

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Smart Watch
Test Model:	NoiseFit Origin
Sample ID:	HC-C-202411-0262-01-01
Environmental Conditions	
Temperature:	24.6℃
Relative Humidity:	52.8%
Test Voltage:	DC 3.8V
Test Engineer:	Rick.Chen
Note: For a more detailed features description, please refer to the report TBR-C-202411-0262-25 The report only show the worst case data.	

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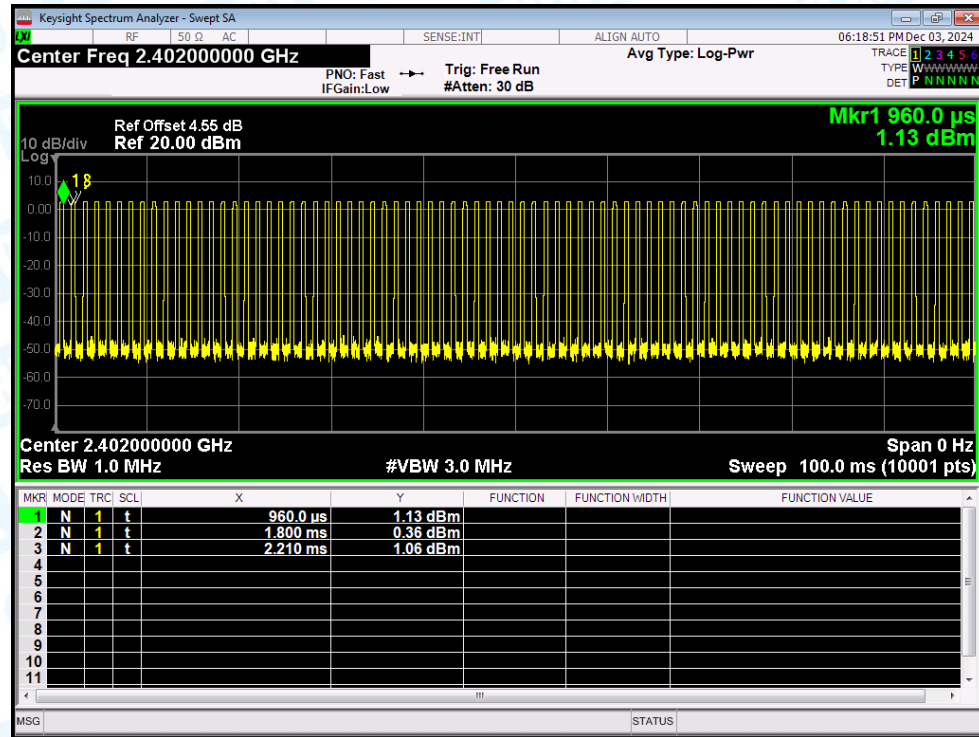
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1. Duty Cycle

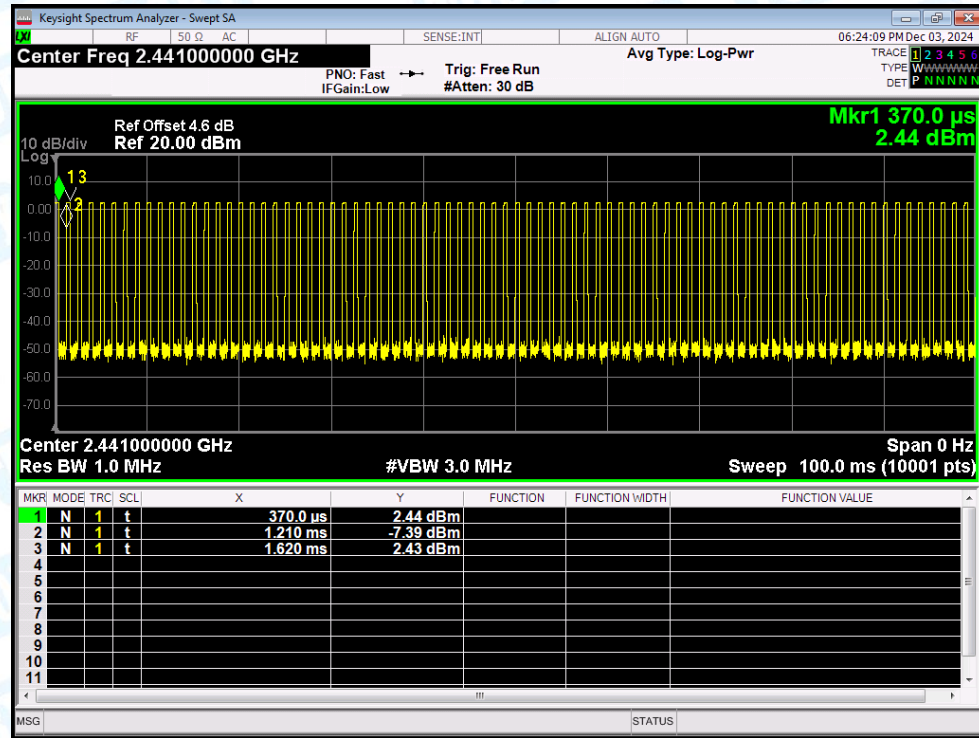
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	3-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	3-DH1	2480	Ant1	31.2	5.06	2.56

Test Graphs

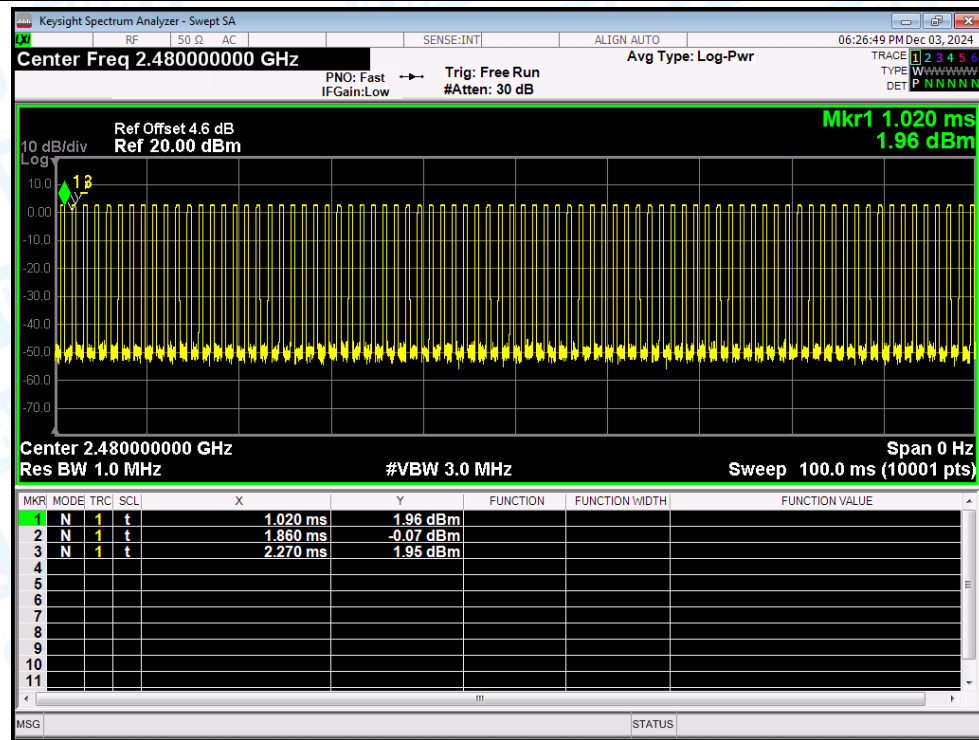
Duty Cycle NVNT 1-DH1 2402MHz Ant1



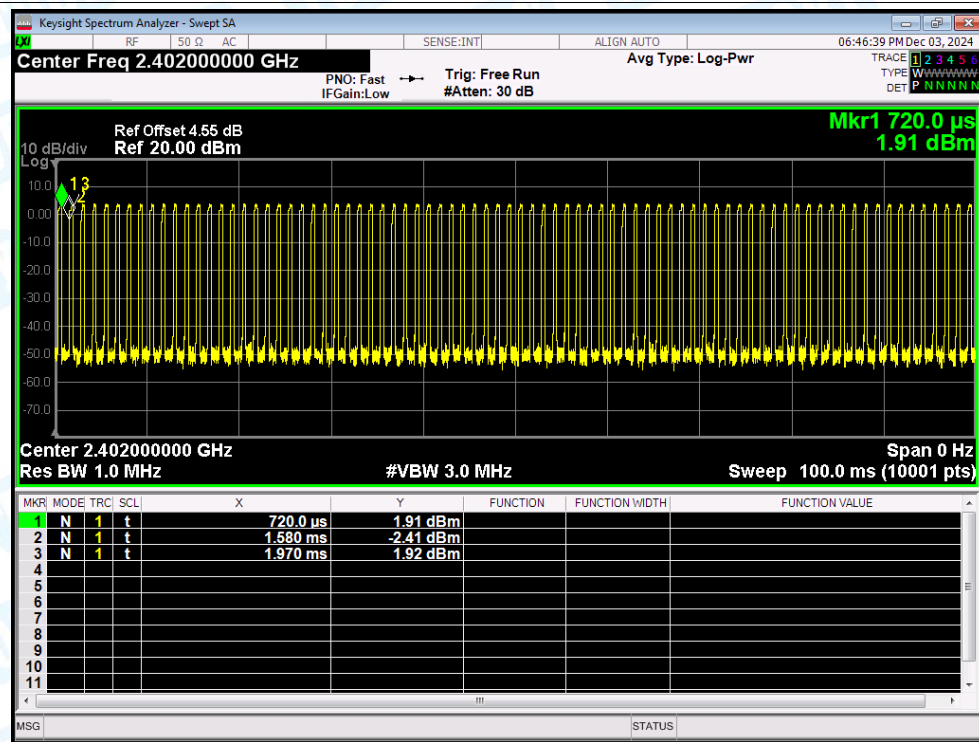
Duty Cycle NVNT 1-DH1 2441MHz Ant1



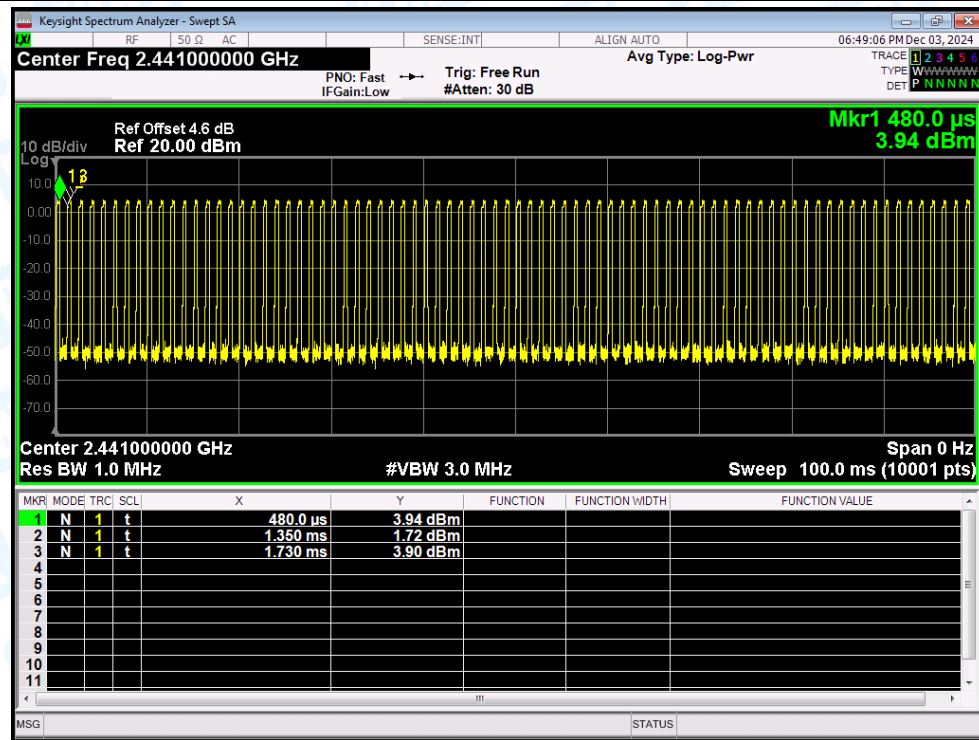
Duty Cycle NVNT 1-DH1 2480MHz Ant1



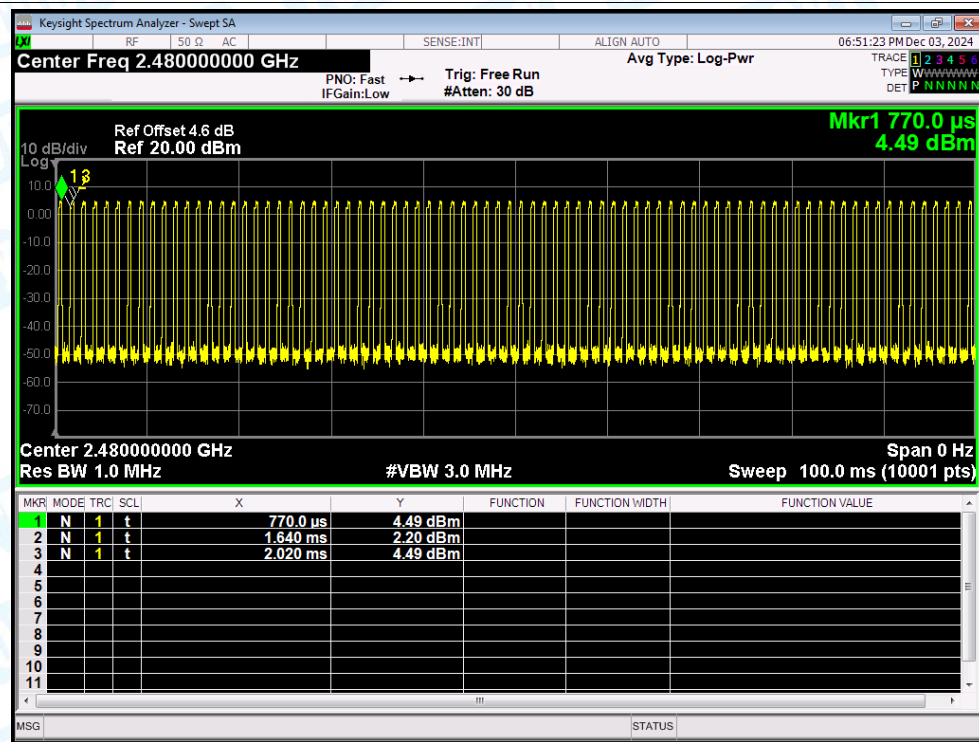
Duty Cycle NVNT 2-DH1 2402MHz Ant1



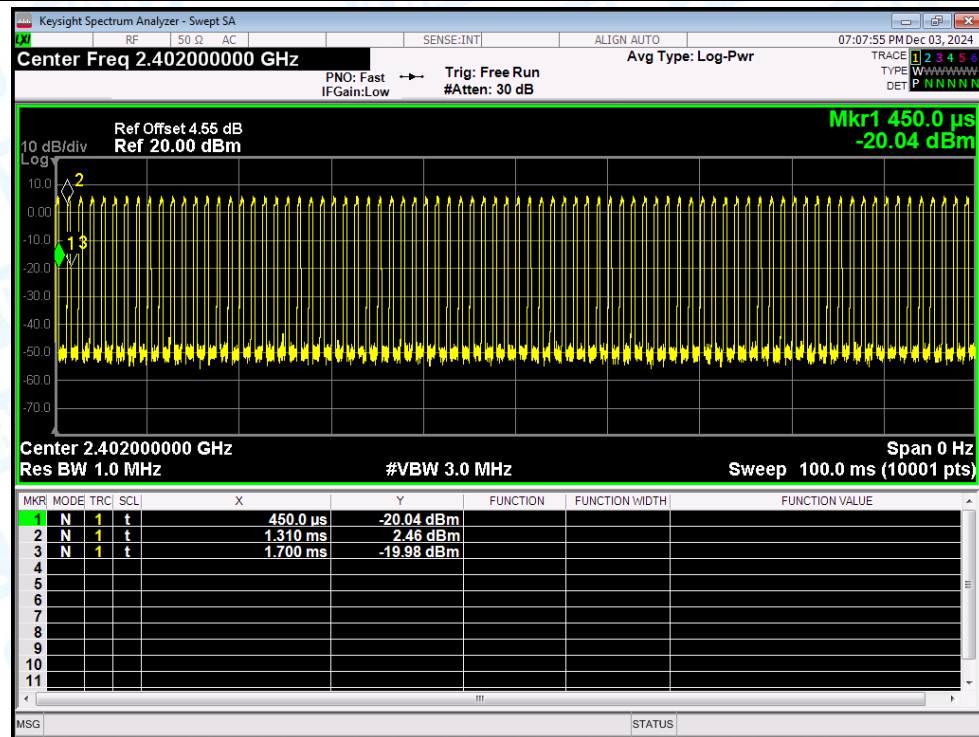
Duty Cycle NVNT 2-DH1 2441MHz Ant1



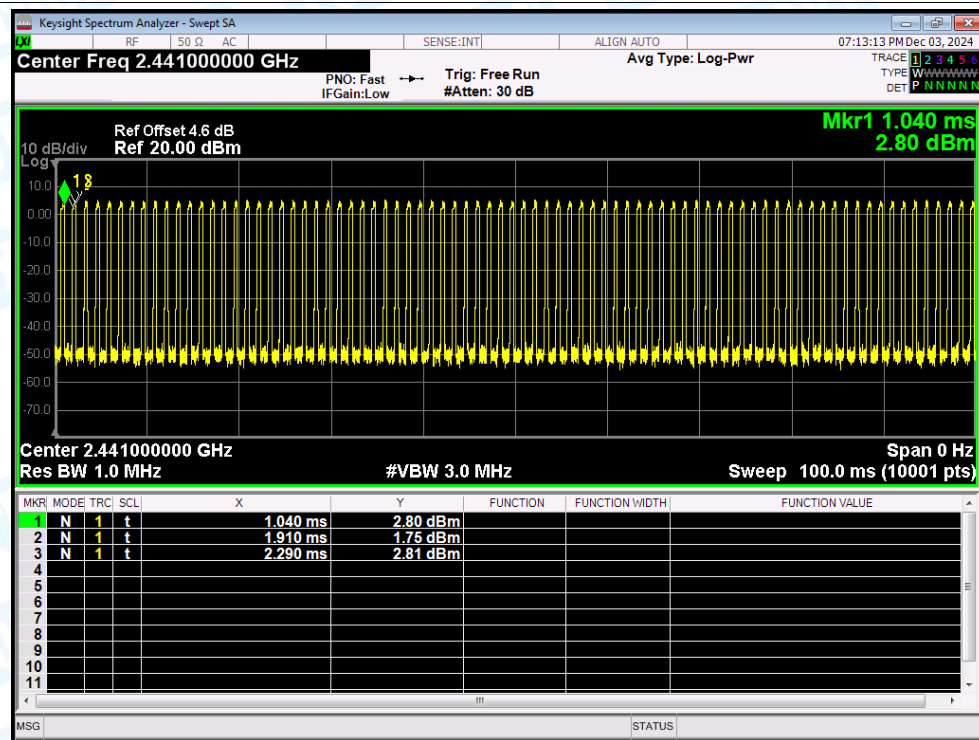
Duty Cycle NVNT 2-DH1 2480MHz Ant1

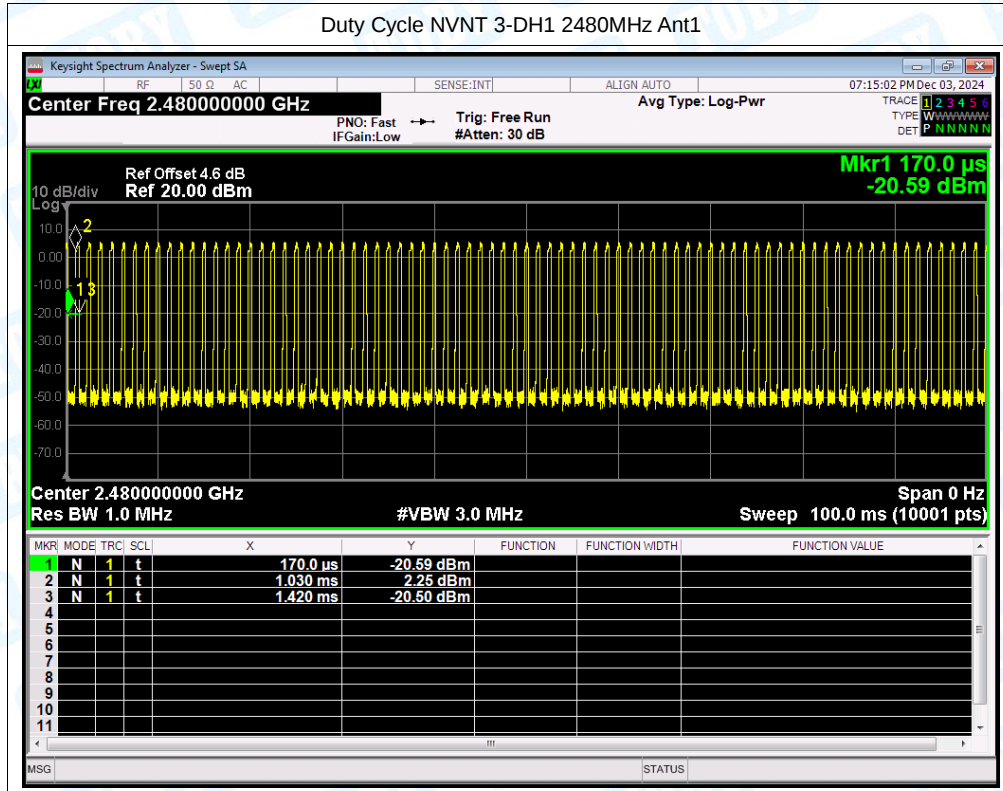


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



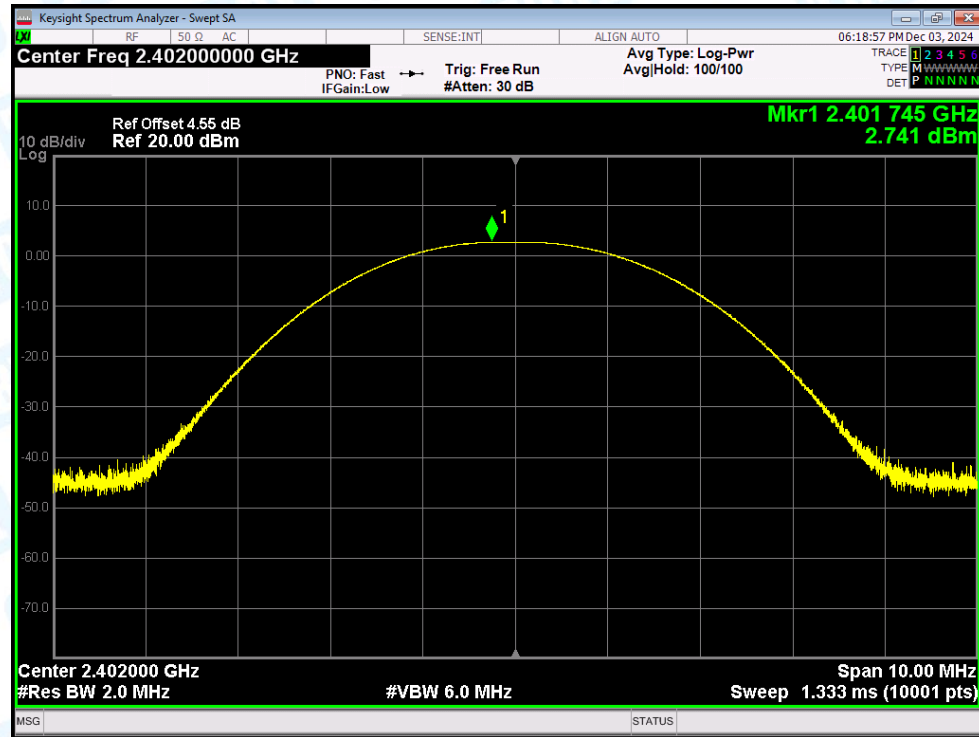


2. Maximum Conducted Output Power

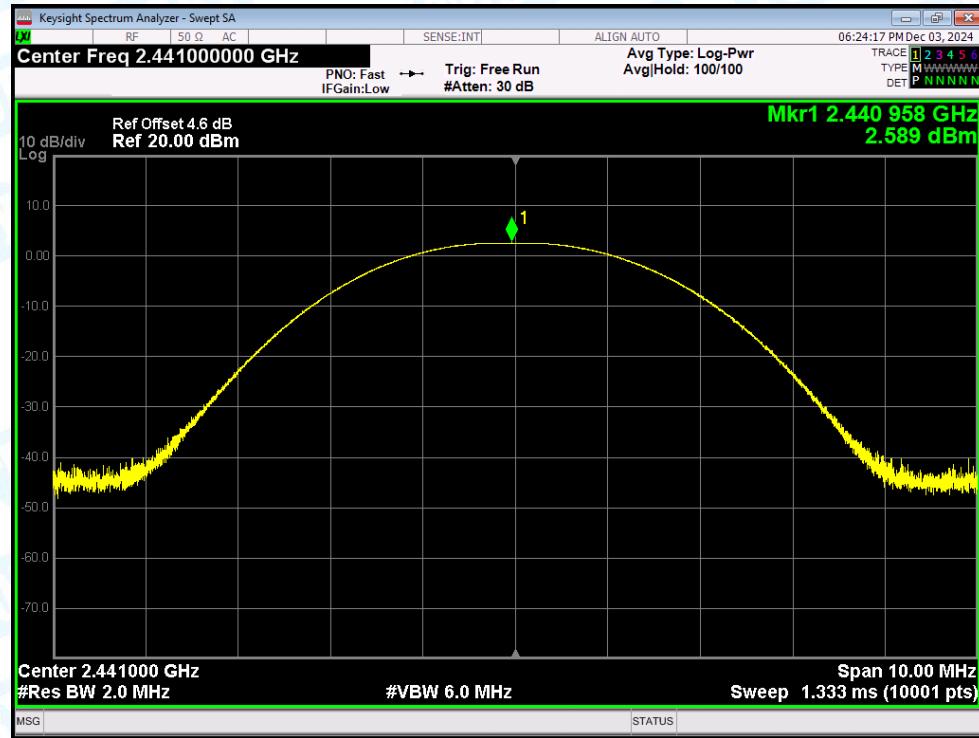
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	2.741	21	Pass
NVNT	1-DH1	2441	Ant1	2.589	21	Pass
NVNT	1-DH1	2480	Ant1	2.673	21	Pass
NVNT	2-DH1	2402	Ant1	4.264	21	Pass
NVNT	2-DH1	2441	Ant1	4.751	21	Pass
NVNT	2-DH1	2480	Ant1	5.282	21	Pass
NVNT	3-DH1	2402	Ant1	6.094	21	Pass
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NVNT	3-DH1	2480	Ant1	6.014	21	Pass

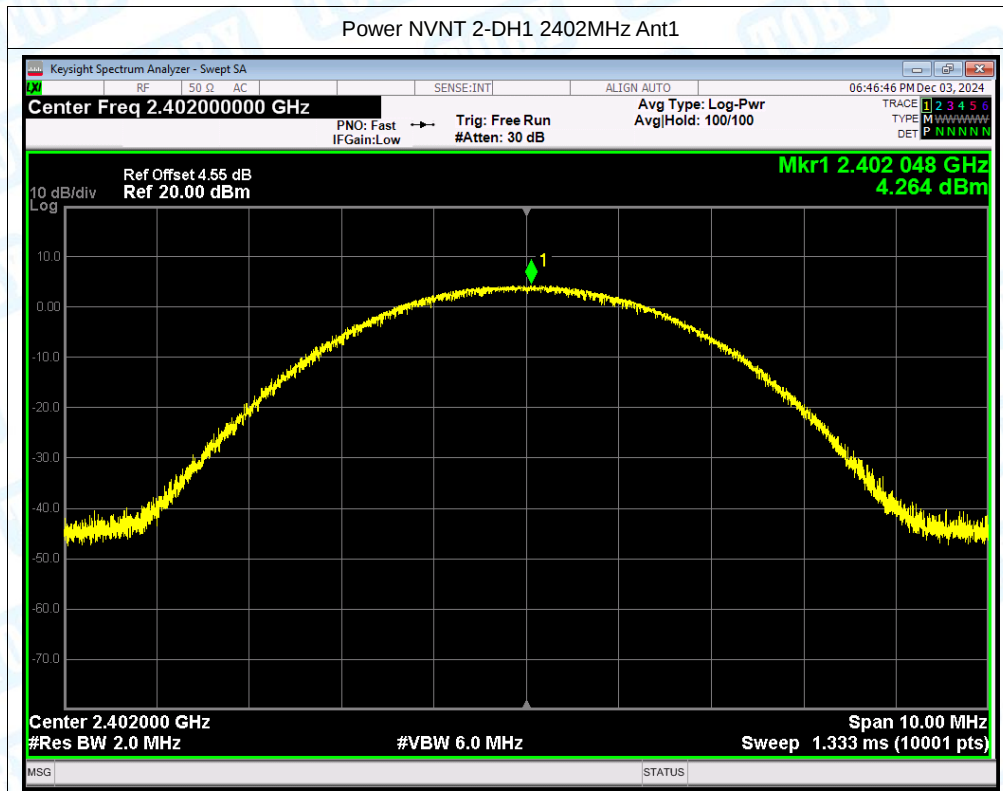
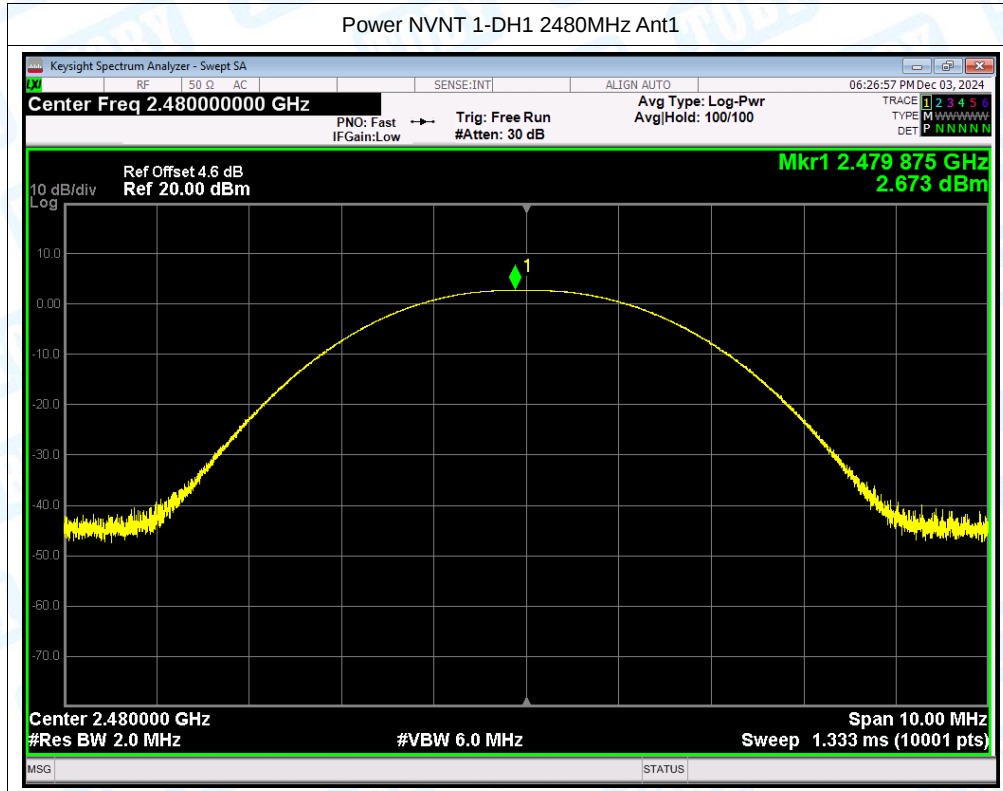
Test Graphs

Power NVNT 1-DH1 2402MHz Ant1

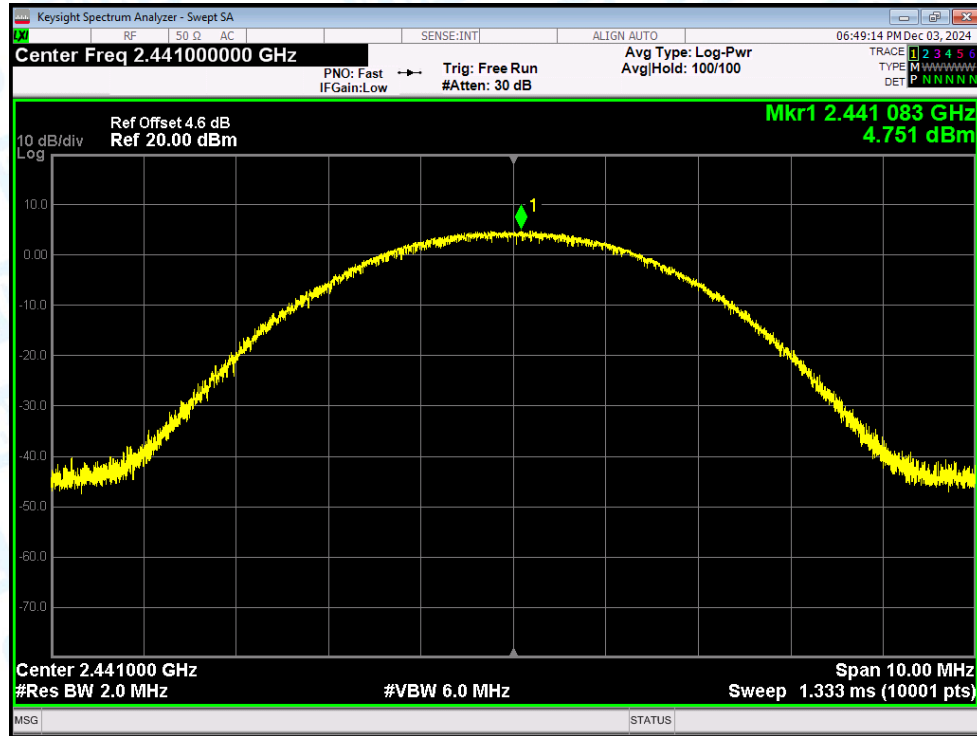


Power NVNT 1-DH1 2441MHz Ant1

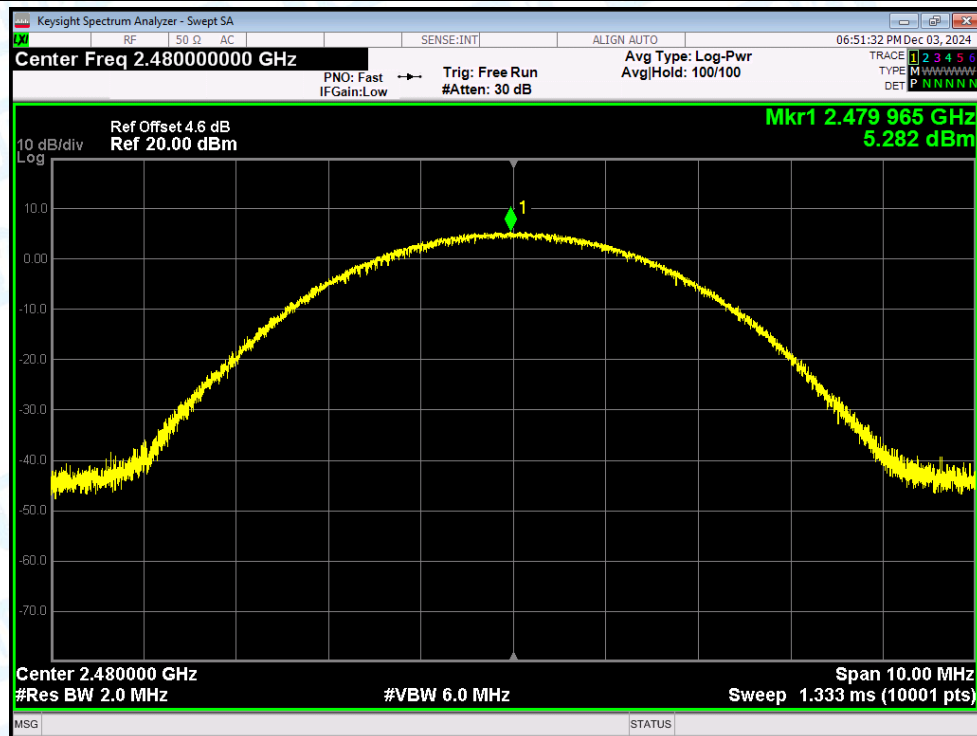




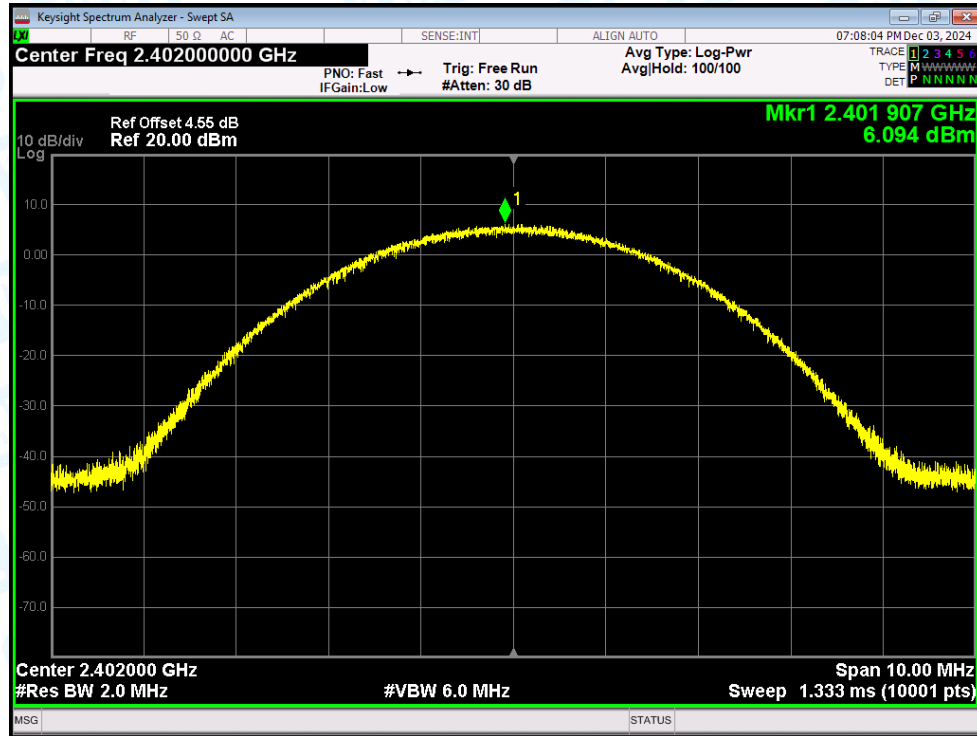
Power NVNT 2-DH1 2441MHz Ant1



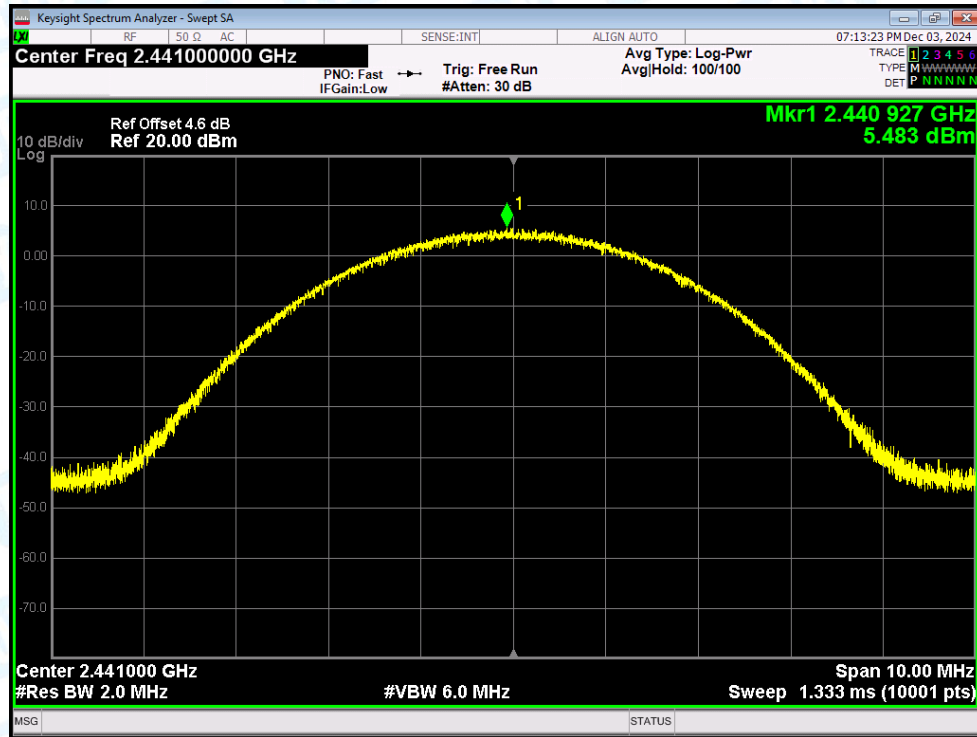
Power NVNT 2-DH1 2480MHz Ant1

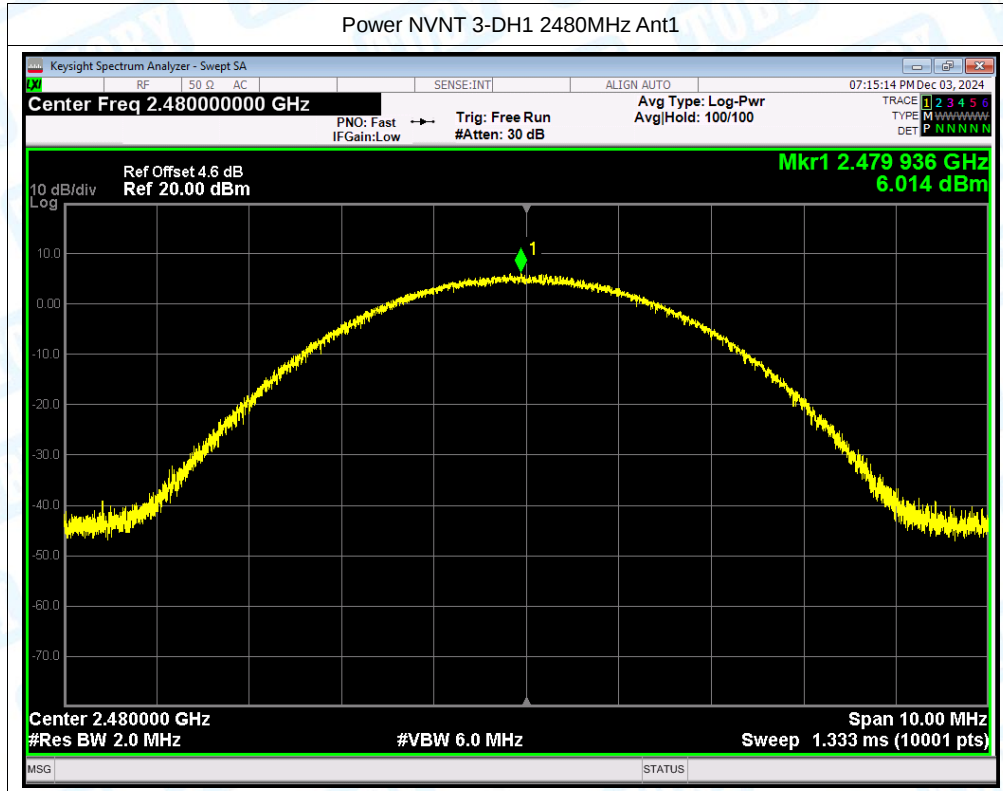


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



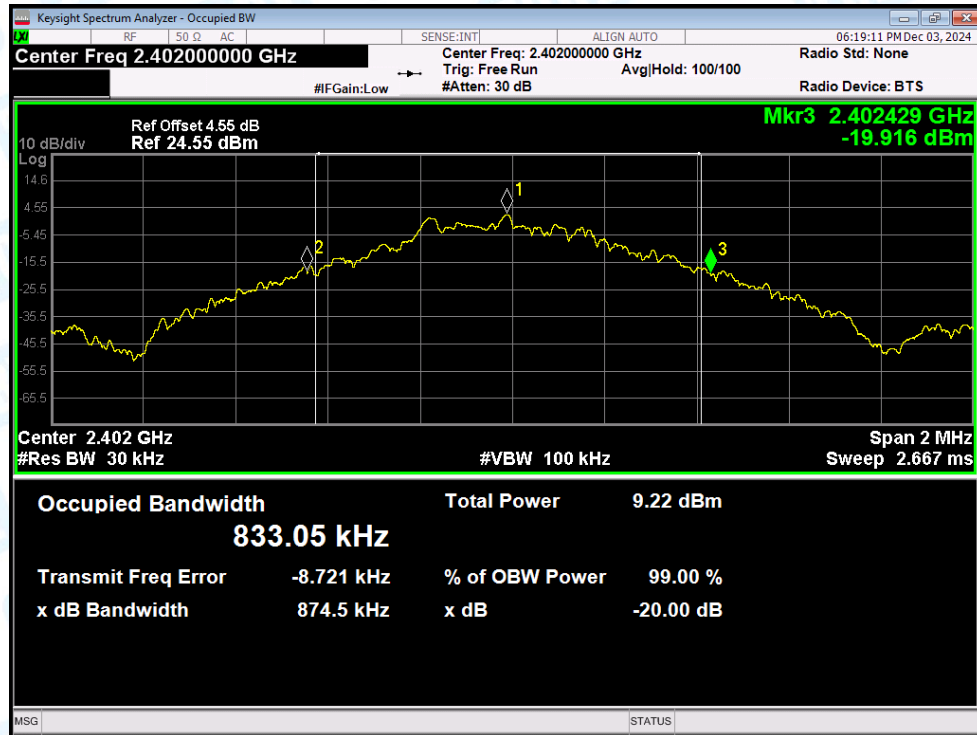


3. -20dB Bandwidth

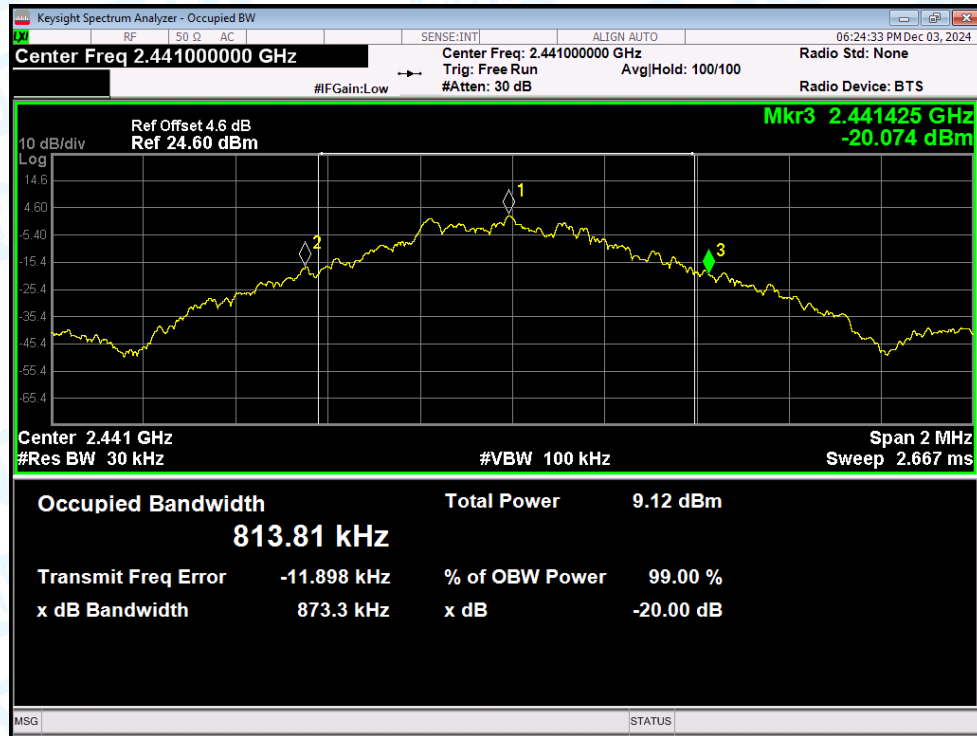
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.87	0	Pass
NVNT	1-DH1	2441	Ant1	0.87	0	Pass
NVNT	1-DH1	2480	Ant1	0.87	0	Pass
NVNT	2-DH1	2402	Ant1	1.3	0	Pass
NVNT	2-DH1	2441	Ant1	1.3	0	Pass
NVNT	2-DH1	2480	Ant1	1.26	0	Pass
NVNT	3-DH1	2402	Ant1	1.26	0	Pass
NVNT	3-DH1	2441	Ant1	1.26	0	Pass
NVNT	3-DH1	2480	Ant1	1.28	0	Pass

Test Graphs

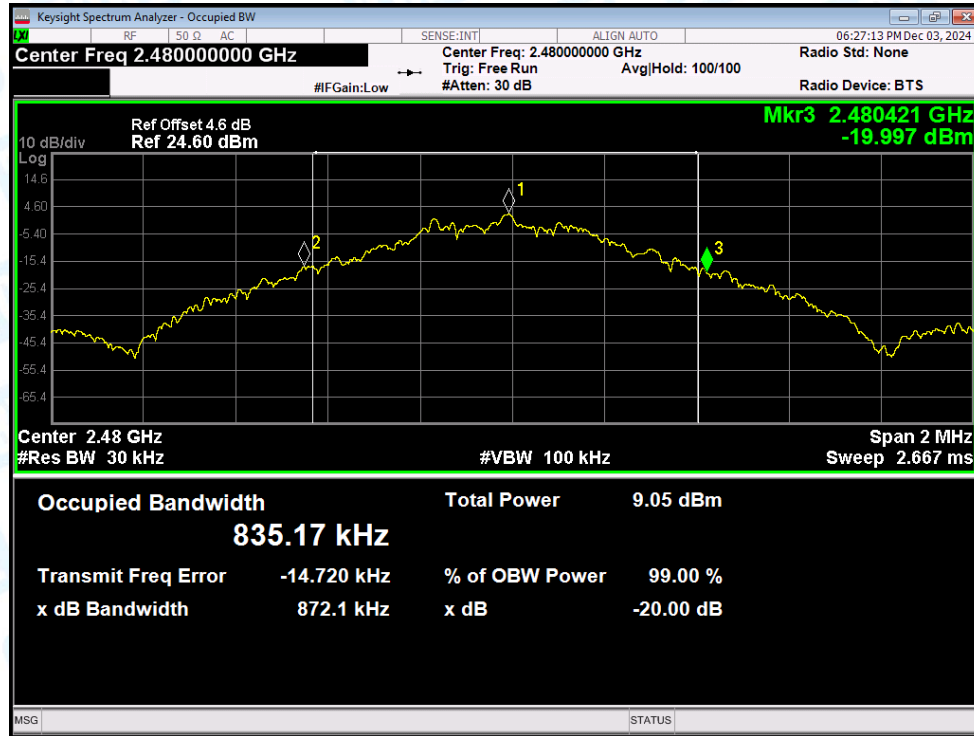
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



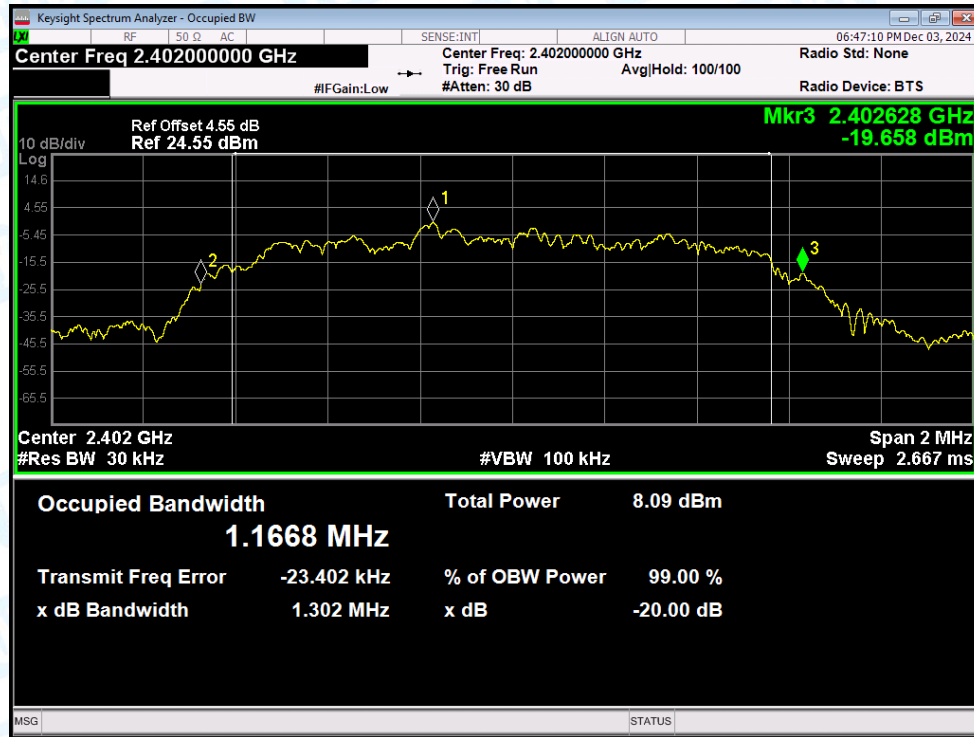
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



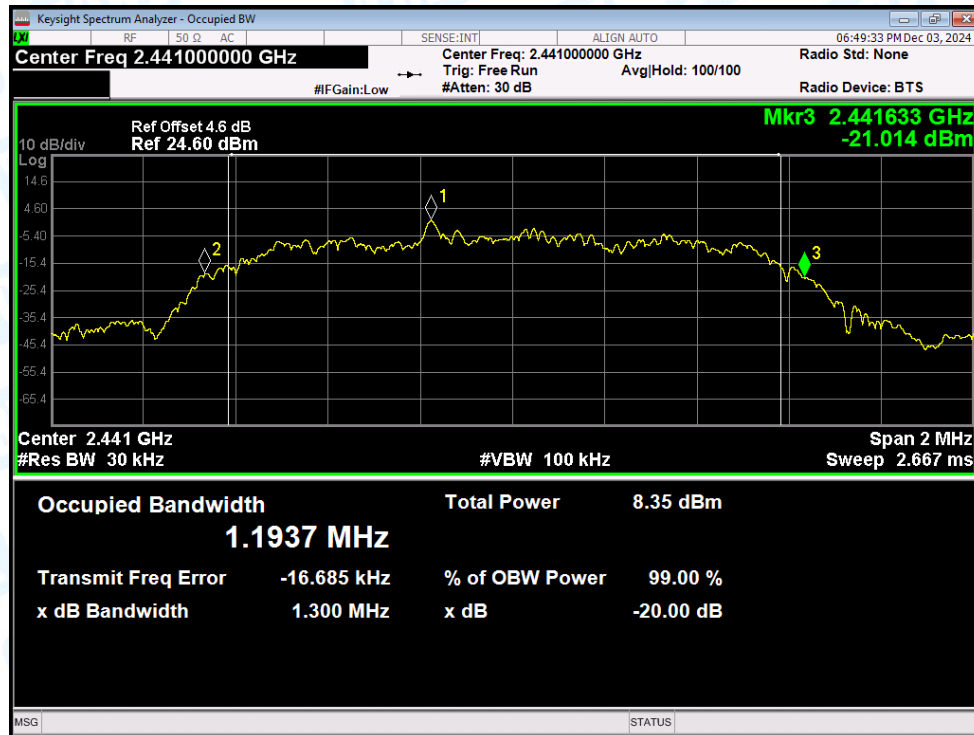
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



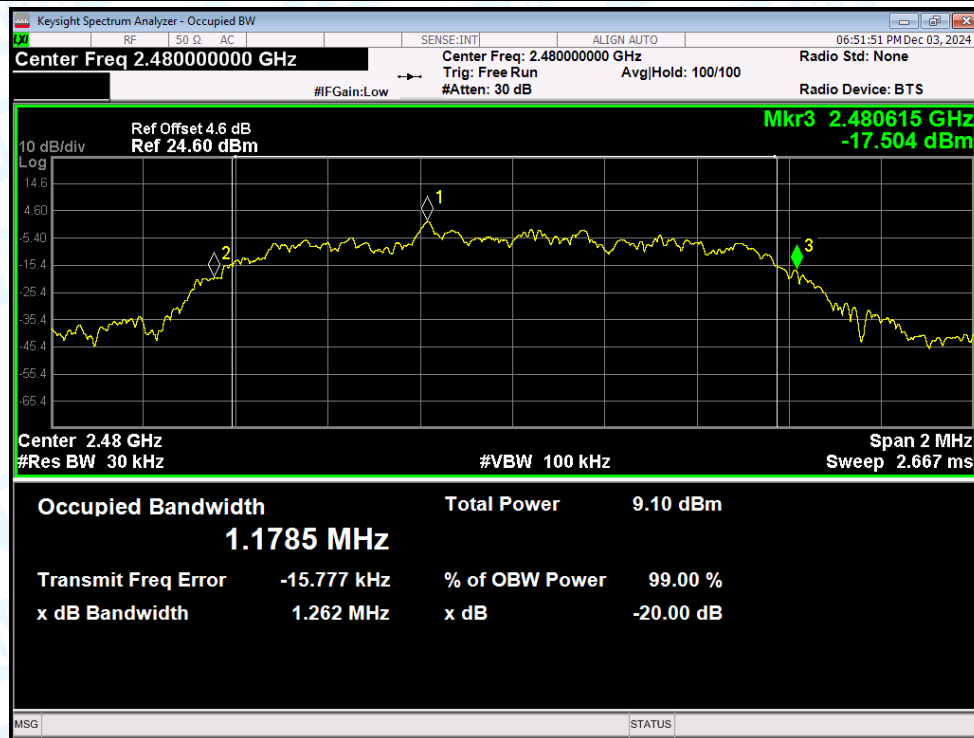
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



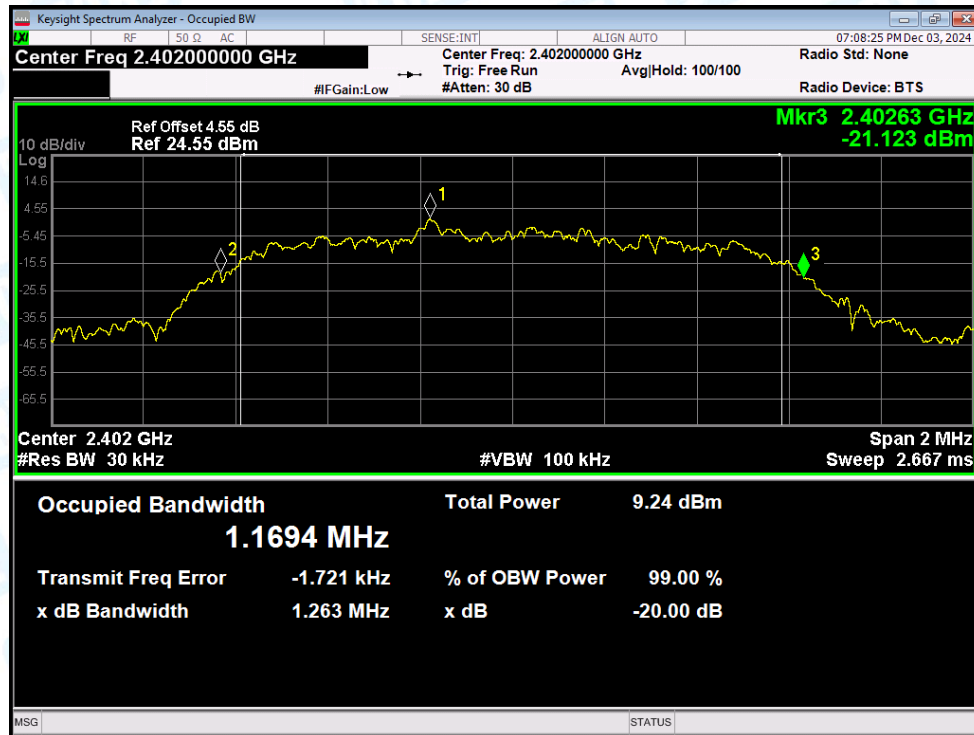
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



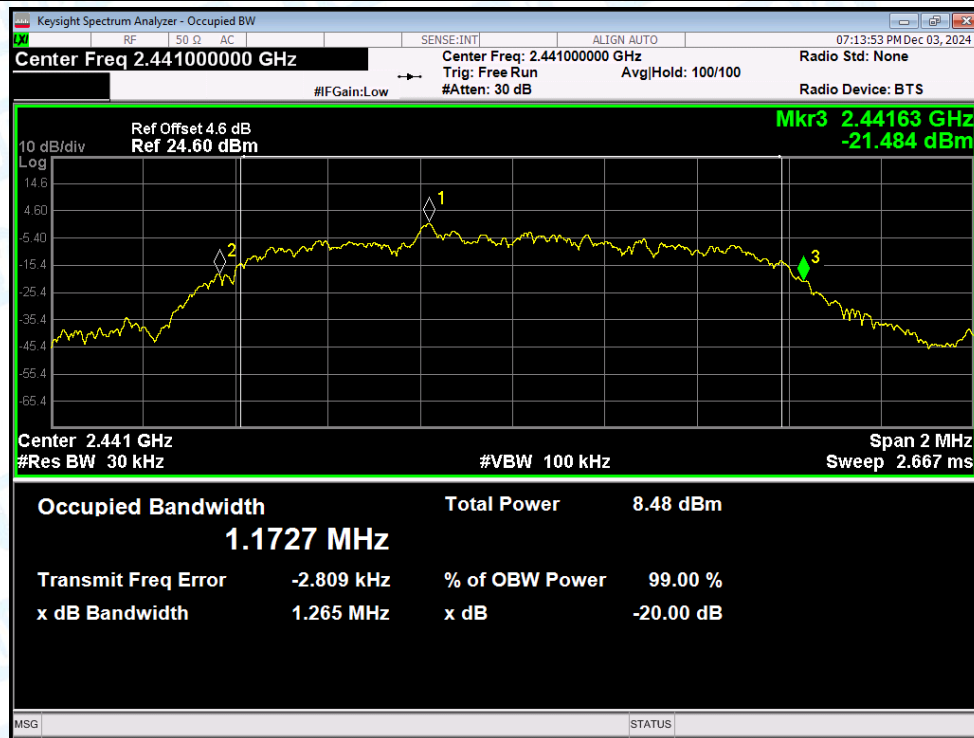
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

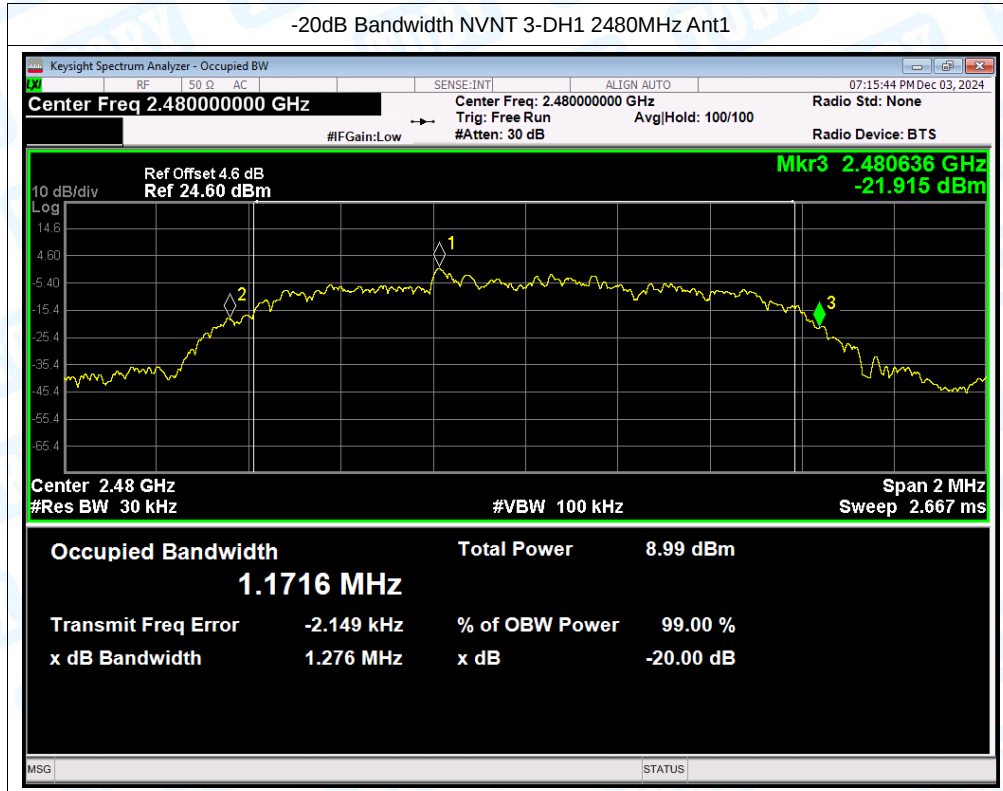


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



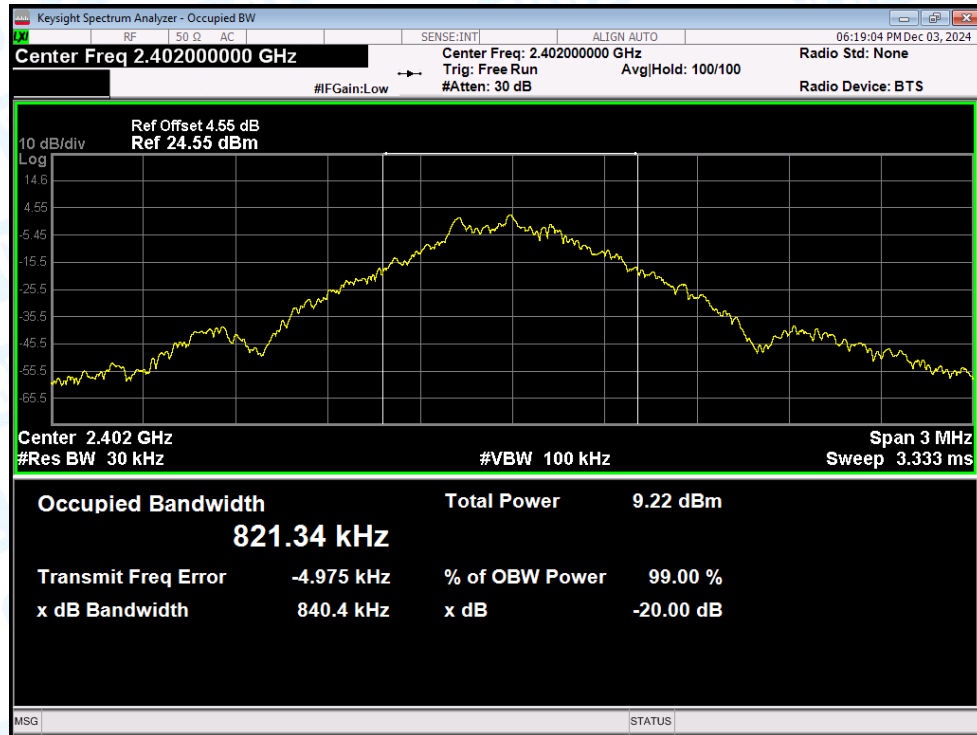


4. Occupied Channel Bandwidth

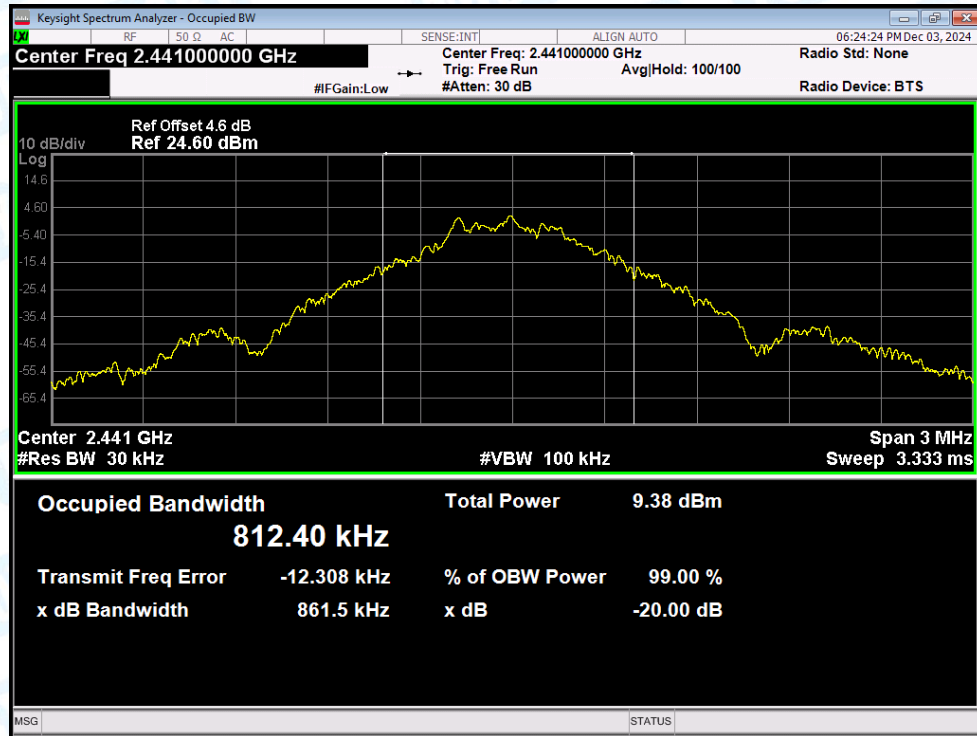
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.821
NVNT	1-DH1	2441	Ant1	0.812
NVNT	1-DH1	2480	Ant1	0.833
NVNT	2-DH1	2402	Ant1	1.196
NVNT	2-DH1	2441	Ant1	1.193
NVNT	2-DH1	2480	Ant1	1.195
NVNT	3-DH1	2402	Ant1	1.174
NVNT	3-DH1	2441	Ant1	1.178
NVNT	3-DH1	2480	Ant1	1.166

Test Graphs

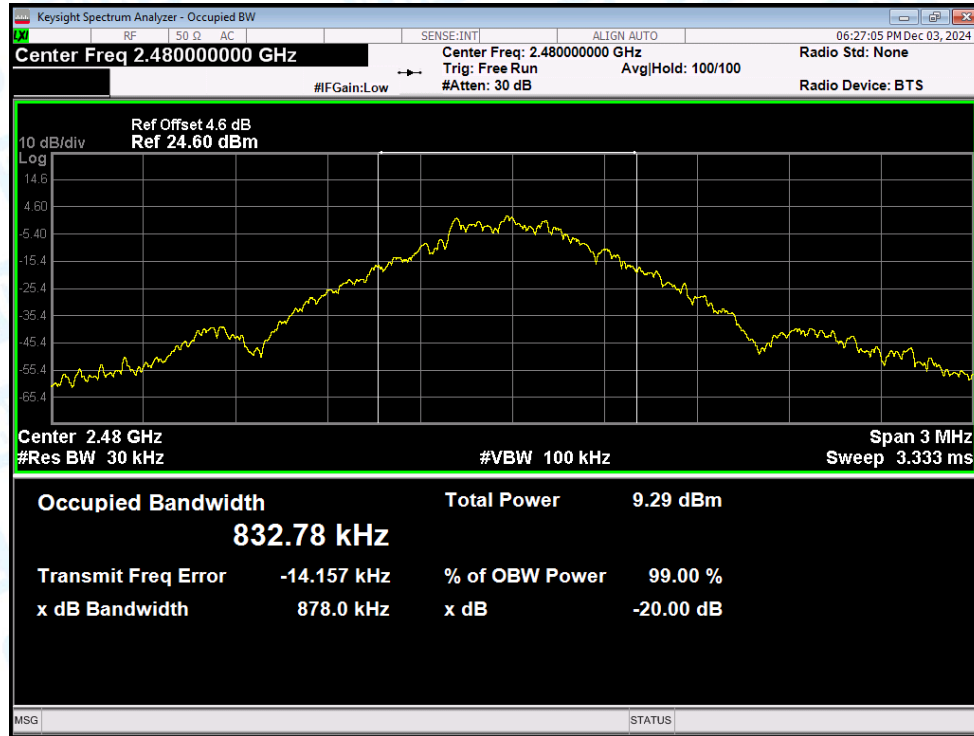
OBW NVNT 1-DH1 2402MHz Ant1



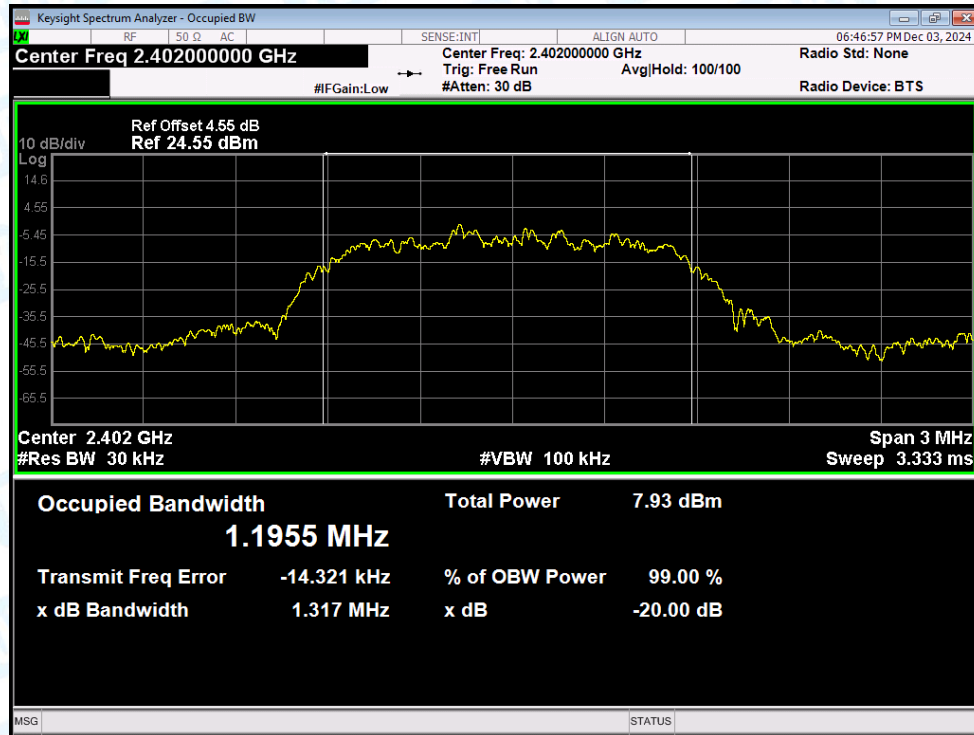
OBW NVNT 1-DH1 2441MHz Ant1



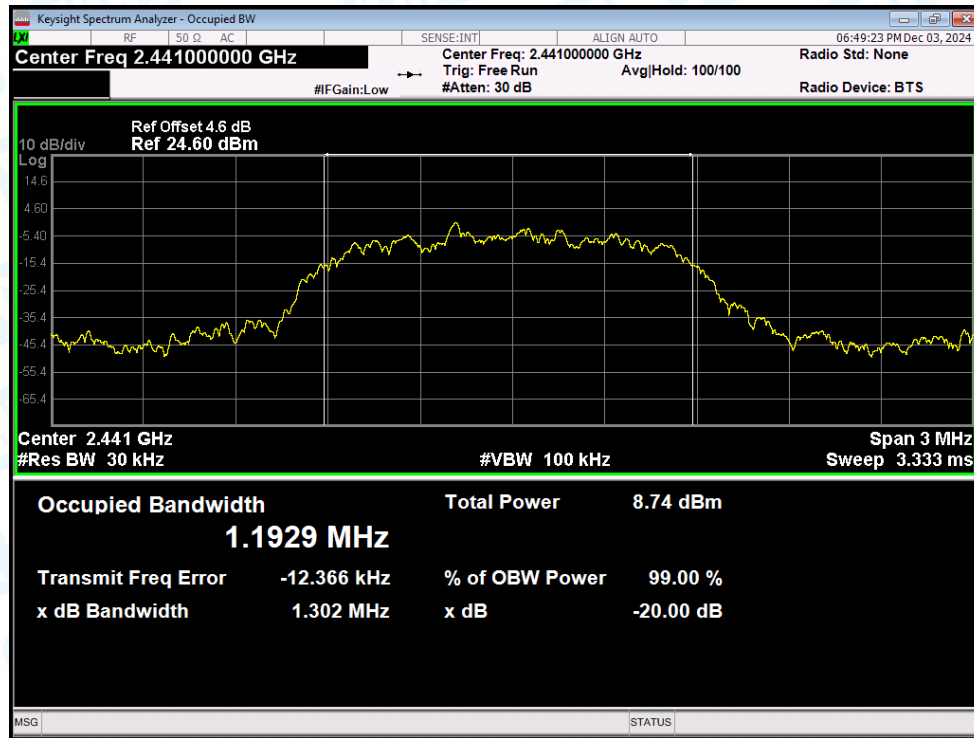
OBW NVNT 1-DH1 2480MHz Ant1



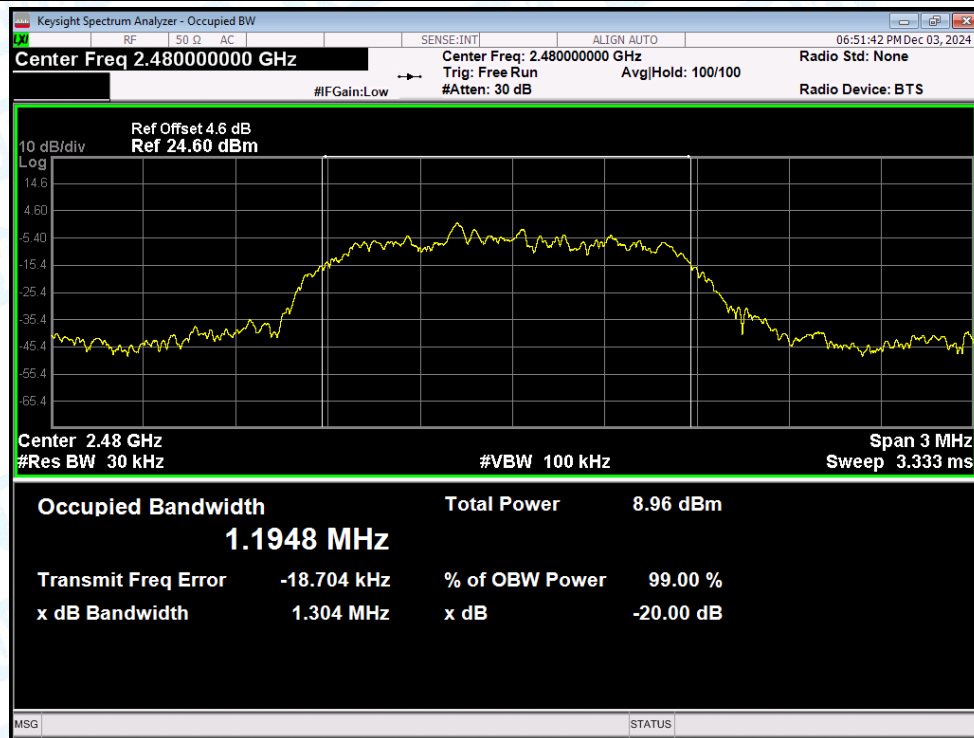
OBW NVNT 2-DH1 2402MHz Ant1



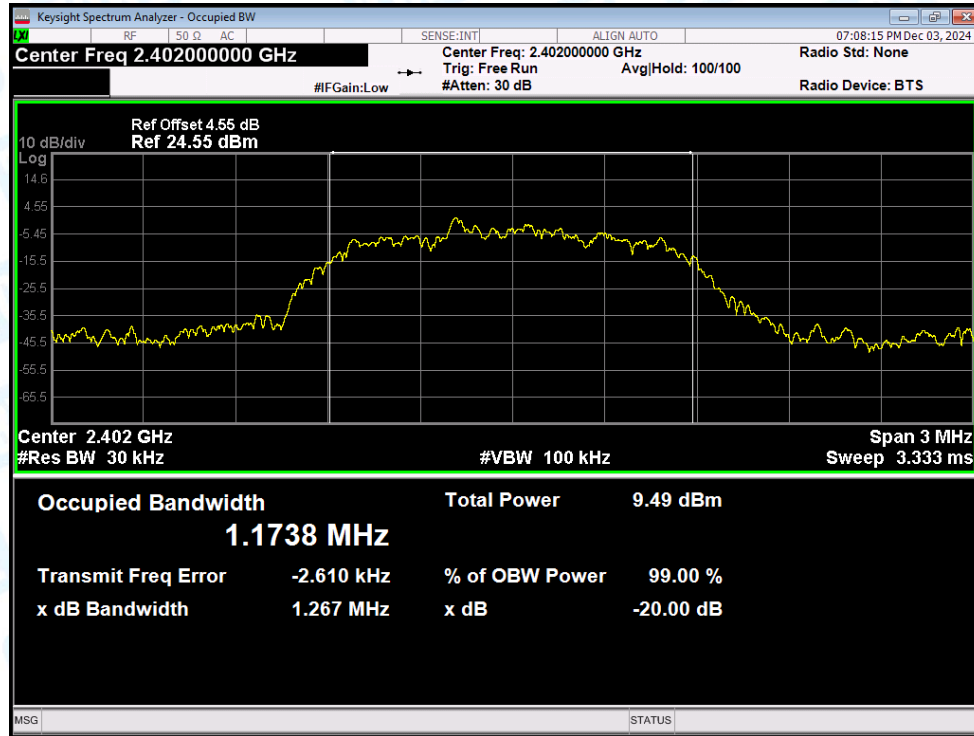
OBW NVNT 2-DH1 2441MHz Ant1



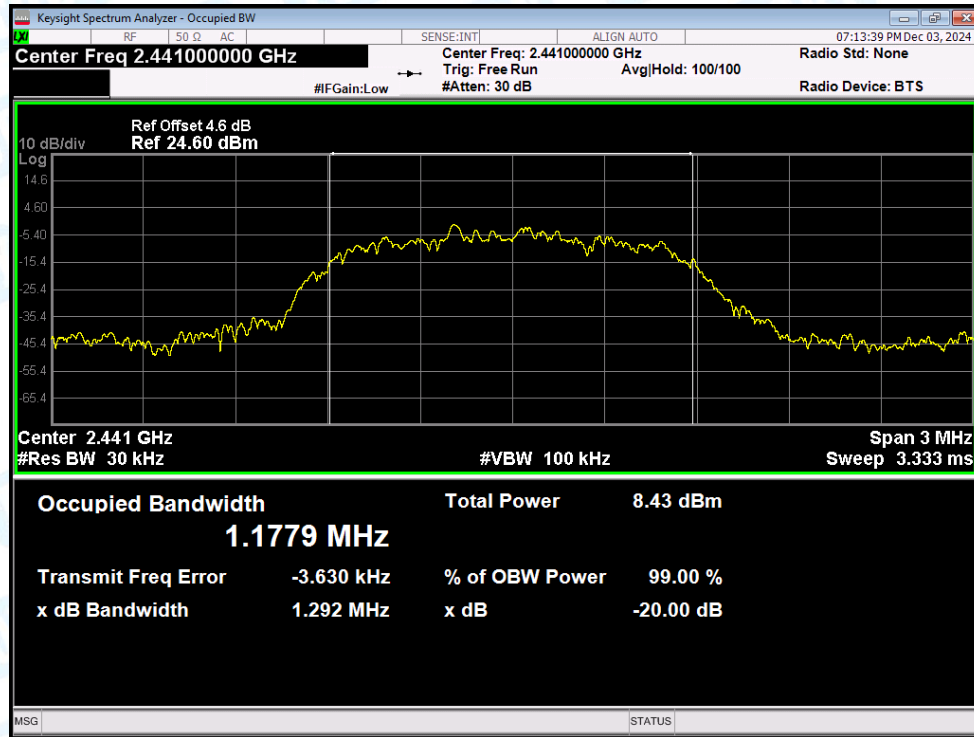
OBW NVNT 2-DH1 2480MHz Ant1

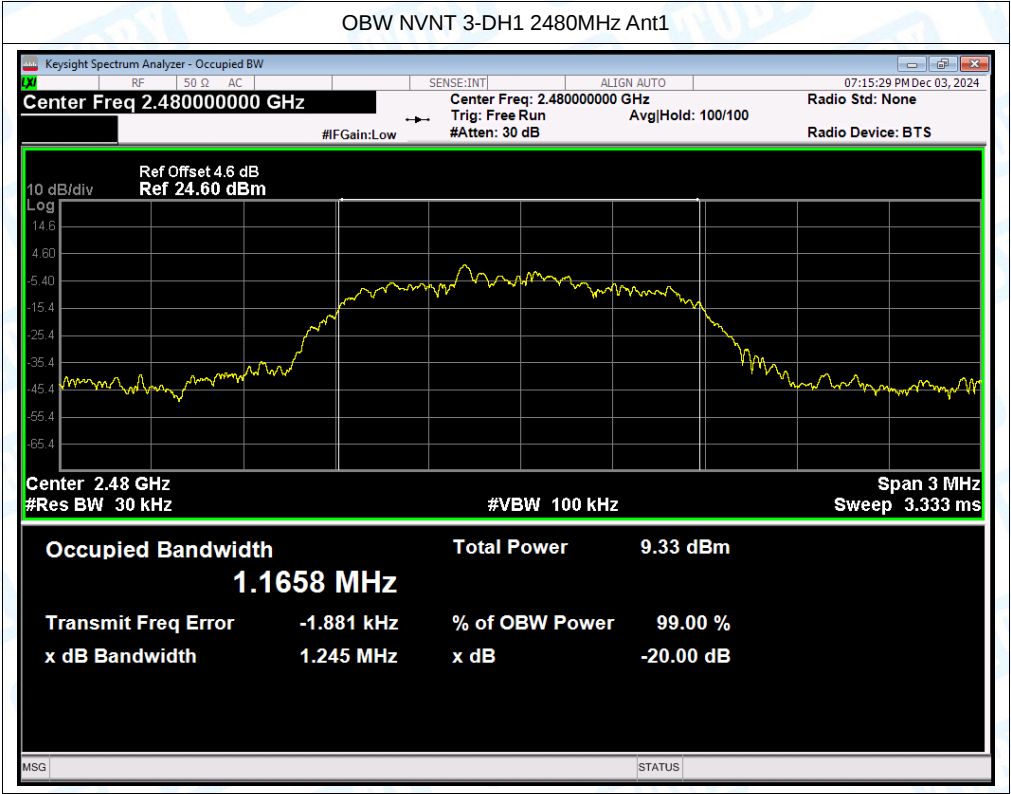


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



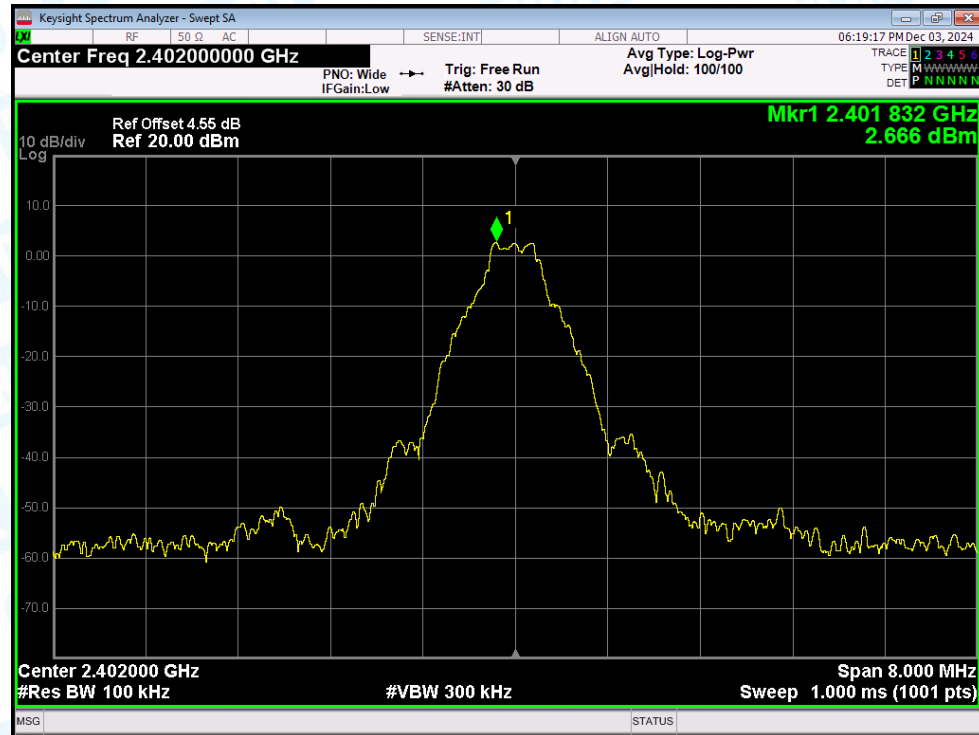


5. Band Edge

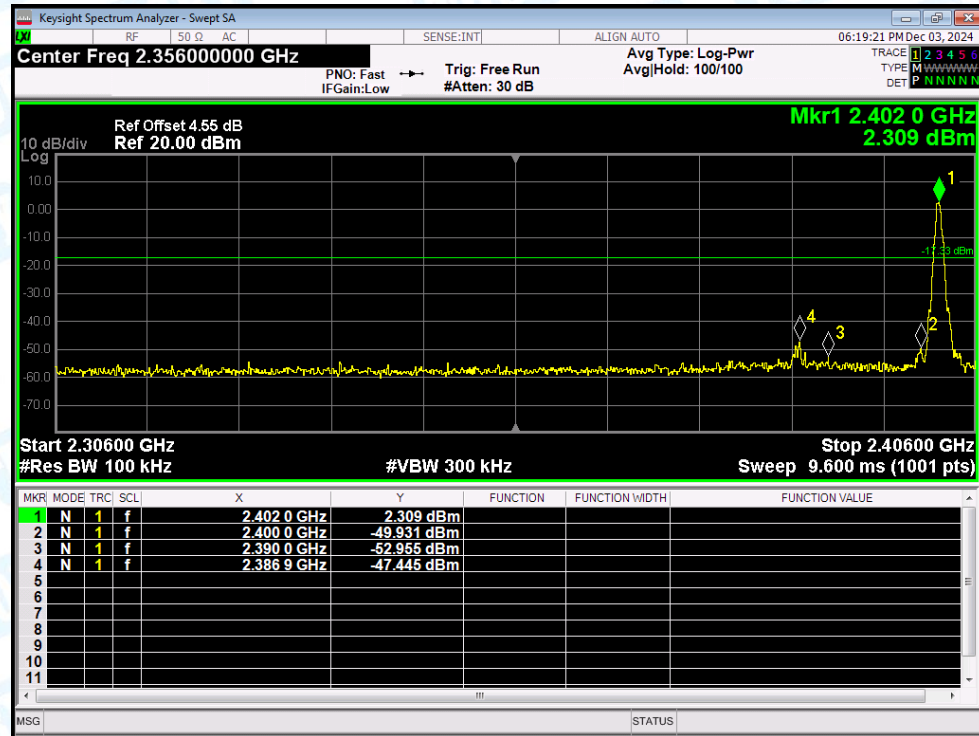
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-50.12	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-55.5	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-55.81	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-55.76	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-55.18	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-55.32	-20	Pass

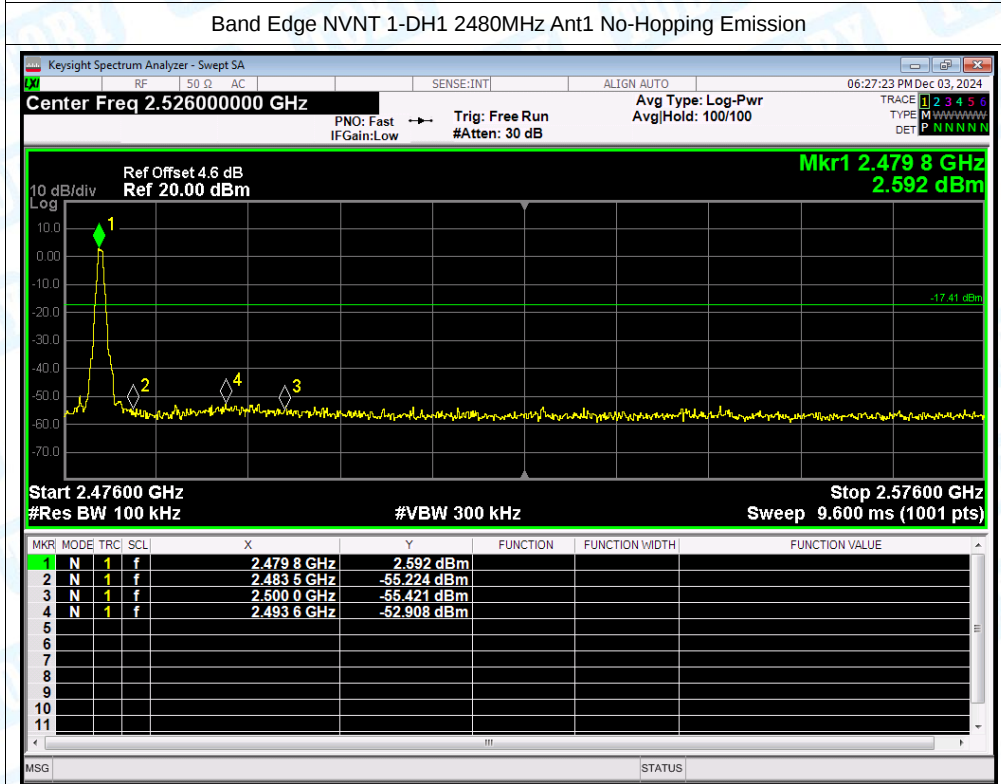
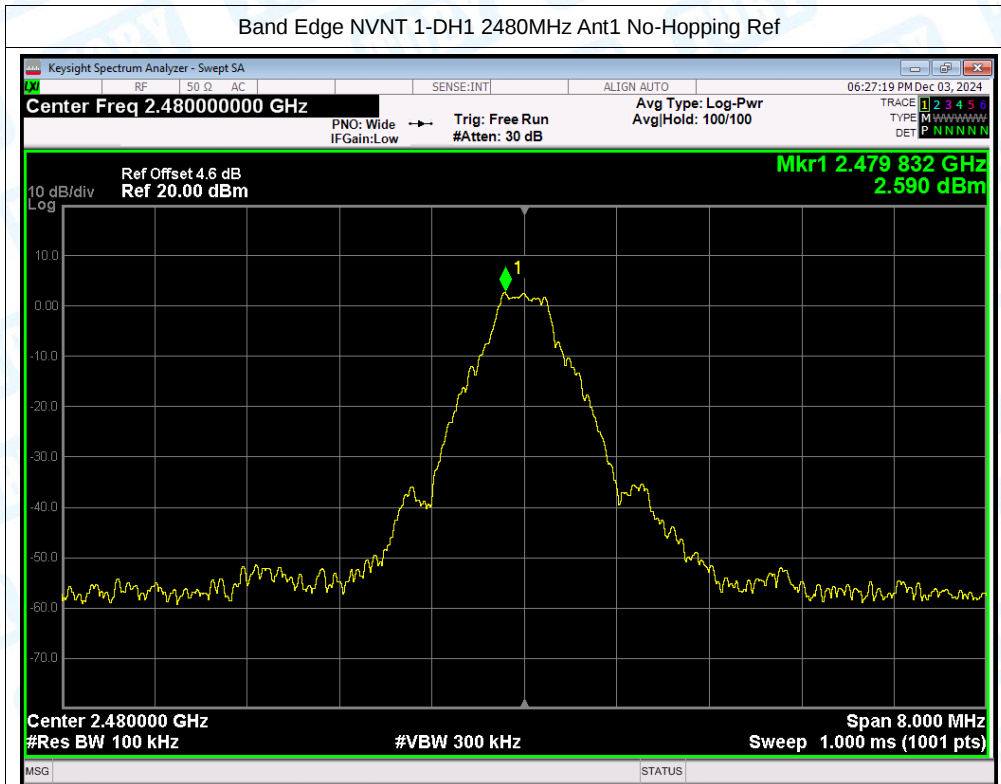
Test Graphs

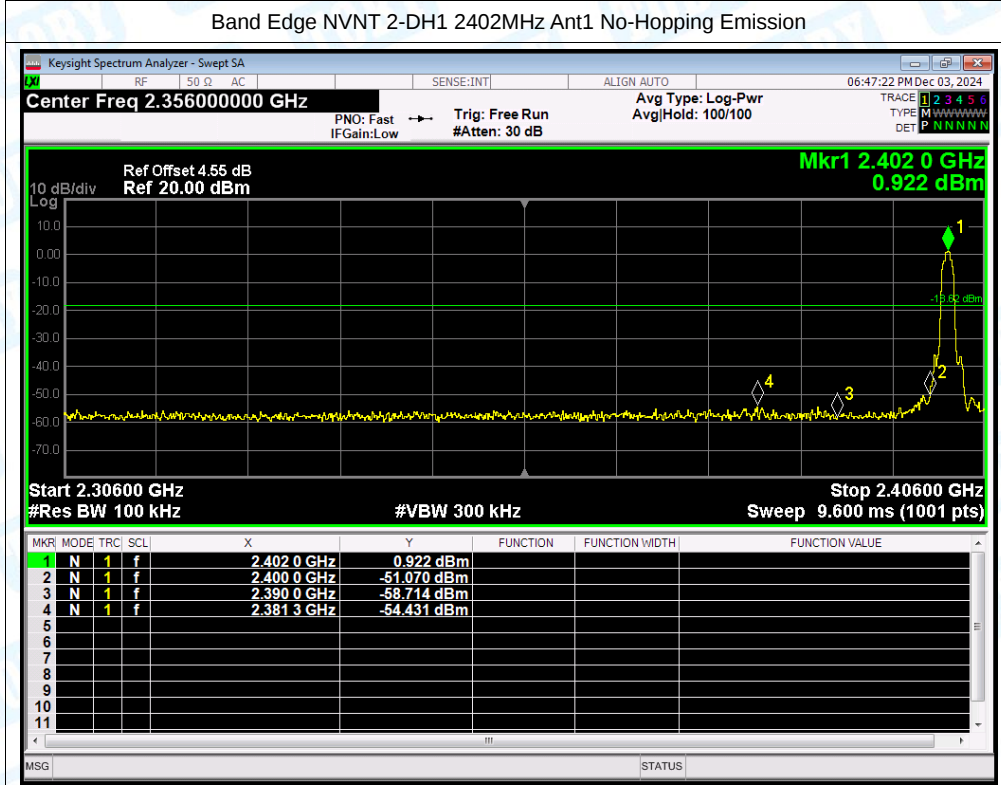
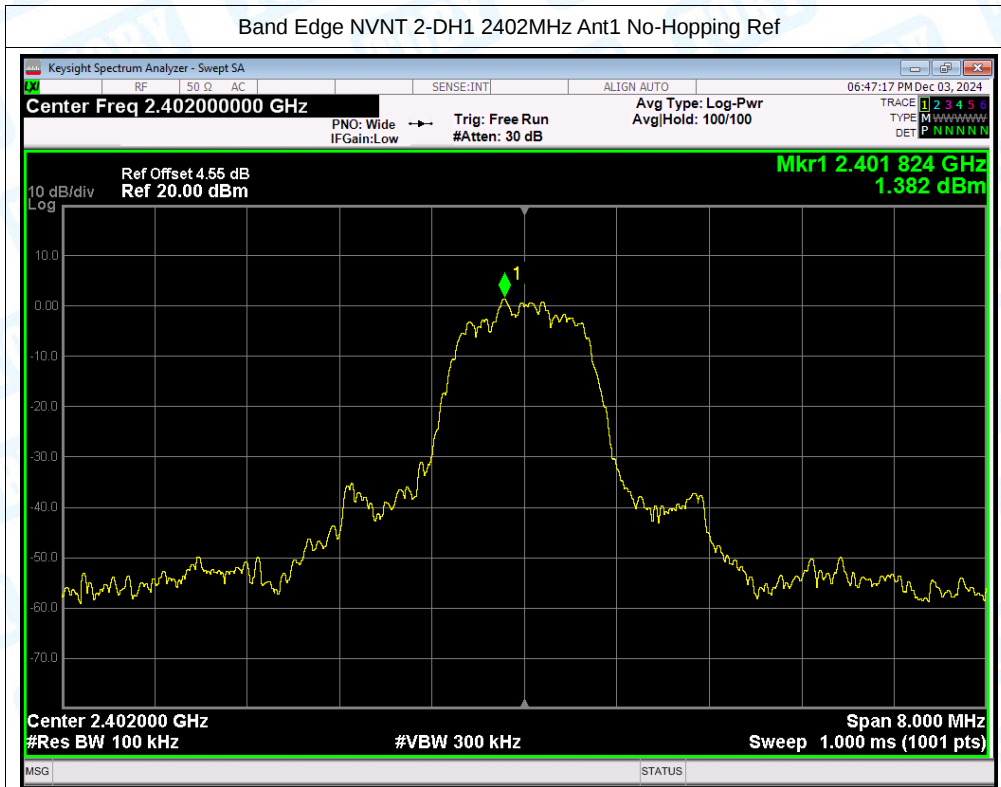
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref

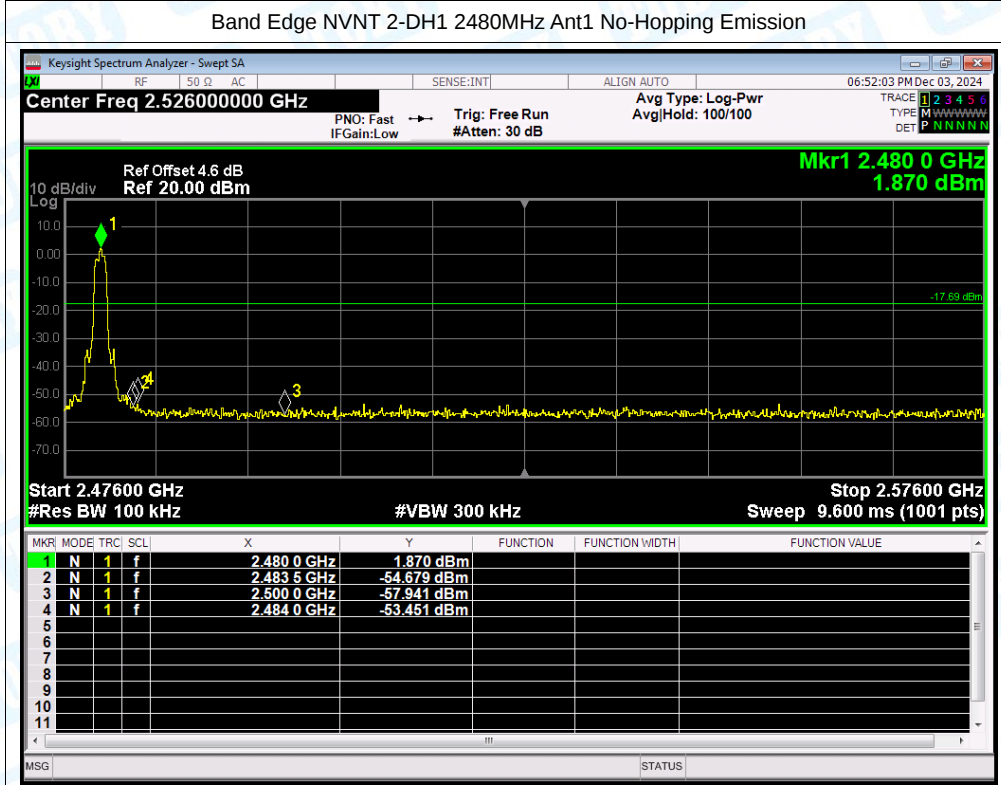
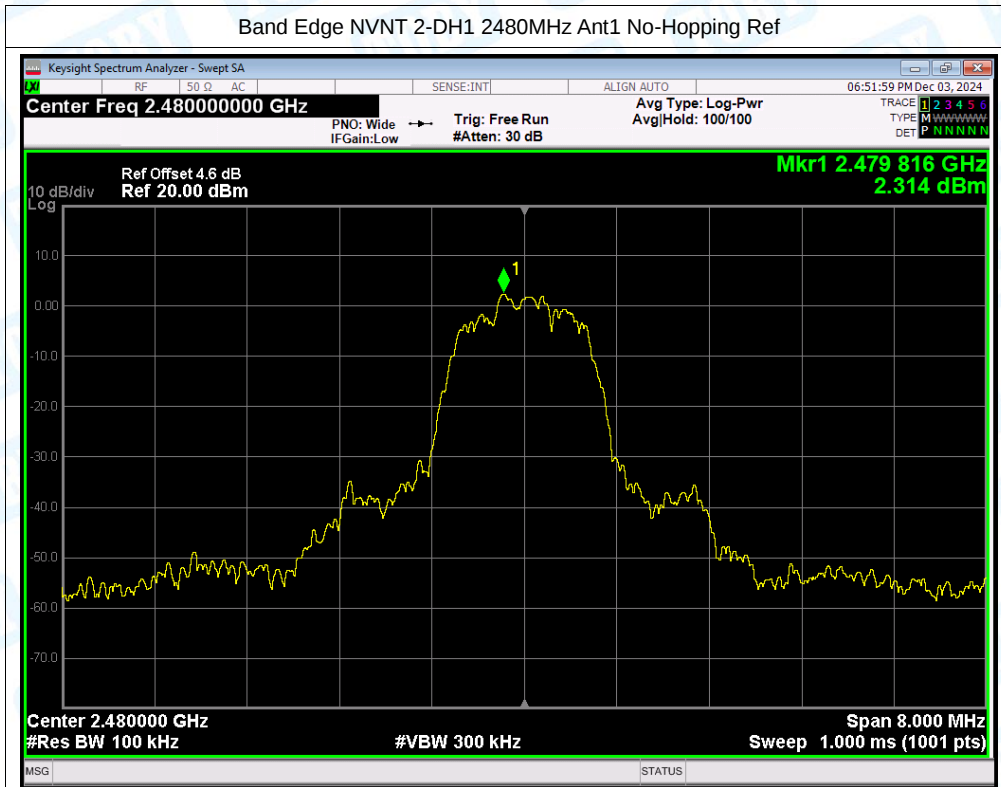


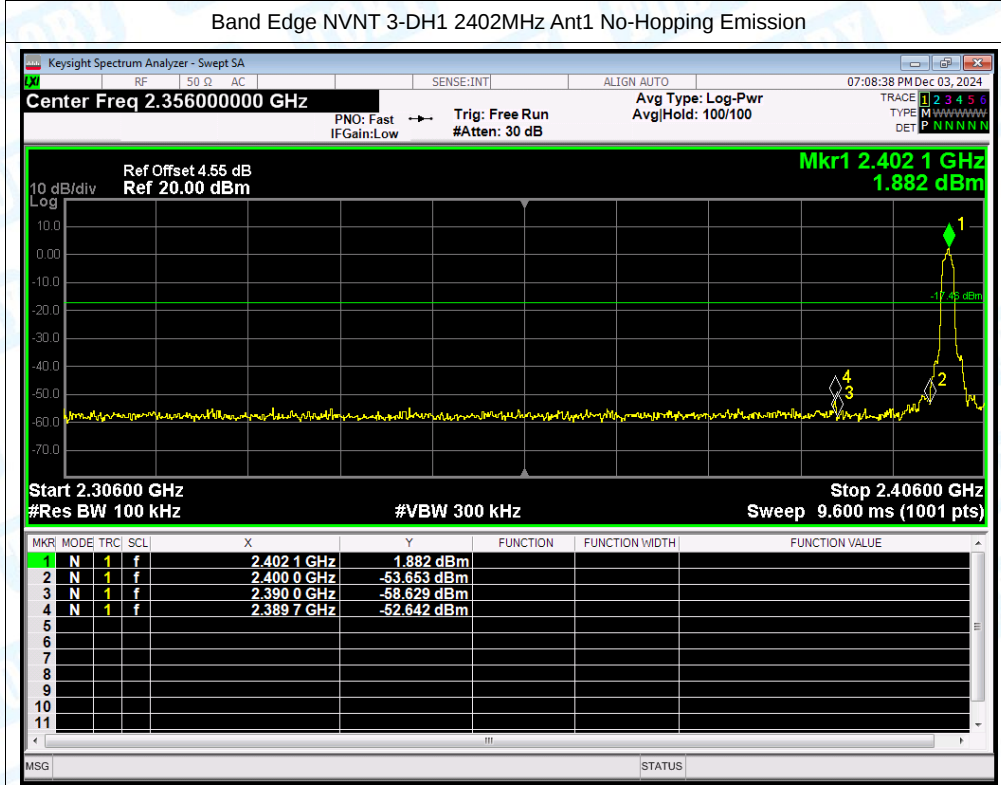
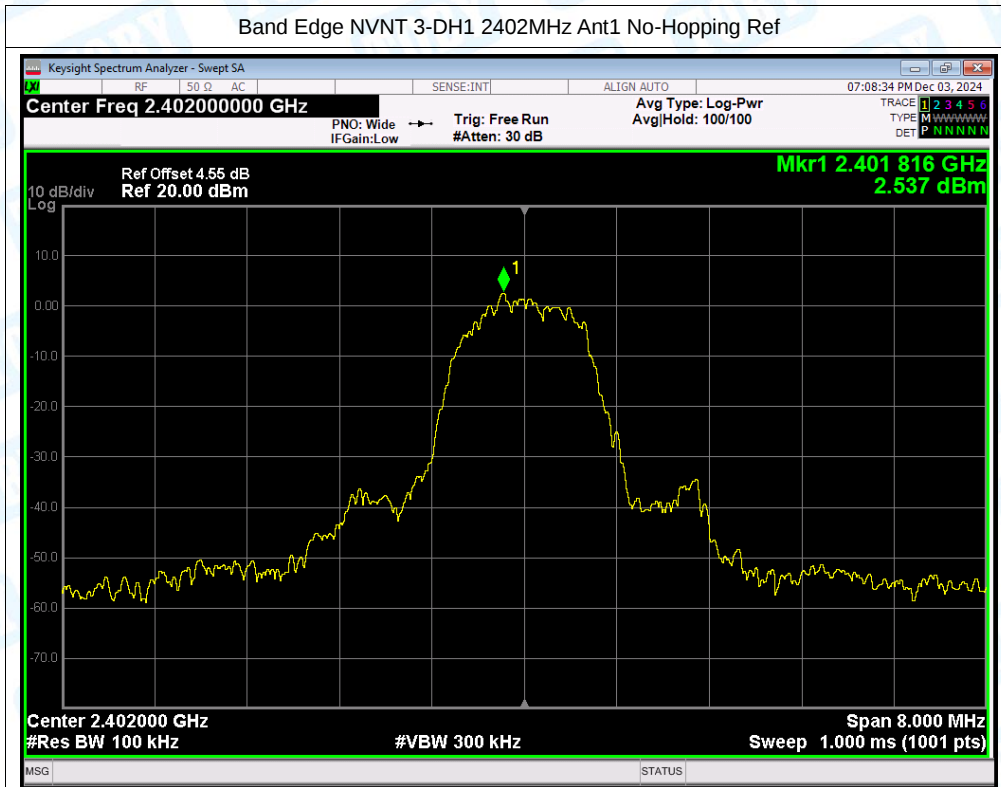
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

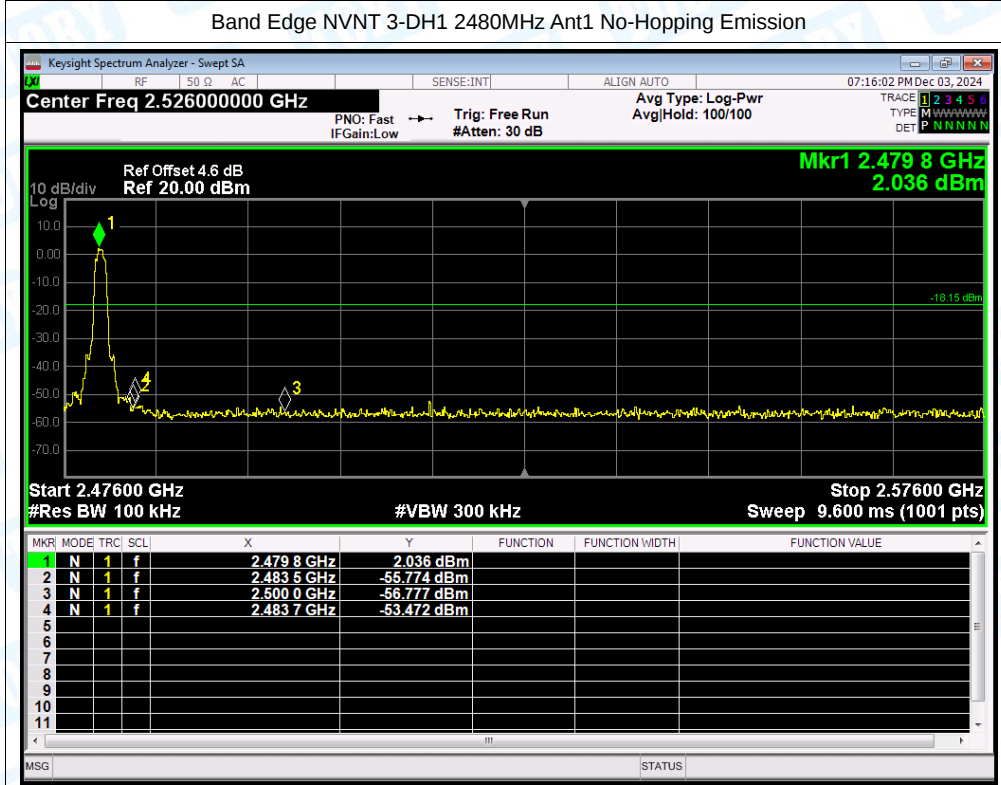
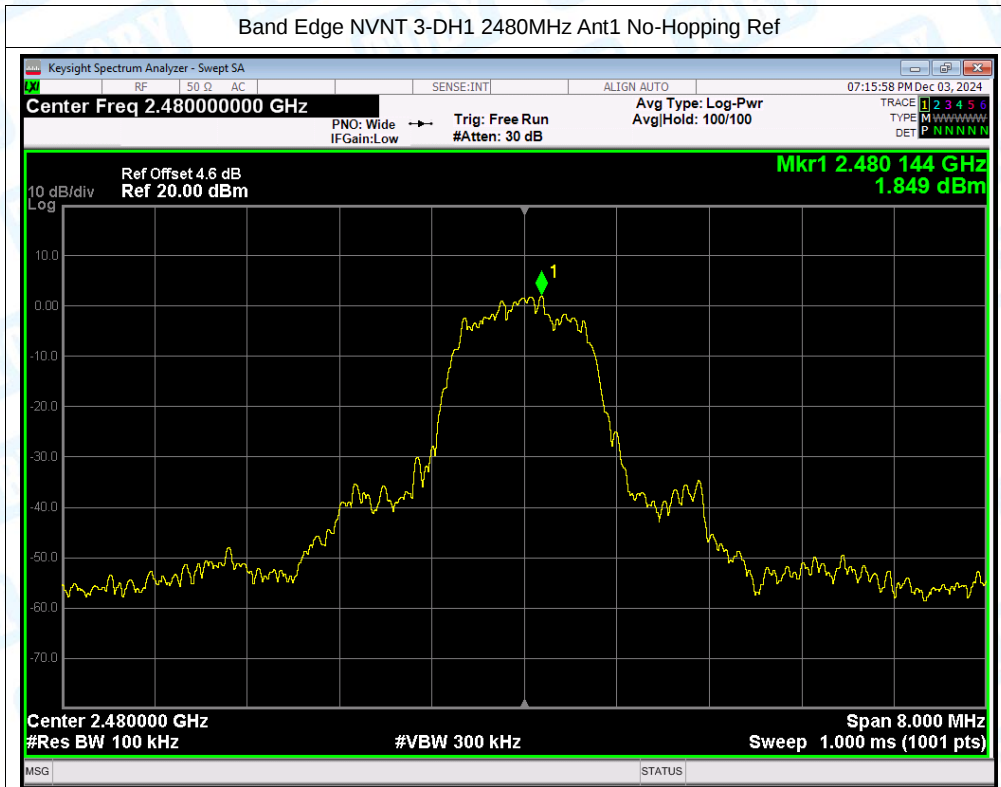










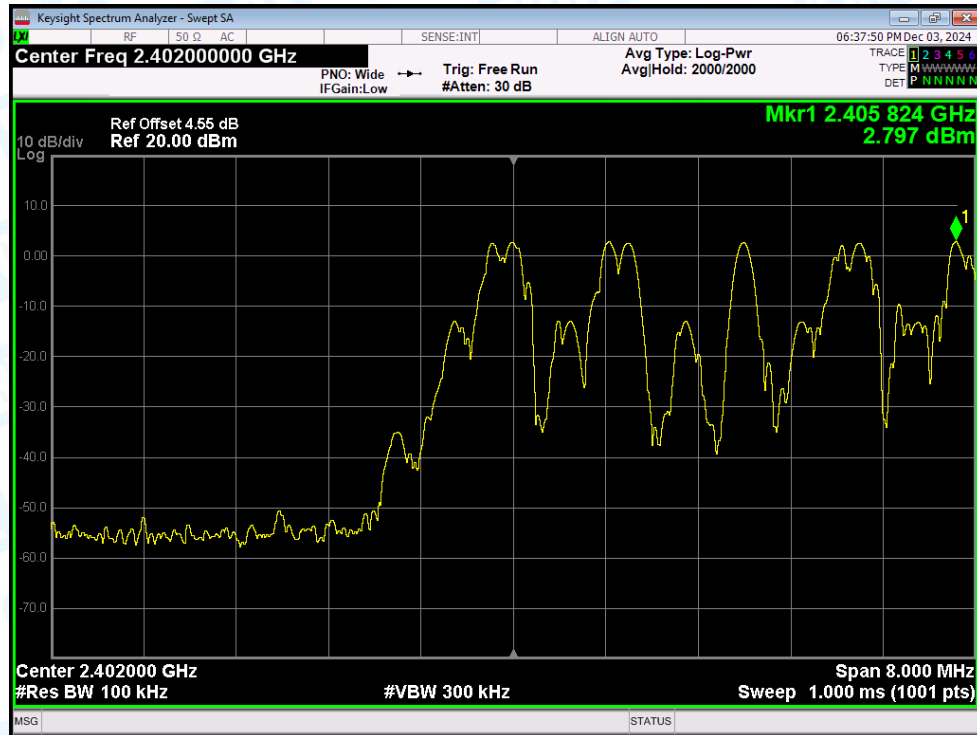


6. Band Edge(Hopping)

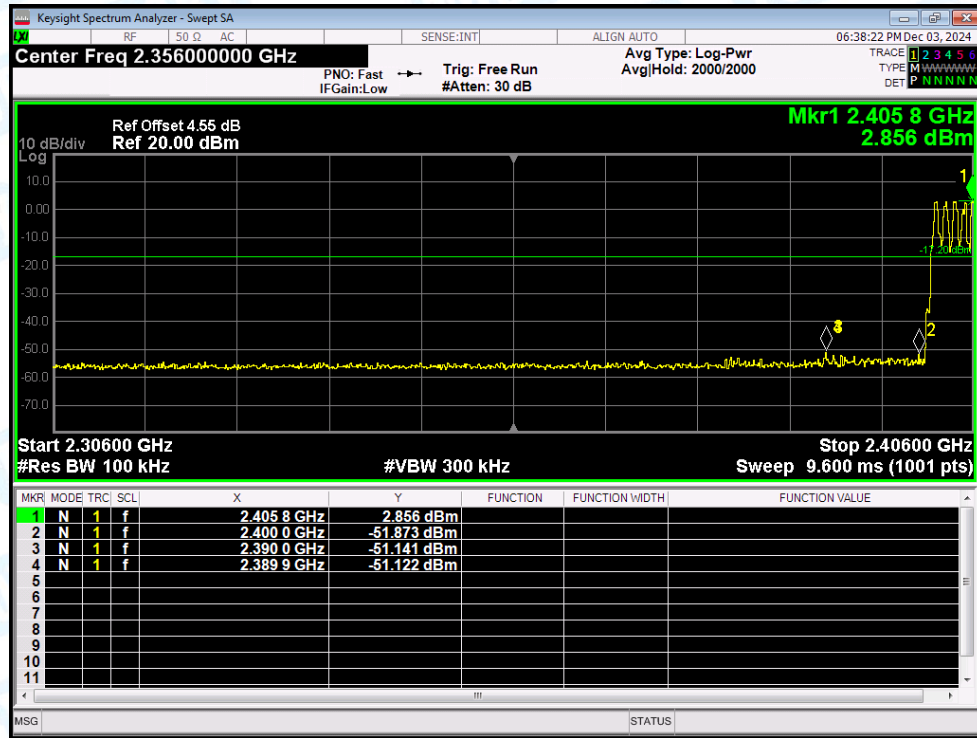
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-53.92	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-49.25	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-56.22	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-55.76	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-56.99	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-56.17	-20	Pass

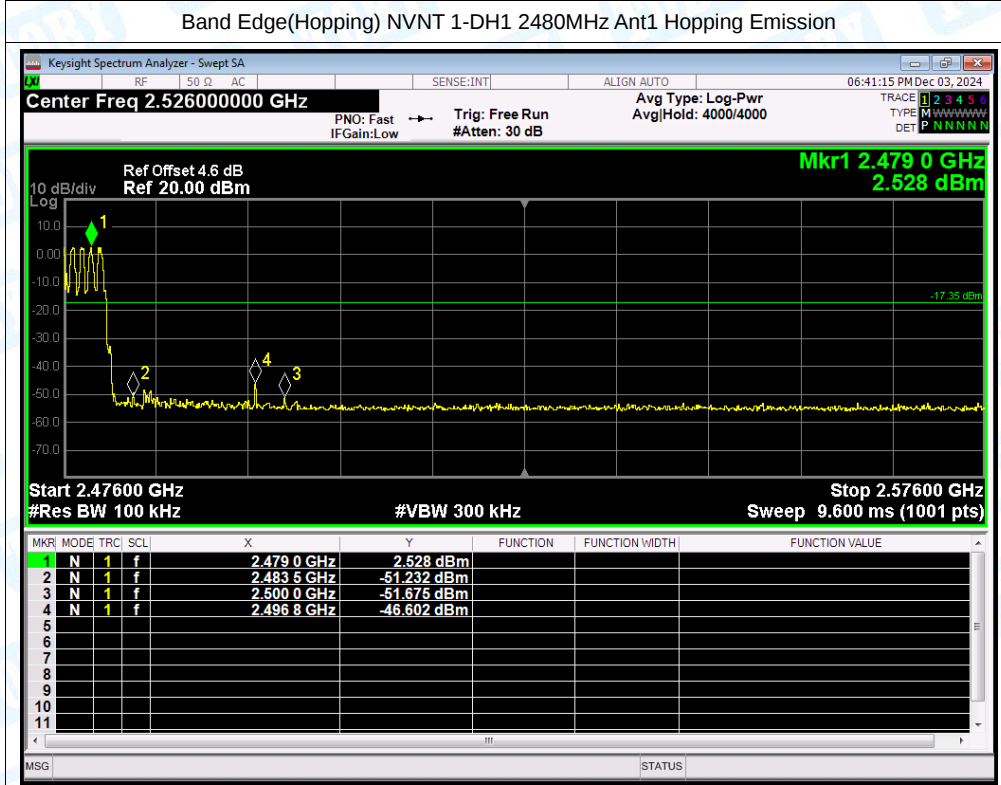
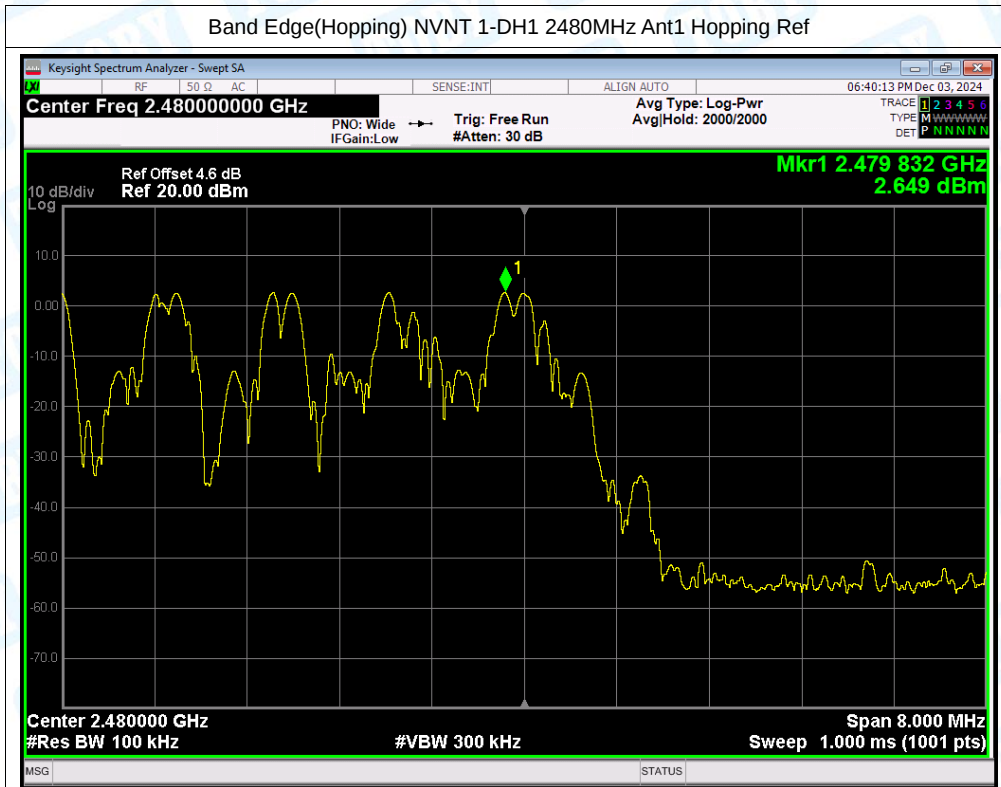
Test Graphs

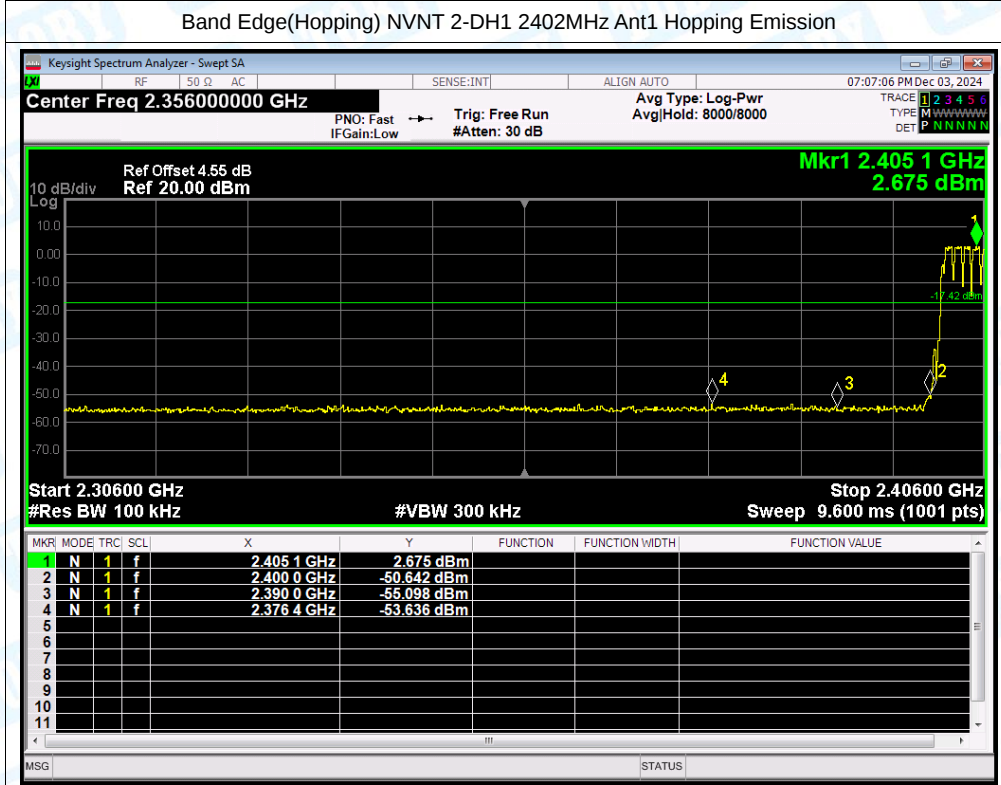
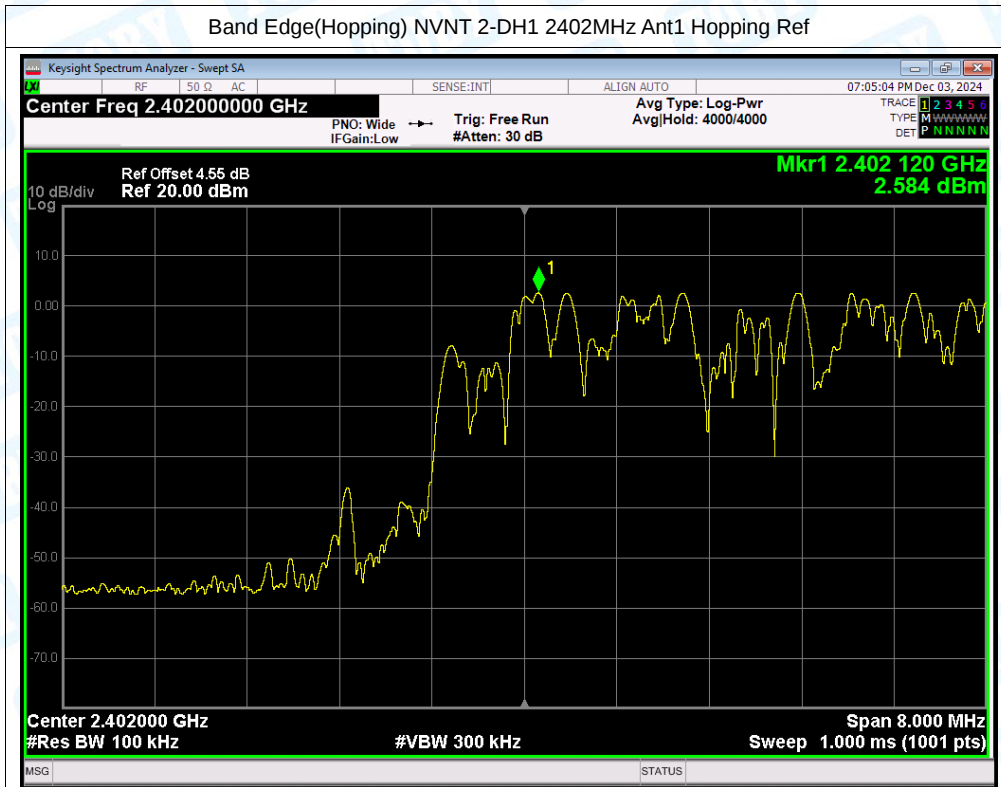
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

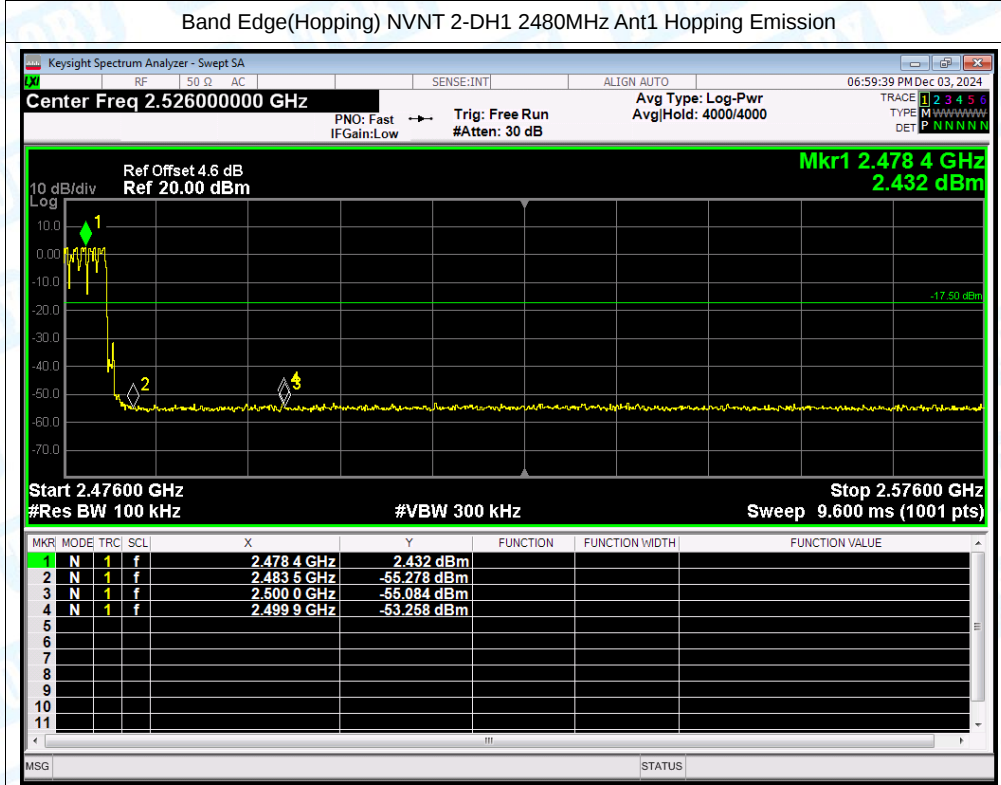


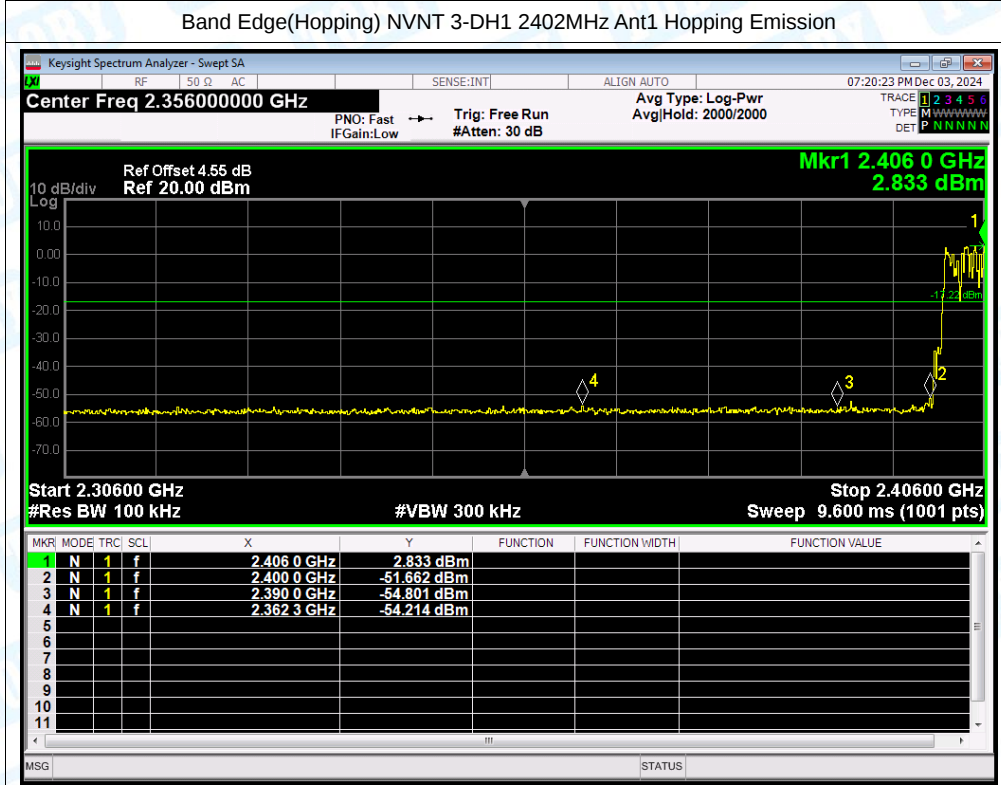
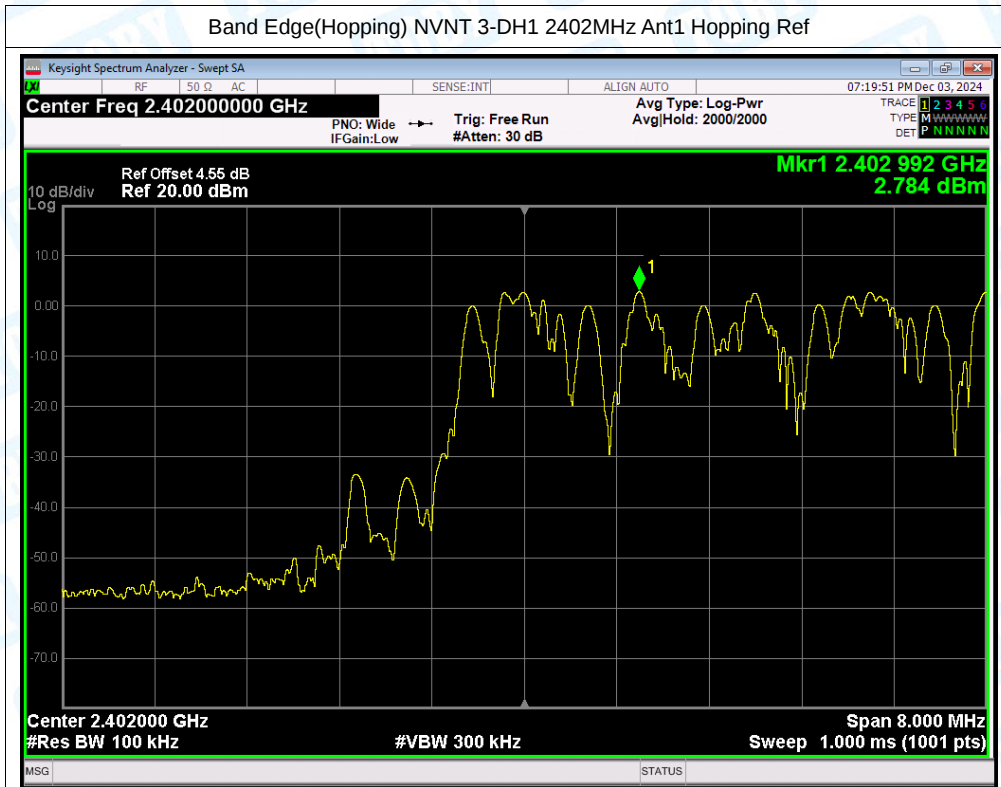
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

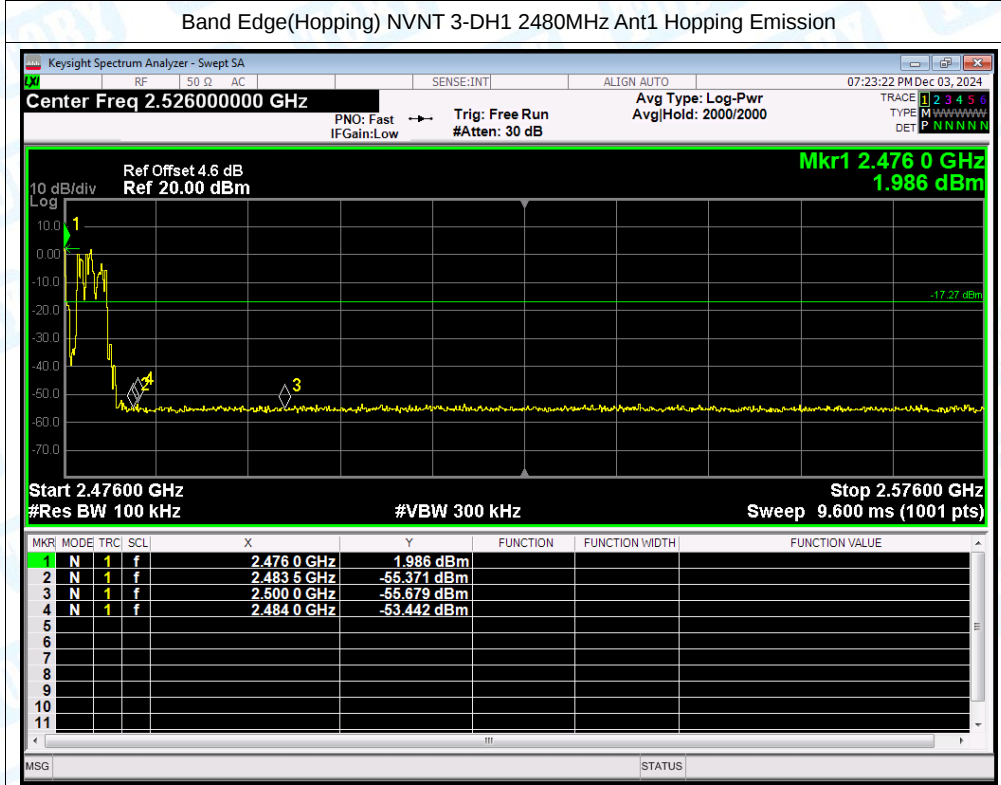
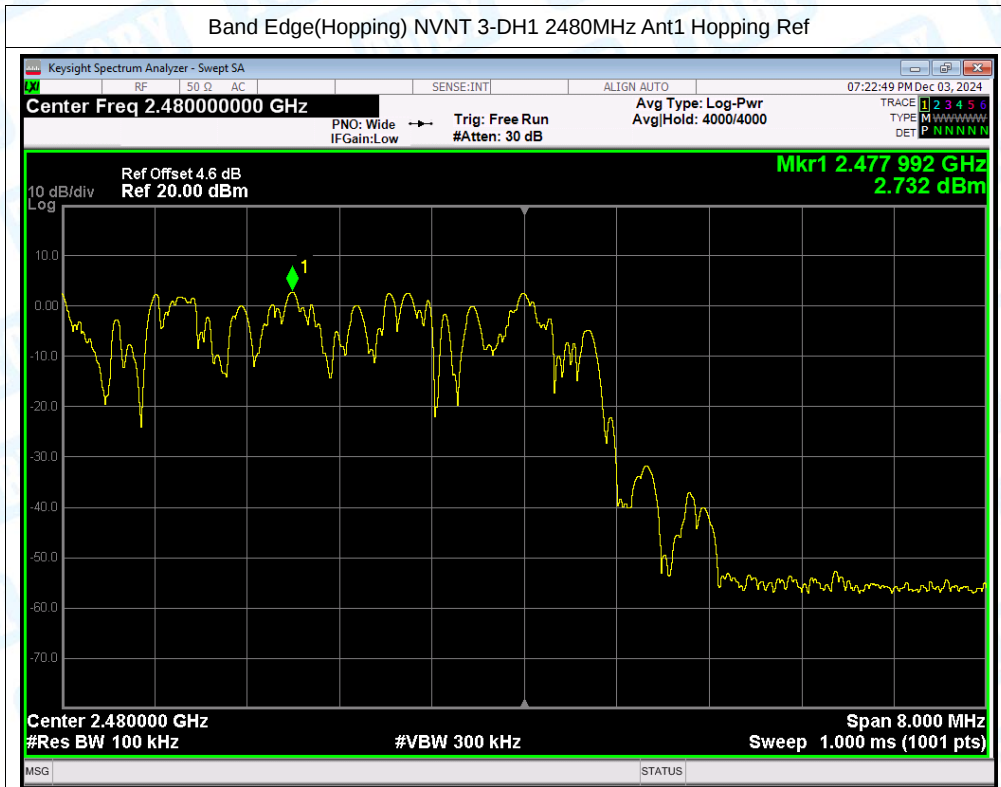










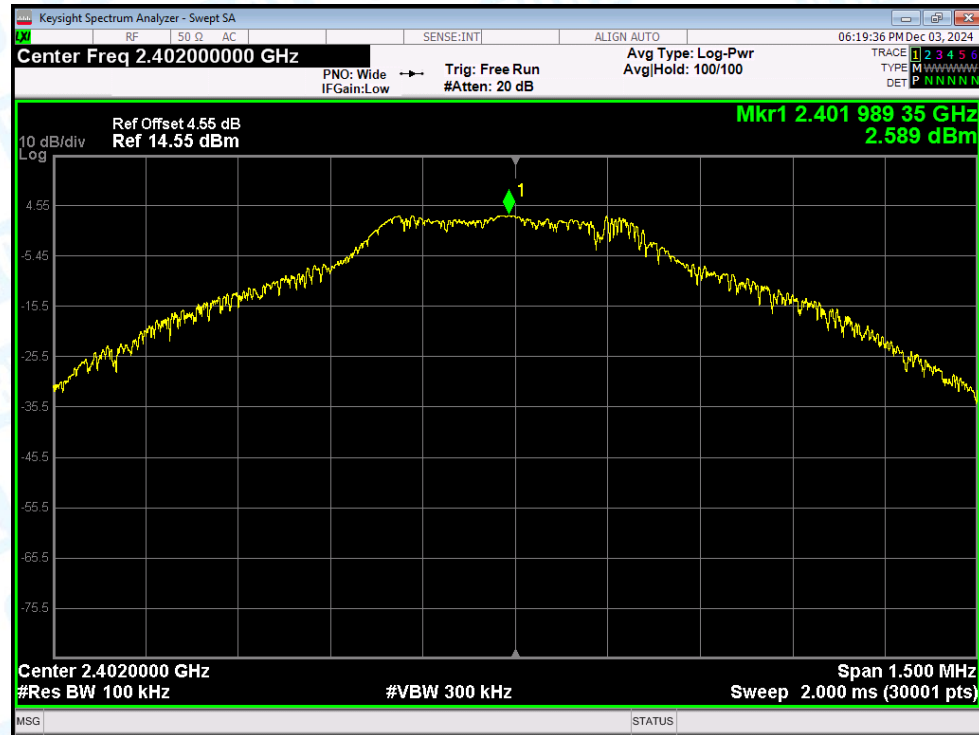


7. Conducted RF Spurious Emission

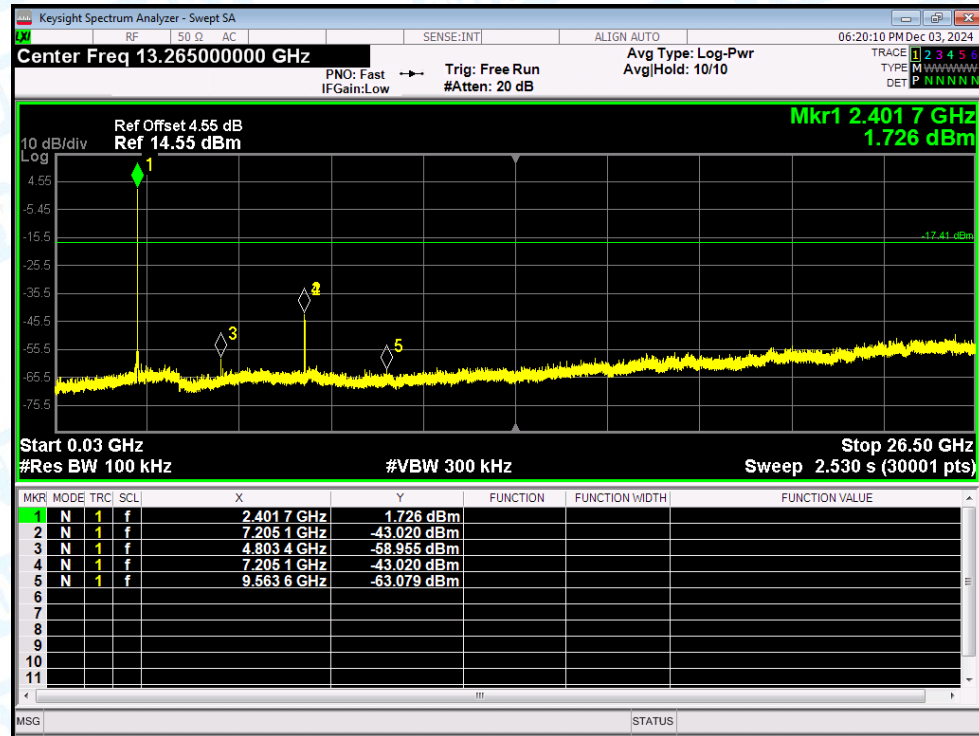
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-45.61	-20	Pass
NVNT	1-DH1	2441	Ant1	-42.92	-20	Pass
NVNT	1-DH1	2480	Ant1	-46.26	-20	Pass
NVNT	2-DH1	2402	Ant1	-52.46	-20	Pass
NVNT	2-DH1	2441	Ant1	-52.65	-20	Pass
NVNT	2-DH1	2480	Ant1	-53.12	-20	Pass
NVNT	3-DH1	2402	Ant1	-54.02	-20	Pass
NVNT	3-DH1	2441	Ant1	-53.32	-20	Pass
NVNT	3-DH1	2480	Ant1	-53.3	-20	Pass

Test Graphs

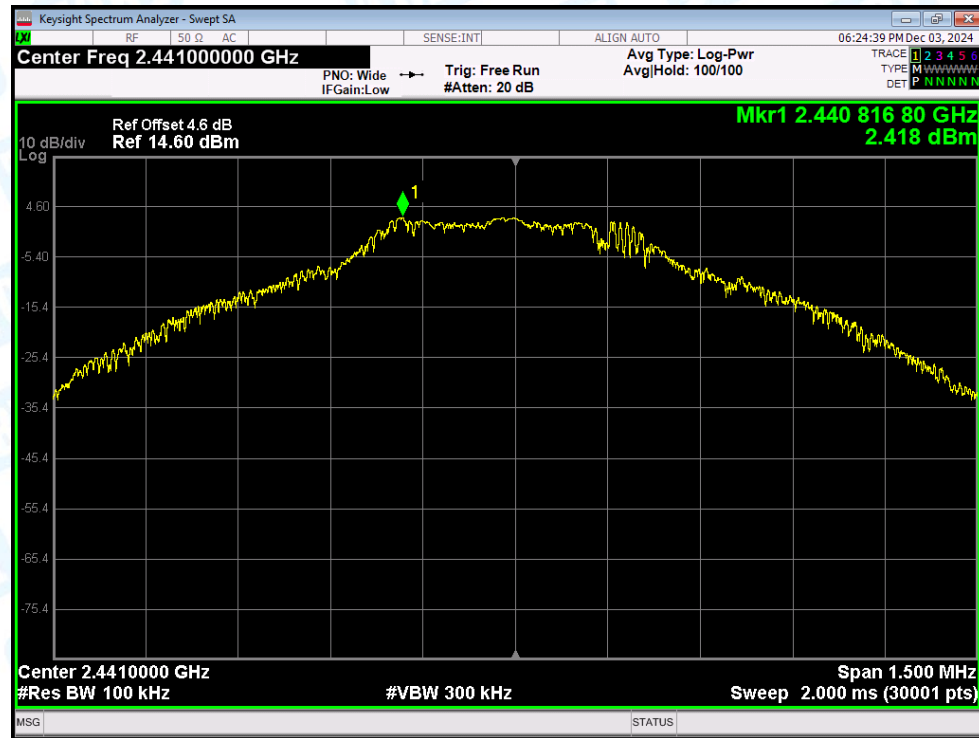
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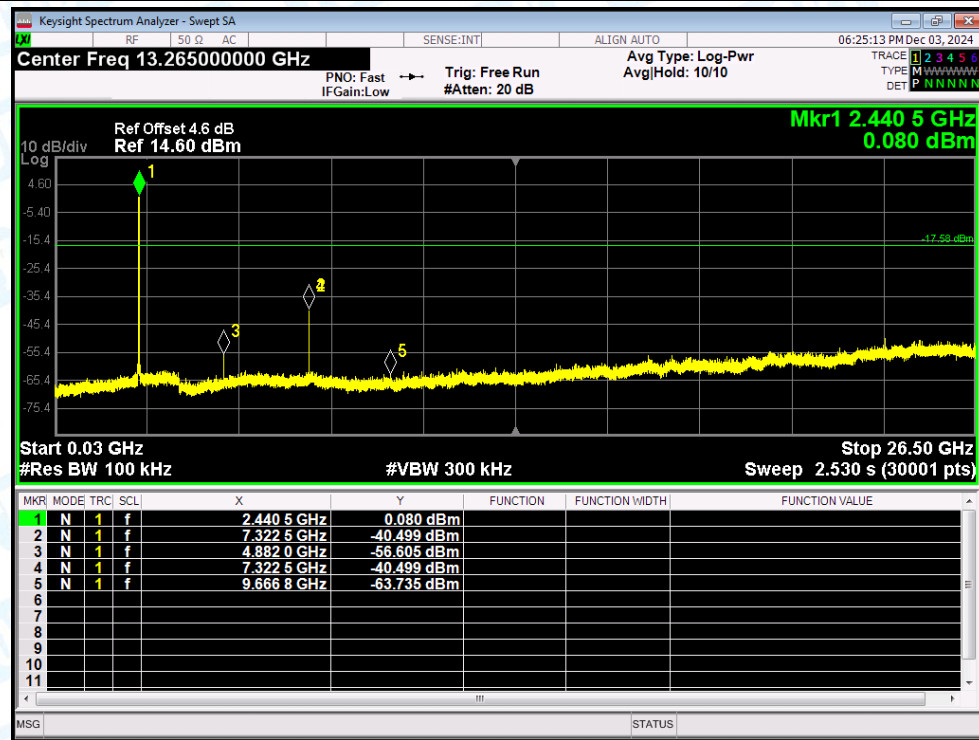
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



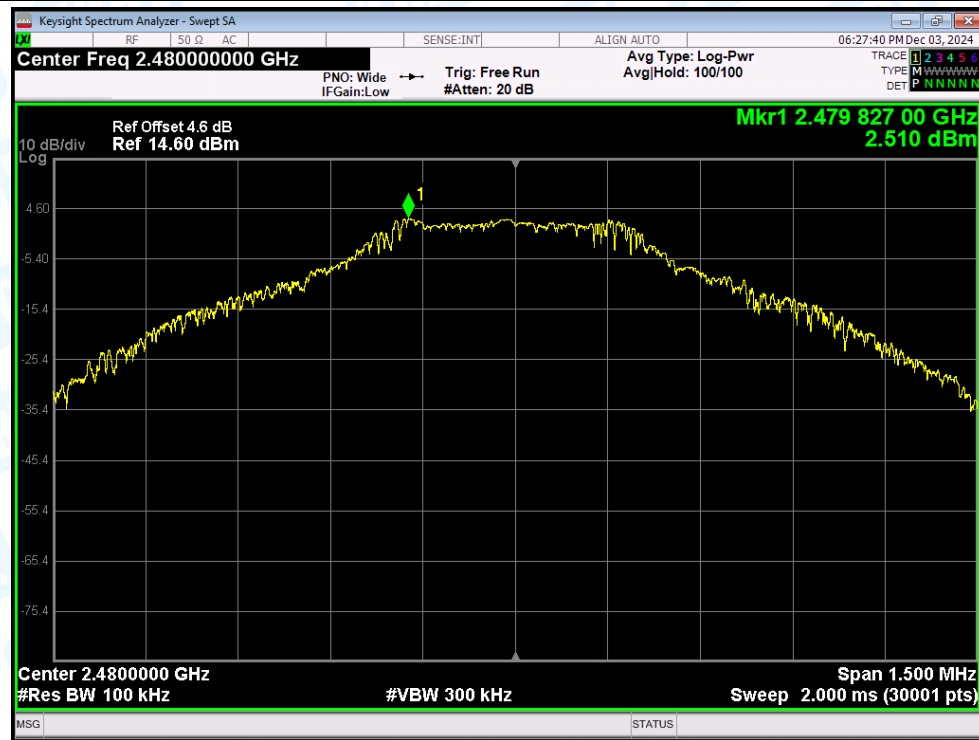
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



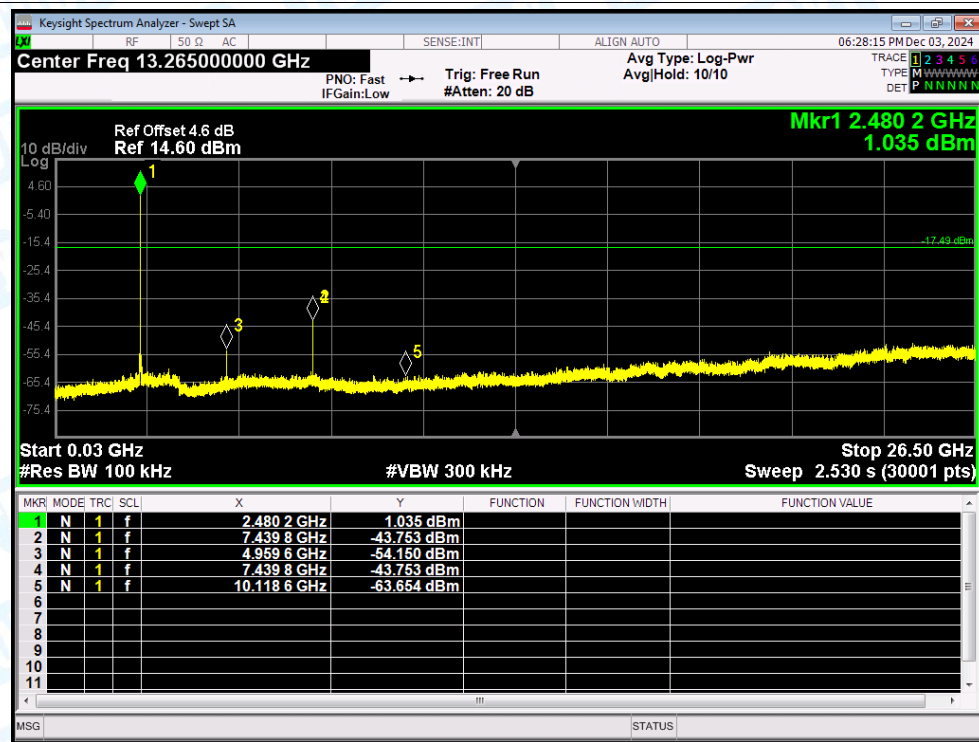
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



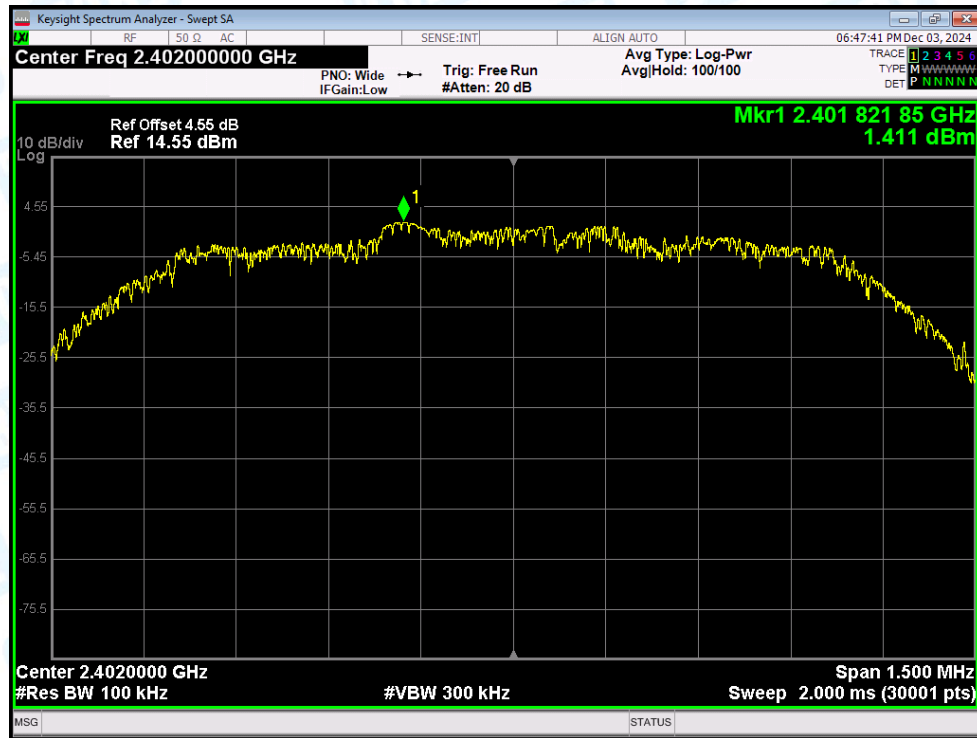
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



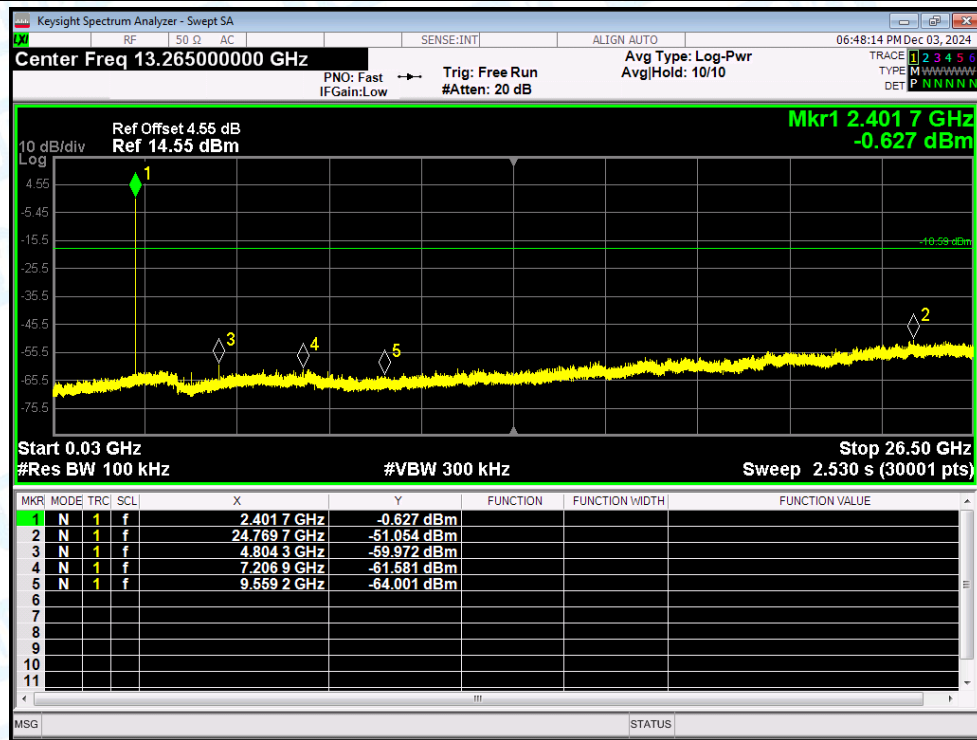
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



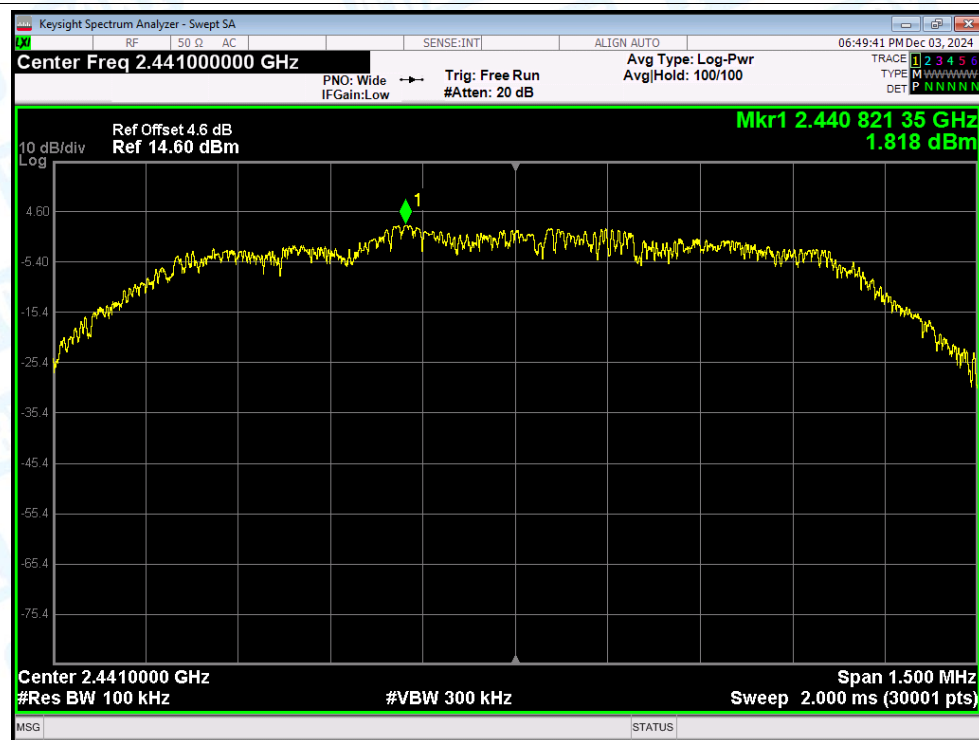
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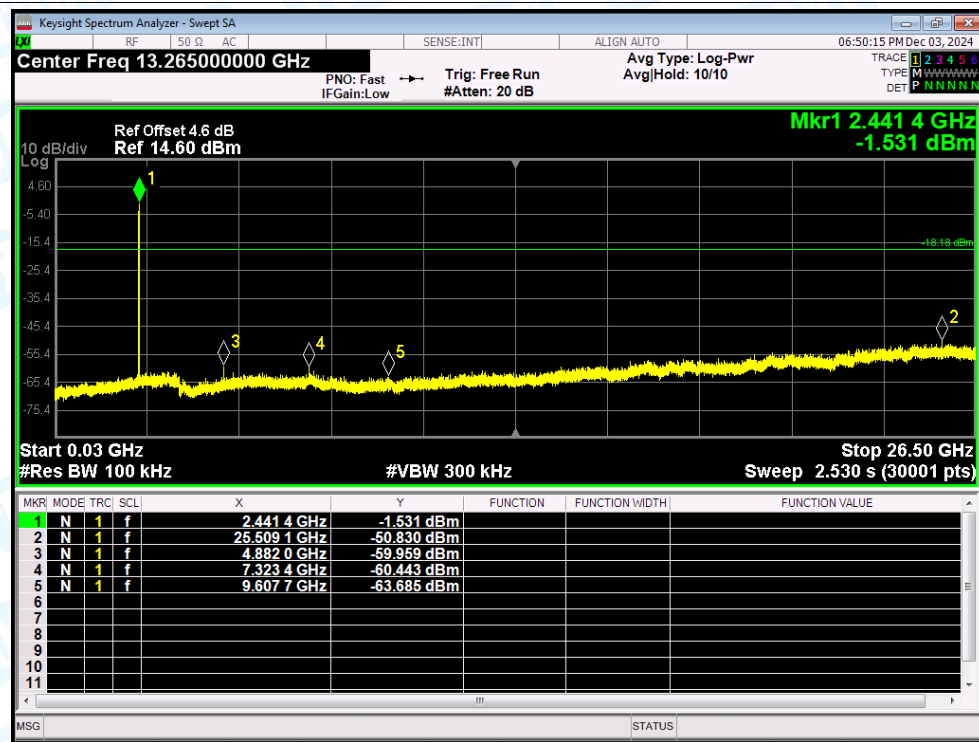
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



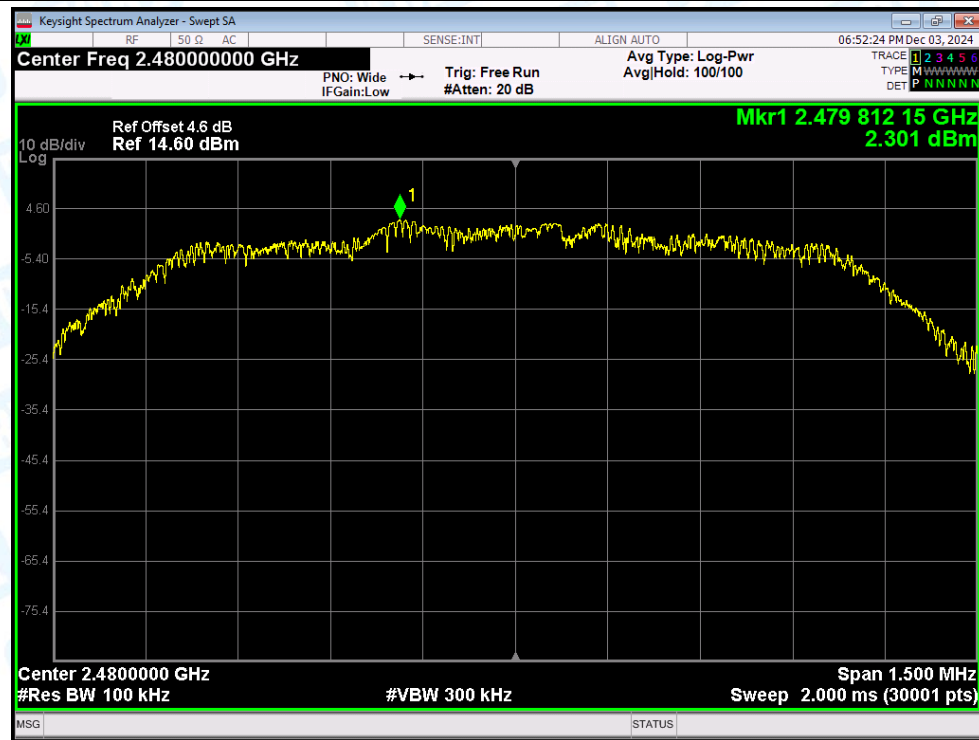
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



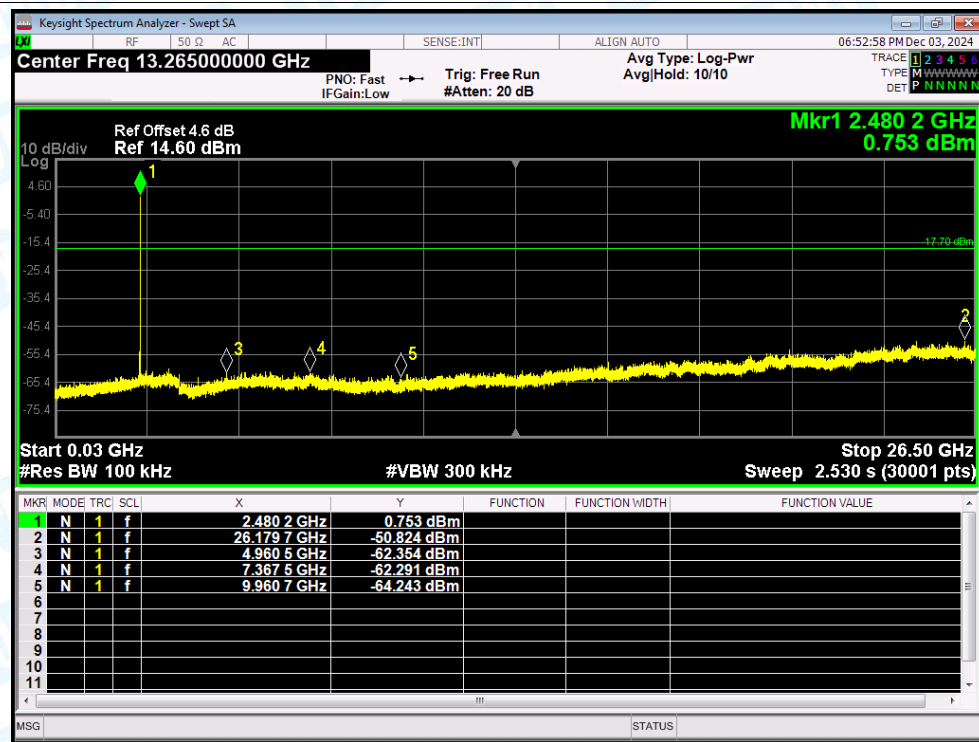
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



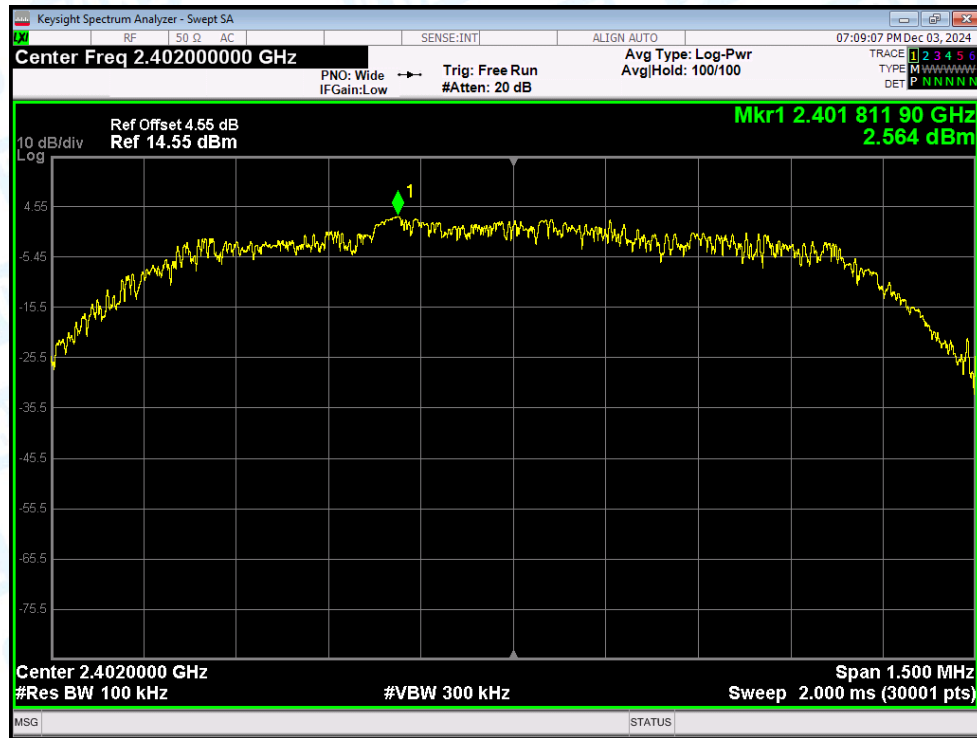
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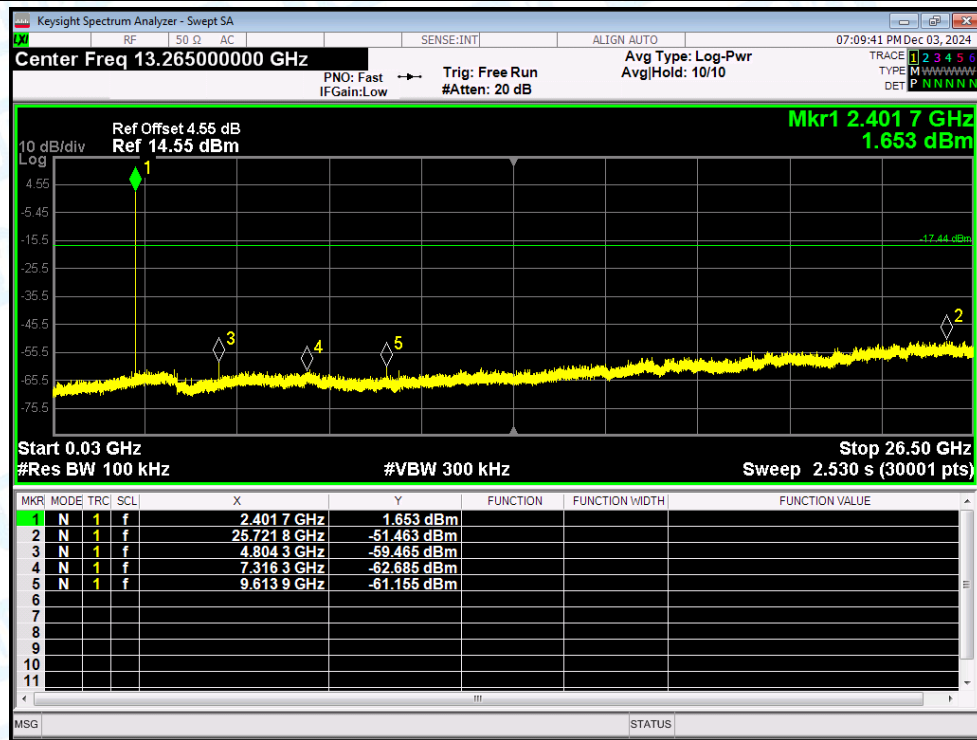
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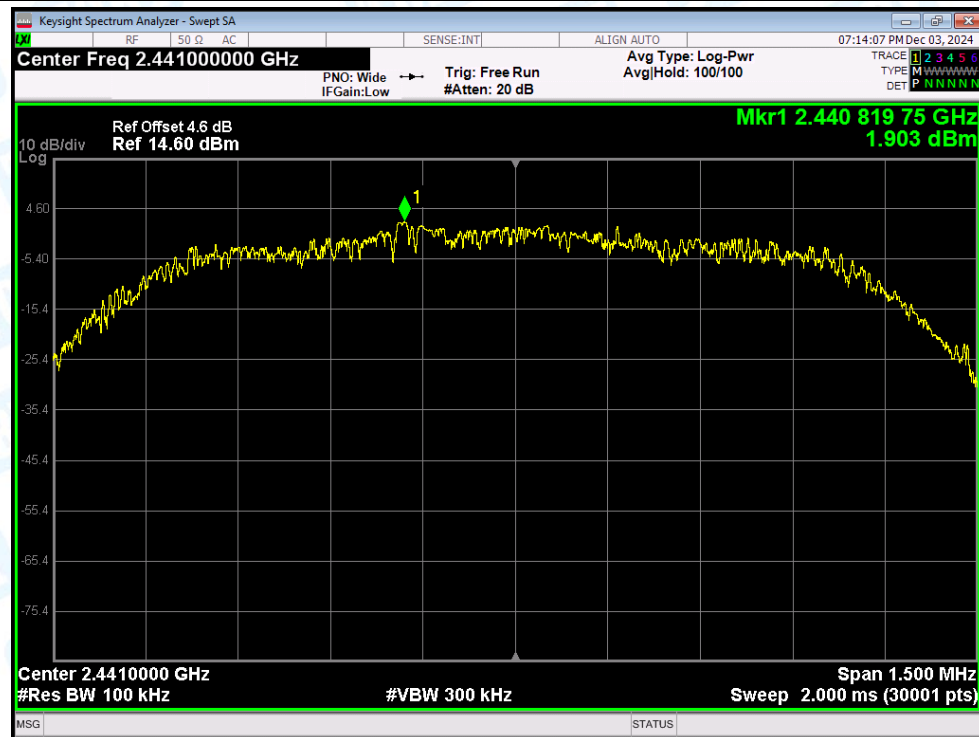
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



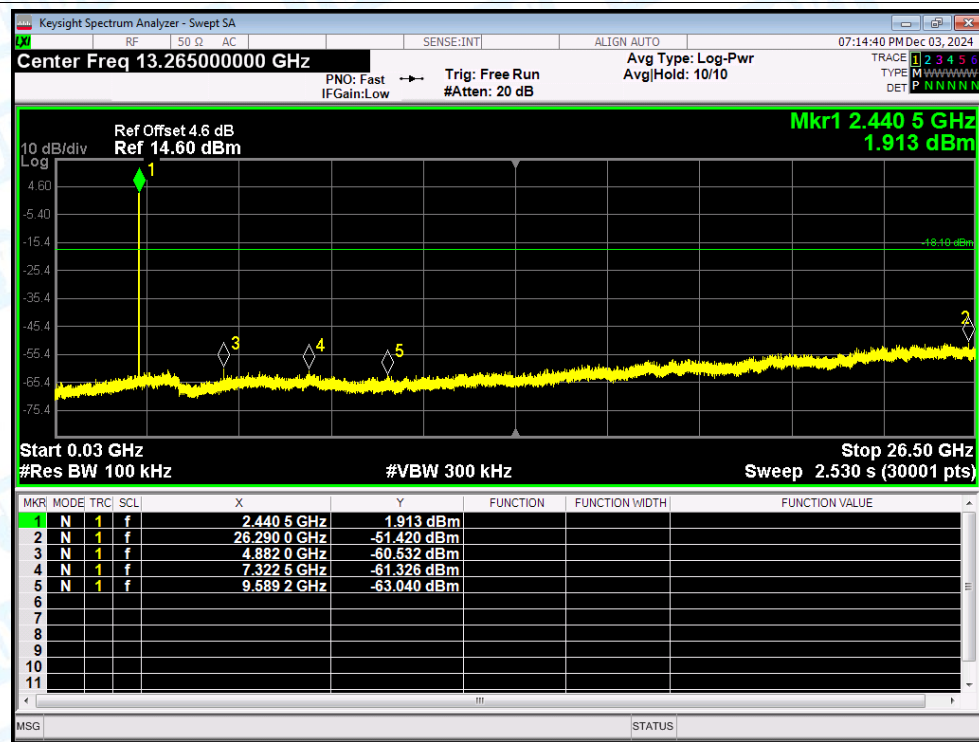
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



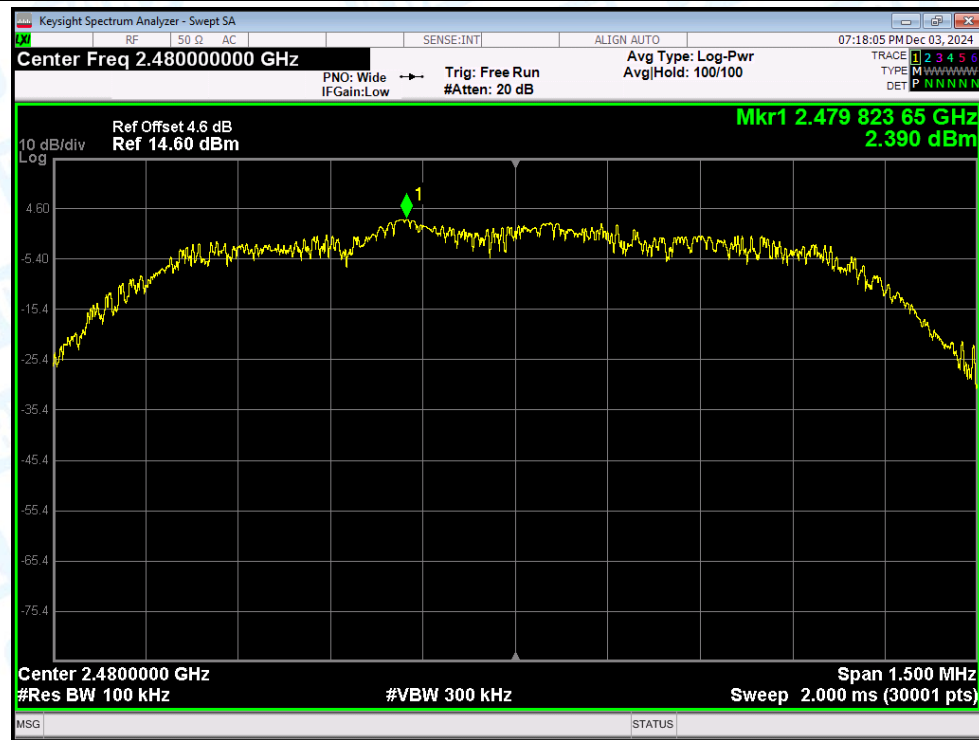
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



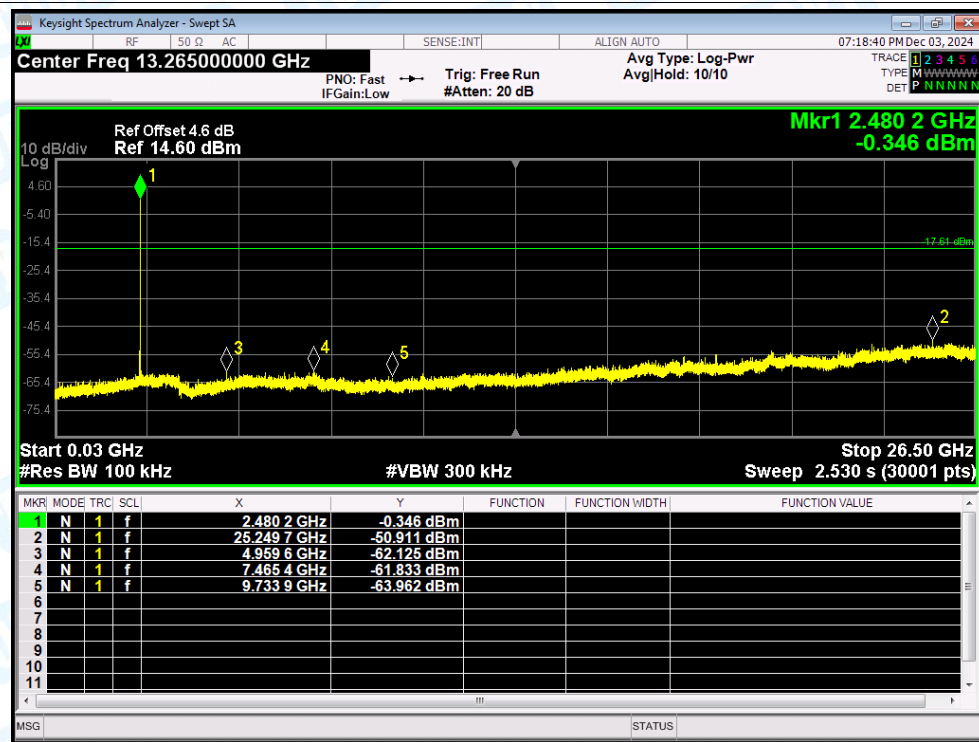
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

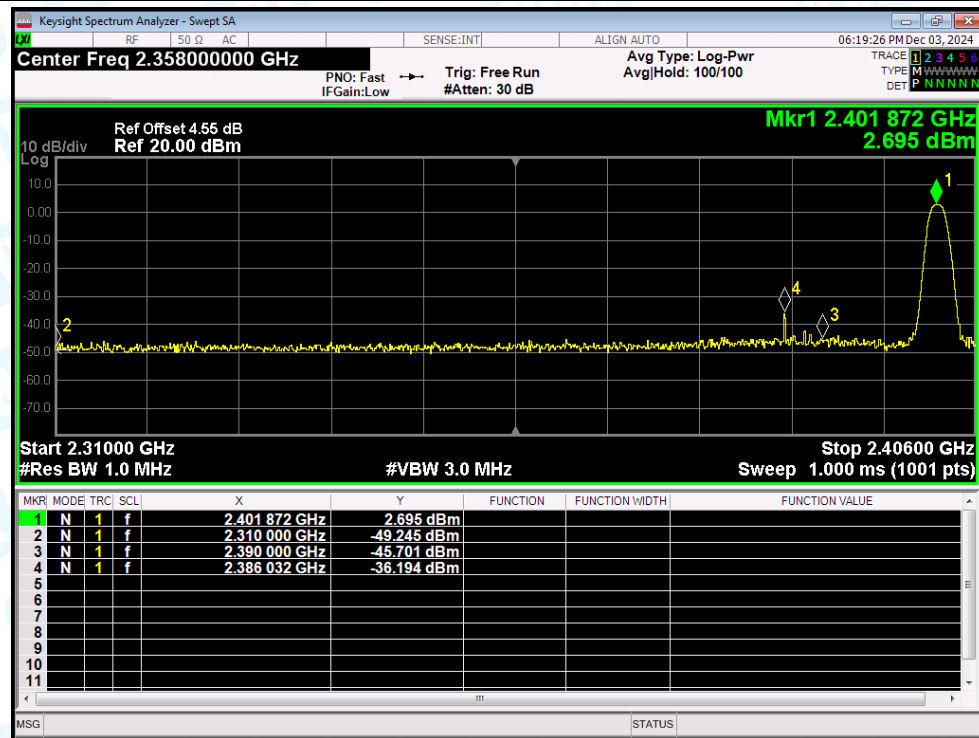


8. Restrict Band

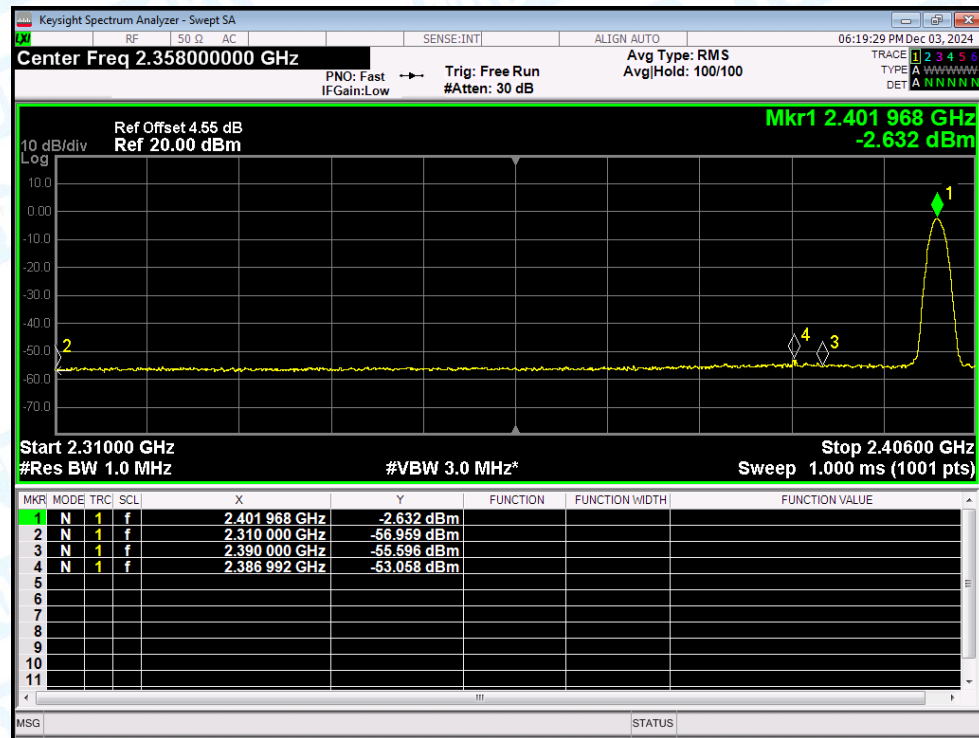
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-49.25	2	-	48.01	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.96	2	4.84	45.14	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2386.032	-36.19	2	-	61.07	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2386.992	-53.06	2	4.84	49.04	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-45.7	2	-	51.56	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.6	2	4.84	46.5	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-45.15	2	-	52.11	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.94	2	4.84	47.16	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2495.296	-41.9	2	-	55.36	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2494.84	-53.74	2	4.84	48.36	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-45.75	2	-	51.51	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-54.85	2	4.84	47.25	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.97	2	-	48.29	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.35	2	5.06	45.97	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2380.272	-44.72	2	-	52.54	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2360.208	-55.38	2	5.06	46.94	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-46.23	2	-	51.03	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-56.5	2	5.06	45.82	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-45.38	2	-	51.88	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-54.24	2	5.17	48.19	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.68	-43.19	2	-	54.07	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.68	-53.96	2	5.17	48.47	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.45	2	-	49.81	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.75	2	5.17	46.68	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-49.29	2	-	47.97	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.23	2	5.06	46.09	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2389.392	-39.72	2	-	57.54	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2389.488	-54.88	2	5.06	47.44	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-48.44	2	-	48.82	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-56.33	2	5.06	45.99	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-45.16	2	-	52.1	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-53.7	2	5.06	48.62	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.608	-43.42	2	-	53.84	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.56	-53.54	2	5.06	48.78	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.05	2	-	50.21	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.99	2	5.06	46.33	Average	54	Pass

Test Graphs

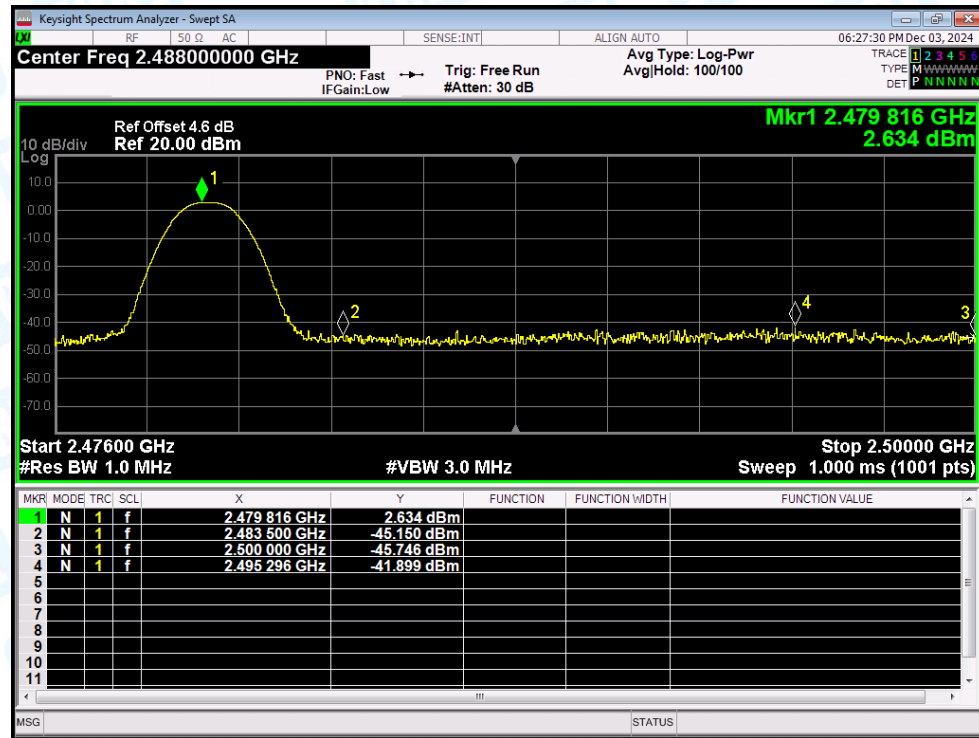
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



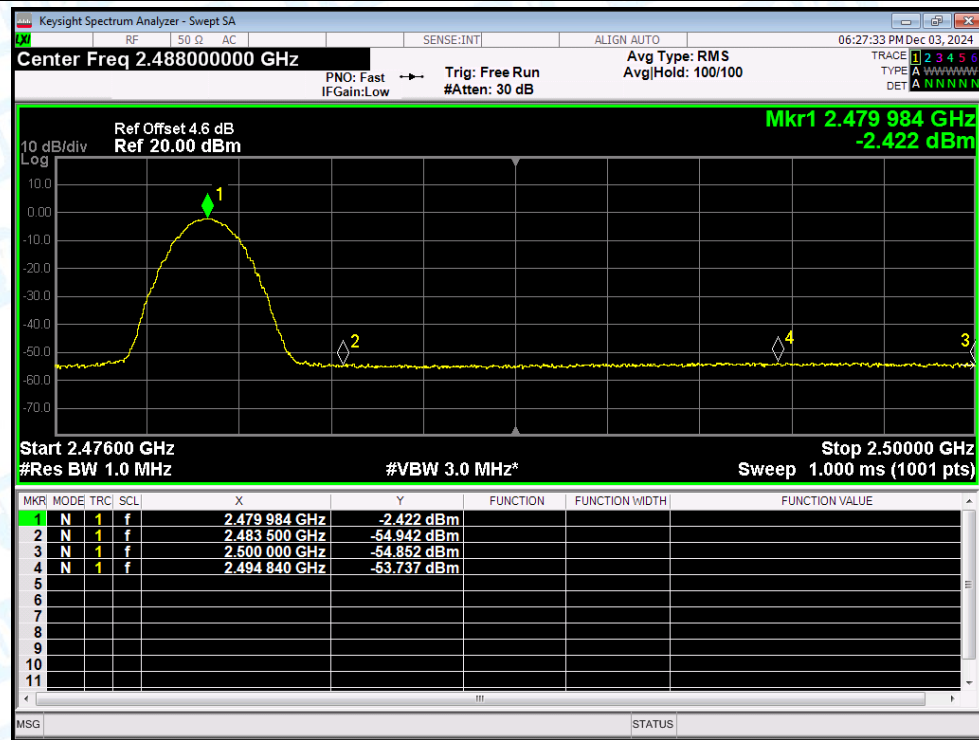
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



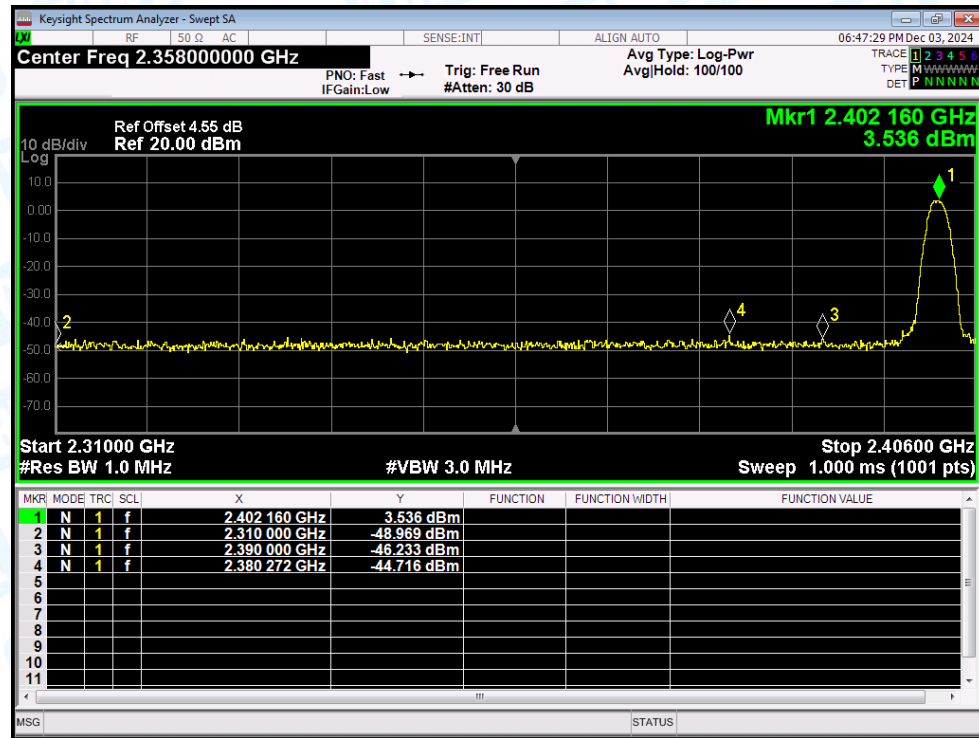
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



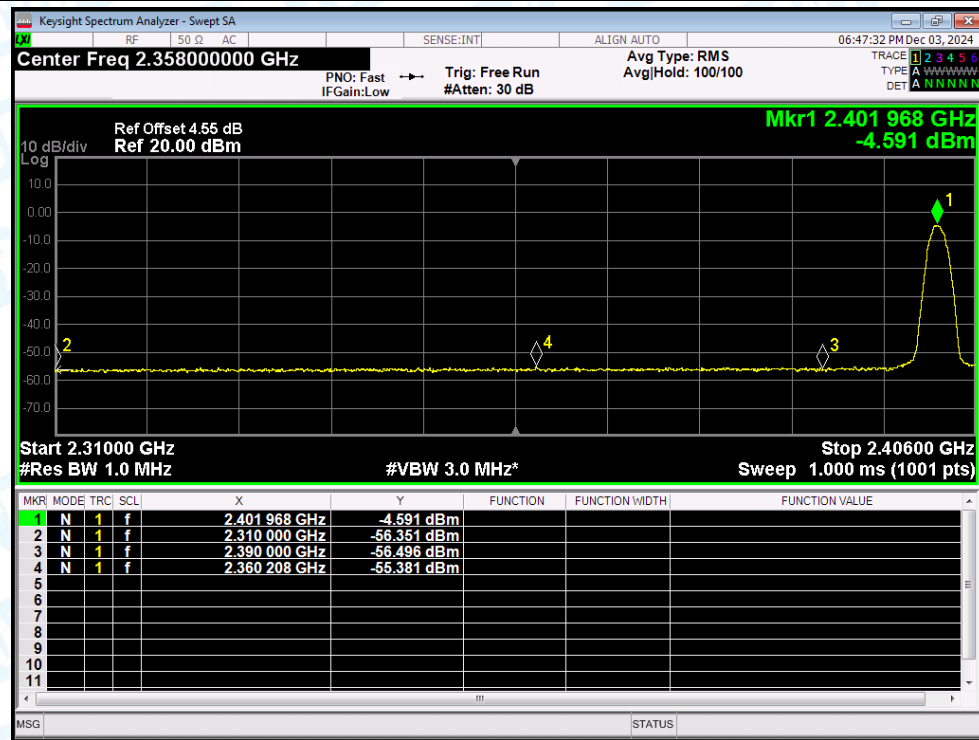
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



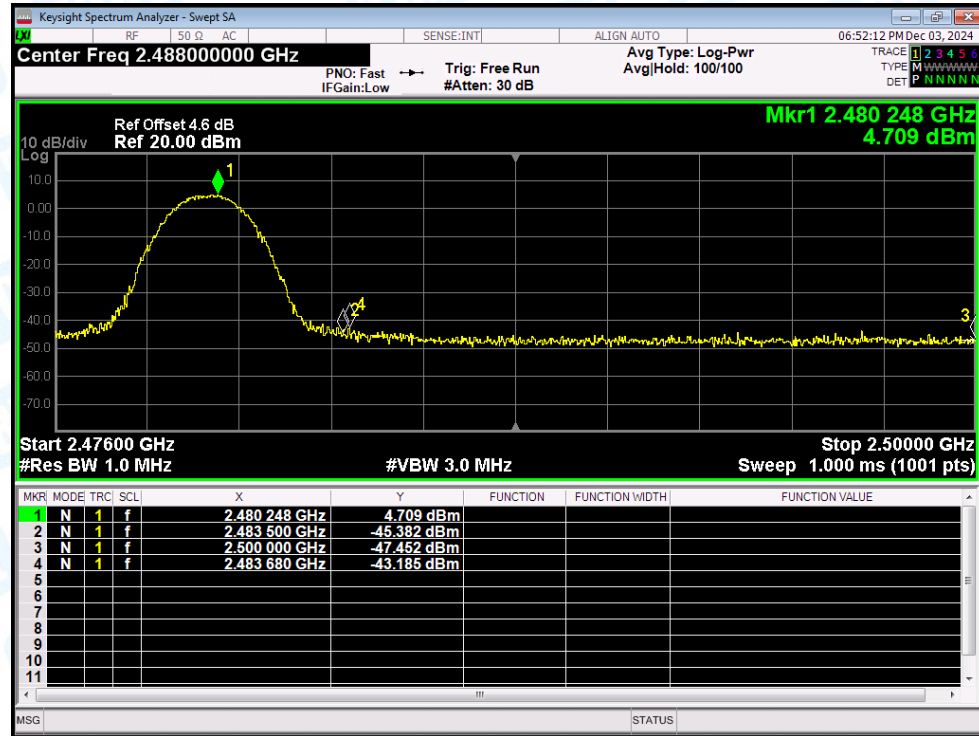
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



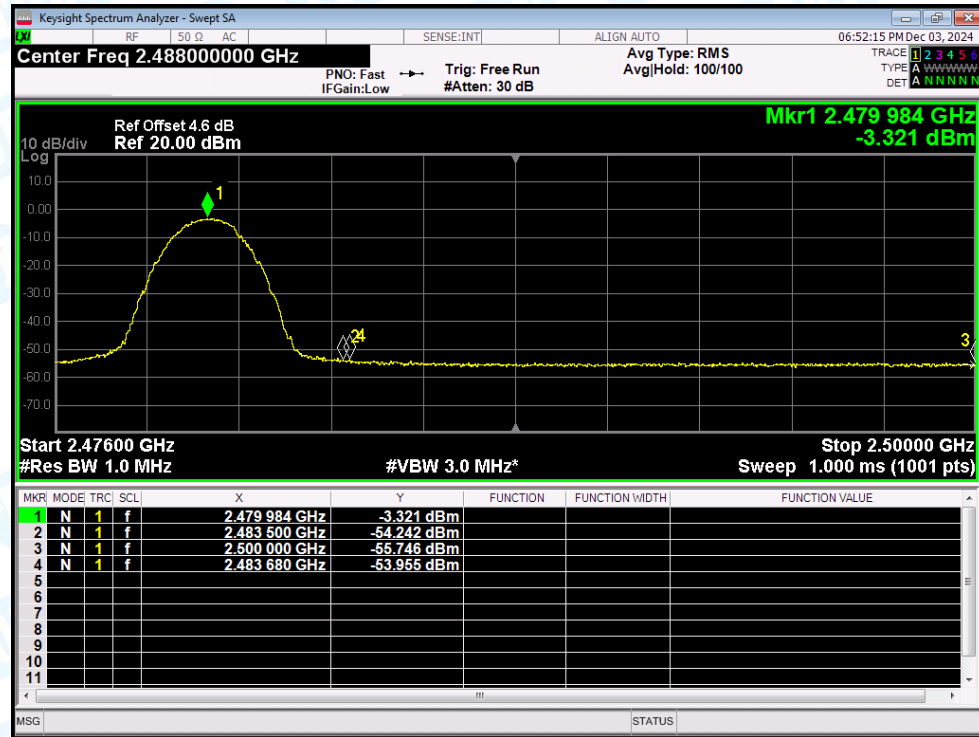
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



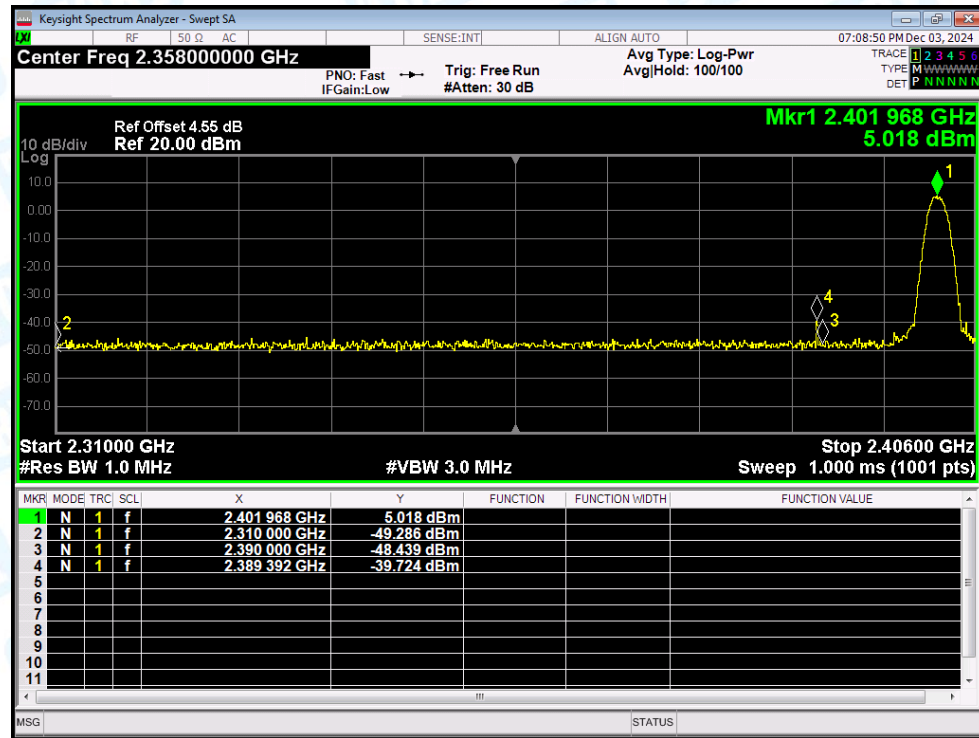
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



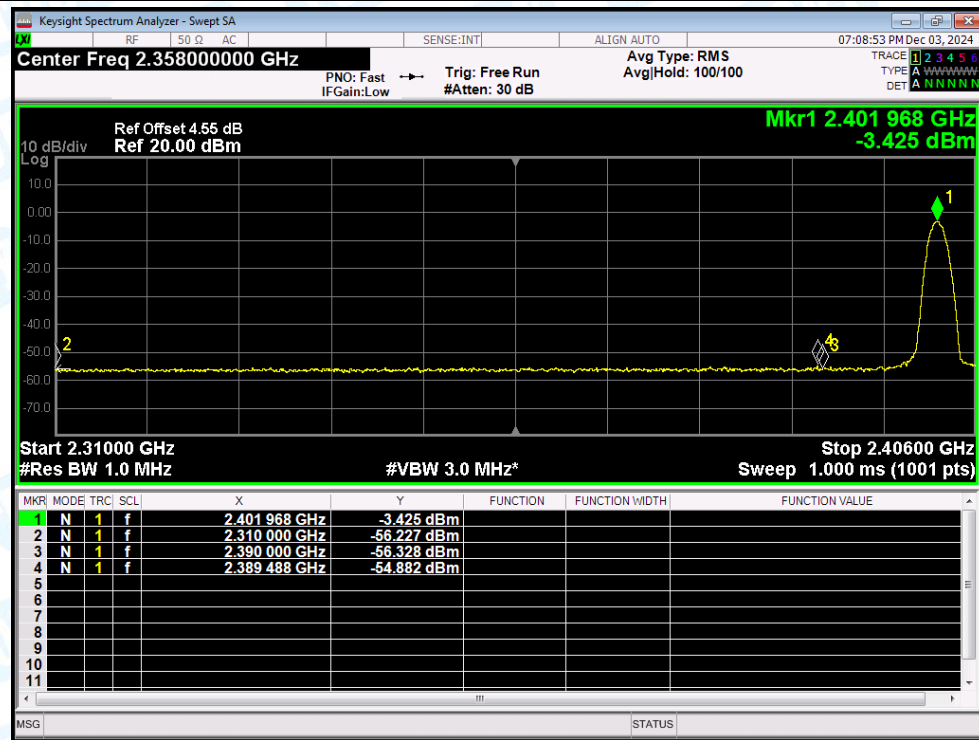
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



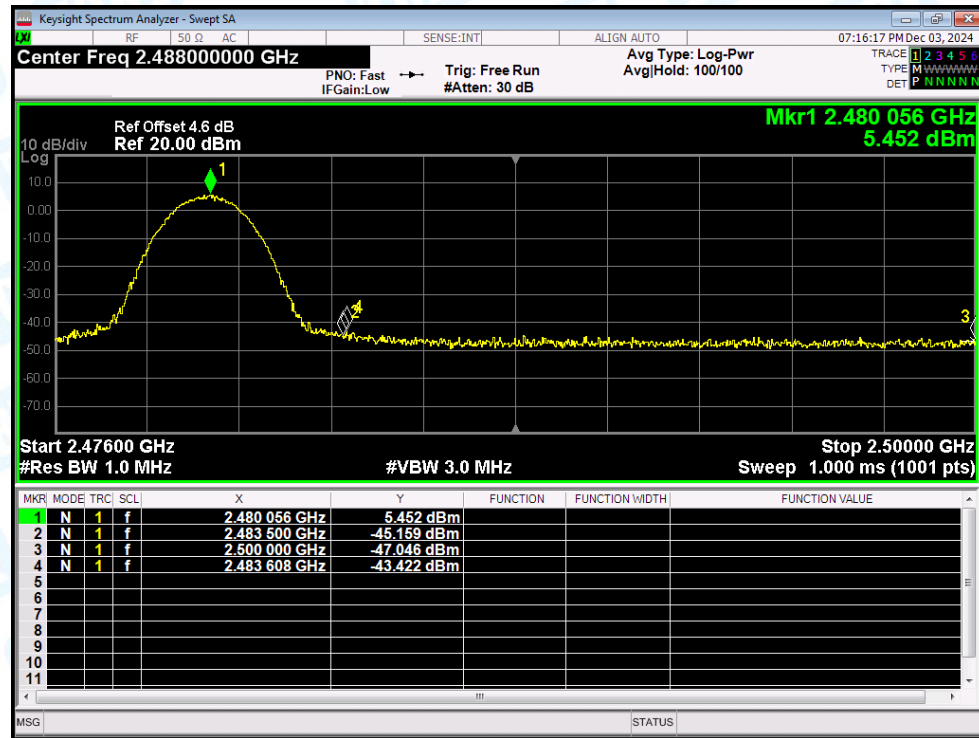
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



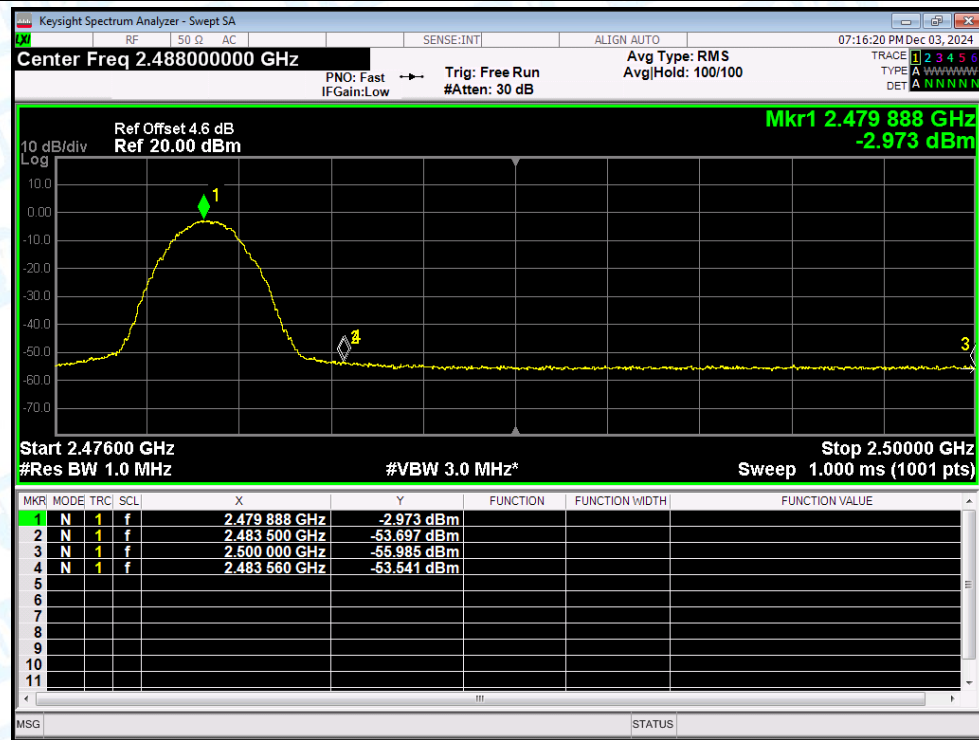
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

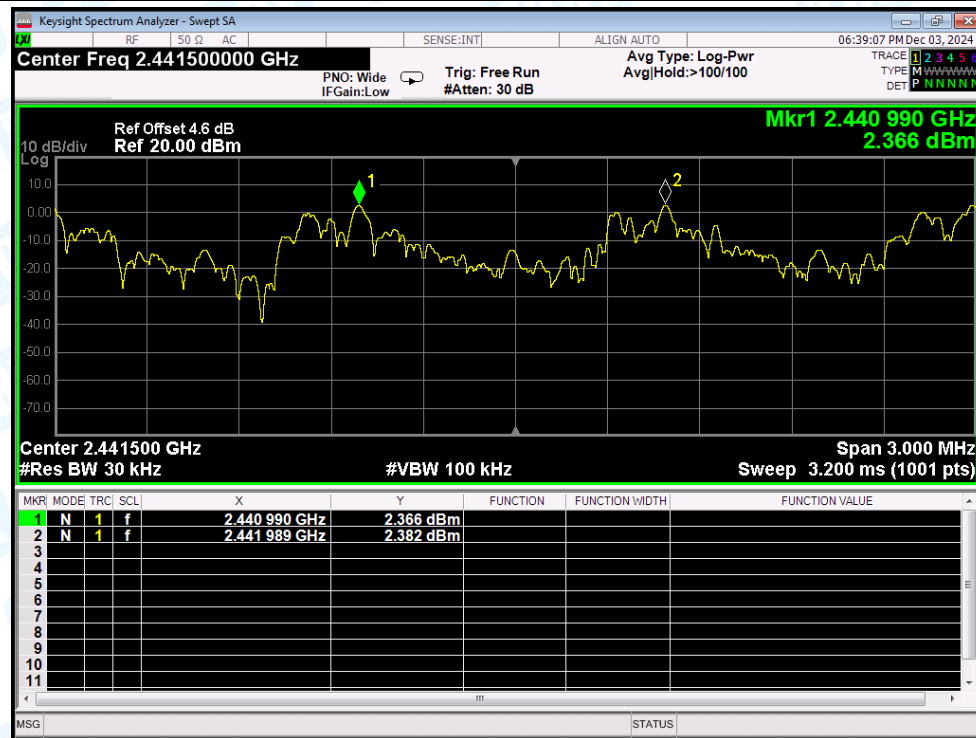


9. Carrier Frequencies Separation

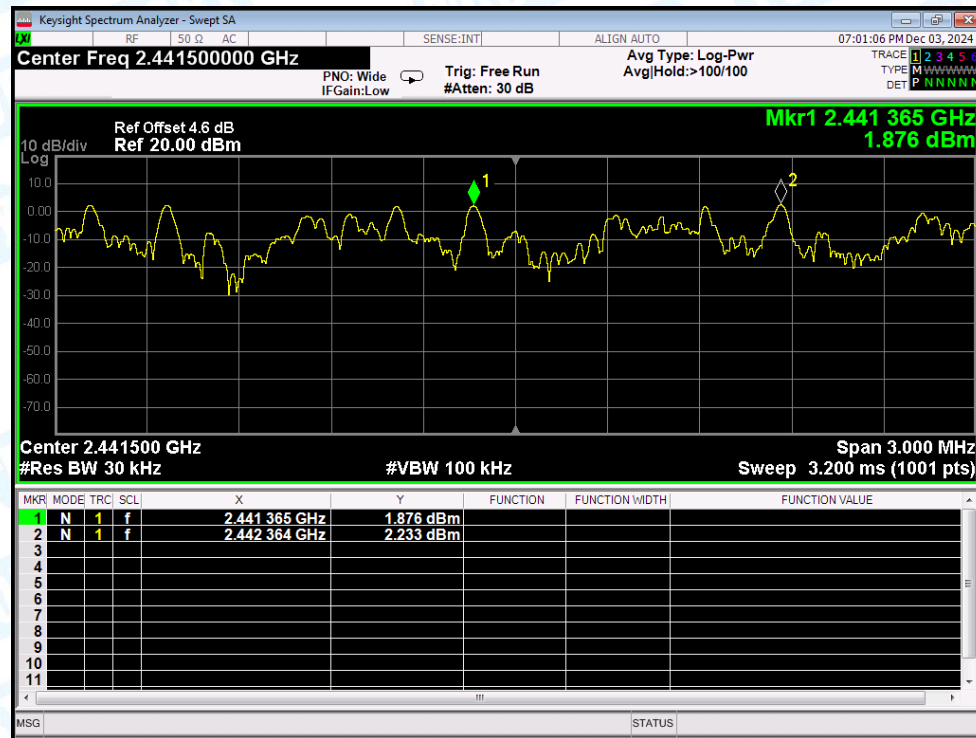
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.99	2441.989	0.999	0.58	Pass
NVNT	2-DH1	Ant1	2441.365	2442.364	0.999	0.867	Pass
NVNT	3-DH1	Ant1	2440.99	2441.989	0.999	0.84	Pass

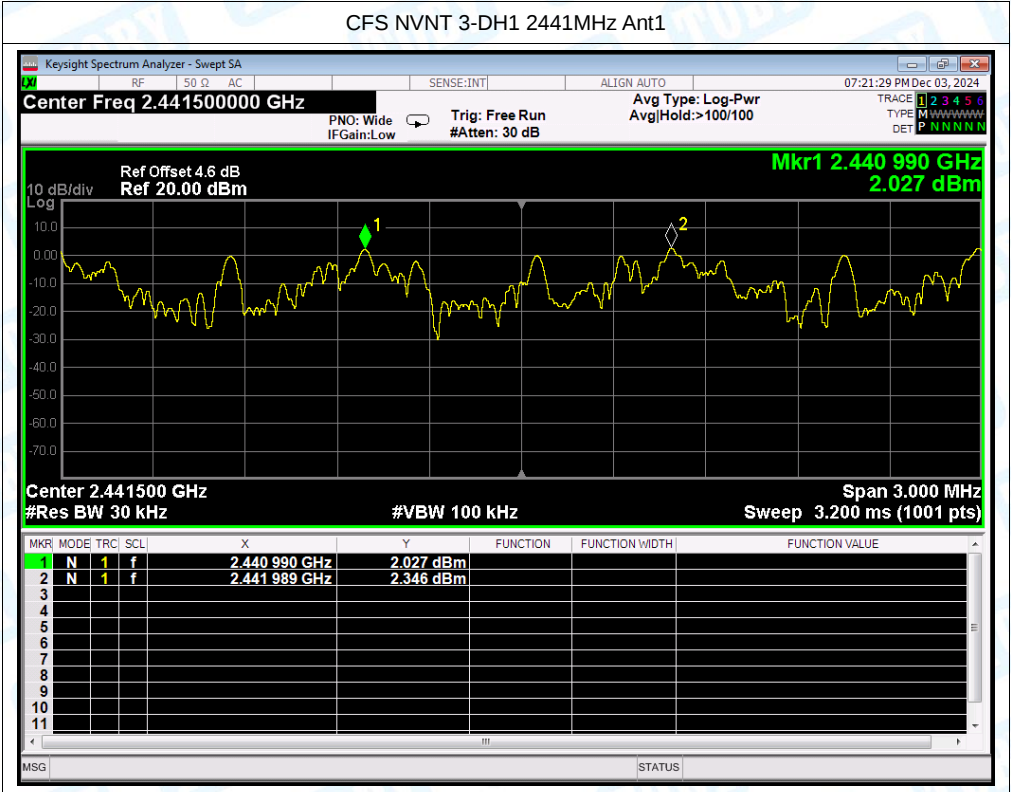
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



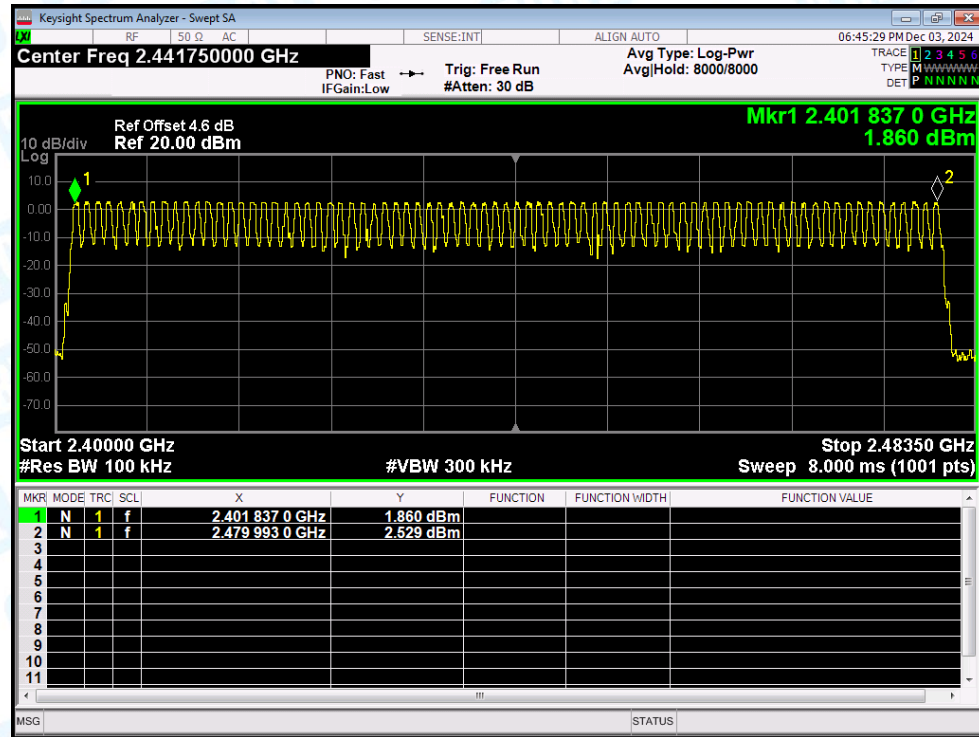


10. Number of Hopping Channel

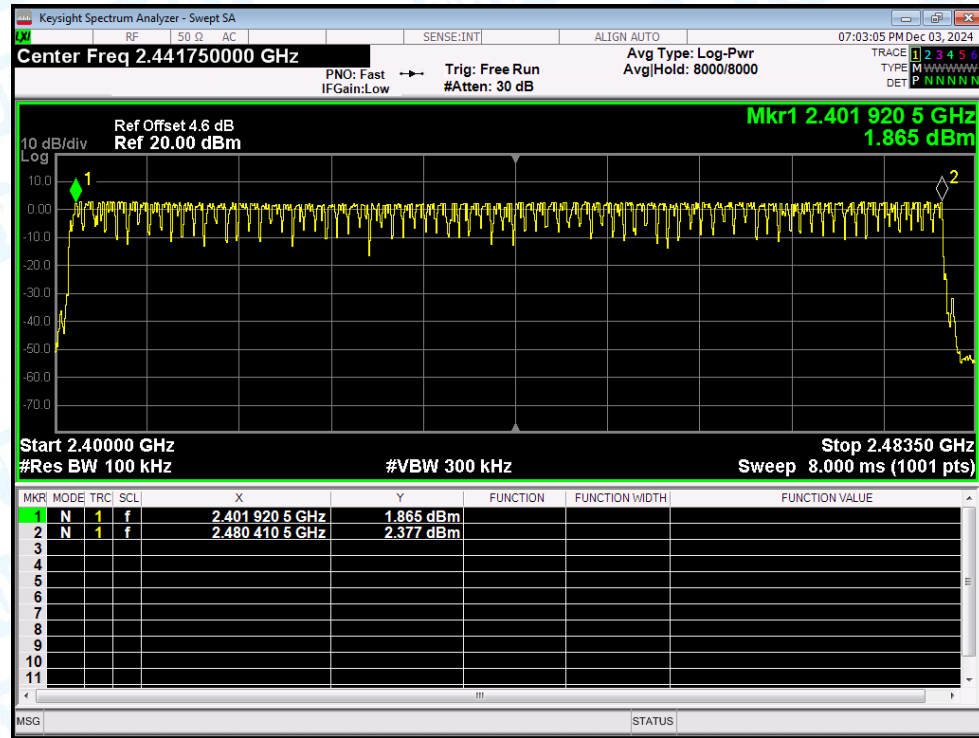
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

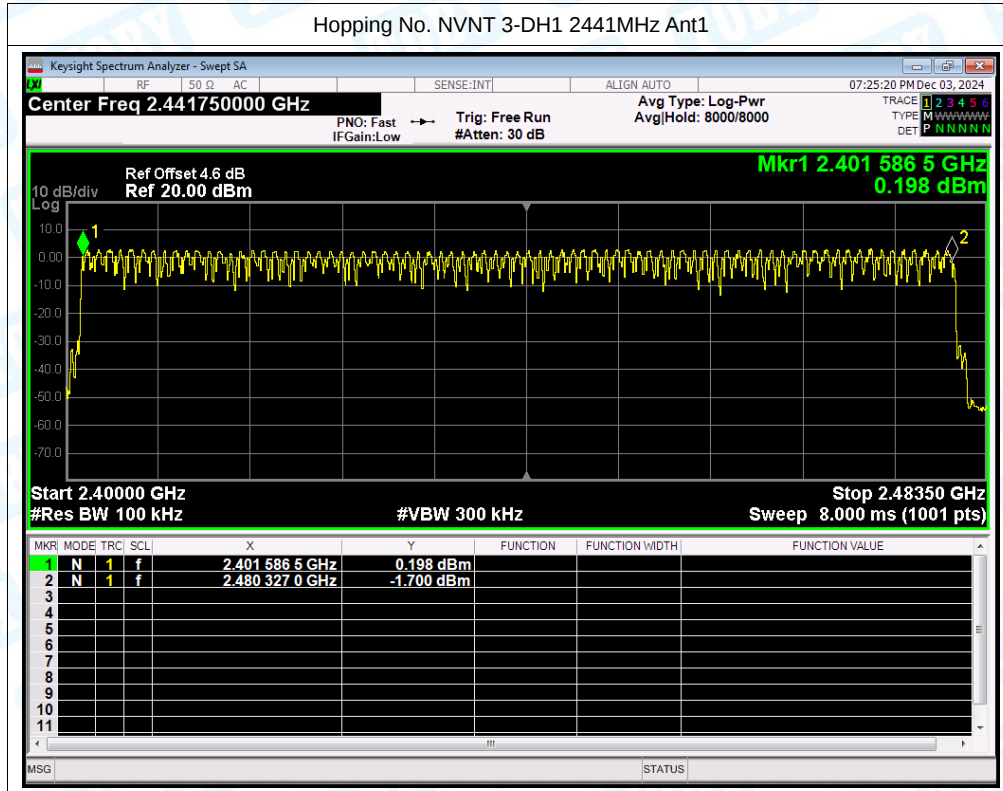
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



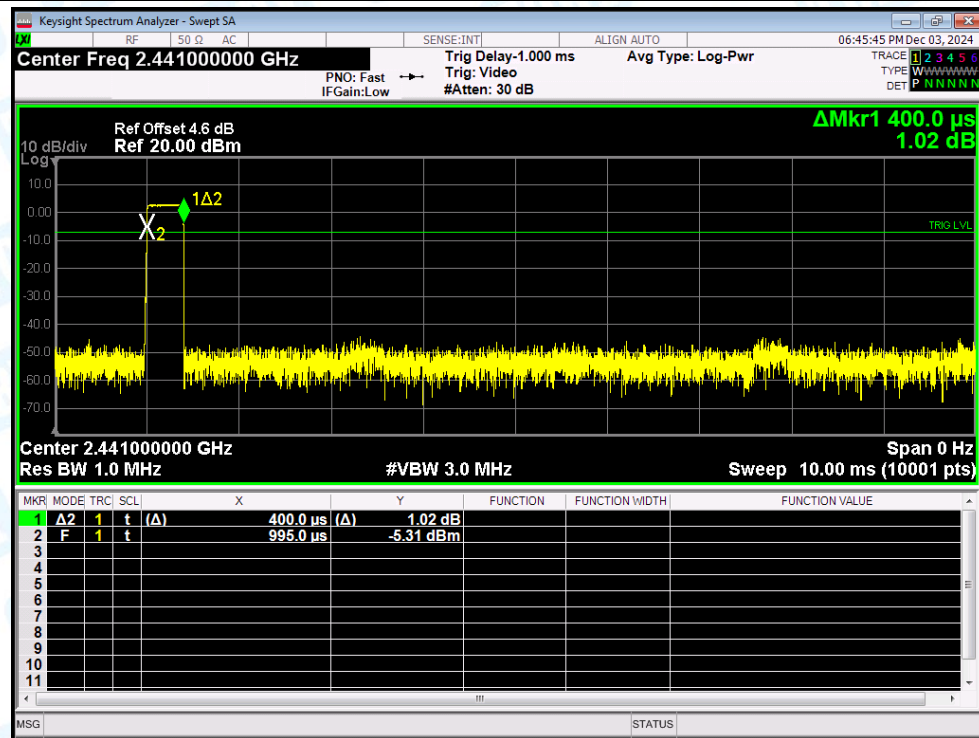


11. Dwell Time

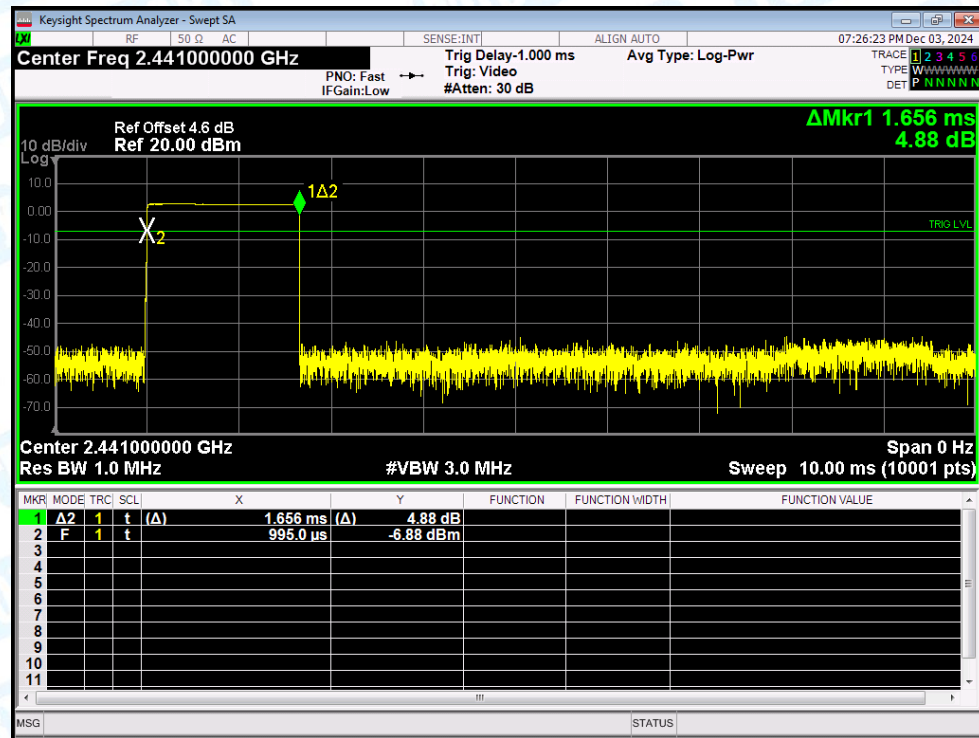
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.4	128	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.656	264.96	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.903	309.653	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.382	122.24	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.633	261.28	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.882	307.413	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.382	122.24	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.631	260.96	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.883	307.52	31600	400	Pass

Test Graphs

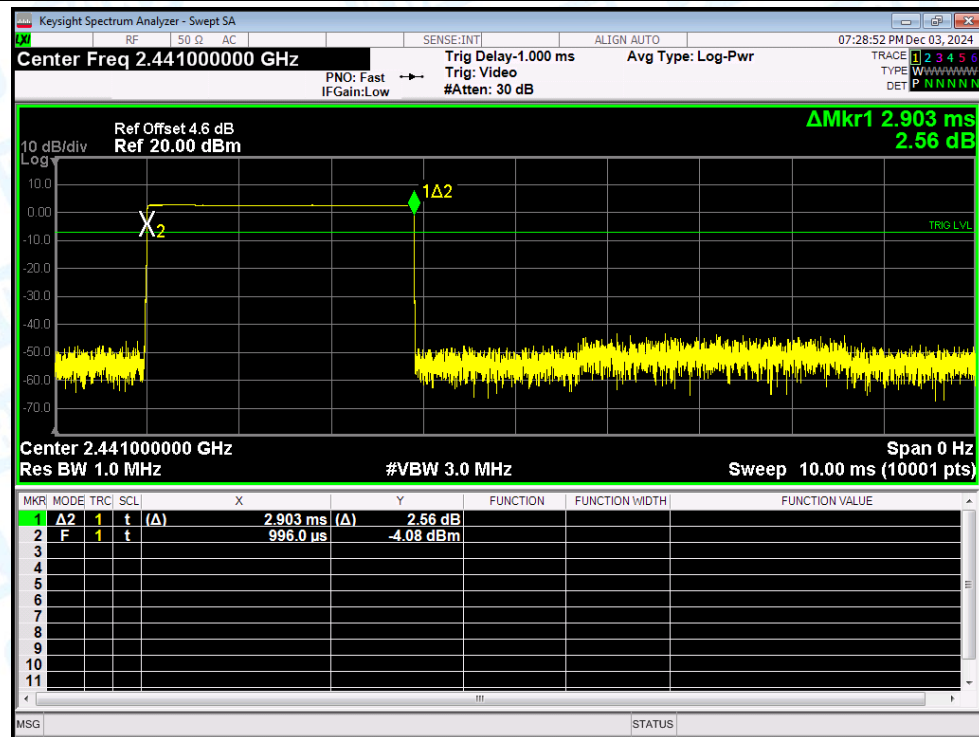
Dwell NVNT 1-DH1 2441MHz Ant1



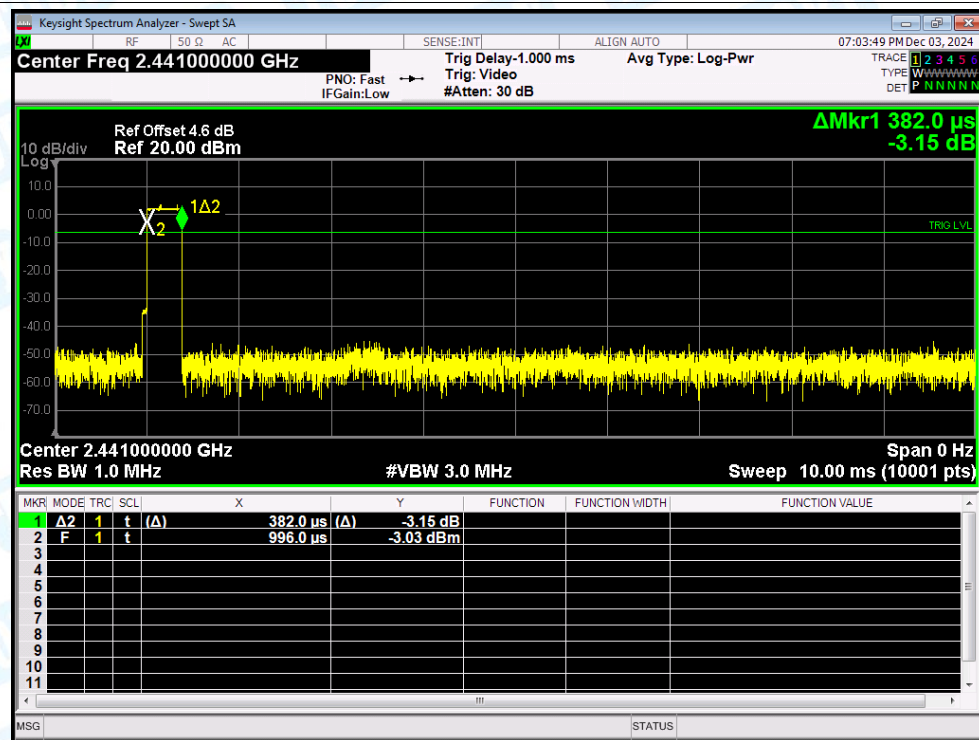
Dwell NVNT 1-DH3 2441MHz Ant1



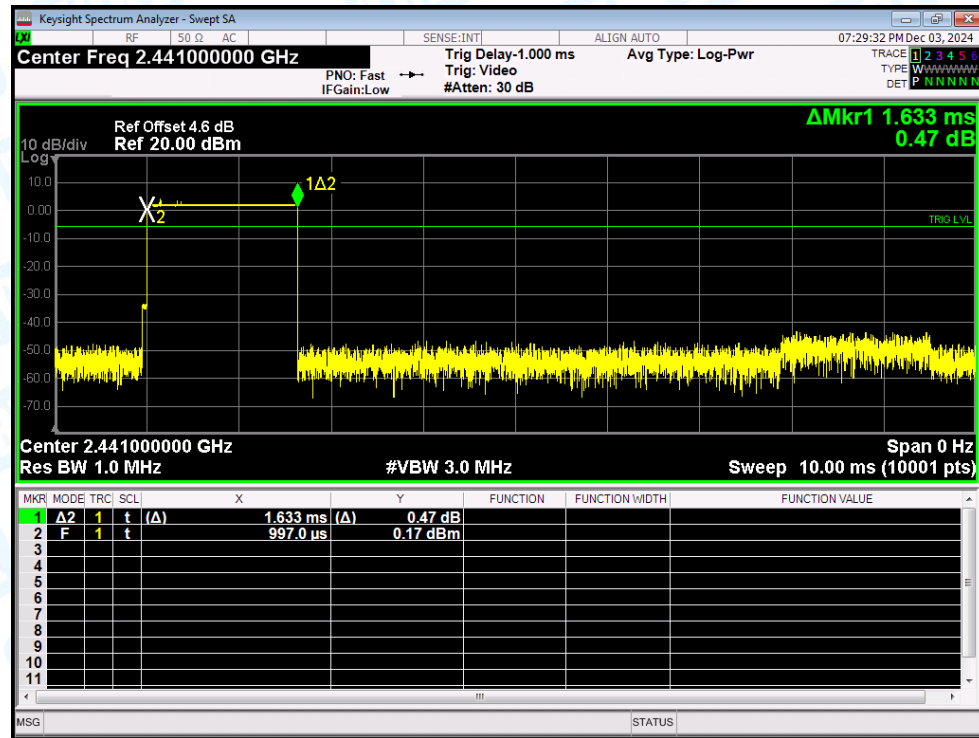
Dwell NVNT 1-DH5 2441MHz Ant1



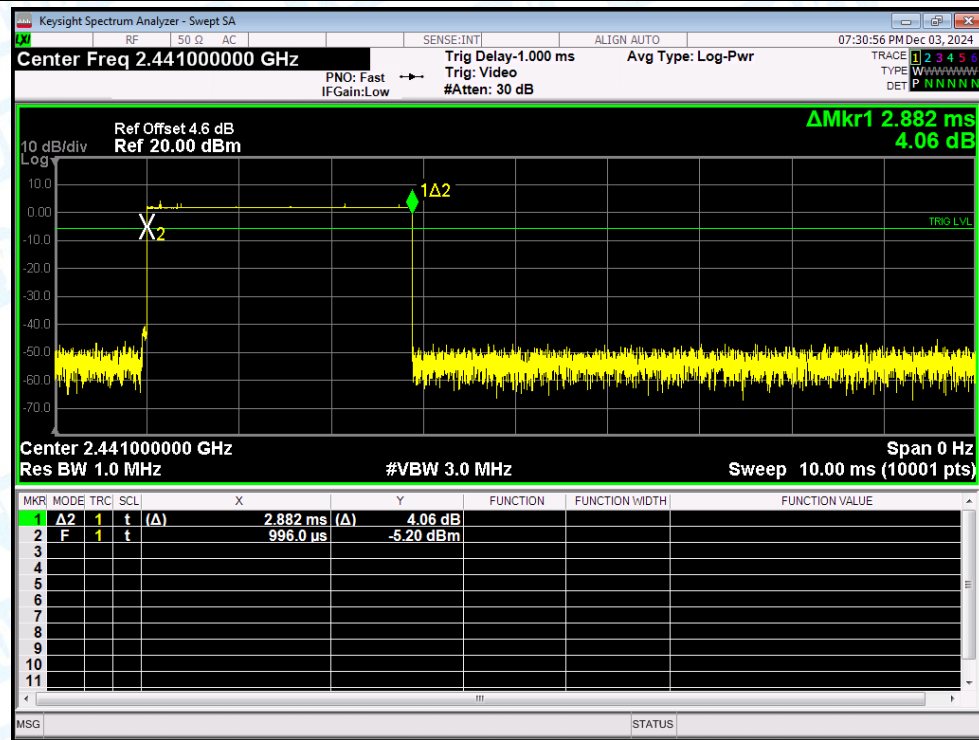
Dwell NVNT 2-DH1 2441MHz Ant1



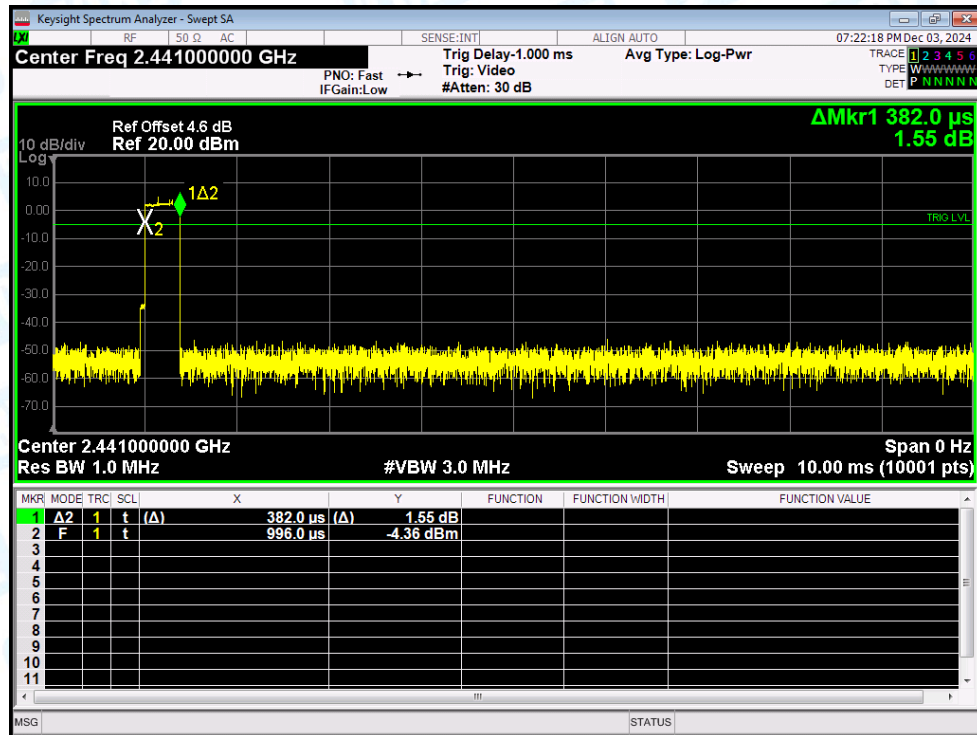
Dwell NVNT 2-DH3 2441MHz Ant1



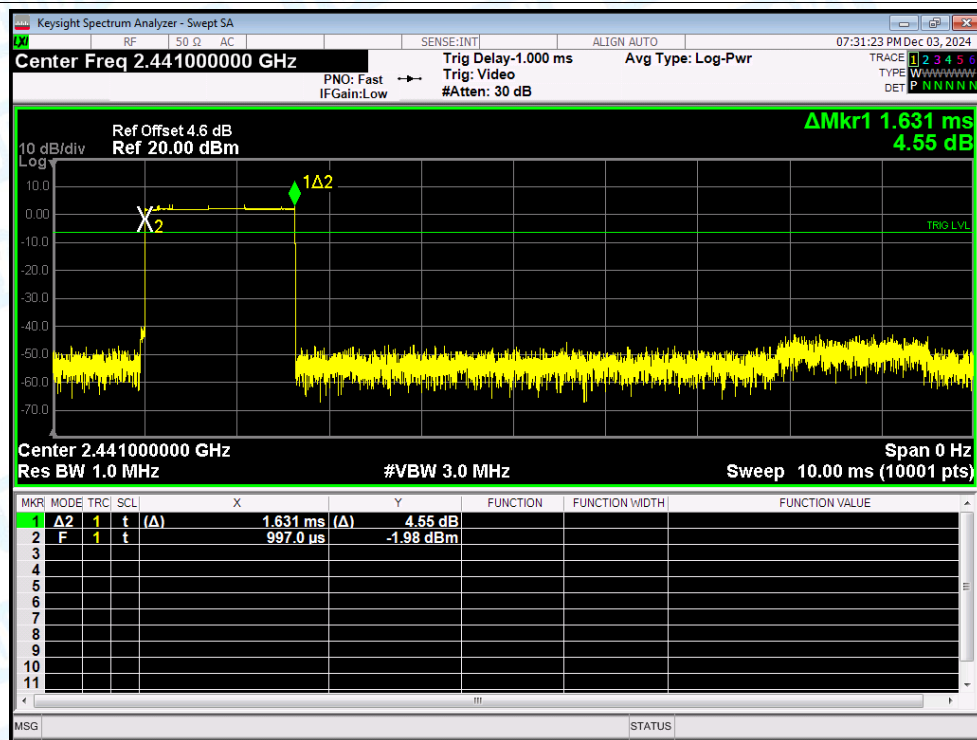
Dwell NVNT 2-DH5 2441MHz Ant1

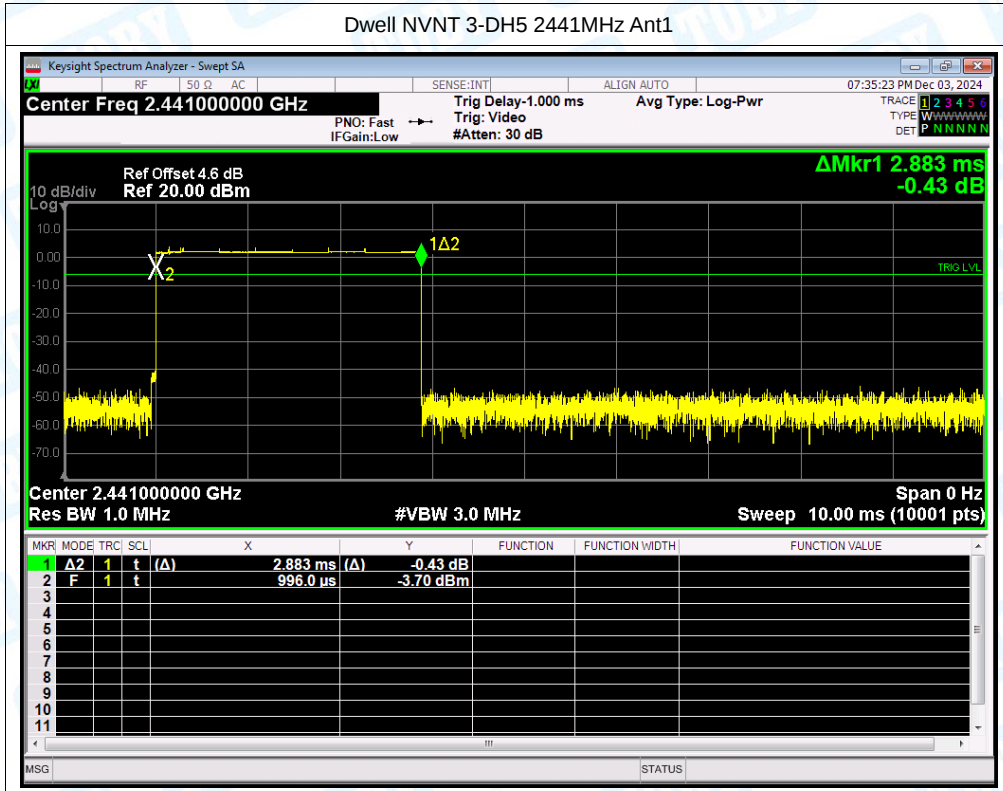


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





--- END OF REPORT ---