

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Smart watch
Test Model:	H5
Sample ID:	HC-C-202409-0302-02-01
Environmental Conditions	
Temperature:	24.1℃
Relative Humidity:	52.2%
Test Voltage:	DC 3.7V
Test Engineer:	Rick Chen
Note: For a more detailed features description, please refer to the report TBR-C-202409-0302-51 The report only show the worst case data.	

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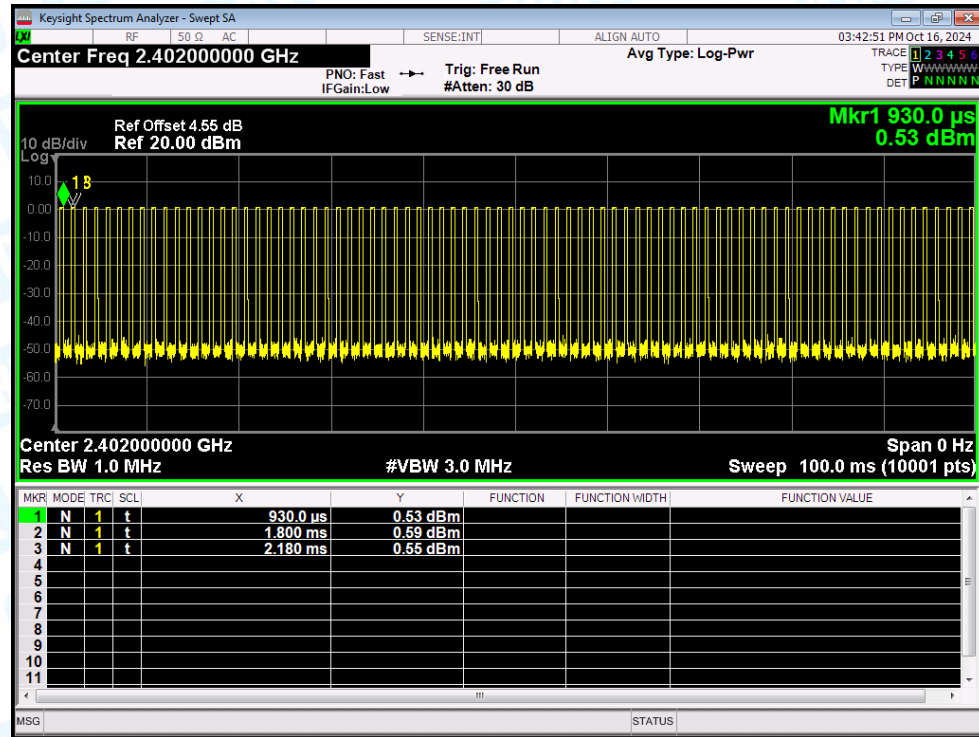
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1. Duty Cycle

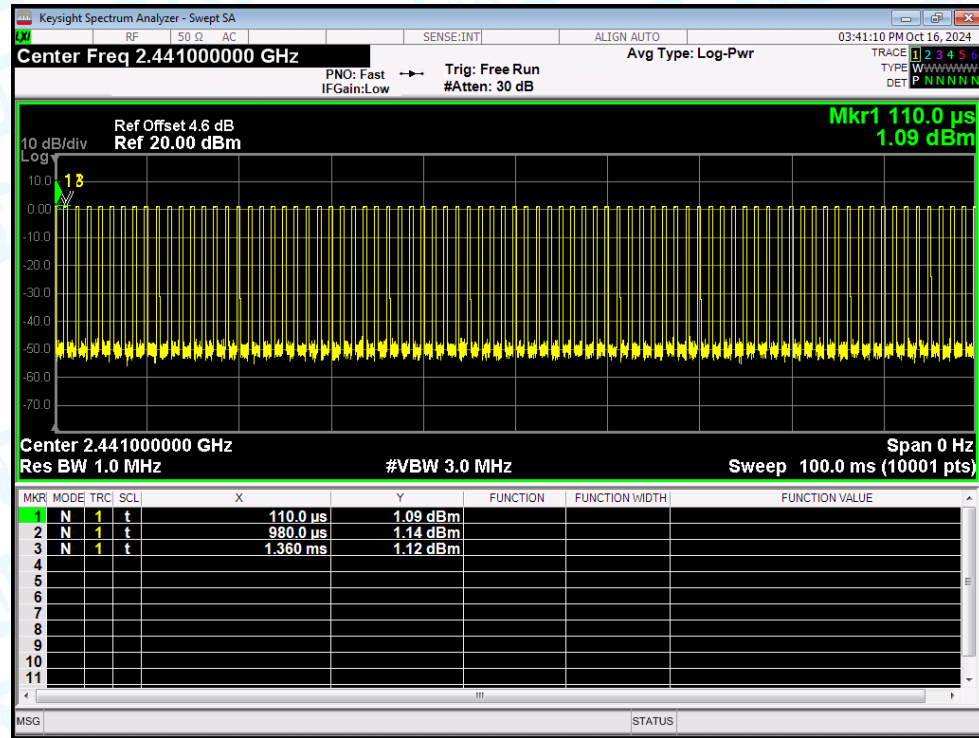
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	32	4.95	2.5
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56
NVNT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

Test Graphs

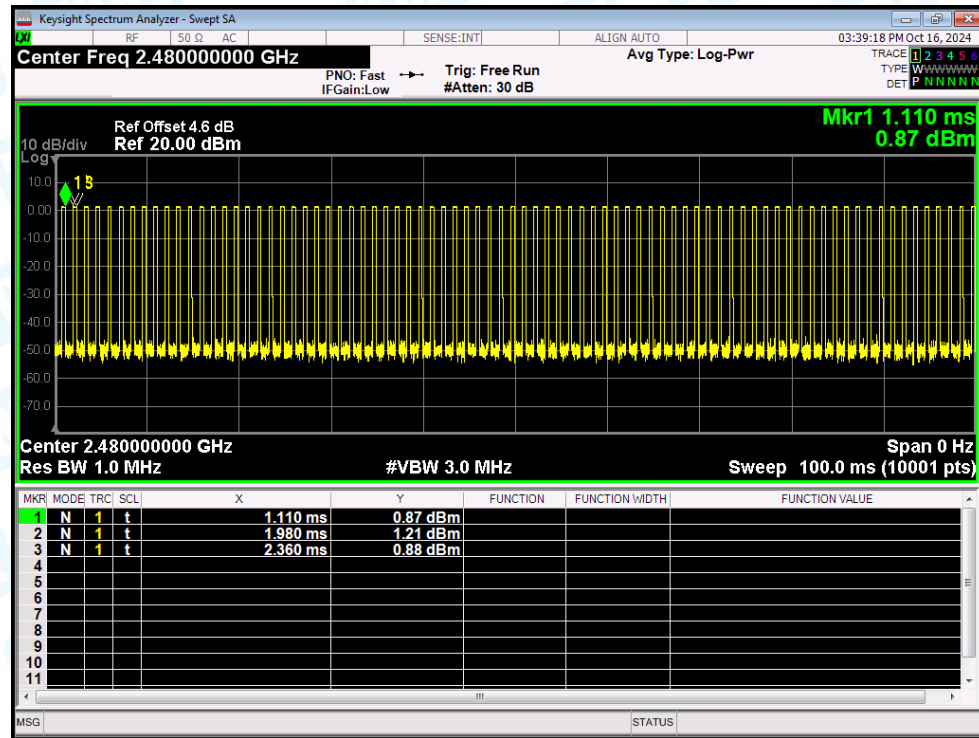
Duty Cycle NVNT 1-DH1 2402MHz Ant1



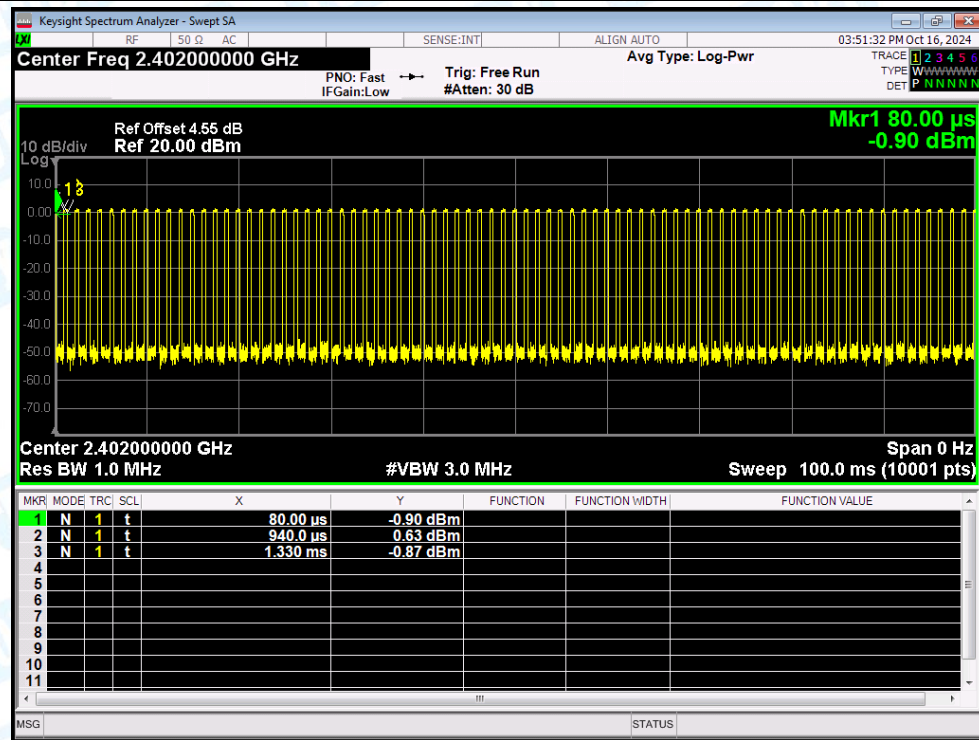
Duty Cycle NVNT 1-DH1 2441MHz Ant1



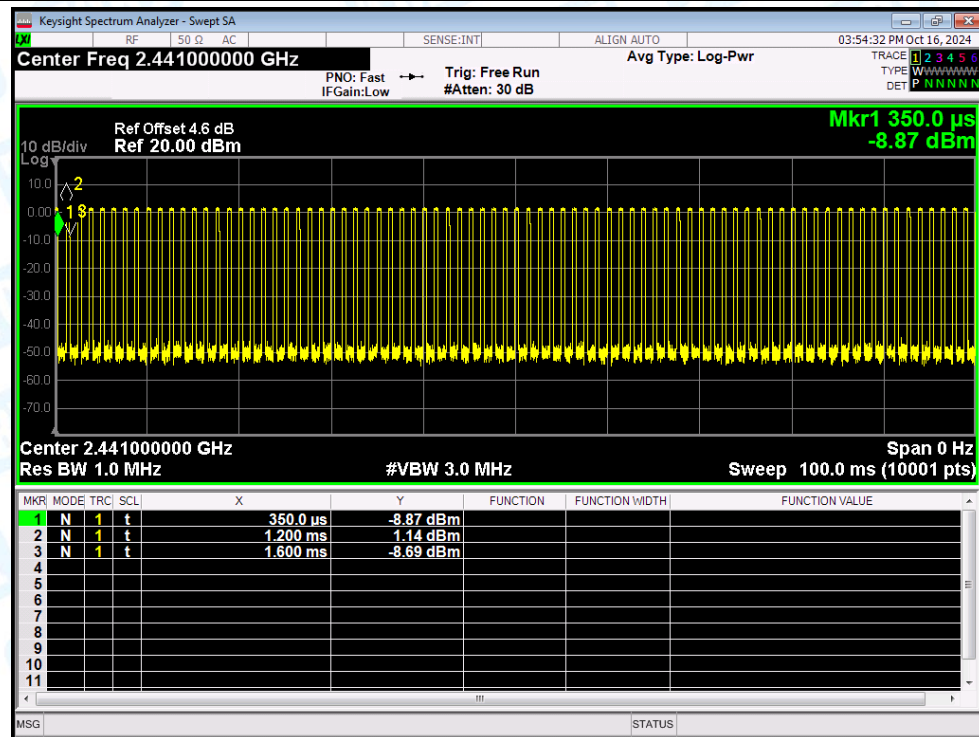
Duty Cycle NVNT 1-DH1 2480MHz Ant1



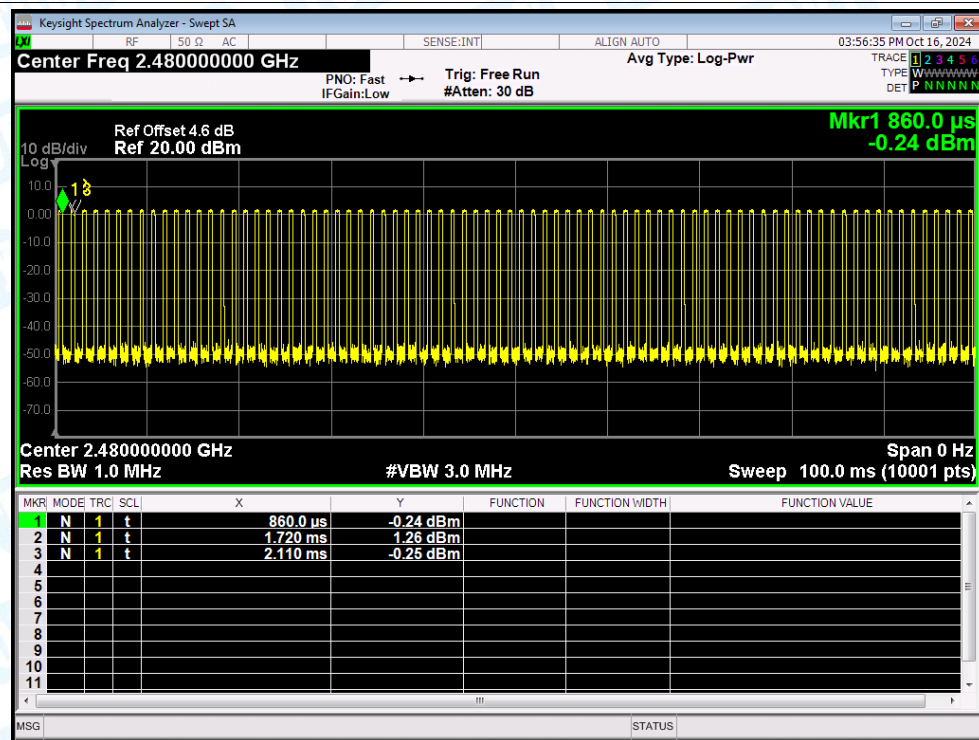
Duty Cycle NVNT 2-DH1 2402MHz Ant1



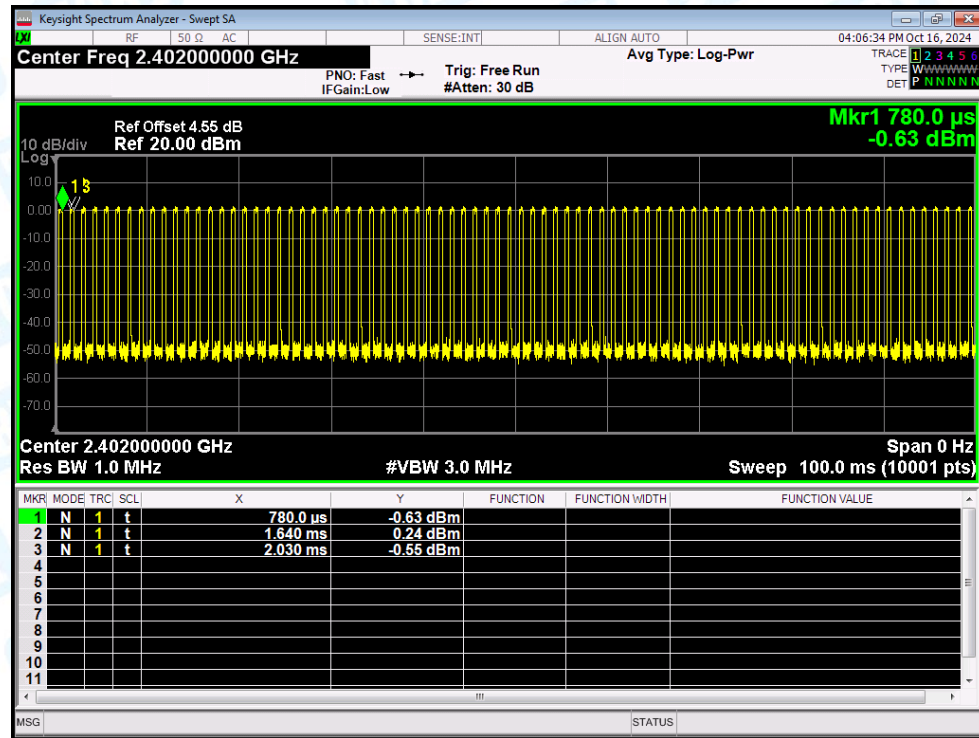
Duty Cycle NVNT 2-DH1 2441MHz Ant1



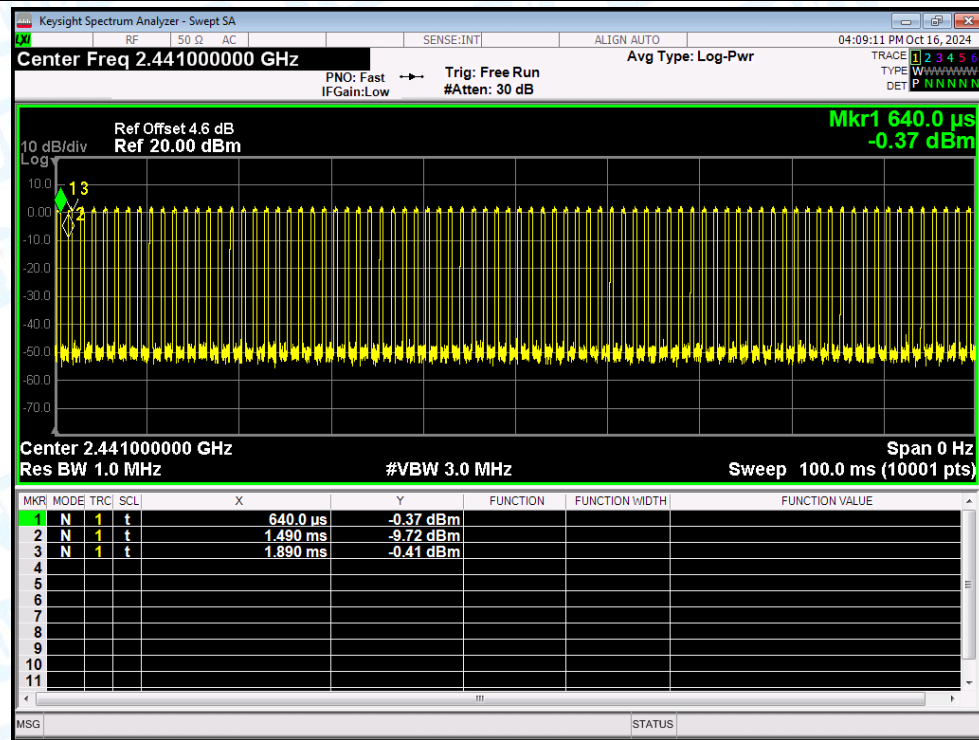
Duty Cycle NVNT 2-DH1 2480MHz Ant1

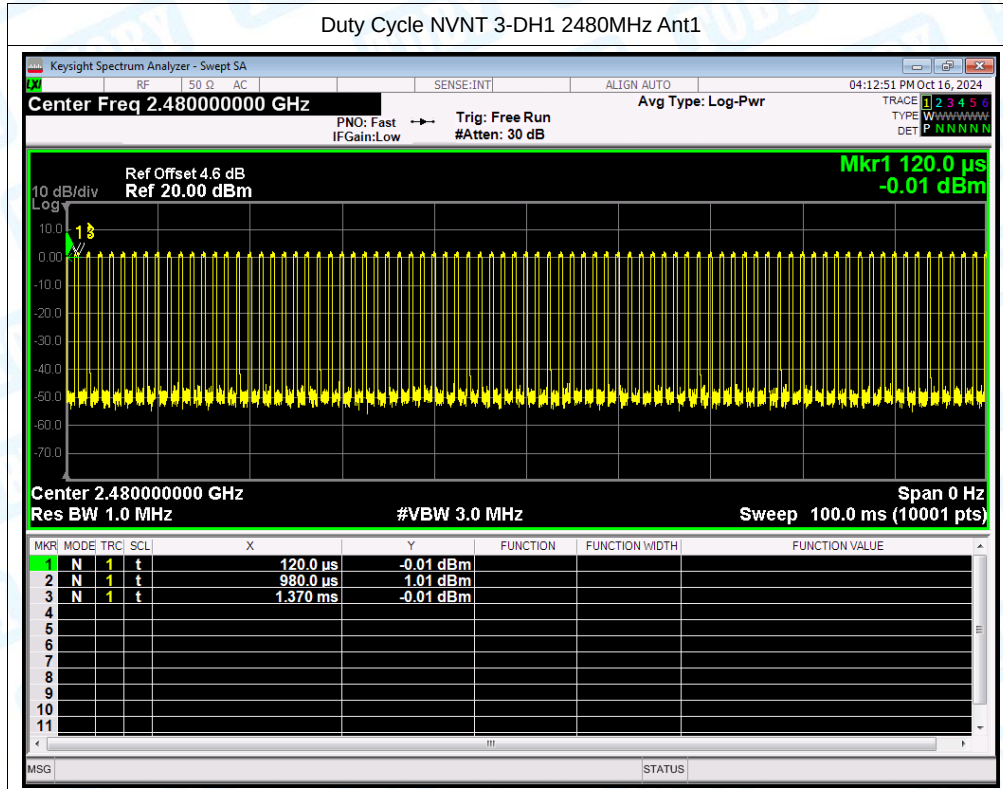


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



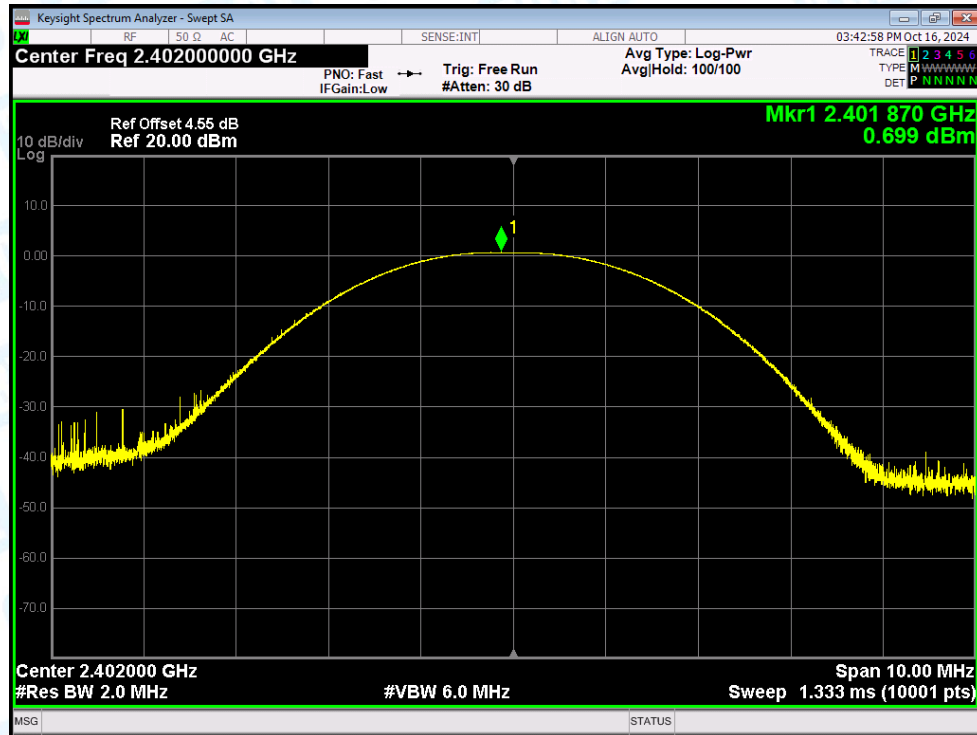


2. Maximum Conducted Output Power

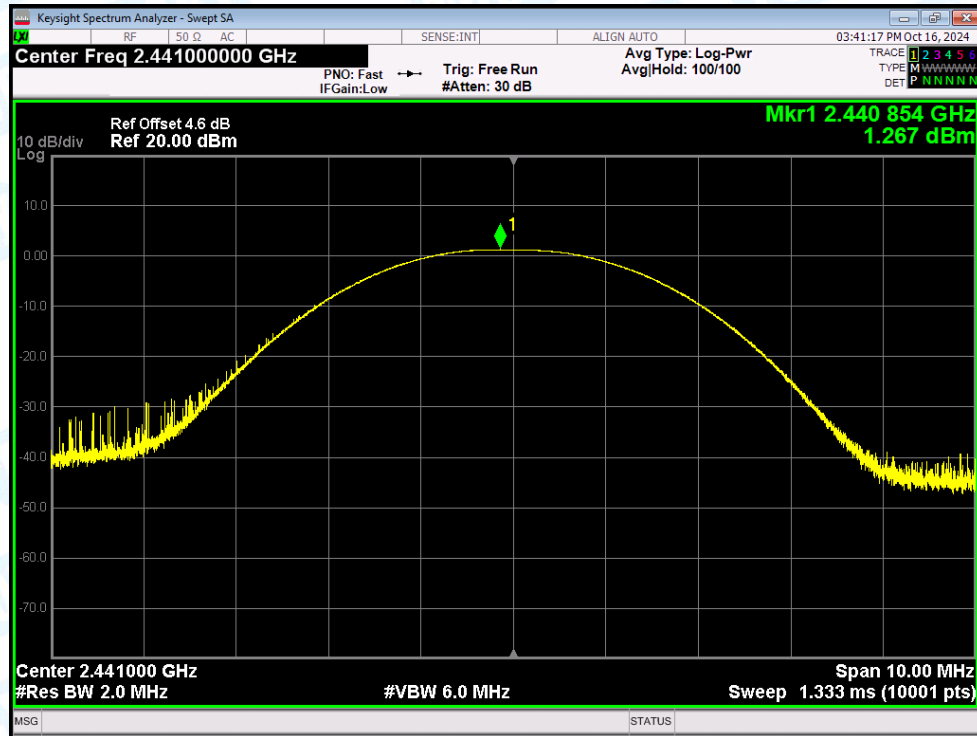
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	0.699	21	Pass
NVNT	1-DH1	2441	Ant1	1.267	21	Pass
NVNT	1-DH1	2480	Ant1	1.329	21	Pass
NVNT	2-DH1	2402	Ant1	1.582	21	Pass
NVNT	2-DH1	2441	Ant1	2.136	21	Pass
NVNT	2-DH1	2480	Ant1	2.207	21	Pass
NVNT	3-DH1	2402	Ant1	1.839	21	Pass
NVNT	3-DH1	2441	Ant1	2.382	21	Pass
NVNT	3-DH1	2480	Ant1	2.517	21	Pass

Test Graphs

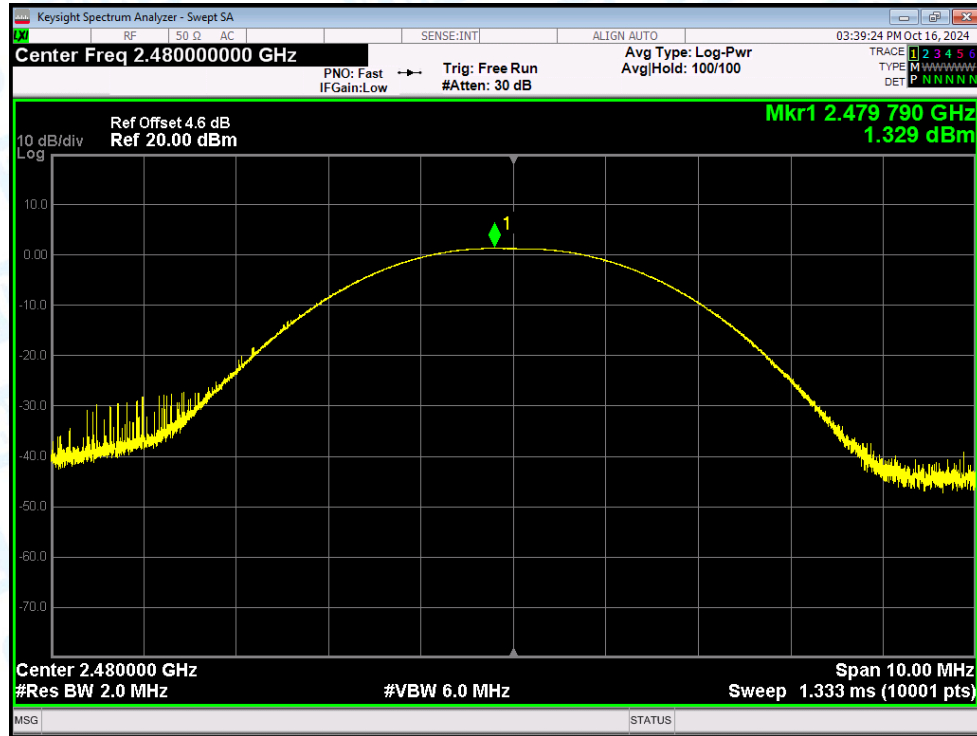
Power NVNT 1-DH1 2402MHz Ant1



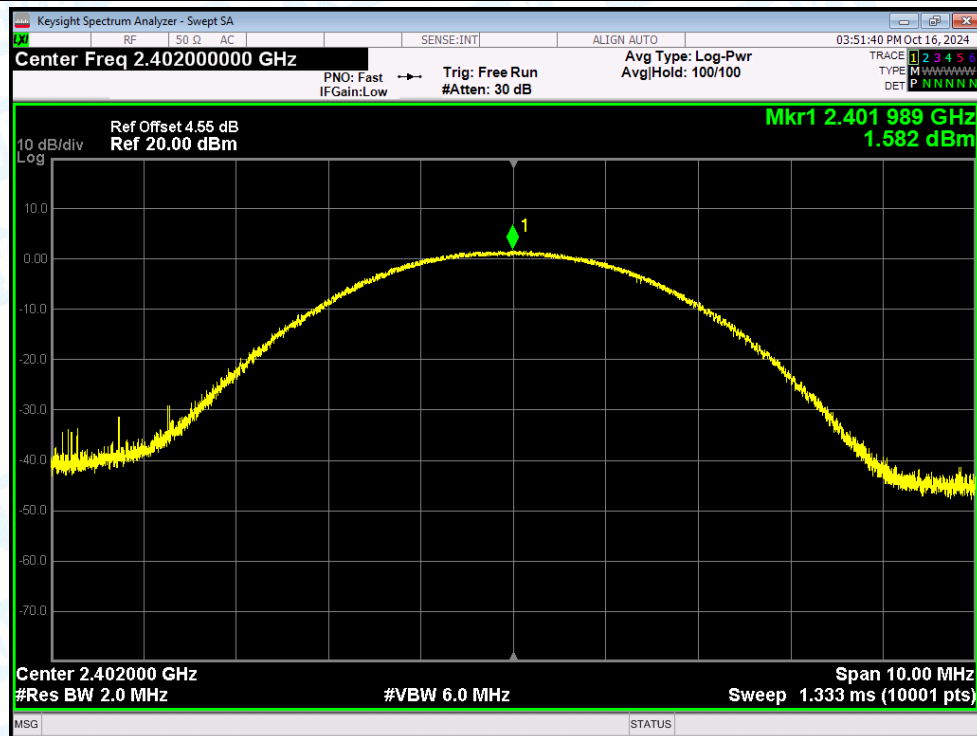
Power NVNT 1-DH1 2441MHz Ant1



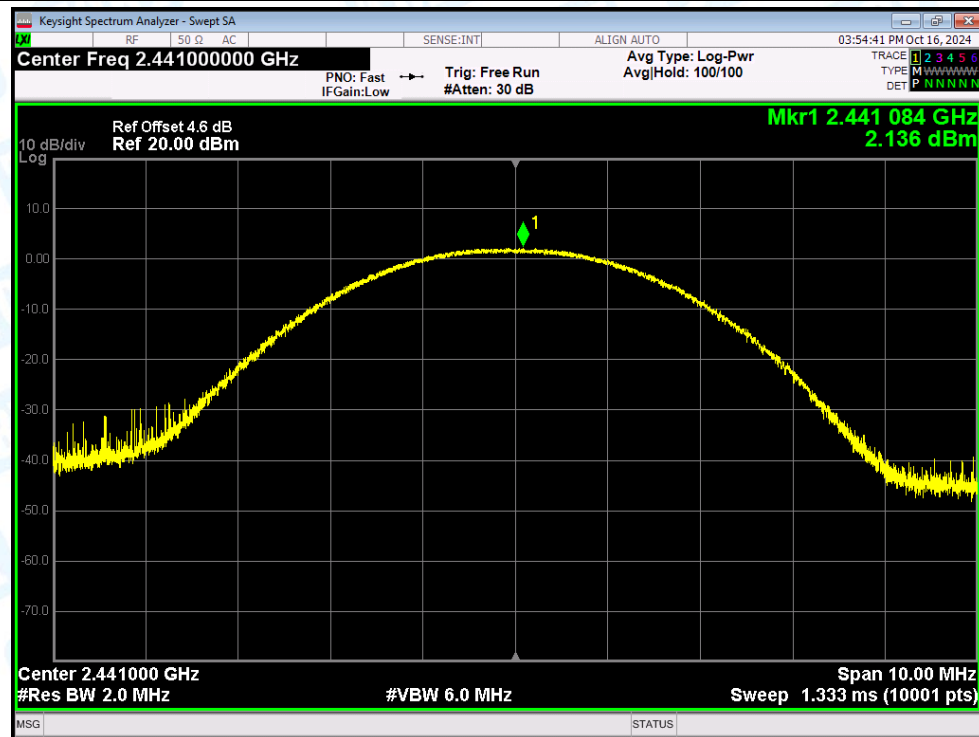
Power NVNT 1-DH1 2480MHz Ant1



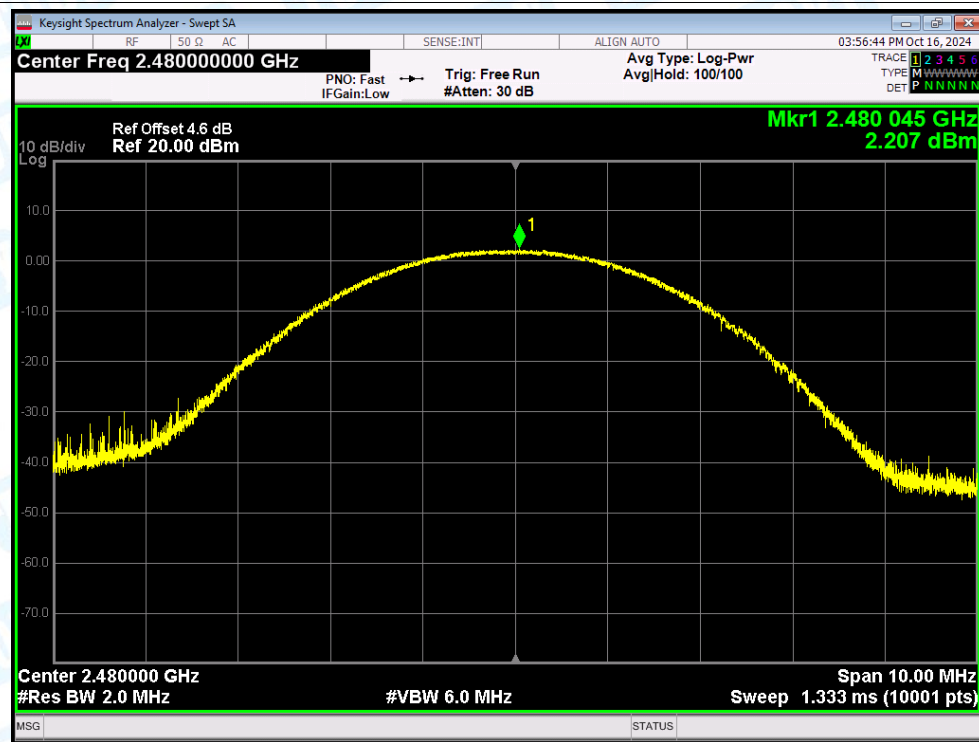
Power NVNT 2-DH1 2402MHz Ant1



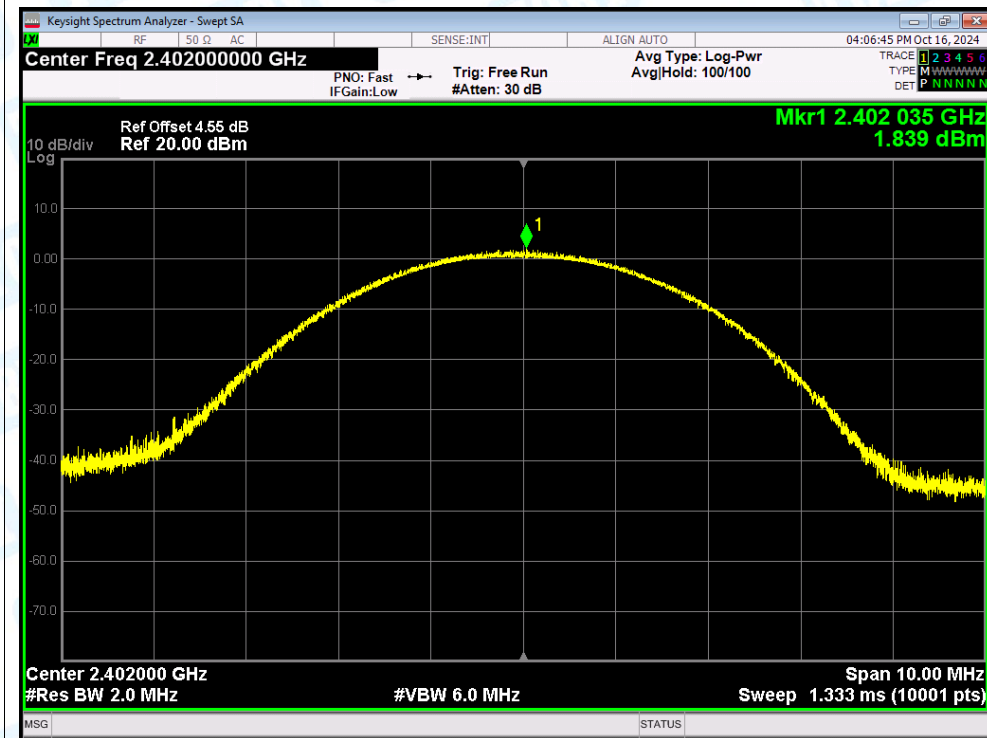
Power NVNT 2-DH1 2441MHz Ant1



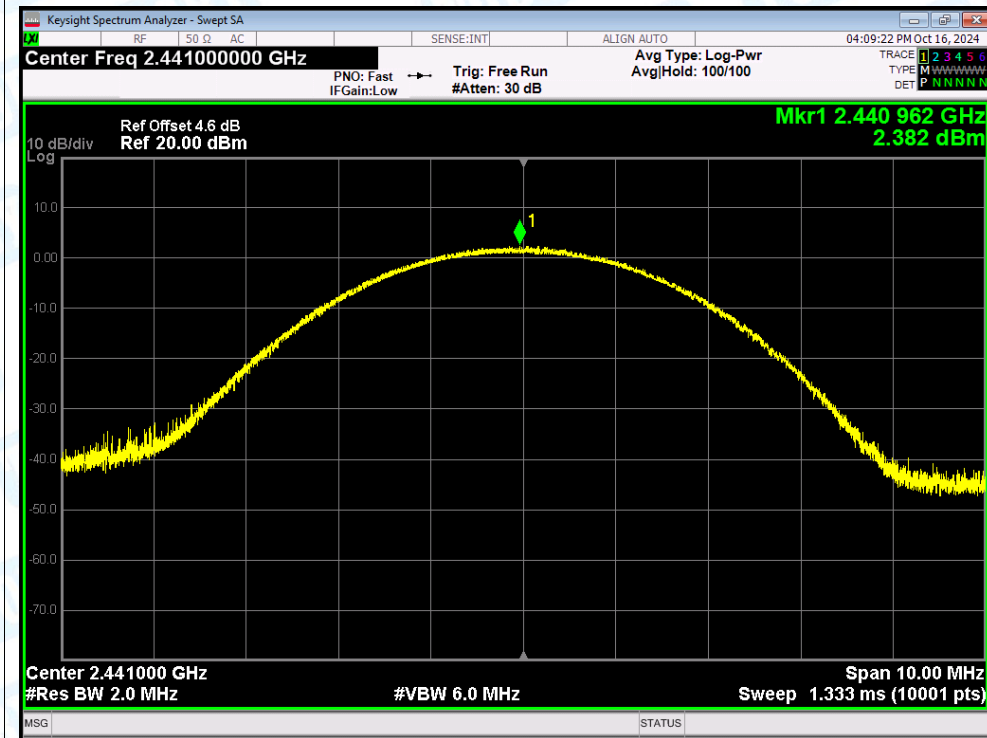
Power NVNT 2-DH1 2480MHz Ant1

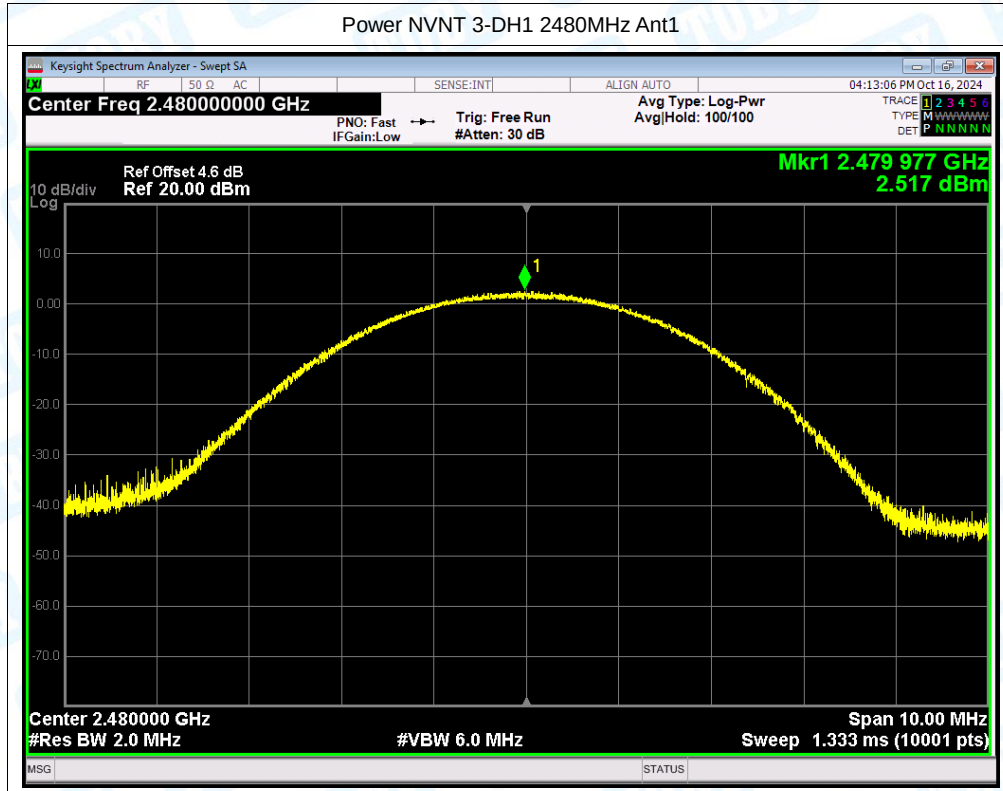


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



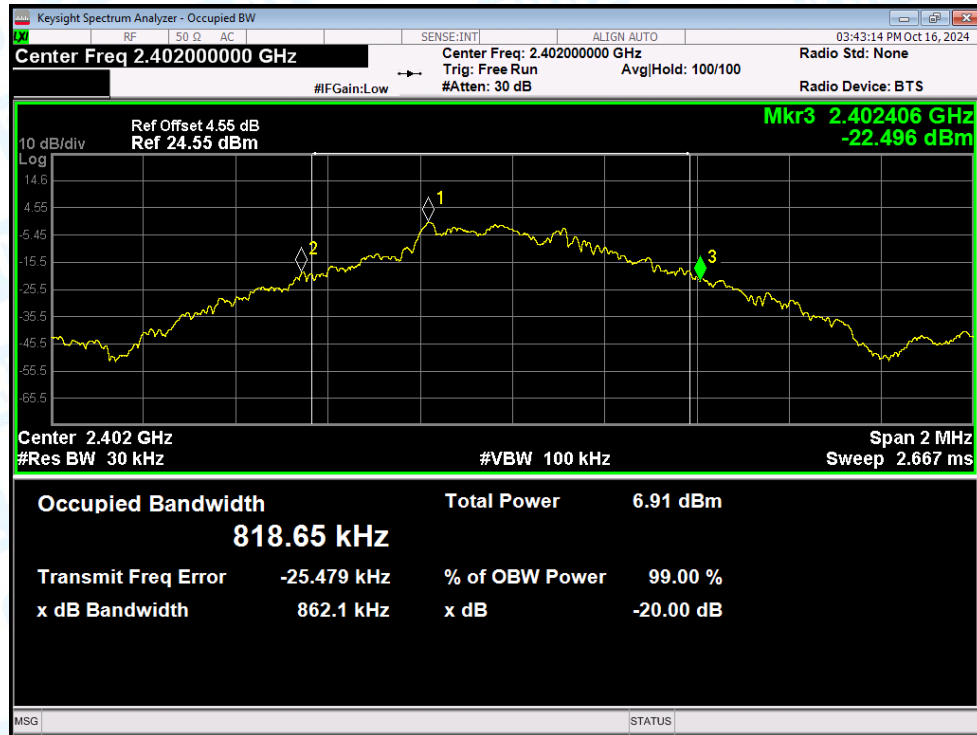


3. -20dB Bandwidth

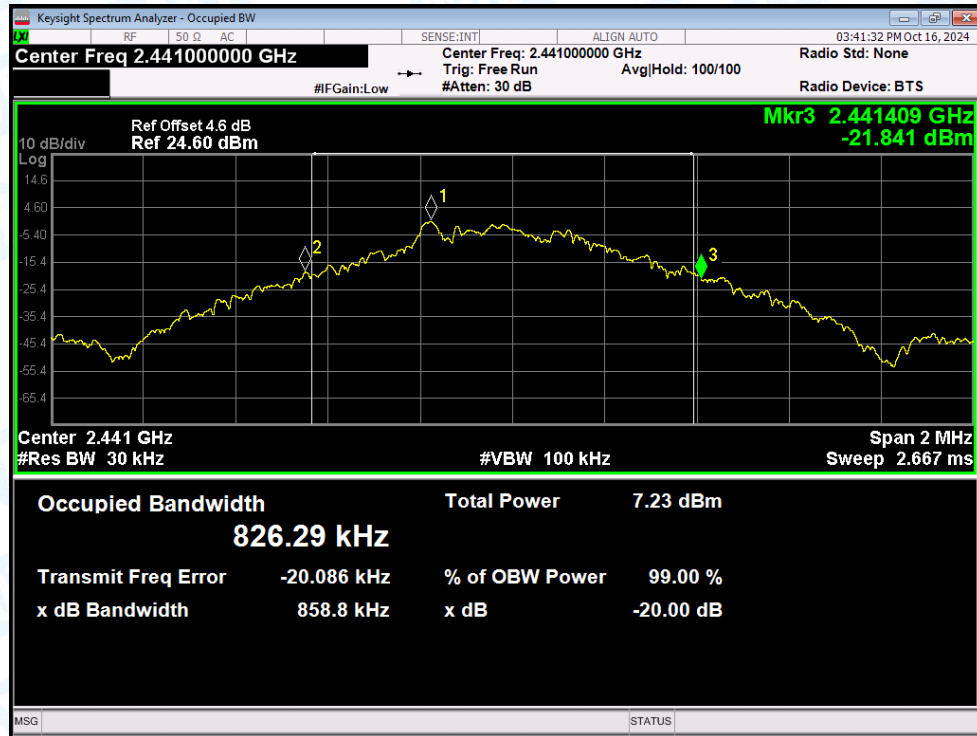
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.86	0	Pass
NVNT	1-DH1	2441	Ant1	0.86	0	Pass
NVNT	1-DH1	2480	Ant1	0.87	0	Pass
NVNT	2-DH1	2402	Ant1	1.22	0	Pass
NVNT	2-DH1	2441	Ant1	1.26	0	Pass
NVNT	2-DH1	2480	Ant1	1.23	0	Pass
NVNT	3-DH1	2402	Ant1	1.23	0	Pass
NVNT	3-DH1	2441	Ant1	1.21	0	Pass
NVNT	3-DH1	2480	Ant1	1.21	0	Pass

Test Graphs

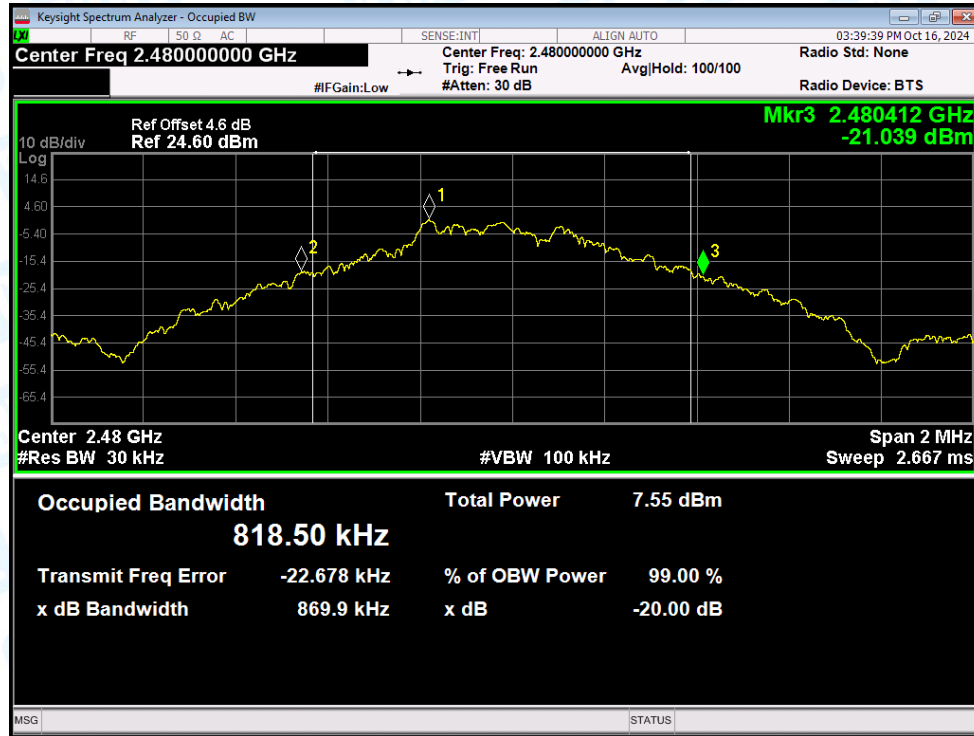
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



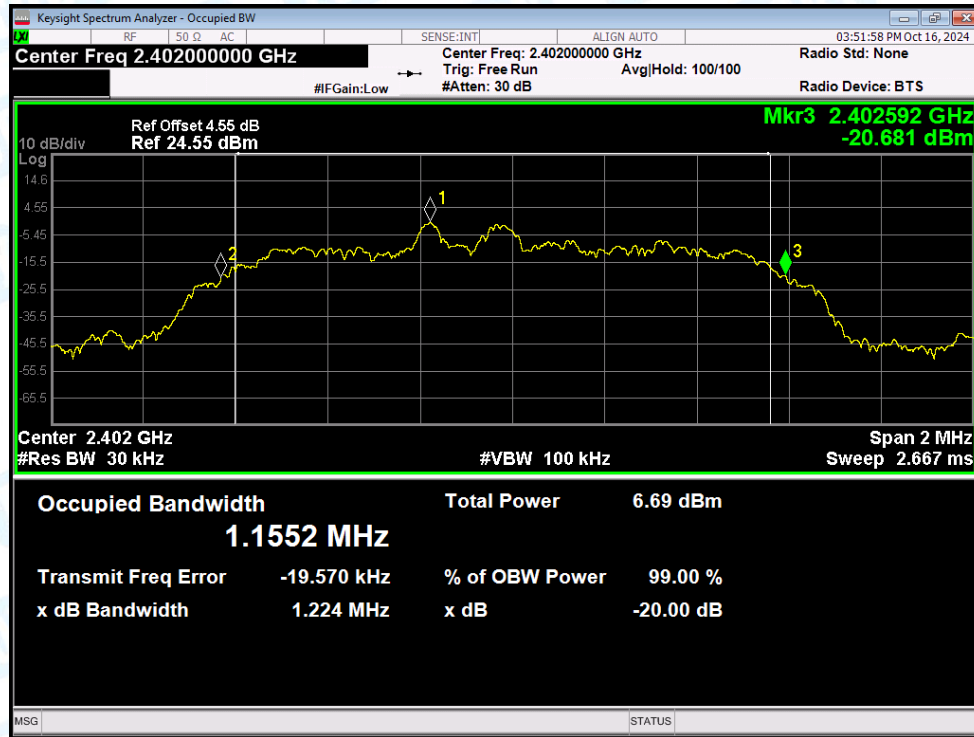
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



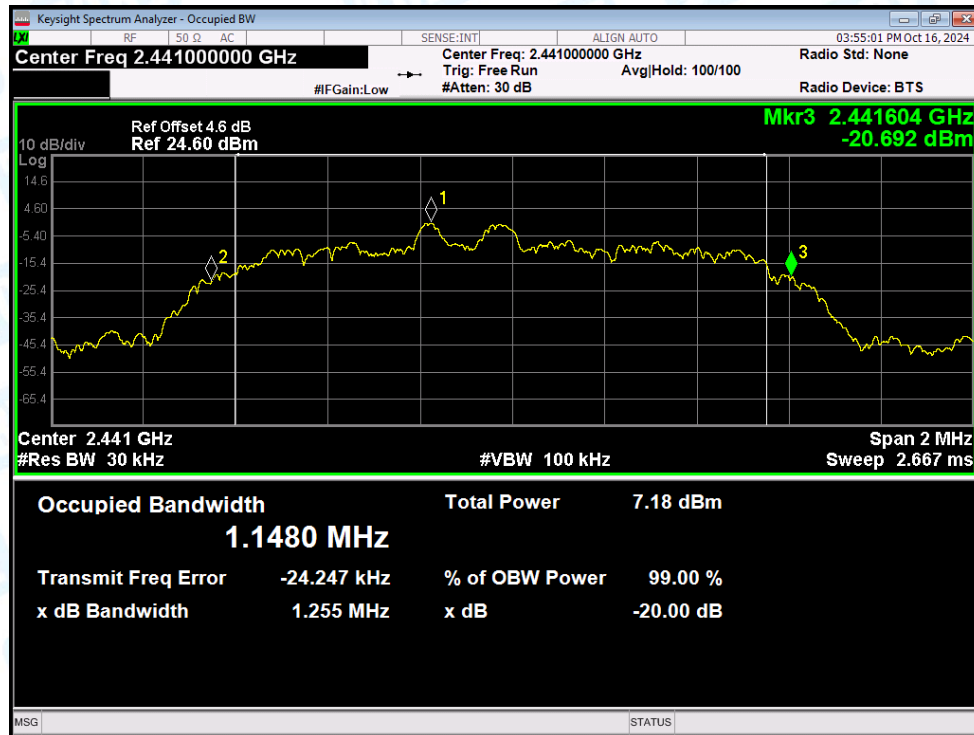
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



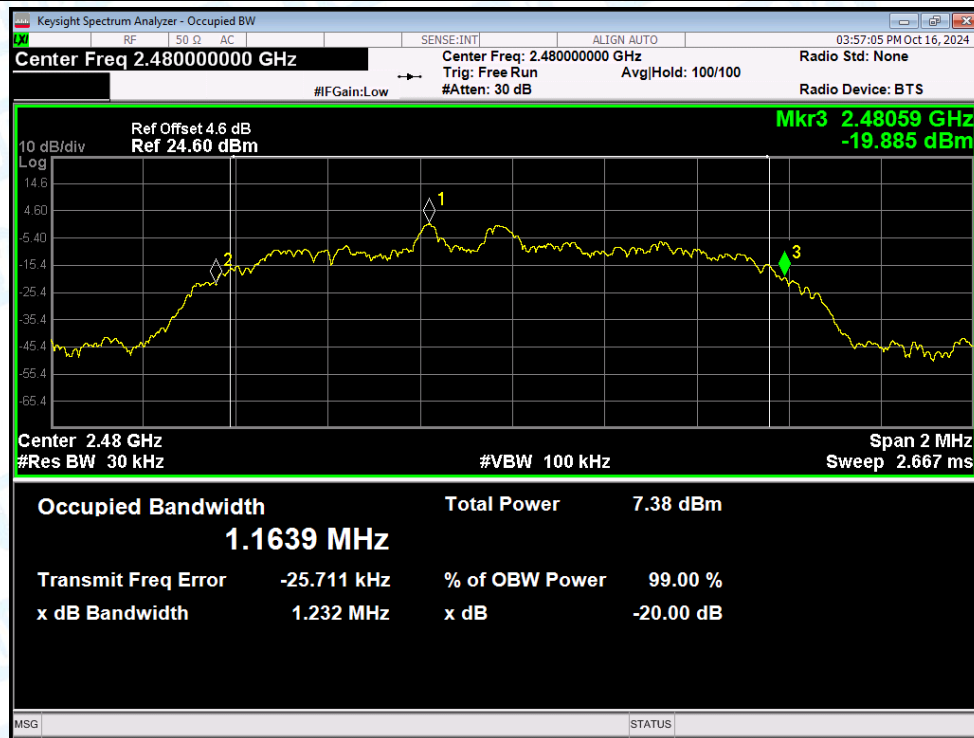
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



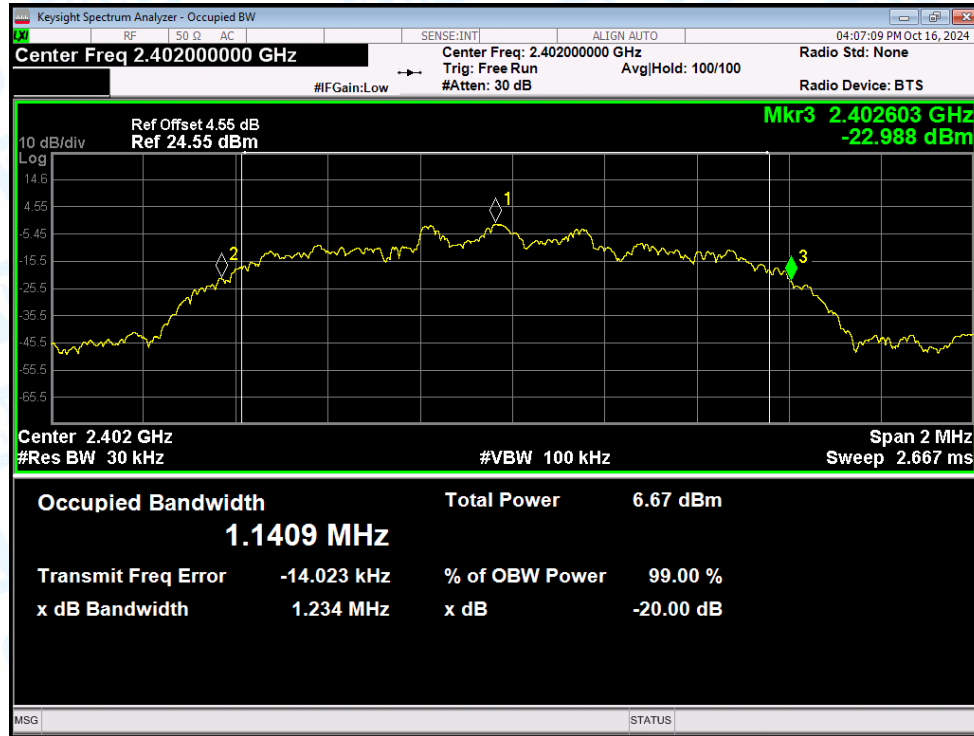
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



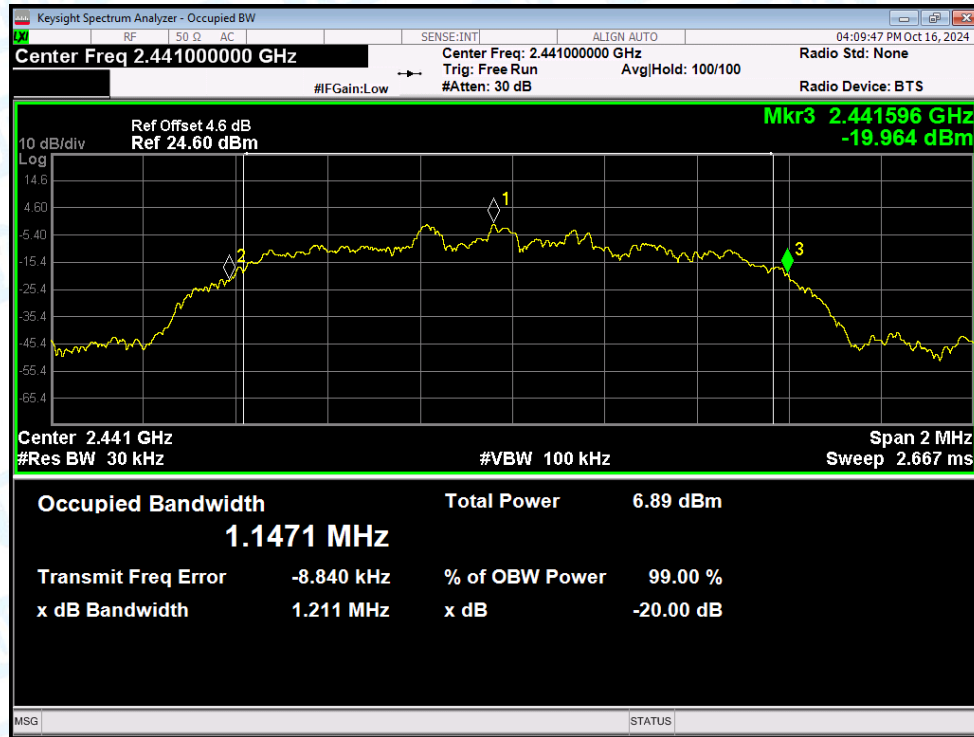
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

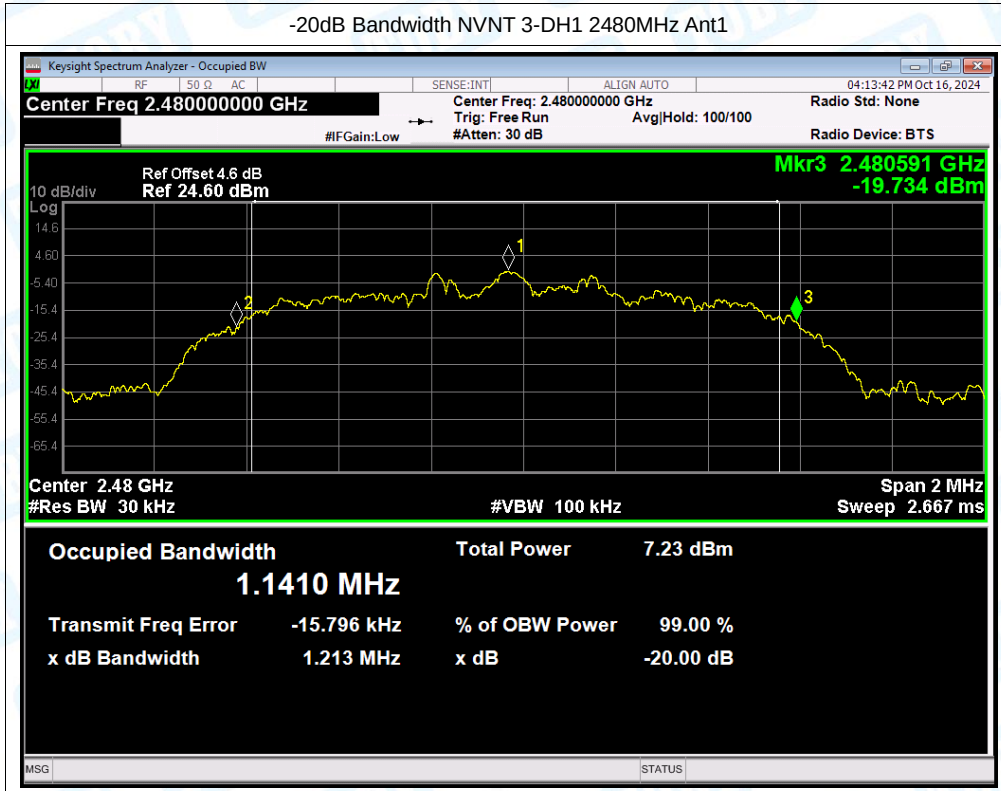


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



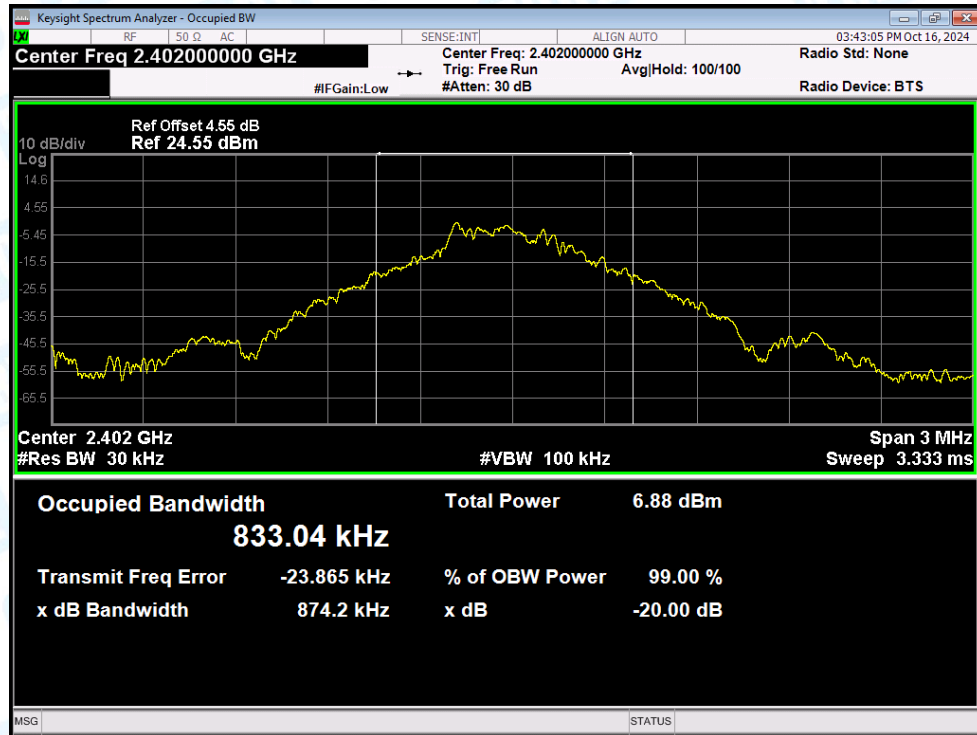


4. Occupied Channel Bandwidth

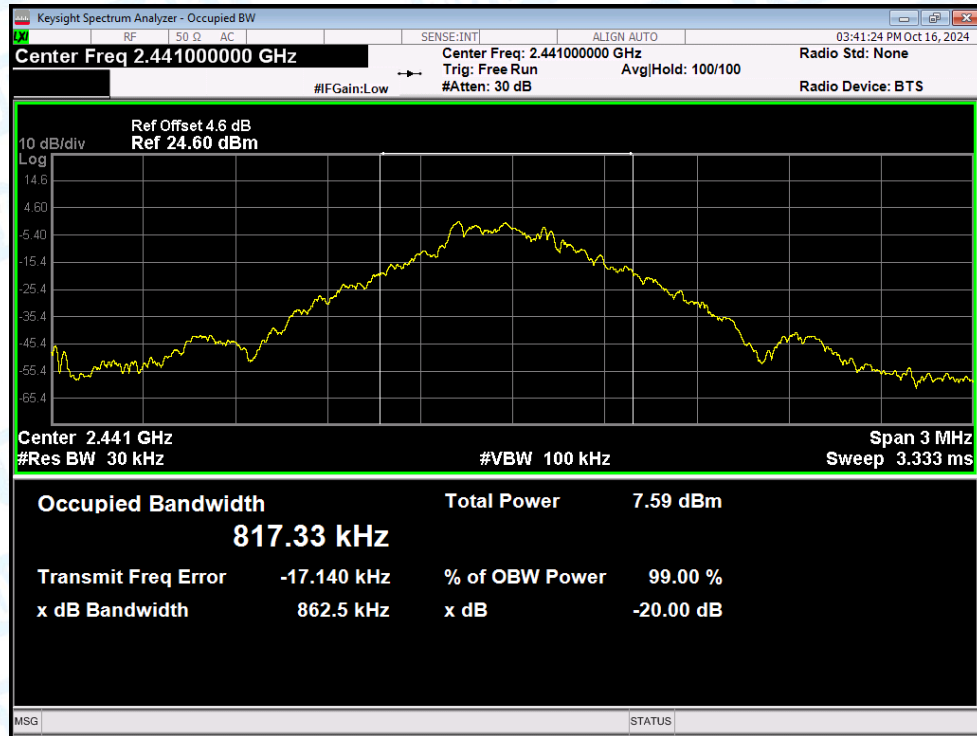
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.833
NVNT	1-DH1	2441	Ant1	0.817
NVNT	1-DH1	2480	Ant1	0.833
NVNT	2-DH1	2402	Ant1	1.163
NVNT	2-DH1	2441	Ant1	1.149
NVNT	2-DH1	2480	Ant1	1.164
NVNT	3-DH1	2402	Ant1	1.146
NVNT	3-DH1	2441	Ant1	1.15
NVNT	3-DH1	2480	Ant1	1.161

Test Graphs

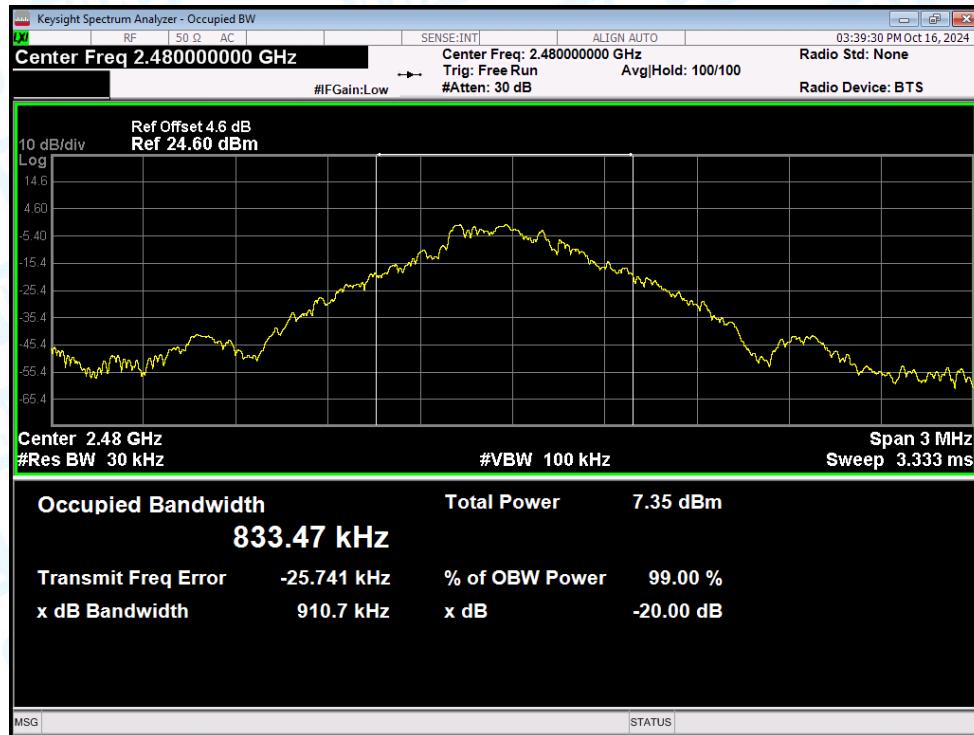
OBW NVNT 1-DH1 2402MHz Ant1



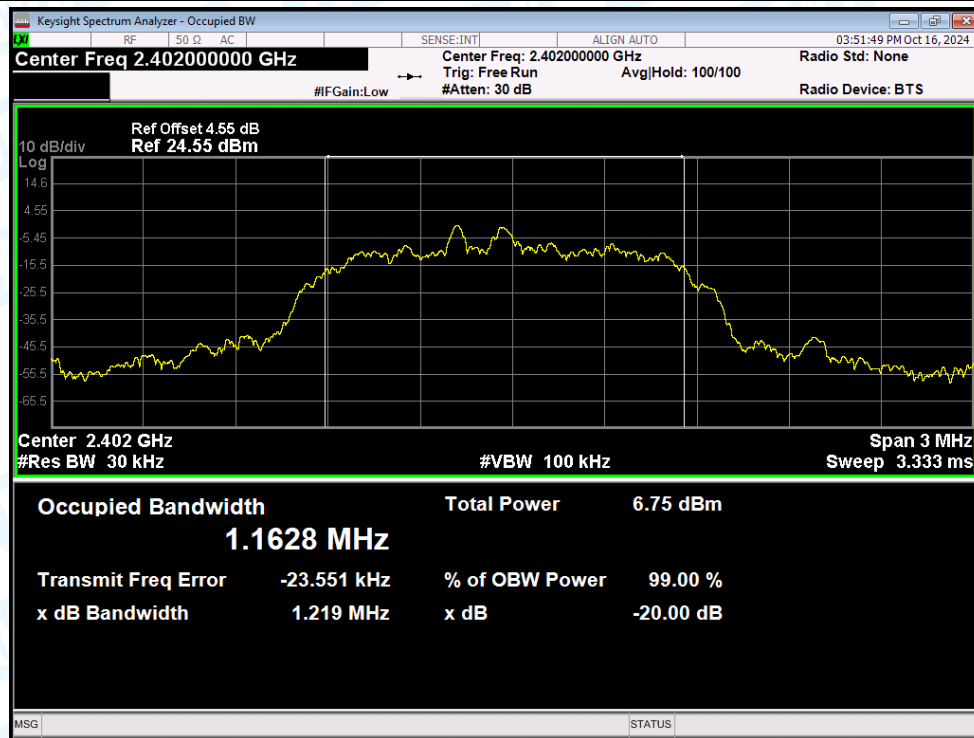
OBW NVNT 1-DH1 2441MHz Ant1



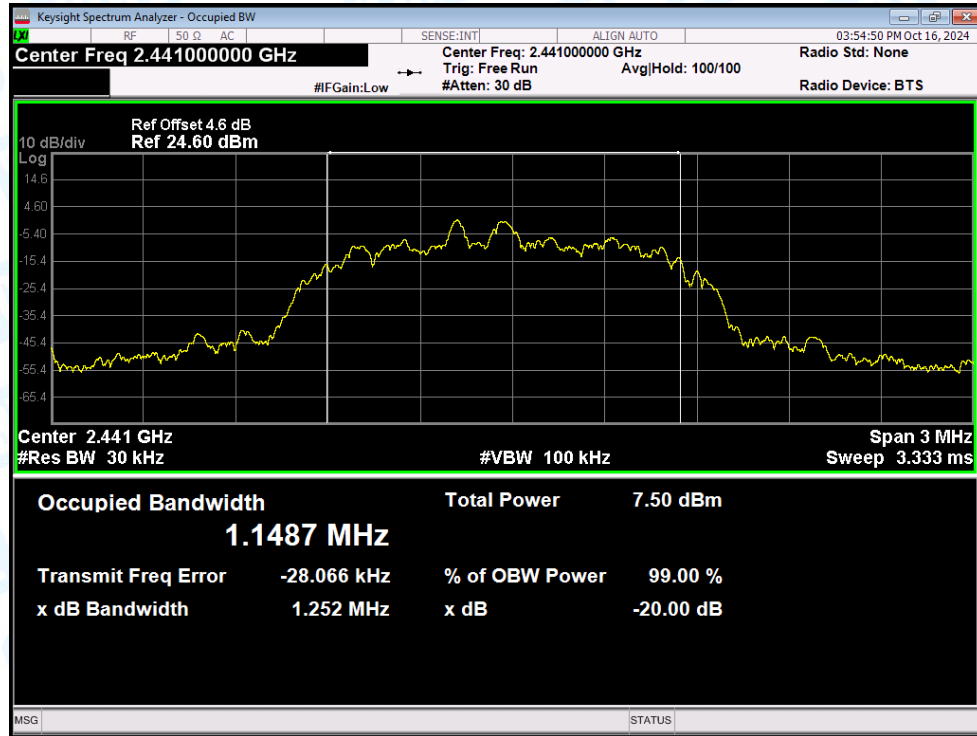
OBW NVNT 1-DH1 2480MHz Ant1



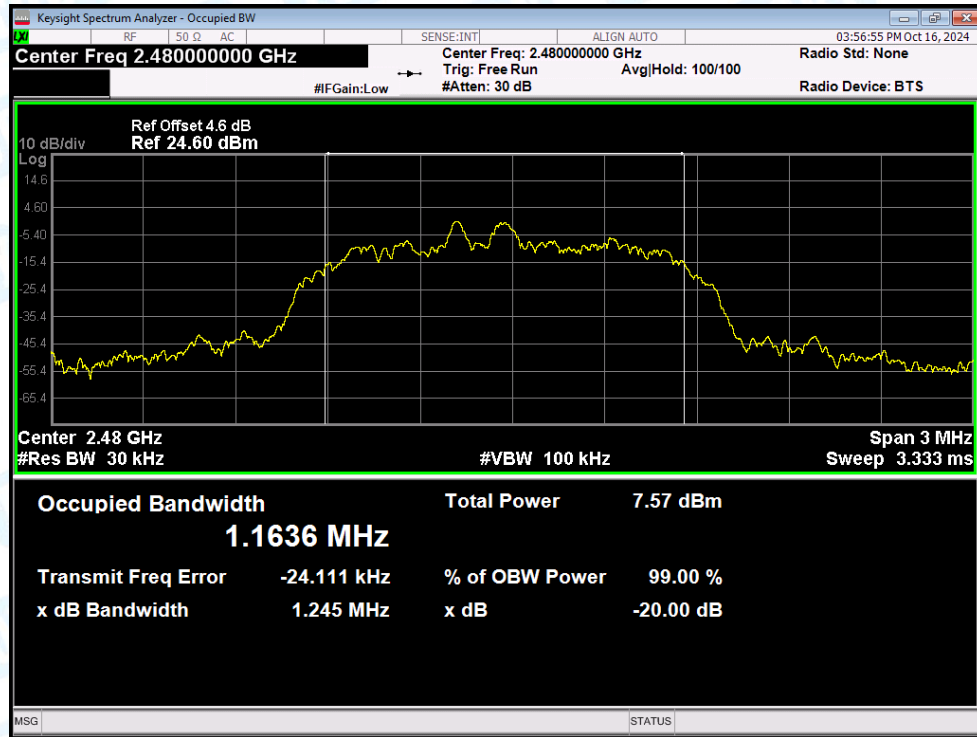
OBW NVNT 2-DH1 2402MHz Ant1



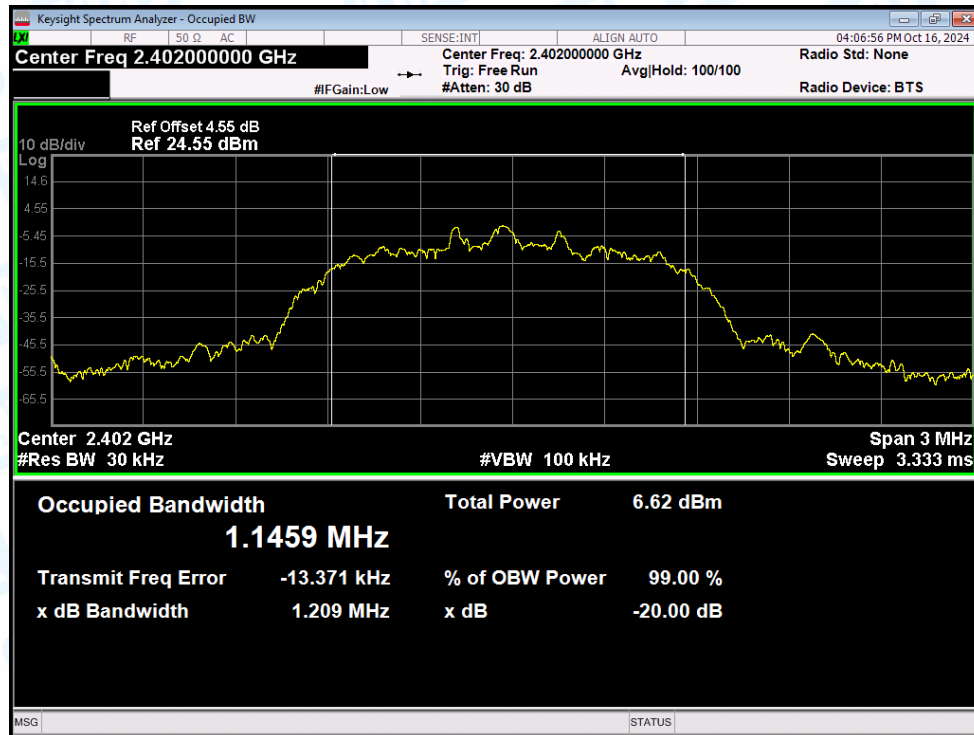
OBW NVNT 2-DH1 2441MHz Ant1



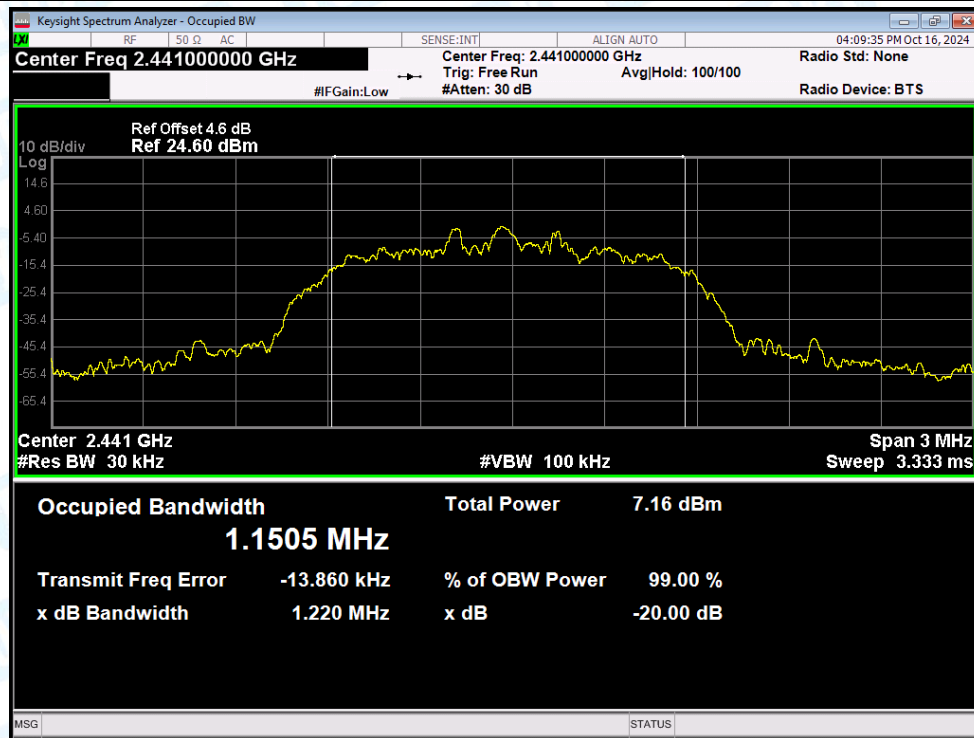
OBW NVNT 2-DH1 2480MHz Ant1

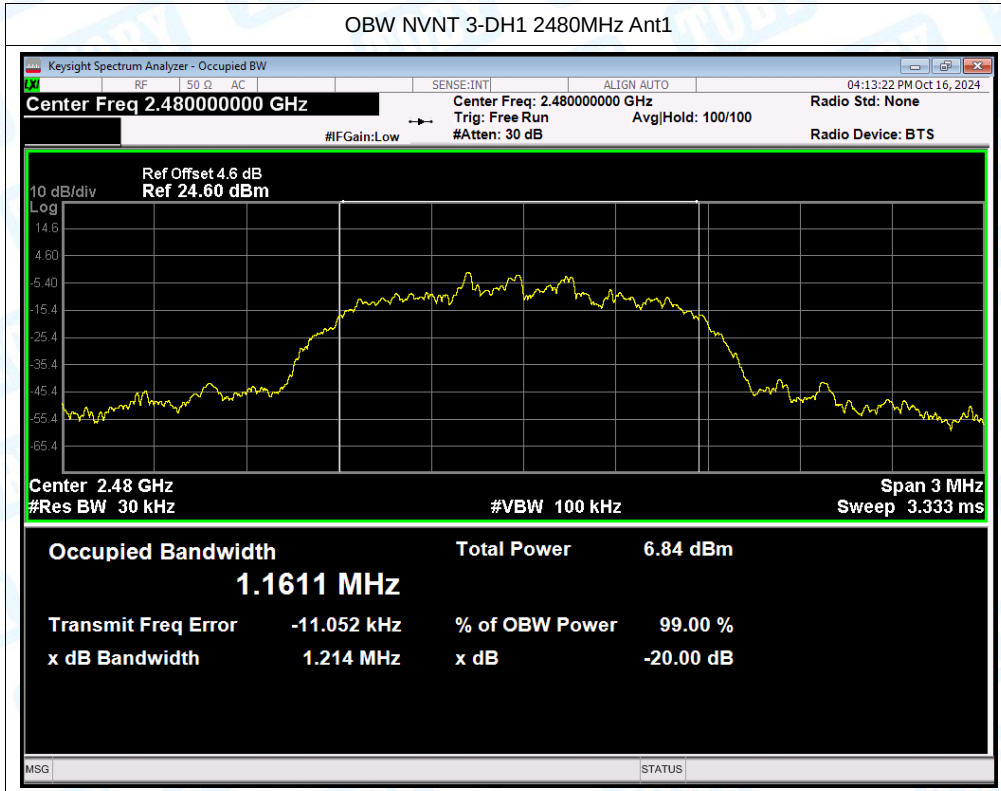


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1





5. Band Edge

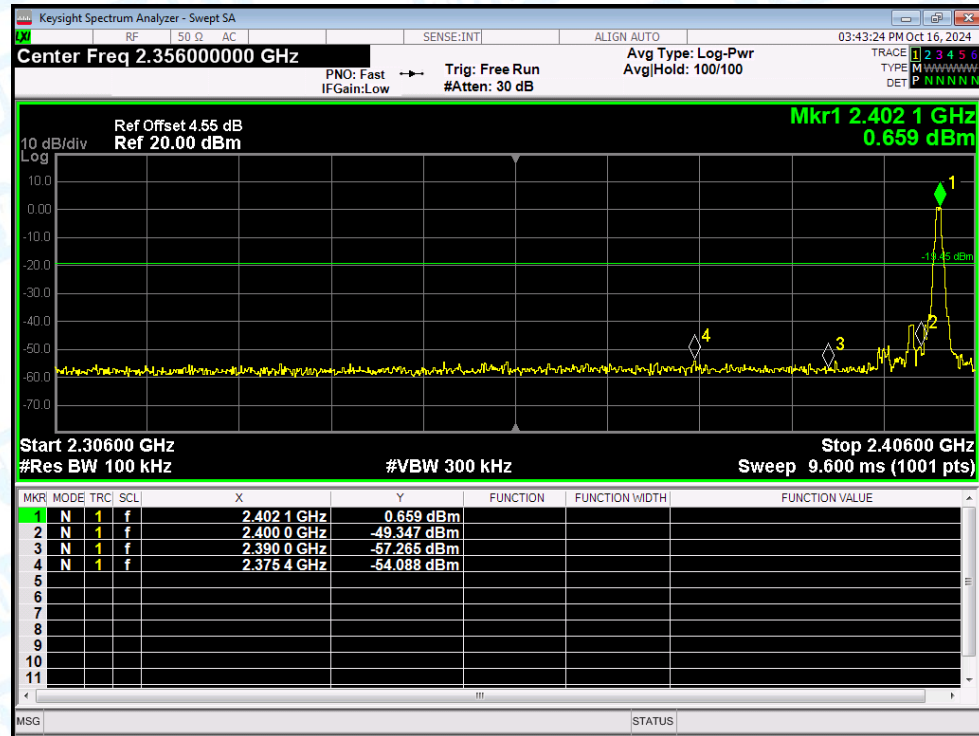
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-54.64	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-54.69	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-55.46	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-55.47	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-54.68	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-52.36	-20	Pass

Test Graphs

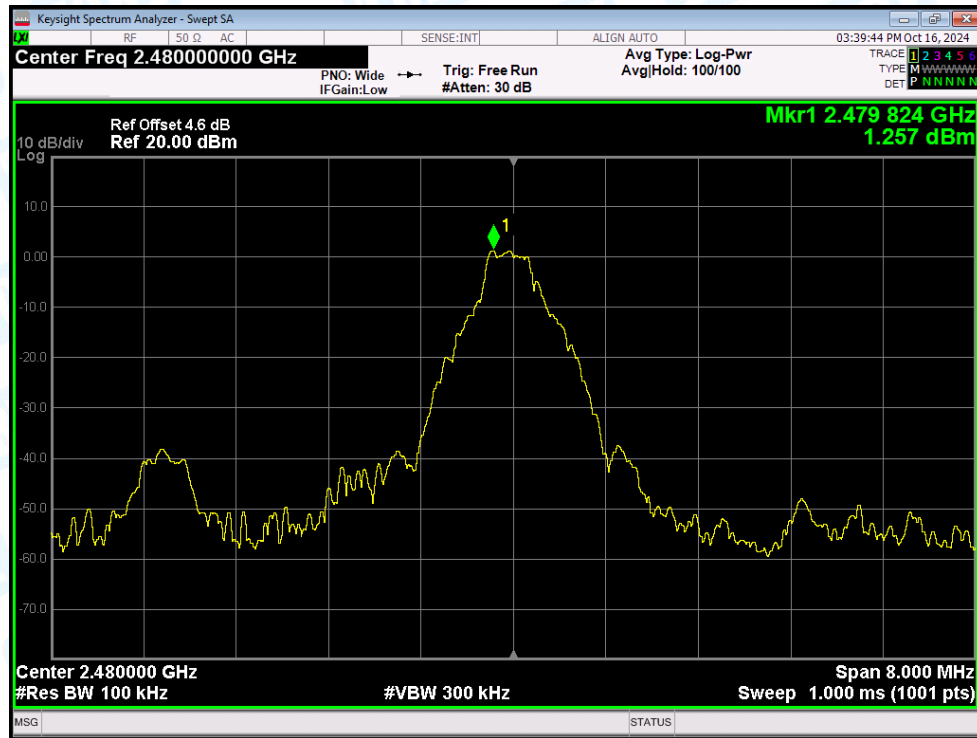
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



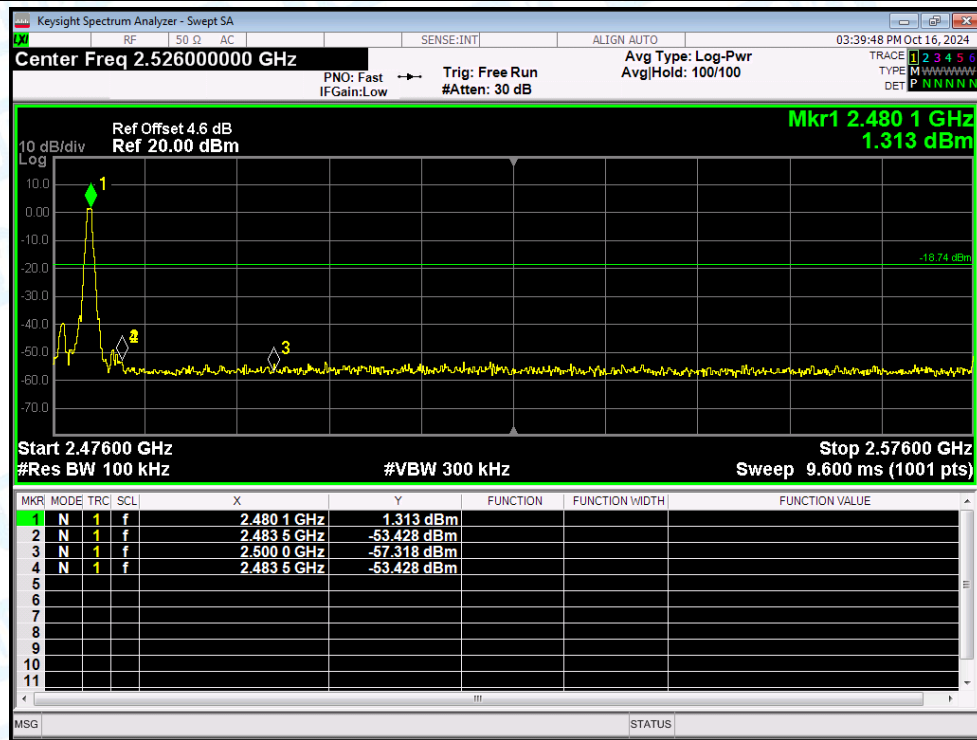
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



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



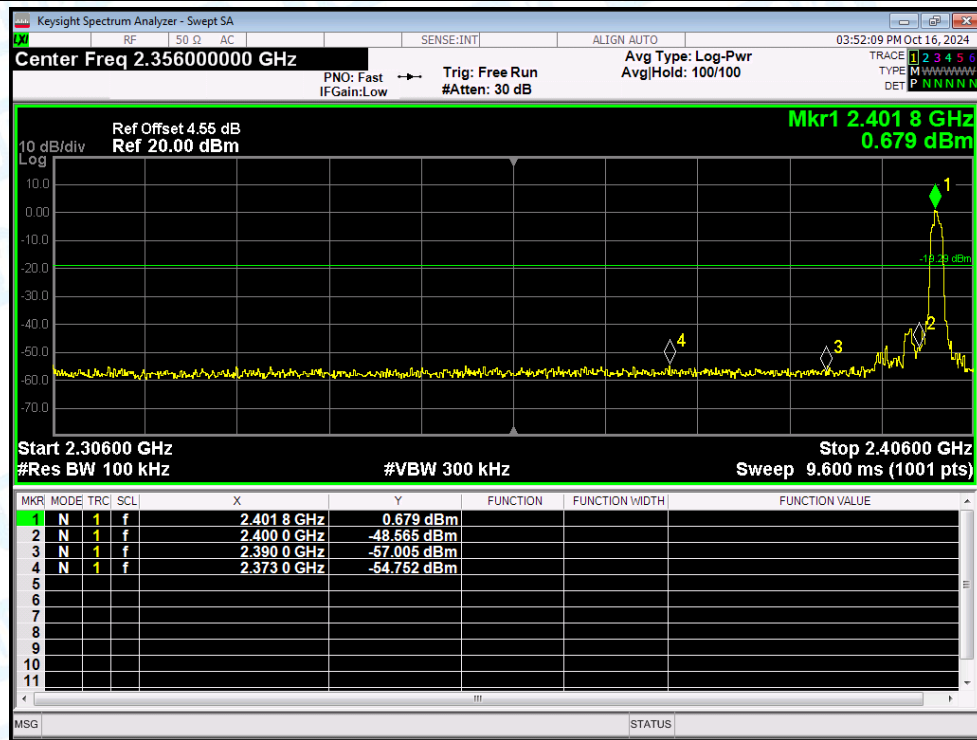
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



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



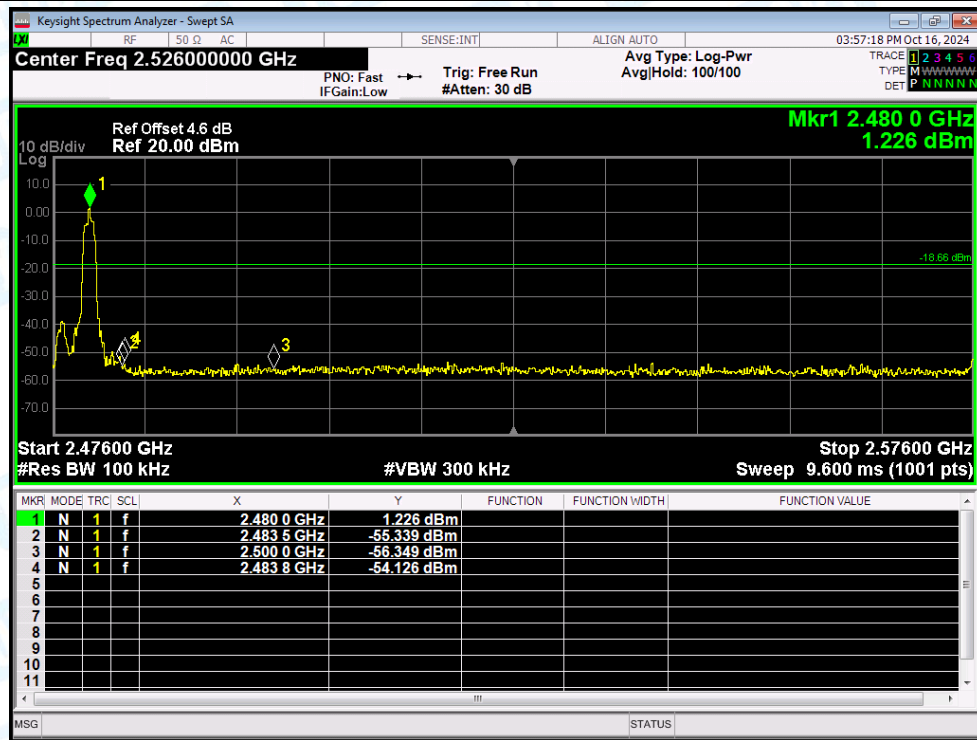
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



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



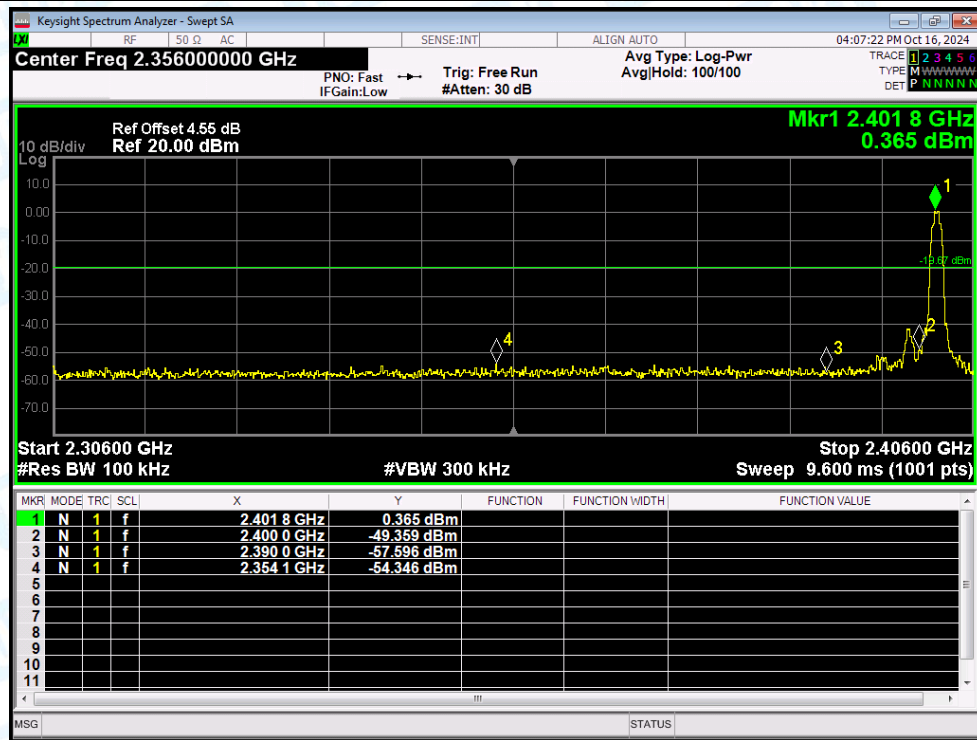
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



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



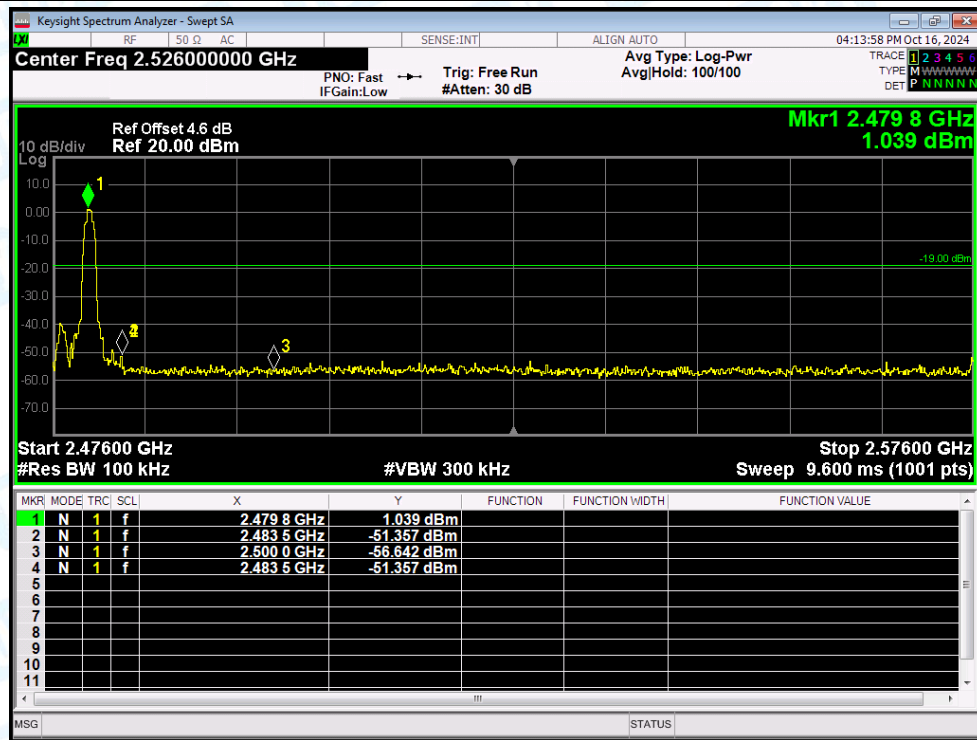
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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



6. Band Edge(Hopping)

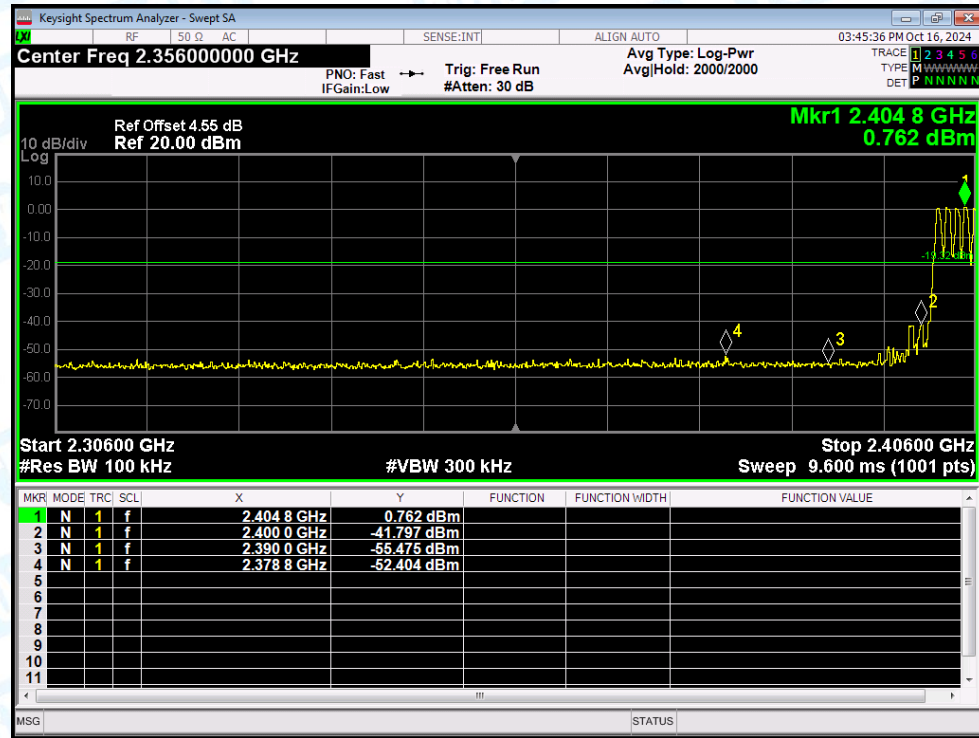
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-53.08	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-52.44	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-52.97	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-53.91	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-53.65	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-52.63	-20	Pass

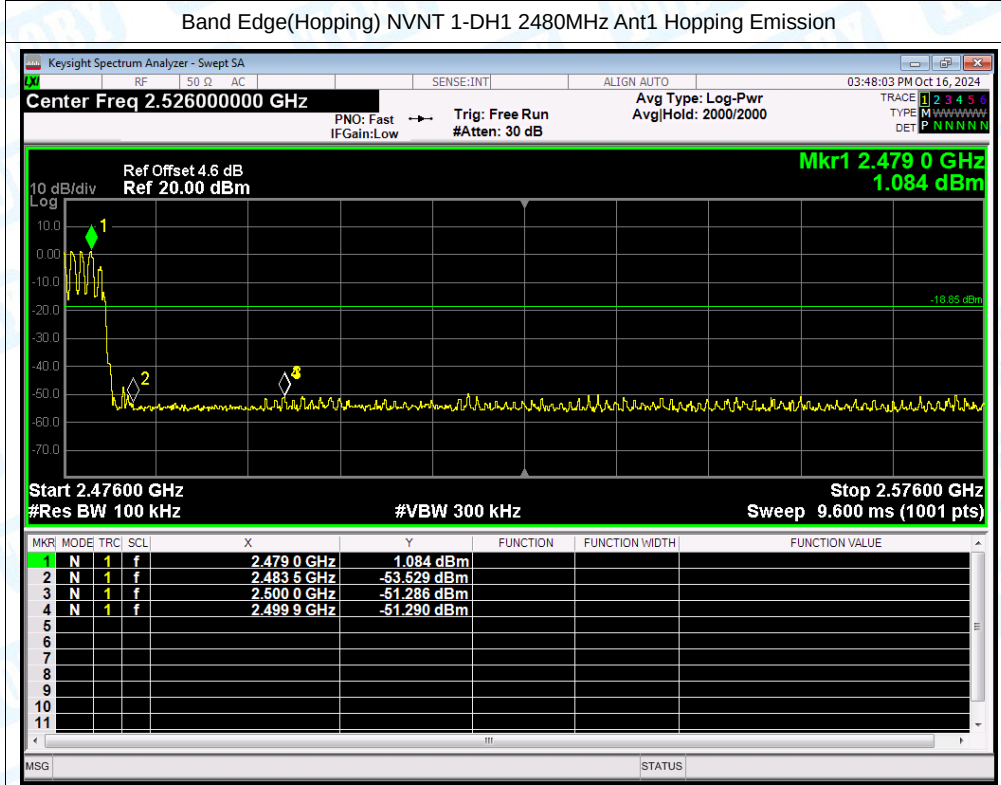
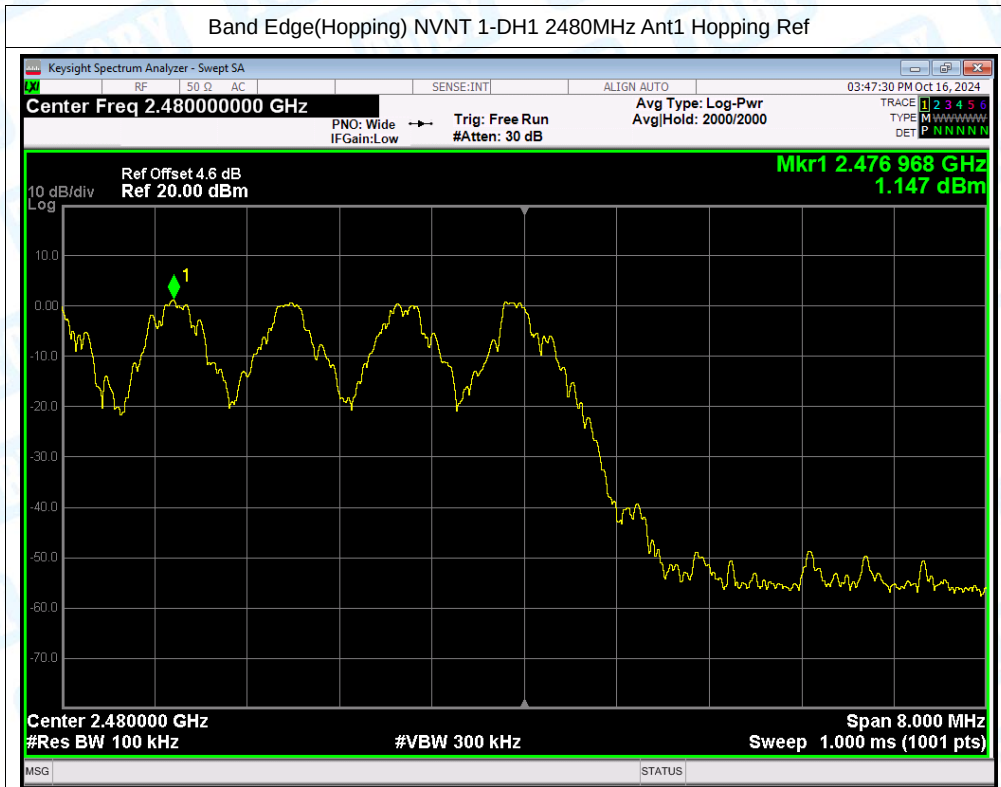
Test Graphs

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



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

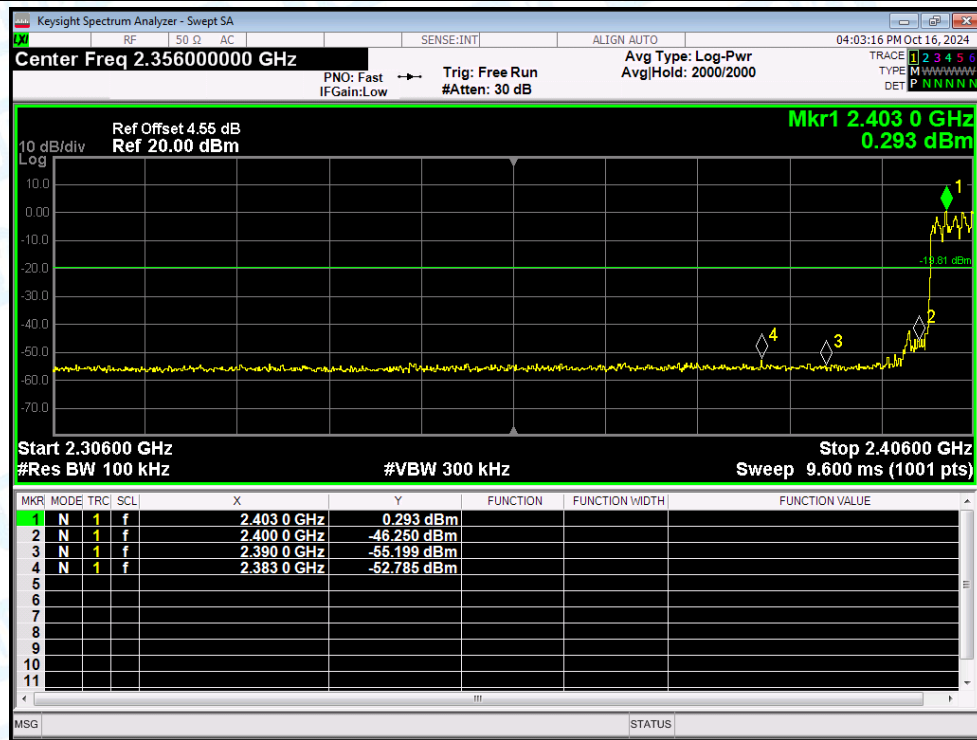




Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



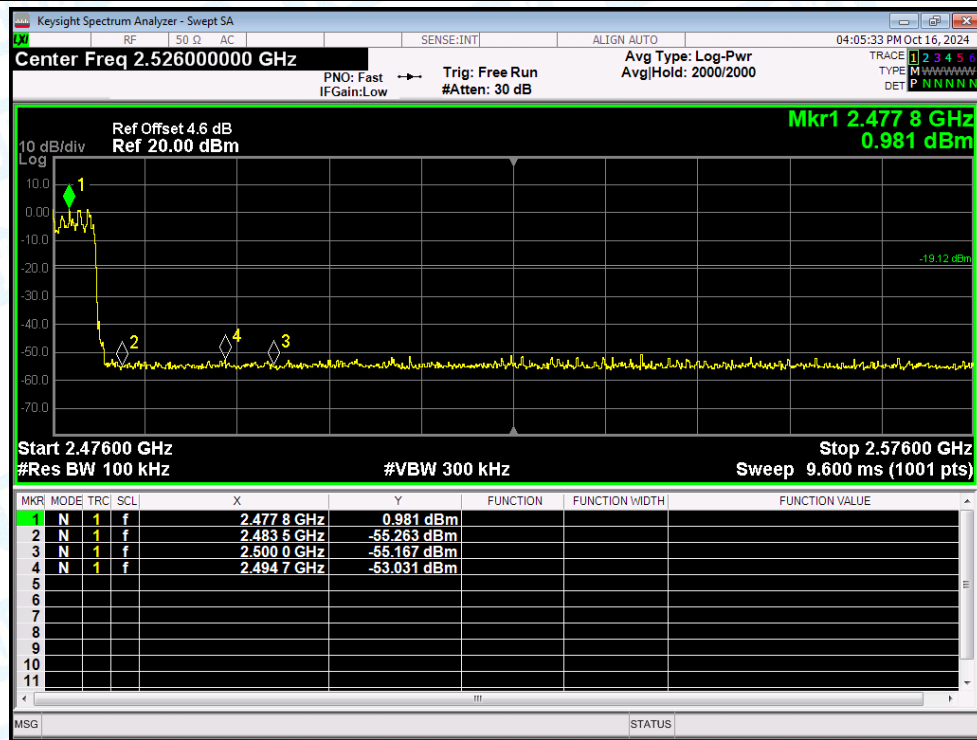
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



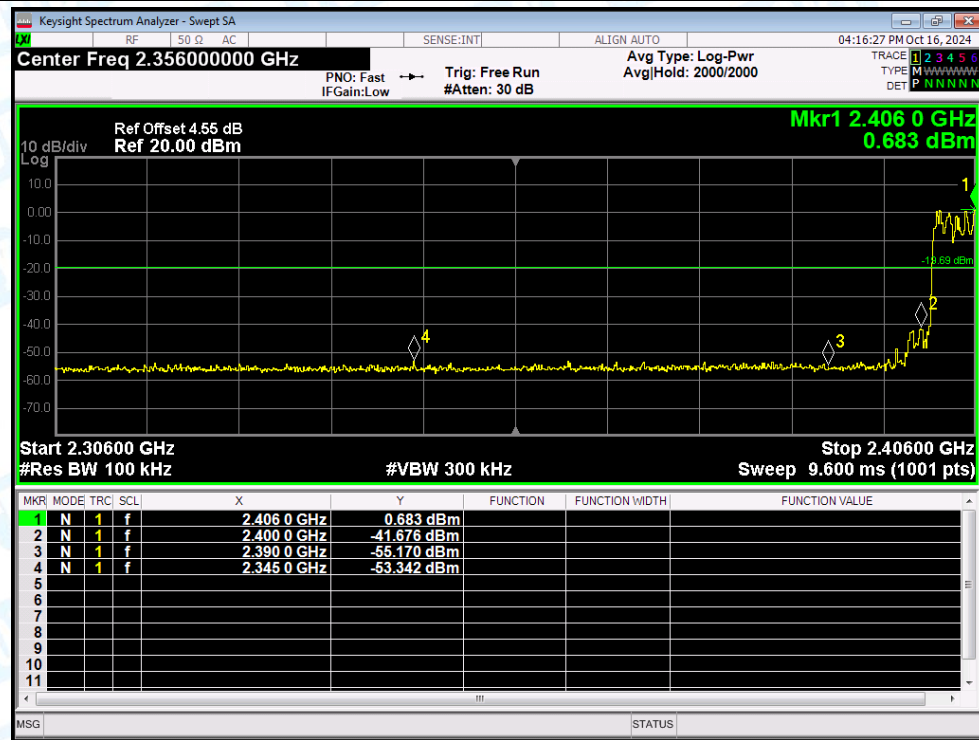
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



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



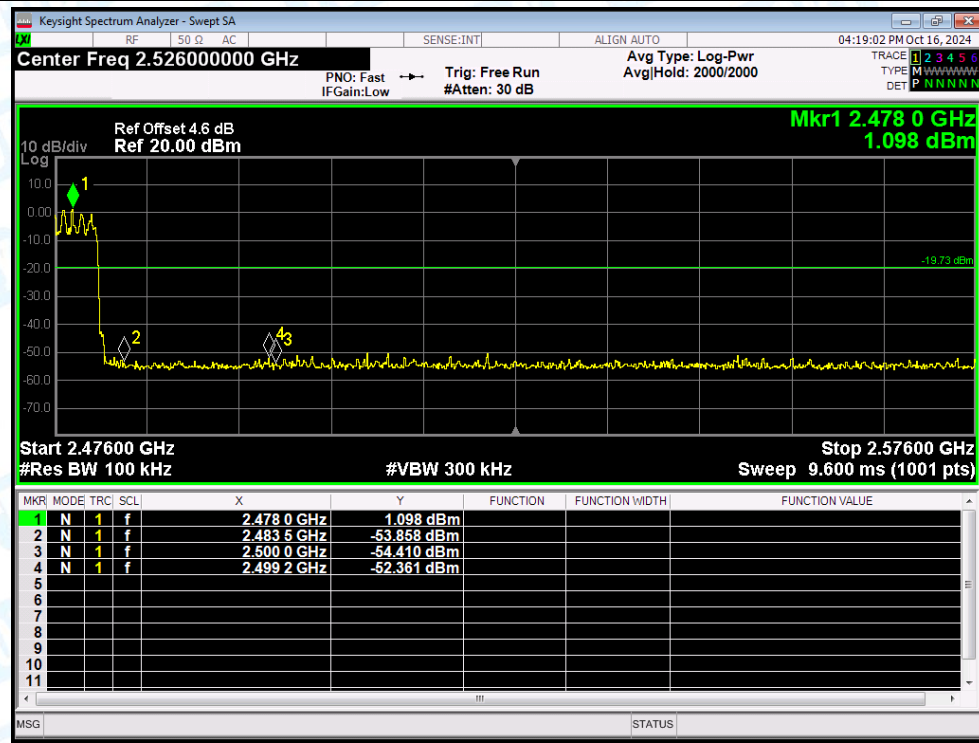
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Emission

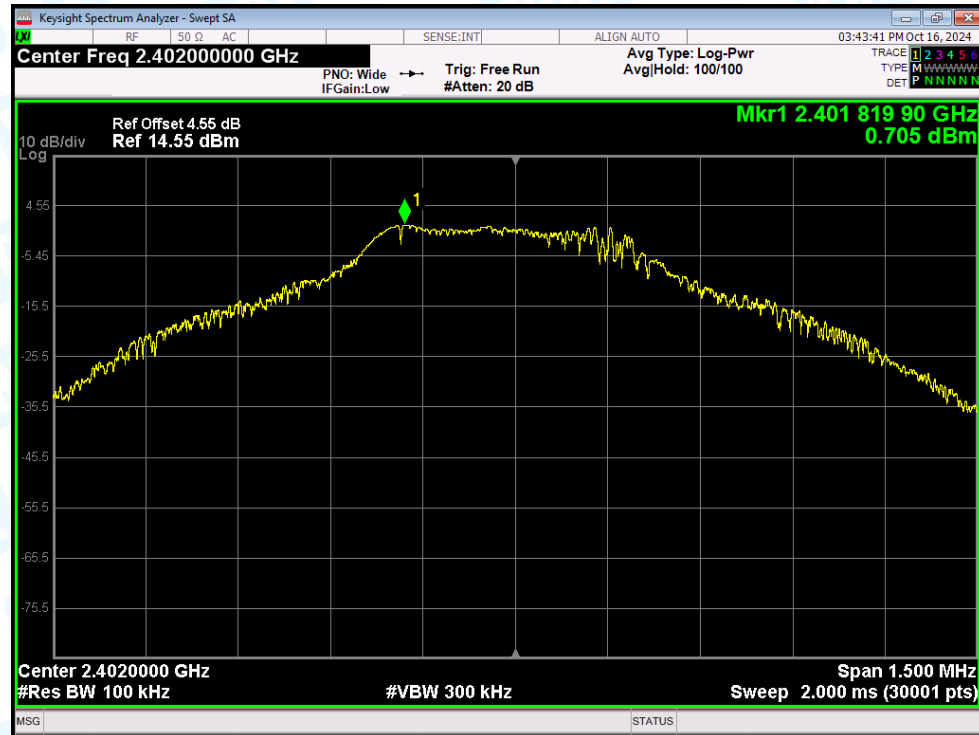


7. Conducted RF Spurious Emission

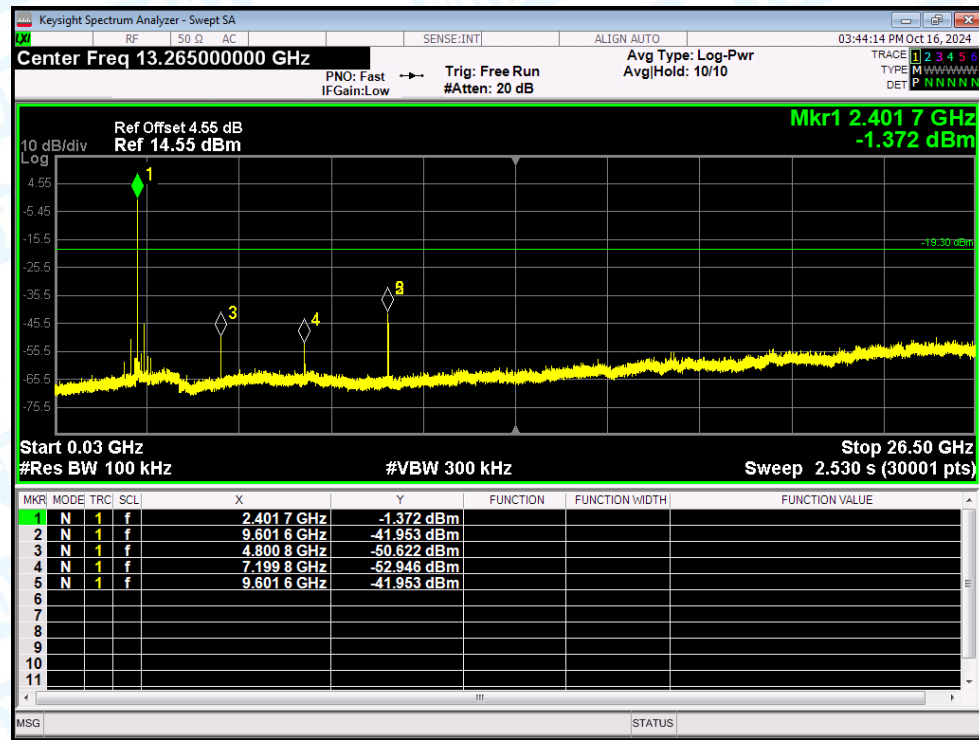
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-42.66	-20	Pass
NVNT	1-DH1	2441	Ant1	-42.75	-20	Pass
NVNT	1-DH1	2480	Ant1	-42.04	-20	Pass
NVNT	2-DH1	2402	Ant1	-42.37	-20	Pass
NVNT	2-DH1	2441	Ant1	-43.51	-20	Pass
NVNT	2-DH1	2480	Ant1	-41.81	-20	Pass
NVNT	3-DH1	2402	Ant1	-42.4	-20	Pass
NVNT	3-DH1	2441	Ant1	-42.52	-20	Pass
NVNT	3-DH1	2480	Ant1	-41.99	-20	Pass

Test Graphs

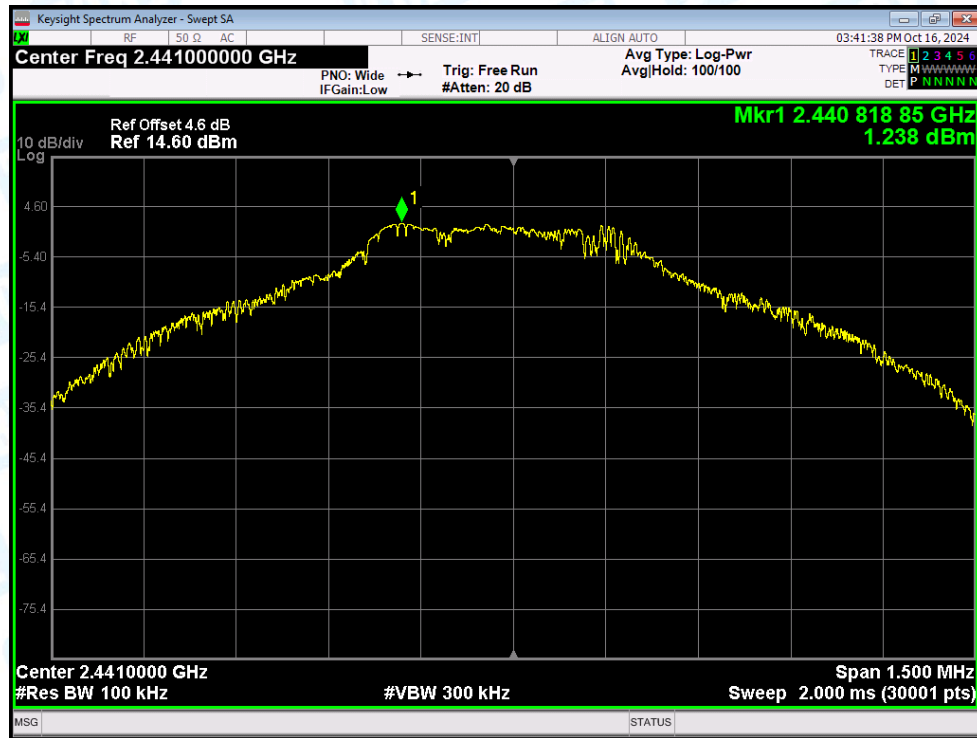
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



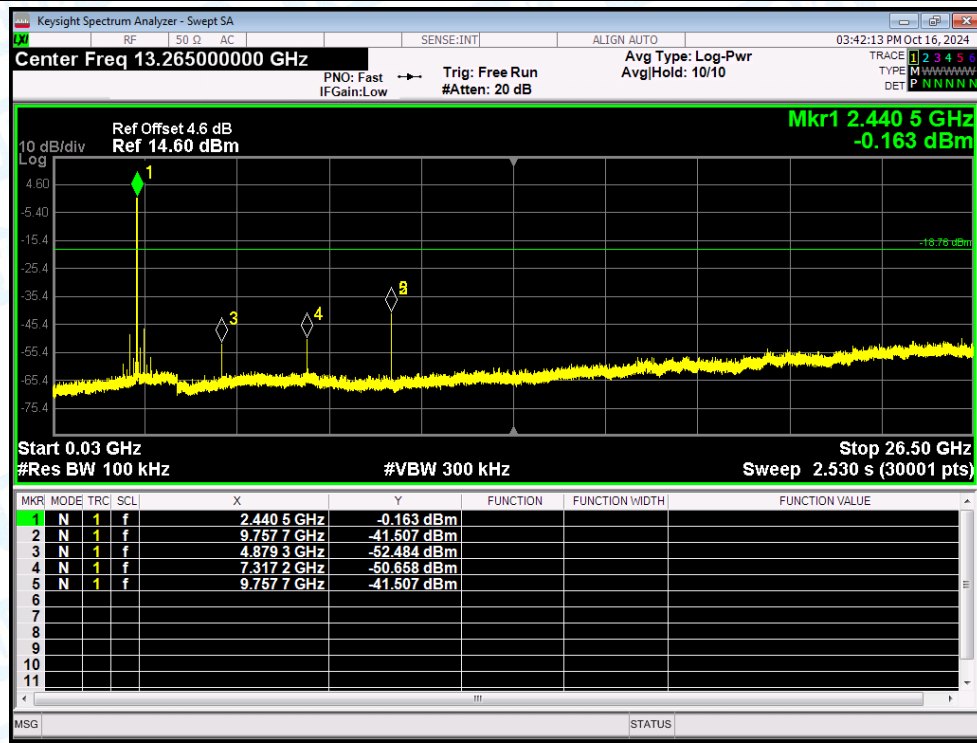
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



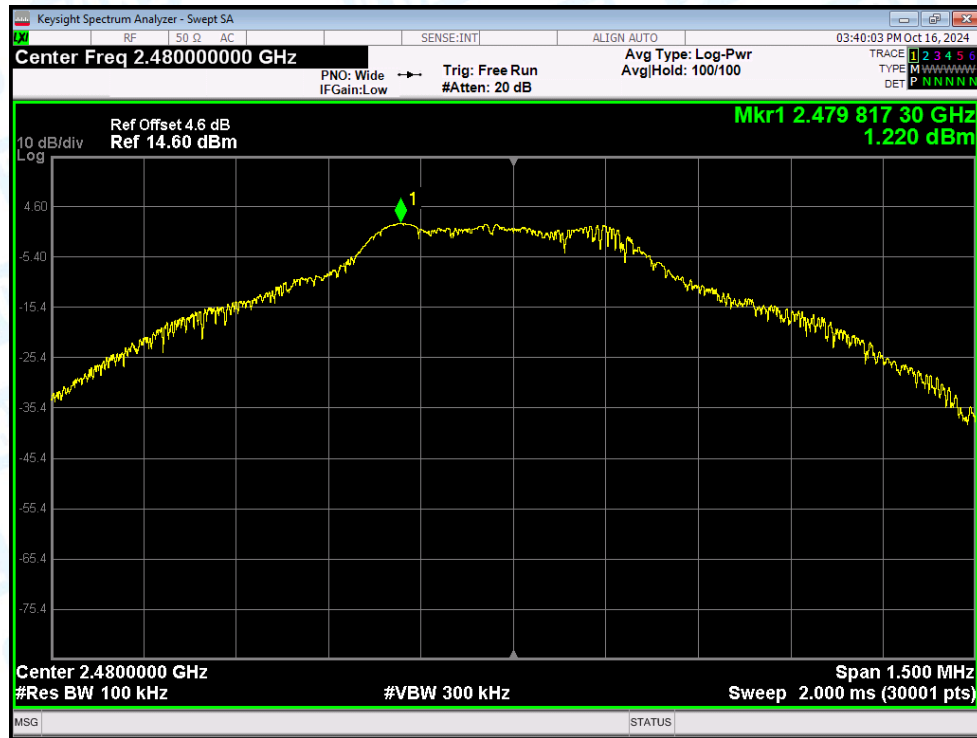
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



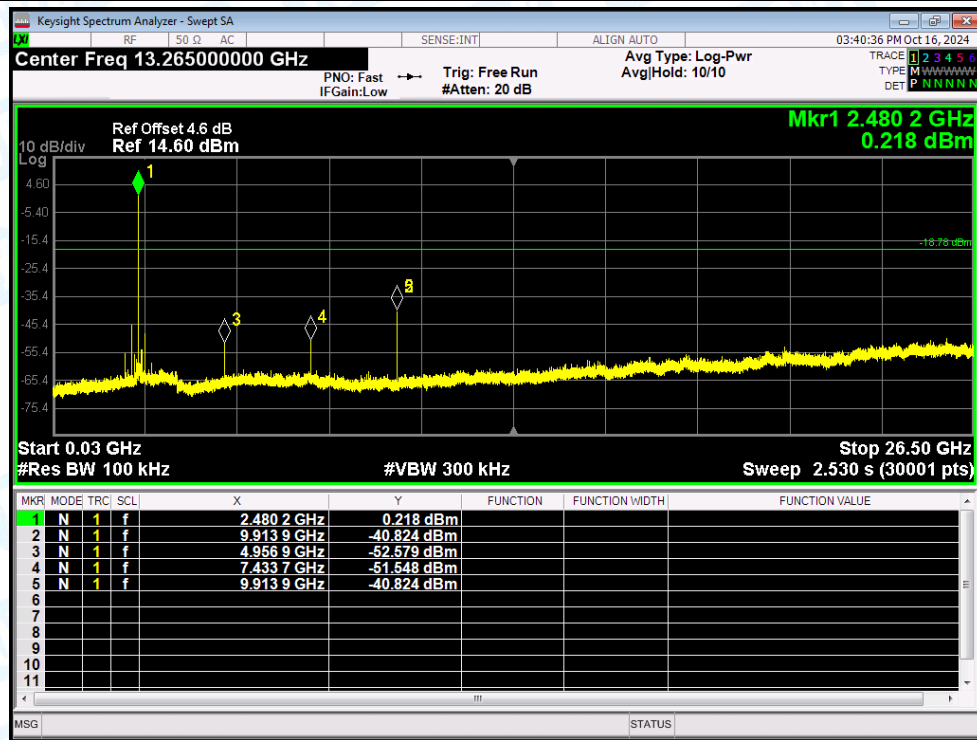
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



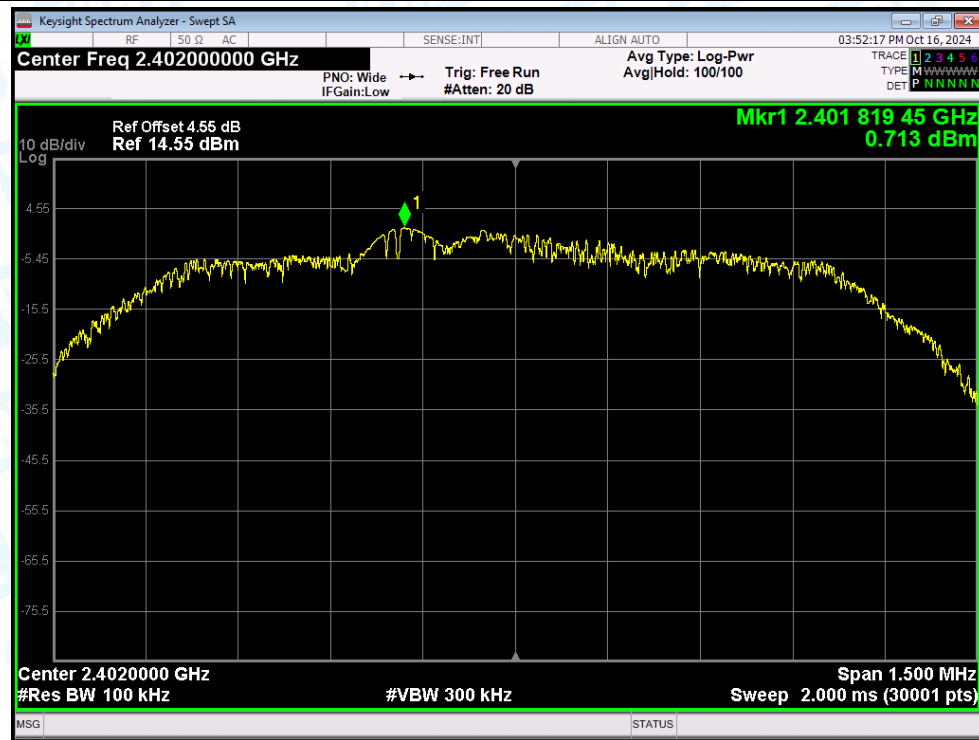
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



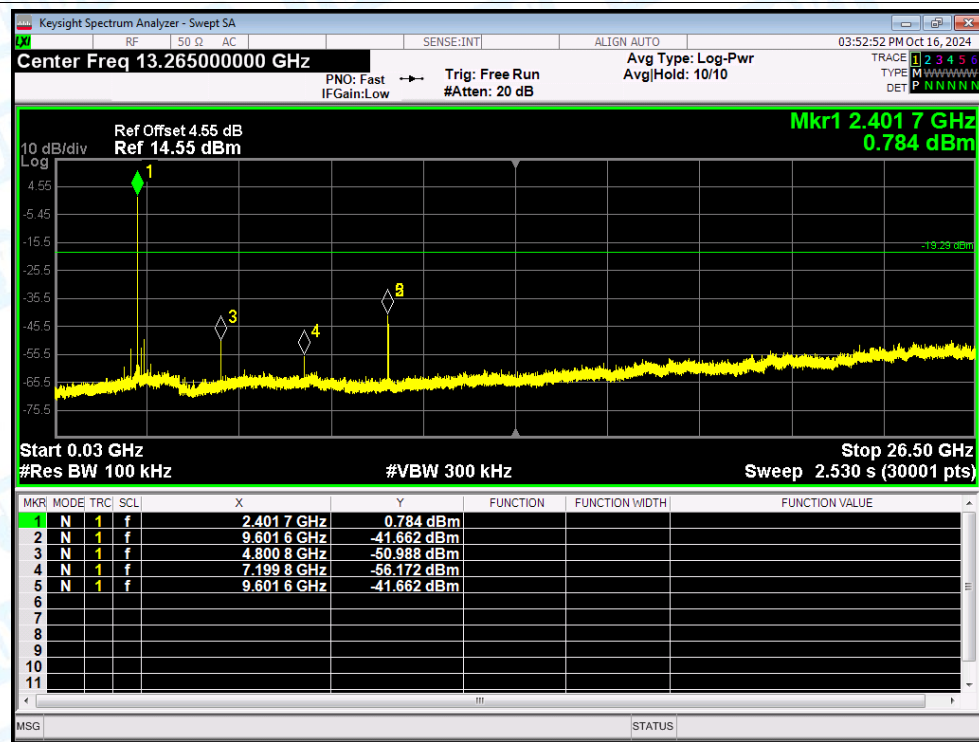
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



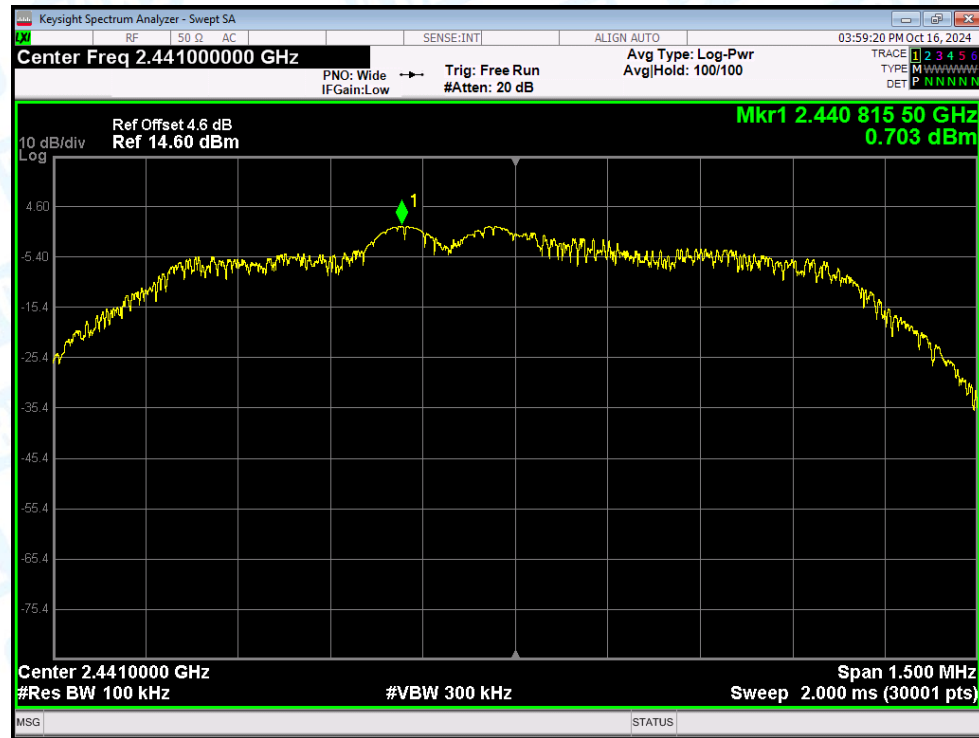
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



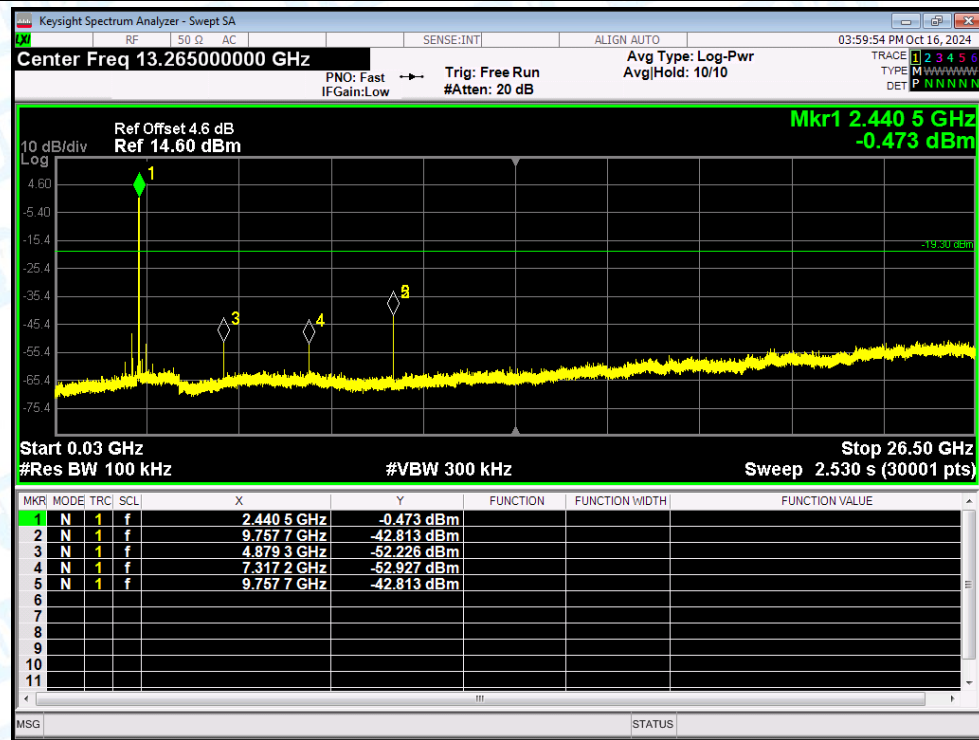
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



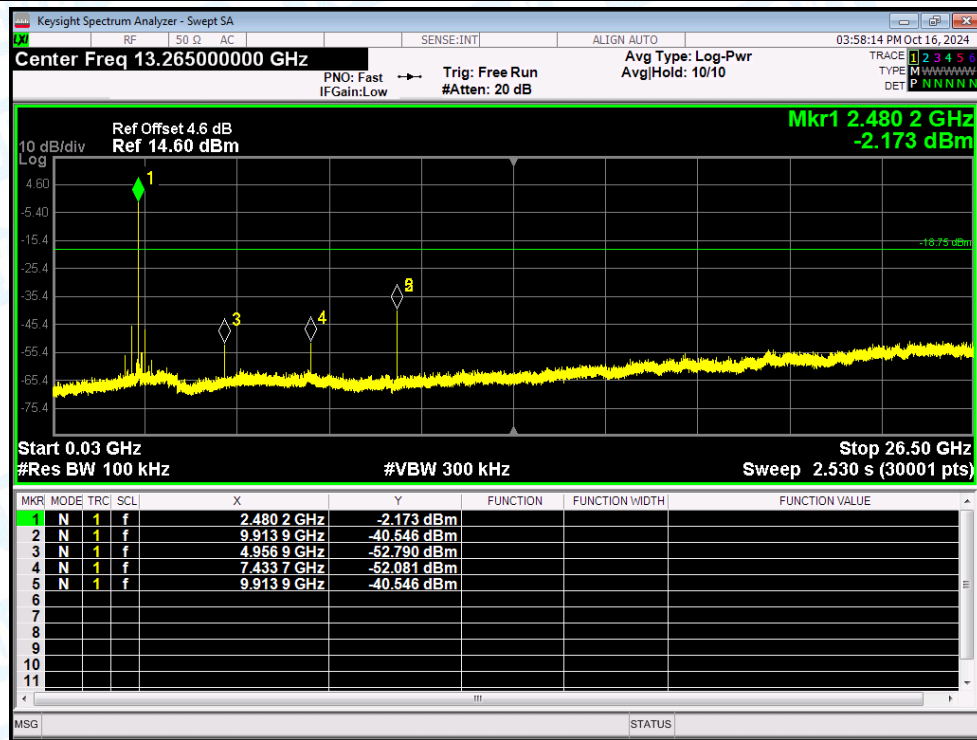
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



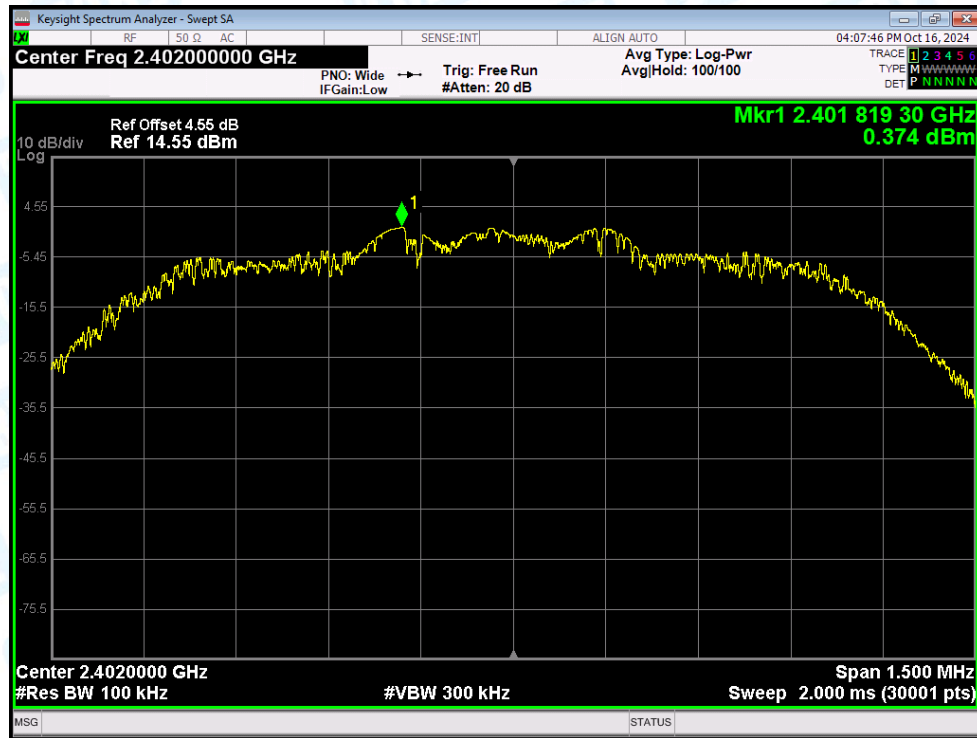
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



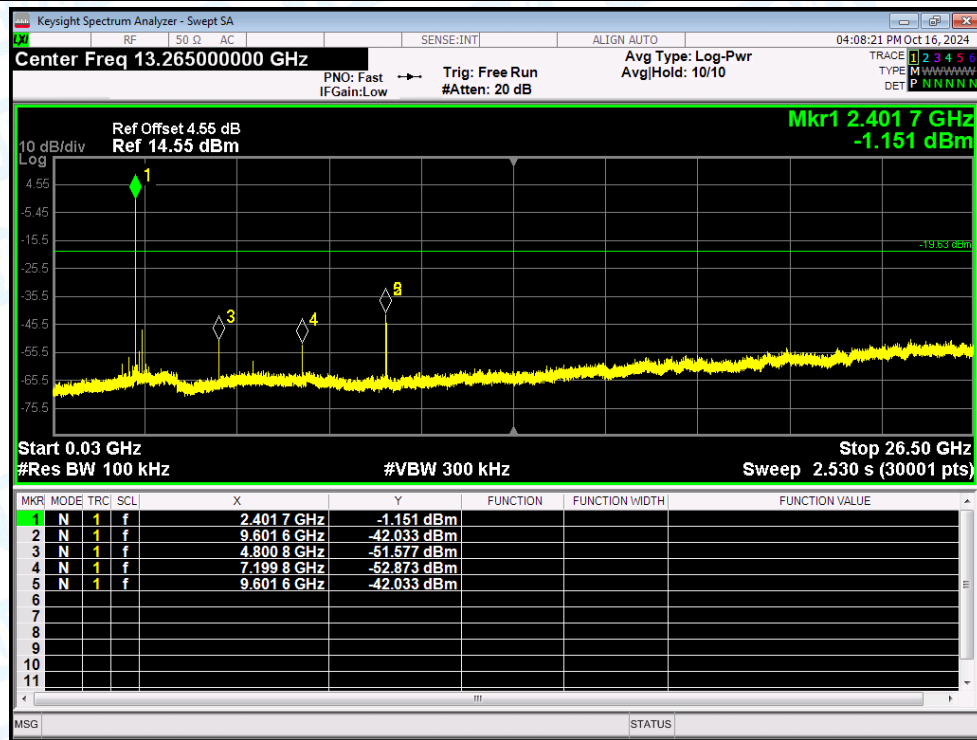
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



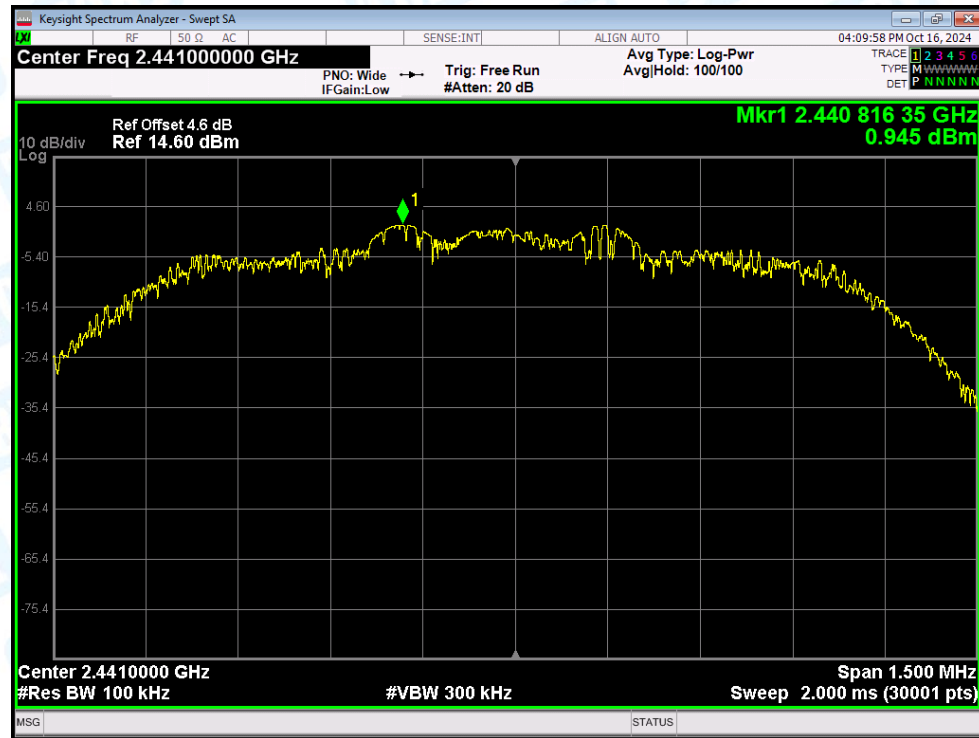
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



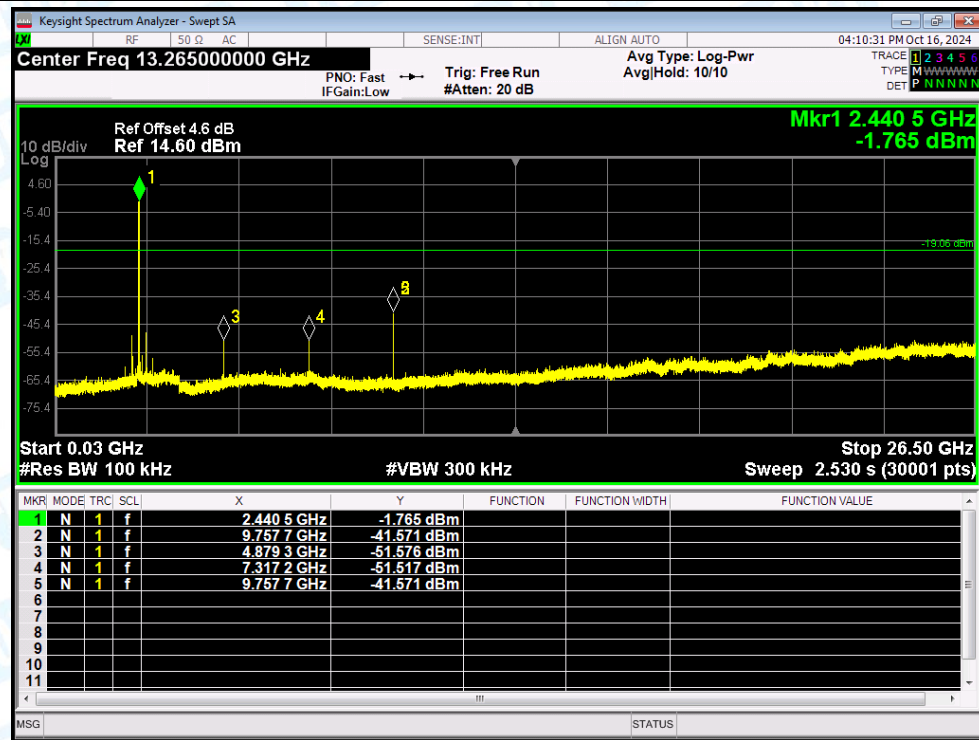
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



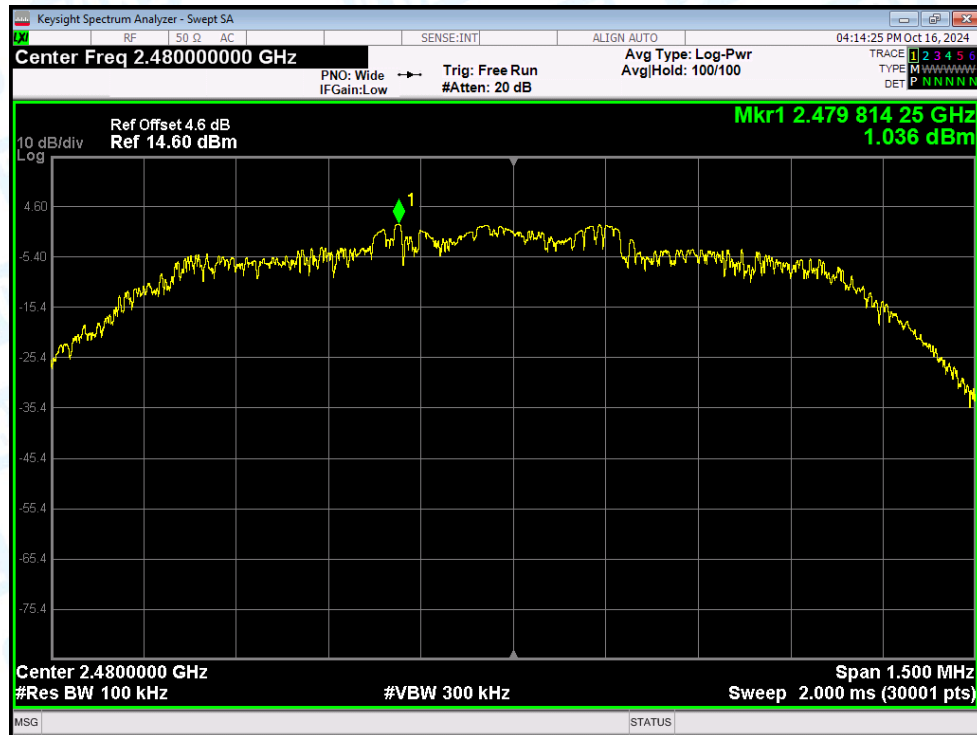
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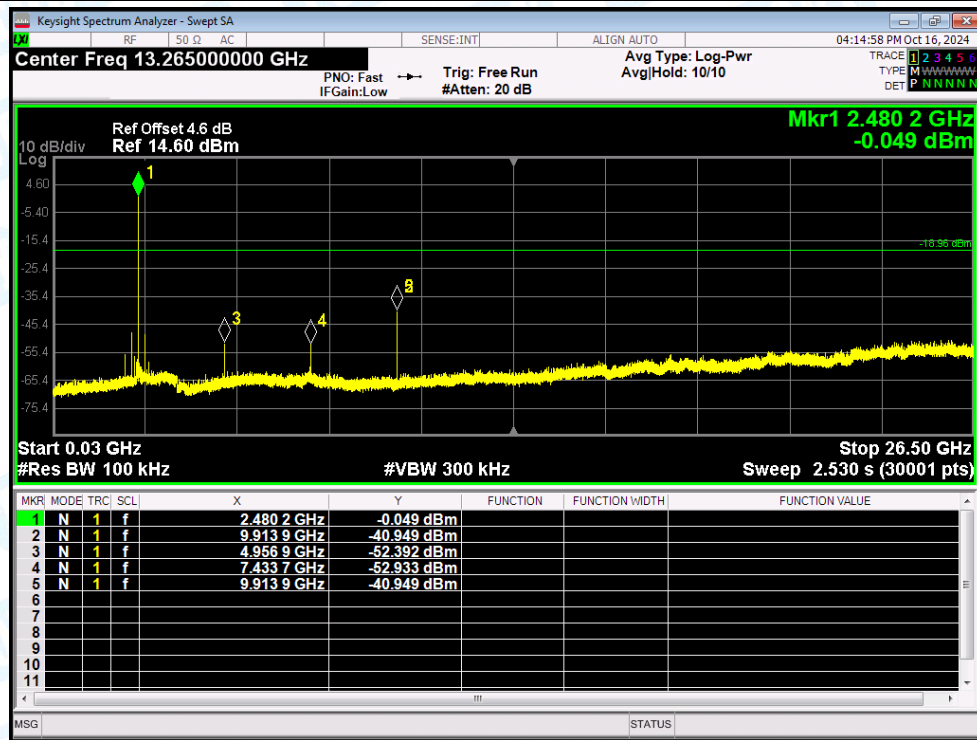
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

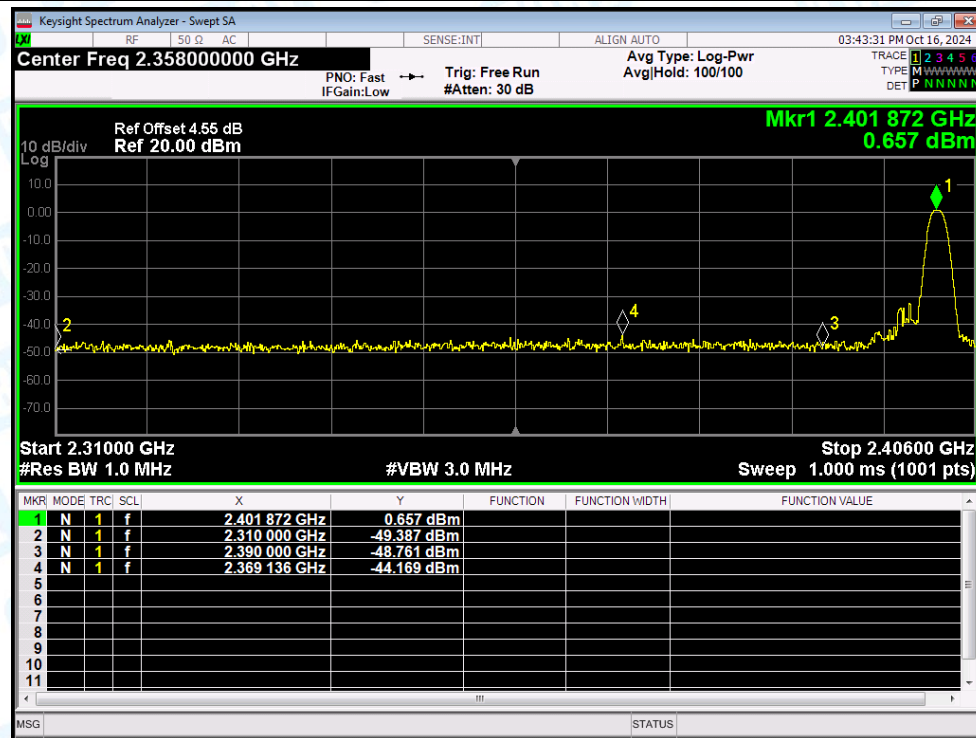


8. Restrict Band

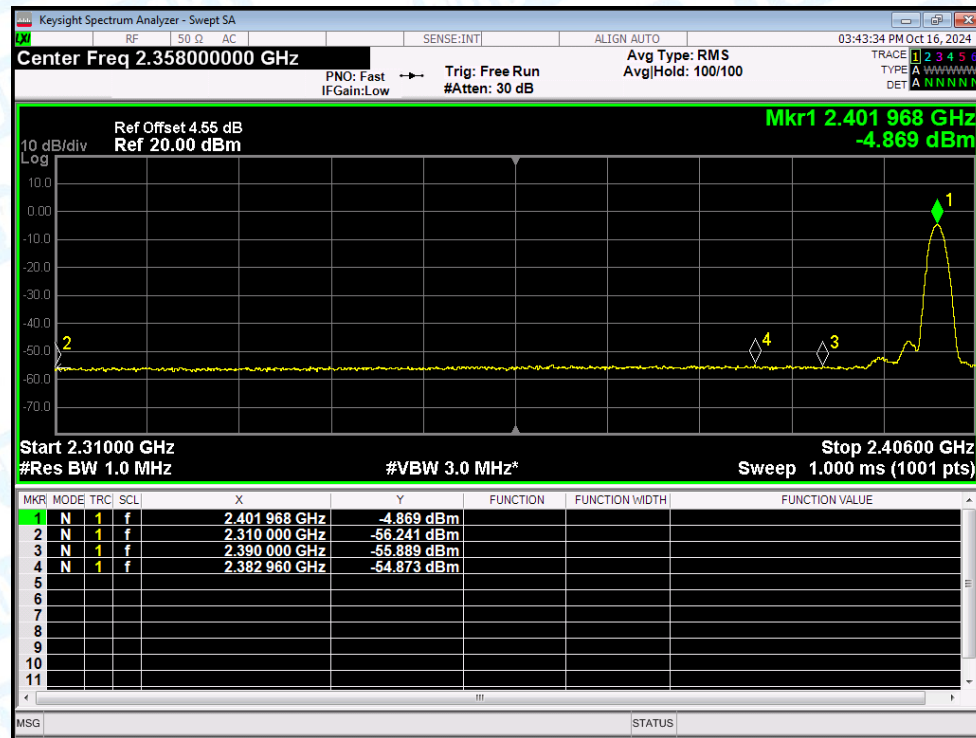
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-49.39	2	-	47.87	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.24	2	5.17	46.19	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2369.136	-44.17	2	-	53.09	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2382.96	-54.87	2	5.17	47.56	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.76	2	-	48.5	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.89	2	5.17	46.54	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-45.14	2	-	52.12	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.11	2	5.17	48.32	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.992	-43.12	2	-	54.14	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.536	-53.23	2	5.17	49.2	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-45.5	2	-	51.76	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.2	2	5.17	47.23	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.11	2	-	49.15	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.68	2	5.06	45.64	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2370.384	-44.34	2	-	52.92	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2353.392	-55.13	2	5.06	47.19	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.53	2	-	49.73	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.82	2	5.06	46.5	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-44.83	2	-	52.43	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-54.03	2	5.06	48.29	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.536	-43.57	2	-	53.69	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.512	-54.03	2	5.06	48.29	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-45.77	2	-	51.49	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-54.82	2	5.06	47.5	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-47.47	2	-	49.79	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.84	2	5.06	45.48	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2366.064	-44.76	2	-	52.5	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2366.64	-55.01	2	5.06	47.31	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-48	2	-	49.26	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.9	2	5.06	46.42	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-45.29	2	-	51.97	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-54.05	2	5.06	48.27	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2494.36	-44.01	2	-	53.25	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.704	-53.97	2	5.06	48.35	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-48.31	2	-	48.95	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.63	2	5.06	46.69	Average	54	Pass

Test Graphs

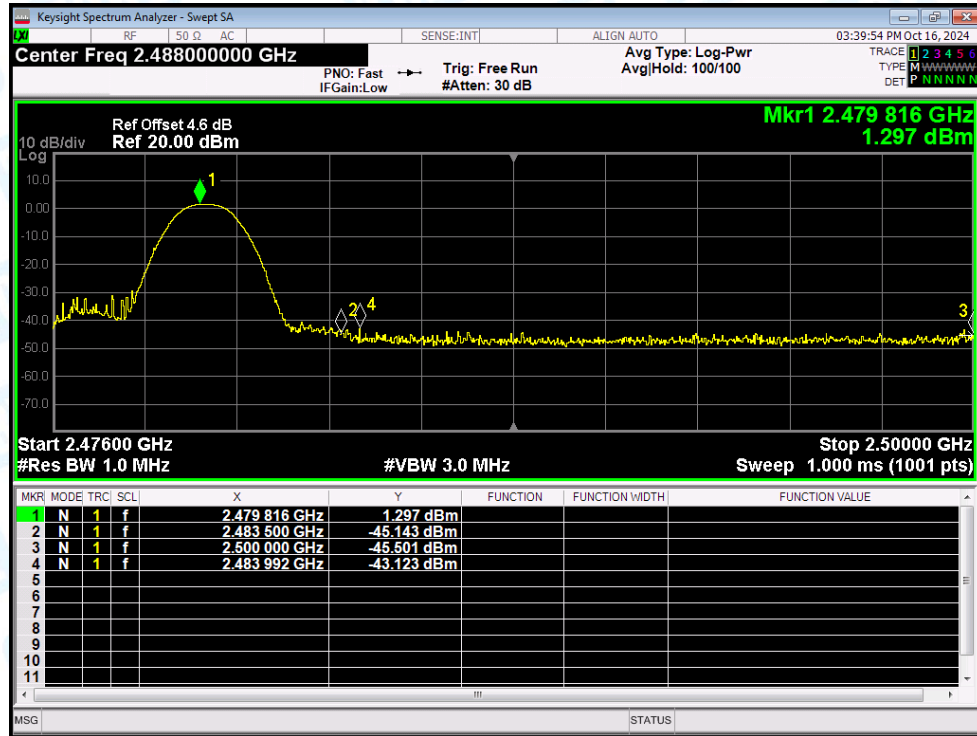
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



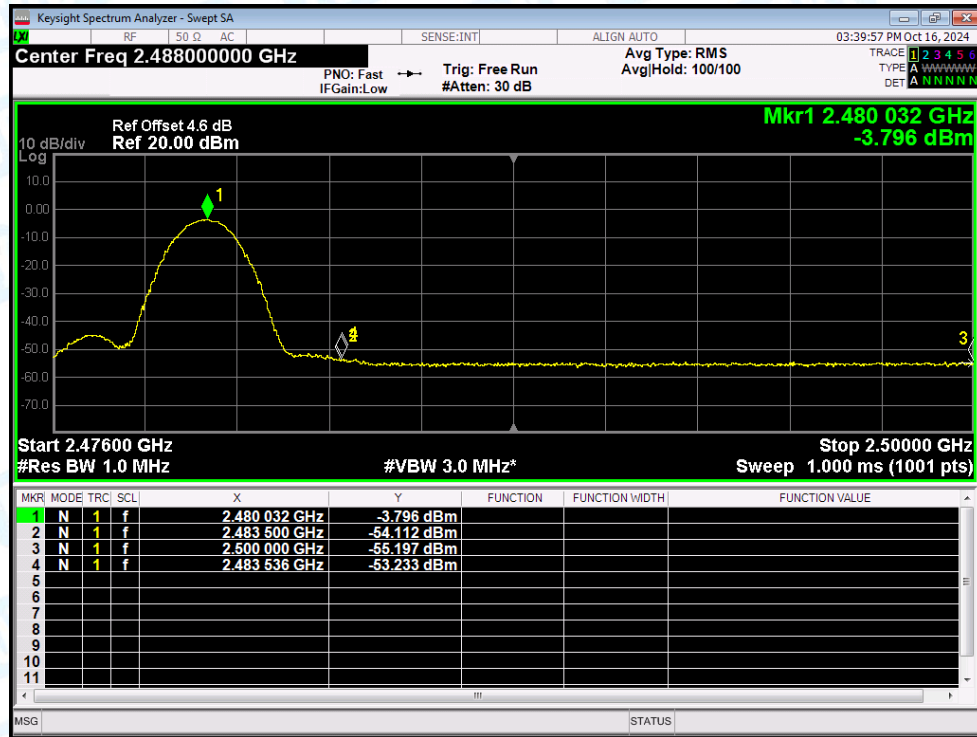
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



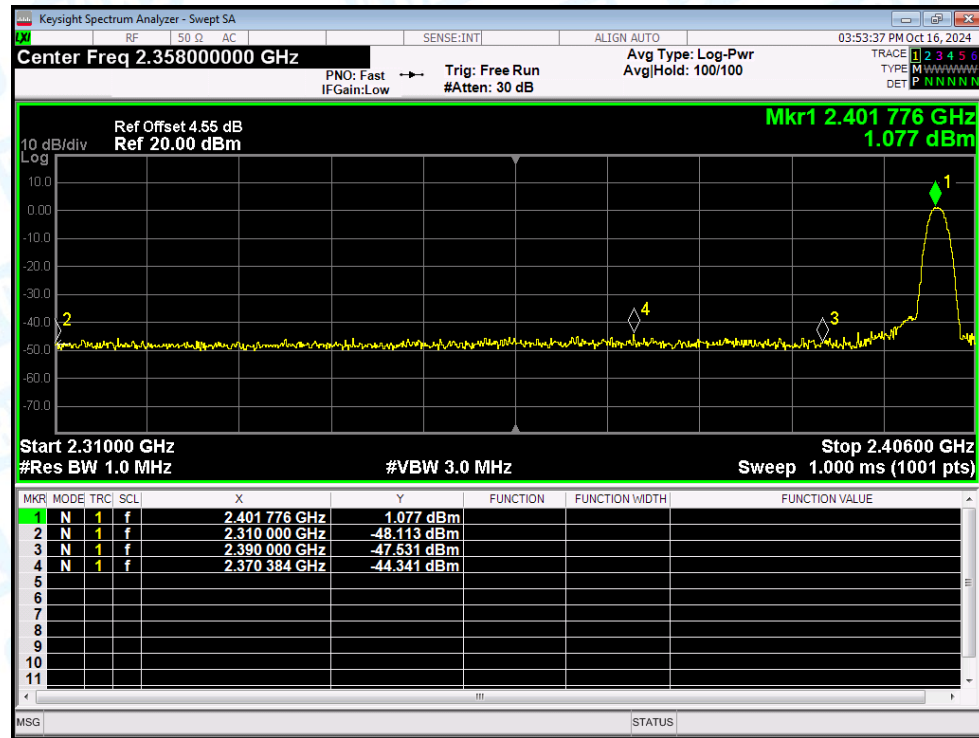
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



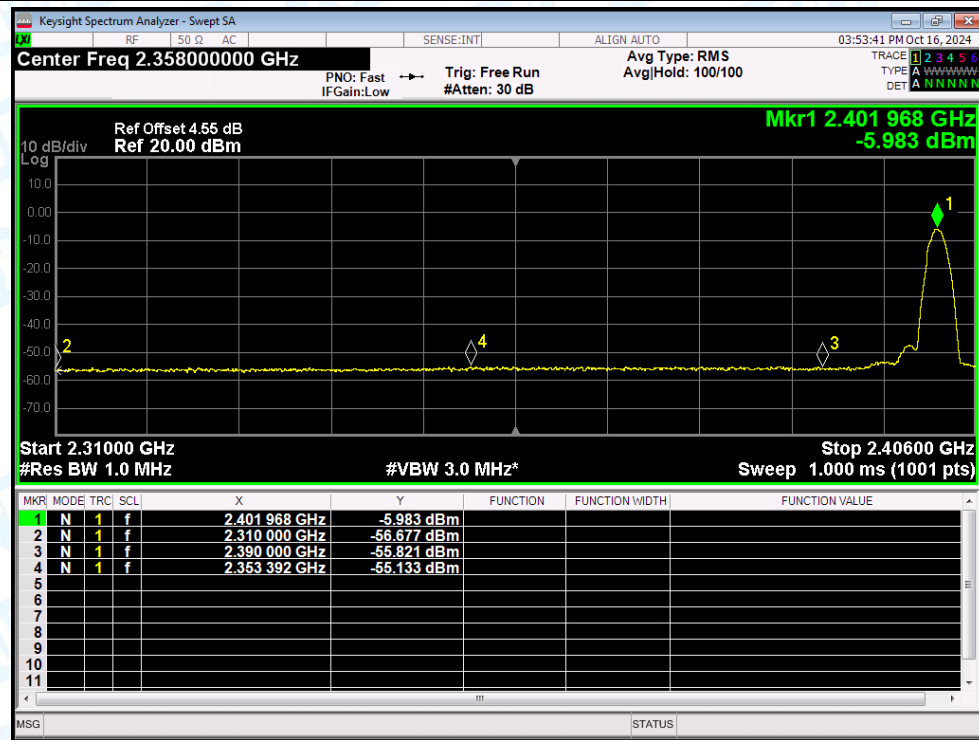
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



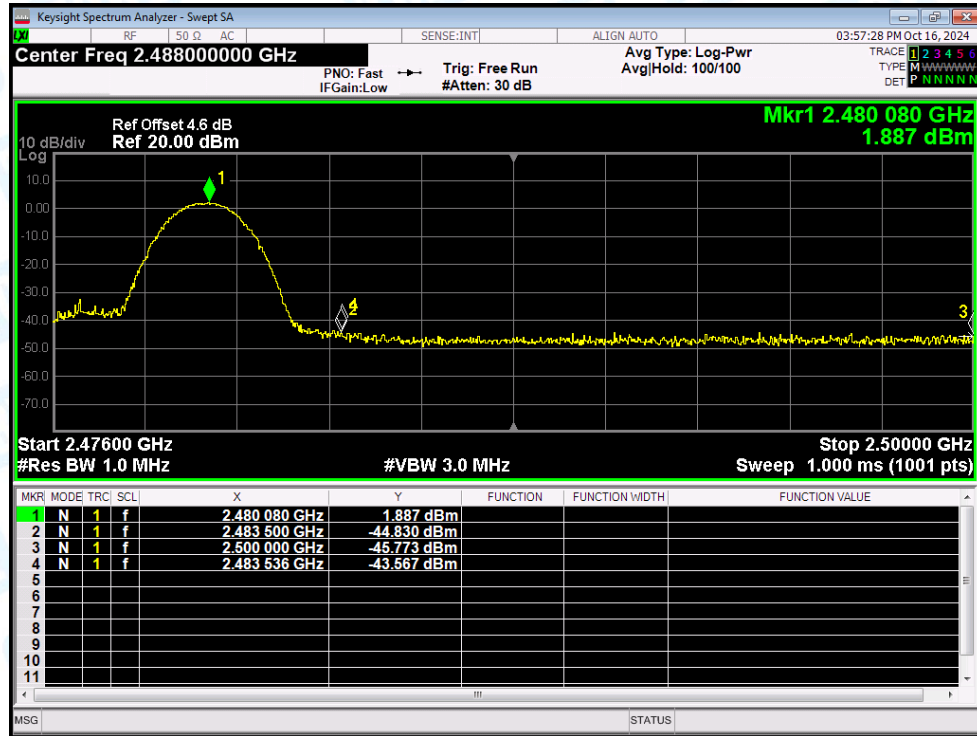
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



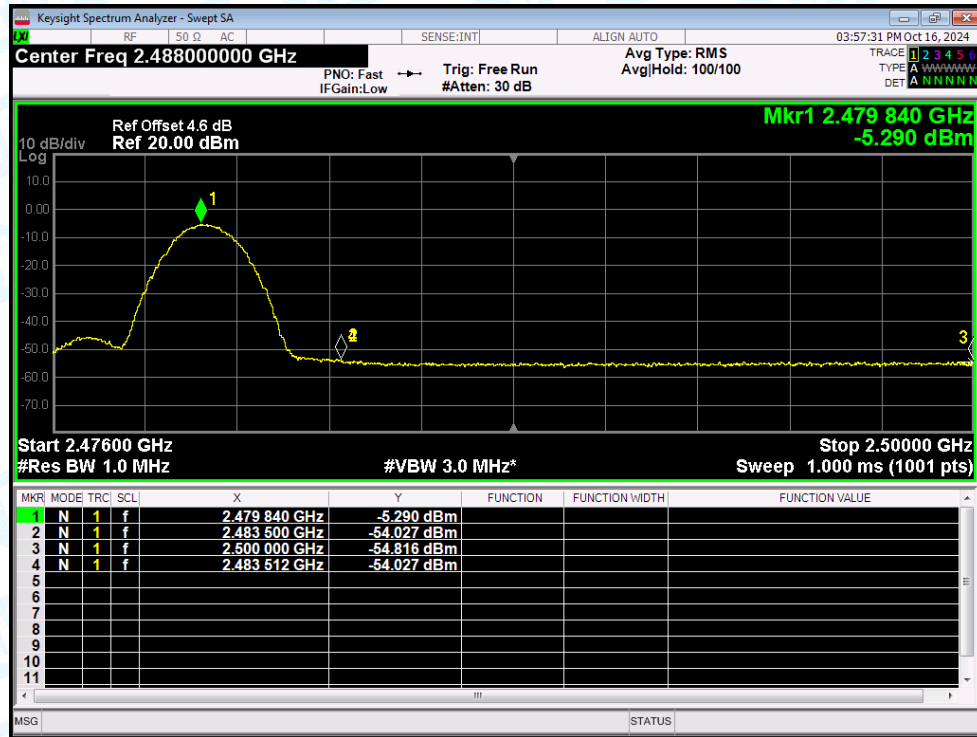
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



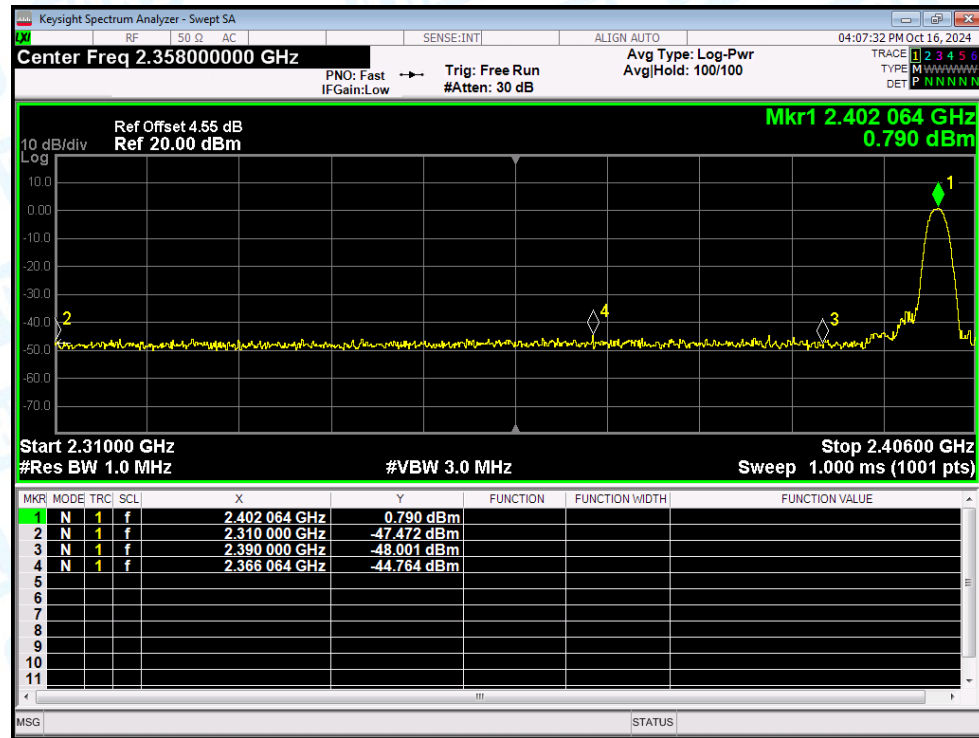
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



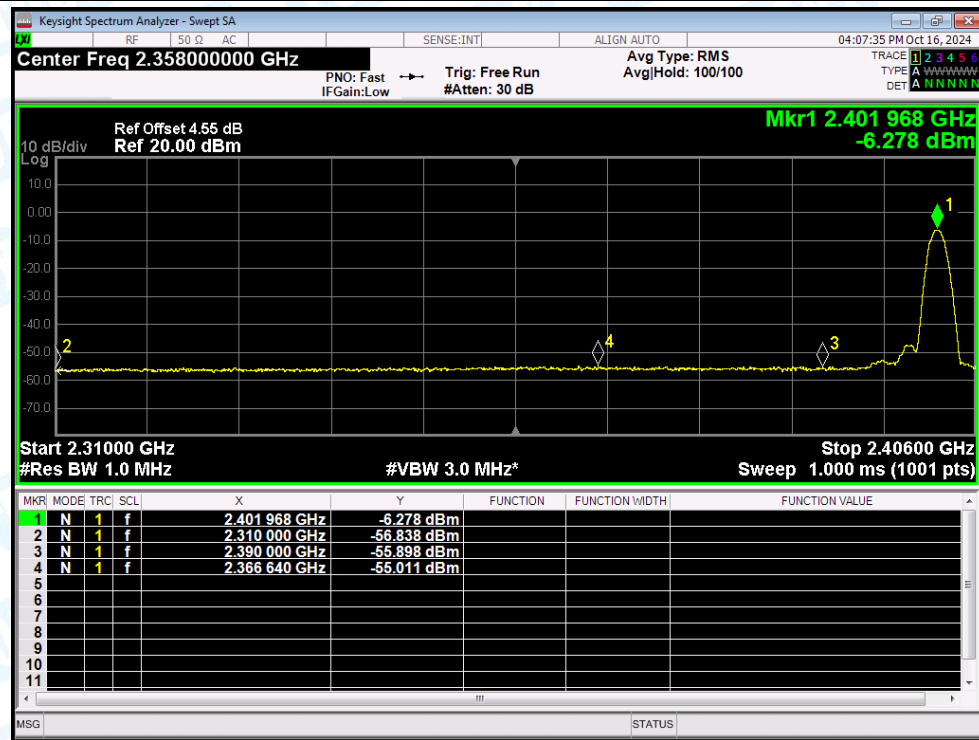
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



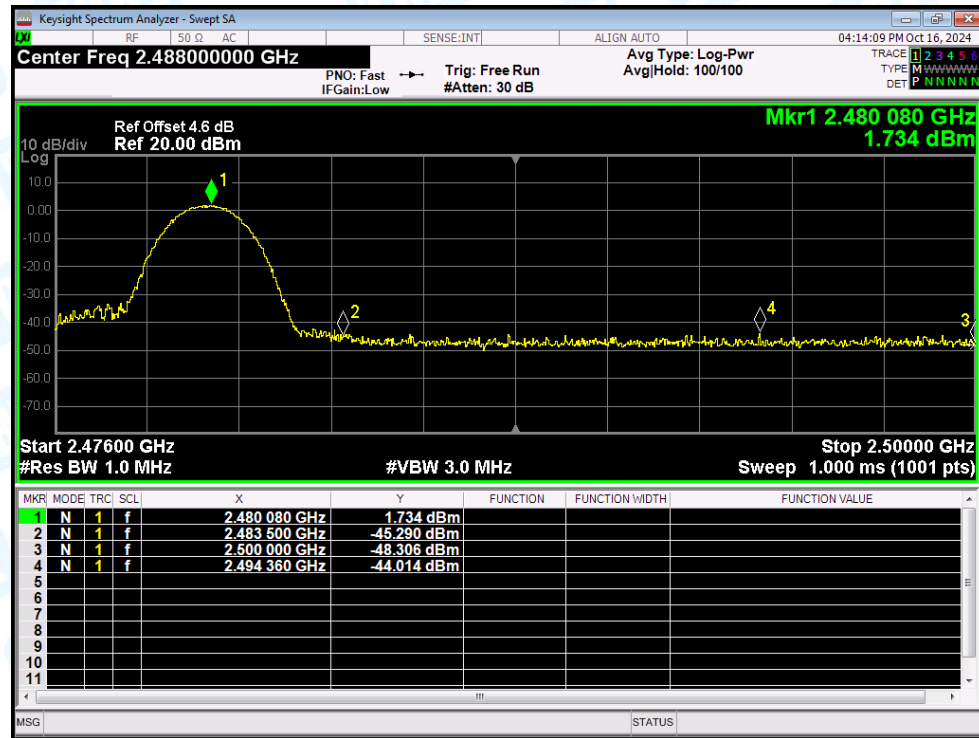
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



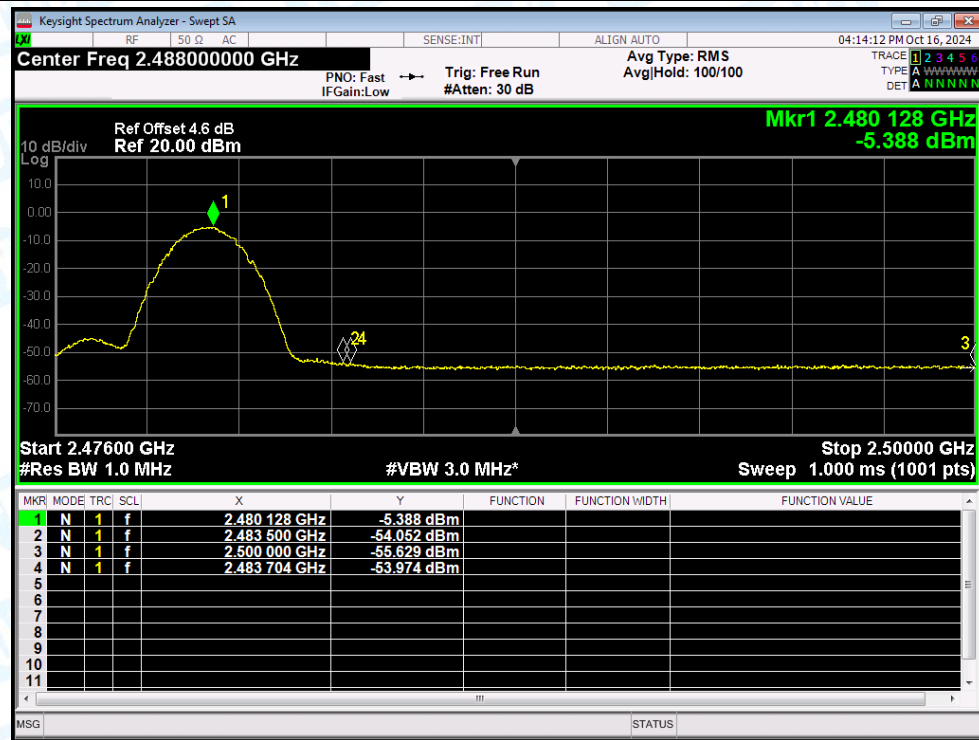
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

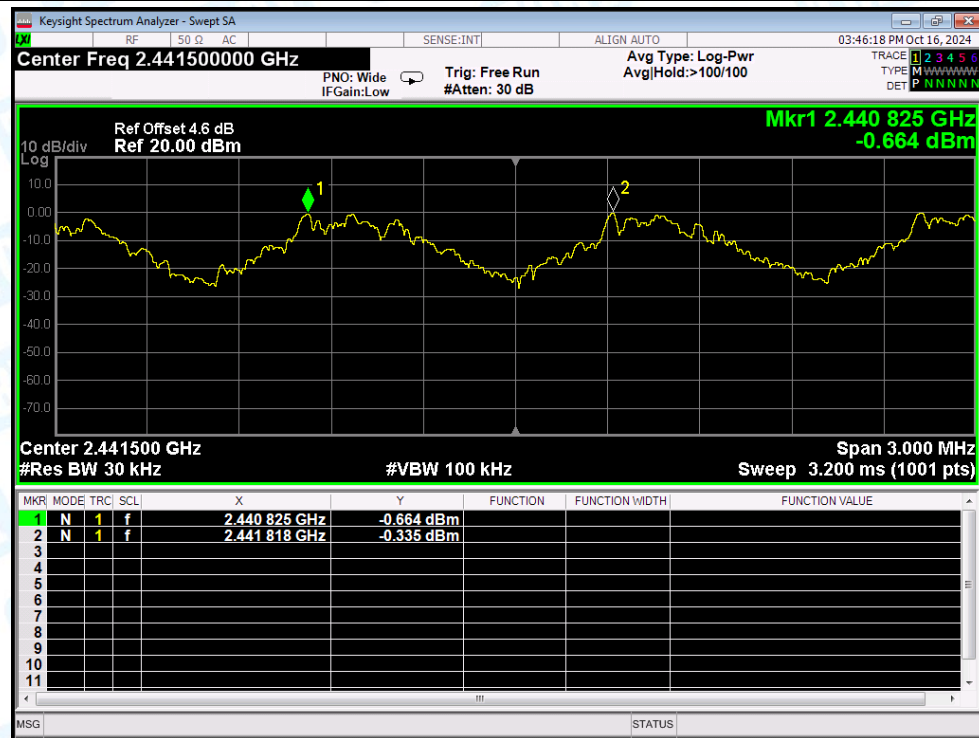


9. Carrier Frequencies Separation

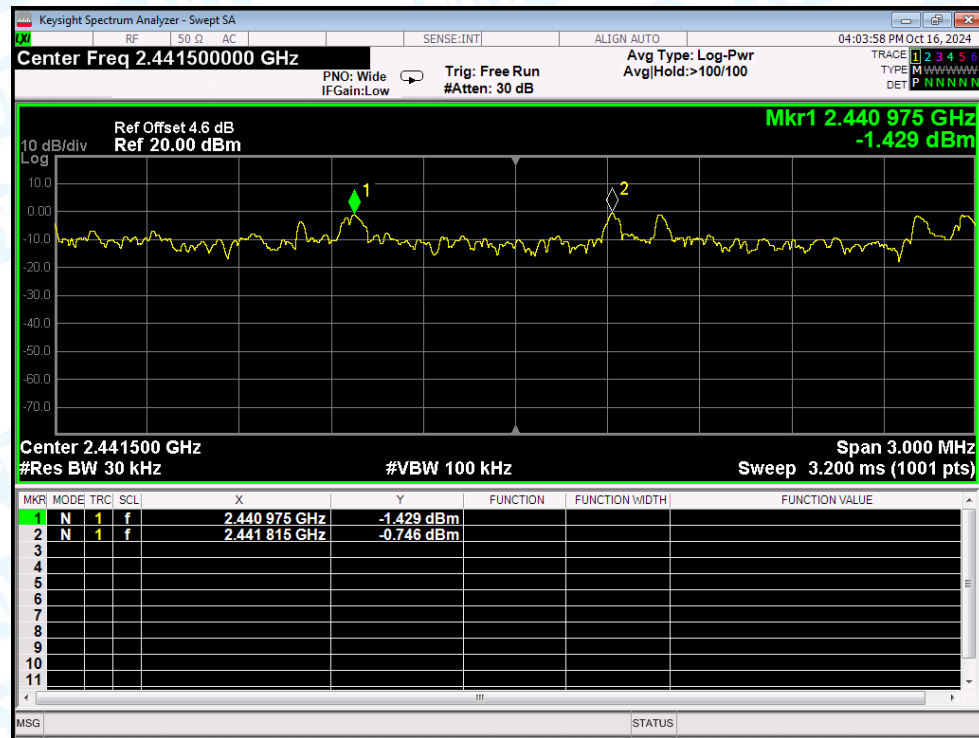
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.825	2441.818	0.993	0.573	Pass
NVNT	2-DH1	Ant1	2440.975	2441.815	0.84	0.84	Pass
NVNT	3-DH1	Ant1	2440.96	2441.98	1.02	0.807	Pass

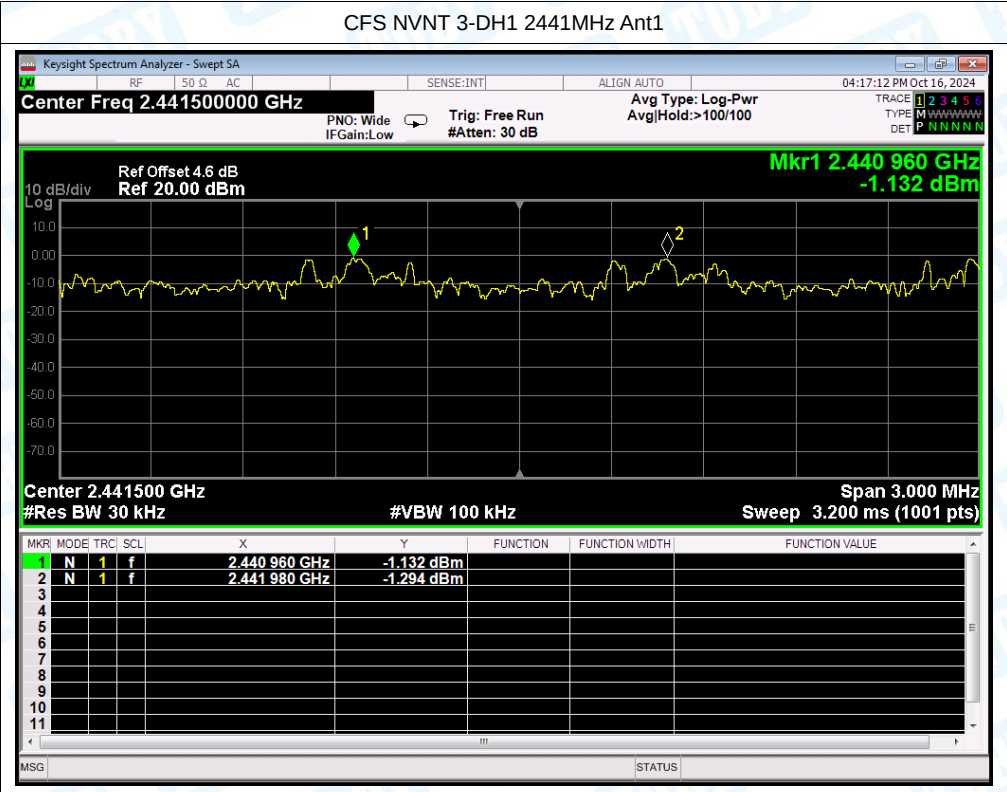
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



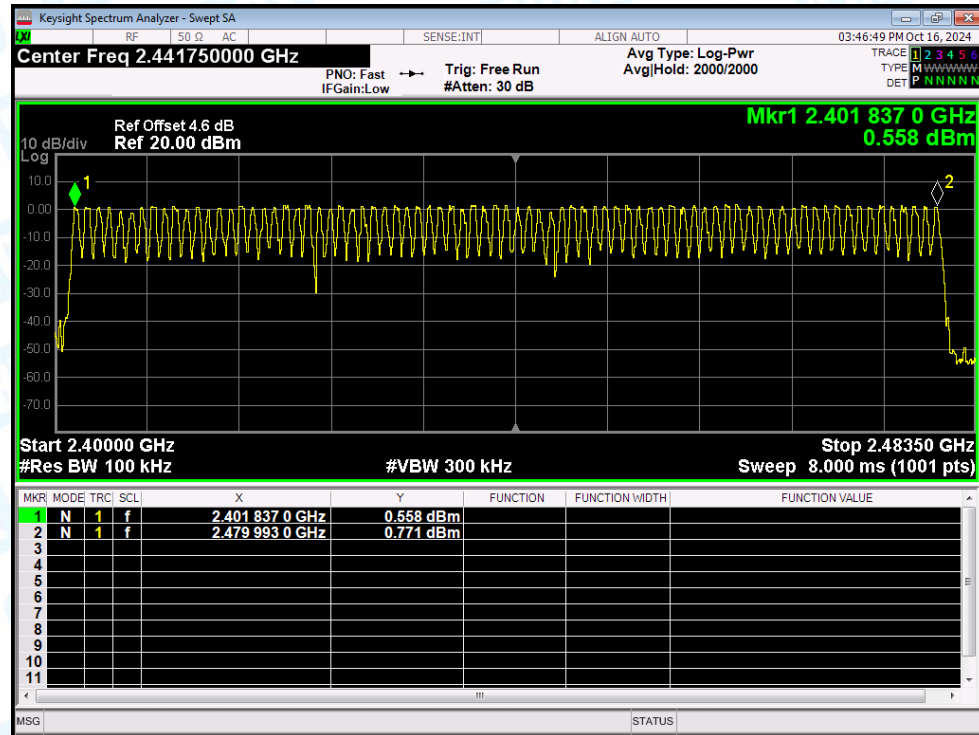


10. Number of Hopping Channel

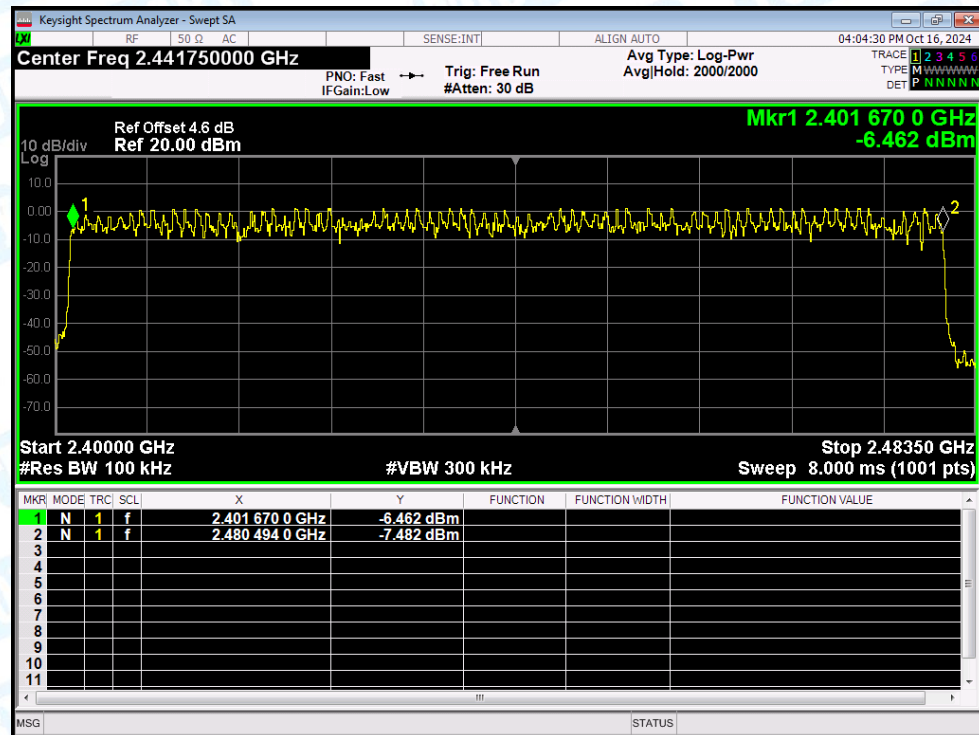
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

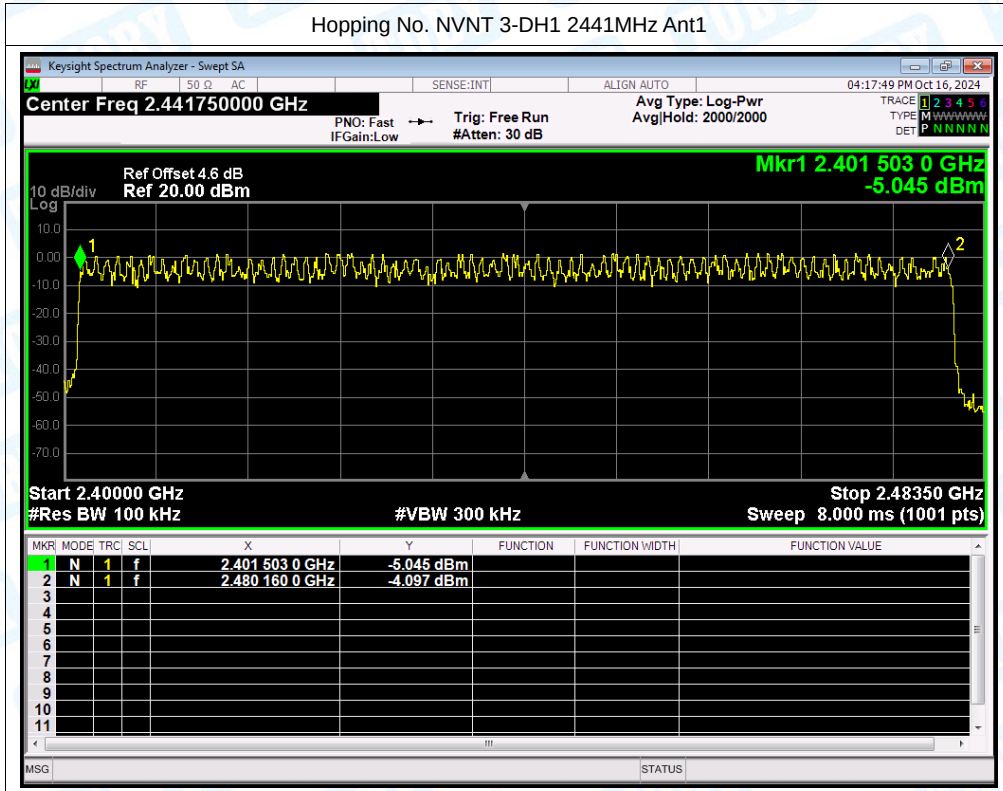
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



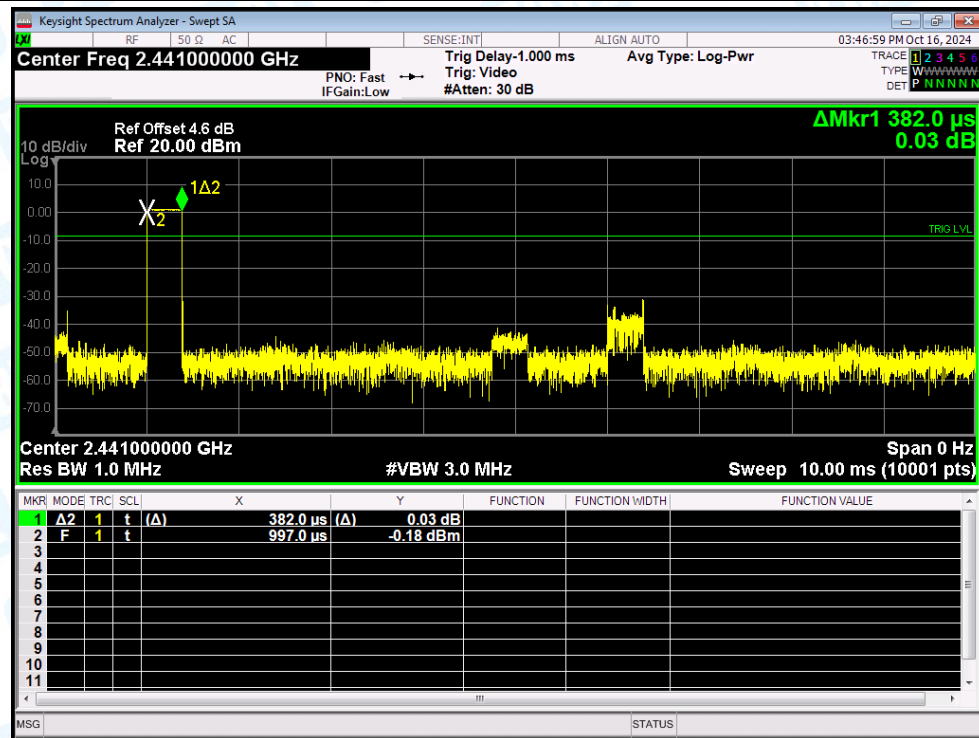


11. Dwell Time

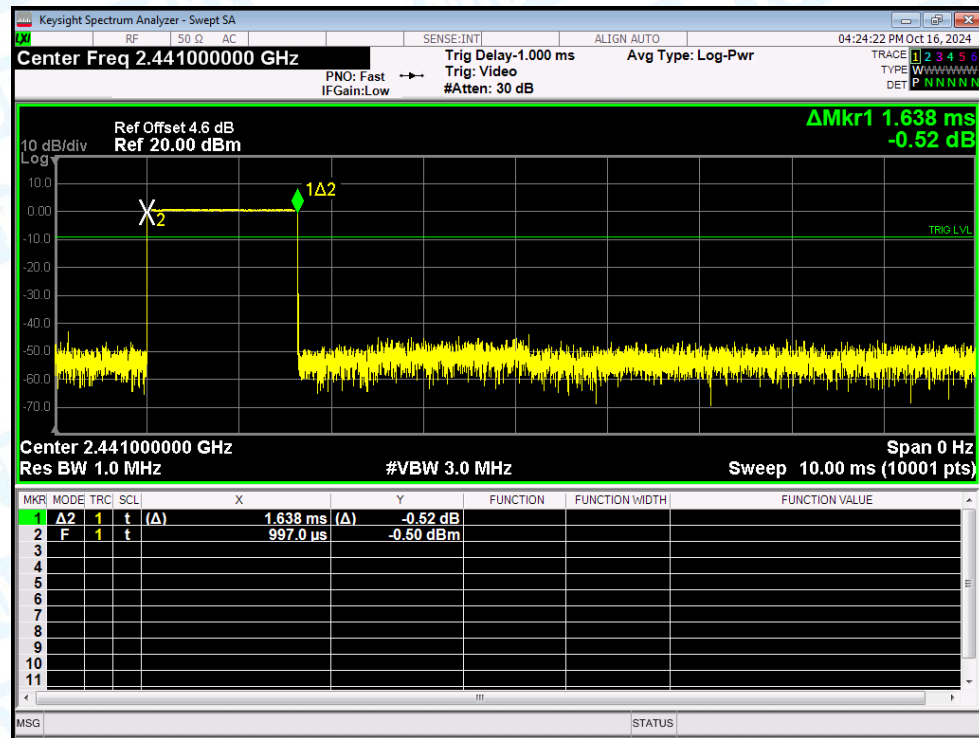
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.382	122.24	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.638	262.08	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.391	125.12	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.644	263.04	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.891	308.373	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.392	125.44	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.642	262.72	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.894	308.693	31600	400	Pass

Test Graphs

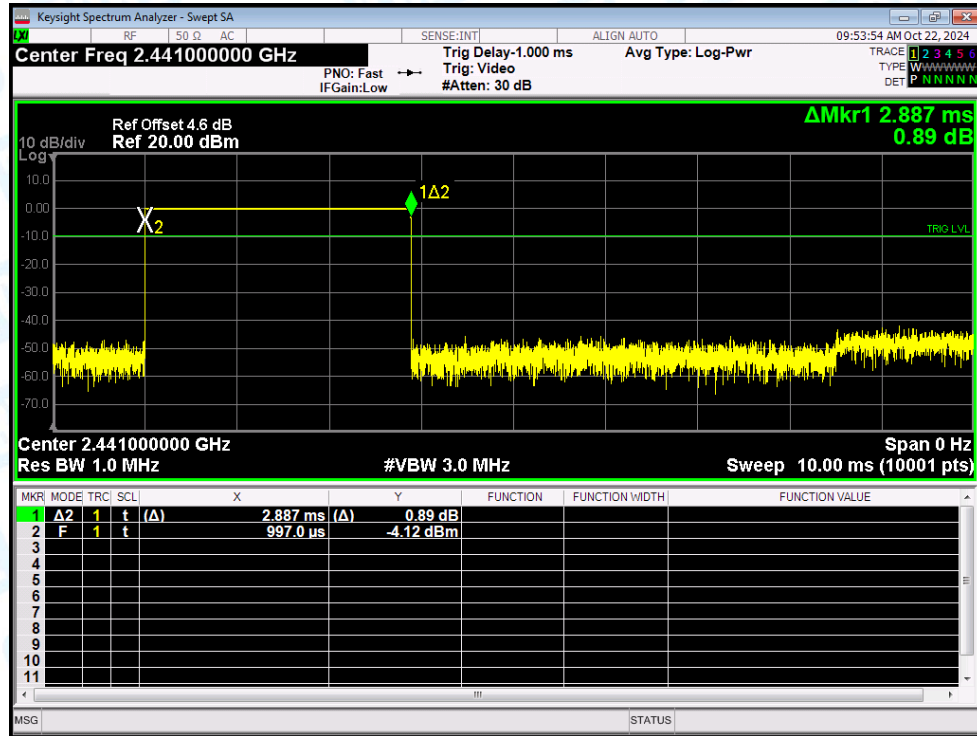
Dwell NVNT 1-DH1 2441MHz Ant1



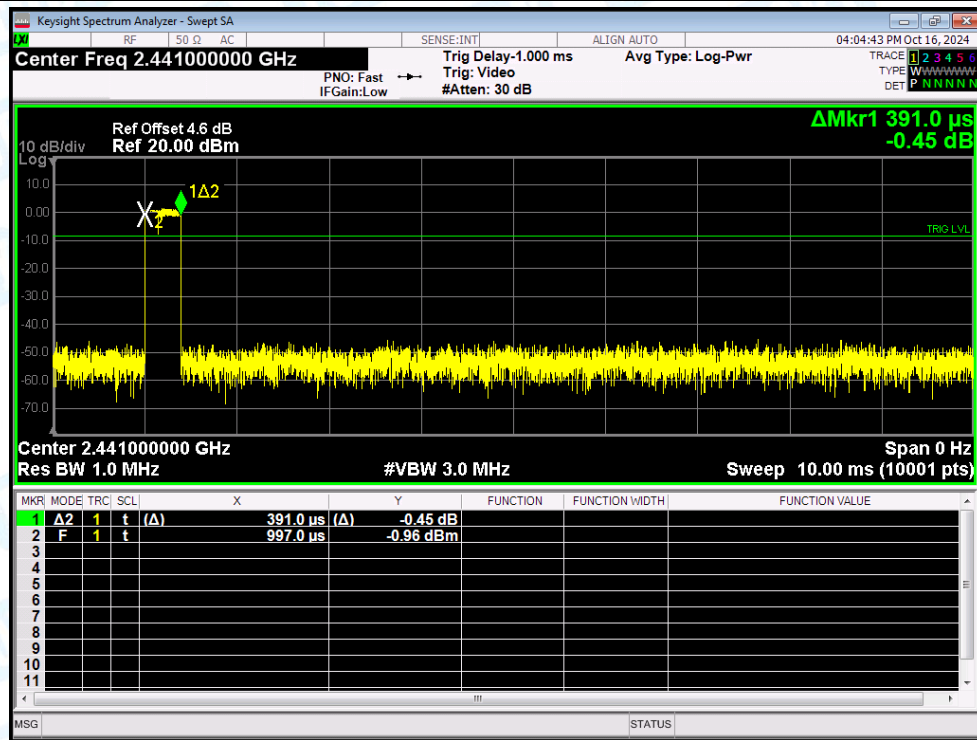
Dwell NVNT 1-DH3 2441MHz Ant1



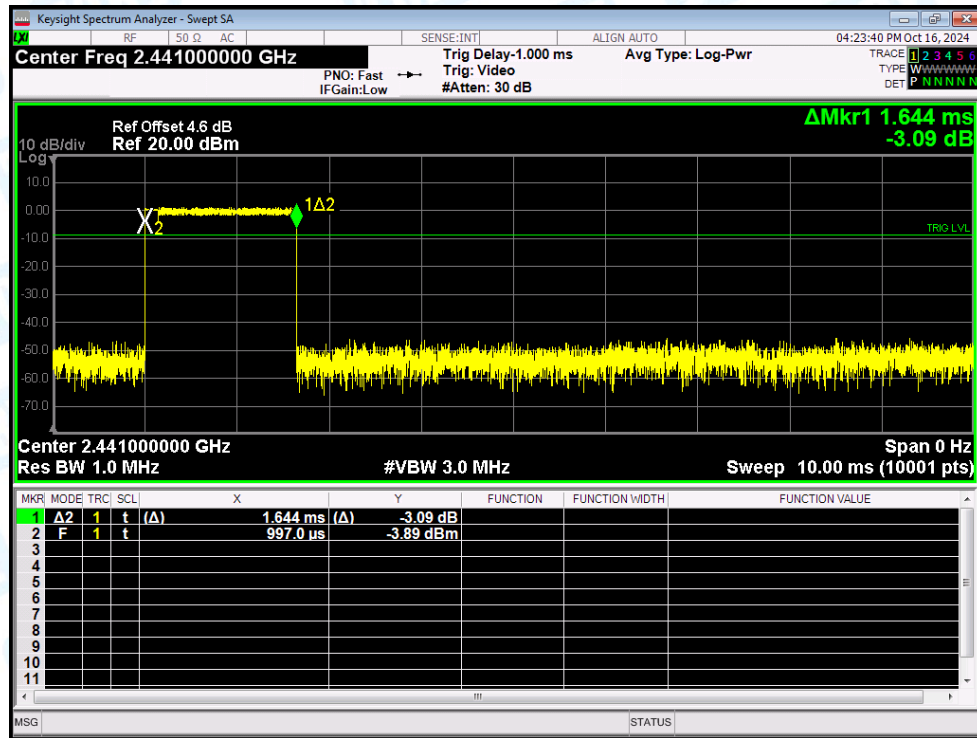
Dwell NVNT 1-DH5 2441MHz Ant1



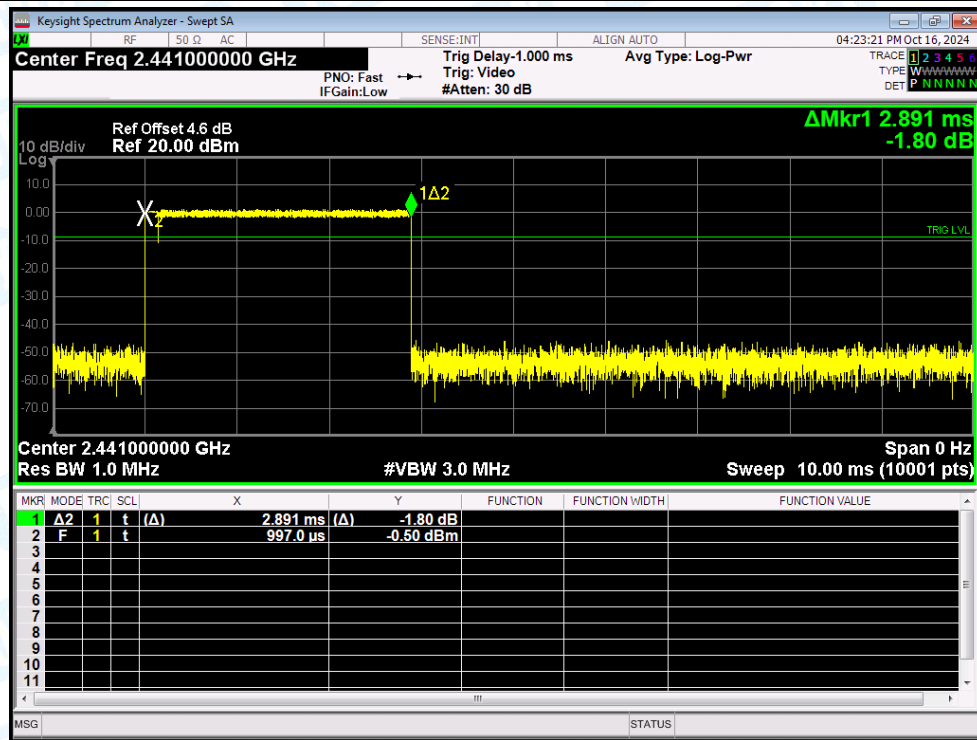
Dwell NVNT 2-DH1 2441MHz Ant1



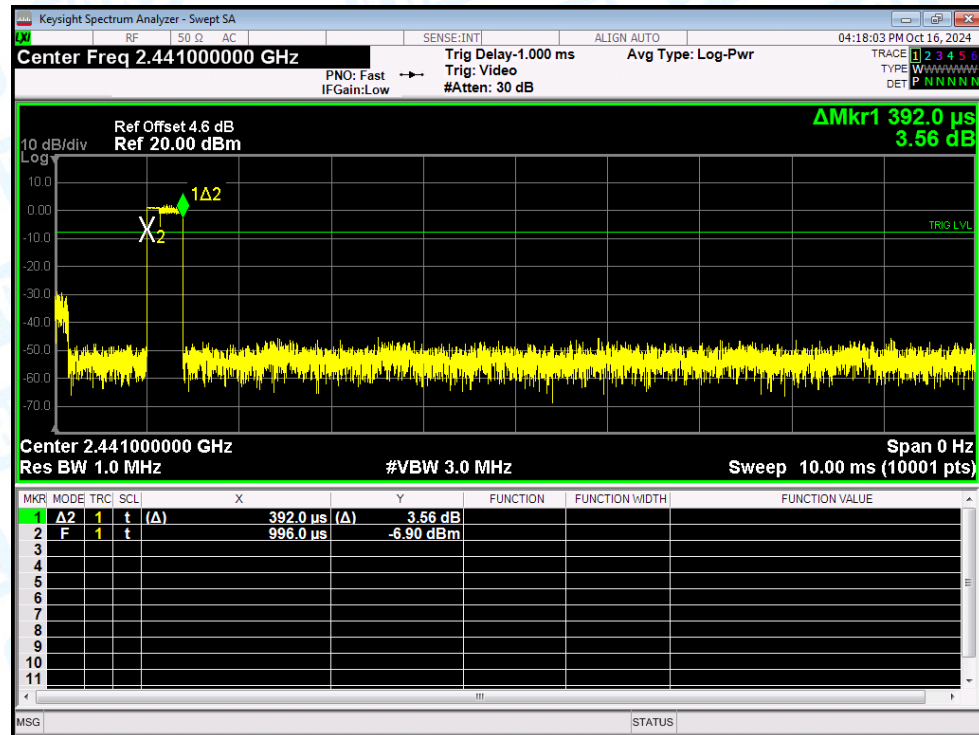
Dwell NVNT 2-DH3 2441MHz Ant1



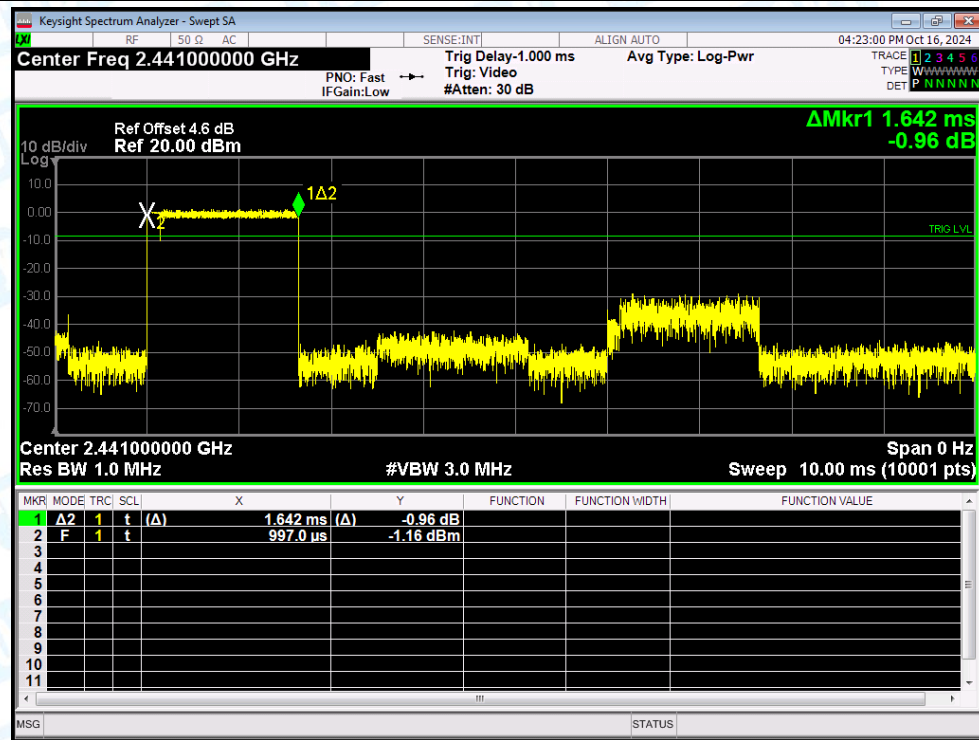
Dwell NVNT 2-DH5 2441MHz Ant1

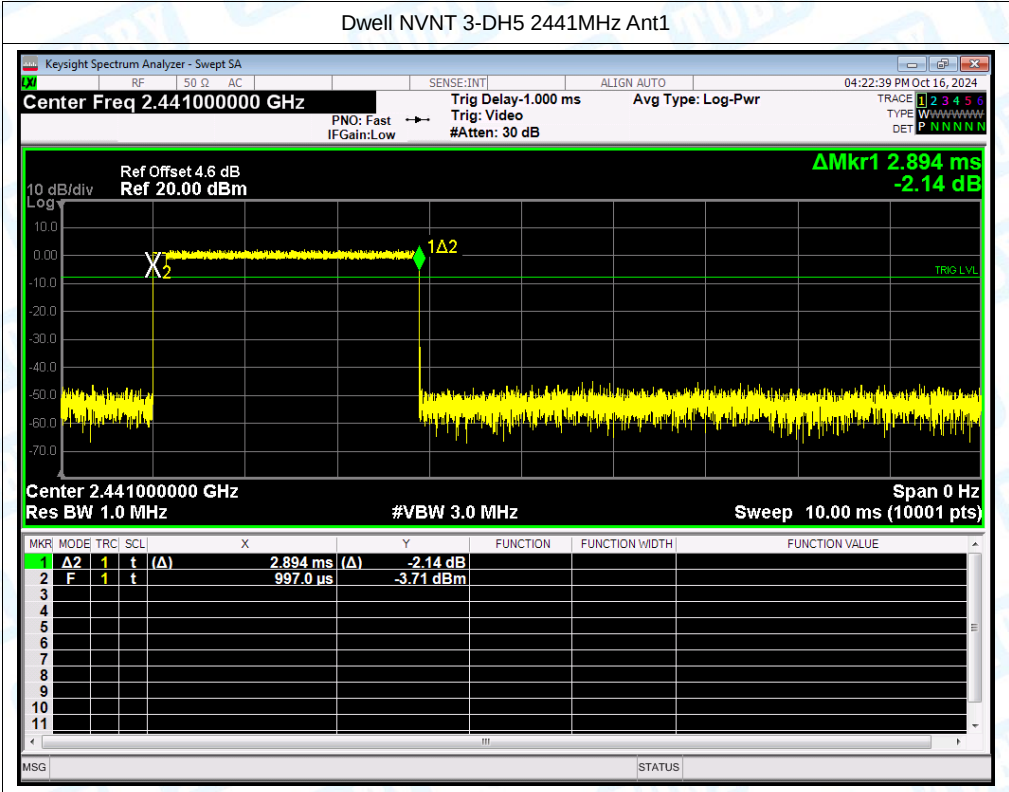


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





---- END OF REPORT ----