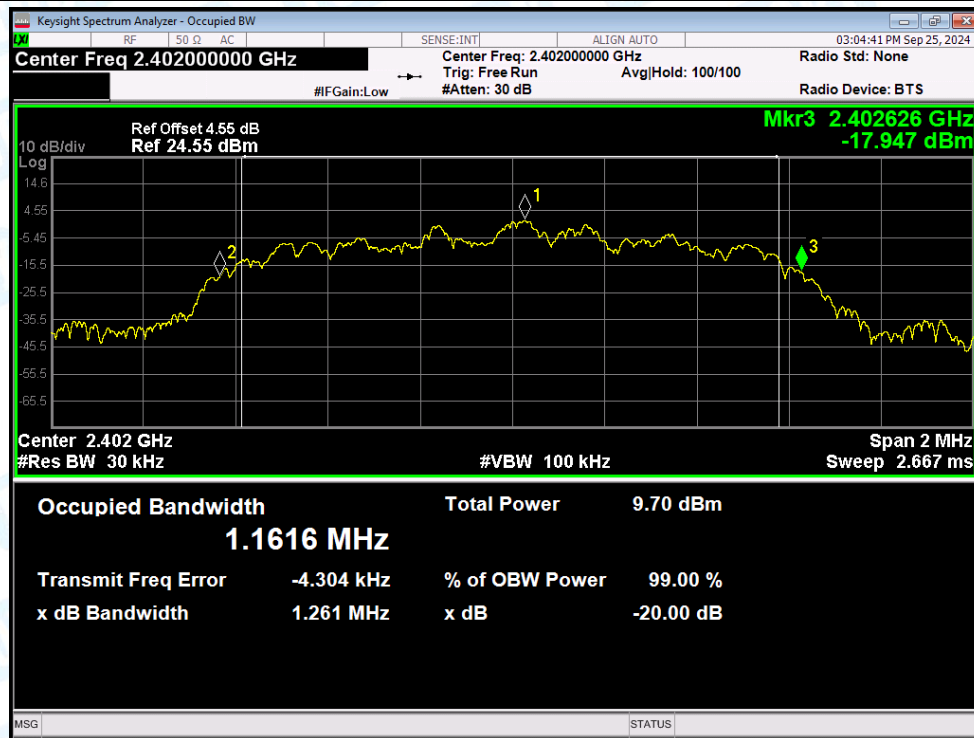
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



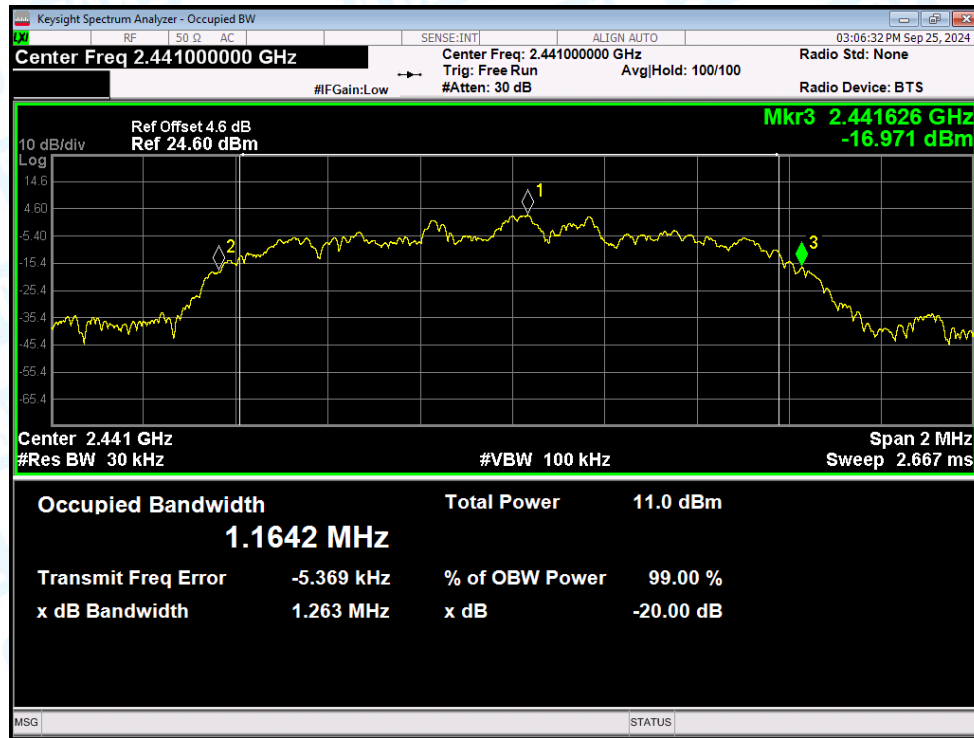
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



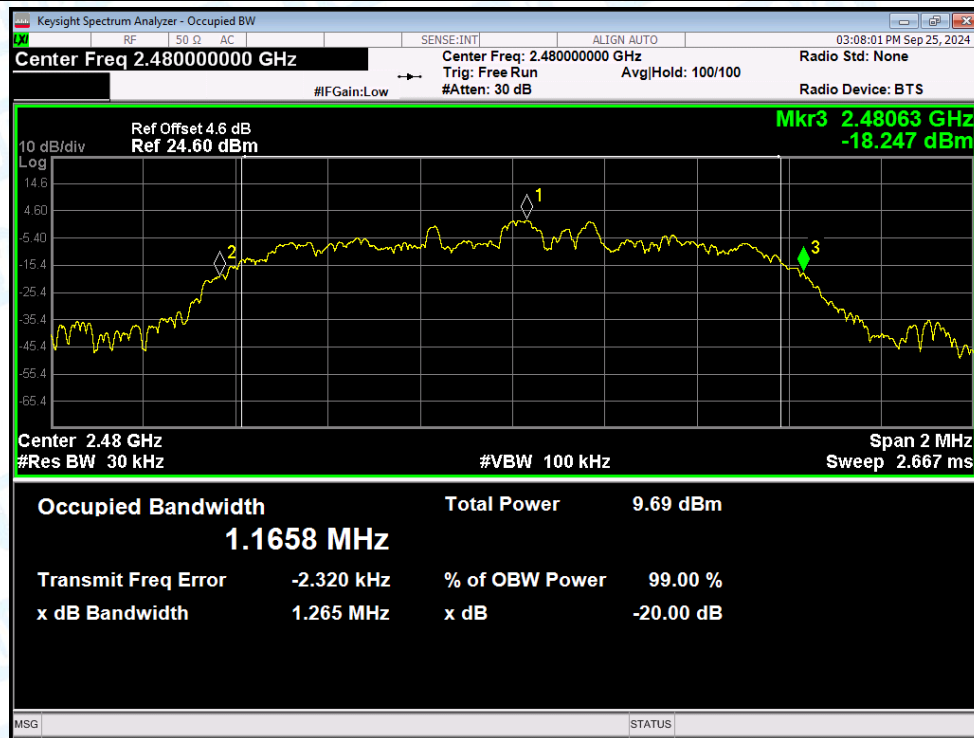
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



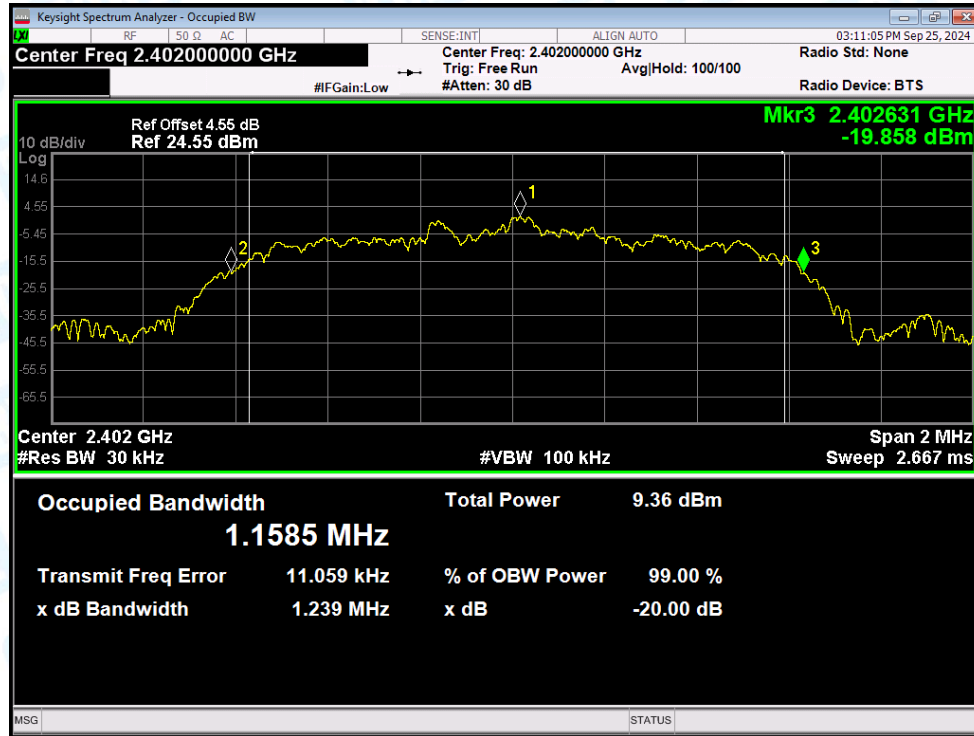
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



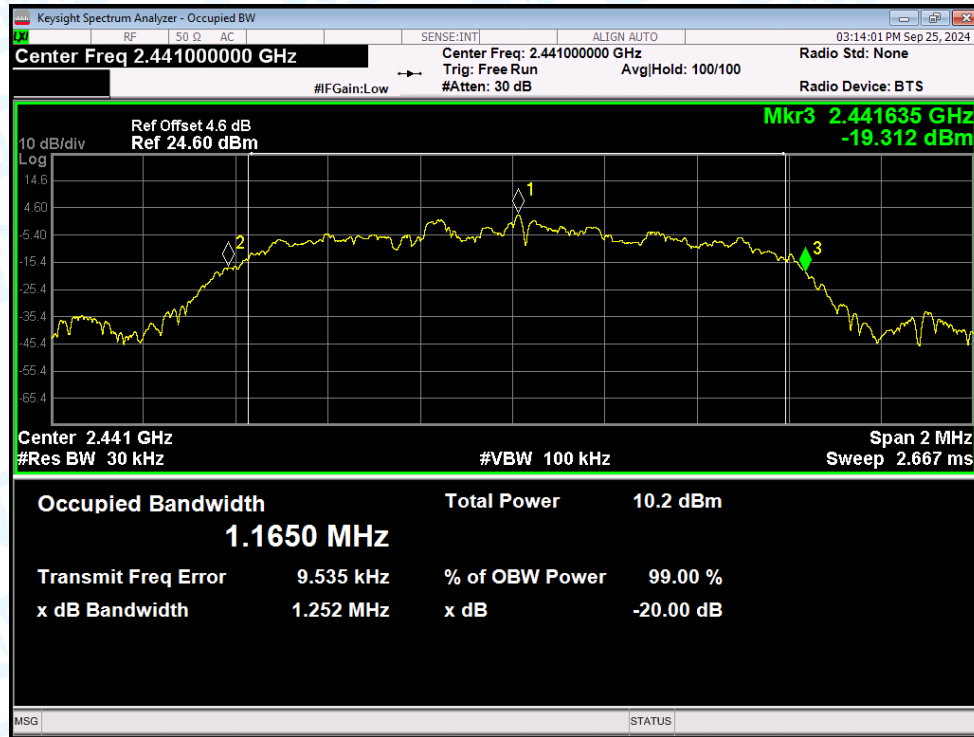
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

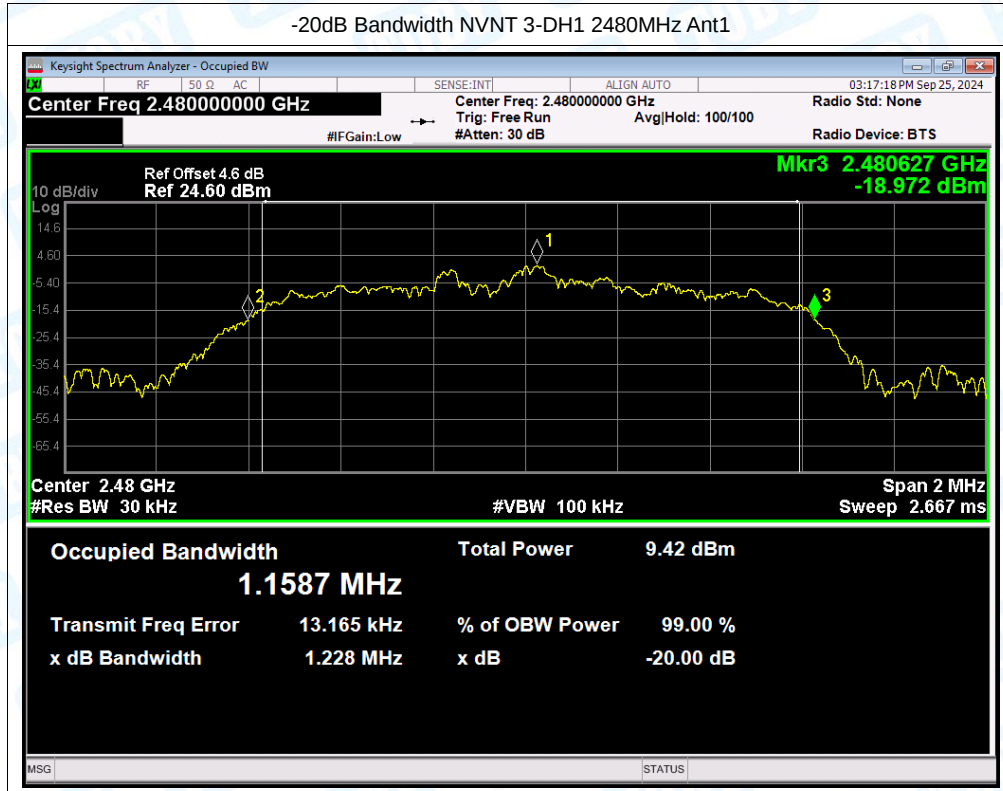


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



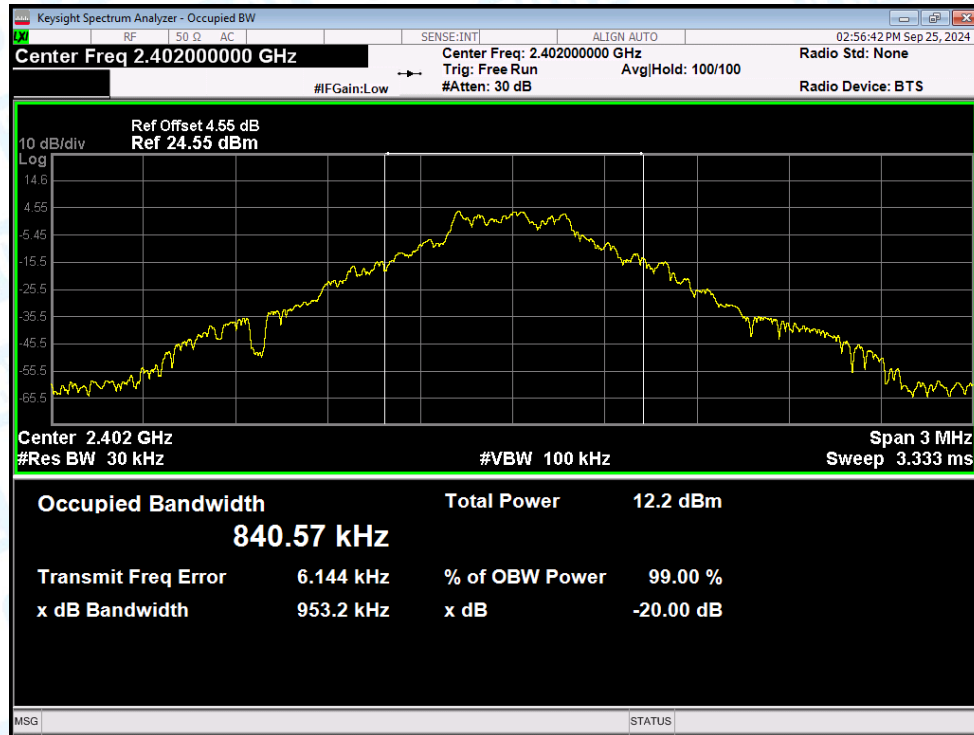


4. Occupied Channel Bandwidth

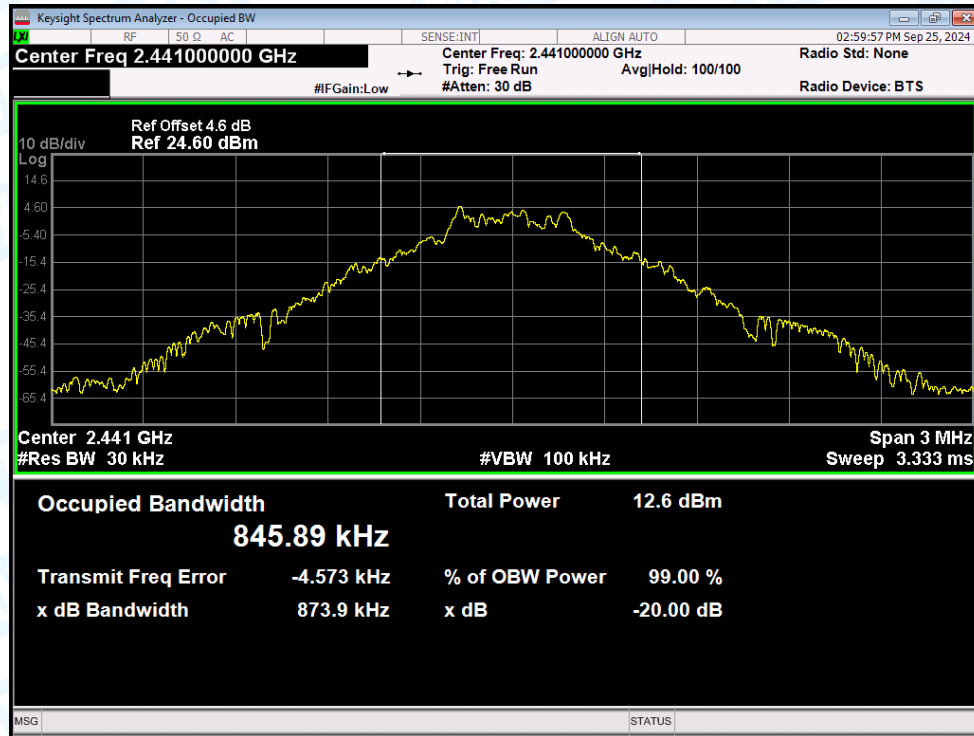
Condition	Mode	Frequency (MHz)	99% OBW (MHz)
NVNT	1-DH1	2402	0.841
NVNT	1-DH1	2441	0.846
NVNT	1-DH1	2480	0.839
NVNT	2-DH1	2402	1.172
NVNT	2-DH1	2441	1.178
NVNT	2-DH1	2480	1.169
NVNT	3-DH1	2402	1.157
NVNT	3-DH1	2441	1.167
NVNT	3-DH1	2480	1.167

Test Graphs

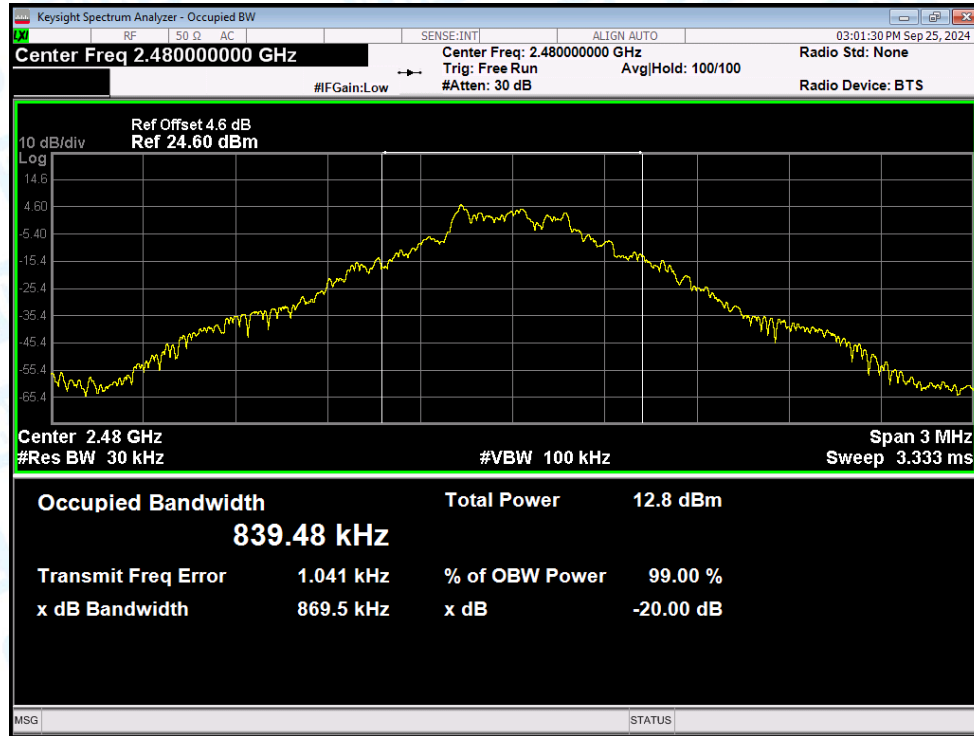
OBW NVNT 1-DH1 2402MHz Ant1



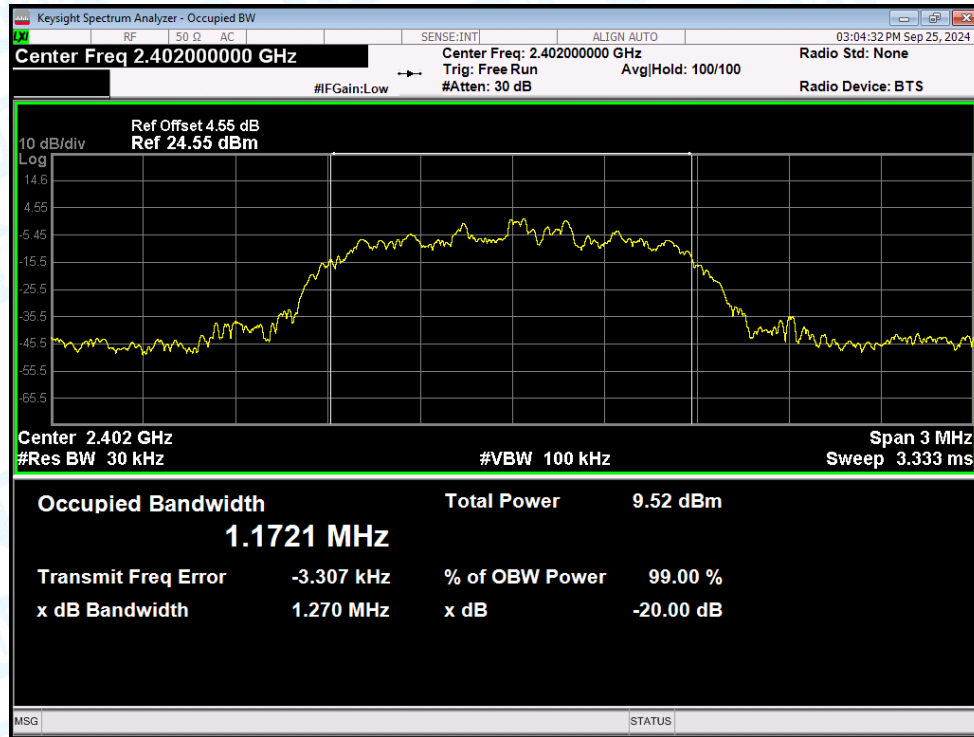
OBW NVNT 1-DH1 2441MHz Ant1



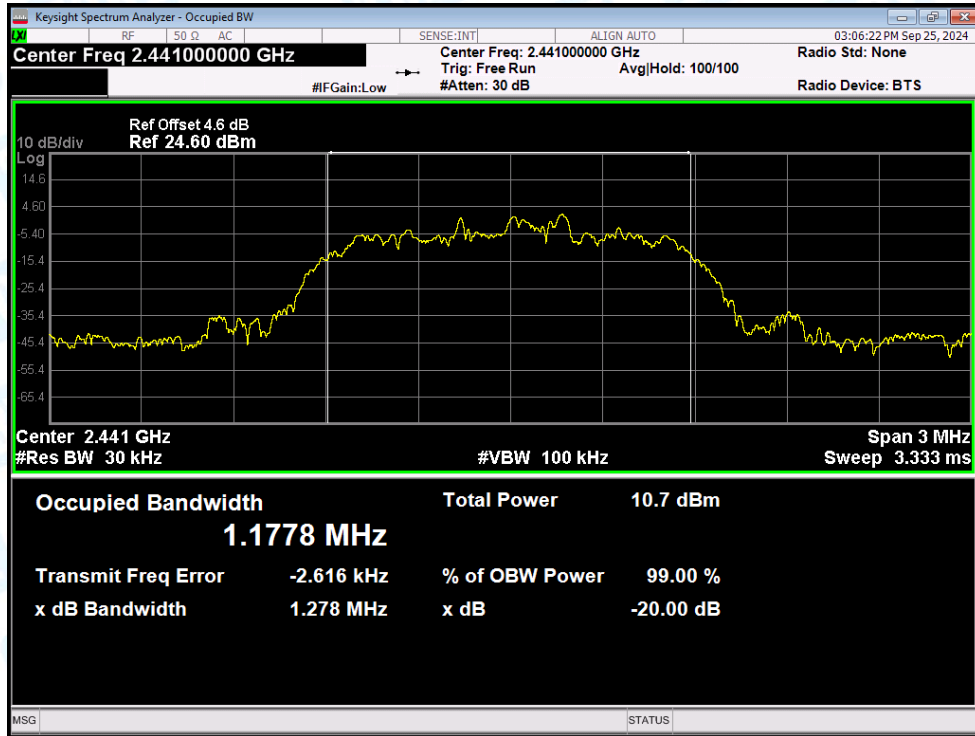
OBW NVNT 1-DH1 2480MHz Ant1



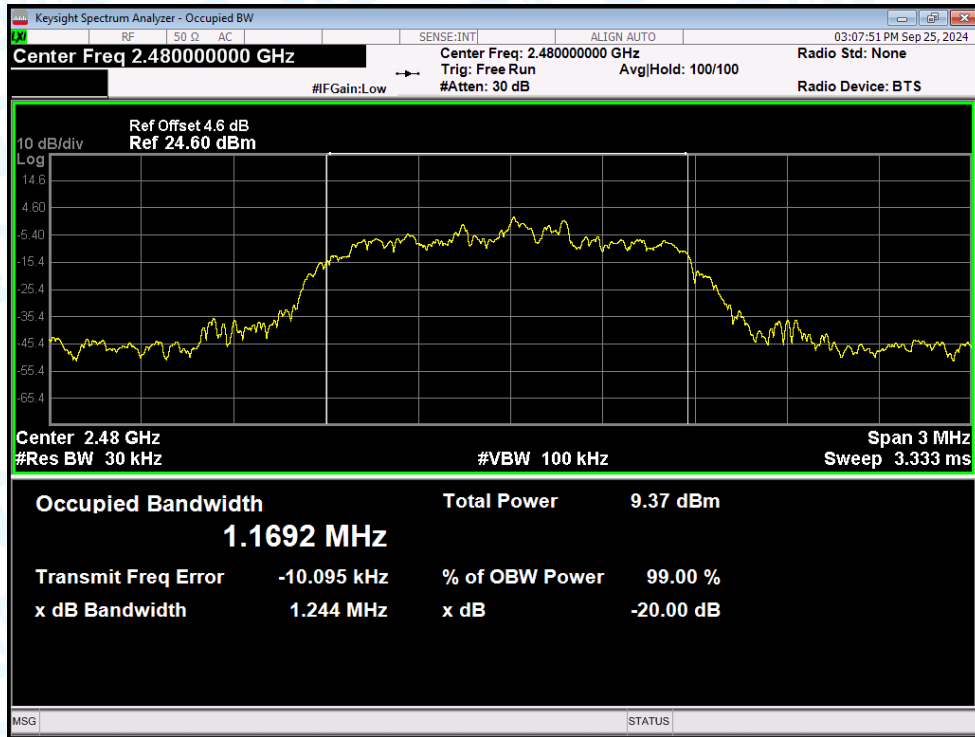
OBW NVNT 2-DH1 2402MHz Ant1



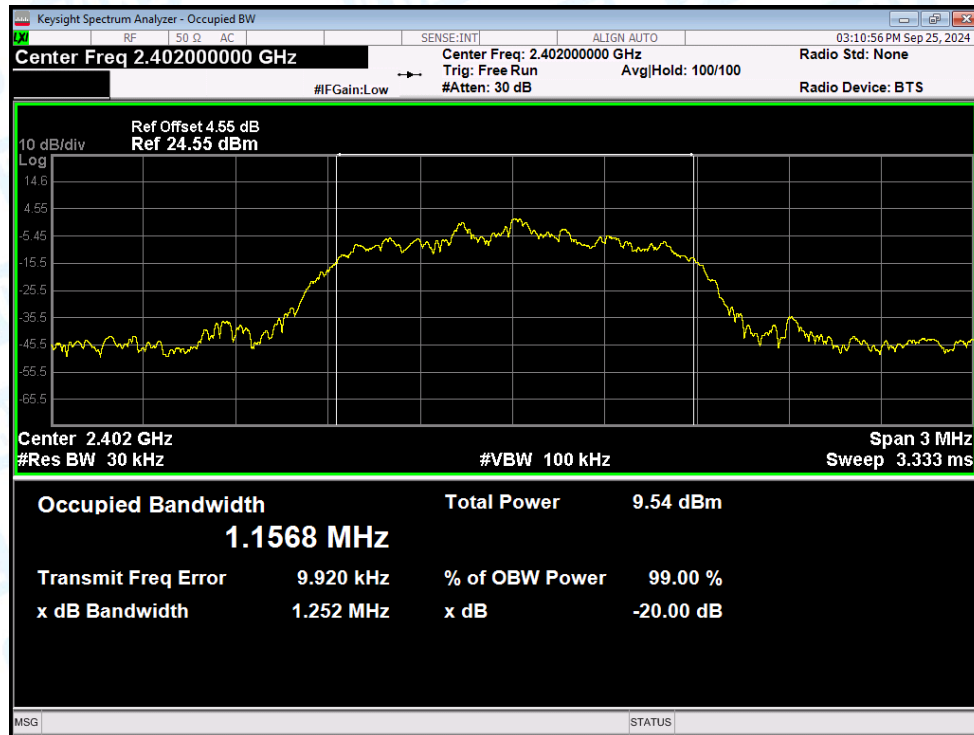
OBW NVNT 2-DH1 2441MHz Ant1



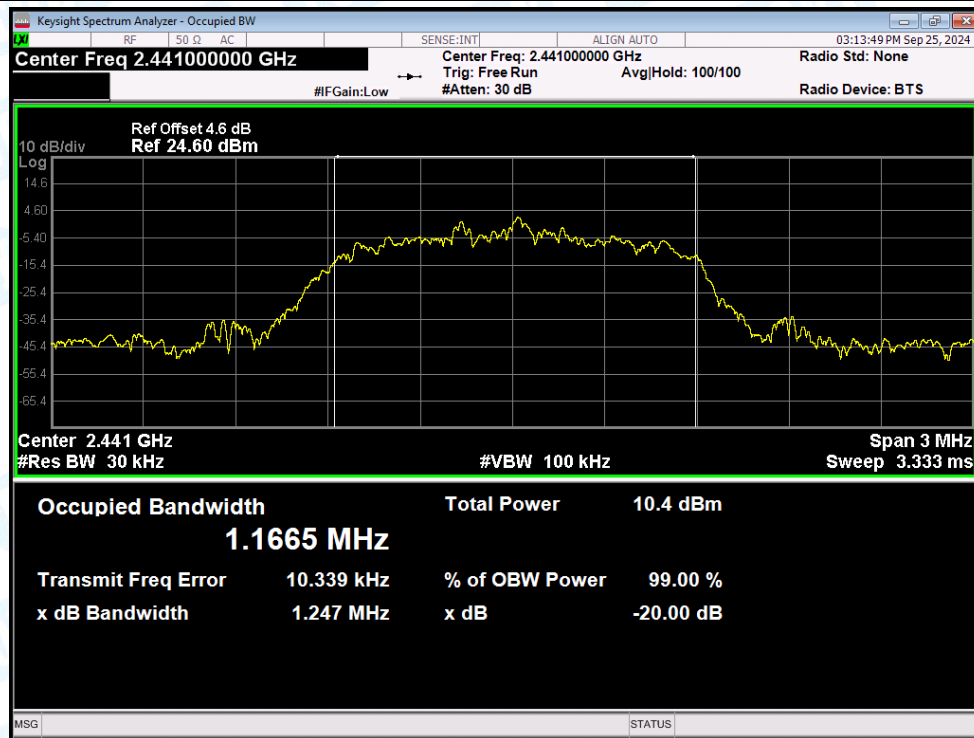
OBW NVNT 2-DH1 2480MHz Ant1

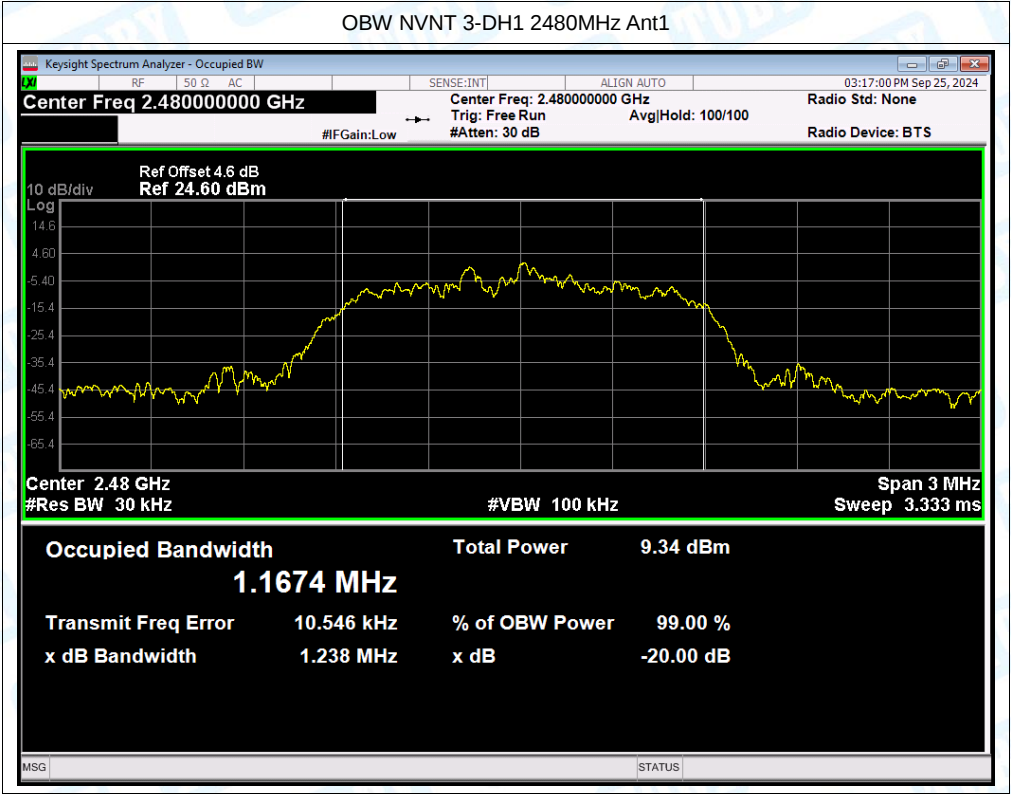


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



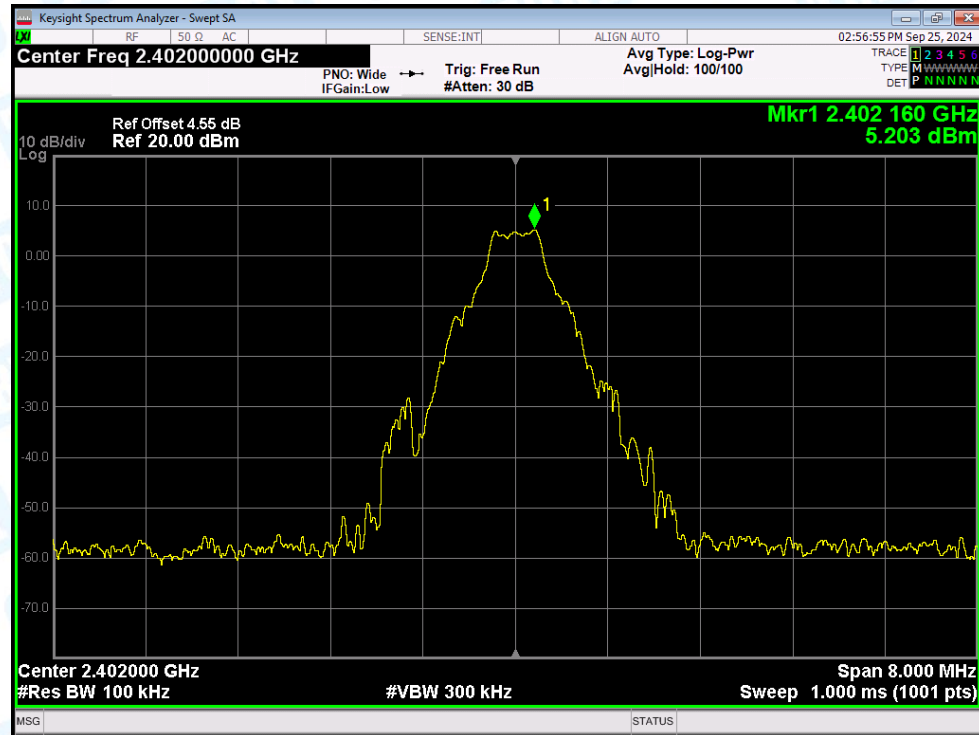


5. Band Edge

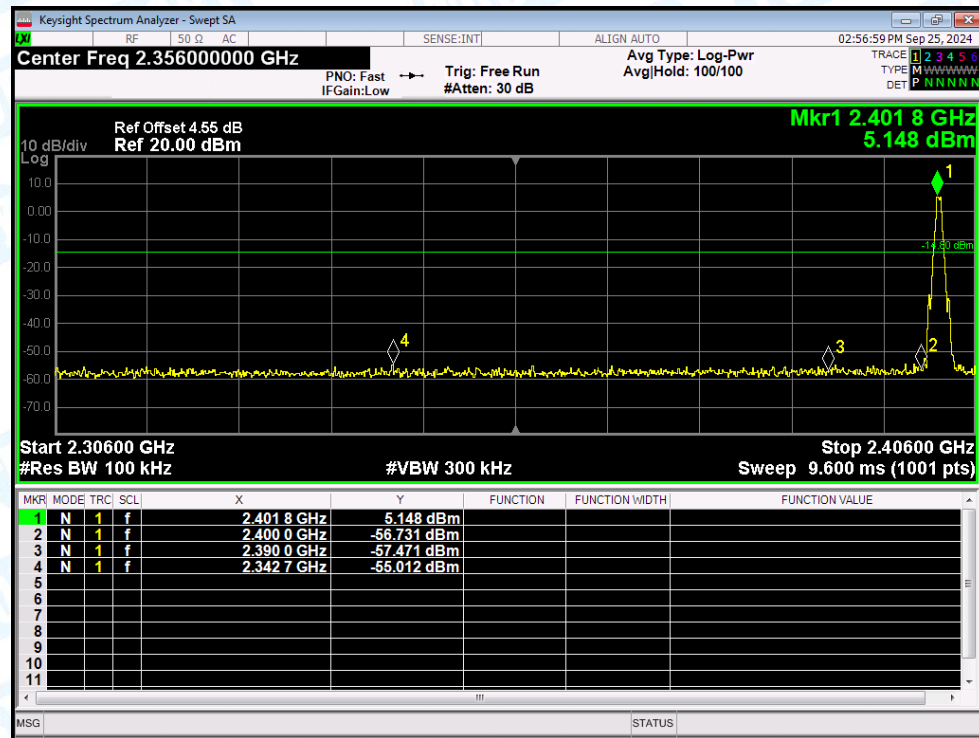
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-60.21	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-60.15	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-57.79	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-58.01	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-57.18	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-56.54	-20	Pass

Test Graphs

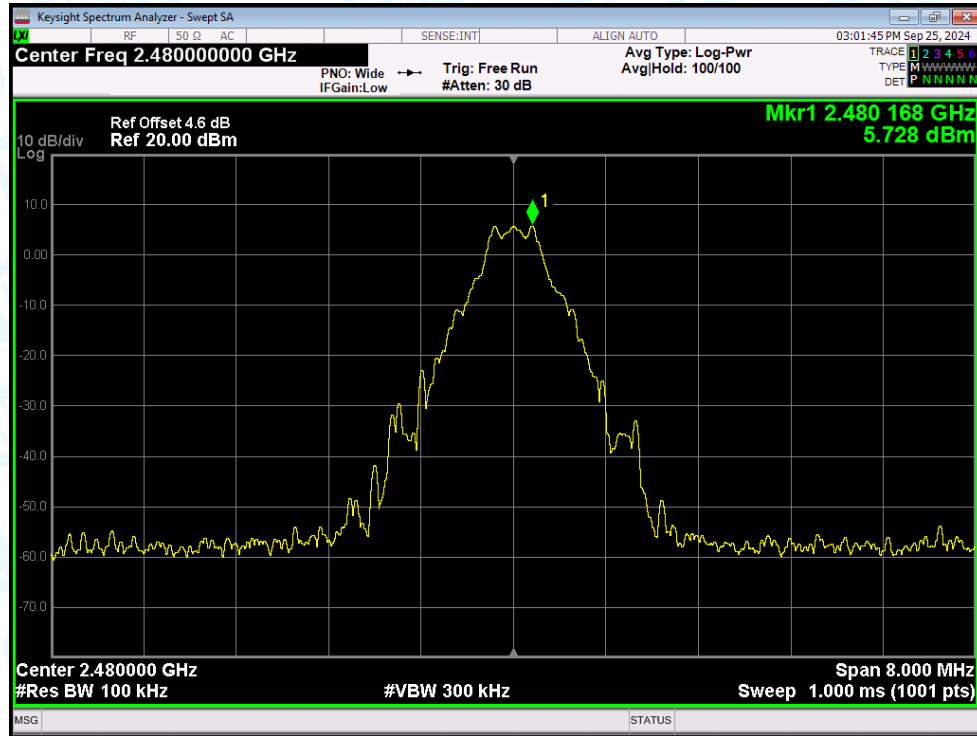
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



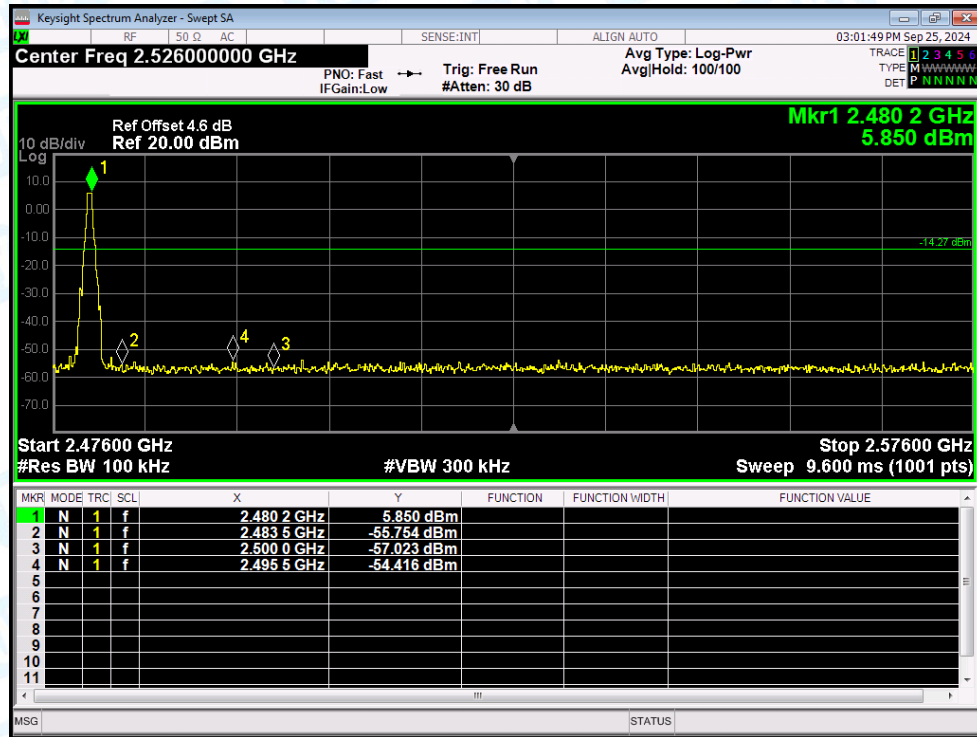
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



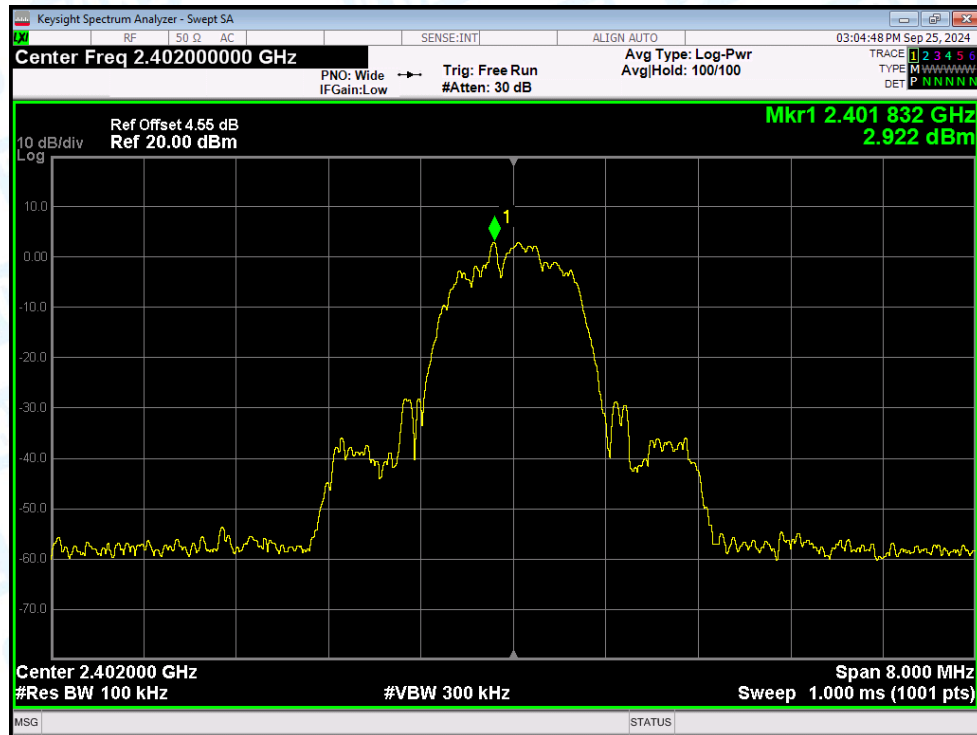
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



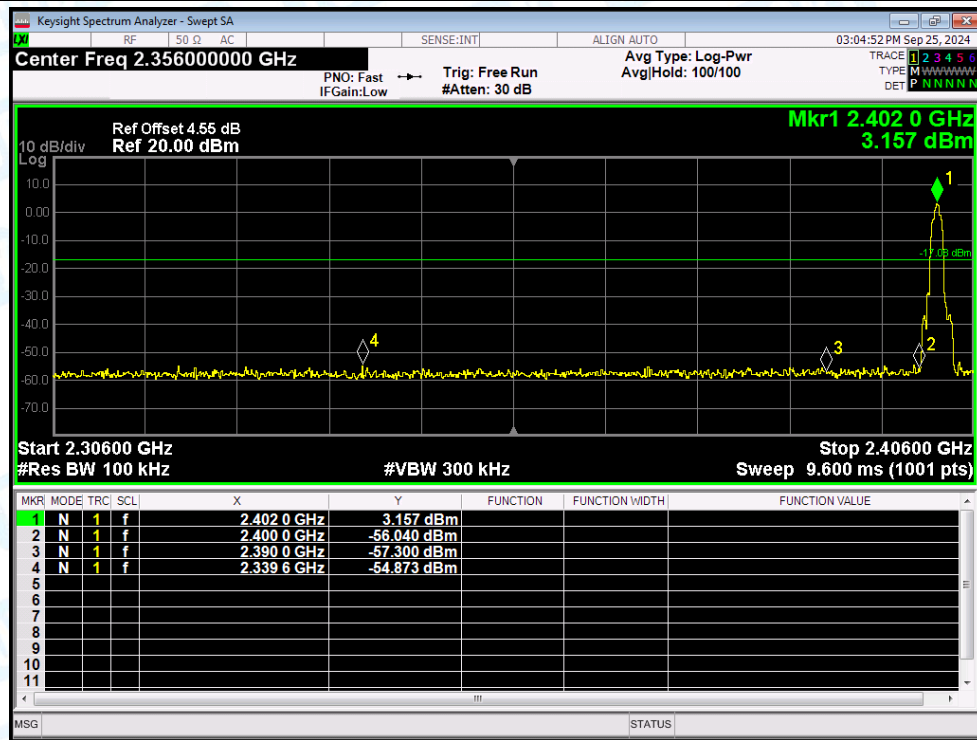
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



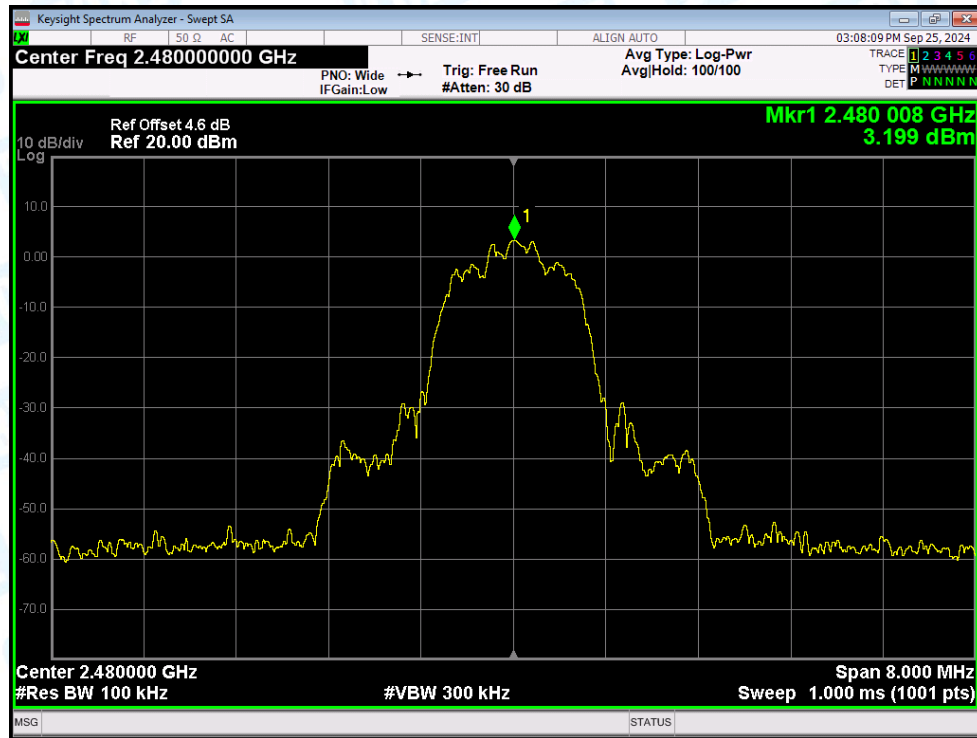
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



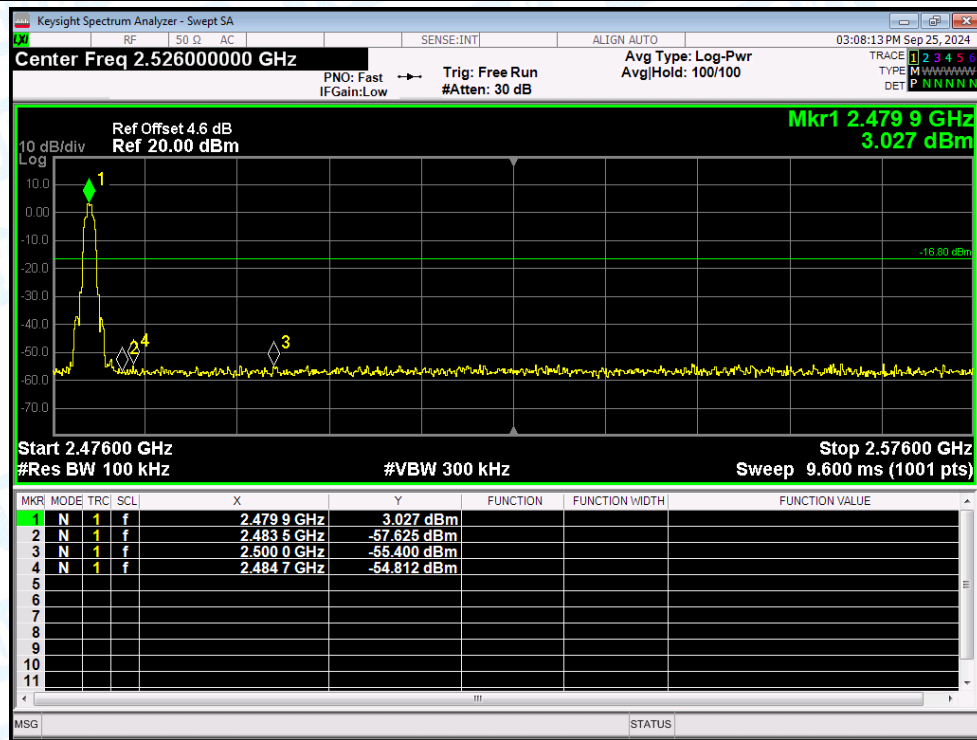
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



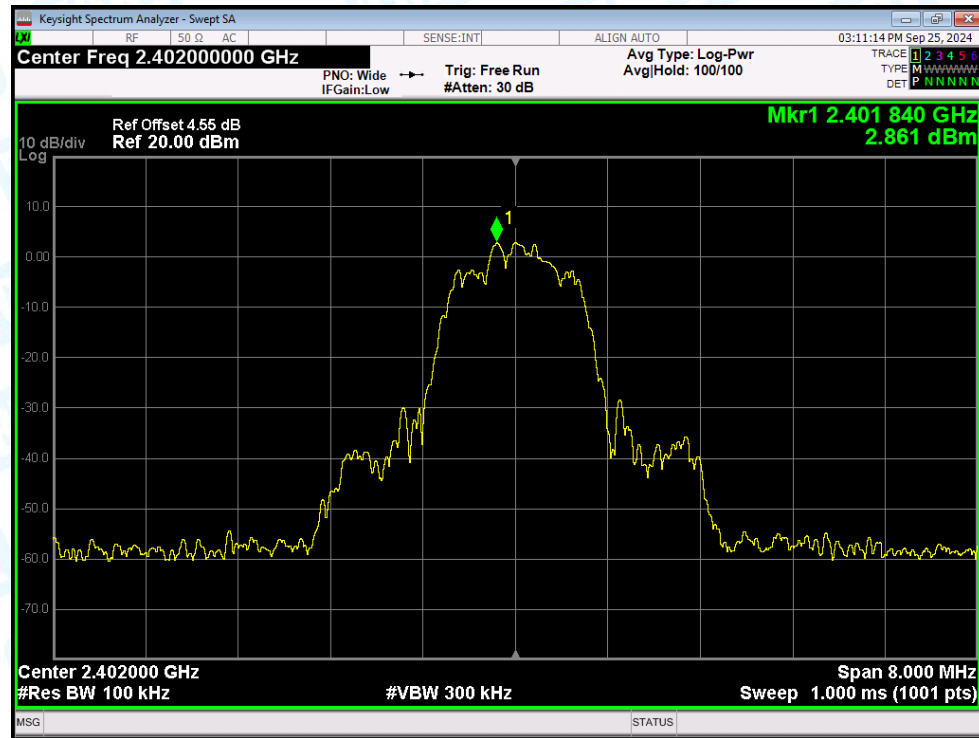
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



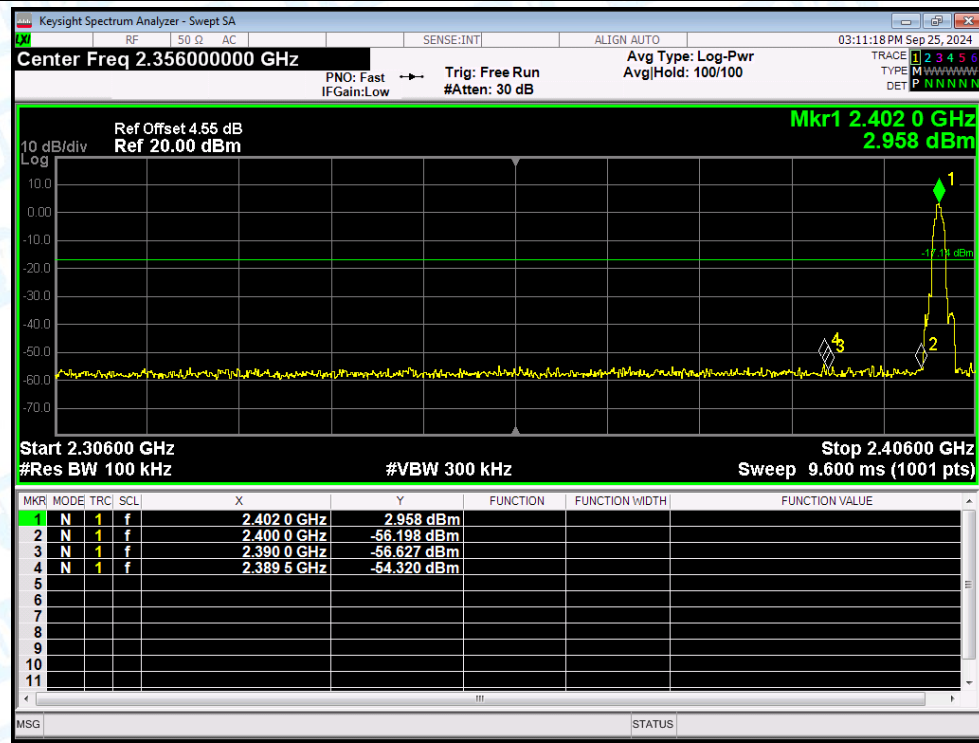
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission

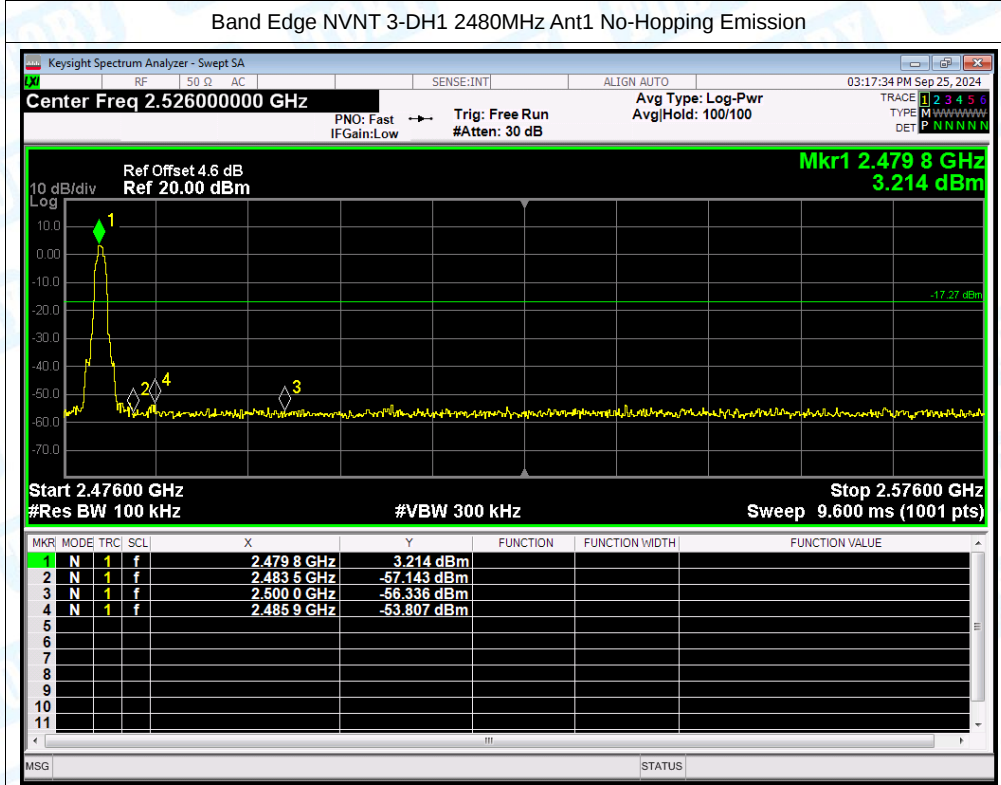
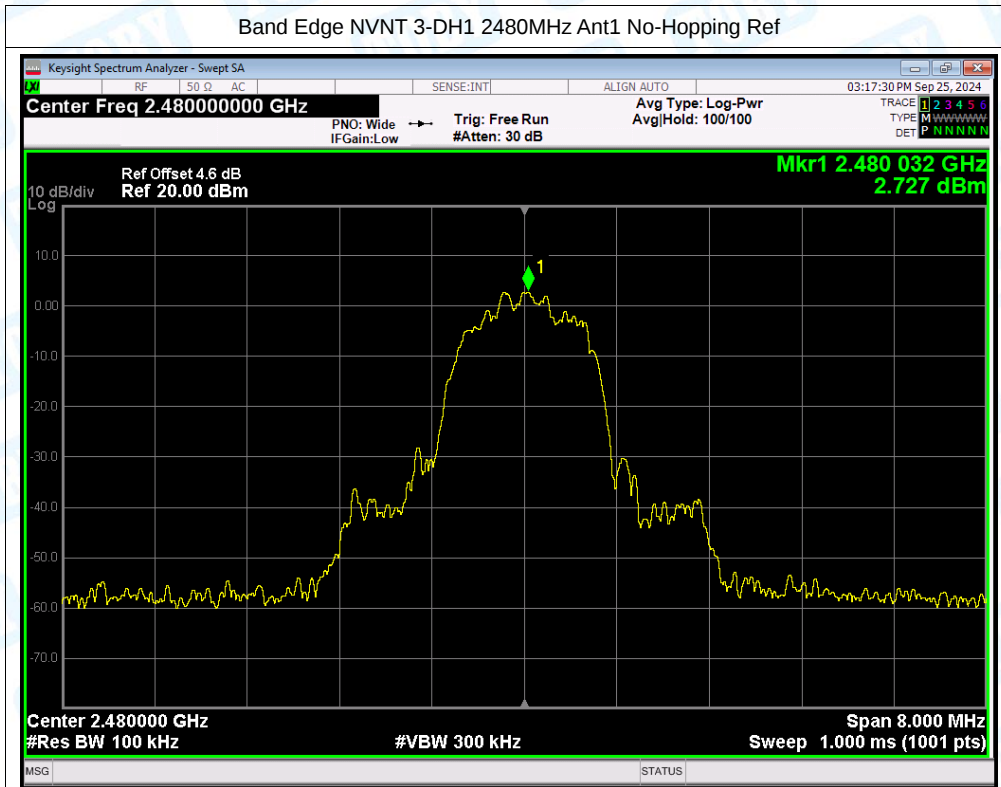


Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



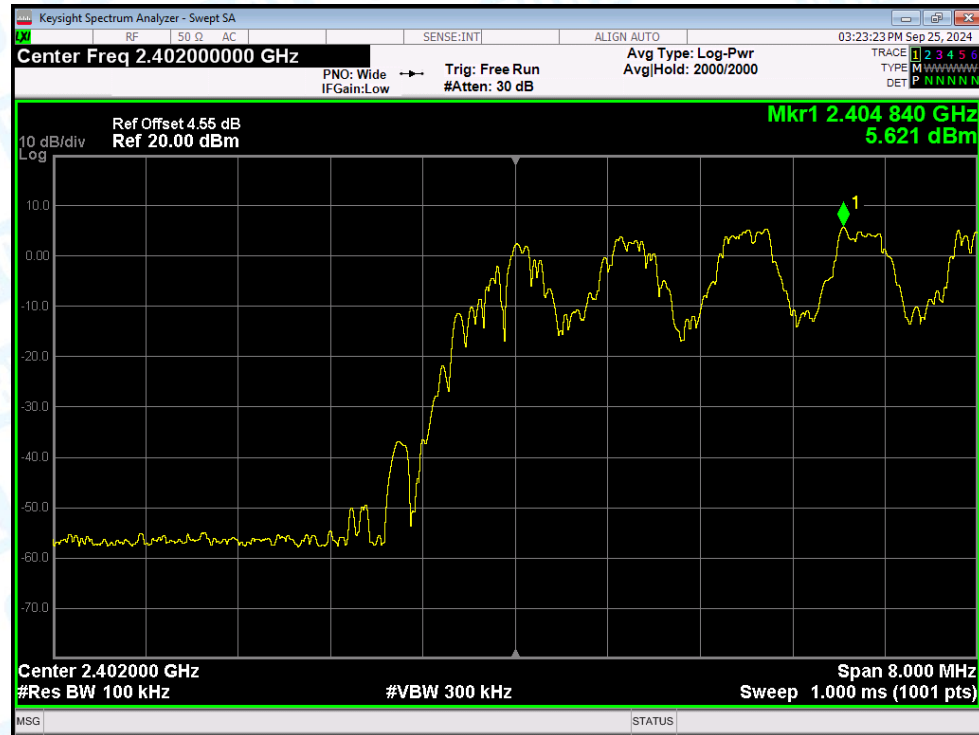


6. Band Edge(Hopping)

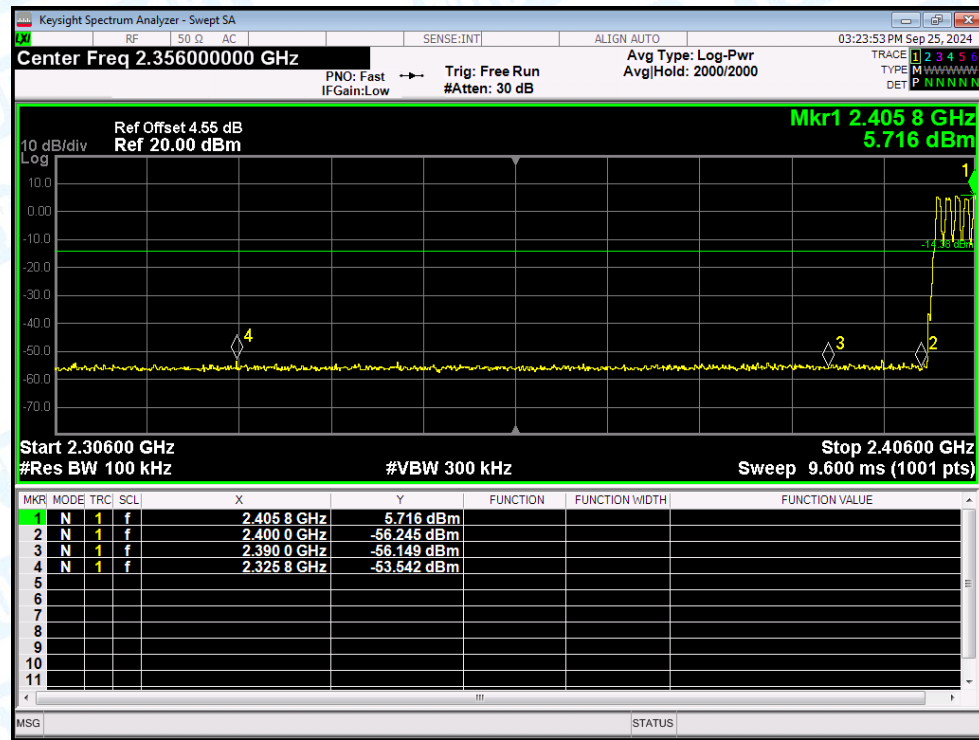
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-59.16	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-59.66	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-56.78	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-55.6	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-57.44	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-56.29	-20	Pass

Test Graphs

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



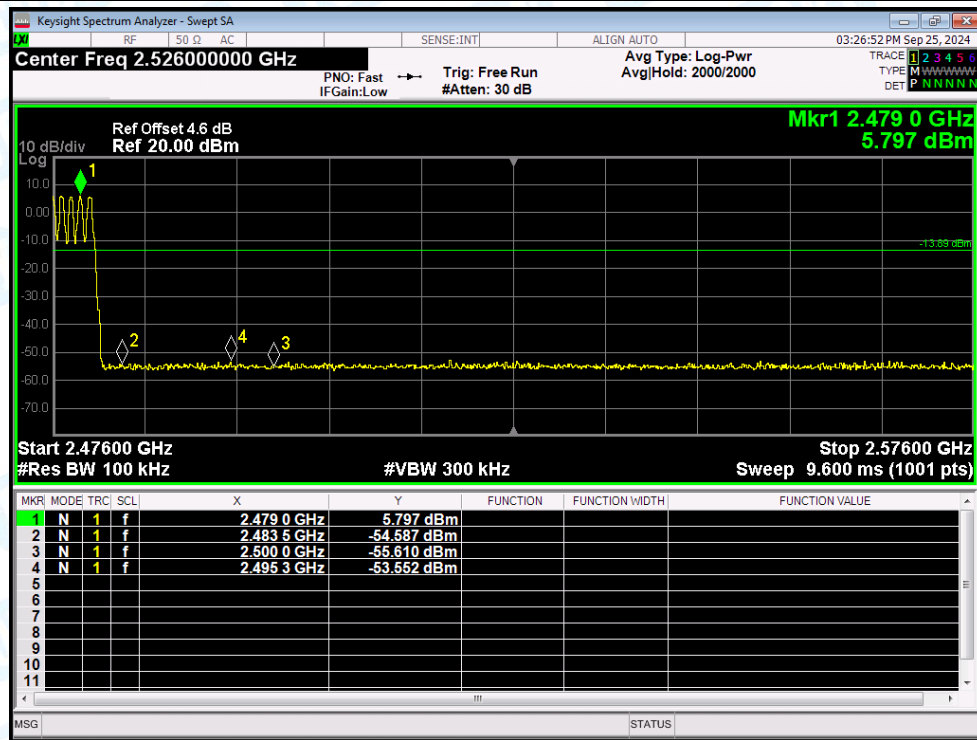
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



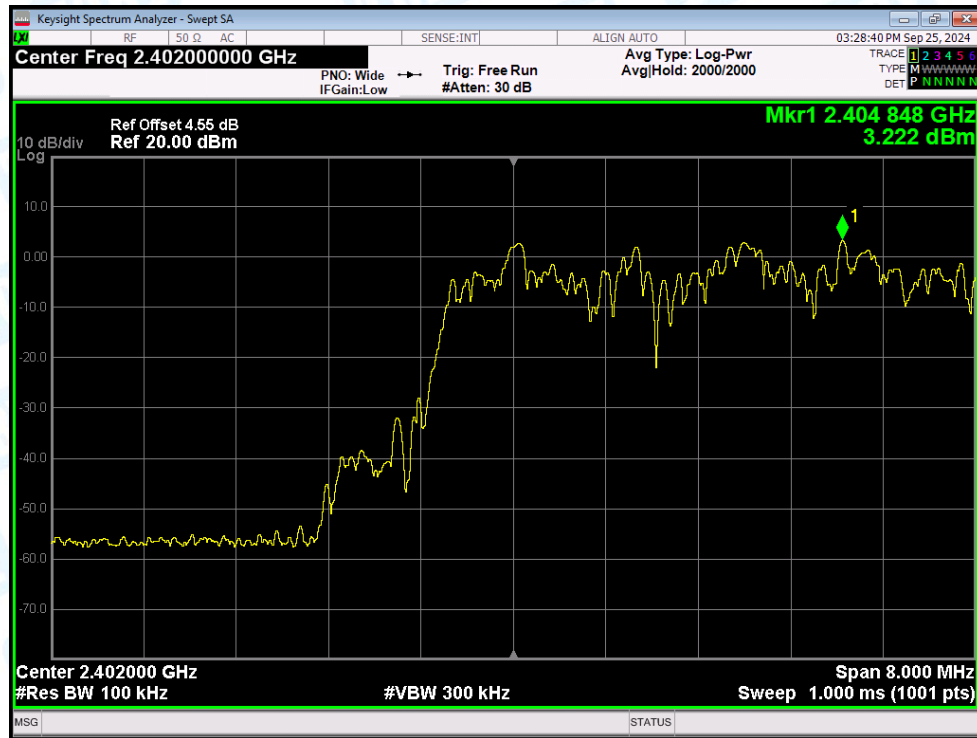
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



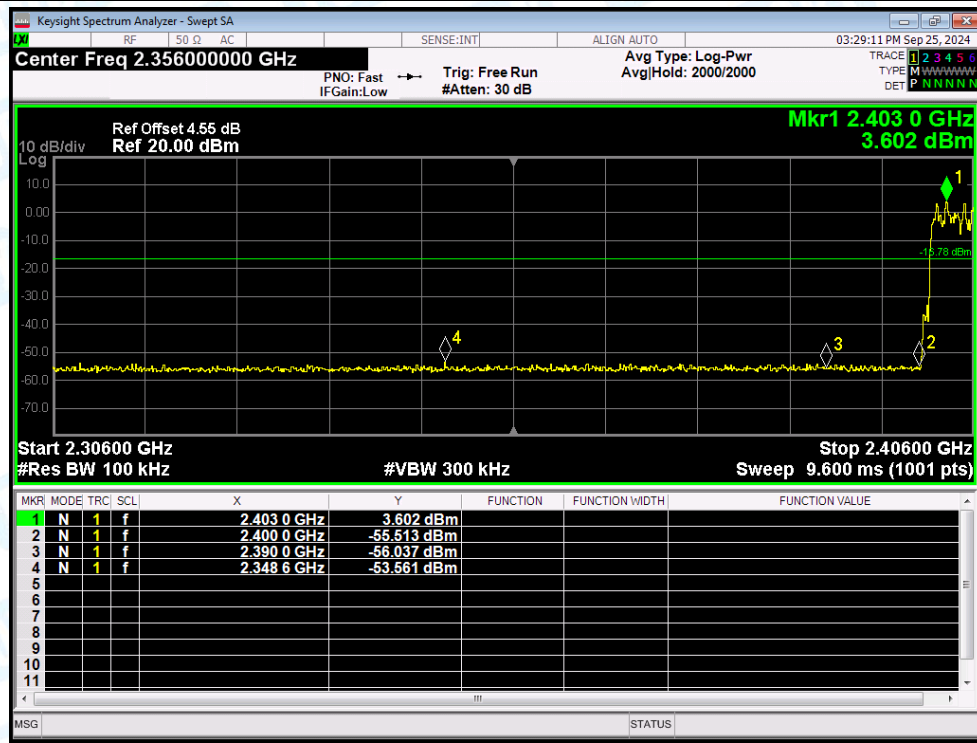
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



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



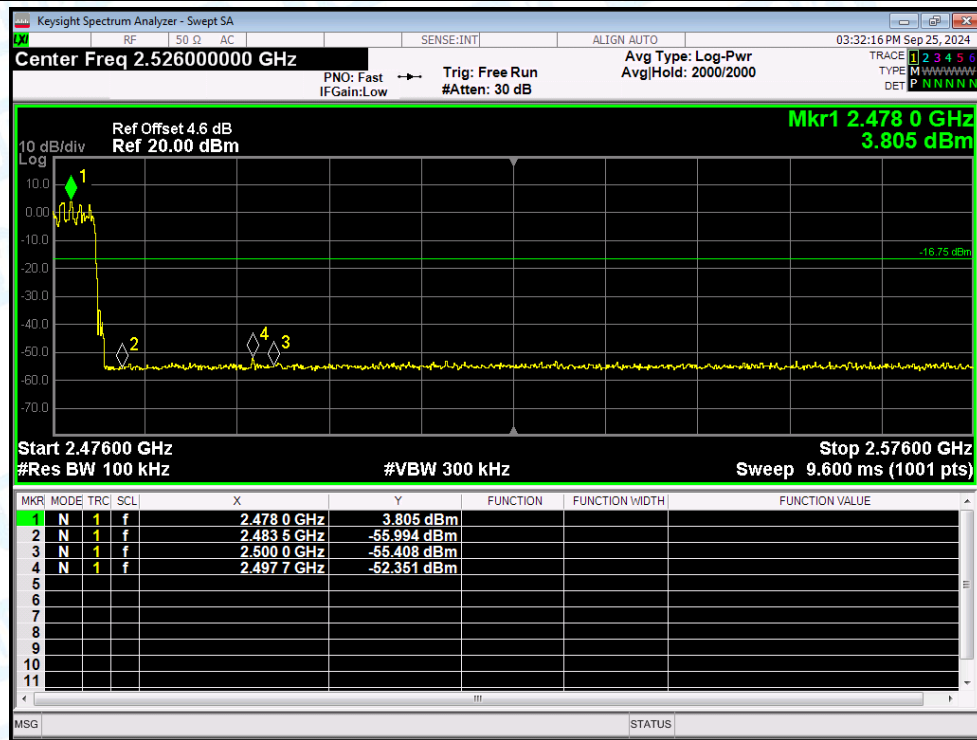
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



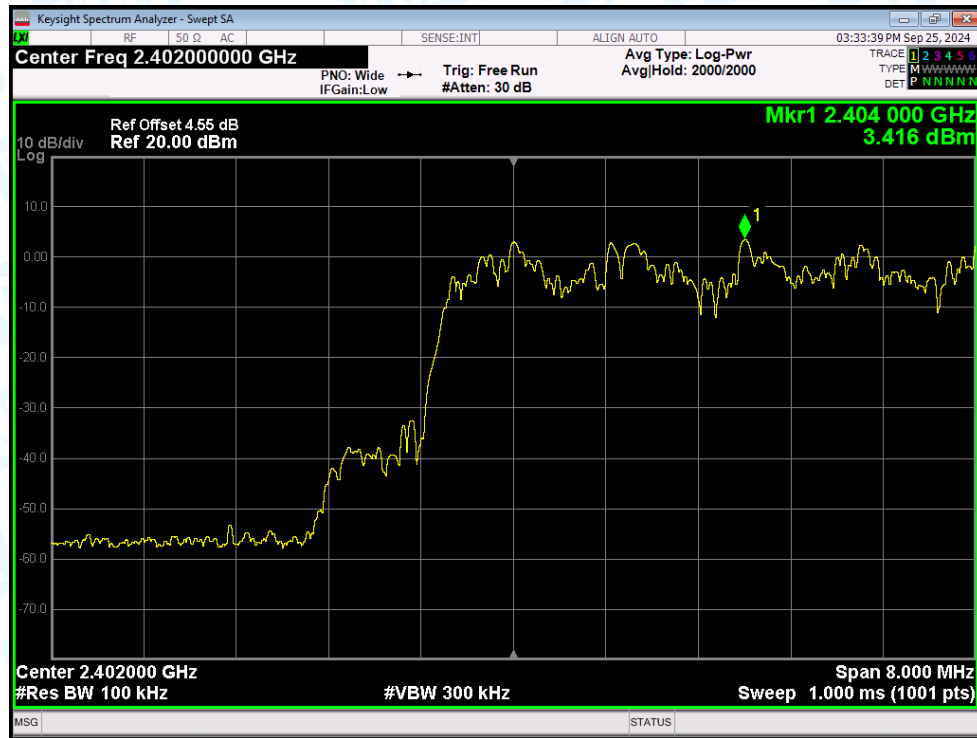
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



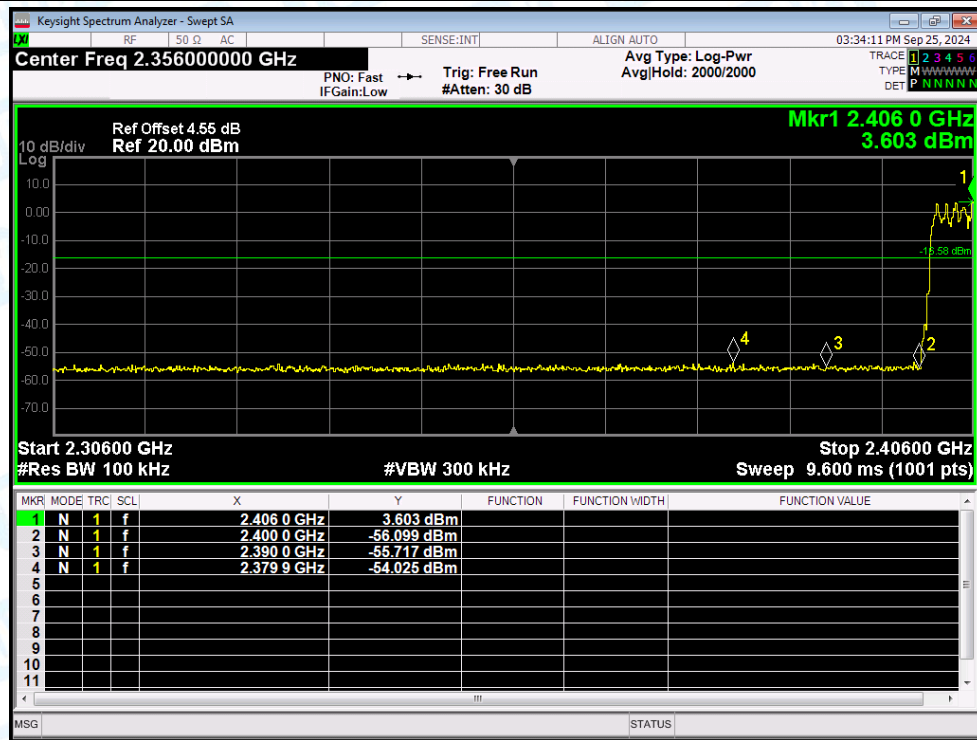
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission

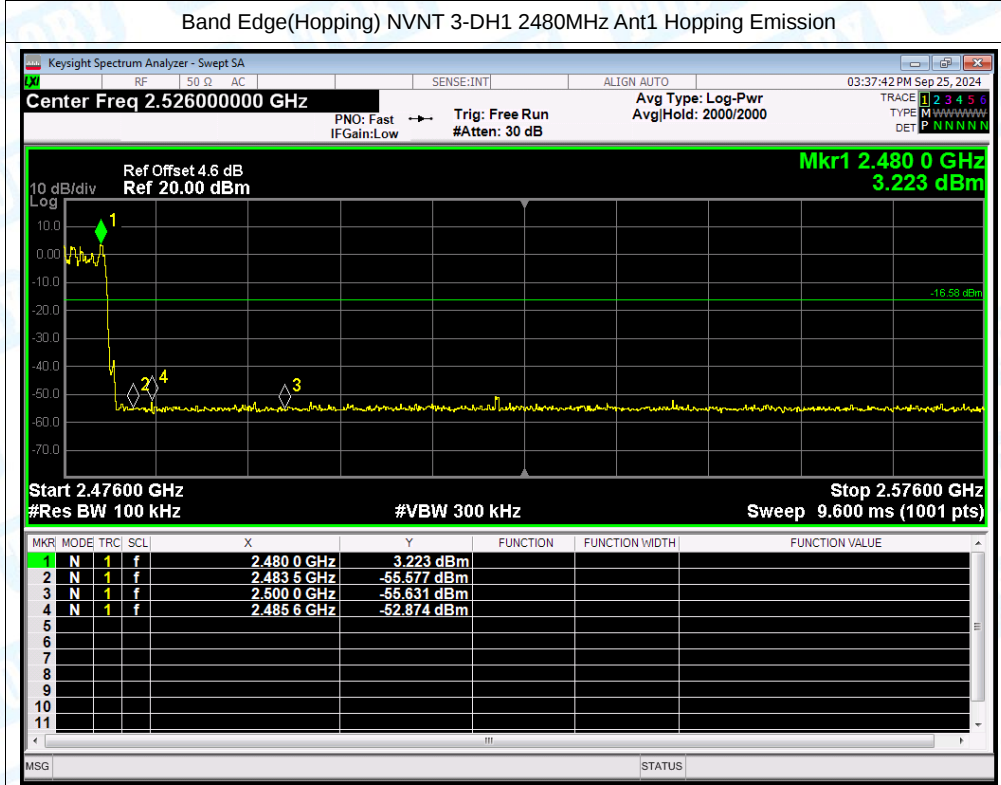


Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



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



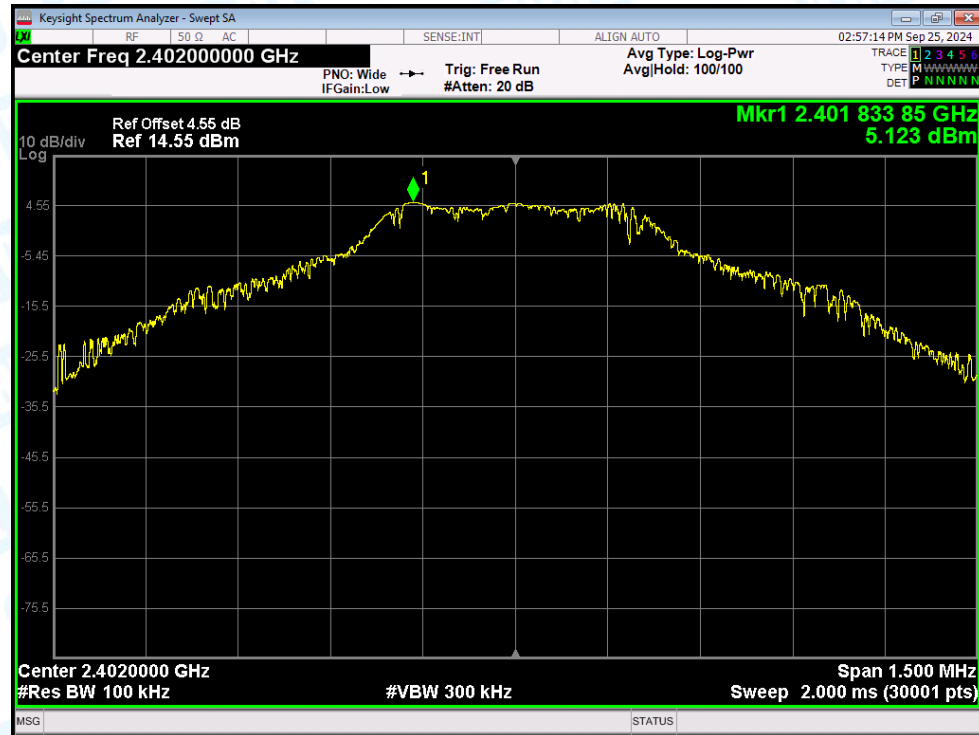


7. Conducted RF Spurious Emission

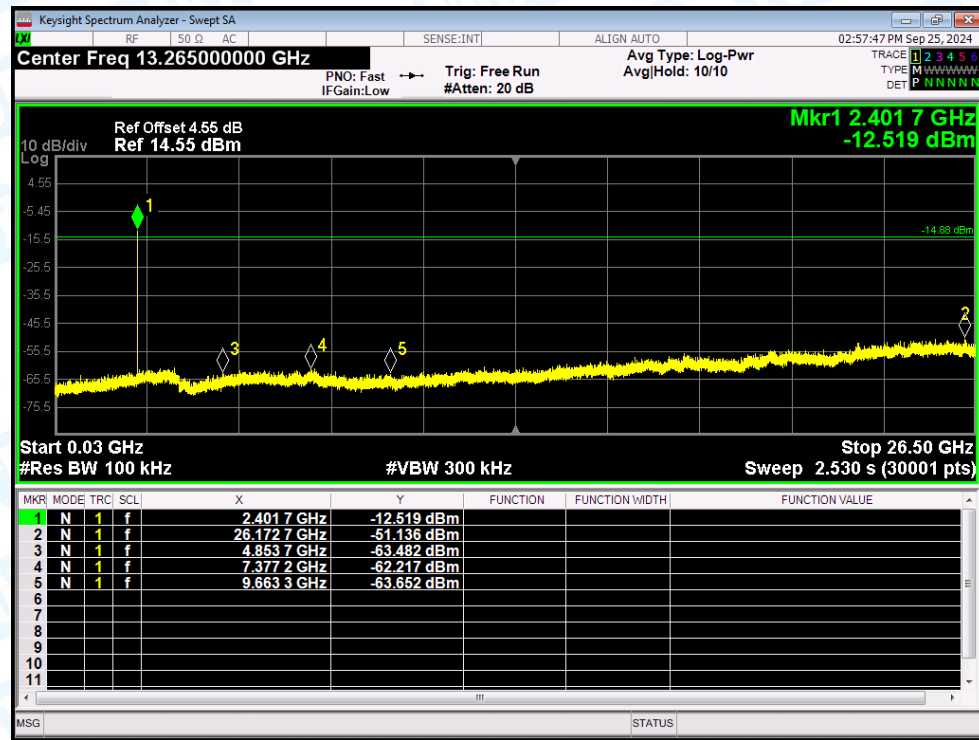
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-56.26	-20	Pass
NVNT	1-DH1	2441	Ant1	-56.86	-20	Pass
NVNT	1-DH1	2480	Ant1	-52.96	-20	Pass
NVNT	2-DH1	2402	Ant1	-54.5	-20	Pass
NVNT	2-DH1	2441	Ant1	-55.31	-20	Pass
NVNT	2-DH1	2480	Ant1	-53.83	-20	Pass
NVNT	3-DH1	2402	Ant1	-54.1	-20	Pass
NVNT	3-DH1	2441	Ant1	-55.19	-20	Pass
NVNT	3-DH1	2480	Ant1	-54.48	-20	Pass

Test Graphs

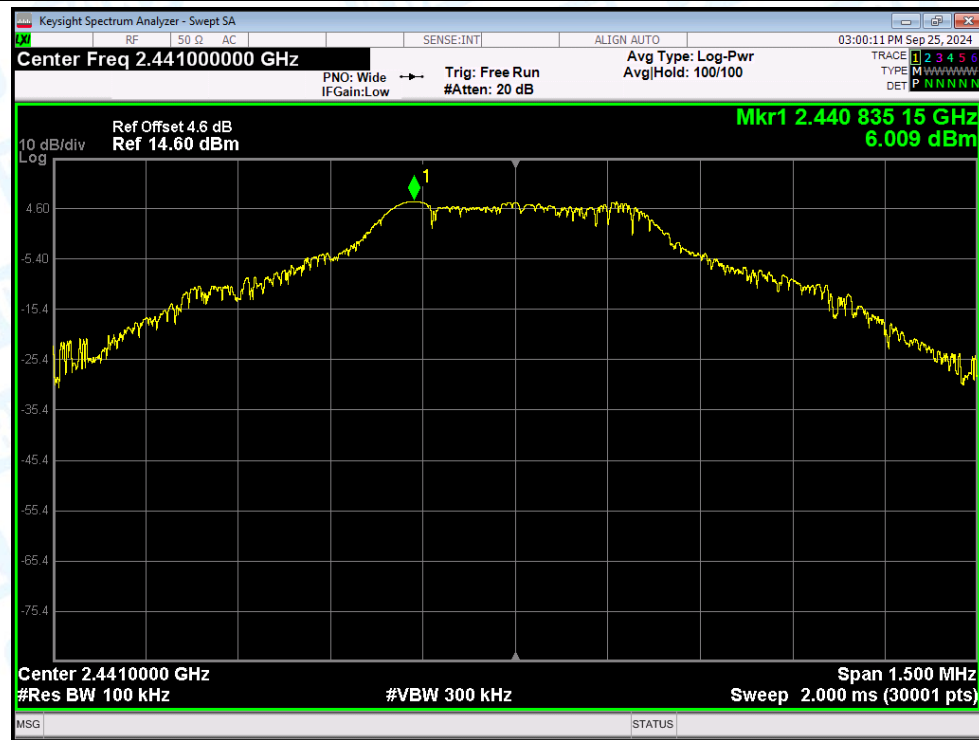
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



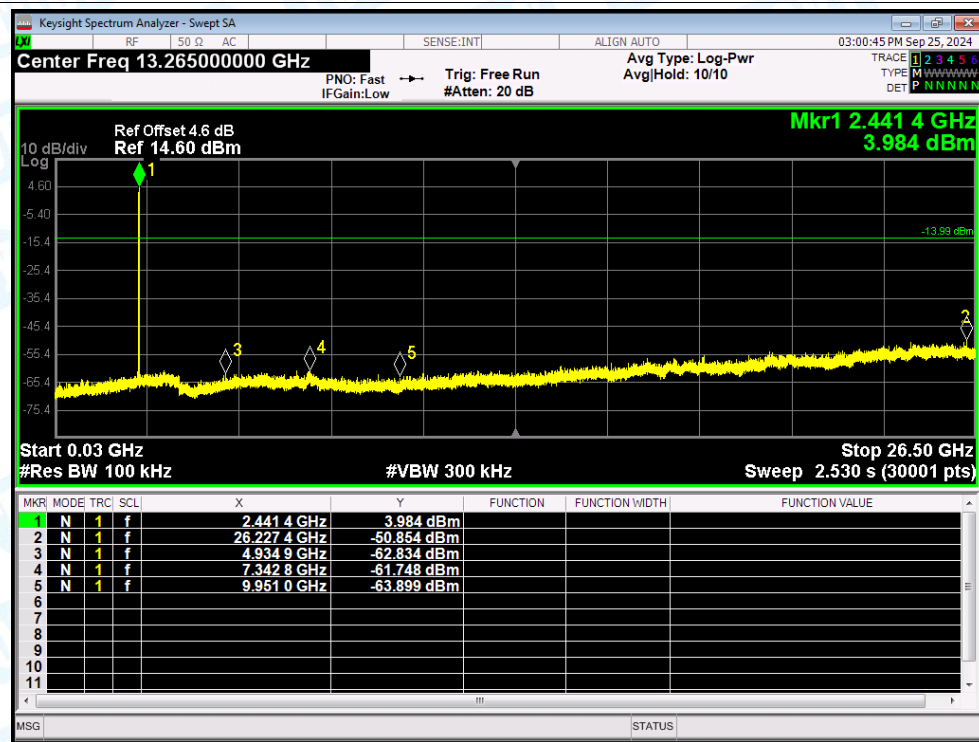
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



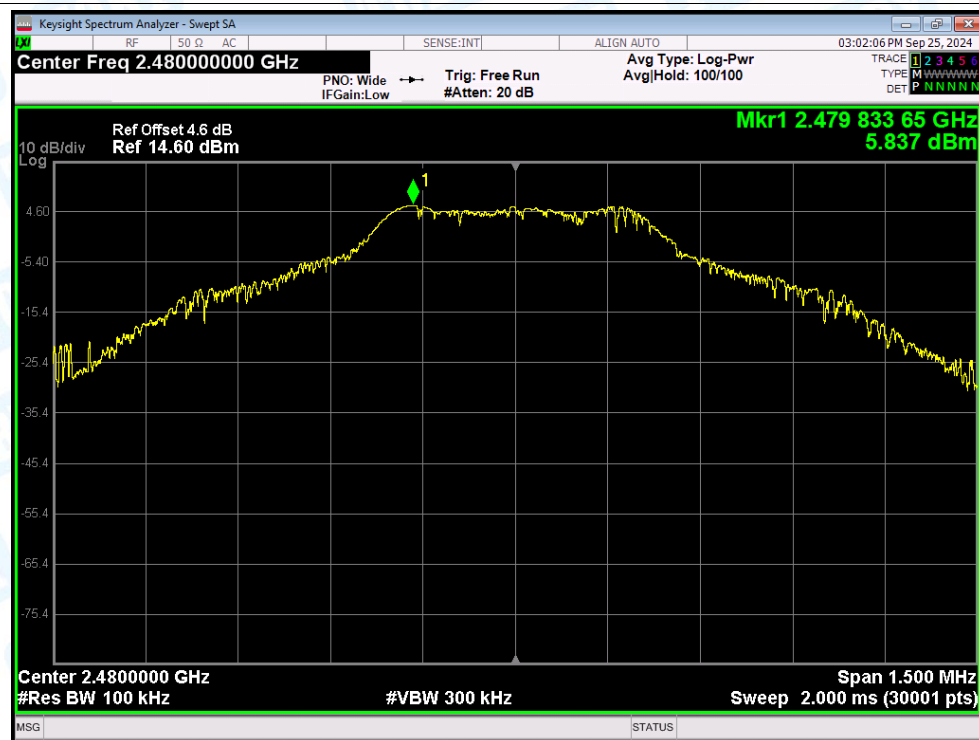
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



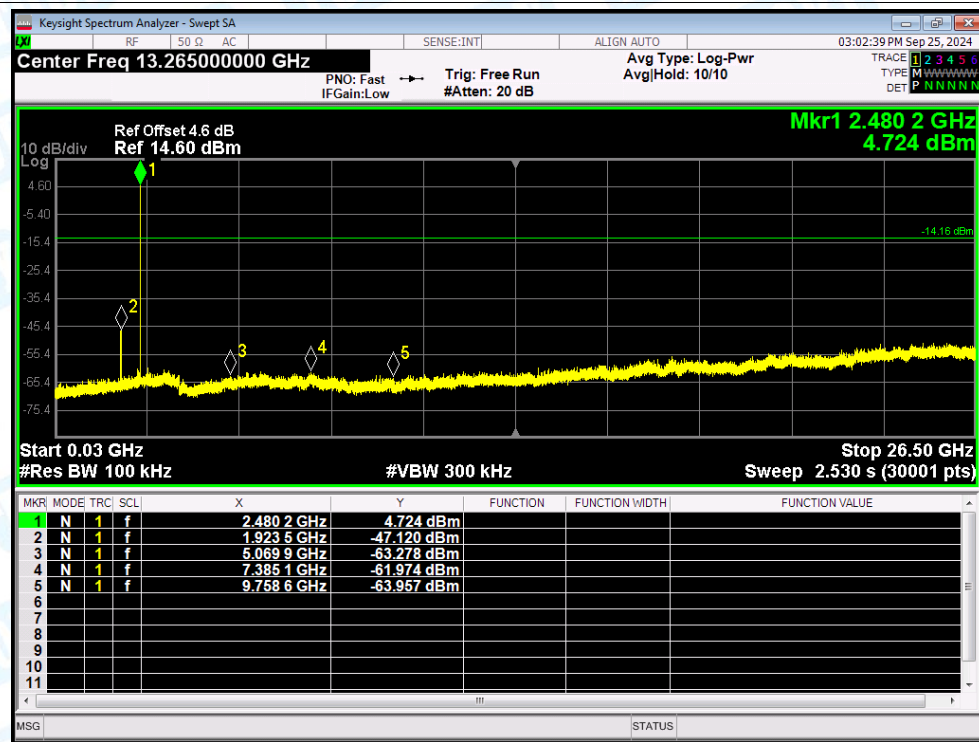
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



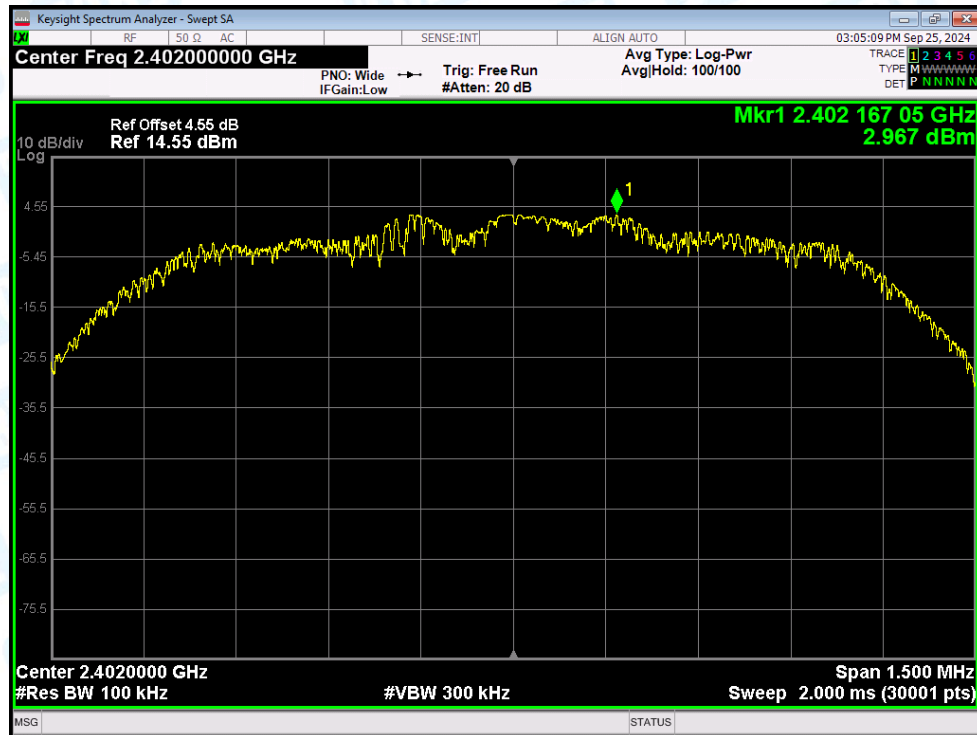
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



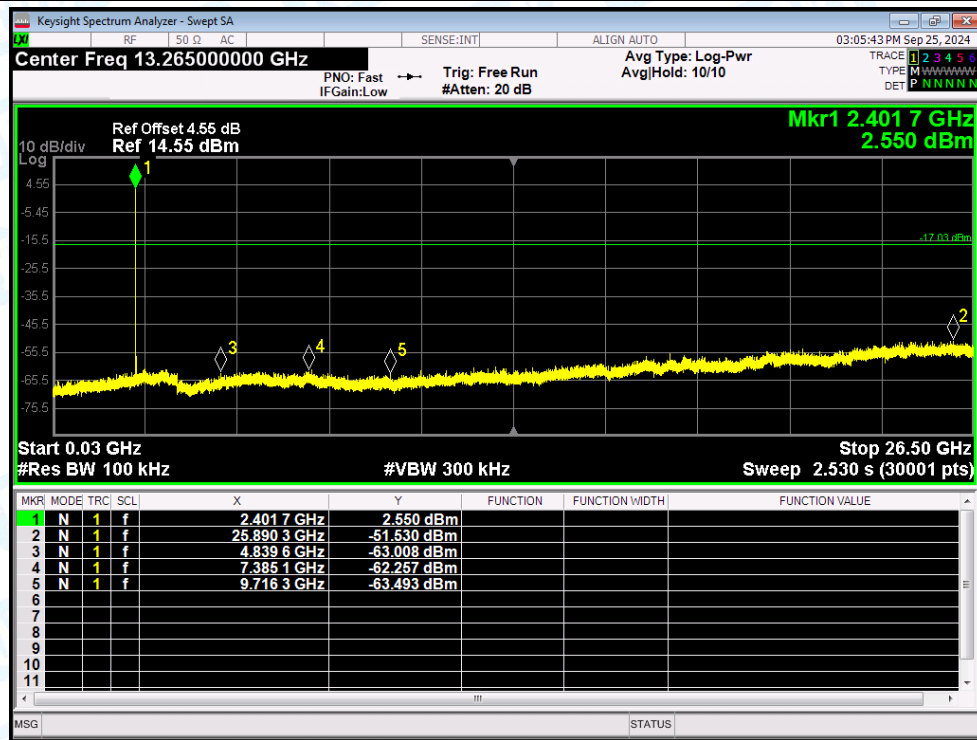
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



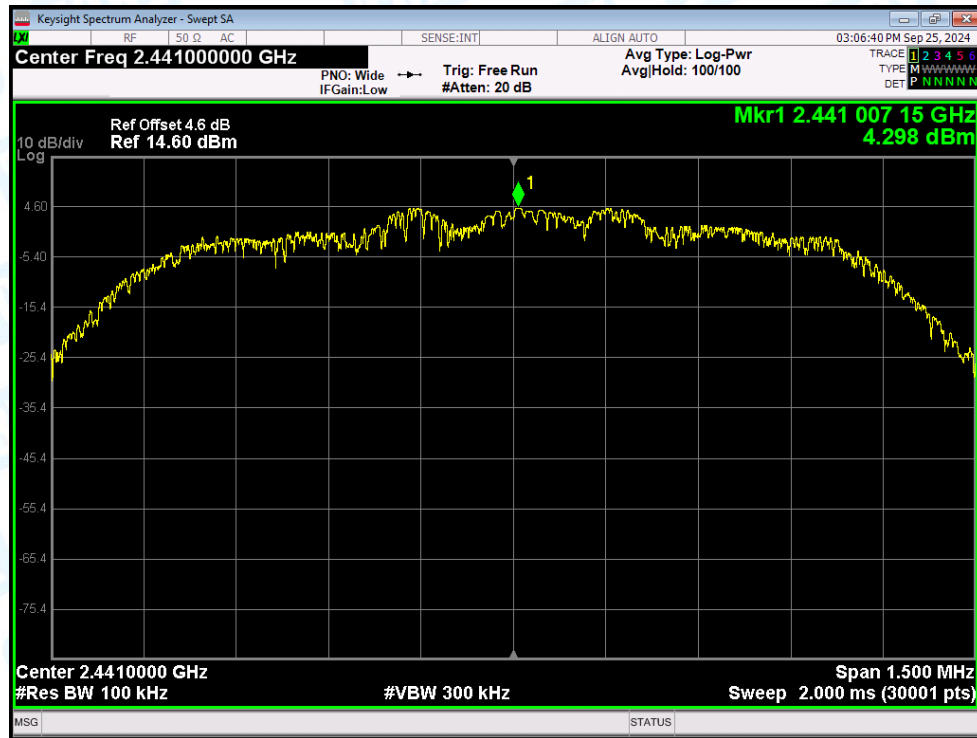
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



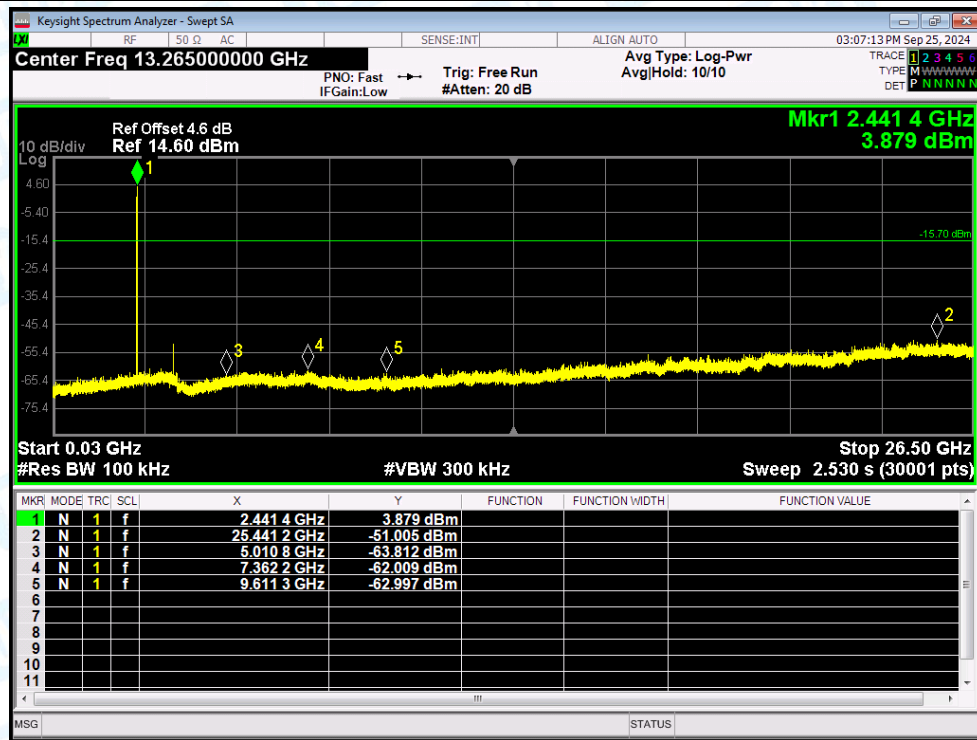
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



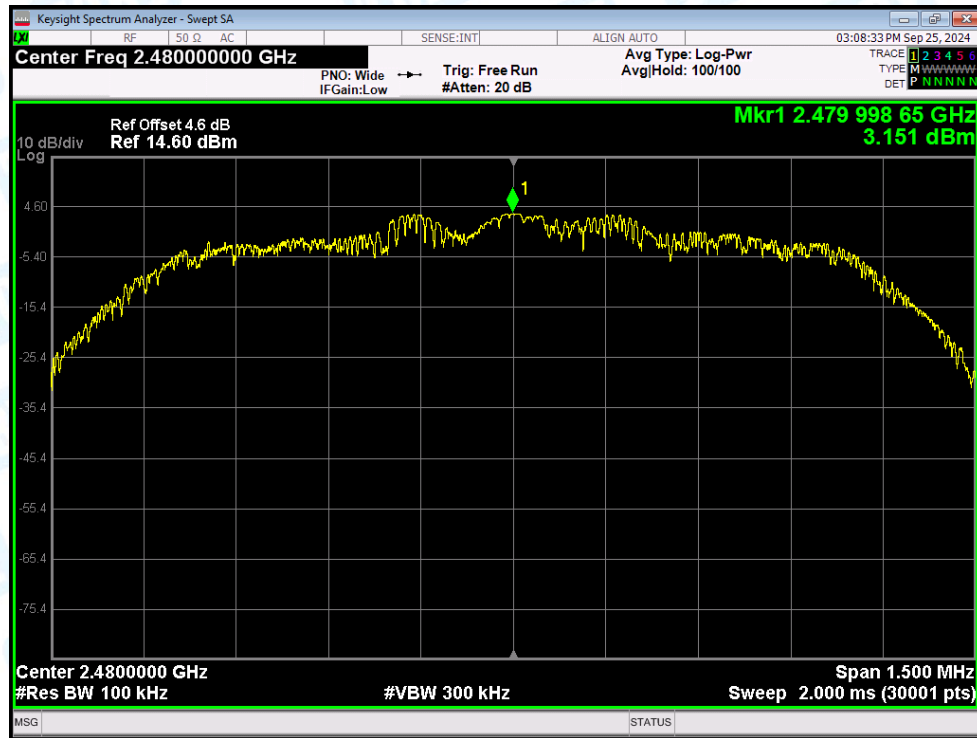
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



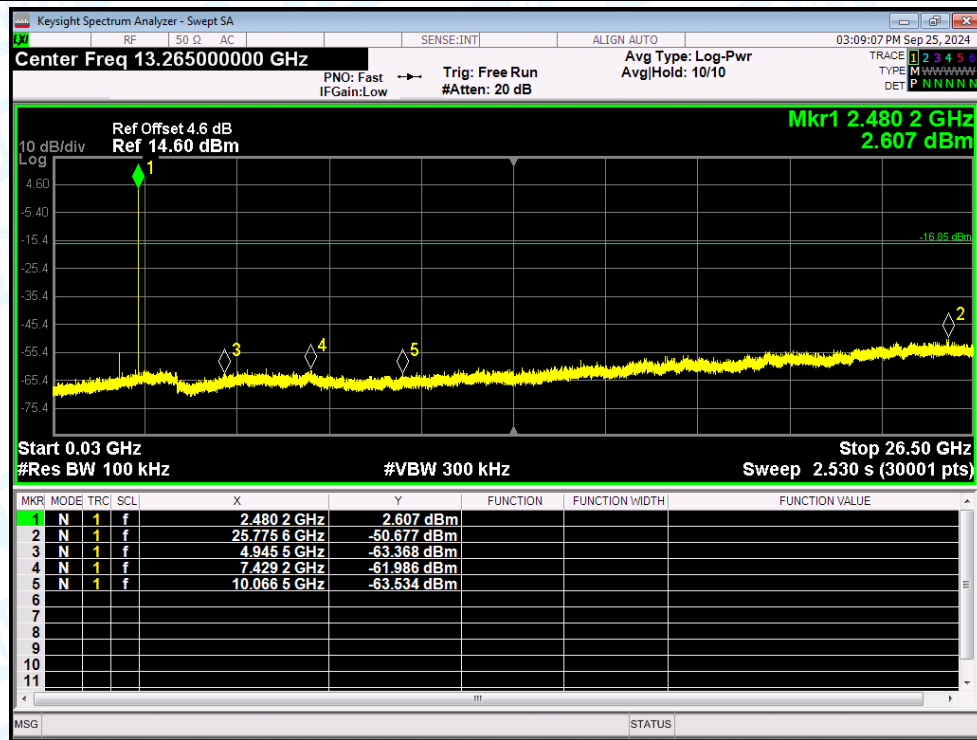
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



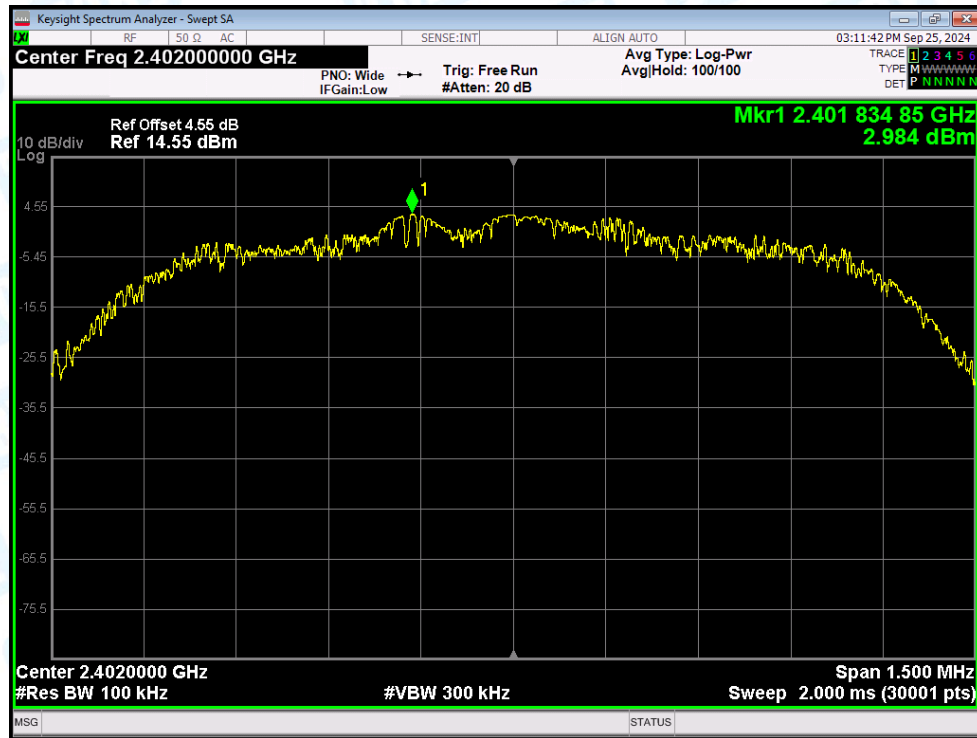
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



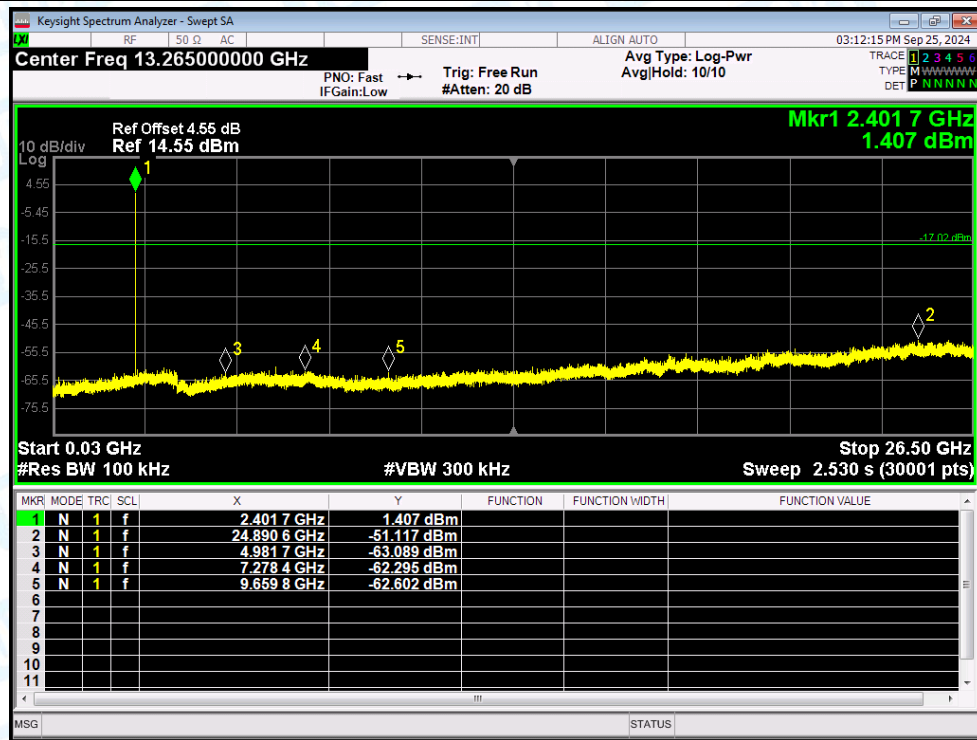
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



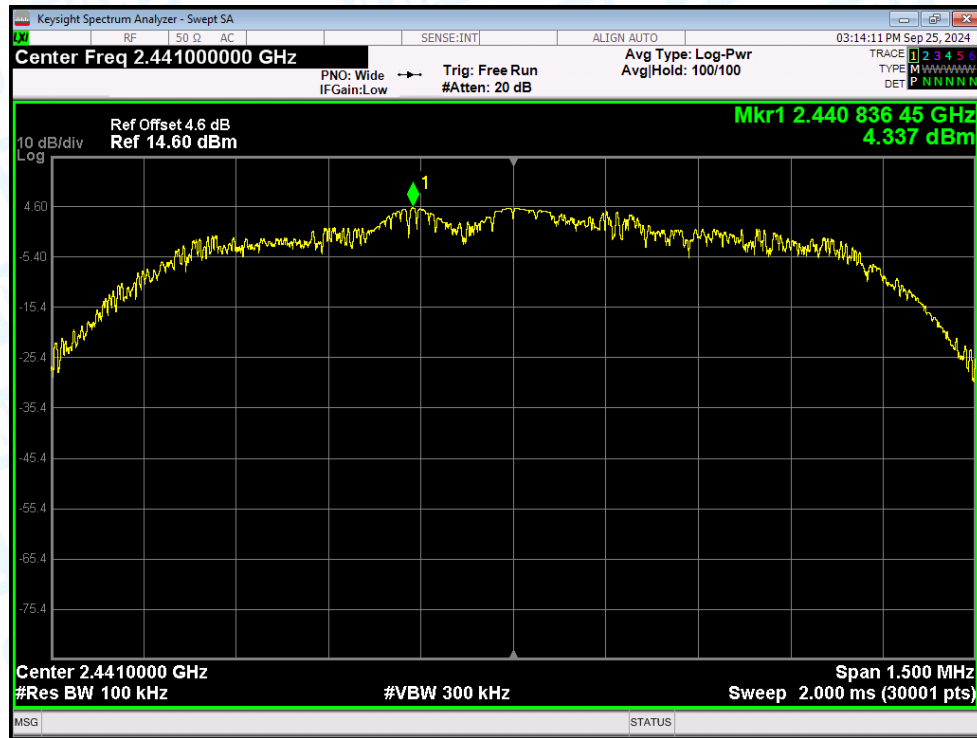
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



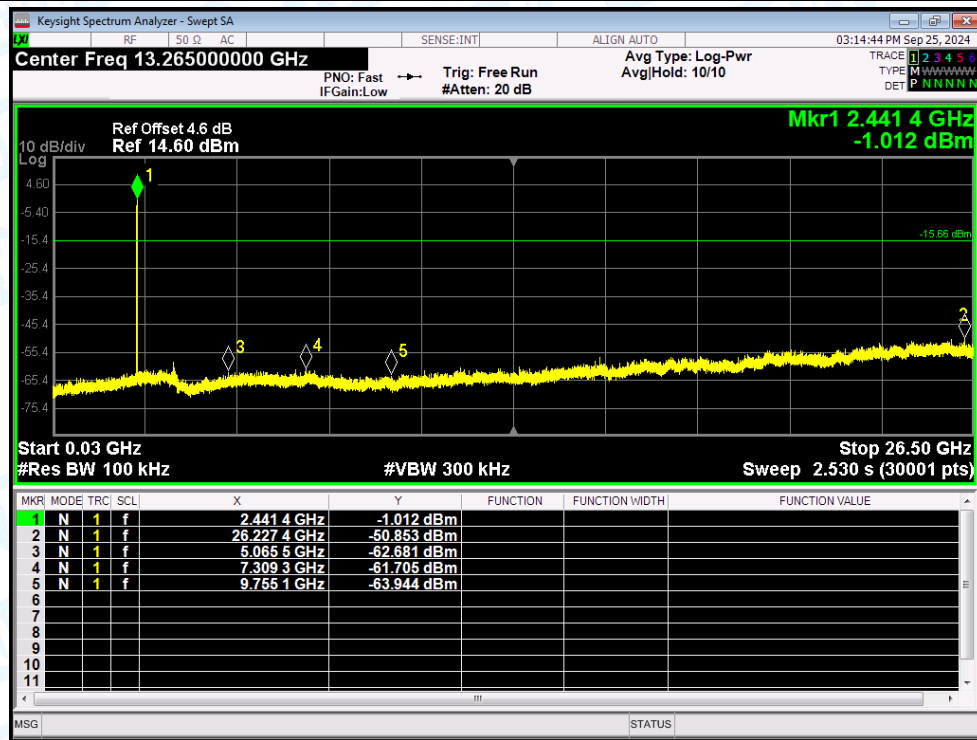
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



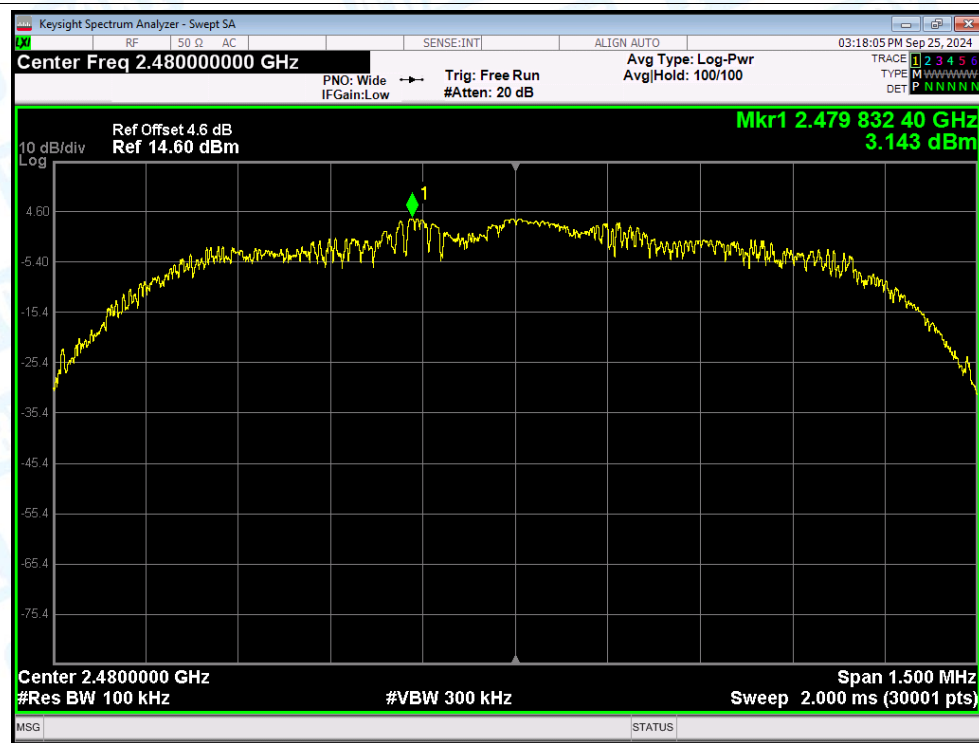
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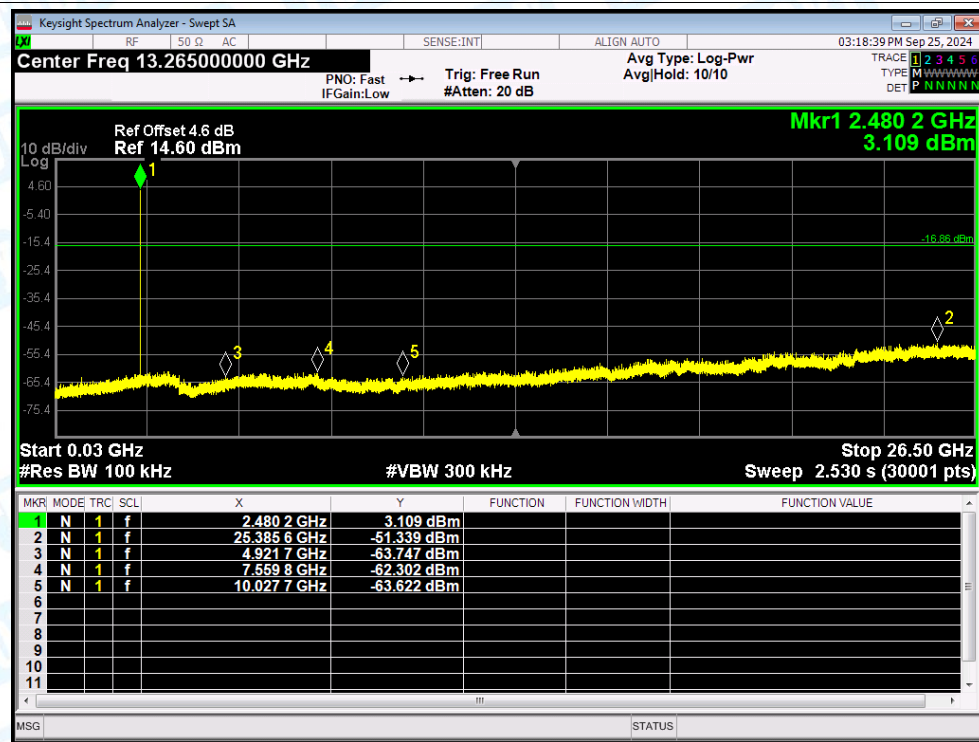
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

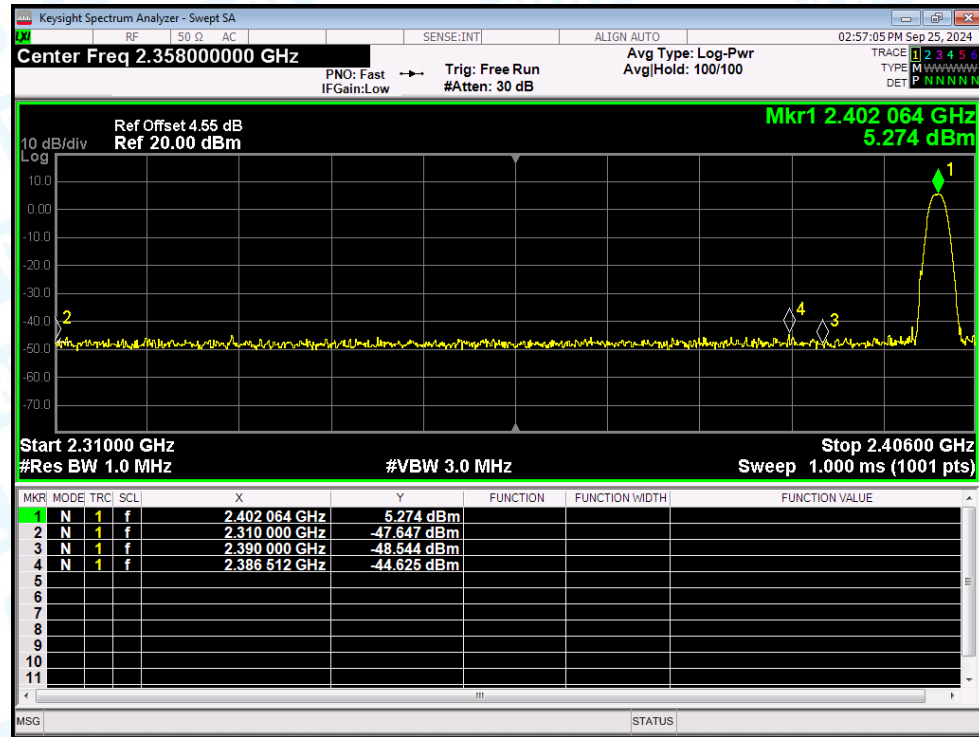


8. Restrict Band

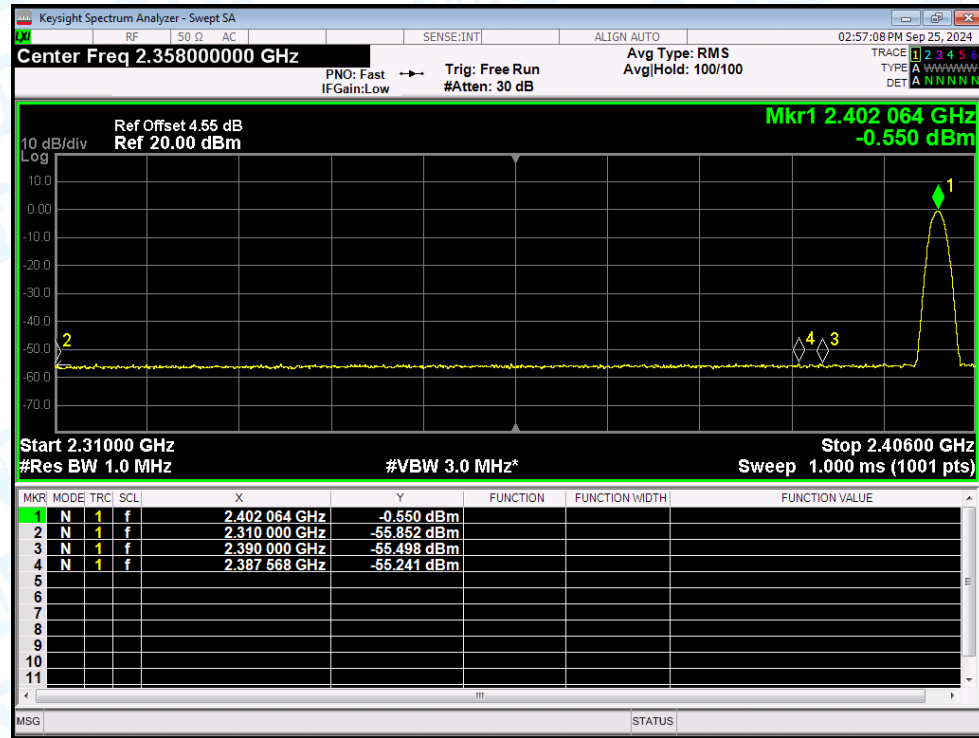
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.65	2	-	49.61	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-55.85	2	4.95	46.36	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2386.512	-44.63	2	-	52.63	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2387.568	-55.24	2	4.95	46.97	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.54	2	-	48.72	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.5	2	4.95	46.71	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-46.87	2	-	50.39	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-55.15	2	4.84	46.95	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.56	-42.82	2	-	54.44	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2490.808	-54.74	2	4.84	47.36	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-45.47	2	-	51.79	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.27	2	4.84	46.83	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.07	2	-	49.19	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.34	2	4.95	45.87	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2386.896	-45.08	2	-	52.18	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2384.688	-55.34	2	4.95	46.87	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.77	2	-	49.49	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-56.1	2	4.95	46.11	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-48	2	-	49.26	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.59	2	4.95	46.62	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.896	-40.71	2	-	56.55	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2485.336	-54.83	2	4.95	47.38	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.32	2	-	49.94	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-54.95	2	4.95	47.26	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-49.21	2	-	48.05	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.25	2	4.95	45.96	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2383.728	-45.05	2	-	52.21	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2366.448	-55.46	2	4.95	46.75	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-48.37	2	-	48.89	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.83	2	4.95	46.38	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-48.26	2	-	49	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-55.67	2	4.95	46.54	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.728	-40.8	2	-	56.46	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.92	-54.65	2	4.95	47.56	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-48.02	2	-	49.24	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.16	2	4.95	47.05	Average	54	Pass

Test Graphs

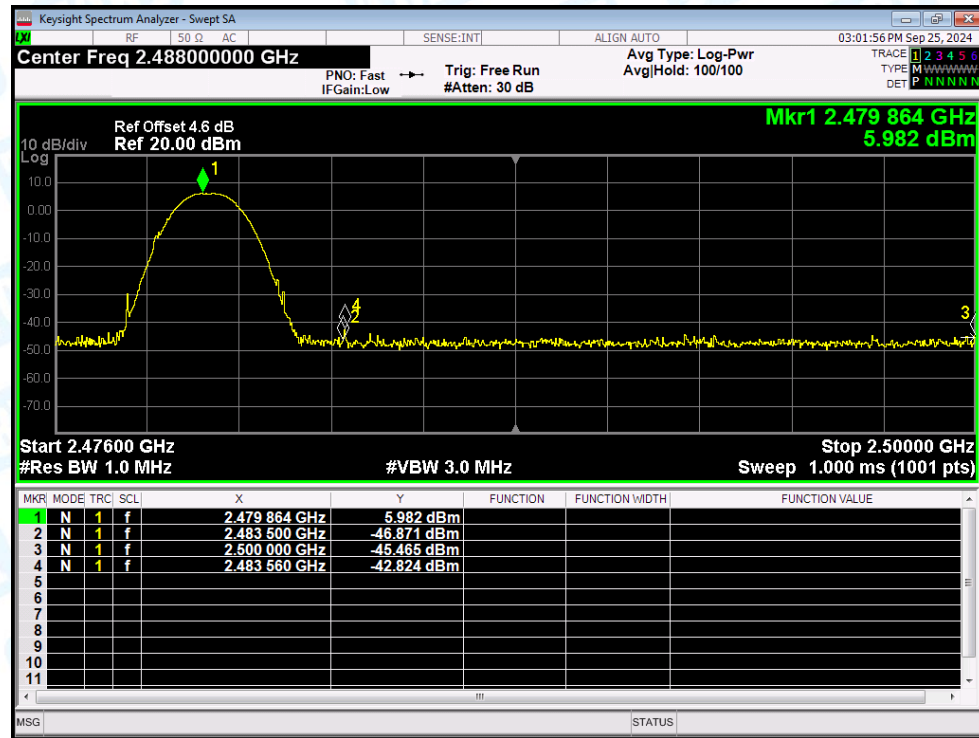
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



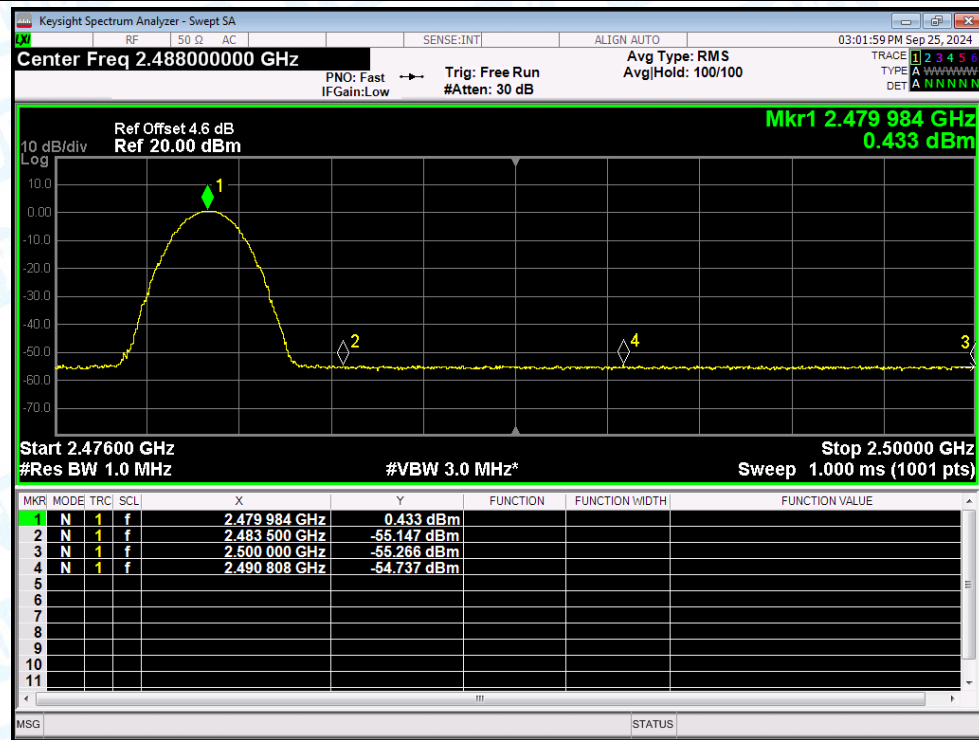
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



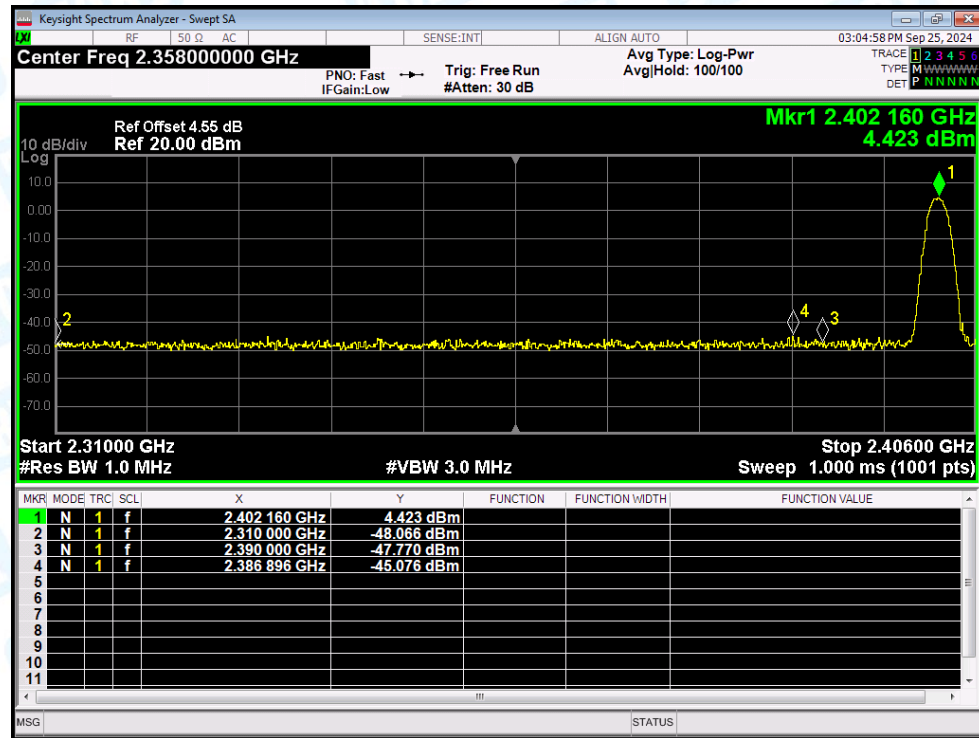
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



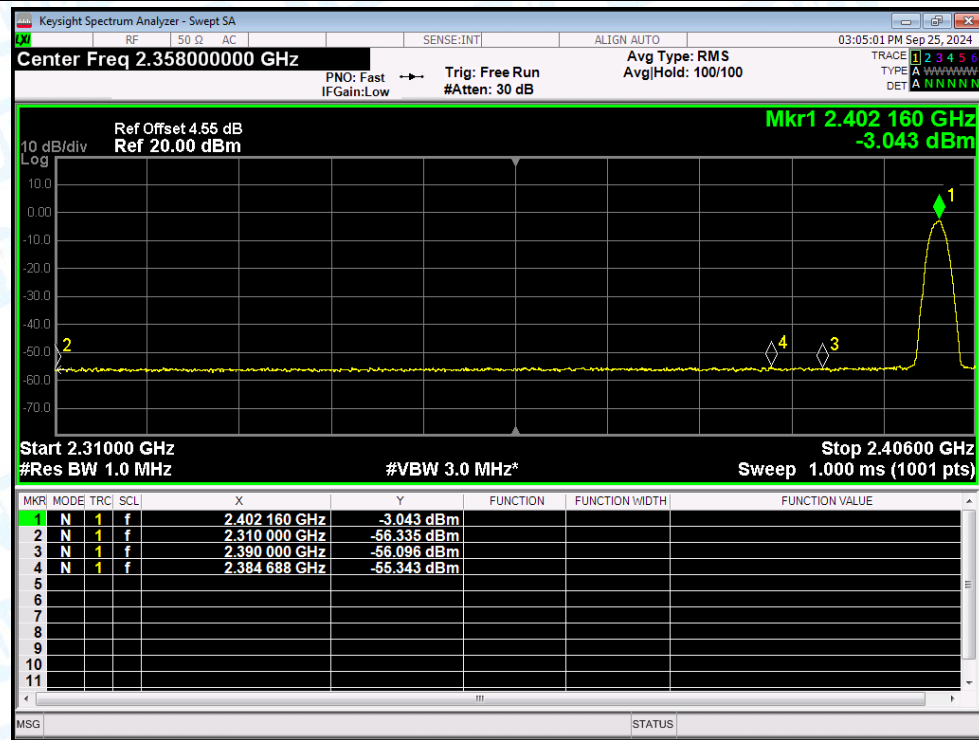
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



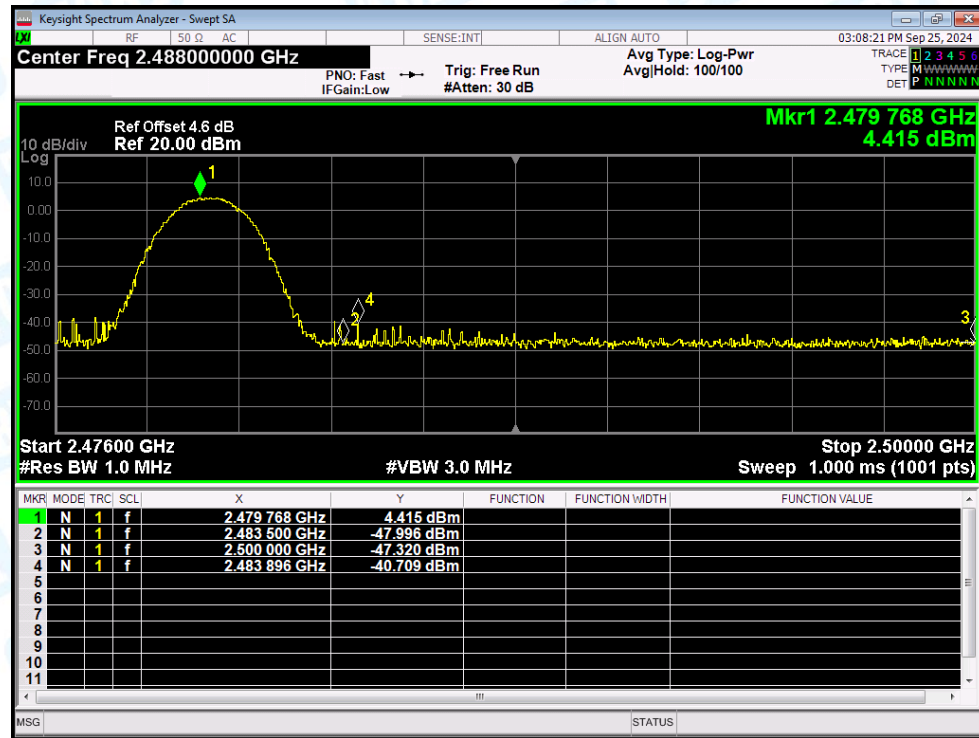
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



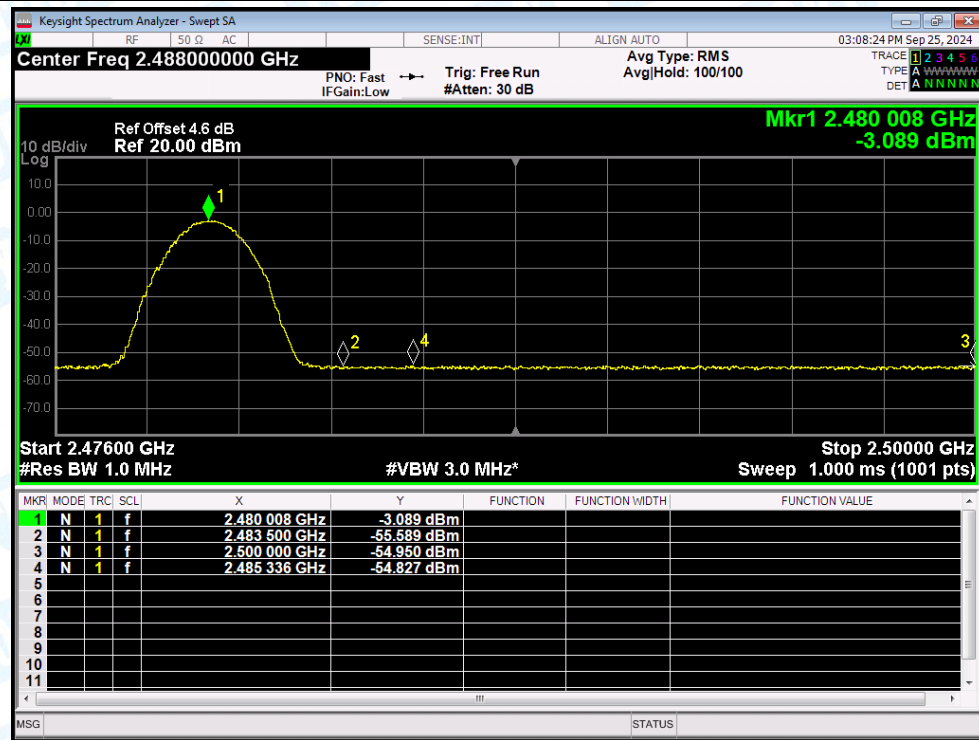
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



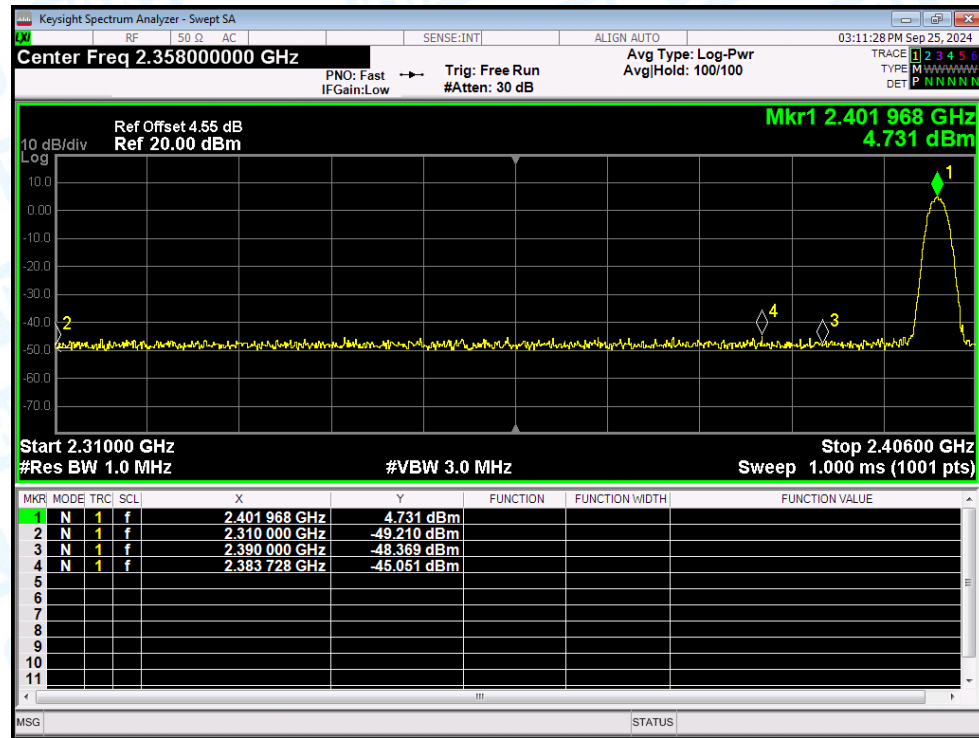
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



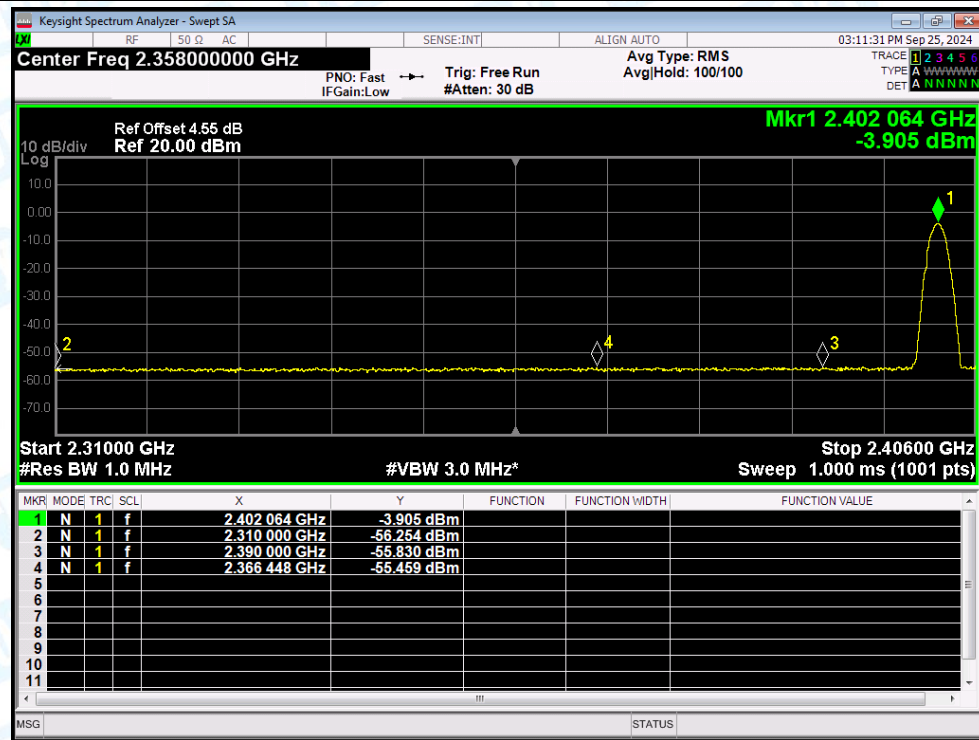
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



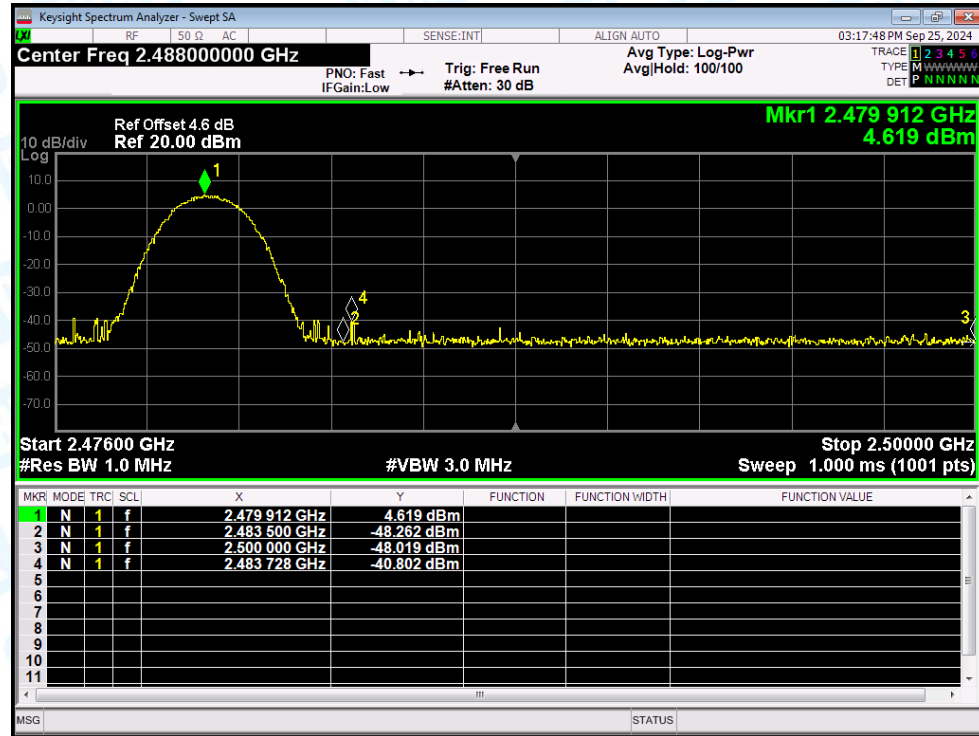
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



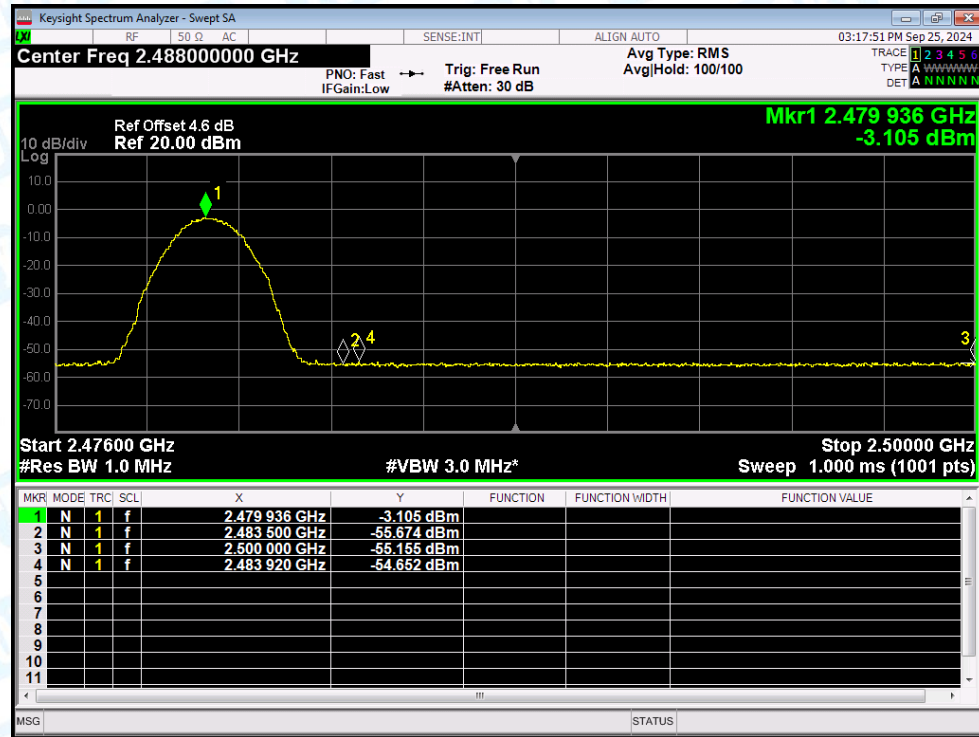
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

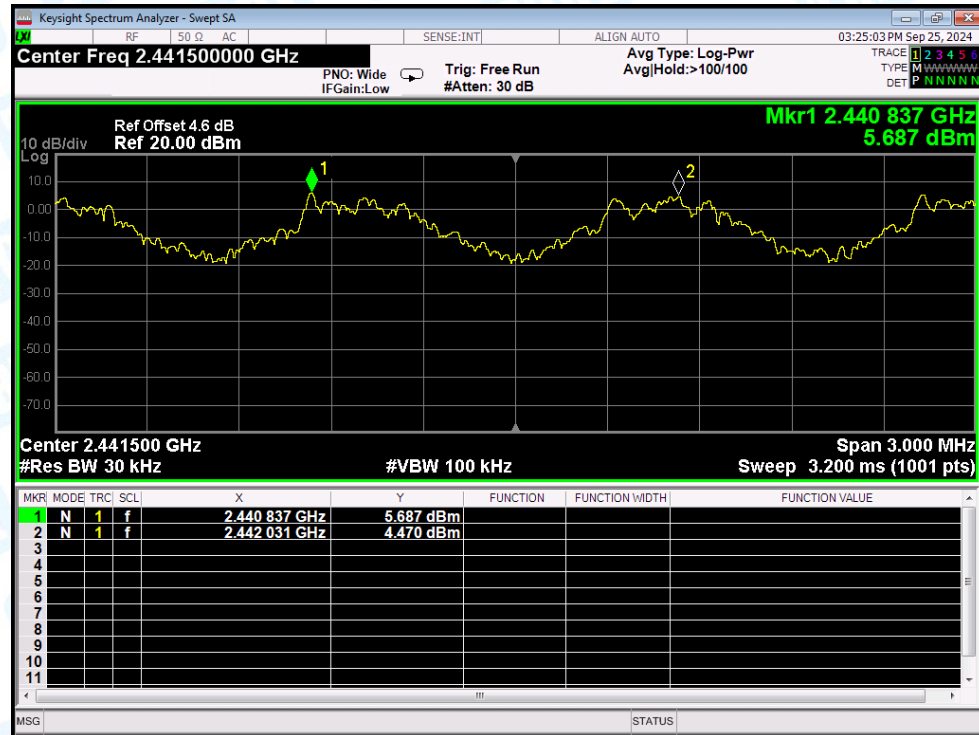


9. Carrier Frequencies Separation

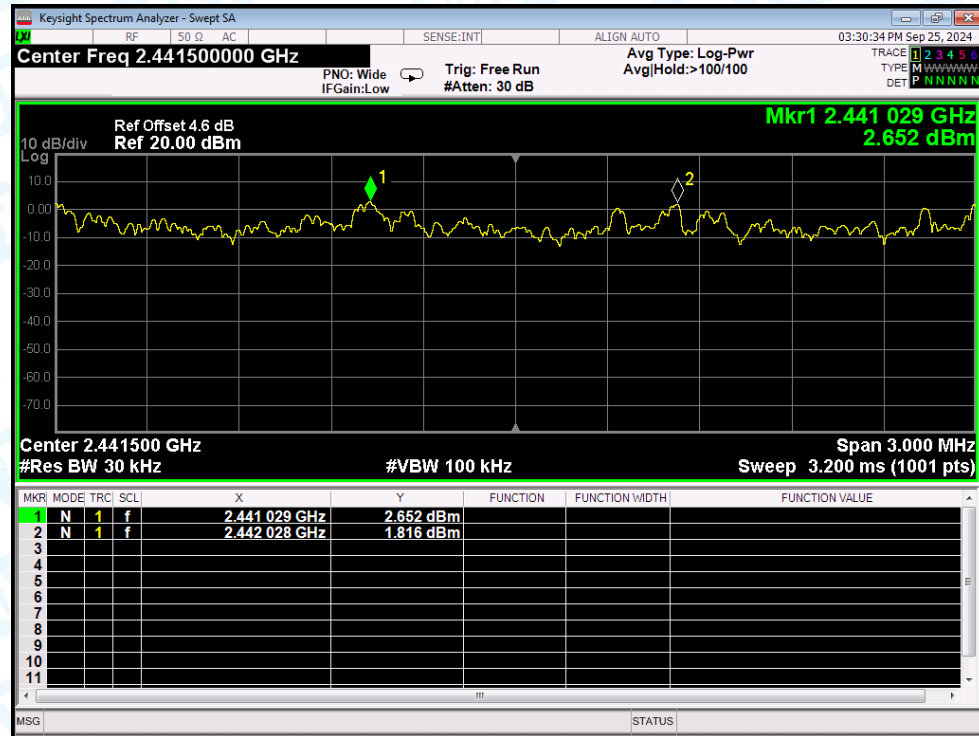
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.837	2442.031	1.194	0.587	Pass
NVNT	2-DH1	Ant1	2441.029	2442.028	0.999	0.84	Pass
NVNT	3-DH1	Ant1	2441.026	2442.007	0.981	0.833	Pass

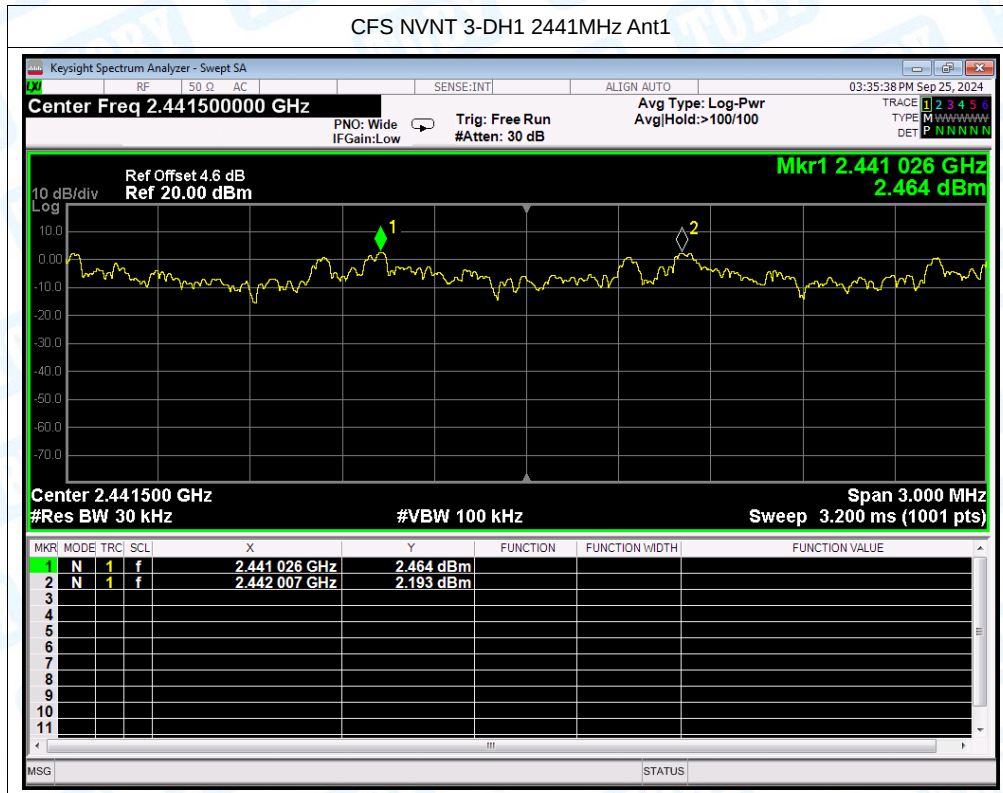
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



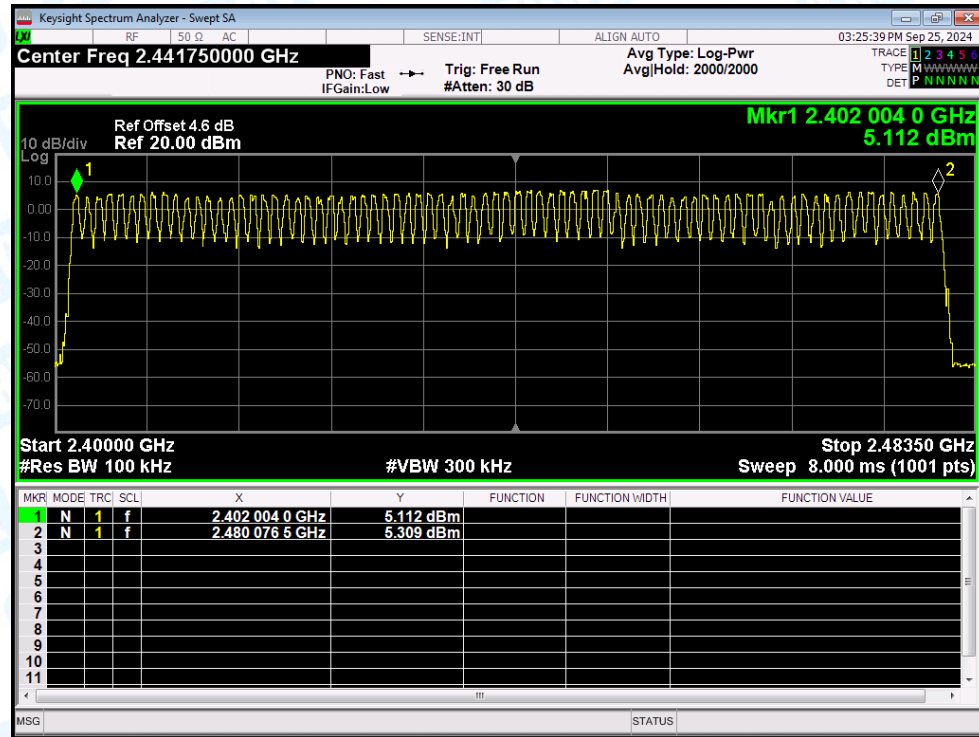


10. Number of Hopping Channel

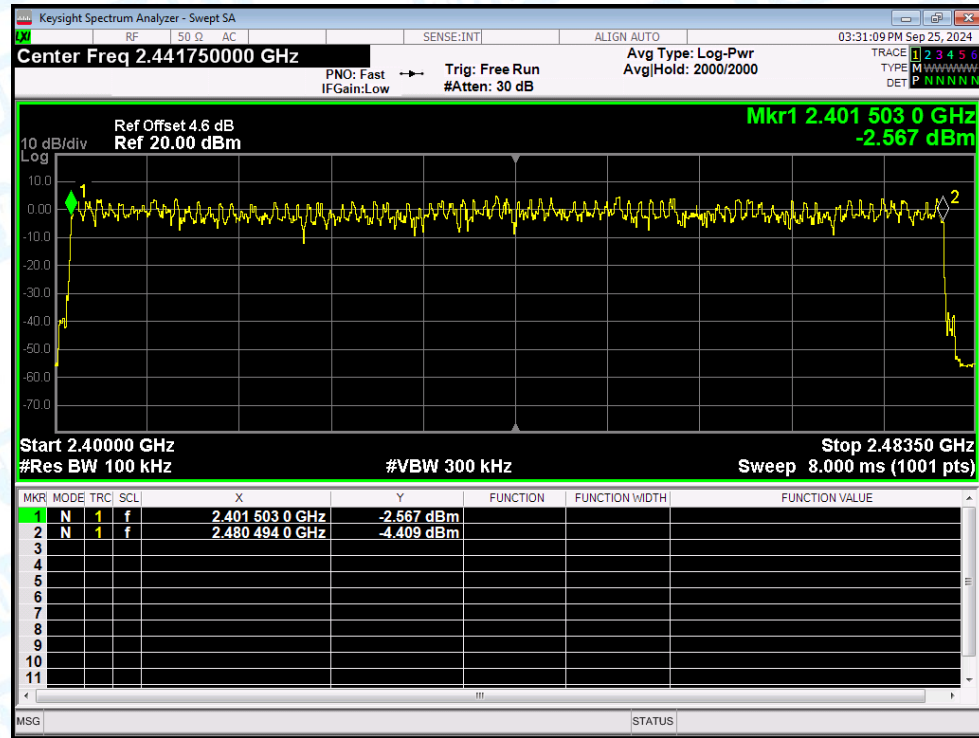
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

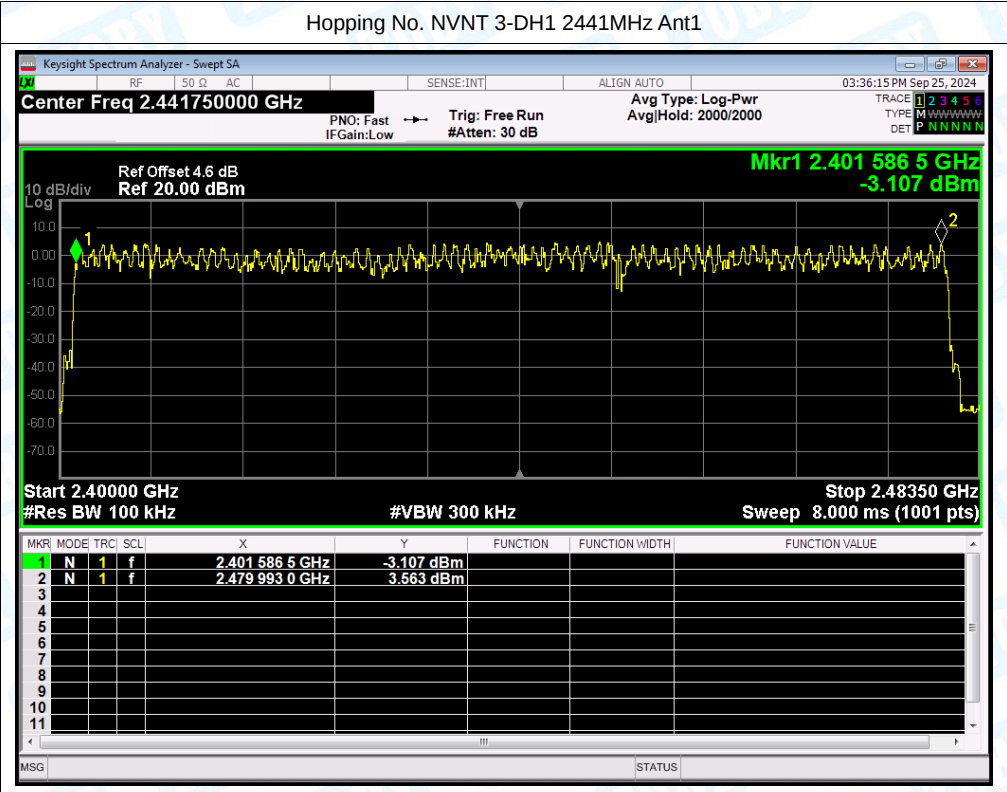
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



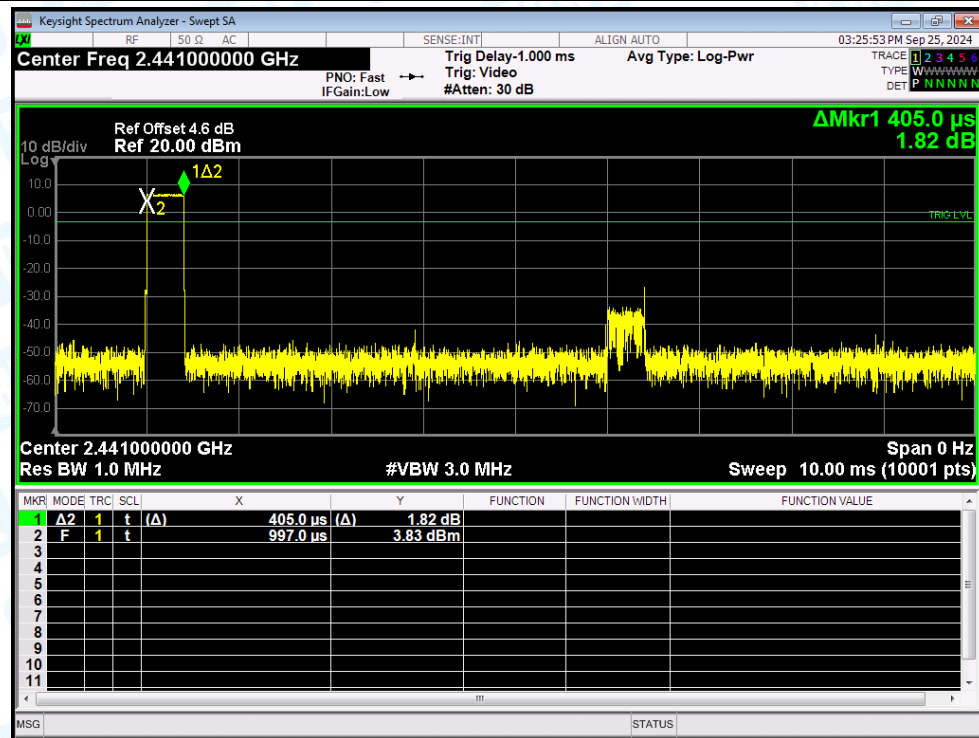


11. Dwell Time

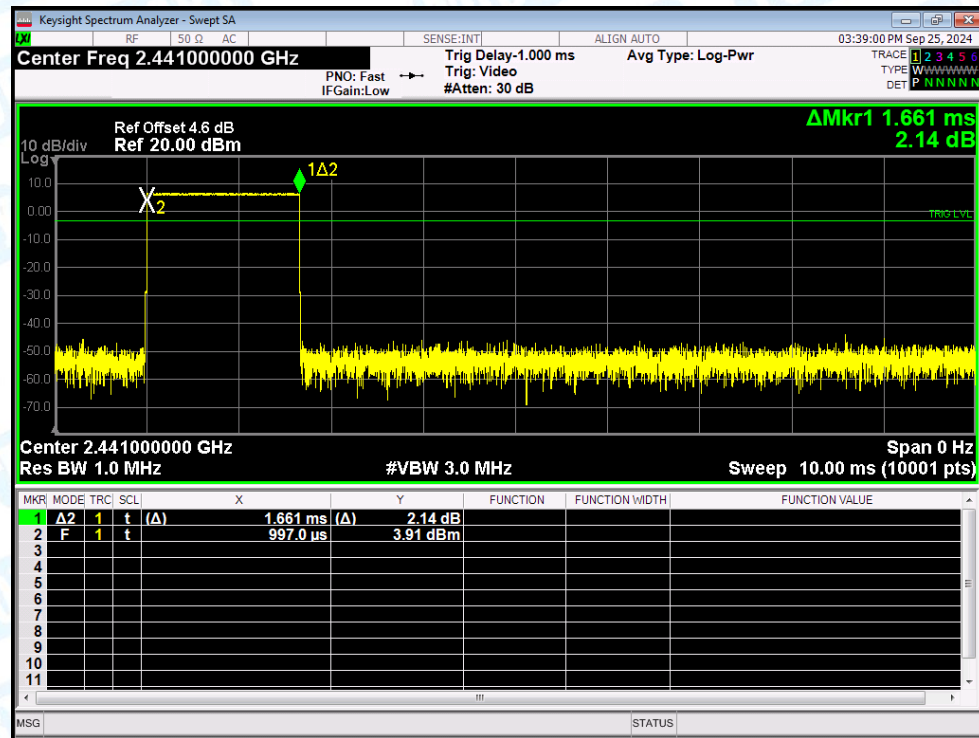
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.405	129.6	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.661	265.76	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.909	310.293	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.399	127.68	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.65	264	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.899	309.227	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.397	127.04	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.646	263.36	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.897	309.013	31600	400	Pass

Test Graphs

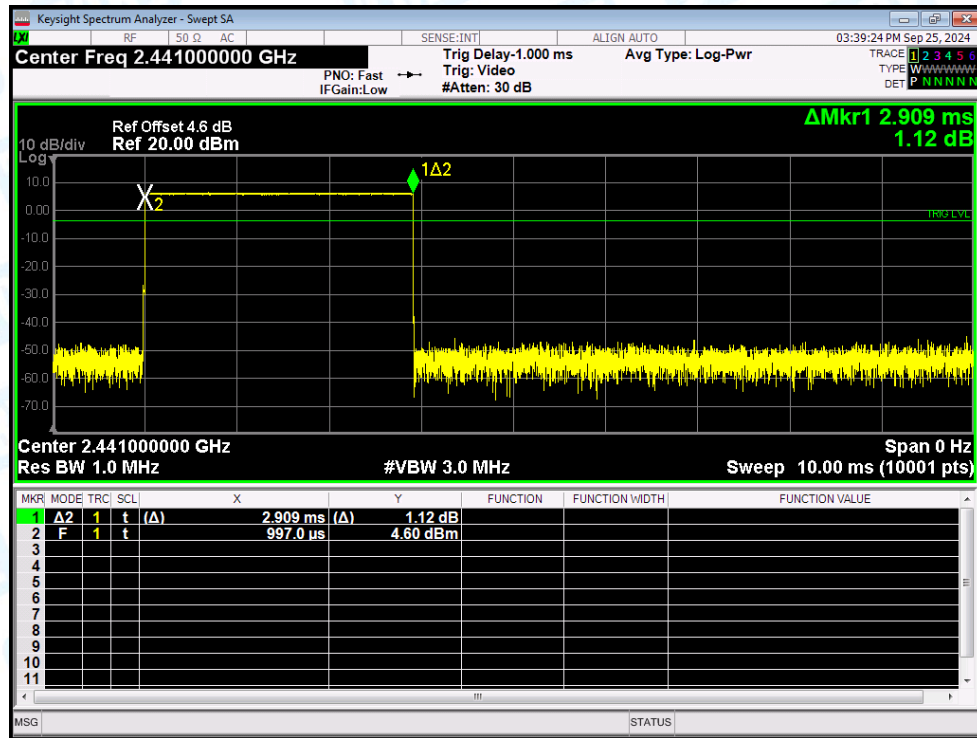
Dwell NVNT 1-DH1 2441MHz Ant1



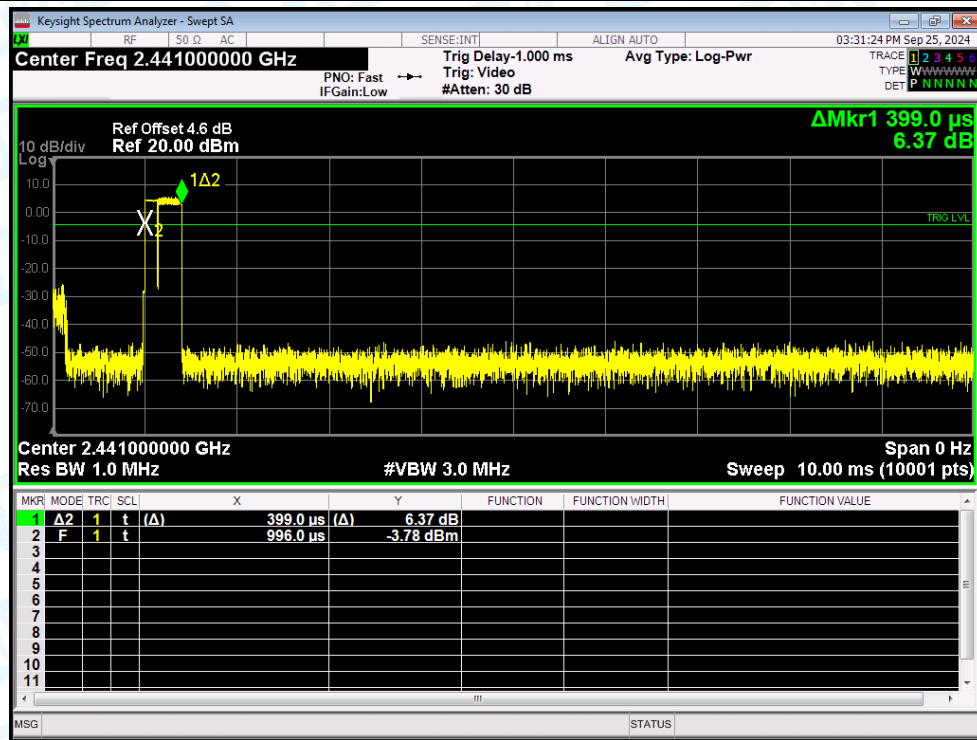
Dwell NVNT 1-DH3 2441MHz Ant1



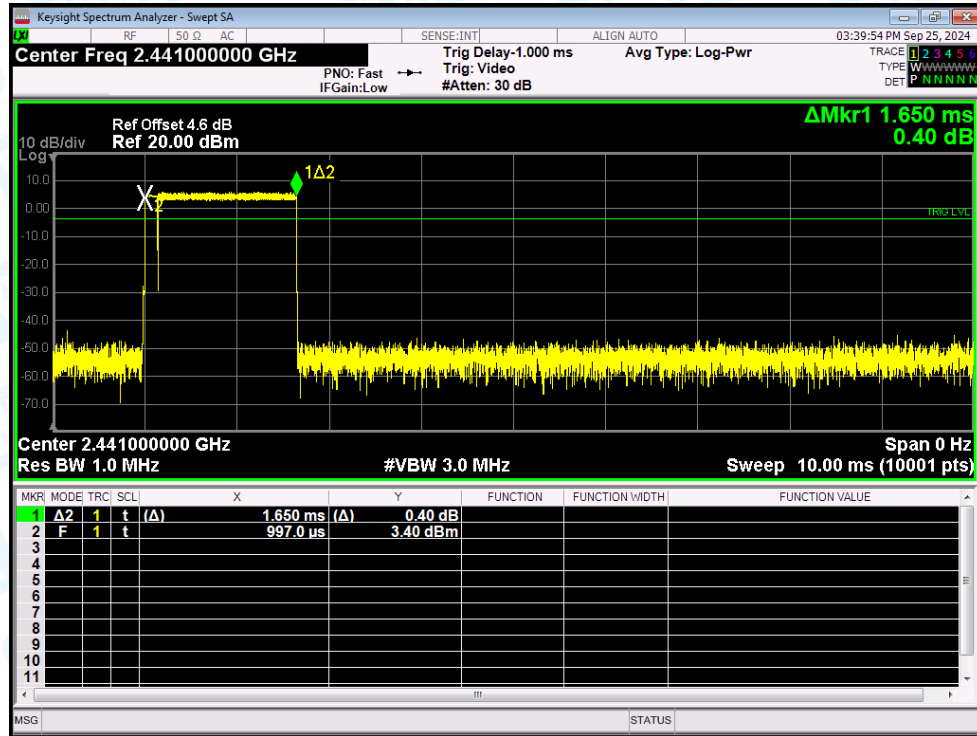
Dwell NVNT 1-DH5 2441MHz Ant1



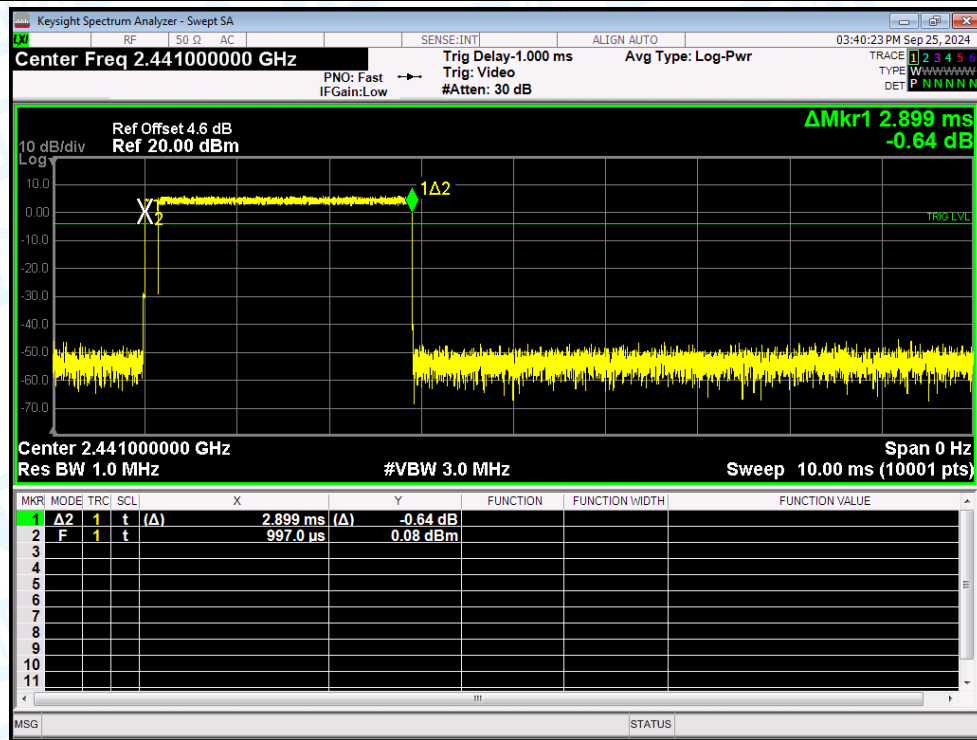
Dwell NVNT 2-DH1 2441MHz Ant1



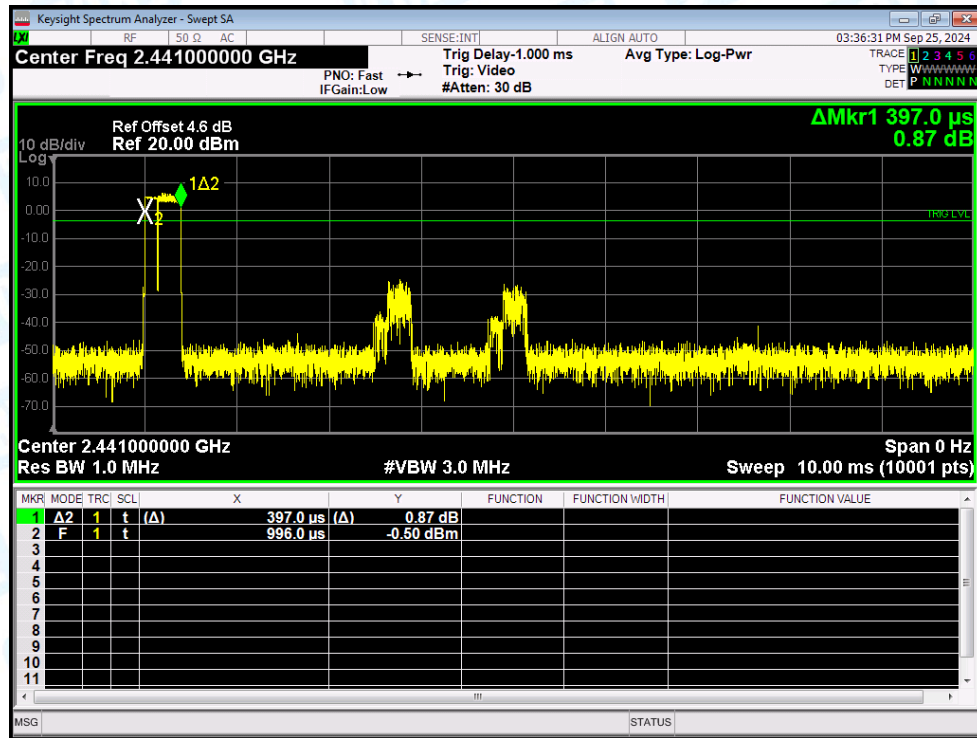
Dwell NVNT 2-DH3 2441MHz Ant1



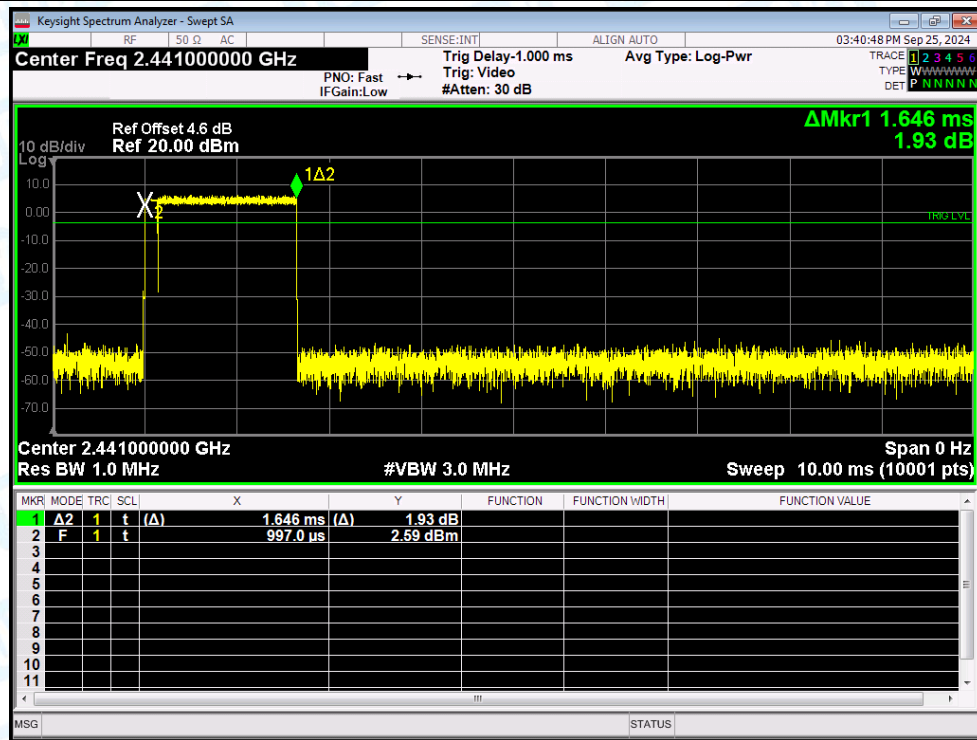
Dwell NVNT 2-DH5 2441MHz Ant1

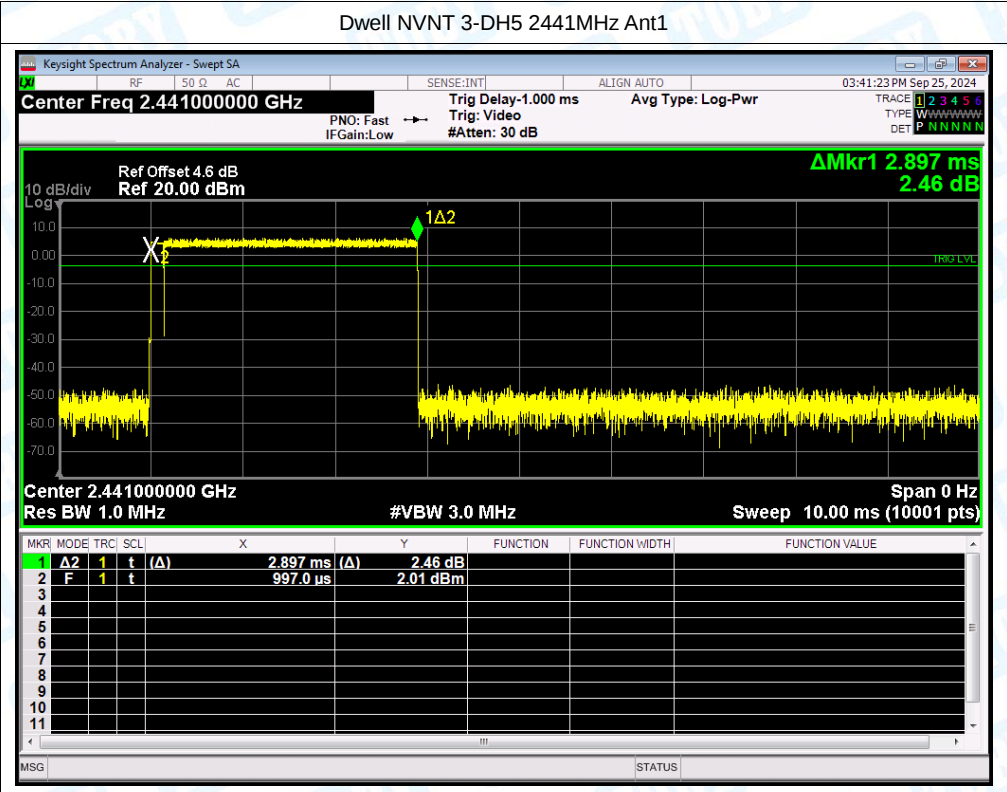


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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