

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	GPS SMART WATCH
Test Model:	DM58
Sample ID:	HC-C-202412-0282-01-01-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 3.8V
Test Engineer:	Rick. chen
Note: For a more detailed features description, please refer to the report TBR-C-202412-0282-3 The report only show the worst case data.	

Contents

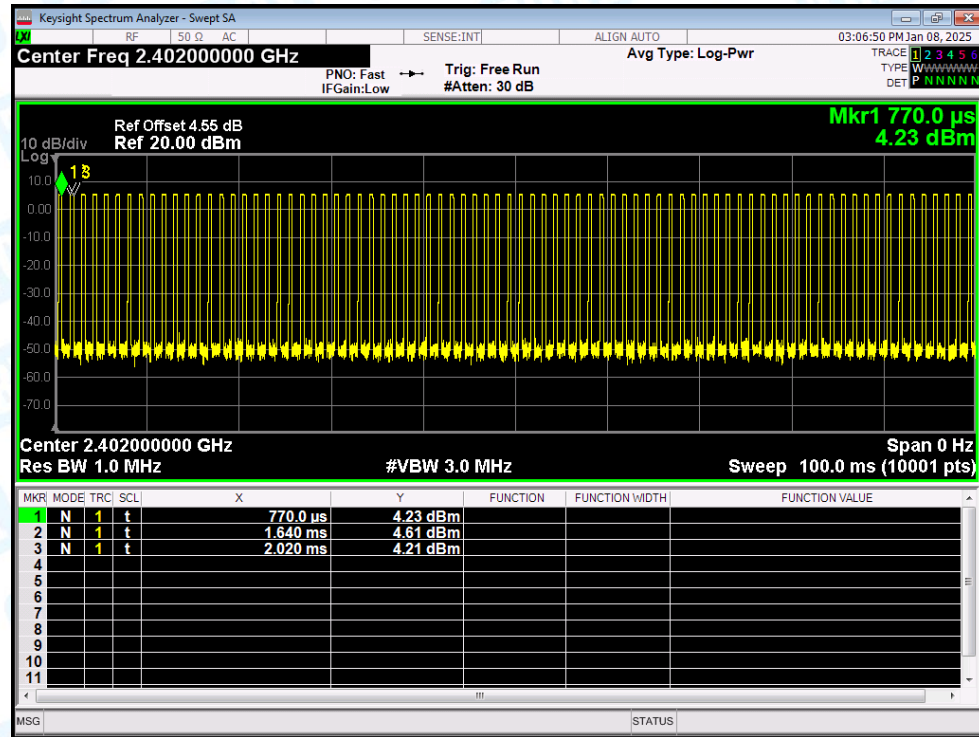
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1. Duty Cycle

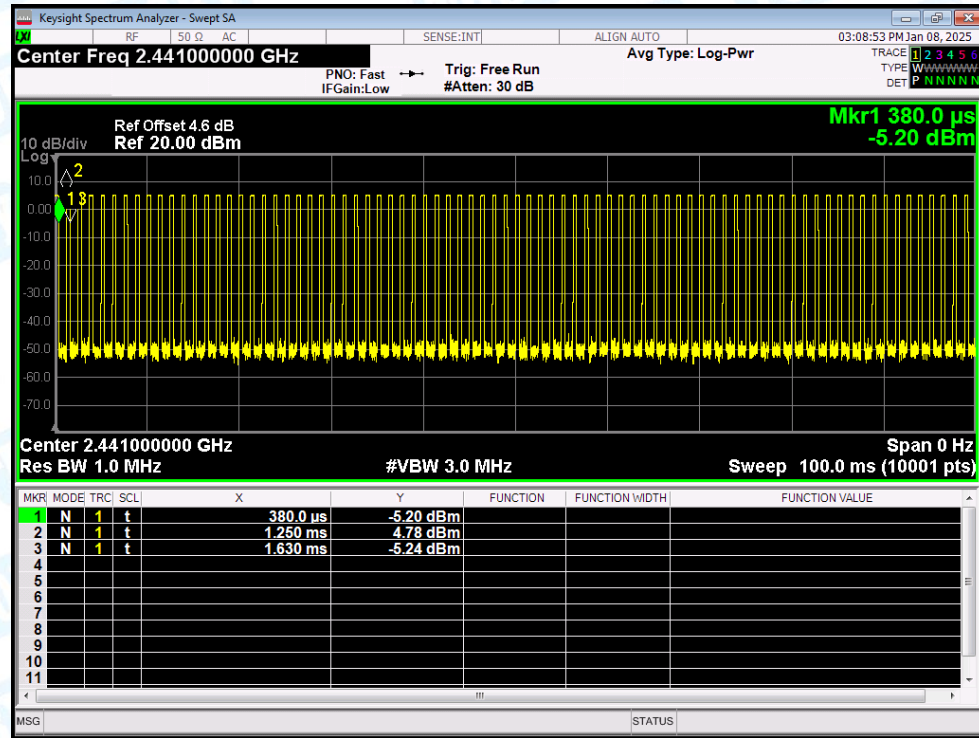
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	30.4	5.17	2.63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

Test Graphs

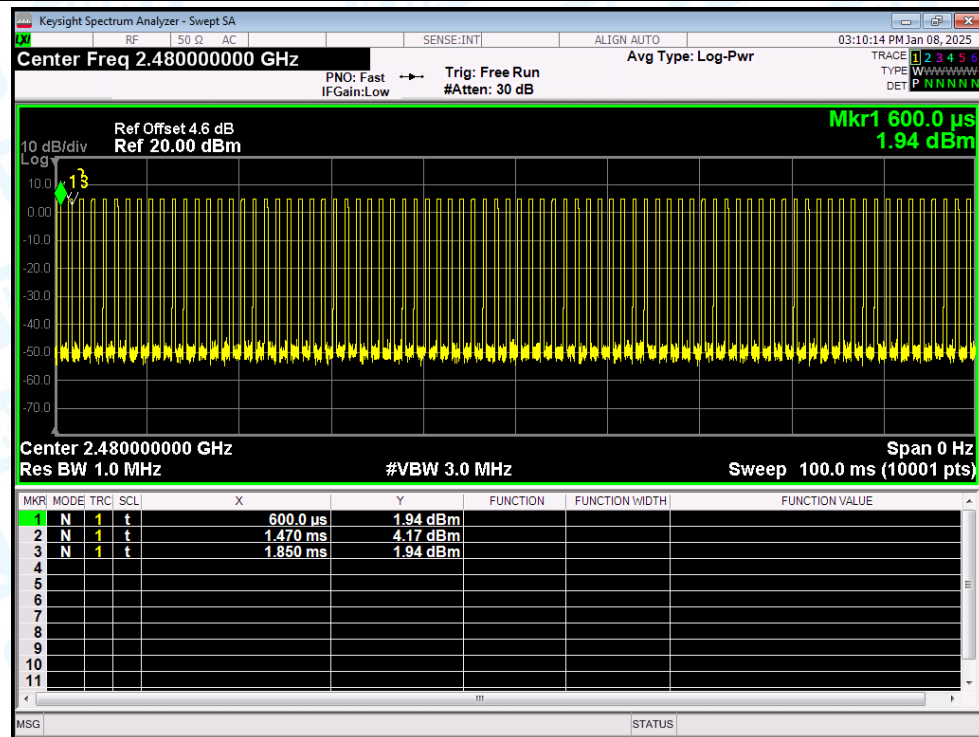
Duty Cycle NVNT 1-DH1 2402MHz Ant1



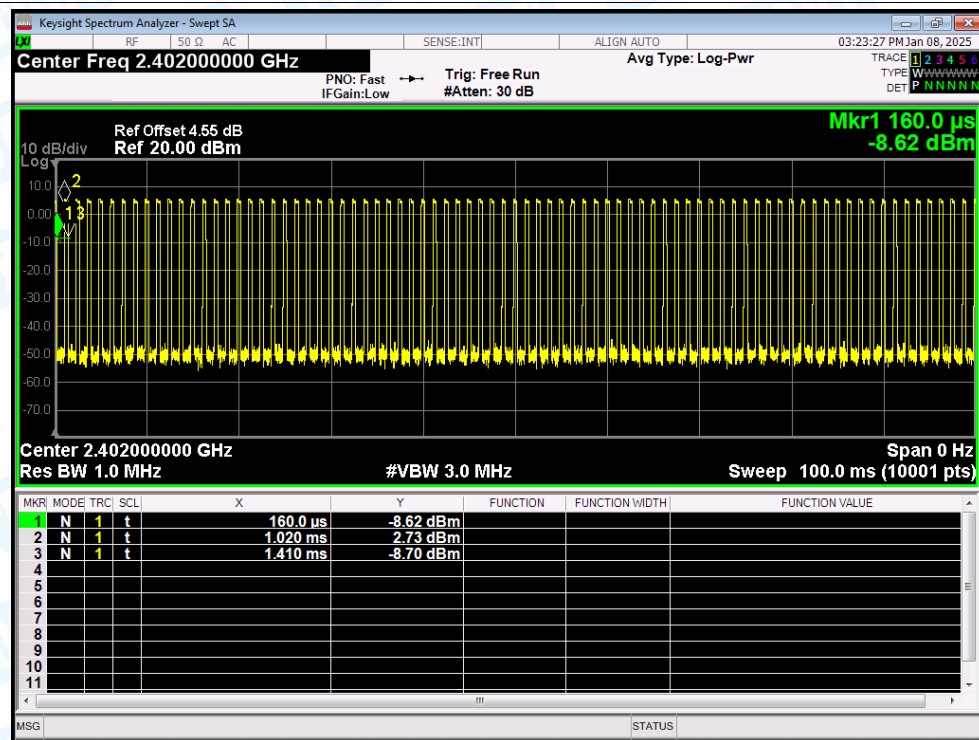
Duty Cycle NVNT 1-DH1 2441MHz Ant1



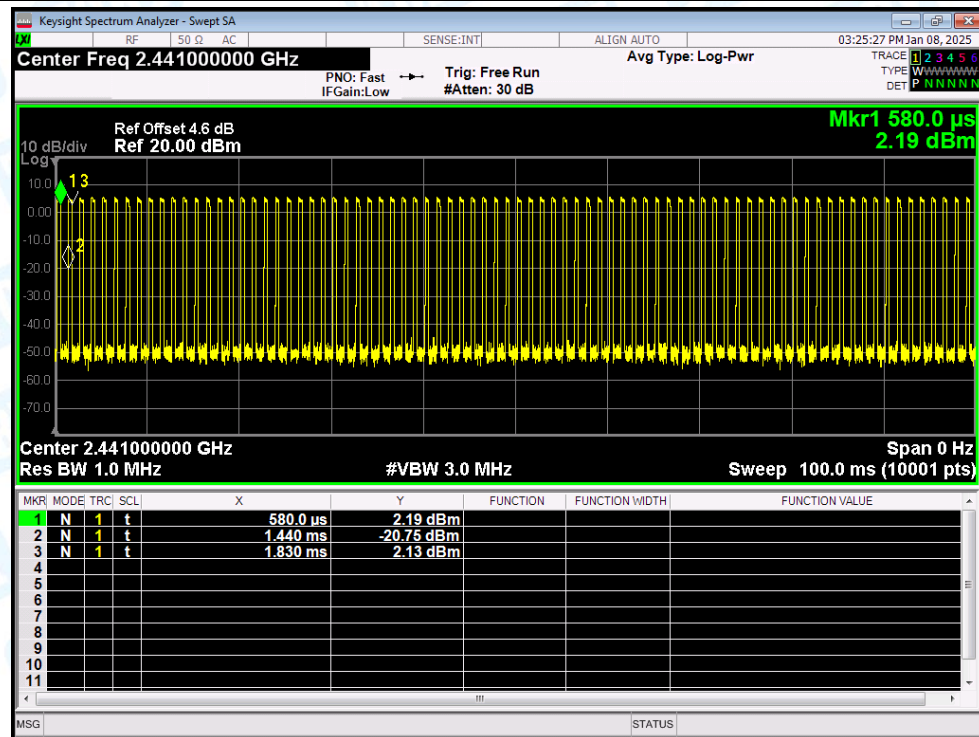
Duty Cycle NVNT 1-DH1 2480MHz Ant1



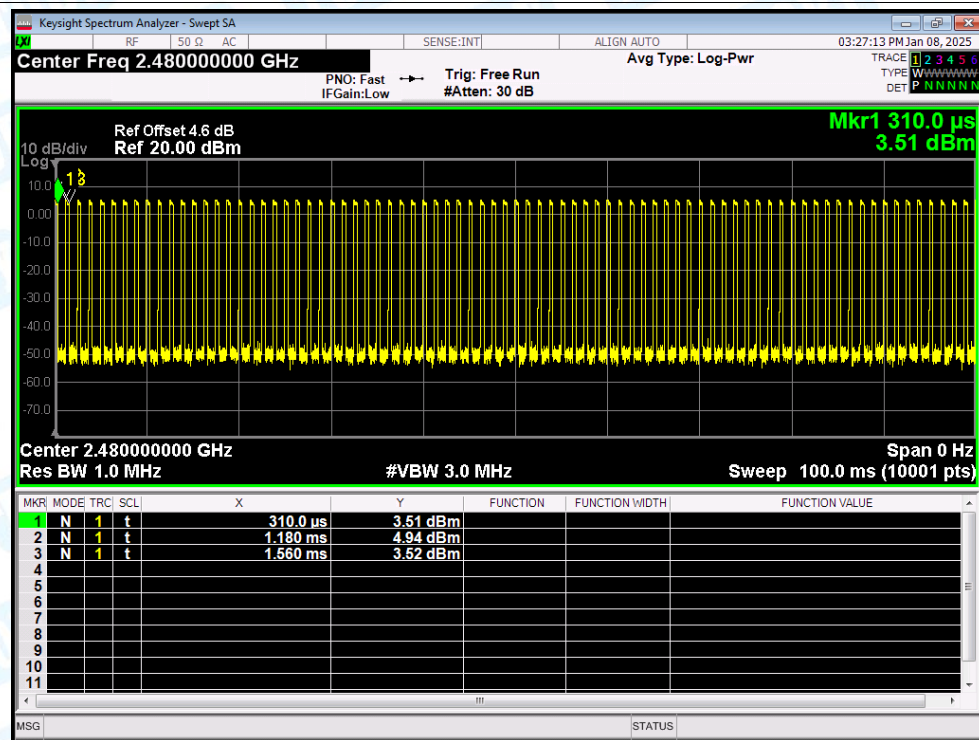
Duty Cycle NVNT 2-DH1 2402MHz Ant1



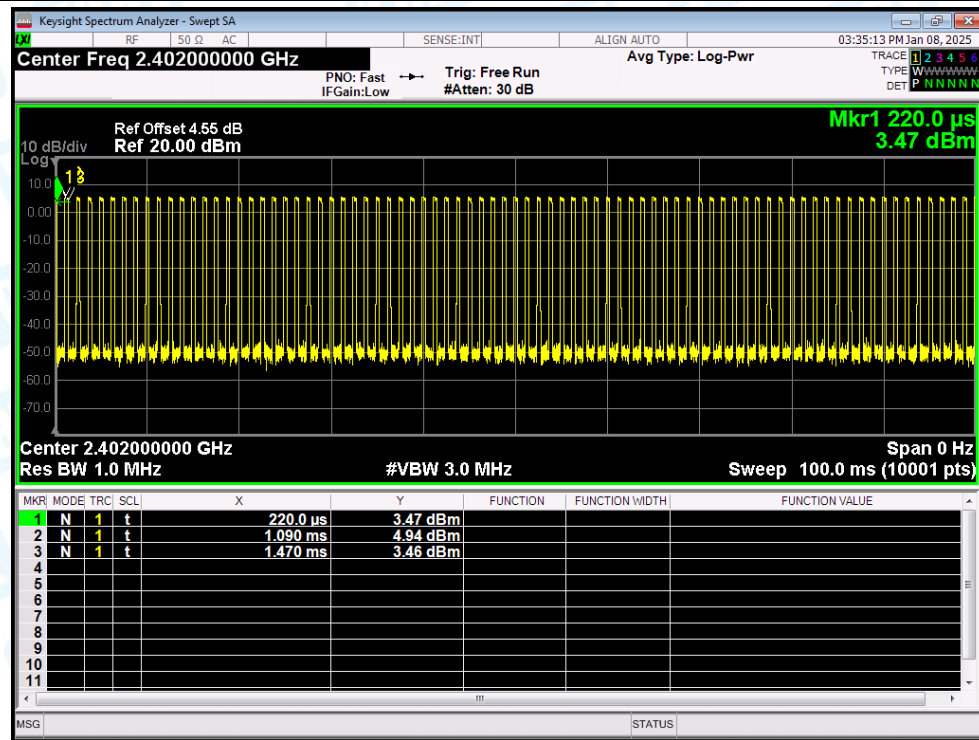
Duty Cycle NVNT 2-DH1 2441MHz Ant1



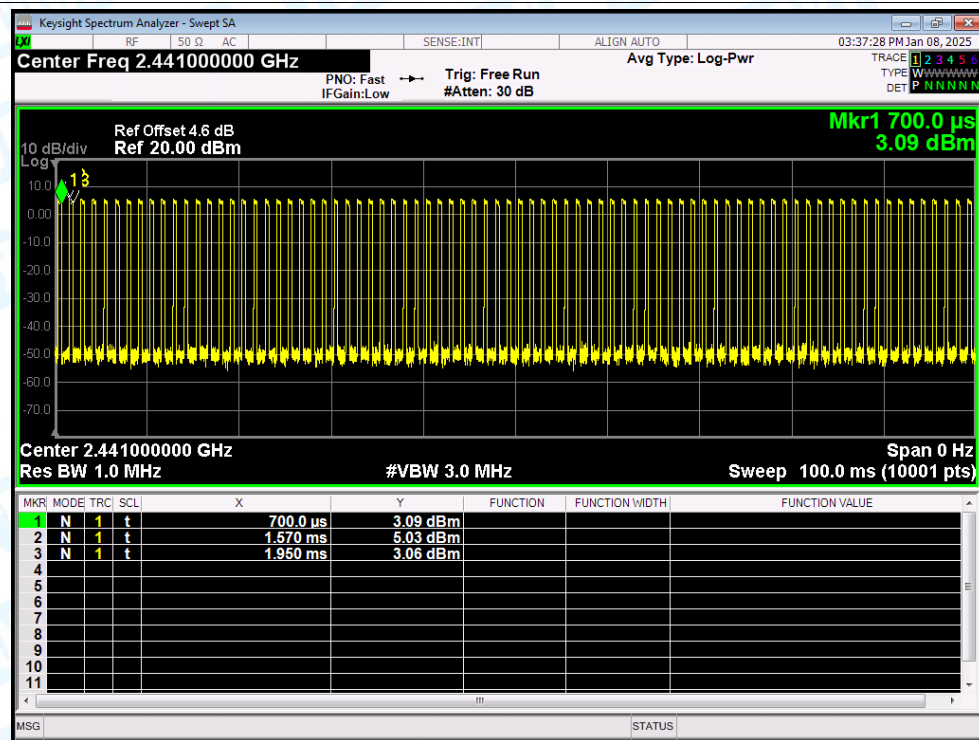
Duty Cycle NVNT 2-DH1 2480MHz Ant1

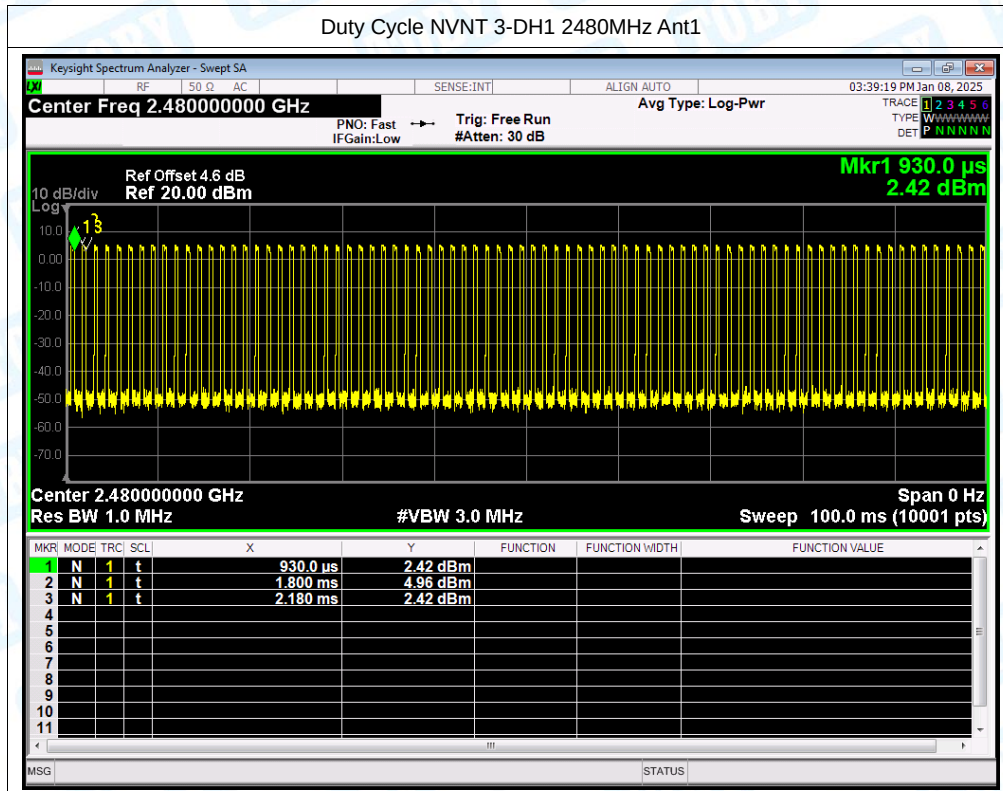


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



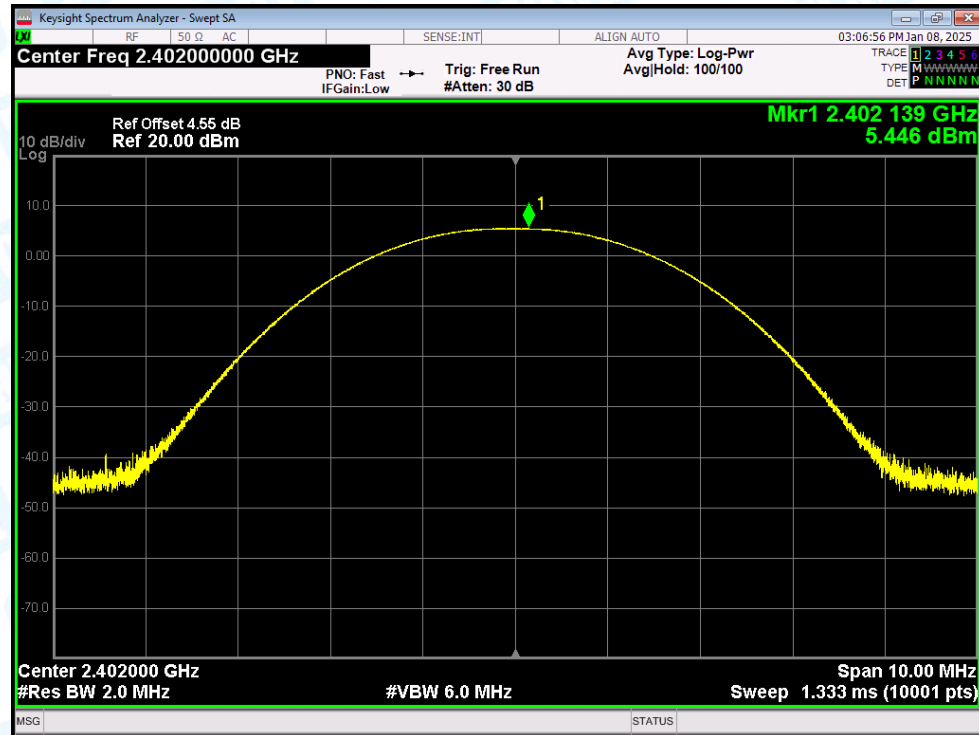


2. Maximum Conducted Peak Output Power

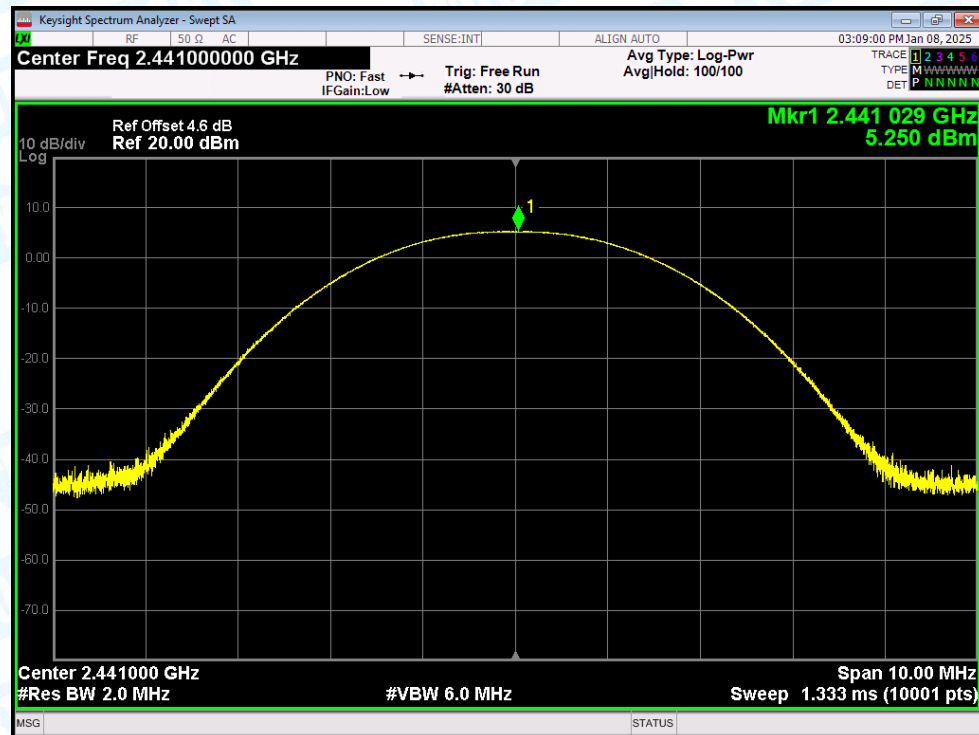
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	5.446	21	Pass
NVNT	1-DH1	2441	Ant1	5.25	21	Pass
NVNT	1-DH1	2480	Ant1	4.992	21	Pass
NVNT	2-DH1	2402	Ant1	5.625	21	Pass
NVNT	2-DH1	2441	Ant1	5.406	21	Pass
NVNT	2-DH1	2480	Ant1	5.139	21	Pass
NVNT	3-DH1	2402	Ant1	5.665	21	Pass
NVNT	3-DH1	2441	Ant1	5.455	21	Pass
NVNT	3-DH1	2480	Ant1	5.177	21	Pass

Test Graphs

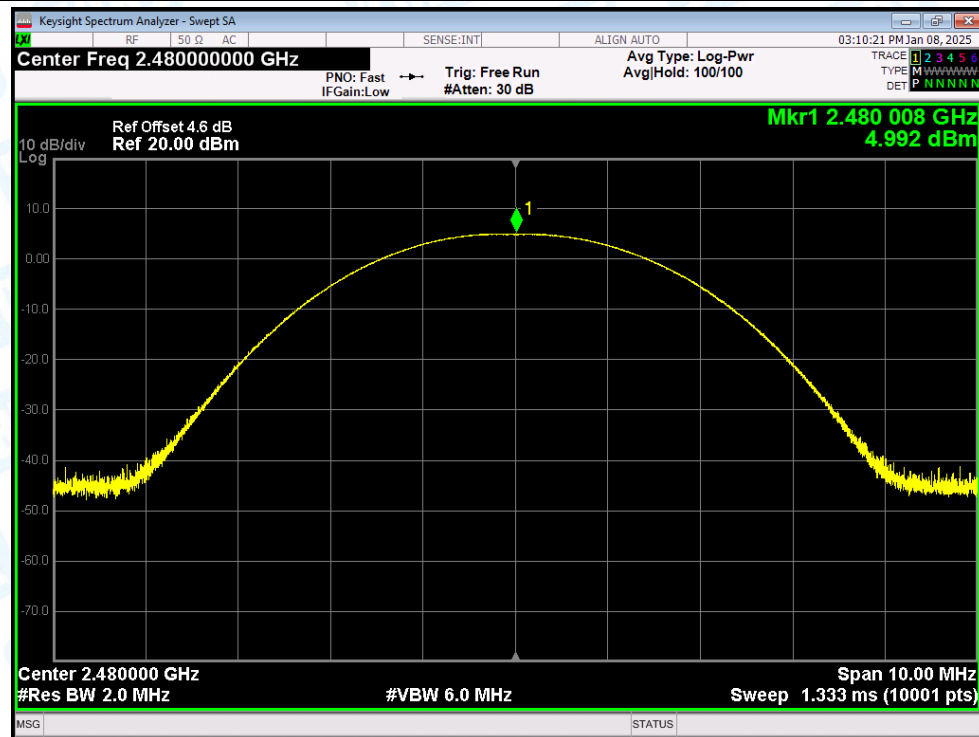
Power NVNT 1-DH1 2402MHz Ant1



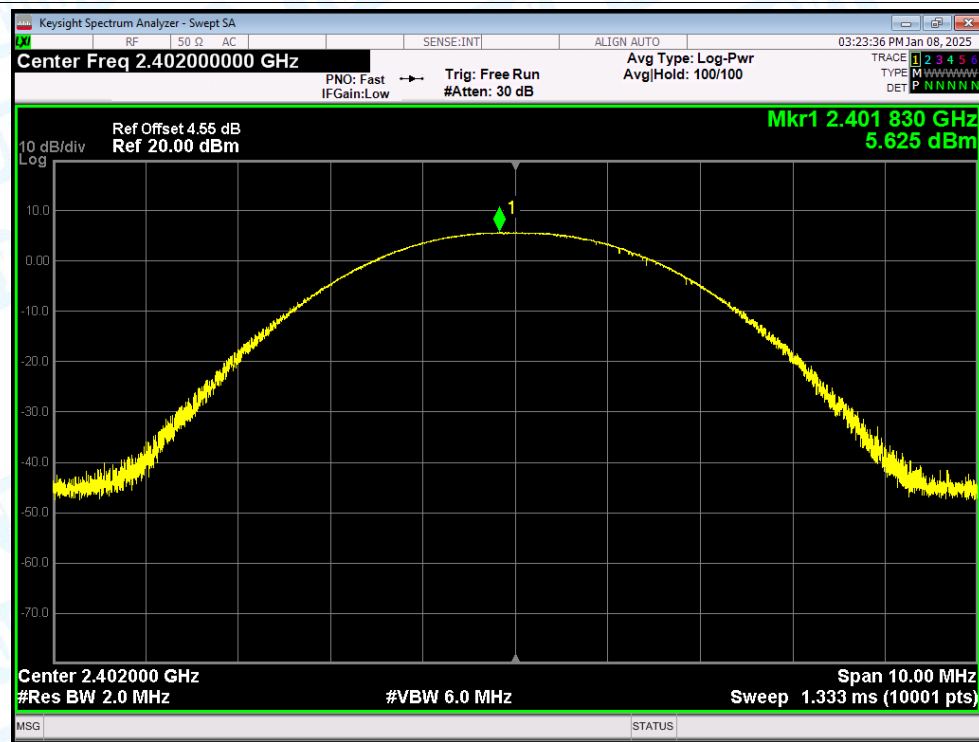
Power NVNT 1-DH1 2441MHz Ant1



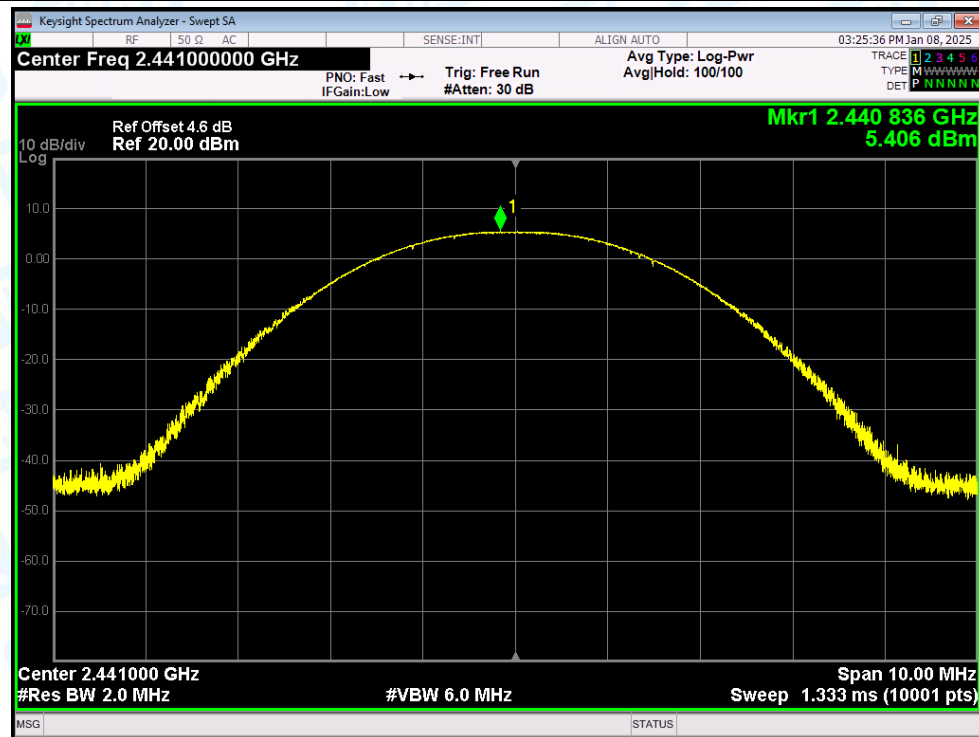
Power NVNT 1-DH1 2480MHz Ant1



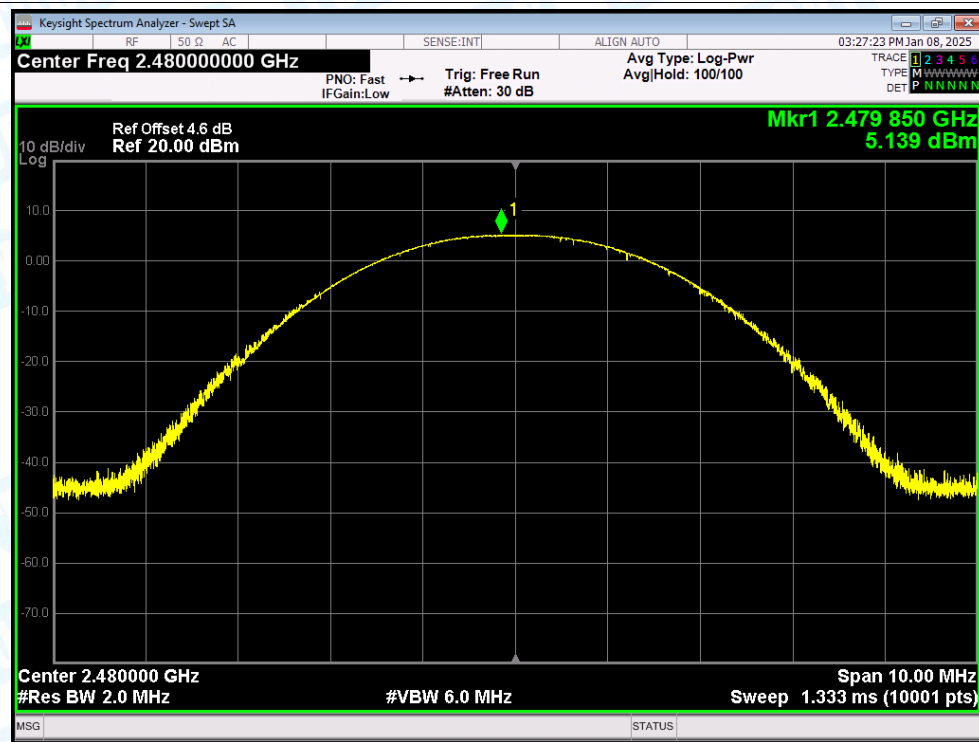
Power NVNT 2-DH1 2402MHz Ant1



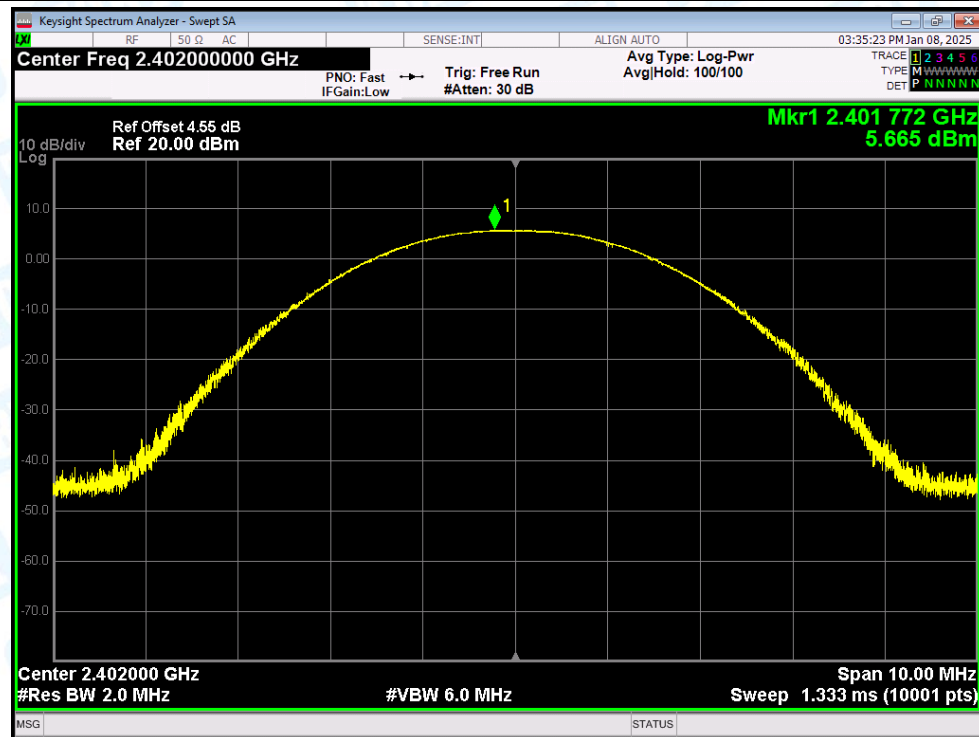
Power NVNT 2-DH1 2441MHz Ant1



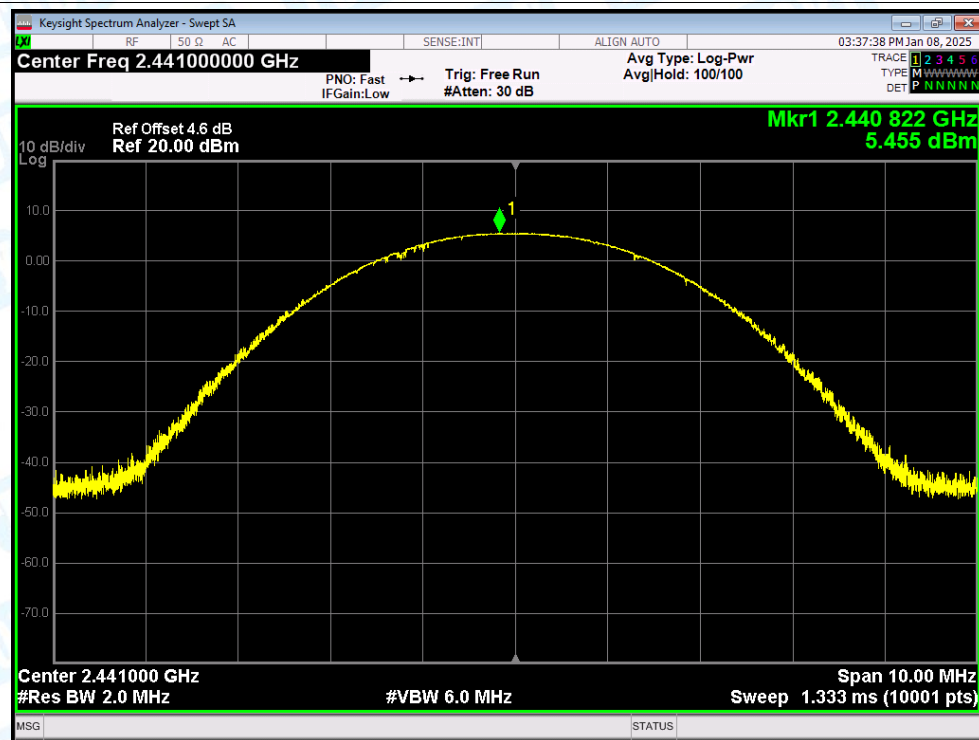
Power NVNT 2-DH1 2480MHz Ant1

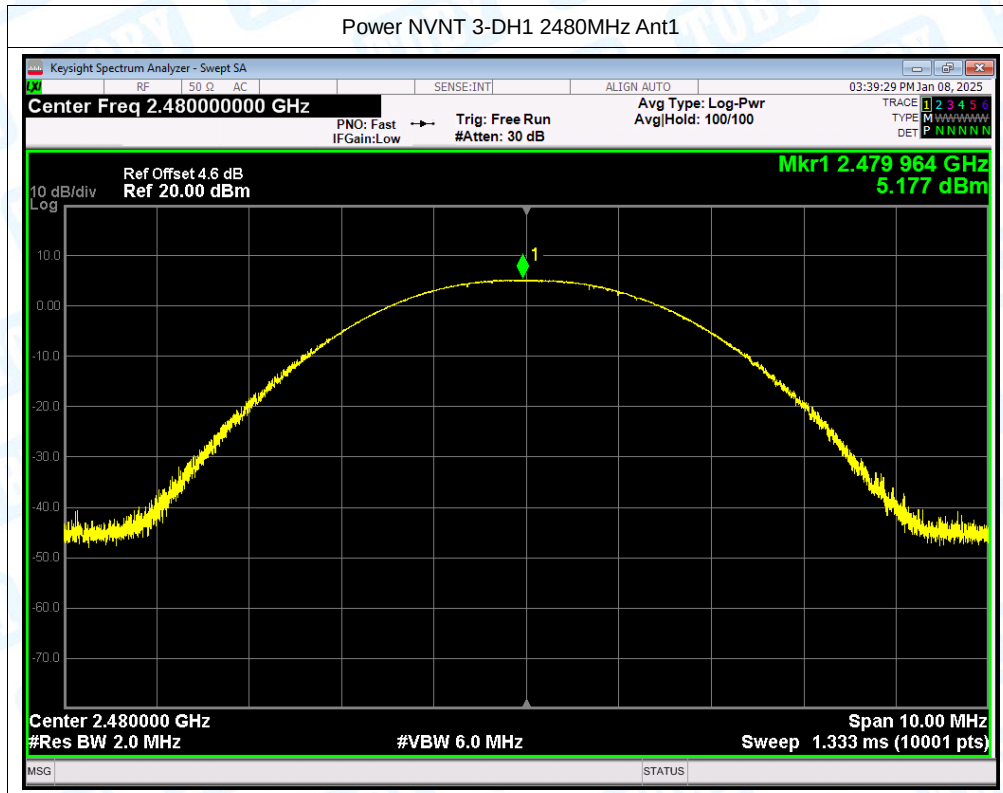


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



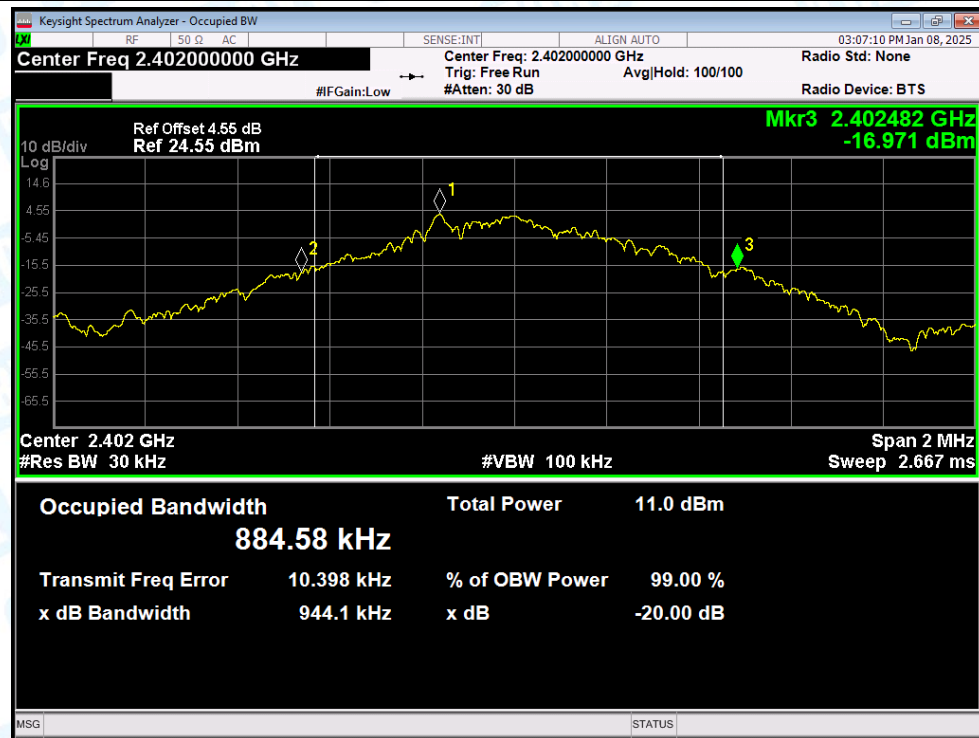


3. -20dB Bandwidth

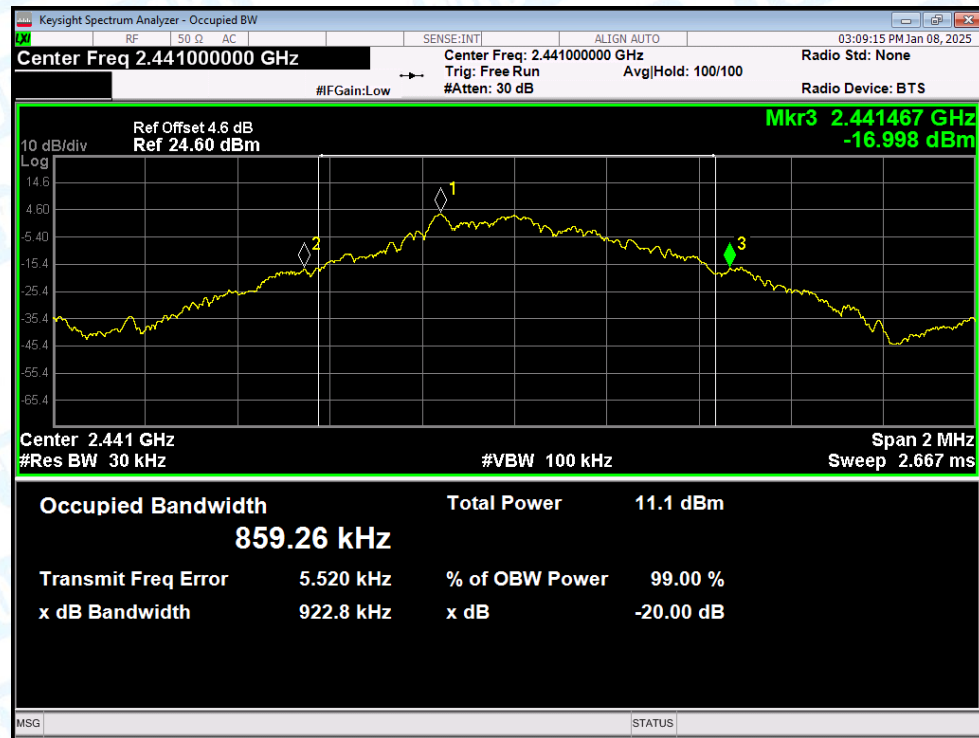
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.94	----	Pass
NVNT	1-DH1	2441	Ant1	0.92	----	Pass
NVNT	1-DH1	2480	Ant1	0.87	----	Pass
NVNT	2-DH1	2402	Ant1	1.21	----	Pass
NVNT	2-DH1	2441	Ant1	1.21	----	Pass
NVNT	2-DH1	2480	Ant1	1.21	----	Pass
NVNT	3-DH1	2402	Ant1	1.22	----	Pass
NVNT	3-DH1	2441	Ant1	1.22	----	Pass
NVNT	3-DH1	2480	Ant1	1.2	----	Pass

Test Graphs

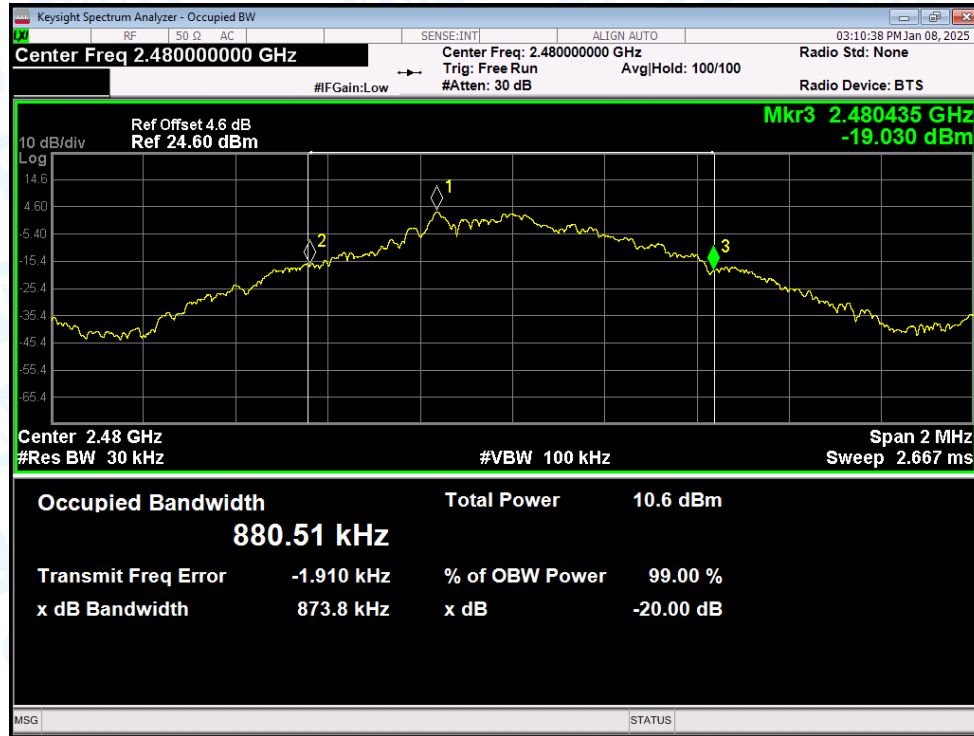
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



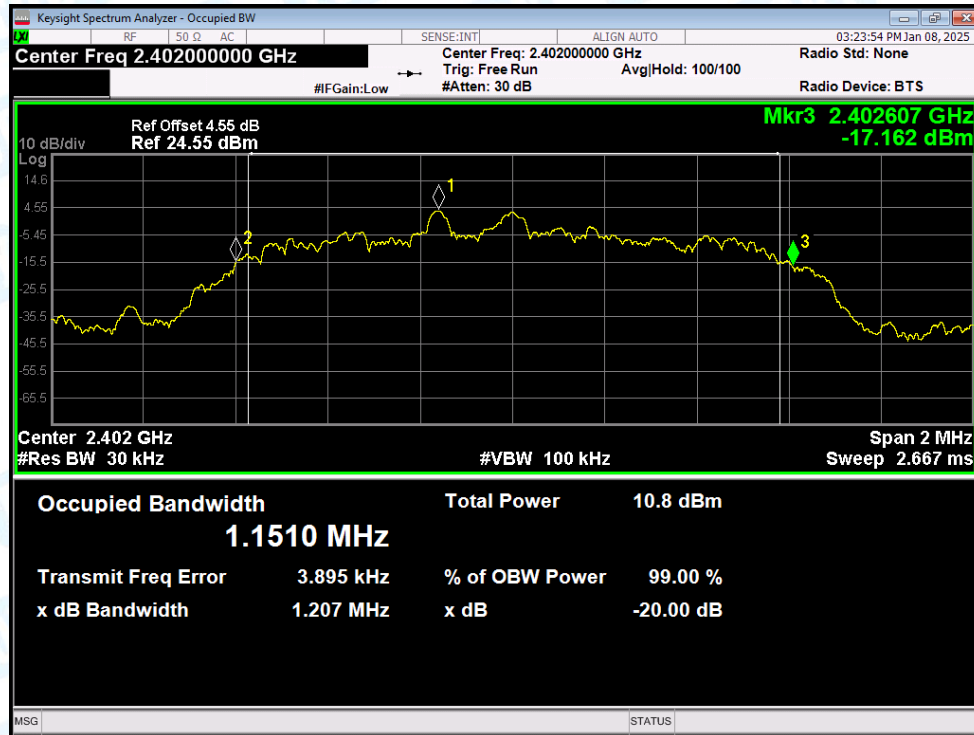
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



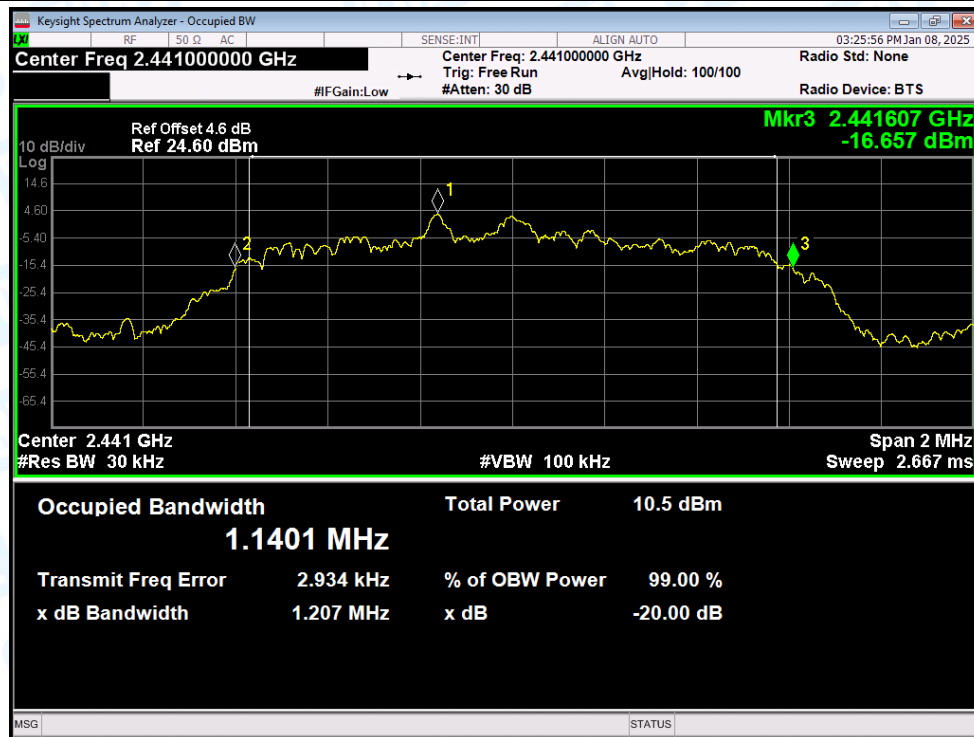
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



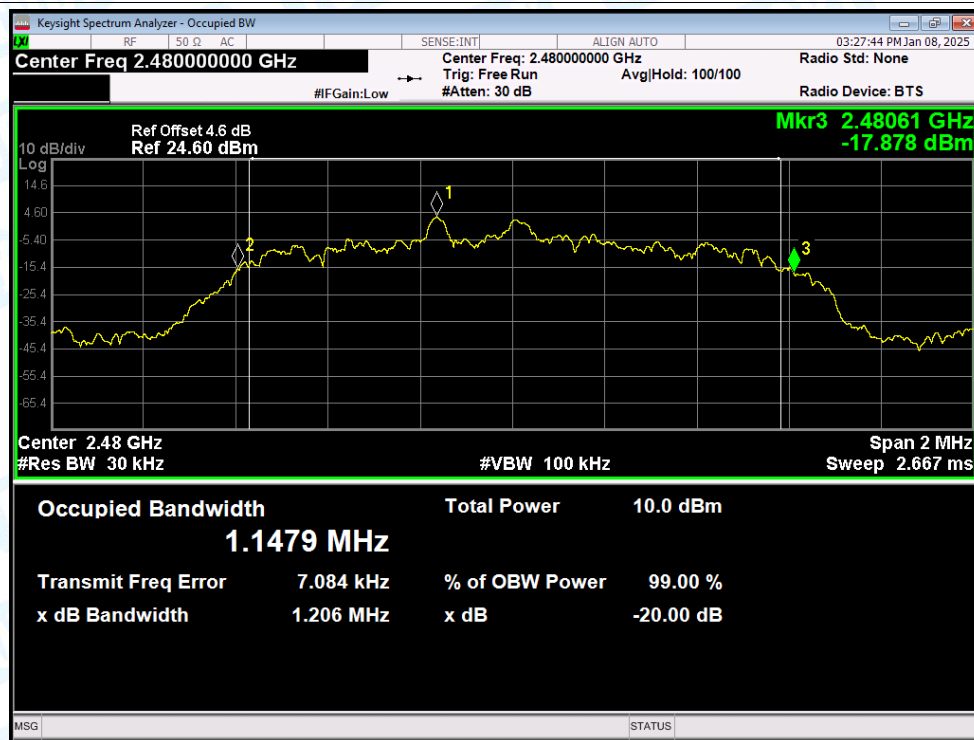
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



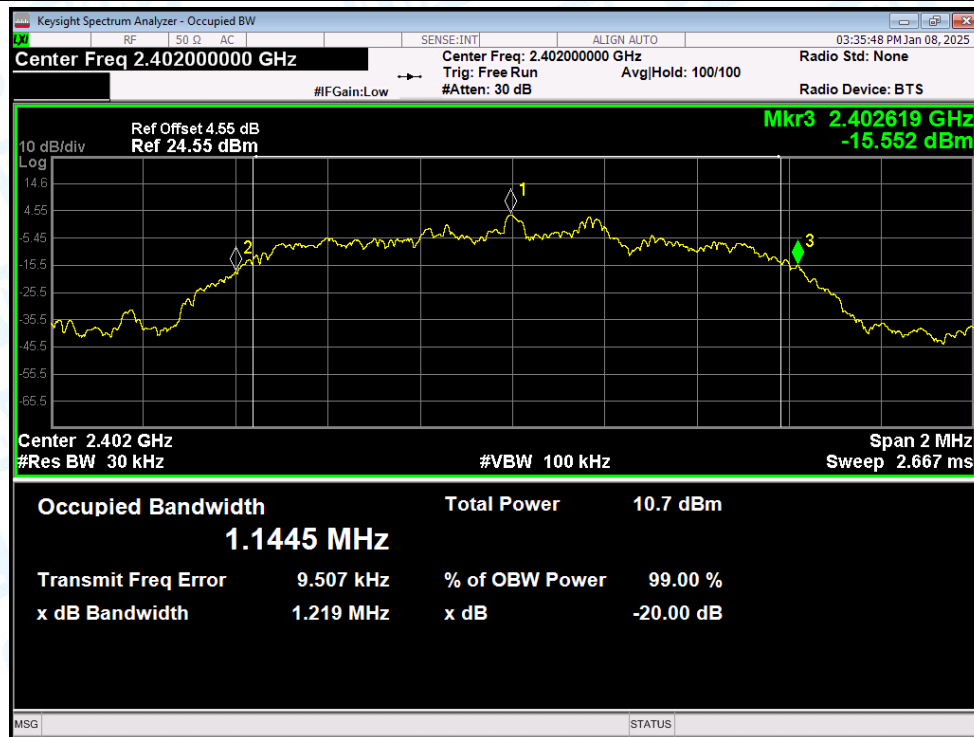
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



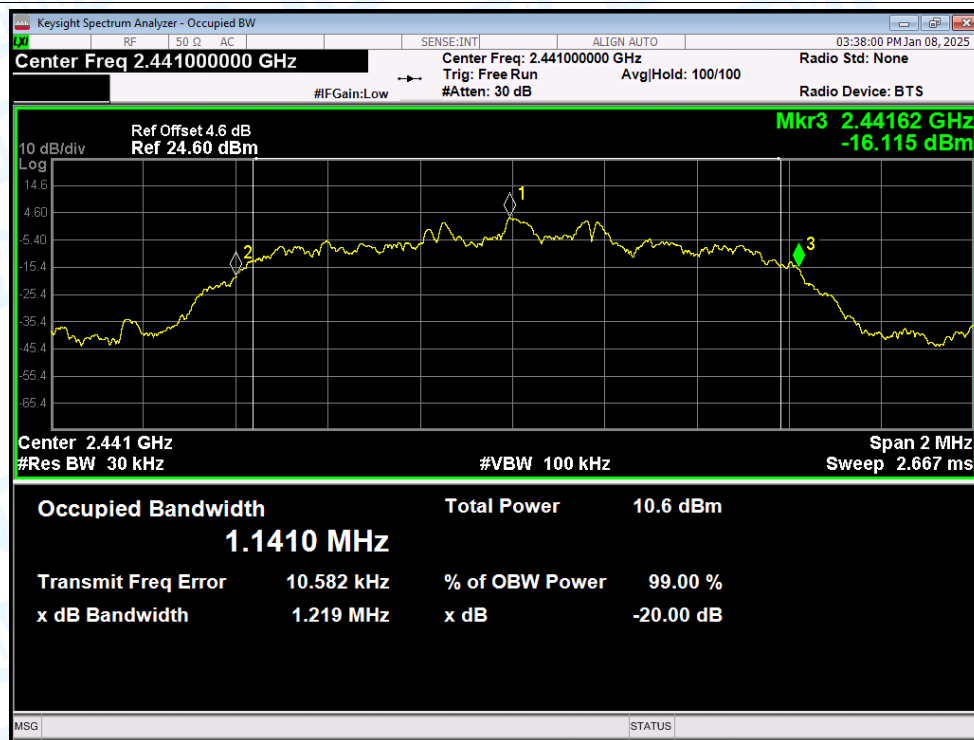
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

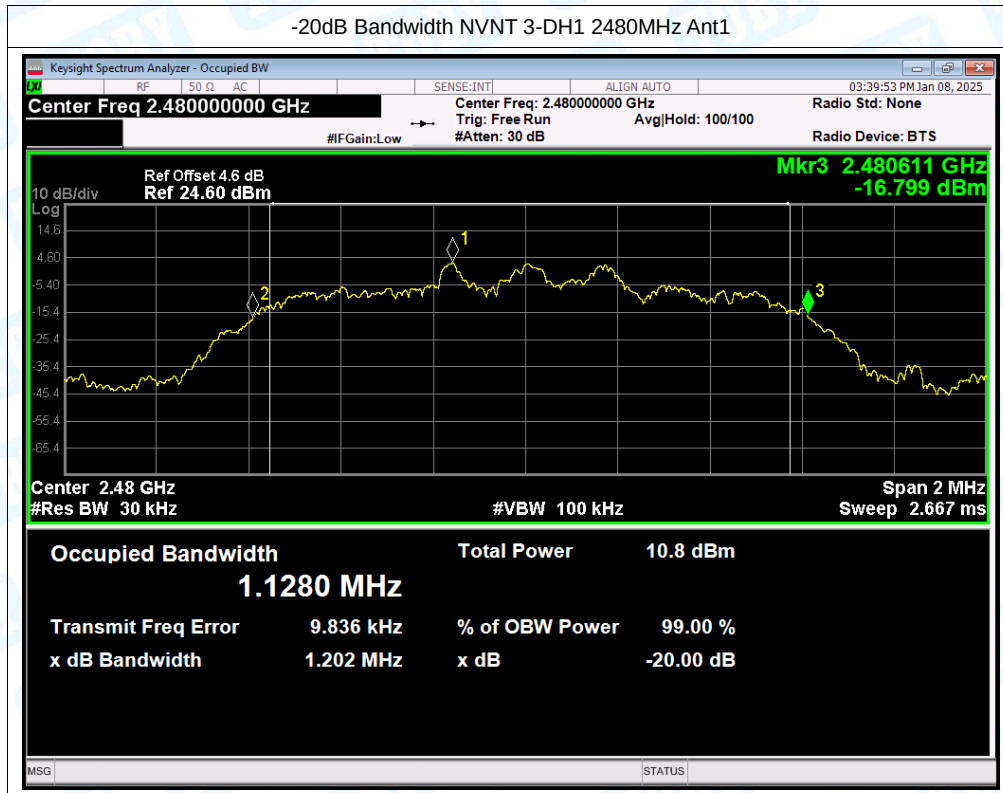


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



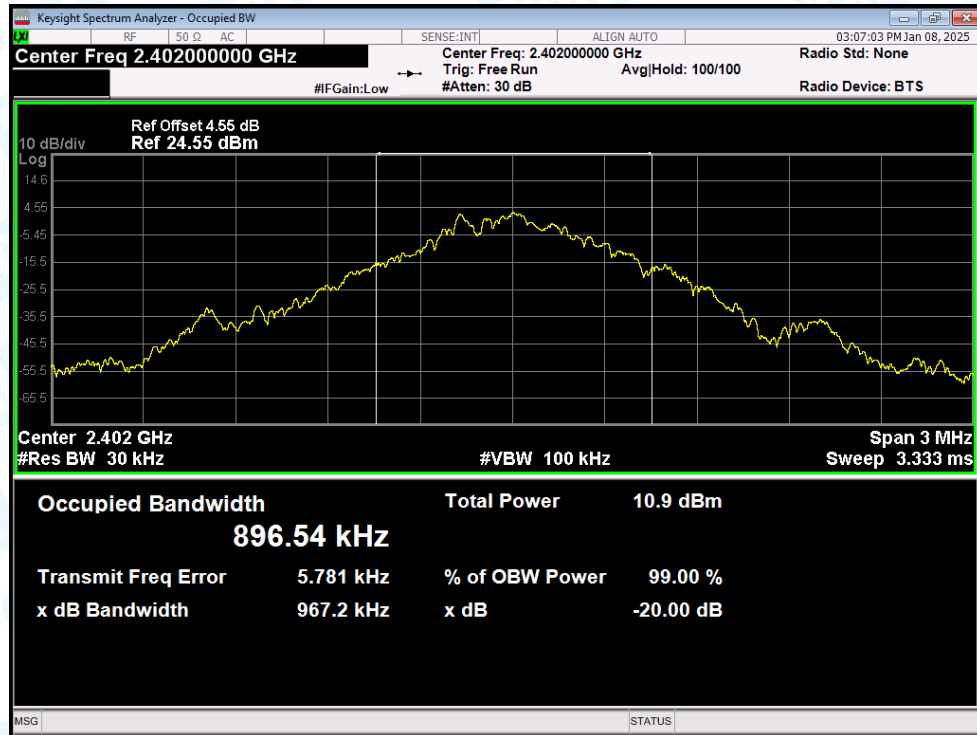


4. Occupied Channel Bandwidth

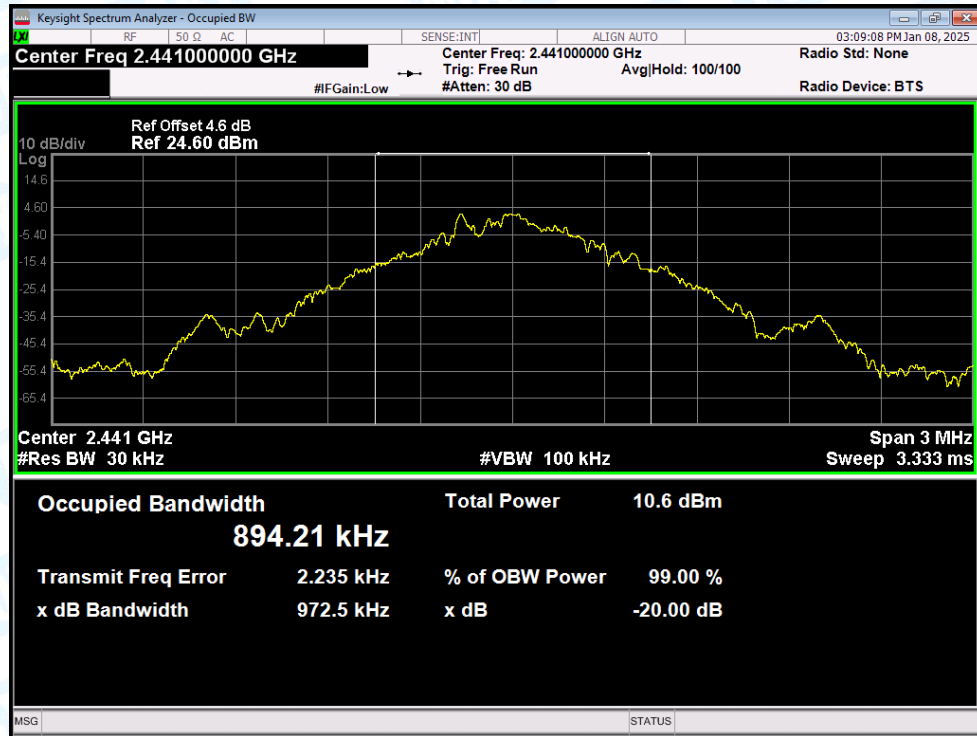
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.897
NVNT	1-DH1	2441	Ant1	0.894
NVNT	1-DH1	2480	Ant1	0.889
NVNT	2-DH1	2402	Ant1	1.145
NVNT	2-DH1	2441	Ant1	1.142
NVNT	2-DH1	2480	Ant1	1.148
NVNT	3-DH1	2402	Ant1	1.137
NVNT	3-DH1	2441	Ant1	1.116
NVNT	3-DH1	2480	Ant1	1.138

Test Graphs

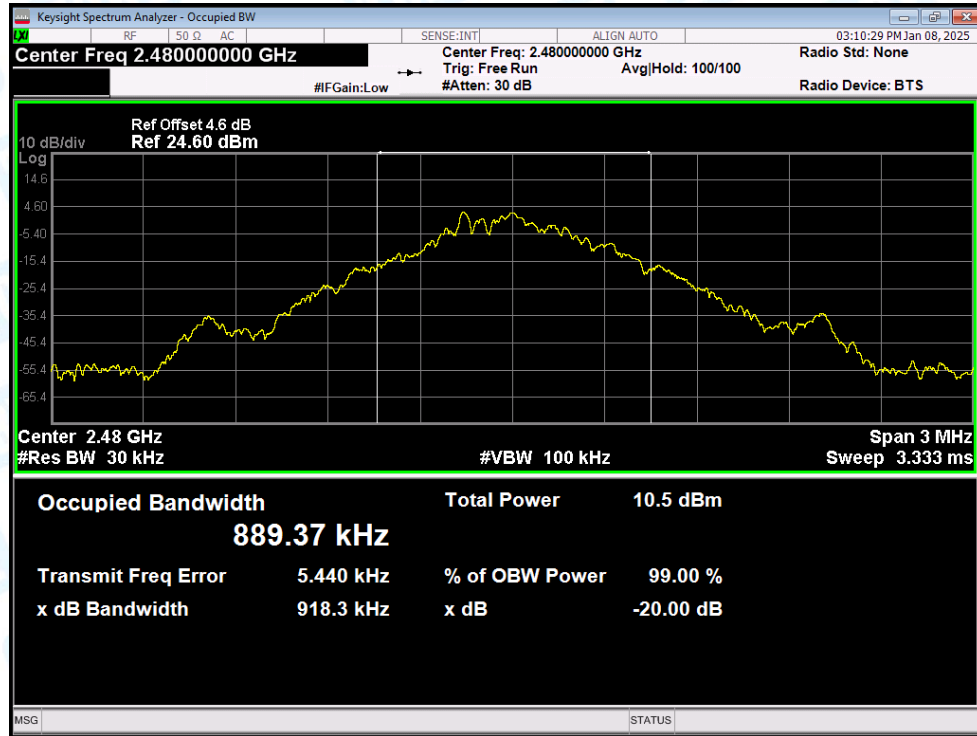
OBW NVNT 1-DH1 2402MHz Ant1



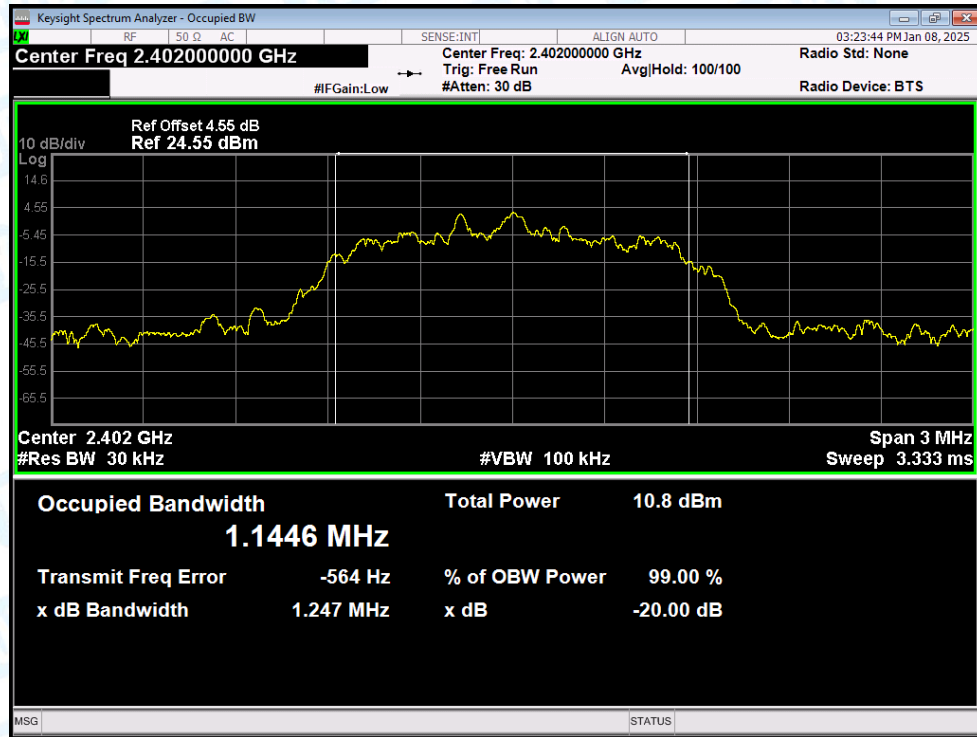
OBW NVNT 1-DH1 2441MHz Ant1



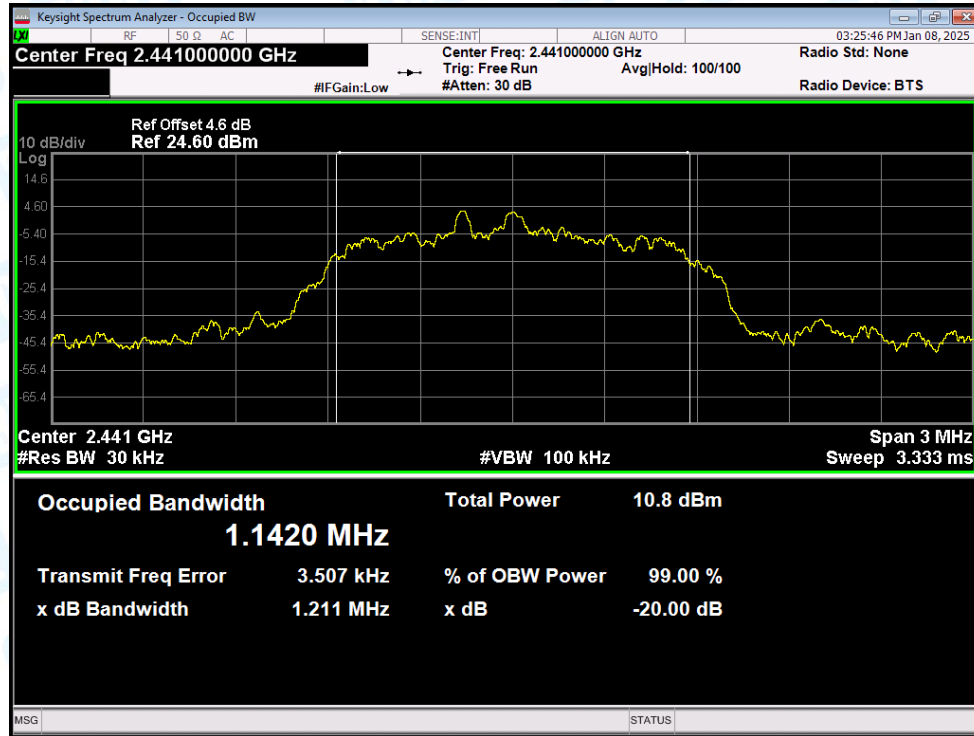
OBW NVNT 1-DH1 2480MHz Ant1



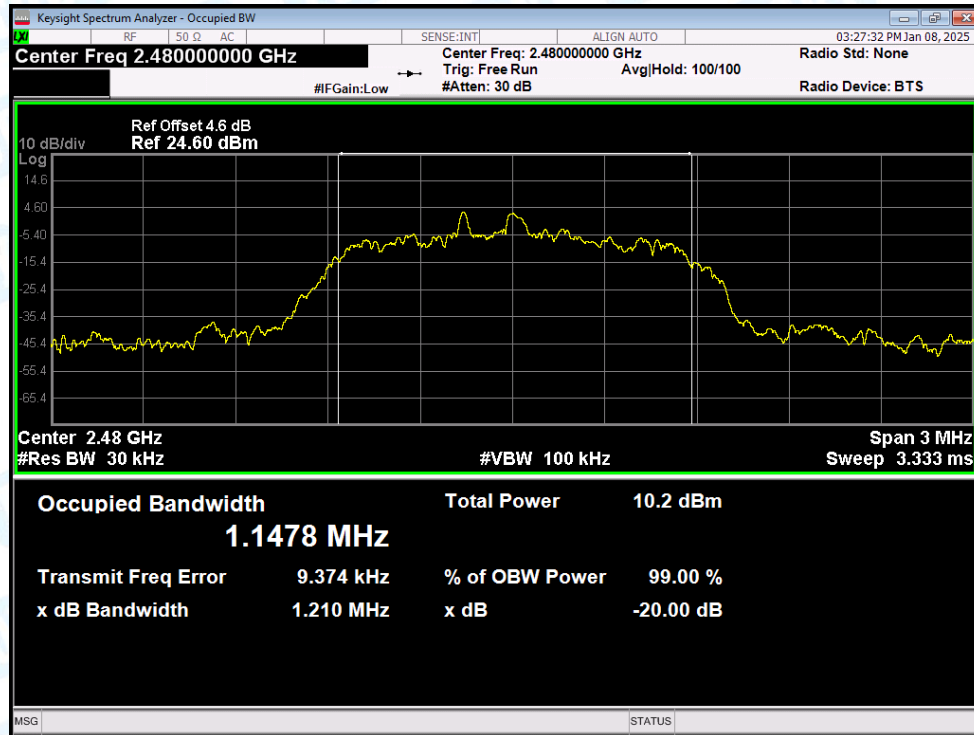
OBW NVNT 2-DH1 2402MHz Ant1



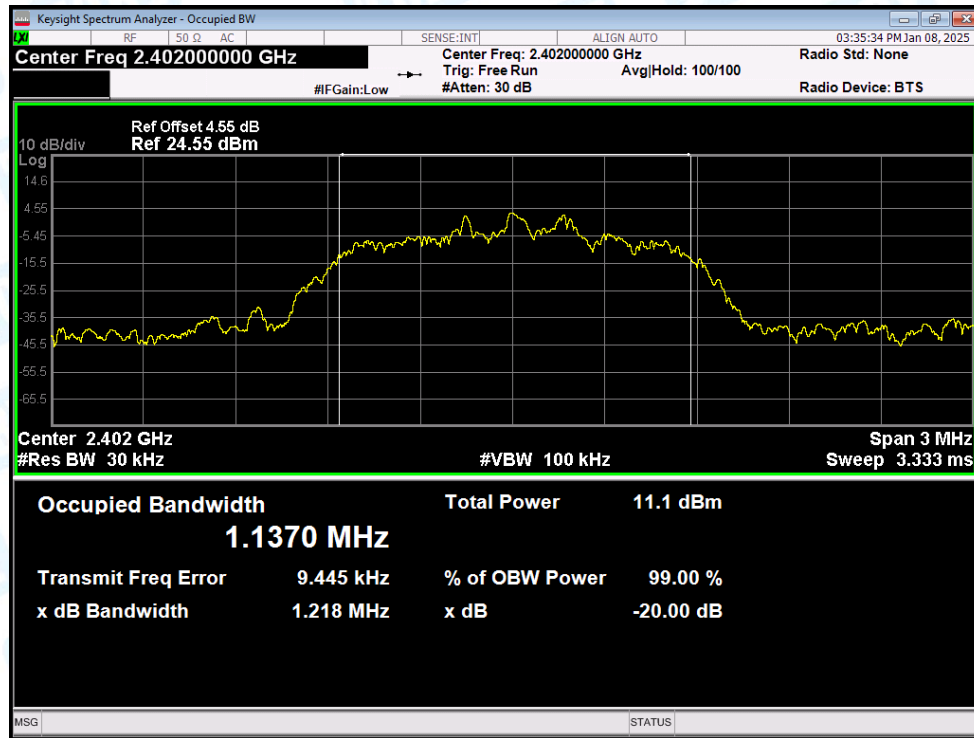
OBW NVNT 2-DH1 2441MHz Ant1



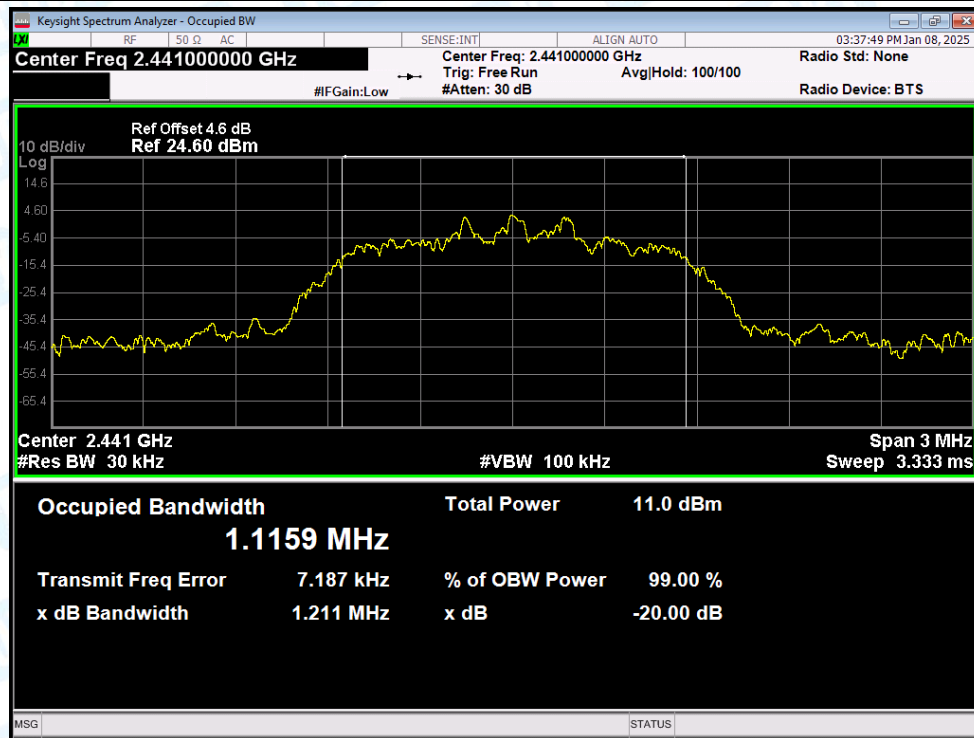
OBW NVNT 2-DH1 2480MHz Ant1

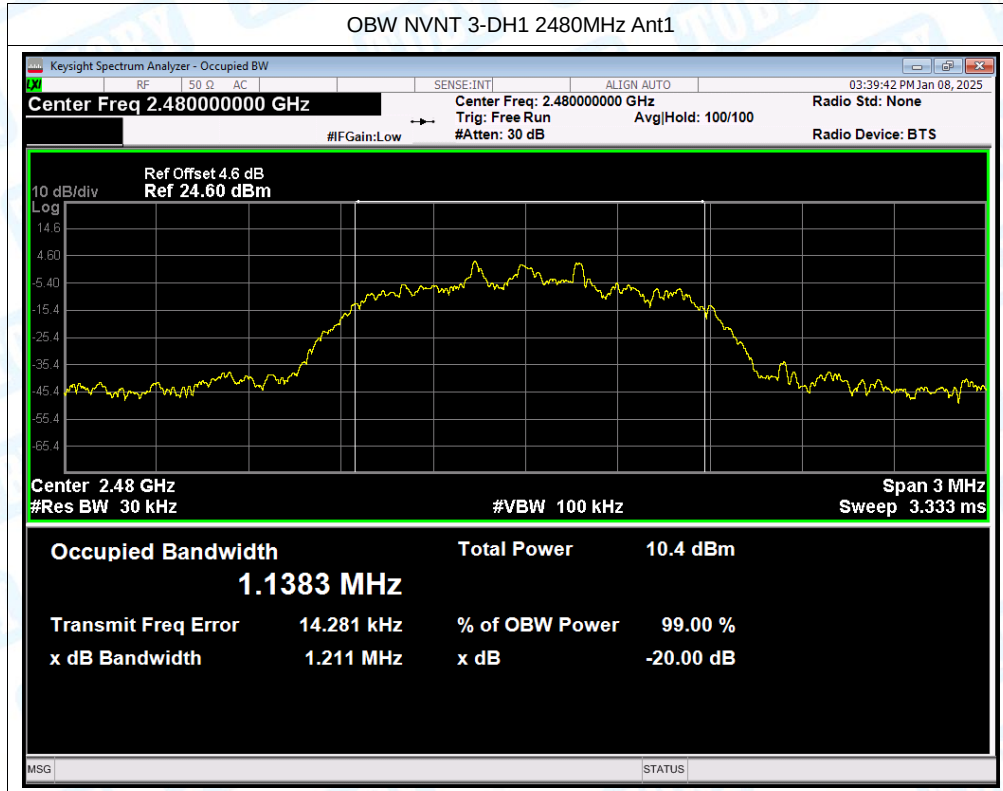


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



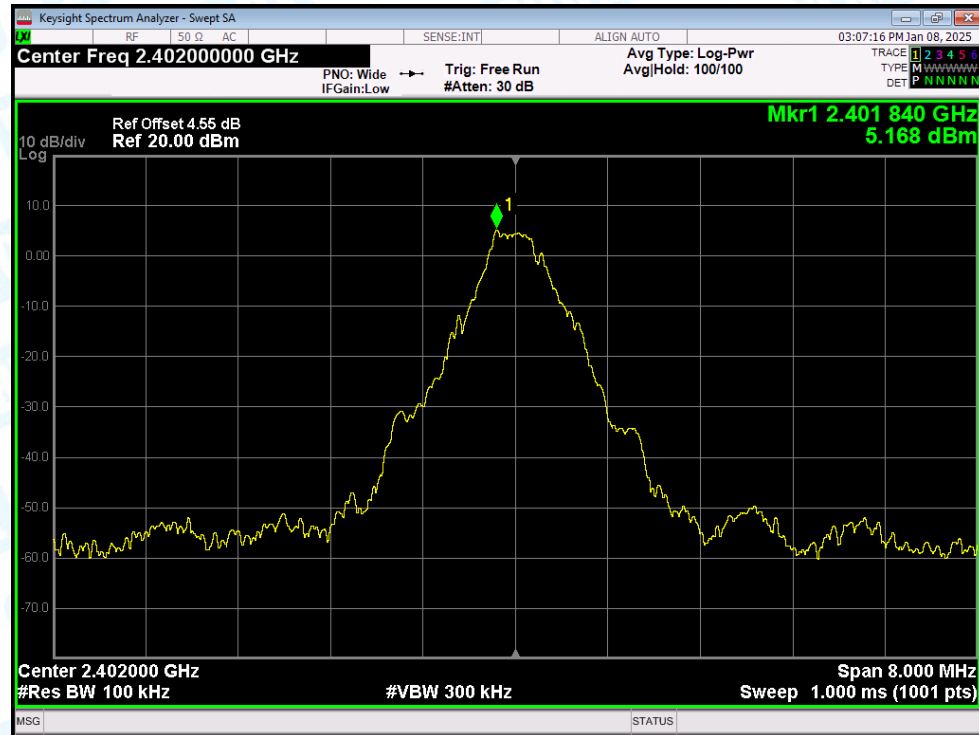


5. Band Edge

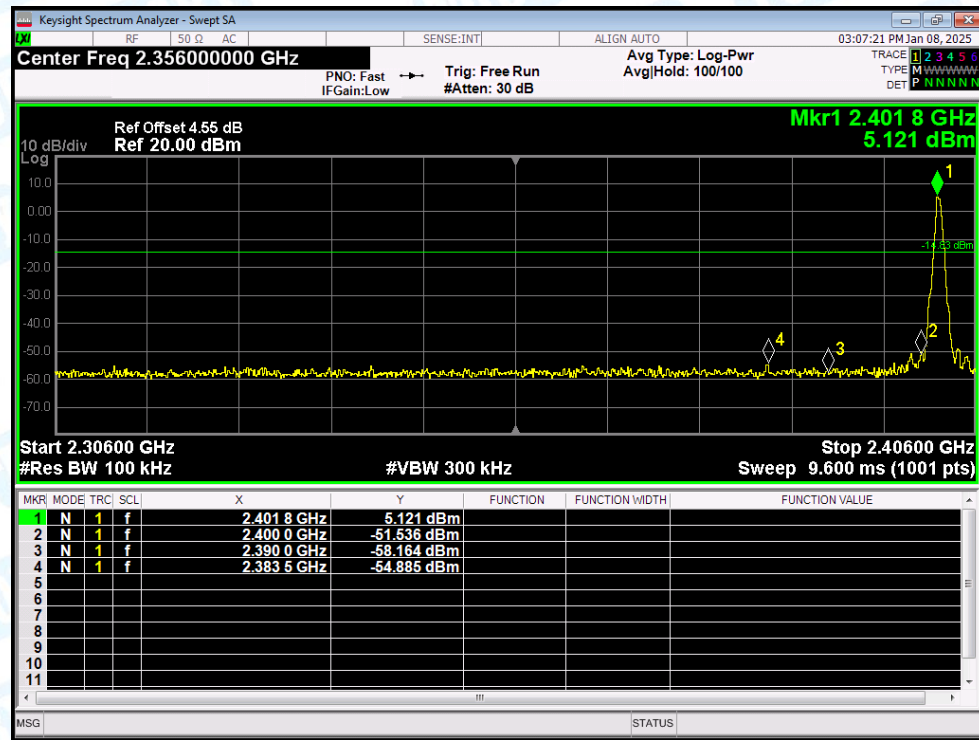
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-60.06	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-58.82	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-59.42	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-57.37	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-59.64	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-59.39	-20	Pass

Test Graphs

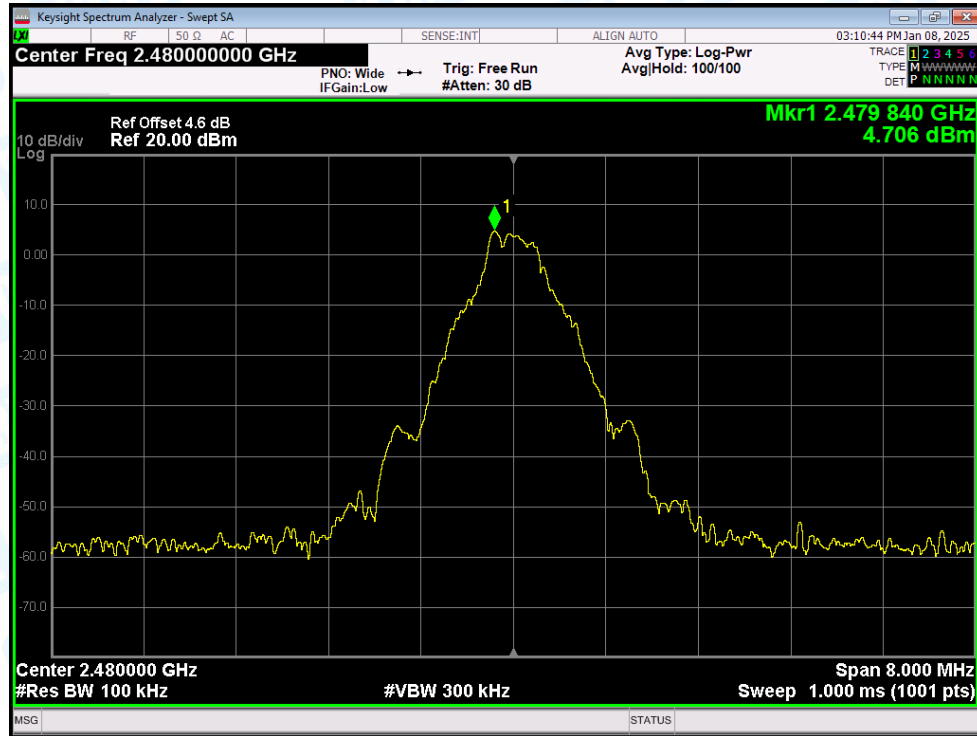
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



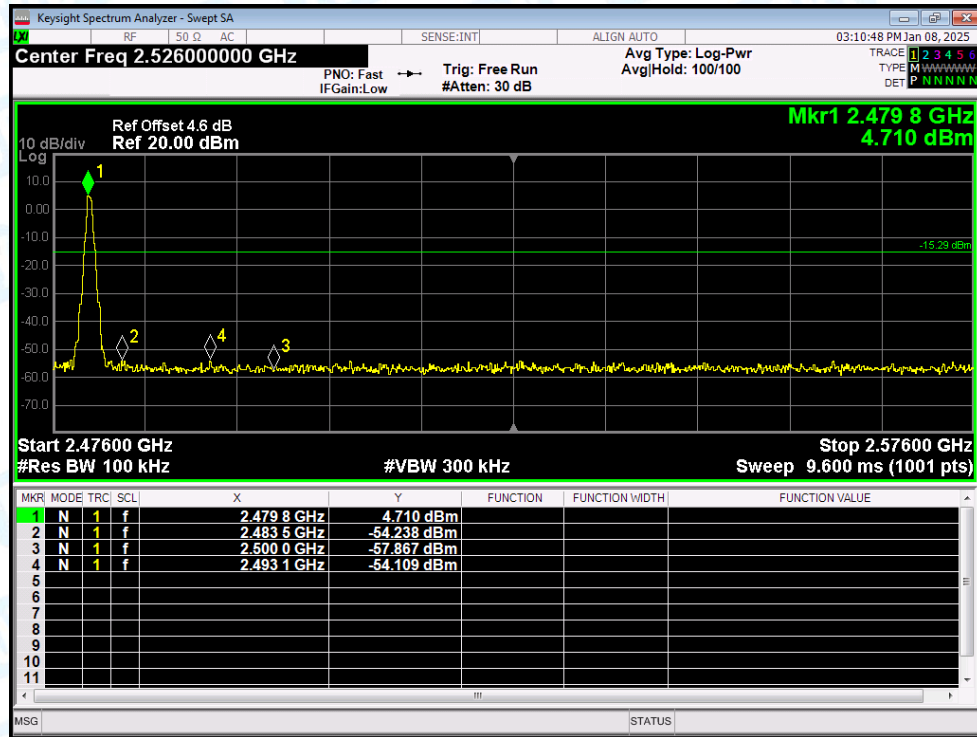
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



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



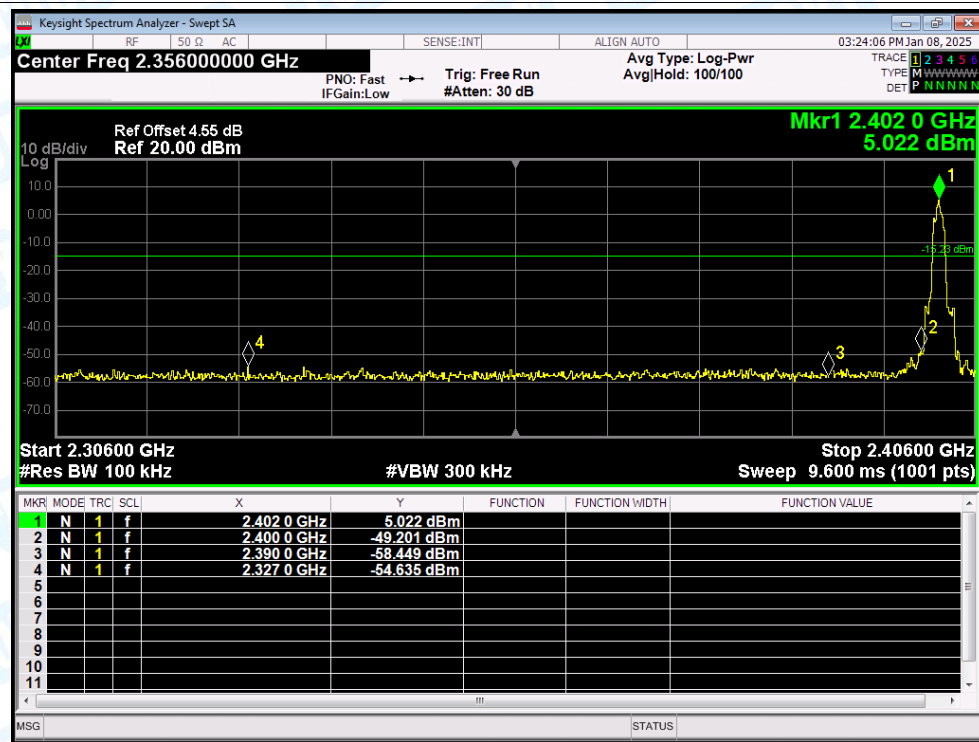
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



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



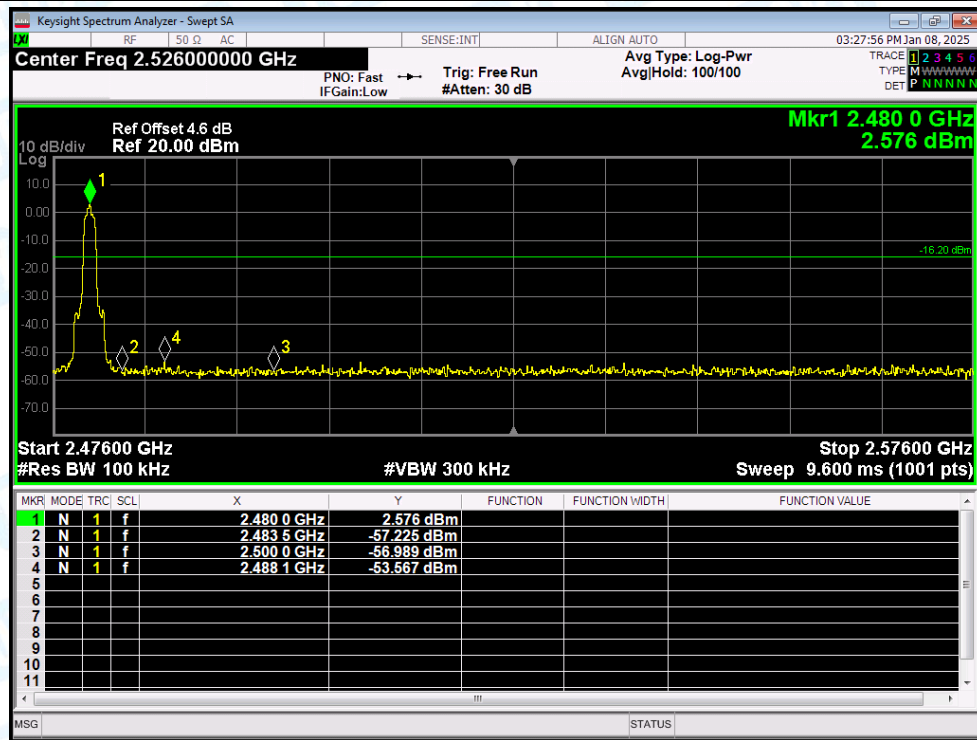
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



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



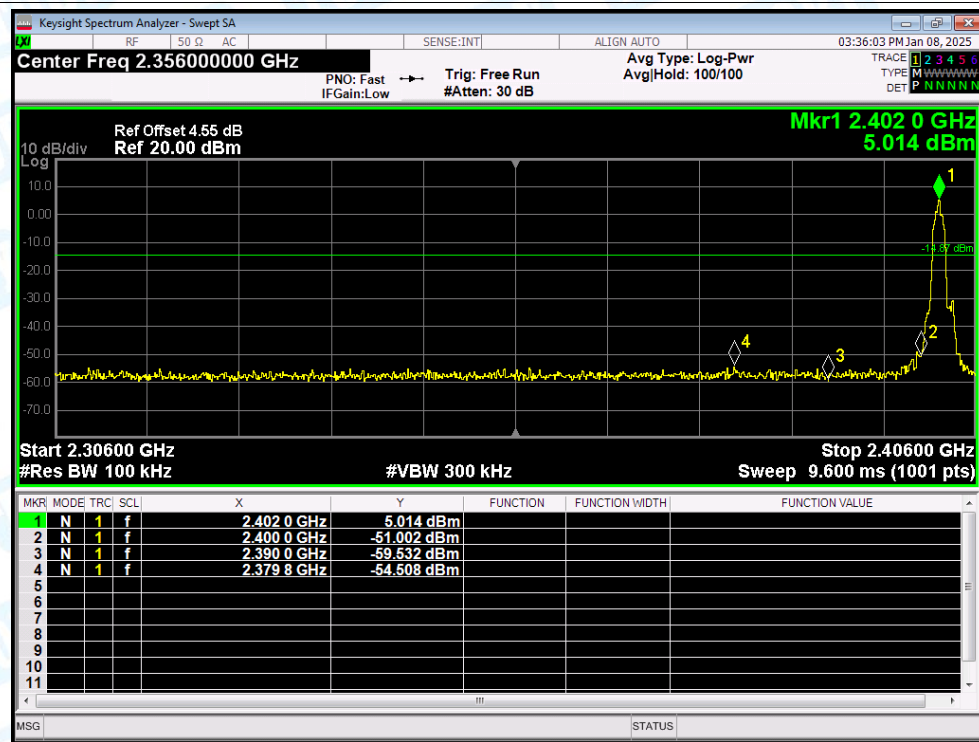
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



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



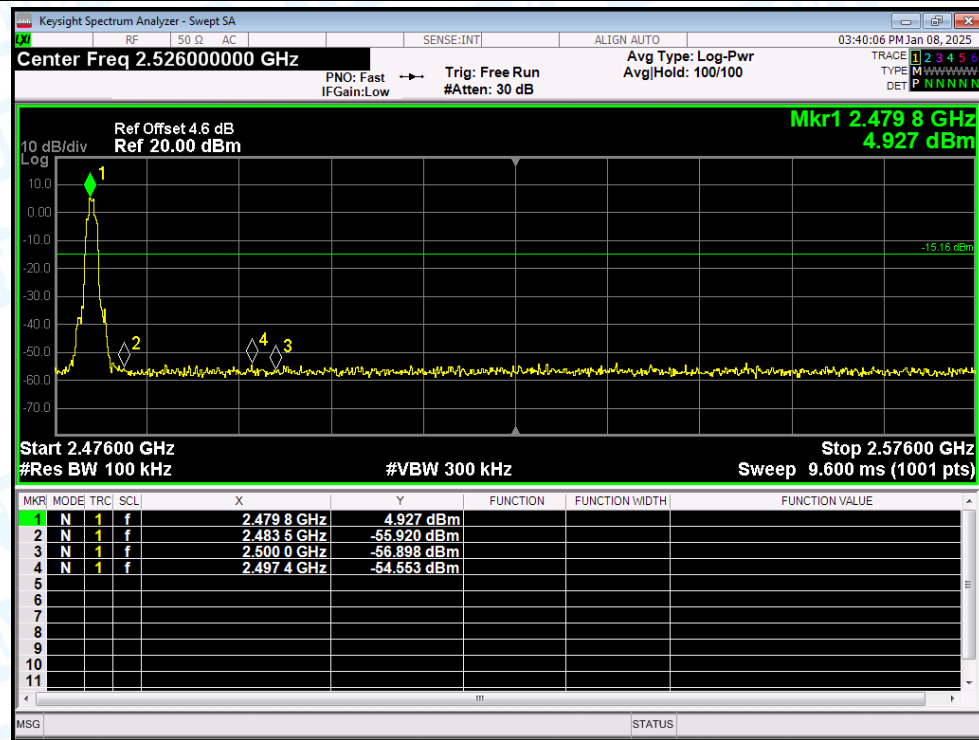
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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



6. Band Edge(Hopping)

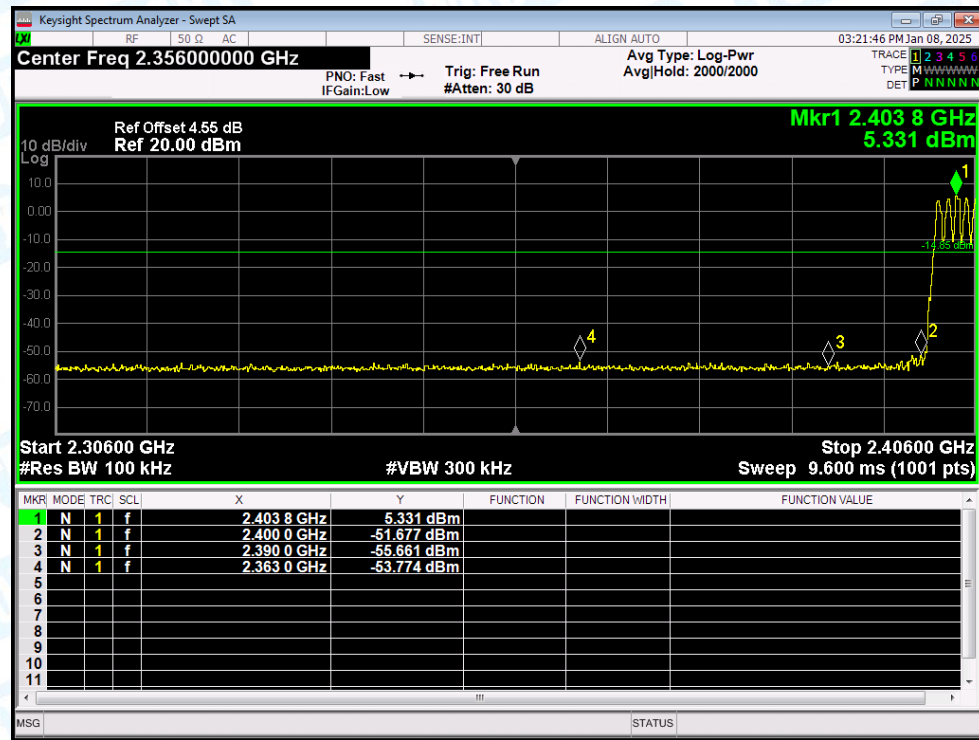
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-58.92	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-58.19	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-57.89	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-58.26	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-58.68	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-57.5	-20	Pass

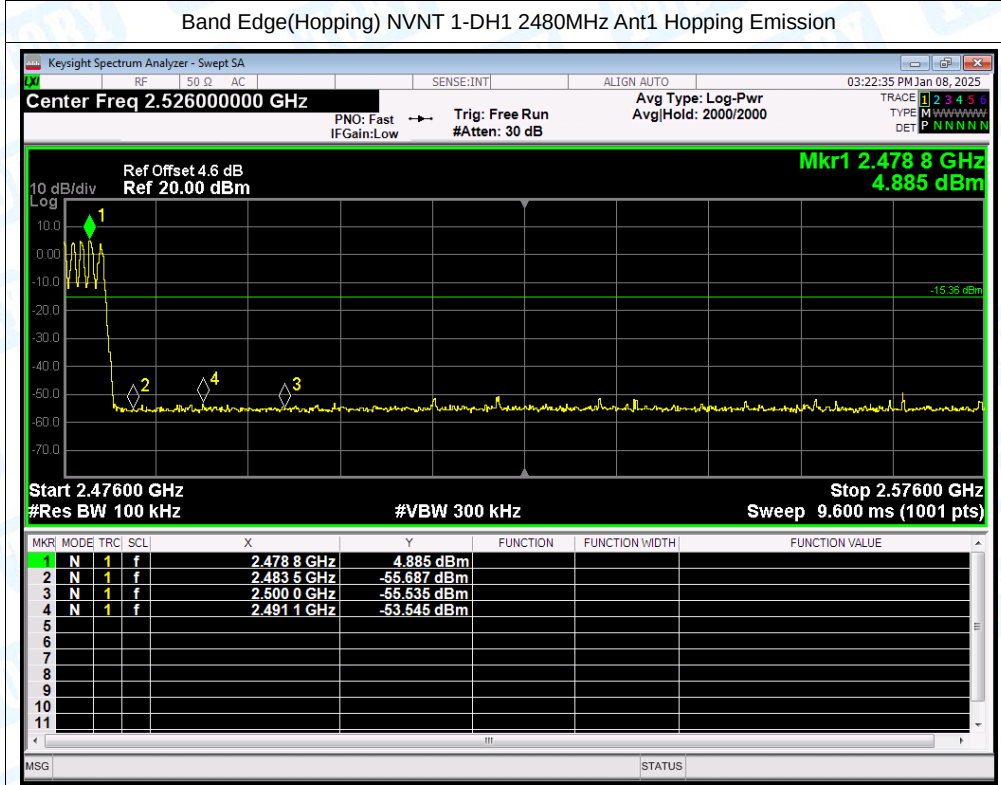
Test Graphs

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

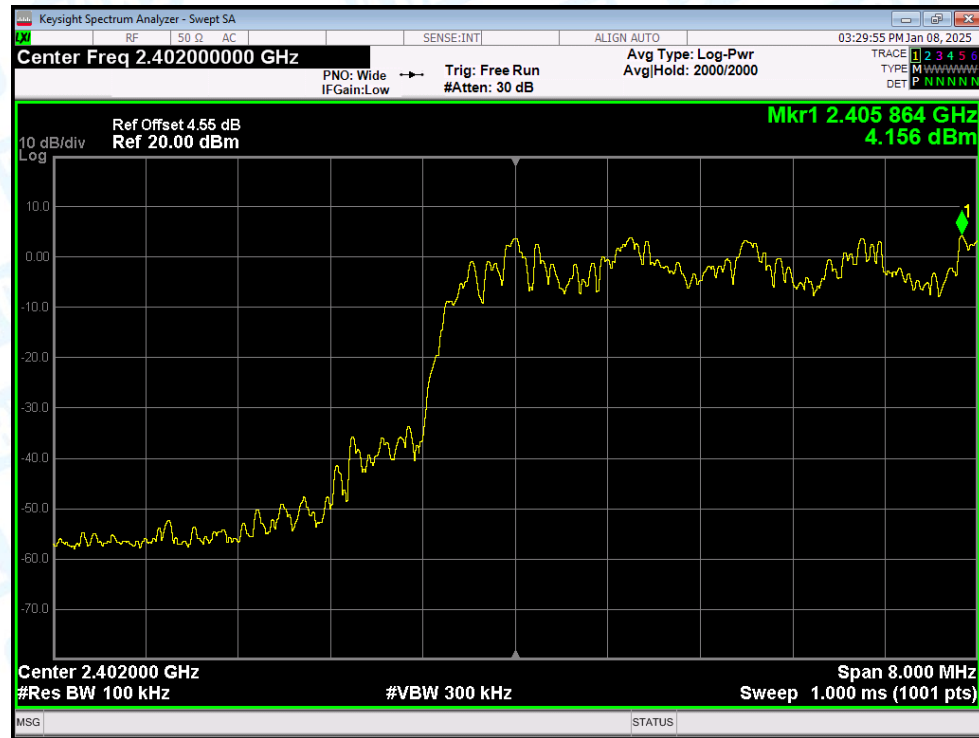


Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

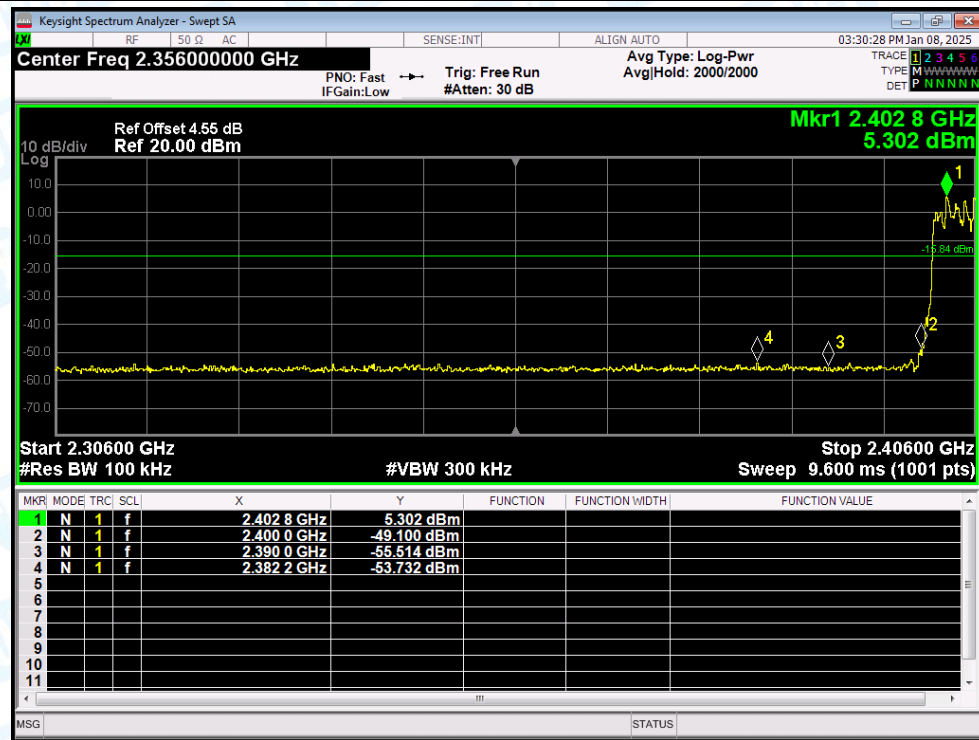


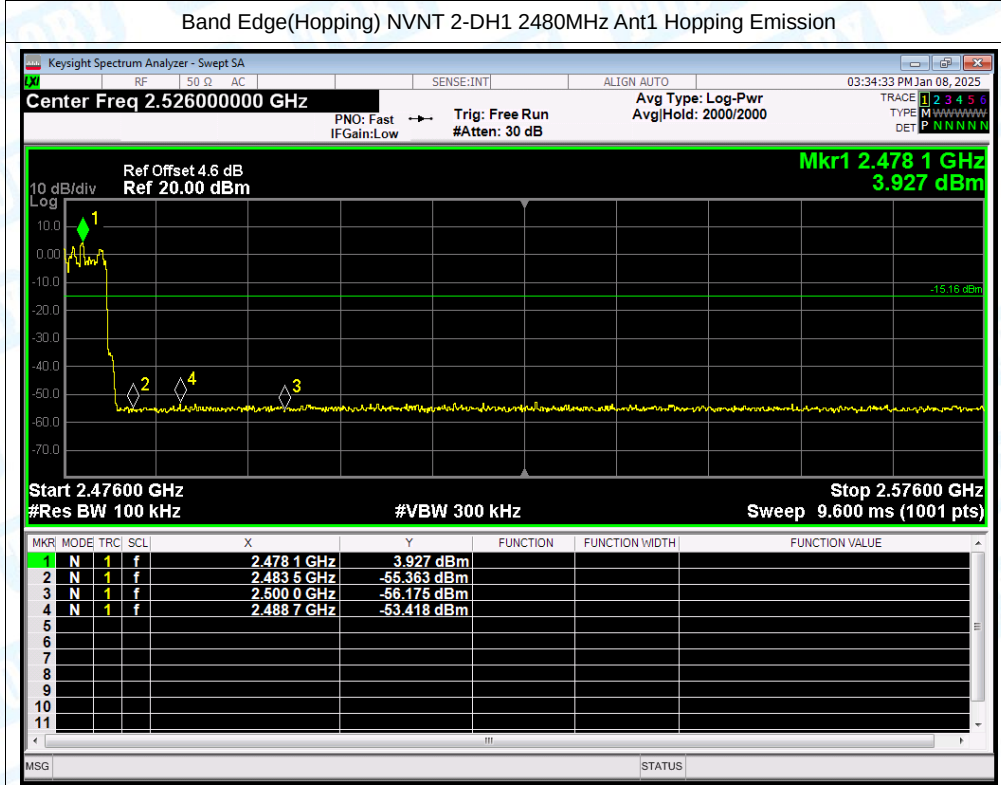
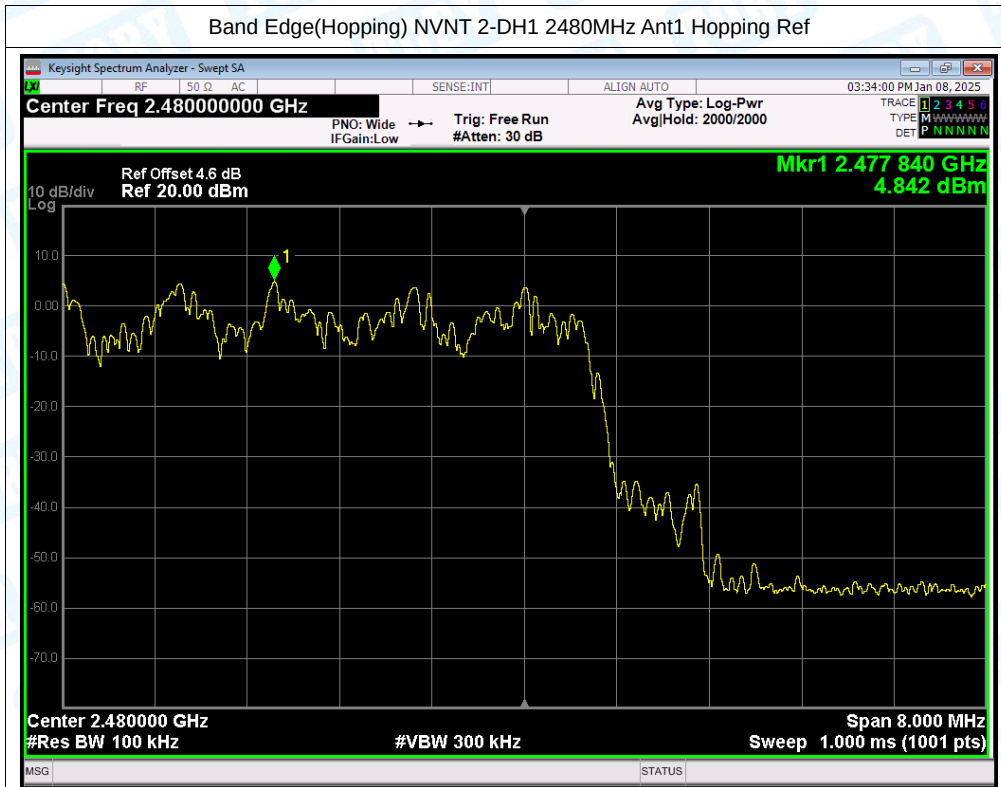


Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



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

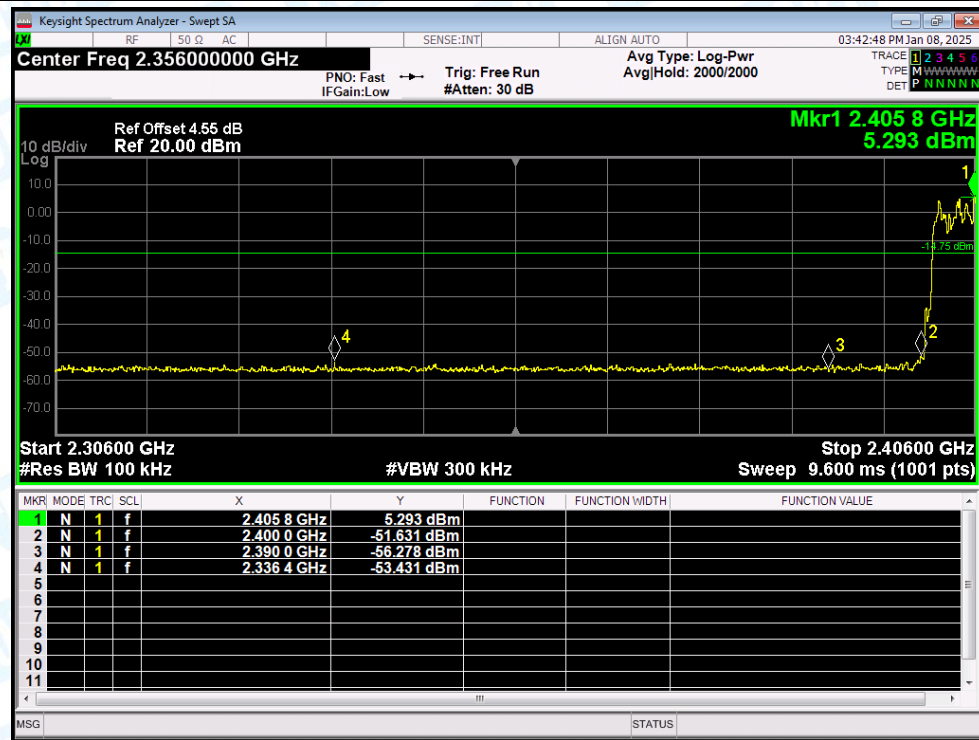


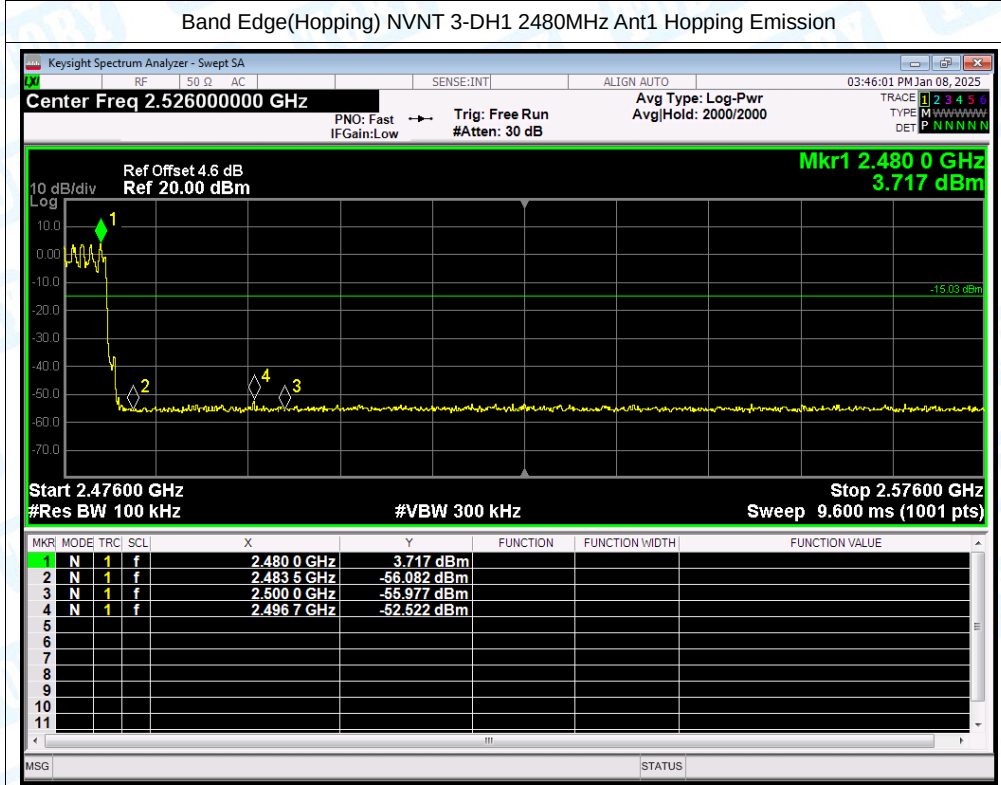


Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



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



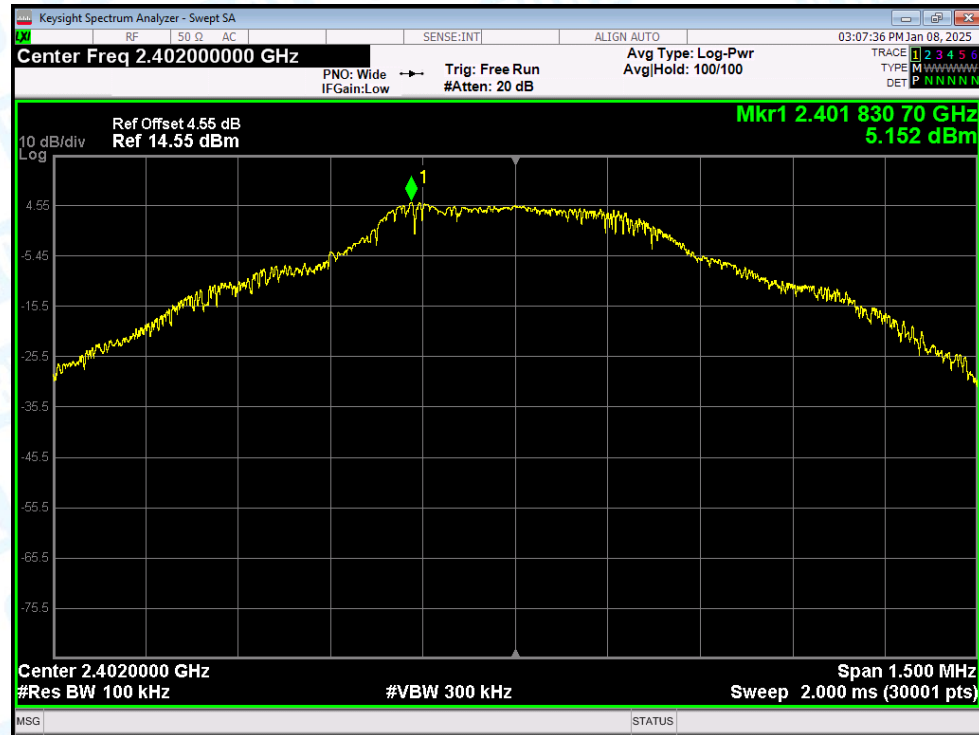


7. Conducted RF Spurious Emission

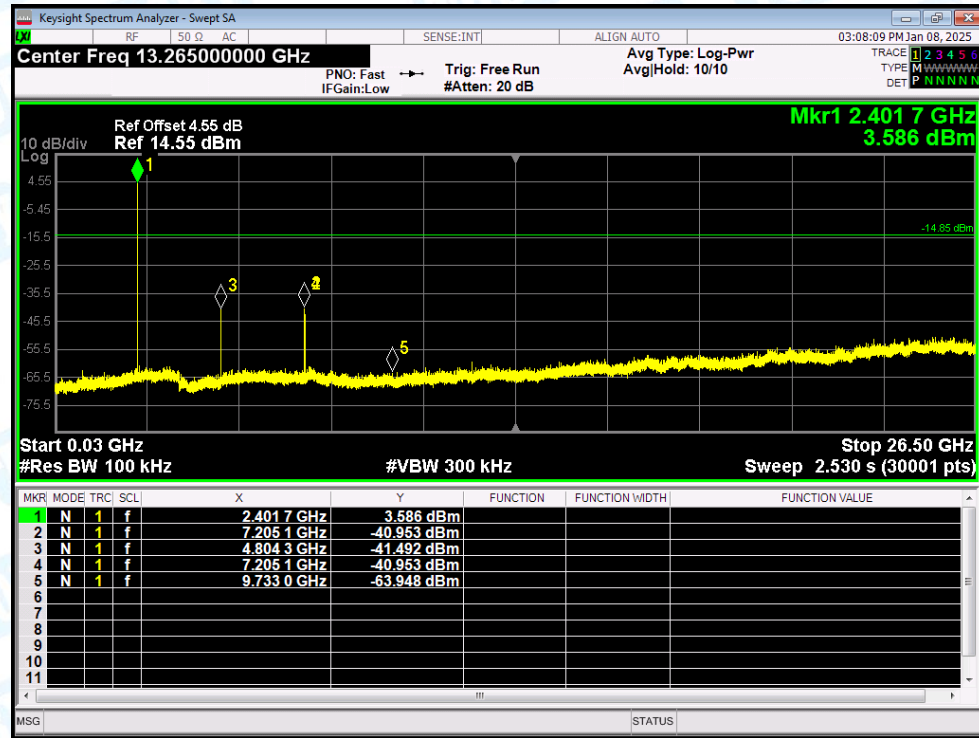
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-46.1	-20	Pass
NVNT	1-DH1	2441	Ant1	-40.54	-20	Pass
NVNT	1-DH1	2480	Ant1	-42.61	-20	Pass
NVNT	2-DH1	2402	Ant1	-43.74	-20	Pass
NVNT	2-DH1	2441	Ant1	-47.66	-20	Pass
NVNT	2-DH1	2480	Ant1	-44.74	-20	Pass
NVNT	3-DH1	2402	Ant1	-42.15	-20	Pass
NVNT	3-DH1	2441	Ant1	-41.26	-20	Pass
NVNT	3-DH1	2480	Ant1	-43.64	-20	Pass

Test Graphs

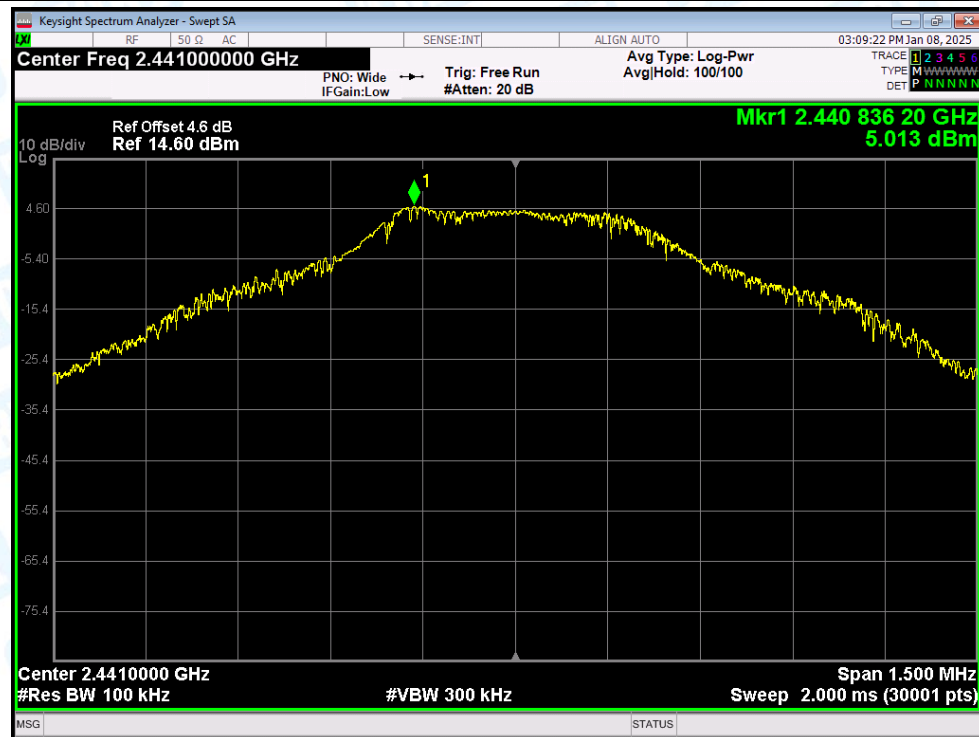
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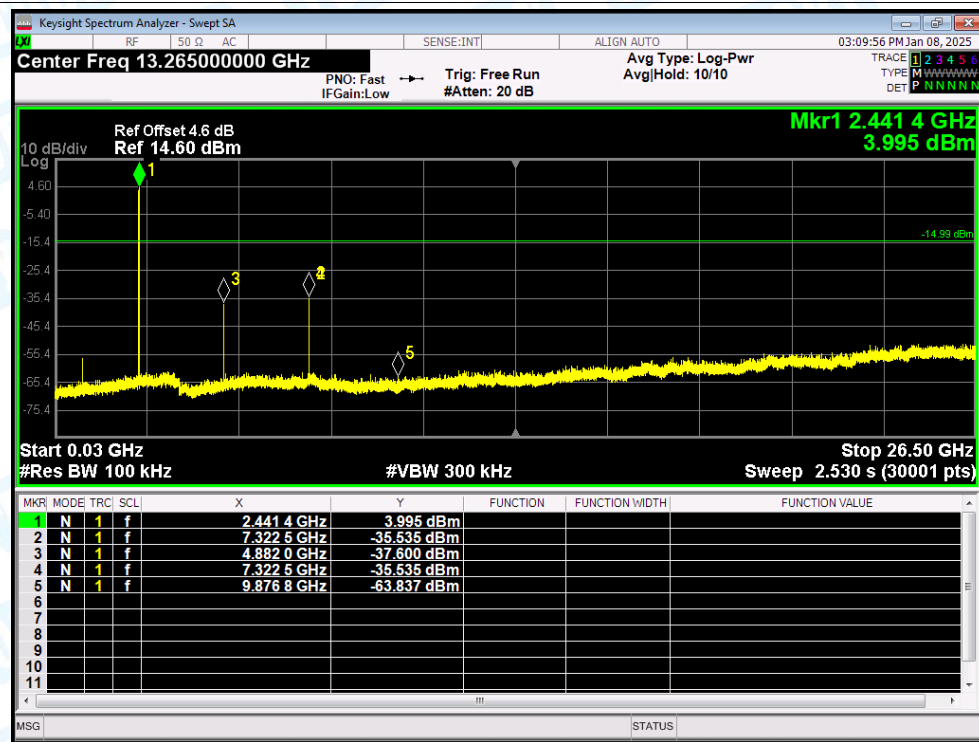
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



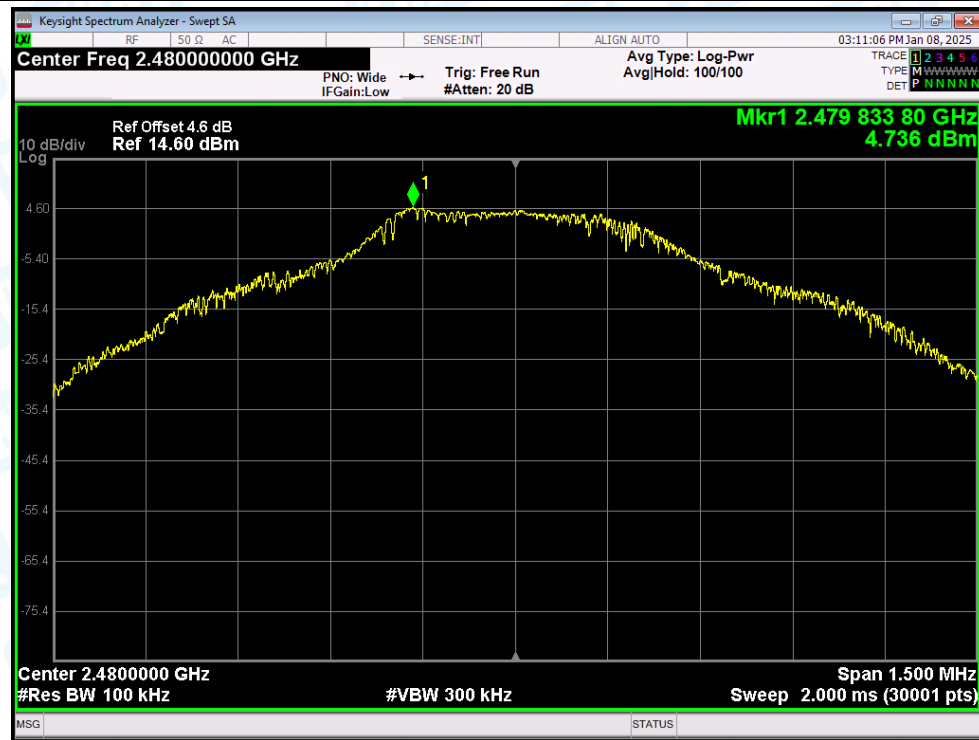
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



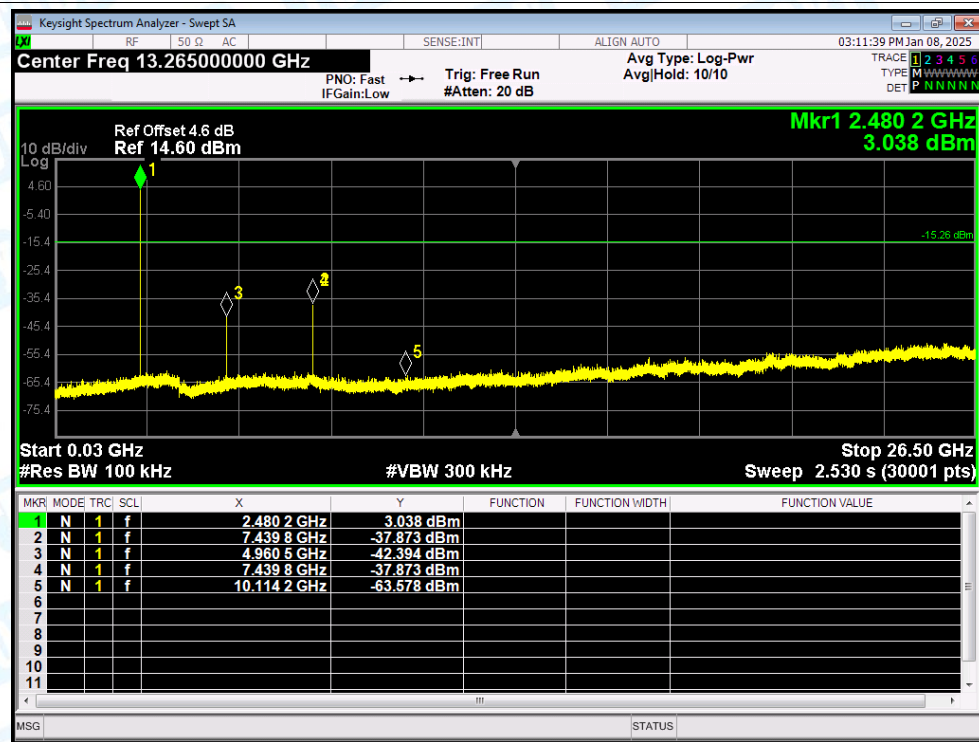
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



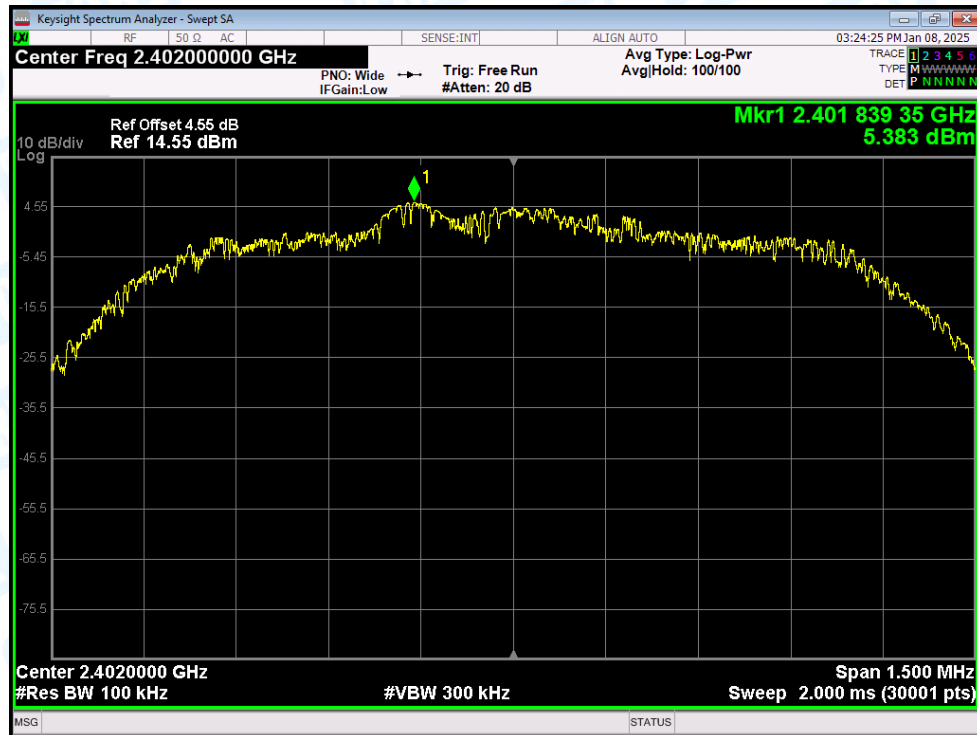
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



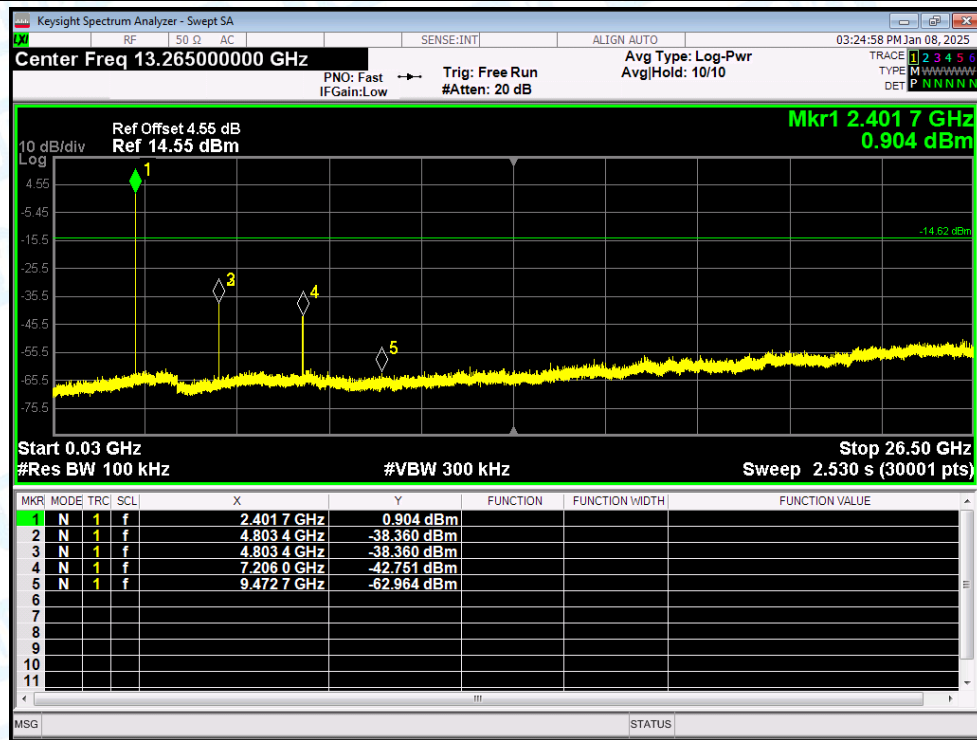
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



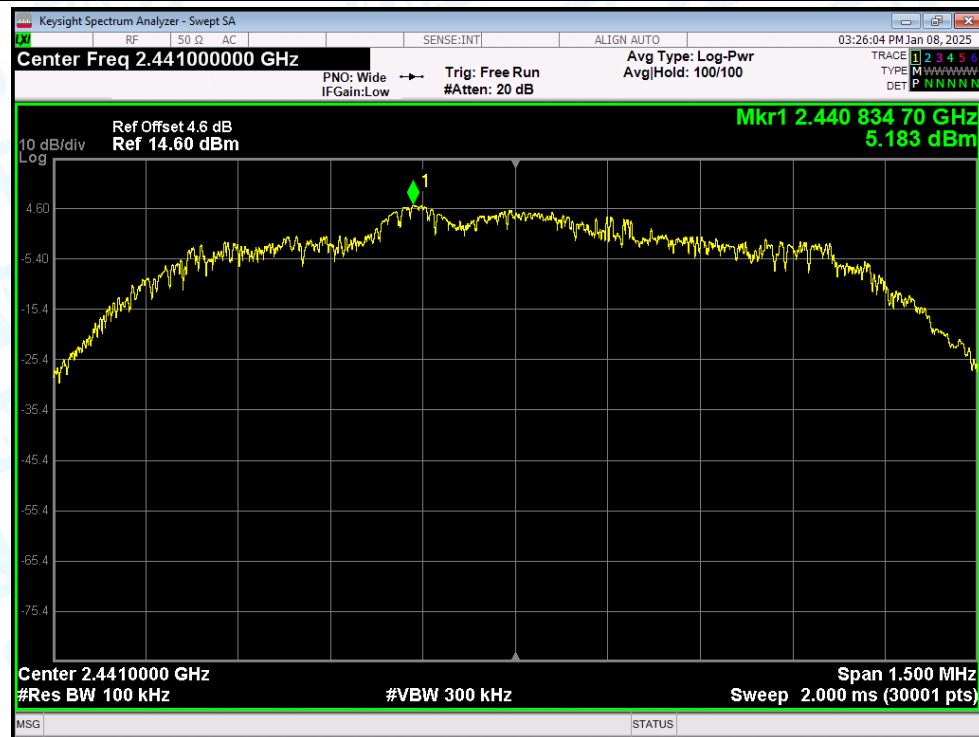
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



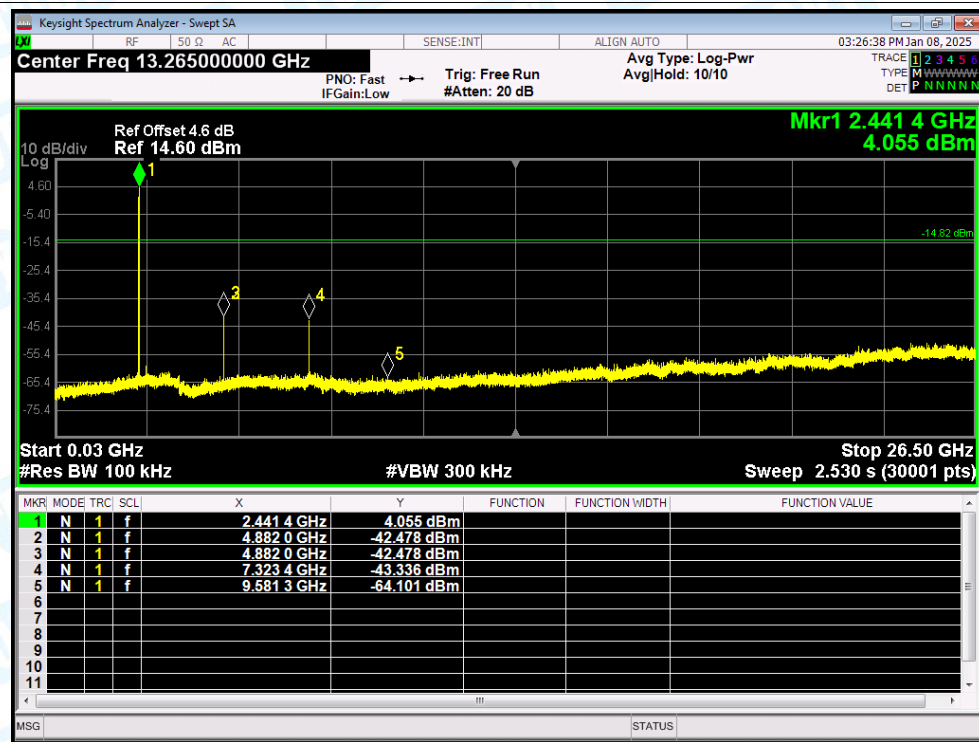
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



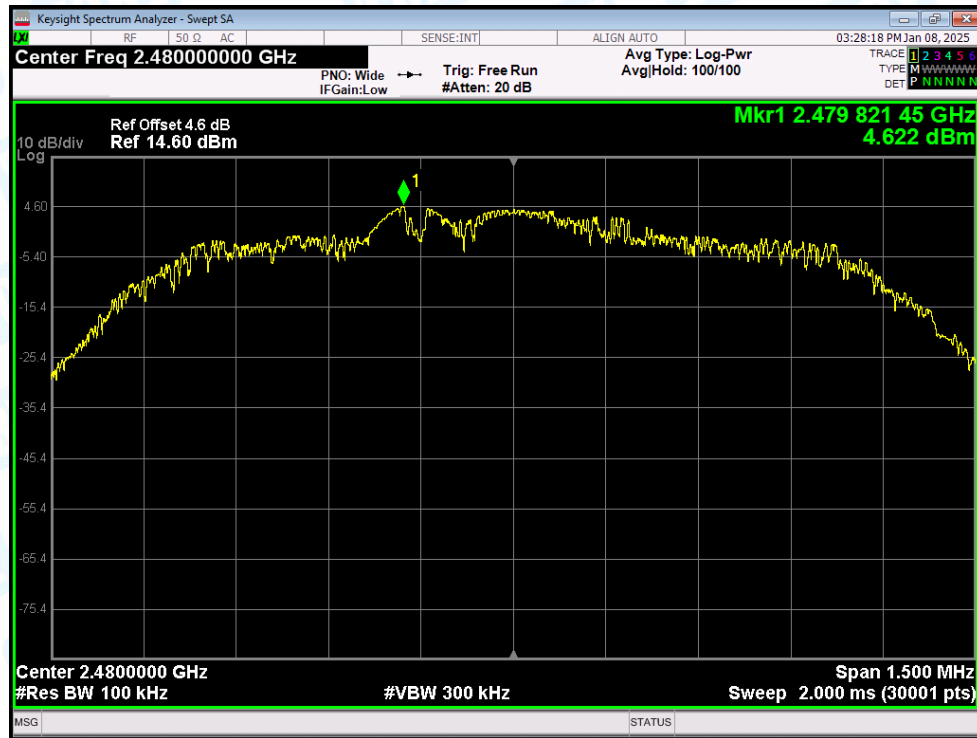
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



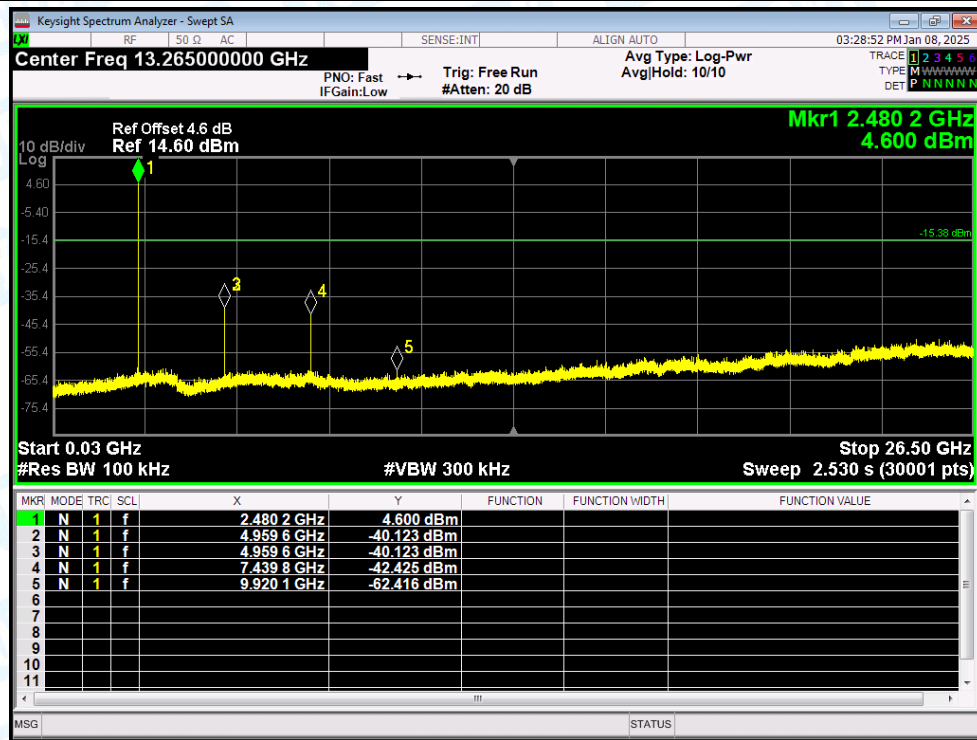
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



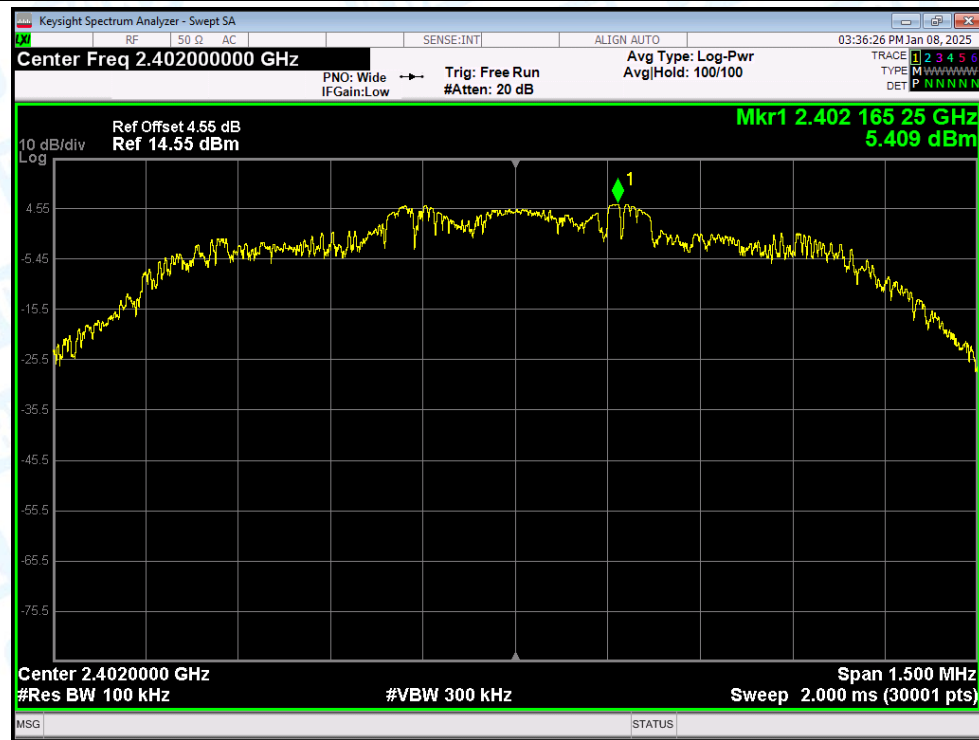
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



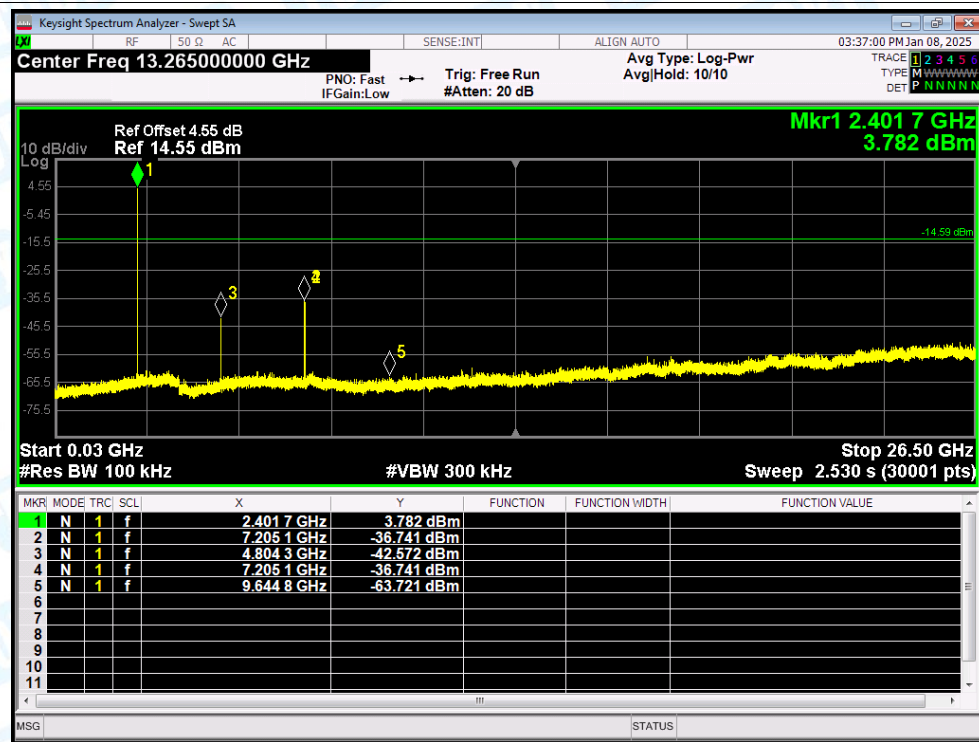
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



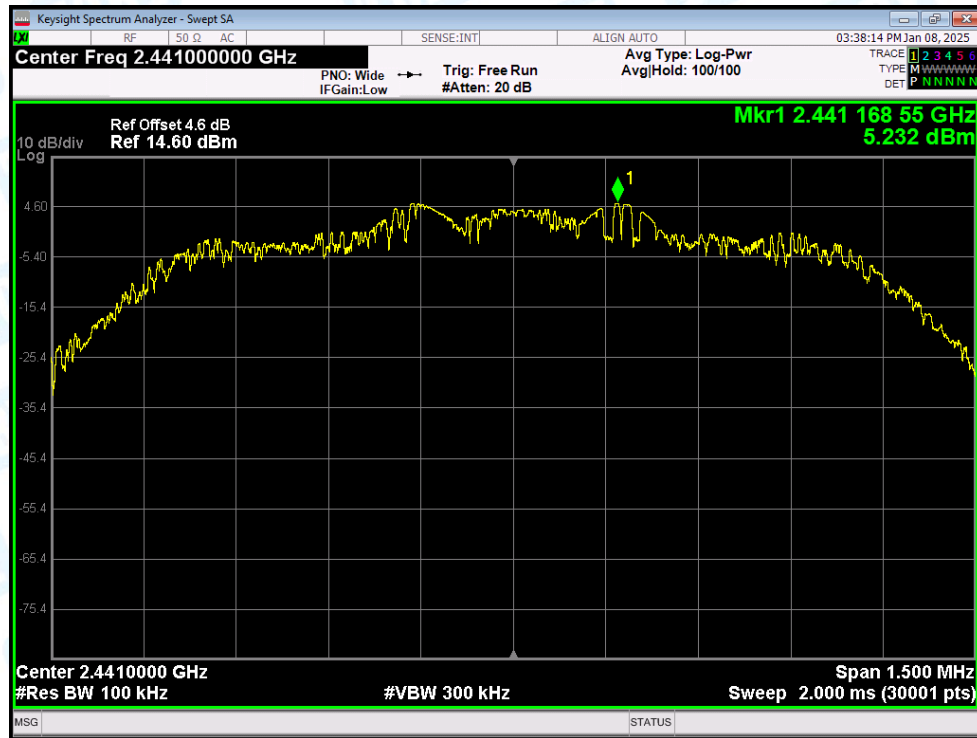
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



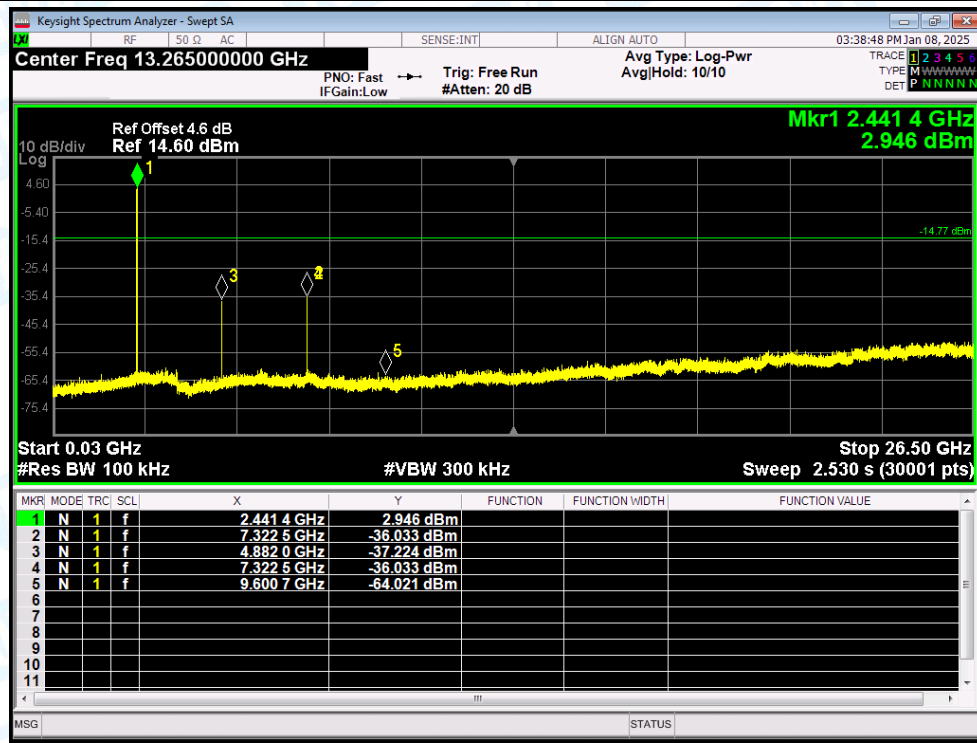
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



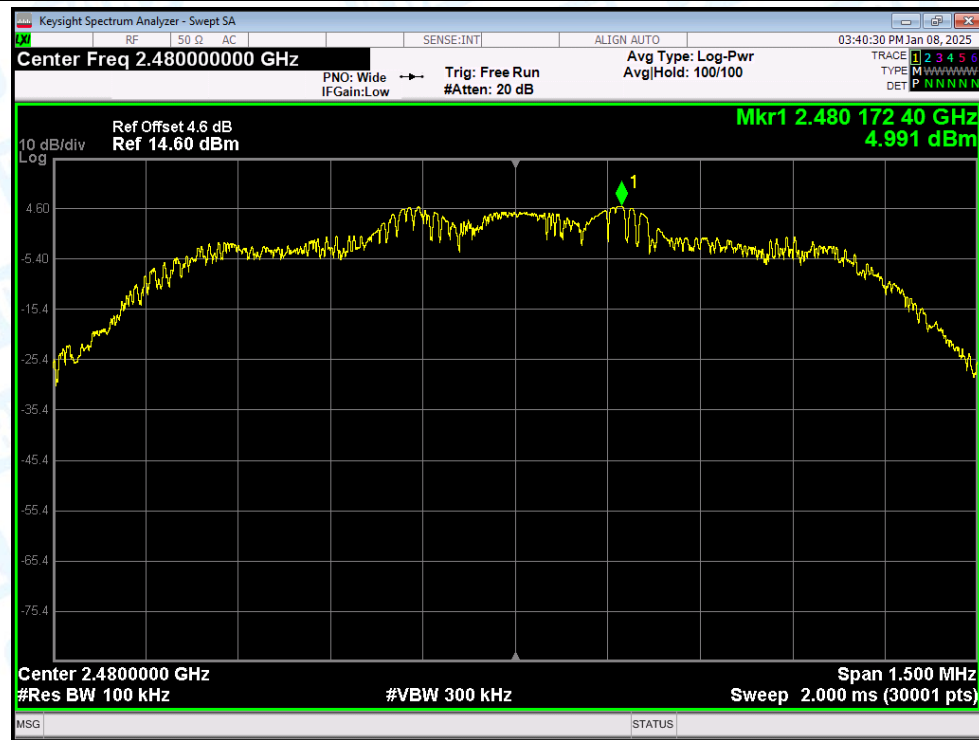
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



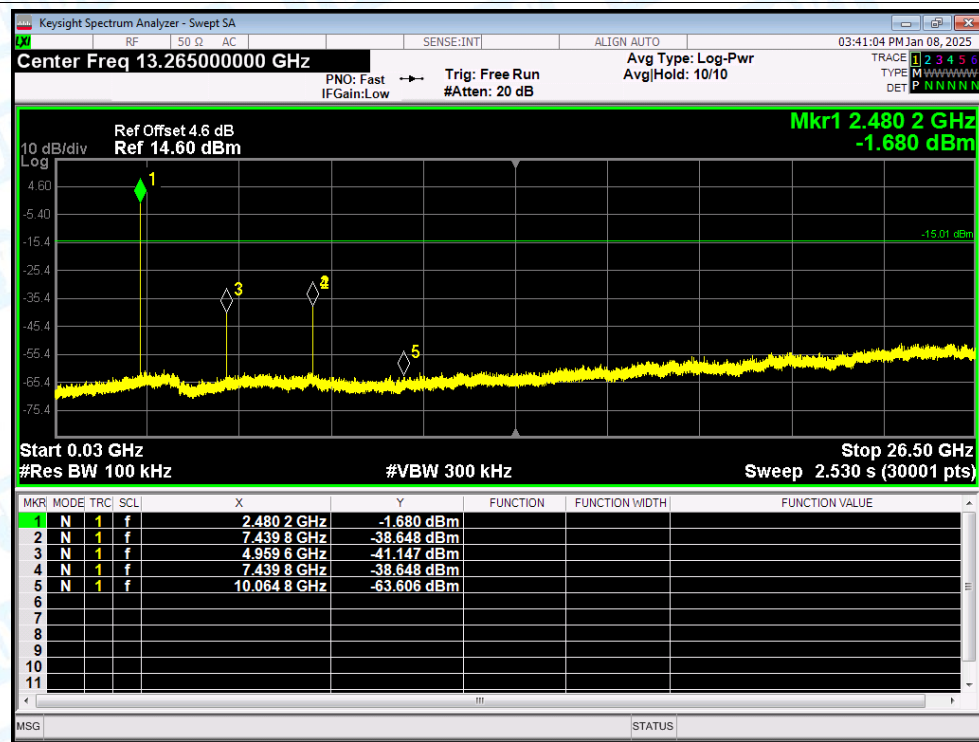
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

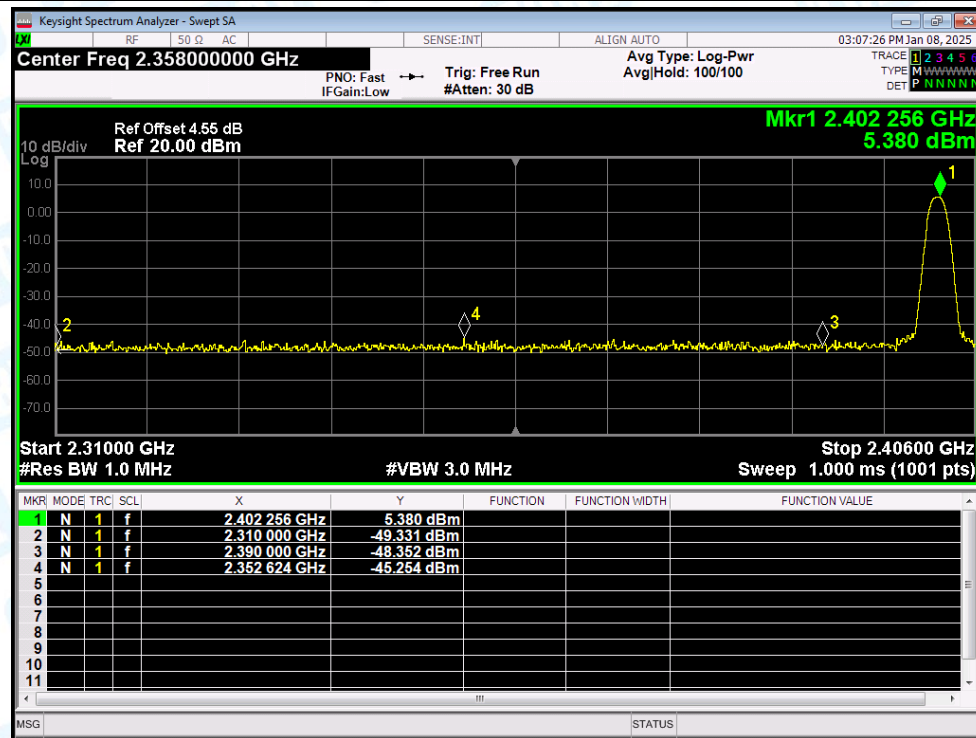


8. Restrict Band

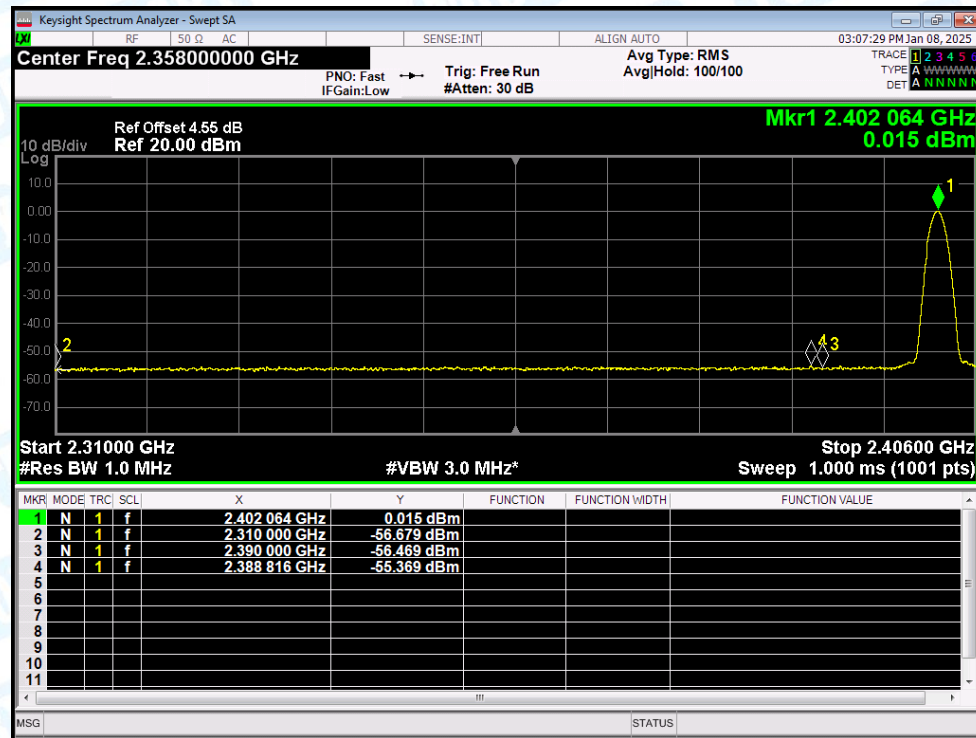
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-49.33	2	-	47.93	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.68	2	5.17	45.75	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2352.624	-45.25	2	-	52.01	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2388.816	-55.37	2	5.17	47.06	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.35	2	-	48.91	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.47	2	5.17	45.96	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-48.21	2	-	49.05	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-55.01	2	5.17	47.42	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2494.696	-44.78	2	-	52.48	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.824	-54.74	2	5.17	47.69	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-46.6	2	-	50.66	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.83	2	5.17	46.6	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-47.87	2	-	49.39	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.61	2	5.06	45.71	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2358.768	-45.17	2	-	52.09	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2378.832	-55.04	2	5.06	47.28	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-48.07	2	-	49.19	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.71	2	5.06	46.61	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-46.13	2	-	51.13	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.46	2	5.17	46.97	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2496.304	-44.05	2	-	53.21	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.632	-54.66	2	5.17	47.77	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-48.28	2	-	48.98	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.83	2	5.17	46.6	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-47.37	2	-	49.89	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.19	2	5.17	46.24	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2357.232	-44.53	2	-	52.73	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2369.808	-55.37	2	5.17	47.06	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-49.35	2	-	47.91	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-56.28	2	5.17	46.15	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-46.83	2	-	50.43	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-55.3	2	5.17	47.13	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2496.136	-44.88	2	-	52.38	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2488	-54.57	2	5.17	47.86	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-48.54	2	-	48.72	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.97	2	5.17	46.46	Average	54	Pass

Test Graphs

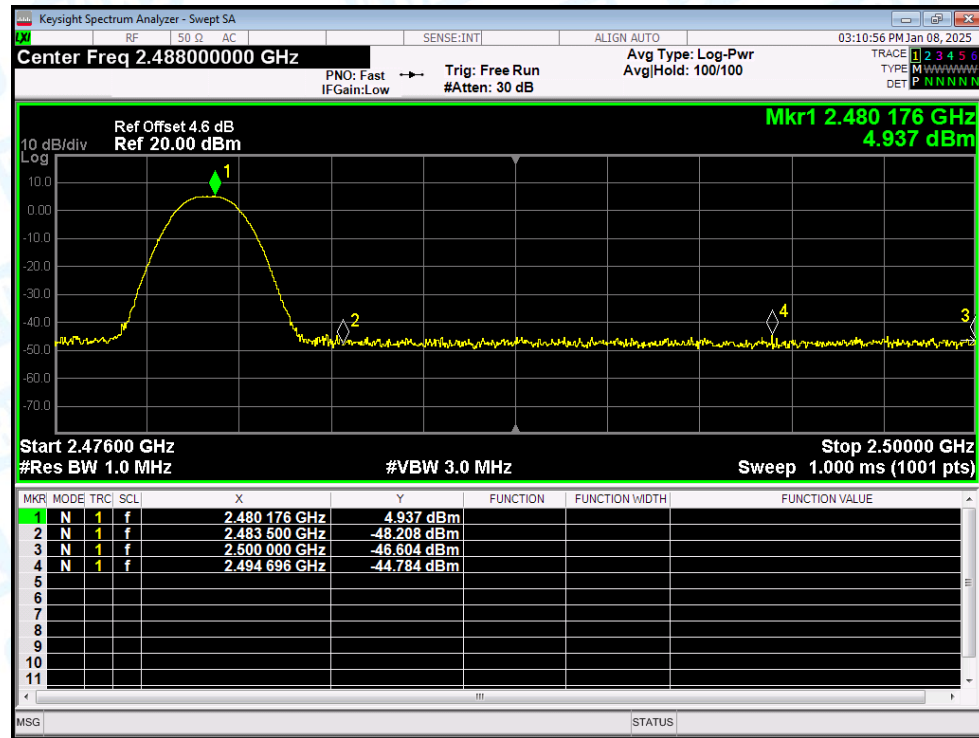
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



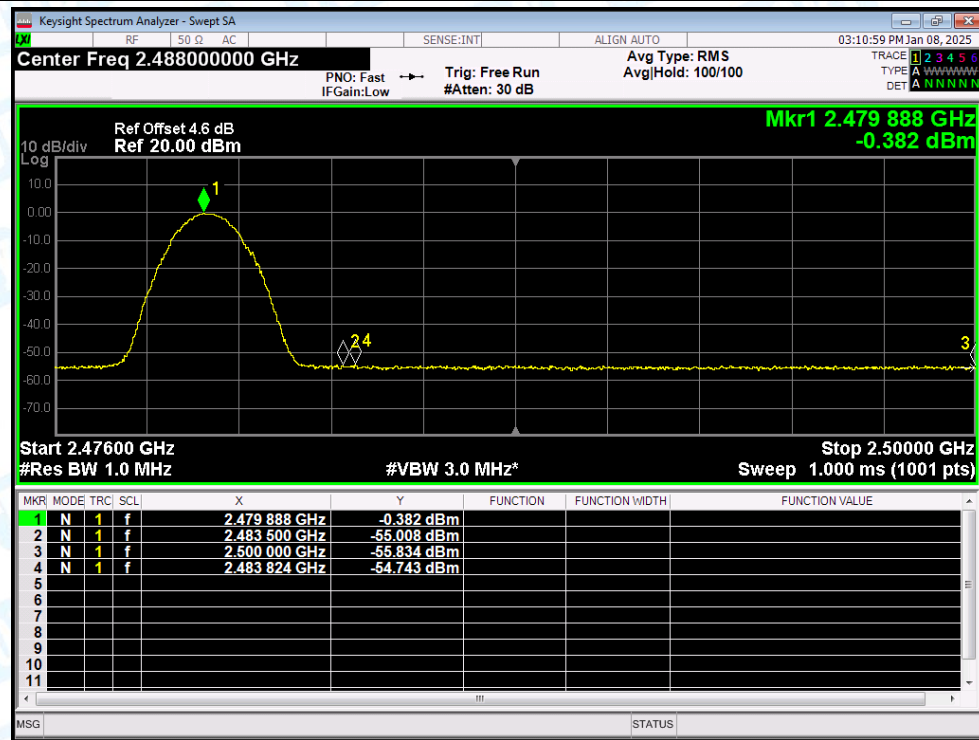
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



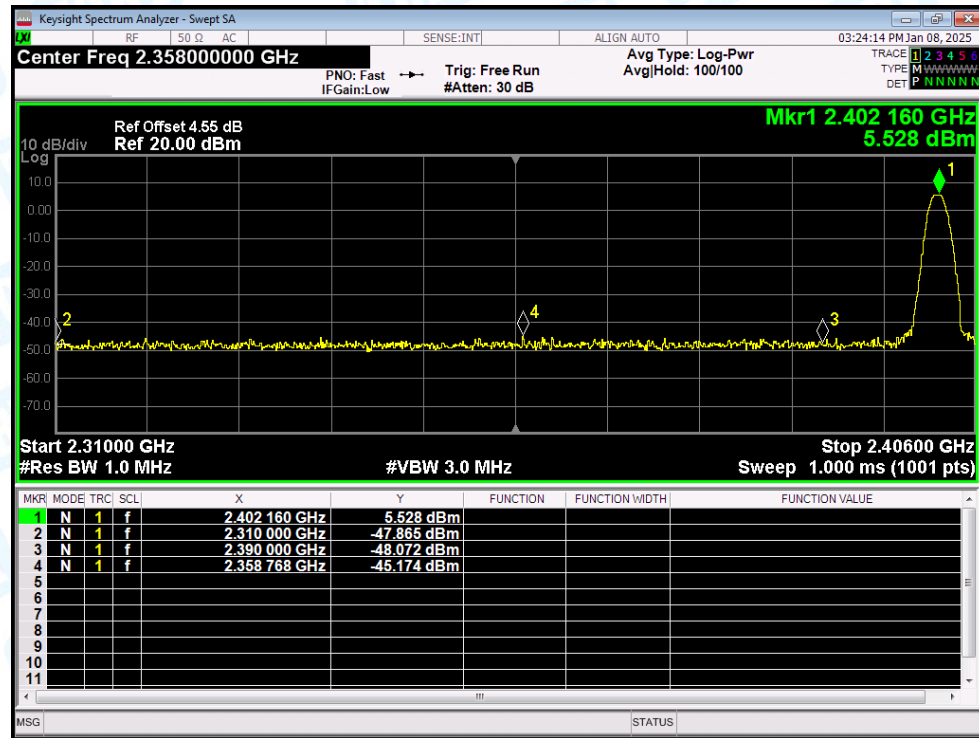
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



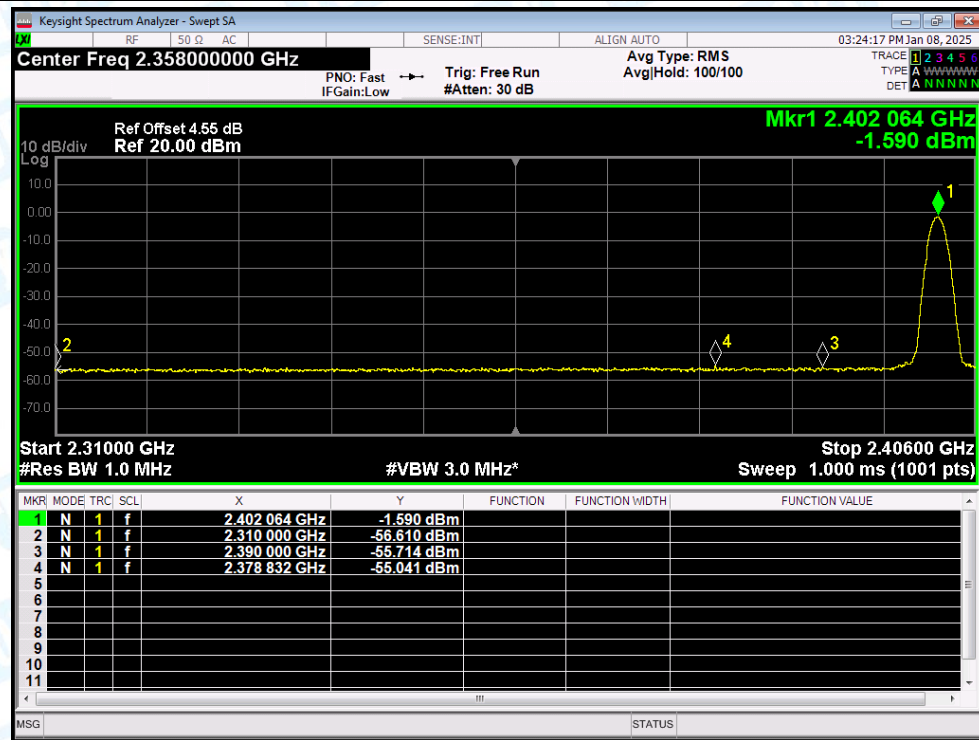
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



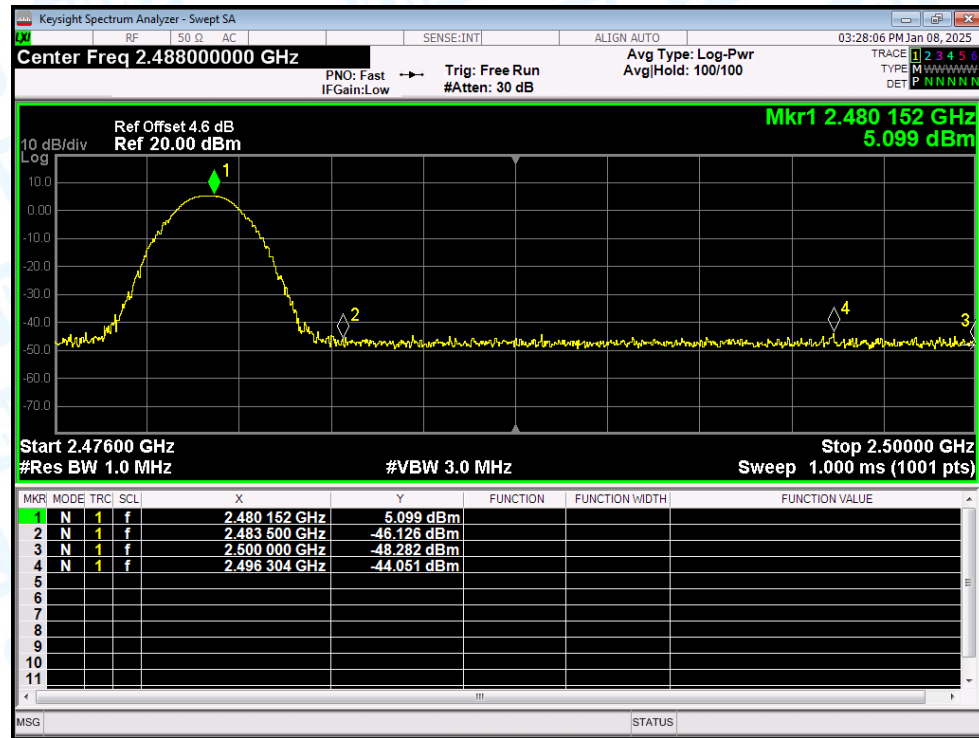
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



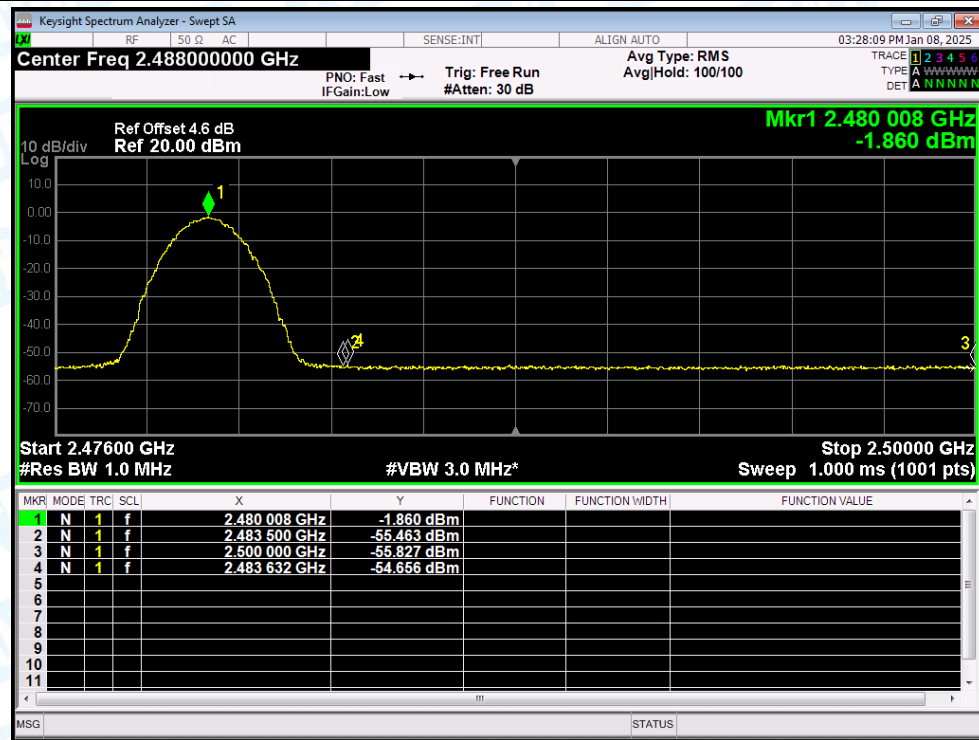
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



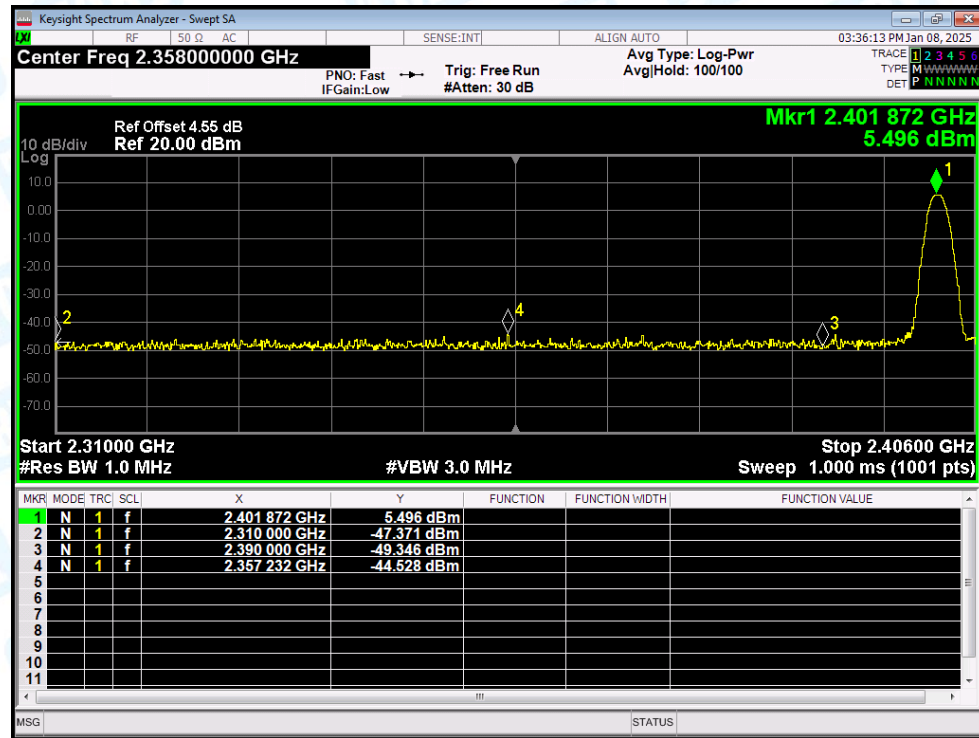
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



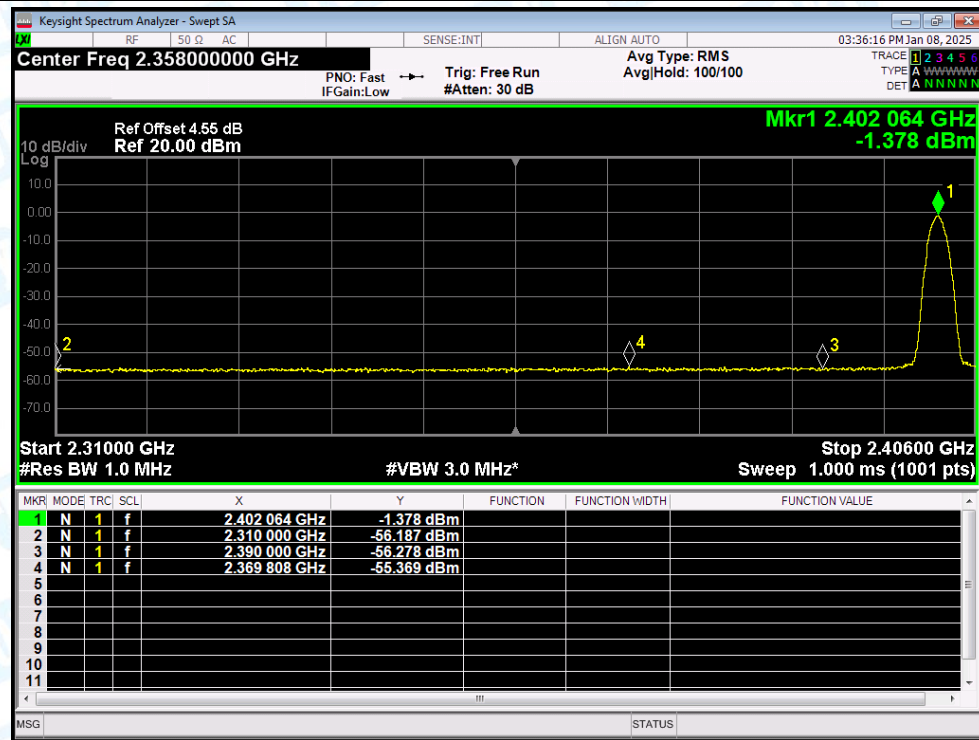
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



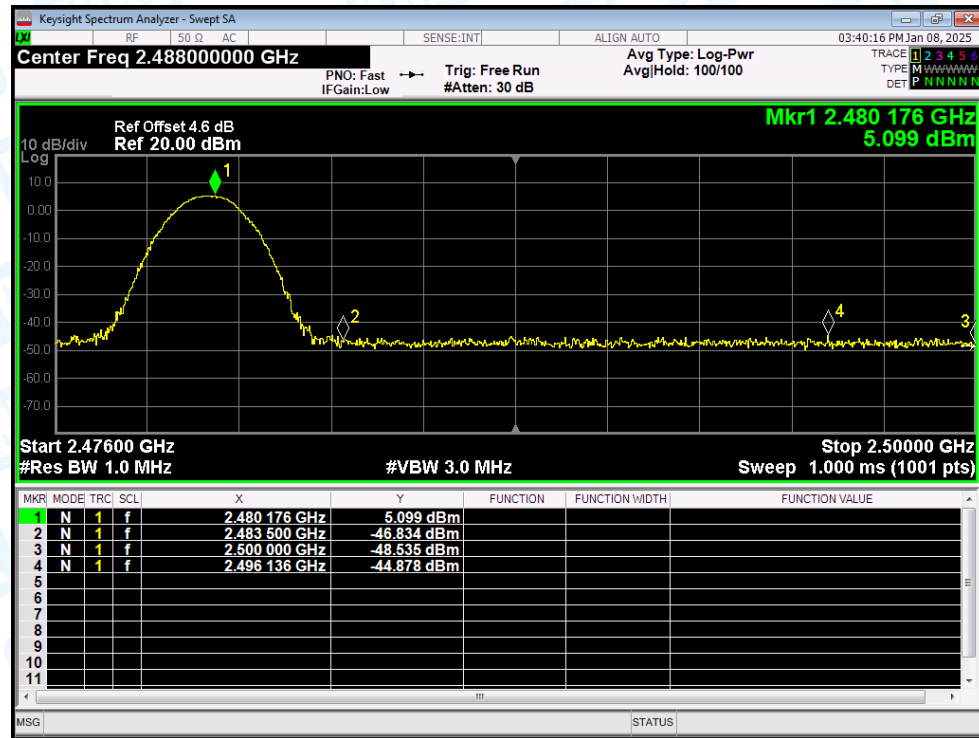
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



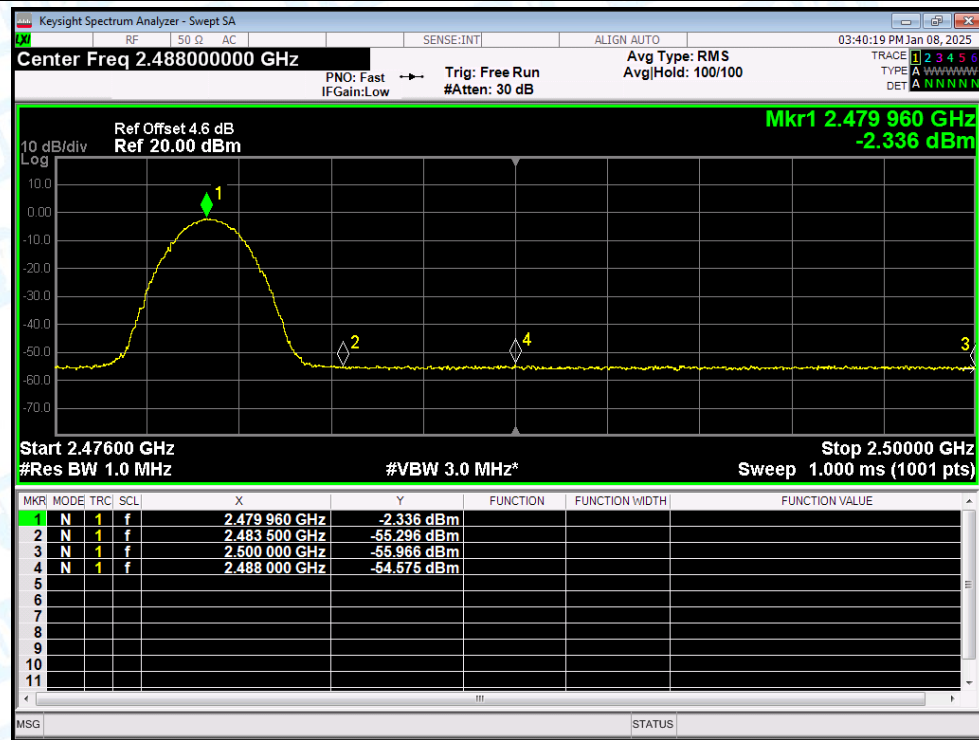
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

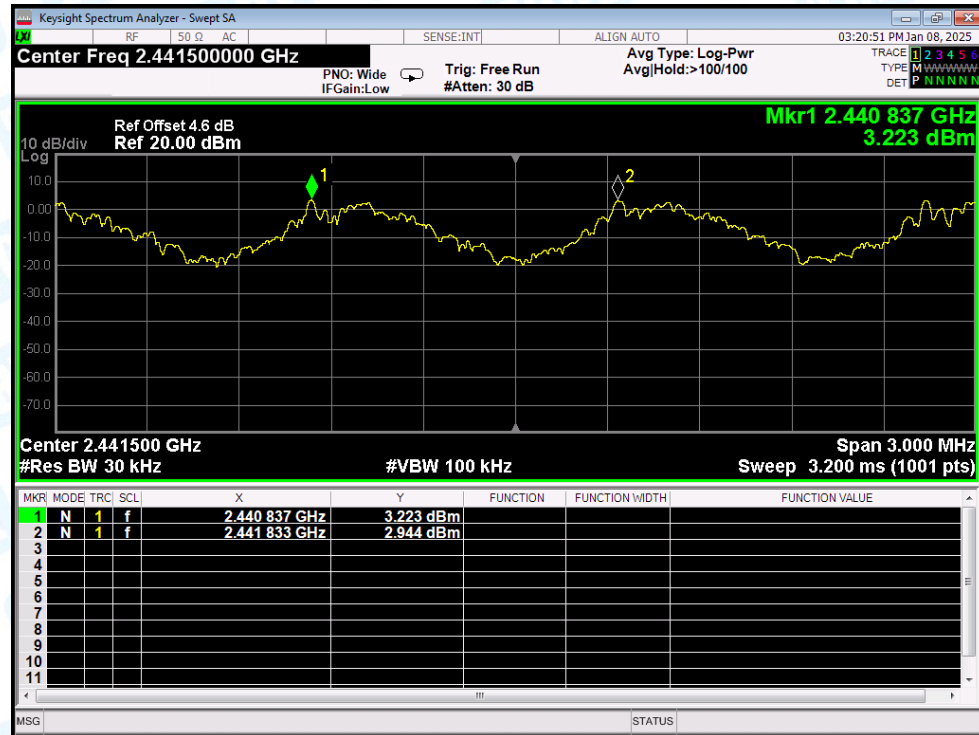


9. Carrier Frequencies Separation

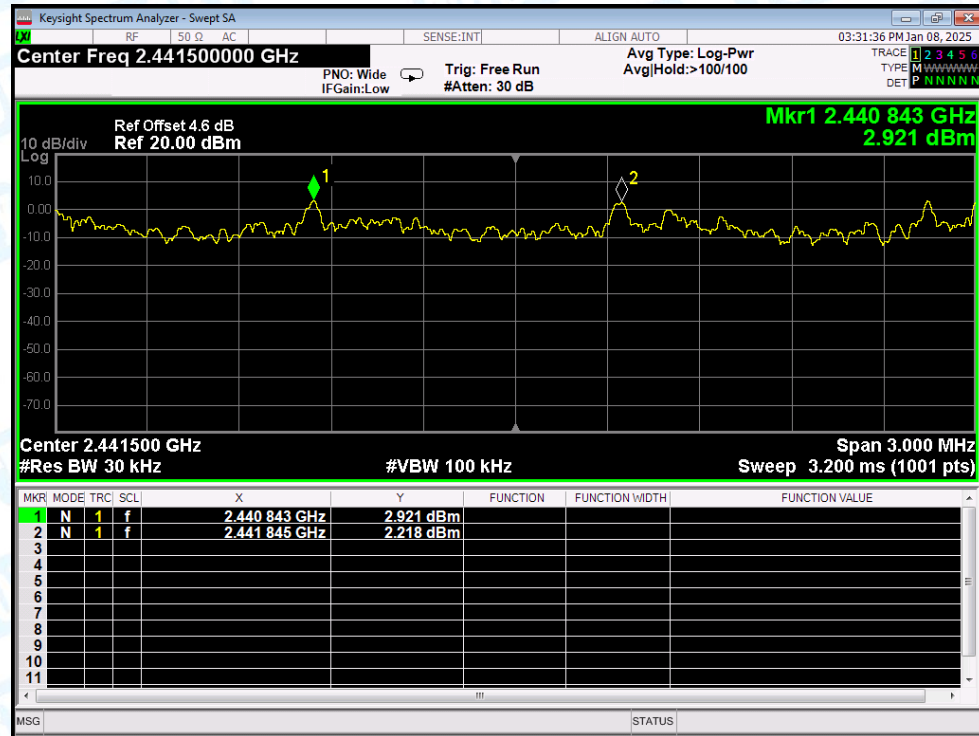
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.837	2441.833	0.996	0.627	Pass
NVNT	2-DH1	Ant1	2440.843	2441.845	1.002	0.807	Pass
NVNT	3-DH1	Ant1	2441.002	2441.998	0.996	0.813	Pass

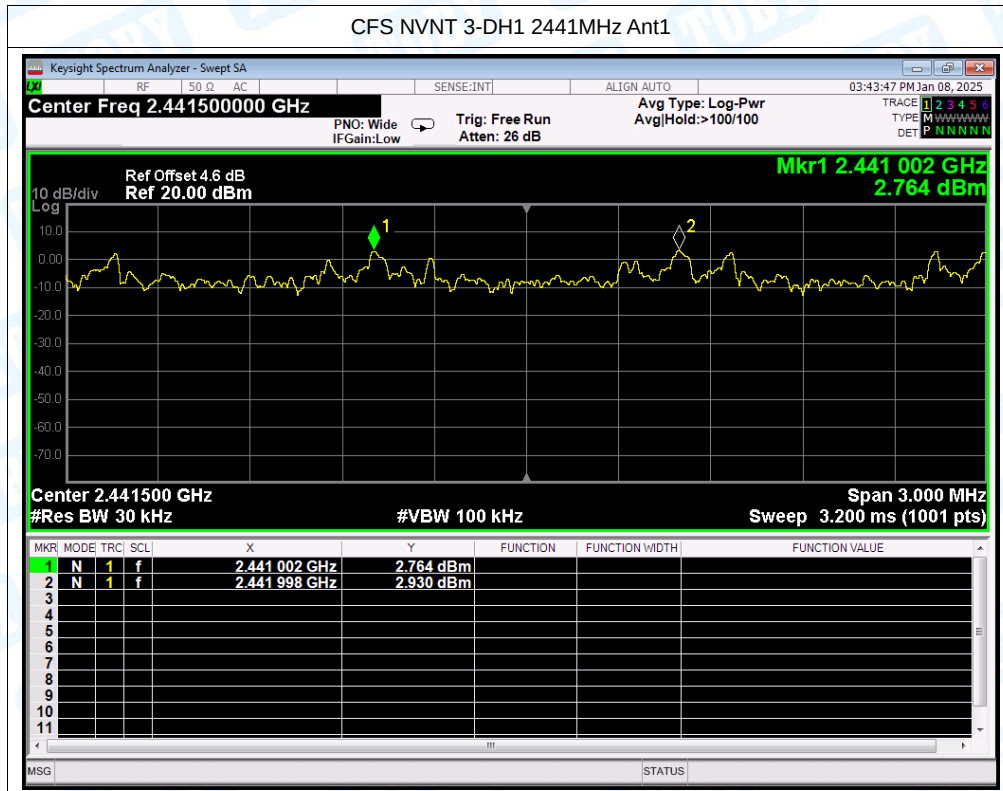
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



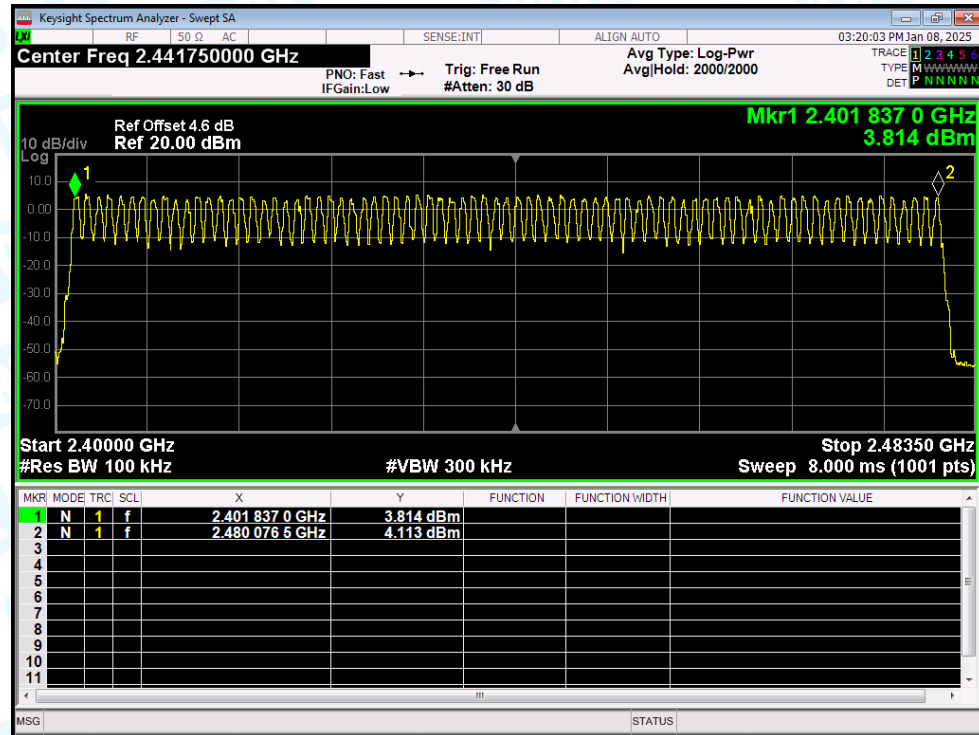


10. Number of Hopping Channel

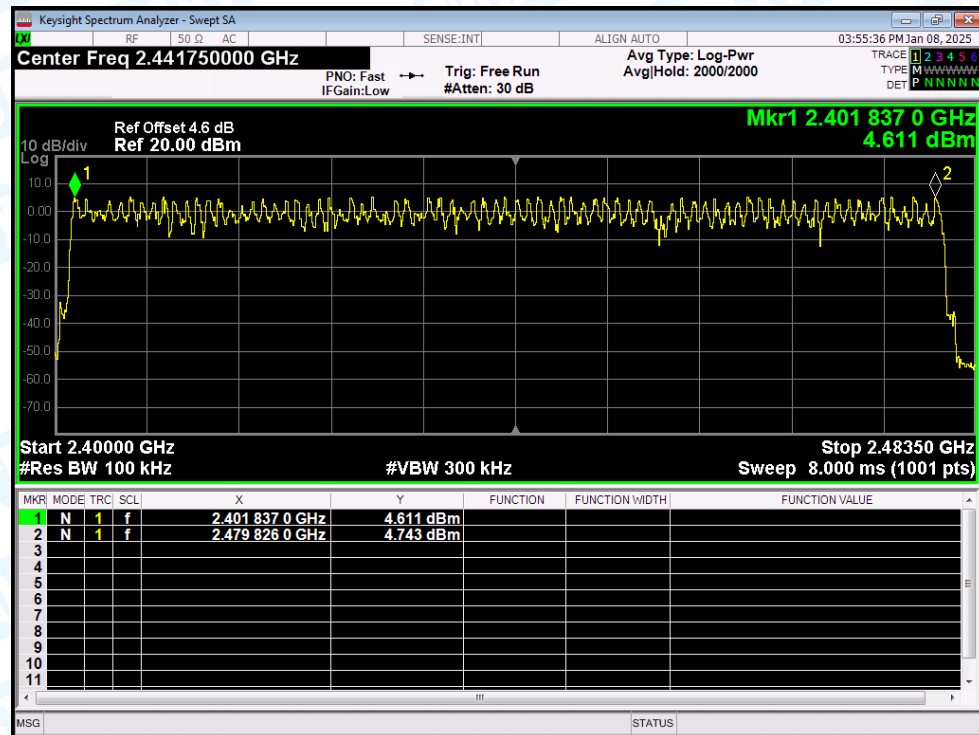
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

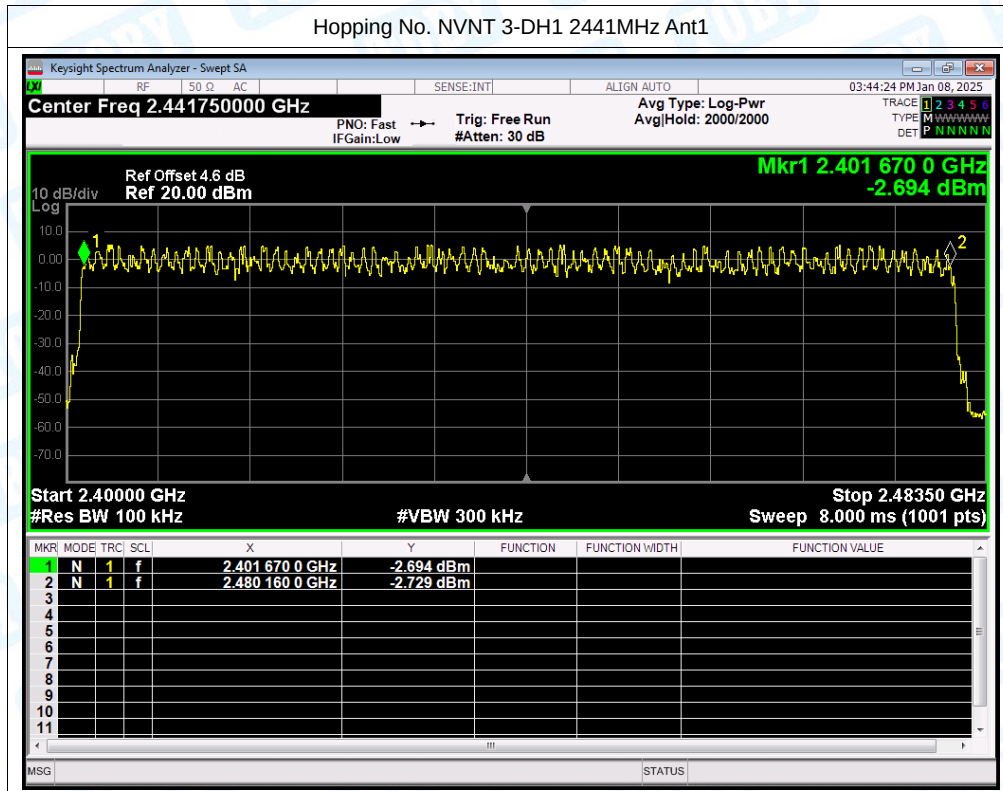
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



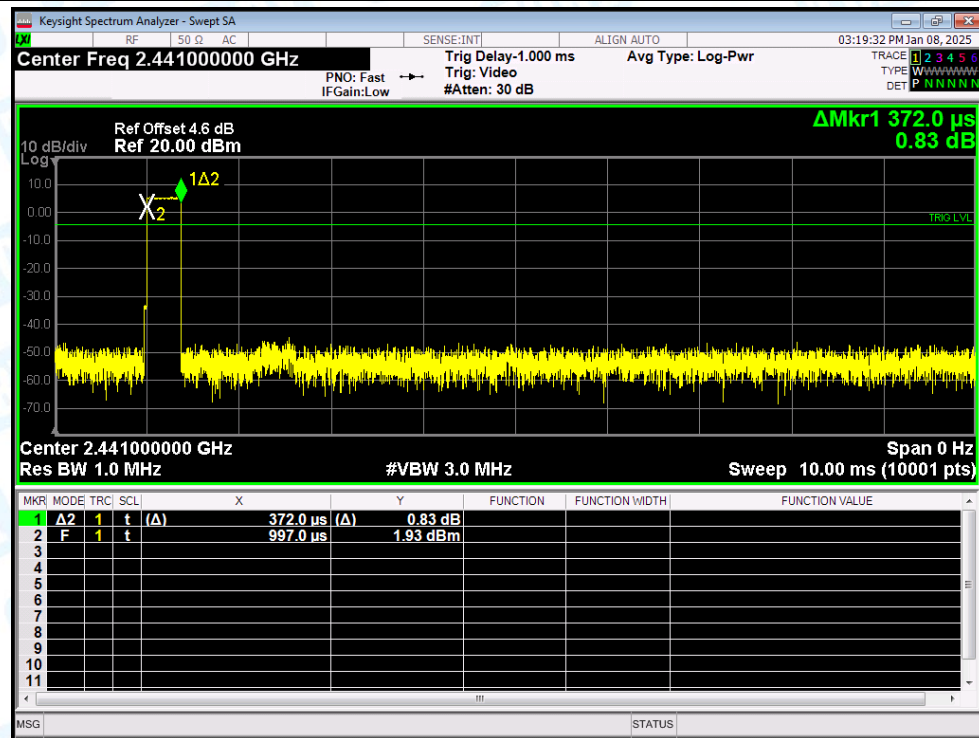


11. Dwell Time

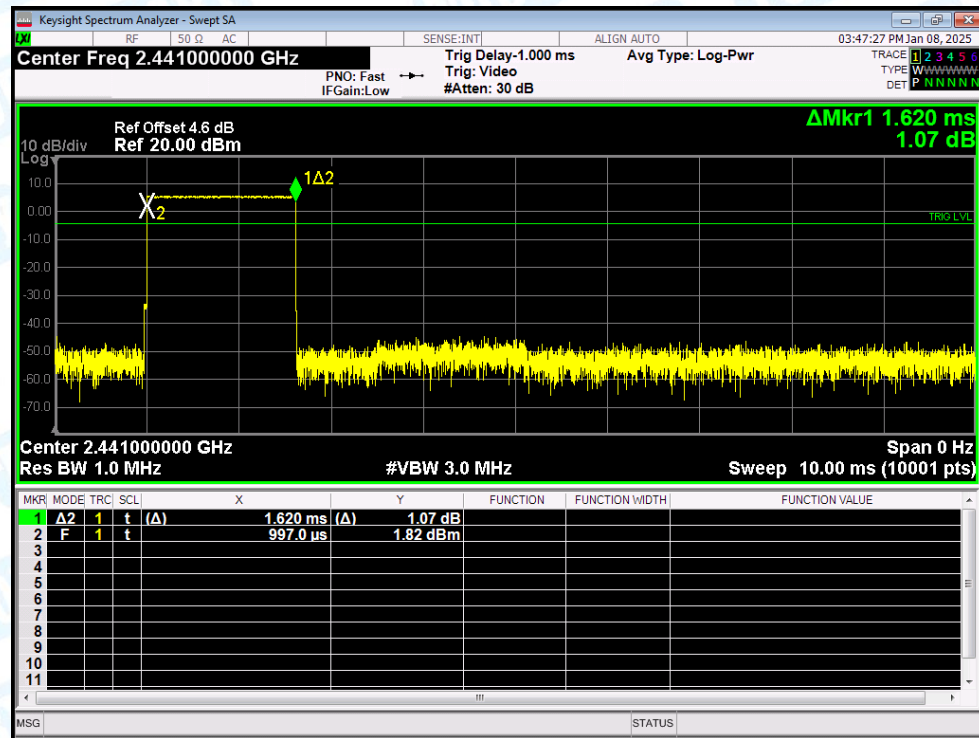
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.372	119.04	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.62	259.2	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.868	305.92	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.381	121.92	31600	400	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	0.38	121.6	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.63	260.8	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.881	307.307	31600	400	Pass

Test Graphs

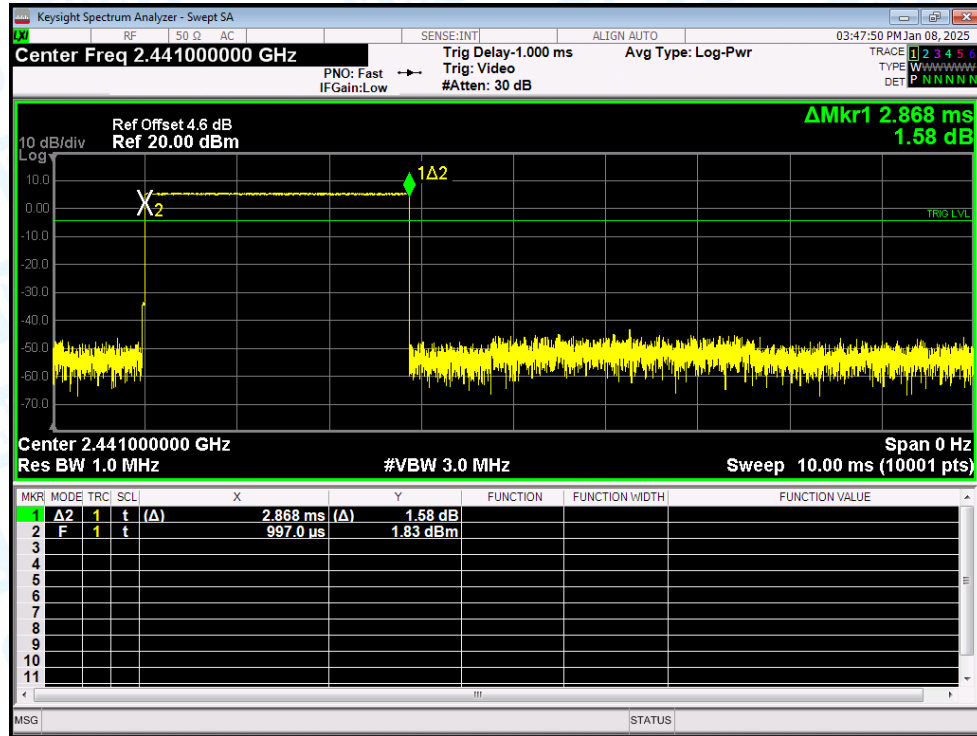
Dwell NVNT 1-DH1 2441MHz Ant1



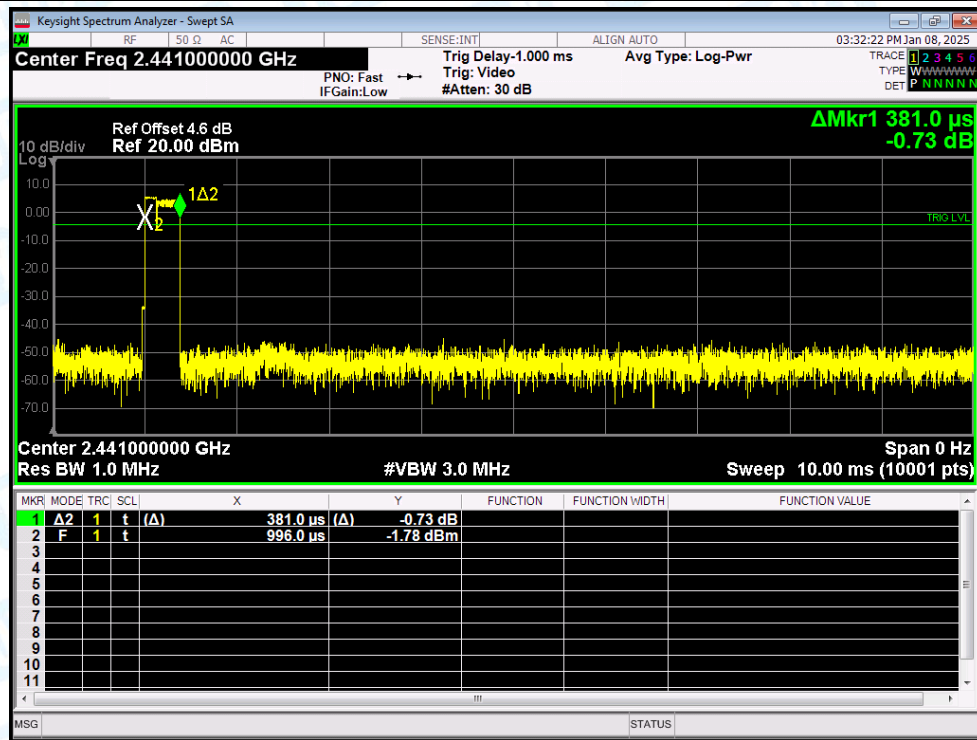
Dwell NVNT 1-DH3 2441MHz Ant1



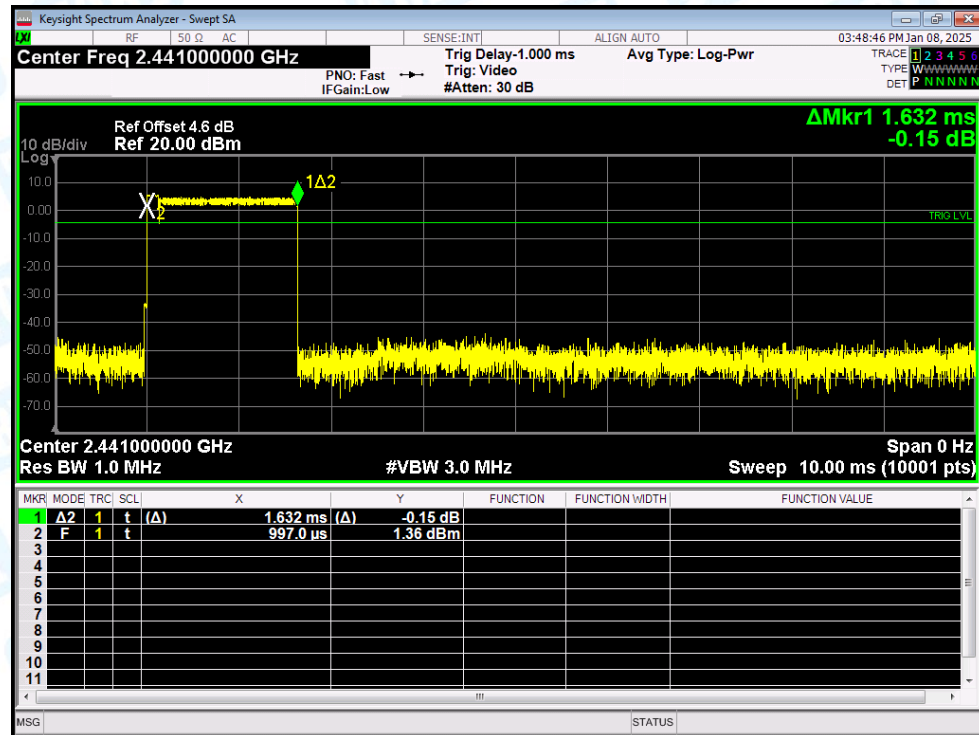
Dwell NVNT 1-DH5 2441MHz Ant1



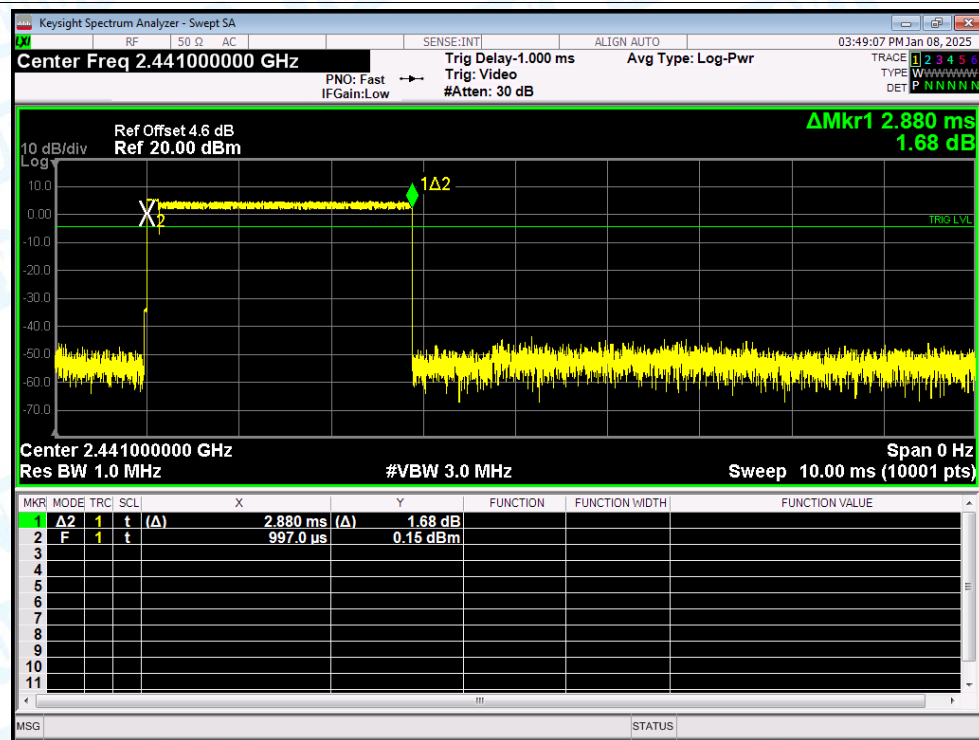
Dwell NVNT 2-DH1 2441MHz Ant1



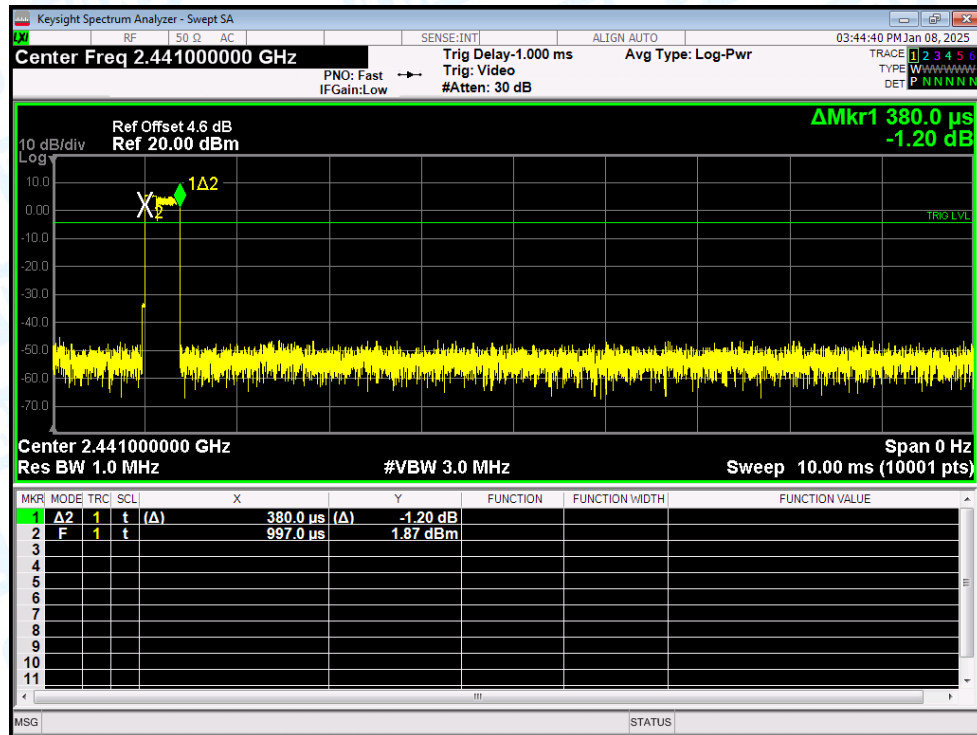
Dwell NVNT 2-DH3 2441MHz Ant1



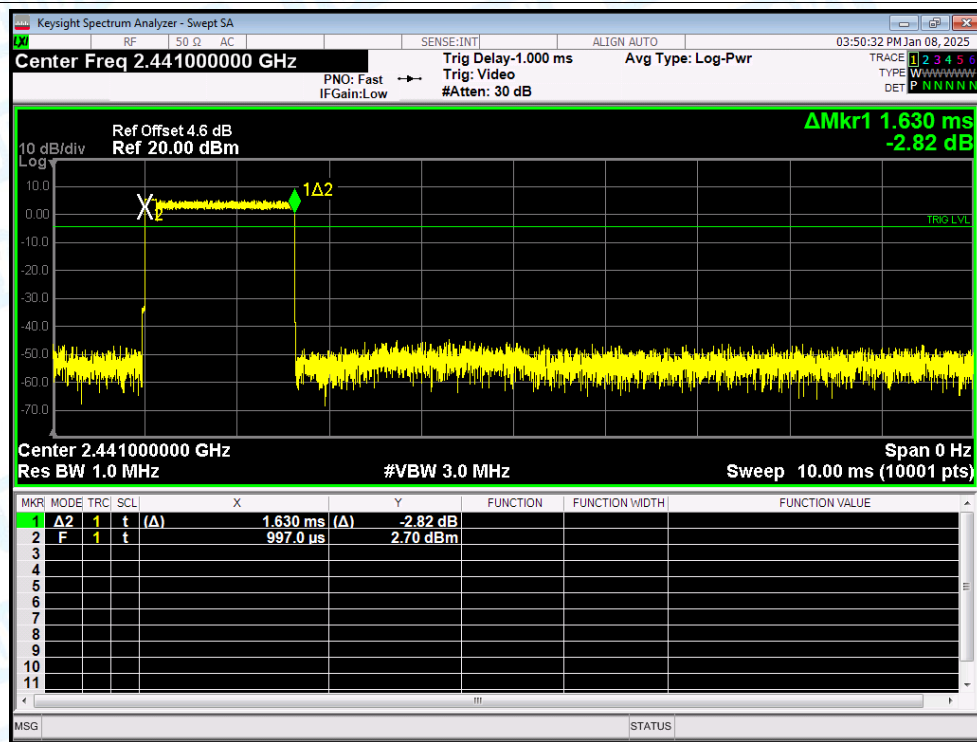
Dwell NVNT 2-DH5 2441MHz Ant1

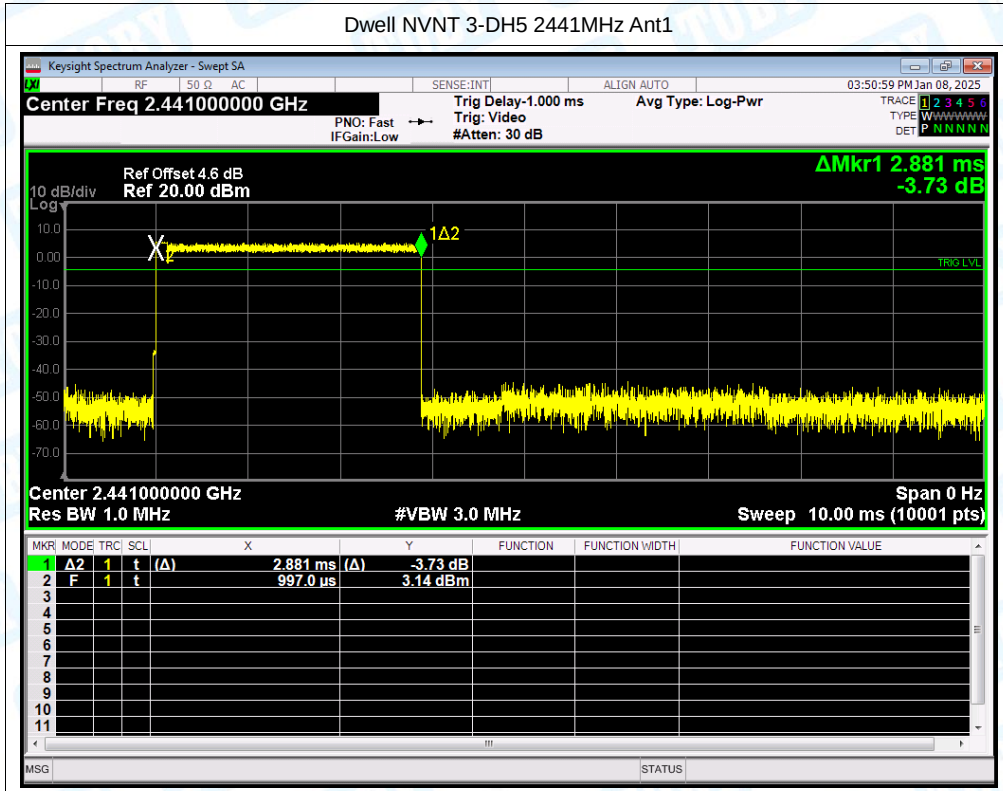


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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