

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Smart Watch
Test Model:	HD300PRO
Sample ID:	HC-C-202509-0164-01-2#
Environmental Conditions	
Temperature:	24℃
Relative Humidity:	48%
Test Voltage:	DC 5V
Test Engineer:	Lily Zhang
Note: For a more detailed features description, please refer to the report TBR-C-202509-0164-1 The report only show the worst case data.	

Contents

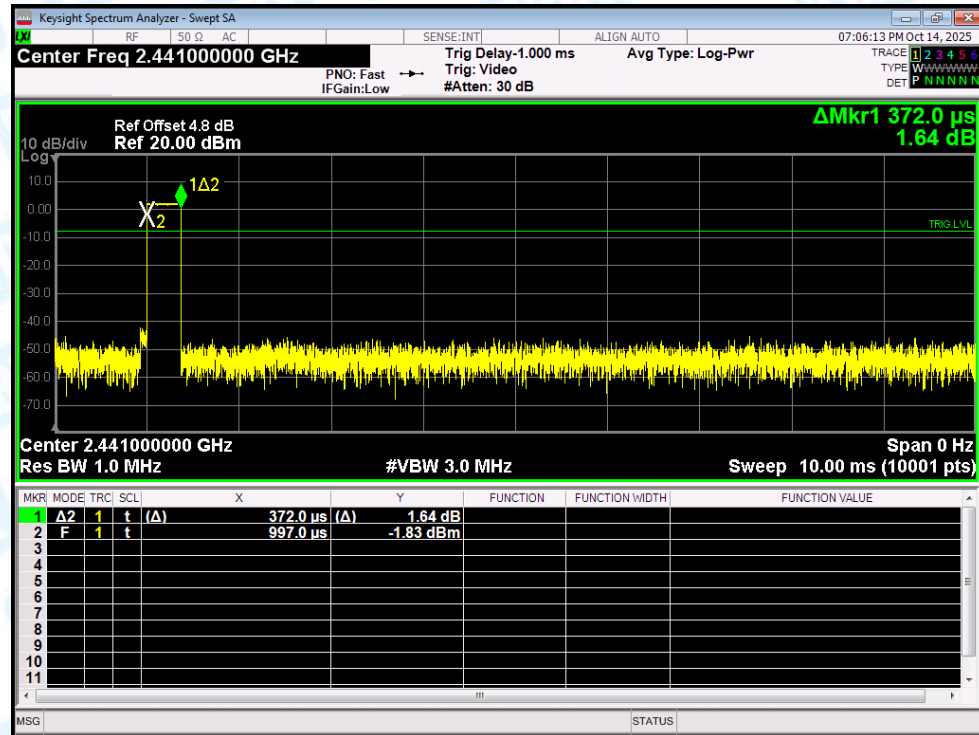
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1. Dwell Time

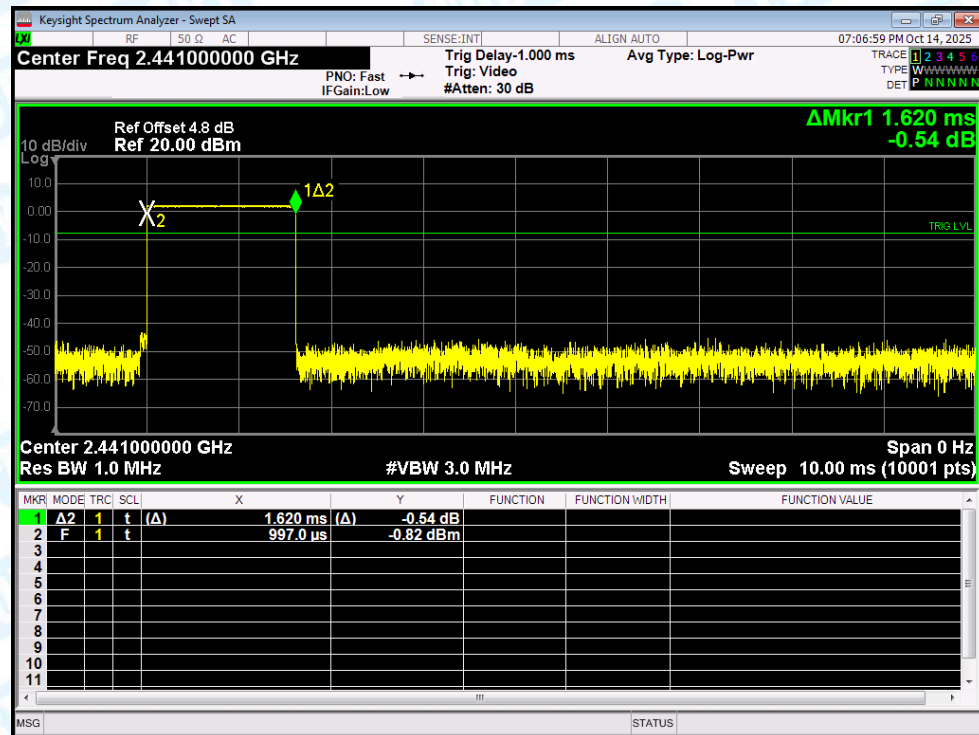
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.372	119.04	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.62	259.2	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.868	305.92	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.38	121.6	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.632	261.12	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.88	307.2	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.381	121.92	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.63	260.8	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.882	307.413	31600	400	Pass

Test Graphs

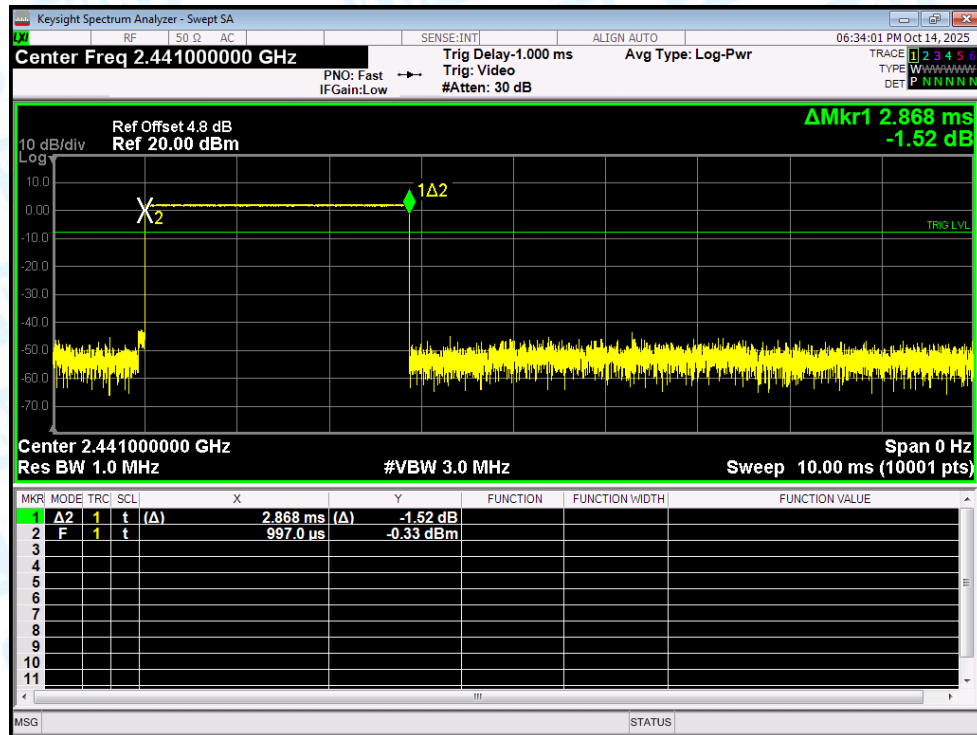
Dwell NVNT 1-DH1 2441MHz Ant1



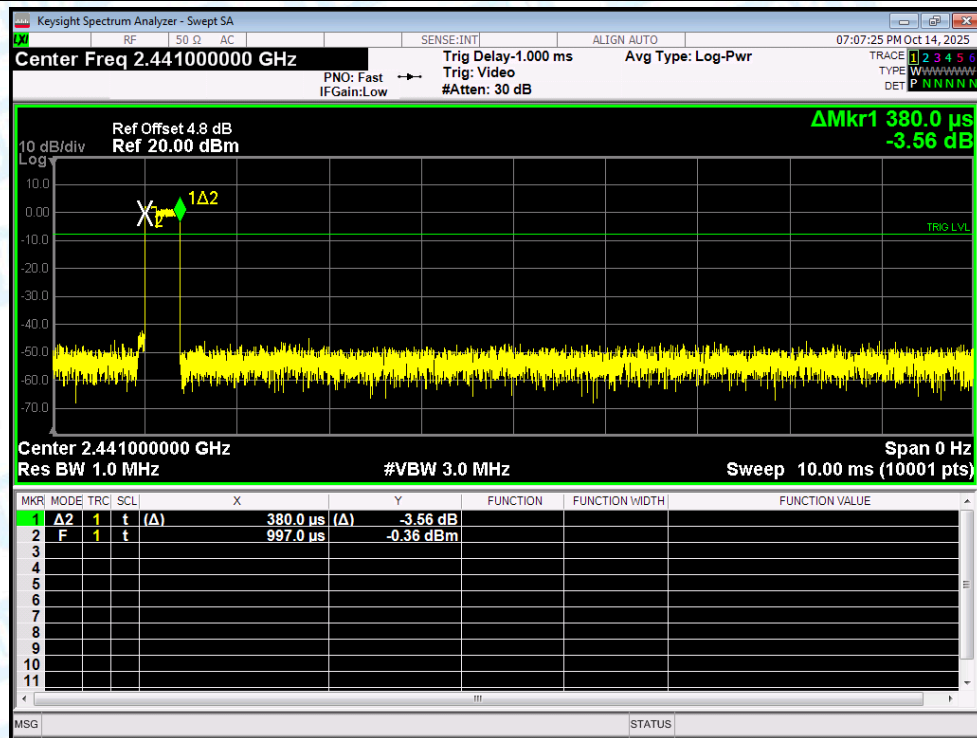
Dwell NVNT 1-DH3 2441MHz Ant1



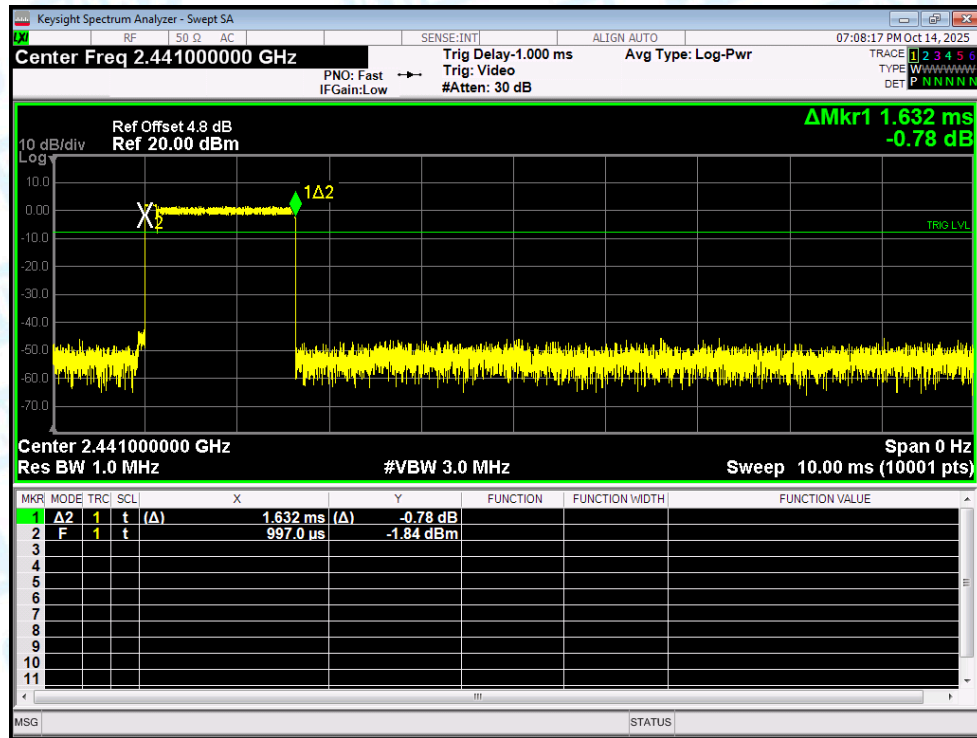
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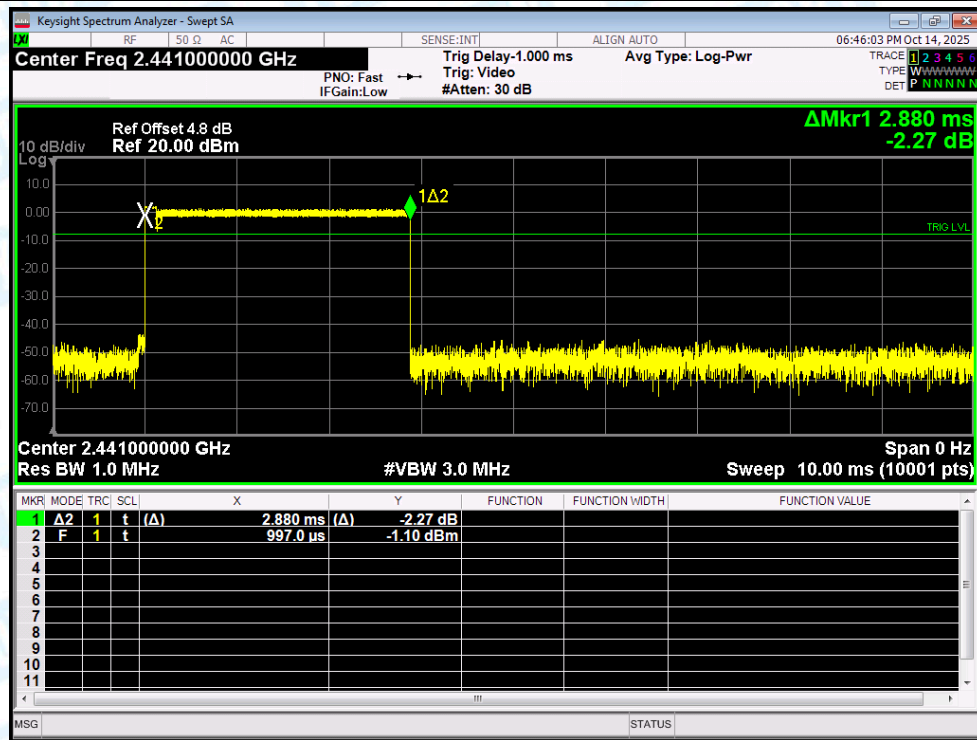
Dwell NVNT 2-DH1 2441MHz Ant1



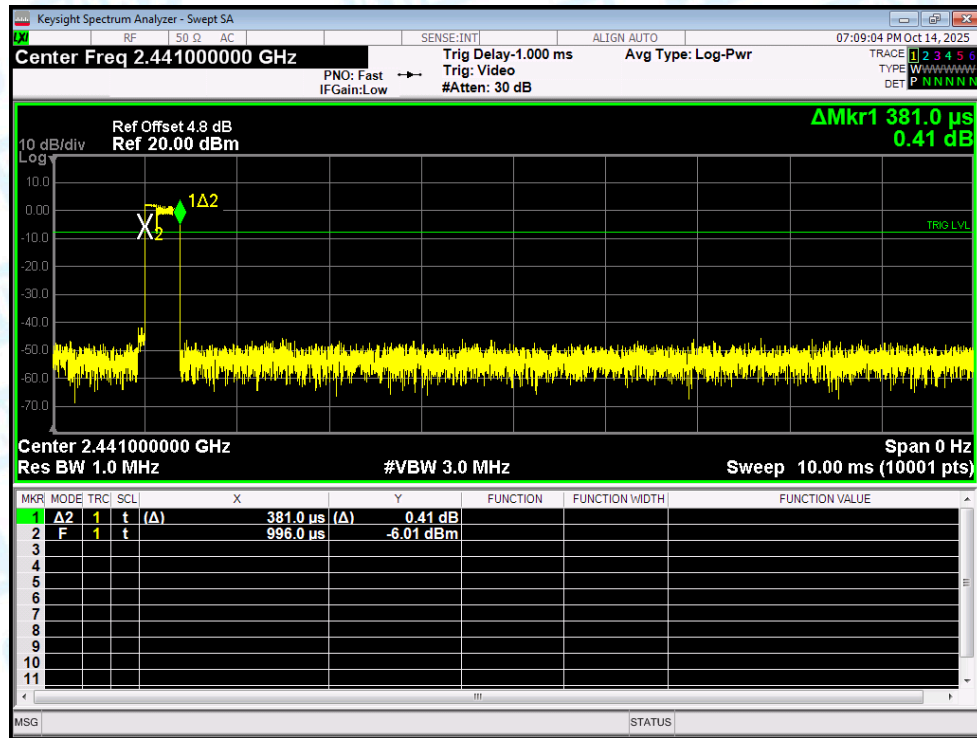
Dwell NVNT 2-DH3 2441MHz Ant1



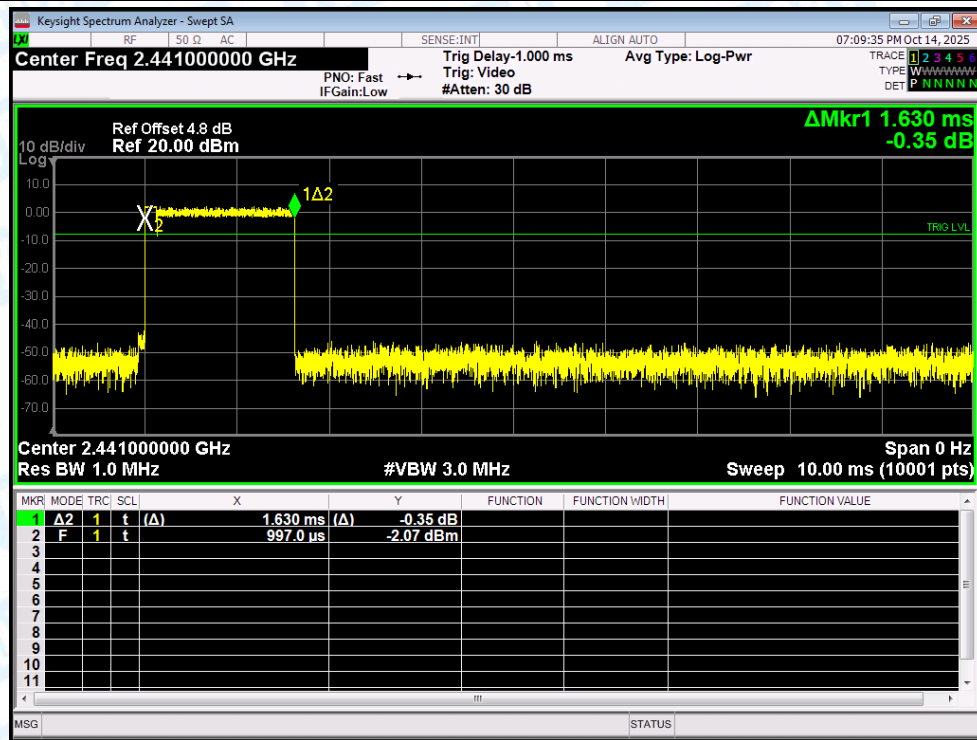
Dwell NVNT 2-DH5 2441MHz Ant1

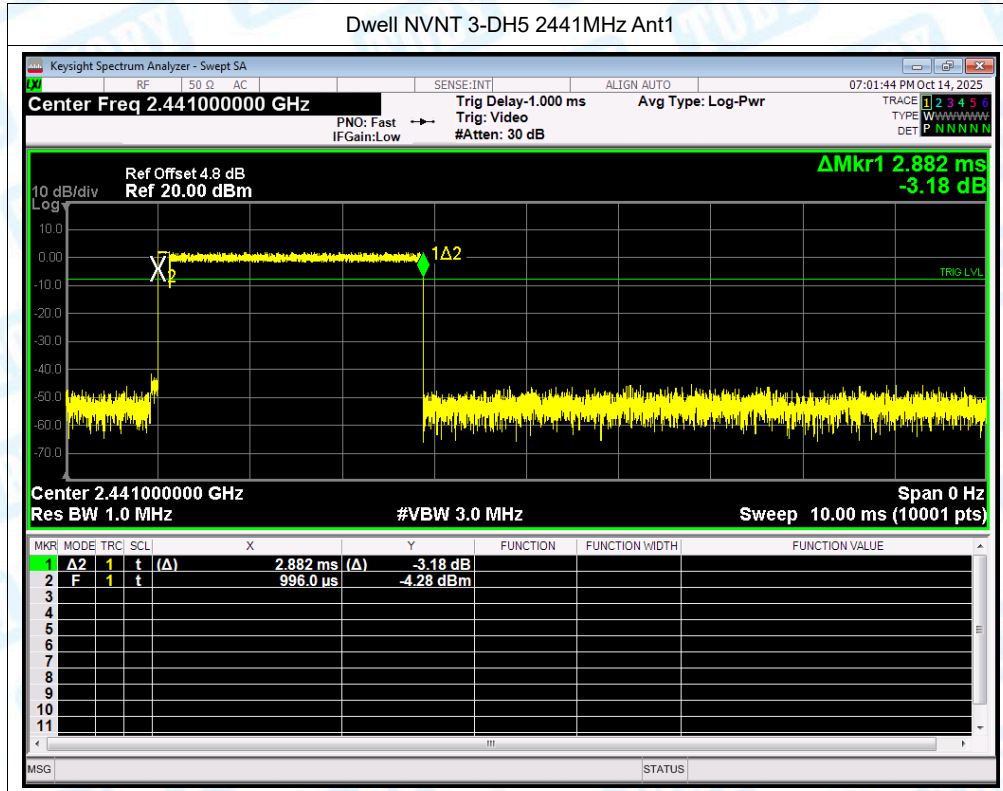


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1



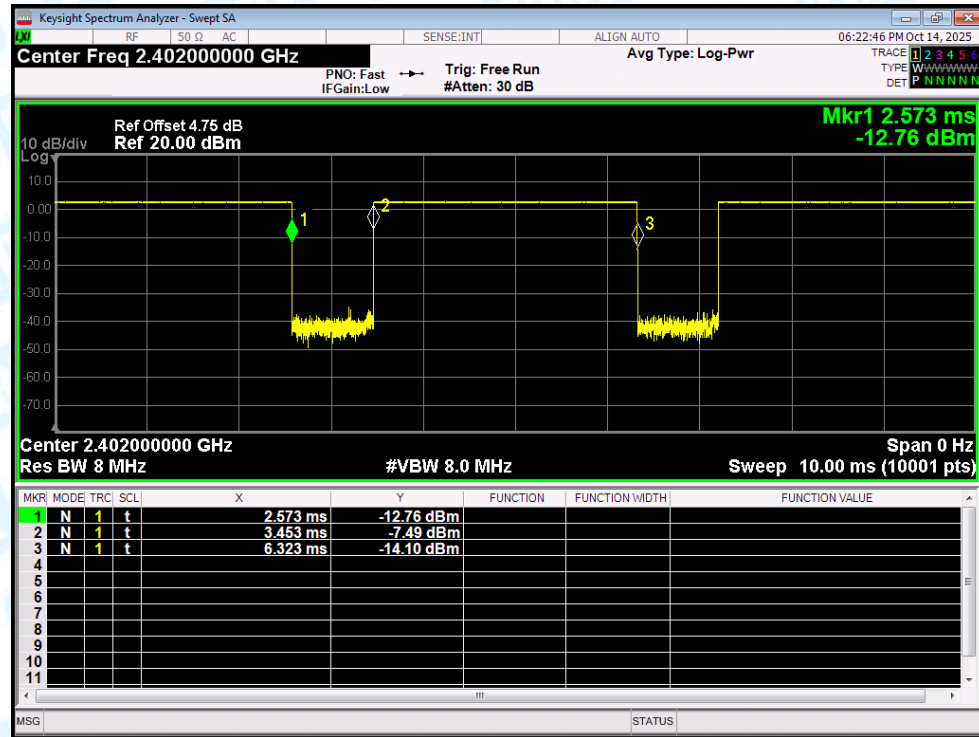


2. Duty Cycle

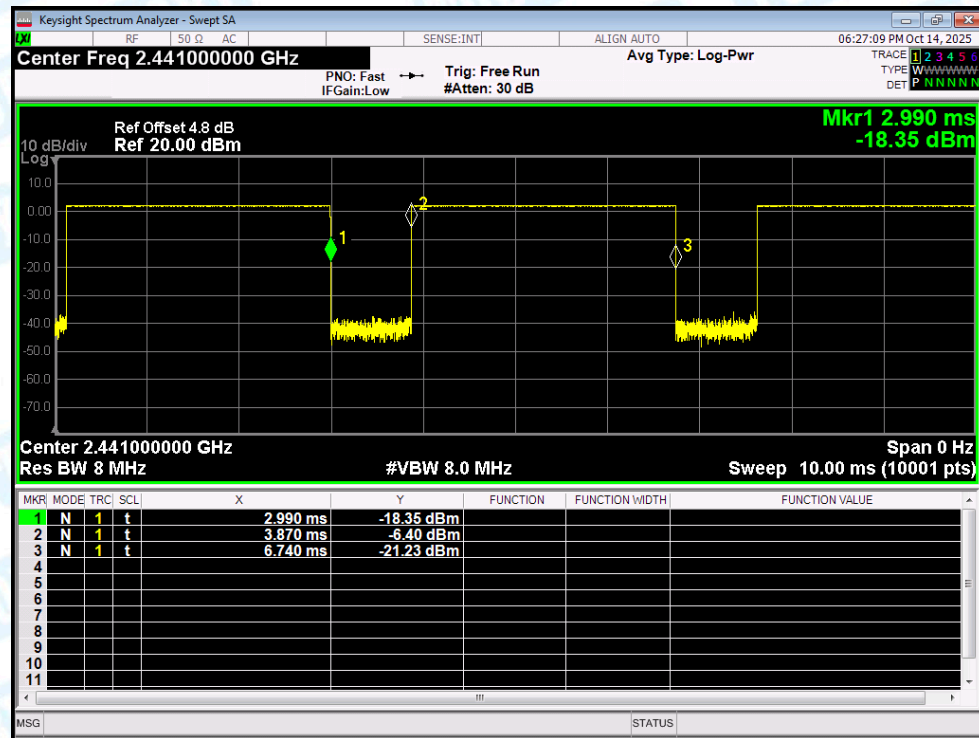
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	76.53	1.16	0.35
NVNT	1-DH5	2441	Ant1	76.53	1.16	0.35
NVNT	1-DH5	2480	Ant1	76.53	1.16	0.35
NVNT	2-DH5	2402	Ant1	76.85	1.14	0.35
NVNT	2-DH5	2441	Ant1	76.85	1.14	0.35
NVNT	2-DH5	2480	Ant1	76.85	1.14	0.35
NVNT	3-DH5	2402	Ant1	76.88	1.14	0.35
NVNT	3-DH5	2441	Ant1	76.85	1.14	0.35
NVNT	3-DH5	2480	Ant1	76.88	1.14	0.35

Test Graphs

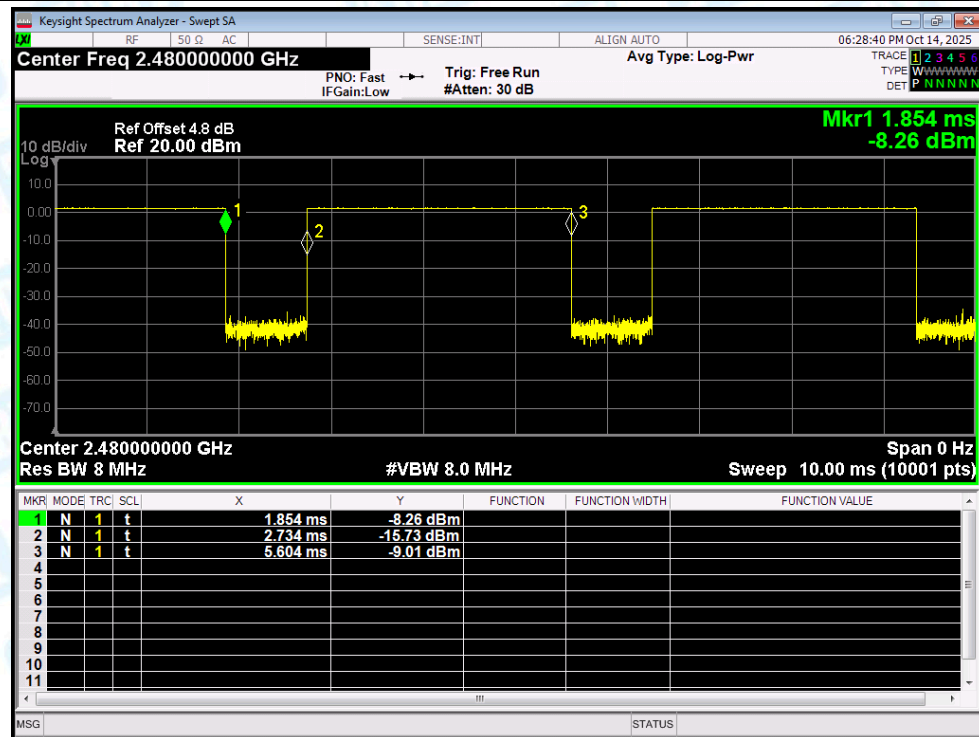
Duty Cycle NVNT 1-DH5 2402MHz Ant1



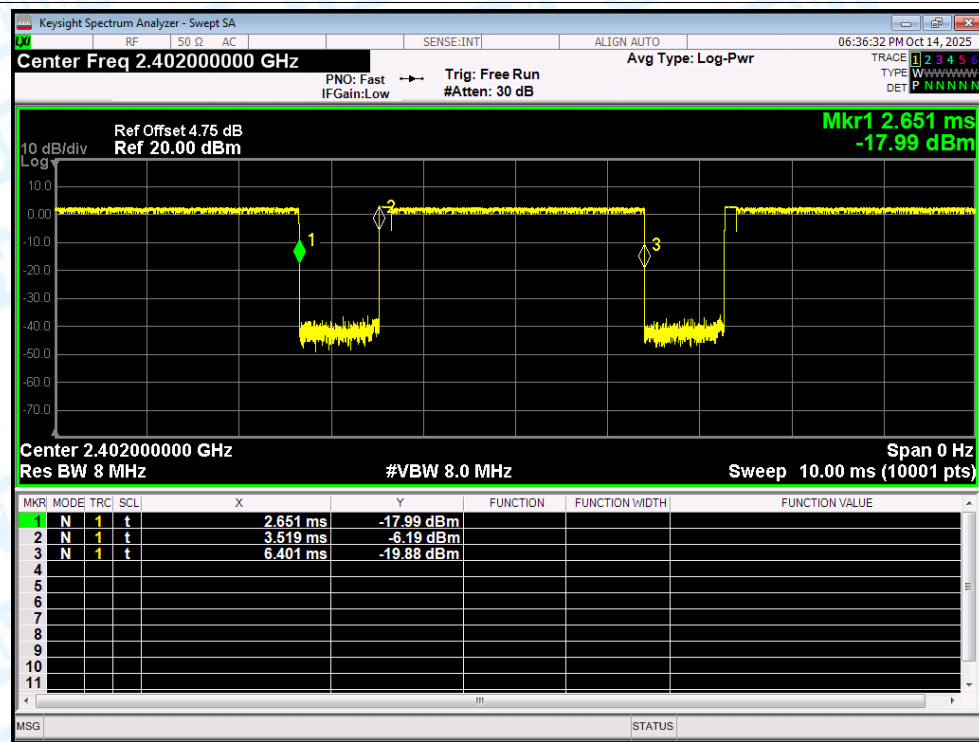
Duty Cycle NVNT 1-DH5 2441MHz Ant1



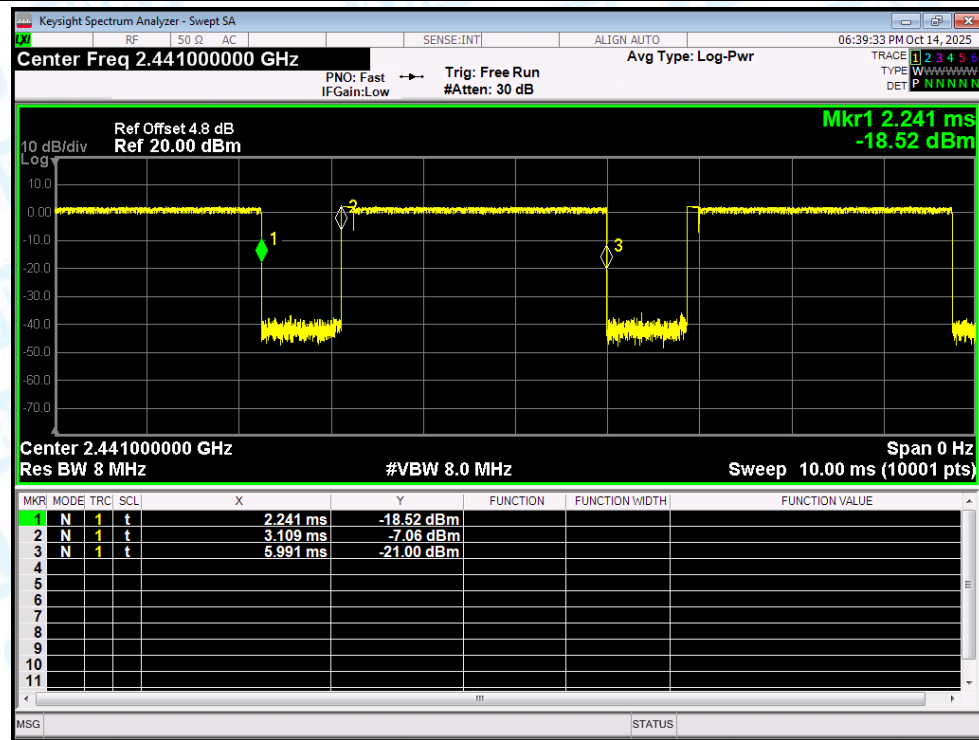
Duty Cycle NVNT 1-DH5 2480MHz Ant1



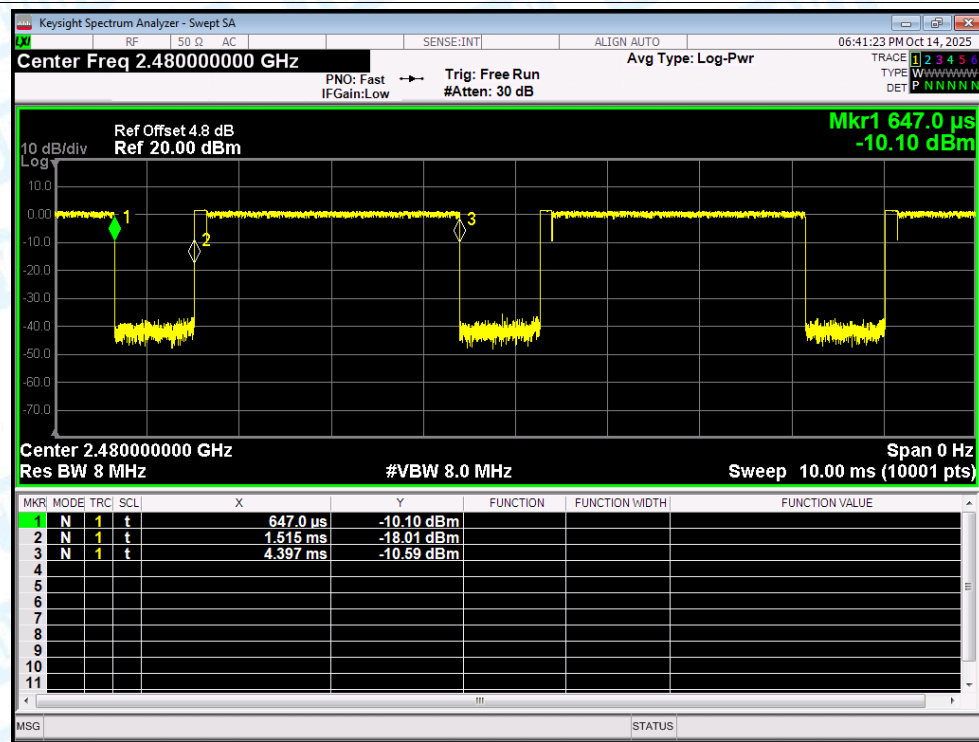
Duty Cycle NVNT 2-DH5 2402MHz Ant1



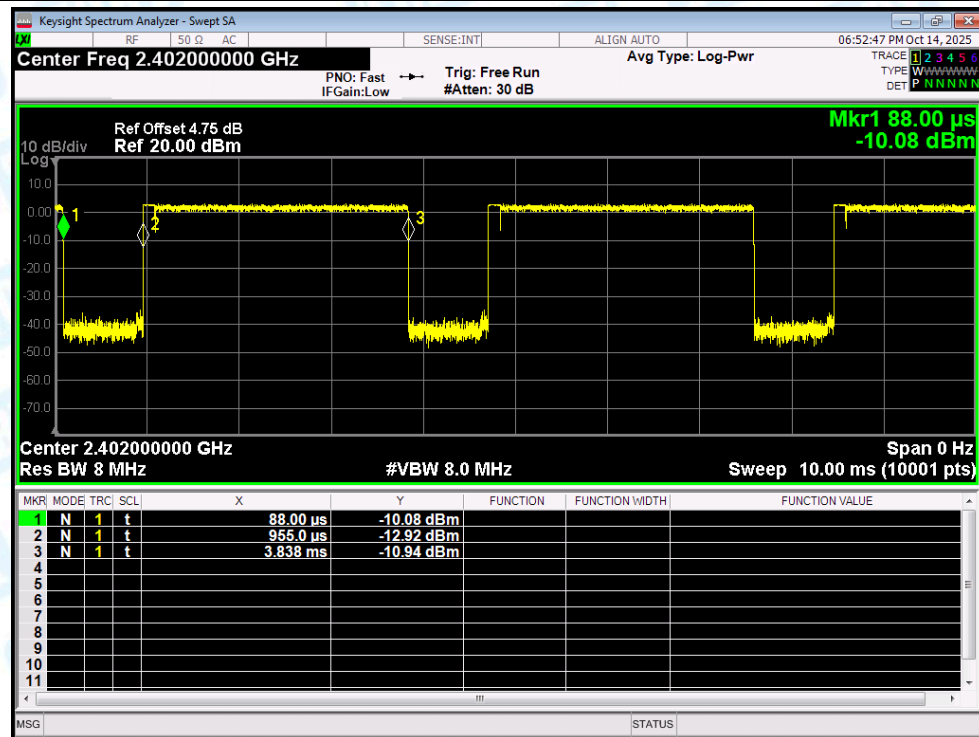
Duty Cycle NVNT 2-DH5 2441MHz Ant1



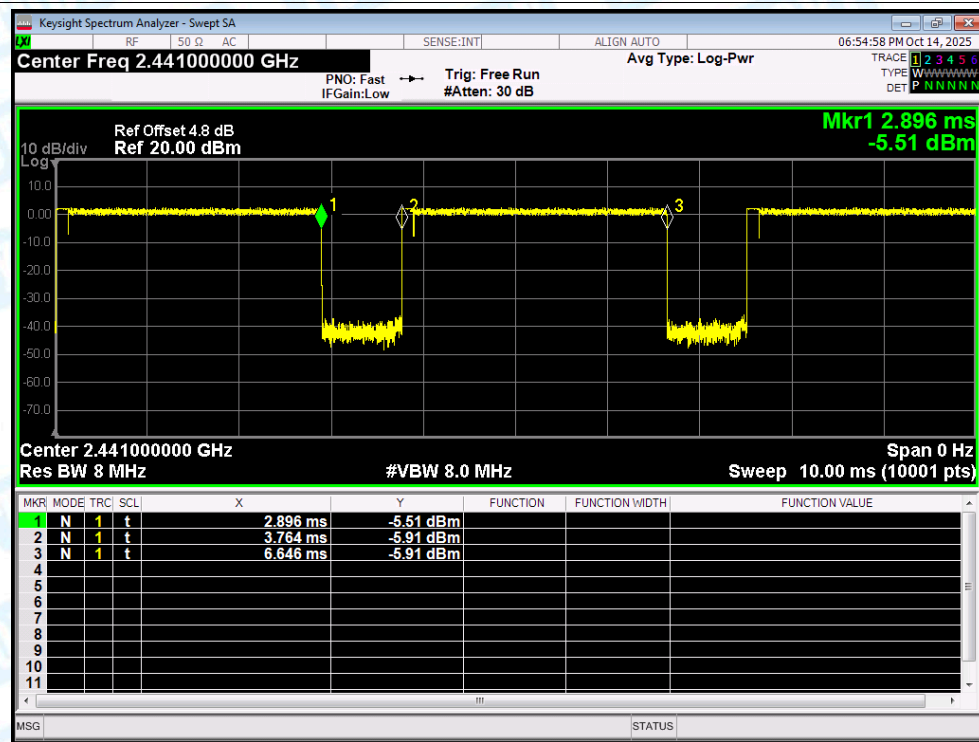
Duty Cycle NVNT 2-DH5 2480MHz Ant1

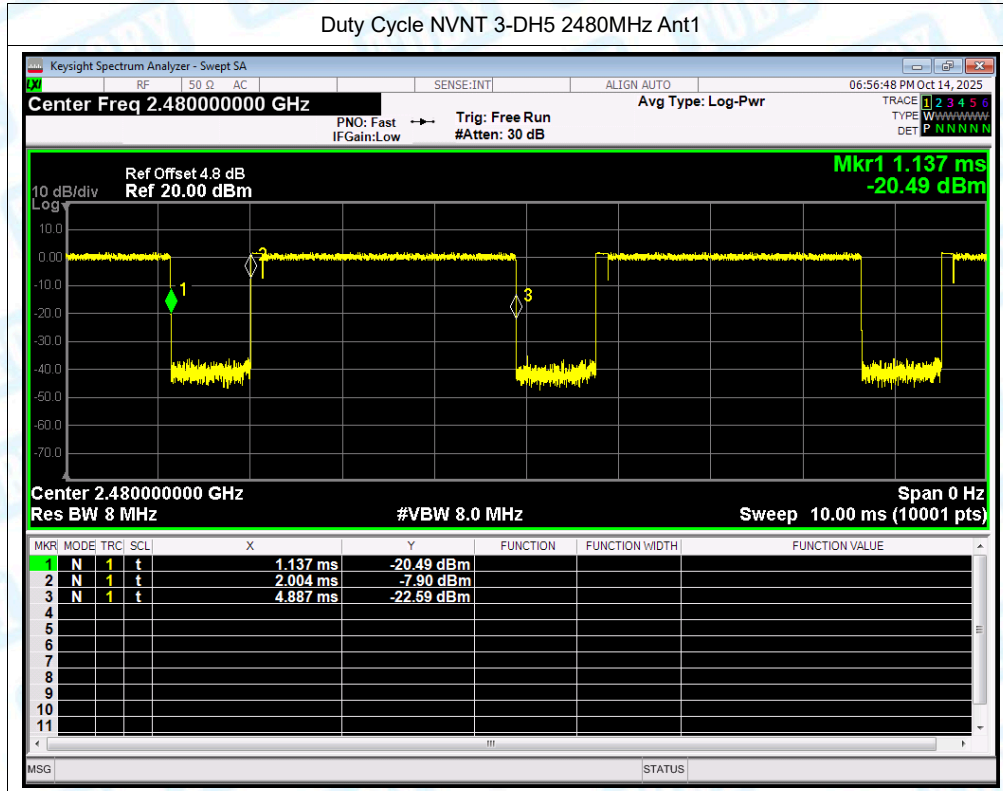


Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



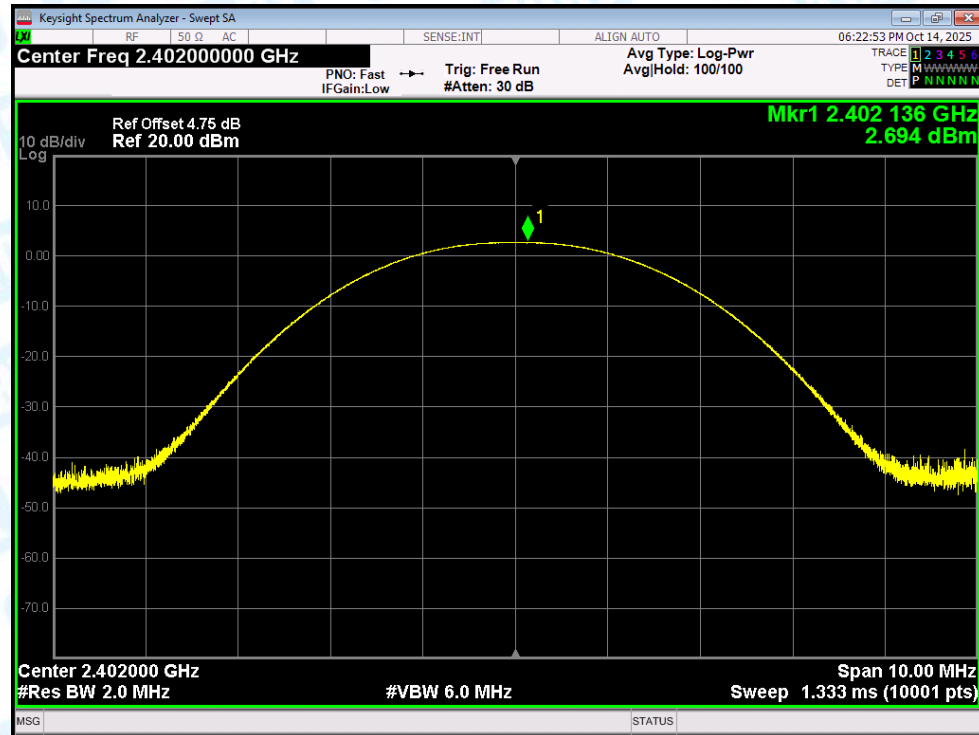


3. Maximum Conducted Output Power

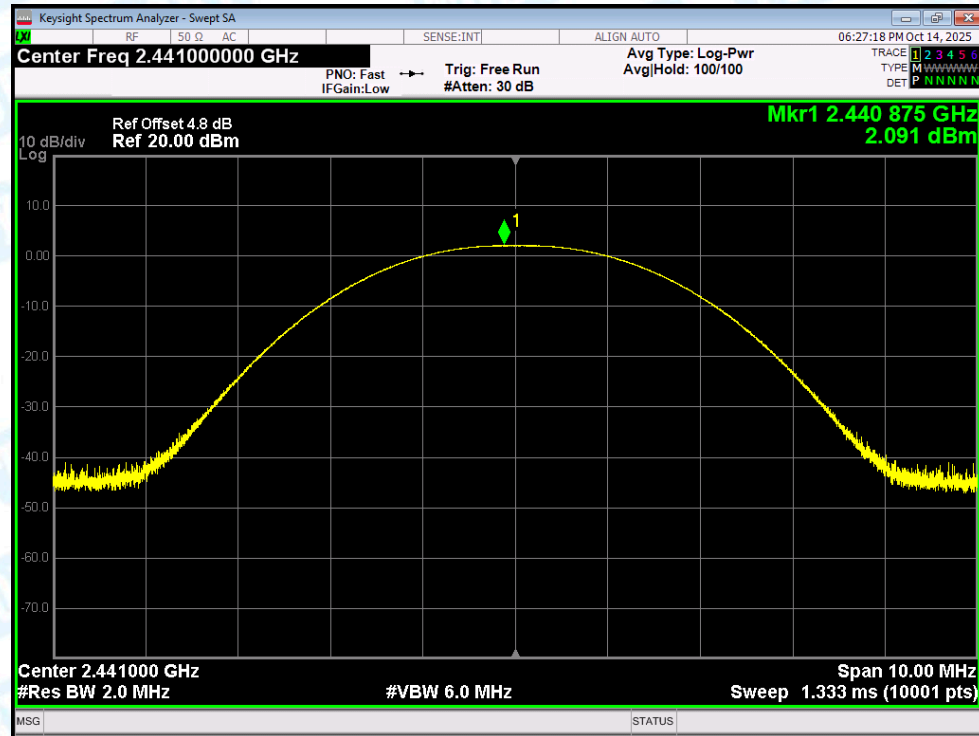
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	2.694	21	Pass
NVNT	1-DH5	2441	Ant1	2.091	21	Pass
NVNT	1-DH5	2480	Ant1	1.507	21	Pass
NVNT	2-DH5	2402	Ant1	2.691	21	Pass
NVNT	2-DH5	2441	Ant1	2.043	21	Pass
NVNT	2-DH5	2480	Ant1	1.47	21	Pass
NVNT	3-DH5	2402	Ant1	2.814	21	Pass
NVNT	3-DH5	2441	Ant1	2.288	21	Pass
NVNT	3-DH5	2480	Ant1	1.599	21	Pass

Test Graphs

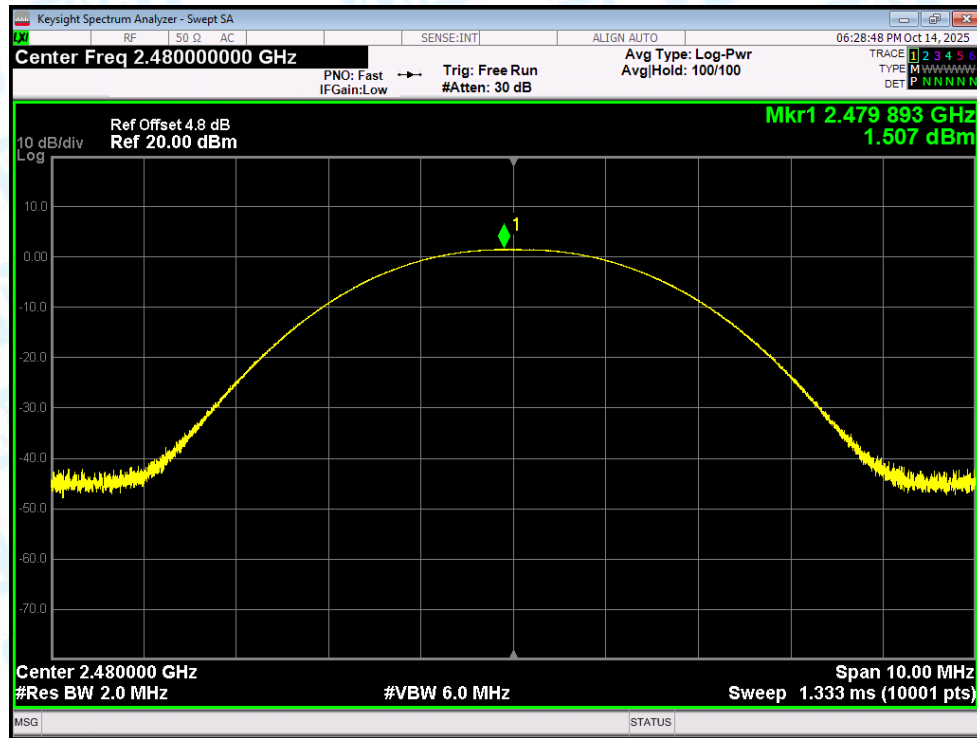
Power NVNT 1-DH5 2402MHz Ant1



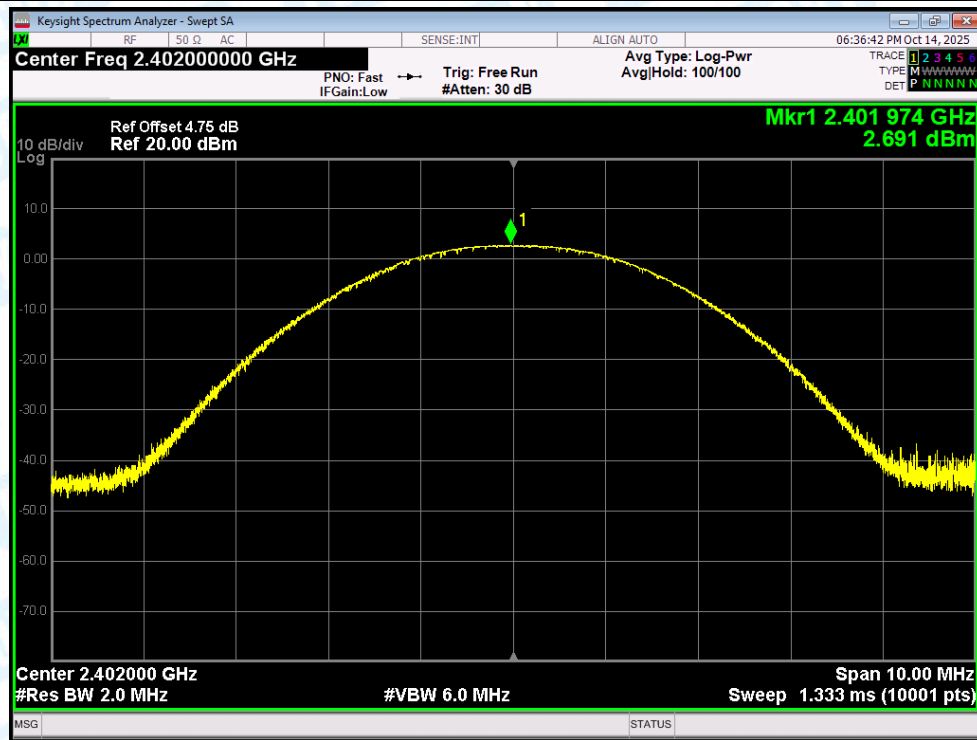
Power NVNT 1-DH5 2441MHz Ant1



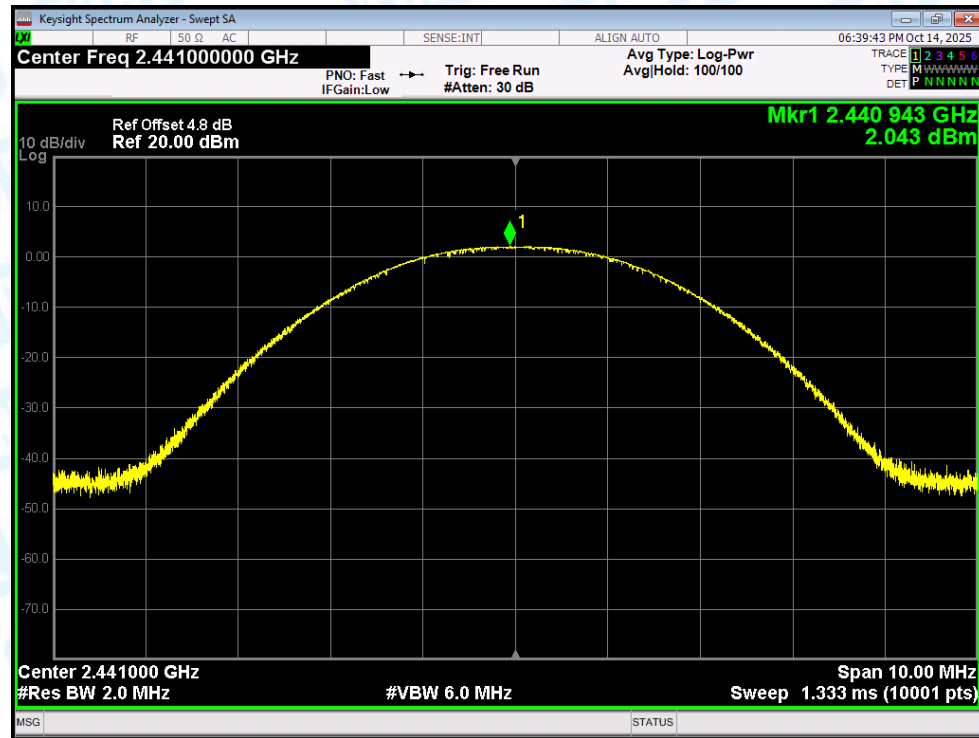
Power NVNT 1-DH5 2480MHz Ant1



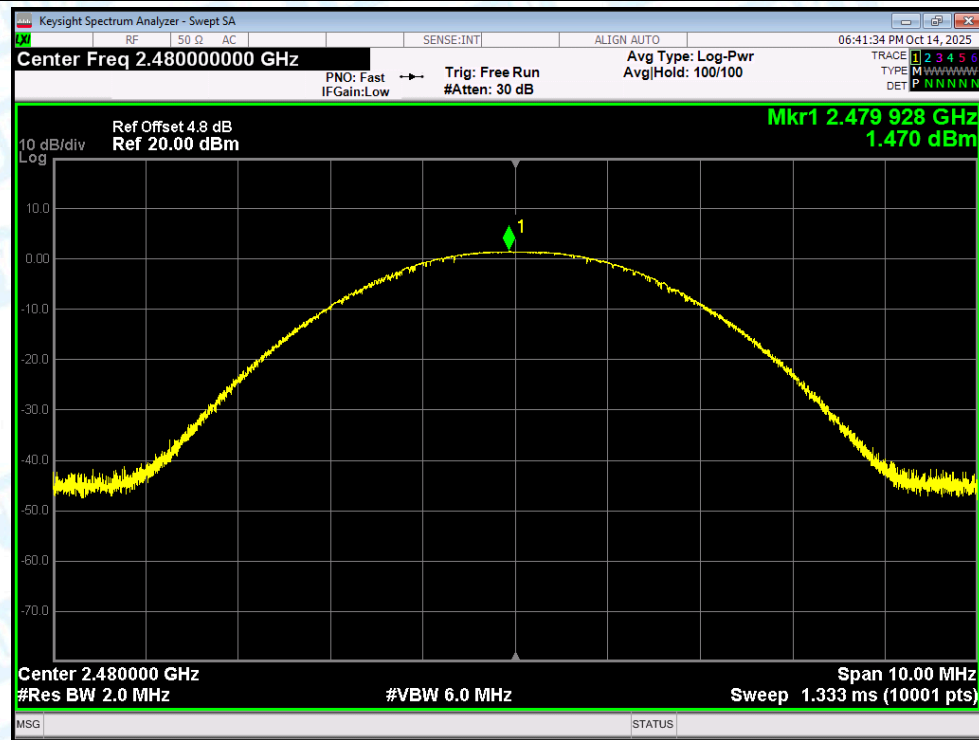
Power NVNT 2-DH5 2402MHz Ant1



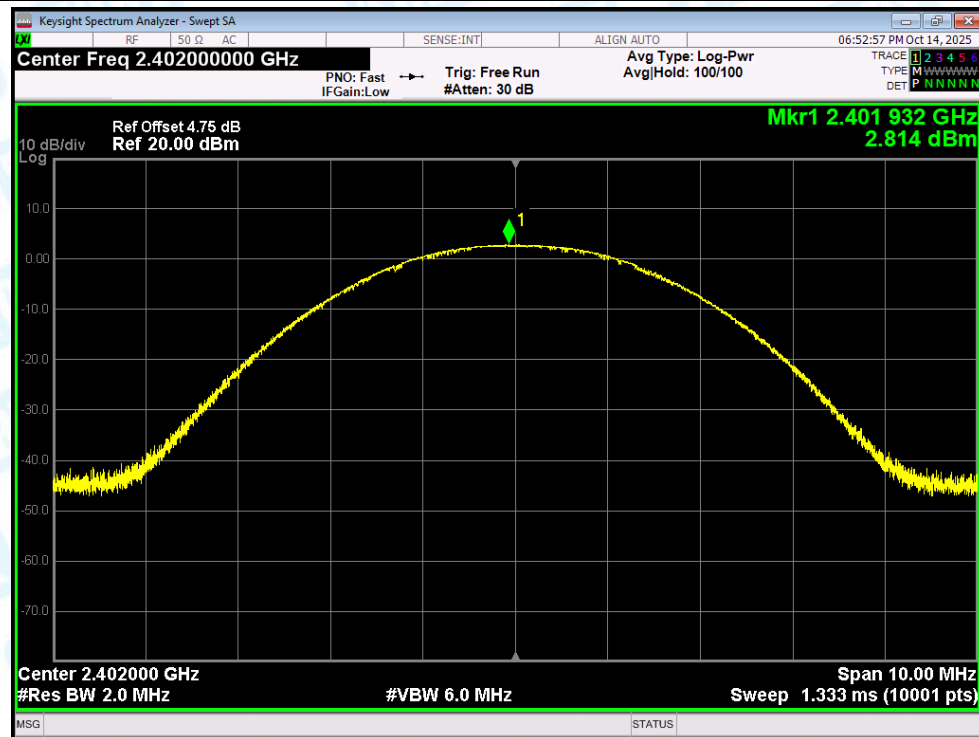
Power NVNT 2-DH5 2441MHz Ant1



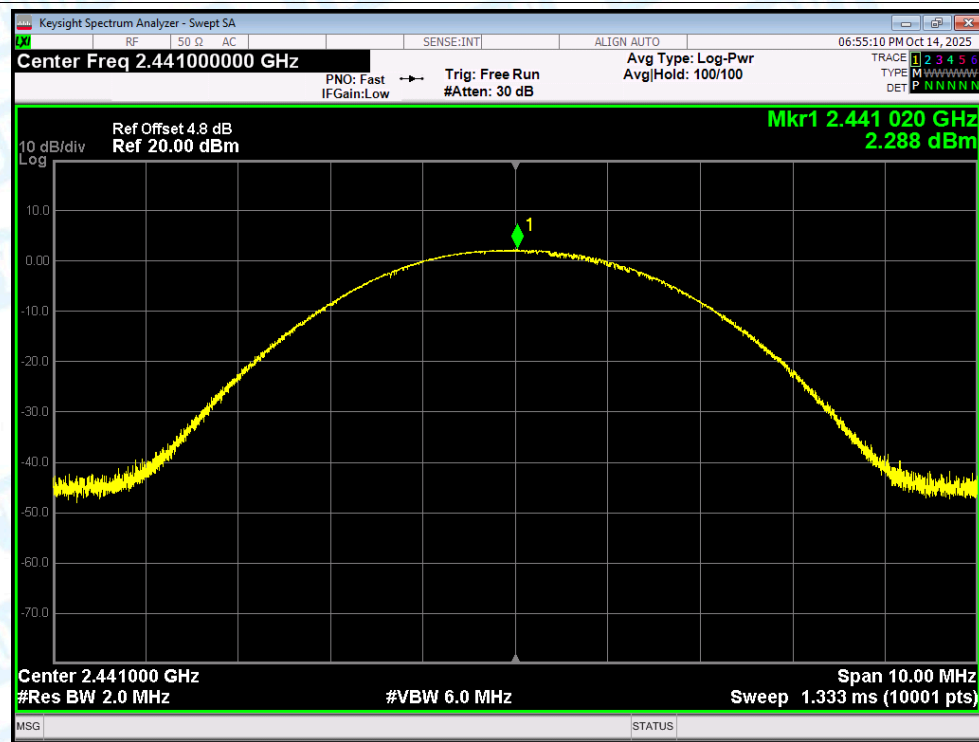
Power NVNT 2-DH5 2480MHz Ant1

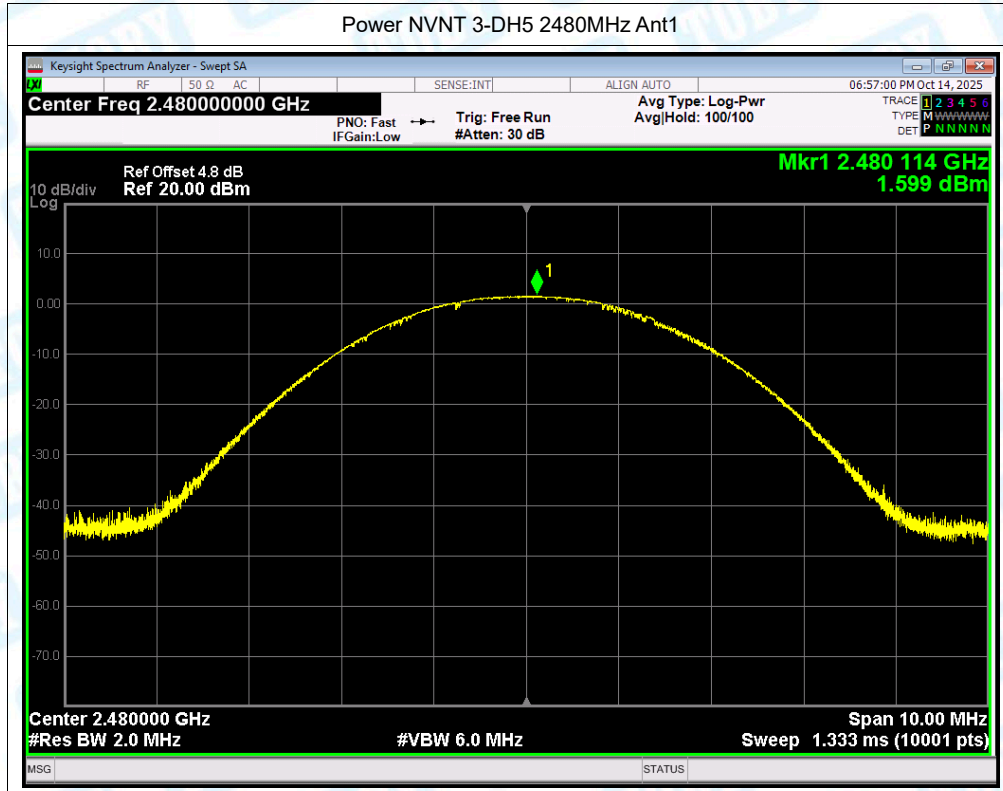


Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



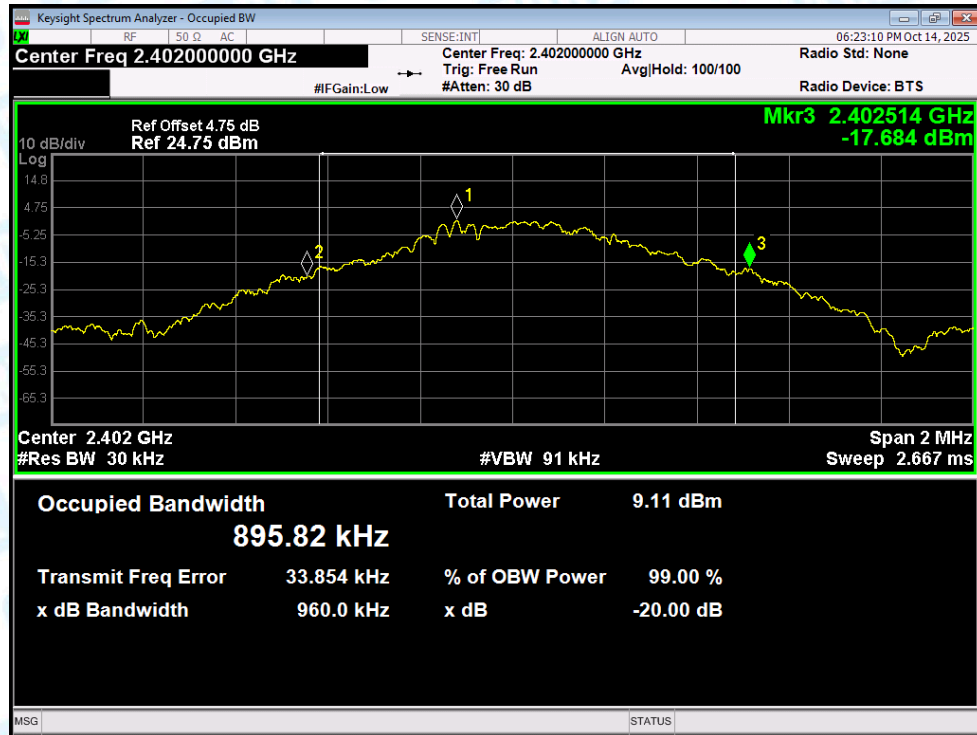


4. -20dB Bandwidth

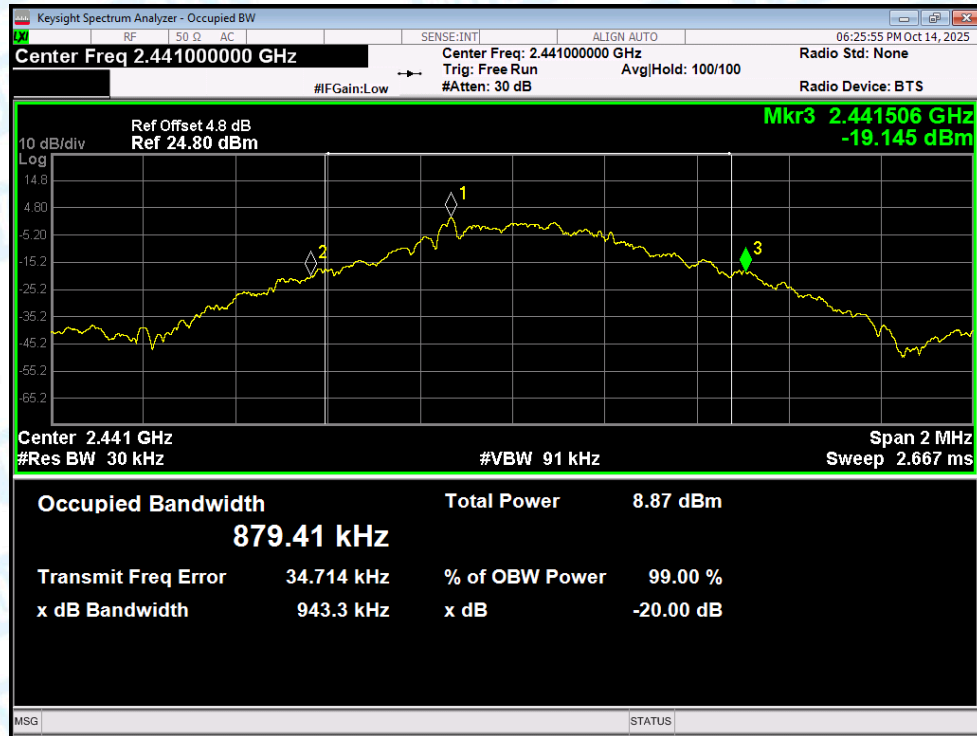
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.96	Pass
NVNT	1-DH5	2441	Ant1	0.94	Pass
NVNT	1-DH5	2480	Ant1	0.94	Pass
NVNT	2-DH5	2402	Ant1	1.28	Pass
NVNT	2-DH5	2441	Ant1	1.28	Pass
NVNT	2-DH5	2480	Ant1	1.27	Pass
NVNT	3-DH5	2402	Ant1	1.24	Pass
NVNT	3-DH5	2441	Ant1	1.29	Pass
NVNT	3-DH5	2480	Ant1	1.19	Pass

Test Graphs

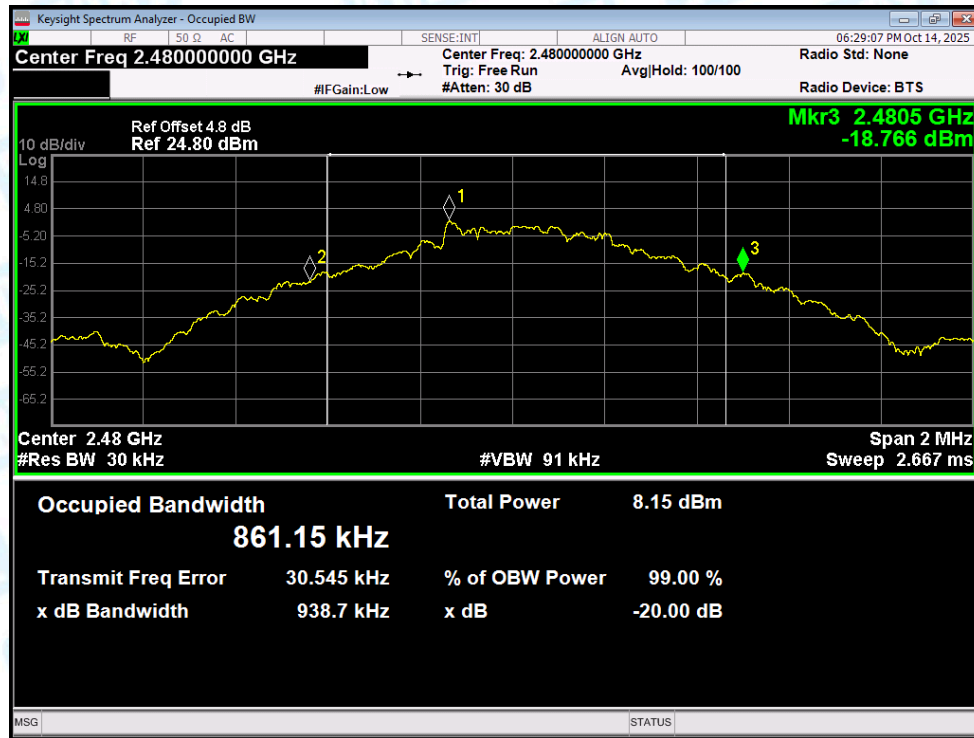
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



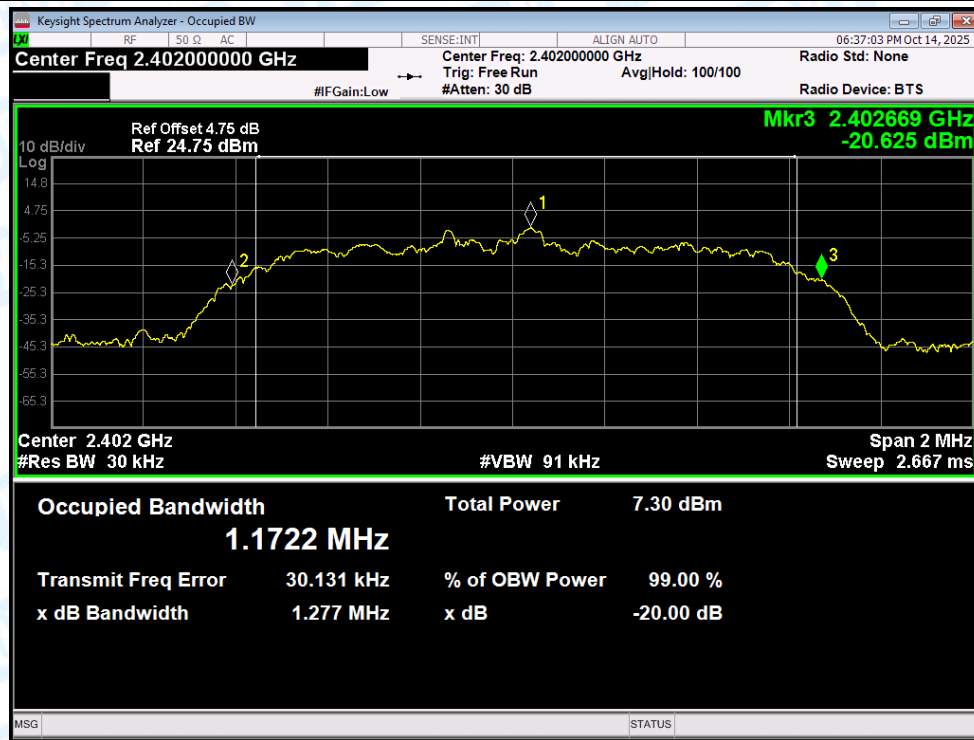
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



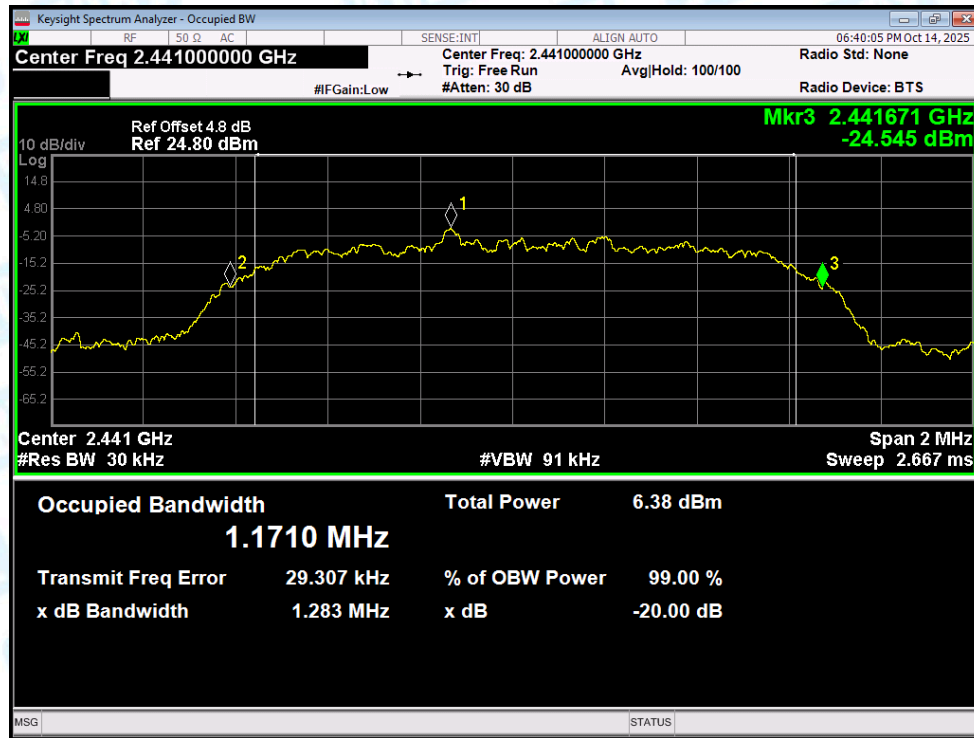
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



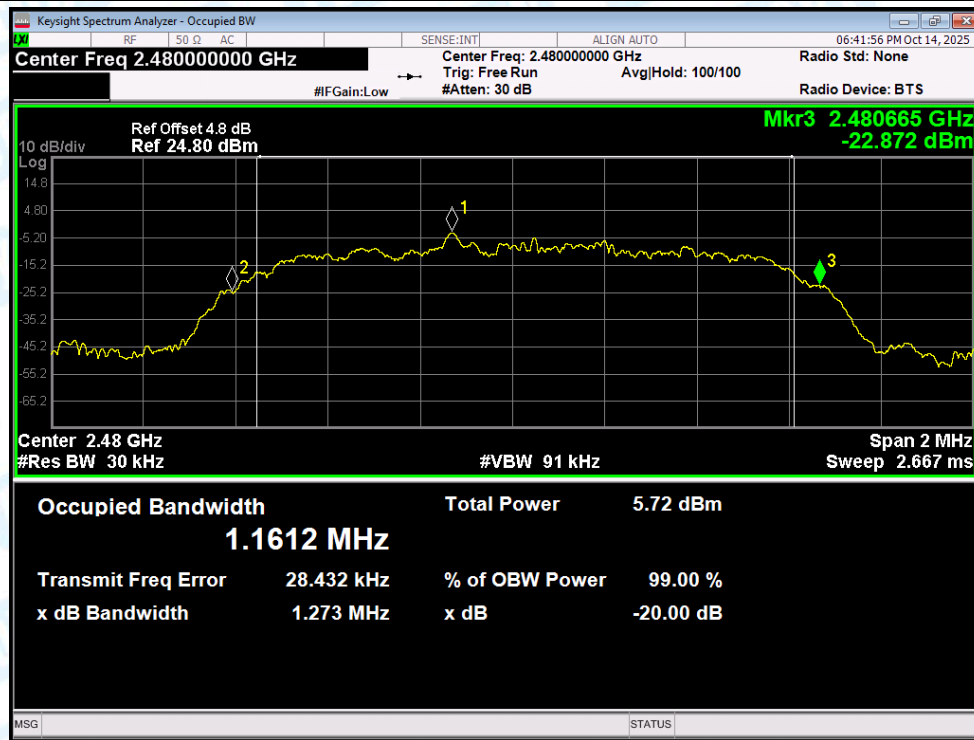
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



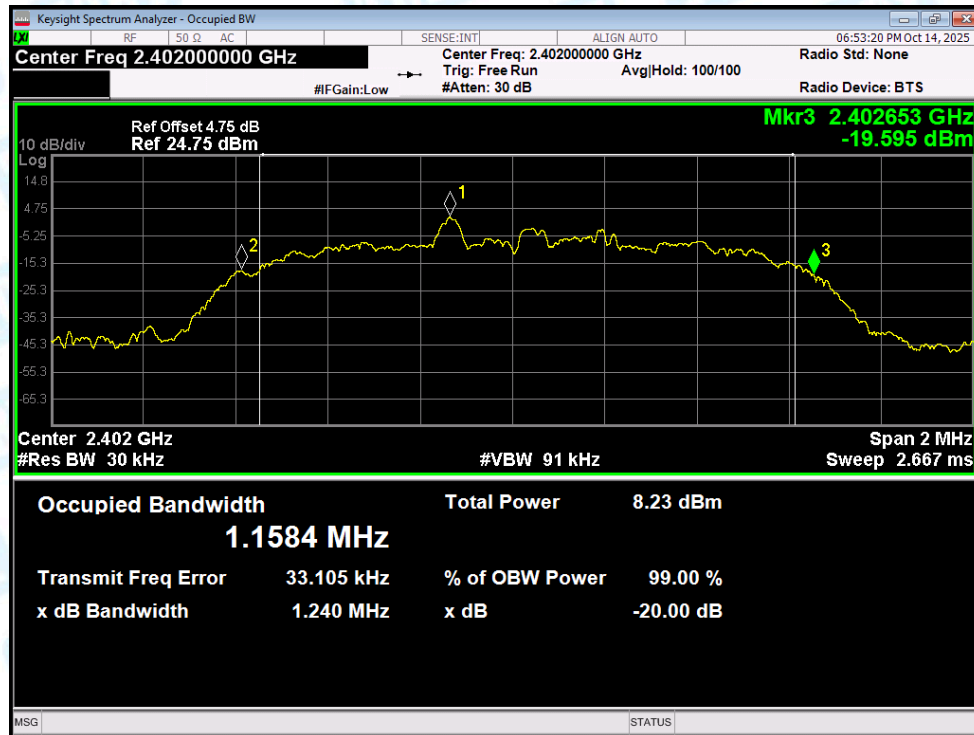
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



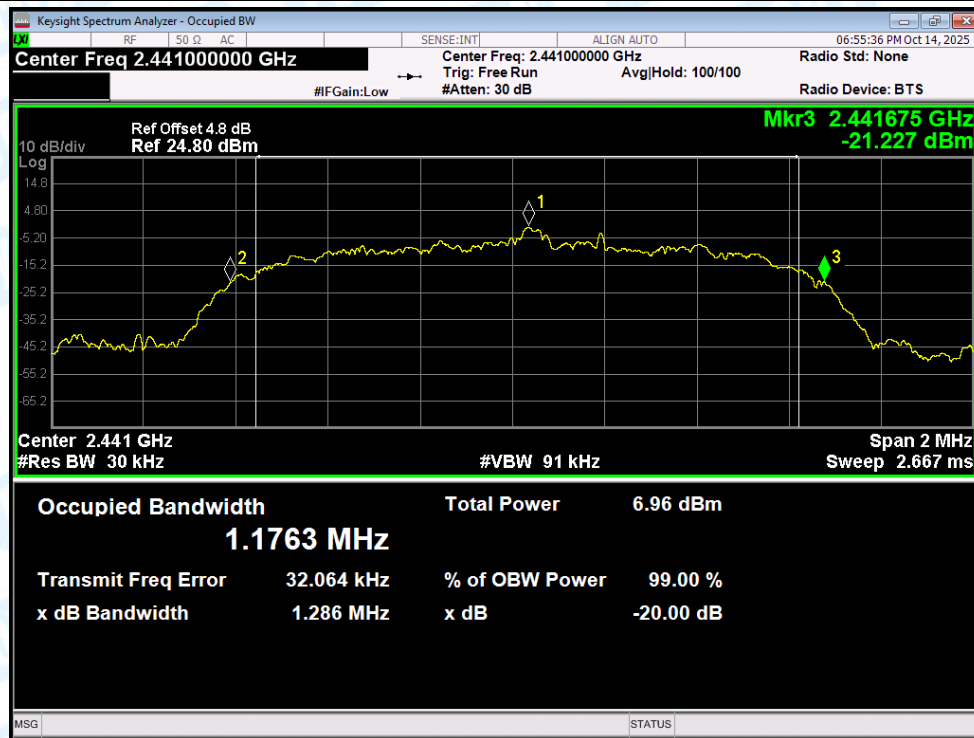
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

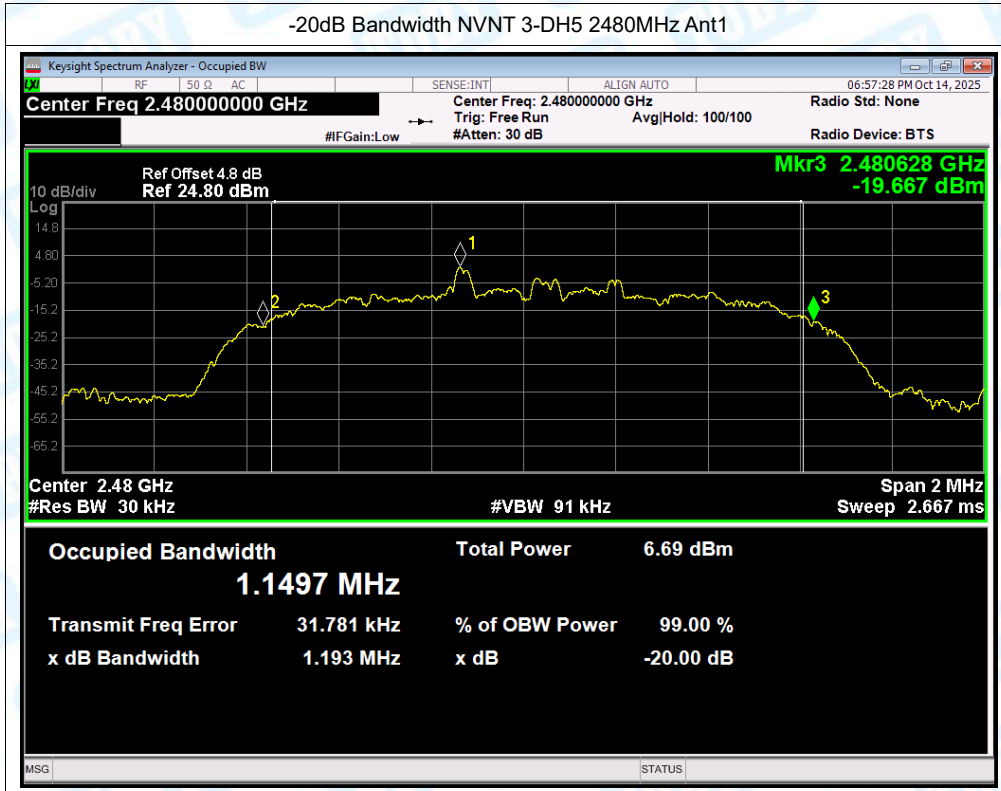


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



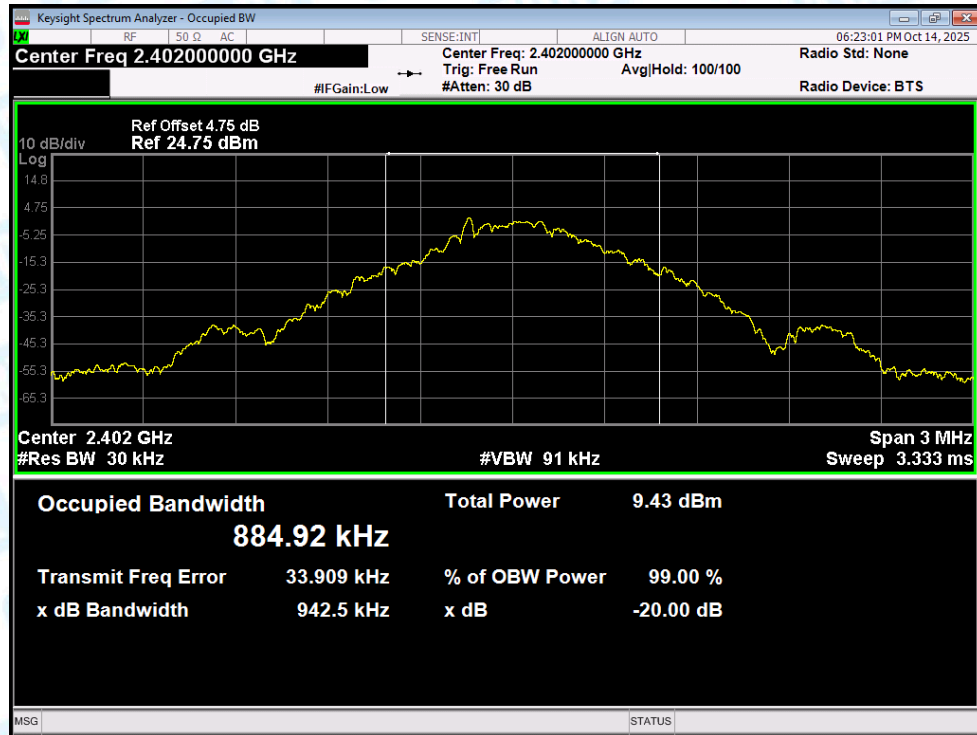


5. Occupied Channel Bandwidth

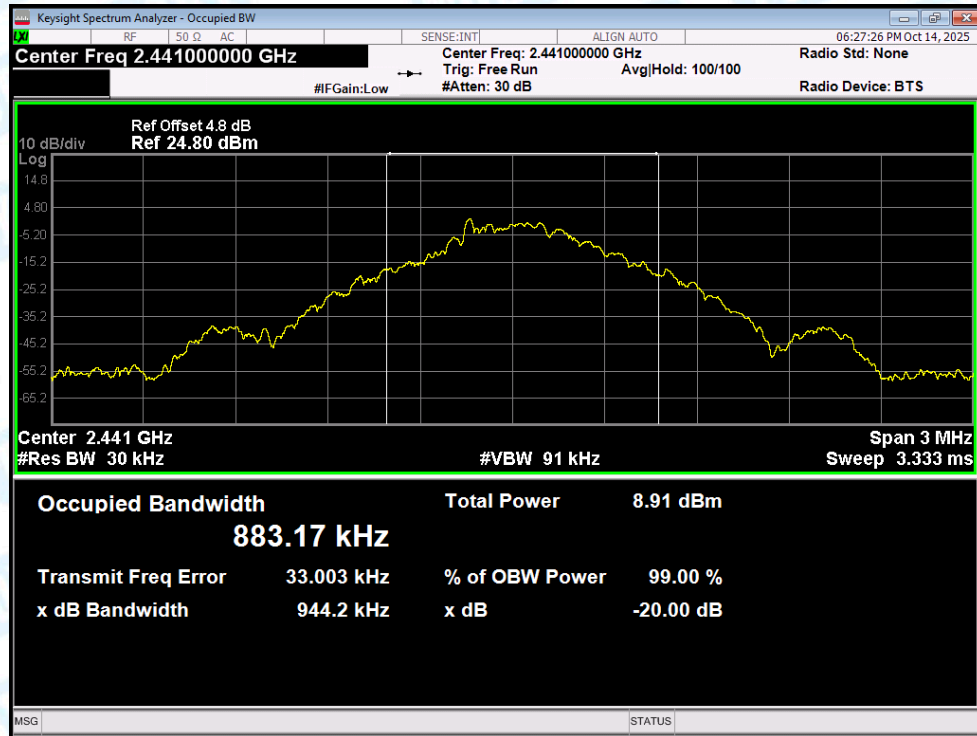
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH5	2402	Ant1	0.885
NVNT	1-DH5	2441	Ant1	0.883
NVNT	1-DH5	2480	Ant1	0.882
NVNT	2-DH5	2402	Ant1	1.173
NVNT	2-DH5	2441	Ant1	1.167
NVNT	2-DH5	2480	Ant1	1.159
NVNT	3-DH5	2402	Ant1	1.172
NVNT	3-DH5	2441	Ant1	1.163
NVNT	3-DH5	2480	Ant1	1.137

Test Graphs

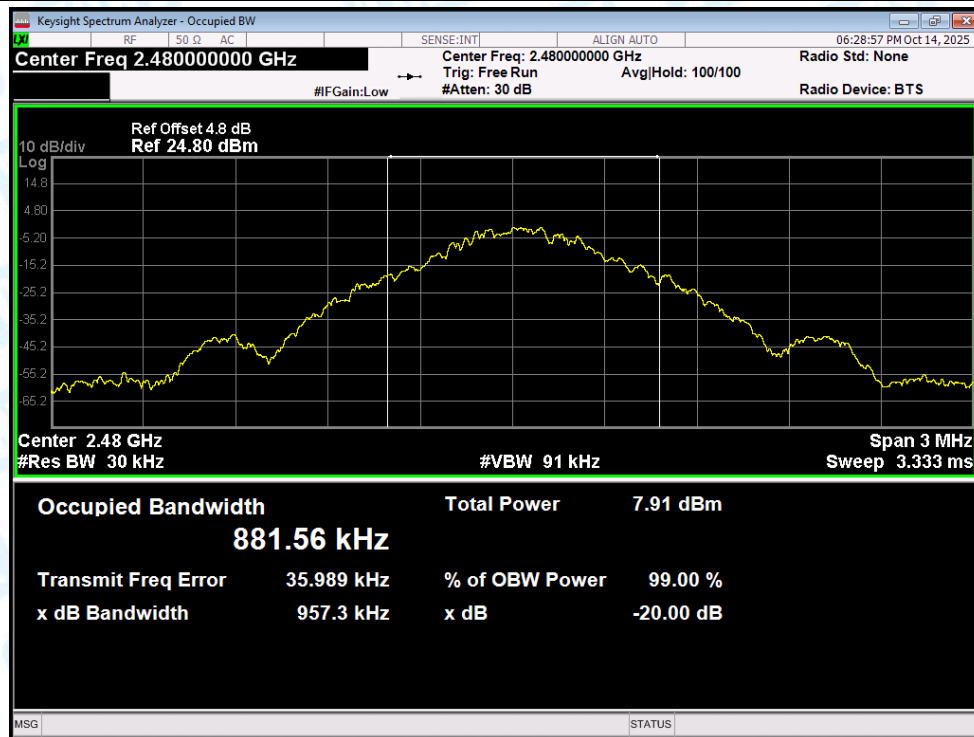
OBW NVNT 1-DH5 2402MHz Ant1



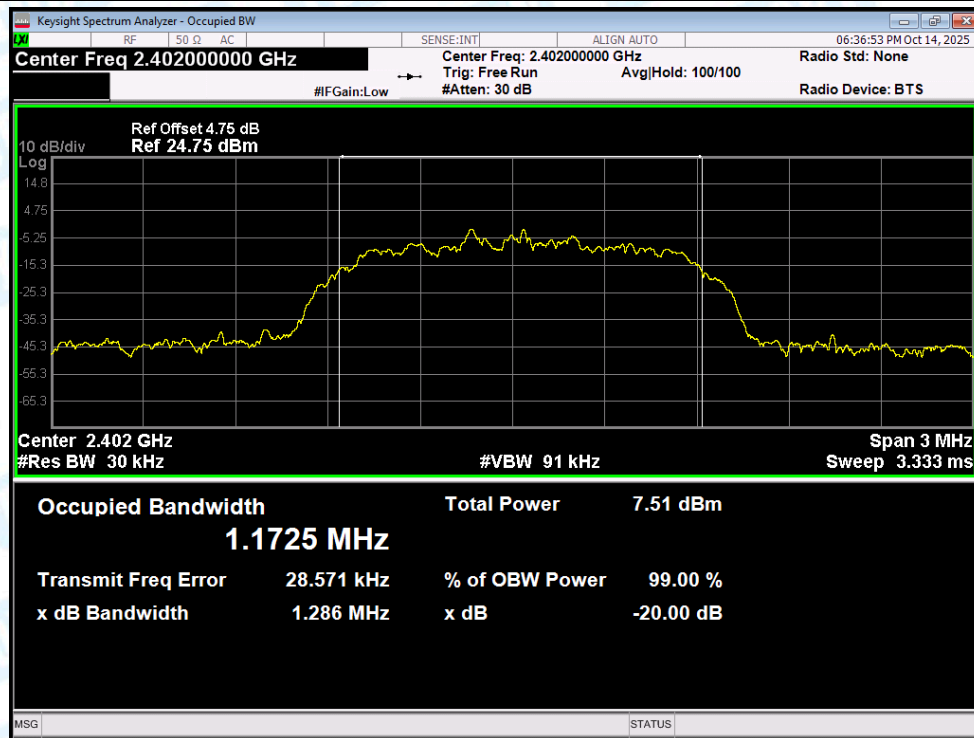
OBW NVNT 1-DH5 2441MHz Ant1



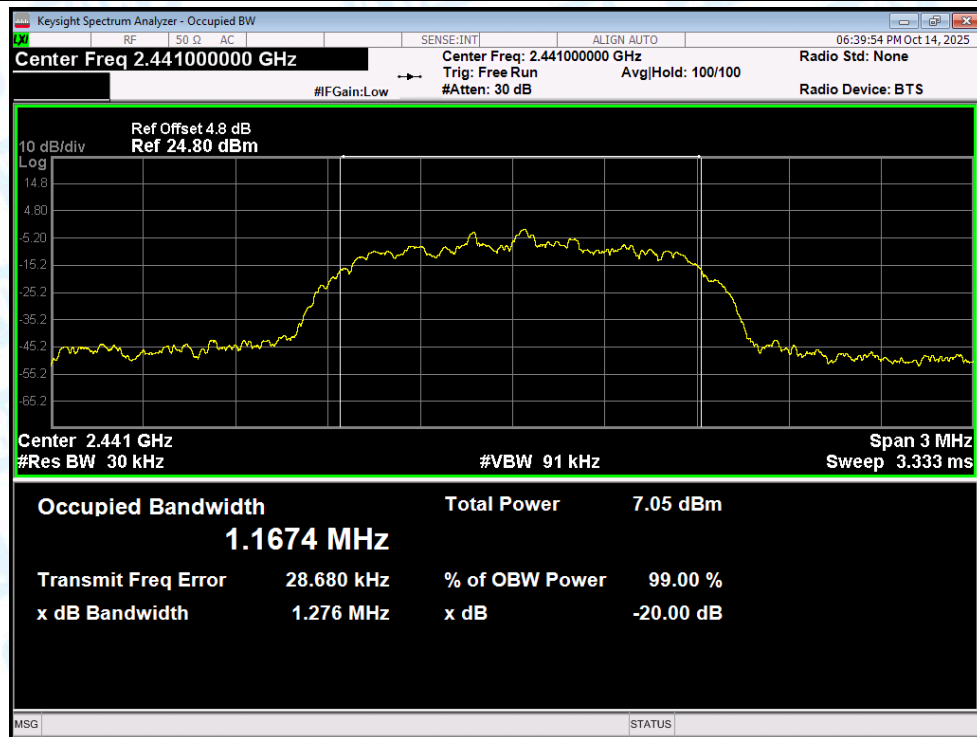
OBW NVNT 1-DH5 2480MHz Ant1



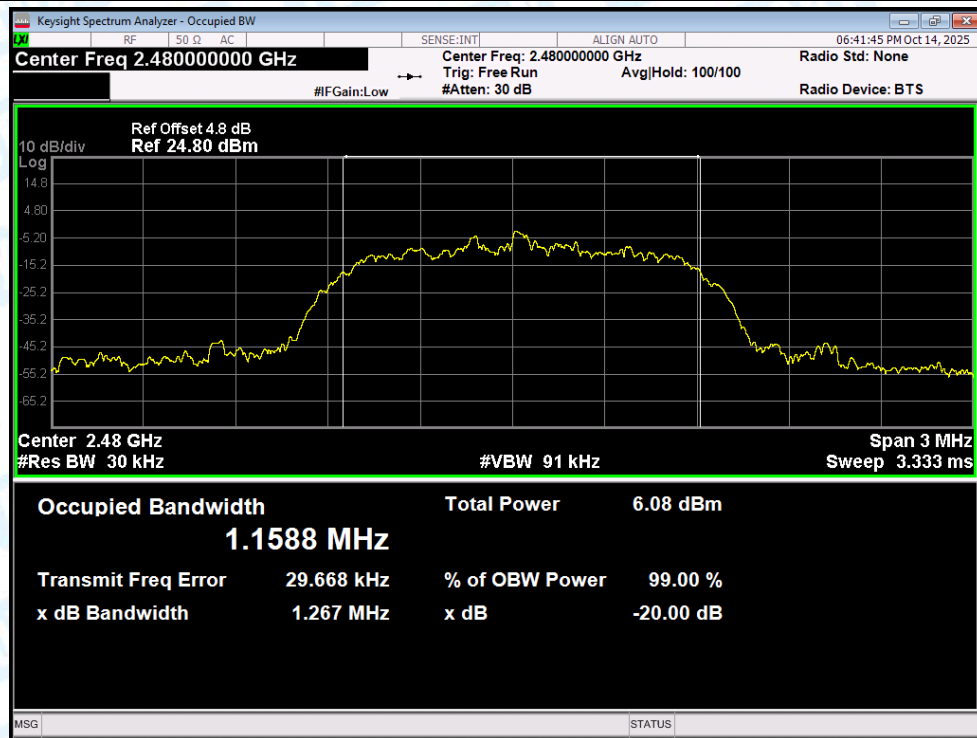
OBW NVNT 2-DH5 2402MHz Ant1



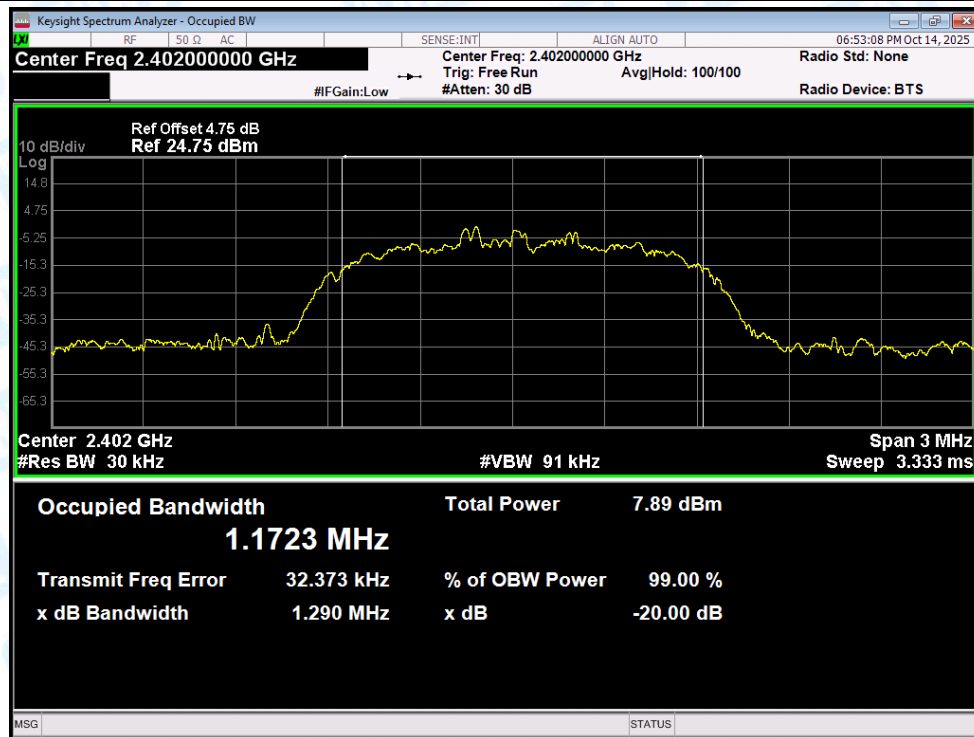
OBW NVNT 2-DH5 2441MHz Ant1



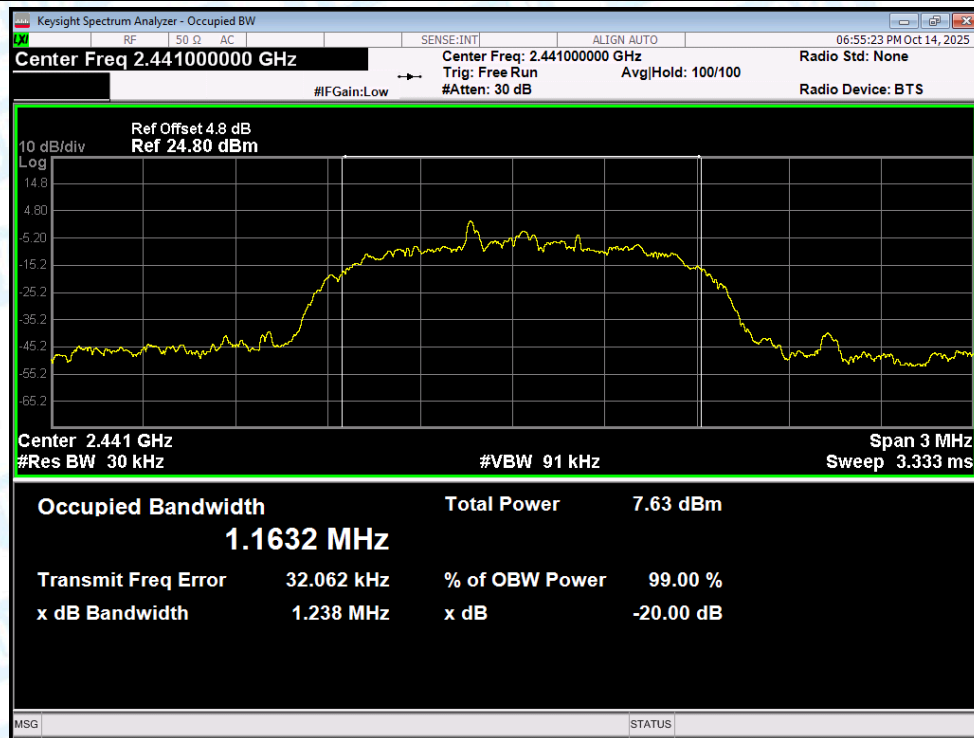
OBW NVNT 2-DH5 2480MHz Ant1

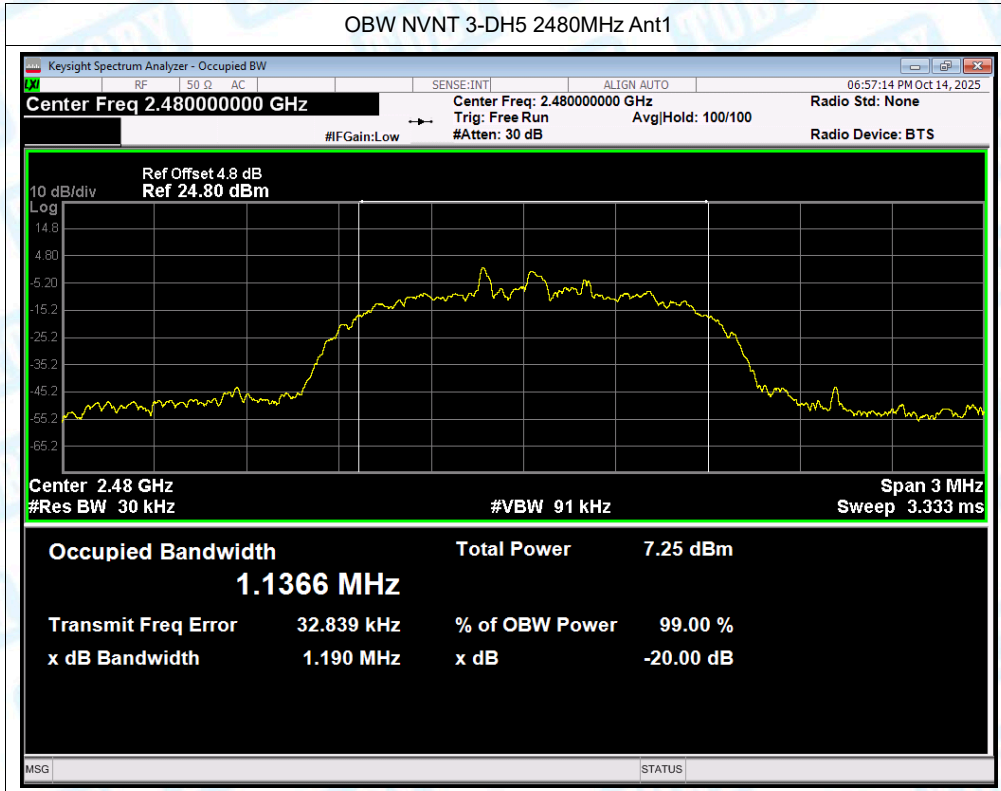


OBW NVNT 3-DH5 2402MHz Ant1



OBW NVNT 3-DH5 2441MHz Ant1



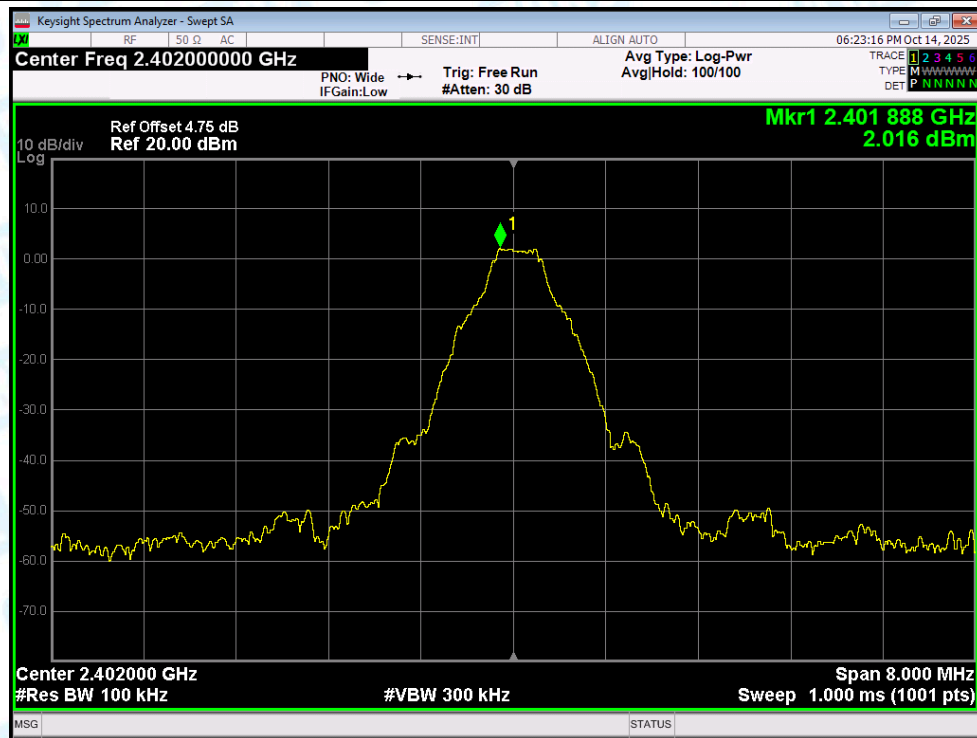


6. Band Edge

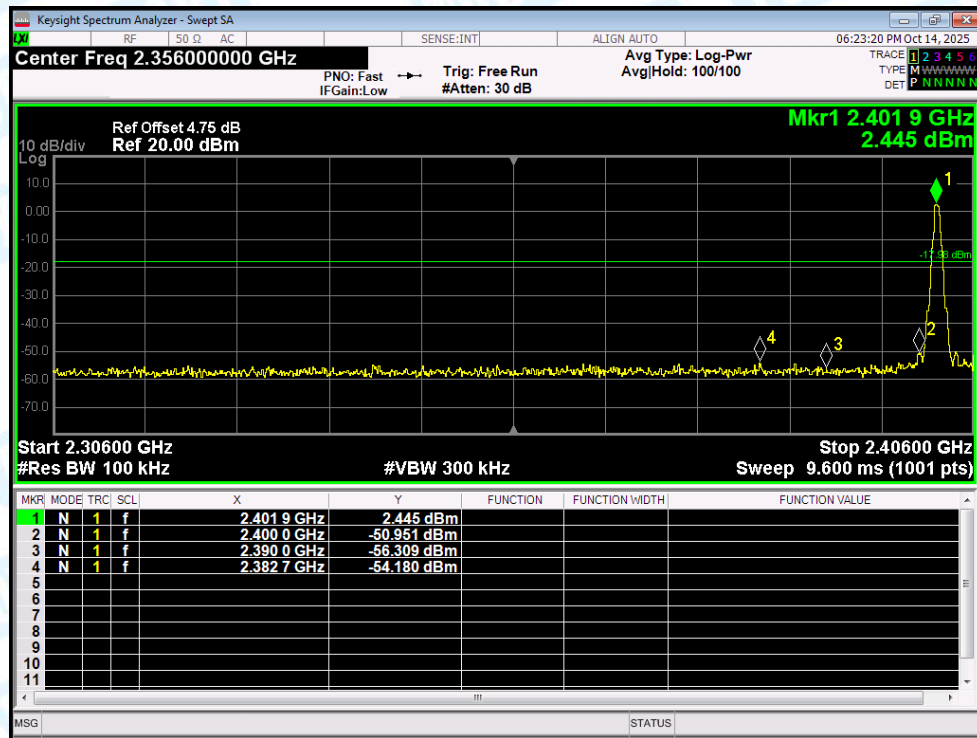
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-56.2	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.48	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-54.55	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-54.33	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-54.03	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-56.36	-20	Pass

Test Graphs

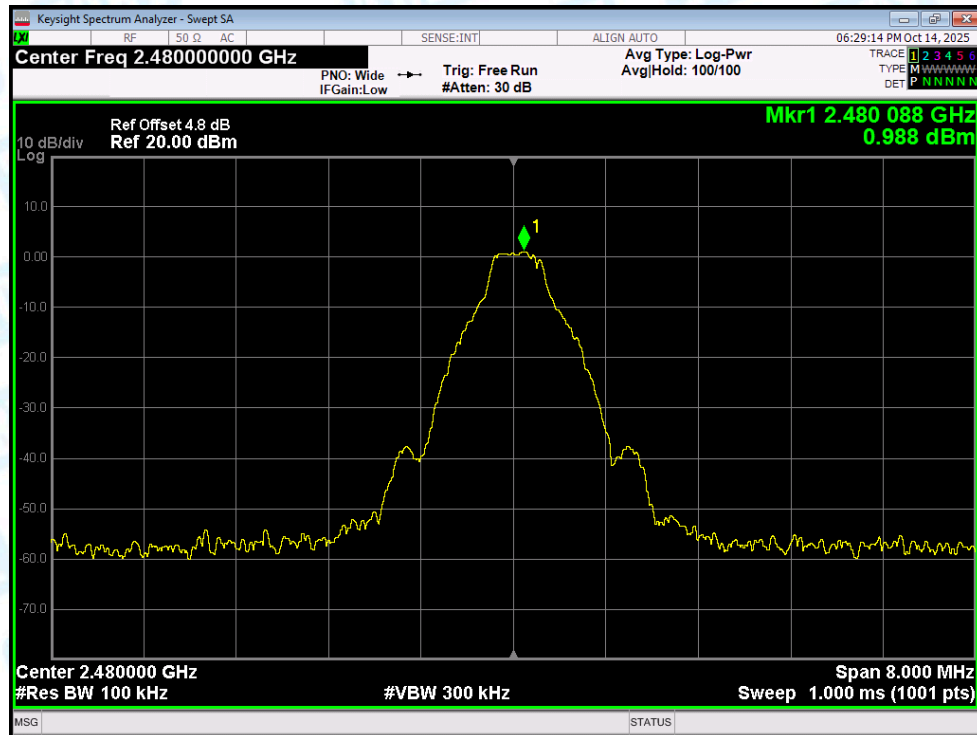
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



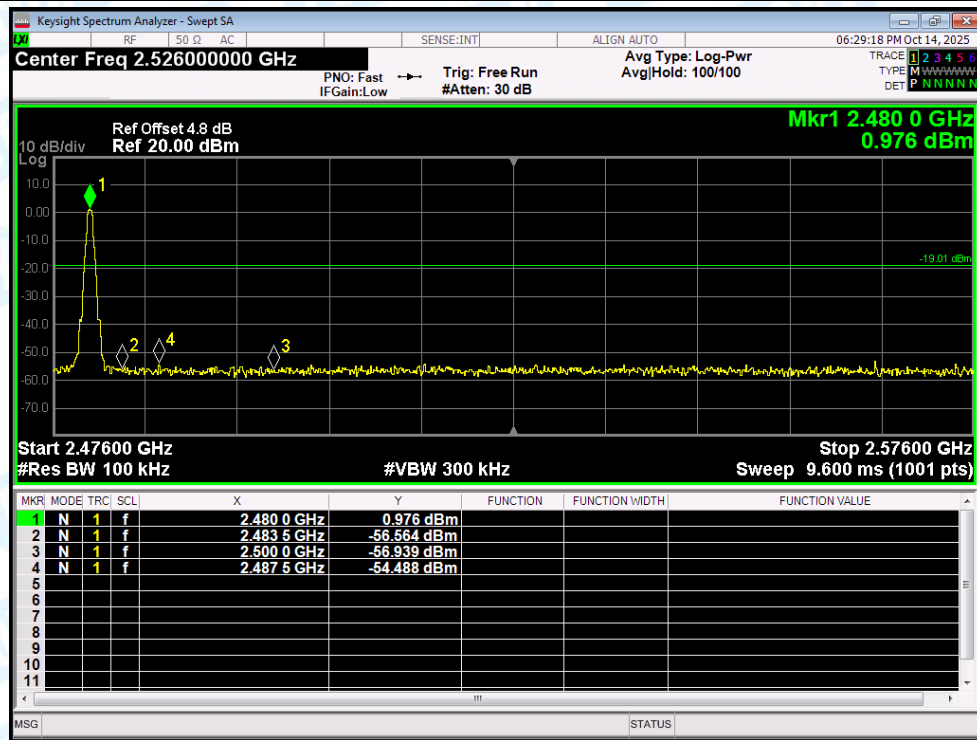
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



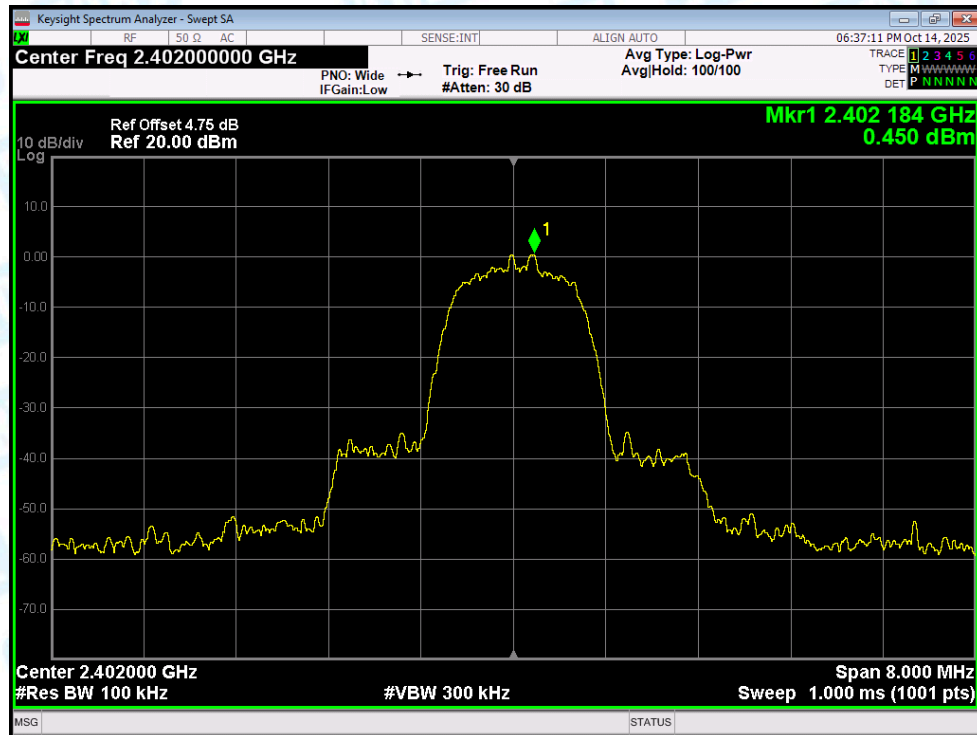
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



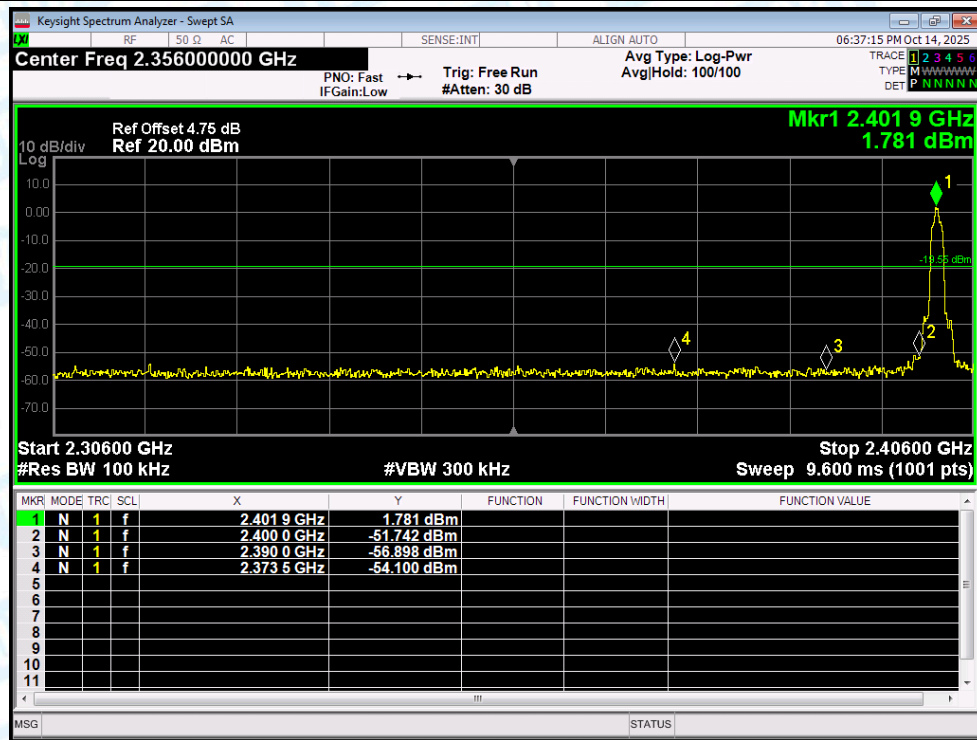
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



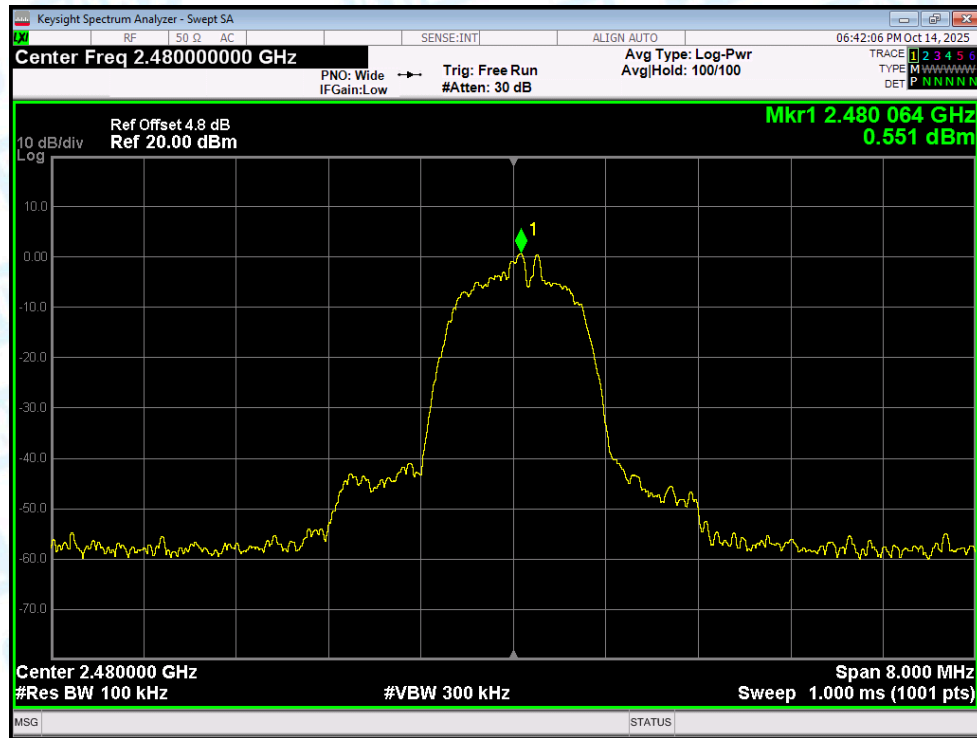
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



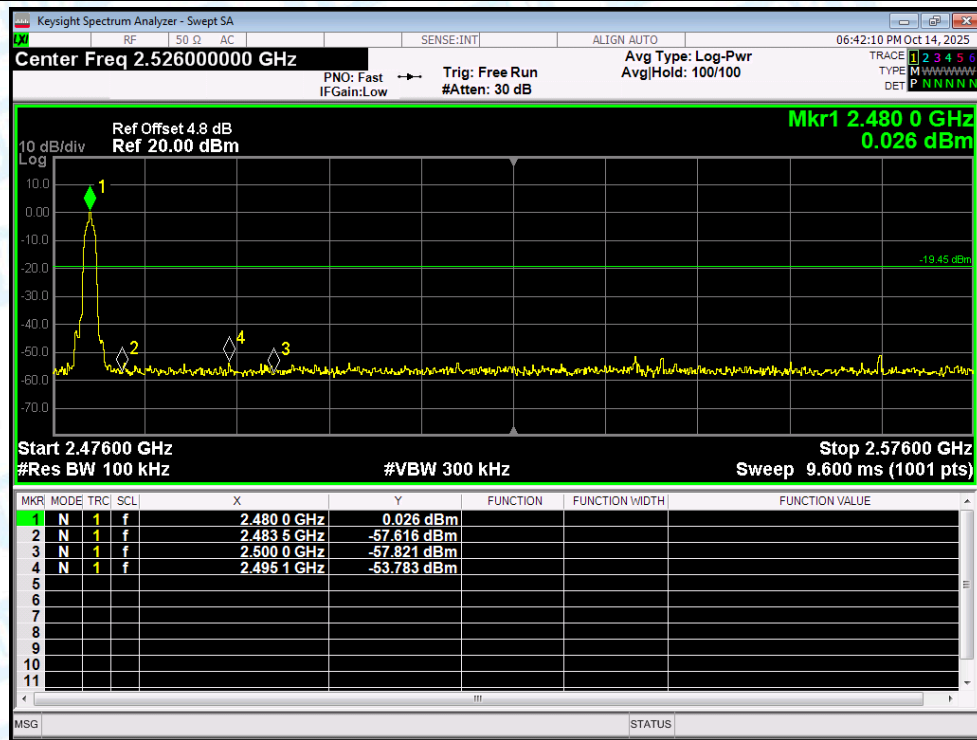
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



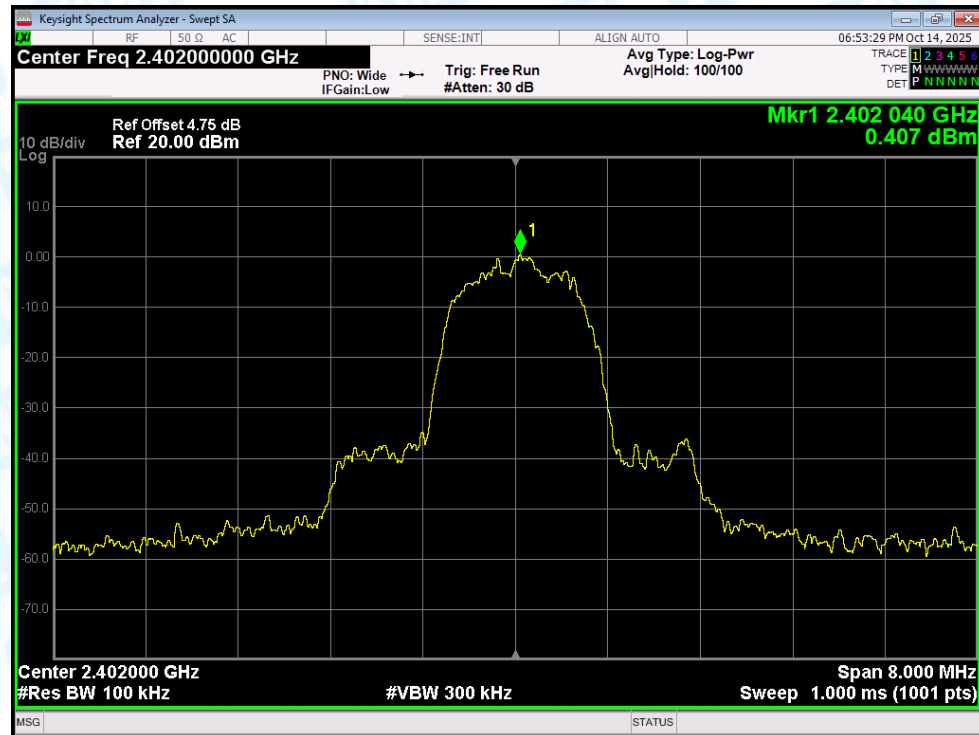
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



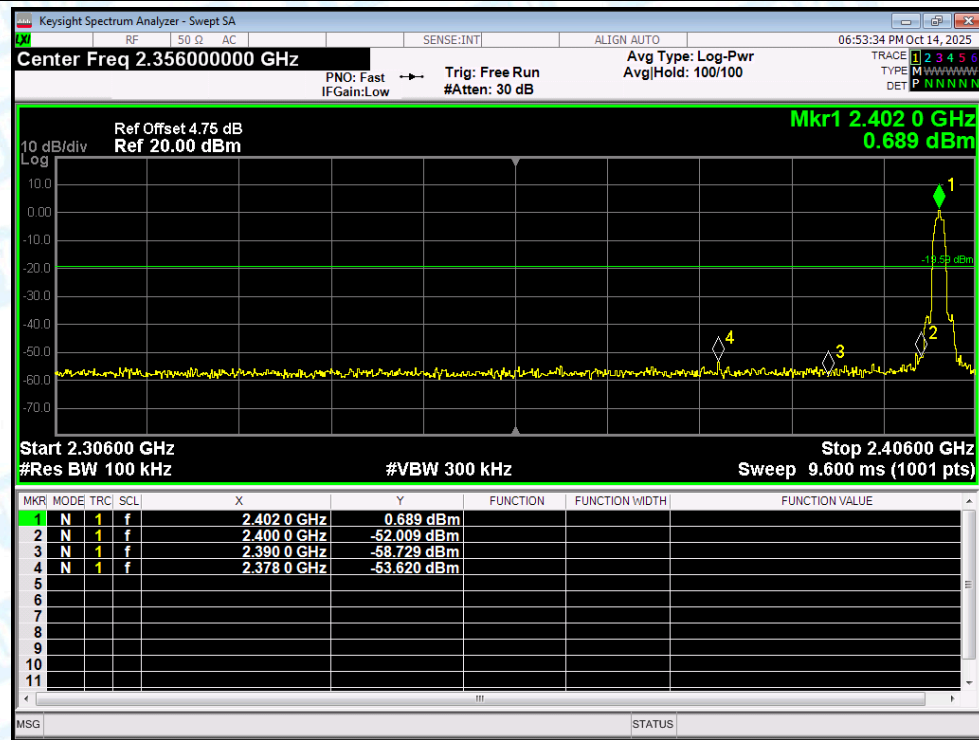
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



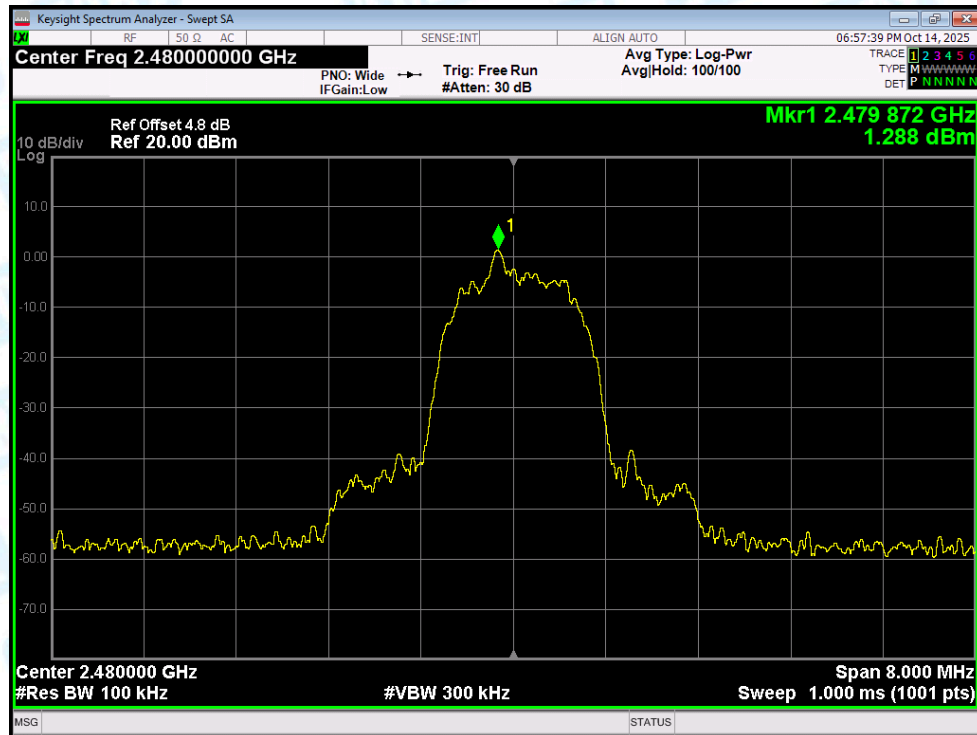
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



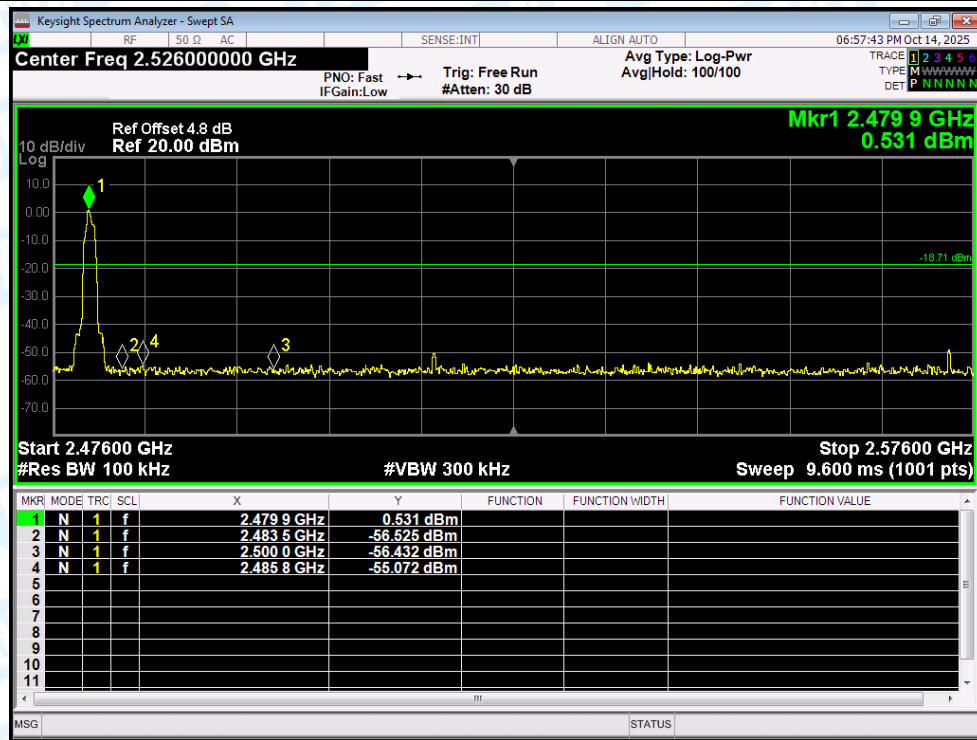
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Emission

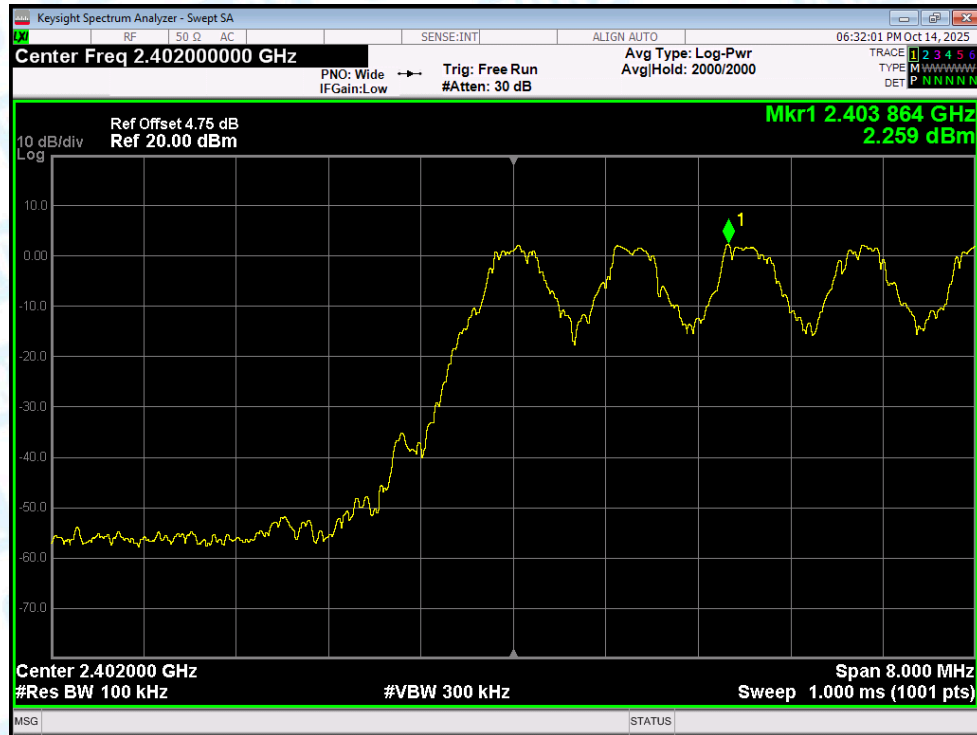


7. Band Edge(Hopping)

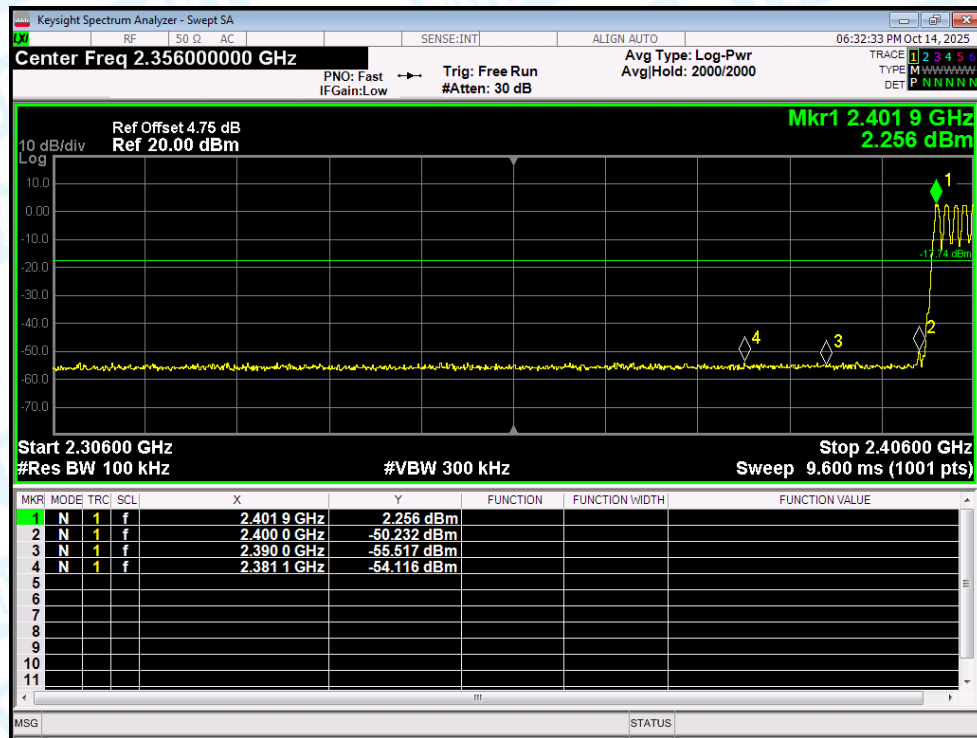
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-56.38	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-53.67	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-53.83	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-53.34	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-55.98	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-53.74	-20	Pass

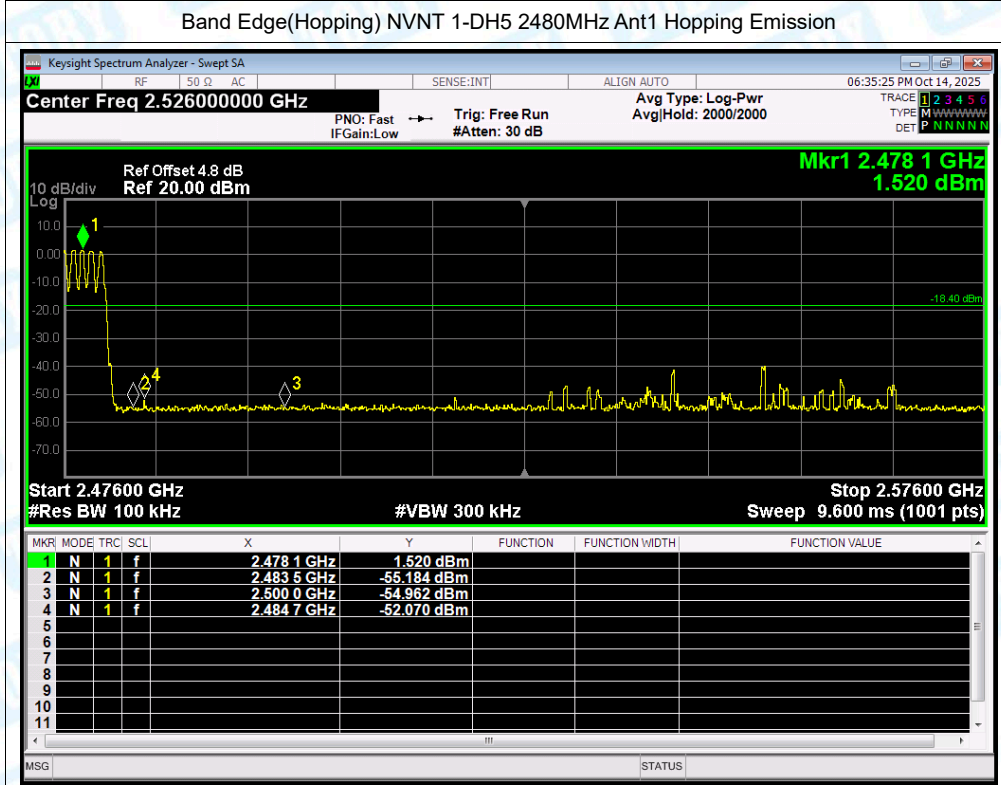
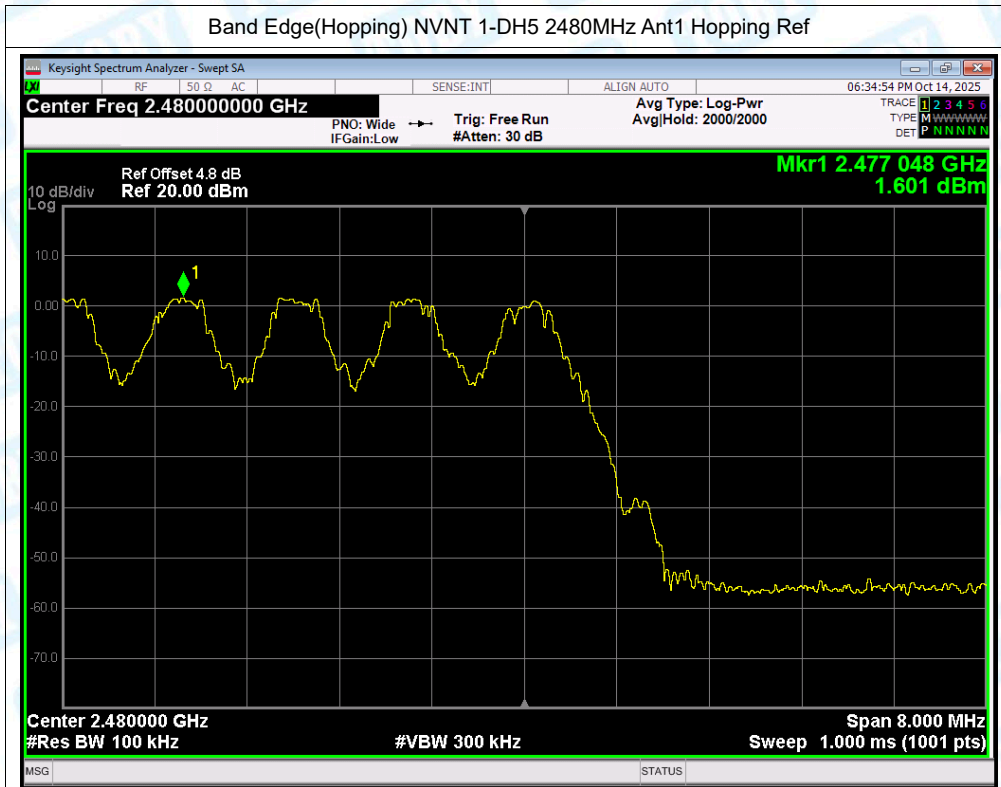
Test Graphs

Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

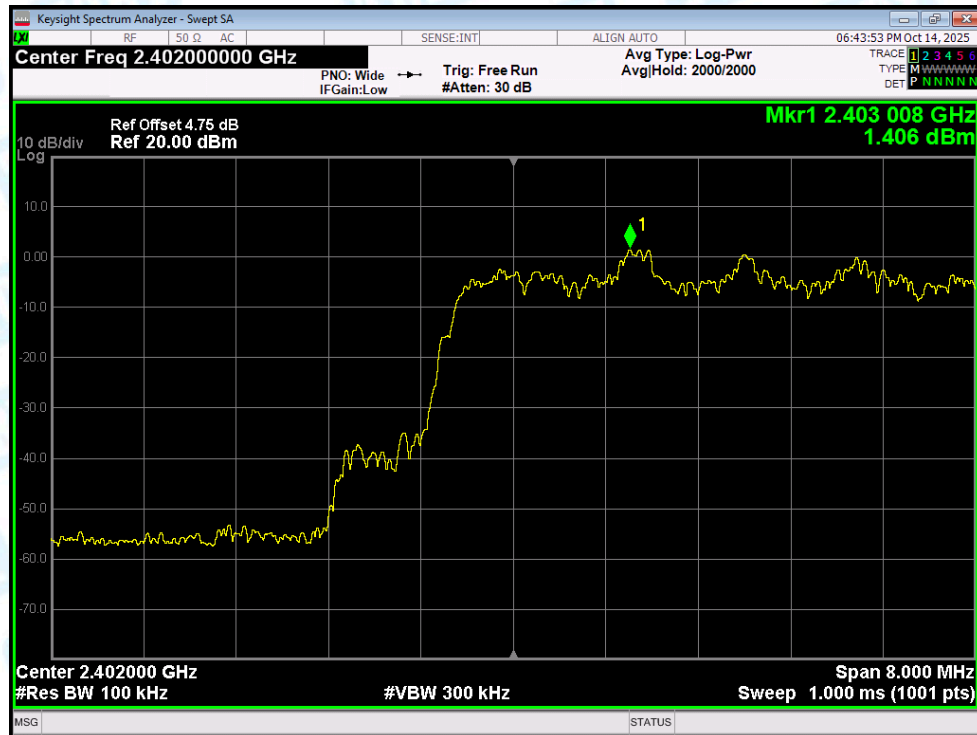


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

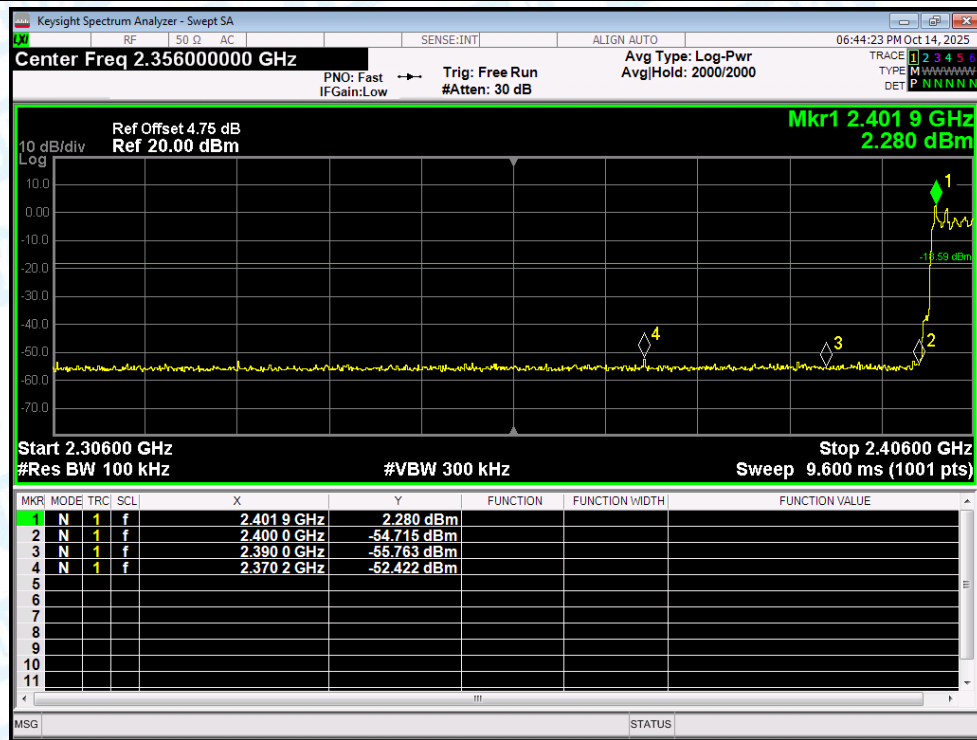


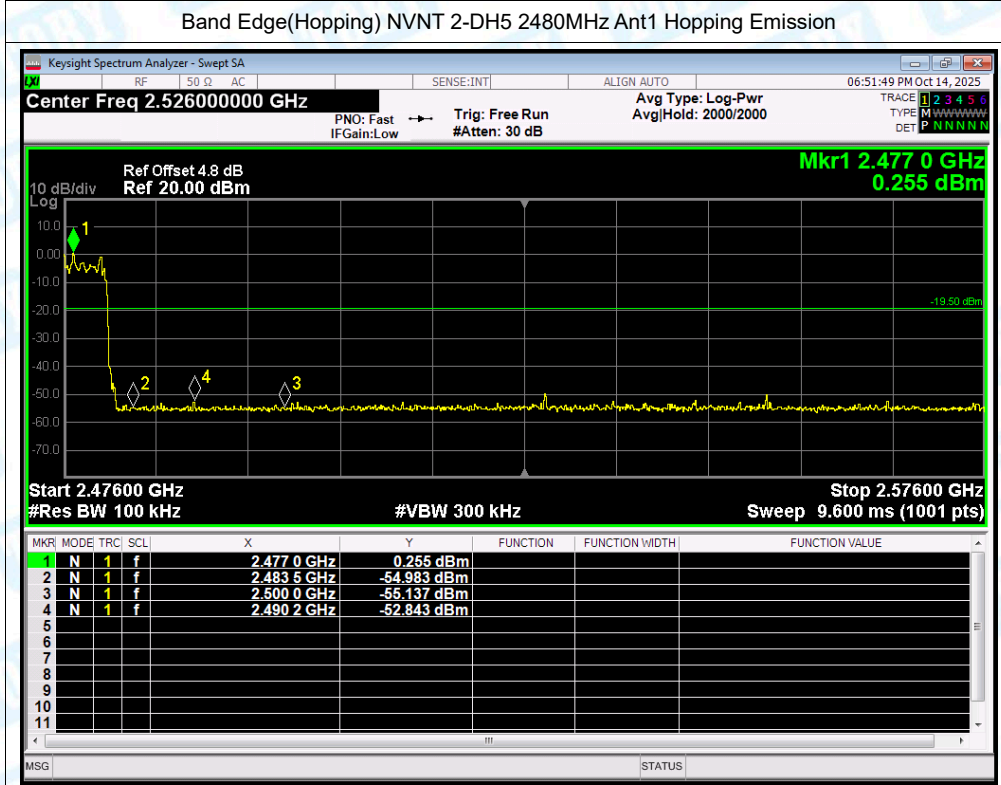
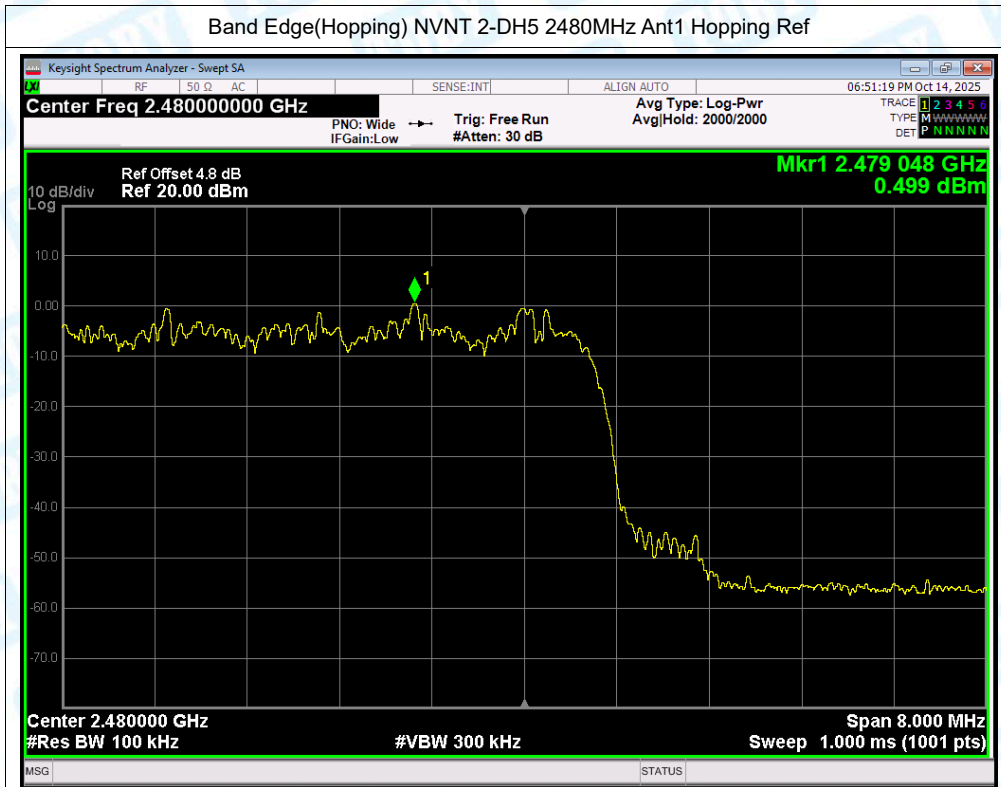


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

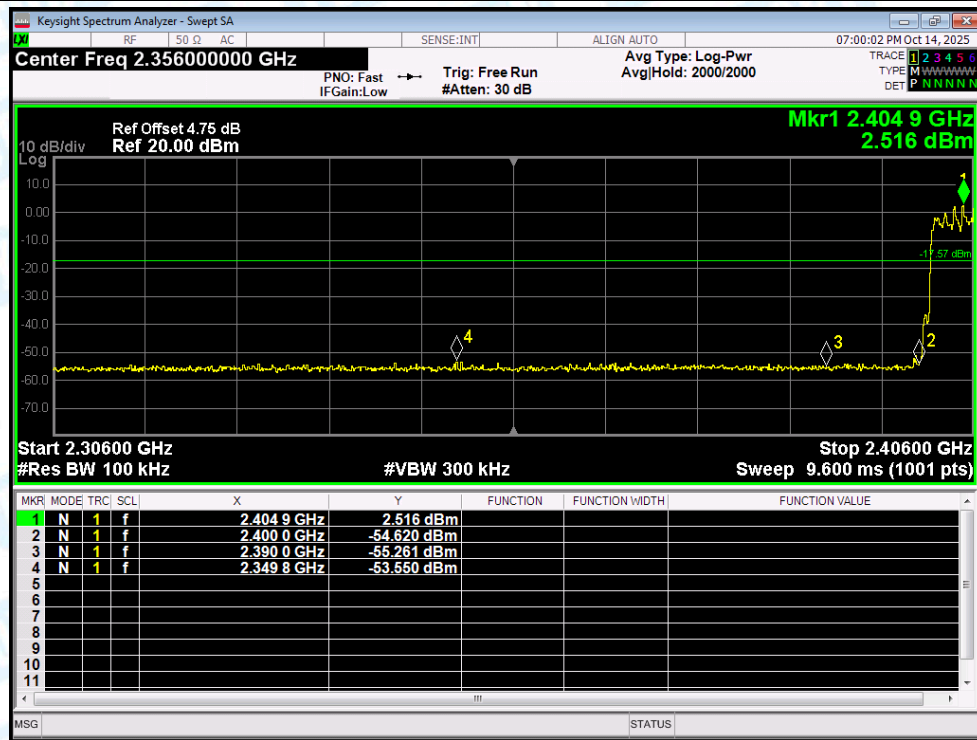


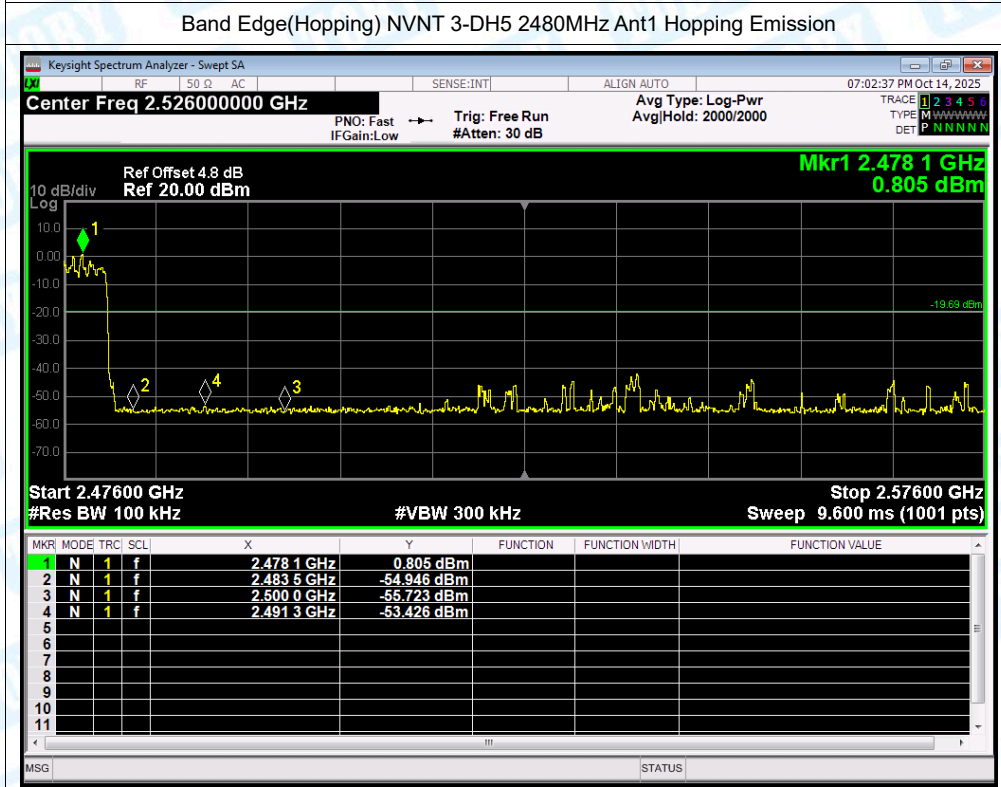
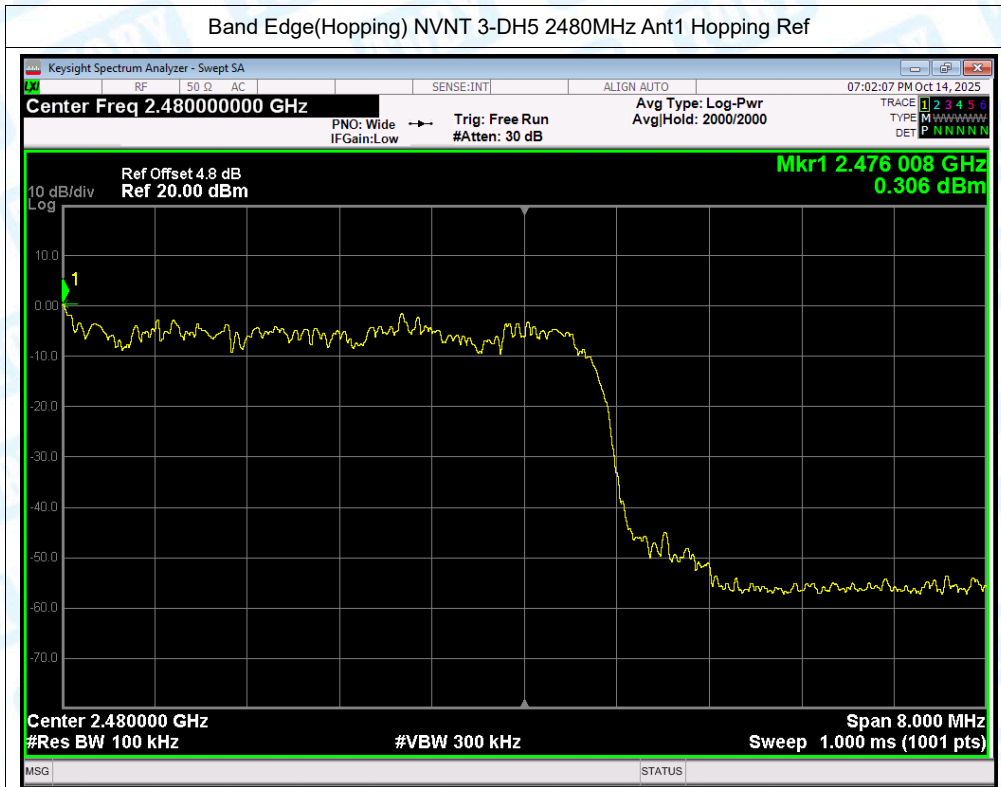


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



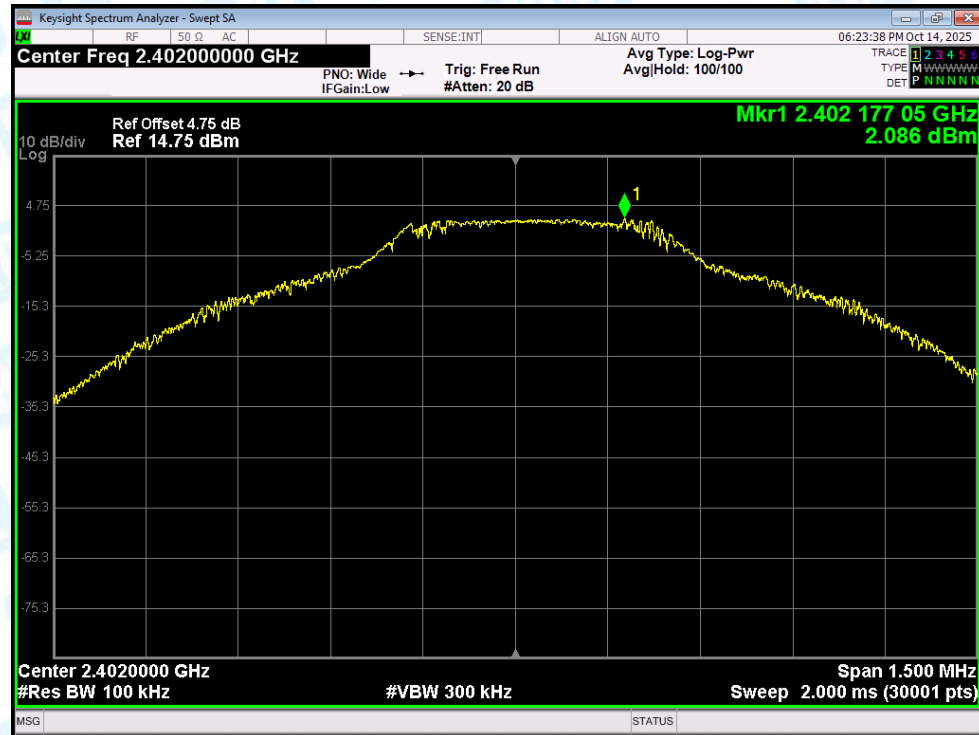


8. Conducted RF Spurious Emission

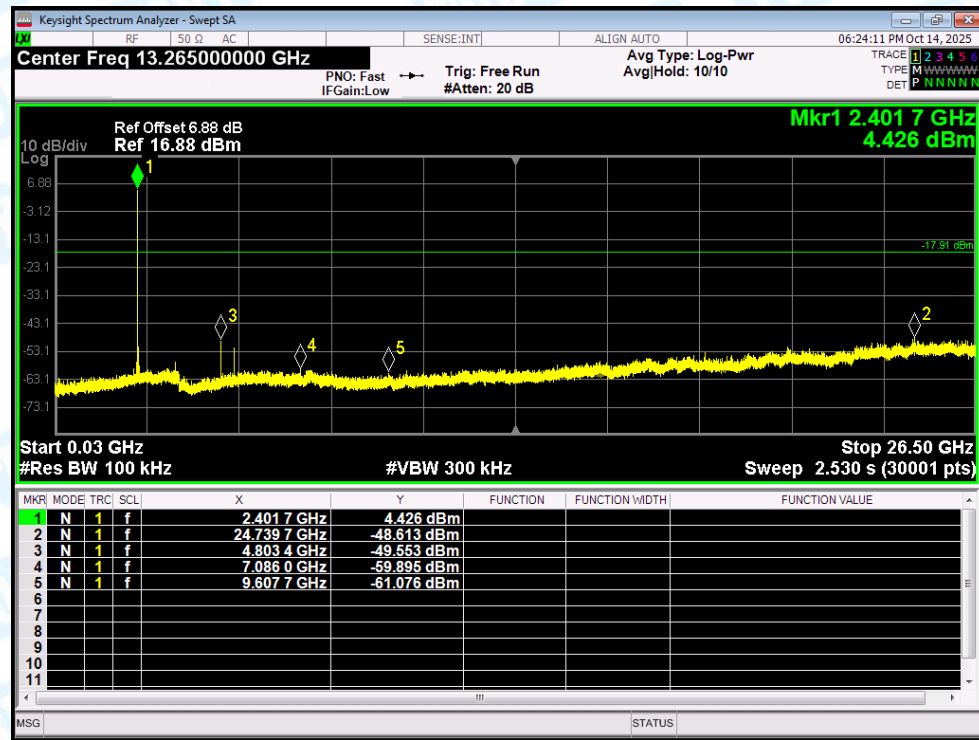
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-50.7	-20	Pass
NVNT	1-DH5	2441	Ant1	-50.79	-20	Pass
NVNT	1-DH5	2480	Ant1	-45.62	-20	Pass
NVNT	2-DH5	2402	Ant1	-49.28	-20	Pass
NVNT	2-DH5	2441	Ant1	-49.32	-20	Pass
NVNT	2-DH5	2480	Ant1	-50.24	-20	Pass
NVNT	3-DH5	2402	Ant1	-51.5	-20	Pass
NVNT	3-DH5	2441	Ant1	-51.06	-20	Pass
NVNT	3-DH5	2480	Ant1	-50.58	-20	Pass

Test Graphs

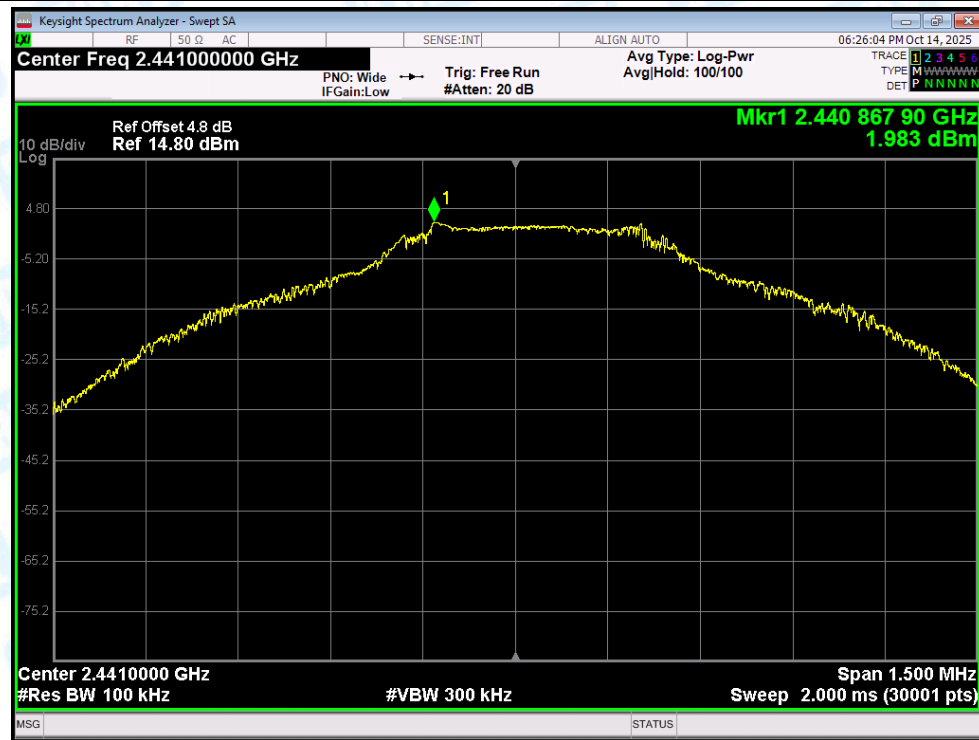
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



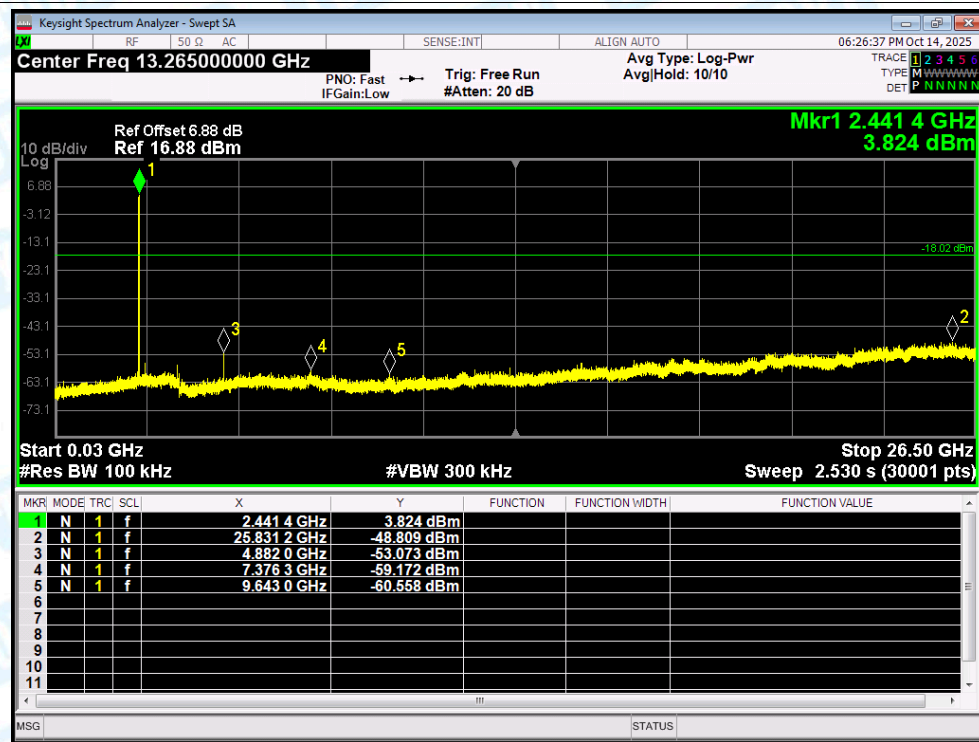
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



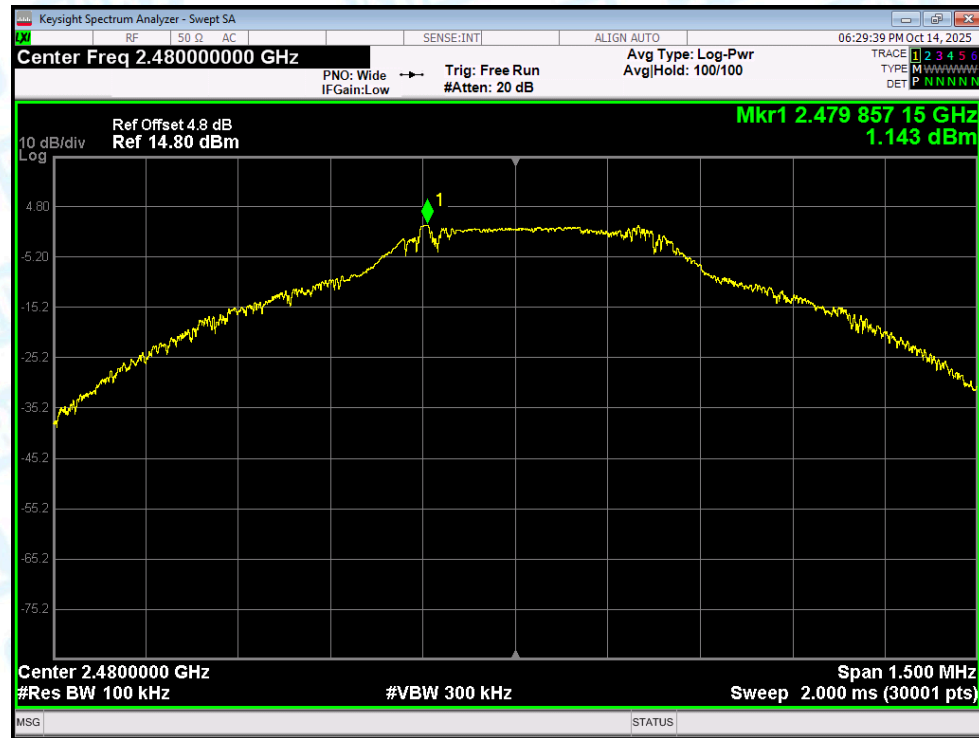
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



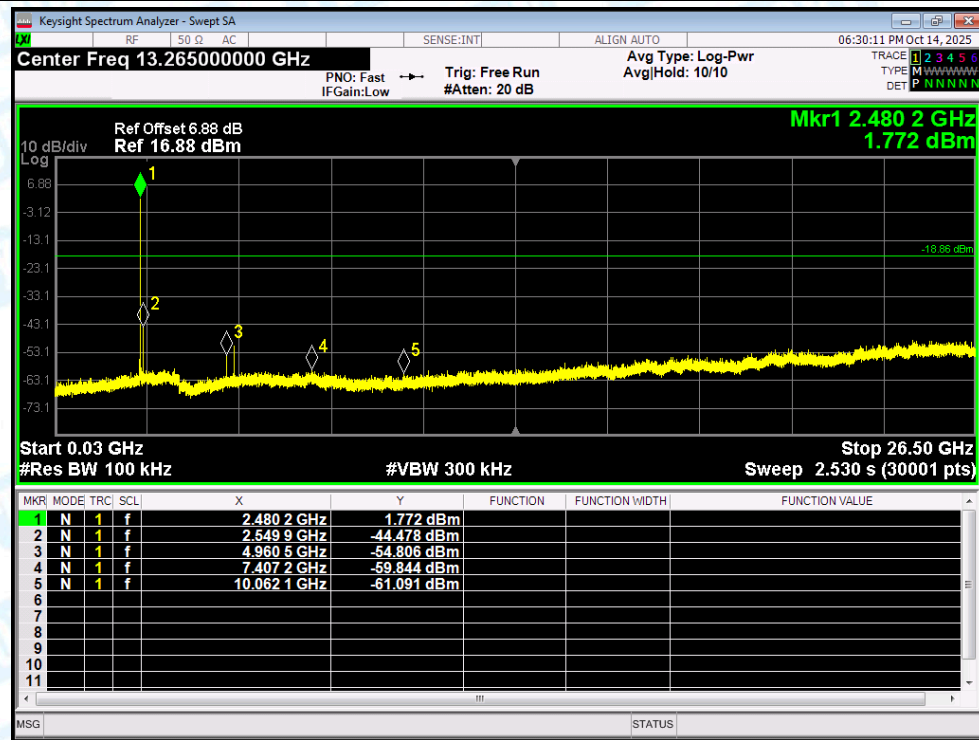
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



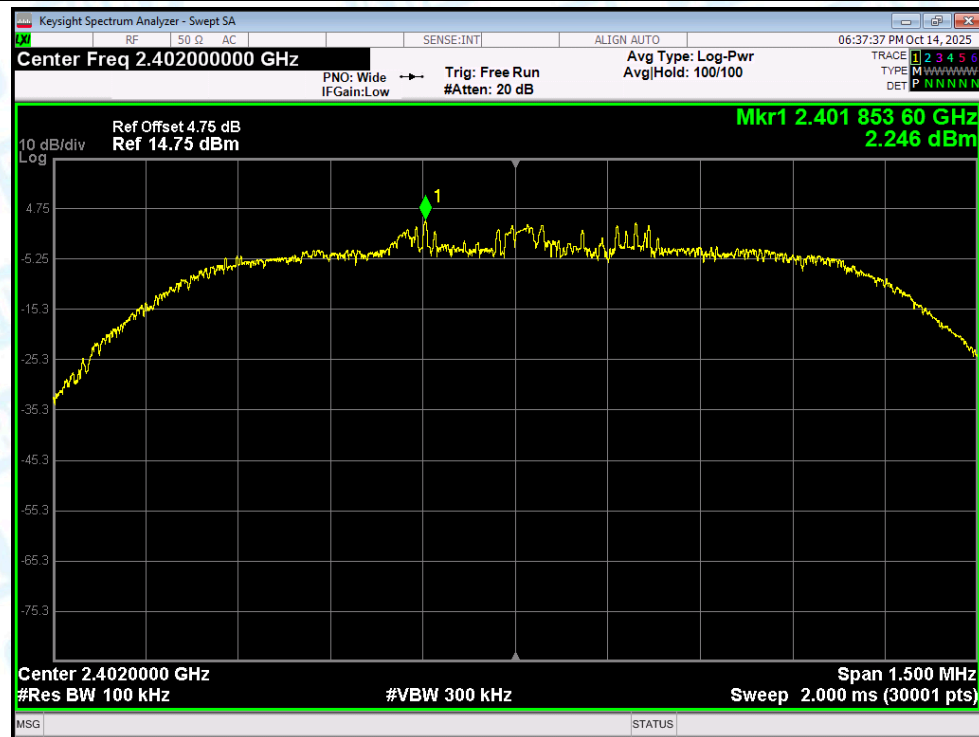
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



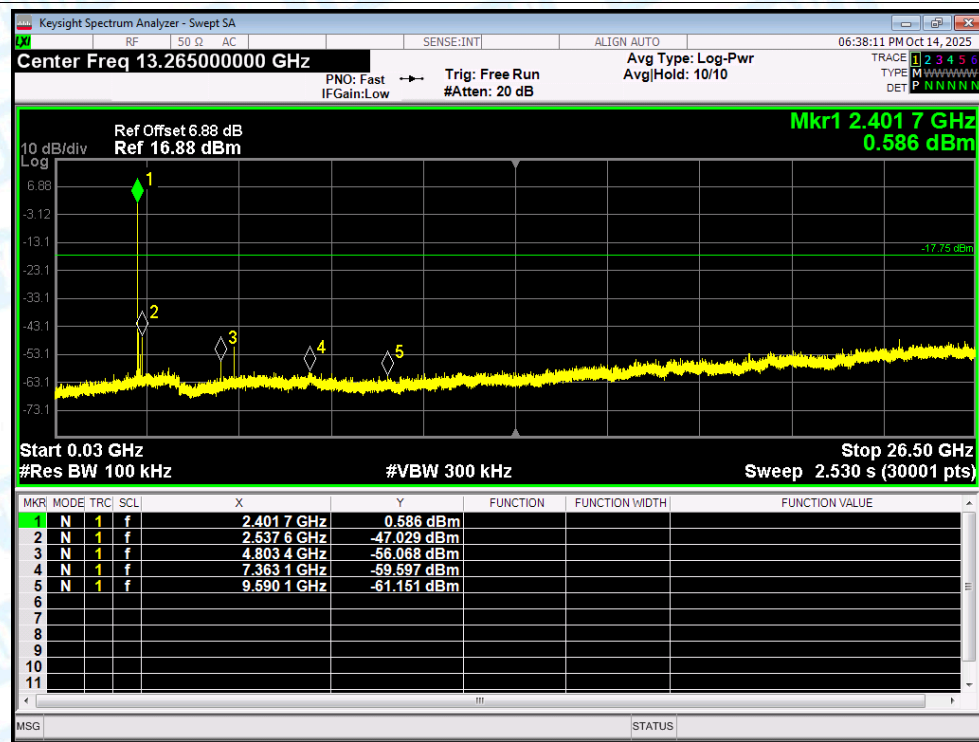
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



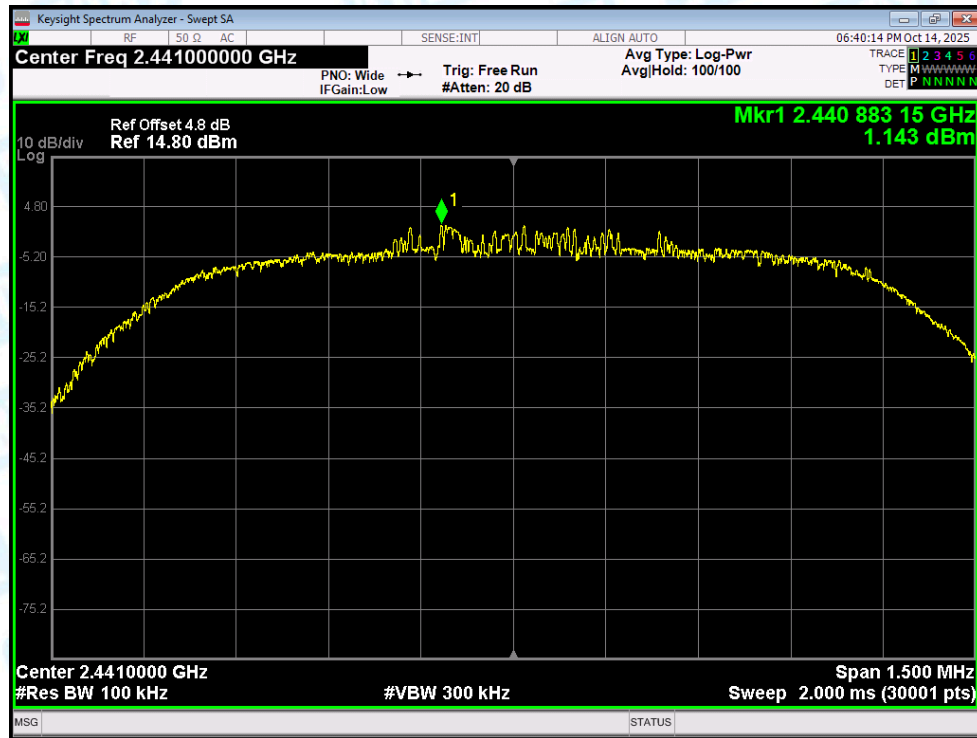
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



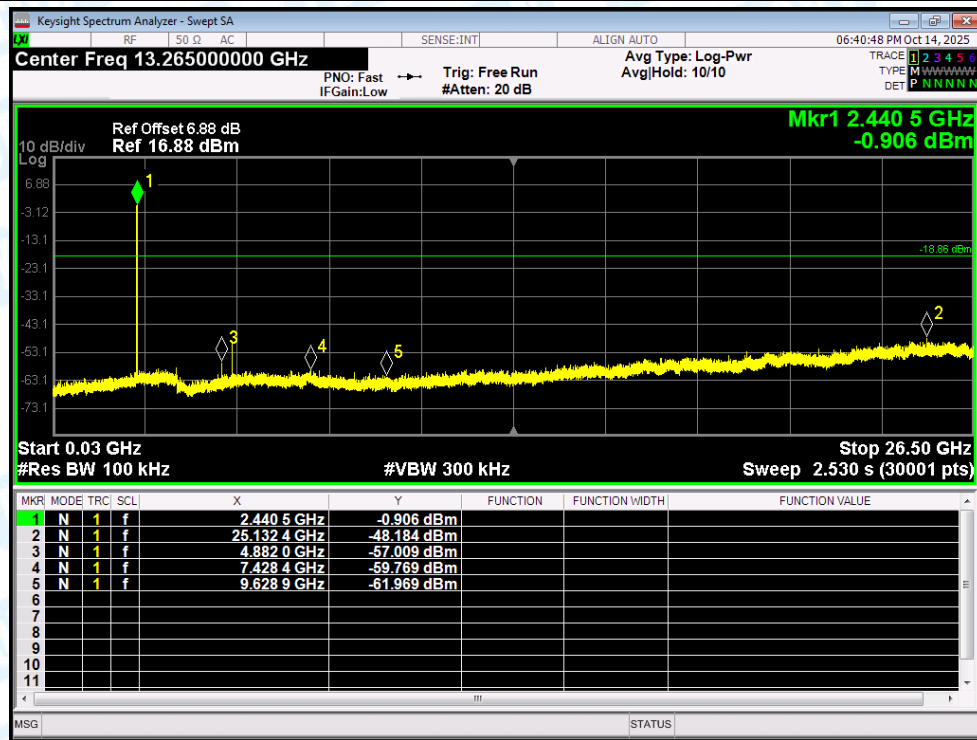
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



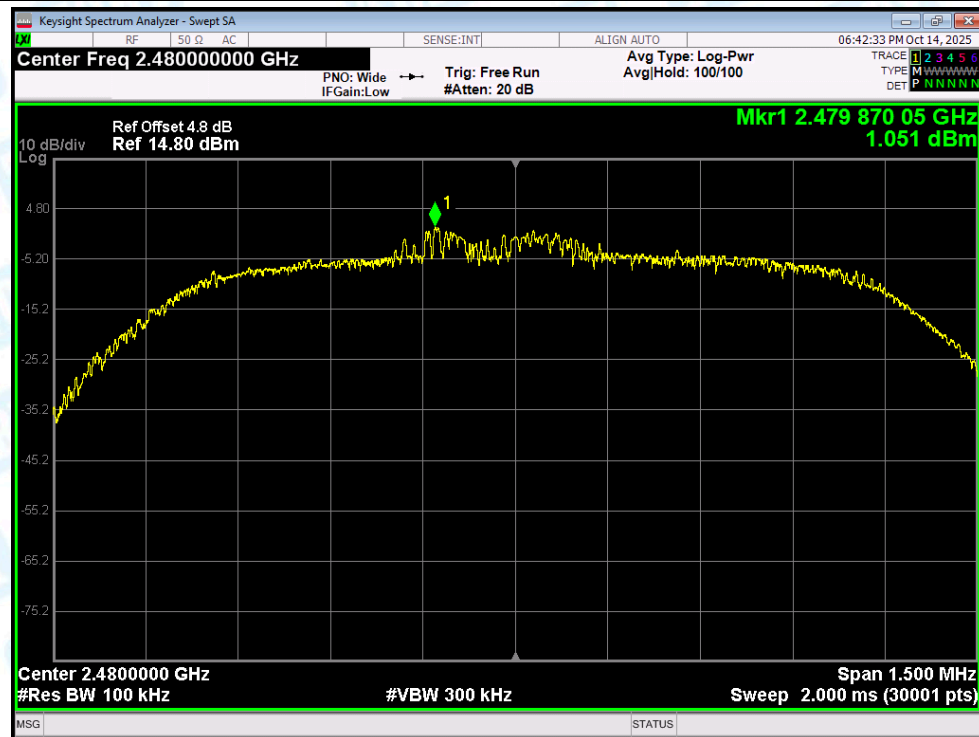
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



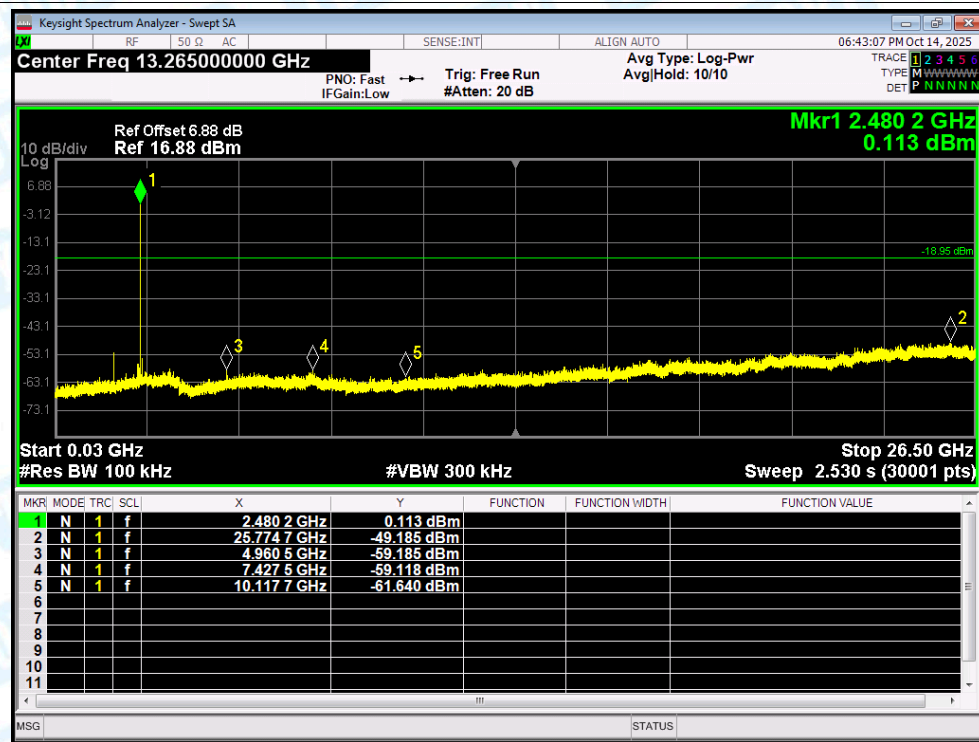
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



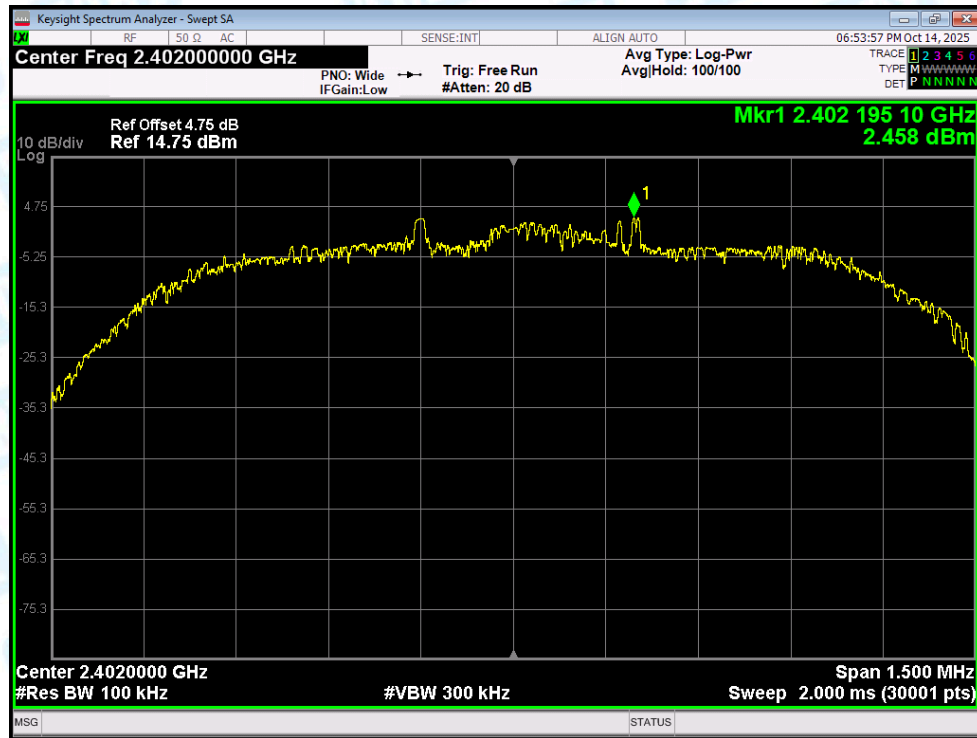
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



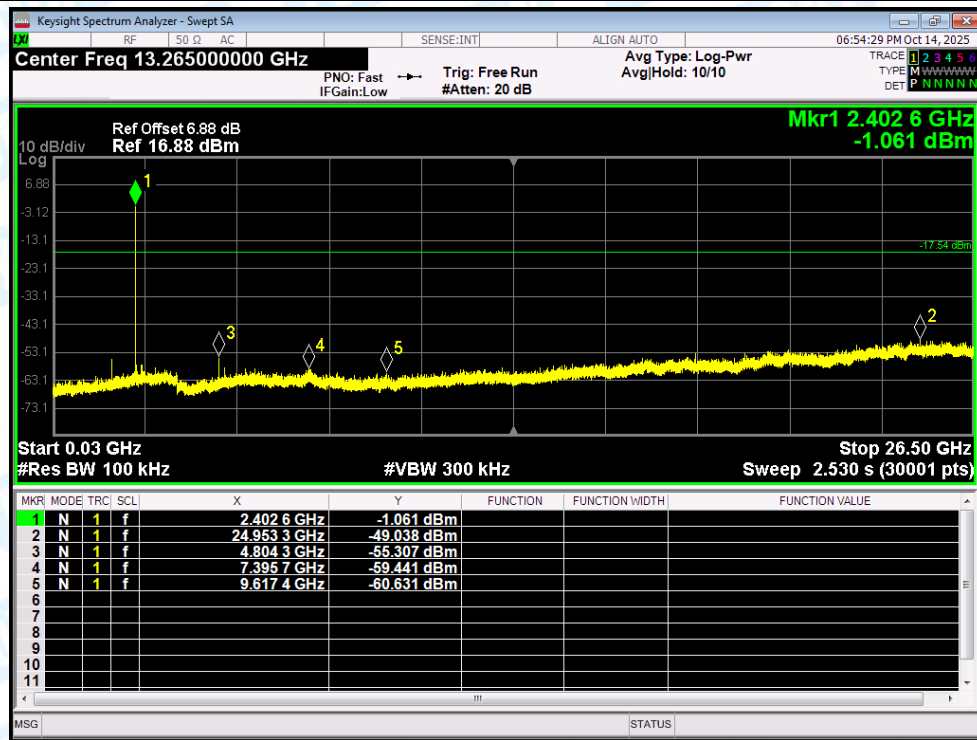
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



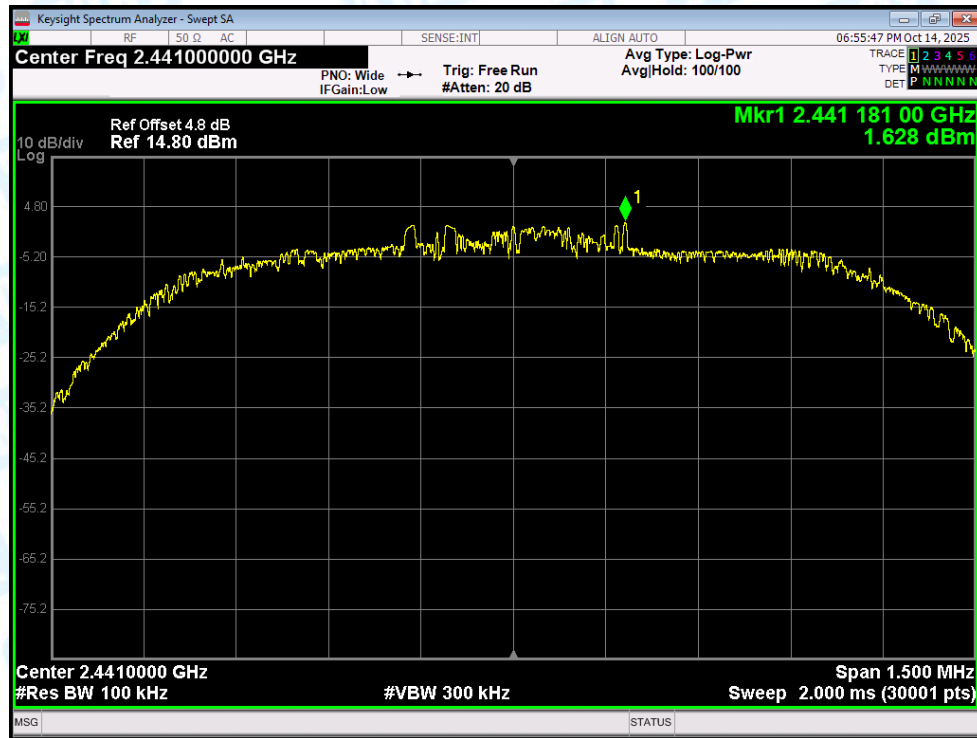
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



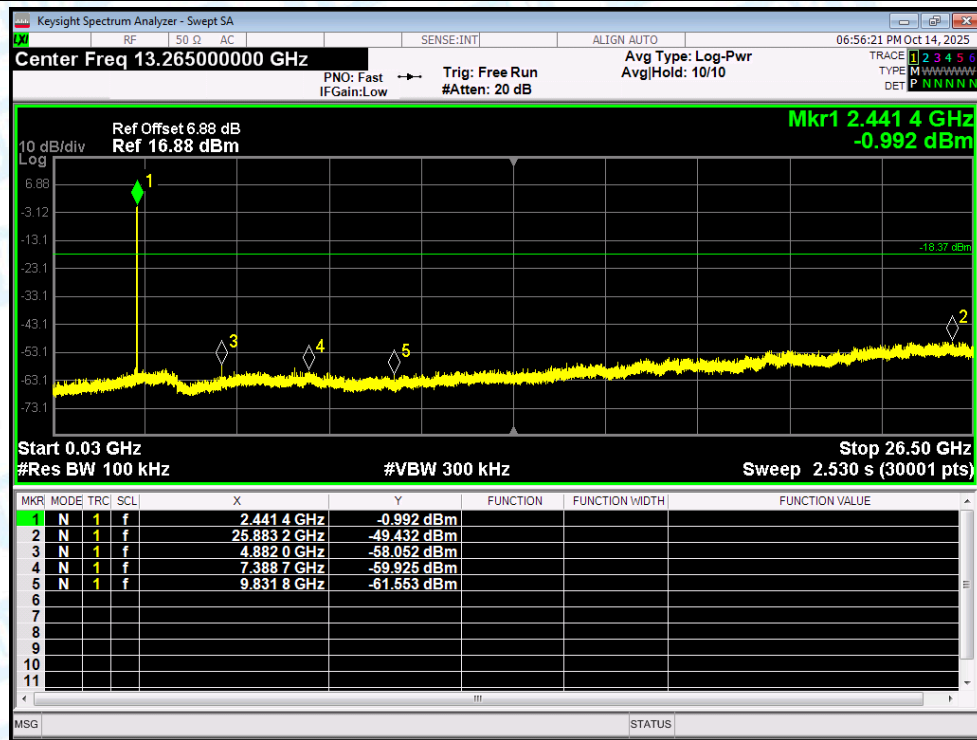
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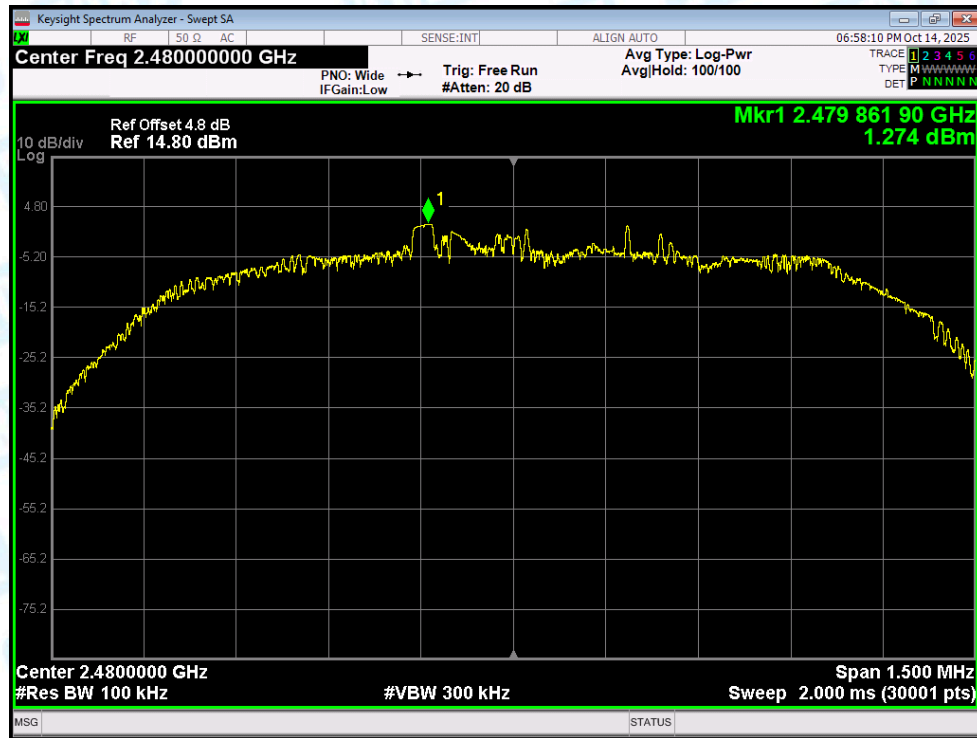
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



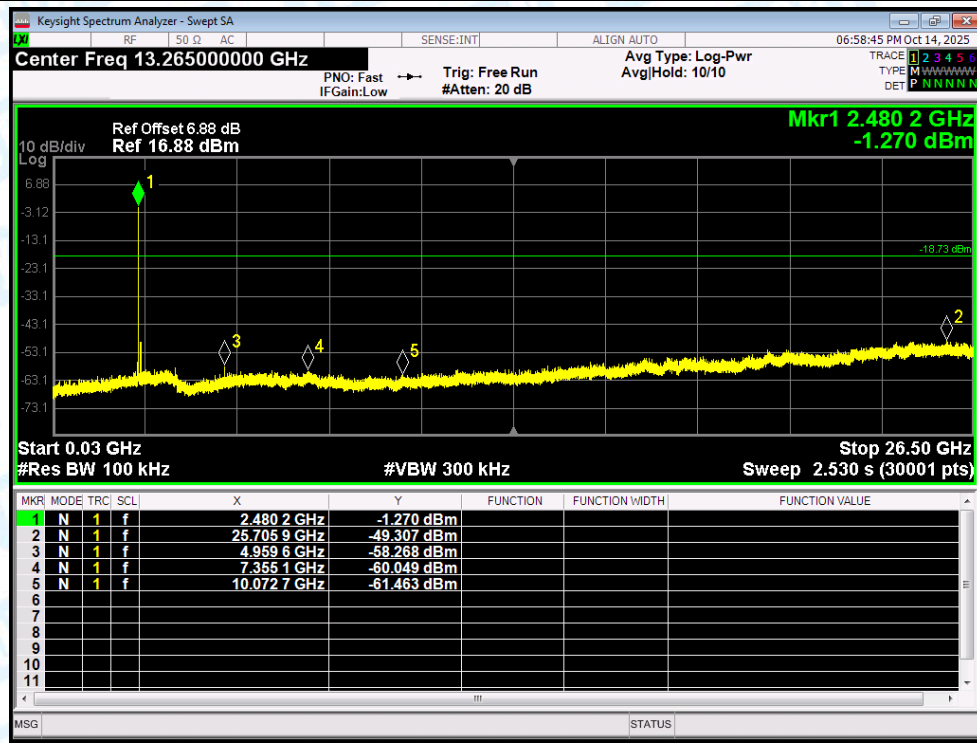
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

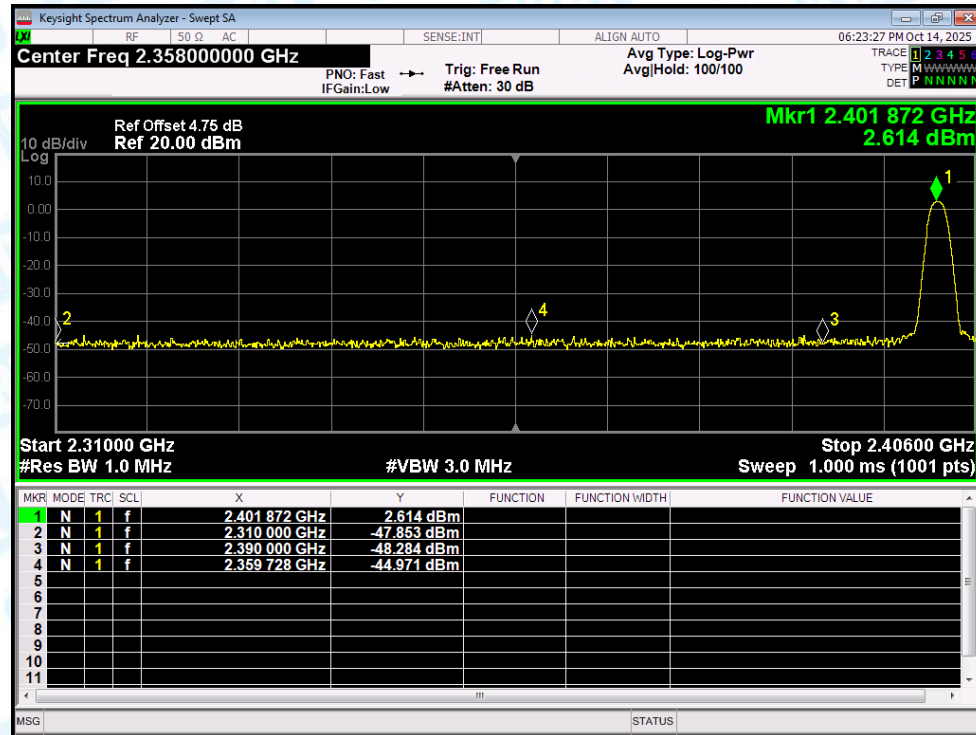


9. Restrict Band

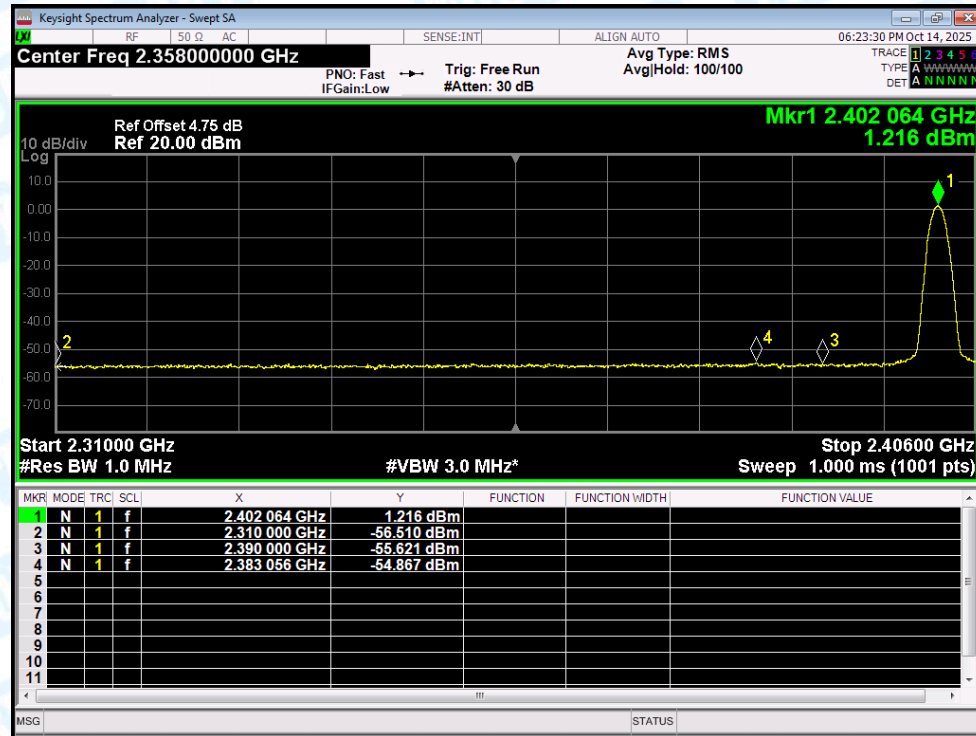
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-47.85	2	-	49.41	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-56.51	2	1.16	41.91	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2359.728	-44.97	2	-	52.29	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2383.056	-54.87	2	1.16	43.55	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-48.28	2	-	48.98	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-55.62	2	1.16	42.8	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-46.12	2	-	51.14	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-54.85	2	1.16	43.57	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2490.856	-43.34	2	-	53.92	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2487.352	-54.28	2	1.16	44.14	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-46.35	2	-	50.91	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-55.52	2	1.16	42.9	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.05	2	-	48.21	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-55.98	2	1.14	42.42	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2313.264	-44.62	2	-	52.64	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2370.672	-55.05	2	1.14	43.35	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-47.07	2	-	50.19	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-56.01	2	1.14	42.39	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-48.11	2	-	49.15	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-54.72	2	1.14	43.68	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2498.464	-44.18	2	-	53.08	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2499.496	-54.46	2	1.14	43.94	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-46.52	2	-	50.74	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-55.74	2	1.14	42.66	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-48.44	2	-	48.82	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-56.45	2	1.14	41.95	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2366.736	-44.65	2	-	52.61	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2386.896	-54.92	2	1.14	43.48	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-49.02	2	-	48.24	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-55.82	2	1.14	42.58	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-47.29	2	-	49.97	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-55.15	2	1.14	43.25	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2492.584	-43.87	2	-	53.39	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2494.792	-54.44	2	1.14	43.96	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-45.4	2	-	51.86	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-55.49	2	1.14	42.91	Average	54	Pass

Test Graphs

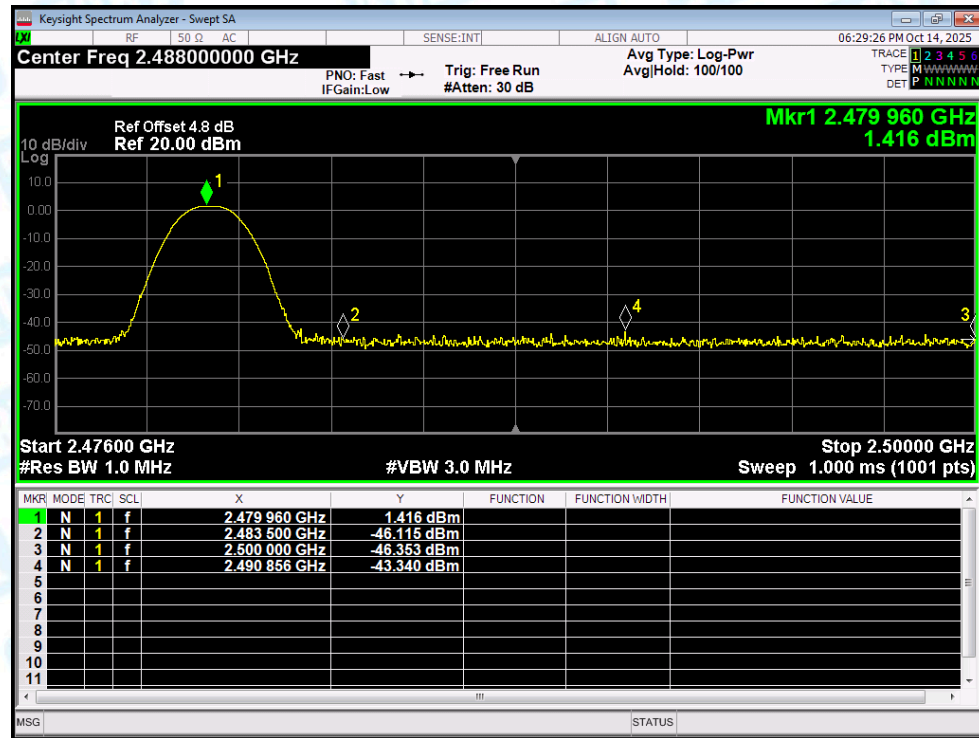
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



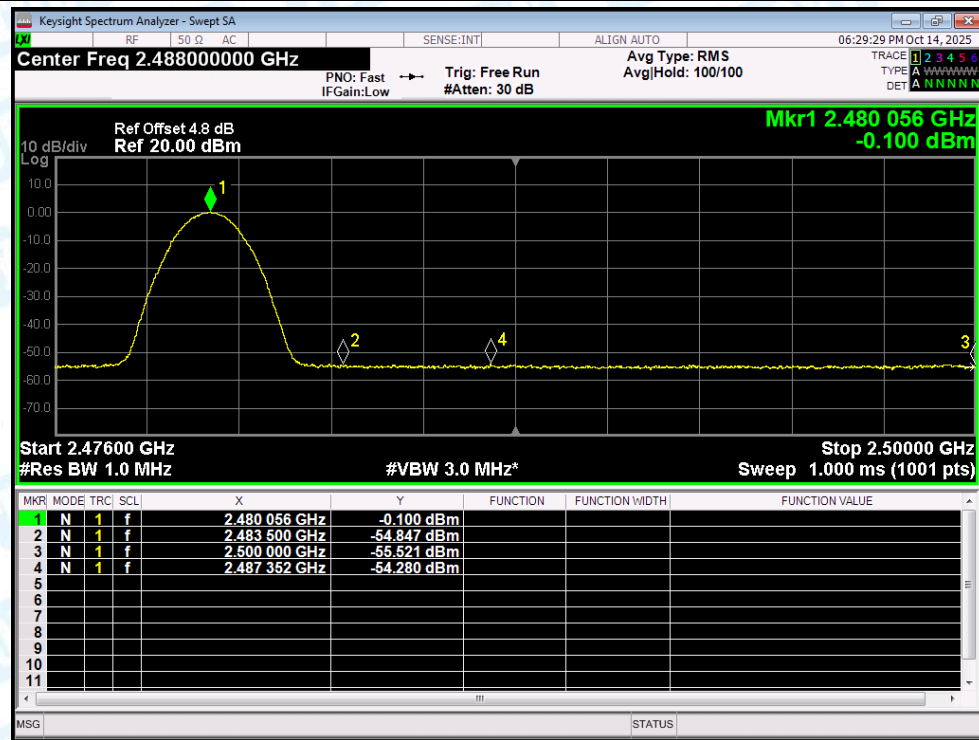
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



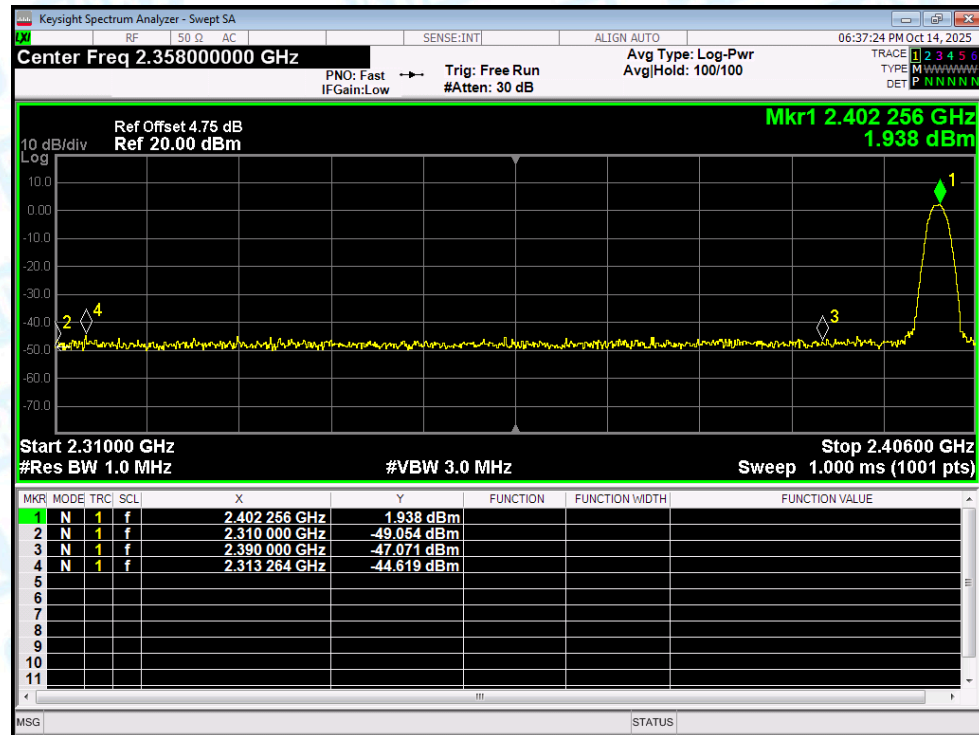
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



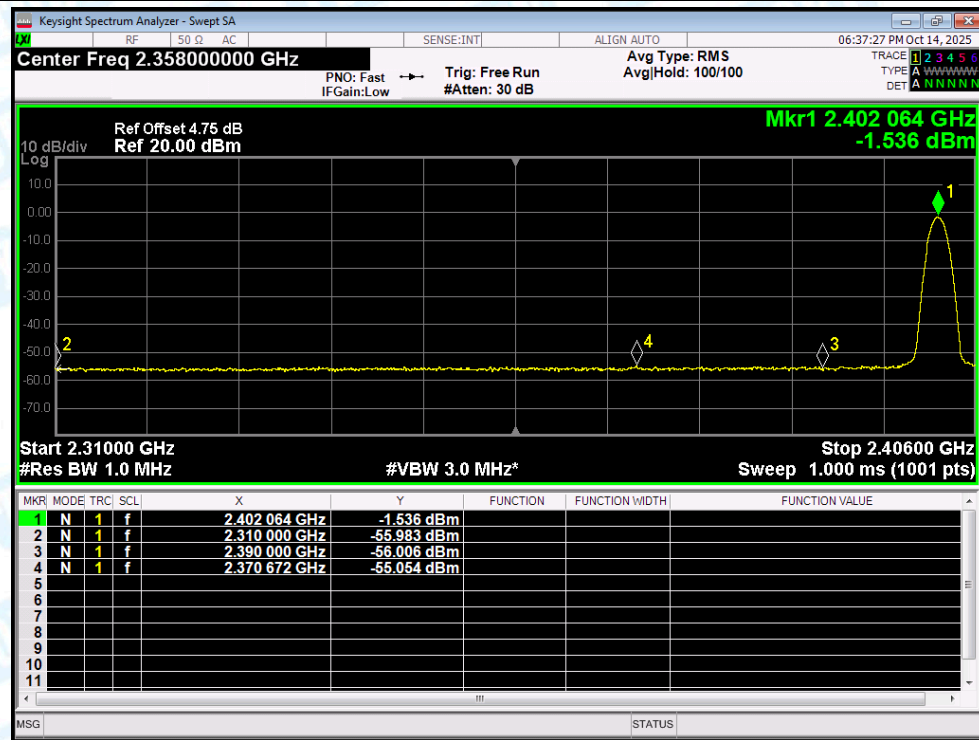
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



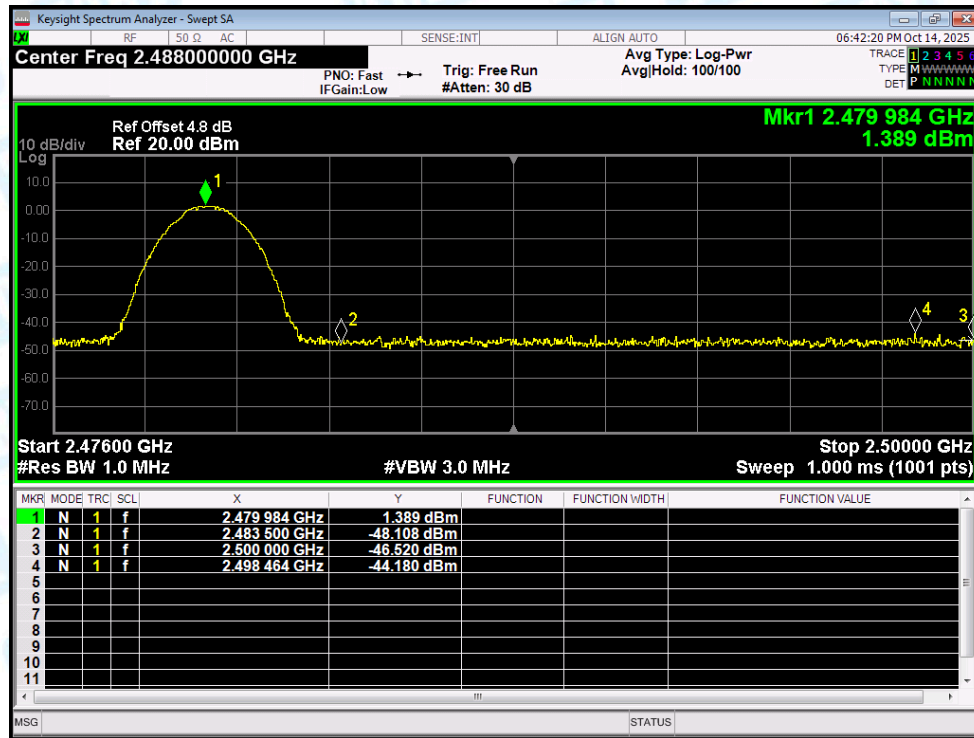
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



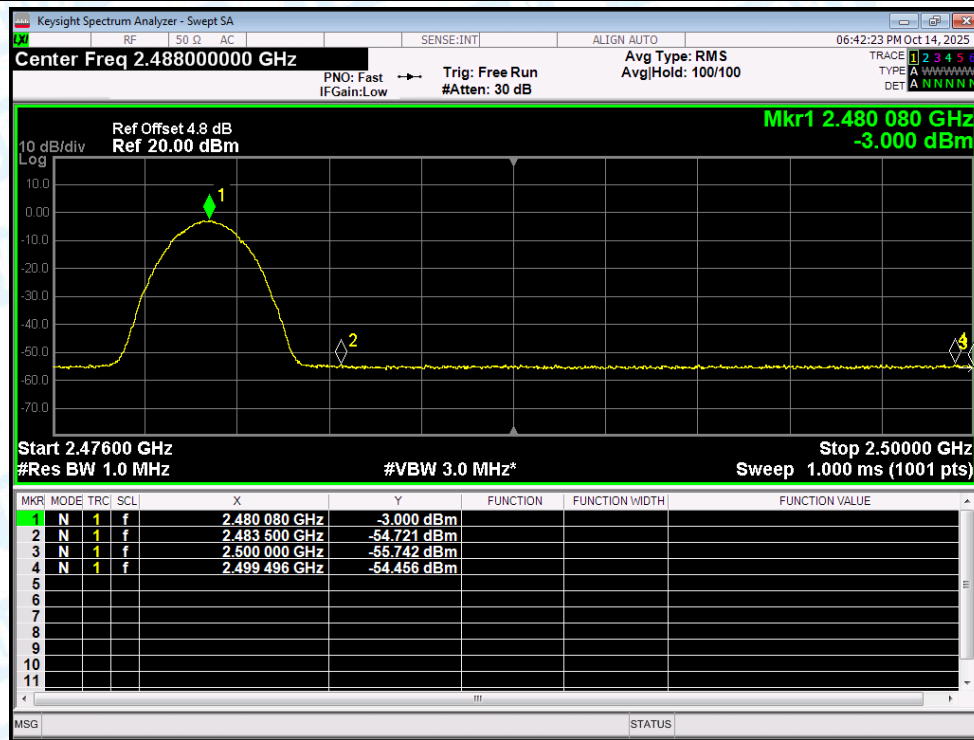
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average



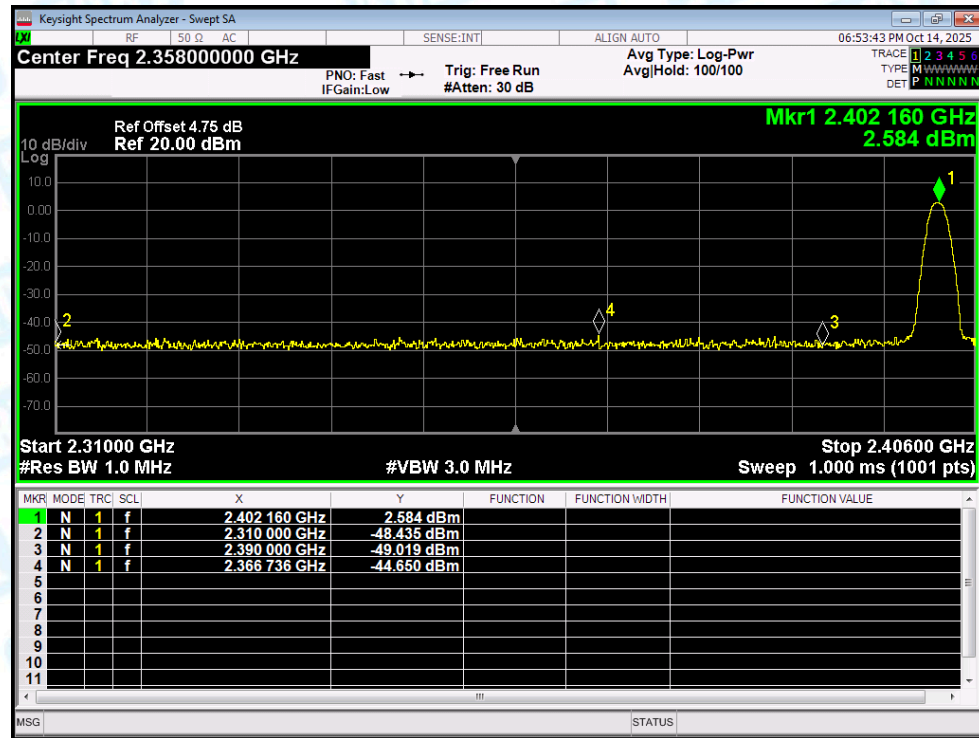
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



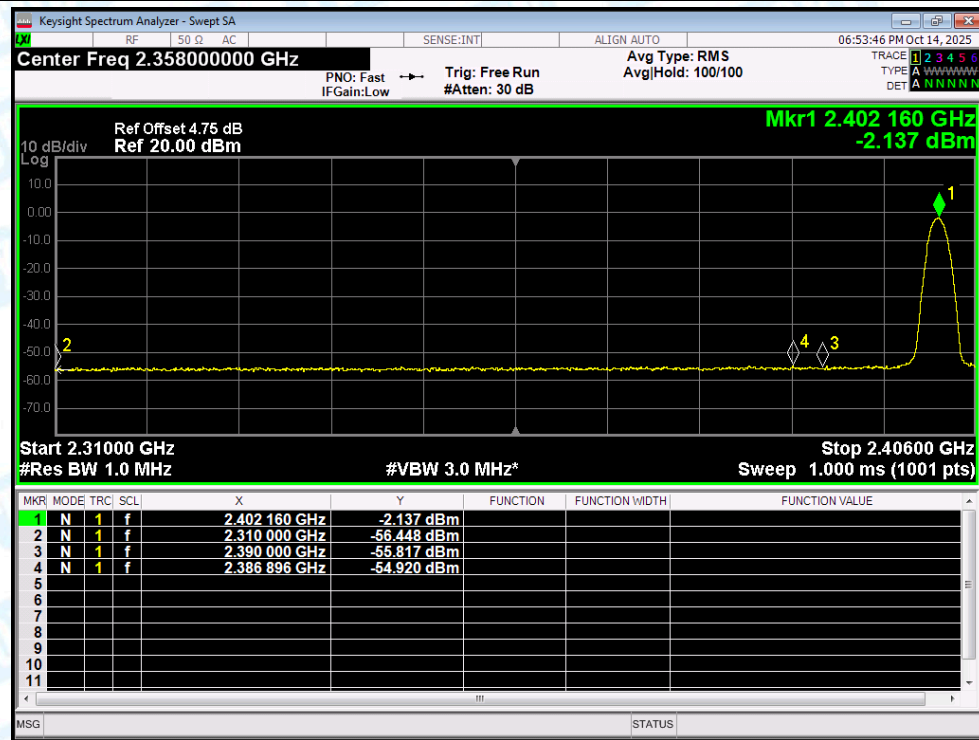
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average



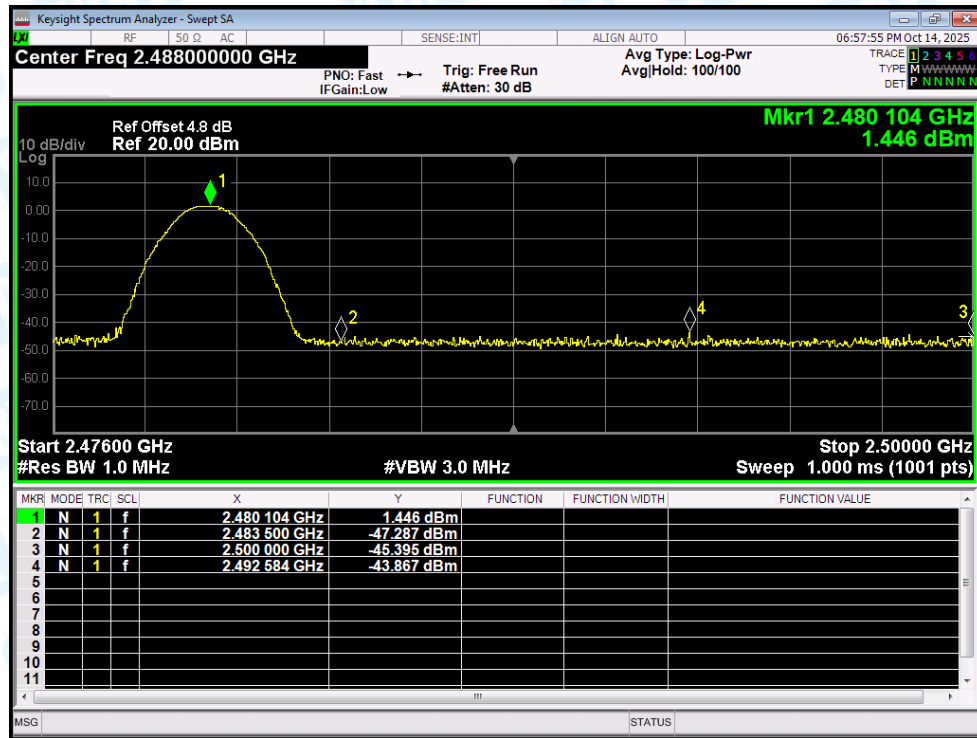
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



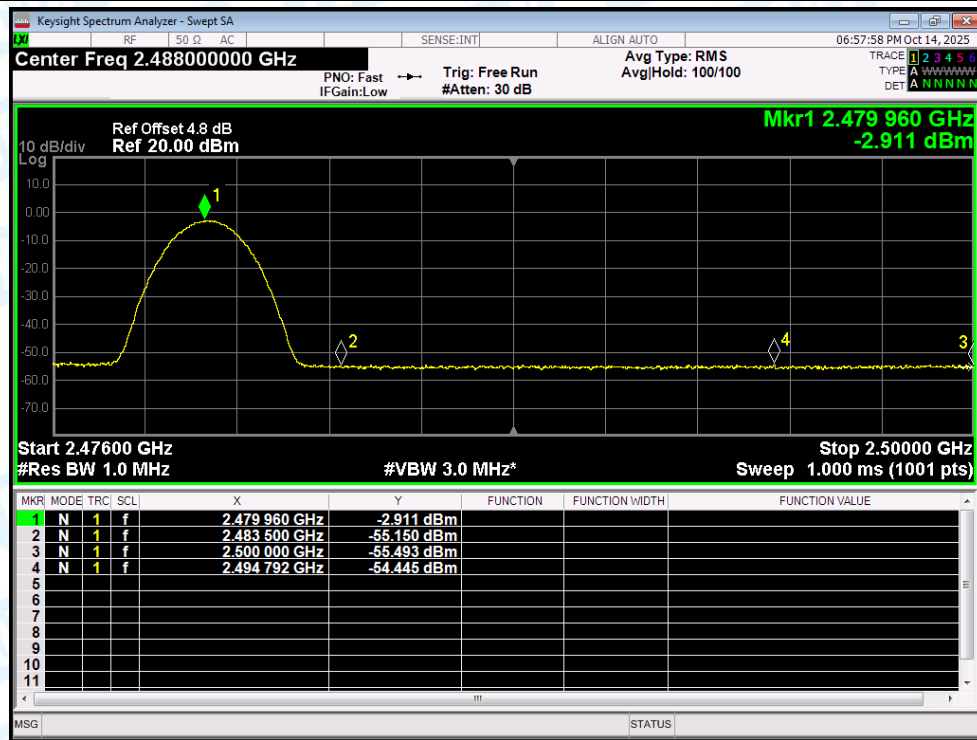
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Average

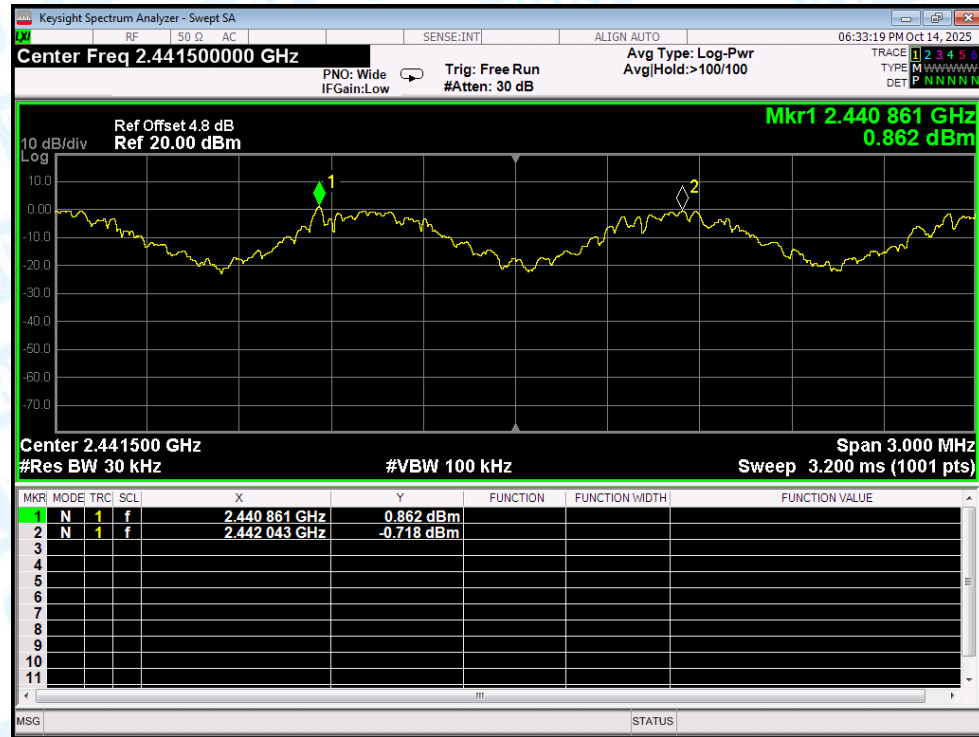


10. Carrier Frequencies Separation

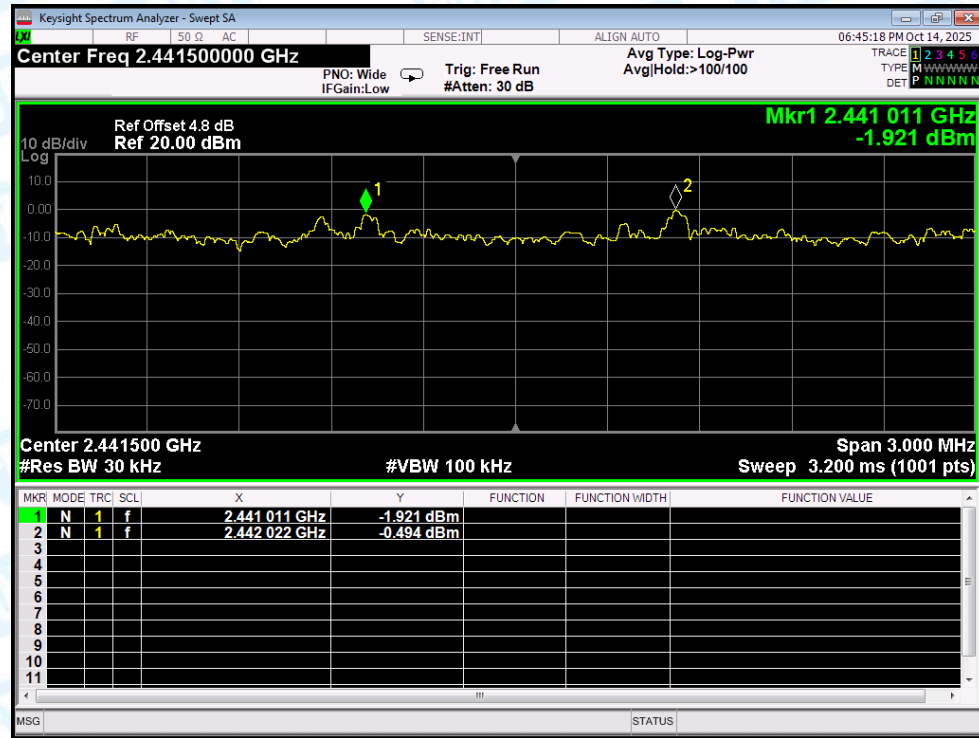
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2440.861	2442.043	1.182	0.627	Pass
NVNT	2-DH5	Ant1	2441.011	2442.022	1.011	0.853	Pass
NVNT	3-DH5	Ant1	2441.041	2442.217	1.176	0.86	Pass

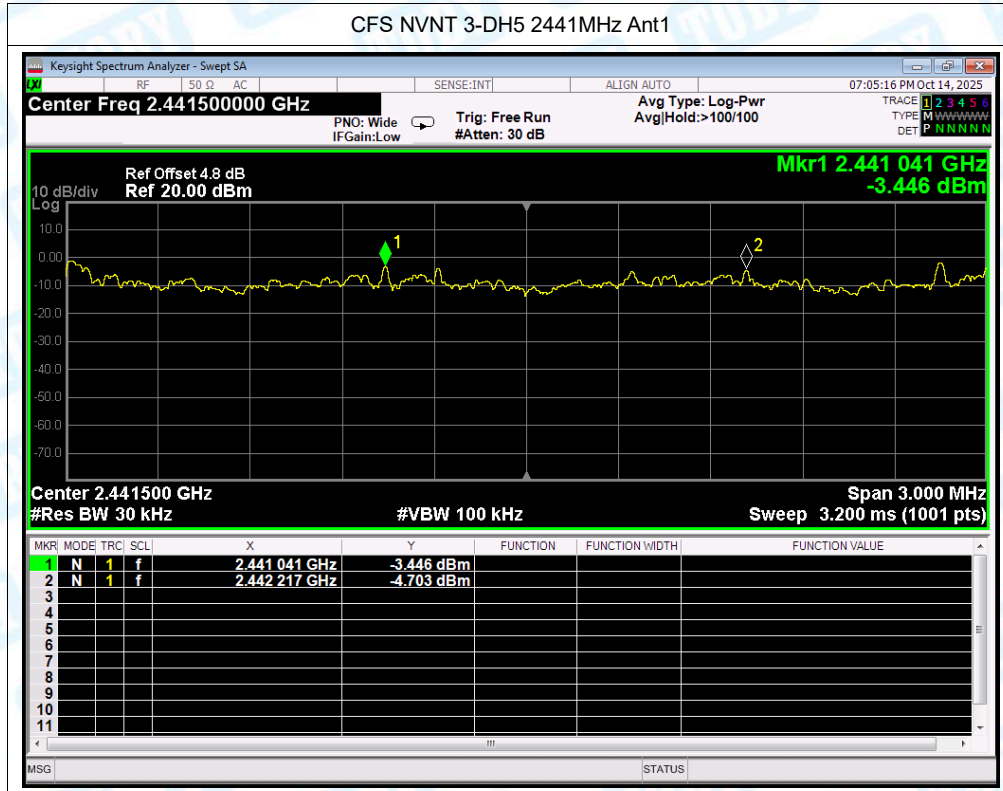
Test Graphs

CFS NVNT 1-DH5 2441MHz Ant1



CFS NVNT 2-DH5 2441MHz Ant1



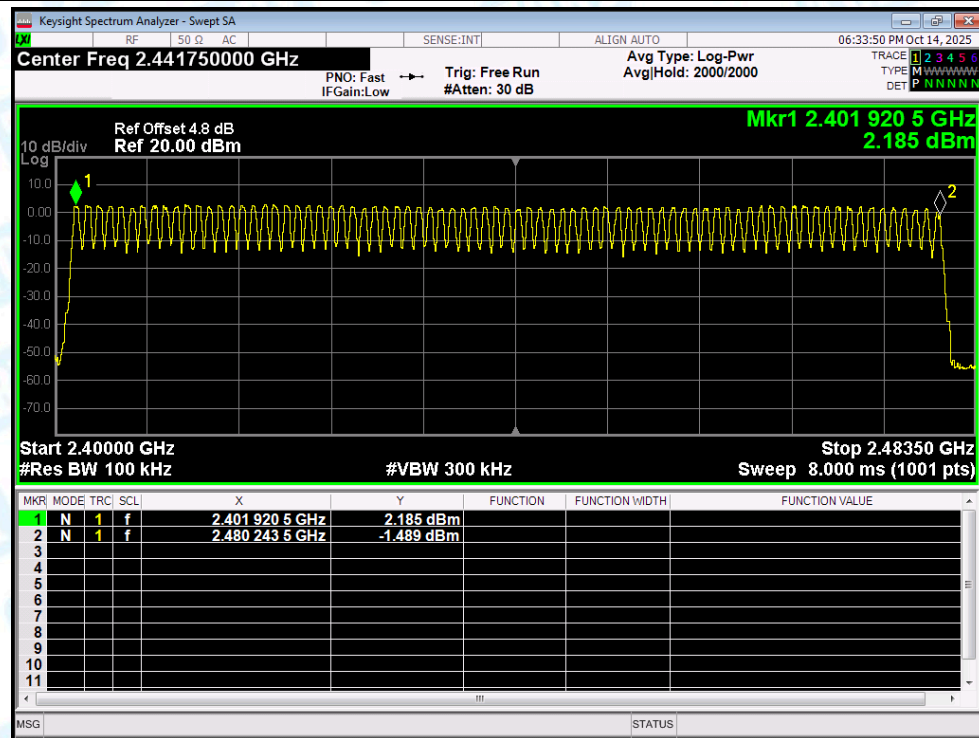


11. Number of Hopping Channel

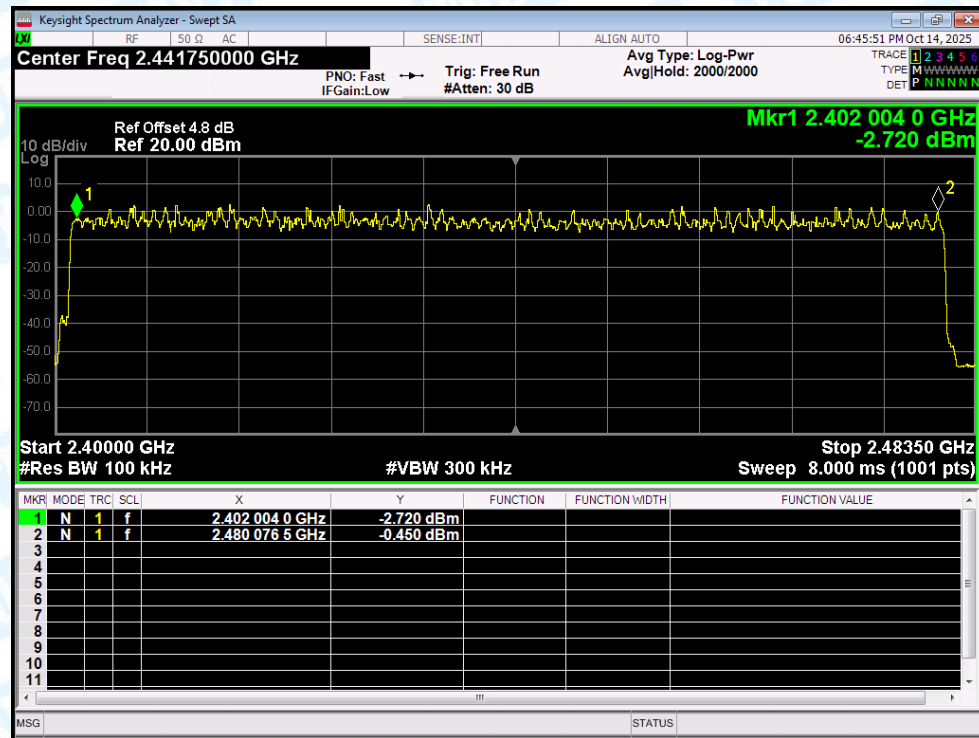
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

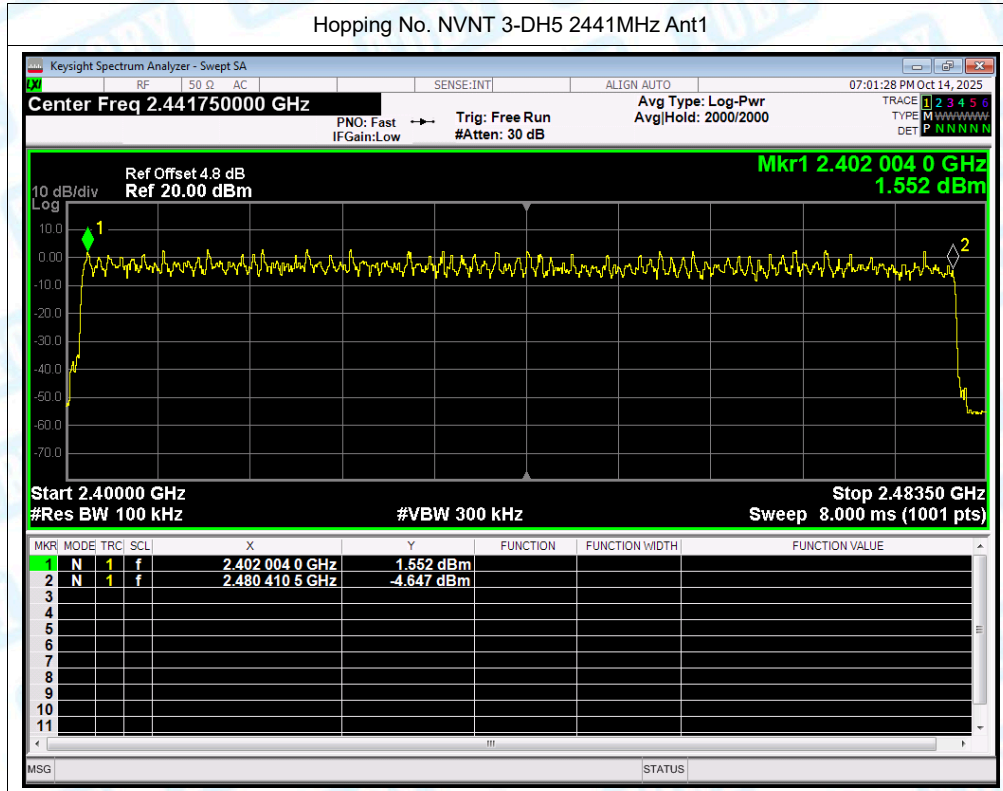
Test Graphs

Hopping No. NVNT 1-DH5 2441MHz Ant1



Hopping No. NVNT 2-DH5 2441MHz Ant1





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