

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Smart Watch
Test Model:	KT80
Sample ID:	HC-C-202502-0237-01-01
Environmental Conditions	
Temperature:	25.6℃
Relative Humidity:	48.5%
Test Voltage:	DC 3.8V
Test Engineer:	Gold zhang
Note: For a more detailed features description, please refer to the report TBR-C-202502-0237-13 The report only show the worst case data.	

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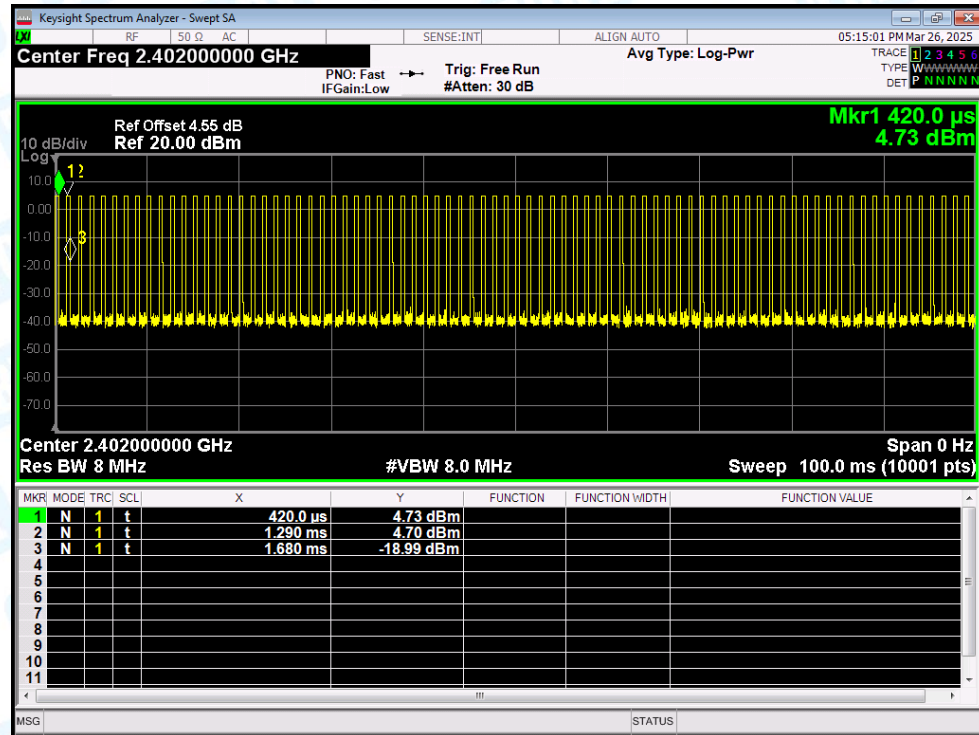
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1. Duty Cycle

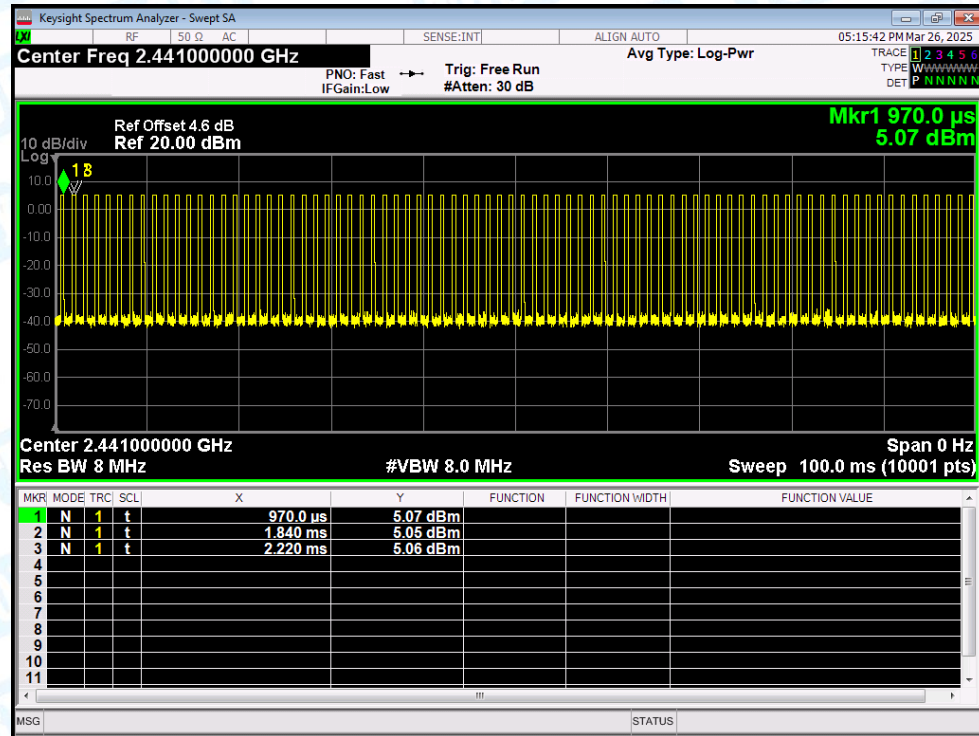
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.95	5.09	2.56
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	32	4.95	2.5
NVNT	2-DH1	2480	Ant1	31.75	4.98	2.5
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

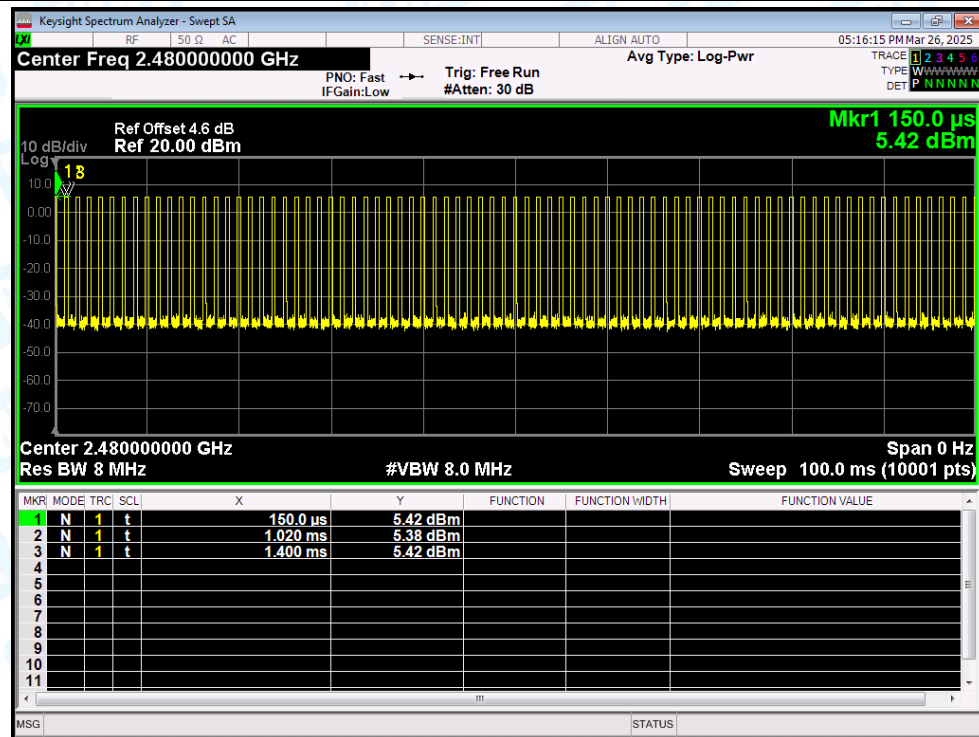
Duty Cycle NVNT 1-DH1 2402MHz Ant1



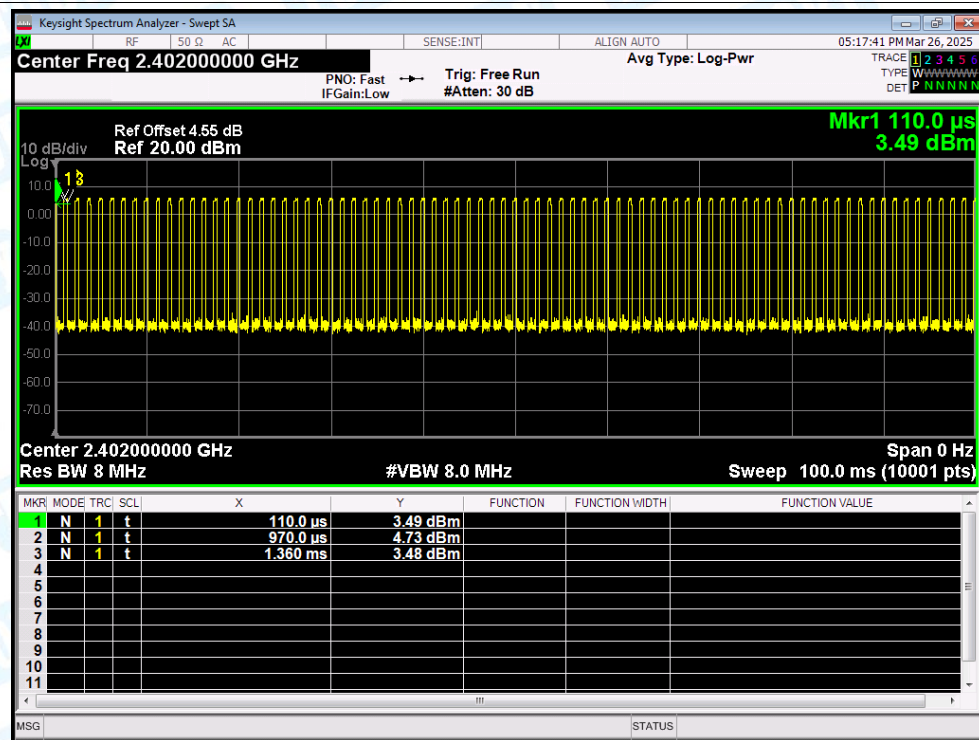
Duty Cycle NVNT 1-DH1 2441MHz Ant1



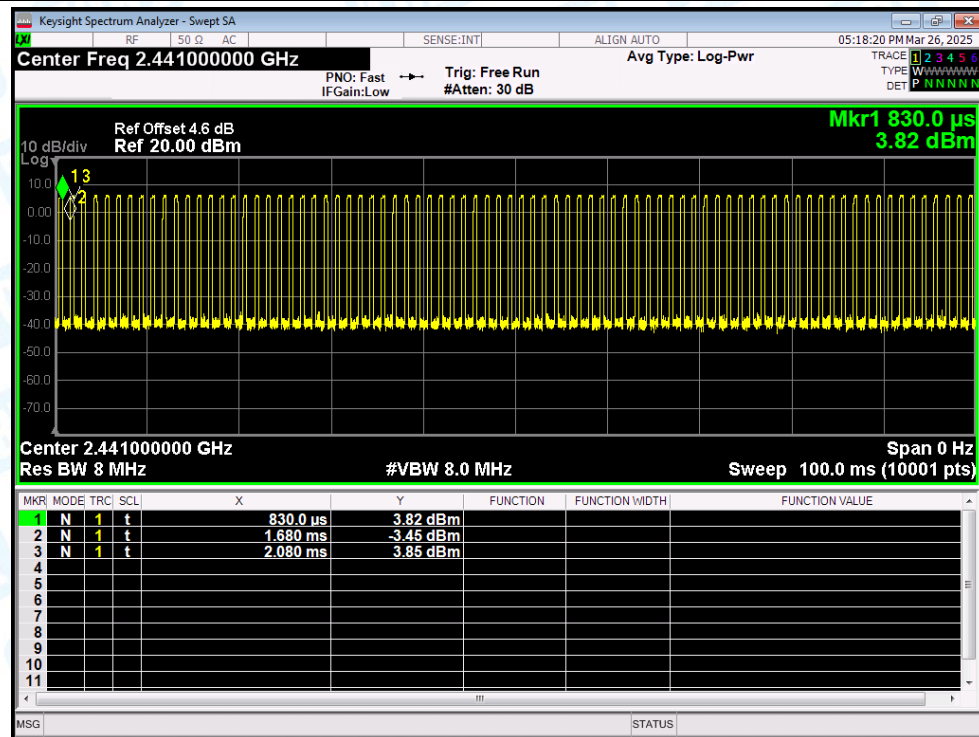
Duty Cycle NVNT 1-DH1 2480MHz Ant1



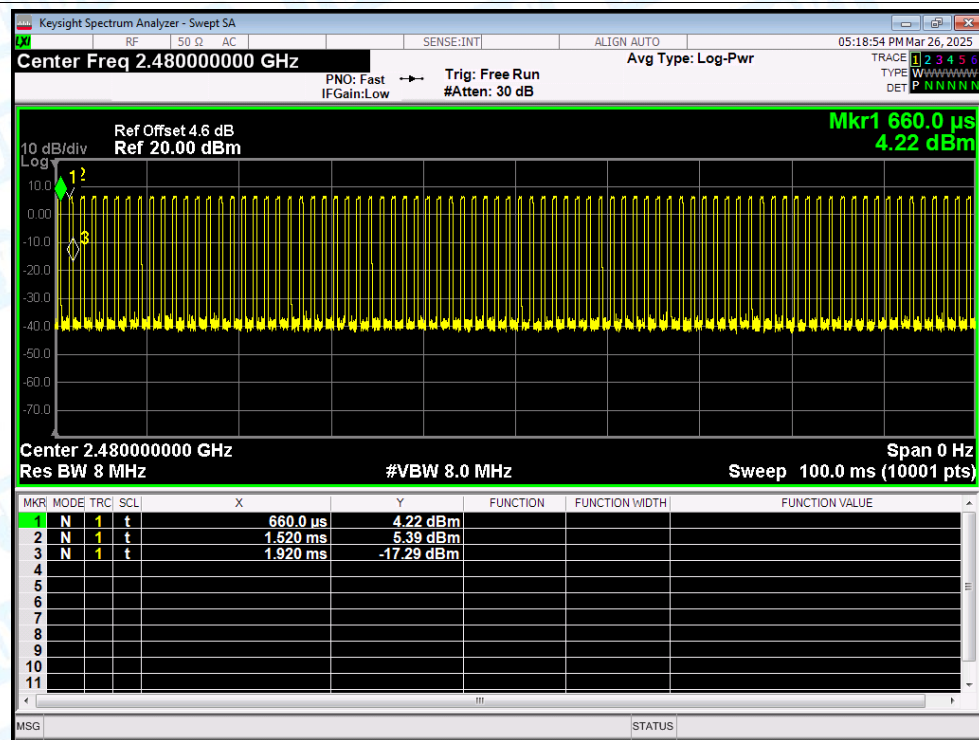
Duty Cycle NVNT 2-DH1 2402MHz Ant1



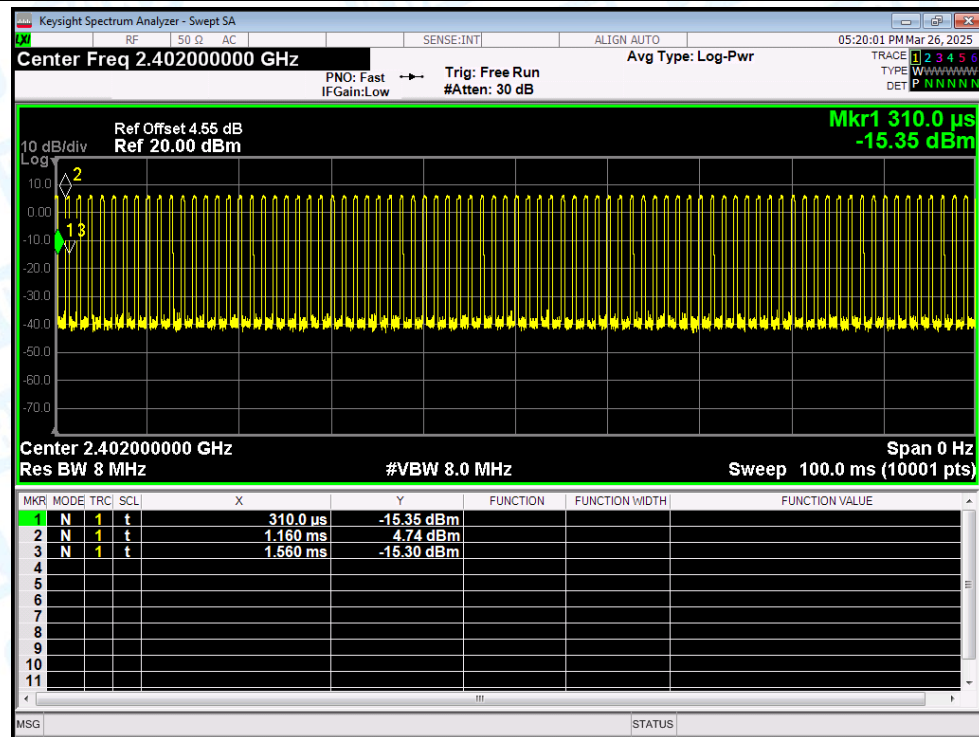
Duty Cycle NVNT 2-DH1 2441MHz Ant1



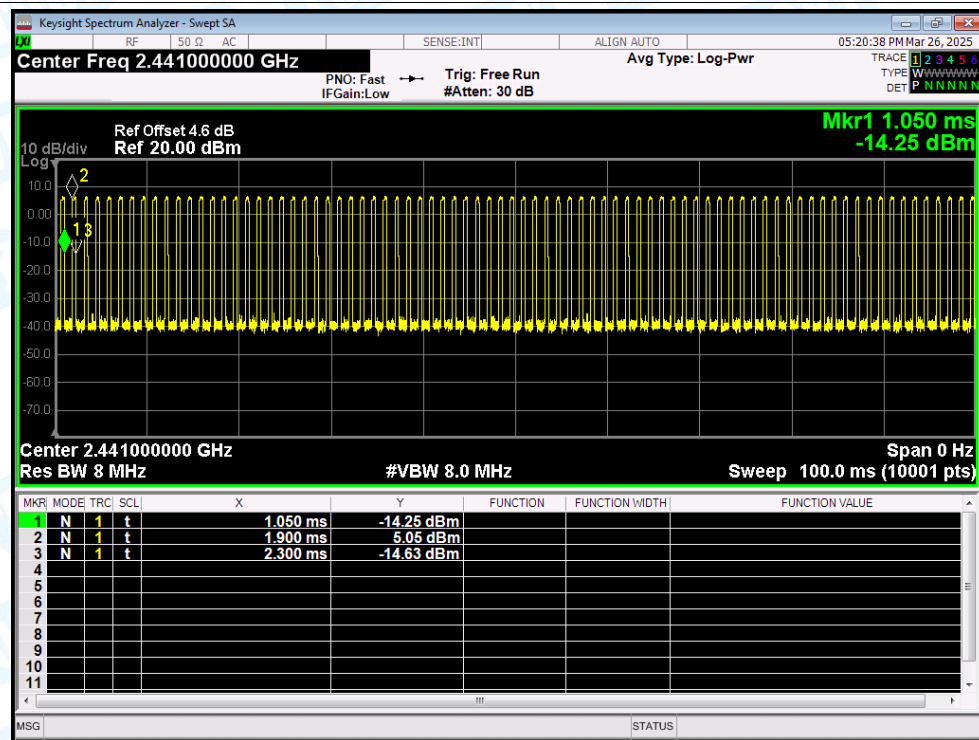
Duty Cycle NVNT 2-DH1 2480MHz Ant1

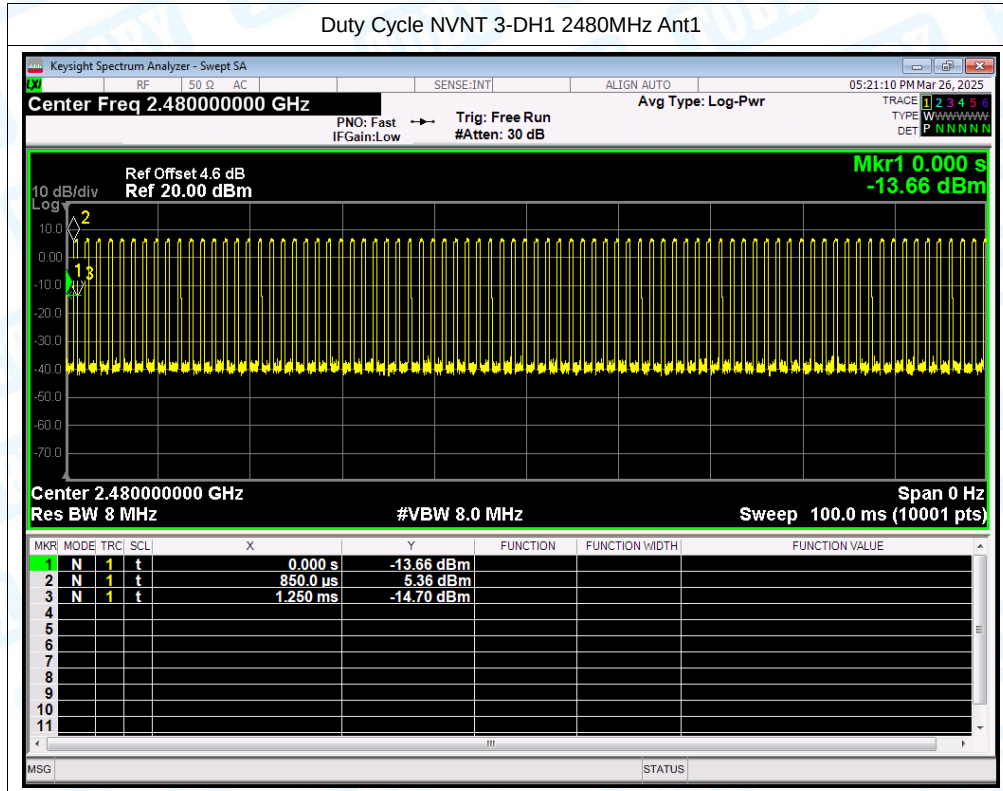


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



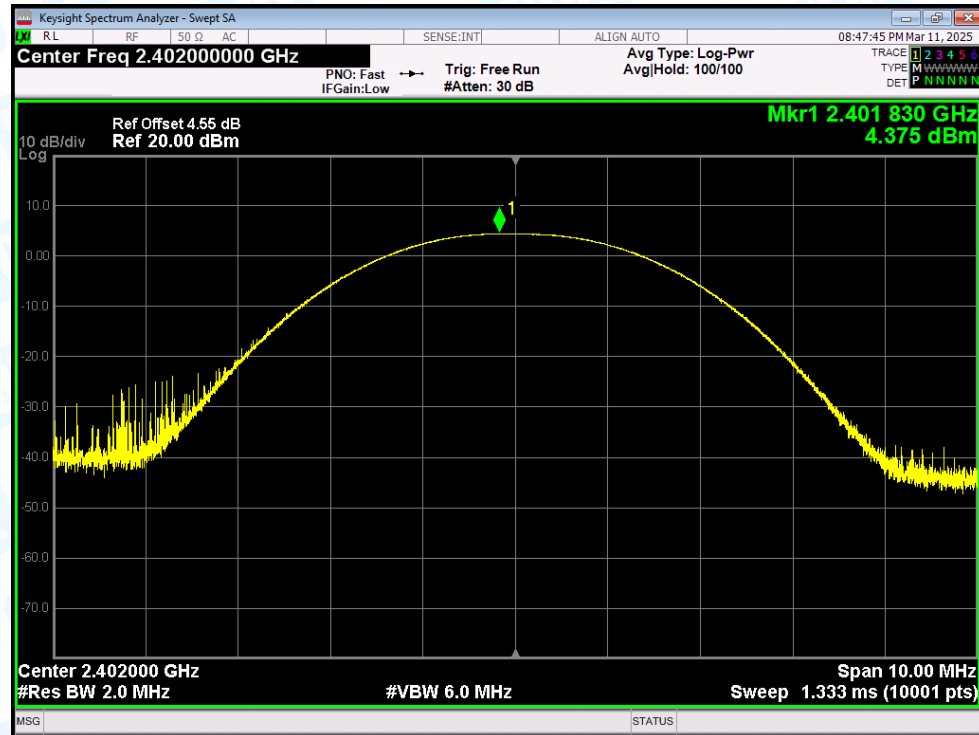


2. Maximum Conducted Output Power

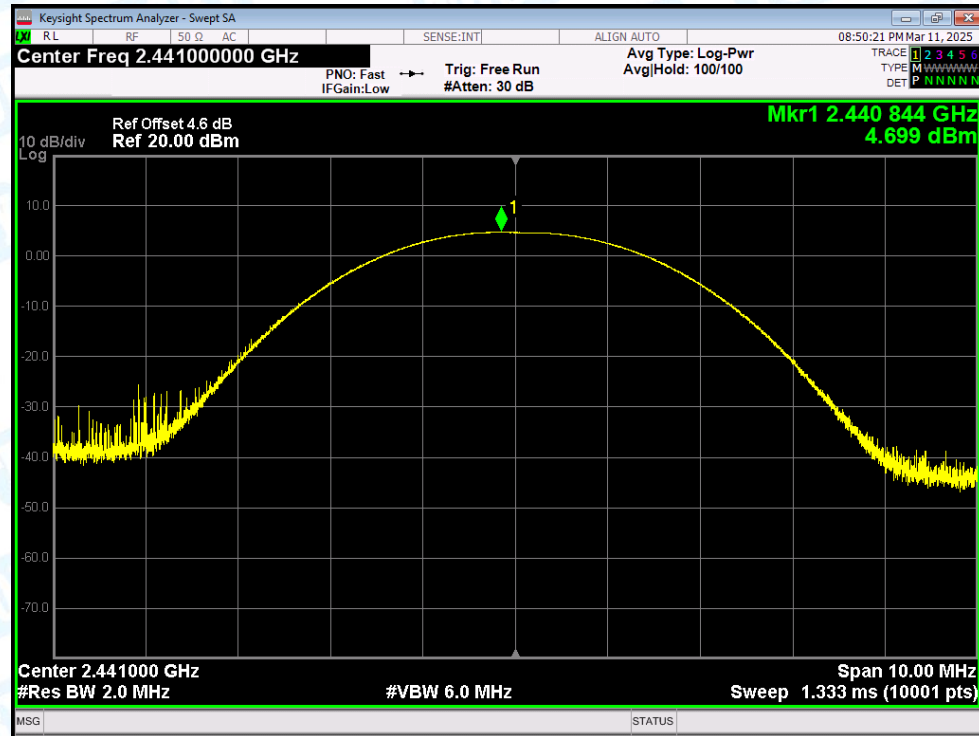
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	4.375	21	Pass
NVNT	1-DH1	2441	Ant1	4.699	21	Pass
NVNT	1-DH1	2480	Ant1	5.015	21	Pass
NVNT	2-DH1	2402	Ant1	5.198	21	Pass
NVNT	2-DH1	2441	Ant1	5.473	21	Pass
NVNT	2-DH1	2480	Ant1	5.814	21	Pass
NVNT	3-DH1	2402	Ant1	5.818	21	Pass
NVNT	3-DH1	2441	Ant1	6.037	21	Pass
NVNT	3-DH1	2480	Ant1	6.289	21	Pass

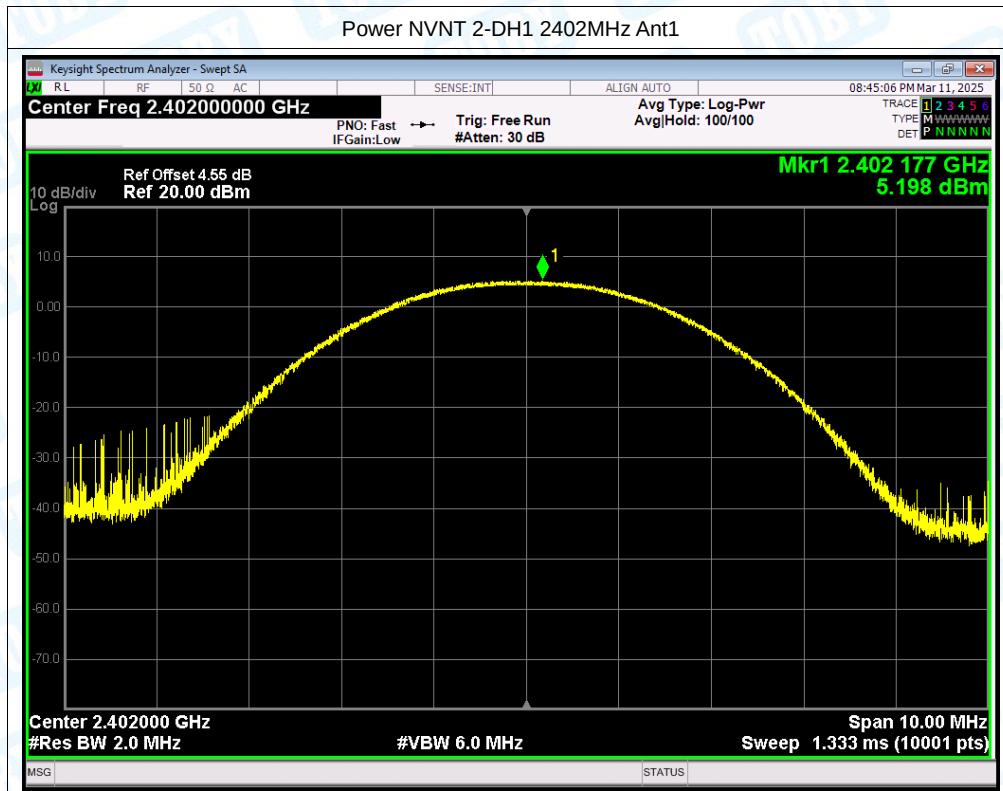
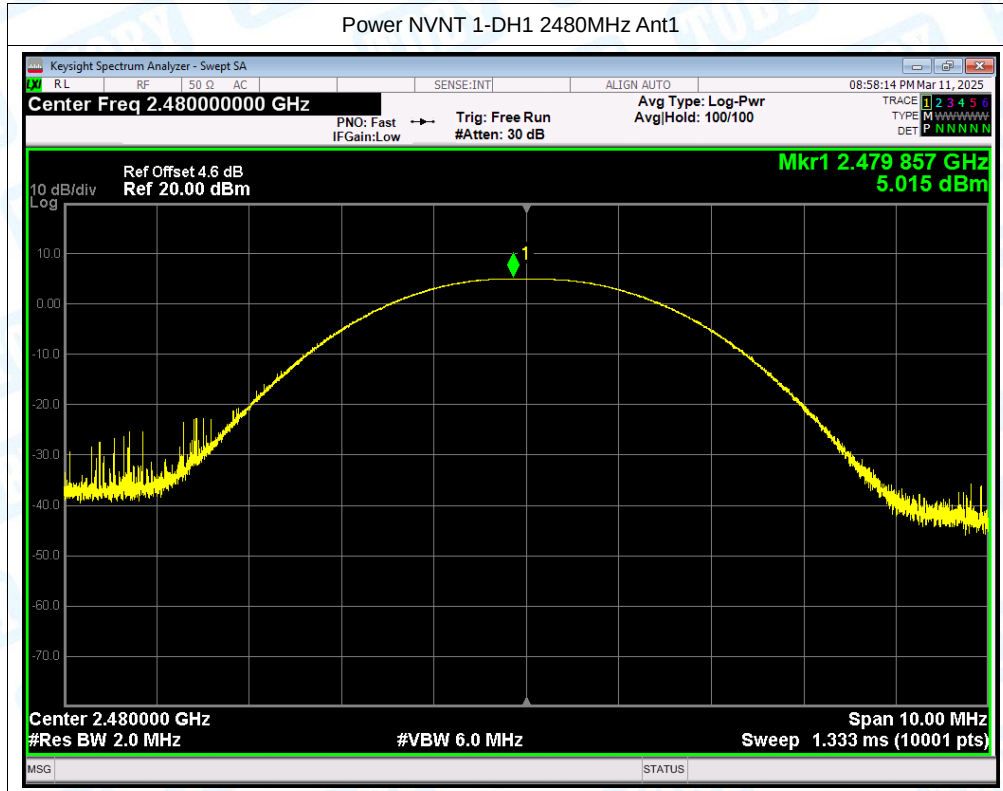
Test Graphs

Power NVNT 1-DH1 2402MHz Ant1

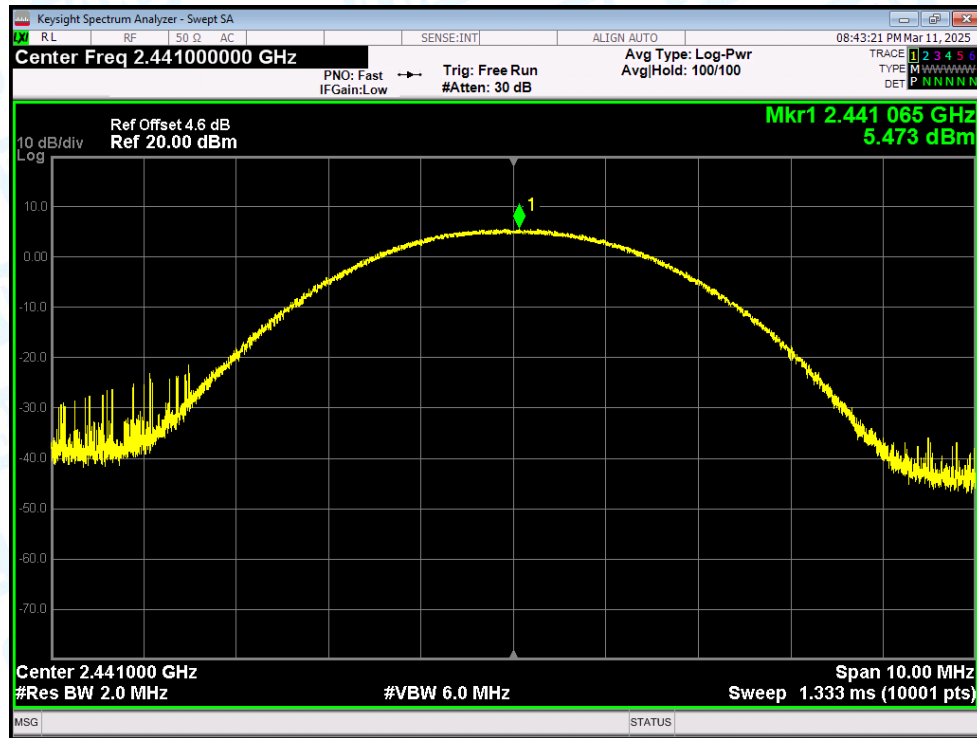


Power NVNT 1-DH1 2441MHz Ant1

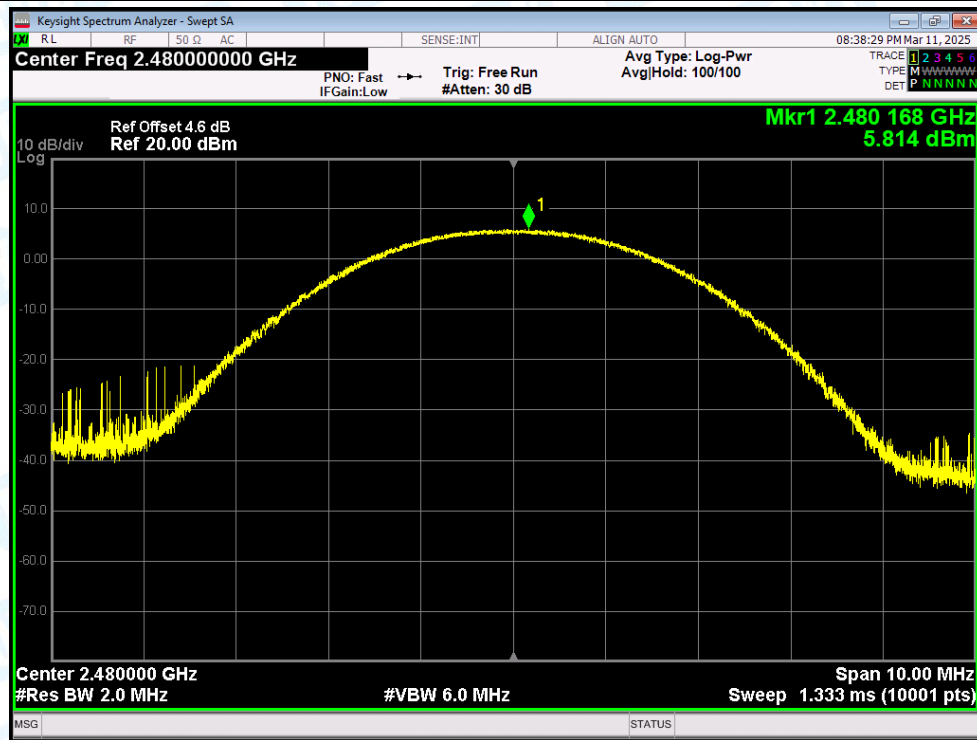




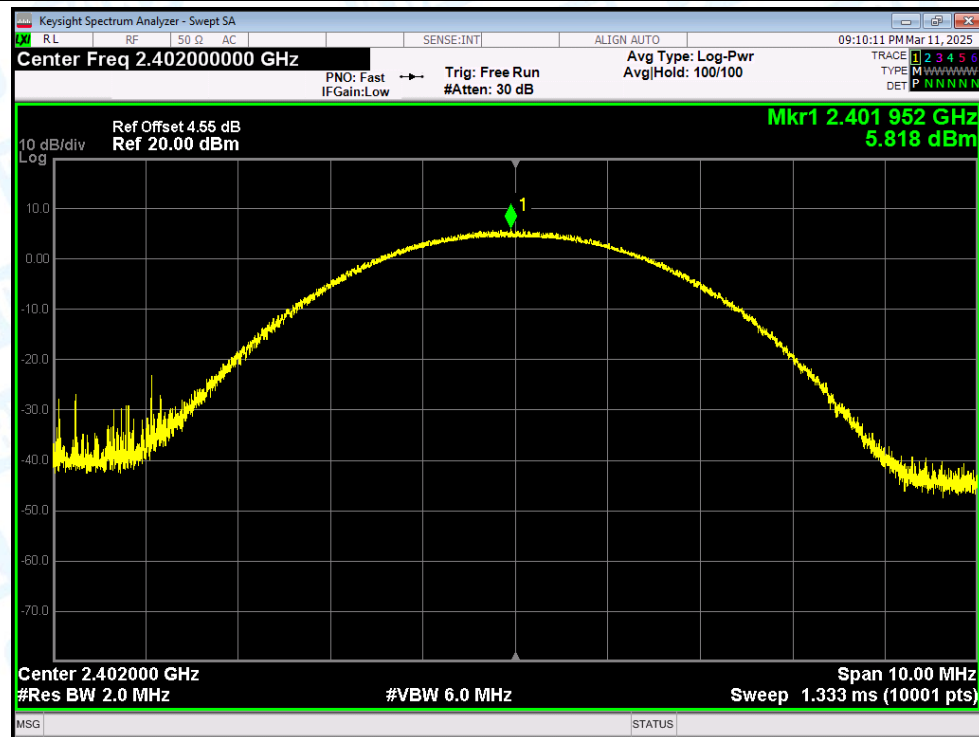
Power NVNT 2-DH1 2441MHz Ant1



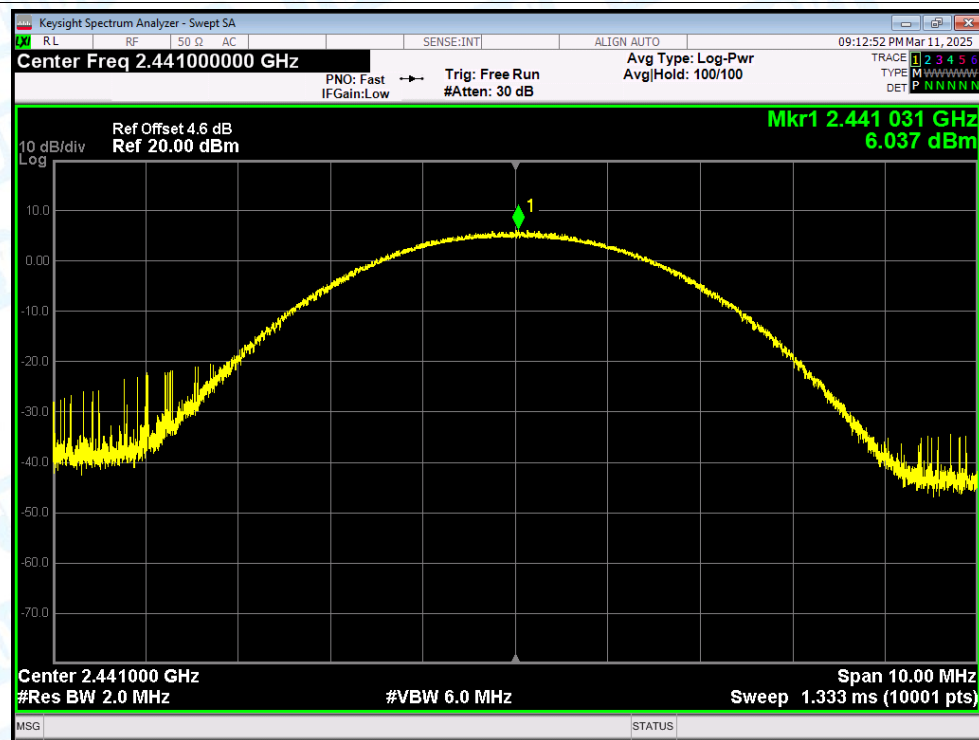
Power NVNT 2-DH1 2480MHz Ant1

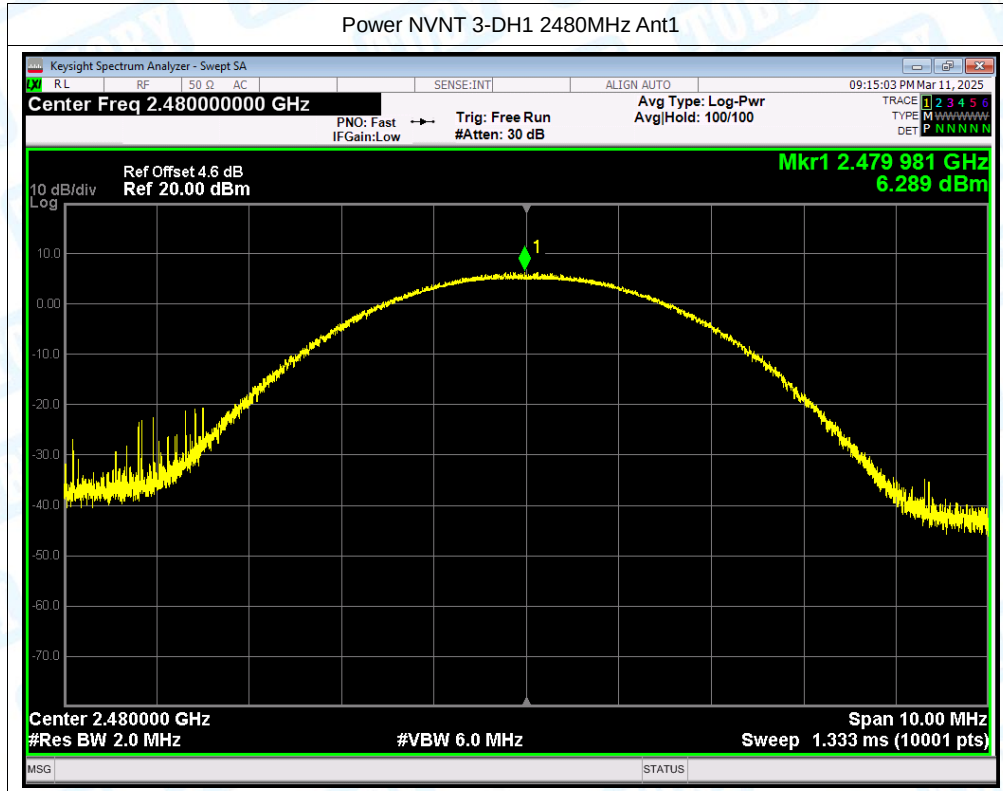


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1





3. -20dB Bandwidth

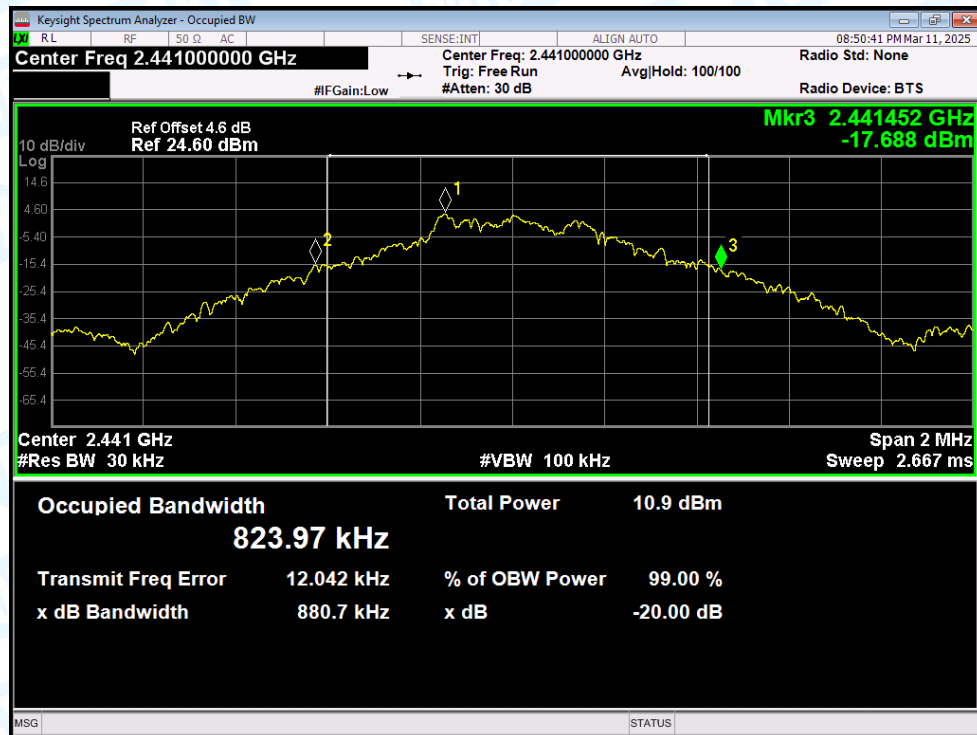
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.85	0	Pass
NVNT	1-DH1	2441	Ant1	0.88	0	Pass
NVNT	1-DH1	2480	Ant1	0.87	0	Pass
NVNT	2-DH1	2402	Ant1	1.25	0	Pass
NVNT	2-DH1	2441	Ant1	1.22	0	Pass
NVNT	2-DH1	2480	Ant1	1.25	0	Pass
NVNT	3-DH1	2402	Ant1	1.22	0	Pass
NVNT	3-DH1	2441	Ant1	1.22	0	Pass
NVNT	3-DH1	2480	Ant1	1.21	0	Pass

Test Graphs

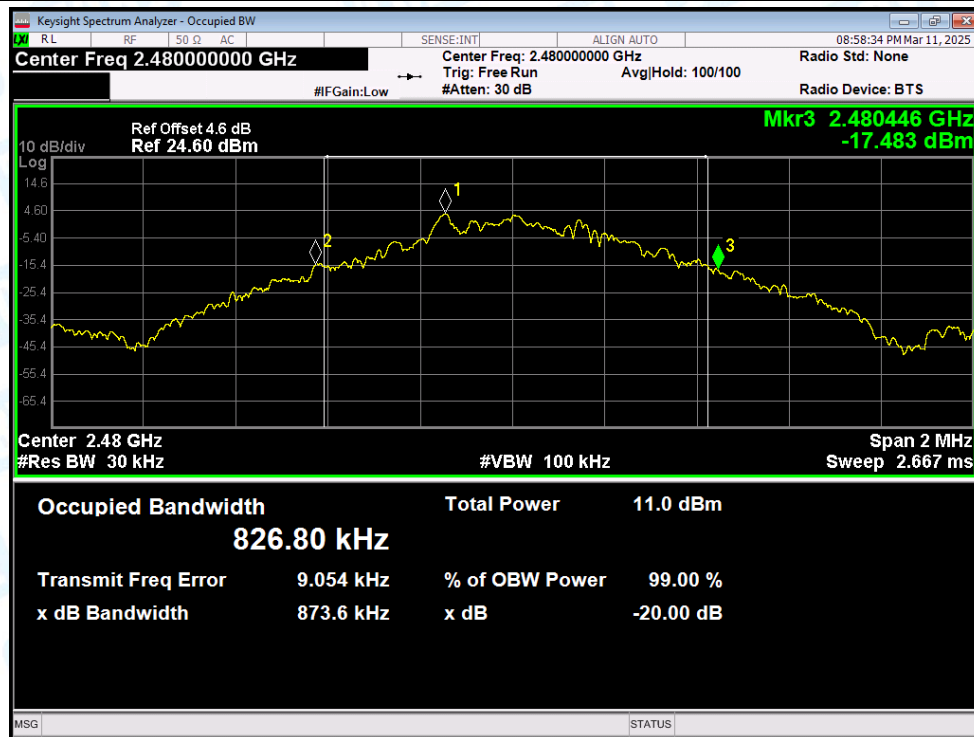
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



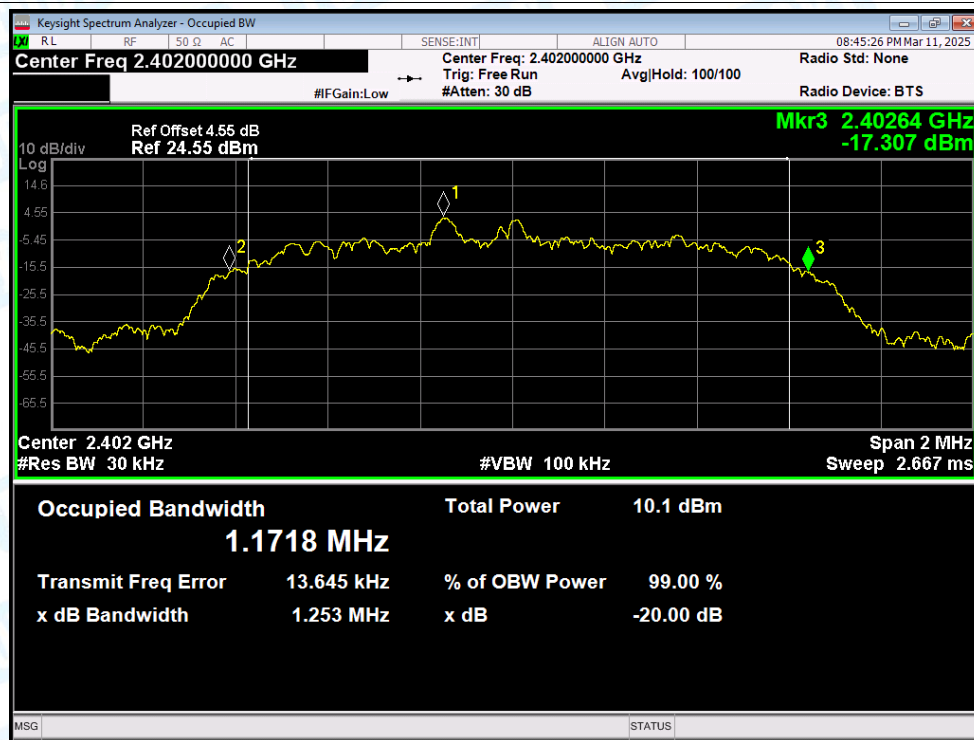
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



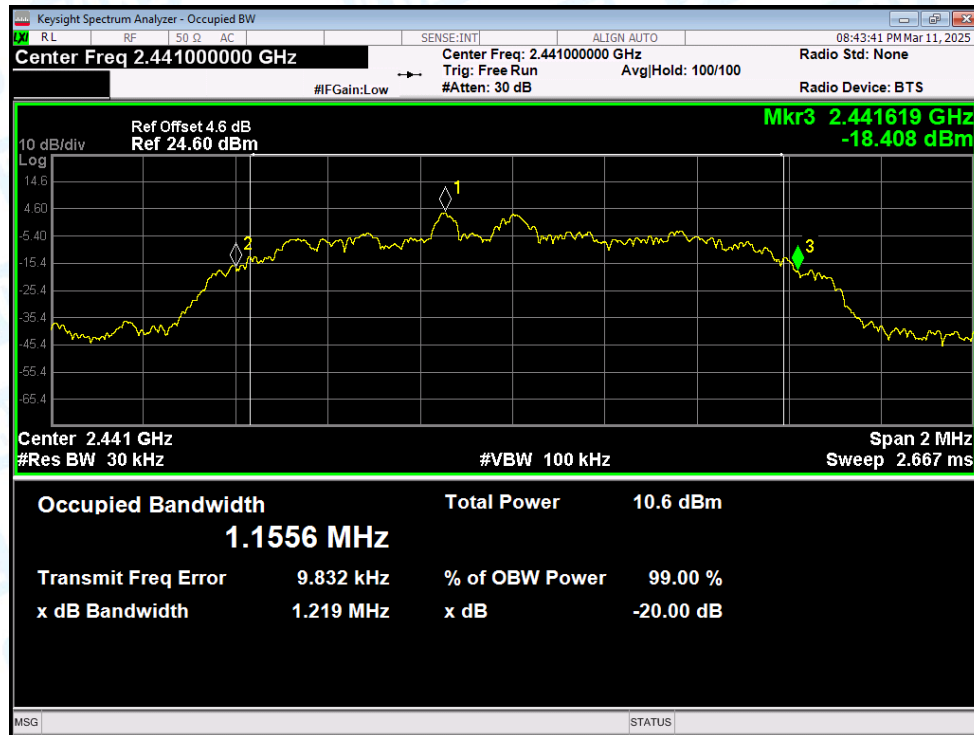
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



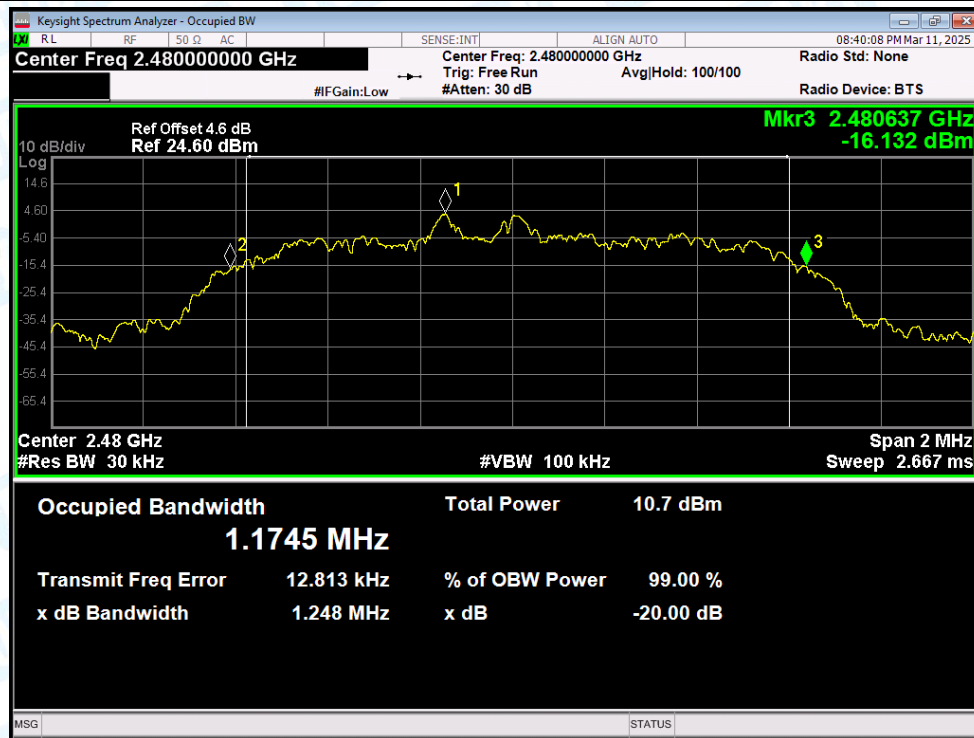
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



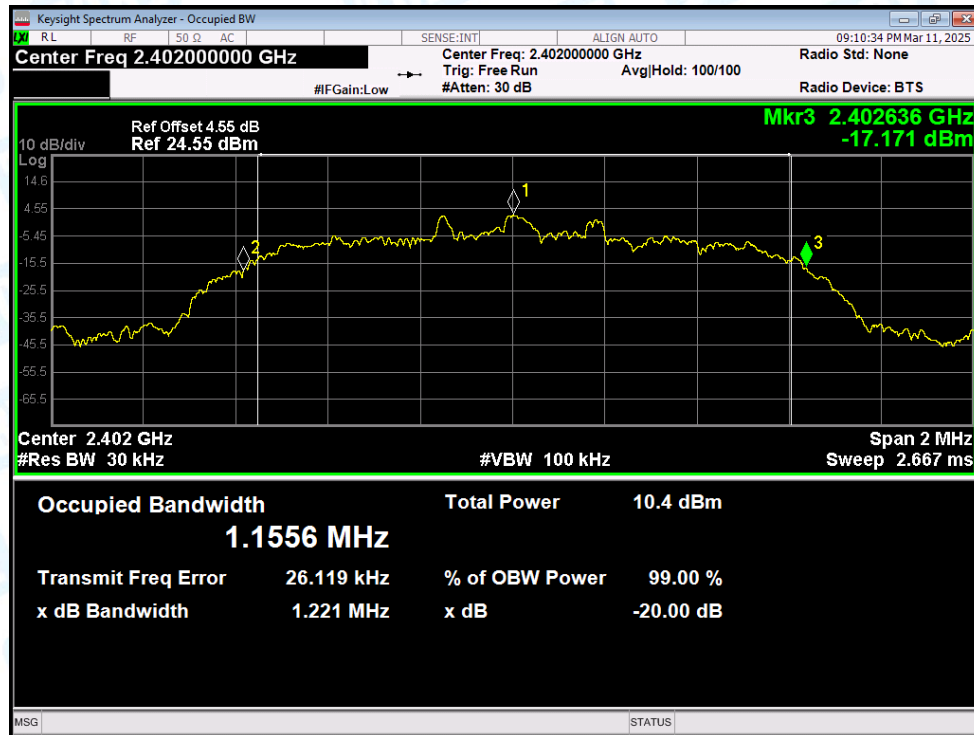
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



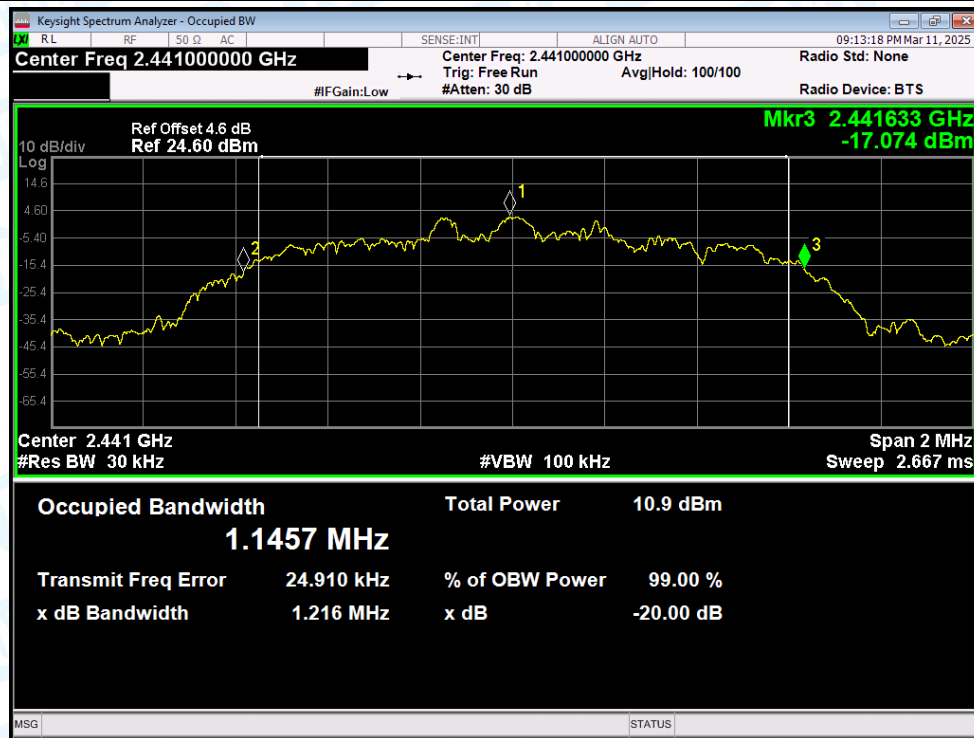
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

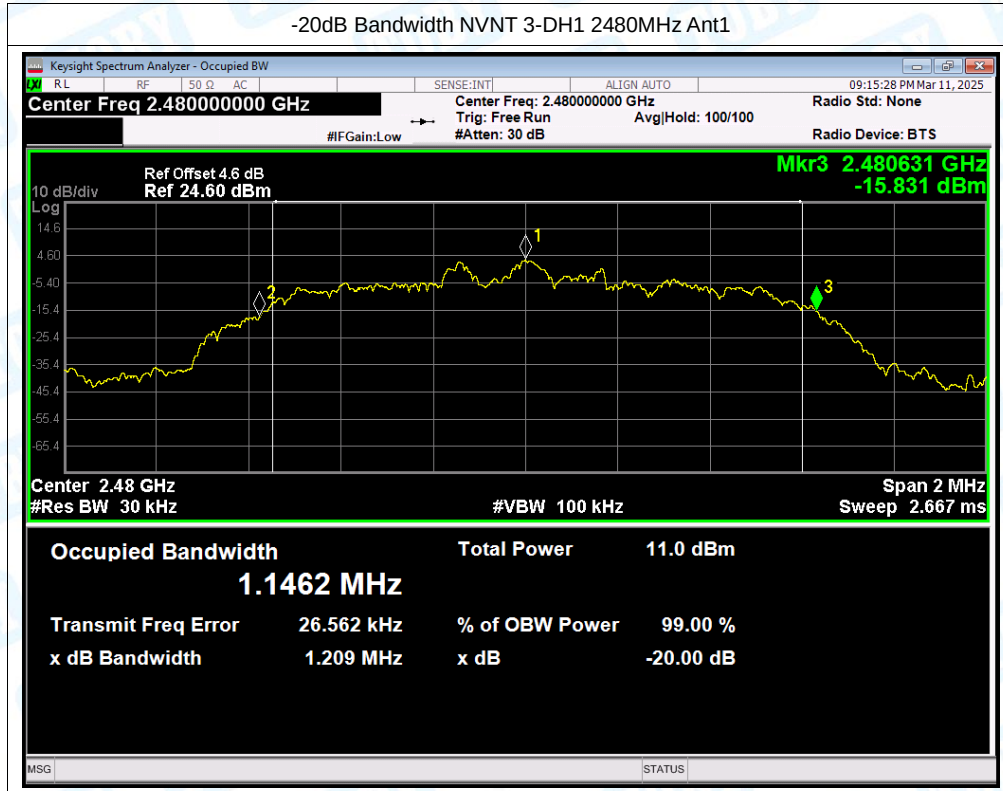


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



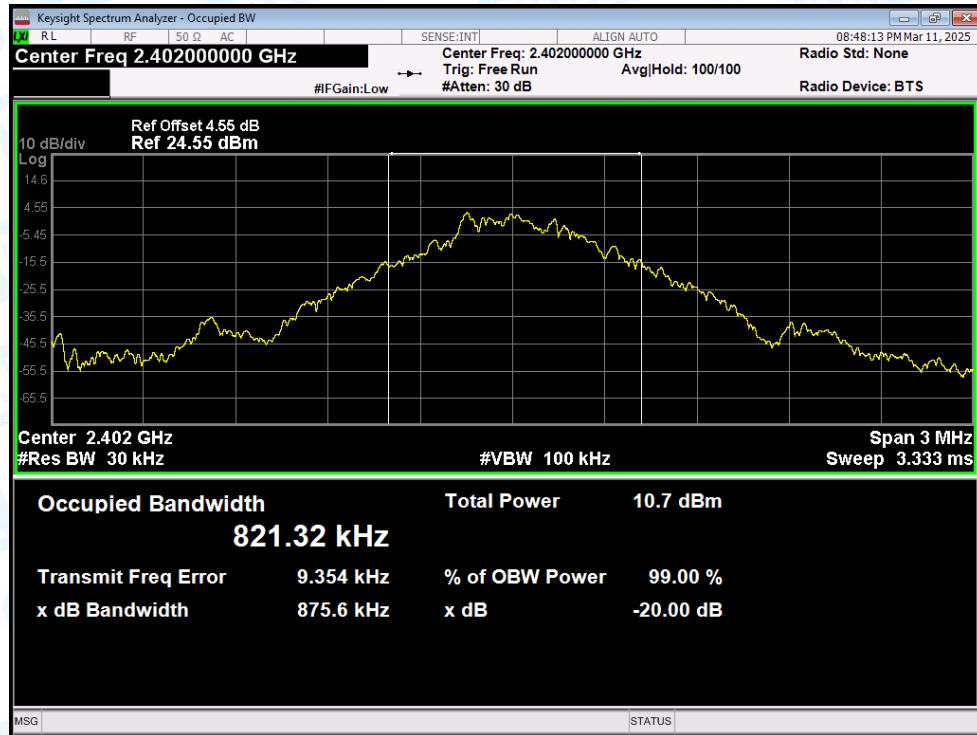


4. Occupied Channel Bandwidth

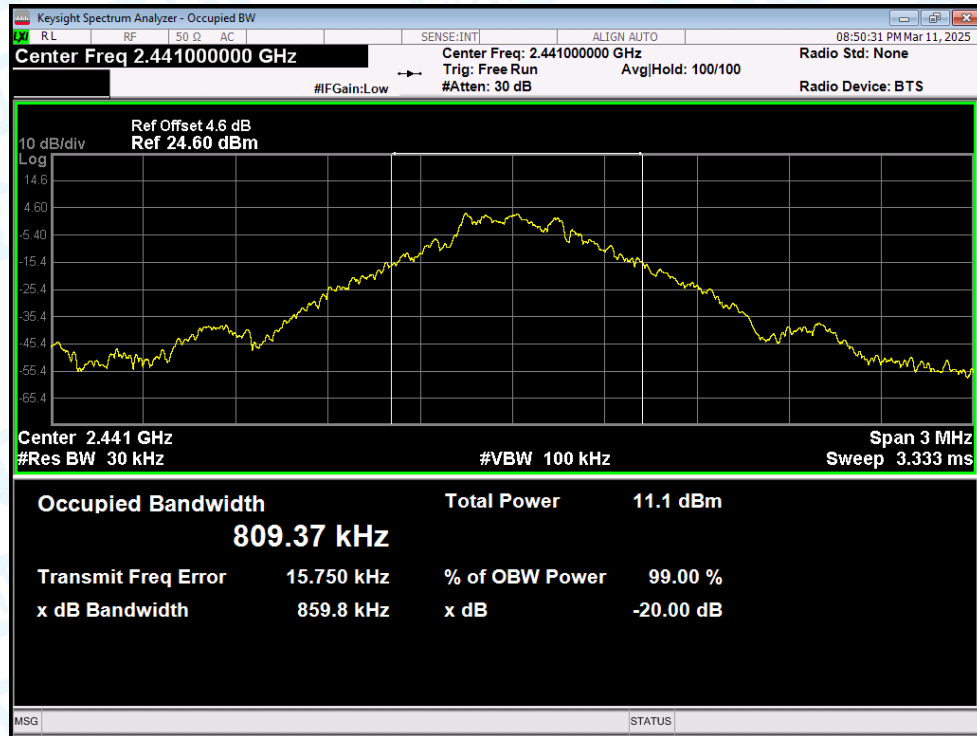
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.821
NVNT	1-DH1	2441	Ant1	0.809
NVNT	1-DH1	2480	Ant1	0.831
NVNT	2-DH1	2402	Ant1	1.164
NVNT	2-DH1	2441	Ant1	1.163
NVNT	2-DH1	2480	Ant1	1.172
NVNT	3-DH1	2402	Ant1	1.131
NVNT	3-DH1	2441	Ant1	1.146
NVNT	3-DH1	2480	Ant1	1.149

Test Graphs

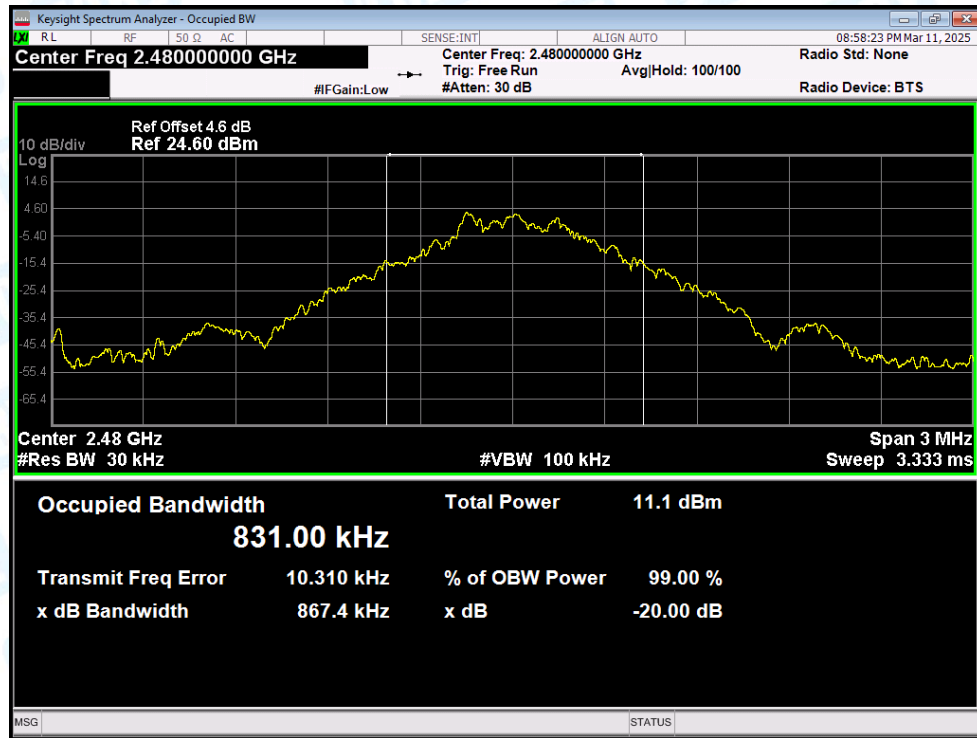
OBW NVNT 1-DH1 2402MHz Ant1



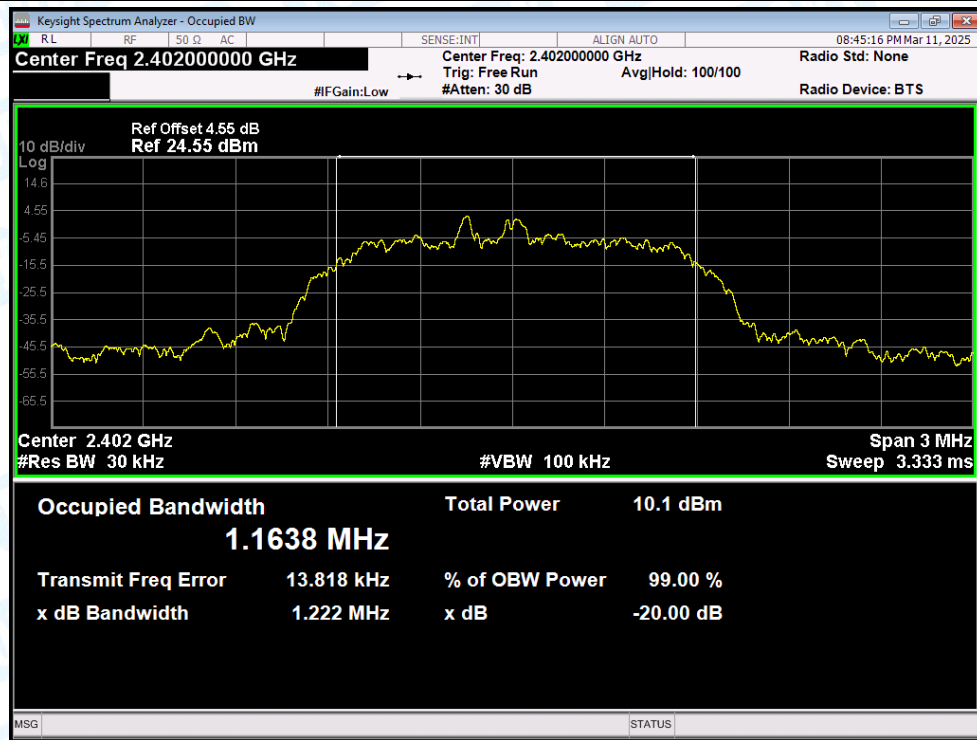
OBW NVNT 1-DH1 2441MHz Ant1



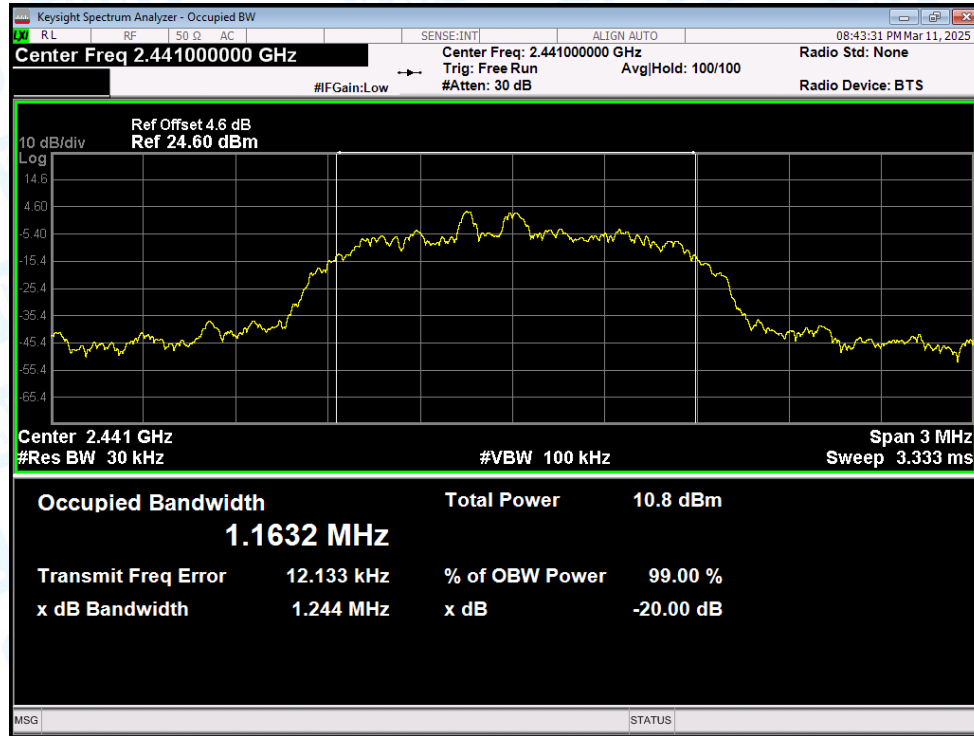
OBW NVNT 1-DH1 2480MHz Ant1



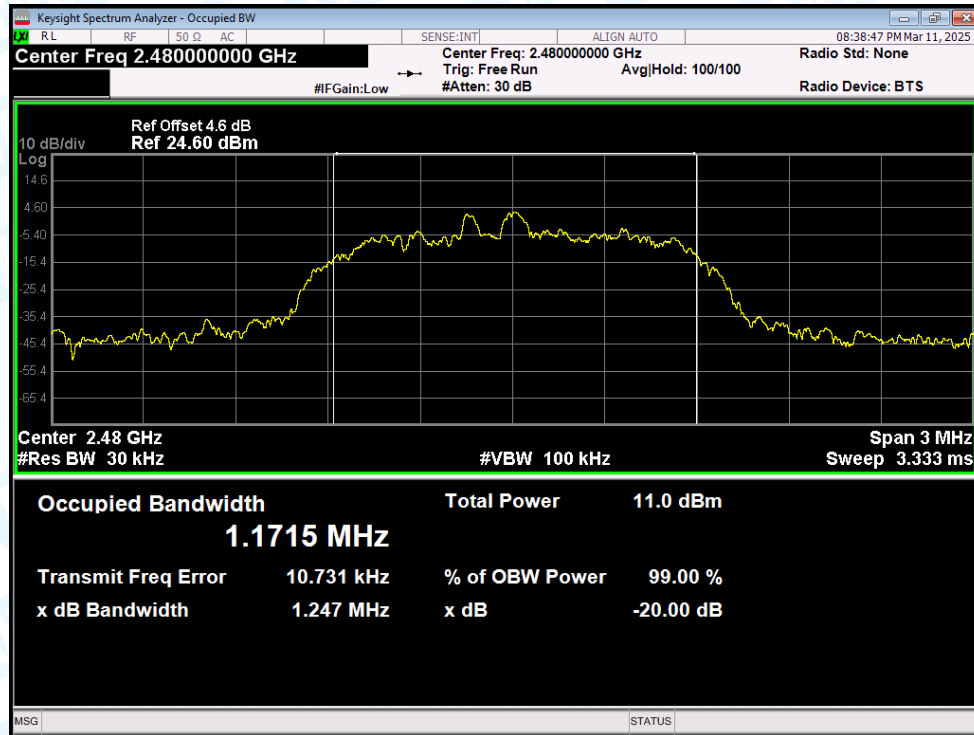
OBW NVNT 2-DH1 2402MHz Ant1



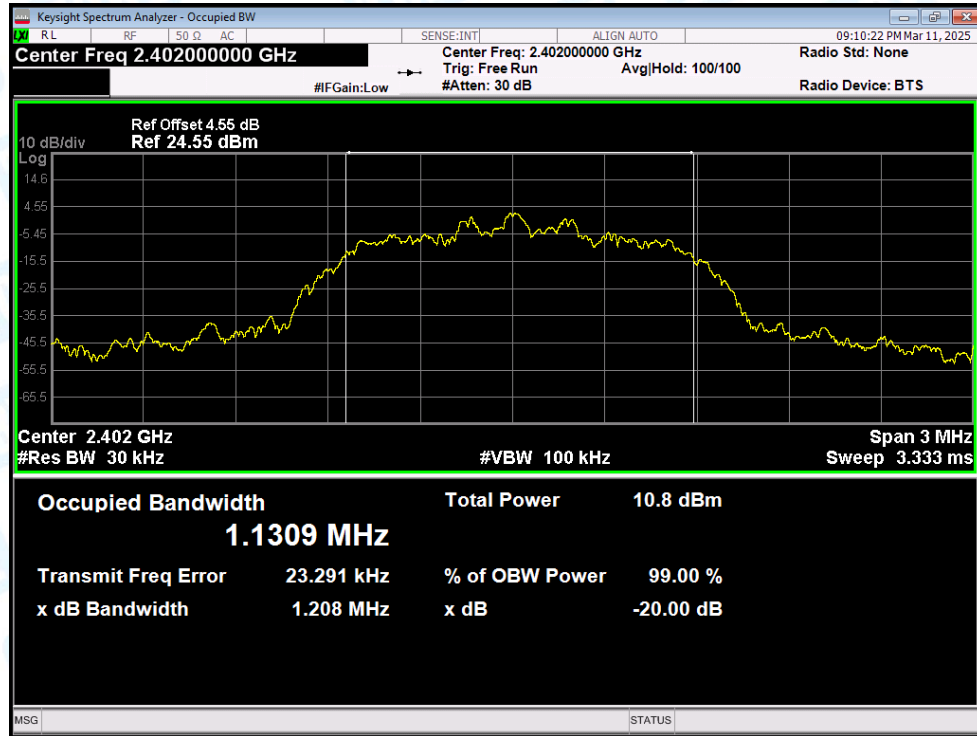
OBW NVNT 2-DH1 2441MHz Ant1



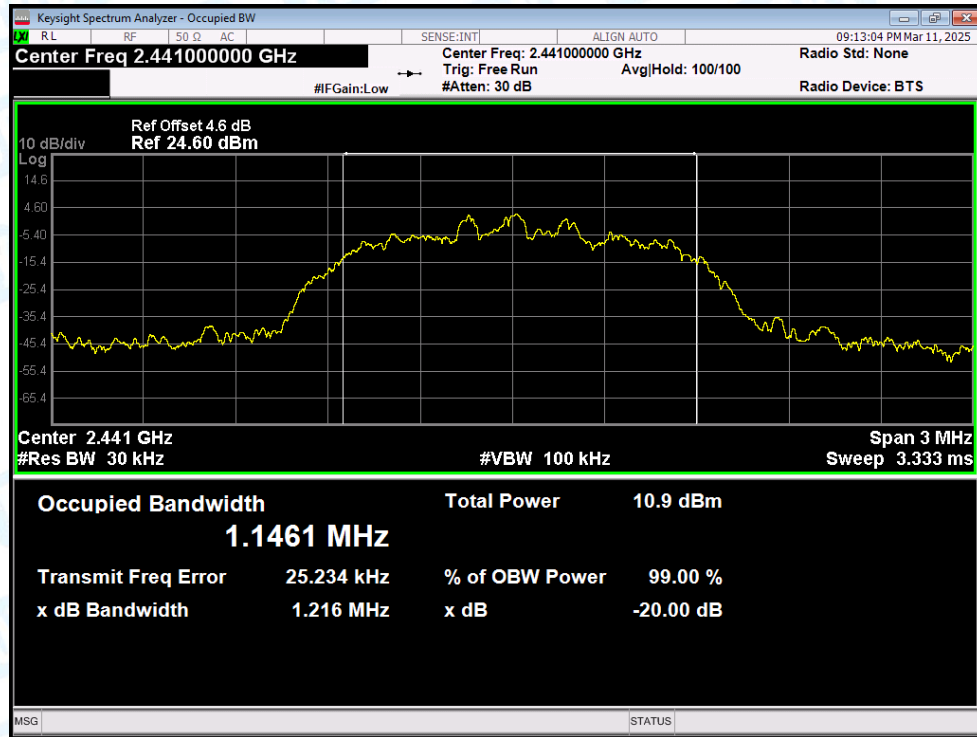
OBW NVNT 2-DH1 2480MHz Ant1

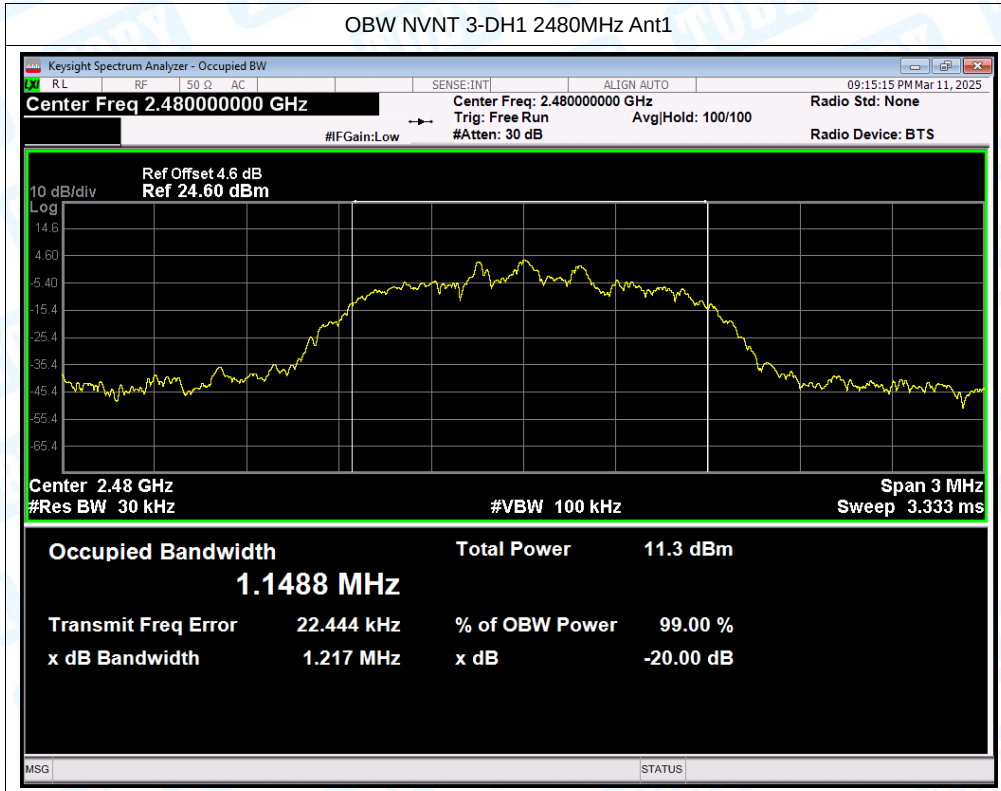


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



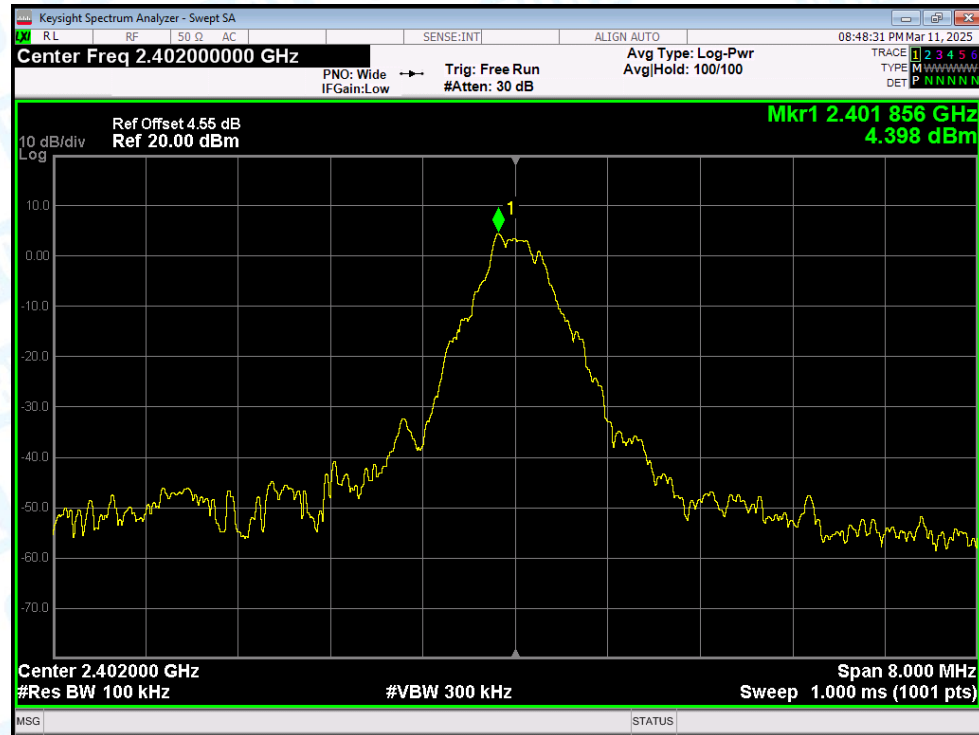


5. Band Edge

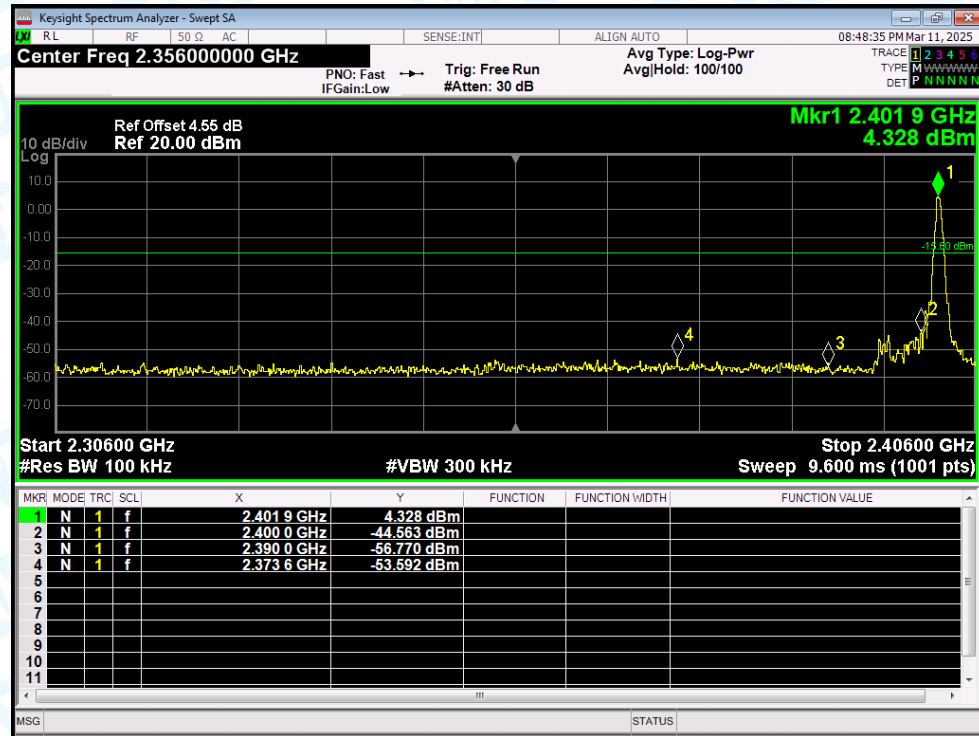
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-57.99	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-52.77	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-57.64	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-53.62	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-57.68	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-51.25	-20	Pass

Test Graphs

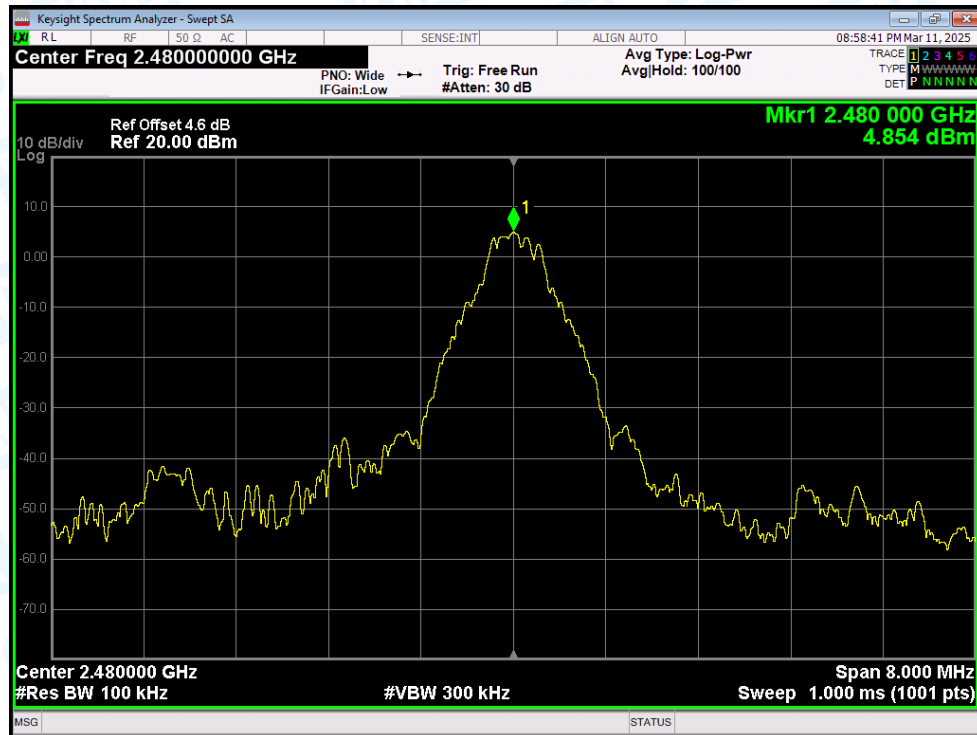
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



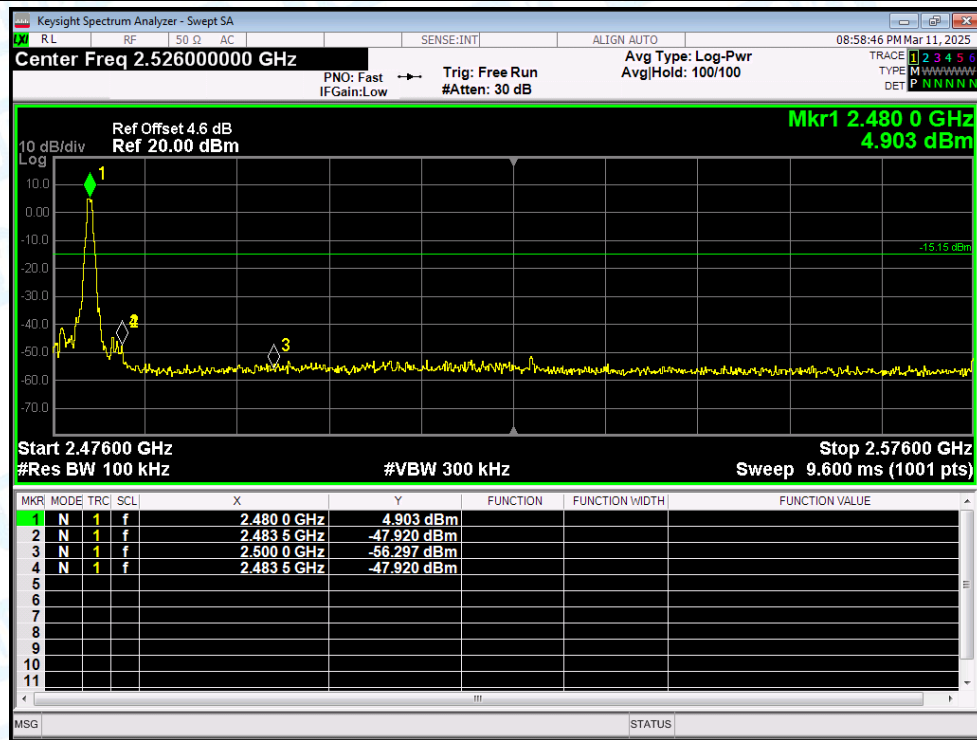
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



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



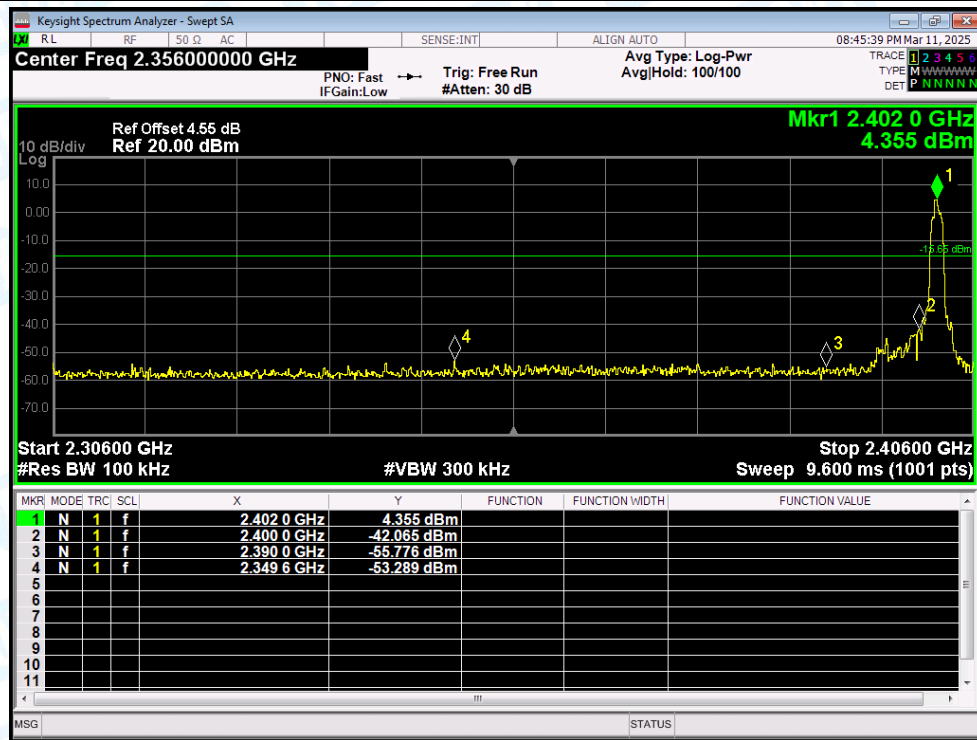
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



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



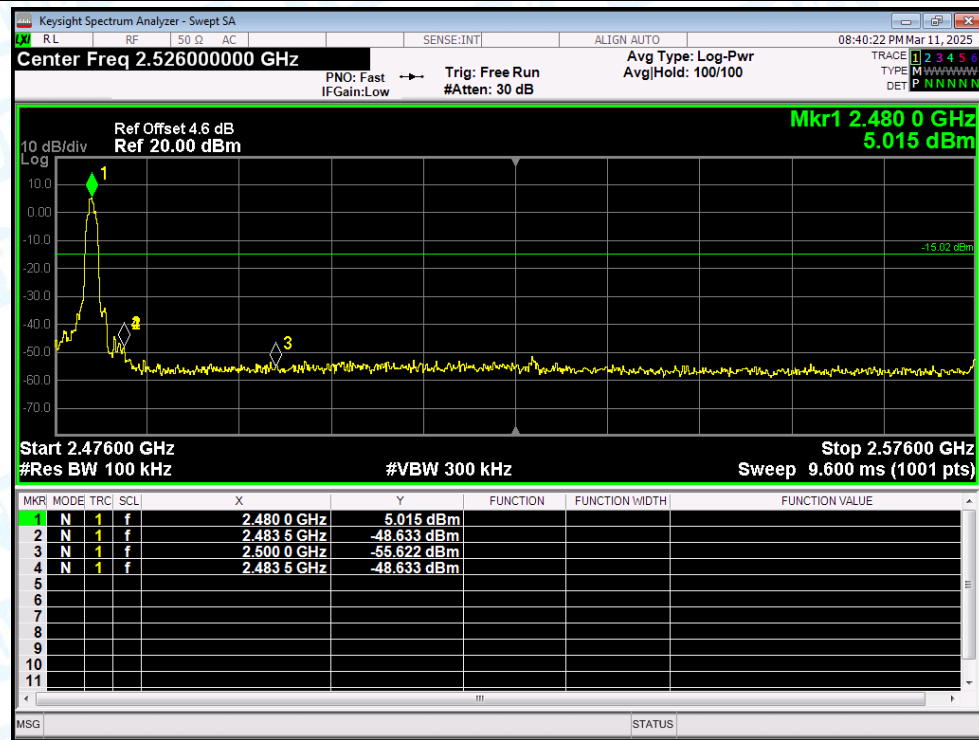
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



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



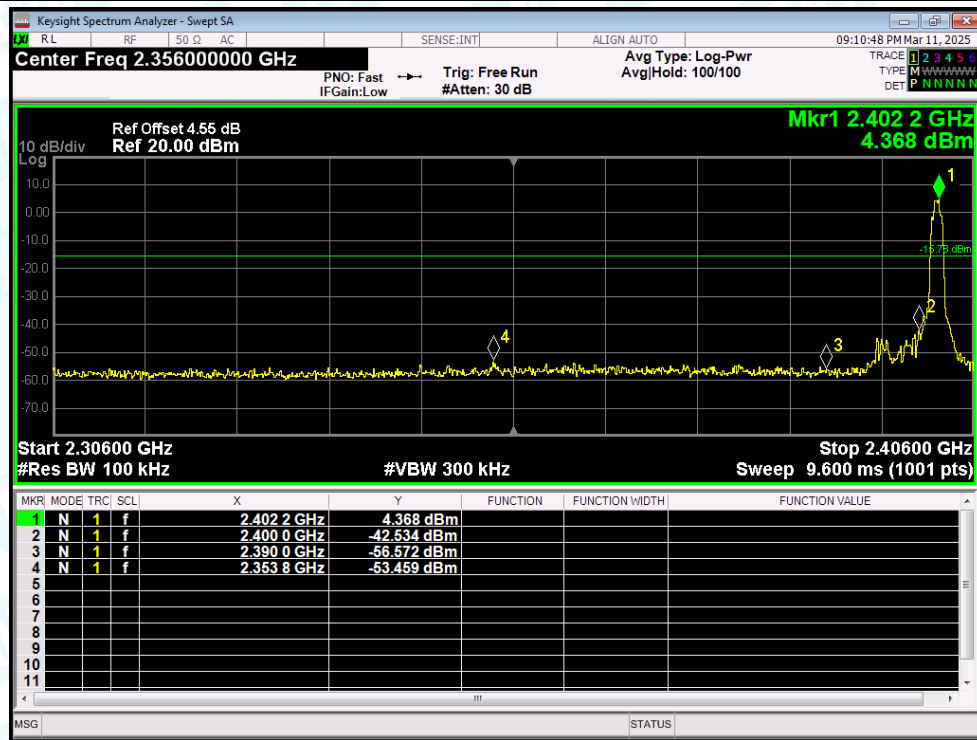
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



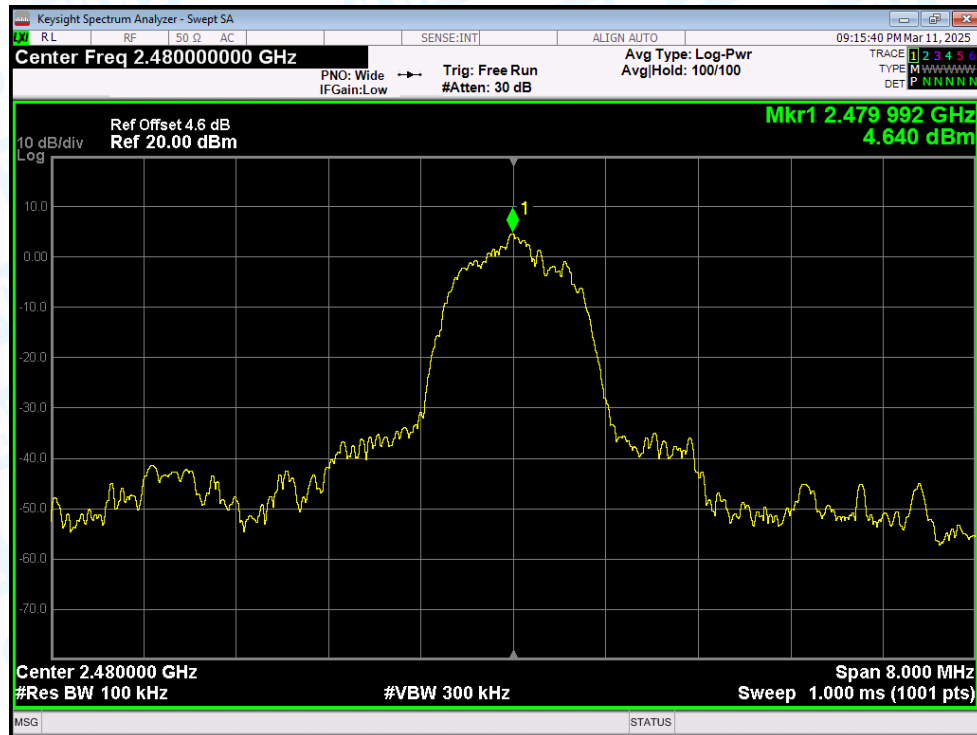
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



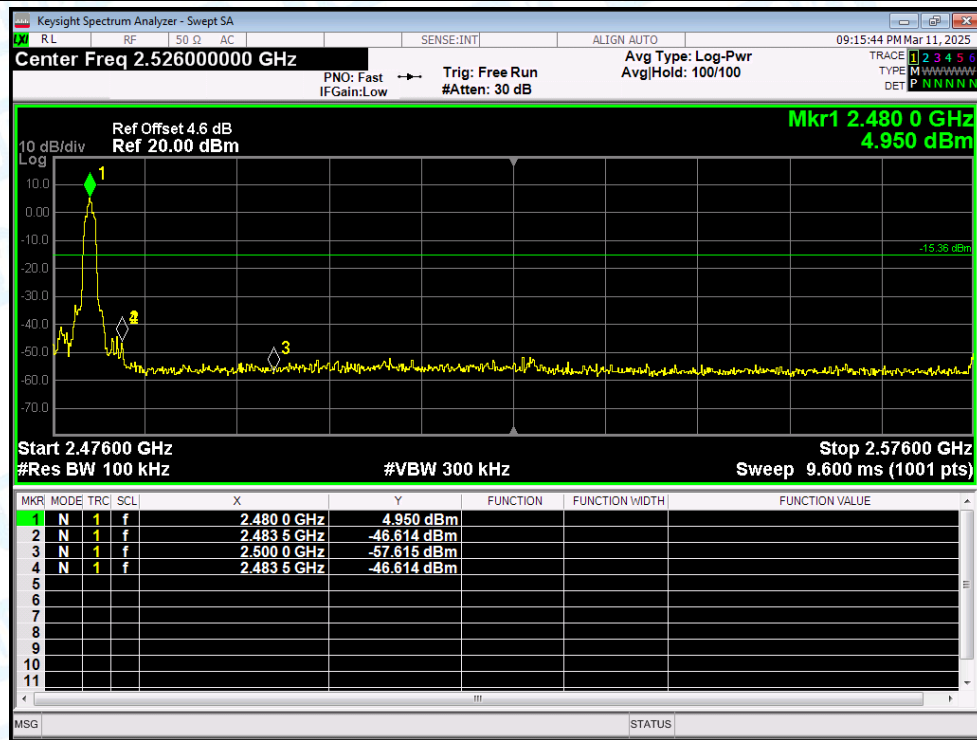
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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



6. Band Edge(Hopping)

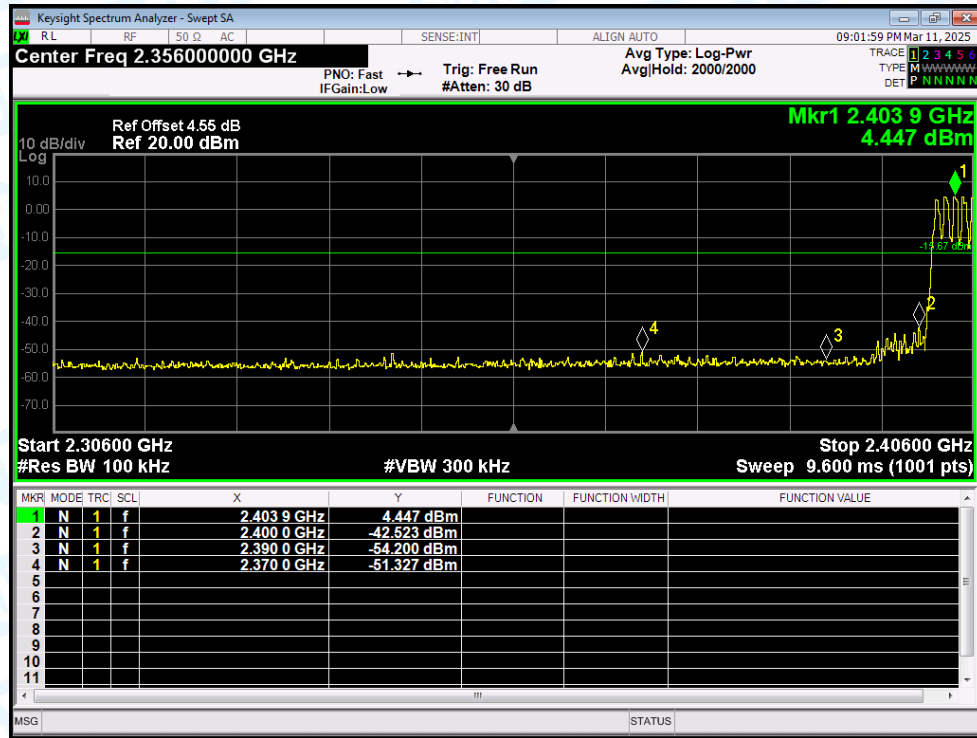
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-55.66	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-53.33	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-56.22	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-54.43	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-56.11	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-56.47	-20	Pass

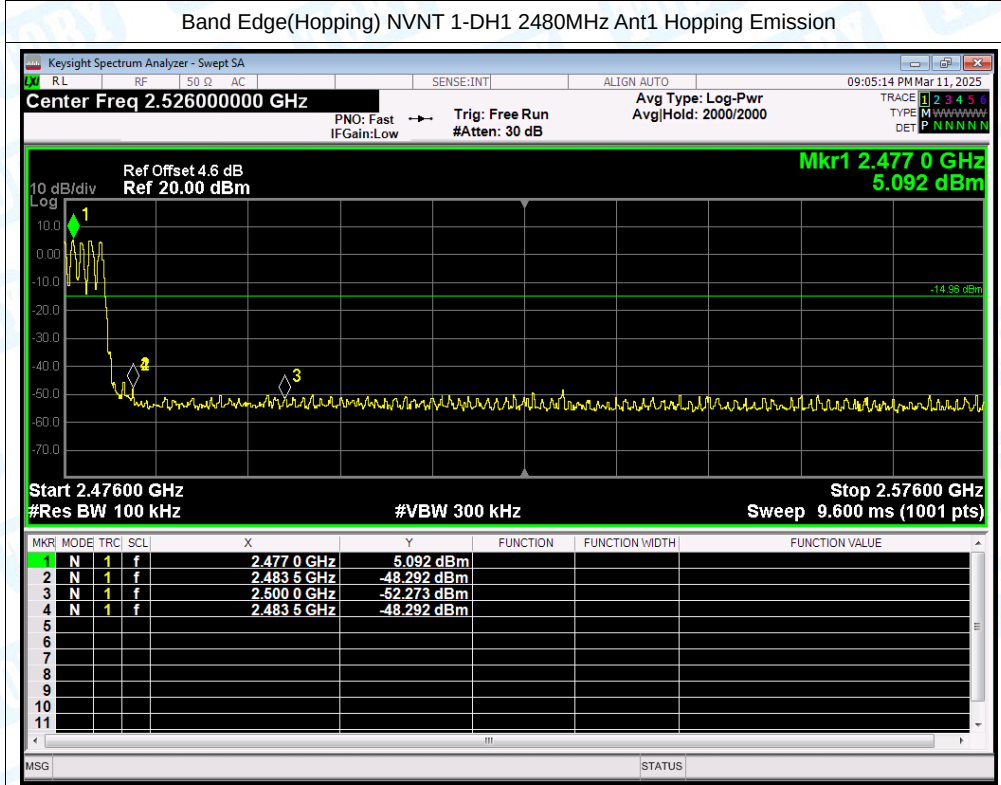
Test Graphs

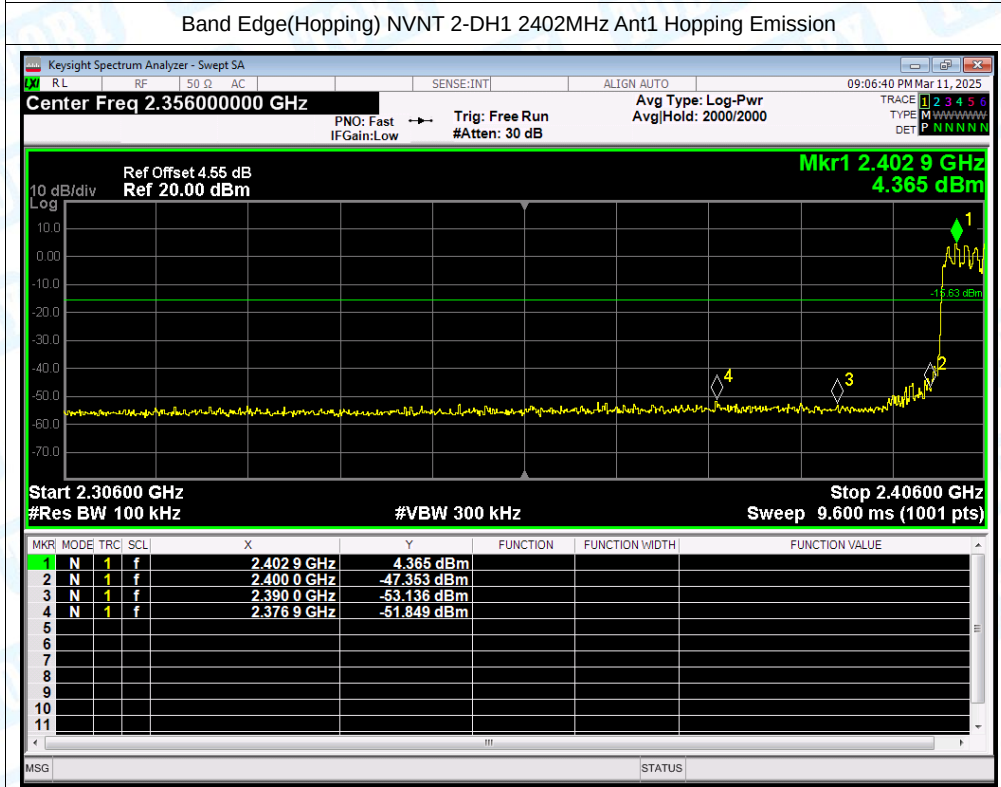
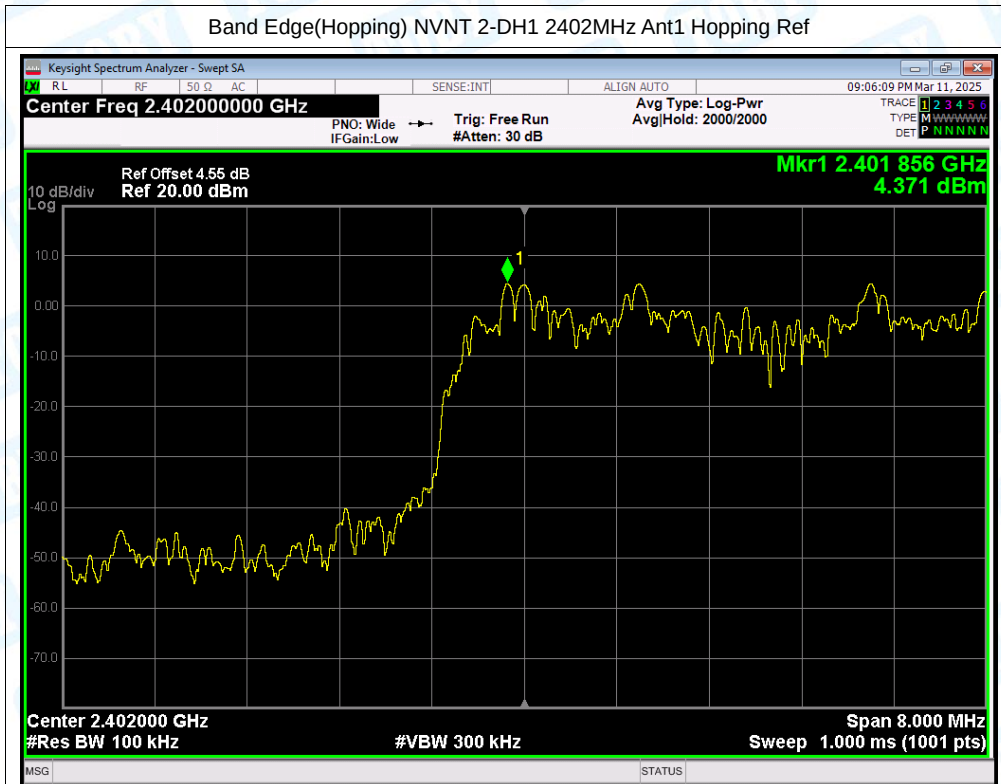
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

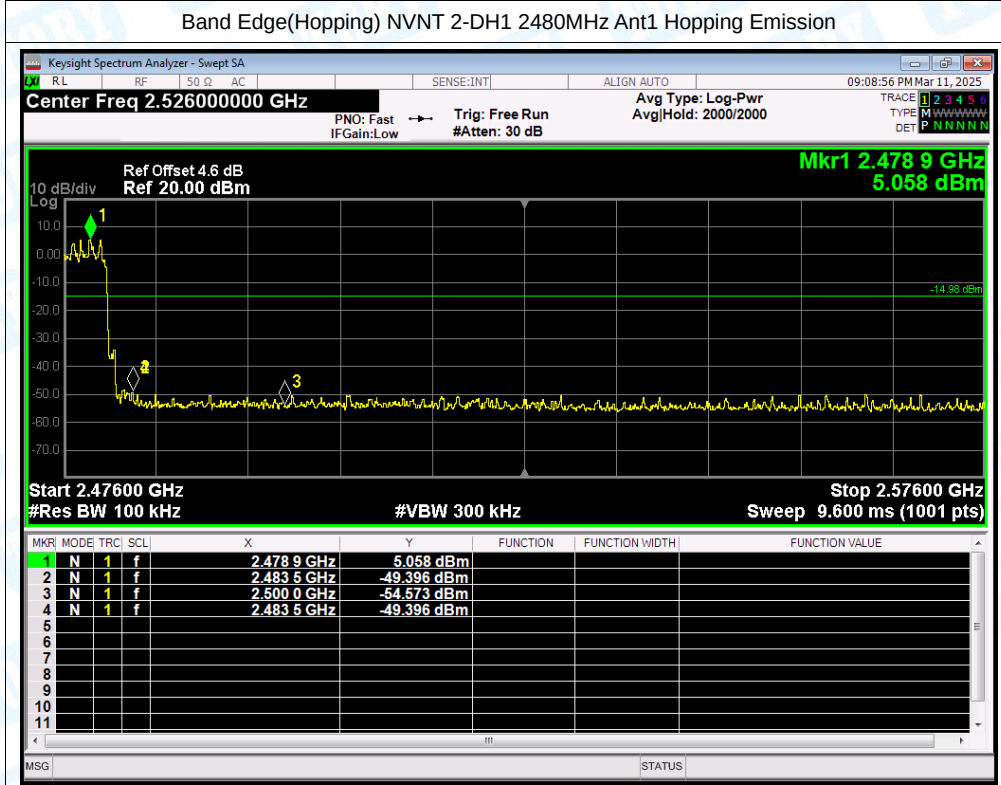


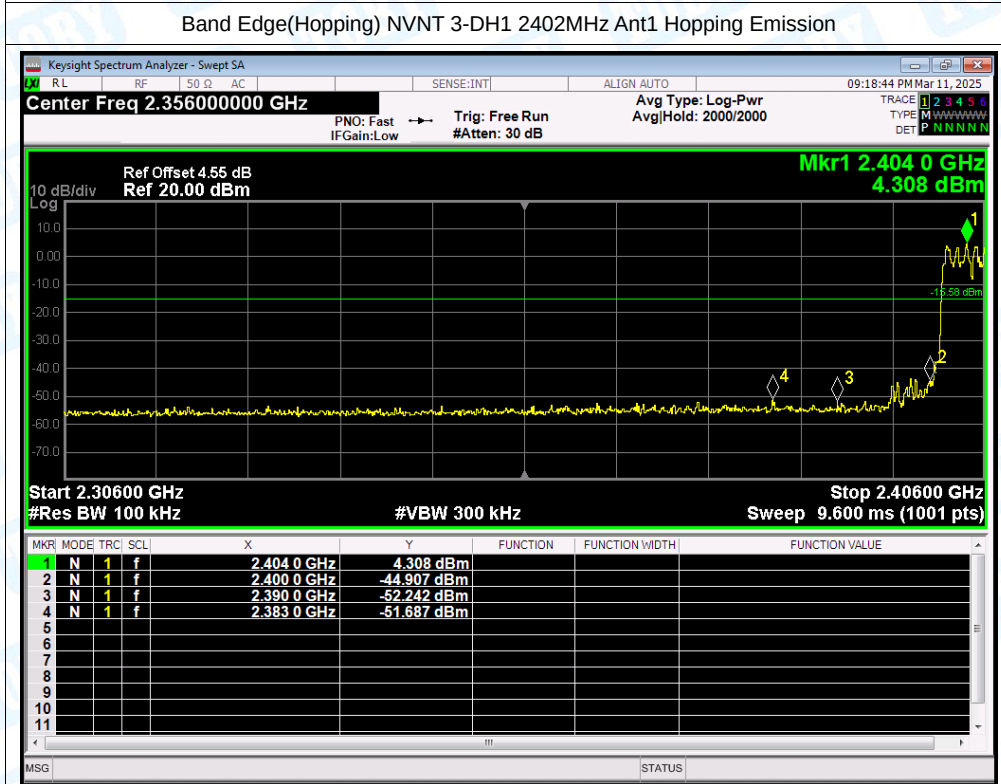
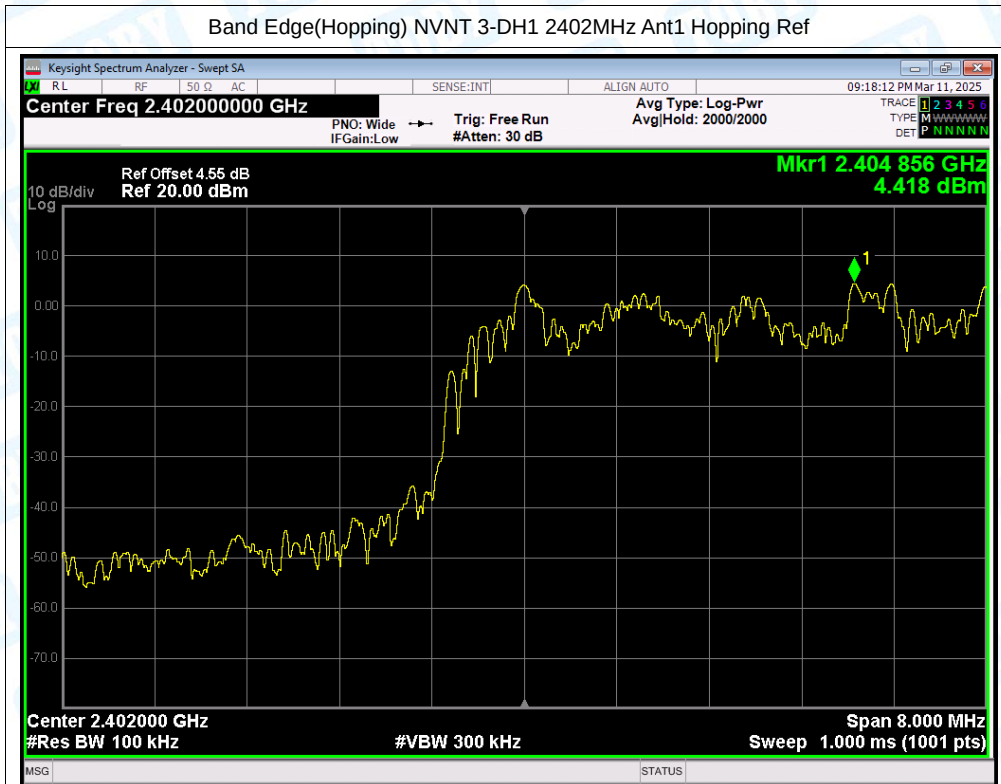
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

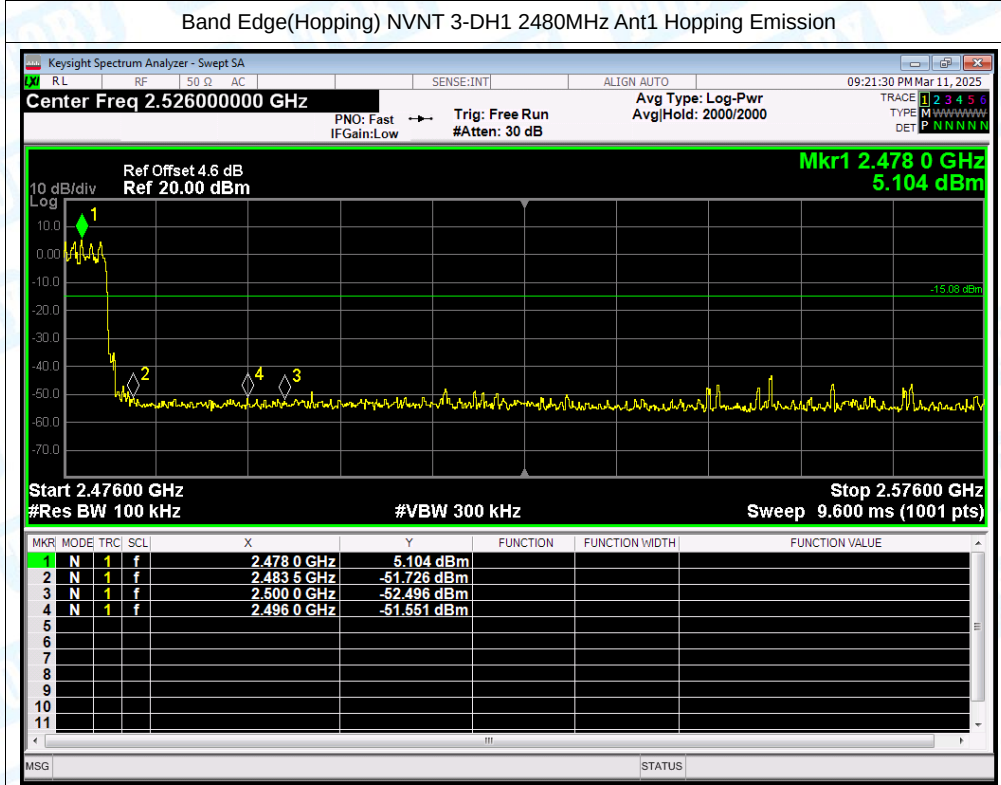










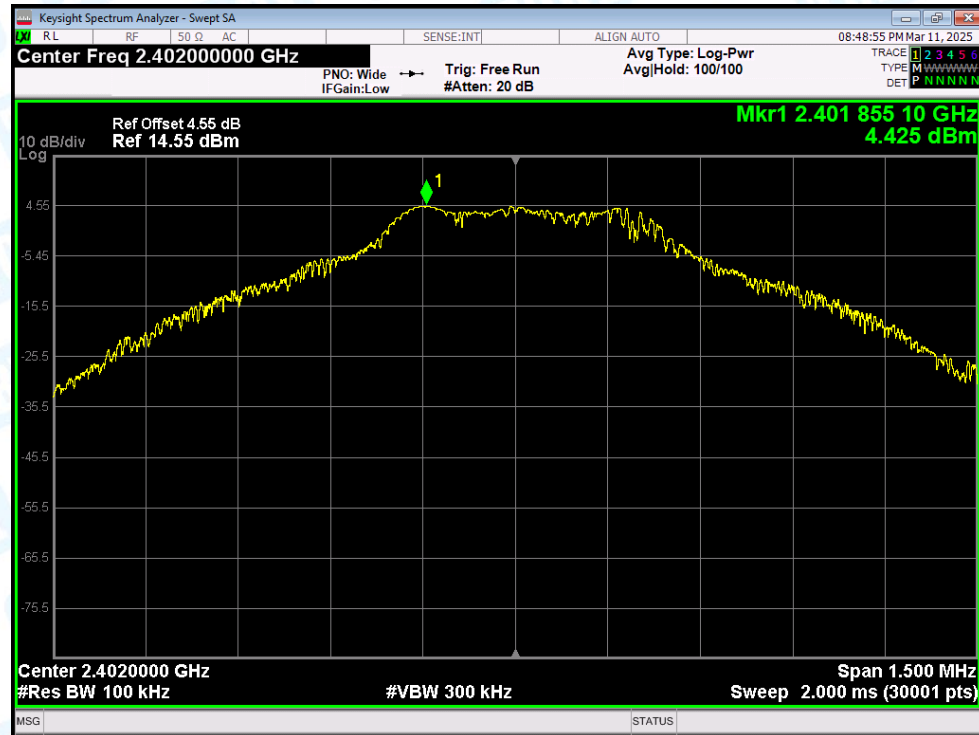


7. Conducted RF Spurious Emission

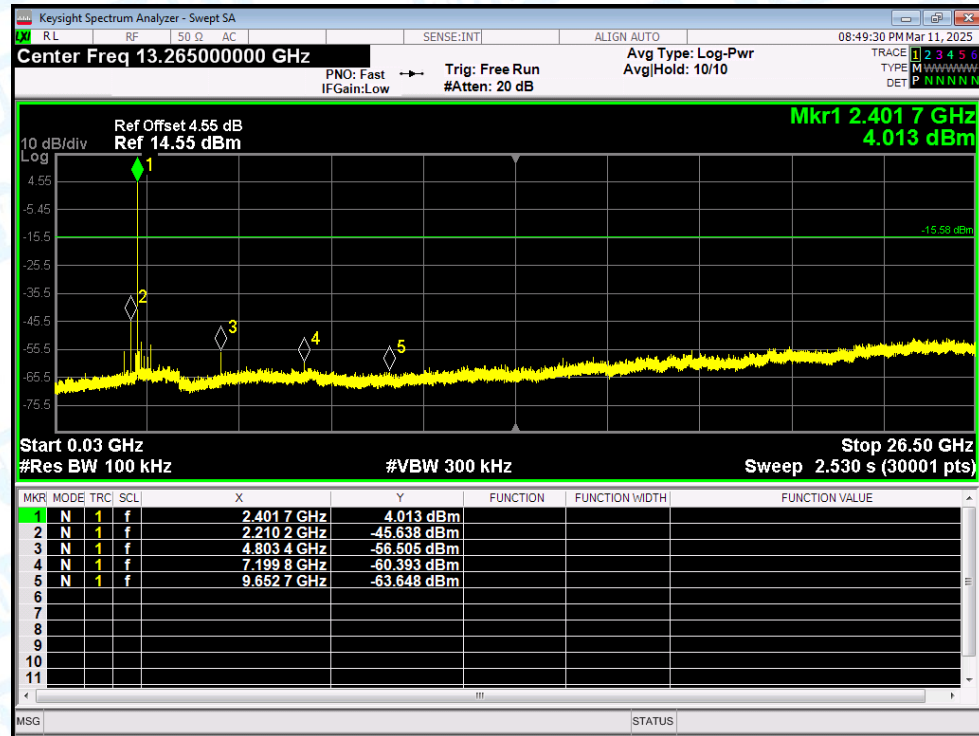
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-50.07	-20	Pass
NVNT	1-DH1	2441	Ant1	-46.91	-20	Pass
NVNT	1-DH1	2480	Ant1	-49.25	-20	Pass
NVNT	2-DH1	2402	Ant1	-47.03	-20	Pass
NVNT	2-DH1	2441	Ant1	-47.05	-20	Pass
NVNT	2-DH1	2480	Ant1	-50.29	-20	Pass
NVNT	3-DH1	2402	Ant1	-49.37	-20	Pass
NVNT	3-DH1	2441	Ant1	-48.25	-20	Pass
NVNT	3-DH1	2480	Ant1	-47.88	-20	Pass

Test Graphs

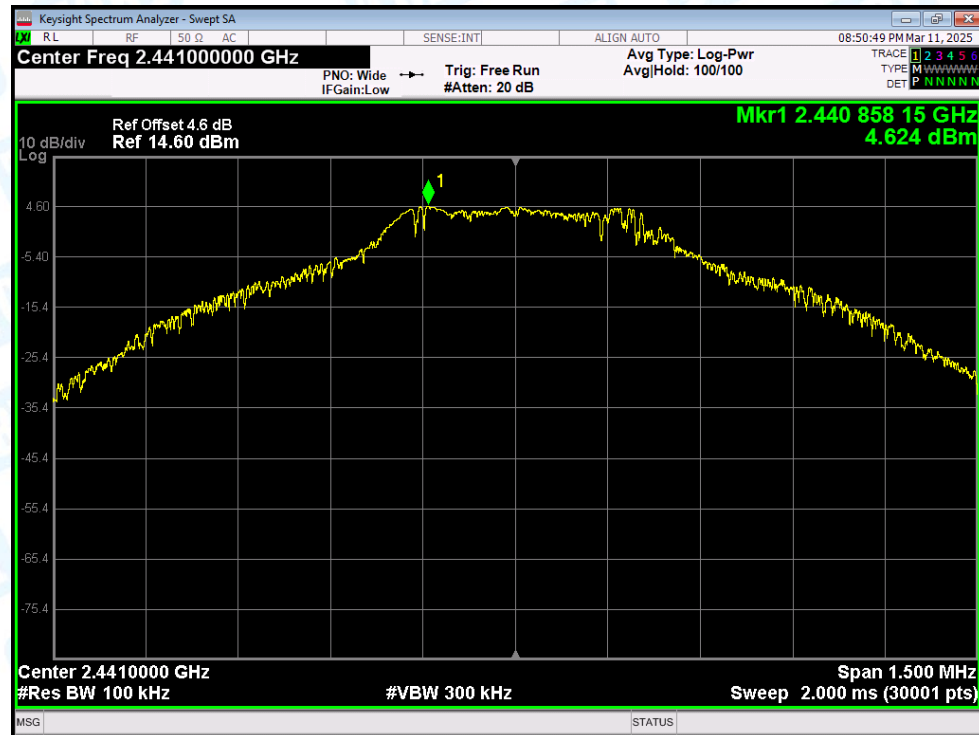
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



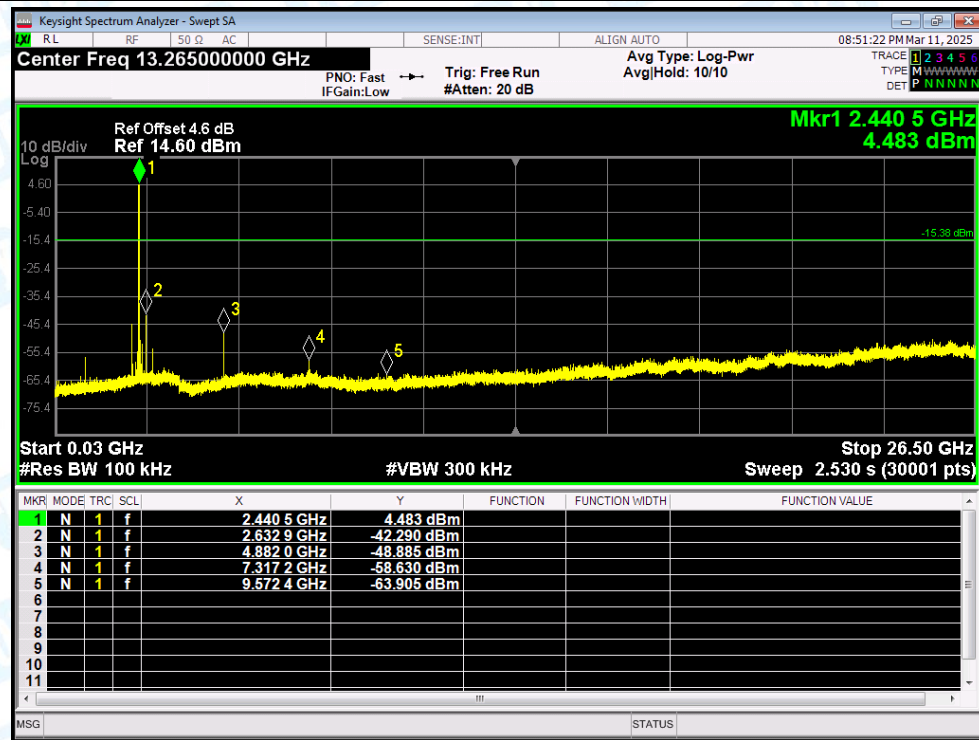
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



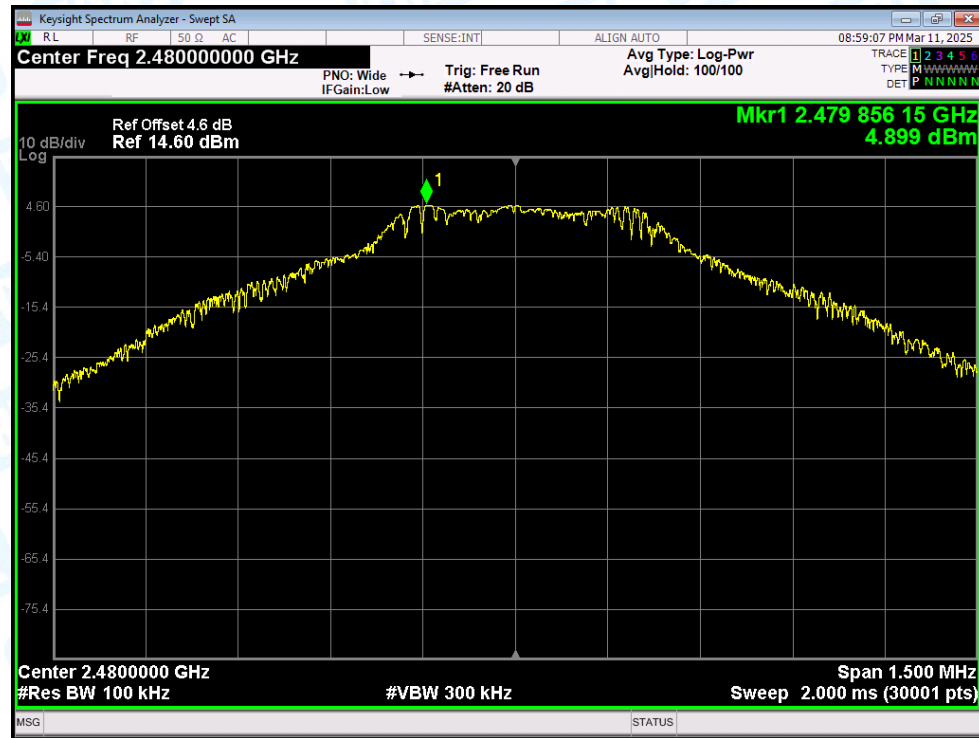
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



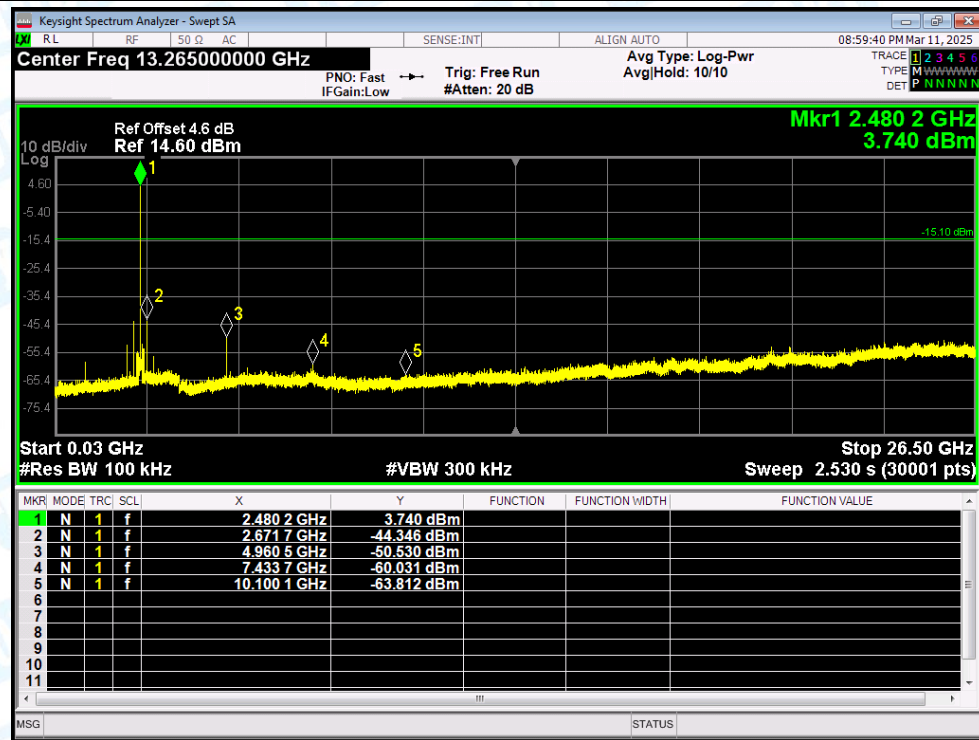
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



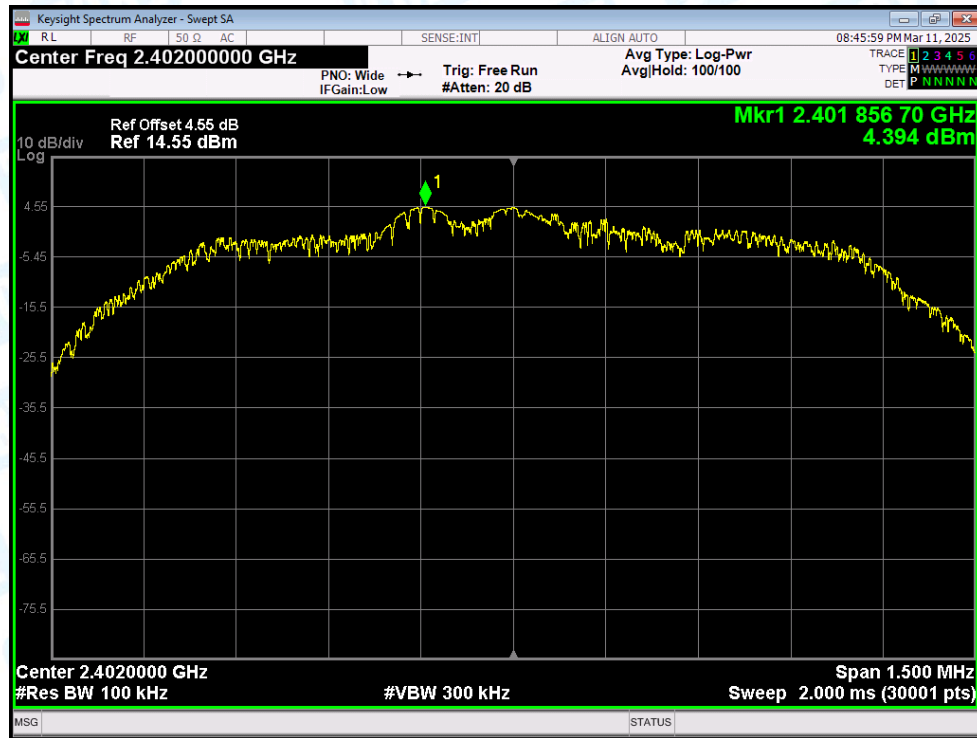
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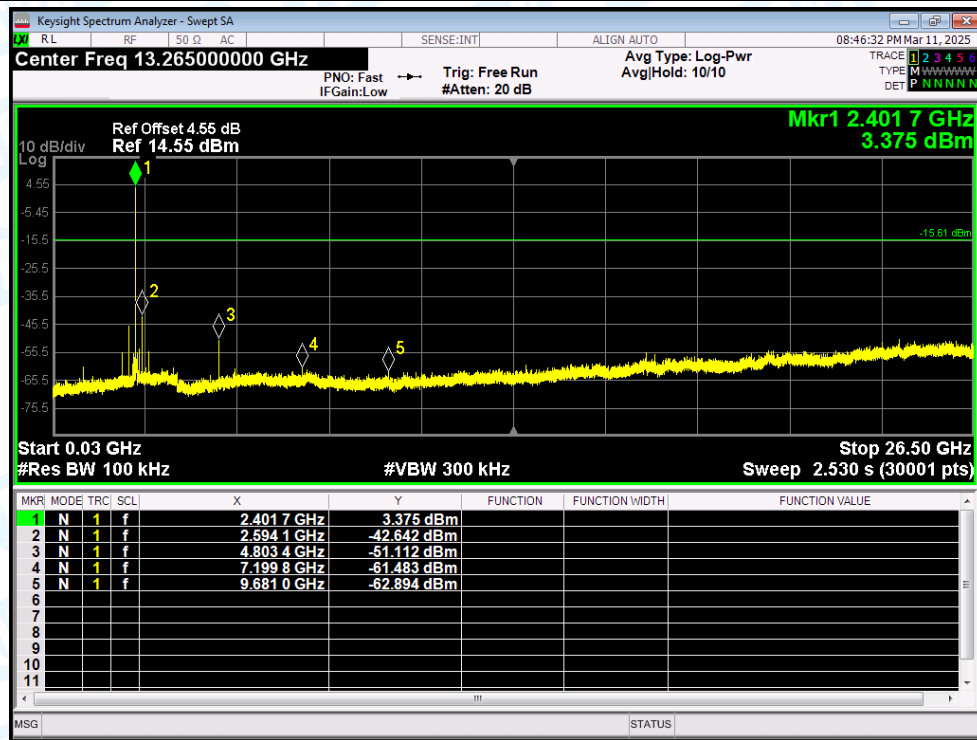
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



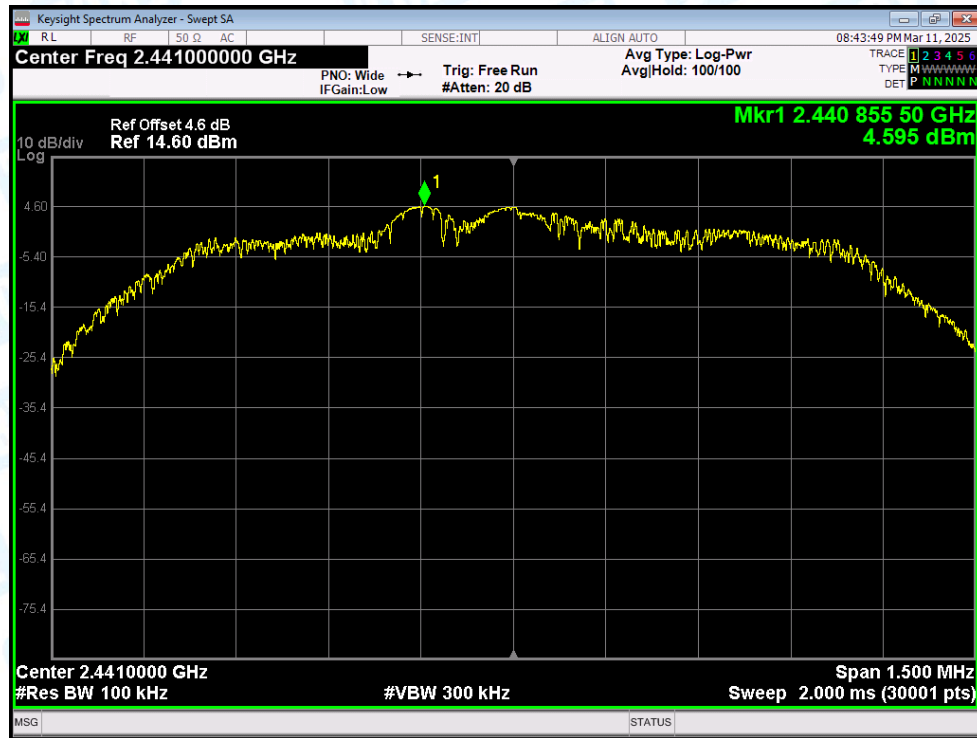
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



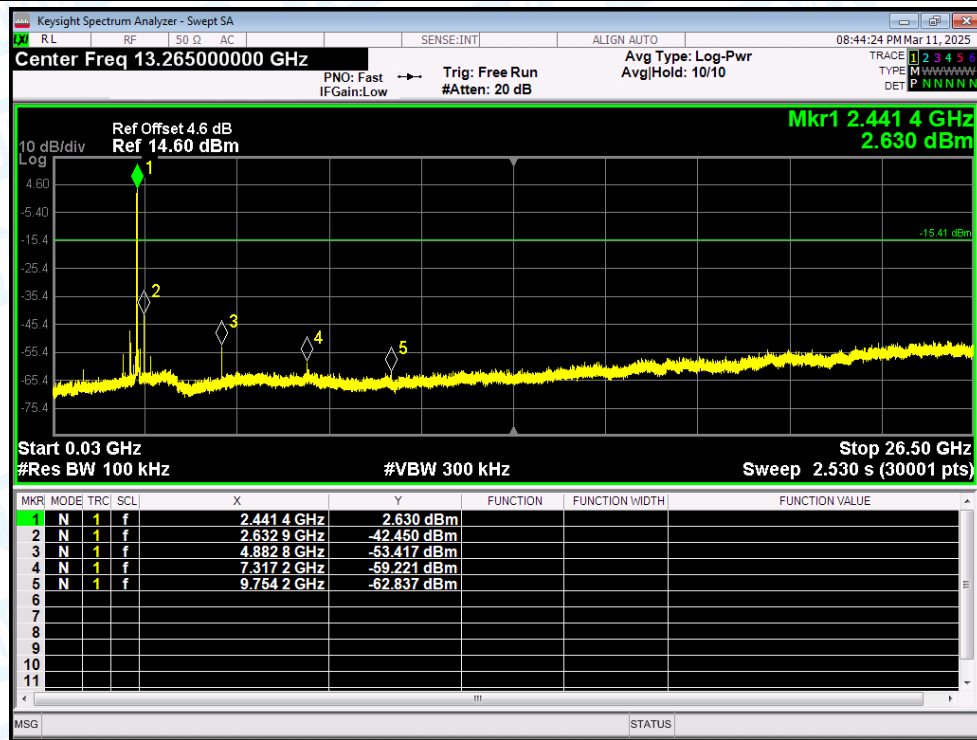
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



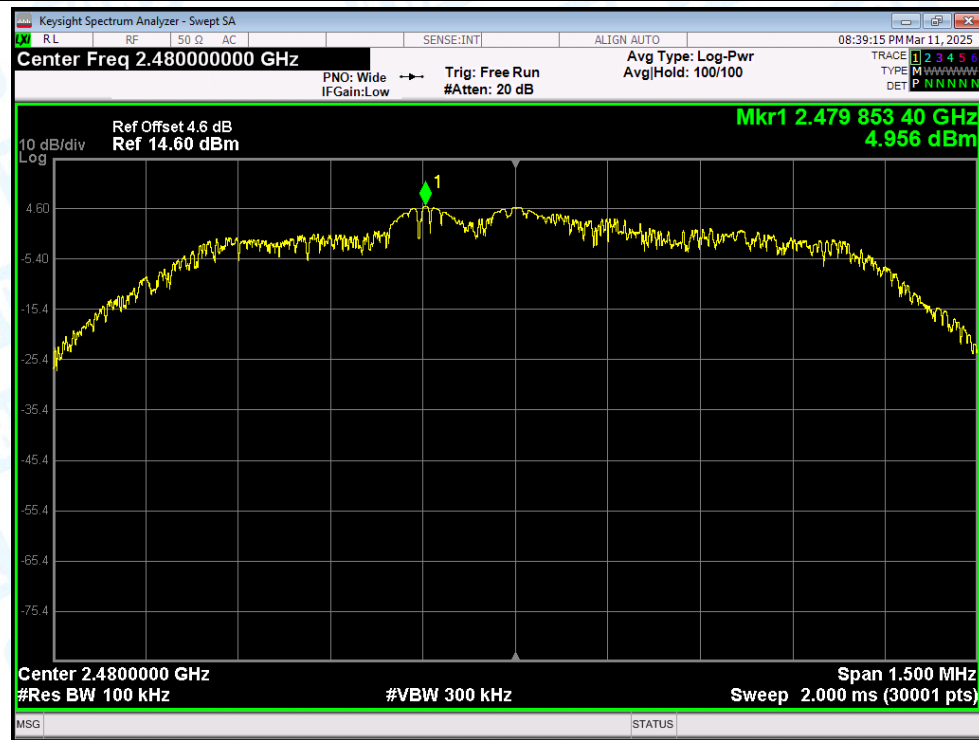
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



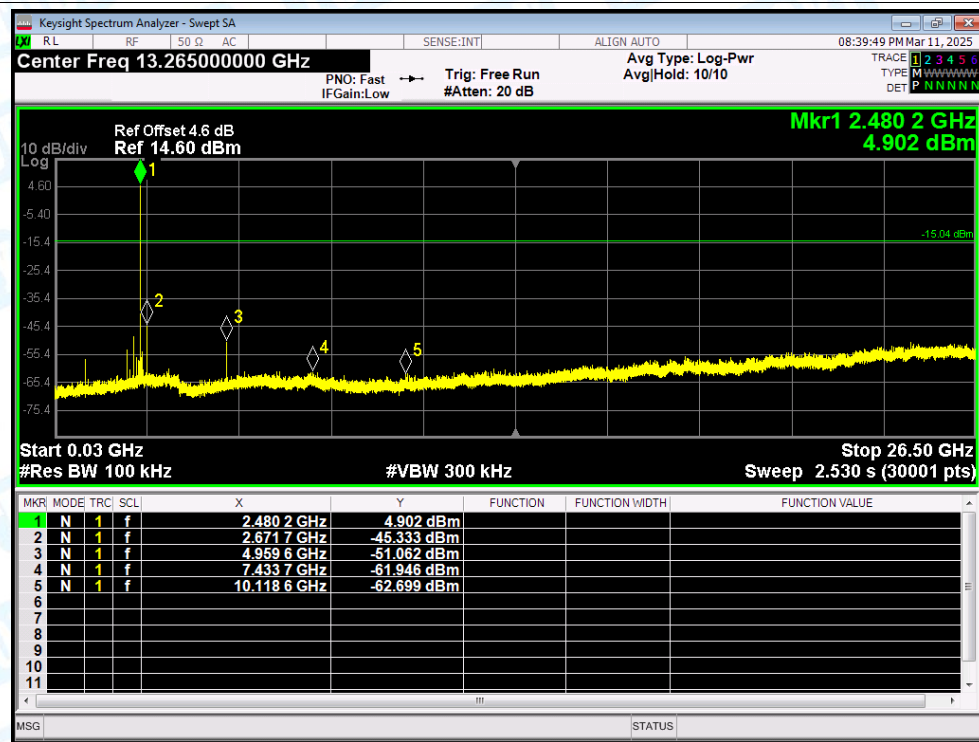
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



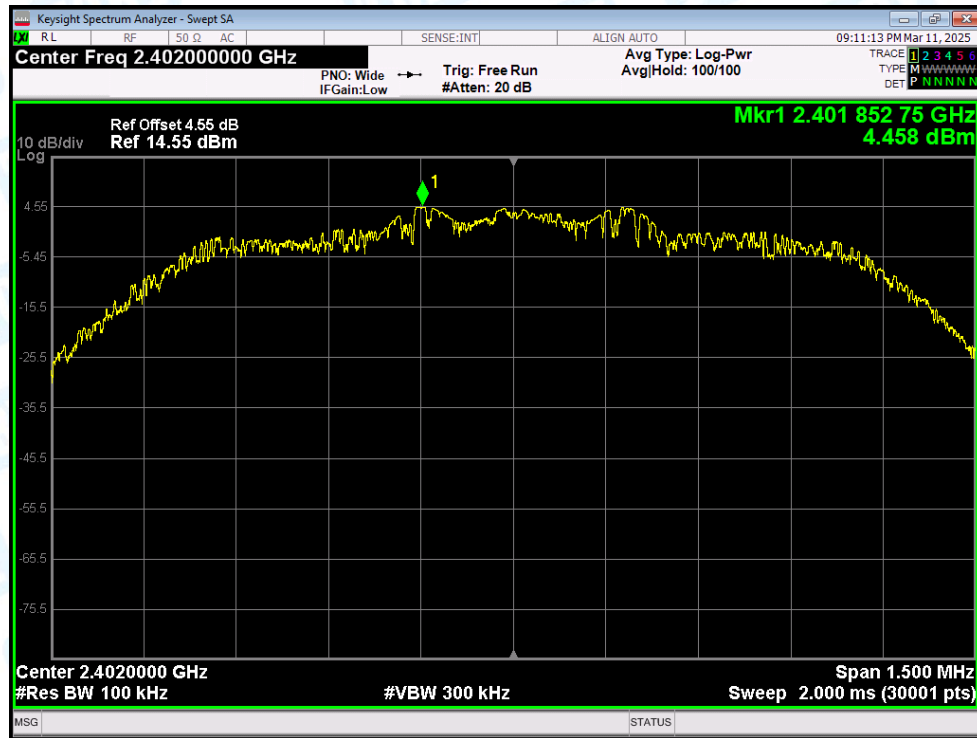
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



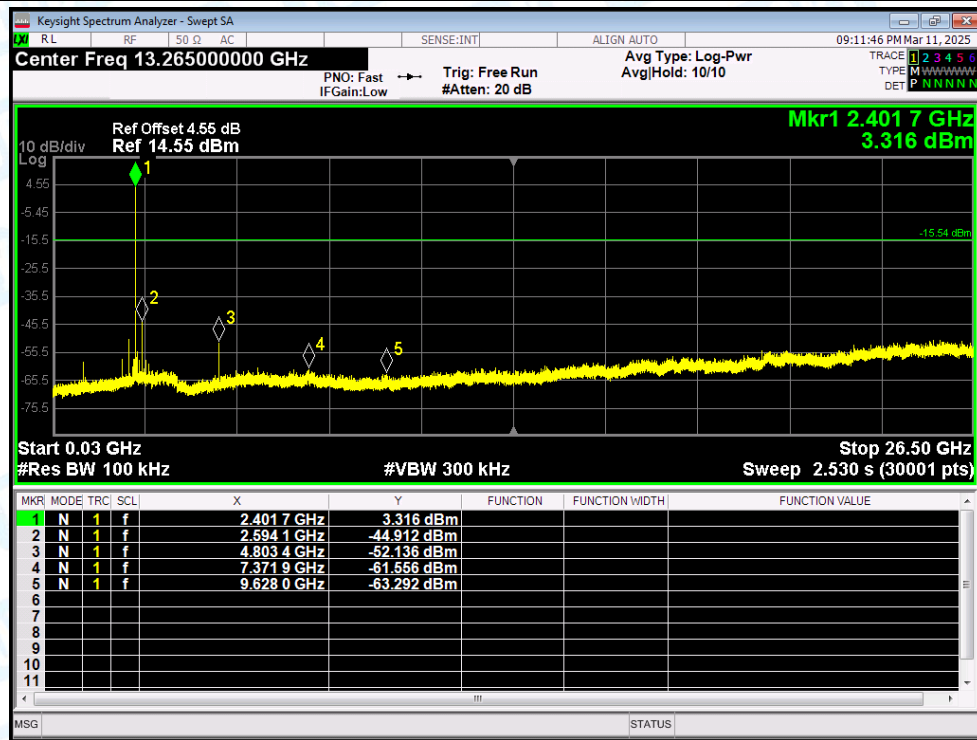
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



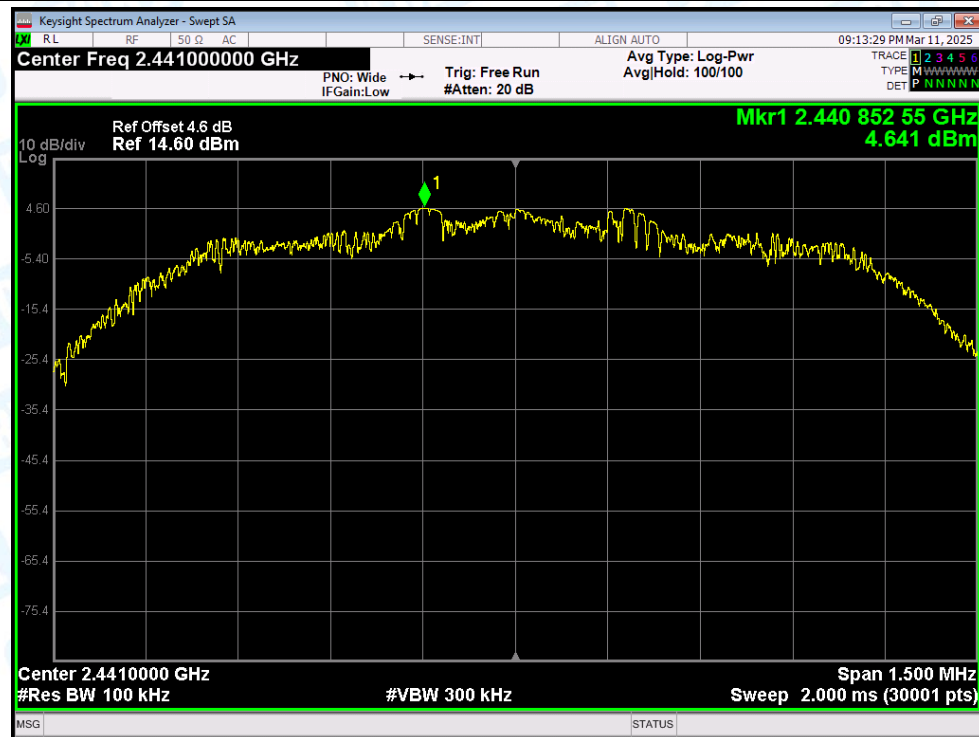
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



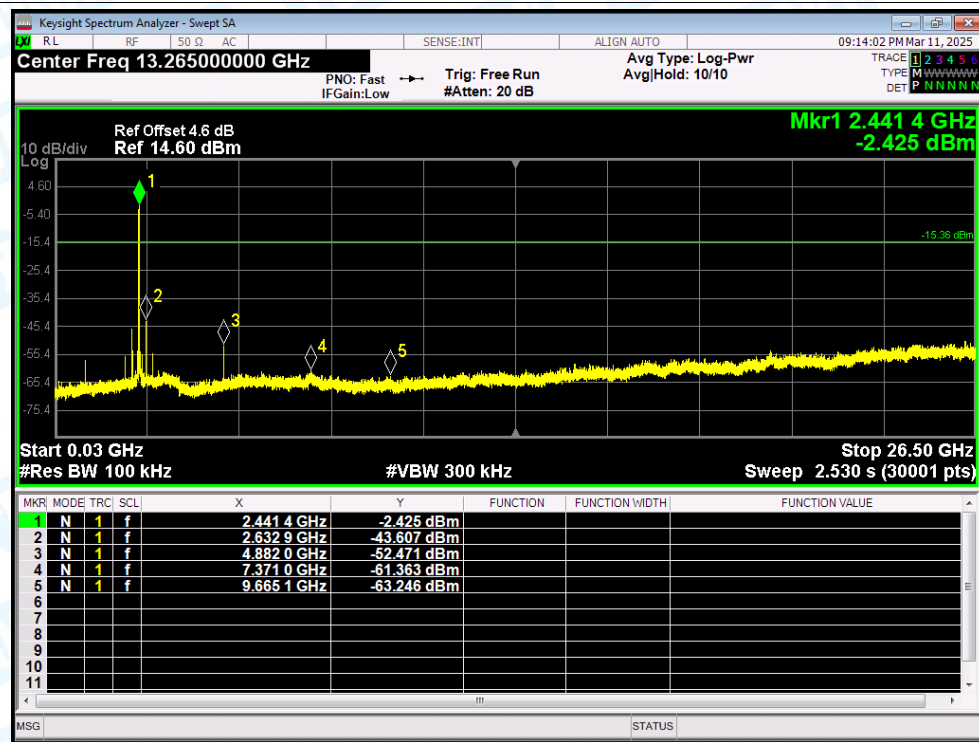
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



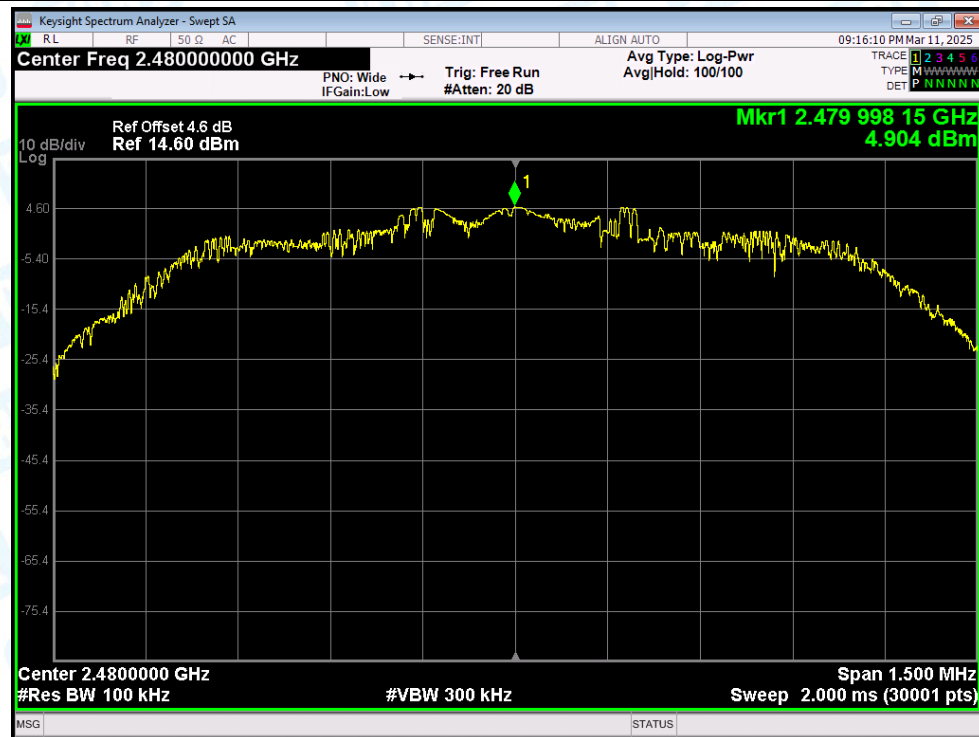
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



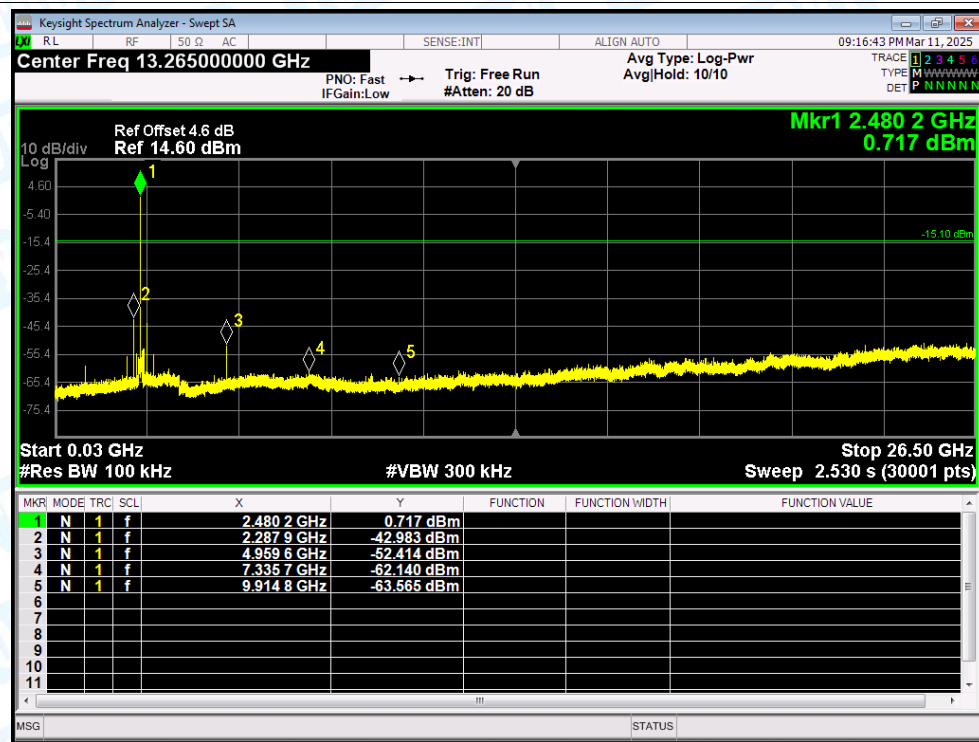
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

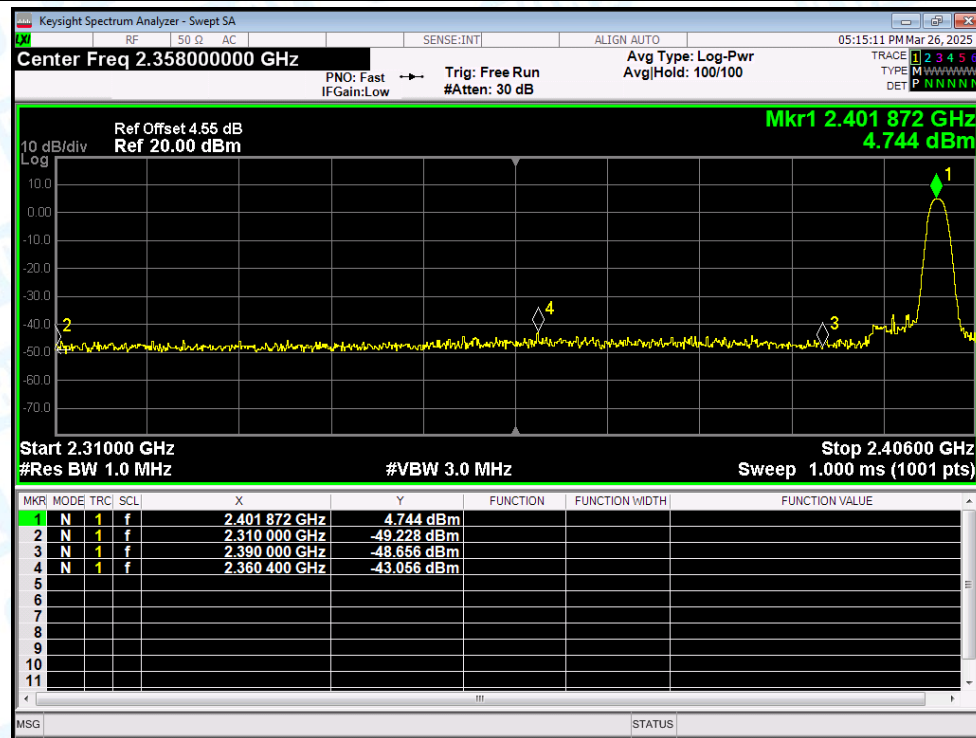


8. Restrict Band

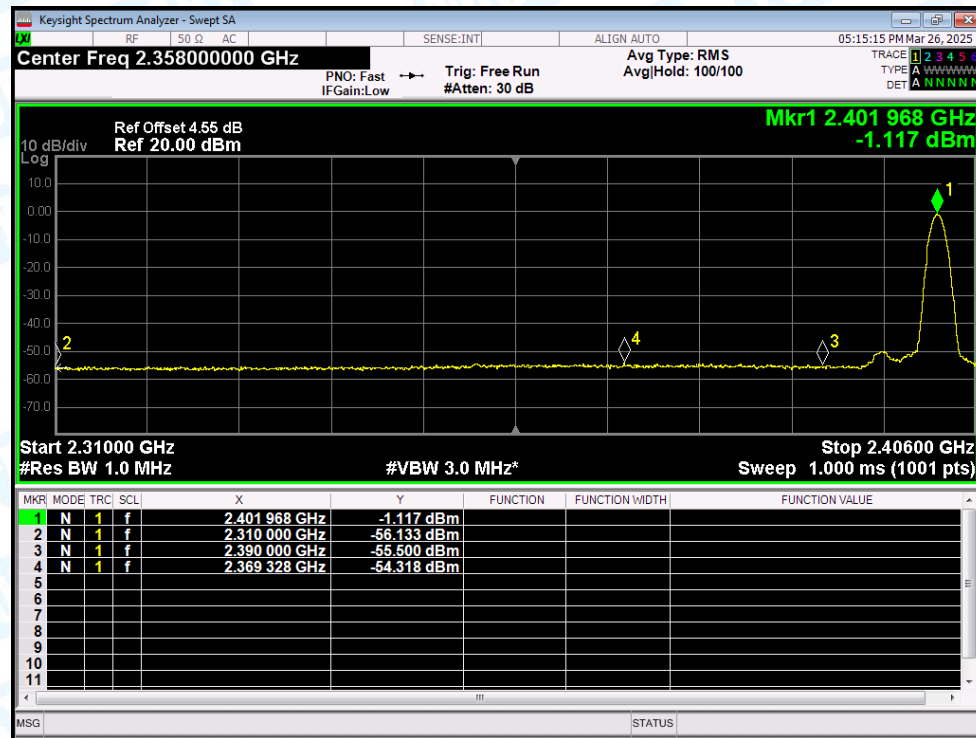
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-49.23	2	-	48.03	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.13	2	5.09	46.22	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2360.4	-43.06	2	-	54.2	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2369.328	-54.32	2	5.09	48.03	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.66	2	-	48.6	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.5	2	5.09	46.85	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-40.5	2	-	56.76	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-51.15	2	5.17	51.28	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.512	-40.5	2	-	56.76	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.512	-51.15	2	5.17	51.28	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-46.57	2	-	50.69	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-54.93	2	5.17	47.5	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-49.32	2	-	47.94	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.75	2	5.06	45.57	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2351.76	-43.48	2	-	53.78	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2364.816	-54.29	2	5.06	48.03	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-46.83	2	-	50.43	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.23	2	5.06	47.09	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-41.7	2	-	55.56	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-52.1	2	4.98	50.14	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.832	-40.22	2	-	57.04	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.512	-52.09	2	4.98	50.15	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-44.7	2	-	52.56	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-54.98	2	4.98	47.26	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-49.58	2	-	47.68	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.71	2	4.95	45.5	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2366.256	-43.41	2	-	53.85	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2363.856	-54.03	2	4.95	48.18	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-47.26	2	-	50	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.56	2	4.95	46.65	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-42.07	2	-	55.19	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-52.01	2	4.95	50.2	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2484.904	-38.16	2	-	59.1	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.584	-51.92	2	4.95	50.29	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.44	2	-	49.82	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-54.91	2	4.95	47.3	Average	54	Pass

Test Graphs

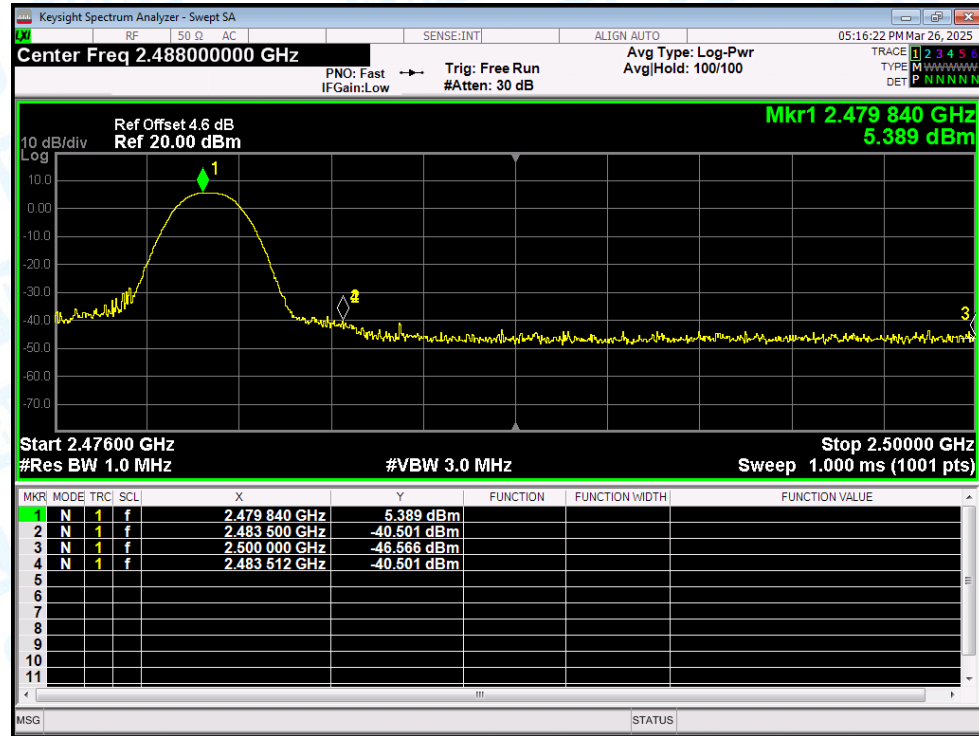
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



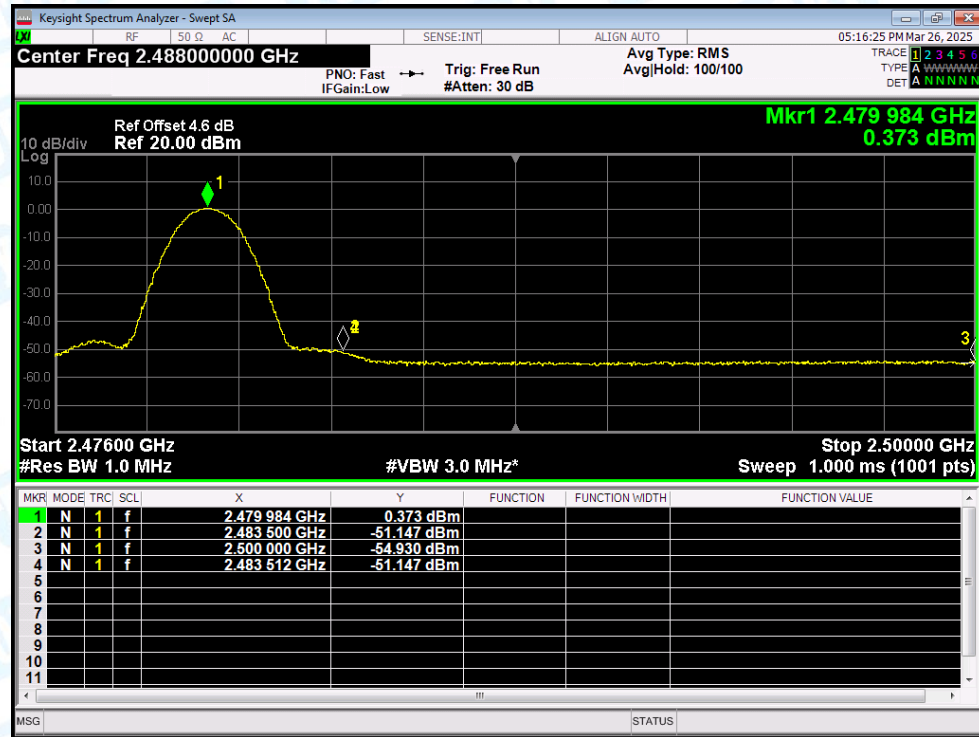
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



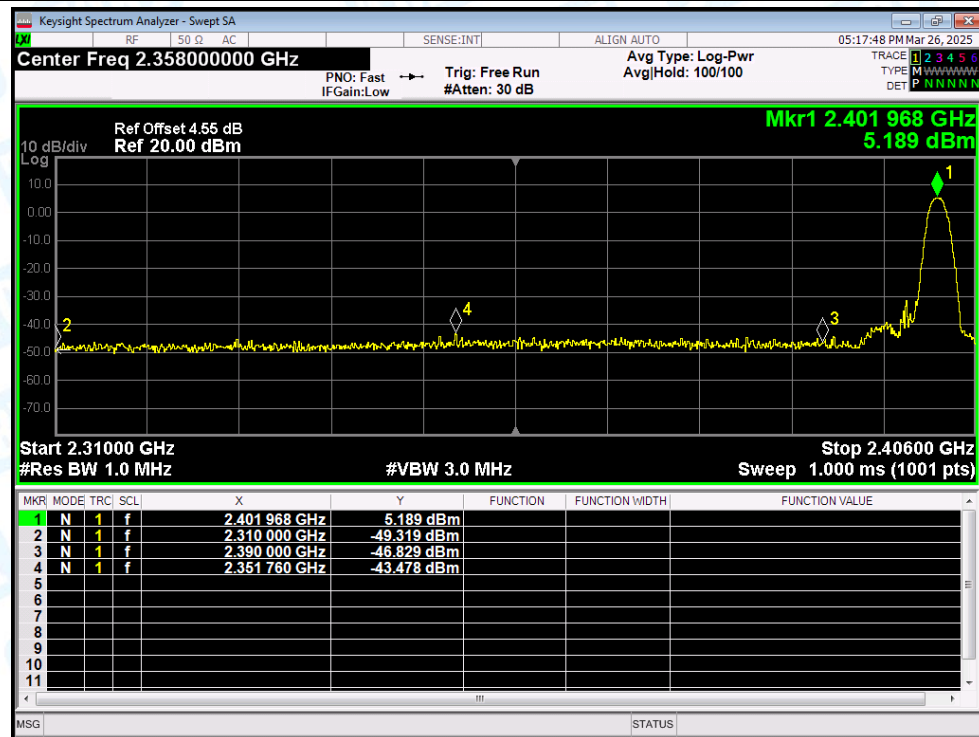
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



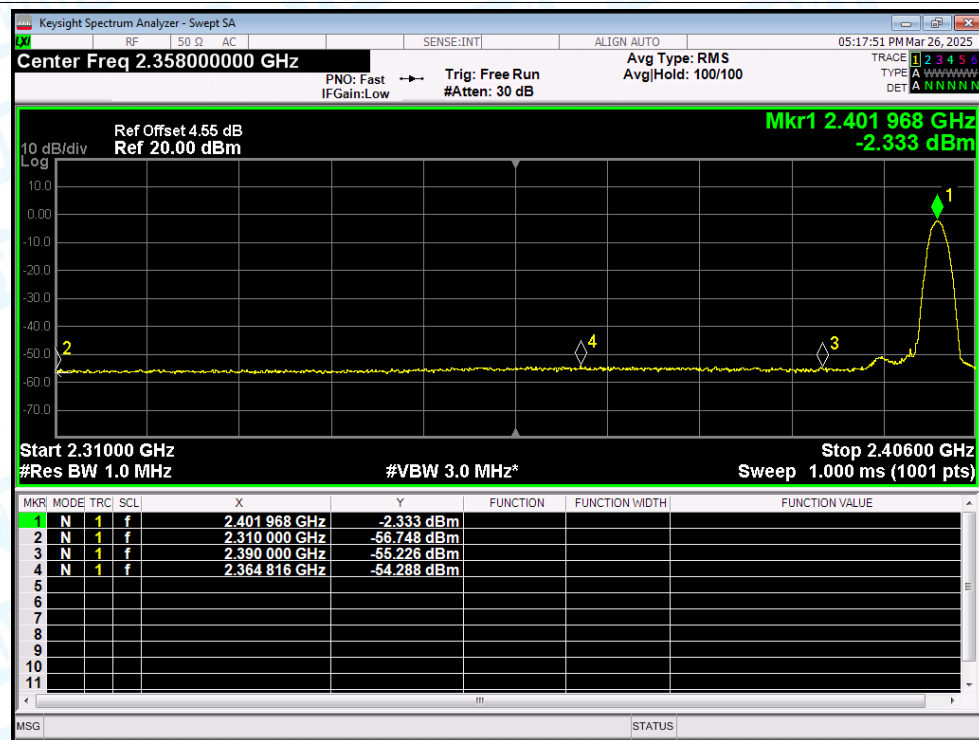
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



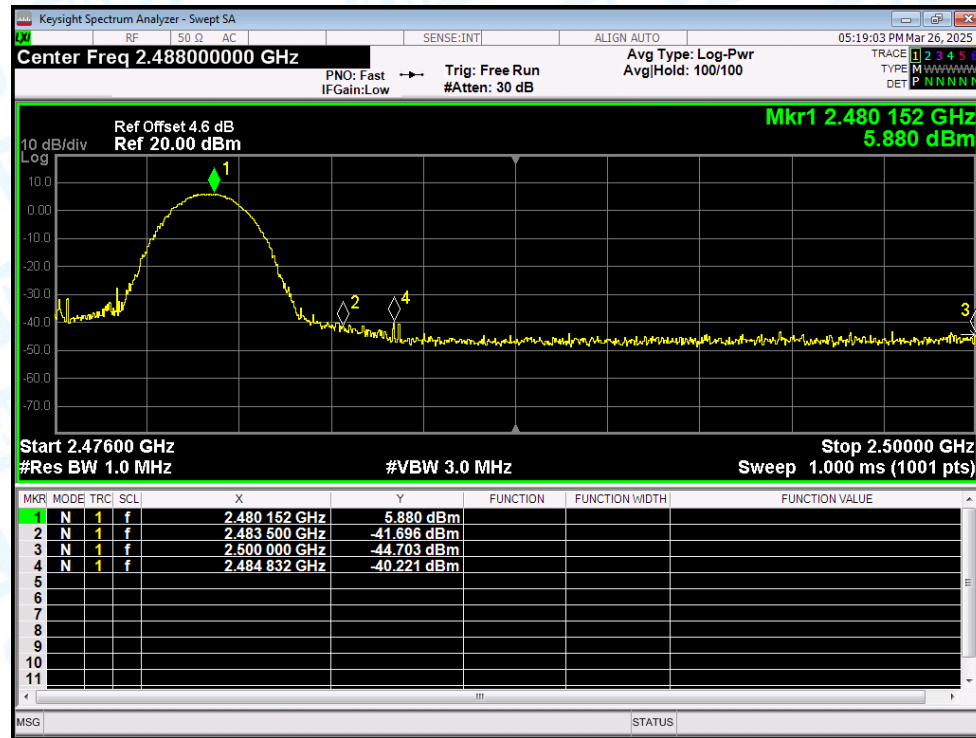
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



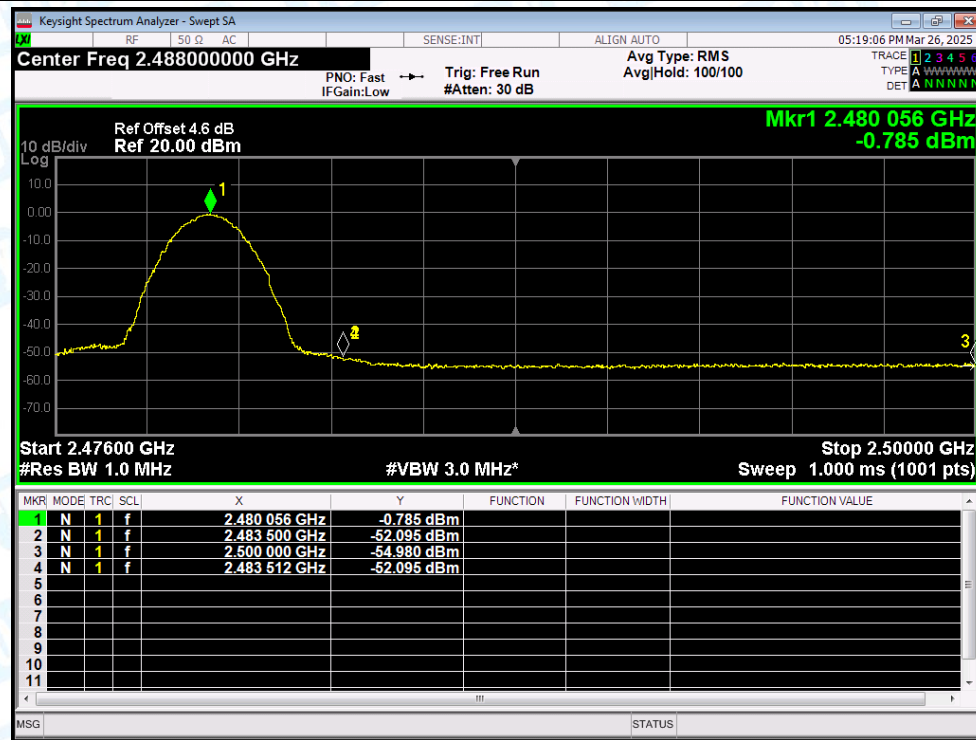
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



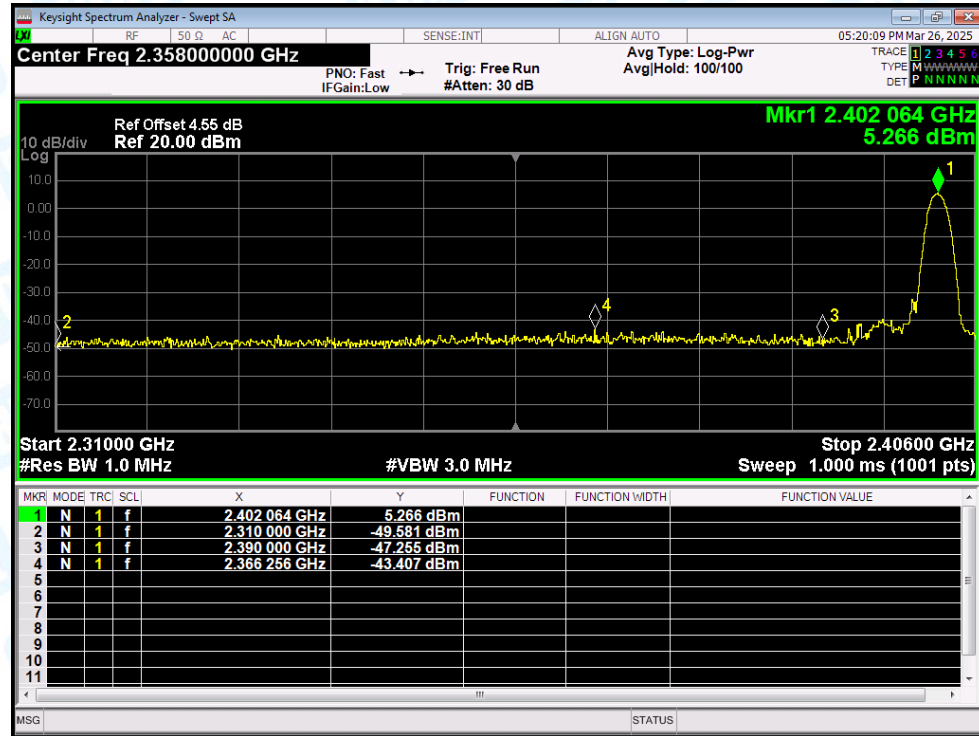
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



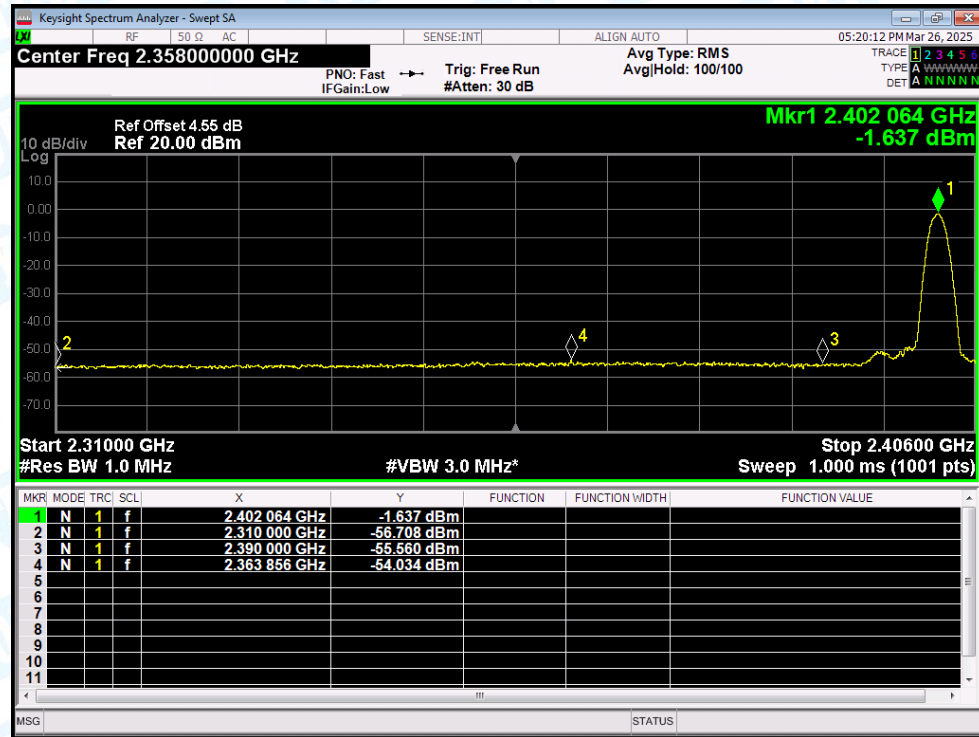
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



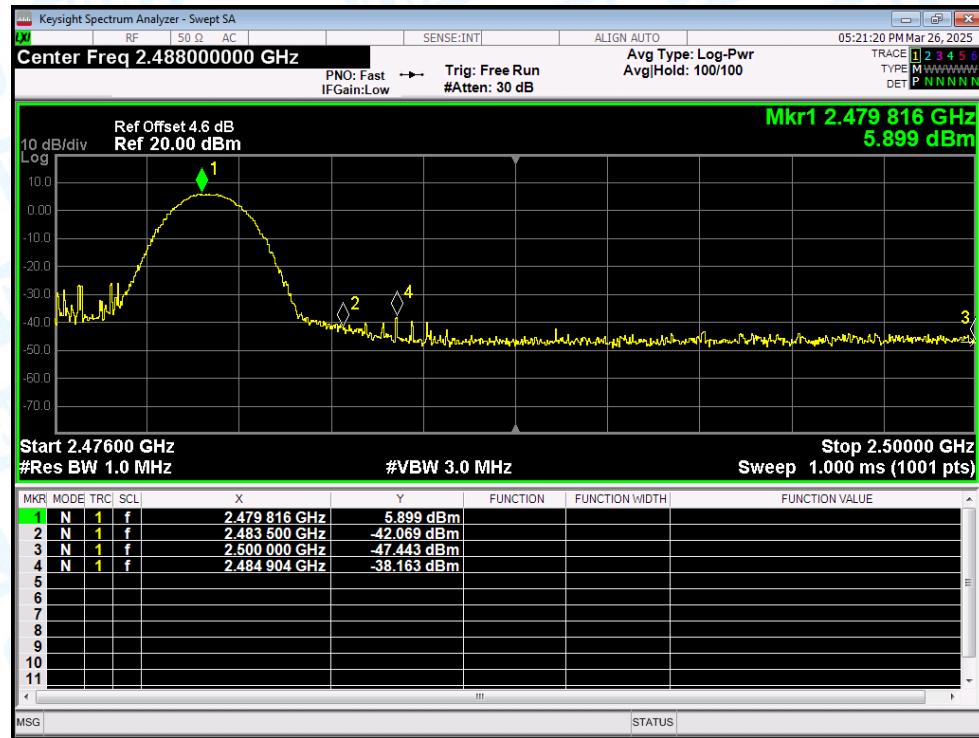
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



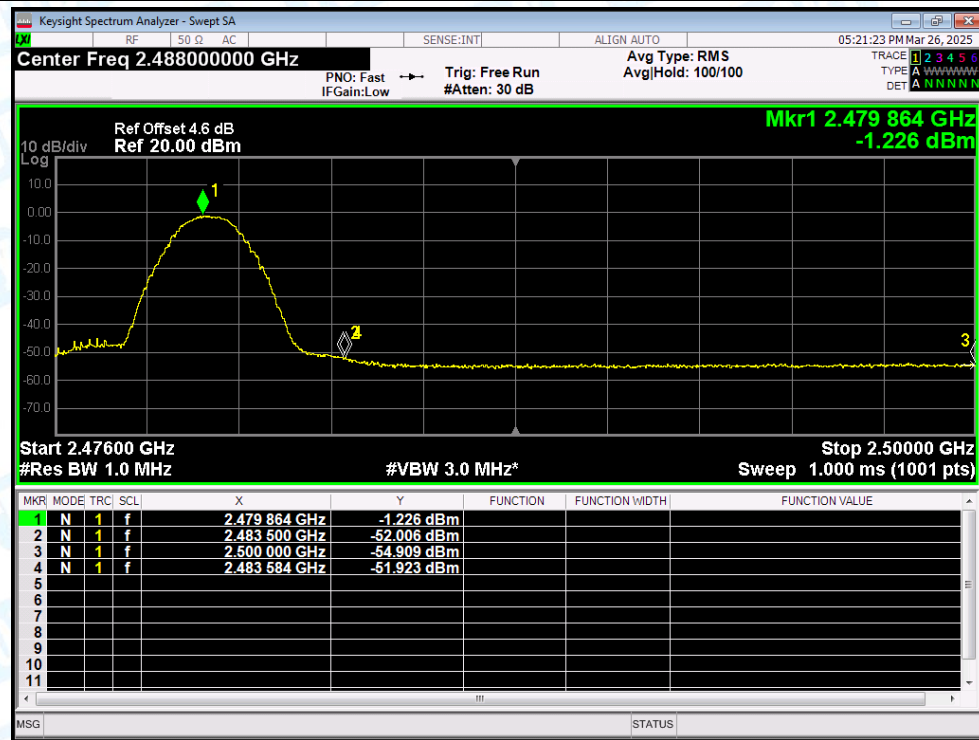
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

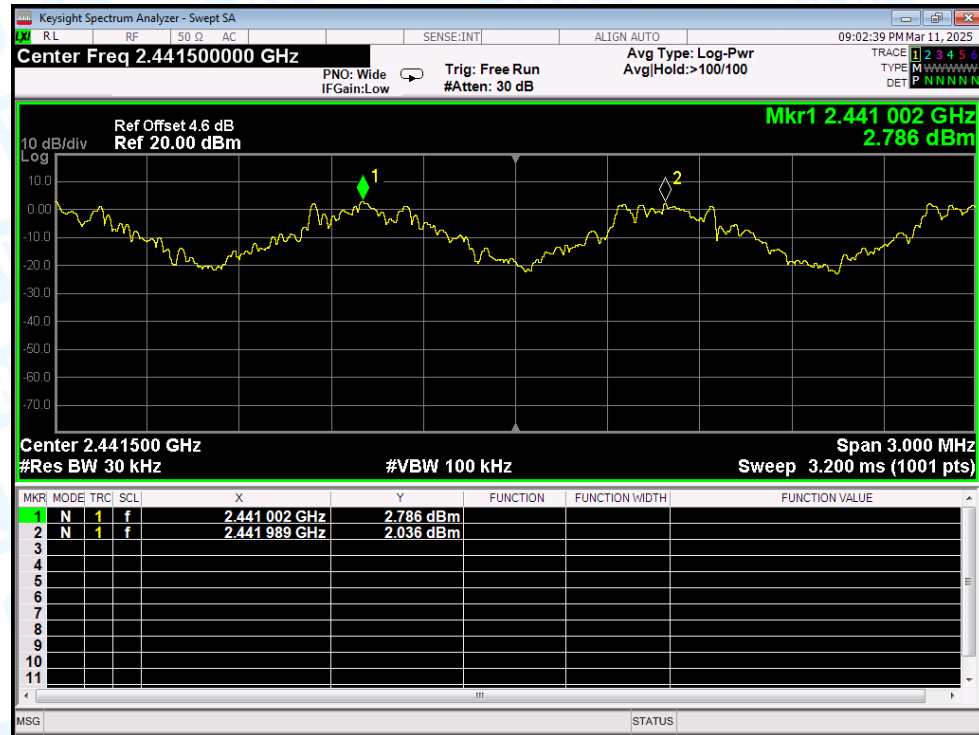


9. Carrier Frequencies Separation

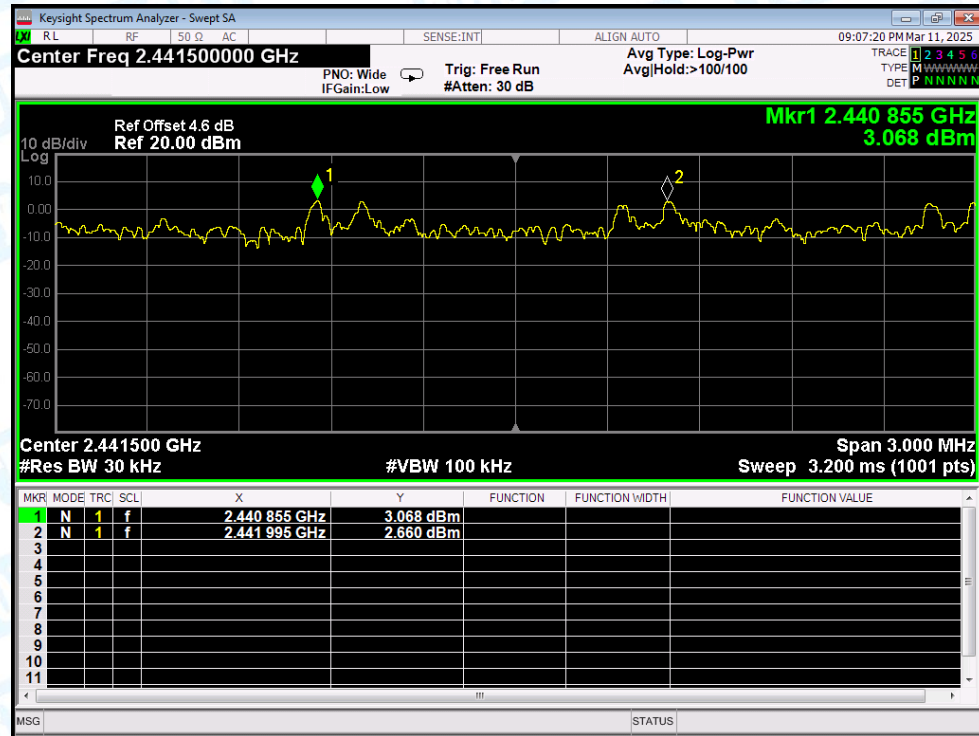
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2441.002	2441.989	0.987	0.587	Pass
NVNT	2-DH1	Ant1	2440.855	2441.995	1.14	0.813	Pass
NVNT	3-DH1	Ant1	2440.996	2441.998	1.002	0.813	Pass

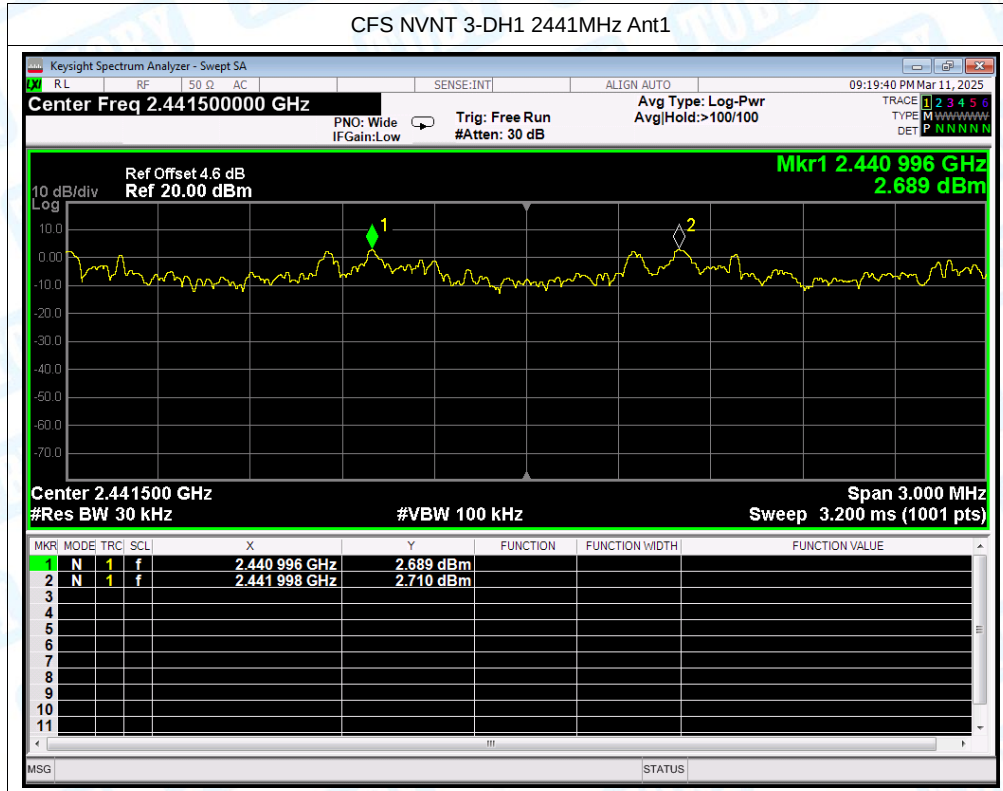
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



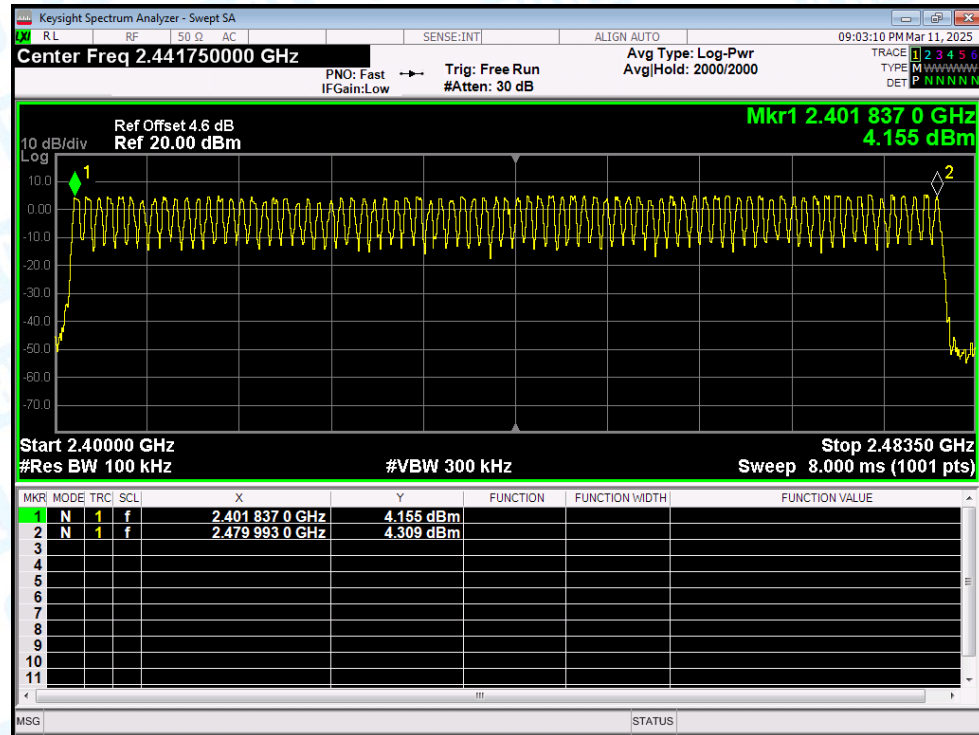


10. Number of Hopping Channel

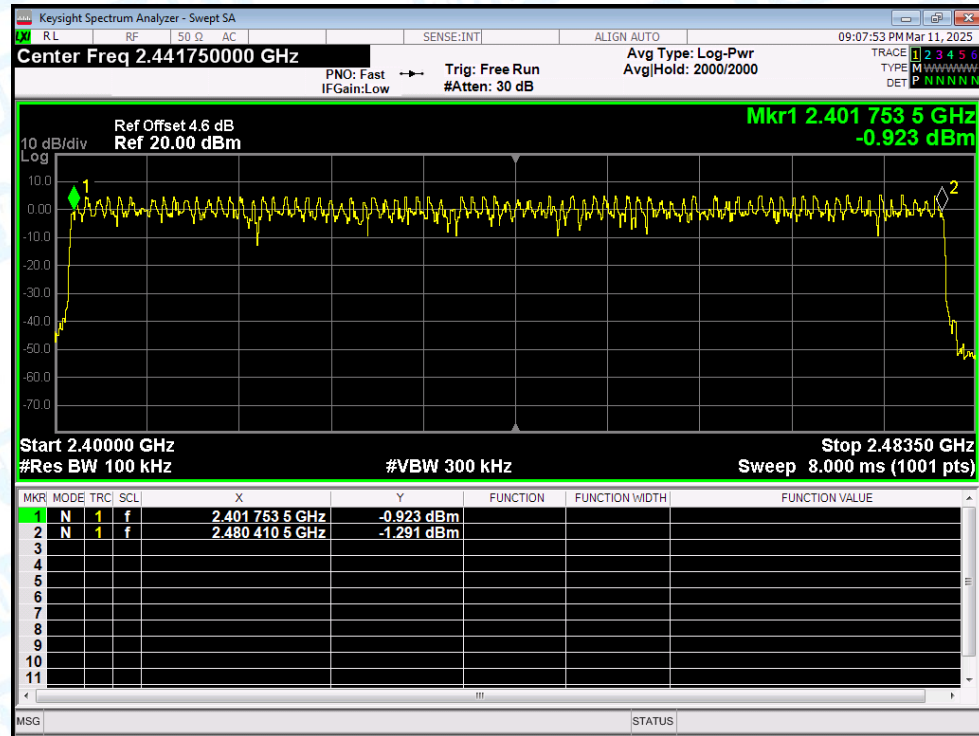
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

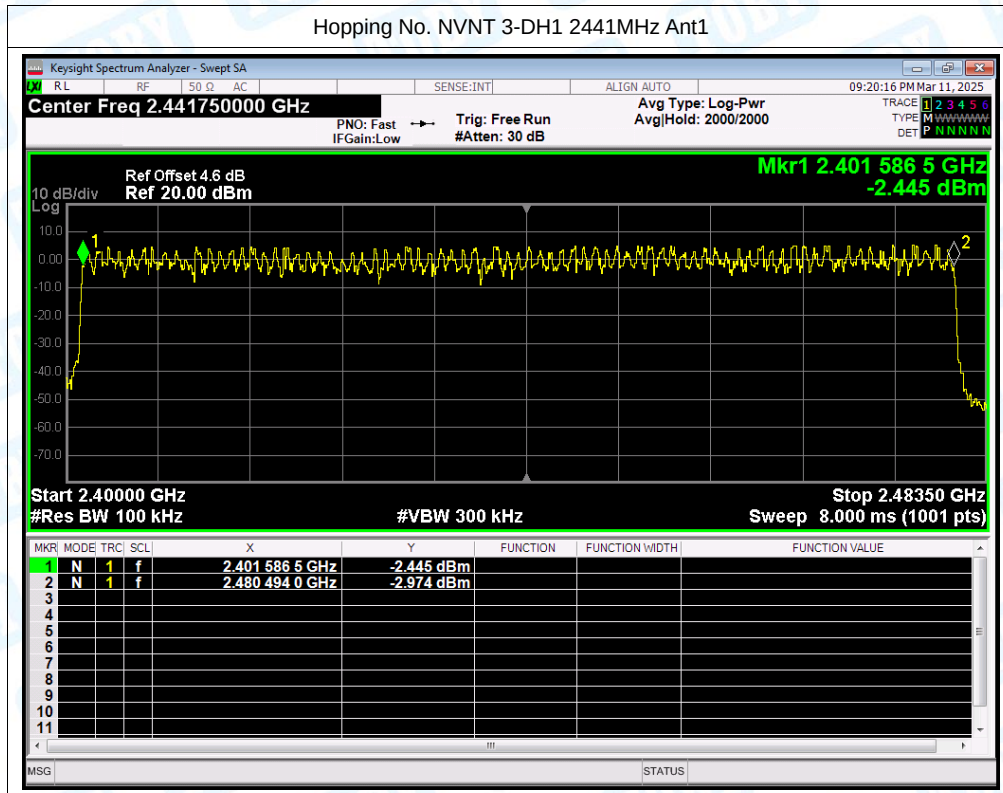
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



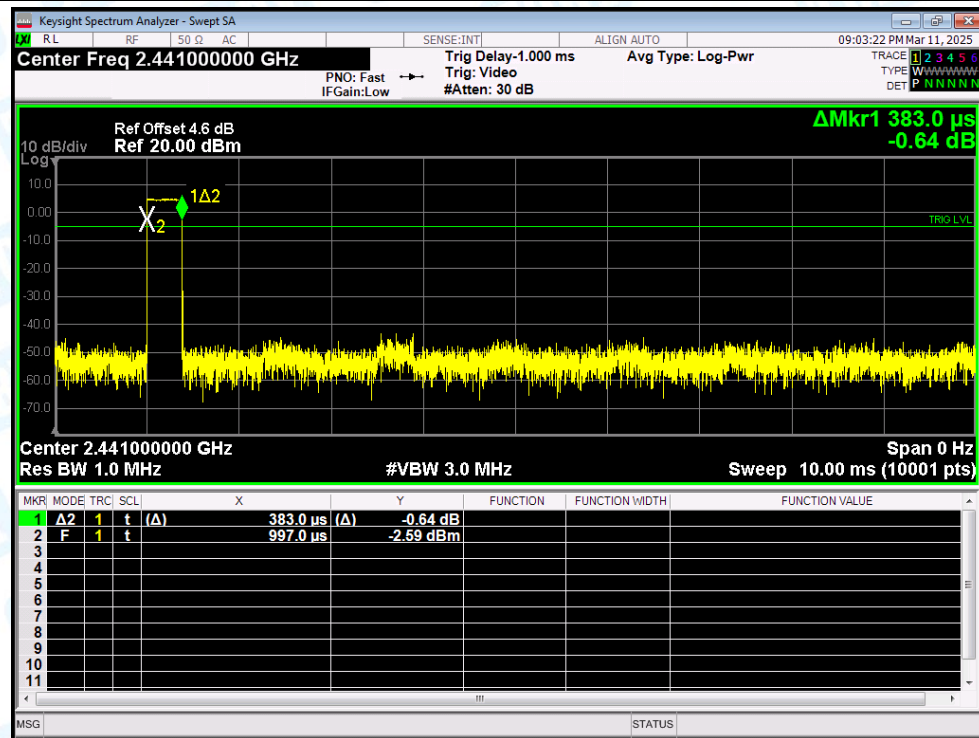


11. Dwell Time

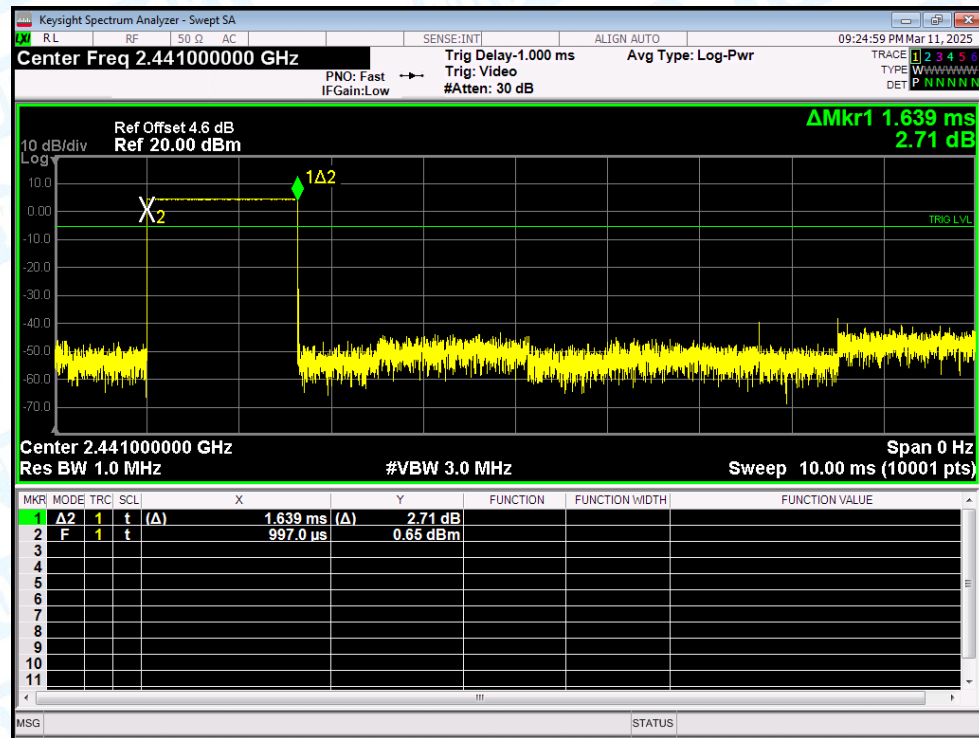
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.383	122.56	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.888	308.053	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.392	125.44	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.644	263.04	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.892	308.48	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.392	125.44	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.643	262.88	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.894	308.693	31600	400	Pass

Test Graphs

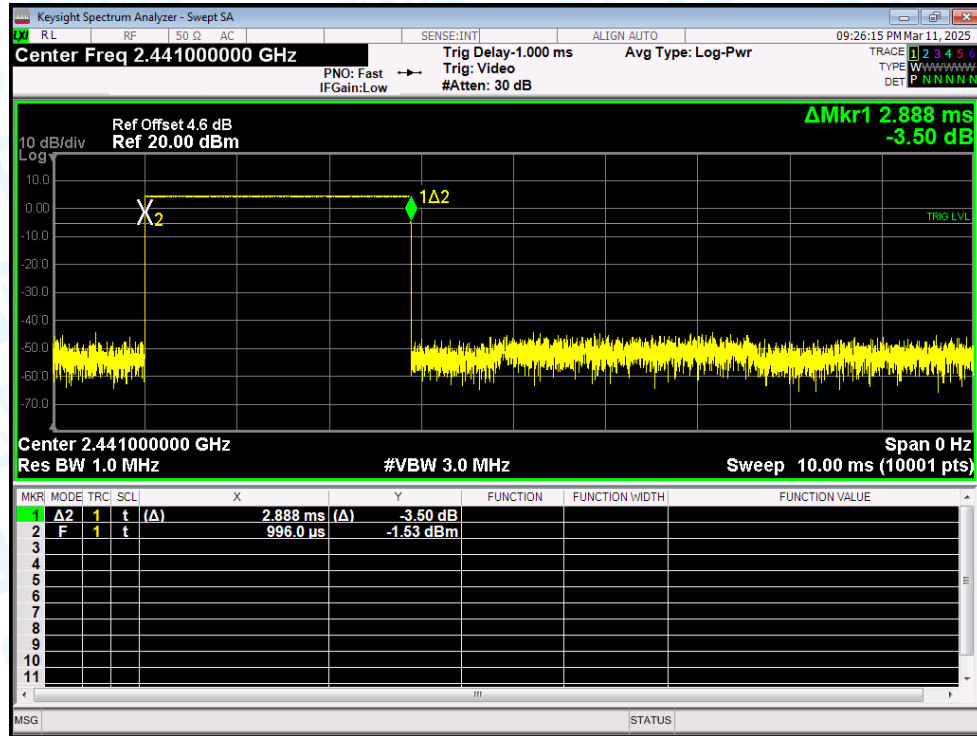
Dwell NVNT 1-DH1 2441MHz Ant1



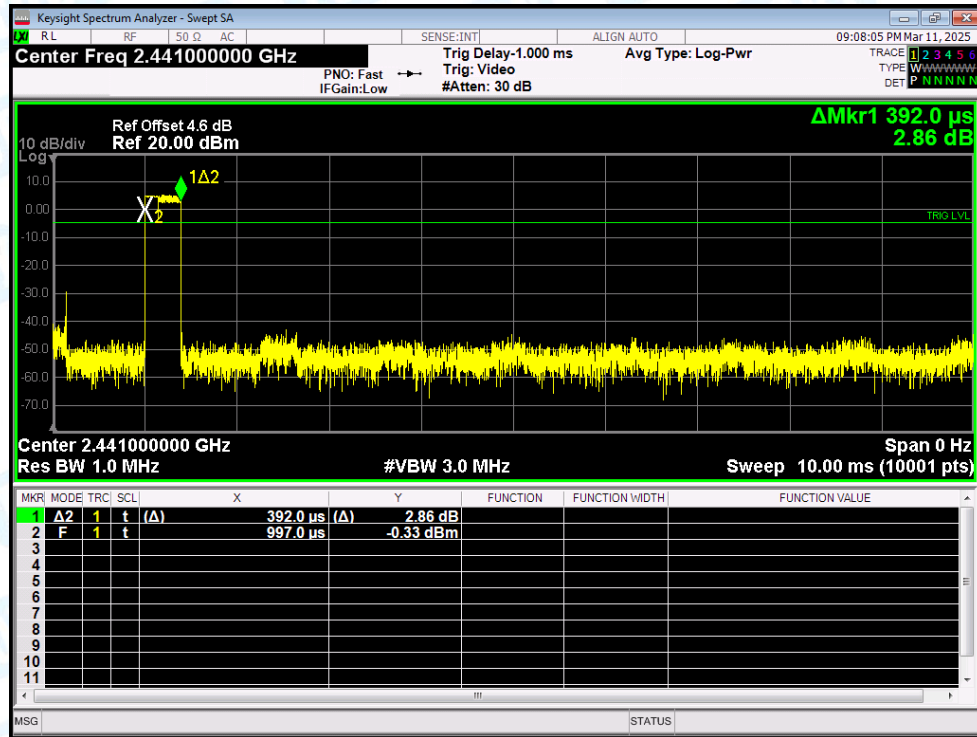
Dwell NVNT 1-DH3 2441MHz Ant1



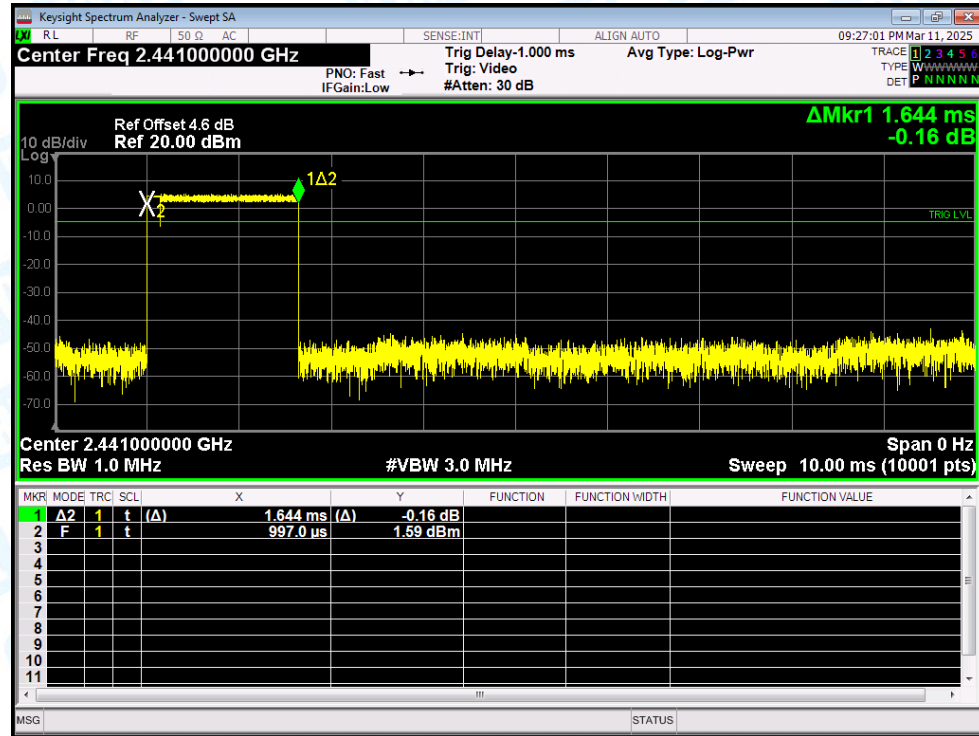
Dwell NVNT 1-DH5 2441MHz Ant1



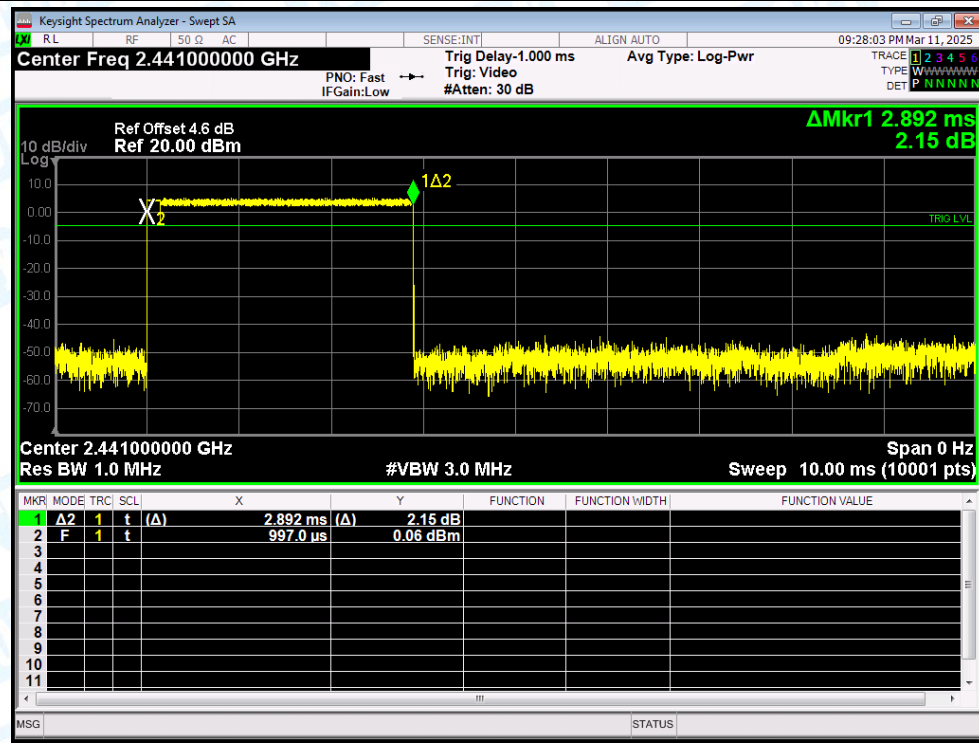
Dwell NVNT 2-DH1 2441MHz Ant1



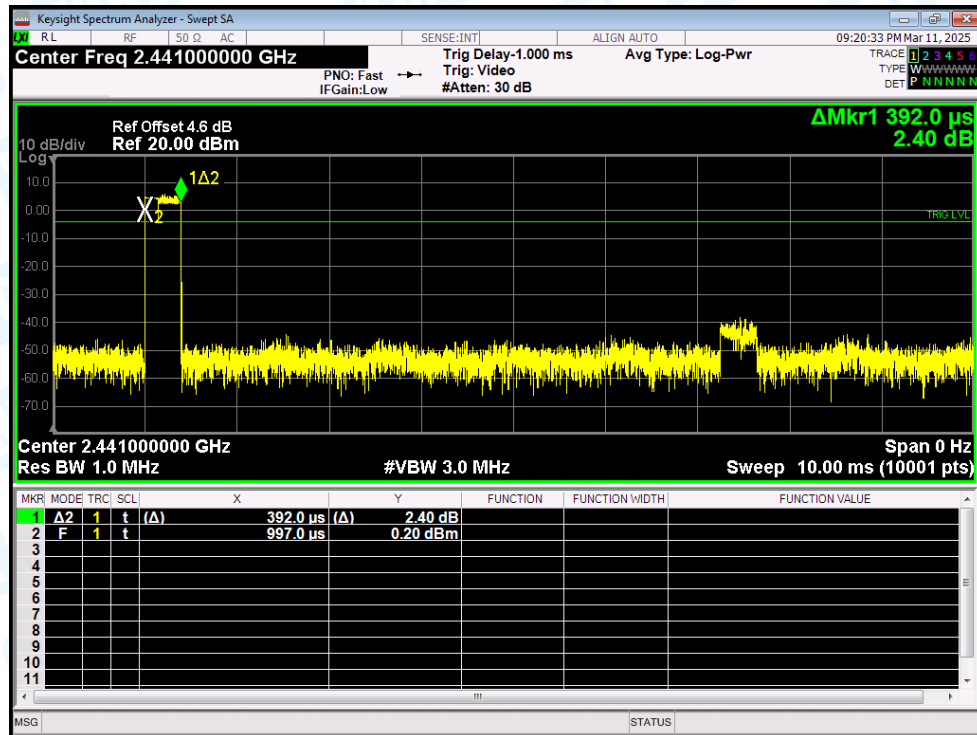
Dwell NVNT 2-DH3 2441MHz Ant1



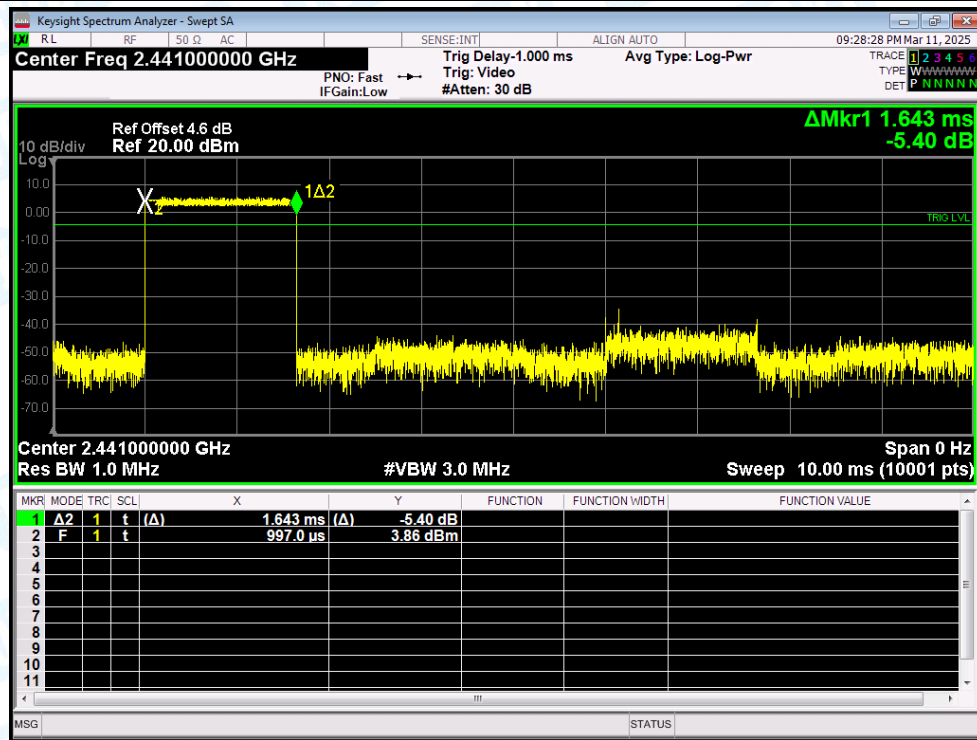
Dwell NVNT 2-DH5 2441MHz Ant1

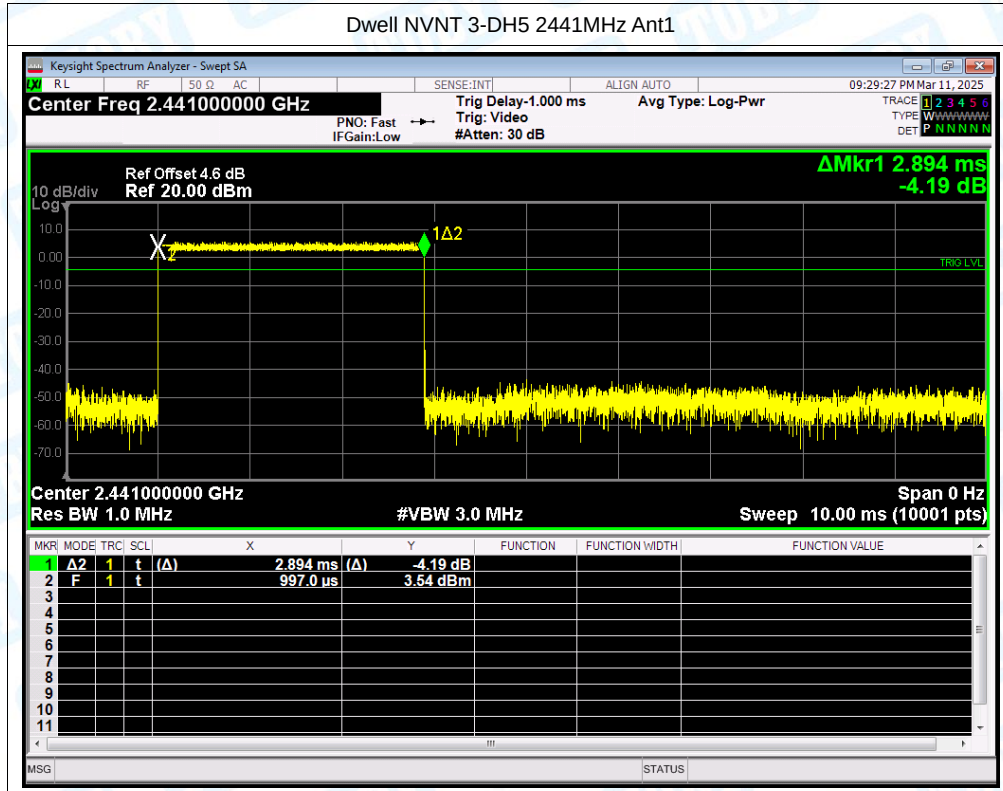


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





--- END OF REPORT ---