

RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	SMART WATCH
Test Model:	L81B
Sample ID:	HC-C-202404-0273-01-01
Environmental Conditions	
Temperature:	24°C
Relative Humidity:	47%
Test Voltage:	DC 3.7V
Test Engineer:	ZKN Zhou
Note: For a more detailed features description, please refer to the report TBR-C-202404-0273-71 The report only show the worst case data.	

Contents

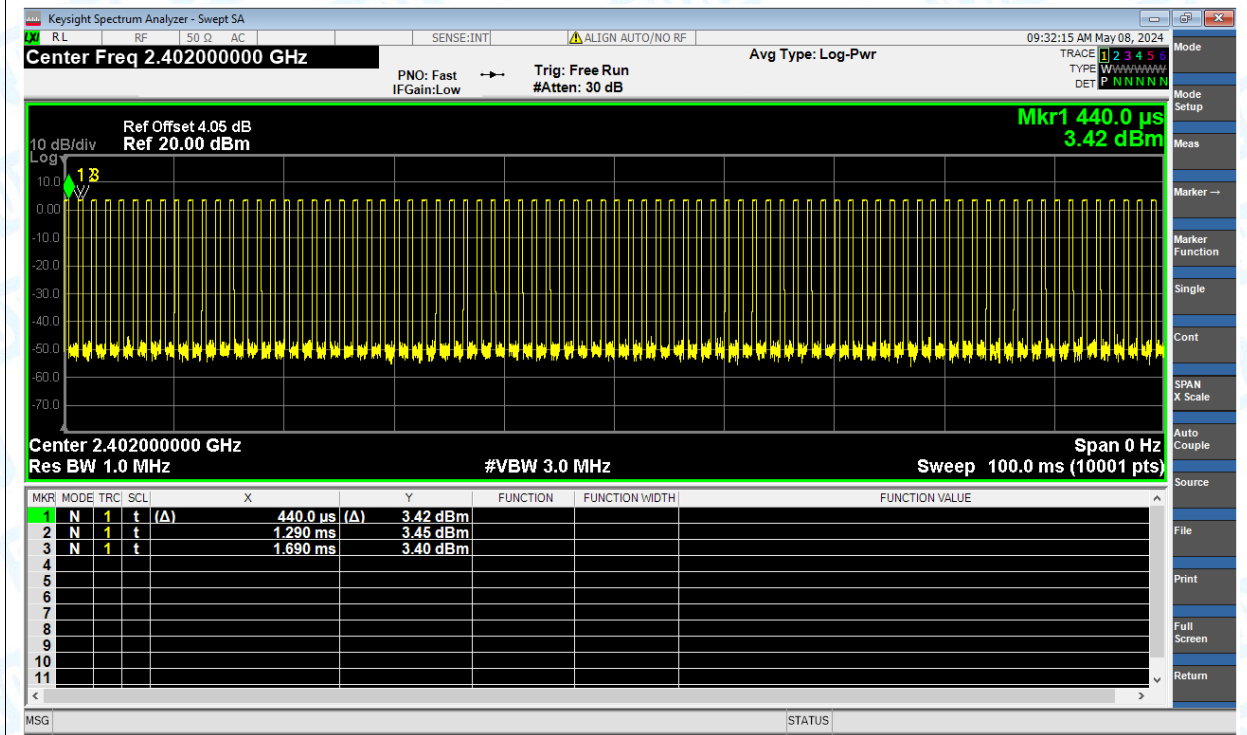
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1. Duty Cycle

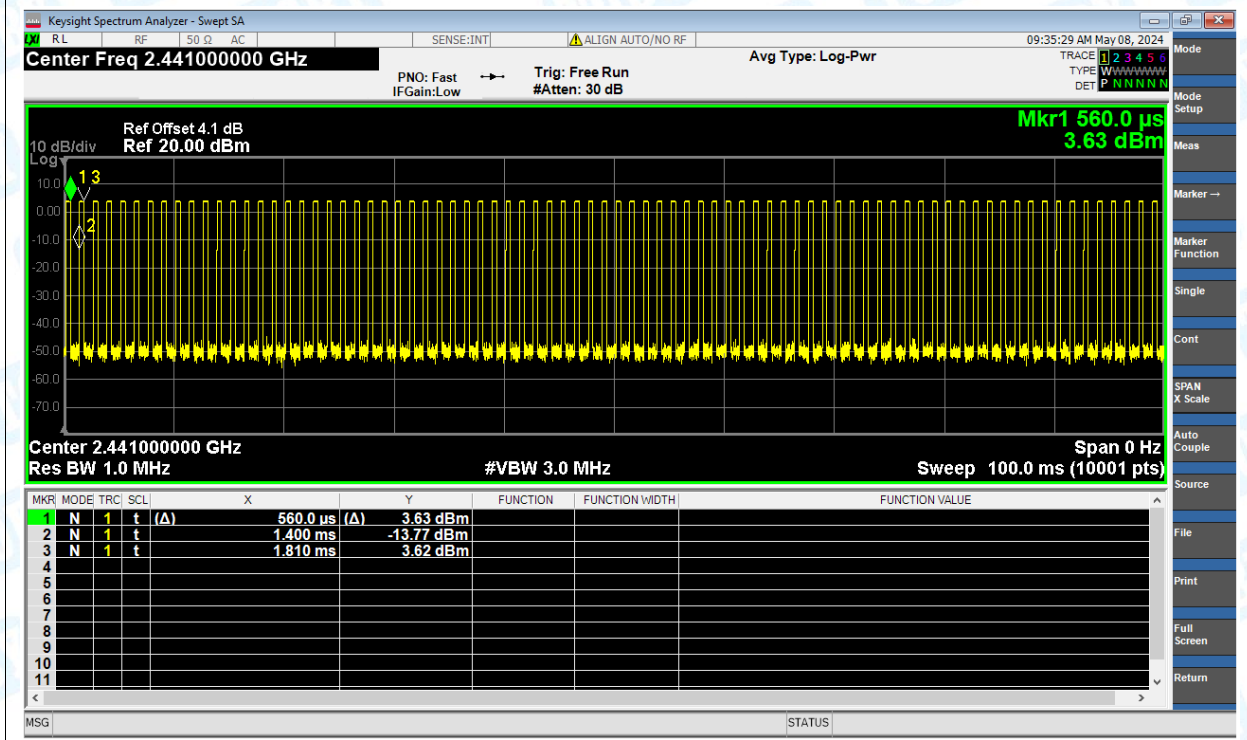
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	32	4.95	2.5
NVNT	1-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2402	Ant1	33.6	4.74	2.38
NVNT	2-DH1	2441	Ant1	33.6	4.74	2.38
NVNT	2-DH1	2480	Ant1	33.6	4.74	2.38
NVNT	3-DH1	2402	Ant1	33.6	4.74	2.38
NVNT	3-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	3-DH1	2480	Ant1	33.6	4.74	2.38

Test Graphs

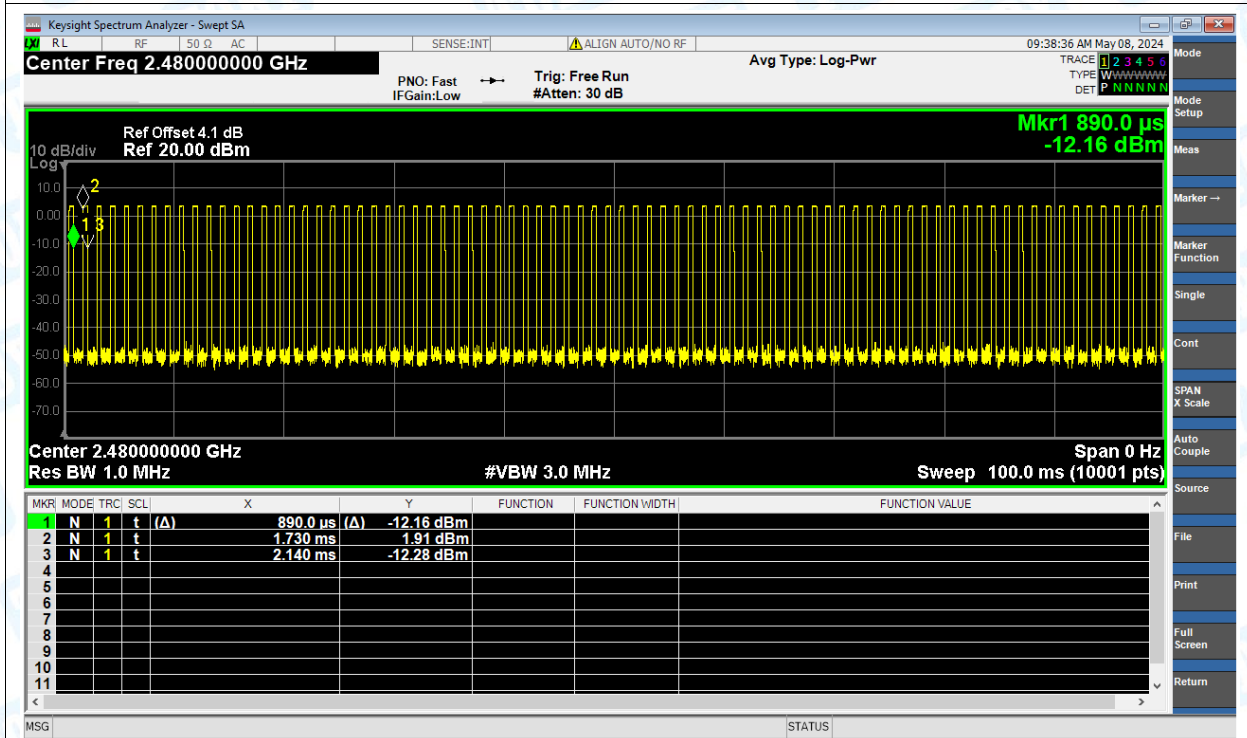
Duty Cycle NVNT 1-DH1 2402MHz Ant1



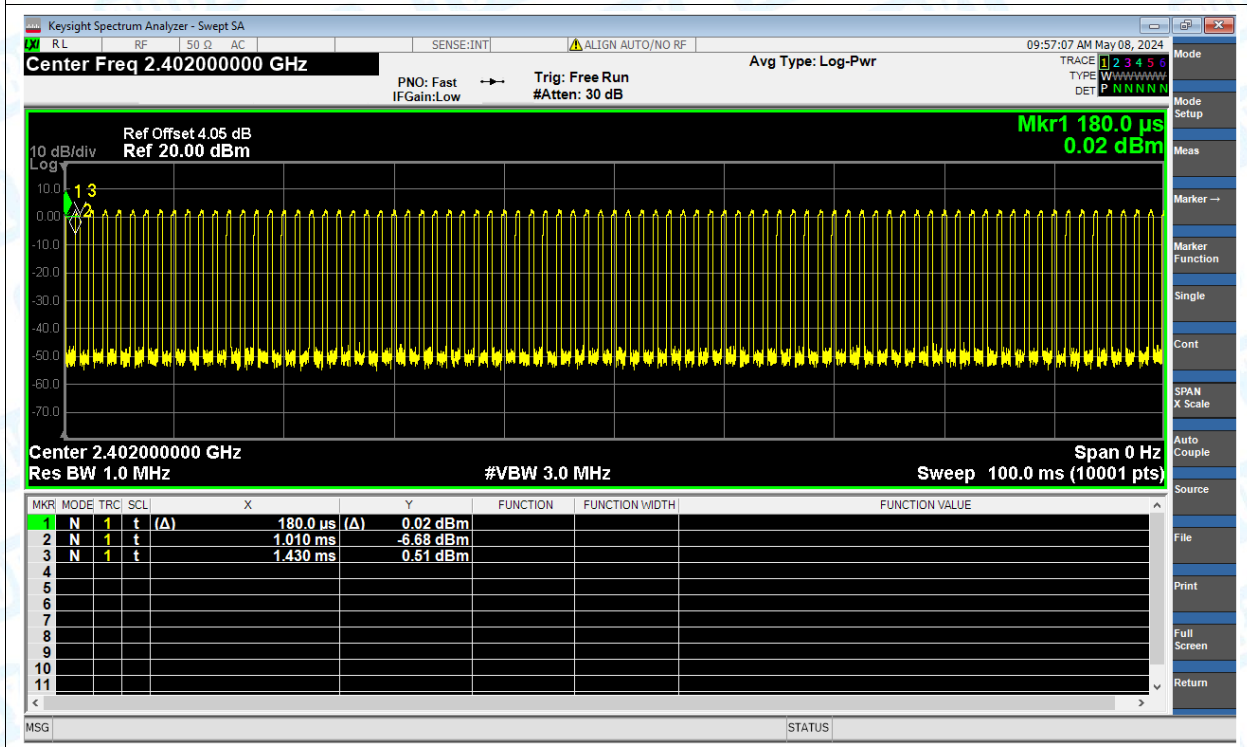
Duty Cycle NVNT 1-DH1 2441MHz Ant1



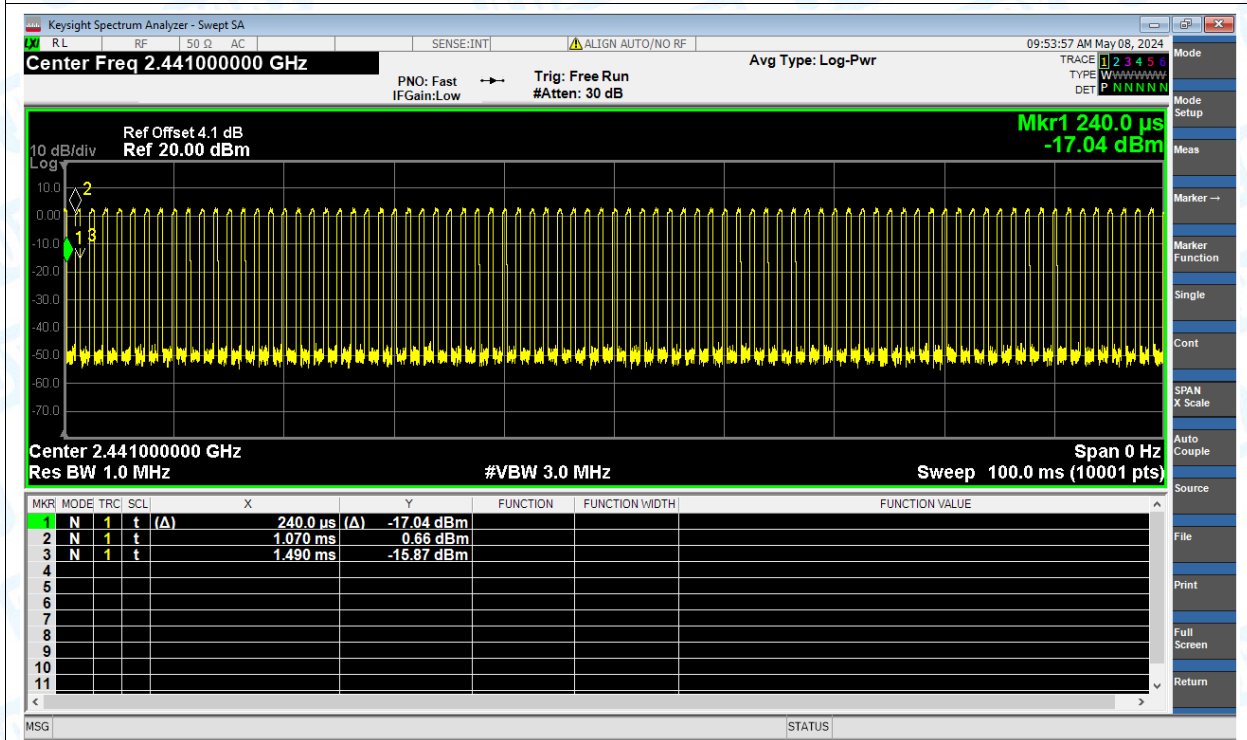
Duty Cycle NVNT 1-DH1 2480MHz Ant1



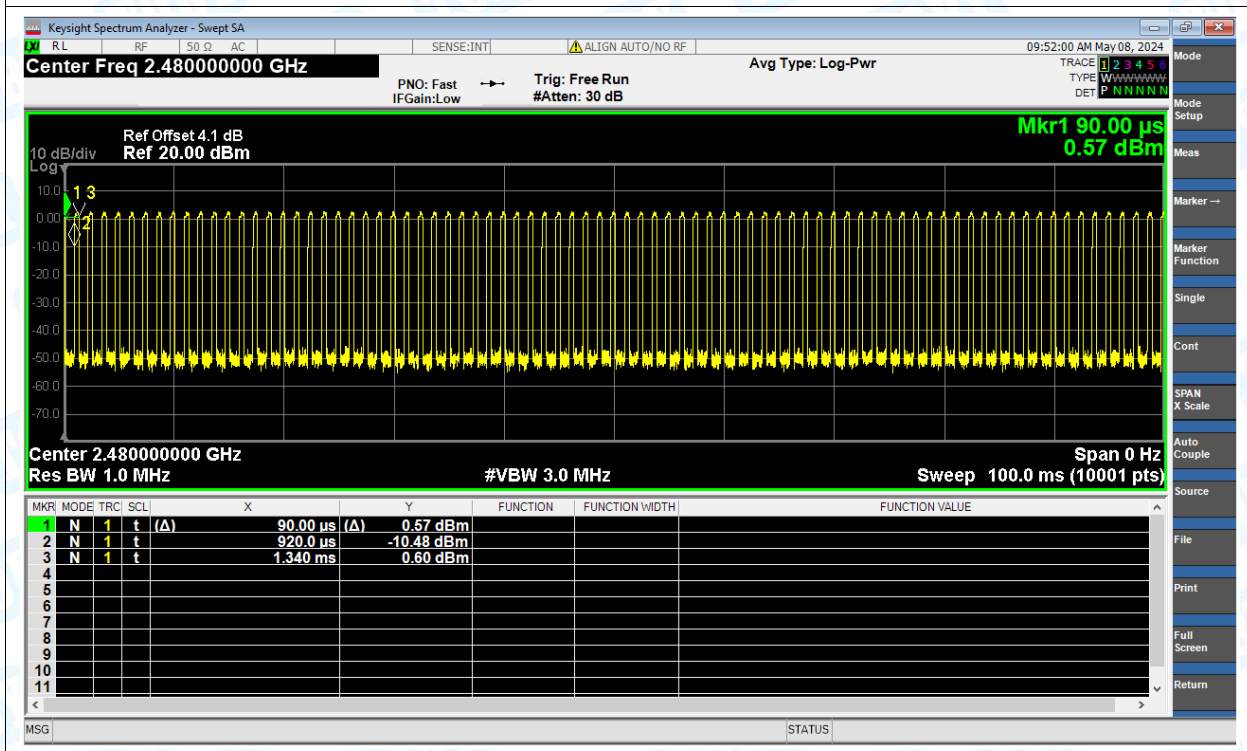
Duty Cycle NVNT 2-DH1 2402MHz Ant1



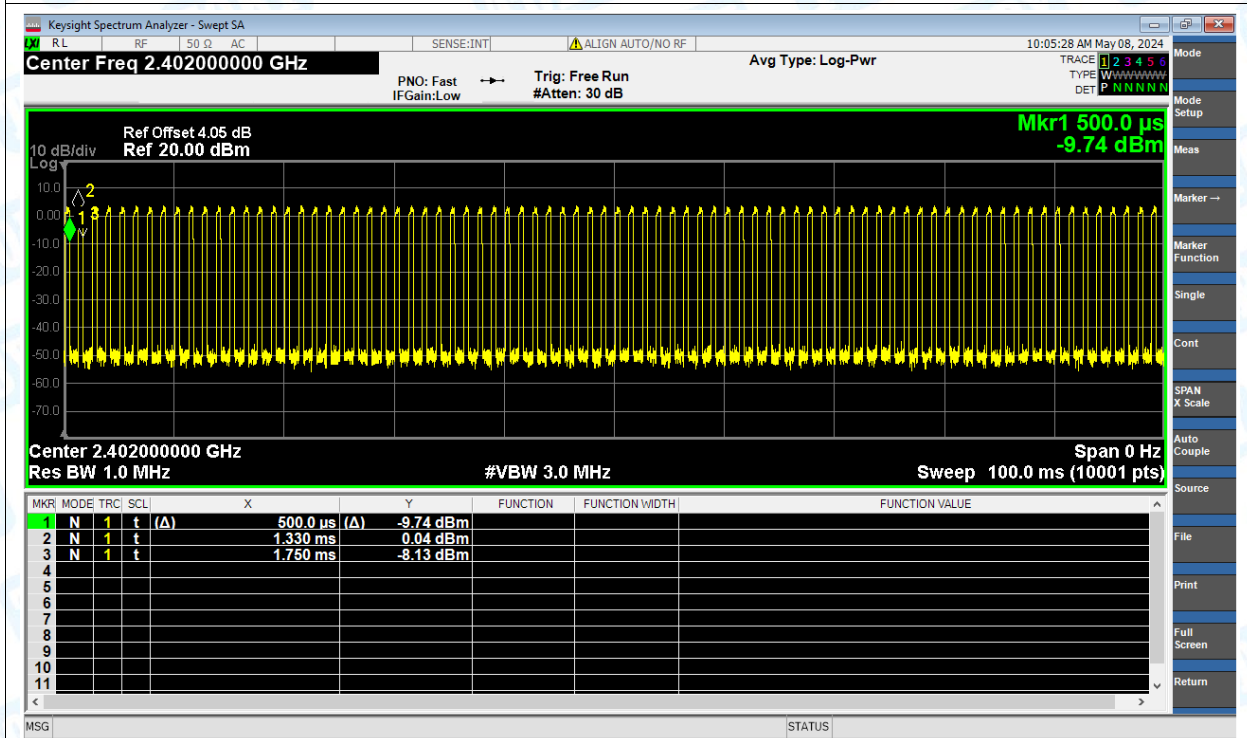
Duty Cycle NVNT 2-DH1 2441MHz Ant1



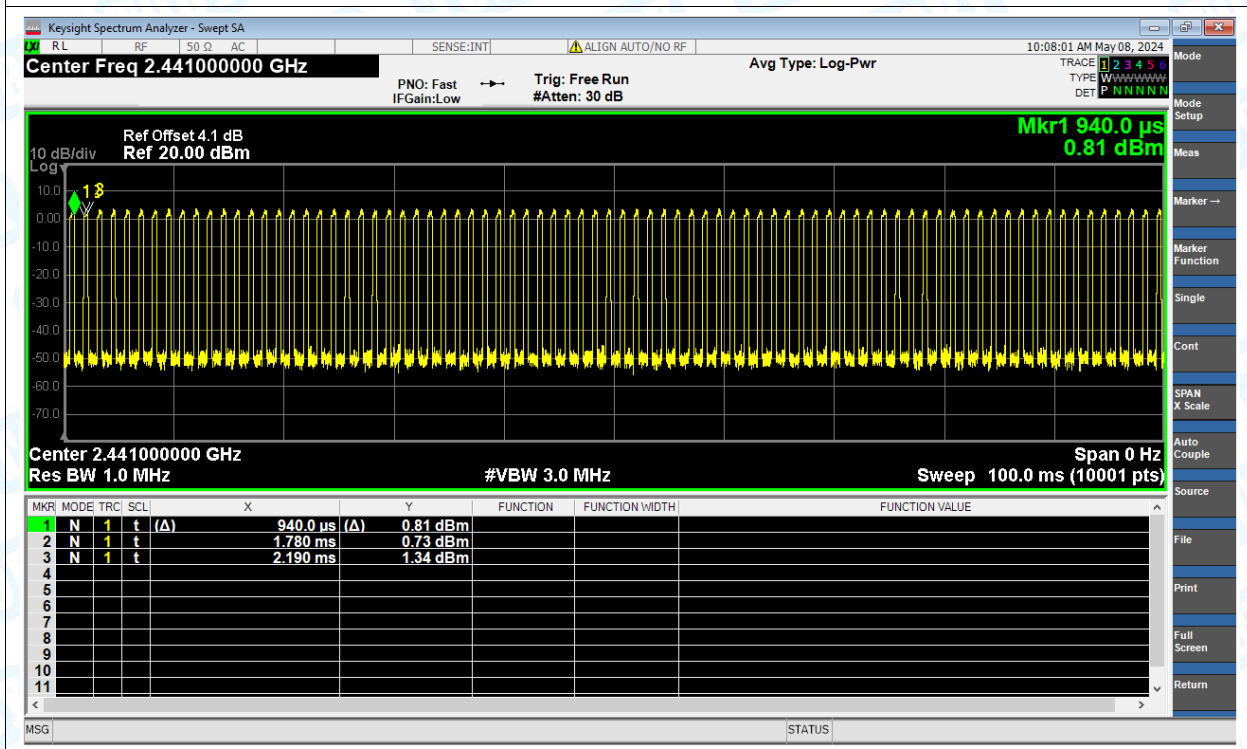
Duty Cycle NVNT 2-DH1 2480MHz Ant1

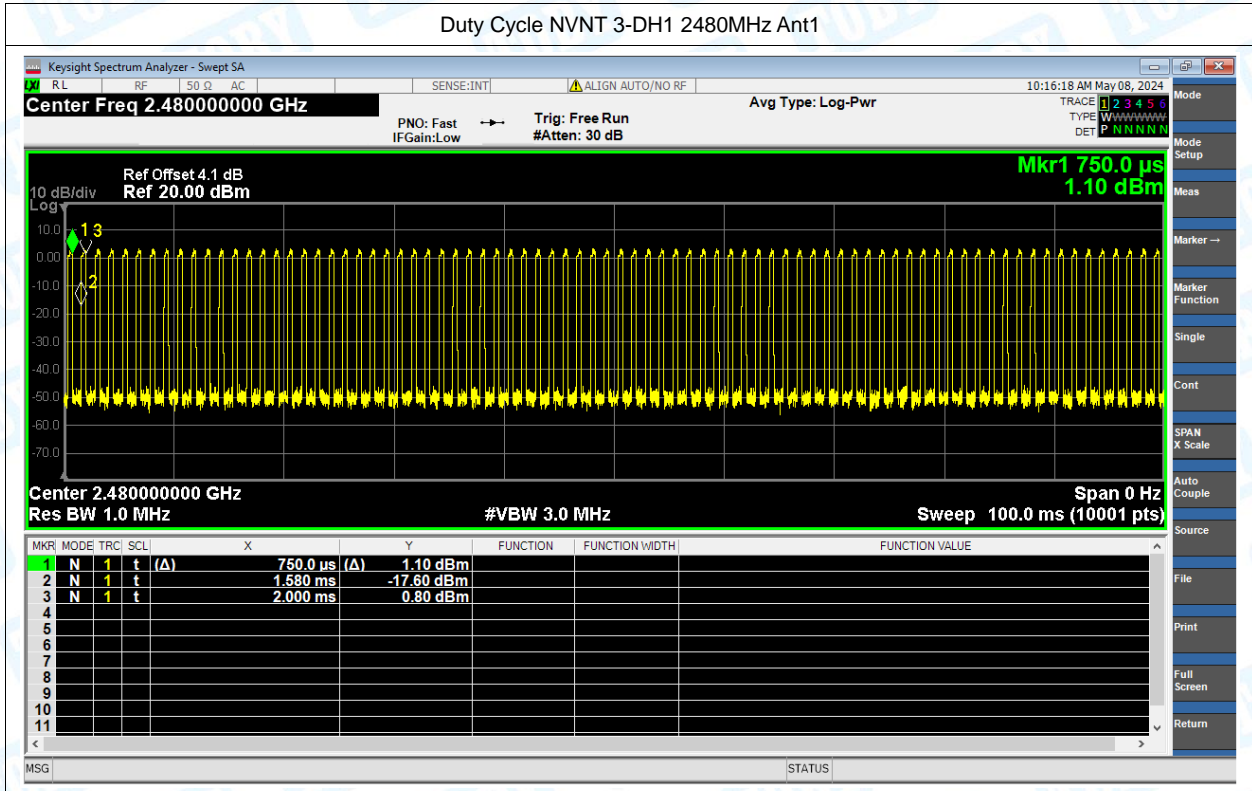


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



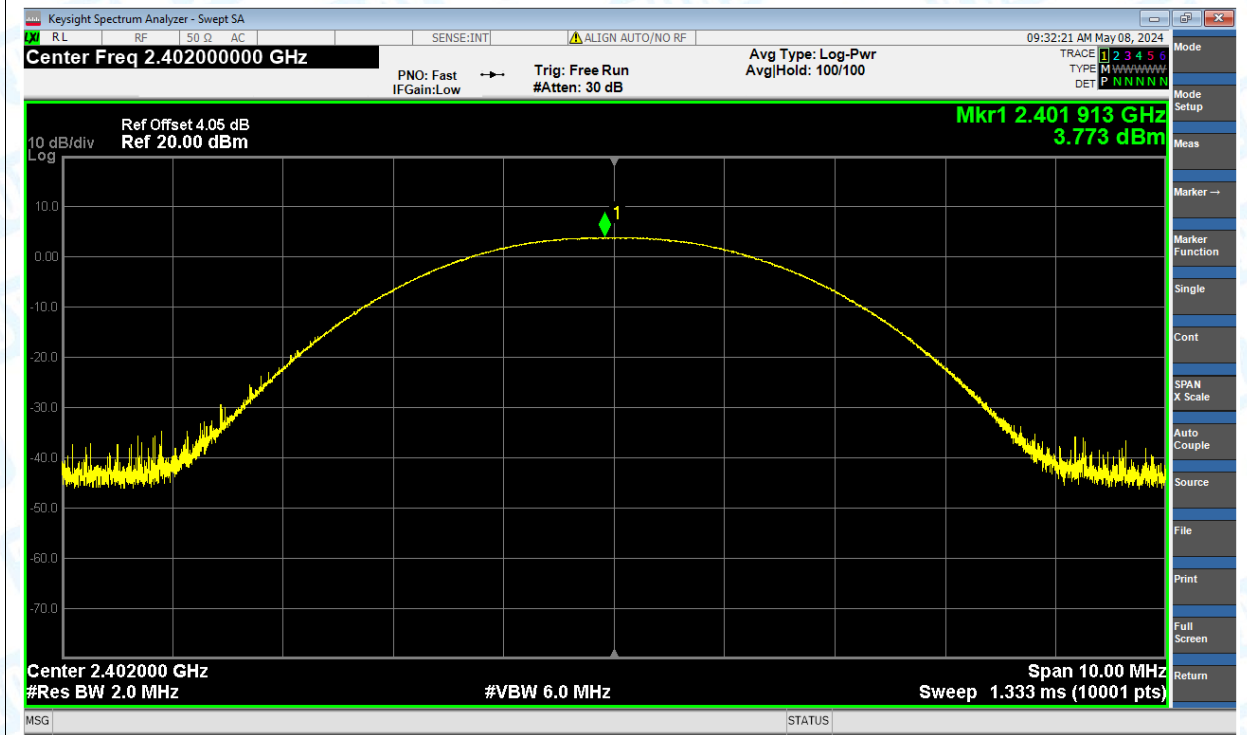


2. Maximum Conducted Output Power

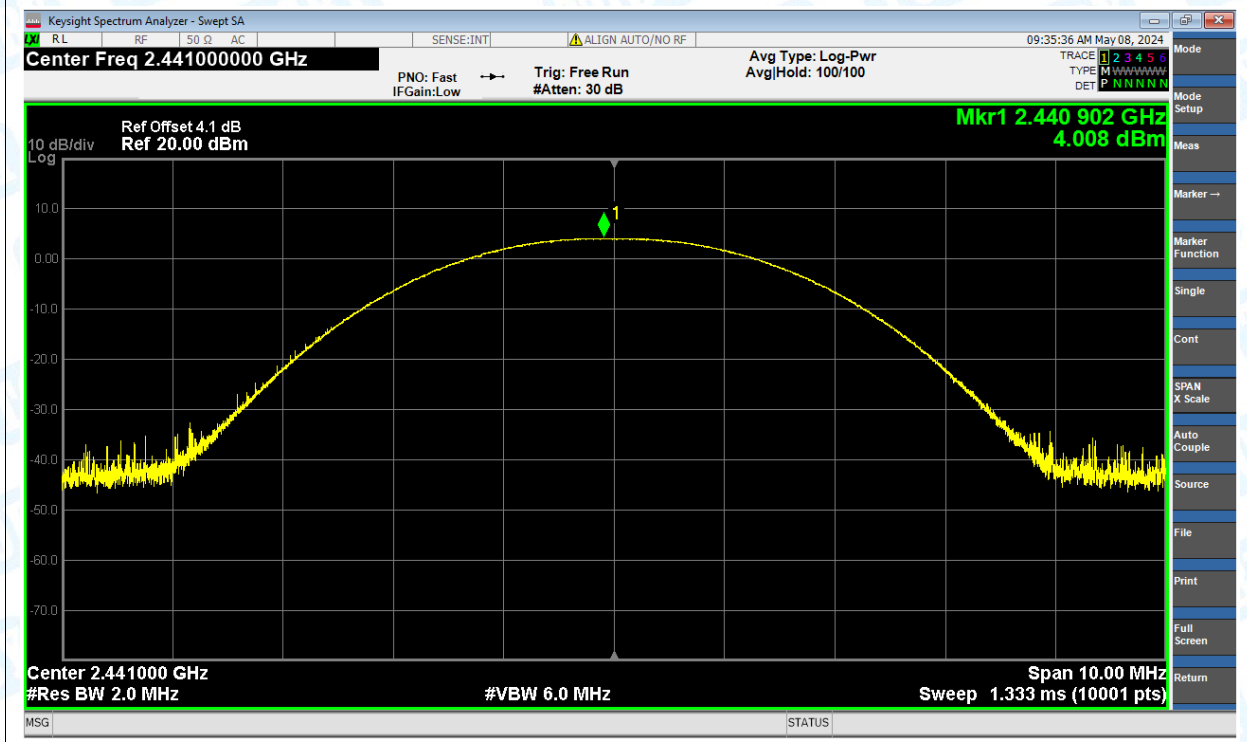
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	3.773	21	Pass
NVNT	1-DH1	2441	Ant1	4.008	21	Pass
NVNT	1-DH1	2480	Ant1	3.86	21	Pass
NVNT	1-DH3	2441	Ant1	4.1	21	Pass
NVNT	1-DH5	2441	Ant1	4.102	21	Pass
NVNT	2-DH1	2402	Ant1	3.101	21	Pass
NVNT	2-DH1	2441	Ant1	3.303	21	Pass
NVNT	2-DH1	2480	Ant1	3.114	21	Pass
NVNT	2-DH3	2441	Ant1	3.417	21	Pass
NVNT	2-DH5	2441	Ant1	3.37	21	Pass
NVNT	3-DH1	2402	Ant1	3.965	21	Pass
NVNT	3-DH1	2441	Ant1	4.128	21	Pass
NVNT	3-DH1	2480	Ant1	3.872	21	Pass
NVNT	3-DH3	2441	Ant1	3.79	21	Pass
NVNT	3-DH5	2441	Ant1	3.955	21	Pass

Test Graphs

Power NVNT 1-DH1 2402MHz Ant1



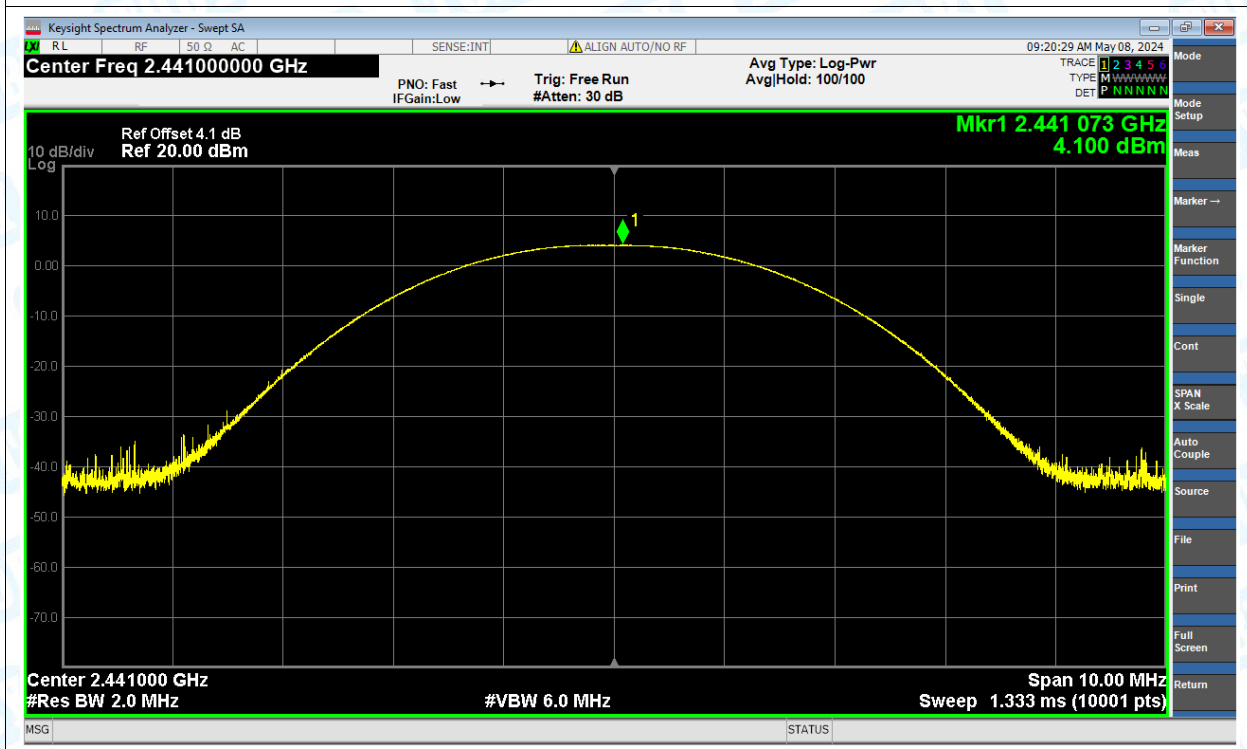
Power NVNT 1-DH1 2441MHz Ant1



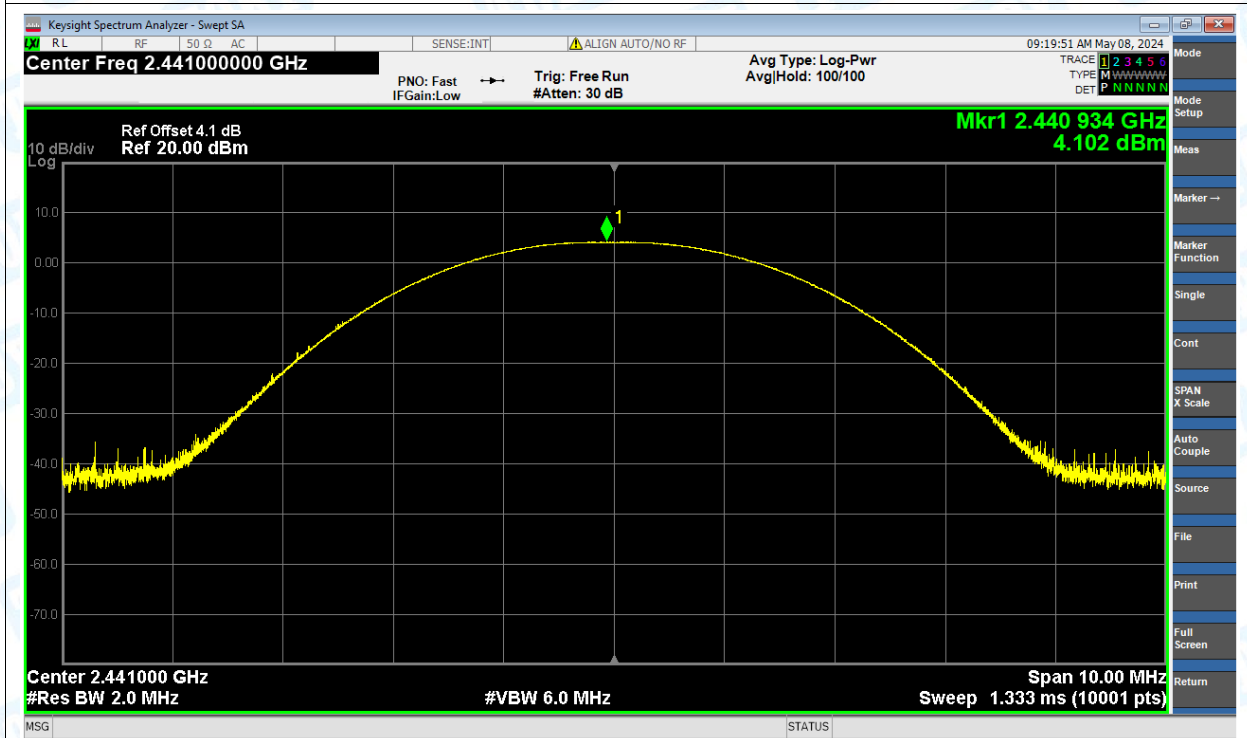
Power NVNT 1-DH1 2480MHz Ant1



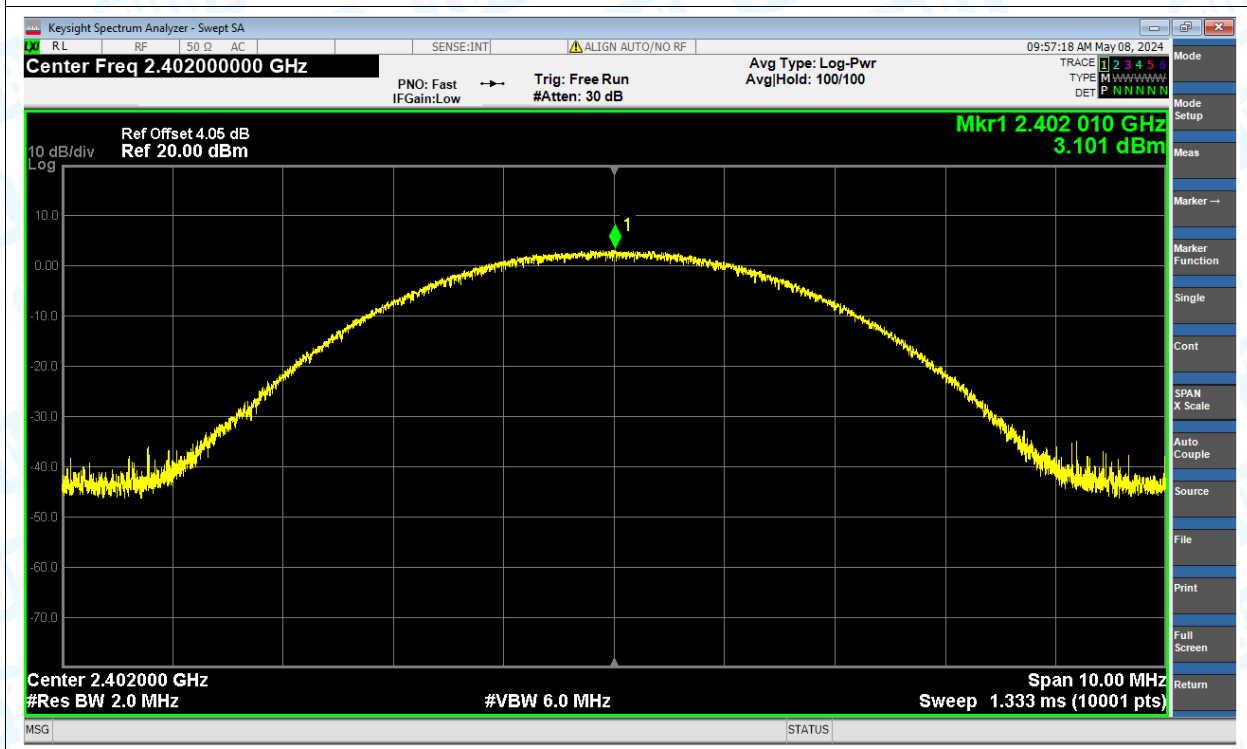
Power NVNT 1-DH3 2441MHz Ant1



Power NVNT 1-DH5 2441MHz Ant1



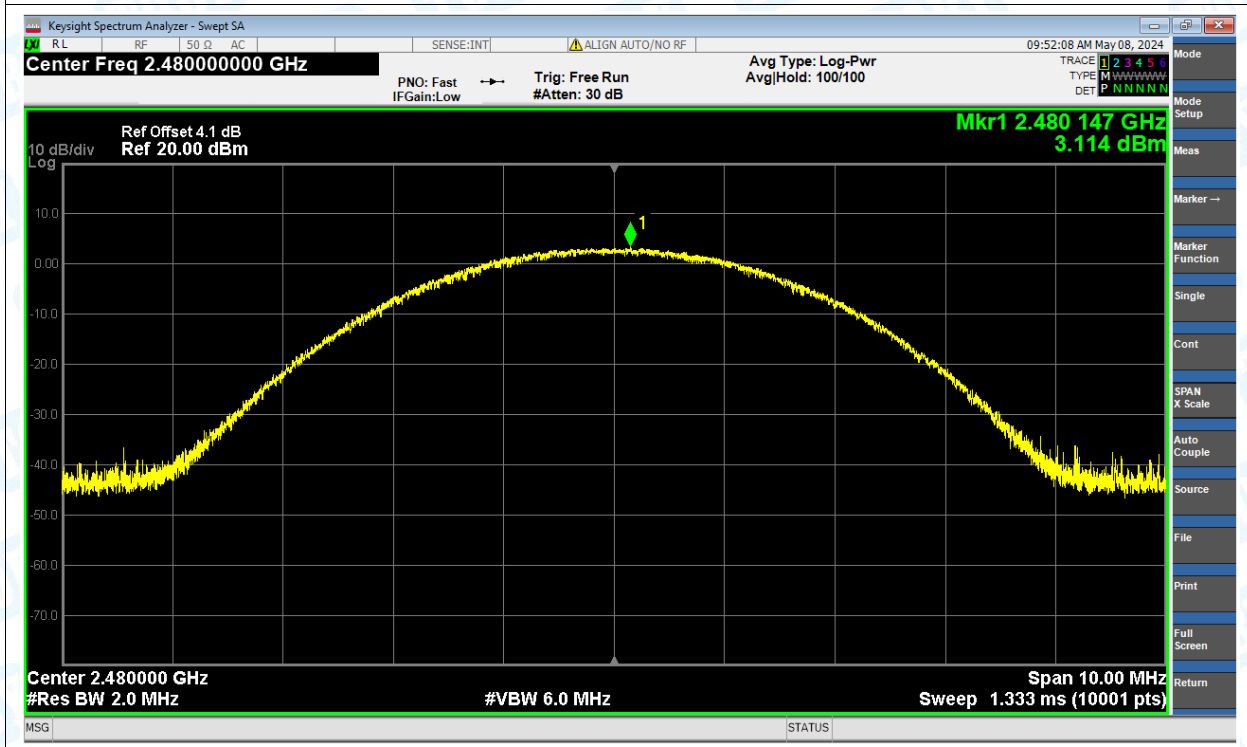
Power NVNT 2-DH1 2402MHz Ant1



Power NVNT 2-DH1 2441MHz Ant1



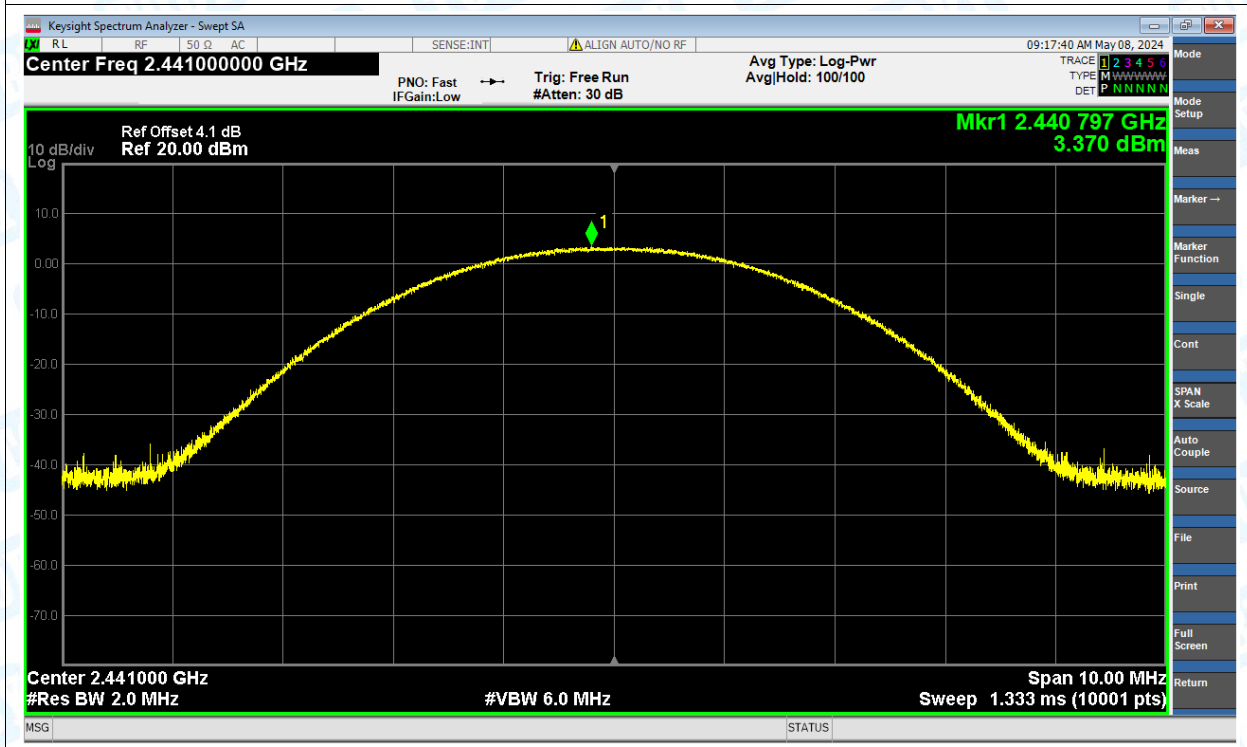
Power NVNT 2-DH1 2480MHz Ant1



Power NVNT 2-DH3 2441MHz Ant1



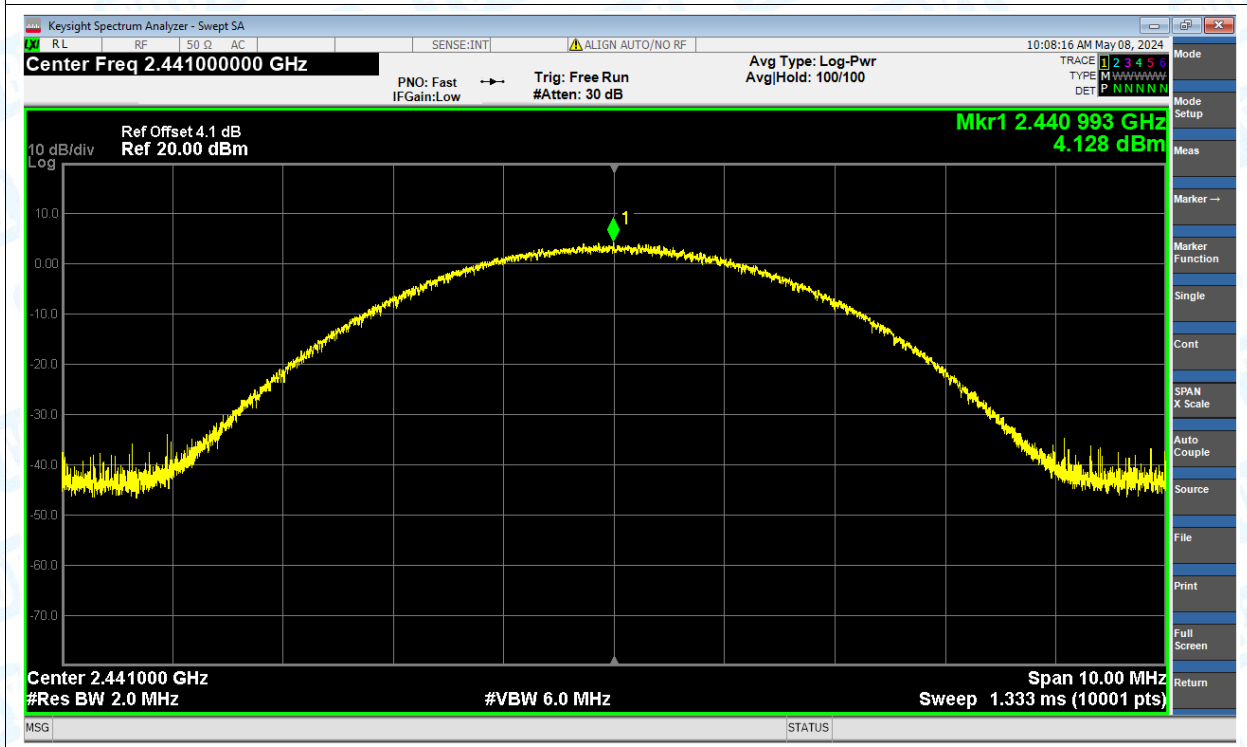
Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 3-DH1 2402MHz Ant1



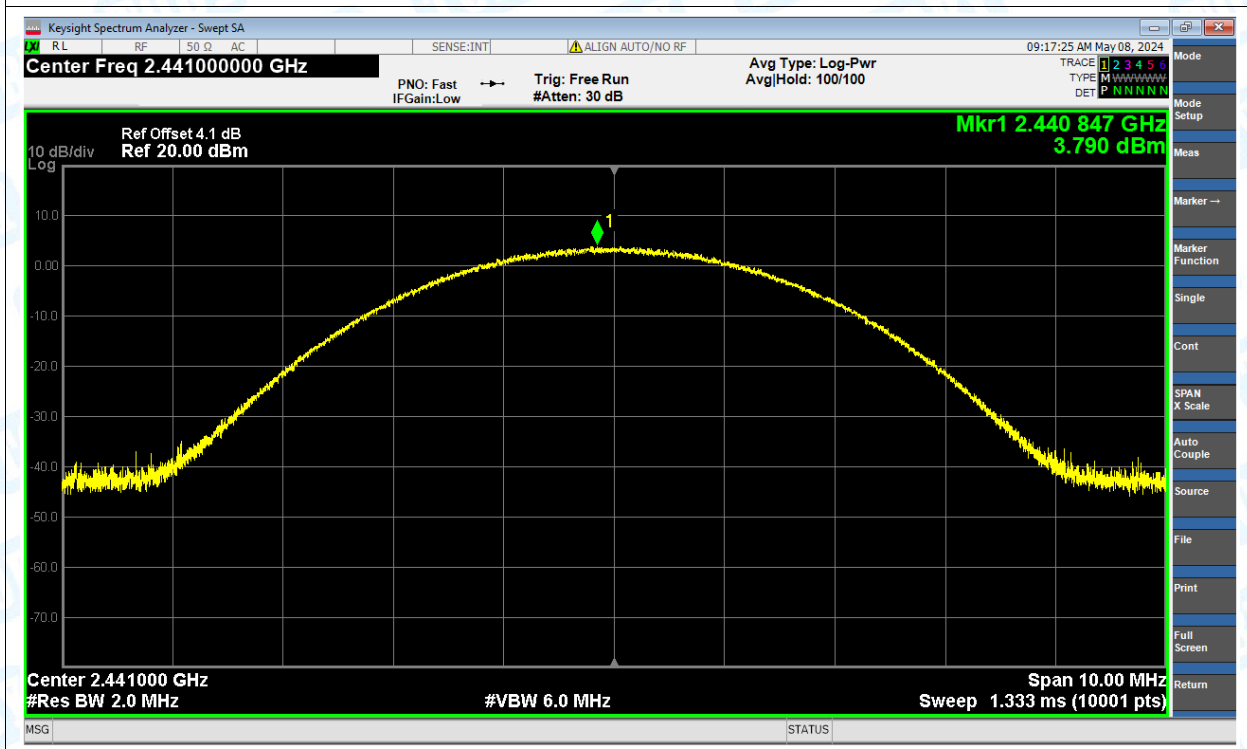
Power NVNT 3-DH1 2441MHz Ant1



Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1



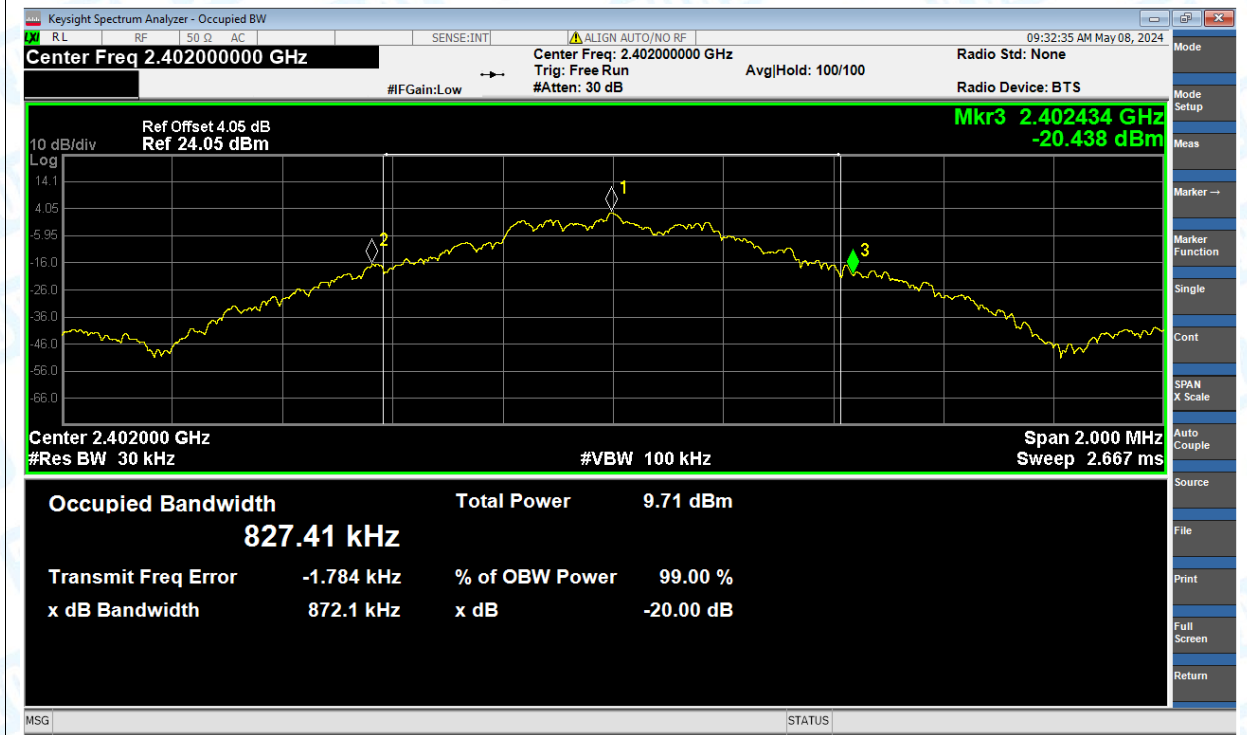


3. -20dB Bandwidth

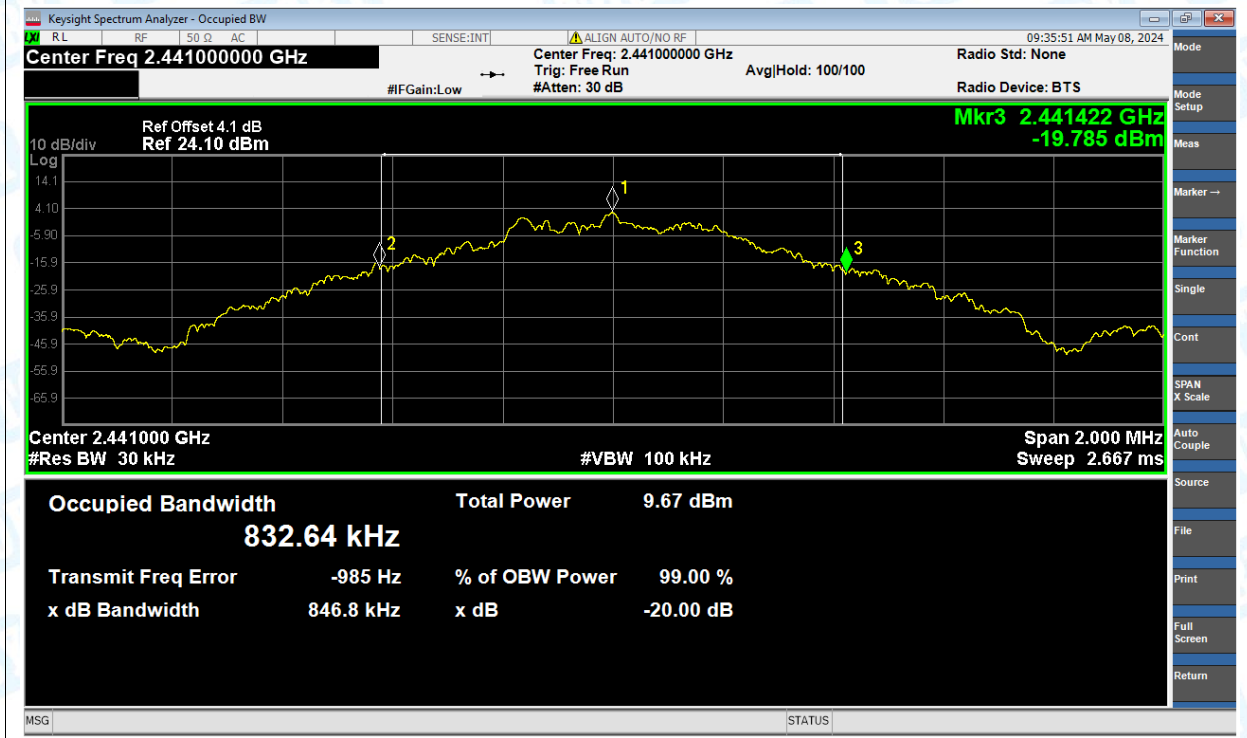
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.87	0	Pass
NVNT	1-DH1	2441	Ant1	0.85	0	Pass
NVNT	1-DH1	2480	Ant1	0.86	0	Pass
NVNT	2-DH1	2402	Ant1	1.25	0	Pass
NVNT	2-DH1	2441	Ant1	1.26	0	Pass
NVNT	2-DH1	2480	Ant1	1.26	0	Pass
NVNT	3-DH1	2402	Ant1	1.22	0	Pass
NVNT	3-DH1	2441	Ant1	1.21	0	Pass
NVNT	3-DH1	2480	Ant1	1.21	0	Pass

Test Graphs

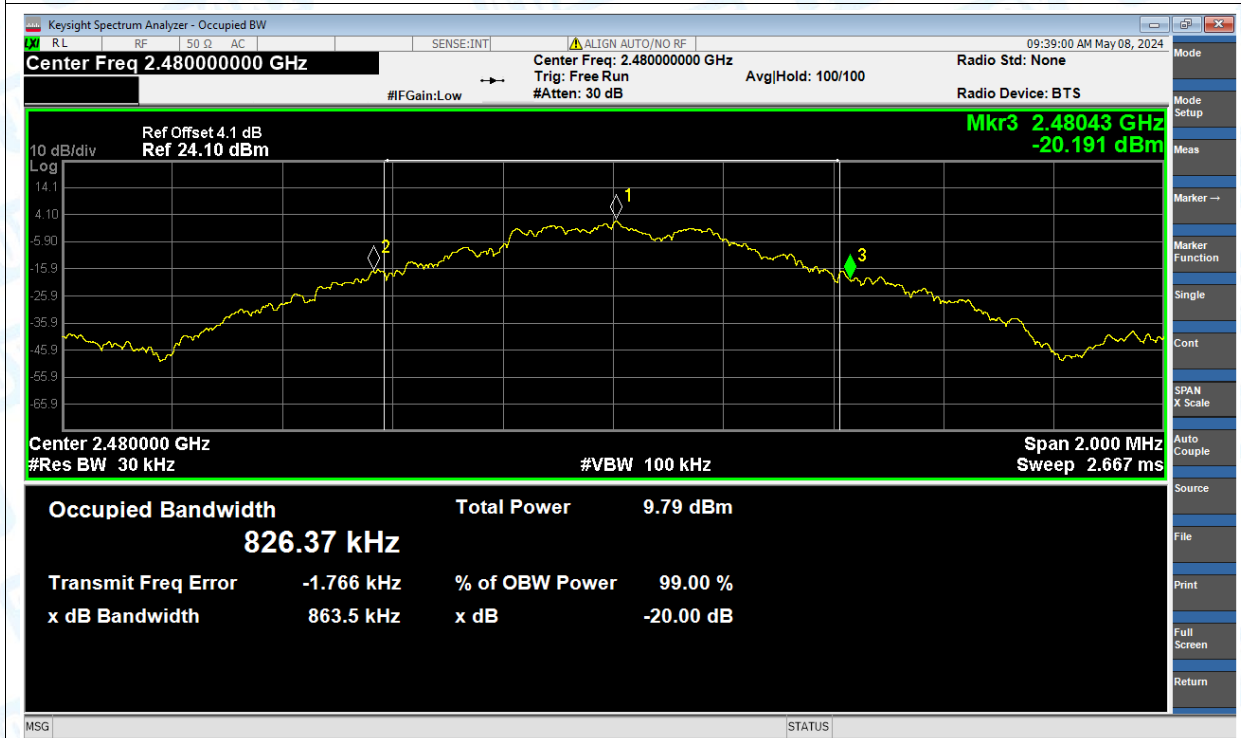
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



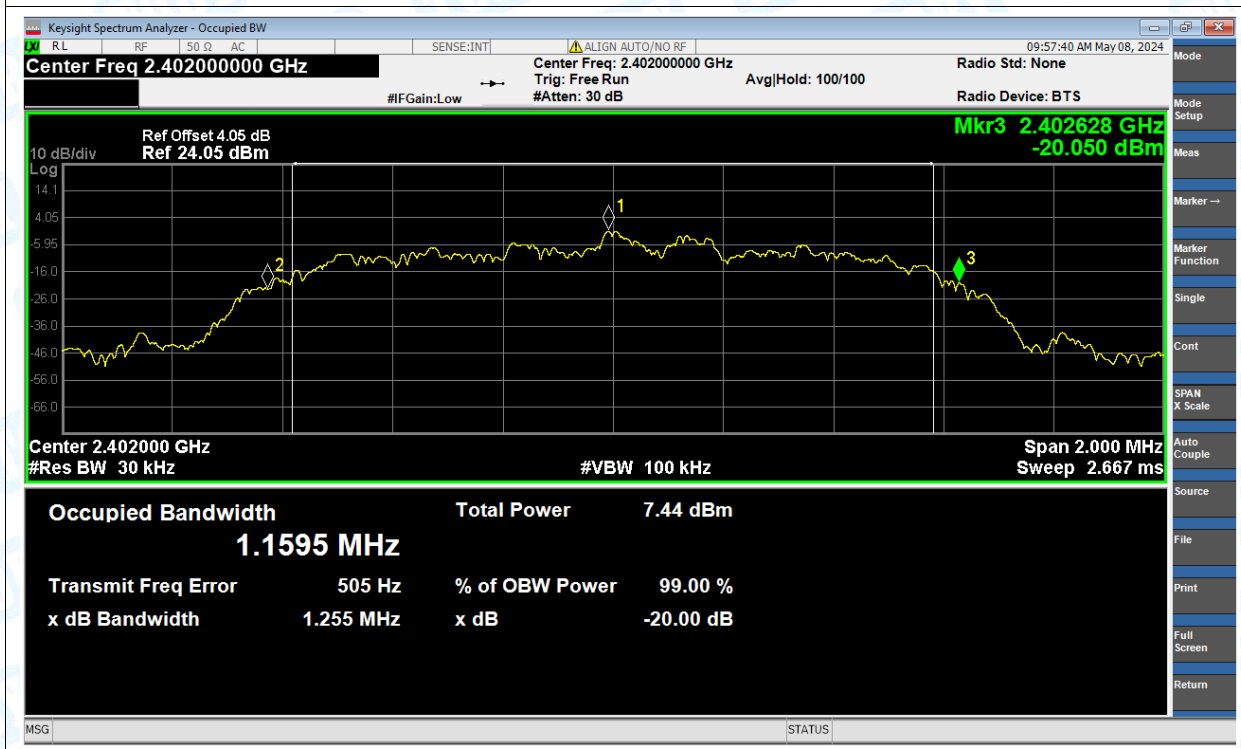
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



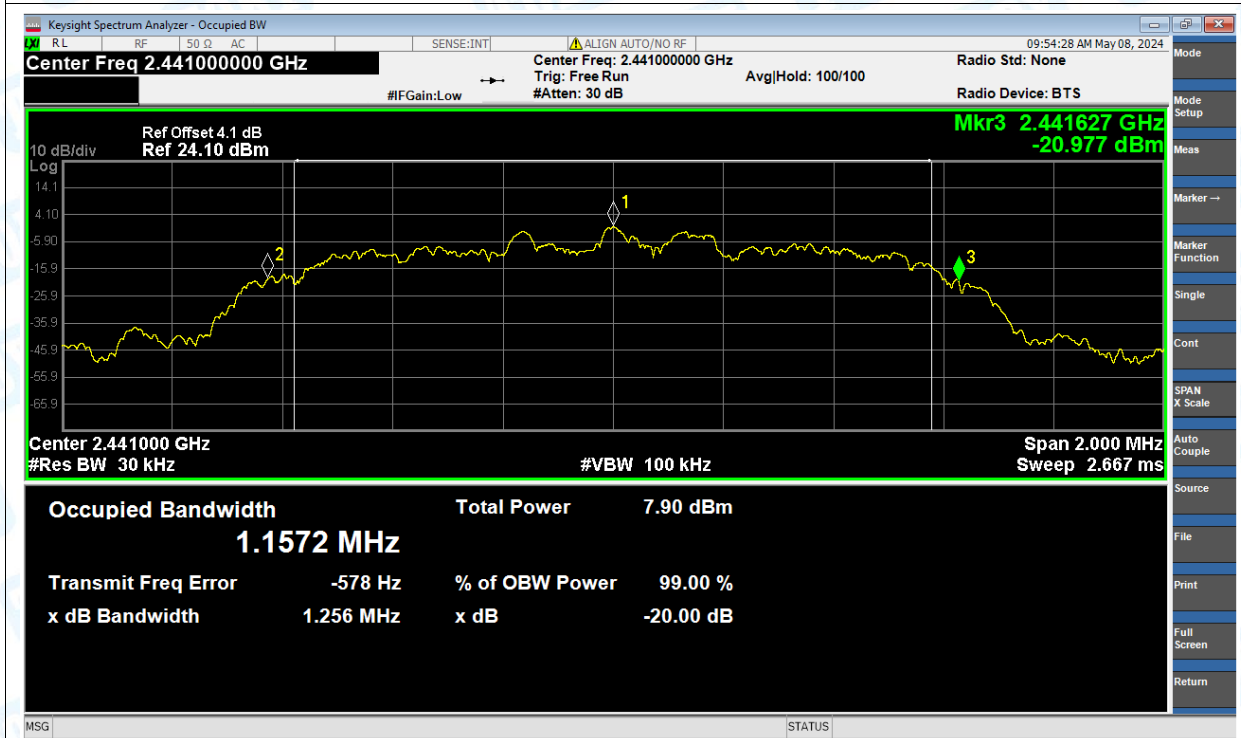
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



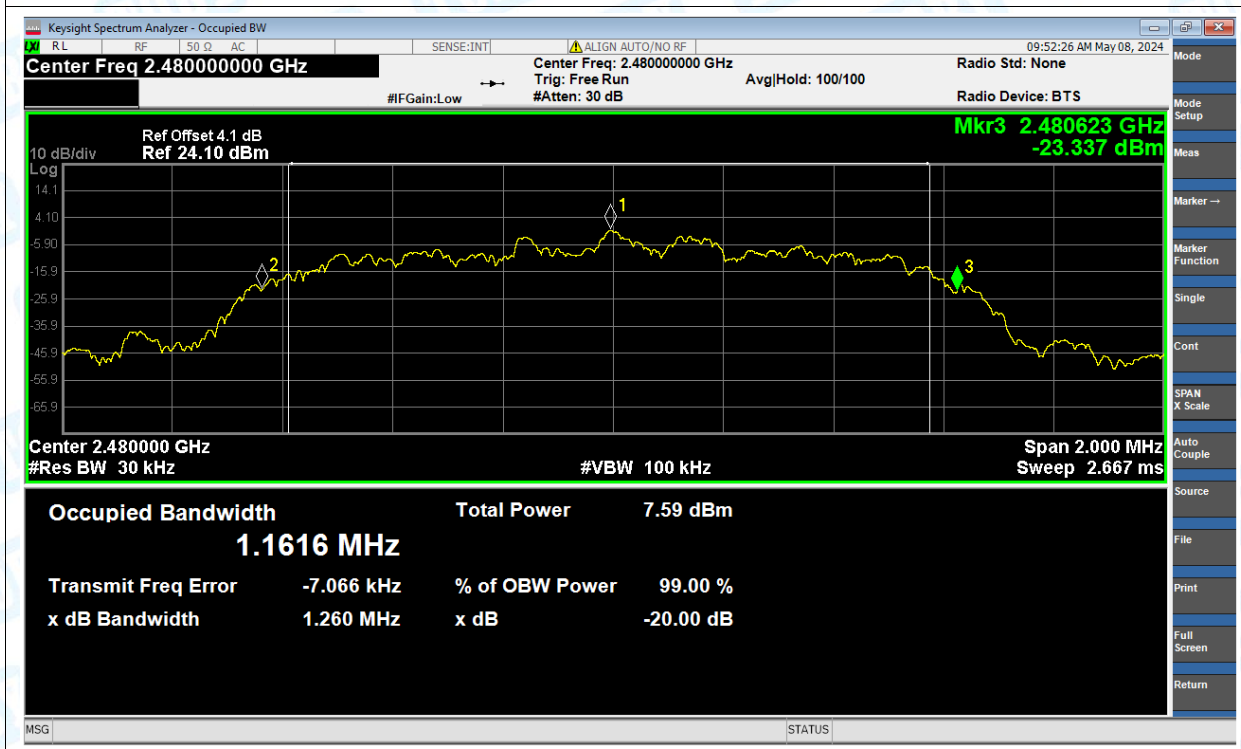
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



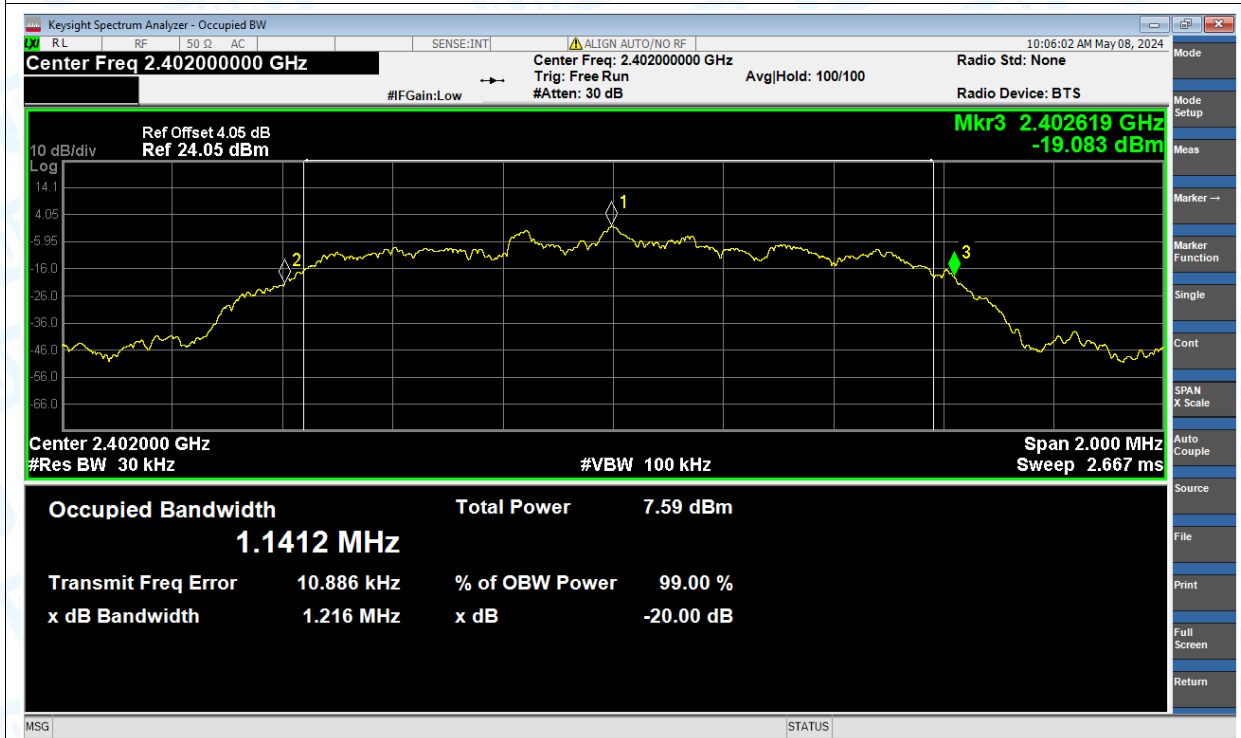
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



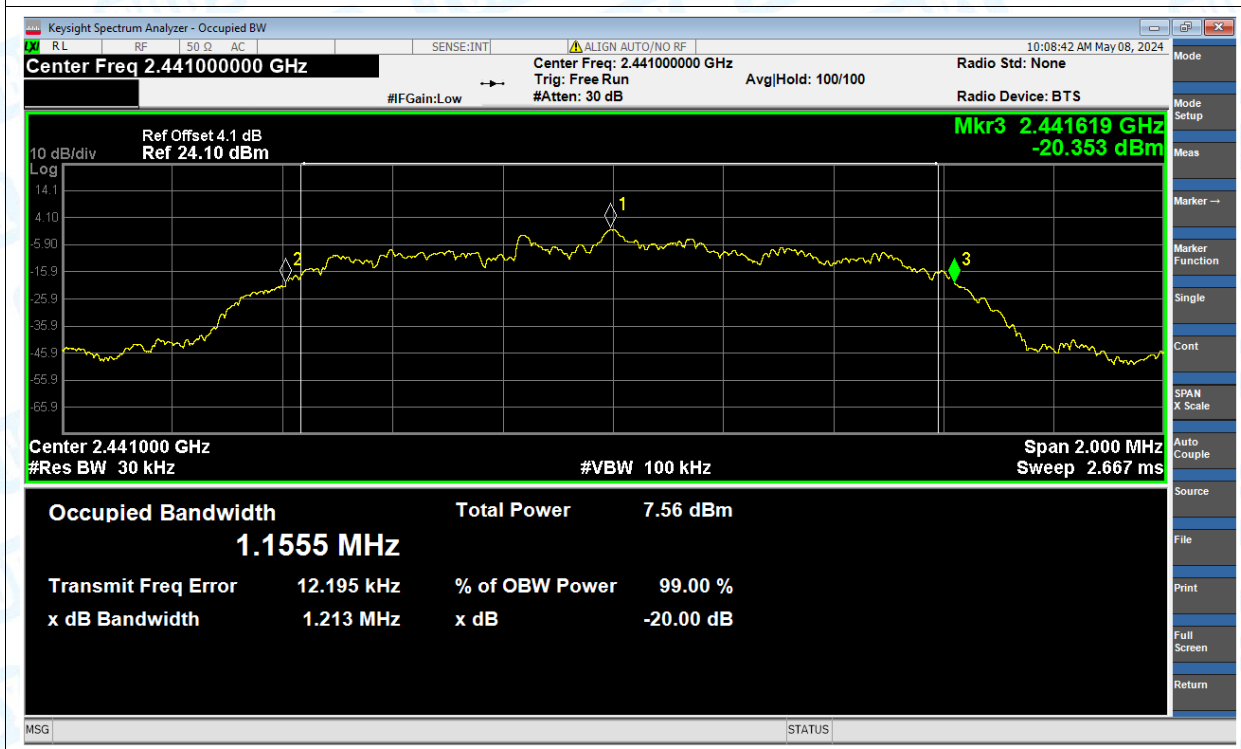
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

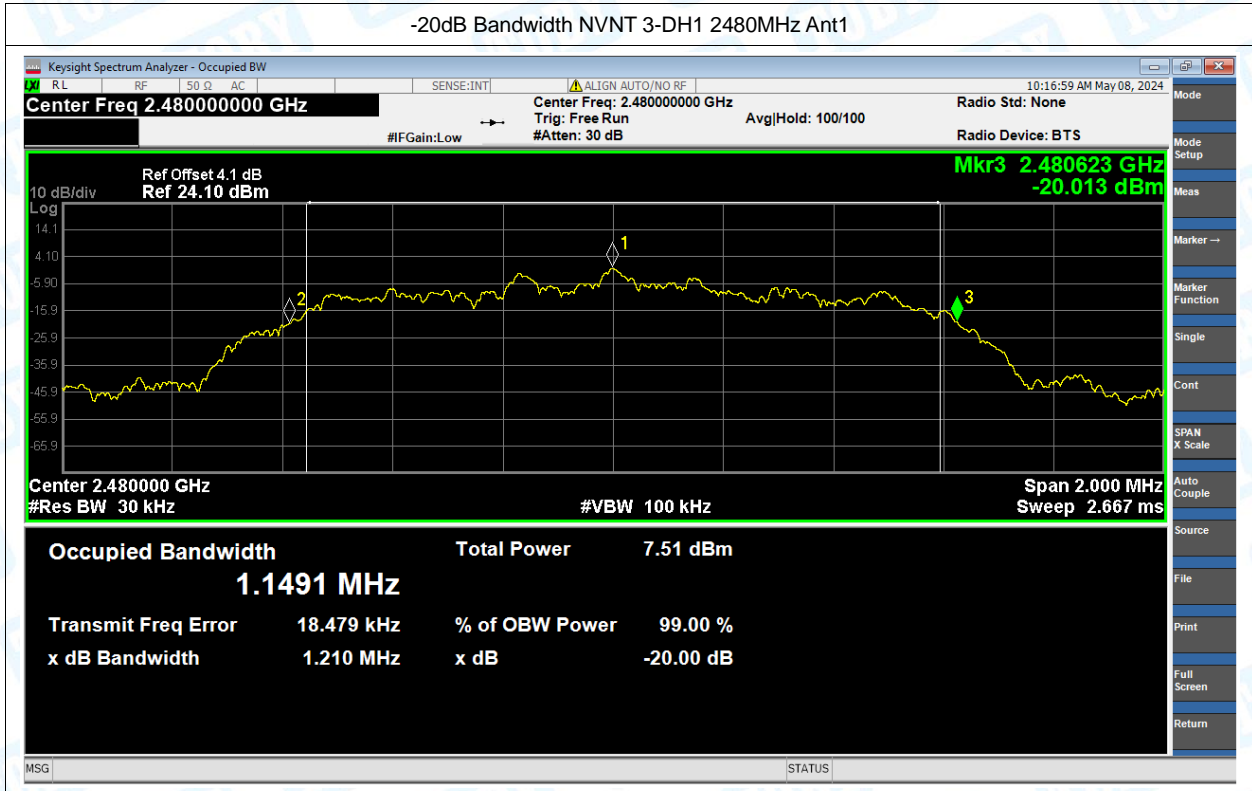


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



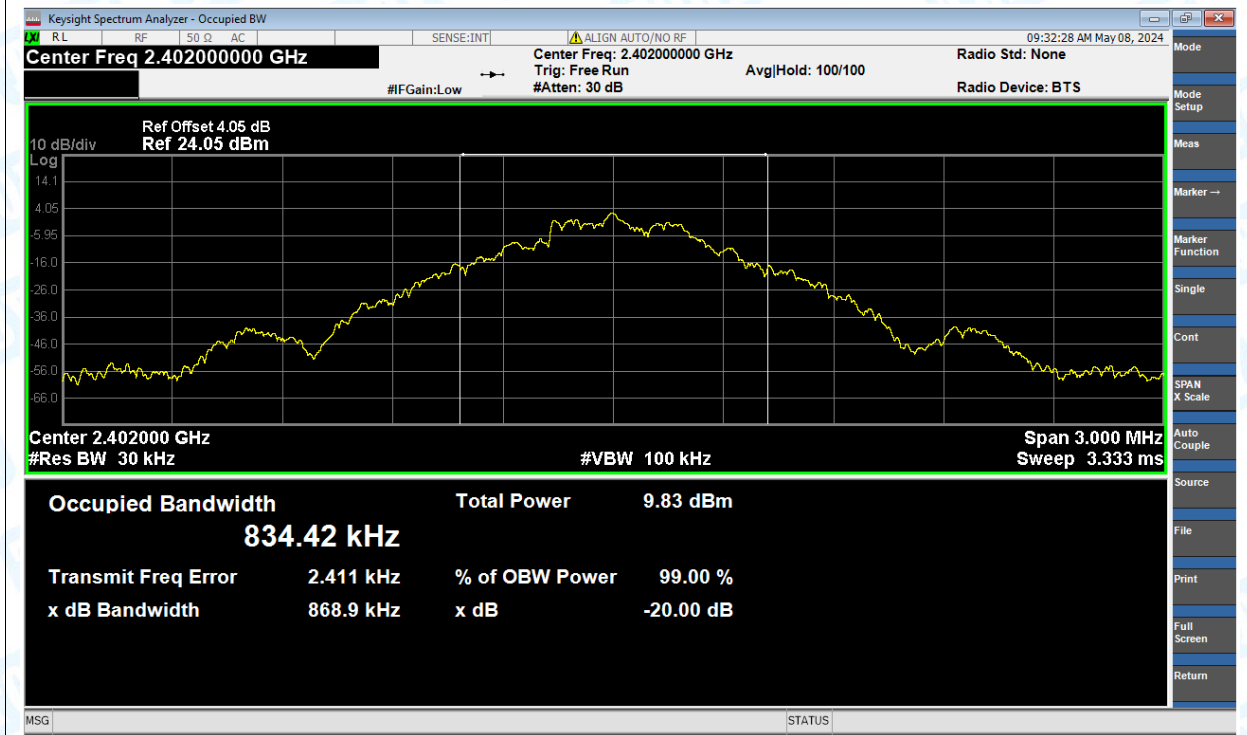


4. Occupied Channel Bandwidth

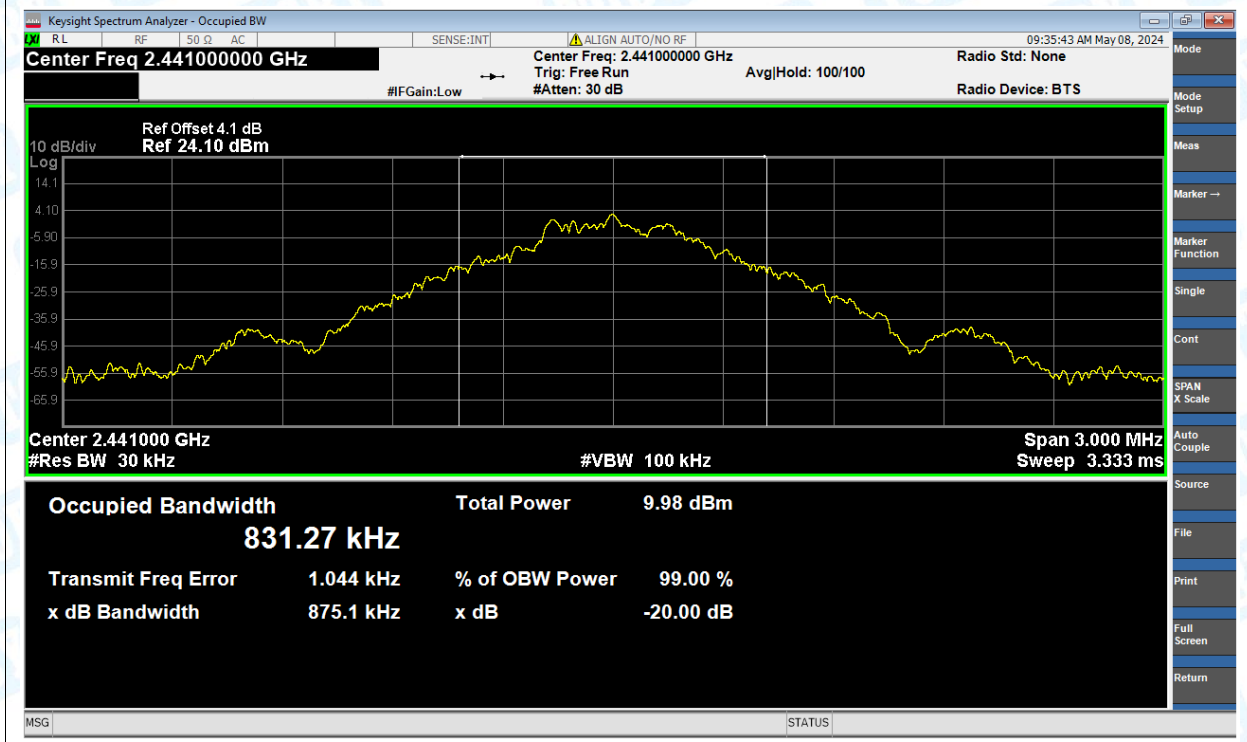
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.834
NVNT	1-DH1	2441	Ant1	0.831
NVNT	1-DH1	2480	Ant1	0.856
NVNT	2-DH1	2402	Ant1	1.166
NVNT	2-DH1	2441	Ant1	1.16
NVNT	2-DH1	2480	Ant1	1.164
NVNT	3-DH1	2402	Ant1	1.147
NVNT	3-DH1	2441	Ant1	1.153
NVNT	3-DH1	2480	Ant1	1.154

Test Graphs

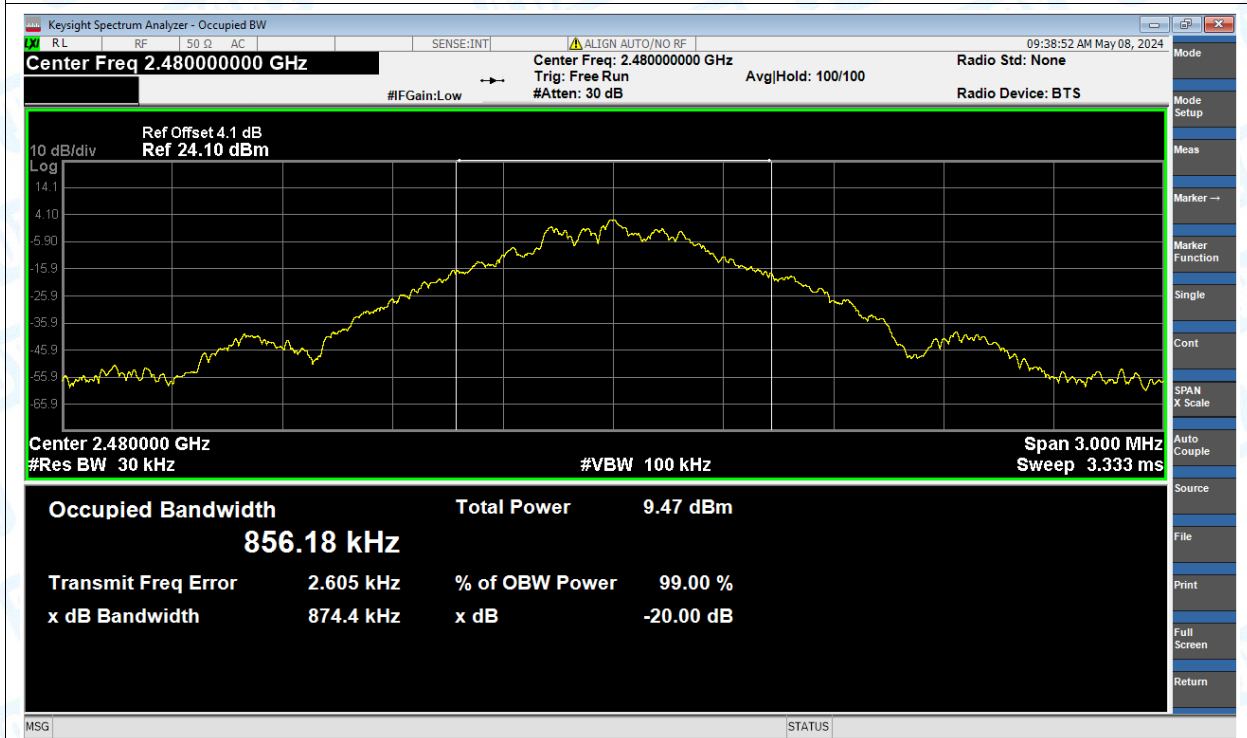
OBW NVNT 1-DH1 2402MHz Ant1



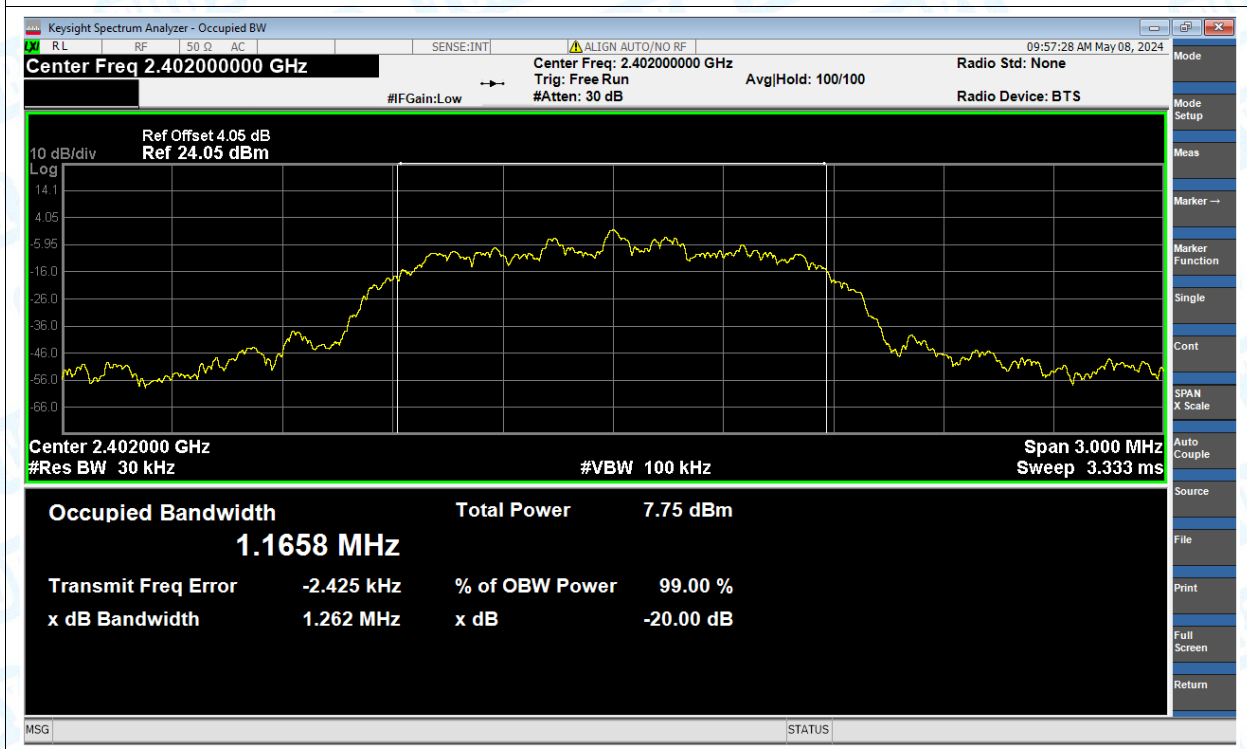
OBW NVNT 1-DH1 2441MHz Ant1



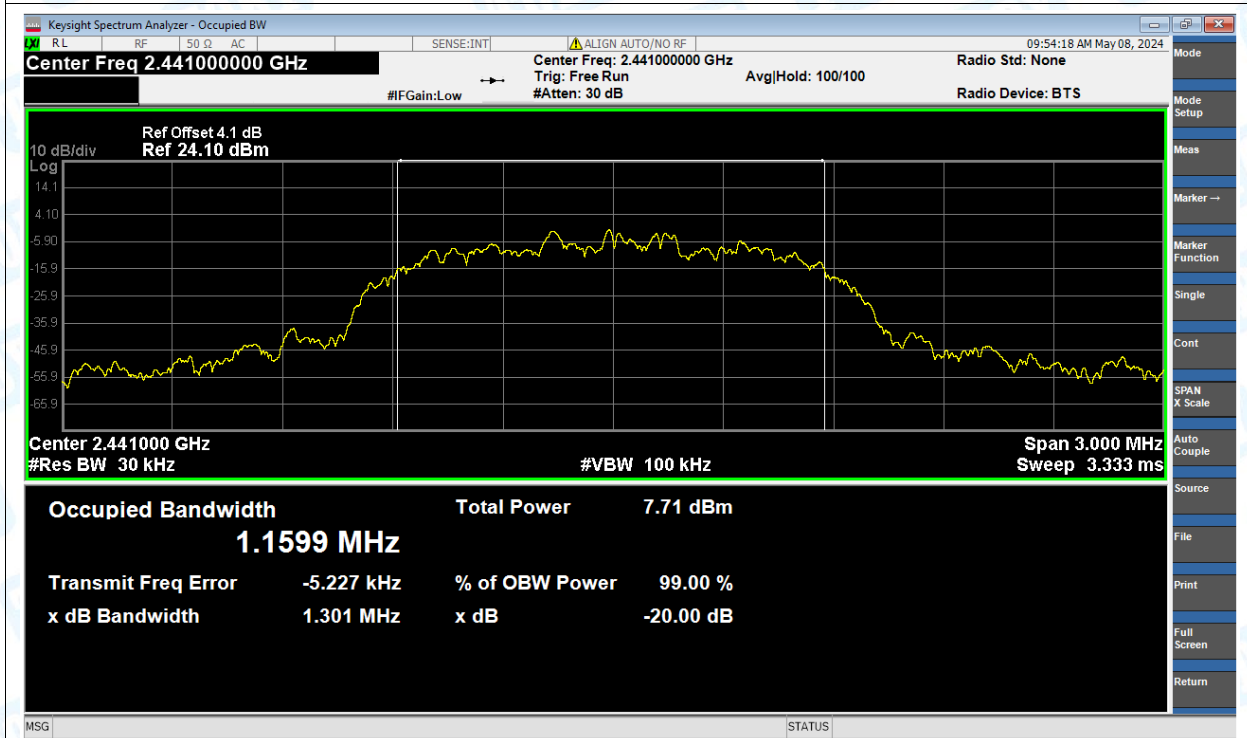
OBW NVNT 1-DH1 2480MHz Ant1



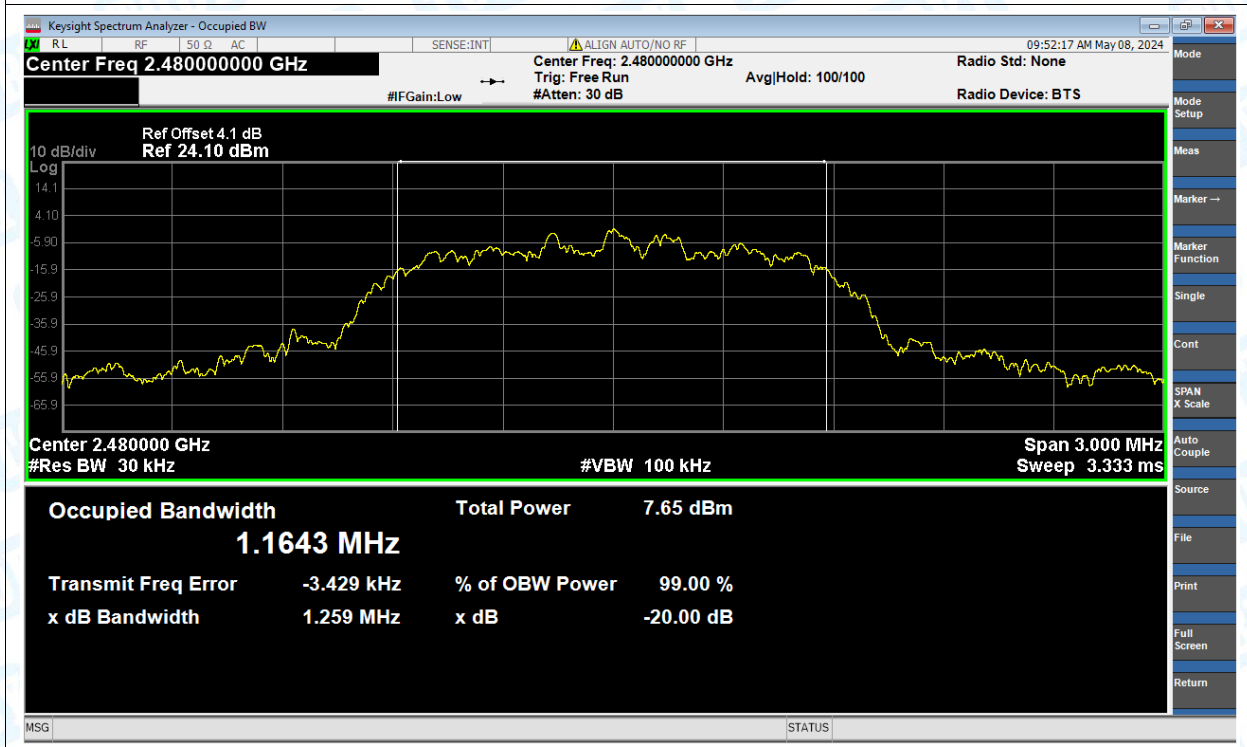
OBW NVNT 2-DH1 2402MHz Ant1



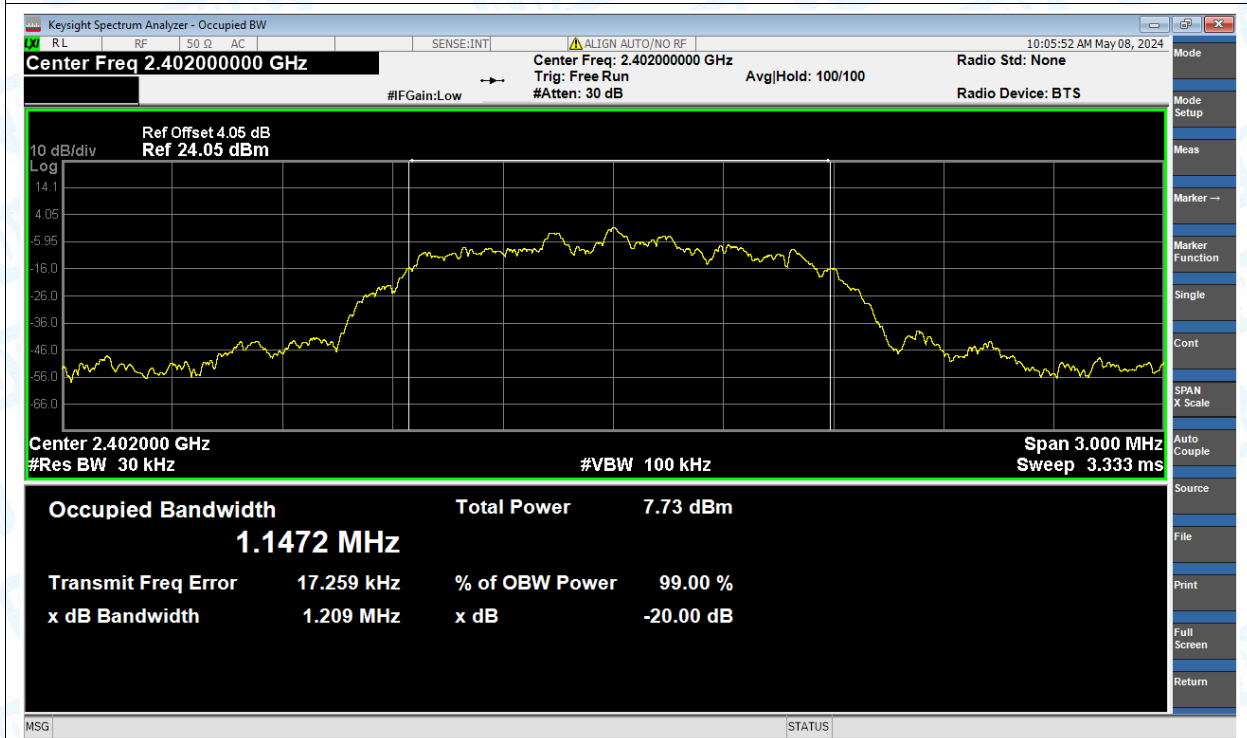
OBW NVNT 2-DH1 2441MHz Ant1



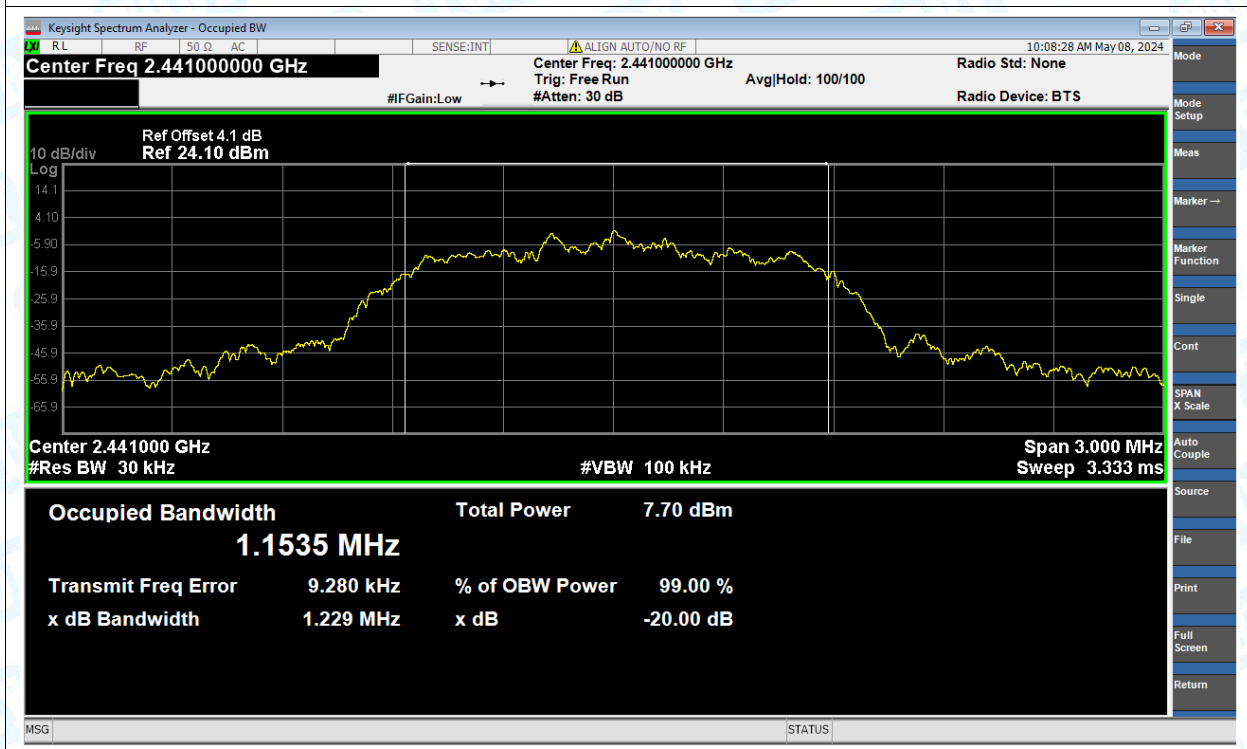
OBW NVNT 2-DH1 2480MHz Ant1

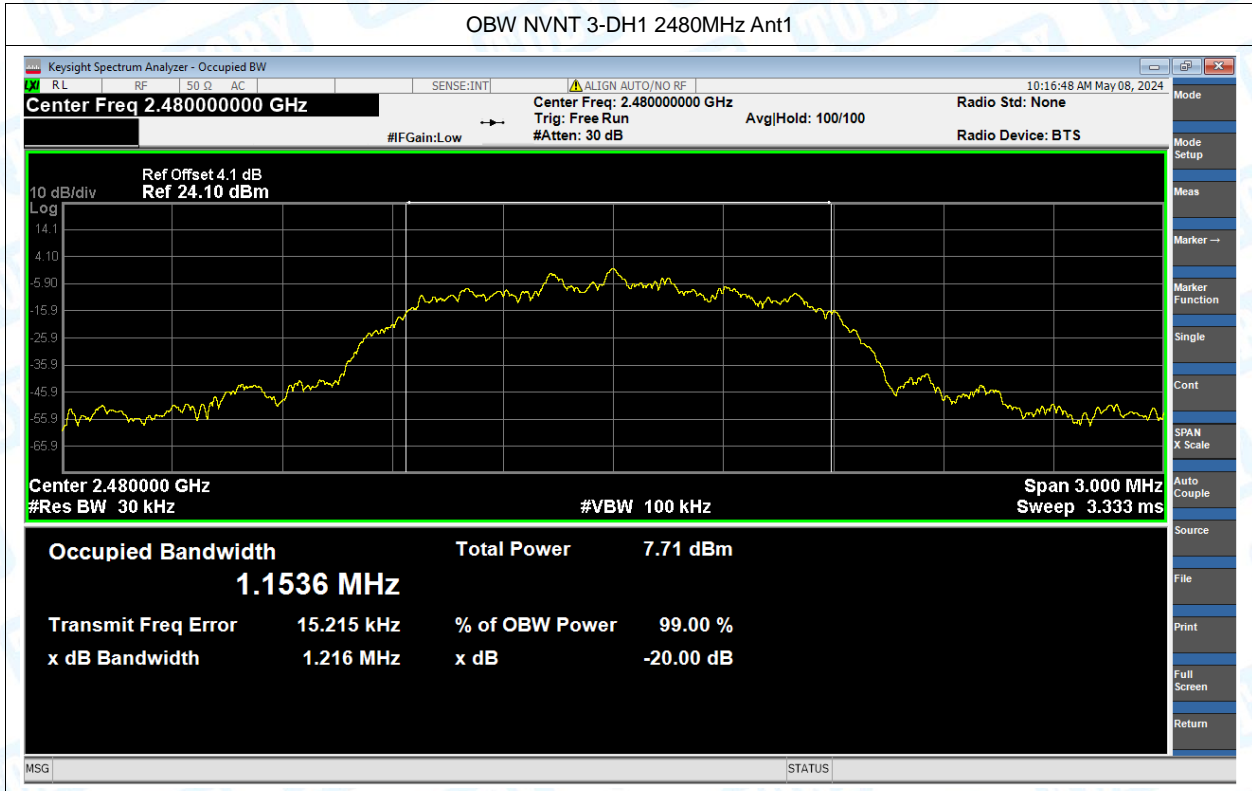


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



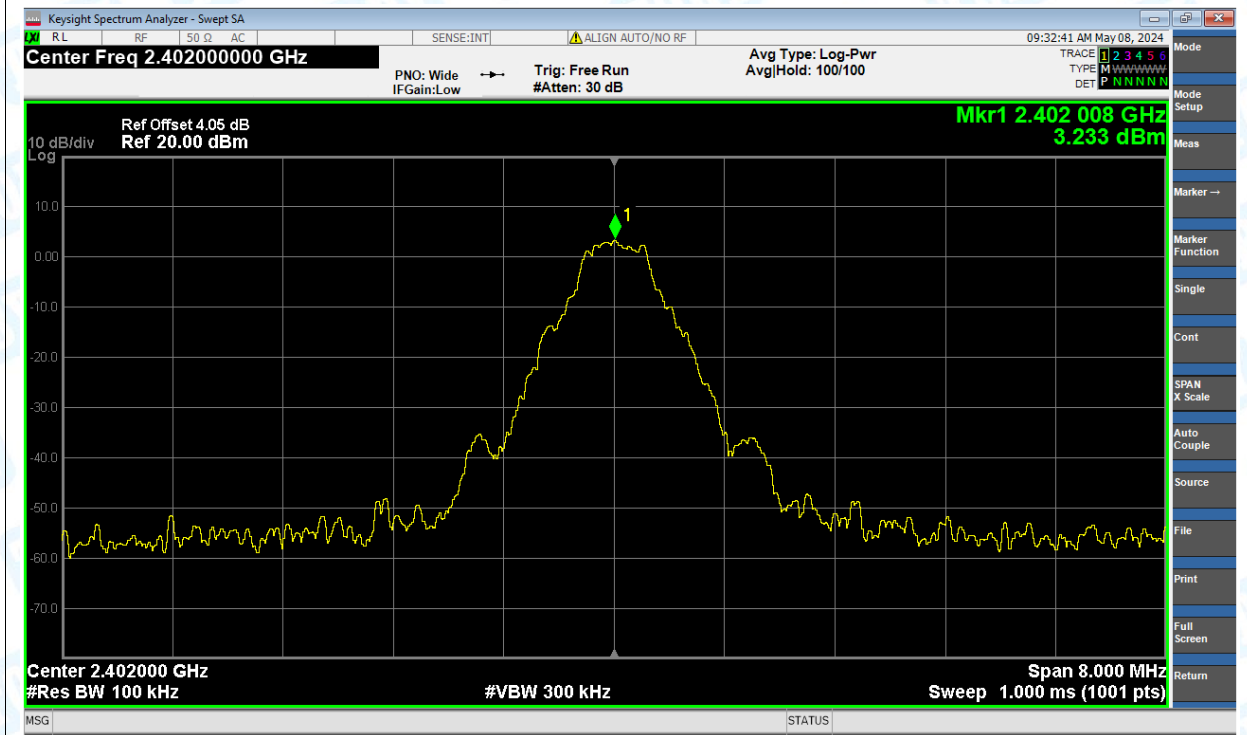


5. Band Edge

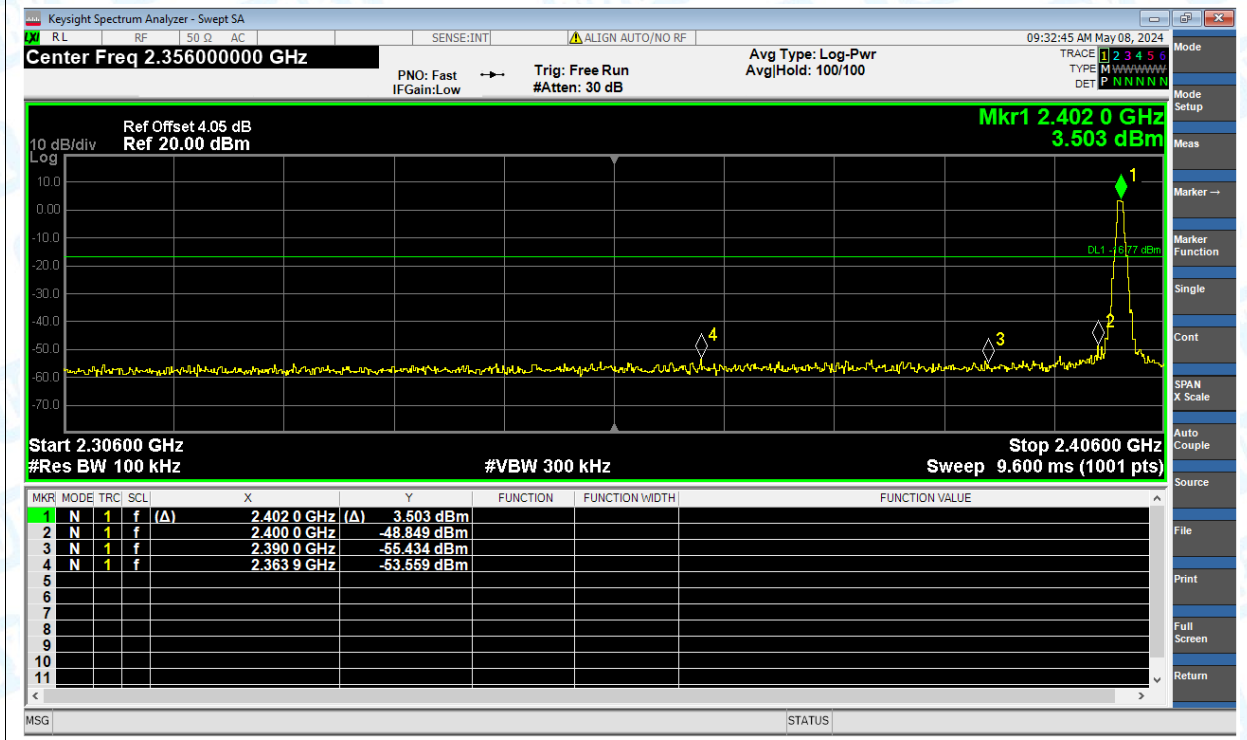
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-56.79	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-54.19	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-54.48	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-51.57	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-54.54	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-54.1	-20	Pass

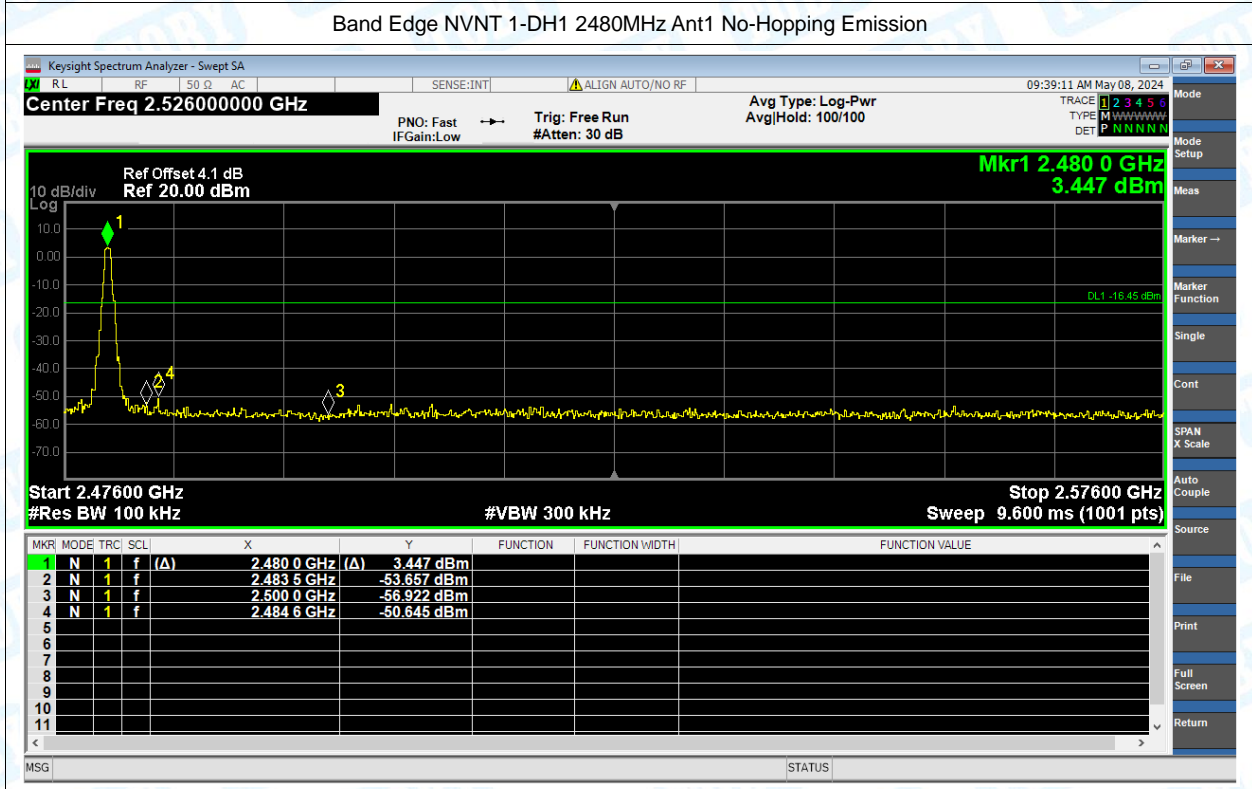
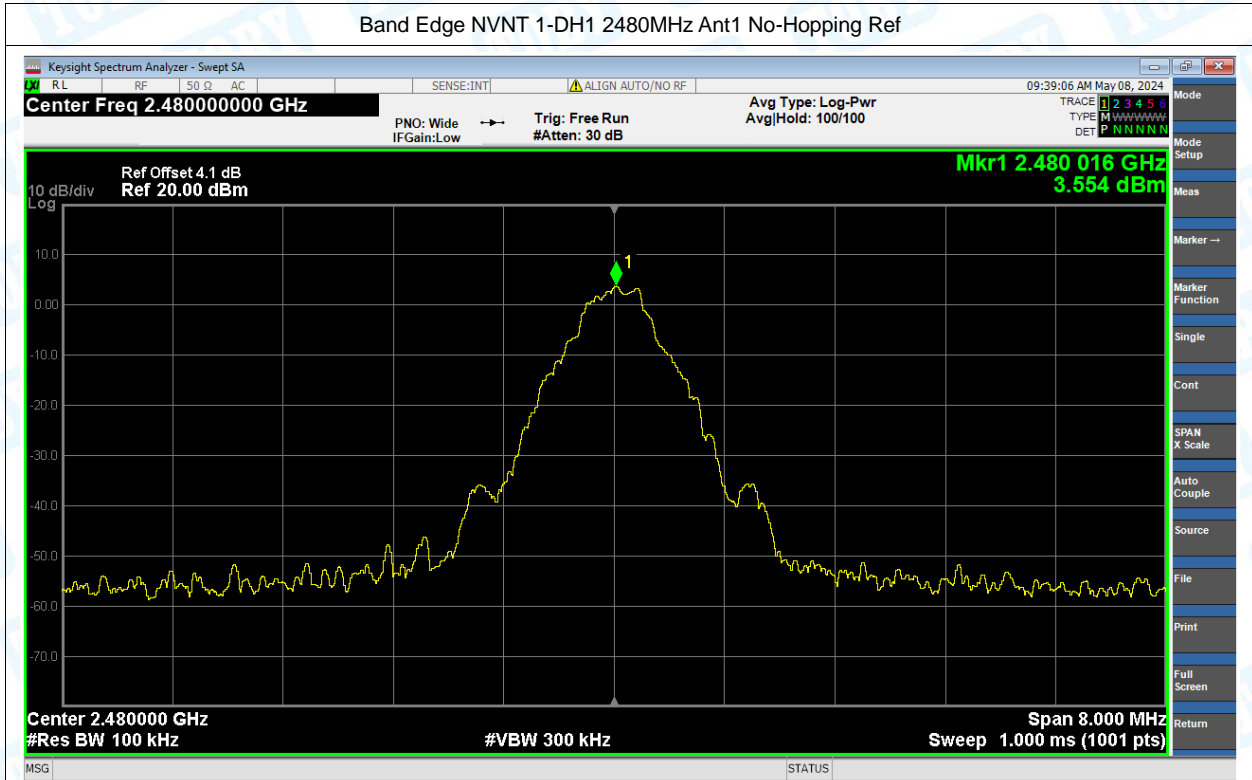
Test Graphs

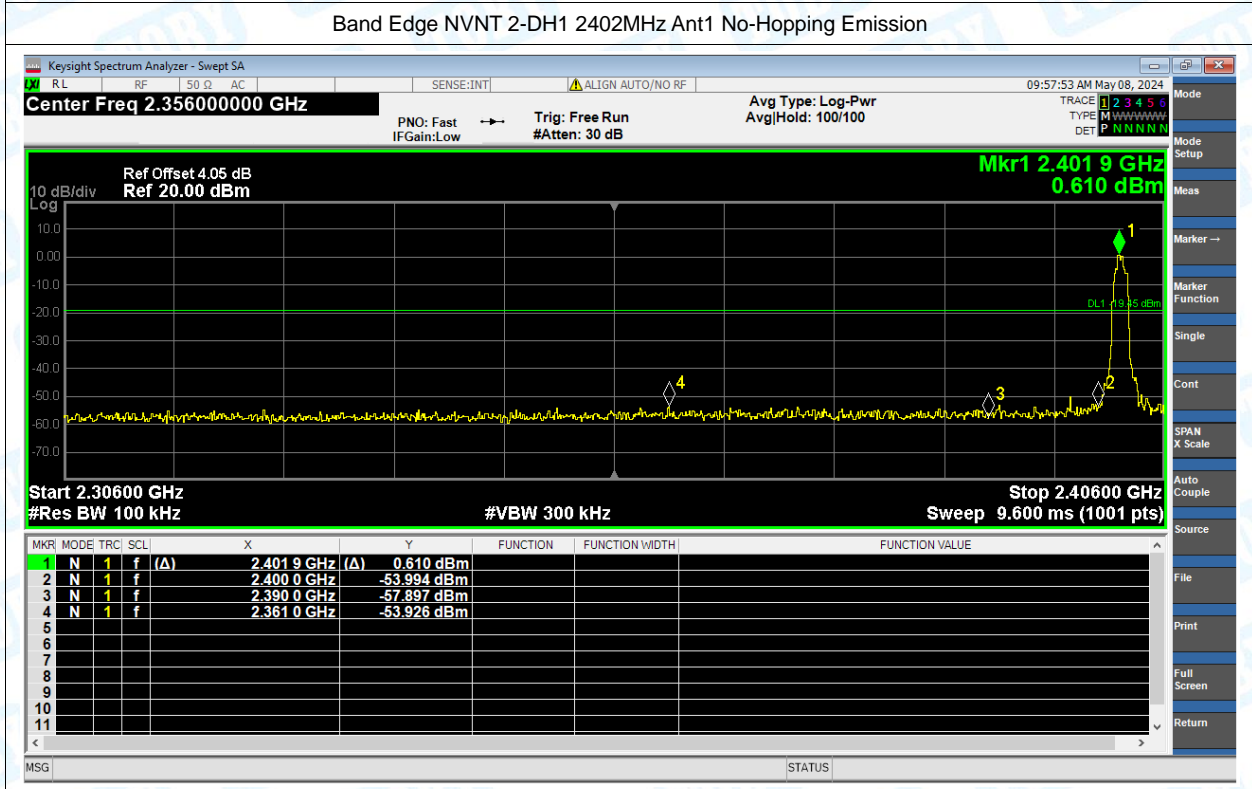
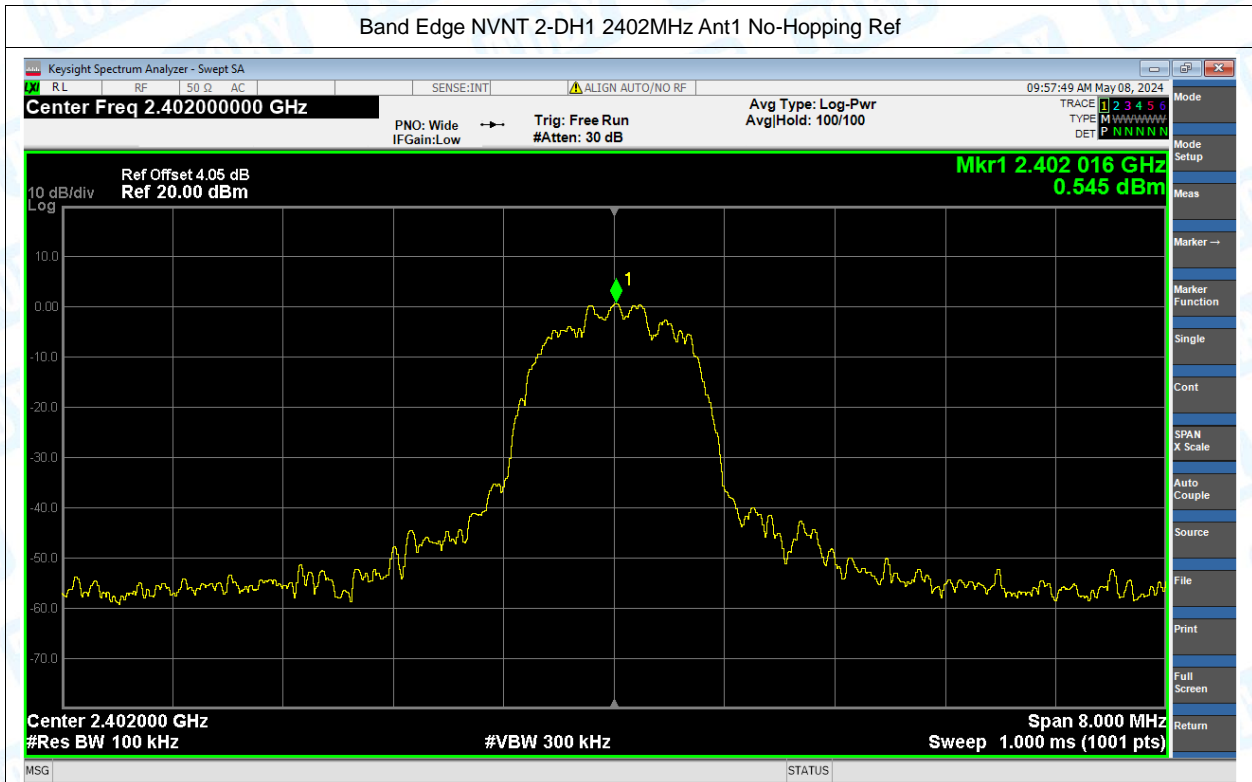
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



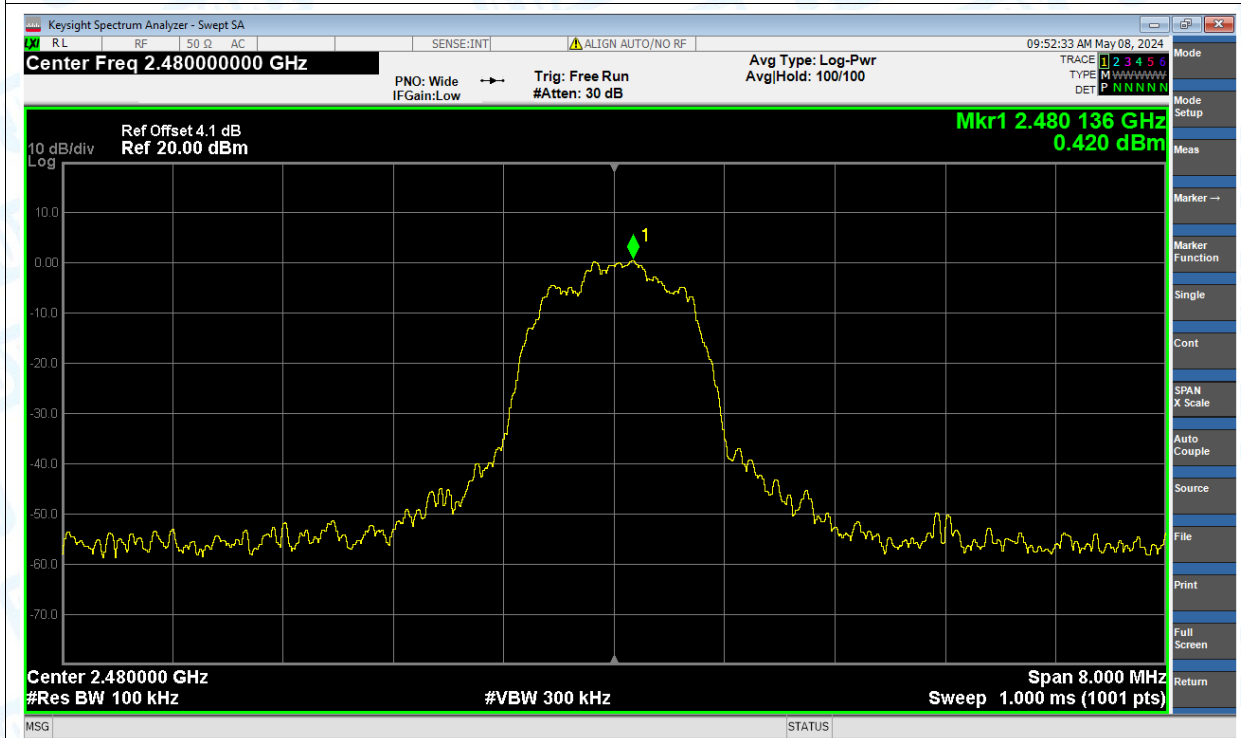
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



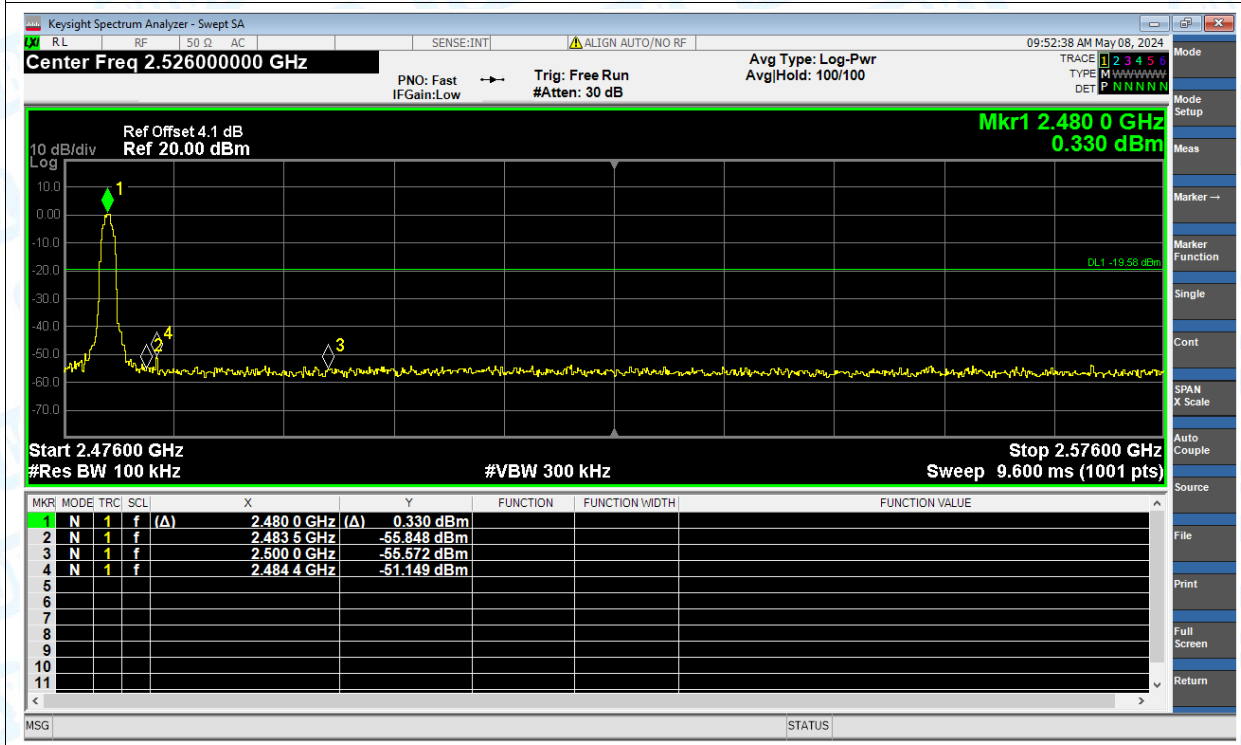


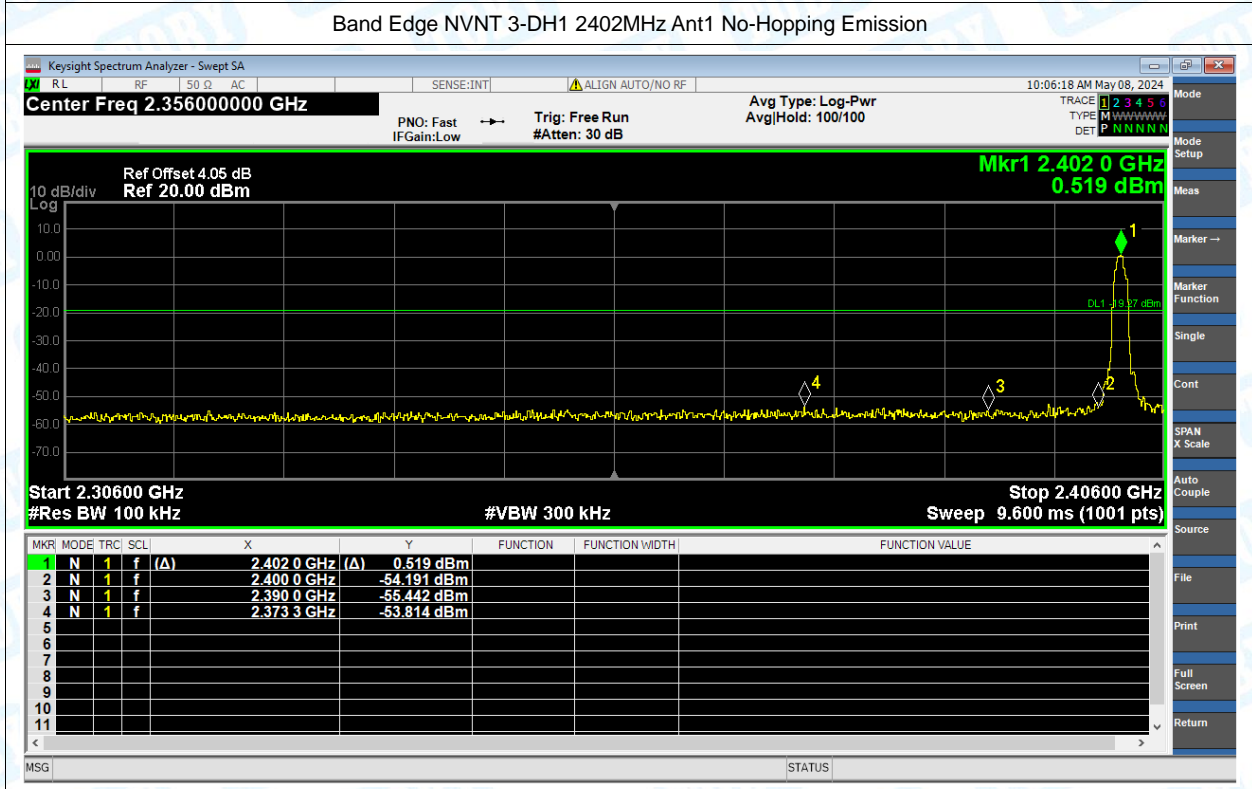
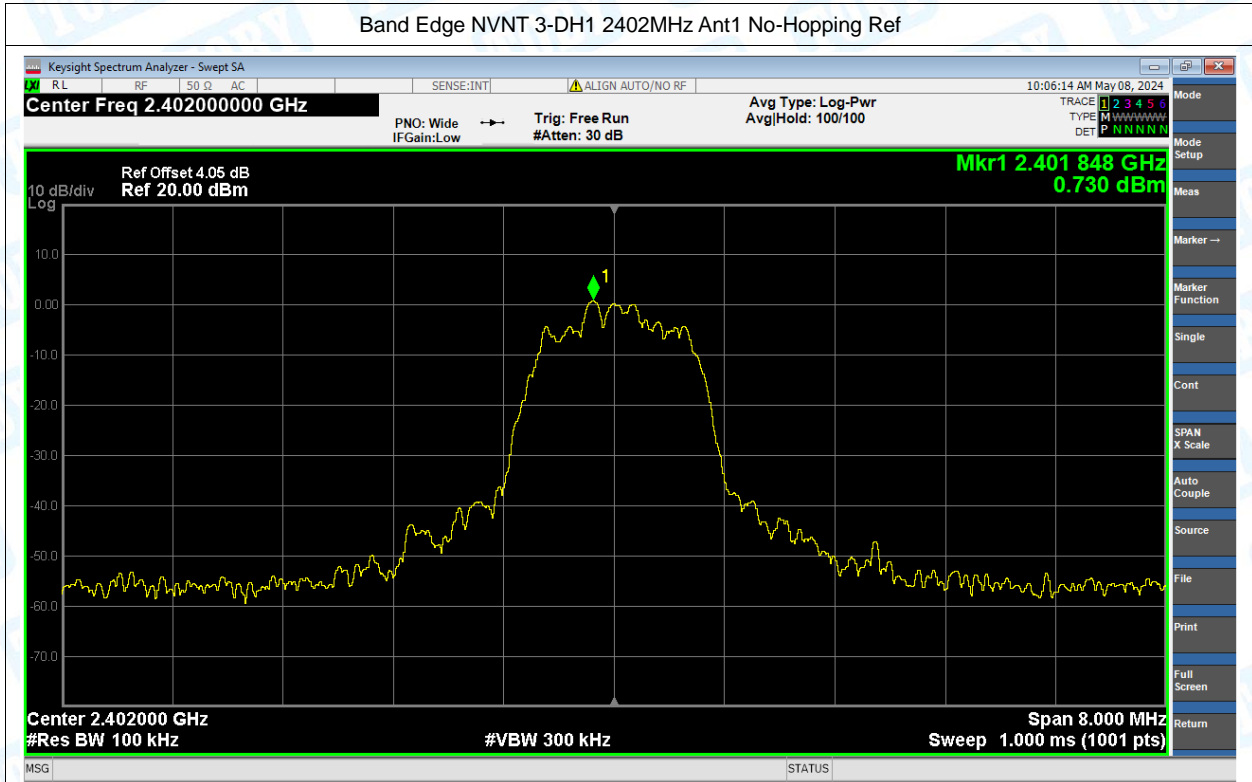


Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref

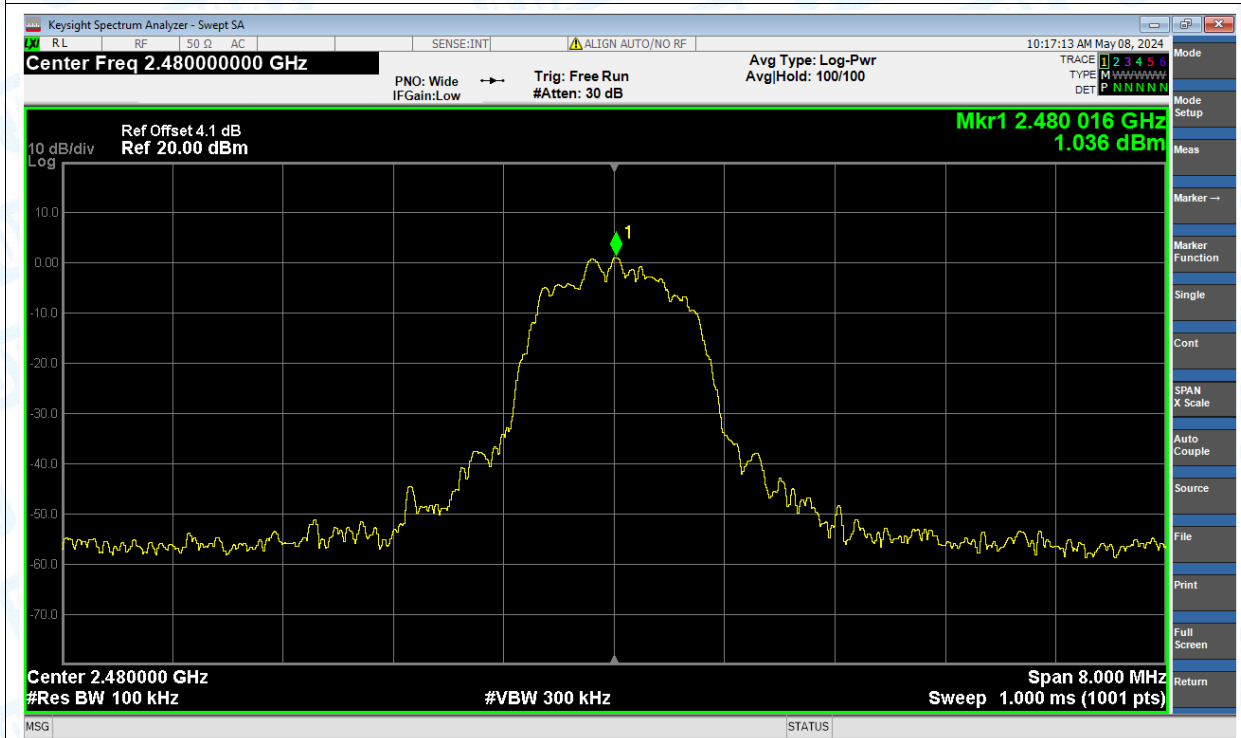


Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission

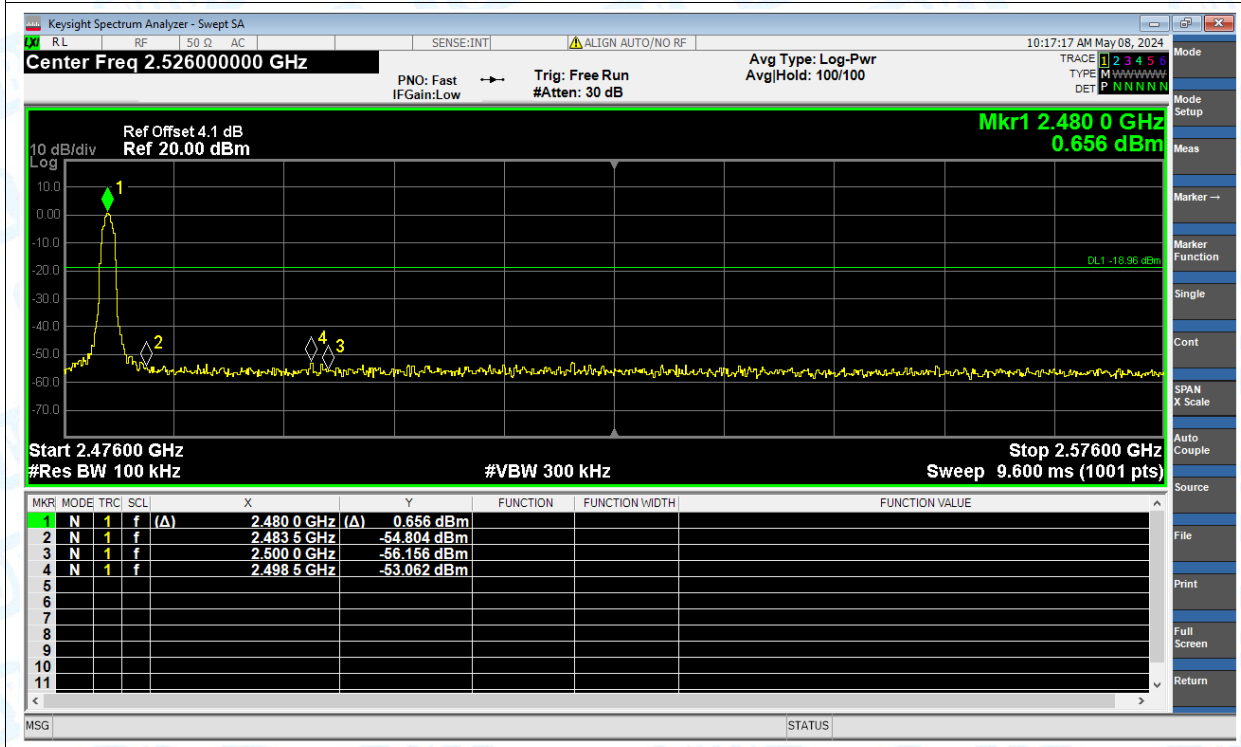




Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref



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



6. Band Edge(Hopping)

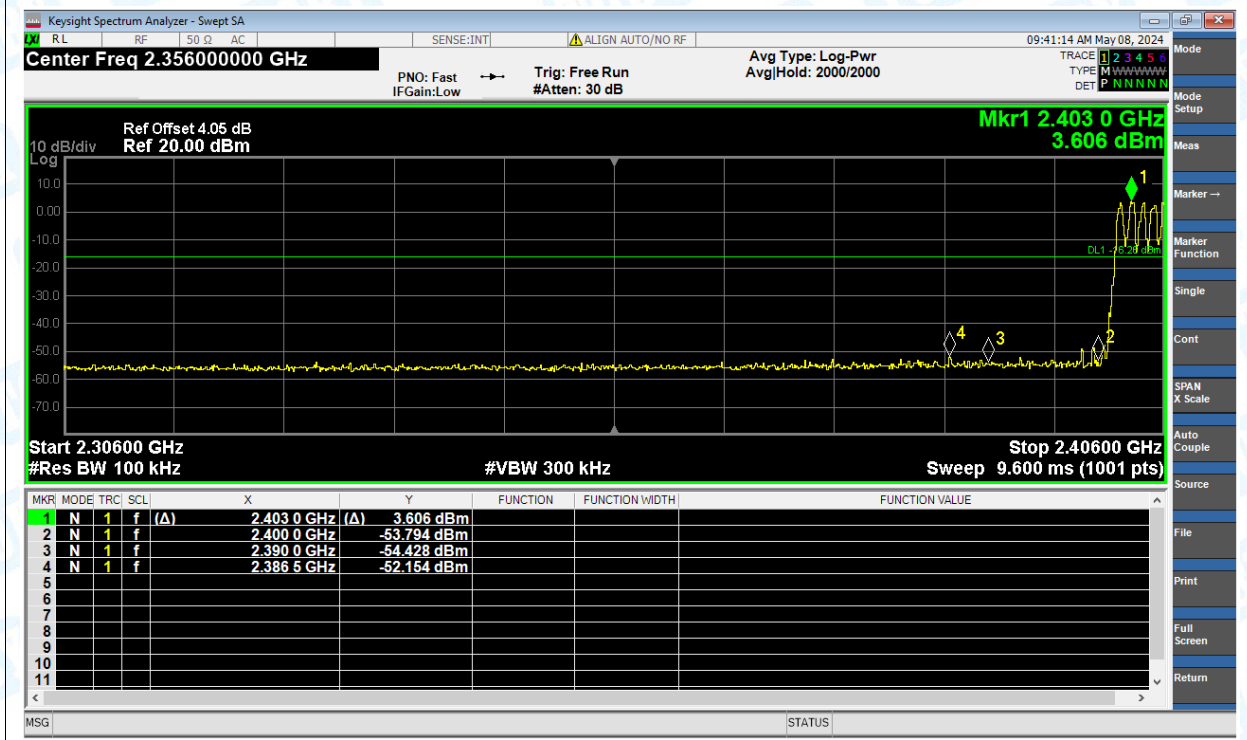
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-55.89	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-51.17	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-56.77	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-52.72	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-53.18	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-51.61	-20	Pass

Test Graphs

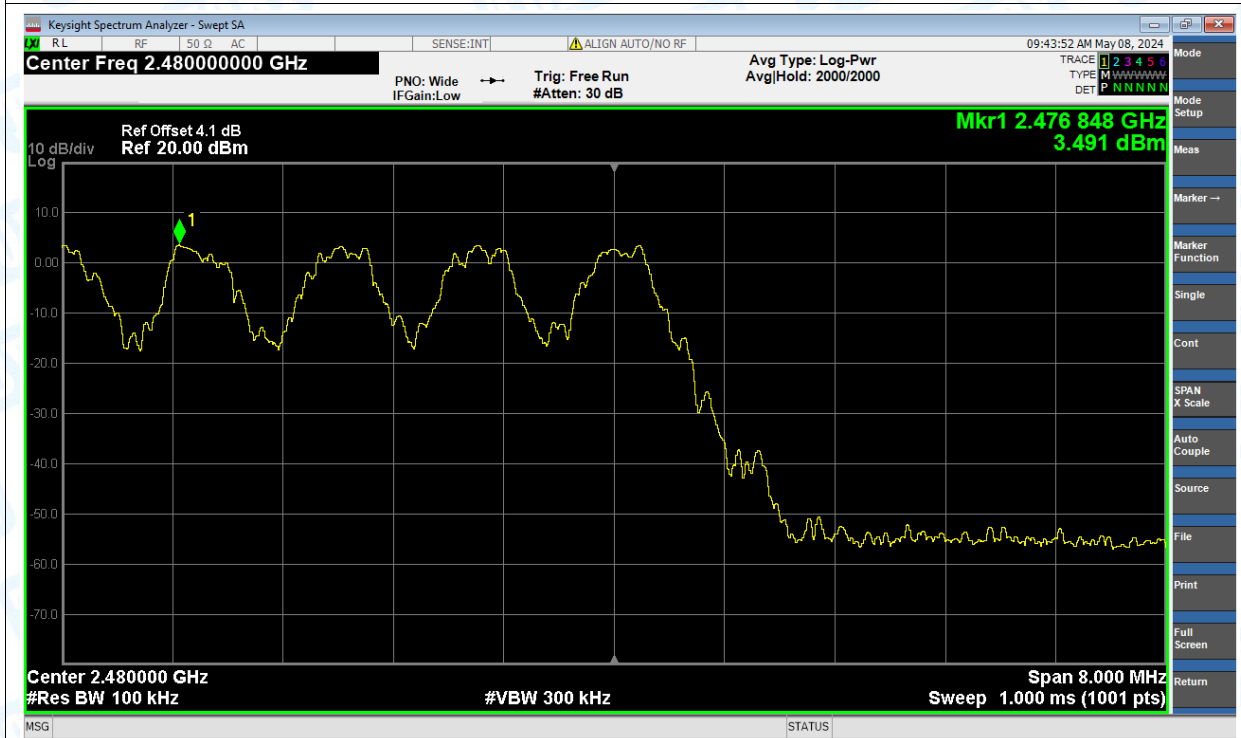
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



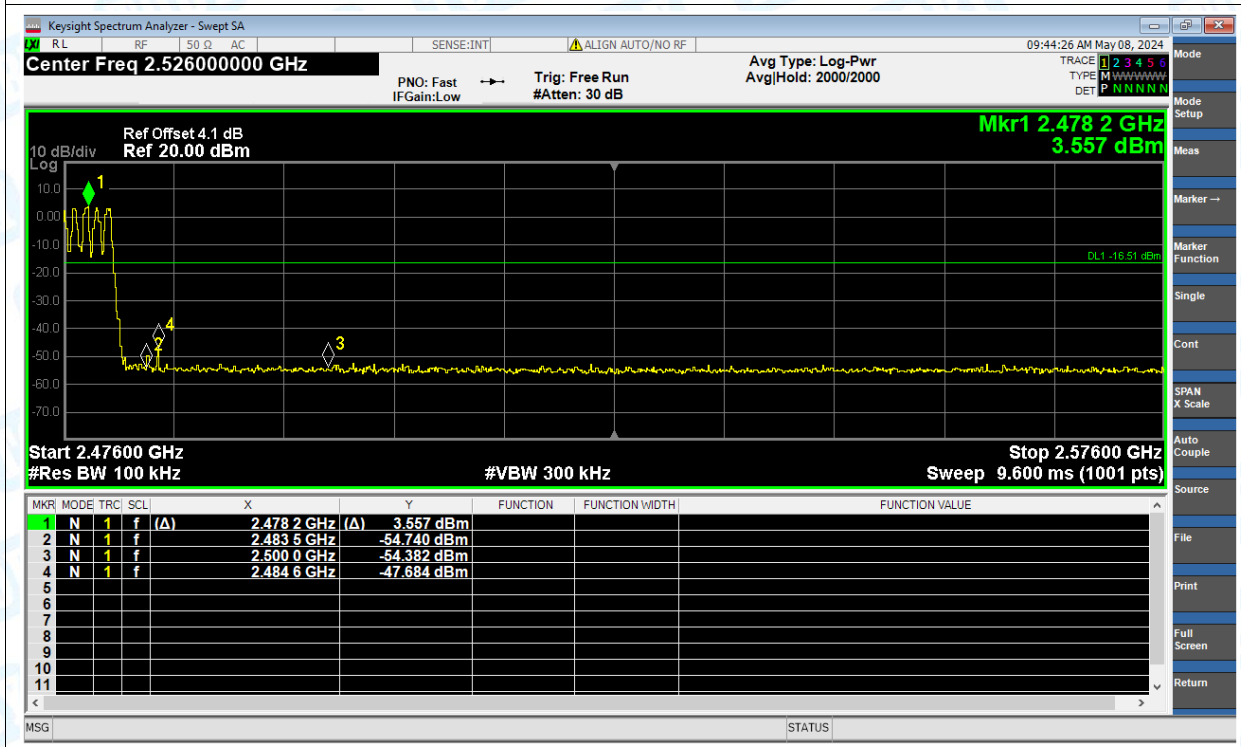
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



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



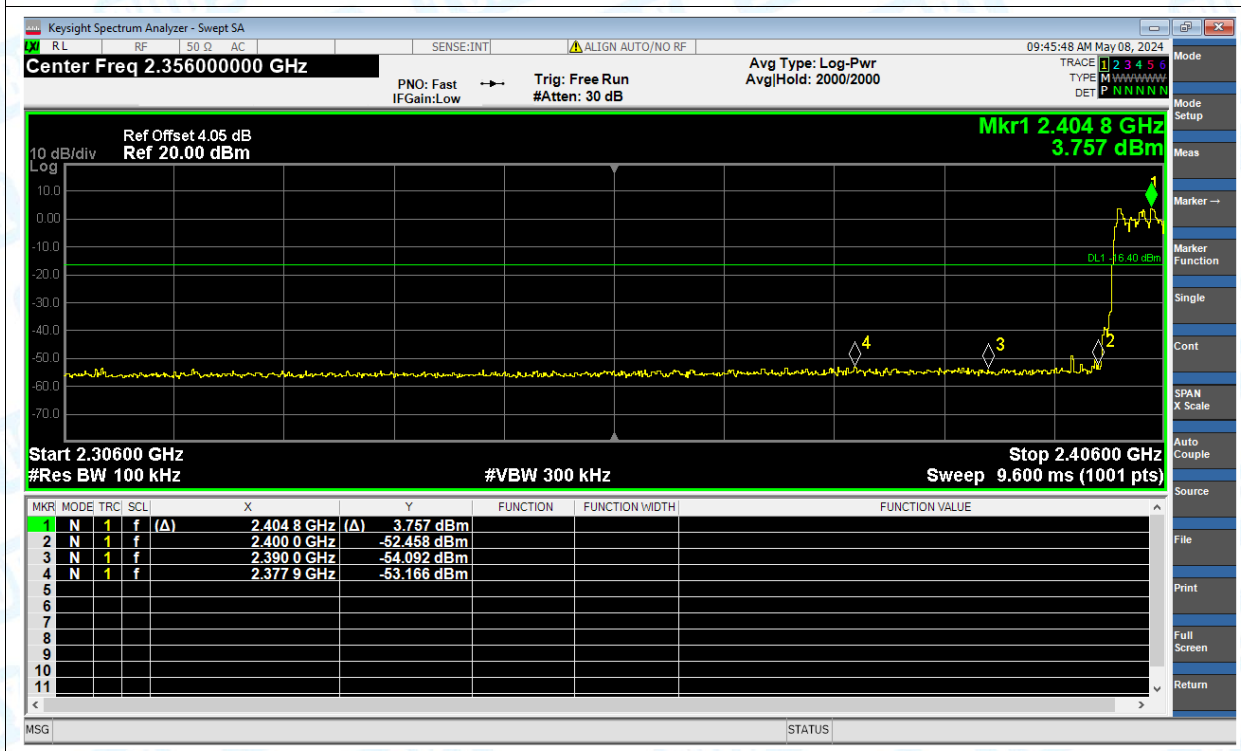
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



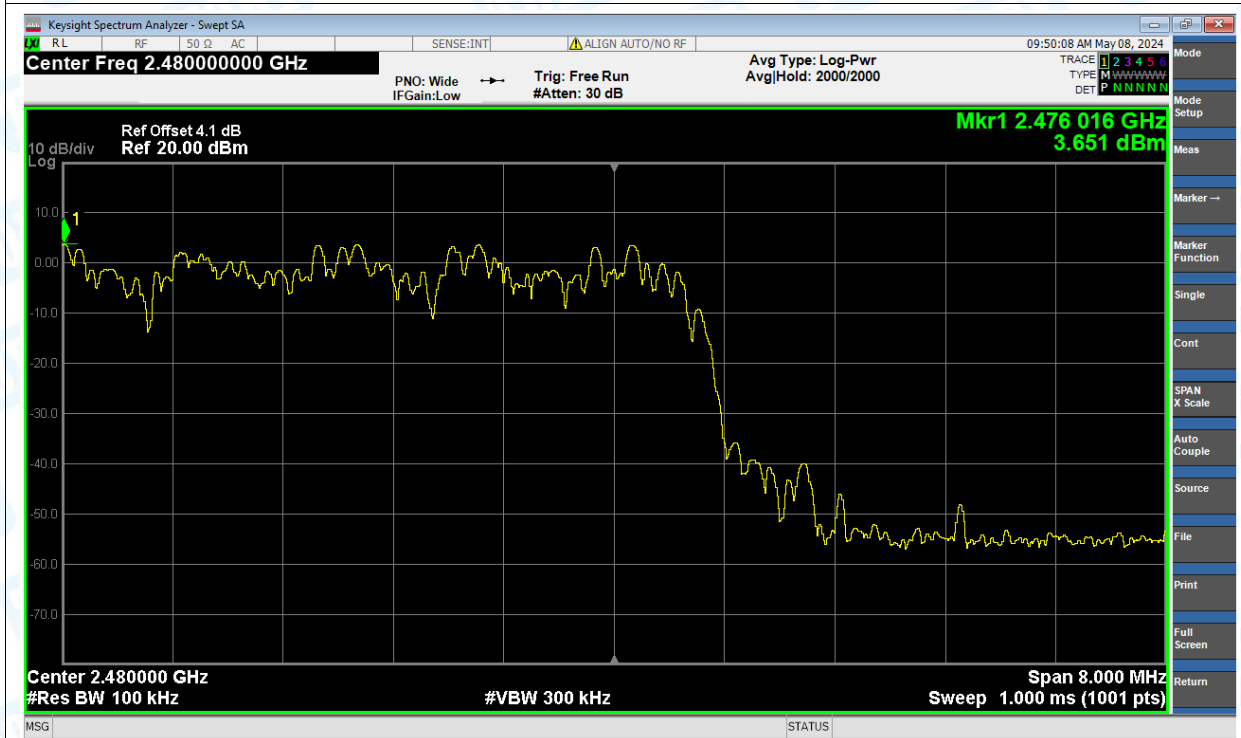
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



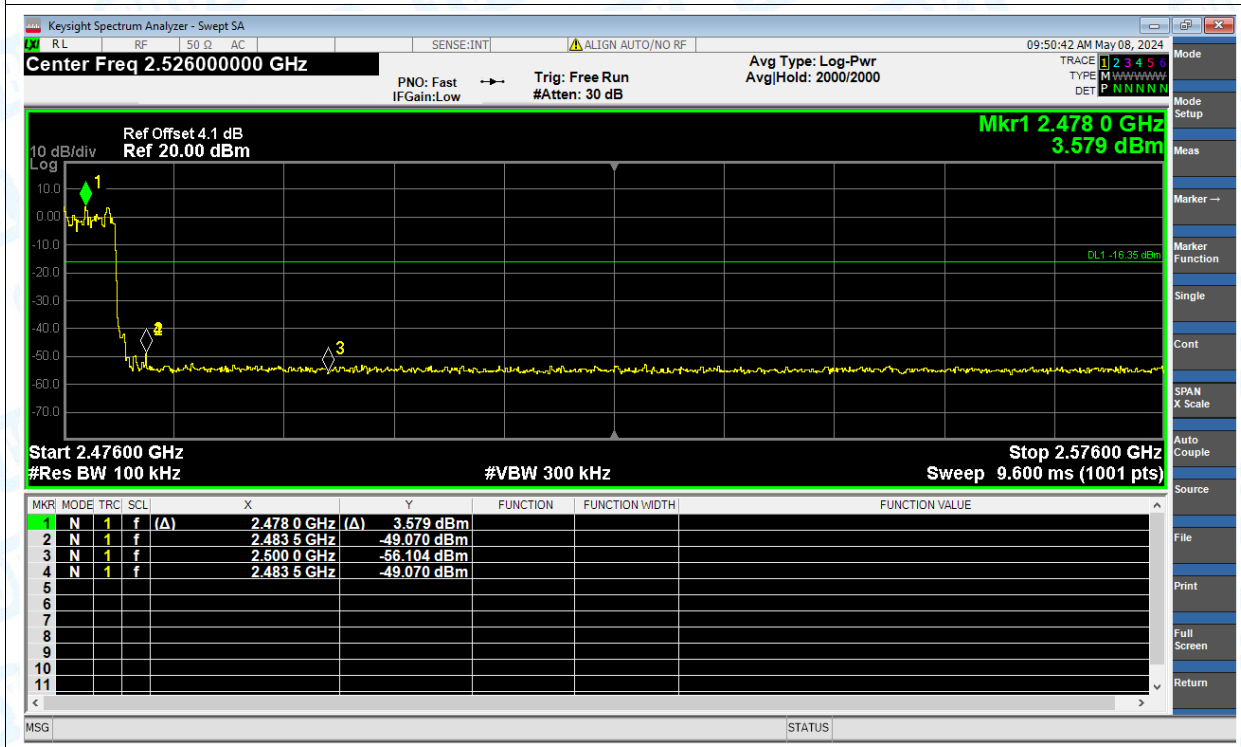
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



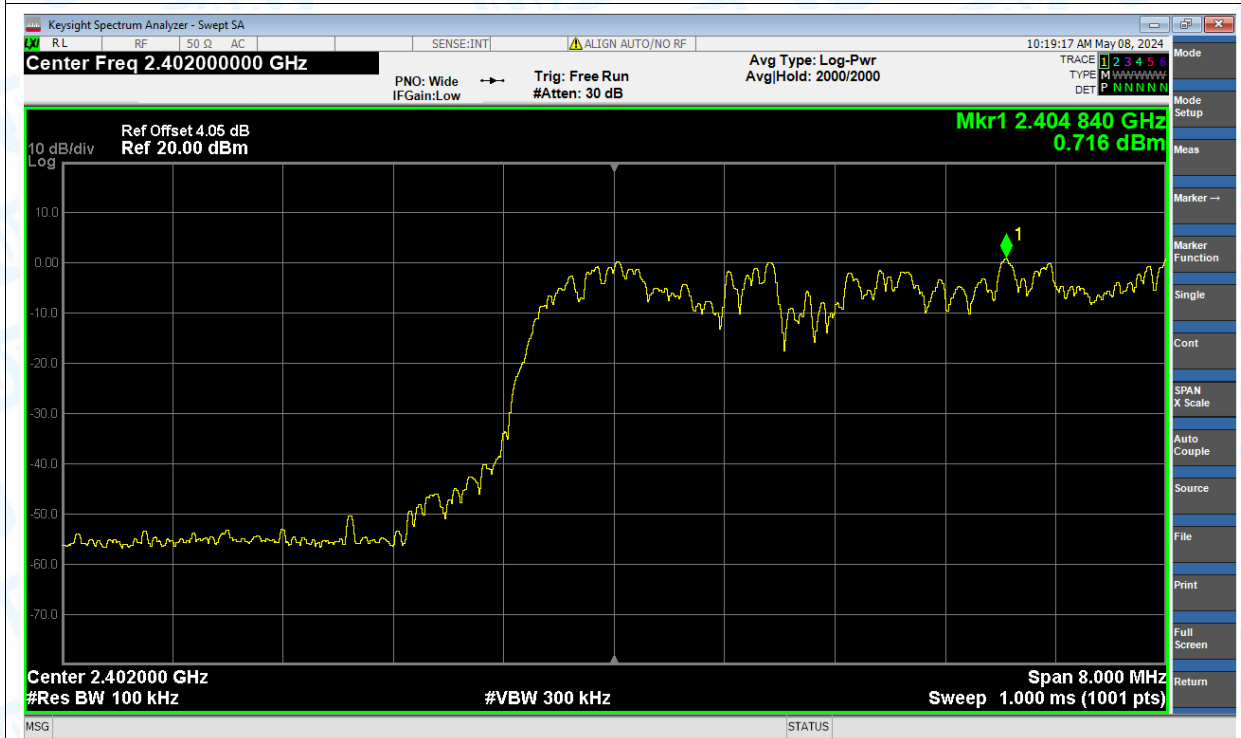
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



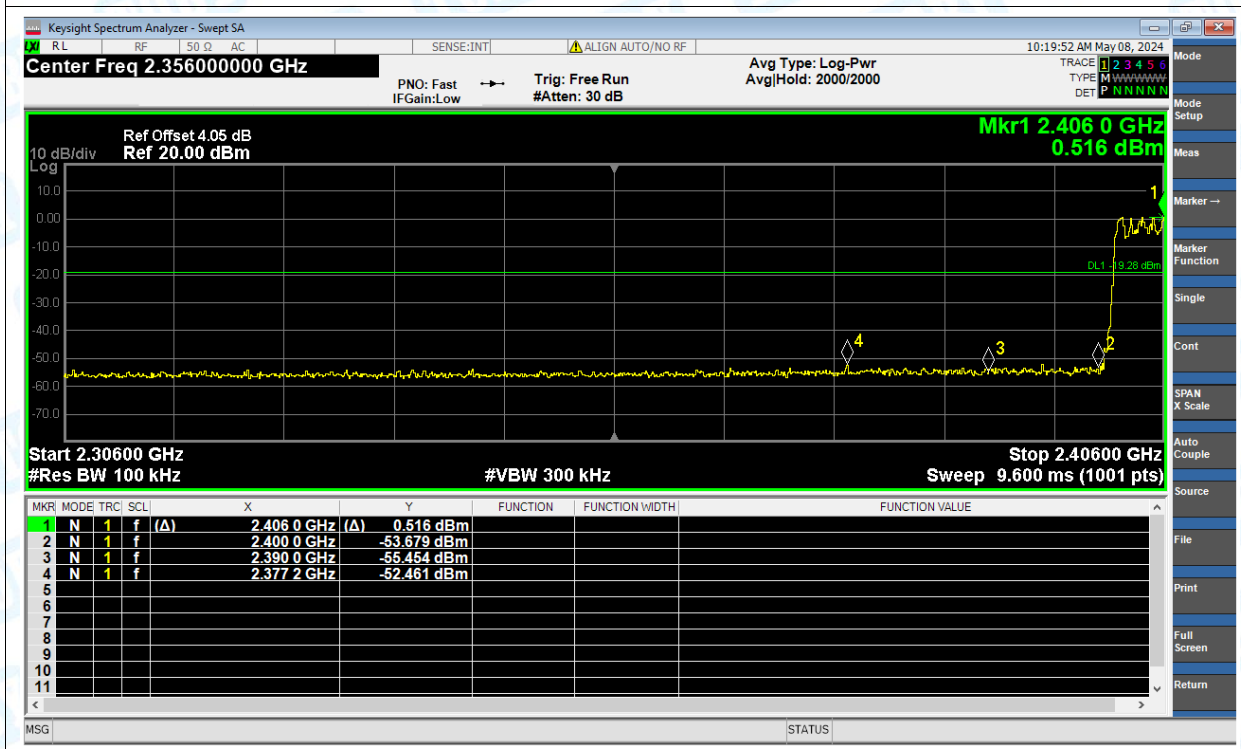
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



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



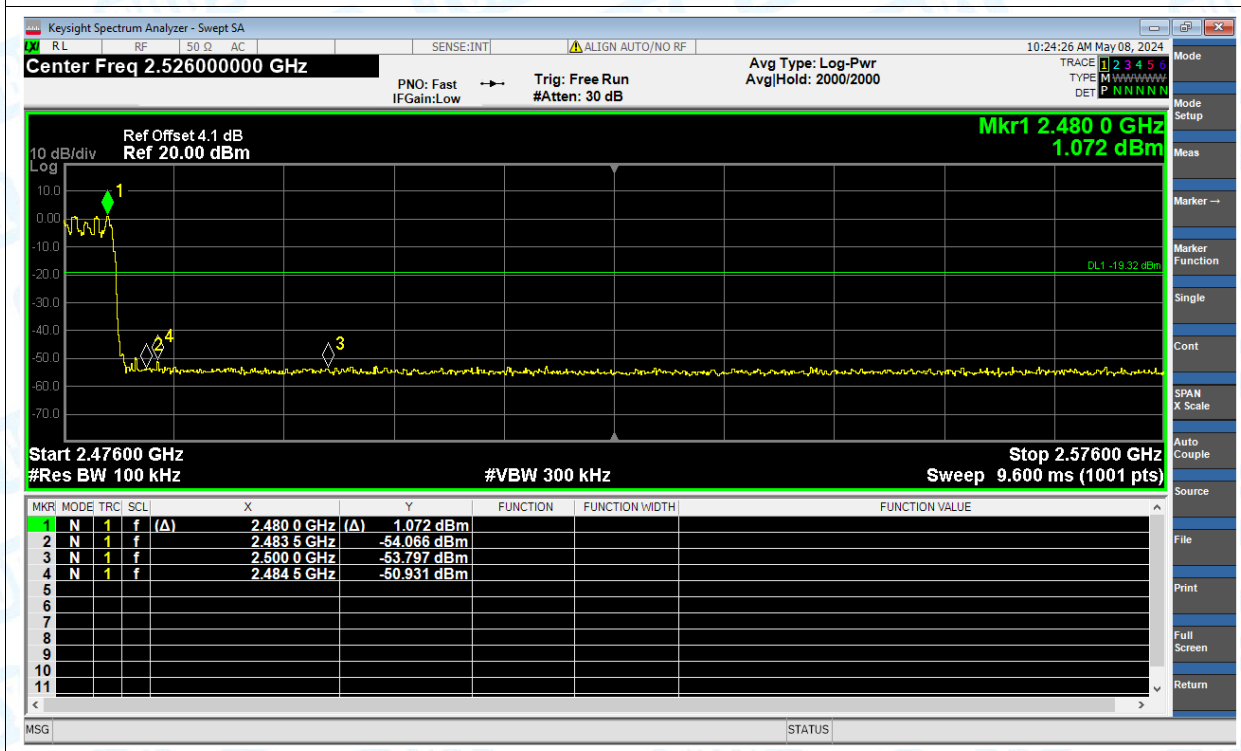
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

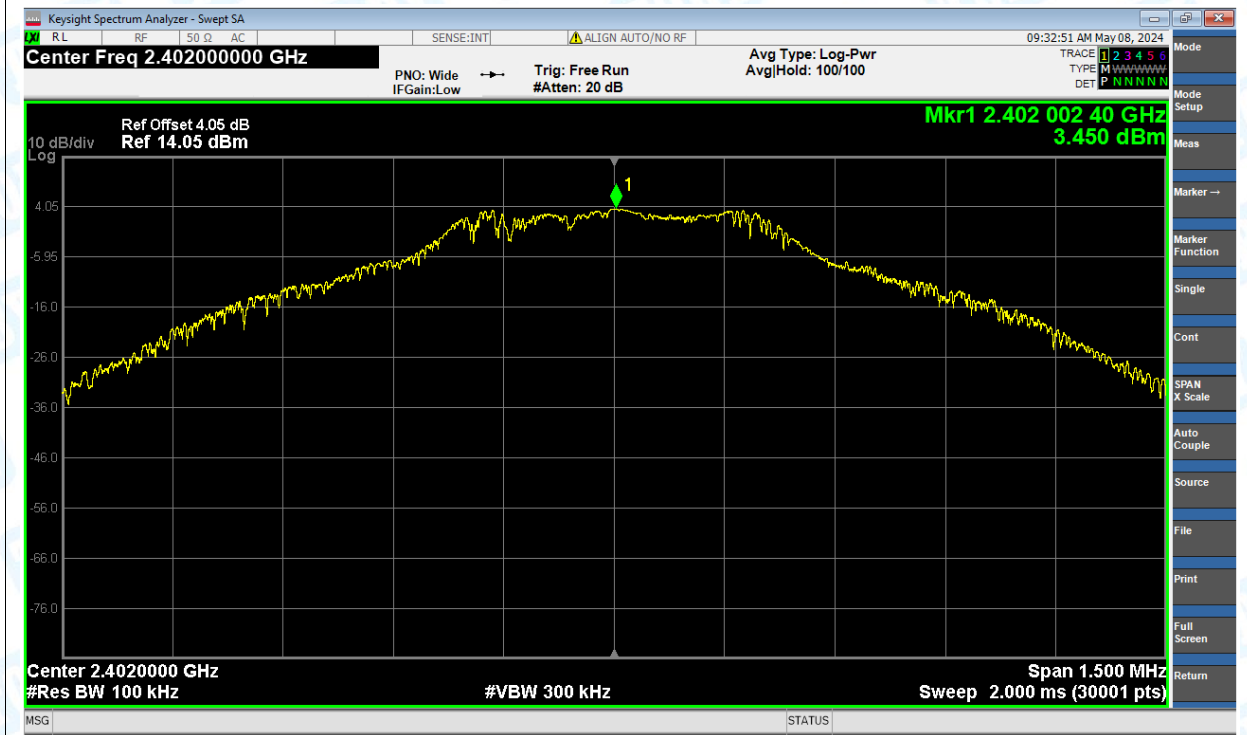


7. Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-42.17	-20	Pass
NVNT	1-DH1	2441	Ant1	-46.27	-20	Pass
NVNT	1-DH1	2480	Ant1	-45.78	-20	Pass
NVNT	2-DH1	2402	Ant1	-46.25	-20	Pass
NVNT	2-DH1	2441	Ant1	-44.56	-20	Pass
NVNT	2-DH1	2480	Ant1	-45.03	-20	Pass
NVNT	3-DH1	2402	Ant1	-47.77	-20	Pass
NVNT	3-DH1	2441	Ant1	-46.65	-20	Pass
NVNT	3-DH1	2480	Ant1	-45.82	-20	Pass

Test Graphs

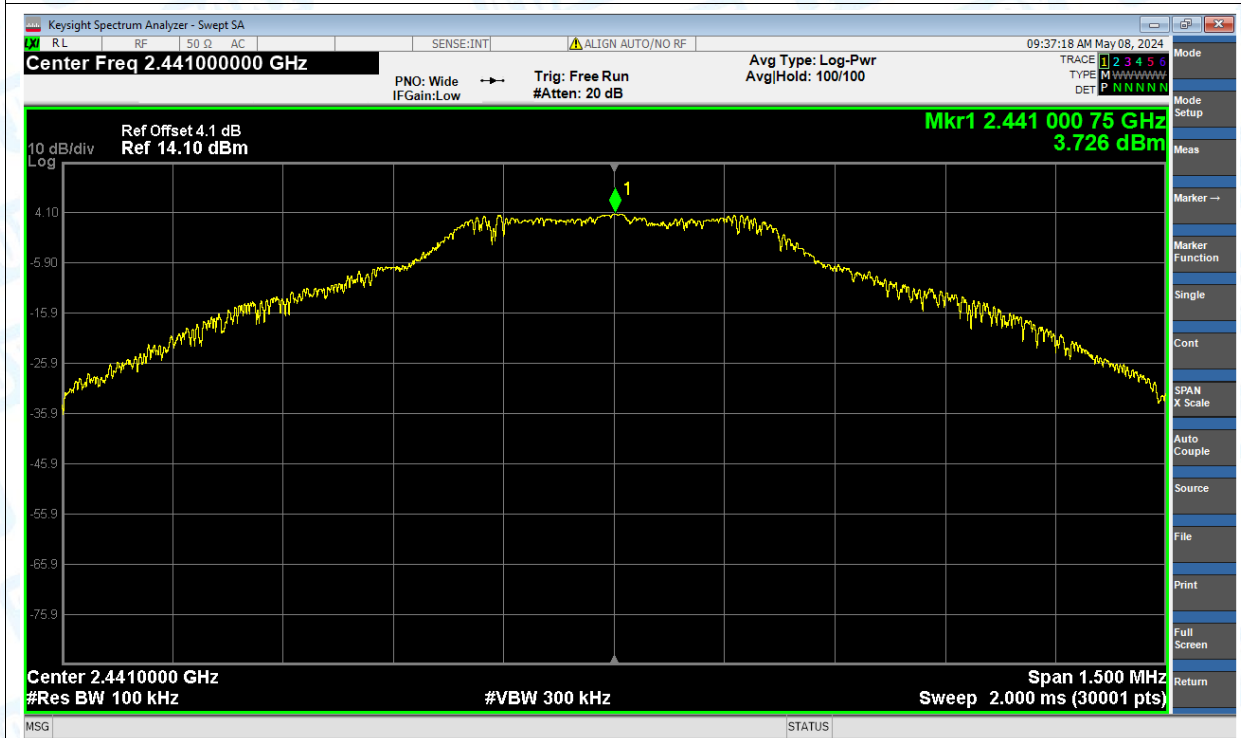
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



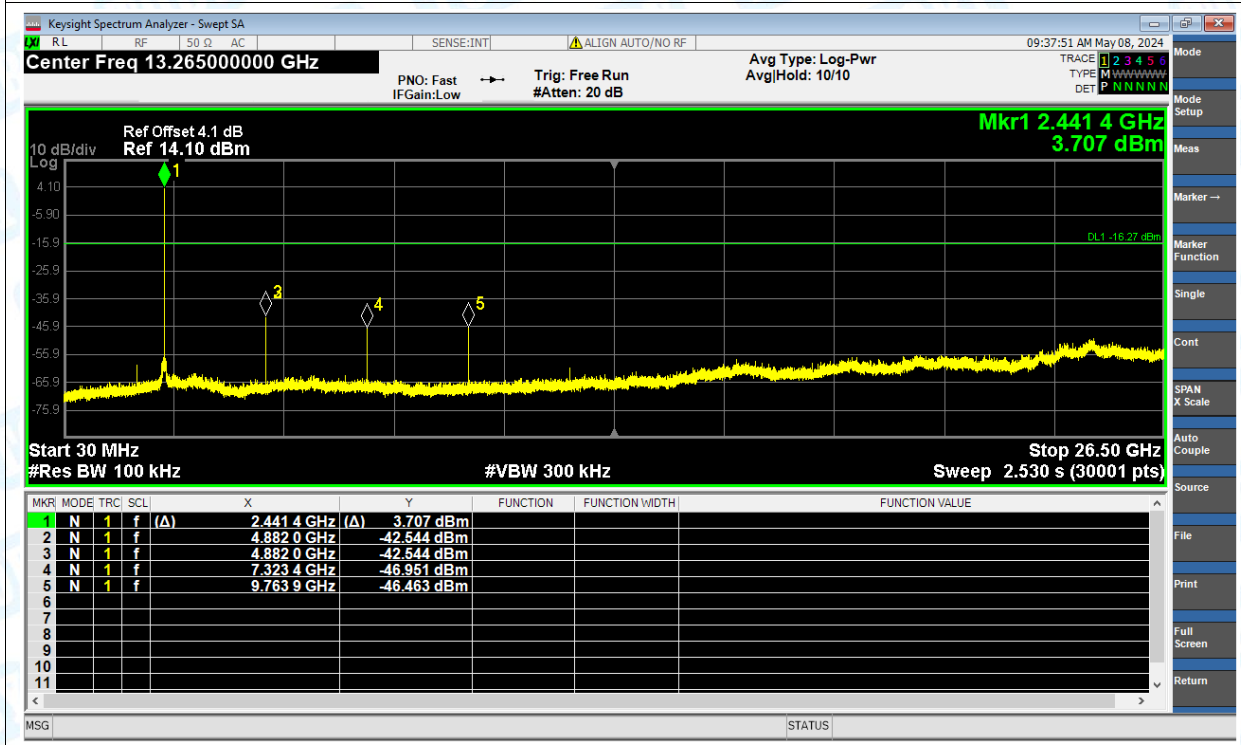
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



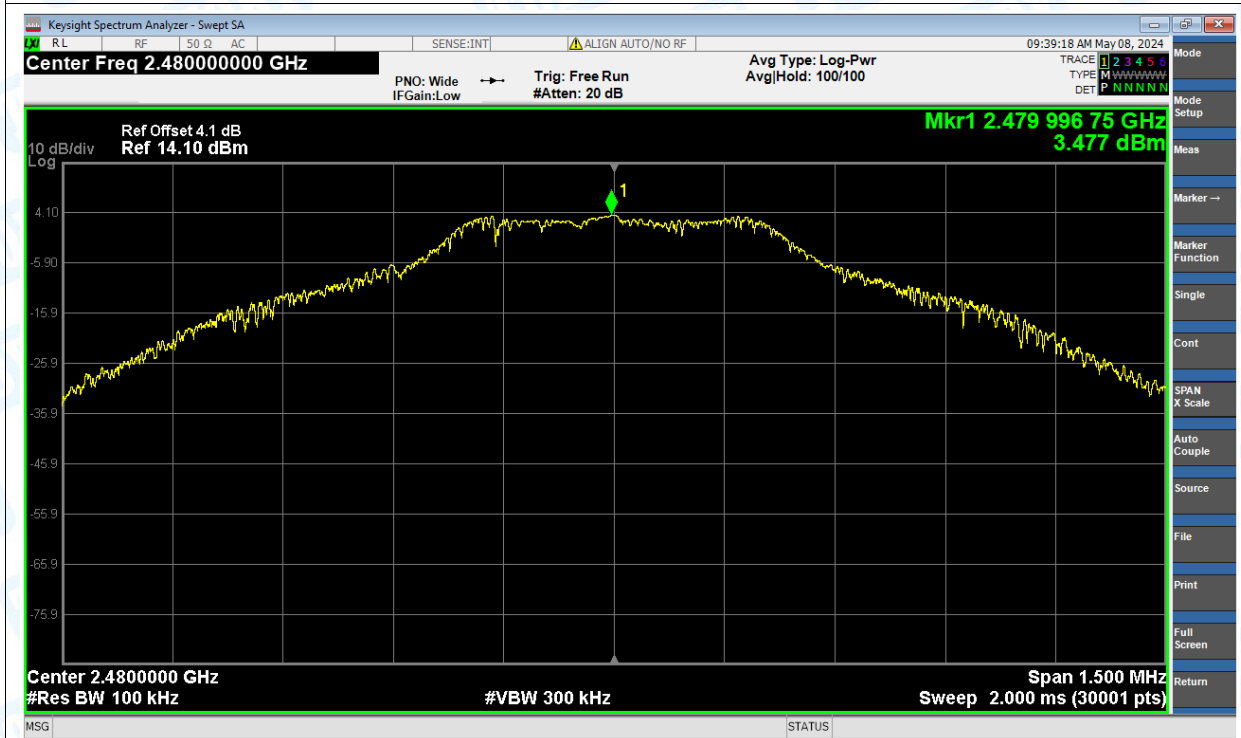
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



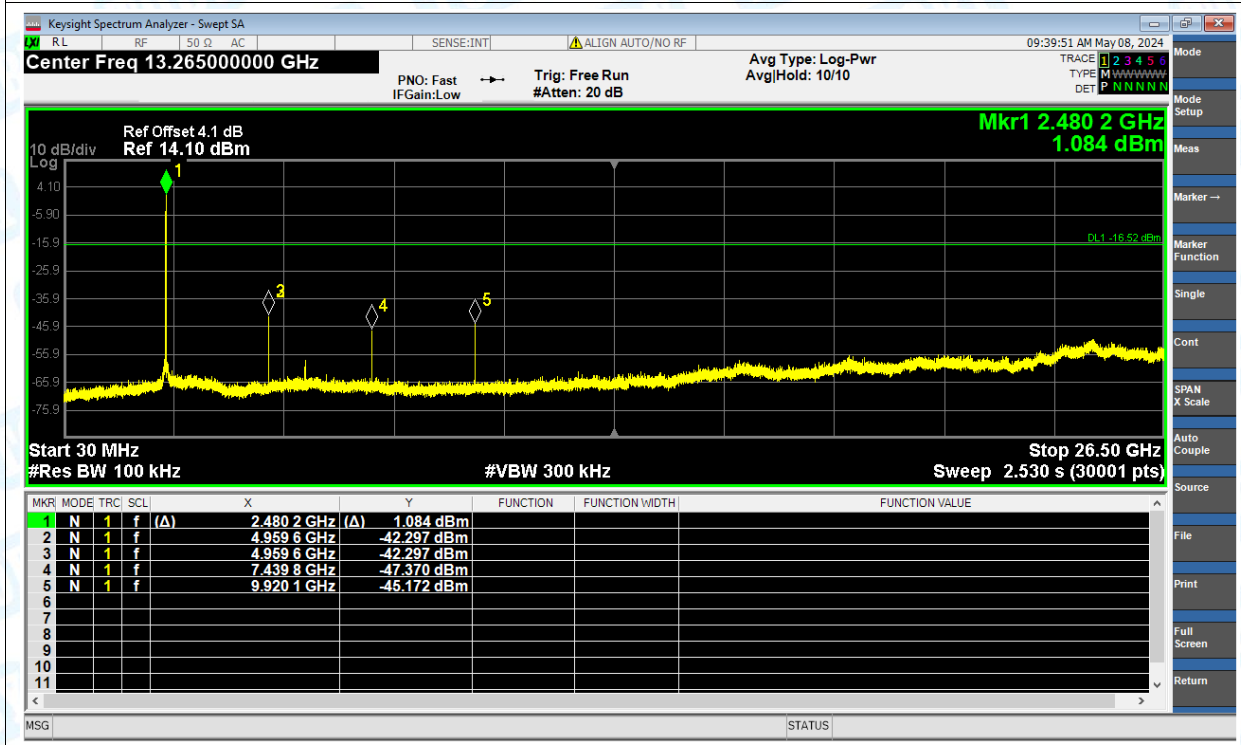
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



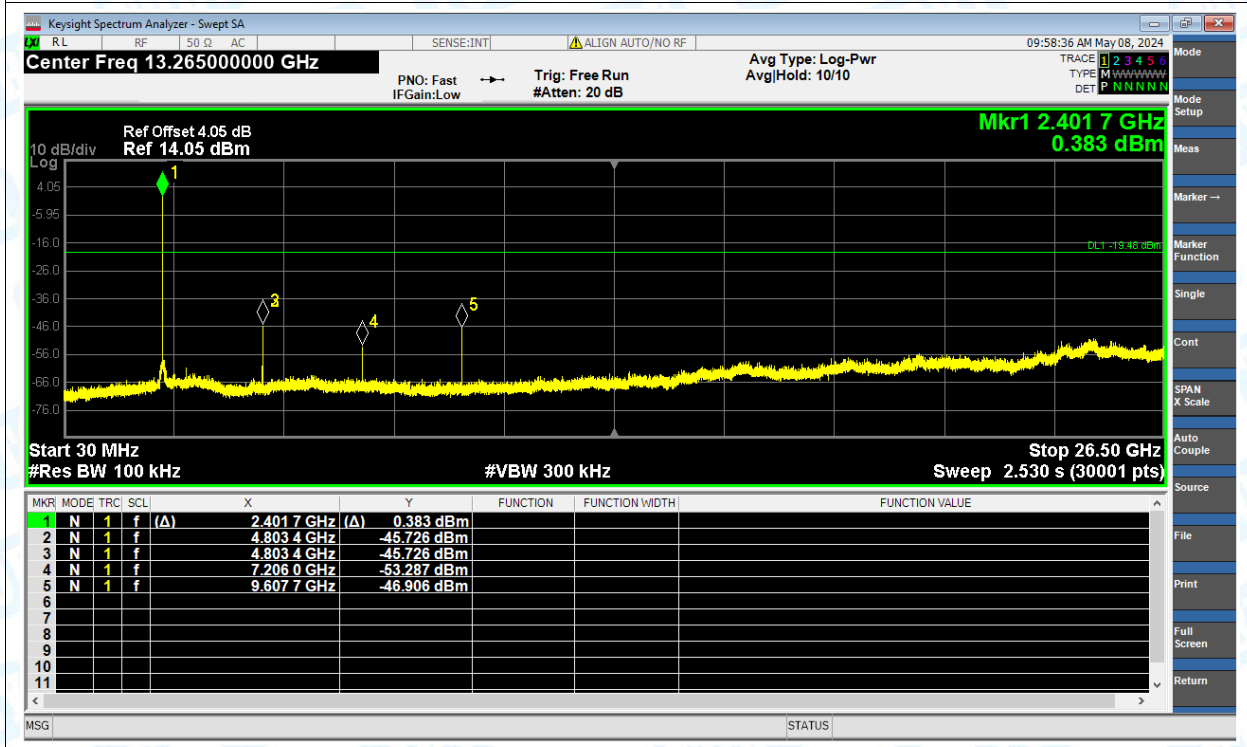
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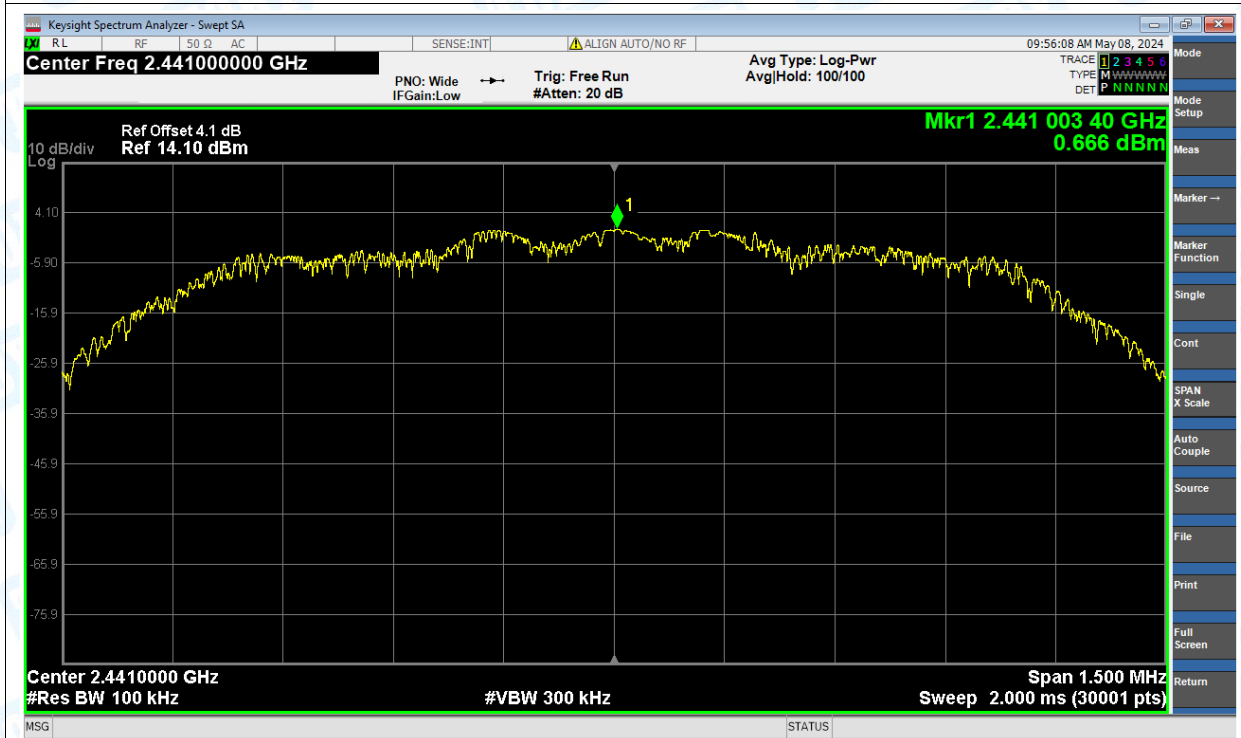
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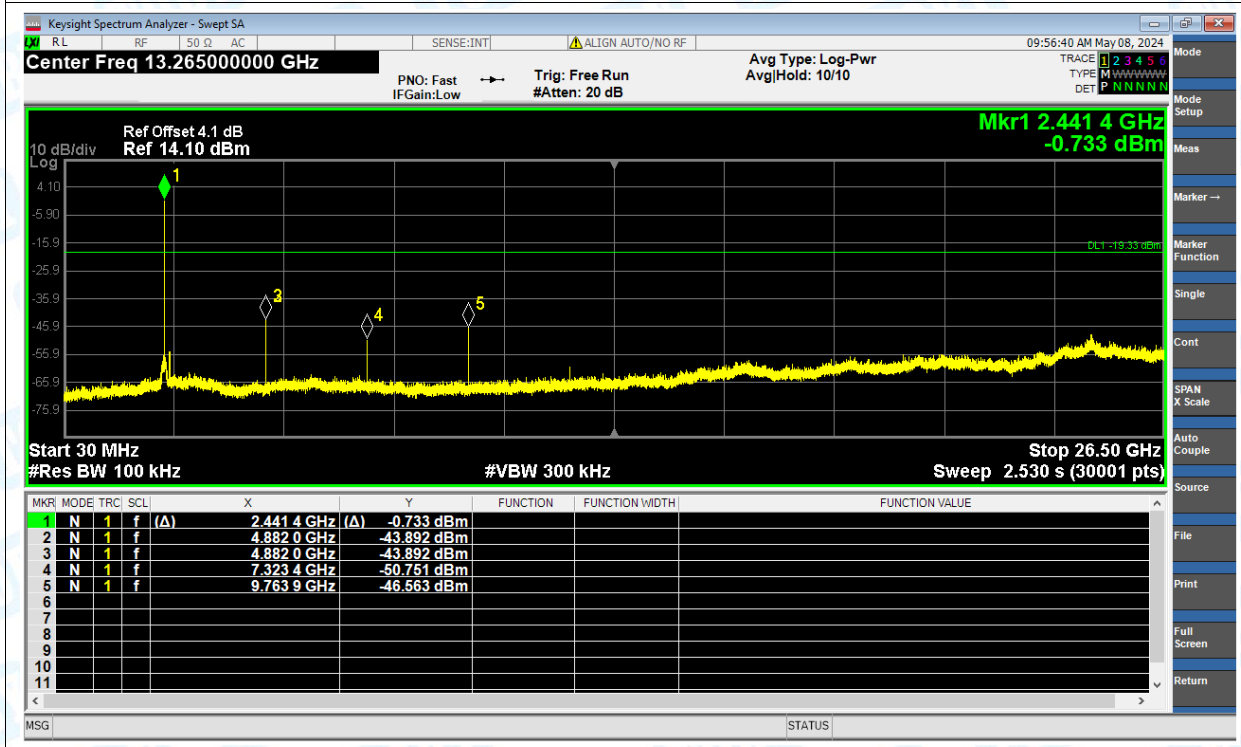
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



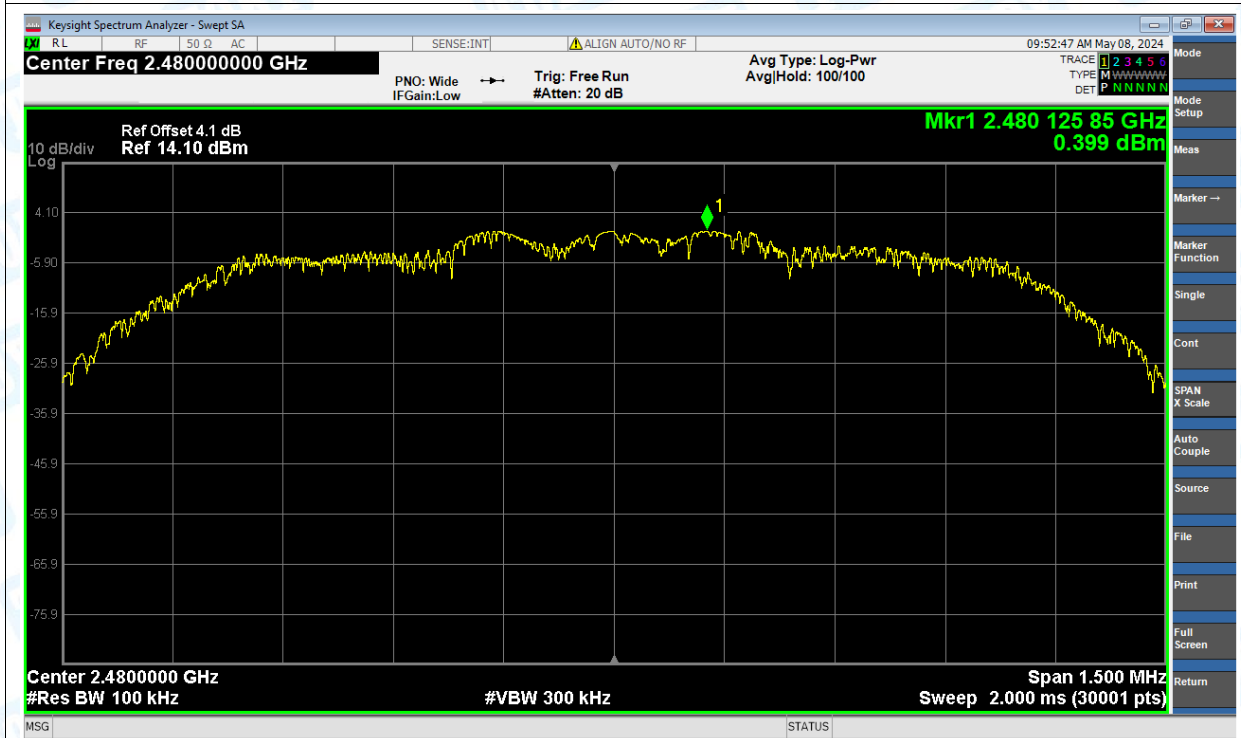
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



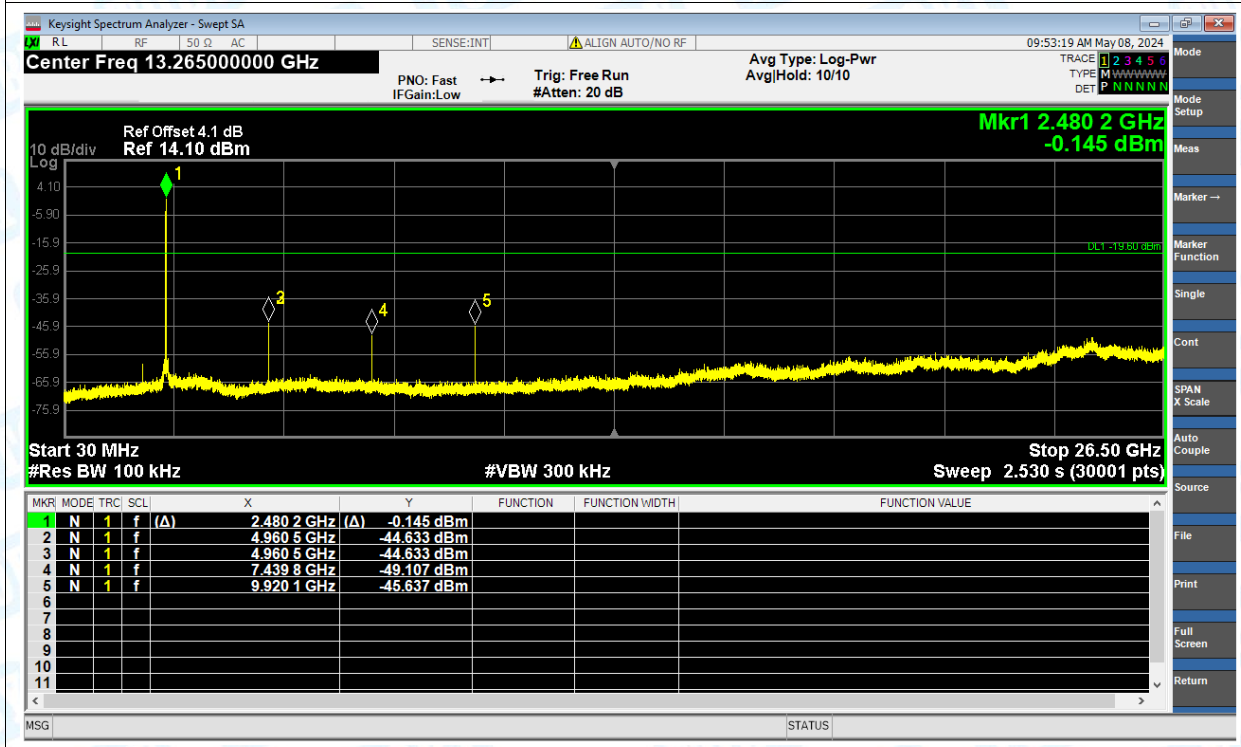
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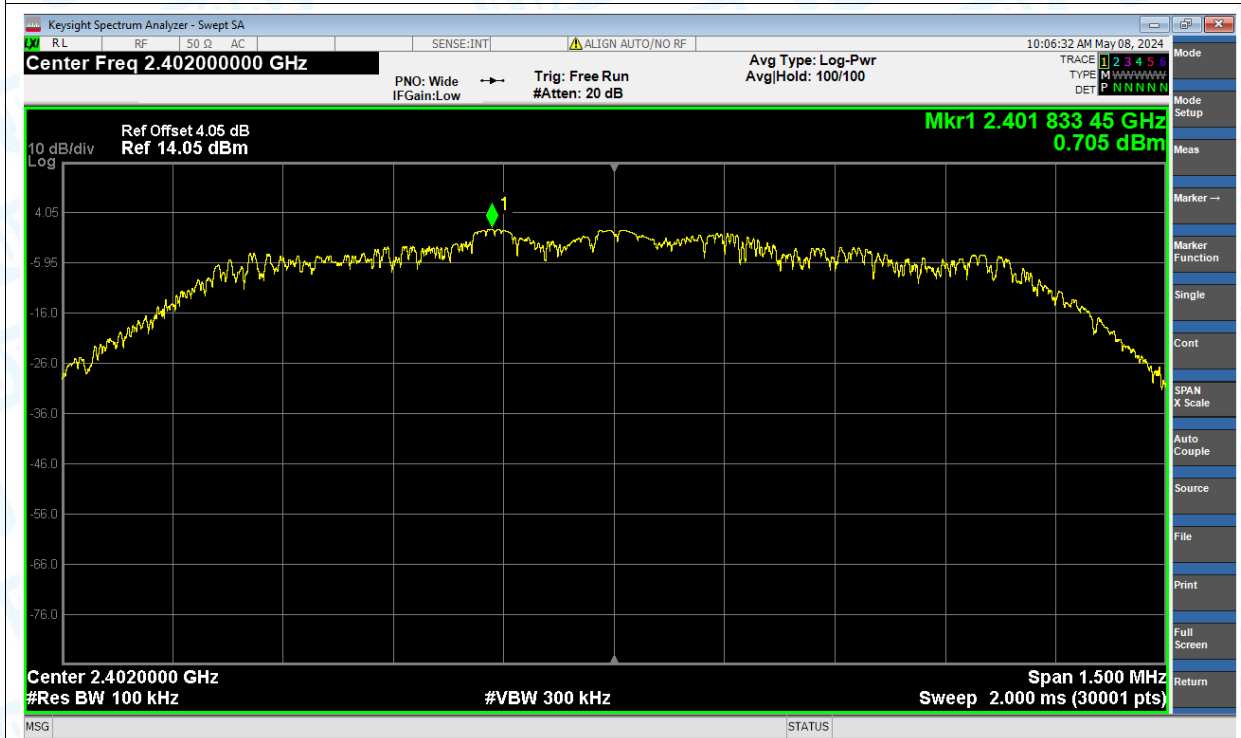
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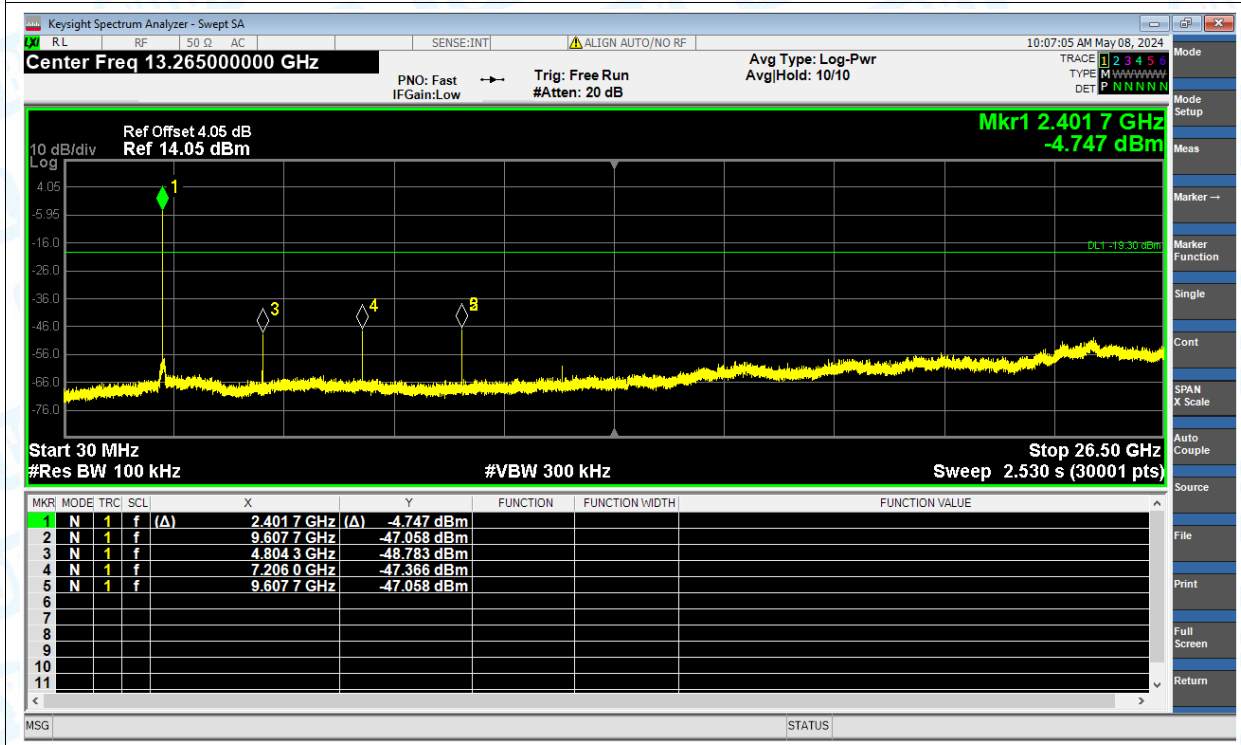
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



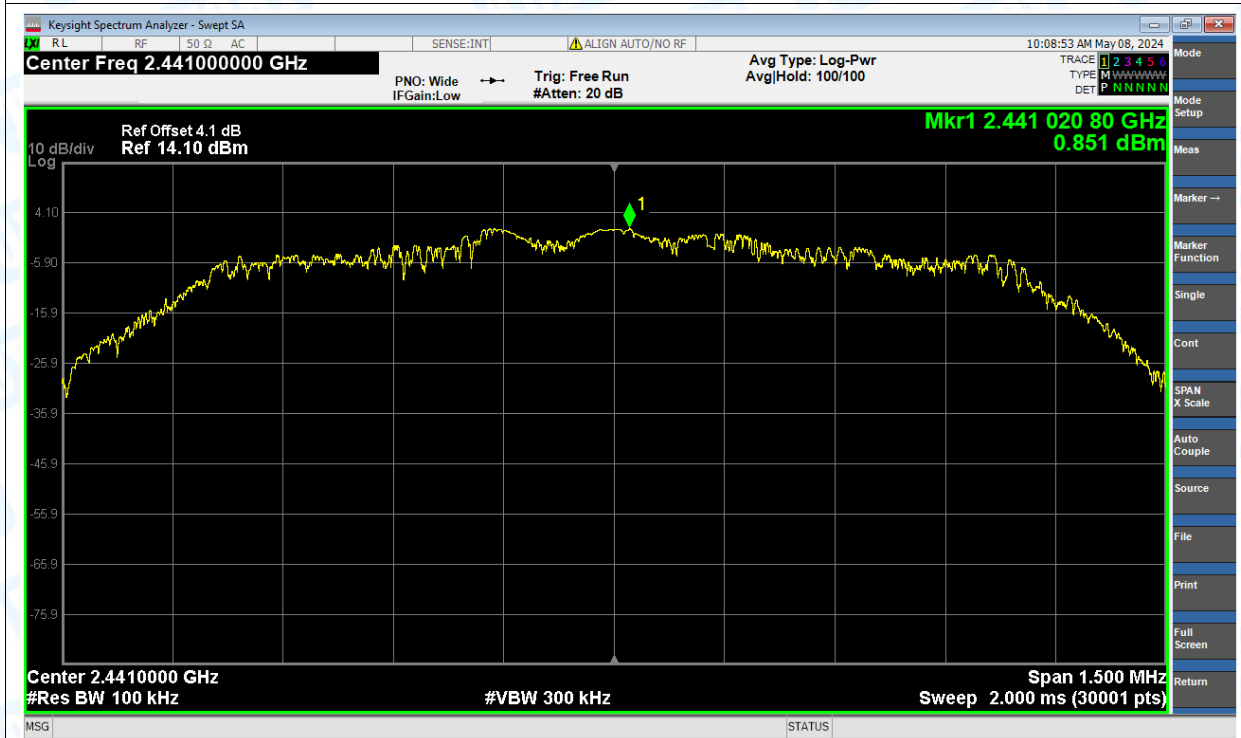
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



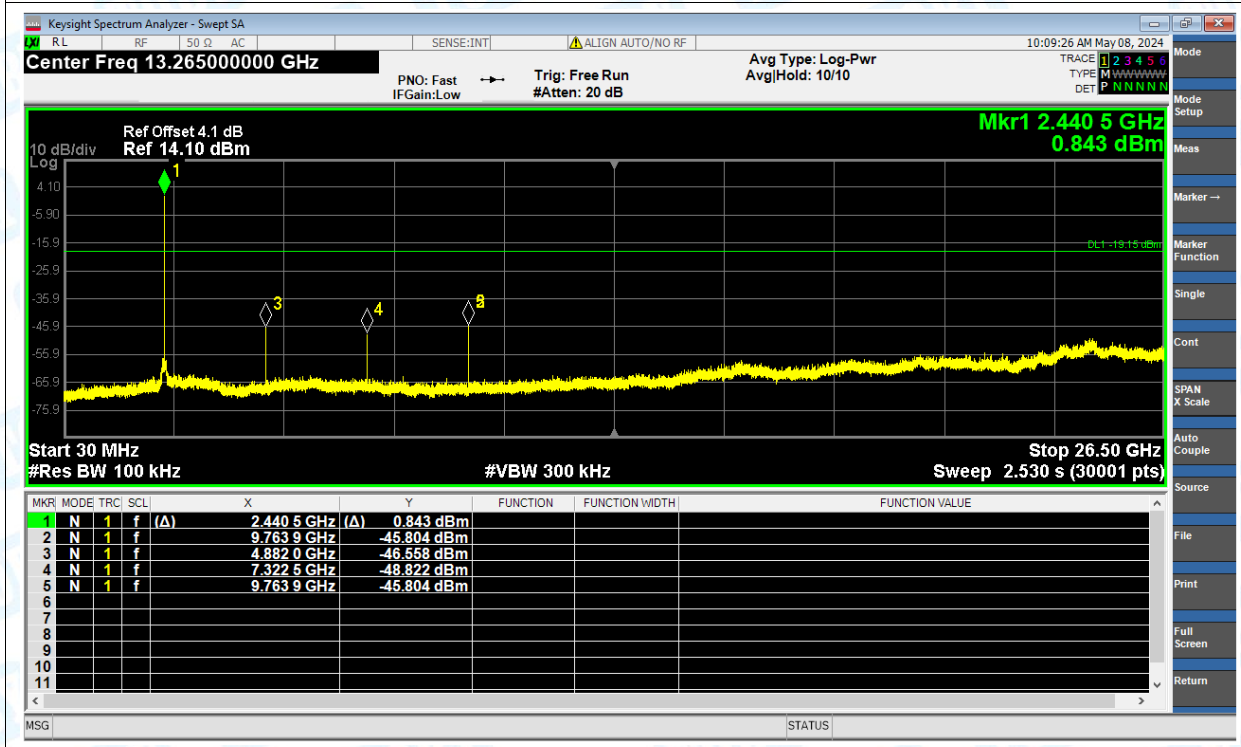
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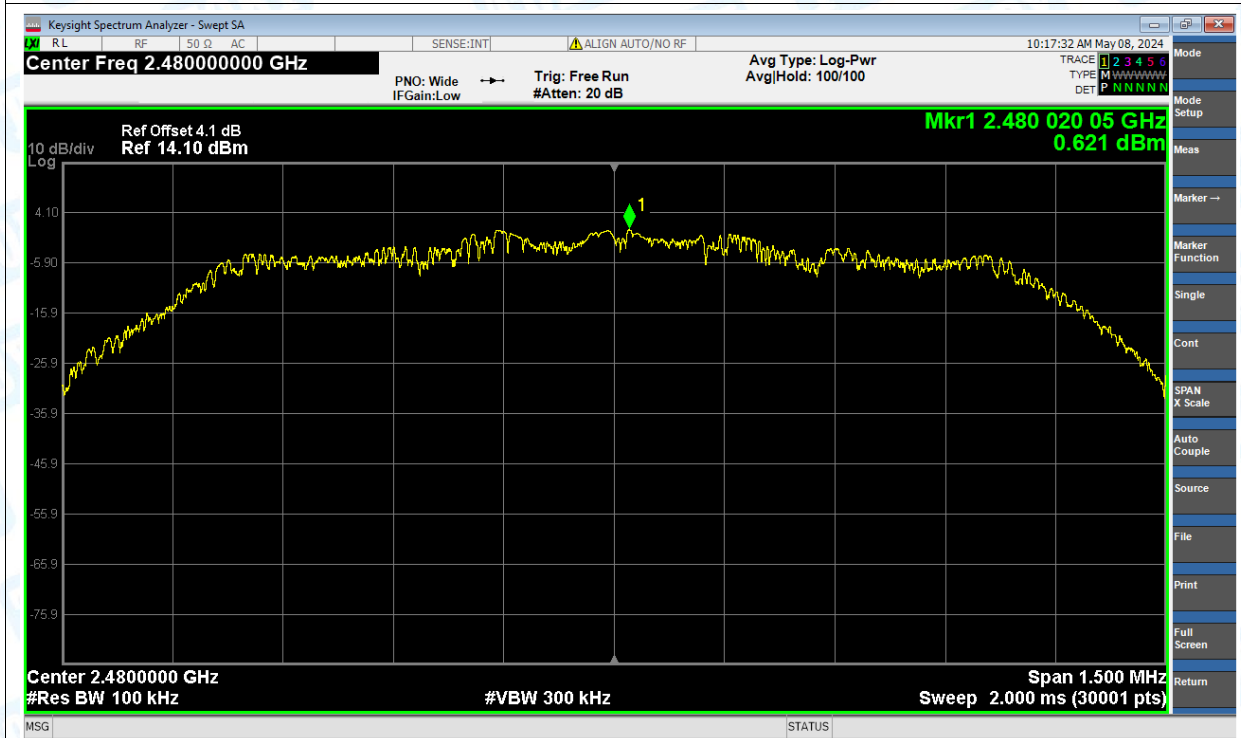
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



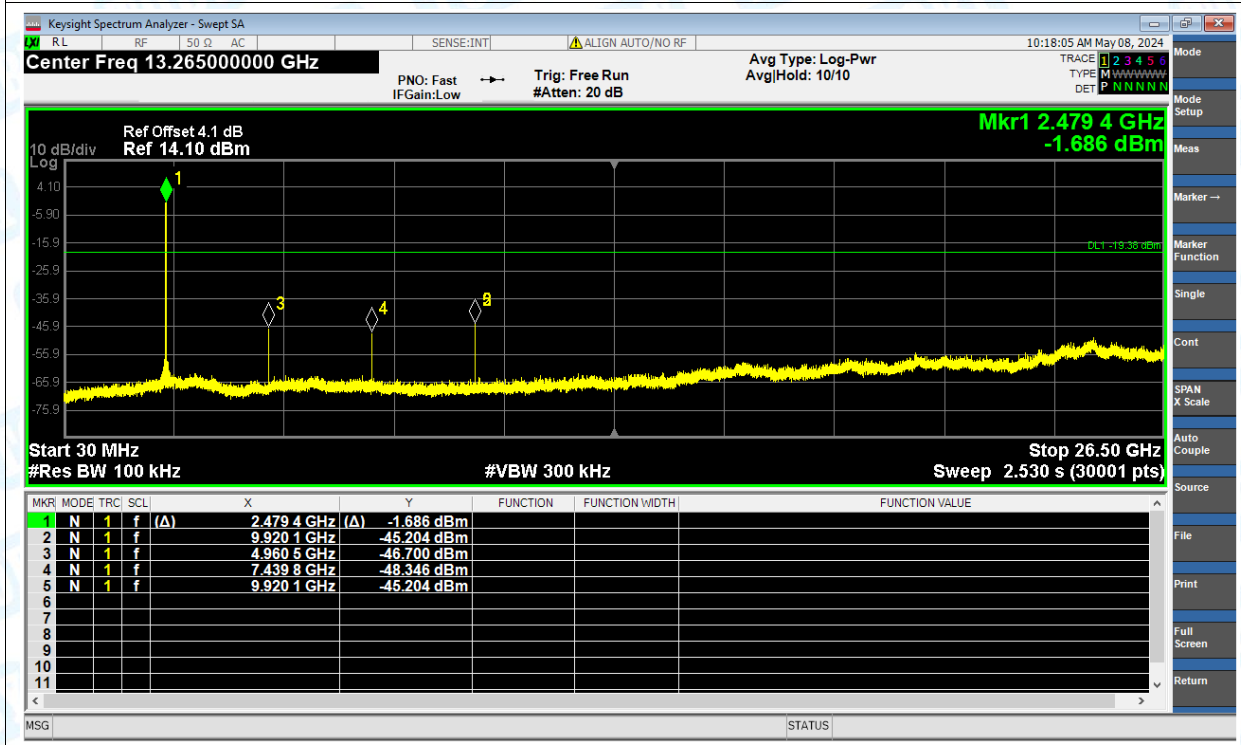
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

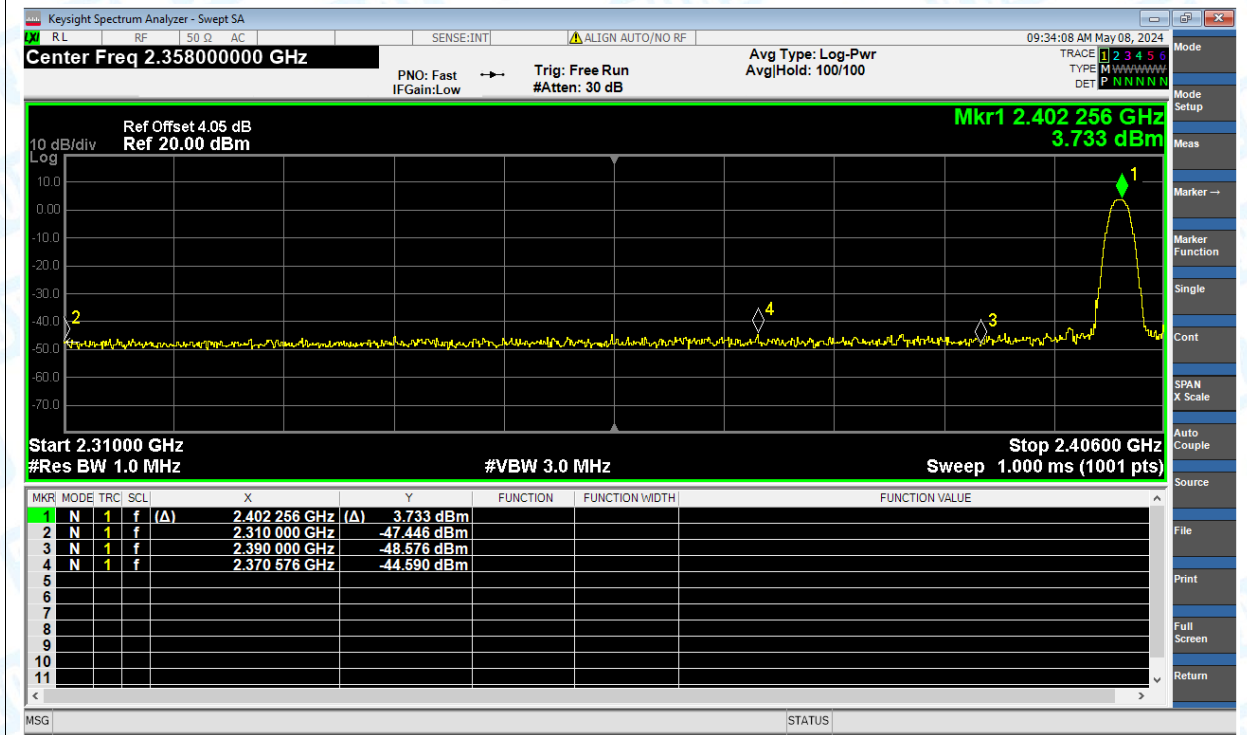


8. Restrict Band

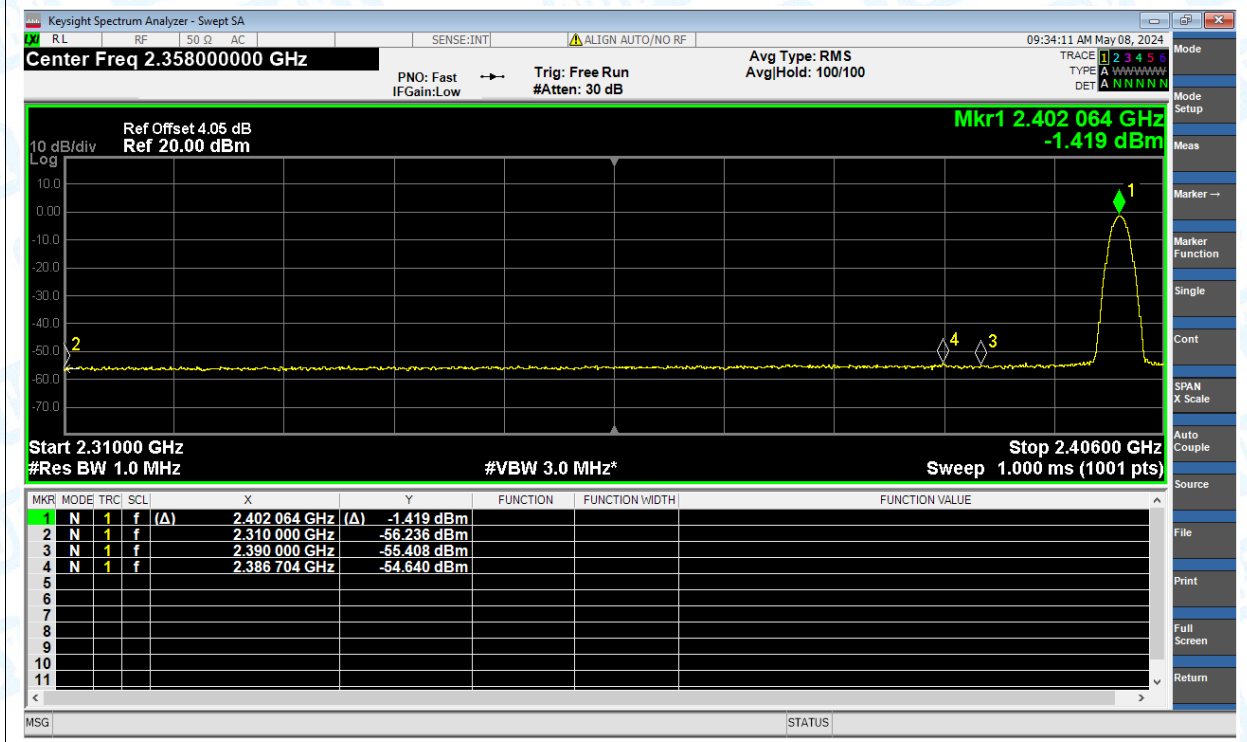
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.45	2	-	49.81	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.24	2	4.95	45.97	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2370.576	-44.59	2	-	52.67	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2386.704	-54.64	2	4.95	47.57	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.58	2	-	48.68	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.41	2	4.95	46.8	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-46.66	2	-	50.6	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.18	2	4.84	47.92	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2485.048	-40.57	2	-	56.69	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.896	-53.85	2	4.84	48.25	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-46.51	2	-	50.75	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.82	2	4.84	46.28	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.85	2	-	48.41	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.94	2	4.74	45.06	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2378.448	-44.12	2	-	53.14	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2377.68	-54.81	2	4.74	47.19	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-46.76	2	-	50.5	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.54	2	4.74	46.46	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-40.57	2	-	56.69	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-54.56	2	4.74	47.44	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.512	-40.57	2	-	56.69	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.848	-54.21	2	4.74	47.79	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-44.9	2	-	52.36	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.9	2	4.74	46.1	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.48	2	-	48.78	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-55.94	2	4.74	46.06	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2365.296	-43.84	2	-	53.42	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2382.096	-54.71	2	4.74	47.29	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-47.02	2	-	50.24	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.42	2	4.74	46.58	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-40.39	2	-	56.87	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-54.21	2	4.74	47.79	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.512	-40.39	2	-	56.87	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2484.16	-54.06	2	4.74	47.94	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.08	2	-	50.18	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55	2	4.74	47	Average	54	Pass

Test Graphs

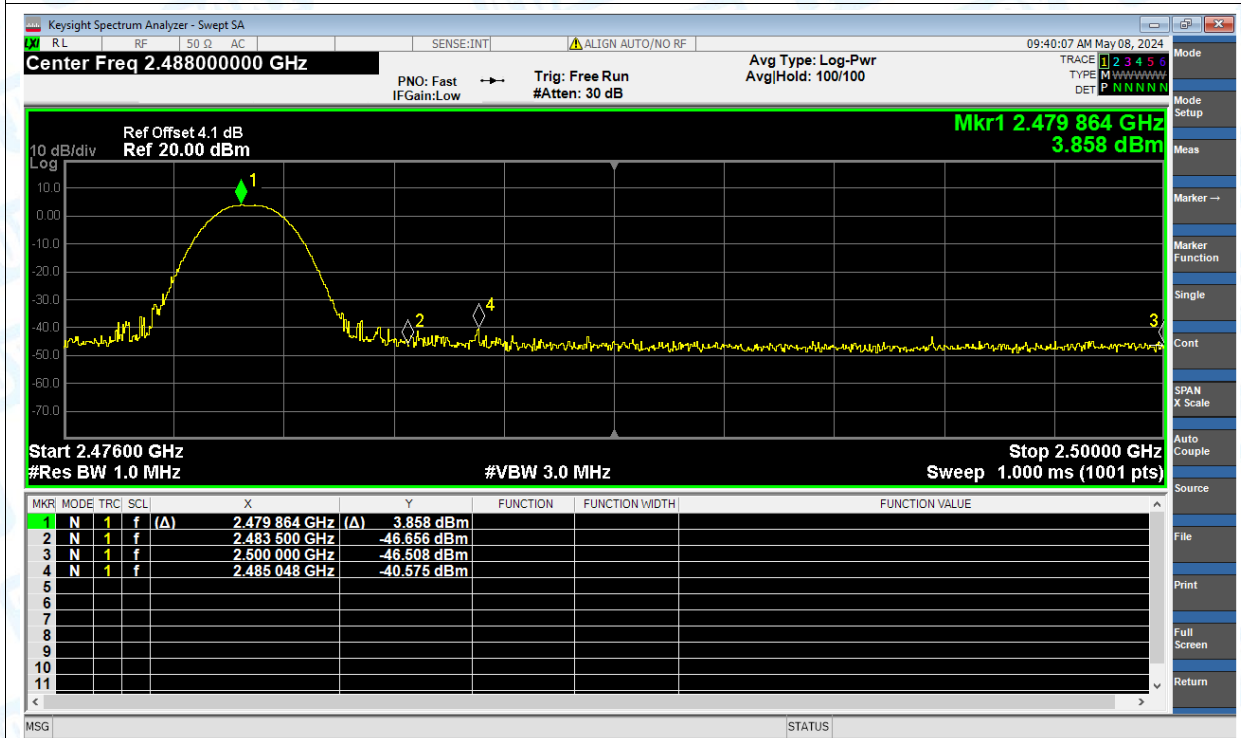
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



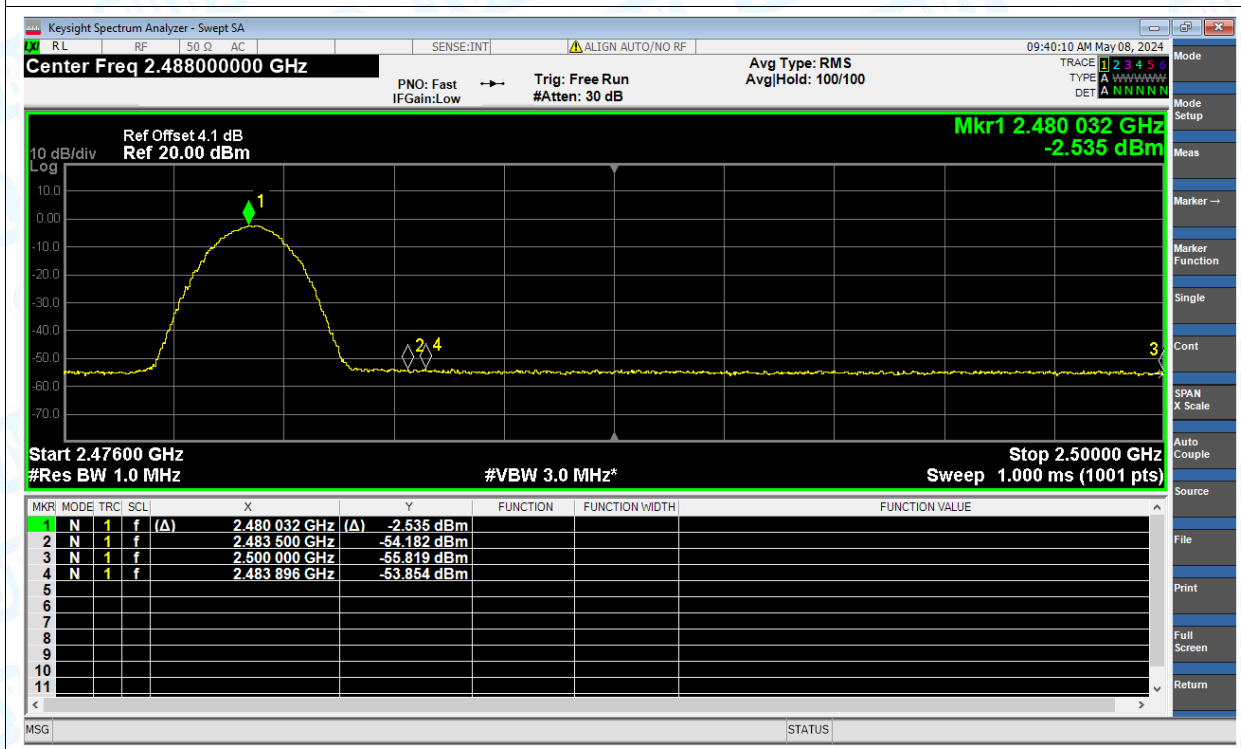
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



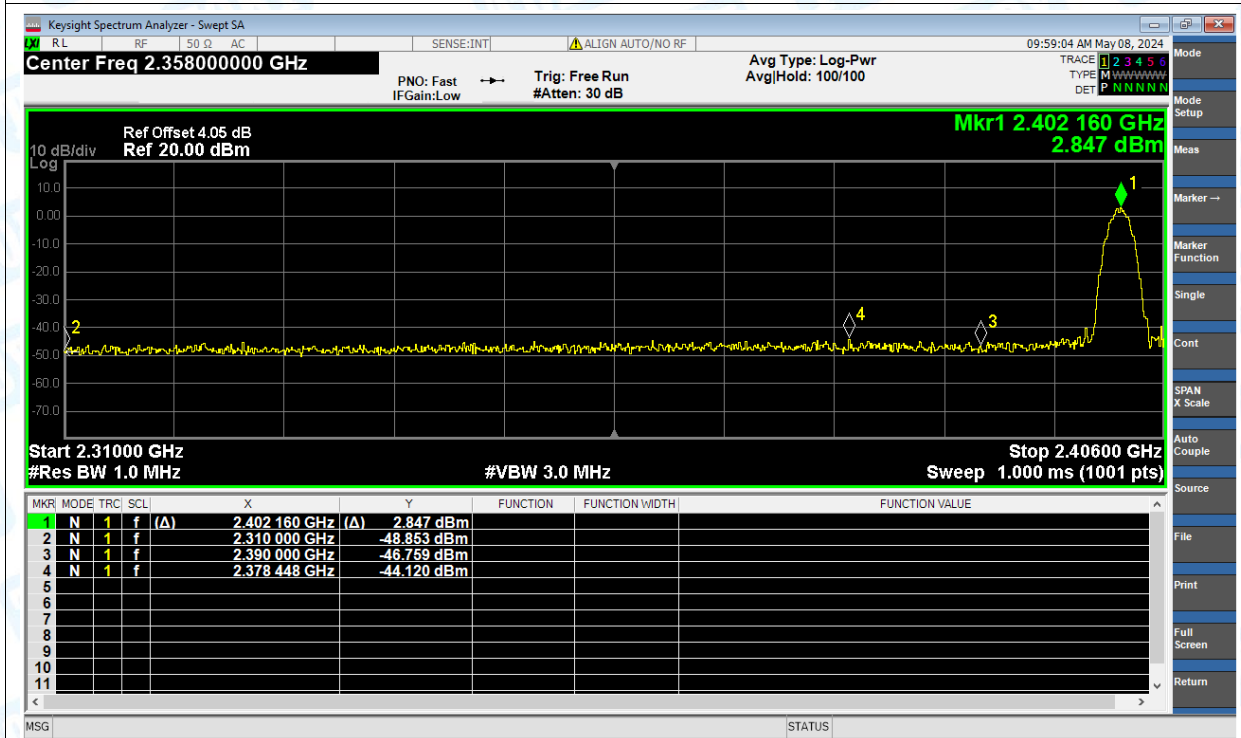
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



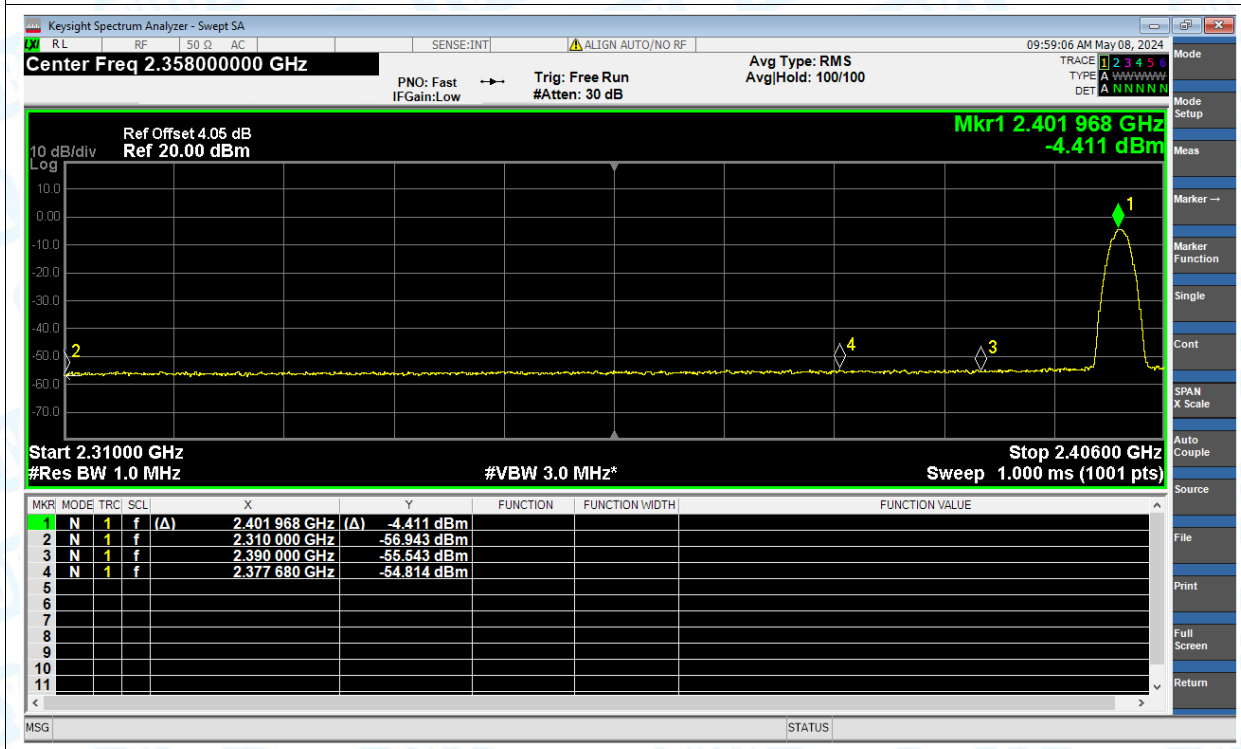
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



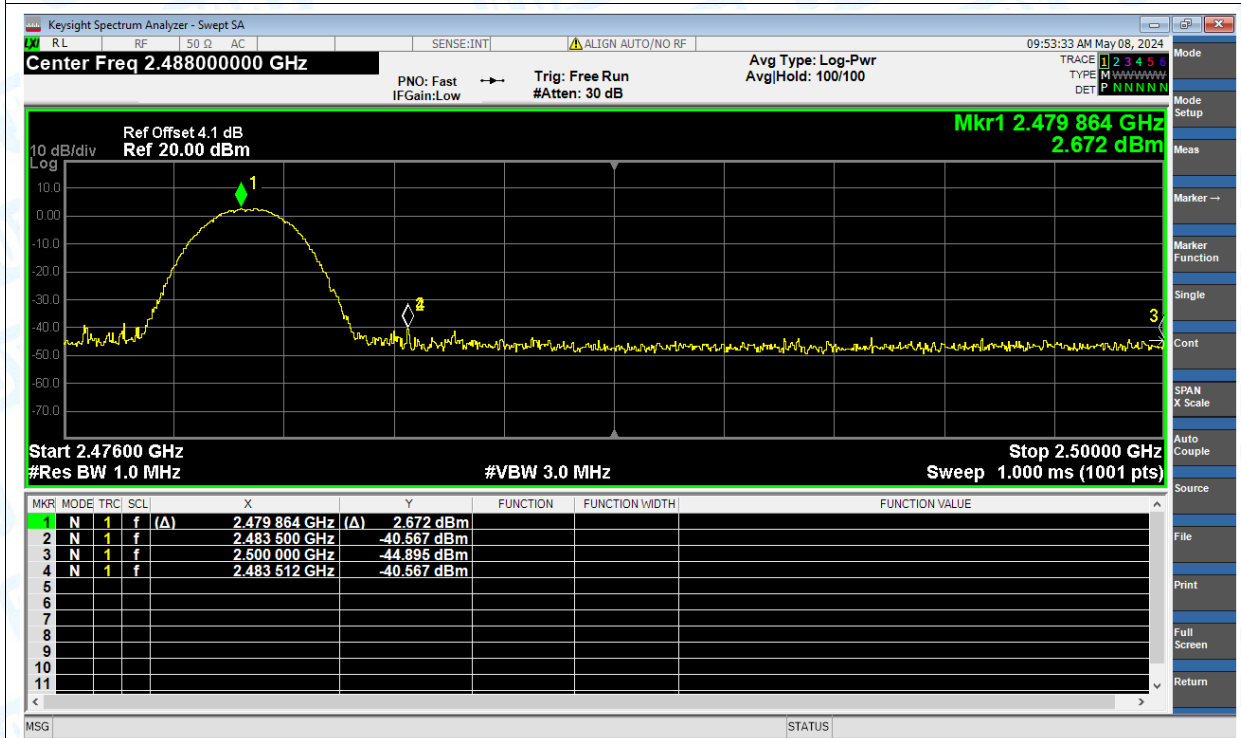
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



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



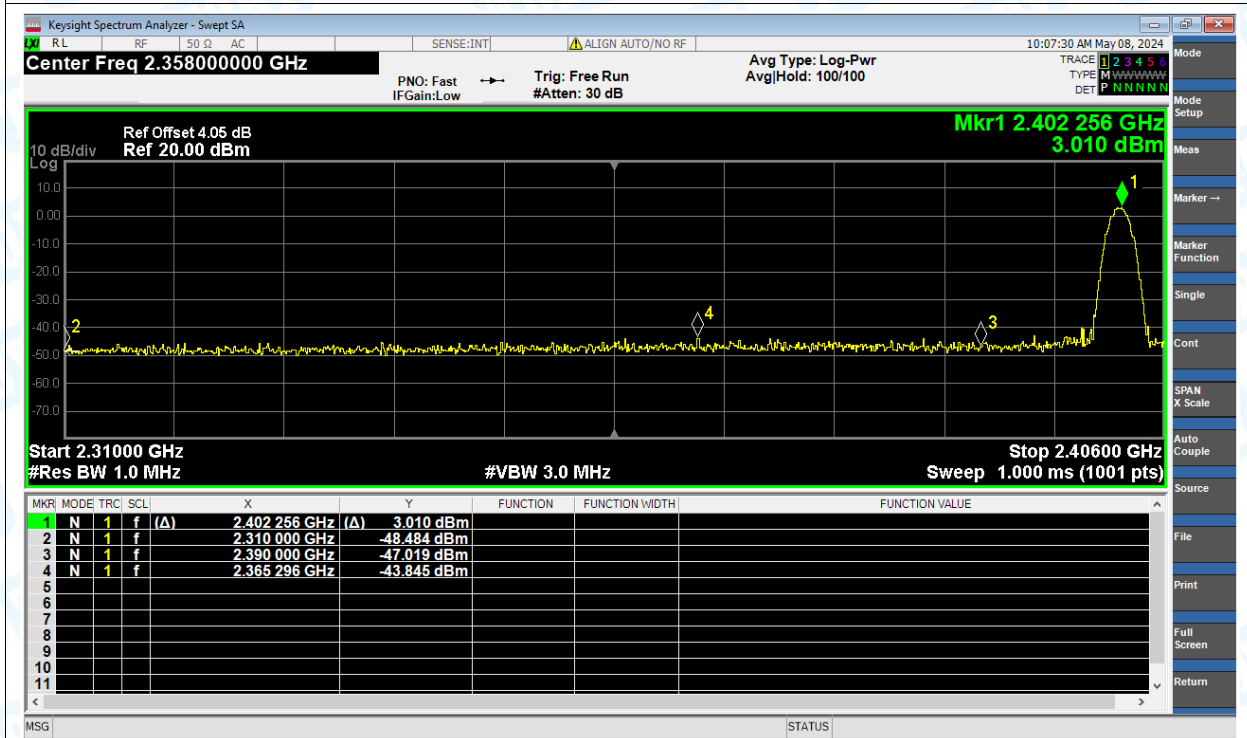
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



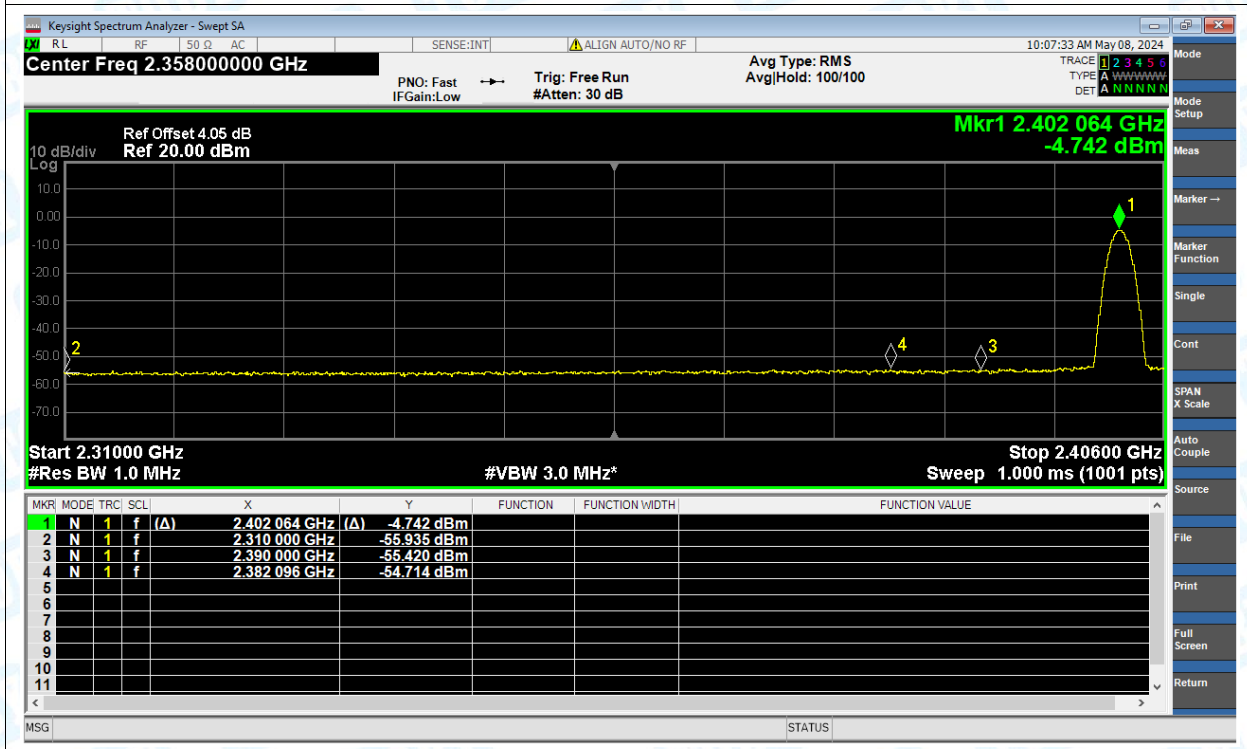
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



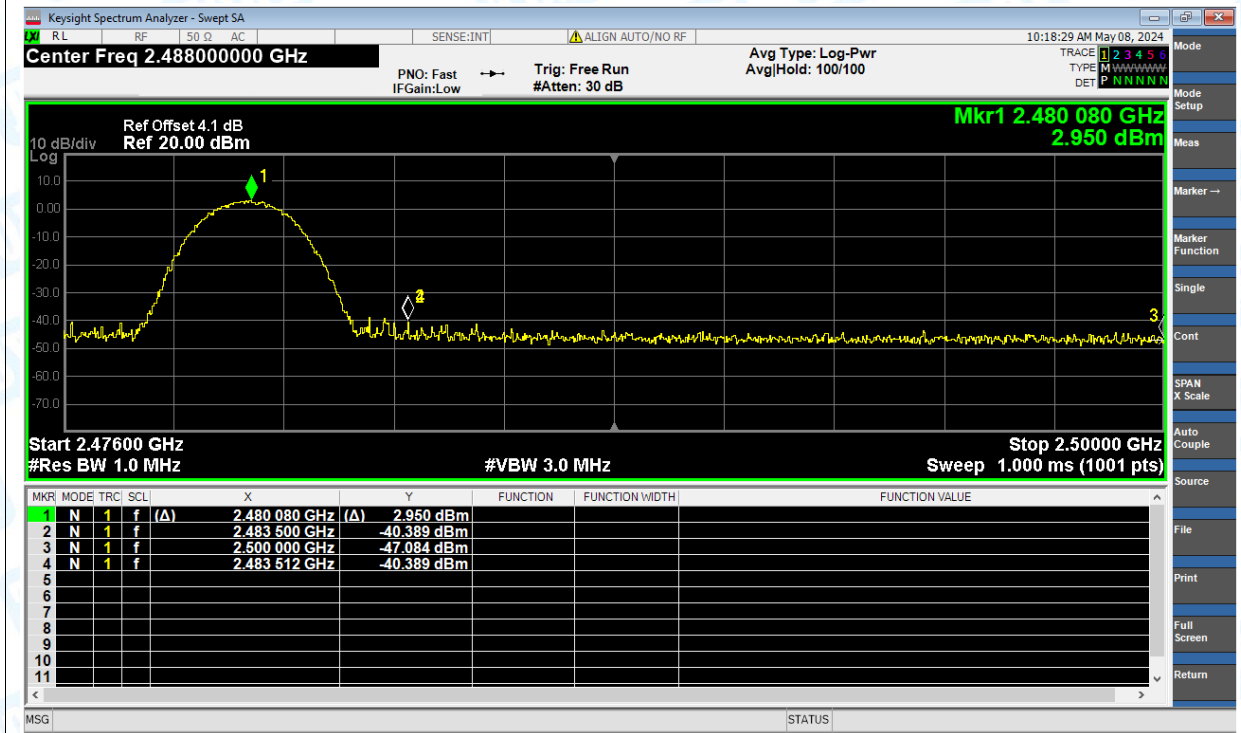
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



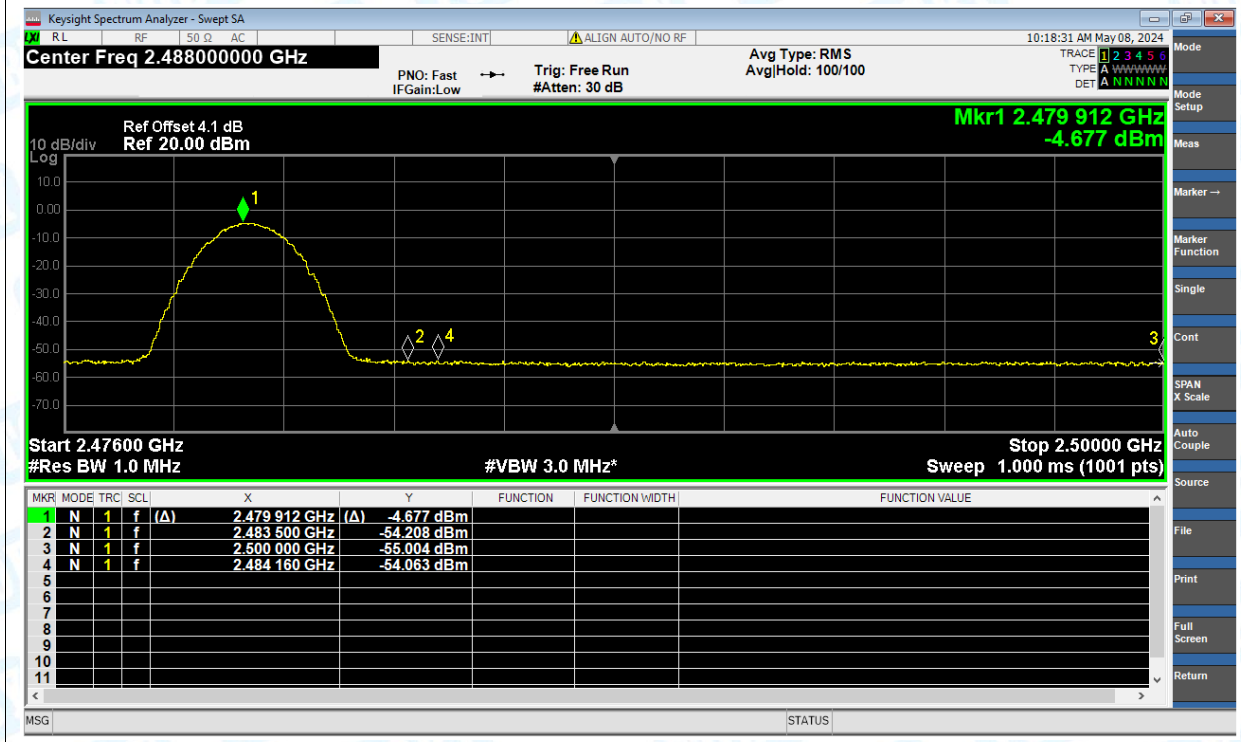
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

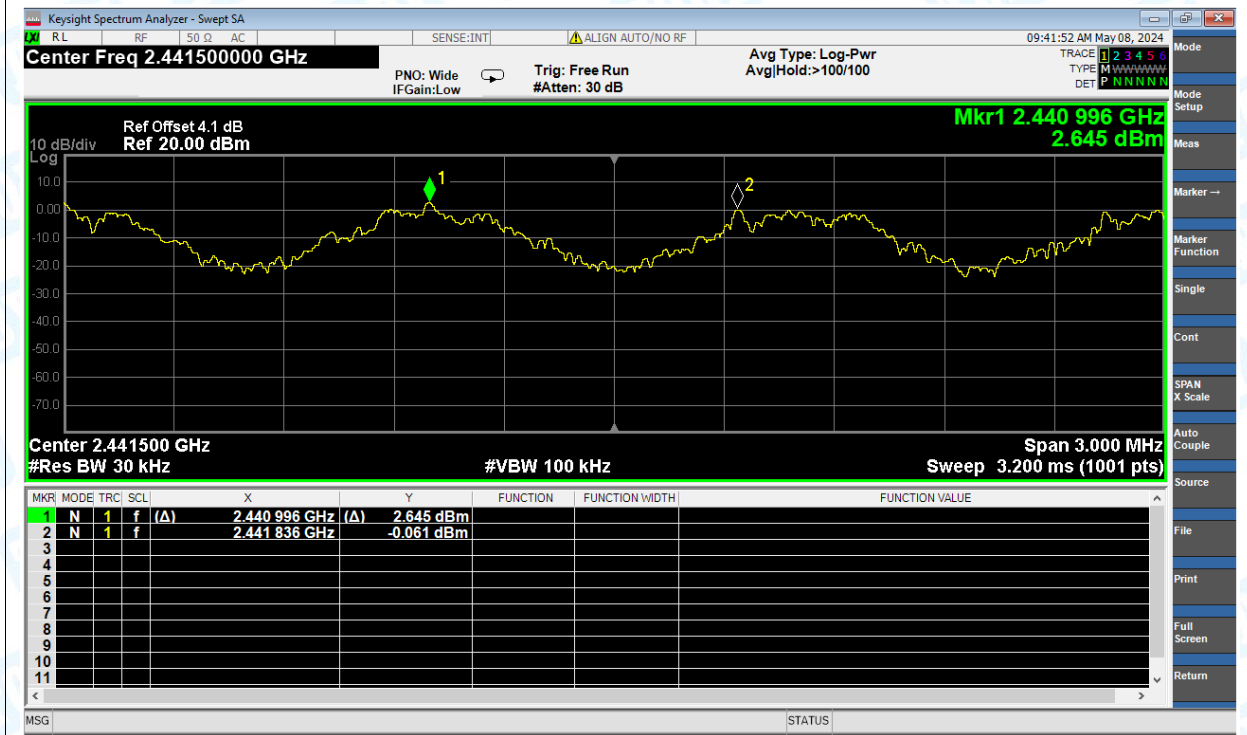


9. Carrier Frequencies Separation

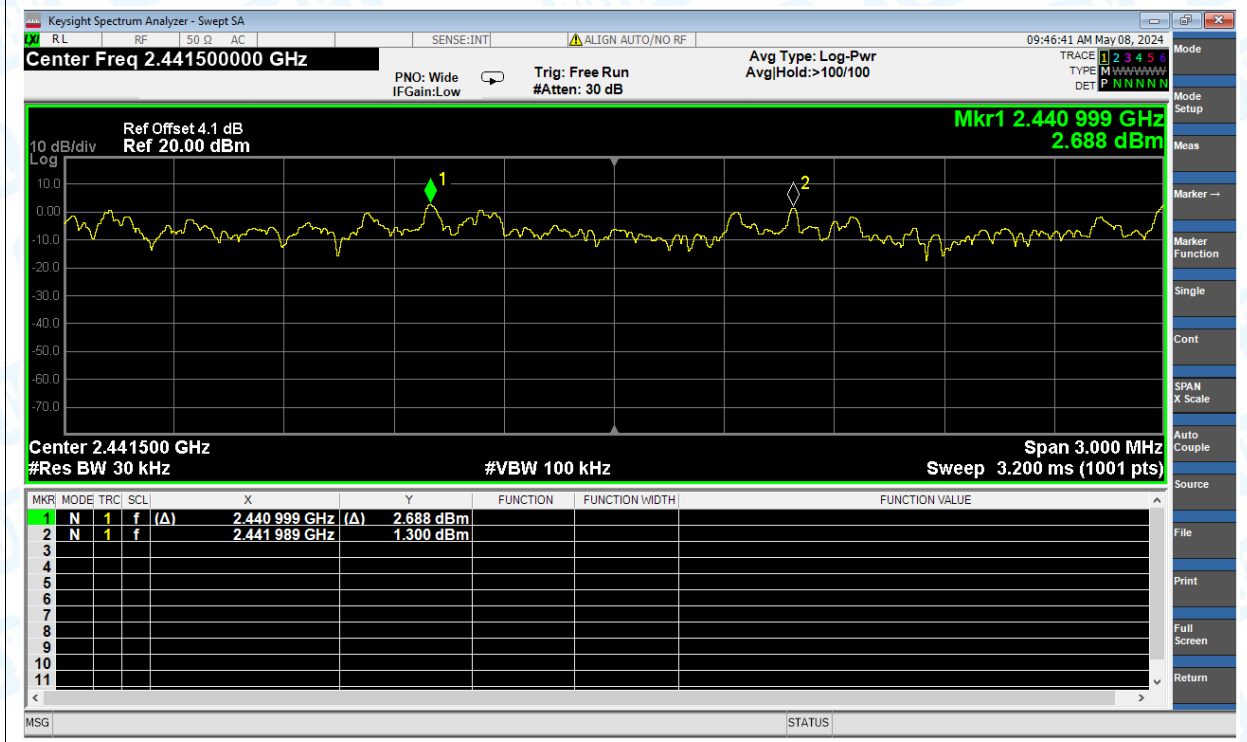
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.996	2441.836	0.84	0.567	Pass
NVNT	2-DH1	Ant1	2440.999	2441.989	0.99	0.025	Pass
NVNT	3-DH1	Ant1	2440.834	2441.848	1.014	0.807	Pass

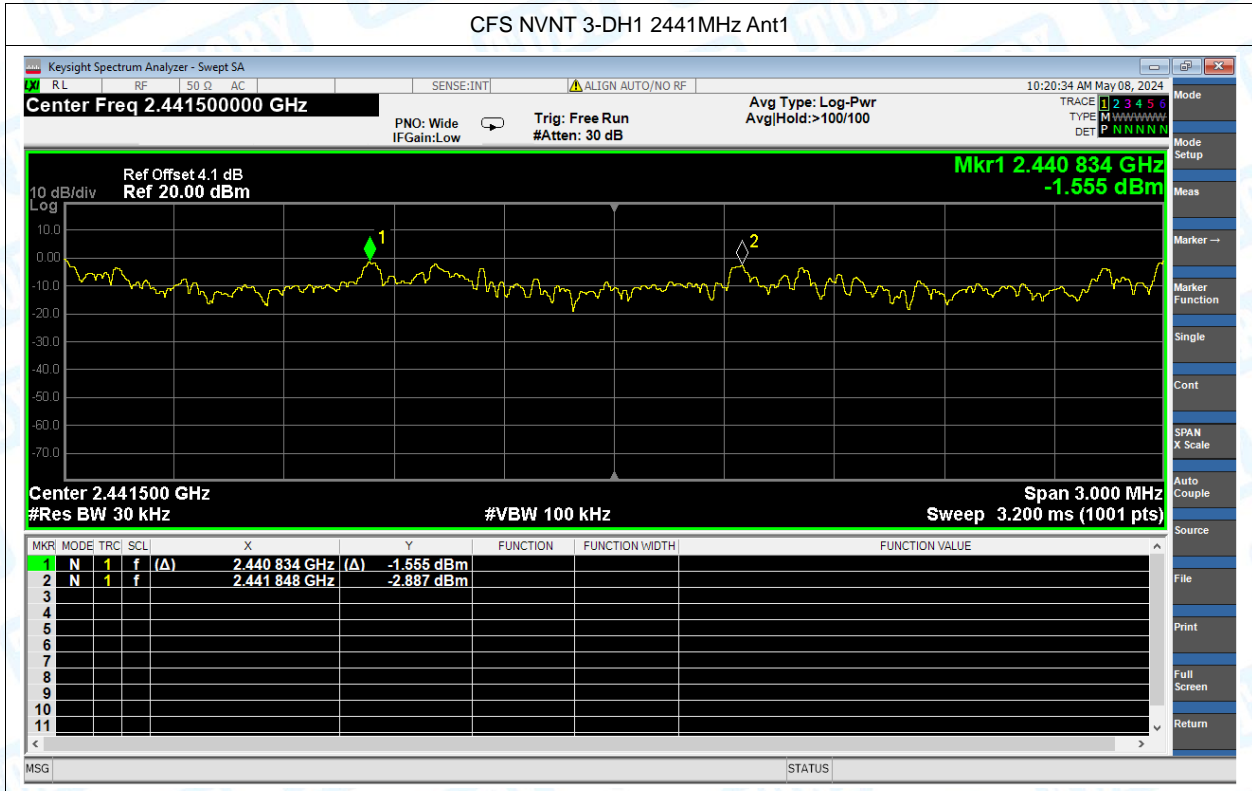
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



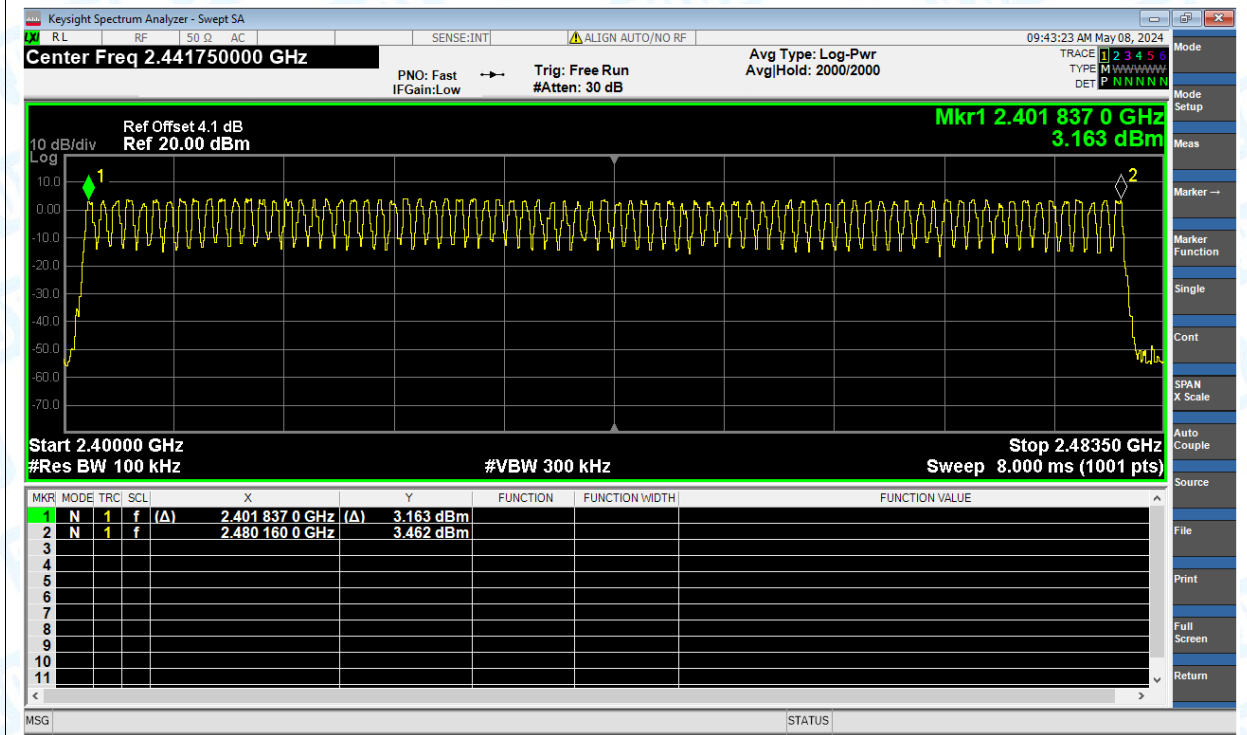


10. Number of Hopping Channel

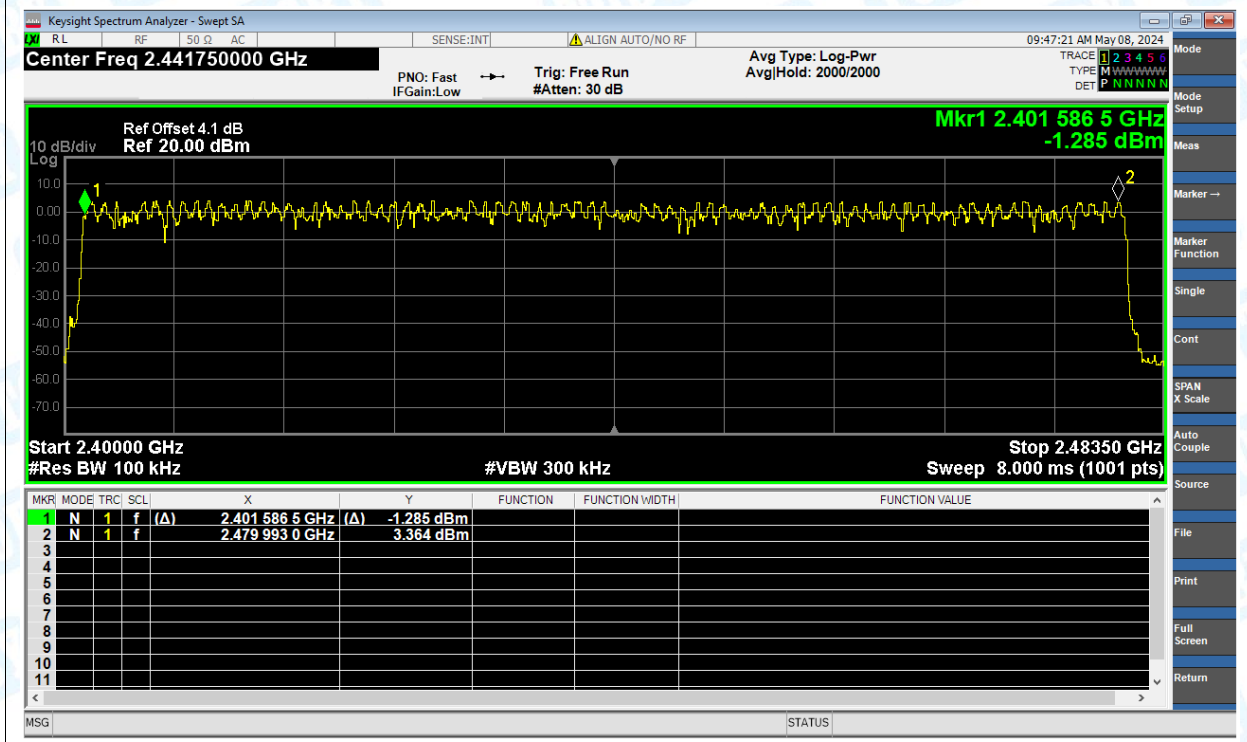
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

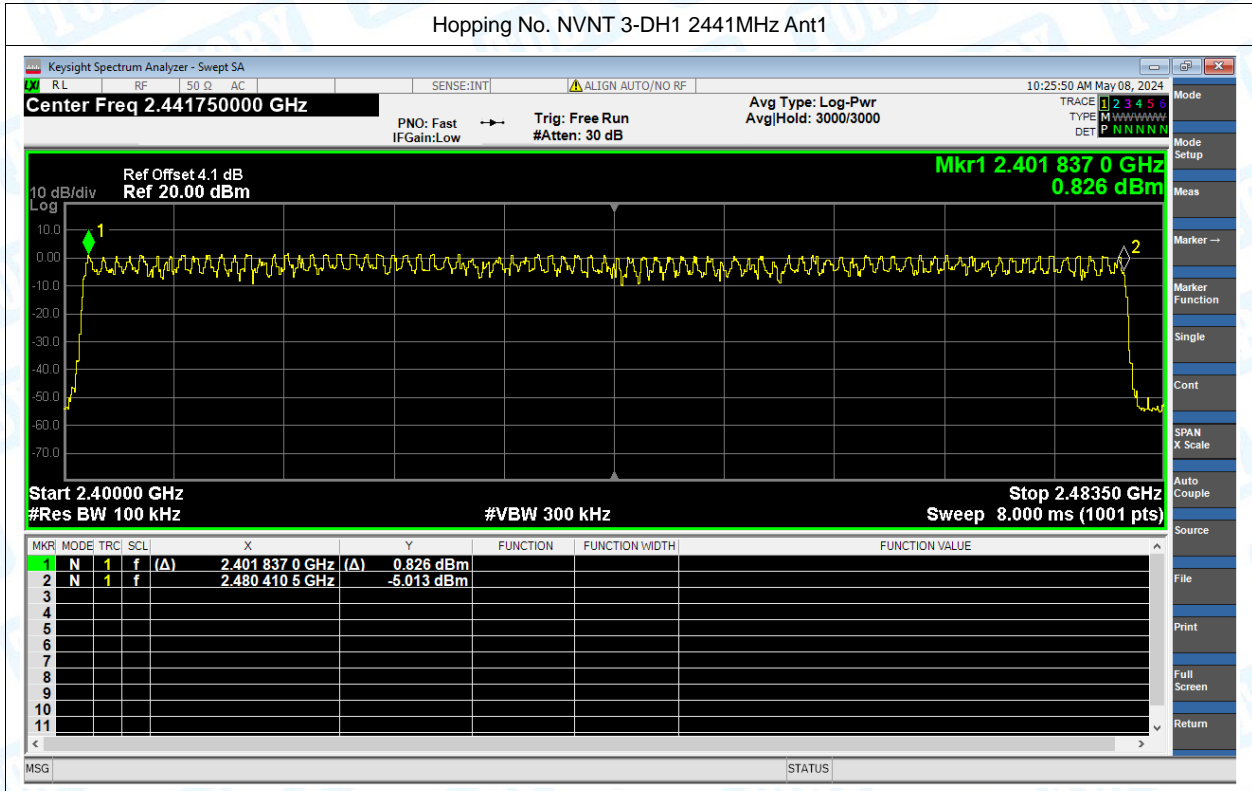
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



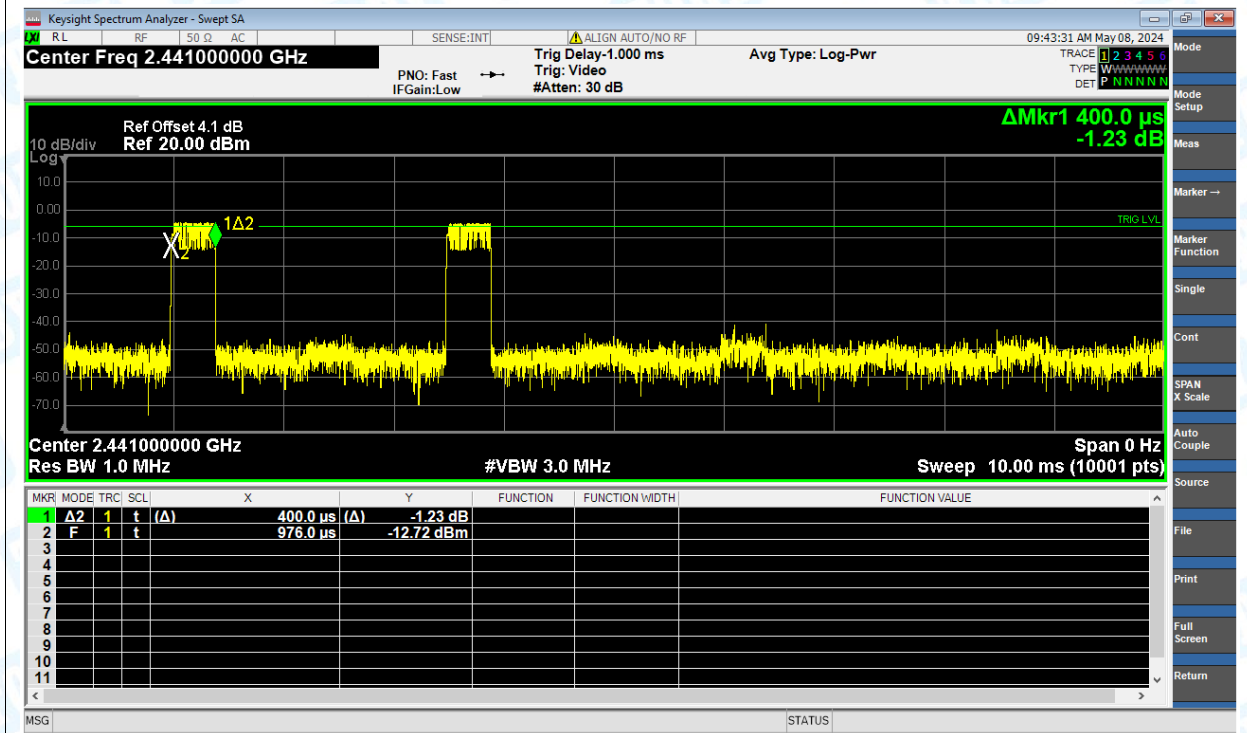


11. Dwell Time

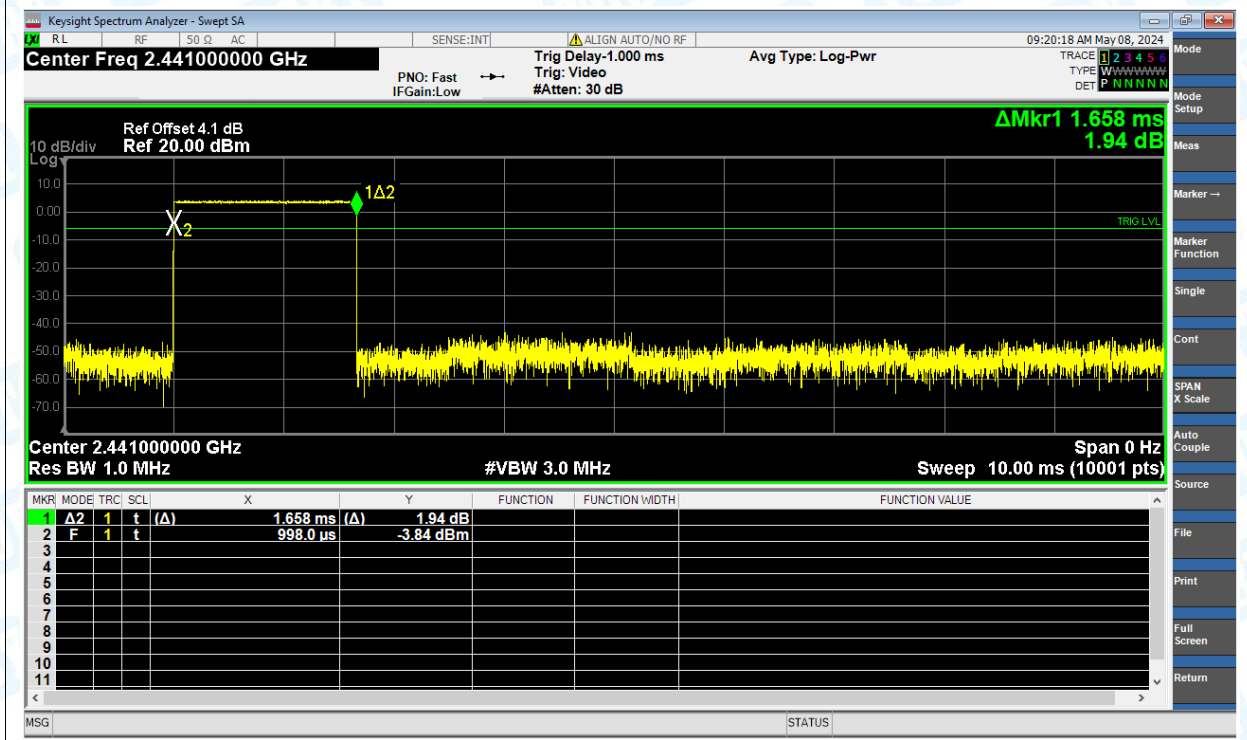
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.4	128	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.658	265.28	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.906	309.973	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.412	131.84	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.662	265.92	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.913	310.72	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.412	131.84	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.662	265.92	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.913	310.72	31600	400	Pass

Test Graphs

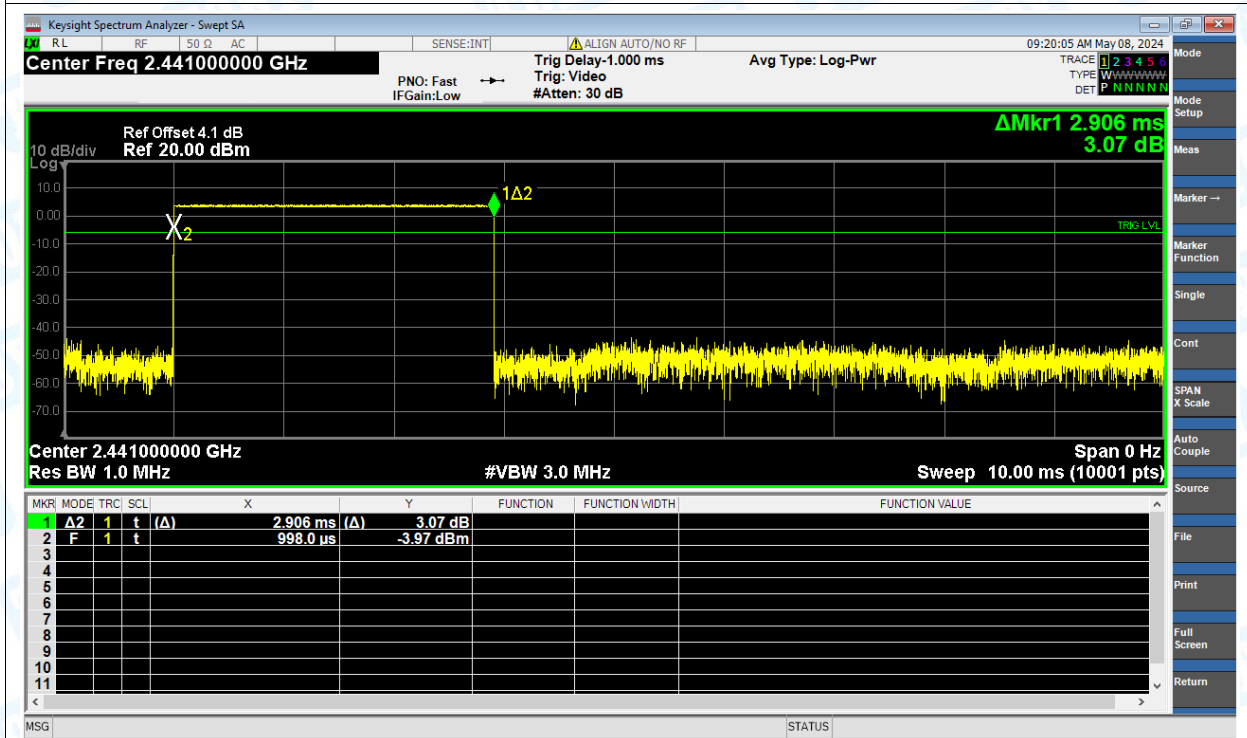
Dwell NVNT 1-DH1 2441MHz Ant1



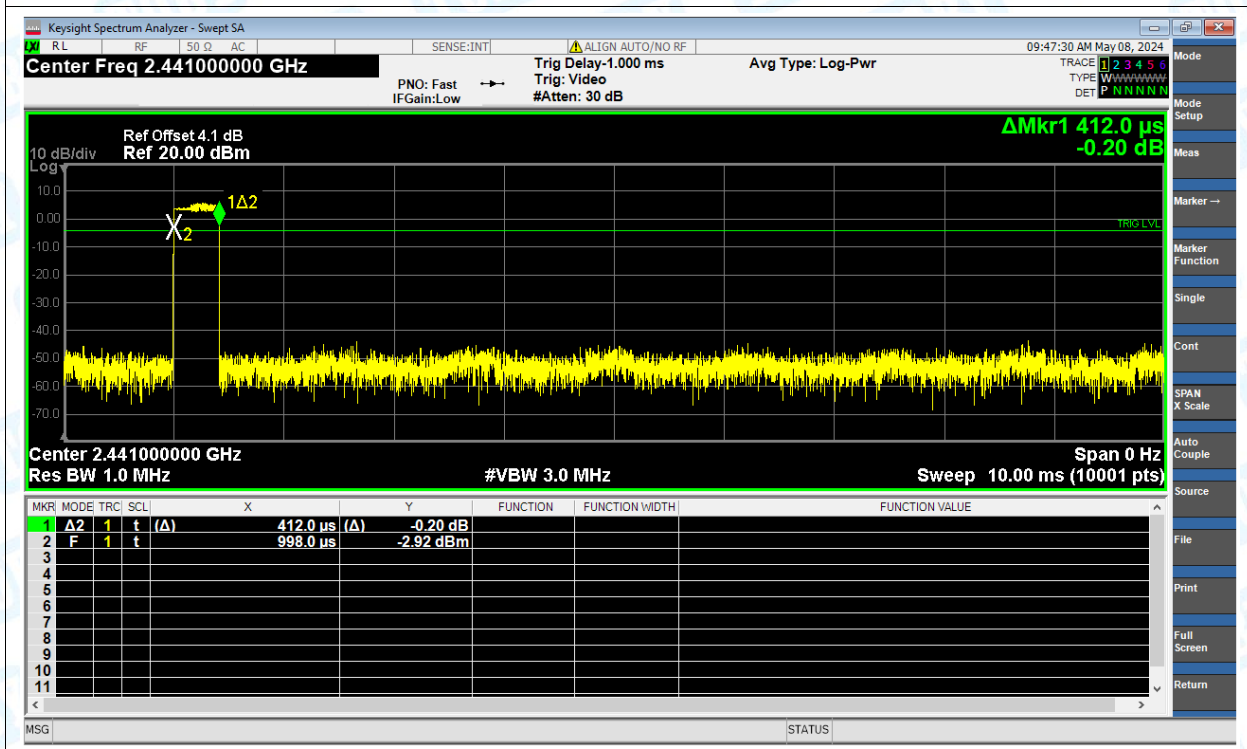
Dwell NVNT 1-DH3 2441MHz Ant1



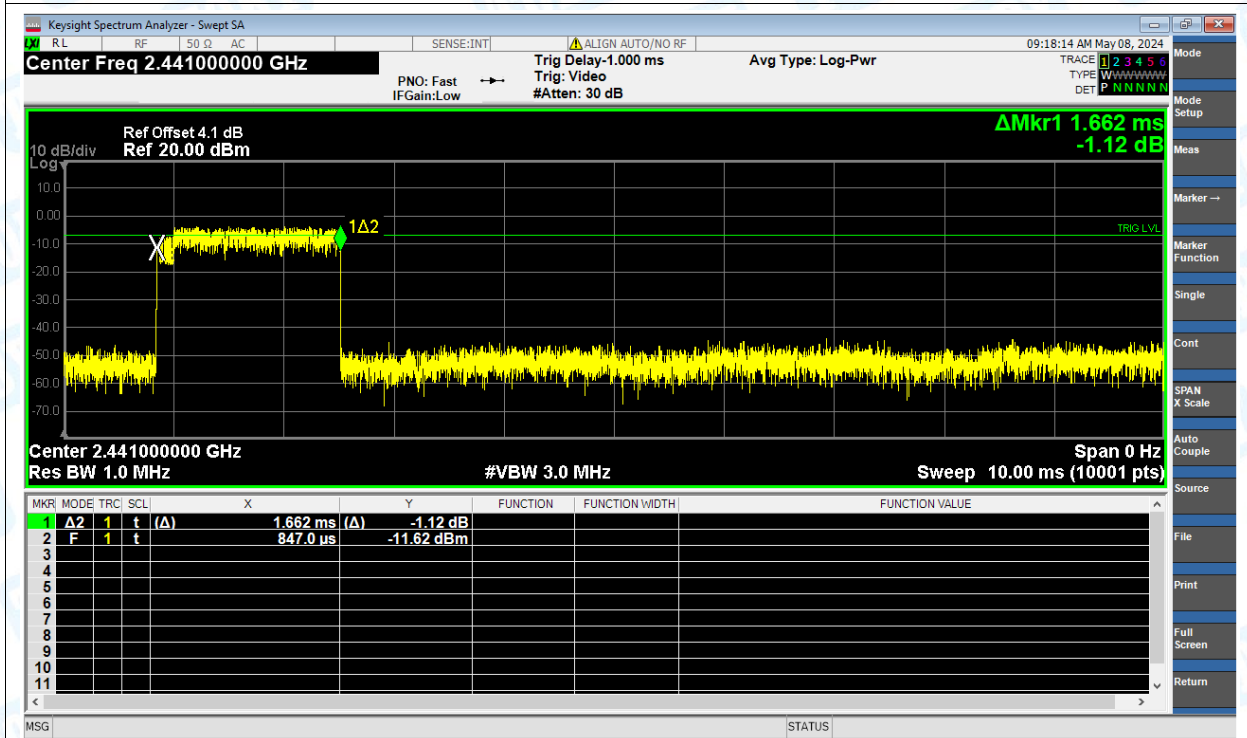
Dwell NVNT 1-DH5 2441MHz Ant1



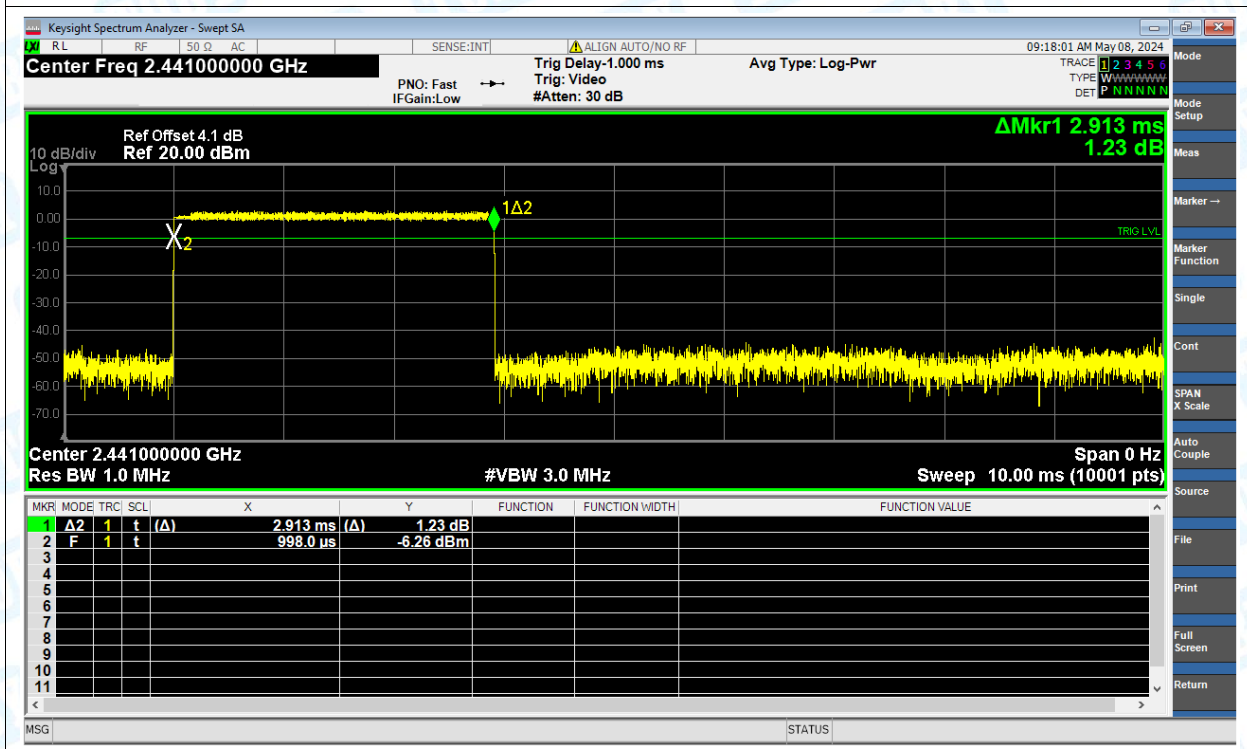
Dwell NVNT 2-DH1 2441MHz Ant1



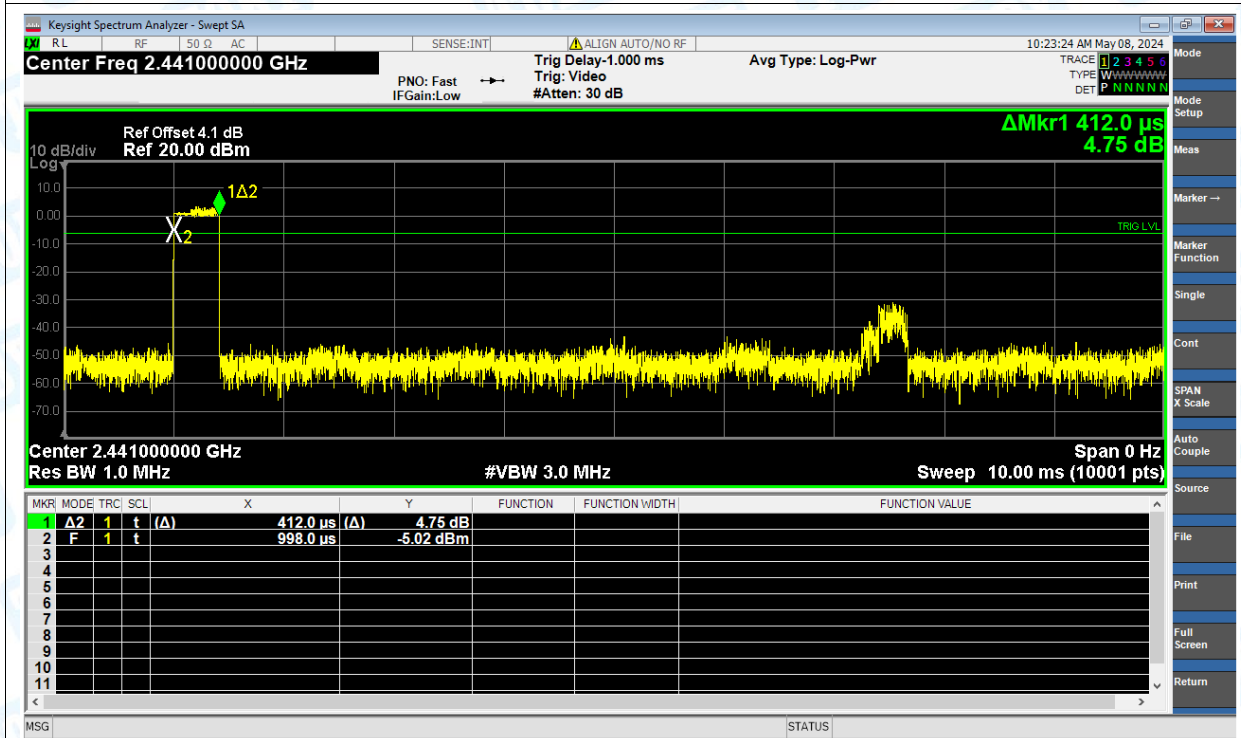
Dwell NVNT 2-DH3 2441MHz Ant1



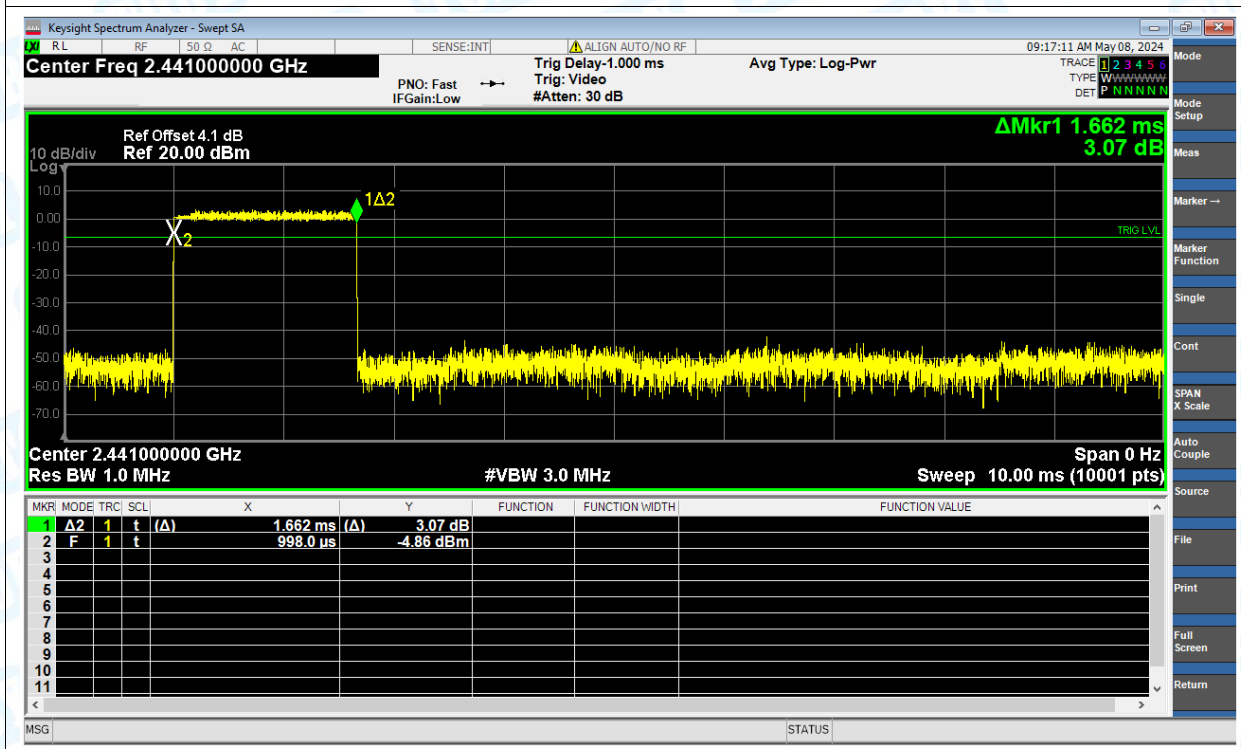
Dwell NVNT 2-DH5 2441MHz Ant1

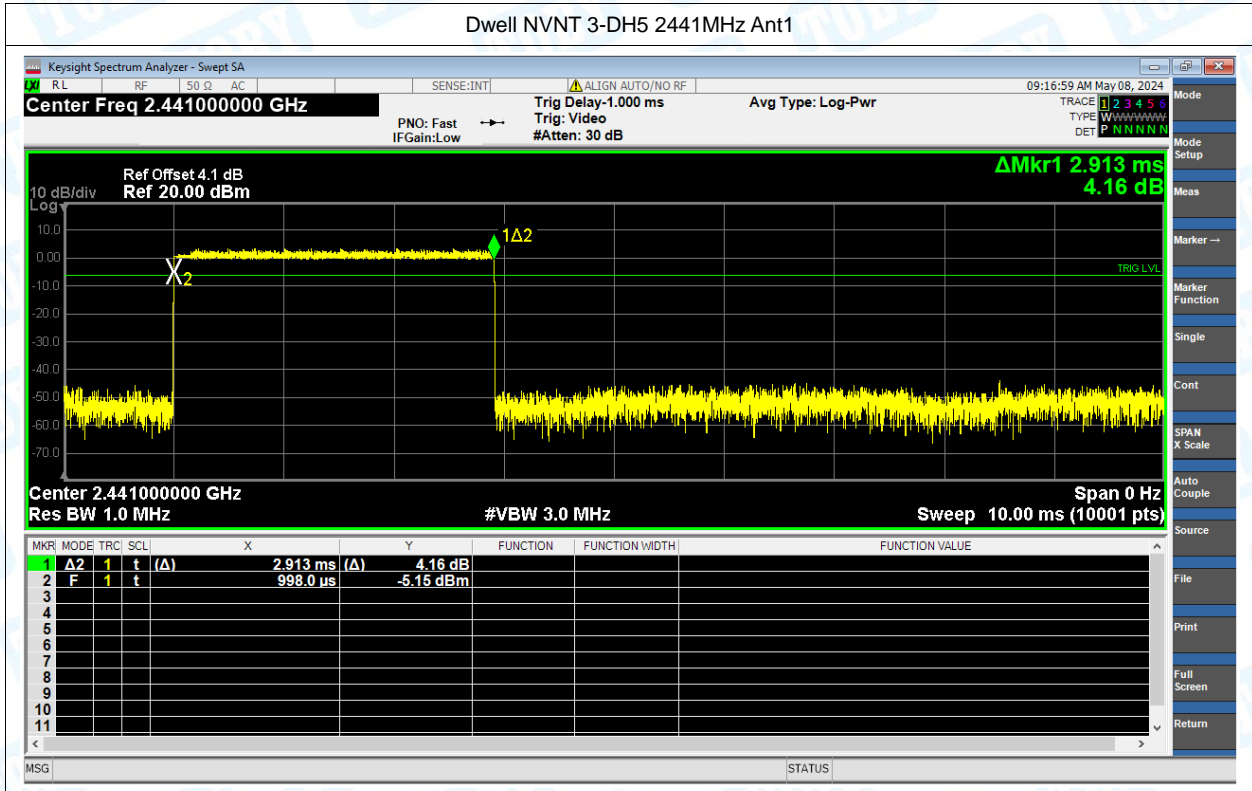


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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