



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Hyundai Mini PC

Test Model: HMB10M01

Environmental Conditions

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





A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant	0.866	N/A	Pass
NVNT	1-DH5	2441	Ant	0.853	N/A	Pass
NVNT	1-DH5	2480	Ant	0.851	N/A	Pass
NVNT	2-DH5	2402	Ant	1.307	N/A	Pass
NVNT	2-DH5	2441	Ant	1.272	N/A	Pass
NVNT	2-DH5	2480	Ant	1.279	N/A	Pass
NVNT	3-DH5	2402	Ant	1.265	N/A	Pass
NVNT	3-DH5	2441	Ant	1.289	N/A	Pass
NVNT	3-DH5	2480	Ant	1.272	N/A	Pass

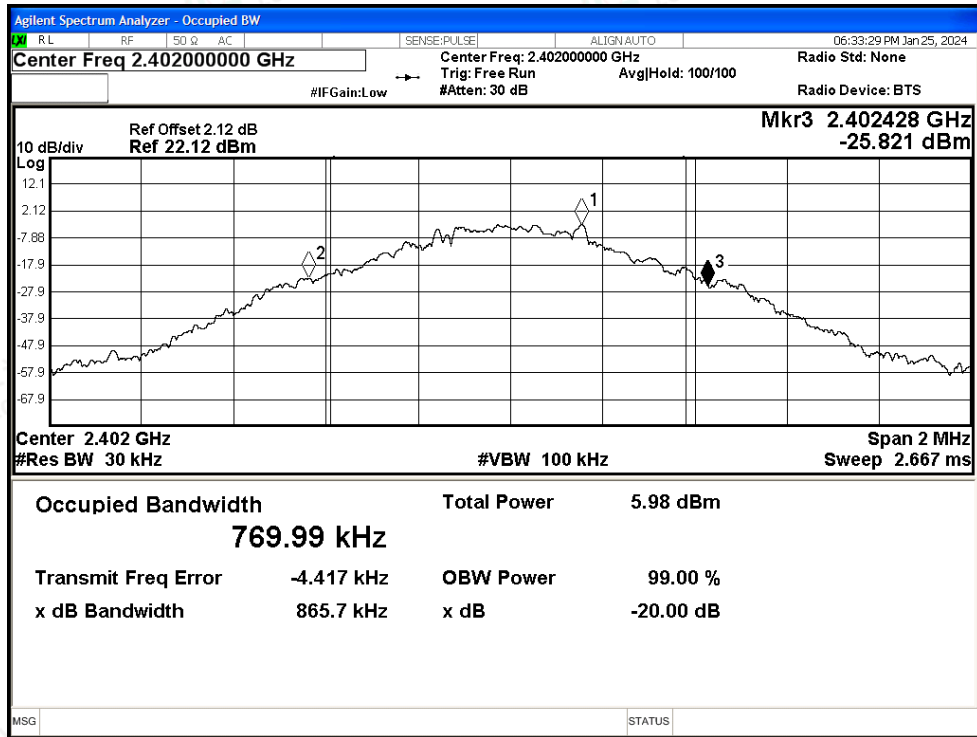


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Scan code to check authenticity

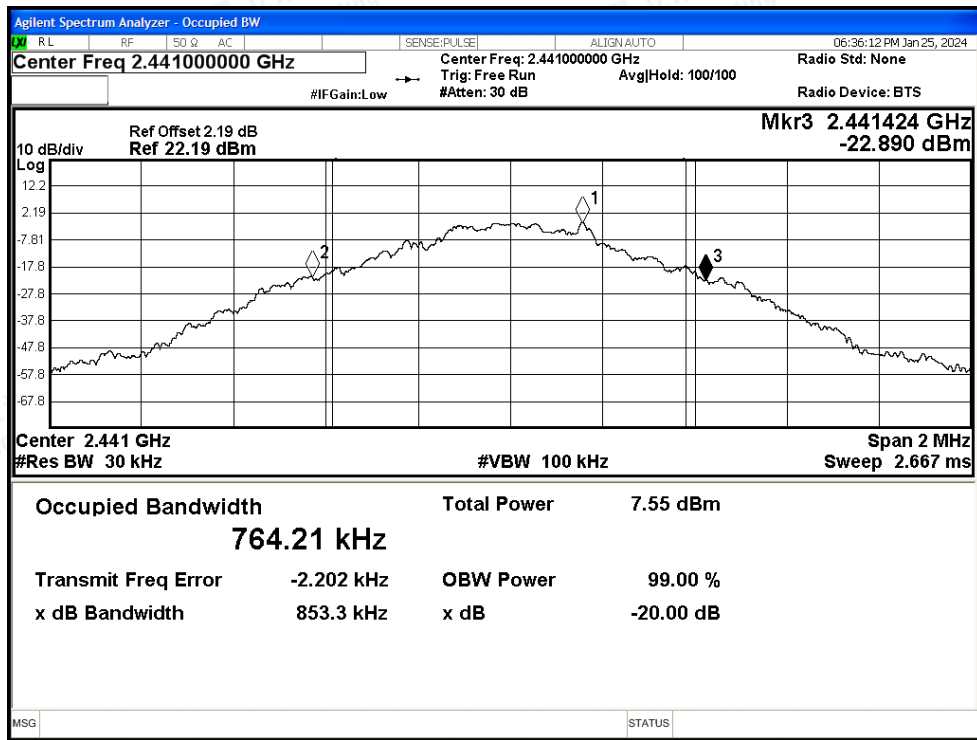


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant

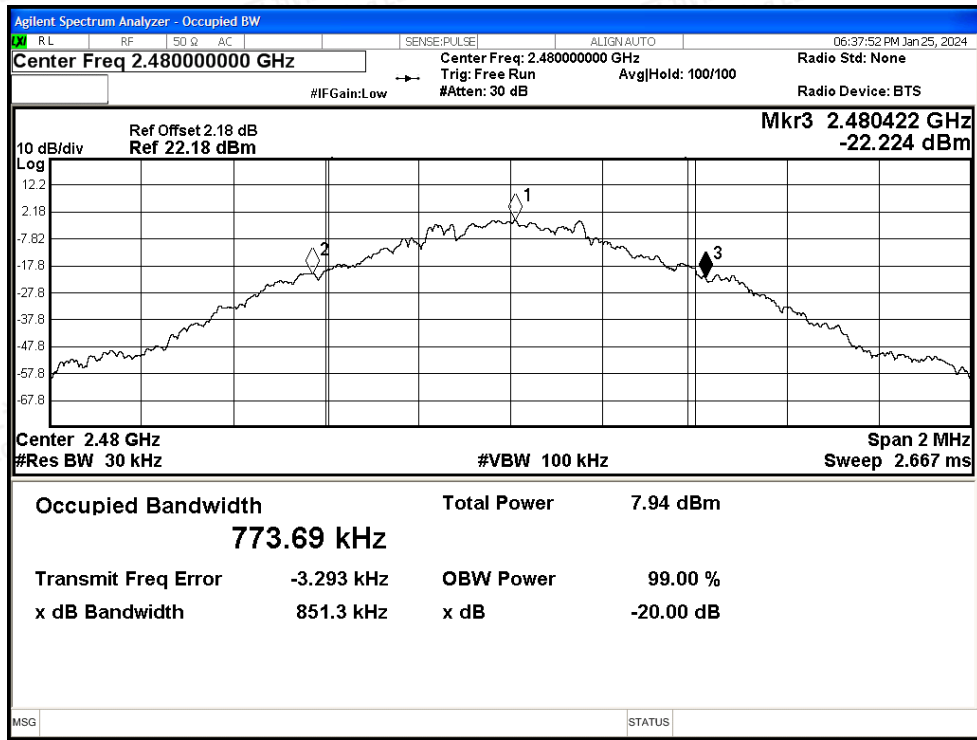


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant

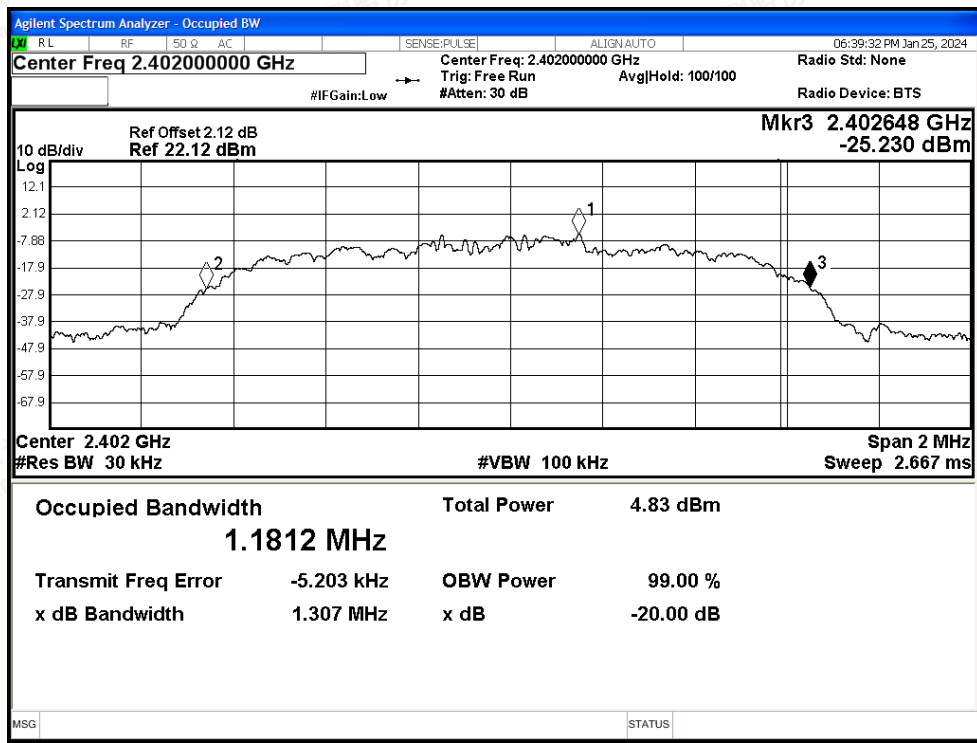




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant

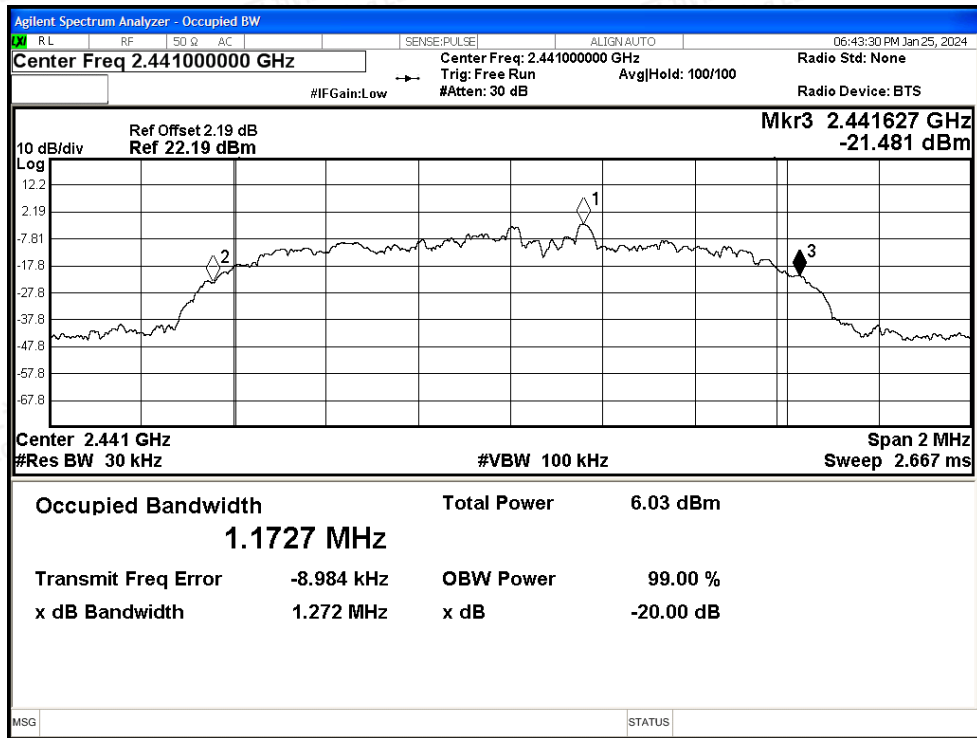


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant

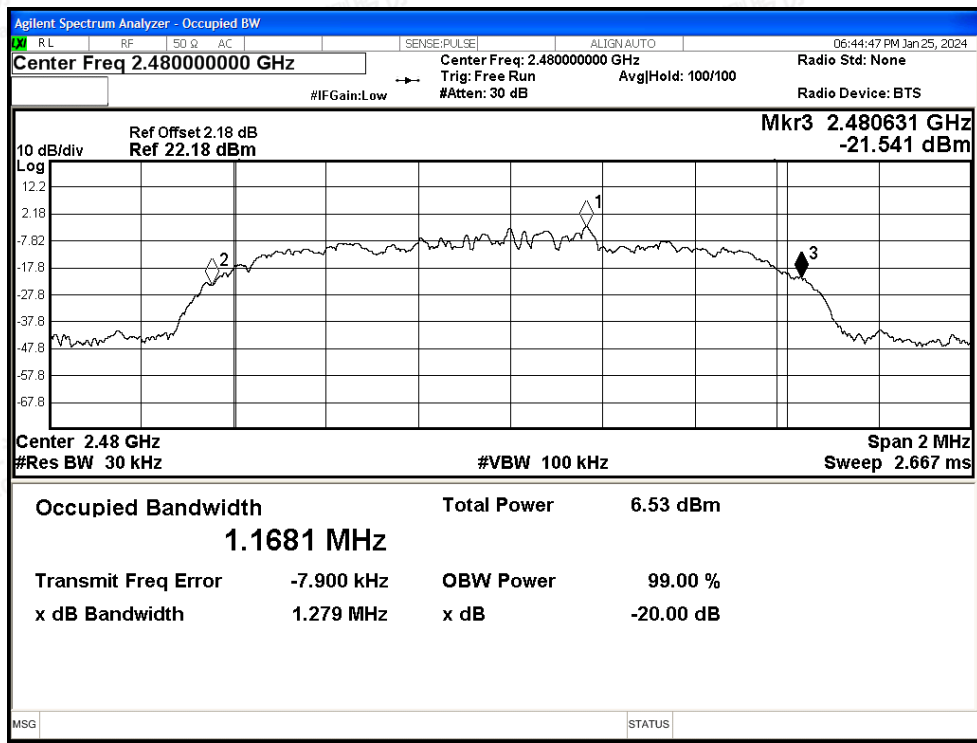




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant

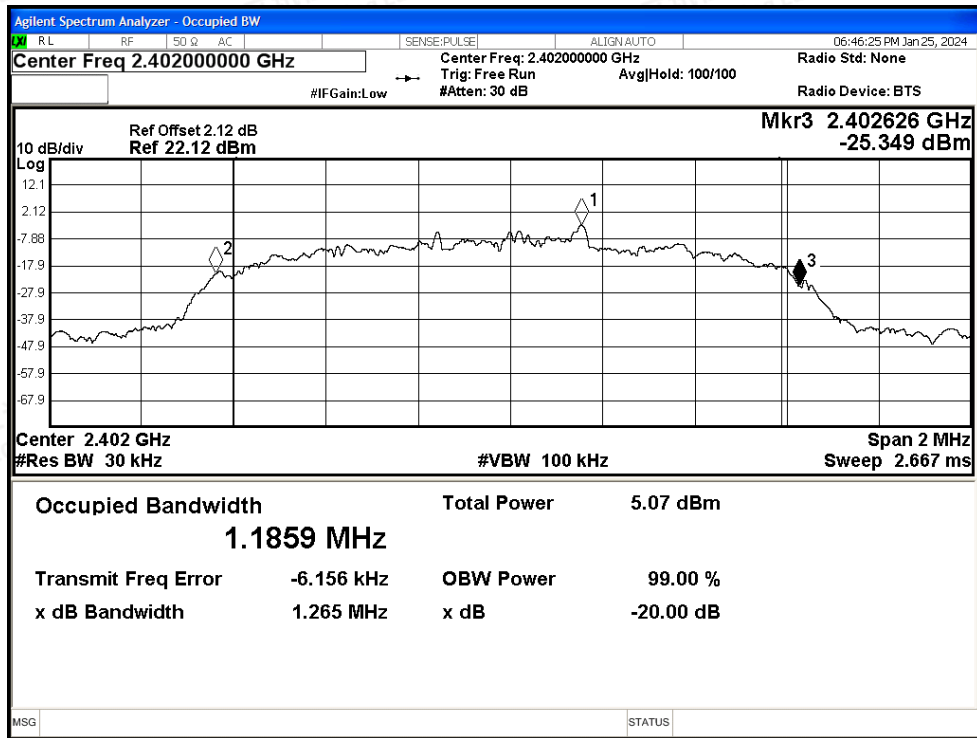


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant

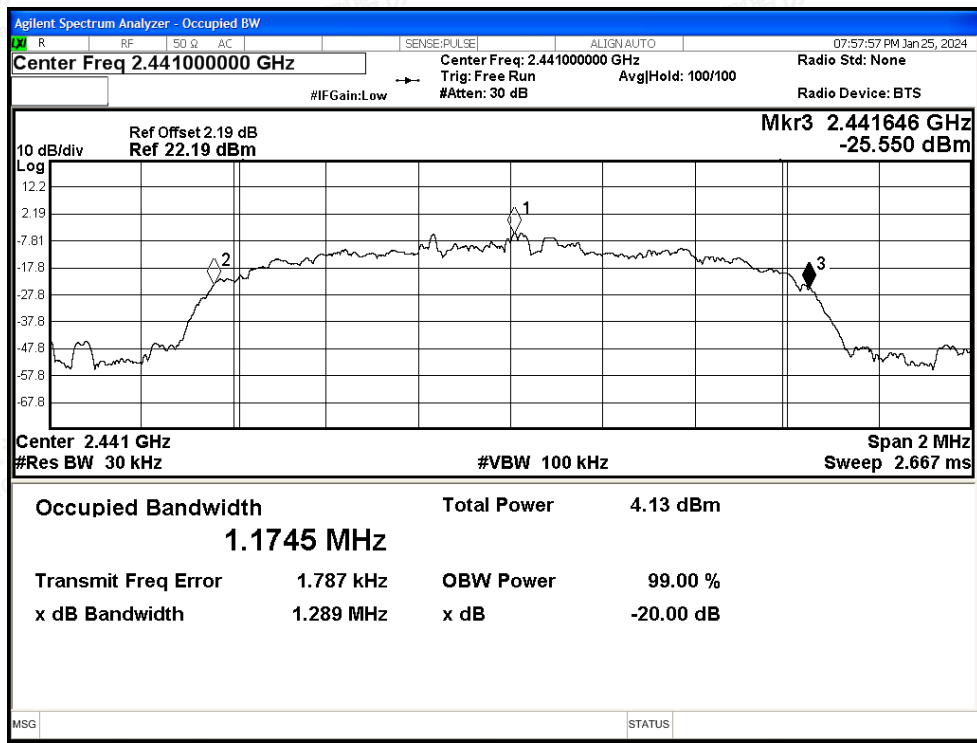


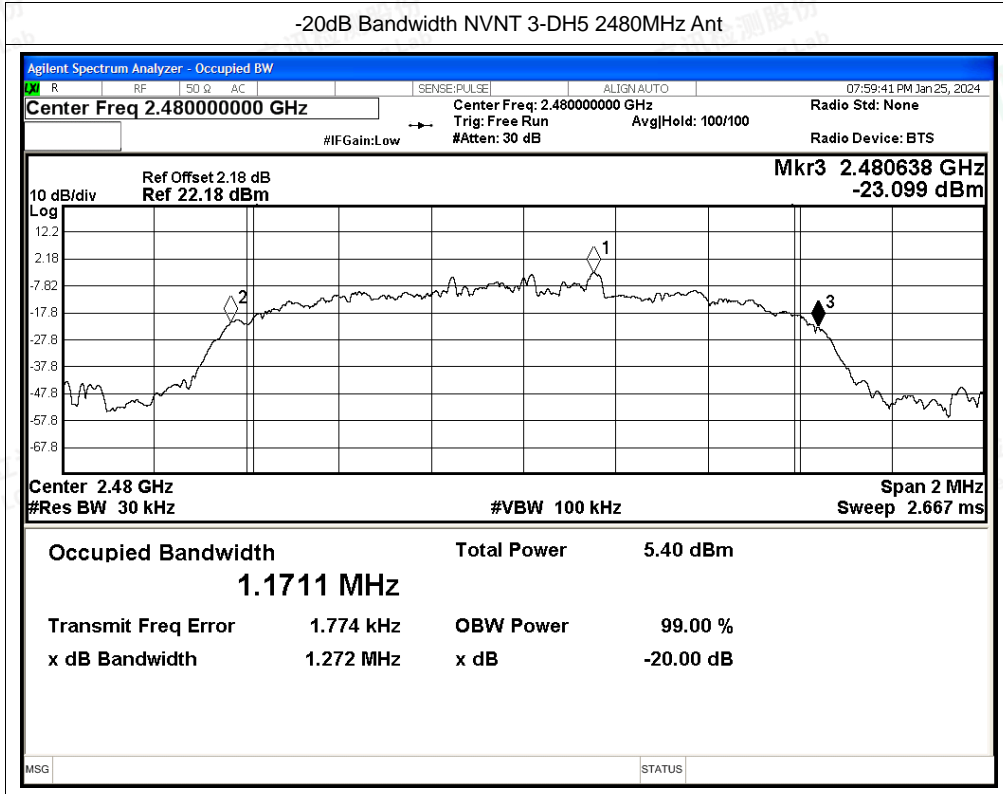


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant







A.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant	0.18	21	Pass
NVNT	1-DH5	2441	Ant	1.49	21	Pass
NVNT	1-DH5	2480	Ant	2.2	21	Pass
NVNT	2-DH5	2402	Ant	0.2	21	Pass
NVNT	2-DH5	2441	Ant	1.09	21	Pass
NVNT	2-DH5	2480	Ant	1.58	21	Pass
NVNT	3-DH5	2402	Ant	0.18	21	Pass
NVNT	3-DH5	2441	Ant	-0.55	21	Pass
NVNT	3-DH5	2480	Ant	0.49	21	Pass

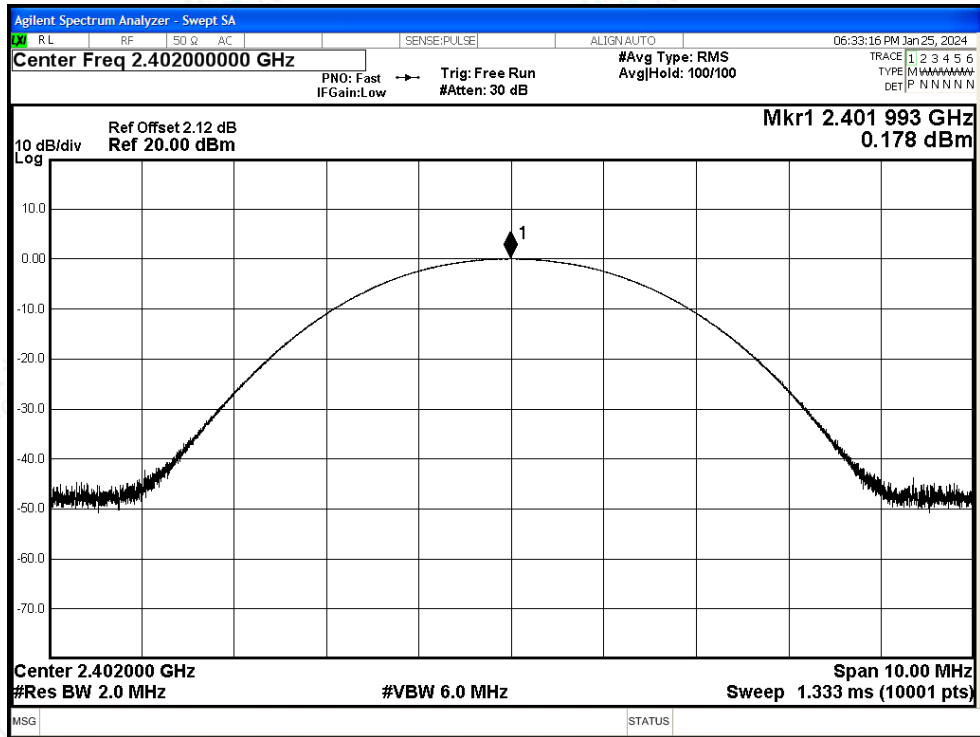


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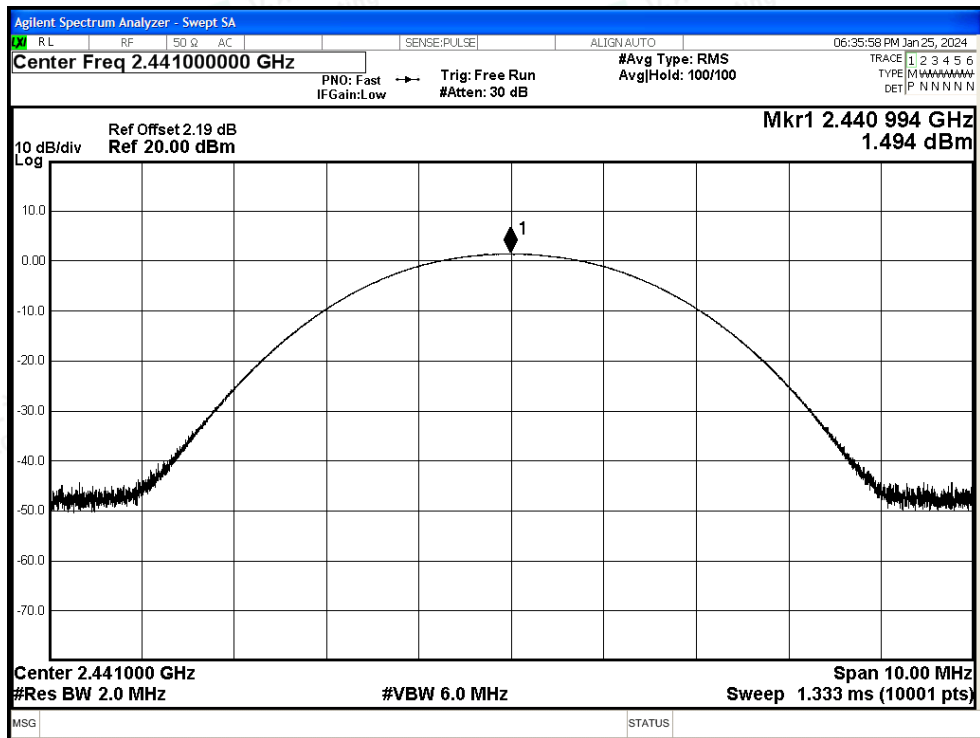


Test Graphs

Power NVNT 1-DH5 2402MHz Ant

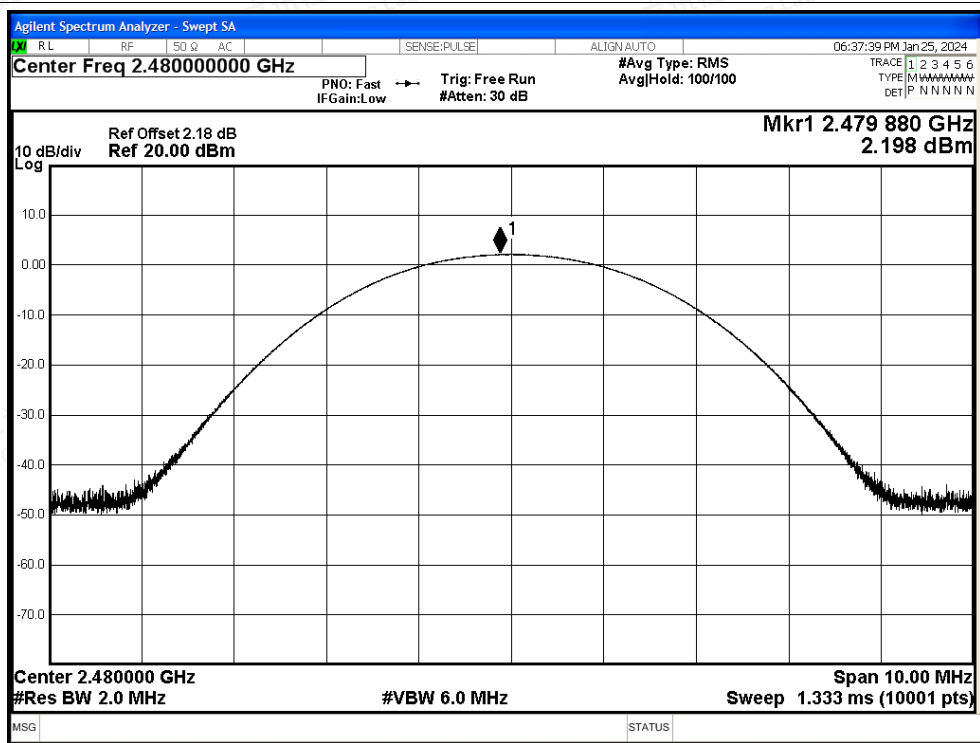


Power NVNT 1-DH5 2441MHz Ant

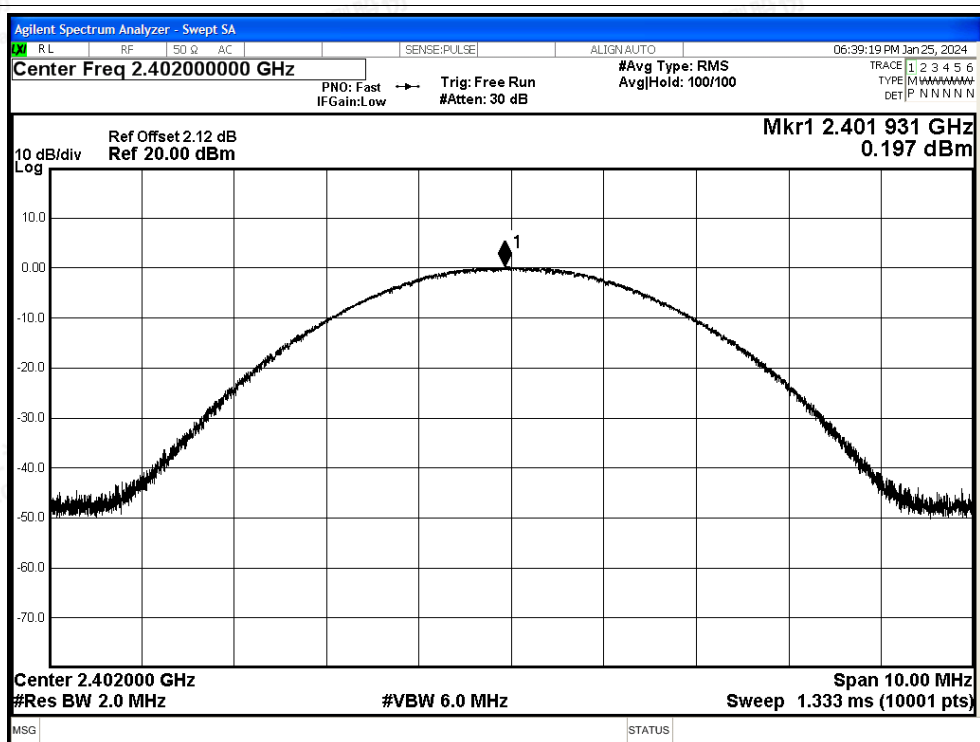




Power NVNT 1-DH5 2480MHz Ant

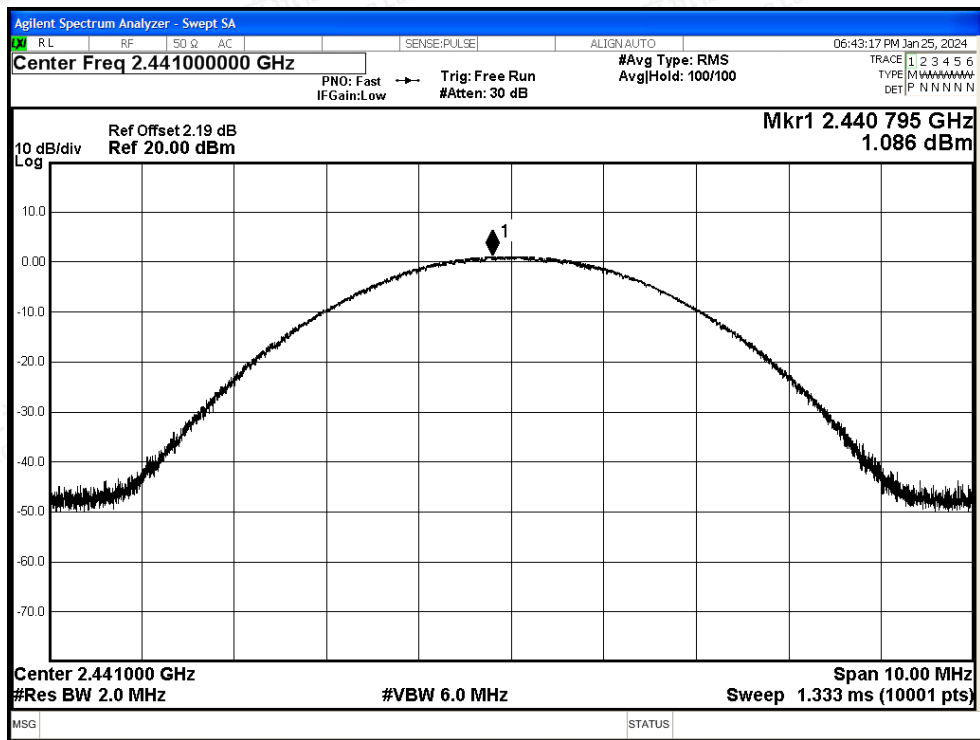


Power NVNT 2-DH5 2402MHz Ant

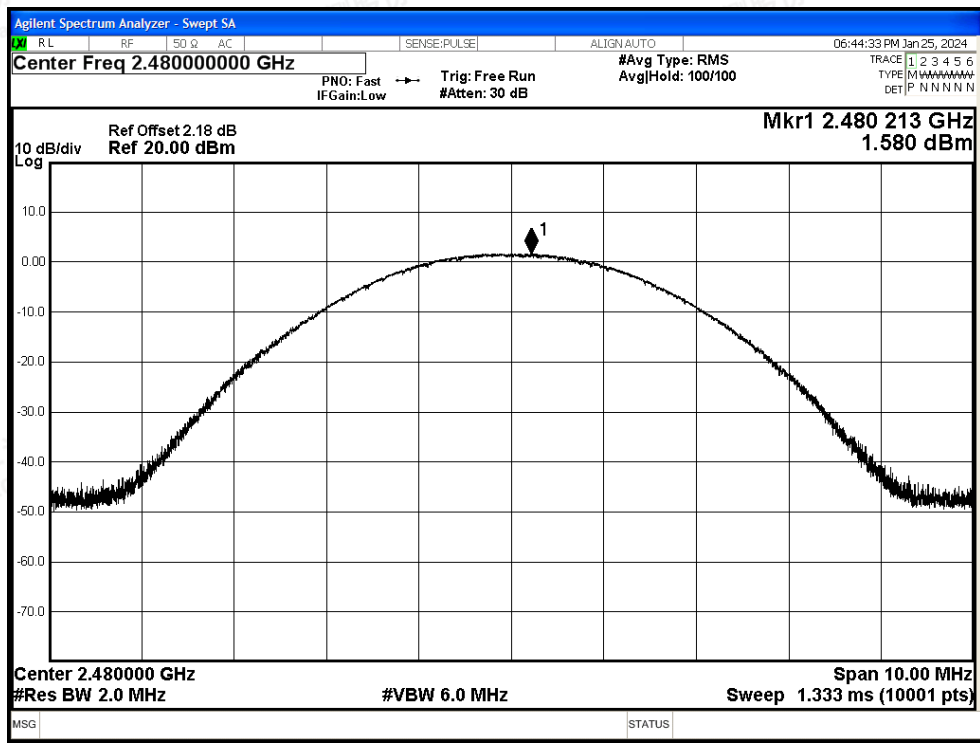




Power NVNT 2-DH5 2441MHz Ant

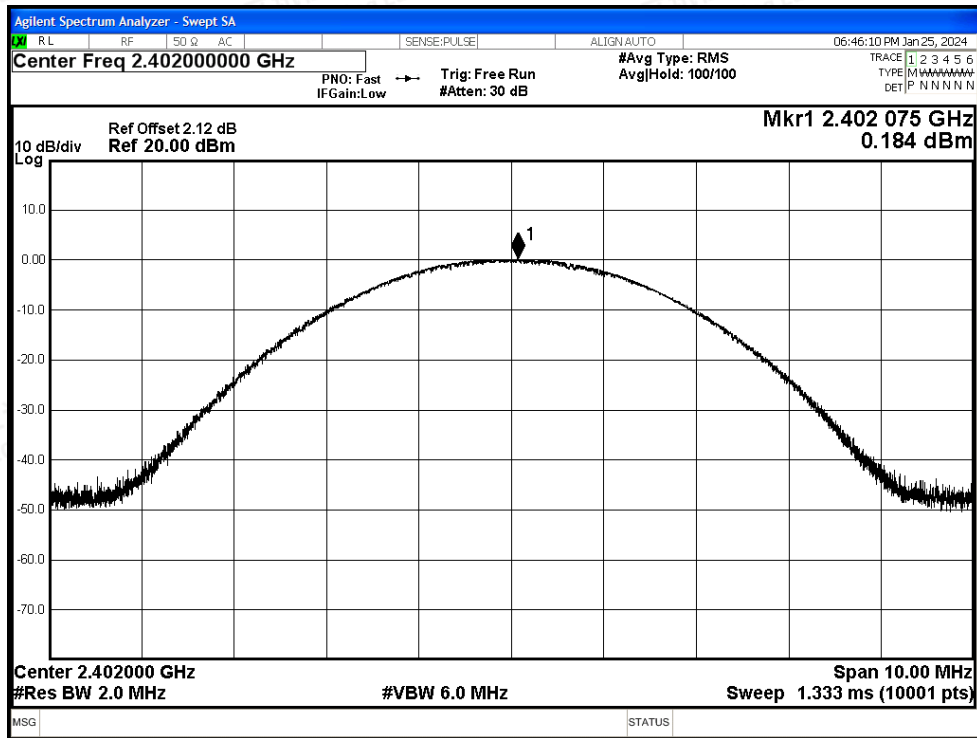


Power NVNT 2-DH5 2480MHz Ant

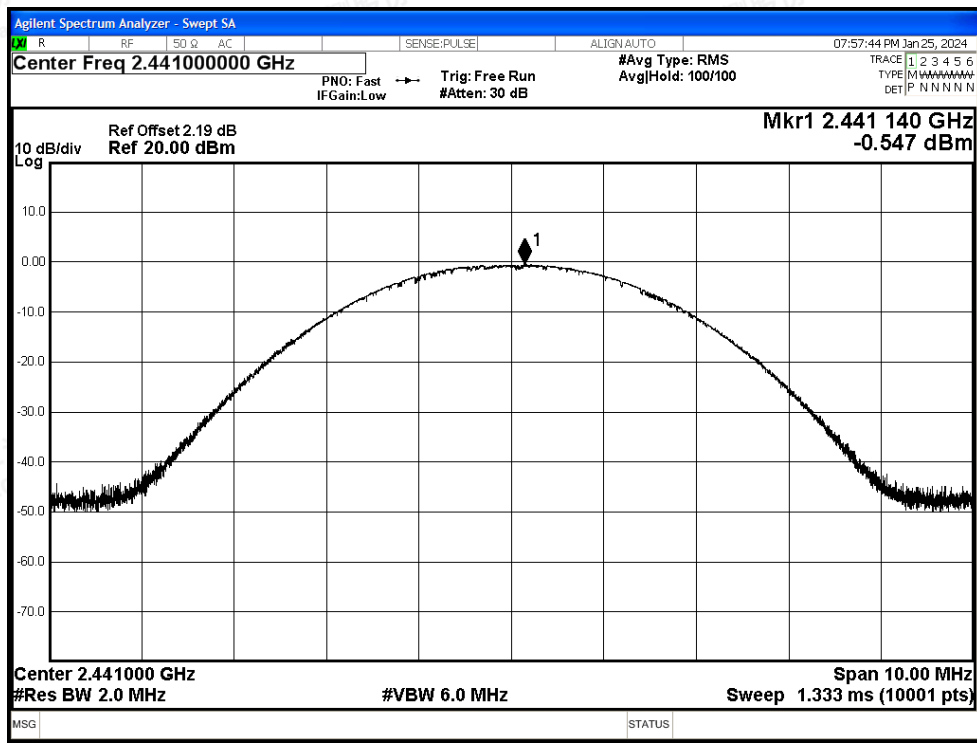




Power NVNT 3-DH5 2402MHz Ant

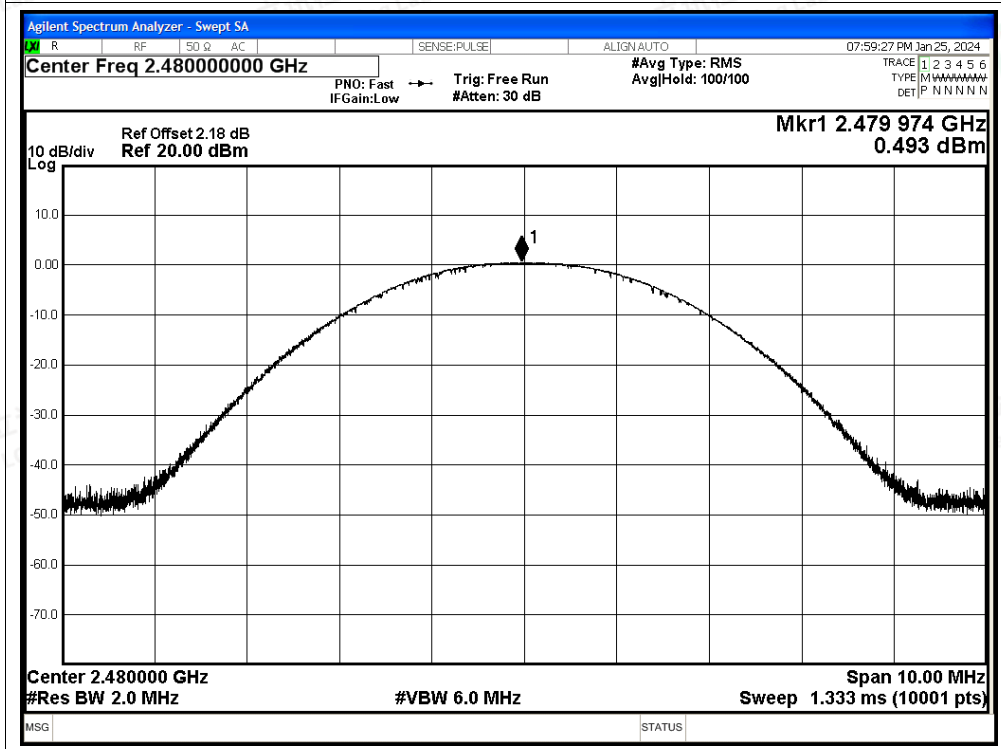


Power NVNT 3-DH5 2441MHz Ant





Power NVNT 3-DH5 2480MHz Ant





A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant	2401.974	2402.968	0.994	0.577	Pass
NVNT	2-DH5	Ant	2401.83	2403.162	1.332	0.871	Pass
NVNT	3-DH5	Ant	2402.006	2403.156	1.15	0.859	Pass

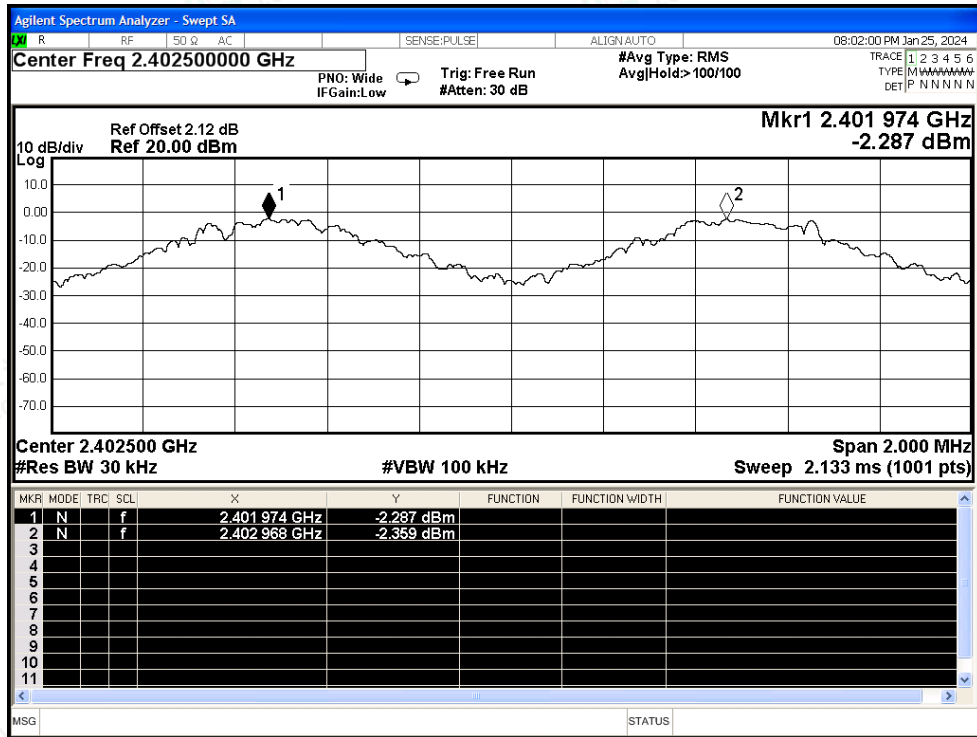


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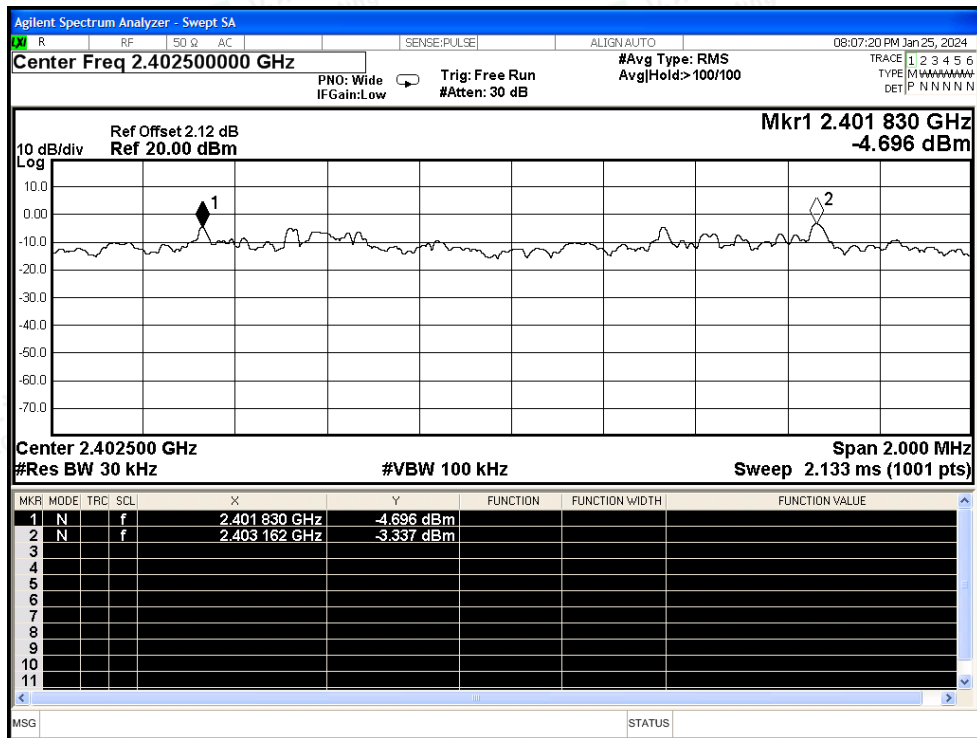


Test Graphs

CFS NVNT 1-DH5 2402MHz Ant

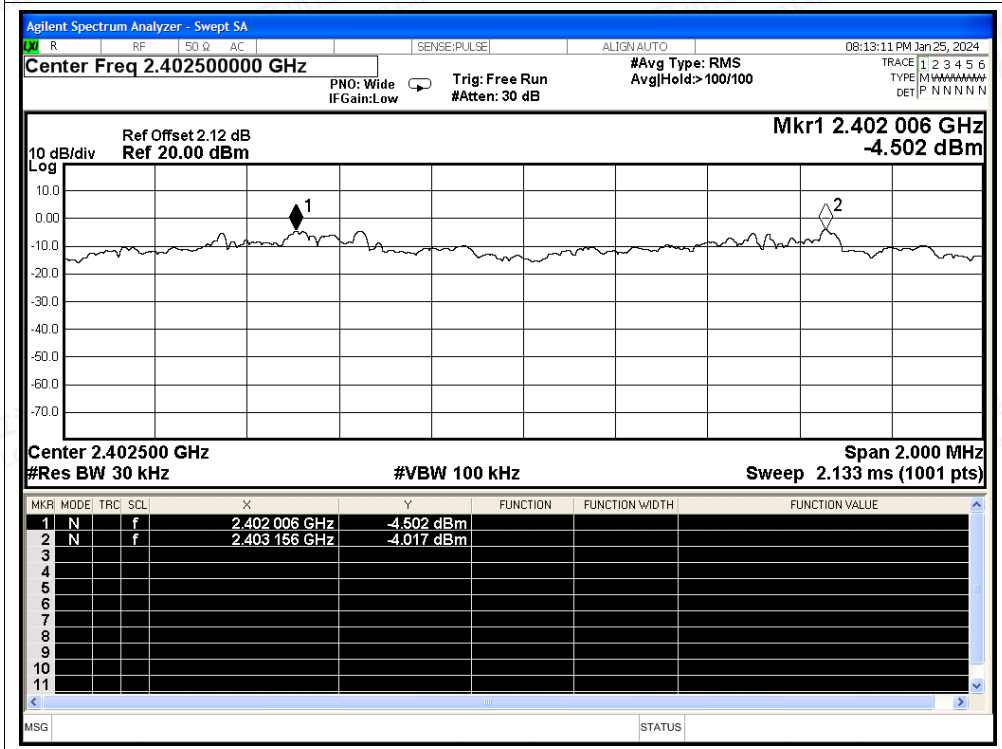


CFS NVNT 2-DH5 2402MHz Ant





CFS NVNT 3-DH5 2402MHz Ant





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	Ant	2.881	290.981	101	31600	400	Pass
NVNT	2-DH5	2402	Ant	2.885	288.5	100	31600	400	Pass
NVNT	3-DH5	2402	Ant	2.886	277.056	96	31600	400	Pass

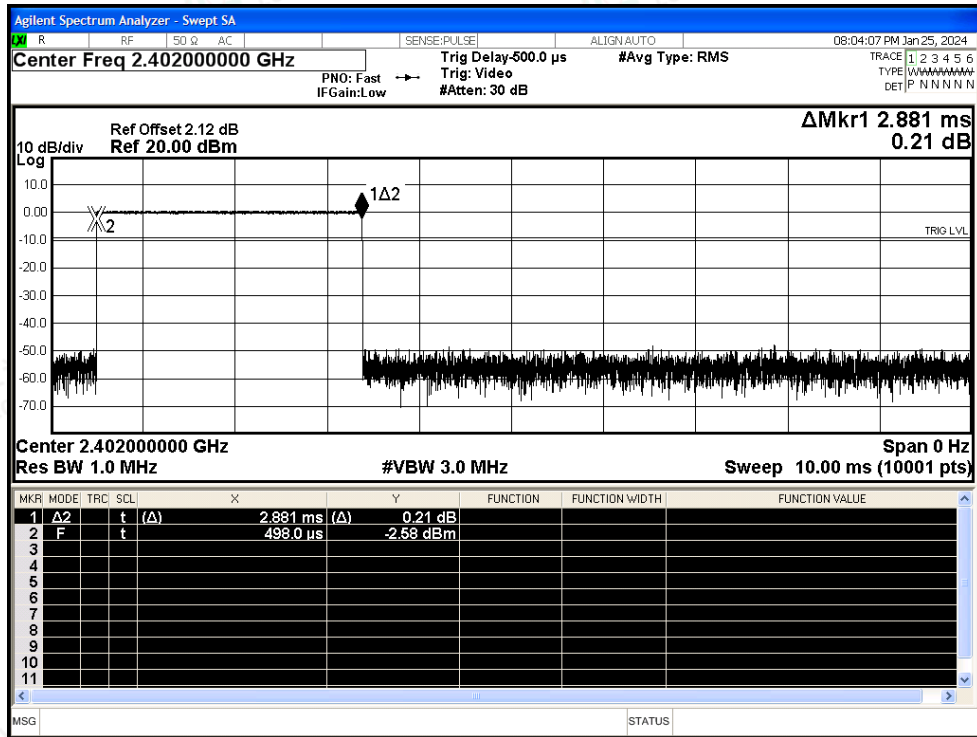


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Scan code to check authenticity

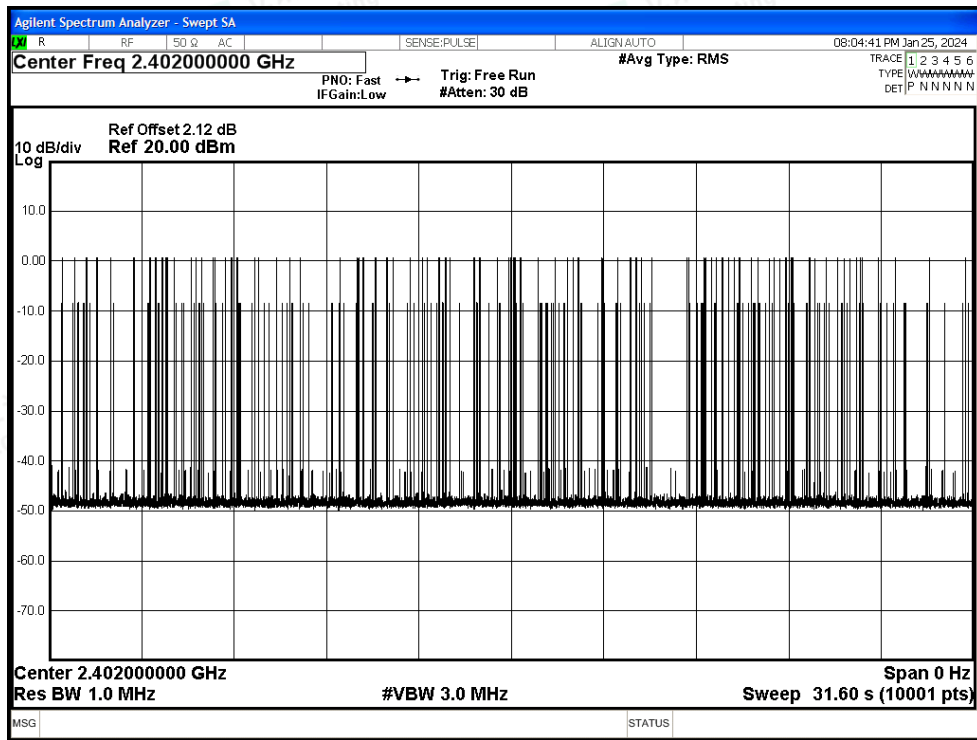


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant One Burst

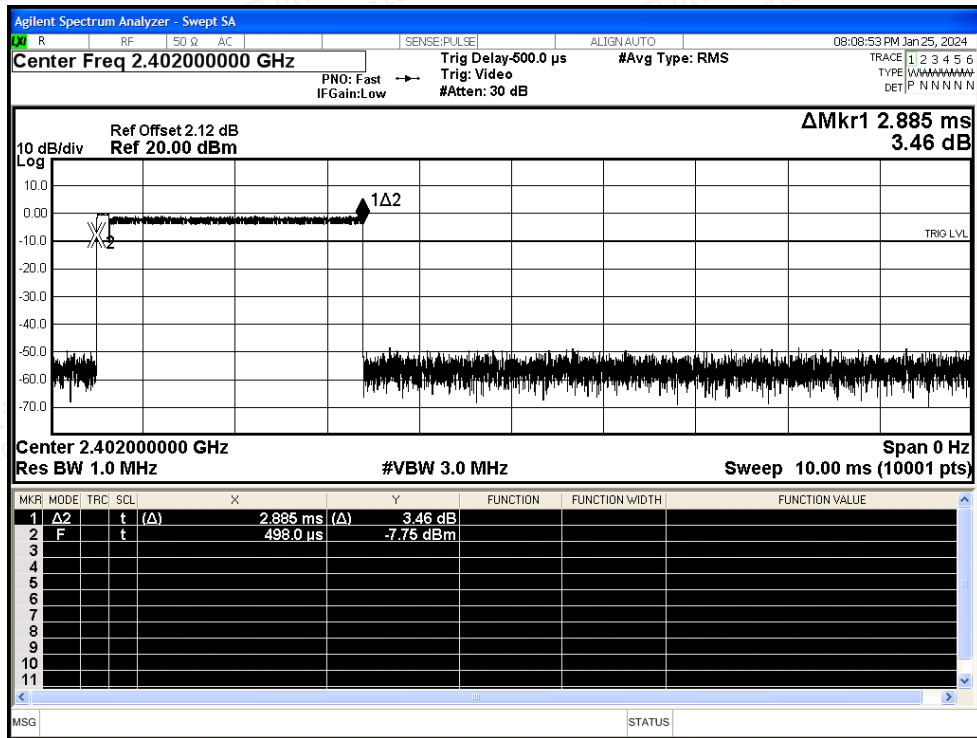


Dwell NVNT 1-DH5 2402MHz Ant Accumulated

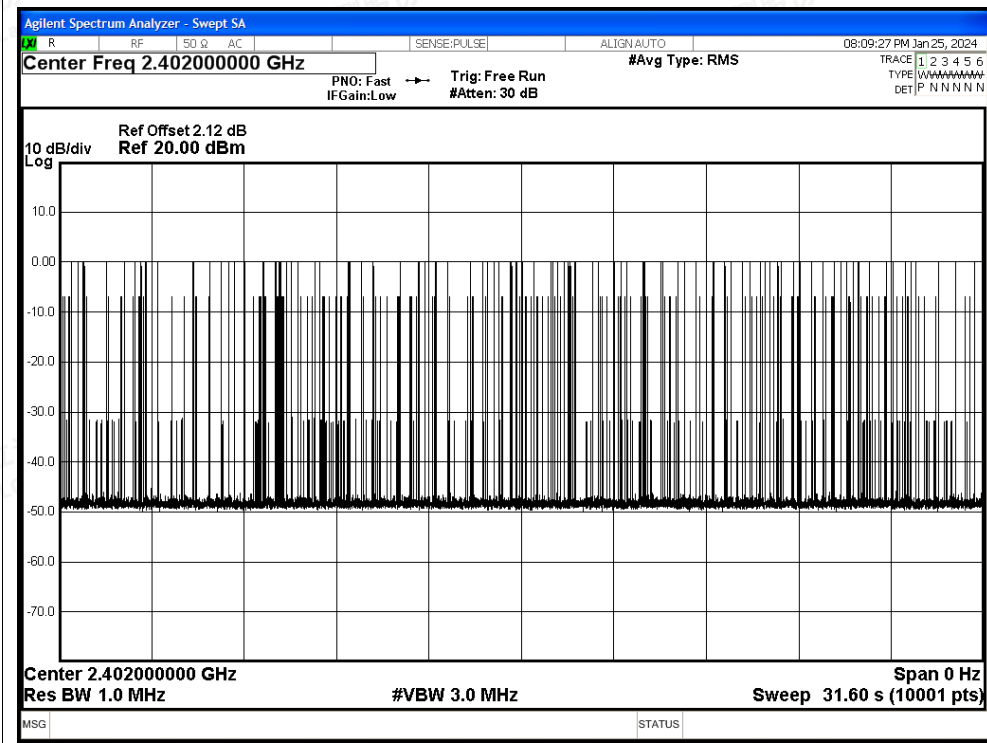




Dwell NVNT 2-DH5 2402MHz Ant One Burst

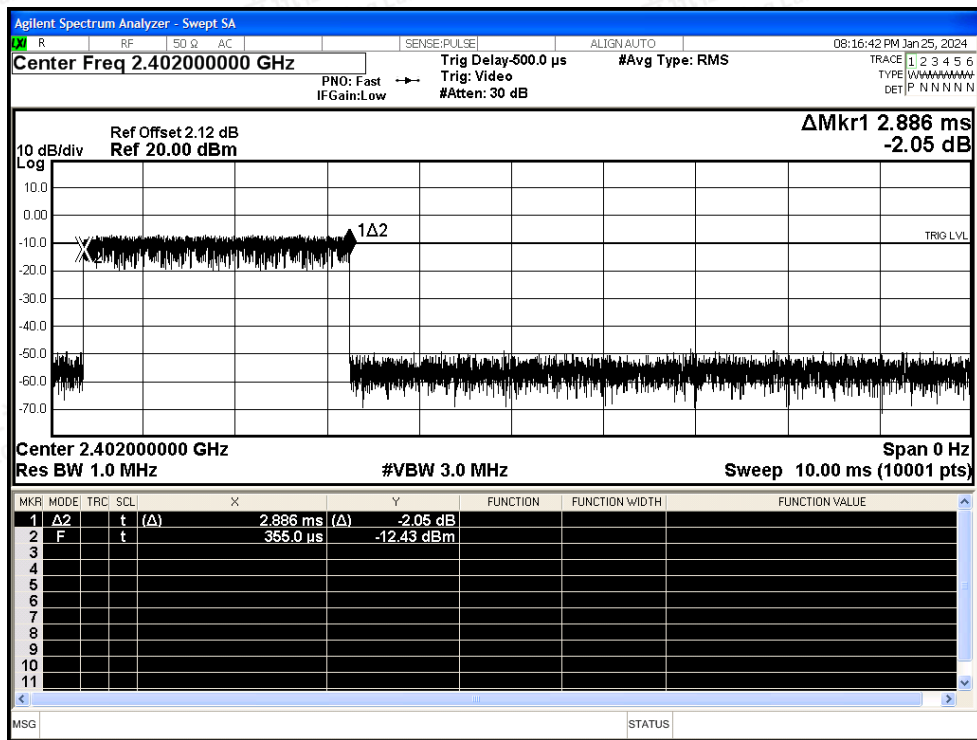


Dwell NVNT 2-DH5 2402MHz Ant Accumulated

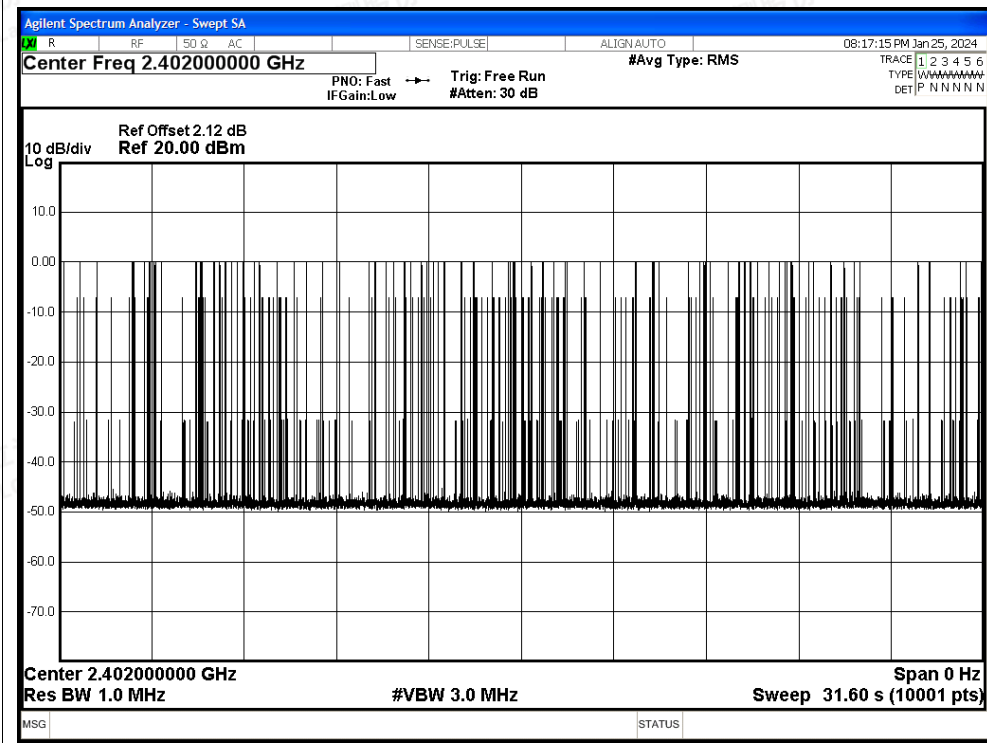




Dwell NVNT 3-DH5 2402MHz Ant One Burst



Dwell NVNT 3-DH5 2402MHz Ant Accumulated





A.5 Number of Hopping Channel

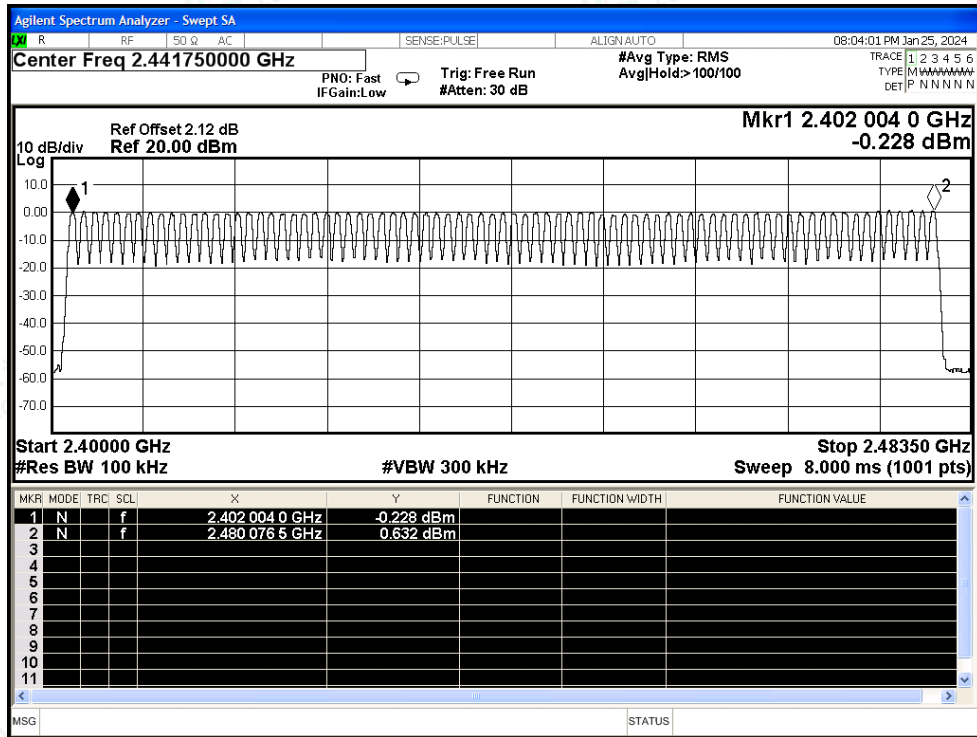
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant	79	15	Pass
NVNT	2-DH5	Ant	79	15	Pass
NVNT	3-DH5	Ant	79	15	Pass



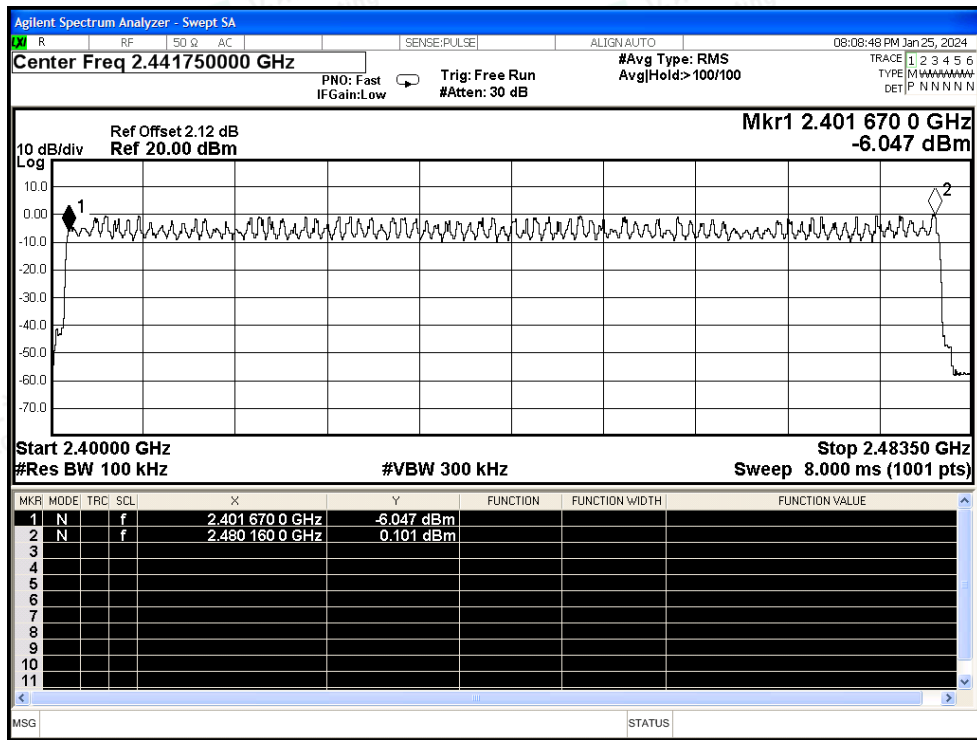


Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant

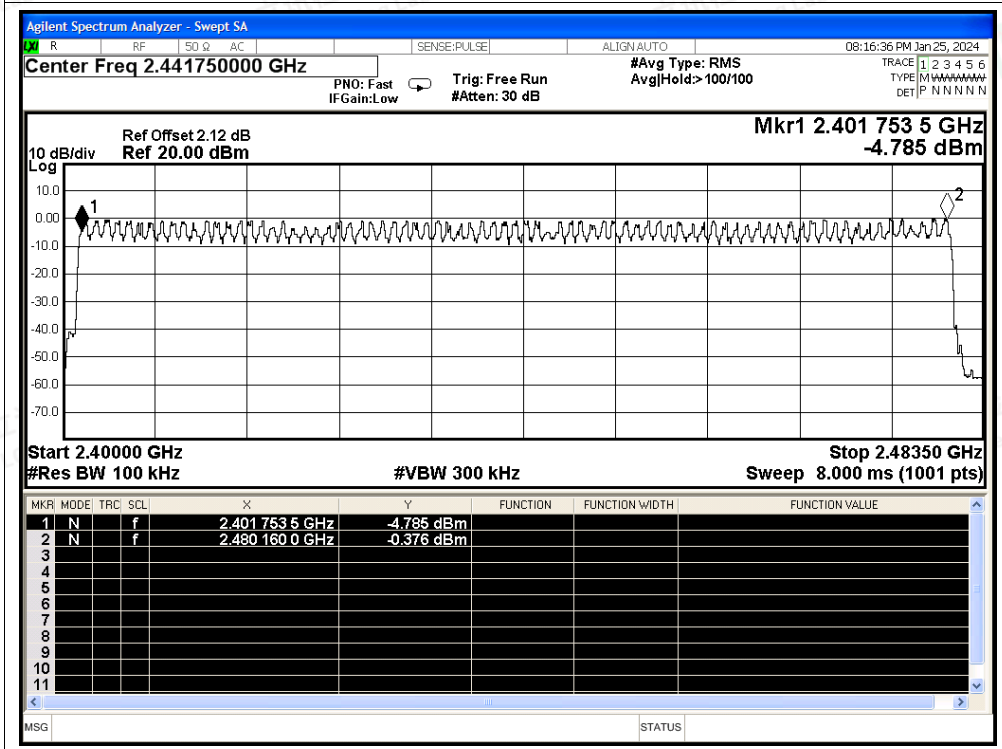


Hopping No. NVNT 2-DH5 2402MHz Ant





Hopping No. NVNT 3-DH5 2402MHz Ant





A.6 Band Edge

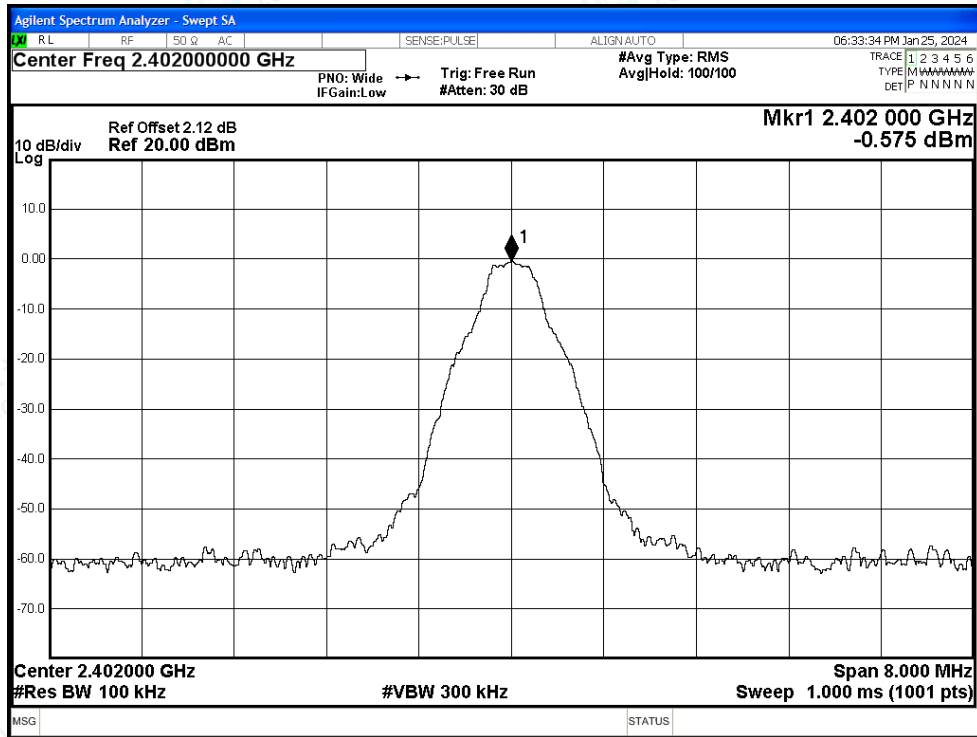
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant	No-Hopping	-56.28	-20	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	-57.89	-20	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	-53.44	-20	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	-57.77	-20	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	-50.07	-20	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	-53.08	-20	Pass



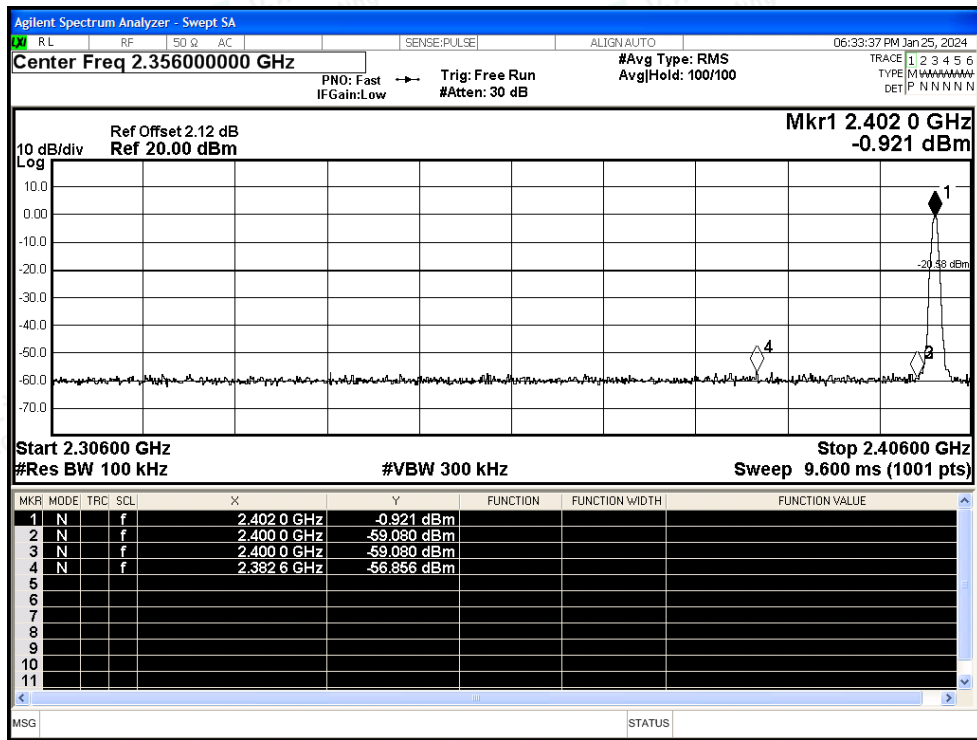


Test Graphs

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

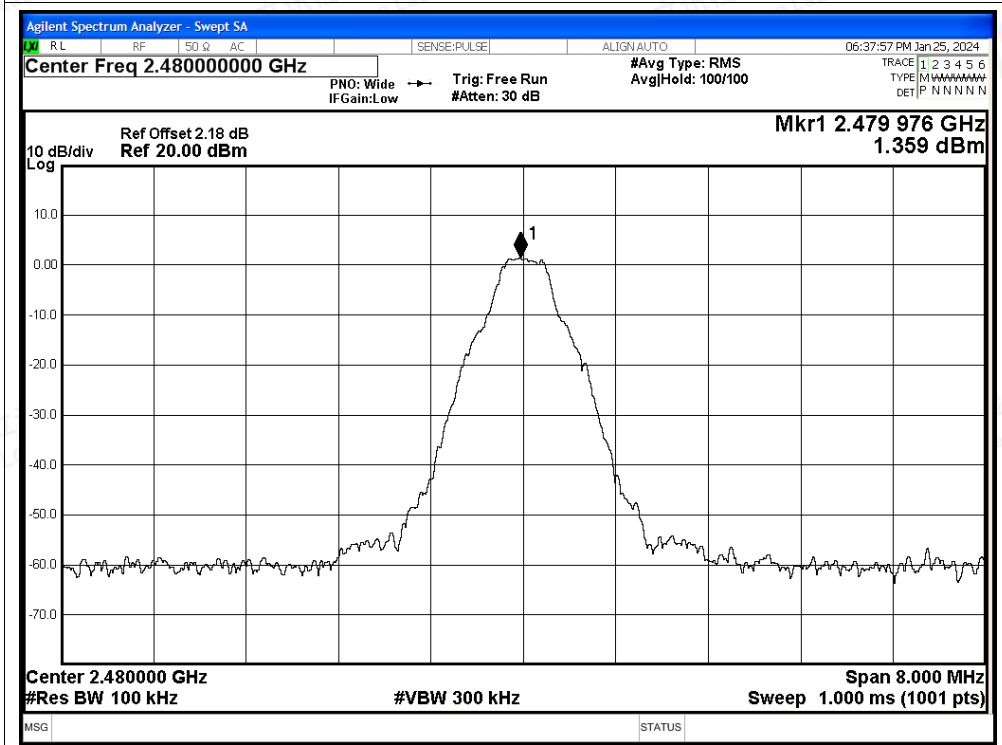


Band Edge NVNT 1-DH5 2402MHz Ant No-Hopping Emission

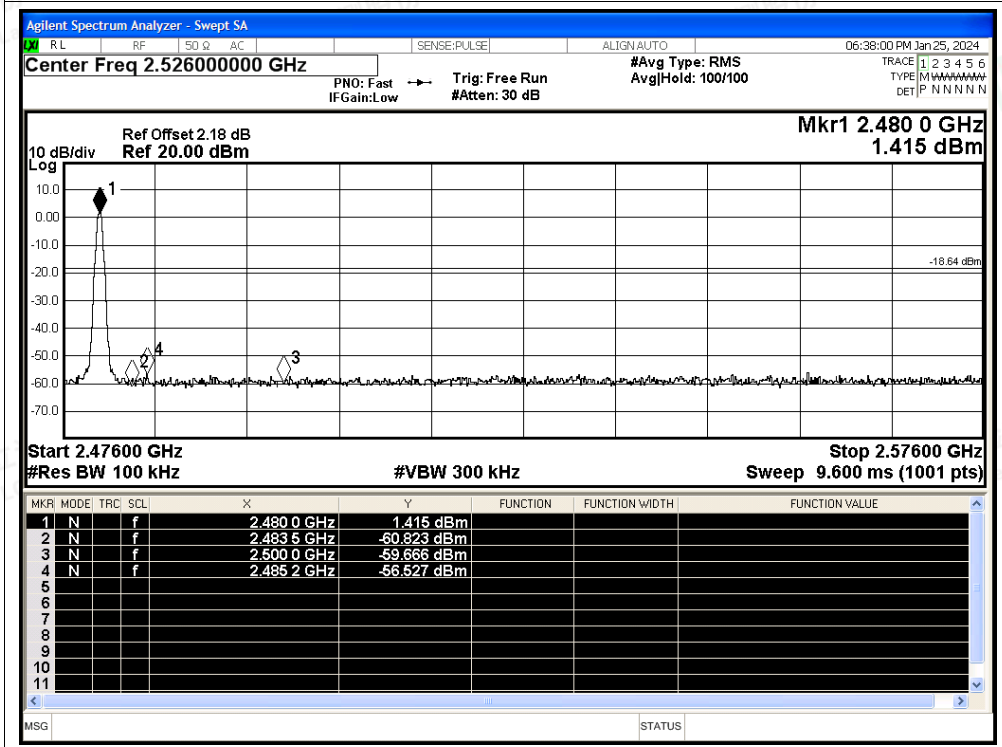




Band Edge NVNT 1-DH5 2480MHz Ant No-Hopping Ref

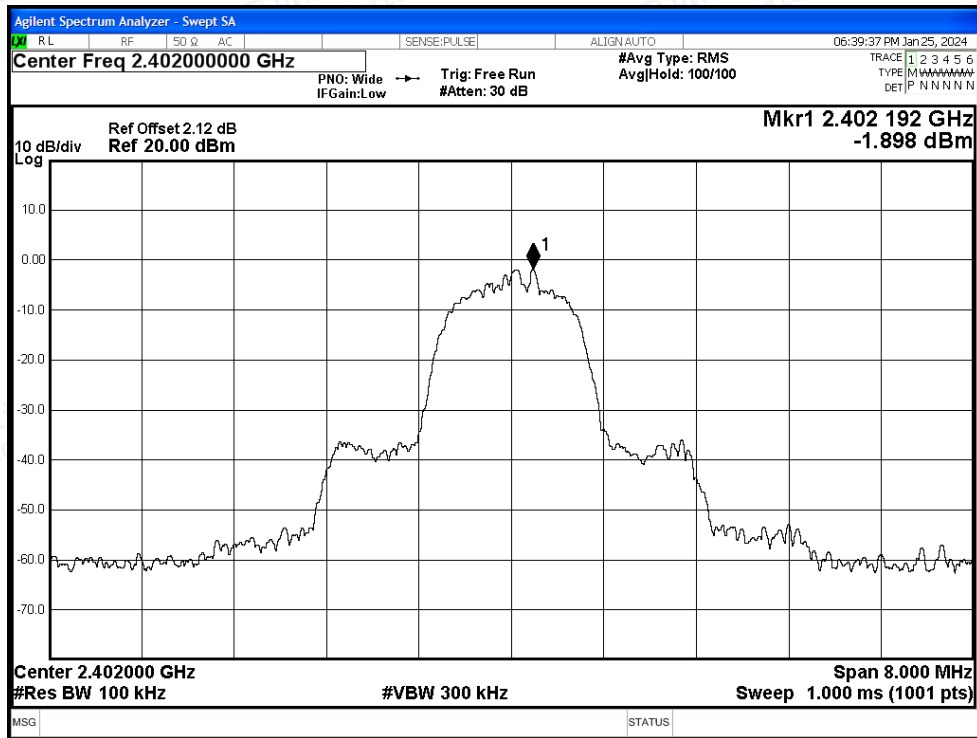


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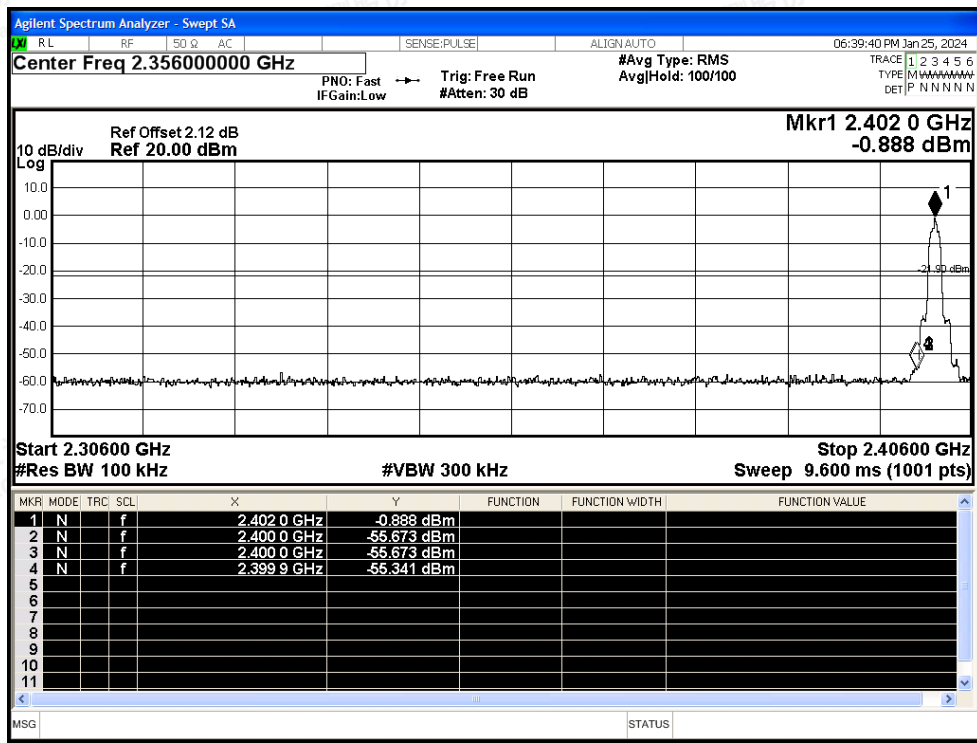




Band Edge NVNT 2-DH5 2402MHz Ant No-Hopping Ref

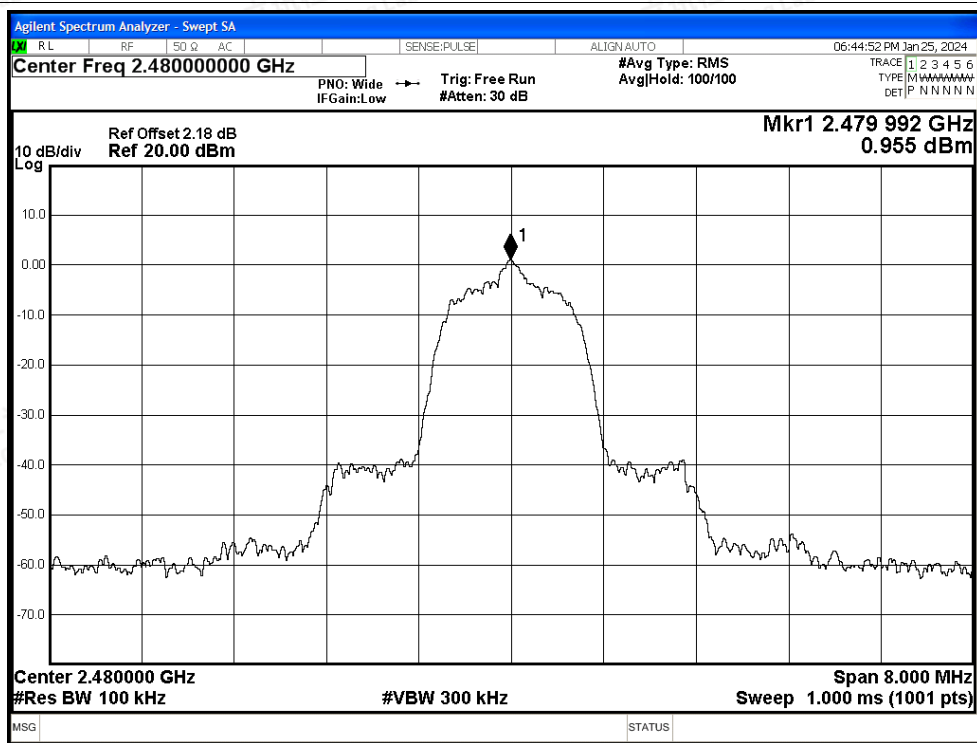


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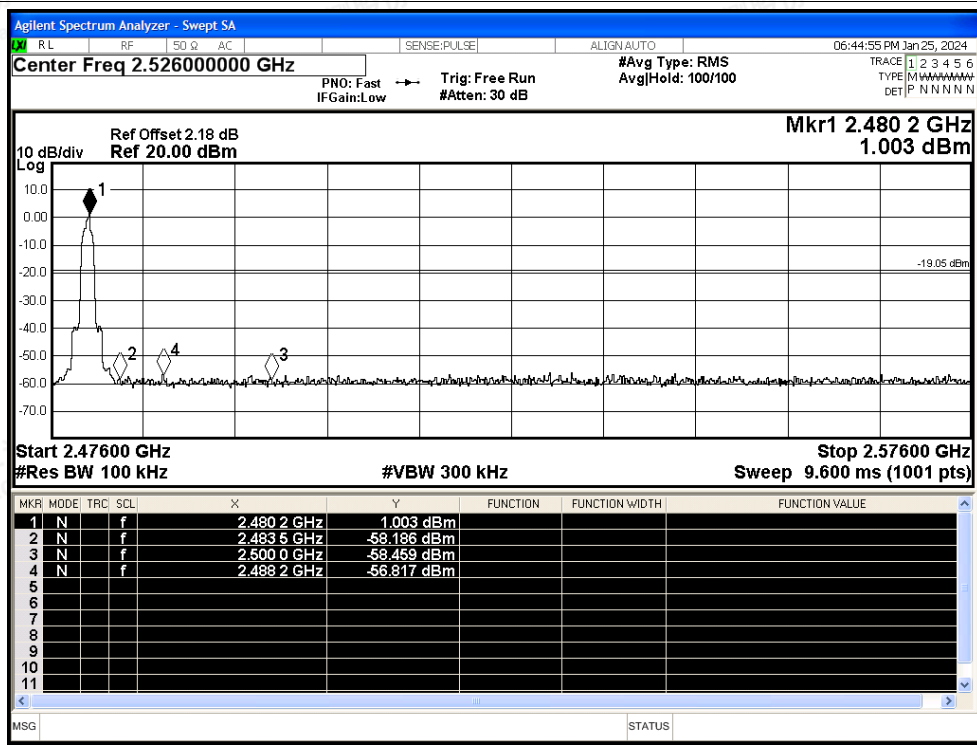




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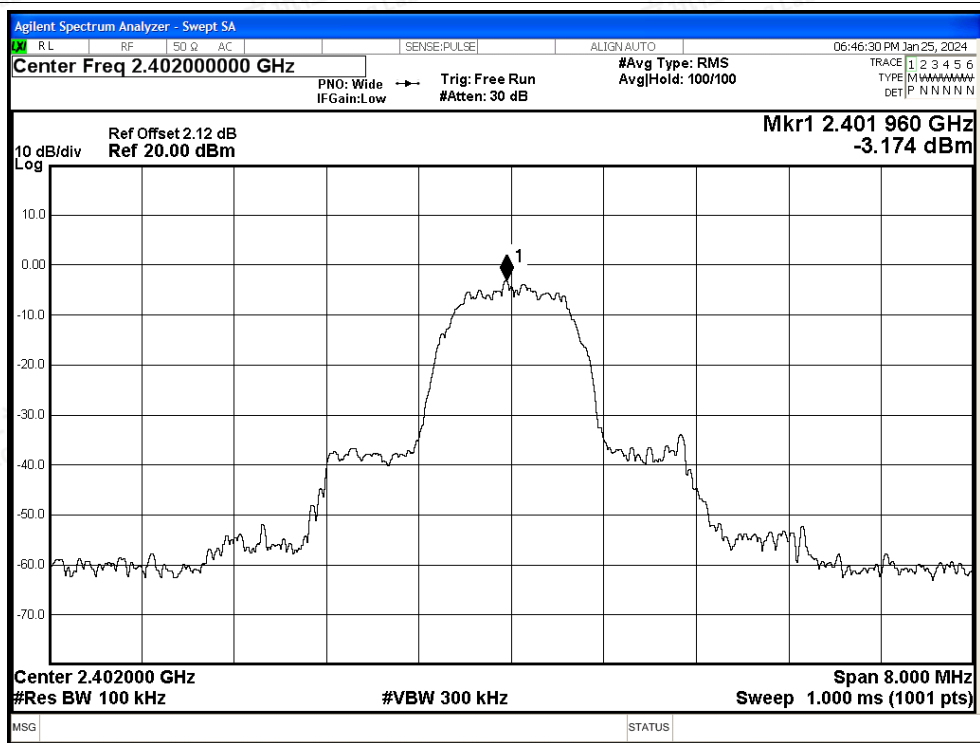


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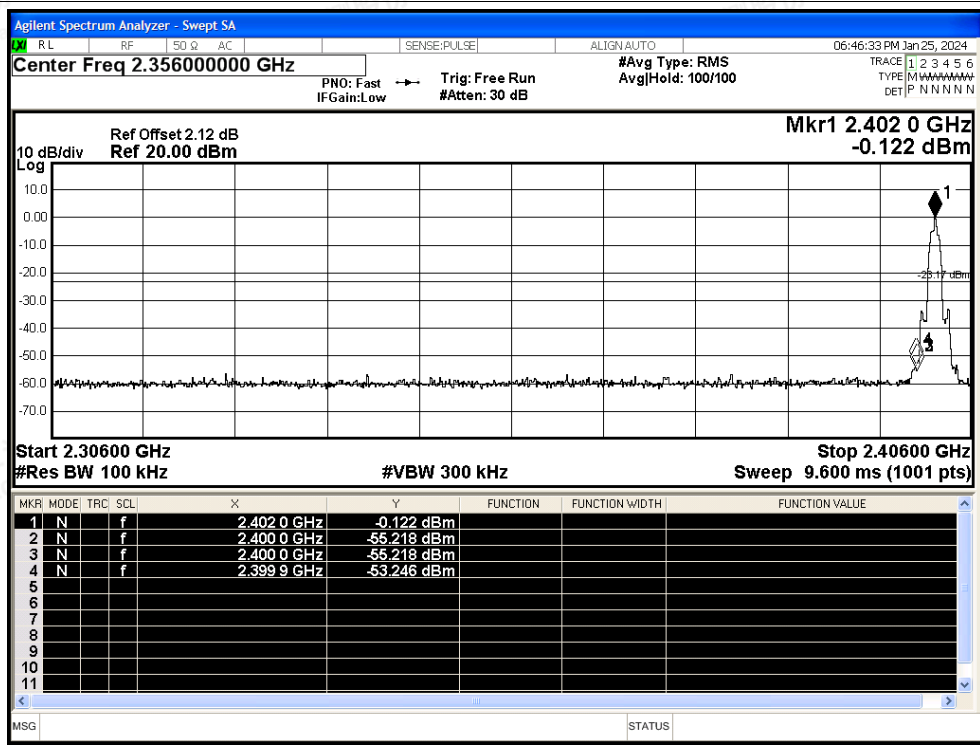




Band Edge NVNT 3-DH5 2402MHz Ant No-Hopping Ref

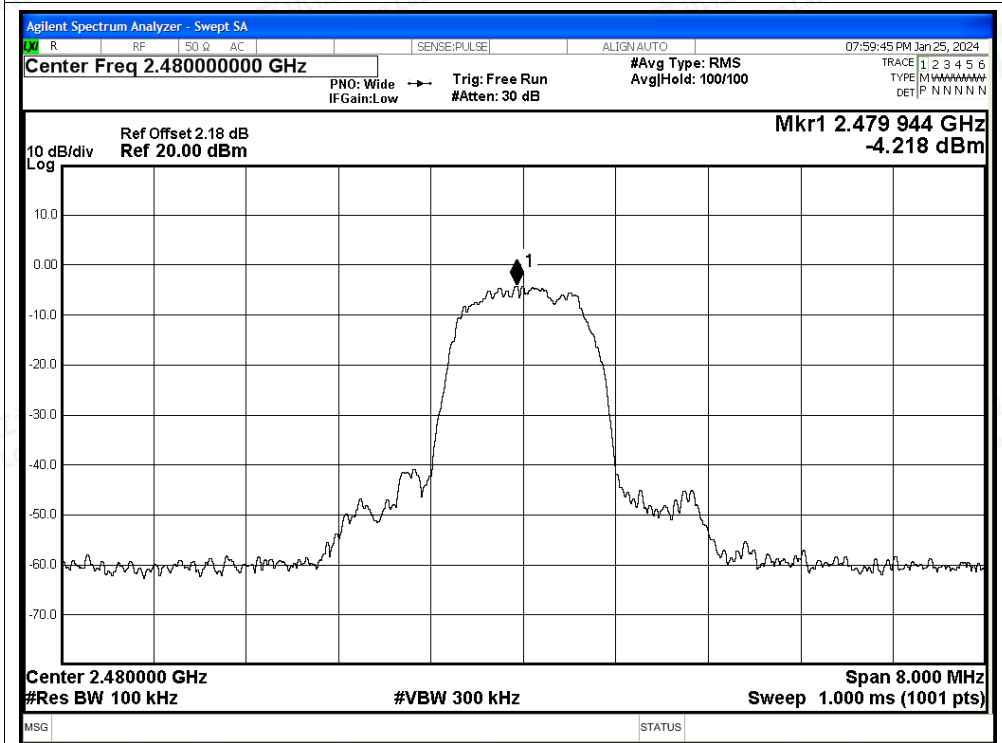


Band Edge NVNT 3-DH5 2402MHz Ant No-Hopping Emission

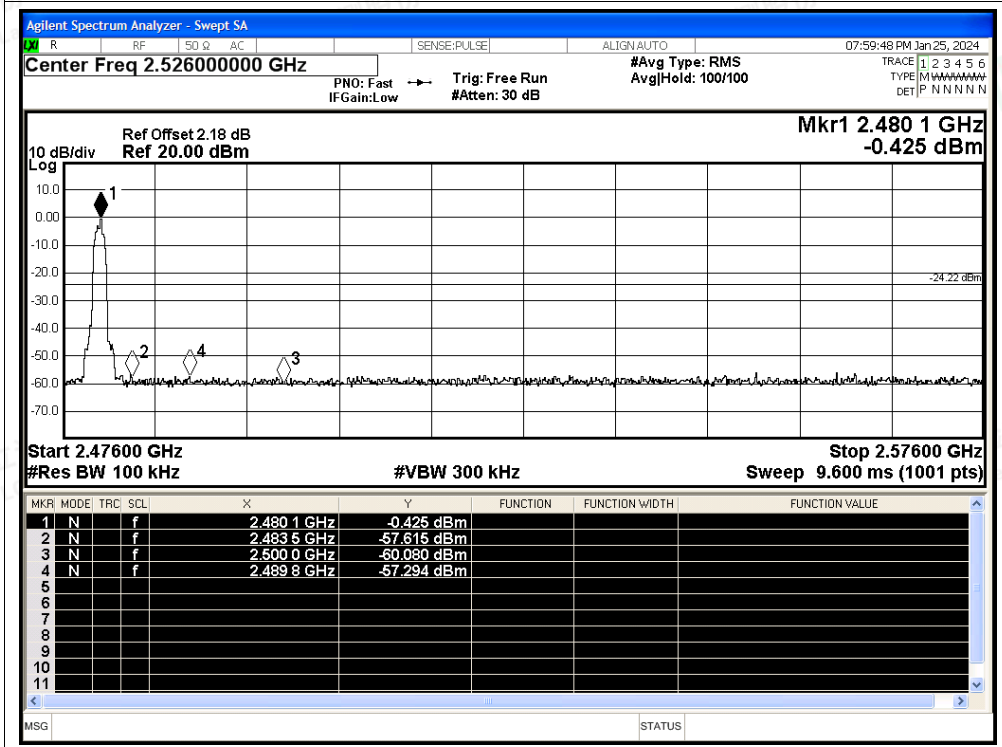




Band Edge NVNT 3-DH5 2480MHz Ant No-Hopping Ref



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





(Hopping)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant	Hopping	-56.2	-20	Pass
NVNT	1-DH5	2480	Ant	Hopping	-56.43	-20	Pass
NVNT	2-DH5	2402	Ant	Hopping	-54.48	-20	Pass
NVNT	2-DH5	2480	Ant	Hopping	-54.93	-20	Pass
NVNT	3-DH5	2402	Ant	Hopping	-54.8	-20	Pass
NVNT	3-DH5	2480	Ant	Hopping	-53.47	-20	Pass

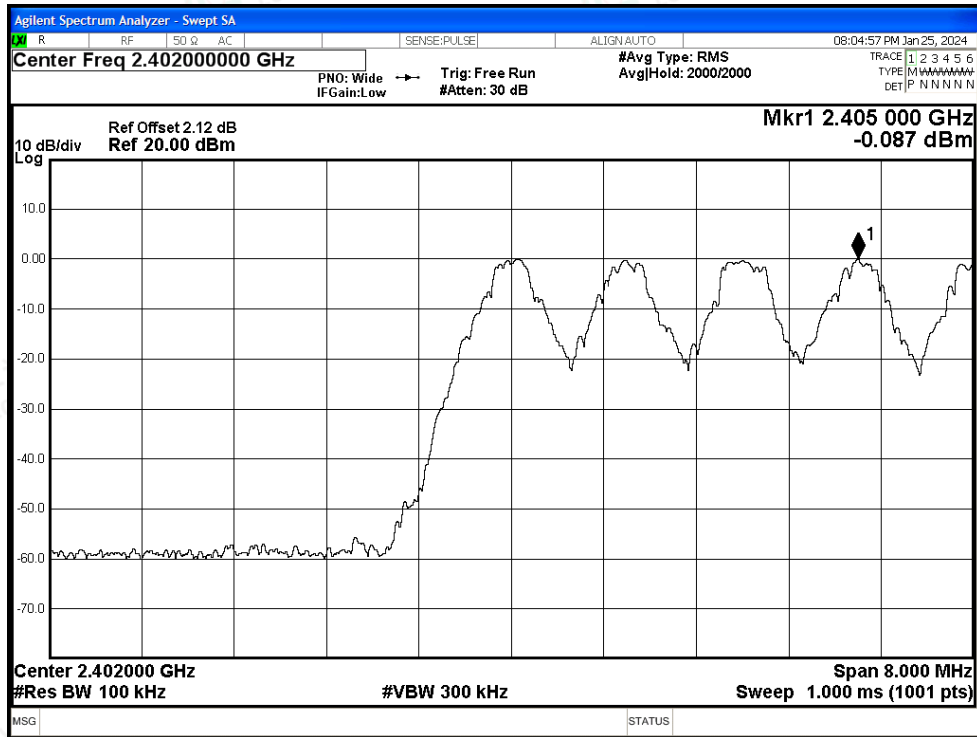


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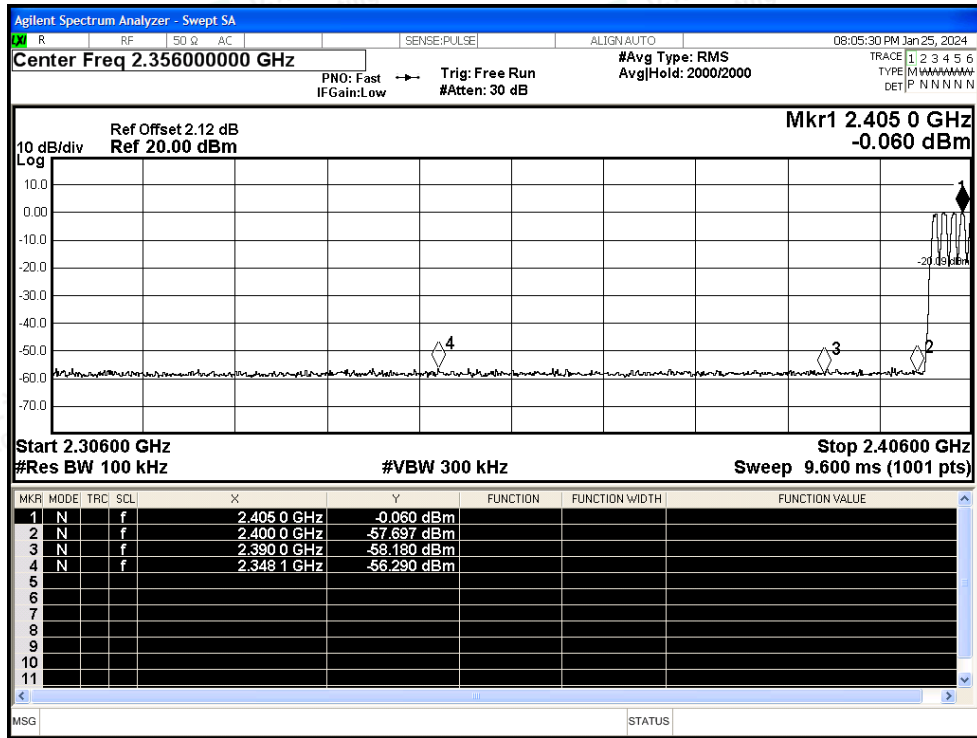


Test Graphs

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

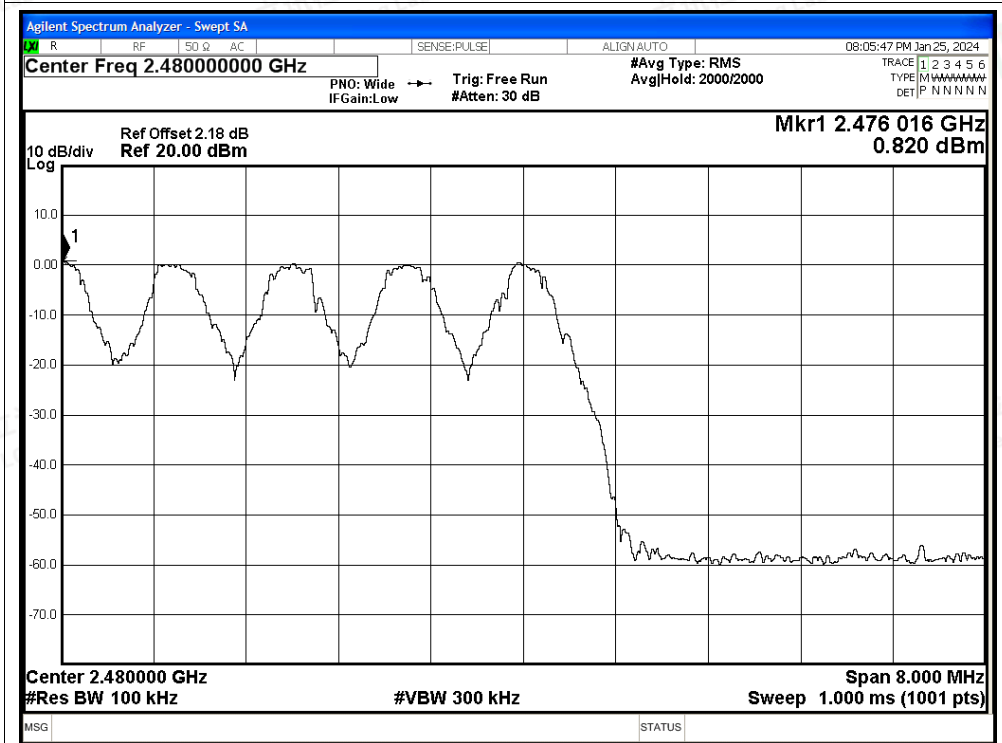


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant Hopping Emission

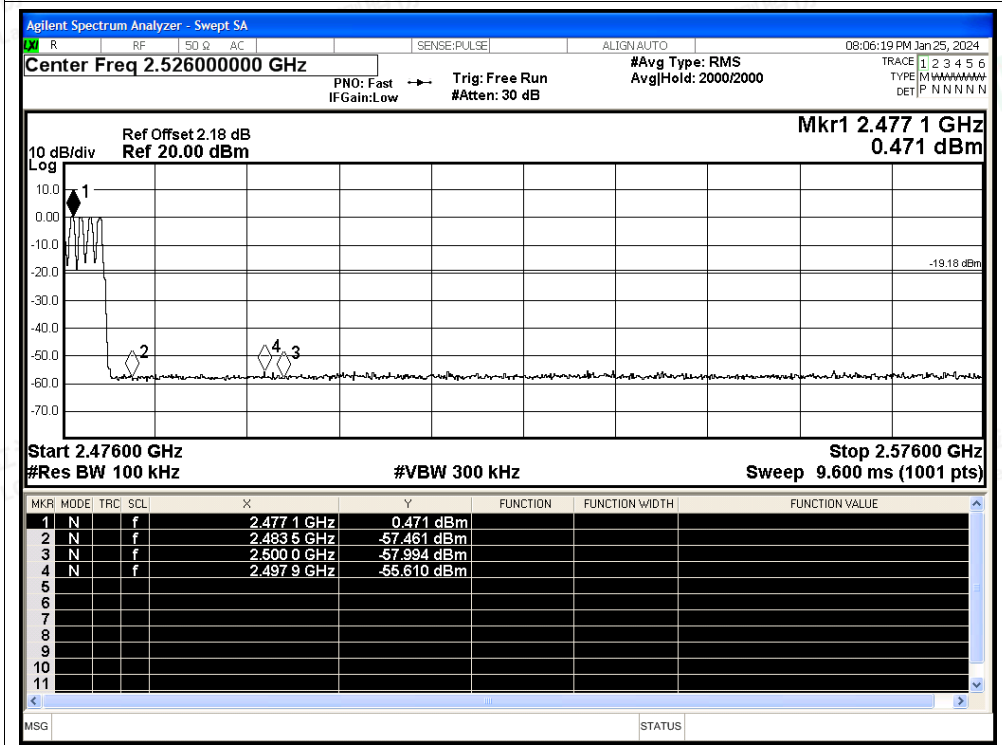




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant Hopping Ref

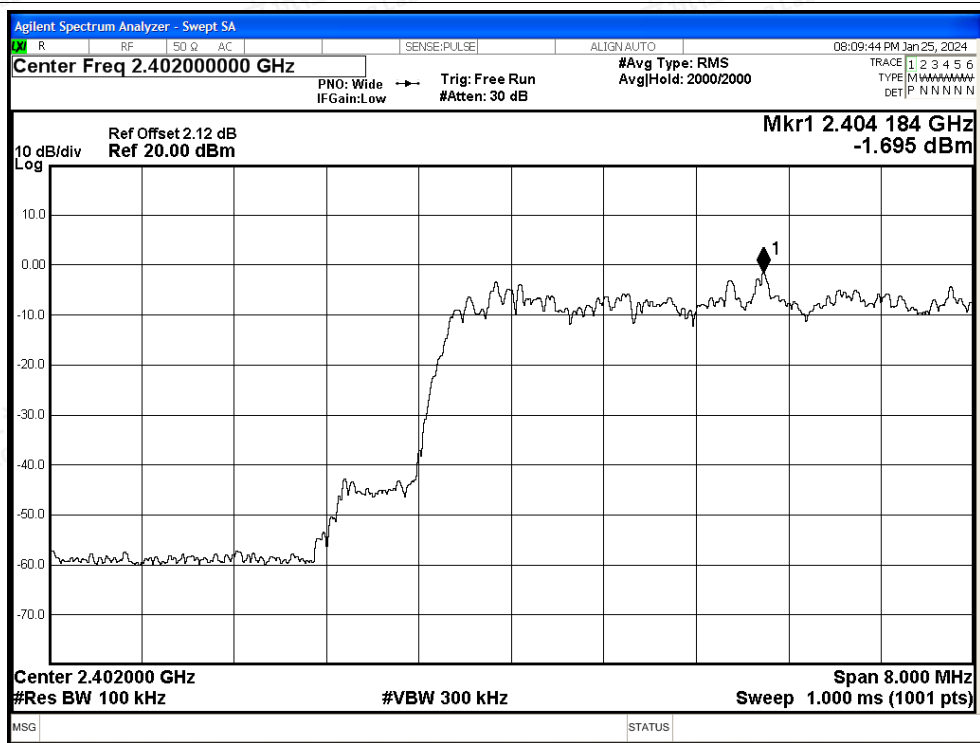


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant Hopping Emission

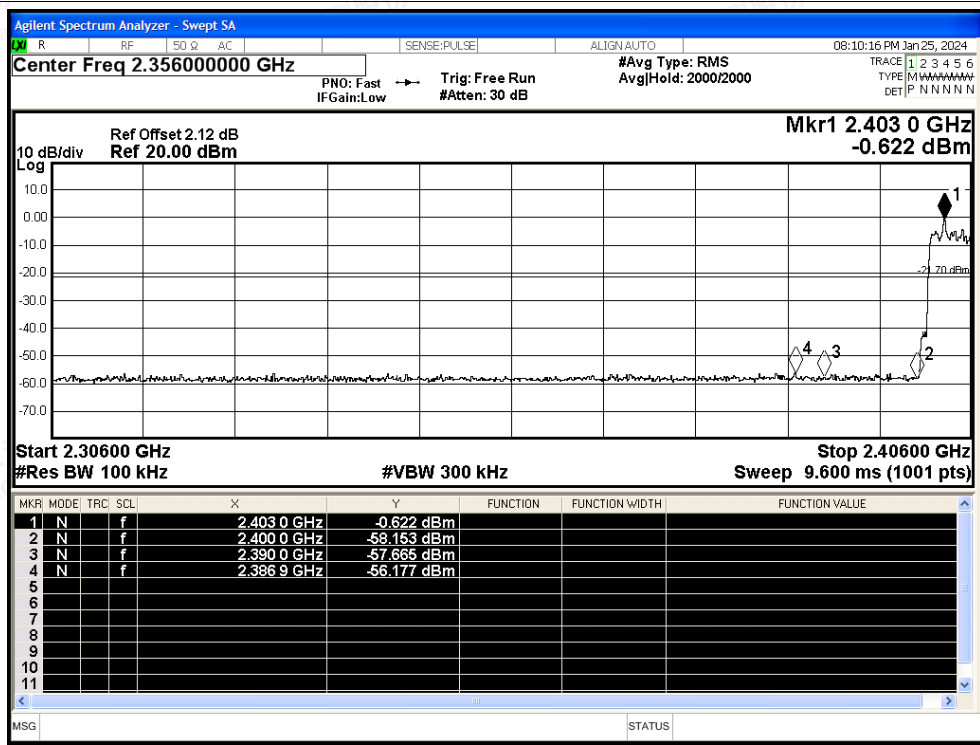




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant Hopping Ref

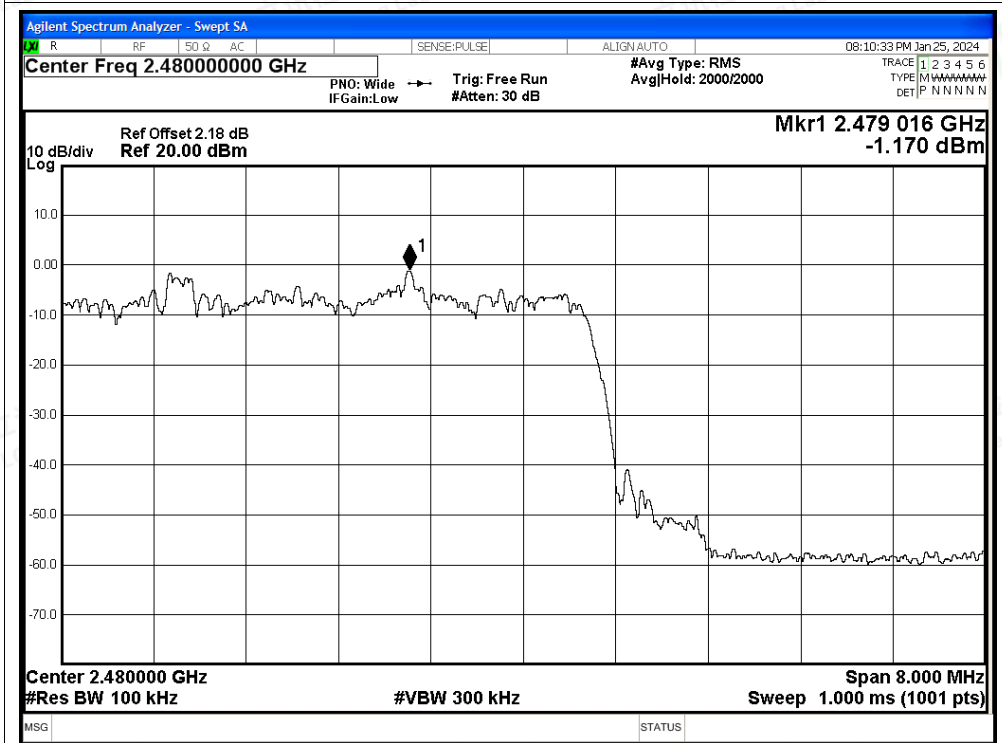


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant Hopping Emission

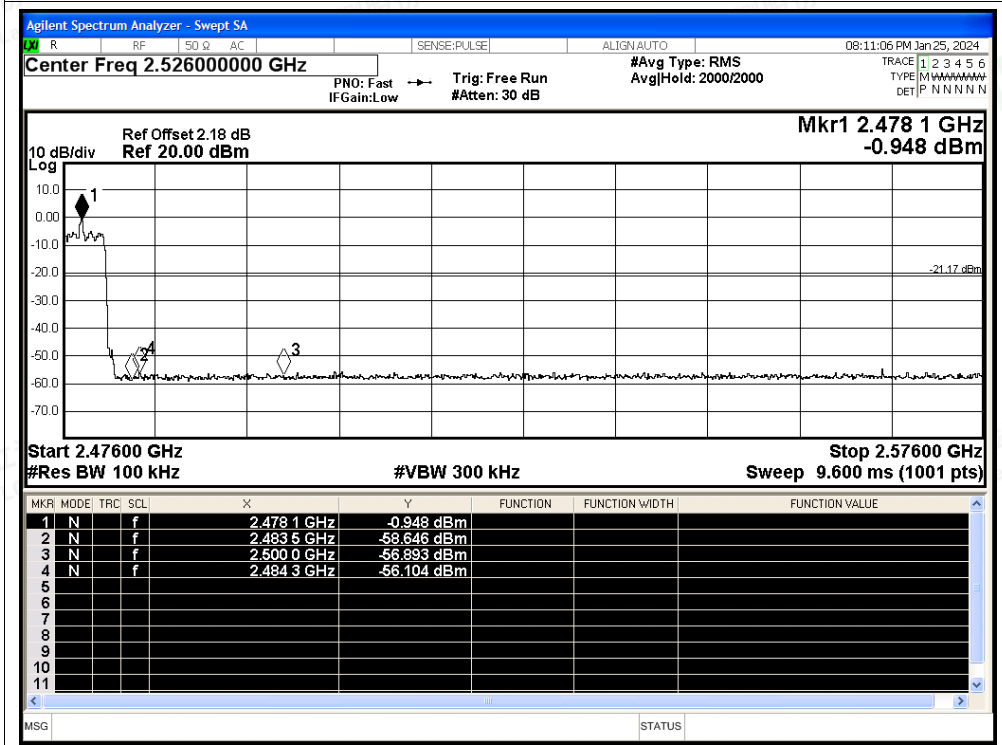




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant Hopping Ref

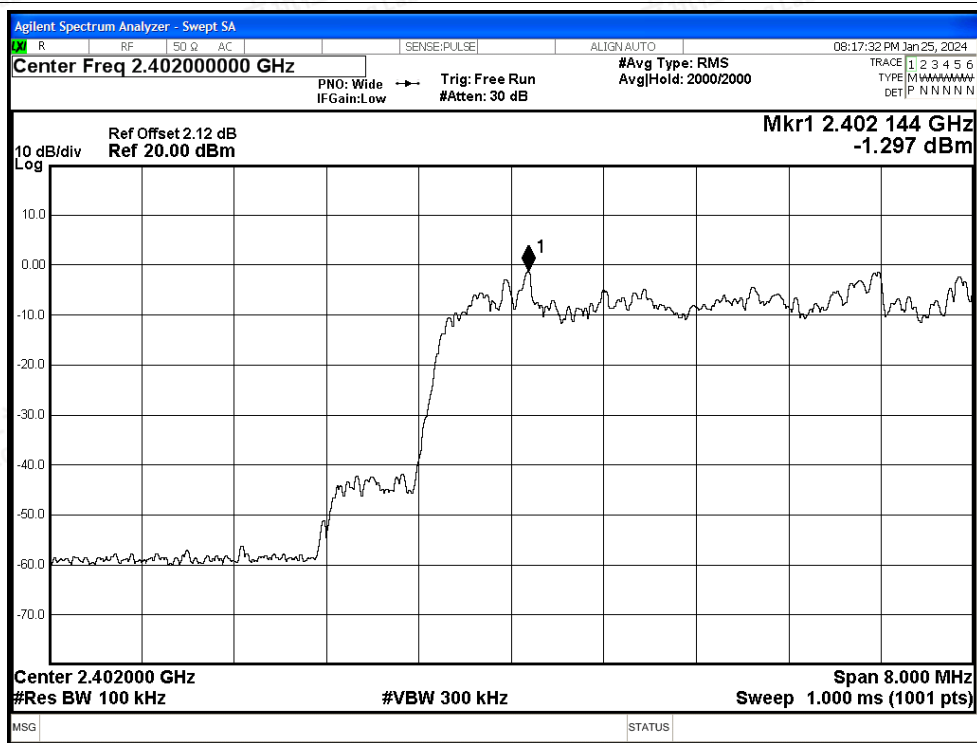


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant Hopping Emission

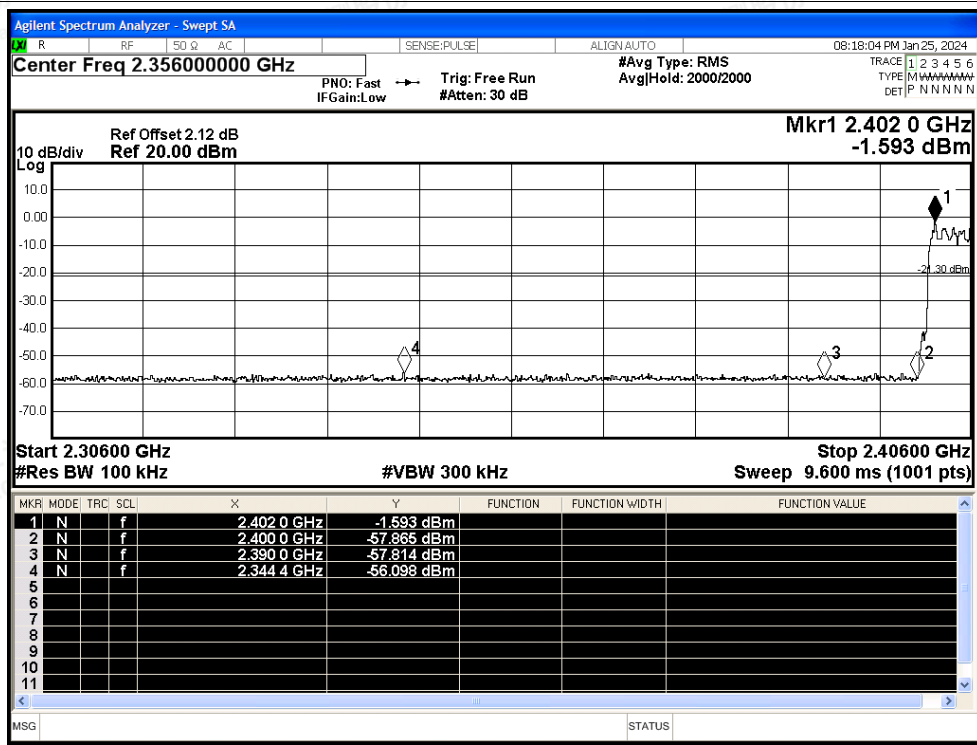




Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant Hopping Ref

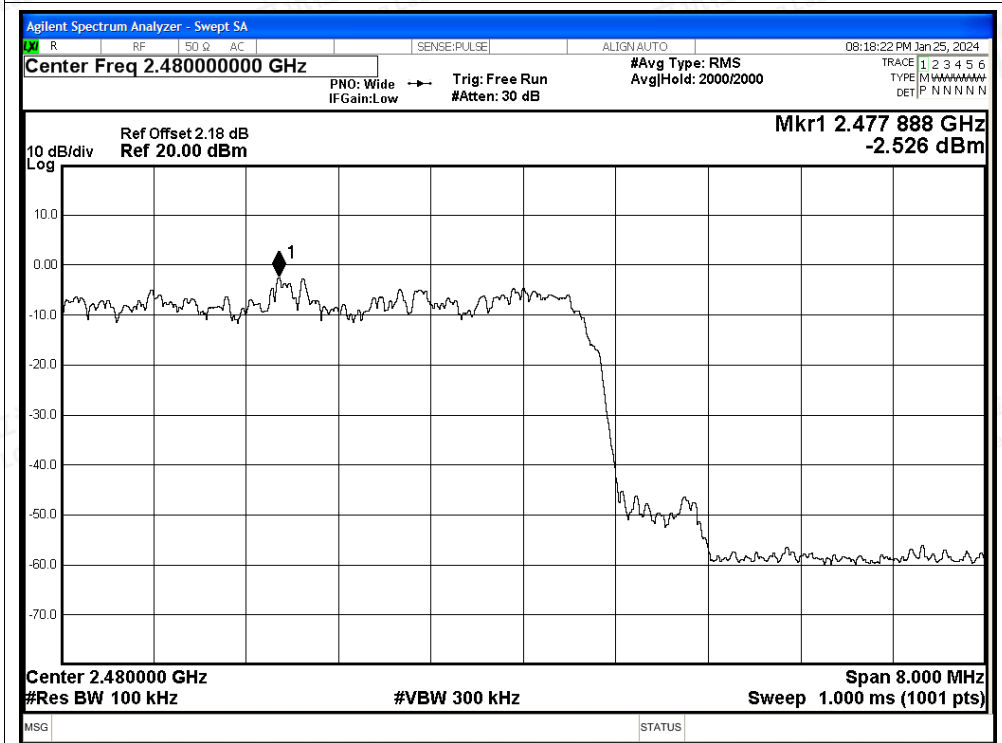


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant Hopping Emission

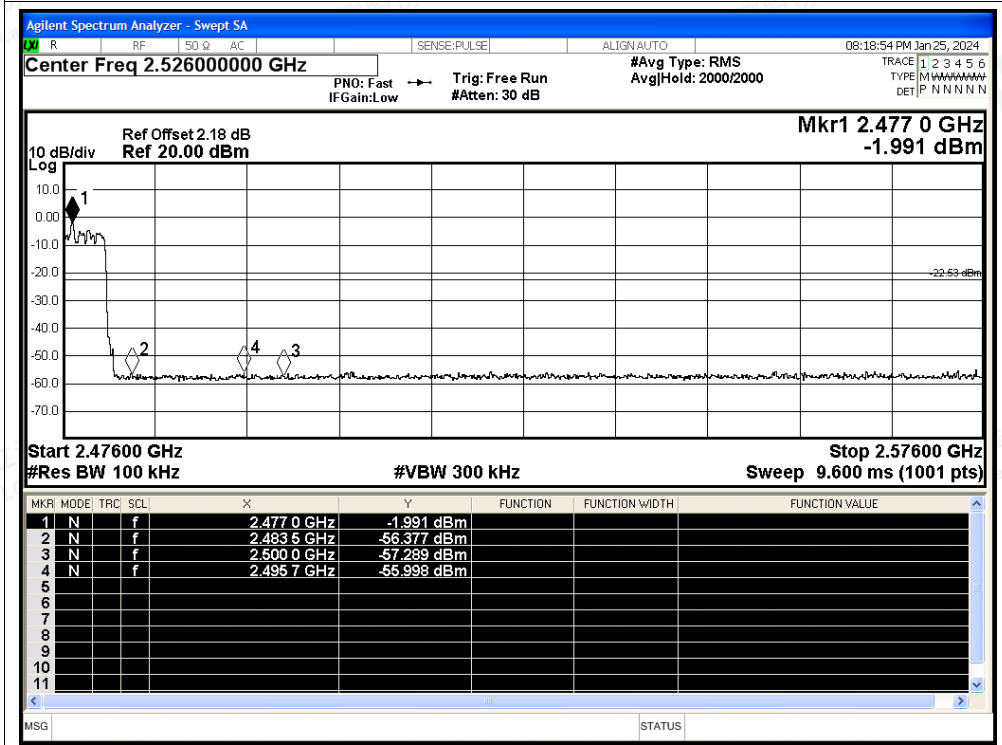




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant Hopping Ref



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





A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant	-55.27	-20	Pass
NVNT	1-DH5	2441	Ant	-55.87	-20	Pass
NVNT	1-DH5	2480	Ant	-56.33	-20	Pass
NVNT	2-DH5	2402	Ant	-53.81	-20	Pass
NVNT	2-DH5	2441	Ant	-54.97	-20	Pass
NVNT	2-DH5	2480	Ant	-54.36	-20	Pass
NVNT	3-DH5	2402	Ant	-54.25	-20	Pass
NVNT	3-DH5	2441	Ant	-54.86	-20	Pass
NVNT	3-DH5	2480	Ant	-55.3	-20	Pass

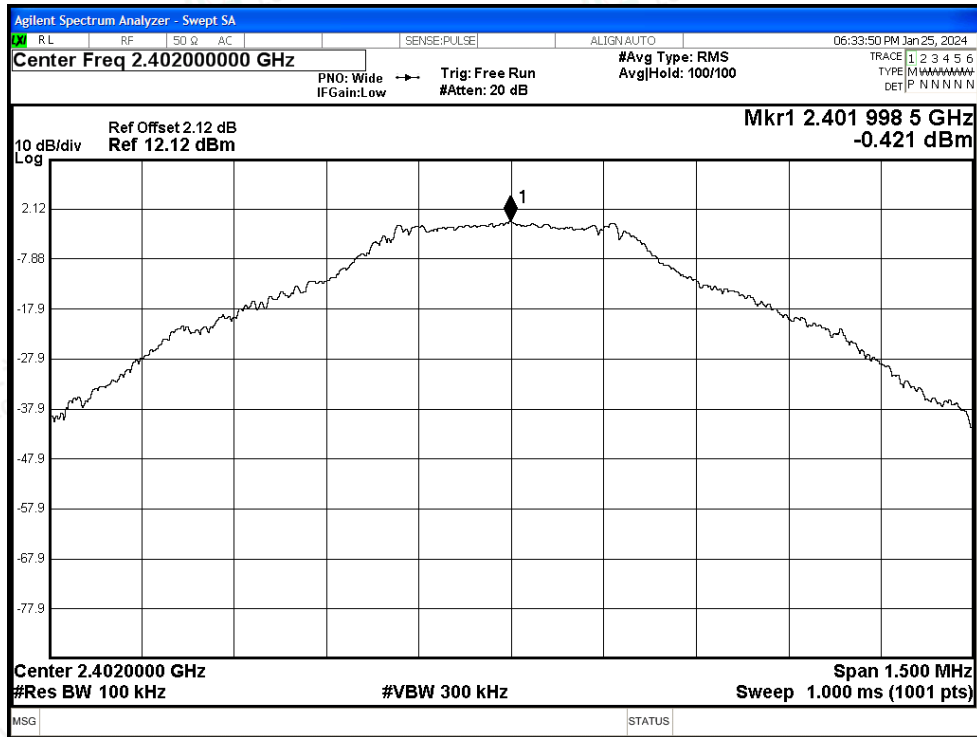


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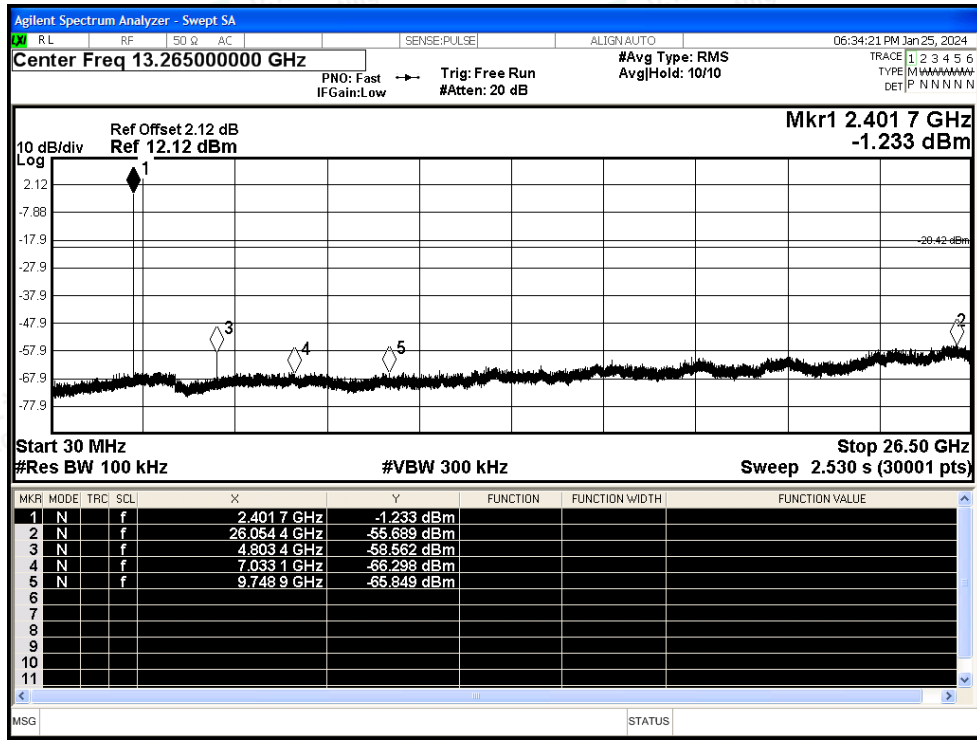


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant Ref

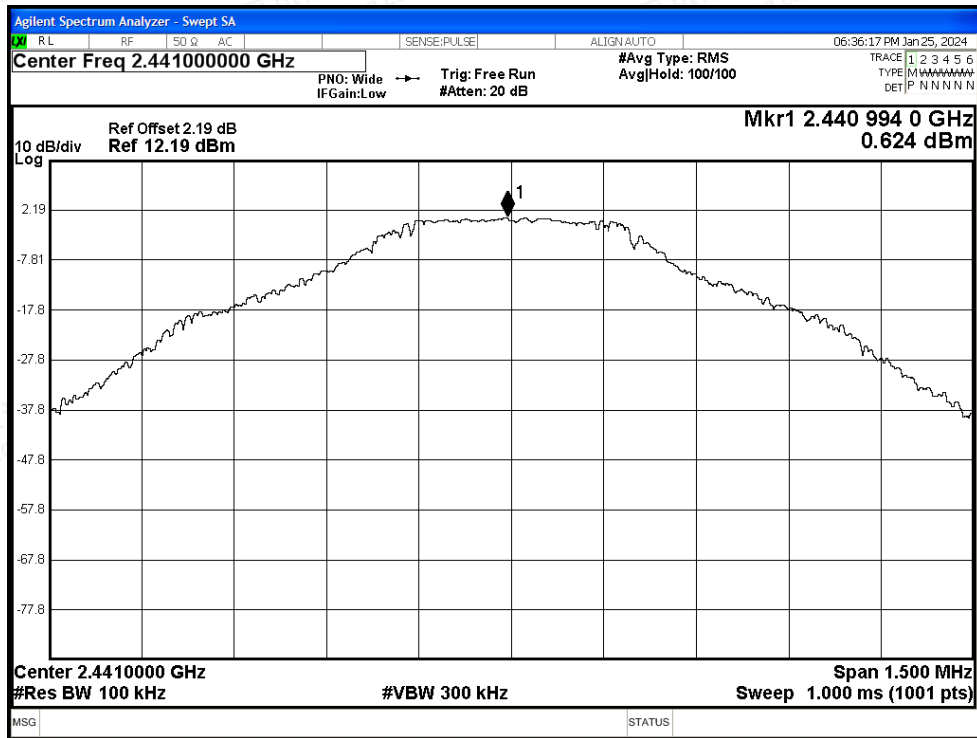


Tx. Spurious NVNT 1-DH5 2402MHz Ant Emission

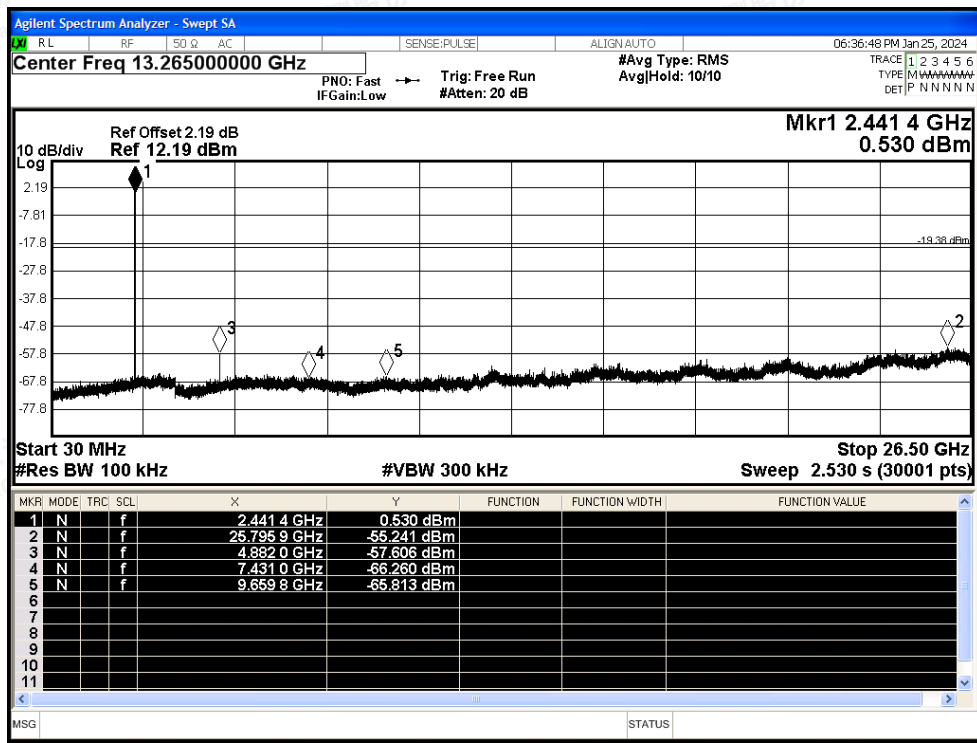




Tx. Spurious NVNT 1-DH5 2441MHz Ant Ref

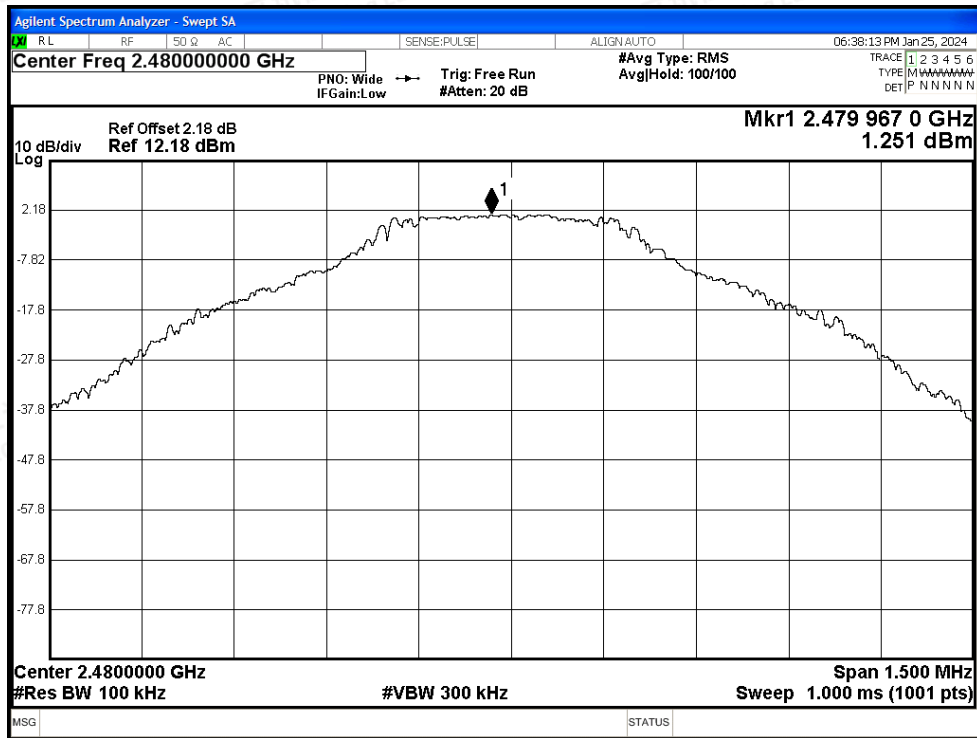


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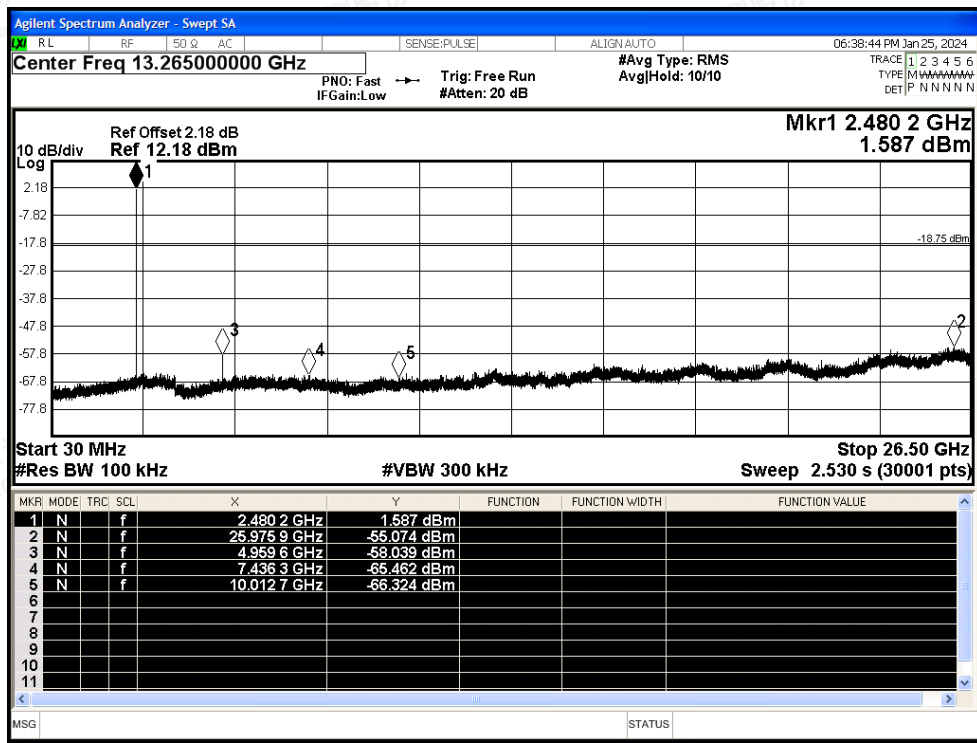




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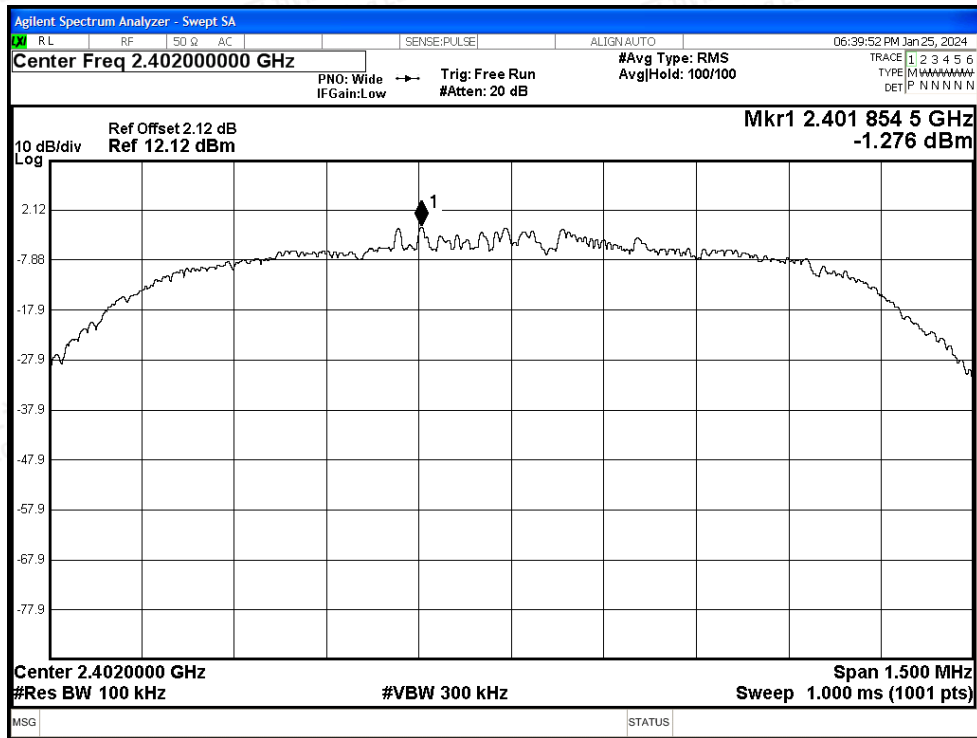


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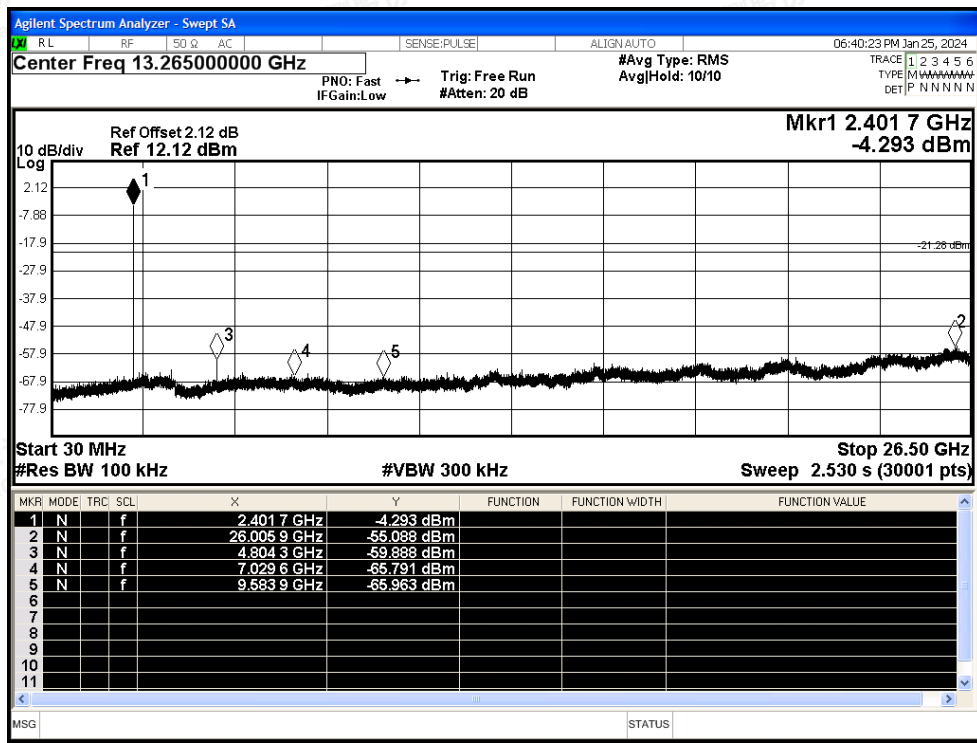




Tx. Spurious NVNT 2-DH5 2402MHz Ant Ref

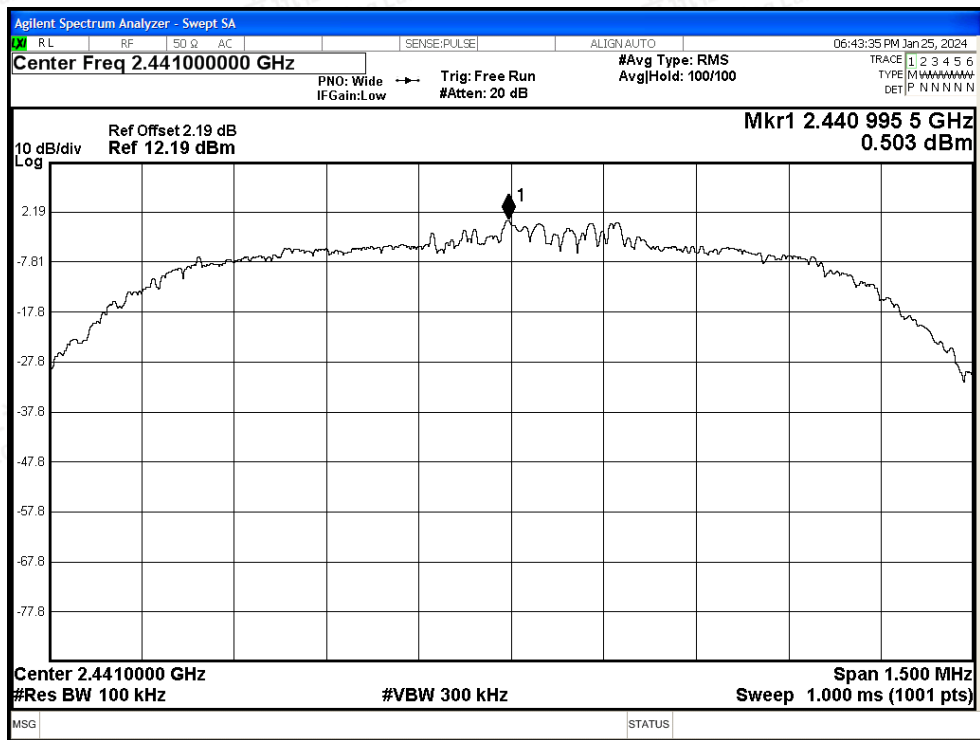


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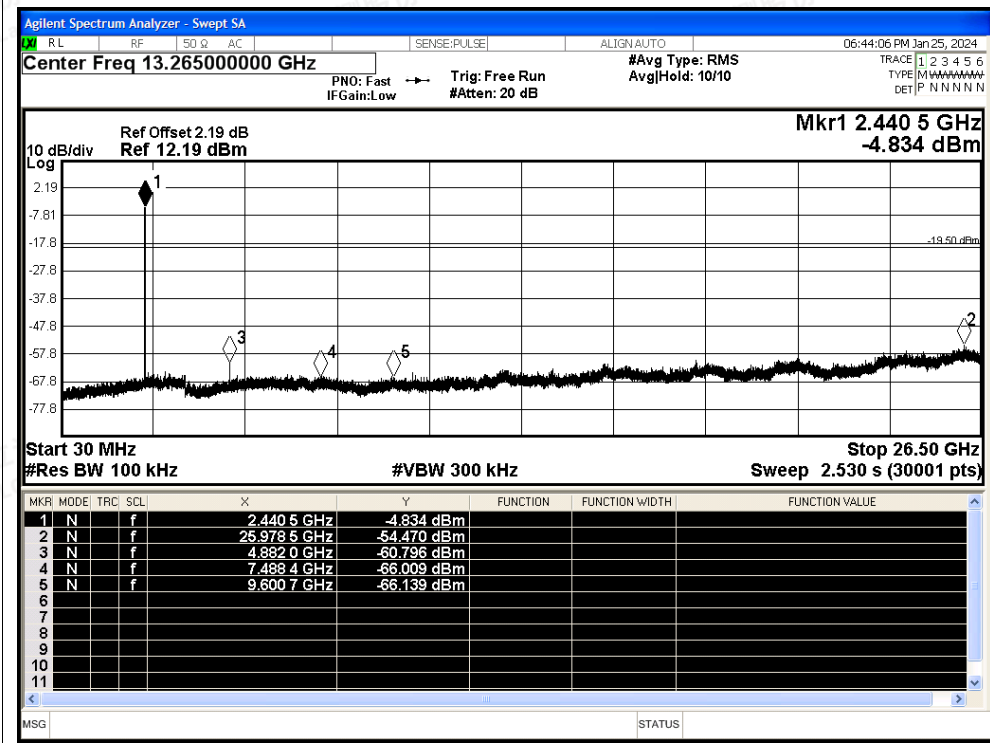




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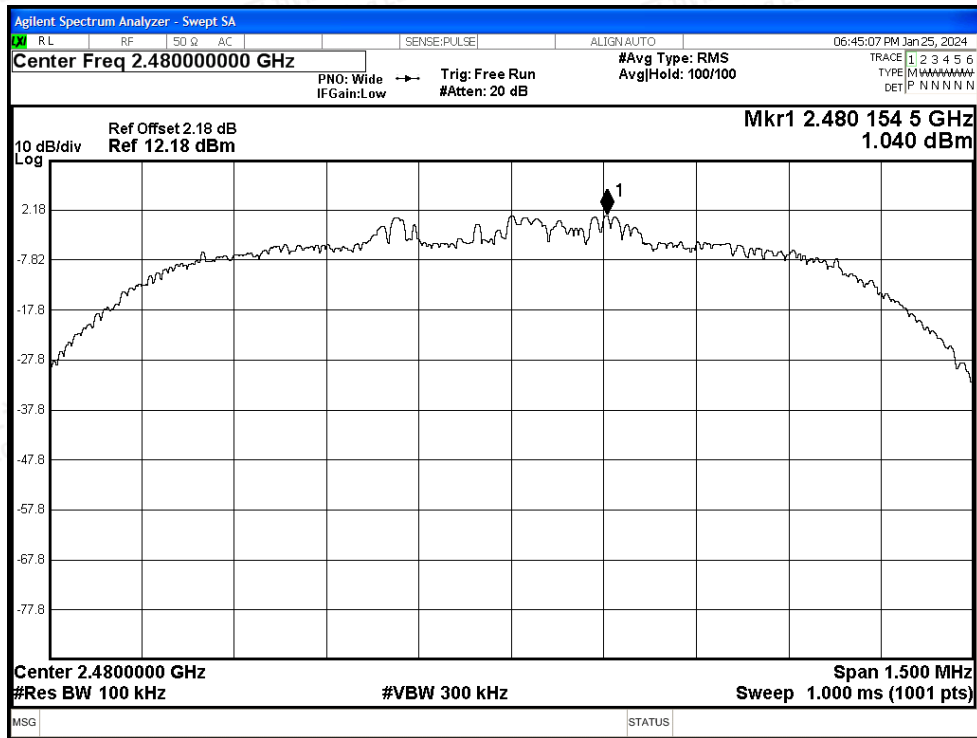


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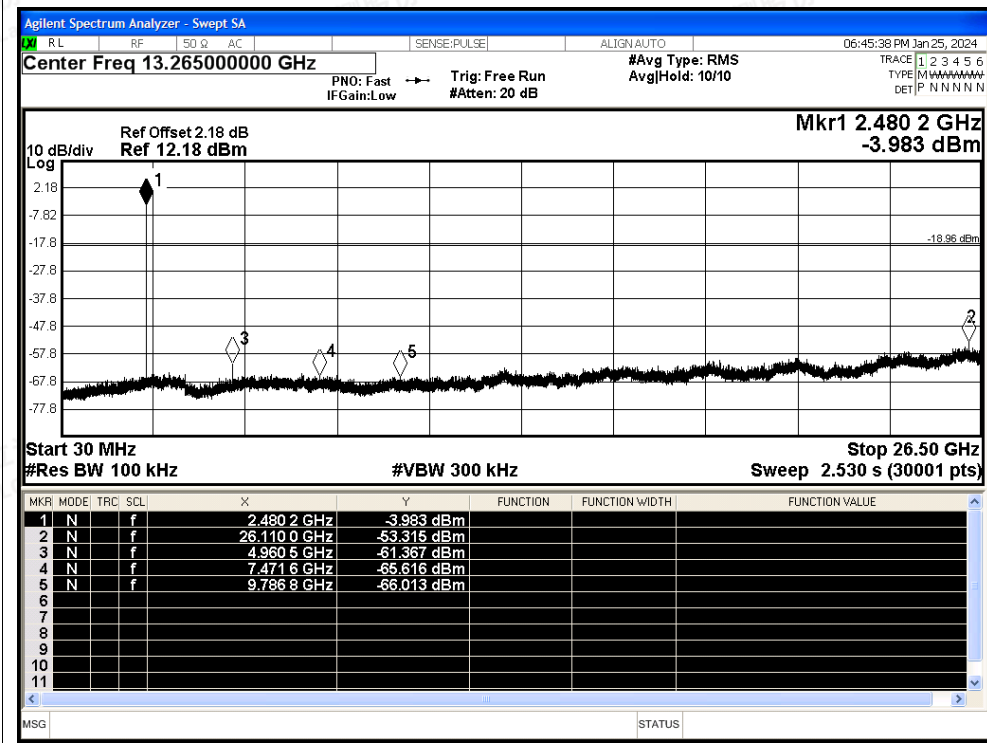




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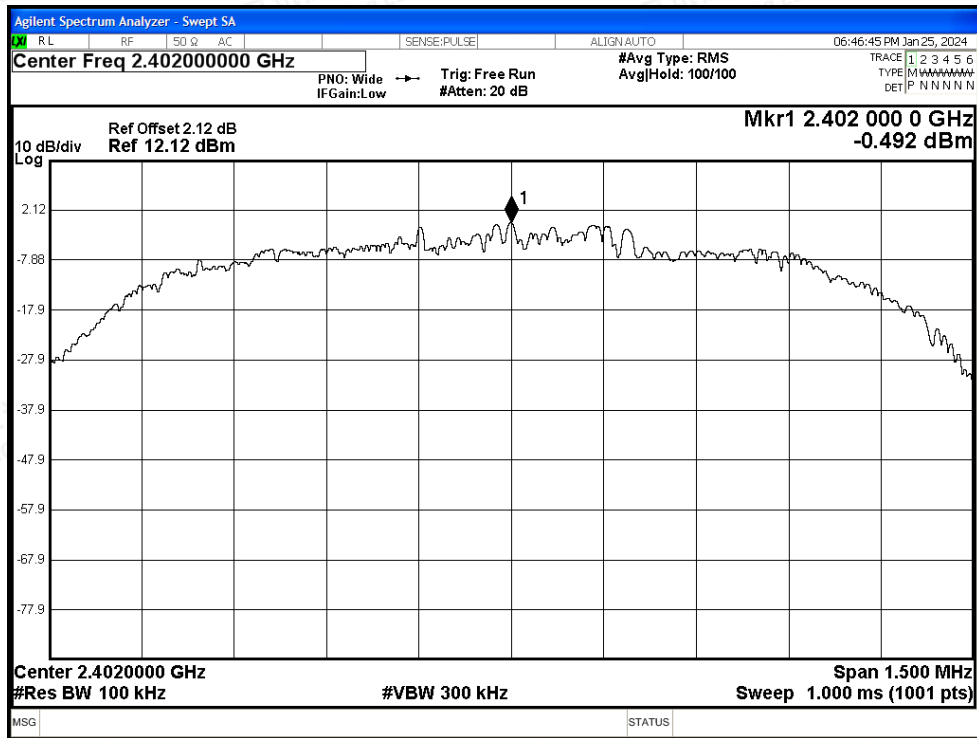


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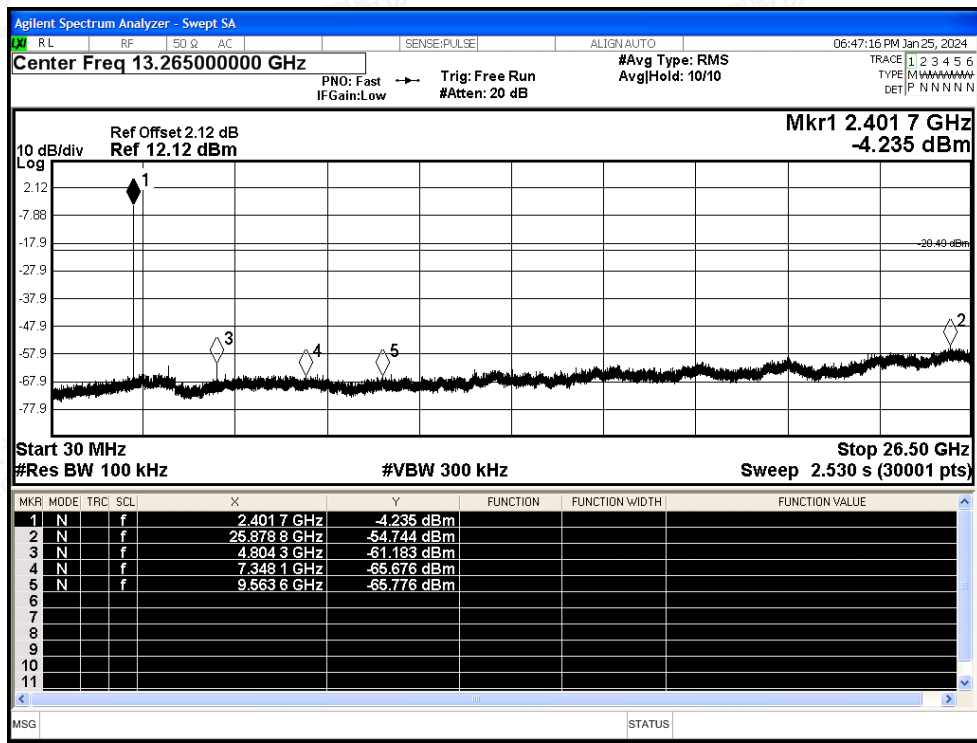




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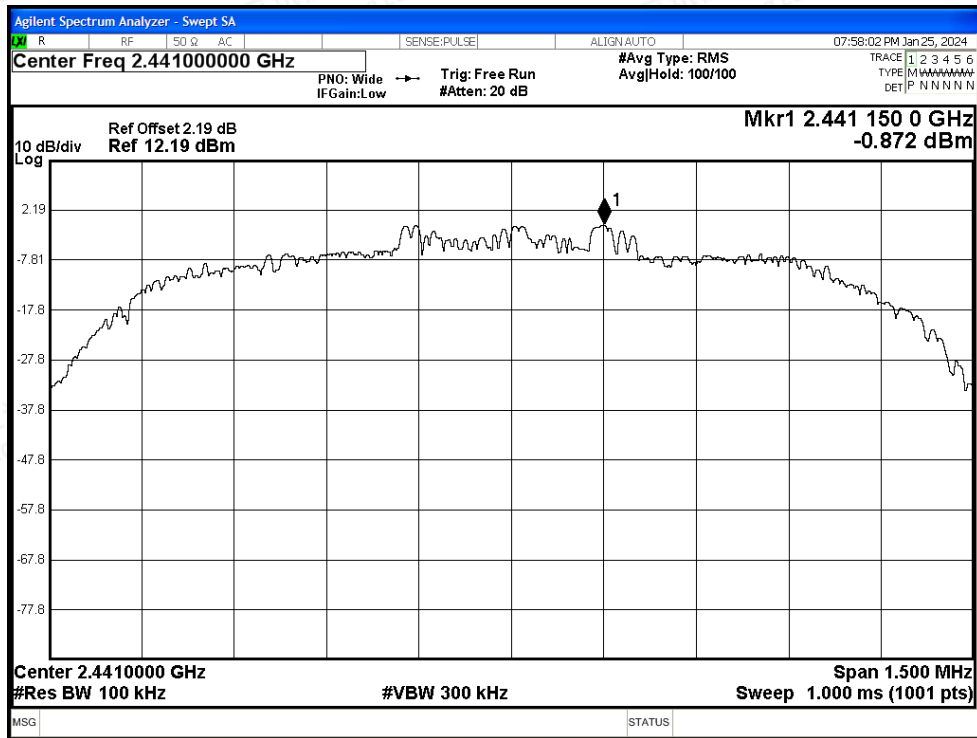


Tx. Spurious NVNT 3-DH5 2402MHz Ant Emission

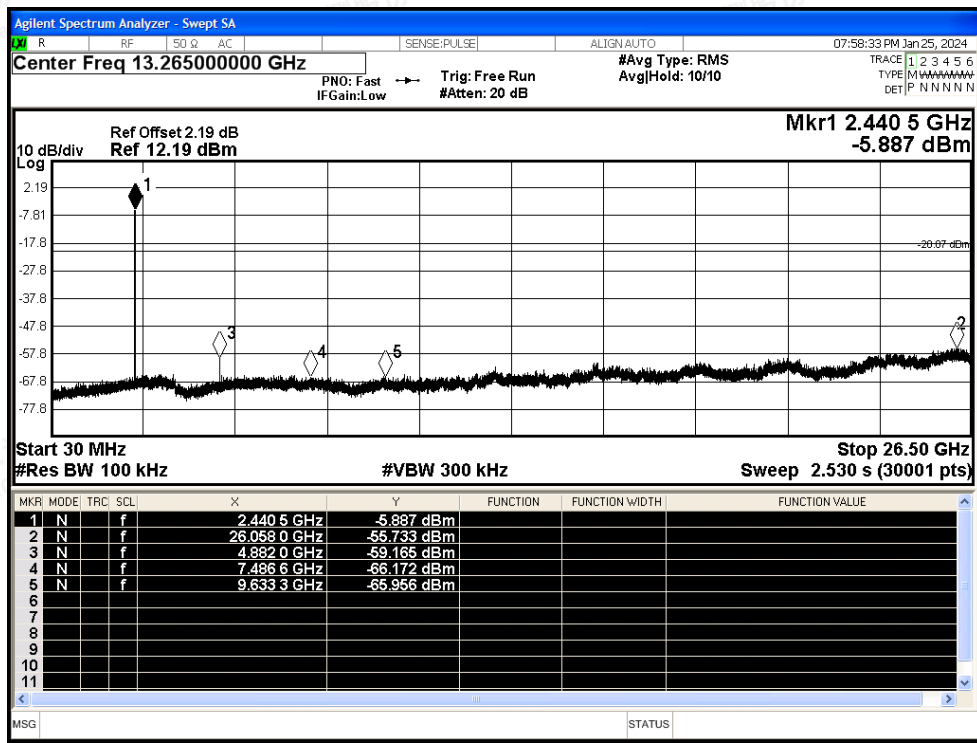




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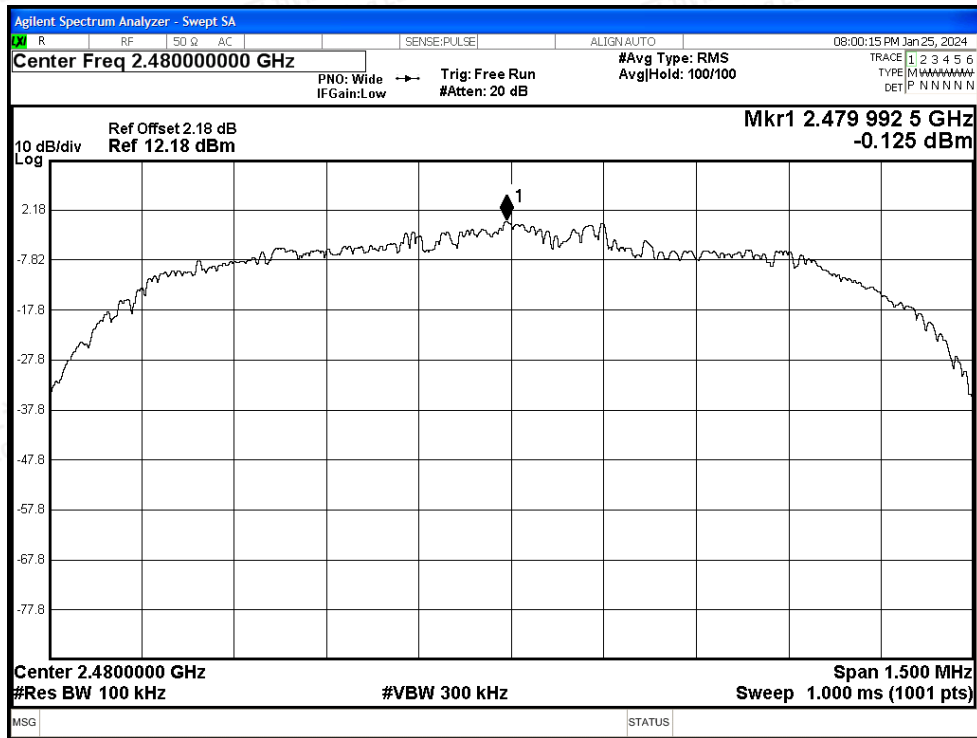


Tx. Spurious NVNT 3-DH5 2441MHz Ant Emission

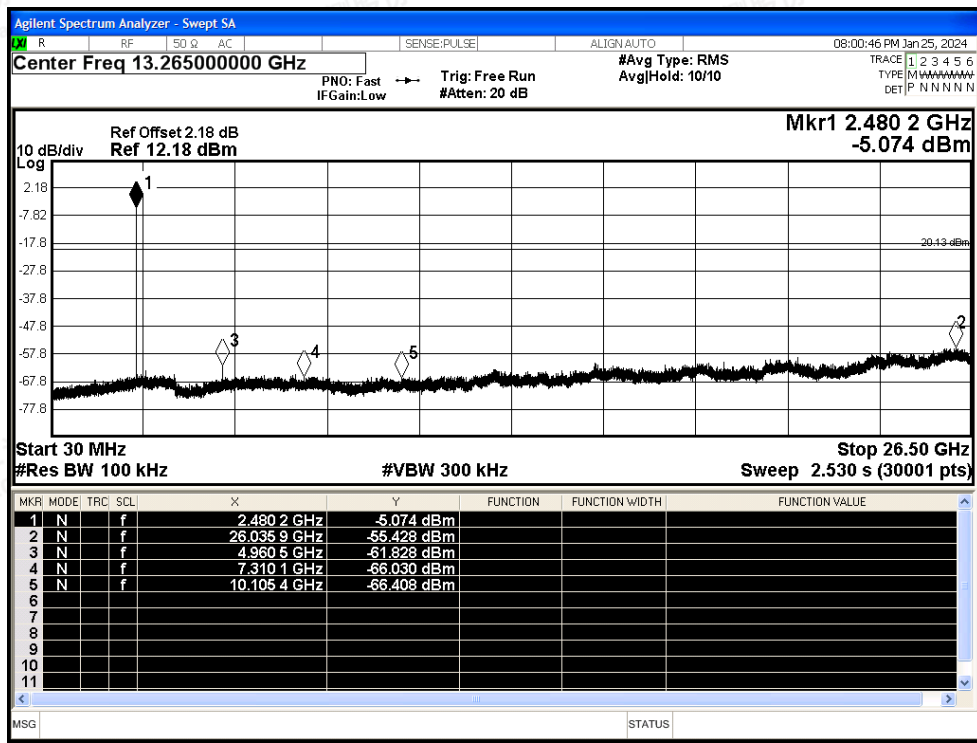




Tx. Spurious NVNT 3-DH5 2480MHz Ant Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant Emission





A.8 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant	76.88	1.14	0.35
NVNT	1-DH5	2441	Ant	76.88	1.14	0.35
NVNT	1-DH5	2480	Ant	76.88	1.14	0.35
NVNT	2-DH5	2402	Ant	76.99	1.14	0.35
NVNT	2-DH5	2441	Ant	76.96	1.14	0.35
NVNT	2-DH5	2480	Ant	76.96	1.14	0.35
NVNT	3-DH5	2402	Ant	77.04	1.13	0.35
NVNT	3-DH5	2441	Ant	77.01	1.13	0.35
NVNT	3-DH5	2480	Ant	77.04	1.13	0.35

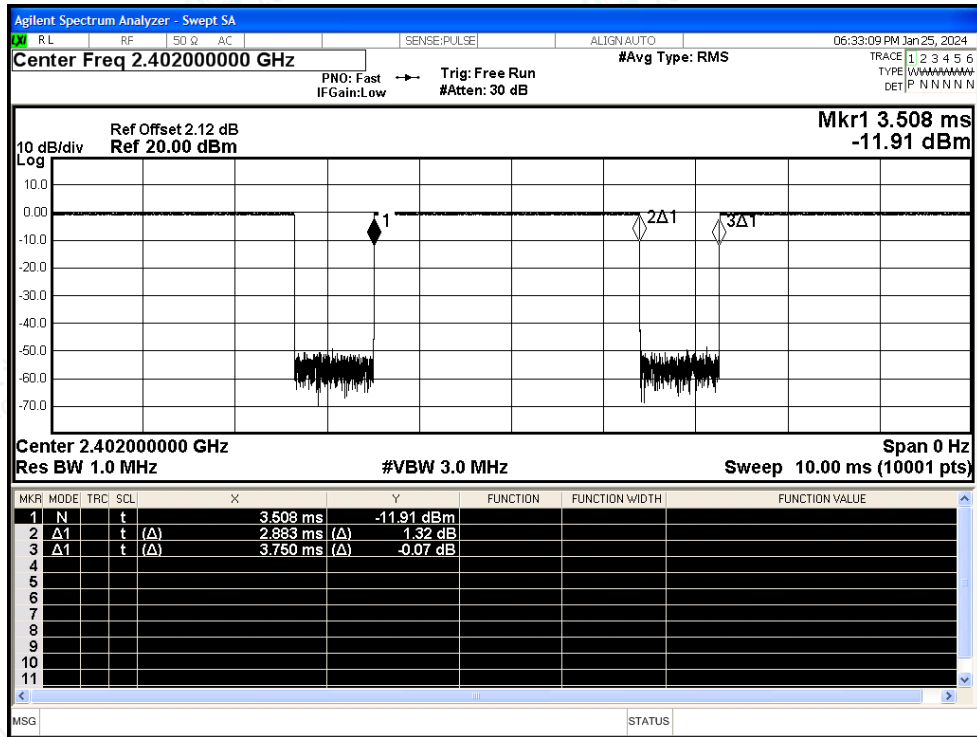


Shenzhen LCS Compliance Testing Laboratory Ltd.
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
Scan code to check authenticity

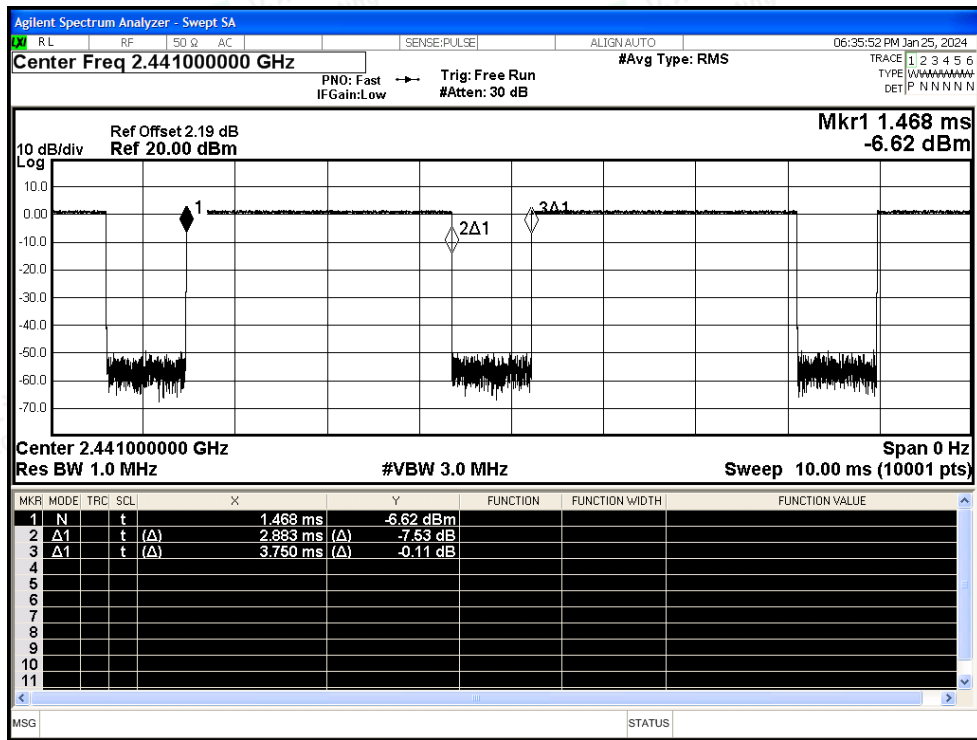


Test Graphs

Duty Cycle NVNT 1-DH5 2402MHz Ant

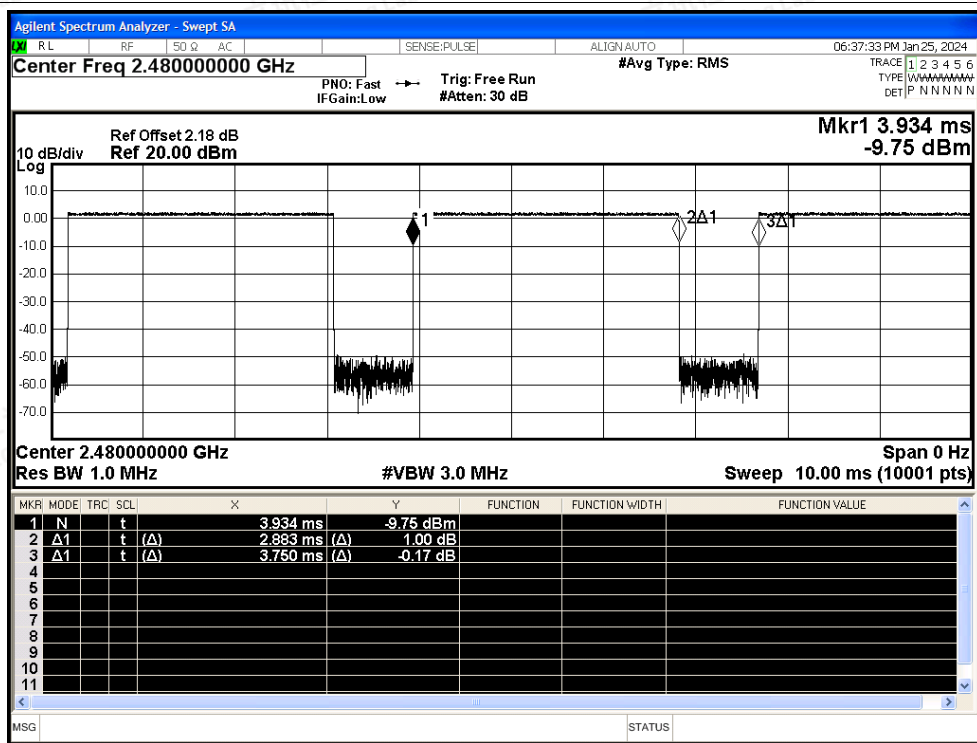


Duty Cycle NVNT 1-DH5 2441MHz Ant

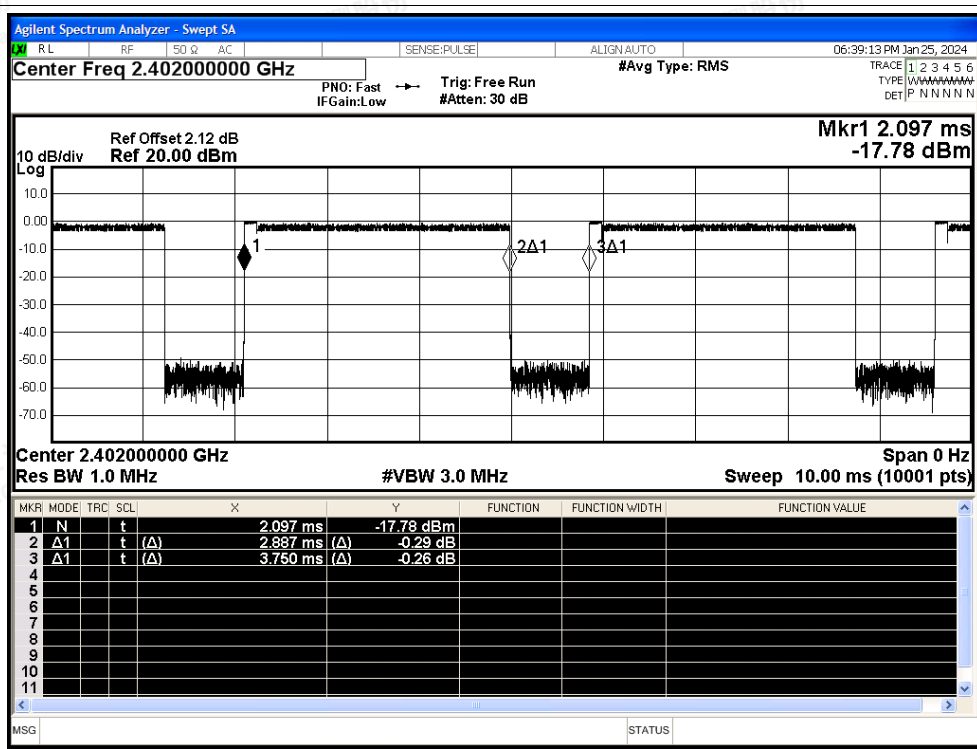




Duty Cycle NVNT 1-DH5 2480MHz Ant

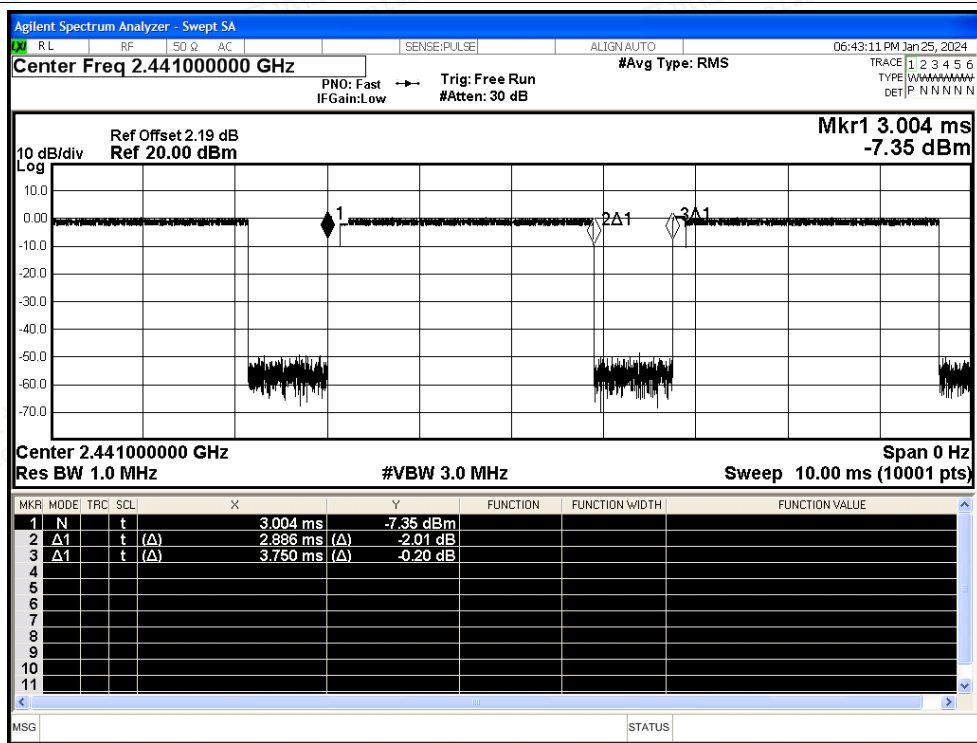


Duty Cycle NVNT 2-DH5 2402MHz Ant

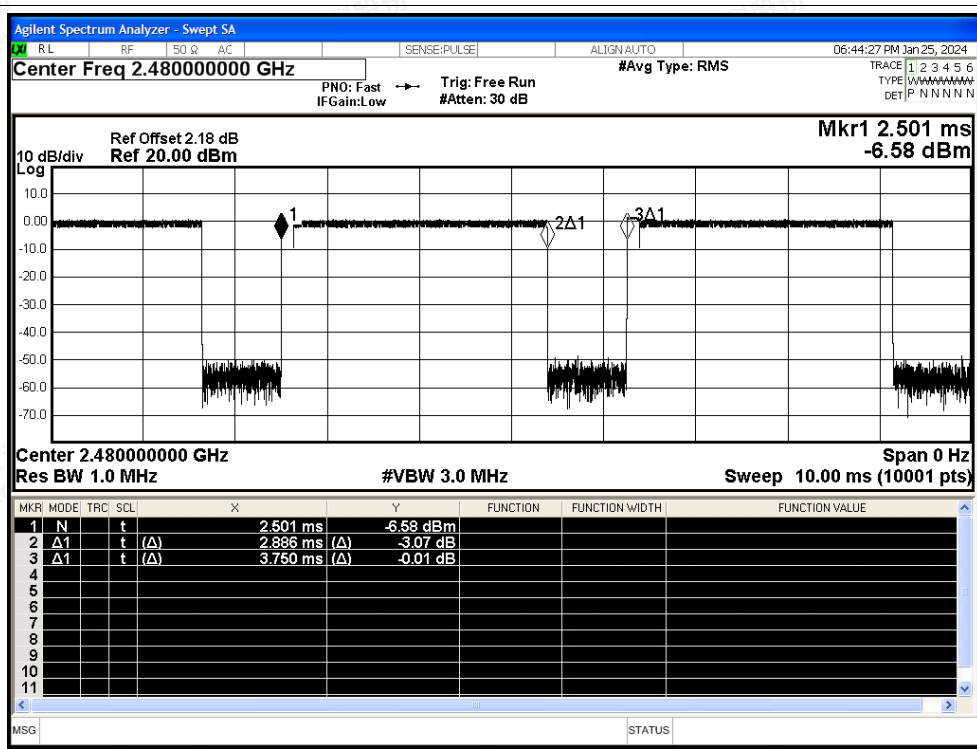




Duty Cycle NVNT 2-DH5 2441MHz Ant

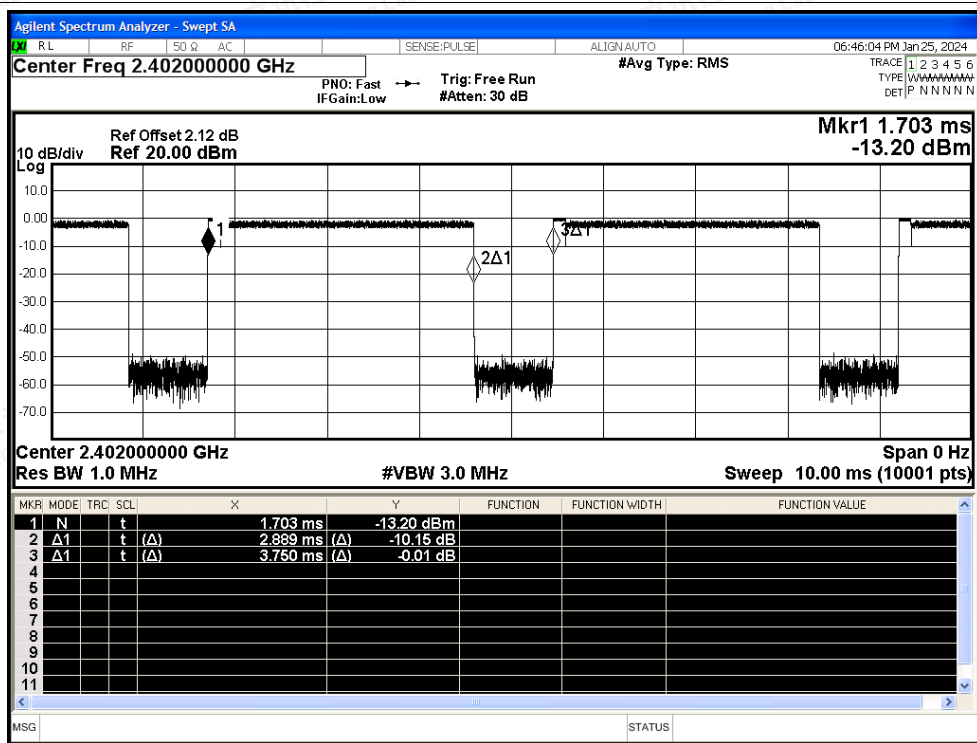


Duty Cycle NVNT 2-DH5 2480MHz Ant

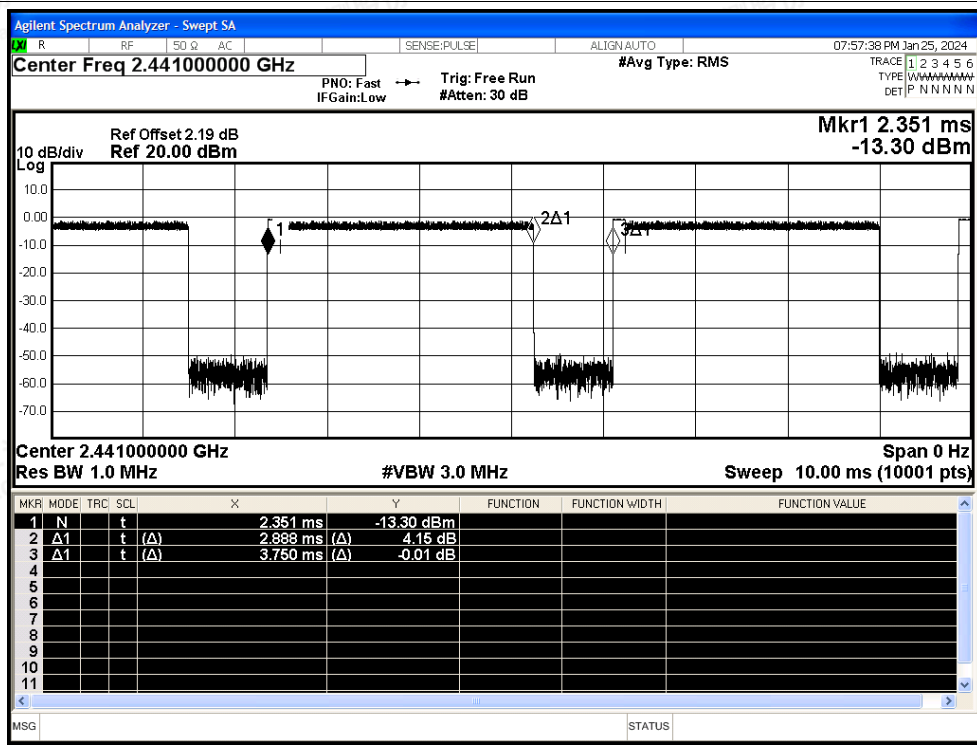




Duty Cycle NVNT 3-DH5 2402MHz Ant

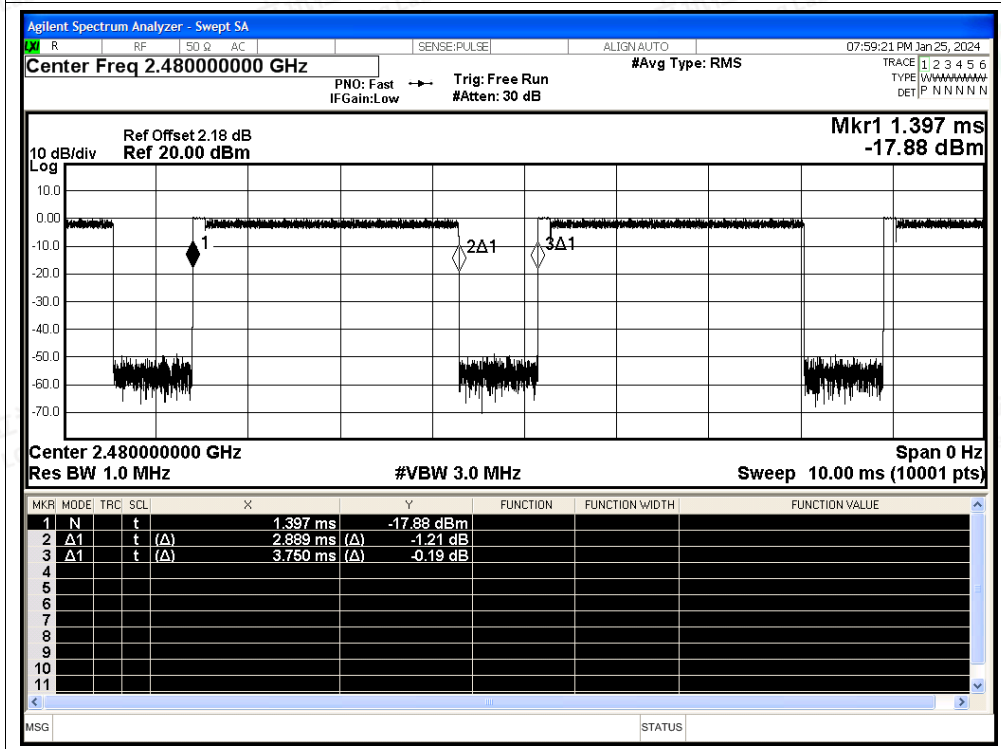


Duty Cycle NVNT 3-DH5 2441MHz Ant





Duty Cycle NVNT 3-DH5 2480MHz Ant





A.9 Restrict Band

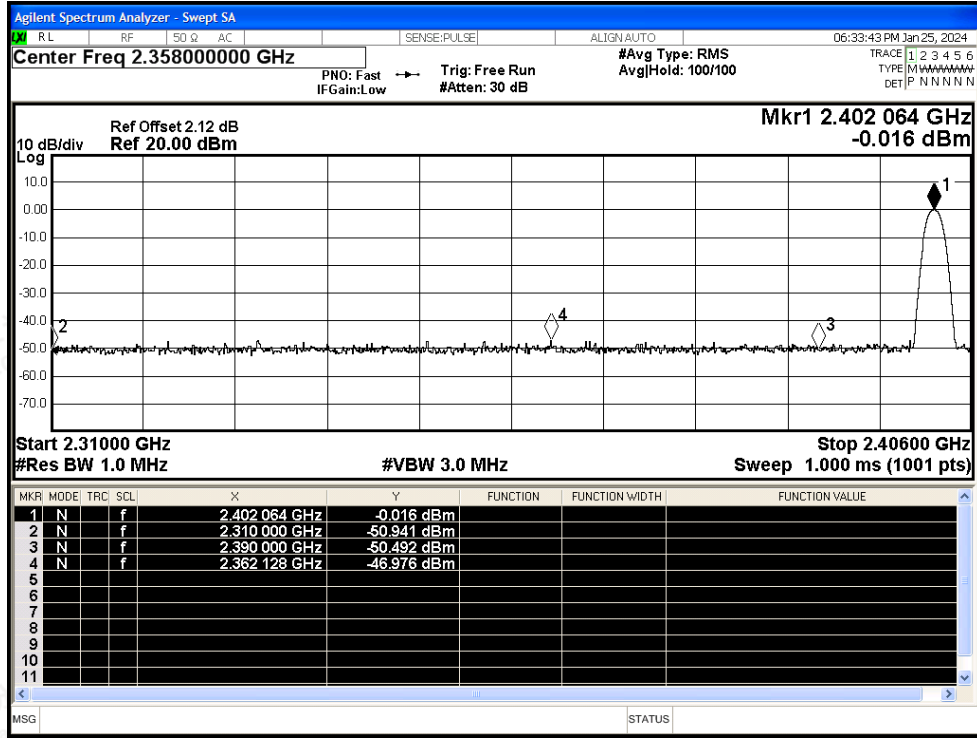
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant	No-Hopping	2310	-50.94	2	-	46.32	Peak	74	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2310	-59.08	2	1.14	39.32	Average	54	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2362.128	-46.98	2	-	50.28	Peak	74	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2385.552	-57.55	2	1.14	40.85	Average	54	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2390	-50.49	2	-	46.77	Peak	74	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2390	-58.95	2	1.14	39.45	Average	54	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2483.5	-49.52	2	-	47.74	Peak	74	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2483.5	-57.8	2	1.14	40.6	Average	54	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2492.056	-47.17	2	-	50.09	Peak	74	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2483.584	-56.93	2	1.14	41.47	Average	54	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2500	-50.25	2	-	47.01	Peak	74	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2500	-58.56	2	1.14	39.84	Average	54	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2310	-50.08	2	-	47.18	Peak	74	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2310	-58.52	2	1.14	39.88	Average	54	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2327.376	-47.48	2	-	49.78	Peak	74	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2344.752	-57.45	2	1.14	40.95	Average	54	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2390	-50.41	2	-	46.85	Peak	74	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2390	-57.93	2	1.14	40.47	Average	54	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2483.5	-49.65	2	-	47.61	Peak	74	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2483.5	-58.07	2	1.14	40.33	Average	54	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2494.552	-47.27	2	-	49.99	Peak	74	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2483.608	-57.01	2	1.14	41.39	Average	54	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2500	-48.59	2	-	48.67	Peak	74	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2500	-58.12	2	1.14	40.28	Average	54	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2310	-49.15	2	-	48.11	Peak	74	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2310	-58.76	2	1.13	39.63	Average	54	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2359.536	-46.21	2	-	51.05	Peak	74	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2384.4	-57.68	2	1.13	40.71	Average	54	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2390	-50.24	2	-	47.02	Peak	74	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2390	-58.52	2	1.13	39.87	Average	54	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2483.5	-49.76	2	-	47.5	Peak	74	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2483.5	-57.83	2	1.13	40.56	Average	54	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2487.904	-46.84	2	-	50.42	Peak	74	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2487.952	-57.08	2	1.13	41.31	Average	54	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2500	-50.22	2	-	47.04	Peak	74	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2500	-57.98	2	1.13	40.41	Average	54	Pass



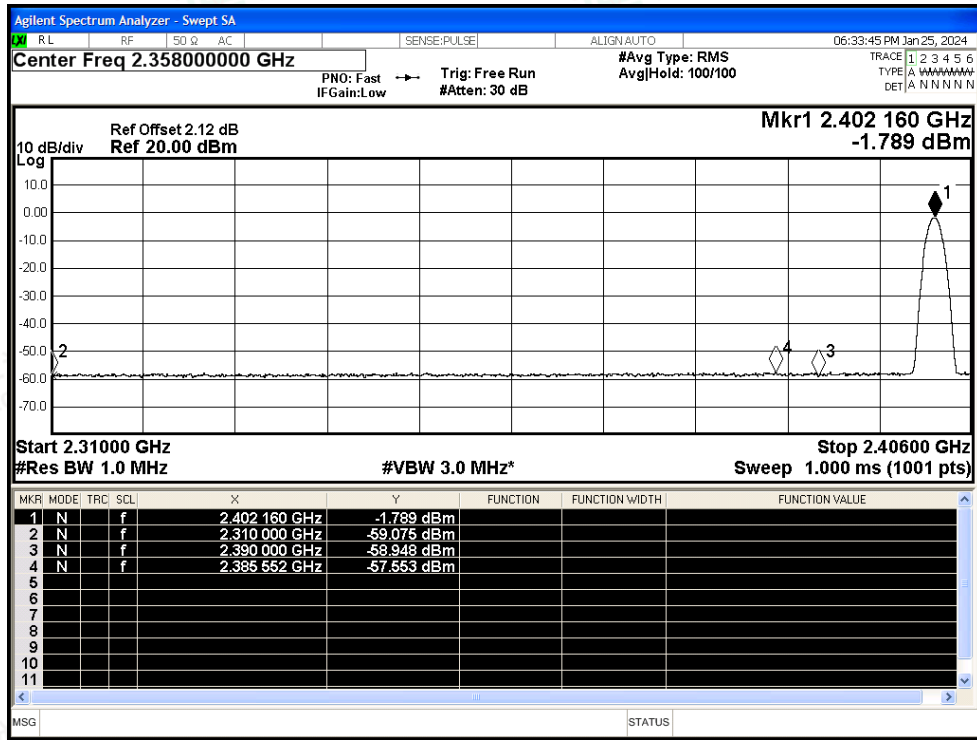


Test Graphs

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

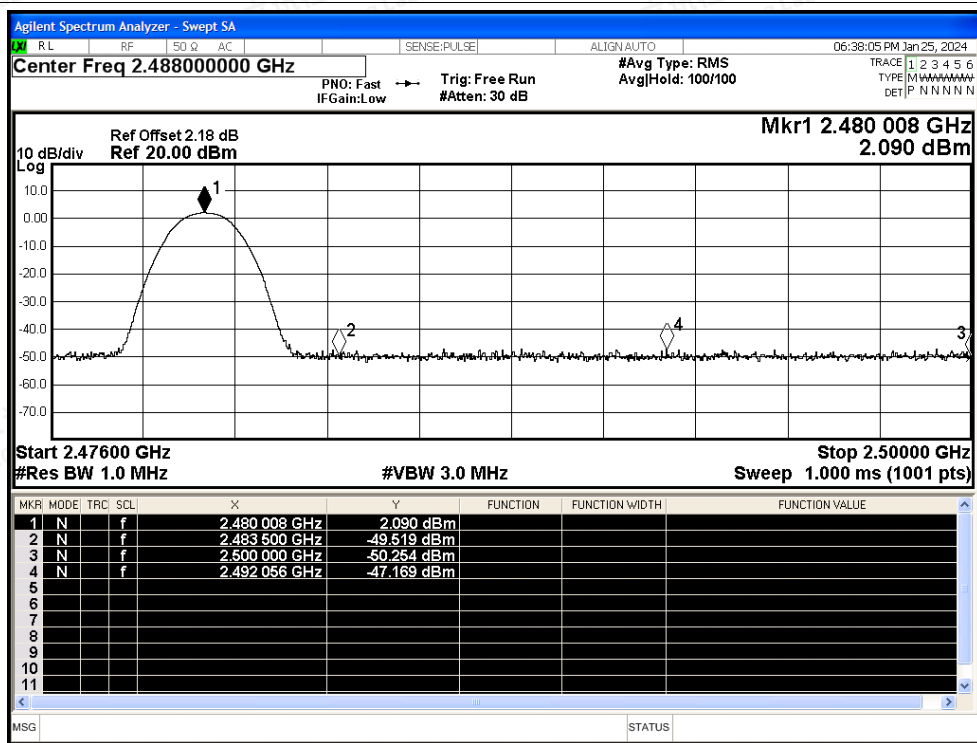


Restrict Band NVNT 1-DH5 2402MHz Ant No-Hopping Average

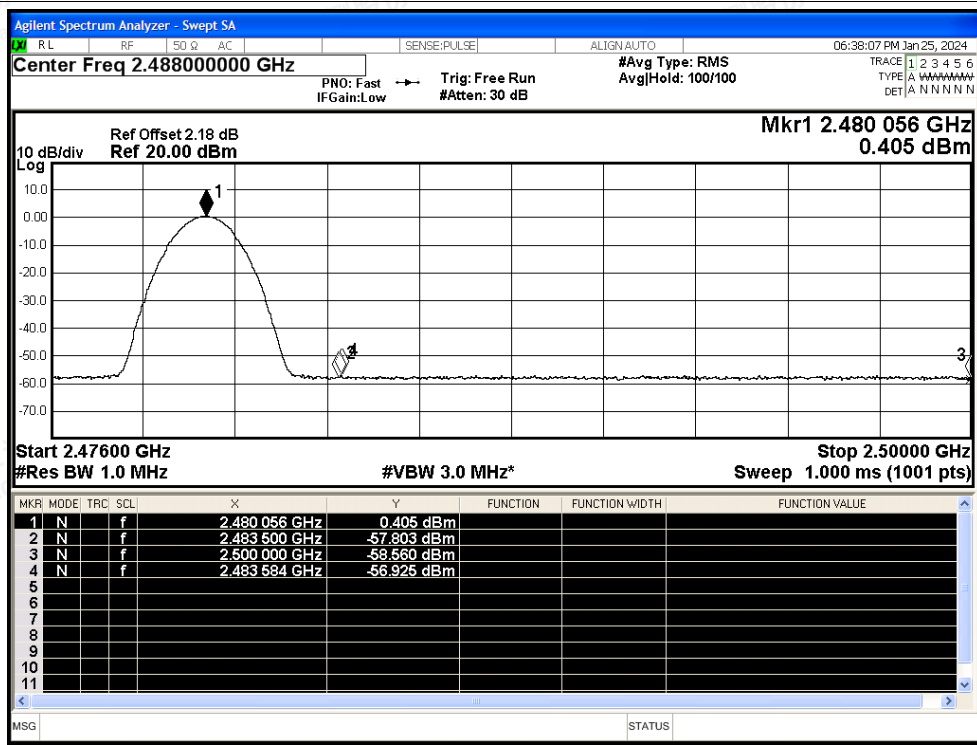




Restrict Band NVNT 1-DH5 2480MHz Ant No-Hopping Peak

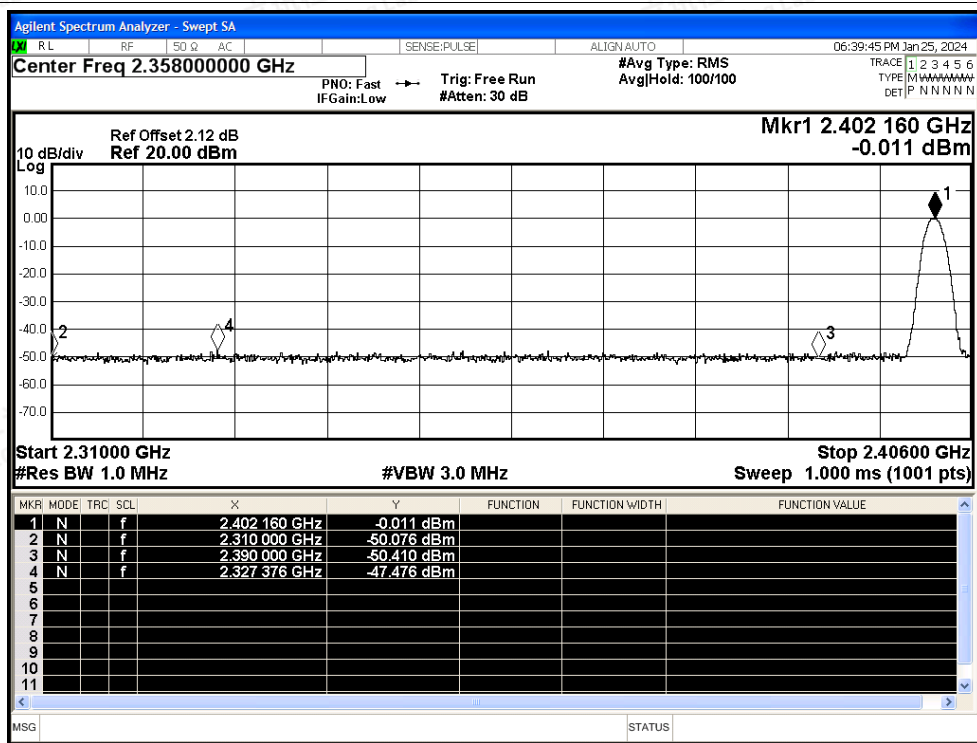


Restrict Band NVNT 1-DH5 2480MHz Ant No-Hopping Average

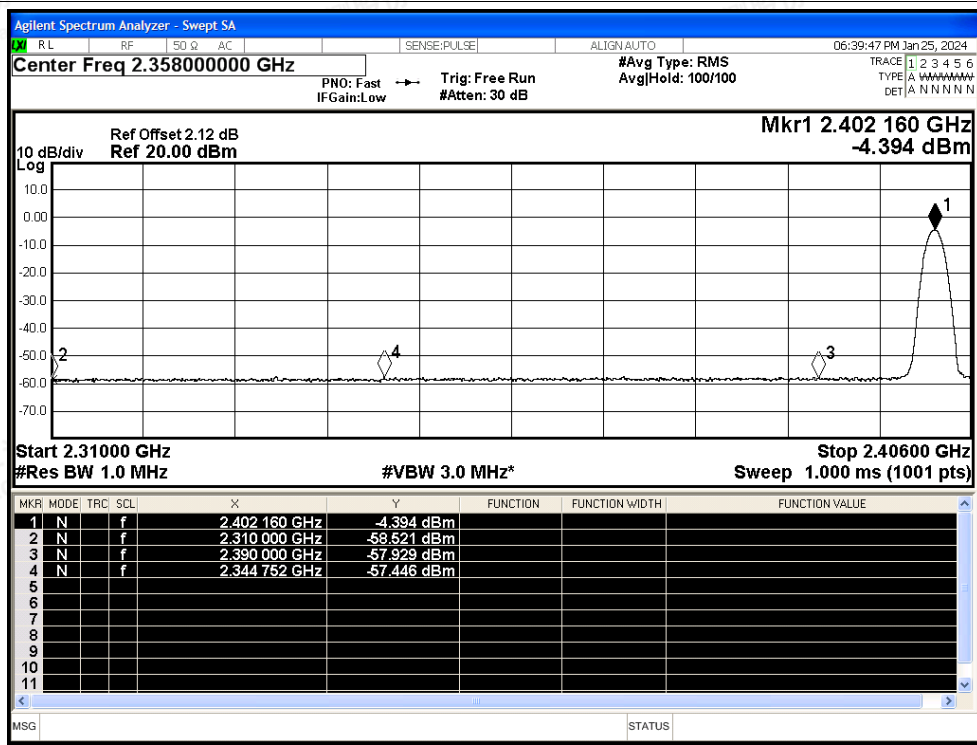




Restrict Band NVNT 2-DH5 2402MHz Ant No-Hopping Peak

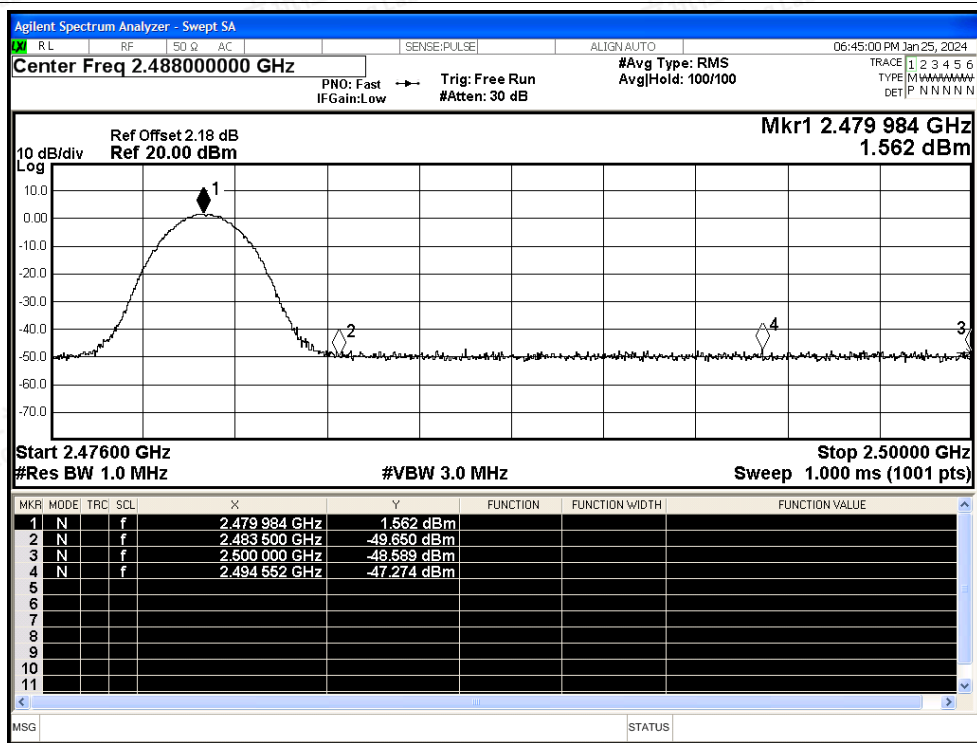


Restrict Band NVNT 2-DH5 2402MHz Ant No-Hopping Average

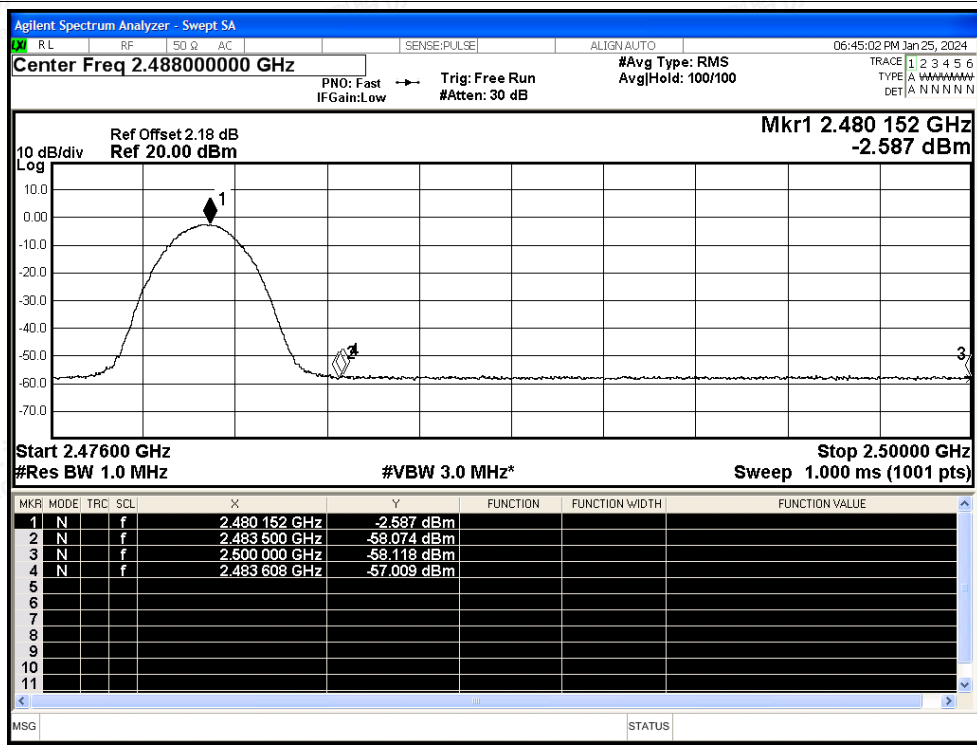




Restrict Band NVNT 2-DH5 2480MHz Ant No-Hopping Peak

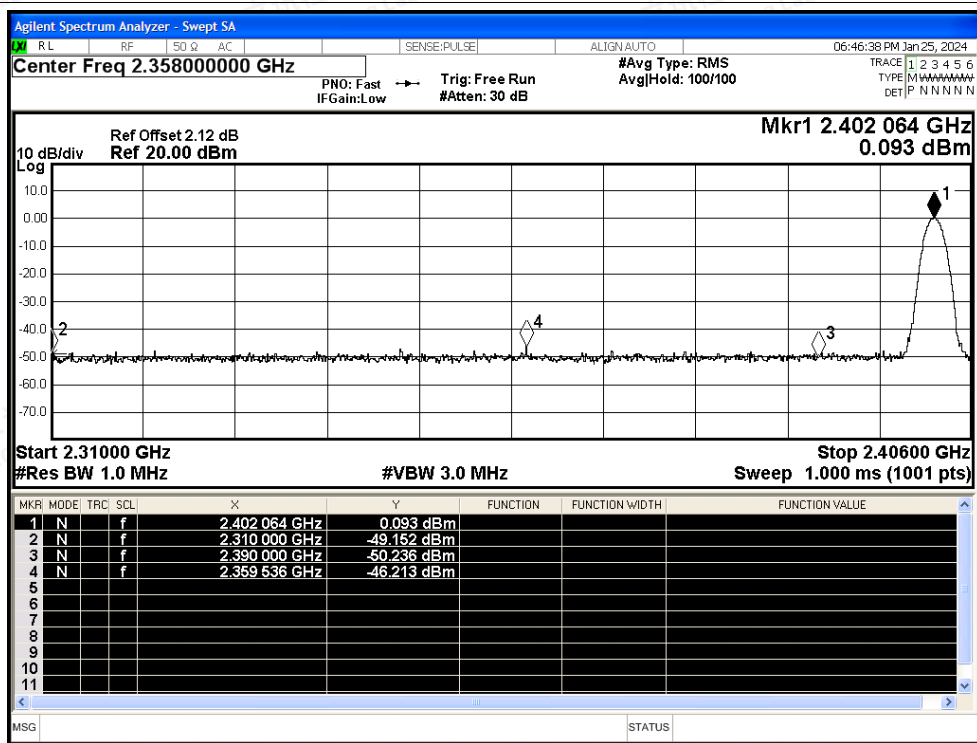


Restrict Band NVNT 2-DH5 2480MHz Ant No-Hopping Average

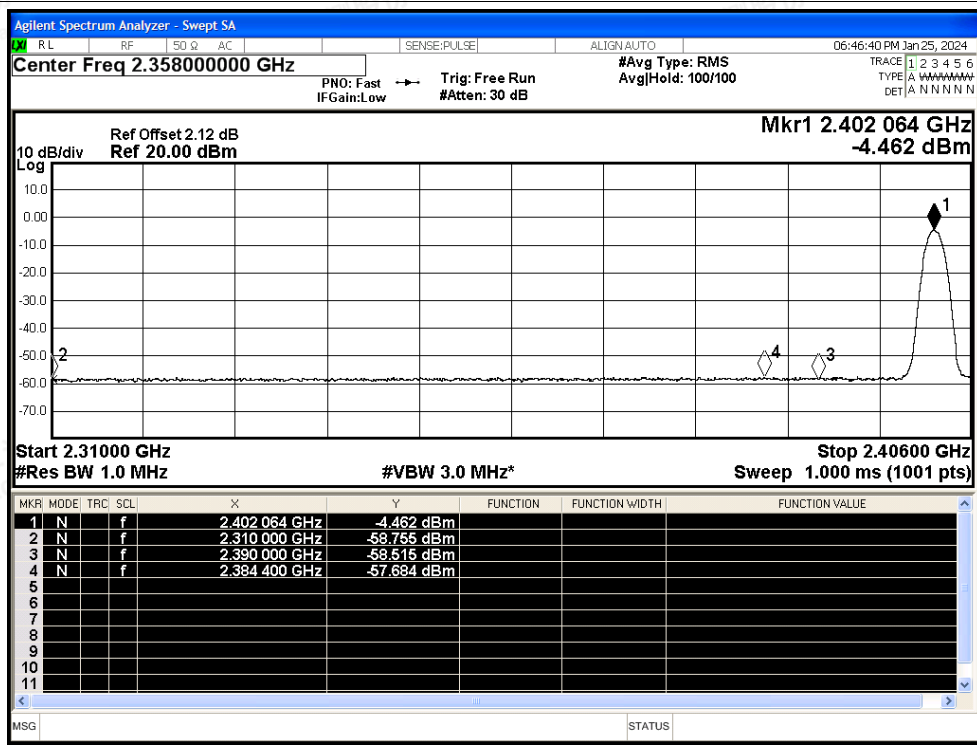




Restrict Band NVNT 3-DH5 2402MHz Ant No-Hopping Peak

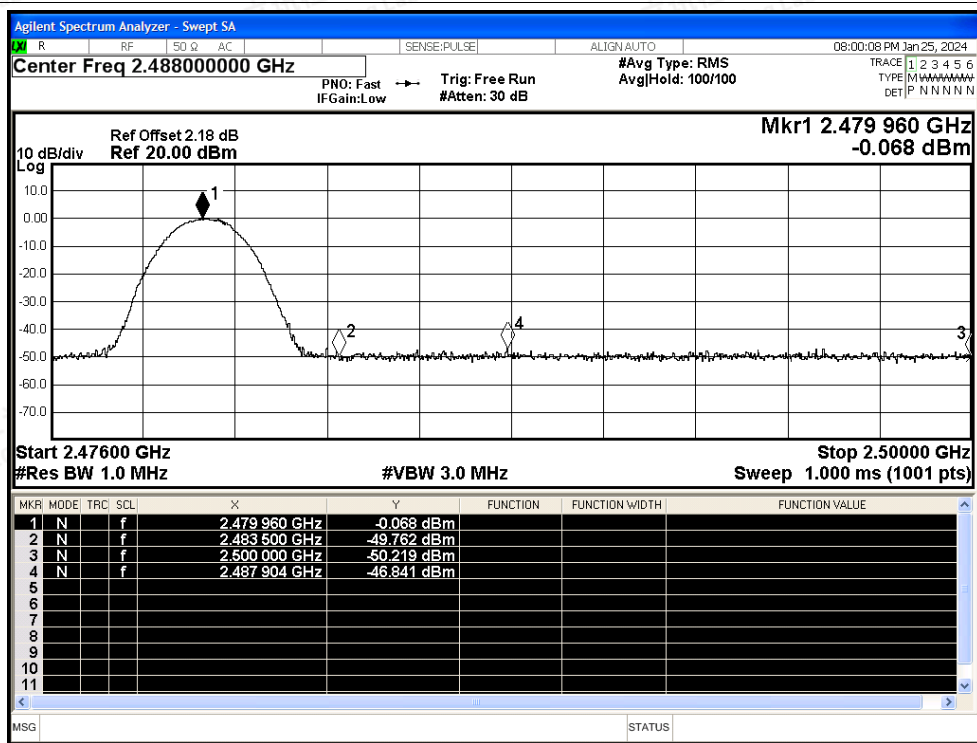


Restrict Band NVNT 3-DH5 2402MHz Ant No-Hopping Average





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



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

