



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: TWS Bluetooth Headset

Test Model: Z63S

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Ling Zhu





A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.945	0	Pass
NVNT	1-DH5	2441	Ant1	0.941	0	Pass
NVNT	1-DH5	2480	Ant1	0.949	0	Pass
NVNT	2-DH5	2402	Ant1	1.312	0	Pass
NVNT	2-DH5	2441	Ant1	1.273	0	Pass
NVNT	2-DH5	2480	Ant1	1.277	0	Pass
NVNT	3-DH5	2402	Ant1	1.309	0	Pass
NVNT	3-DH5	2441	Ant1	1.309	0	Pass
NVNT	3-DH5	2480	Ant1	1.312	0	Pass

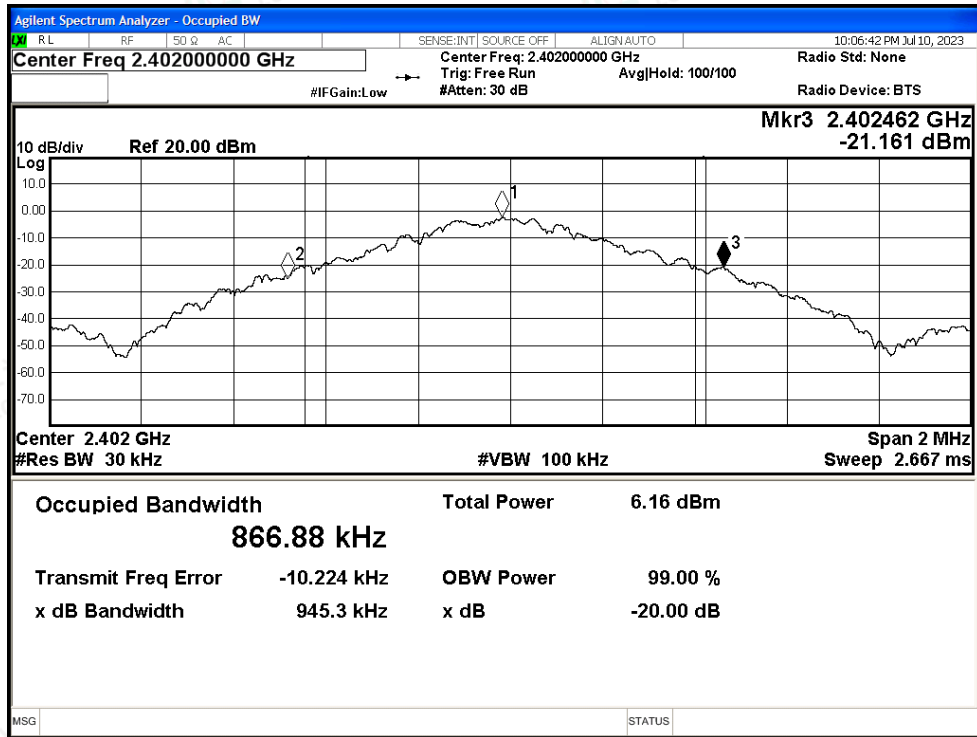


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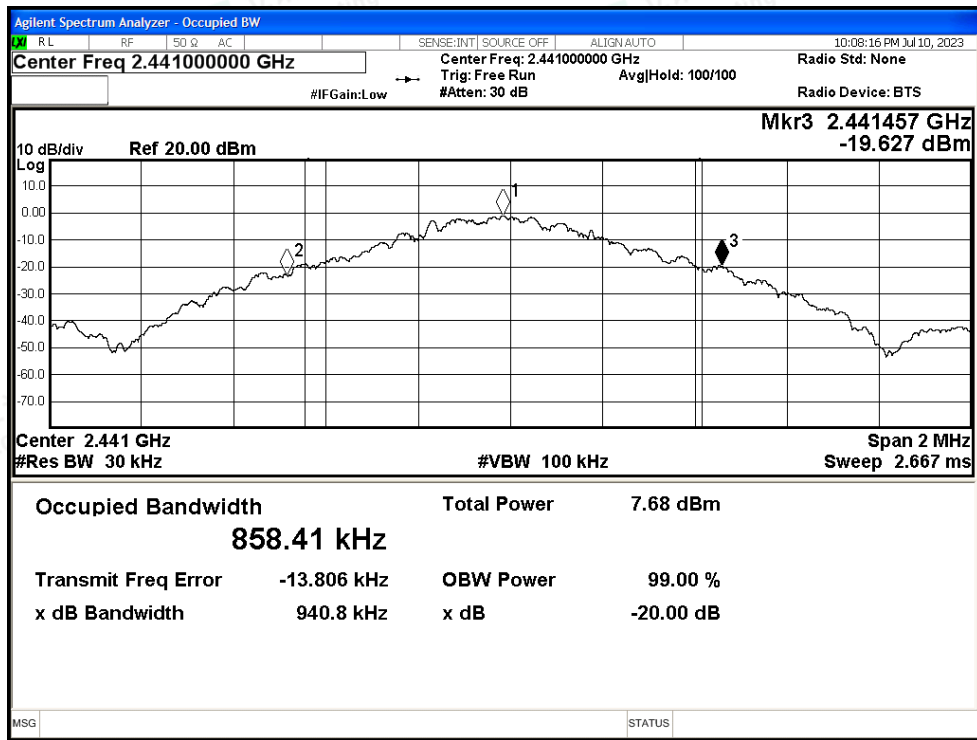


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

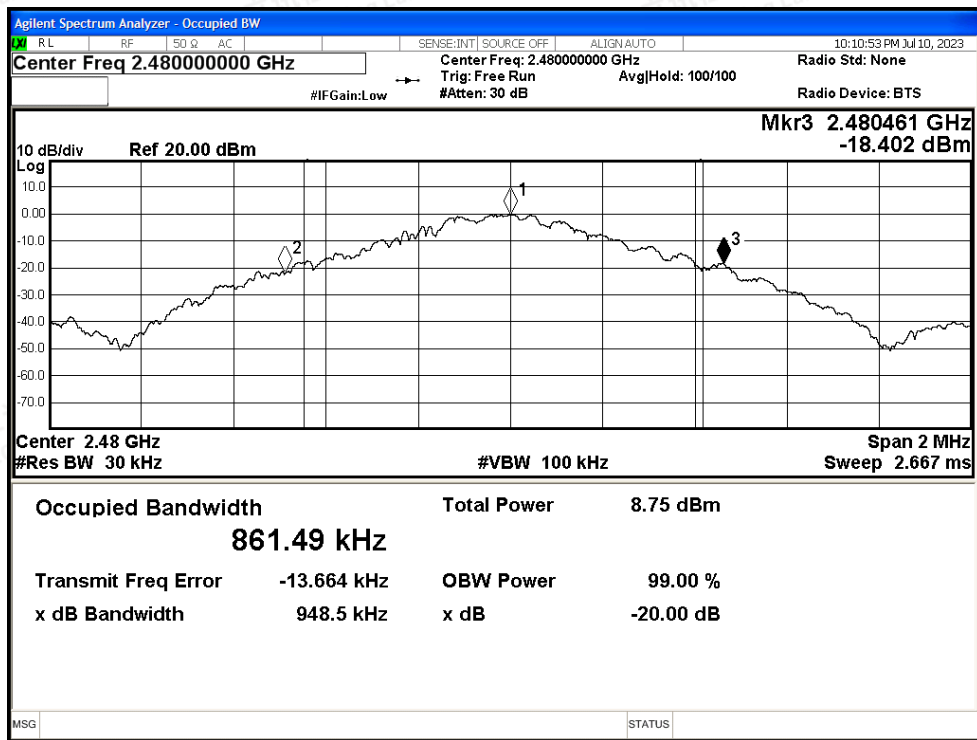


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

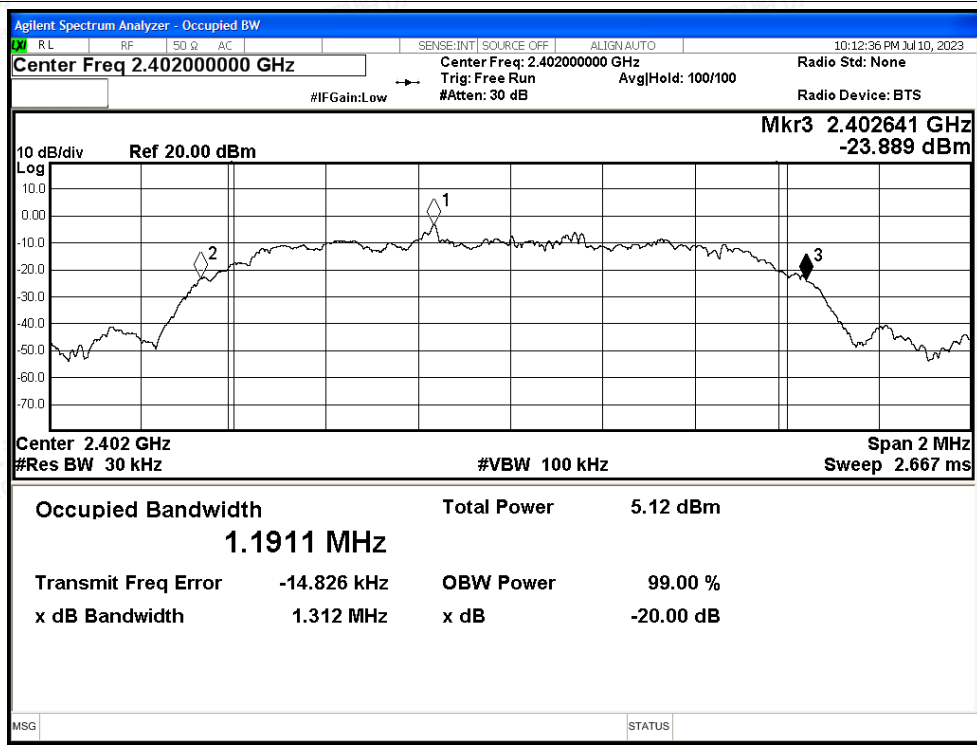




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

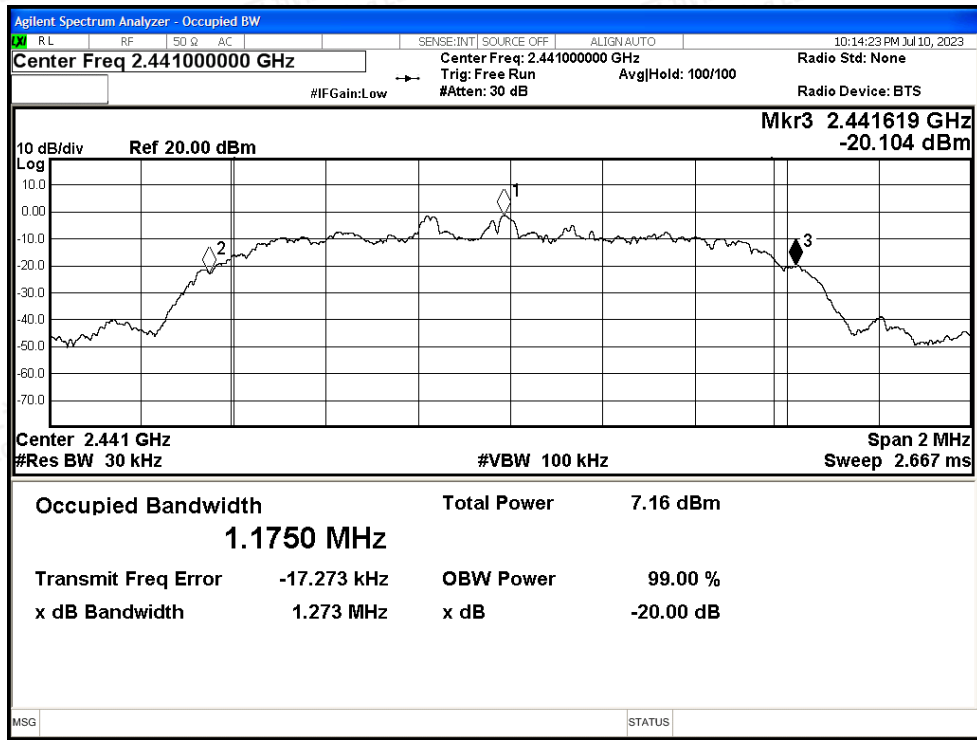


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

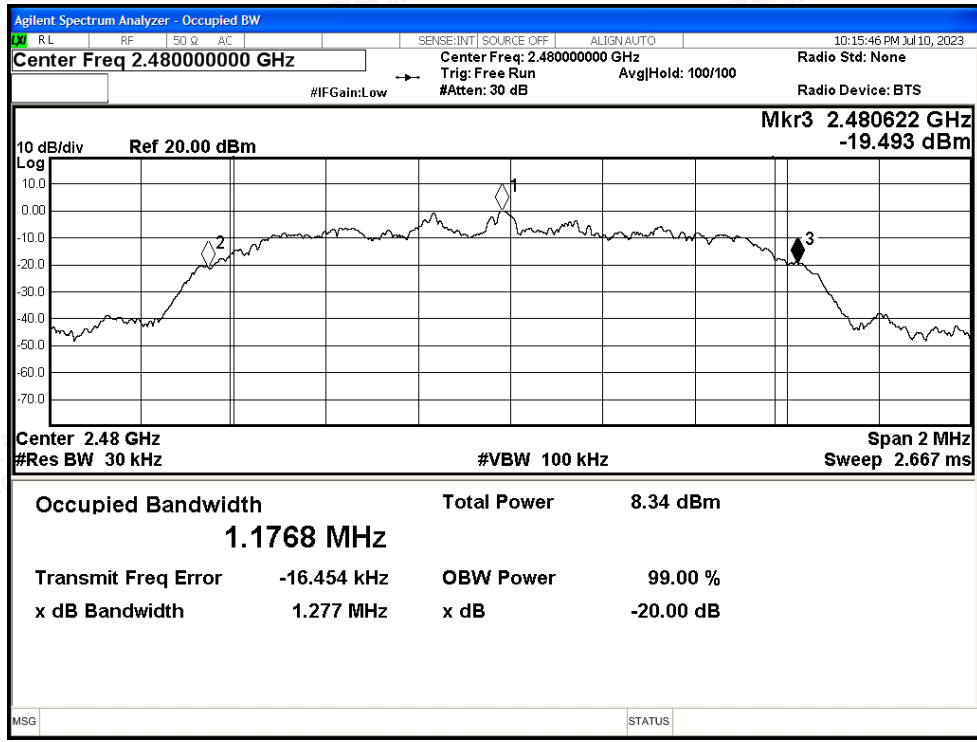




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

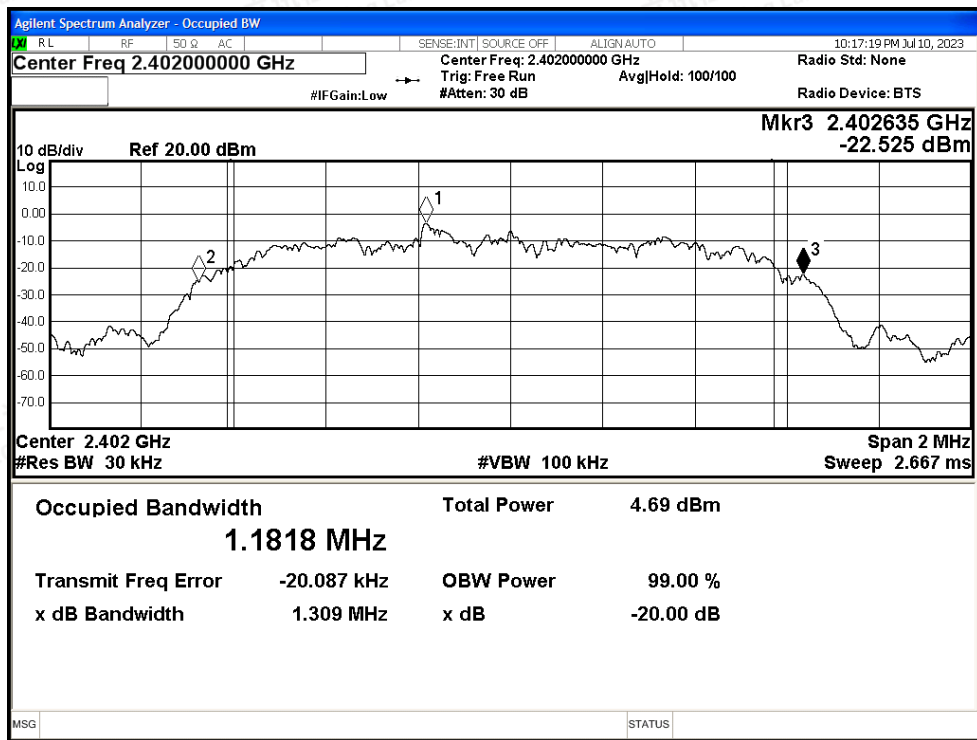


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

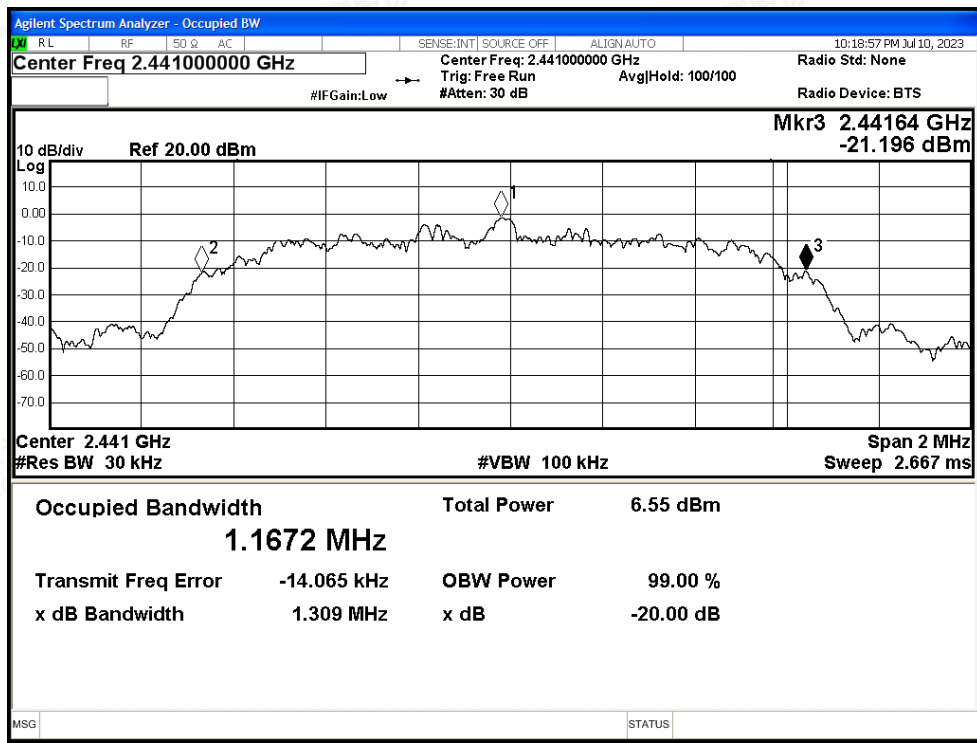




-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1

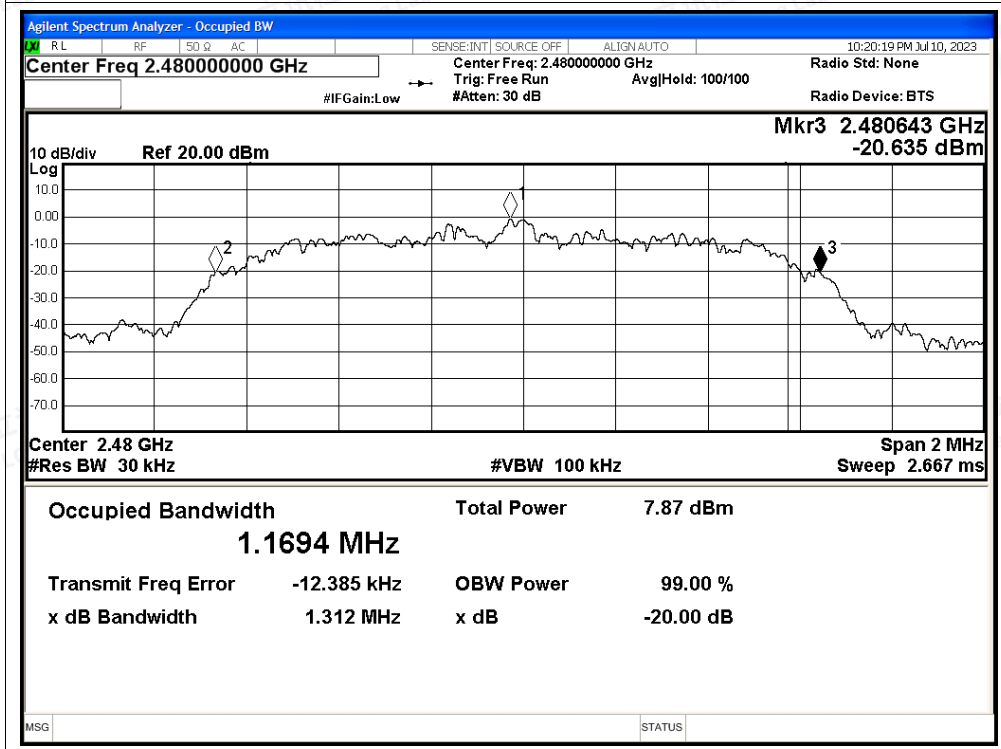


-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1





A.2 Maximum Conducted Output Power

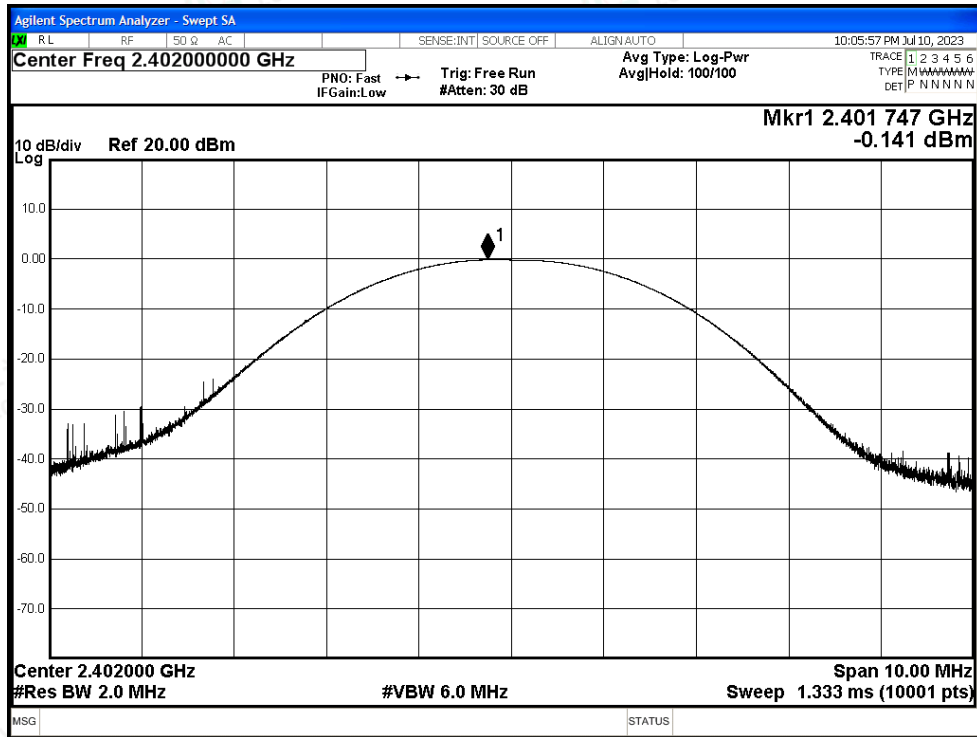
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.14	21	Pass
NVNT	1-DH5	2441	Ant1	1.22	21	Pass
NVNT	1-DH5	2480	Ant1	0.05	21	Pass
NVNT	2-DH5	2402	Ant1	0.72	21	Pass
NVNT	2-DH5	2441	Ant1	2.09	21	Pass
NVNT	2-DH5	2480	Ant1	0.99	21	Pass
NVNT	3-DH5	2402	Ant1	0.75	21	Pass
NVNT	3-DH5	2441	Ant1	2.20	21	Pass
NVNT	3-DH5	2480	Ant1	0.91	21	Pass



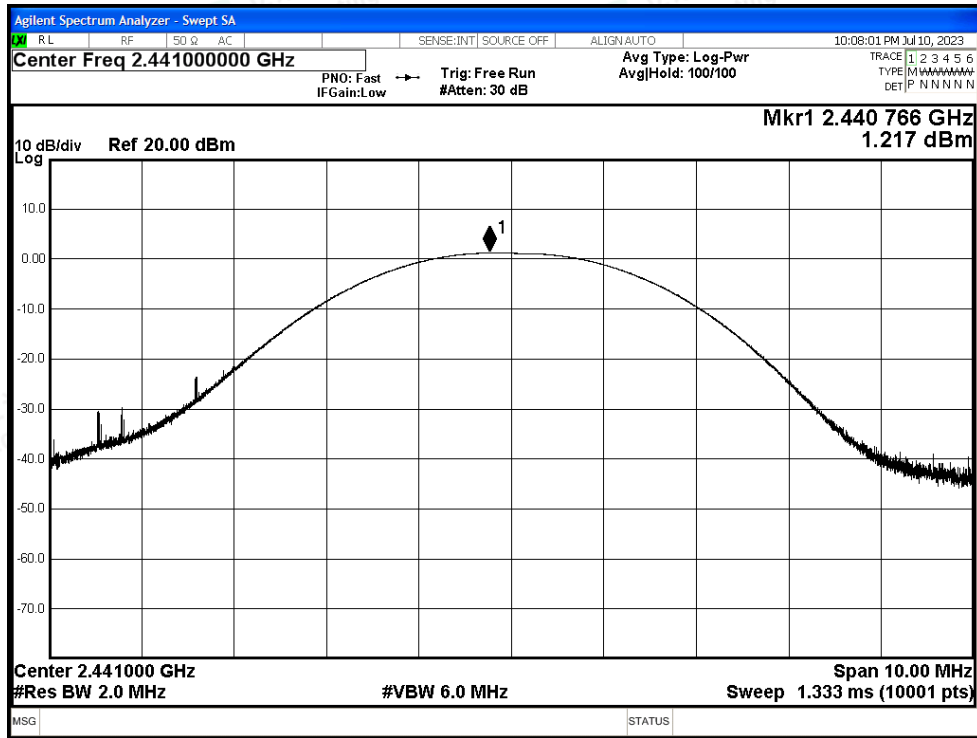


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

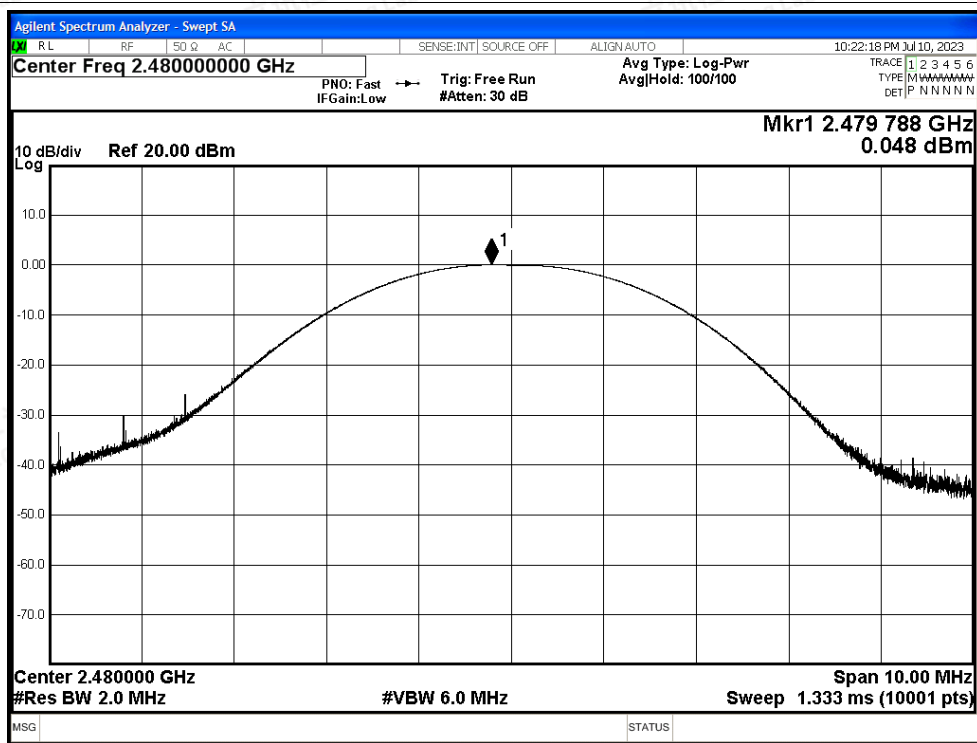


Power NVNT 1-DH5 2441MHz Ant1

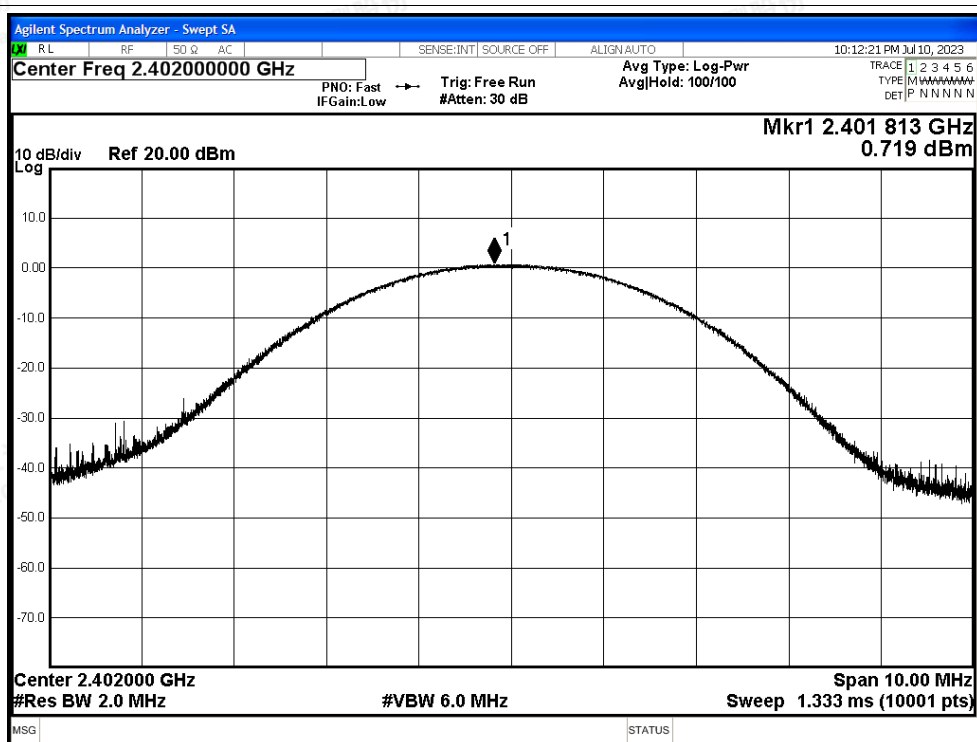




Power NVNT 1-DH5 2480MHz Ant1

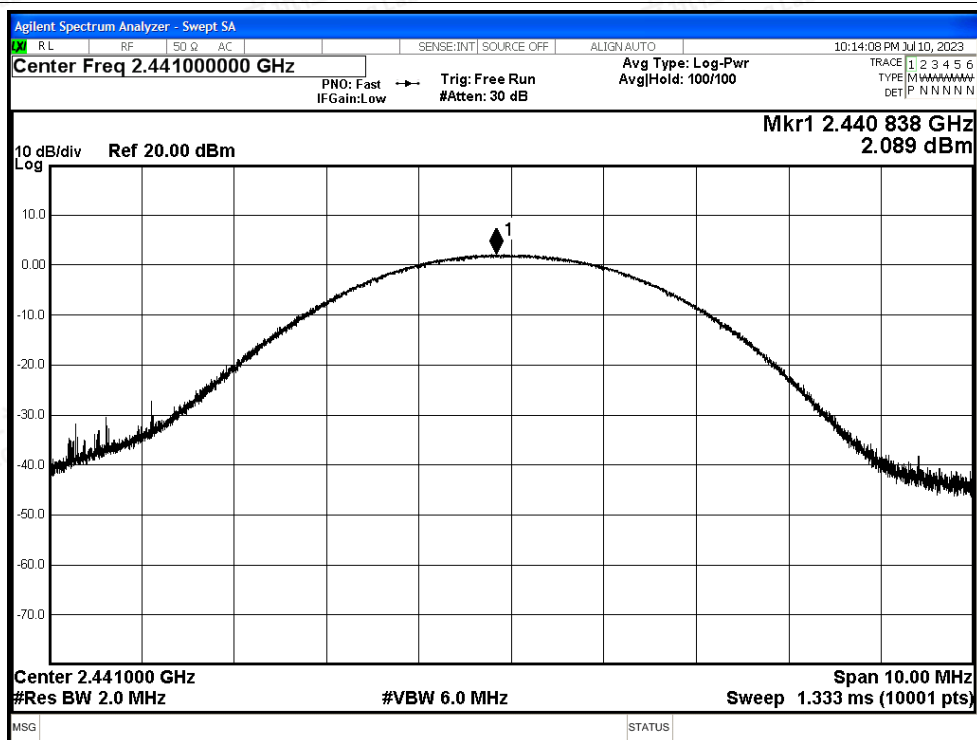


Power NVNT 2-DH5 2402MHz Ant1

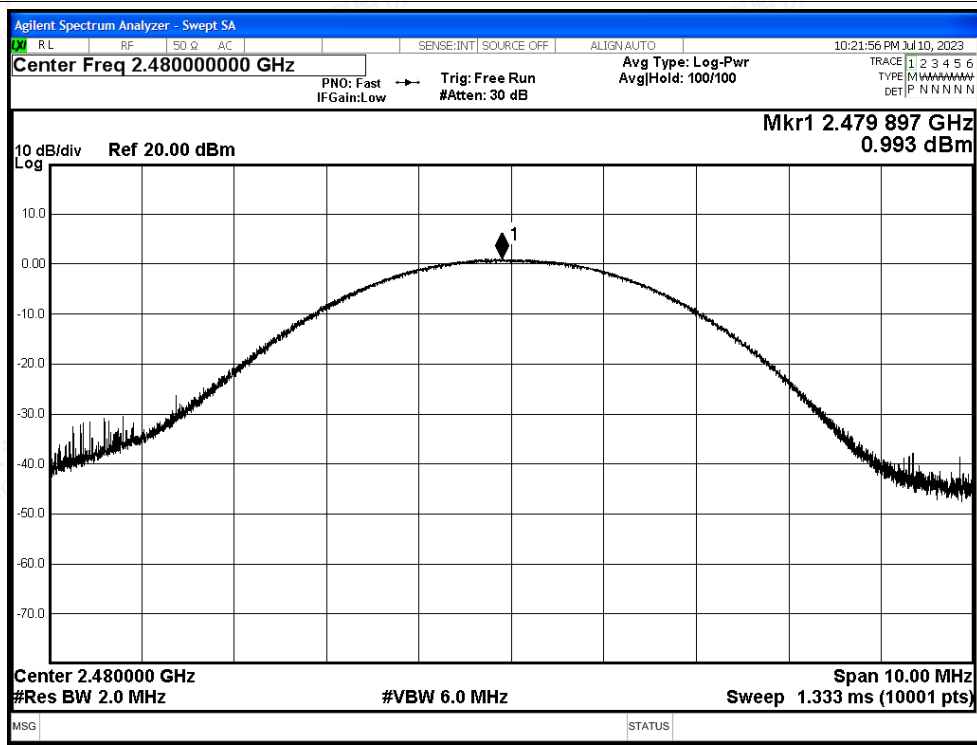




Power NVNT 2-DH5 2441MHz Ant1

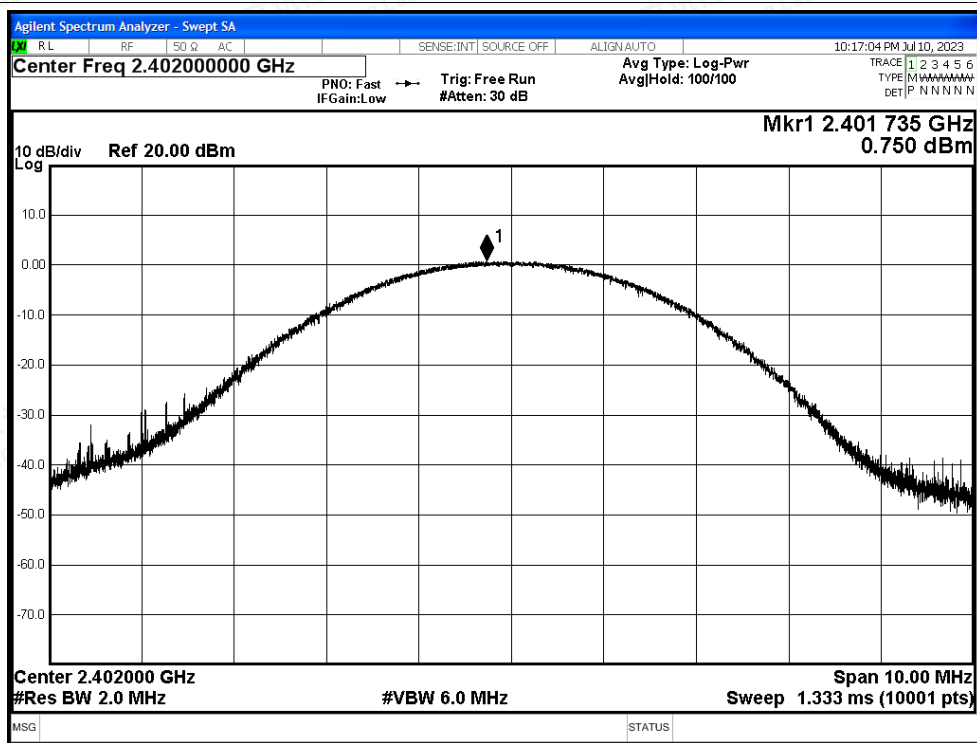


Power NVNT 2-DH5 2480MHz Ant1

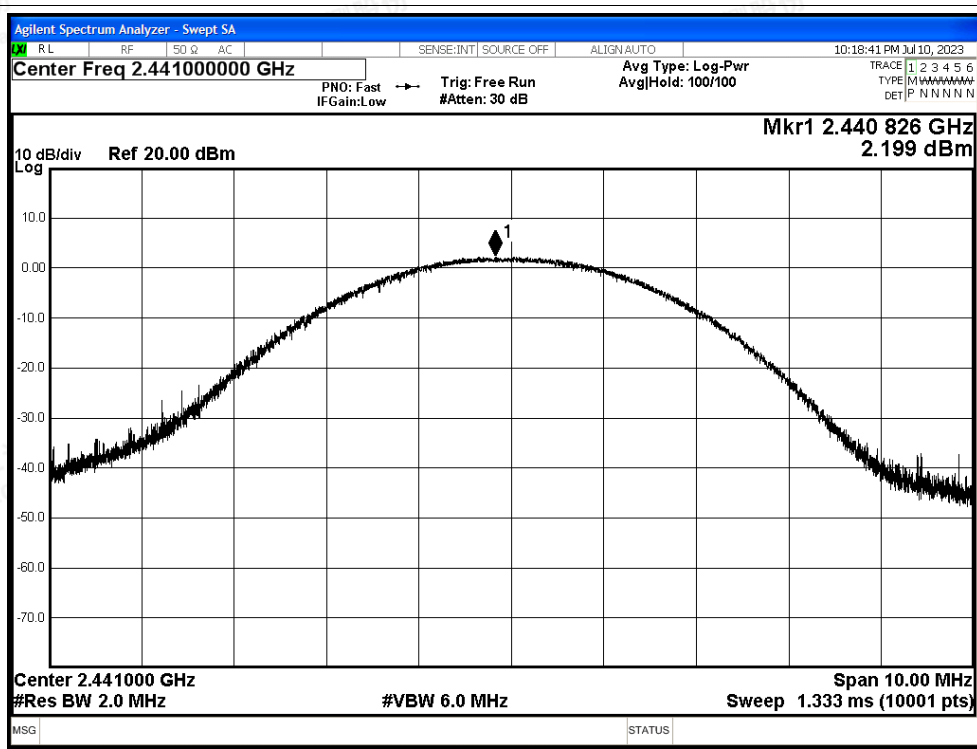




Power NVNT 3-DH5 2402MHz Ant1

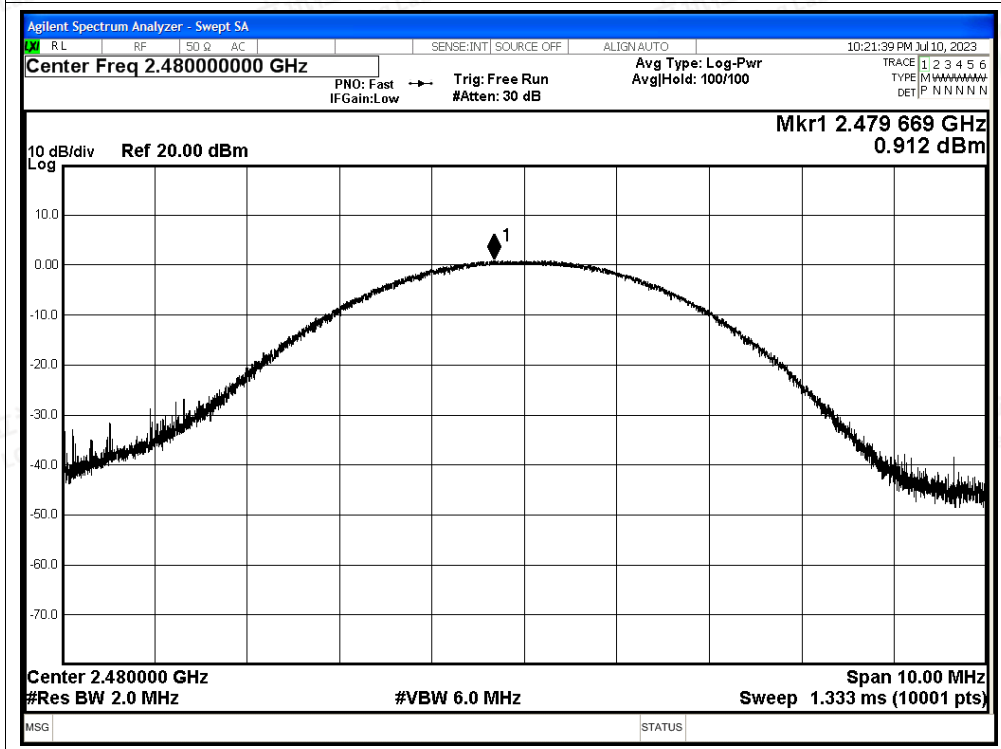


Power NVNT 3-DH5 2441MHz Ant1





Power NVNT 3-DH5 2480MHz Ant1





A.3 Carrier Frequencies Separation

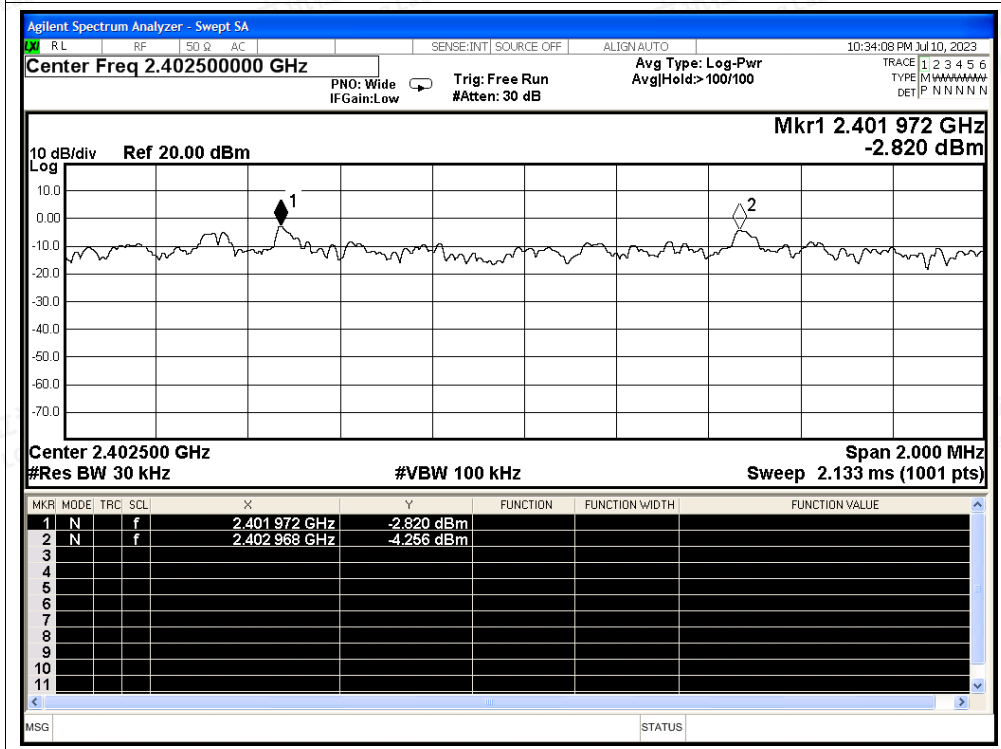
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.986	2402.982	0.996	0.633	Pass
NVNT	2-DH5	Ant1	2401.992	2402.984	0.992	0.875	Pass
NVNT	3-DH5	Ant1	2401.972	2402.968	0.996	0.875	Pass



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CFS NVNT 3-DH5 2402MHz Ant1





A.4 Dwell Time

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.882	328.548	114	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.885	311.58	108	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.887	326.231	113	31600	400	Pass

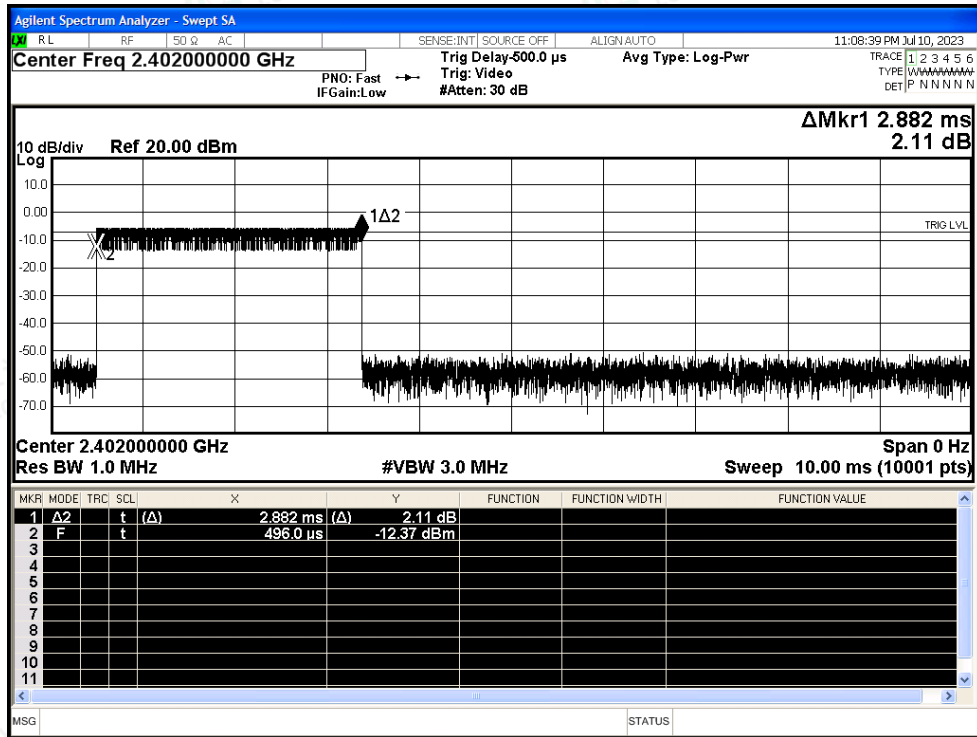


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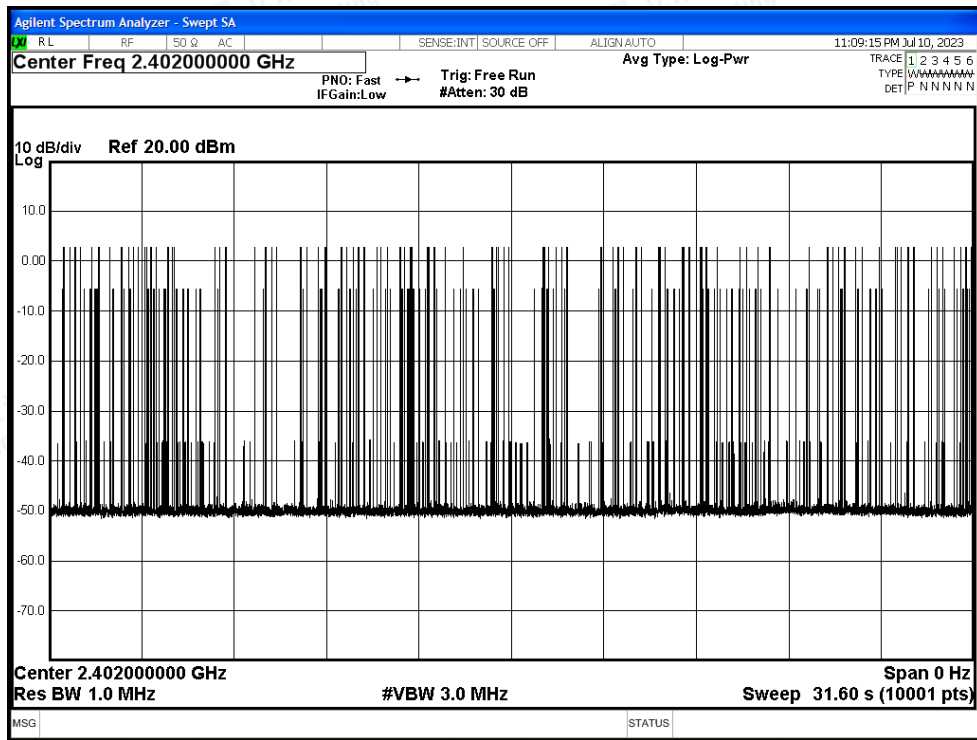


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

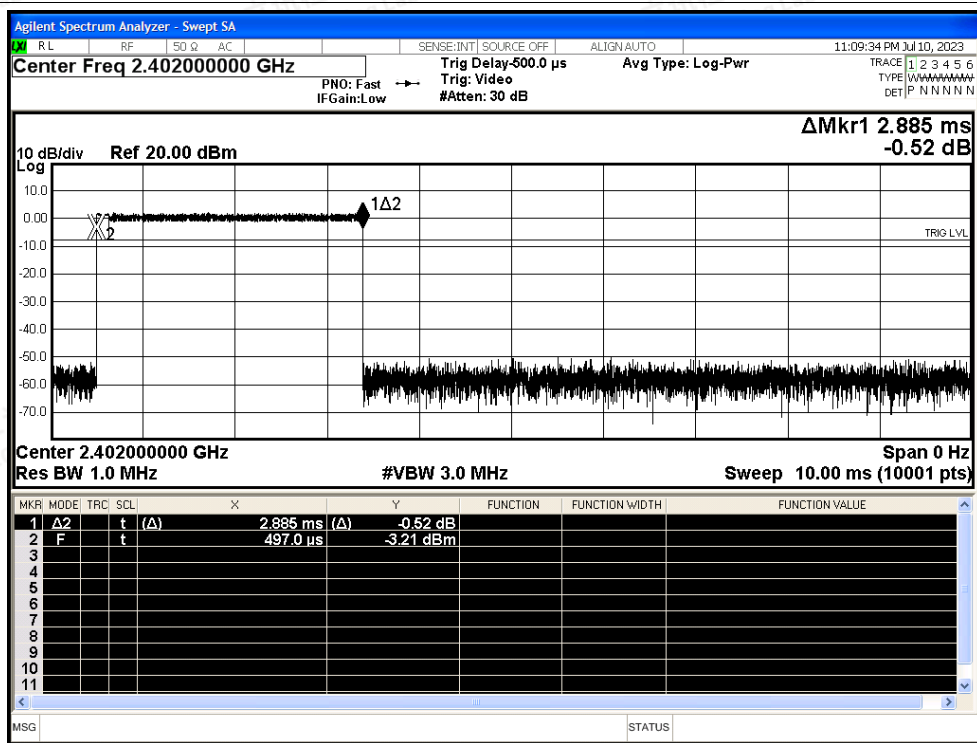


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

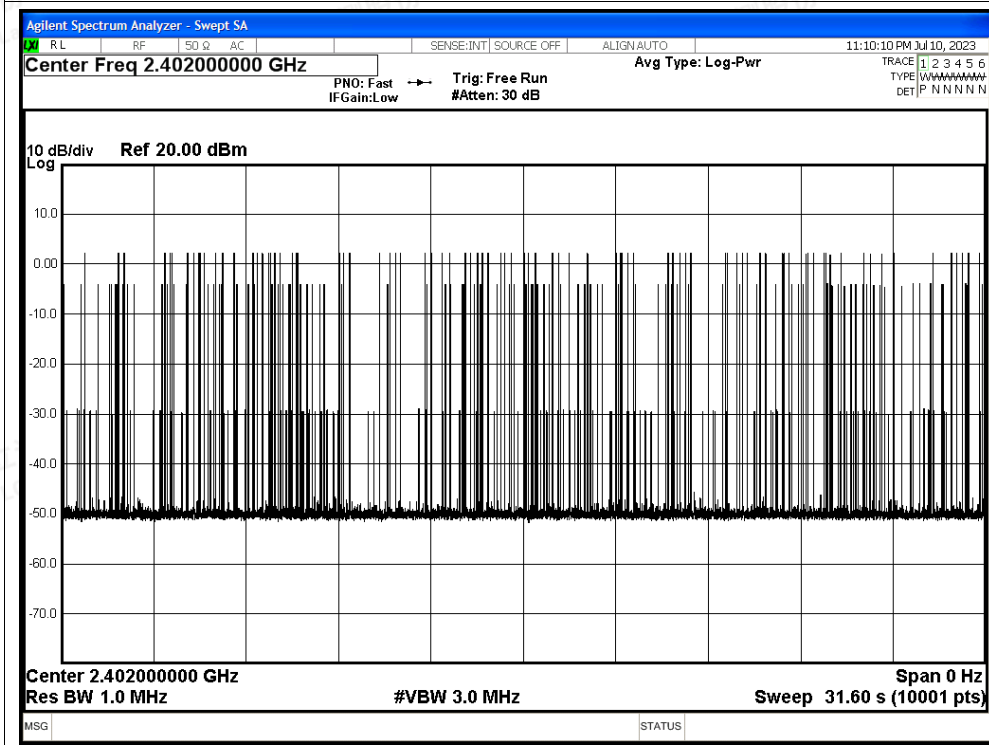




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst

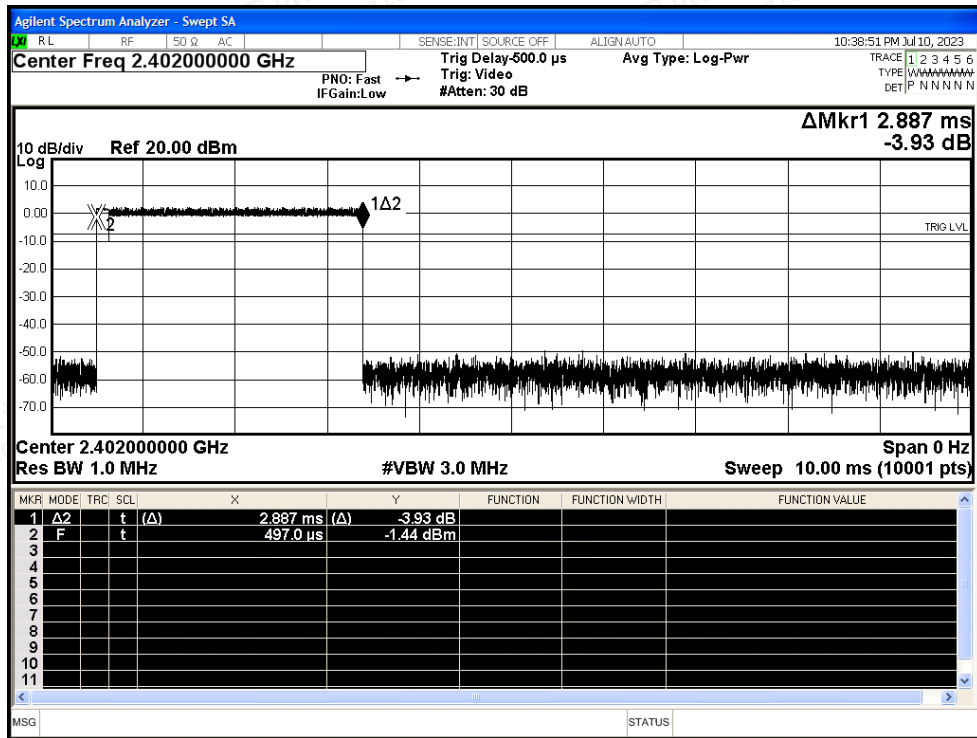


Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

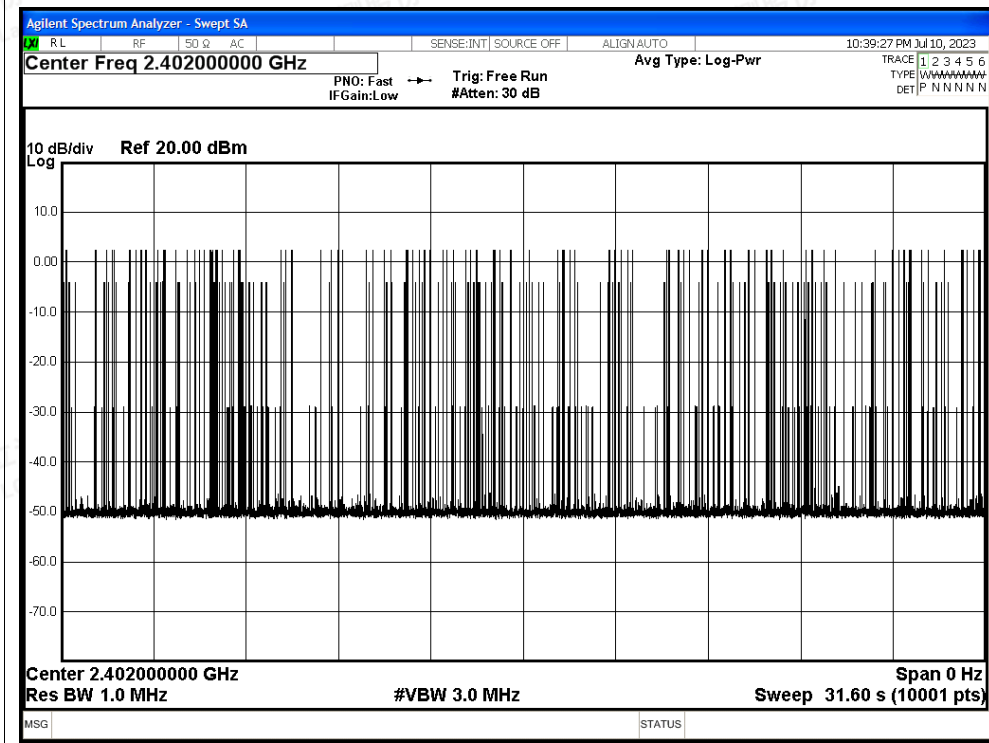




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated





A.5 Number of Hopping Channel

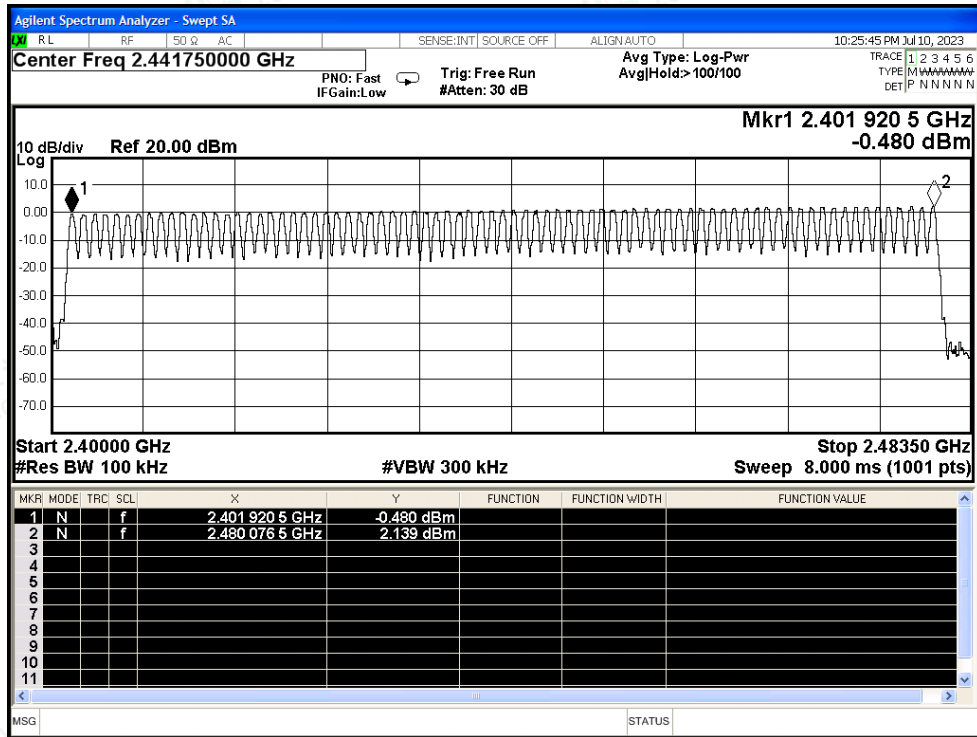
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



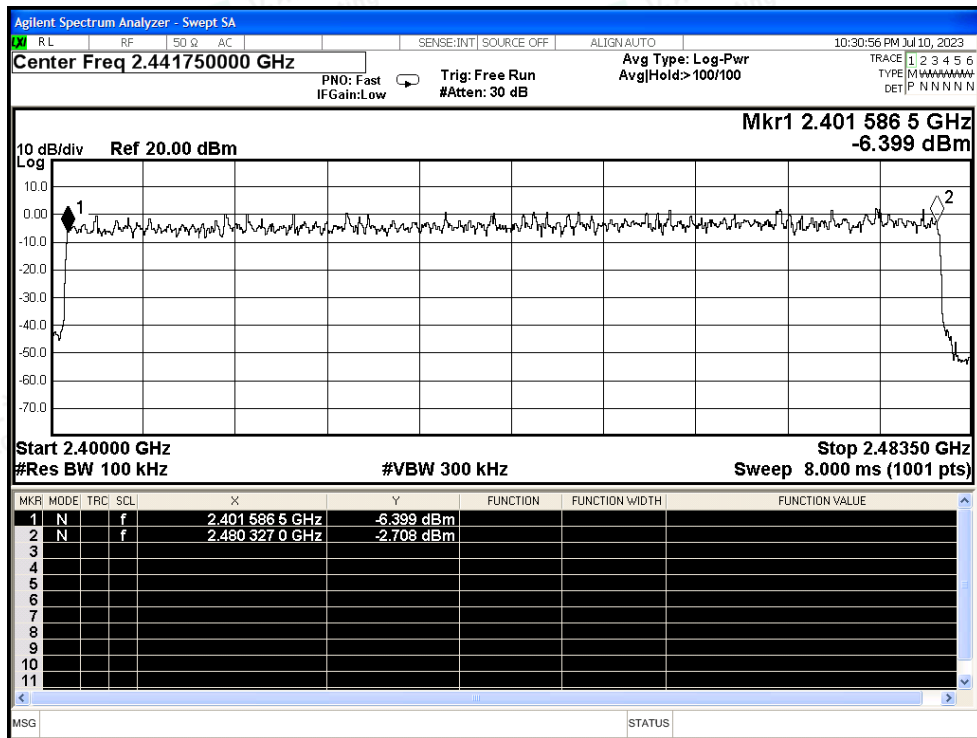


Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1

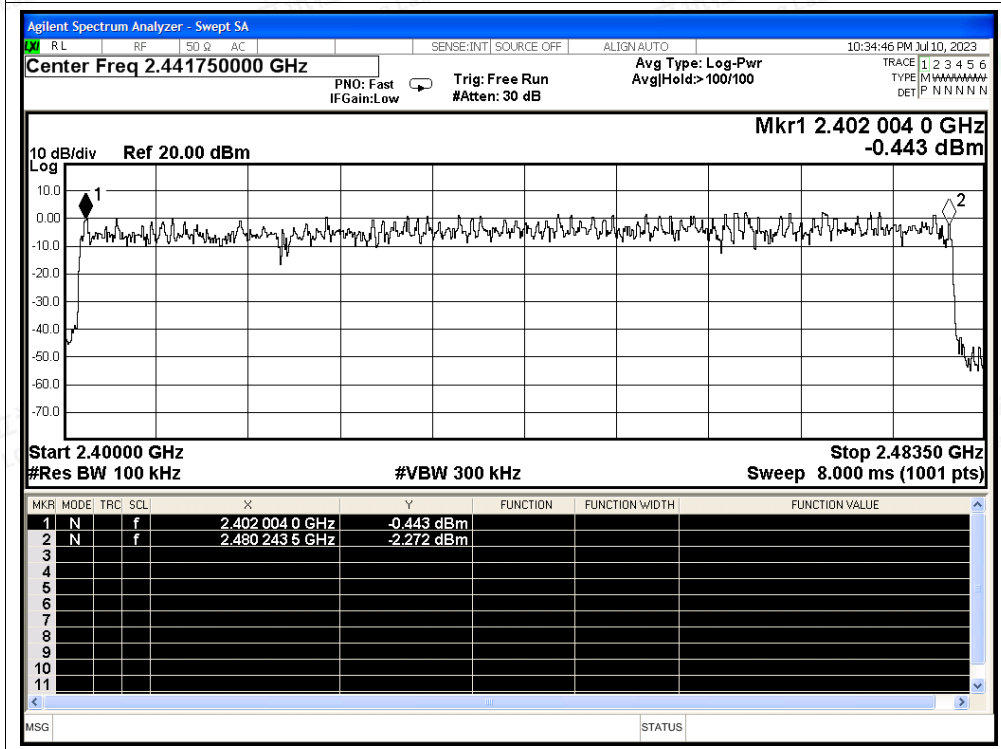


Hopping No. NVNT 2-DH5 2402MHz Ant1





Hopping No. NVNT 3-DH5 2402MHz Ant1





A.6 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-37.15	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-48.61	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-37.9	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-52.77	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-36.1	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-52.06	-20	Pass

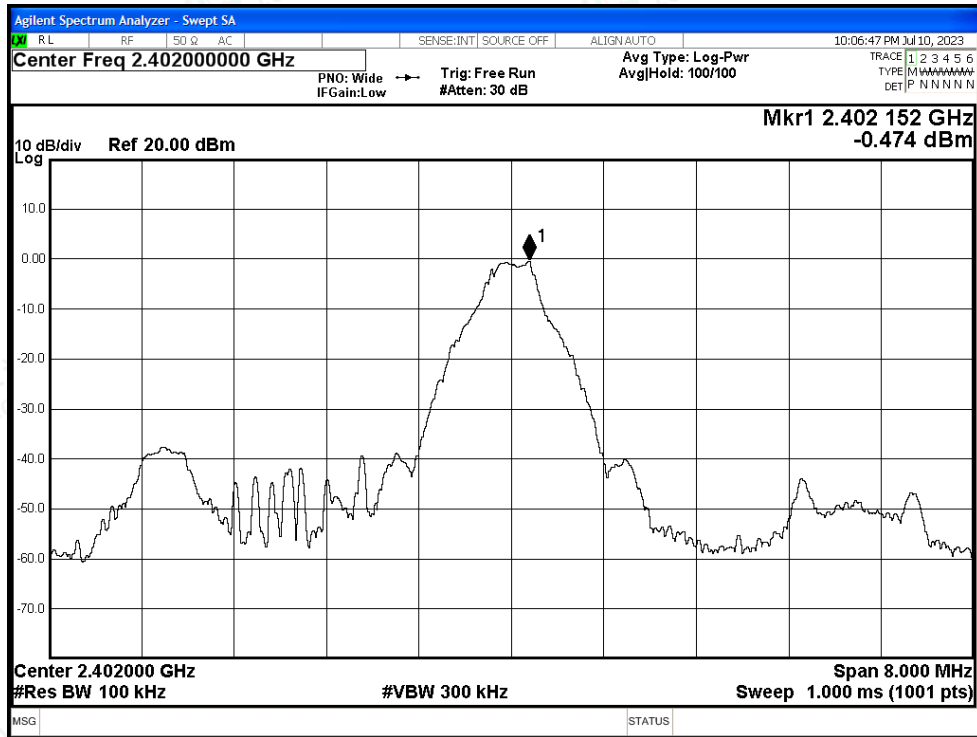


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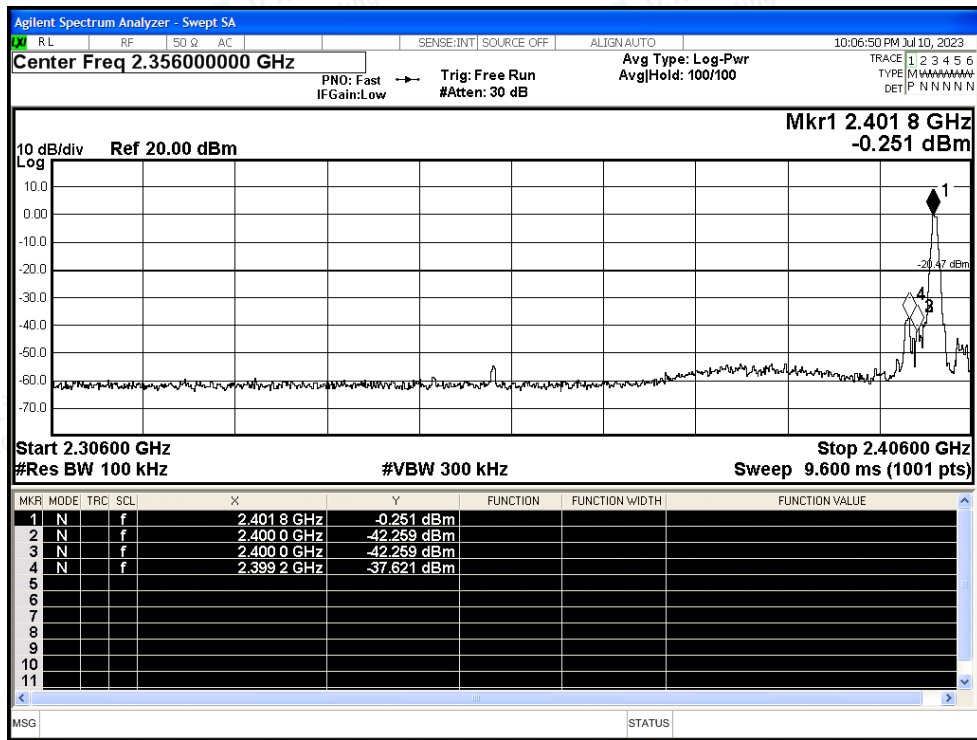


Test Graphs

Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref

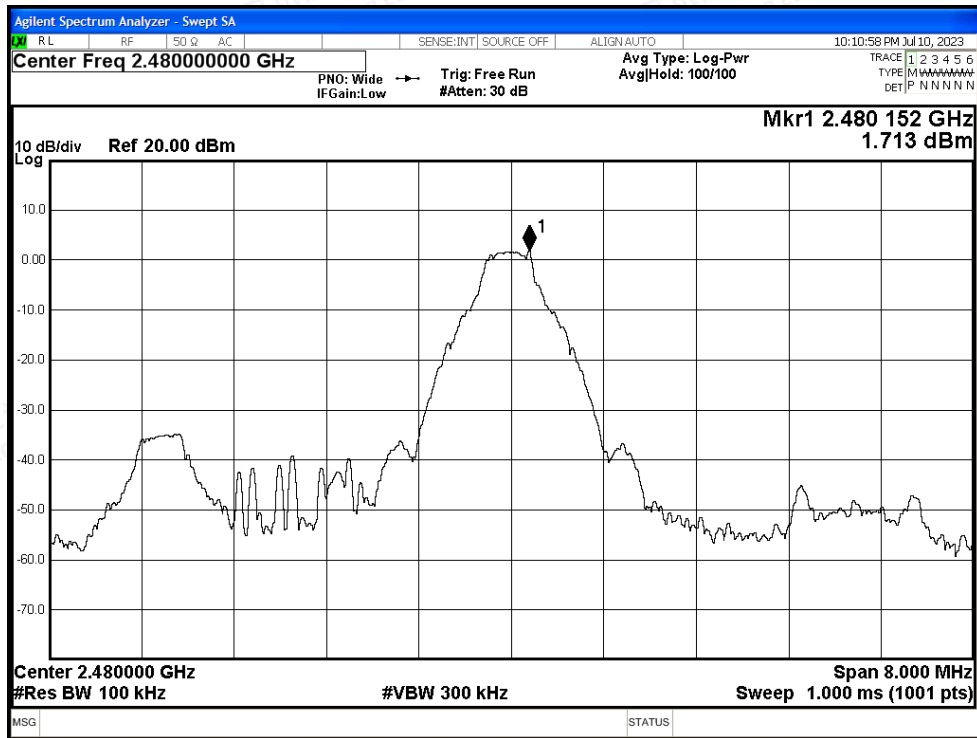


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

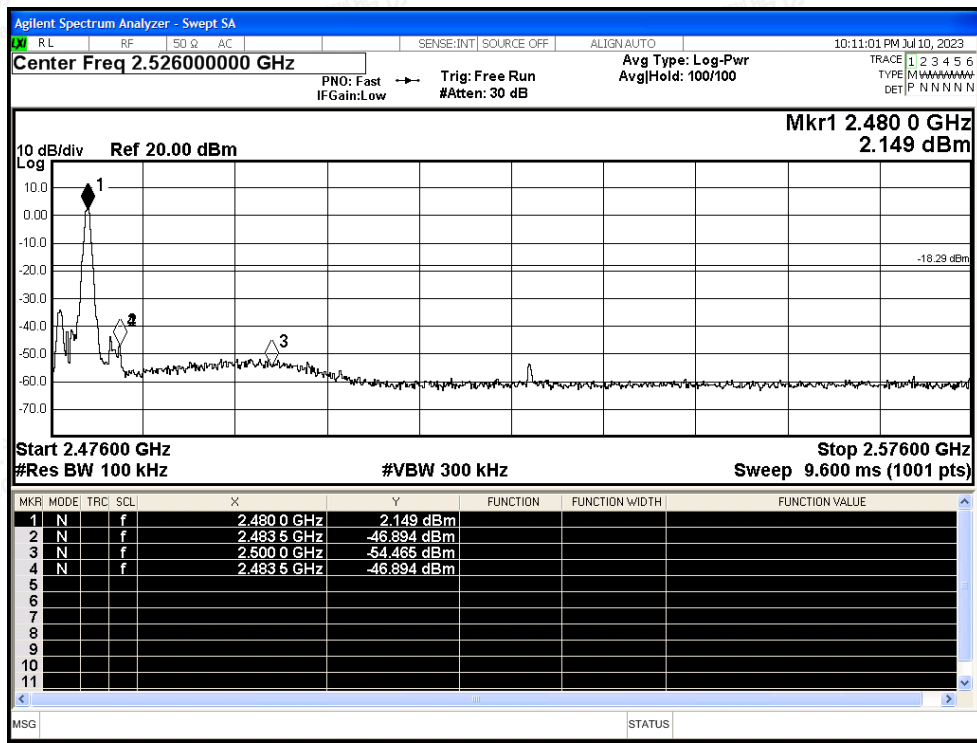




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

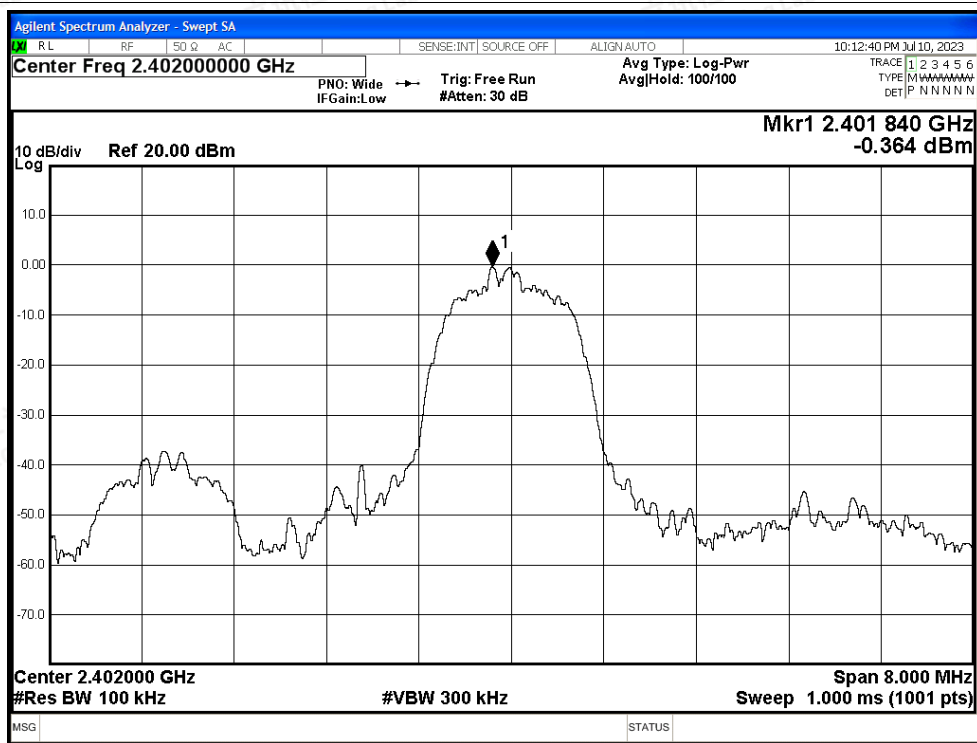


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

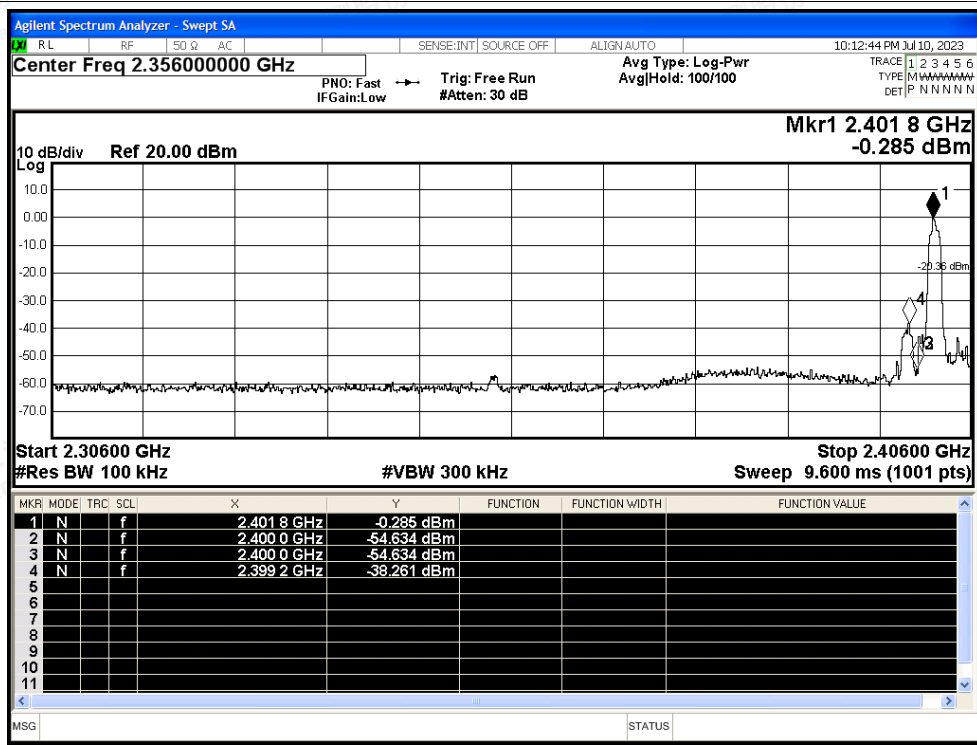




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

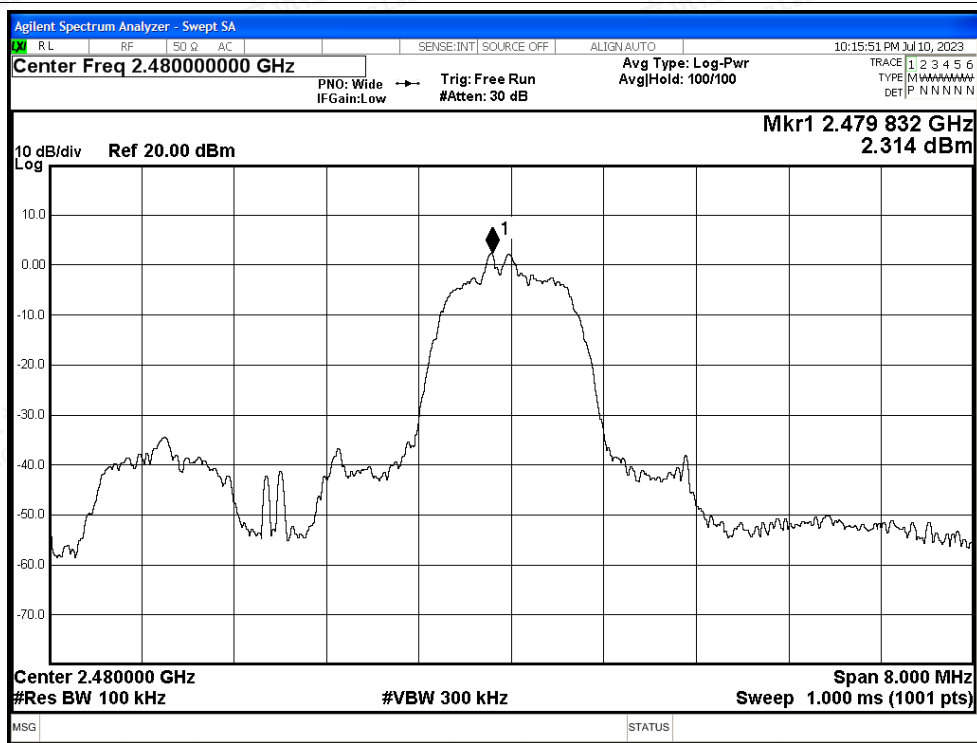


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

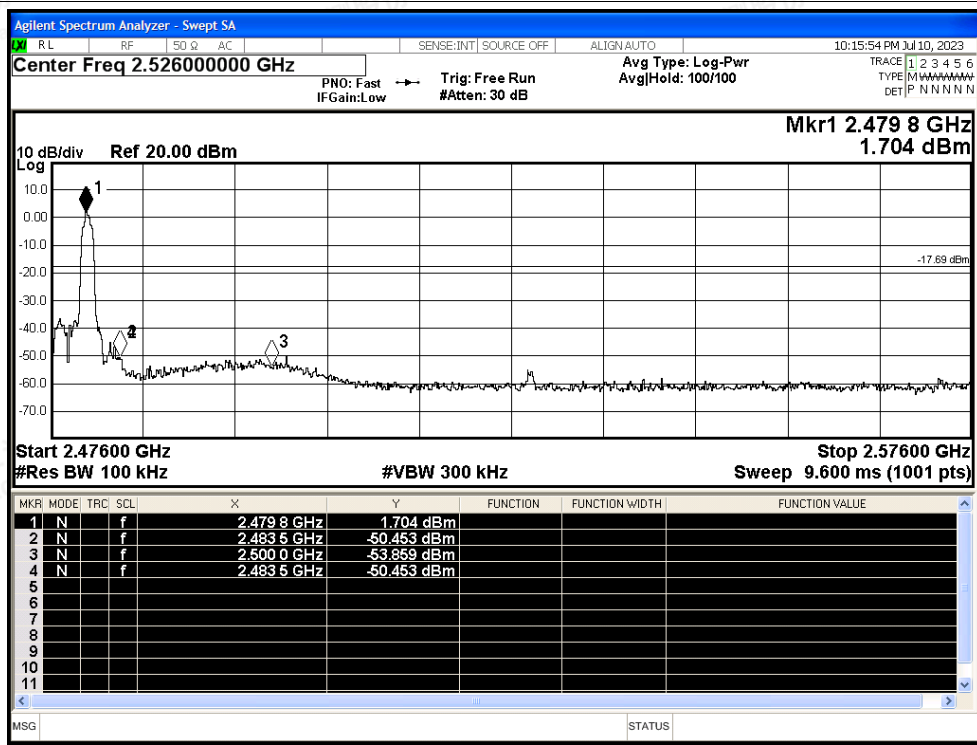




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

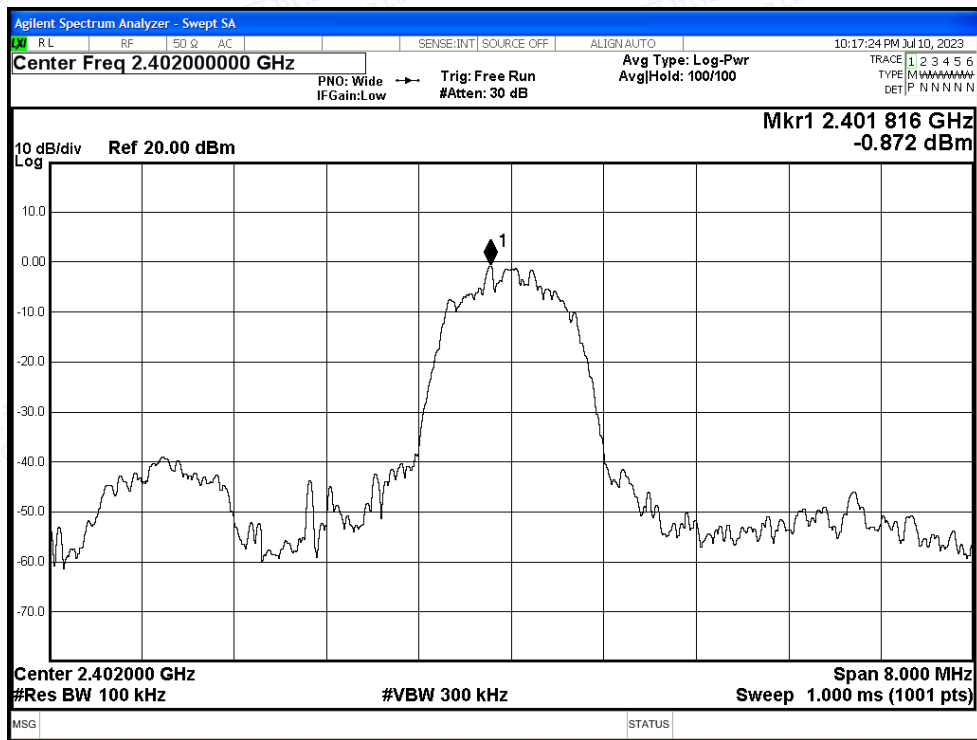


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

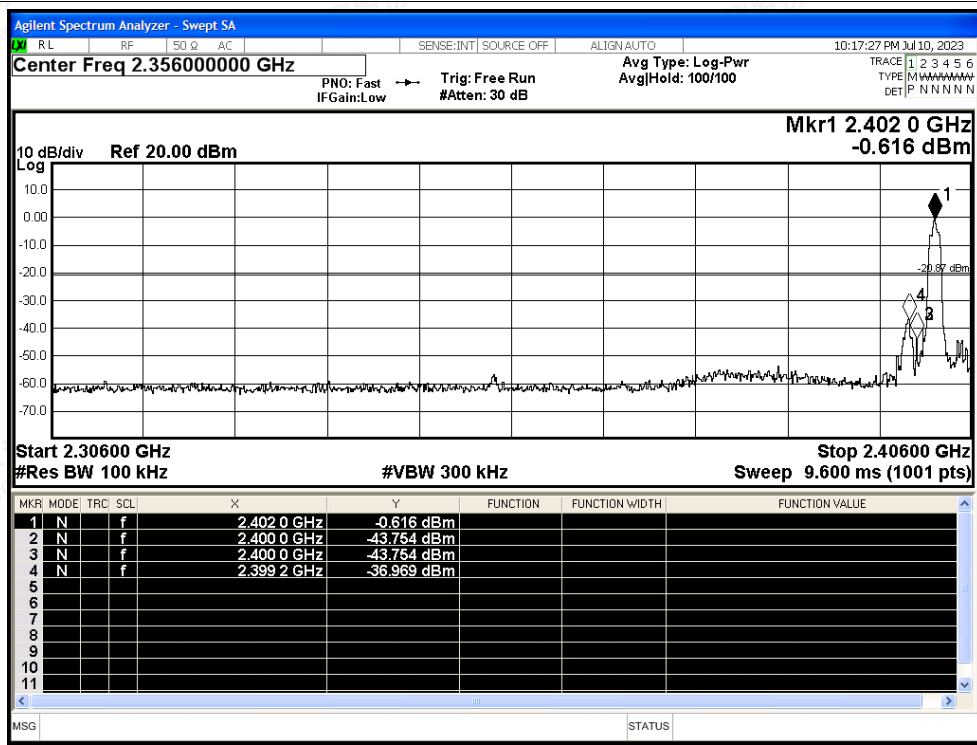




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

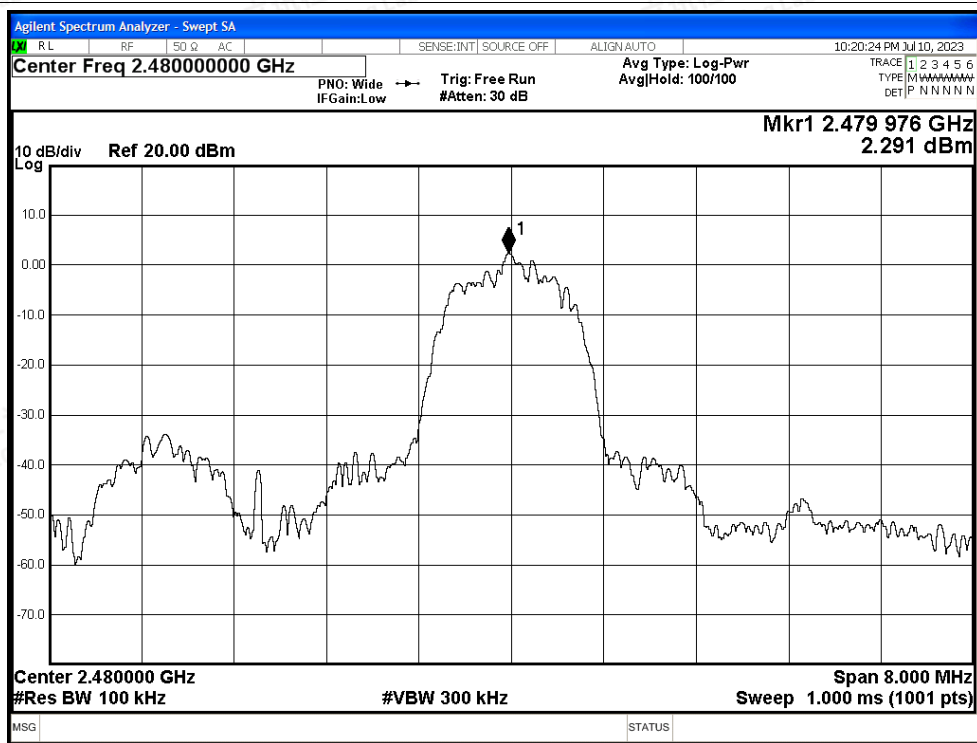


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

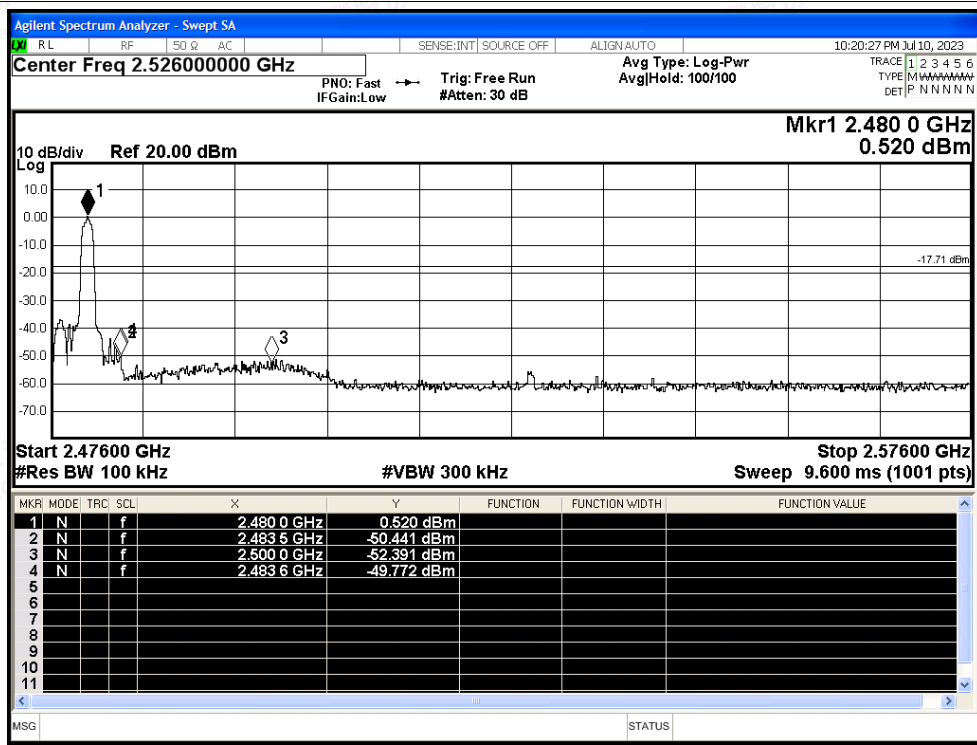




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Emission





(Hopping)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-52.95	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-50.7	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-53.15	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-51.88	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-51.55	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-46.32	-20	Pass

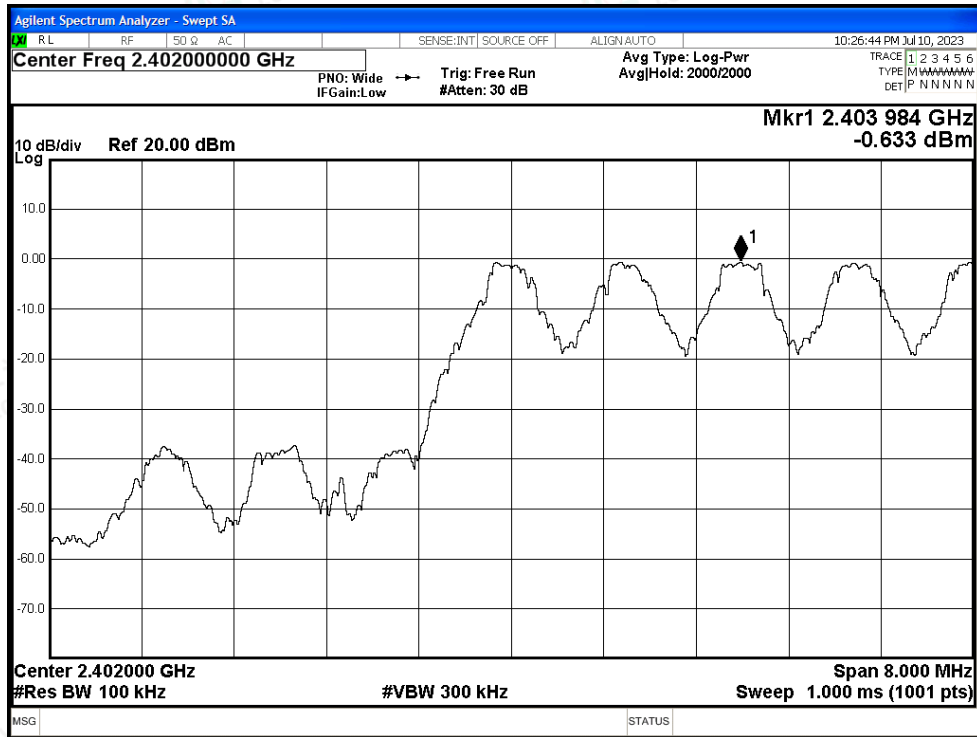


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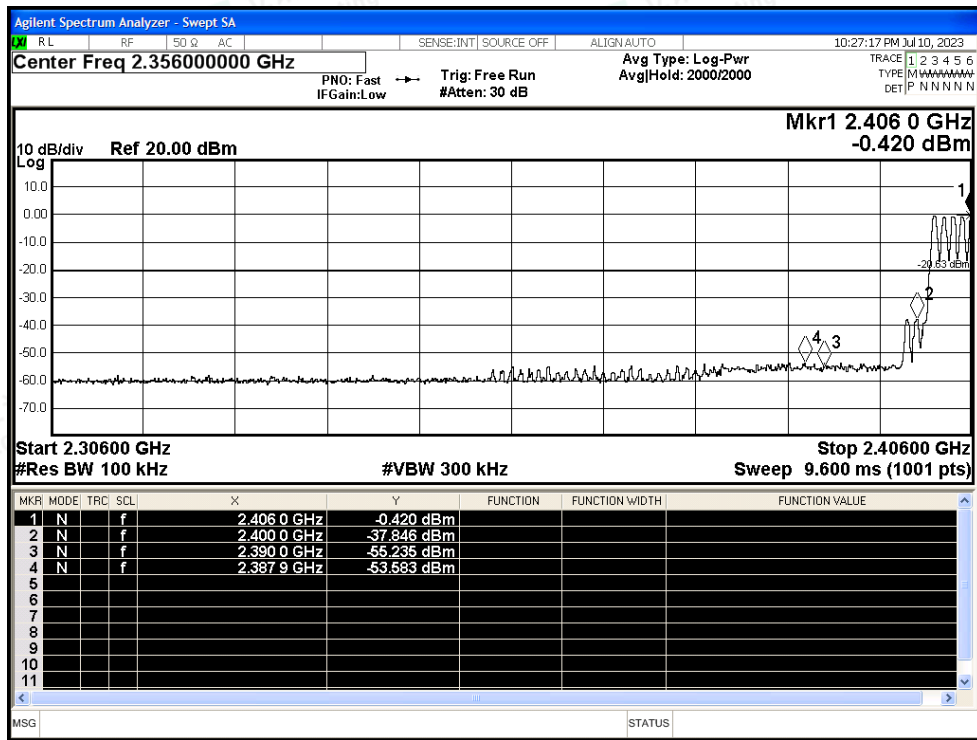


Test Graphs

Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

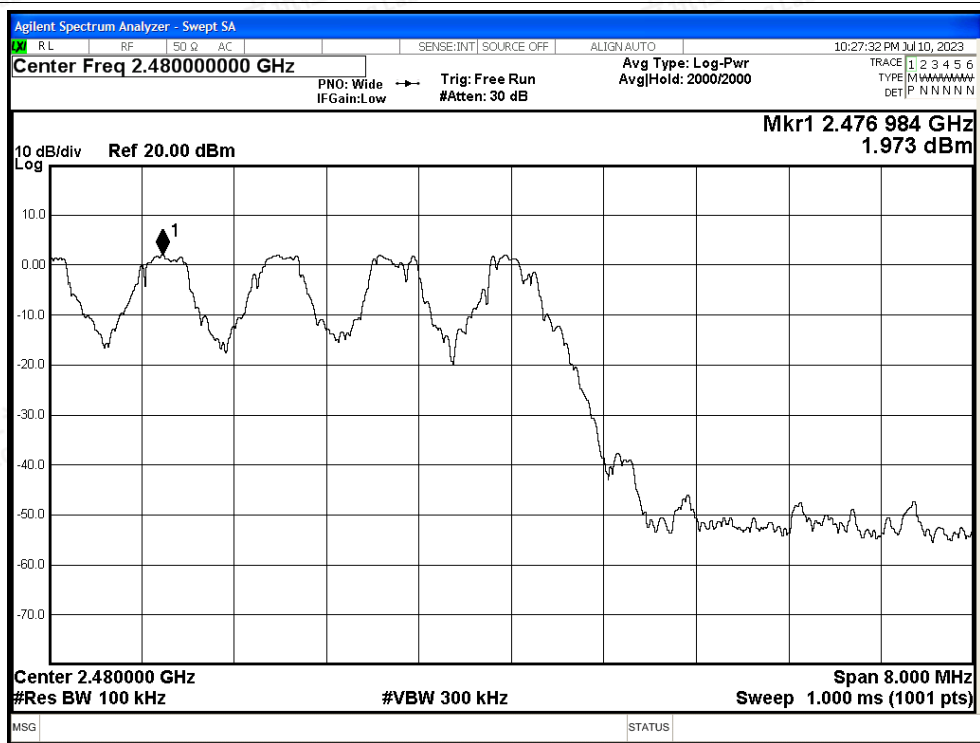


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

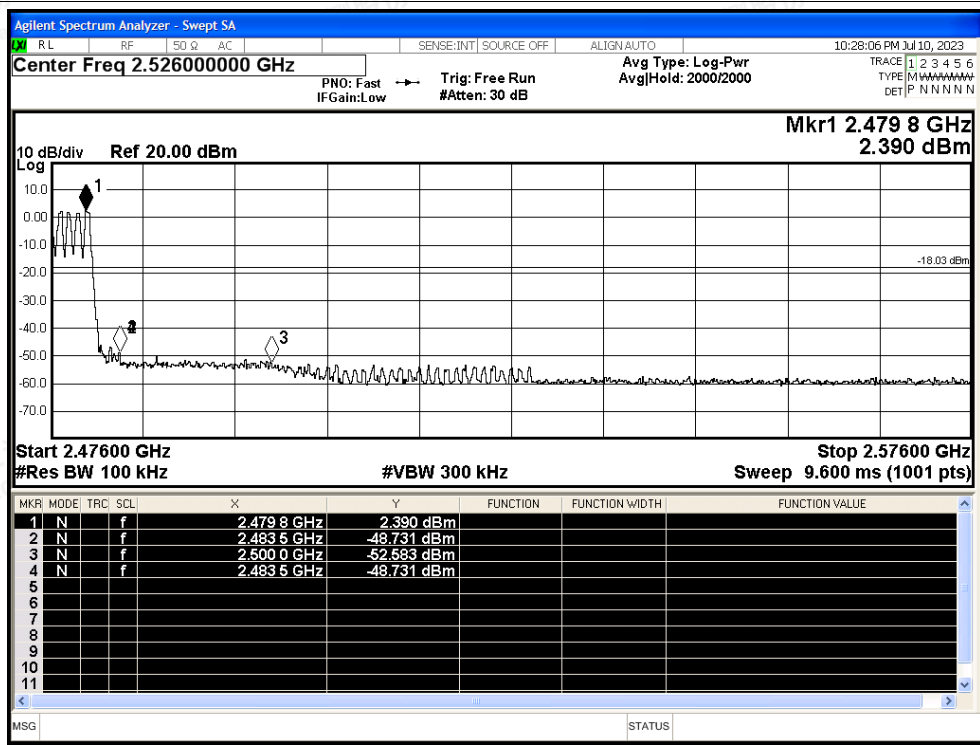




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission

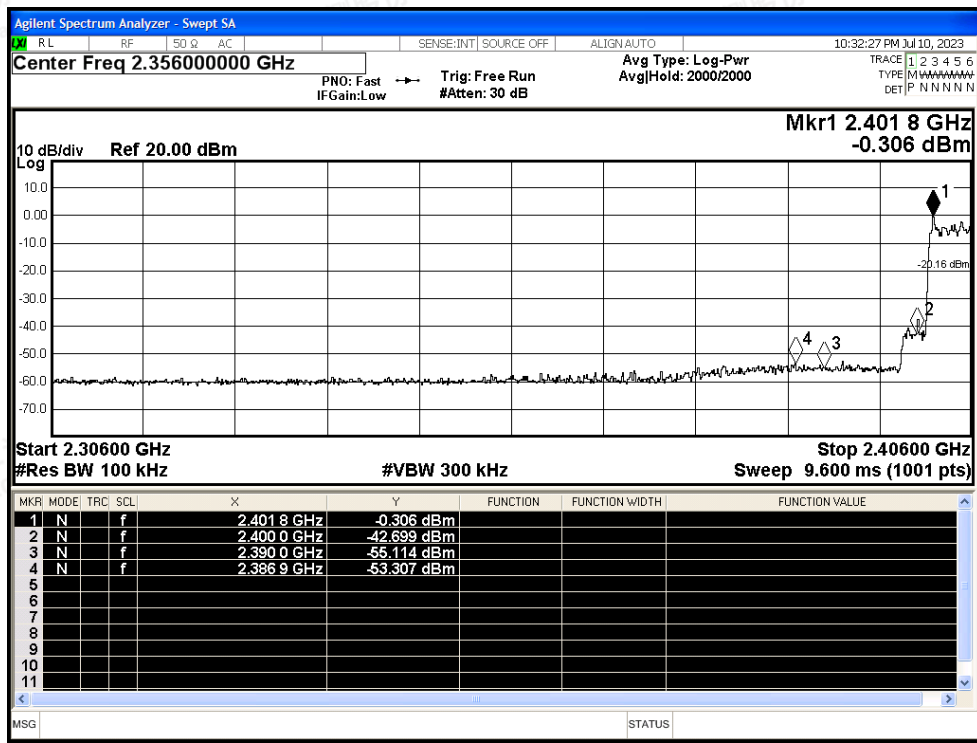




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

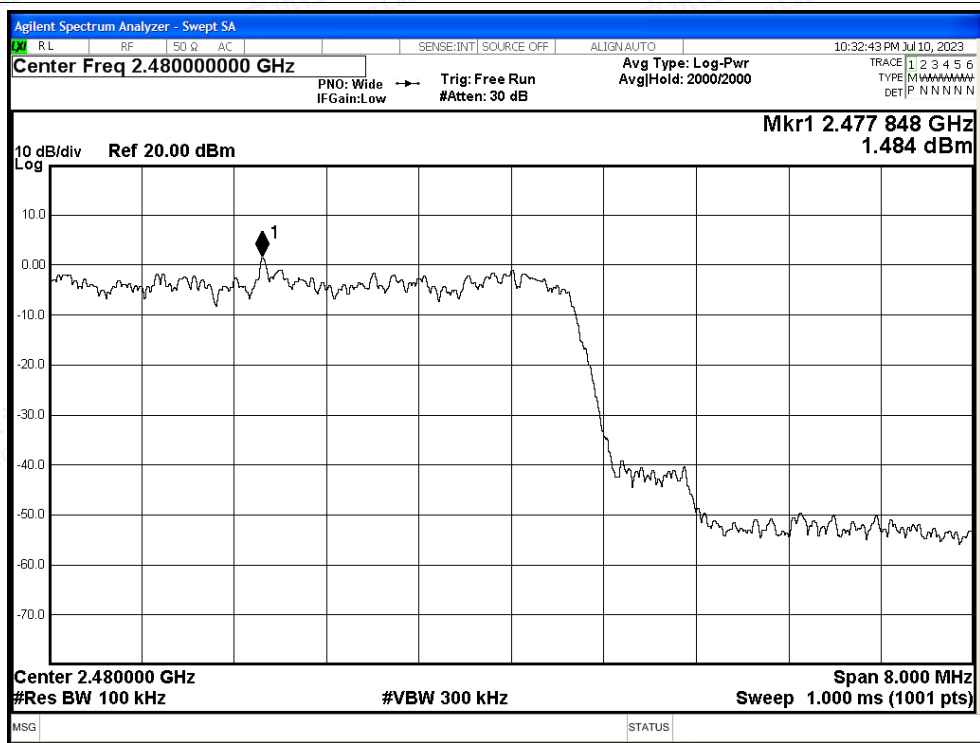


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

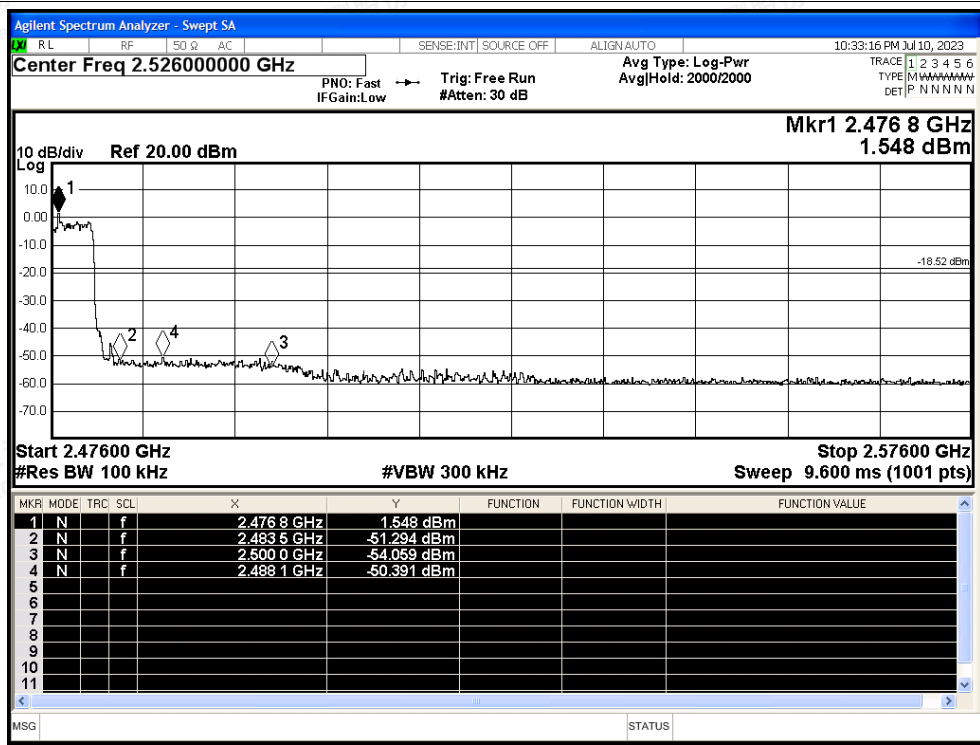




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref

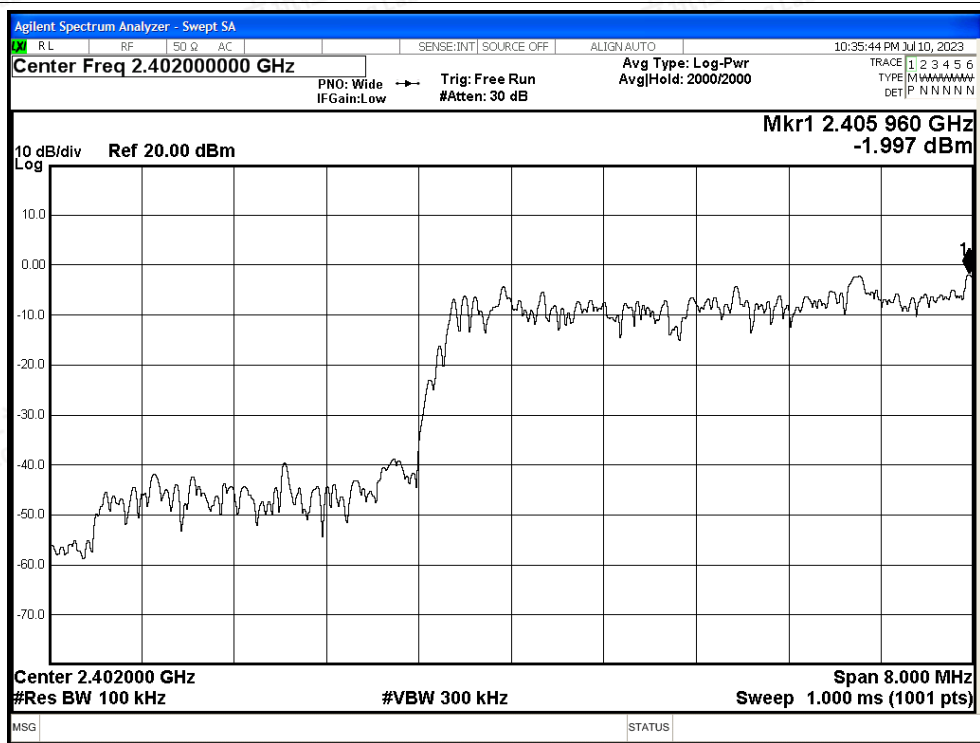


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission

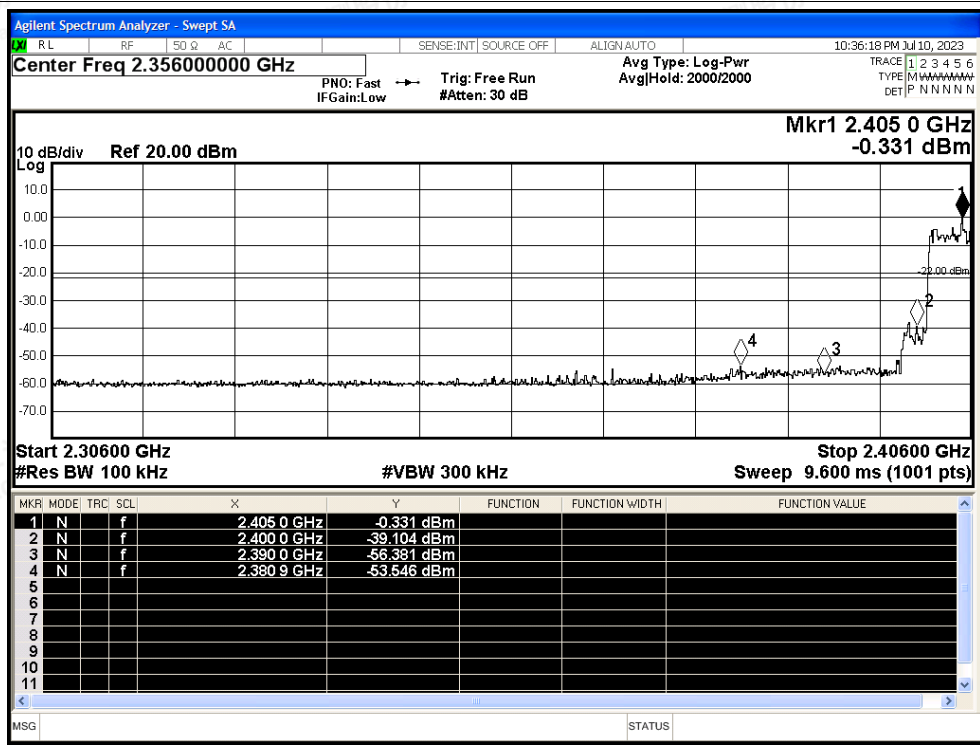




Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref

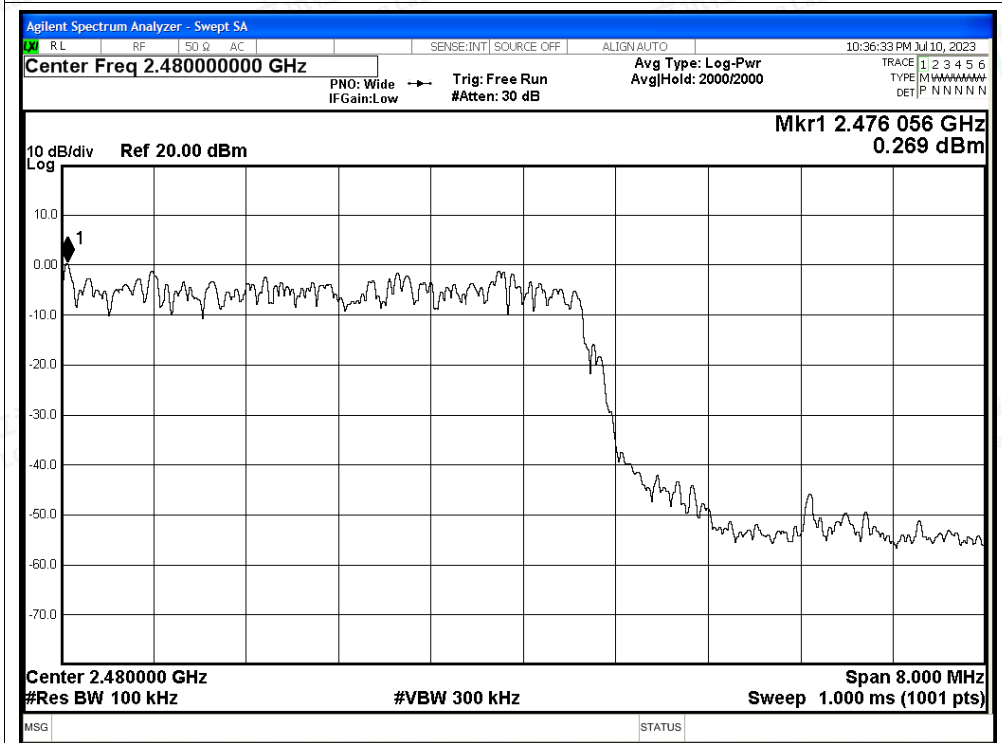


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission

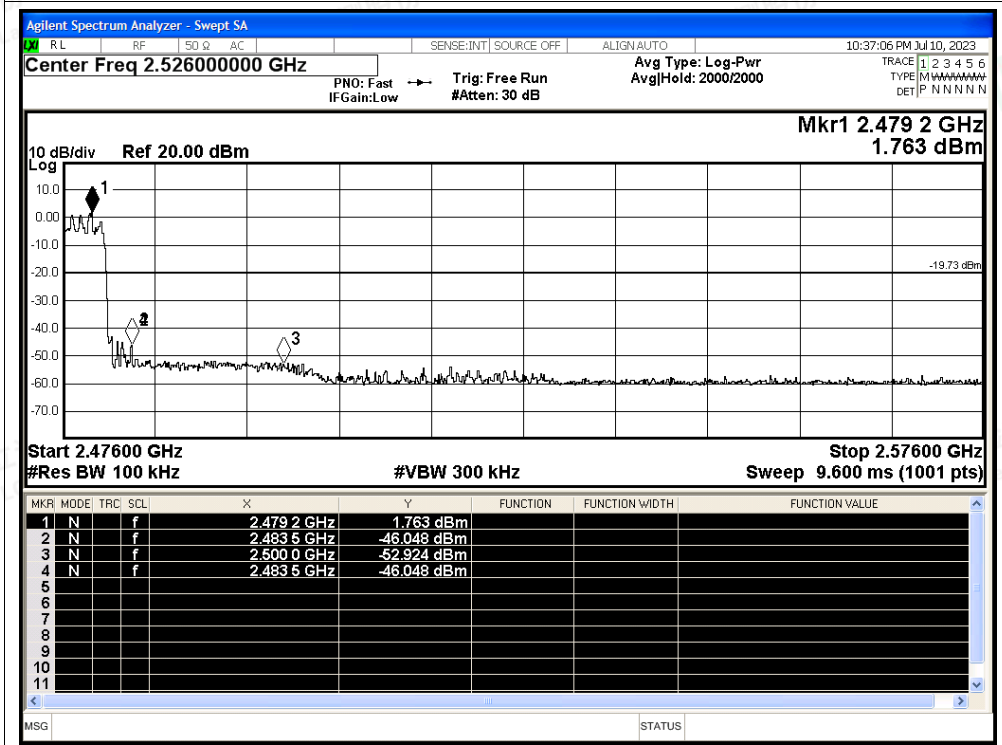




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Emission





A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-42.34	-20	Pass
NVNT	1-DH5	2441	Ant1	-42.85	-20	Pass
NVNT	1-DH5	2480	Ant1	-43.06	-20	Pass
NVNT	2-DH5	2402	Ant1	-42.49	-20	Pass
NVNT	2-DH5	2441	Ant1	-43.39	-20	Pass
NVNT	2-DH5	2480	Ant1	-43.17	-20	Pass
NVNT	3-DH5	2402	Ant1	-42.54	-20	Pass
NVNT	3-DH5	2441	Ant1	-43.77	-20	Pass
NVNT	3-DH5	2480	Ant1	-43.01	-20	Pass

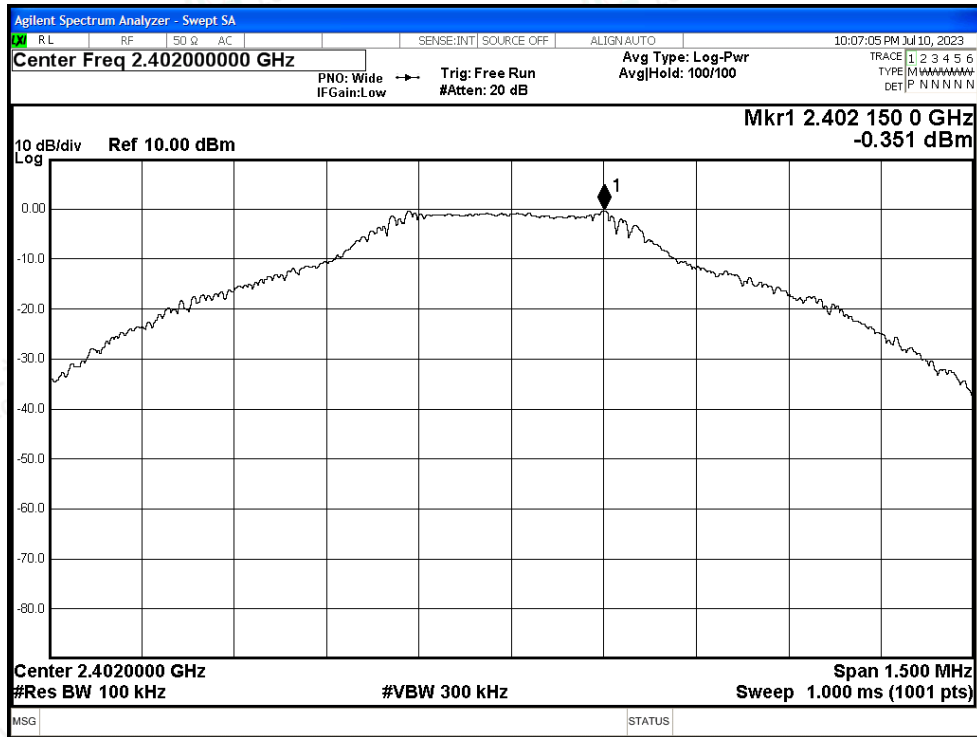


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Scan code to check authenticity

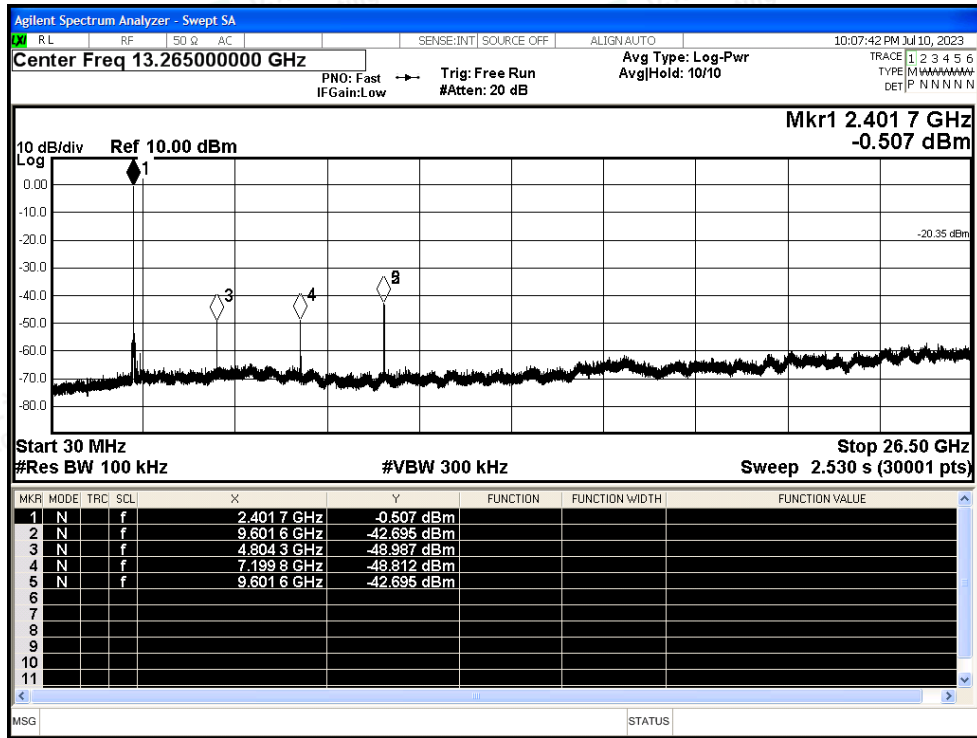


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

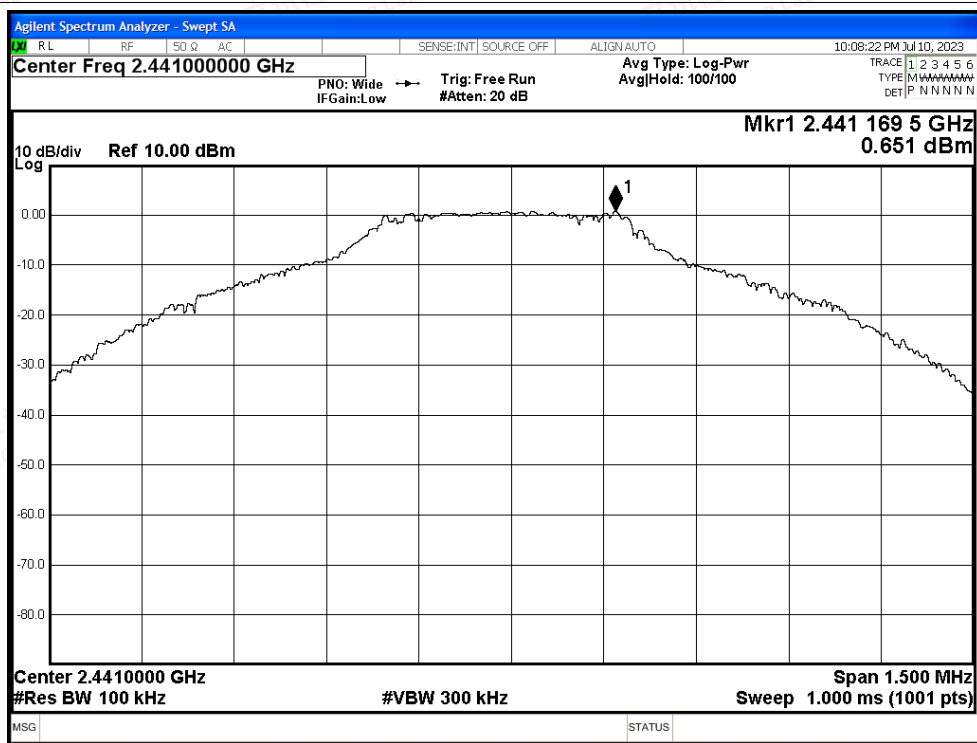


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

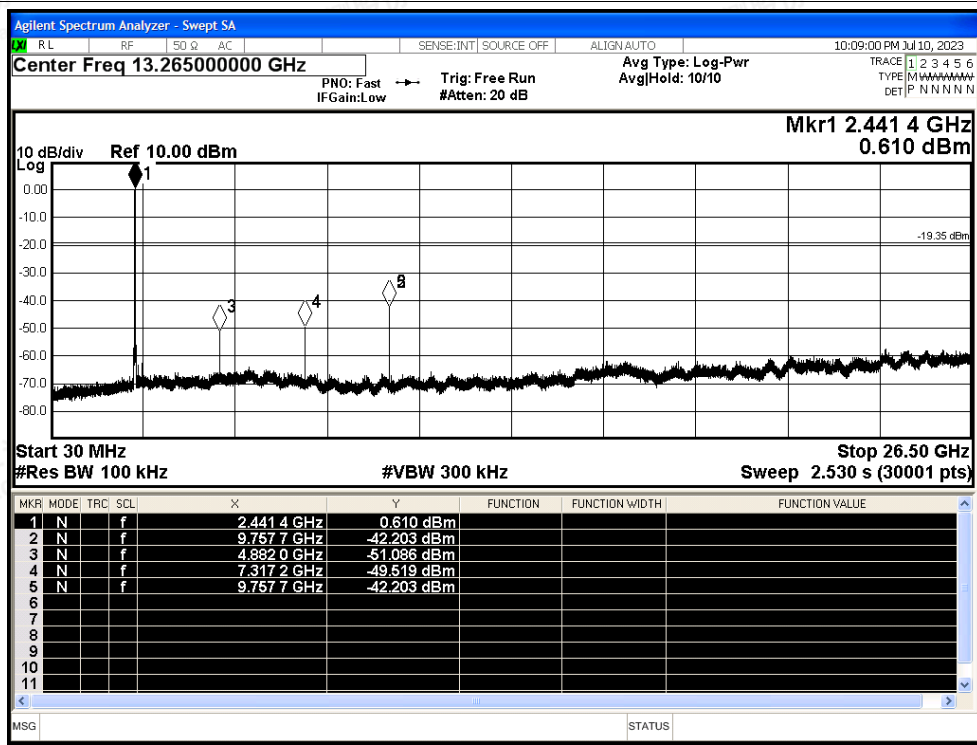




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

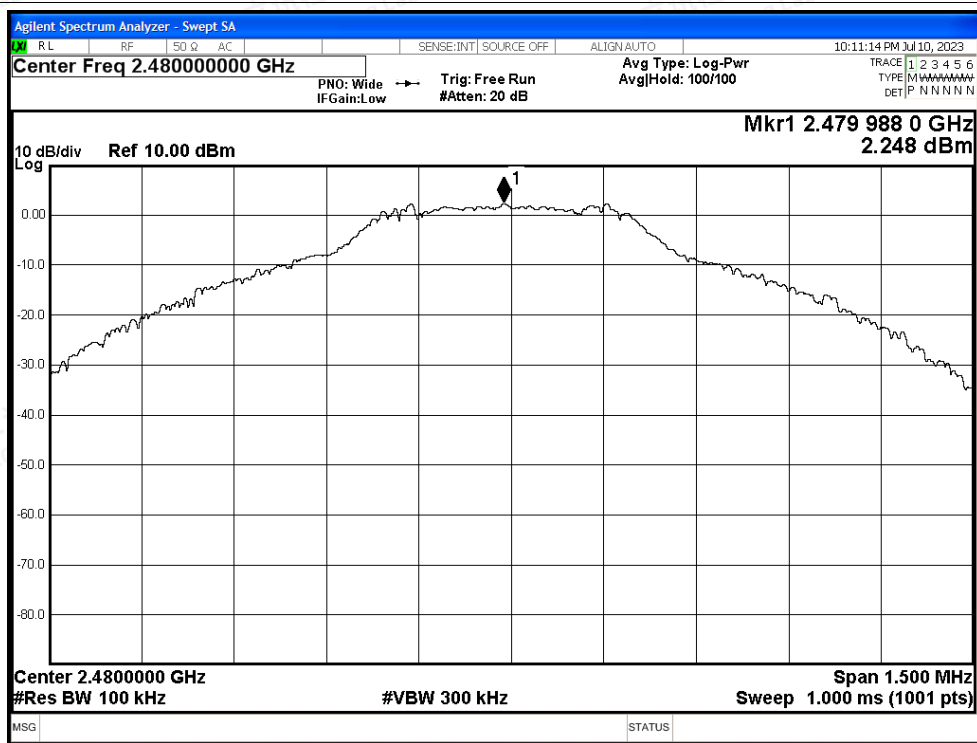


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

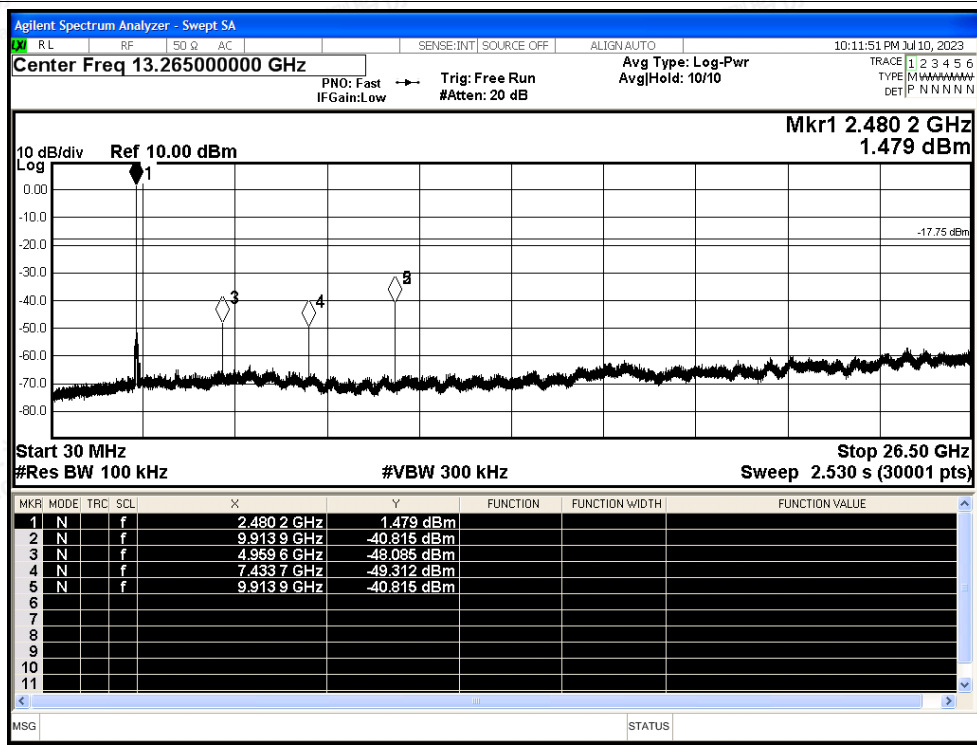




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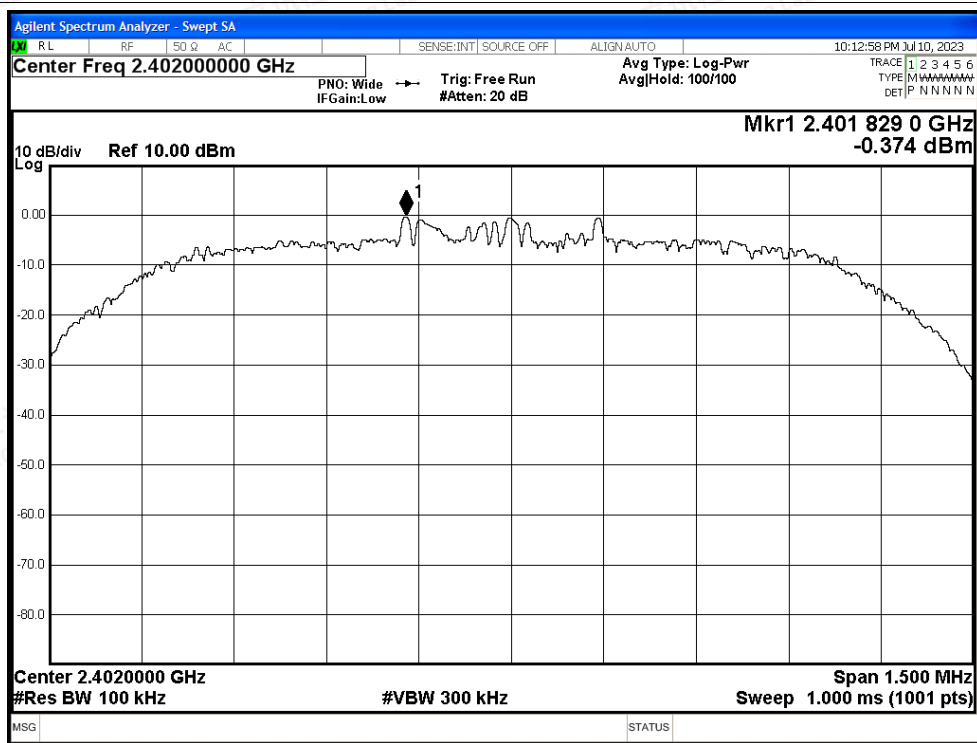


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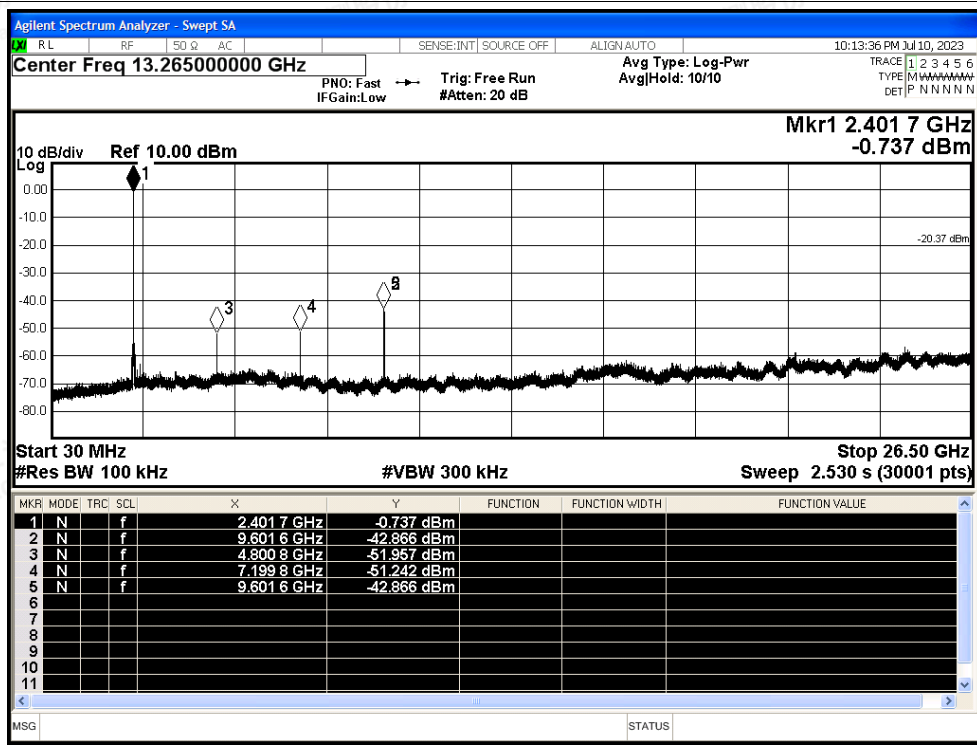




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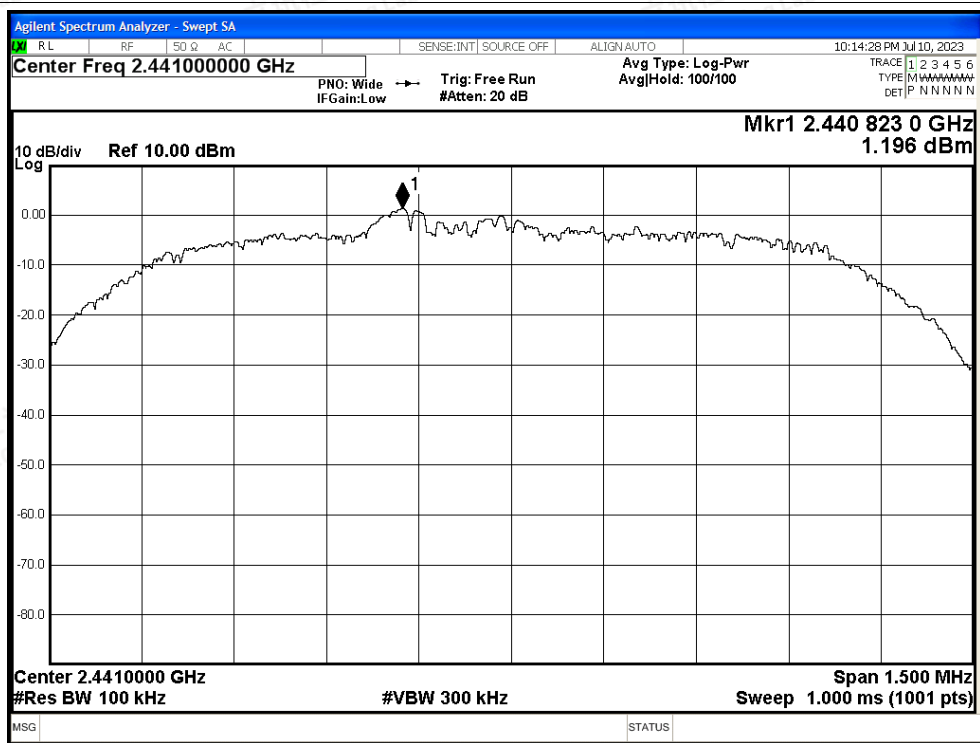


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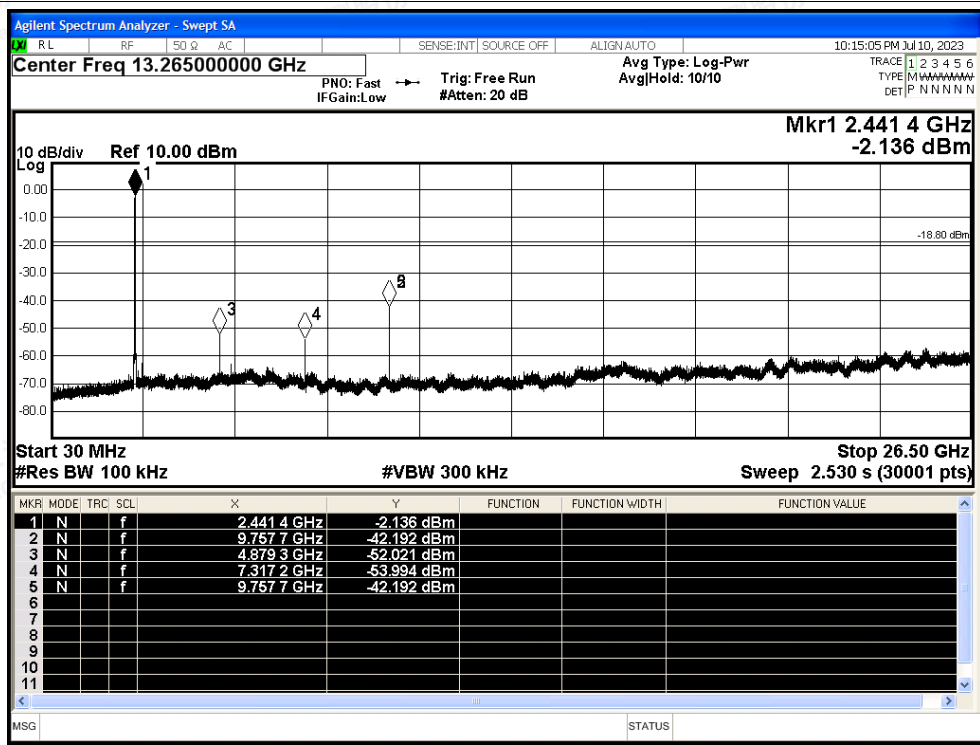




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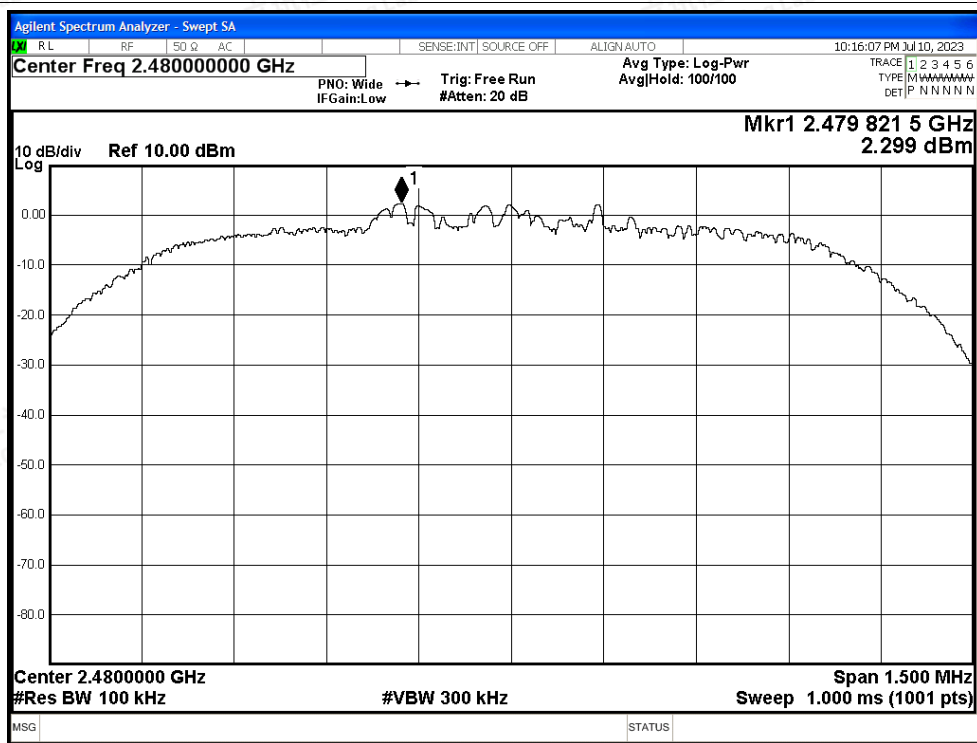


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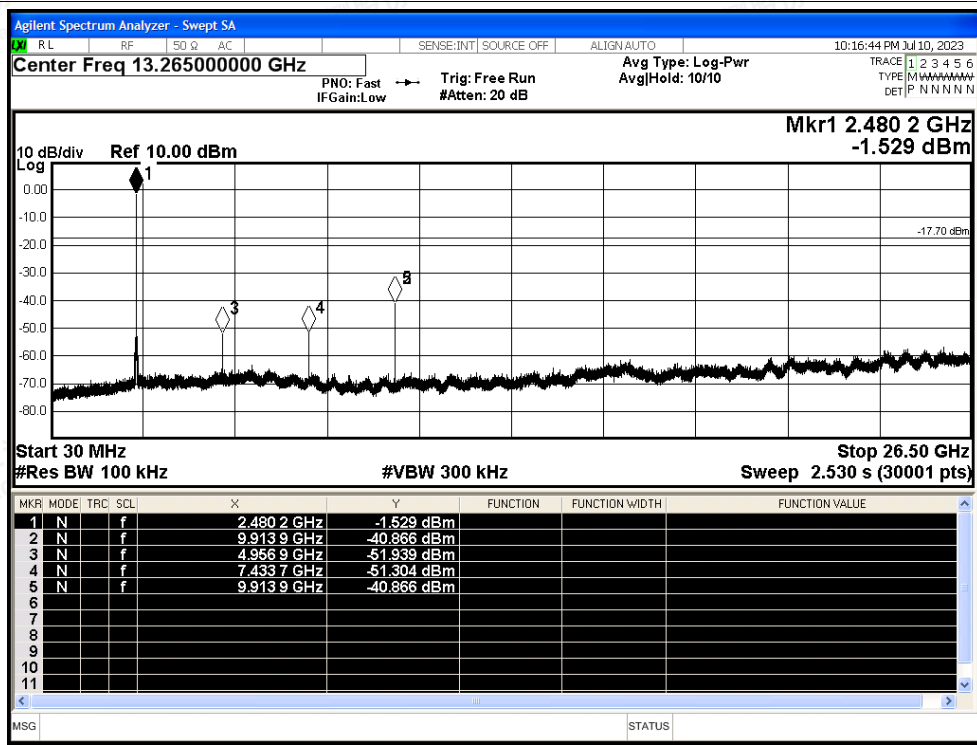




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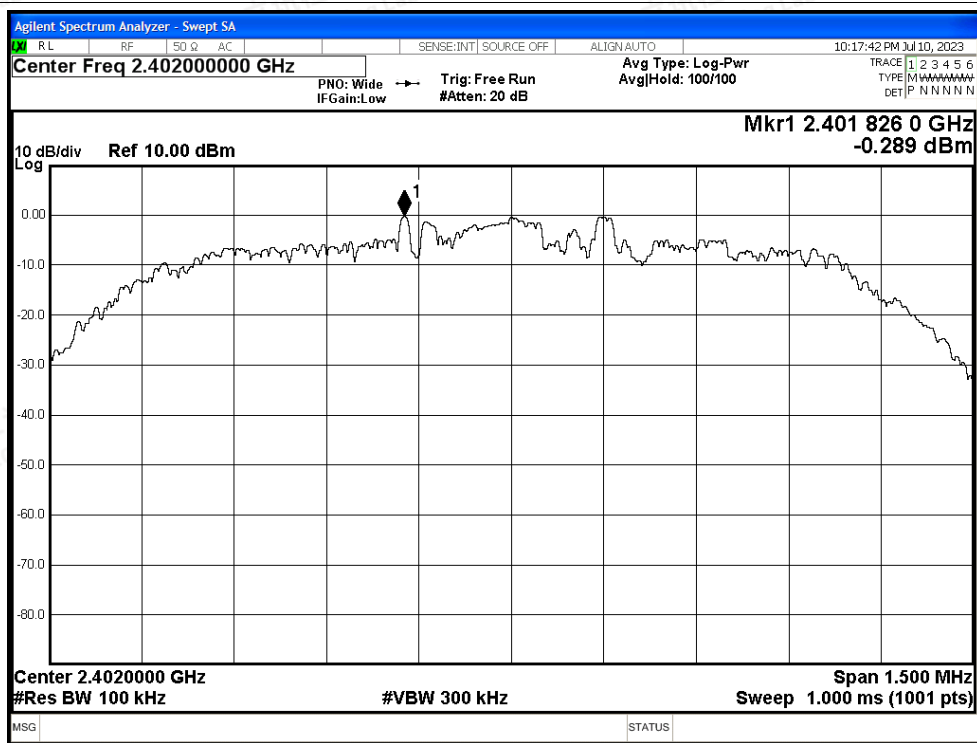


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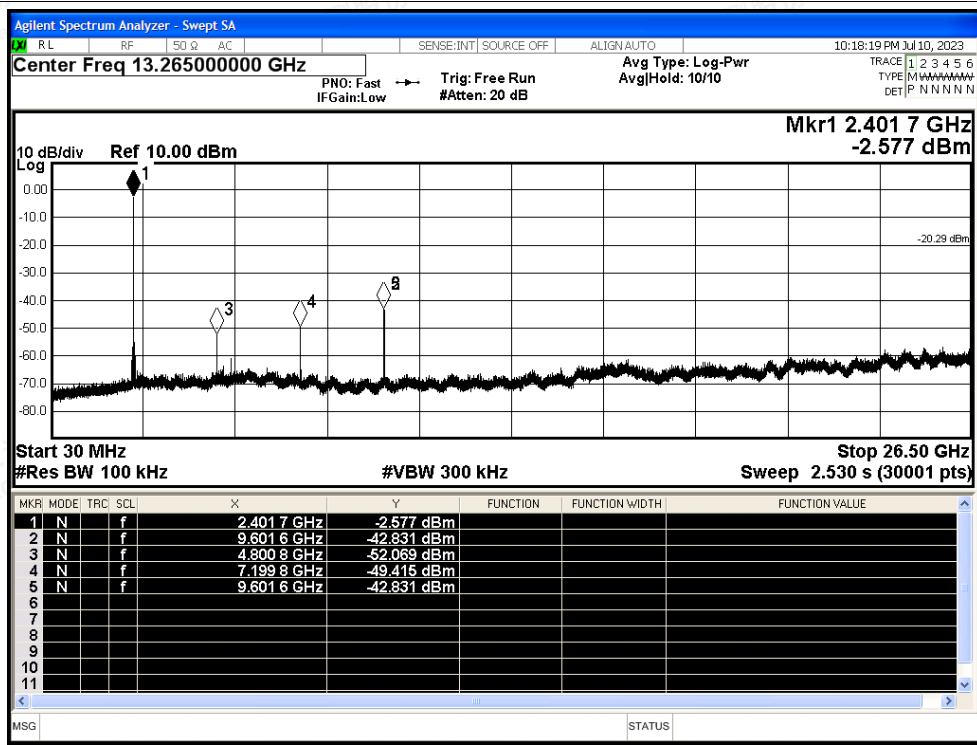




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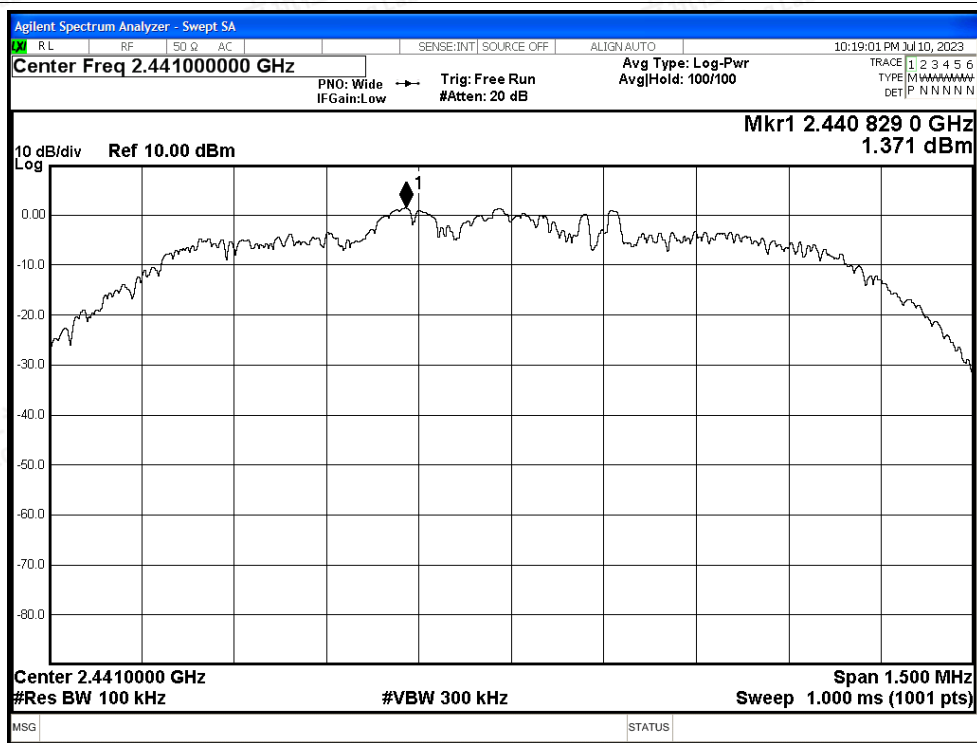


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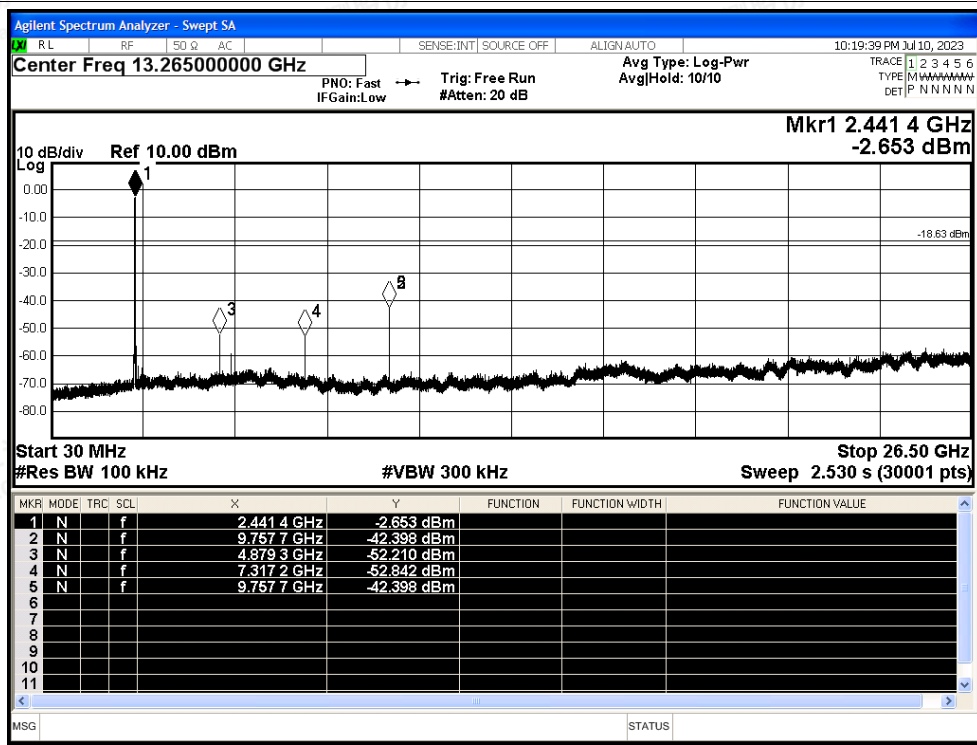




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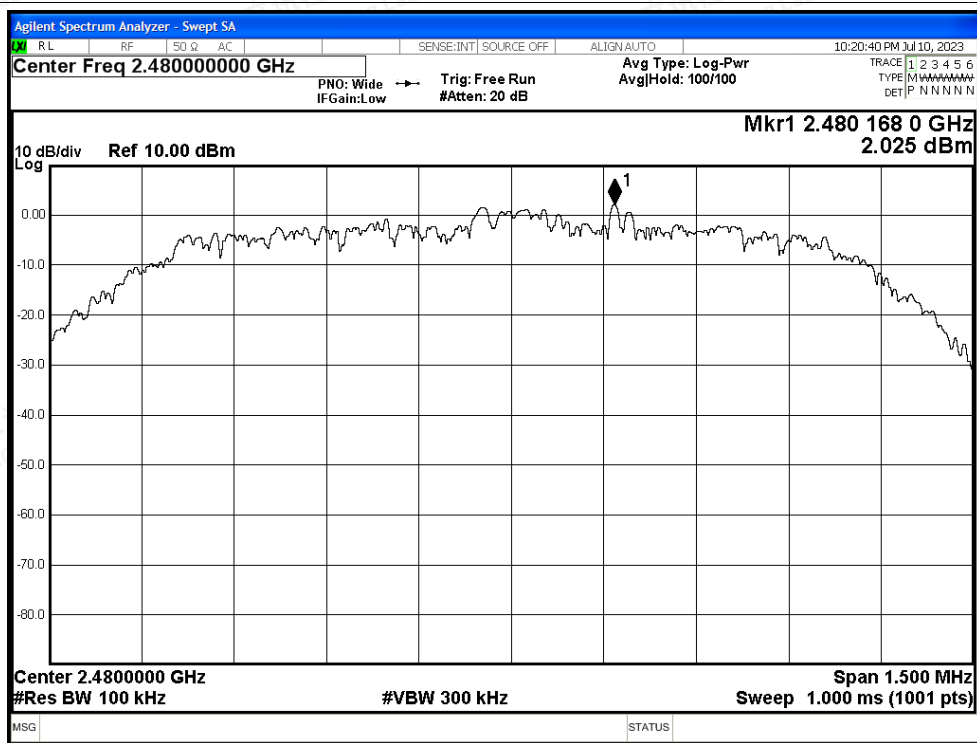


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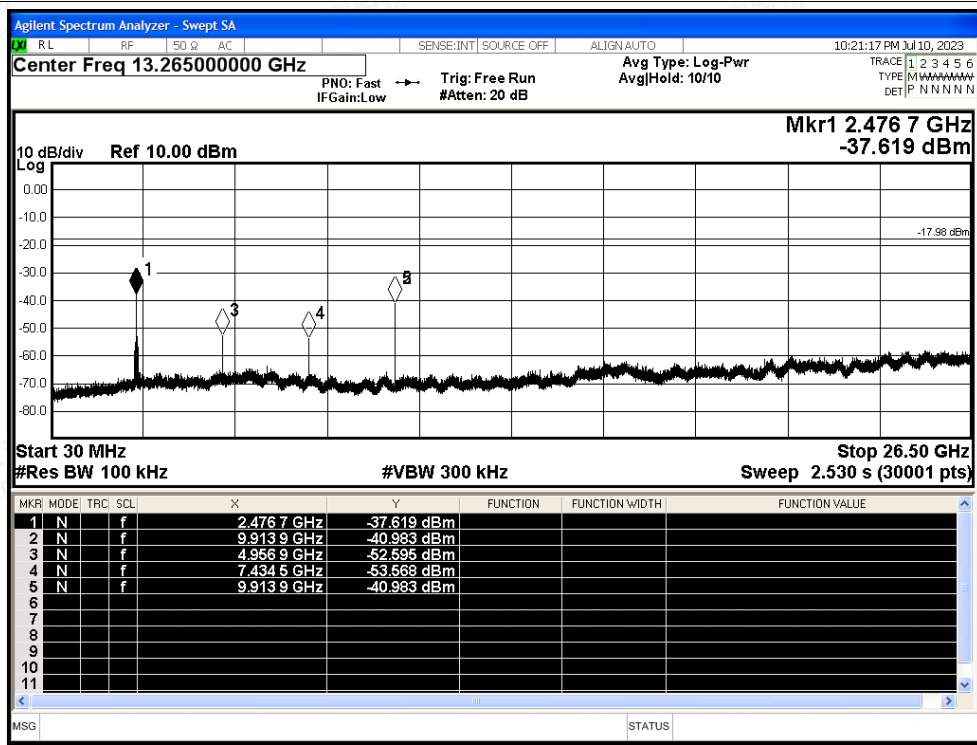




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





A.8 Restrict Band

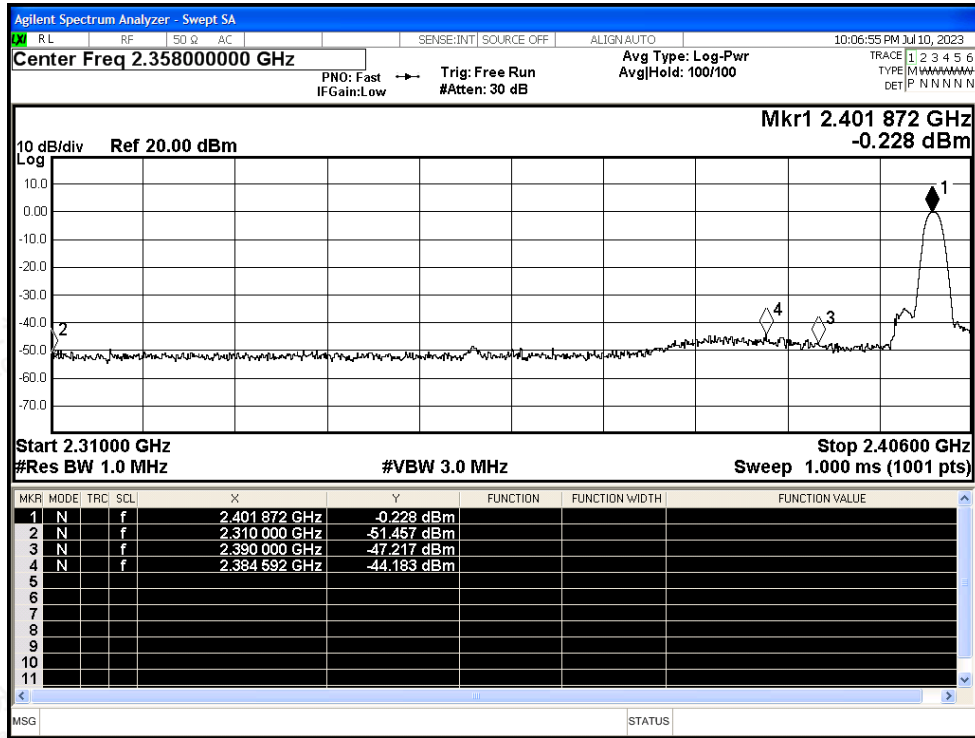
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-51.46	2.78	46.58	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-62.06	2.78	35.98	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2384.592	-44.18	2.78	53.86	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2380.08	-55.98	2.78	42.06	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-47.22	2.78	50.82	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-57.68	2.78	40.36	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-42.58	2.78	55.46	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.78	2.78	48.26	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.56	-39.34	2.78	58.70	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-49.78	2.78	48.26	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-44.91	2.78	53.13	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-53.56	2.78	44.48	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.76	2.78	48.28	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-62.12	2.78	35.92	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2381.232	-44.18	2.78	53.86	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2379.6	-55.94	2.78	42.10	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-48.67	2.78	49.37	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-57.71	2.78	40.33	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-41.03	2.78	57.01	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-52.27	2.78	45.77	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2499.64	-40.65	2.78	57.39	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-52.27	2.78	45.77	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-44.09	2.78	53.95	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-53.39	2.78	44.65	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.96	2.78	47.08	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-62.07	2.78	35.97	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2379.408	-44.85	2.78	53.19	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2380.08	-56.85	2.78	41.19	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-47.59	2.78	50.45	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.54	2.78	39.50	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-42.56	2.78	55.48	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-54.47	2.78	43.57	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.608	-39.11	2.78	58.93	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.632	-53.62	2.78	44.42	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-45.67	2.78	52.37	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-54.76	2.78	43.28	Average	54	Pass



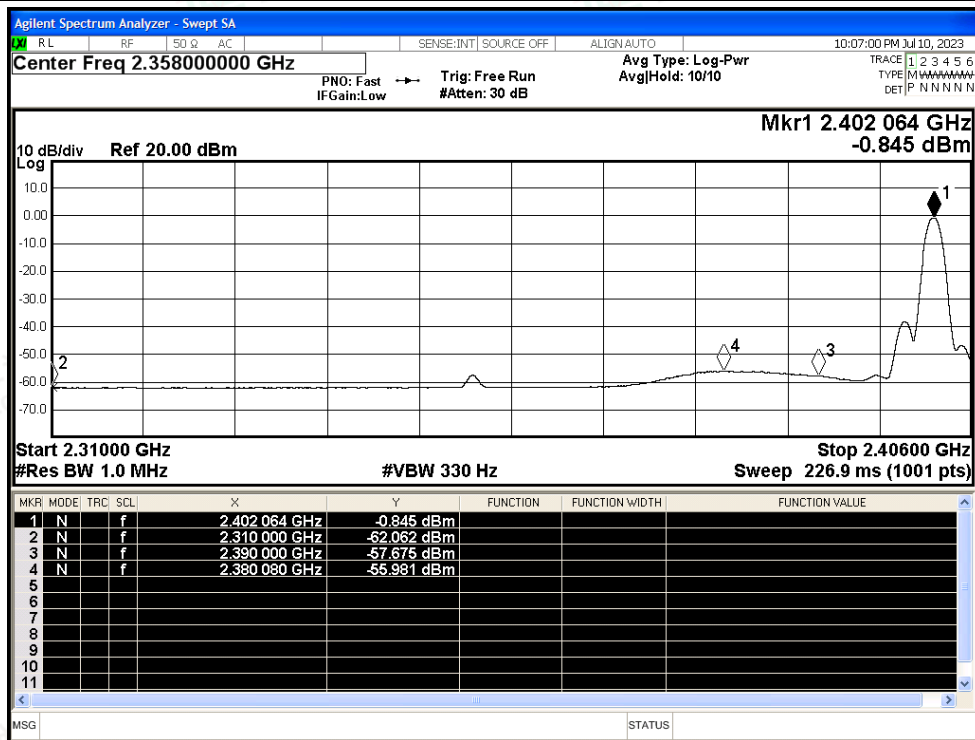


Test Graphs

Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak

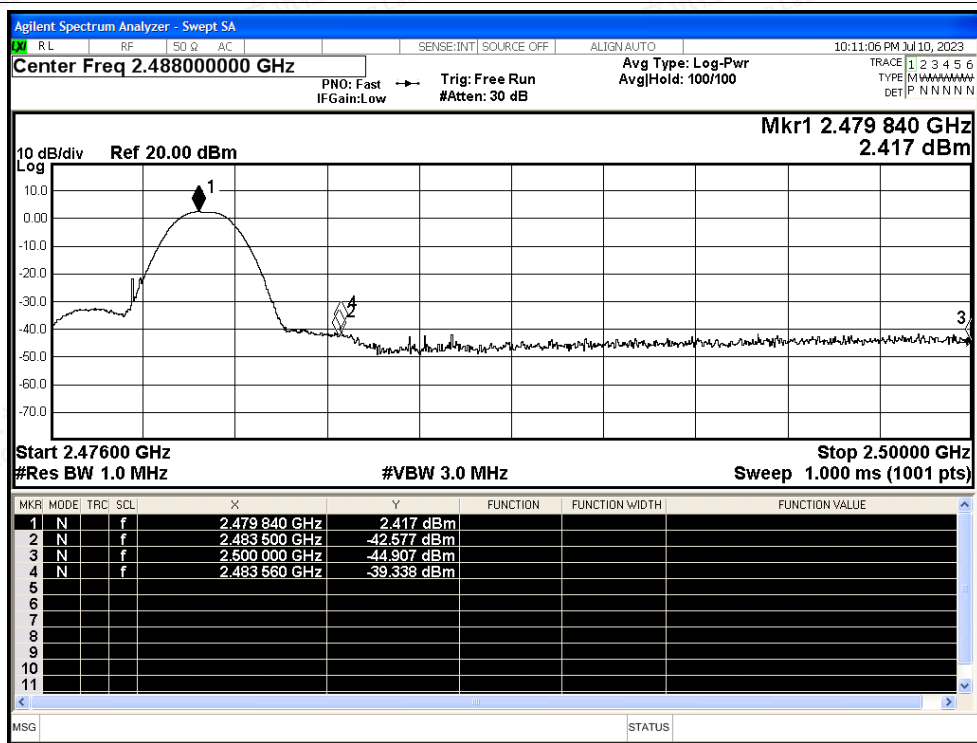


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

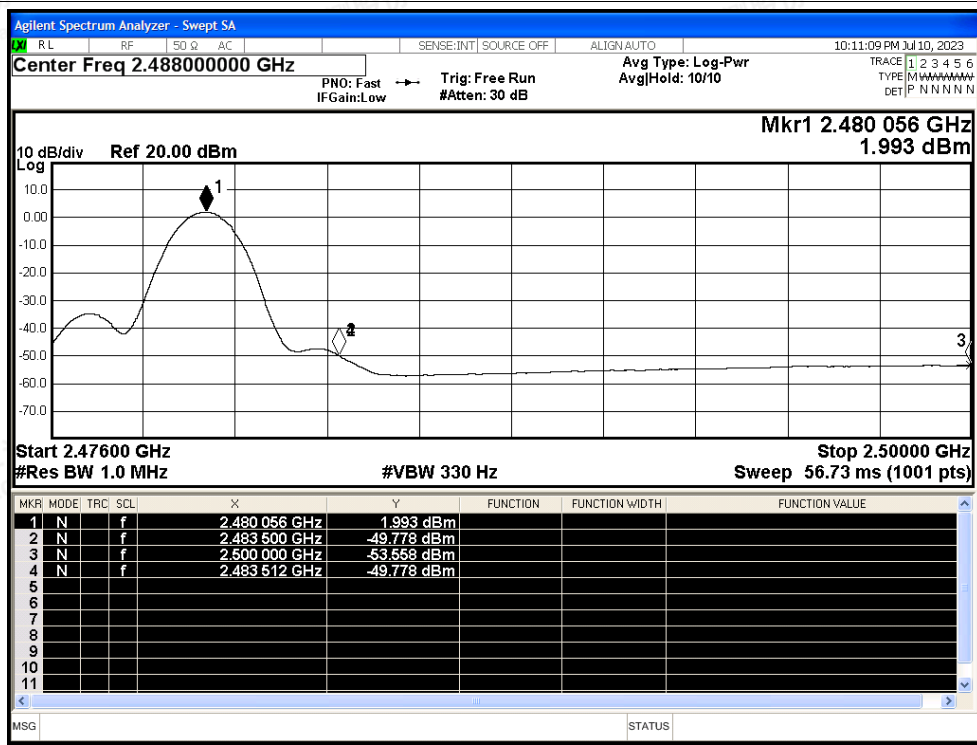




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

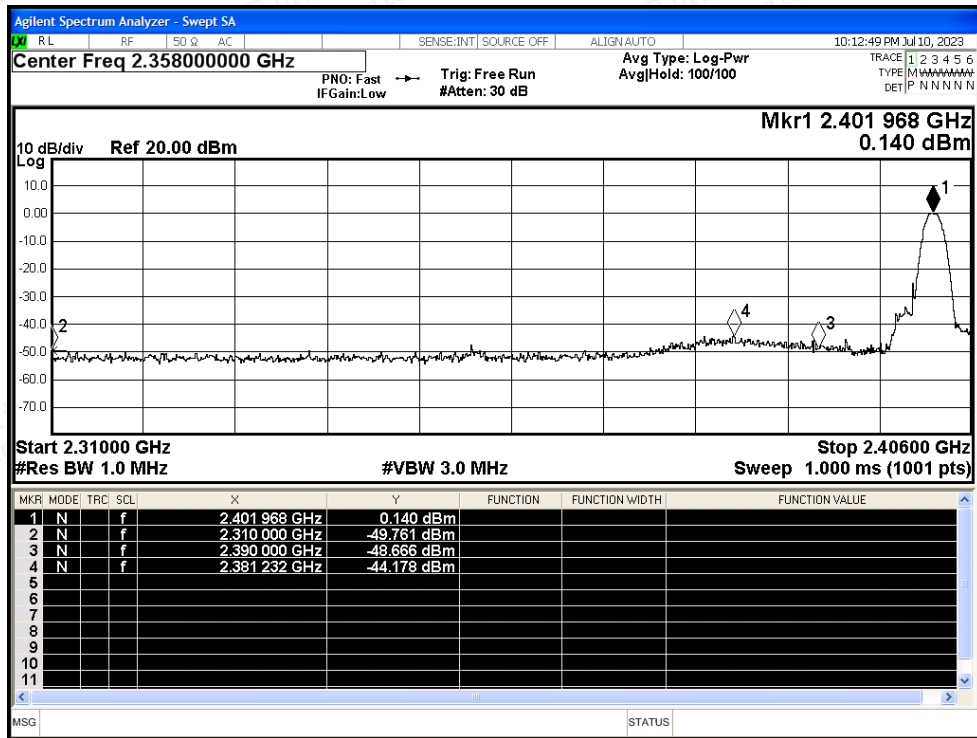


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

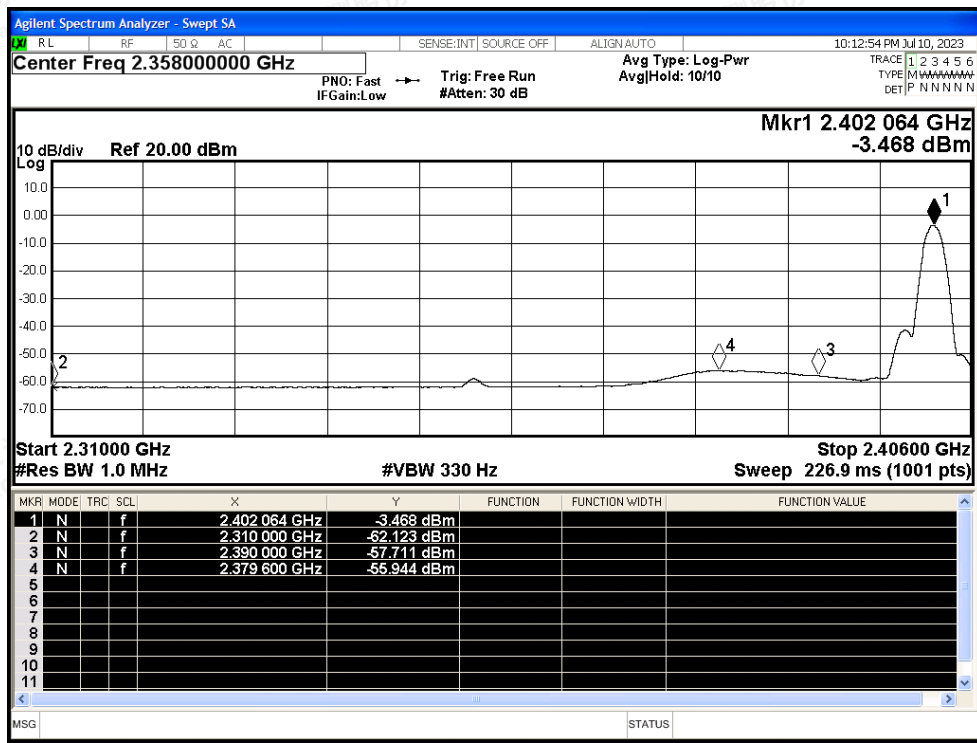




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

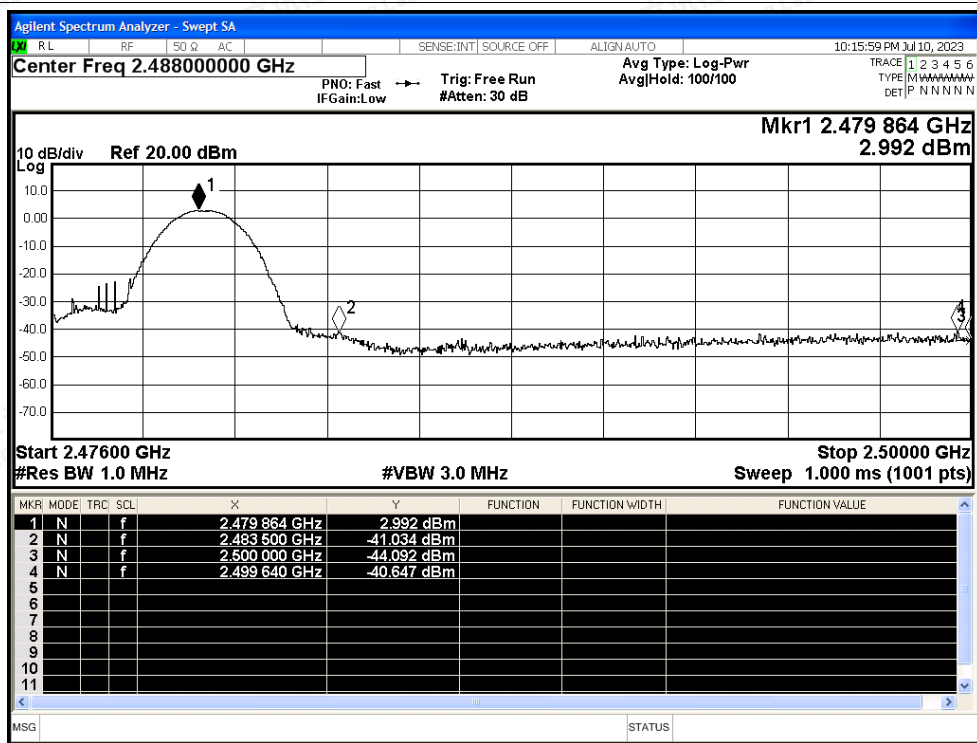


Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average

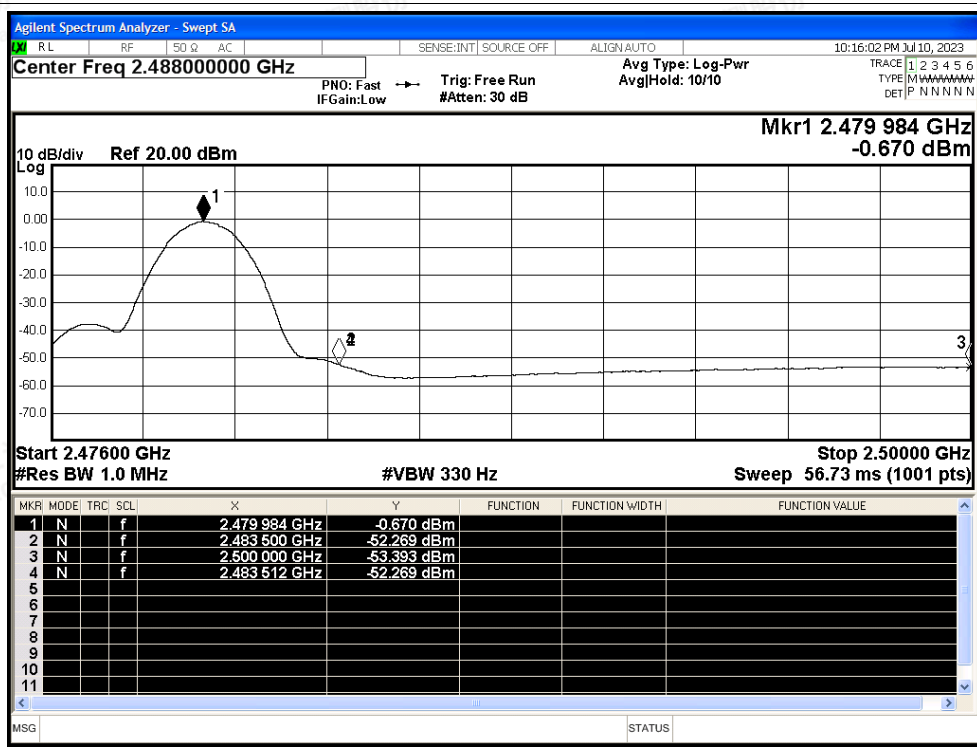




Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak

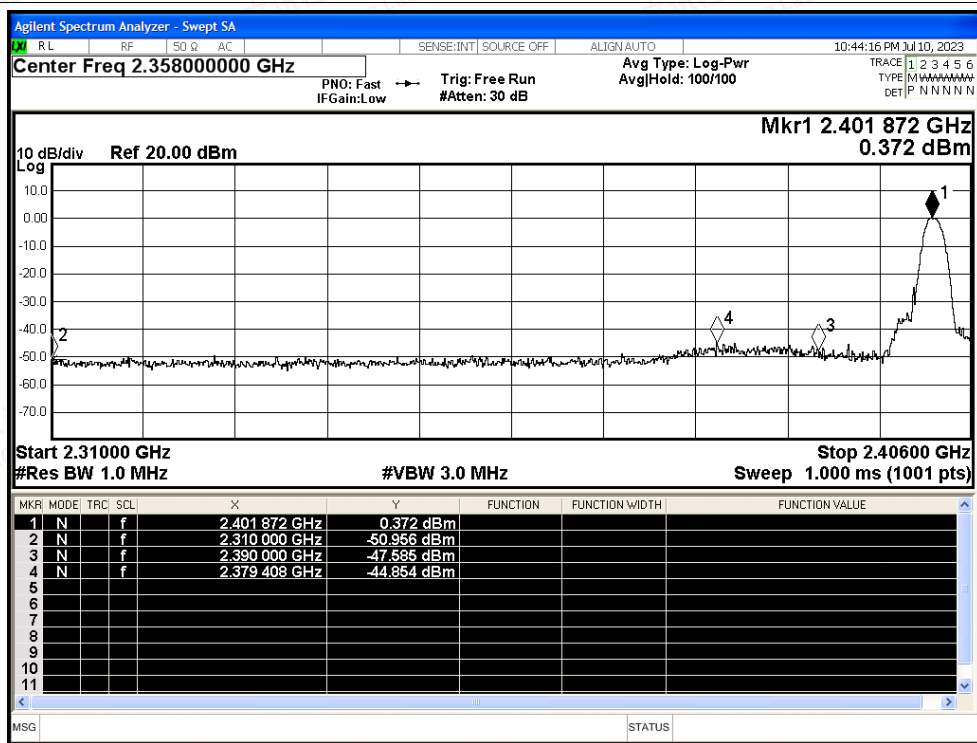


Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average

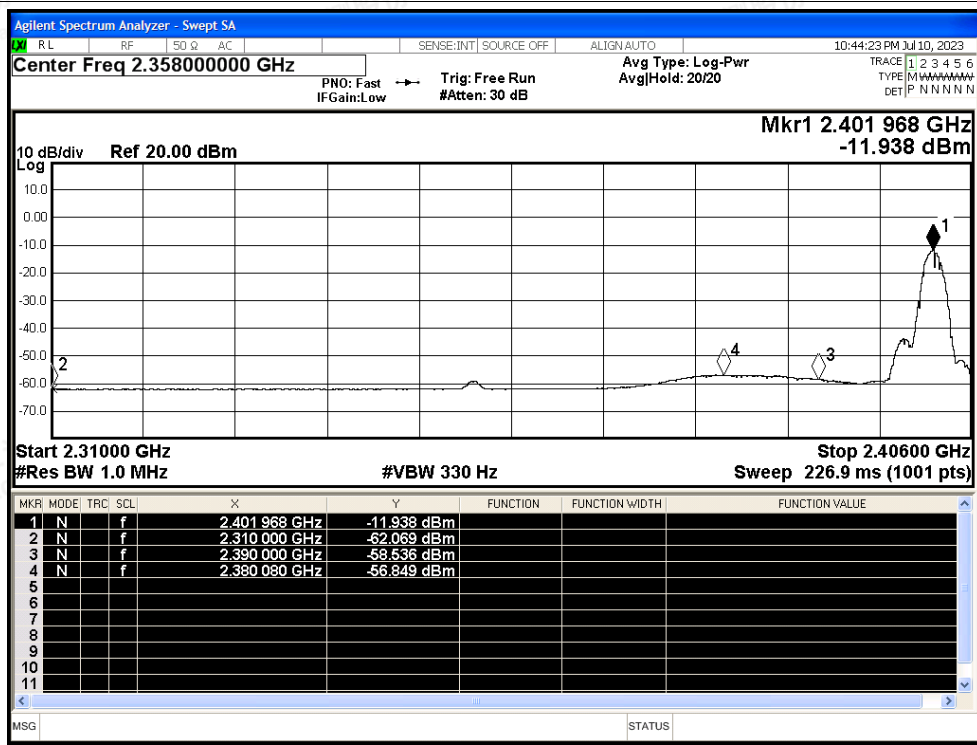




Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak

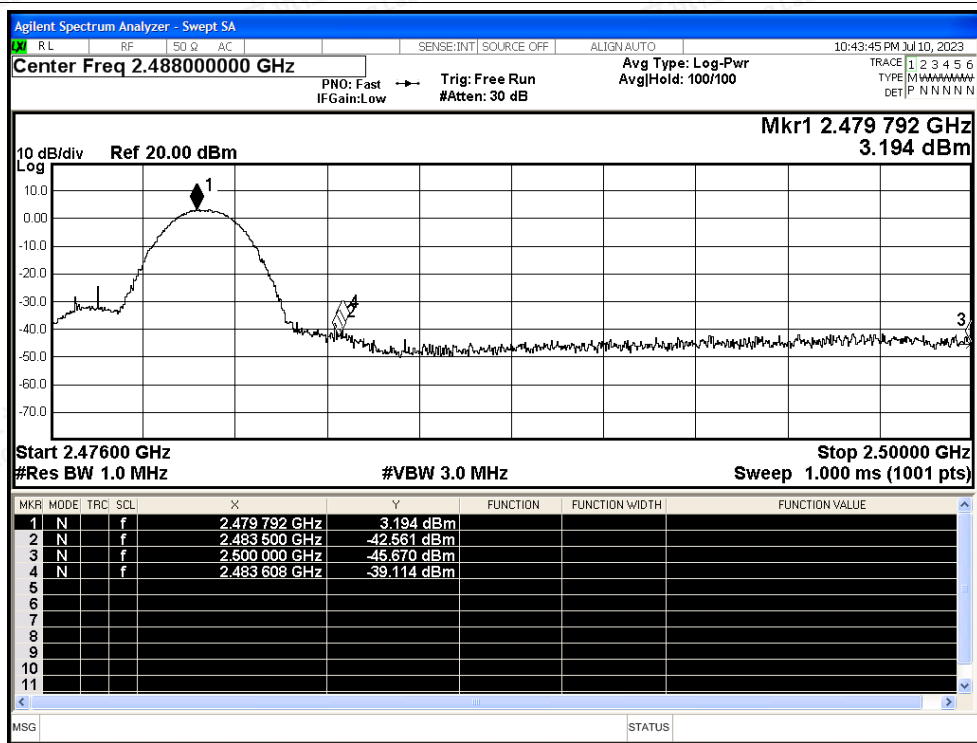


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average





Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Average

