



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: PC Soundbar Speaker

Test Model: G90

Environmental Conditions

Temperature:	24.1°C
Relative Humidity:	52.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Can Kun
Supervised by:	Nick Peng



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A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.83	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.844	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.854	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.275	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.276	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.257	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.267	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.249	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.256	N/A	Pass

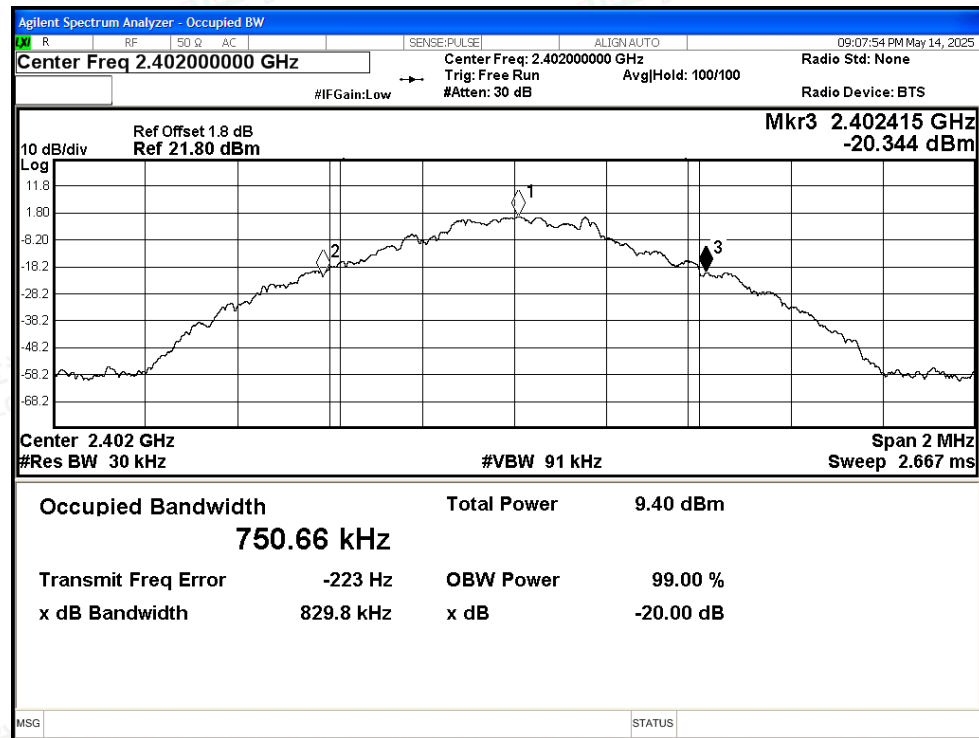


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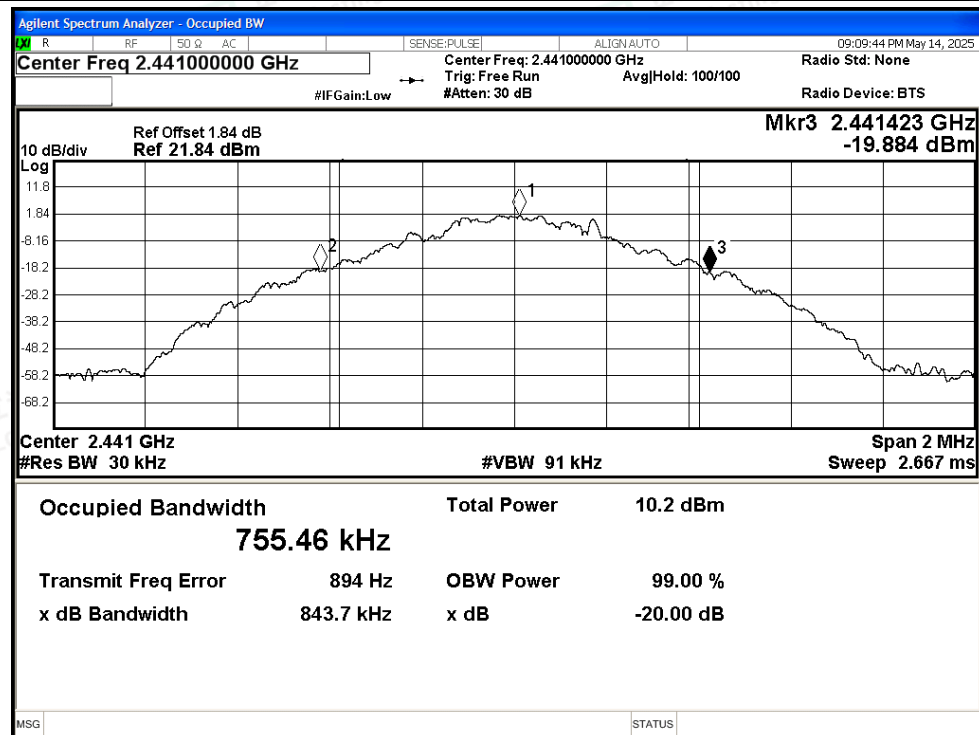


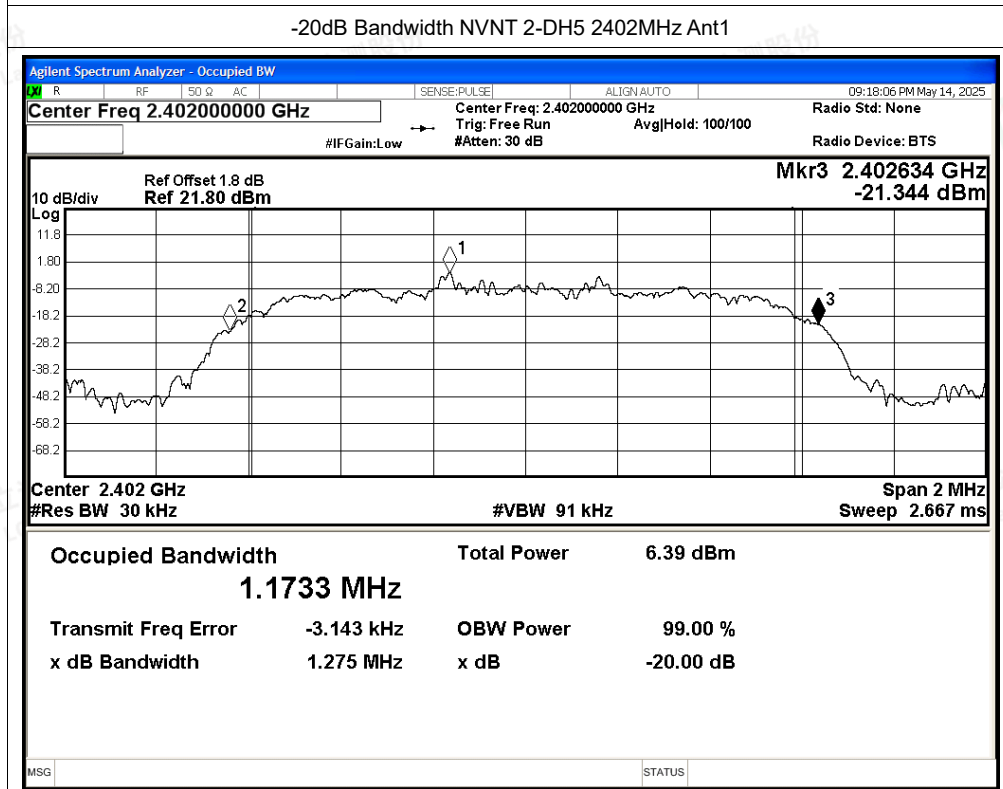
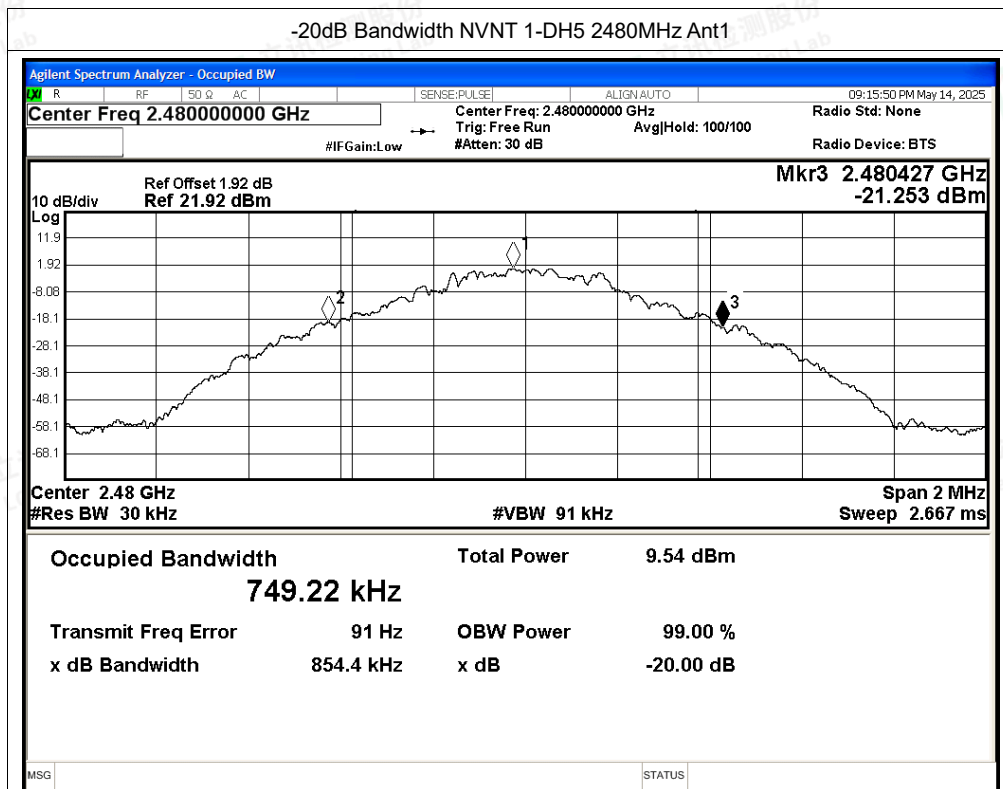
Test Graphs

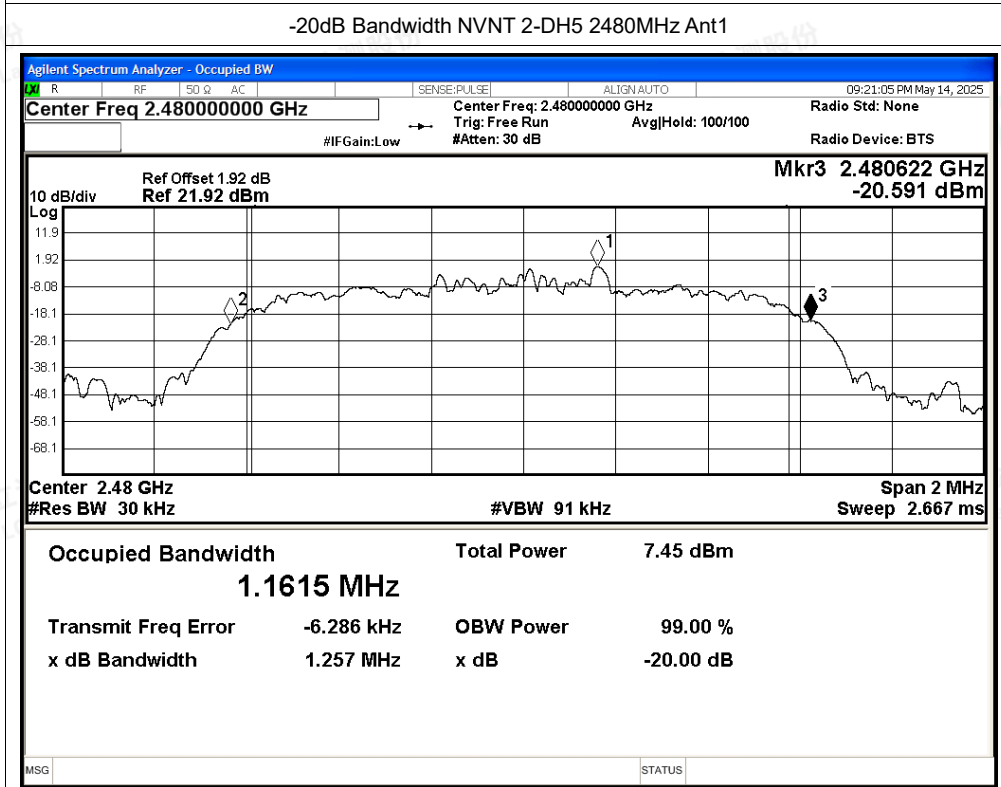
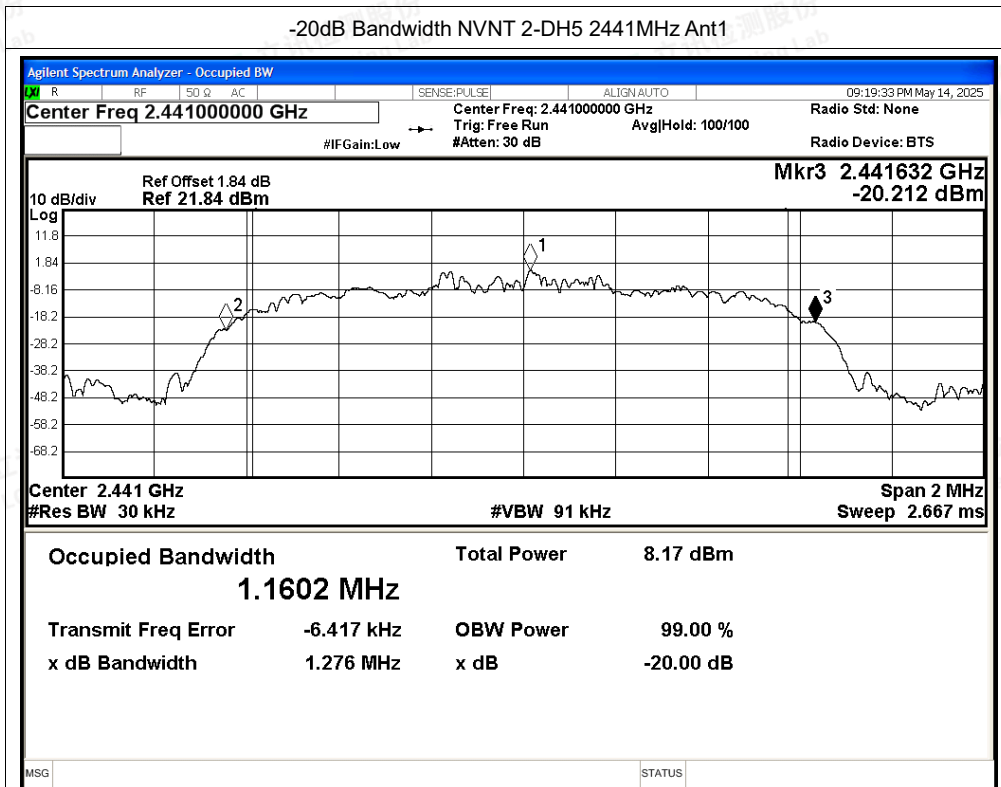
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

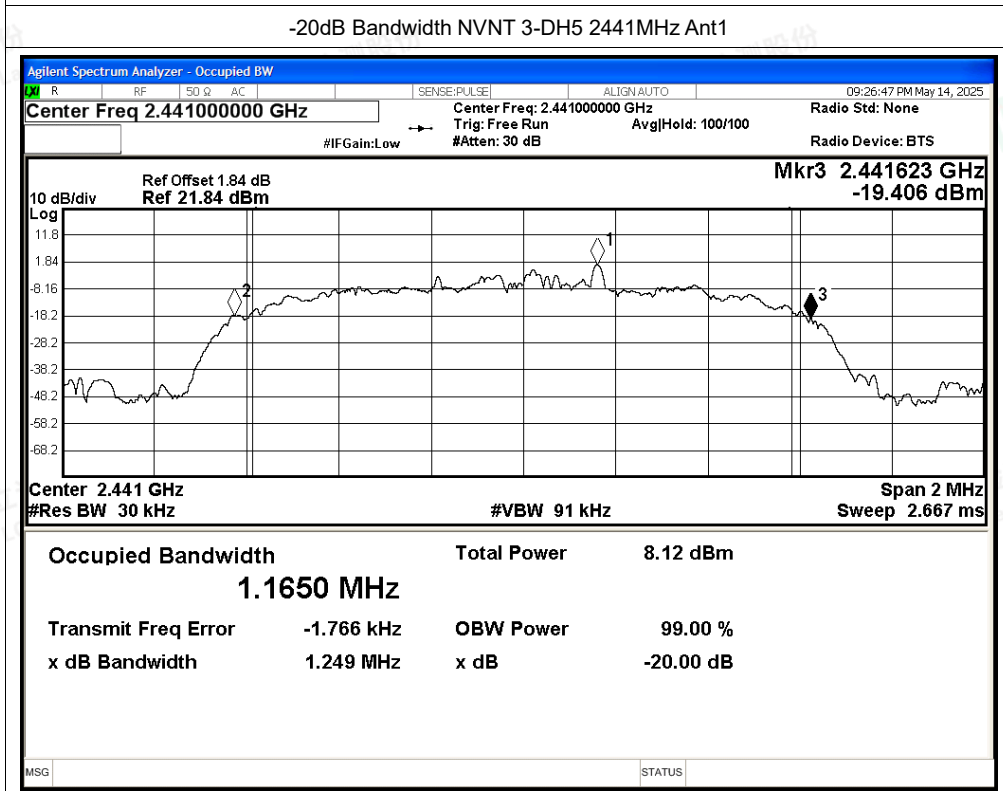
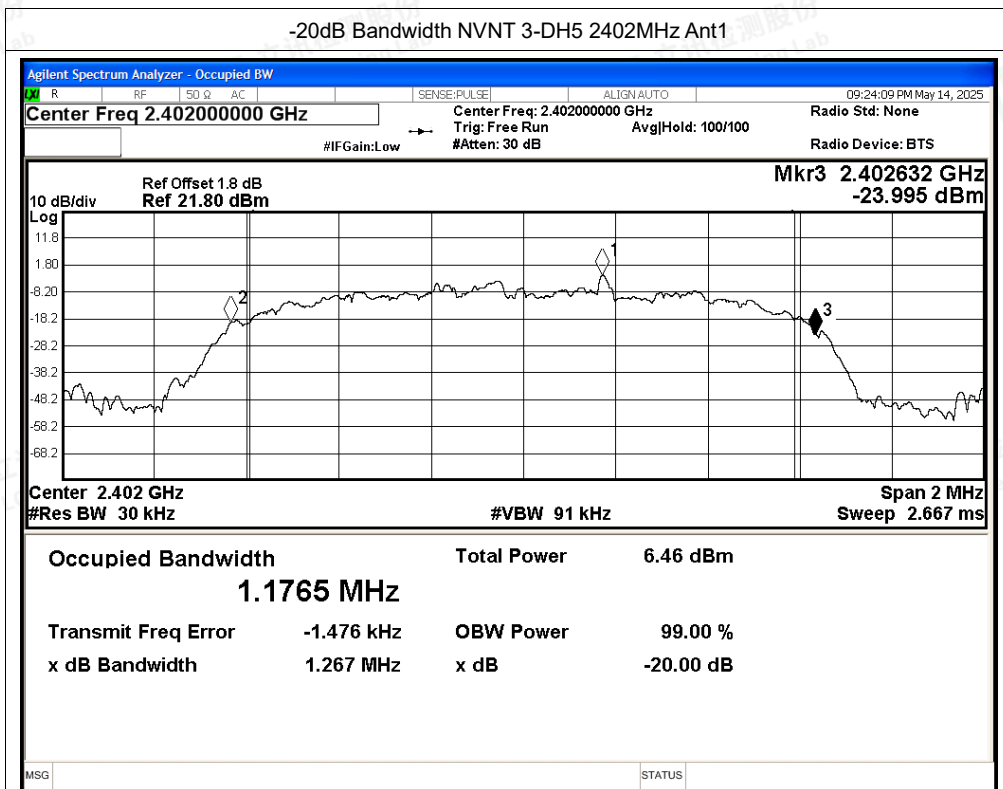


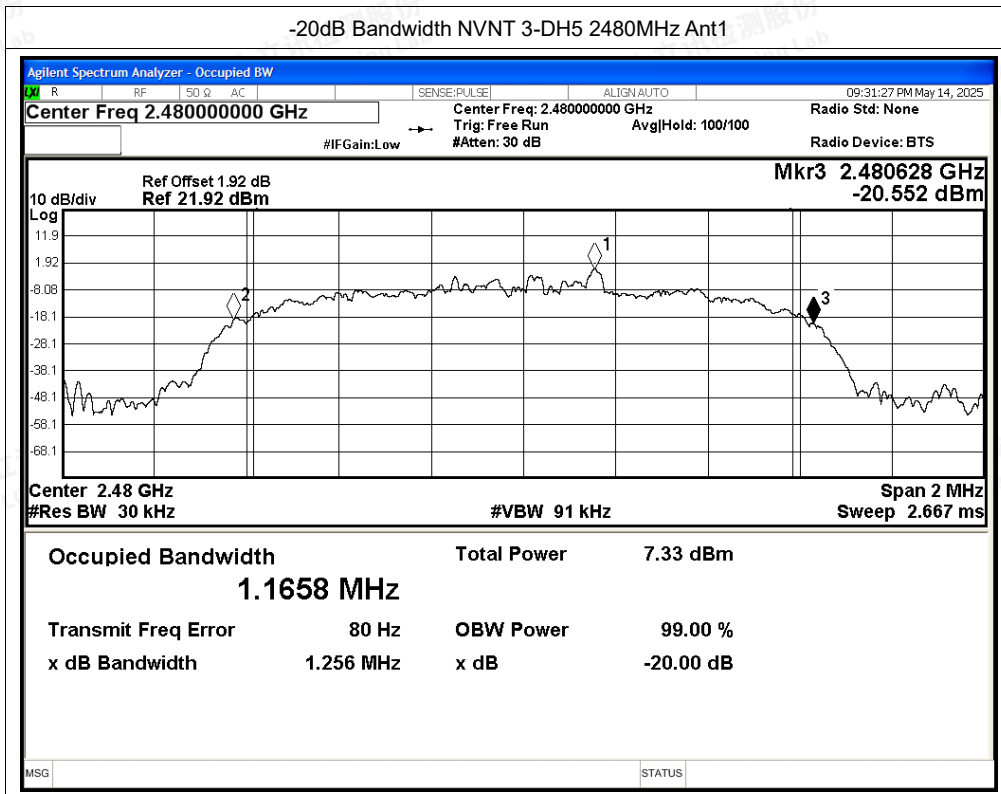
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1













A.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	2.92	21	Pass
NVNT	1-DH5	2441	Ant1	3.9	21	Pass
NVNT	1-DH5	2480	Ant1	3.27	21	Pass
NVNT	2-DH5	2402	Ant1	2.21	21	Pass
NVNT	2-DH5	2441	Ant1	3.1	21	Pass
NVNT	2-DH5	2480	Ant1	2.4	21	Pass
NVNT	3-DH5	2402	Ant1	2.26	21	Pass
NVNT	3-DH5	2441	Ant1	3.27	21	Pass
NVNT	3-DH5	2480	Ant1	2.47	21	Pass

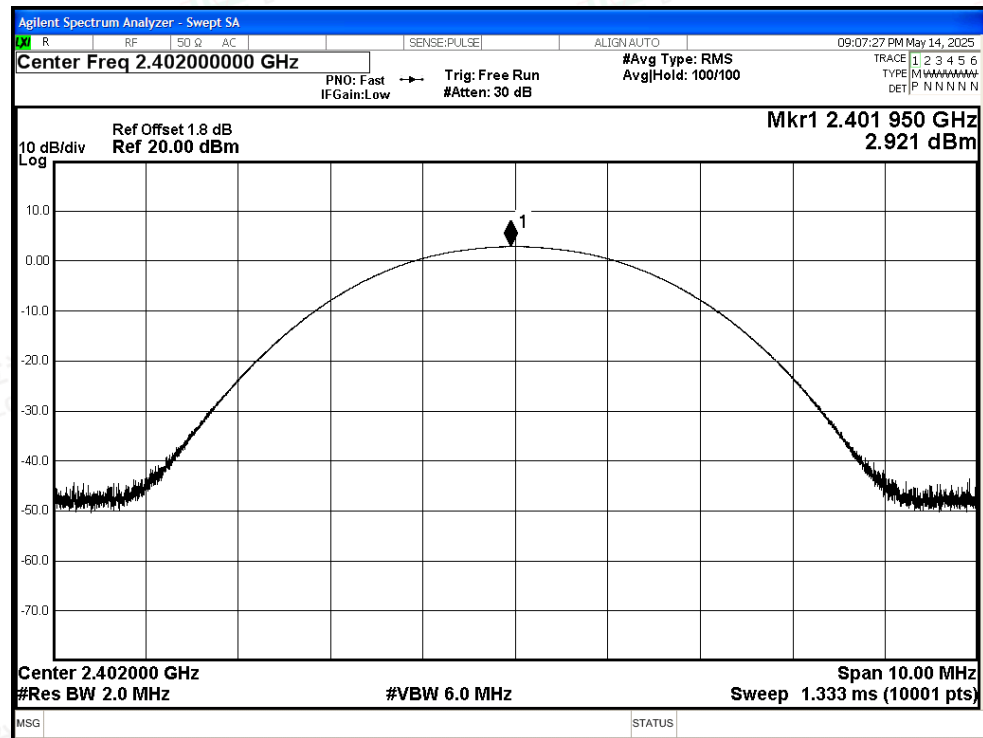


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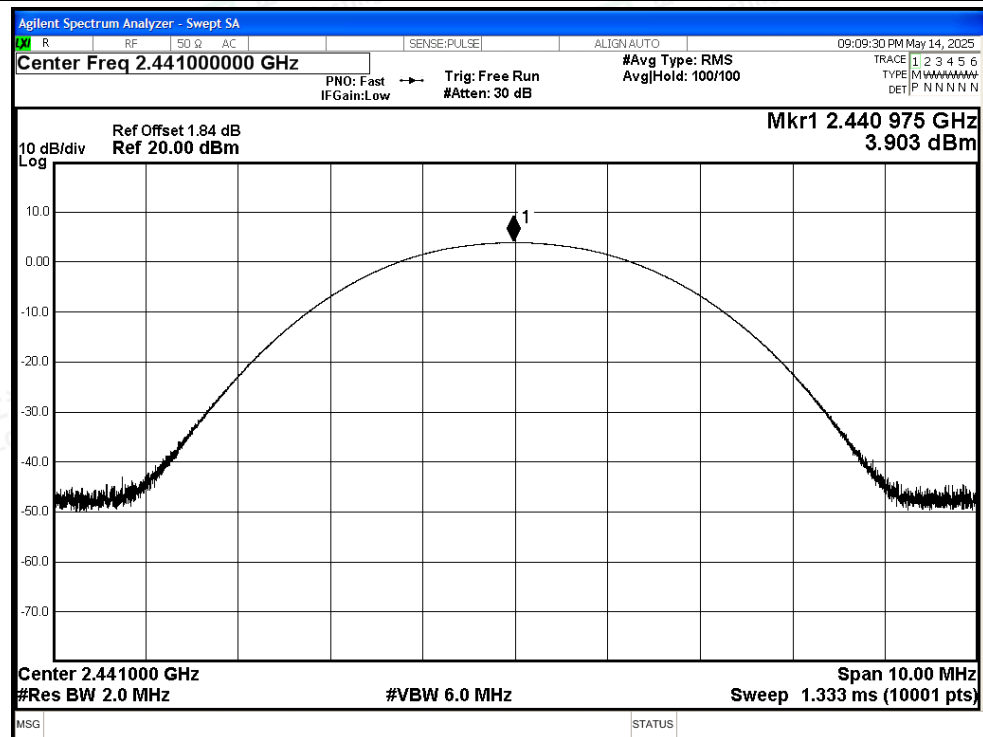


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

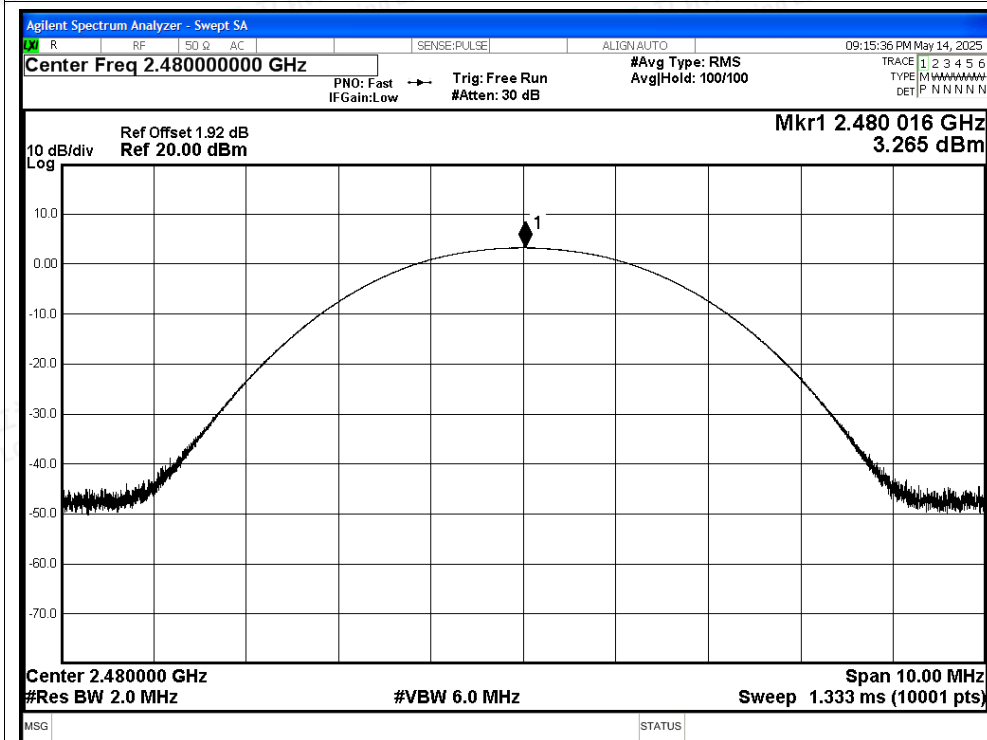


Power NVNT 1-DH5 2441MHz Ant1

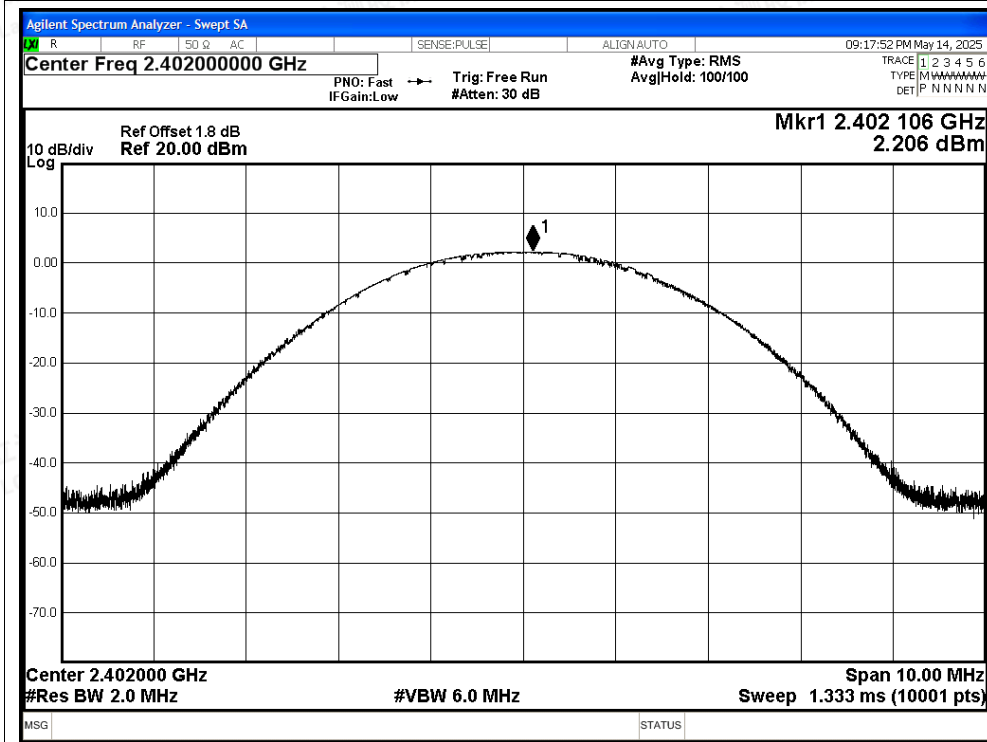




Power NVNT 1-DH5 2480MHz Ant1

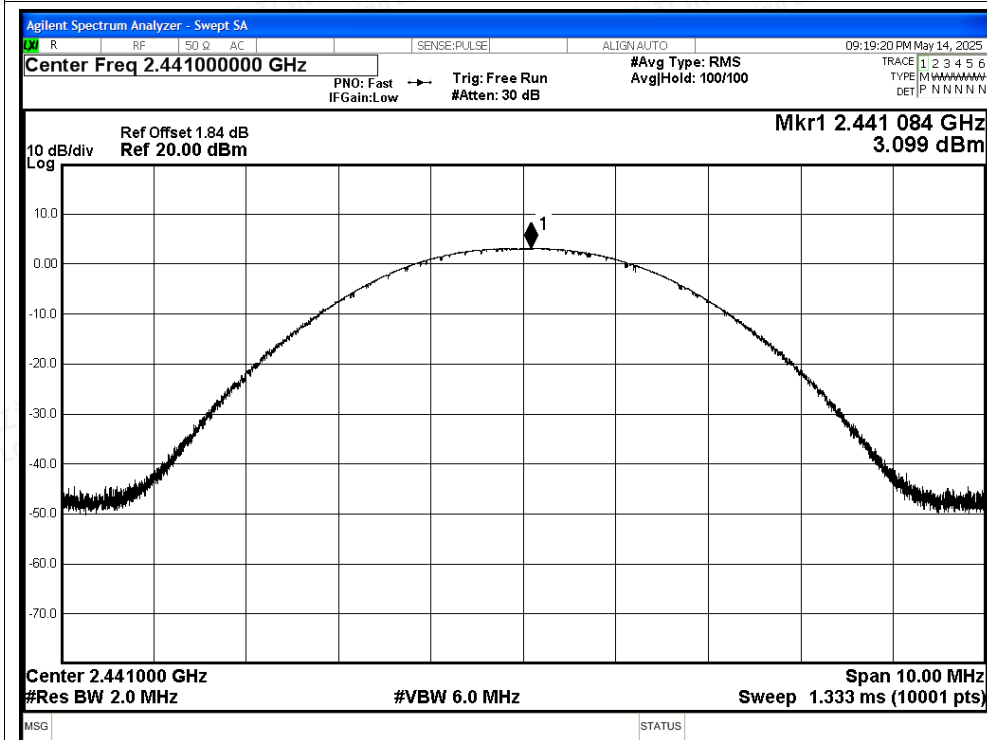


Power NVNT 2-DH5 2402MHz Ant1

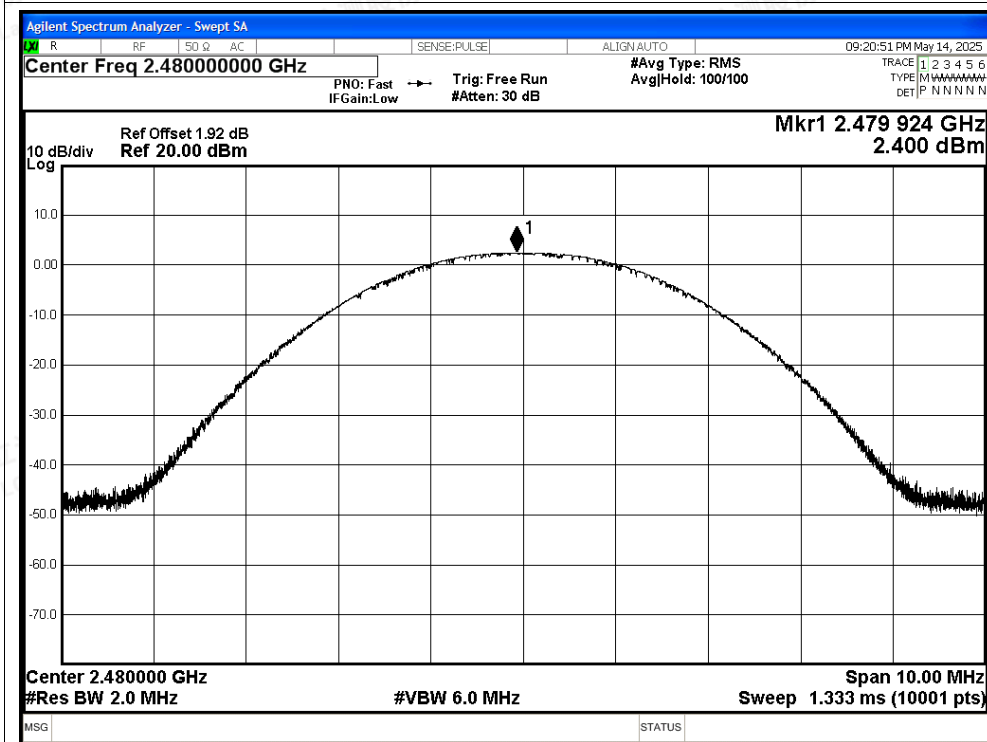




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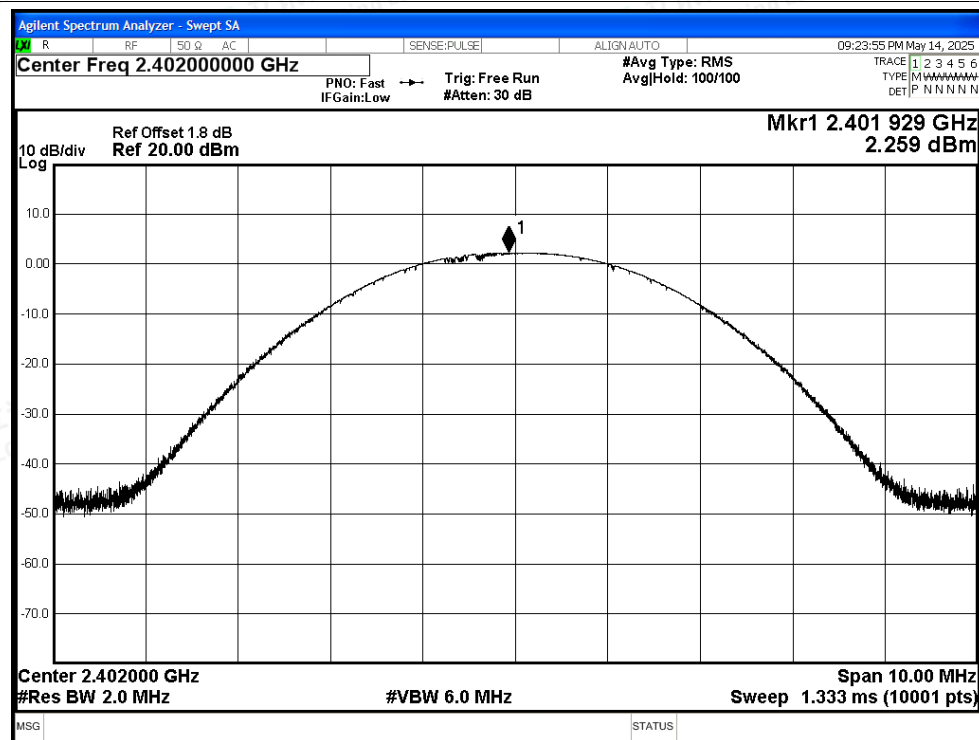


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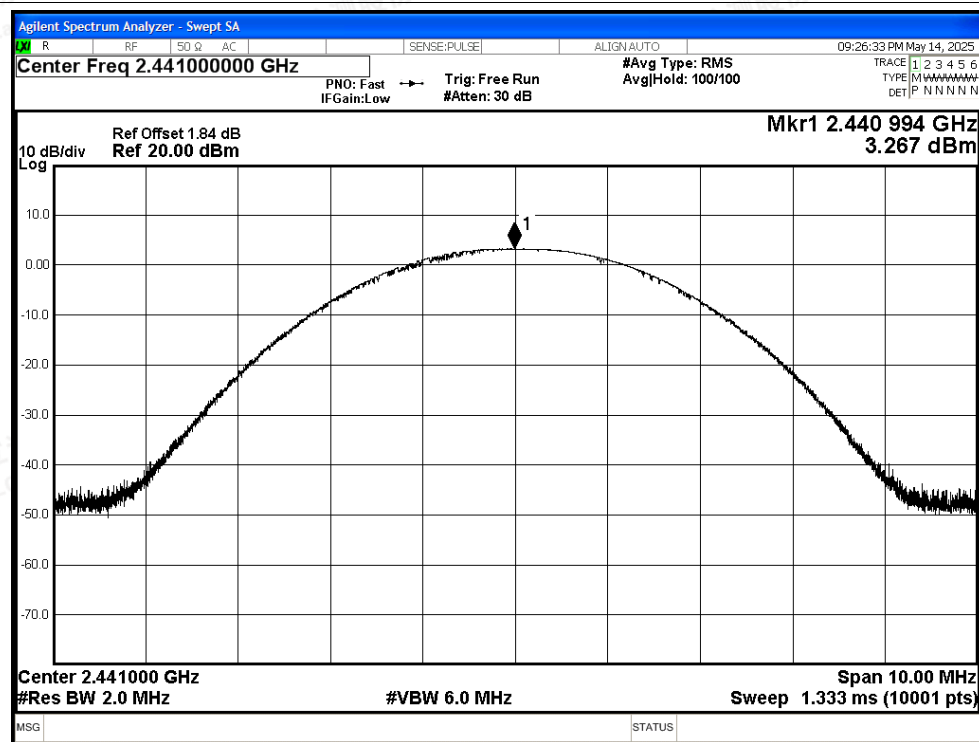


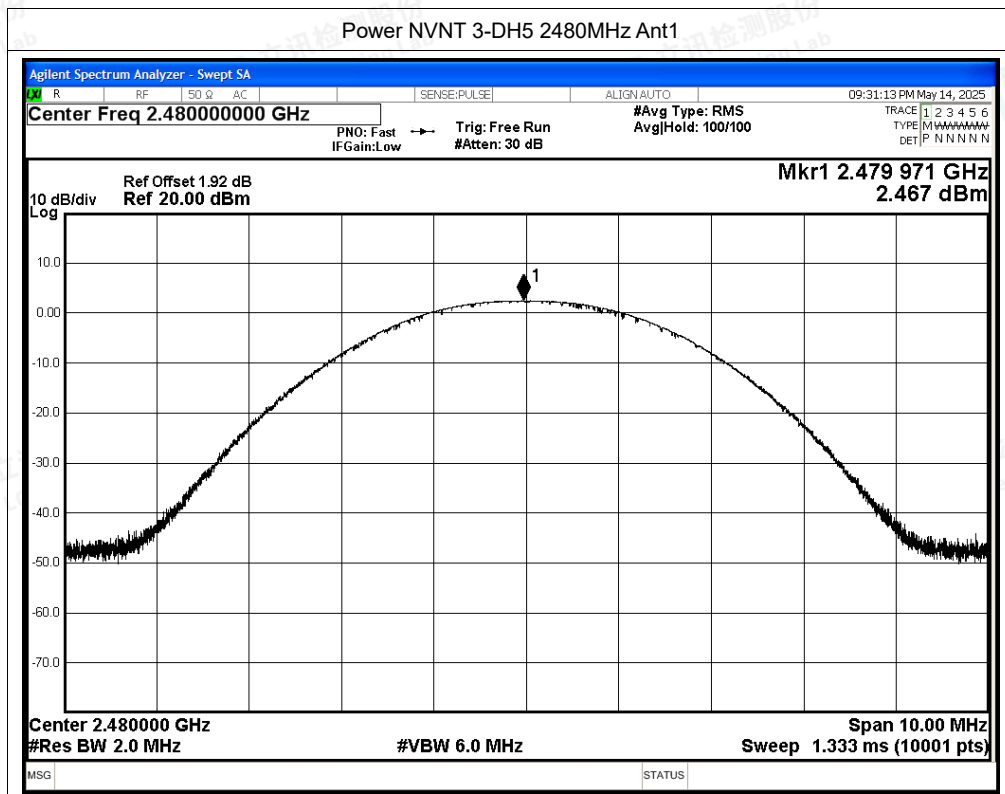


Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1







A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.018	2402.966	0.948	0.569	Pass
NVNT	2-DH5	Ant1	2402.16	2403.012	0.852	0.851	Pass
NVNT	3-DH5	Ant1	2401.854	2403.132	1.278	0.845	Pass

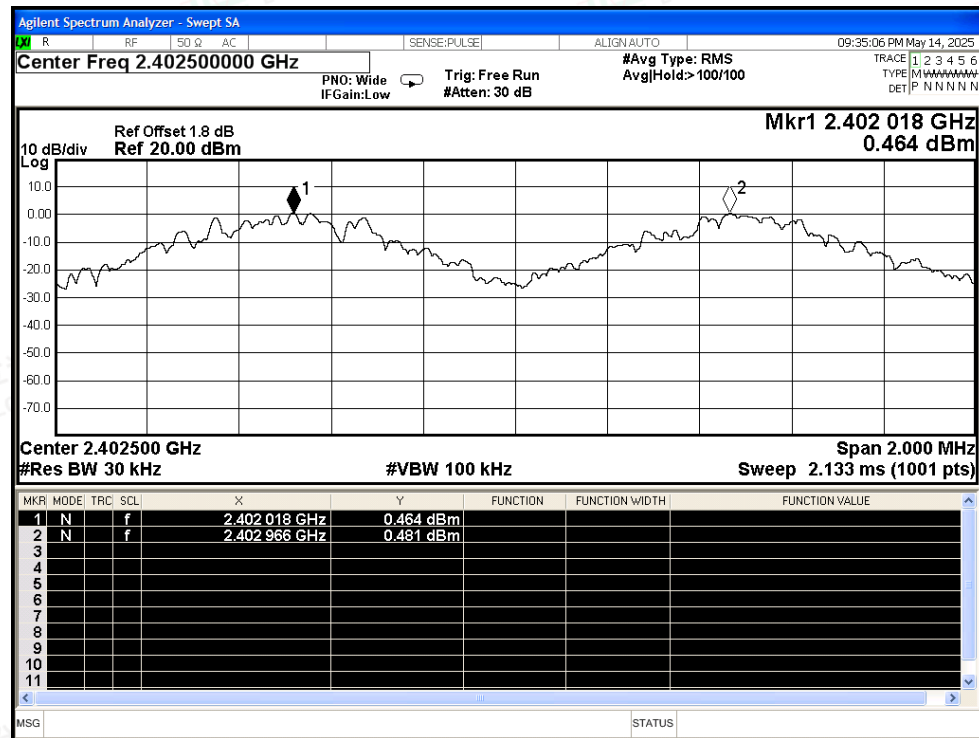


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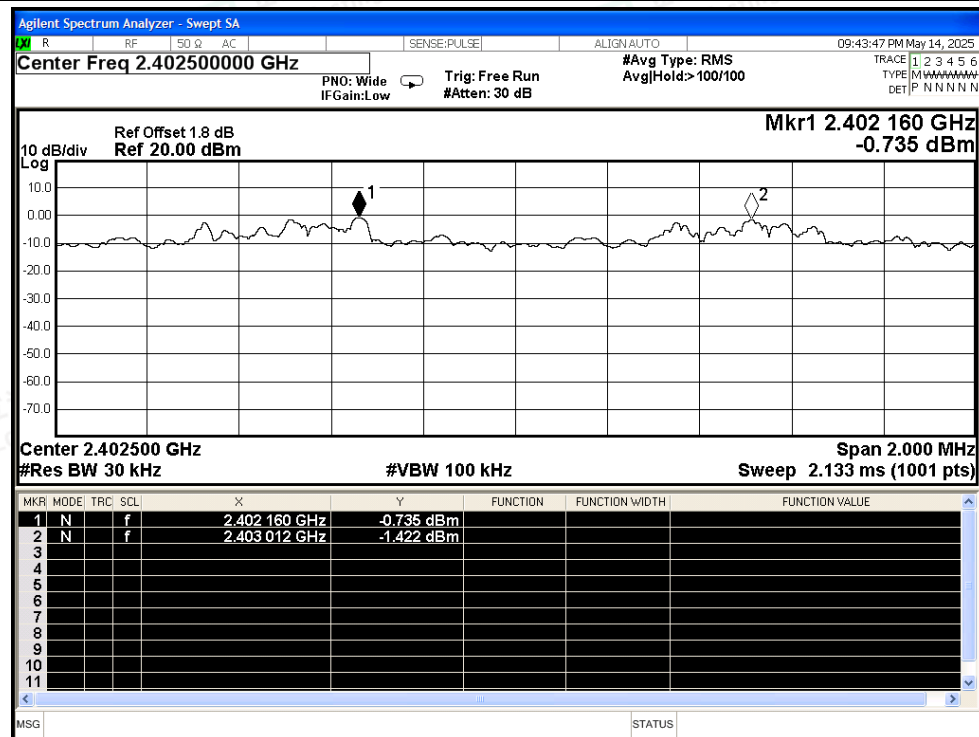


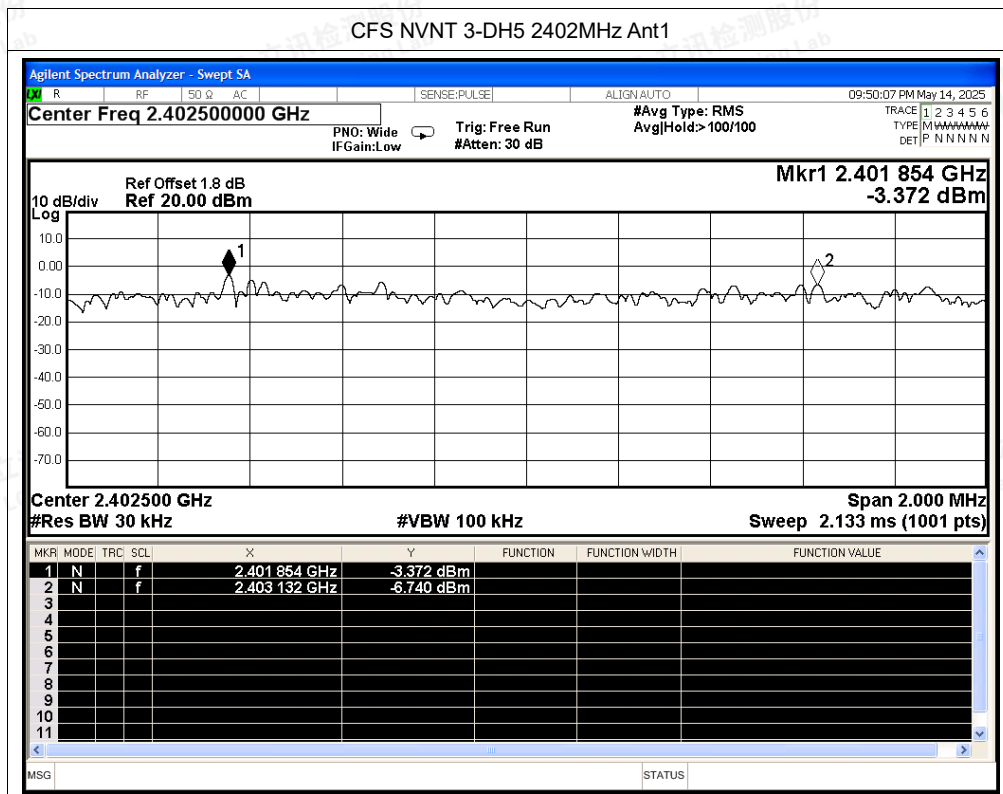
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-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	268.026	93	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.88	296.64	103	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.887	297.361	103	31600	400	Pass

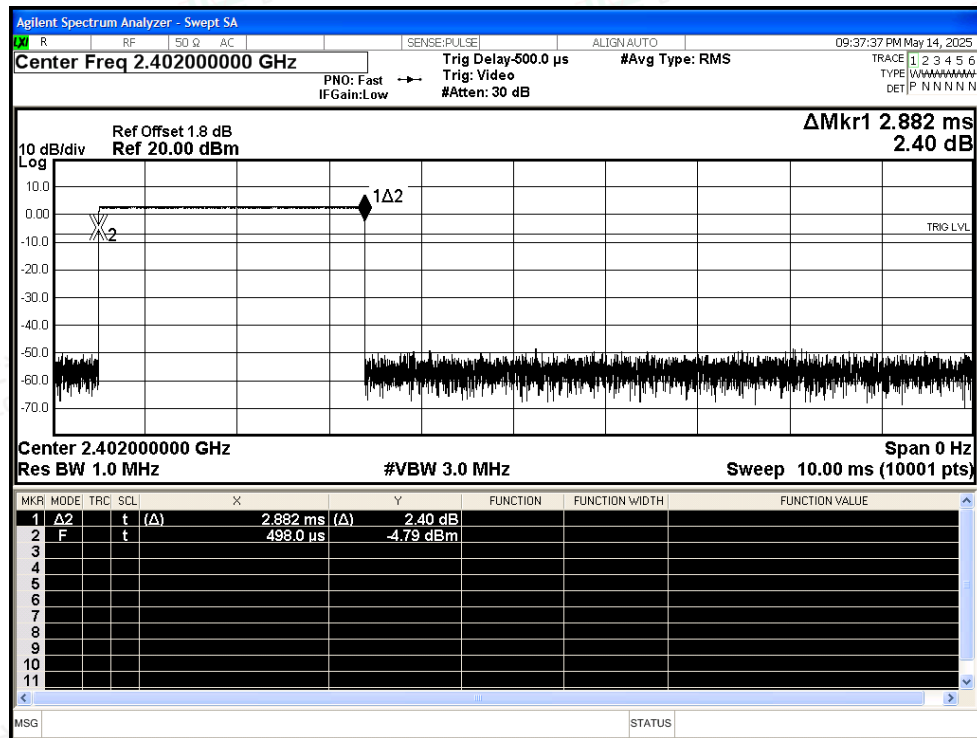


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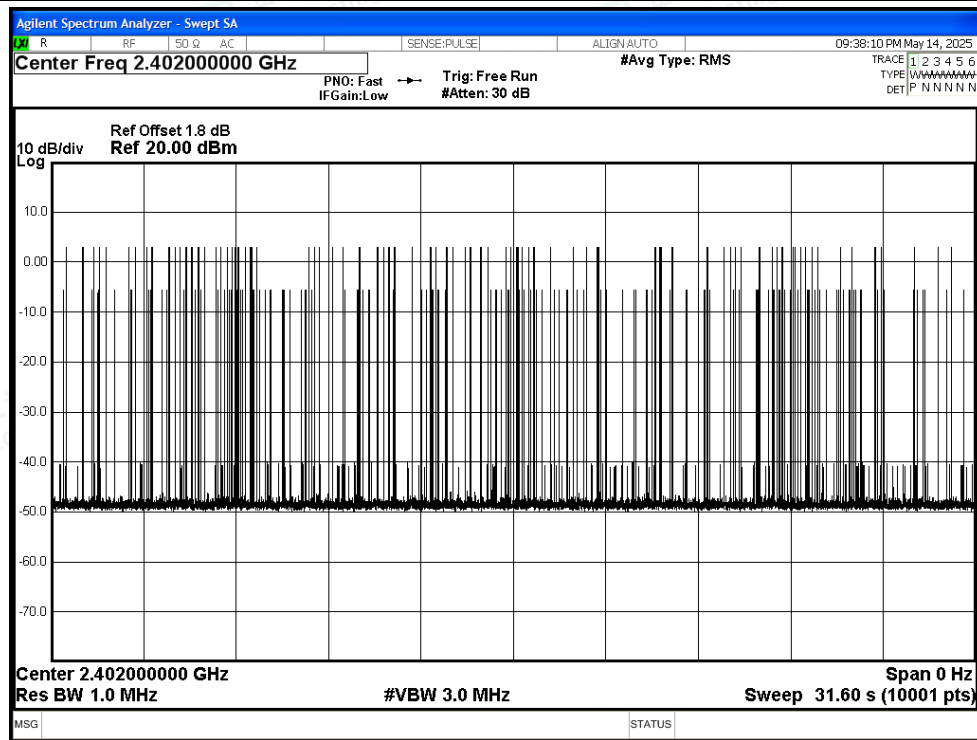


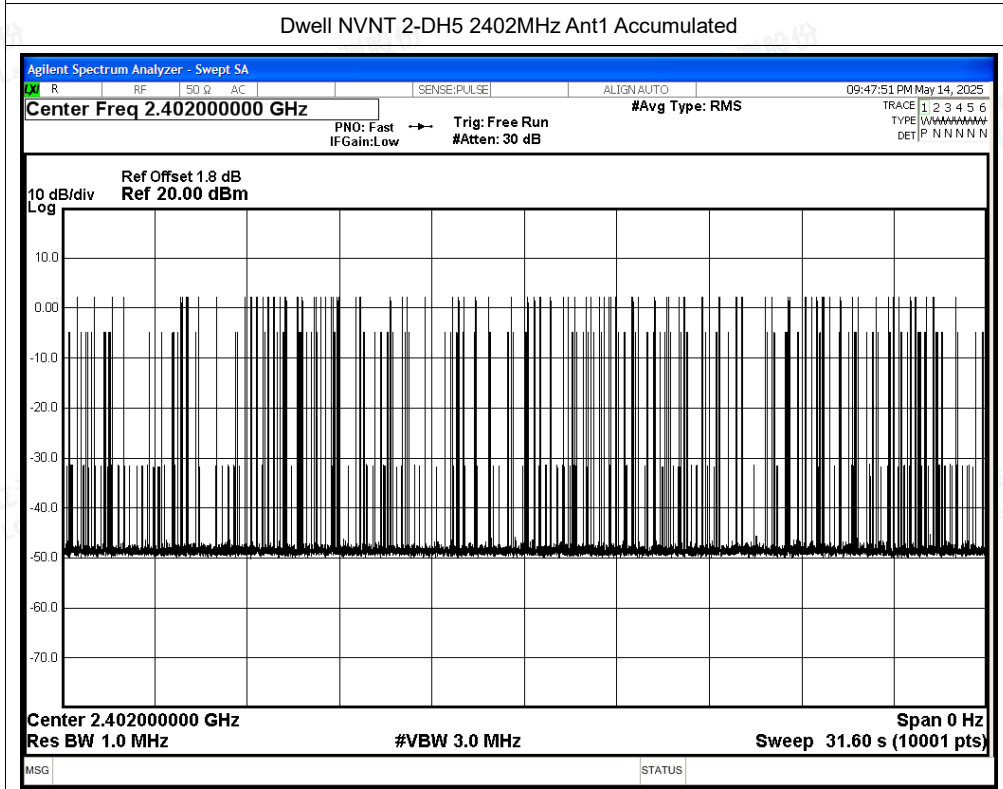
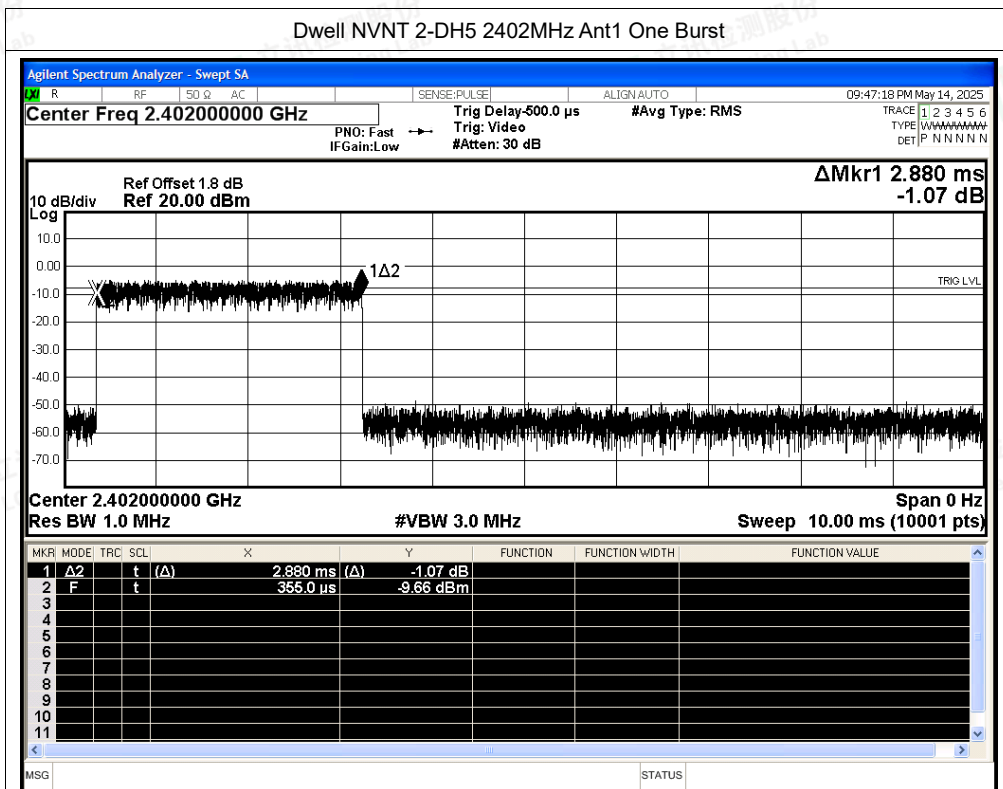
Test Graphs

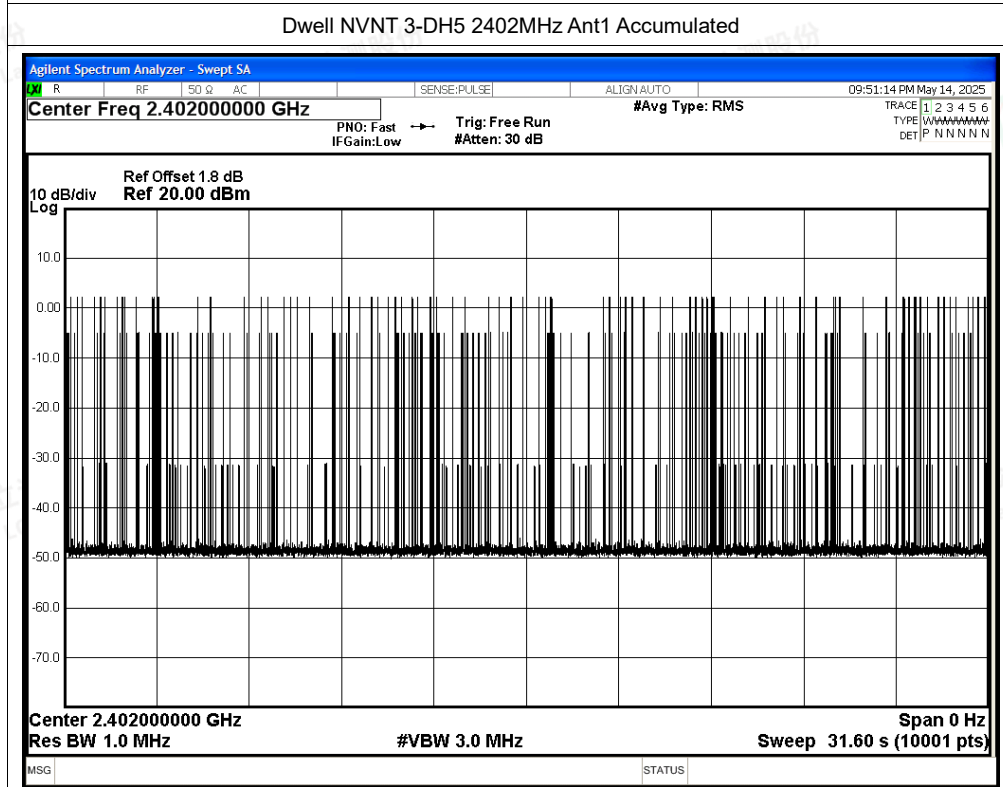
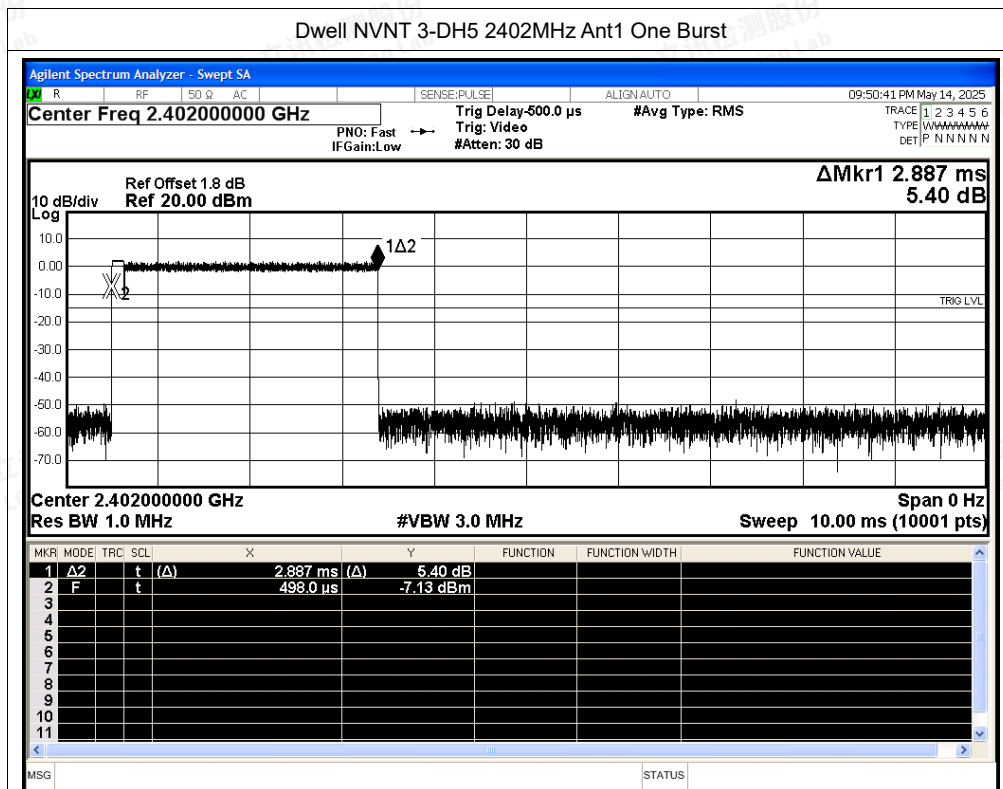
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



Dwell NVNT 1-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

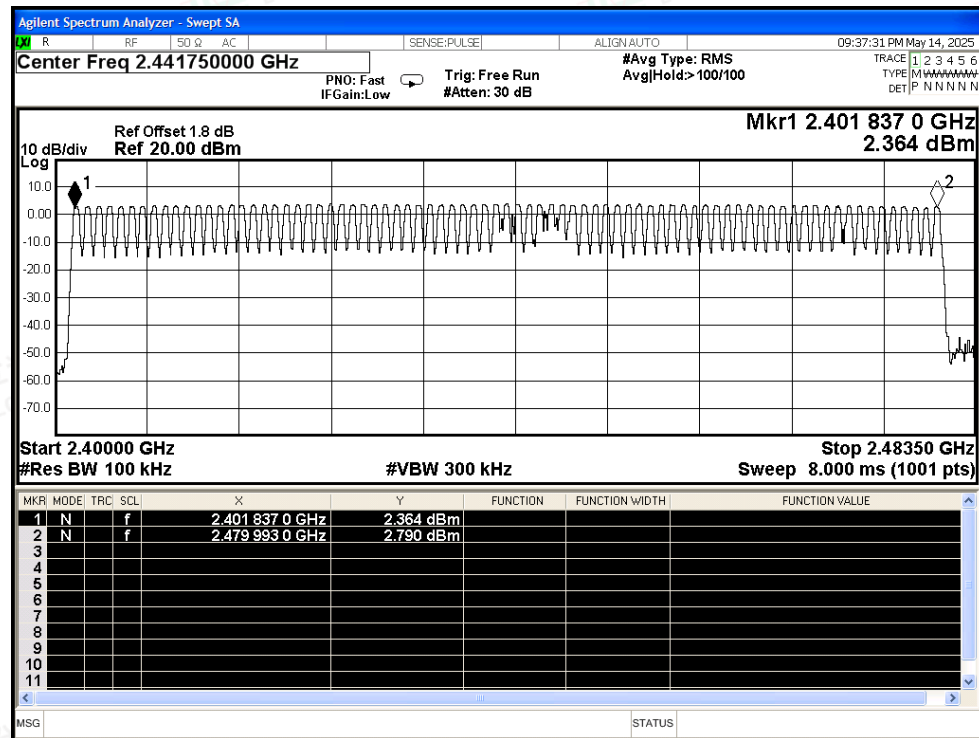


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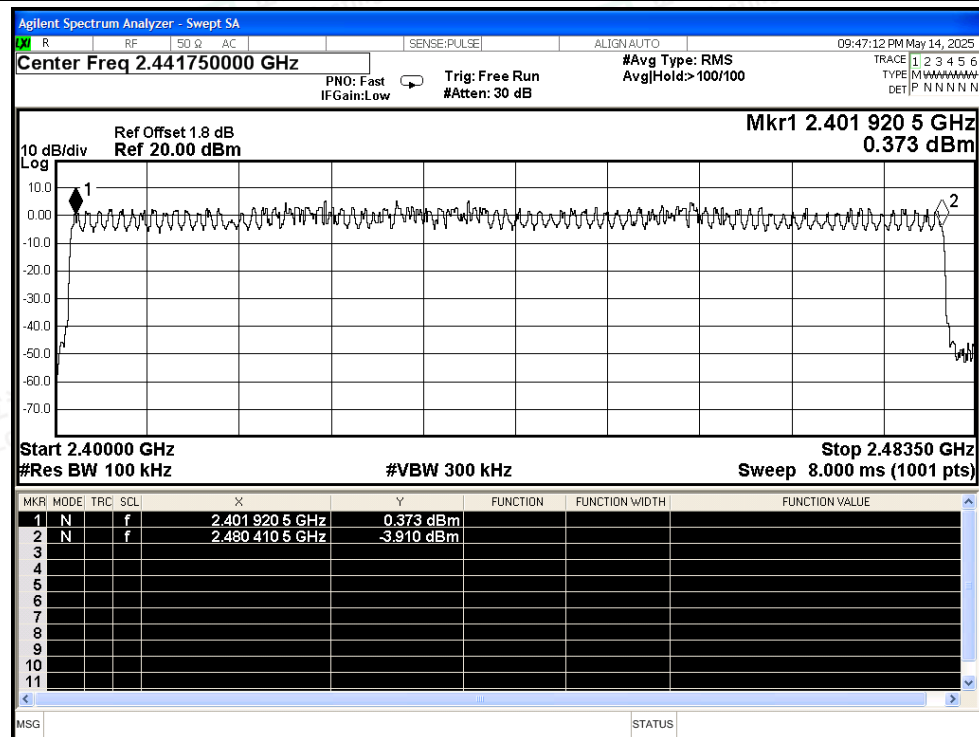


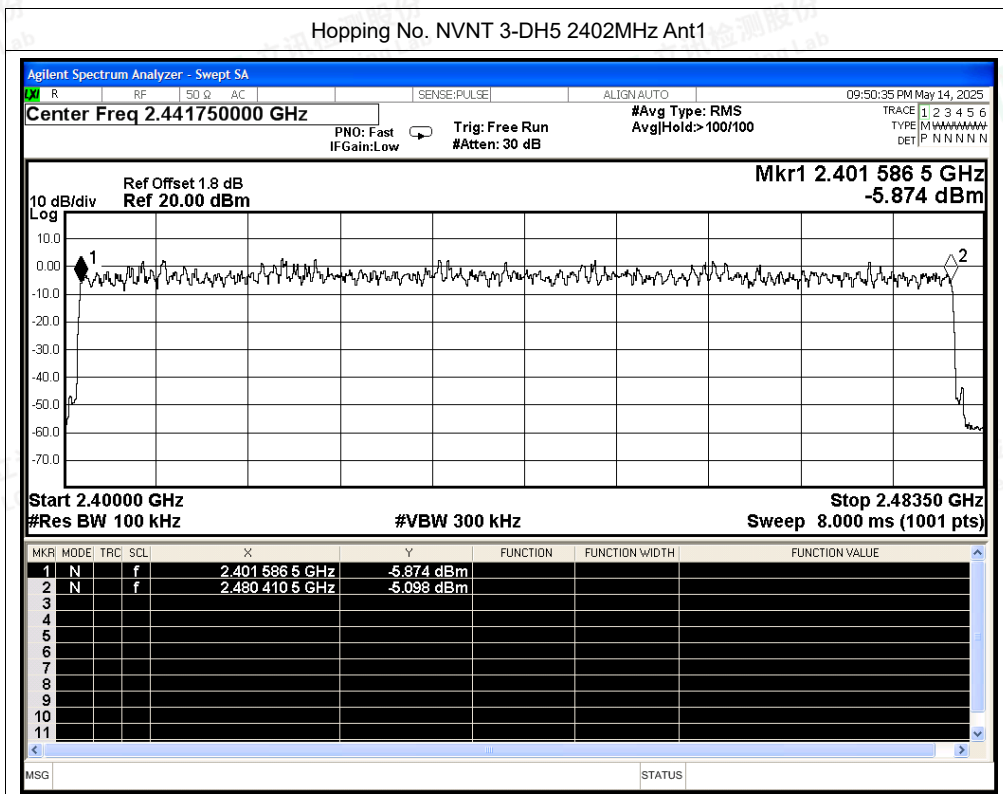
Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-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	-59.45	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-60.38	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-57.67	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-57.73	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-57.86	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-56.49	-20	Pass

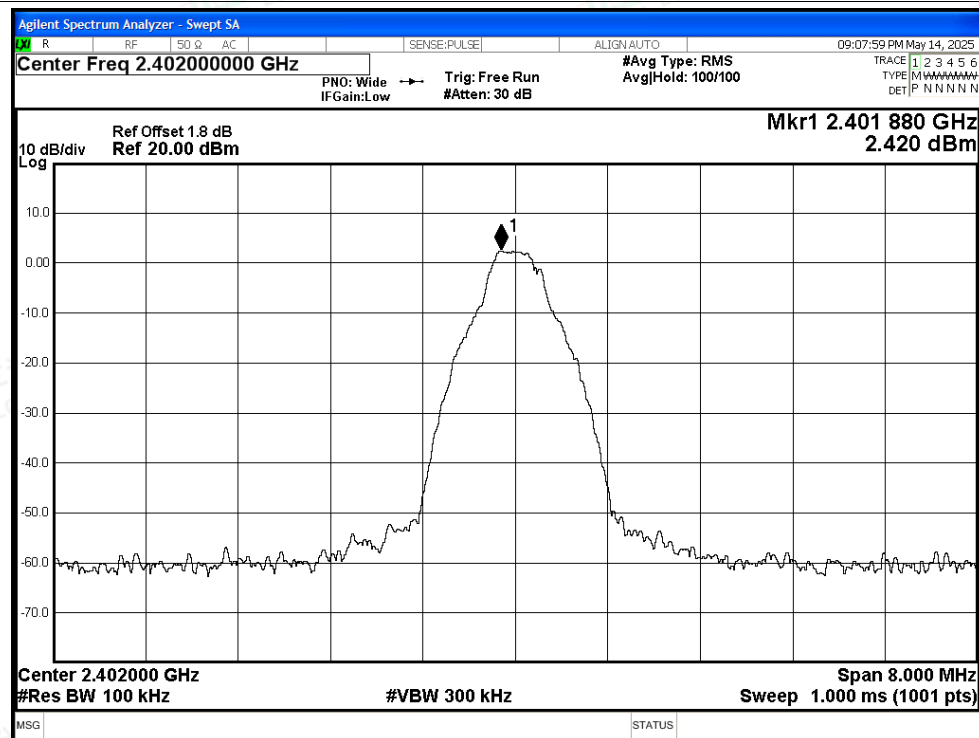


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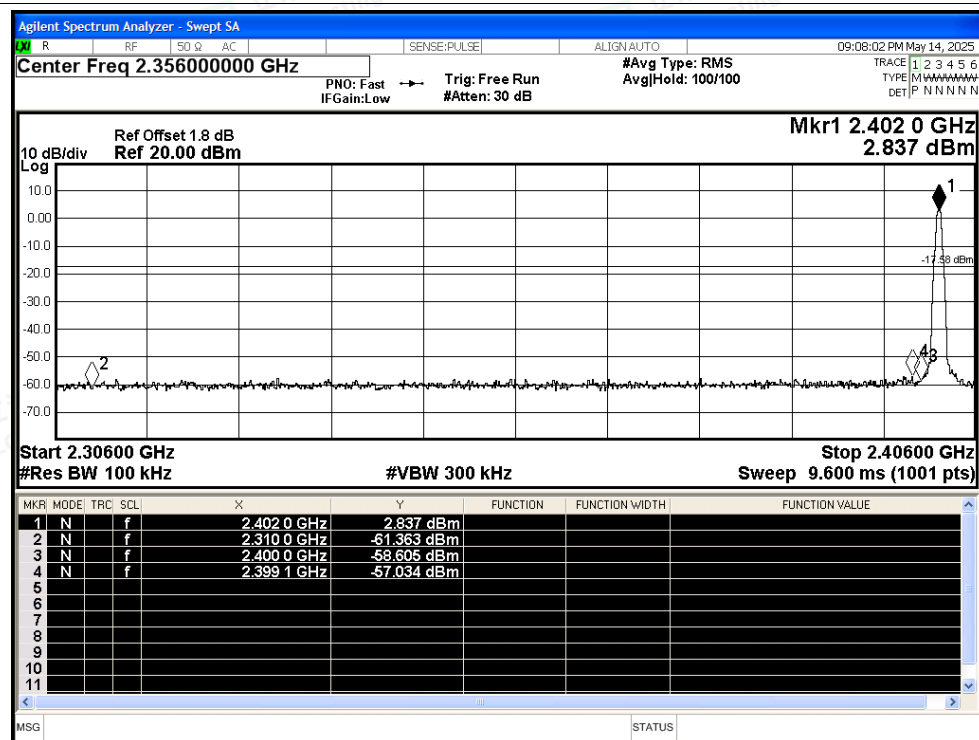


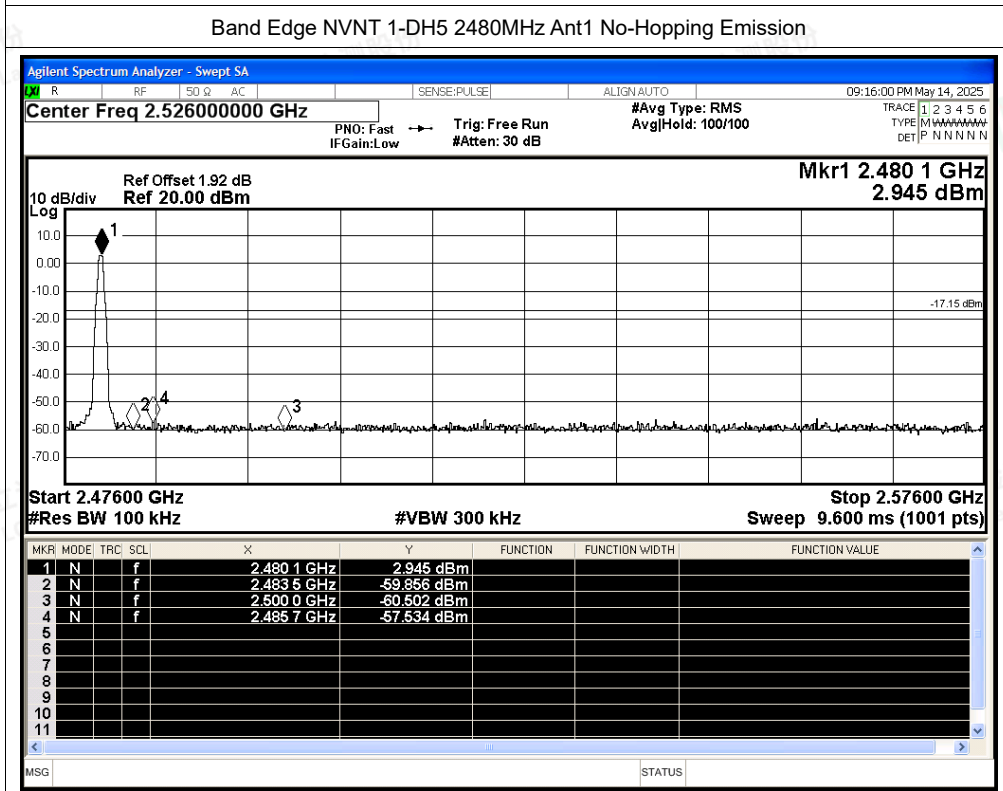
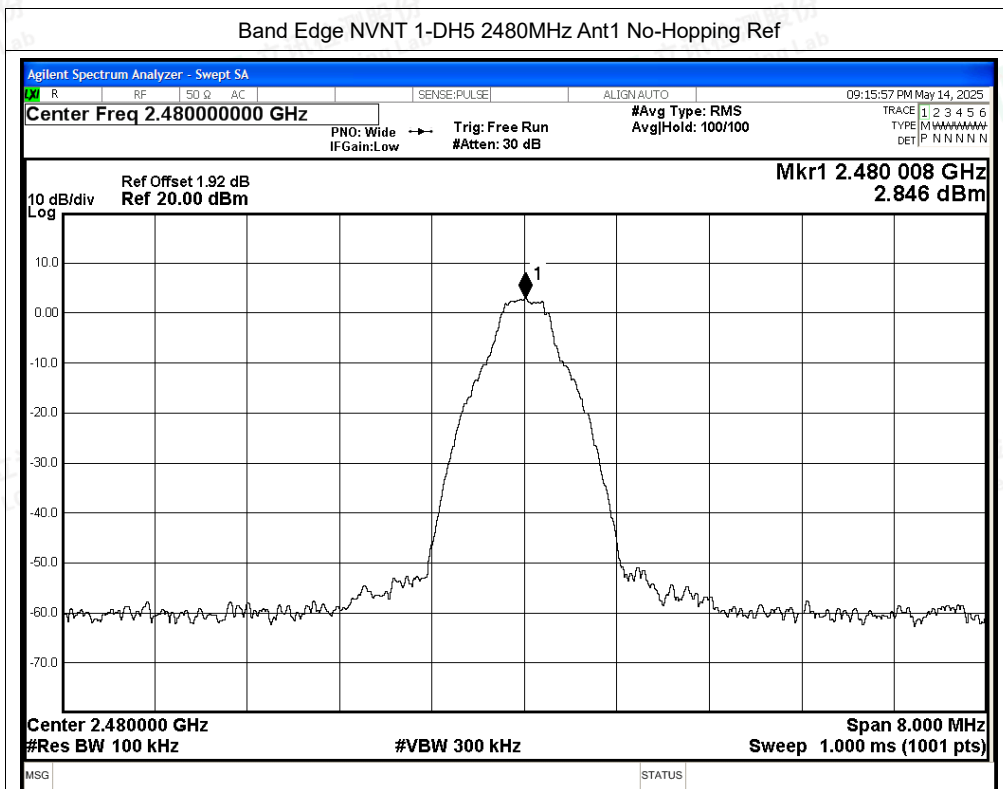
Test Graphs

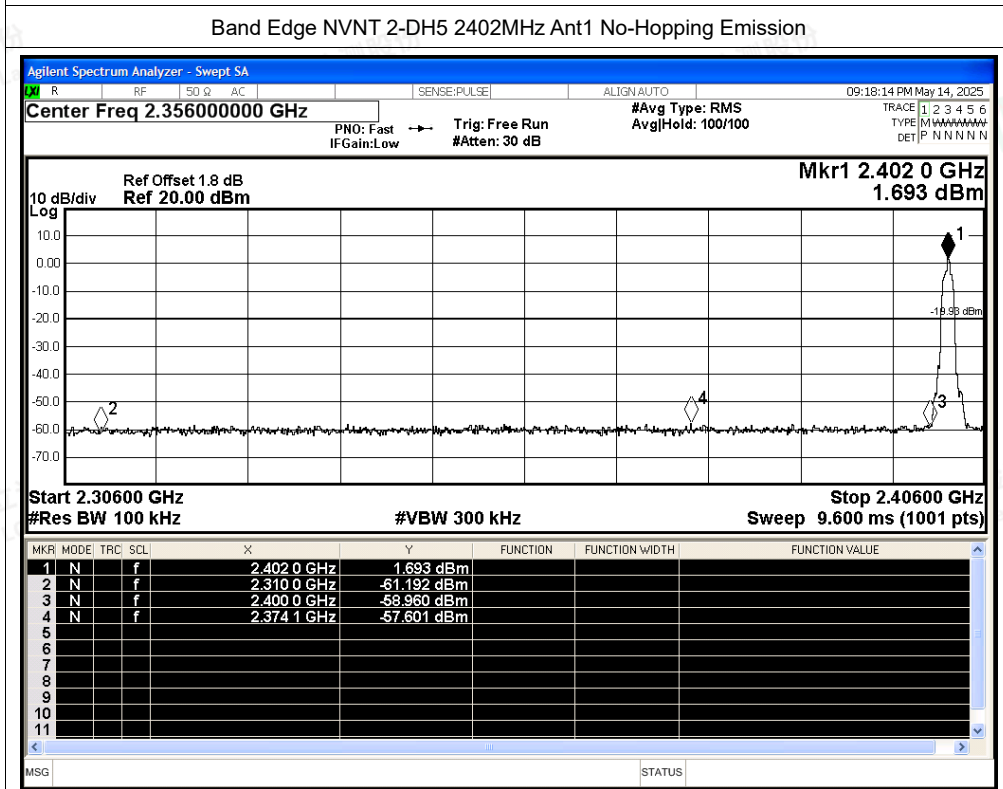
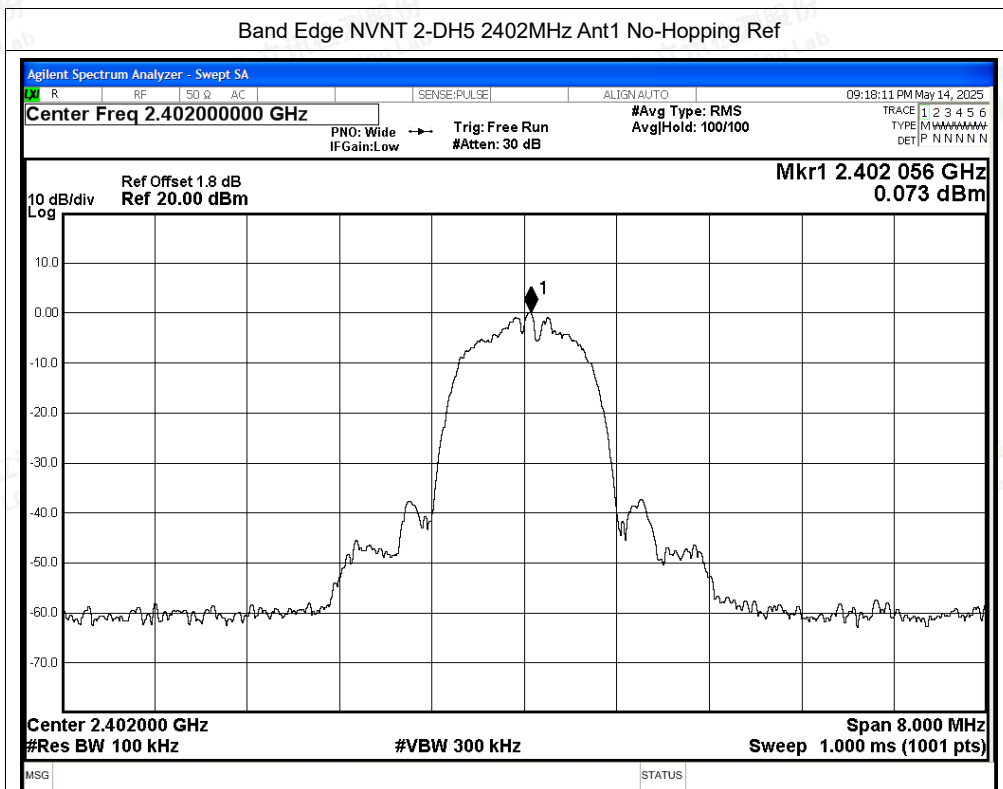
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



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

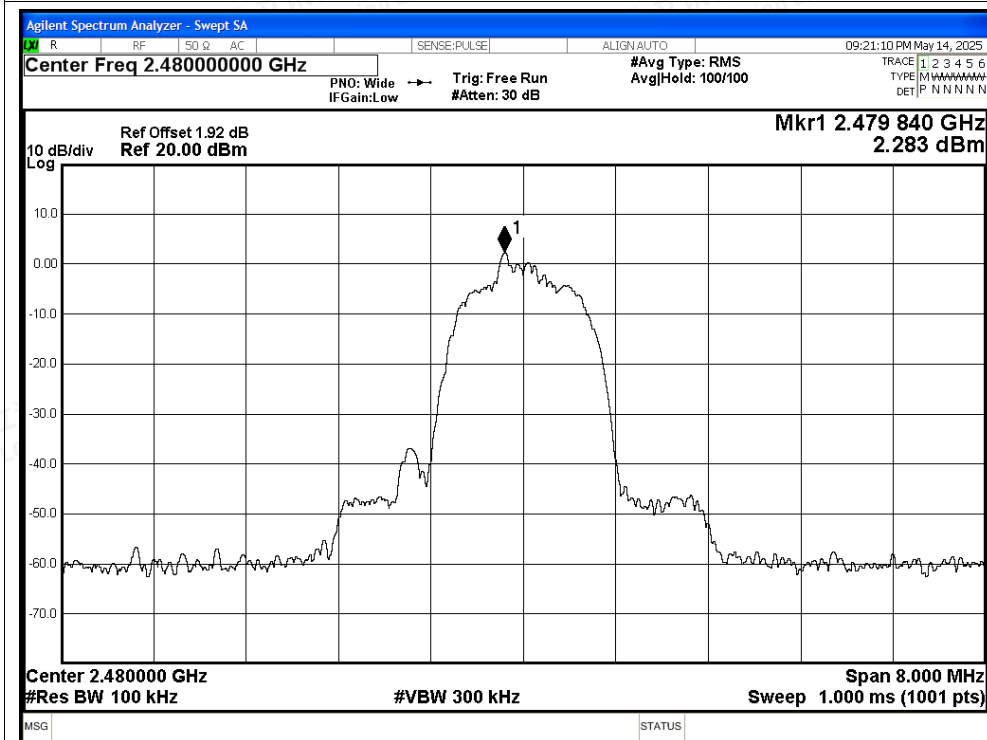




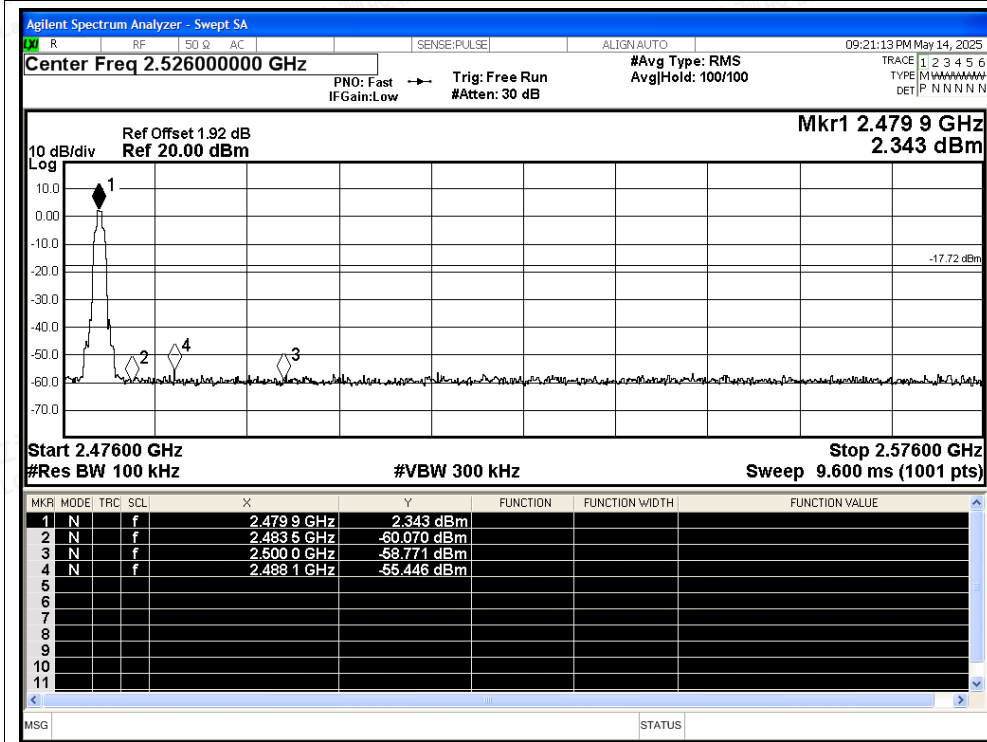




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

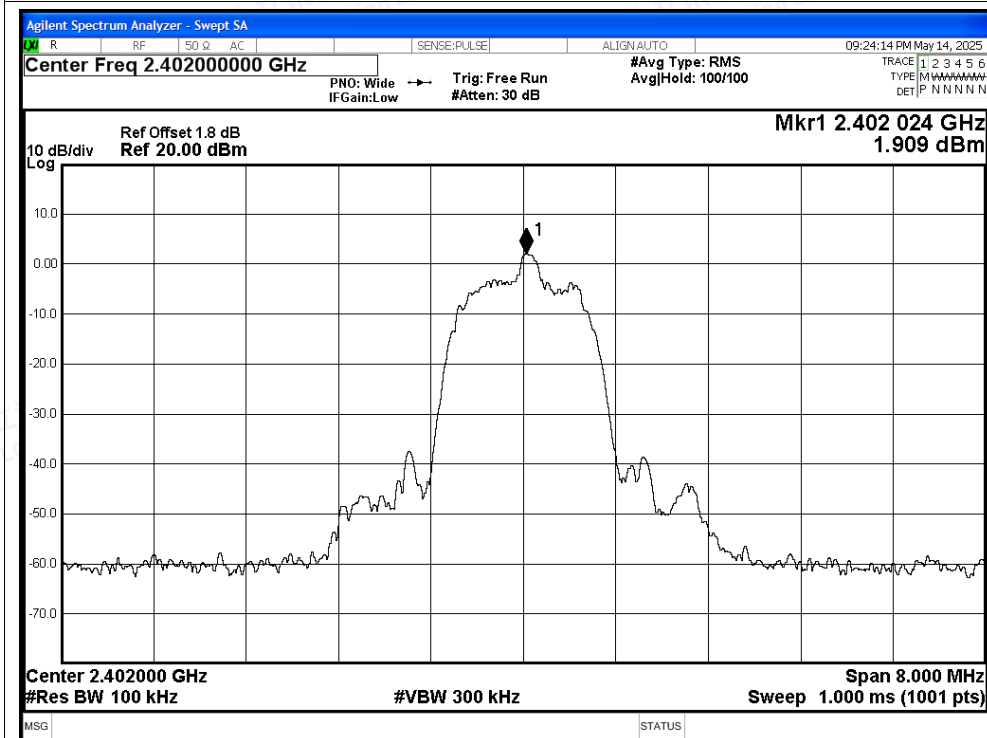


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

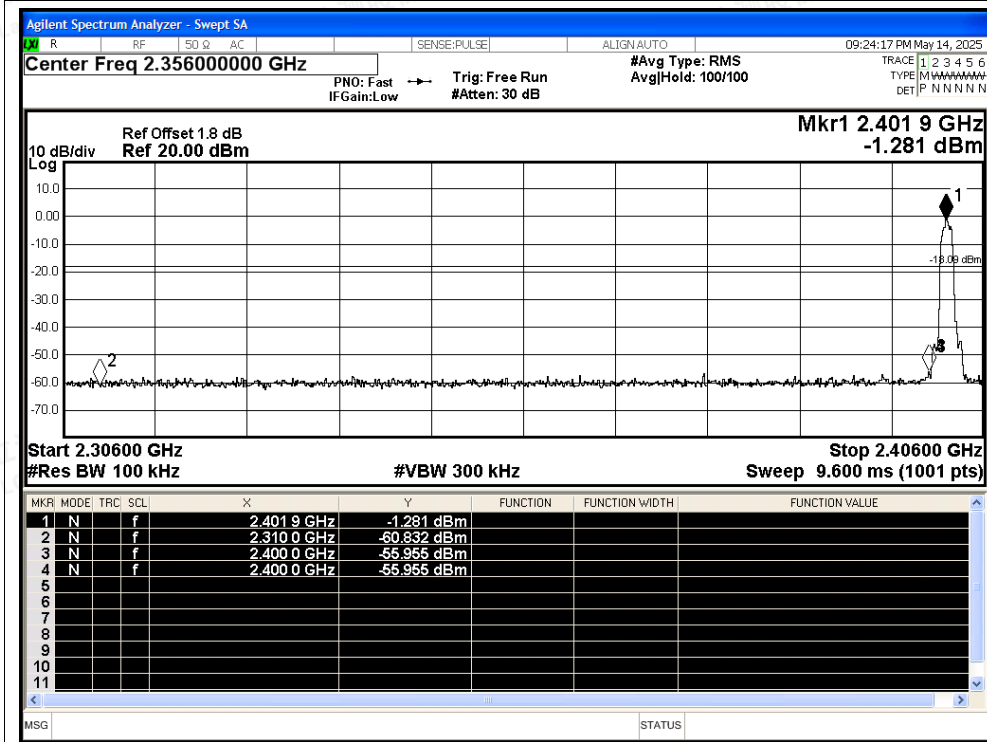




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

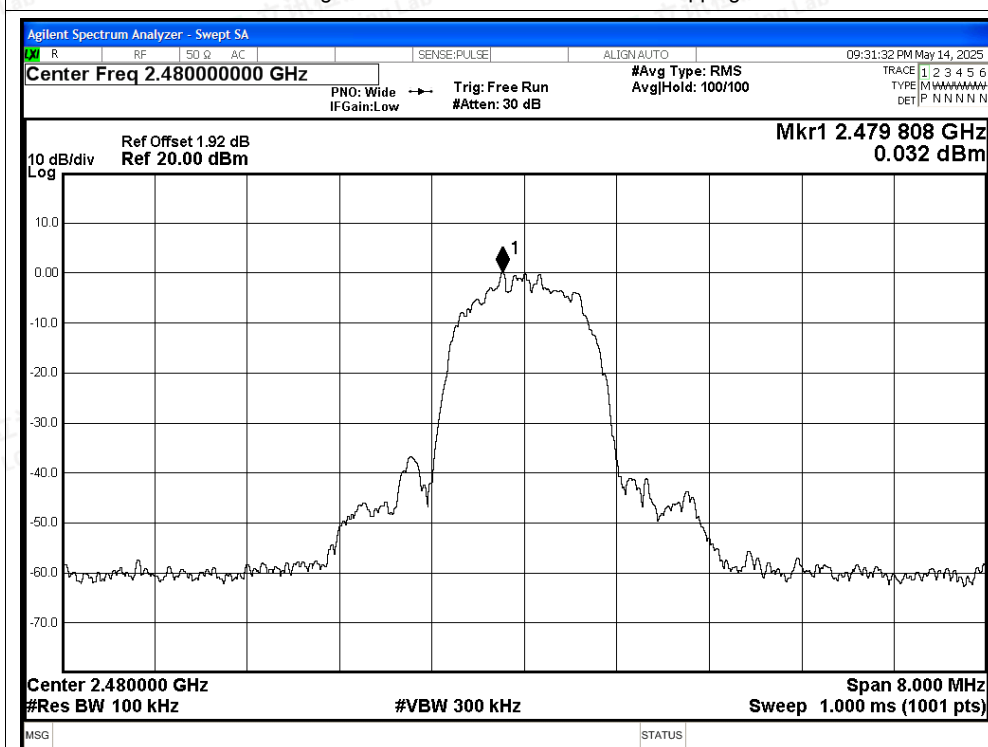


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

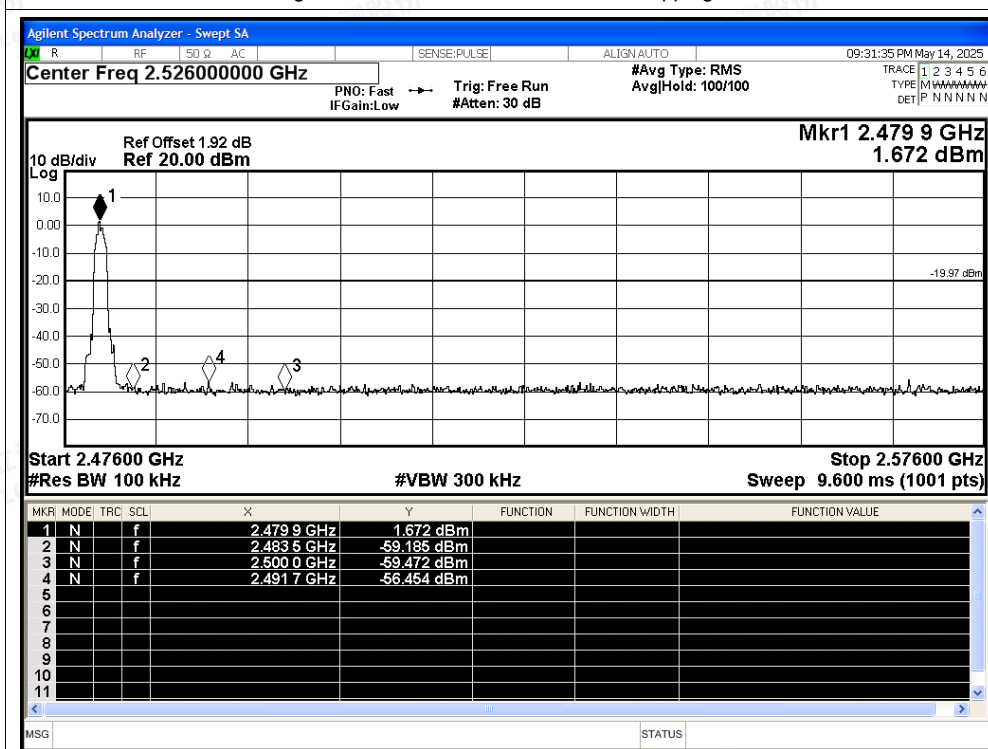




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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	-58.46	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-58.52	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-58.07	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-58.31	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-54.59	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-57.21	-20	Pass

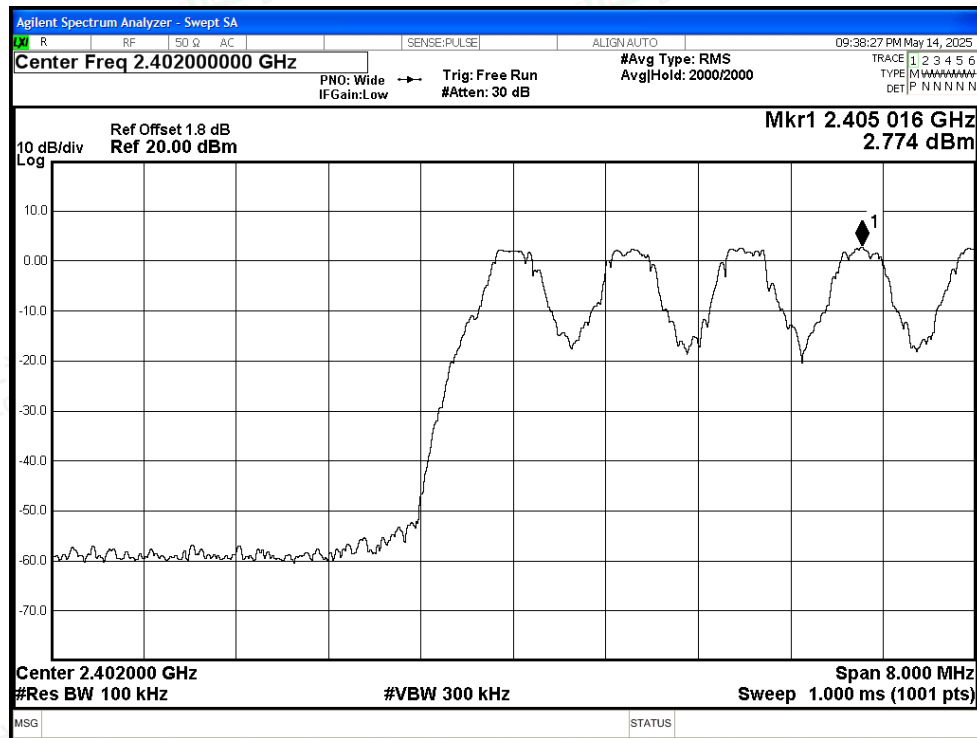


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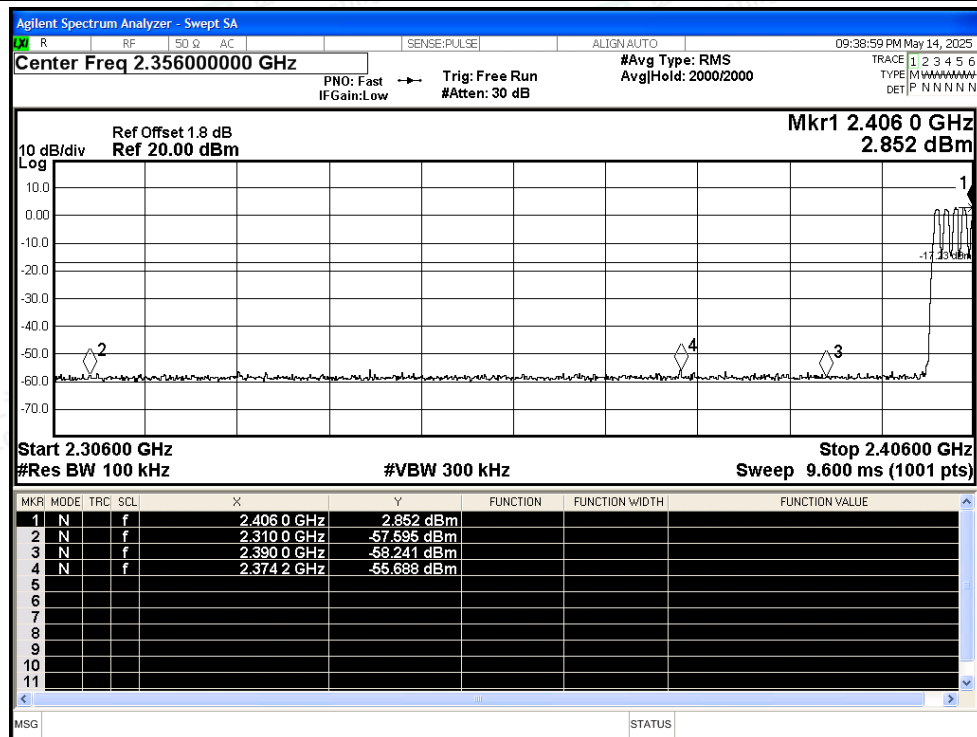


Test Graphs

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

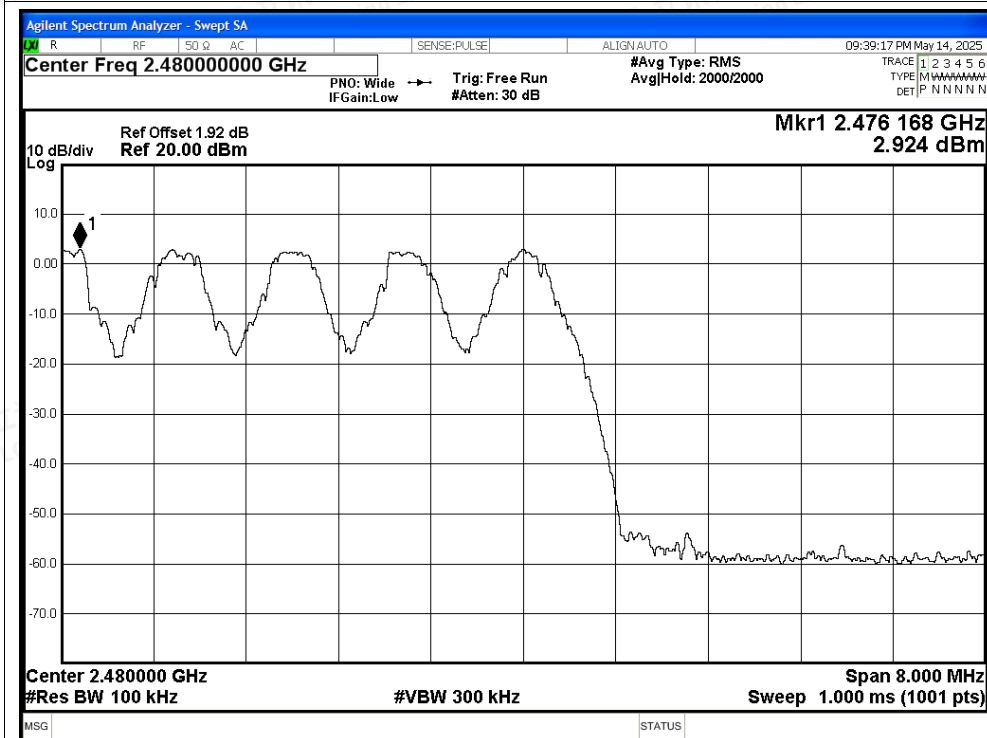


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

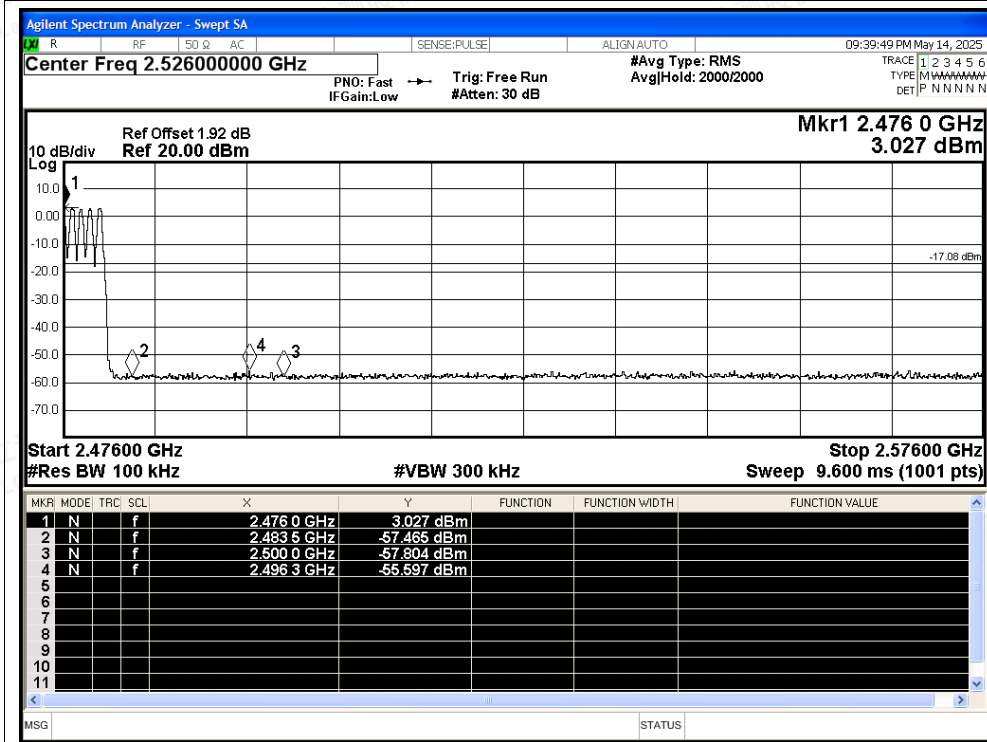




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref

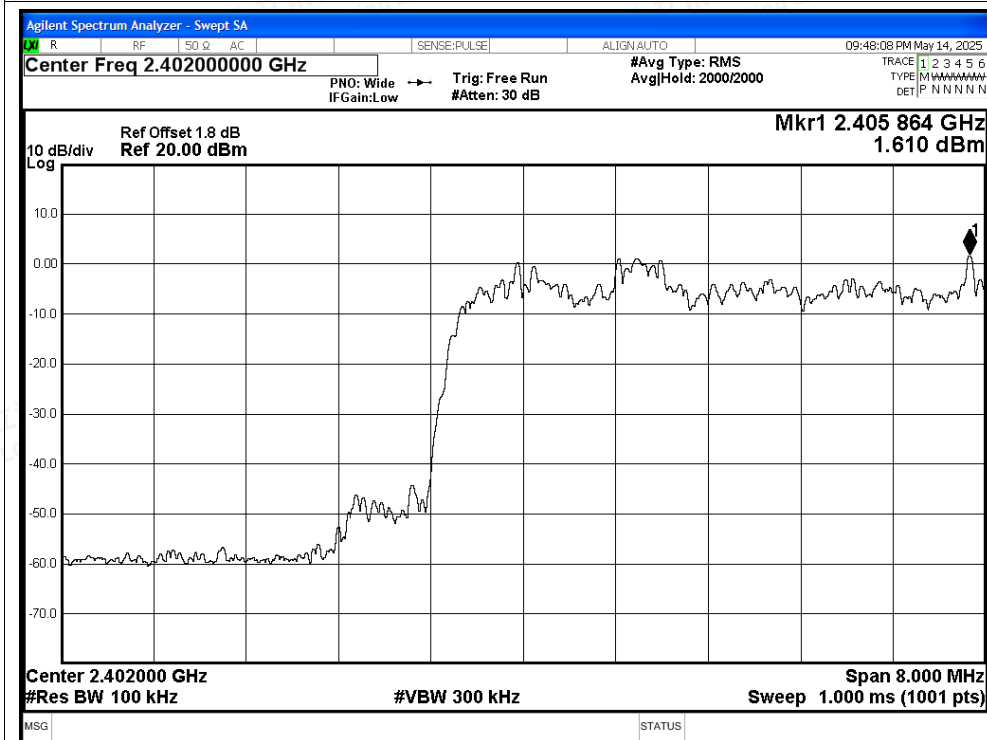


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission

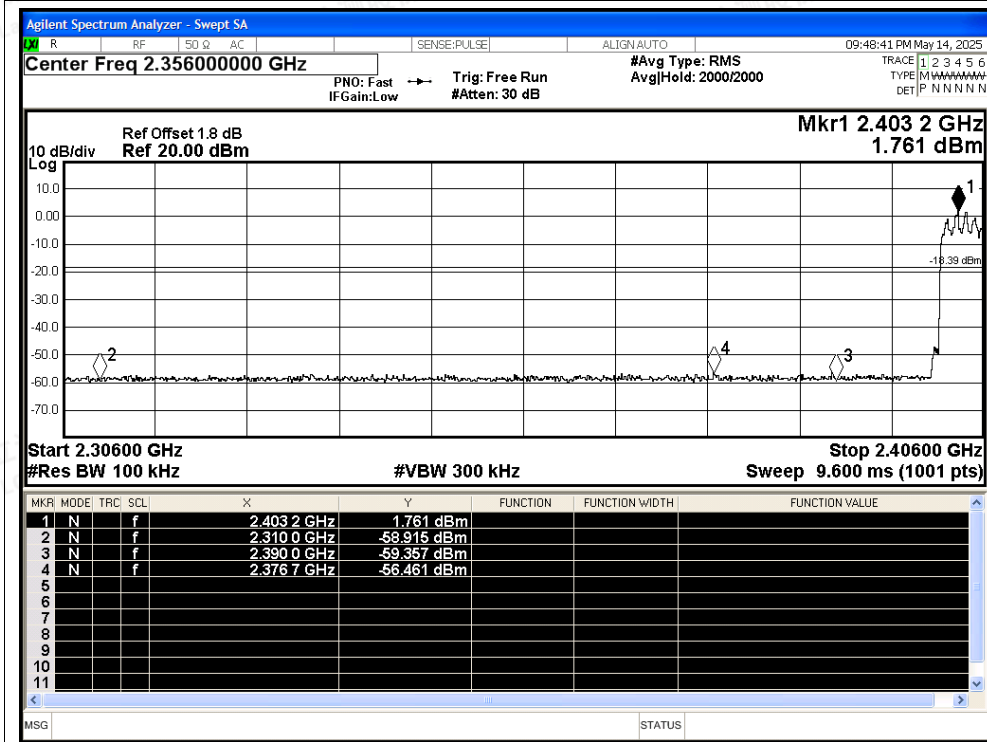




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

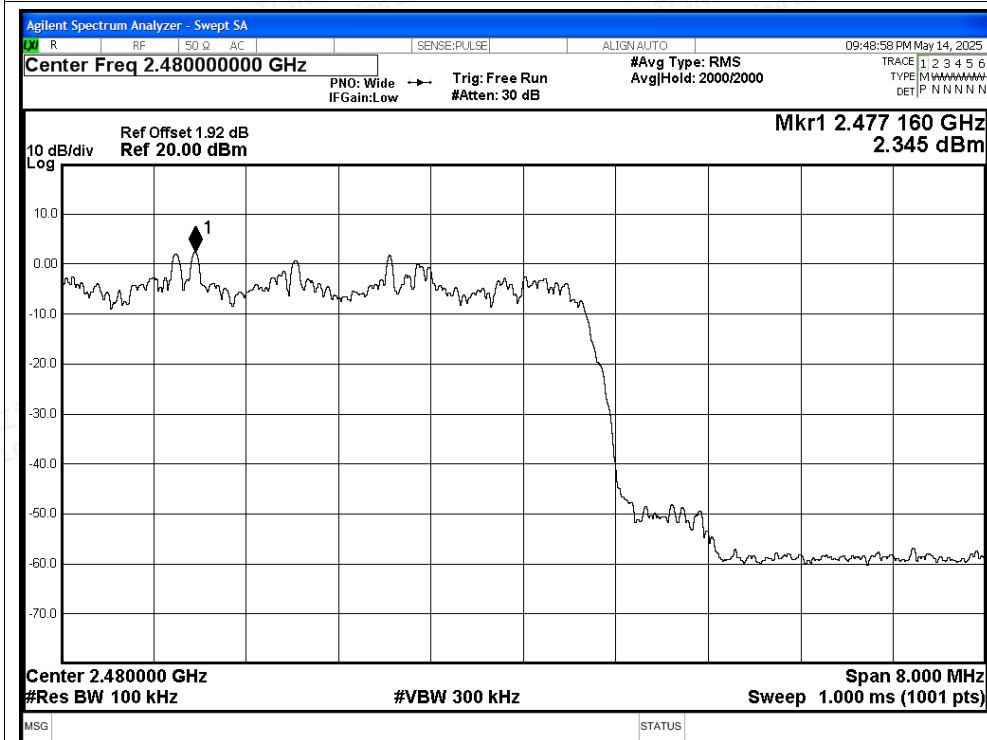


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

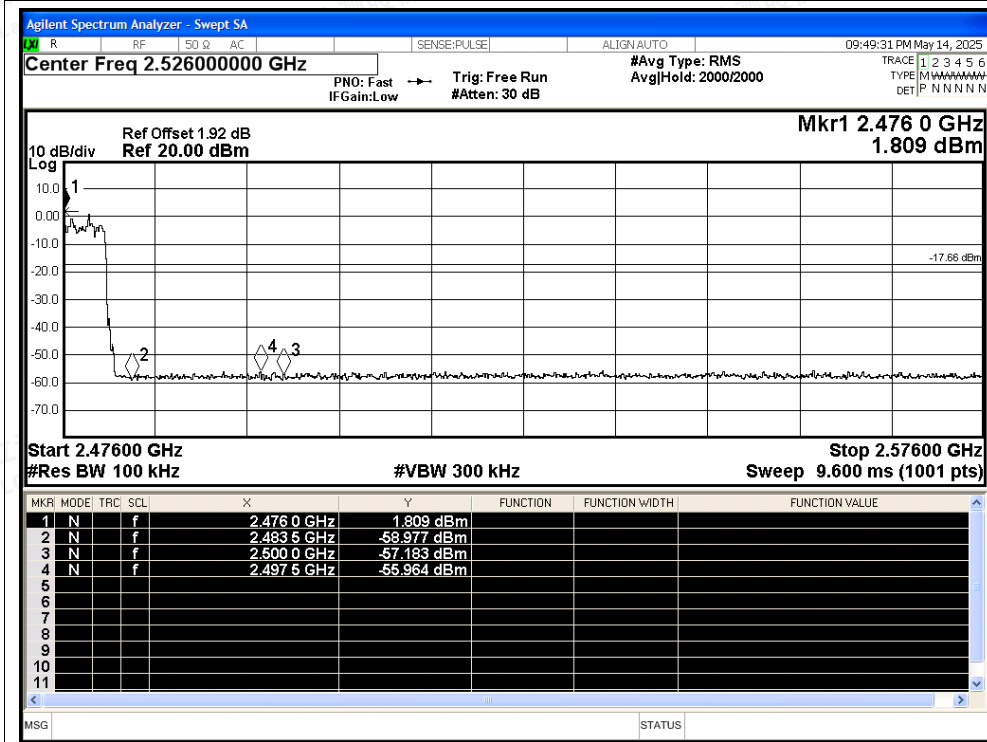




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref

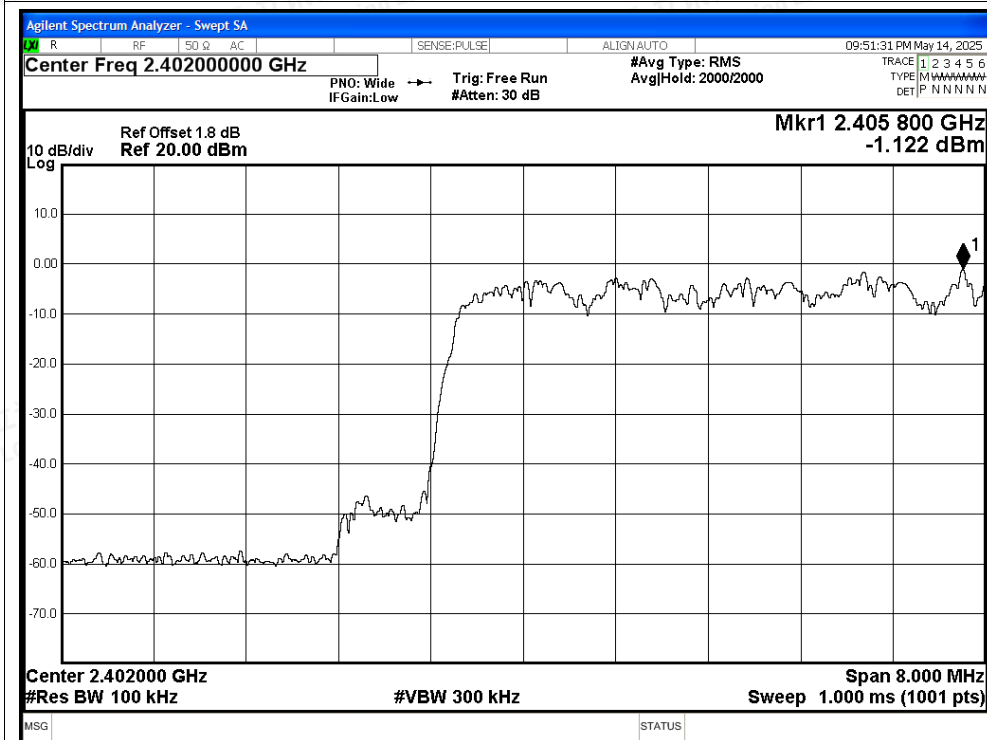


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission

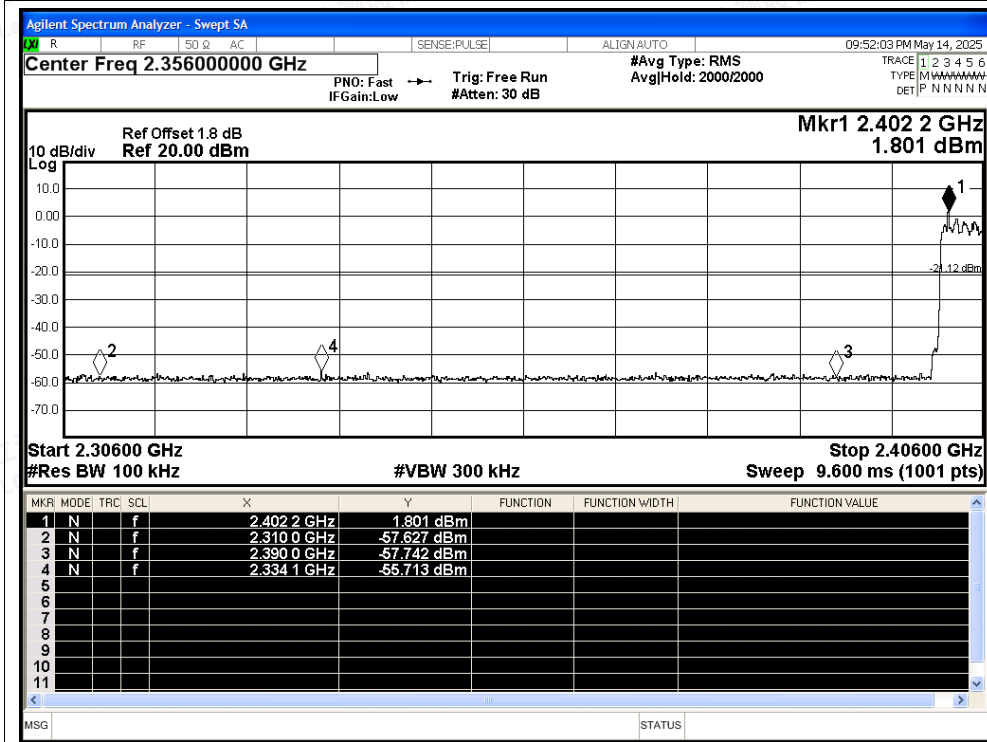




Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref

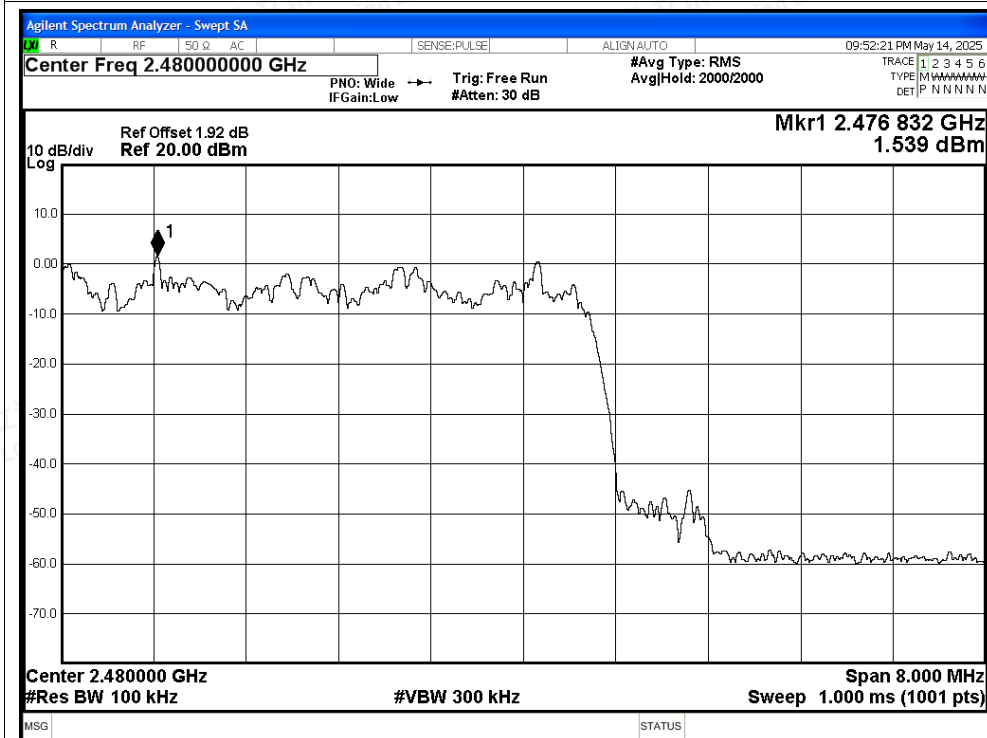


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission

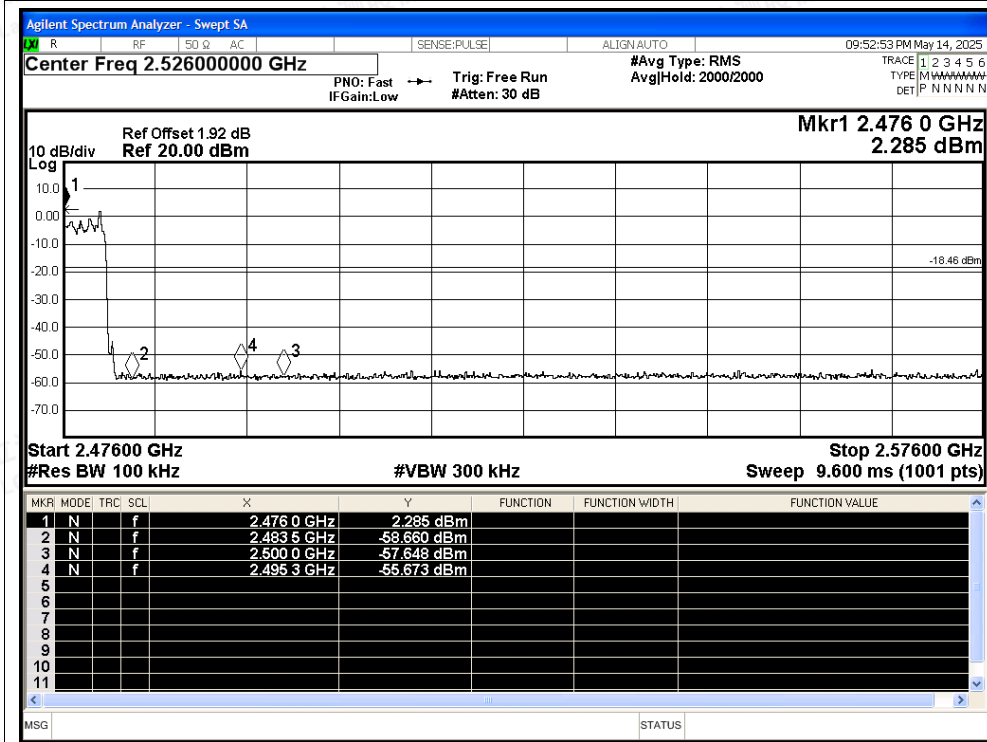




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



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	-57.33	-20	Pass
NVNT	1-DH5	2441	Ant1	-59.14	-20	Pass
NVNT	1-DH5	2480	Ant1	-58.27	-20	Pass
NVNT	2-DH5	2402	Ant1	-56.68	-20	Pass
NVNT	2-DH5	2441	Ant1	-57.44	-20	Pass
NVNT	2-DH5	2480	Ant1	-57.89	-20	Pass
NVNT	3-DH5	2402	Ant1	-57.06	-20	Pass
NVNT	3-DH5	2441	Ant1	-58.63	-20	Pass
NVNT	3-DH5	2480	Ant1	-55.89	-20	Pass

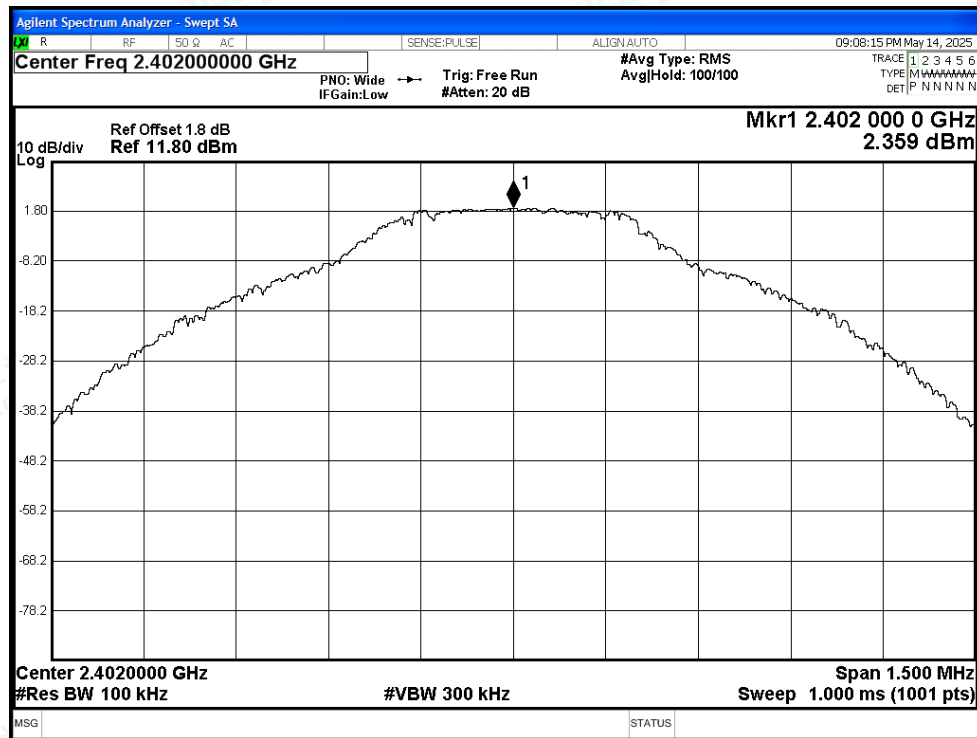


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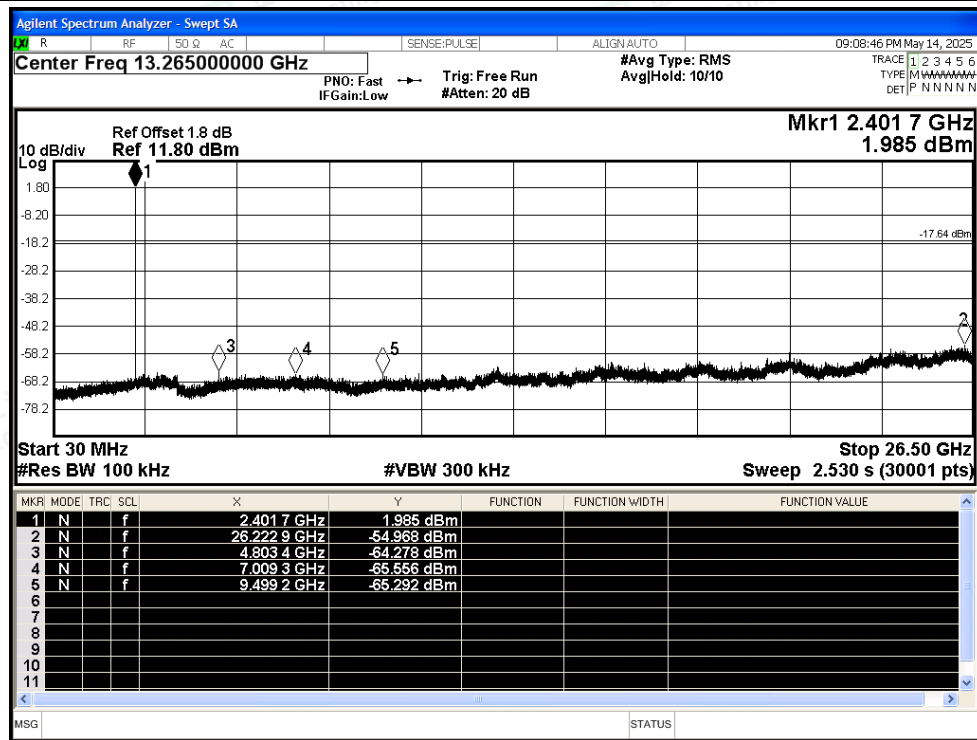


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

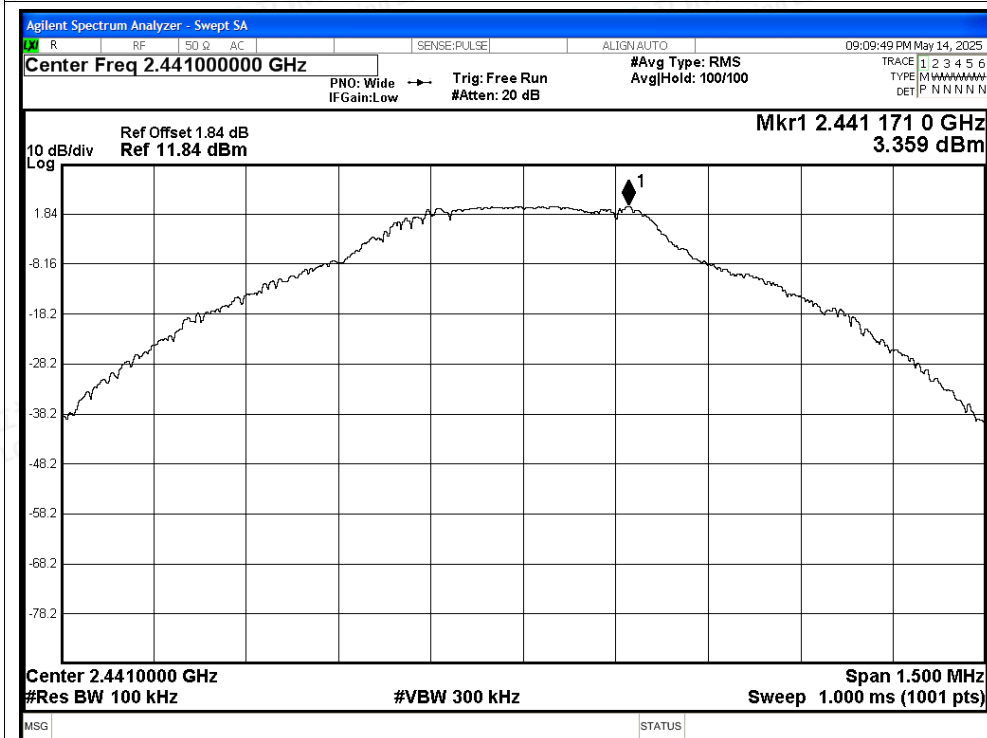


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

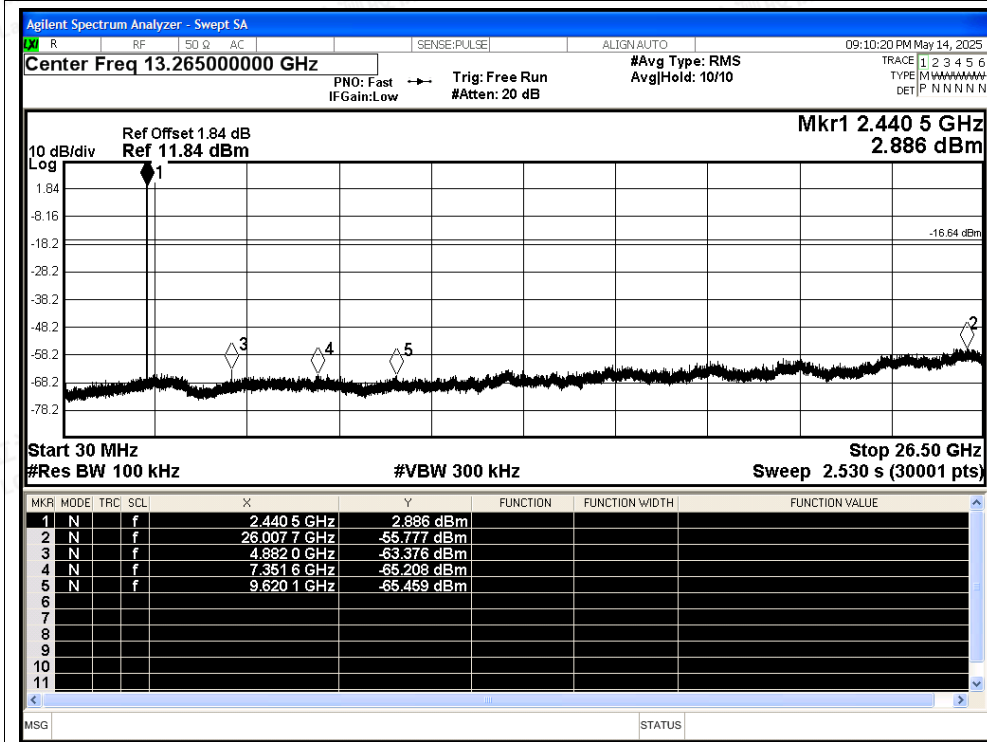




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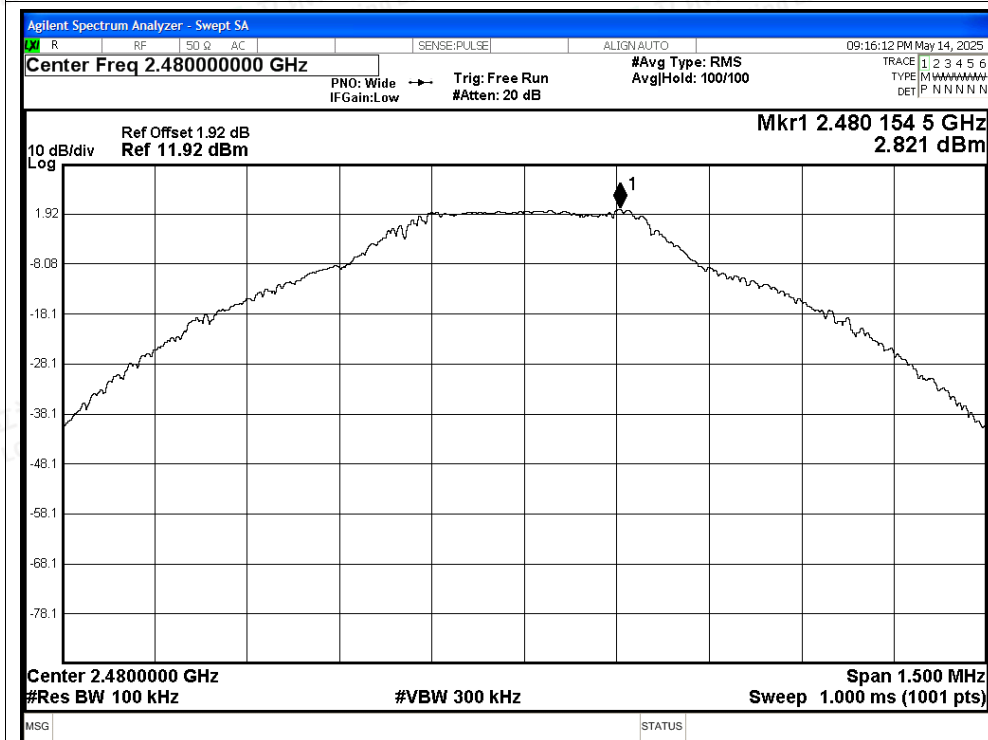


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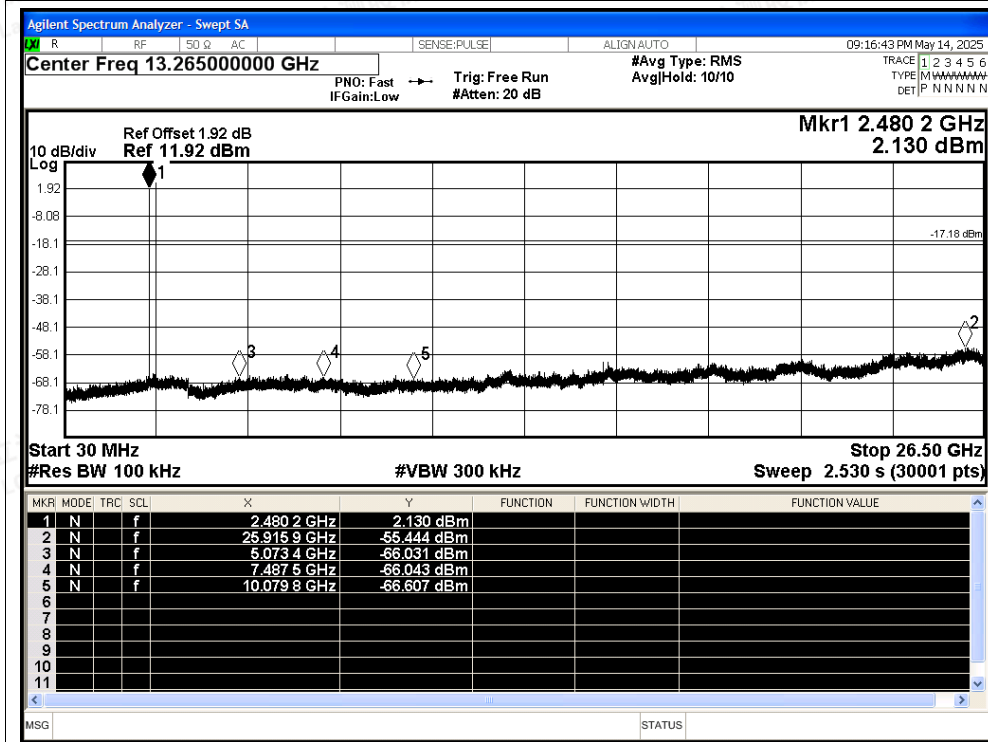




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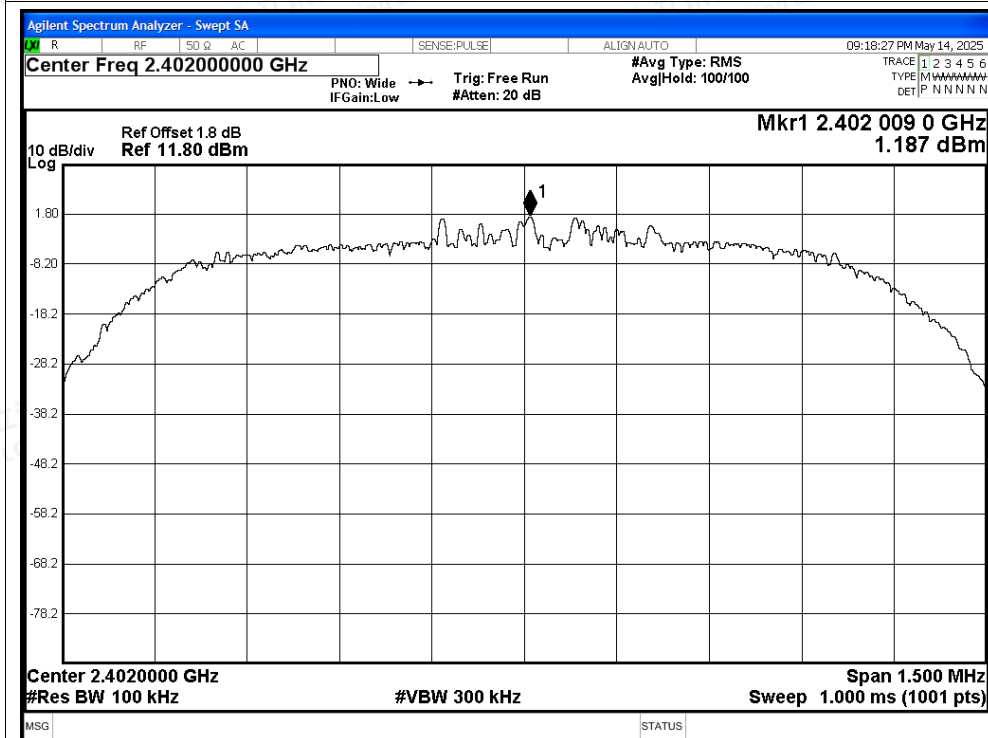


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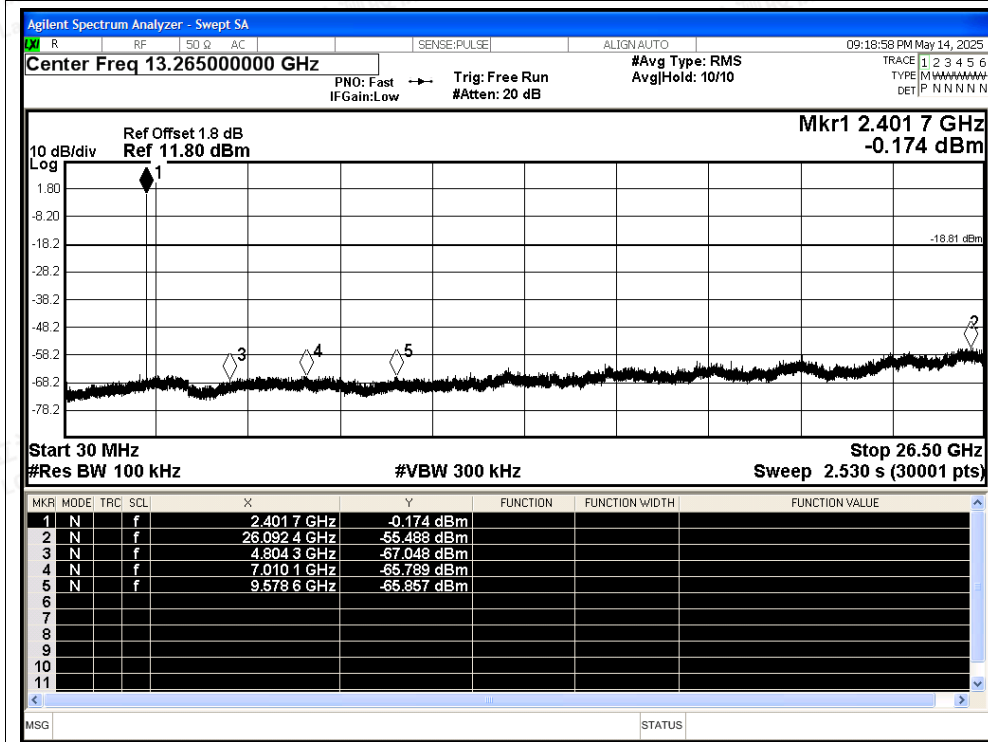




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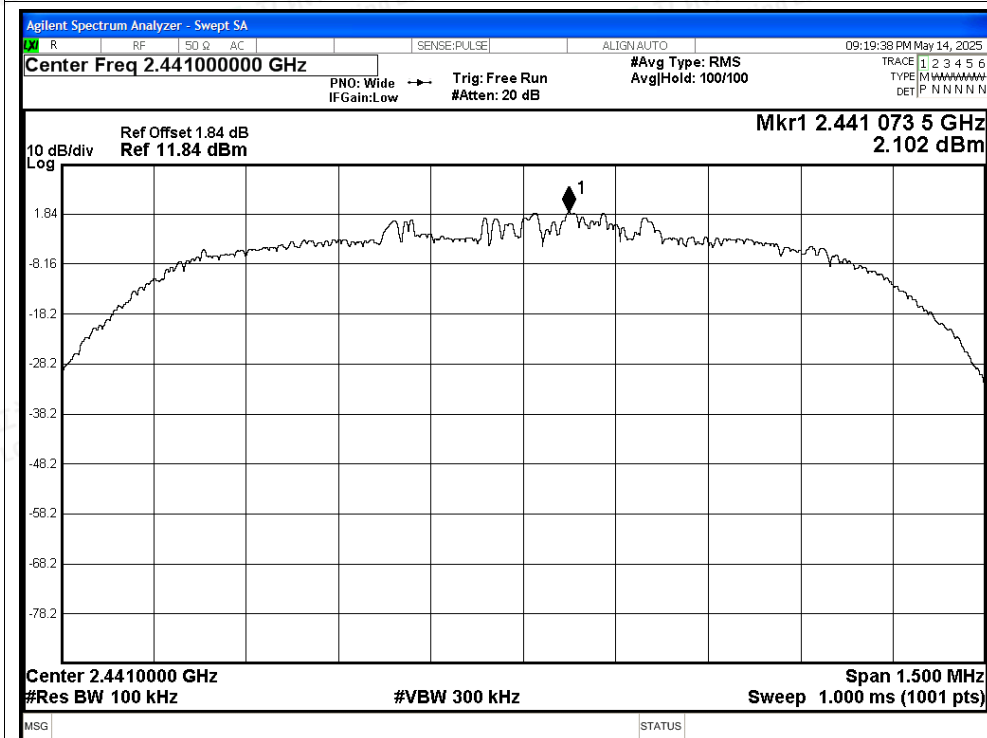


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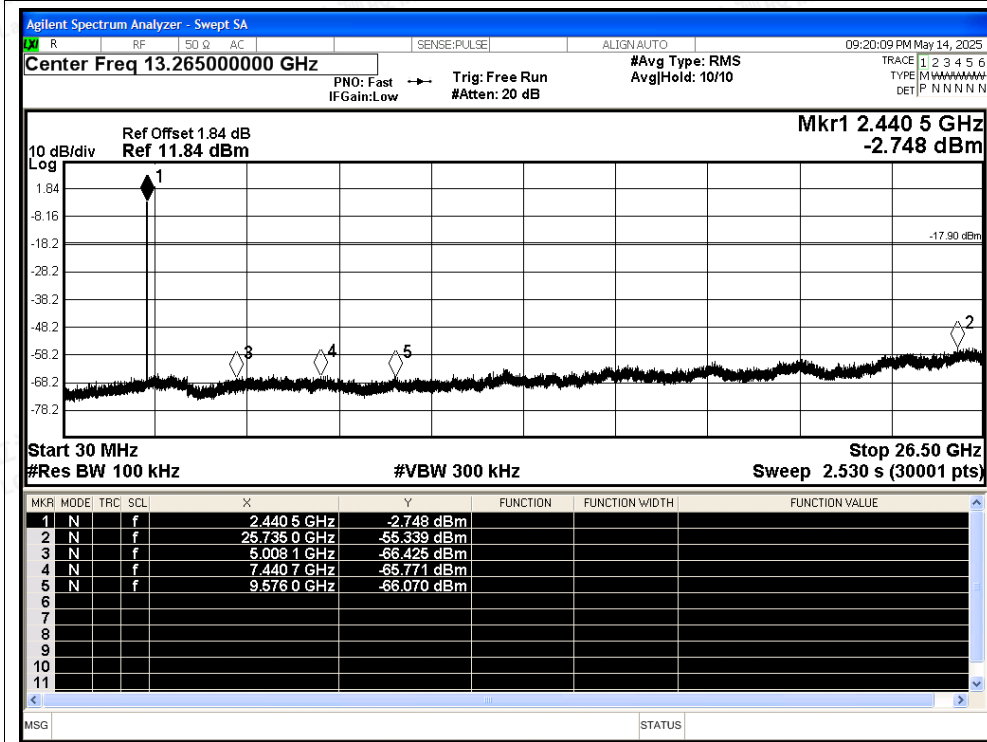




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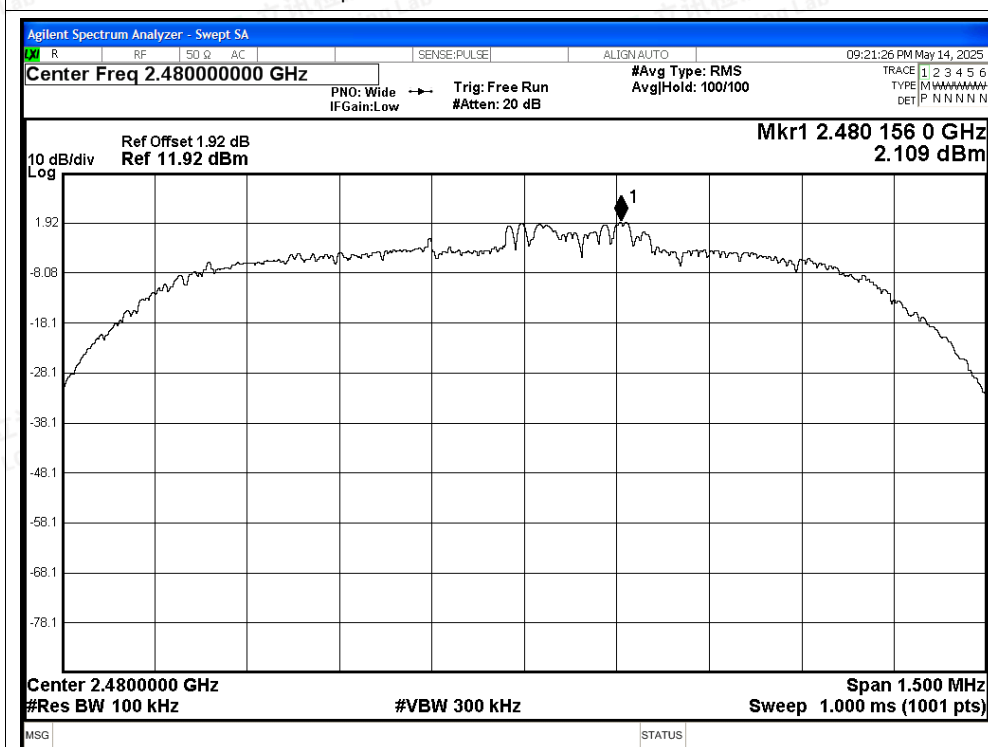


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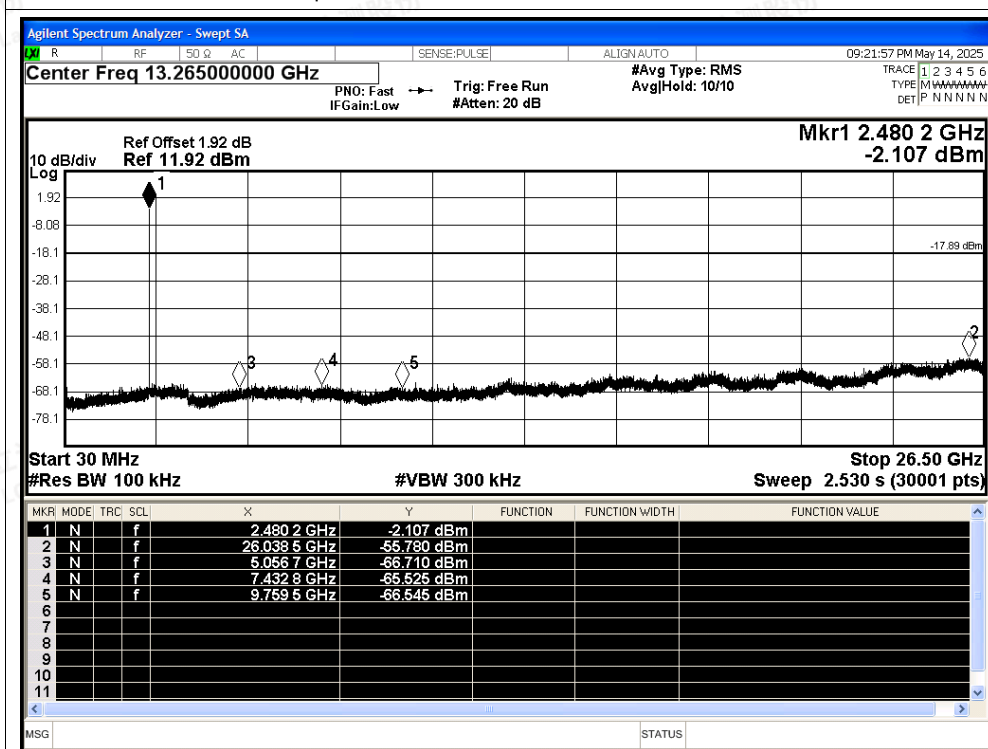




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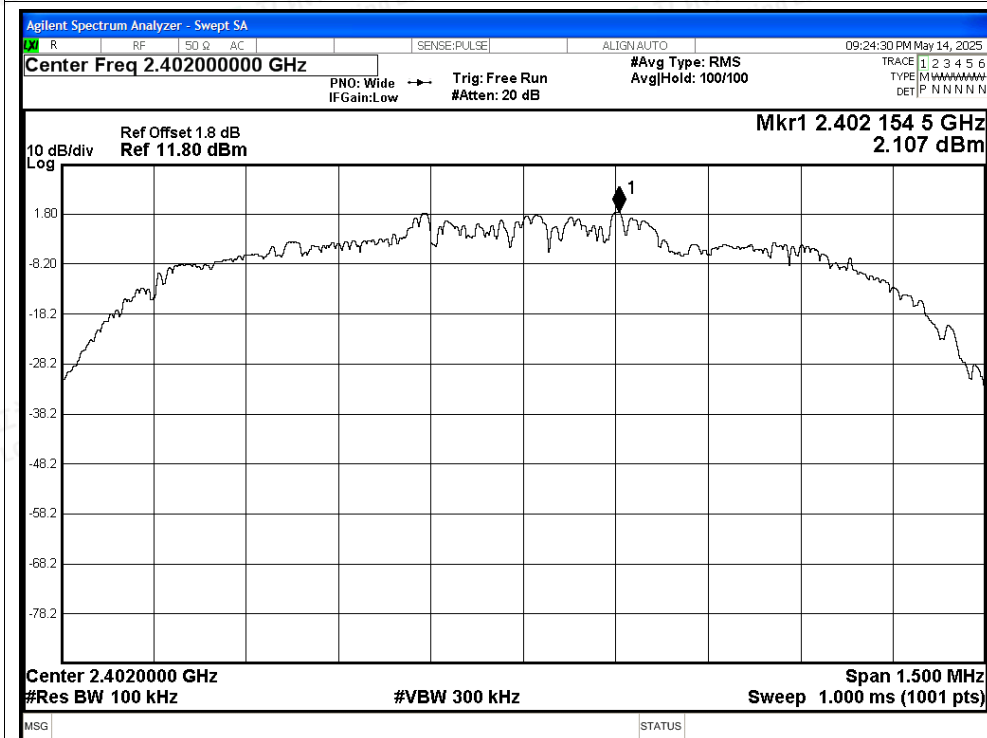


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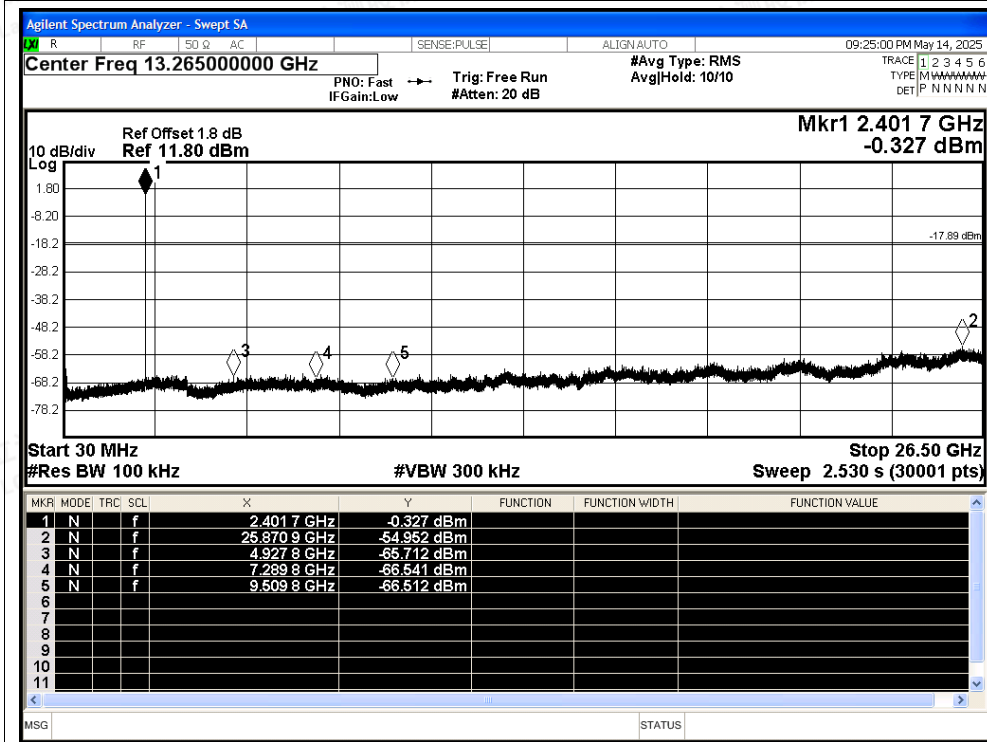




Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref

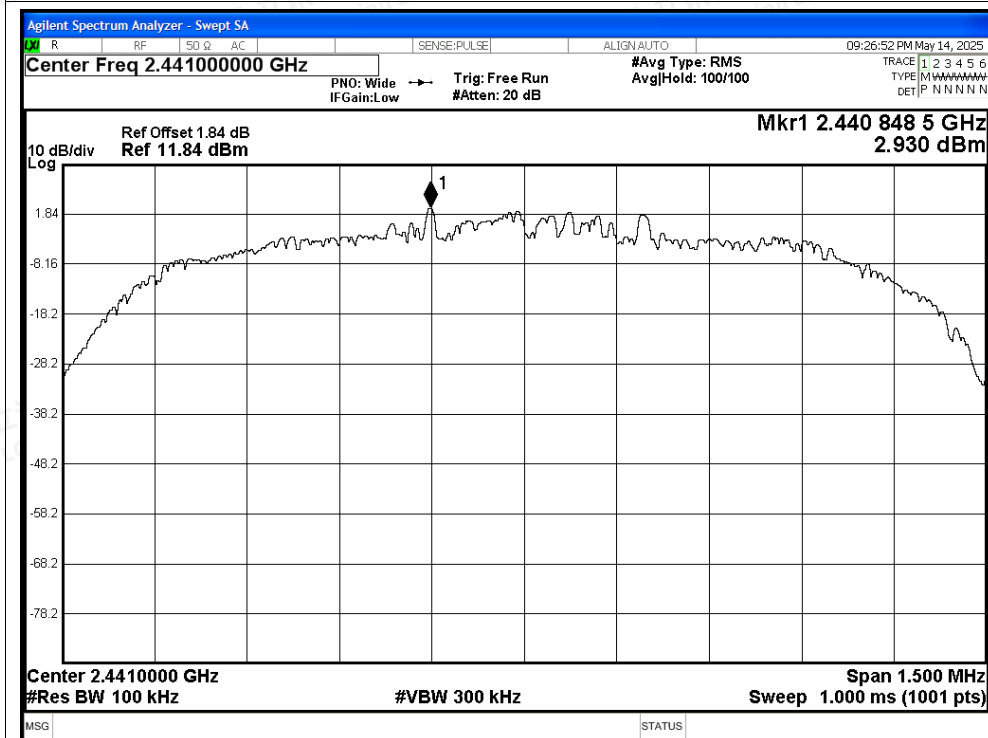


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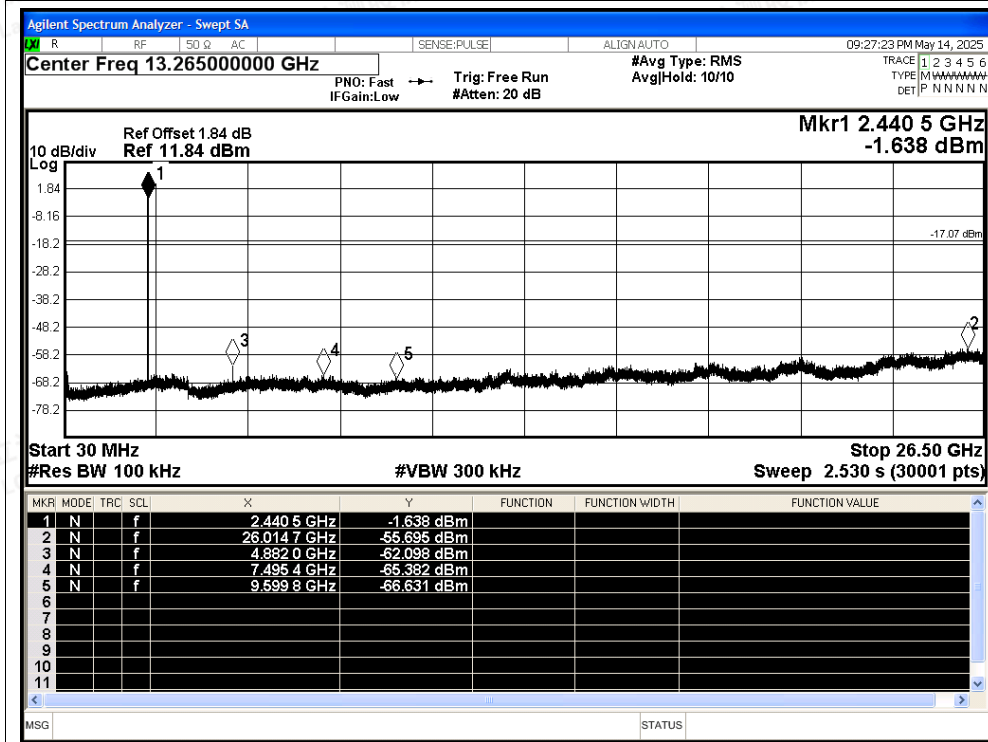




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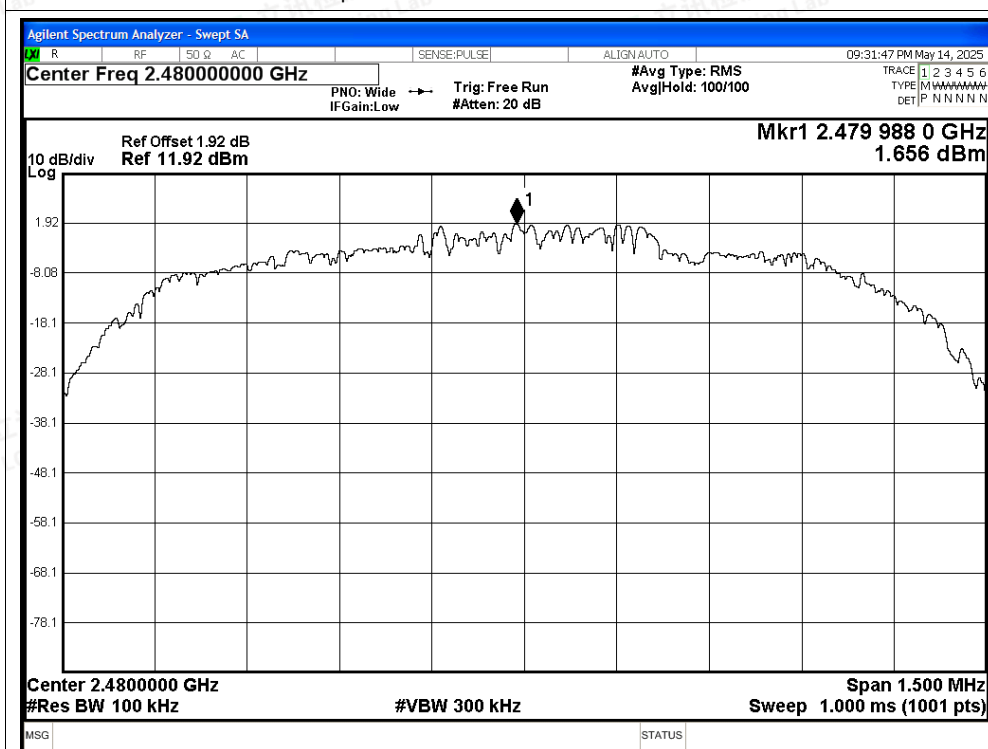


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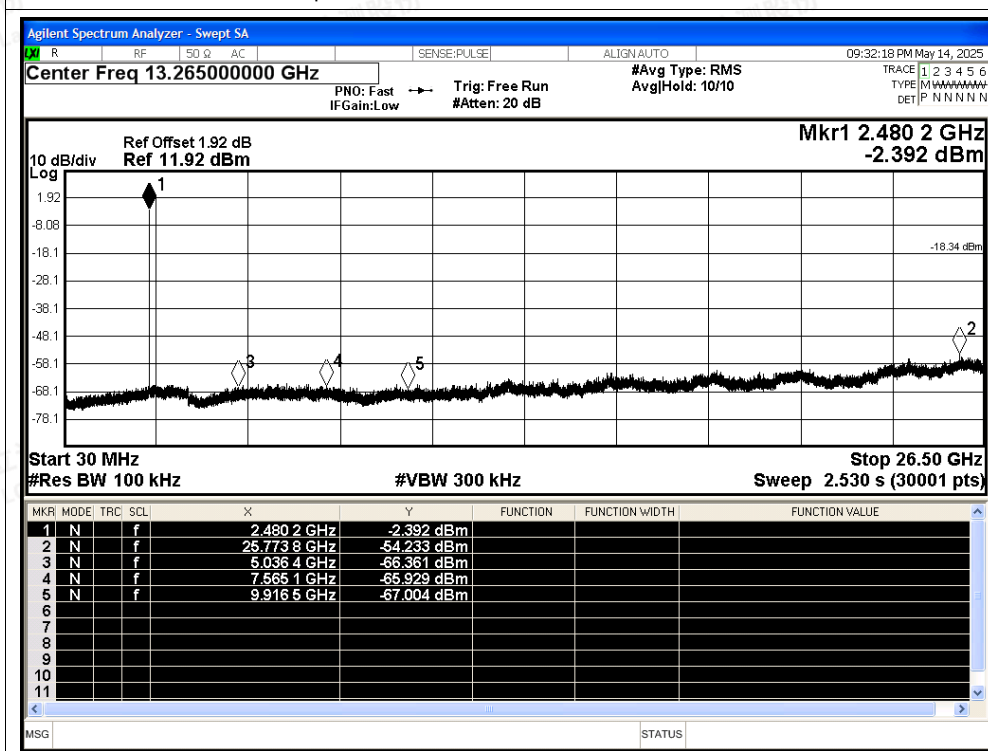




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





A.8 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	76.88	1.14	0.35
NVNT	1-DH5	2441	Ant1	76.91	1.14	0.35
NVNT	1-DH5	2480	Ant1	76.88	1.14	0.35
NVNT	2-DH5	2402	Ant1	76.96	1.14	0.35
NVNT	2-DH5	2441	Ant1	76.96	1.14	0.35
NVNT	2-DH5	2480	Ant1	76.96	1.14	0.35
NVNT	3-DH5	2402	Ant1	77.01	1.13	0.35
NVNT	3-DH5	2441	Ant1	77.01	1.13	0.35
NVNT	3-DH5	2480	Ant1	77.07	1.13	0.35

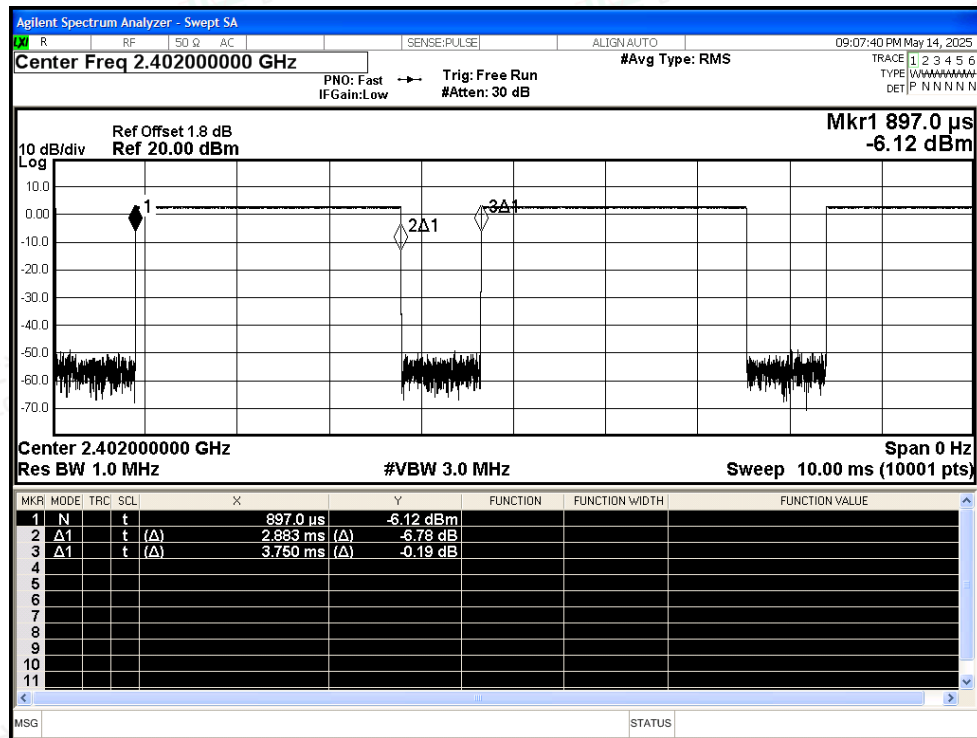


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Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
Scan code to check authenticity

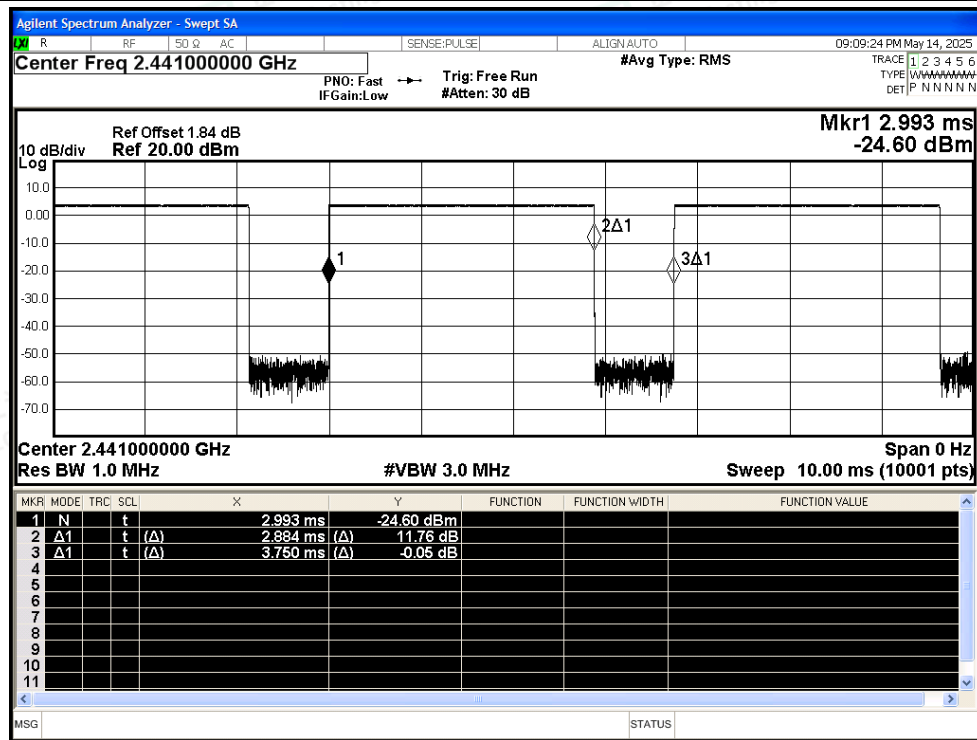


Test Graphs

Duty Cycle NVNT 1-DH5 2402MHz Ant1

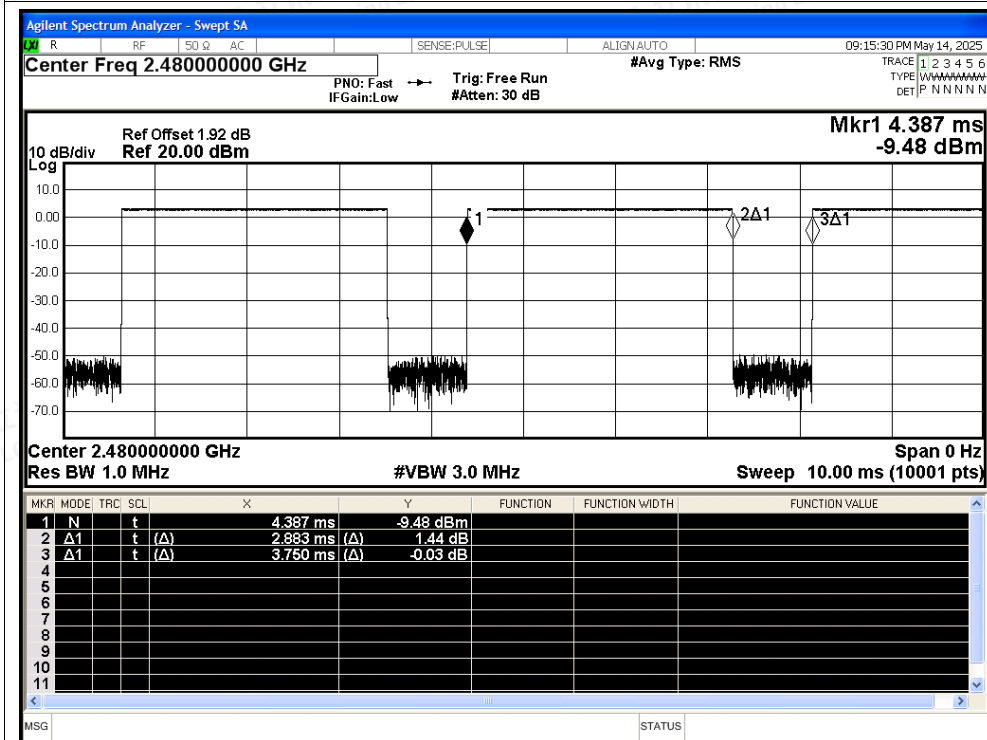


Duty Cycle NVNT 1-DH5 2441MHz Ant1

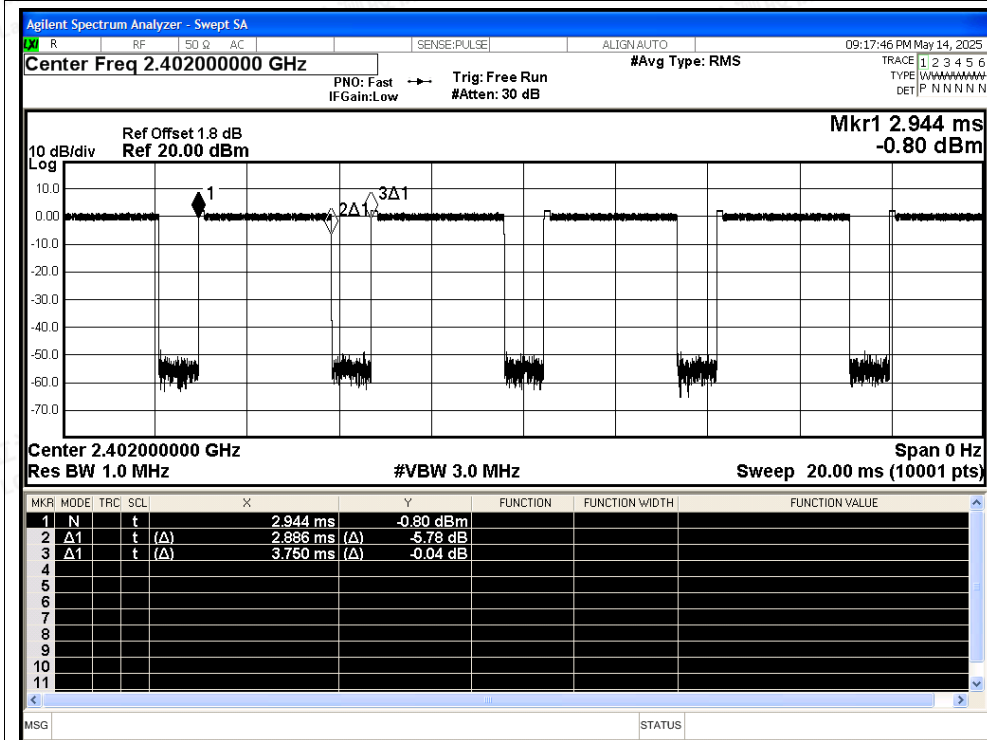




Duty Cycle NVNT 1-DH5 2480MHz Ant1

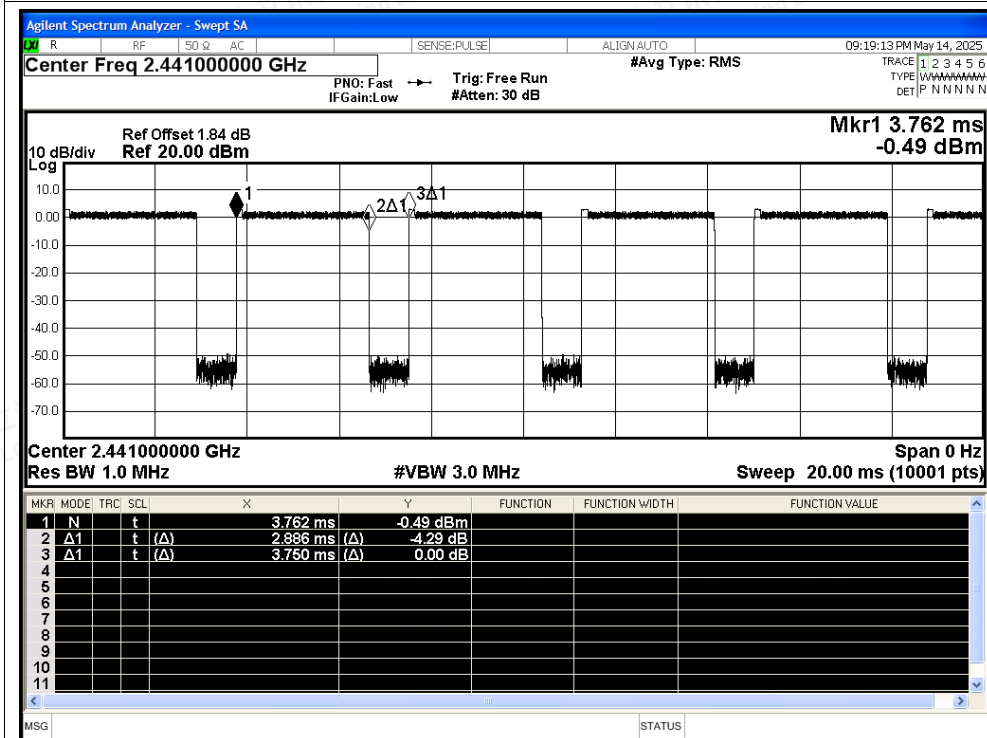


Duty Cycle NVNT 2-DH5 2402MHz Ant1

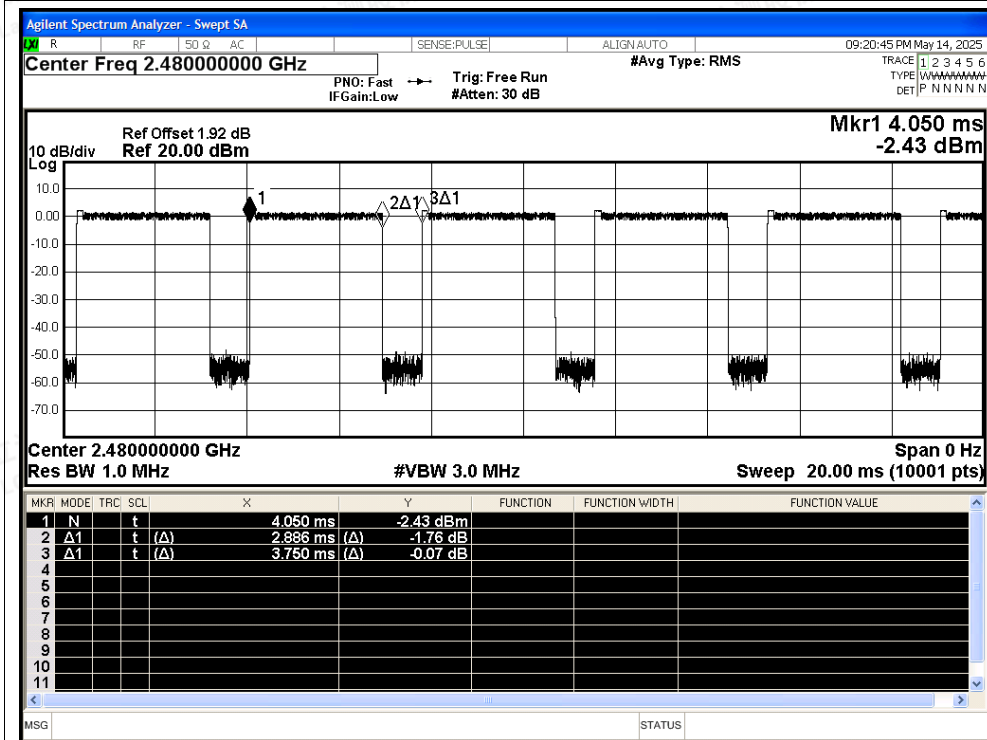




Duty Cycle NVNT 2-DH5 2441MHz Ant1

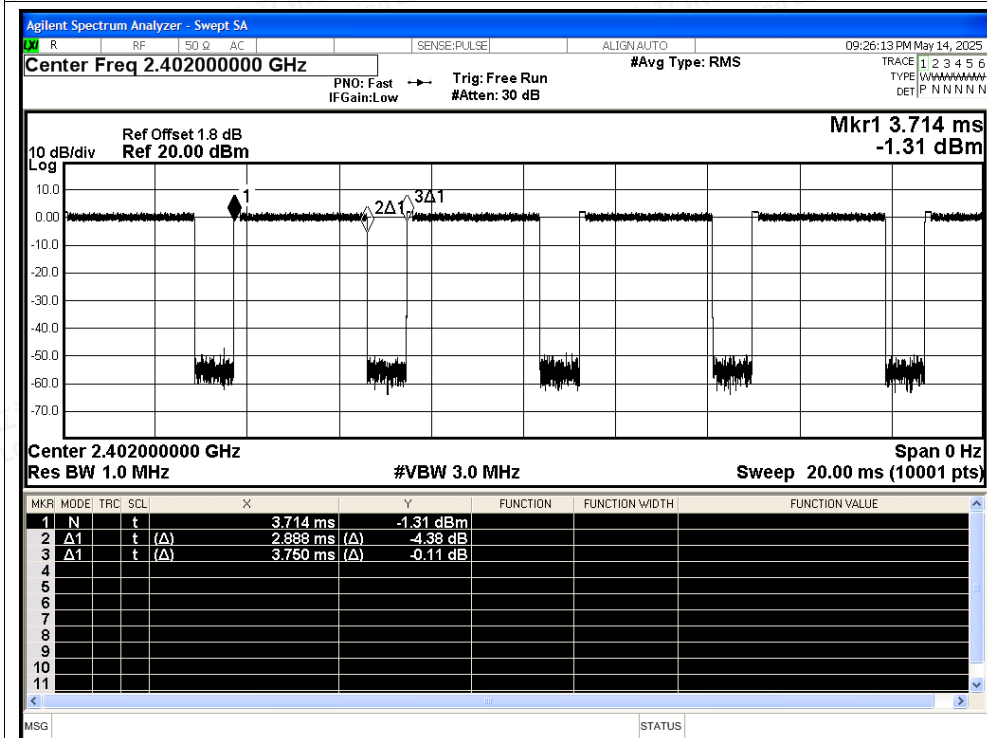


Duty Cycle NVNT 2-DH5 2480MHz Ant1

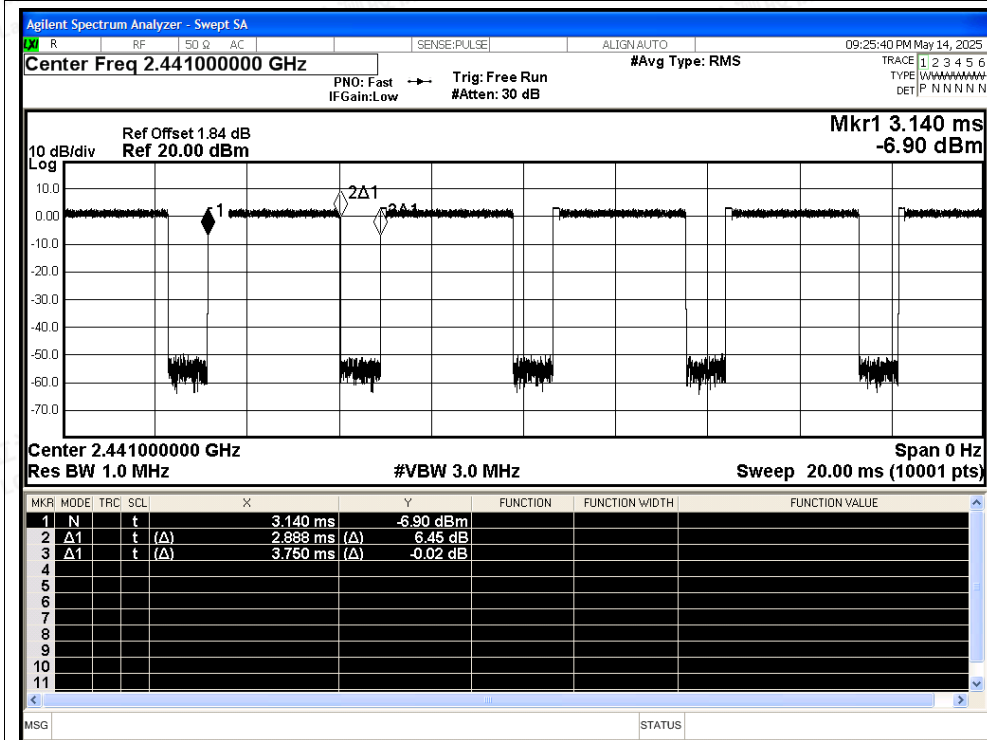


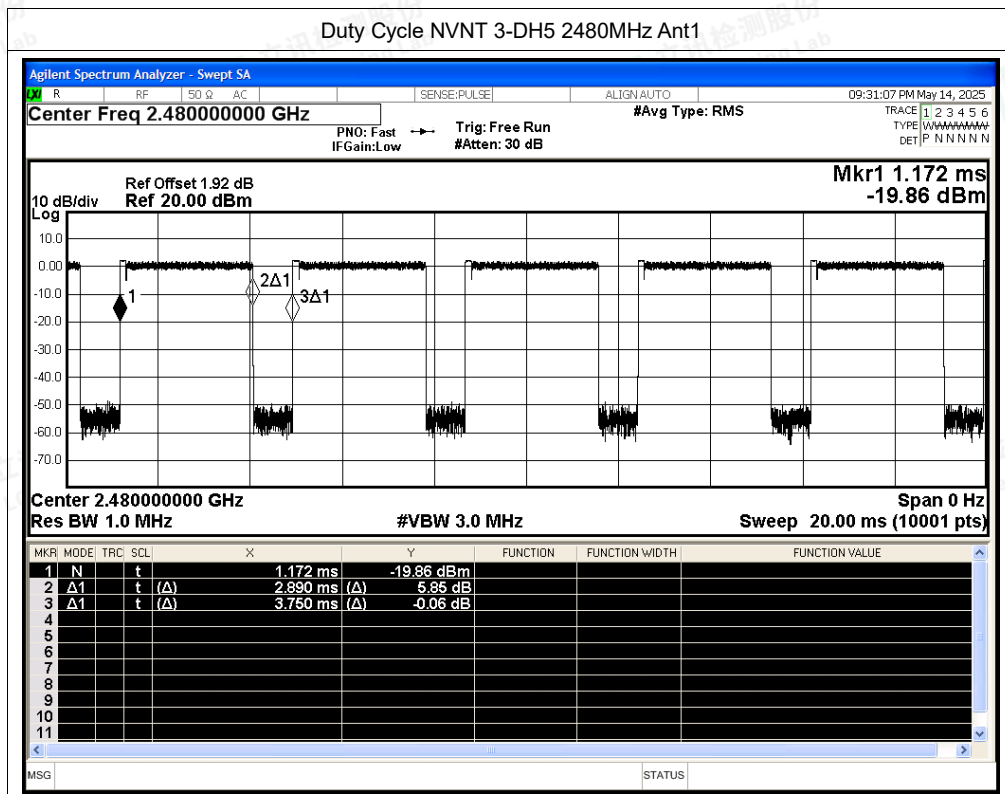


Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1







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	Ant1	No-Hopping	2310	-49.06	2	-	48.2	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.9	2	1.14	39.5	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2381.712	-47.63	2	-	49.63	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2374.32	-57.82	2	1.14	40.58	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-49.55	2	-	47.71	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.8	2	1.14	39.6	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50.1	2	-	47.16	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-58.13	2	1.14	40.27	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2496.664	-46.98	2	-	50.28	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2495.32	-57.1	2	1.14	41.3	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.55	2	-	47.71	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-58.05	2	1.14	40.35	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-52.45	2	-	44.81	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.12	2	1.14	39.28	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2311.92	-47.46	2	-	49.8	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2381.52	-57.85	2	1.14	40.55	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-51.21	2	-	46.05	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.57	2	1.14	39.83	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-50.48	2	-	46.78	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.67	2	1.14	40.73	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2492.056	-47.45	2	-	49.81	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2484.544	-57.23	2	1.14	41.17	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50	2	-	47.26	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.11	2	1.14	40.29	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-51.86	2	-	45.4	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.67	2	1.12	39.71	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2389.68	-47.02	2	-	50.24	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2386.224	-57.77	2	1.12	40.61	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-49.51	2	-	47.75	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.53	2	1.12	39.85	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-47.71	2	-	49.55	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-58.36	2	1.13	40.03	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2487.424	-46.85	2	-	50.41	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2492.92	-57.06	2	1.13	41.33	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-50.79	2	-	46.47	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-57.66	2	1.13	40.73	Average	54	Pass

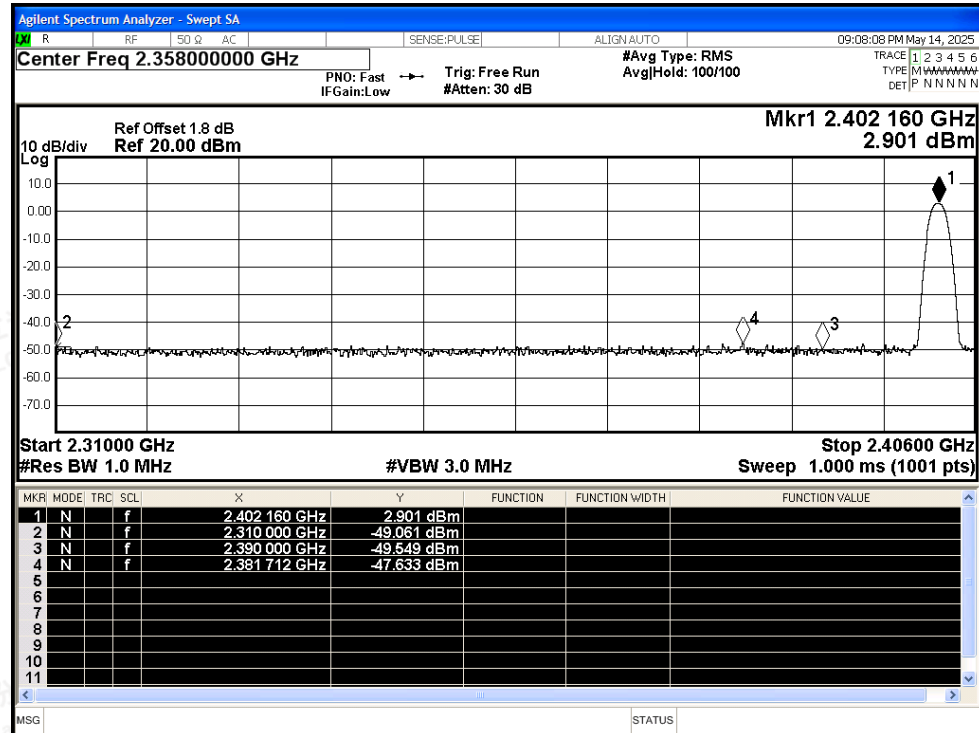


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Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
Scan code to check authenticity

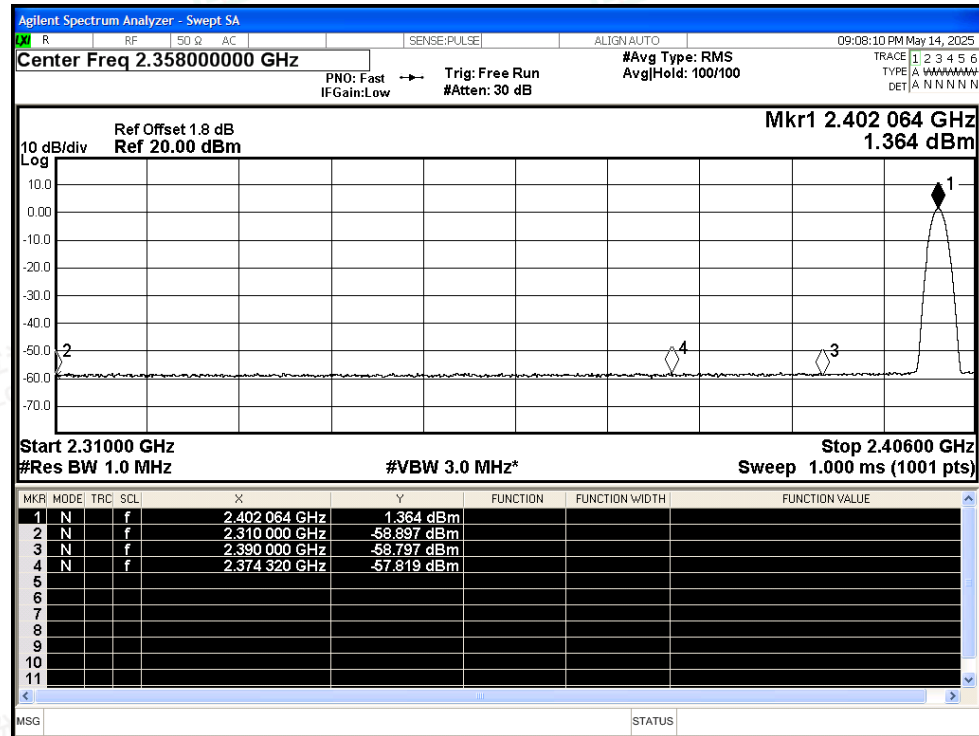


Test Graphs

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

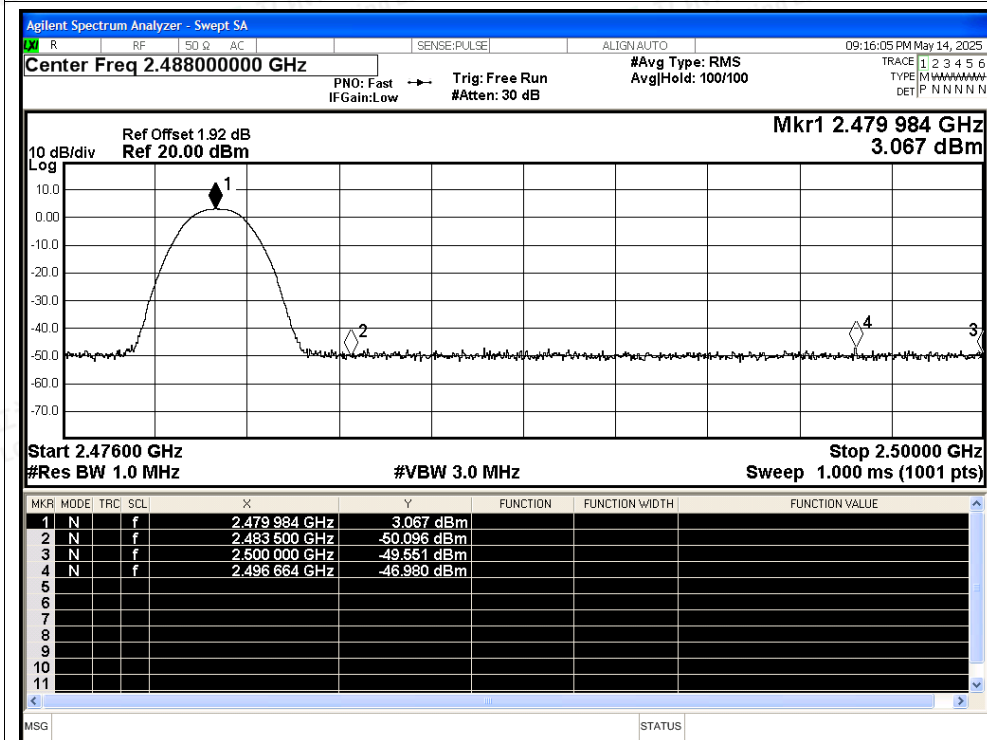


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

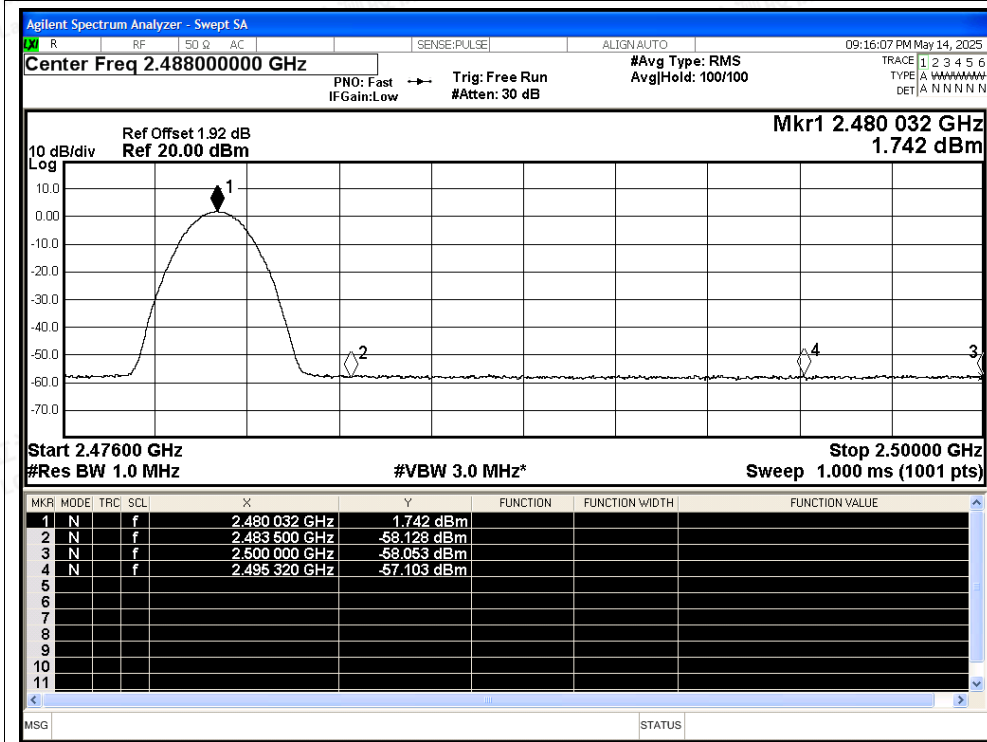


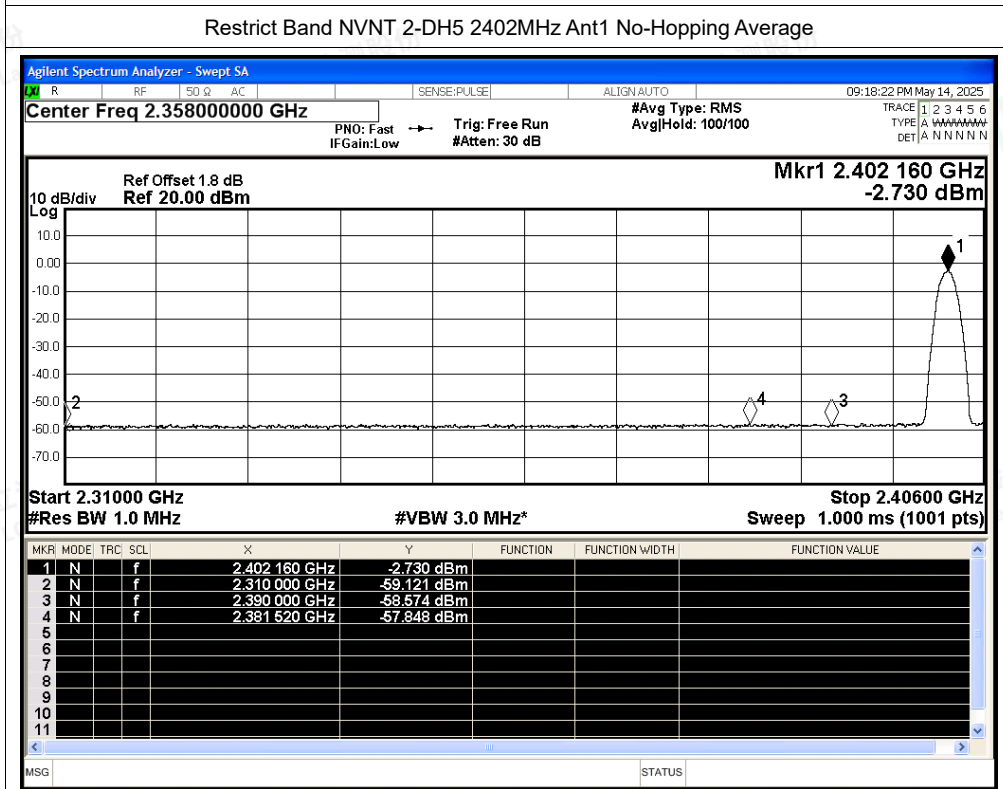
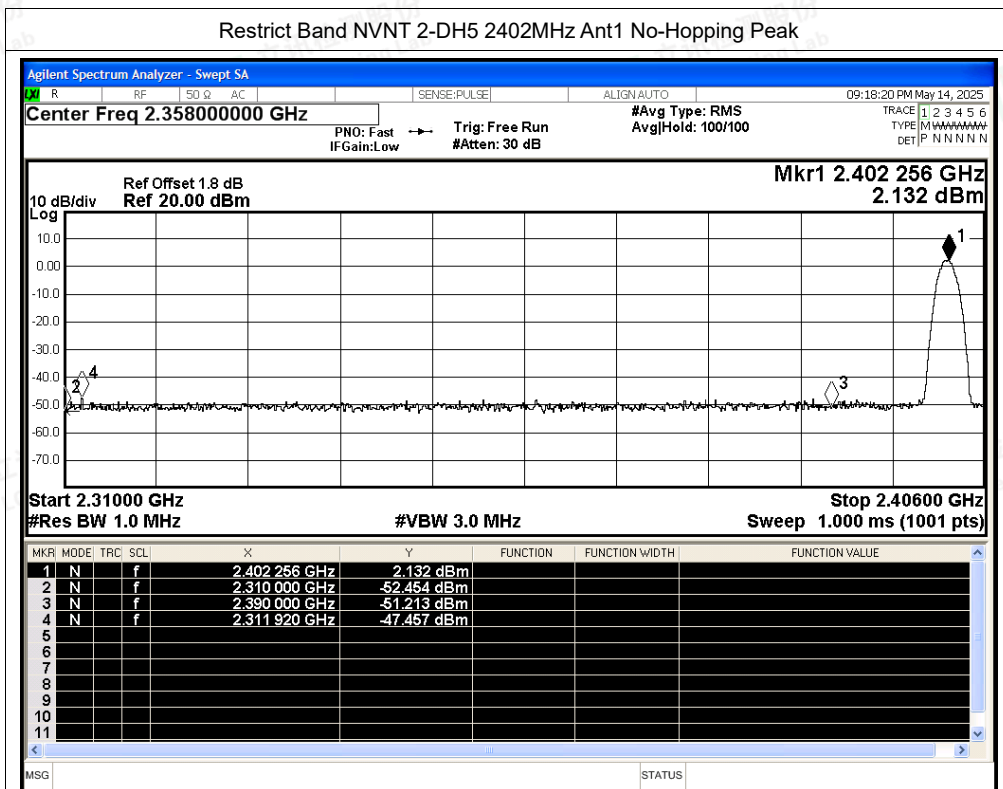


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



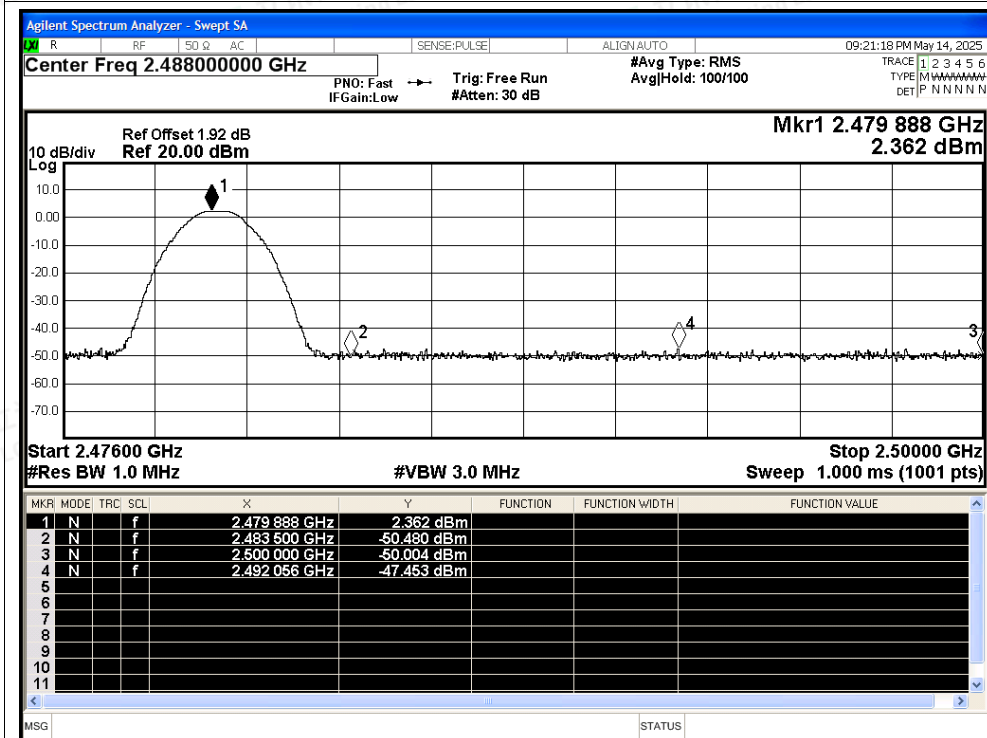
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



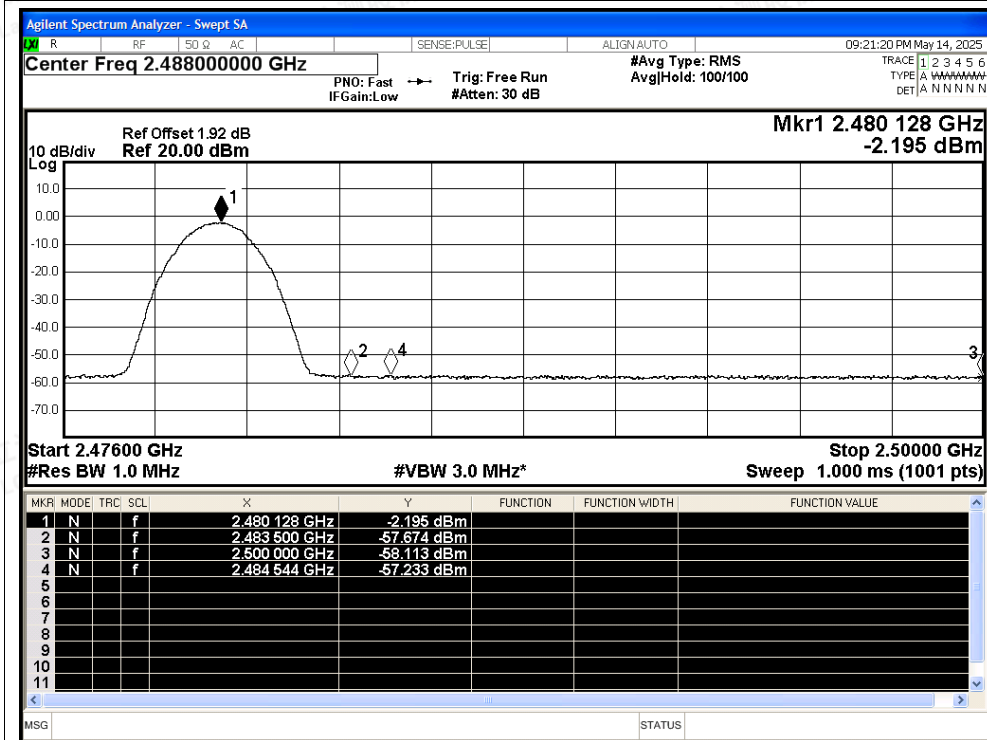


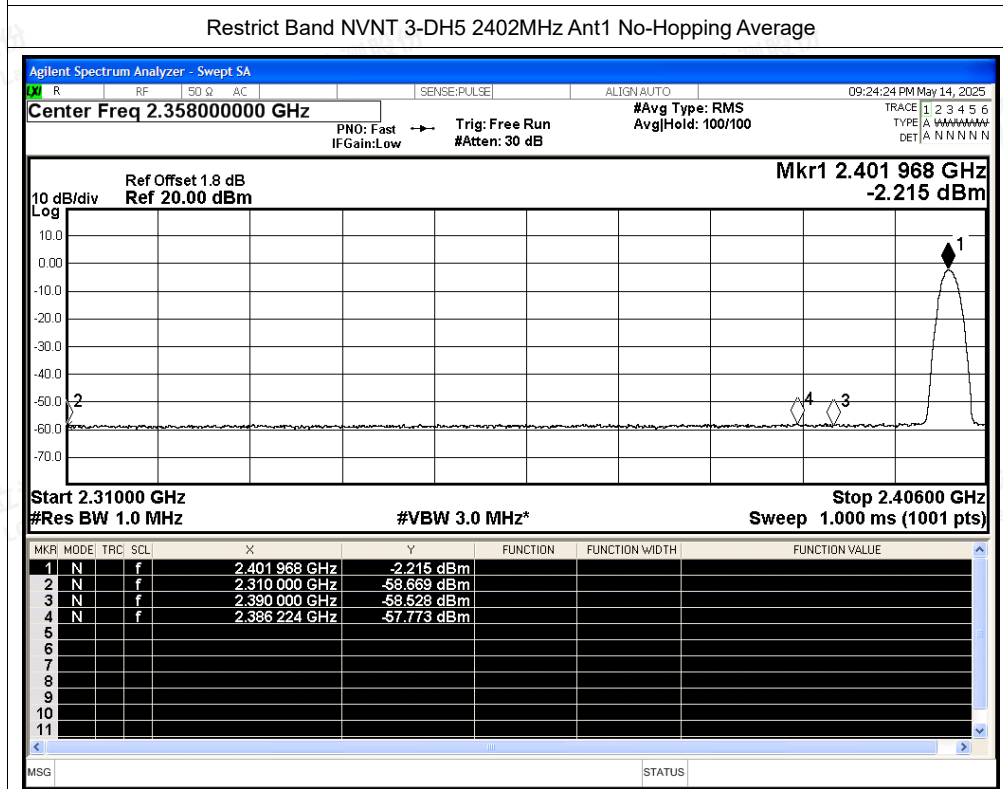
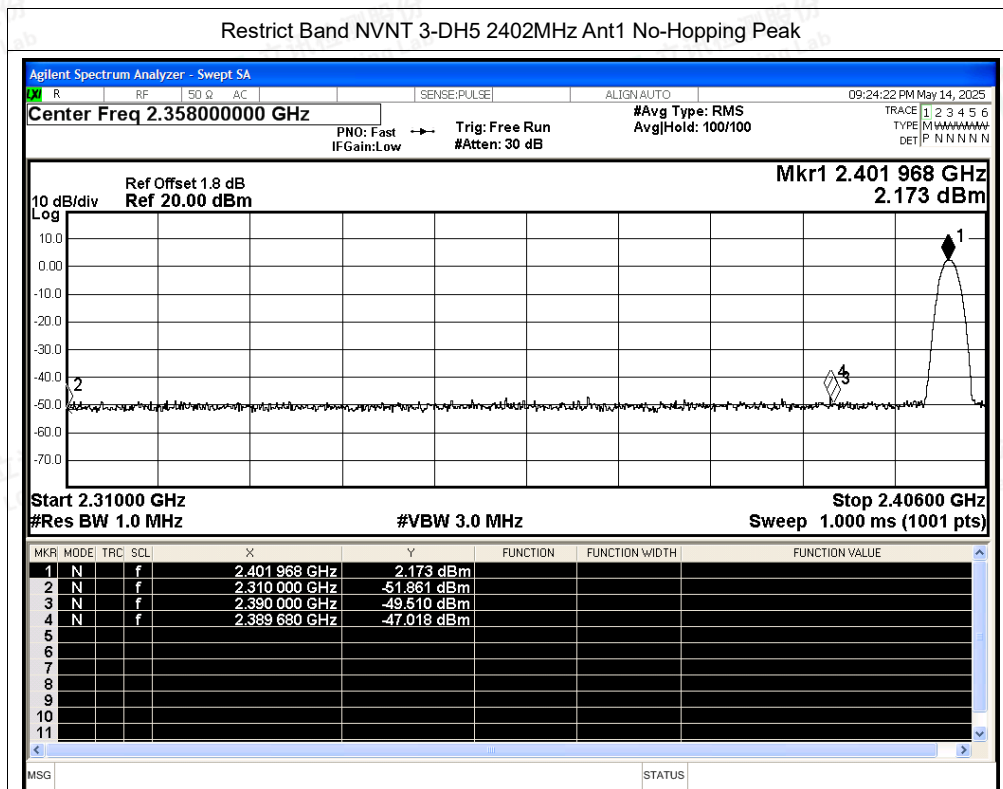


Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



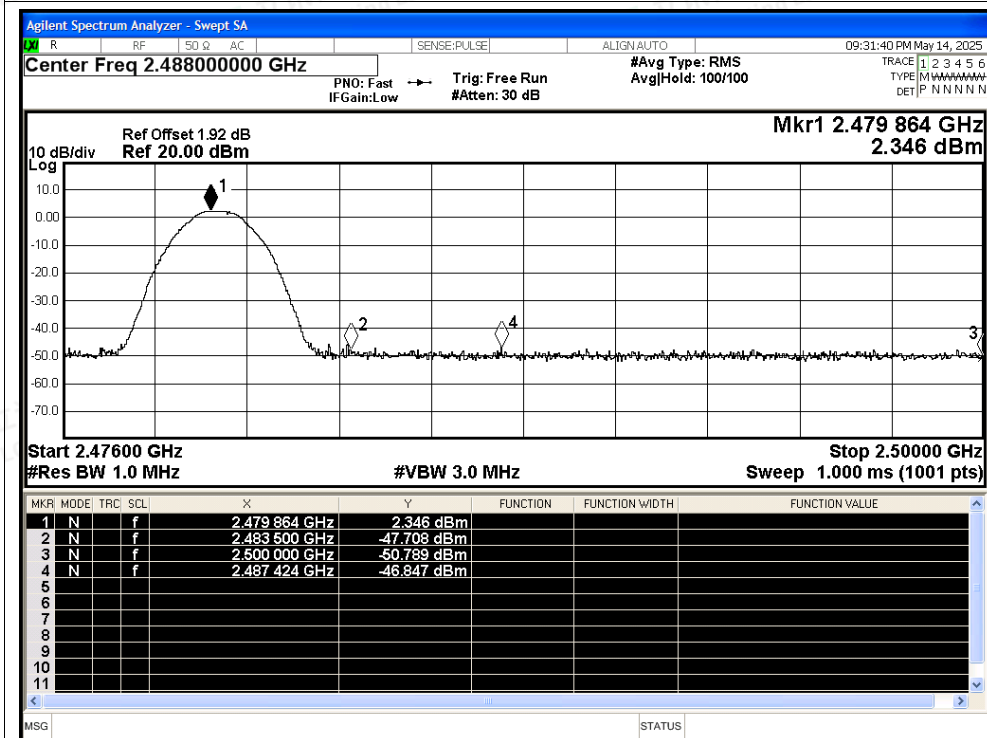
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average







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



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

