

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	SMART WATCH
Test Model:	HDT11
Sample ID:	HC-C-202505-0189-01-3#
Environmental Conditions	
Temperature:	23.9℃
Relative Humidity:	48%
Test Voltage:	DC 5V
Test Engineer:	Gold Zhang
Note: For a more detailed features description, please refer to the report TBR-C-202505-0189-9 The report only show the worst case data.	

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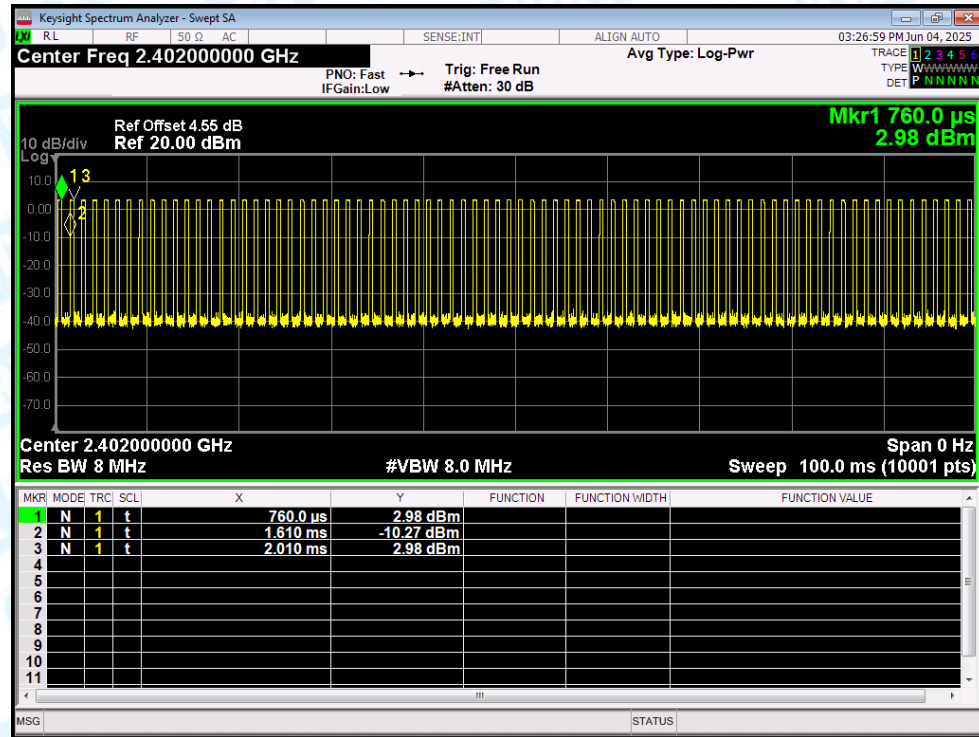
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1. Duty Cycle

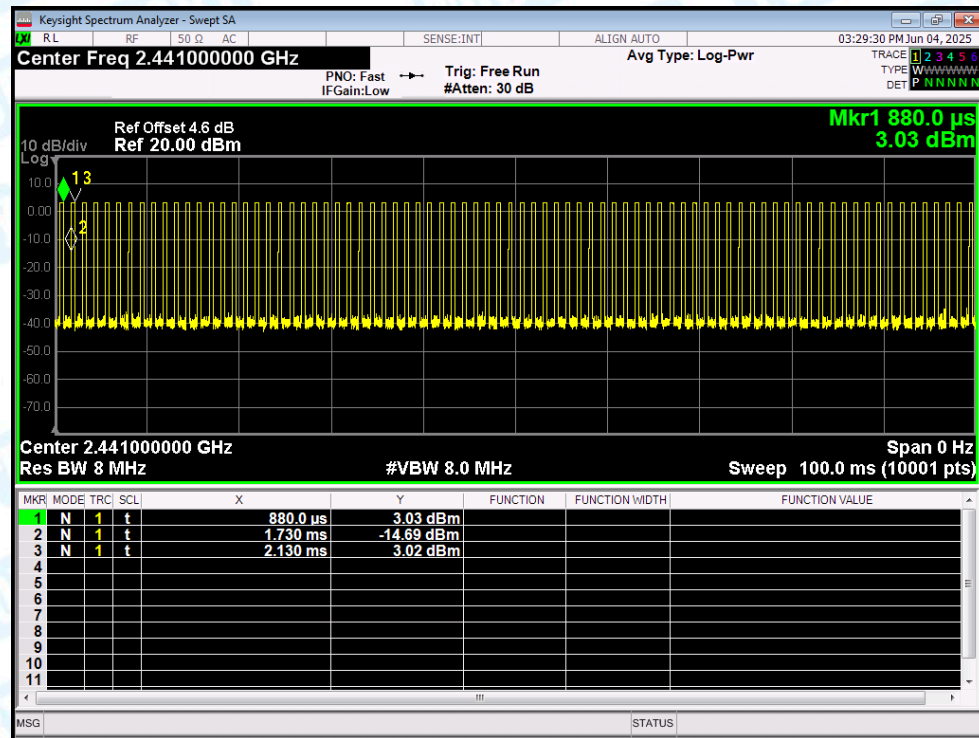
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	32	4.95	2.5
NVNT	1-DH1	2441	Ant1	32	4.95	2.5
NVNT	1-DH1	2480	Ant1	32	4.95	2.5
NVNT	2-DH1	2402	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	3-DH1	2402	Ant1	32.8	4.84	2.44
NVNT	3-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	3-DH1	2480	Ant1	32.8	4.84	2.44

Test Graphs

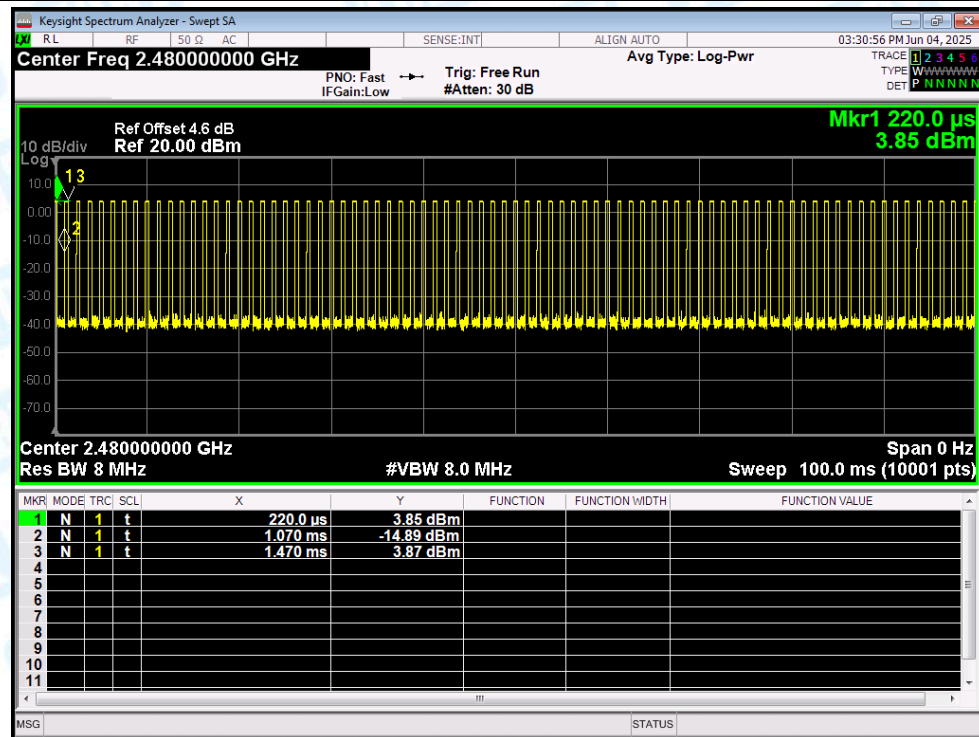
Duty Cycle NVNT 1-DH1 2402MHz Ant1



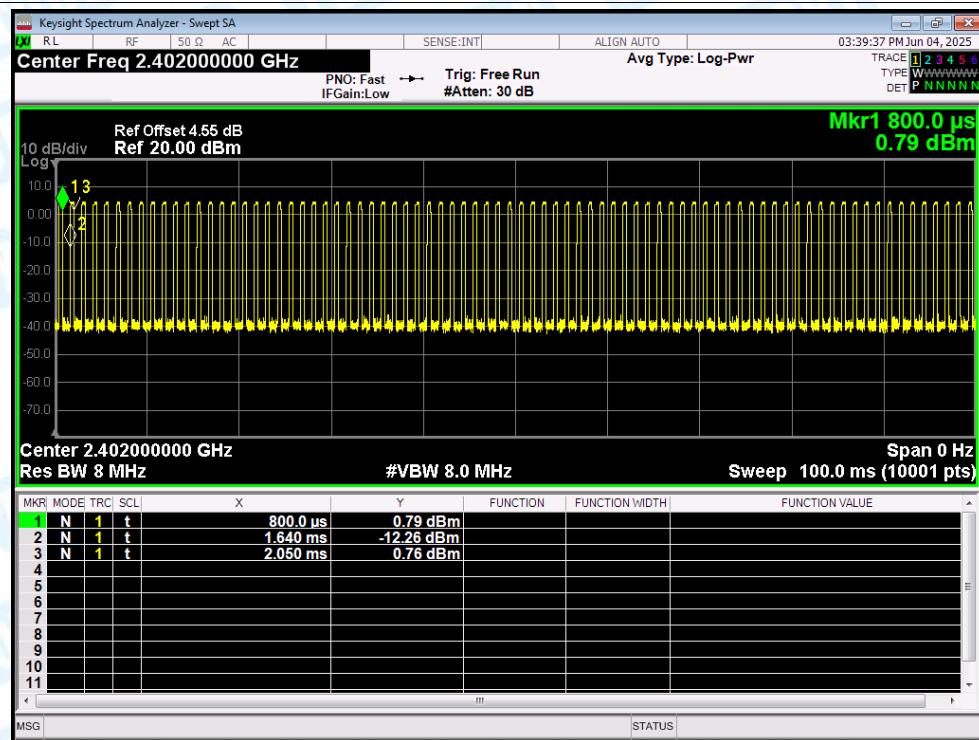
Duty Cycle NVNT 1-DH1 2441MHz Ant1



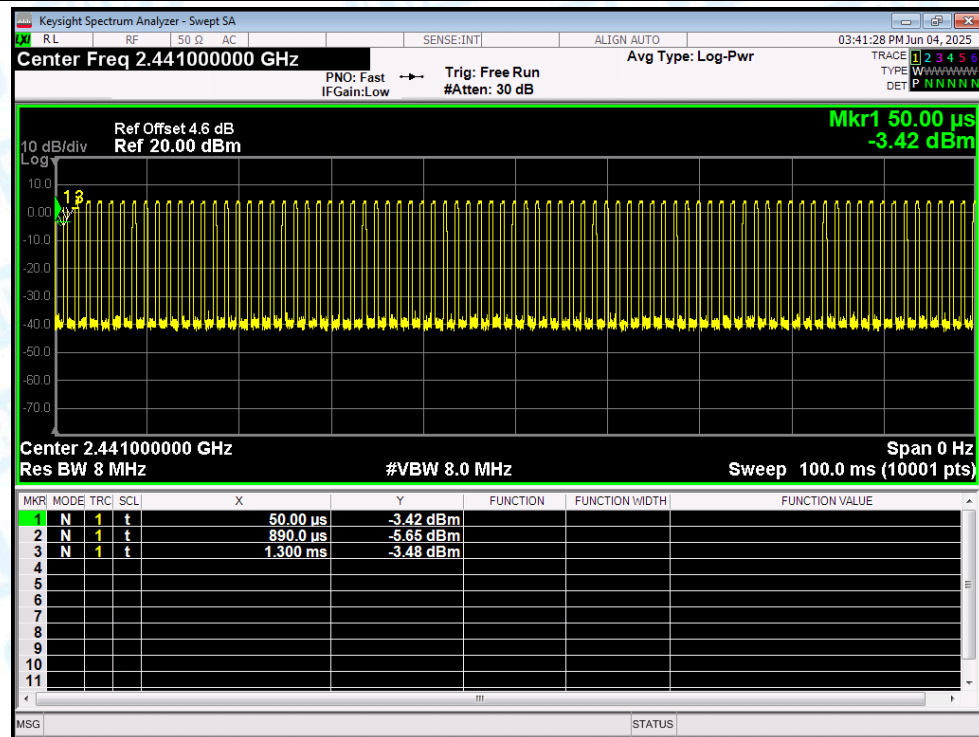
Duty Cycle NVNT 1-DH1 2480MHz Ant1



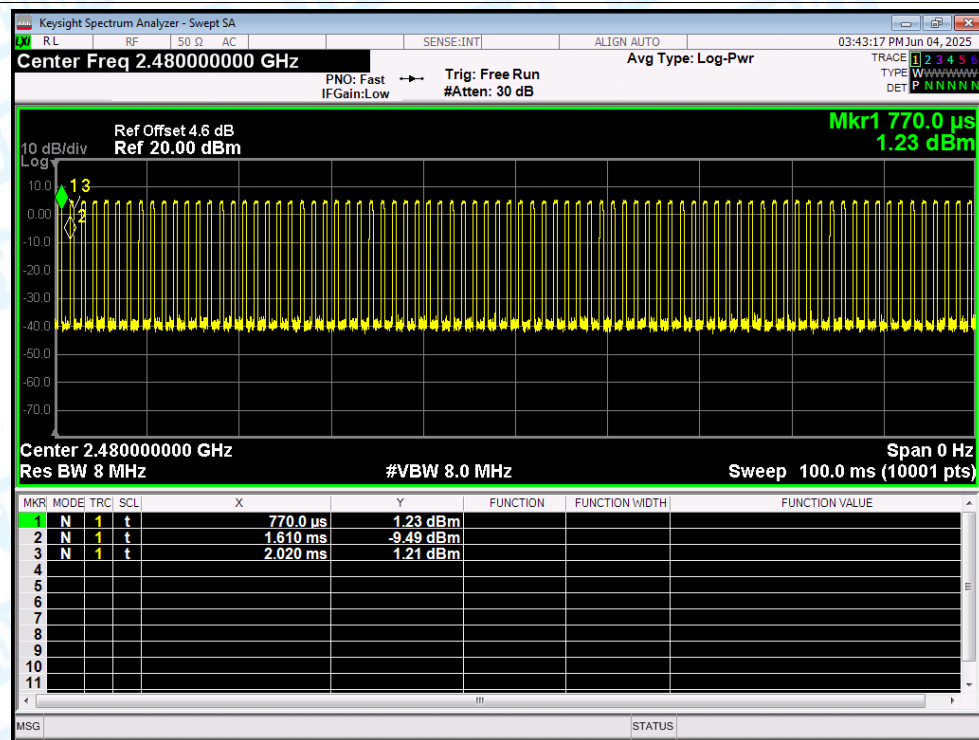
Duty Cycle NVNT 2-DH1 2402MHz Ant1



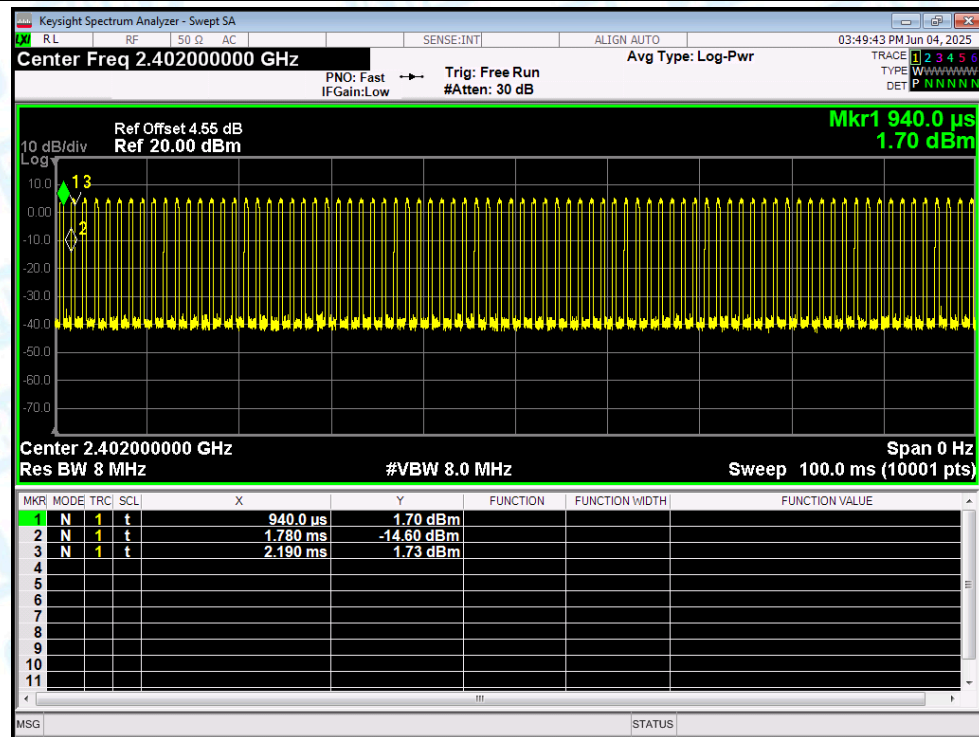
Duty Cycle NVNT 2-DH1 2441MHz Ant1



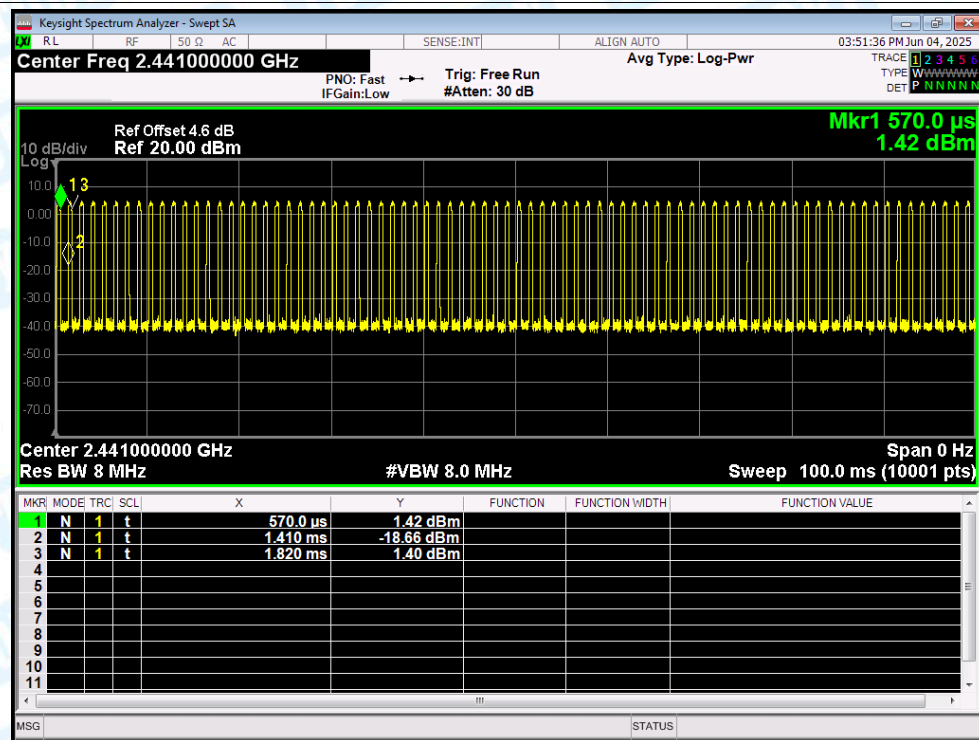
Duty Cycle NVNT 2-DH1 2480MHz Ant1

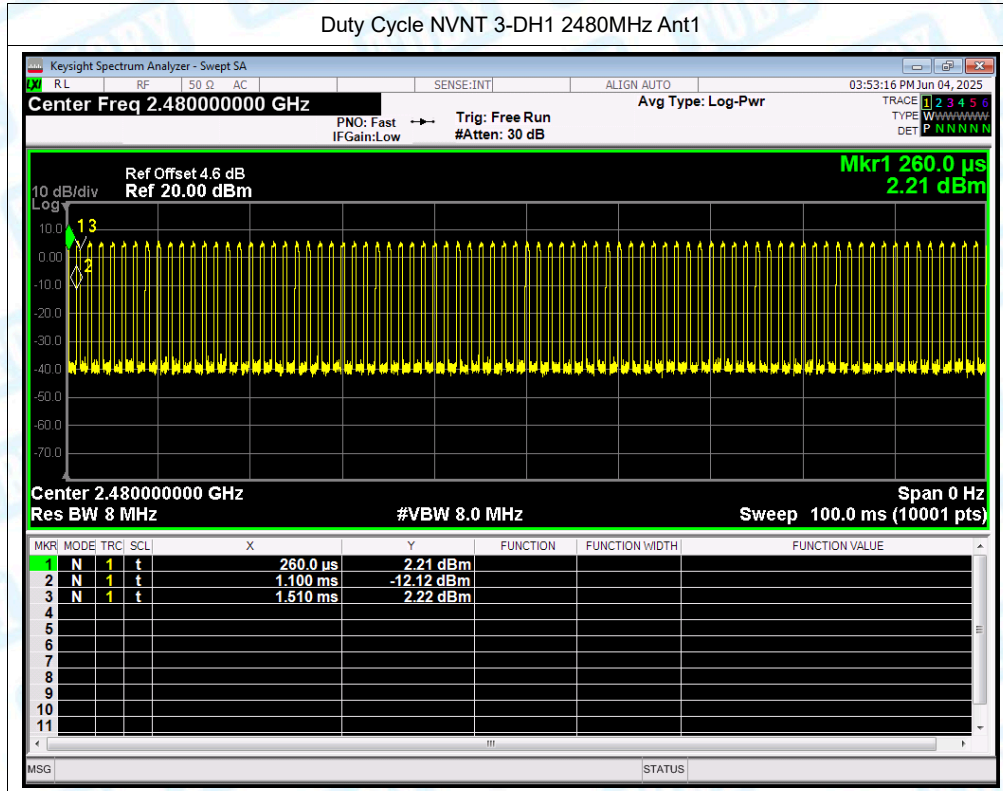


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



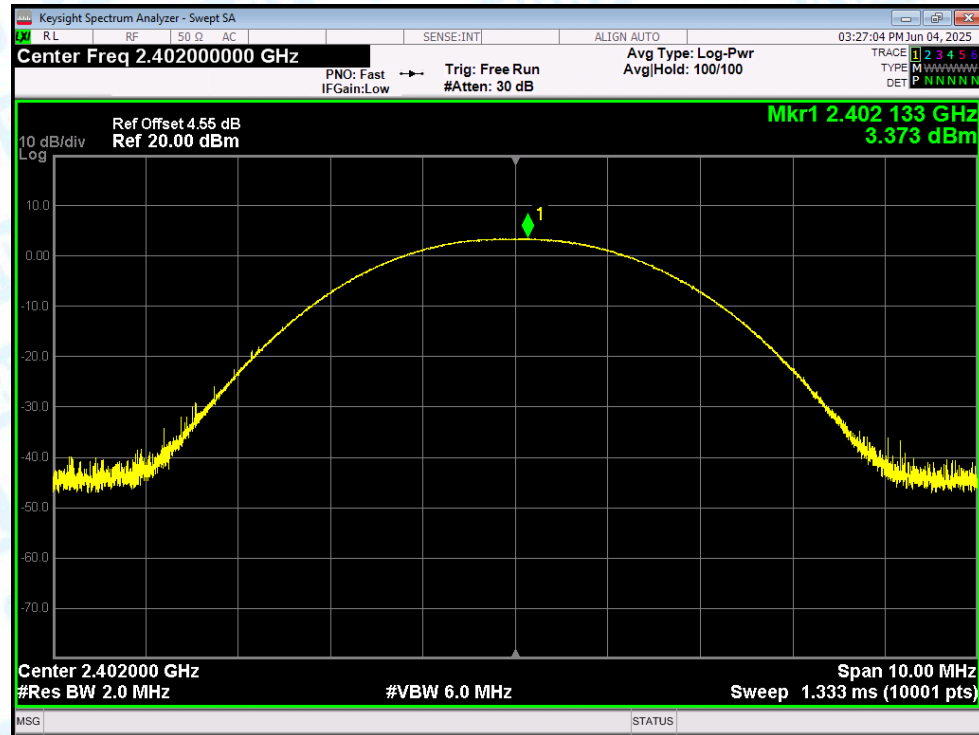


2. Maximum Conducted Output Power

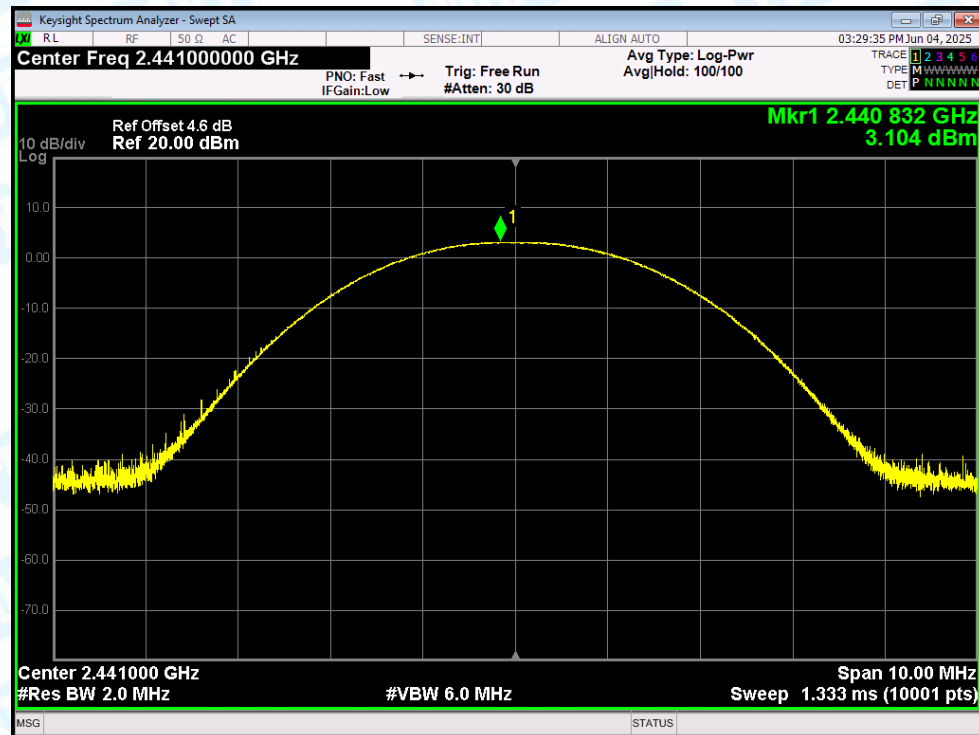
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	3.373	21	Pass
NVNT	1-DH1	2441	Ant1	3.104	21	Pass
NVNT	1-DH1	2480	Ant1	3.93	21	Pass
NVNT	1-DH3	2441	Ant1	3.079	21	Pass
NVNT	1-DH5	2441	Ant1	3.083	21	Pass
NVNT	2-DH1	2402	Ant1	4.155	21	Pass
NVNT	2-DH1	2441	Ant1	3.806	21	Pass
NVNT	2-DH1	2480	Ant1	4.648	21	Pass
NVNT	2-DH3	2441	Ant1	4.052	21	Pass
NVNT	2-DH5	2441	Ant1	4.022	21	Pass
NVNT	3-DH1	2402	Ant1	4.815	21	Pass
NVNT	3-DH1	2441	Ant1	4.478	21	Pass
NVNT	3-DH1	2480	Ant1	5.36	21	Pass
NVNT	3-DH3	2441	Ant1	4.507	21	Pass
NVNT	3-DH5	2441	Ant1	4.625	21	Pass

Test Graphs

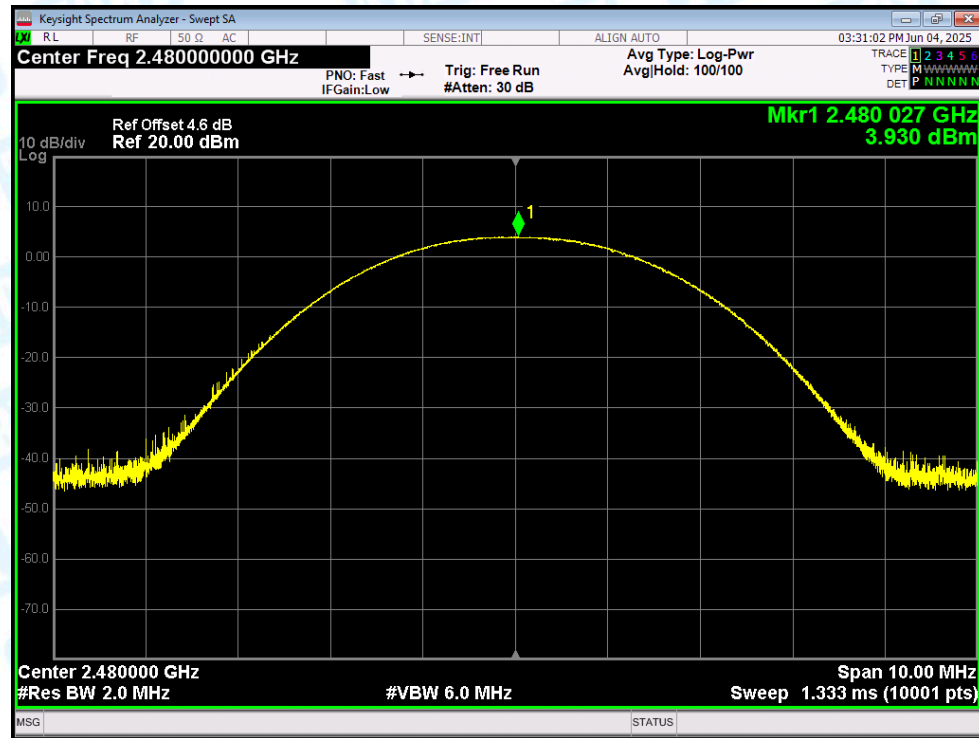
Power NVNT 1-DH1 2402MHz Ant1



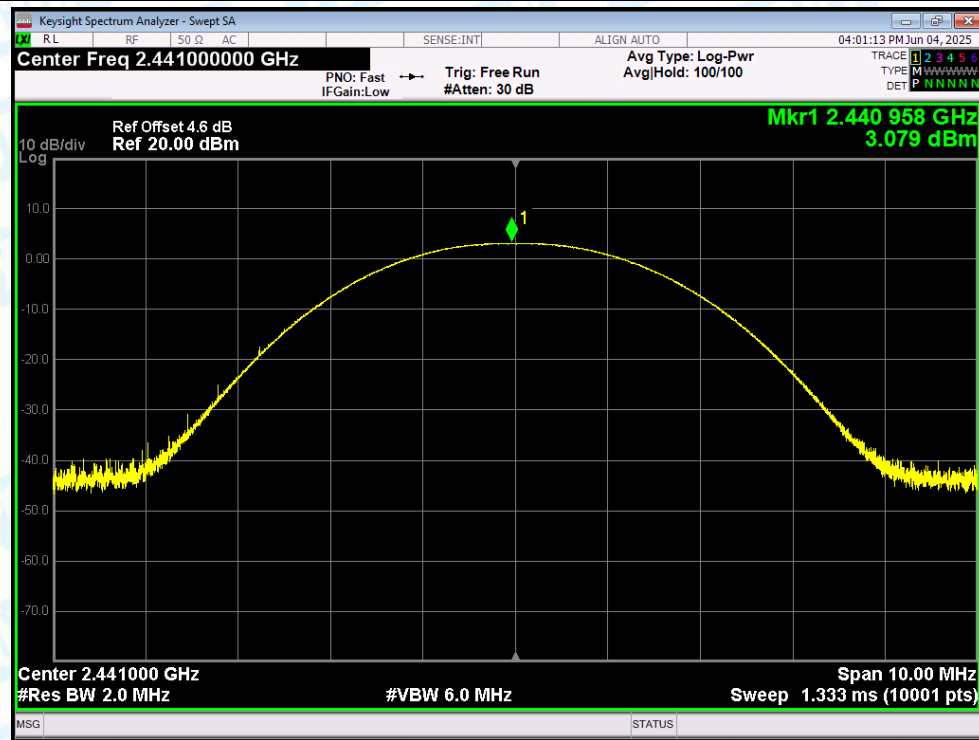
Power NVNT 1-DH1 2441MHz Ant1



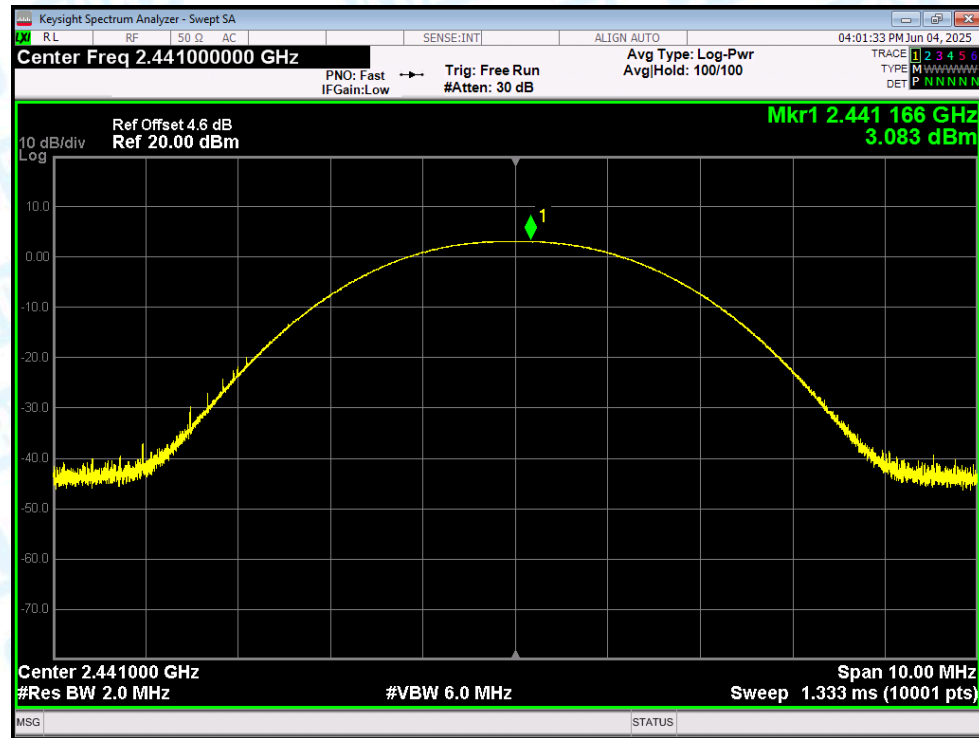
Power NVNT 1-DH1 2480MHz Ant1



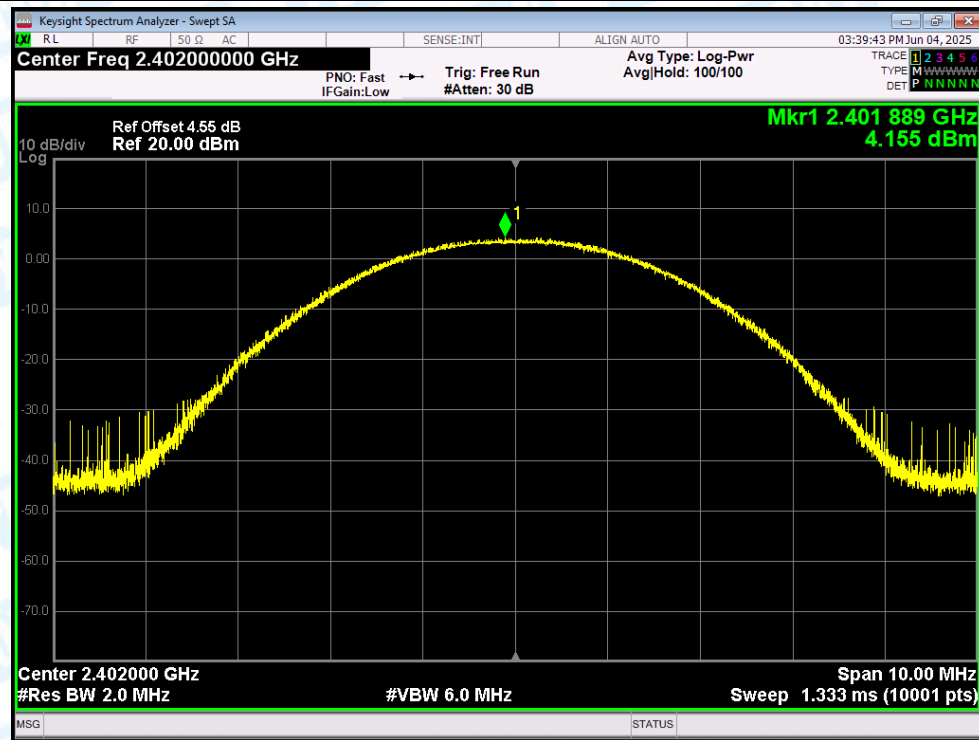
Power NVNT 1-DH3 2441MHz Ant1



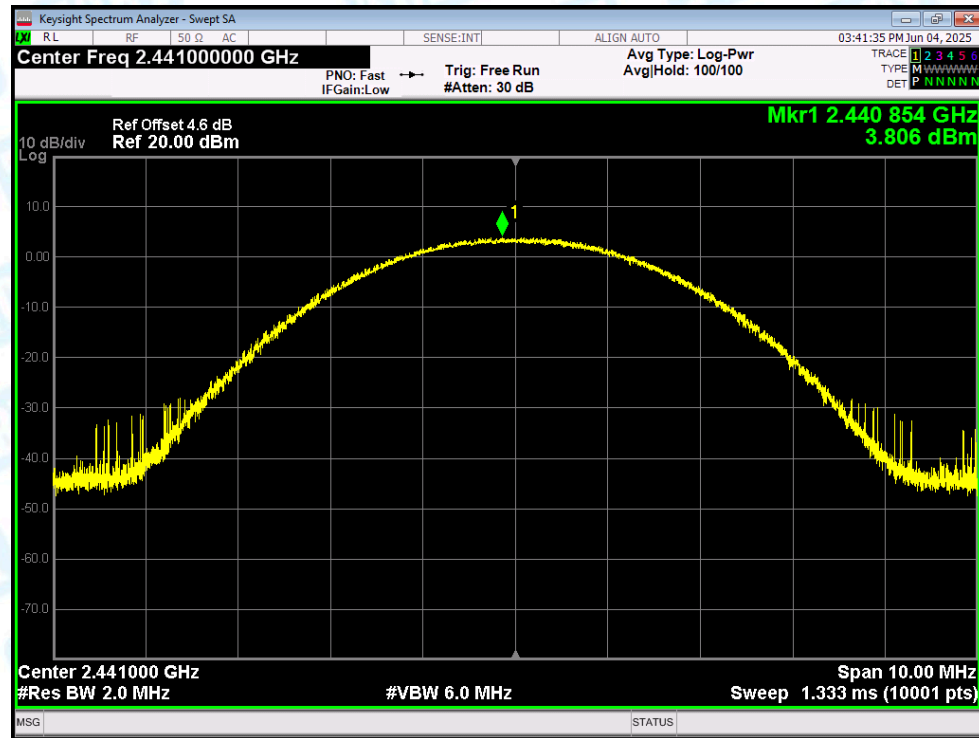
Power NVNT 1-DH5 2441MHz Ant1



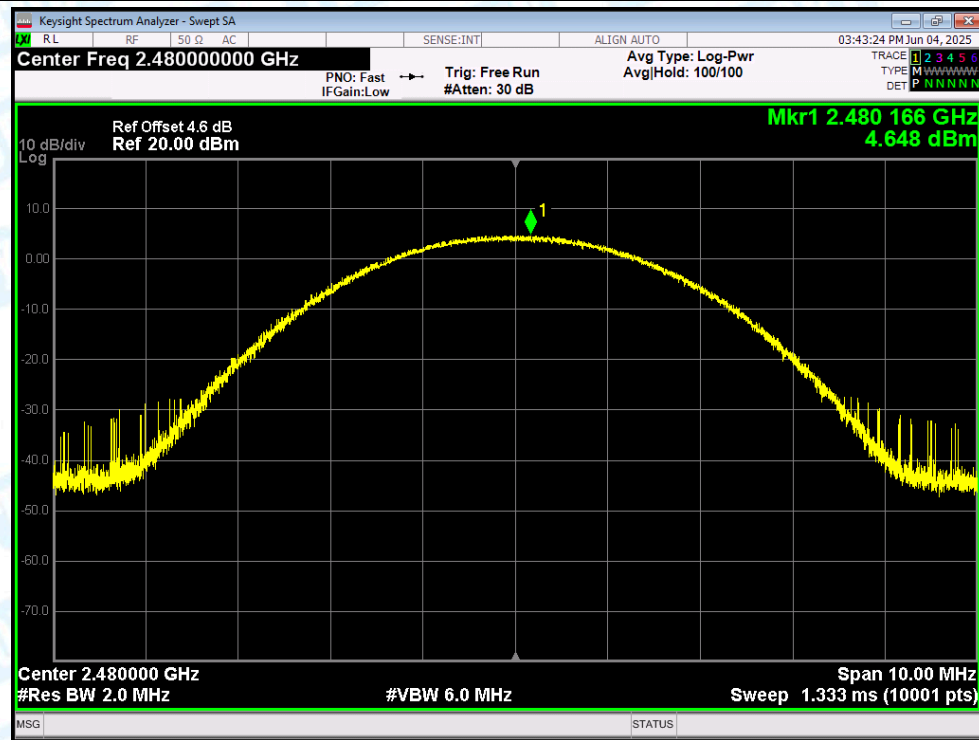
Power NVNT 2-DH1 2402MHz Ant1



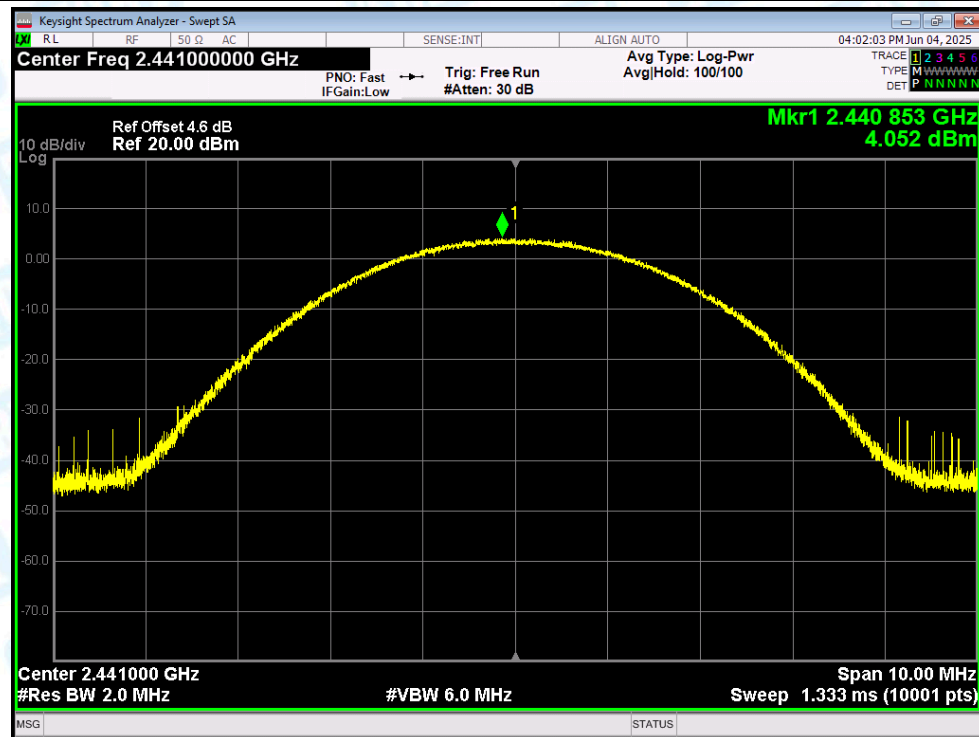
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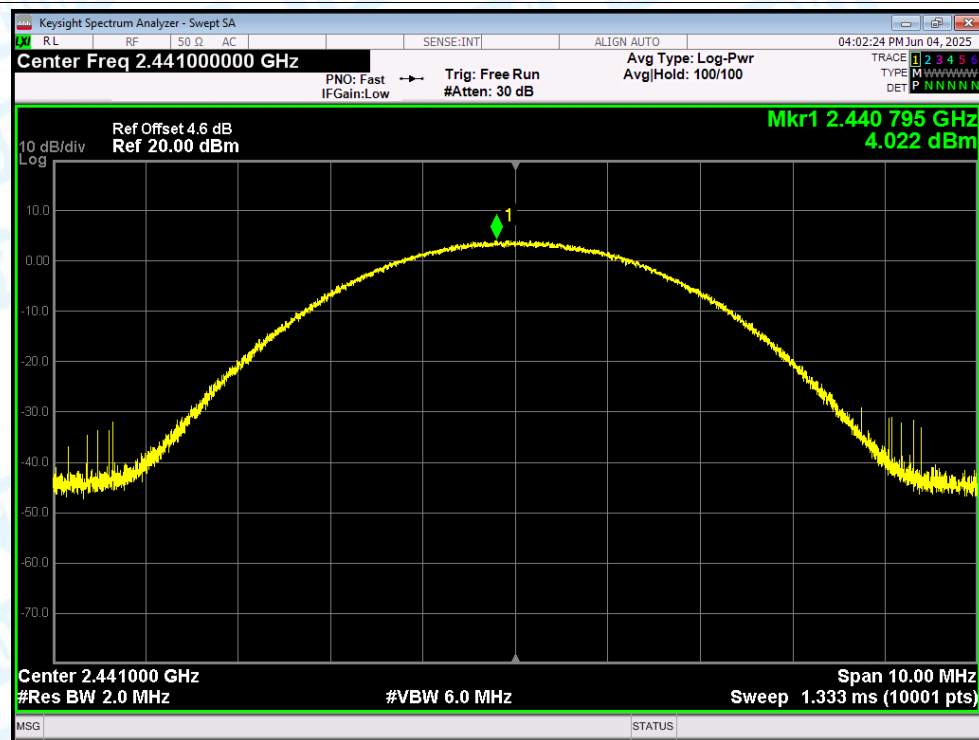
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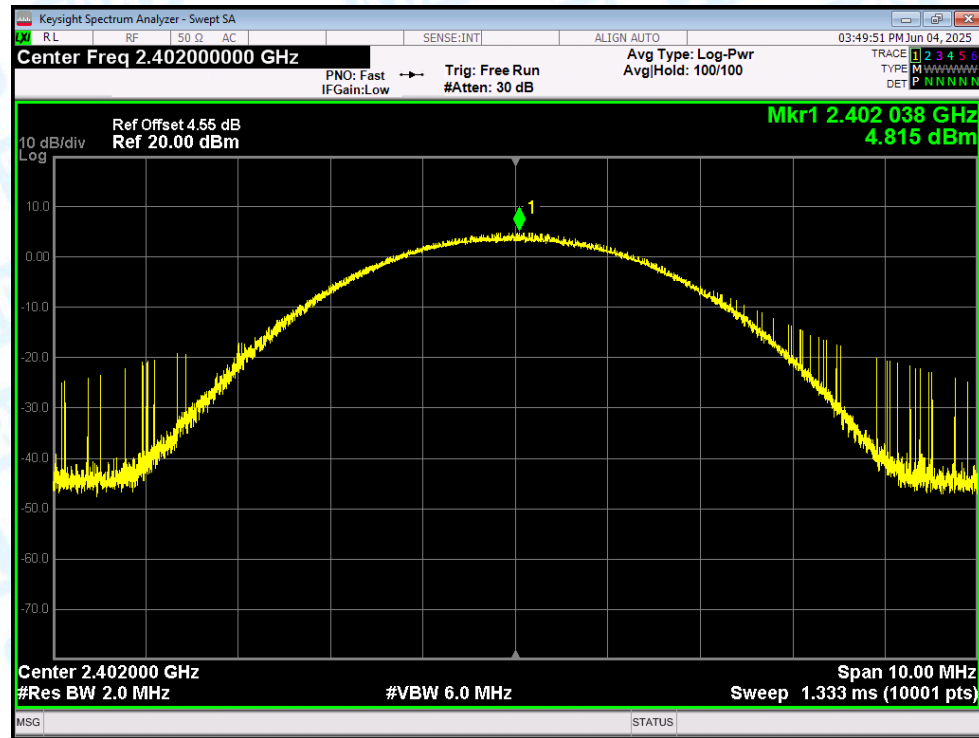
Power NVNT 2-DH3 2441MHz Ant1



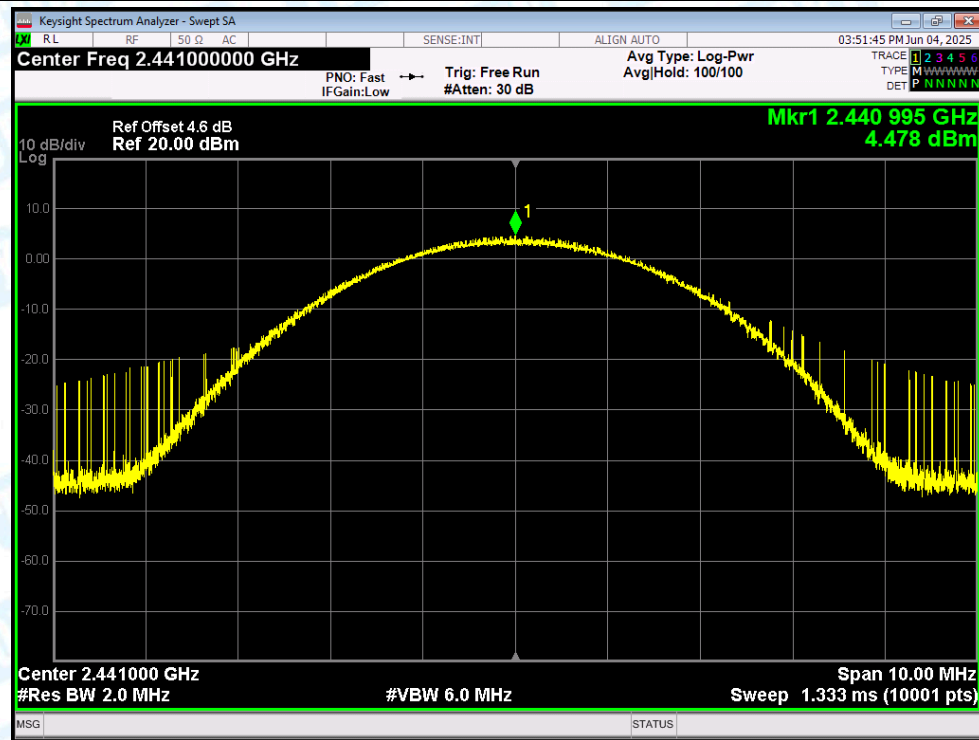
Power NVNT 2-DH5 2441MHz Ant1



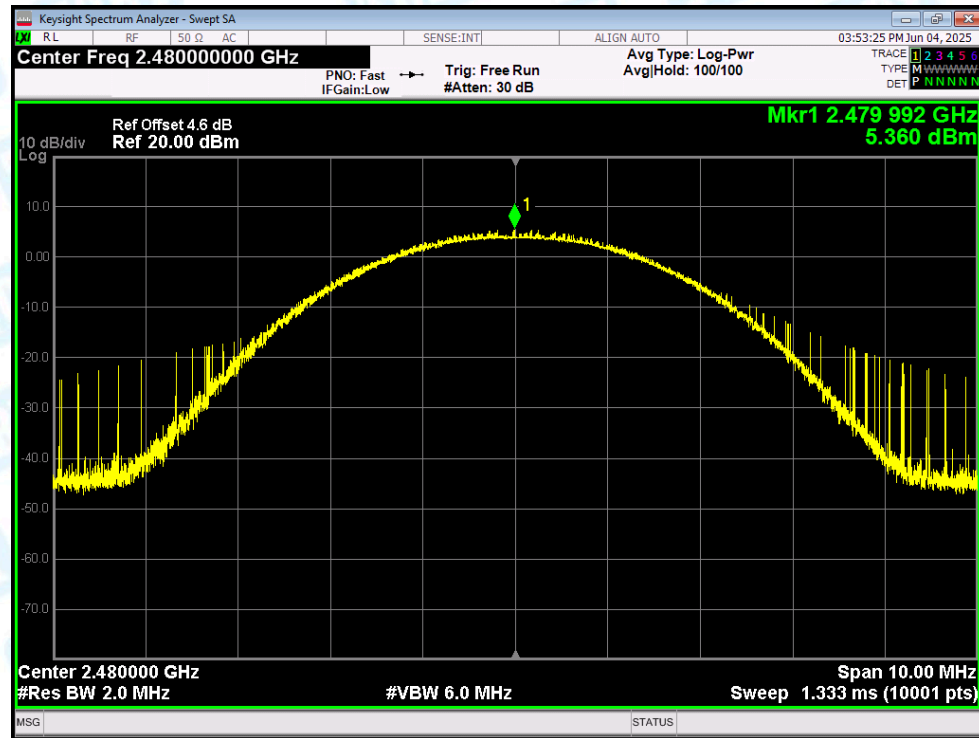
Power NVNT 3-DH1 2402MHz Ant1



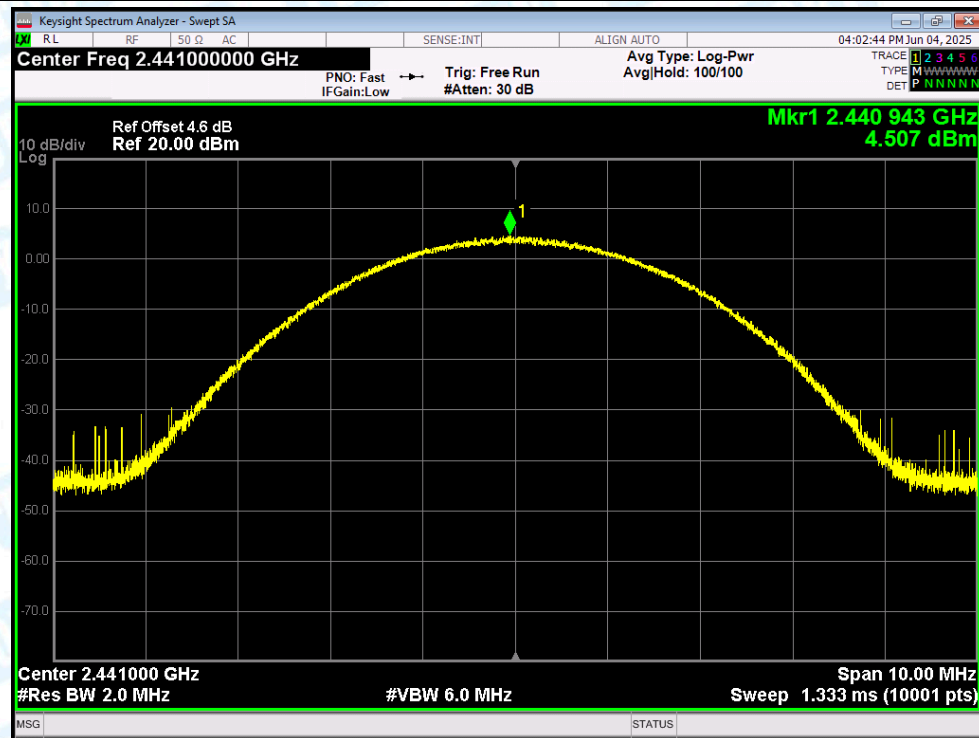
Power NVNT 3-DH1 2441MHz Ant1

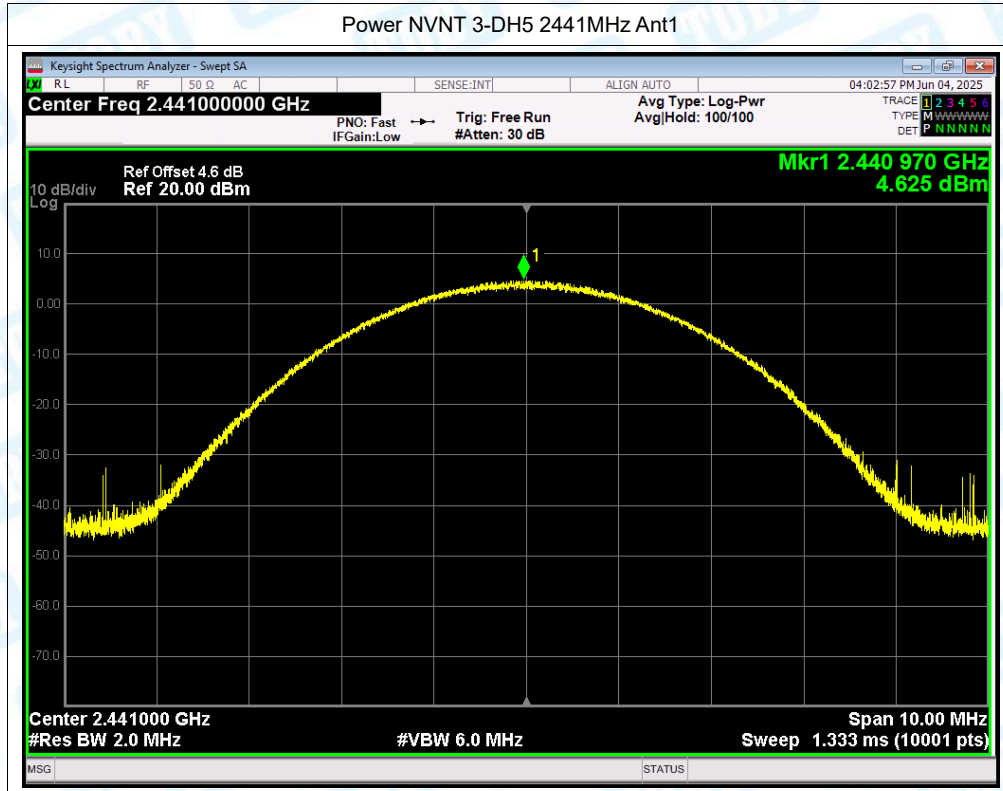


Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1



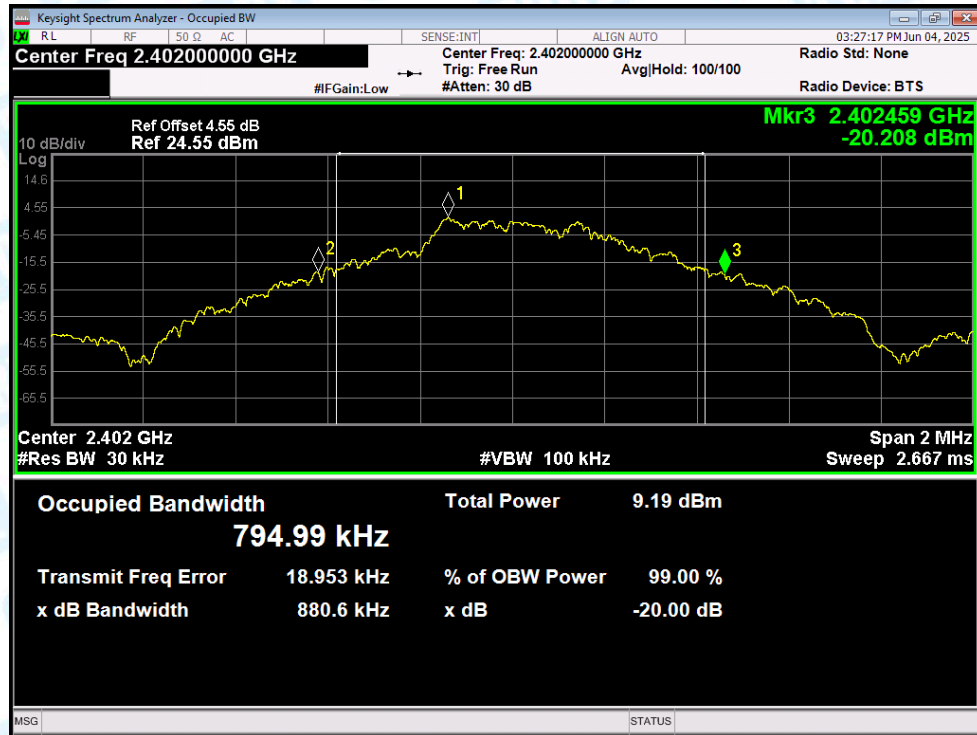


3. -20dB Bandwidth

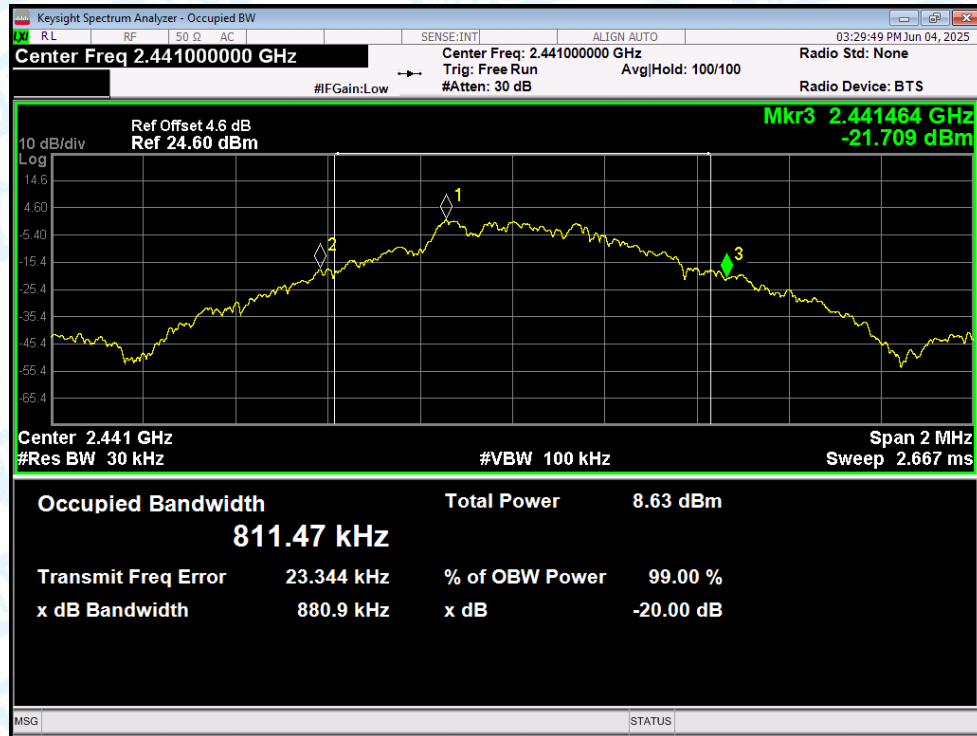
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.88	Pass
NVNT	1-DH1	2441	Ant1	0.88	Pass
NVNT	1-DH1	2480	Ant1	0.87	Pass
NVNT	2-DH1	2402	Ant1	1.21	Pass
NVNT	2-DH1	2441	Ant1	1.24	Pass
NVNT	2-DH1	2480	Ant1	1.22	Pass
NVNT	3-DH1	2402	Ant1	1.24	Pass
NVNT	3-DH1	2441	Ant1	1.25	Pass
NVNT	3-DH1	2480	Ant1	1.22	Pass

Test Graphs

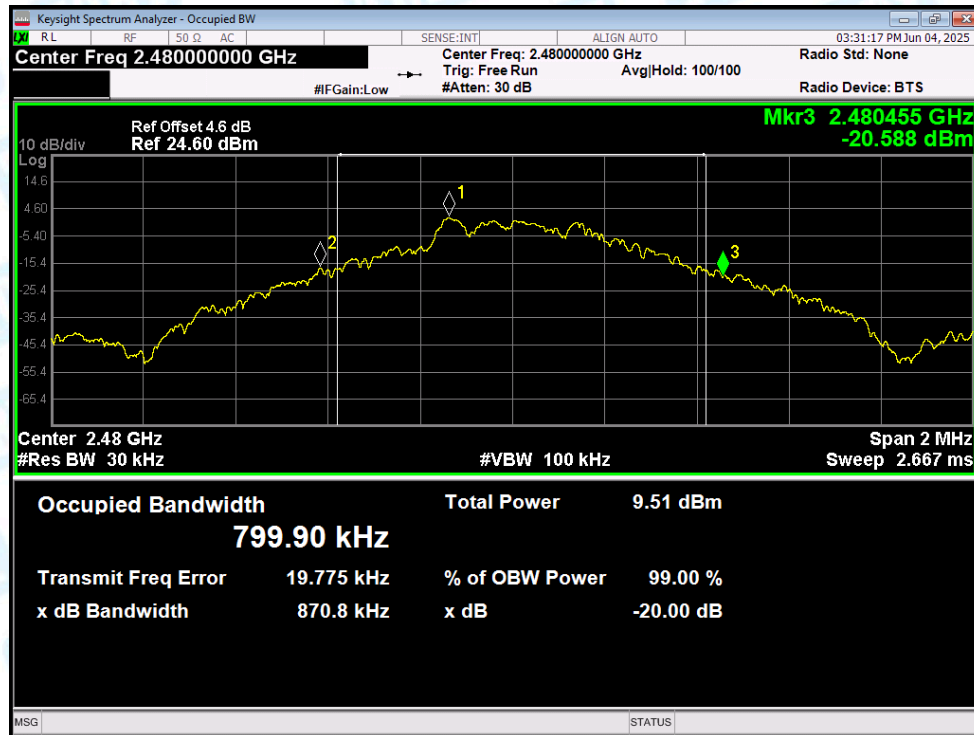
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



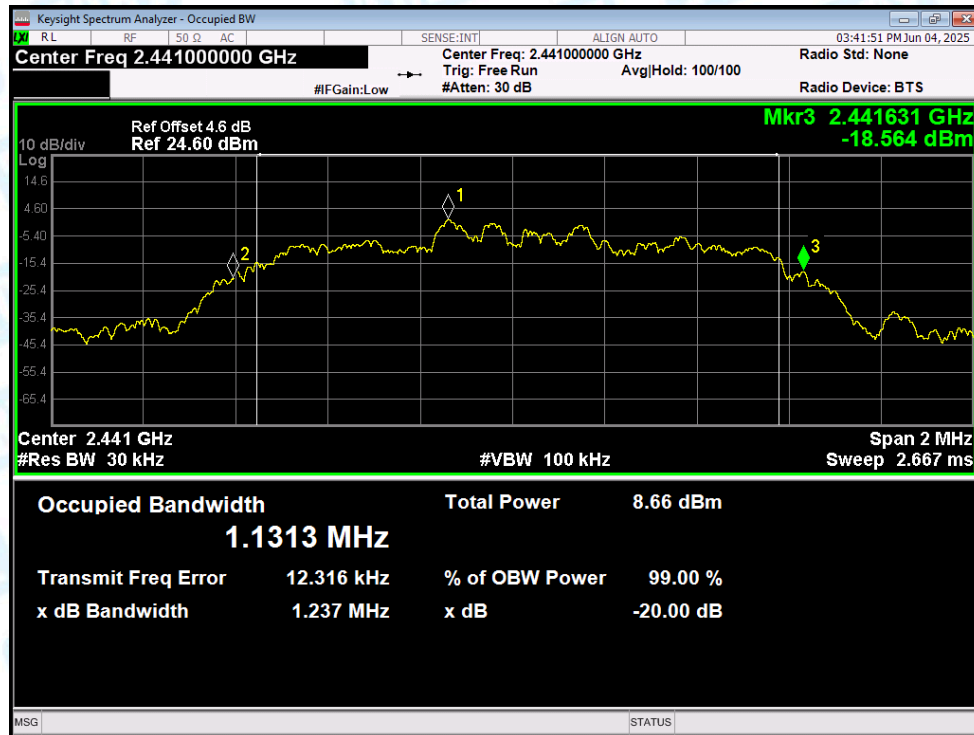
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



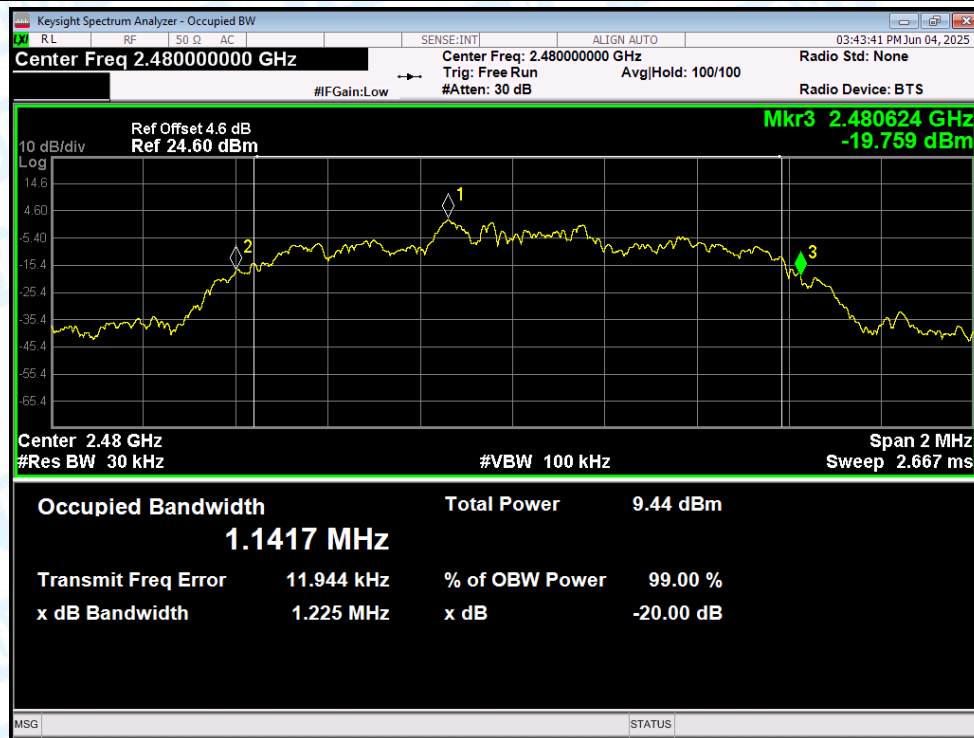
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



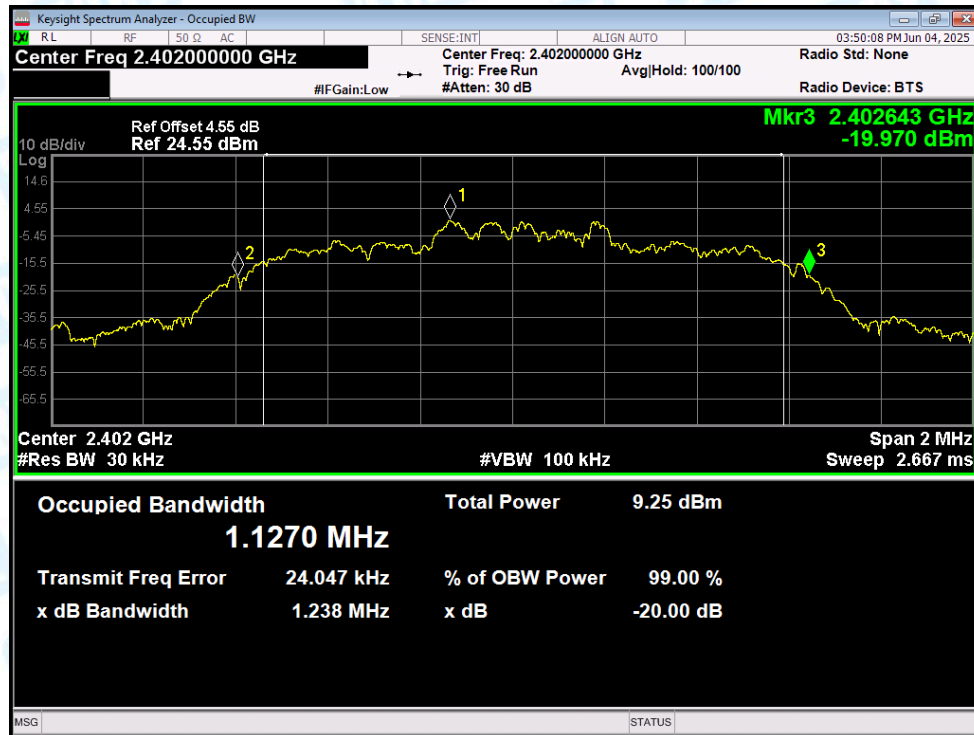
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



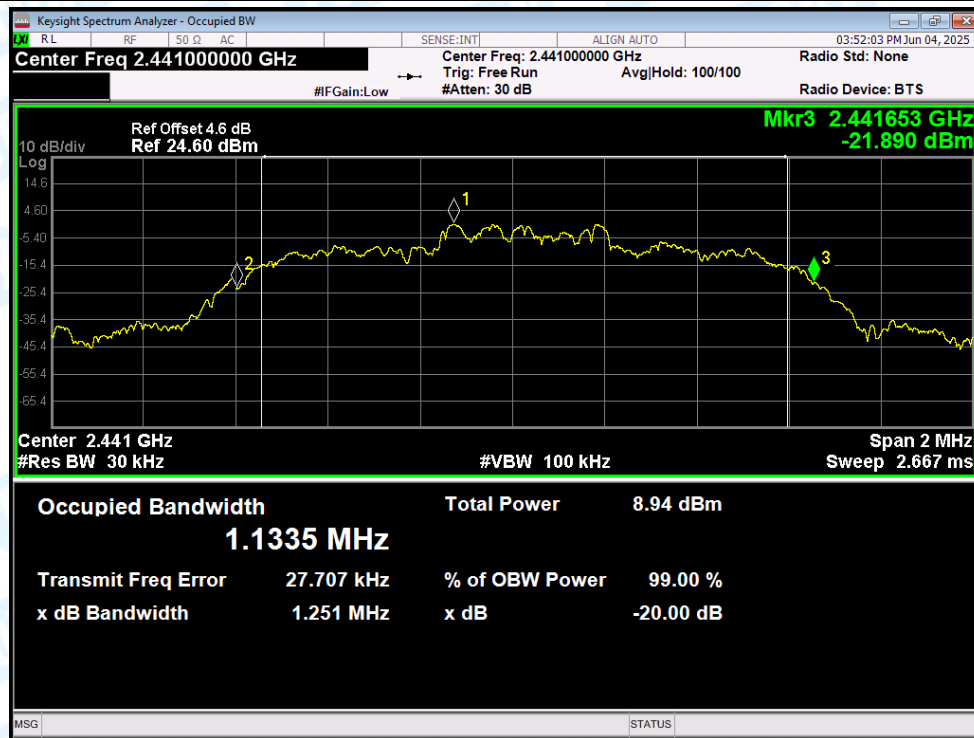
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

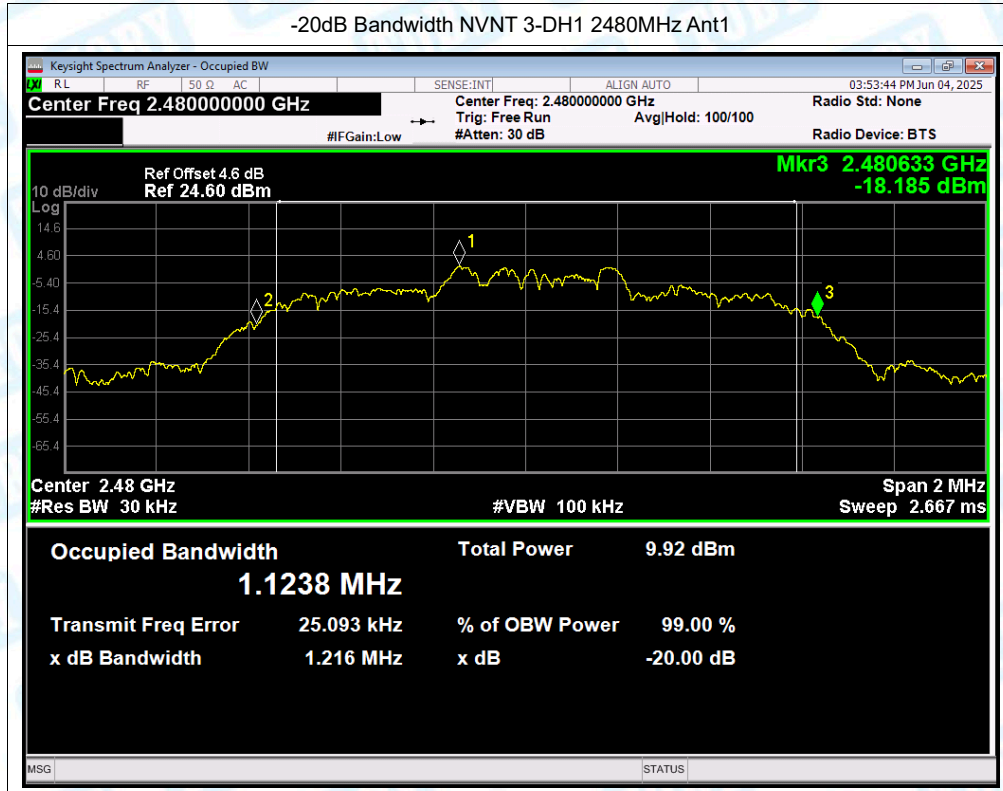


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



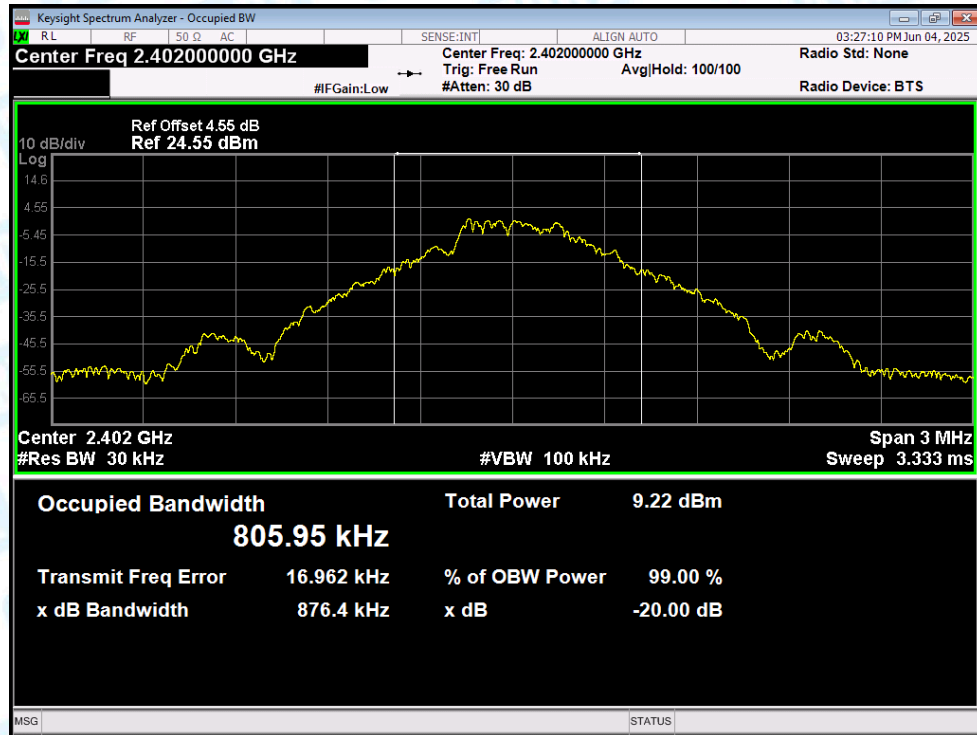


4. Occupied Channel Bandwidth

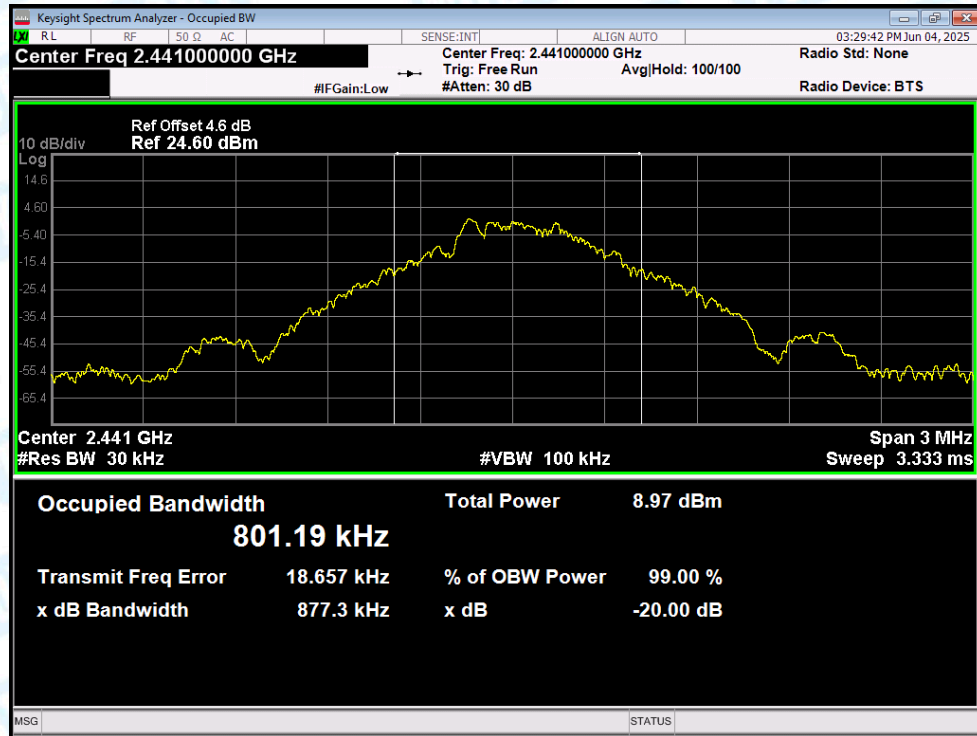
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.806
NVNT	1-DH1	2441	Ant1	0.801
NVNT	1-DH1	2480	Ant1	0.82
NVNT	2-DH1	2402	Ant1	1.151
NVNT	2-DH1	2441	Ant1	1.149
NVNT	2-DH1	2480	Ant1	1.149
NVNT	3-DH1	2402	Ant1	1.138
NVNT	3-DH1	2441	Ant1	1.132
NVNT	3-DH1	2480	Ant1	1.123

Test Graphs

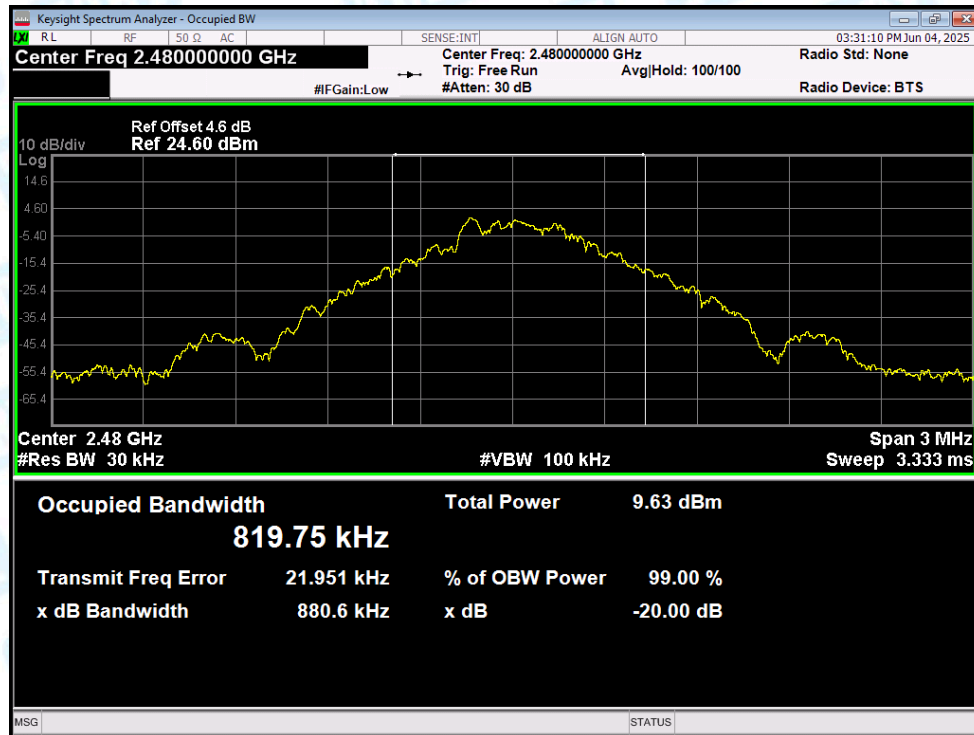
OBW NVNT 1-DH1 2402MHz Ant1



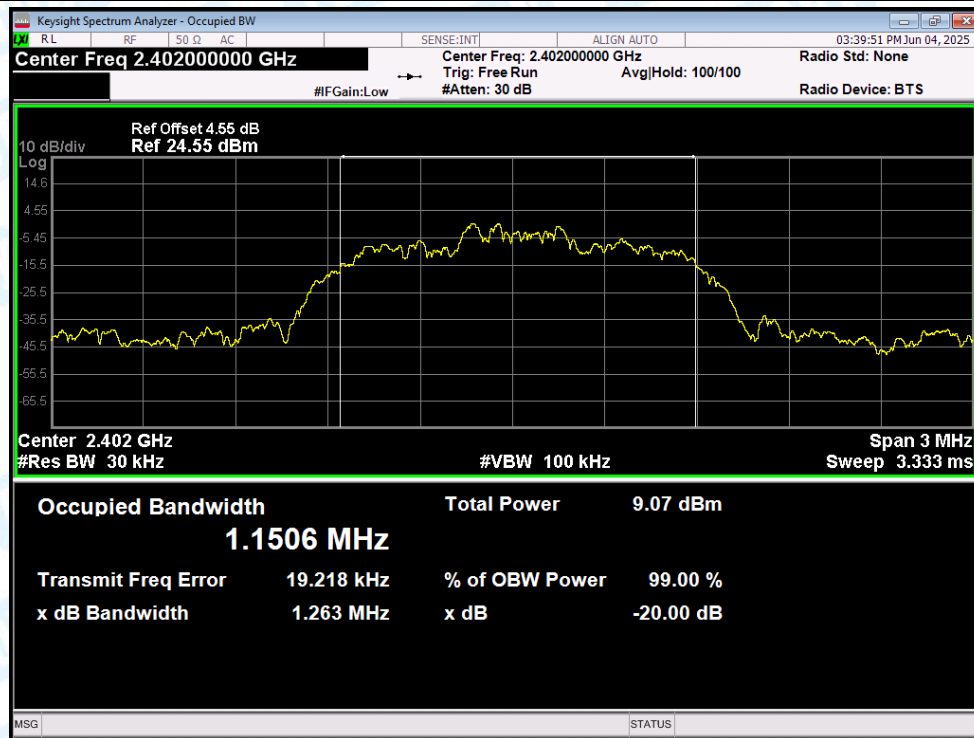
OBW NVNT 1-DH1 2441MHz Ant1



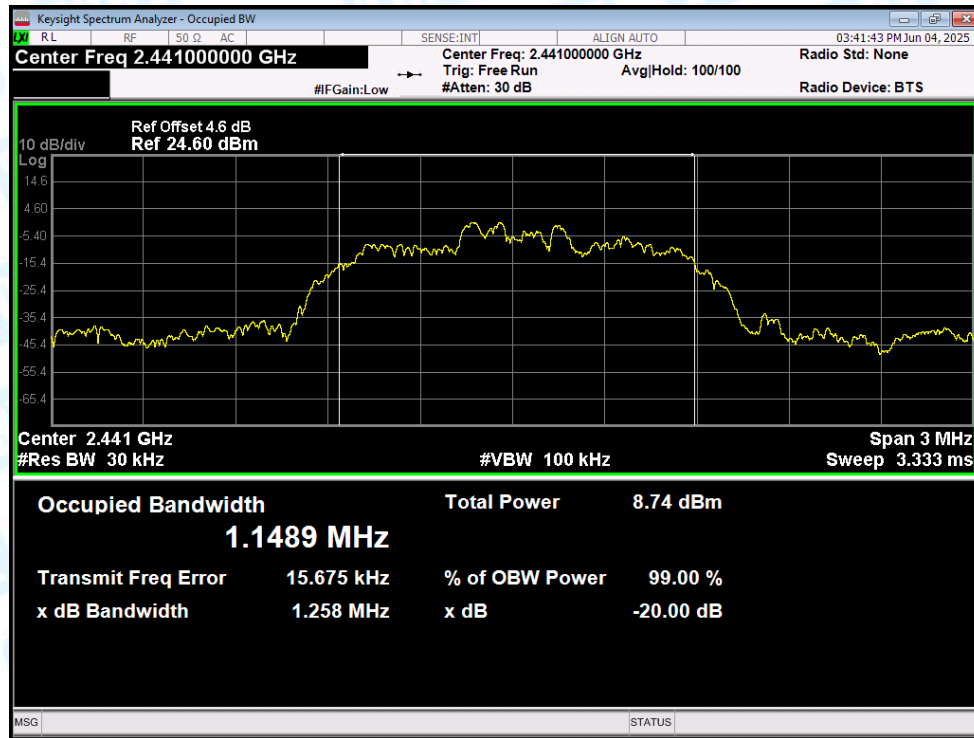
OBW NVNT 1-DH1 2480MHz Ant1



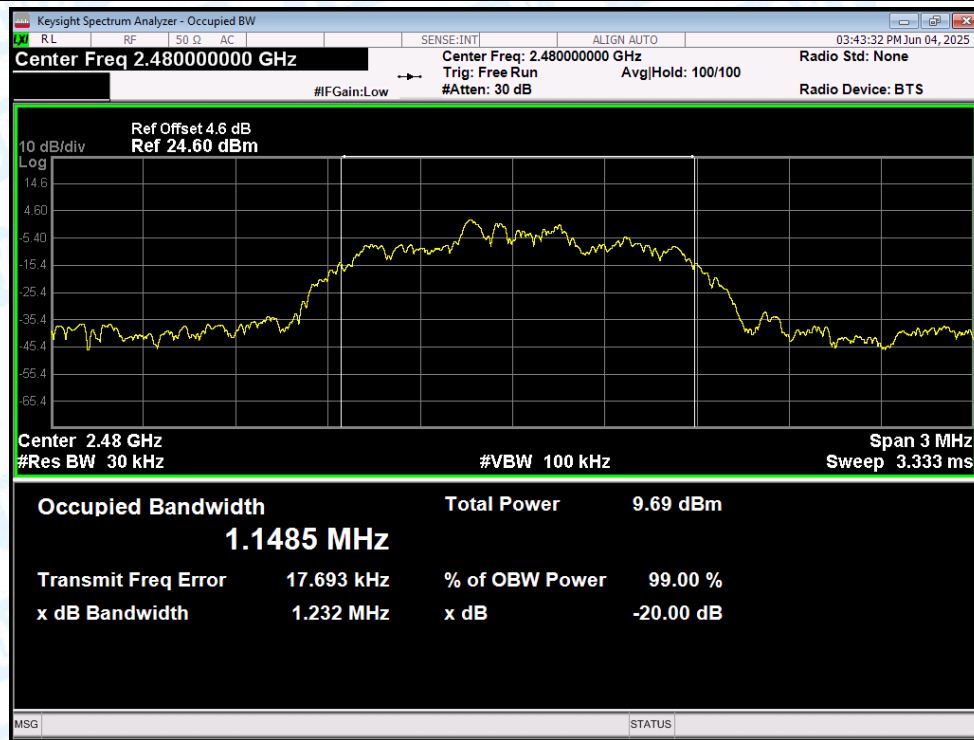
OBW NVNT 2-DH1 2402MHz Ant1



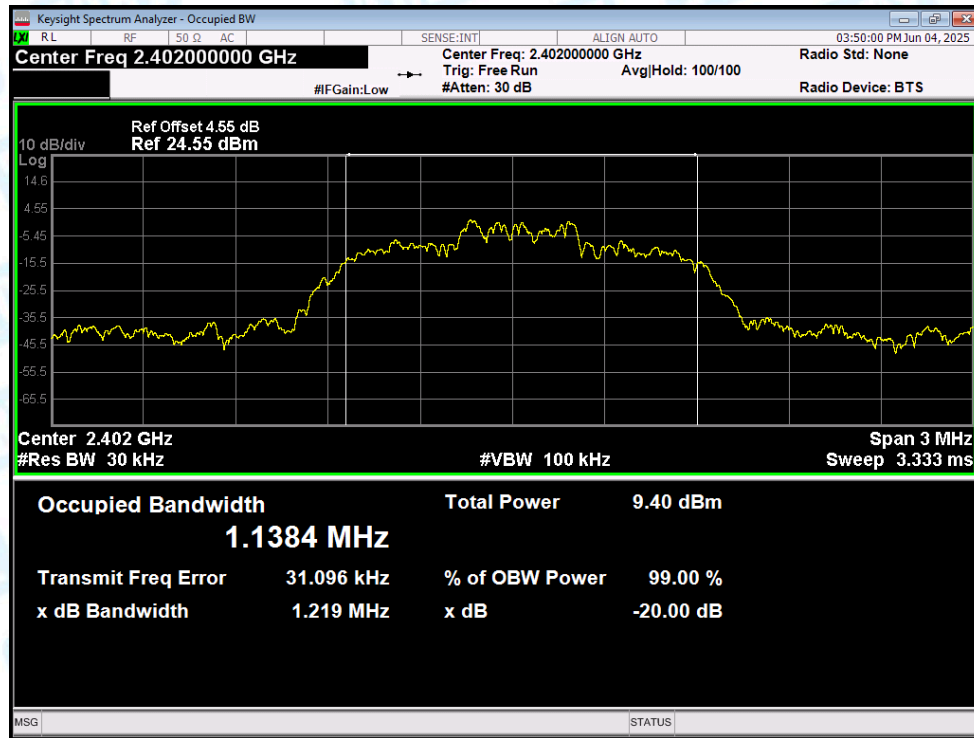
OBW NVNT 2-DH1 2441MHz Ant1



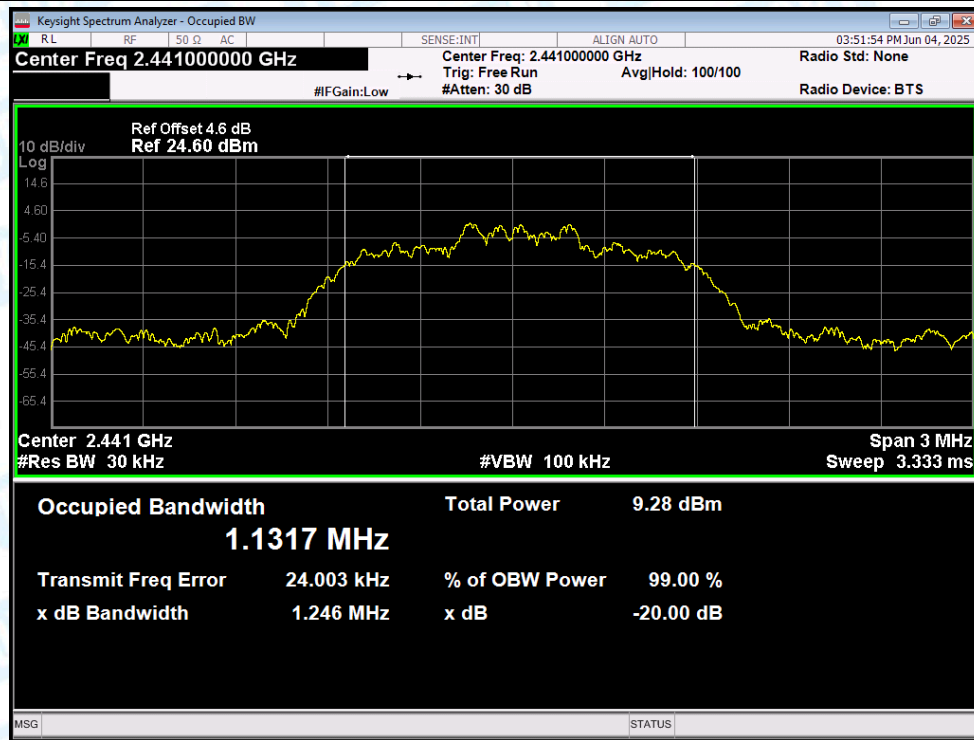
OBW NVNT 2-DH1 2480MHz Ant1

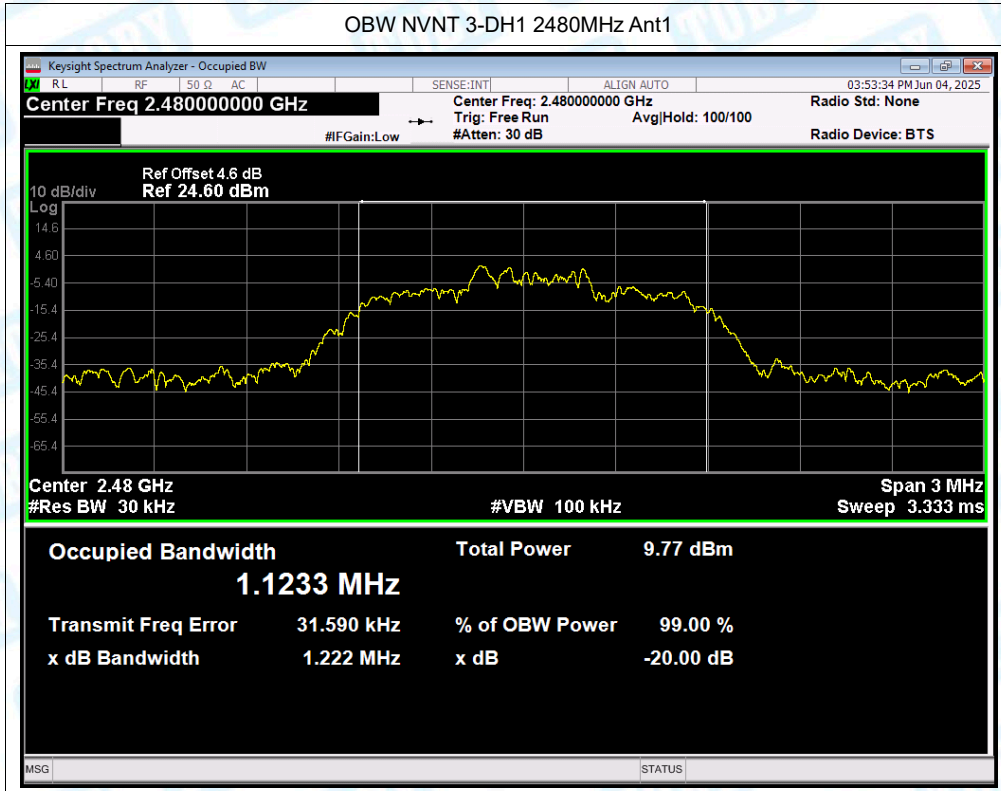


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



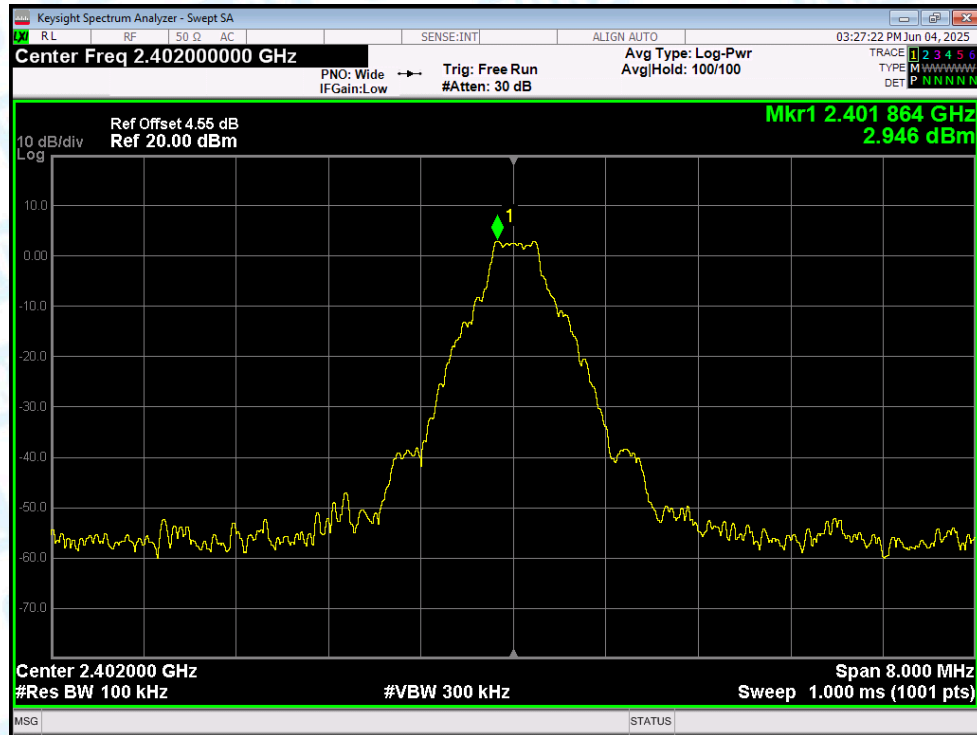


5. Band Edge

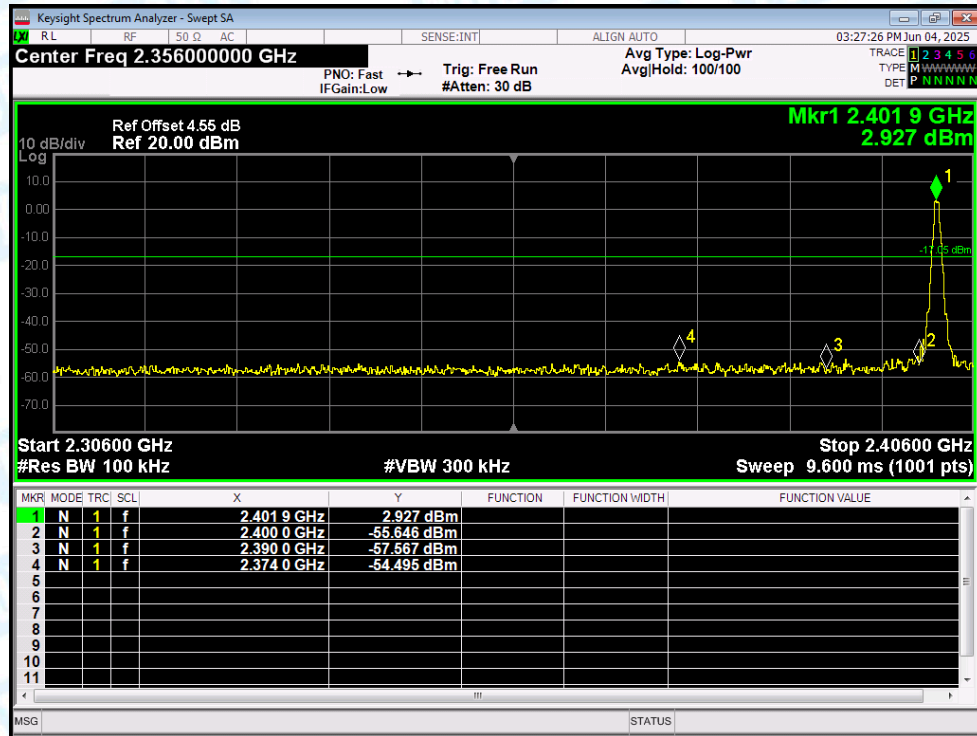
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-57.45	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-55.7	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-56.68	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-53.19	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-57.35	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-47.45	-20	Pass

Test Graphs

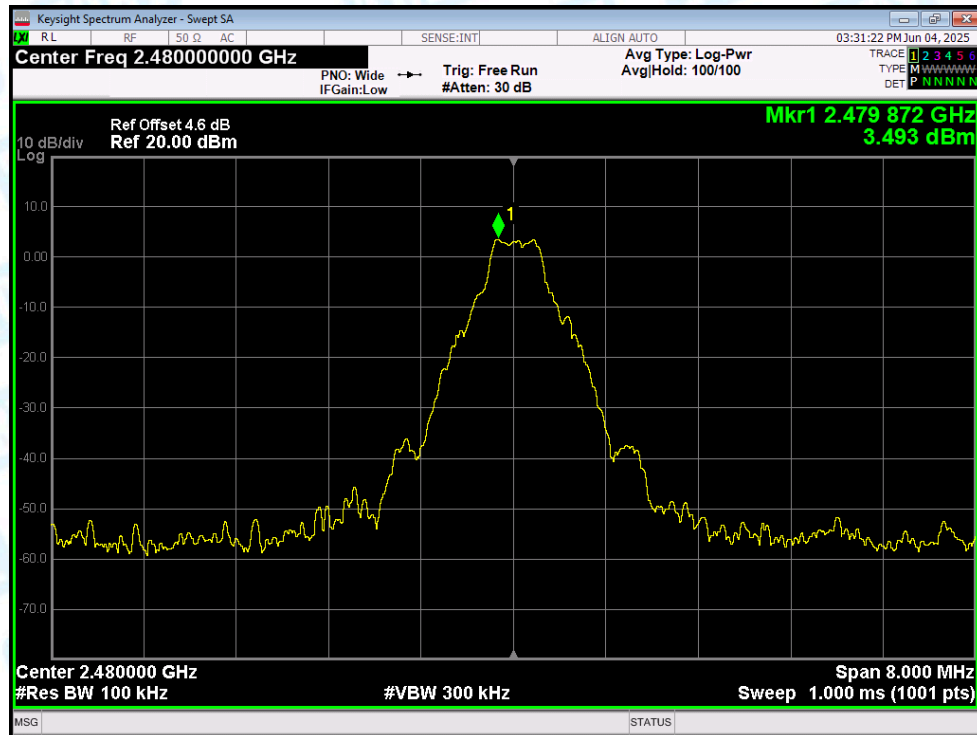
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



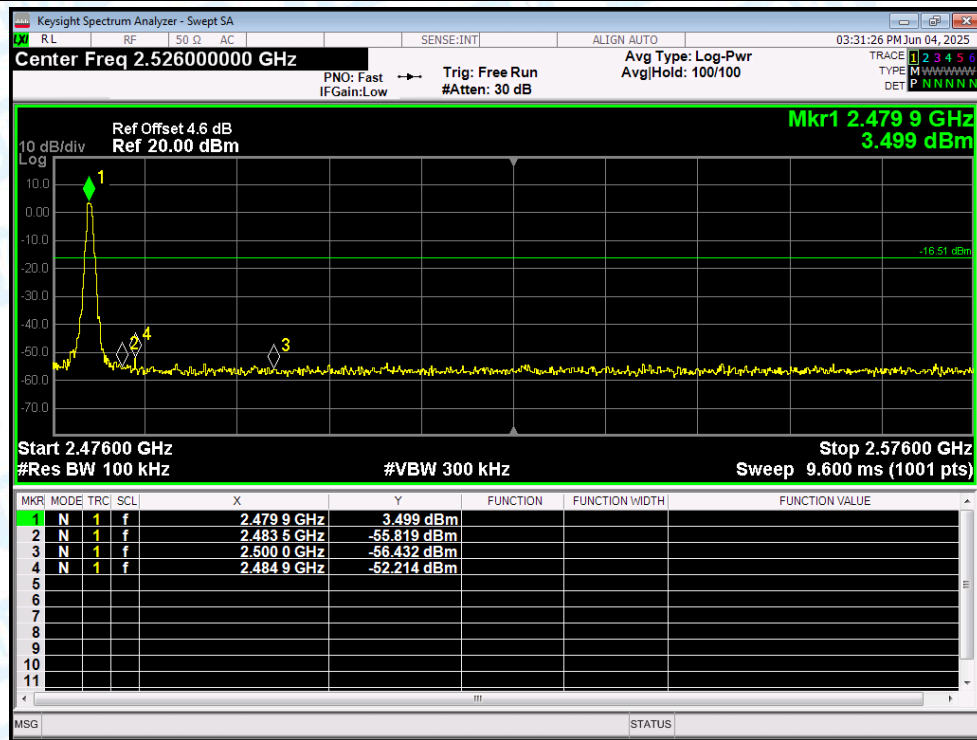
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



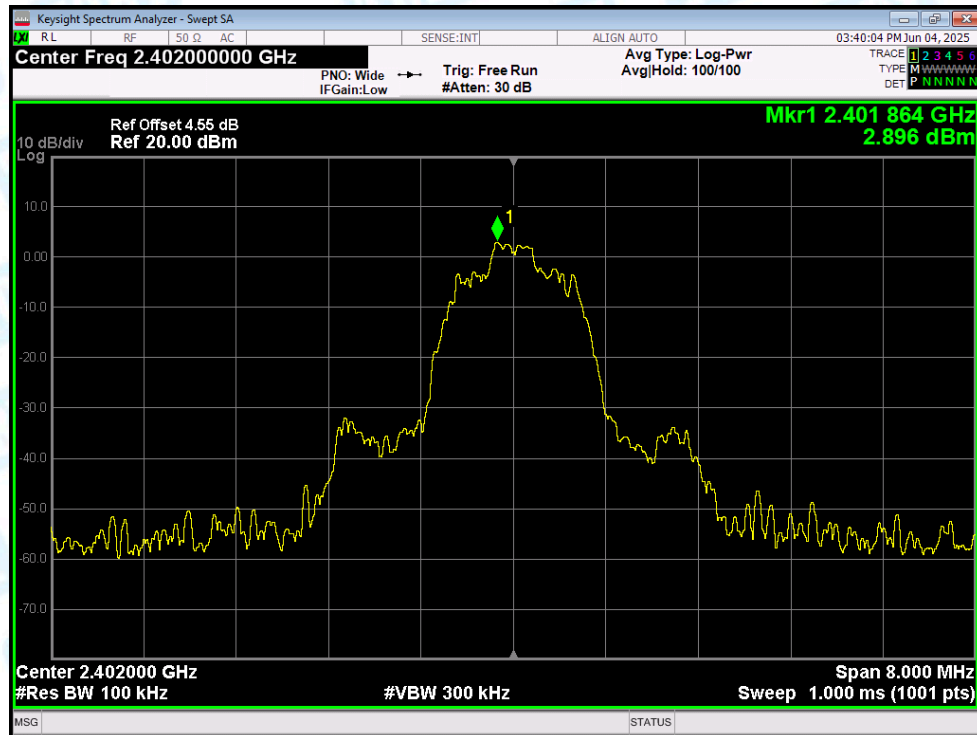
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



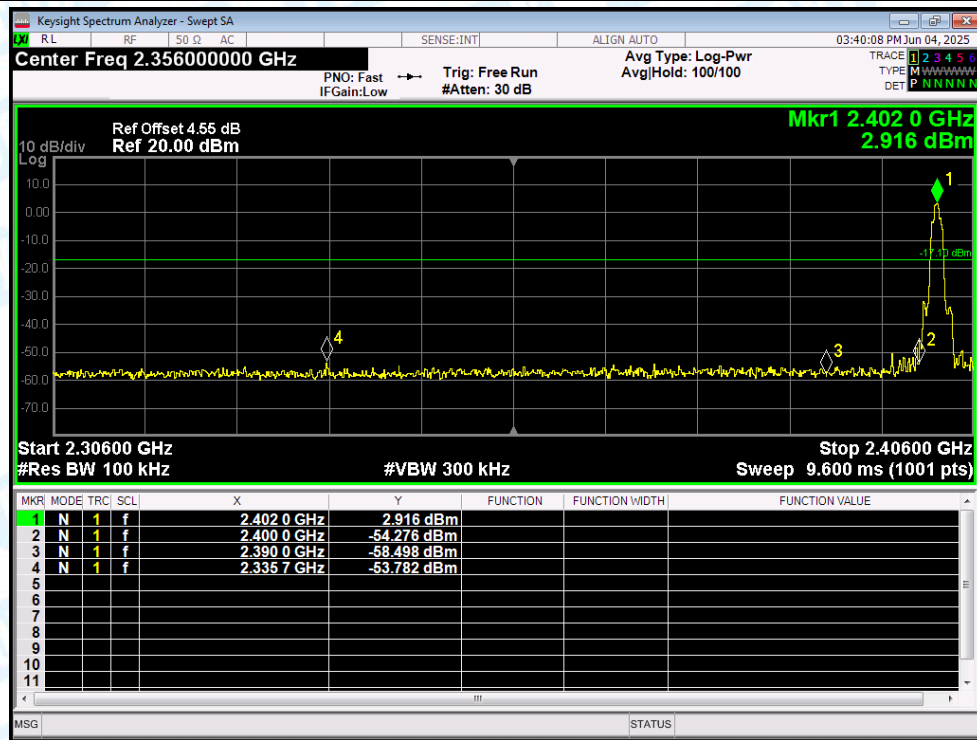
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



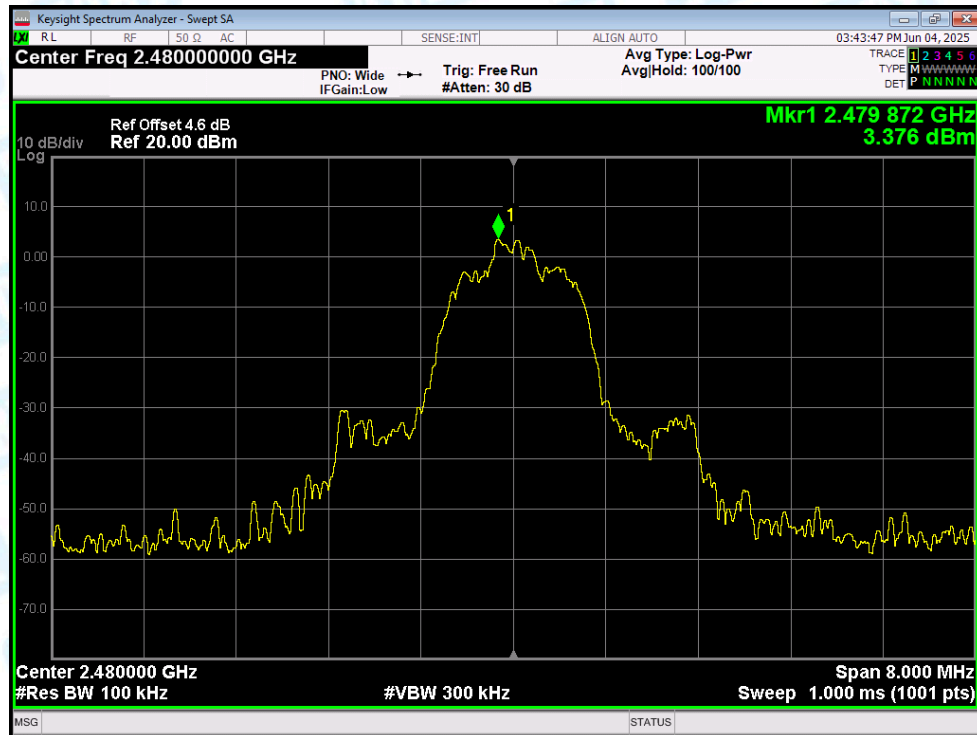
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



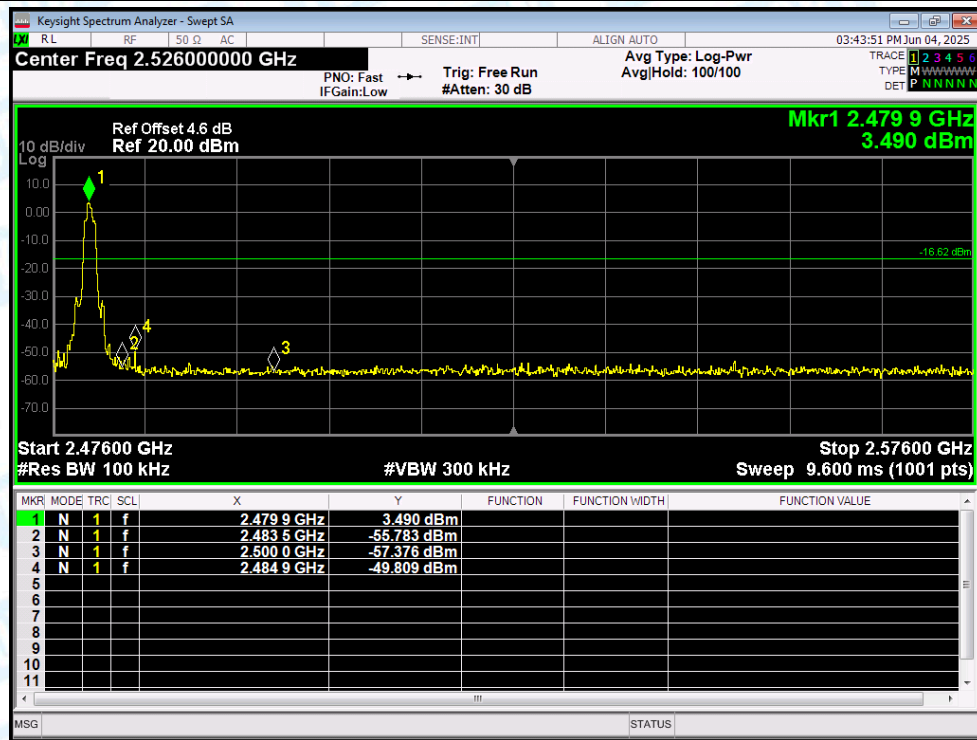
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



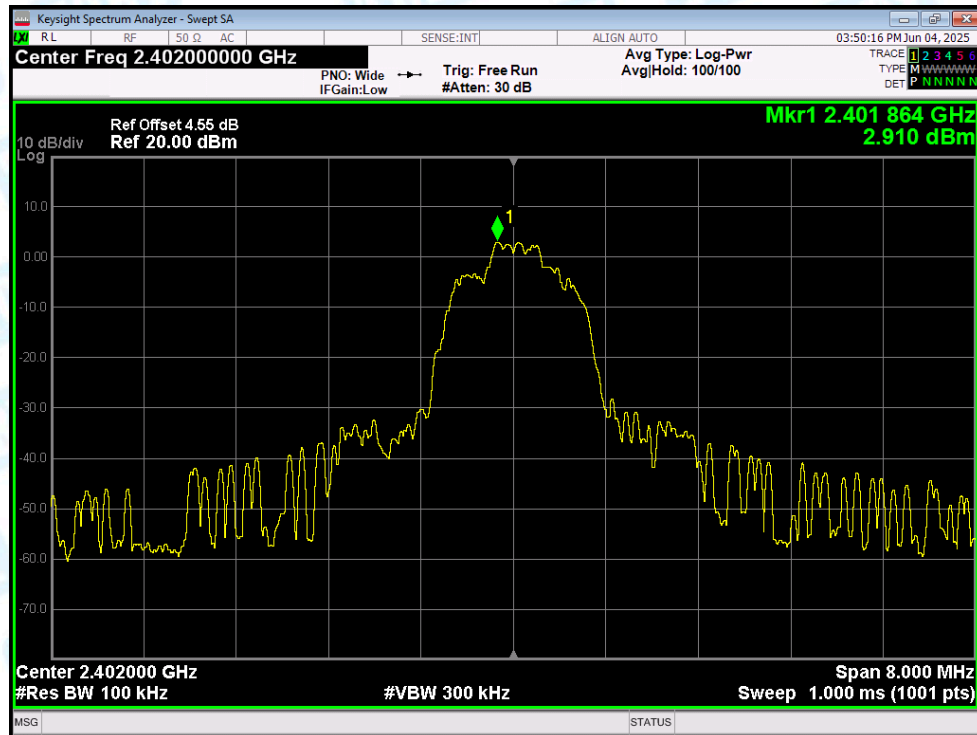
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



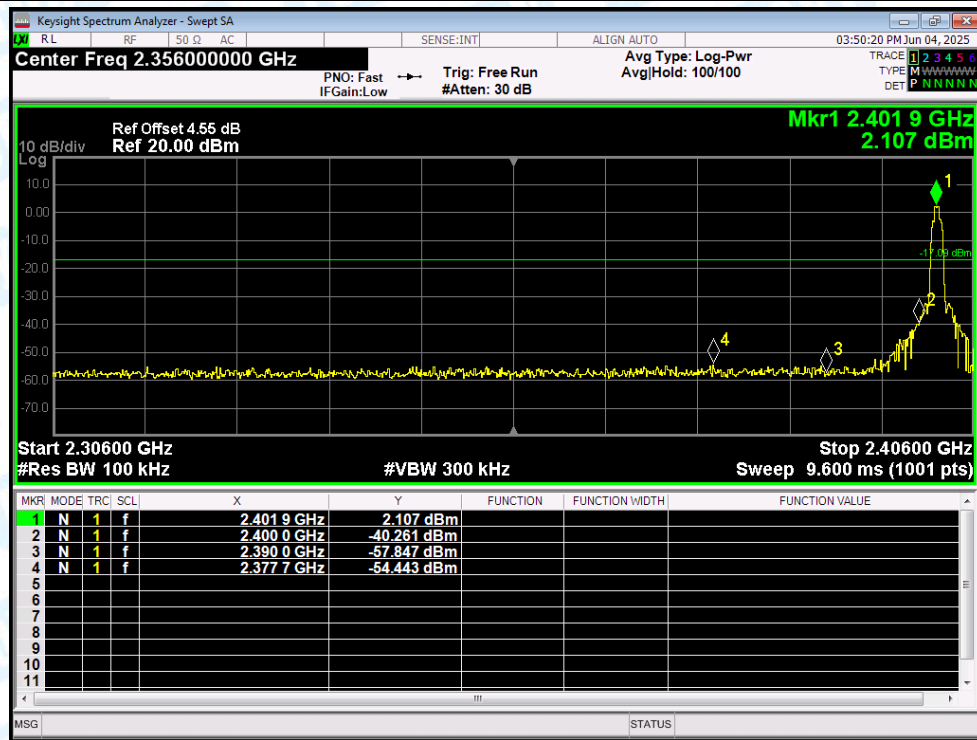
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



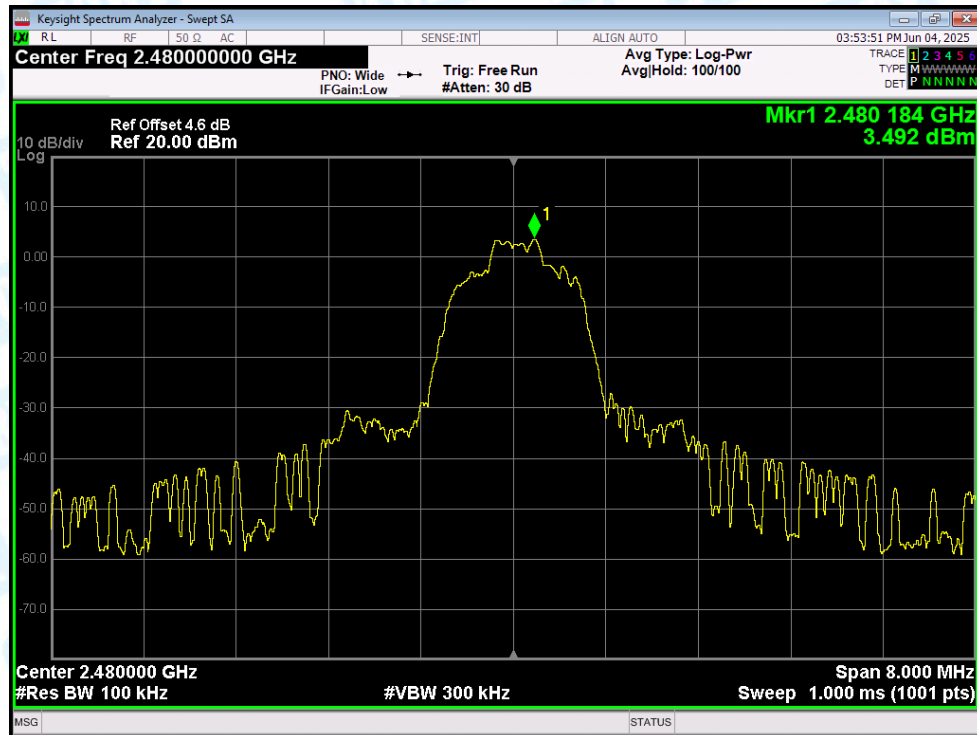
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



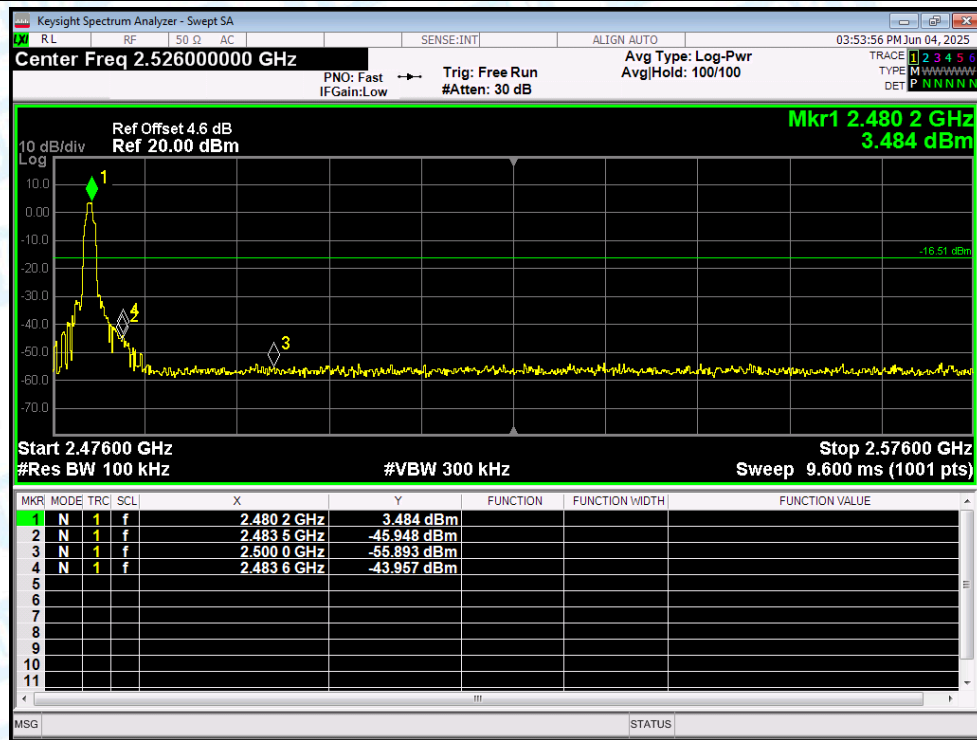
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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



6. Band Edge(Hopping)

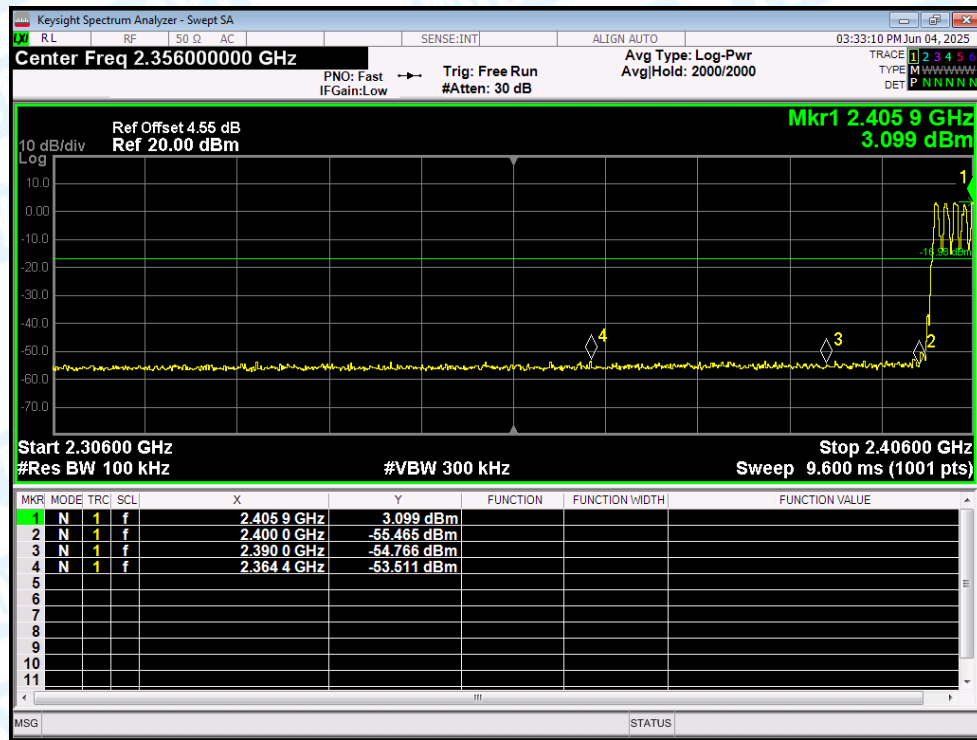
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-56.53	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-54.63	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-56	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-56.06	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-56.29	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-47.12	-20	Pass

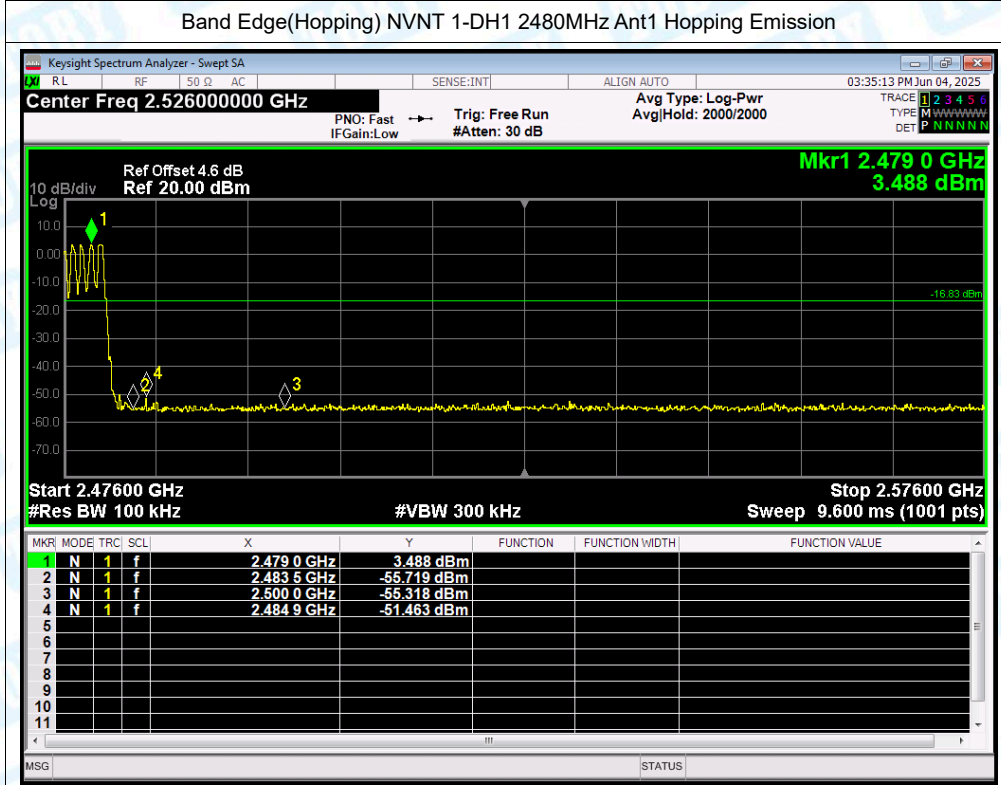
Test Graphs

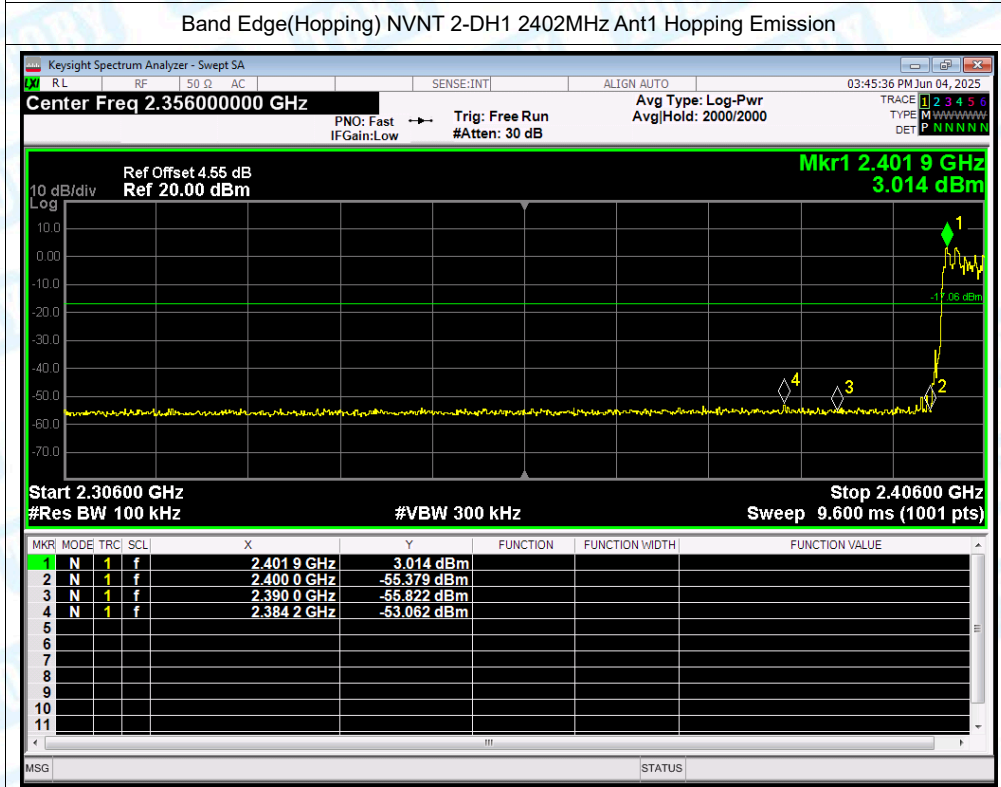
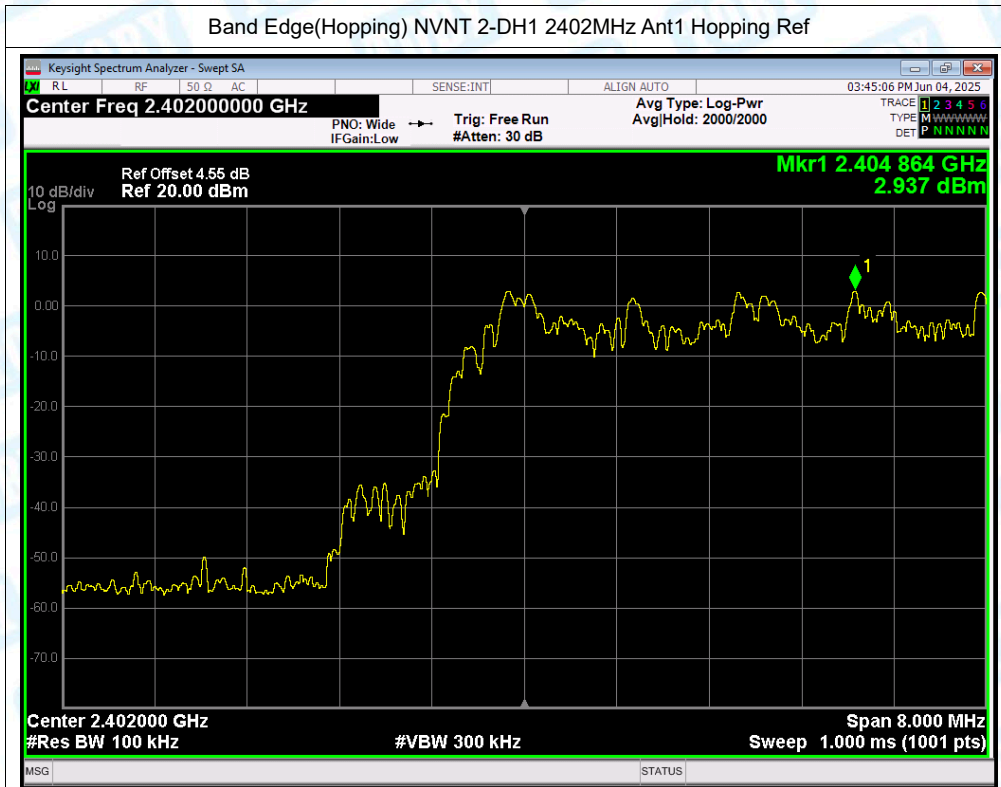
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



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



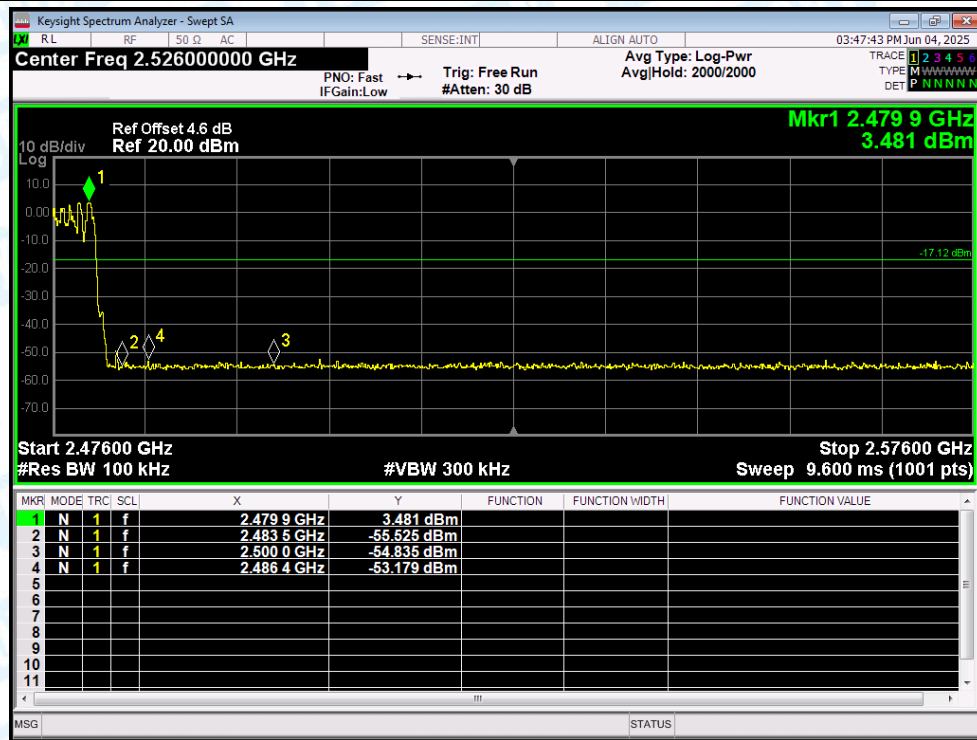




Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



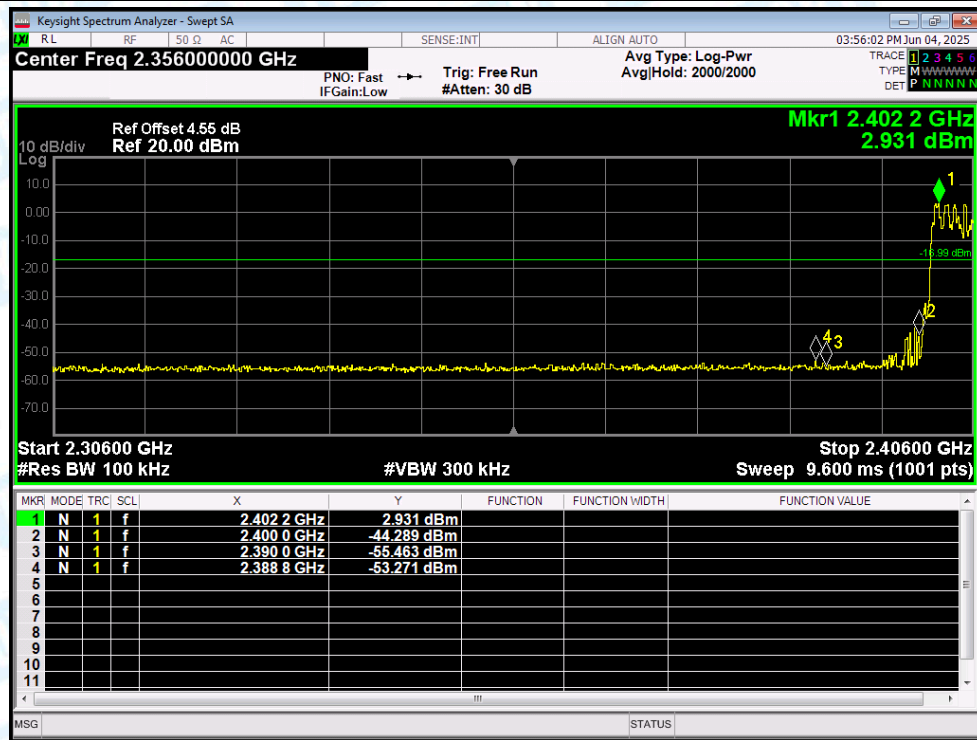
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission

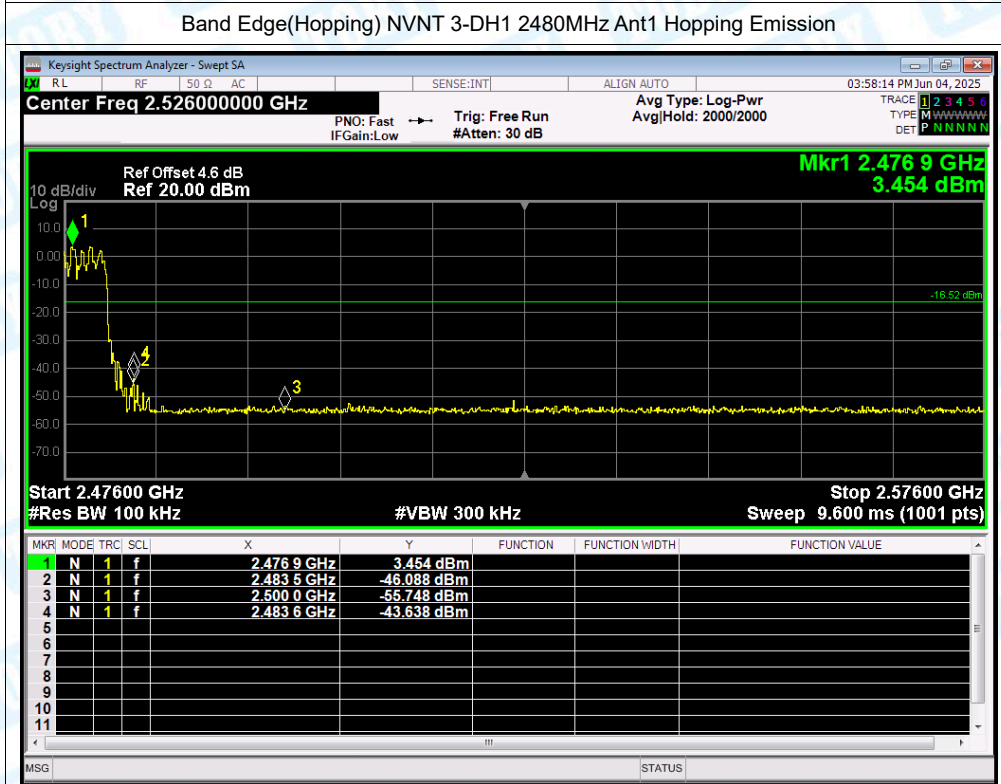
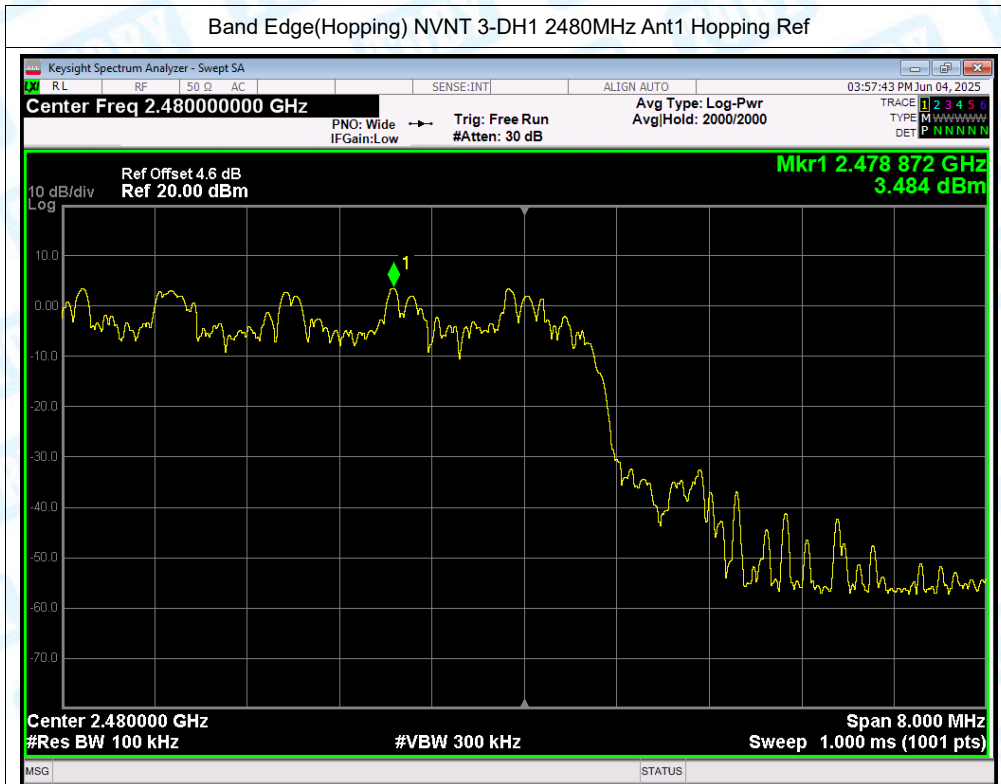


Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



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



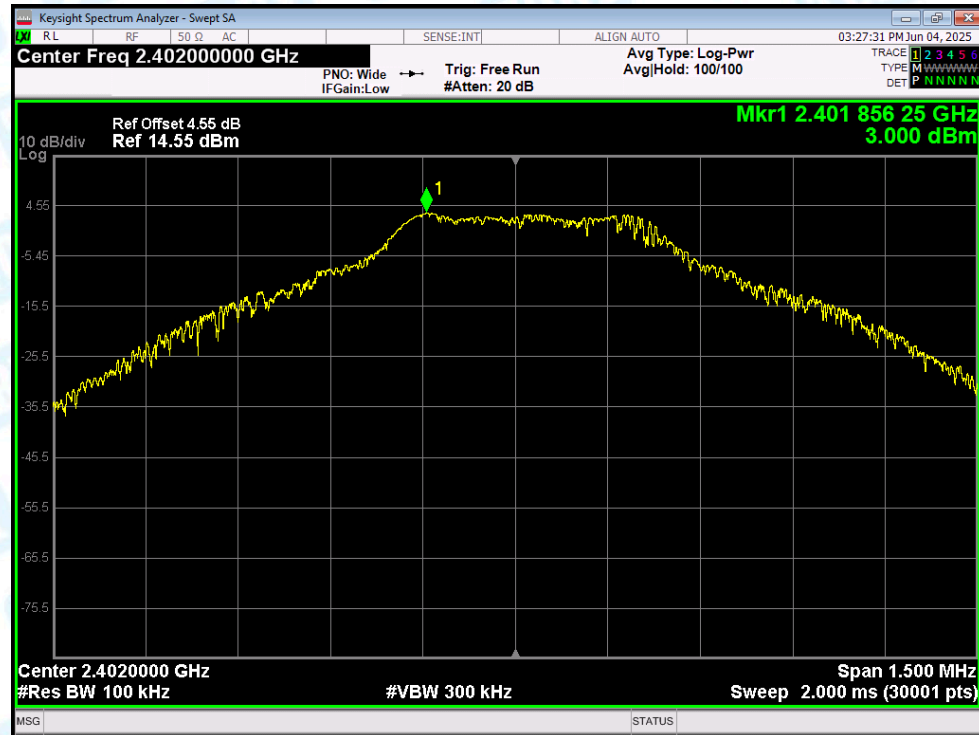


7. Conducted RF Spurious Emission

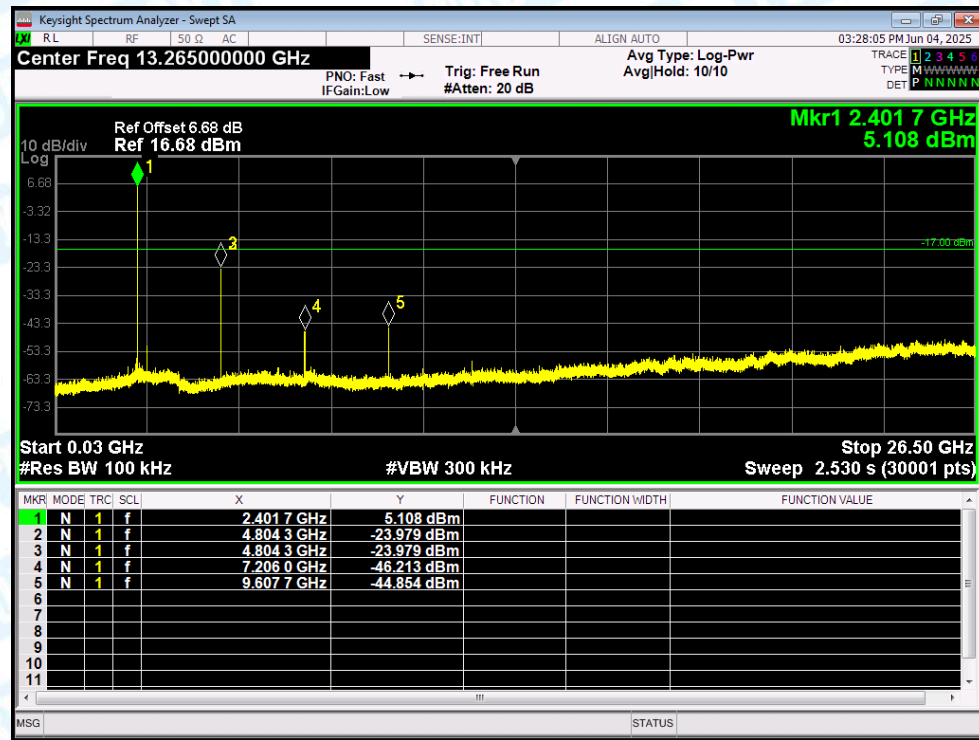
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-26.98	-20	Pass
NVNT	1-DH1	2441	Ant1	-27.8	-20	Pass
NVNT	1-DH1	2480	Ant1	-25.91	-20	Pass
NVNT	2-DH1	2402	Ant1	-30.27	-20	Pass
NVNT	2-DH1	2441	Ant1	-33.15	-20	Pass
NVNT	2-DH1	2480	Ant1	-31.56	-20	Pass
NVNT	3-DH1	2402	Ant1	-35.15	-20	Pass
NVNT	3-DH1	2441	Ant1	-26.43	-20	Pass
NVNT	3-DH1	2480	Ant1	-31.14	-20	Pass

Test Graphs

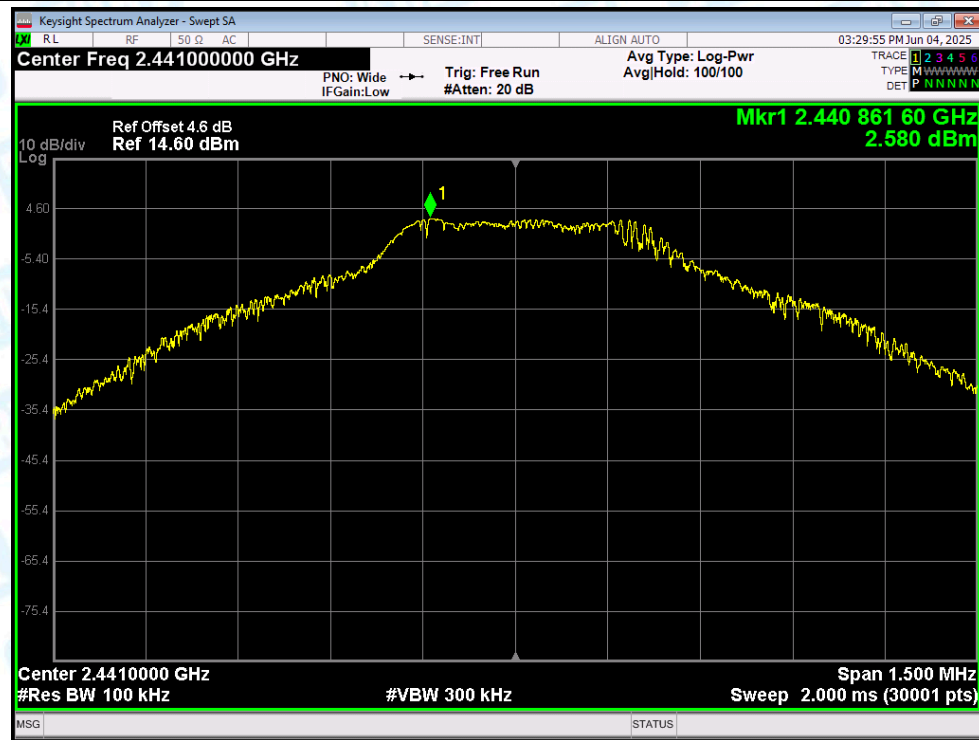
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



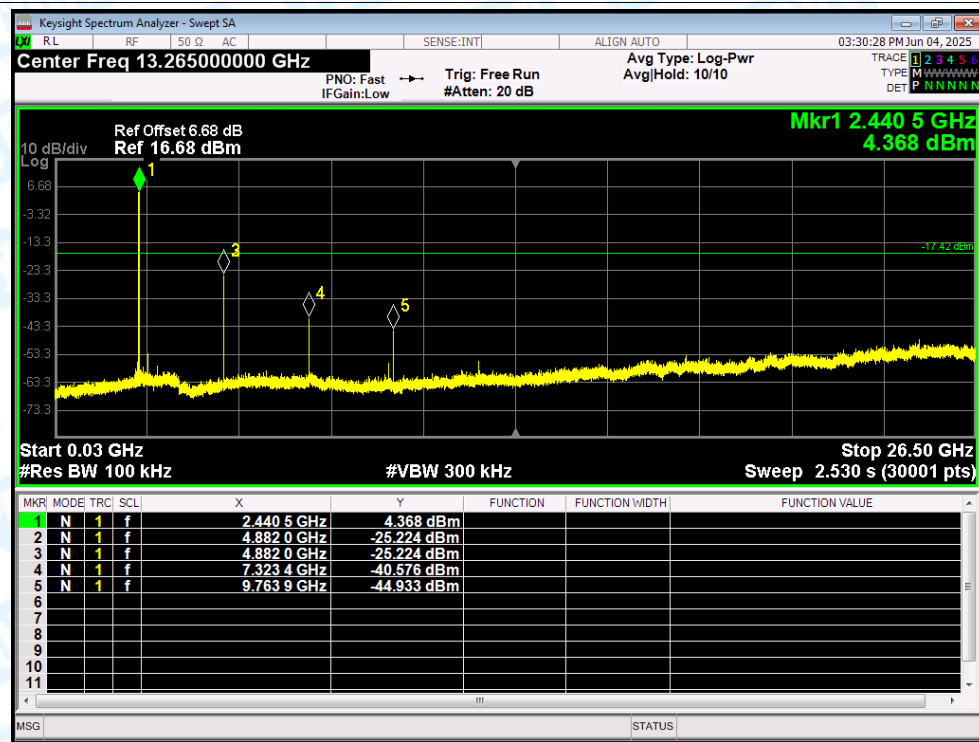
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



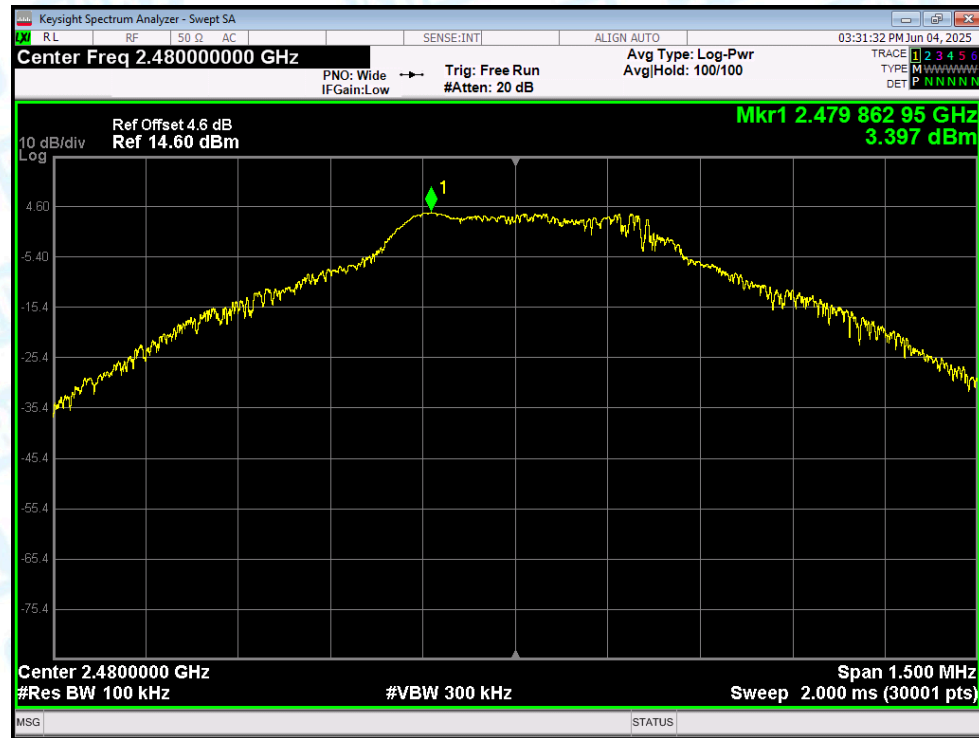
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



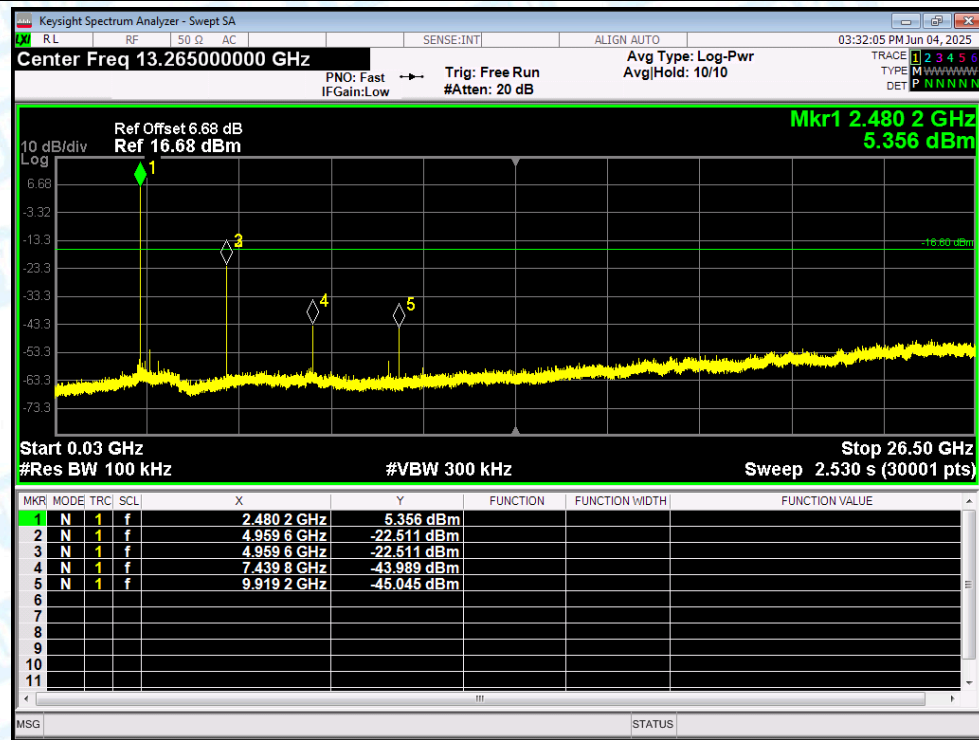
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



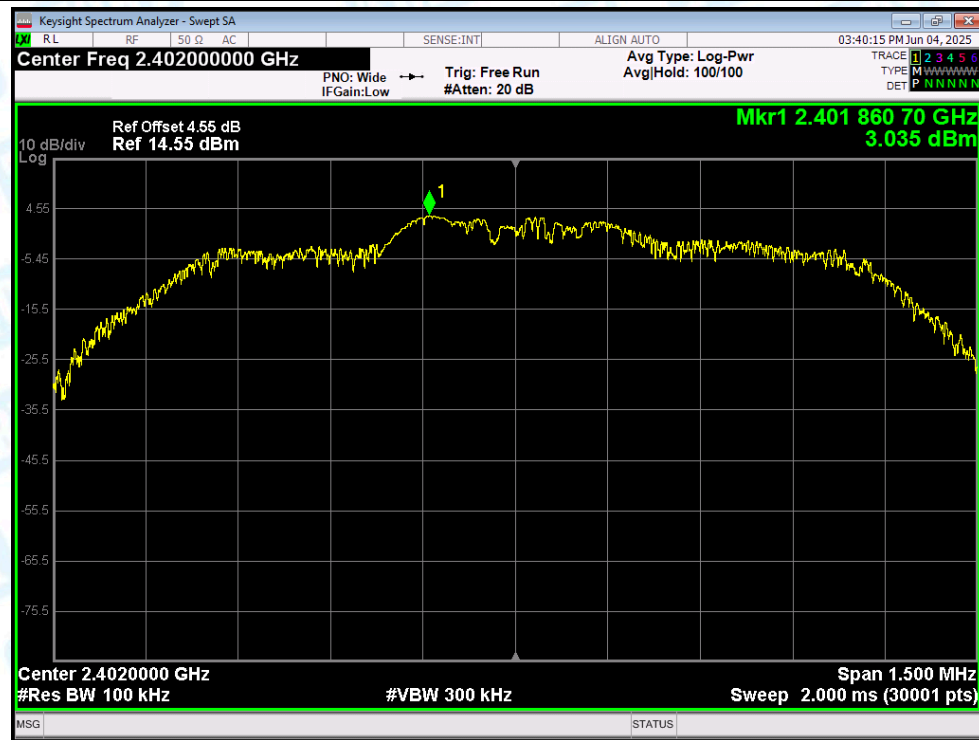
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



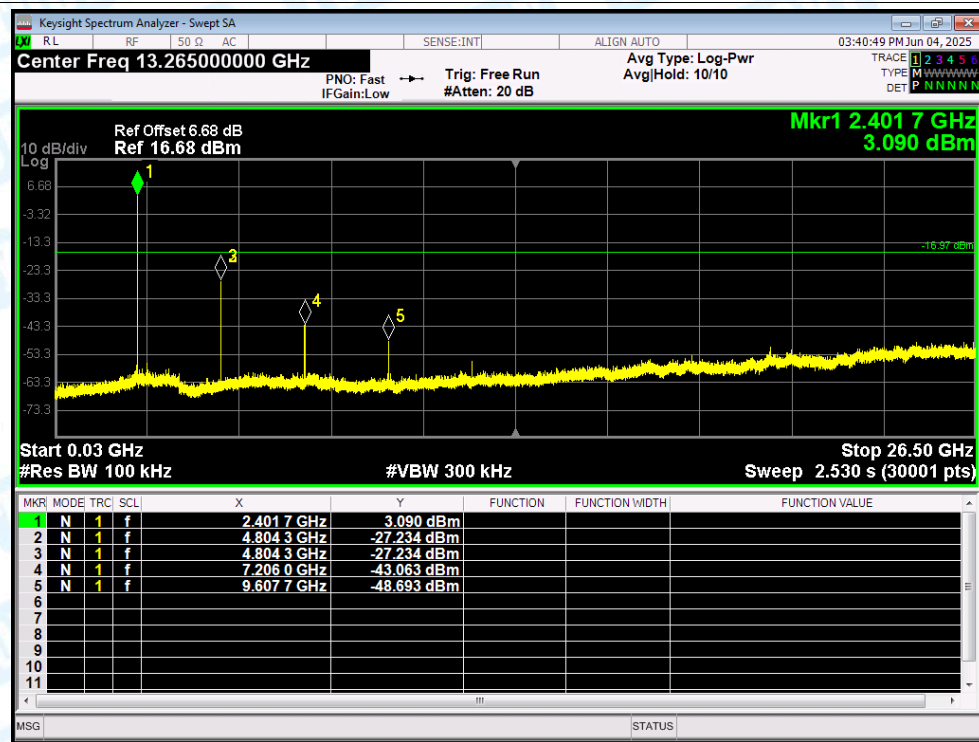
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



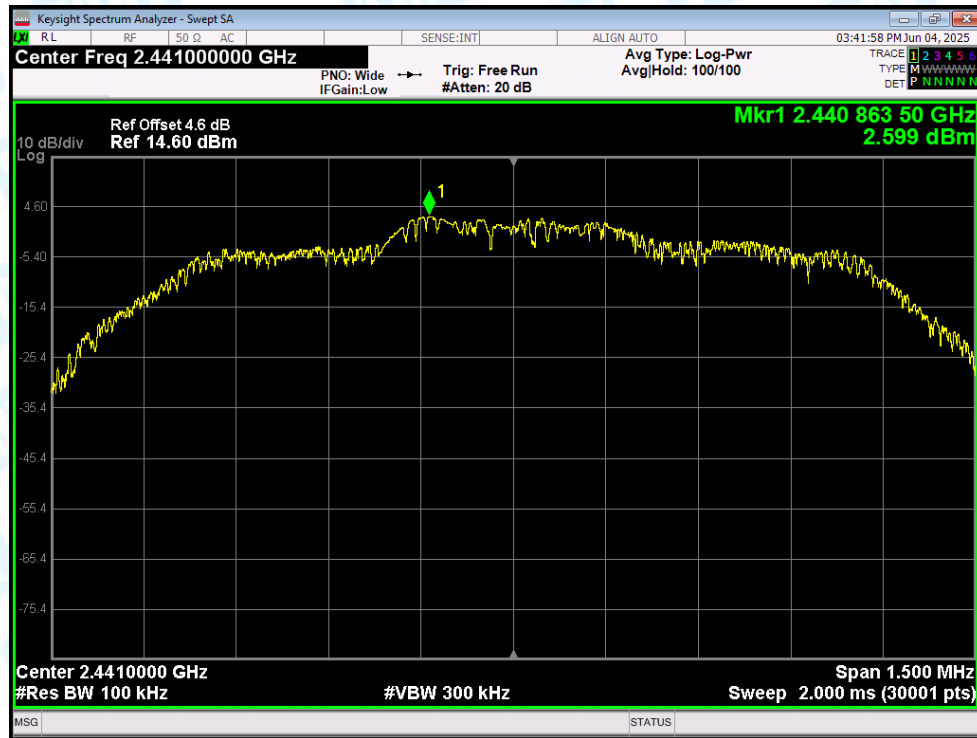
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



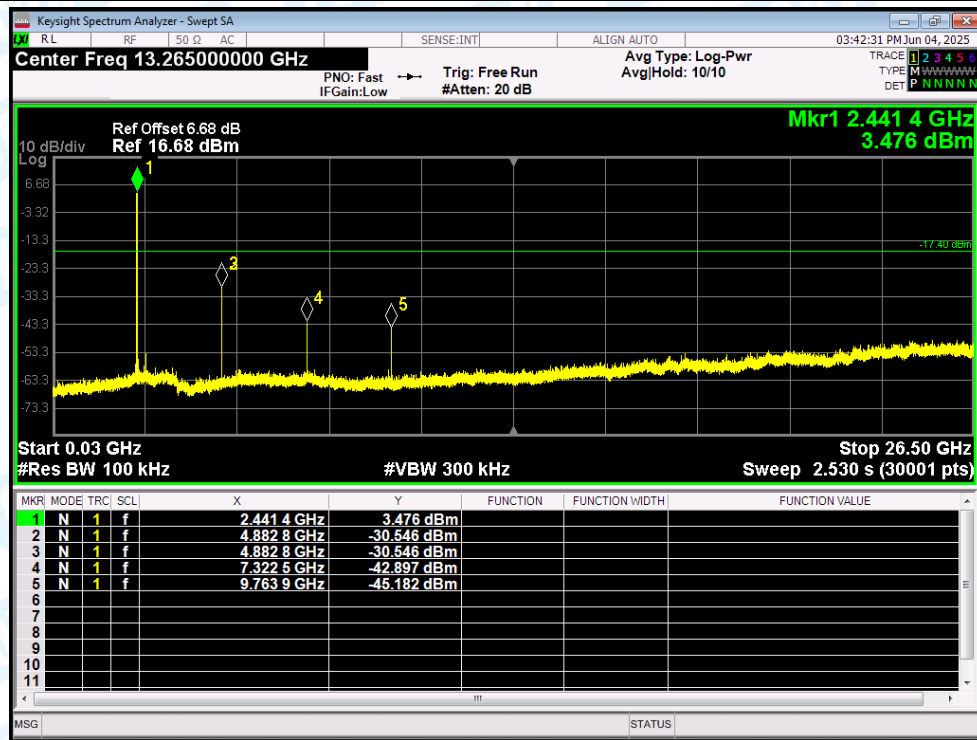
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



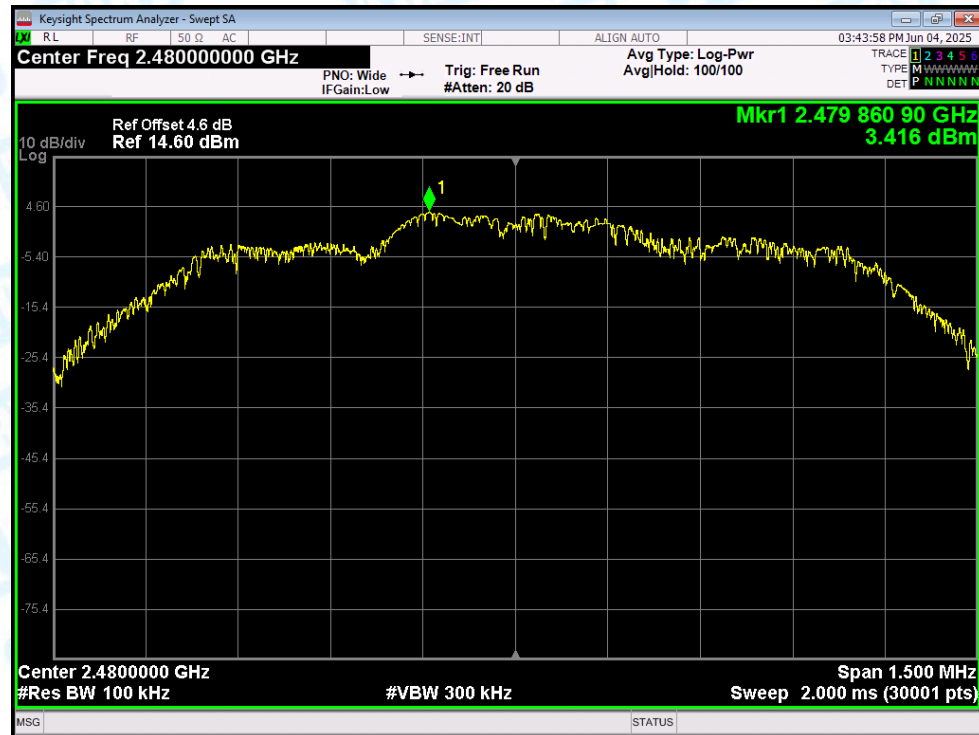
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



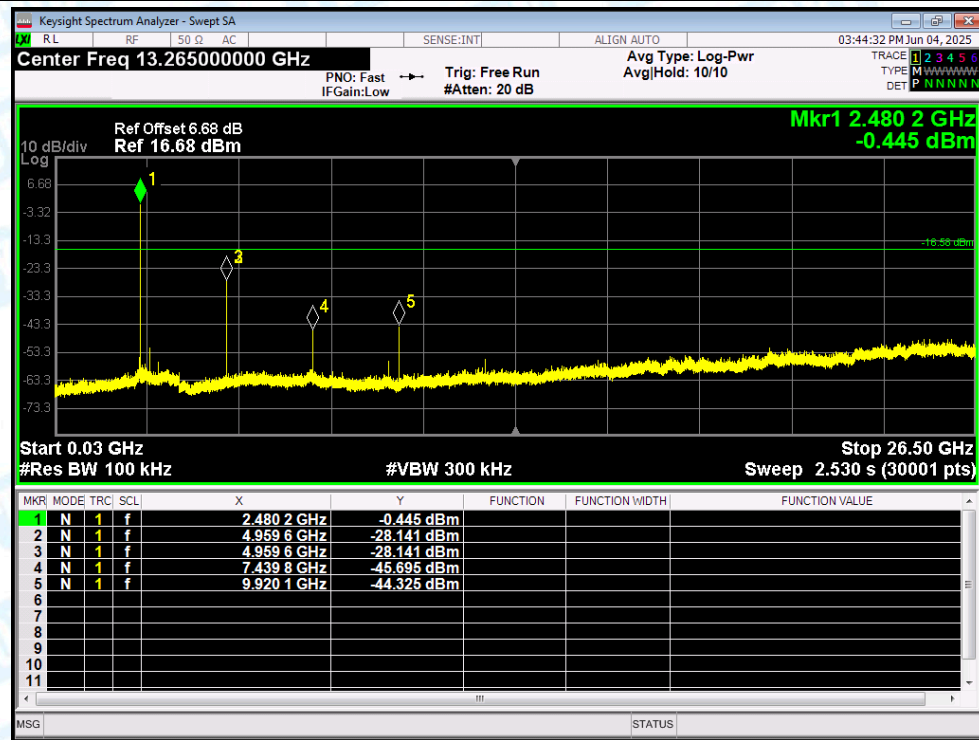
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



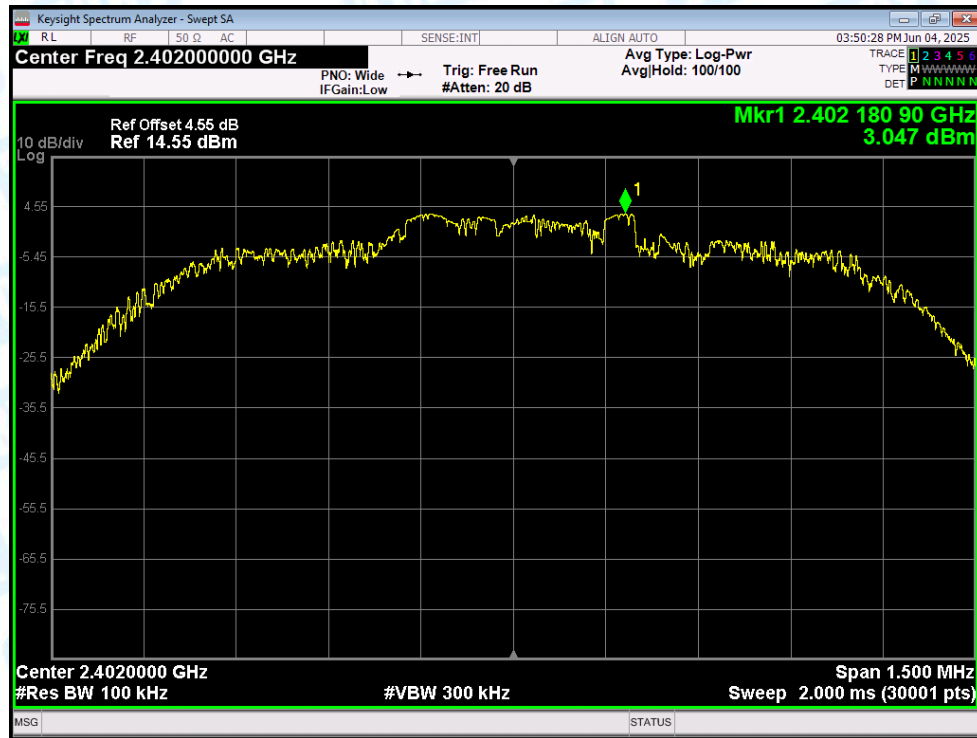
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



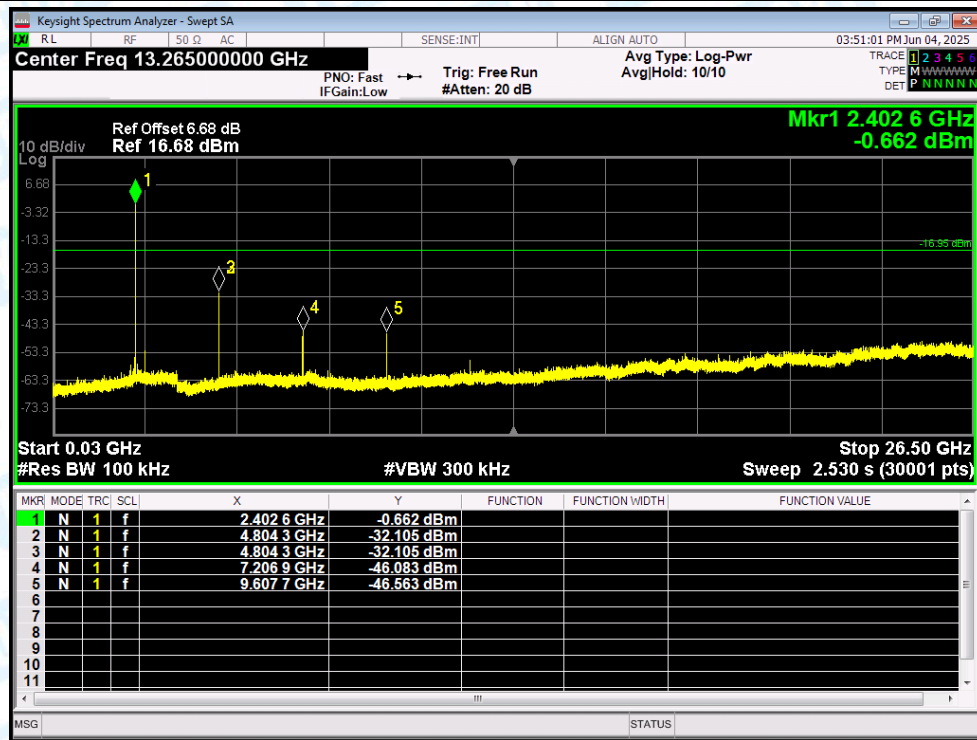
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



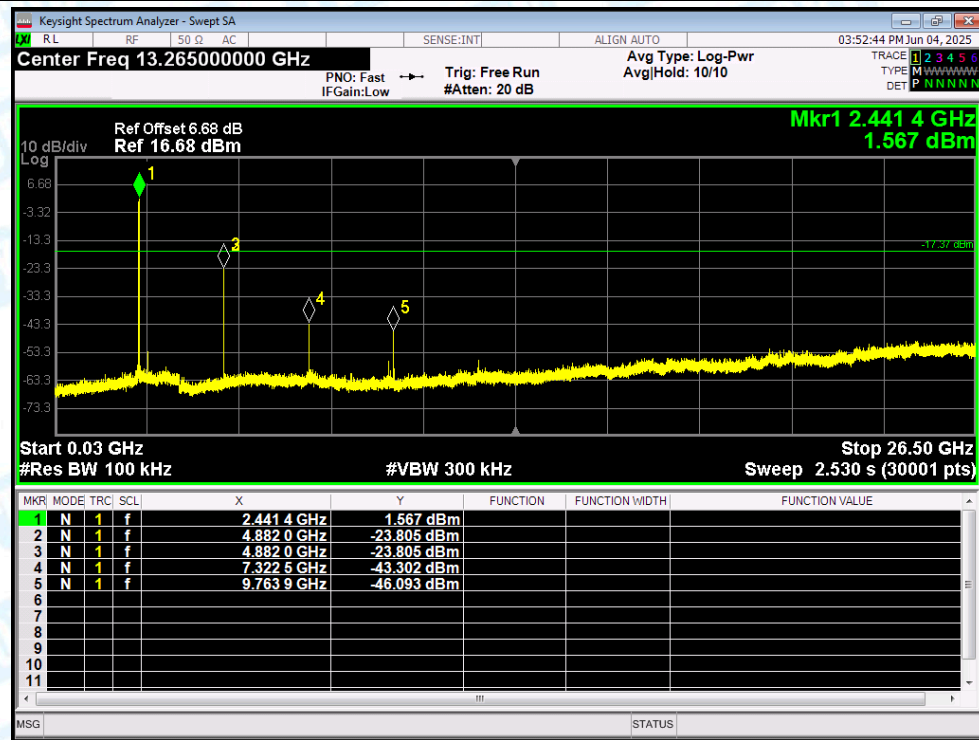
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



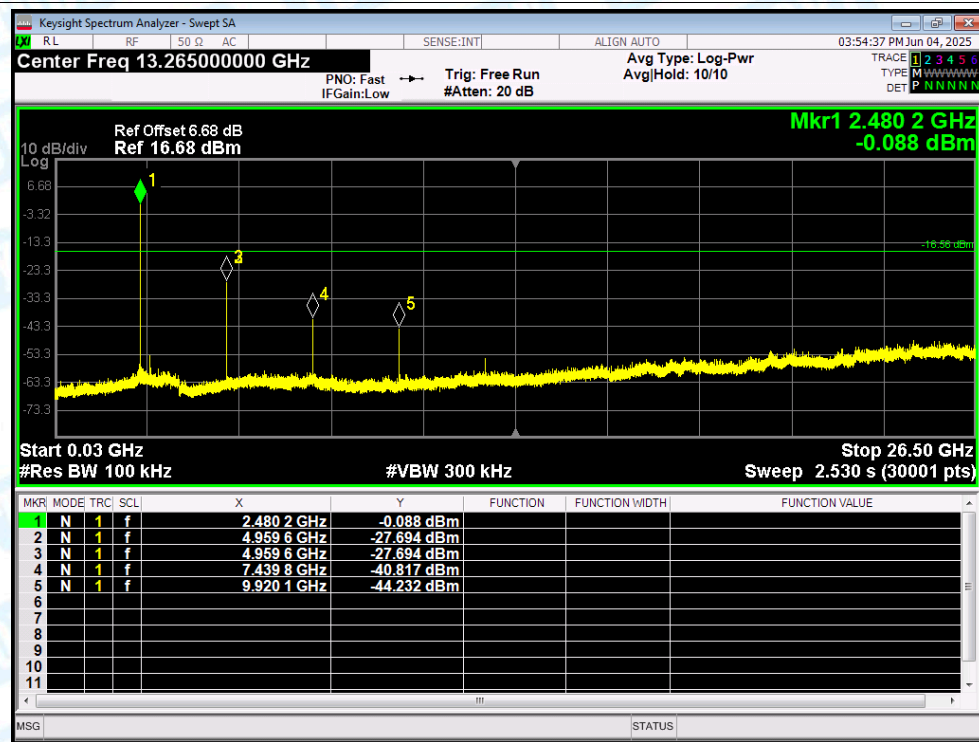
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

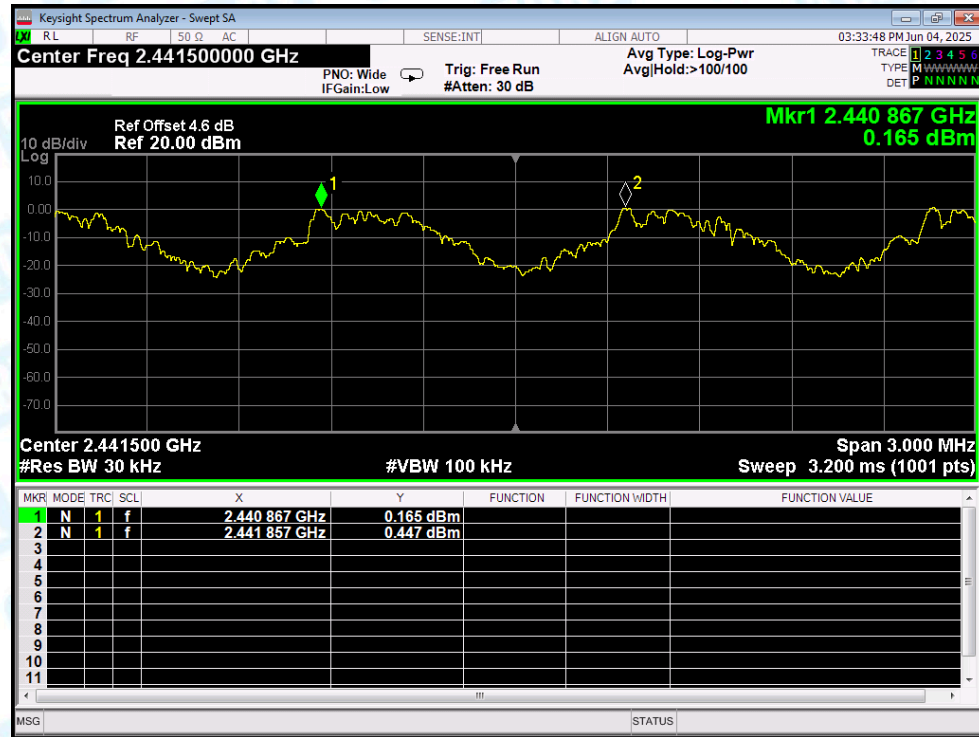


8. Carrier Frequencies Separation

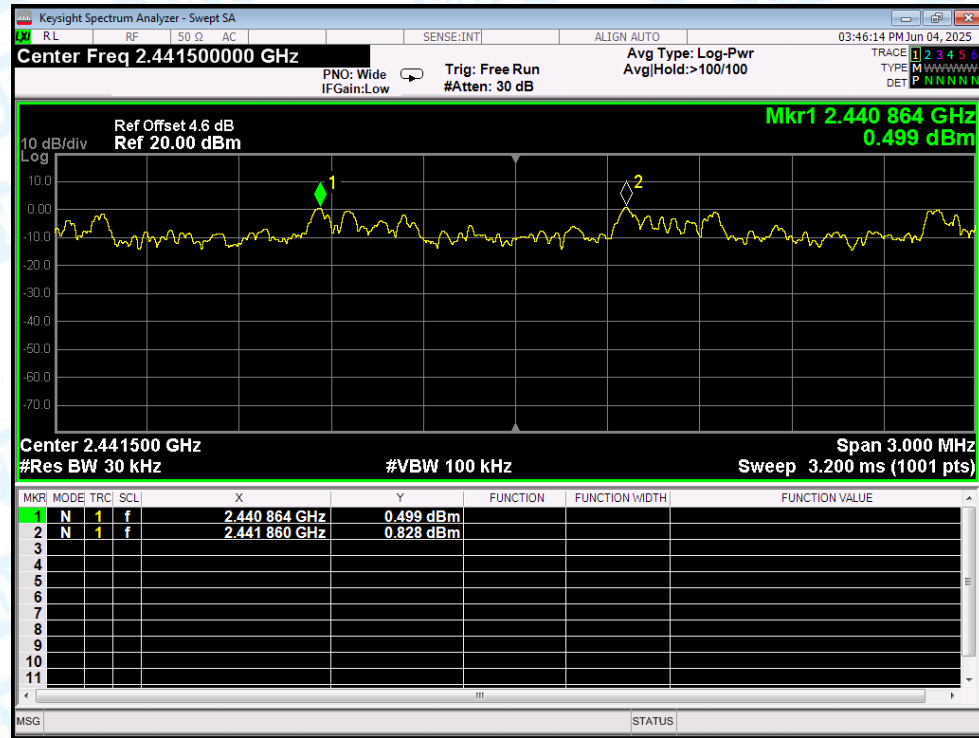
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.867	2441.857	0.99	0.587	Pass
NVNT	2-DH1	Ant1	2440.864	2441.86	0.996	0.827	Pass
NVNT	3-DH1	Ant1	2441.023	2441.857	0.834	0.833	Pass

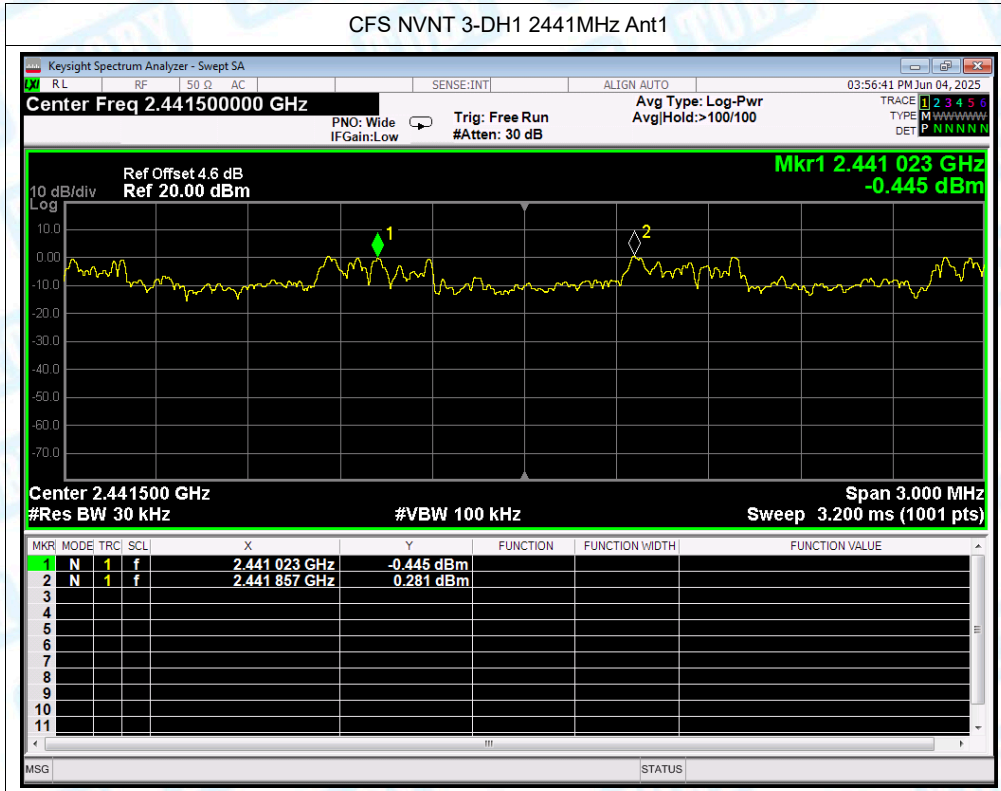
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



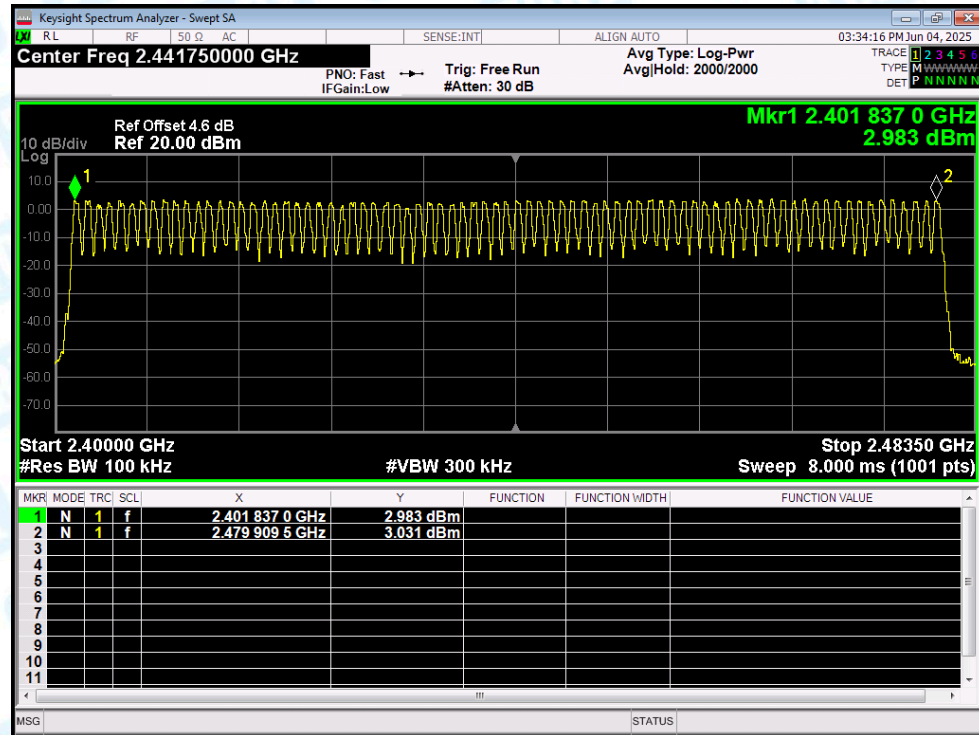


9. Number of Hopping Channel

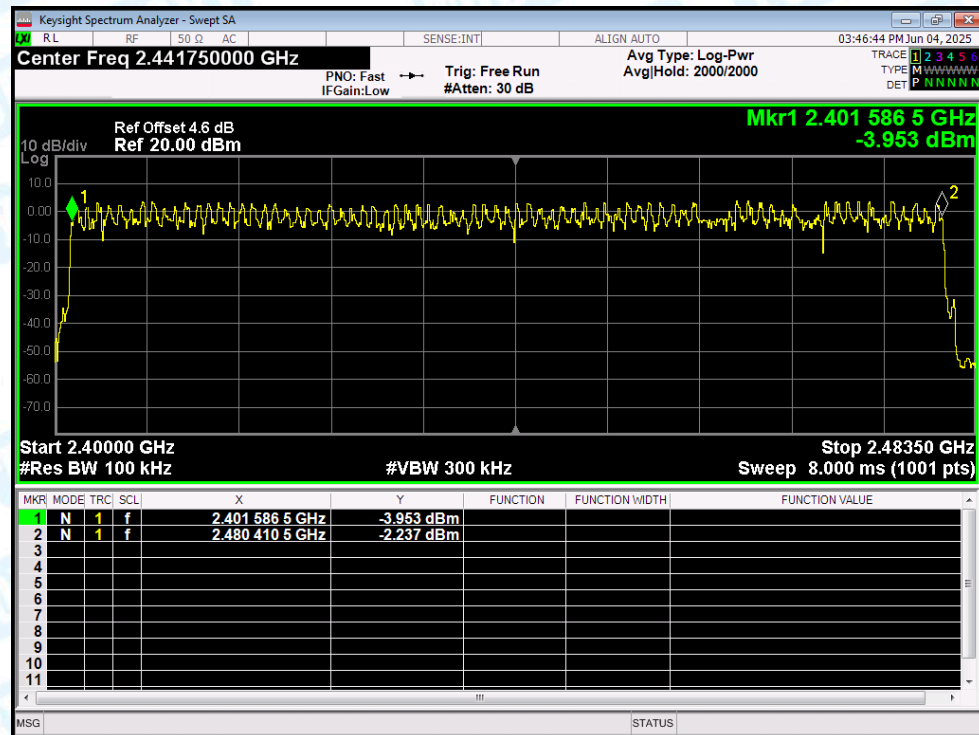
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

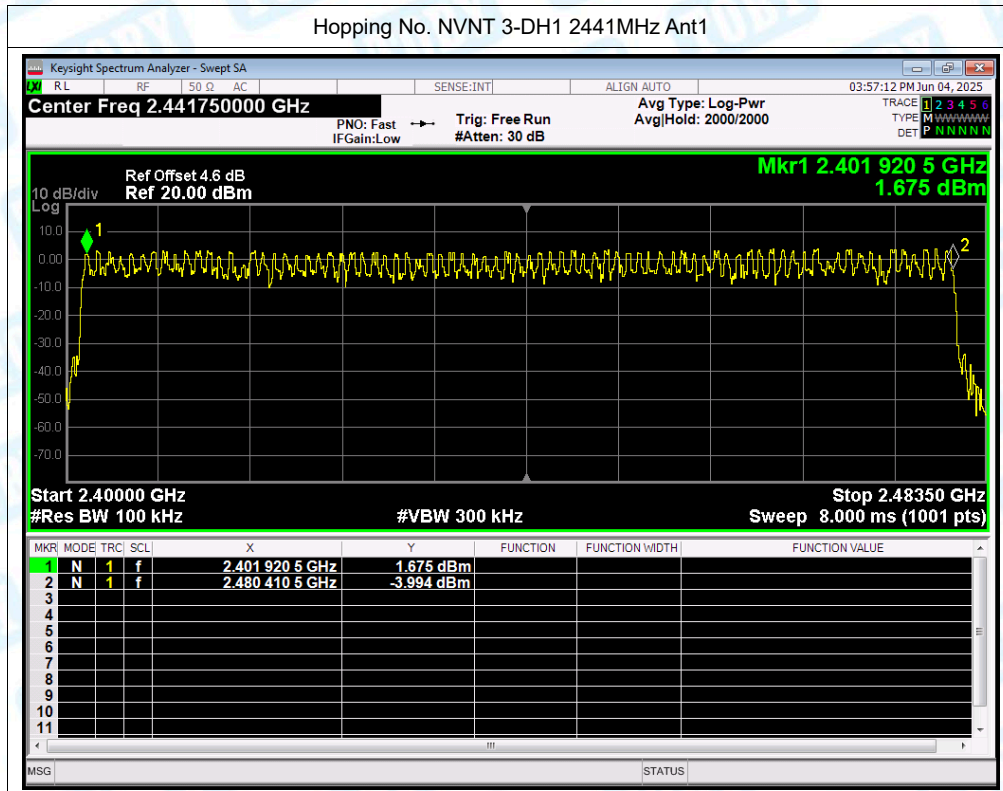
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



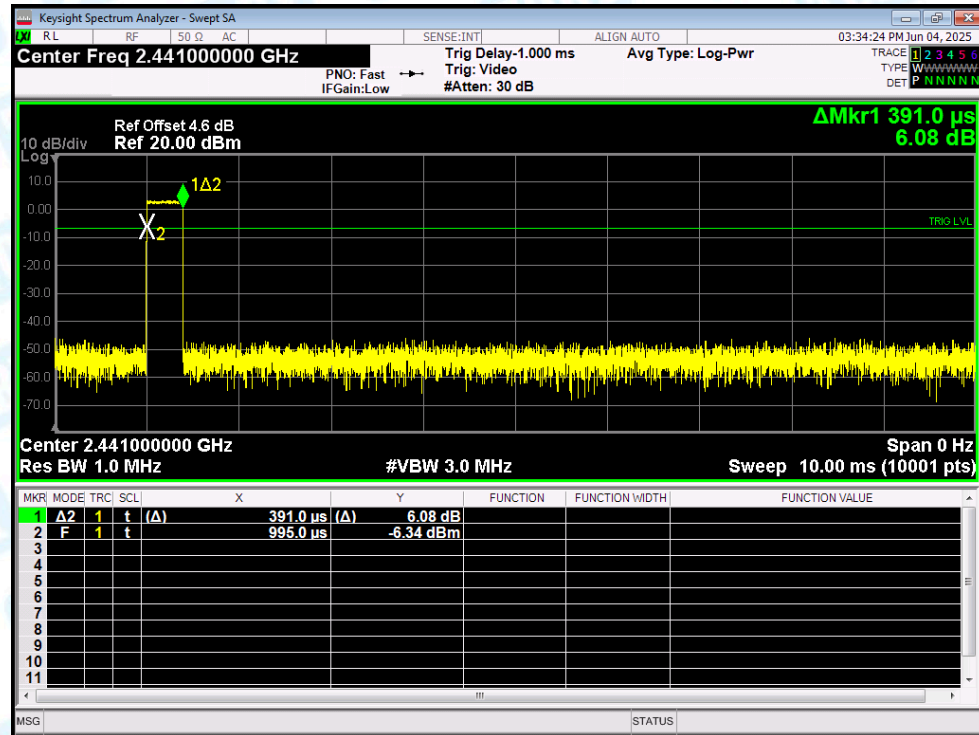


10. Dwell Time

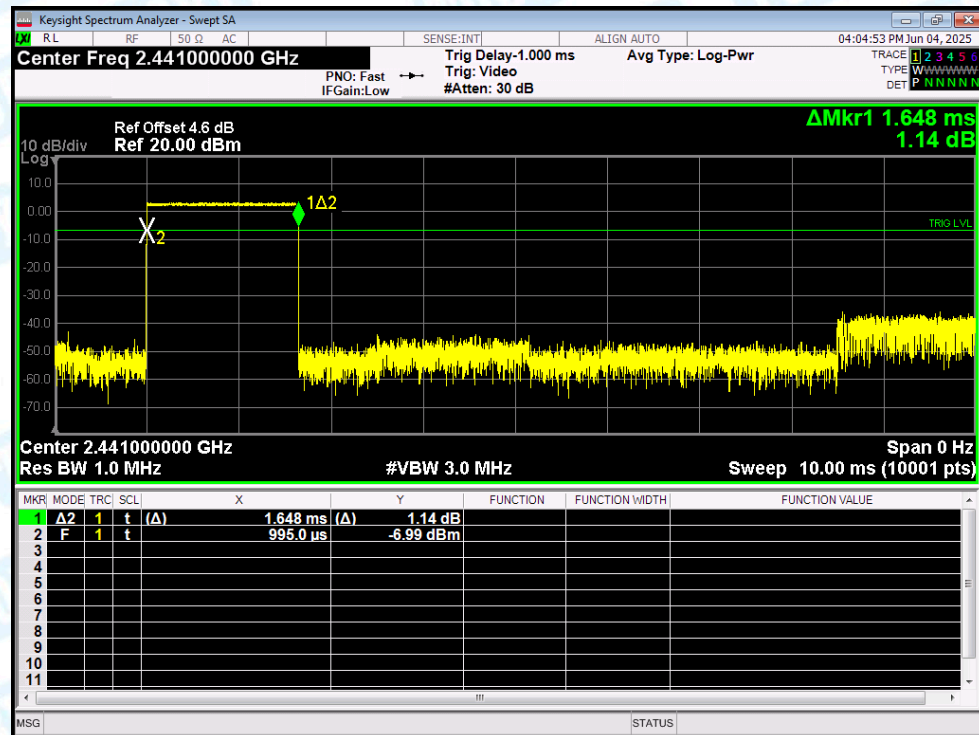
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.391	125.12	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.648	263.68	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.895	308.8	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.401	128.32	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.652	264.32	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.901	309.44	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.402	128.64	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.651	264.16	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.902	309.547	31600	400	Pass

Test Graphs

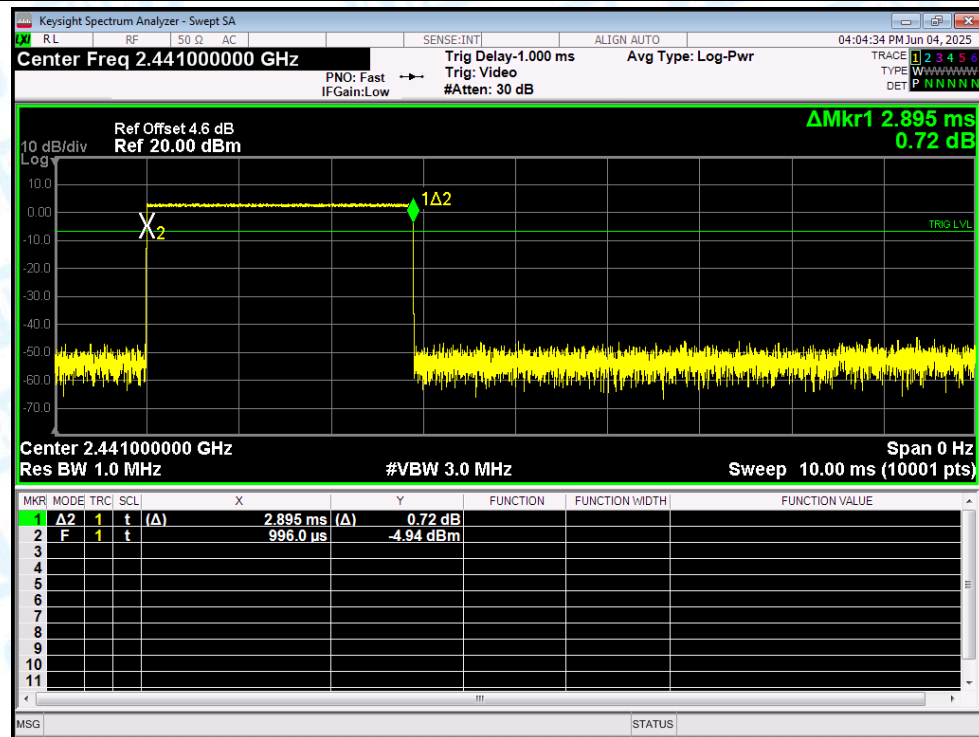
Dwell NVNT 1-DH1 2441MHz Ant1



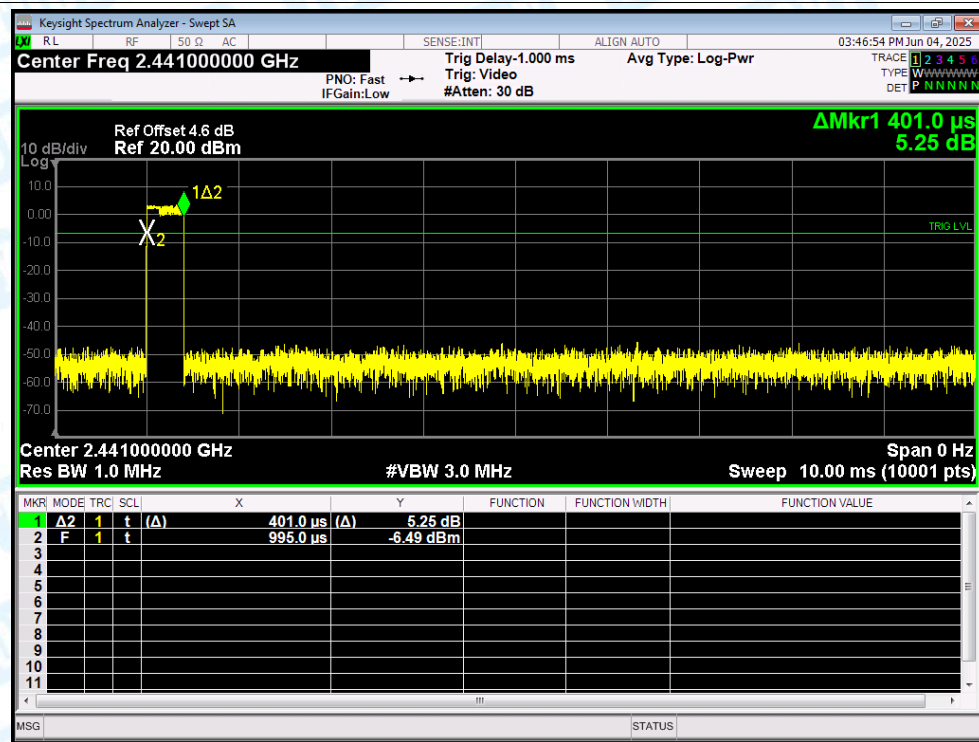
Dwell NVNT 1-DH3 2441MHz Ant1



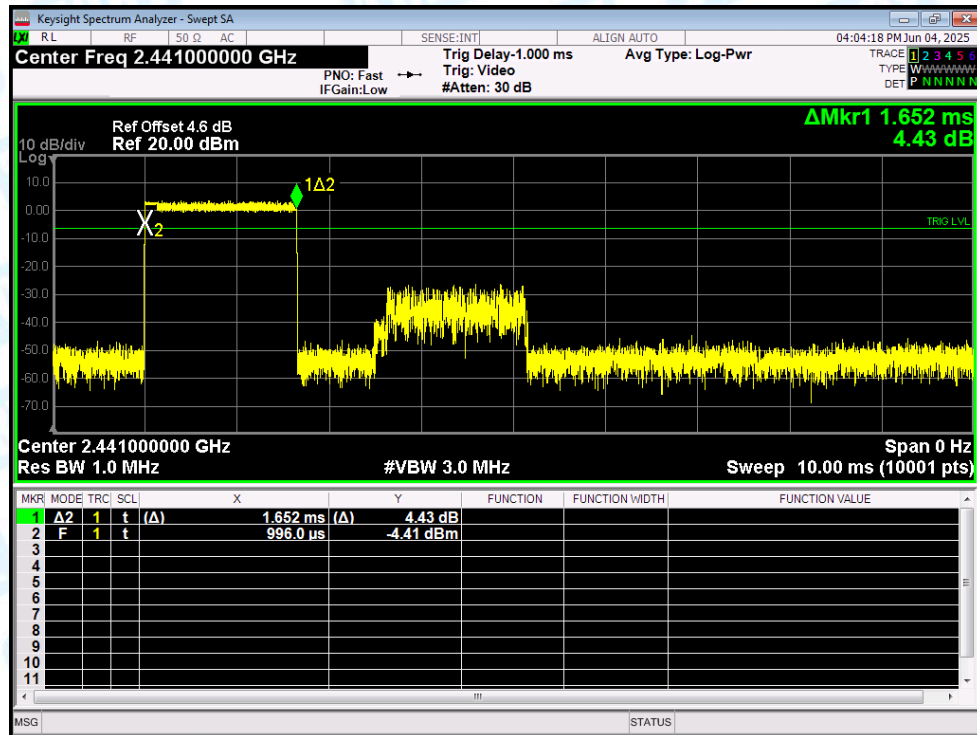
Dwell NVNT 1-DH5 2441MHz Ant1



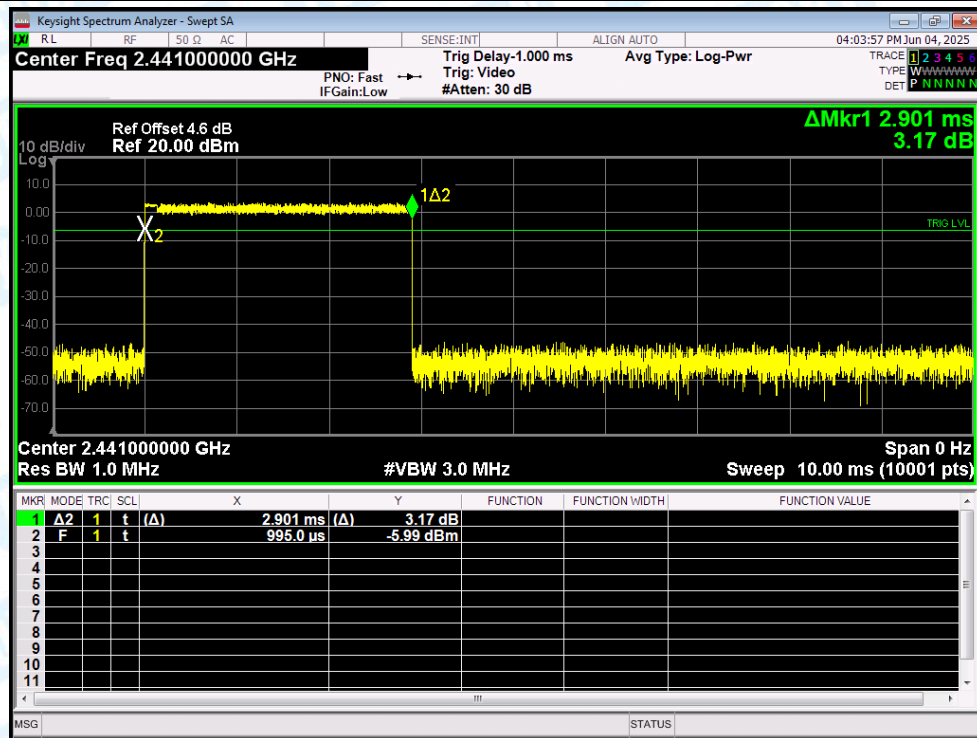
Dwell NVNT 2-DH1 2441MHz Ant1



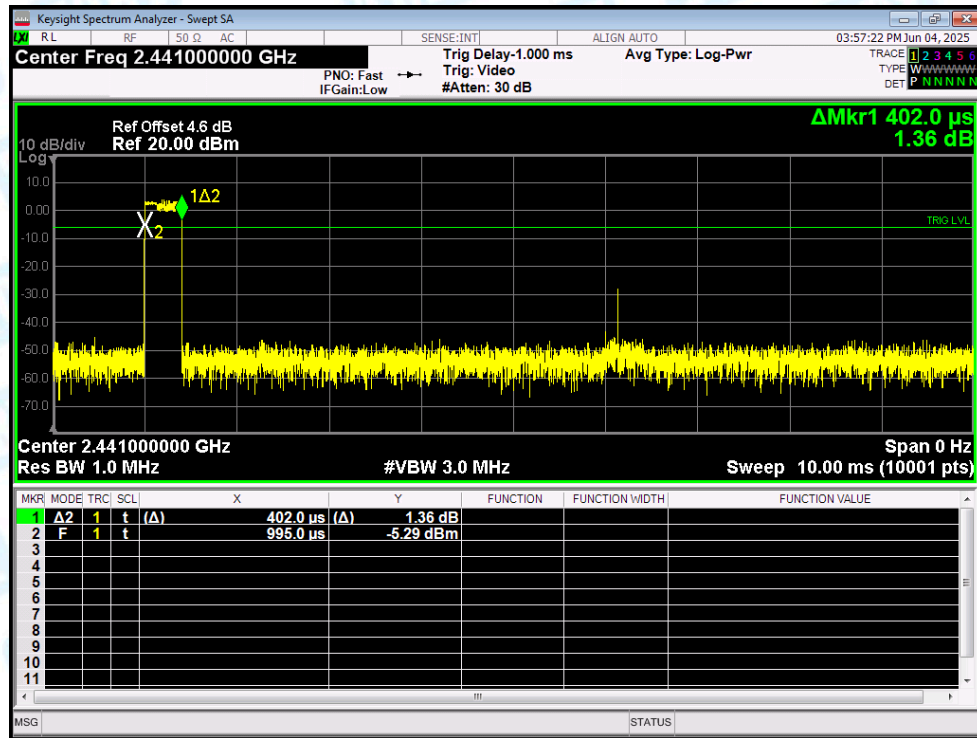
Dwell NVNT 2-DH3 2441MHz Ant1



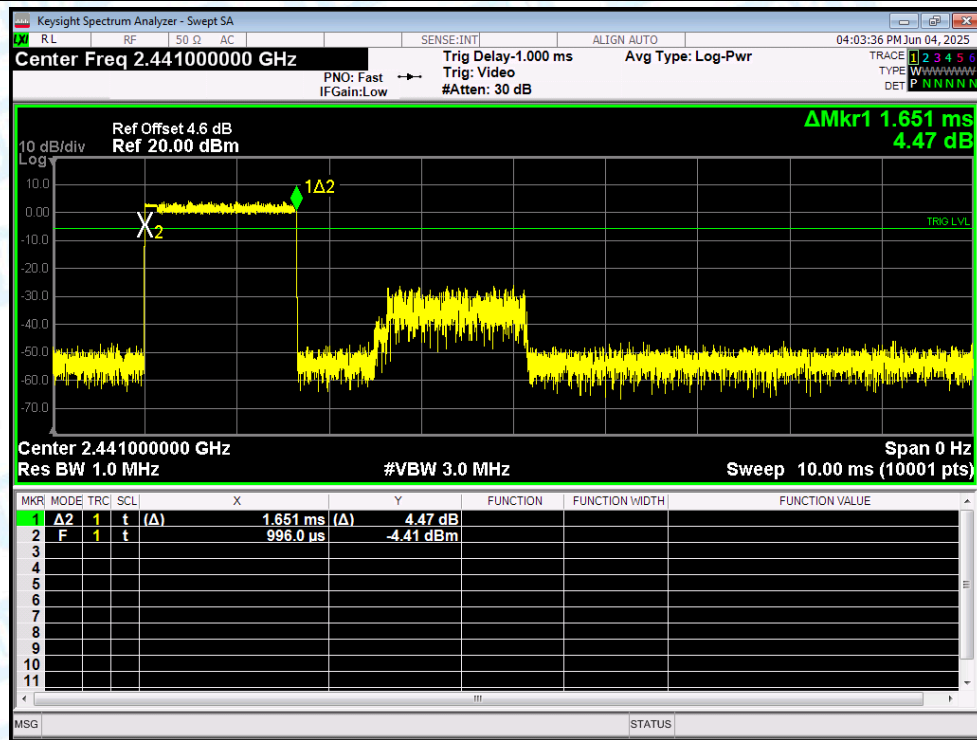
Dwell NVNT 2-DH5 2441MHz Ant1

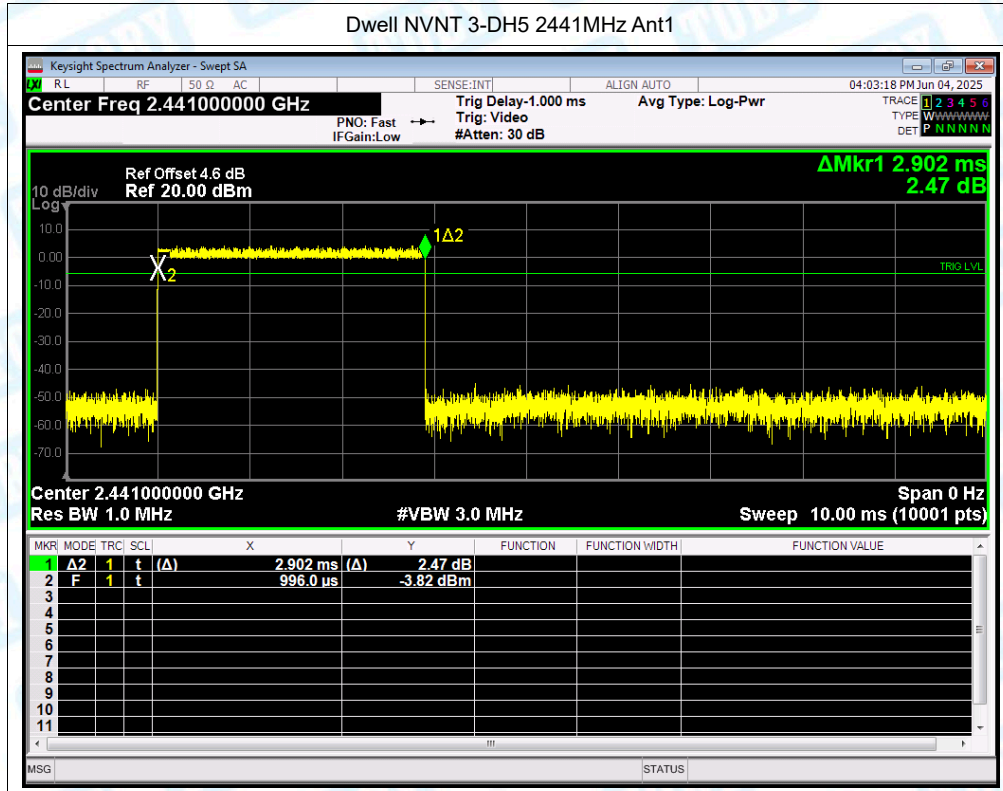


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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