

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

General Description of EUT	
Product Name:	SMART WATCH
Test Model:	GL-8
Sample ID:	202311-0047-2-2#
Environmental Conditions	
Temperature:	25℃
Relative Humidity:	55%
Test Voltage:	DC 3.8V
Test Engineer:	Zhou Zhen
Note: For a more detailed features description, please refer to the report TBR-C-202311-0047-2 The report only show the worst case data.	

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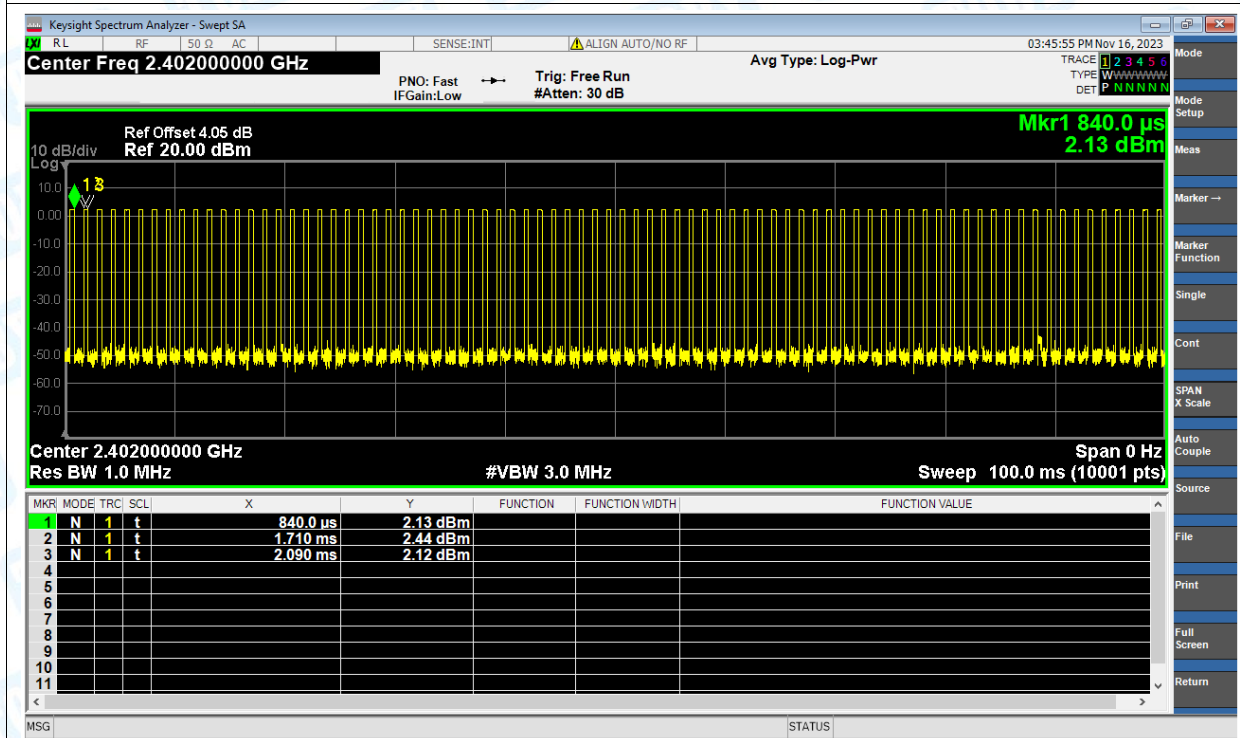
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1. Duty Cycle

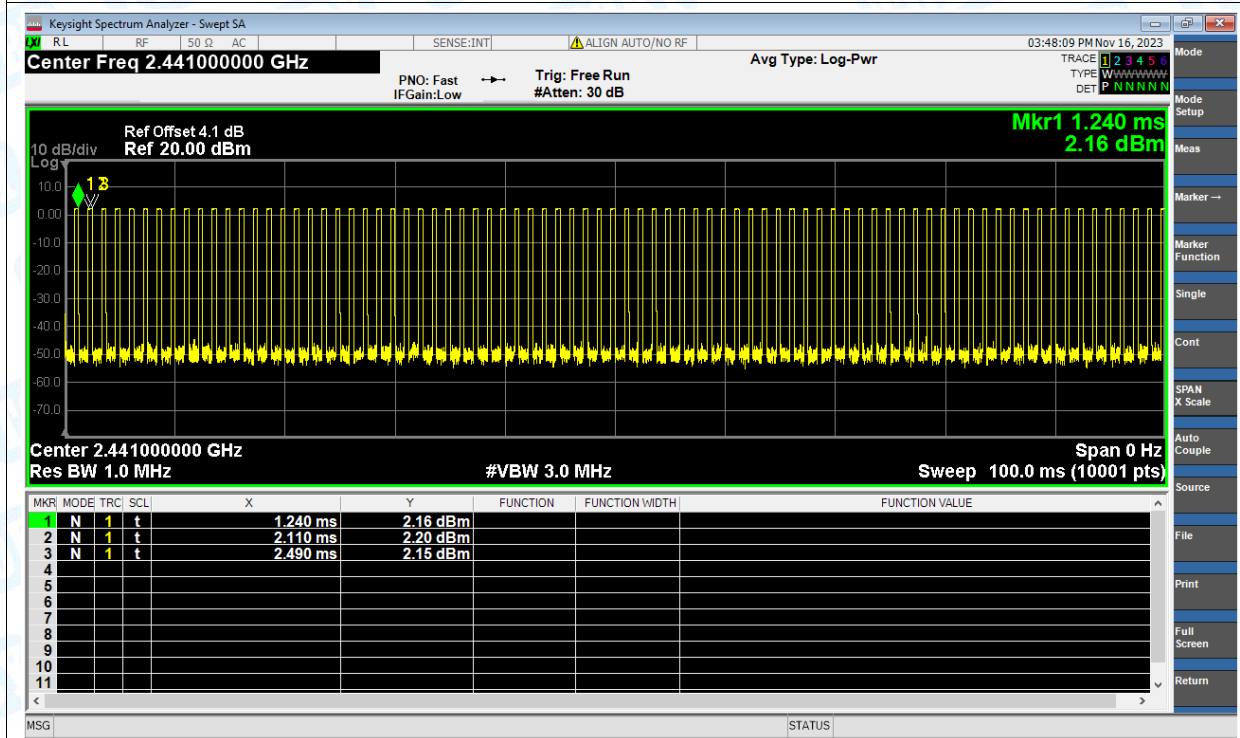
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56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

Test Graphs

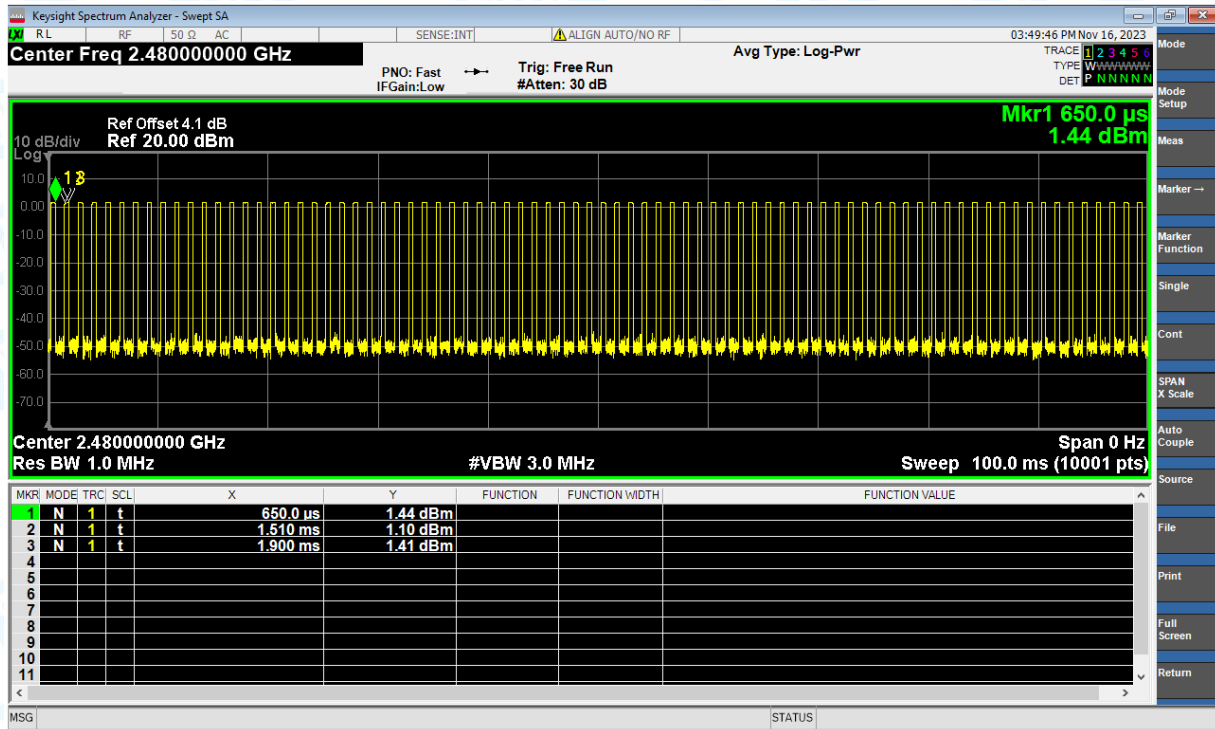
Duty Cycle NVNT 1-DH1 2402MHz Ant1



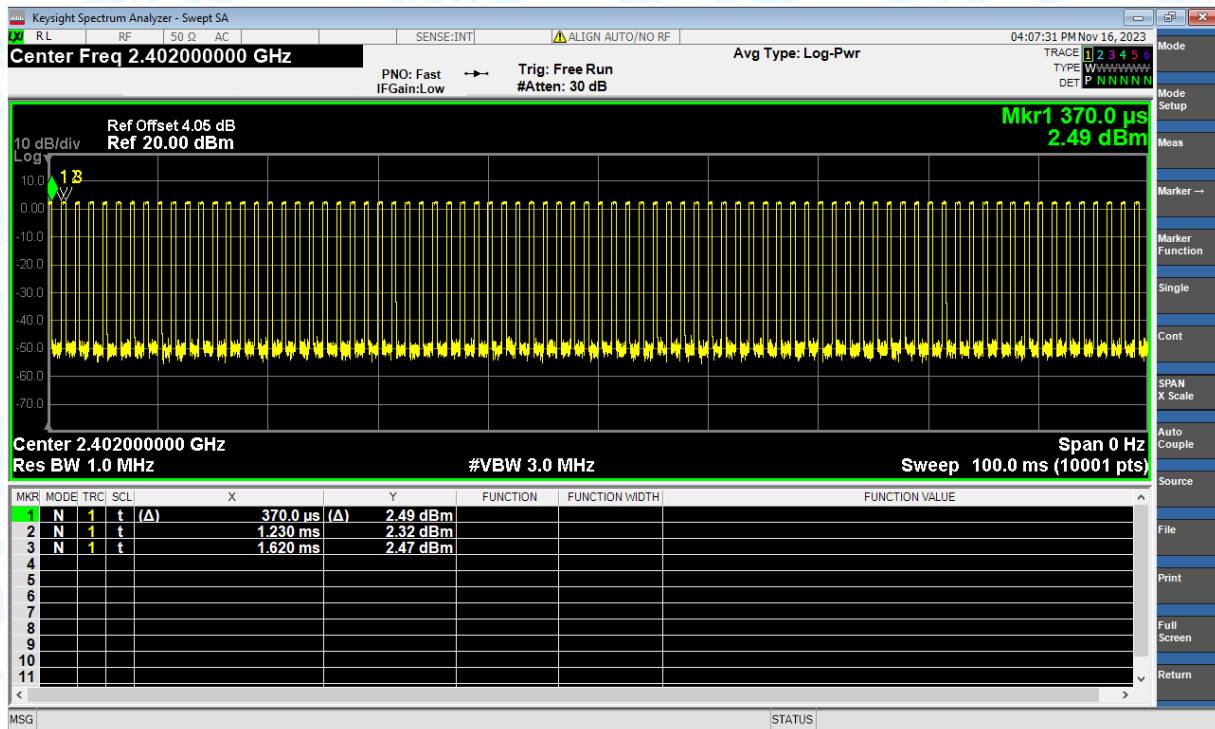
Duty Cycle NVNT 1-DH1 2441MHz Ant1



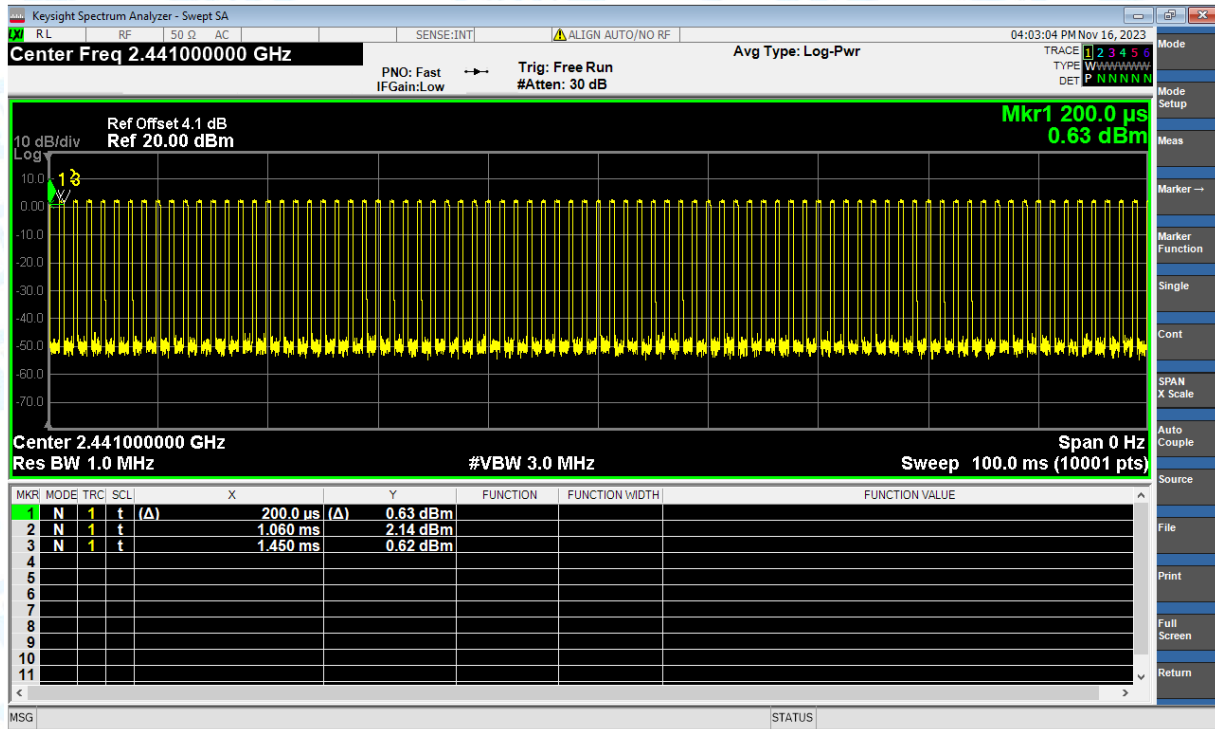
Duty Cycle NVNT 1-DH1 2480MHz Ant1



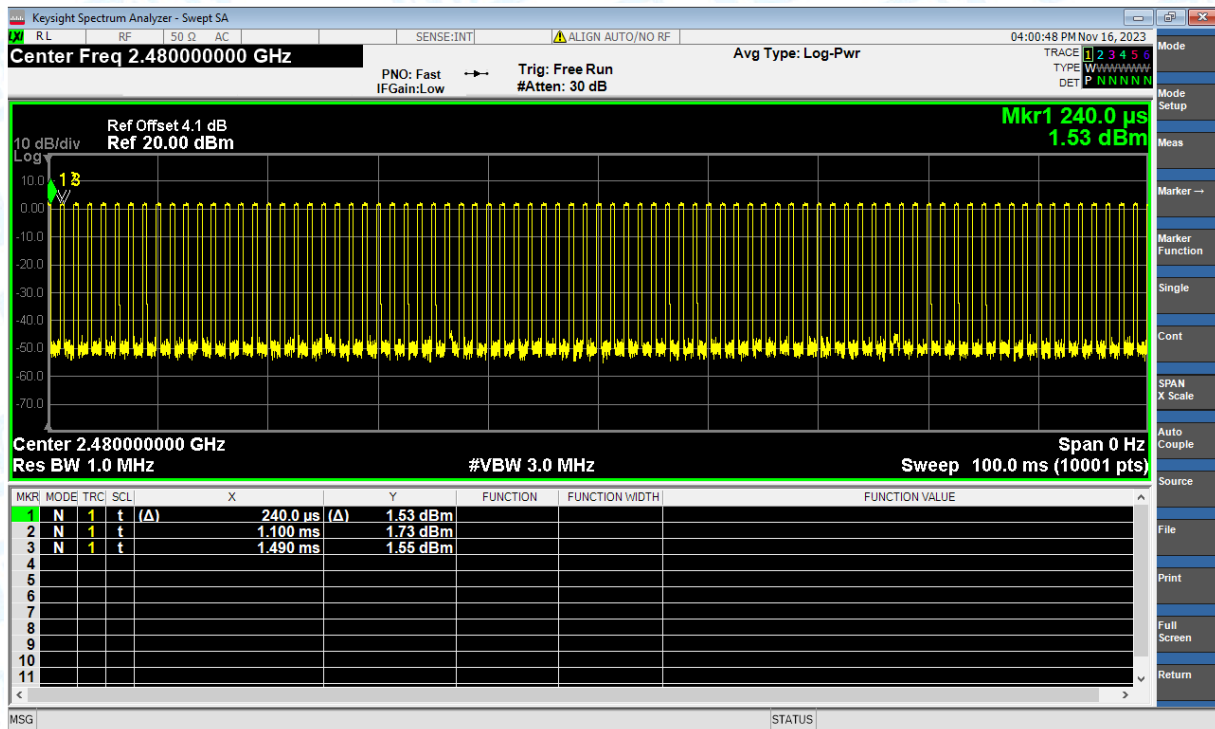
Duty Cycle NVNT 2-DH1 2402MHz Ant1



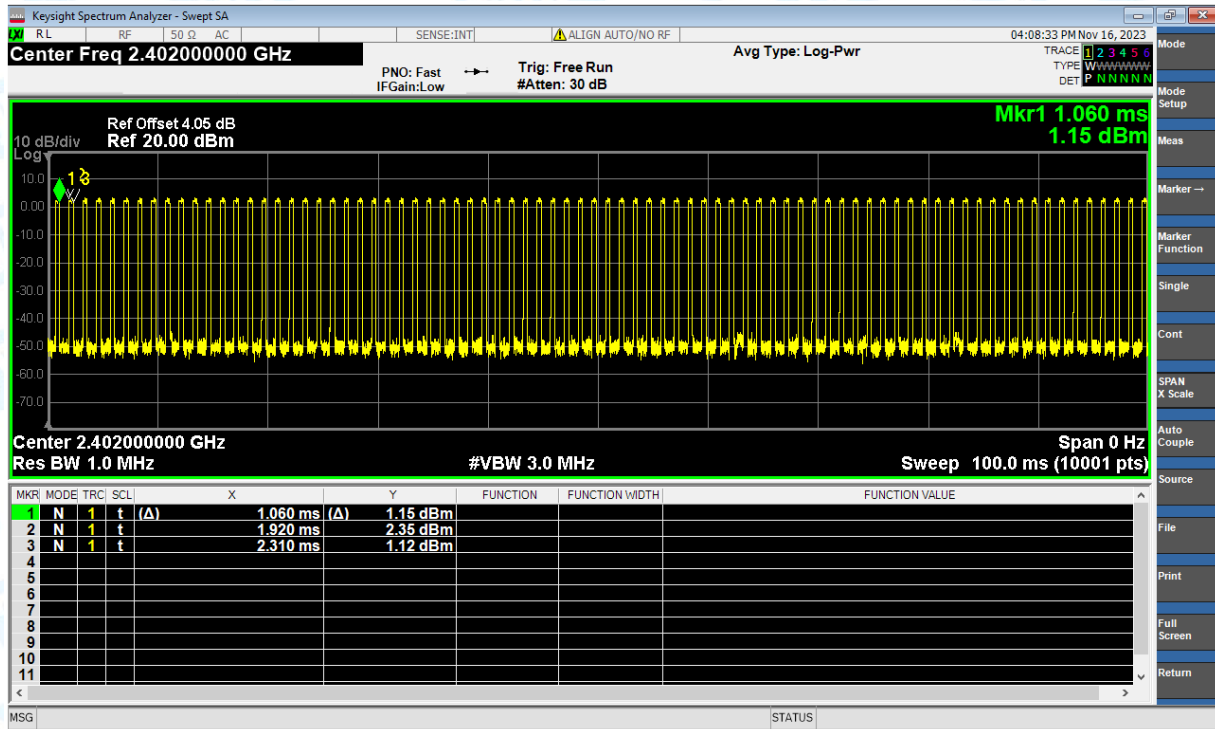
Duty Cycle NVNT 2-DH1 2441MHz Ant1



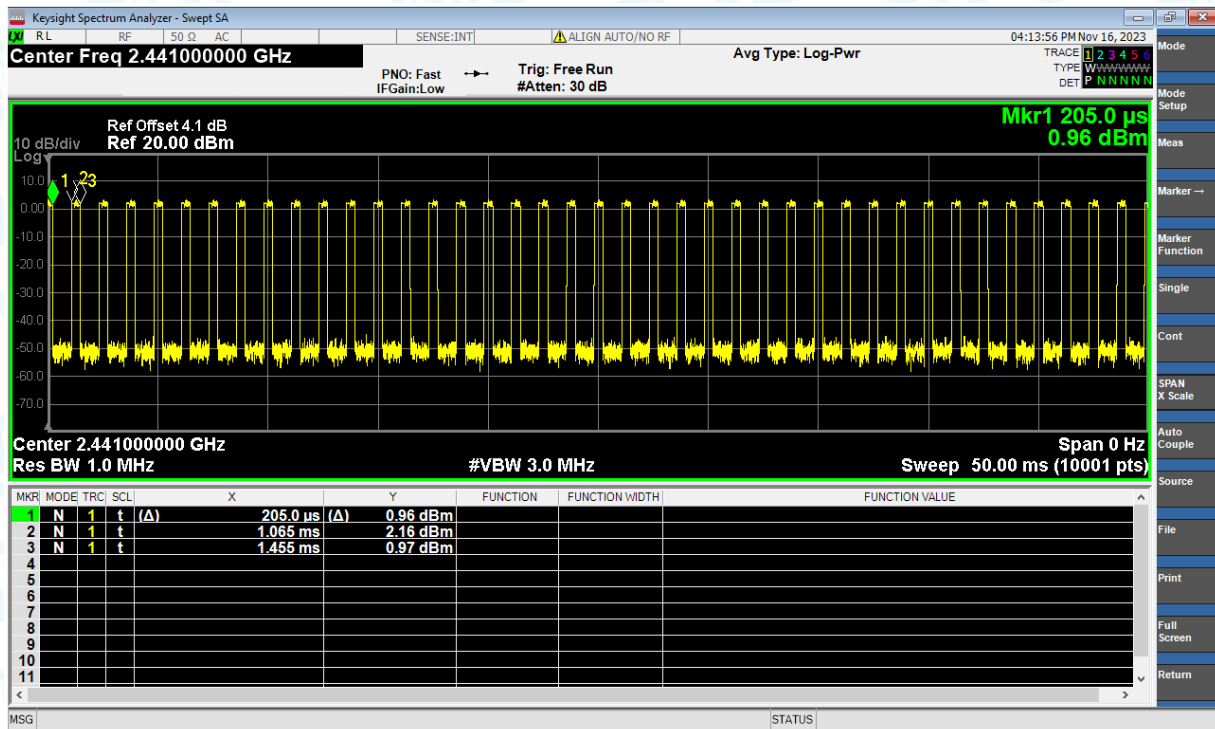
Duty Cycle NVNT 2-DH1 2480MHz Ant1

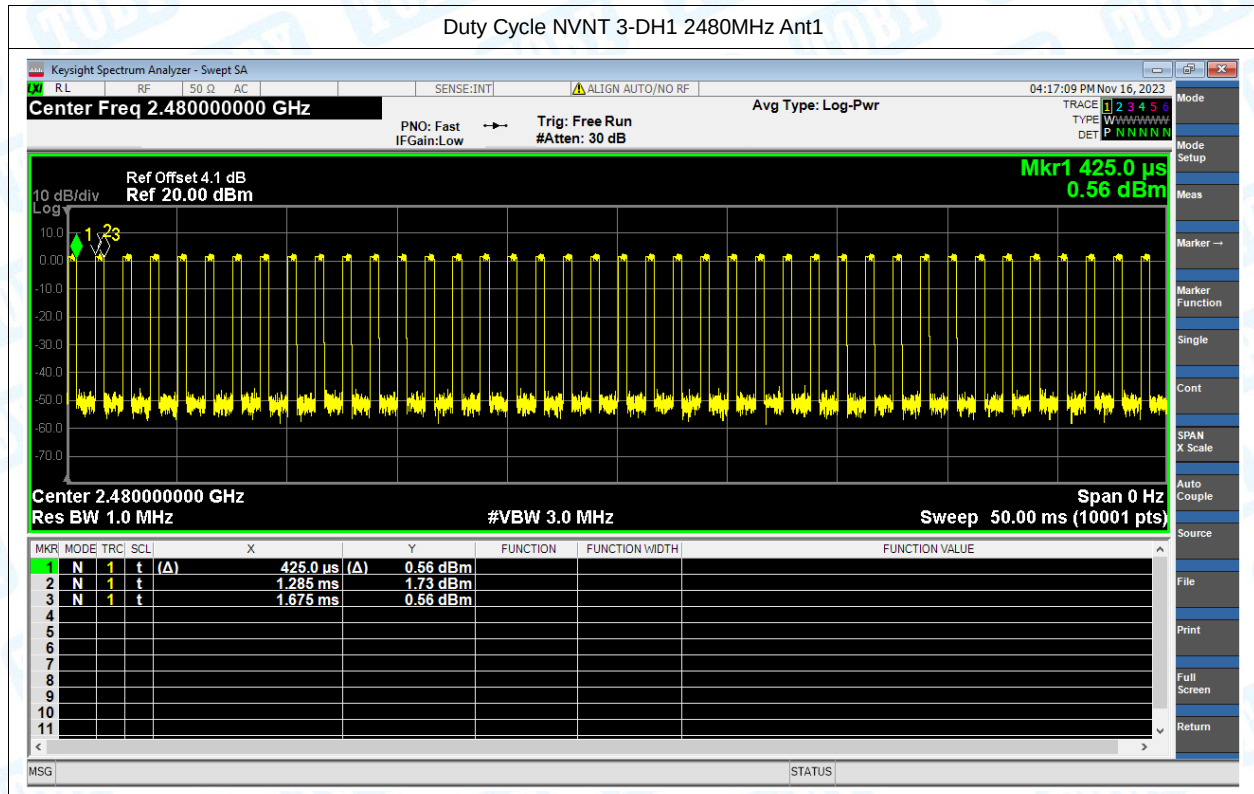


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



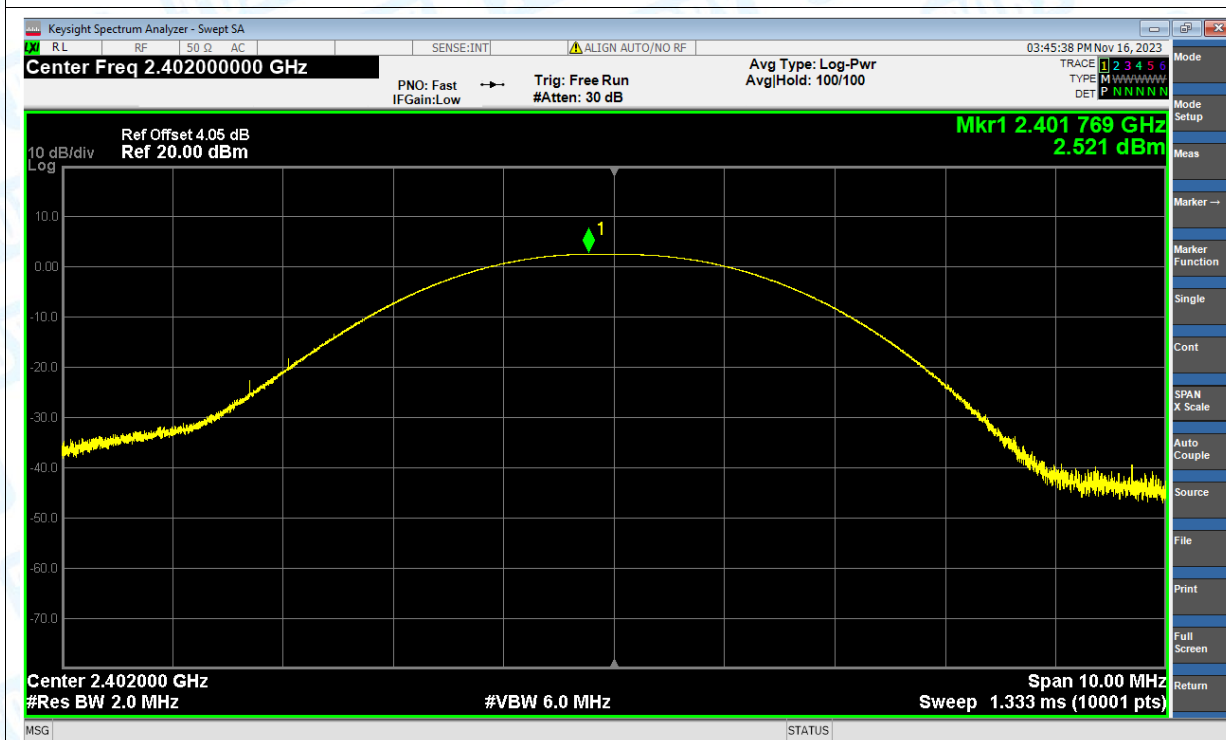


2. Maximum Conducted Output Power

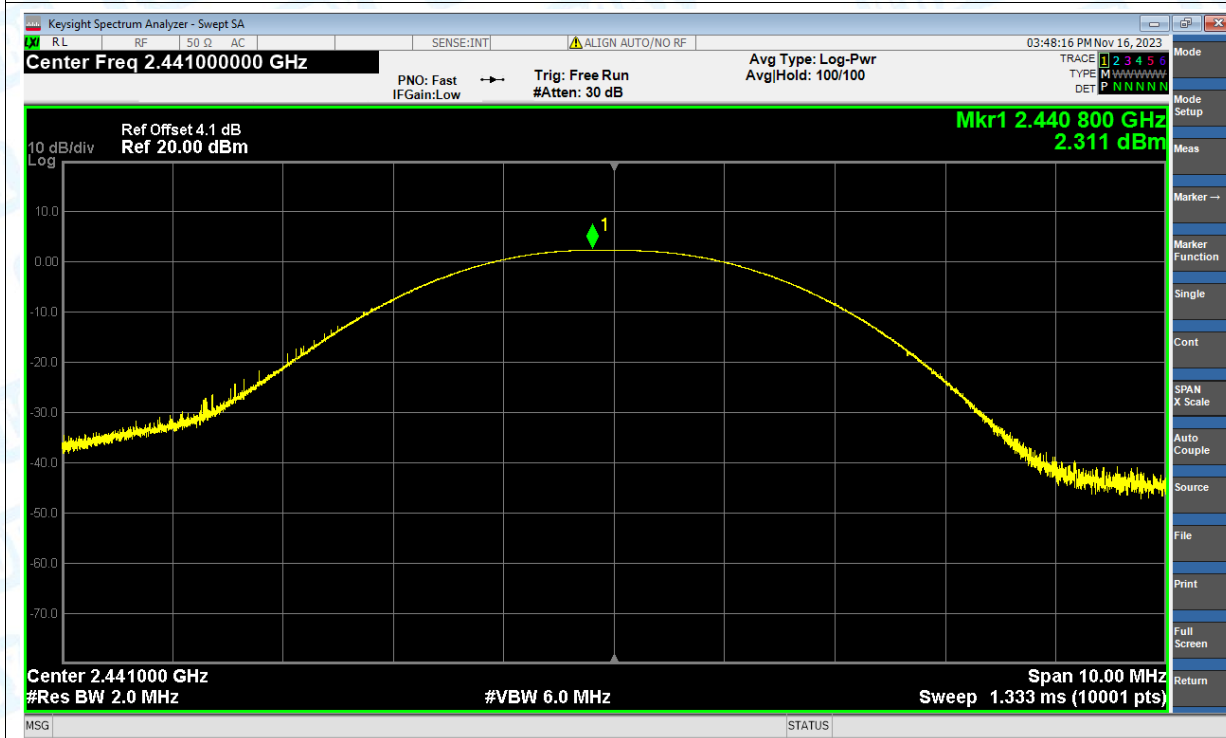
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	2.521	21	Pass
NVNT	1-DH1	2441	Ant1	2.311	21	Pass
NVNT	1-DH1	2480	Ant1	1.881	21	Pass
NVNT	2-DH1	2402	Ant1	3.296	21	Pass
NVNT	2-DH1	2441	Ant1	3.045	21	Pass
NVNT	2-DH1	2480	Ant1	2.658	21	Pass
NVNT	3-DH1	2402	Ant1	3.813	21	Pass
NVNT	3-DH1	2441	Ant1	3.627	21	Pass
NVNT	3-DH1	2480	Ant1	3.235	21	Pass

Test Graphs

Power NVNT 1-DH1 2402MHz Ant1



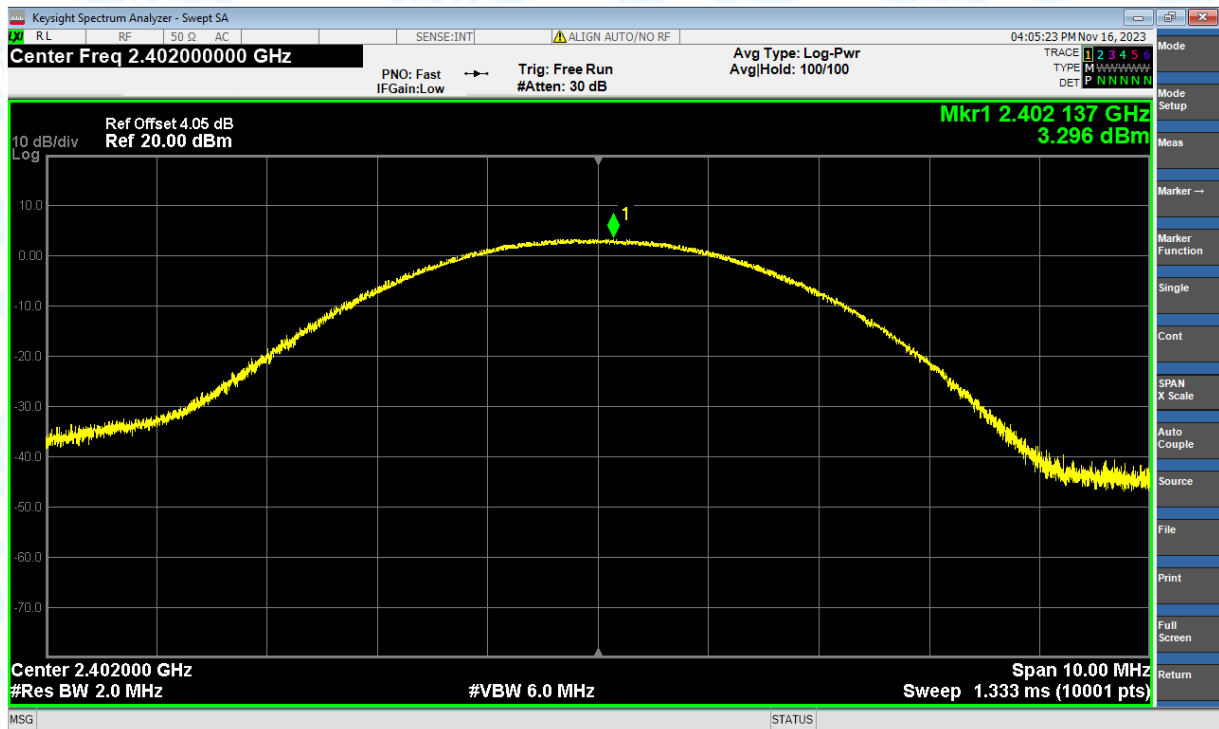
Power NVNT 1-DH1 2441MHz Ant1



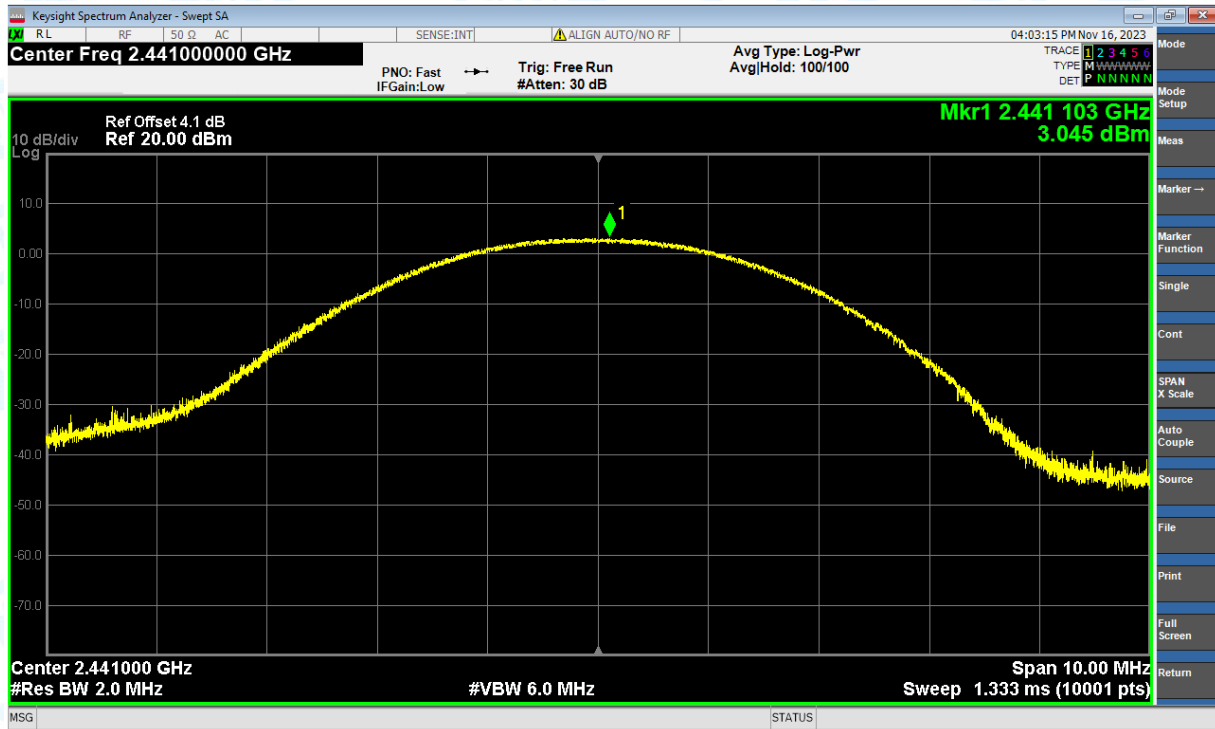
Power NVNT 1-DH1 2480MHz Ant1



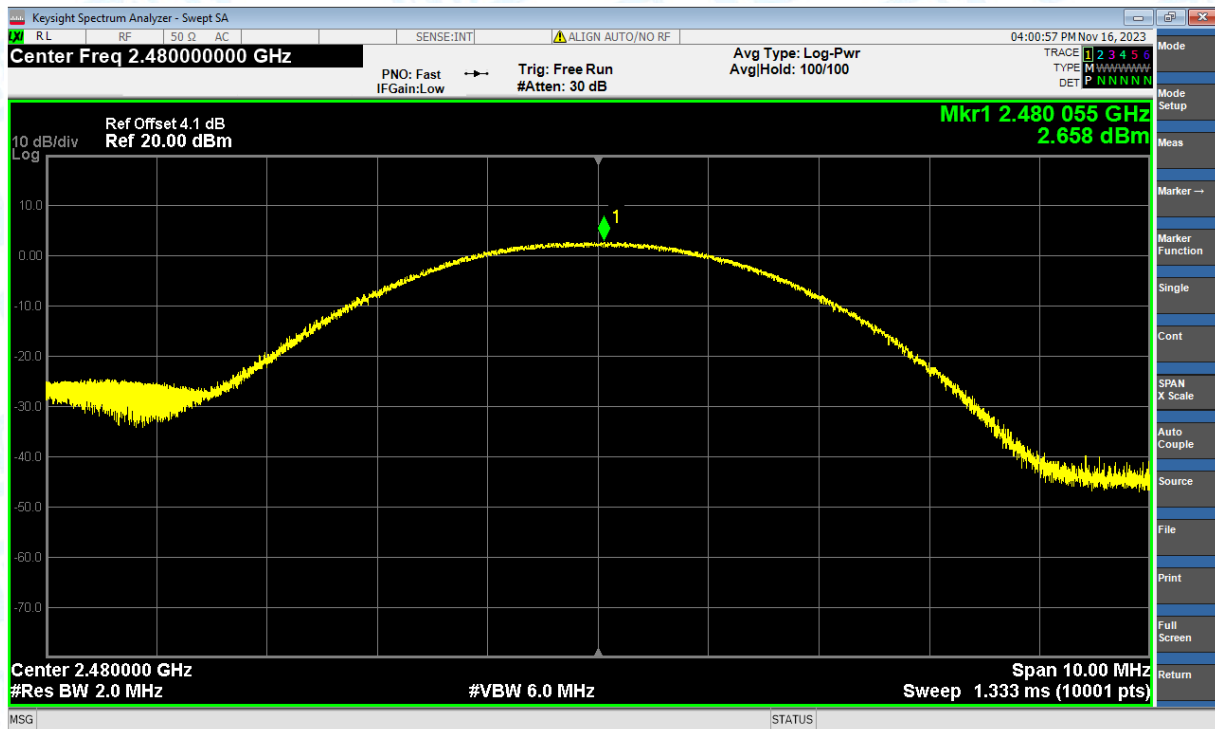
Power NVNT 2-DH1 2402MHz Ant1



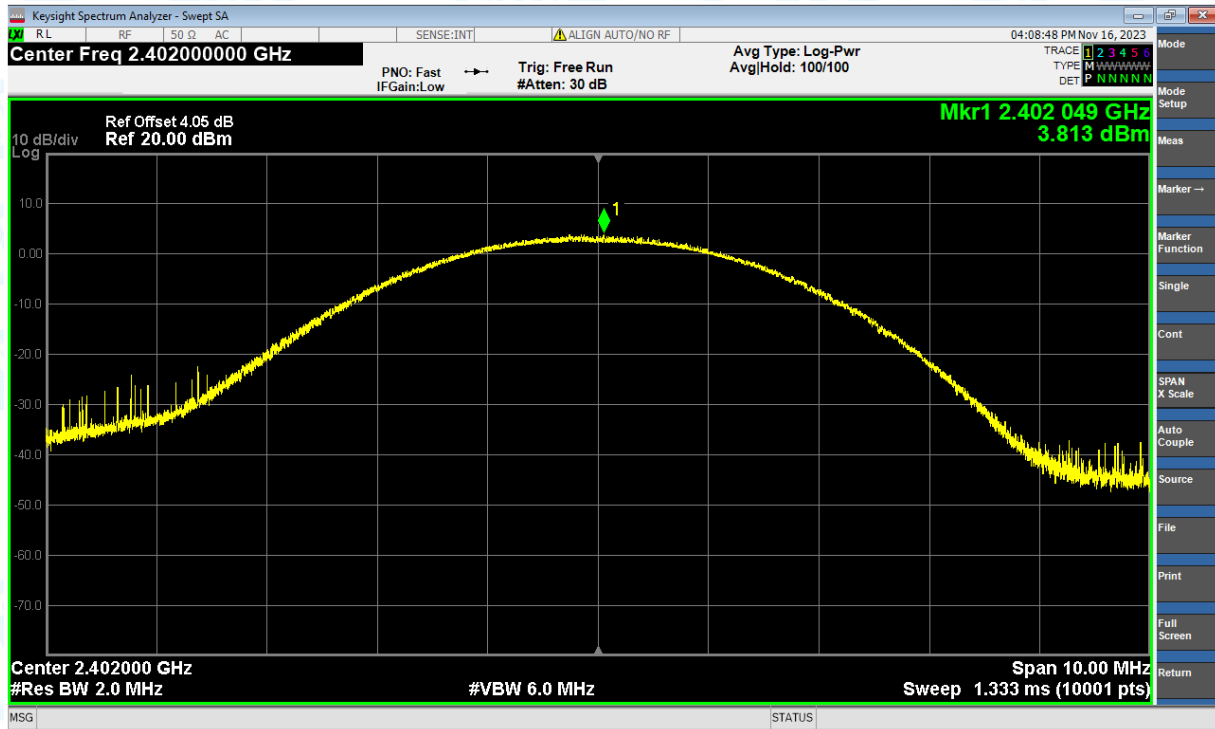
Power NVNT 2-DH1 2441MHz Ant1



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	0.85	----	Pass
NVNT	1-DH1	2441	Ant1	0.85	----	Pass
NVNT	1-DH1	2480	Ant1	0.86	----	Pass
NVNT	2-DH1	2402	Ant1	1.27	----	Pass
NVNT	2-DH1	2441	Ant1	1.24	----	Pass
NVNT	2-DH1	2480	Ant1	1.28	----	Pass
NVNT	3-DH1	2402	Ant1	1.24	----	Pass
NVNT	3-DH1	2441	Ant1	1.22	----	Pass
NVNT	3-DH1	2480	Ant1	1.22	----	Pass

Test Graphs

-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



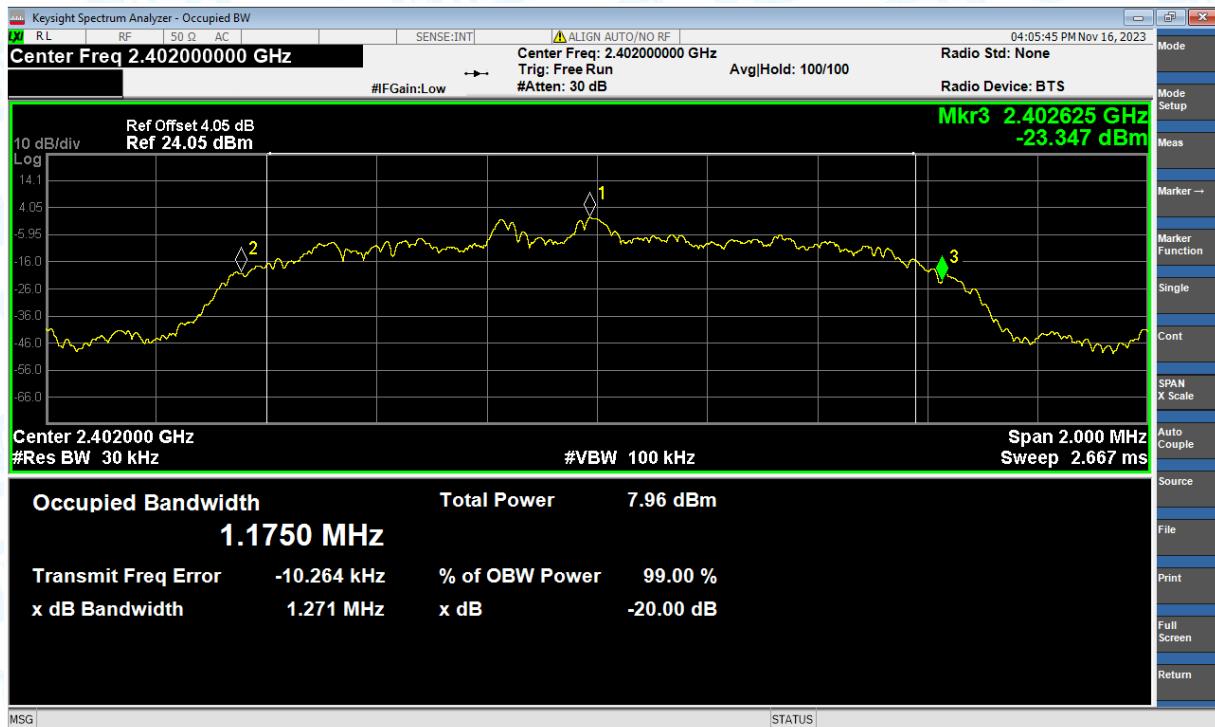
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



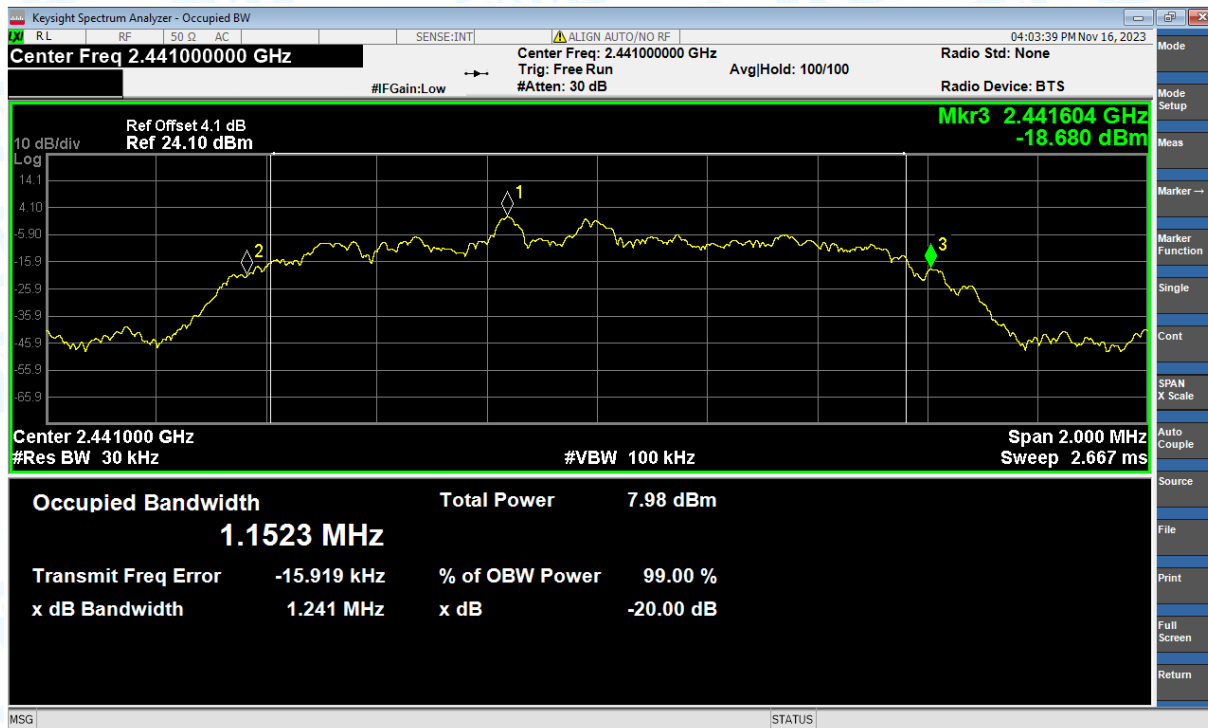
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



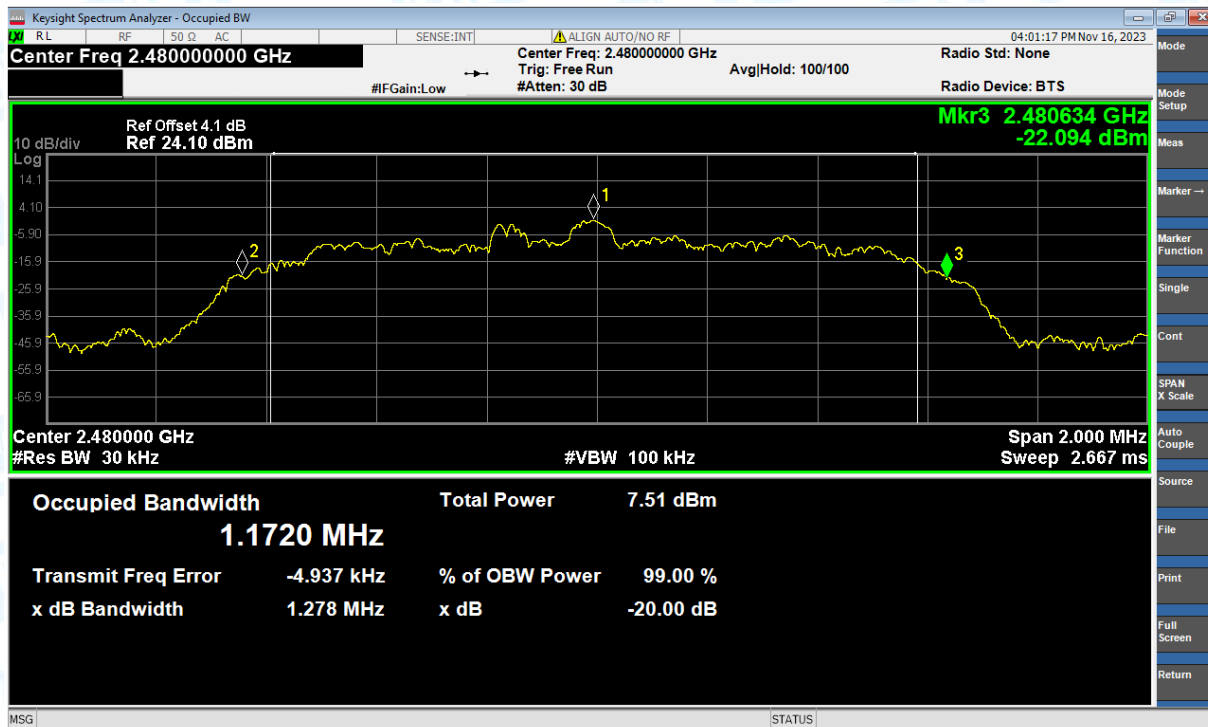
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



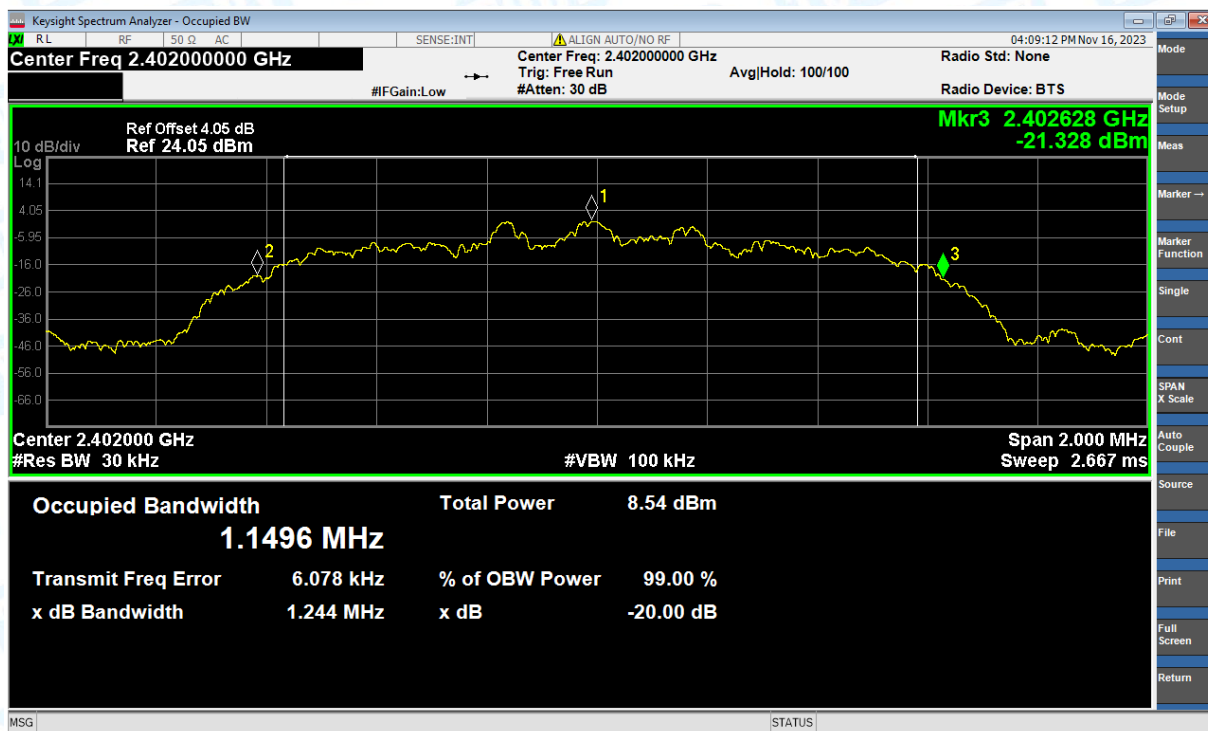
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



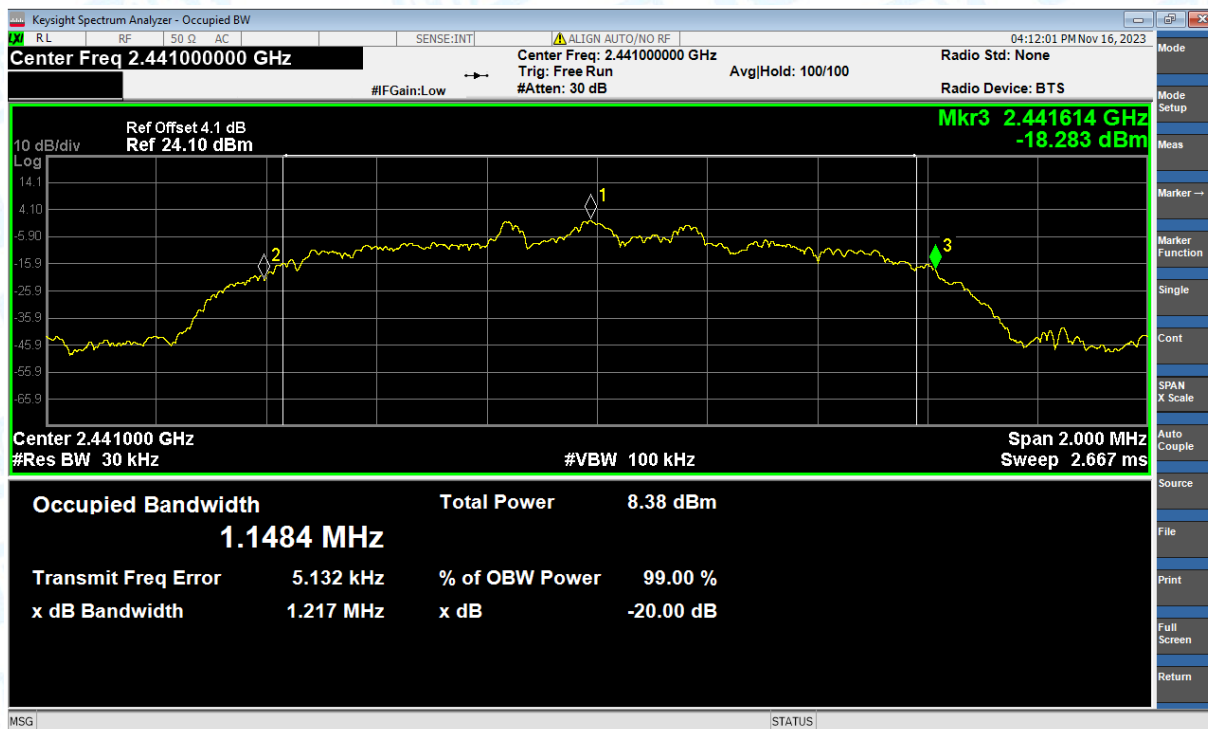
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

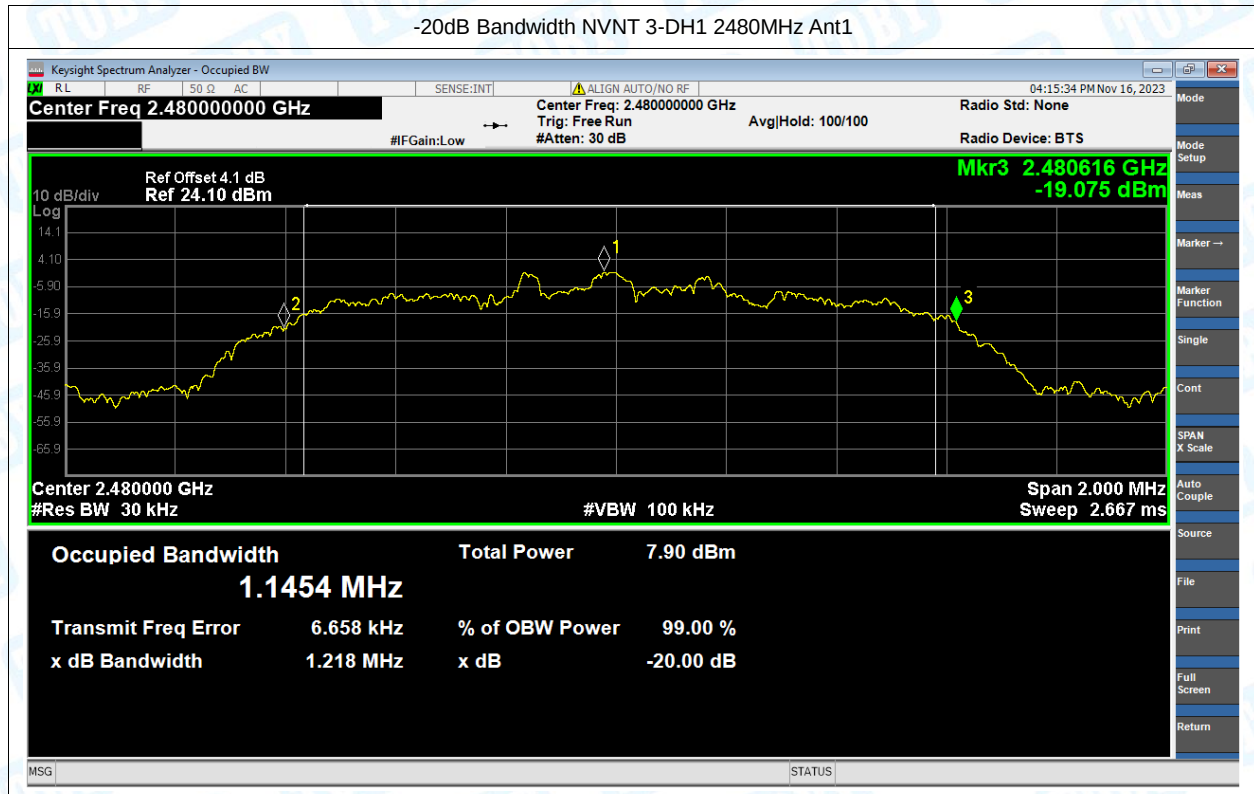


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



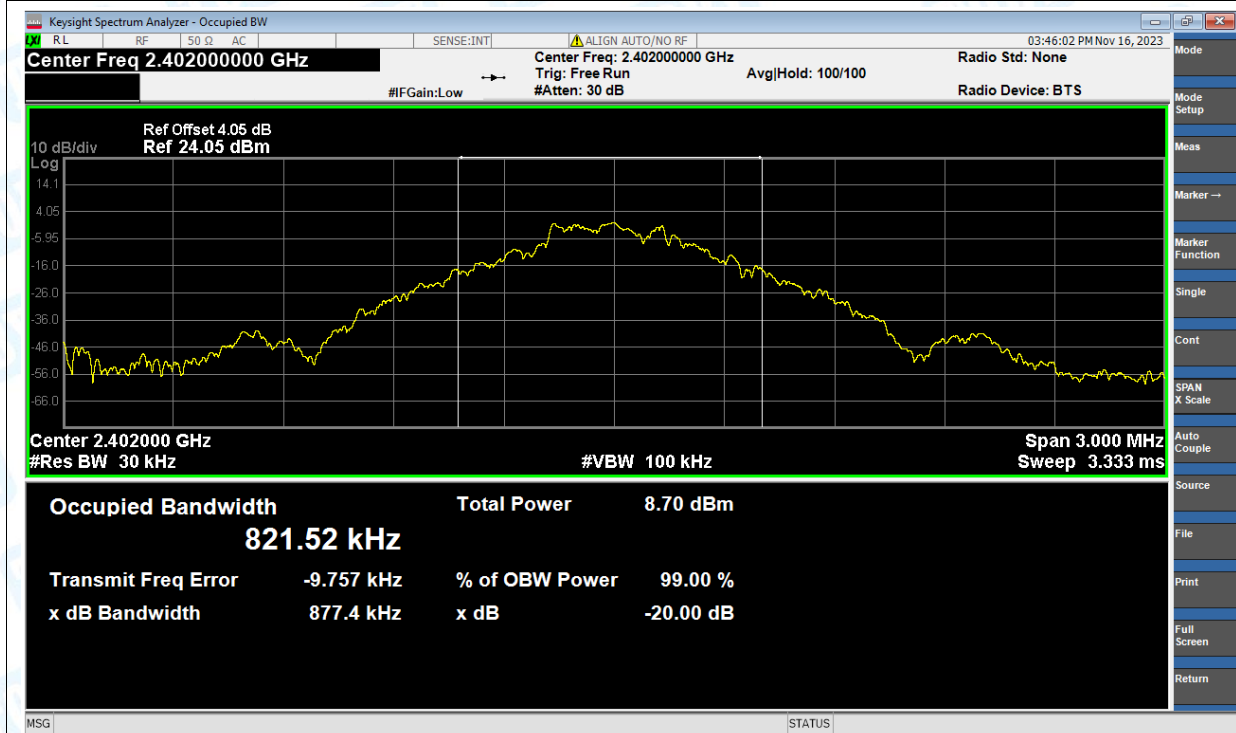


4. Occupied Channel Bandwidth

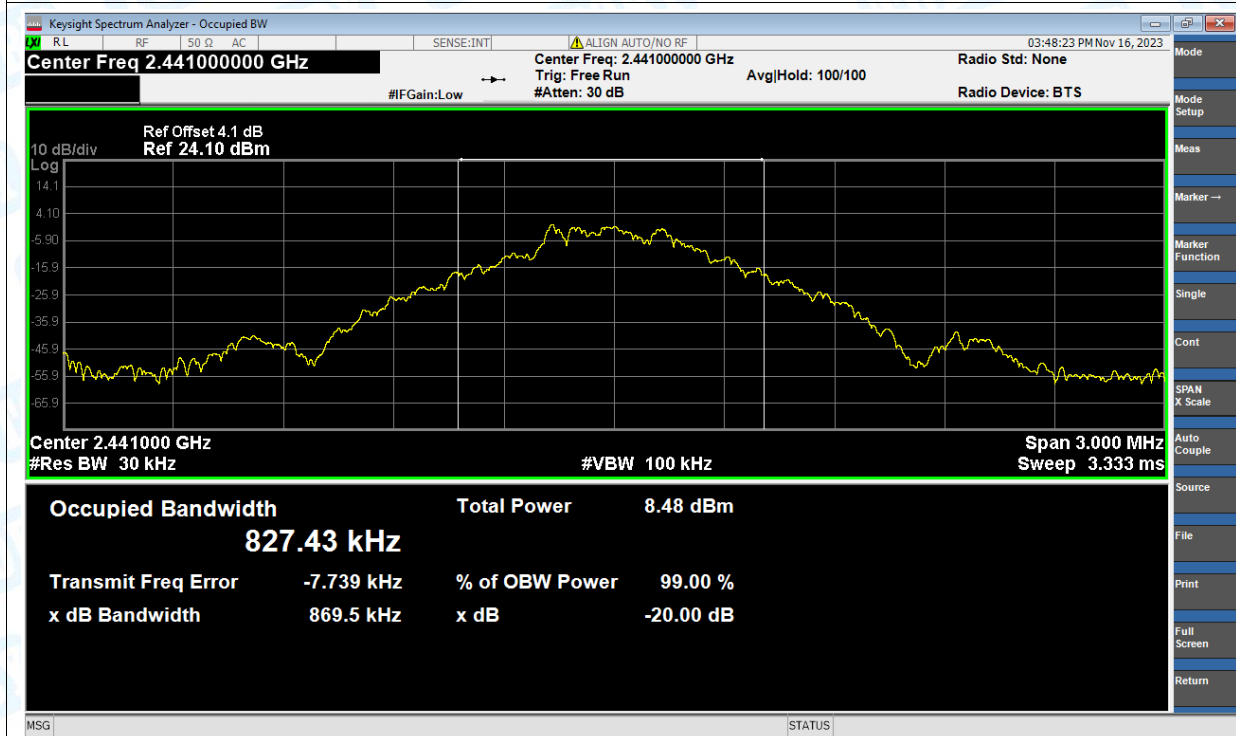
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.822
NVNT	1-DH1	2441	Ant1	0.827
NVNT	1-DH1	2480	Ant1	0.820
NVNT	2-DH1	2402	Ant1	1.177
NVNT	2-DH1	2441	Ant1	1.138
NVNT	2-DH1	2480	Ant1	1.161
NVNT	3-DH1	2402	Ant1	1.146
NVNT	3-DH1	2441	Ant1	1.148
NVNT	3-DH1	2480	Ant1	1.148

Test Graphs

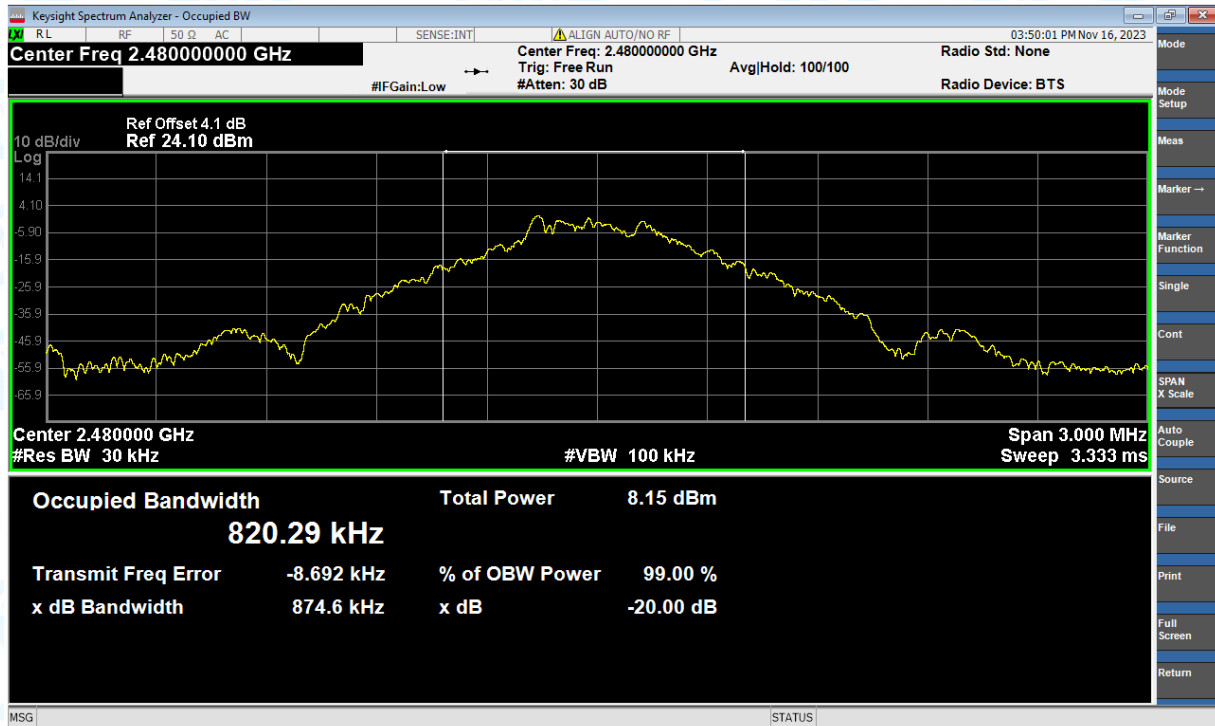
OBW NVNT 1-DH1 2402MHz Ant1



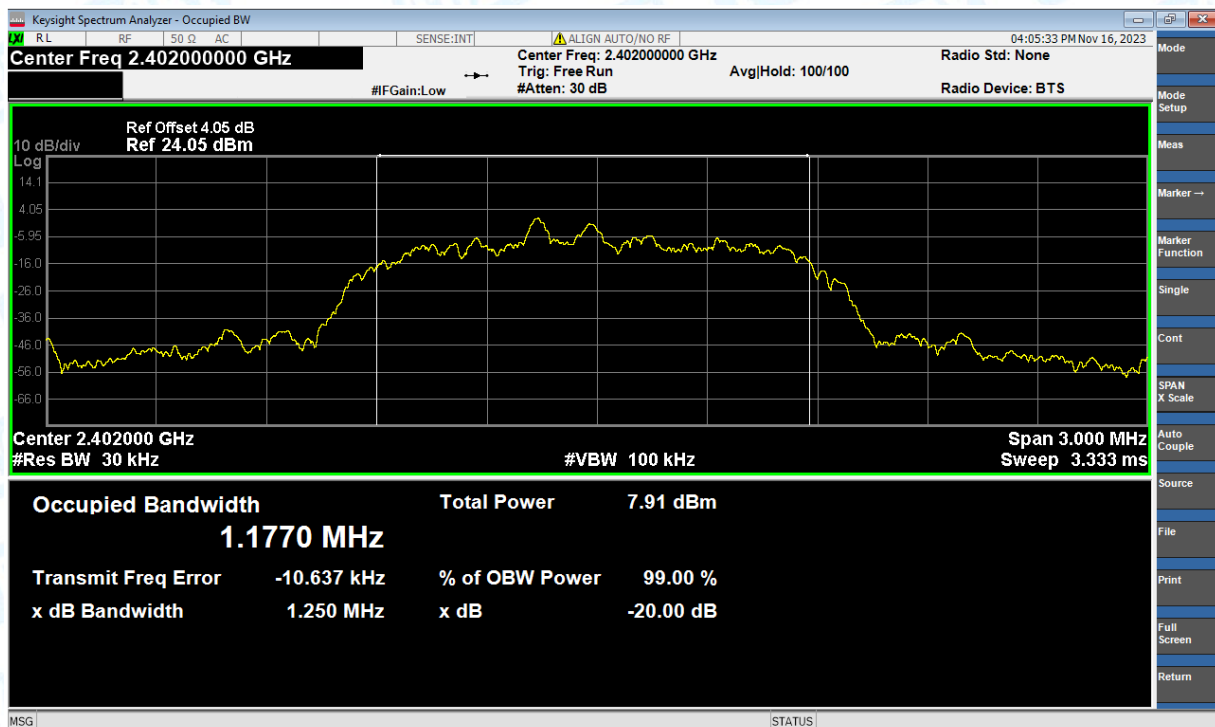
OBW NVNT 1-DH1 2441MHz Ant1



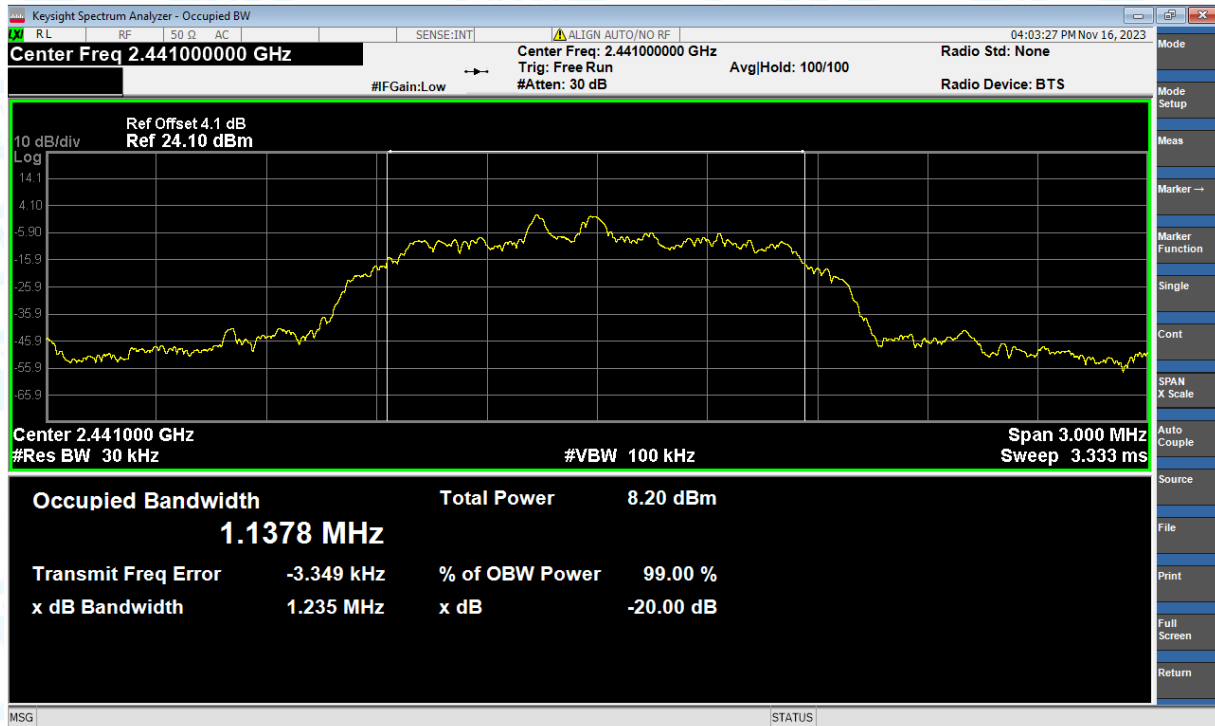
OBW NVNT 1-DH1 2480MHz Ant1



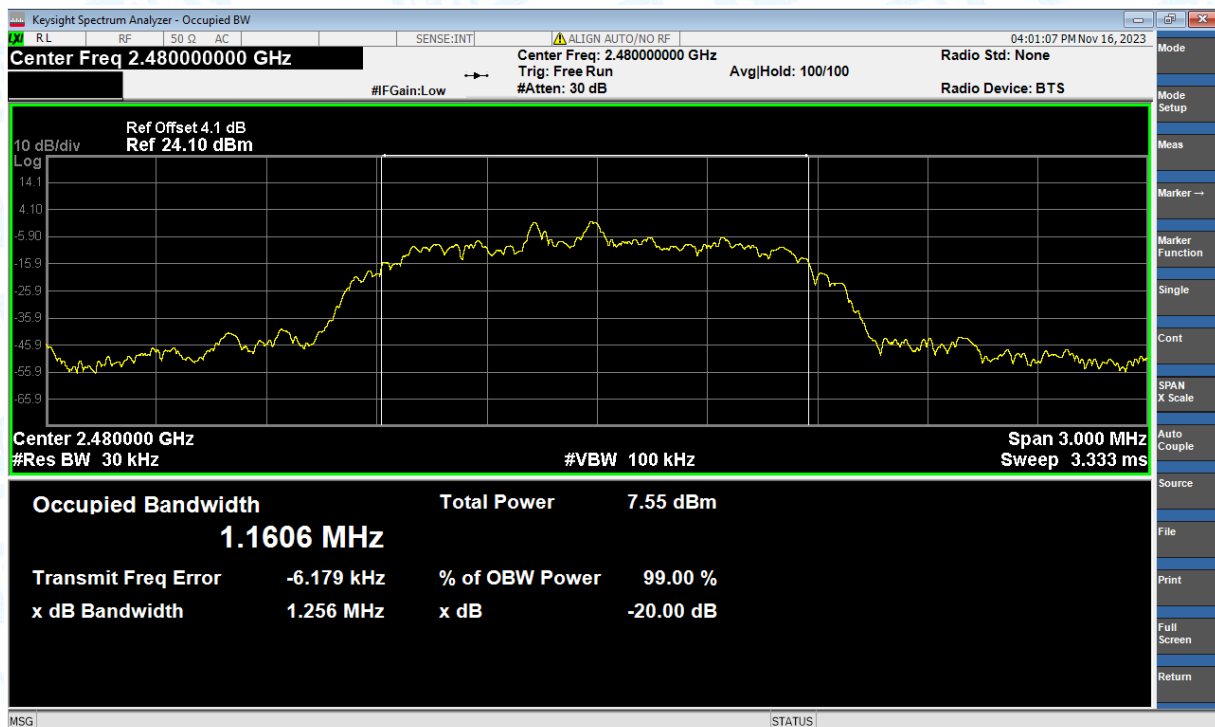
OBW NVNT 2-DH1 2402MHz Ant1



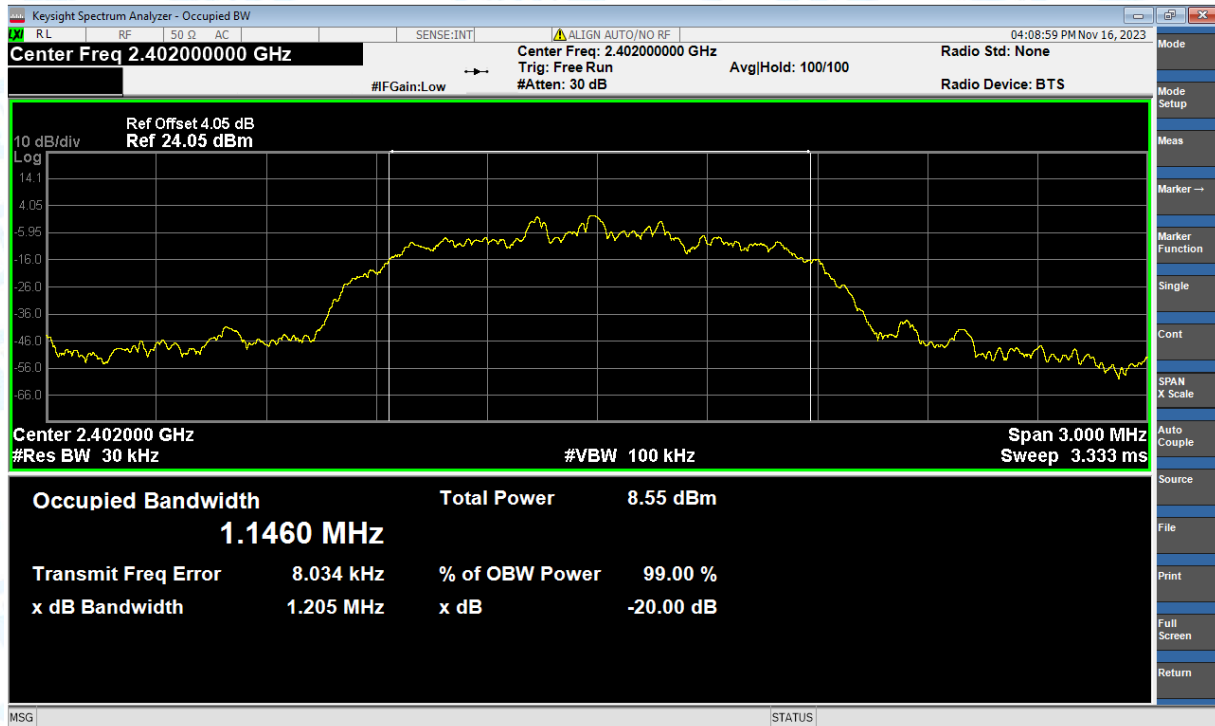
OBW NVNT 2-DH1 2441MHz Ant1



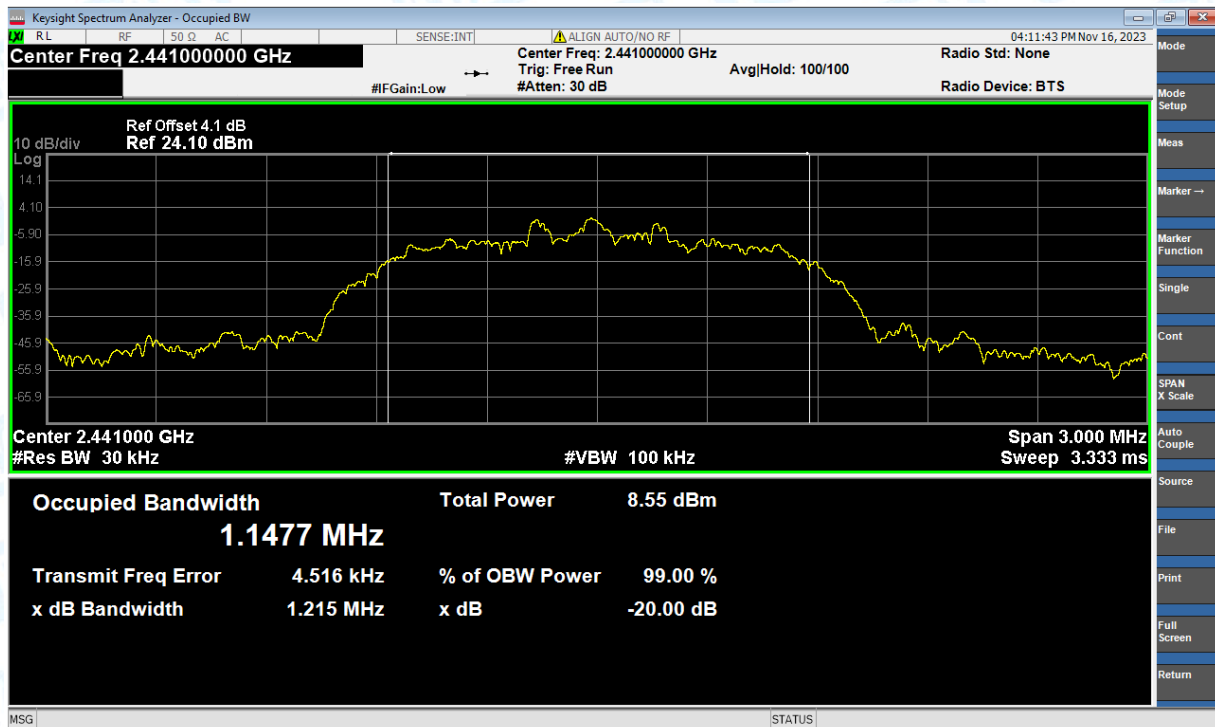
OBW NVNT 2-DH1 2480MHz Ant1

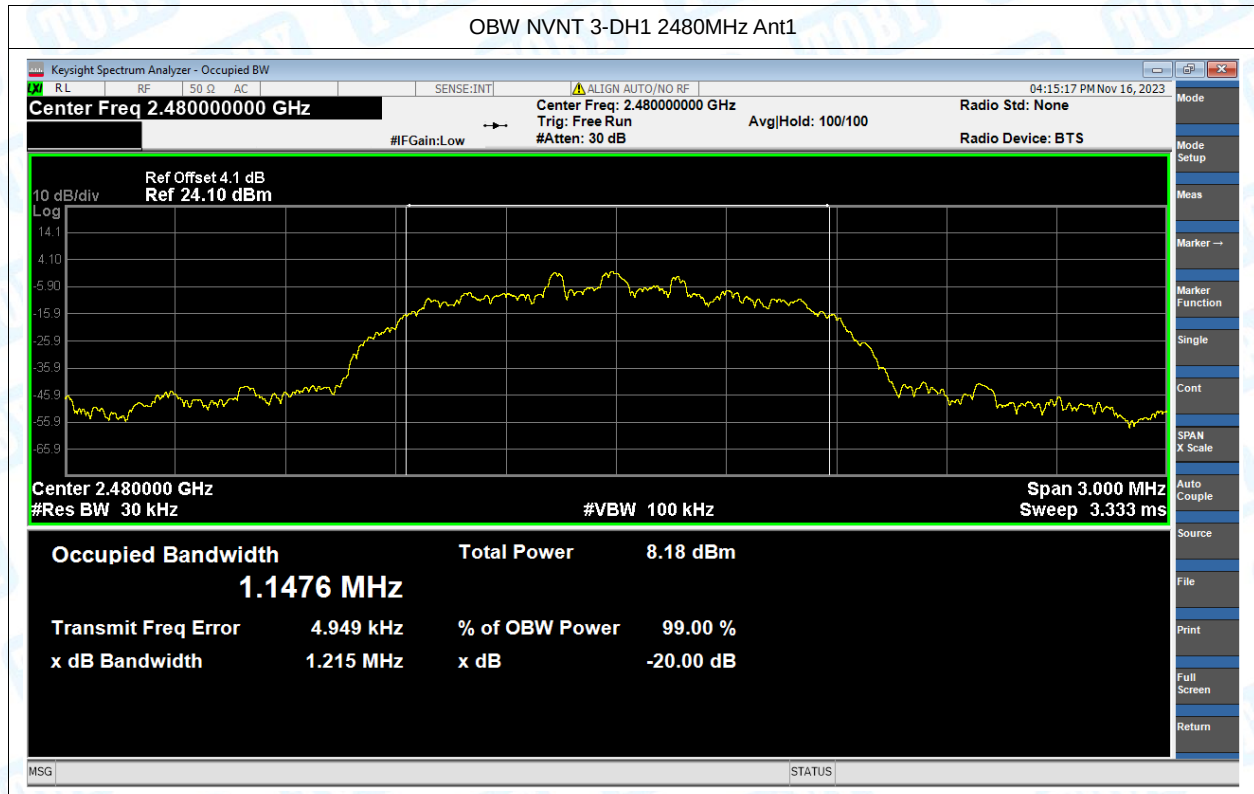


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1





5. Band Edge

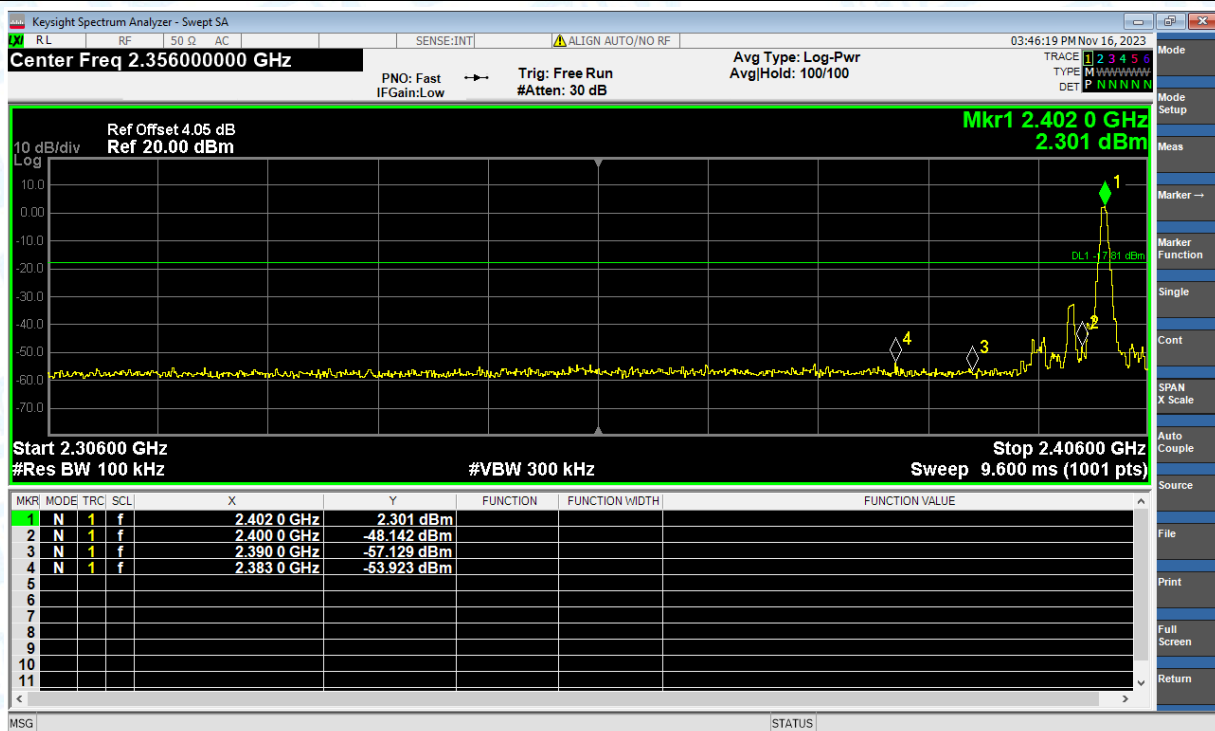
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-56.11	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-53.76	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-56.41	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-56.28	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-55.31	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-56.29	-20	Pass

Test Graphs

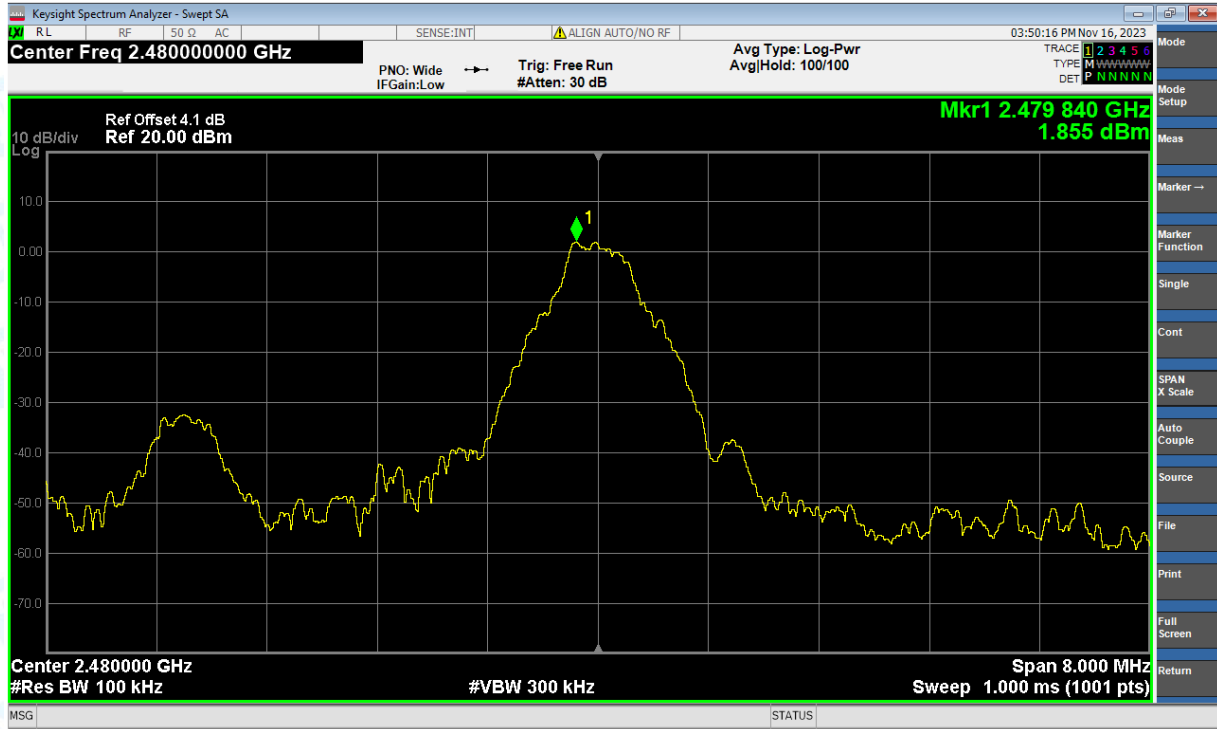
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



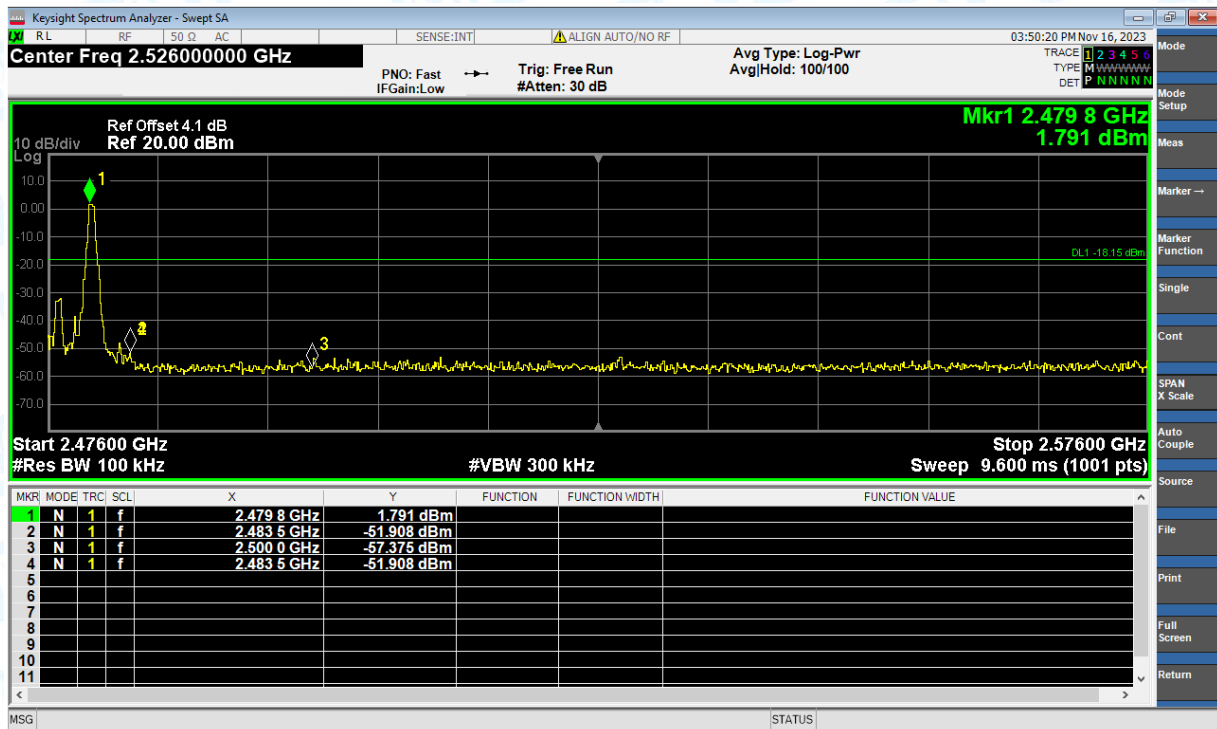
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



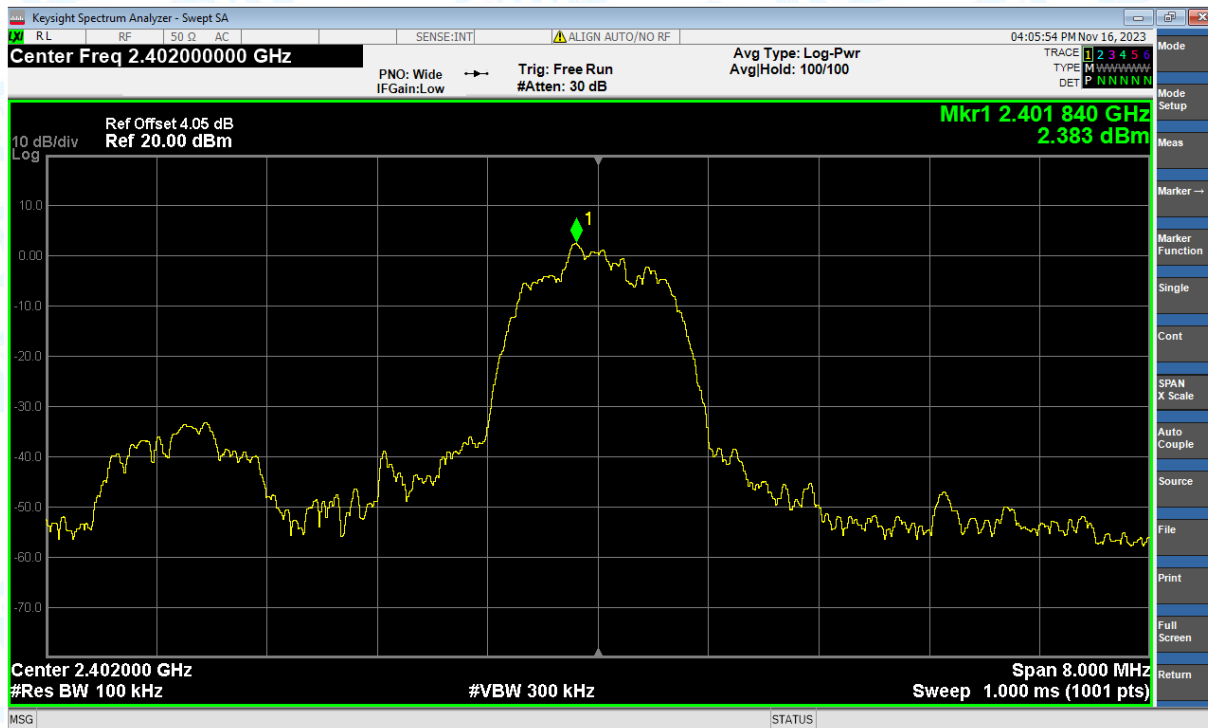
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



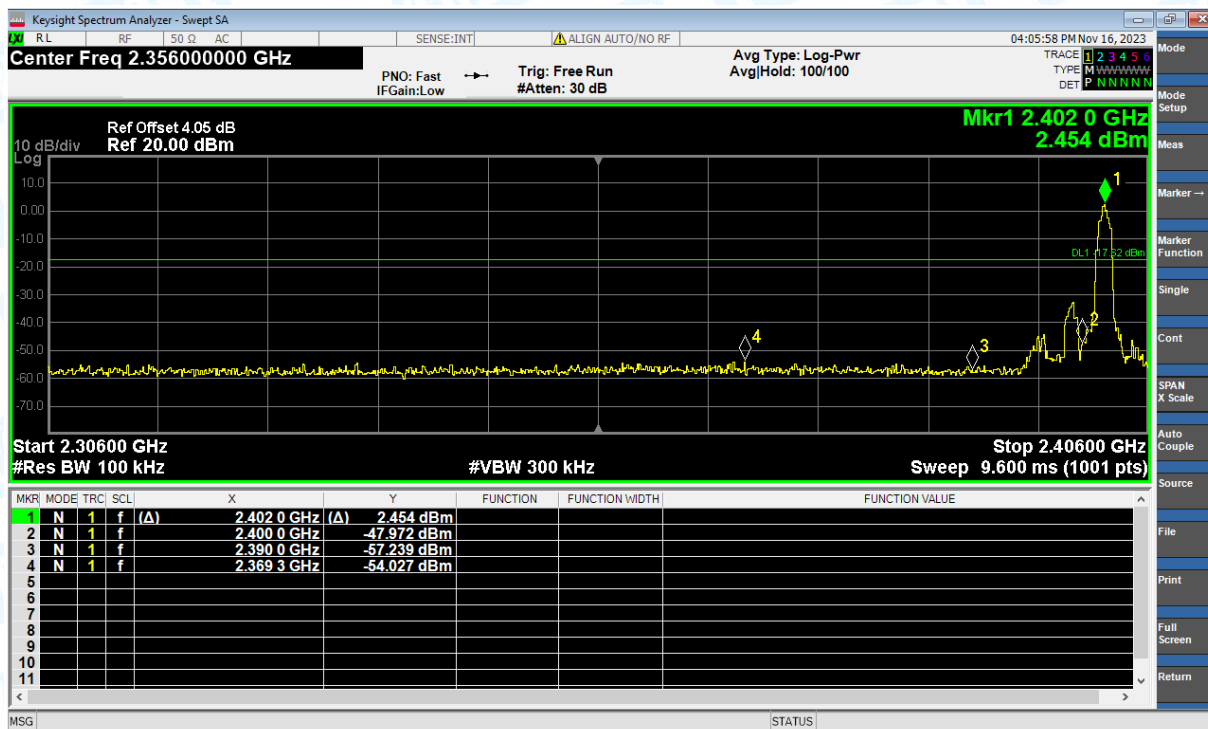
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



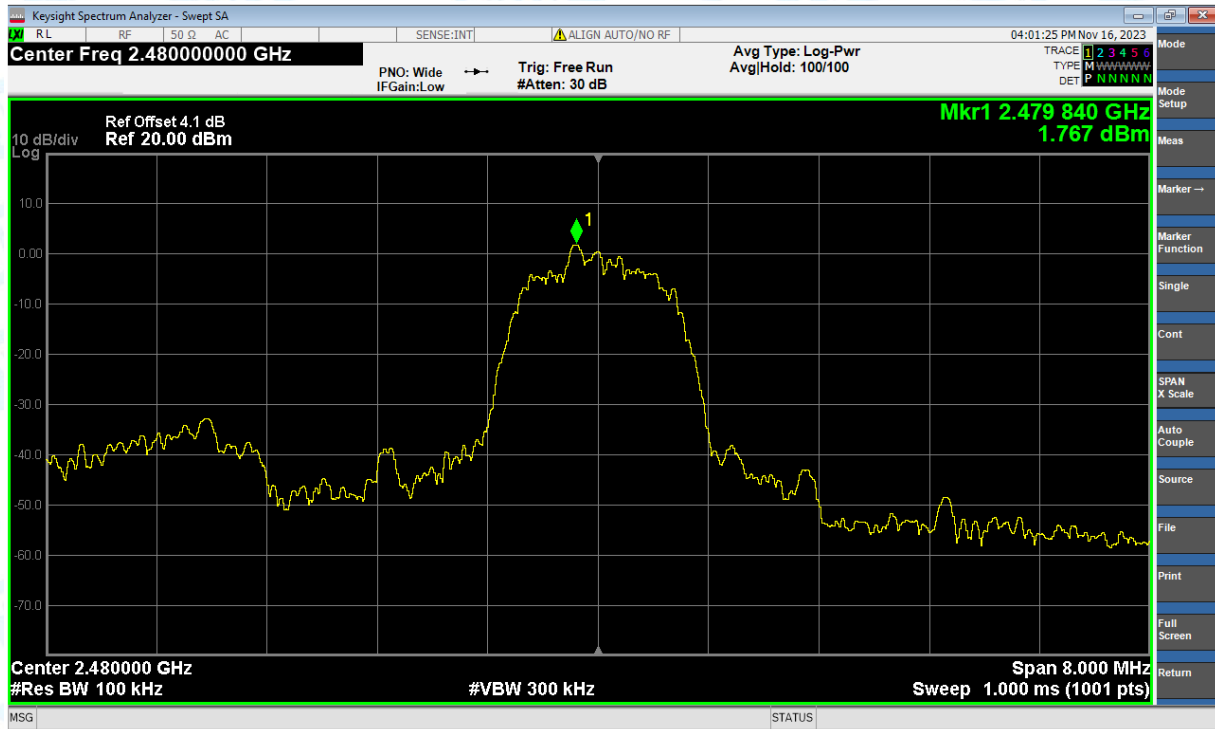
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



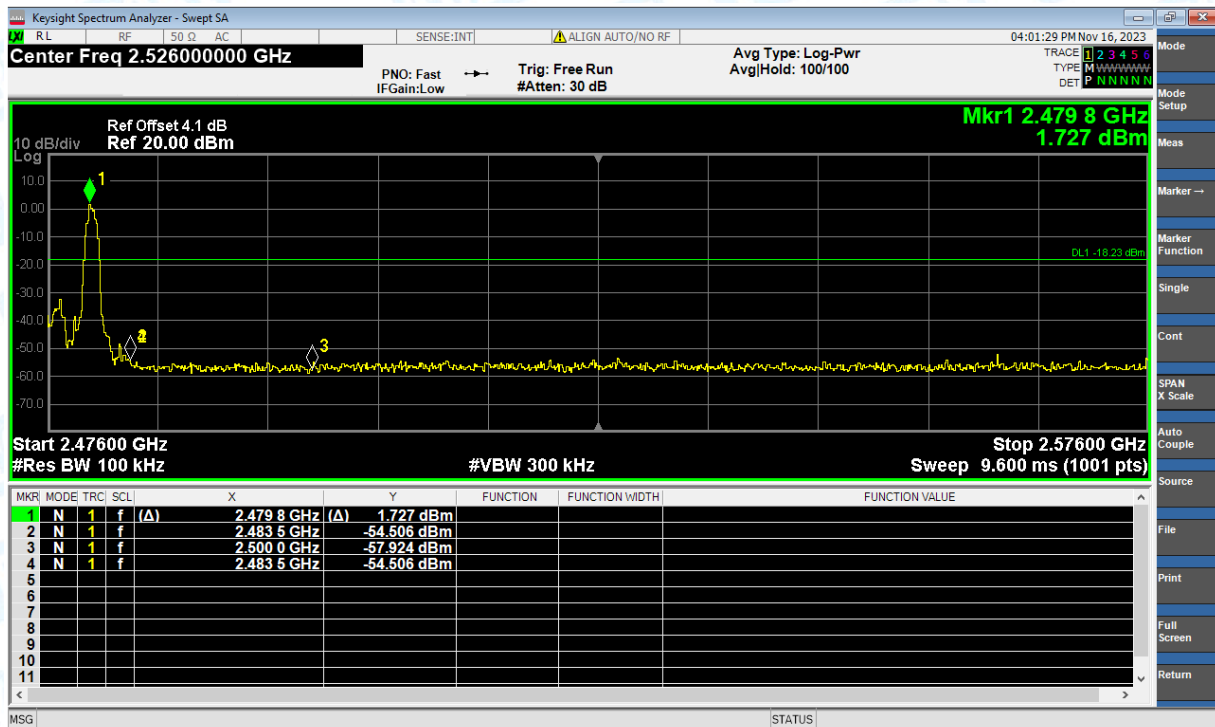
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



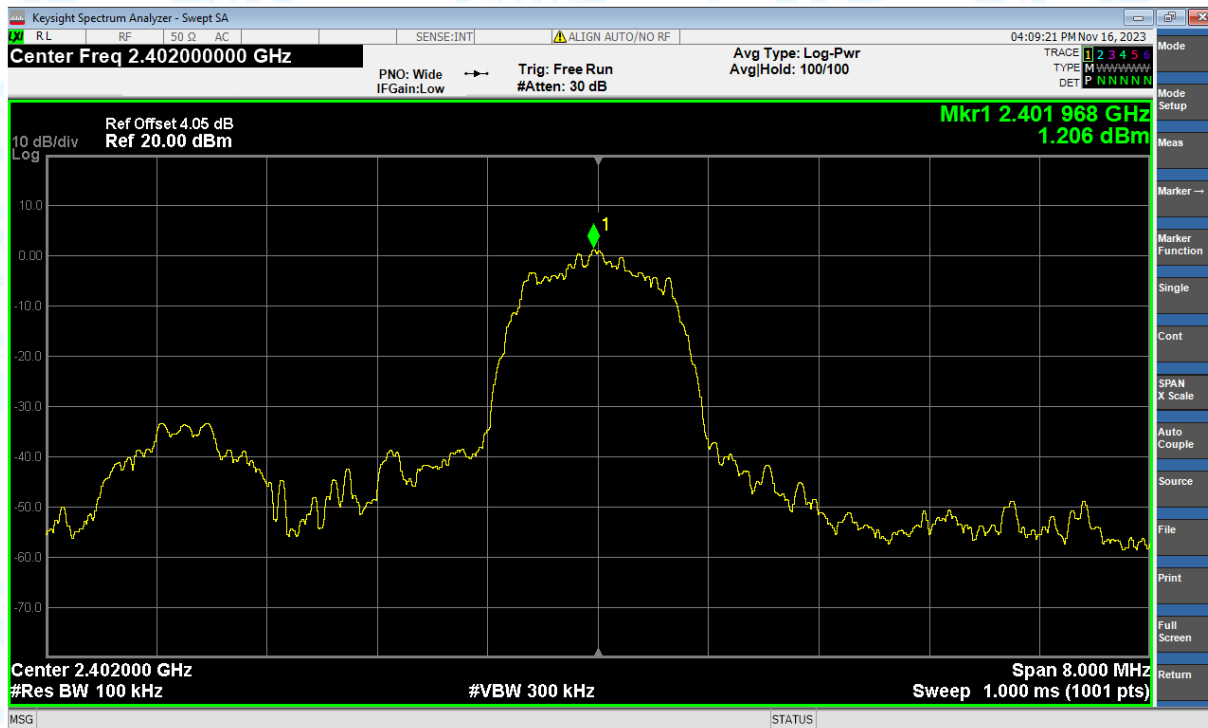
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



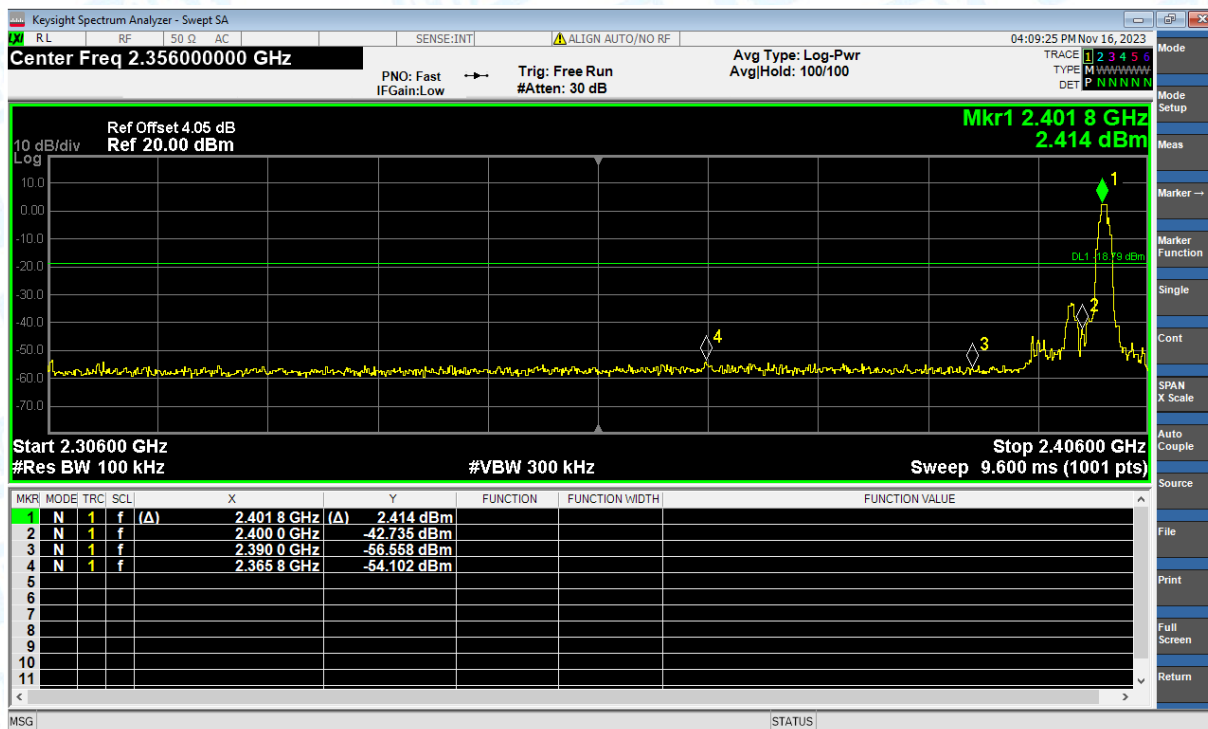
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



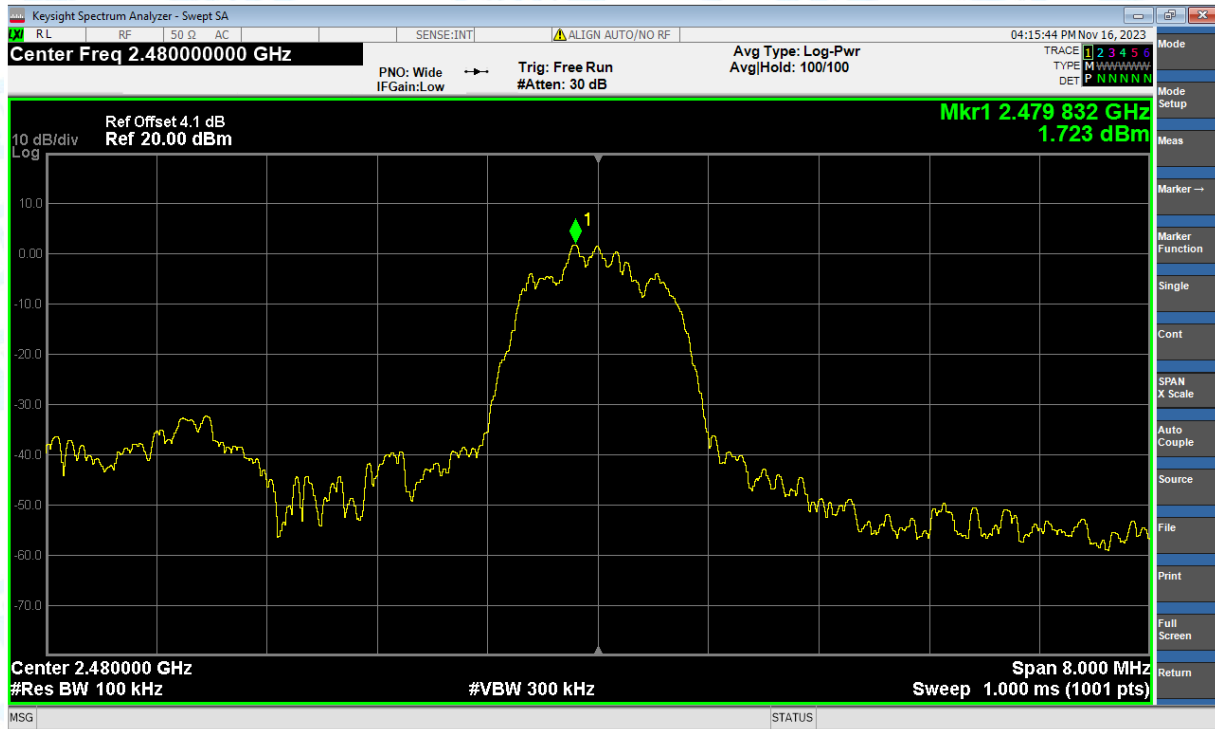
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



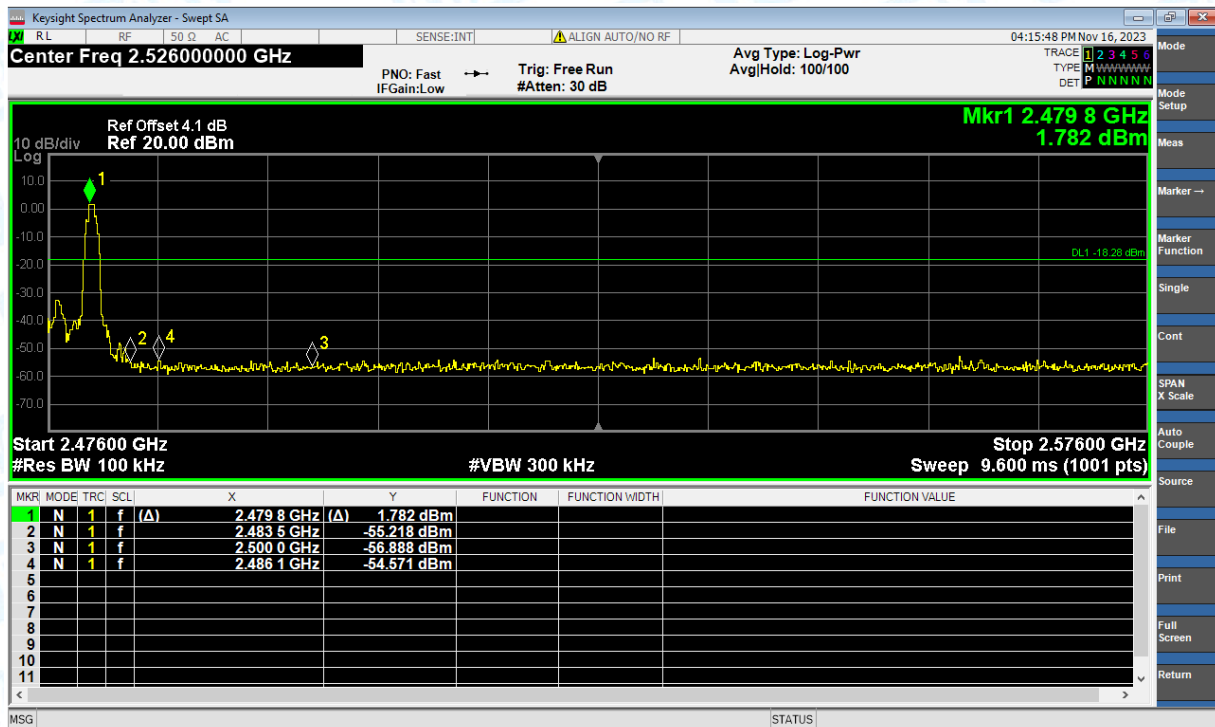
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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



6. Band Edge(Hopping)

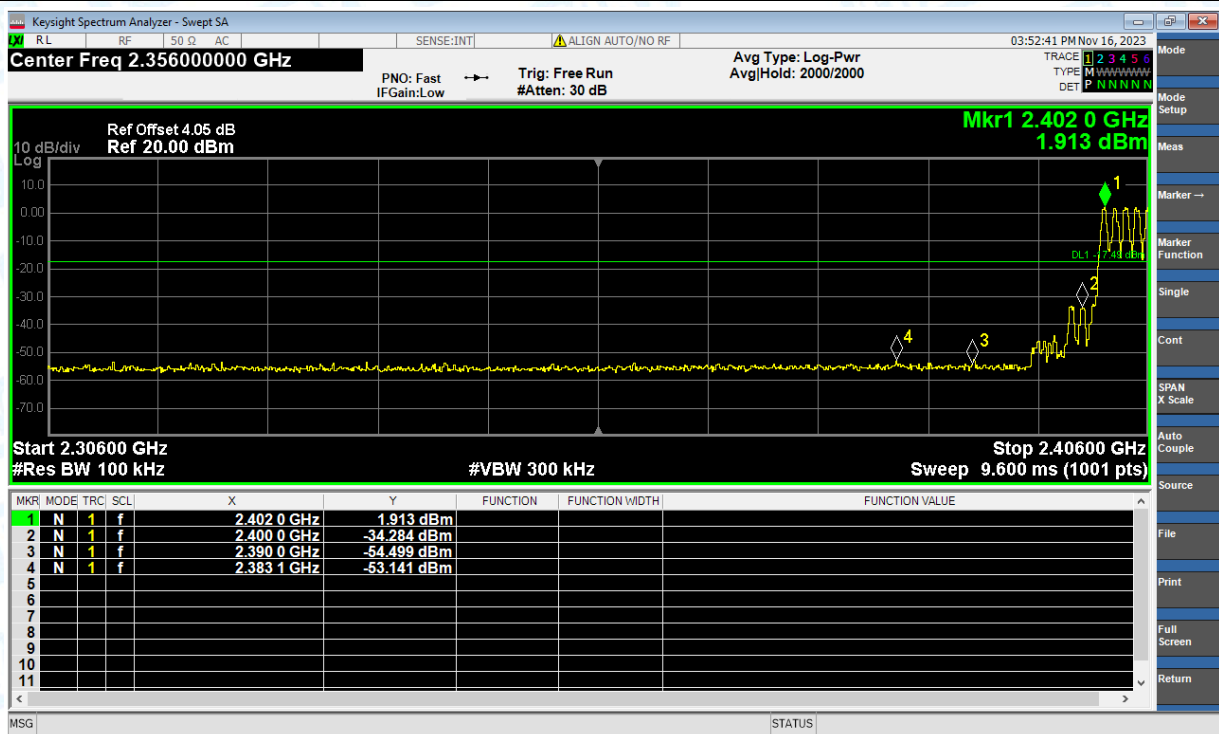
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-55.65	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-52.36	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-55.87	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-53.08	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-54.95	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-53.06	-20	Pass

Test Graphs

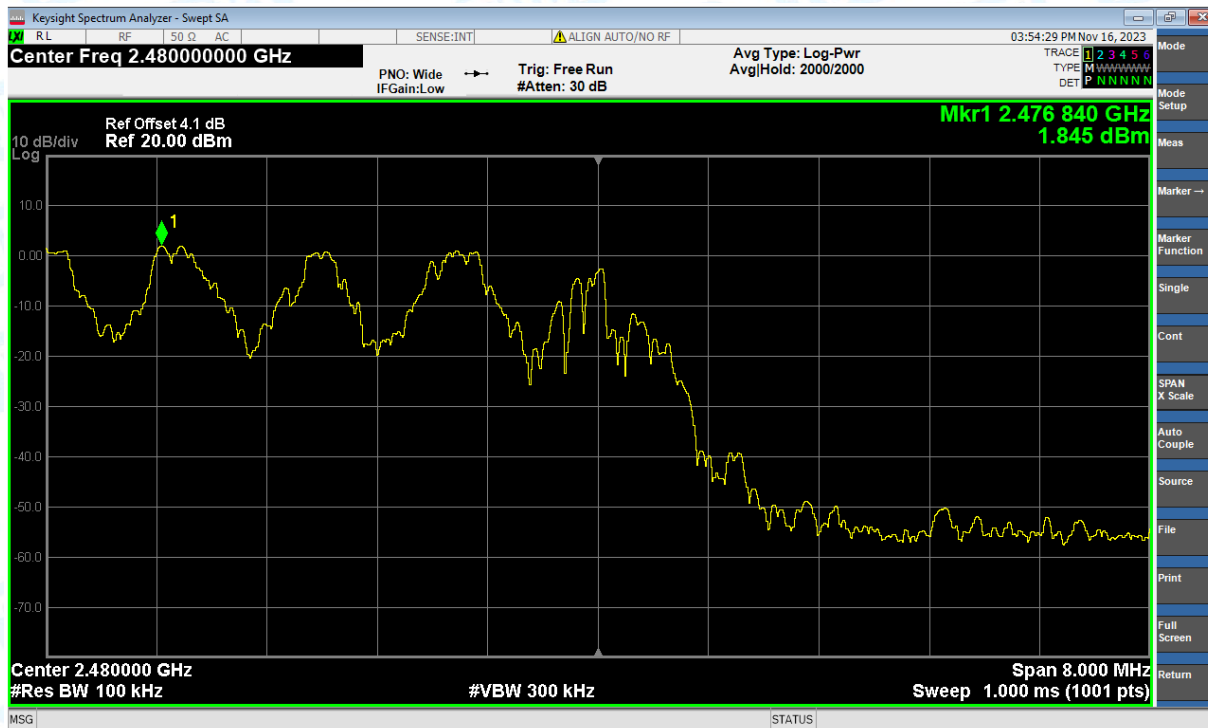
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



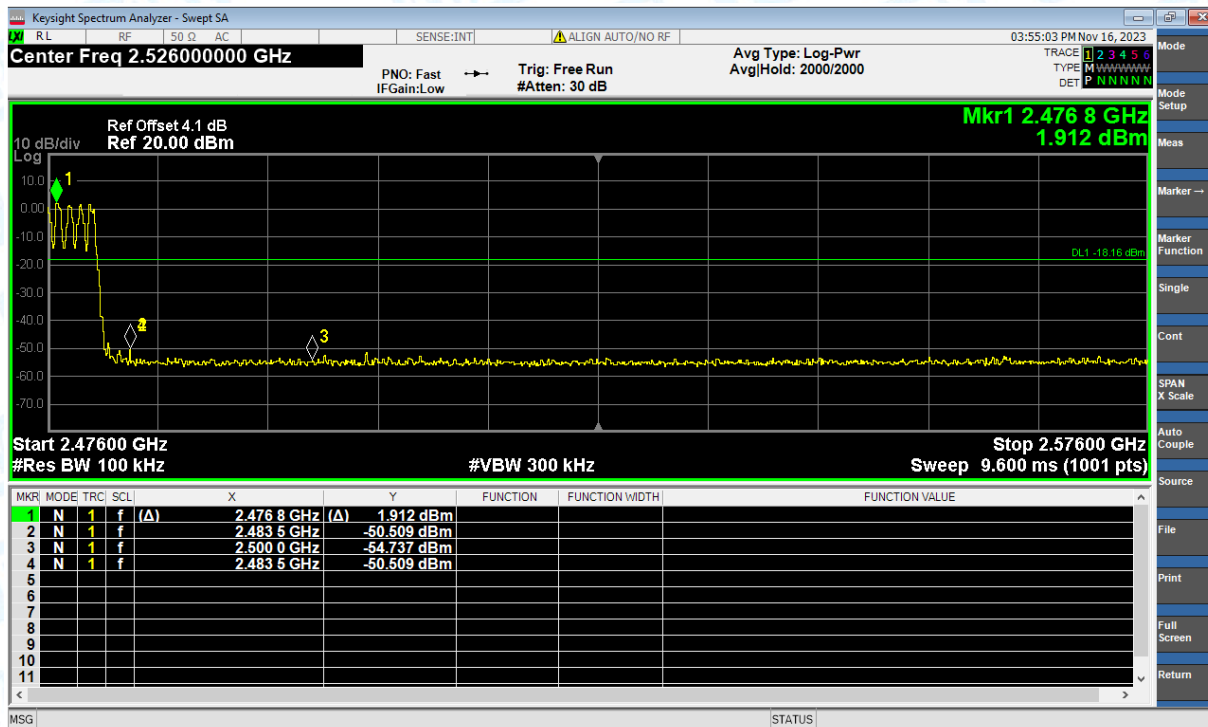
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



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



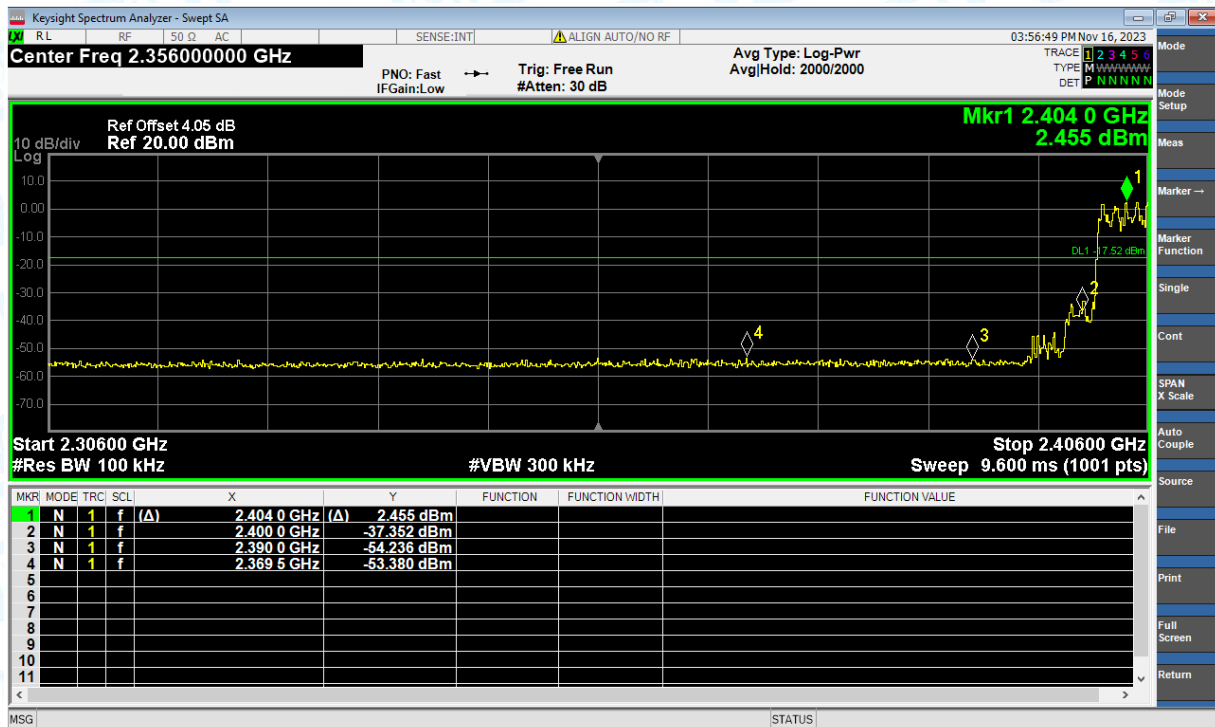
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



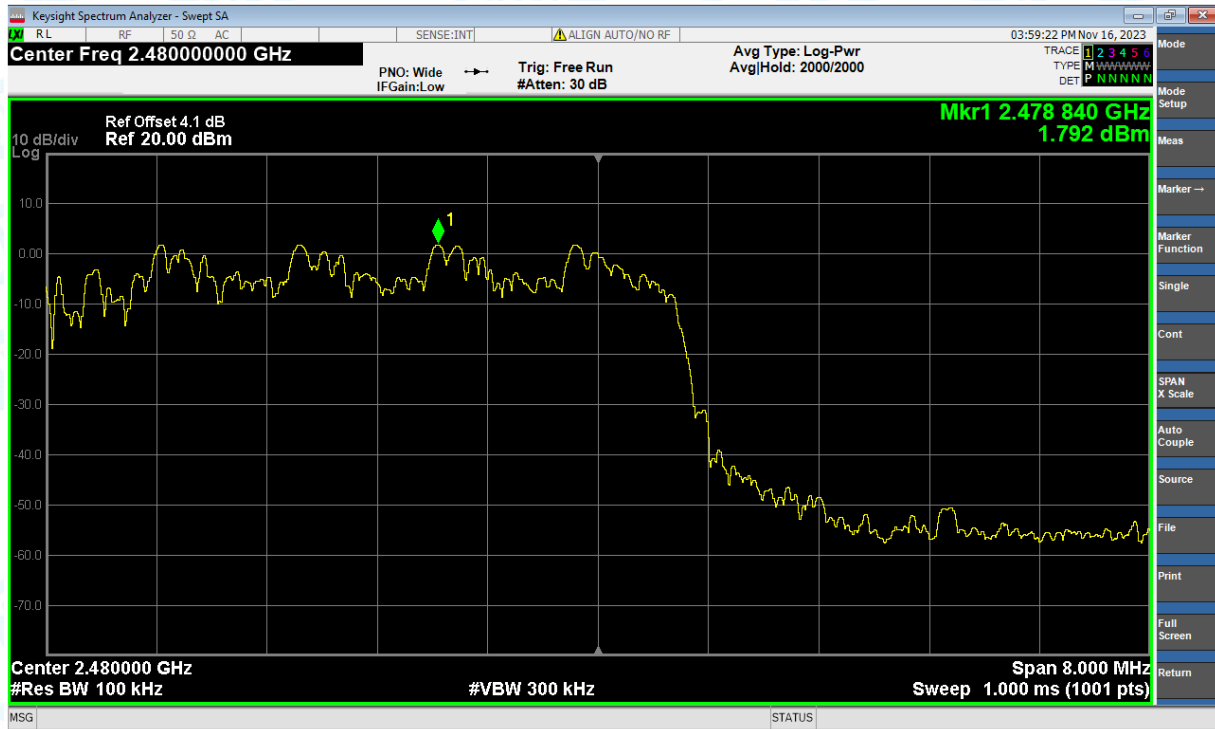
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



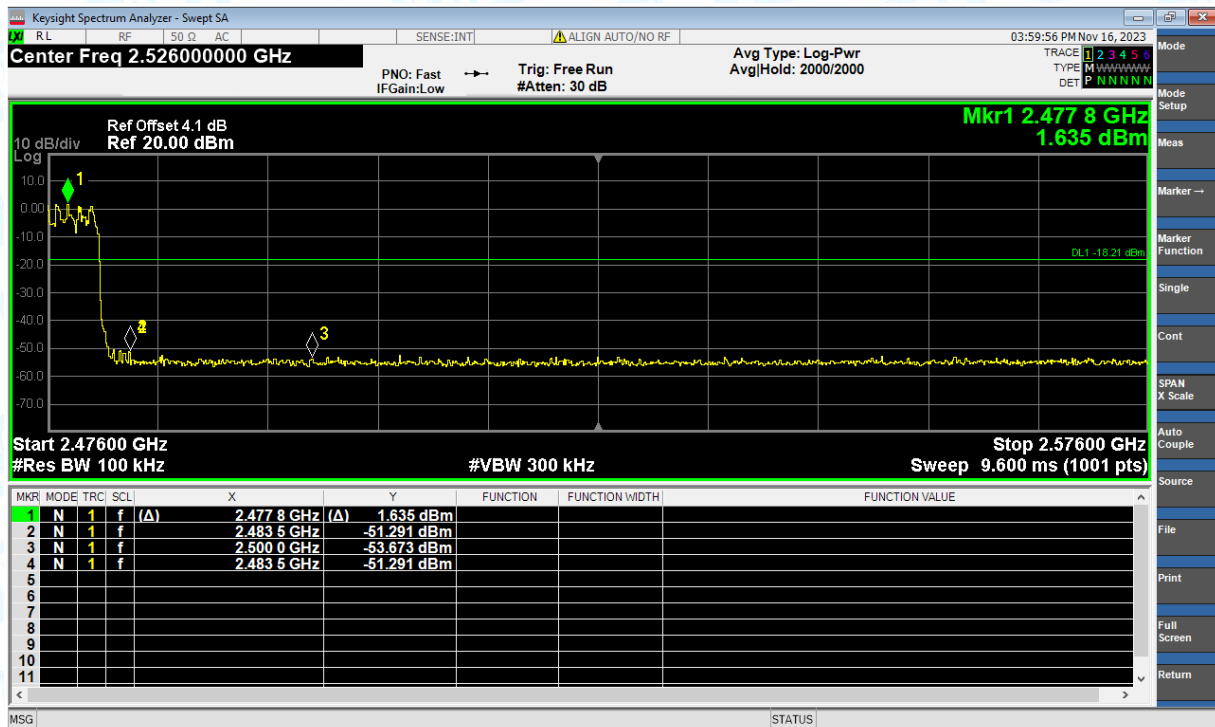
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



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



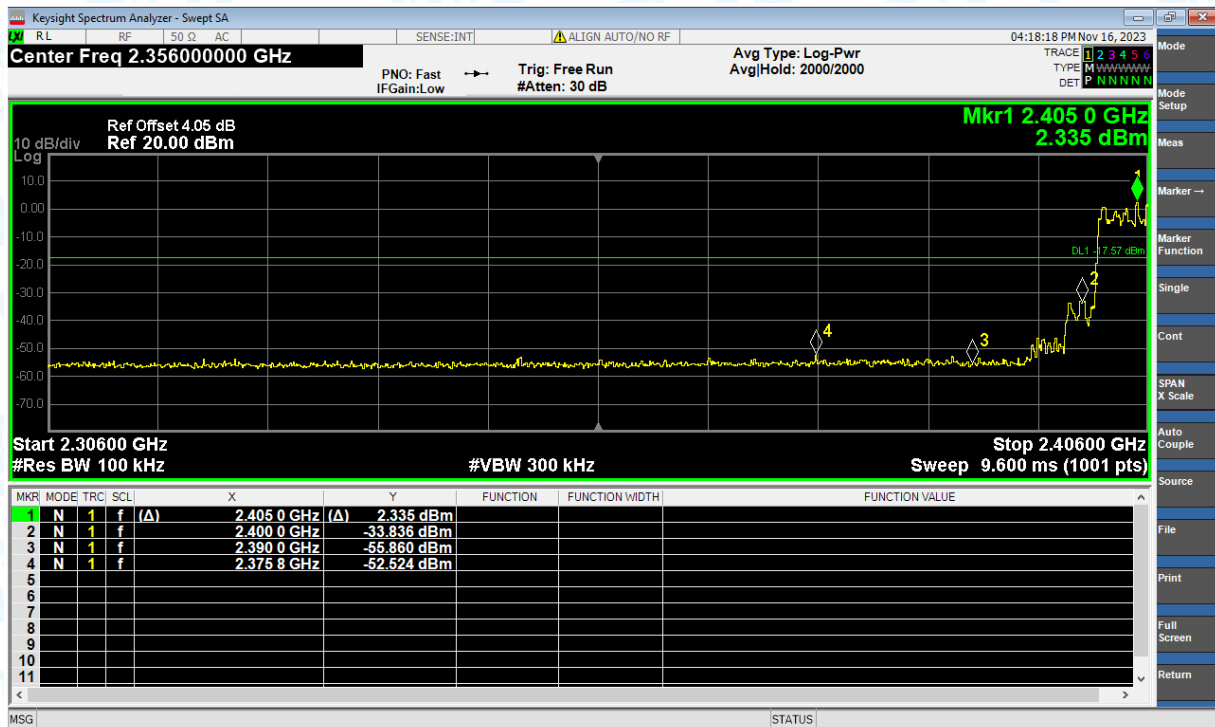
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



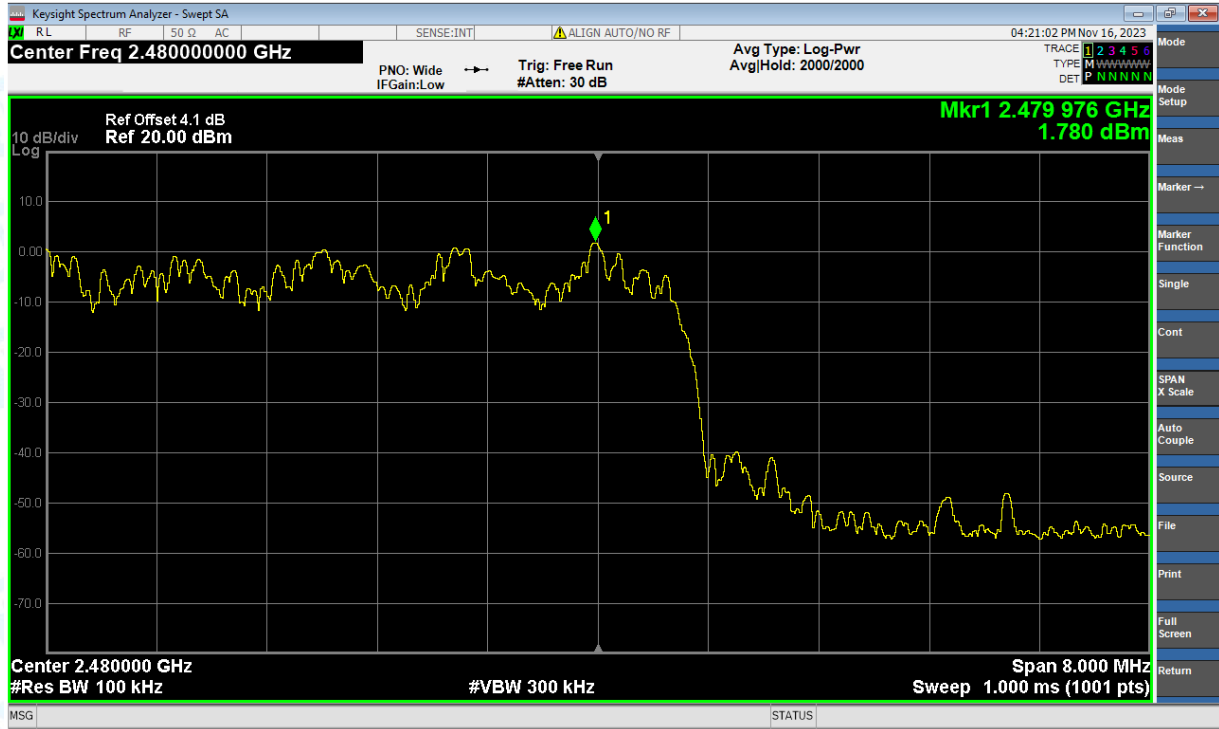
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



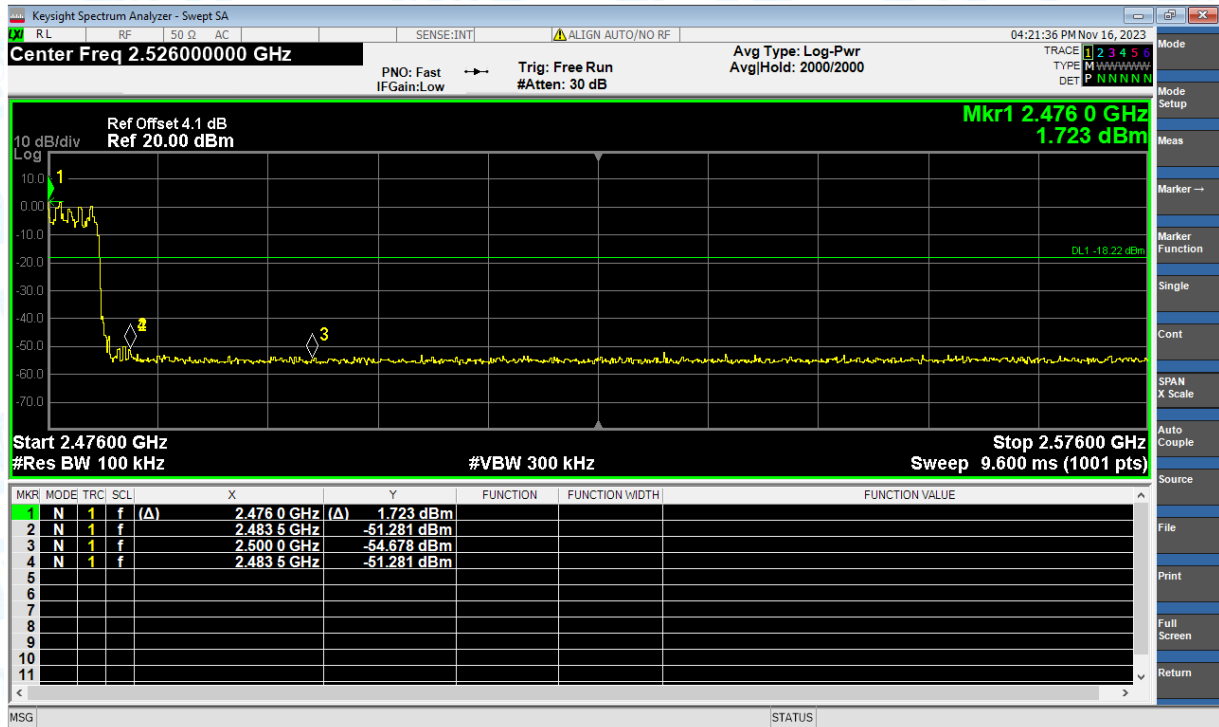
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

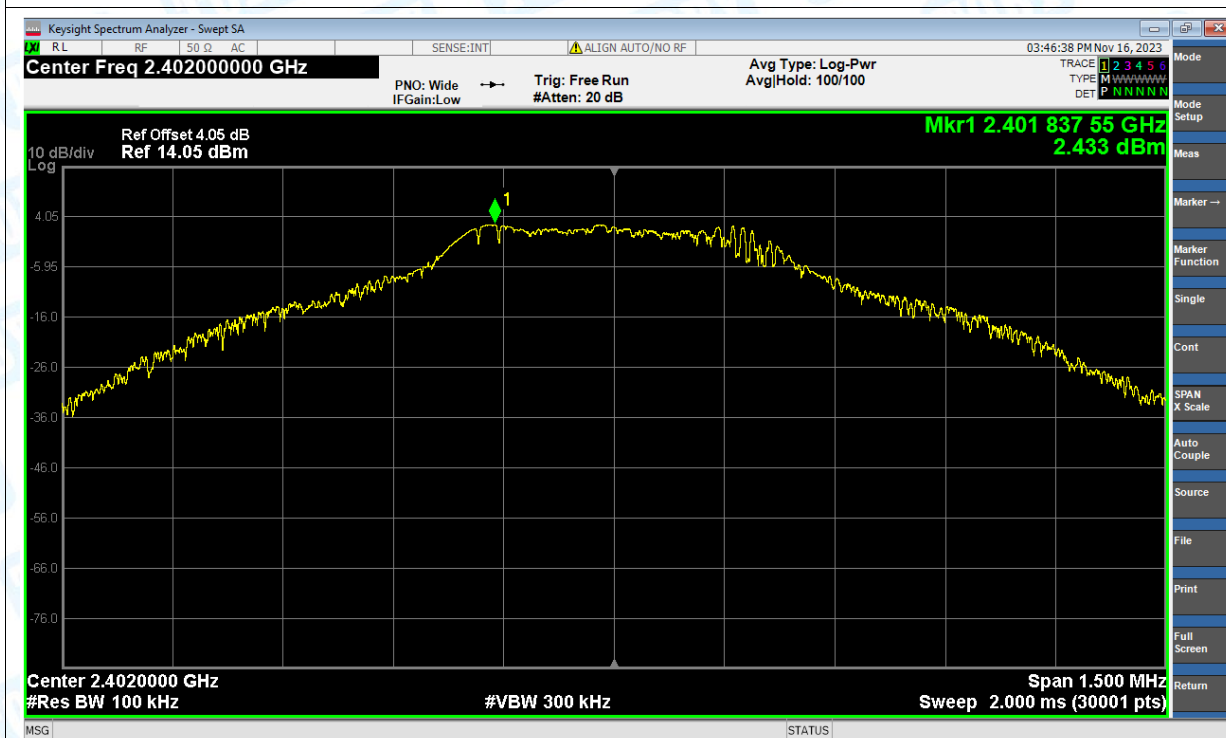


7. Conducted RF Spurious Emission

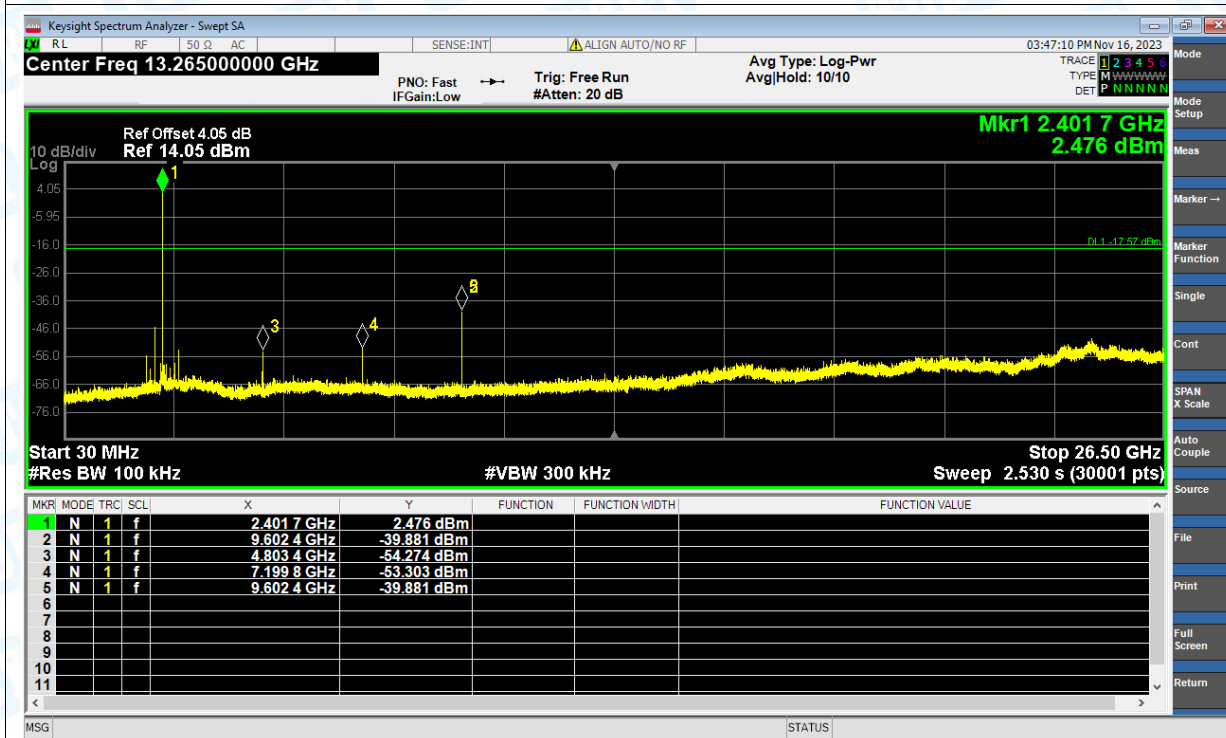
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-42.31	-20	Pass
NVNT	1-DH1	2441	Ant1	-44.14	-20	Pass
NVNT	1-DH1	2480	Ant1	-43.91	-20	Pass
NVNT	2-DH1	2402	Ant1	-42.08	-20	Pass
NVNT	2-DH1	2441	Ant1	-43.91	-20	Pass
NVNT	2-DH1	2480	Ant1	-44.07	-20	Pass
NVNT	3-DH1	2402	Ant1	-42.17	-20	Pass
NVNT	3-DH1	2441	Ant1	-44.32	-20	Pass
NVNT	3-DH1	2480	Ant1	-44.39	-20	Pass

Test Graphs

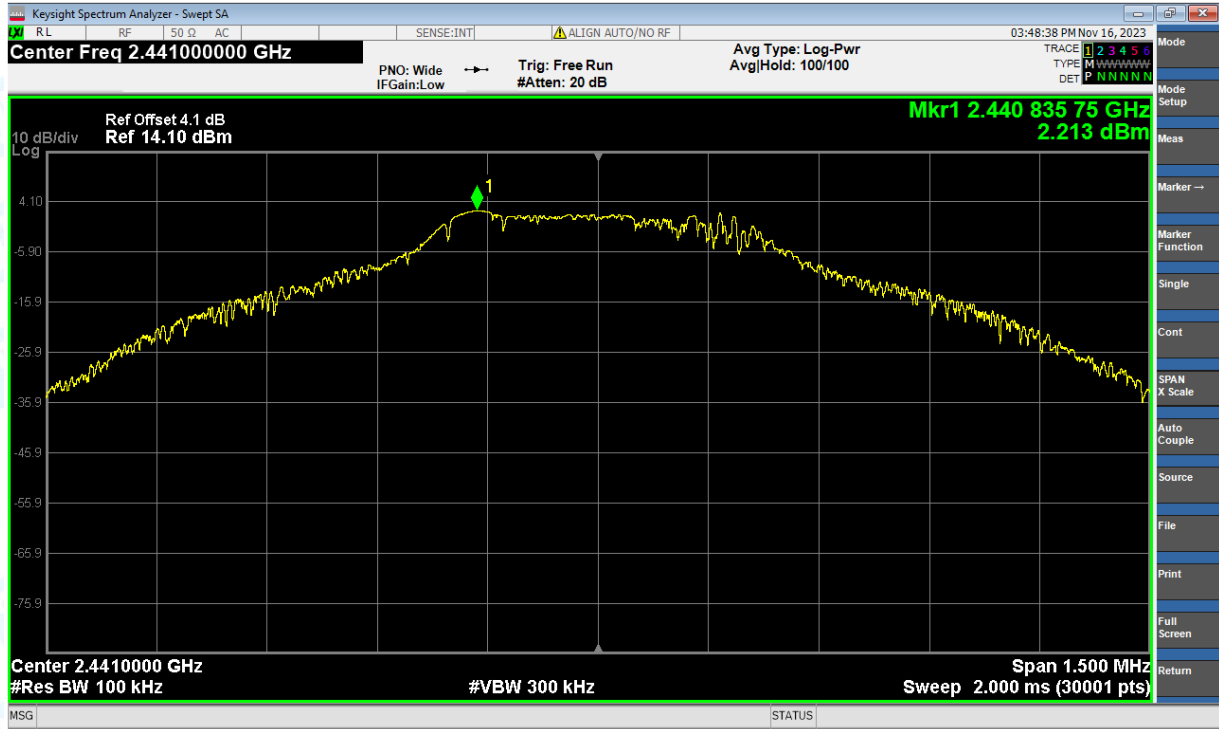
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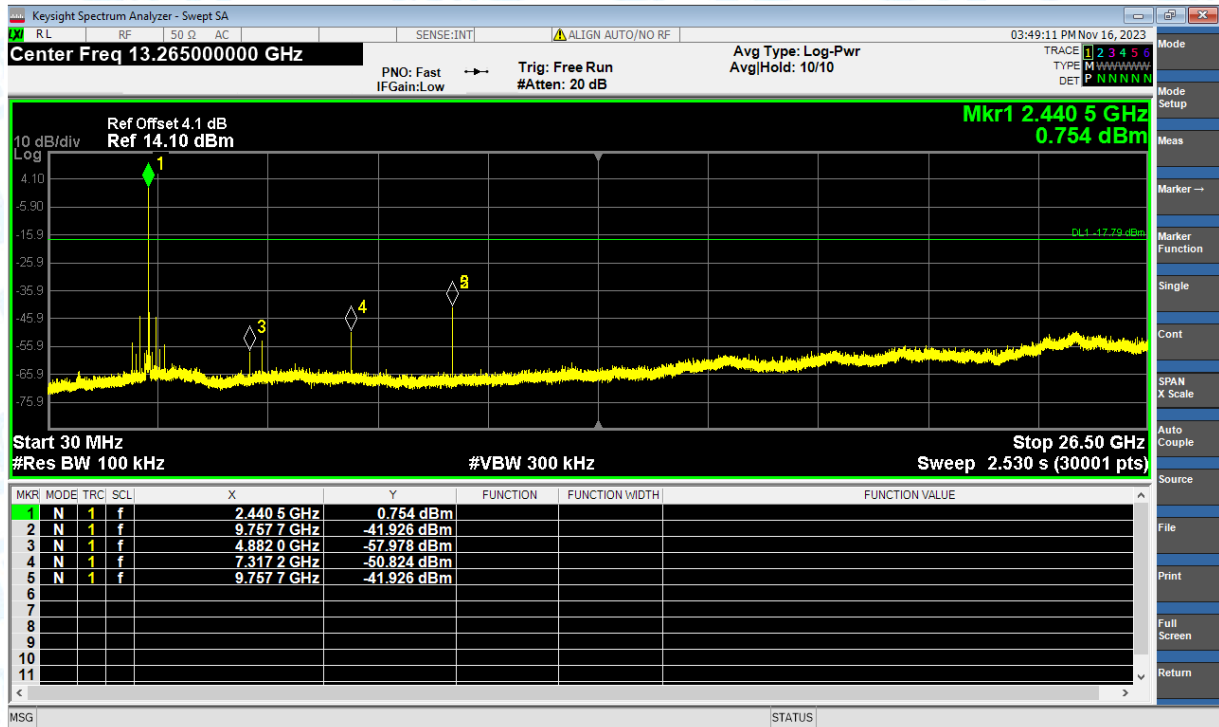
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



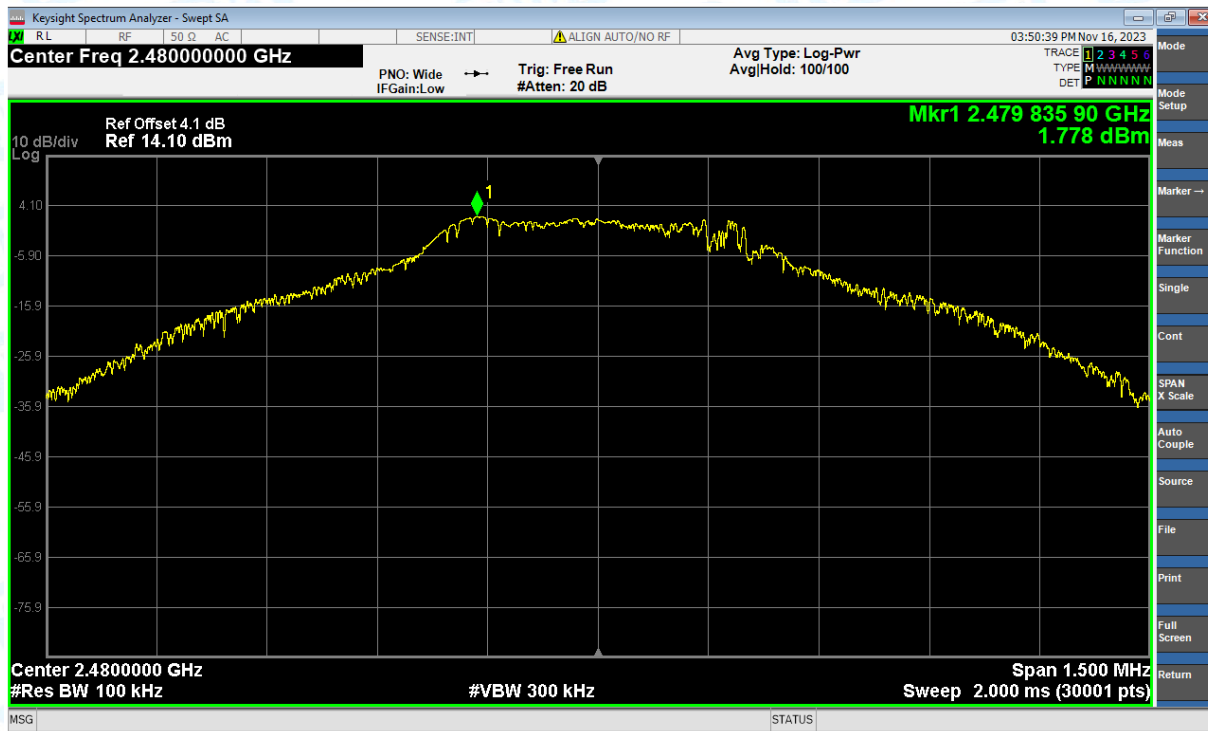
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



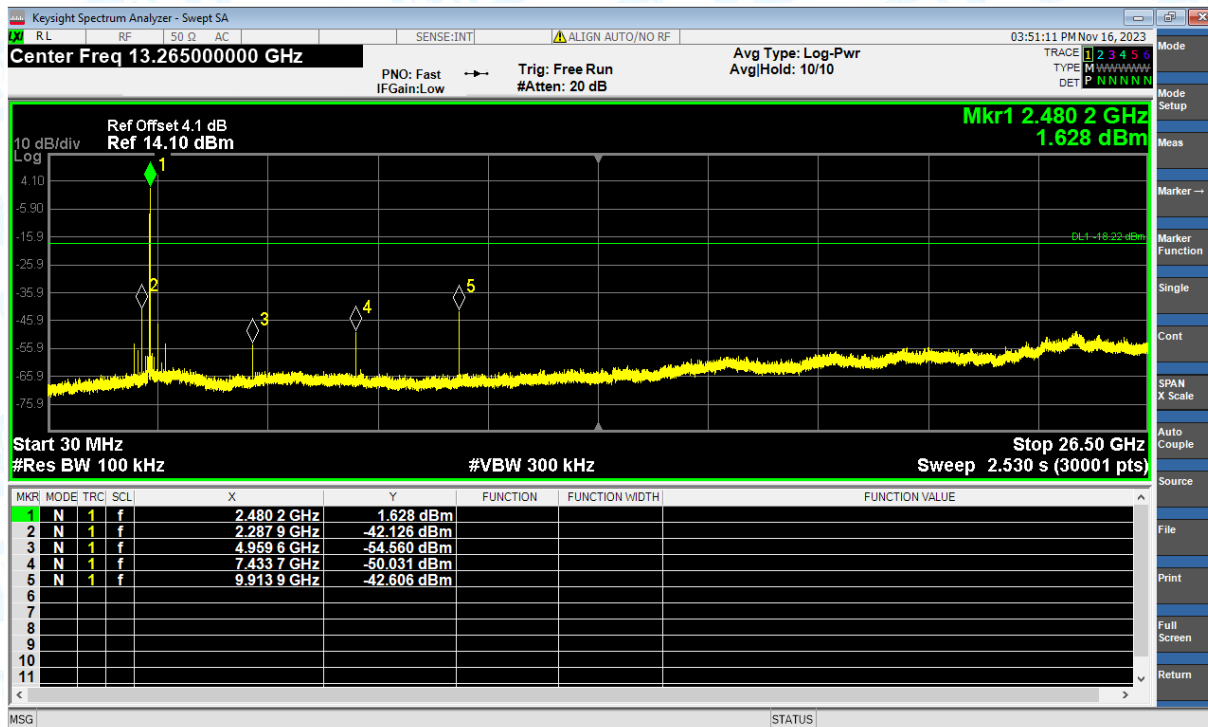
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



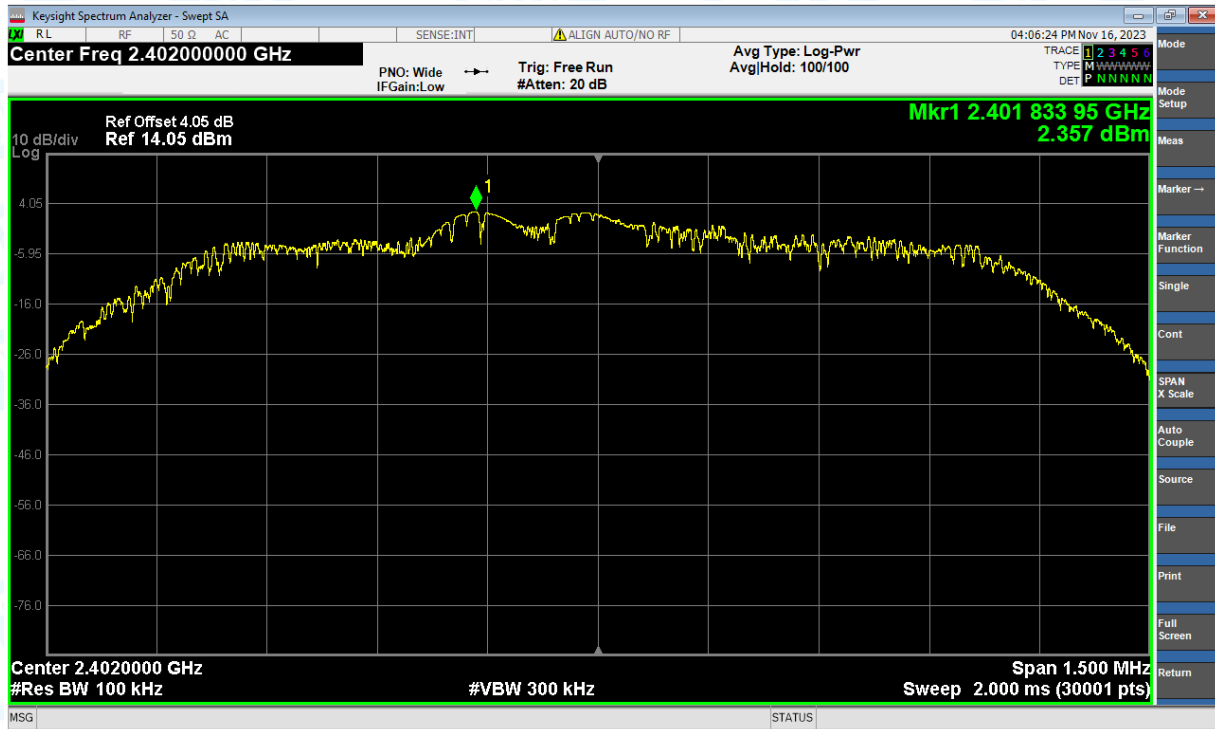
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



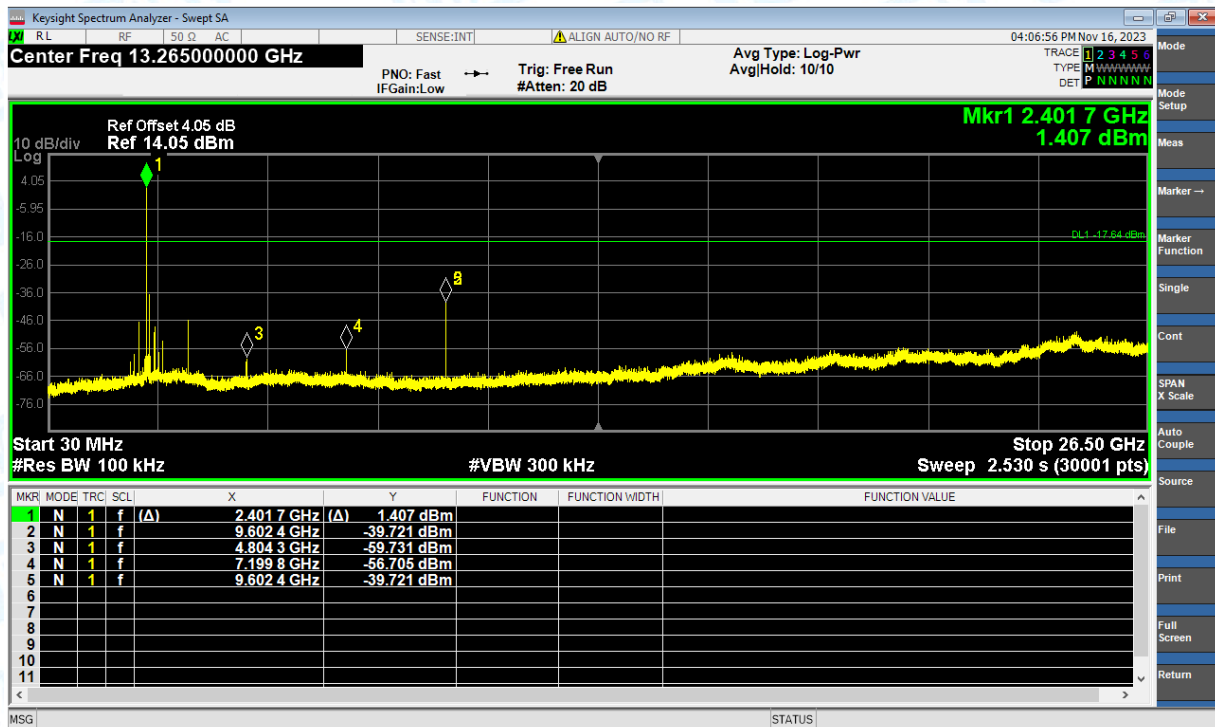
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



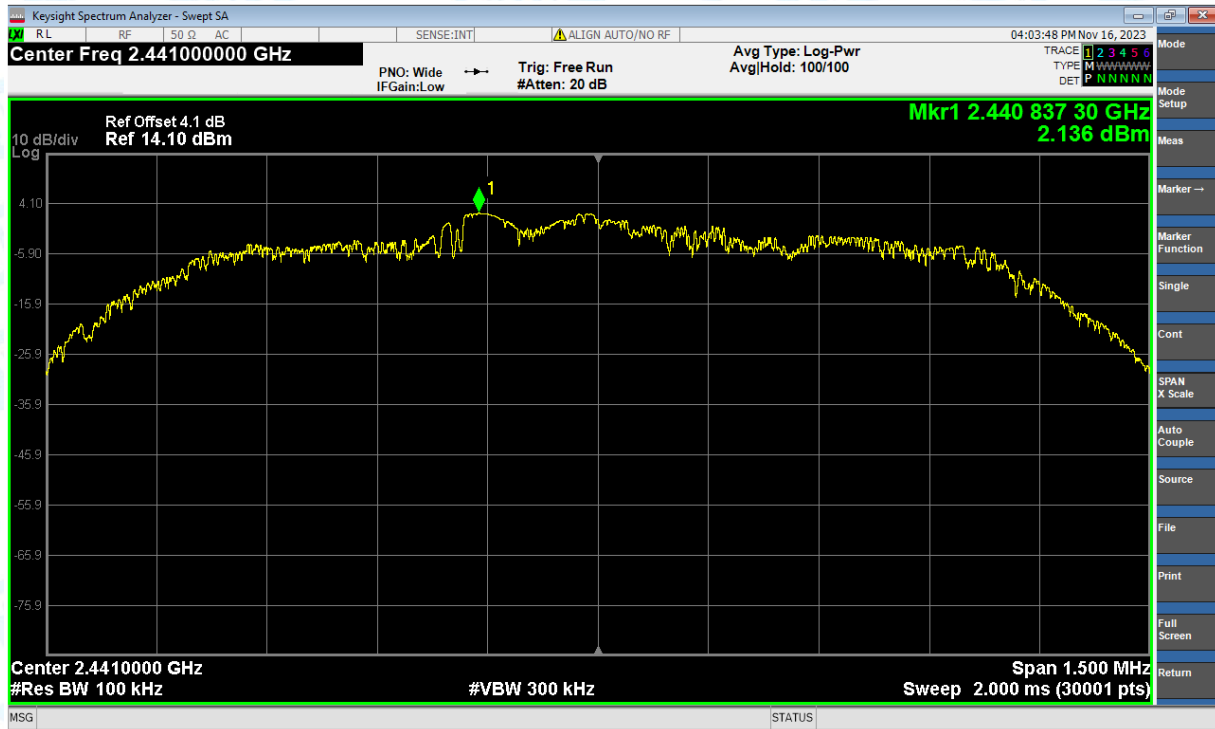
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



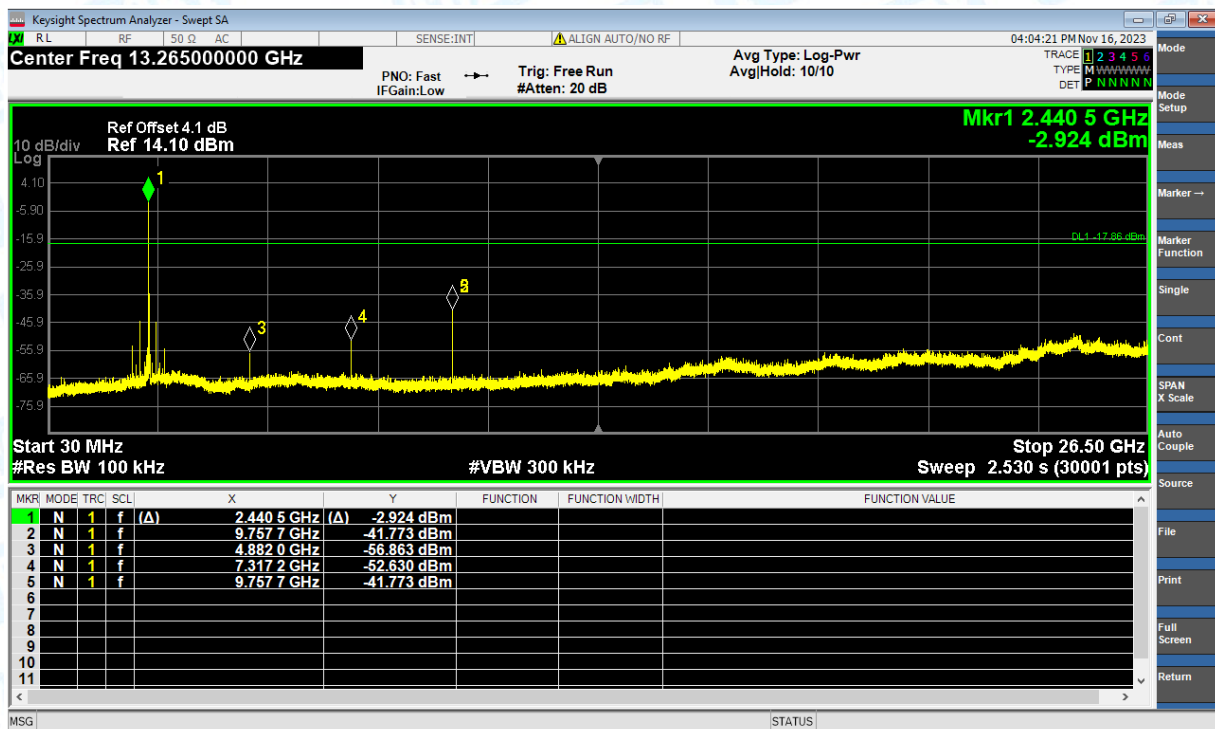
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



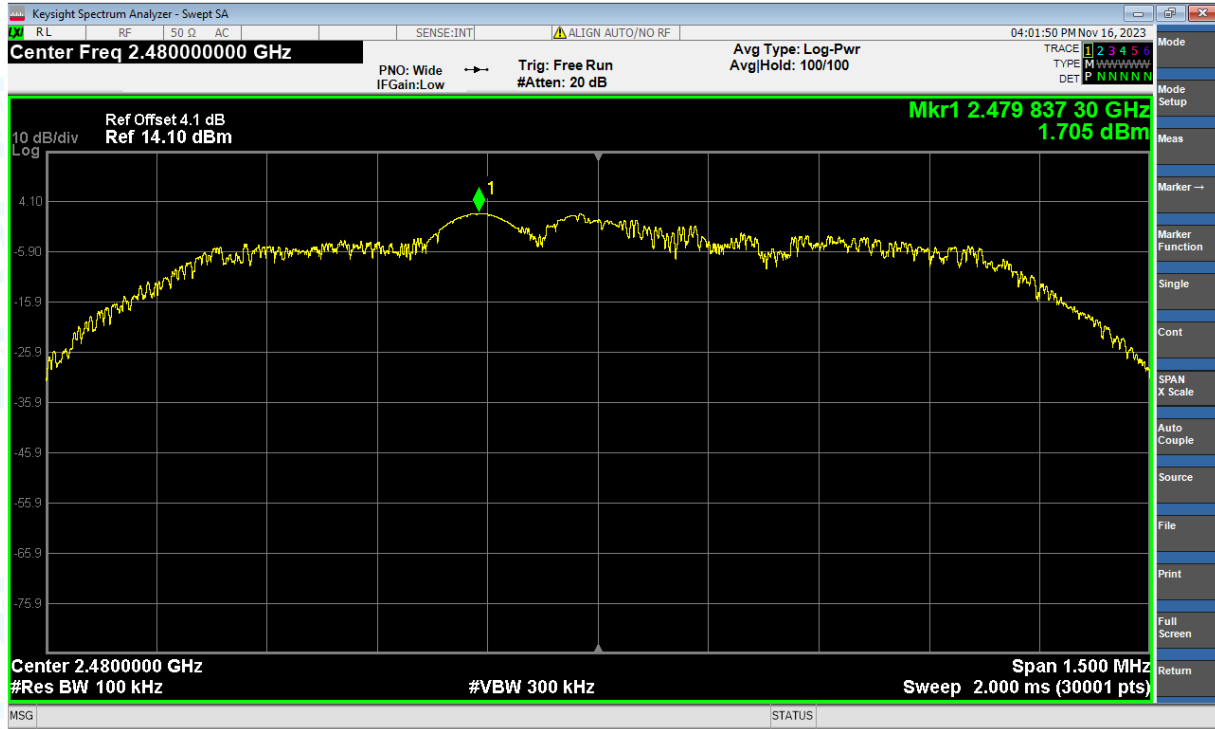
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



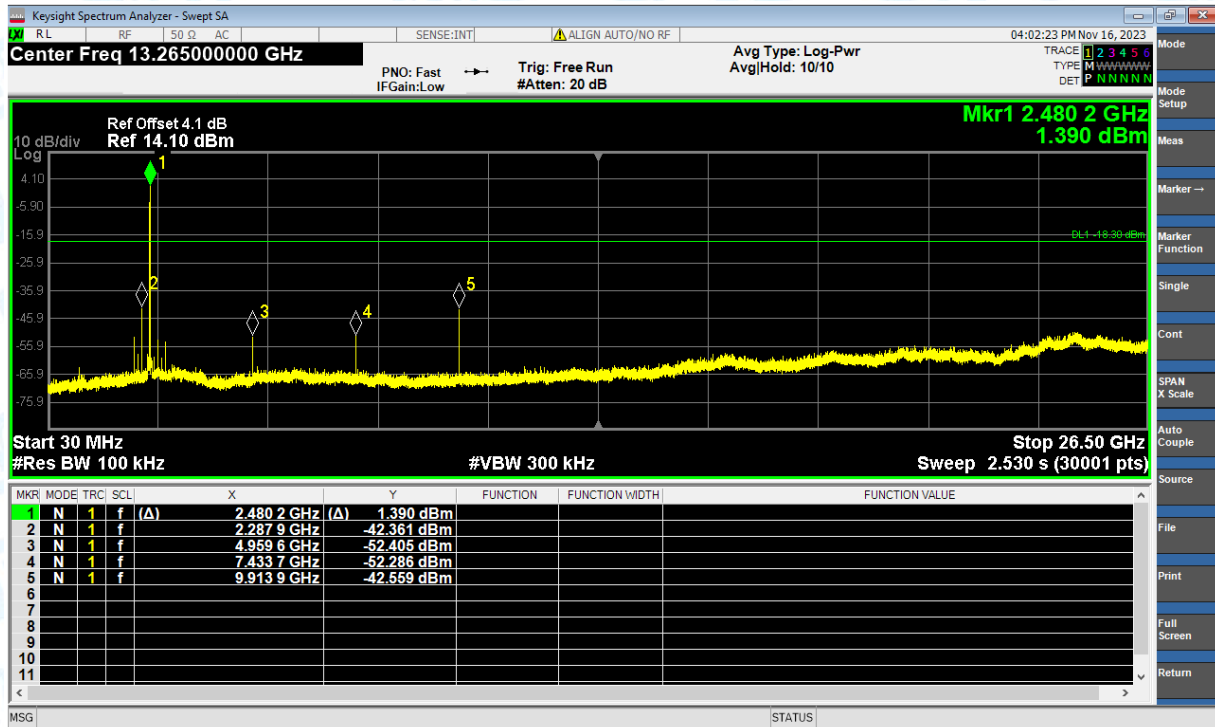
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



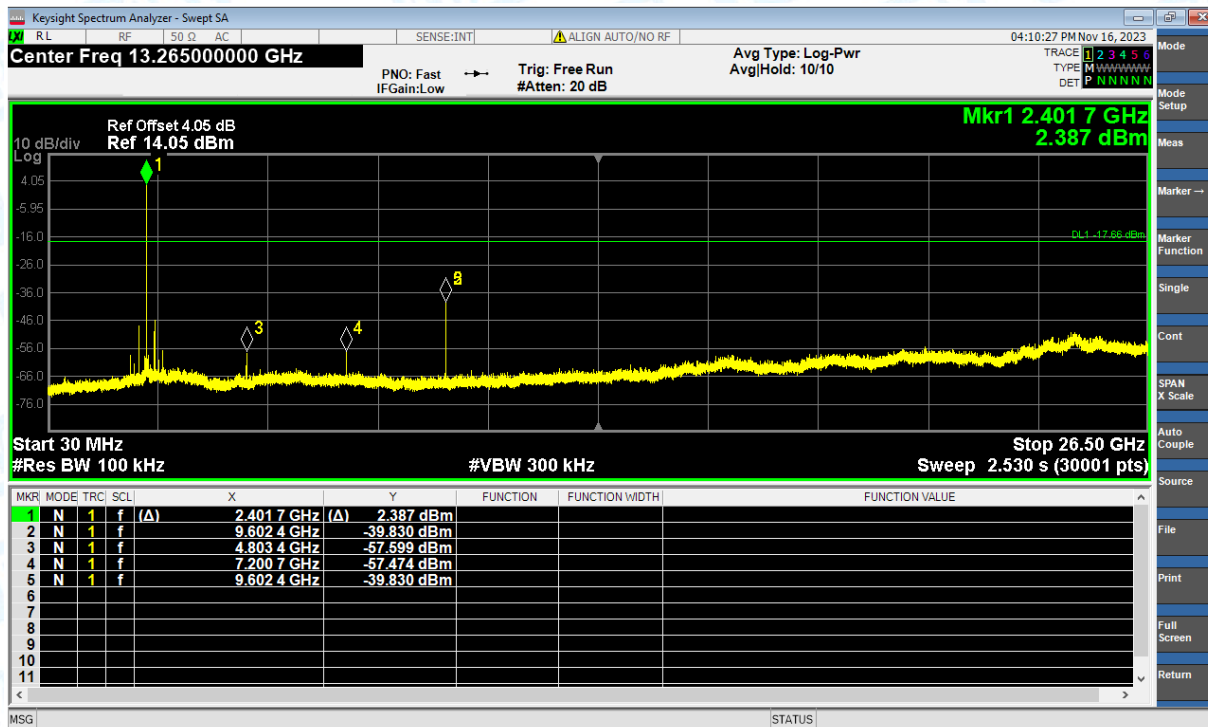
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



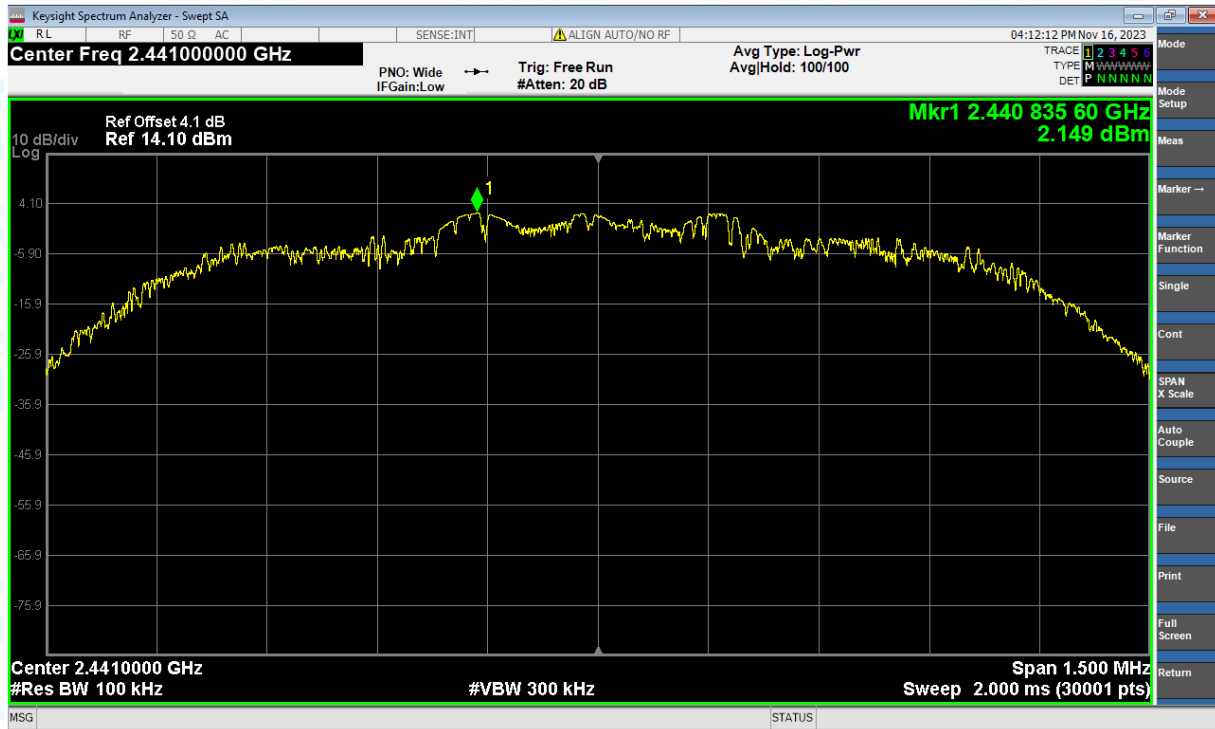
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



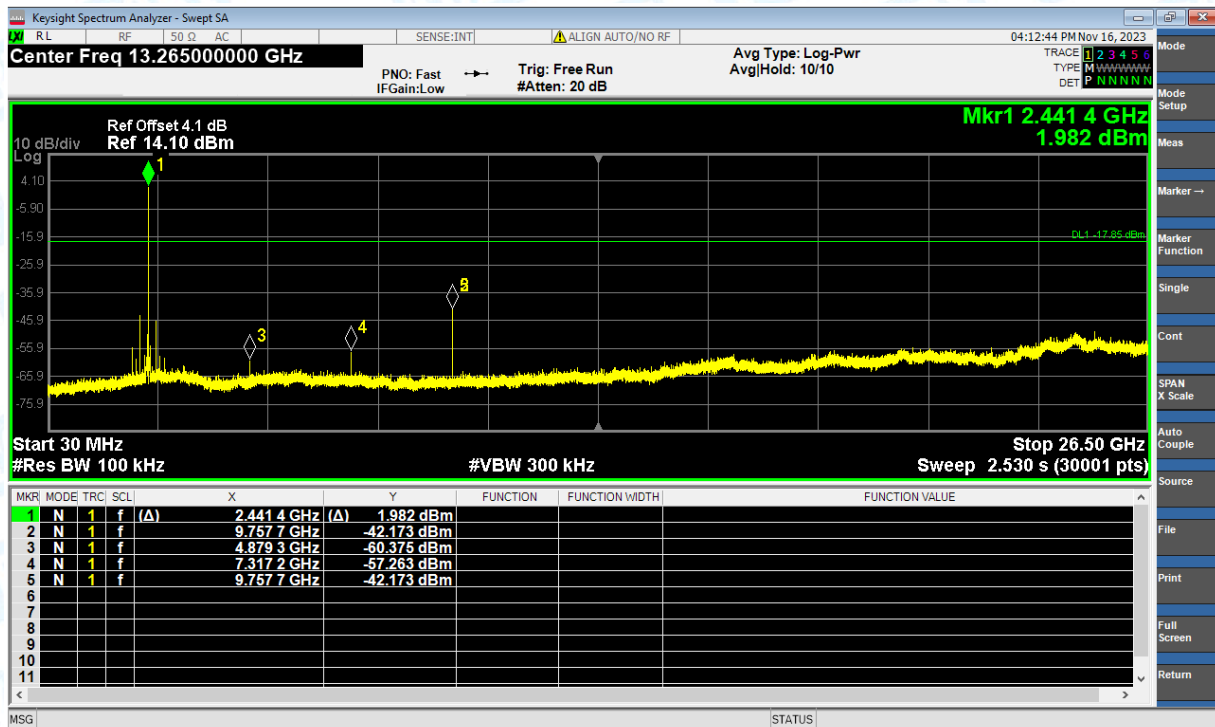
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



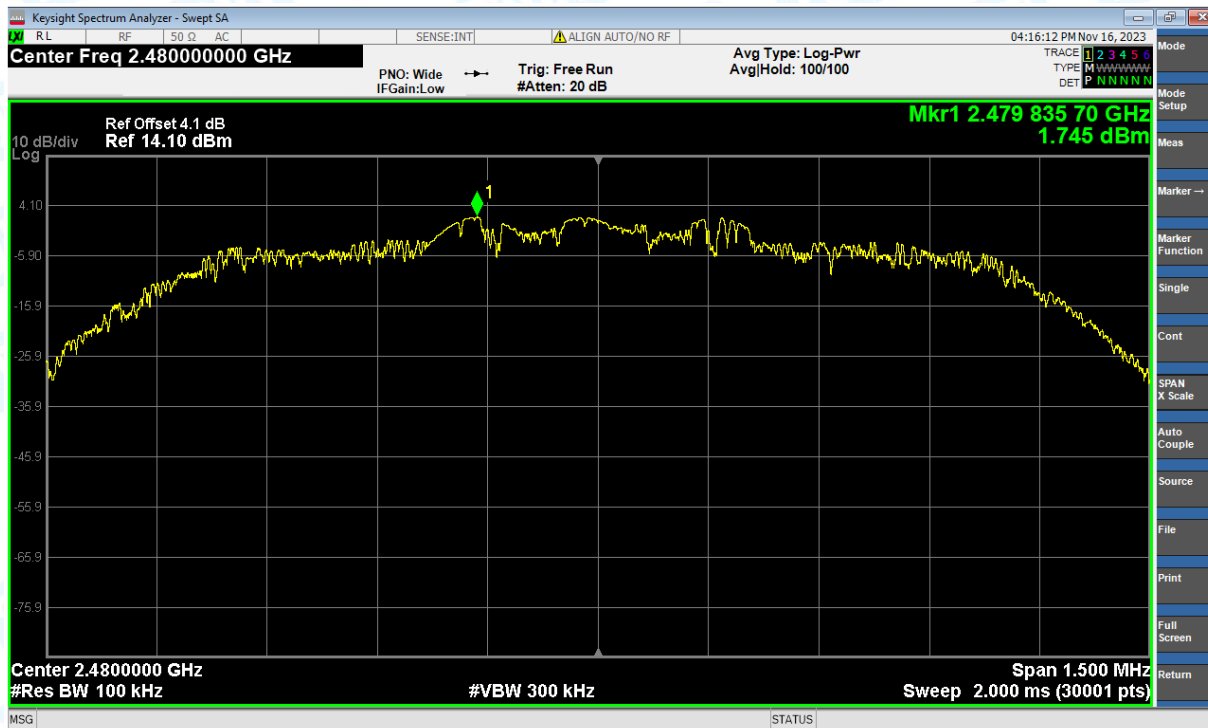
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



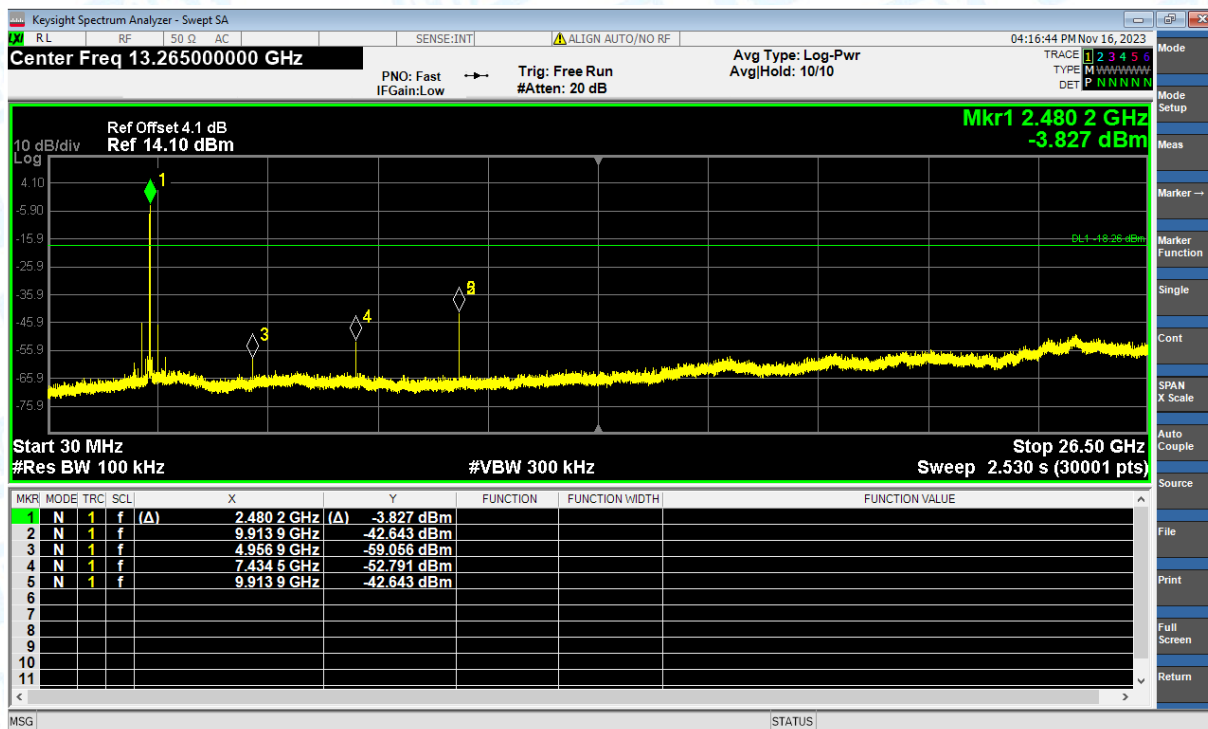
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

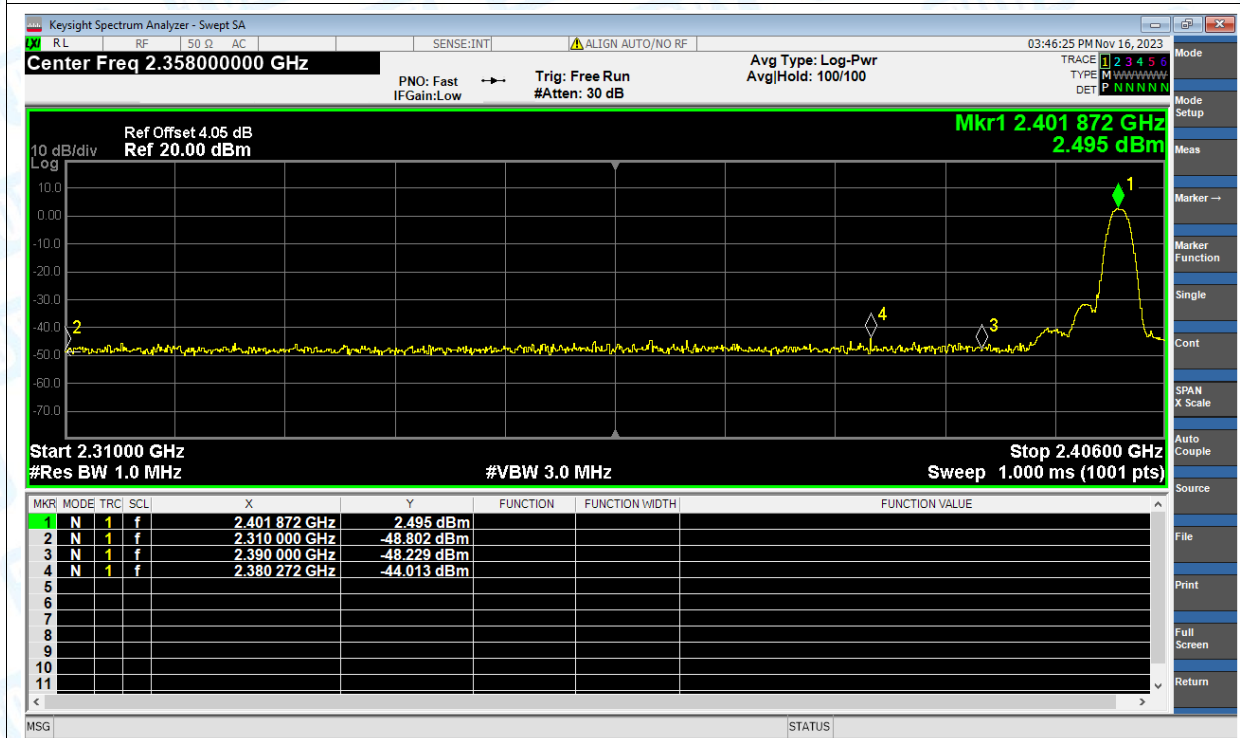


8. Restrict Band

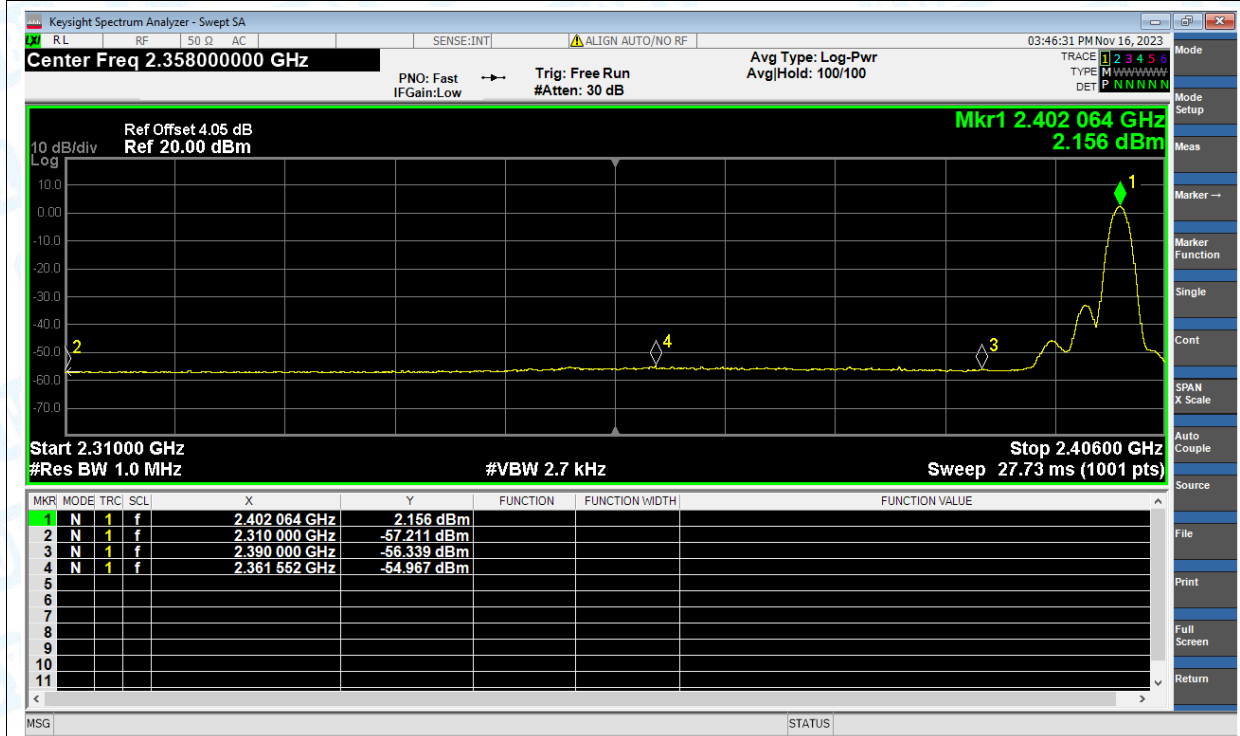
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-48.8	2	48.46	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-57.21	2	40.05	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2380.272	-44.01	2	53.25	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2361.552	-54.97	2	42.29	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-47.87	2	49.39	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-56.05	2	41.21	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-45.09	2	52.17	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-52.45	2	44.81	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.8	-43.21	2	54.05	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.512	-52.45	2	44.81	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-46.83	2	50.43	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-56.06	2	41.2	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-47.28	2	49.98	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-57.39	2	39.87	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2384.688	-43.8	2	53.46	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2360.88	-55.04	2	42.22	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-46.31	2	50.95	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-56.55	2	40.71	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-44.68	2	52.58	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-53.57	2	43.69	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.536	-44.41	2	52.85	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.56	-53.4	2	43.86	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-45.72	2	51.54	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-56.38	2	40.88	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.73	2	48.53	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-57.17	2	40.09	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2375.472	-44.21	2	53.05	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2357.808	-55.25	2	42.01	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-46.91	2	50.35	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-56.02	2	41.24	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-46.03	2	51.23	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-53.36	2	43.9	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2484.592	-39.85	2	57.41	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.632	-53.25	2	44.01	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.32	2	49.94	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-56.06	2	41.2	Average	54	Pass

Test Graphs

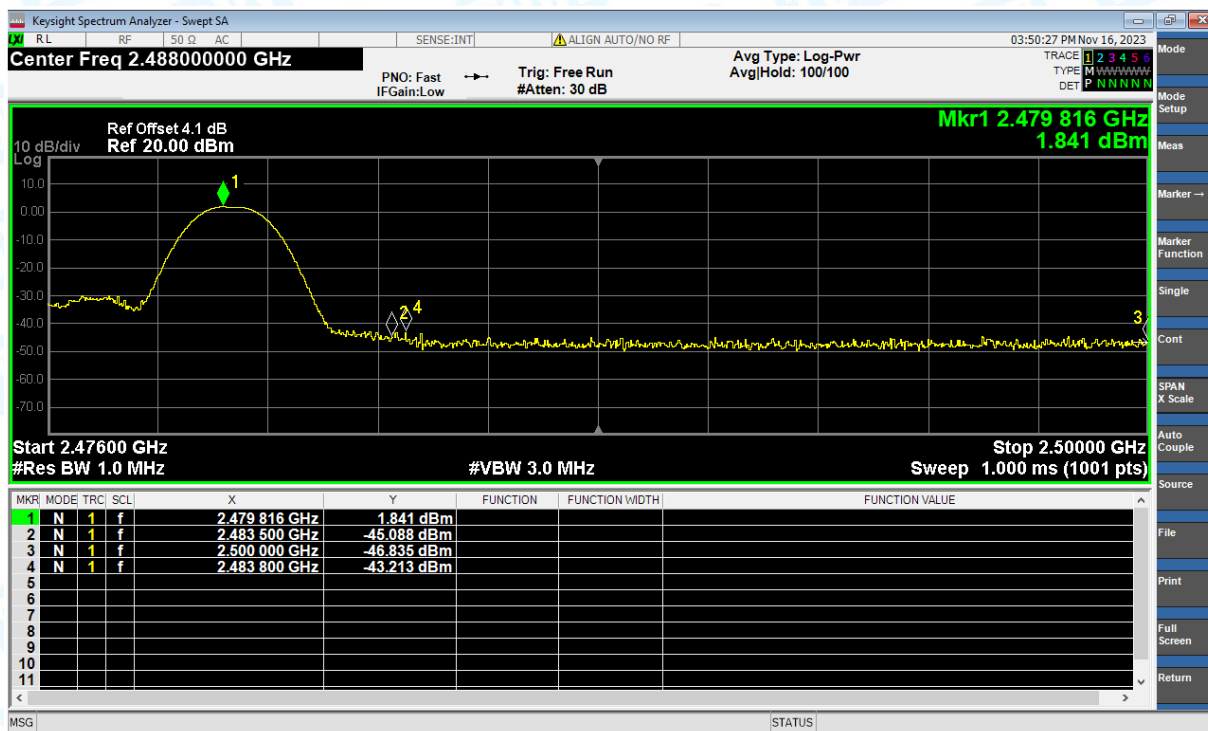
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



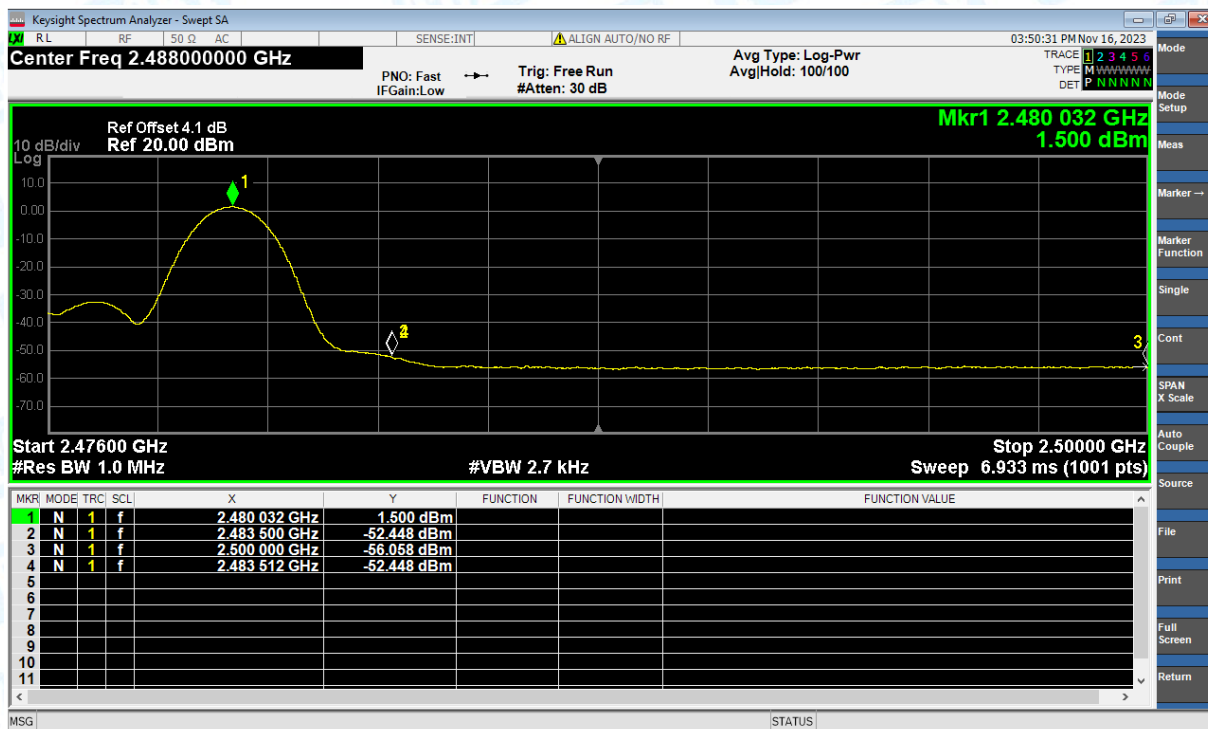
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



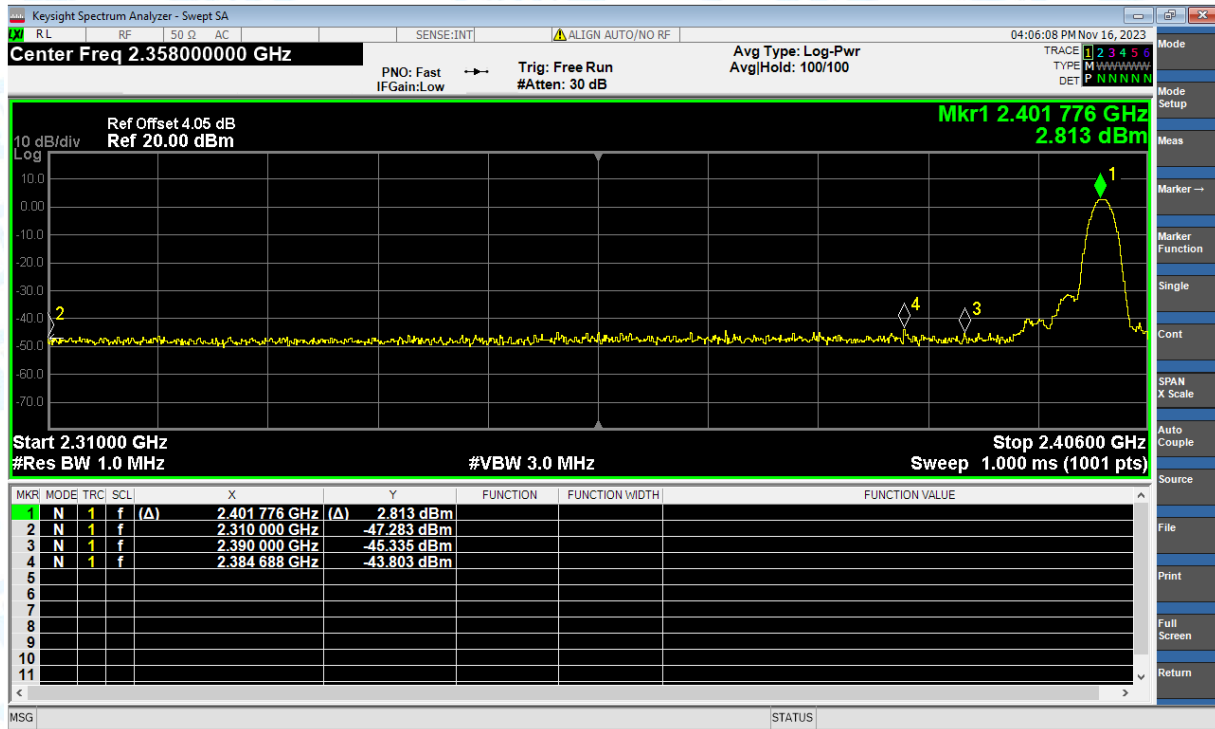
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



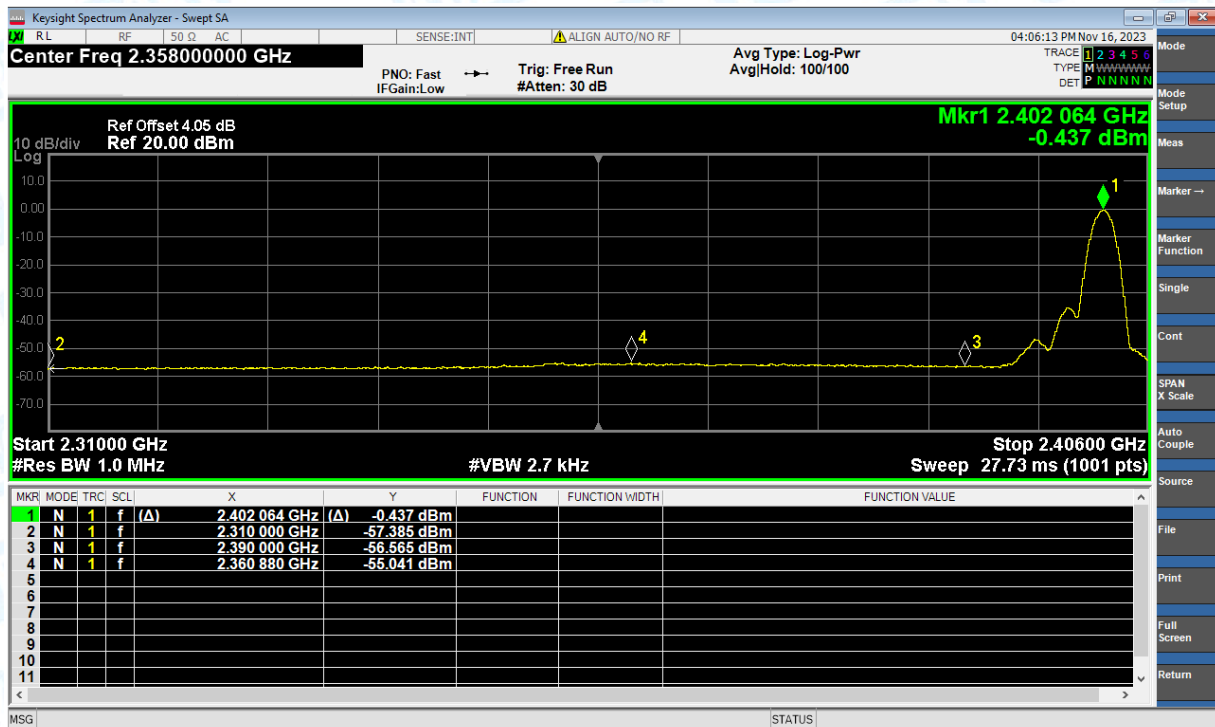
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



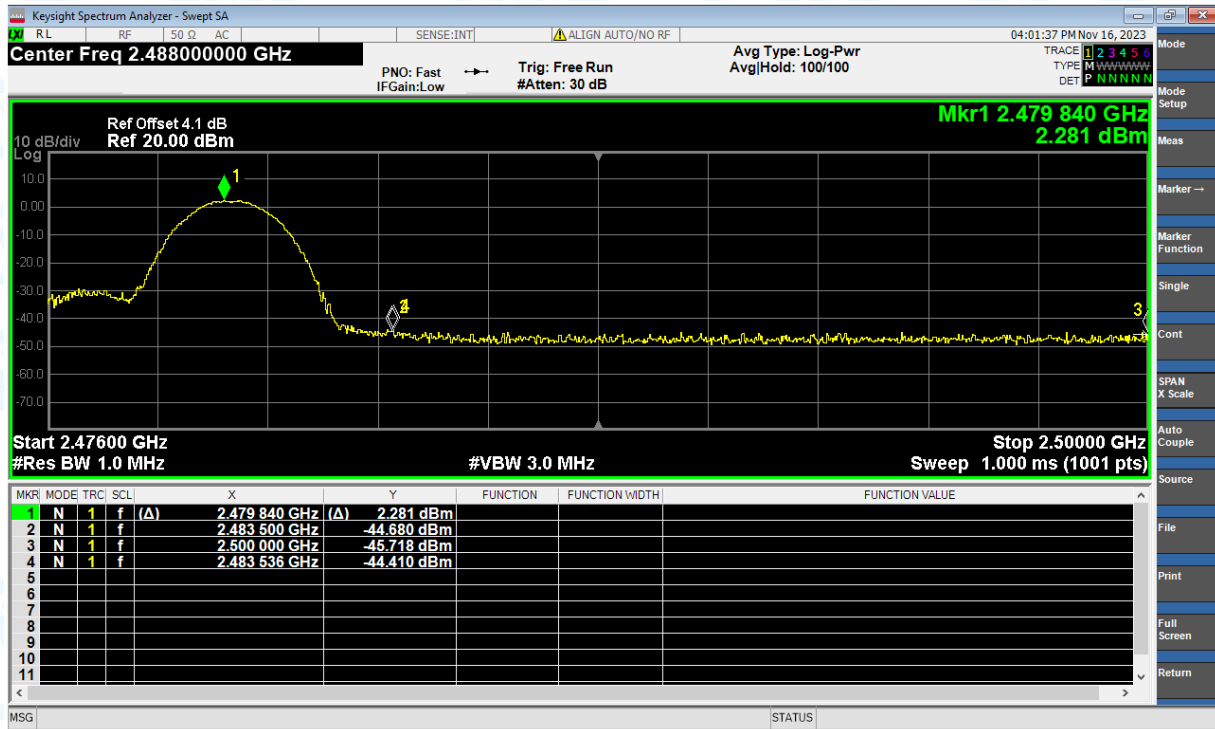
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



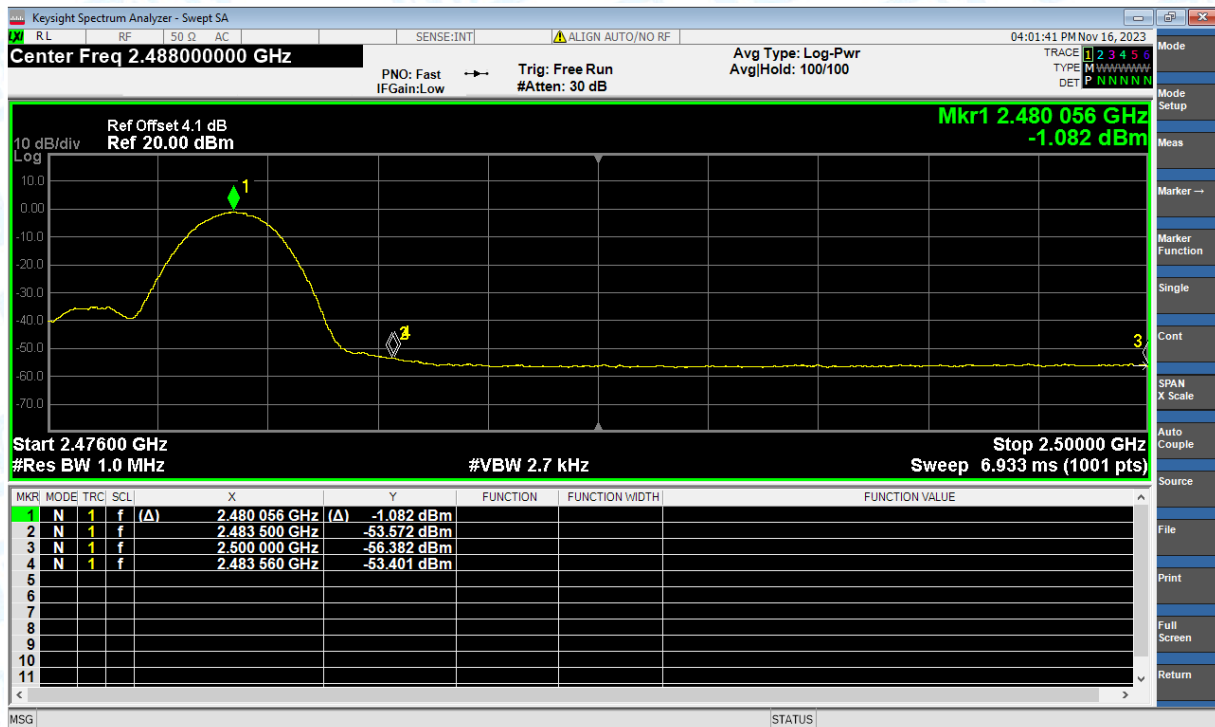
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



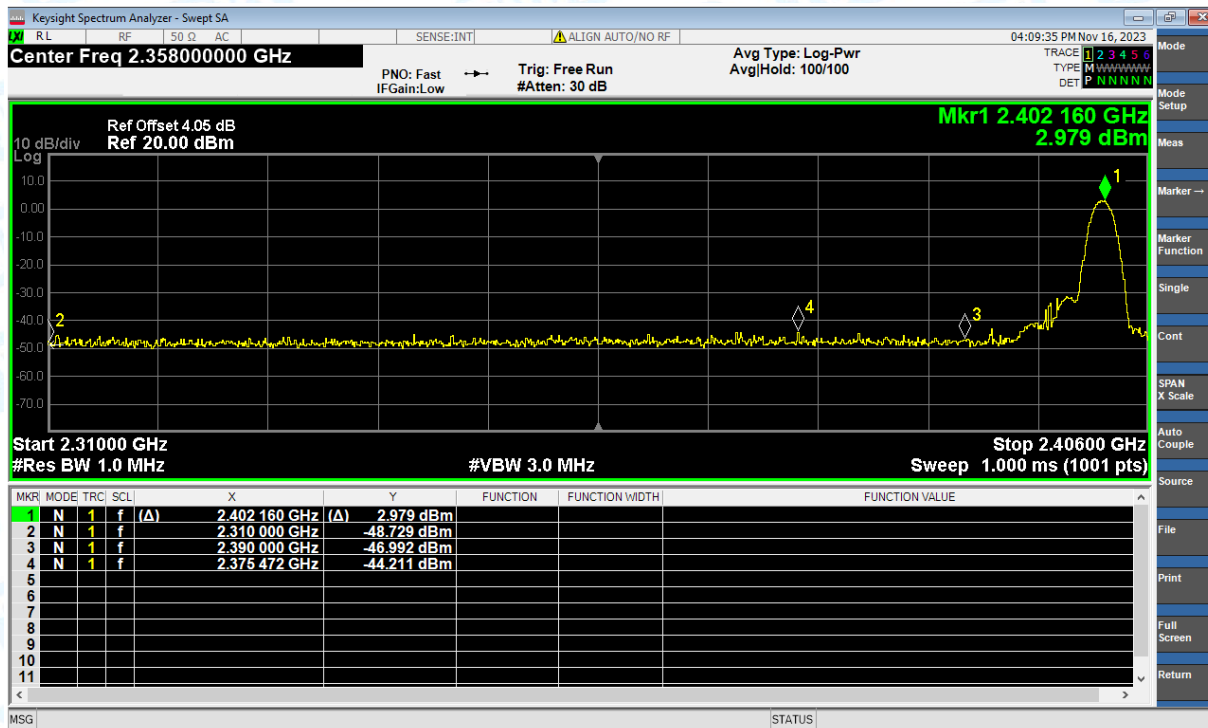
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



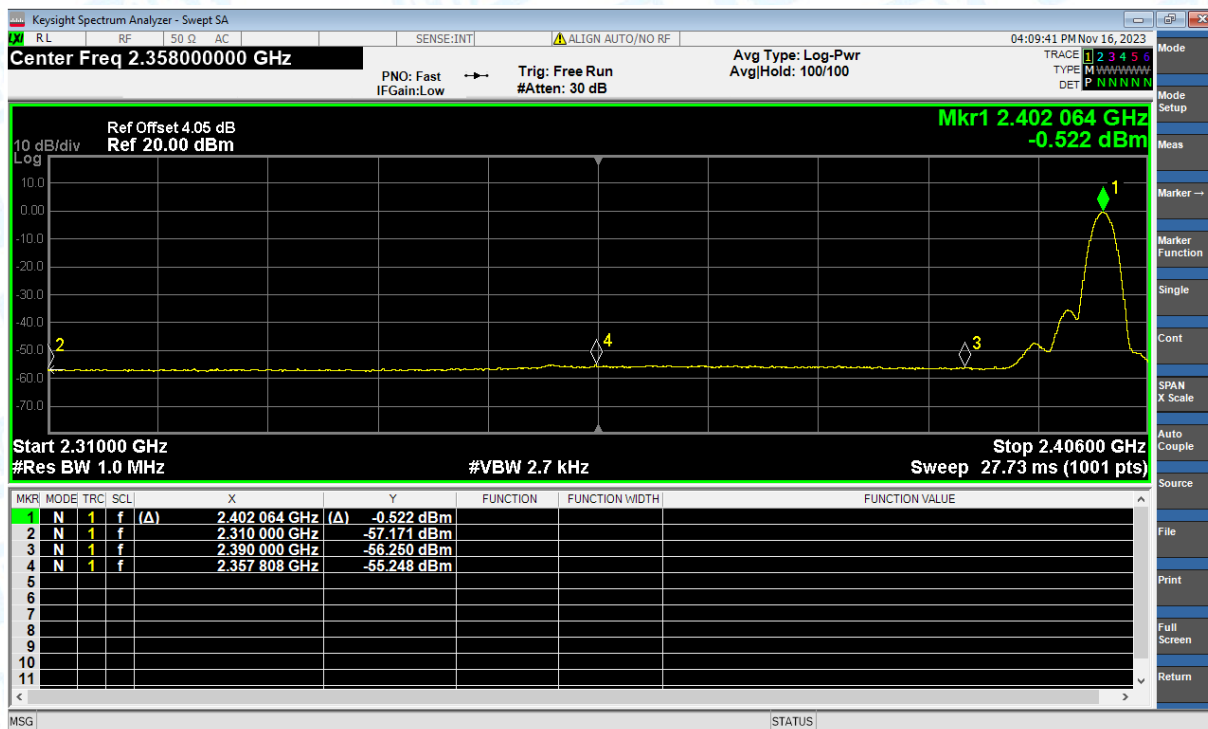
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



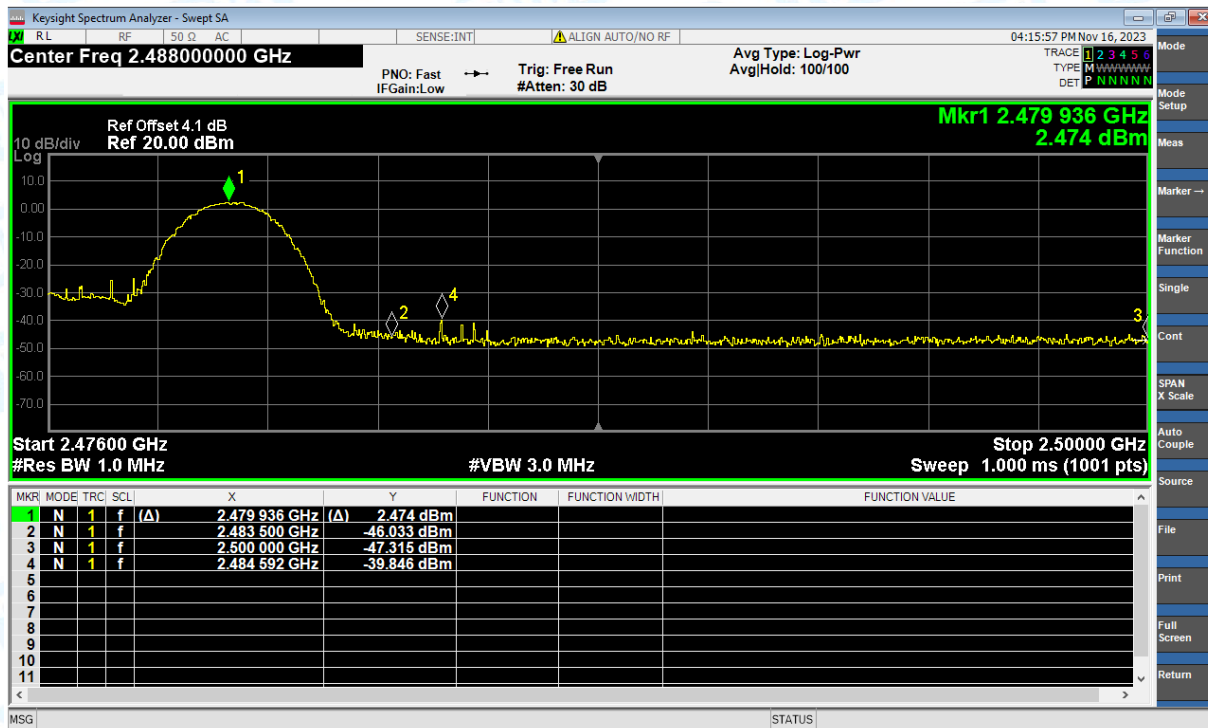
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



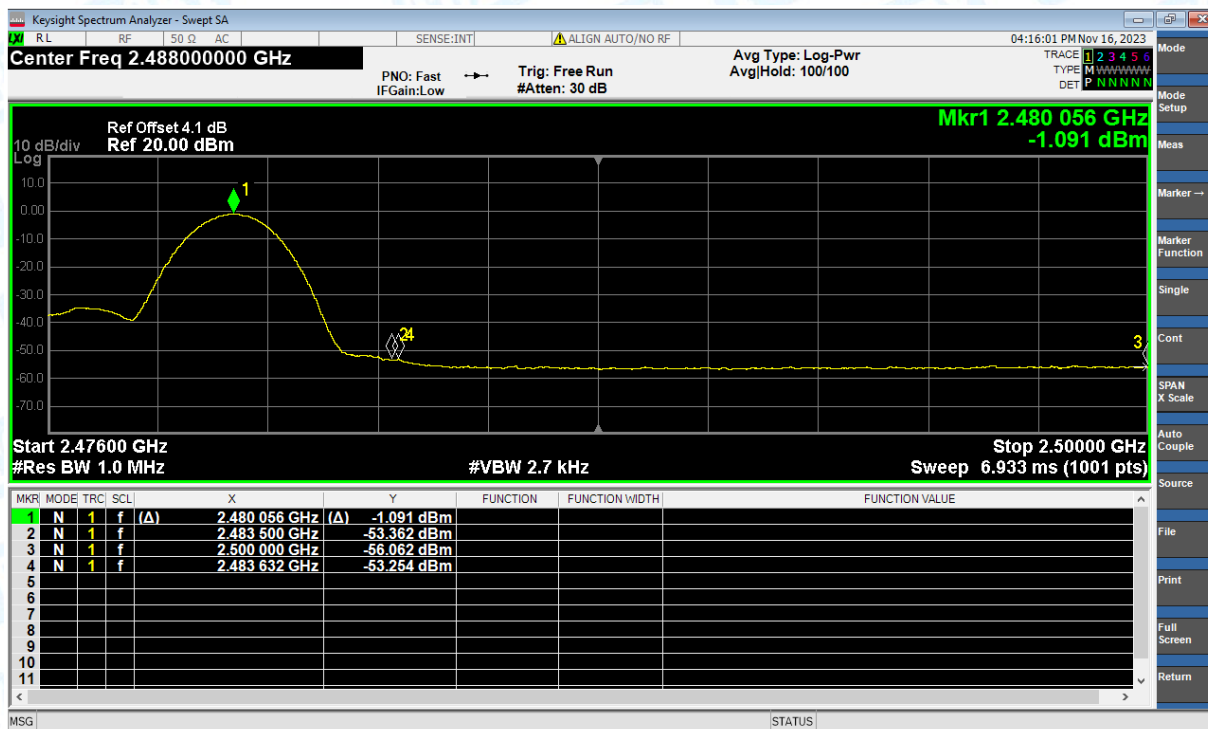
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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



9. Carrier Frequencies Separation

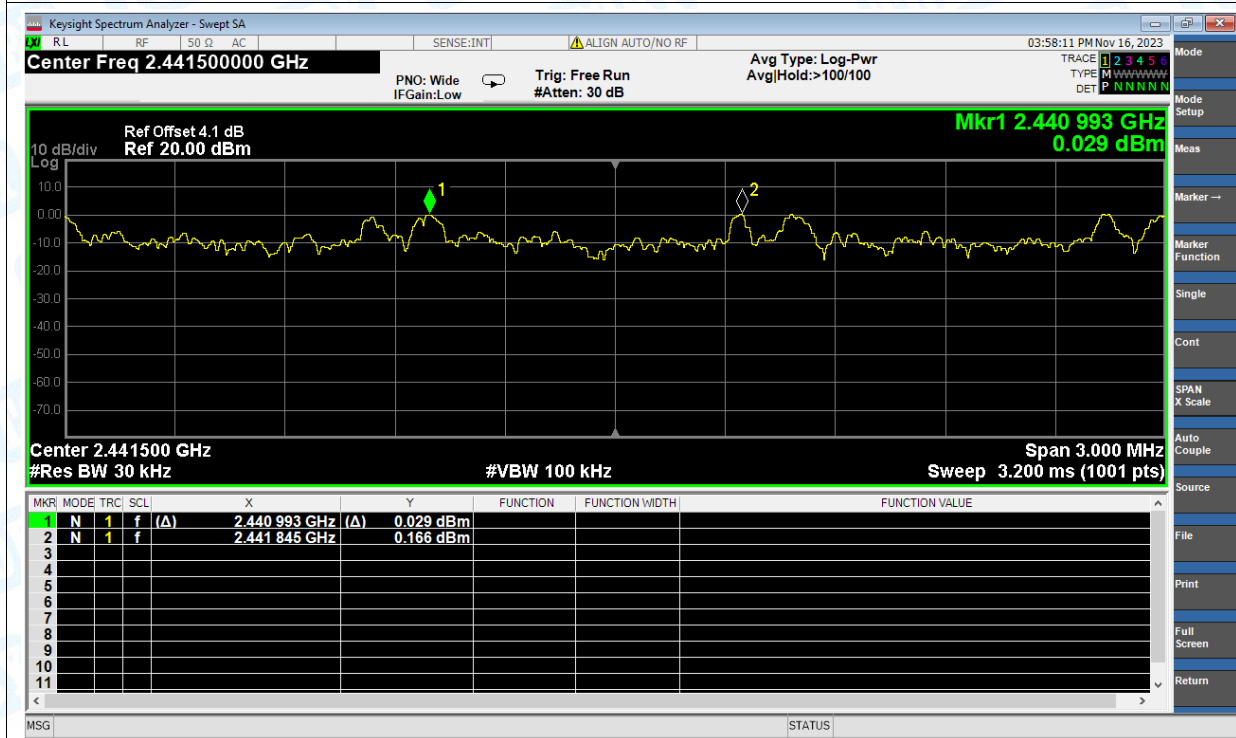
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.99	2441.995	1.005	0.567	Pass
NVNT	2-DH1	Ant1	2440.993	2441.845	0.852	0.827	Pass
NVNT	3-DH1	Ant1	2440.849	2441.98	1.131	0.813	Pass

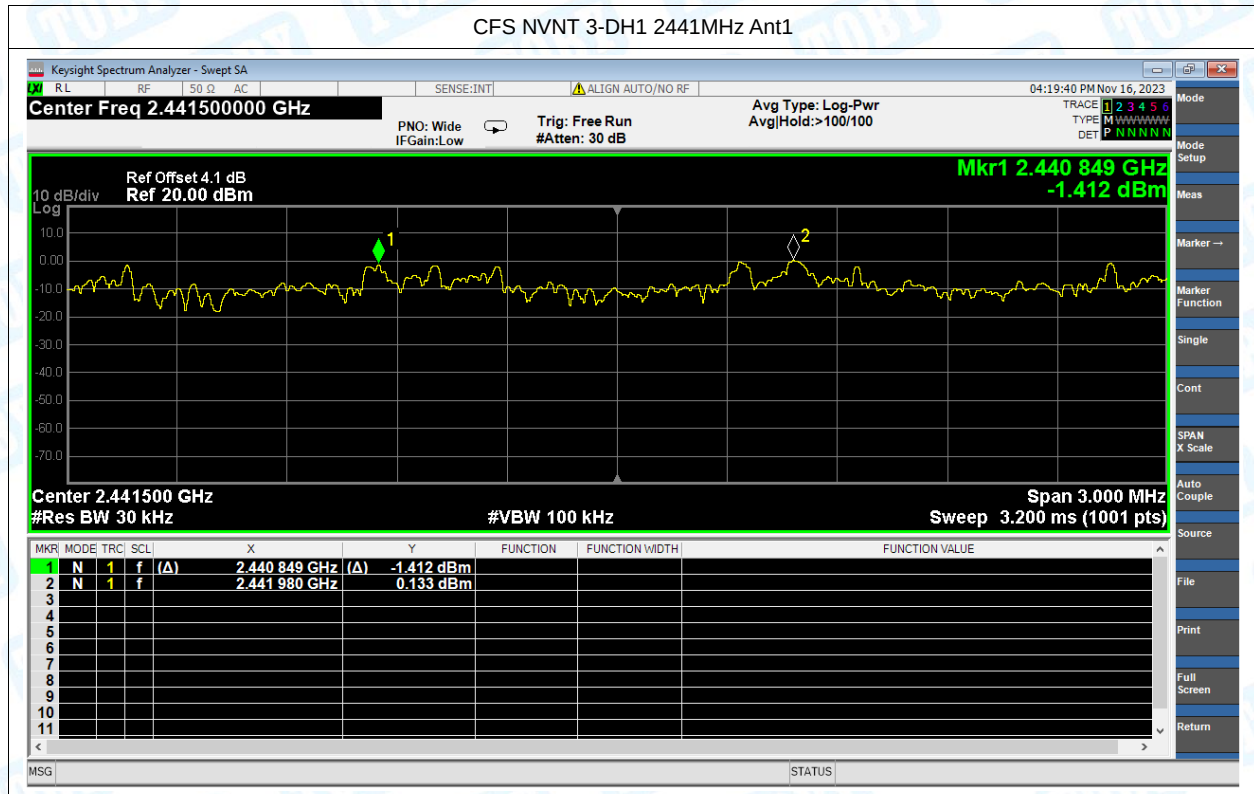
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



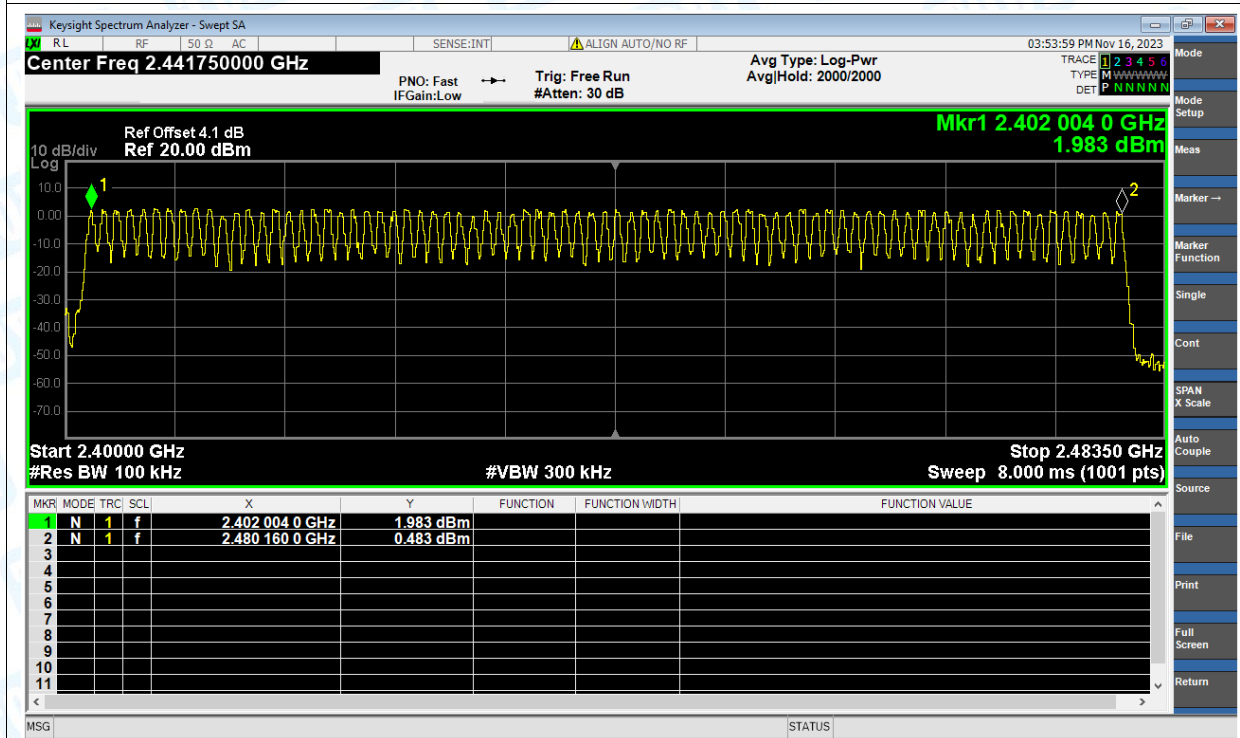


10. Number of Hopping Channel

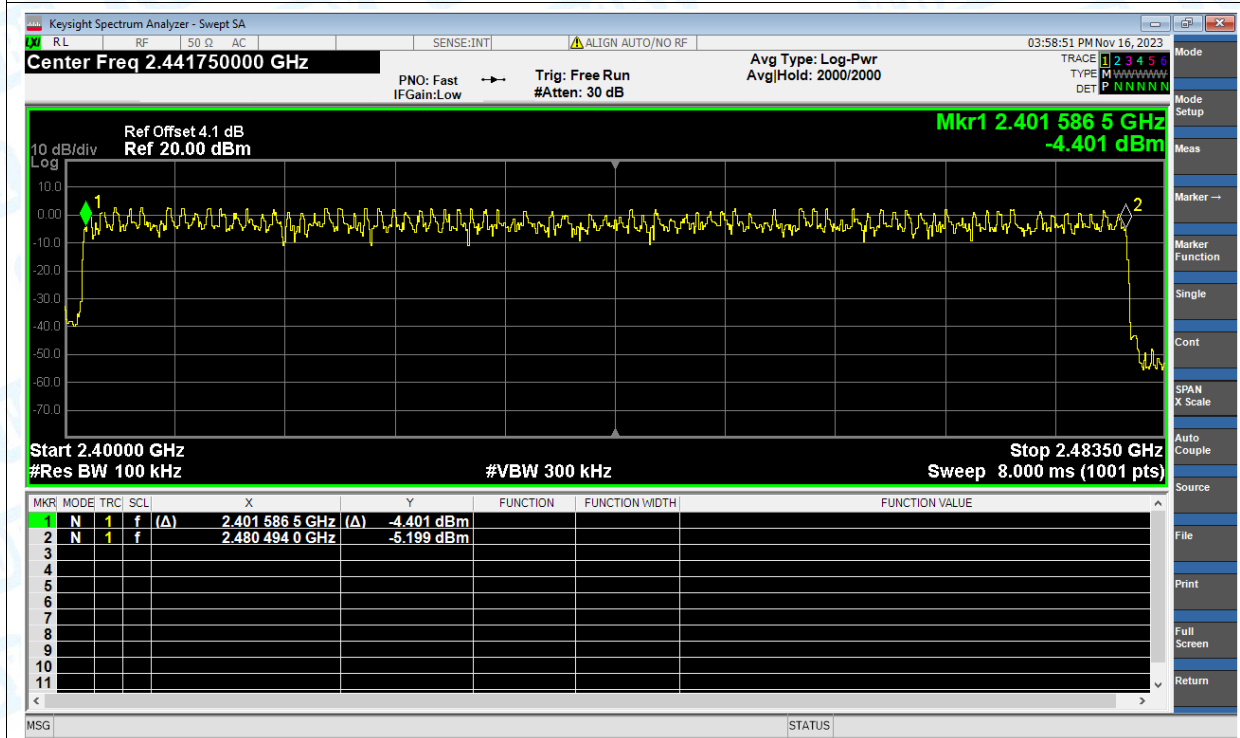
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

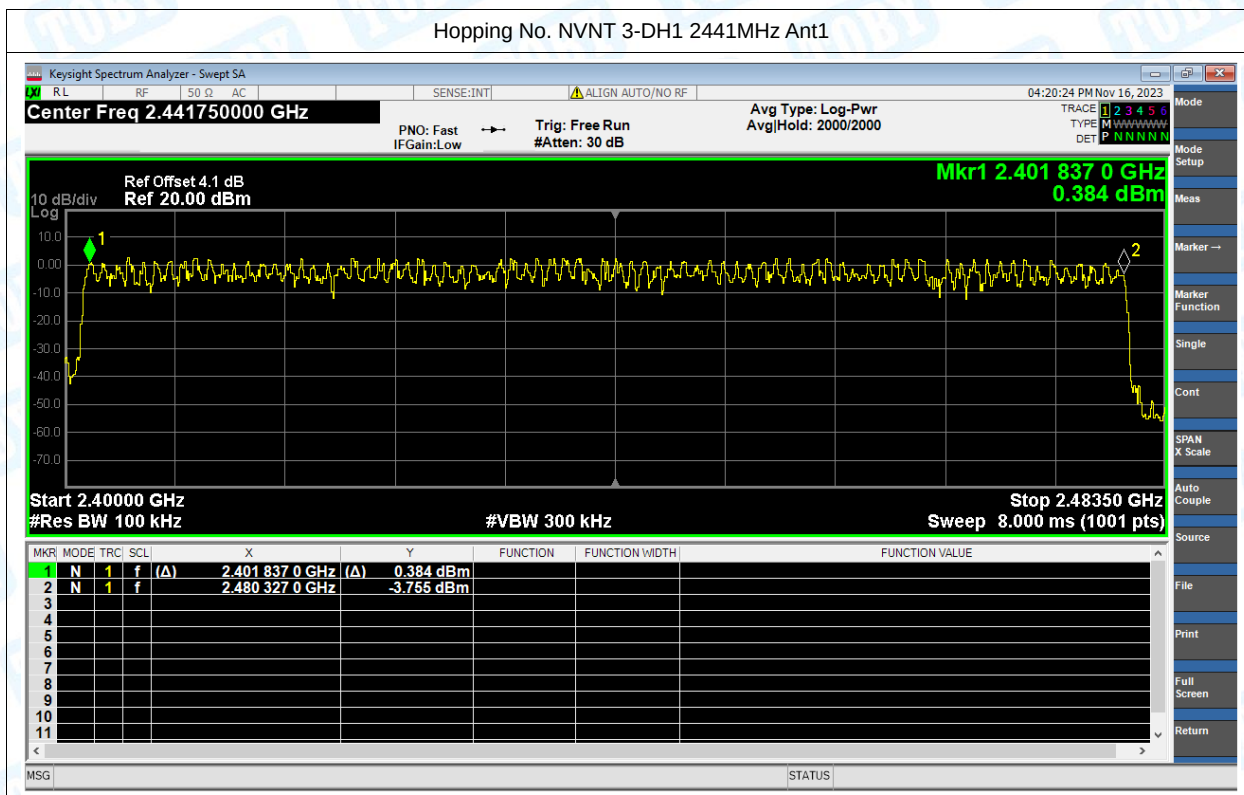
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



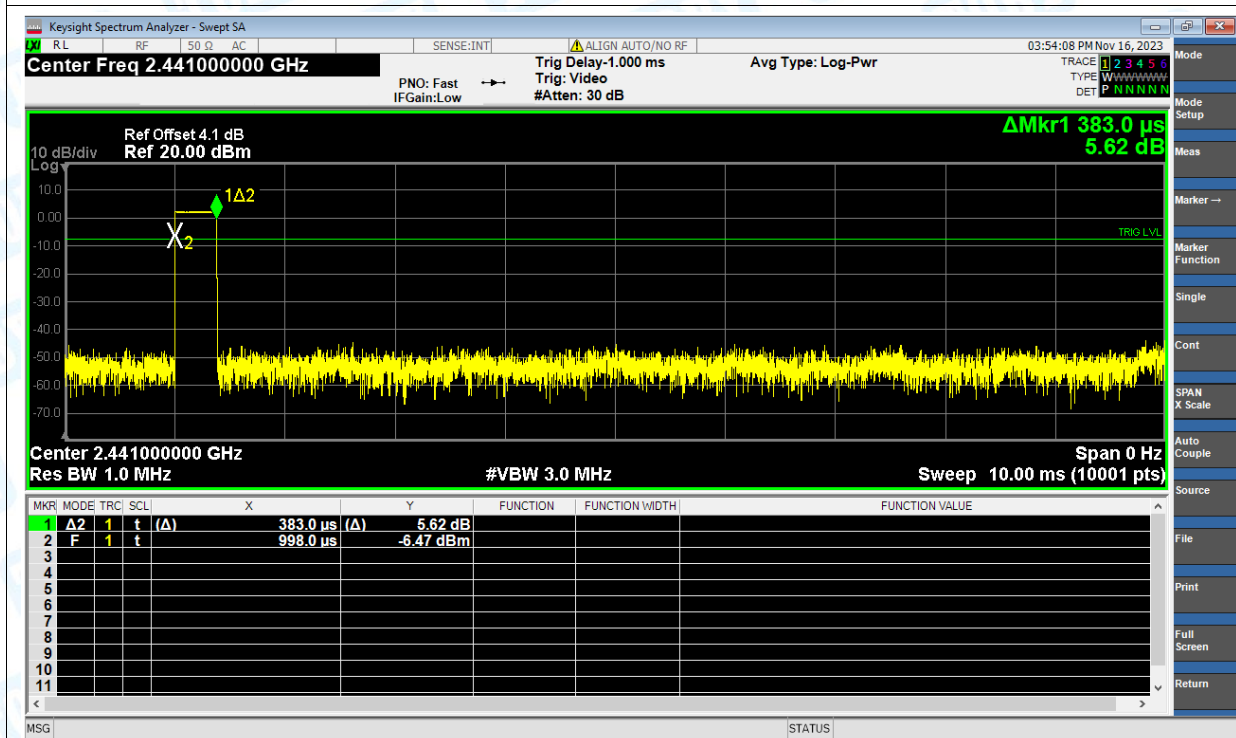


11. Dwell Time

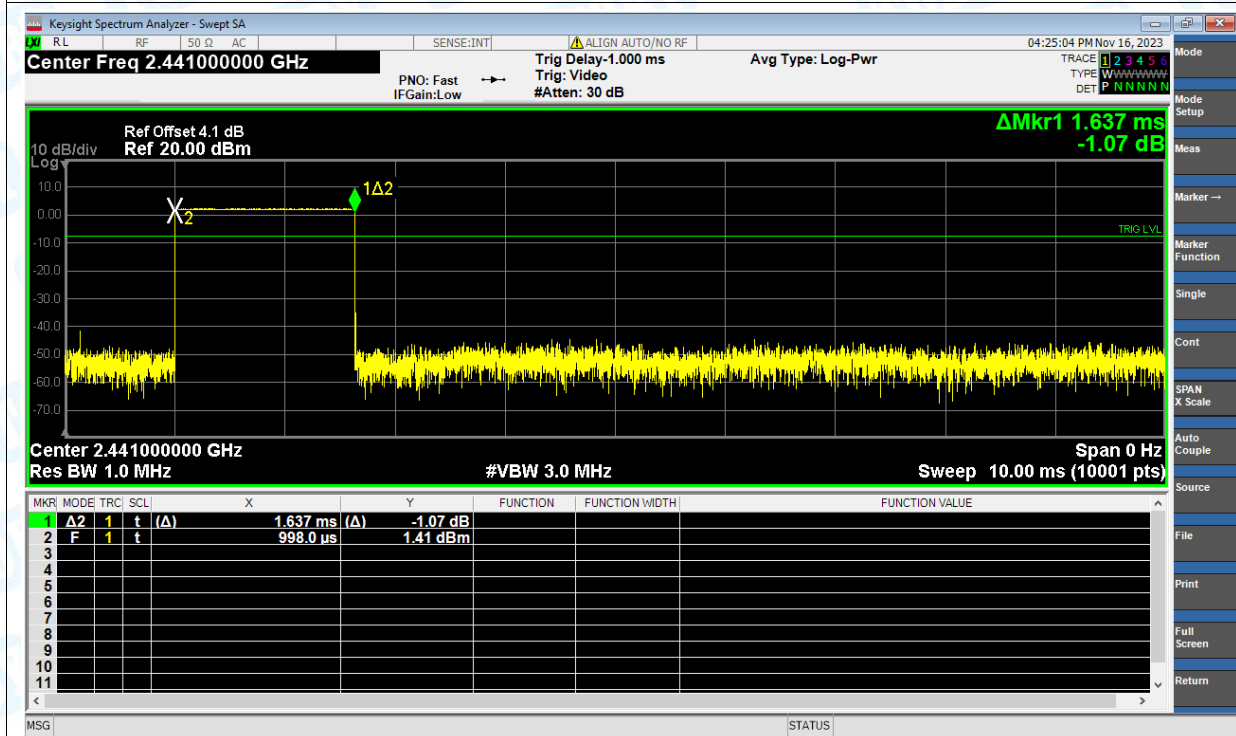
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.383	122.56	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.637	261.92	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.886	307.84	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.391	125.12	31600	400	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	0.391	125.12	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.643	262.88	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.893	308.587	31600	400	Pass

Test Graphs

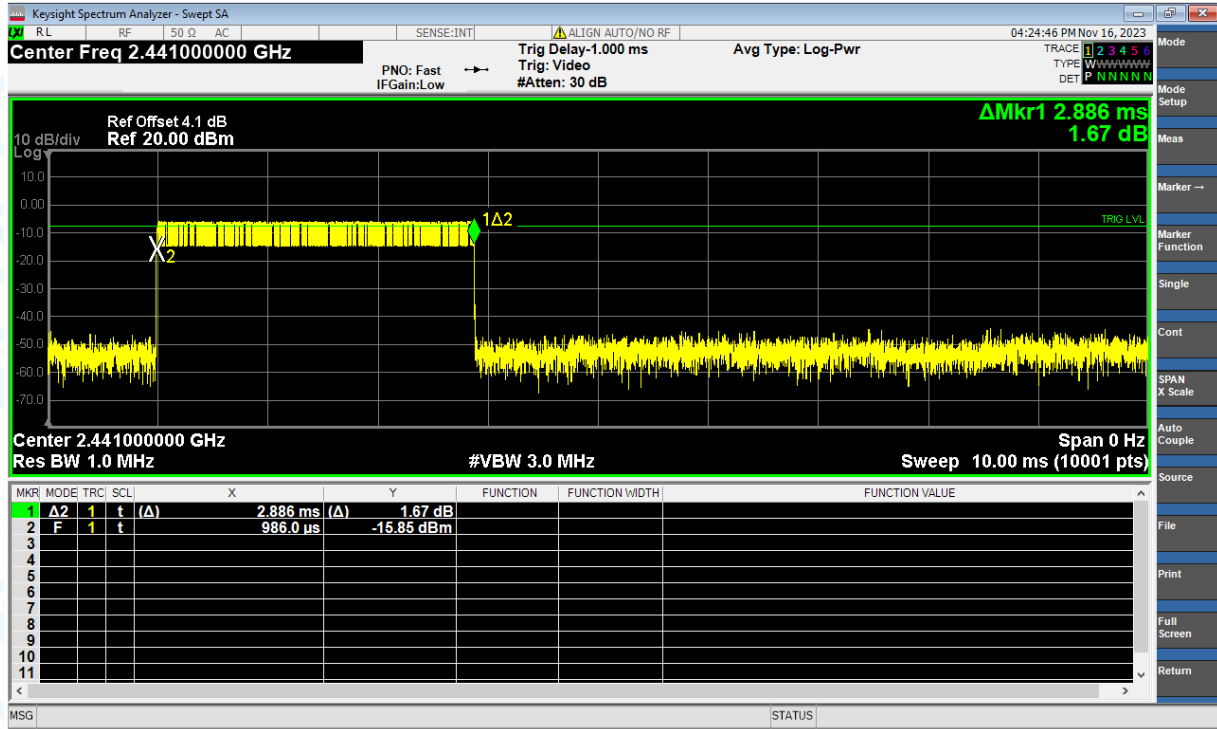
Dwell NVNT 1-DH1 2441MHz Ant1



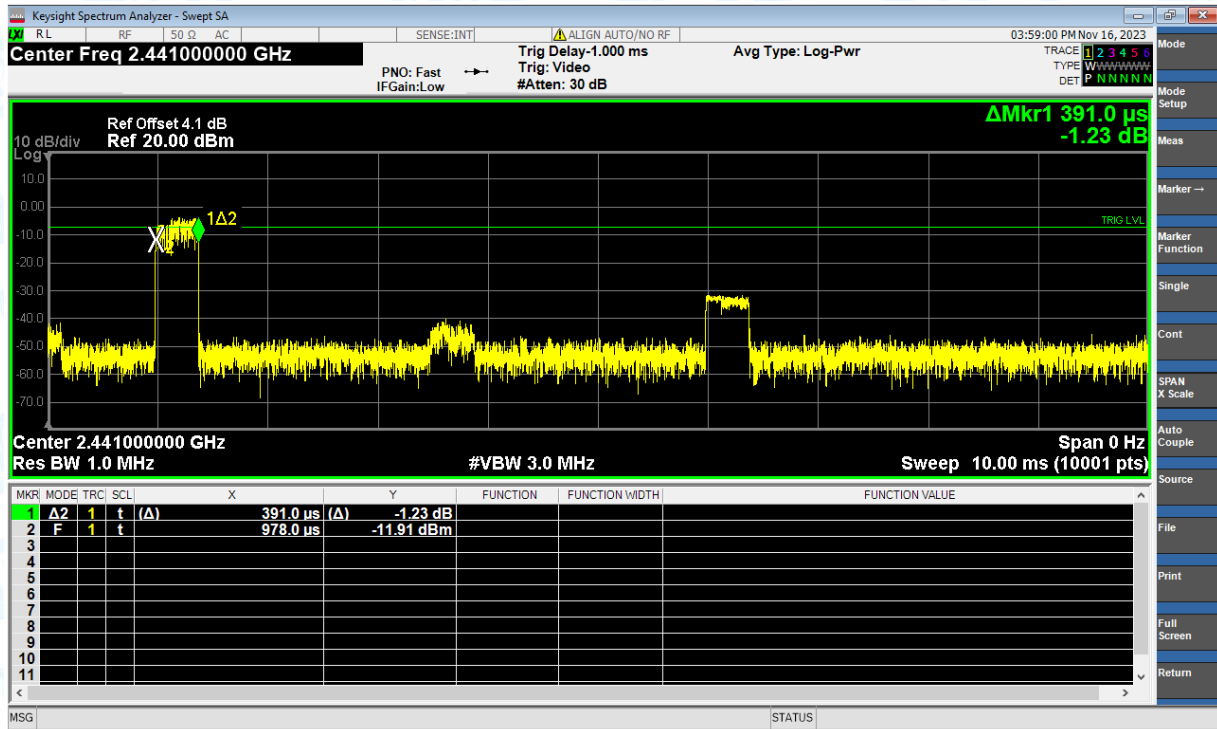
Dwell NVNT 1-DH3 2441MHz Ant1



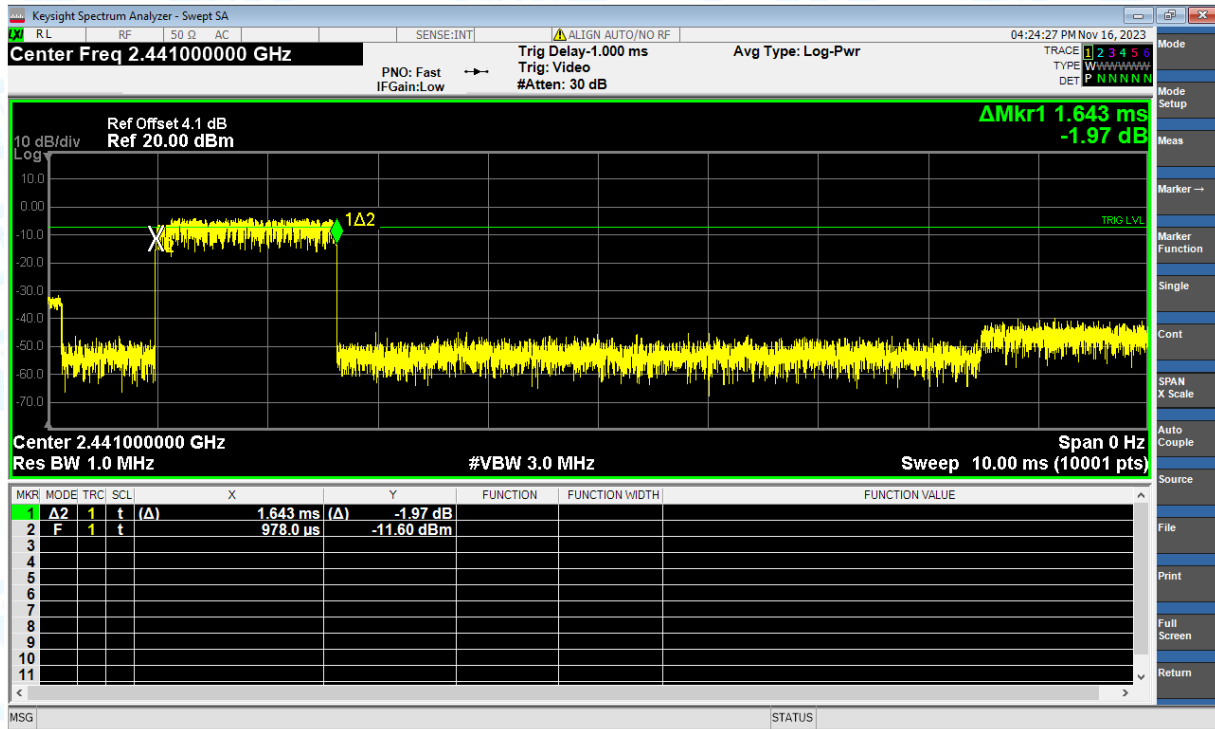
Dwell NVNT 1-DH5 2441MHz Ant1



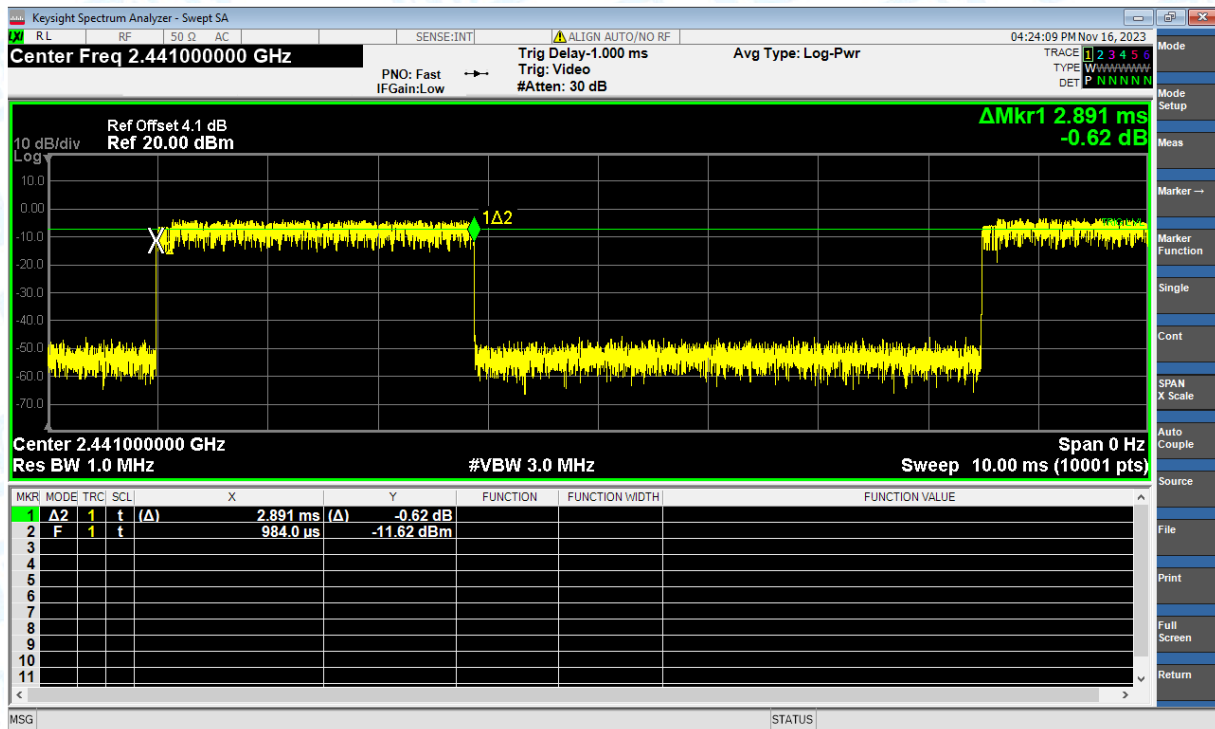
Dwell NVNT 2-DH1 2441MHz Ant1



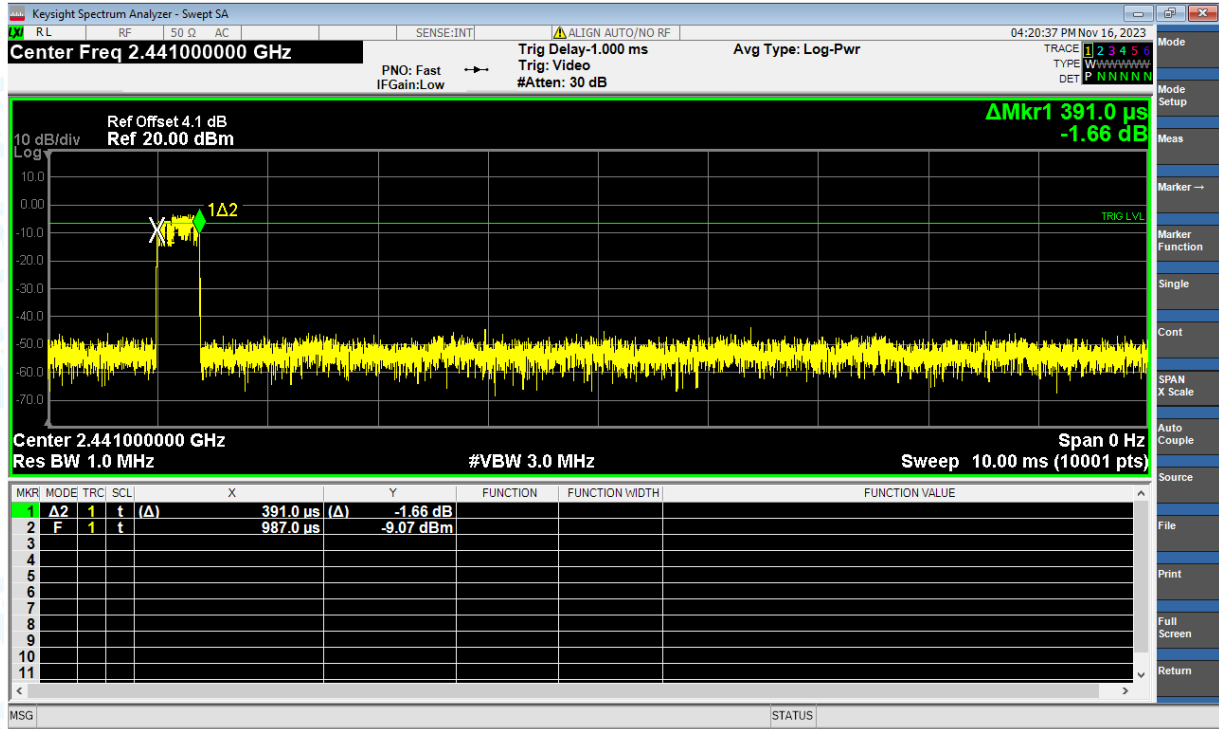
Dwell NVNT 2-DH3 2441MHz Ant1



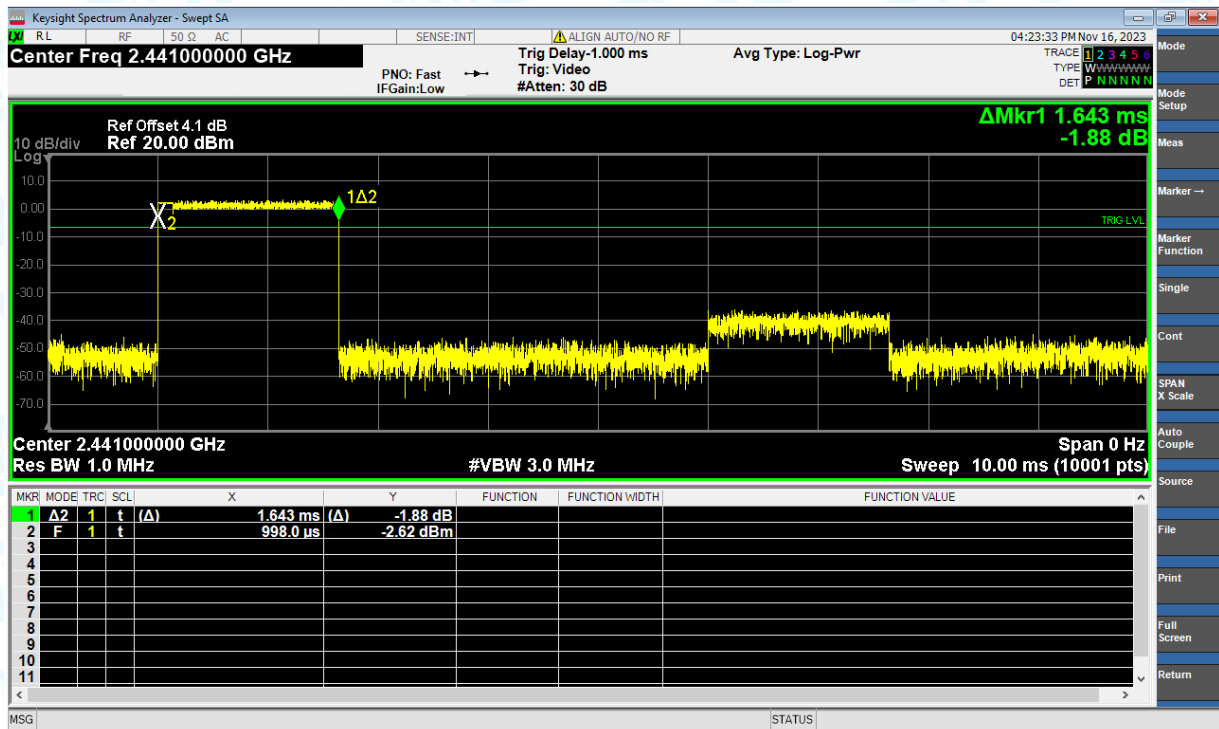
Dwell NVNT 2-DH5 2441MHz Ant1

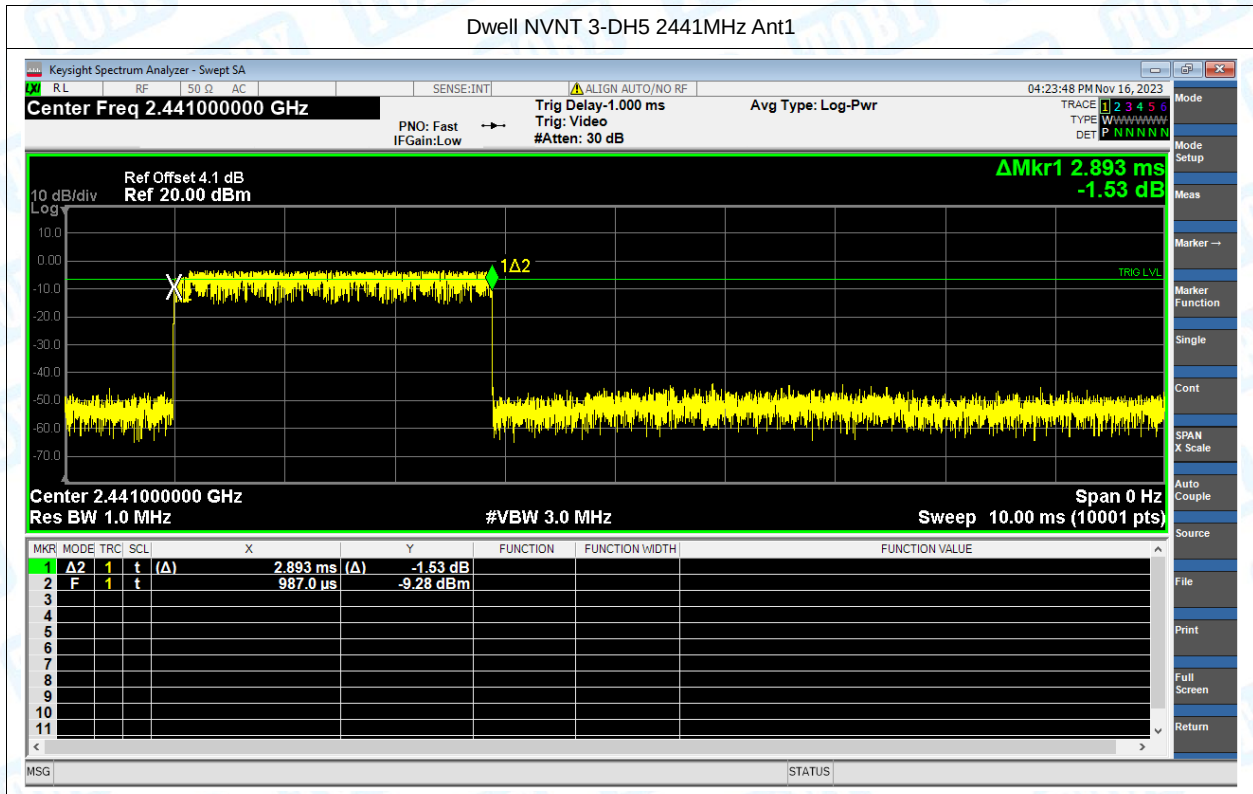


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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