

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Smart Watch
Test Model:	AIR3
Sample ID:	HC-C-202411-0005-01-01
Environmental Conditions	
Temperature:	25.2℃
Relative Humidity:	48.6%
Test Voltage:	DC 3.7V
Test Engineer:	Rick.Chen
Note: For a more detailed features description, please refer to the report TBR-C-202411-0005-11 The report only show the worst case data.	

Contents

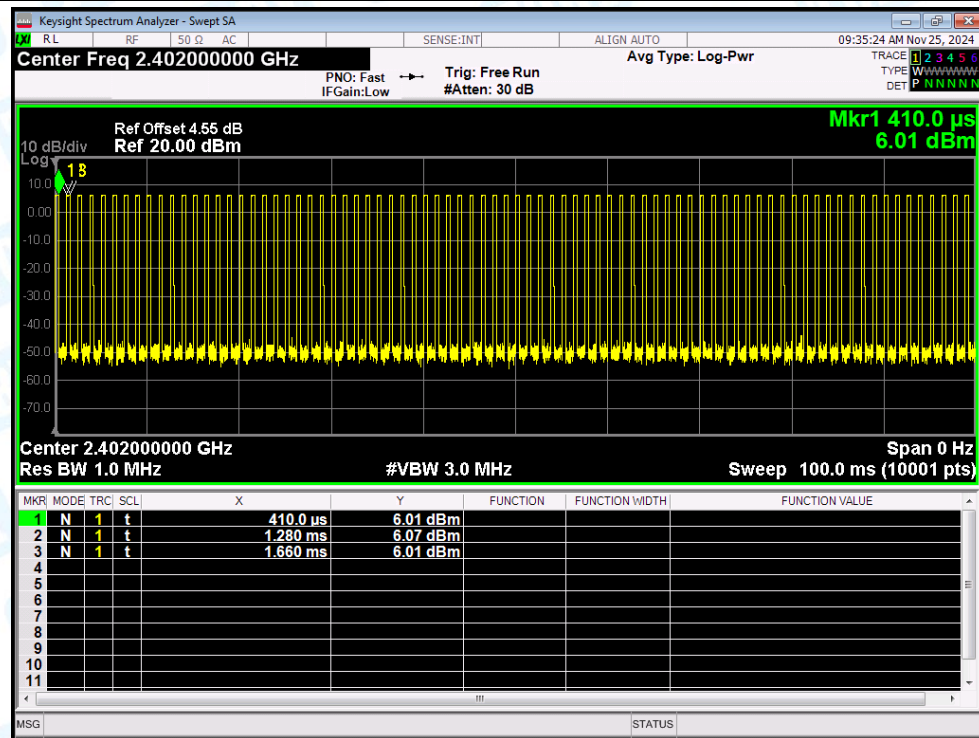
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1. Duty Cycle

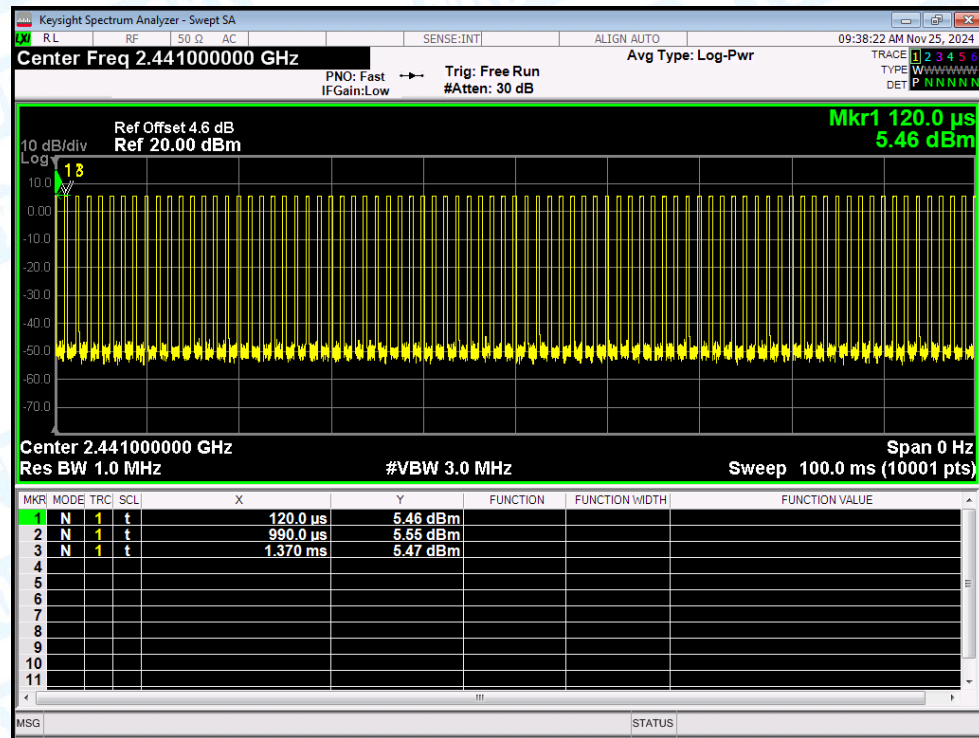
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2402	Ant1	32	4.95	2.5
NVNT	3-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2480	Ant1	31.2	5.06	2.56

Test Graphs

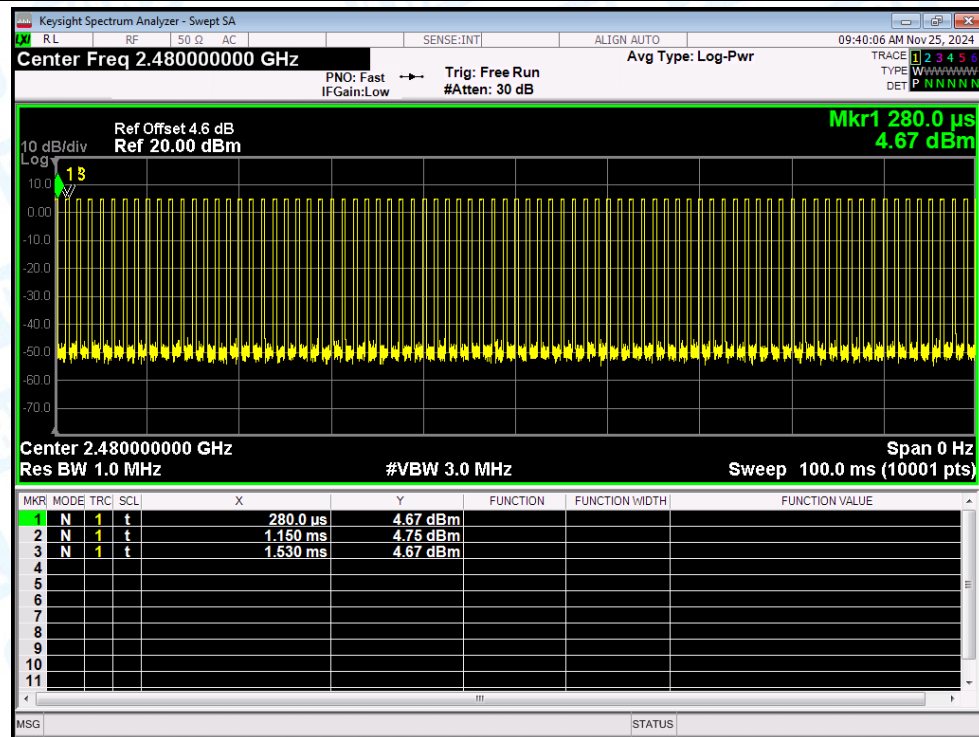
Duty Cycle NVNT 1-DH1 2402MHz Ant1



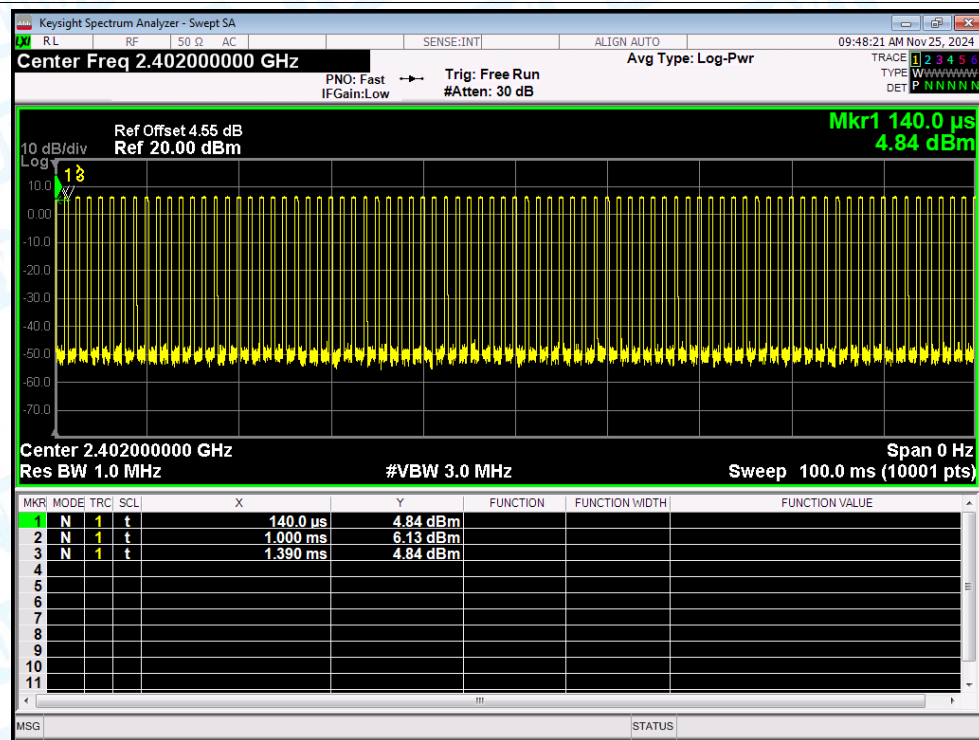
Duty Cycle NVNT 1-DH1 2441MHz Ant1



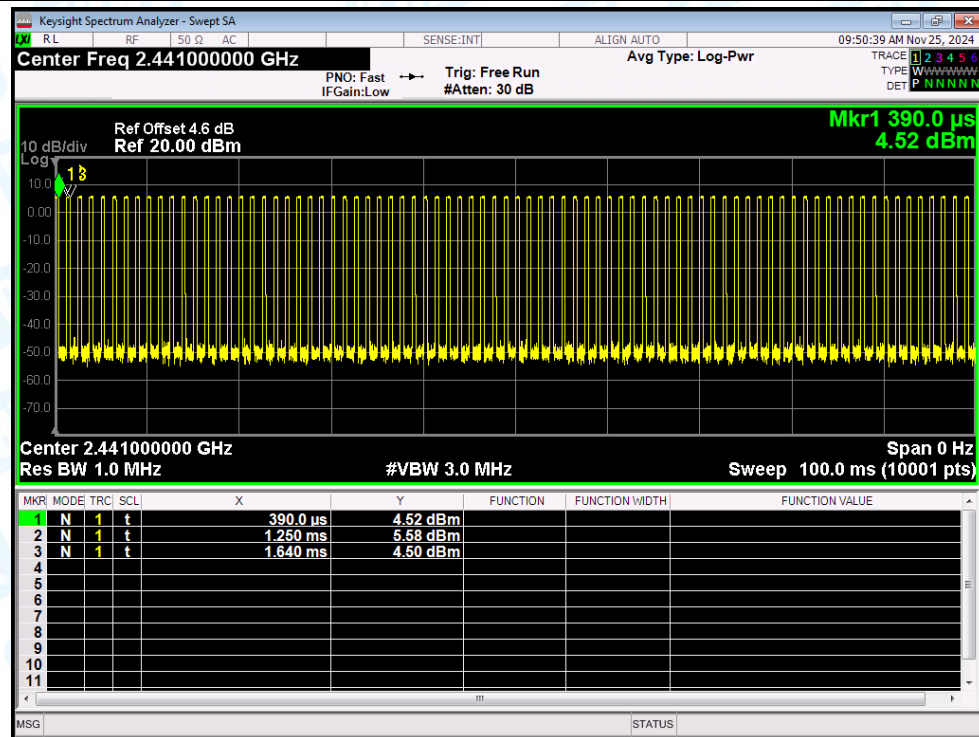
Duty Cycle NVNT 1-DH1 2480MHz Ant1



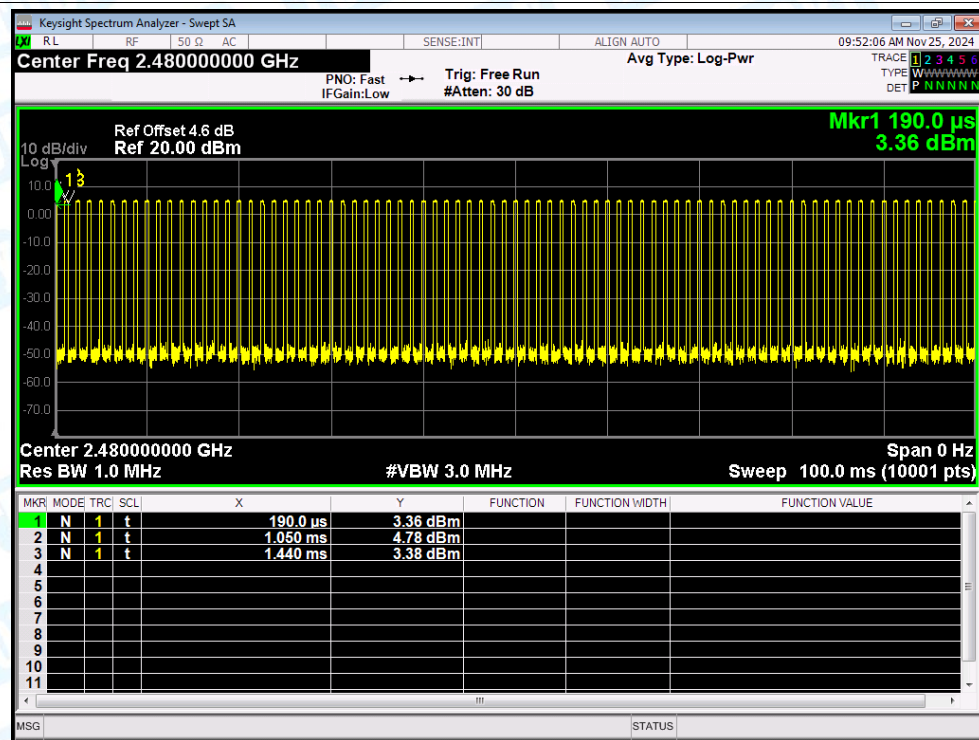
Duty Cycle NVNT 2-DH1 2402MHz Ant1



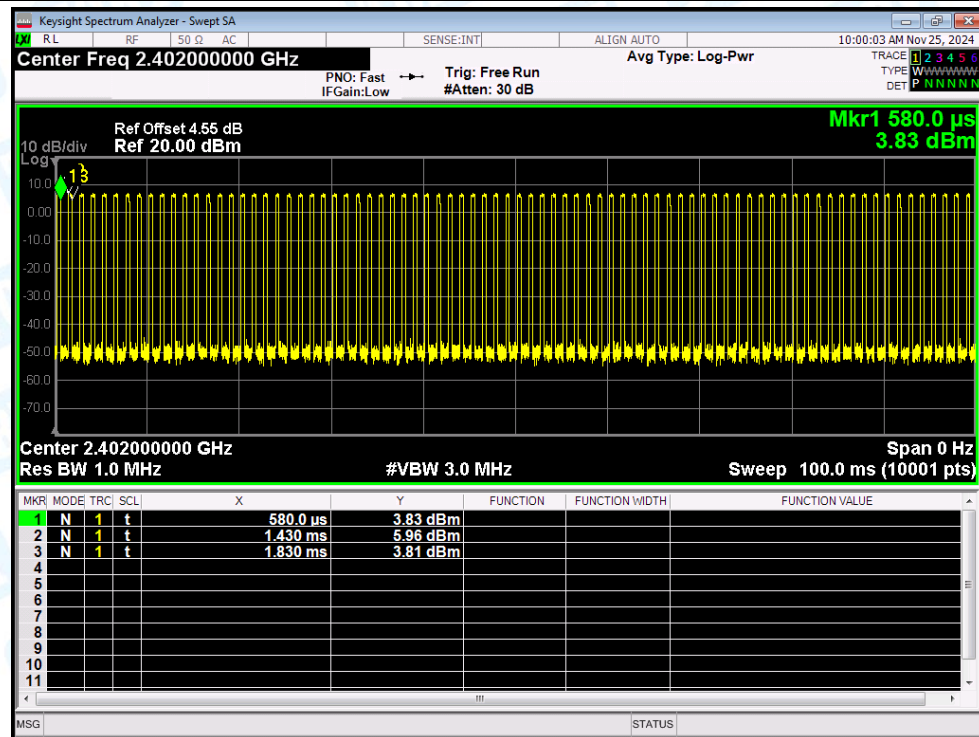
Duty Cycle NVNT 2-DH1 2441MHz Ant1



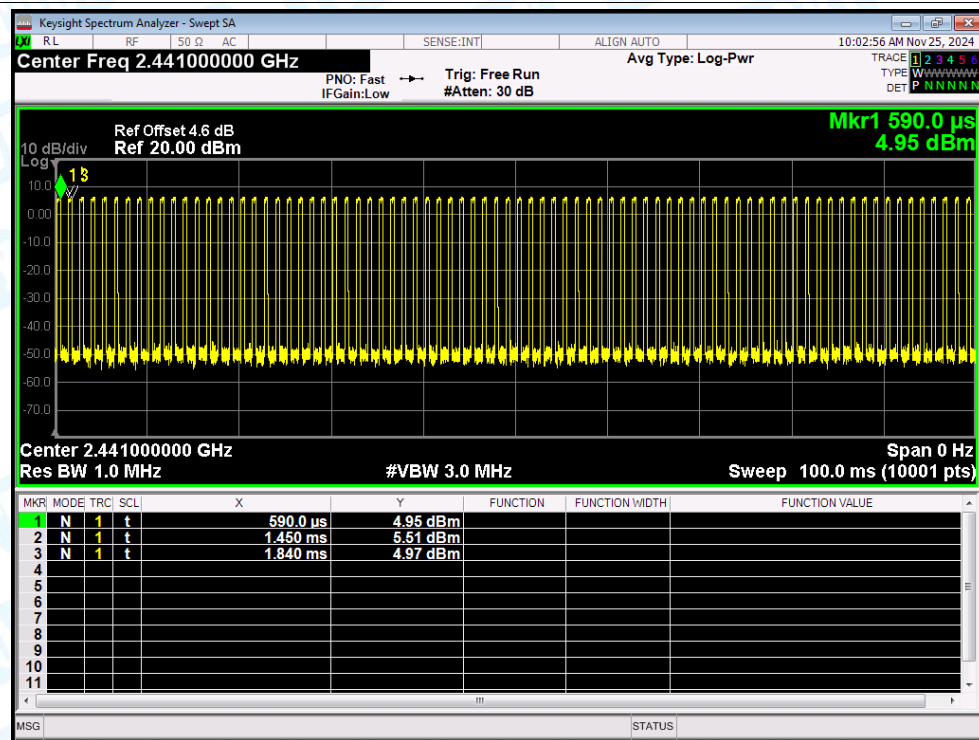
Duty Cycle NVNT 2-DH1 2480MHz Ant1

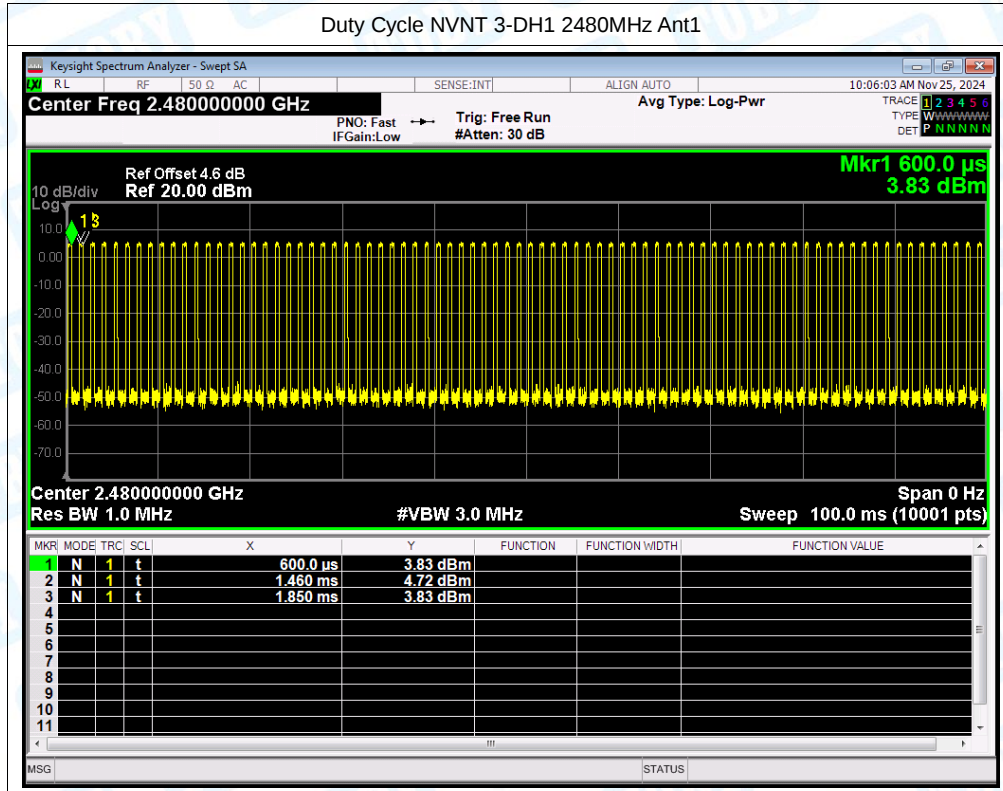


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



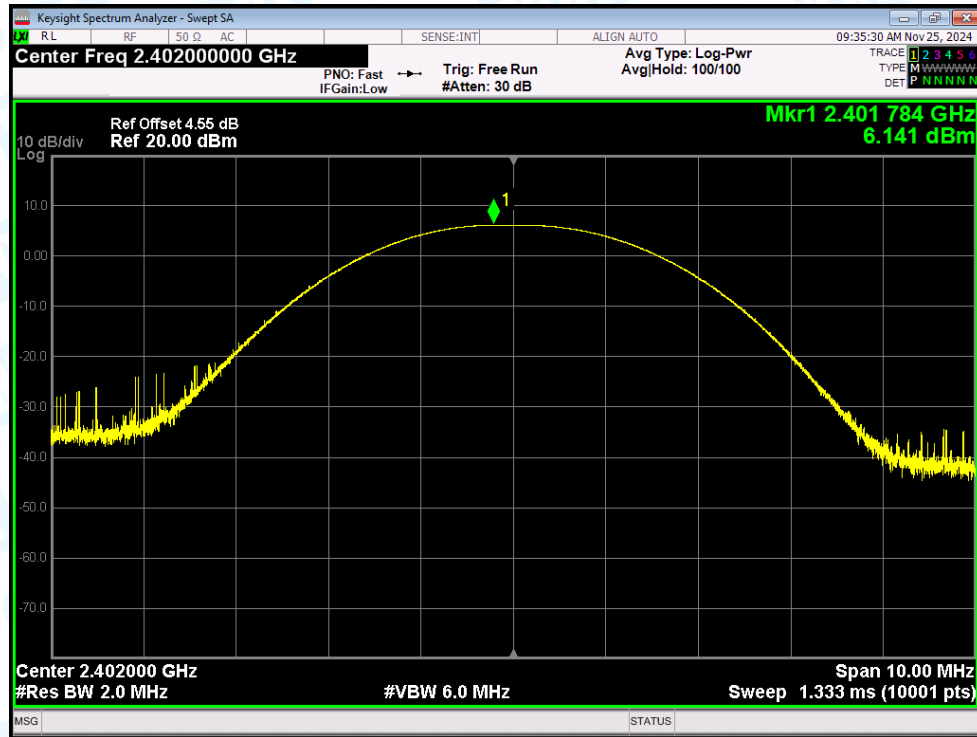


2. Maximum Conducted Output Power

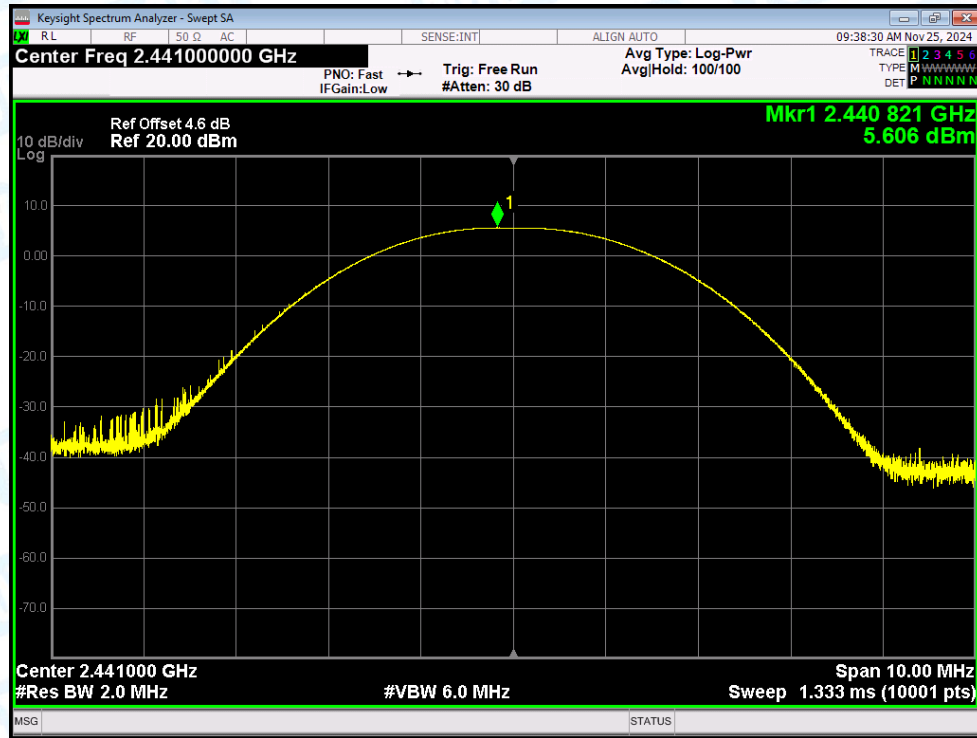
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	6.141	21	Pass
NVNT	1-DH1	2441	Ant1	5.606	21	Pass
NVNT	1-DH1	2480	Ant1	4.825	21	Pass
NVNT	2-DH1	2402	Ant1	6.758	21	Pass
NVNT	2-DH1	2441	Ant1	6.23	21	Pass
NVNT	2-DH1	2480	Ant1	5.497	21	Pass
NVNT	3-DH1	2402	Ant1	7.083	21	Pass
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NVNT	3-DH1	2480	Ant1	5.92	21	Pass

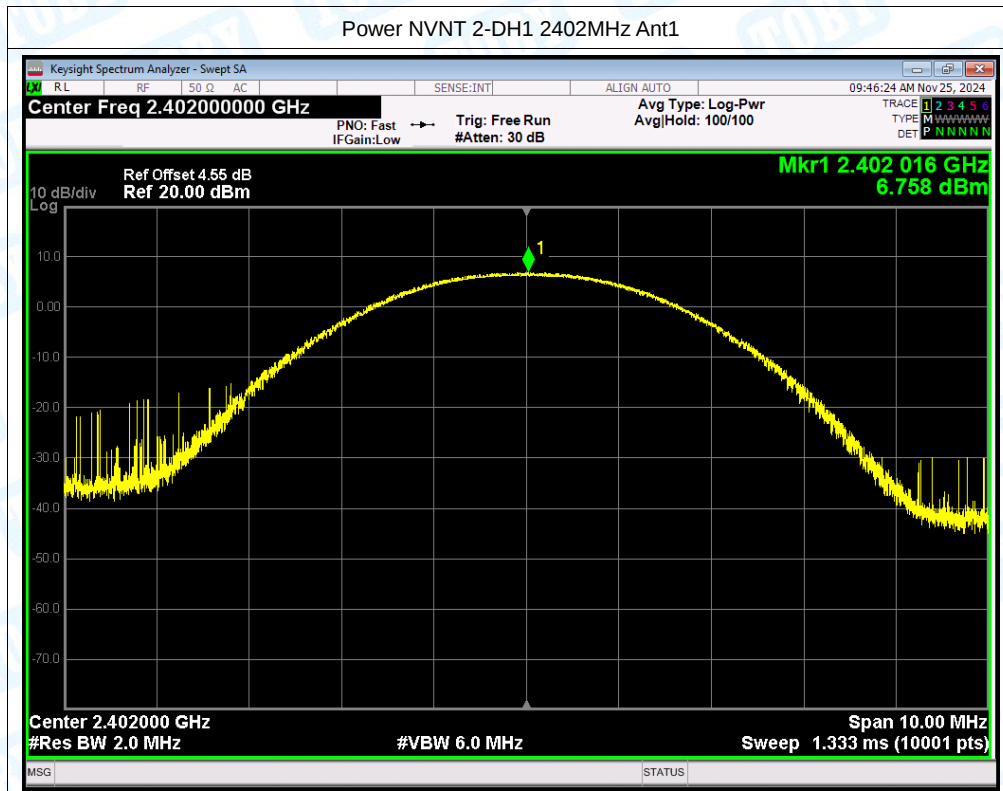
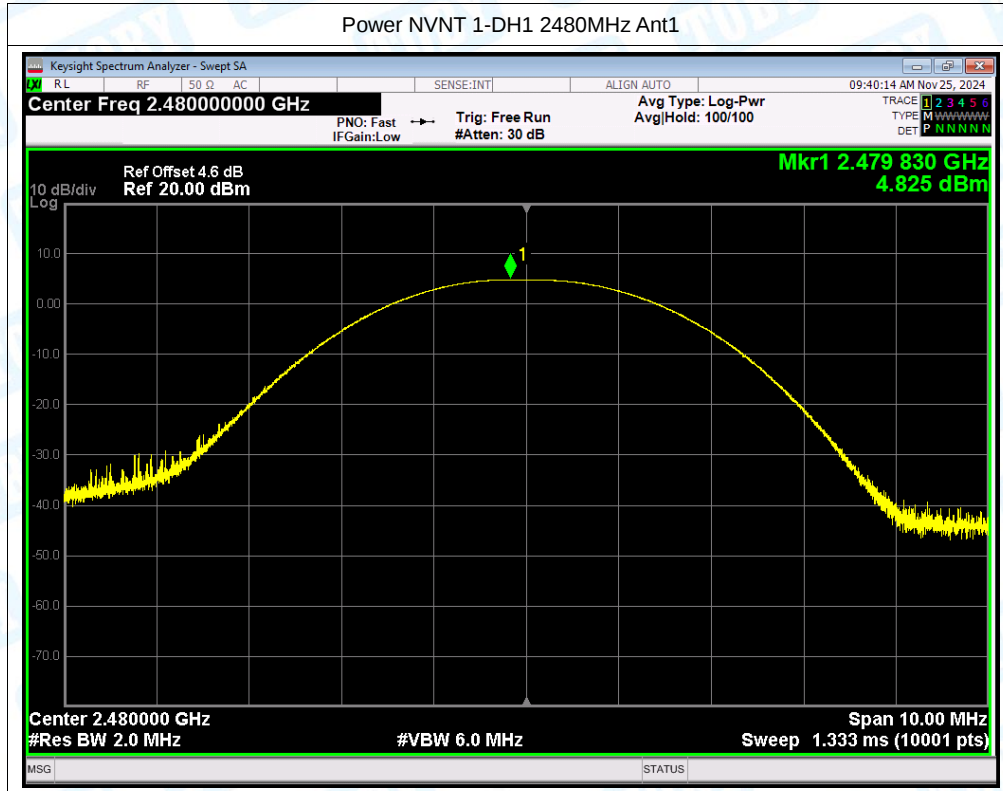
Test Graphs

Power NVNT 1-DH1 2402MHz Ant1

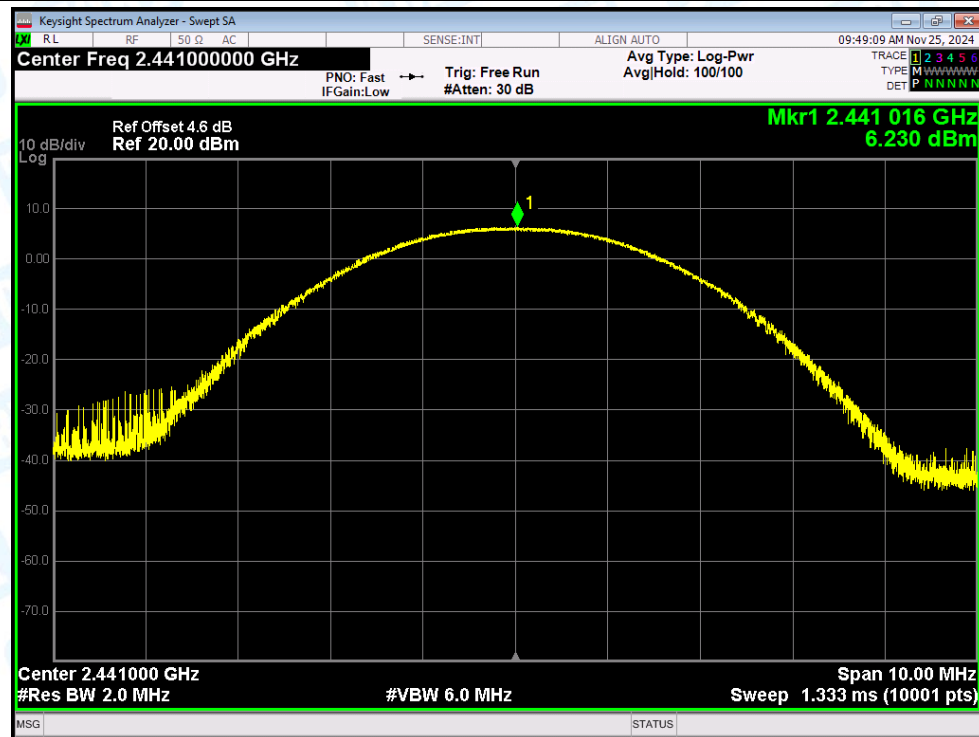


Power NVNT 1-DH1 2441MHz Ant1

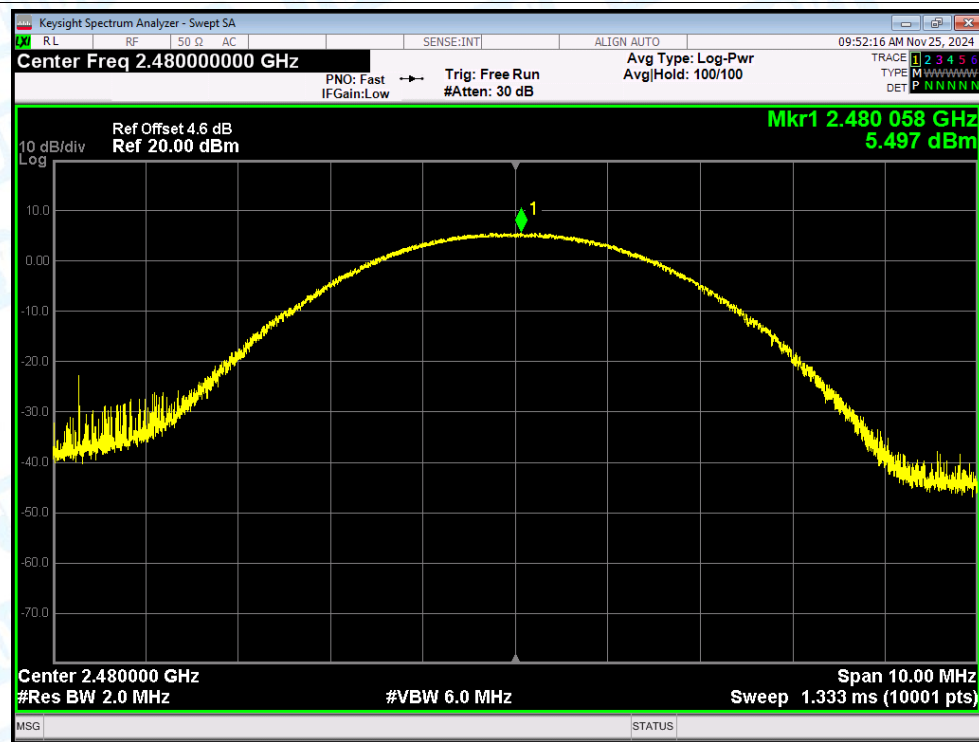




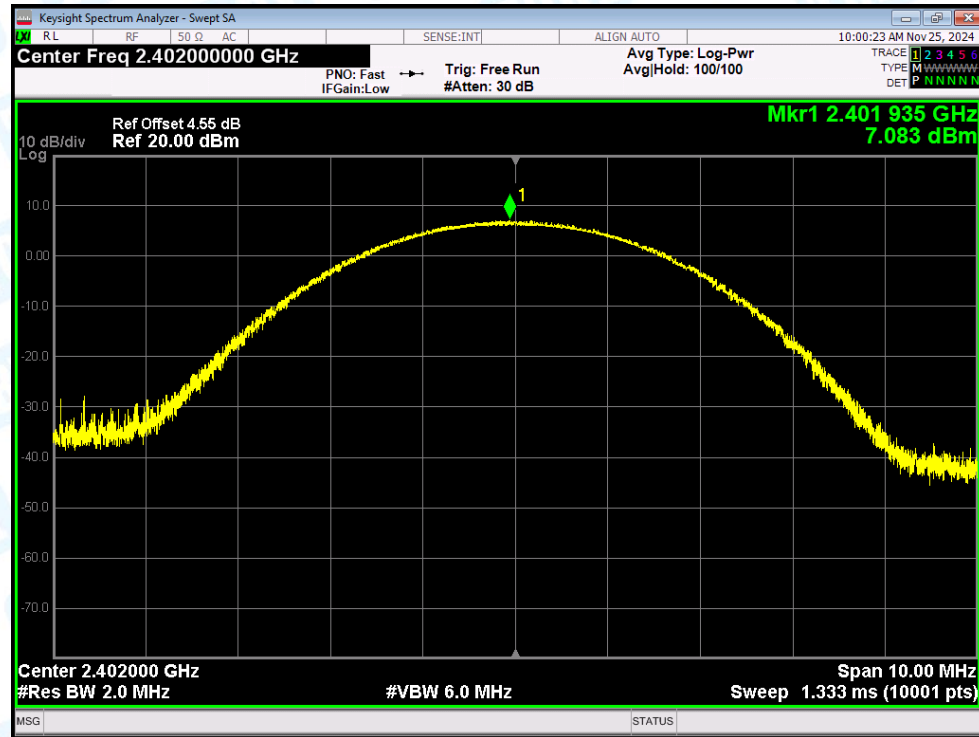
Power NVNT 2-DH1 2441MHz Ant1



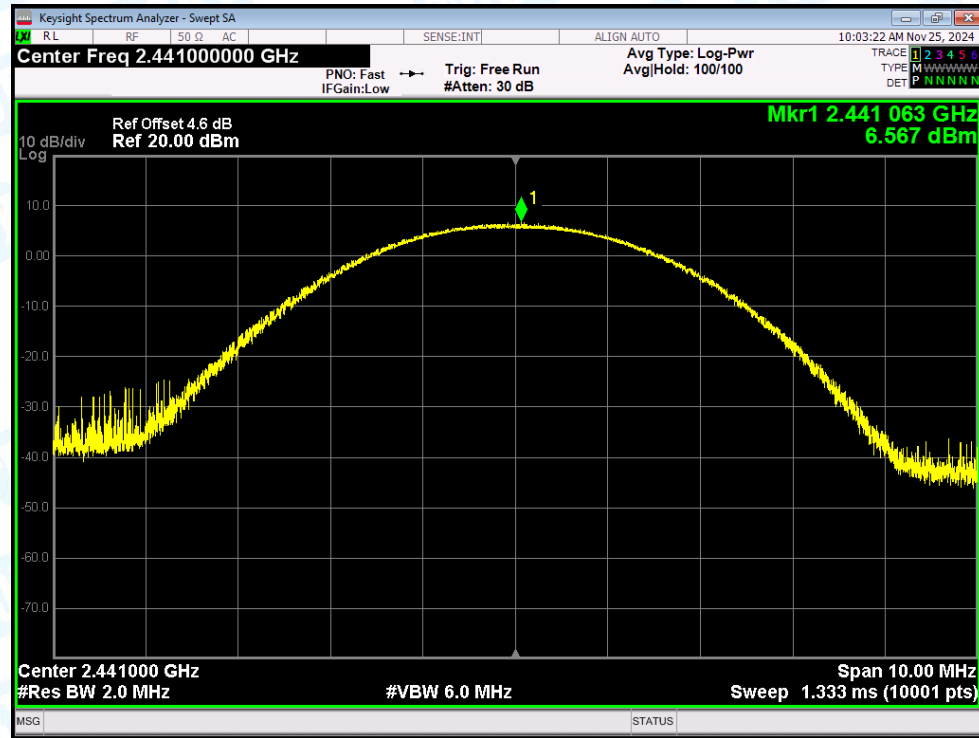
Power NVNT 2-DH1 2480MHz Ant1

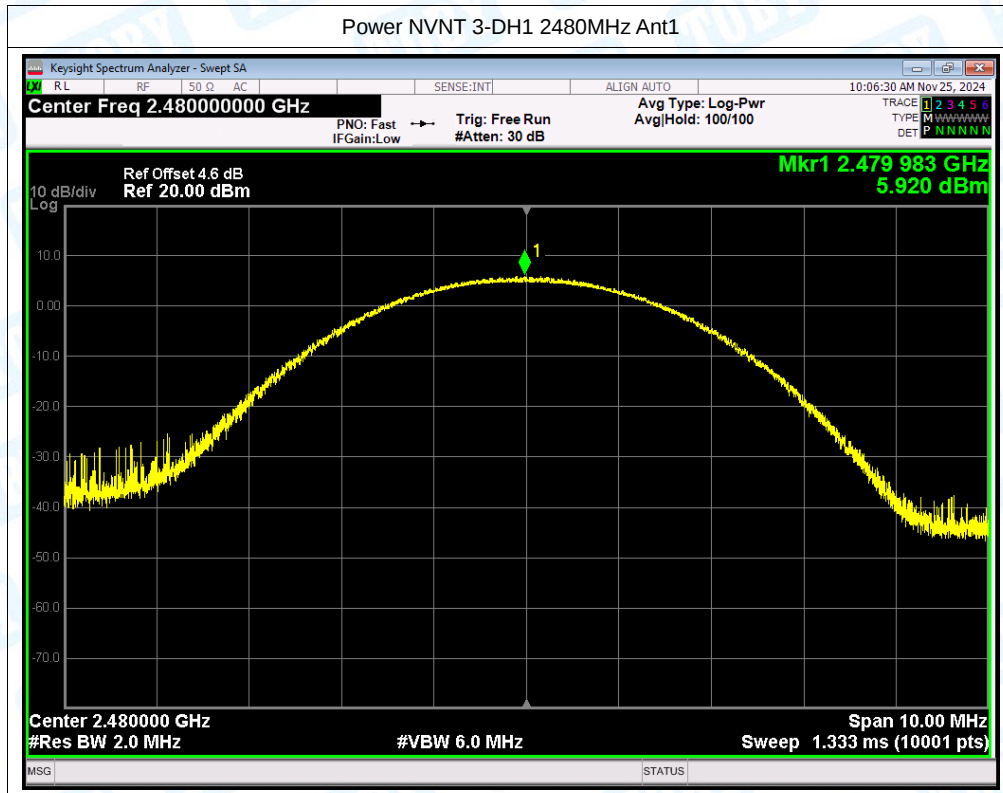


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



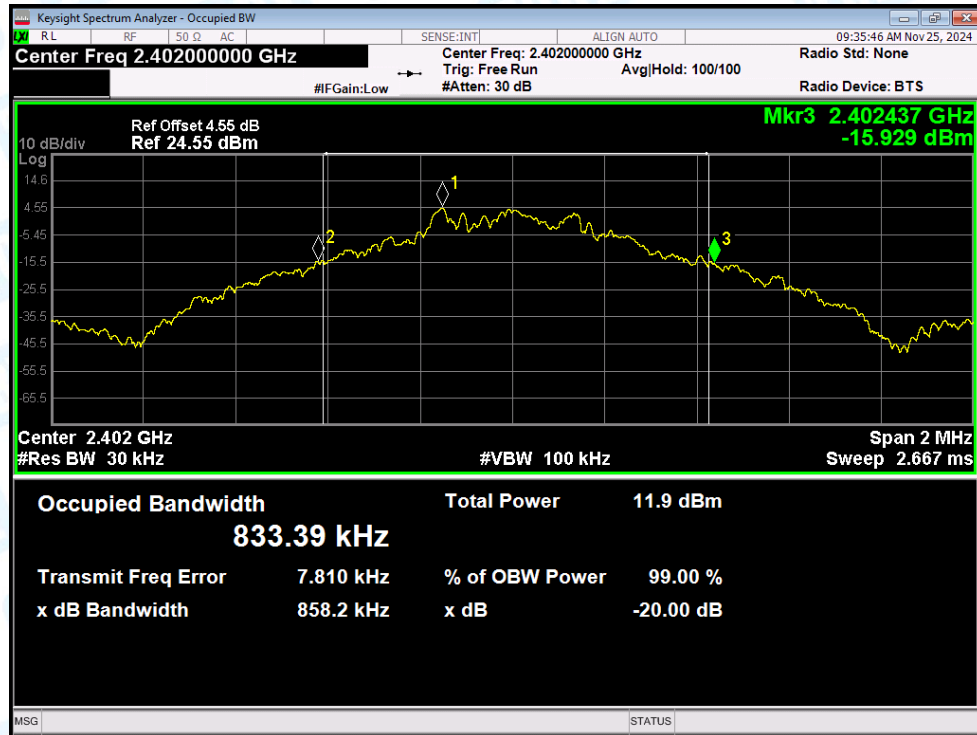


3. -20dB Bandwidth

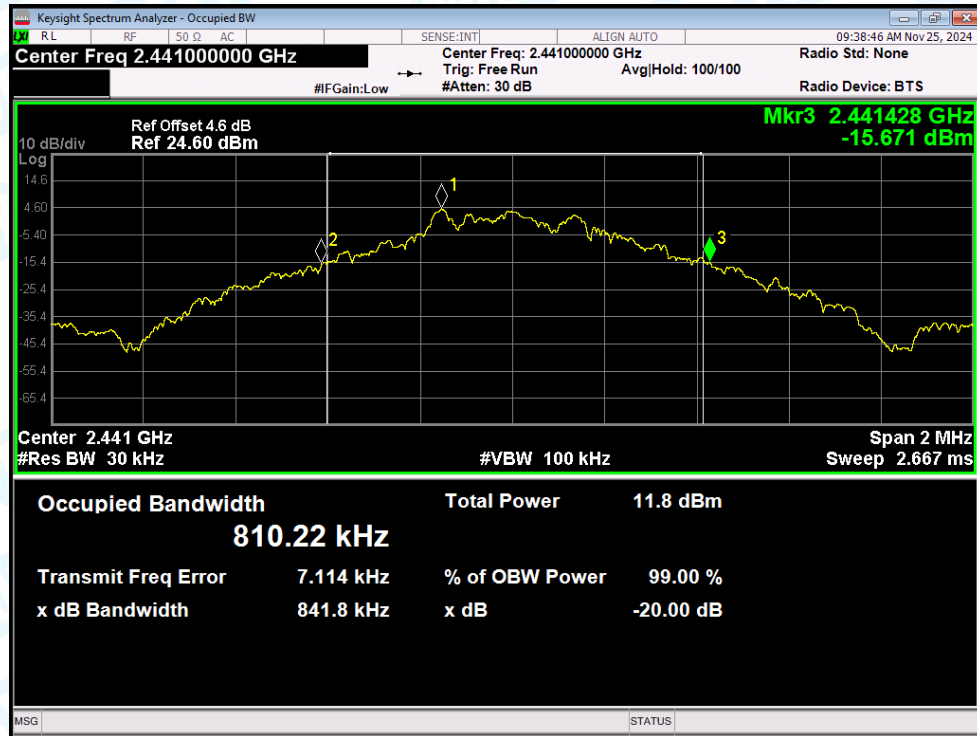
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.86	0	Pass
NVNT	1-DH1	2441	Ant1	0.84	0	Pass
NVNT	1-DH1	2480	Ant1	0.87	0	Pass
NVNT	2-DH1	2402	Ant1	1.24	0	Pass
NVNT	2-DH1	2441	Ant1	1.24	0	Pass
NVNT	2-DH1	2480	Ant1	1.25	0	Pass
NVNT	3-DH1	2402	Ant1	1.22	0	Pass
NVNT	3-DH1	2441	Ant1	1.24	0	Pass
NVNT	3-DH1	2480	Ant1	1.21	0	Pass

Test Graphs

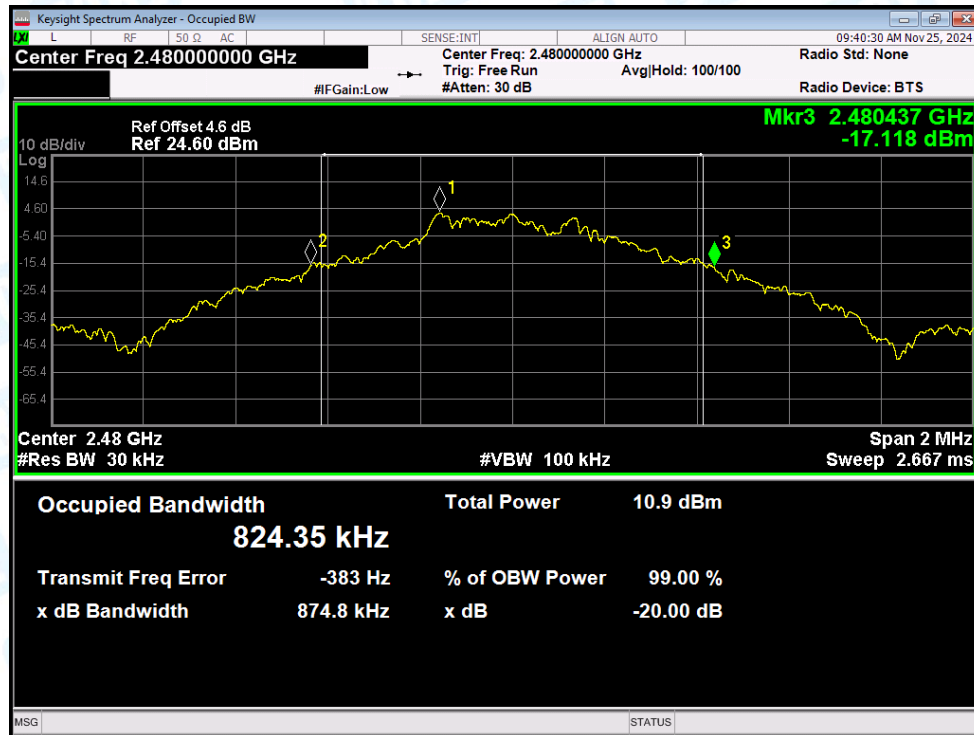
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



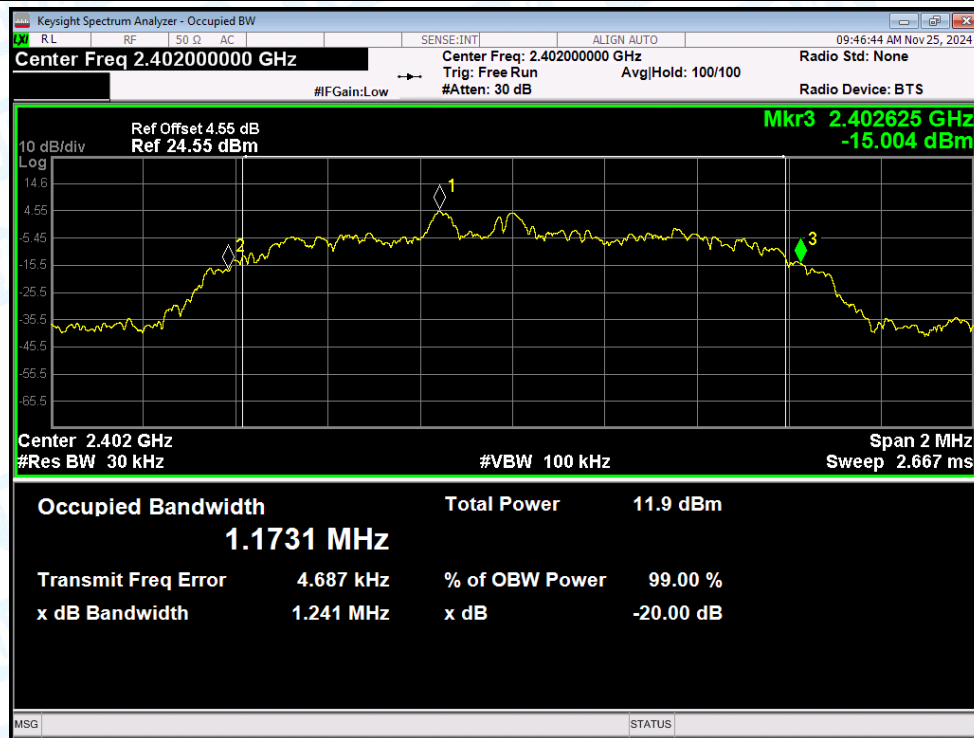
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



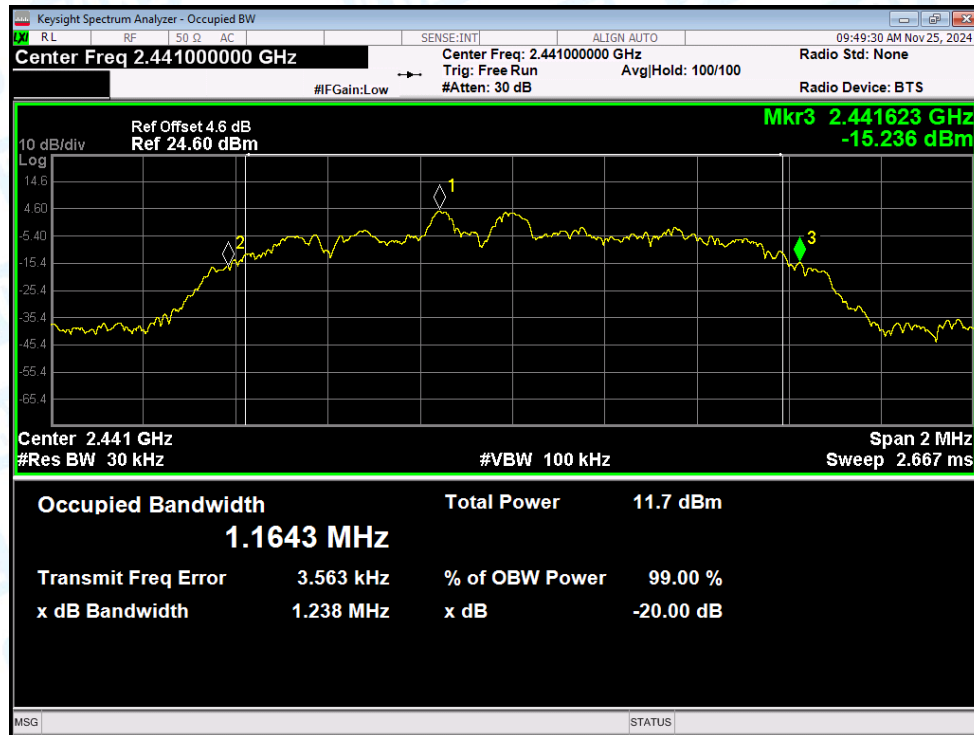
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



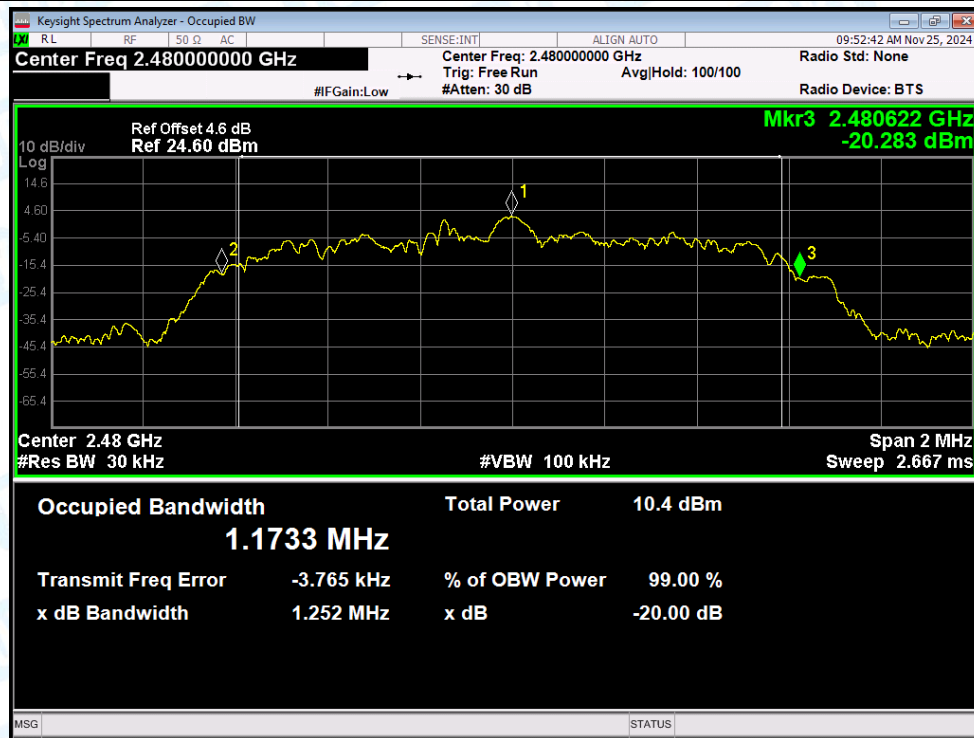
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



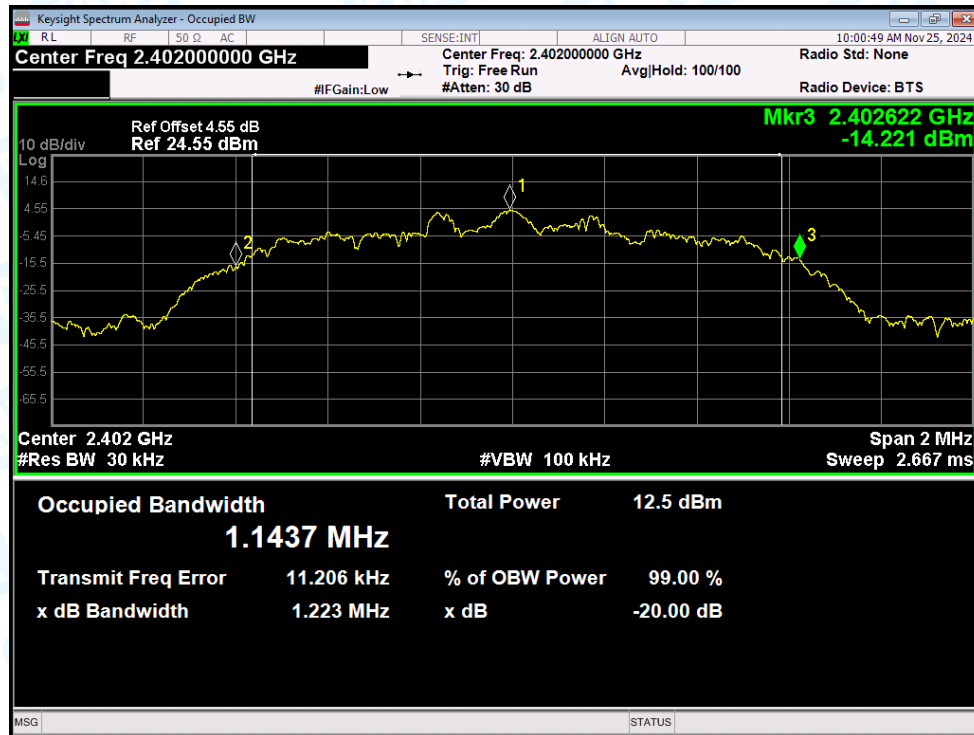
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



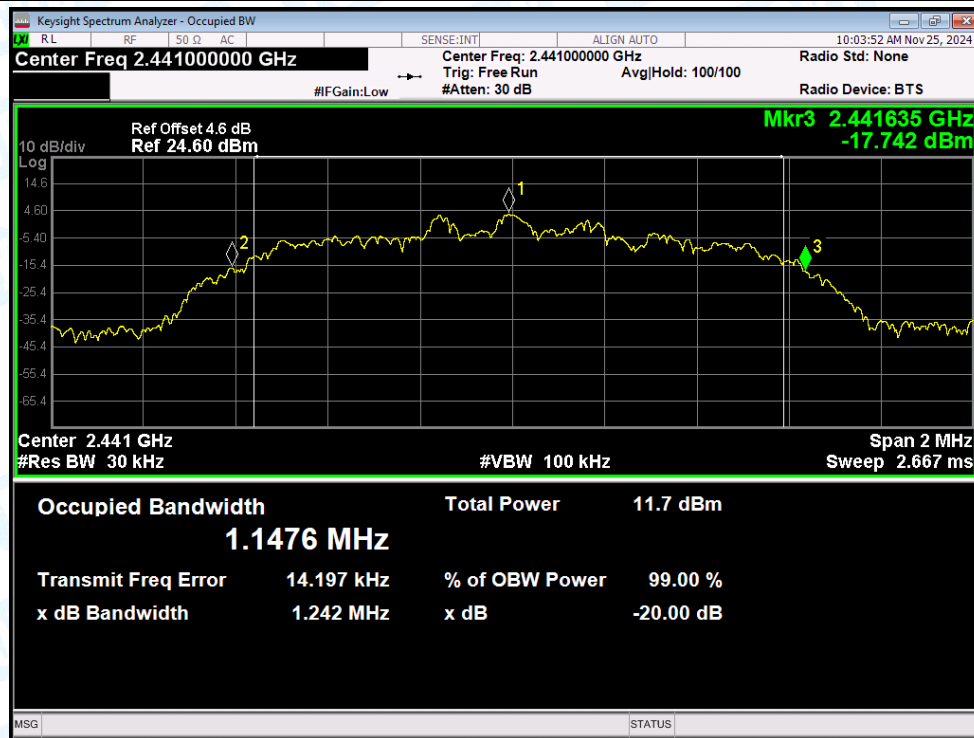
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

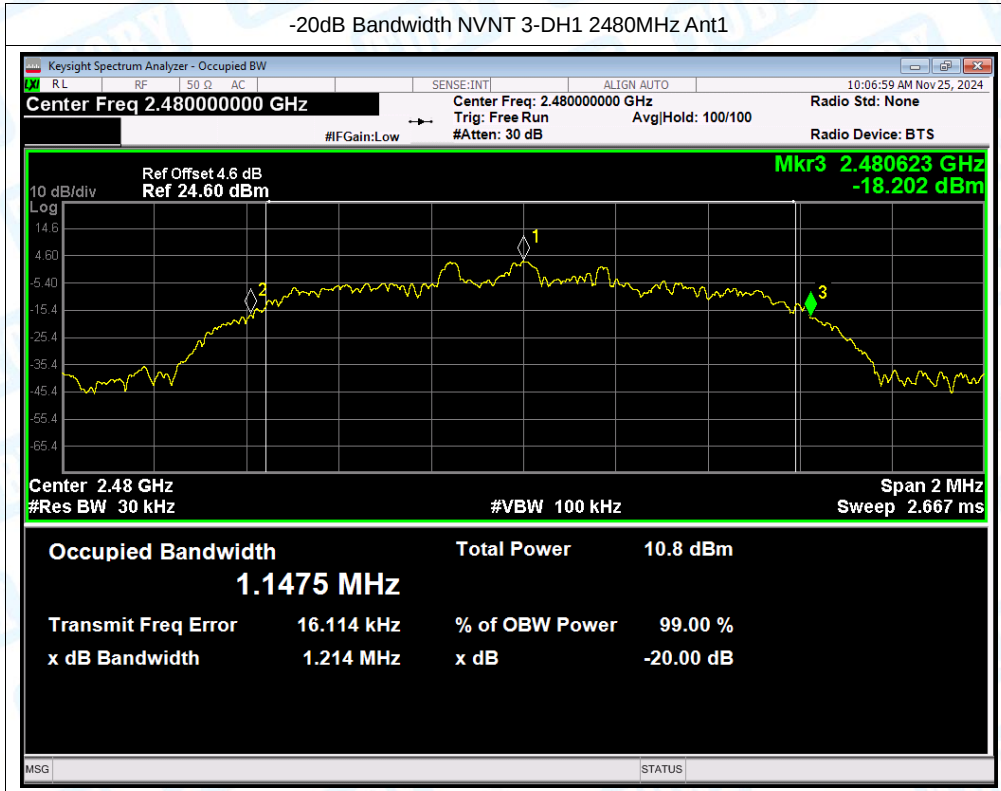


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



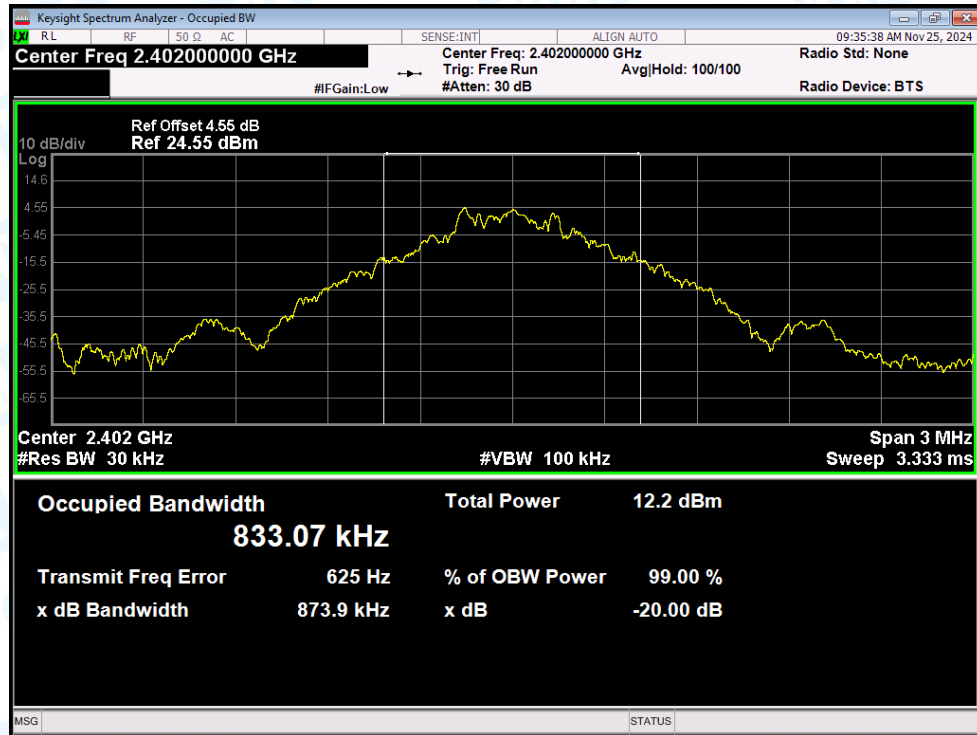


4. Occupied Channel Bandwidth

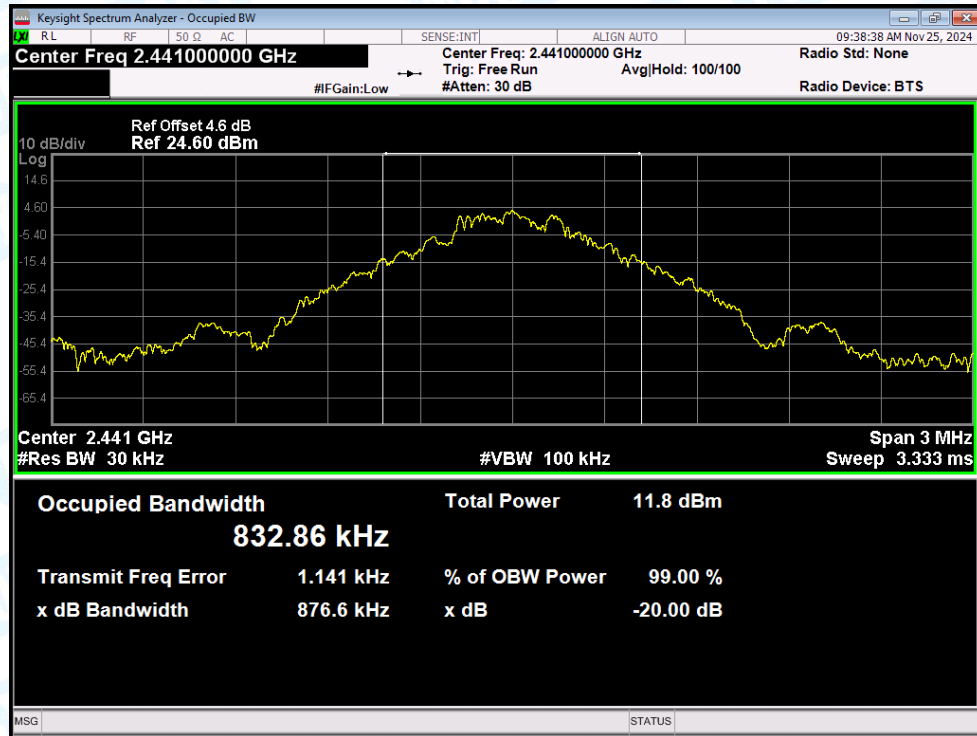
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.833
NVNT	1-DH1	2441	Ant1	0.833
NVNT	1-DH1	2480	Ant1	0.826
NVNT	2-DH1	2402	Ant1	1.168
NVNT	2-DH1	2441	Ant1	1.167
NVNT	2-DH1	2480	Ant1	1.179
NVNT	3-DH1	2402	Ant1	1.163
NVNT	3-DH1	2441	Ant1	1.16
NVNT	3-DH1	2480	Ant1	1.17

Test Graphs

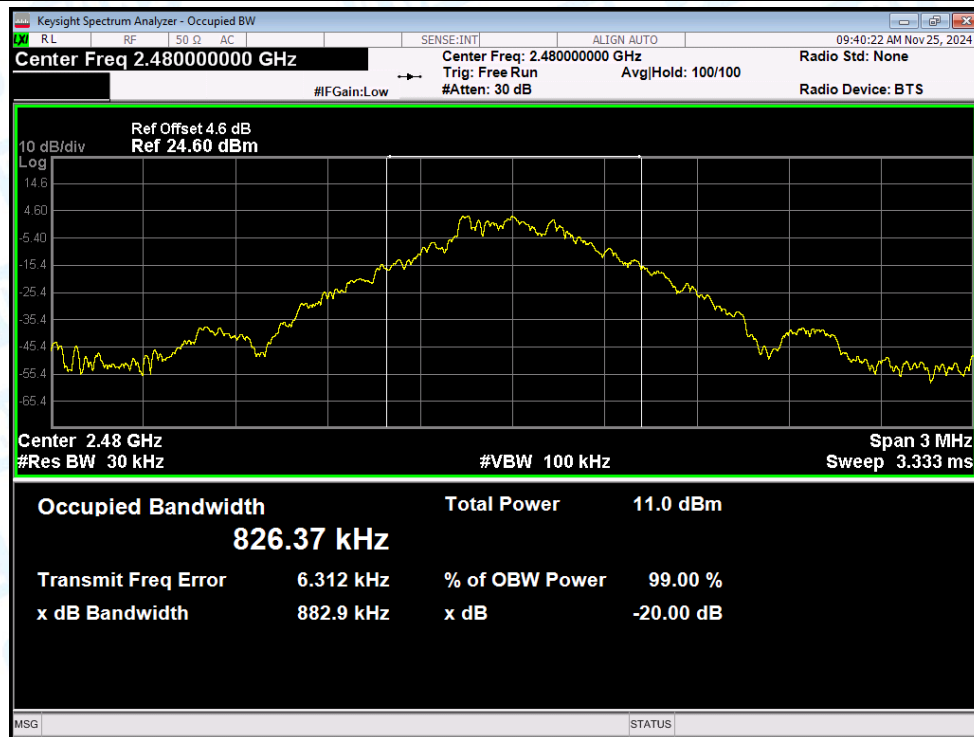
OBW NVNT 1-DH1 2402MHz Ant1



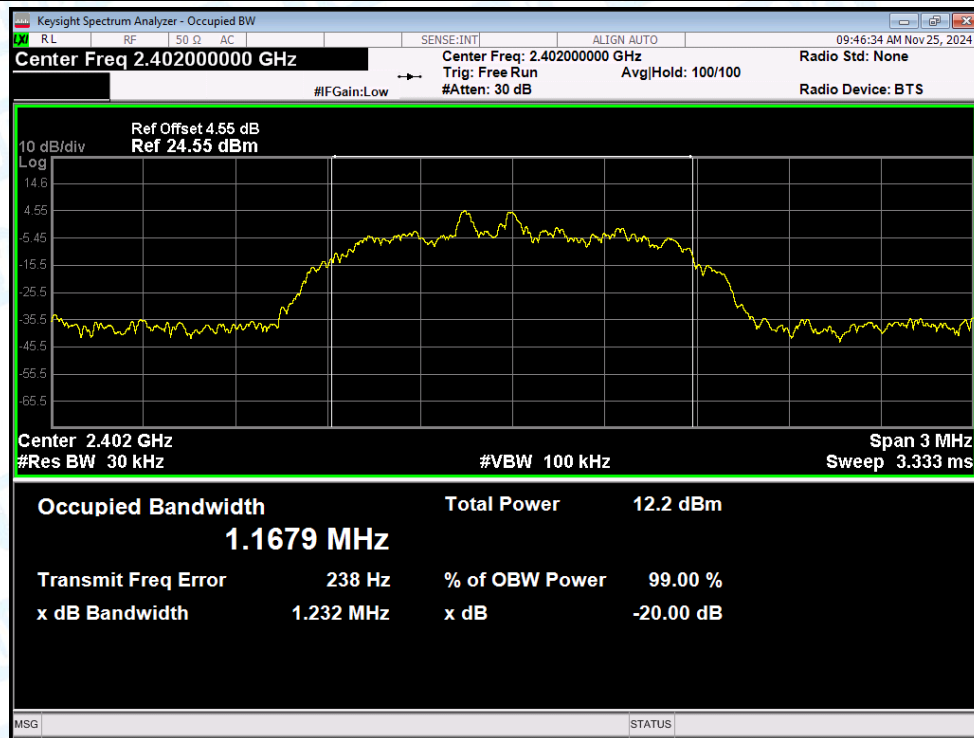
OBW NVNT 1-DH1 2441MHz Ant1



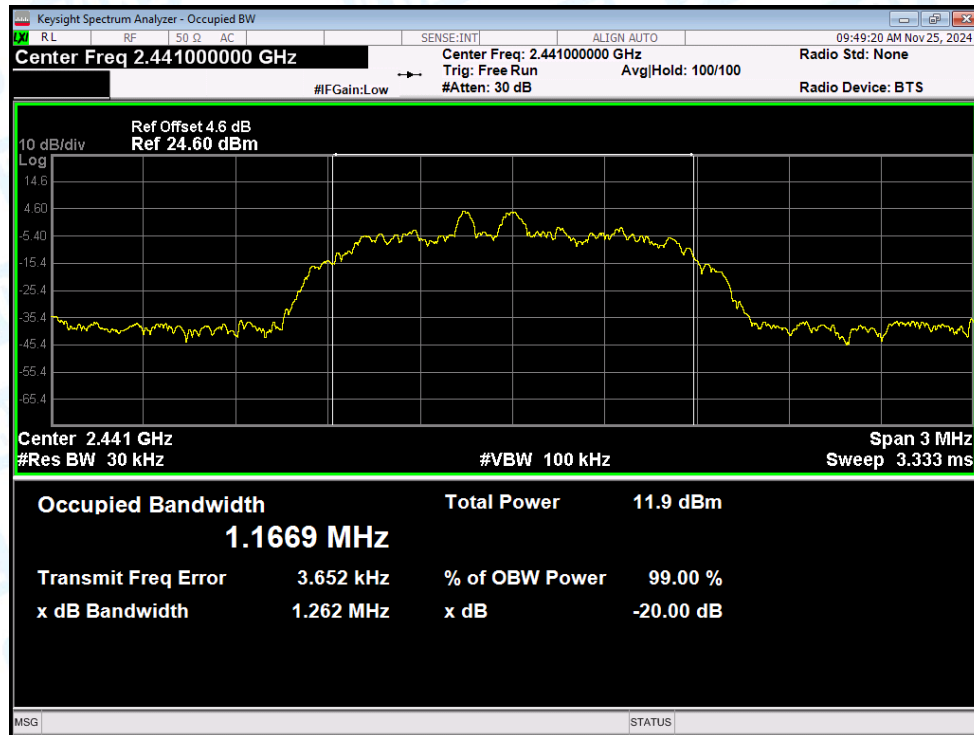
OBW NVNT 1-DH1 2480MHz Ant1



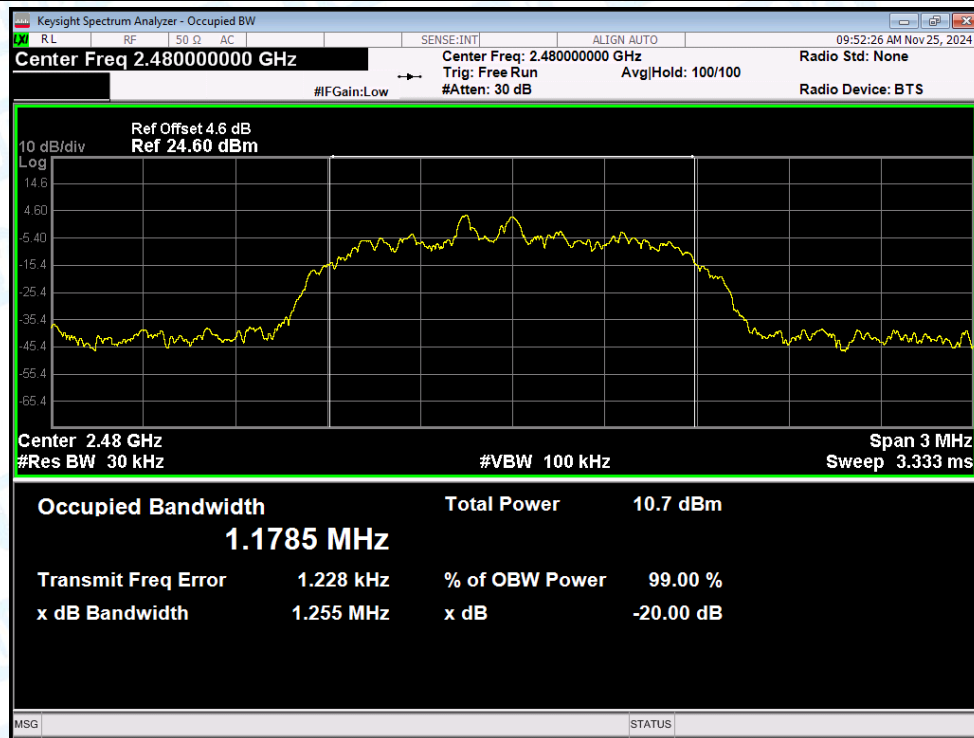
OBW NVNT 2-DH1 2402MHz Ant1



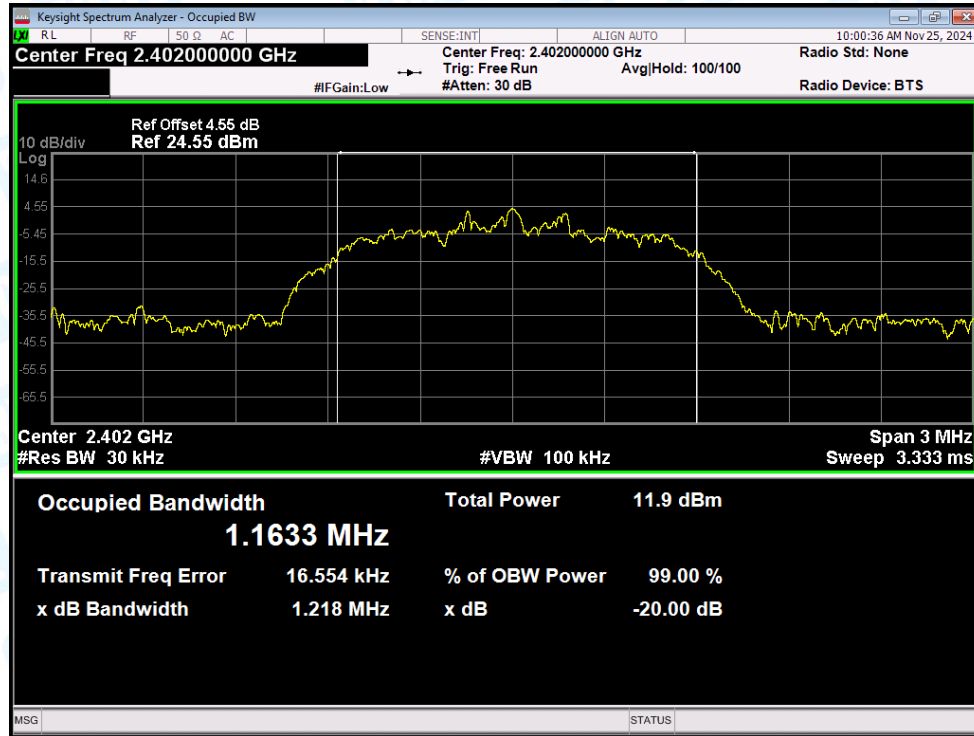
OBW NVNT 2-DH1 2441MHz Ant1



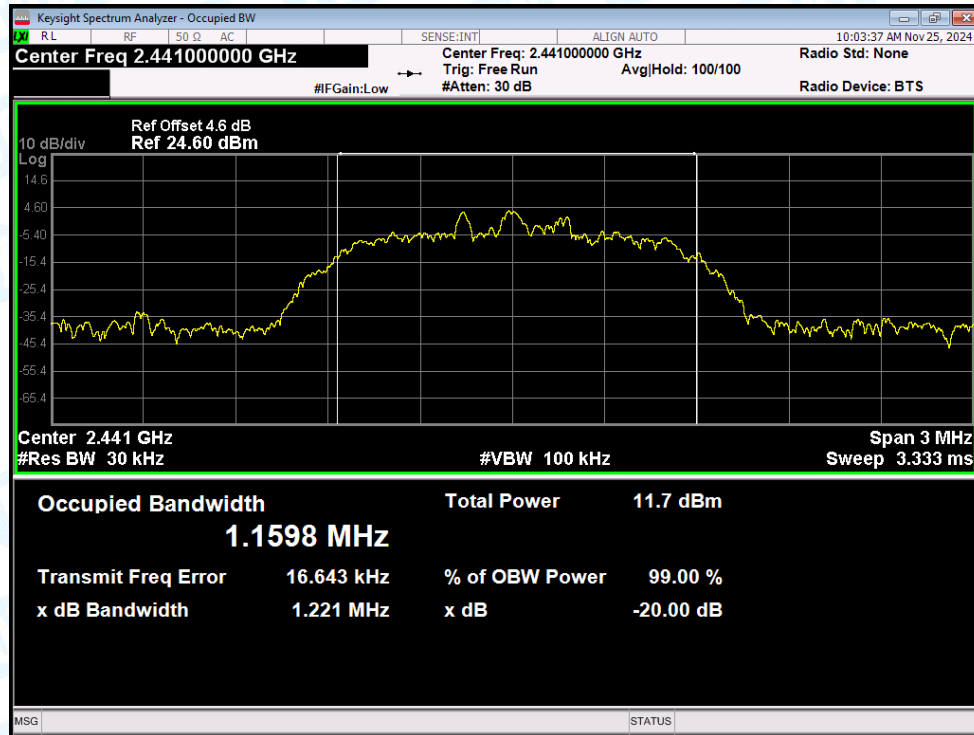
OBW NVNT 2-DH1 2480MHz Ant1

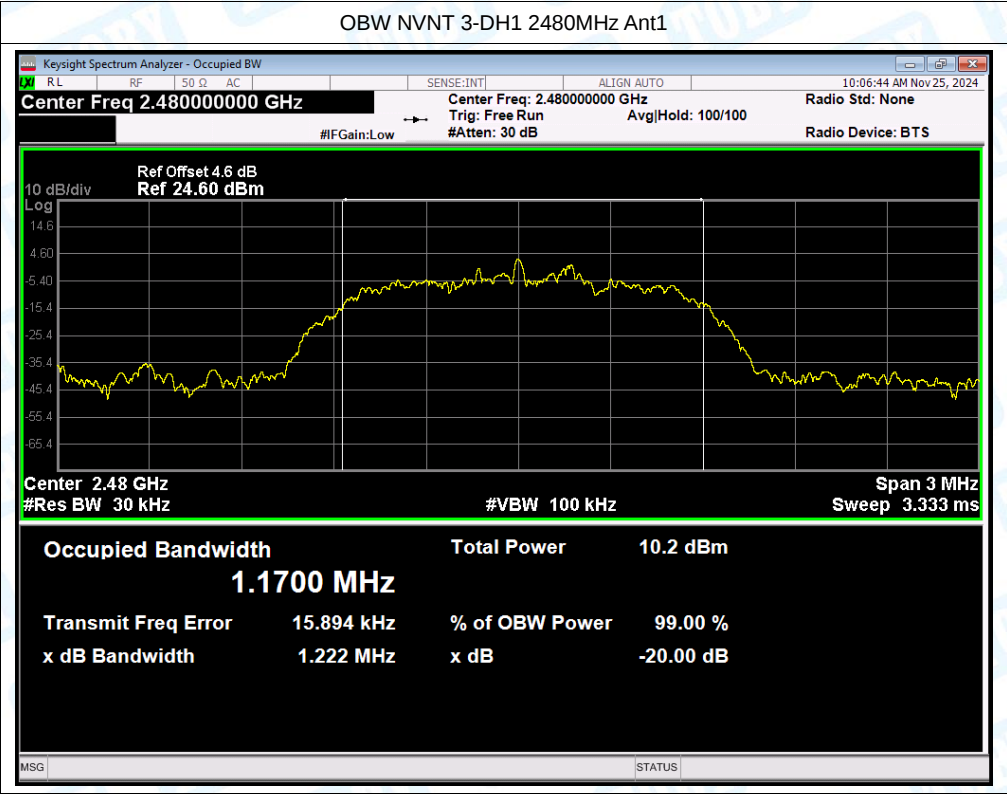


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1





5. Band Edge

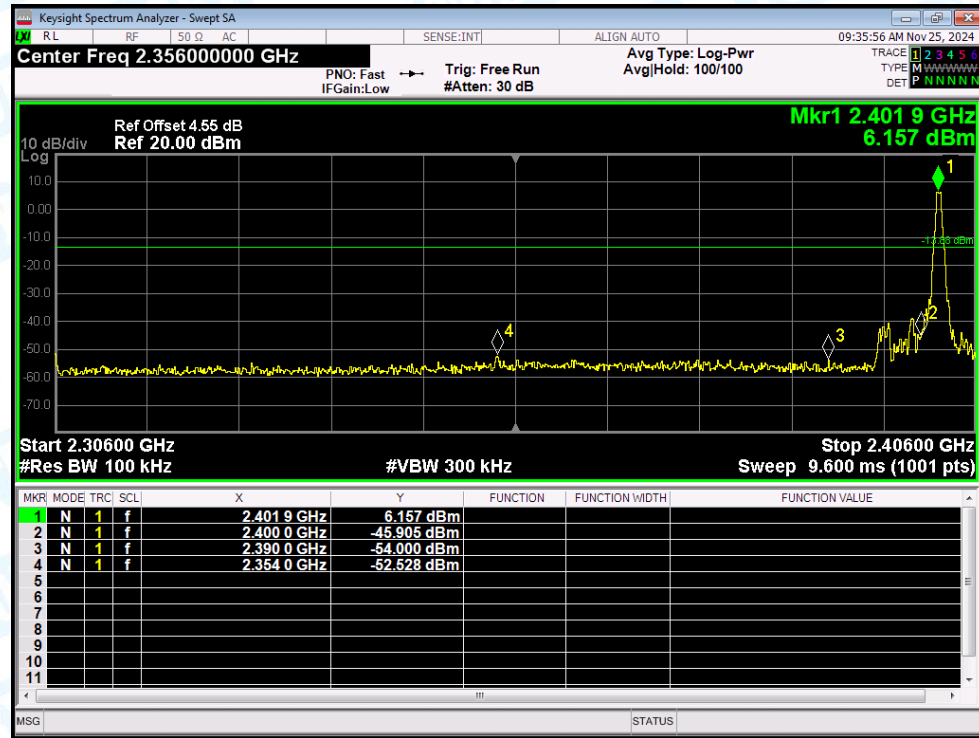
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-58.65	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-58.35	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-59.31	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-58.27	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-59.42	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-57.24	-20	Pass

Test Graphs

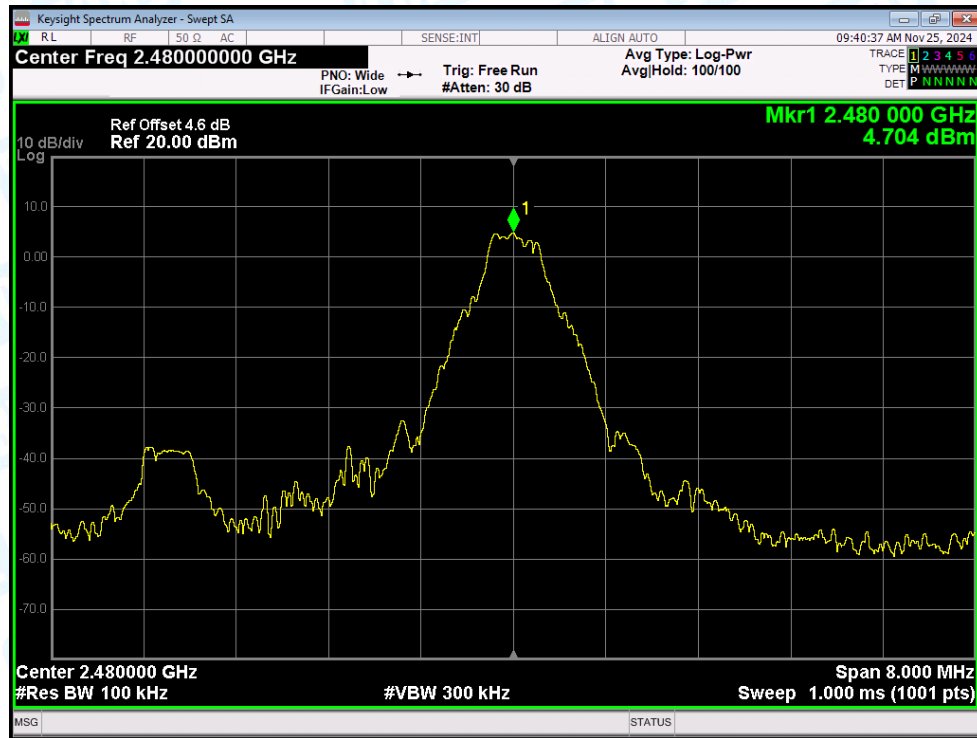
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



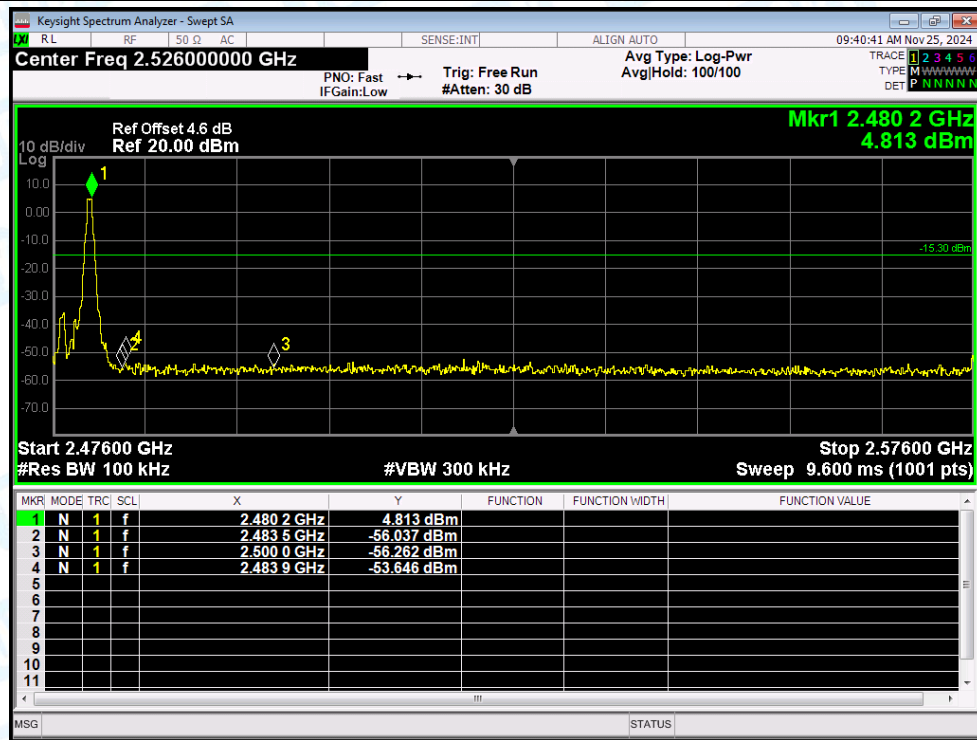
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



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



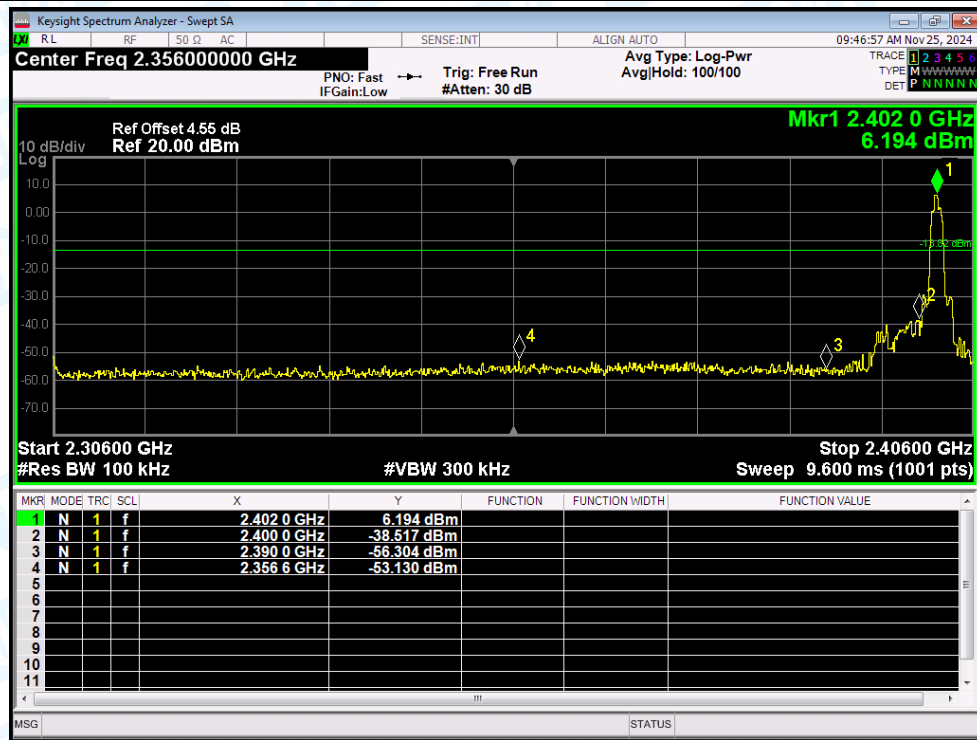
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Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



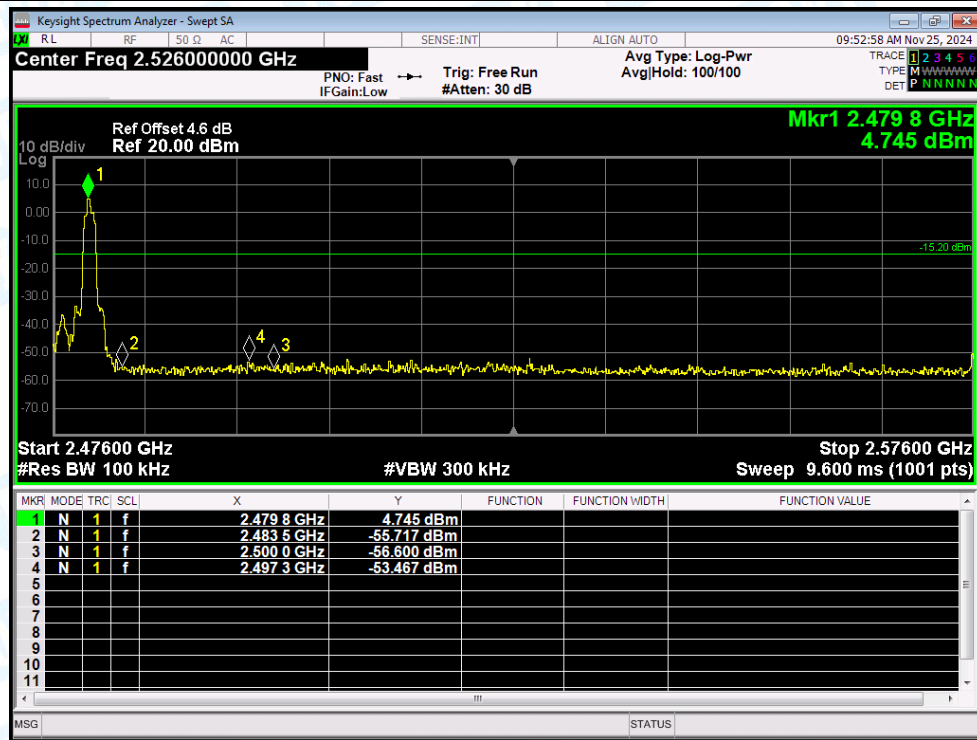
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



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



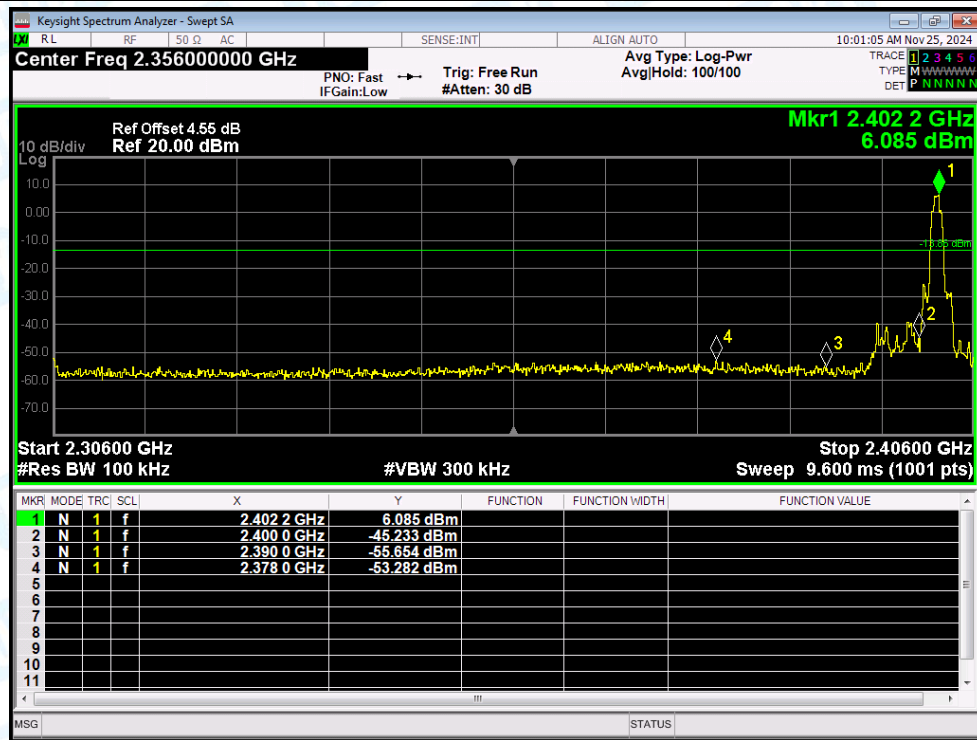
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



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



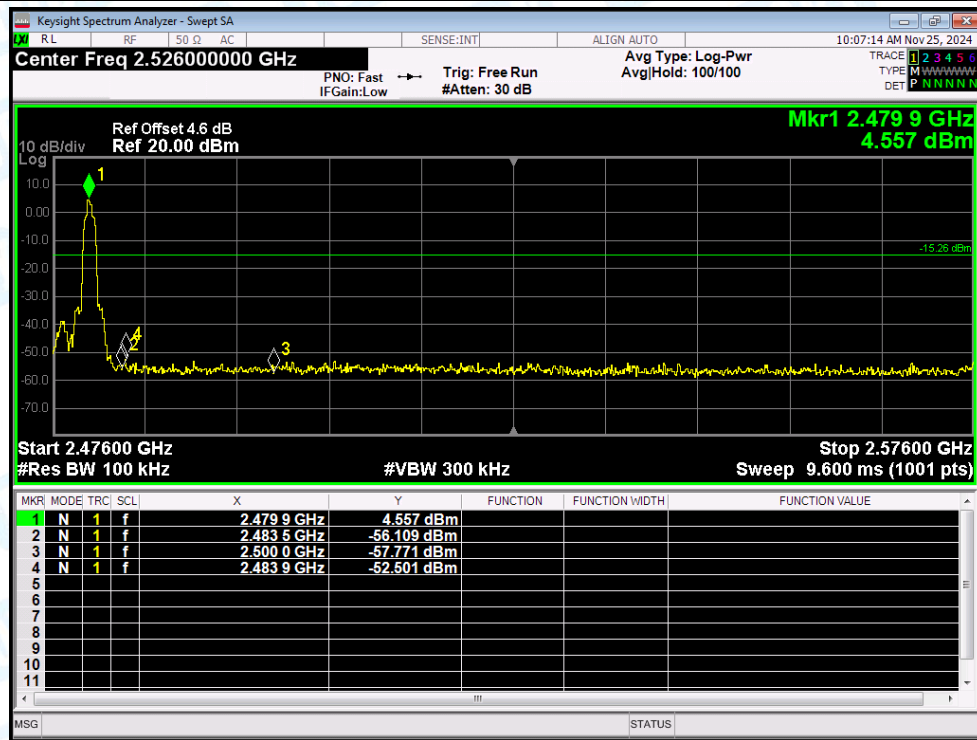
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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

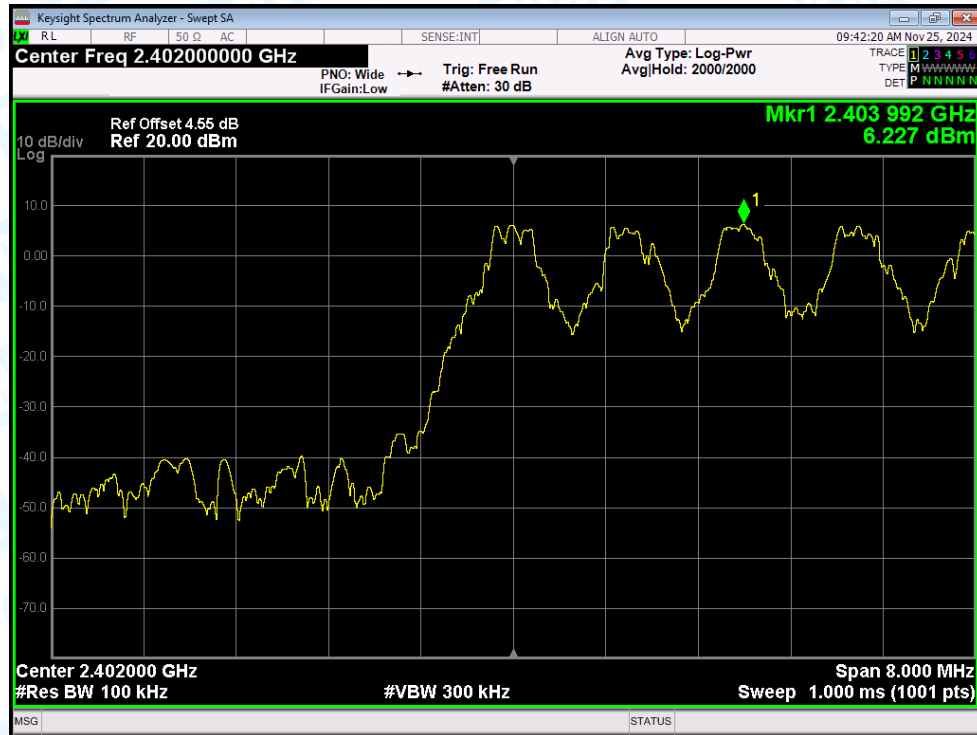


6. Band Edge(Hopping)

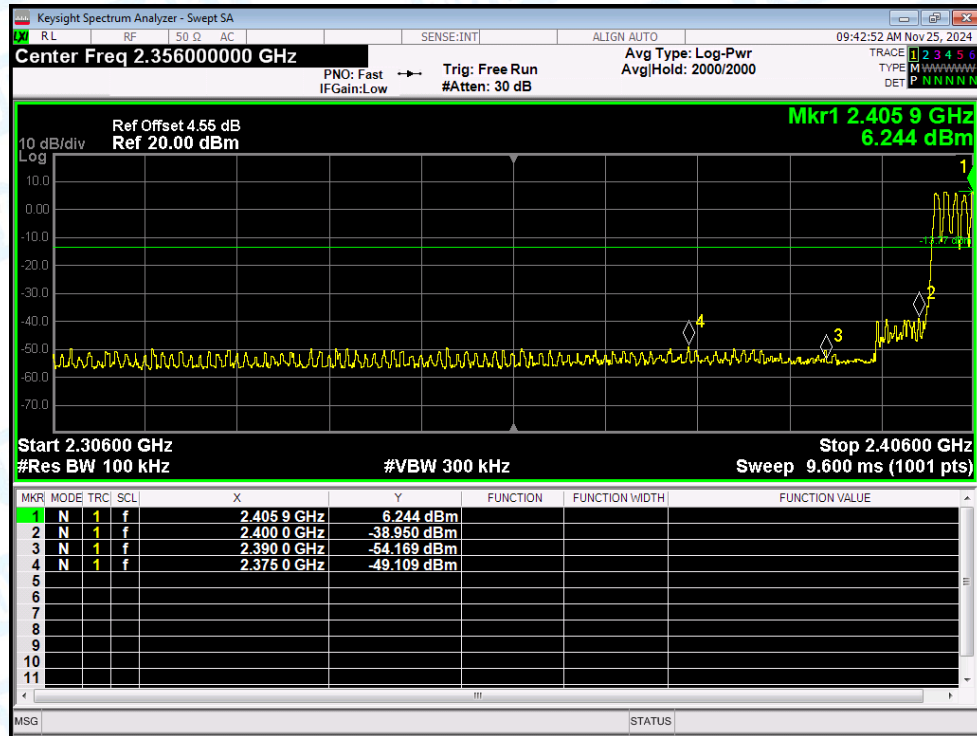
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-55.34	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-55.7	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-55.19	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-56.11	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-54.11	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-56.7	-20	Pass

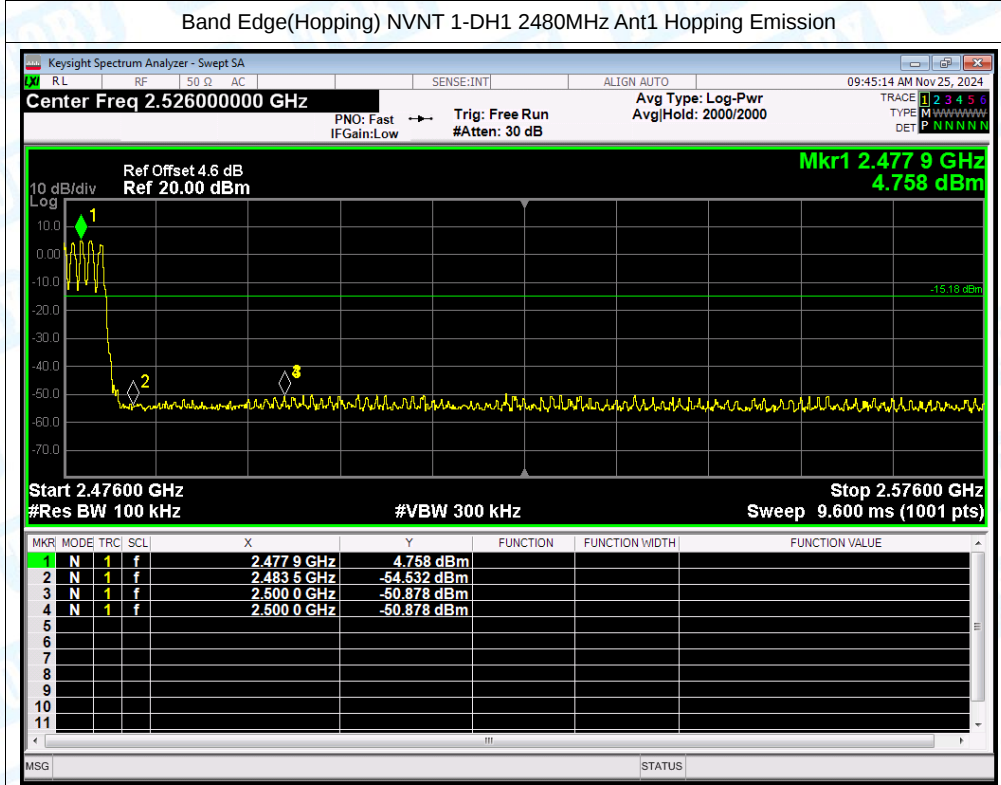
Test Graphs

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

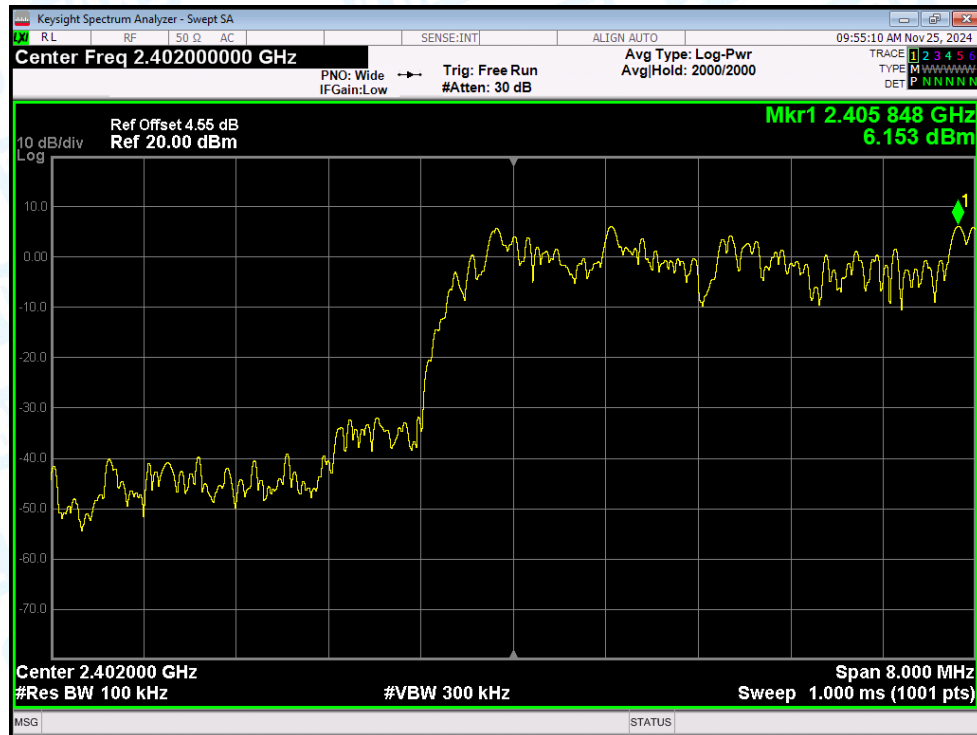


Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

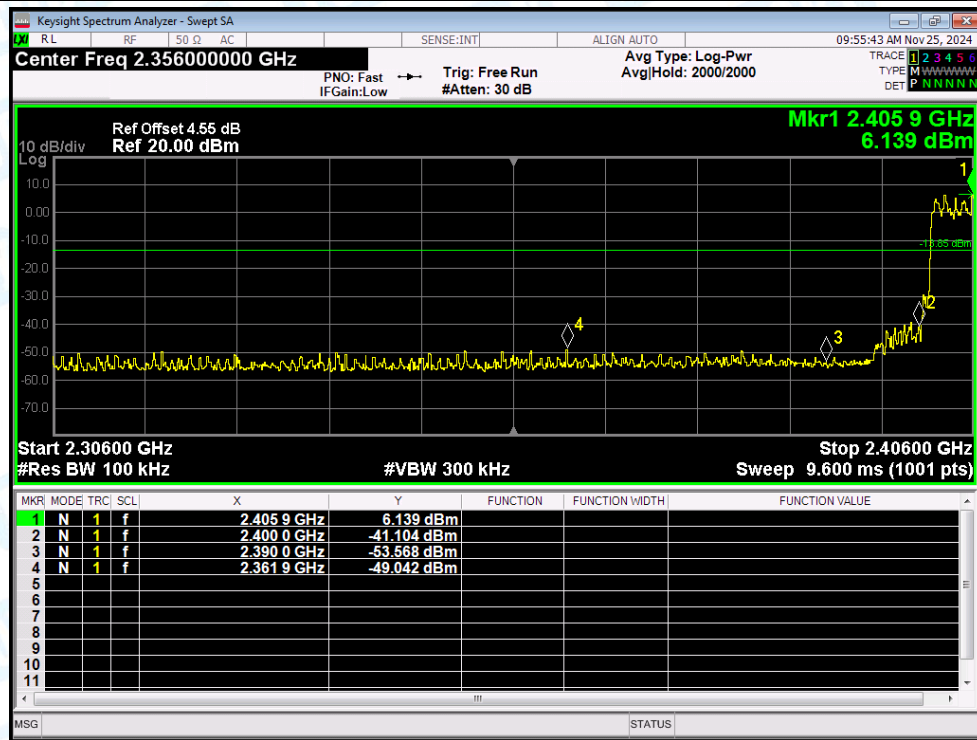


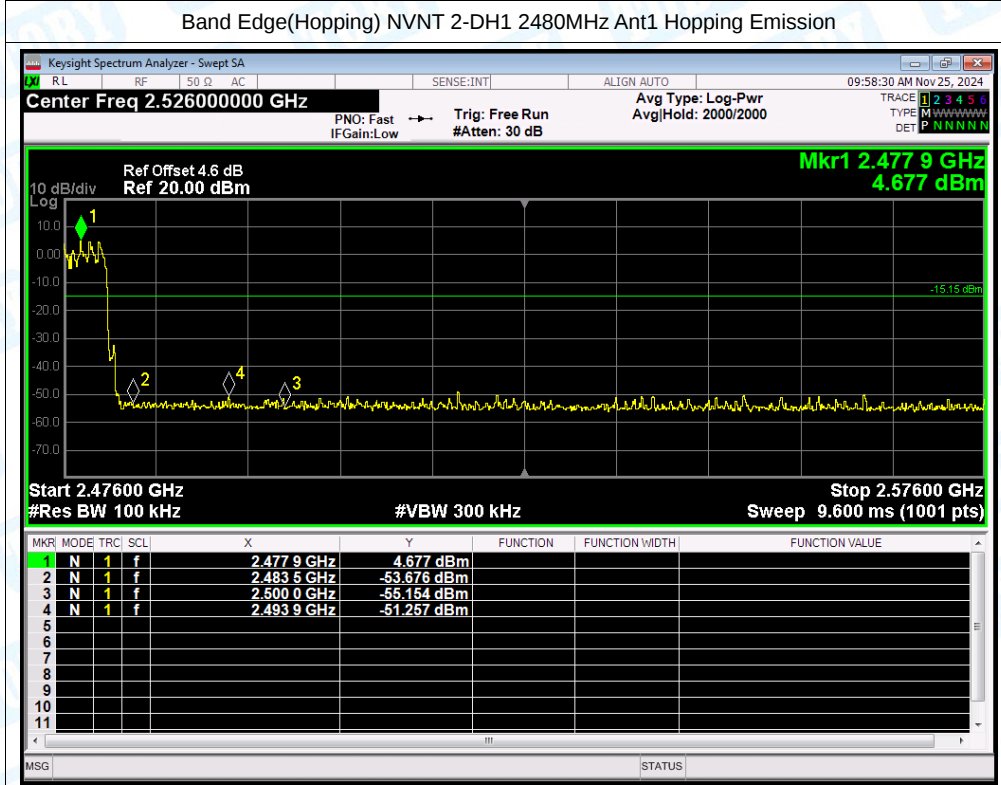


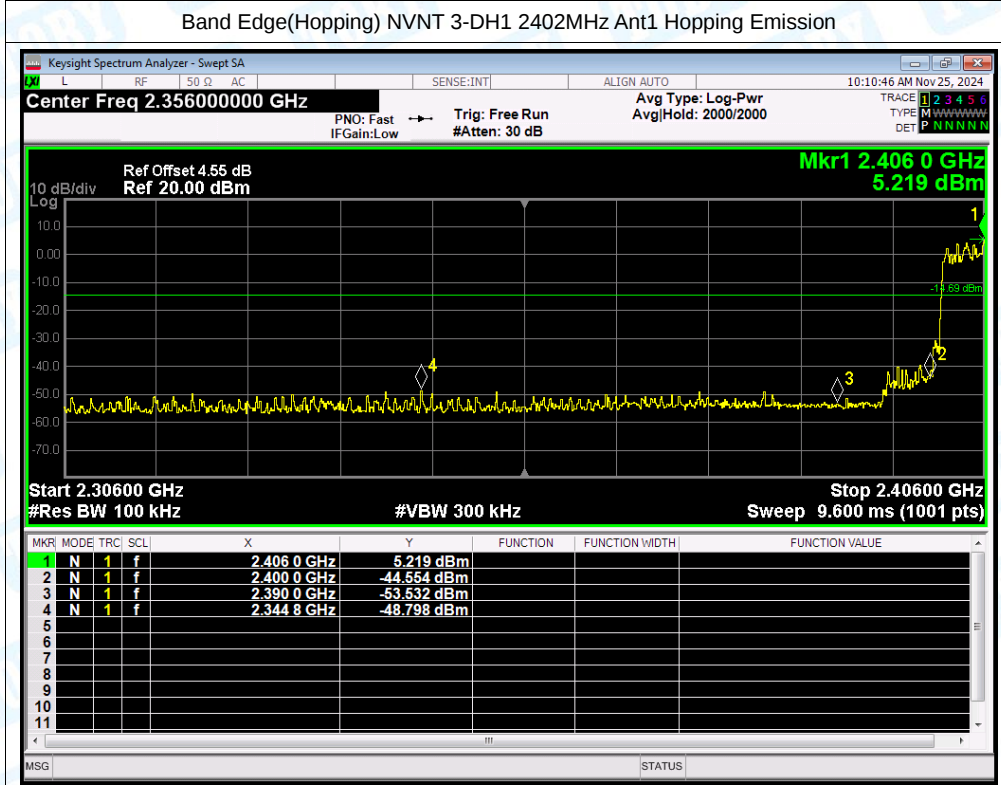
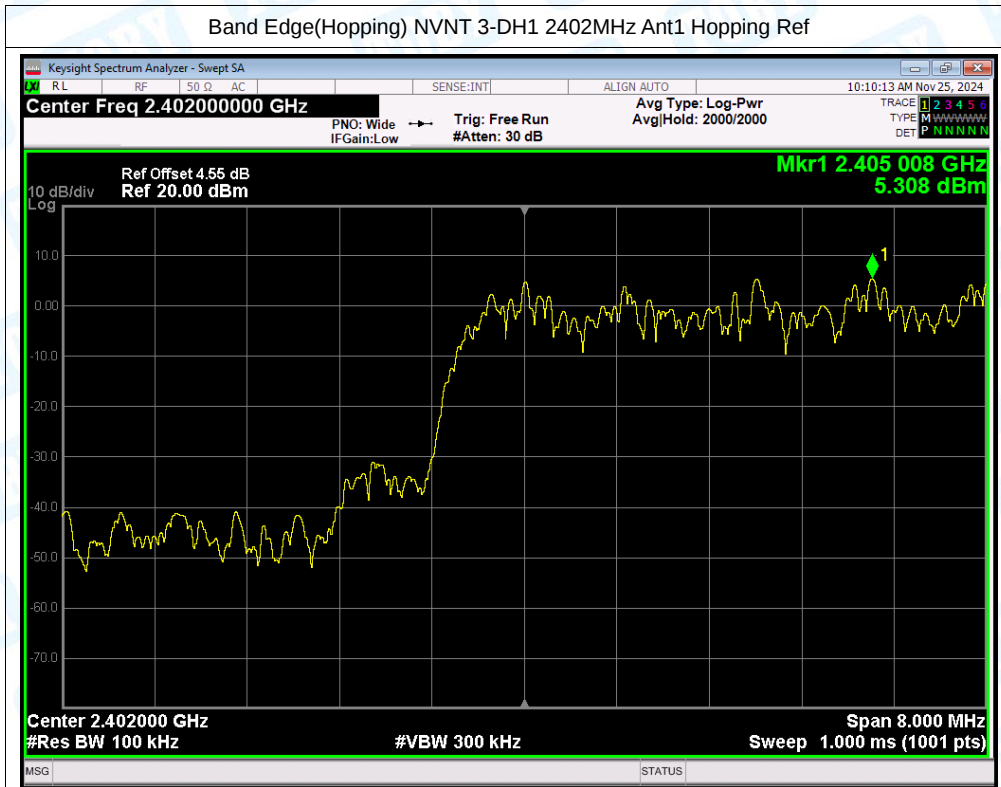
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref

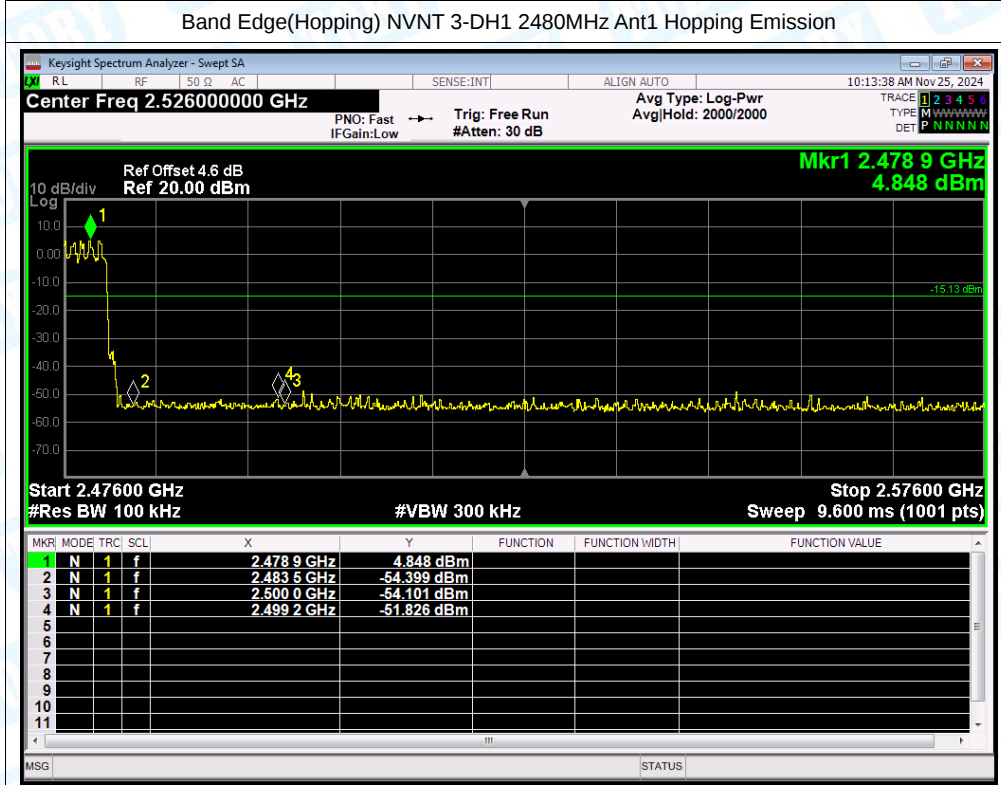


Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission







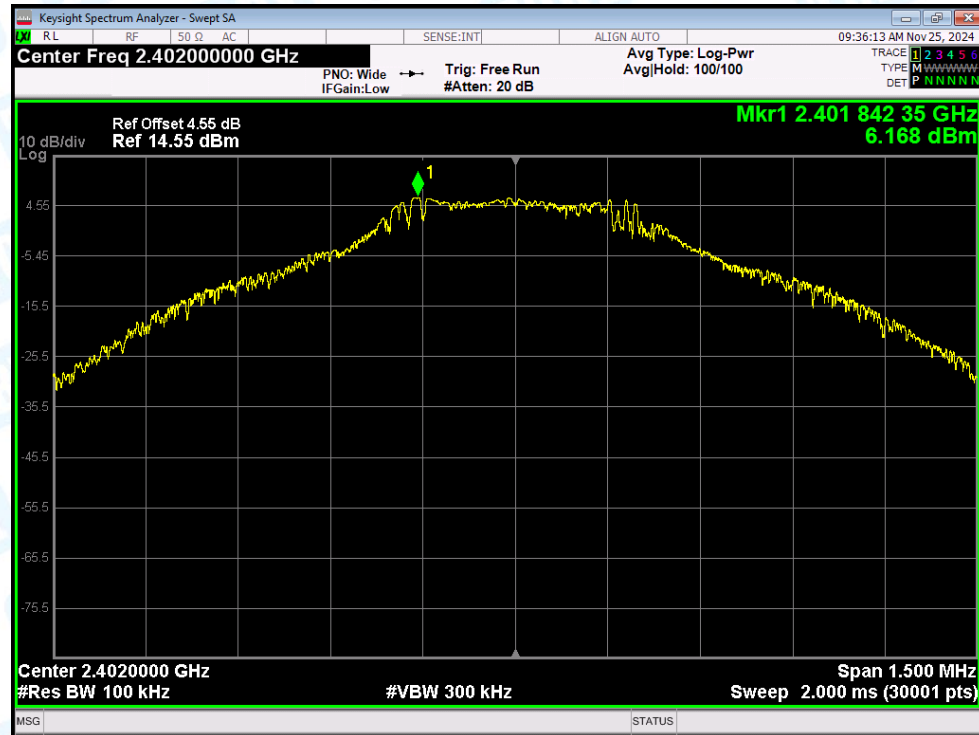


7. Conducted RF Spurious Emission

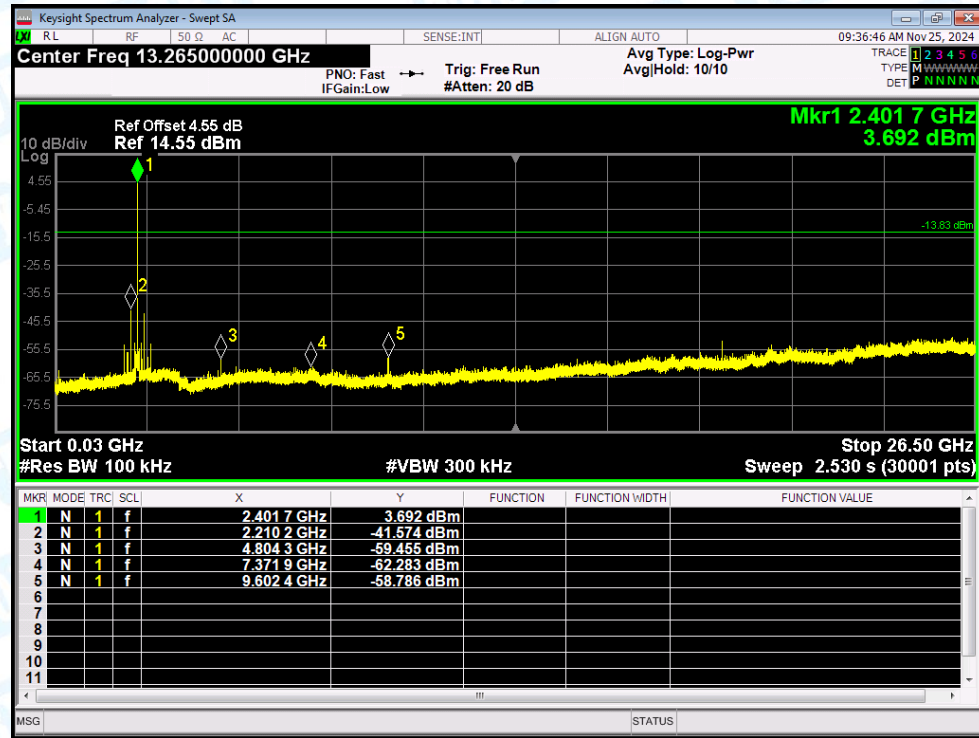
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-47.74	-20	Pass
NVNT	1-DH1	2441	Ant1	-45.78	-20	Pass
NVNT	1-DH1	2480	Ant1	-43.91	-20	Pass
NVNT	2-DH1	2402	Ant1	-48	-20	Pass
NVNT	2-DH1	2441	Ant1	-47.89	-20	Pass
NVNT	2-DH1	2480	Ant1	-46.51	-20	Pass
NVNT	3-DH1	2402	Ant1	-50.43	-20	Pass
NVNT	3-DH1	2441	Ant1	-48.61	-20	Pass
NVNT	3-DH1	2480	Ant1	-44.65	-20	Pass

Test Graphs

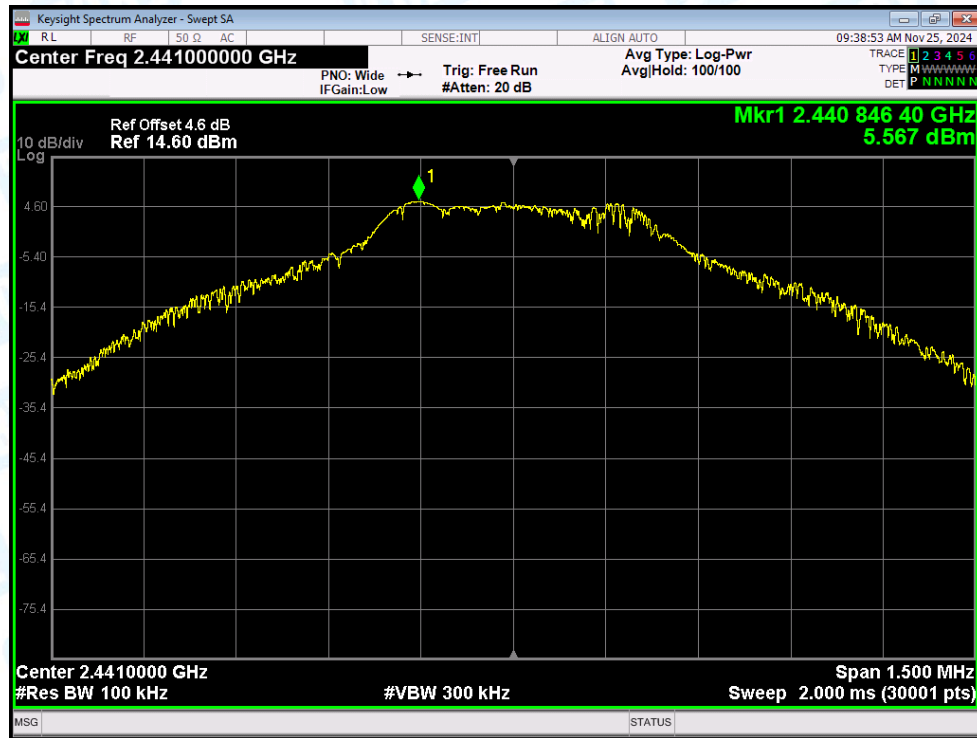
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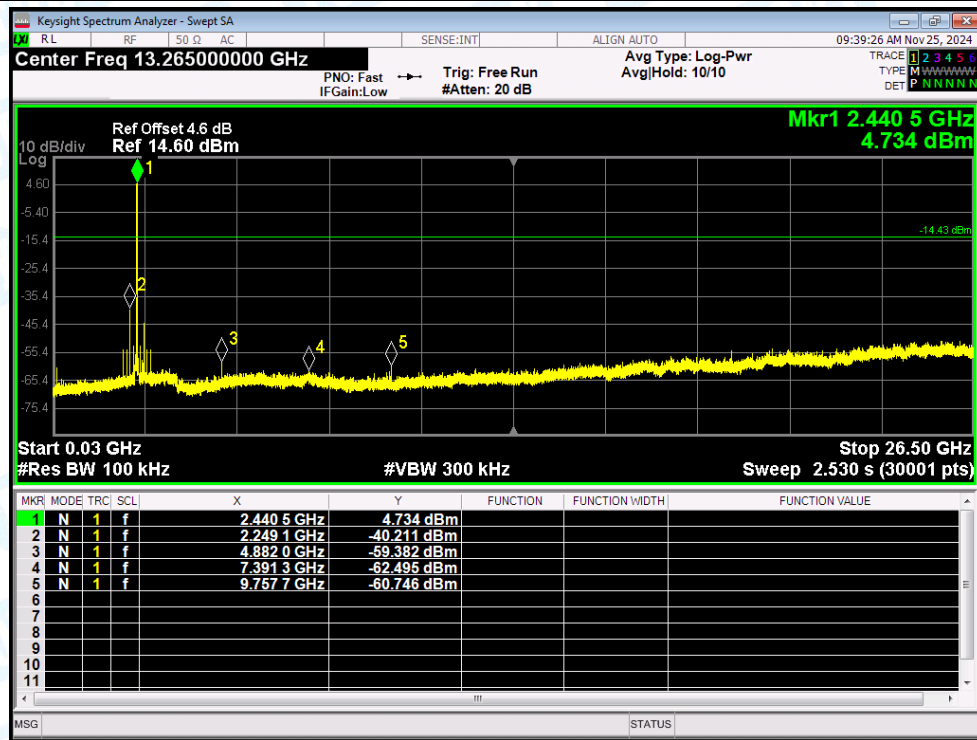
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



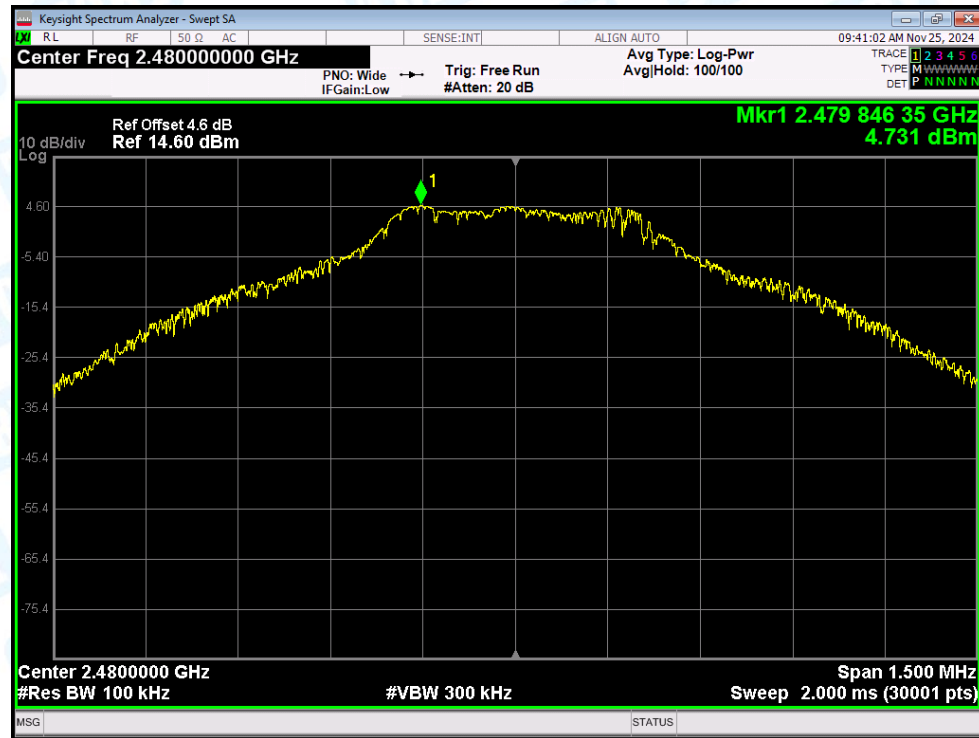
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



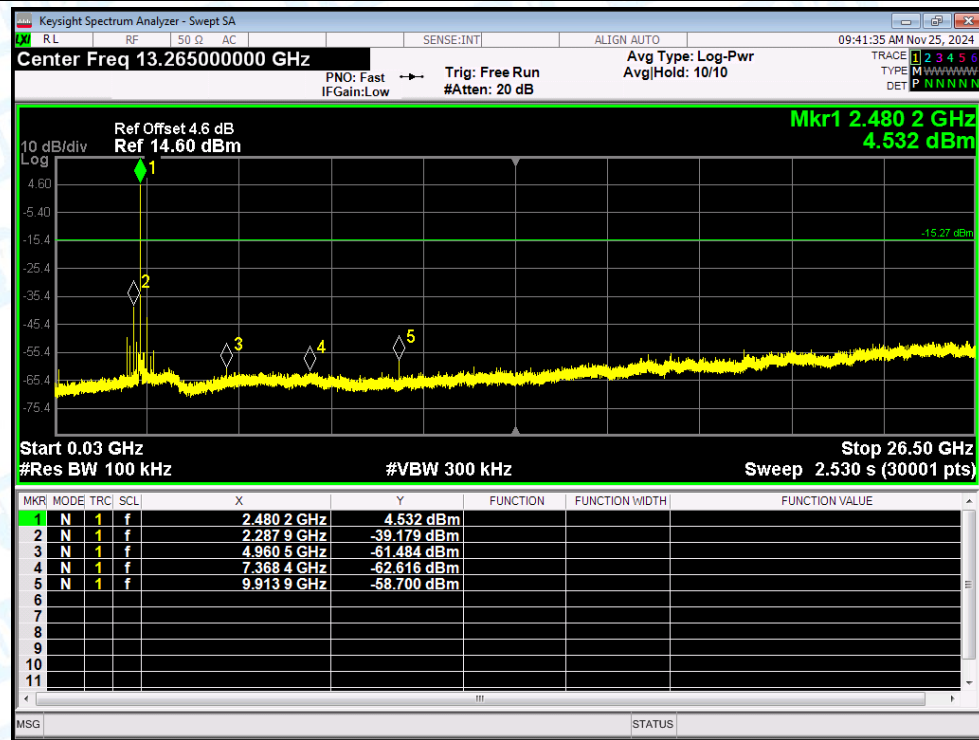
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



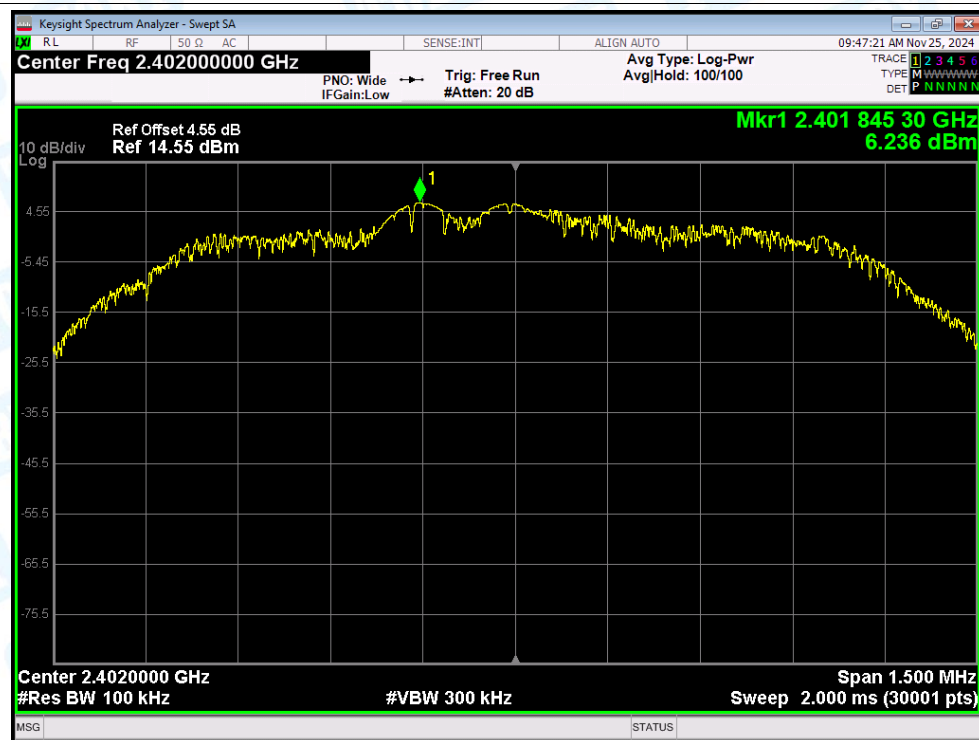
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



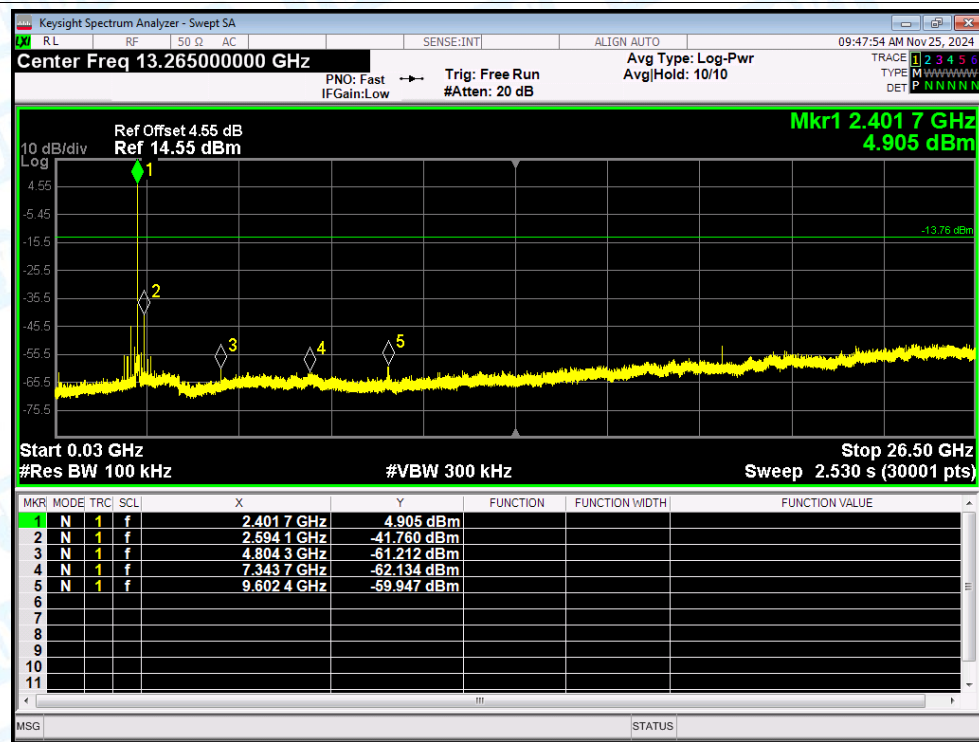
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



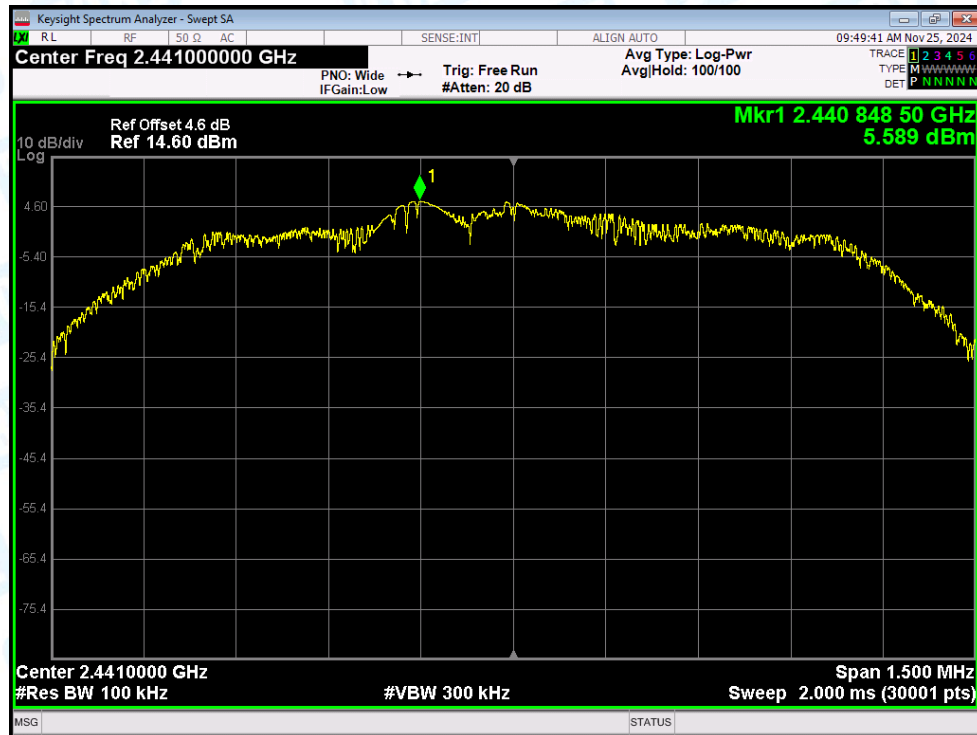
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



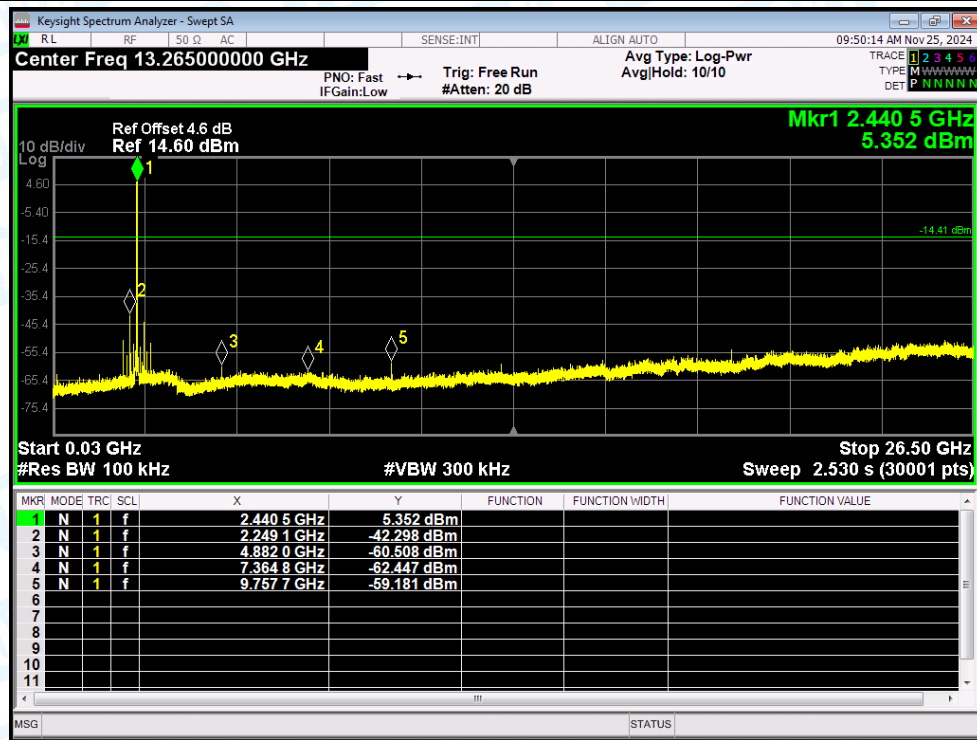
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



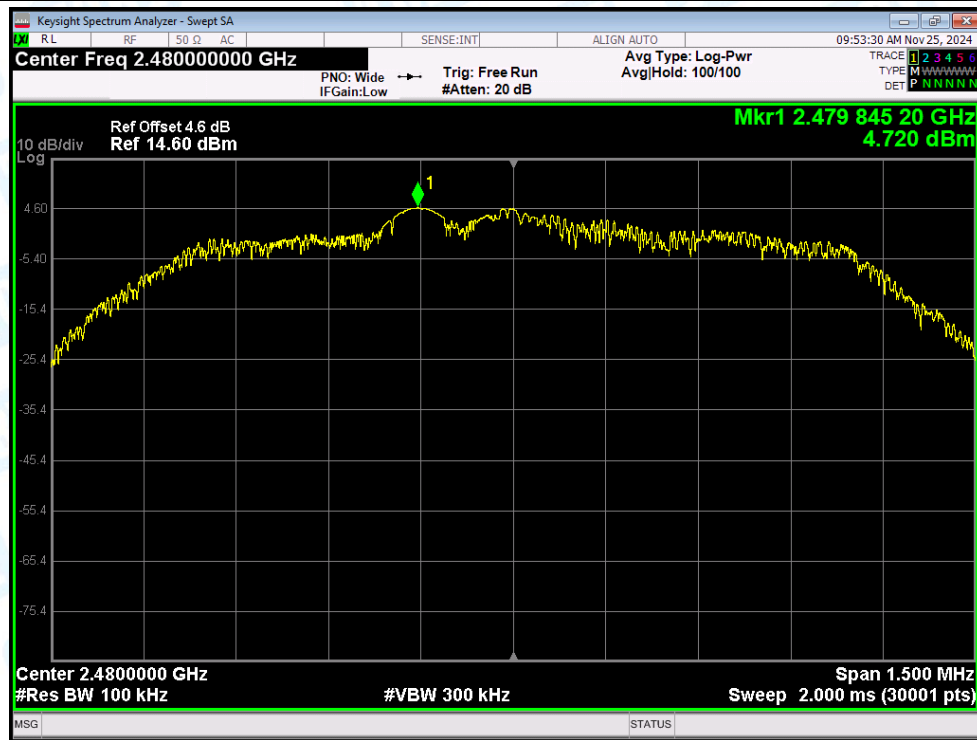
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



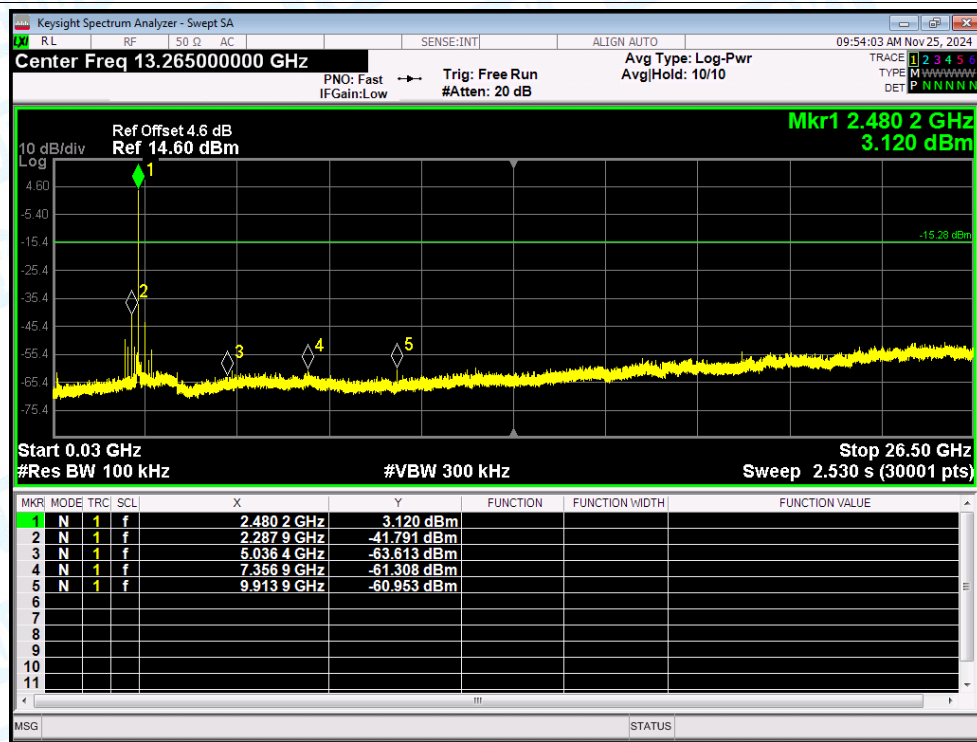
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



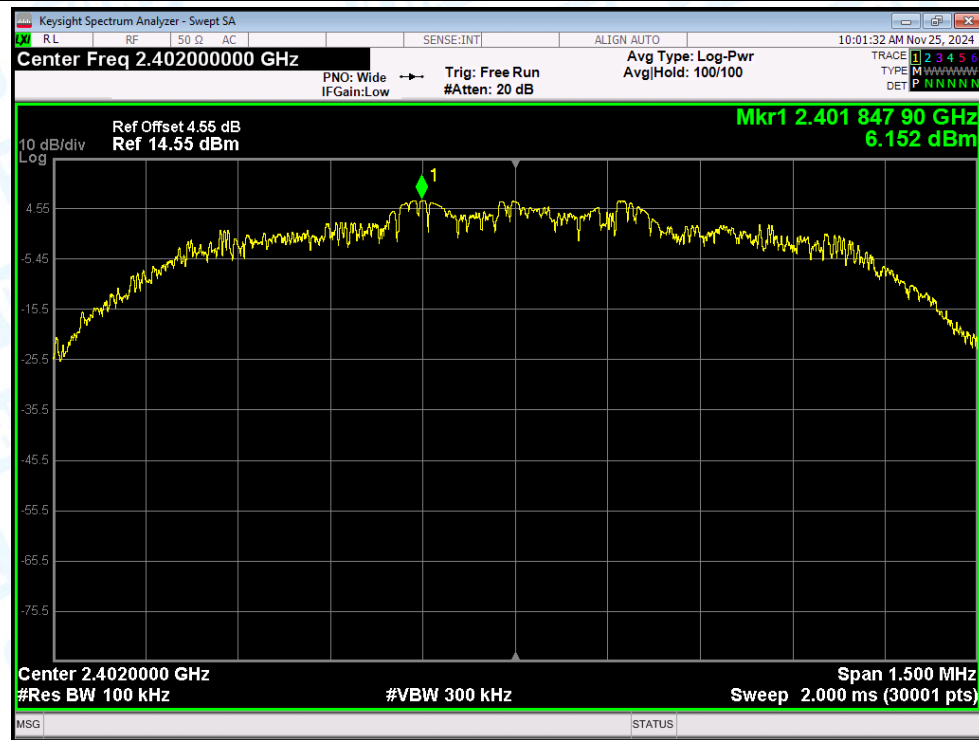
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



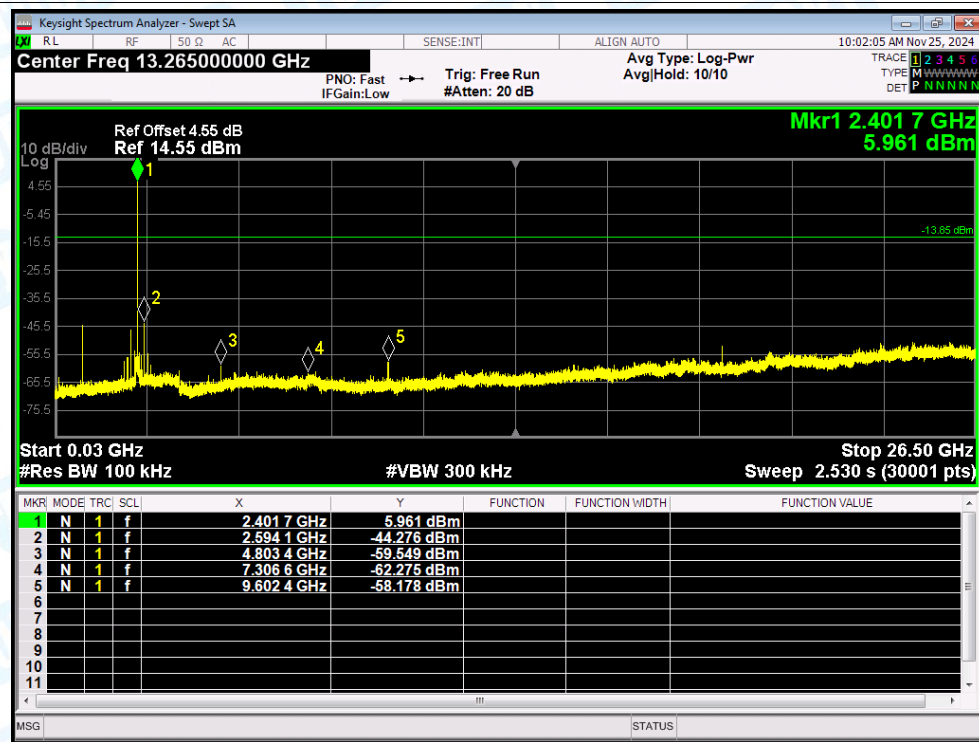
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



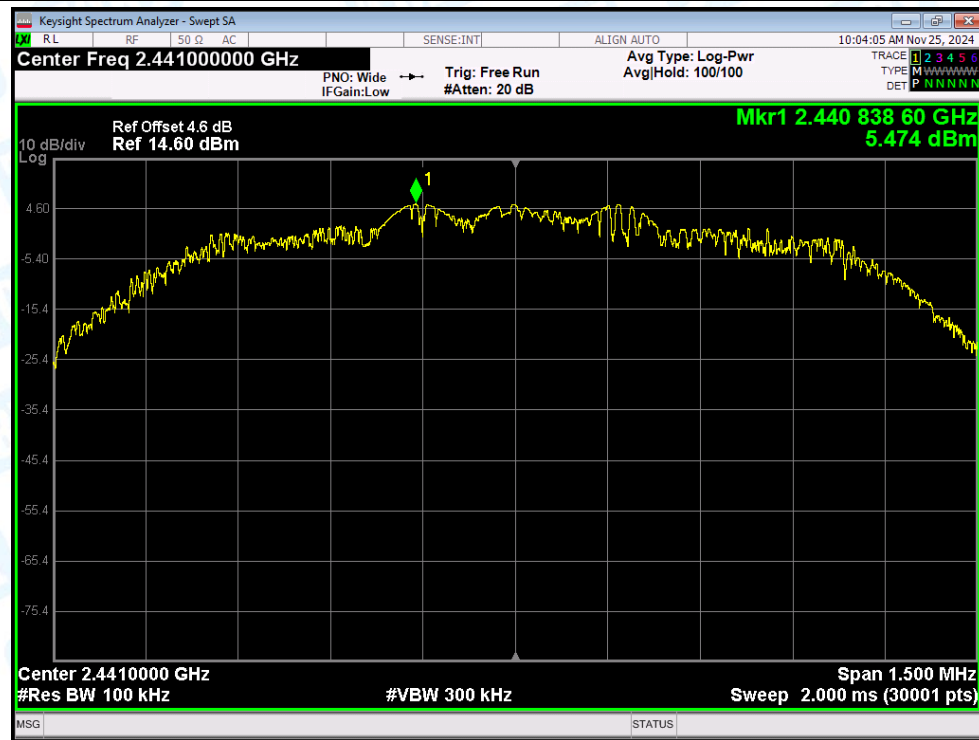
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



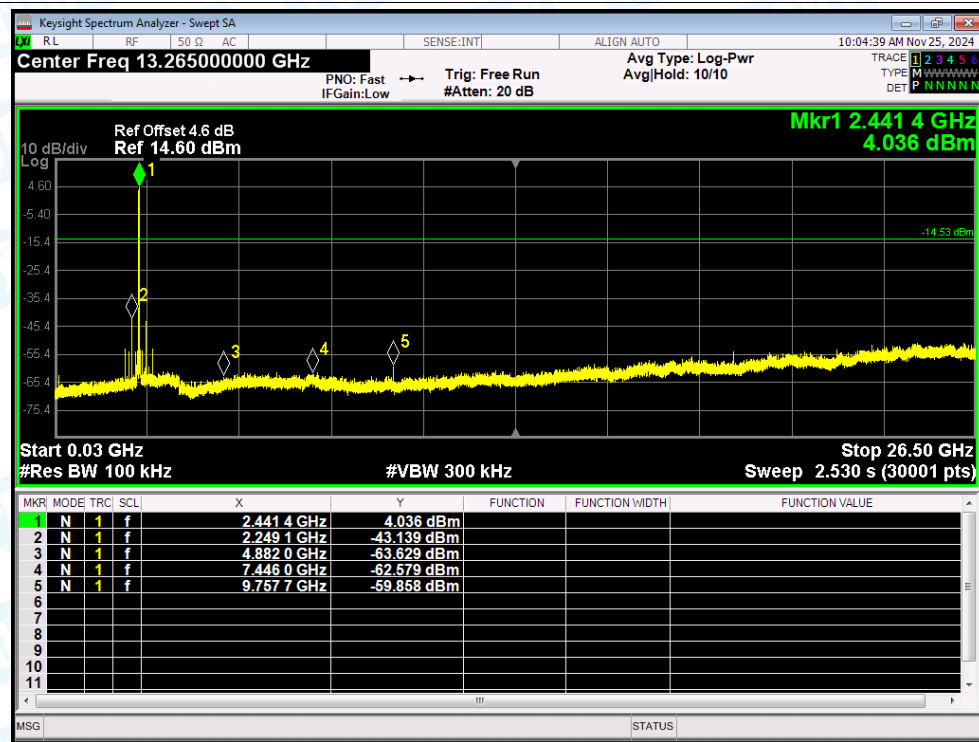
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



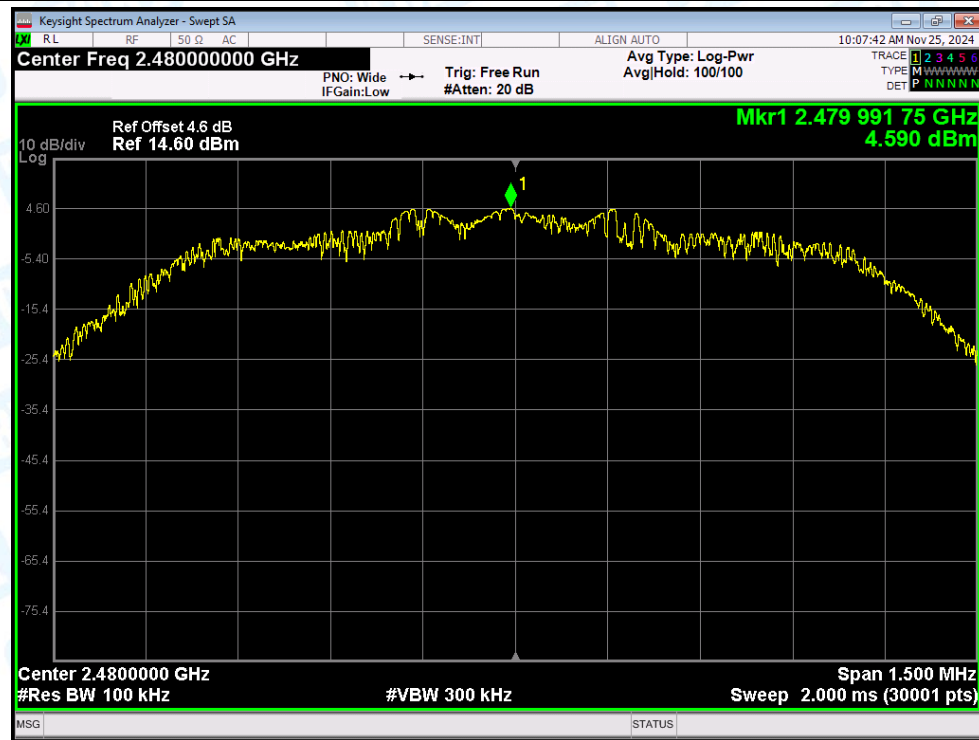
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



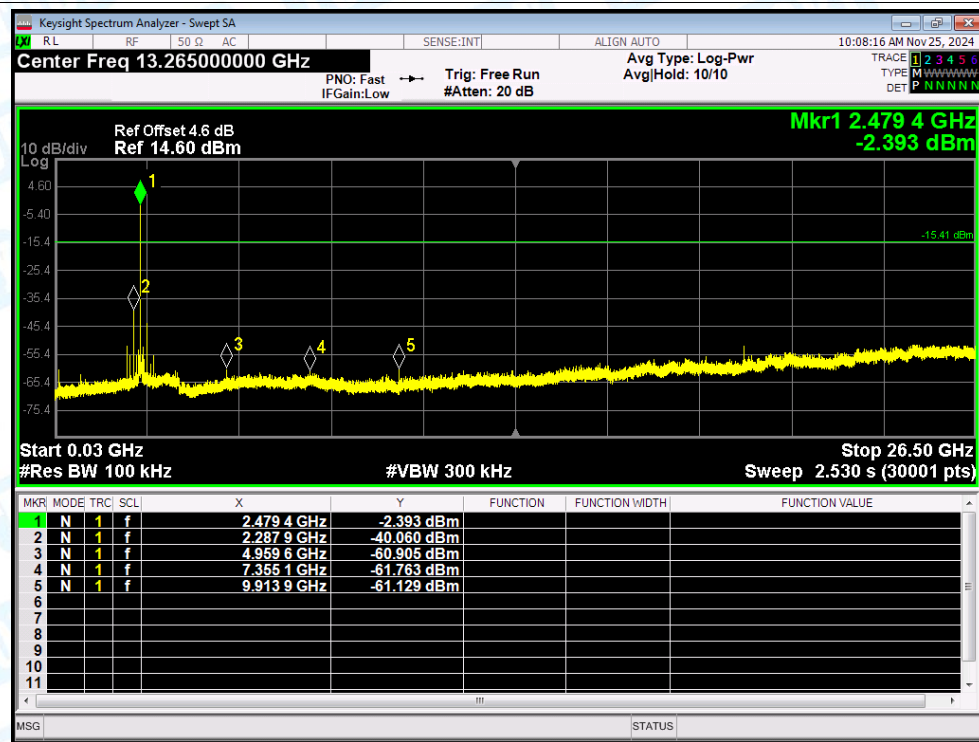
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

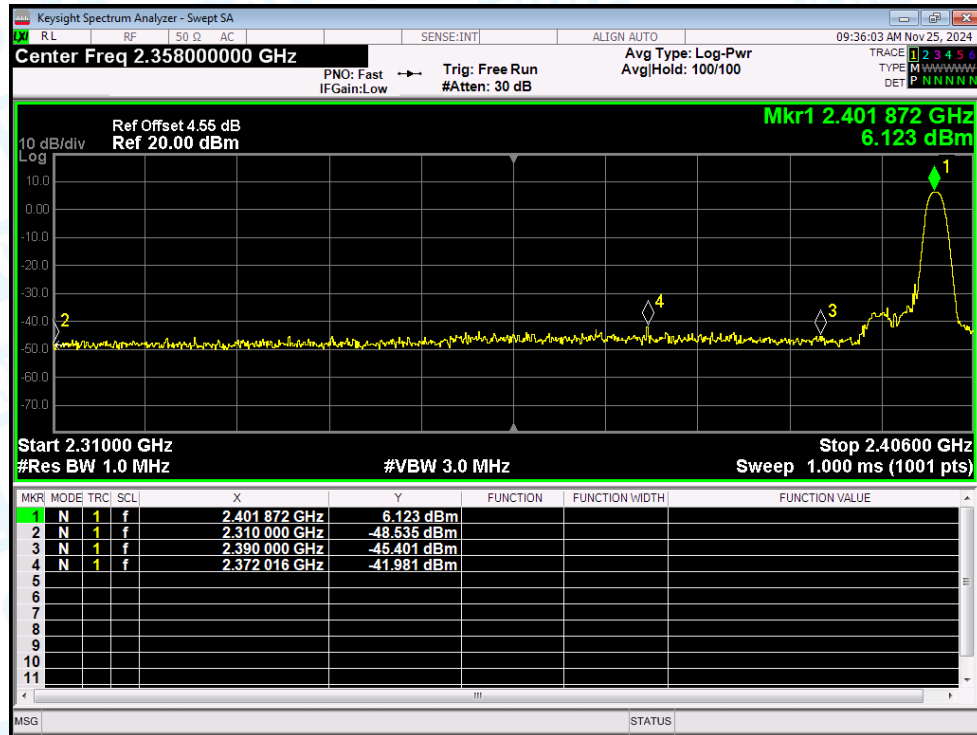


8. Restrict Band

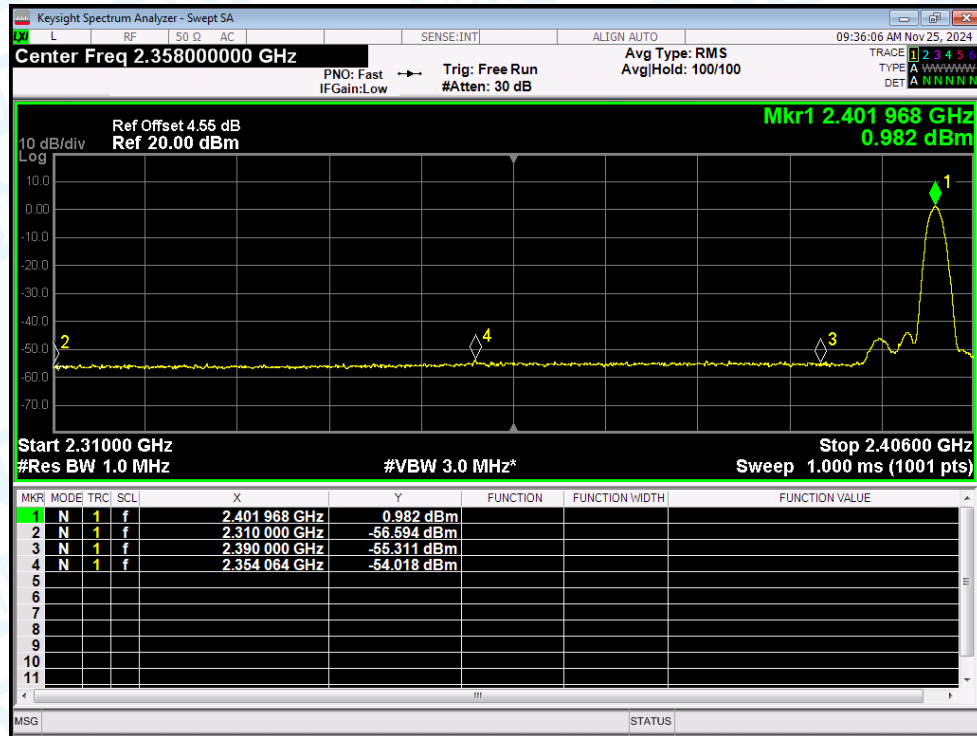
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-48.54	2	-	48.72	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.59	2	5.17	45.84	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2372.016	-41.98	2	-	55.28	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2354.064	-54.02	2	5.17	48.41	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-45.4	2	-	51.86	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.31	2	5.17	47.12	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-44.94	2	-	52.32	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.55	2	5.17	47.88	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2484.688	-43.23	2	-	54.03	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2484.328	-54.05	2	5.17	48.38	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.97	2	-	49.29	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-54.88	2	5.17	47.55	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.59	2	-	48.67	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.16	2	5.02	46.12	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2389.968	-40.72	2	-	56.54	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2358.96	-54.17	2	5.02	48.11	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-40.73	2	-	56.53	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.79	2	5.02	46.49	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-44.39	2	-	52.87	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-54.23	2	5.06	48.09	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.448	-43.18	2	-	54.08	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.352	-53.86	2	5.06	48.46	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-45.05	2	-	52.21	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.24	2	5.06	47.08	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-46.79	2	-	50.47	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.37	2	4.95	45.84	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2370.576	-42.88	2	-	54.38	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2370	-54	2	4.95	48.21	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-46	2	-	51.26	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.46	2	4.95	46.75	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-46.38	2	-	50.88	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-54.37	2	5.06	47.95	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2484.472	-41.14	2	-	56.12	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.656	-54	2	5.06	48.32	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-46.75	2	-	50.51	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-54.53	2	5.06	47.79	Average	54	Pass

Test Graphs

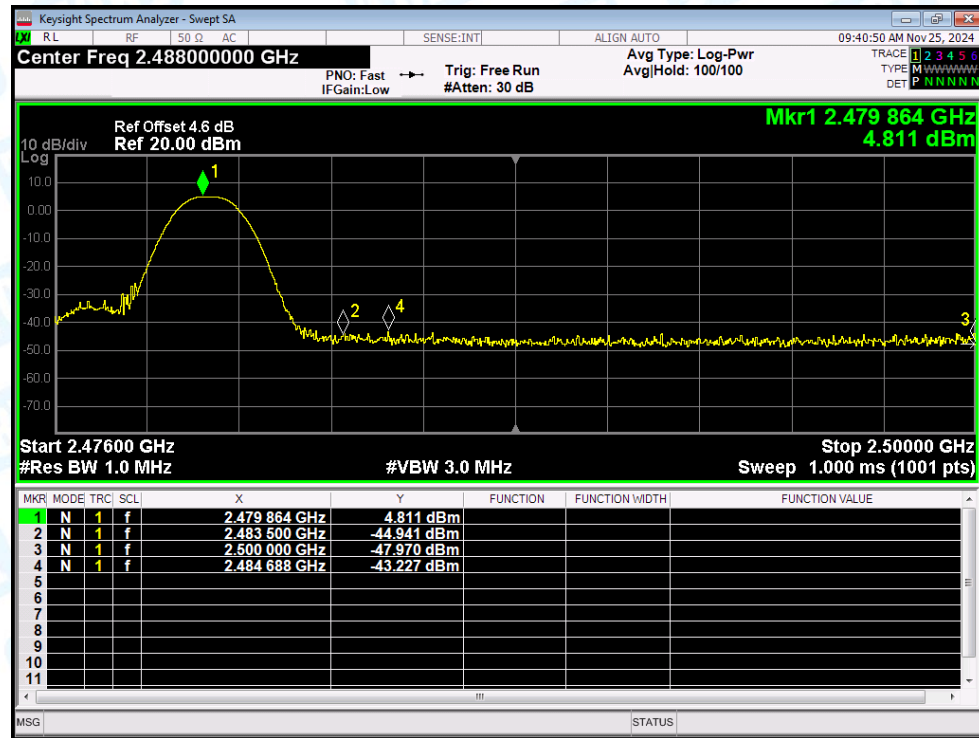
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



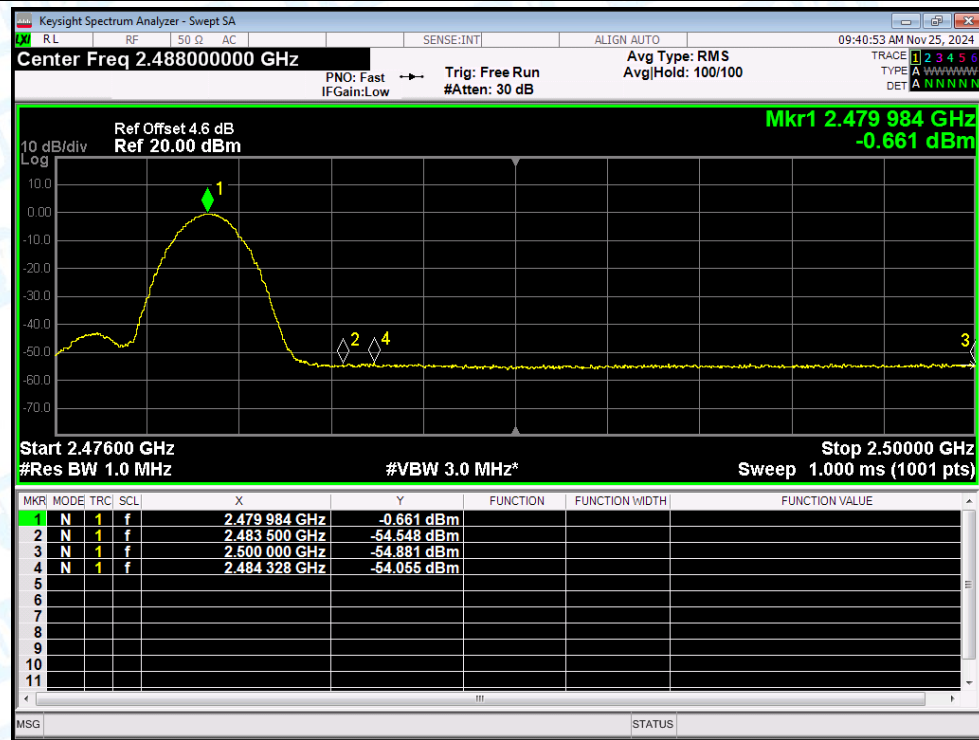
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



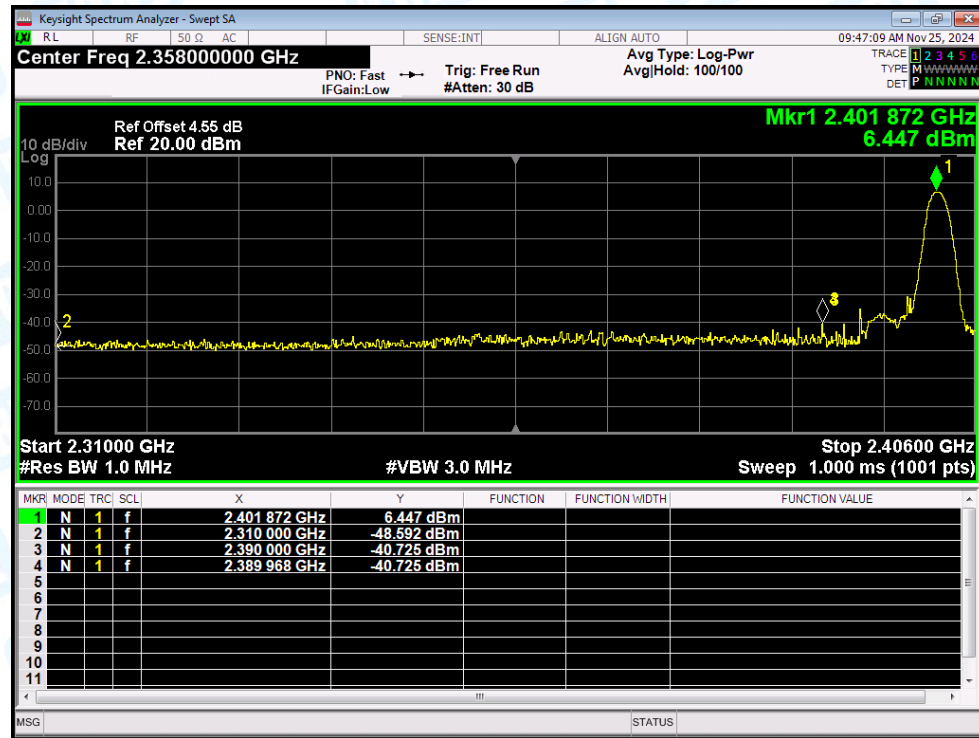
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



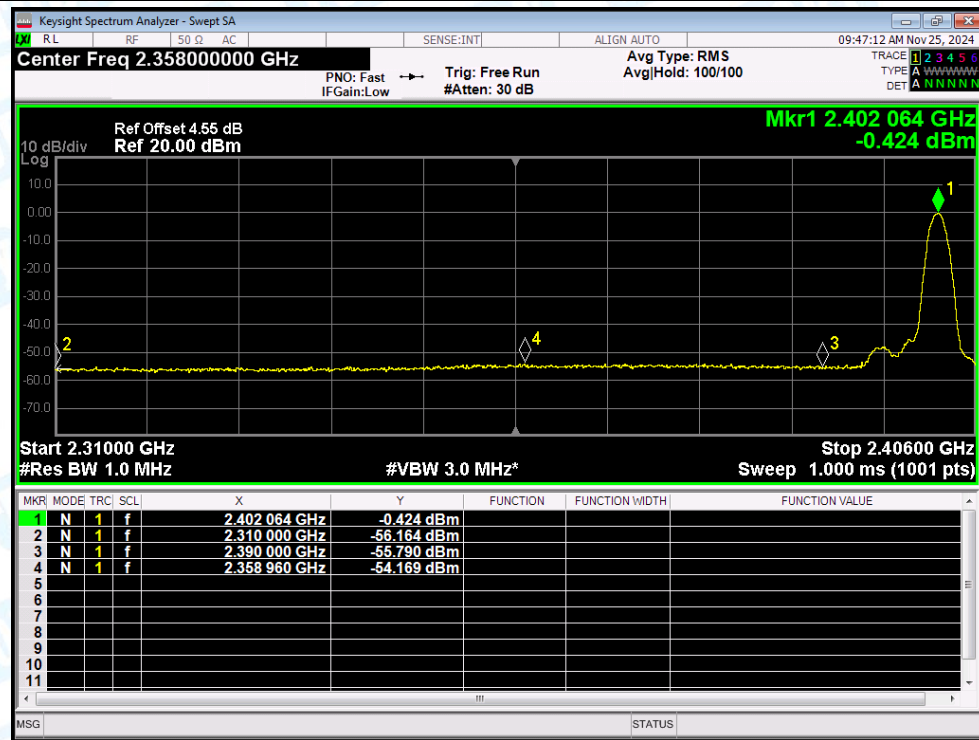
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



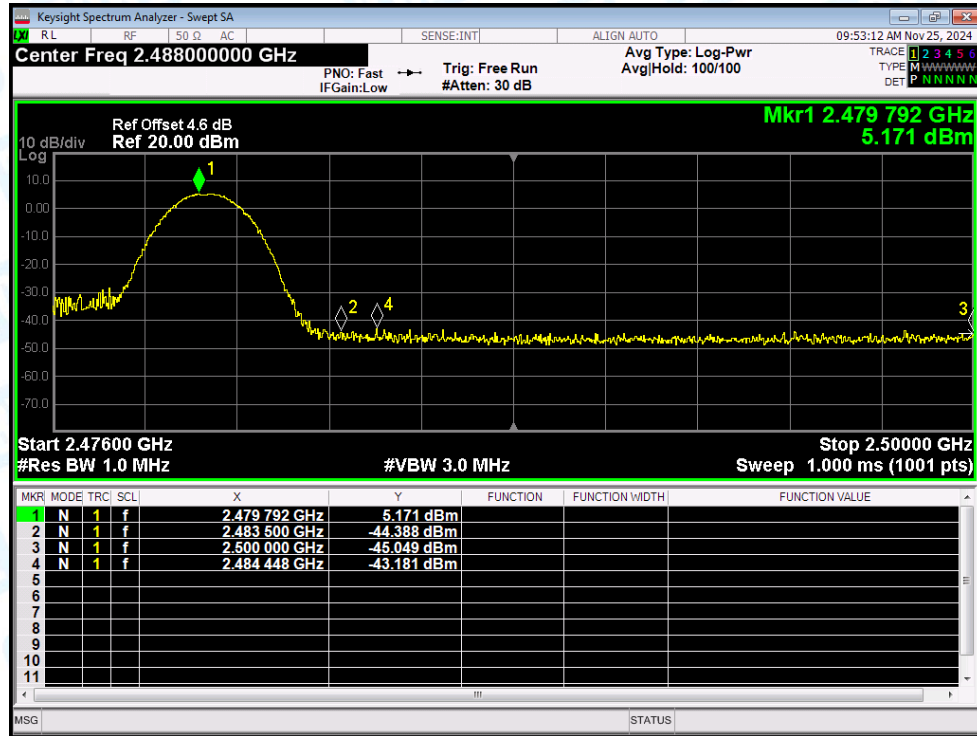
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



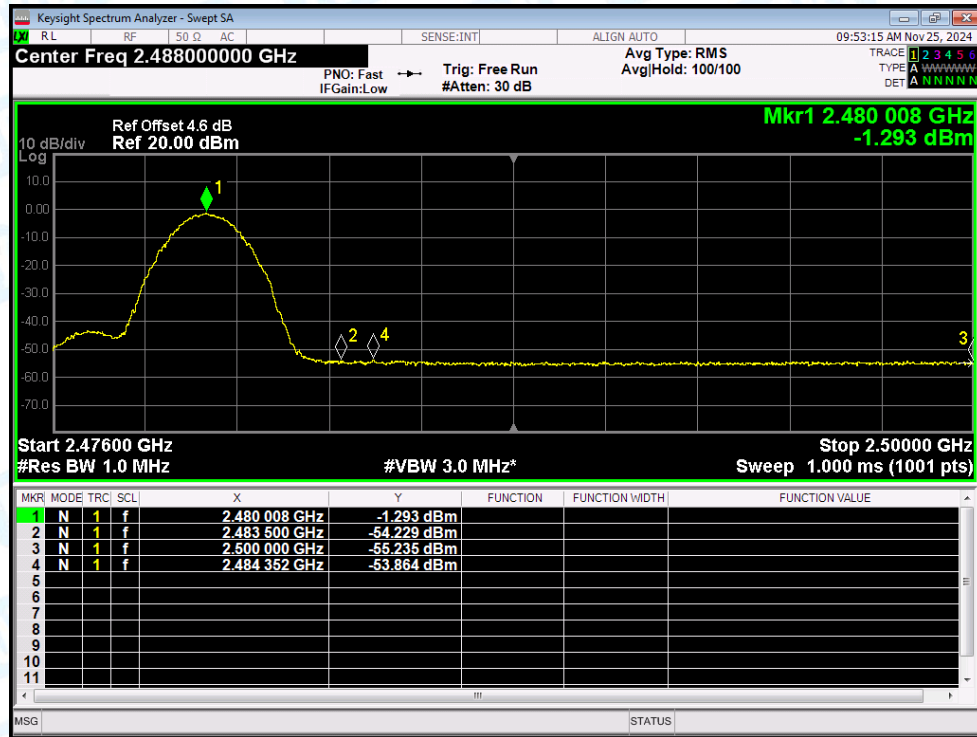
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



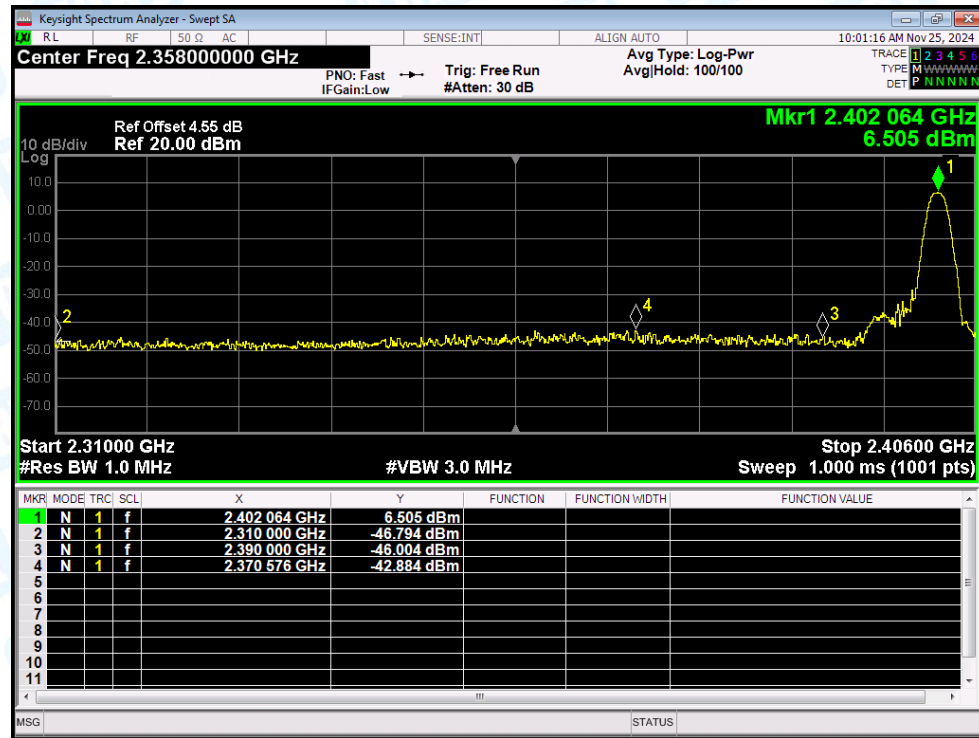
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



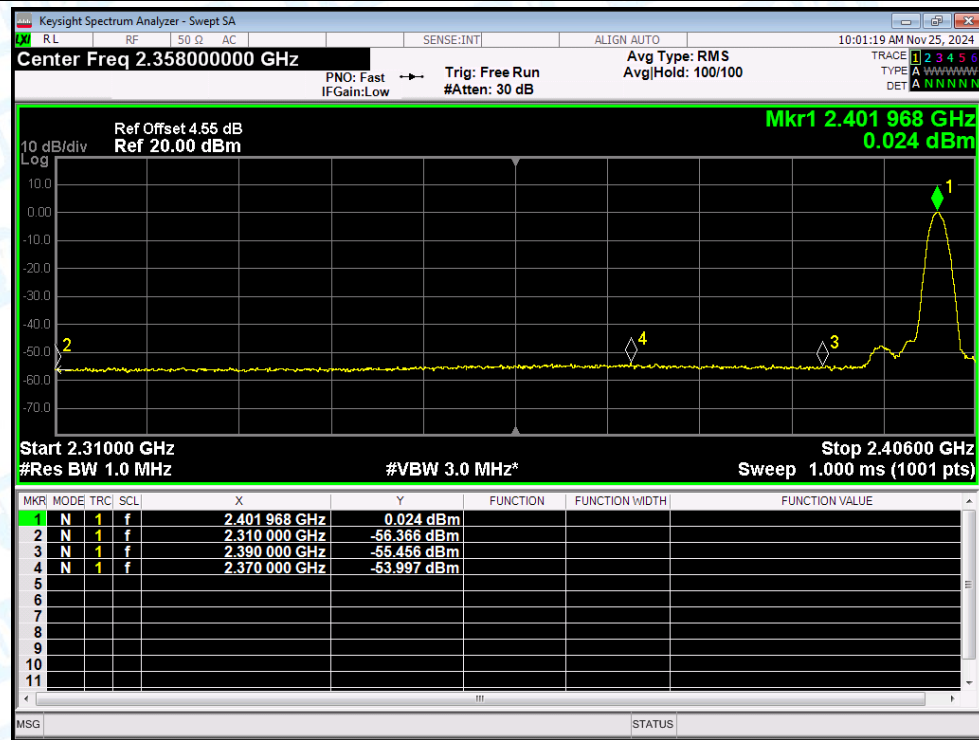
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



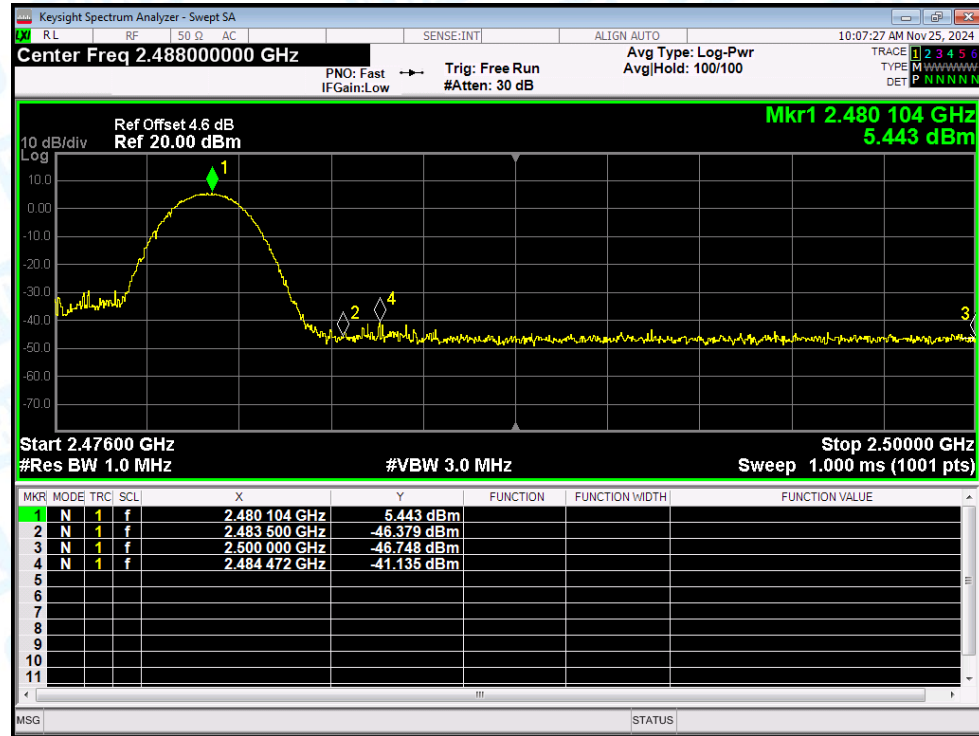
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



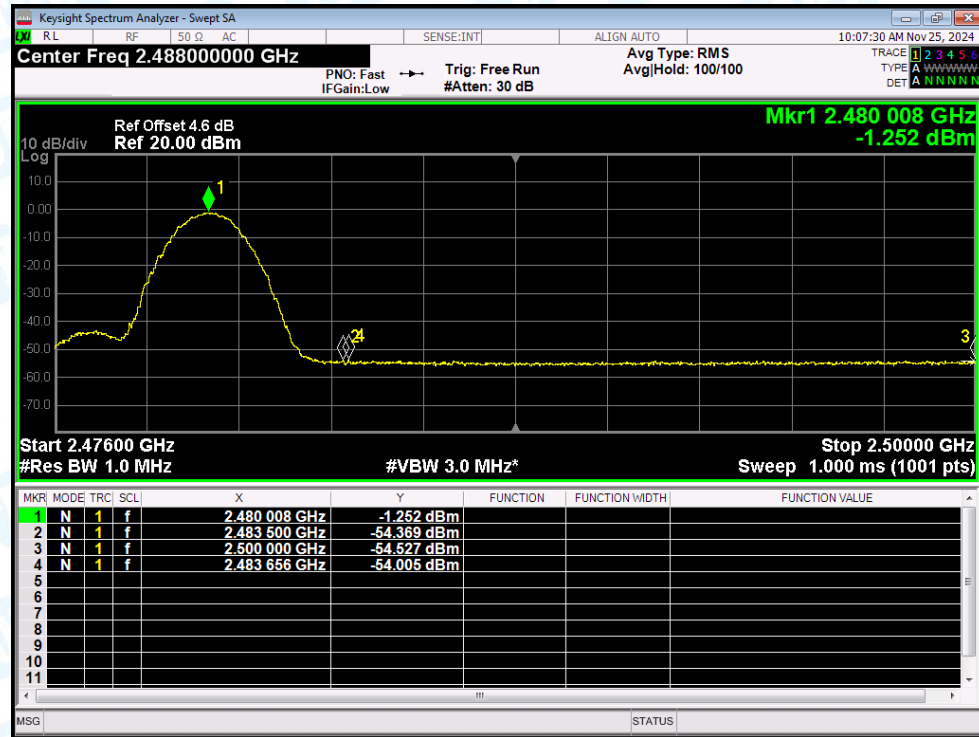
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

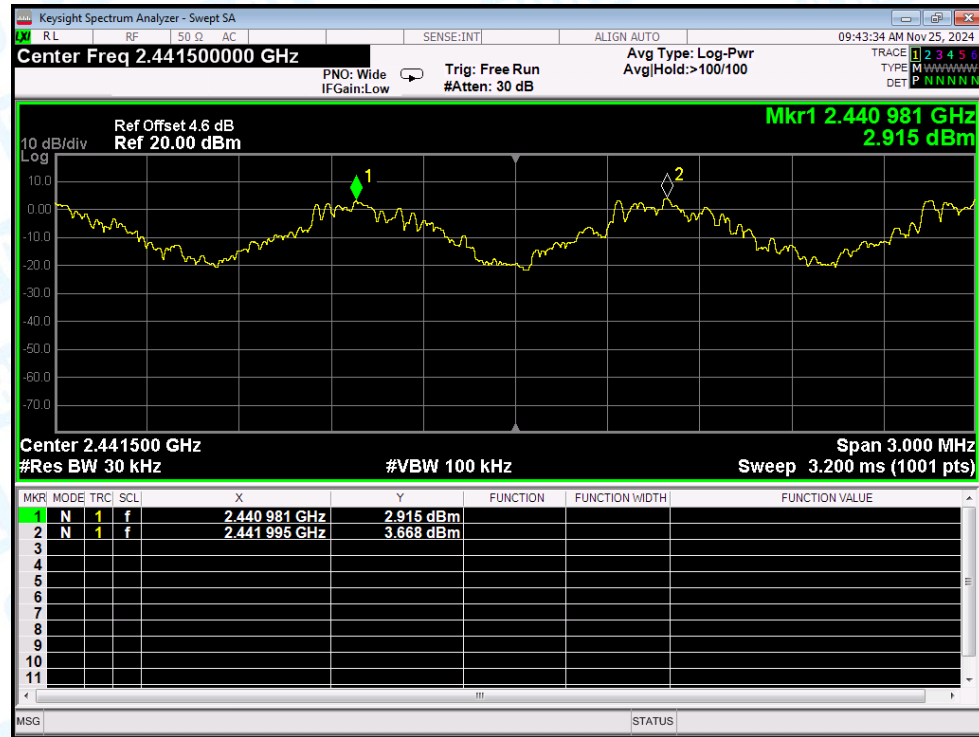


9. Carrier Frequencies Separation

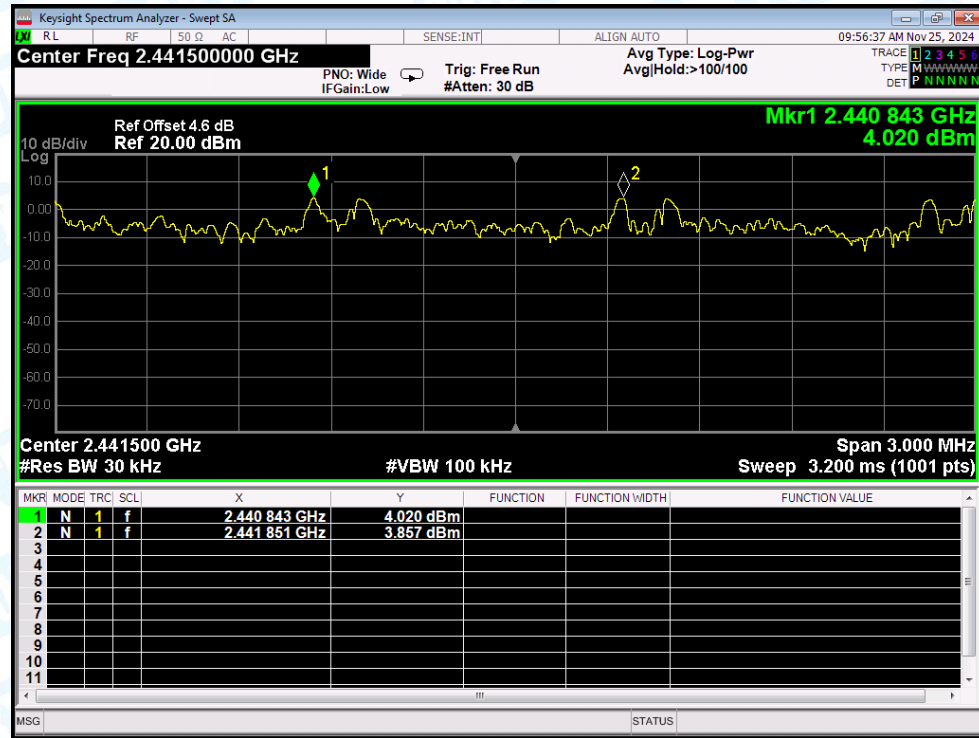
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.981	2441.995	1.014	0.56	Pass
NVNT	2-DH1	Ant1	2440.843	2441.851	1.008	0.827	Pass
NVNT	3-DH1	Ant1	2440.999	2441.842	0.843	0.827	Pass

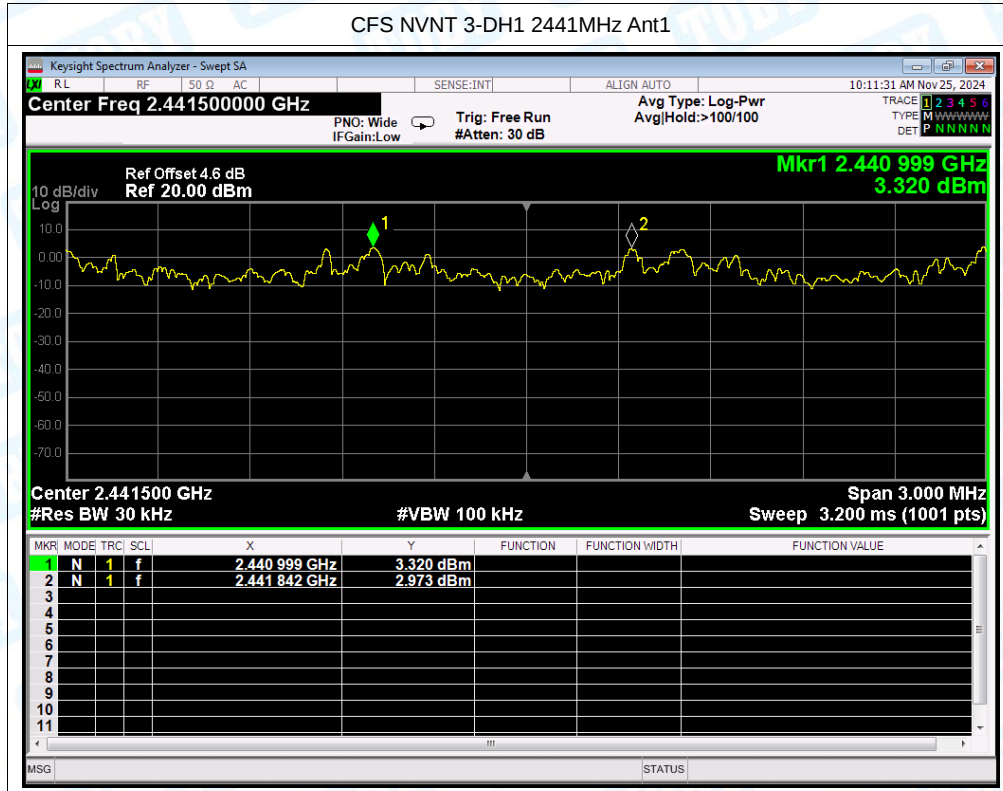
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



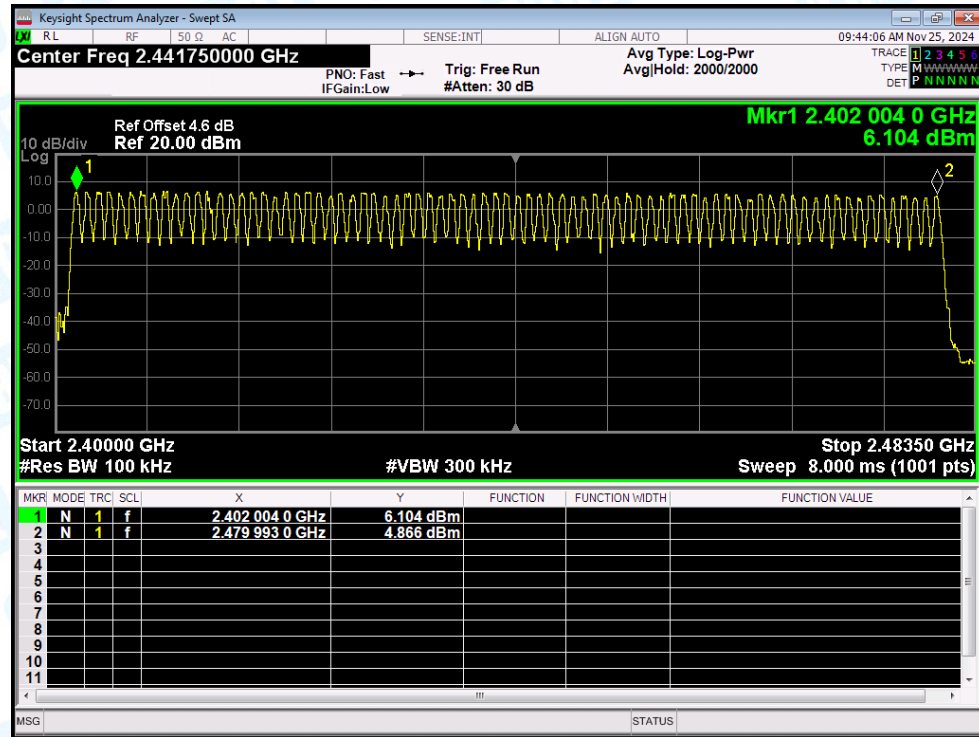


10. Number of Hopping Channel

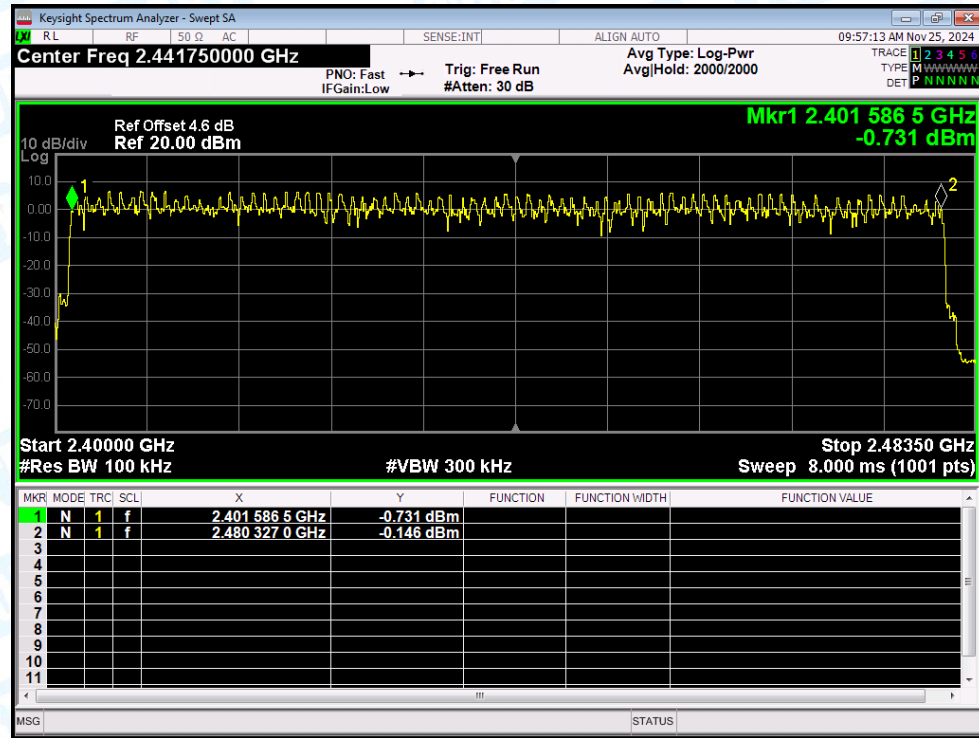
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

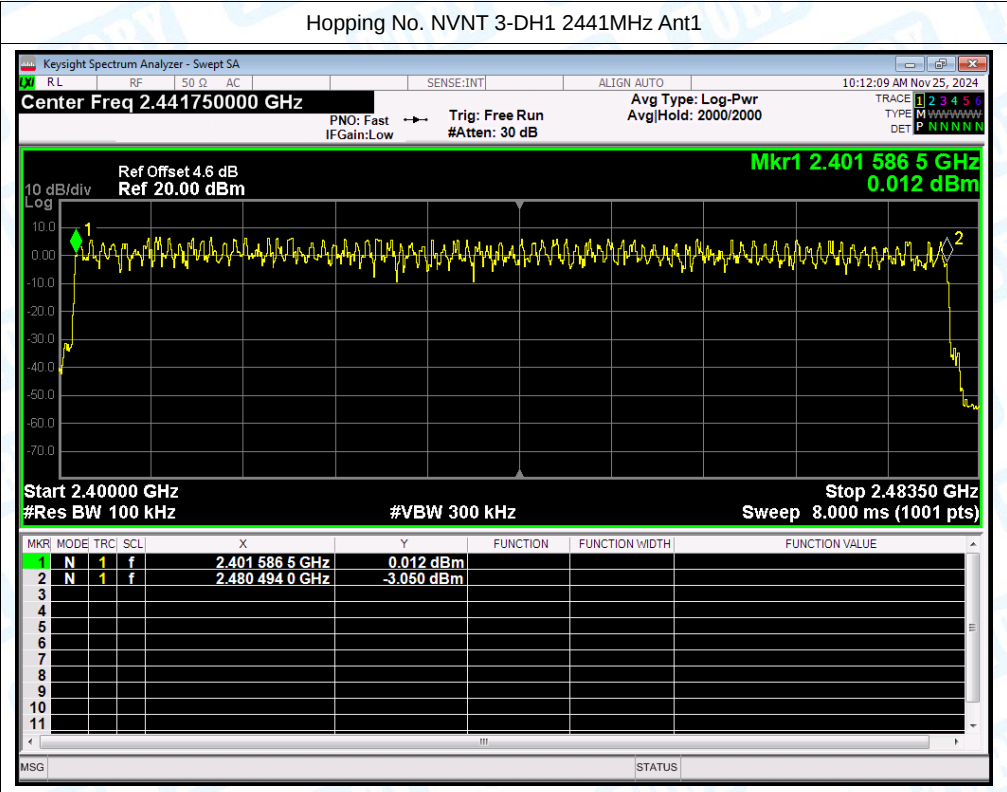
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



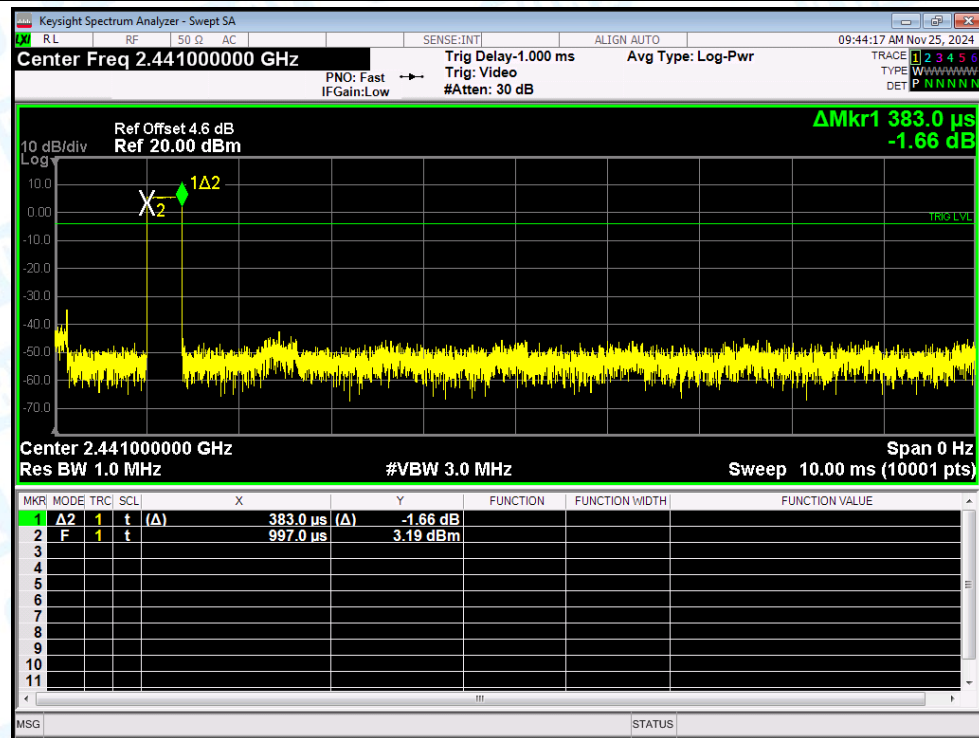


11. Dwell Time

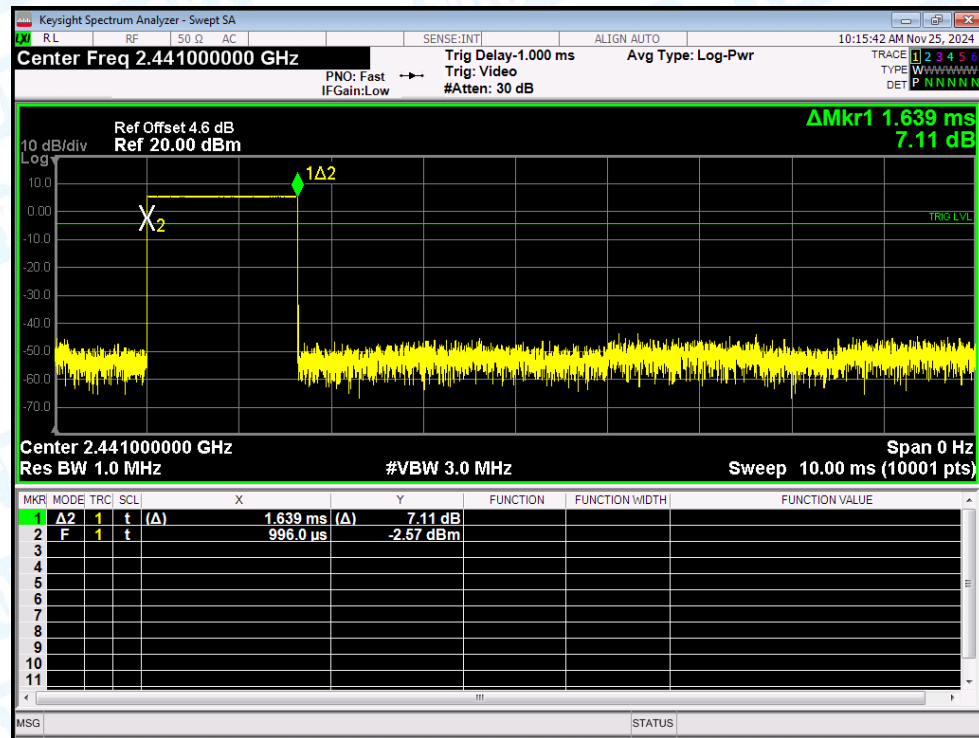
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.383	122.56	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.392	125.44	31600	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

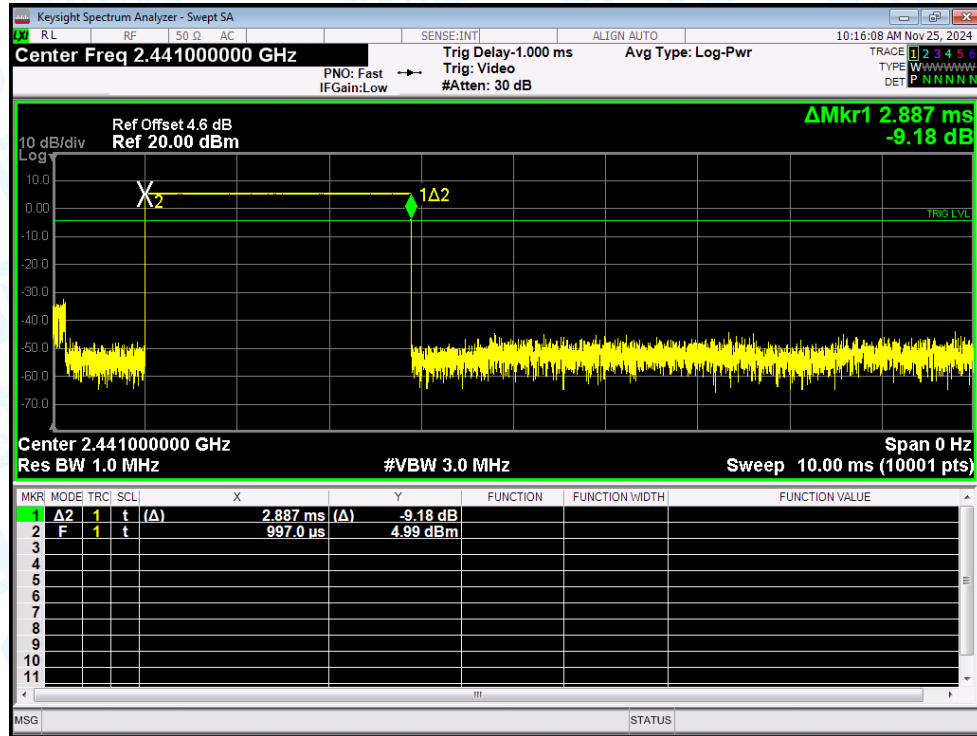
Dwell NVNT 1-DH1 2441MHz Ant1



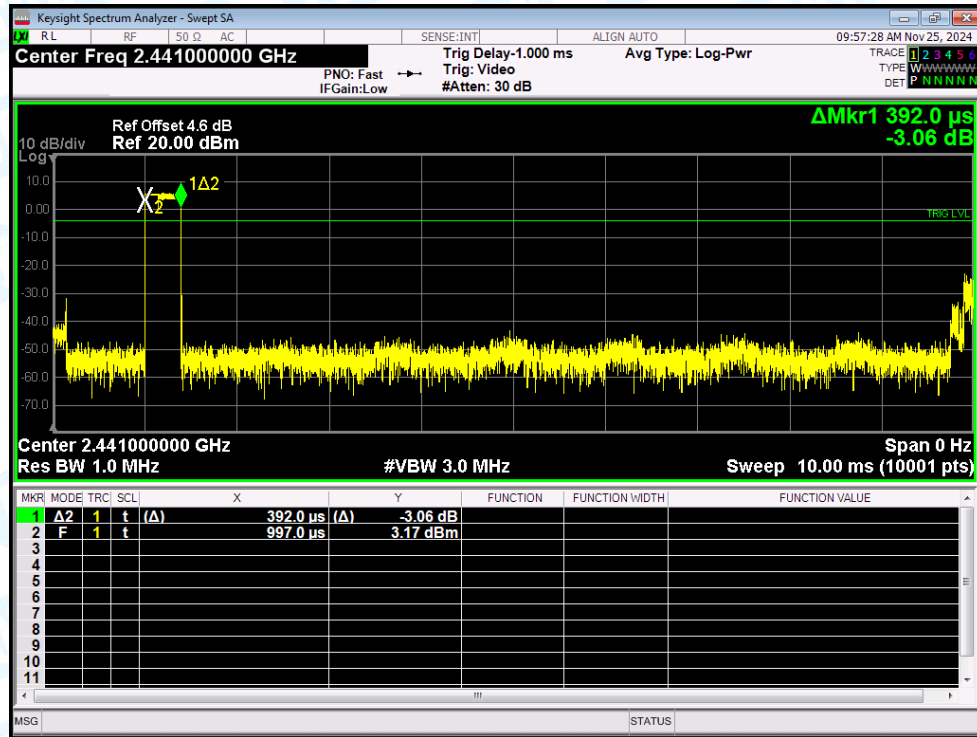
Dwell NVNT 1-DH3 2441MHz Ant1



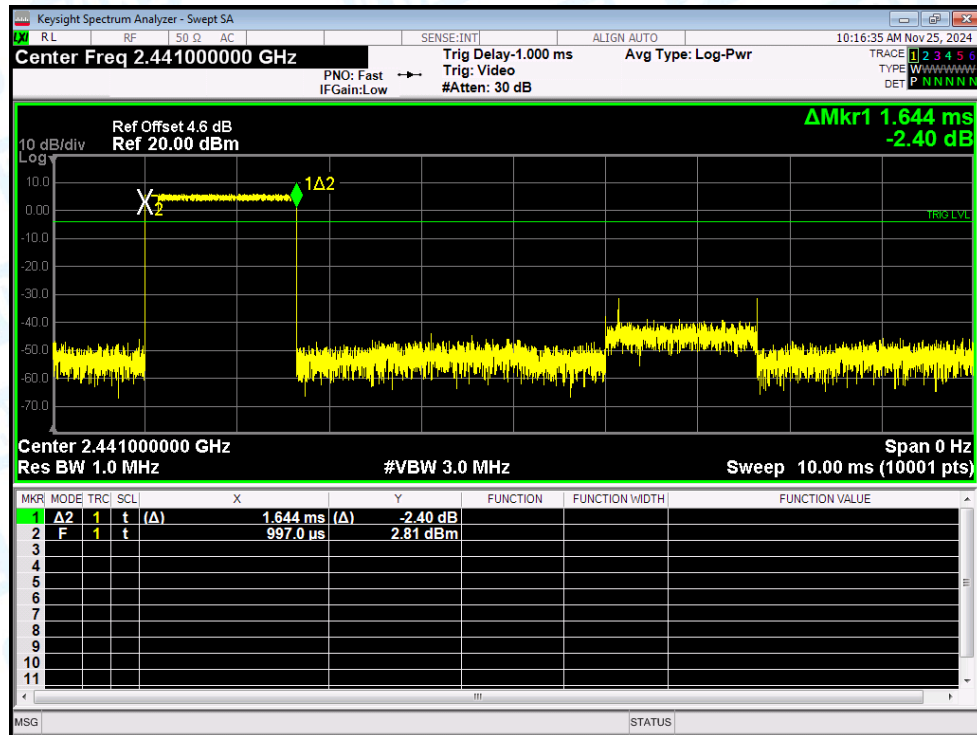
Dwell NVNT 1-DH5 2441MHz Ant1



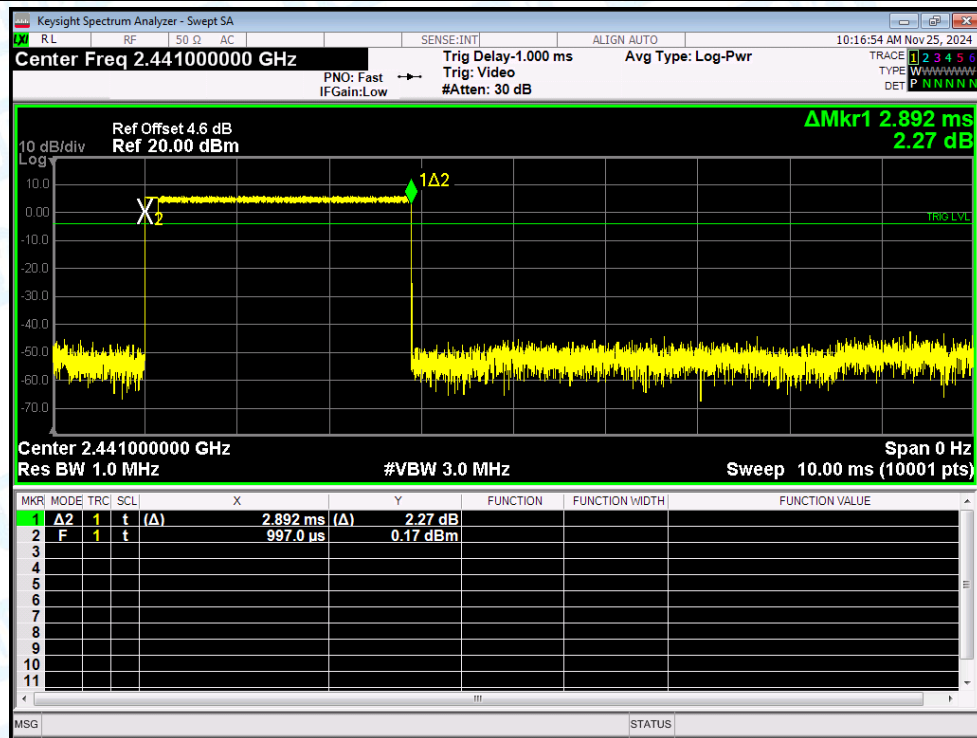
Dwell NVNT 2-DH1 2441MHz Ant1



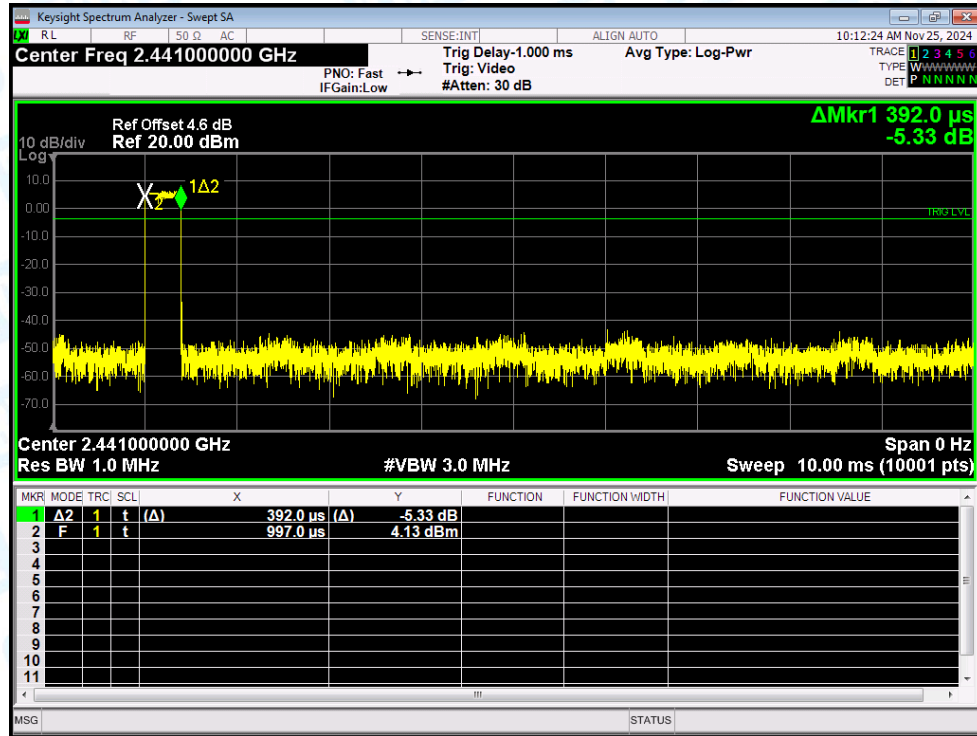
Dwell NVNT 2-DH3 2441MHz Ant1



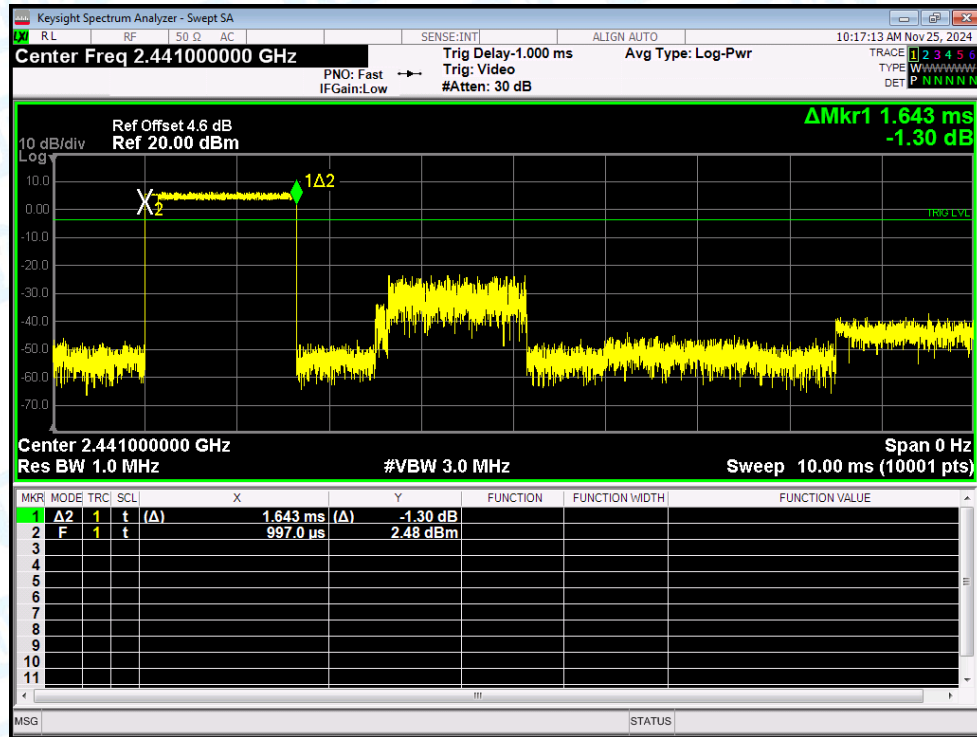
Dwell NVNT 2-DH5 2441MHz Ant1

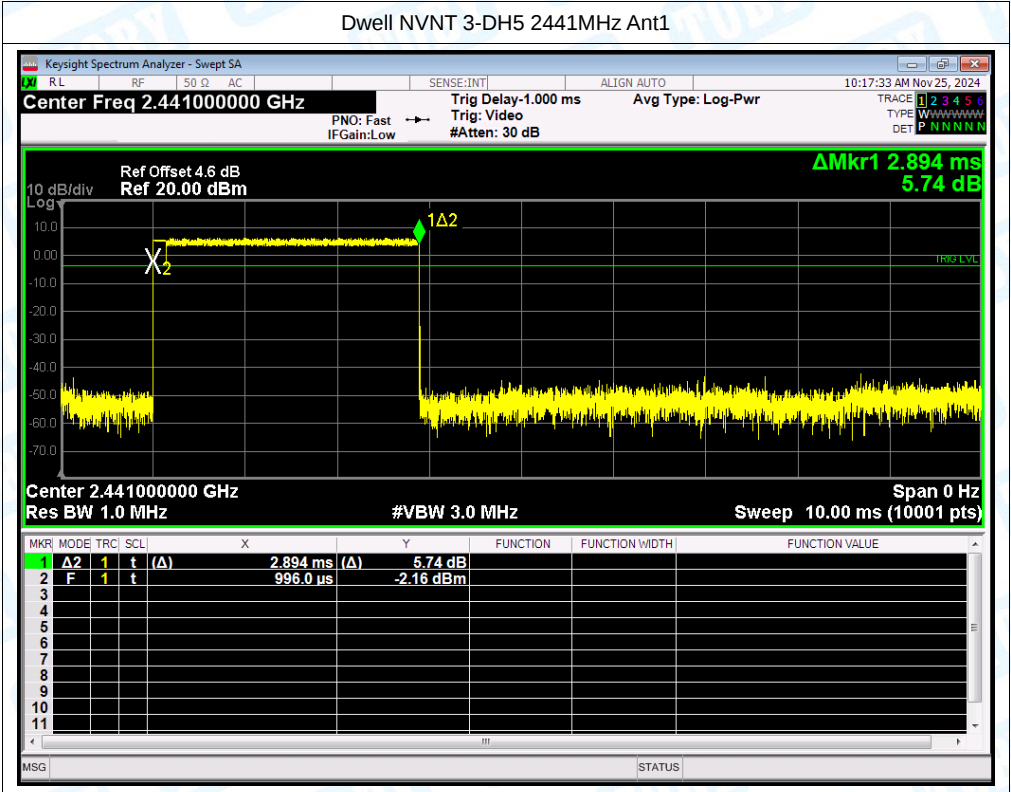


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





--- END OF REPORT ---