

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Bluetooth earphones
Test Model:	Y310
Sample ID:	HC-C-202406-0241-02-01
Environmental Conditions	
Temperature:	24.6℃
Relative Humidity:	52.6%
Test Voltage:	DC 3.8V
Test Engineer:	Jolin Lee
Note: For a more detailed features description, please refer to the report TBR-C-202406-0241-30 The report only show the worst case data.	

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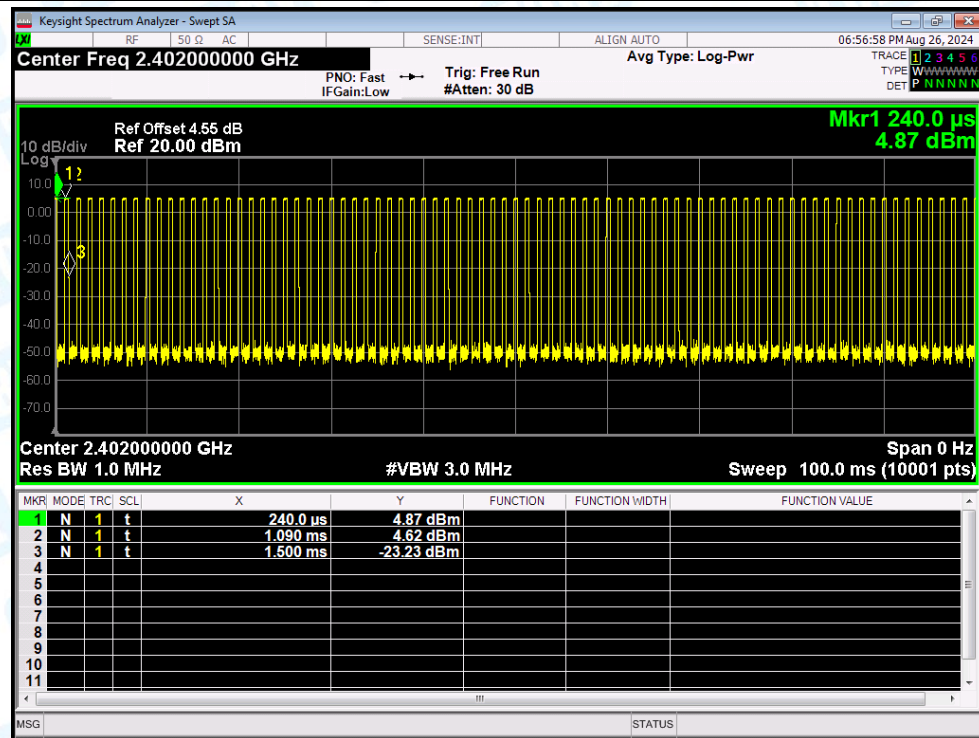
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1. Duty Cycle

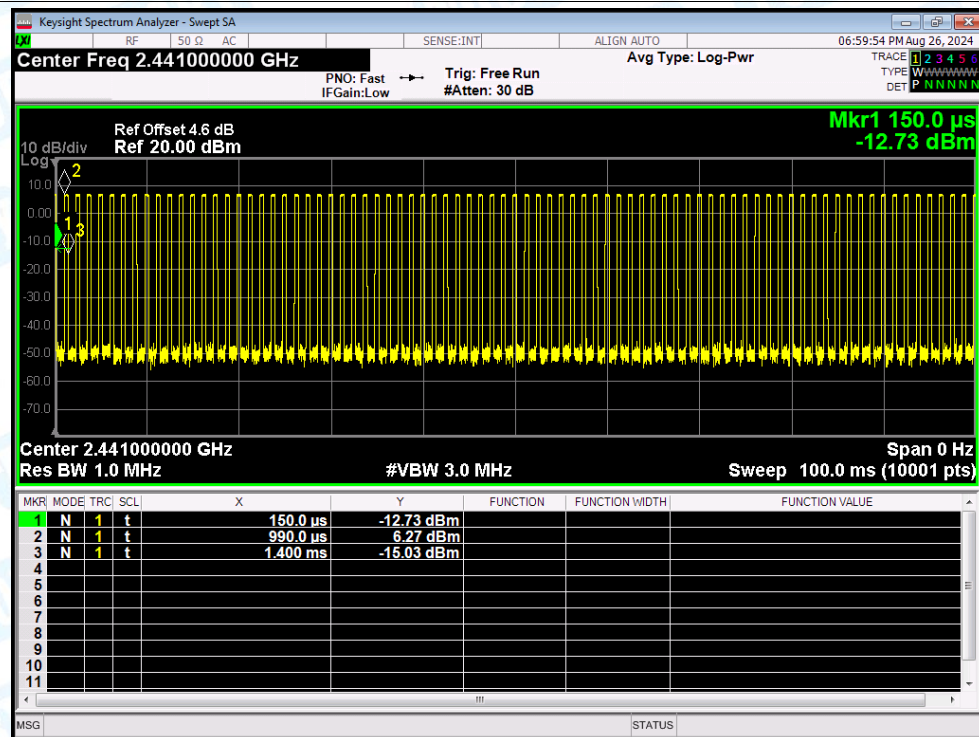
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	32.54	4.88	2.44
NVNT	1-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2402	Ant1	33.6	4.74	2.38
NVNT	2-DH1	2441	Ant1	33.6	4.74	2.38
NVNT	2-DH1	2480	Ant1	33.6	4.74	2.38
NVNT	3-DH1	2402	Ant1	33.6	4.74	2.38
NVNT	3-DH1	2441	Ant1	33.06	4.81	2.44
NVNT	3-DH1	2480	Ant1	33.6	4.74	2.38

Test Graphs

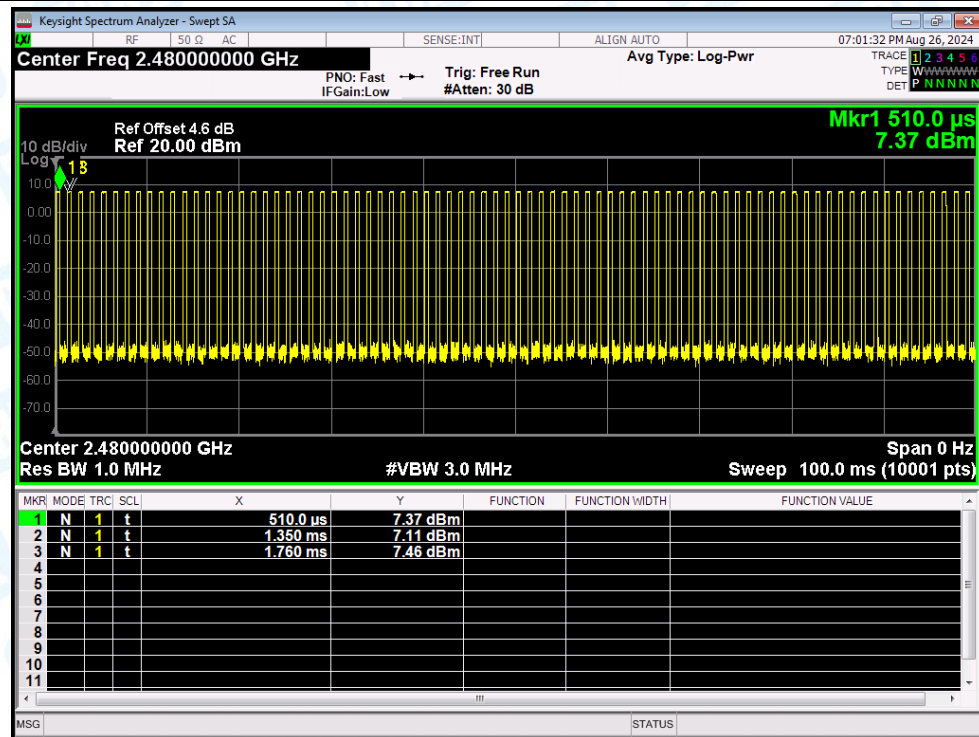
Duty Cycle NVNT 1-DH1 2402MHz Ant1



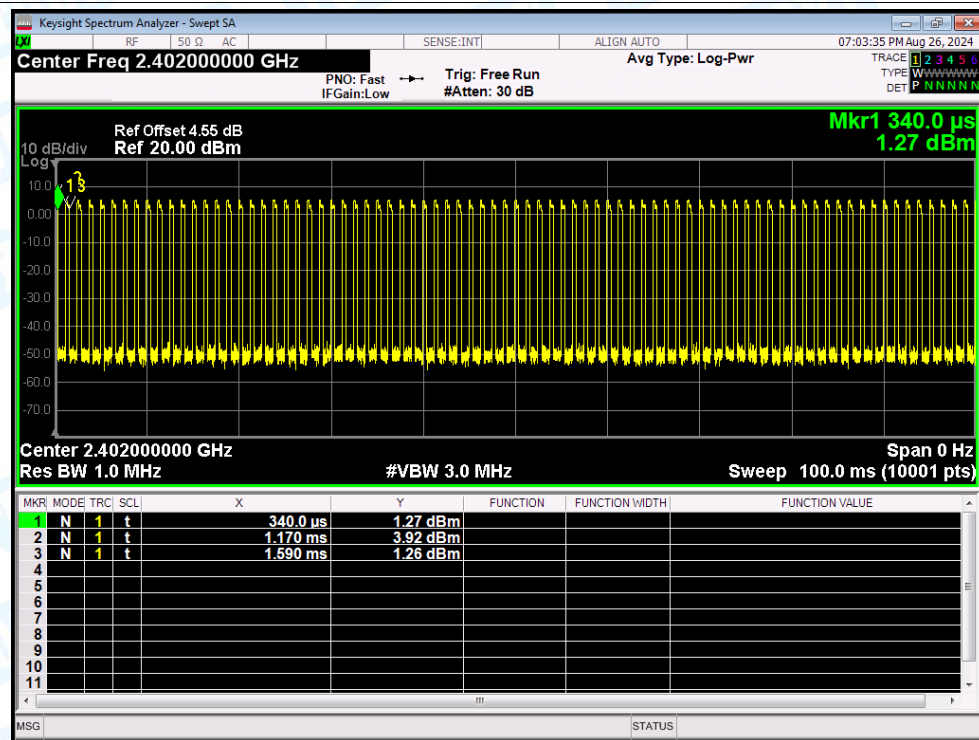
Duty Cycle NVNT 1-DH1 2441MHz Ant1



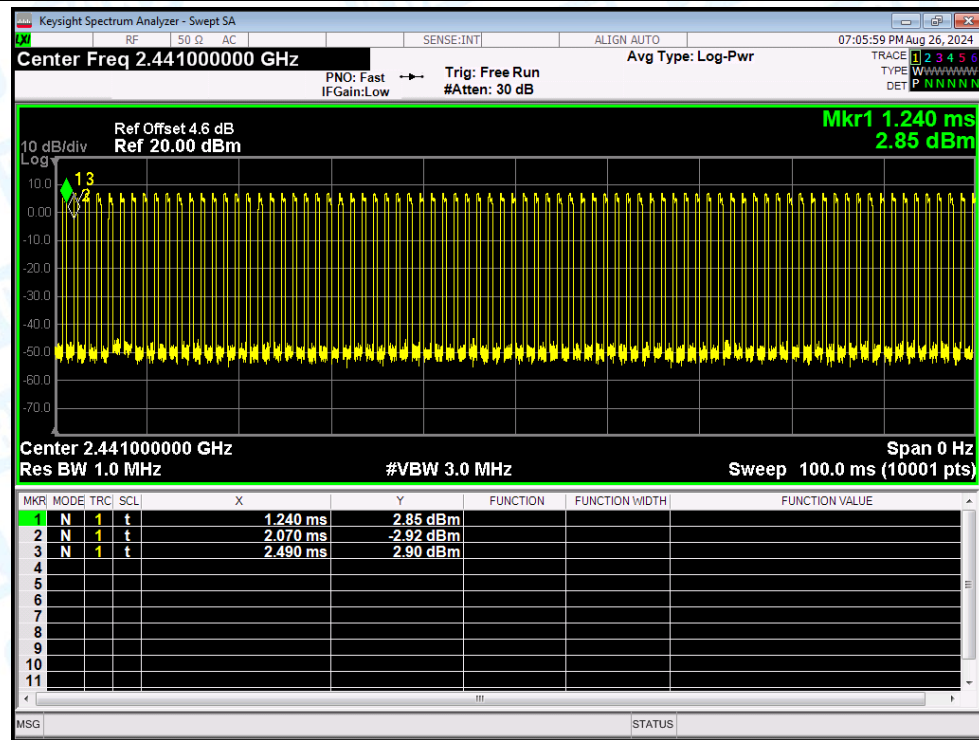
Duty Cycle NVNT 1-DH1 2480MHz Ant1



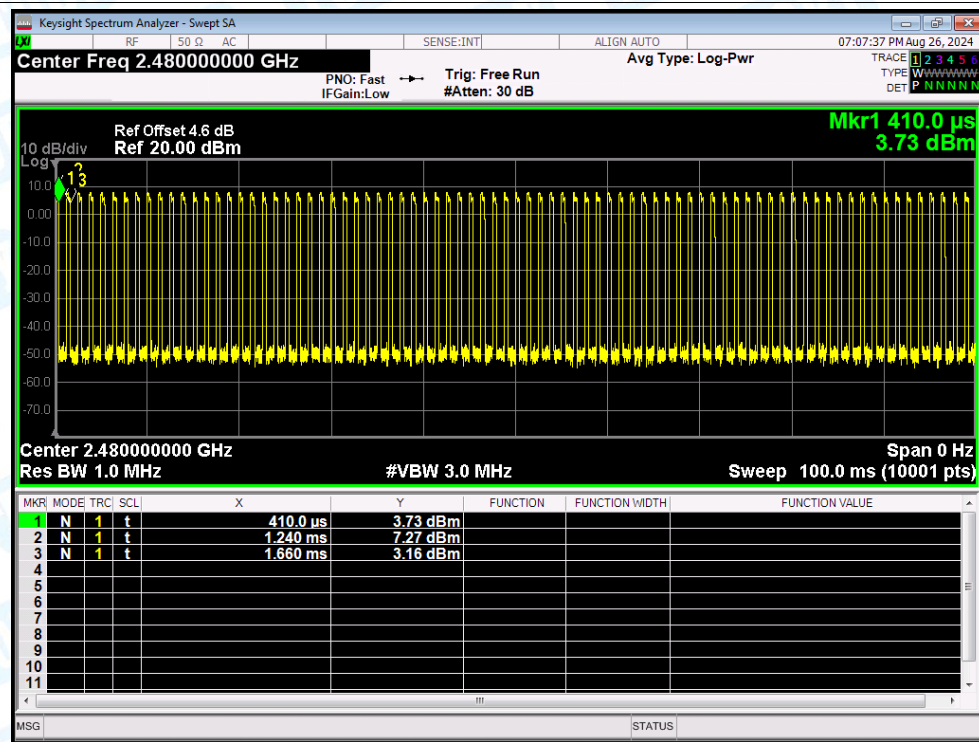
Duty Cycle NVNT 2-DH1 2402MHz Ant1



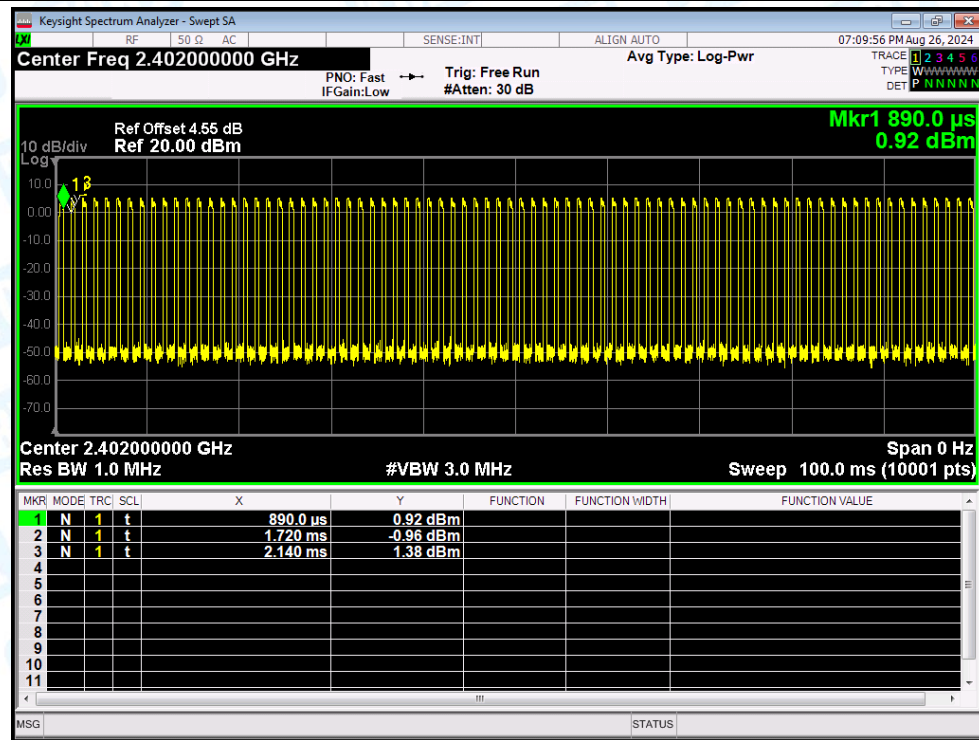
Duty Cycle NVNT 2-DH1 2441MHz Ant1



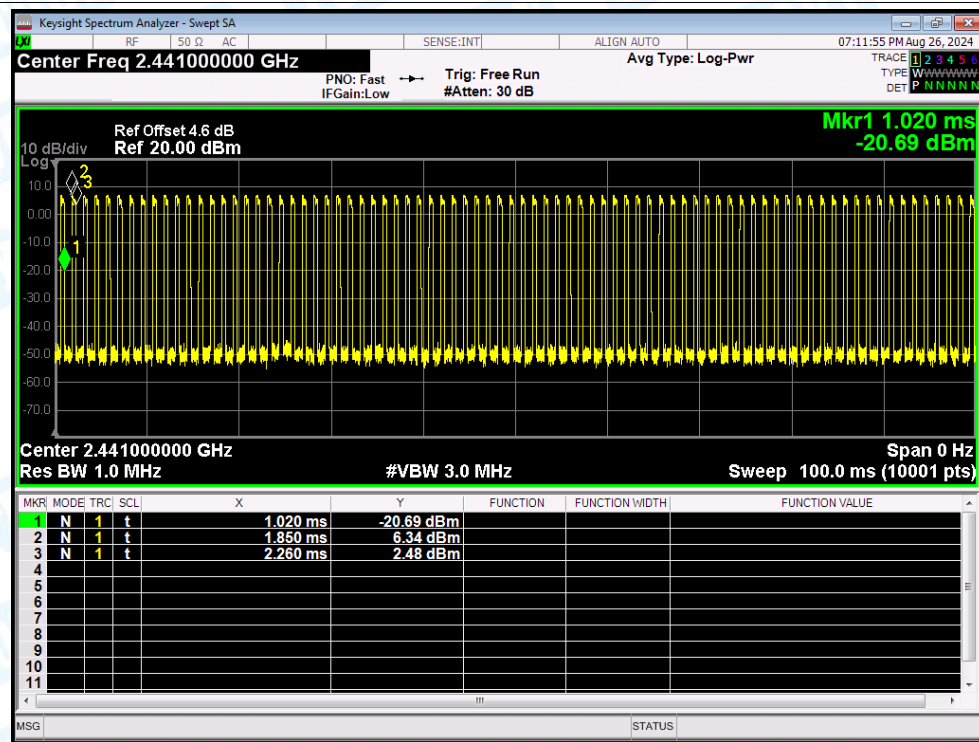
Duty Cycle NVNT 2-DH1 2480MHz Ant1

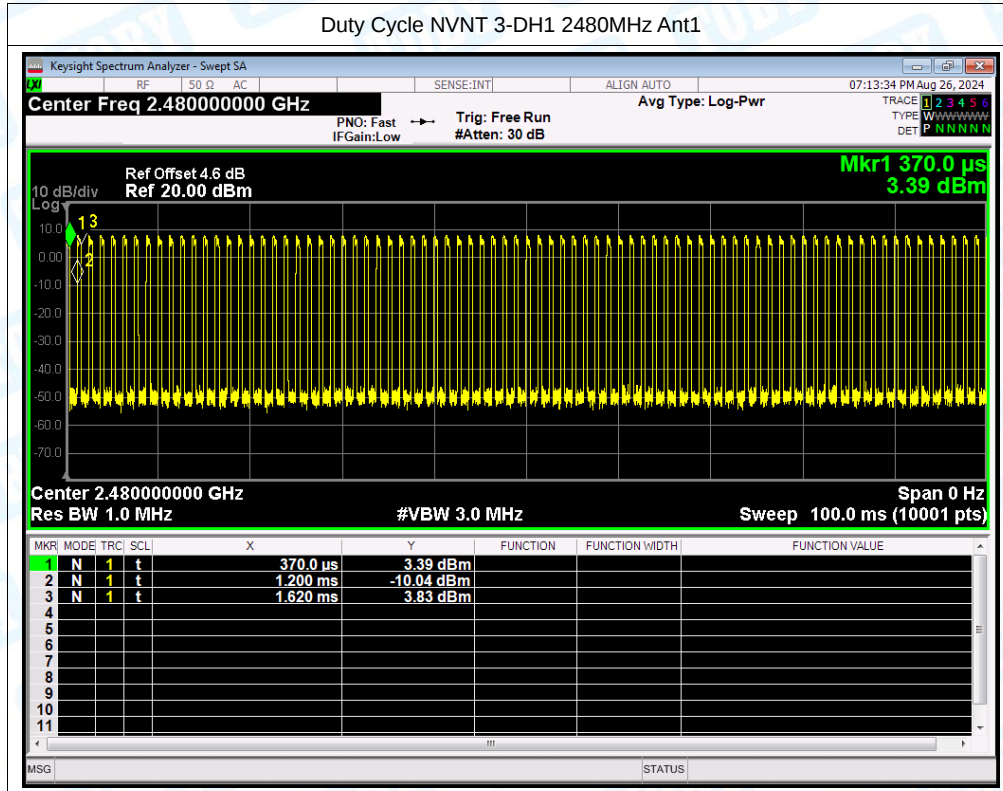


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



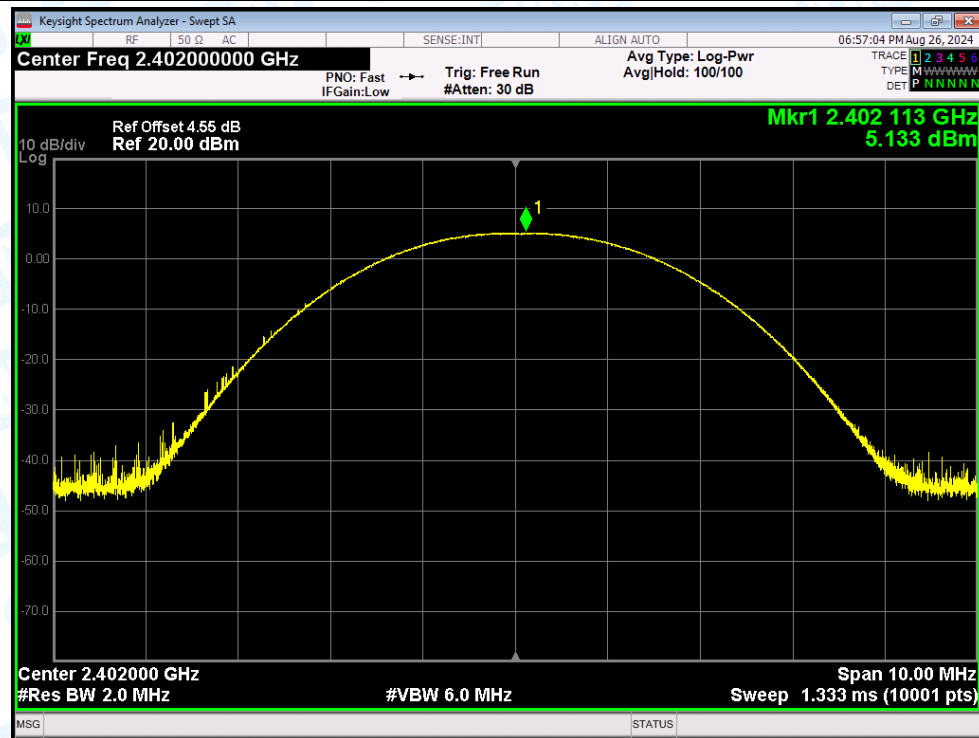


2. Maximum Conducted Output Power

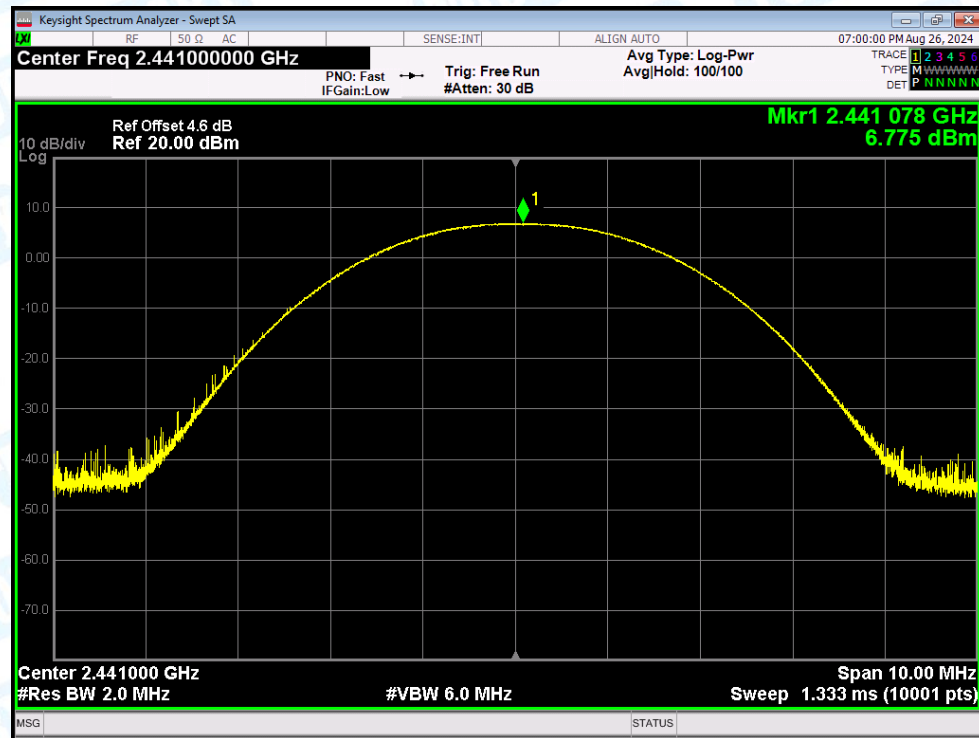
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	5.133	0	5.133	21	Pass
NVNT	1-DH1	2441	Ant1	6.775	0	6.775	21	Pass
NVNT	1-DH1	2480	Ant1	7.669	0	7.669	21	Pass
NVNT	1-DH3	2441	Ant1	6.733	0	6.733	21	Pass
NVNT	1-DH5	2441	Ant1	6.689	0	6.689	21	Pass
NVNT	2-DH1	2402	Ant1	5.13	0	5.13	21	Pass
NVNT	2-DH1	2441	Ant1	6.821	0	6.821	21	Pass
NVNT	2-DH1	2480	Ant1	7.731	0	7.731	21	Pass
NVNT	2-DH3	2441	Ant1	6.719	0	6.719	21	Pass
NVNT	2-DH5	2441	Ant1	6.678	0	6.678	21	Pass
NVNT	3-DH1	2402	Ant1	5.183	0	5.183	21	Pass
NVNT	3-DH1	2441	Ant1	6.833	0	6.833	21	Pass
NVNT	3-DH1	2480	Ant1	7.736	0	7.736	21	Pass
NVNT	3-DH3	2441	Ant1	6.678	0	6.678	21	Pass
NVNT	3-DH5	2441	Ant1	6.686	0	6.686	21	Pass

Test Graphs

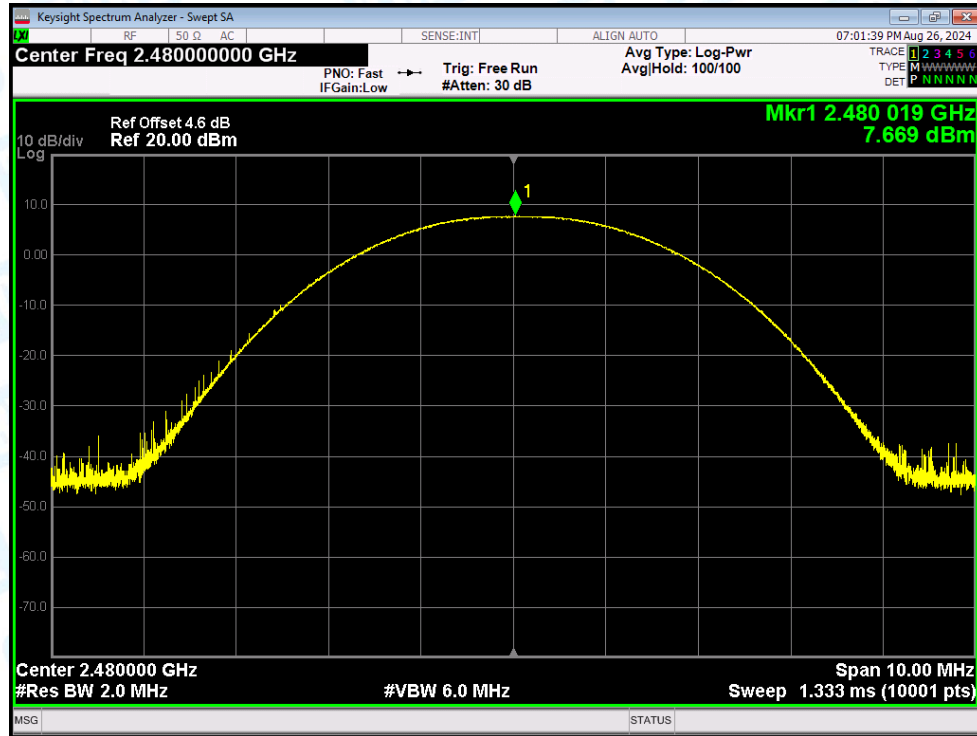
Power NVNT 1-DH1 2402MHz Ant1



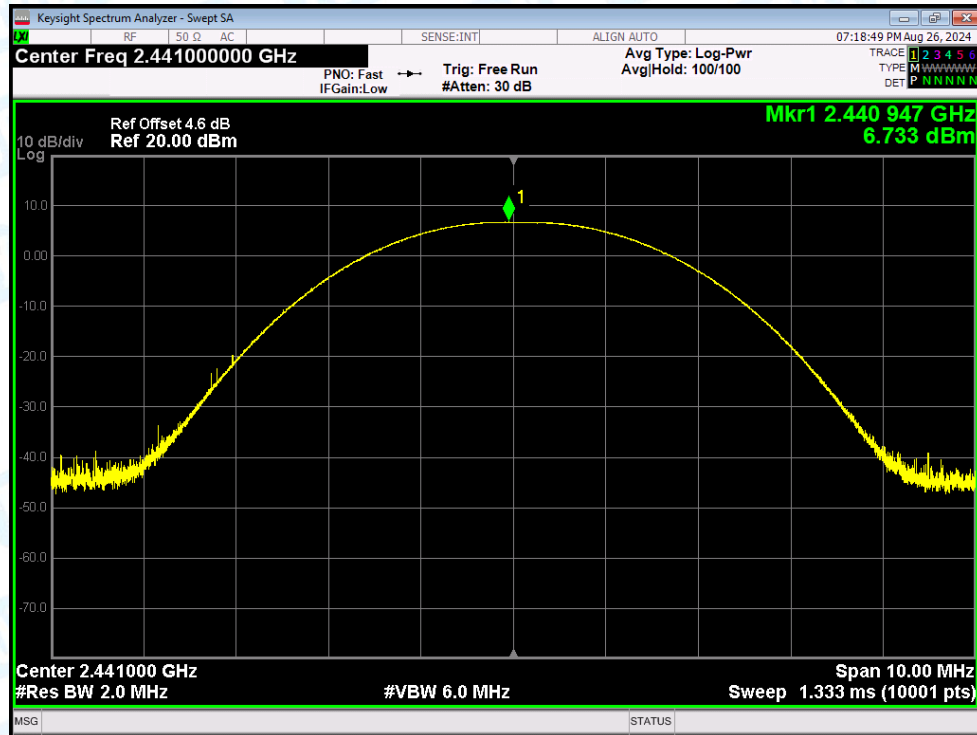
Power NVNT 1-DH1 2441MHz Ant1



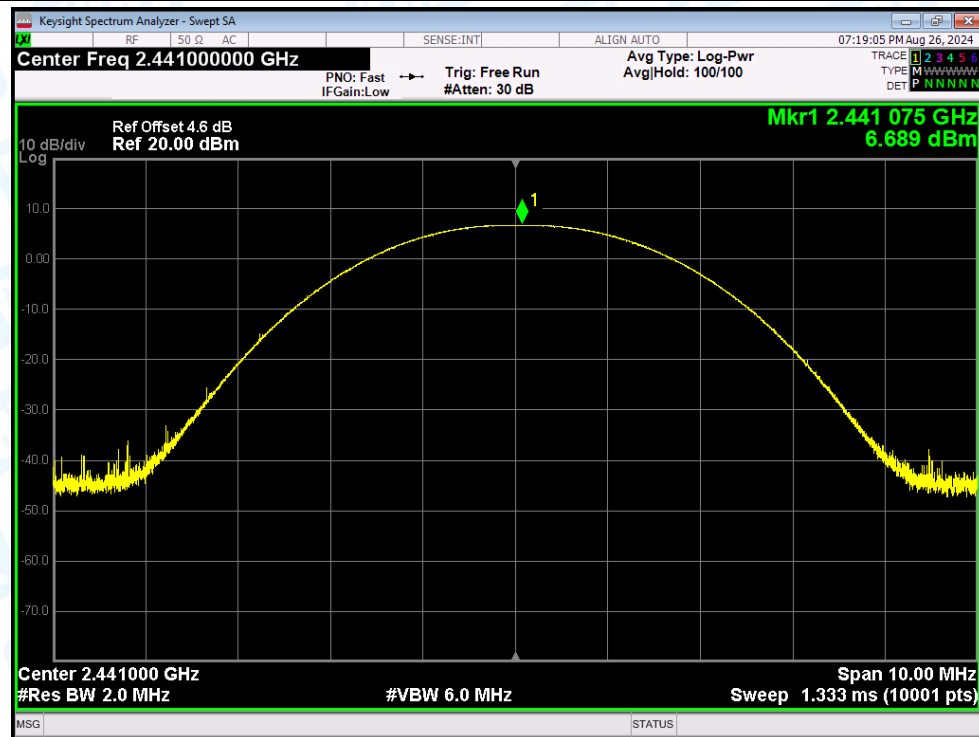
Power NVNT 1-DH1 2480MHz Ant1



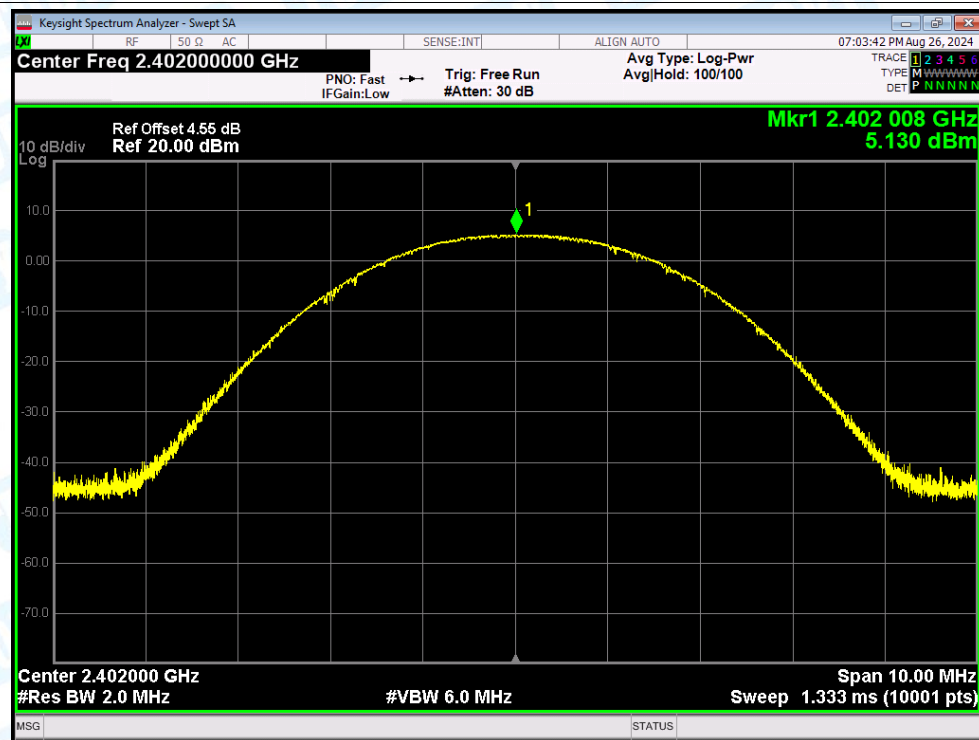
Power NVNT 1-DH3 2441MHz Ant1



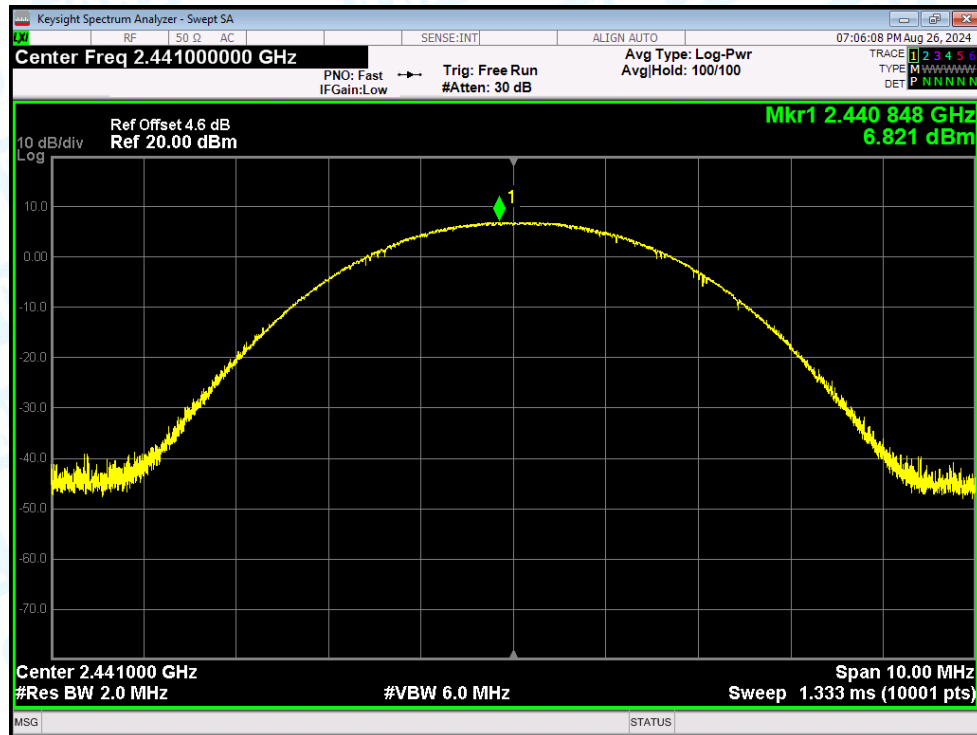
Power NVNT 1-DH5 2441MHz Ant1



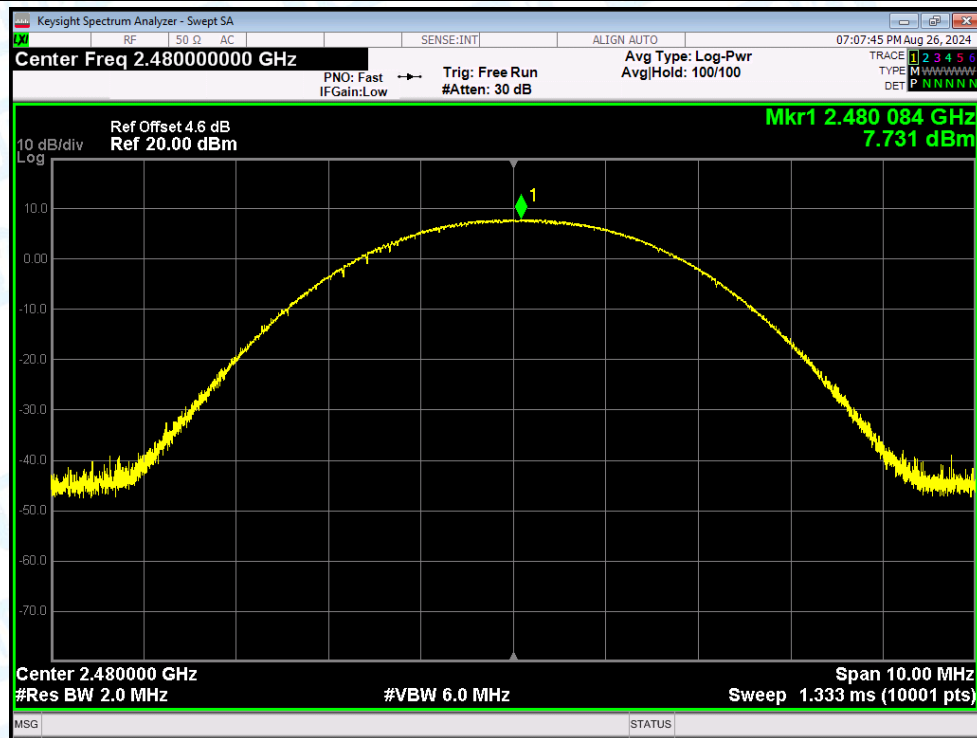
Power NVNT 2-DH1 2402MHz Ant1



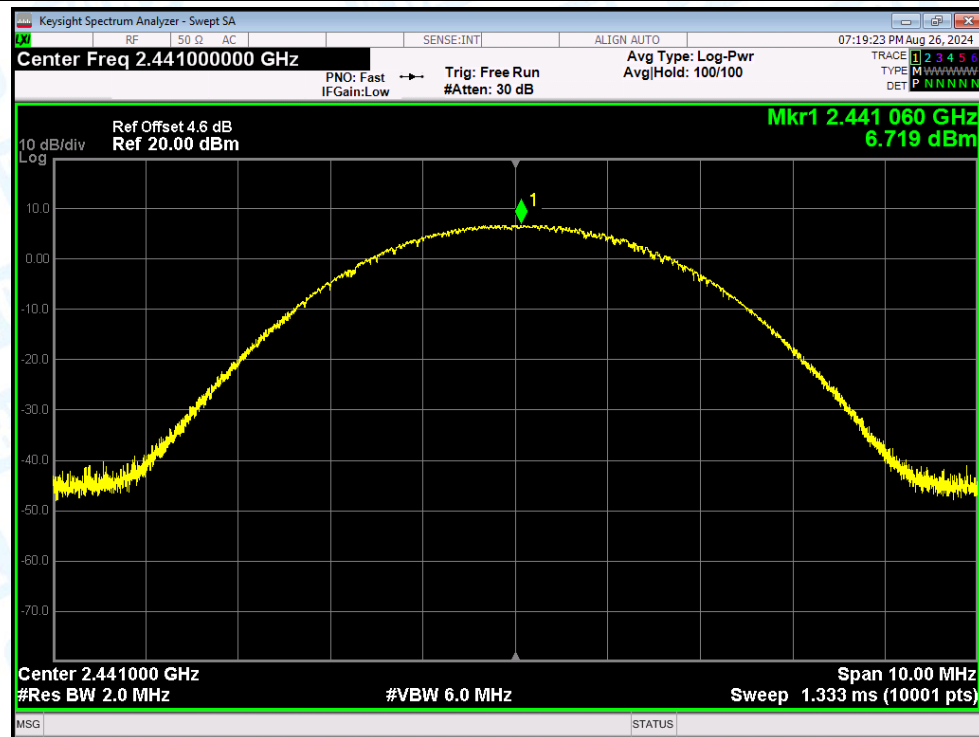
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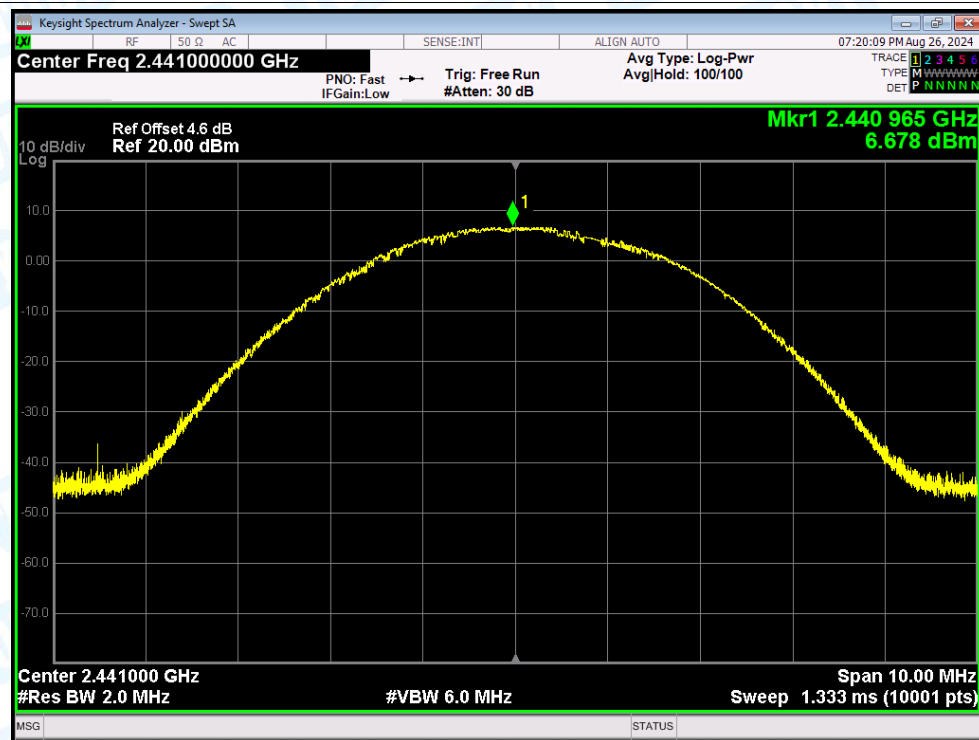
Power NVNT 2-DH1 2480MHz Ant1



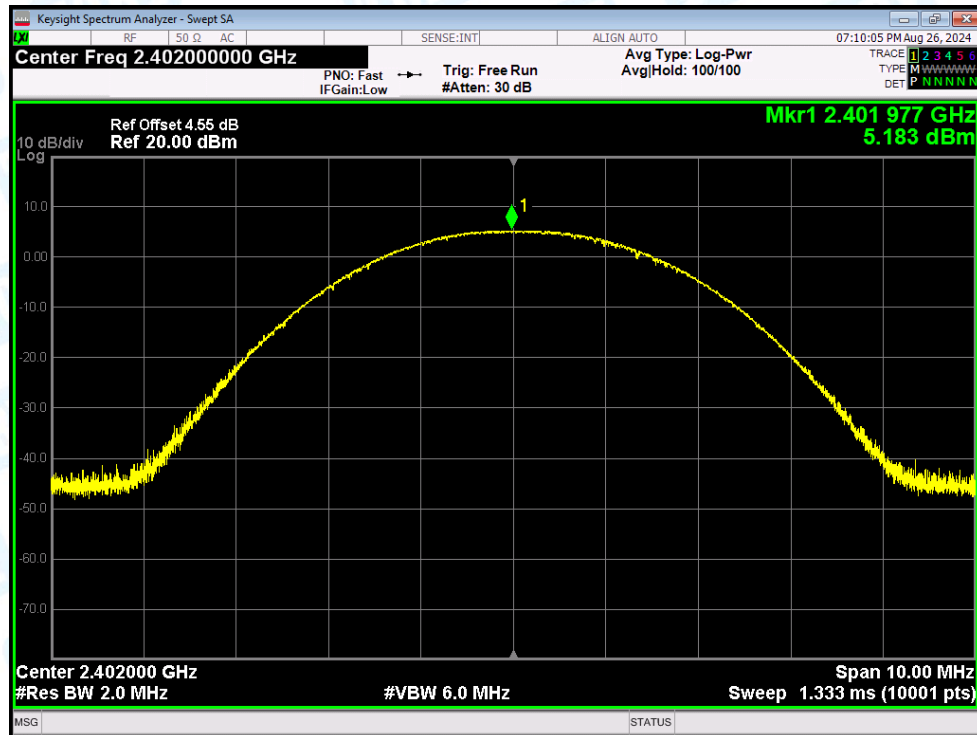
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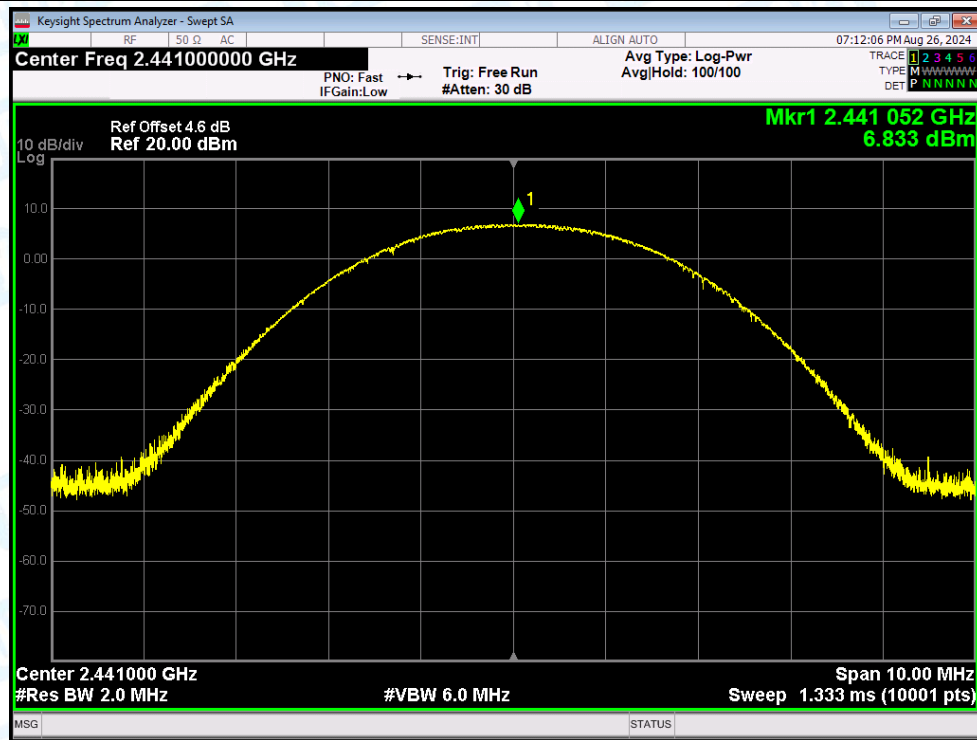
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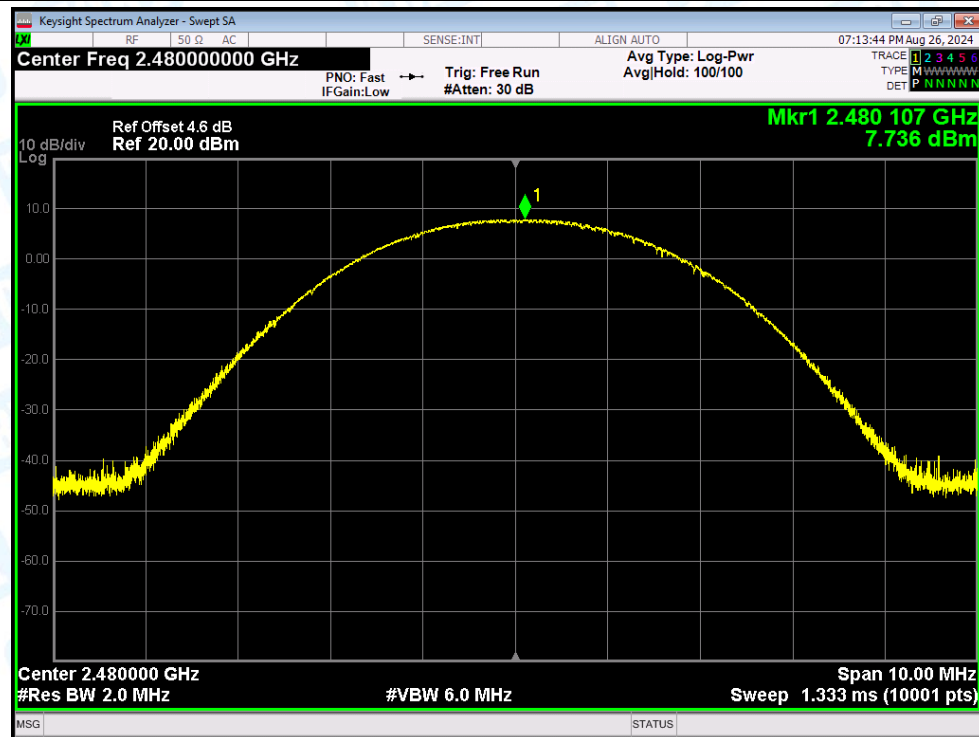
Power NVNT 3-DH1 2402MHz Ant1



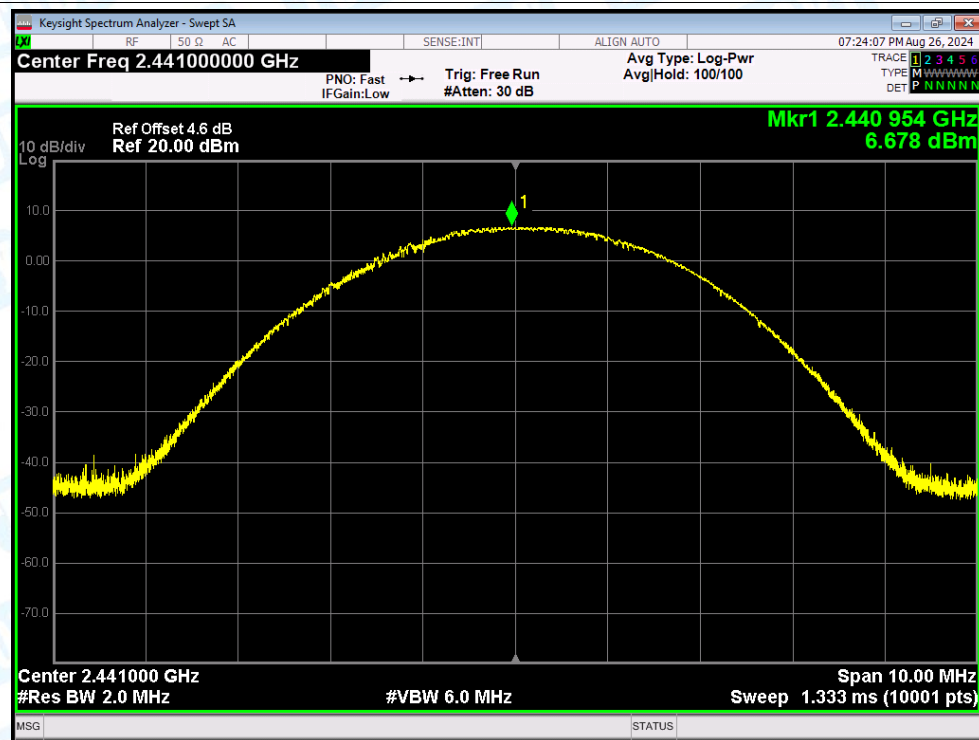
Power NVNT 3-DH1 2441MHz Ant1

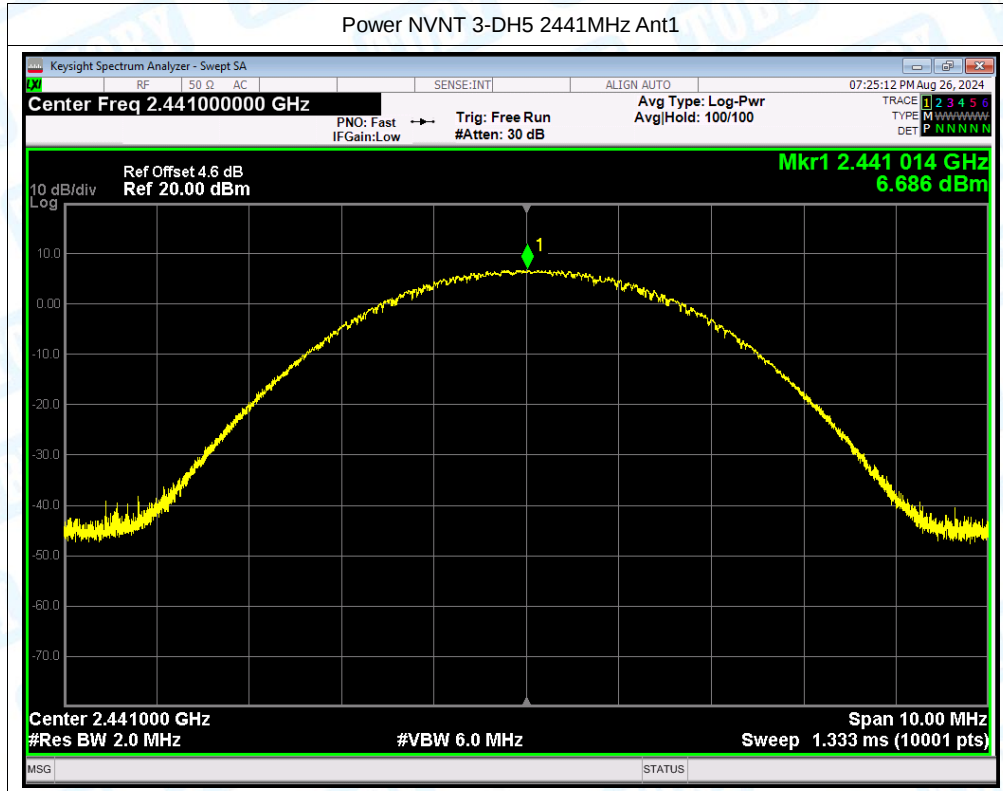


Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1



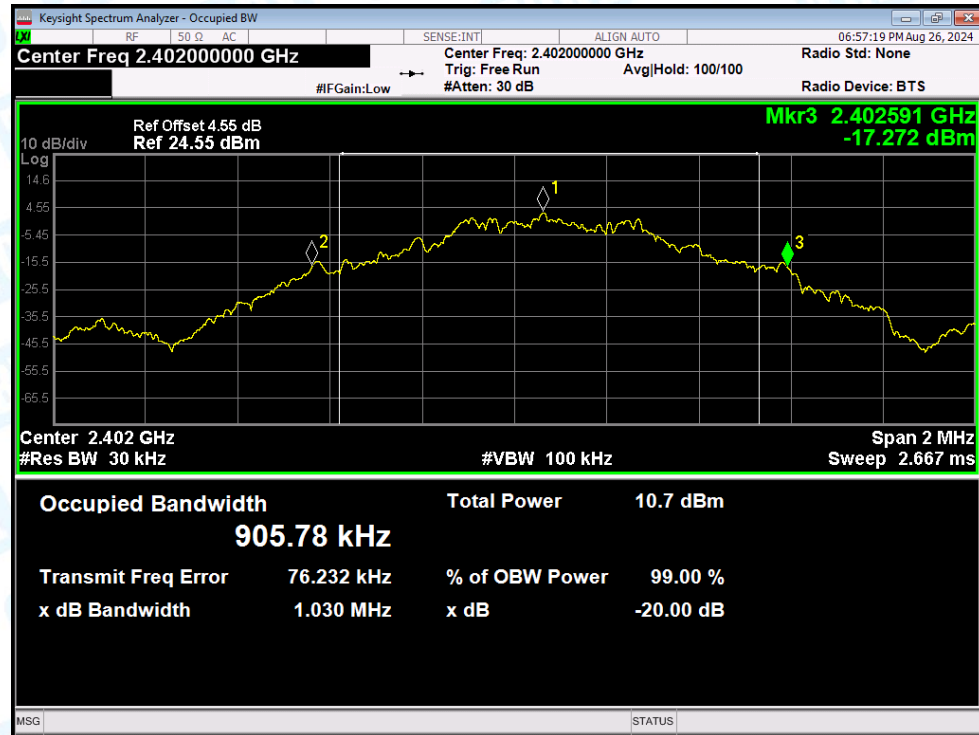


3. -20dB Bandwidth

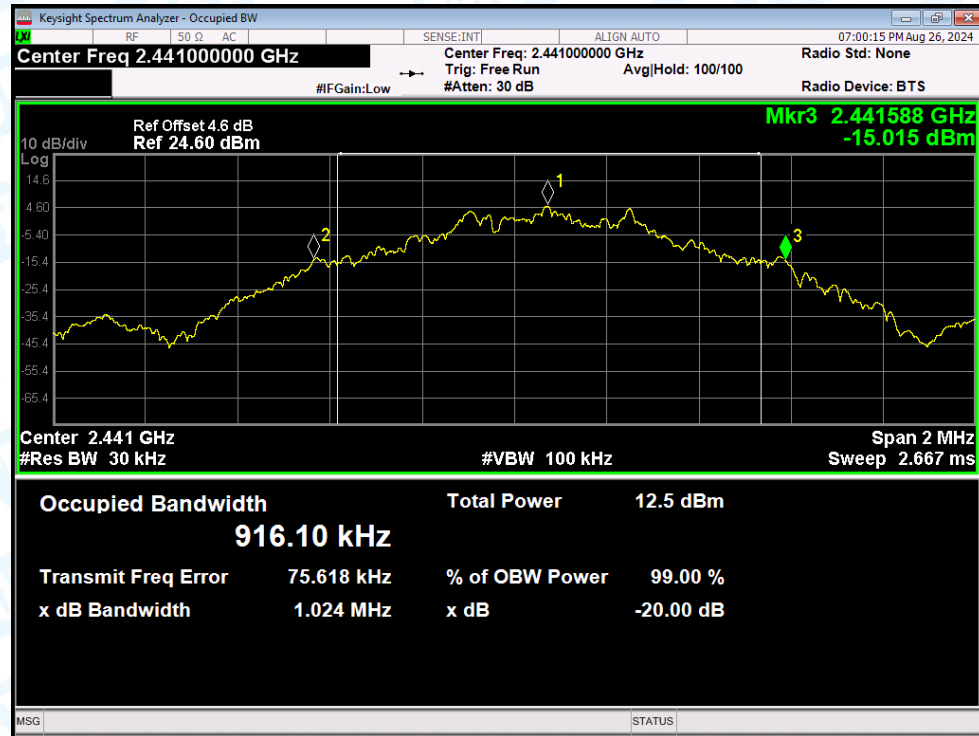
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	1.03	0	Pass
NVNT	1-DH1	2441	Ant1	1.02	0	Pass
NVNT	1-DH1	2480	Ant1	1.02	0	Pass
NVNT	2-DH1	2402	Ant1	1.18	0	Pass
NVNT	2-DH1	2441	Ant1	1.17	0	Pass
NVNT	2-DH1	2480	Ant1	1.15	0	Pass
NVNT	3-DH1	2402	Ant1	1.13	0	Pass
NVNT	3-DH1	2441	Ant1	1.17	0	Pass
NVNT	3-DH1	2480	Ant1	1.14	0	Pass

Test Graphs

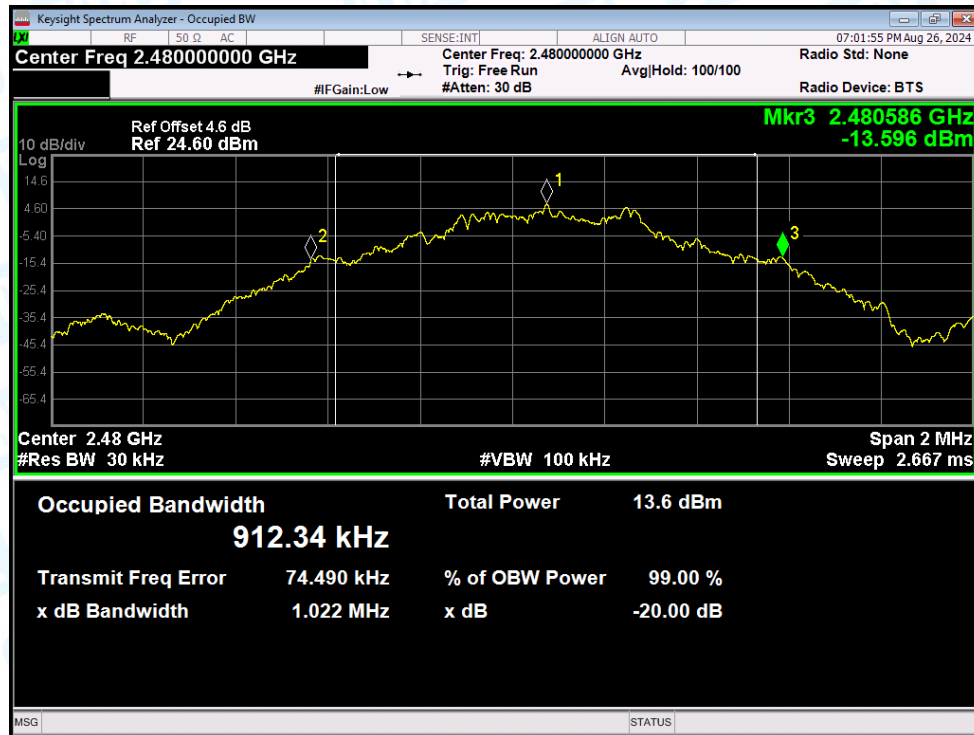
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



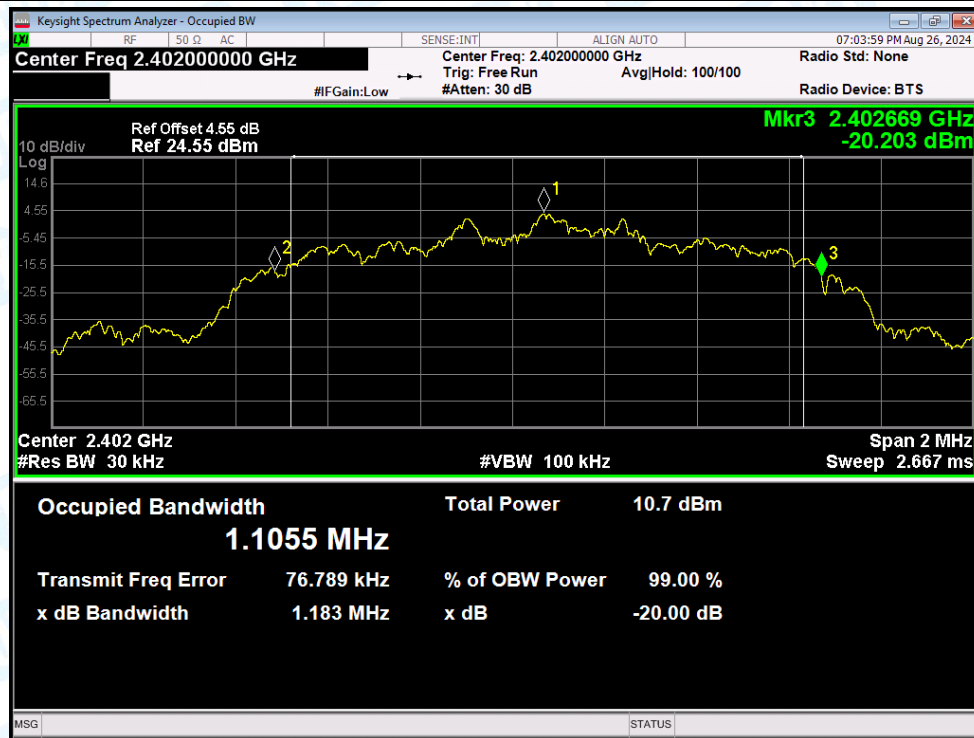
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



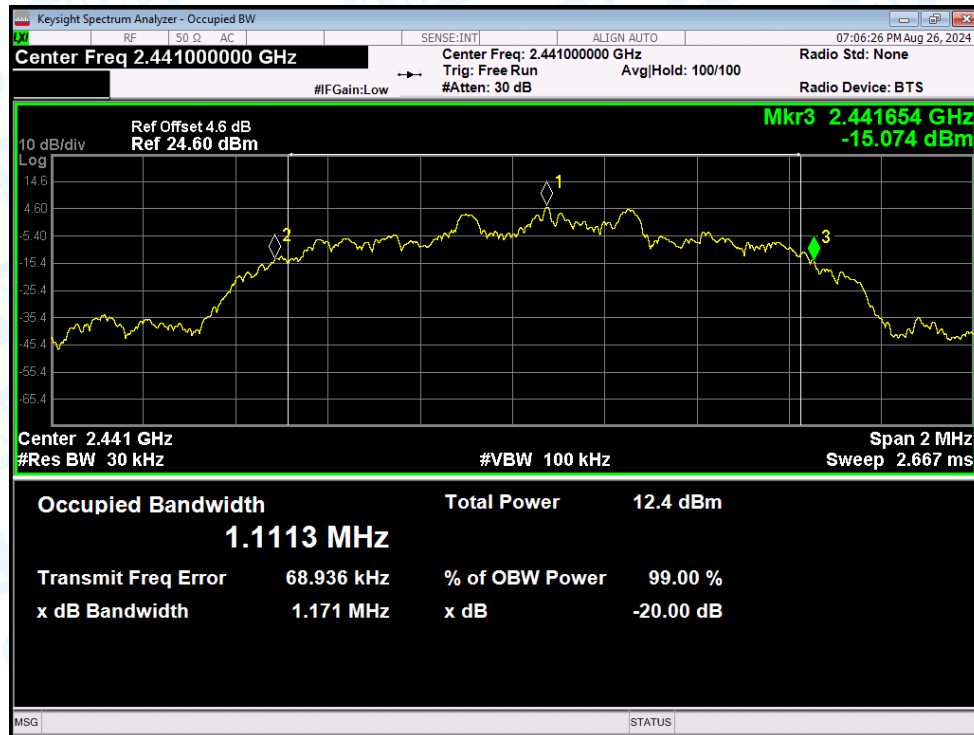
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



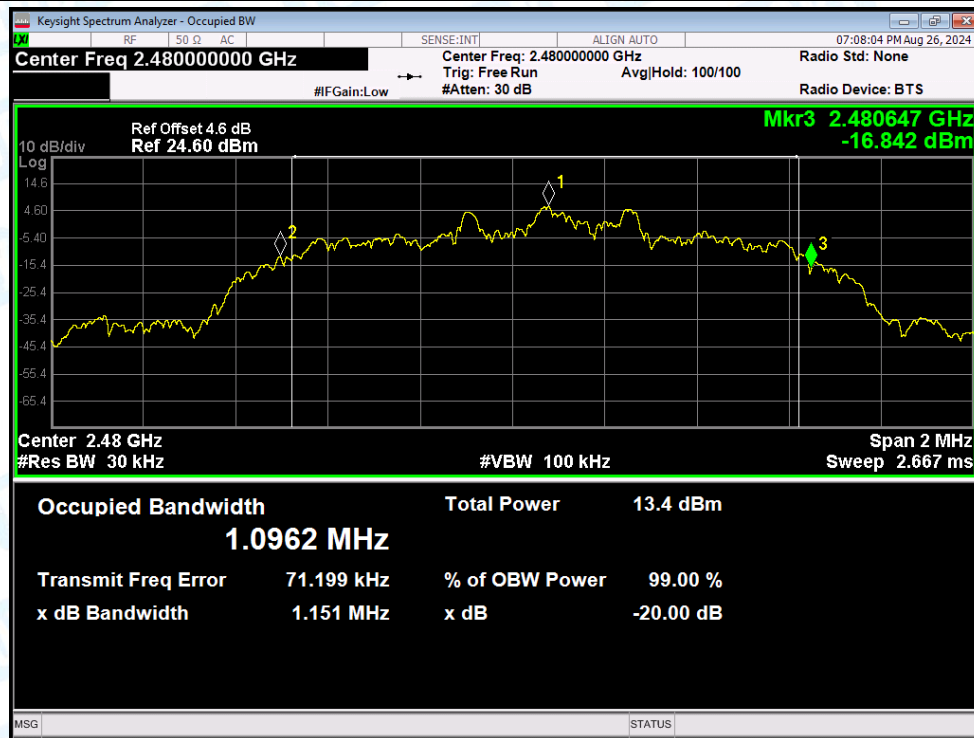
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



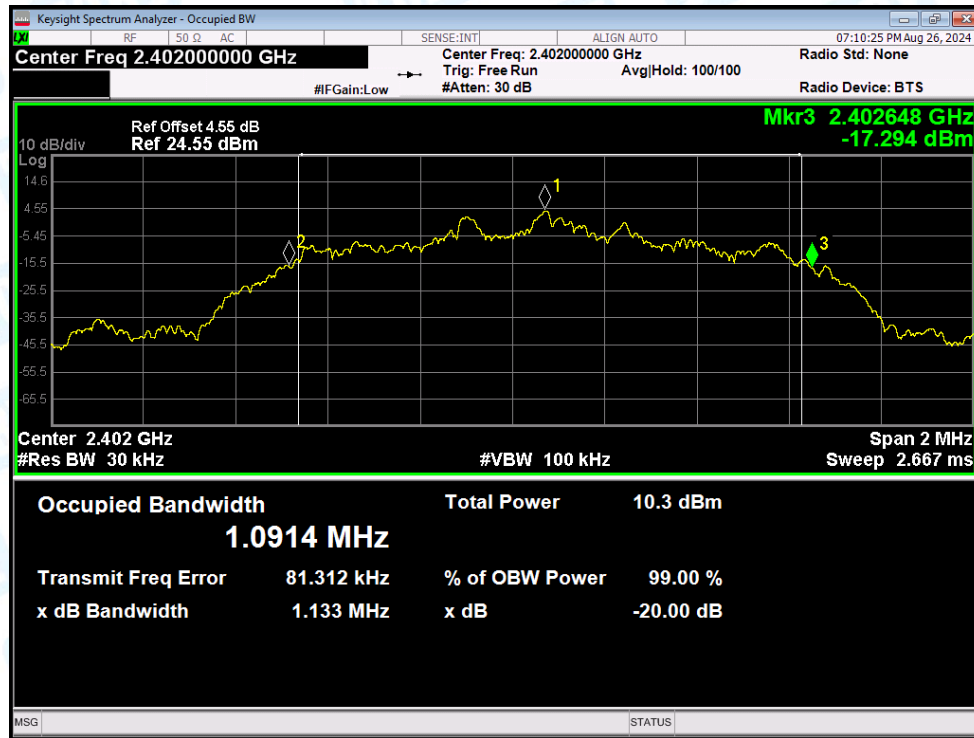
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



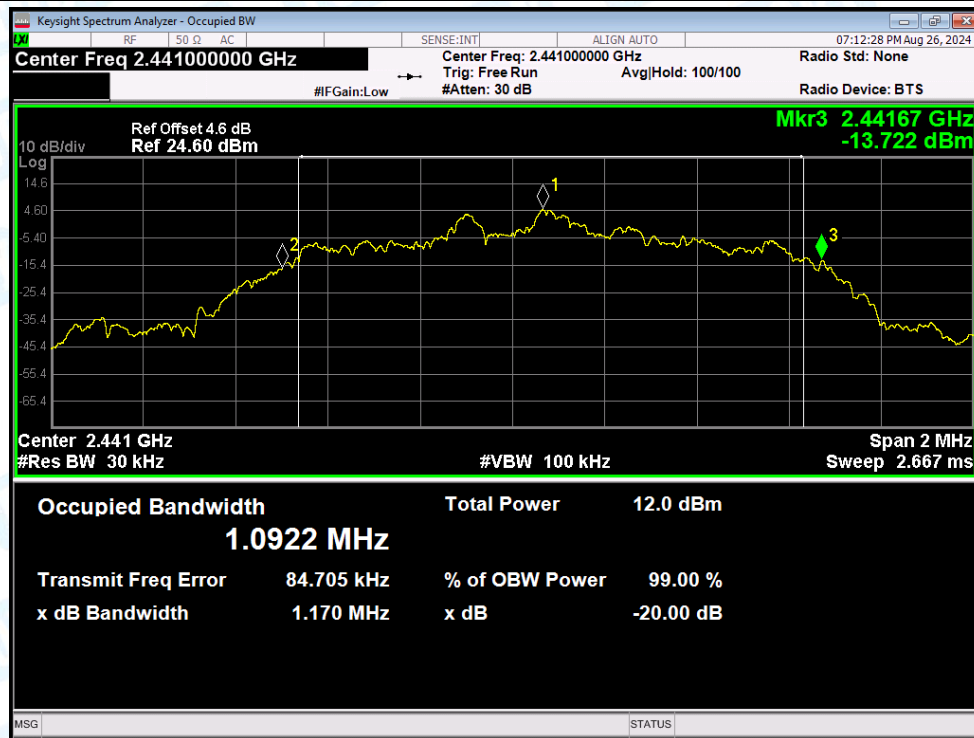
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

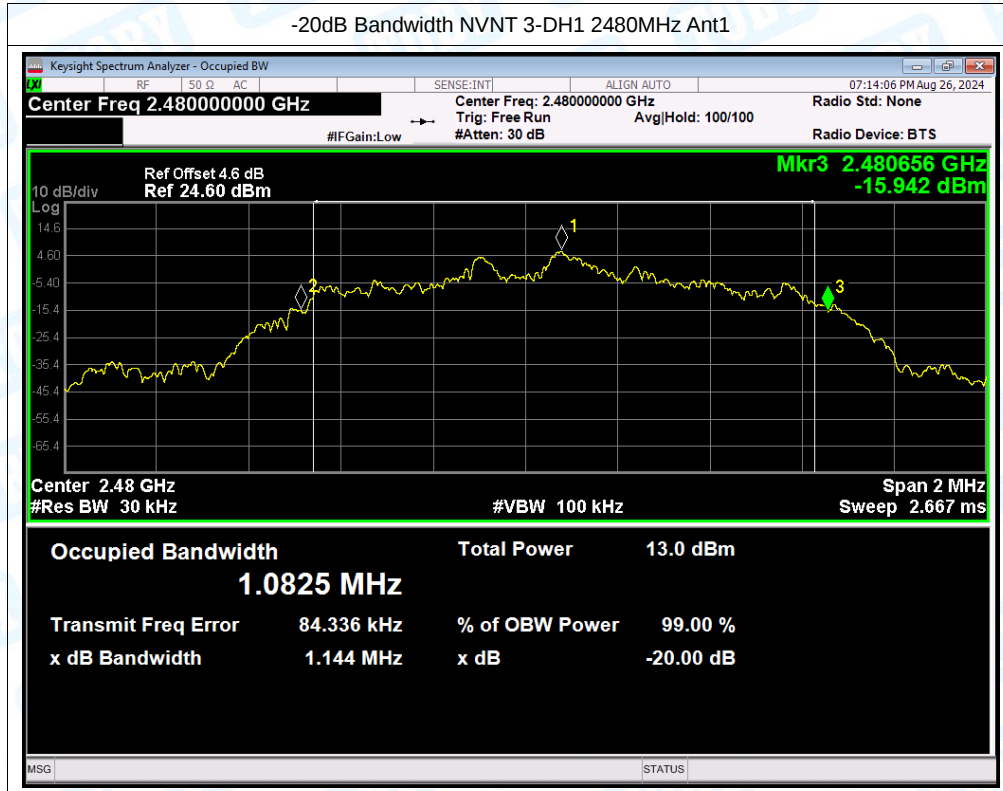


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



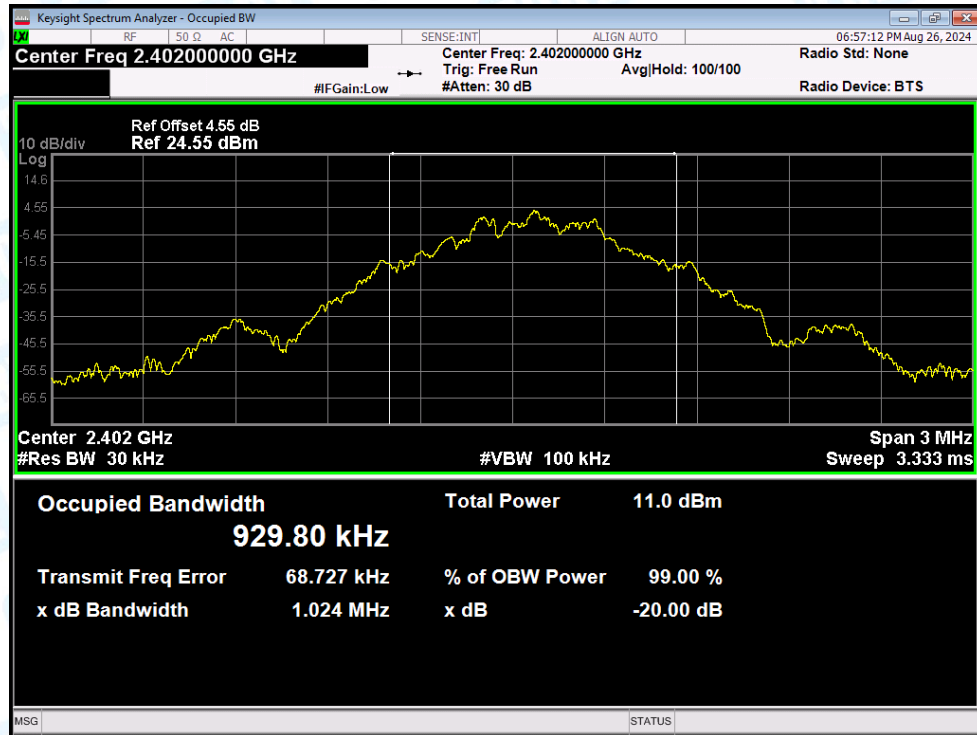


4. Occupied Channel Bandwidth

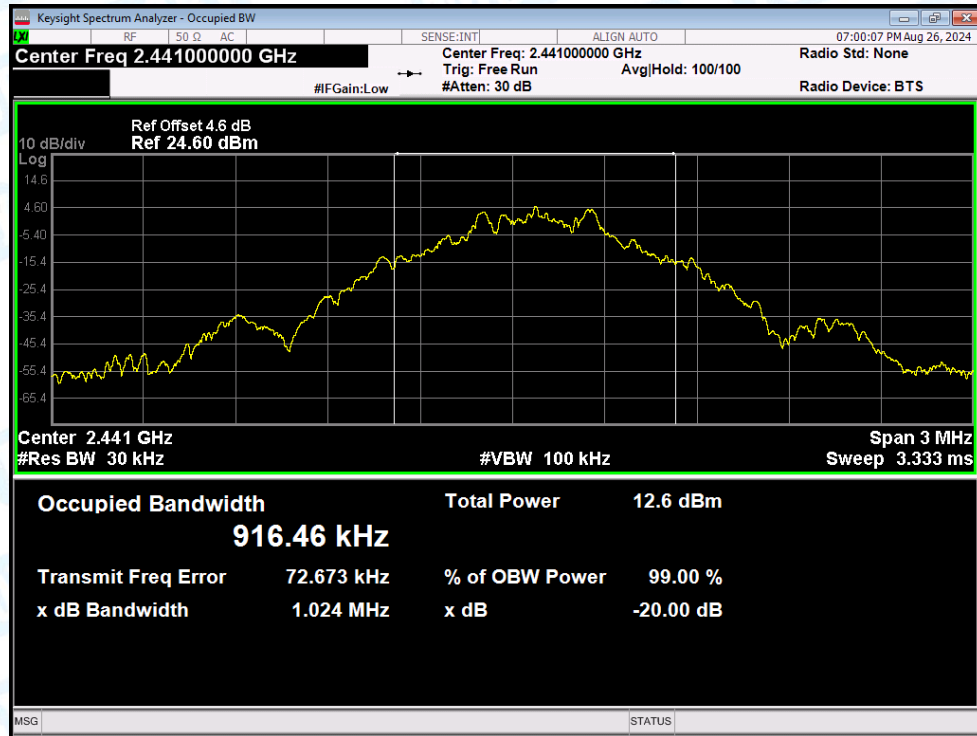
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.93
NVNT	1-DH1	2441	Ant1	0.916
NVNT	1-DH1	2480	Ant1	0.914
NVNT	2-DH1	2402	Ant1	1.094
NVNT	2-DH1	2441	Ant1	1.107
NVNT	2-DH1	2480	Ant1	1.112
NVNT	3-DH1	2402	Ant1	1.103
NVNT	3-DH1	2441	Ant1	1.096
NVNT	3-DH1	2480	Ant1	1.104

Test Graphs

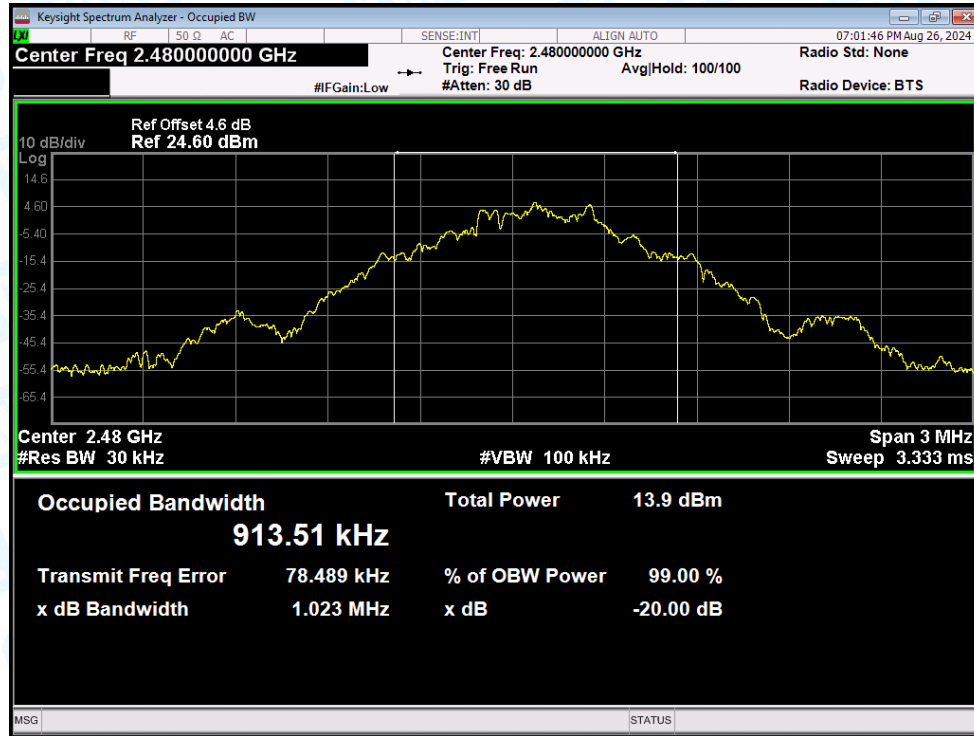
OBW NVNT 1-DH1 2402MHz Ant1



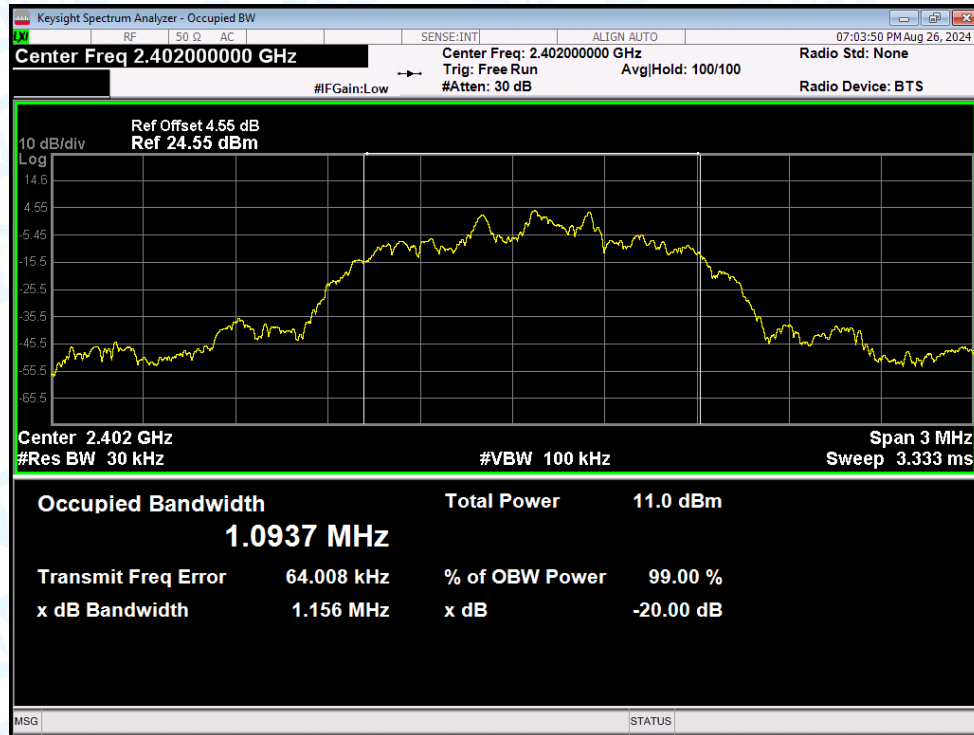
OBW NVNT 1-DH1 2441MHz Ant1



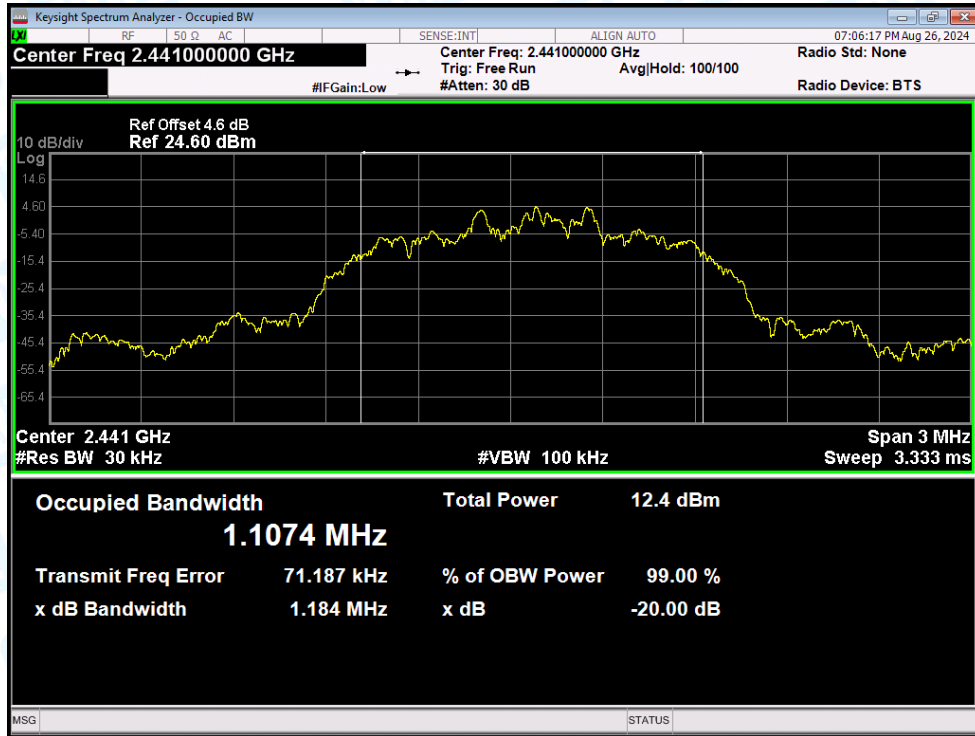
OBW NVNT 1-DH1 2480MHz Ant1



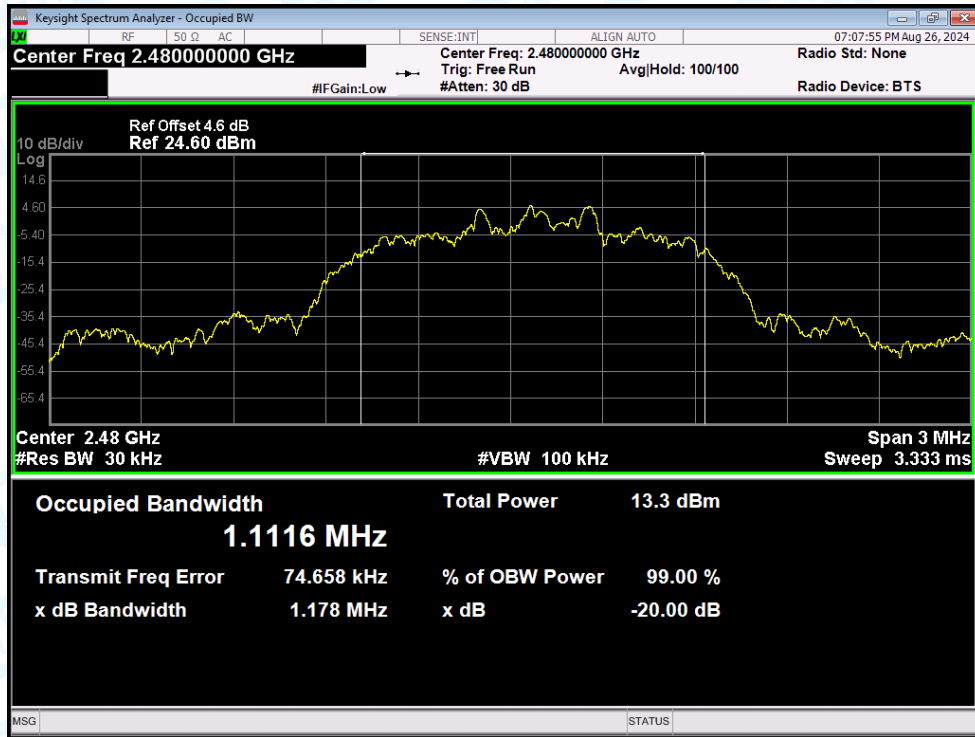
OBW NVNT 2-DH1 2402MHz Ant1



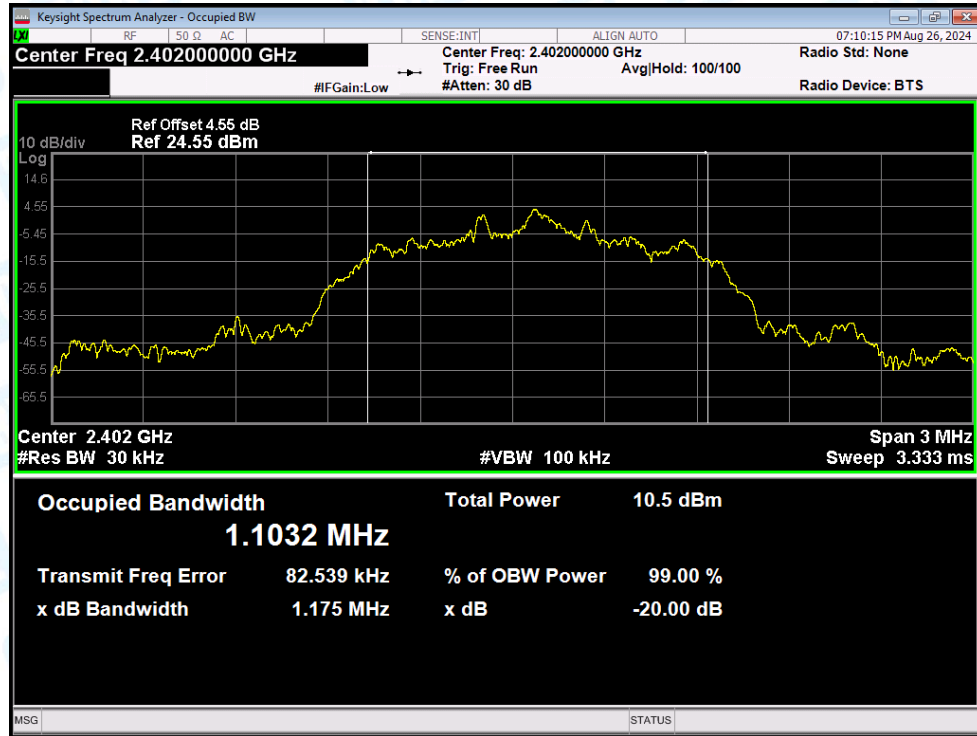
OBW NVNT 2-DH1 2441MHz Ant1



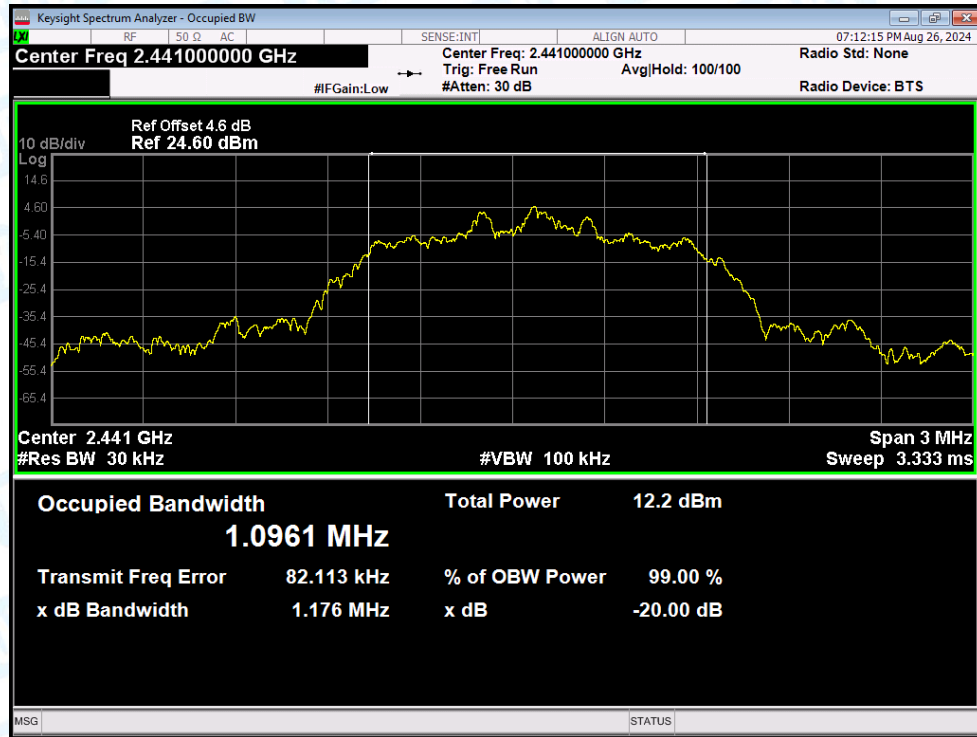
OBW NVNT 2-DH1 2480MHz Ant1

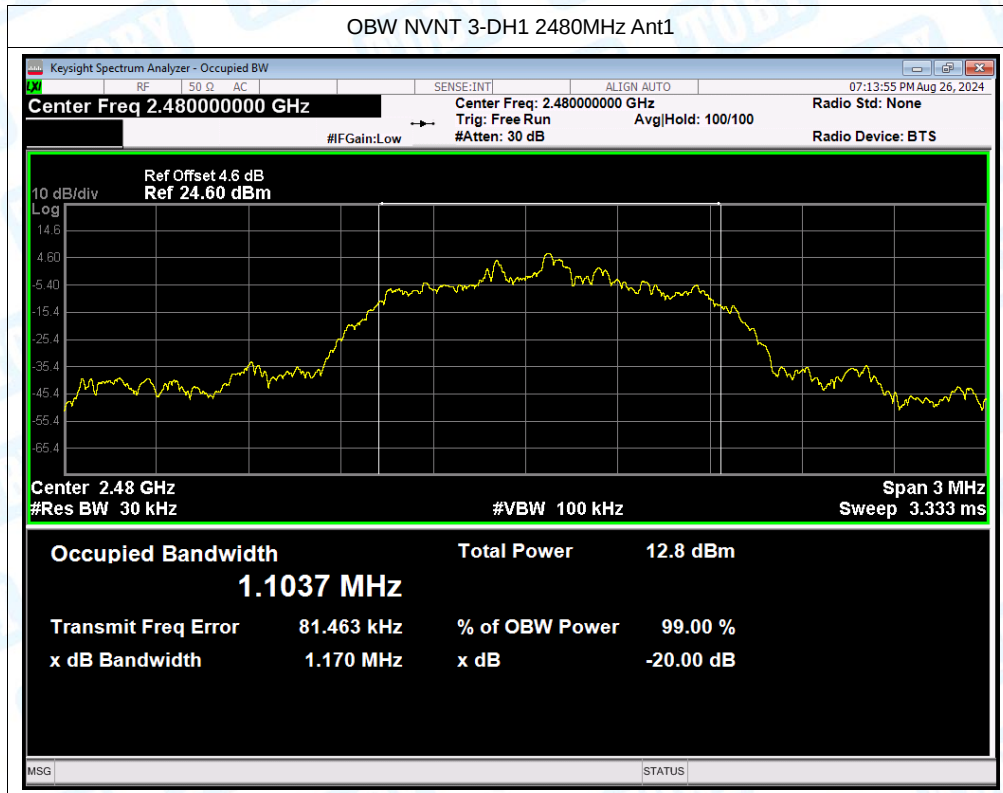


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



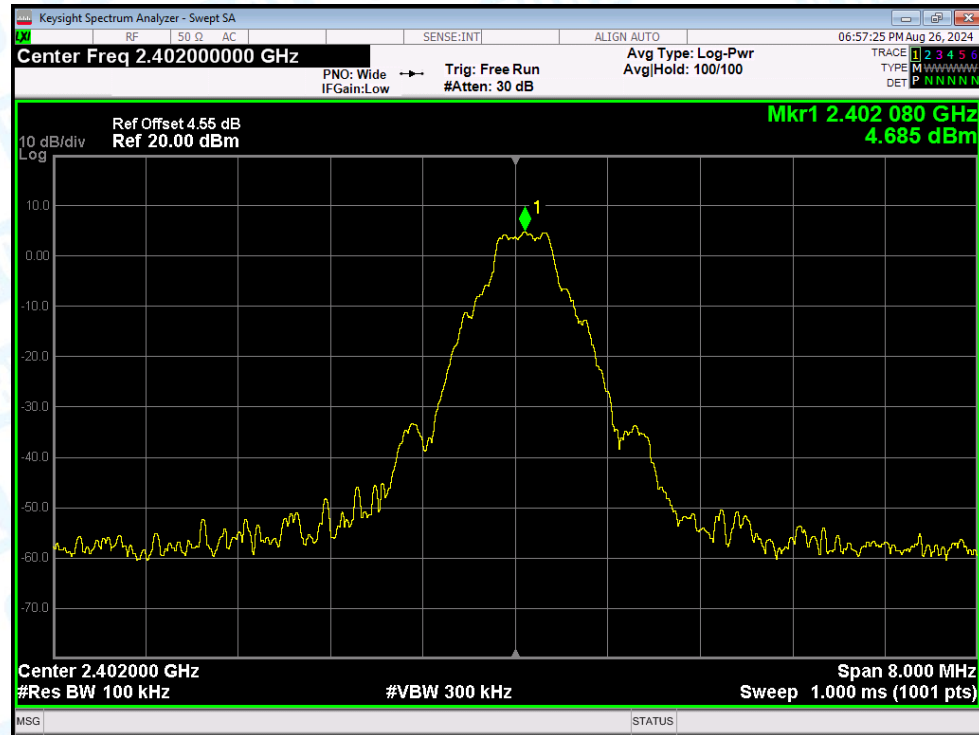


5. Band Edge

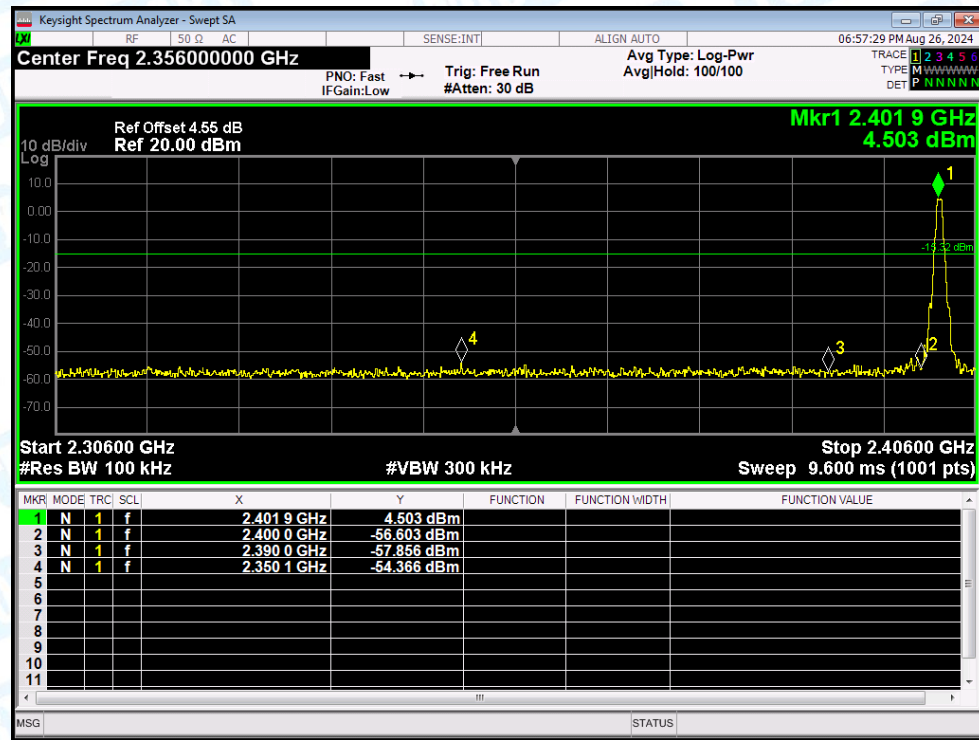
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-59.06	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-61.36	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-59.33	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-62.39	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-58.75	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-62.39	-20	Pass

Test Graphs

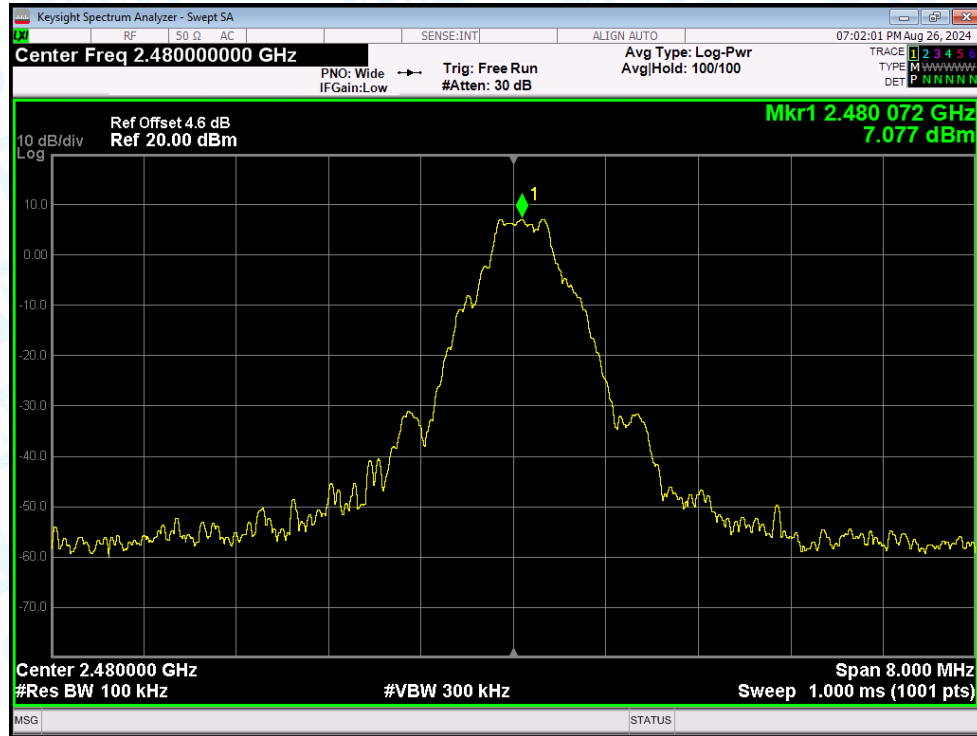
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



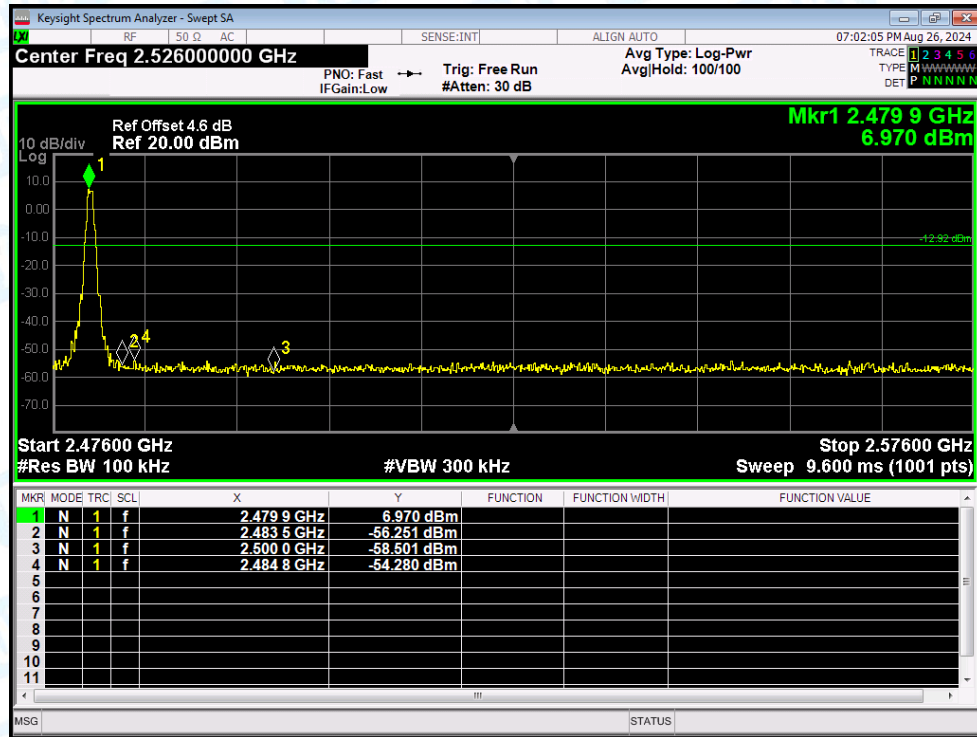
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



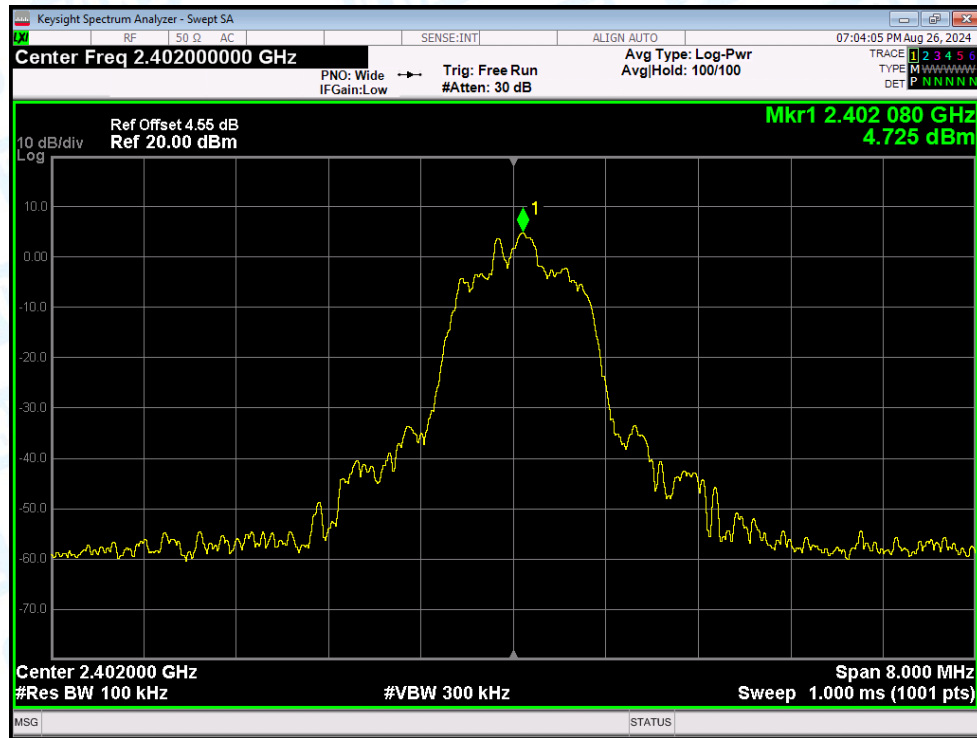
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



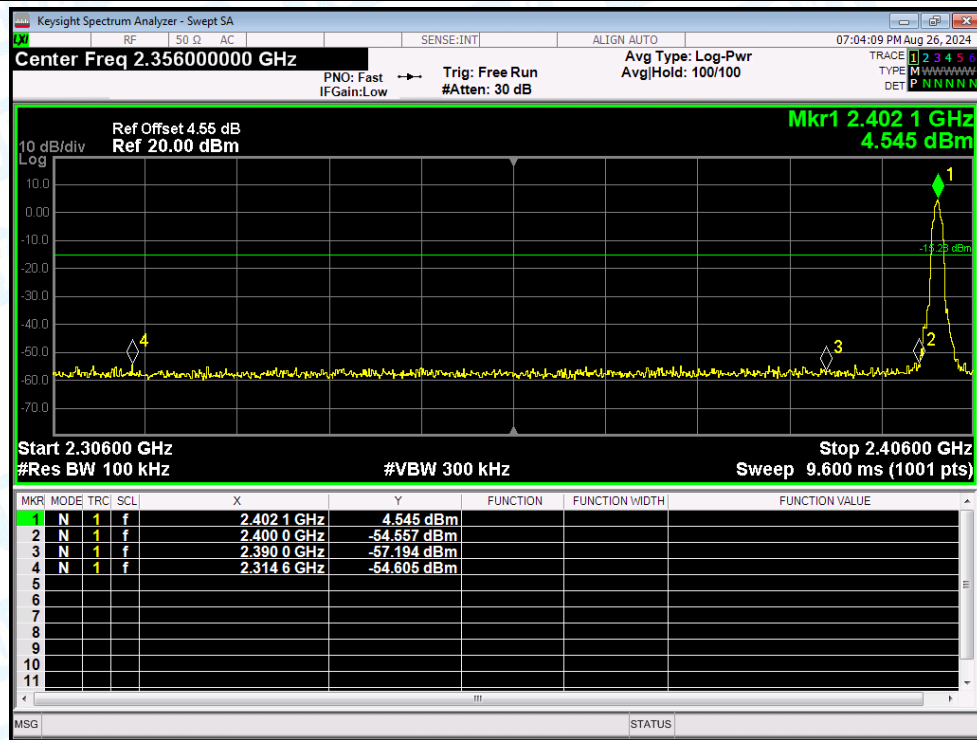
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission

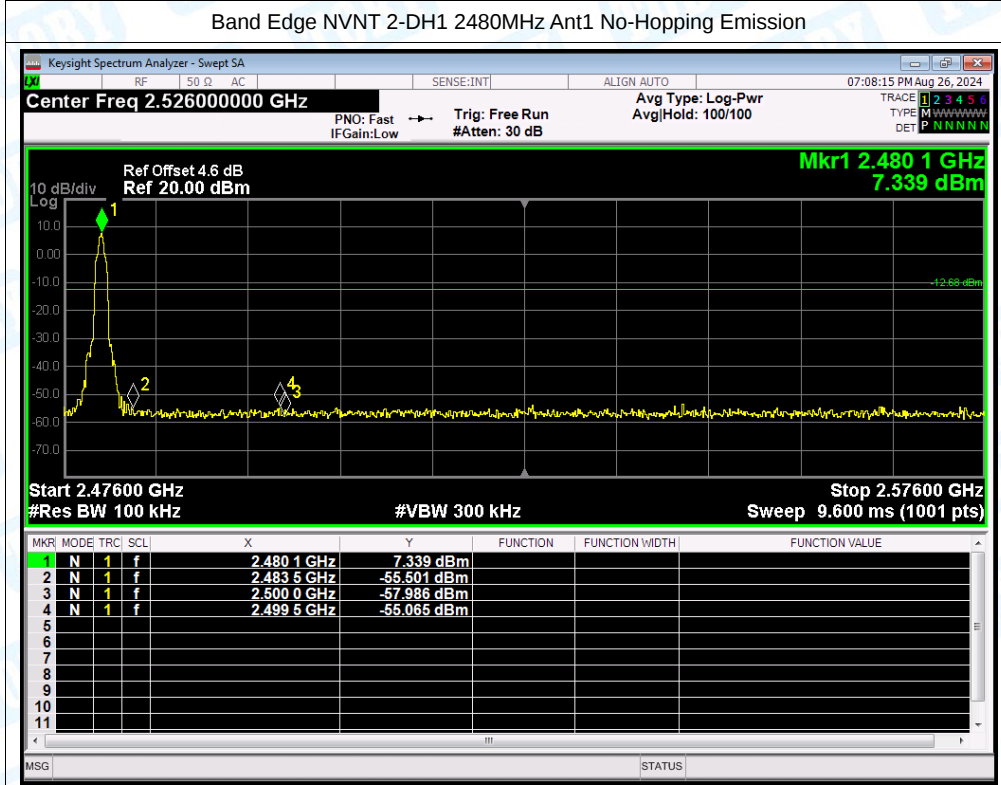
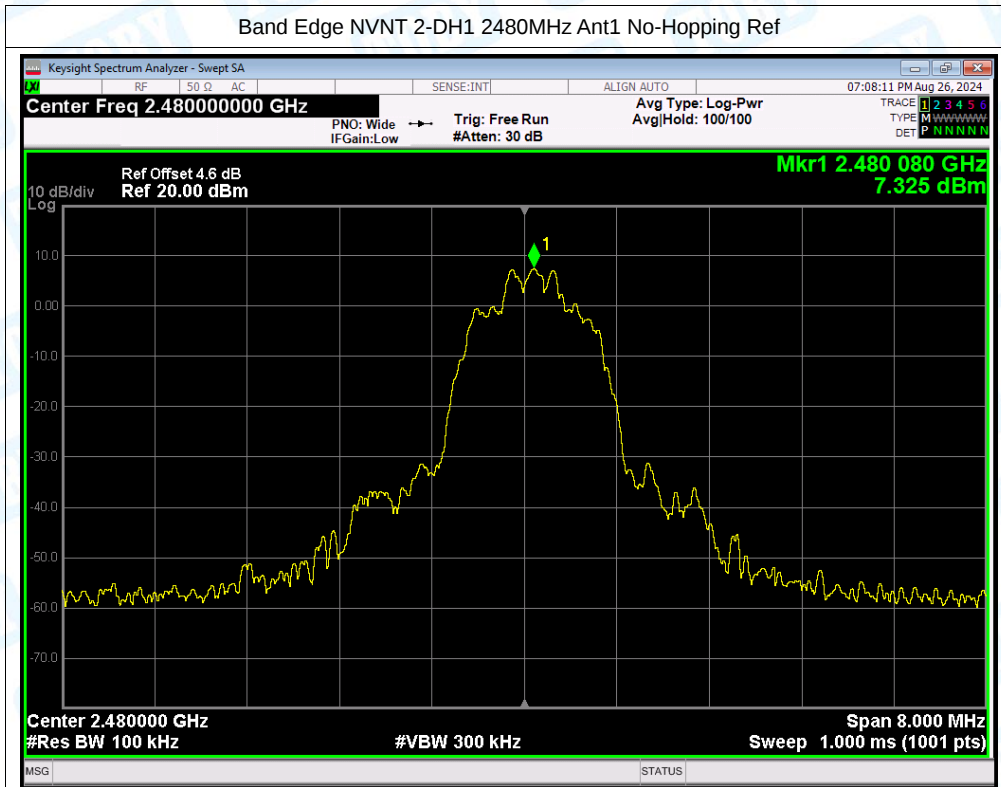


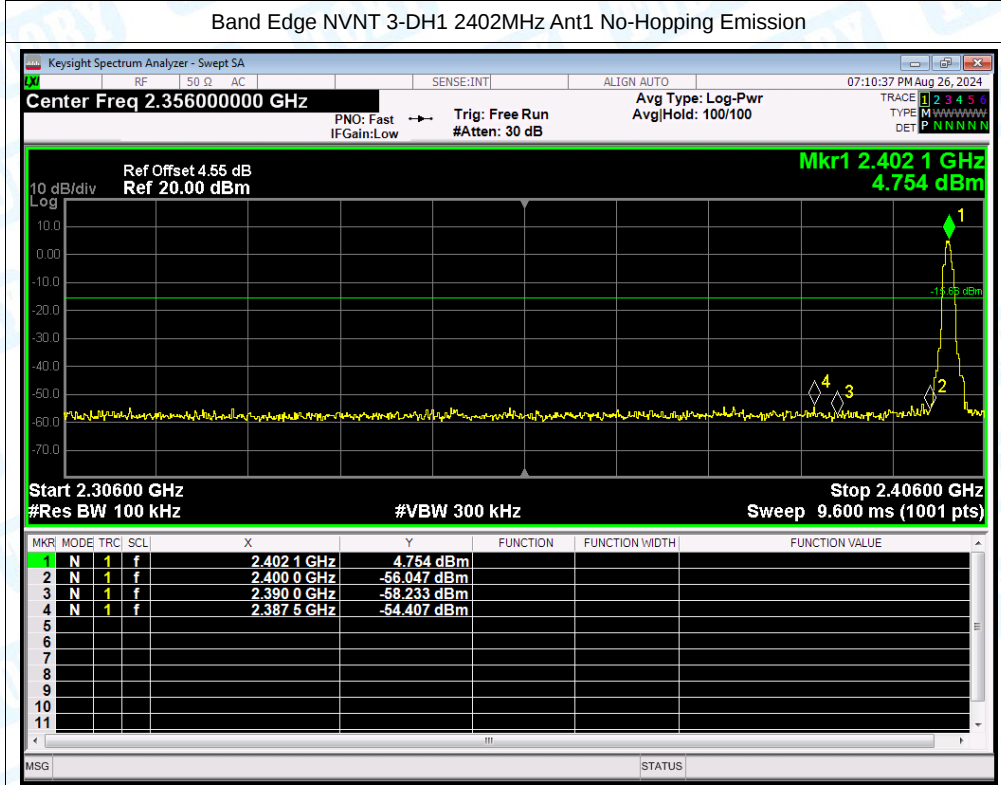
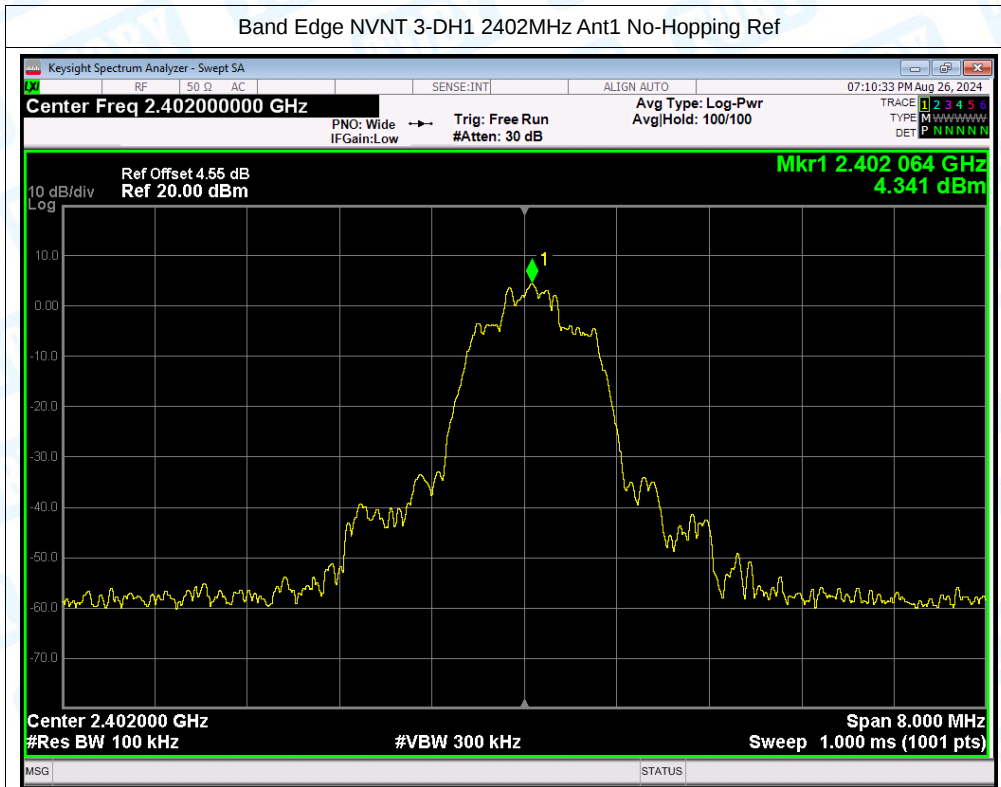
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



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



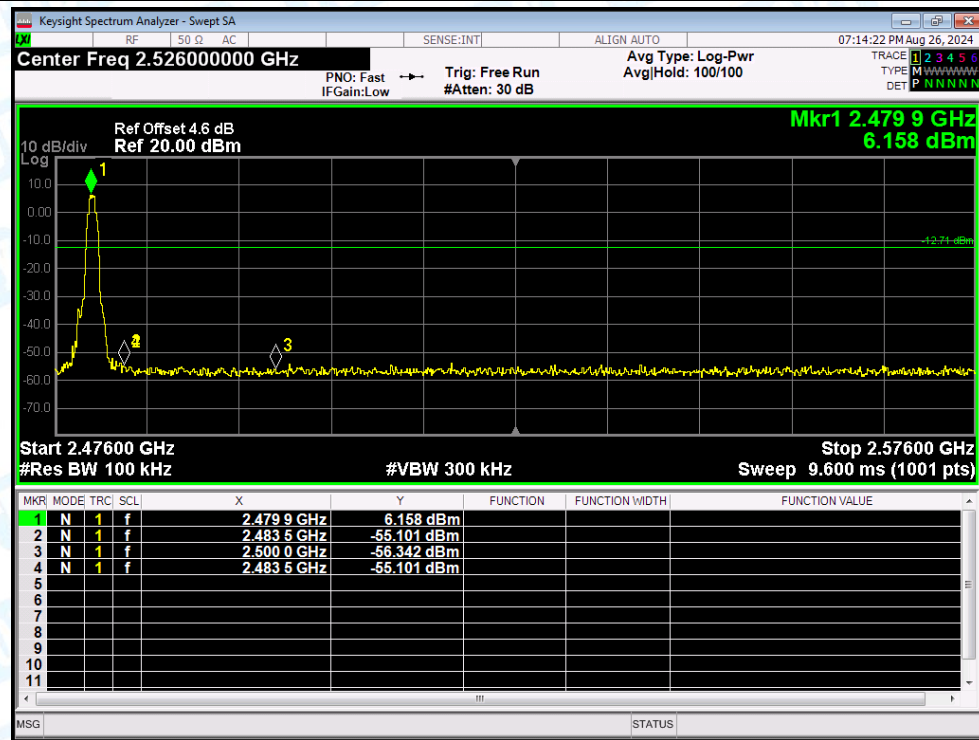




Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref



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



6. Band Edge(Hopping)

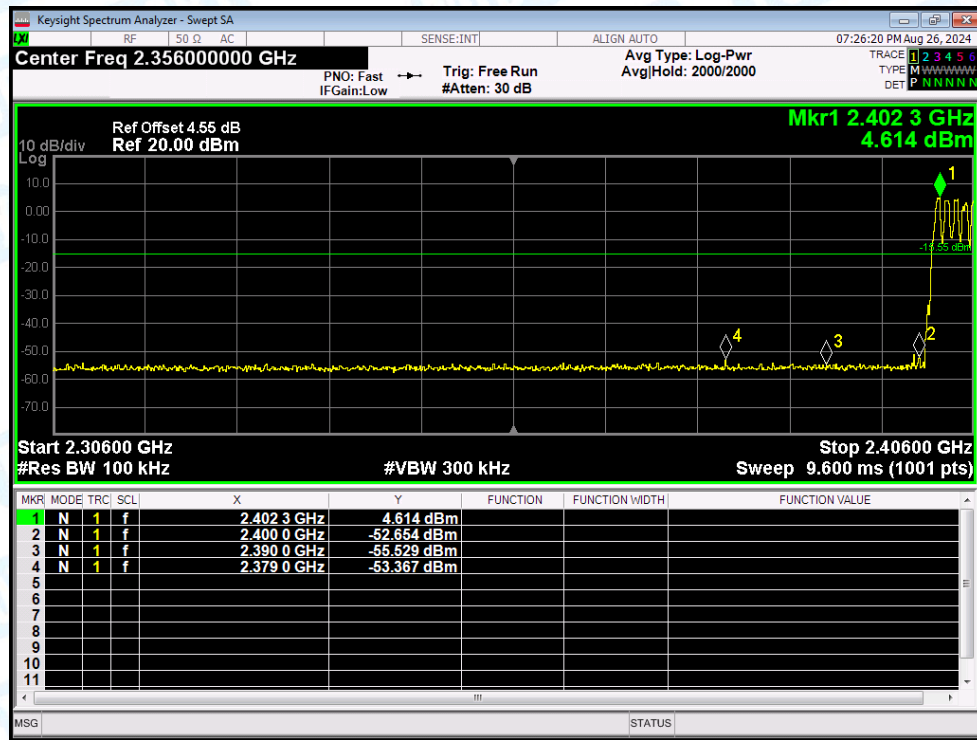
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-57.82	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-60.16	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-58.22	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-61.2	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-57.41	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-60.98	-20	Pass

Test Graphs

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



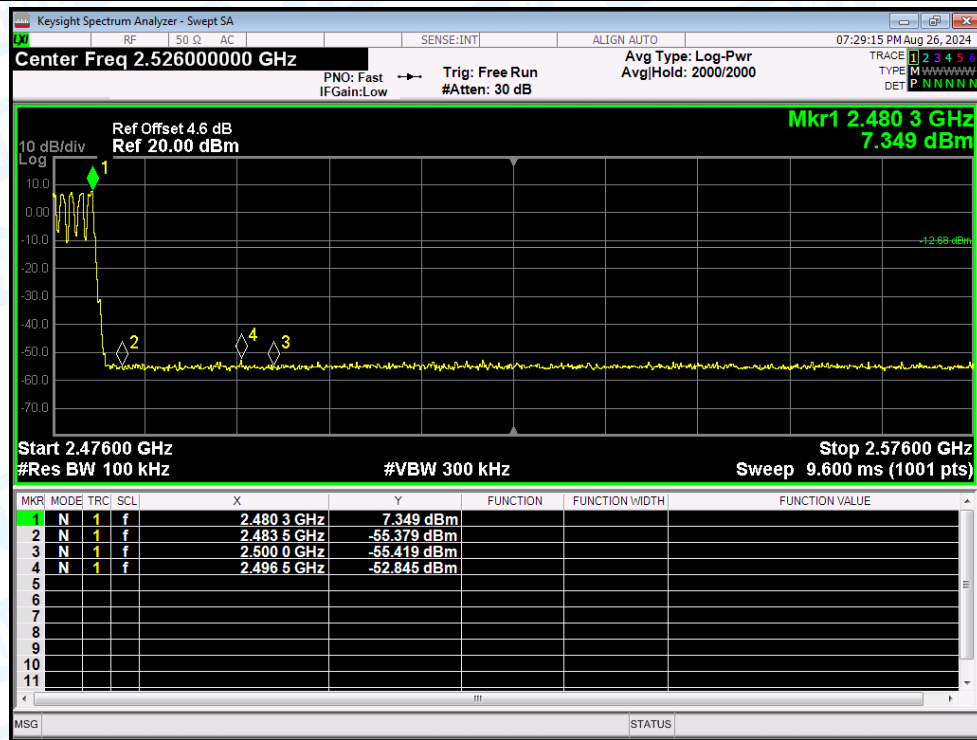
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

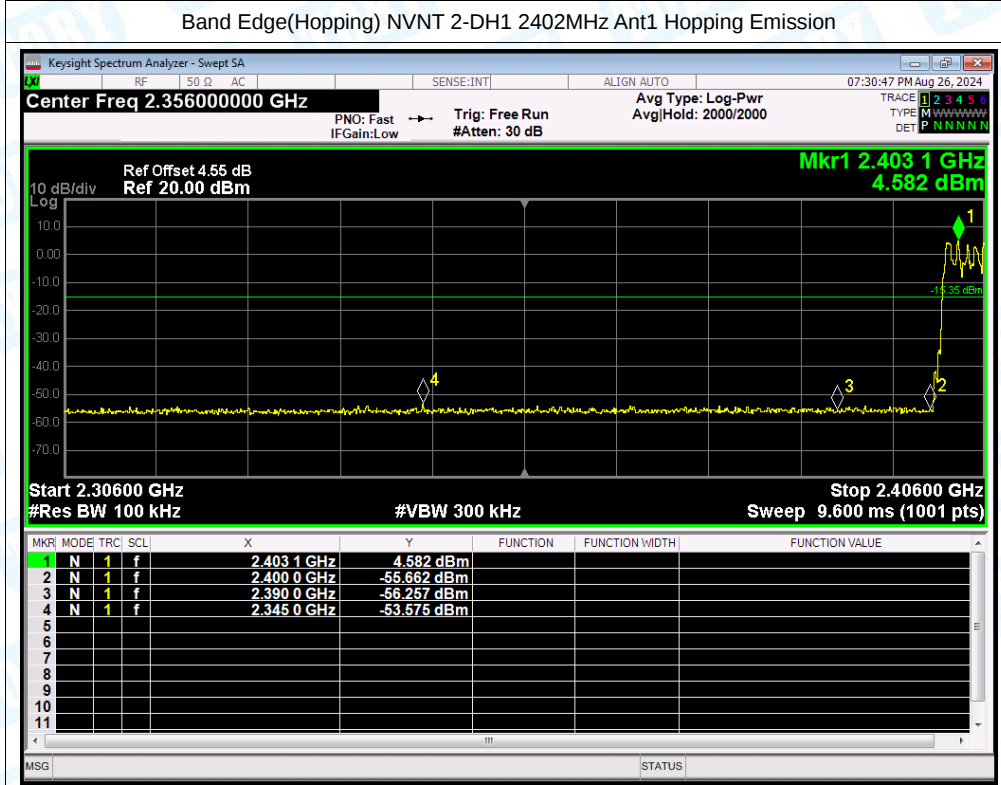
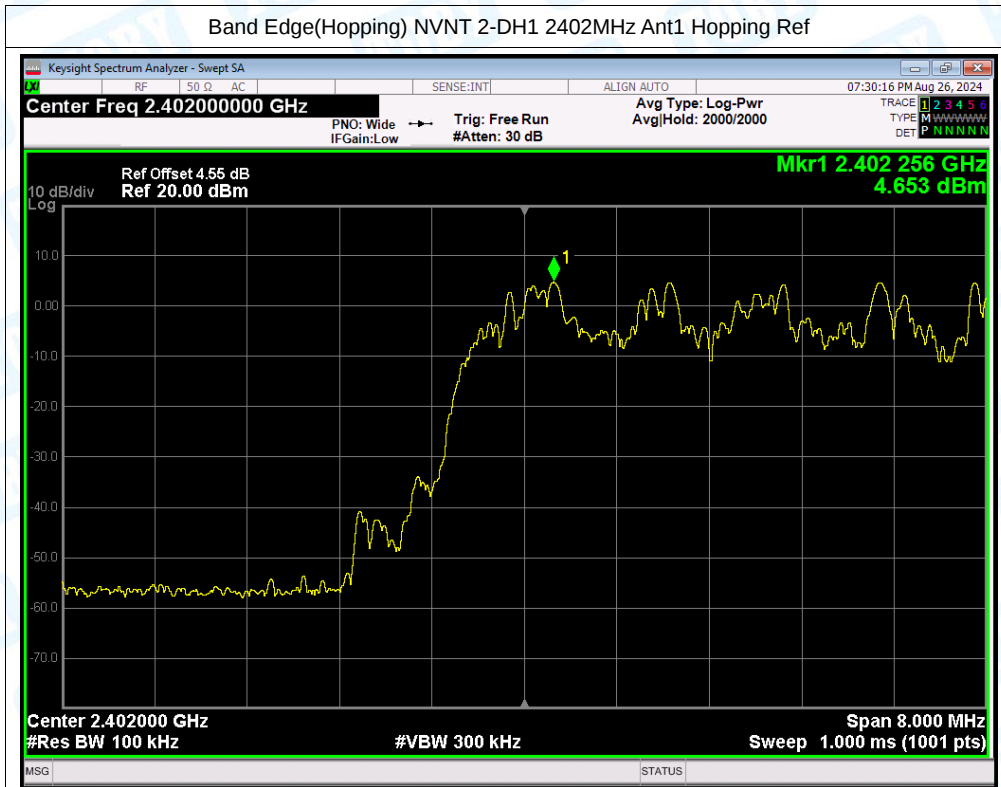


Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission

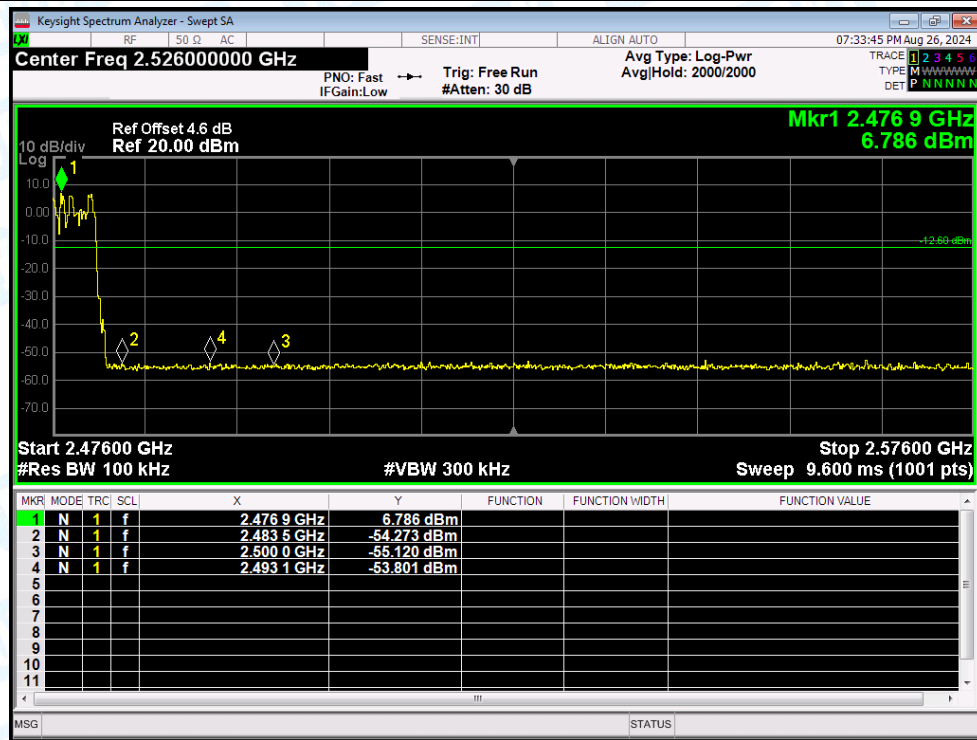




Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



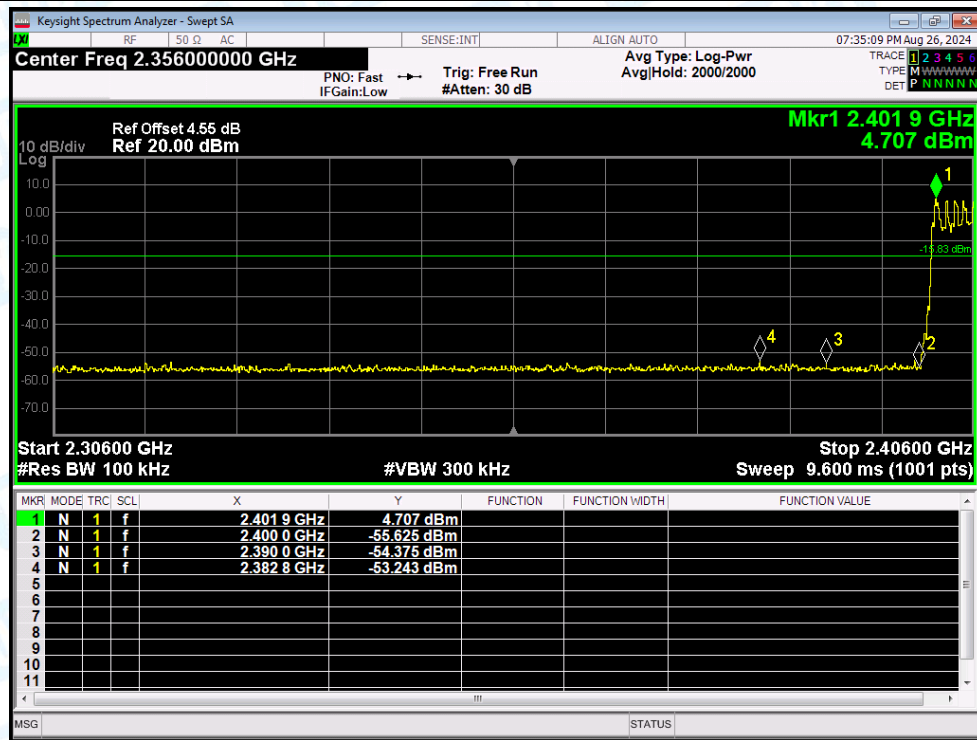
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



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



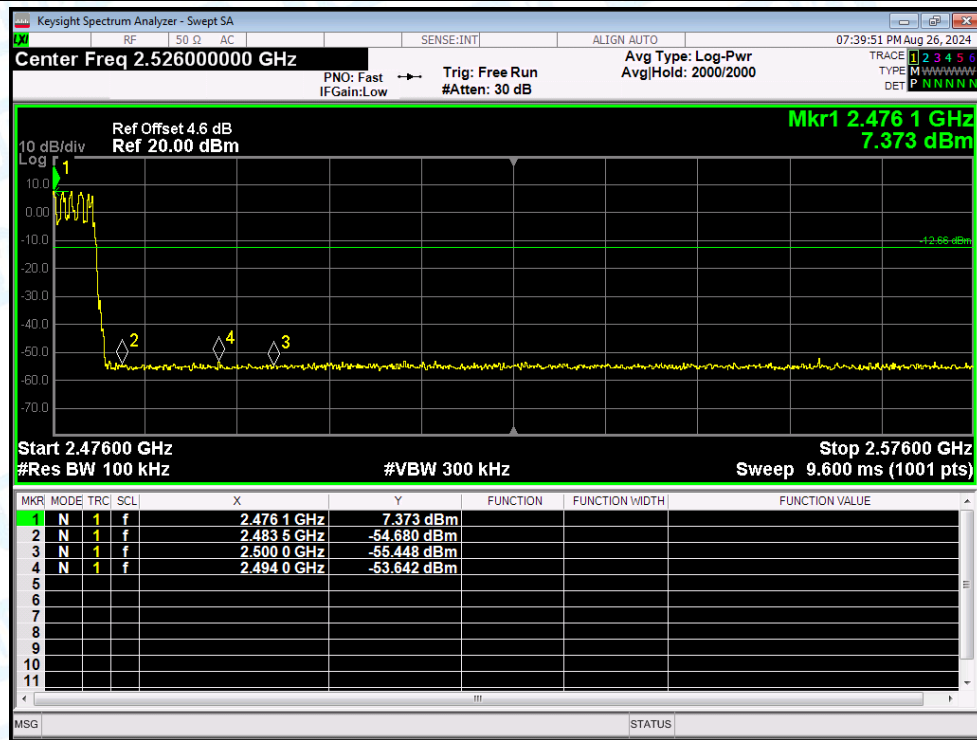
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

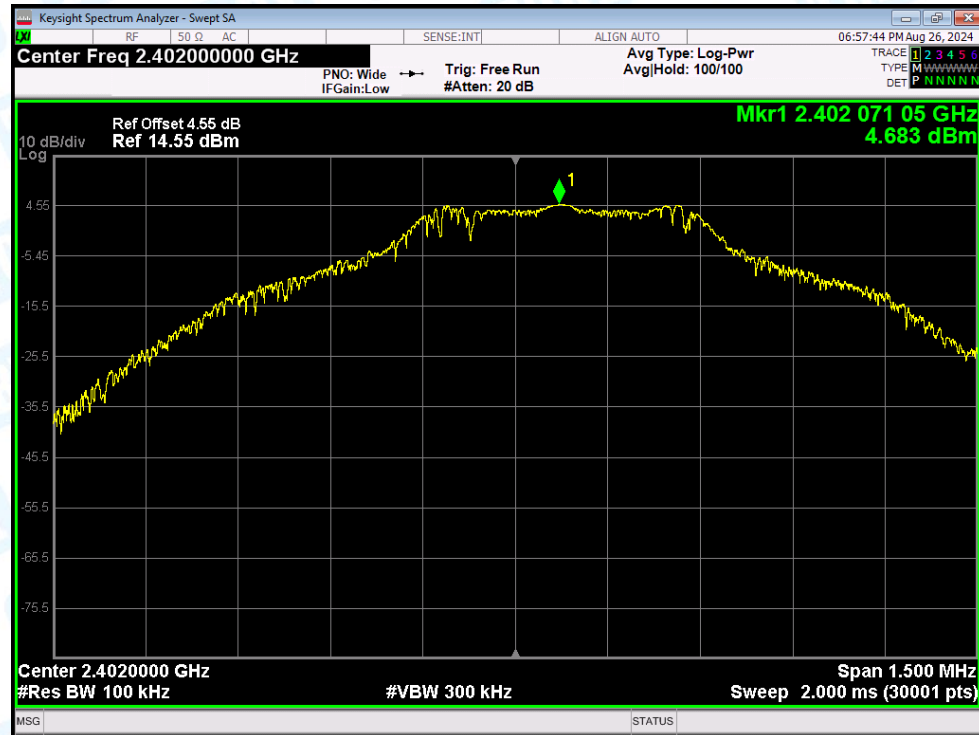


7. Conducted RF Spurious Emission

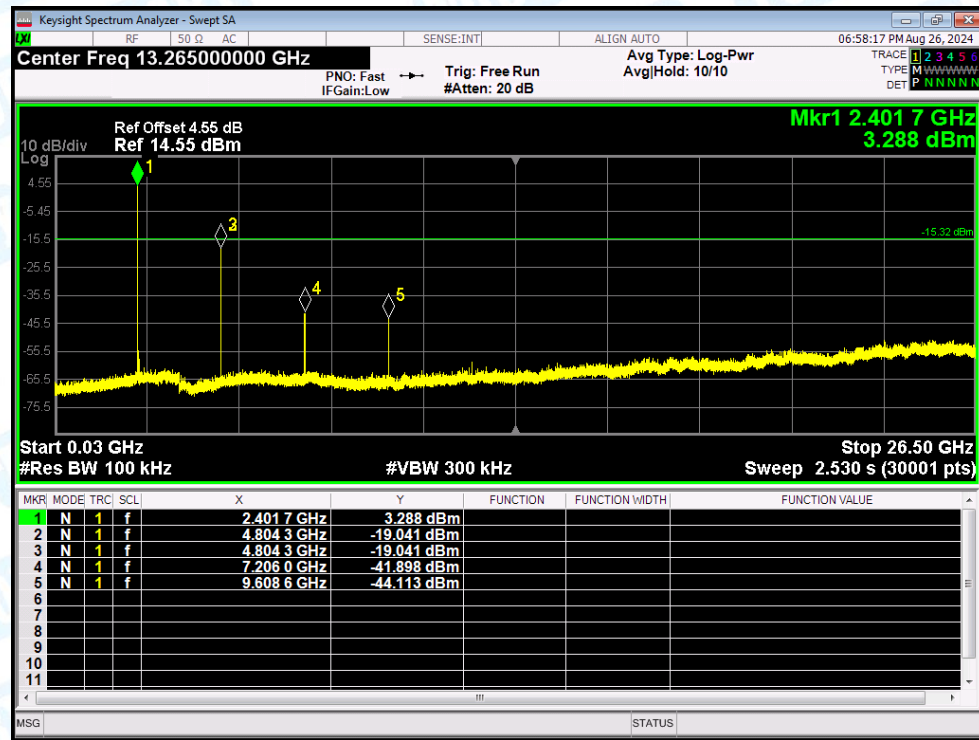
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-23.72	-20	Pass
NVNT	1-DH1	2441	Ant1	-25.04	-20	Pass
NVNT	1-DH1	2480	Ant1	-24.19	-20	Pass
NVNT	2-DH1	2402	Ant1	-24.95	-20	Pass
NVNT	2-DH1	2441	Ant1	-33.59	-20	Pass
NVNT	2-DH1	2480	Ant1	-27.89	-20	Pass
NVNT	3-DH1	2402	Ant1	-33.52	-20	Pass
NVNT	3-DH1	2441	Ant1	-24.52	-20	Pass
NVNT	3-DH1	2480	Ant1	-25.65	-20	Pass

Test Graphs

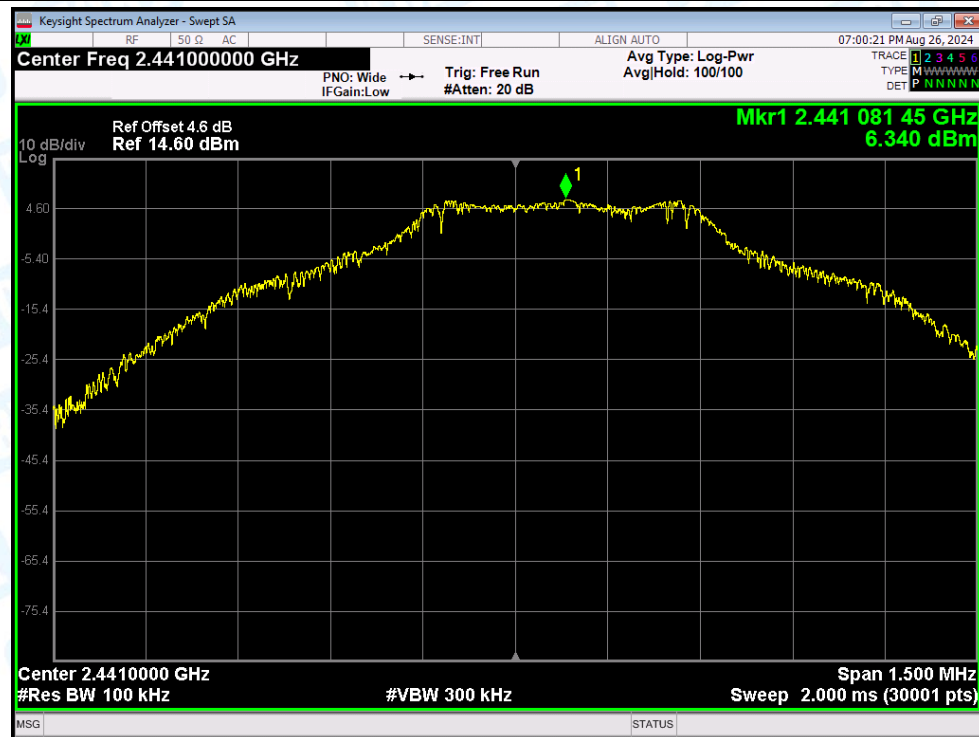
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



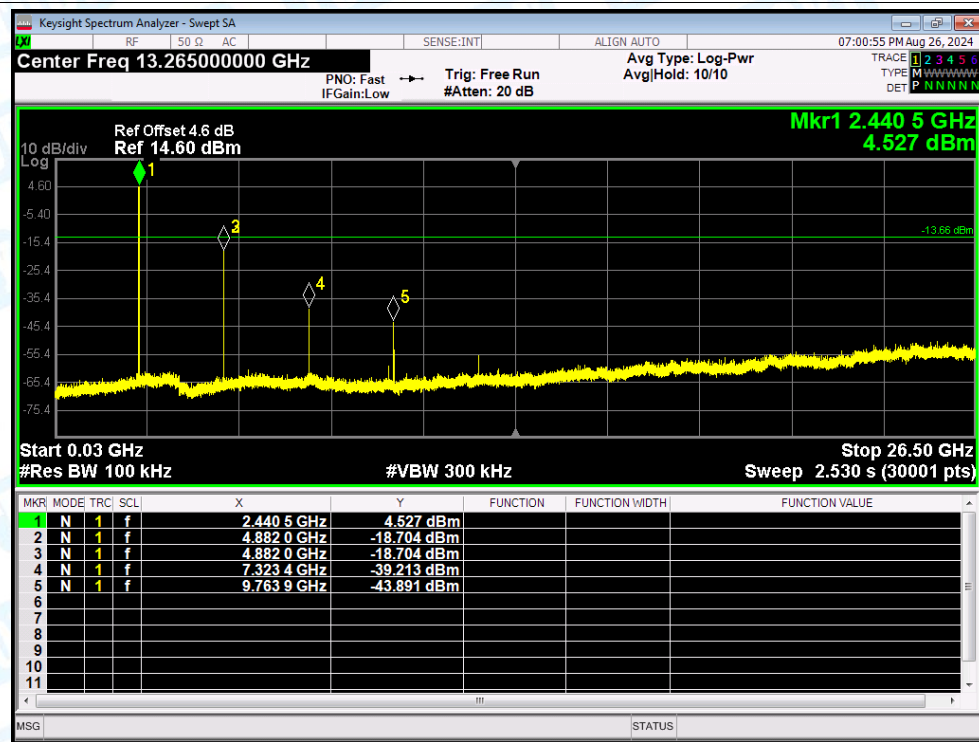
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



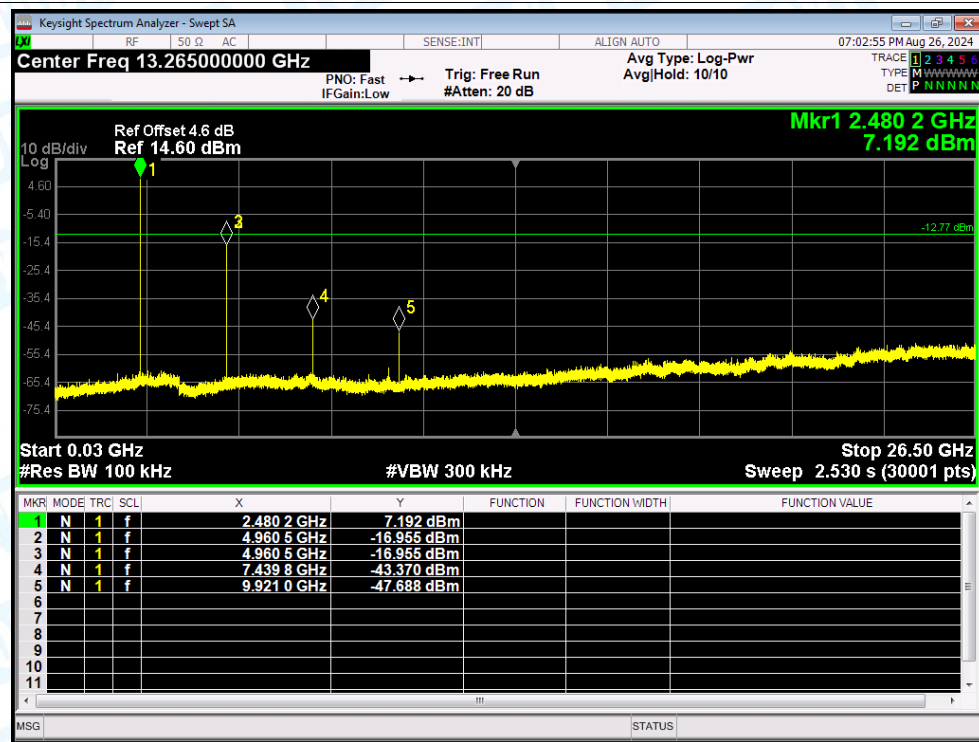
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



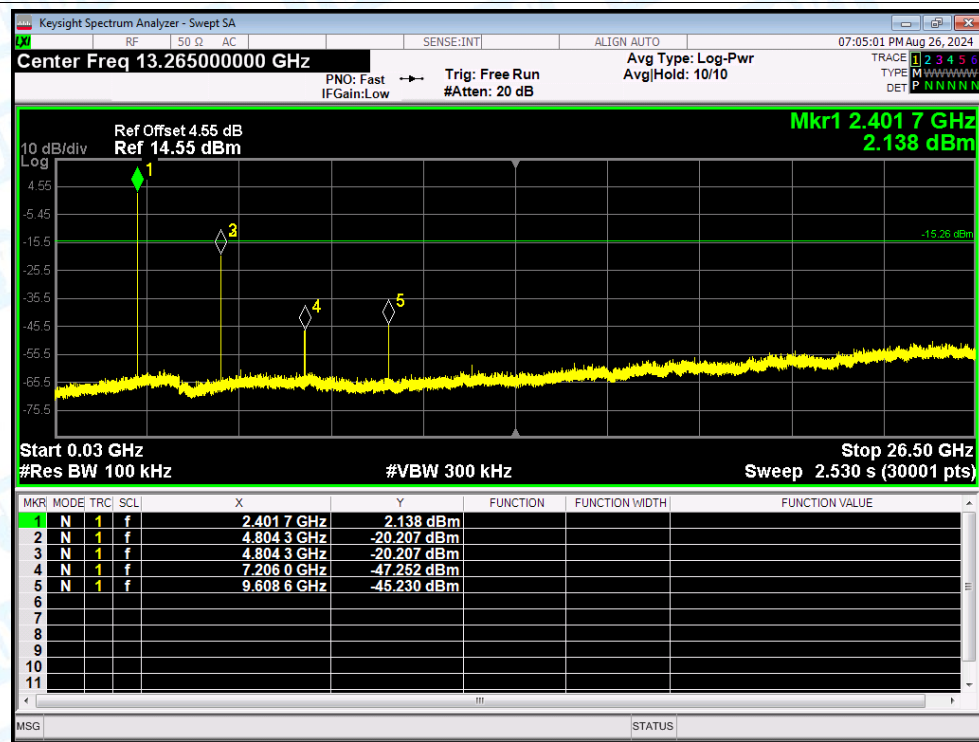
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



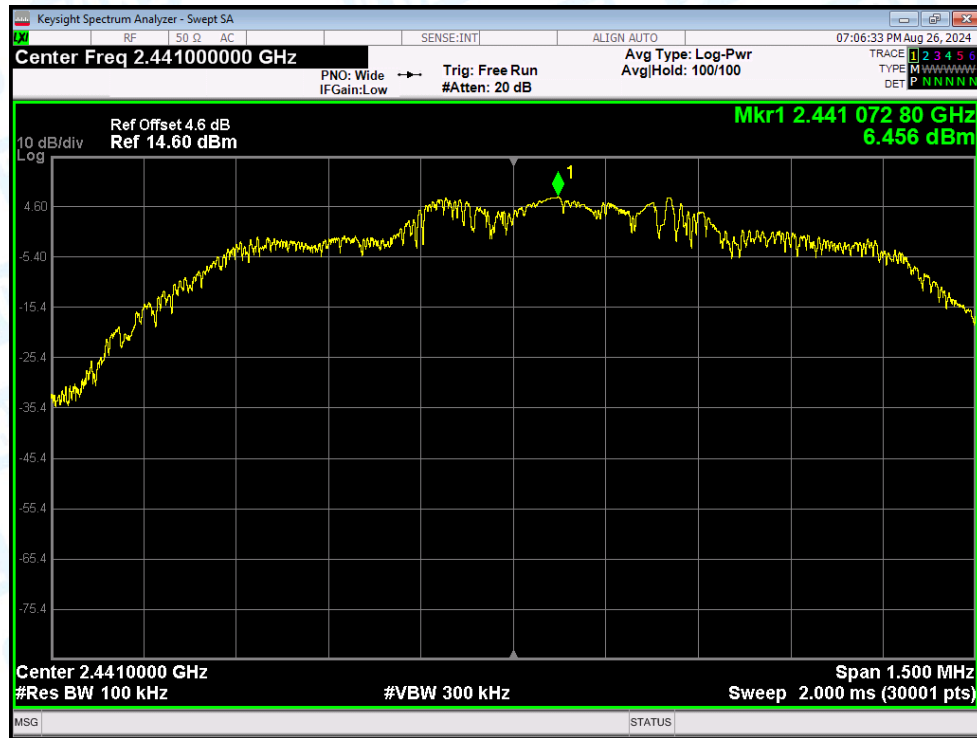
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



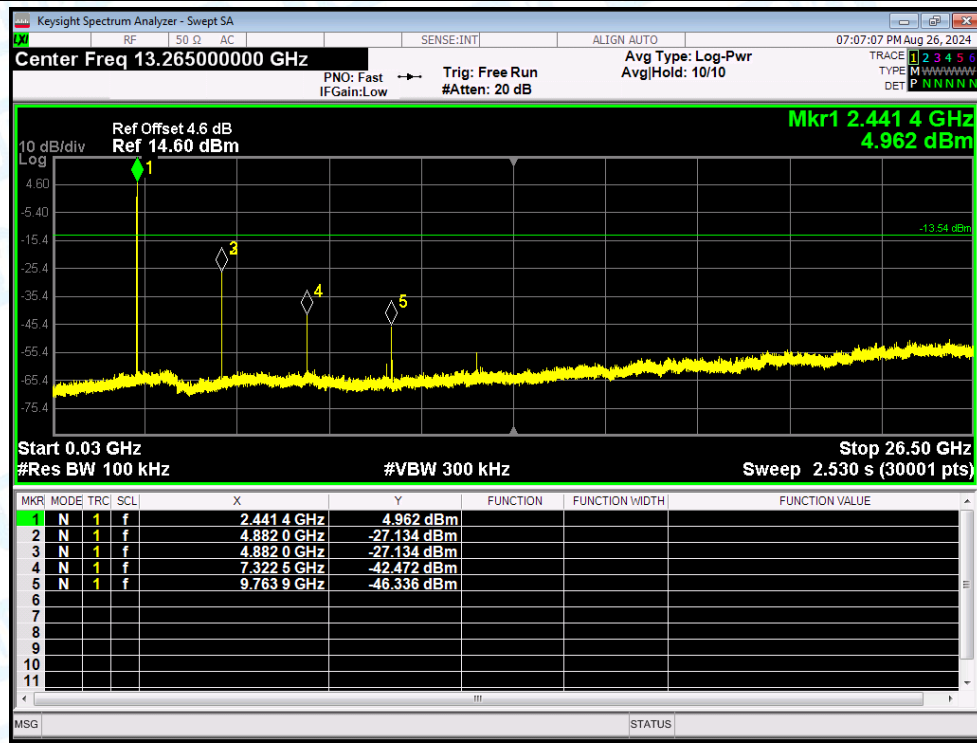
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



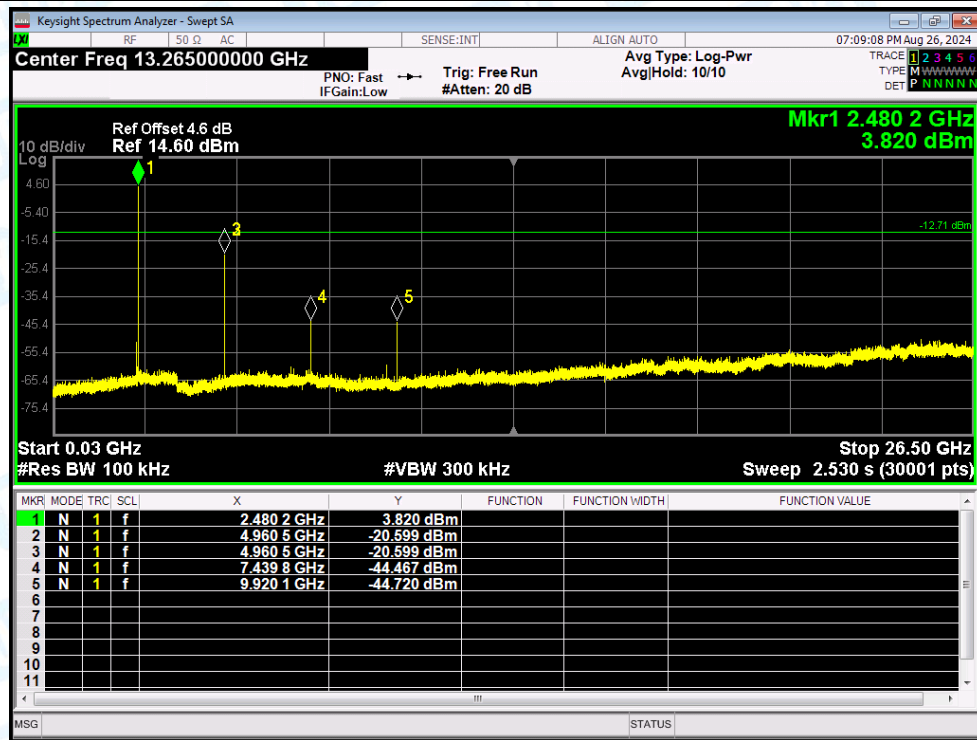
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



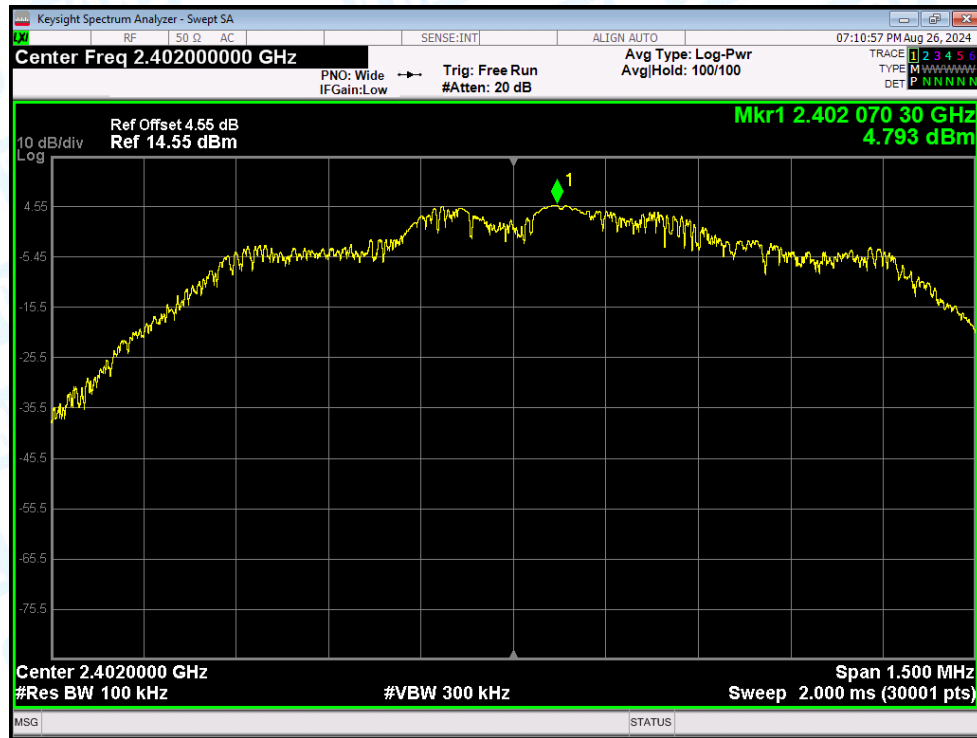
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



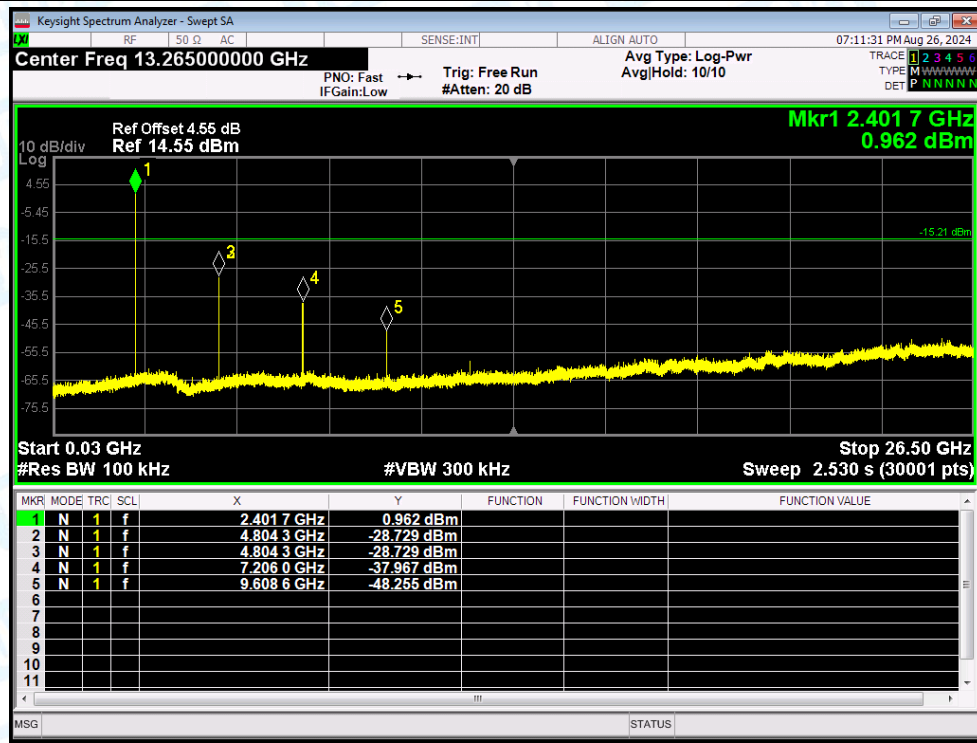
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



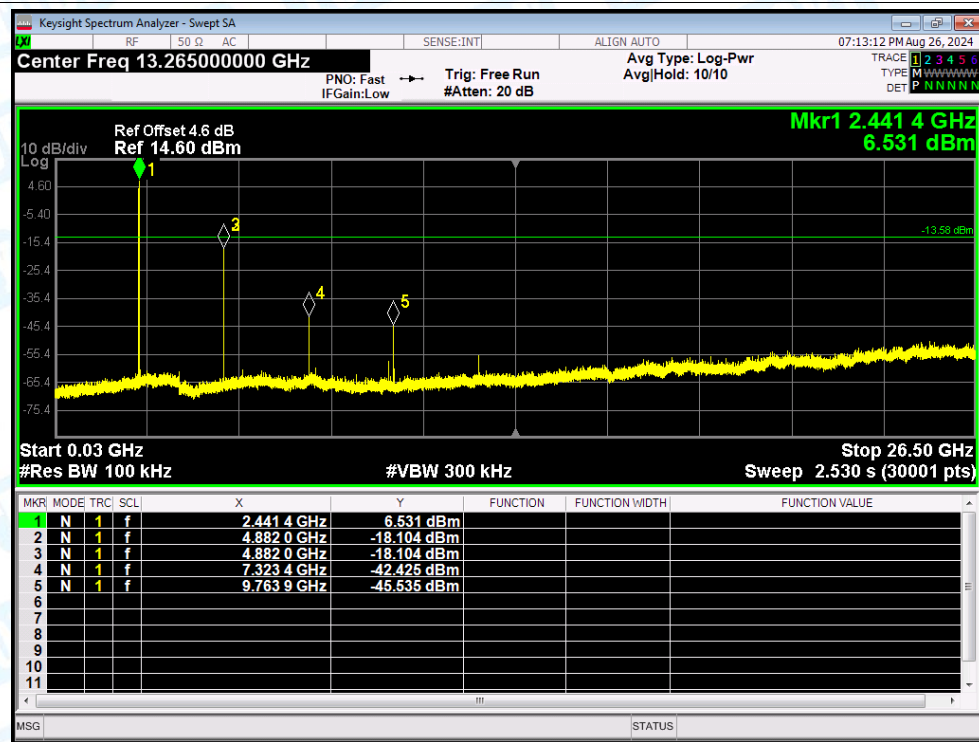
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



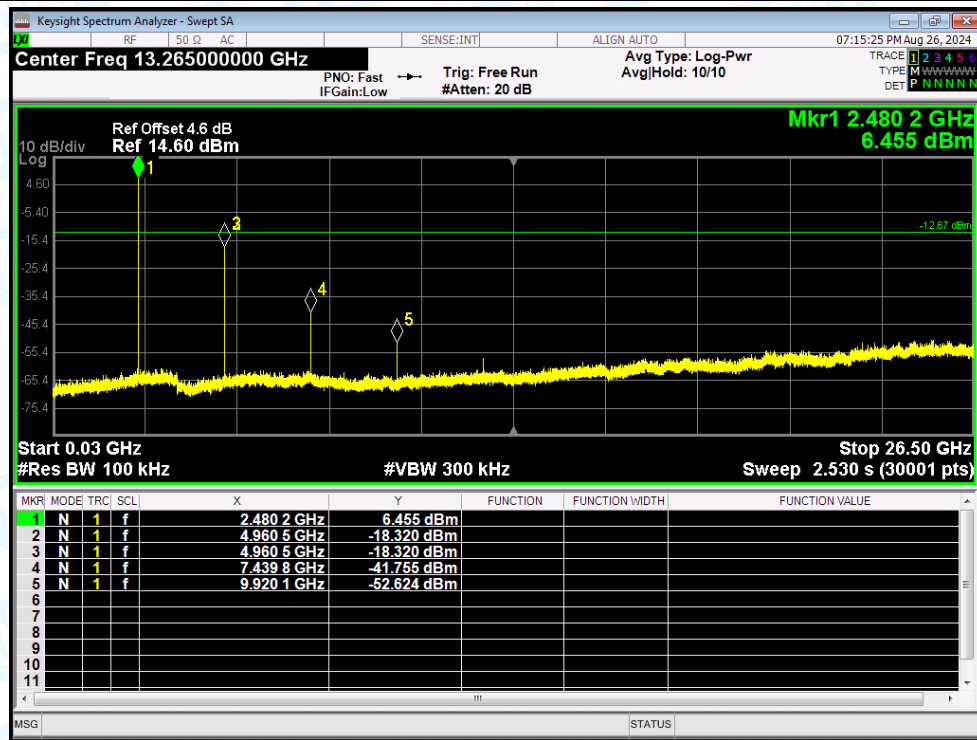
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

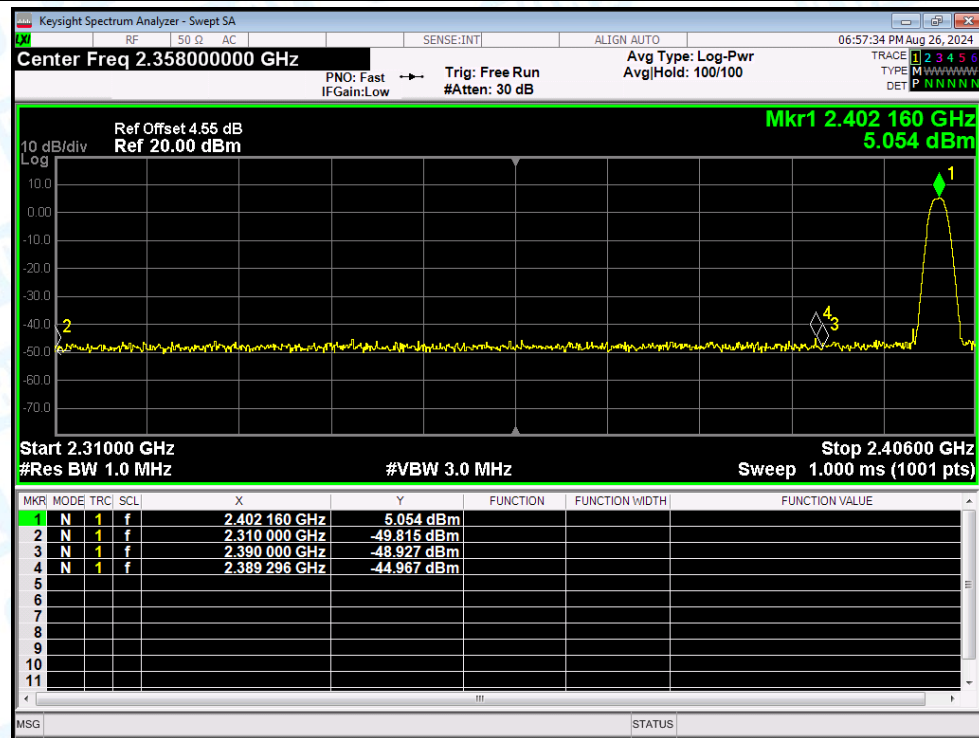


8. Restrict Band

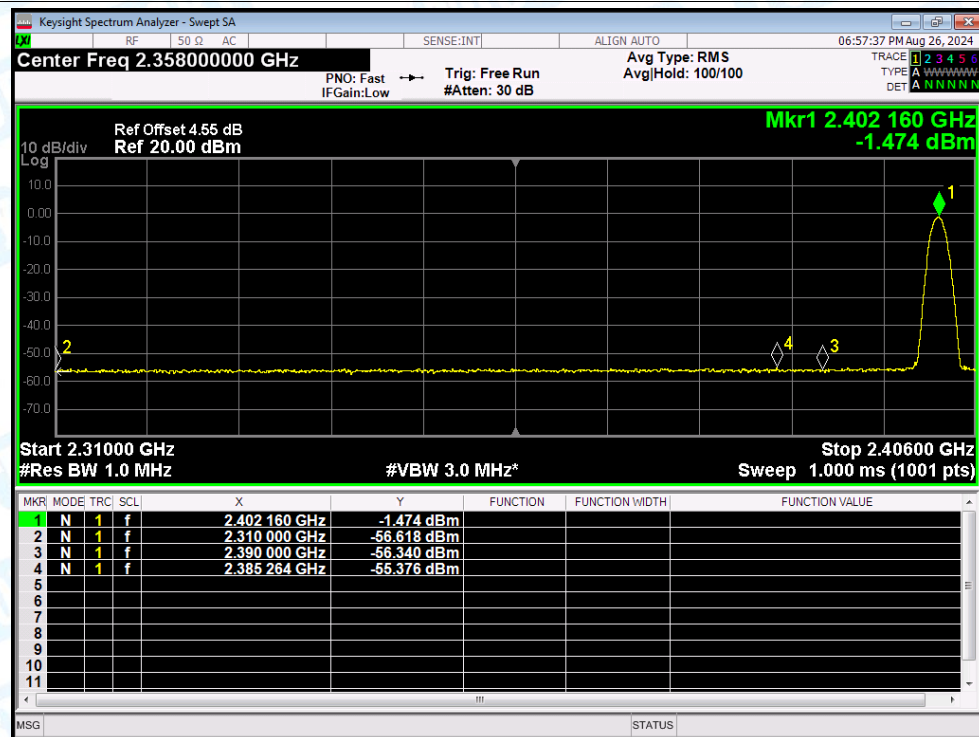
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-49.82	2	-	47.44	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.62	2	4.88	45.52	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2389.296	-44.97	2	-	52.29	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2385.264	-55.38	2	4.88	46.76	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.93	2	-	48.33	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.34	2	4.88	45.8	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-47.67	2	-	49.59	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.5	2	4.84	47.6	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.992	-42.09	2	-	55.17	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.512	-54.5	2	4.84	47.6	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.16	2	-	50.1	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.19	2	4.84	46.91	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.6	2	-	48.66	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.17	2	4.74	45.83	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2372.208	-44.17	2	-	53.09	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2373.168	-55.42	2	4.74	46.58	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-46.83	2	-	50.43	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.48	2	4.74	46.52	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-46.61	2	-	50.65	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.28	2	4.74	46.72	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.088	-43.74	2	-	53.52	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2496.136	-54.65	2	4.74	47.35	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-46.87	2	-	50.39	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.44	2	4.74	46.56	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-49.16	2	-	48.1	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.21	2	4.74	45.79	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2384.688	-45.4	2	-	51.86	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2354.64	-55.38	2	4.74	46.62	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-47.03	2	-	50.23	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.86	2	4.74	46.14	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-47.28	2	-	49.98	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-55.13	2	4.74	46.87	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2488.672	-44.15	2	-	53.11	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2489.056	-54.47	2	4.74	47.53	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-46.34	2	-	50.92	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.35	2	4.74	46.65	Average	54	Pass

Test Graphs

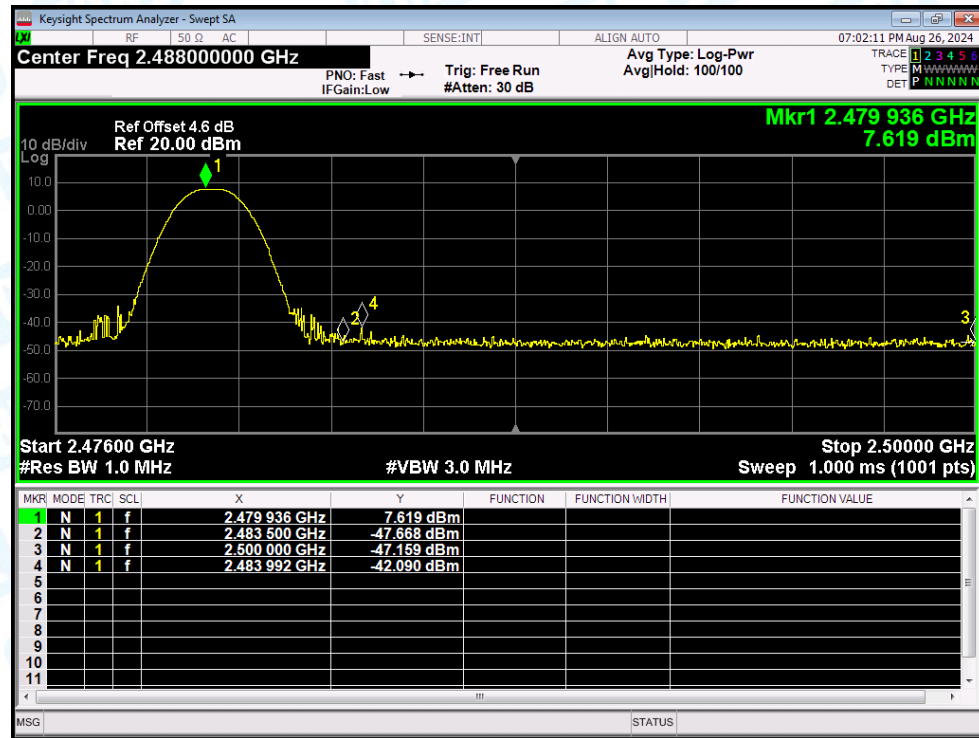
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



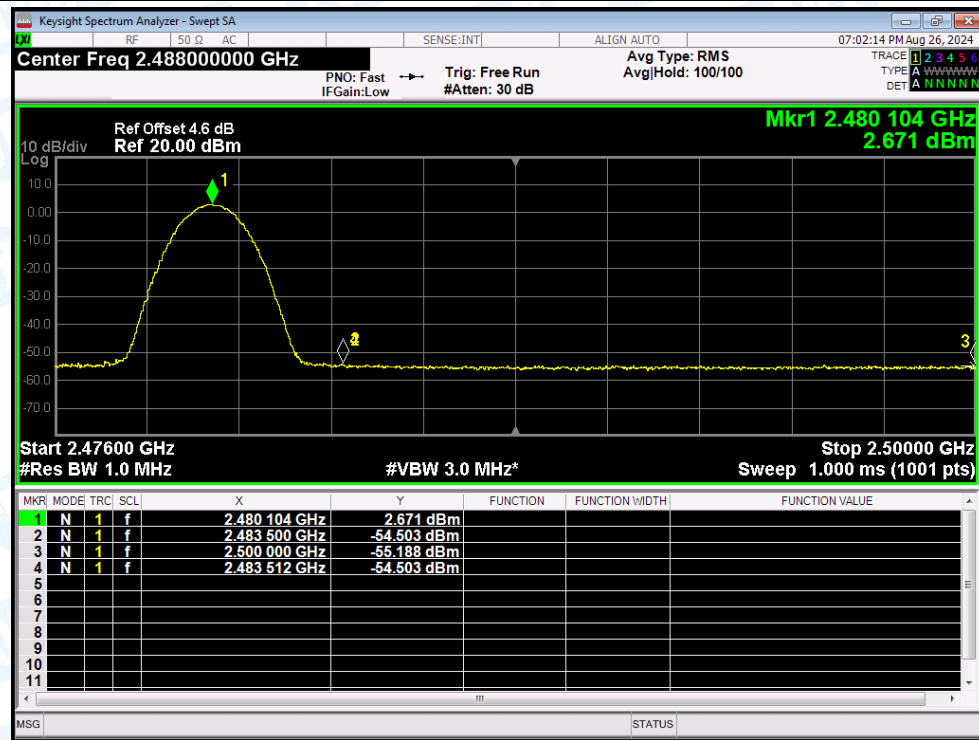
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



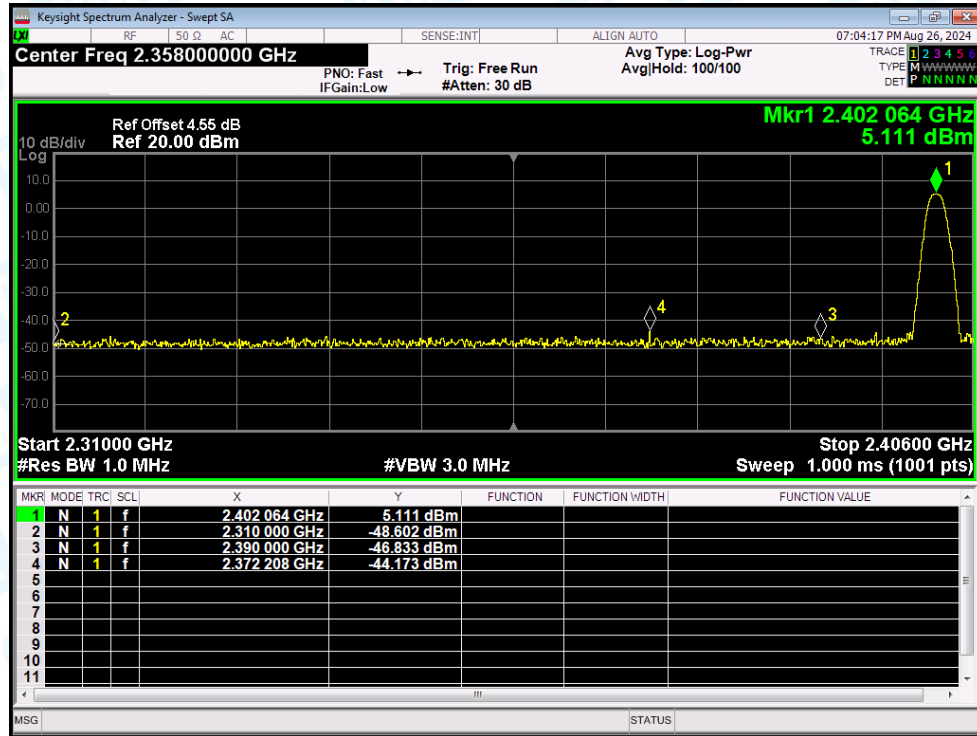
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



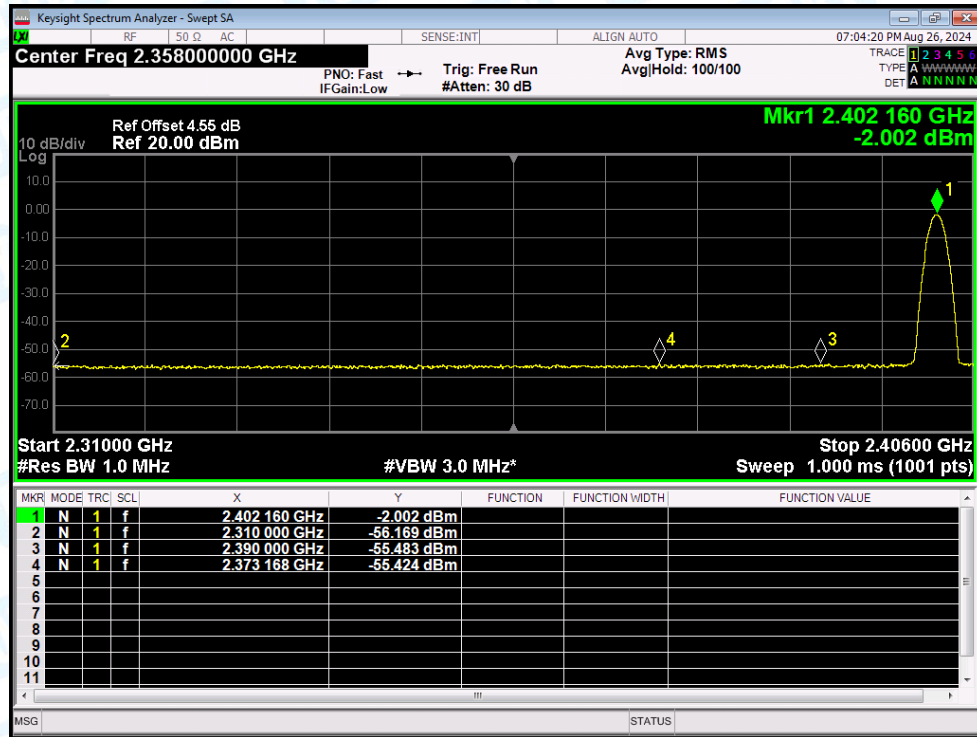
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



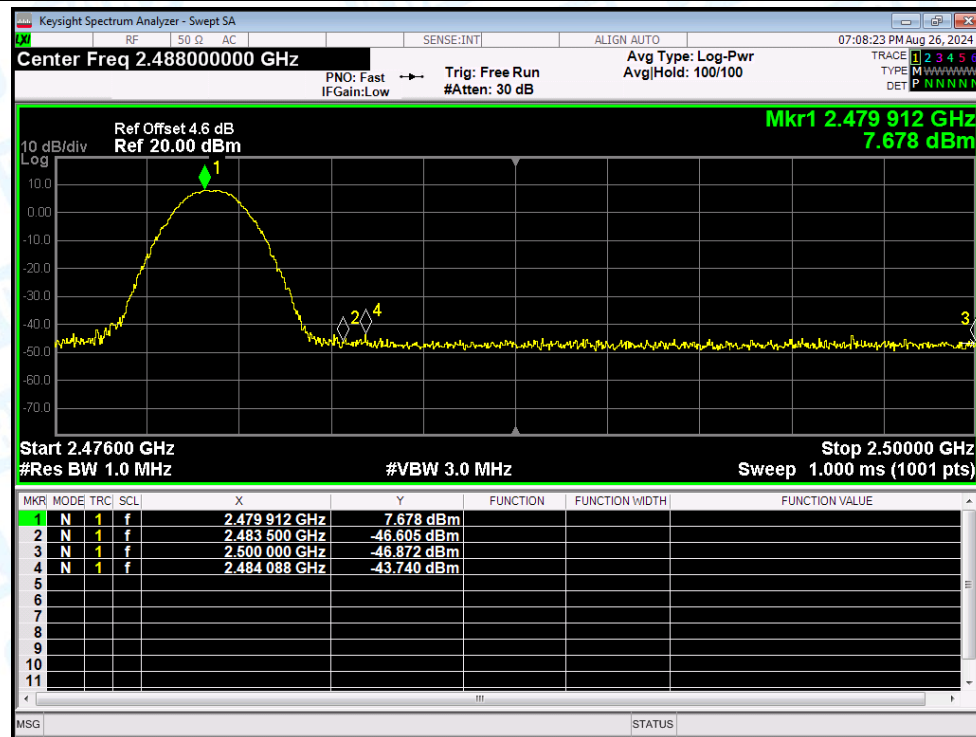
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



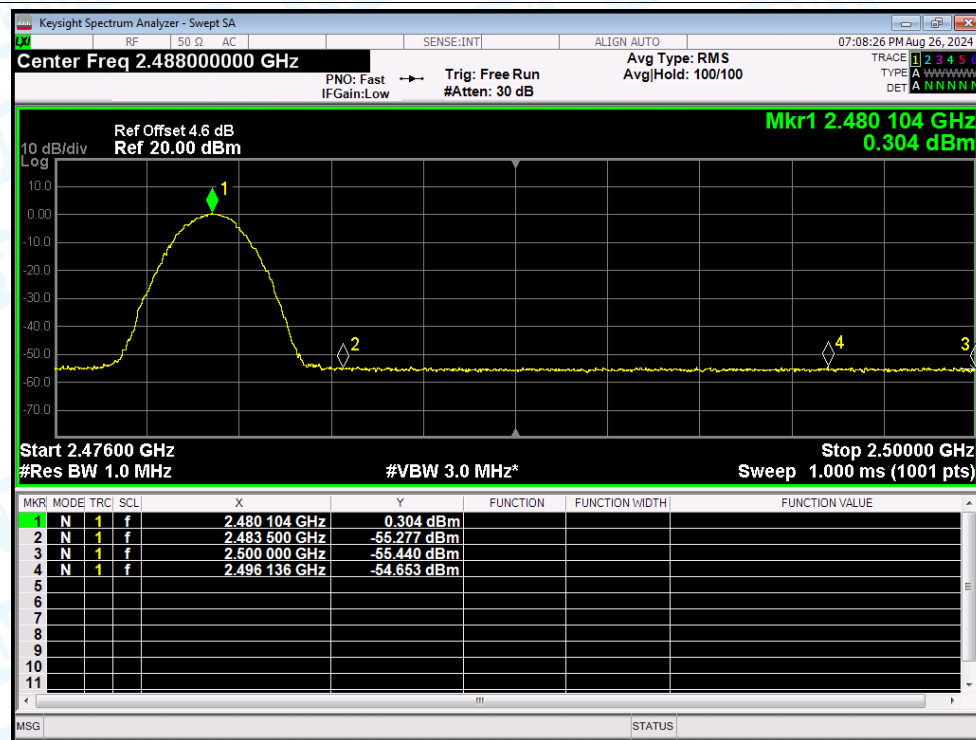
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



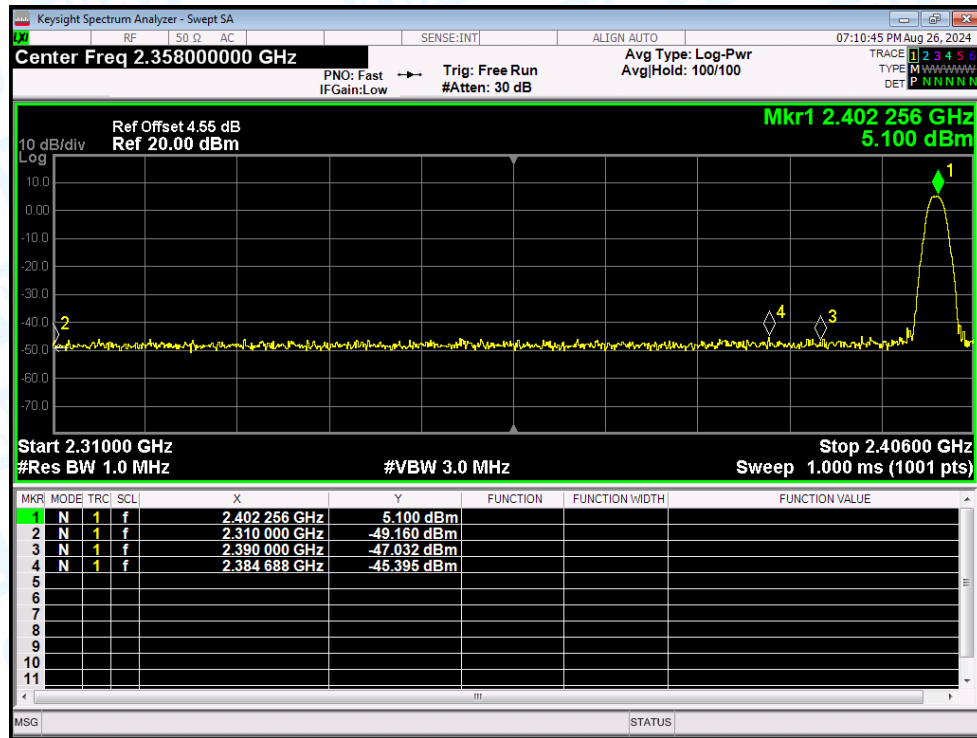
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



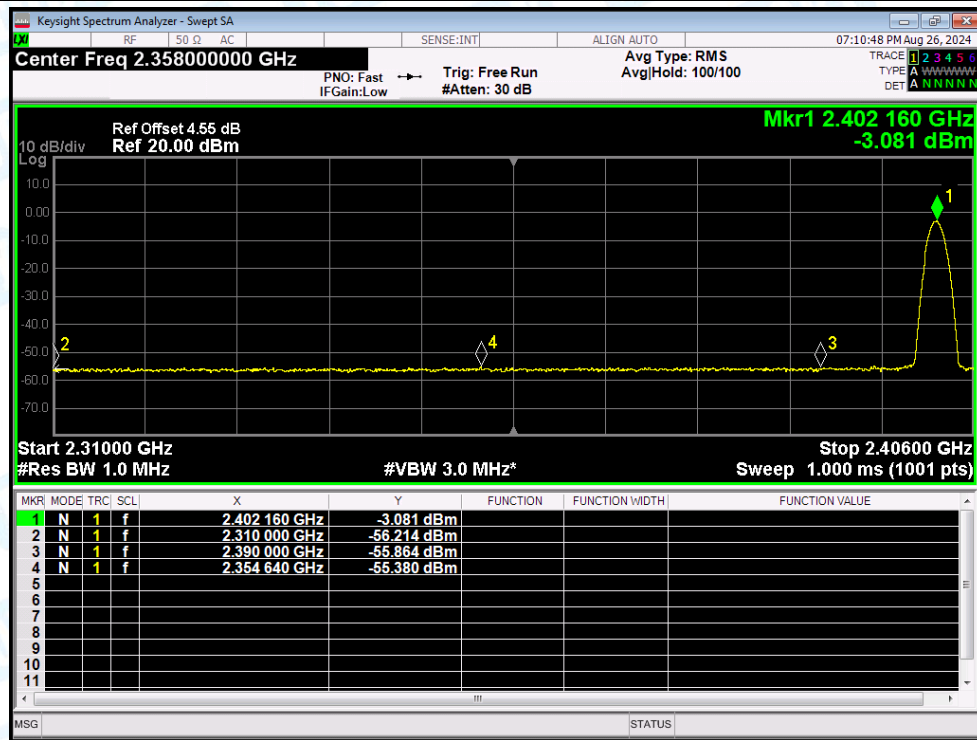
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



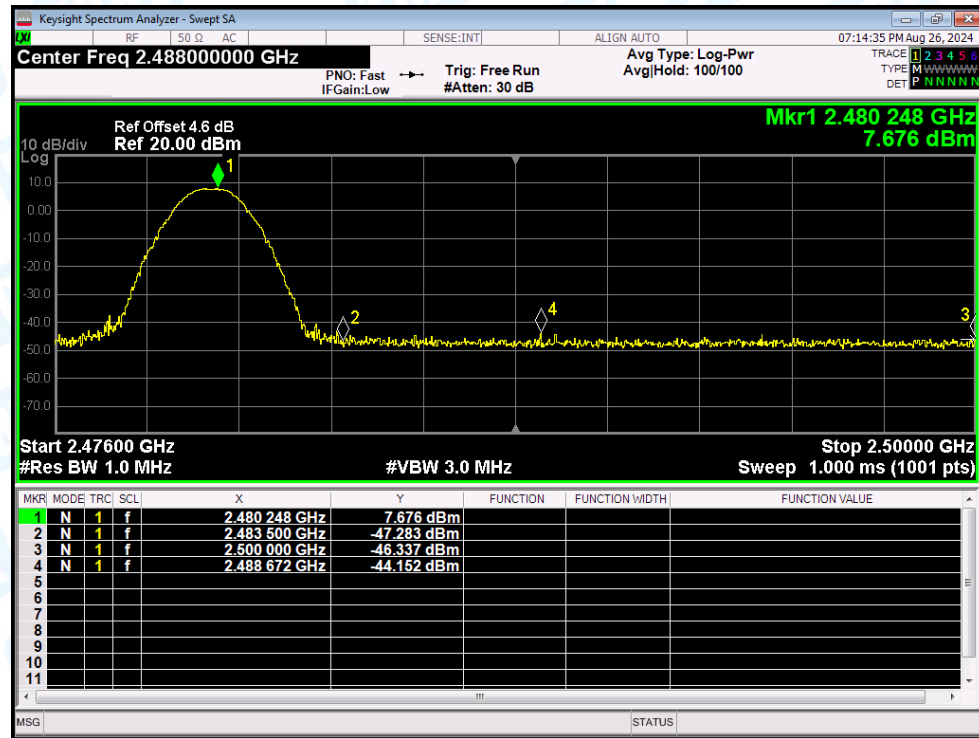
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



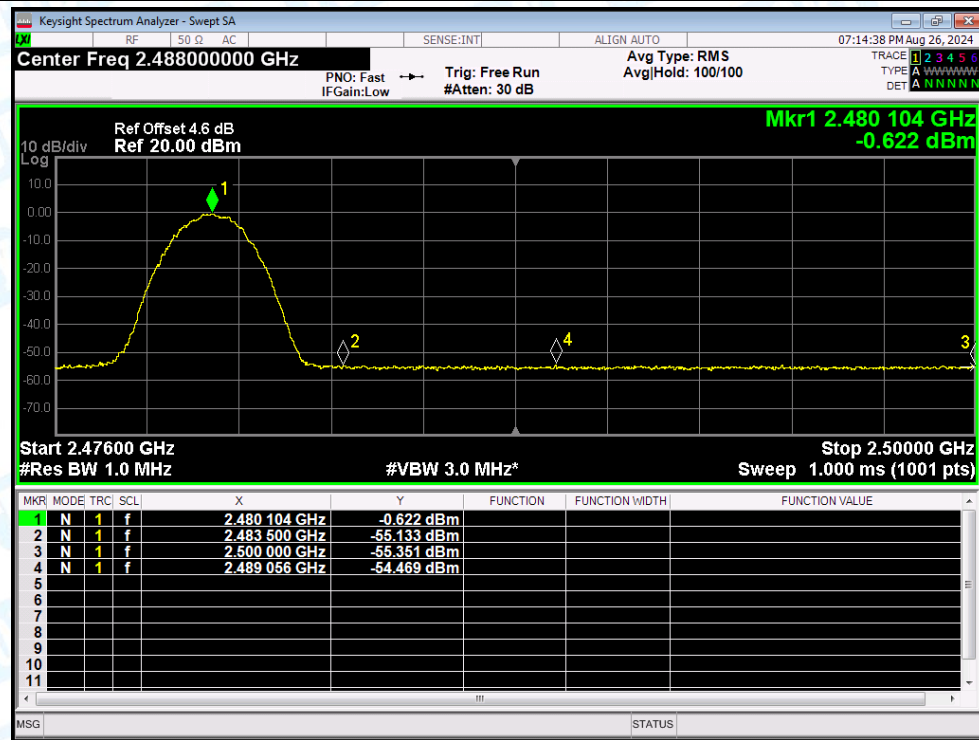
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

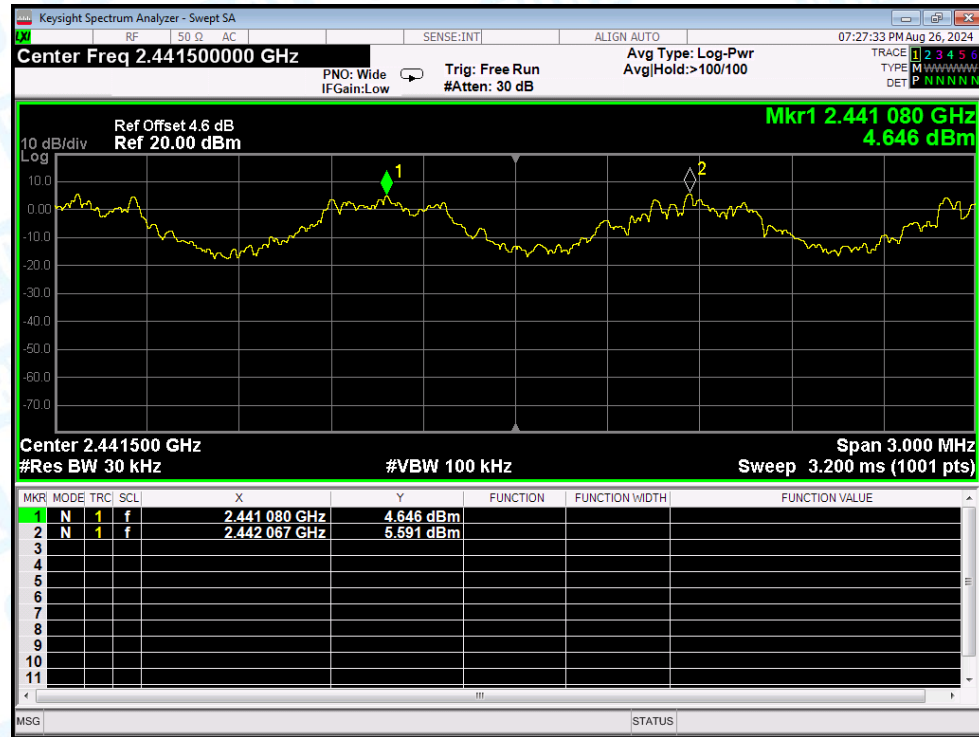


9. Carrier Frequencies Separation

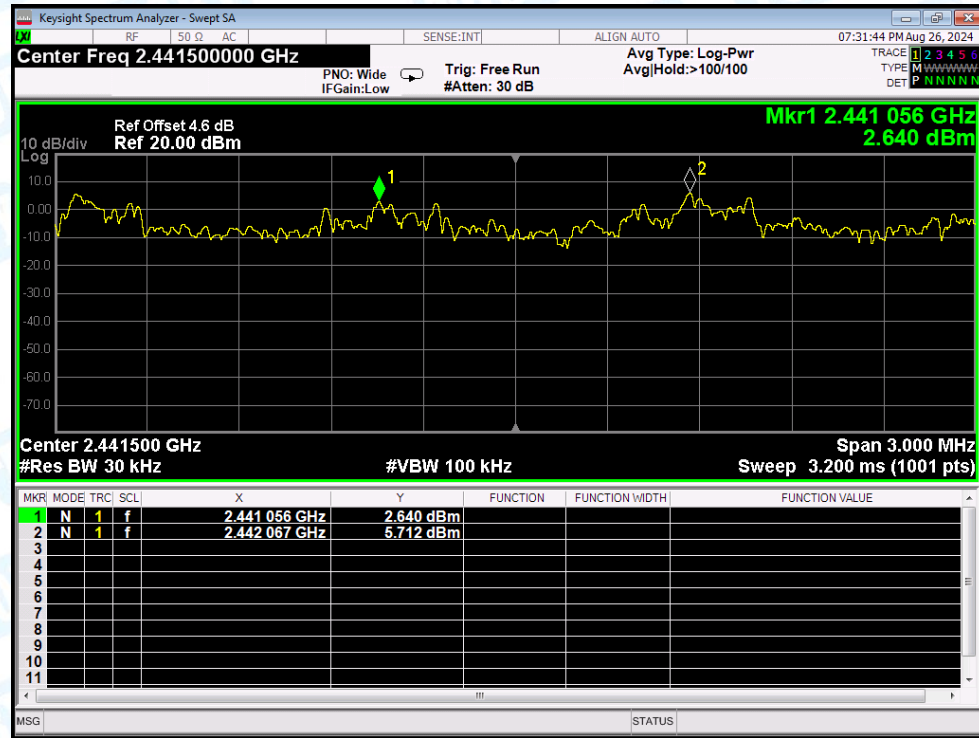
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2441.08	2442.067	0.987	0.68	Pass
NVNT	2-DH1	Ant1	2441.056	2442.067	1.011	0.78	Pass
NVNT	3-DH1	Ant1	2441.074	2442.076	1.002	0.78	Pass

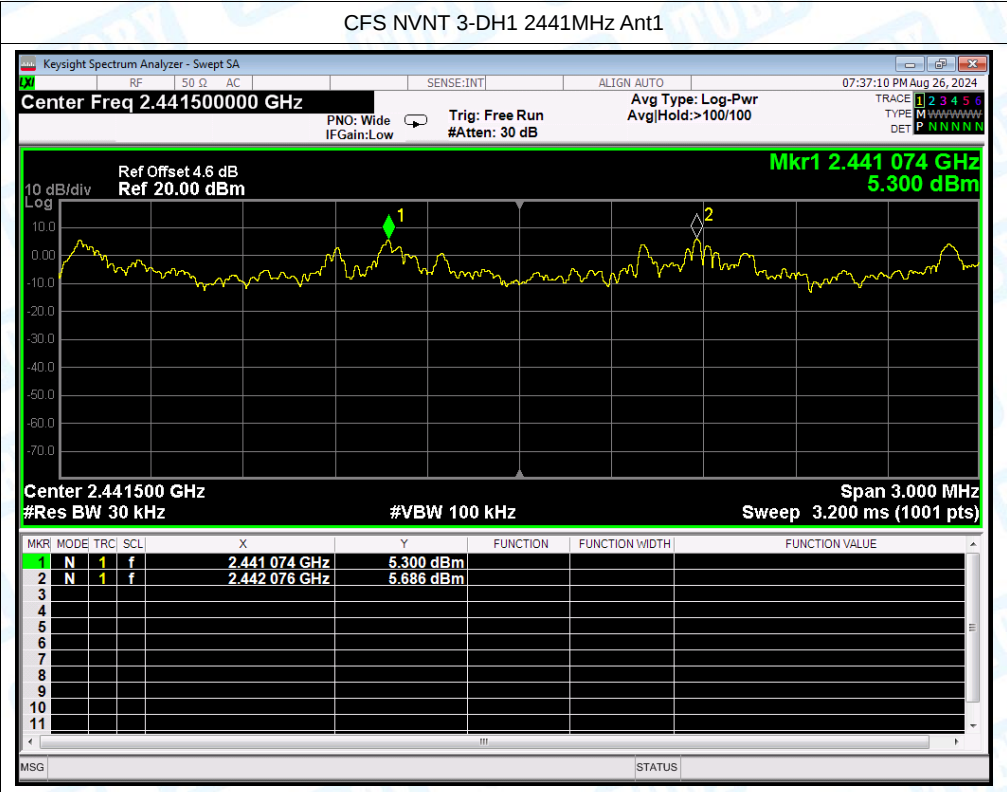
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



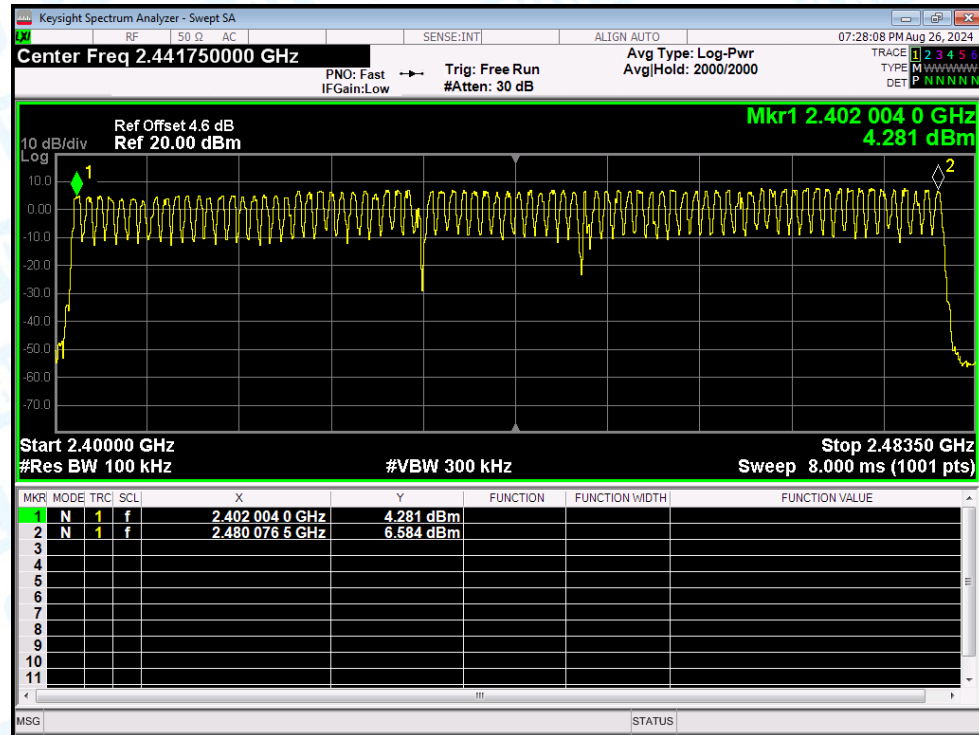


10. Number of Hopping Channel

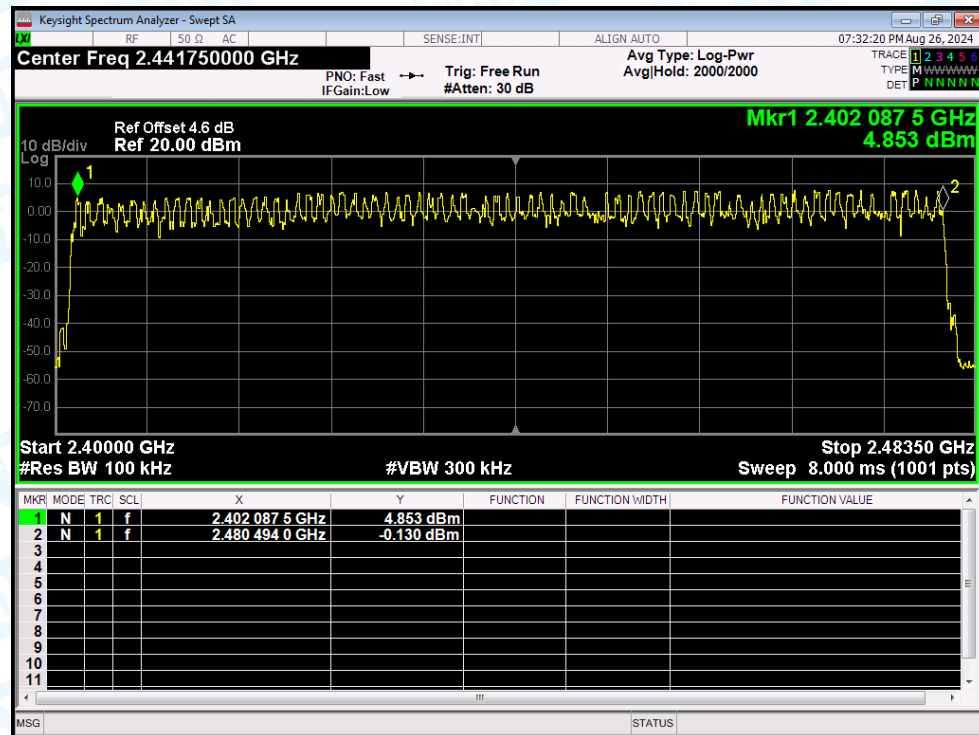
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

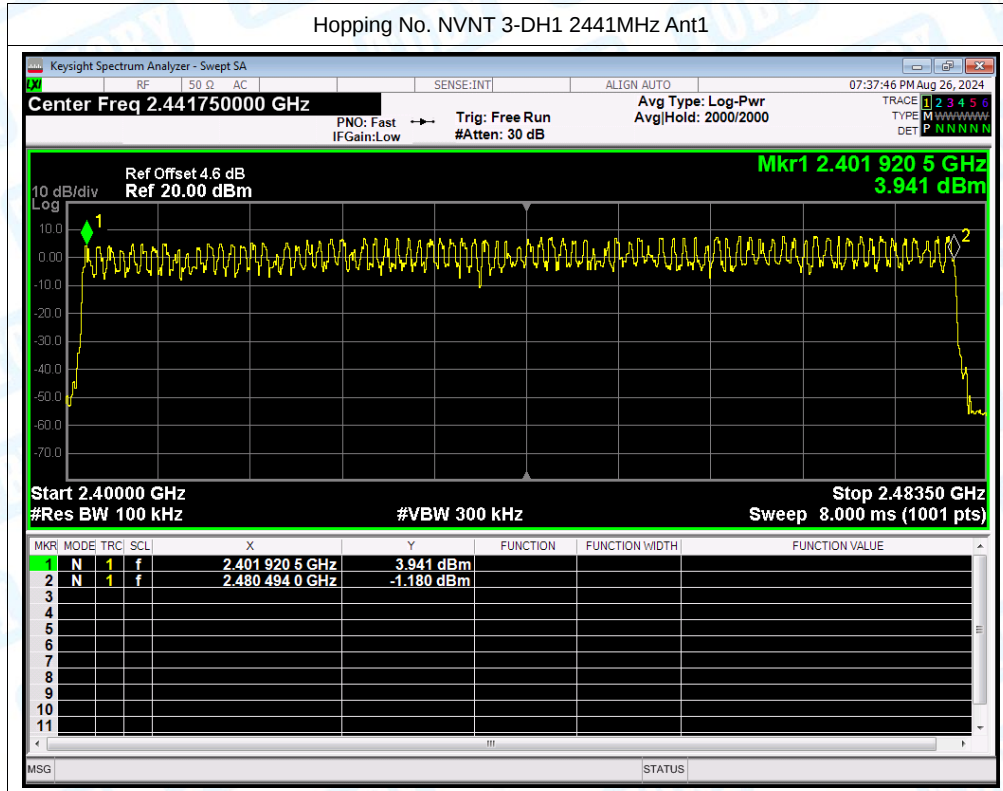
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



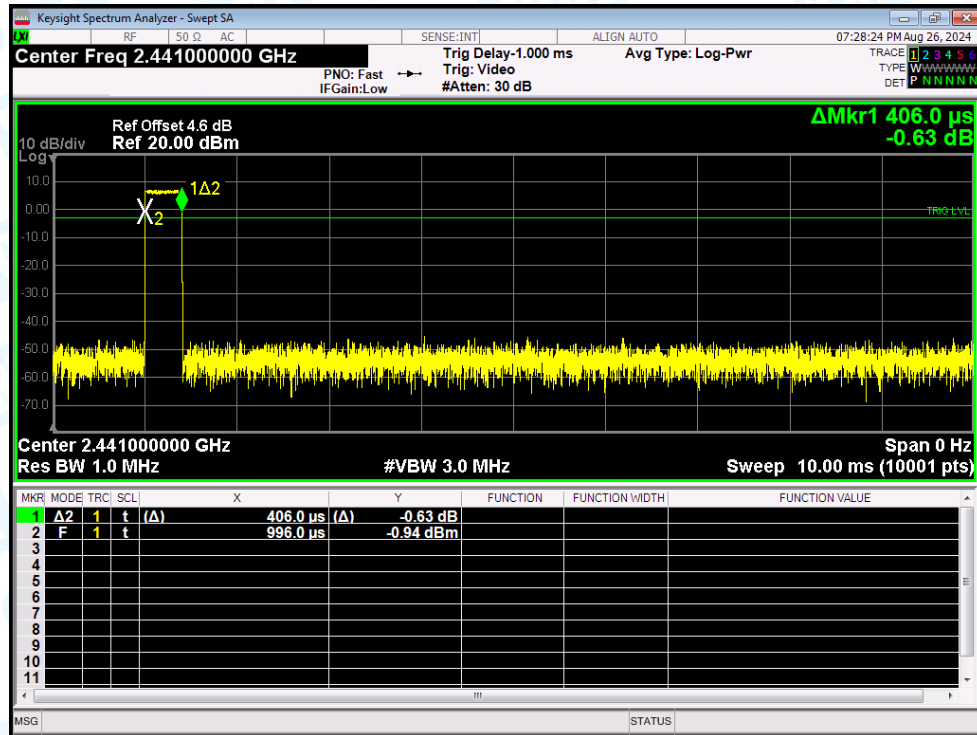


11. Dwell Time

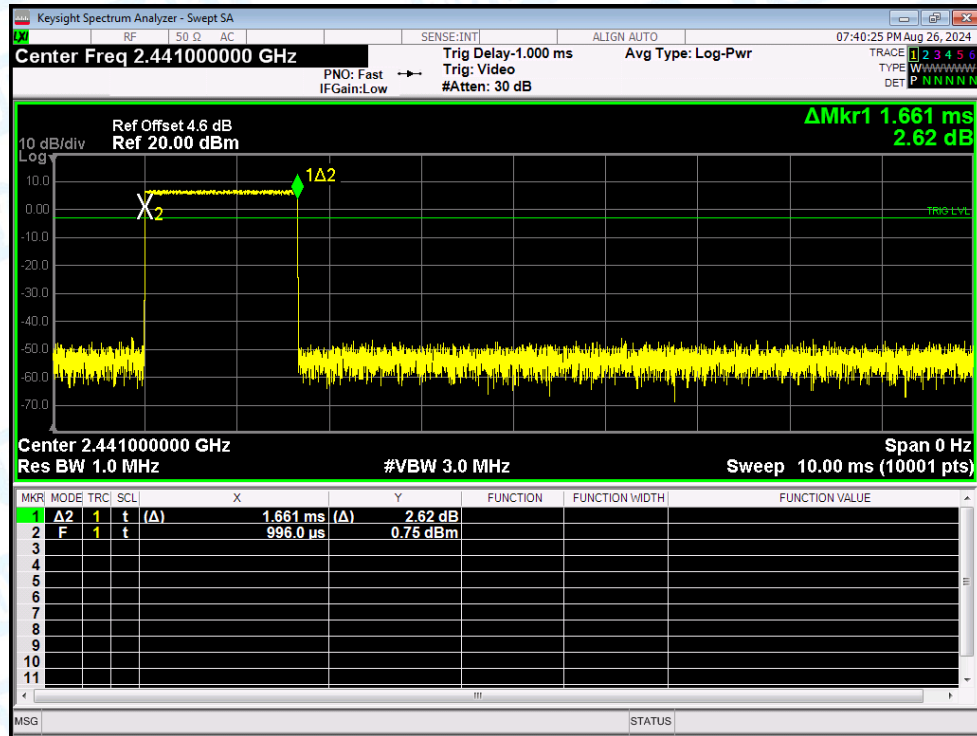
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.406	129.92	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.661	265.76	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.909	310.293	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.415	132.8	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.667	266.72	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.915	310.933	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.416	133.12	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.665	266.4	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.917	311.147	31600	400	Pass

Test Graphs

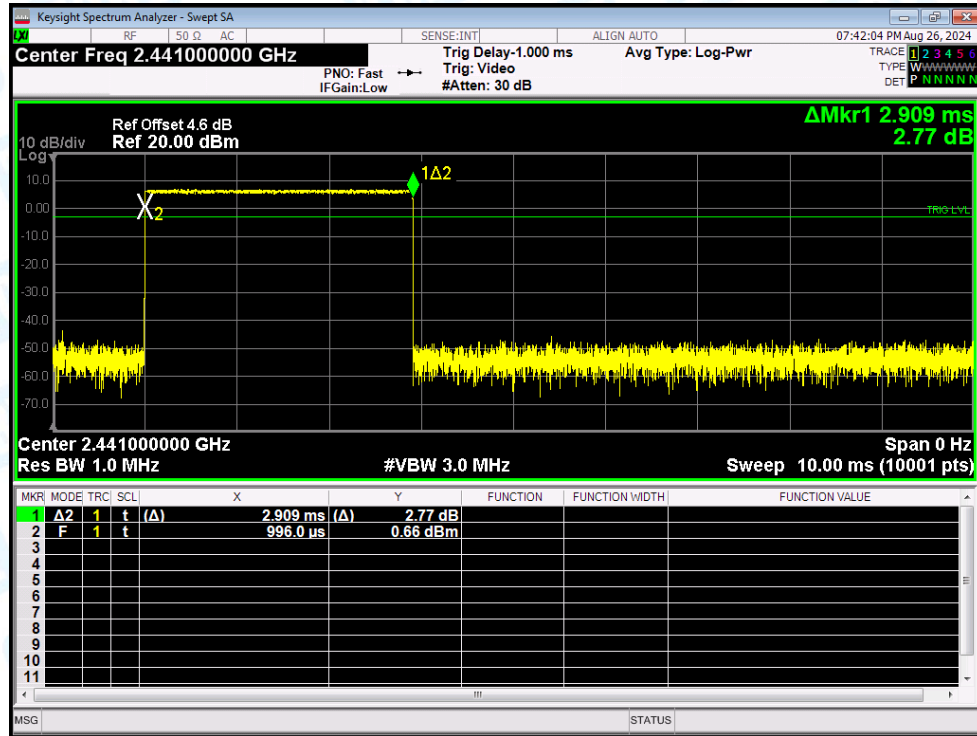
Dwell NVNT 1-DH1 2441MHz Ant1



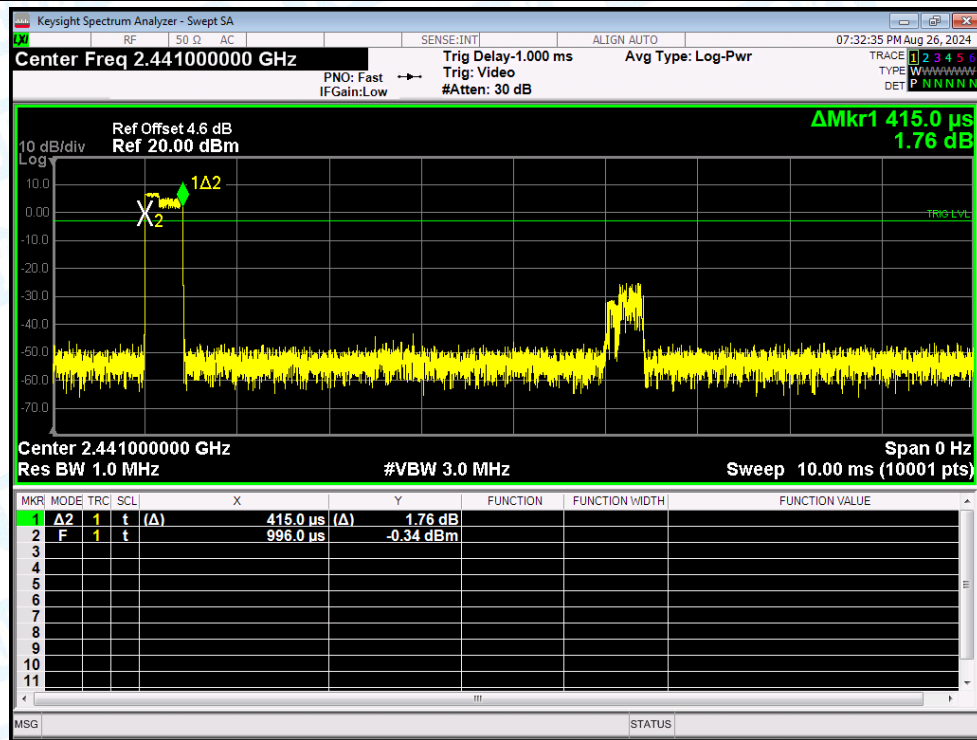
Dwell NVNT 1-DH3 2441MHz Ant1



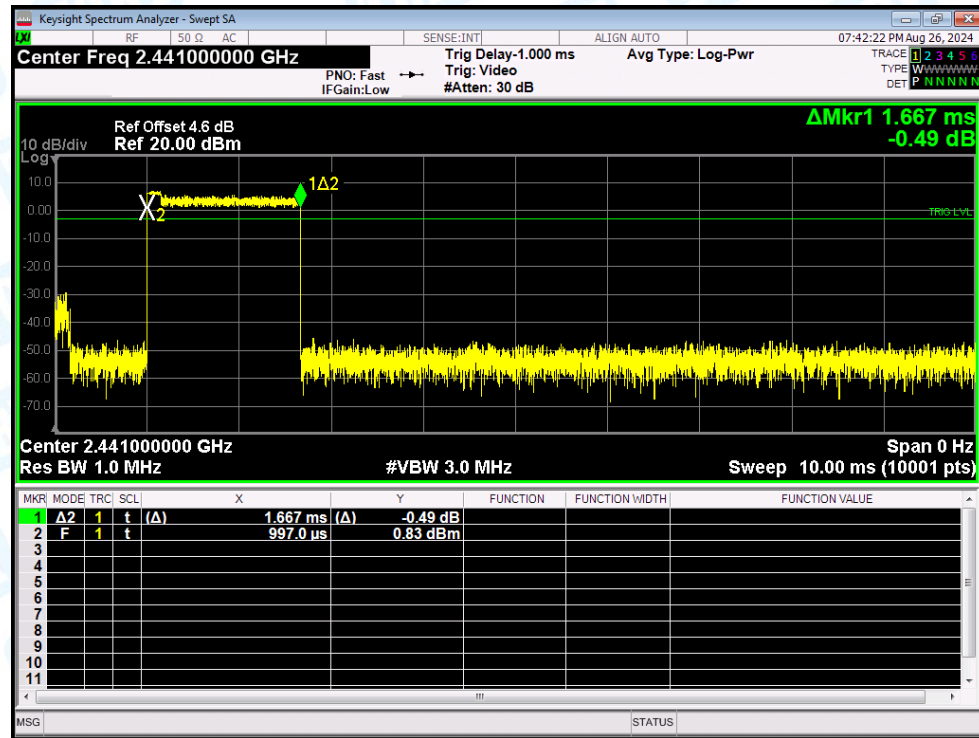
Dwell NVNT 1-DH5 2441MHz Ant1



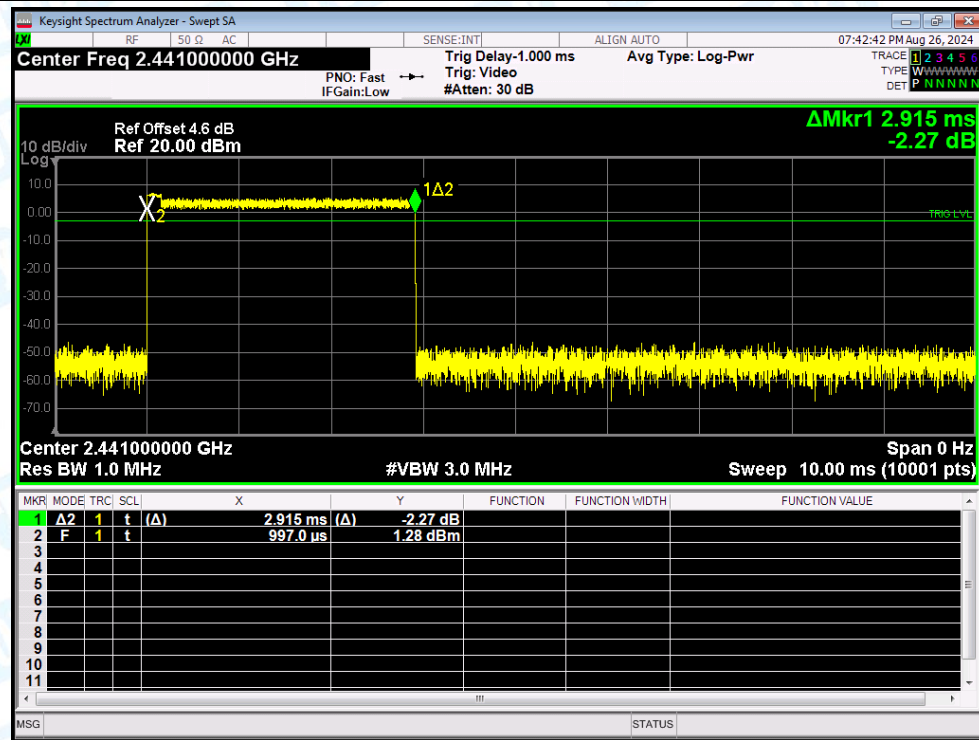
Dwell NVNT 2-DH1 2441MHz Ant1



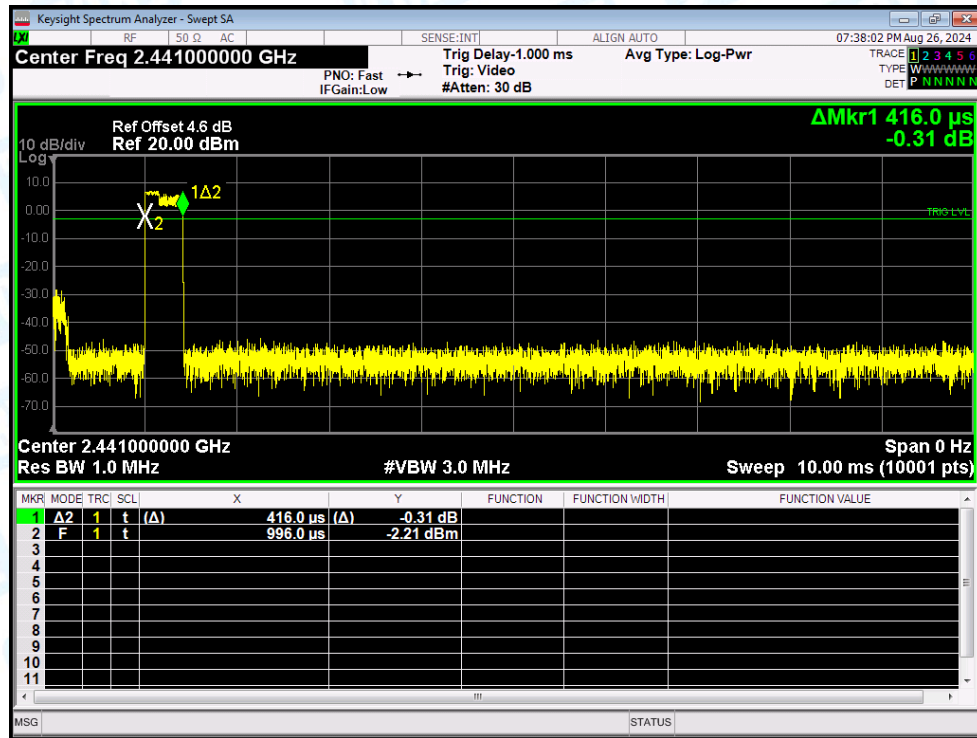
Dwell NVNT 2-DH3 2441MHz Ant1



Dwell NVNT 2-DH5 2441MHz Ant1



Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1

