

RF Test Data for Bluetooth(BR+EDR) (Conducted Measurements)

General Description of EUT	
Product Name:	Smart Watch
Test Model:	KC82
Sample ID:	HC-C-202404-0054-02-2
Environmental Conditions	
Temperature:	25.6°C
Relative Humidity:	44%
Test Voltage:	DC 3.8V
Test Engineer:	ZKN Zhou
Note: For a more detailed features description, please refer to the report TBR-C-202404-0054-11 The report only show the worst case data.	

Contents

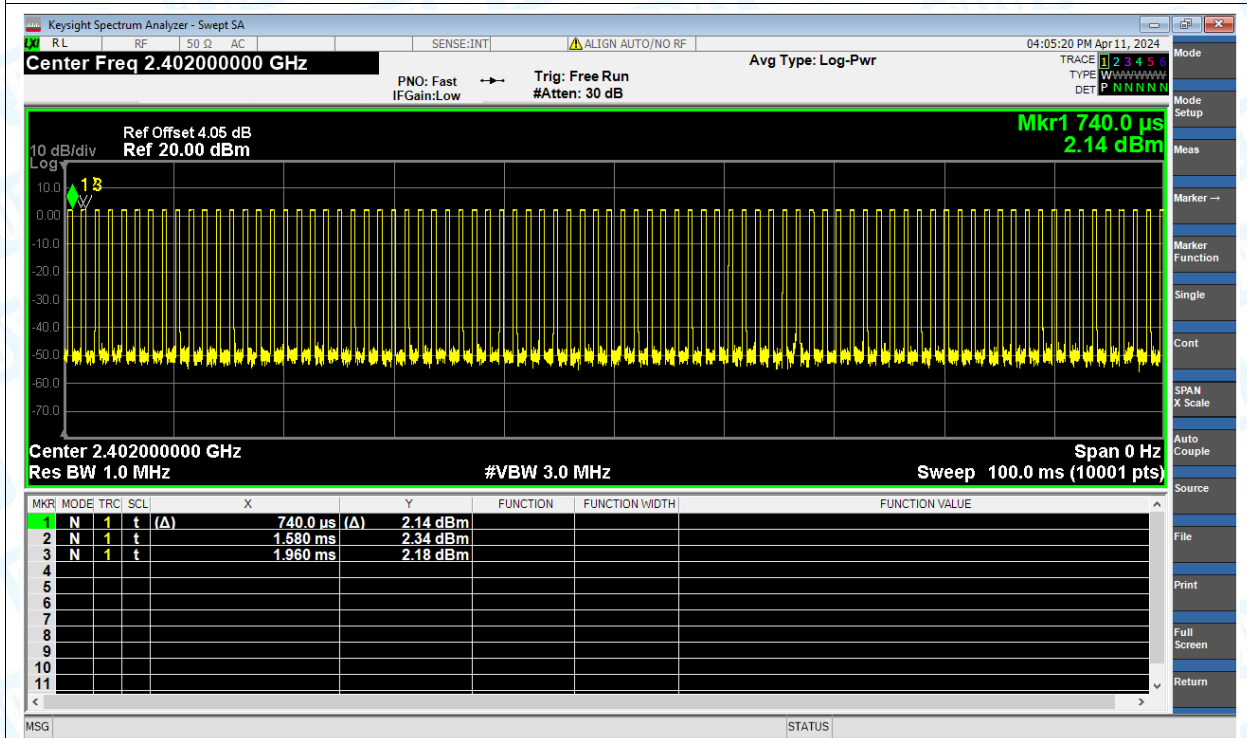
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1. Duty Cycle

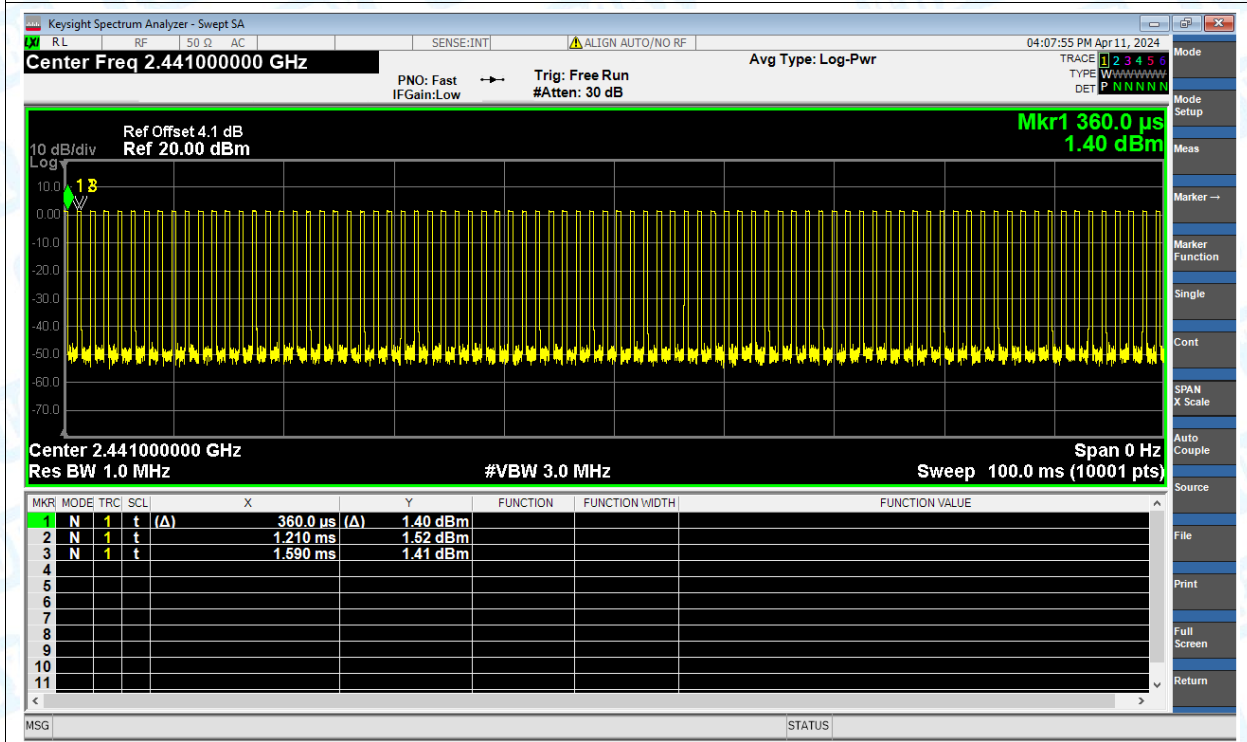
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	31.15	5.07	2.63
NVNT	1-DH1	2441	Ant1	30.89	5.1	2.63
NVNT	1-DH1	2480	Ant1	30.89	5.1	2.63
NVNT	2-DH1	2402	Ant1	31.45	5.02	2.56
NVNT	2-DH1	2441	Ant1	31.45	5.02	2.56
NVNT	2-DH1	2480	Ant1	31.71	4.99	2.56
NVNT	3-DH1	2402	Ant1	31.71	4.99	2.56
NVNT	3-DH1	2441	Ant1	31.45	5.02	2.56
NVNT	3-DH1	2480	Ant1	31.71	4.99	2.56

Test Graphs

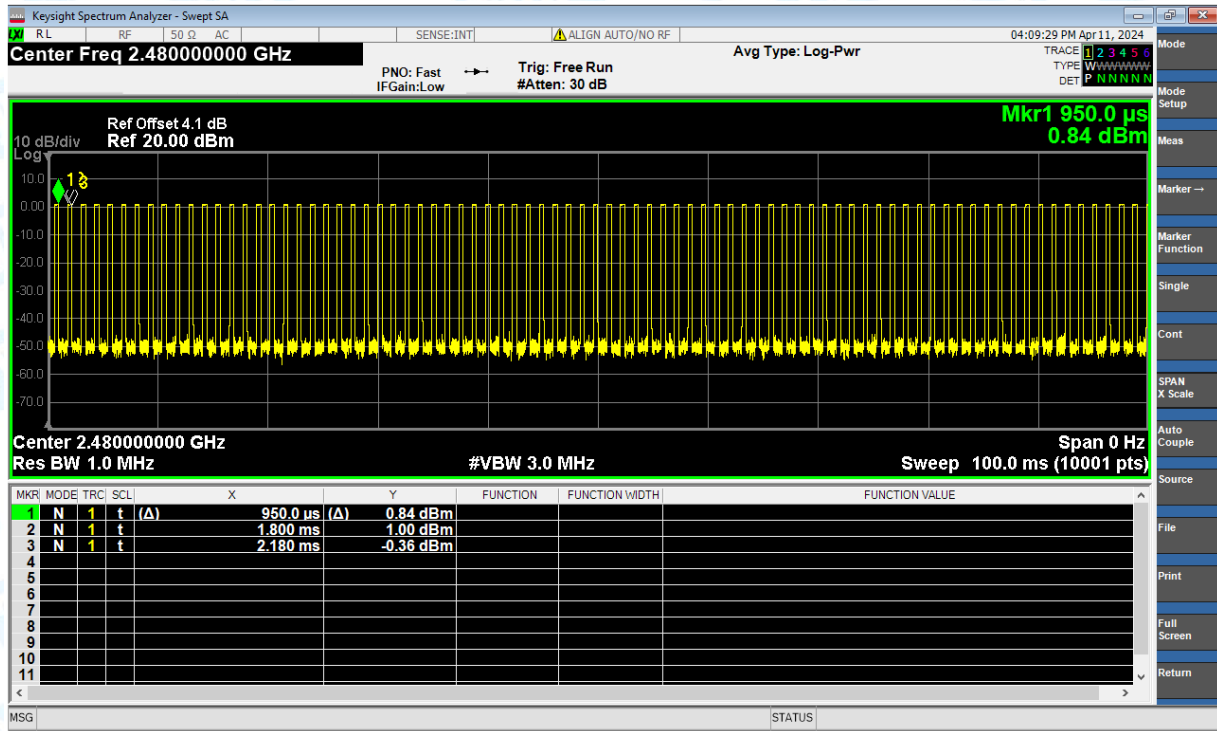
Duty Cycle NVNT 1-DH1 2402MHz Ant1



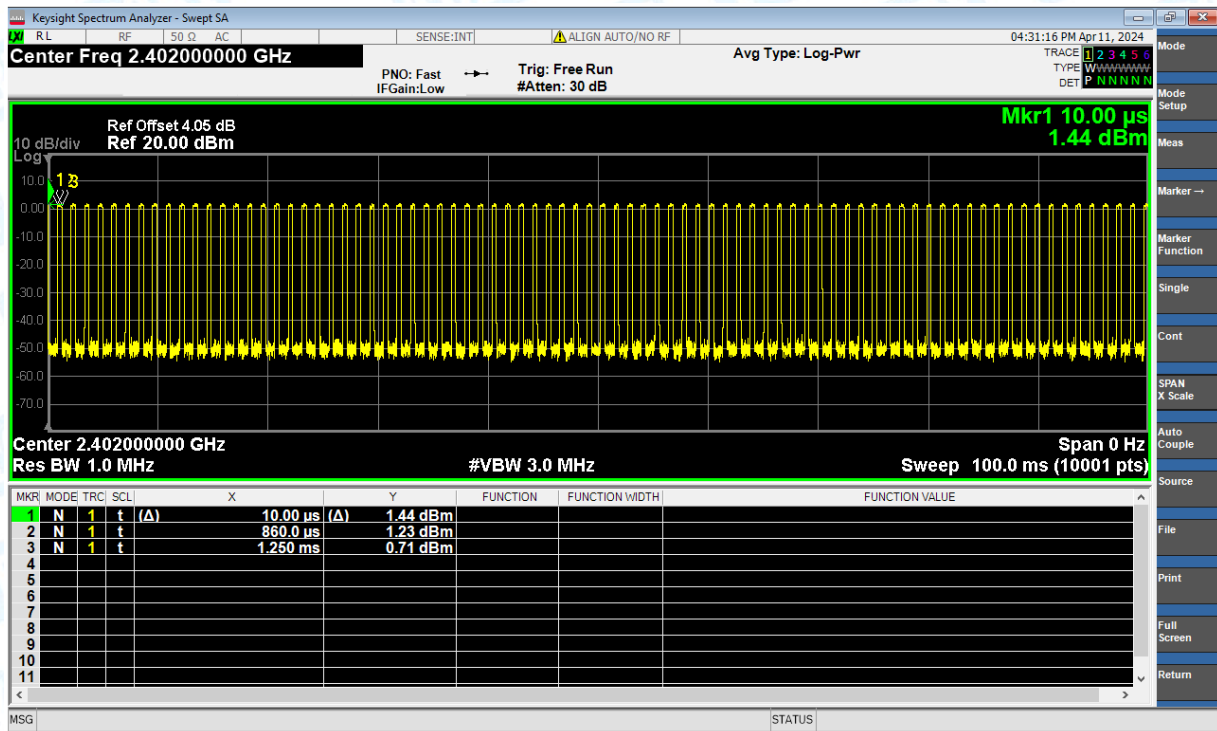
Duty Cycle NVNT 1-DH1 2441MHz Ant1



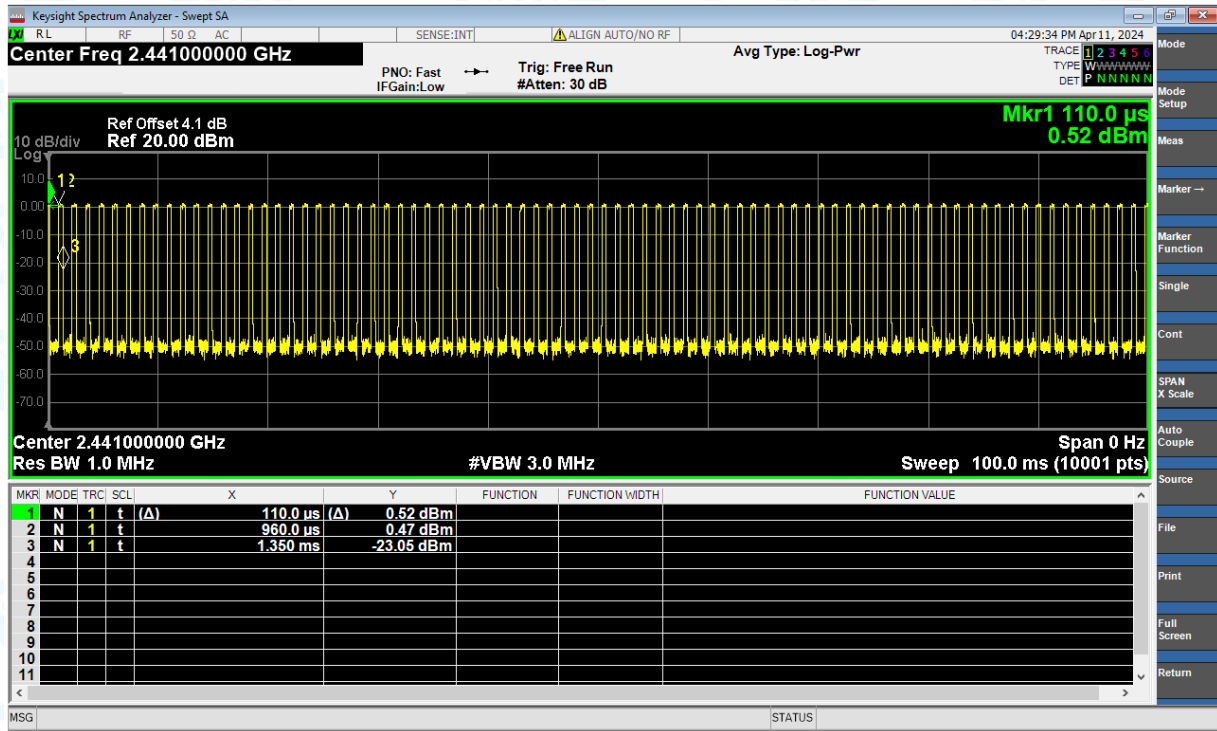
Duty Cycle NVNT 1-DH1 2480MHz Ant1



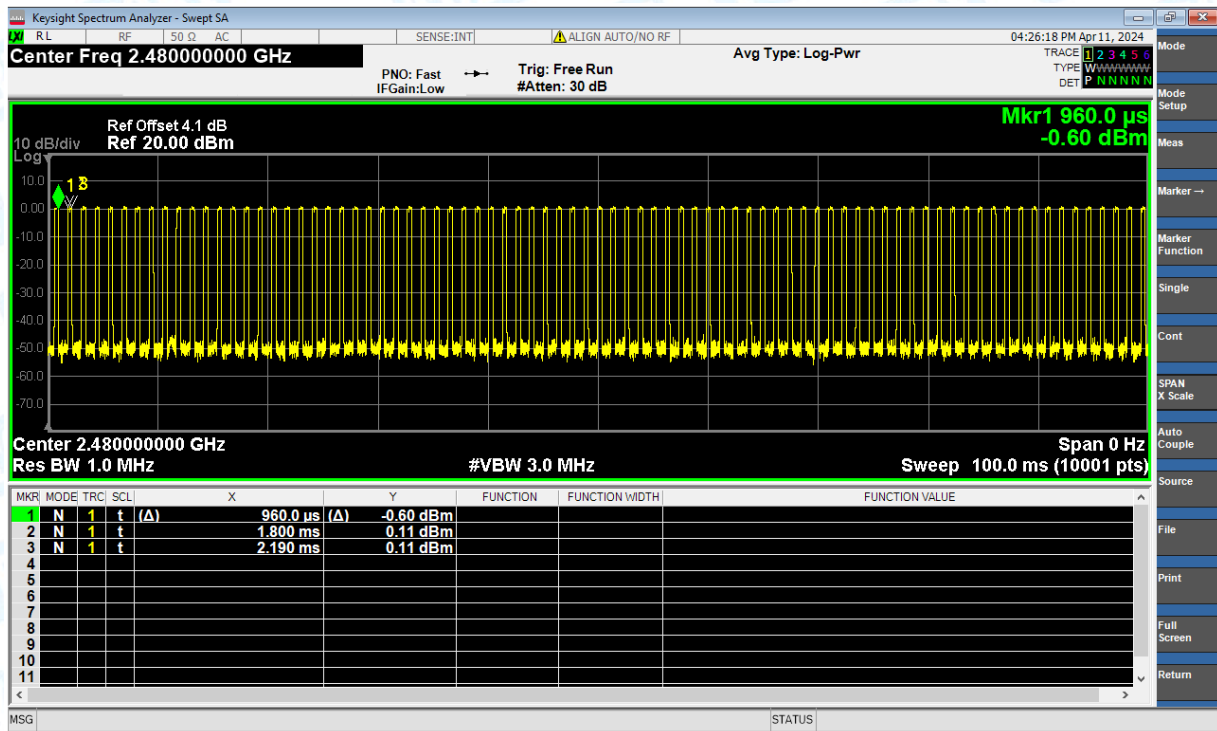
Duty Cycle NVNT 2-DH1 2402MHz Ant1



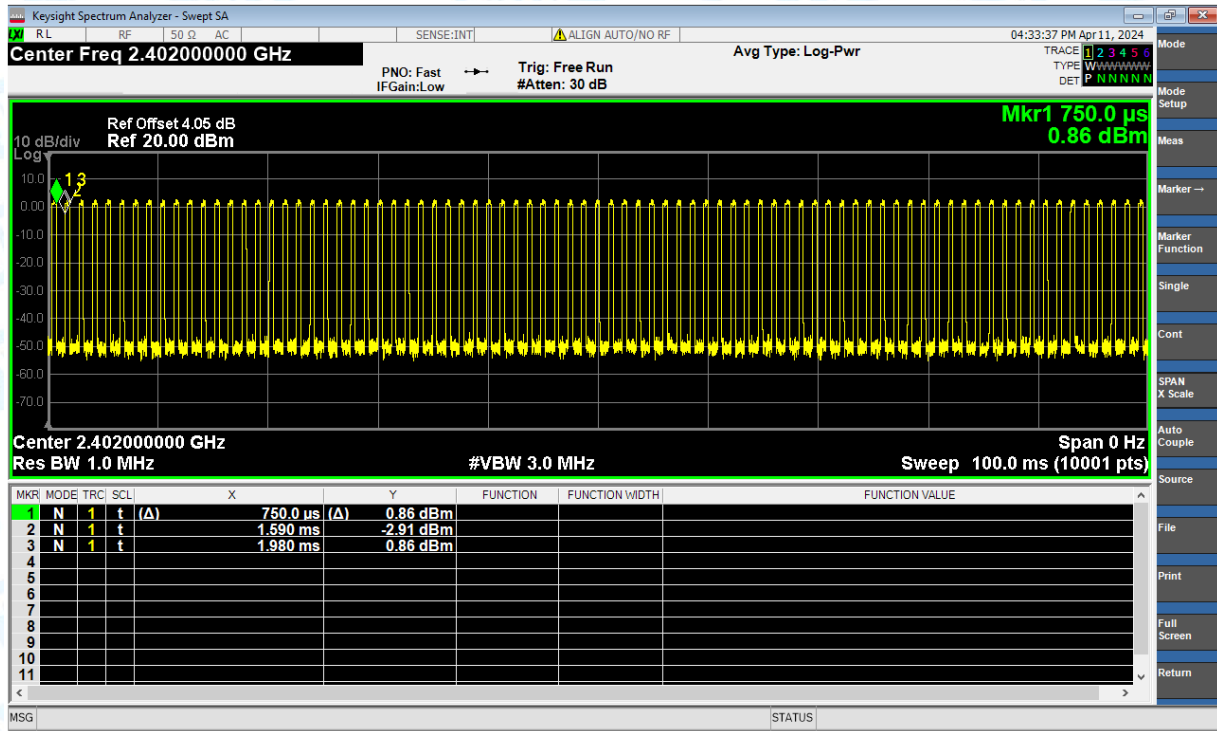
Duty Cycle NVNT 2-DH1 2441MHz Ant1



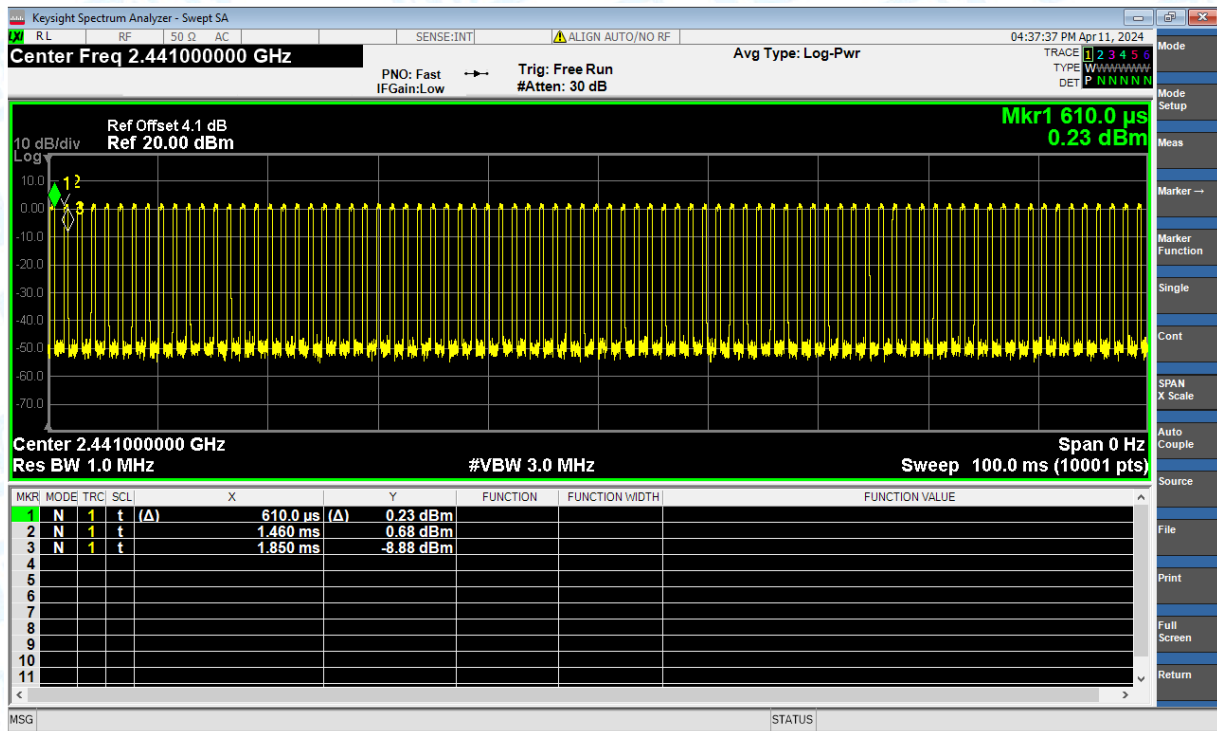
Duty Cycle NVNT 2-DH1 2480MHz Ant1

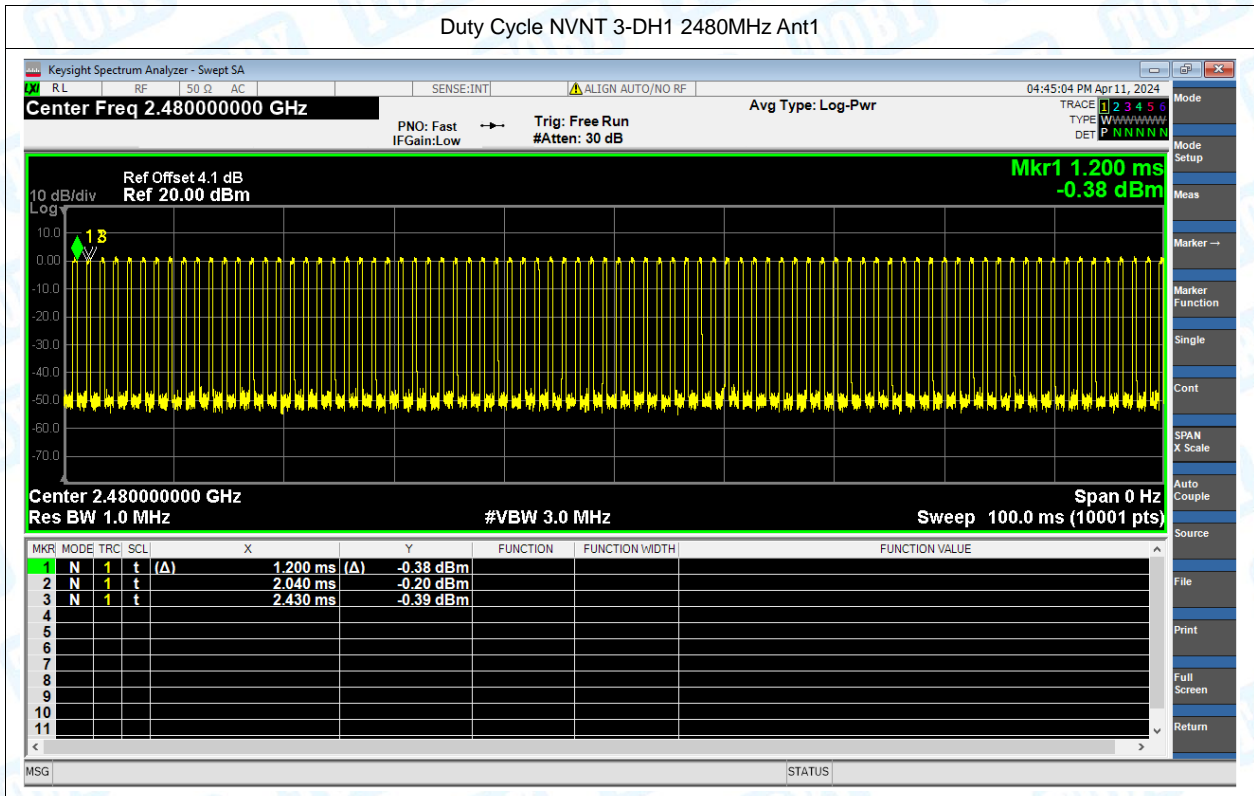


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



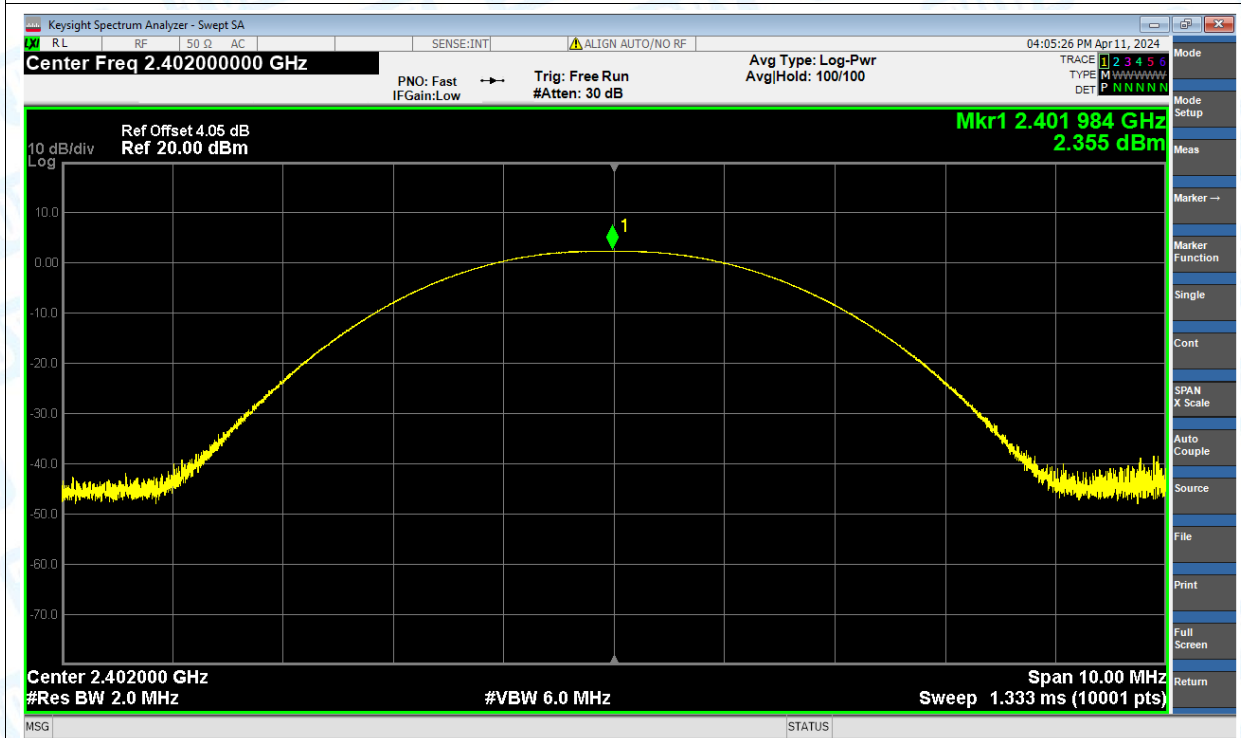


2. Maximum Conducted Output Power

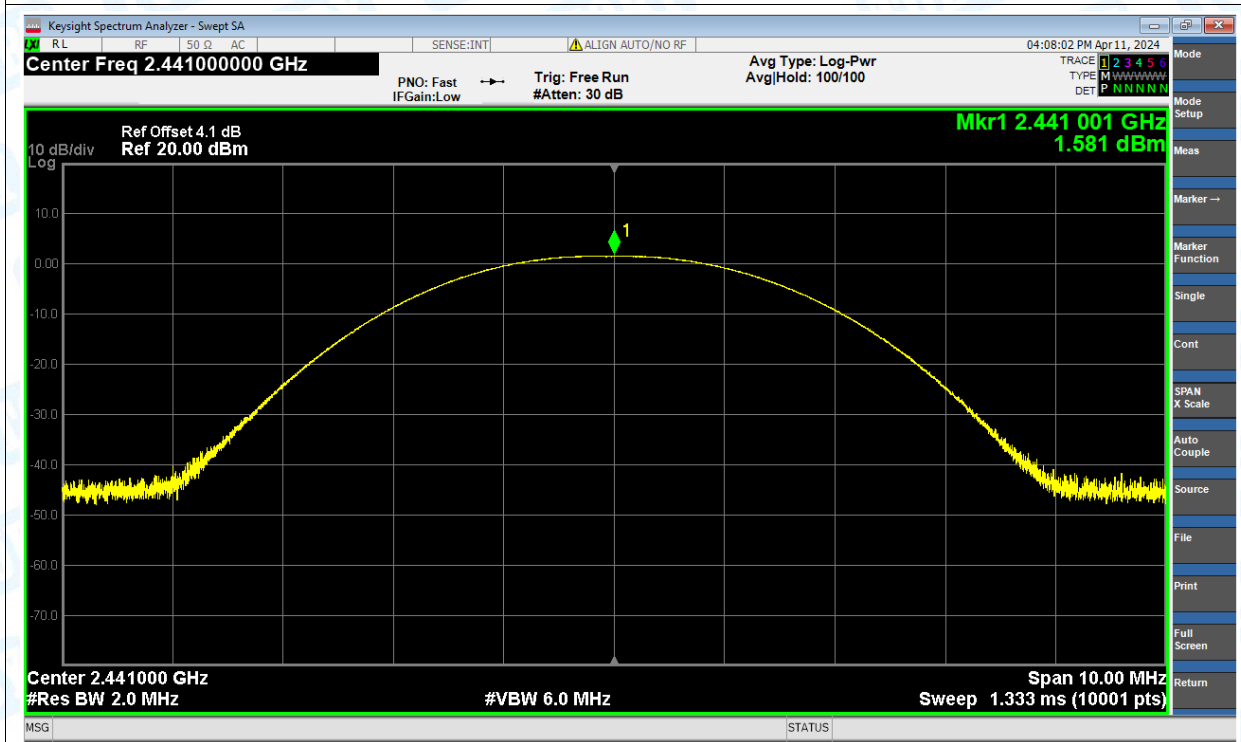
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	2.355	21	Pass
NVNT	1-DH1	2441	Ant1	1.581	21	Pass
NVNT	1-DH1	2480	Ant1	1.01	21	Pass
NVNT	1-DH3	2441	Ant1	1.615	21	Pass
NVNT	1-DH5	2441	Ant1	1.55	21	Pass
NVNT	2-DH1	2402	Ant1	2.496	21	Pass
NVNT	2-DH1	2441	Ant1	1.753	21	Pass
NVNT	2-DH1	2480	Ant1	1.372	21	Pass
NVNT	2-DH3	2441	Ant1	1.982	21	Pass
NVNT	2-DH5	2441	Ant1	1.898	21	Pass
NVNT	3-DH1	2402	Ant1	3.212	21	Pass
NVNT	3-DH1	2441	Ant1	2.492	21	Pass
NVNT	3-DH1	2480	Ant1	1.915	21	Pass
NVNT	3-DH3	2441	Ant1	2.456	21	Pass
NVNT	3-DH5	2441	Ant1	2.464	21	Pass

Test Graphs

Power NVNT 1-DH1 2402MHz Ant1



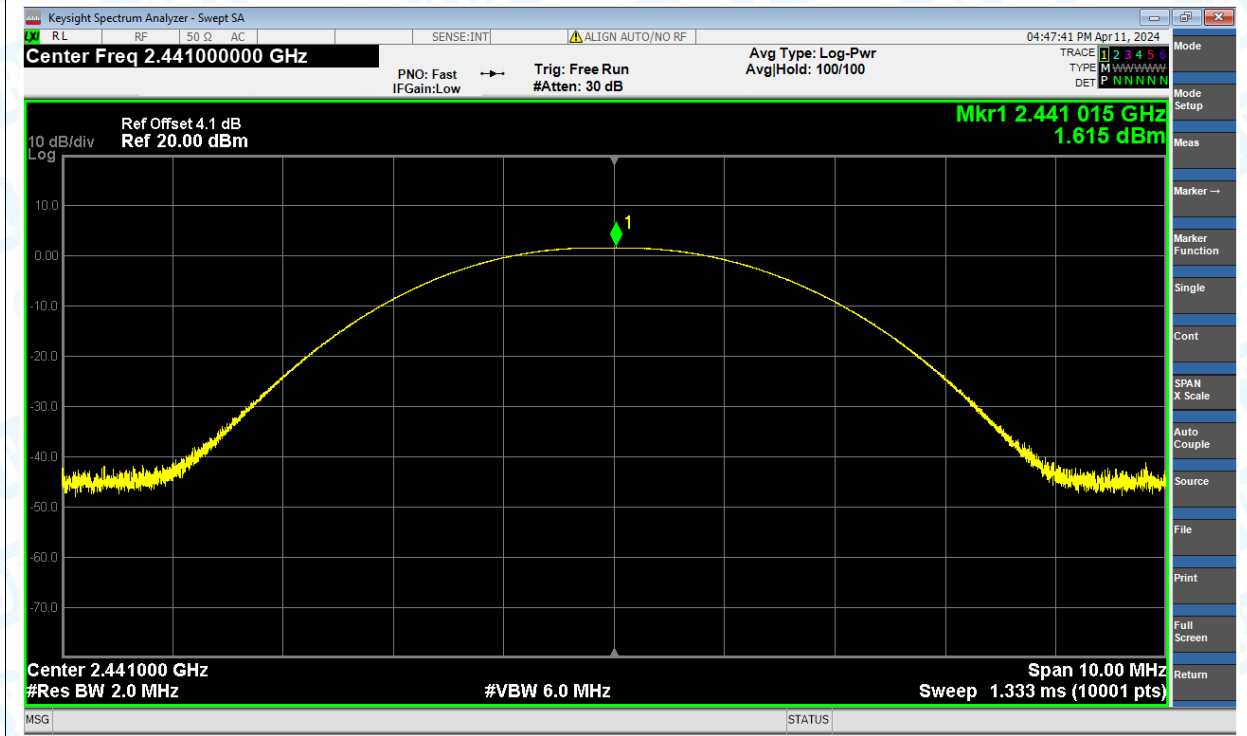
Power NVNT 1-DH1 2441MHz Ant1



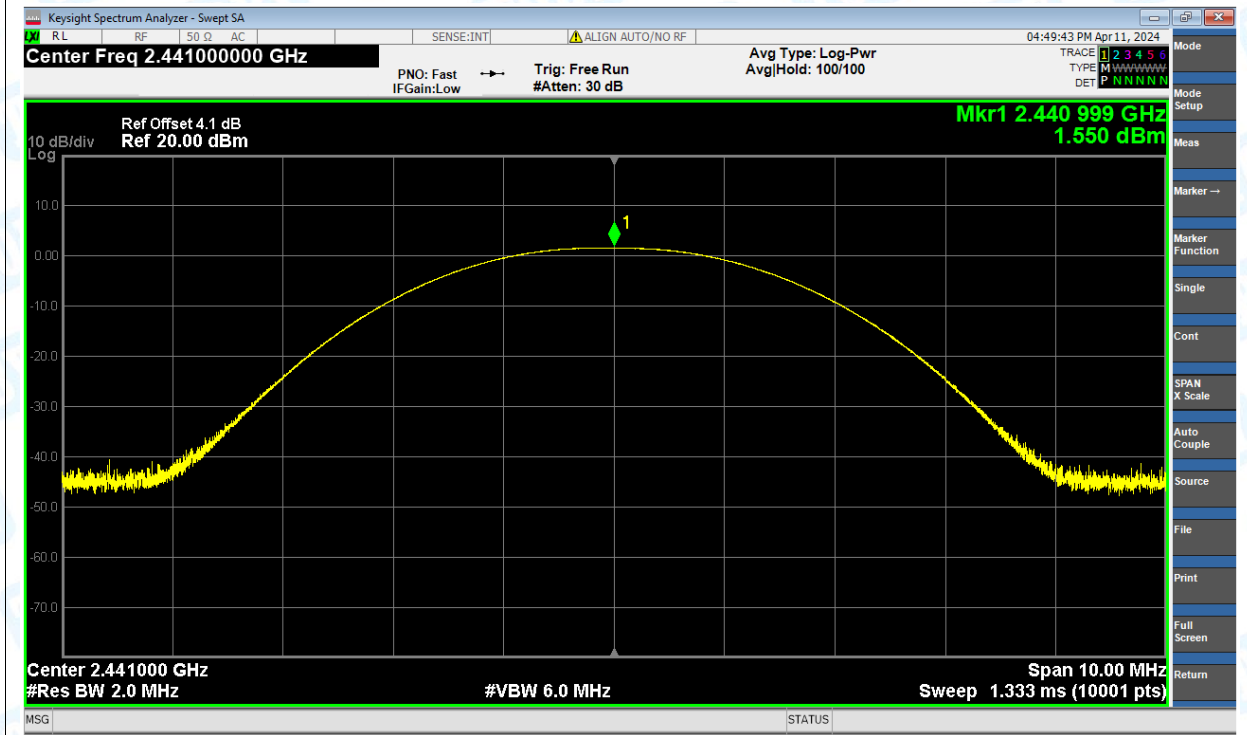
Power NVNT 1-DH1 2480MHz Ant1



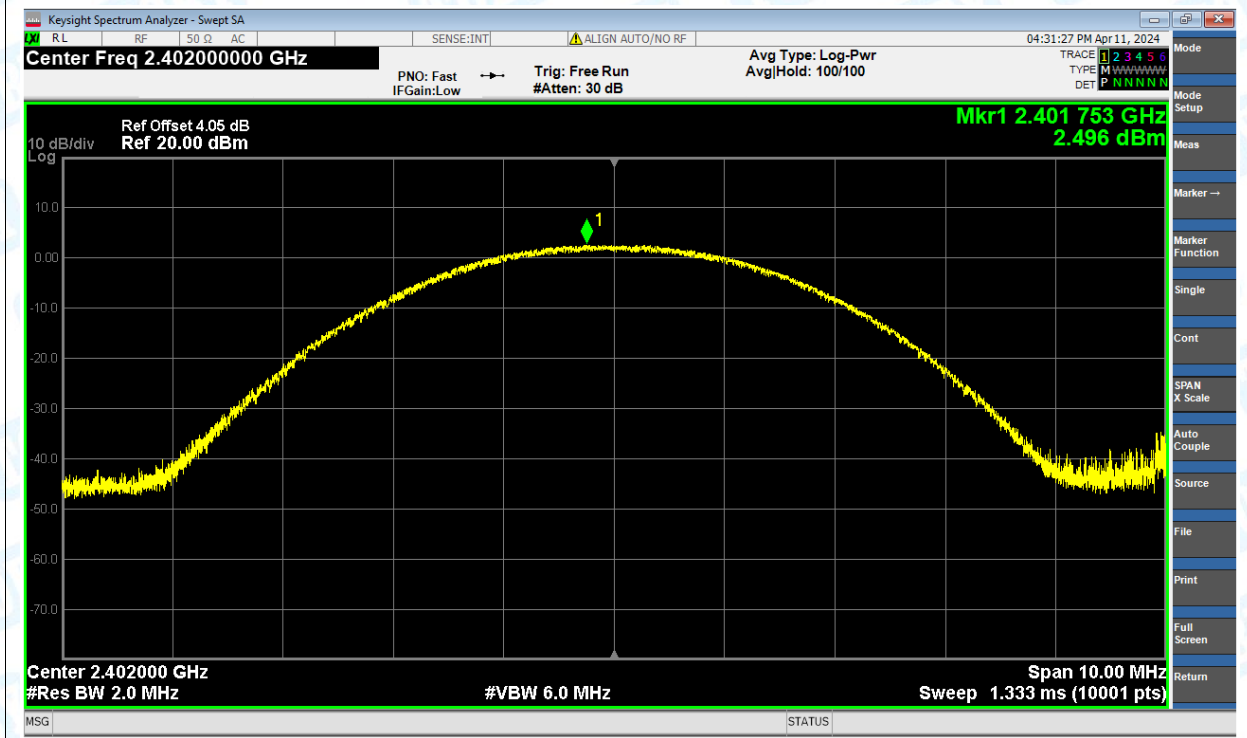
Power NVNT 1-DH3 2441MHz Ant1



Power NVNT 1-DH5 2441MHz Ant1



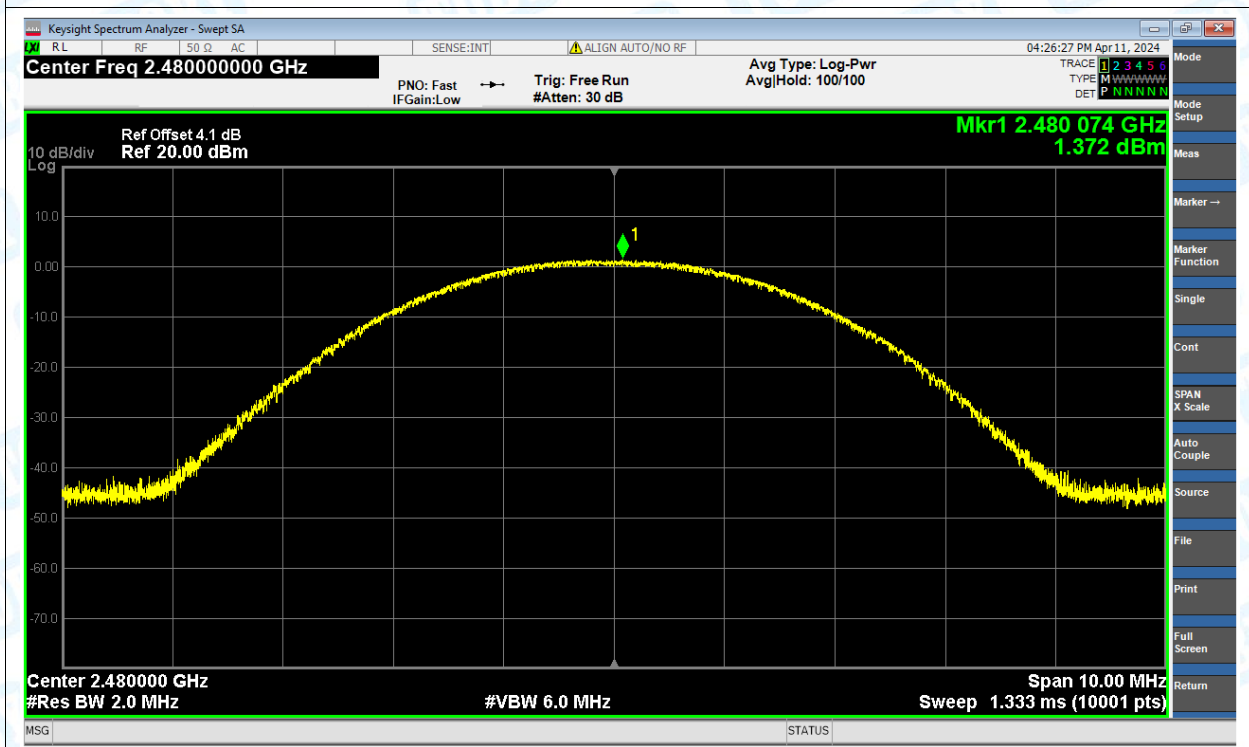
Power NVNT 2-DH1 2402MHz Ant1



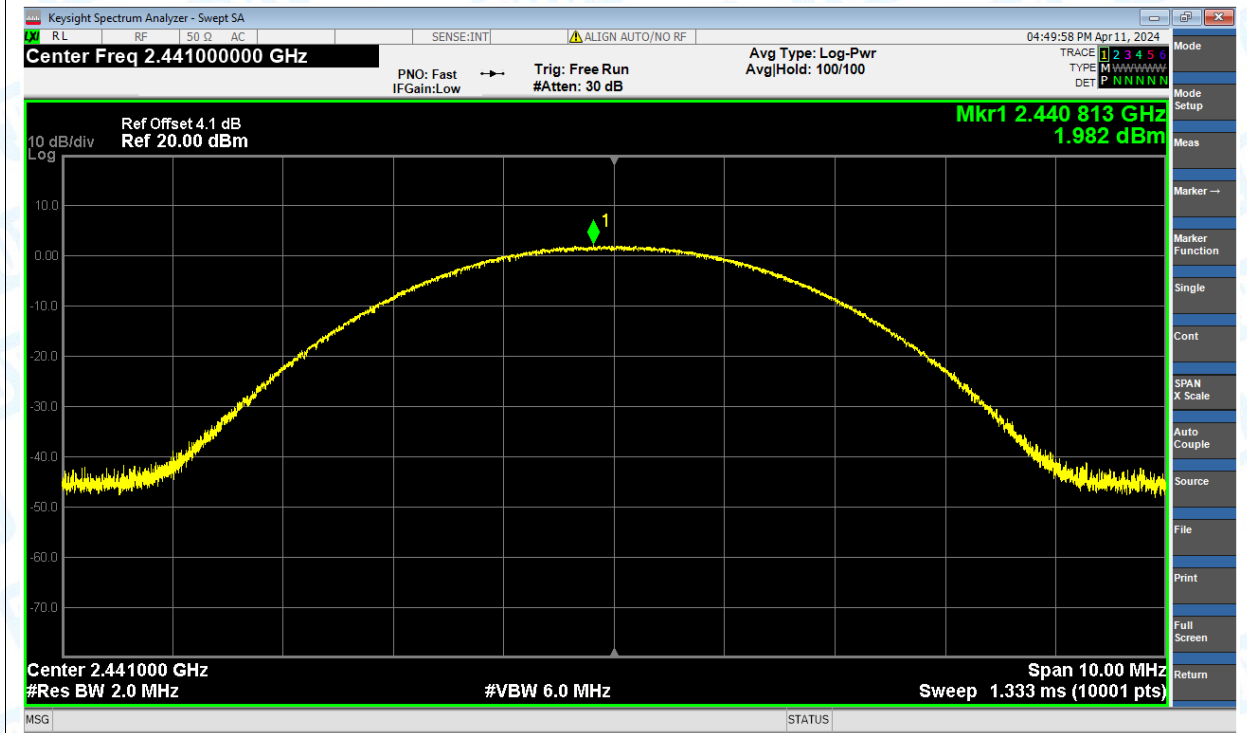
Power NVNT 2-DH1 2441MHz Ant1



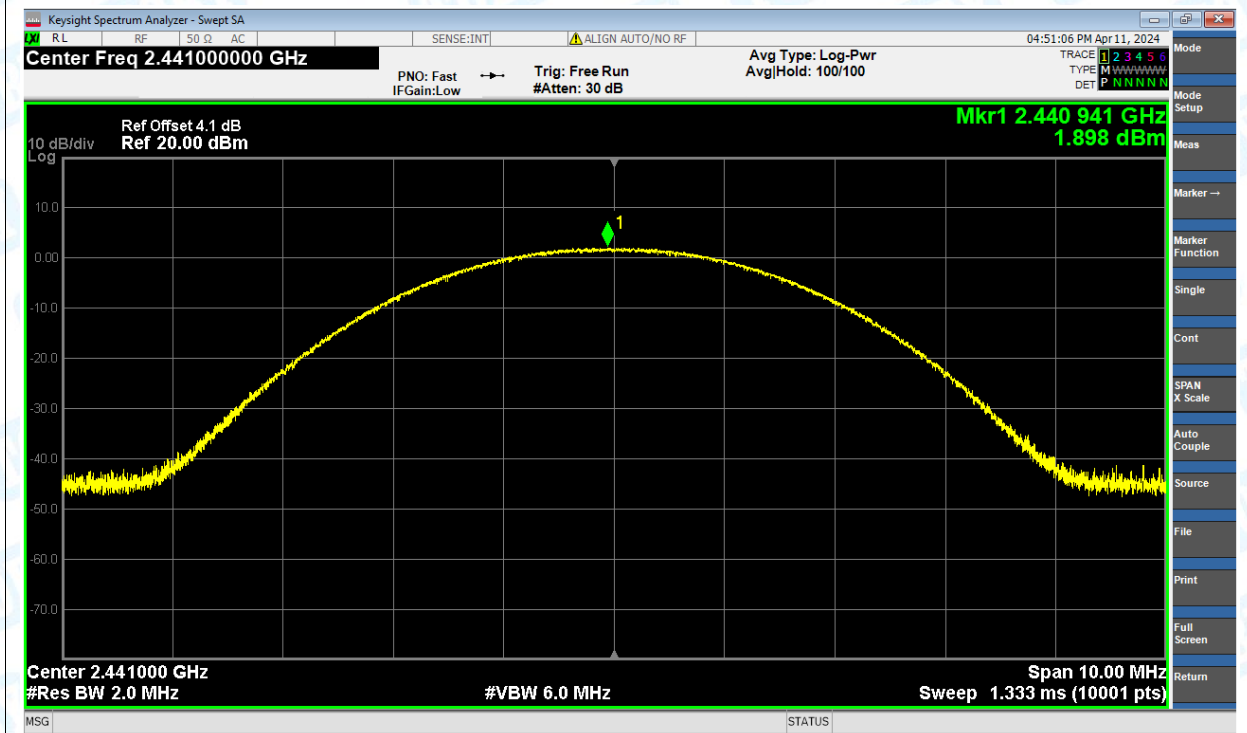
Power NVNT 2-DH1 2480MHz Ant1



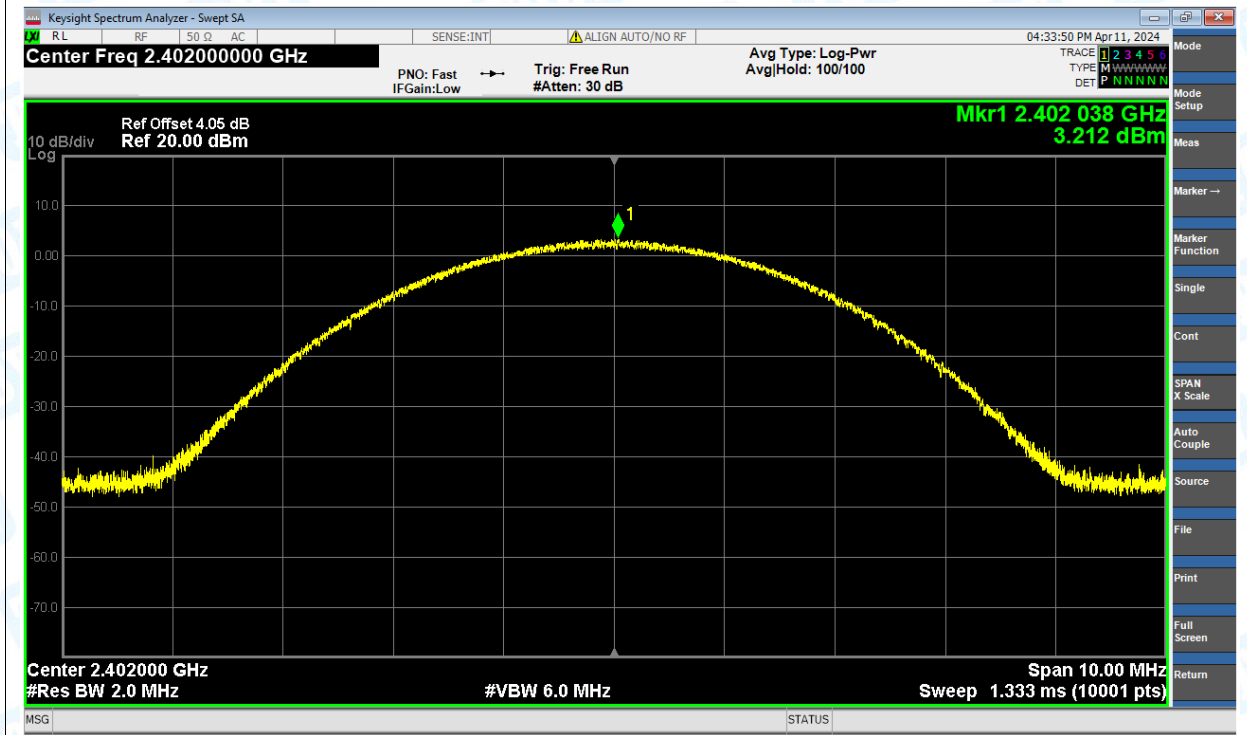
Power NVNT 2-DH3 2441MHz Ant1



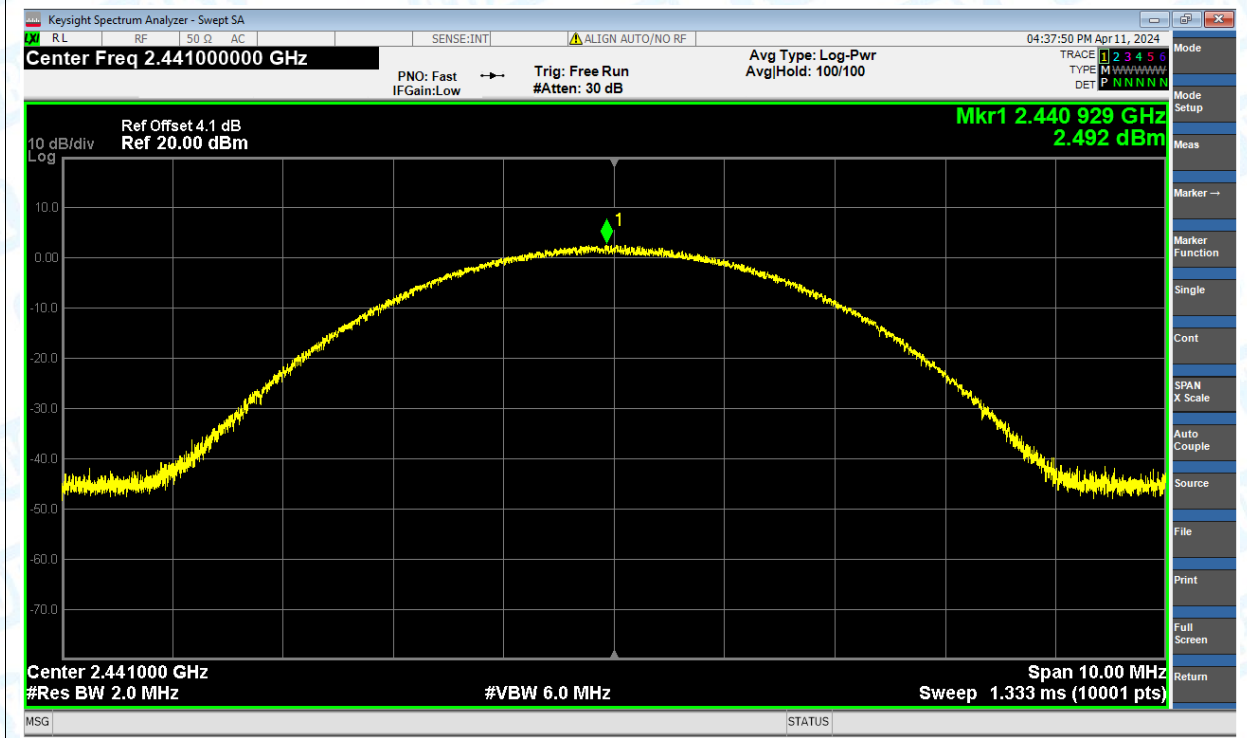
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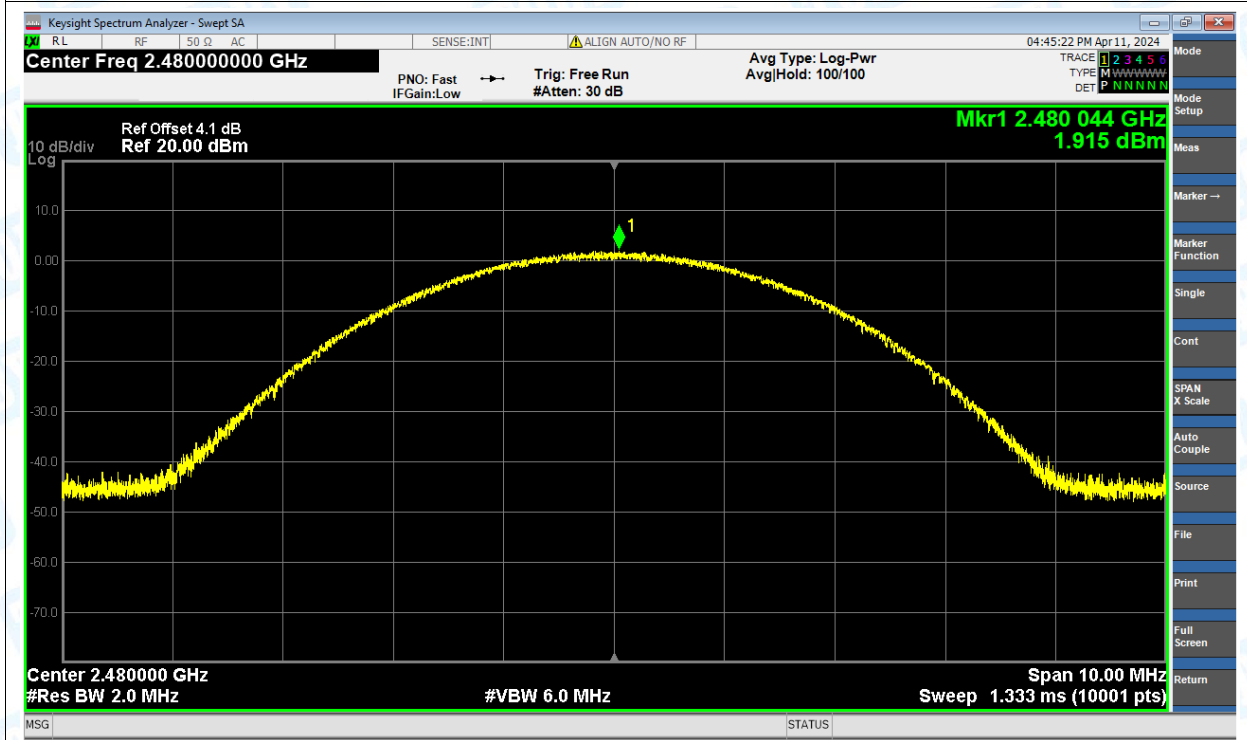
Power NVNT 3-DH1 2402MHz Ant1



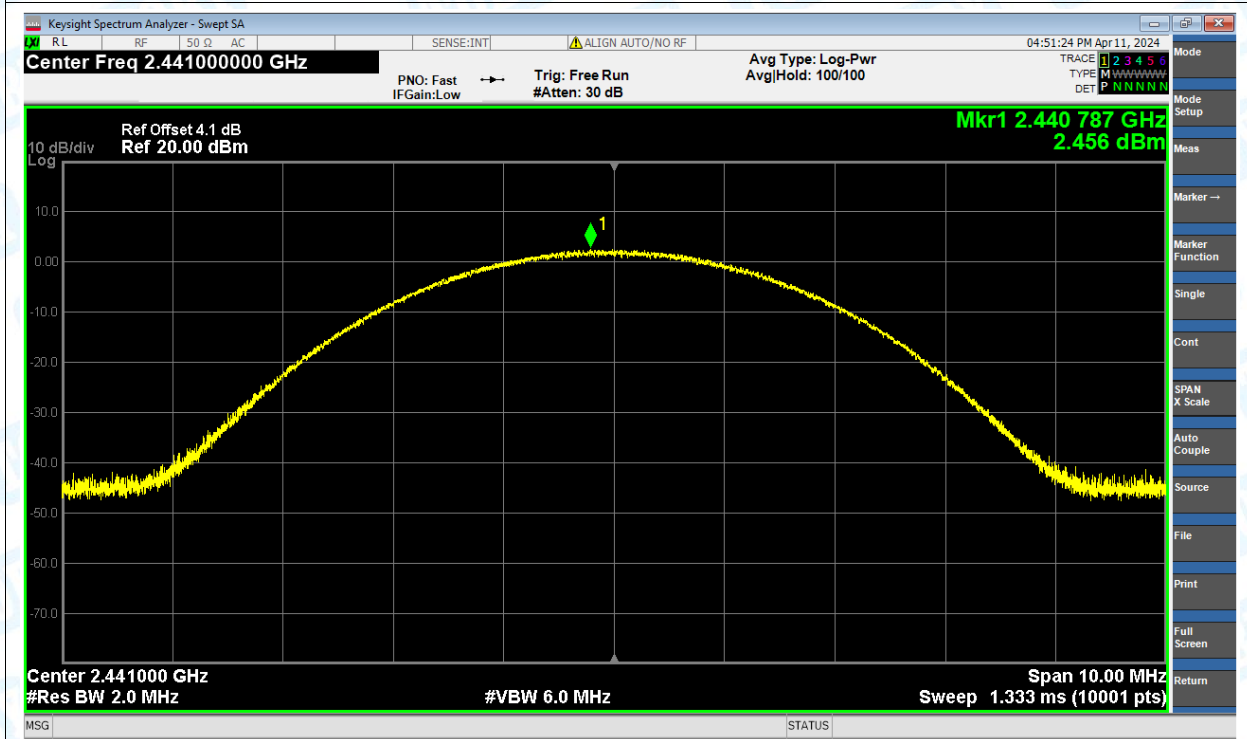
Power NVNT 3-DH1 2441MHz Ant1

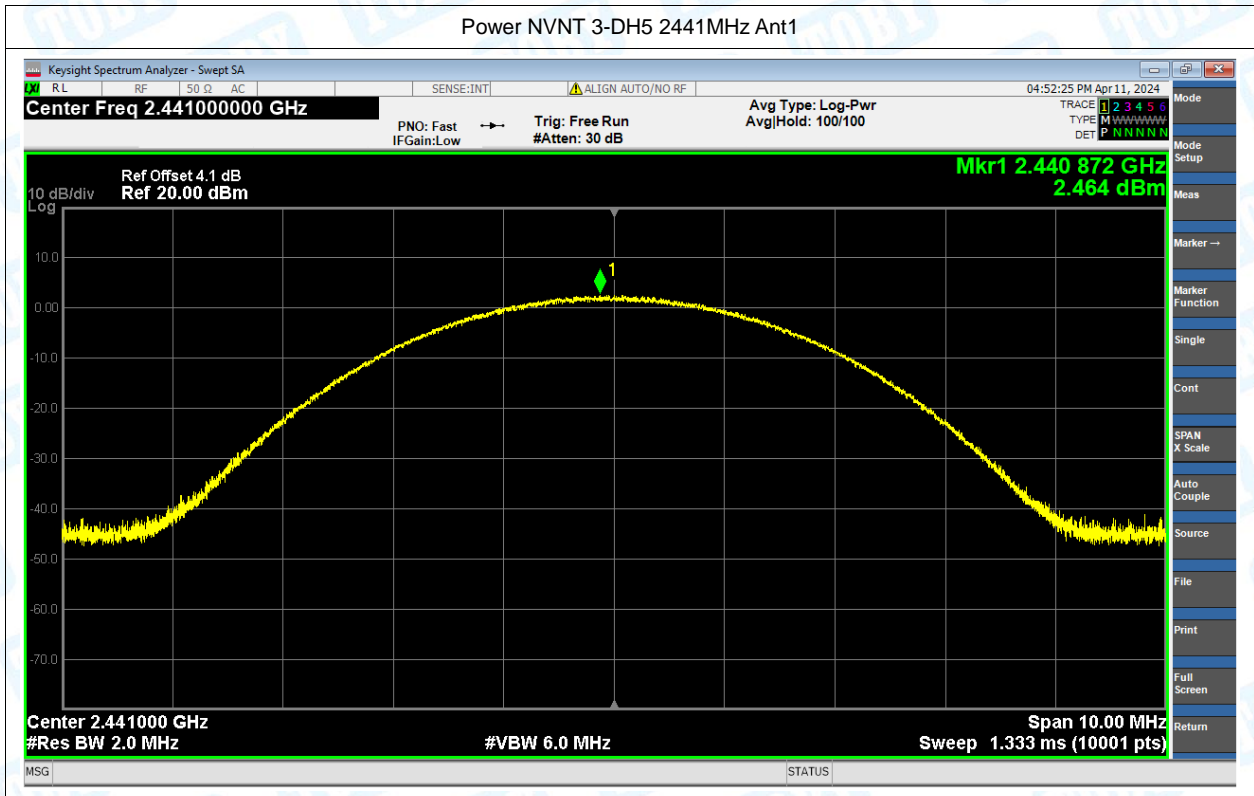


Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1



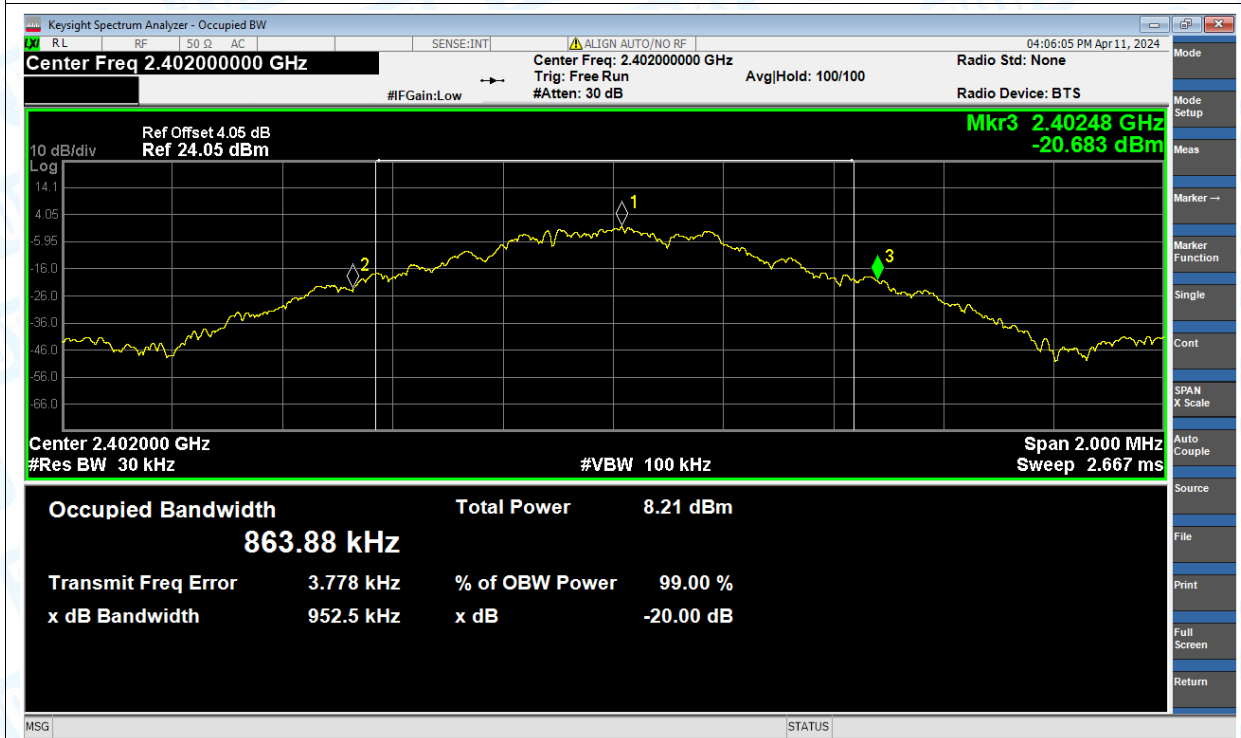


3. -20dB Bandwidth

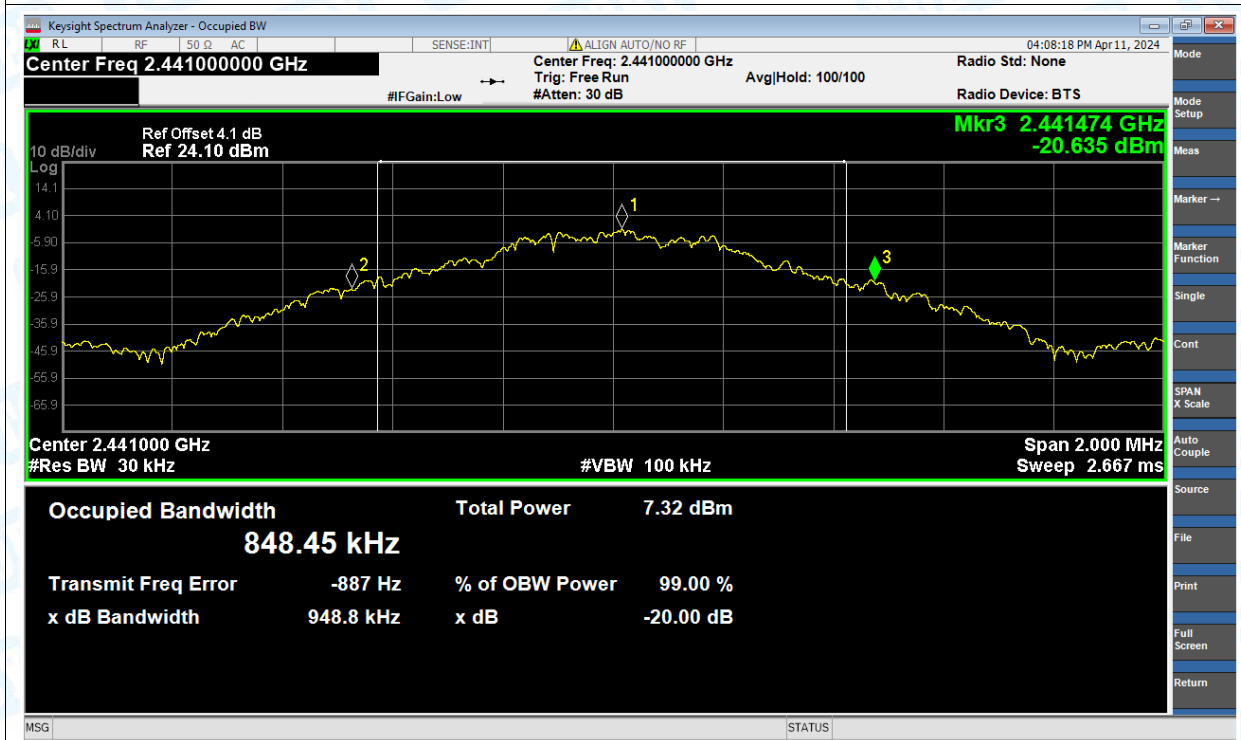
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.95	0	Pass
NVNT	1-DH1	2441	Ant1	0.95	0	Pass
NVNT	1-DH1	2480	Ant1	0.94	0	Pass
NVNT	2-DH1	2402	Ant1	1.29	0	Pass
NVNT	2-DH1	2441	Ant1	1.25	0	Pass
NVNT	2-DH1	2480	Ant1	1.3	0	Pass
NVNT	3-DH1	2402	Ant1	1.22	0	Pass
NVNT	3-DH1	2441	Ant1	1.22	0	Pass
NVNT	3-DH1	2480	Ant1	1.22	0	Pass

Test Graphs

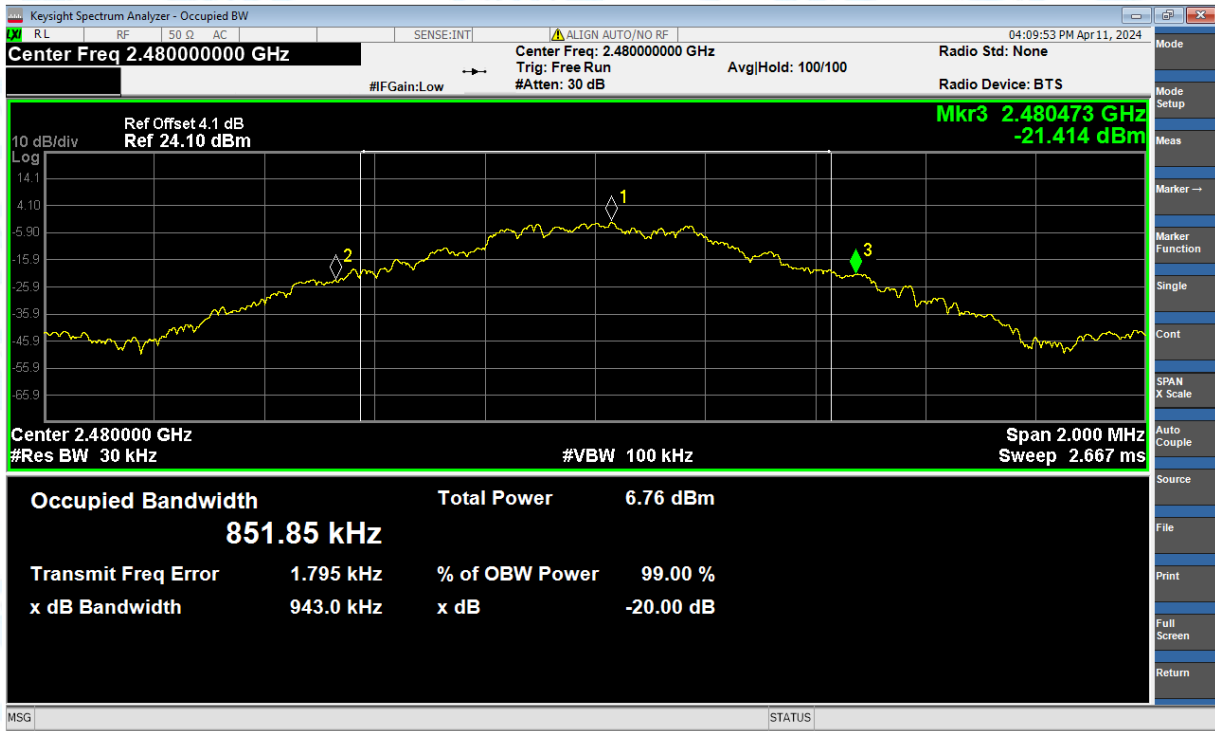
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



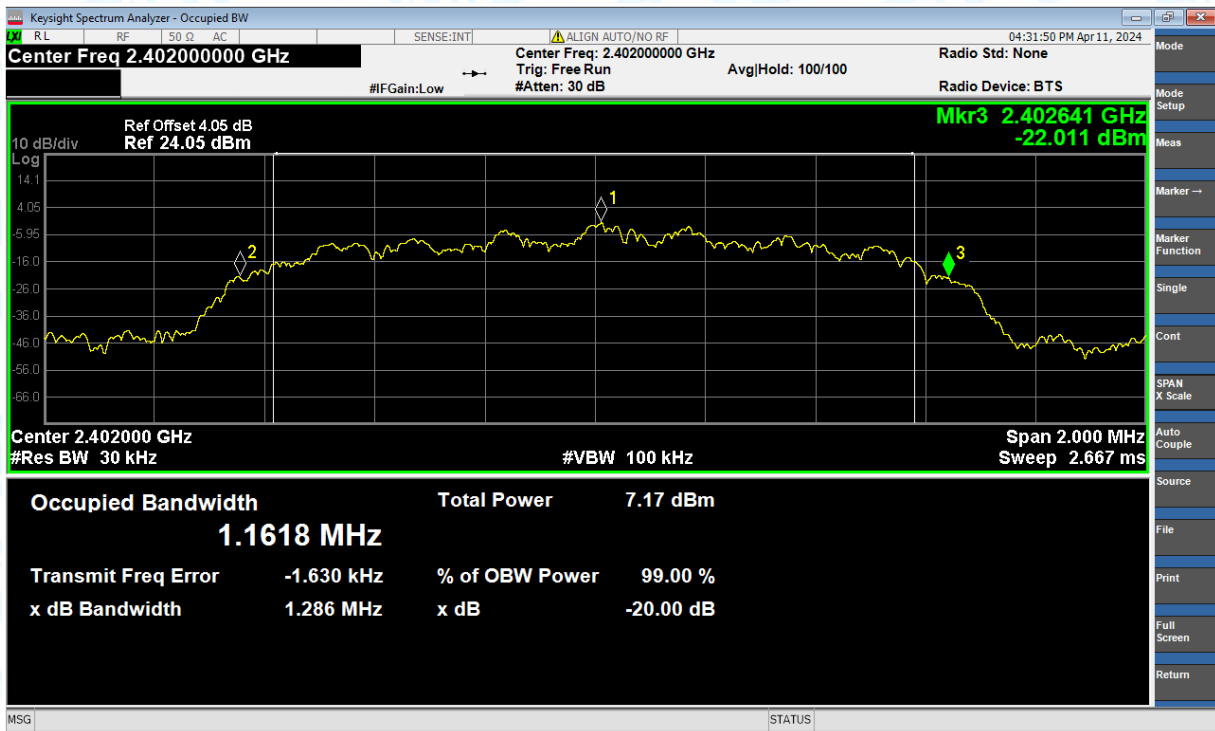
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



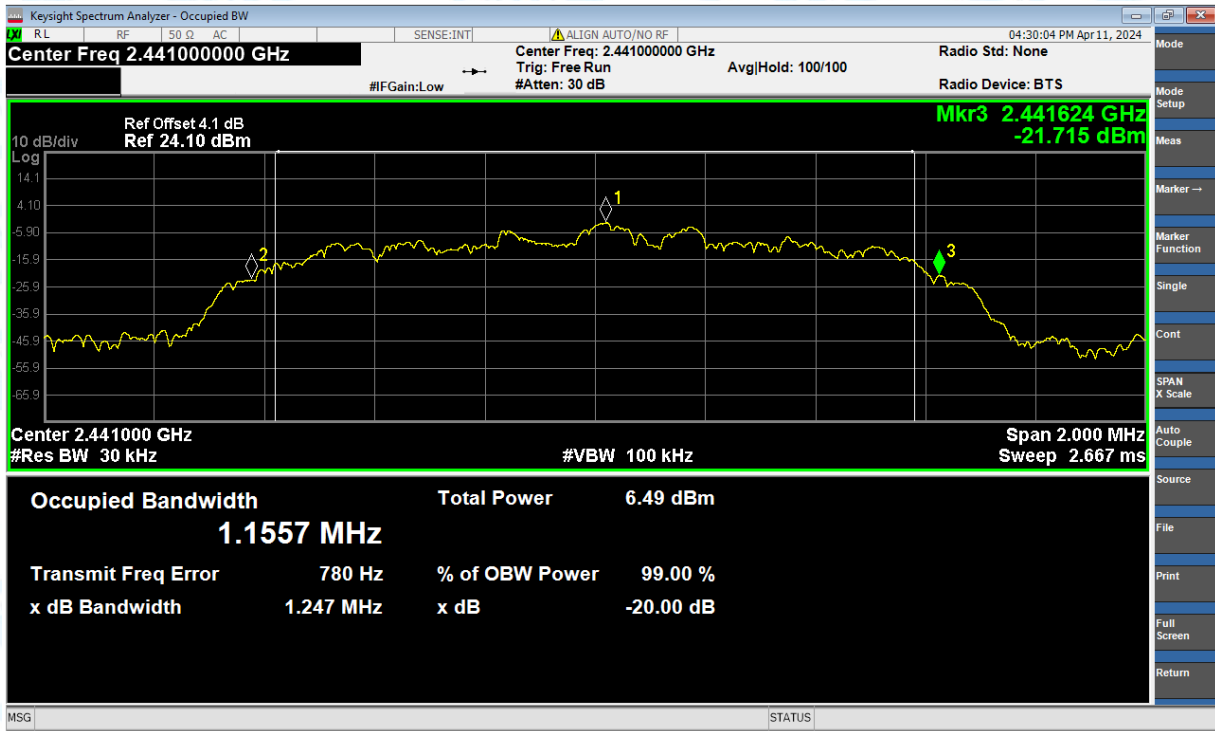
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



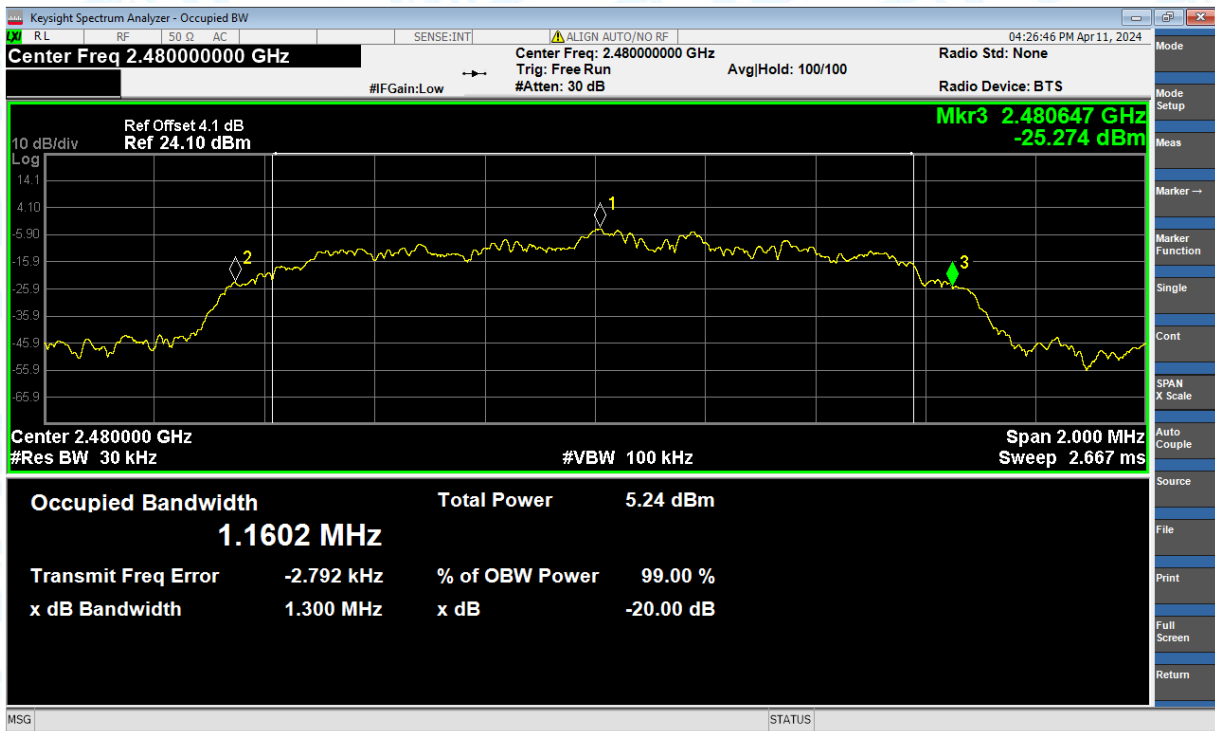
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



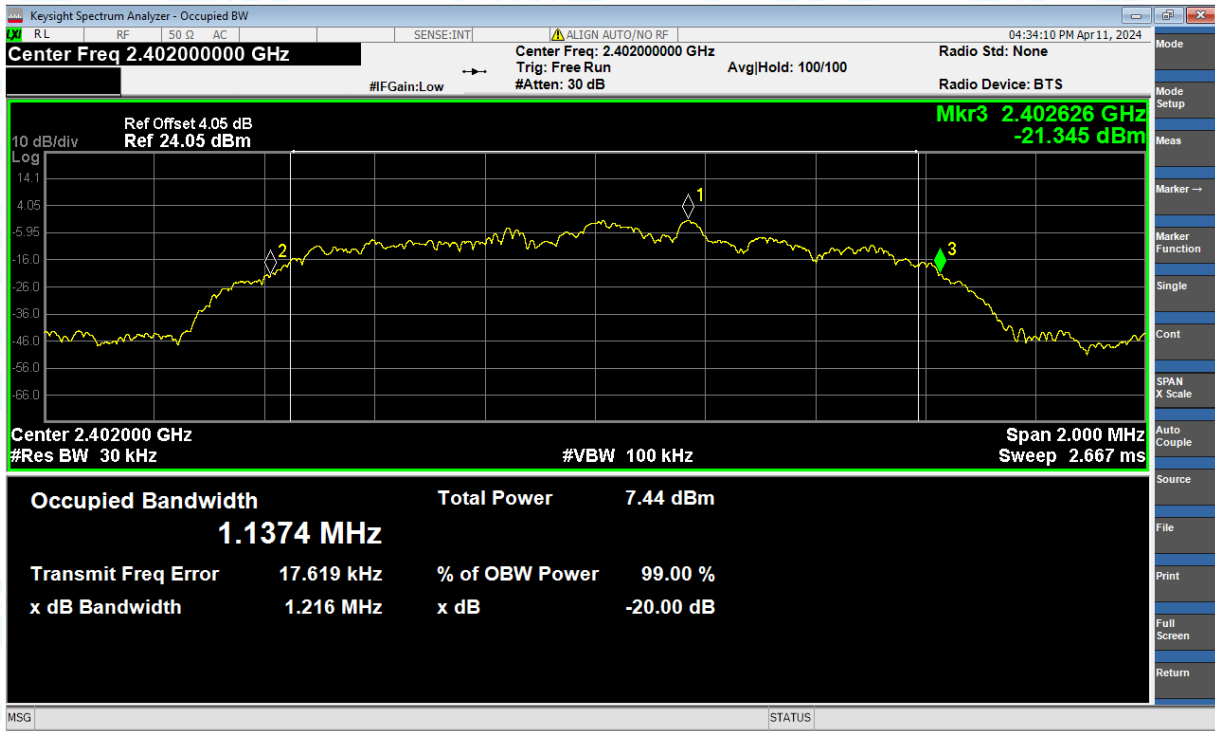
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



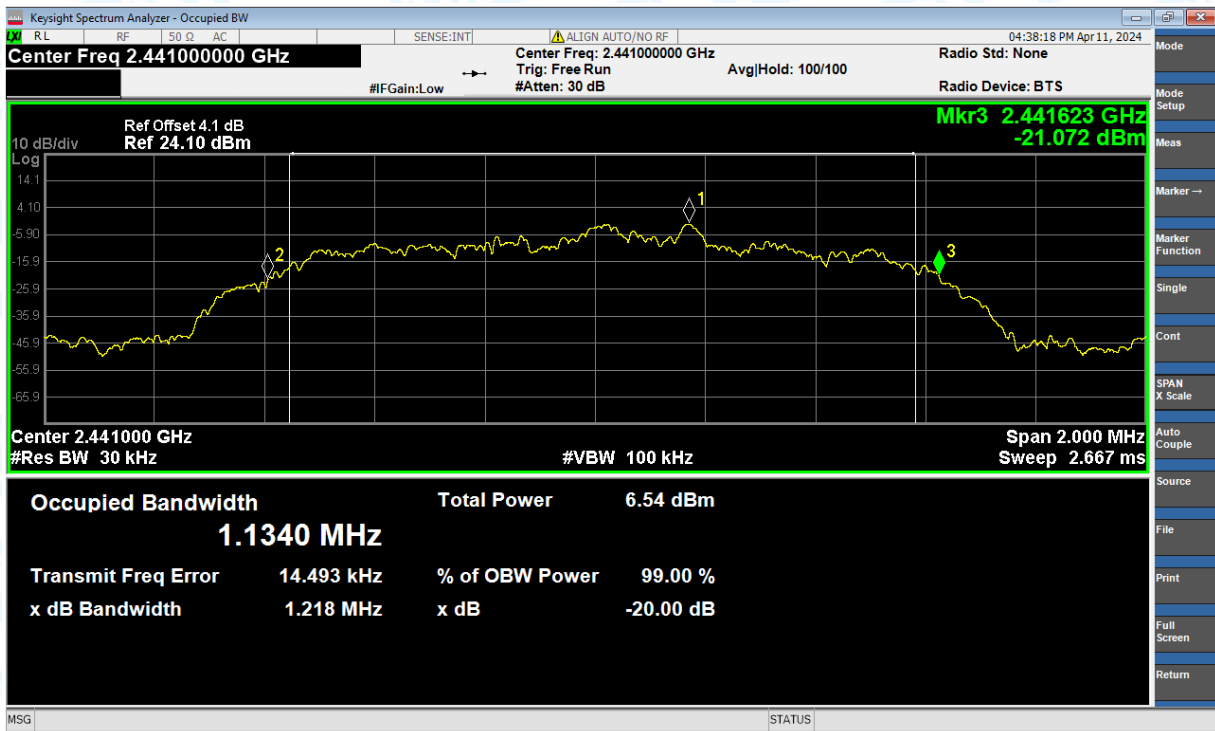
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

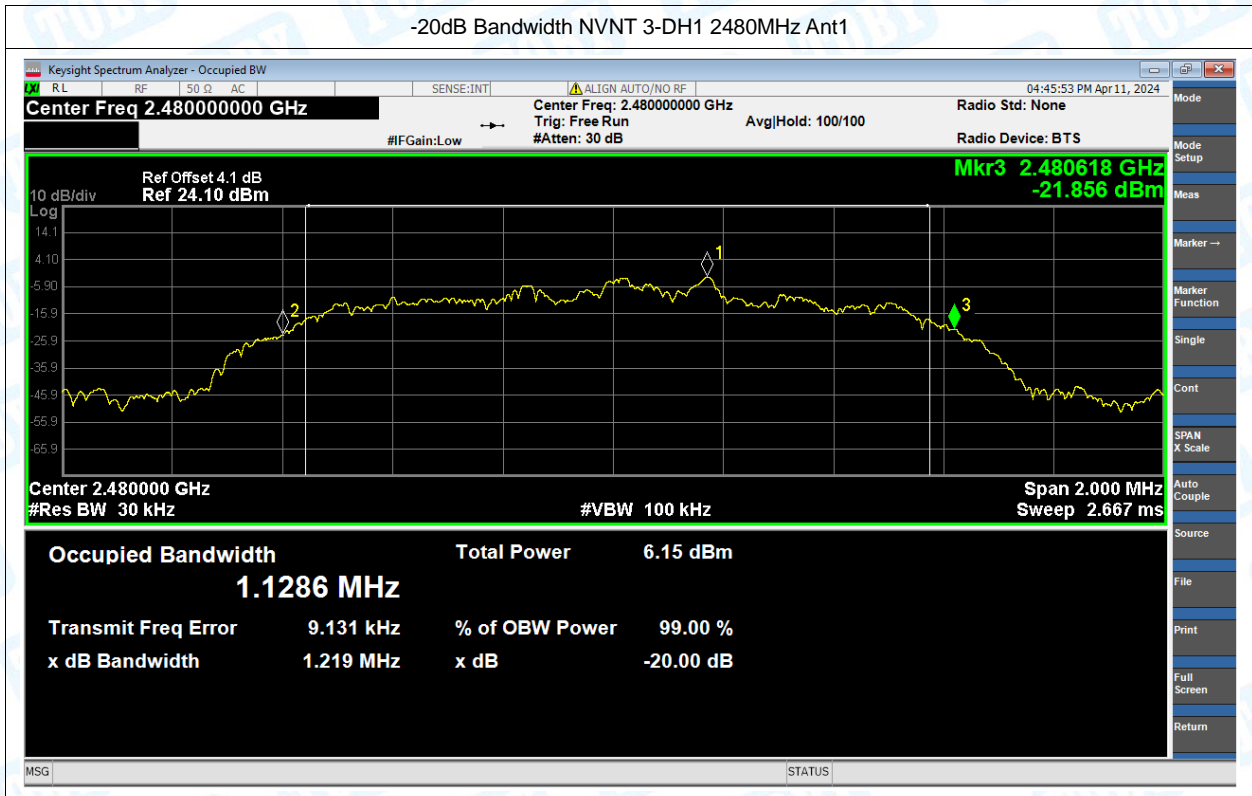


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



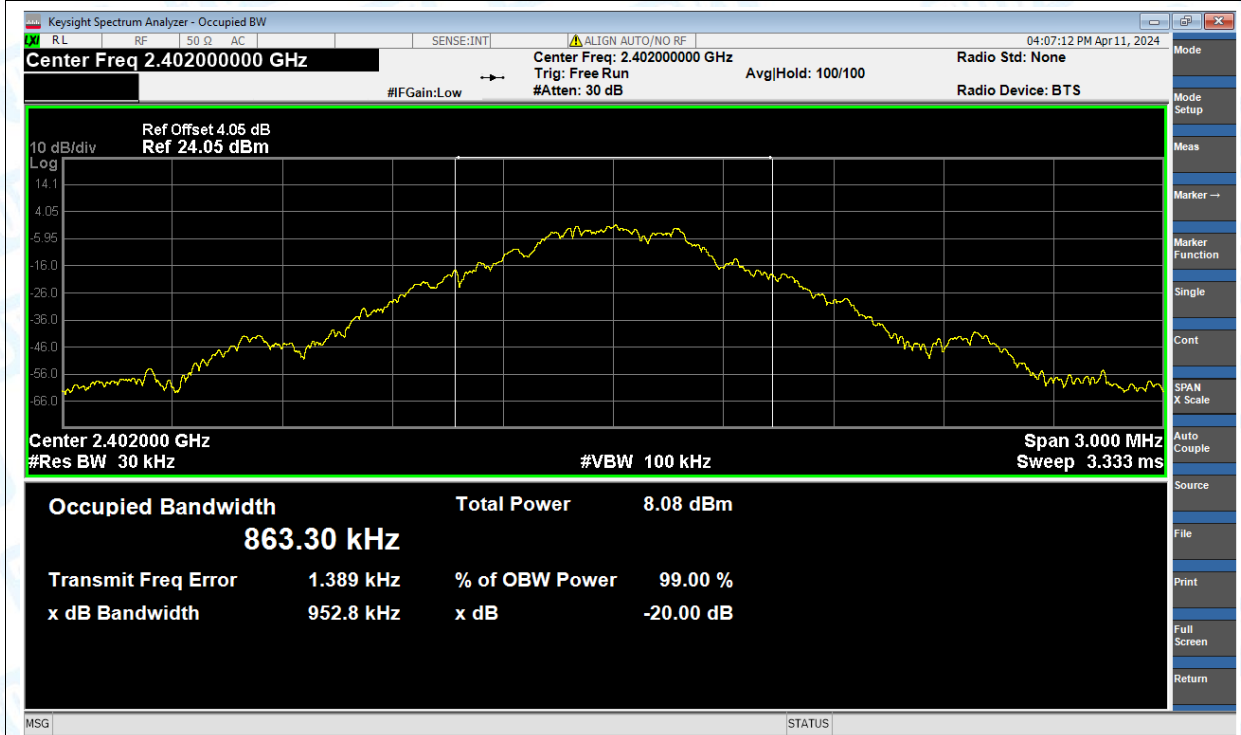


4. Occupied Channel Bandwidth

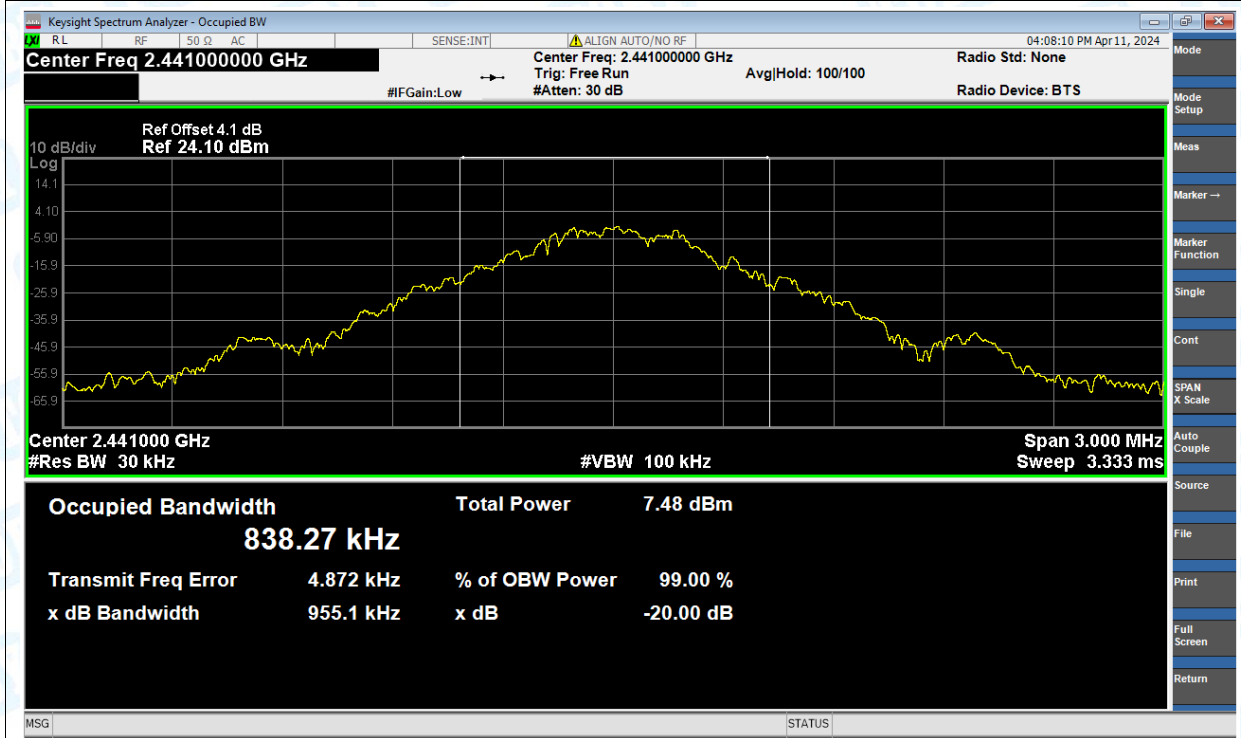
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.863
NVNT	1-DH1	2441	Ant1	0.838
NVNT	1-DH1	2480	Ant1	0.868
NVNT	2-DH1	2402	Ant1	1.166
NVNT	2-DH1	2441	Ant1	1.141
NVNT	2-DH1	2480	Ant1	1.16
NVNT	3-DH1	2402	Ant1	1.132
NVNT	3-DH1	2441	Ant1	1.145
NVNT	3-DH1	2480	Ant1	1.133

Test Graphs

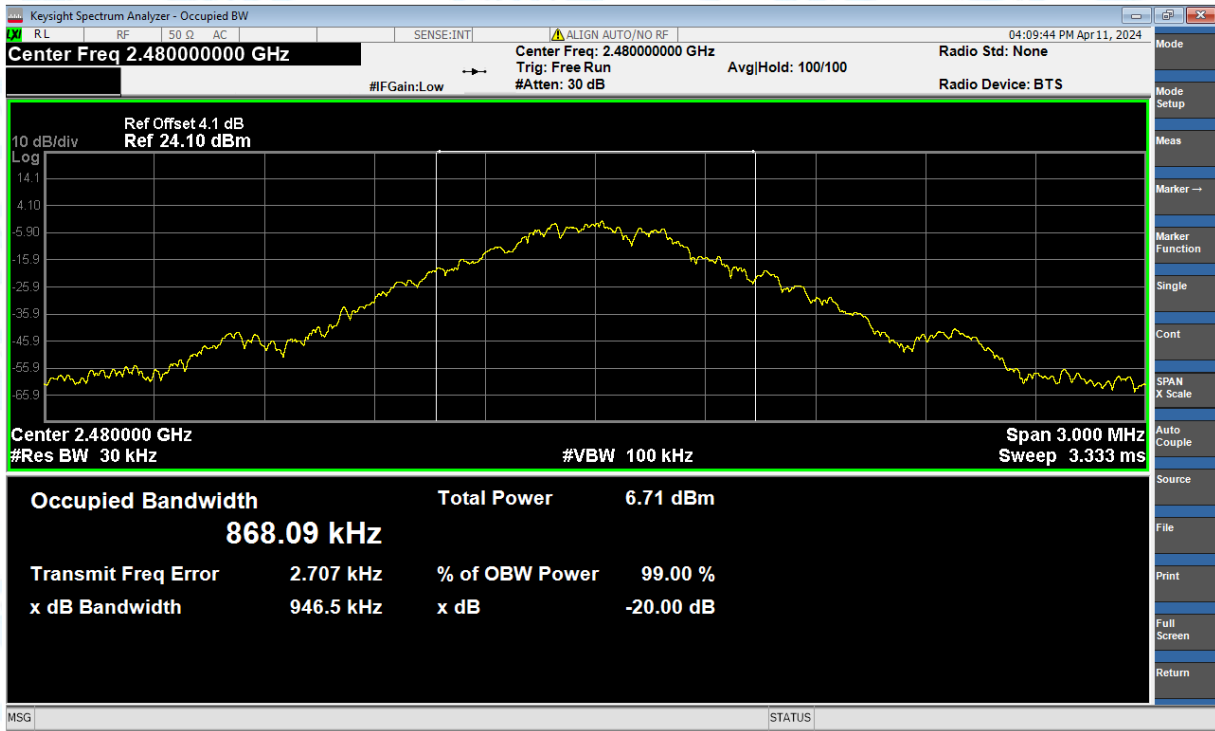
OBW NVNT 1-DH1 2402MHz Ant1



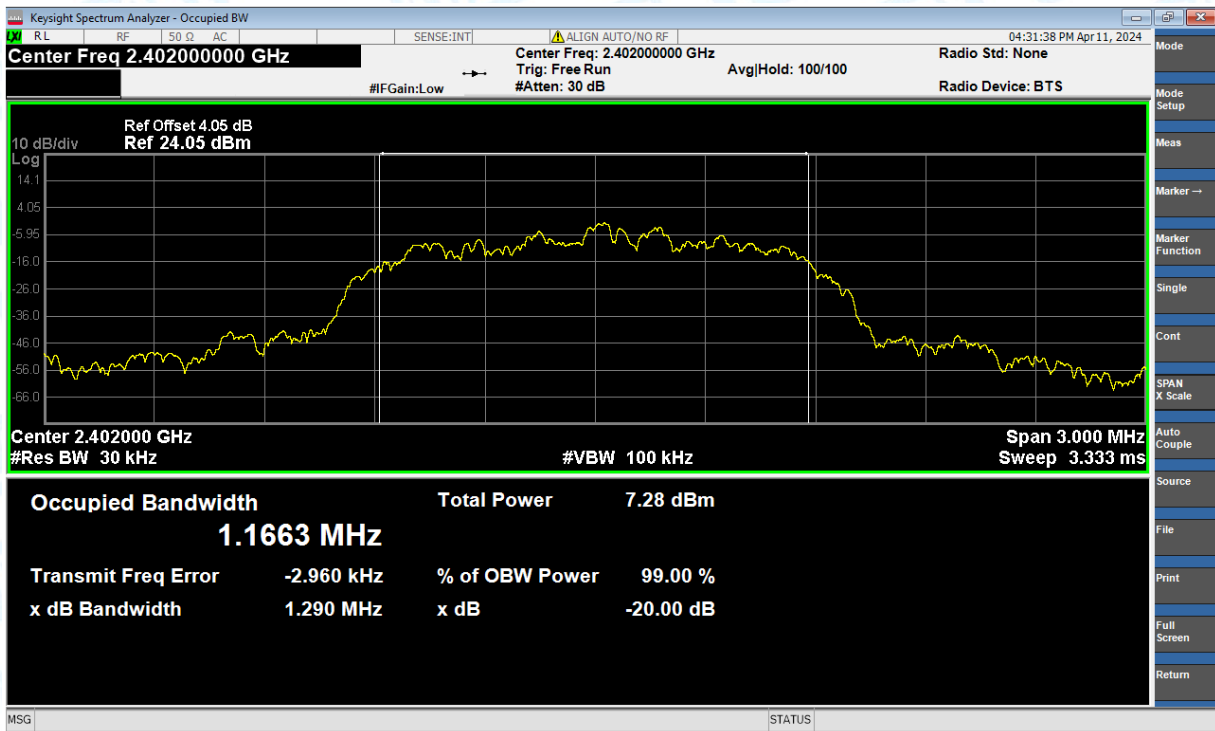
OBW NVNT 1-DH1 2441MHz Ant1



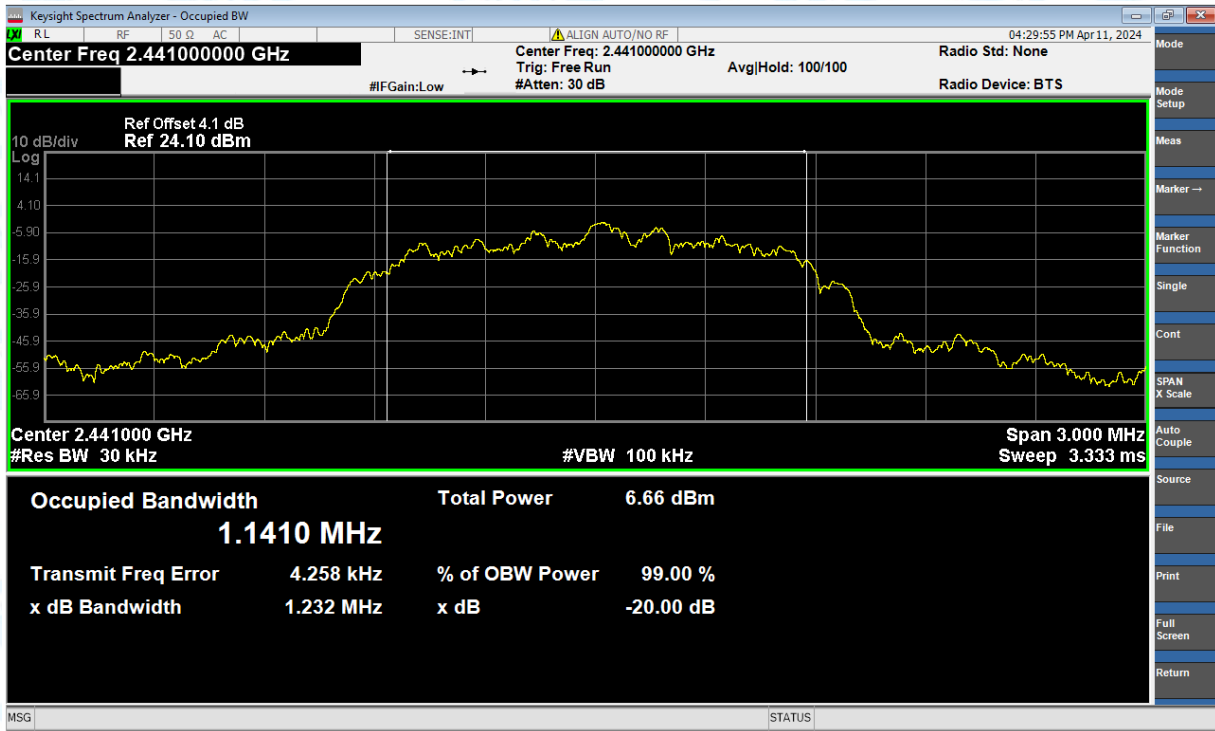
OBW NVNT 1-DH1 2480MHz Ant1



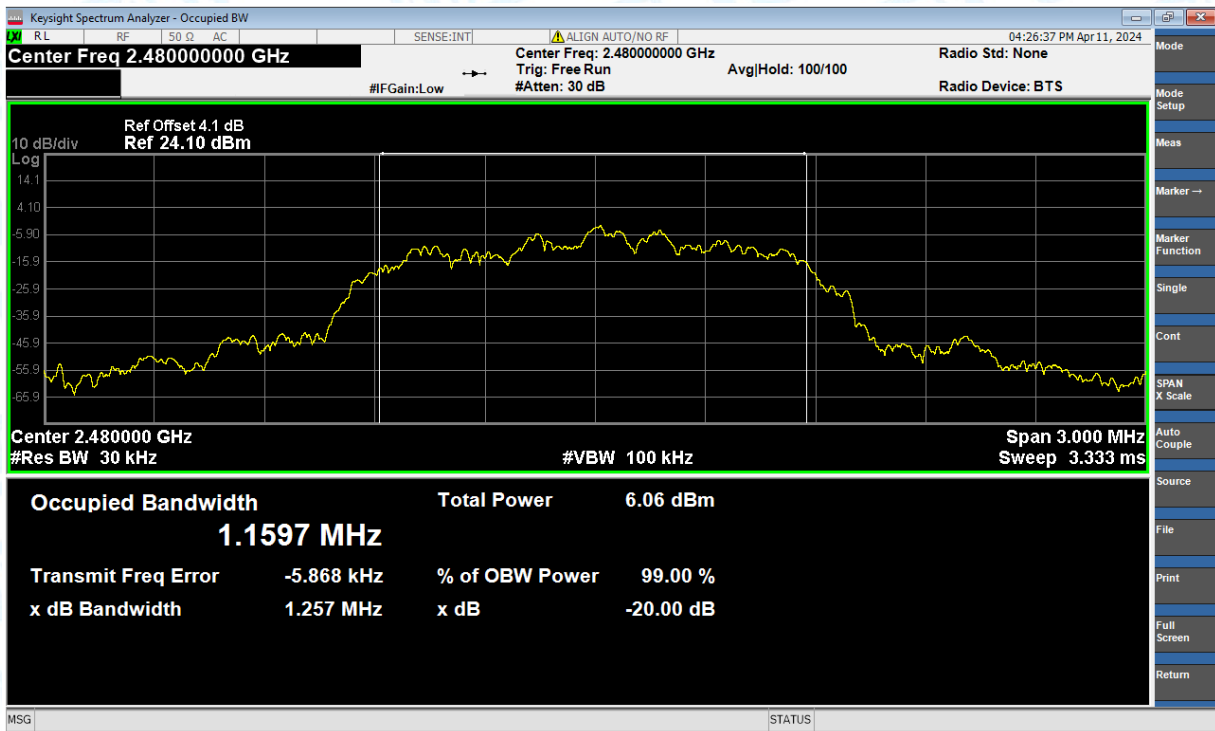
OBW NVNT 2-DH1 2402MHz Ant1



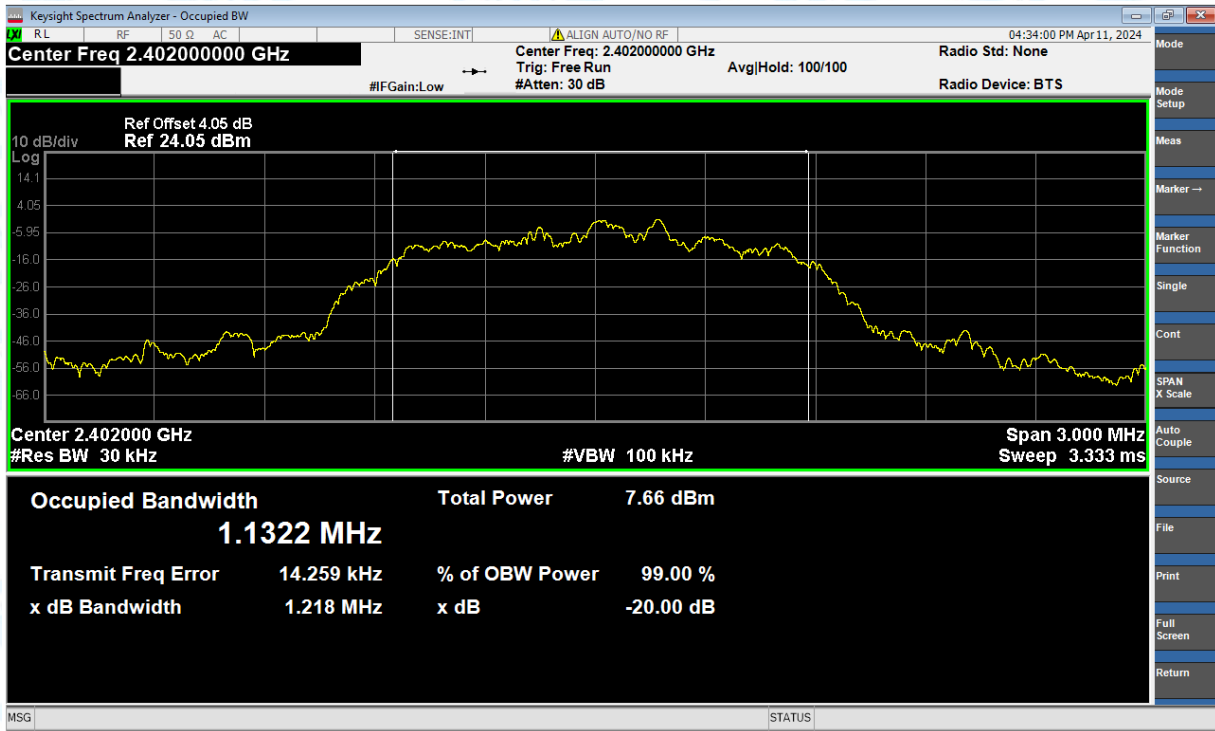
OBW NVNT 2-DH1 2441MHz Ant1



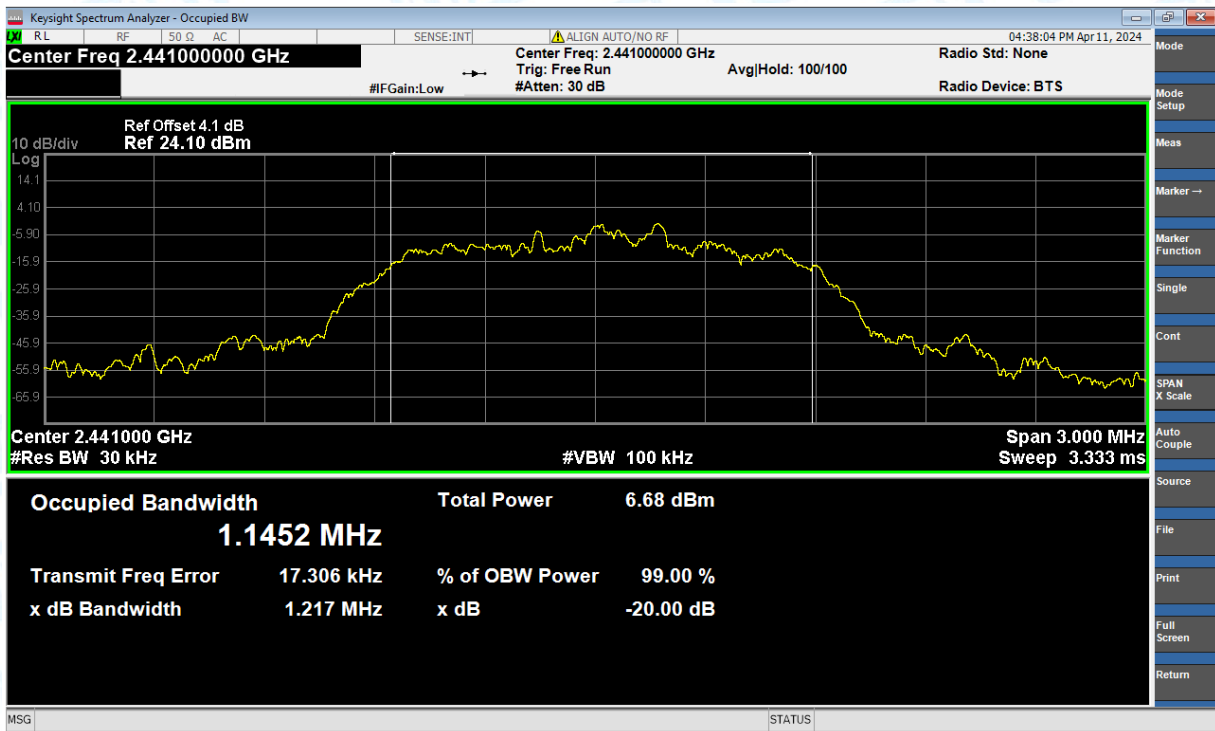
OBW NVNT 2-DH1 2480MHz Ant1



OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



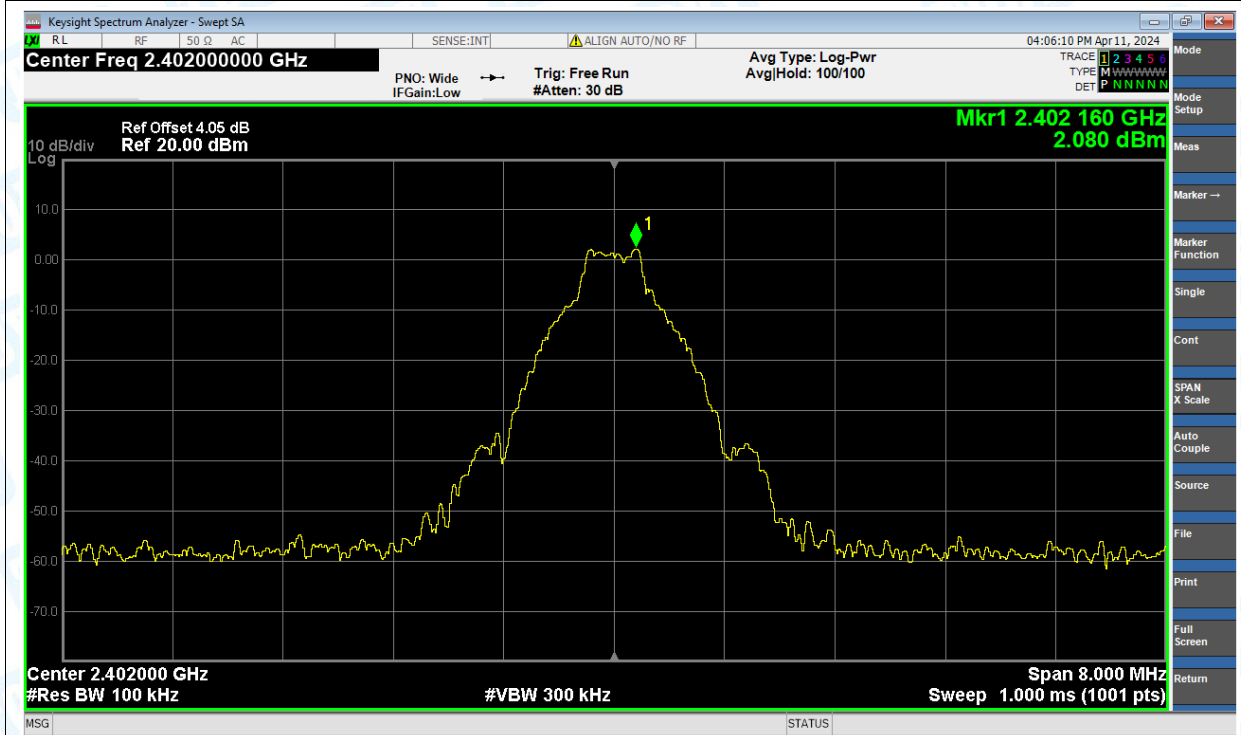


5. Band Edge

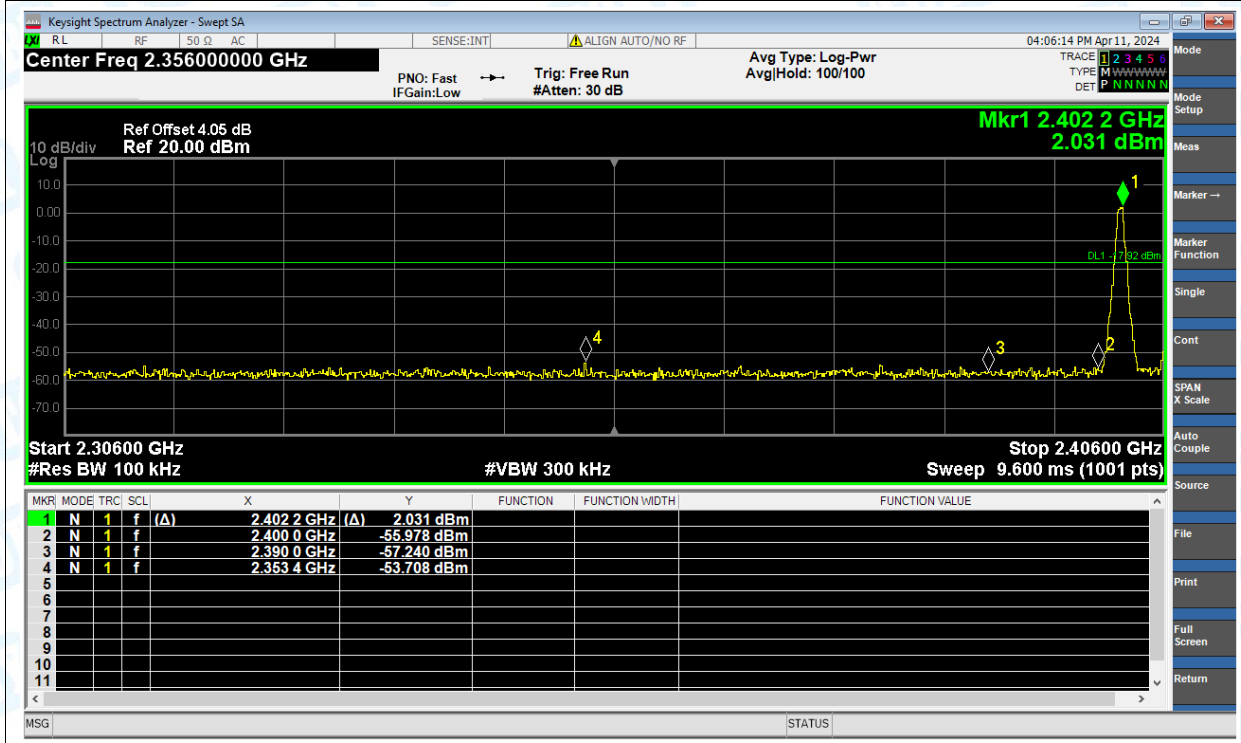
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-55.79	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-55.81	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-55.9	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-53.77	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-55.65	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-53.89	-20	Pass

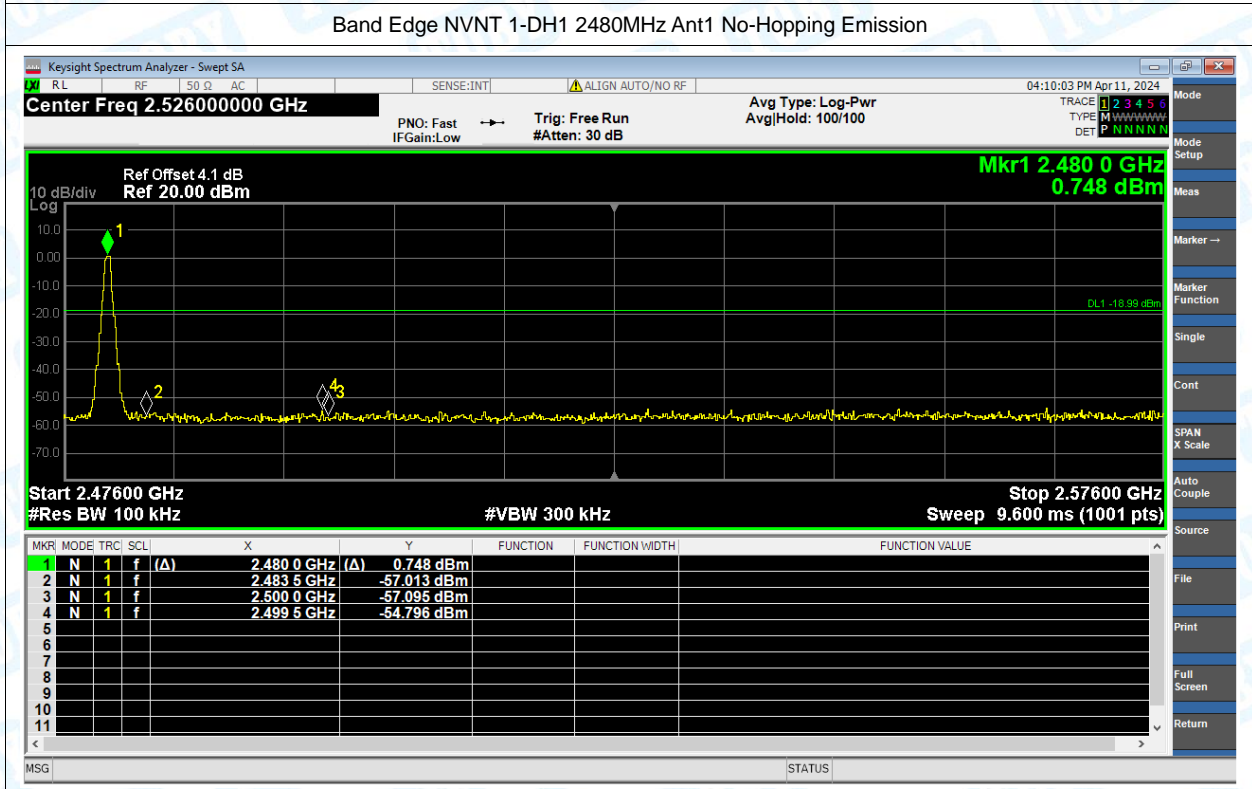
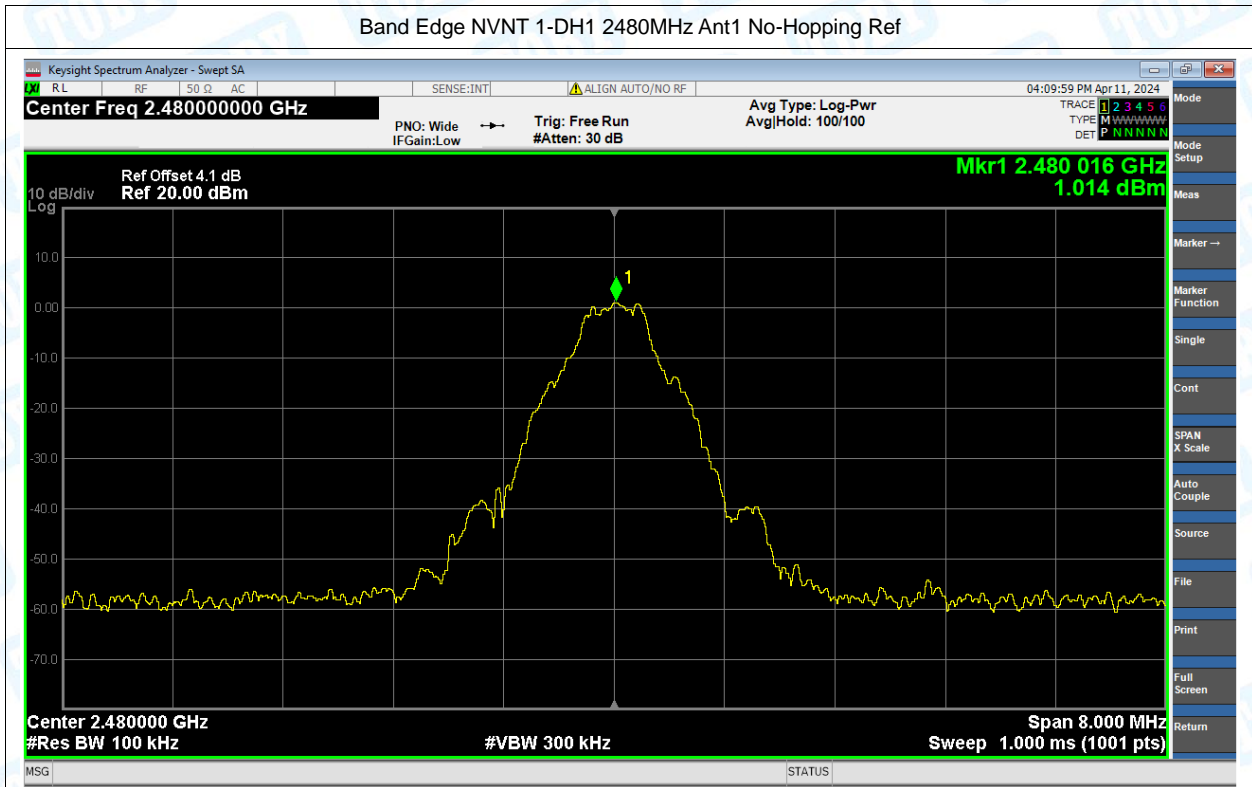
Test Graphs

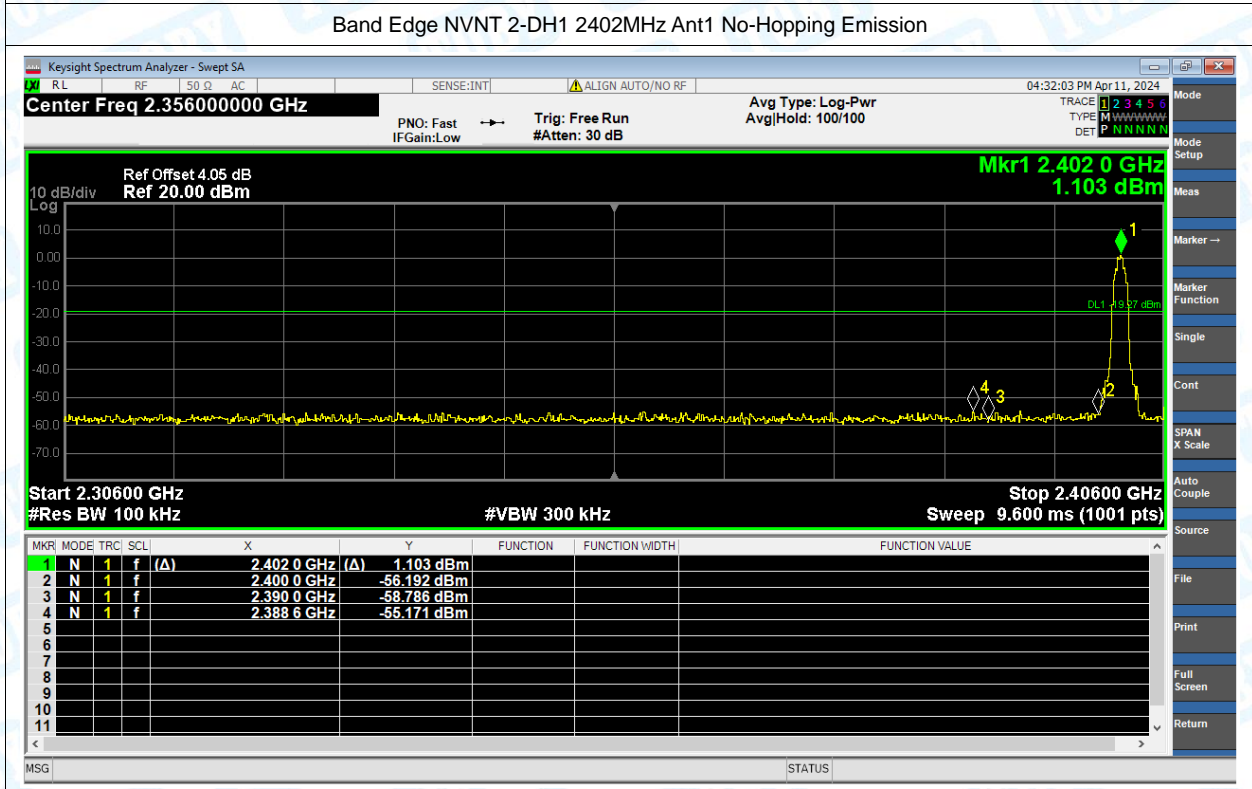
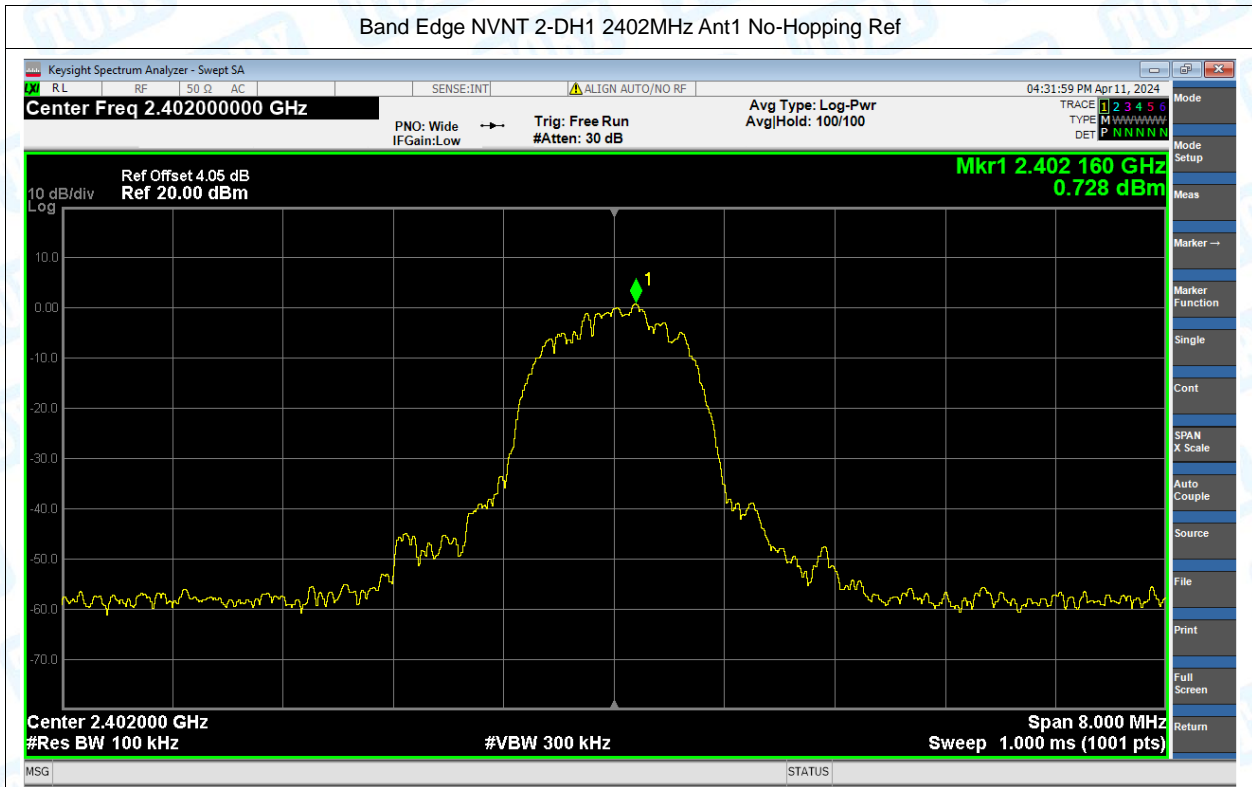
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref

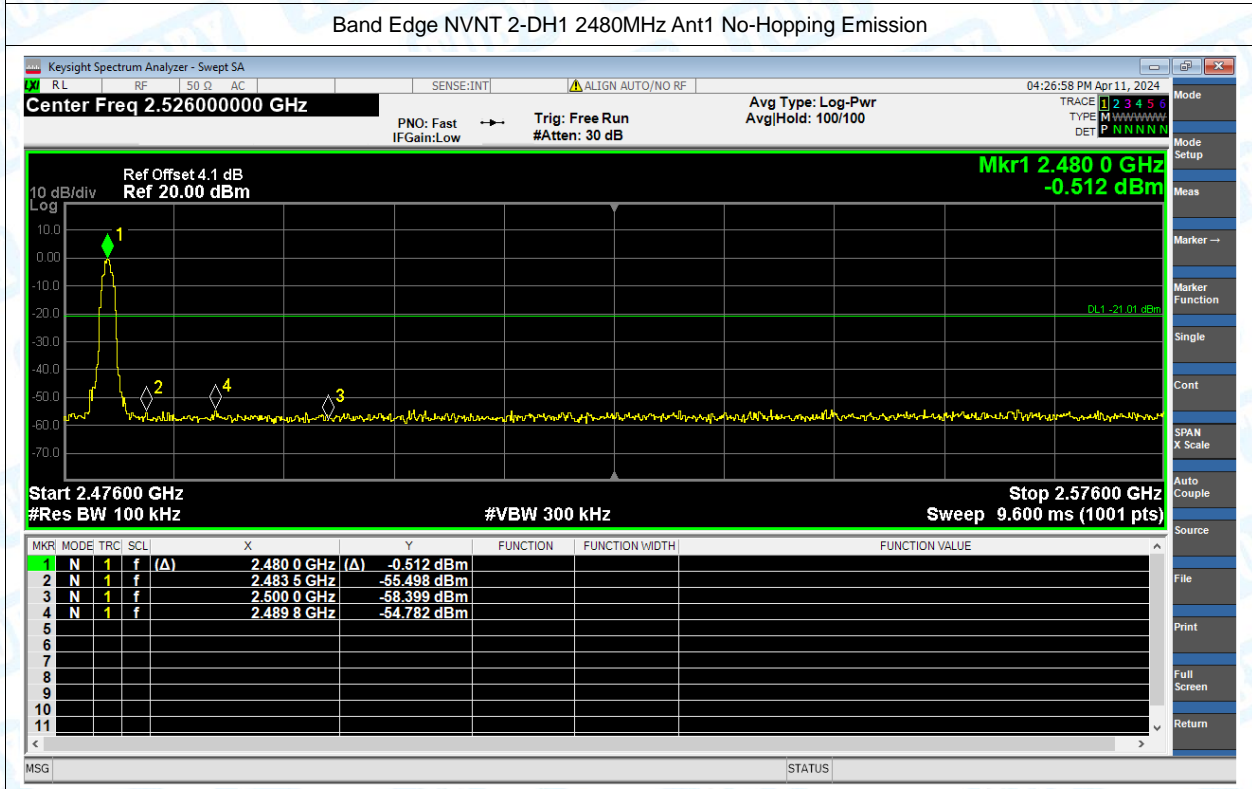
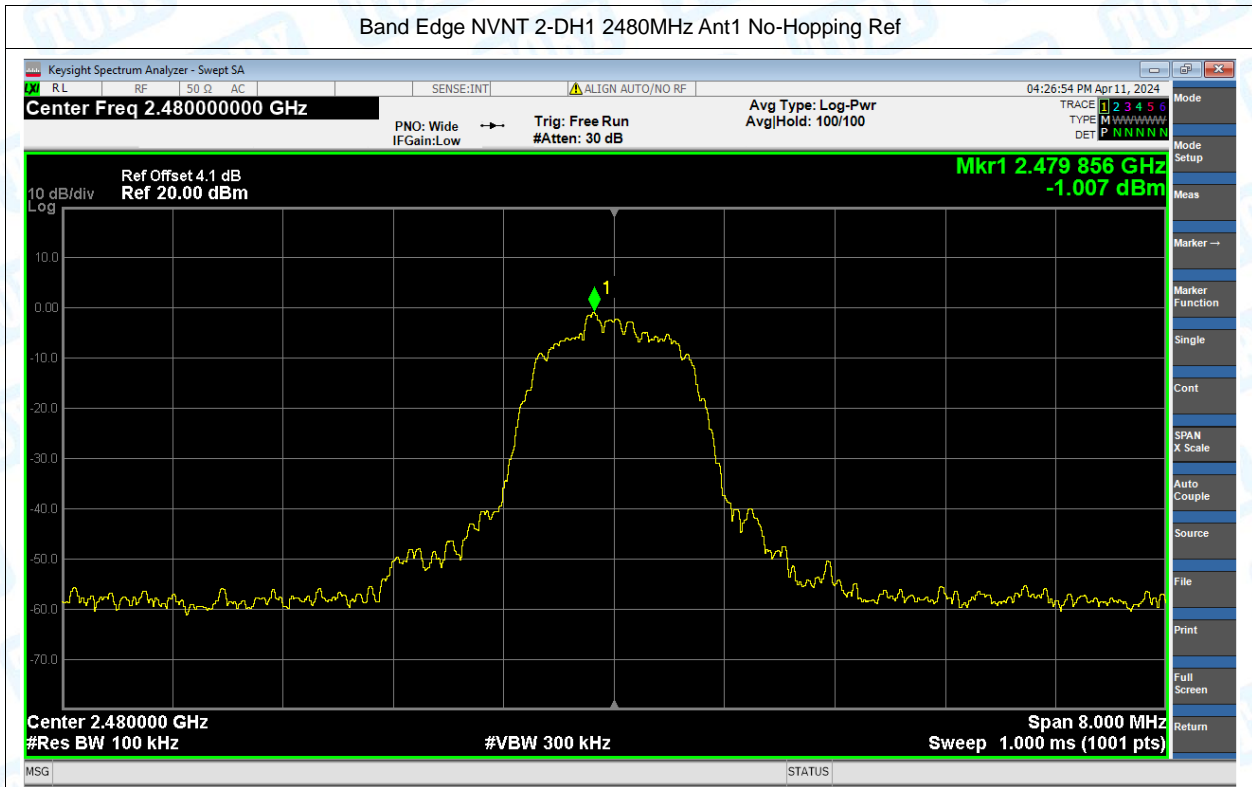


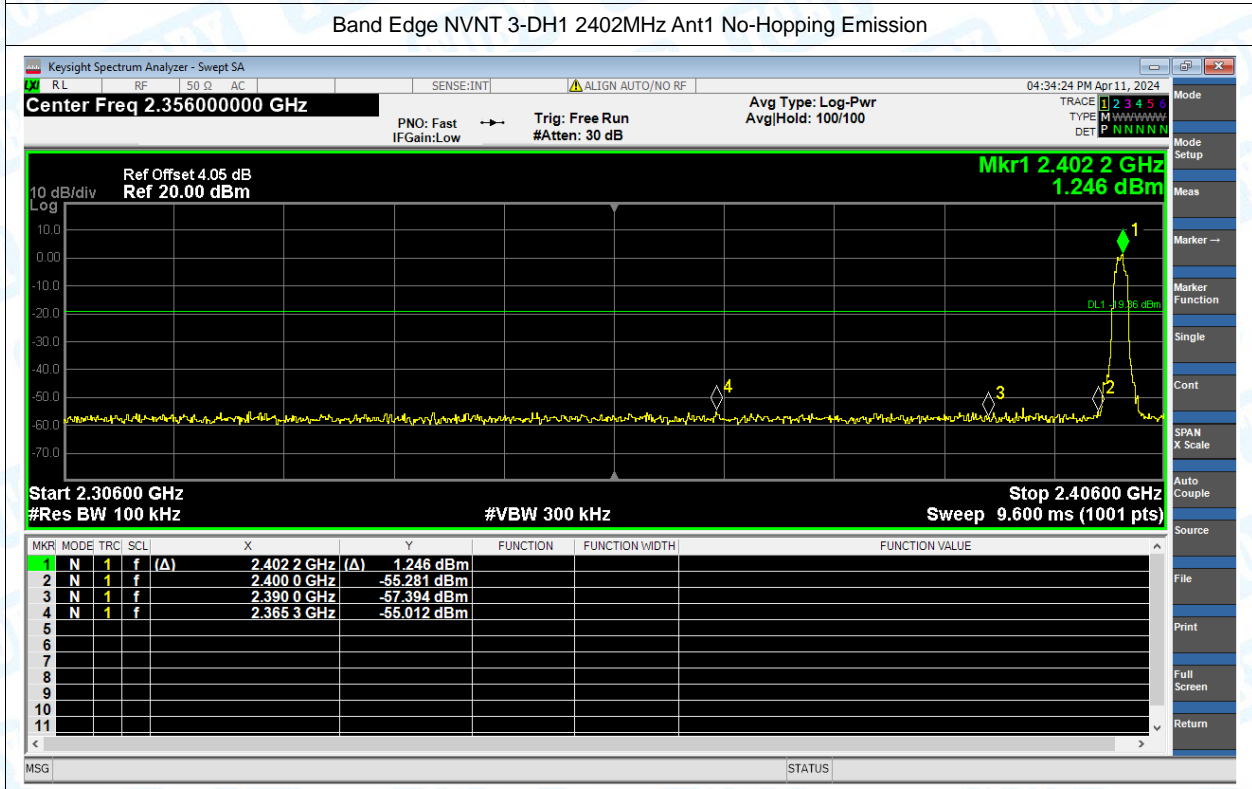
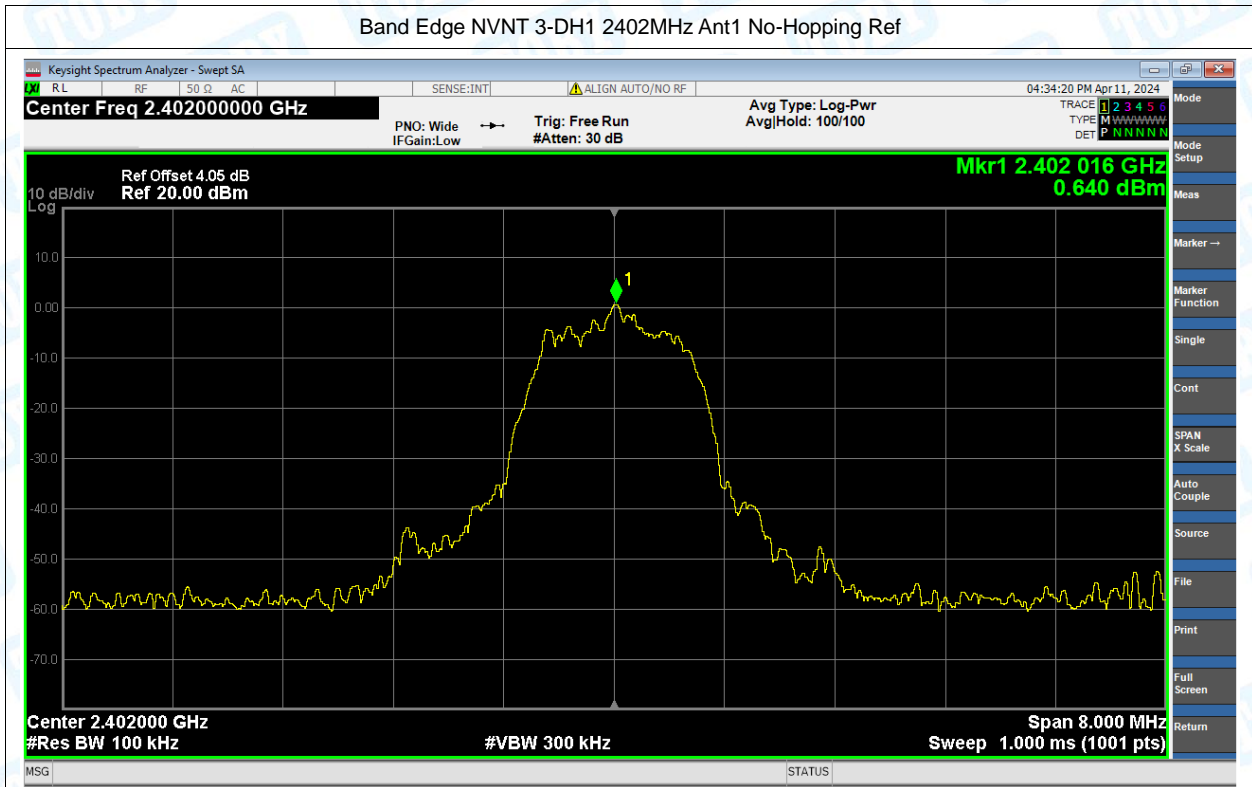
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



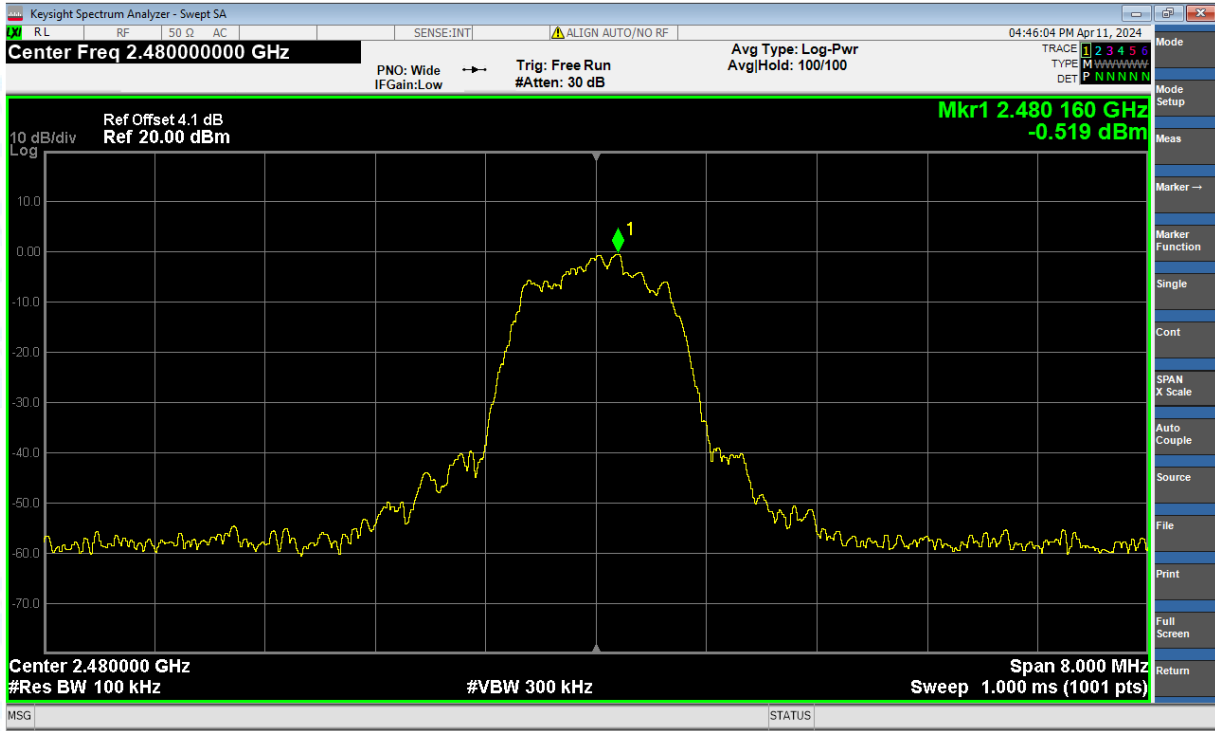




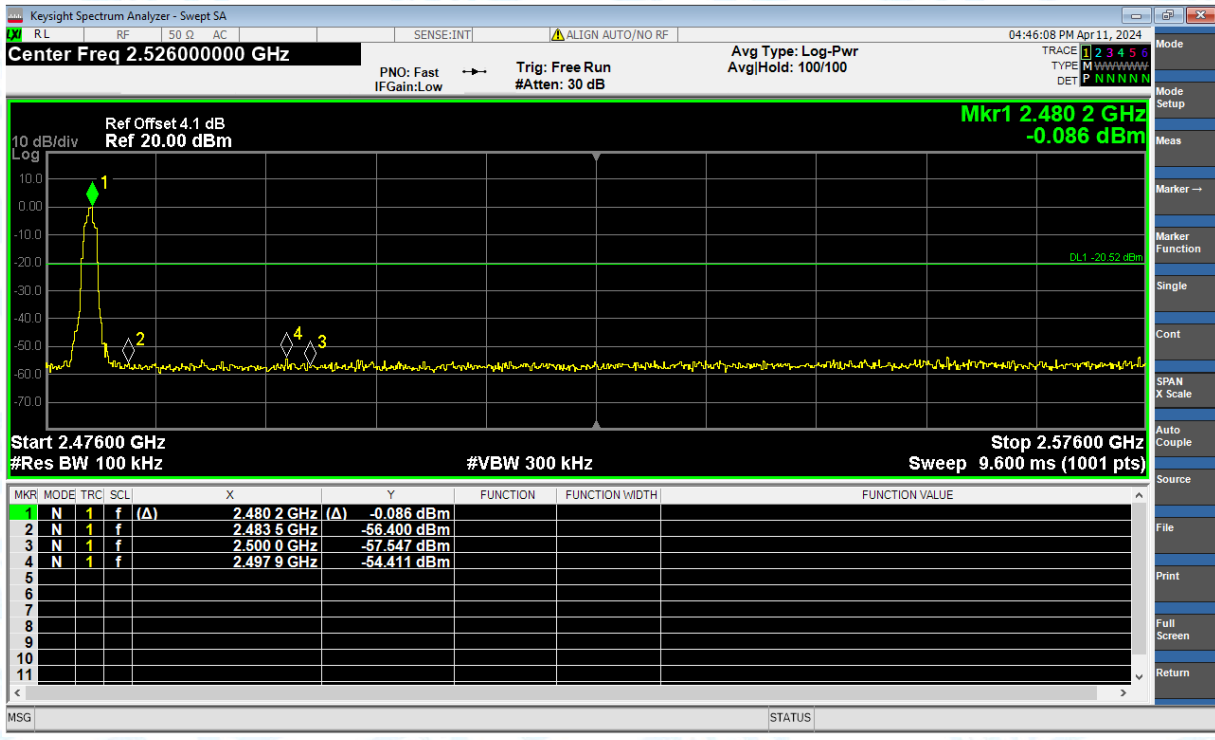




Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref



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



6. Band Edge(Hopping)

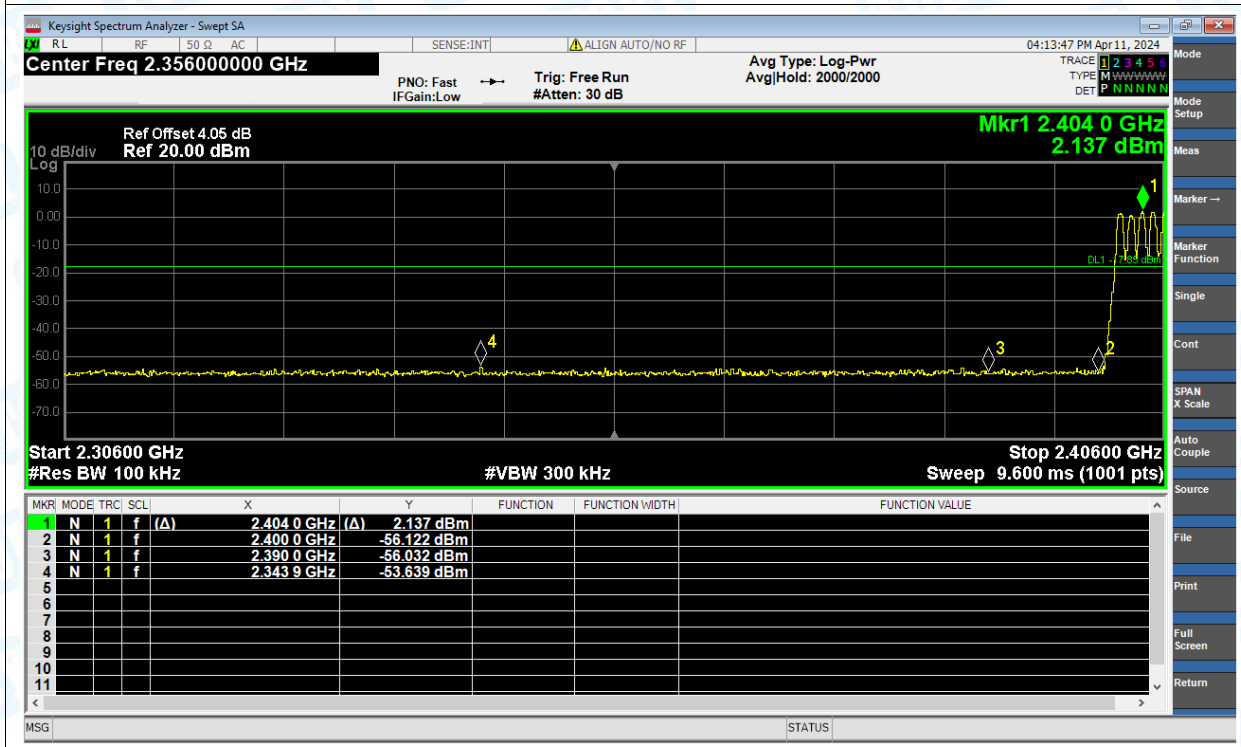
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-55.79	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-54.91	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-54.27	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-53.51	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-54.85	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-53.86	-20	Pass

Test Graphs

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



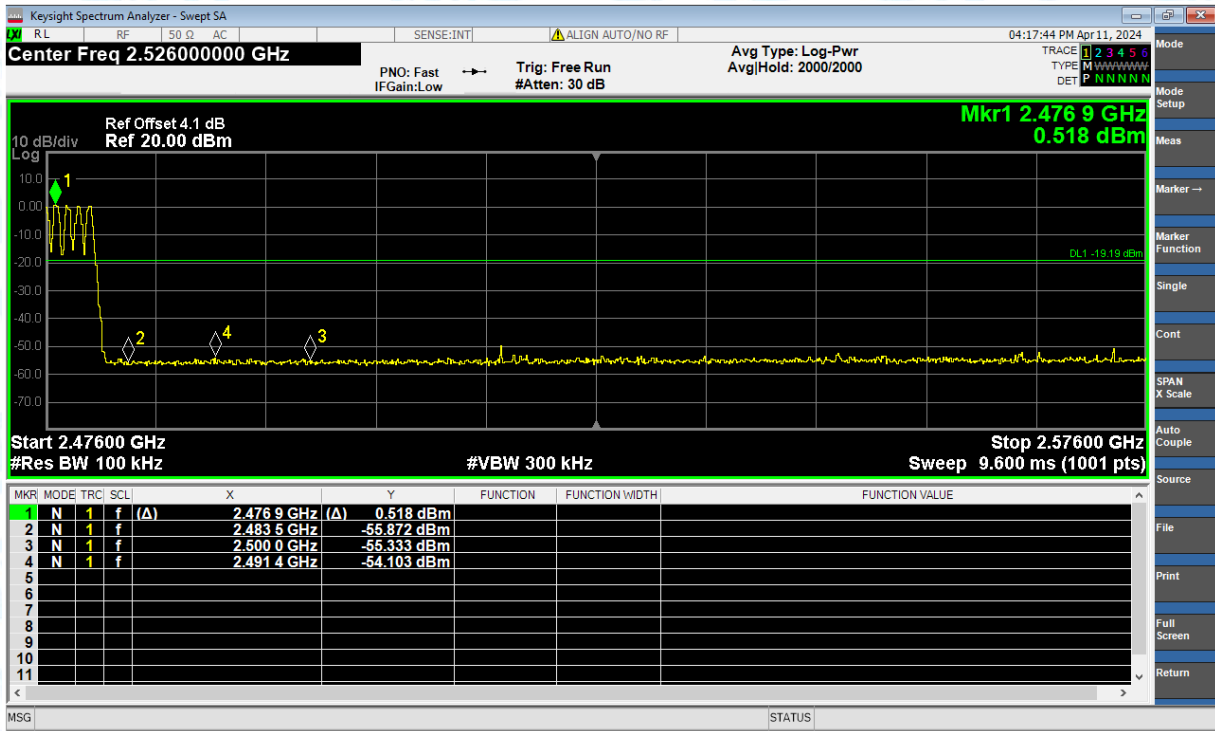
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

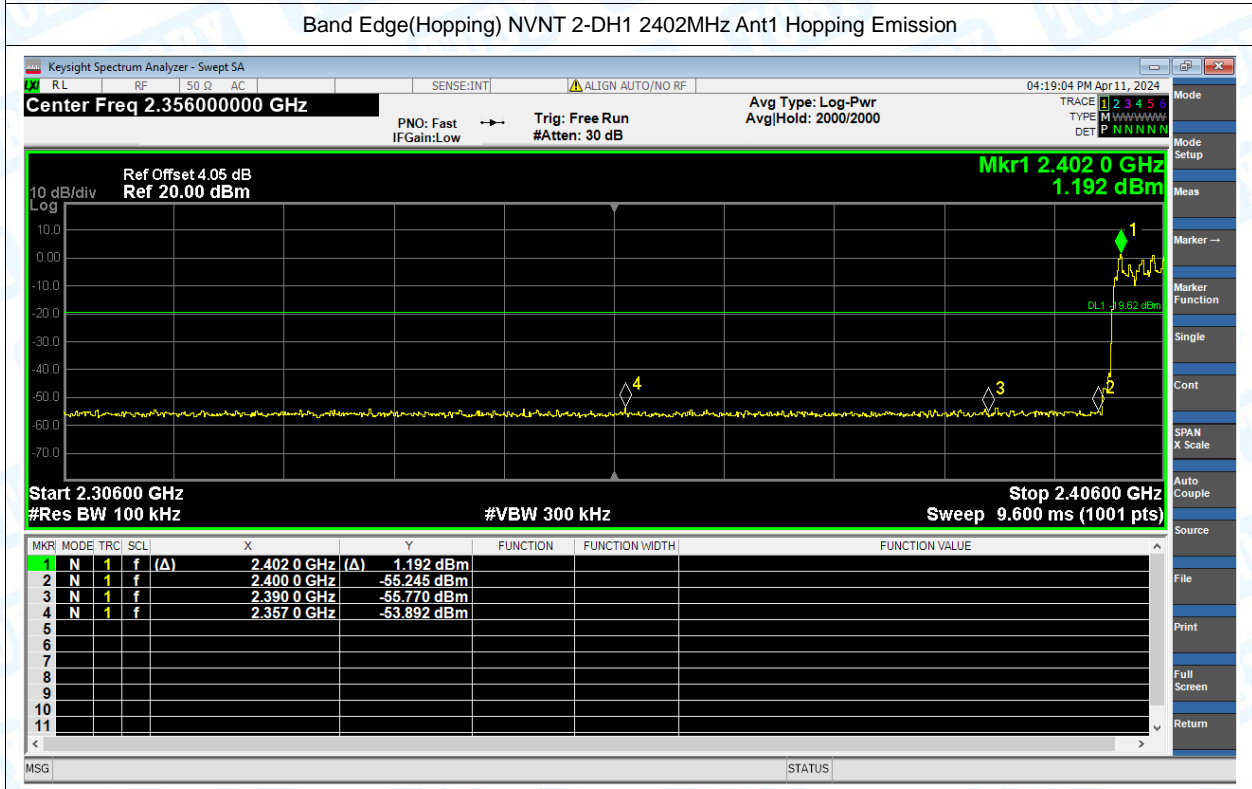
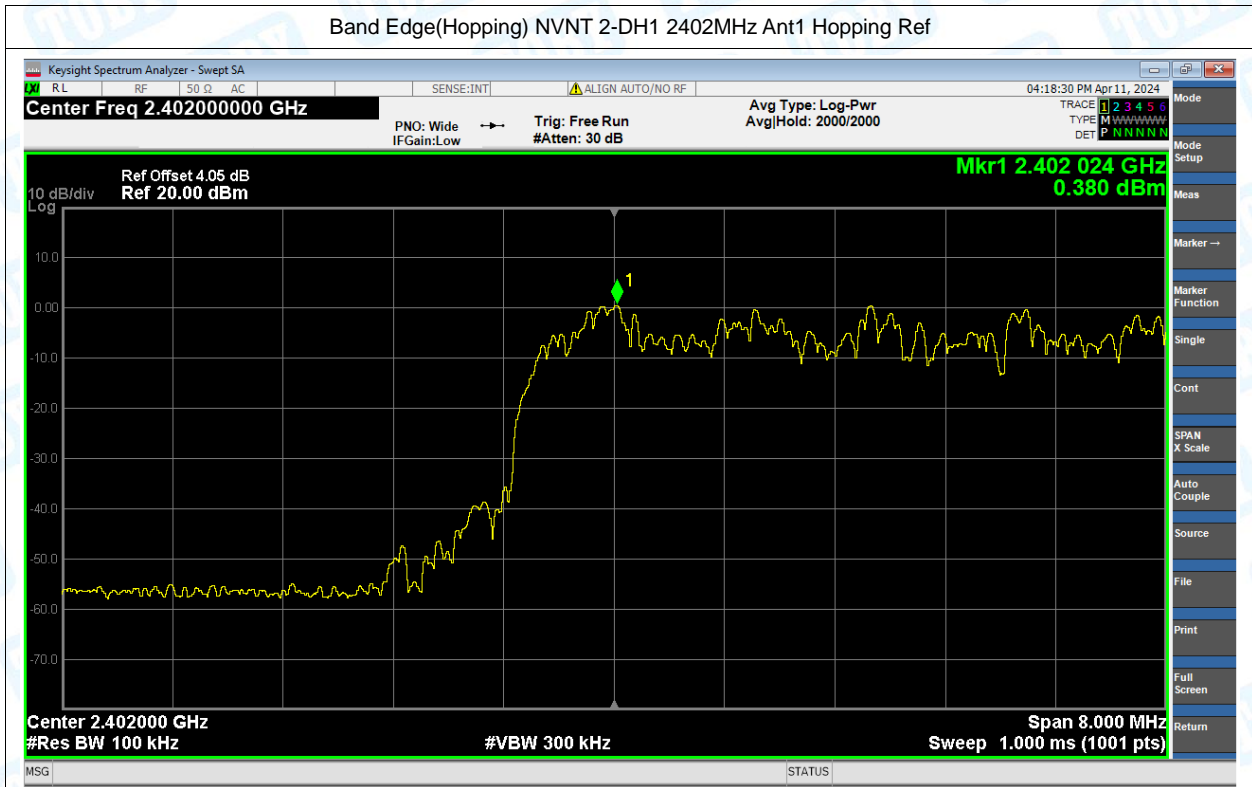


Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref

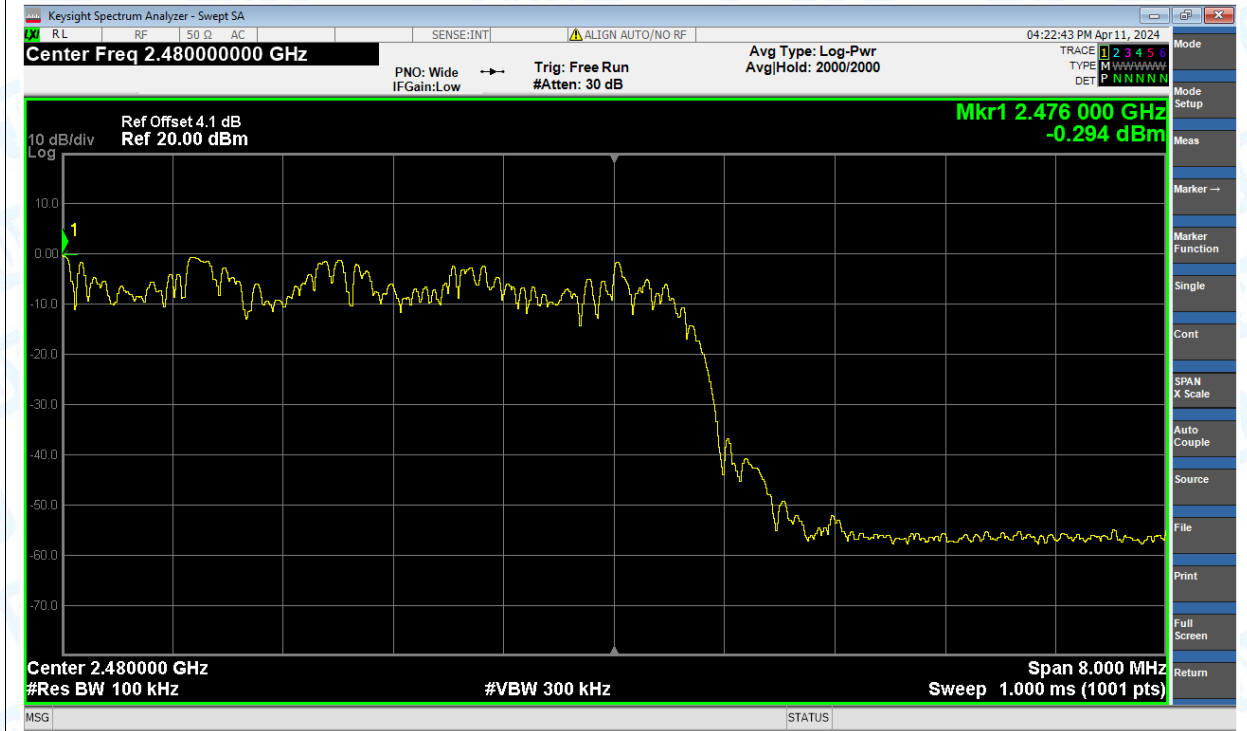


Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission

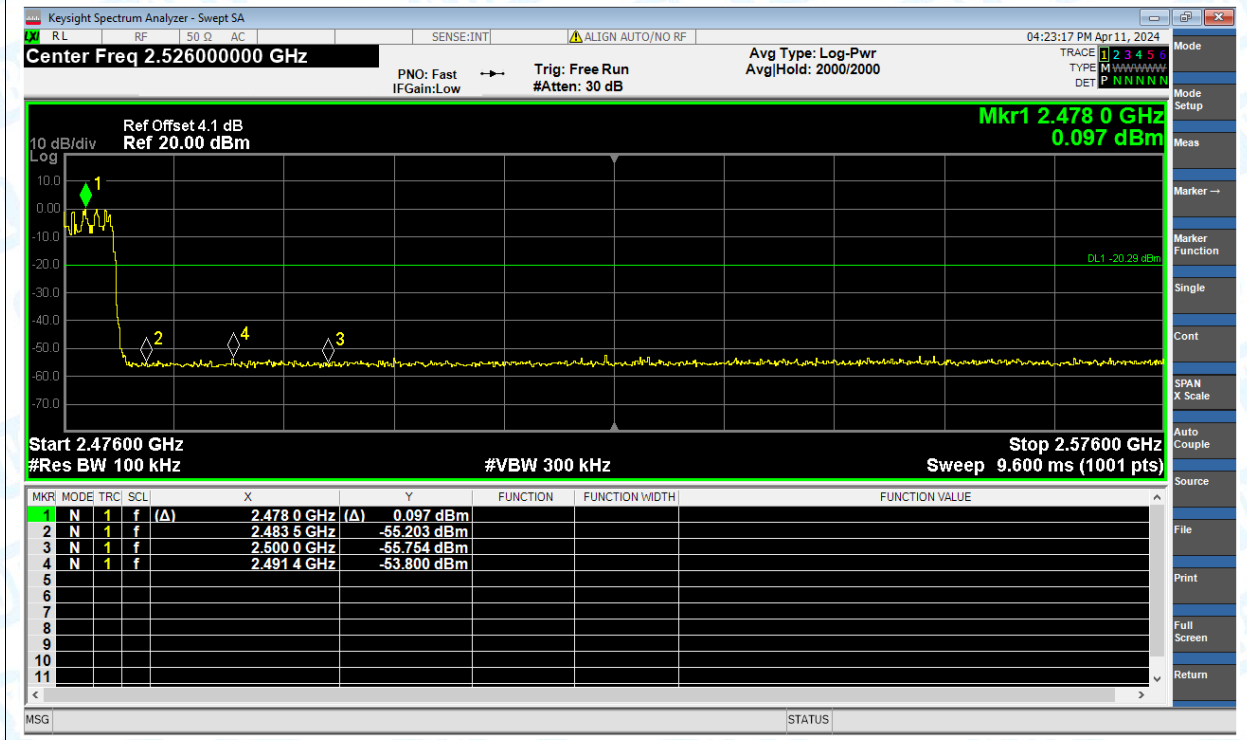




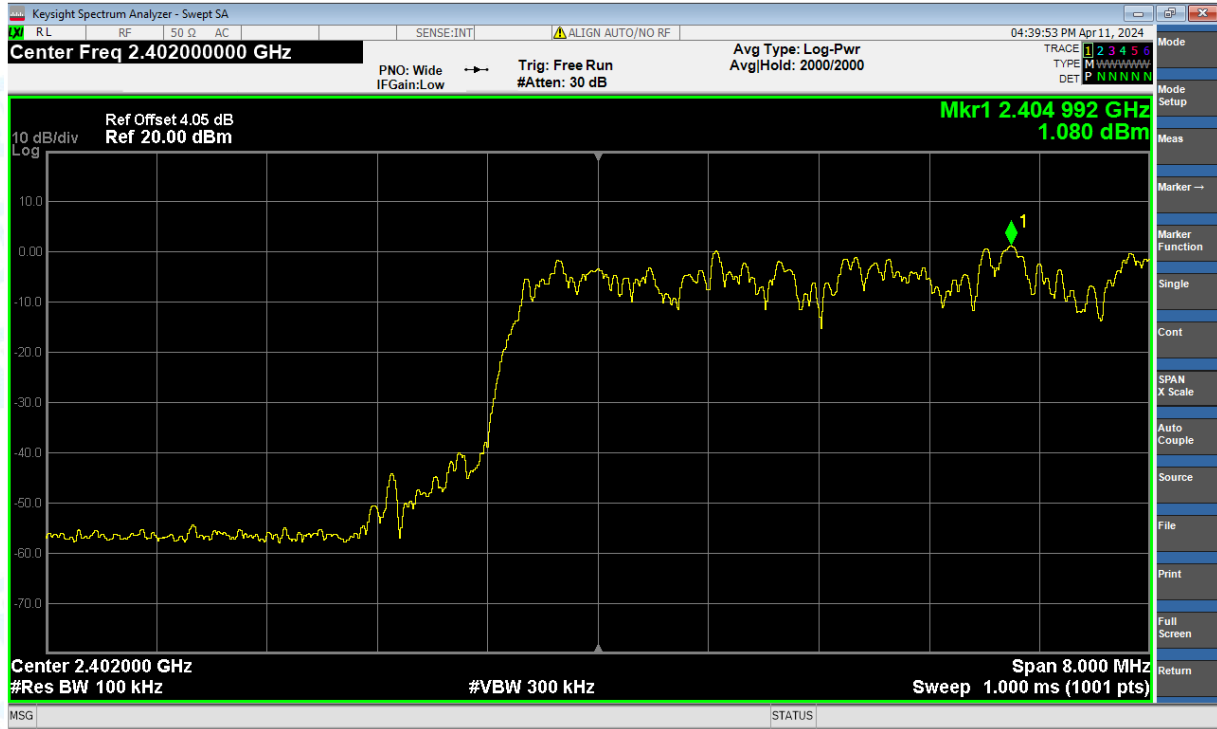
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



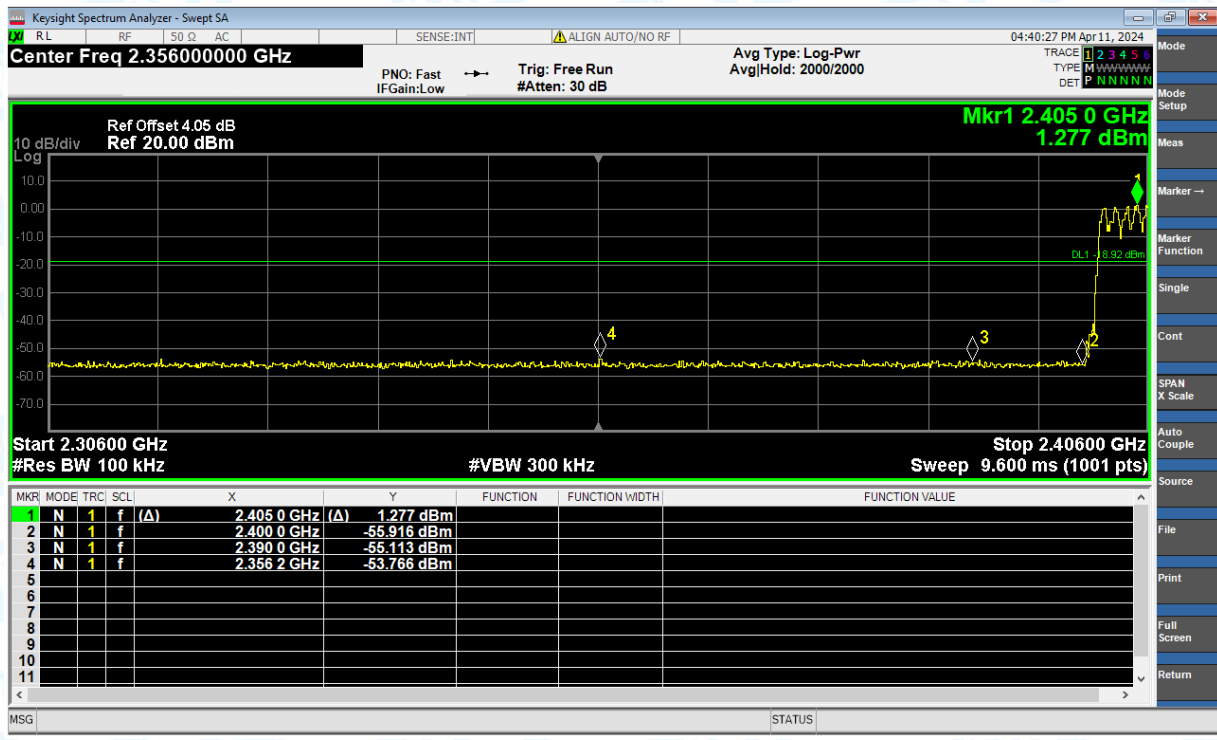
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



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



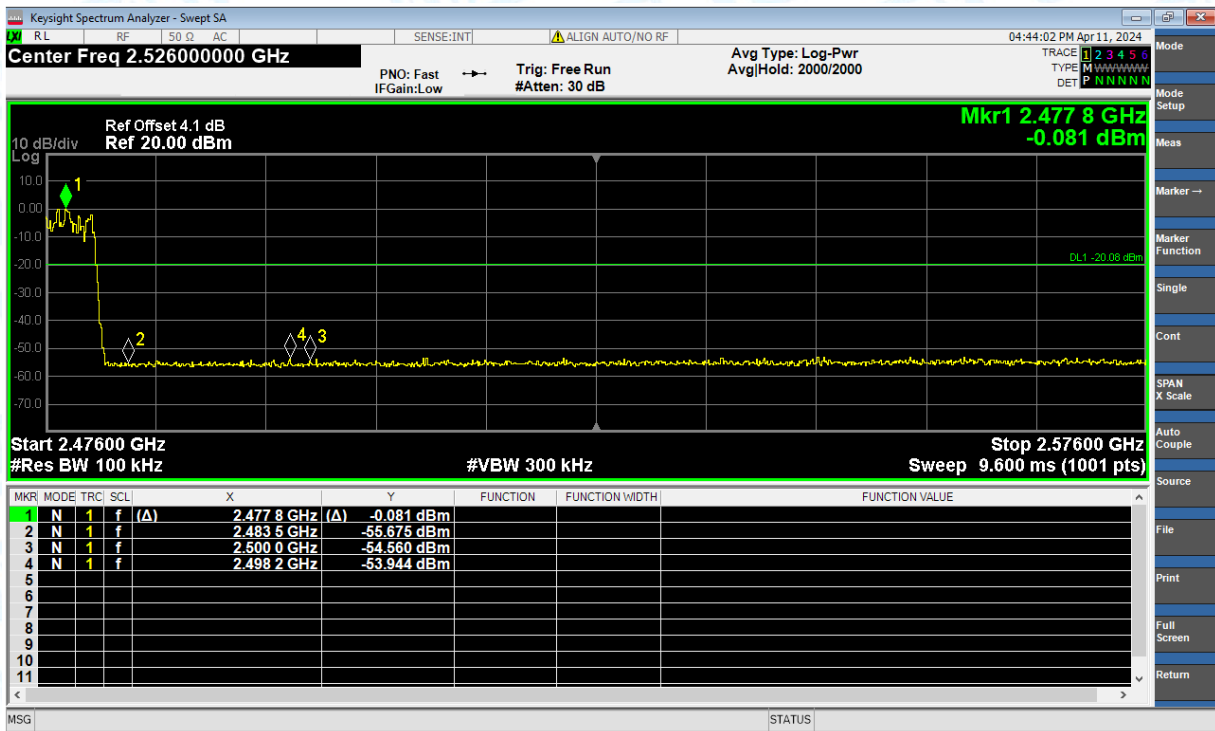
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

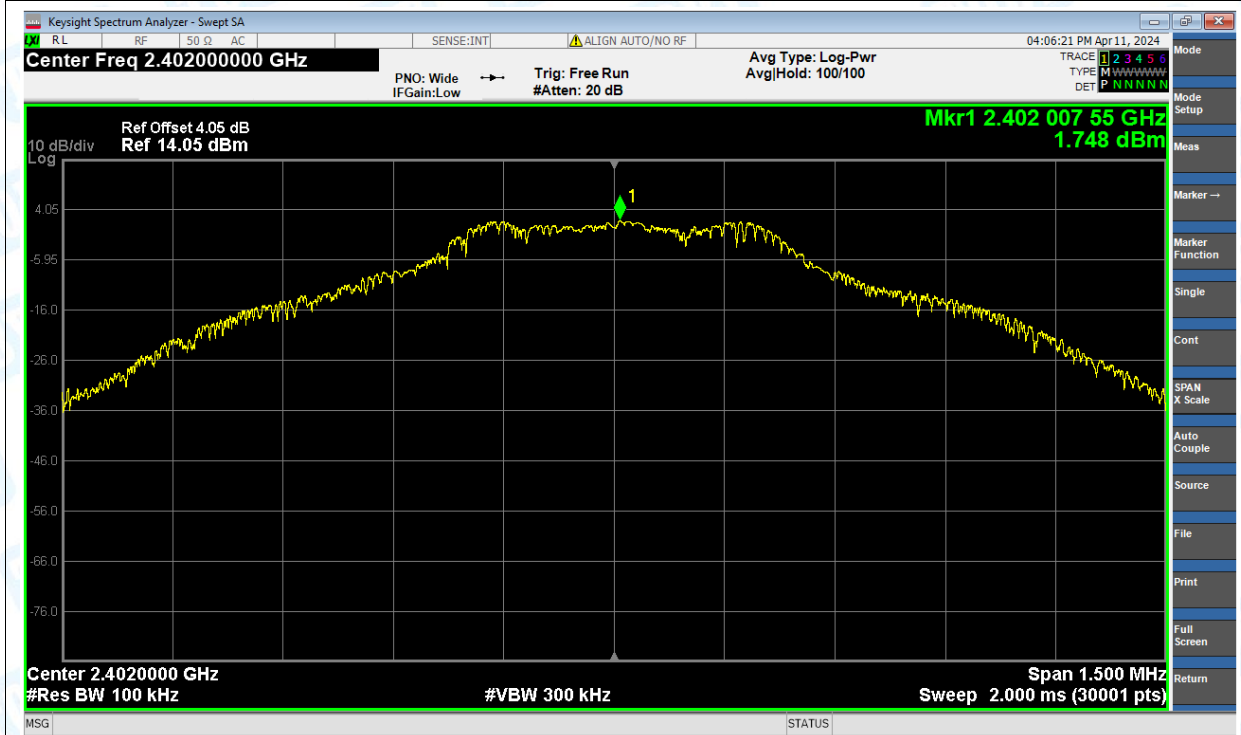


7. Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-51.95	-20	Pass
NVNT	1-DH1	2441	Ant1	-51.83	-20	Pass
NVNT	1-DH1	2480	Ant1	-51.27	-20	Pass
NVNT	2-DH1	2402	Ant1	-50.4	-20	Pass
NVNT	2-DH1	2441	Ant1	-44.84	-20	Pass
NVNT	2-DH1	2480	Ant1	-50.47	-20	Pass
NVNT	3-DH1	2402	Ant1	-51.51	-20	Pass
NVNT	3-DH1	2441	Ant1	-51.04	-20	Pass
NVNT	3-DH1	2480	Ant1	-49.72	-20	Pass

Test Graphs

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



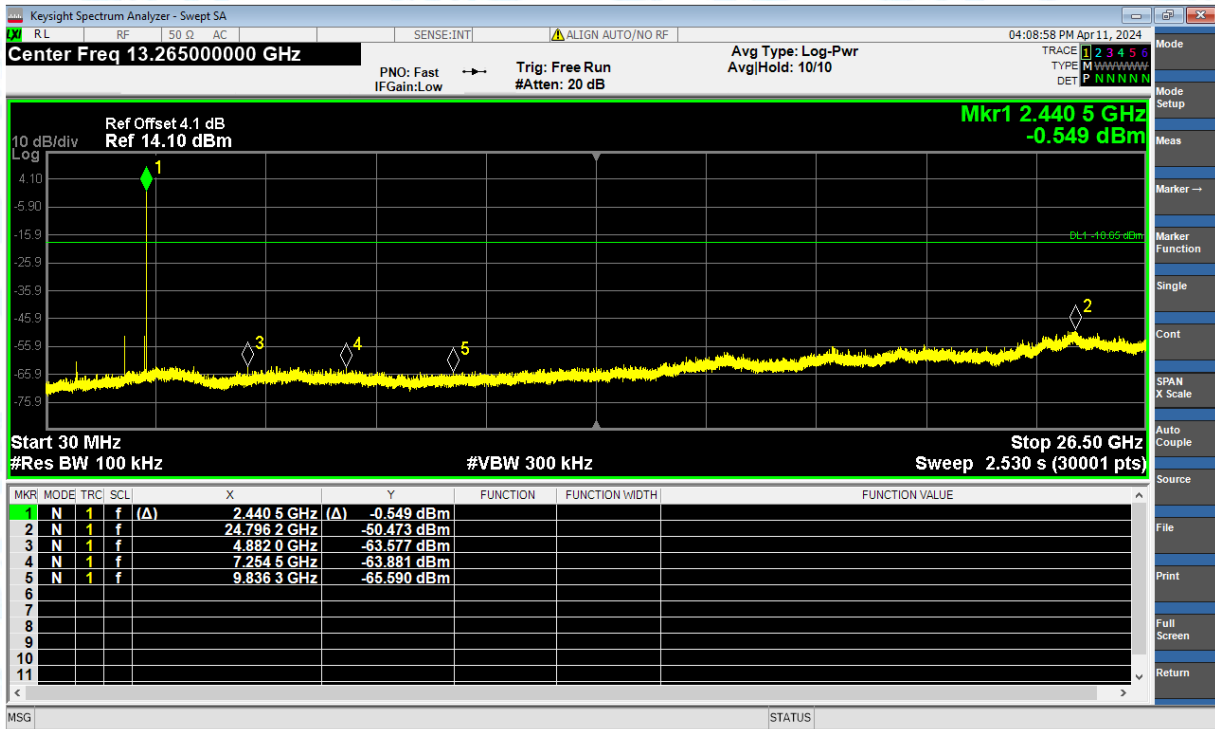
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



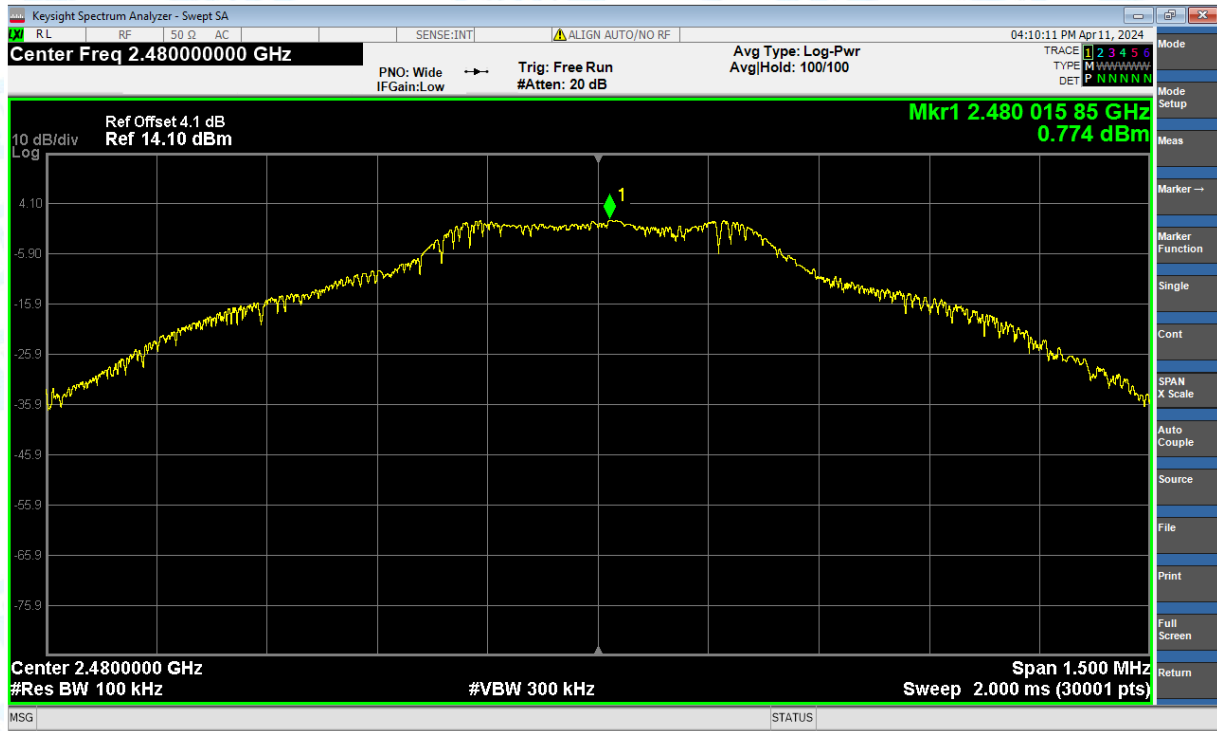
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



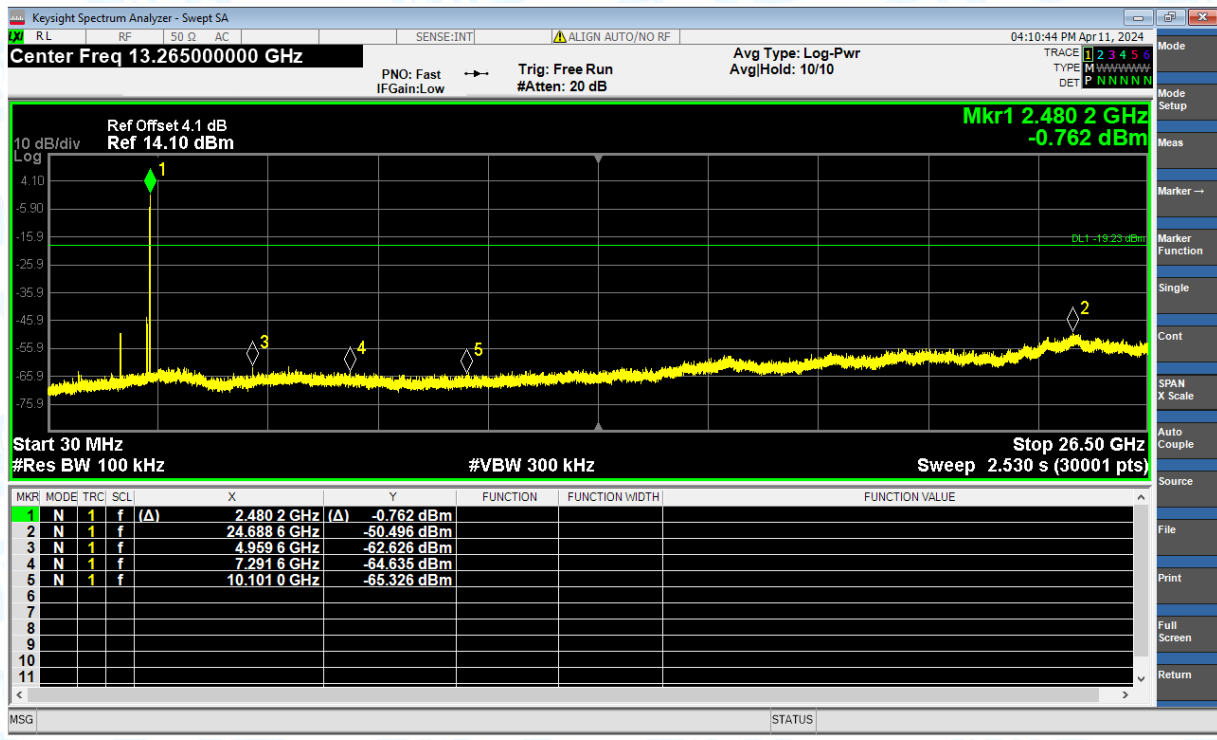
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



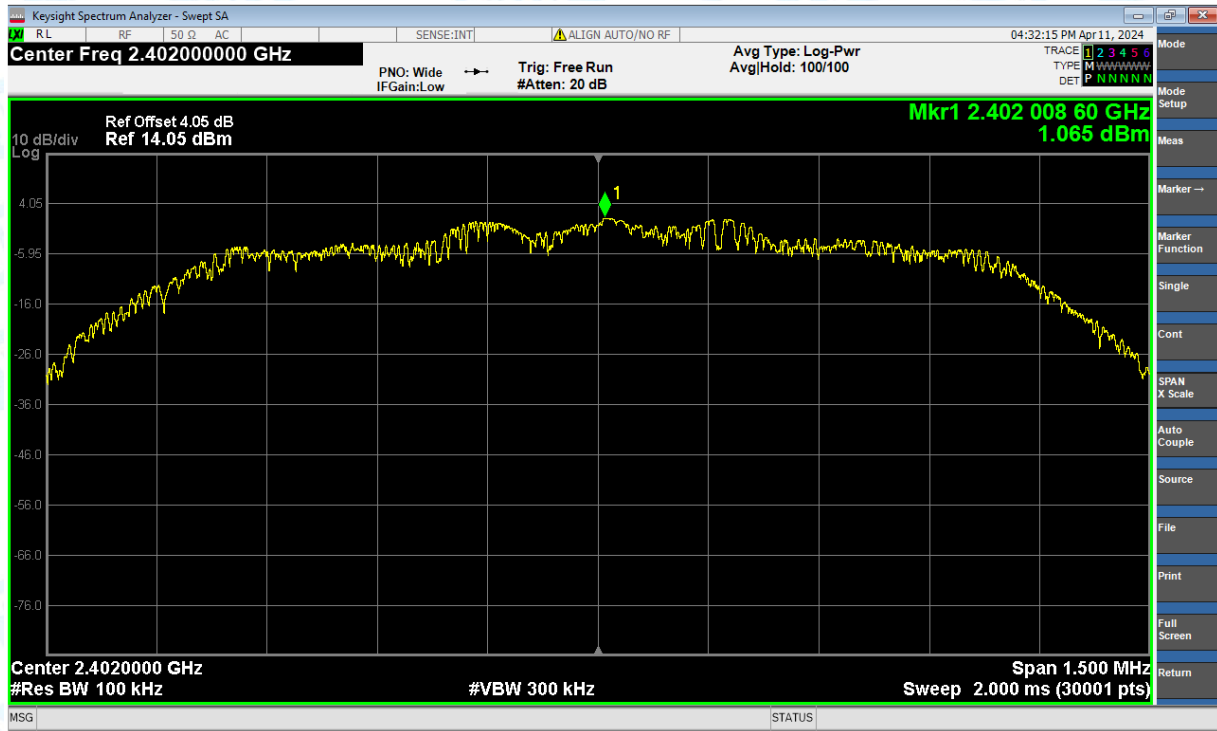
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



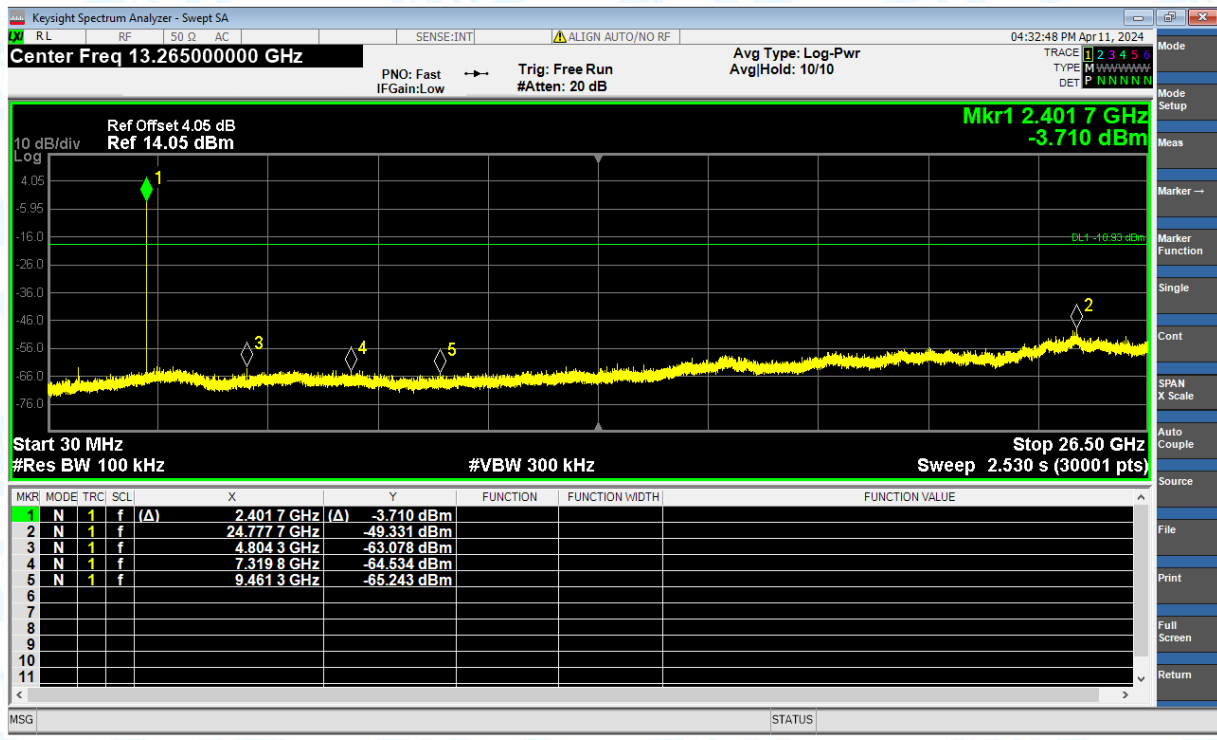
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



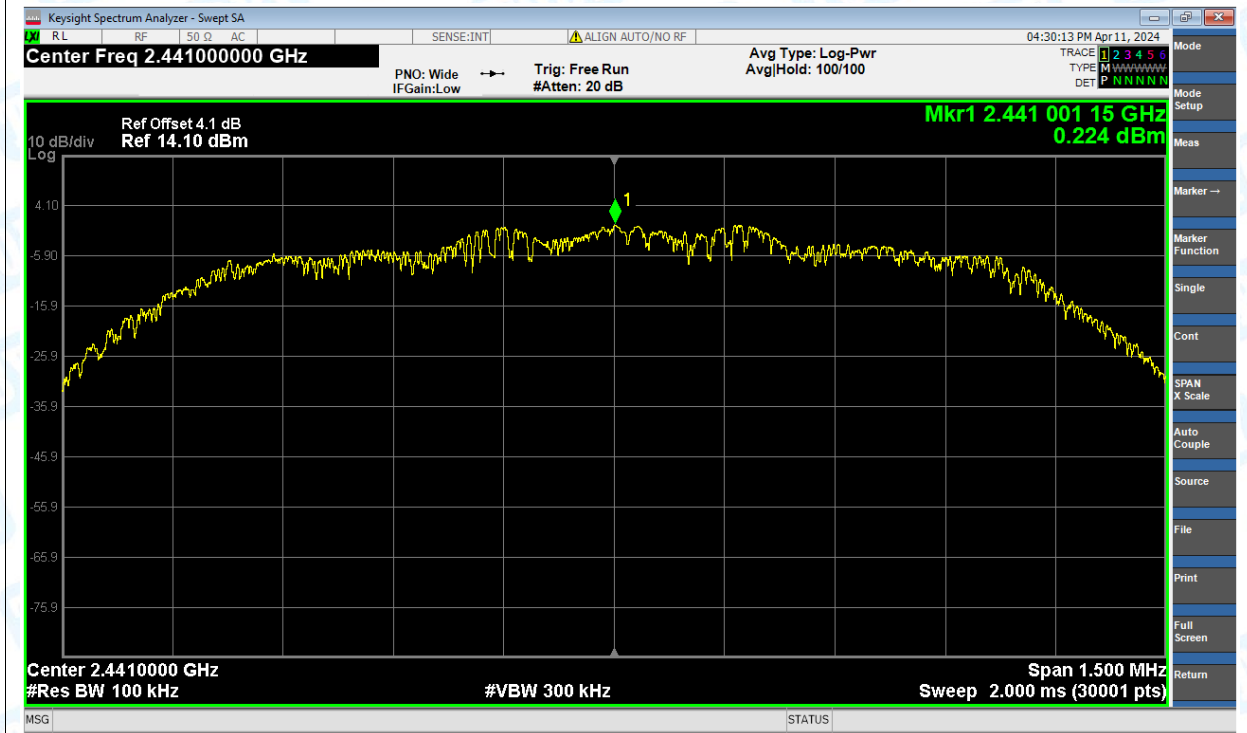
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



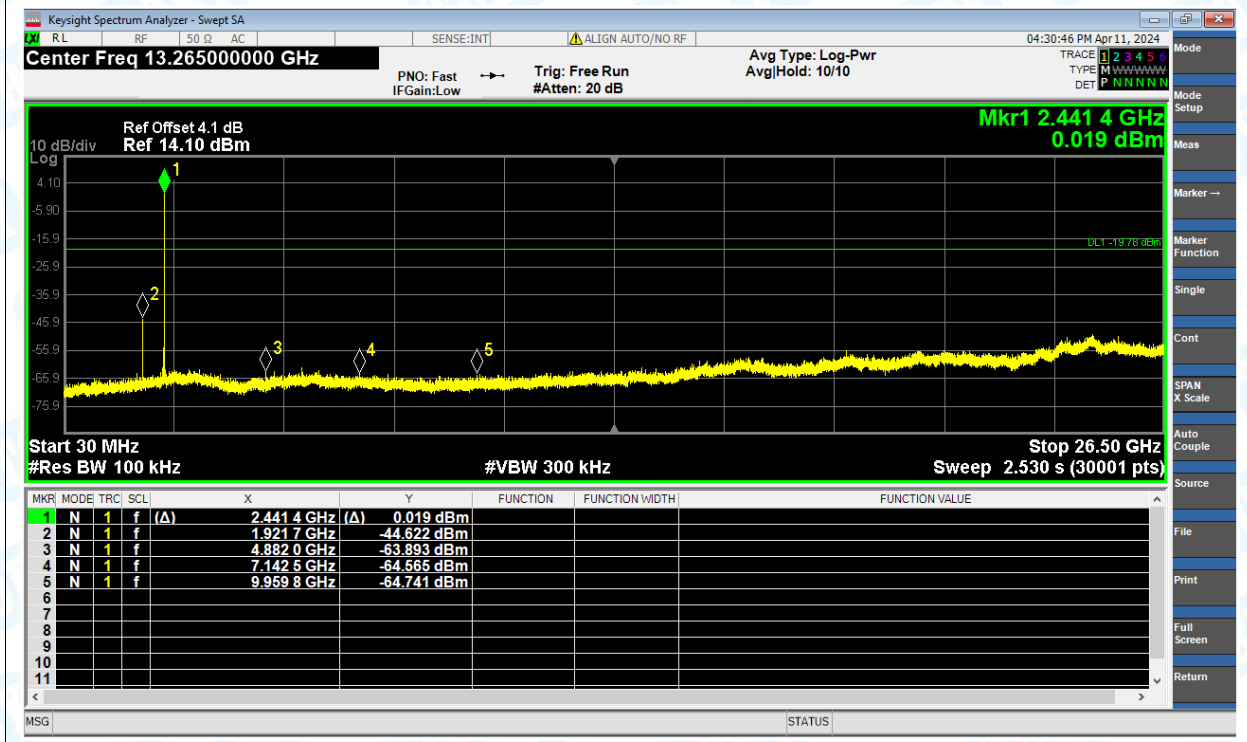
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



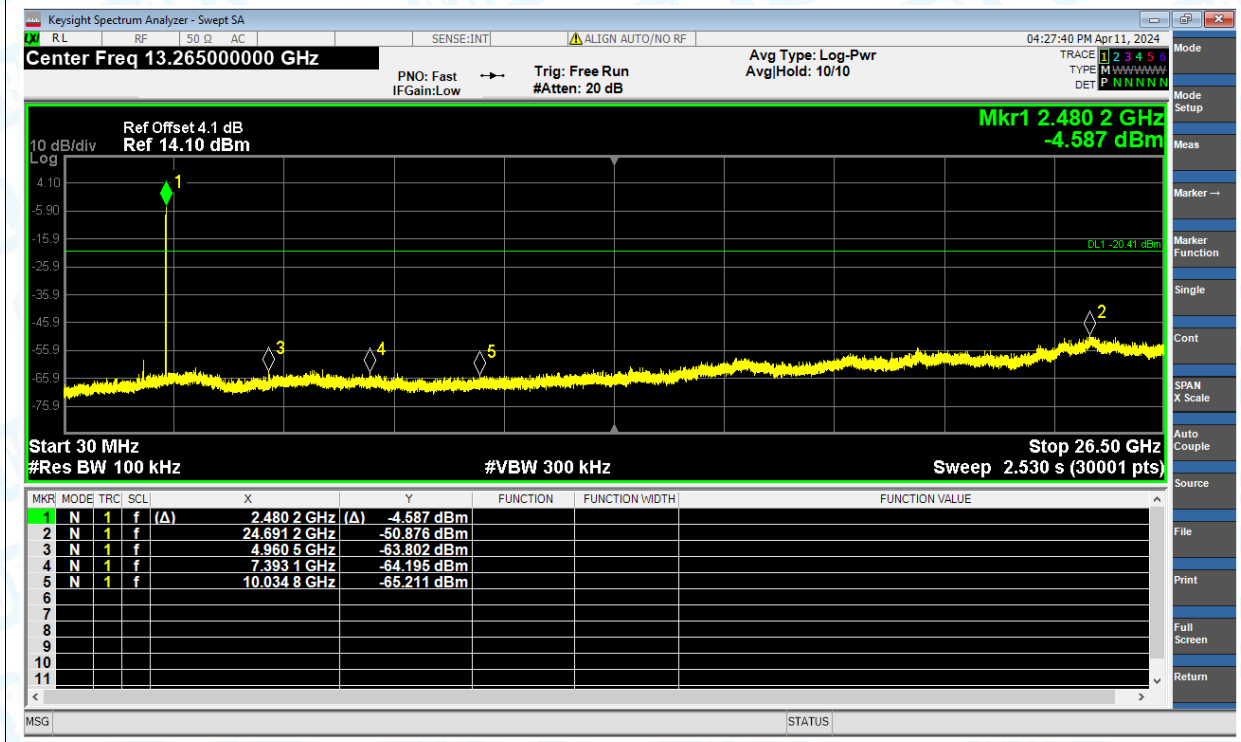
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



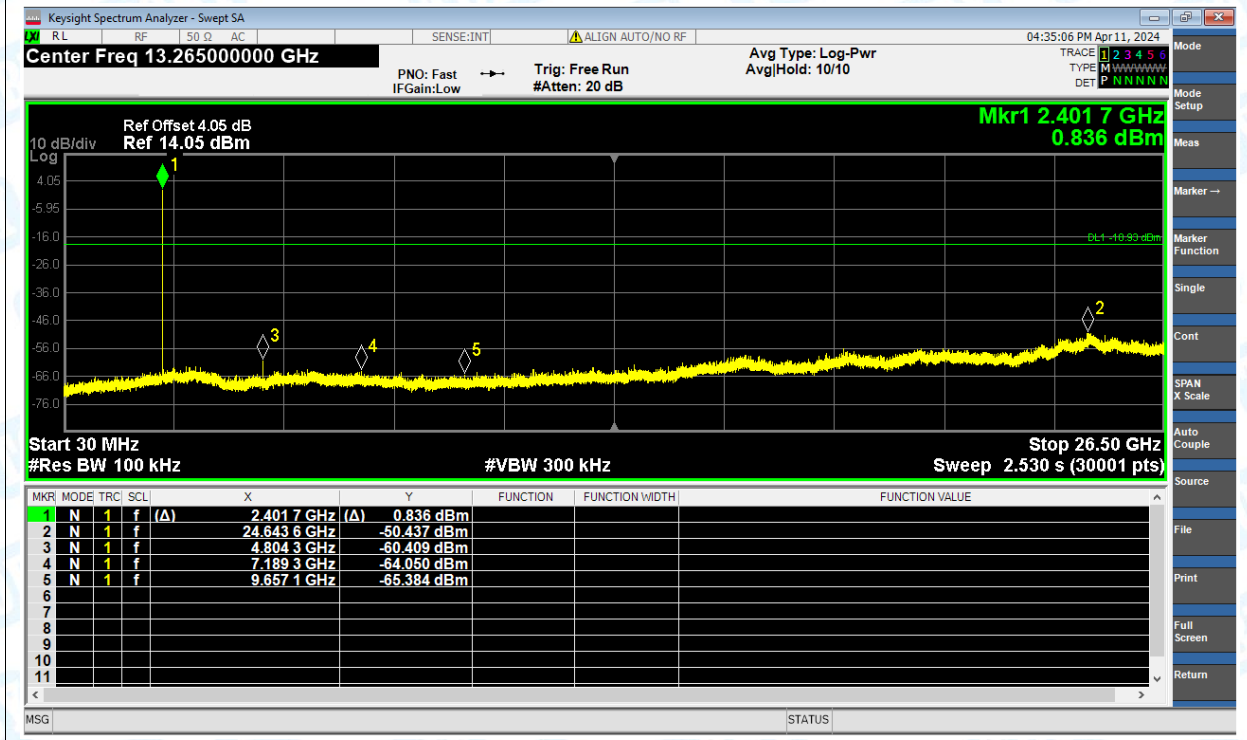
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



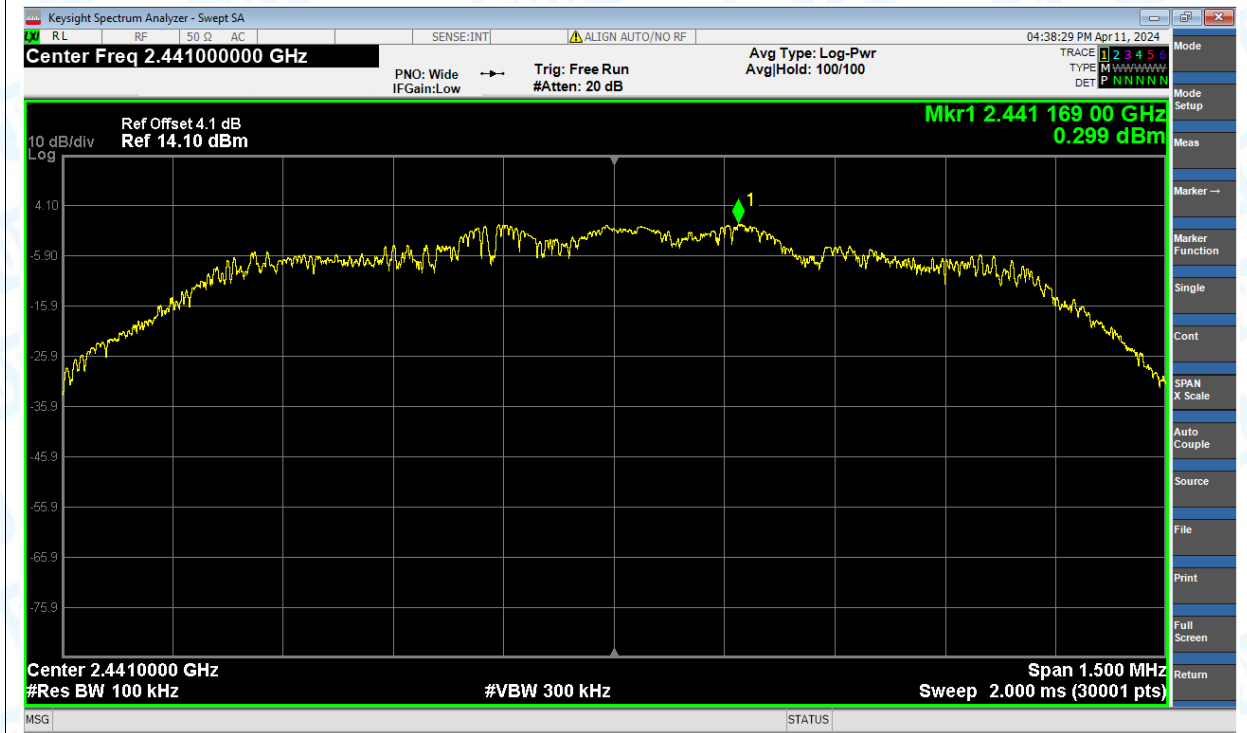
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



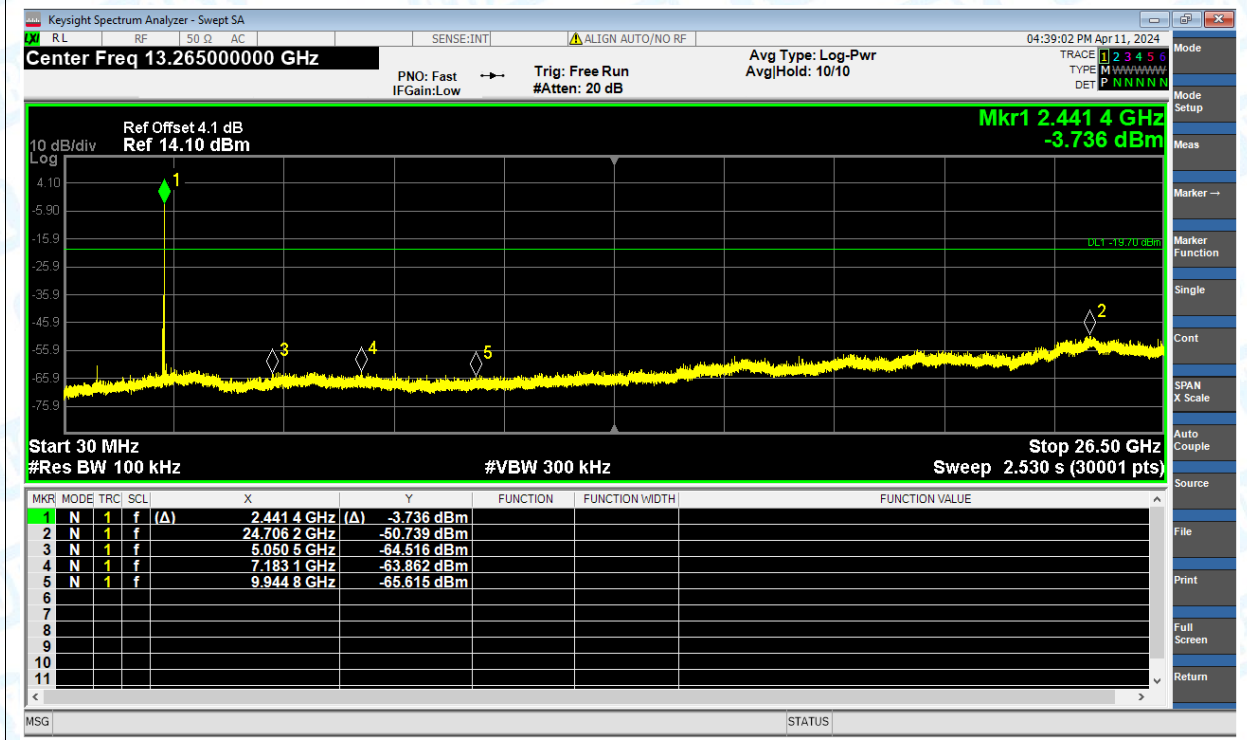
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



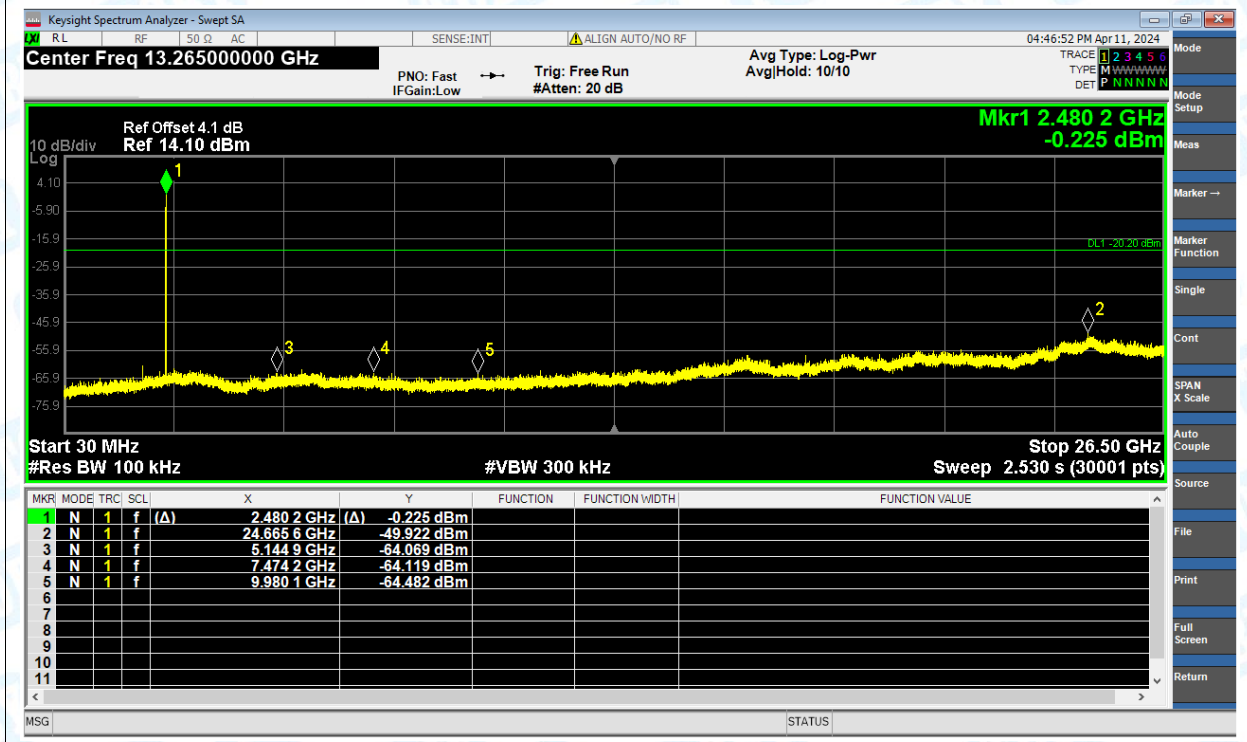
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

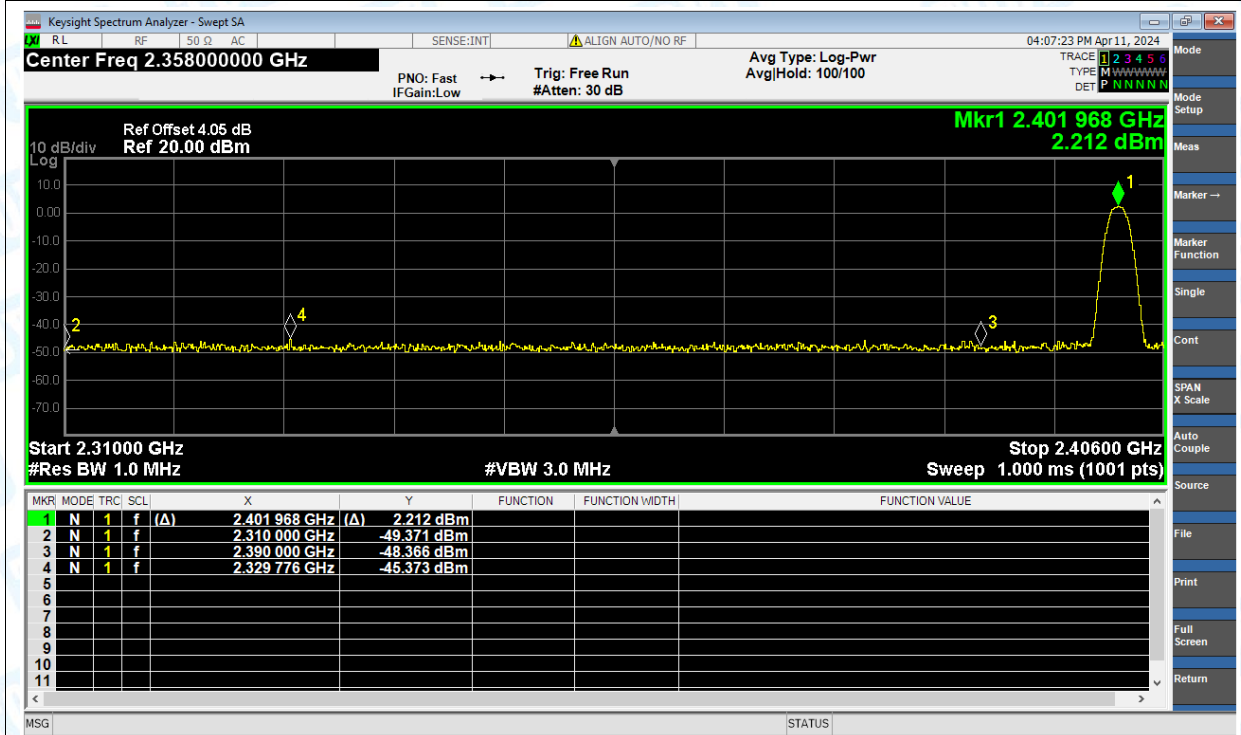


8. Restrict Band

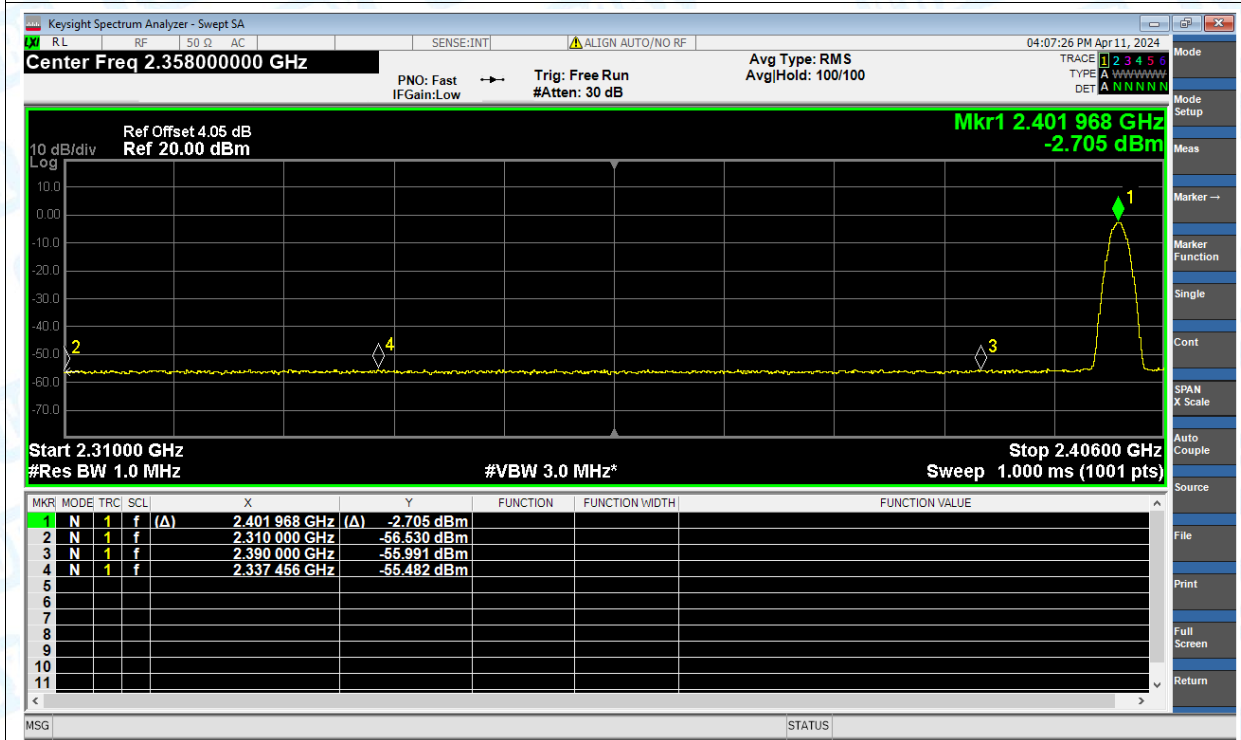
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-49.37	2	-	47.89	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.53	2	5.07	45.8	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2329.776	-45.37	2	-	51.89	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2337.456	-55.48	2	5.07	46.85	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.37	2	-	48.89	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.99	2	5.07	46.34	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-46.6	2	-	50.66	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-55.53	2	5.1	46.83	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2488.96	-45.22	2	-	52.04	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2495.608	-54.97	2	5.1	47.39	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-48.45	2	-	48.81	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.72	2	5.1	46.64	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-47.36	2	-	49.9	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.61	2	4.99	46.64	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2486.416	-44.4	2	-	52.86	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2499.496	-54.95	2	4.99	47.3	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.16	2	-	50.1	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.6	2	4.99	46.65	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-47.99	2	-	49.27	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.04	2	4.99	46.21	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2383.344	-45.37	2	-	51.89	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2312.4	-55.26	2	4.99	46.99	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-48.54	2	-	48.72	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-56.25	2	4.99	46	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-47.4	2	-	49.86	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-55.93	2	4.99	46.32	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-45.27	2	-	51.99	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2498.992	-55.09	2	4.99	47.16	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.95	2	4.99	46.3	Average	54	Pass

Test Graphs

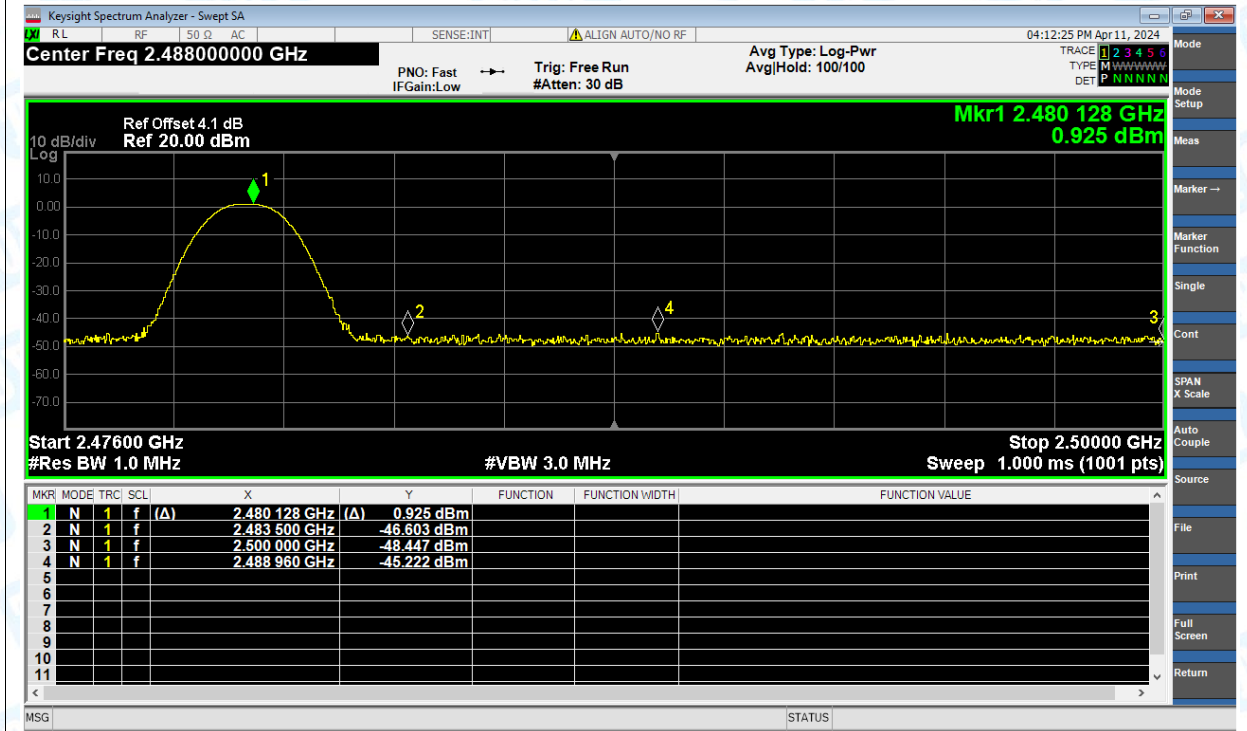
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



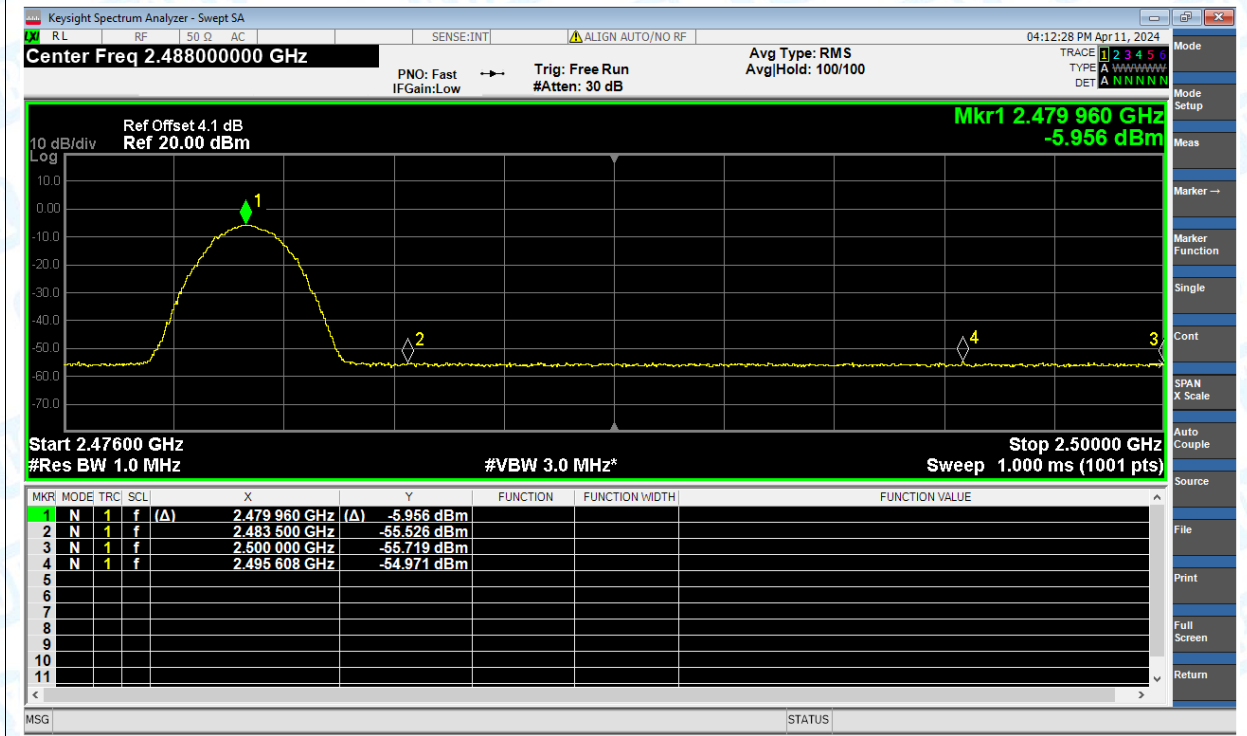
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



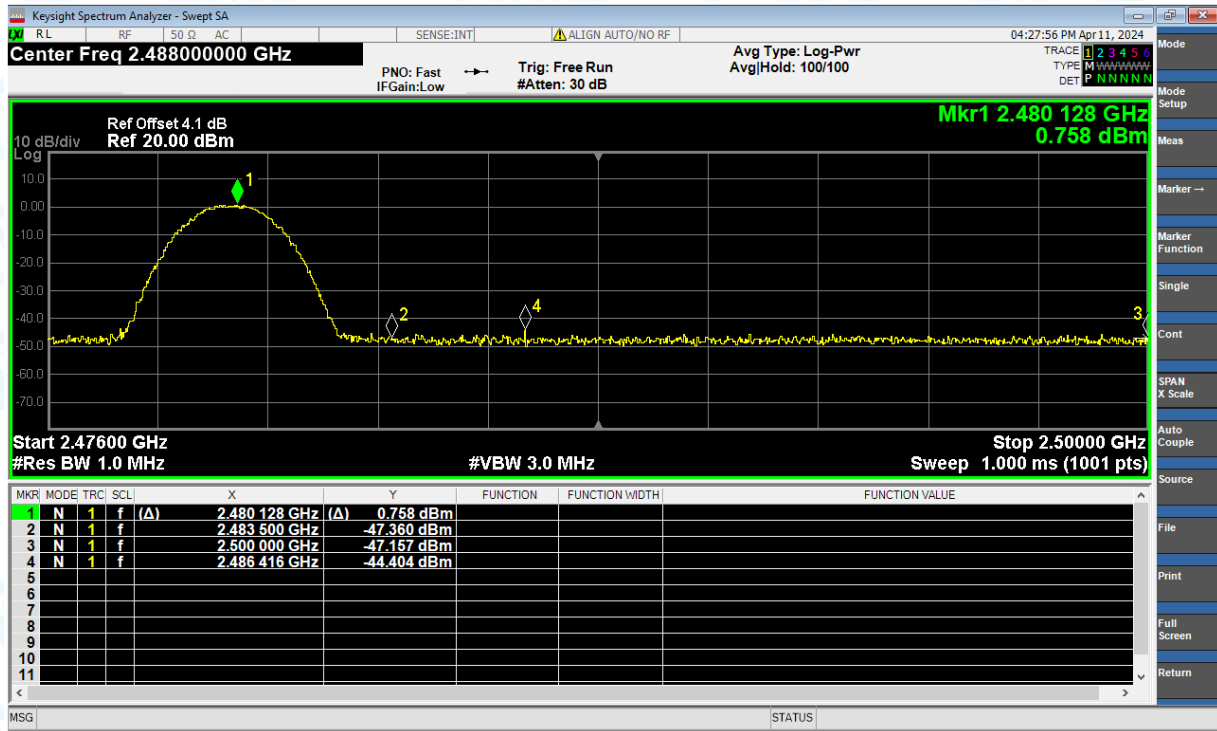
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



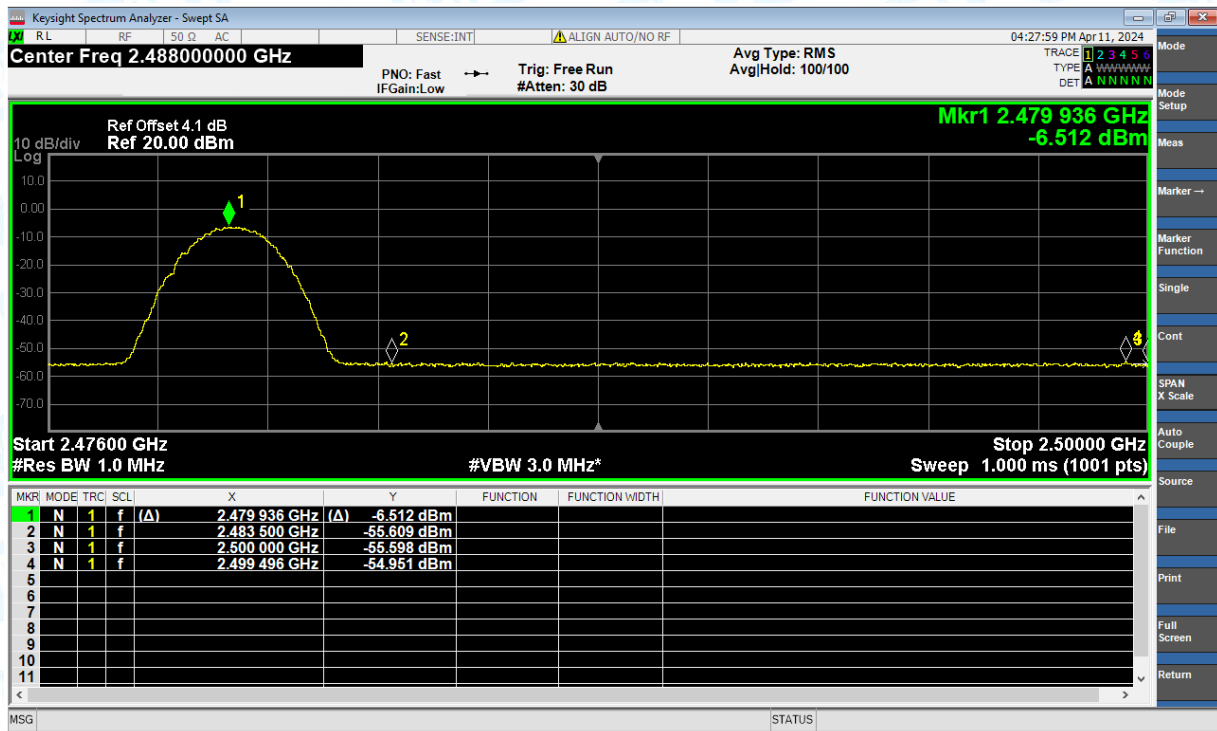
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



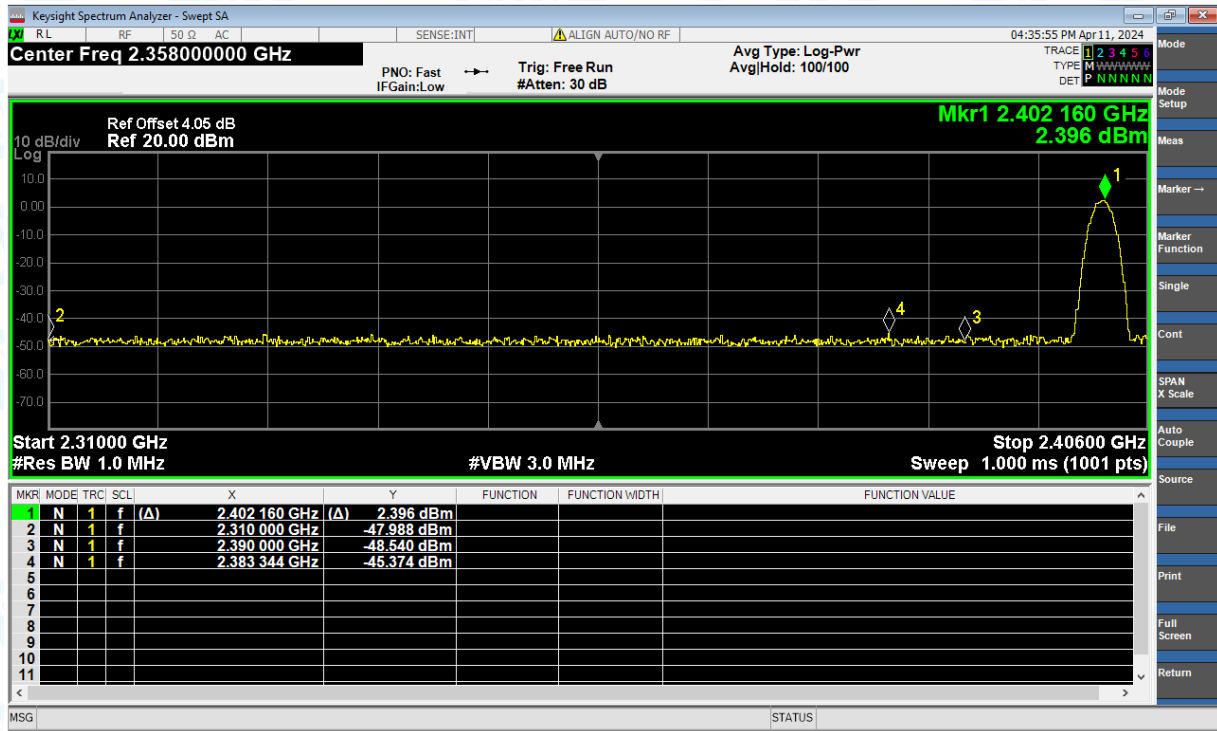
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



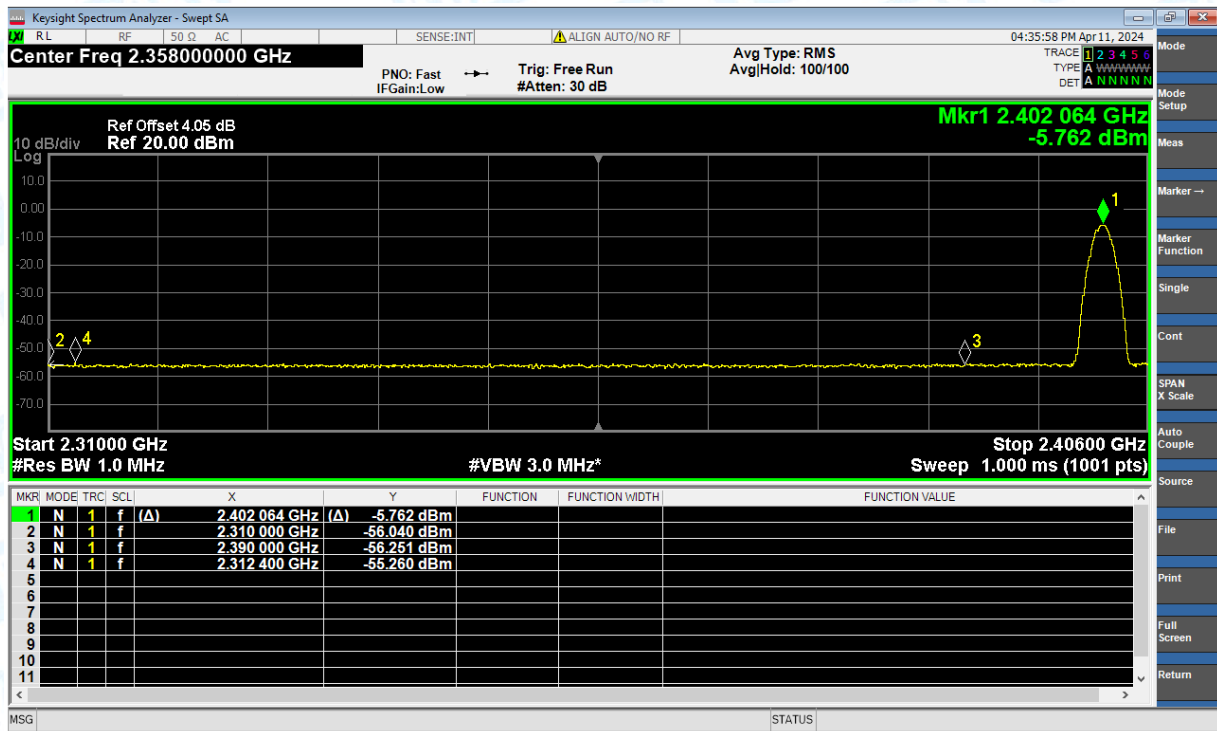
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



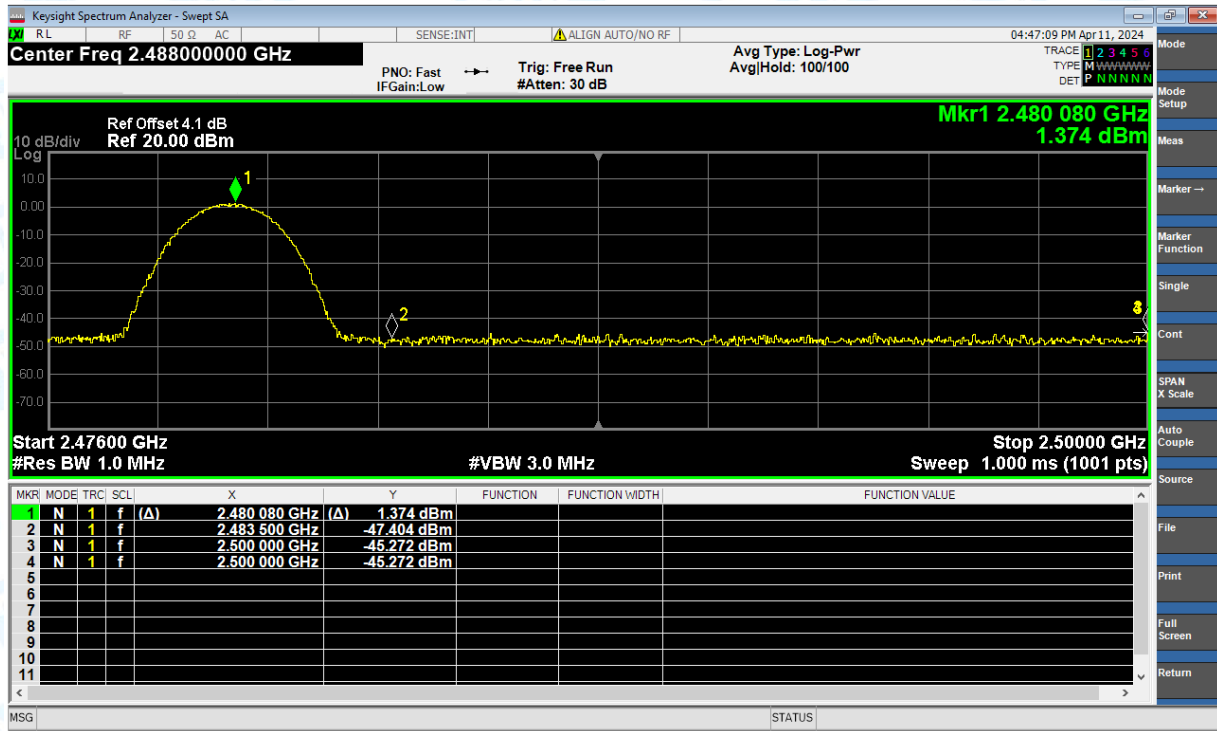
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



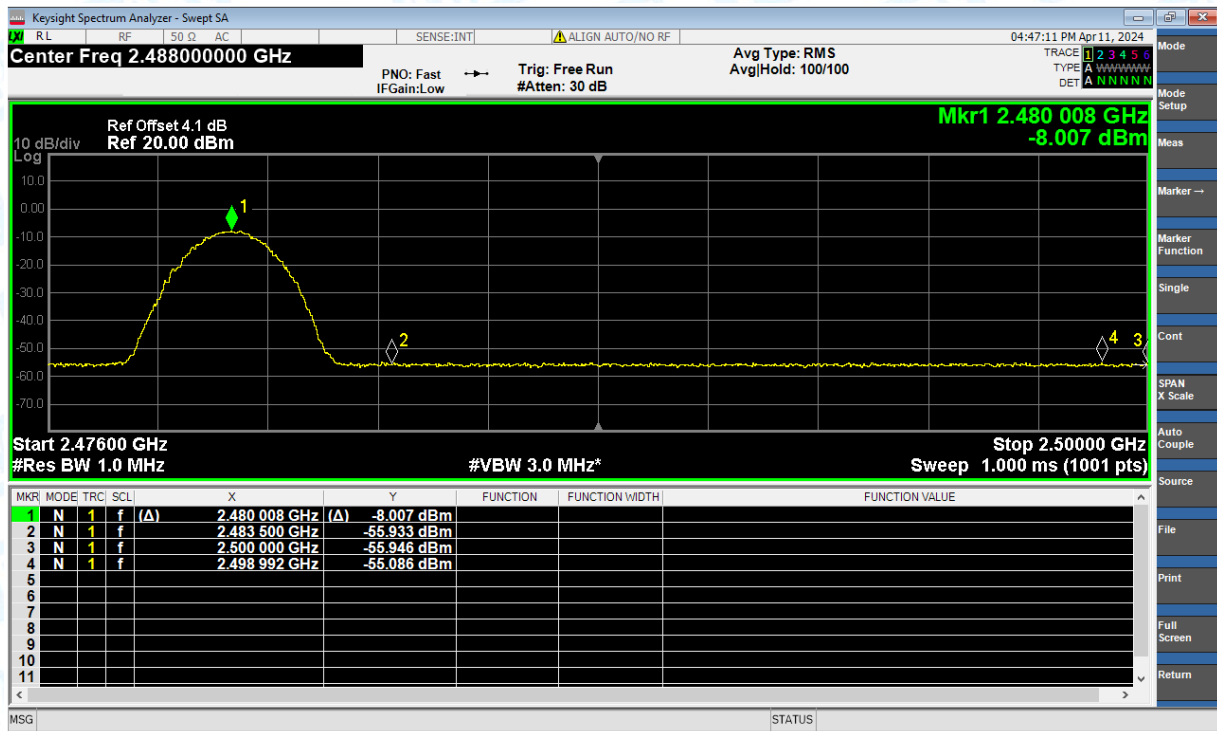
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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



9. Carrier Frequencies Separation

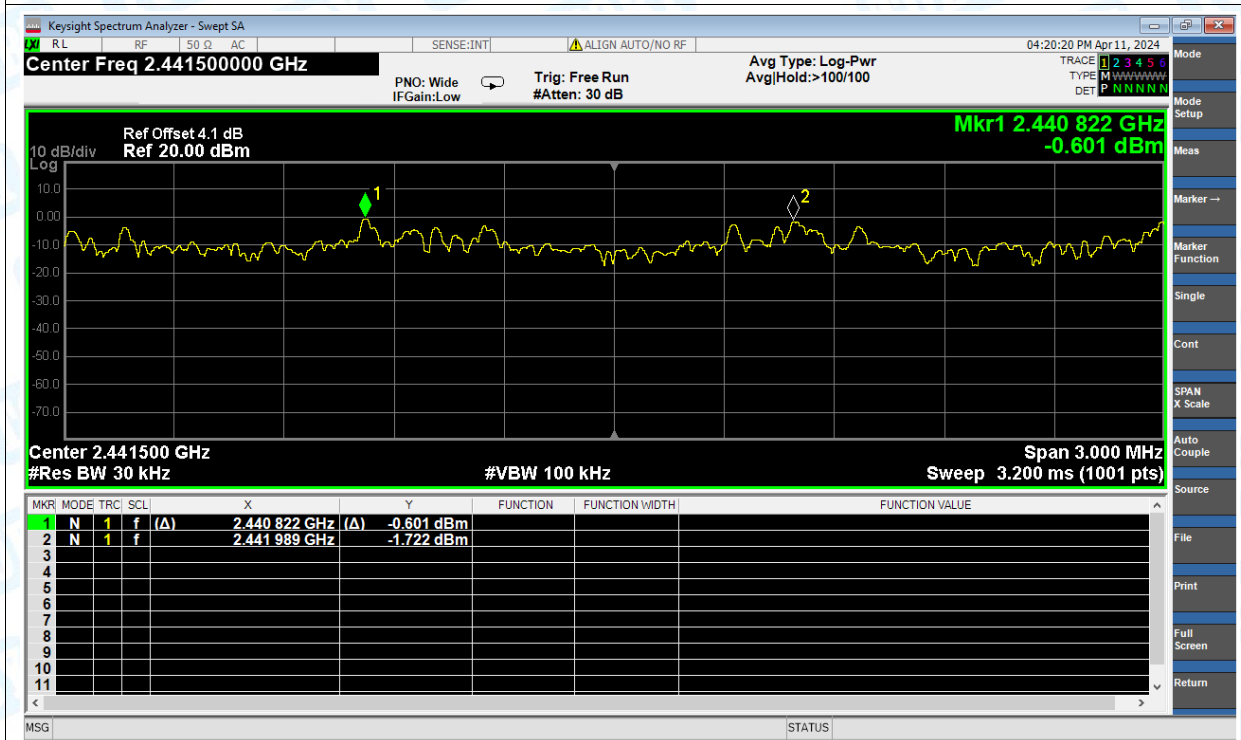
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2441.002	2441.998	0.996	0.633	Pass
NVNT	2-DH1	Ant1	2440.822	2441.989	1.167	0.025	Pass
NVNT	3-DH1	Ant1	2441.164	2441.983	0.819	0.813	Pass

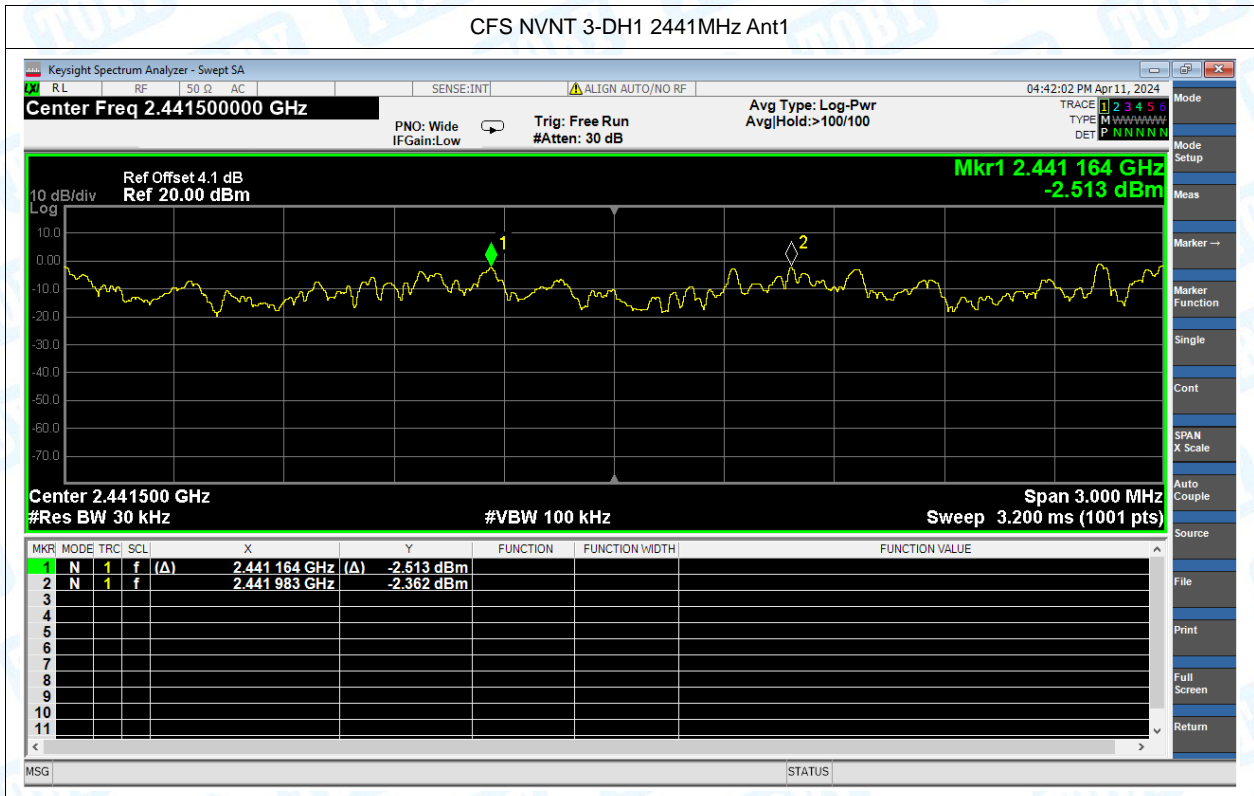
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



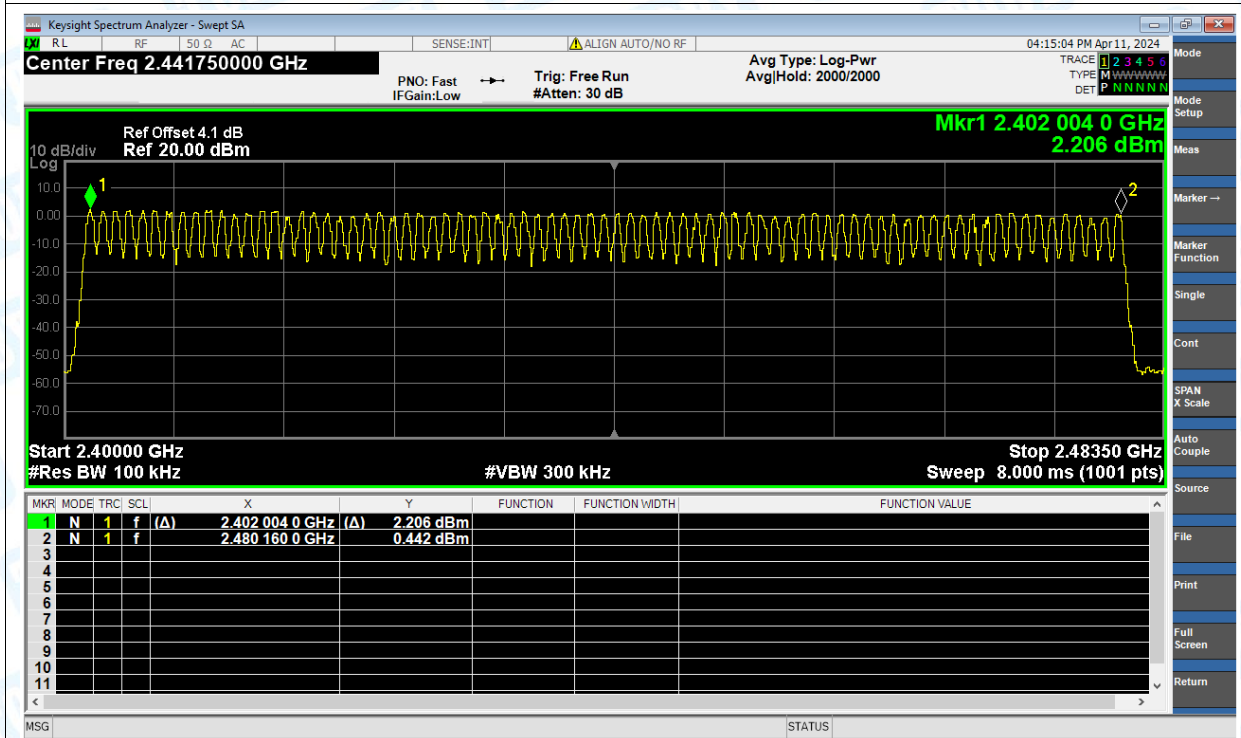


10. Number of Hopping Channel

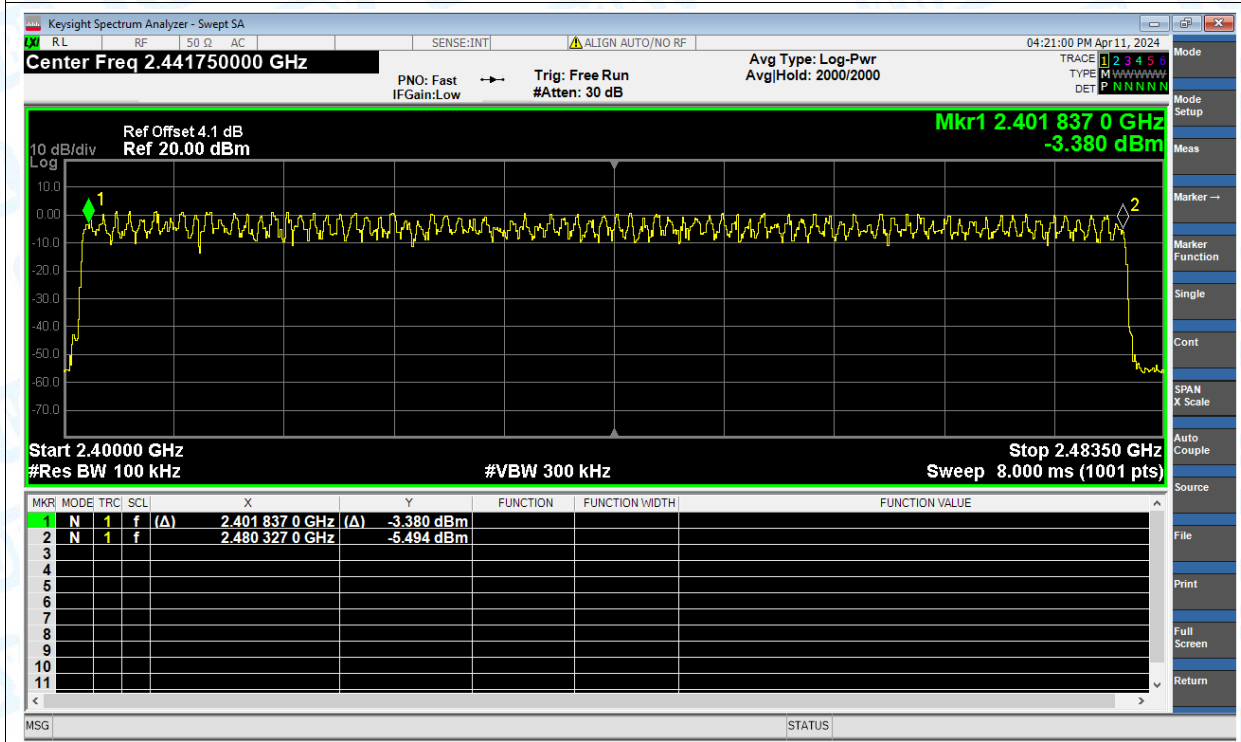
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

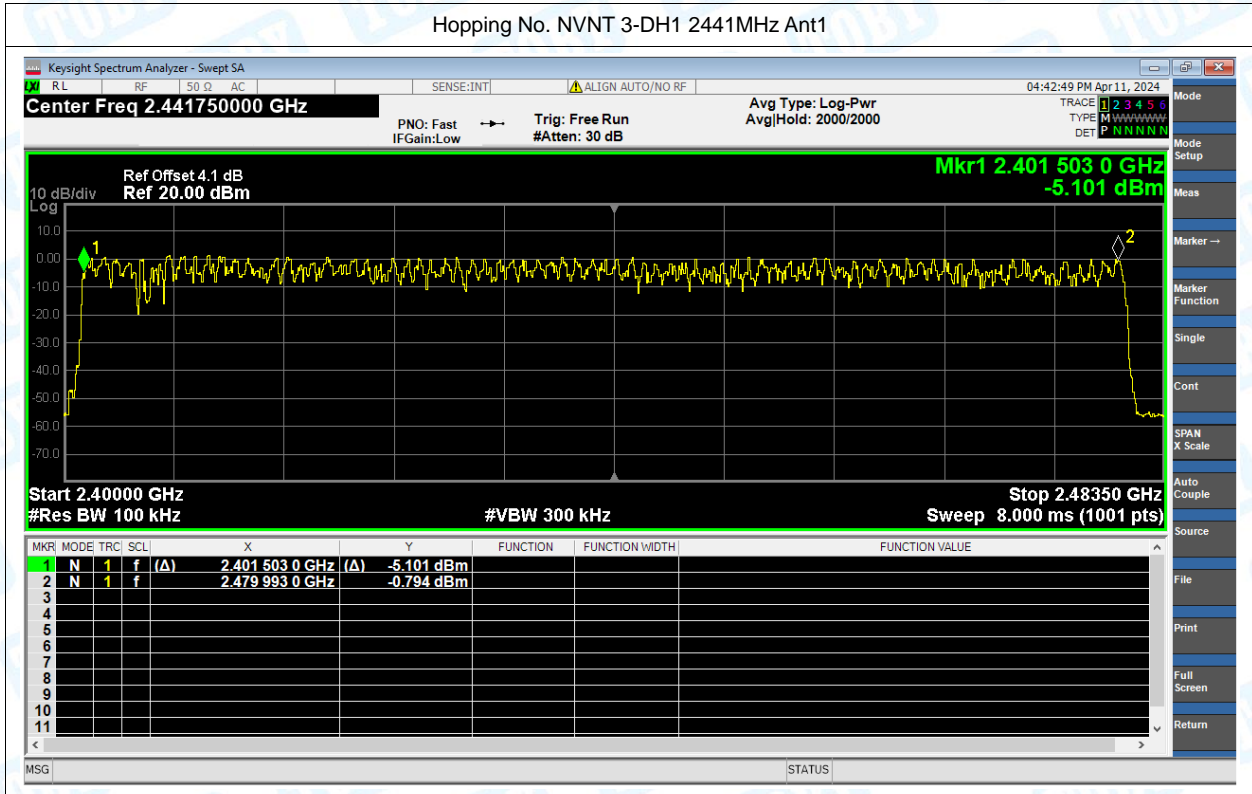
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



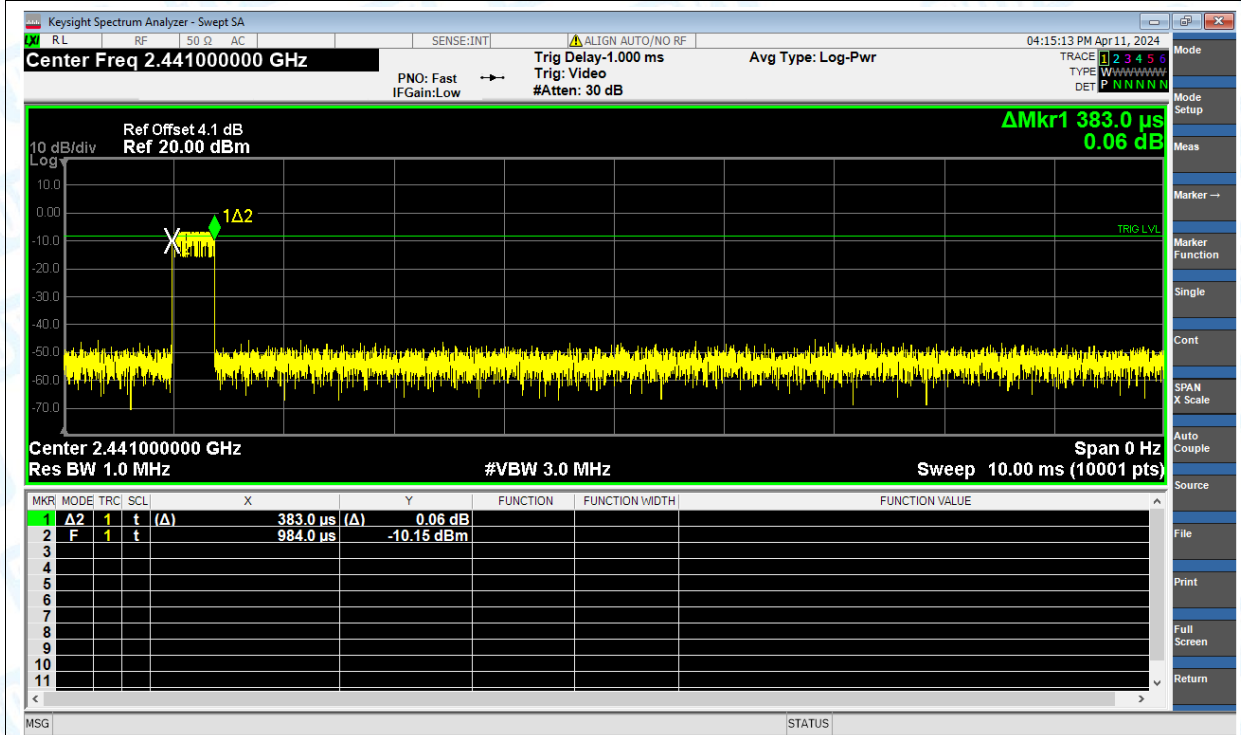


11. Dwell Time

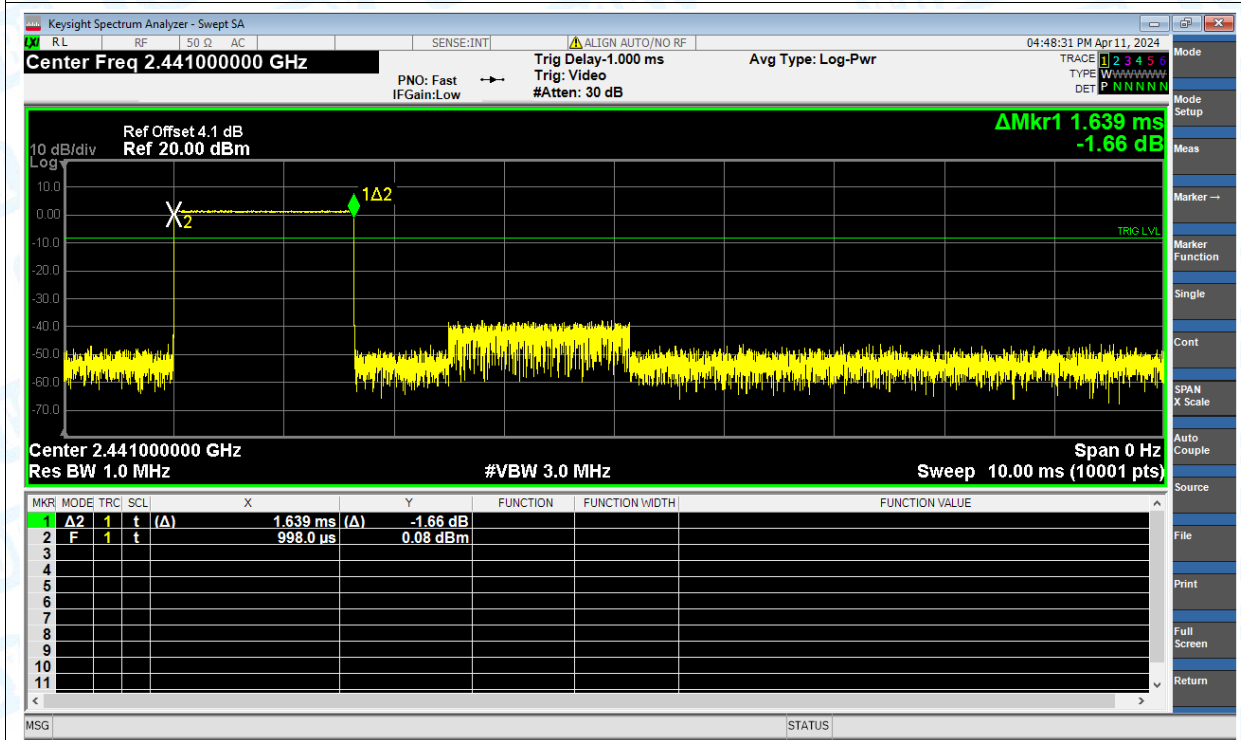
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.383	122.56	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.391	125.12	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.643	262.88	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	1.643	262.88	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.894	308.693	31600	400	Pass

Test Graphs

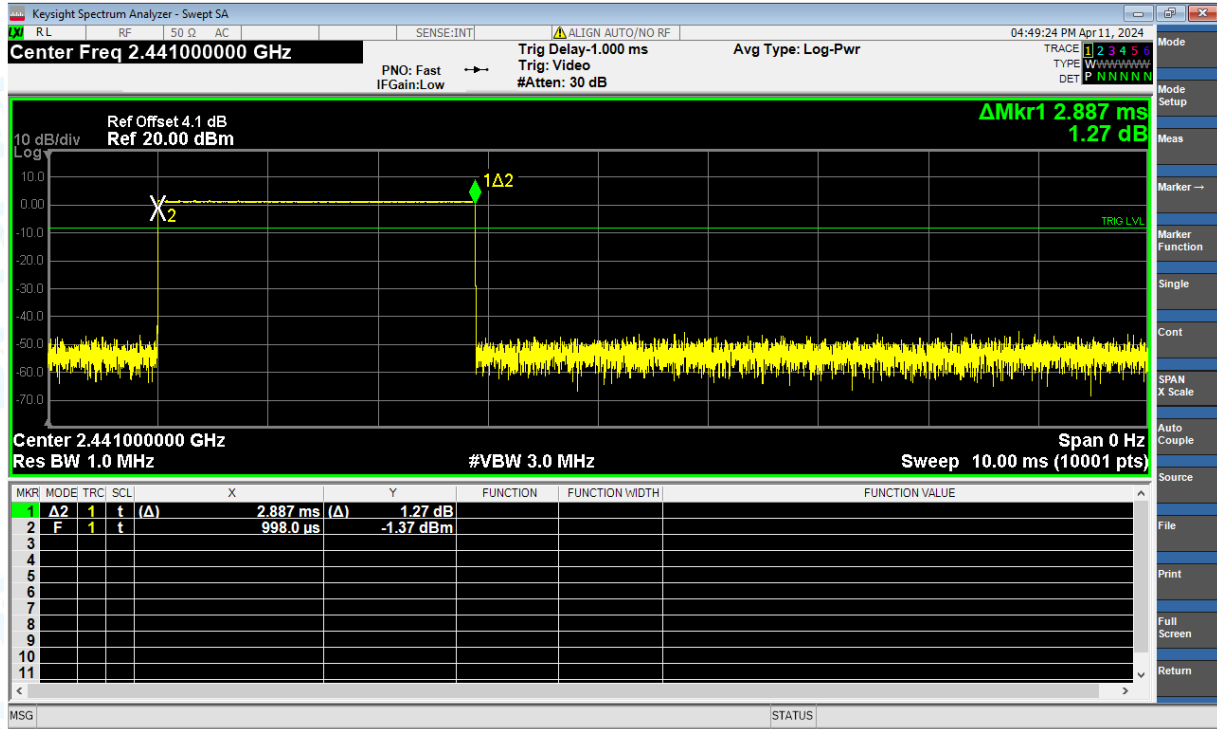
Dwell NVNT 1-DH1 2441MHz Ant1



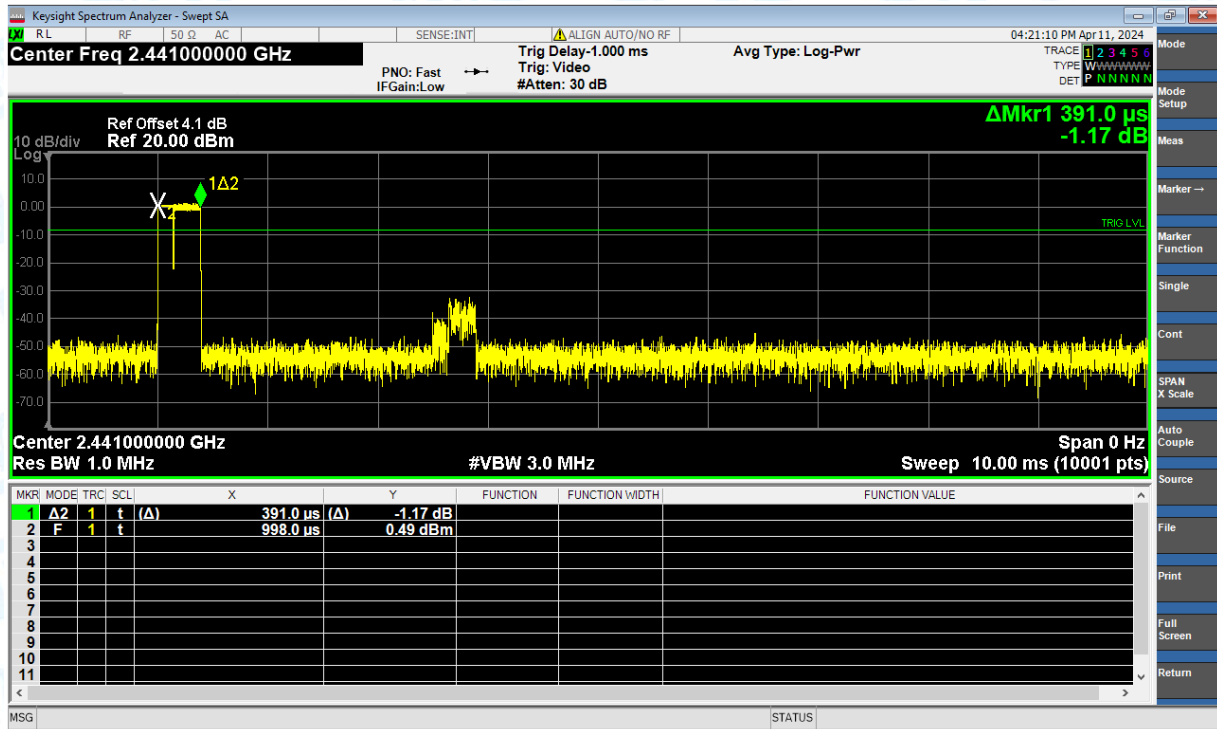
Dwell NVNT 1-DH3 2441MHz Ant1



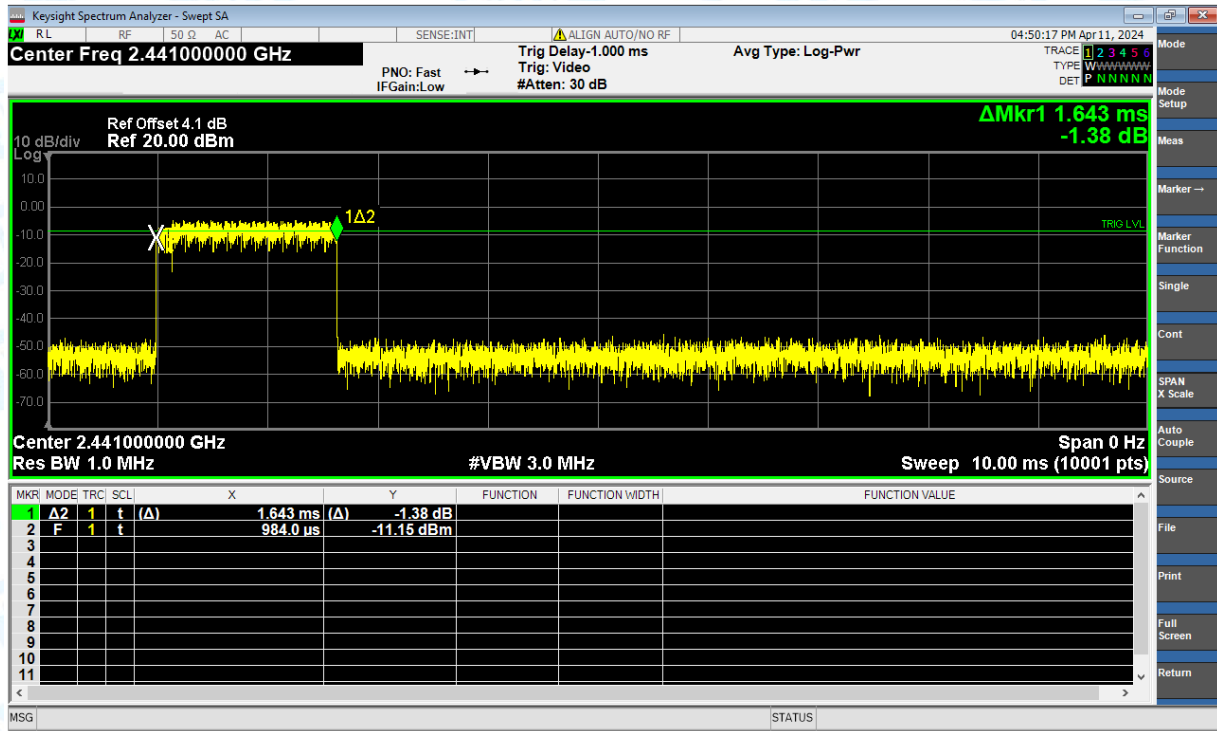
Dwell NVNT 1-DH5 2441MHz Ant1



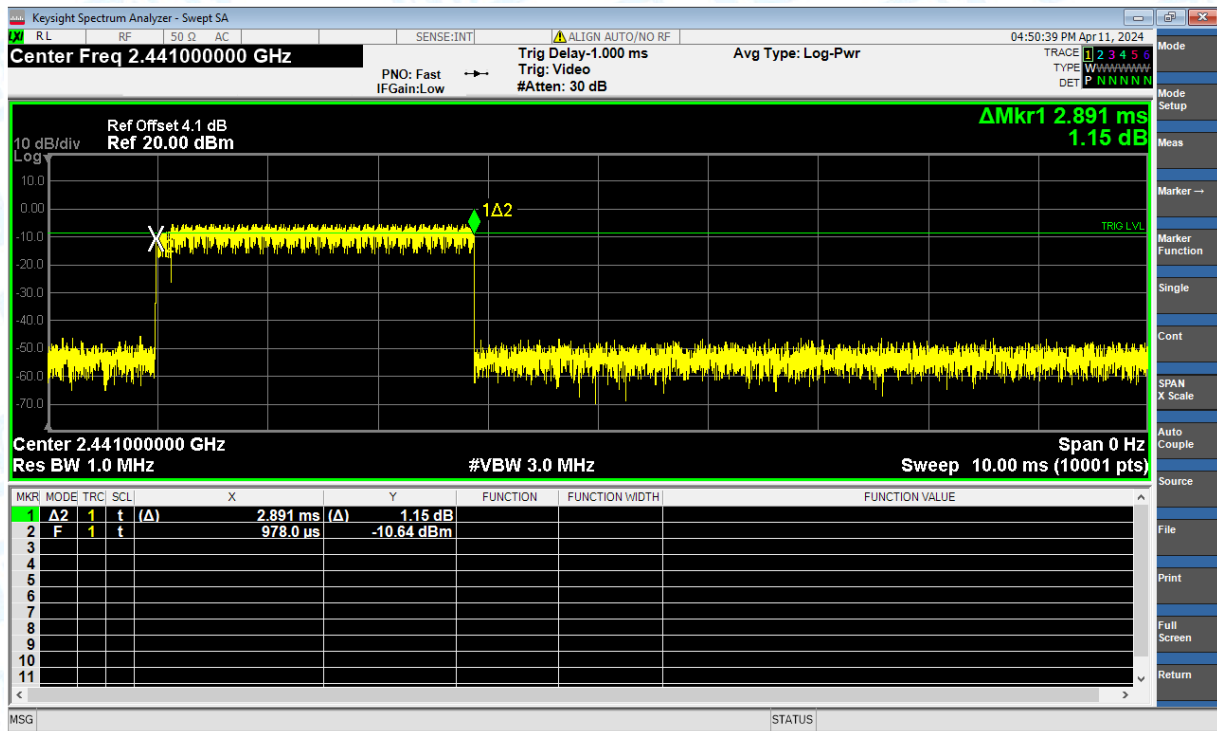
Dwell NVNT 2-DH1 2441MHz Ant1



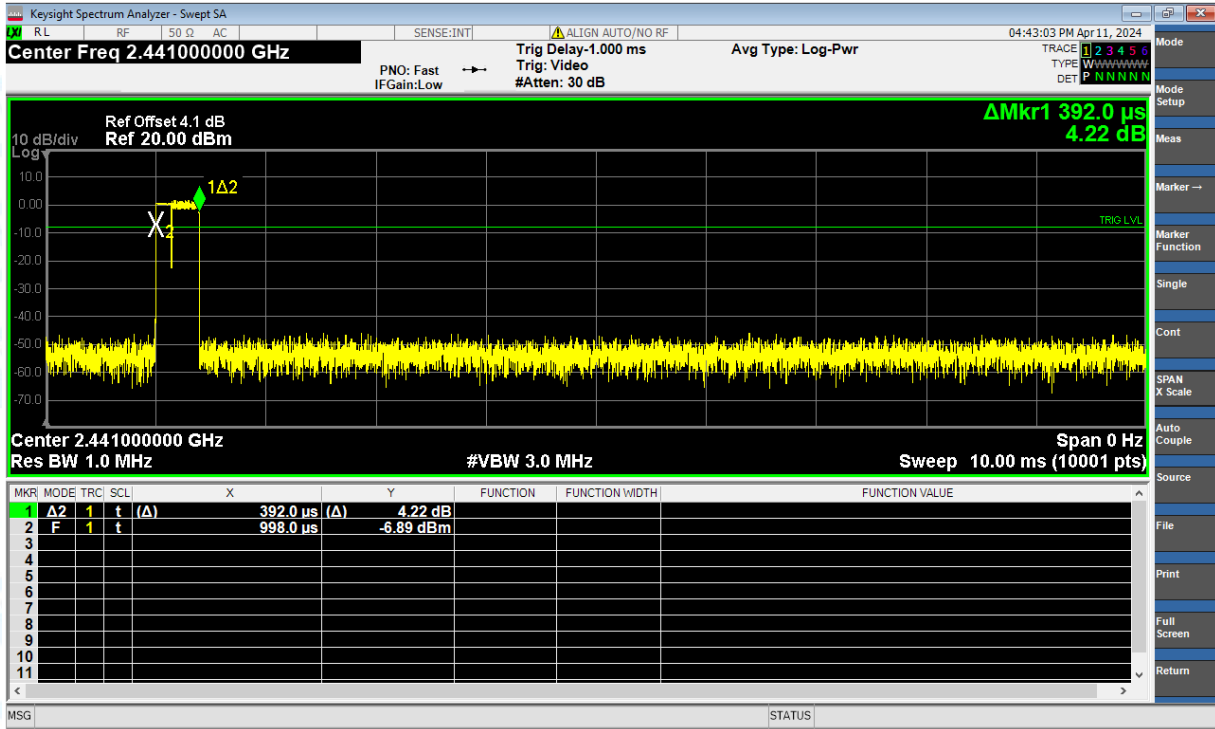
Dwell NVNT 2-DH3 2441MHz Ant1



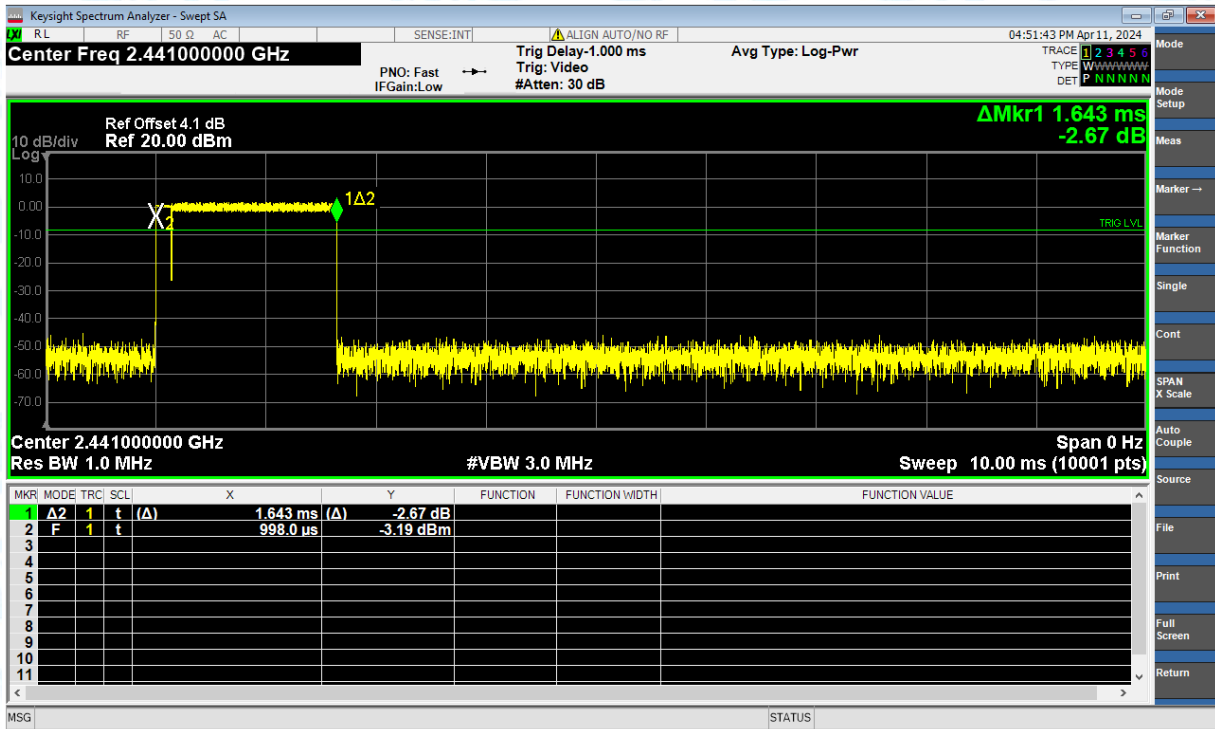
Dwell NVNT 2-DH5 2441MHz Ant1

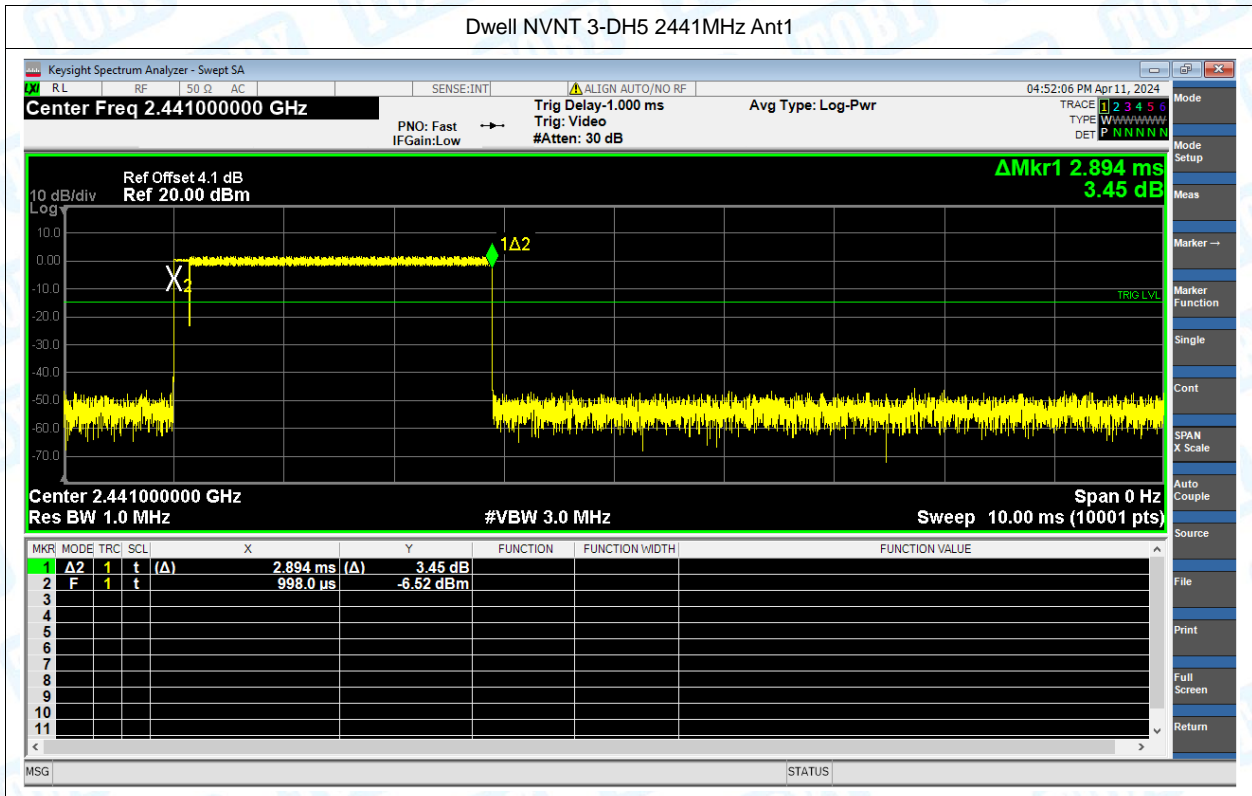


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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