



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: 2G Feature phone

Test Model: RAYO R4

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Joker Hu
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	1.01	N/A	Pass
NVNT	1-DH5	2441	Ant1	1.013	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.008	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.323	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.319	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.28	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.288	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.273	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.298	N/A	Pass



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Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

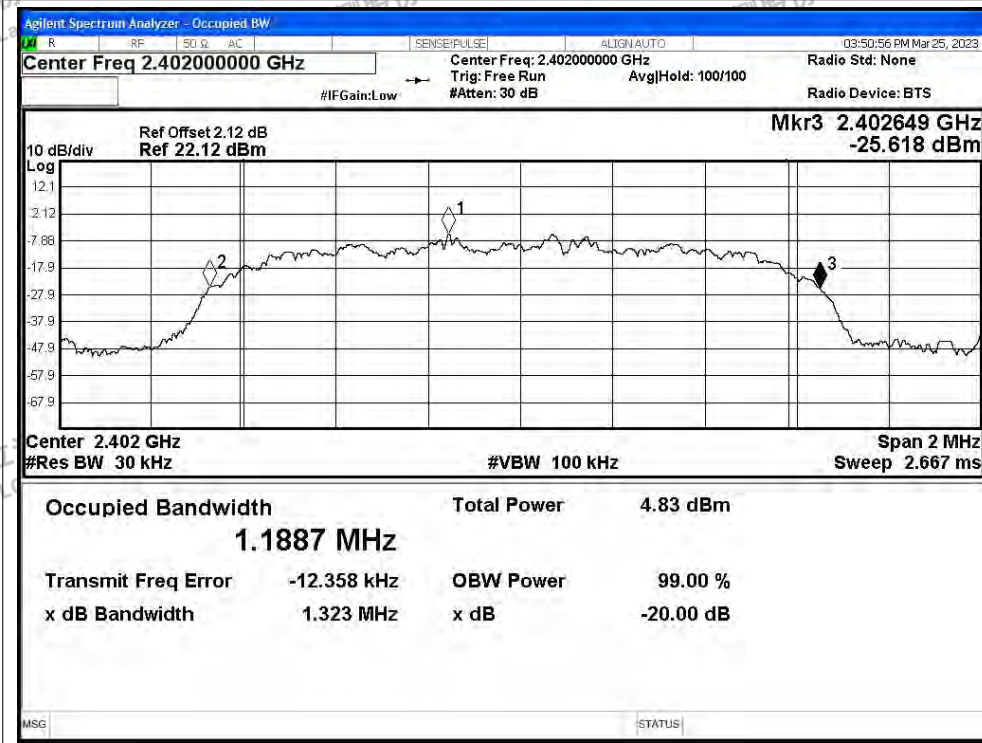




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

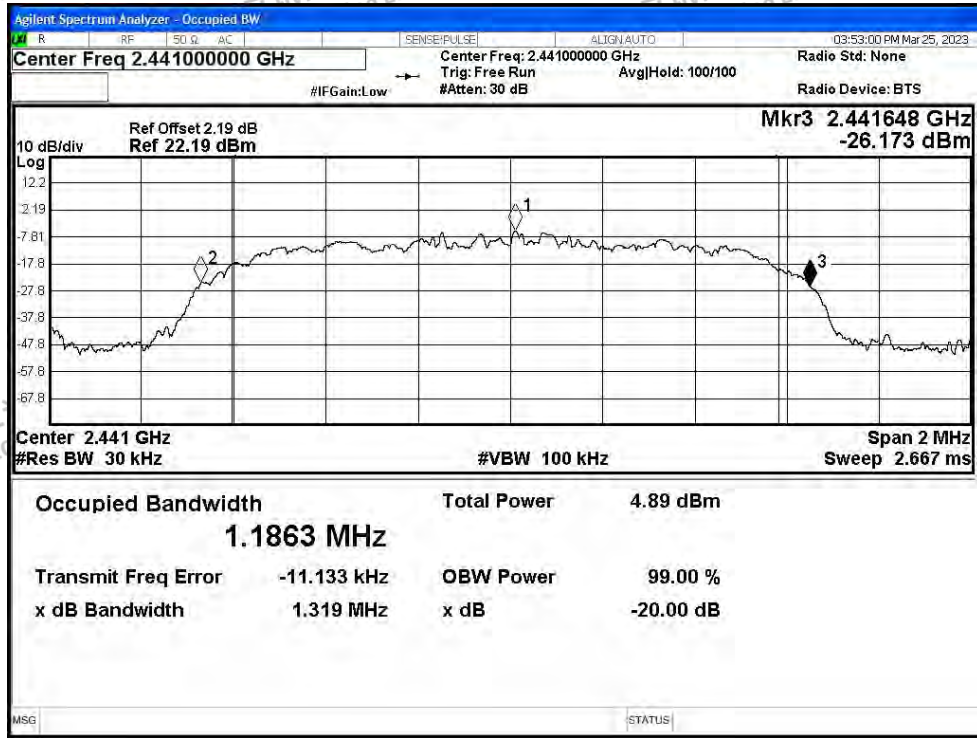


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

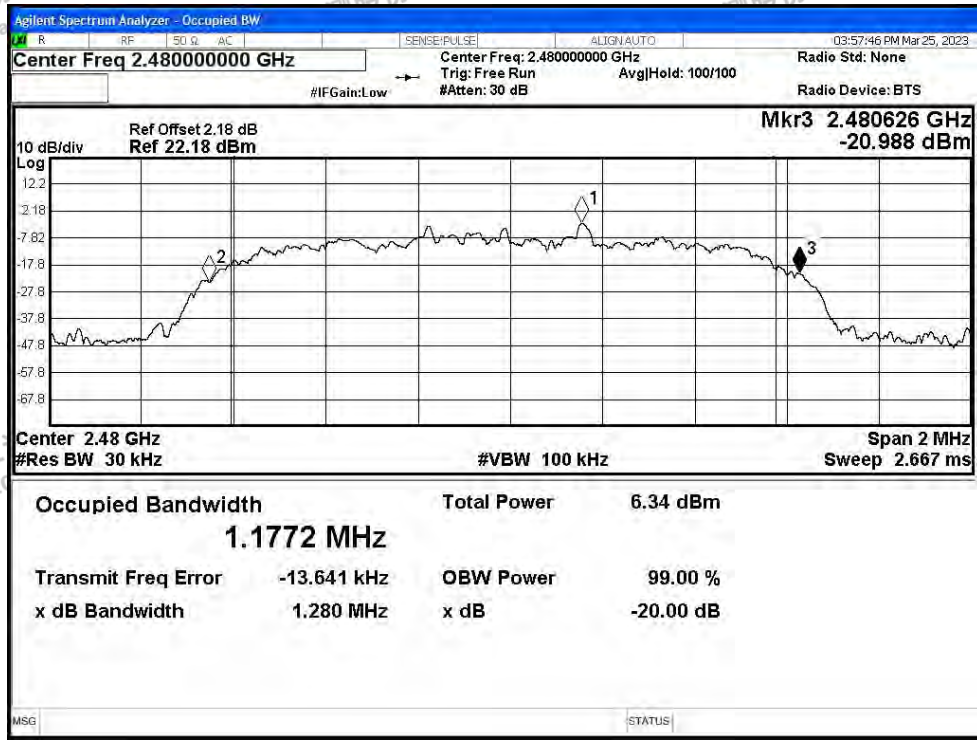




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

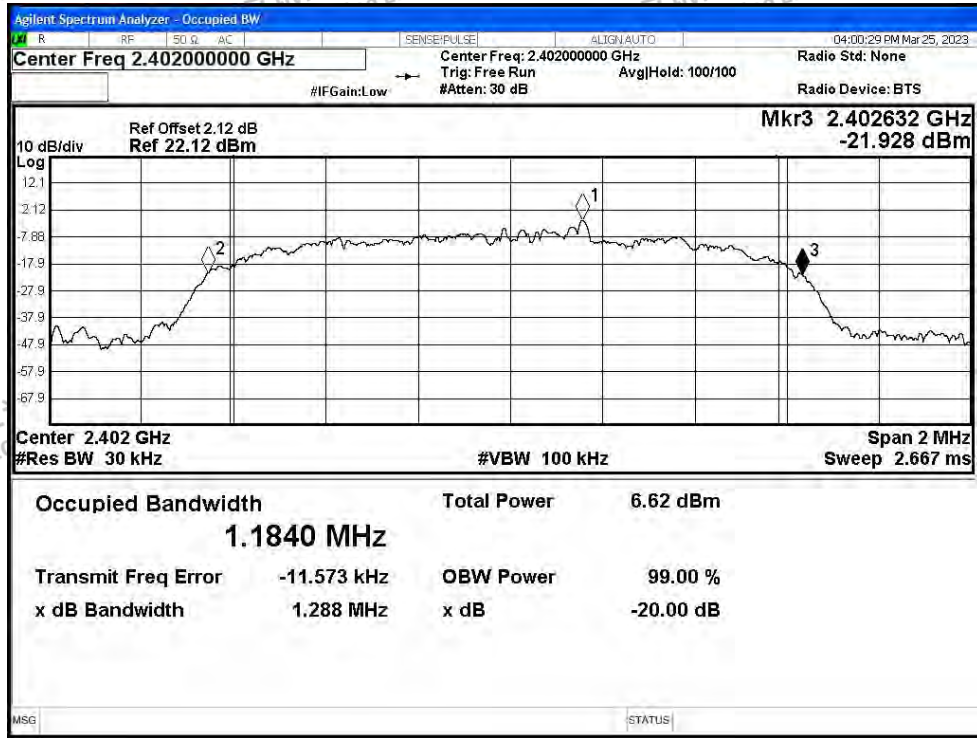


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

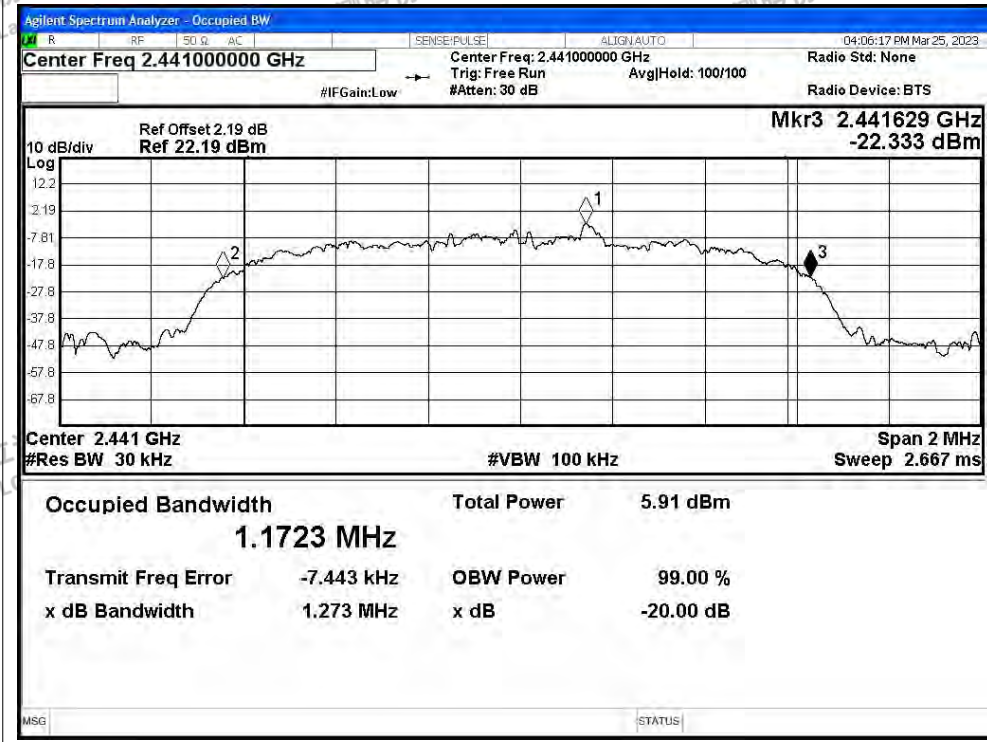




-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1

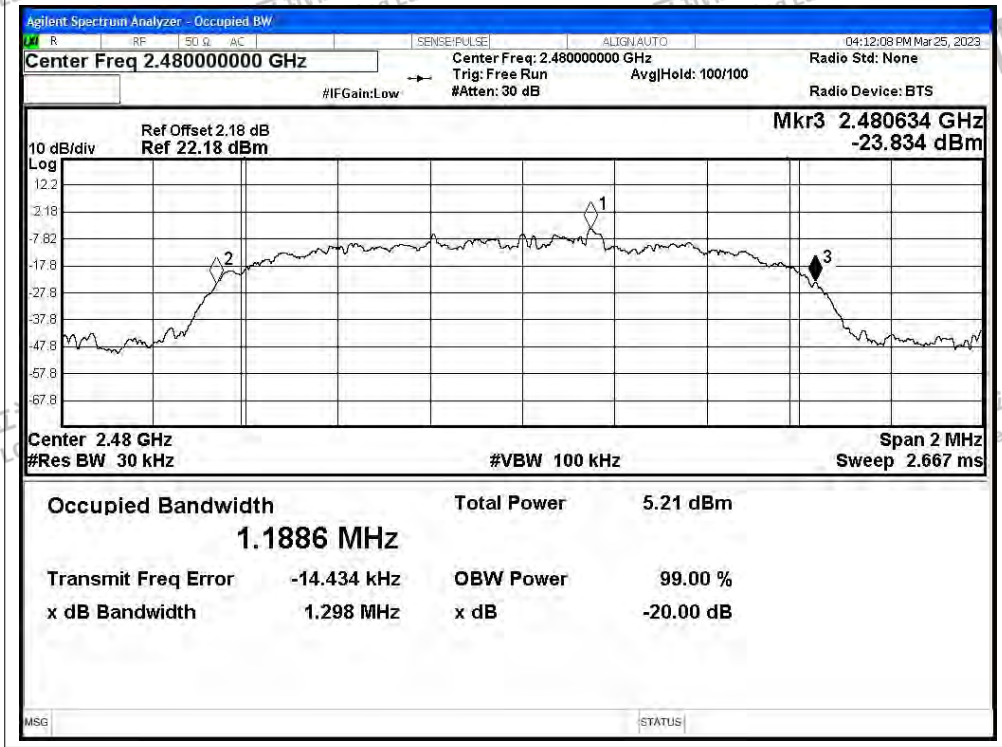


-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1



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A.2 Maximum Conducted Output Power

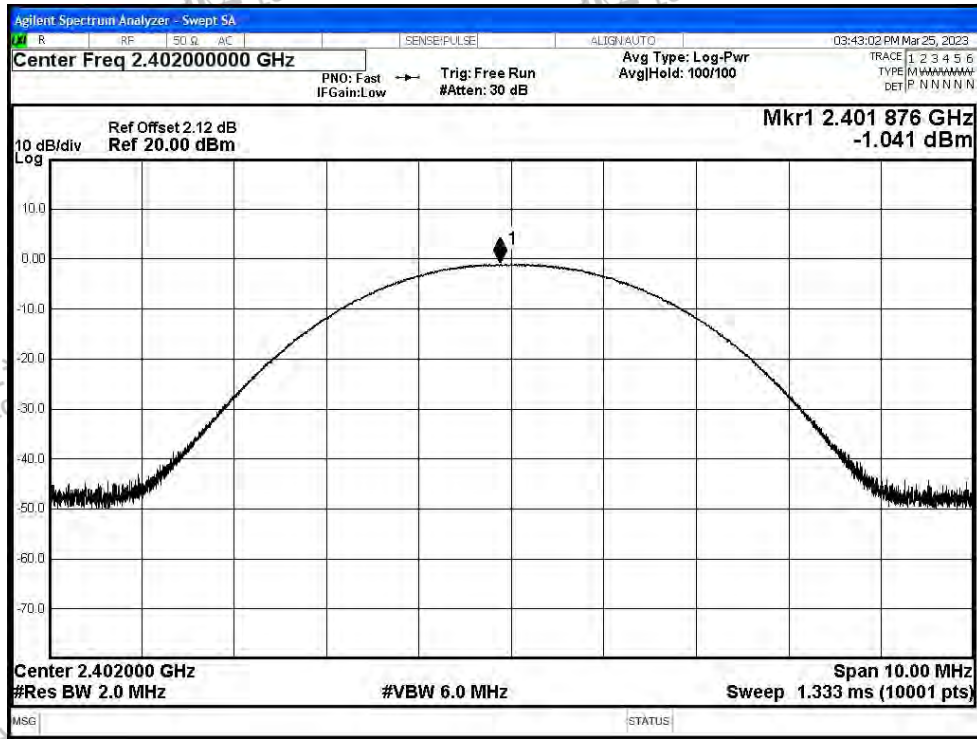
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.04	21	Pass
NVNT	1-DH5	2441	Ant1	1.49	21	Pass
NVNT	1-DH5	2480	Ant1	1.63	21	Pass
NVNT	2-DH5	2402	Ant1	0.45	21	Pass
NVNT	2-DH5	2441	Ant1	0.7	21	Pass
NVNT	2-DH5	2480	Ant1	1.93	21	Pass
NVNT	3-DH5	2402	Ant1	1.09	21	Pass
NVNT	3-DH5	2441	Ant1	2.17	21	Pass
NVNT	3-DH5	2480	Ant1	1.93	21	Pass



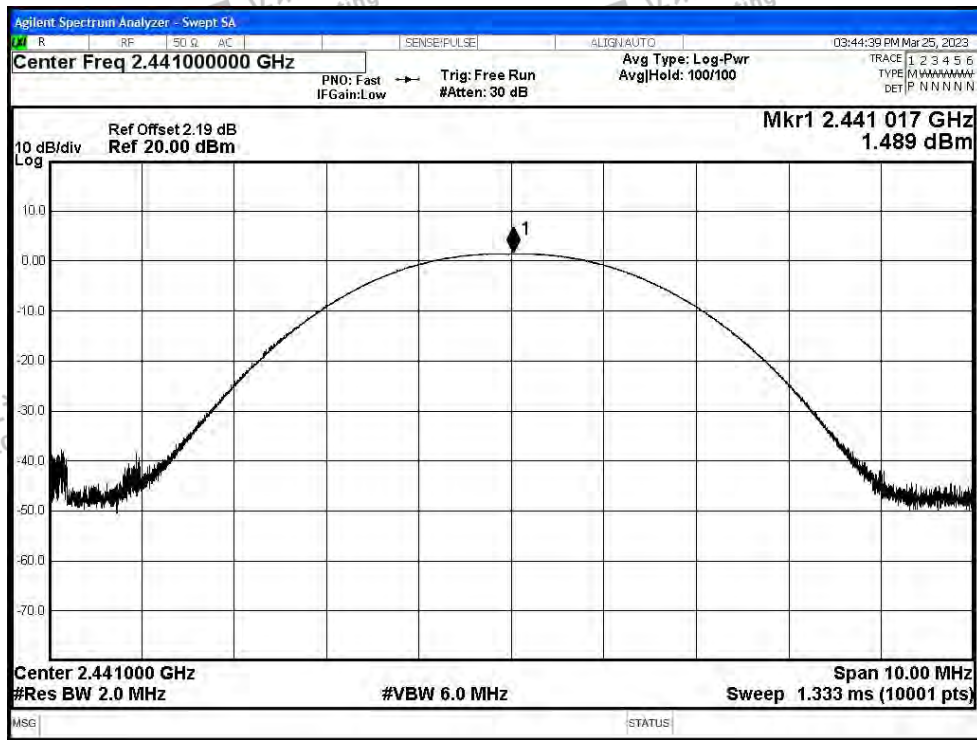


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

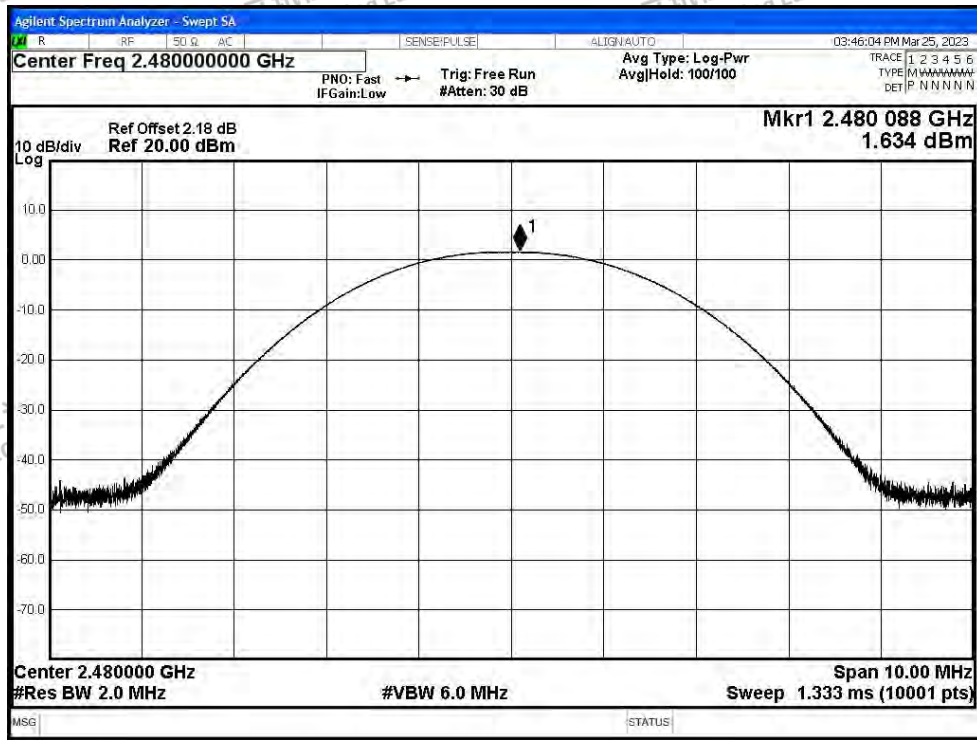


Power NVNT 1-DH5 2441MHz Ant1

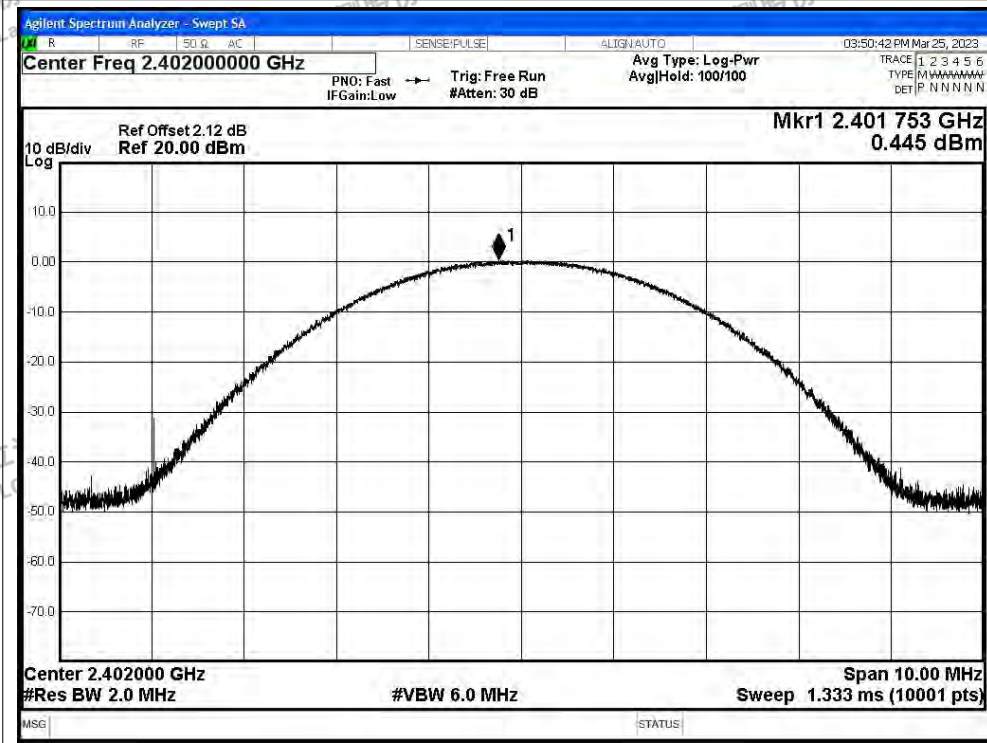




Power NVNT 1-DH5 2480MHz Ant1

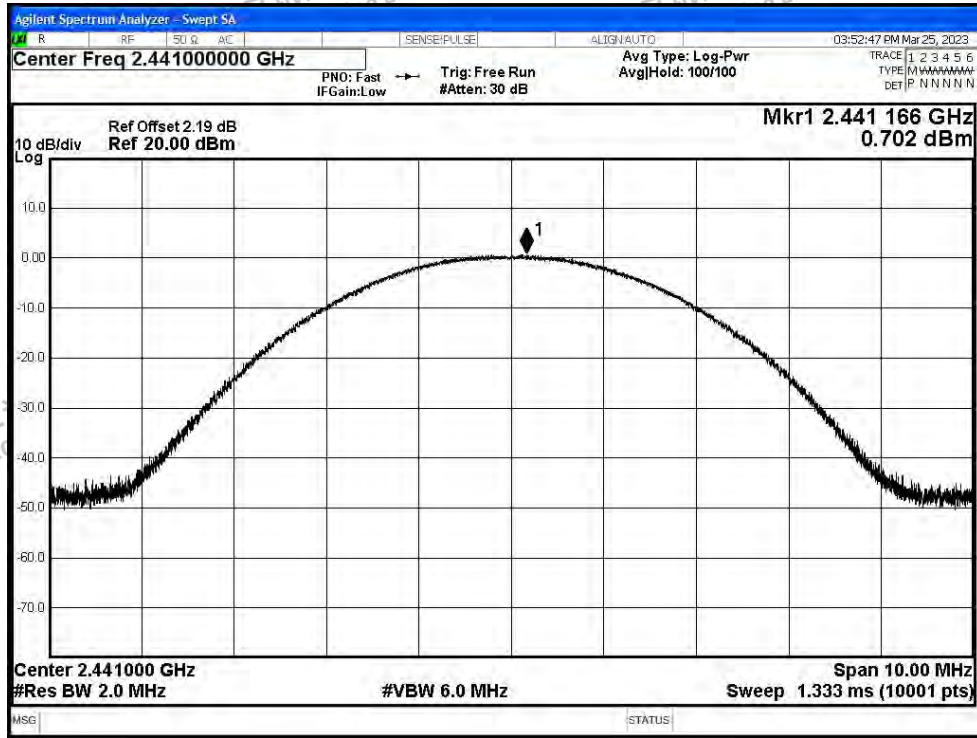


Power NVNT 2-DH5 2402MHz Ant1

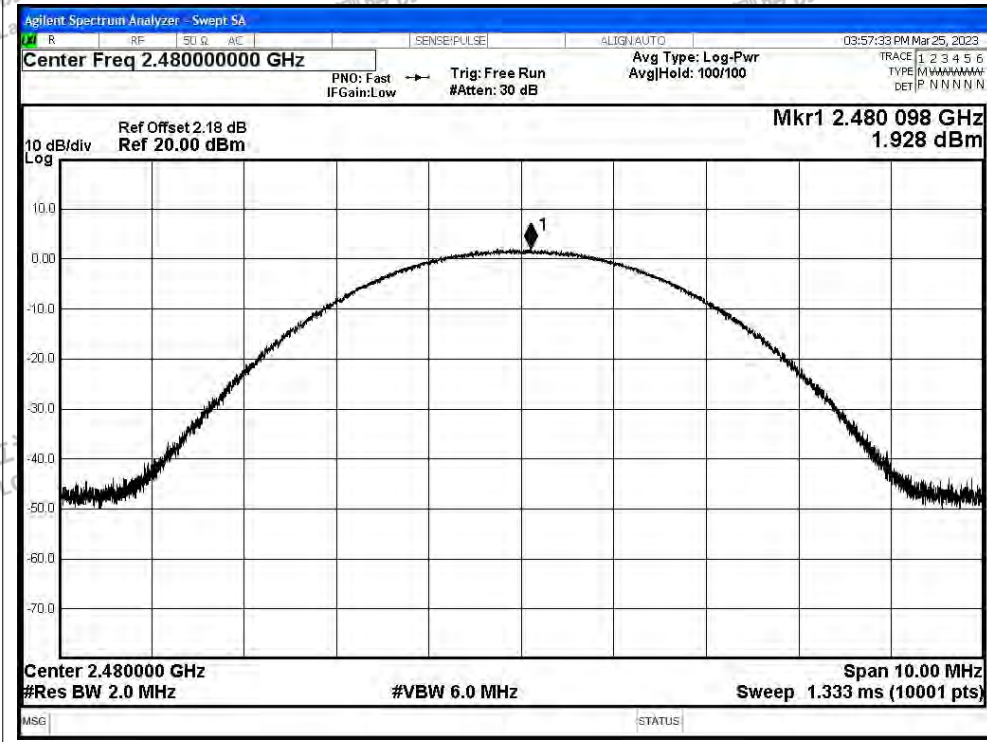




Power NVNT 2-DH5 2441MHz Ant1

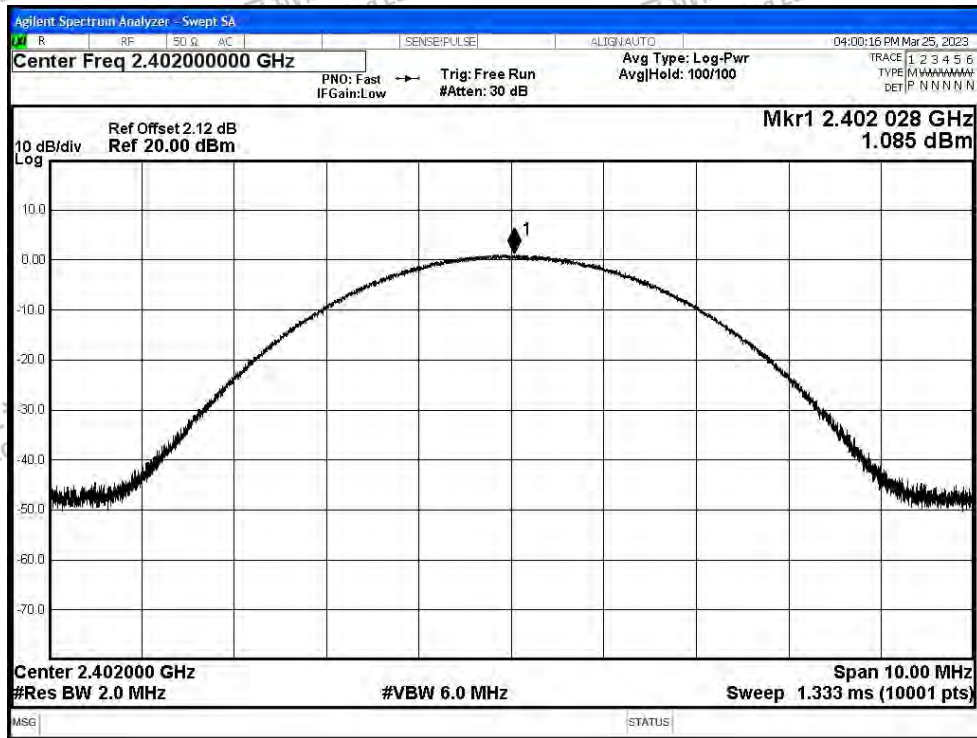


Power NVNT 2-DH5 2480MHz Ant1

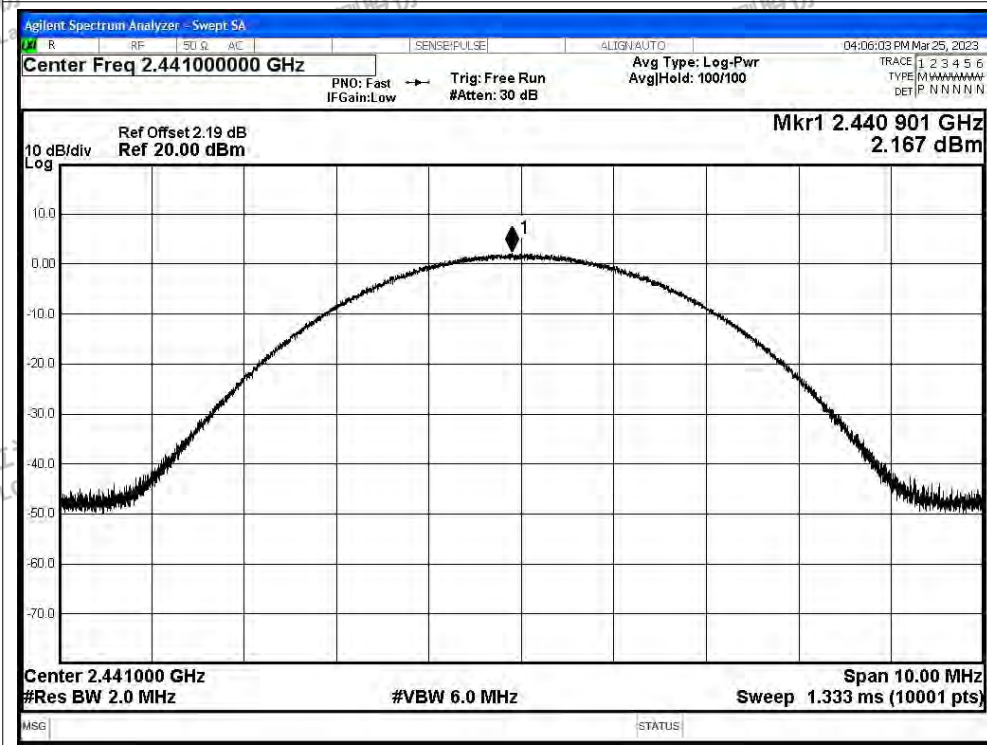




Power NVNT 3-DH5 2402MHz Ant1

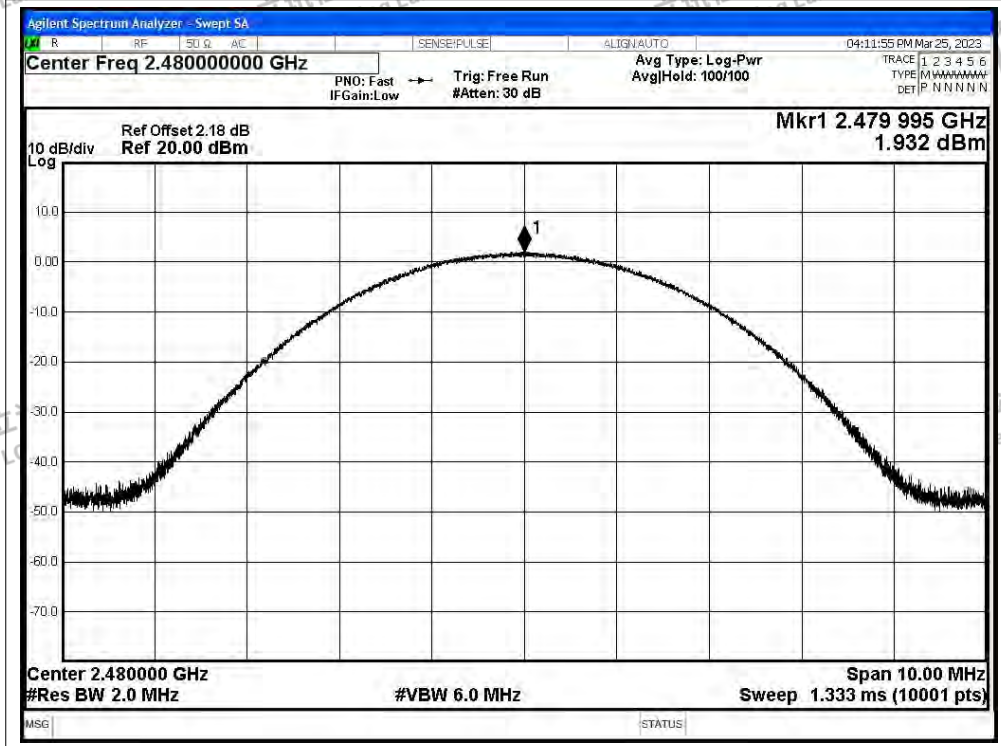


Power NVNT 3-DH5 2441MHz Ant1





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	2401.966	2402.956	0.99	0.676	Pass
NVNT	2-DH5	Ant1	2401.82	2403.148	1.328	0.882	Pass
NVNT	3-DH5	Ant1	2402.002	2403.138	1.136	0.866	Pass

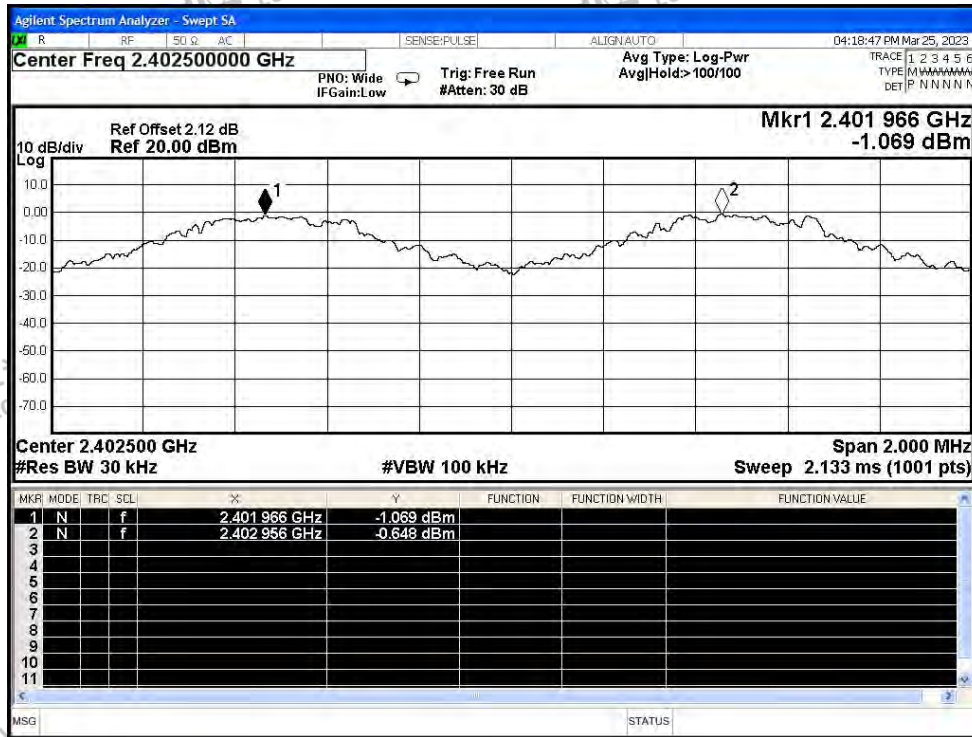


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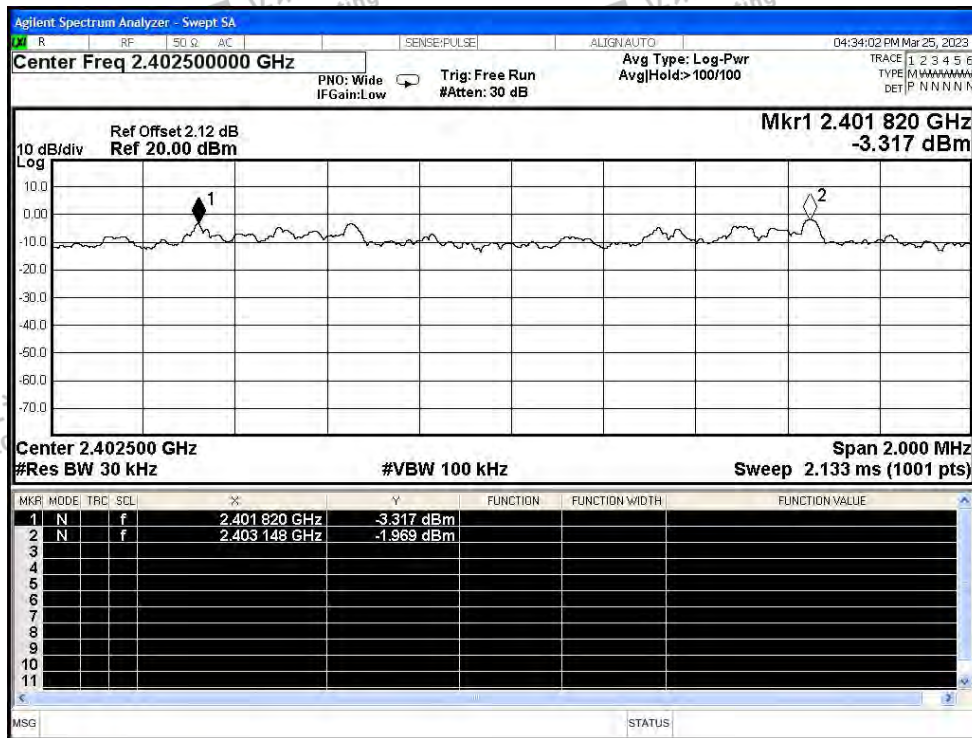


Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1

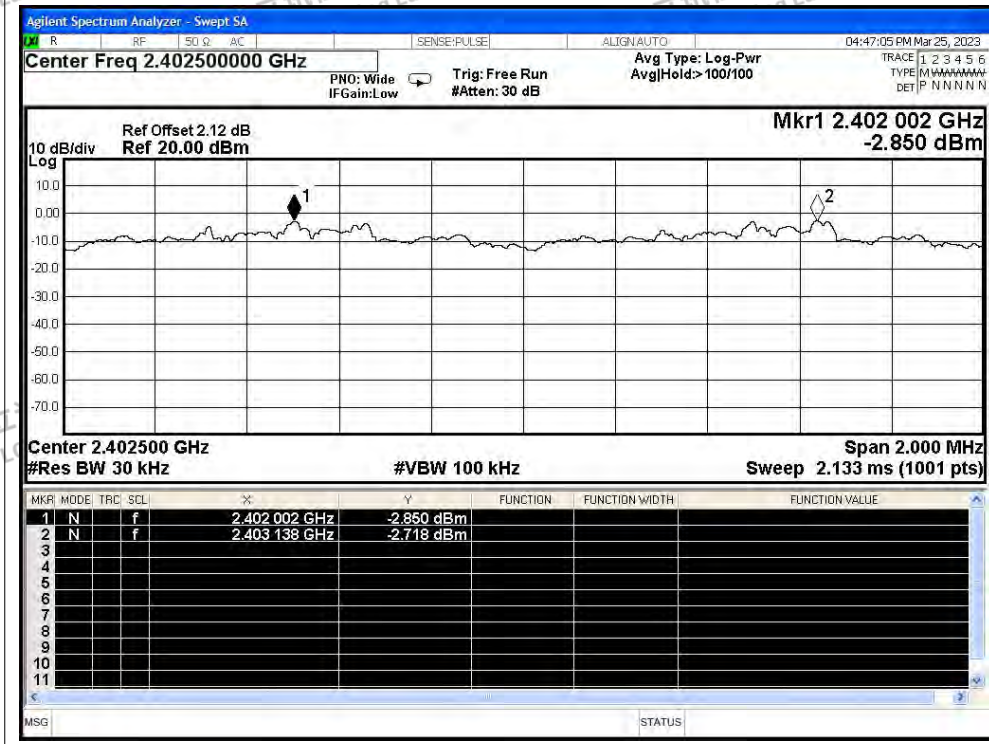


CFS NVNT 2-DH5 2402MHz Ant1





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	293.964	102	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.88	302.4	105	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.887	280.039	97	31600	400	Pass

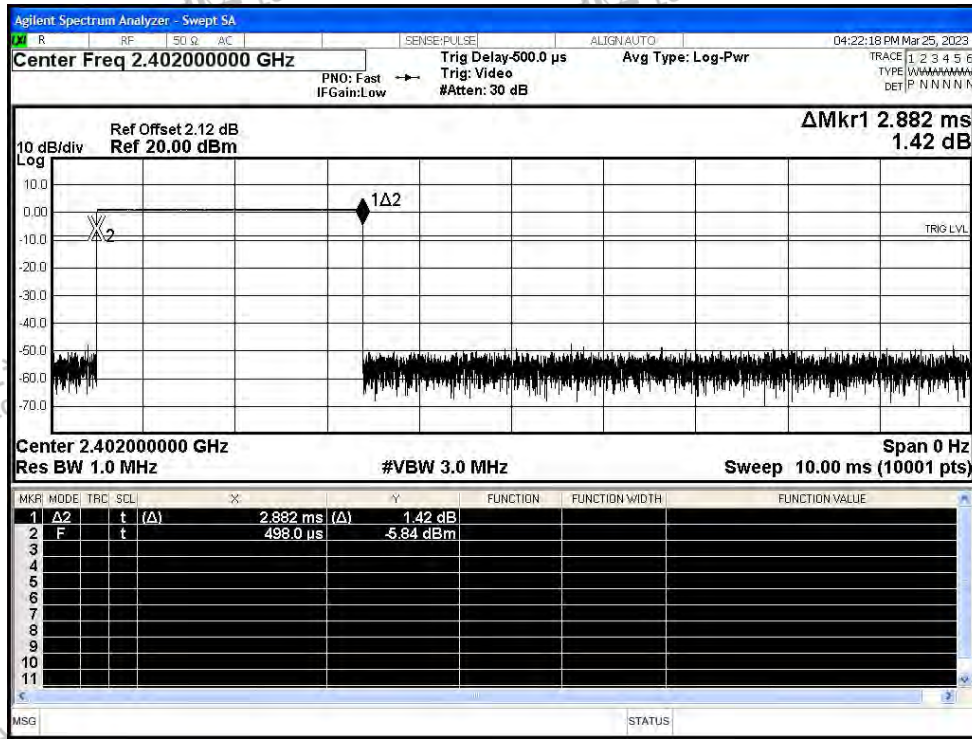


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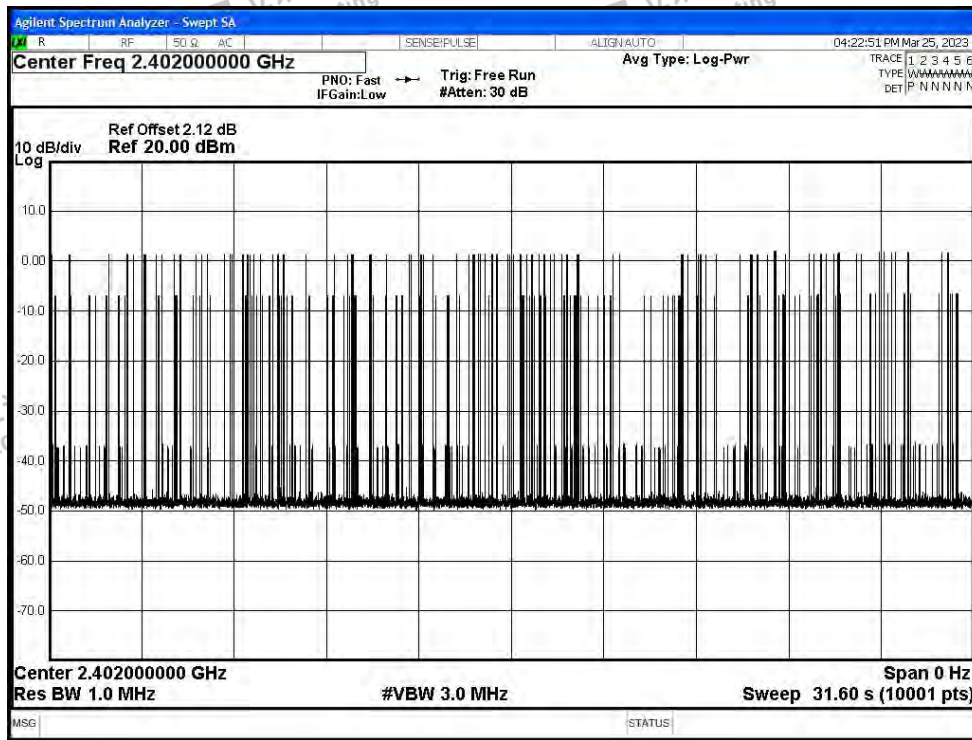


Test Graphs

Dwell-NVNT 1-DH5 2402MHz Ant1 One Burst

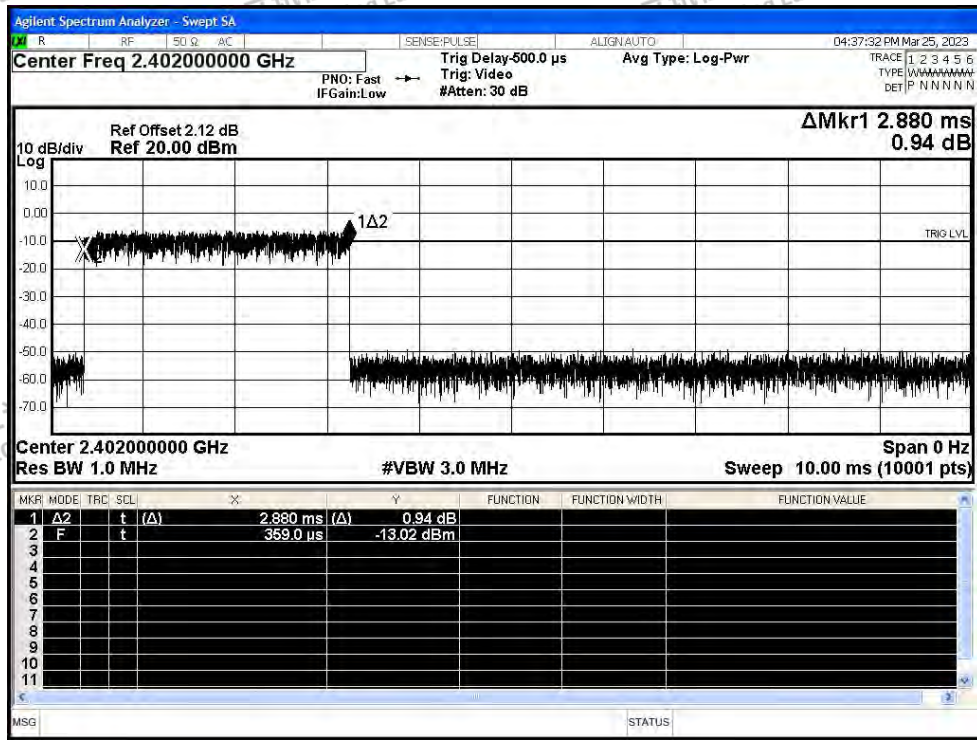


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

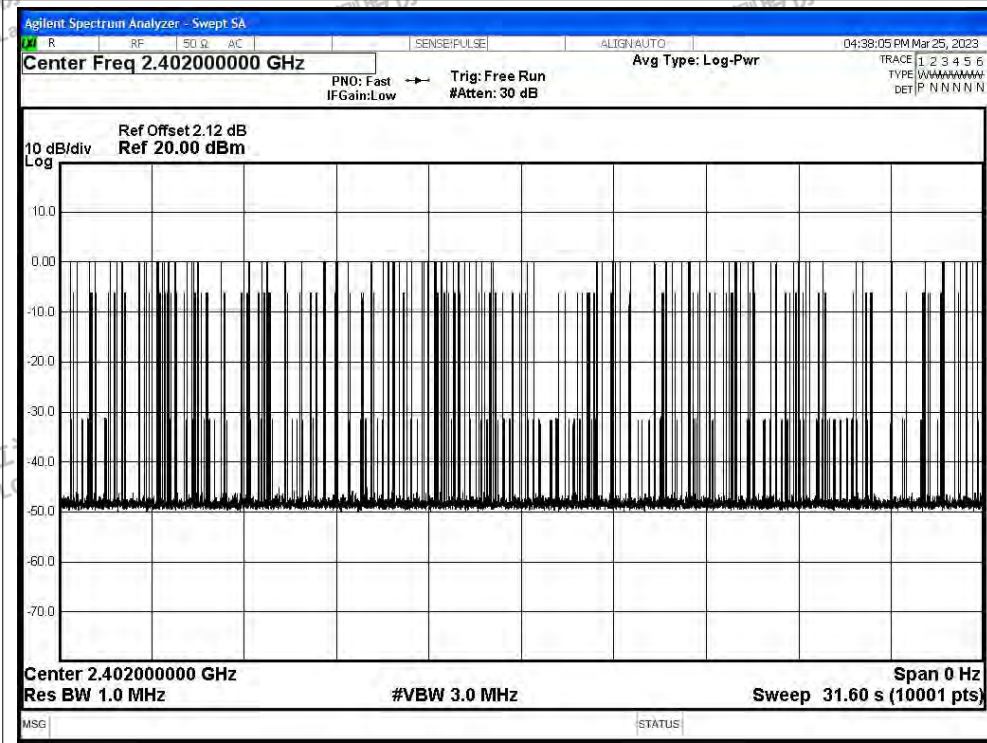




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst

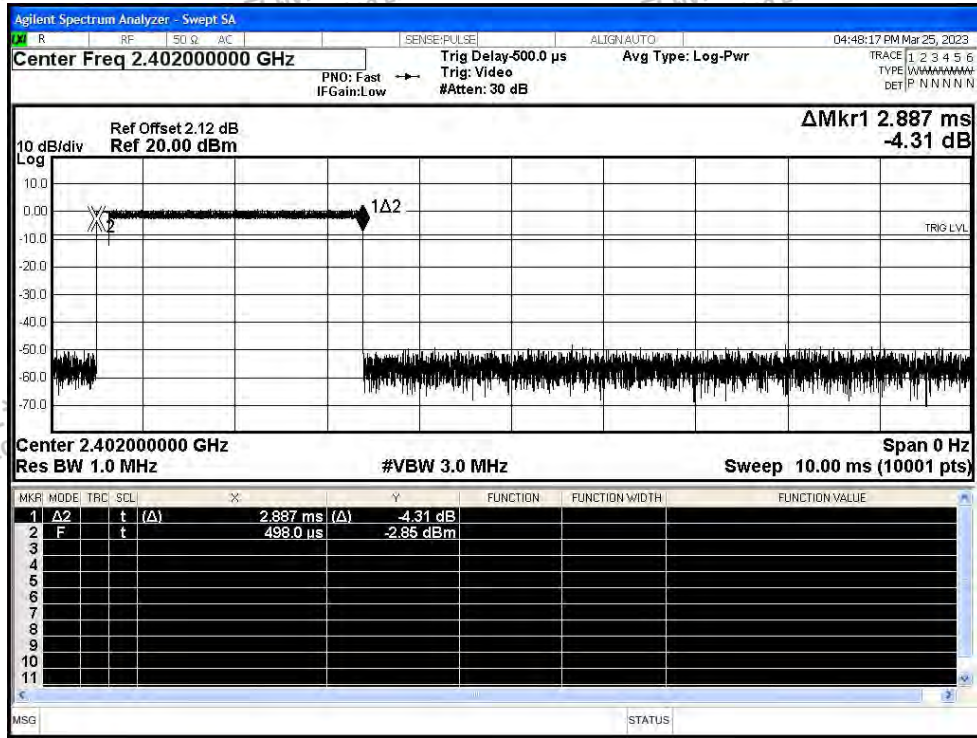


Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

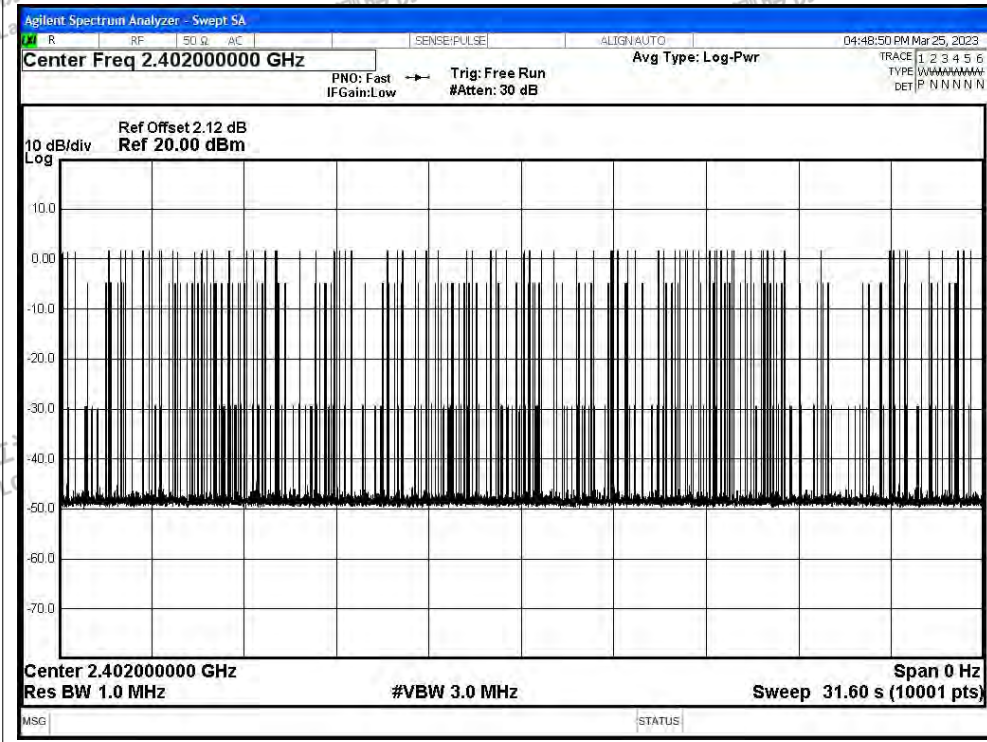




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



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

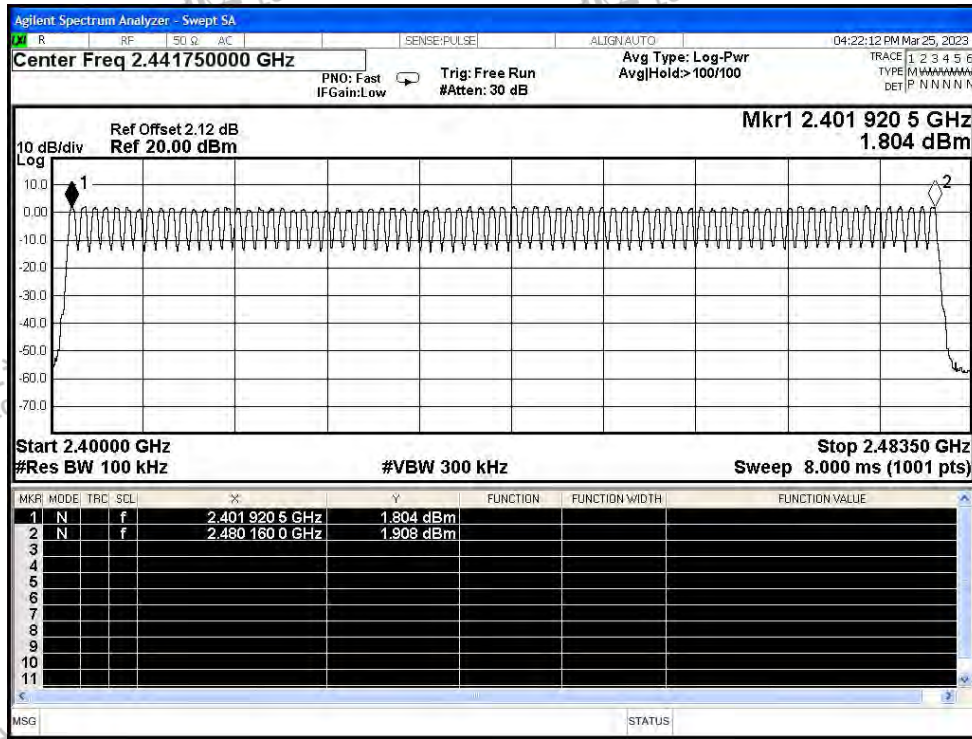


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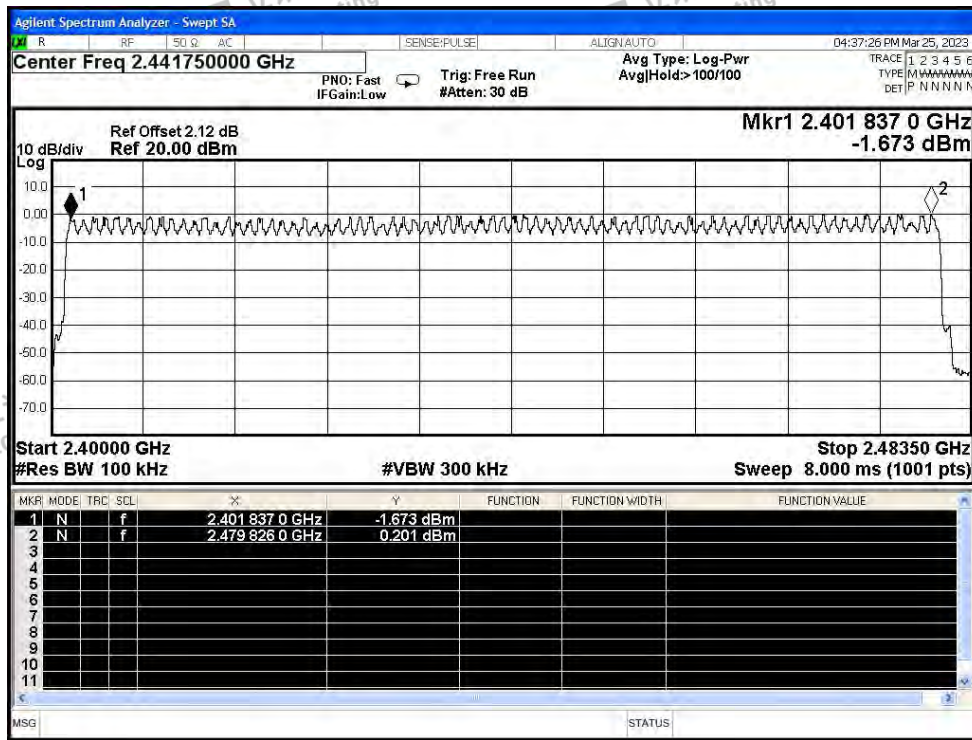


Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1

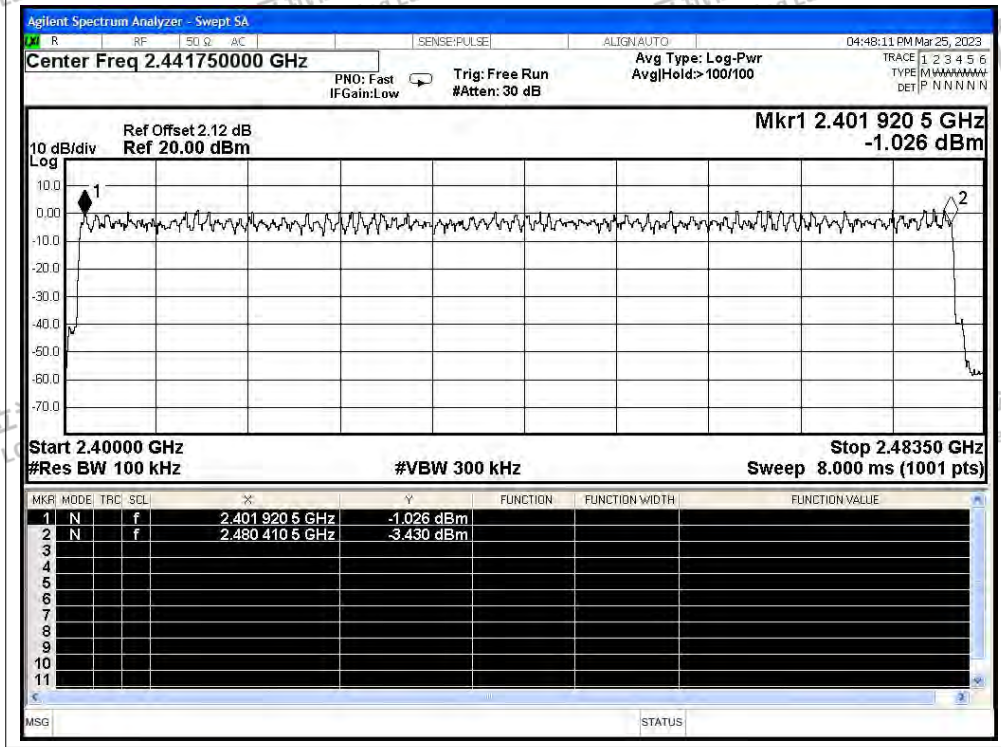


Hopping No. NVNT 2-DH5 2402MHz Ant1





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	-54.6	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-56.72	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-52.54	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-57.49	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-52.76	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-56.51	-20	Pass

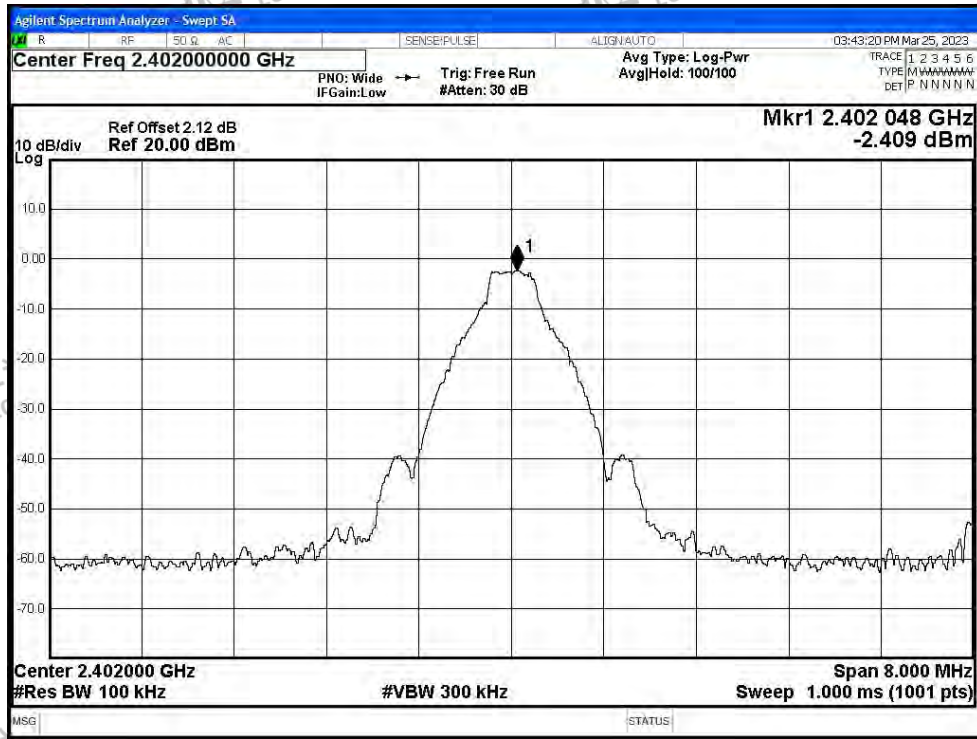


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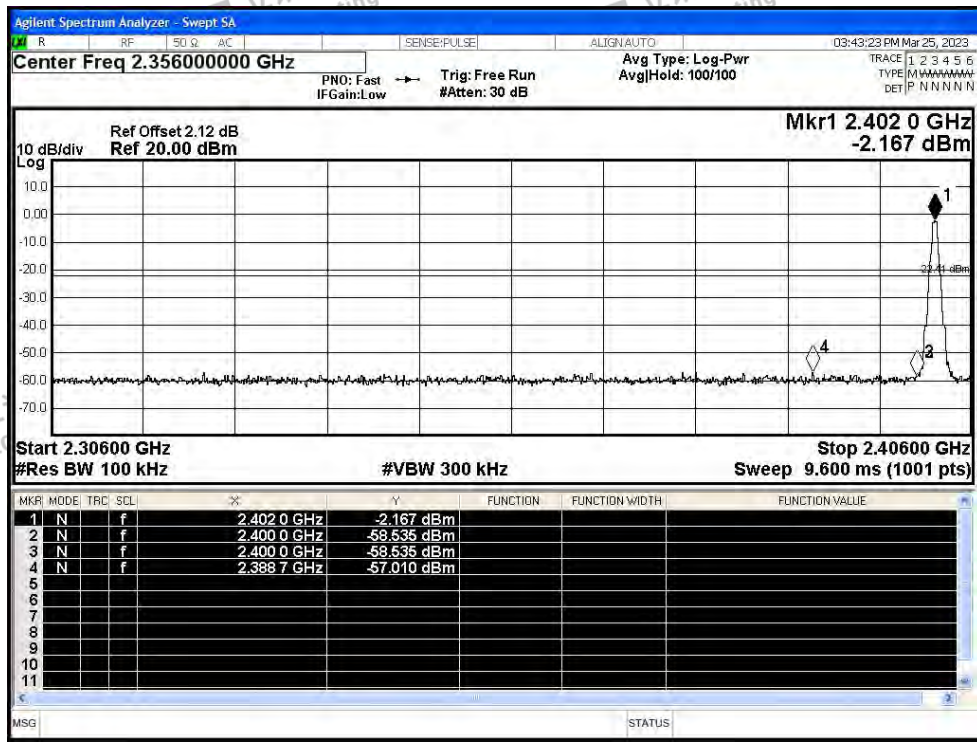


Test Graphs

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

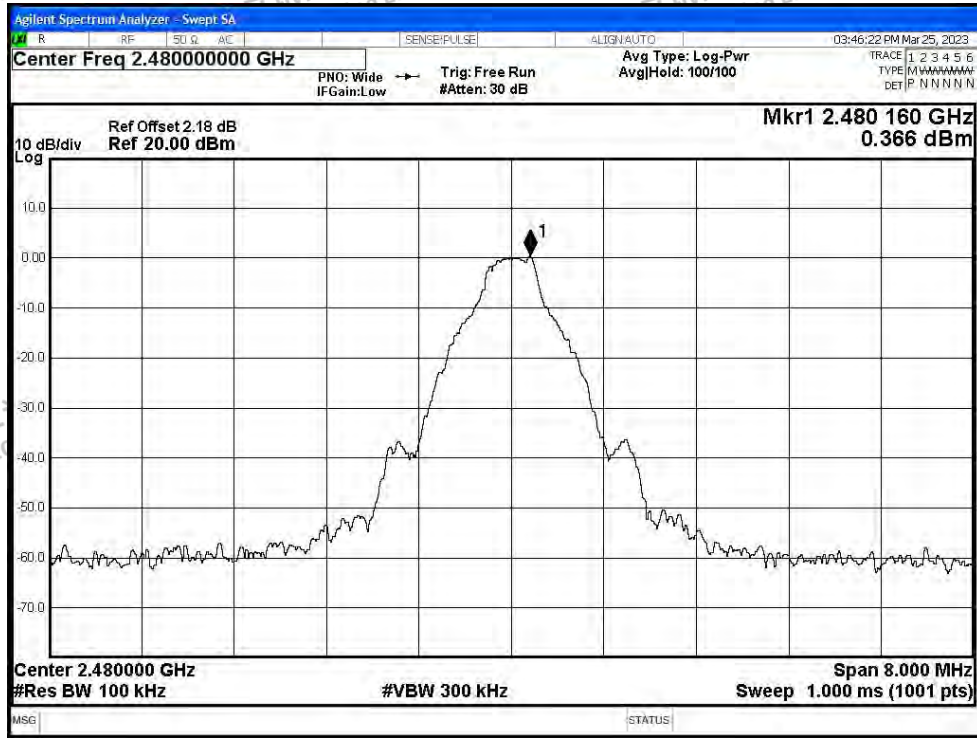


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

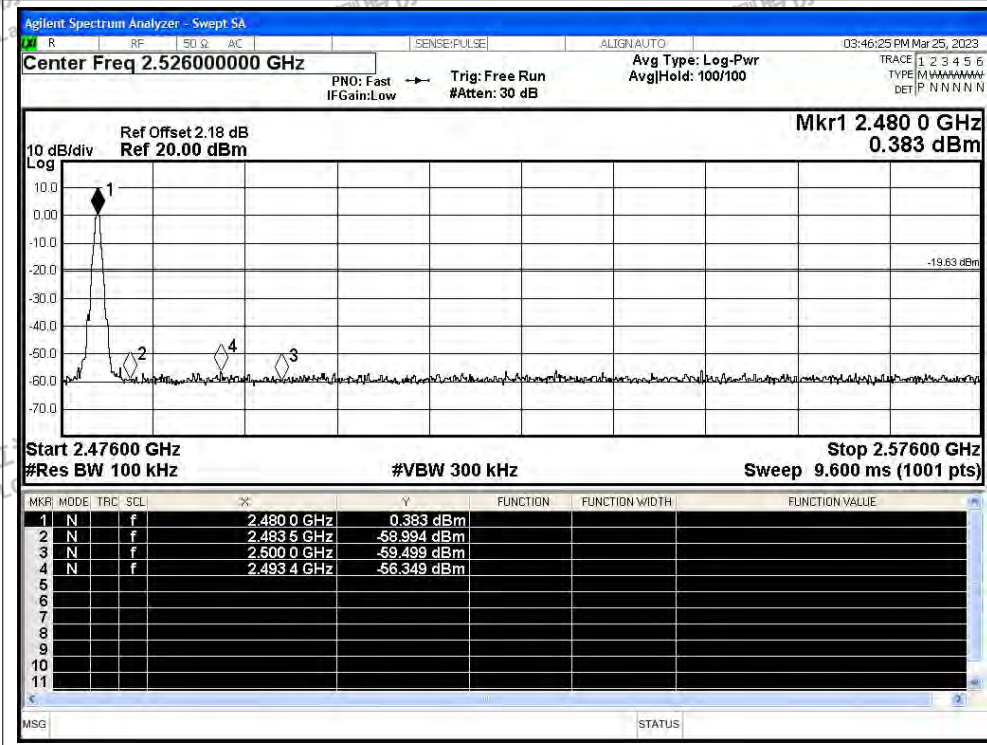




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

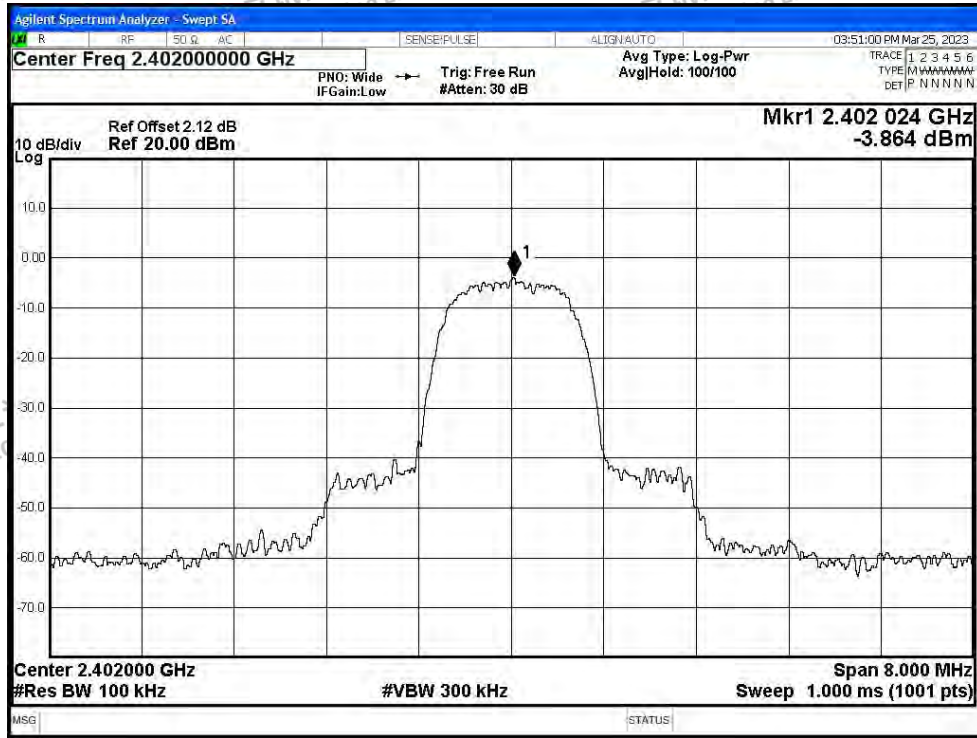


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

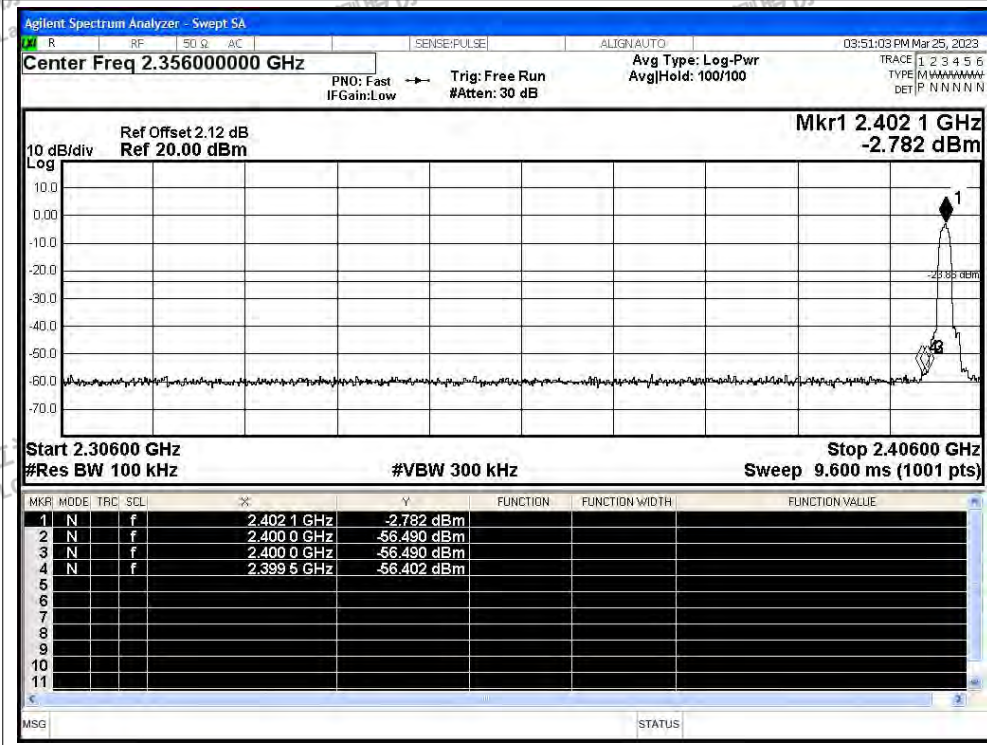




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

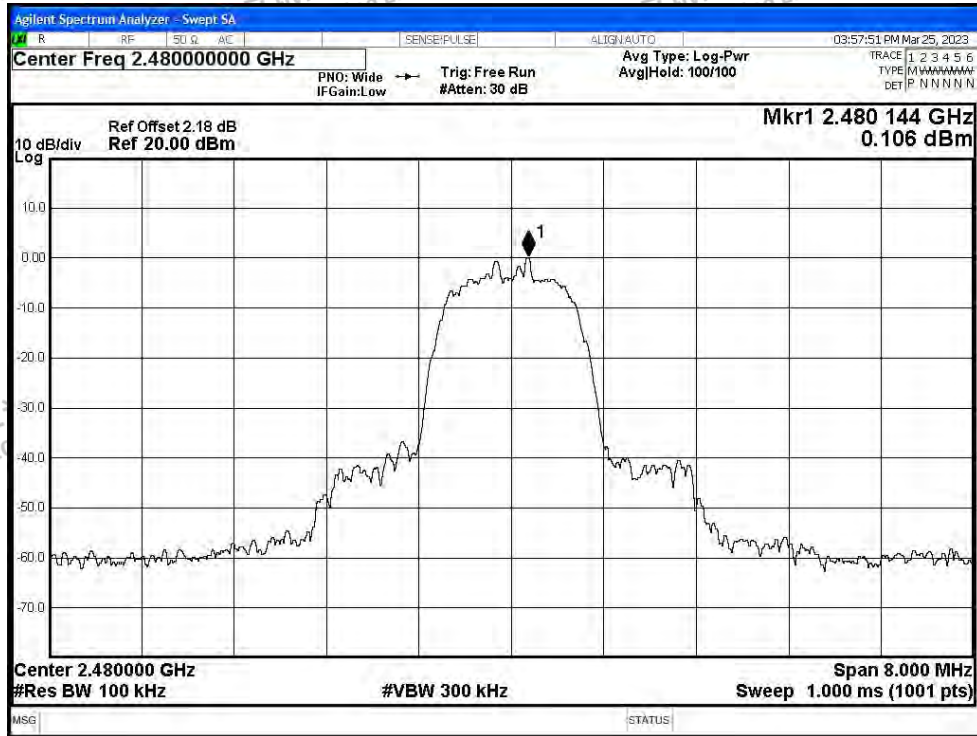


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

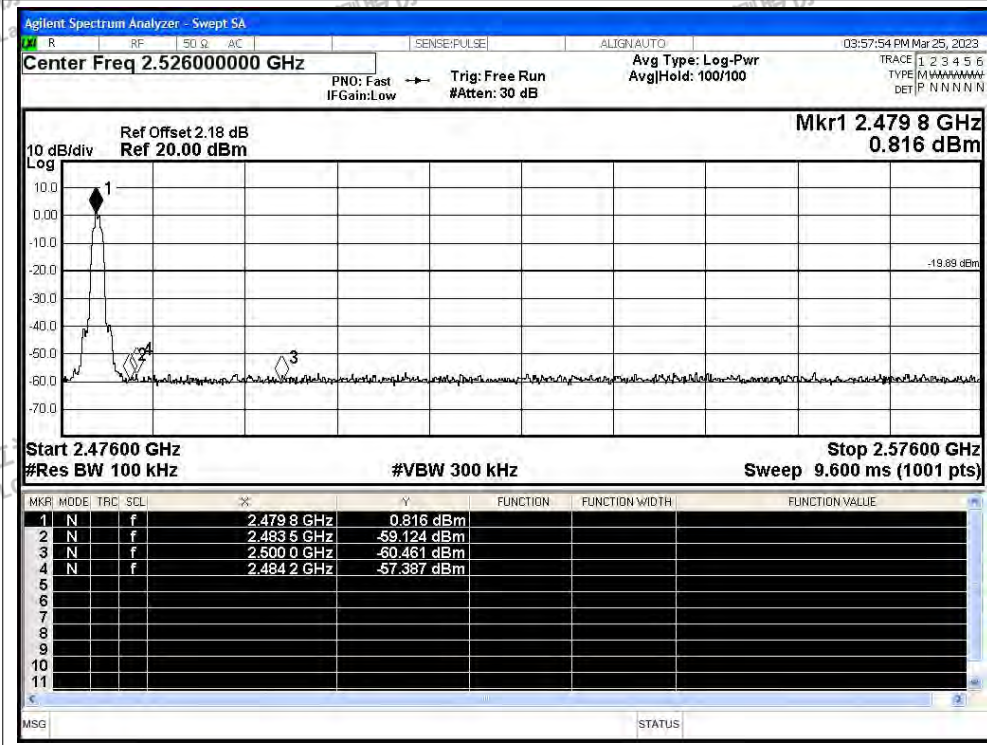




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

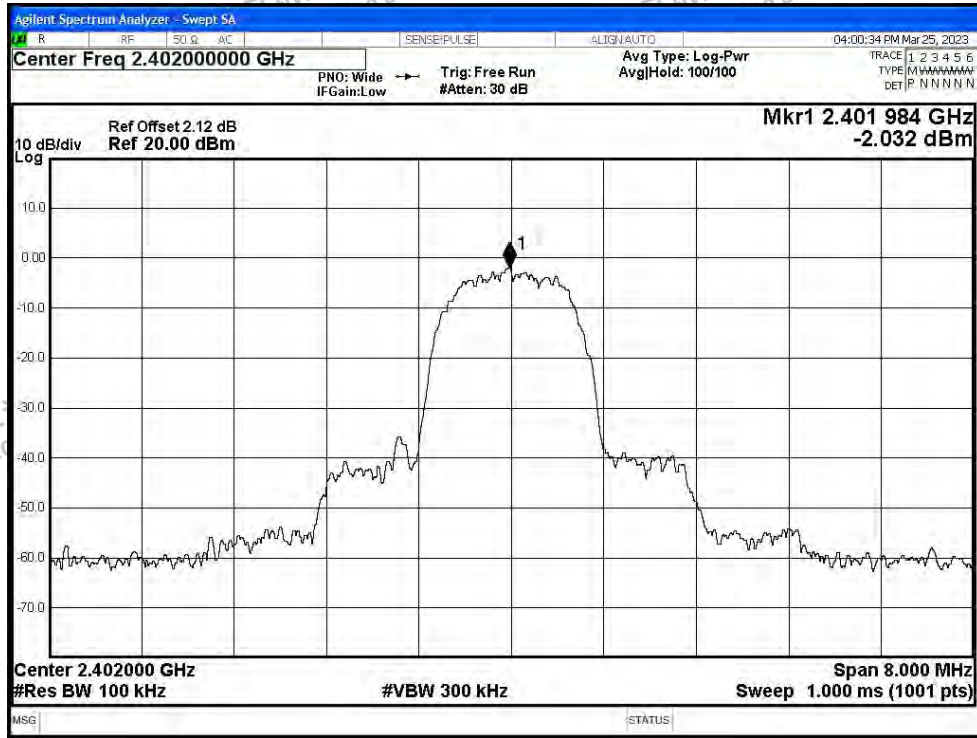


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

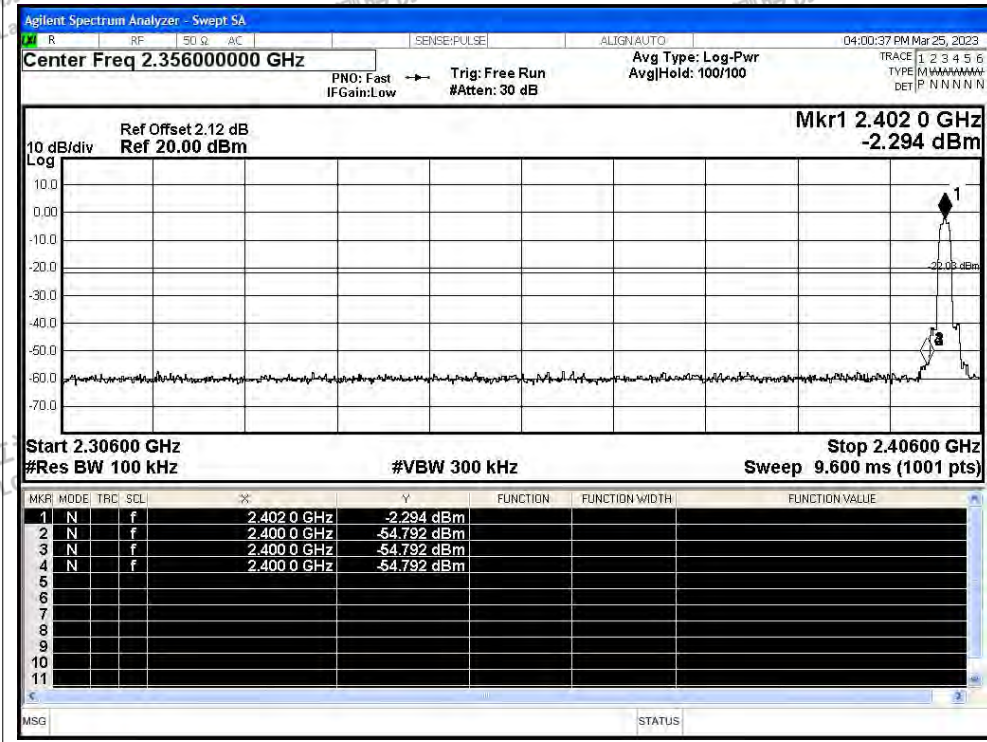




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

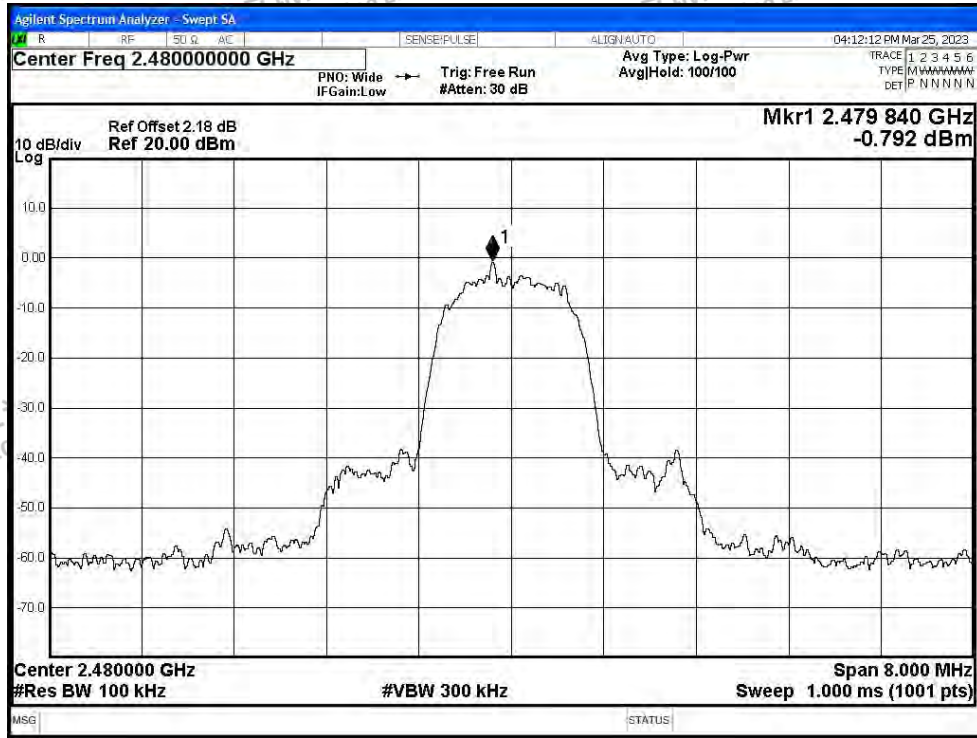


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

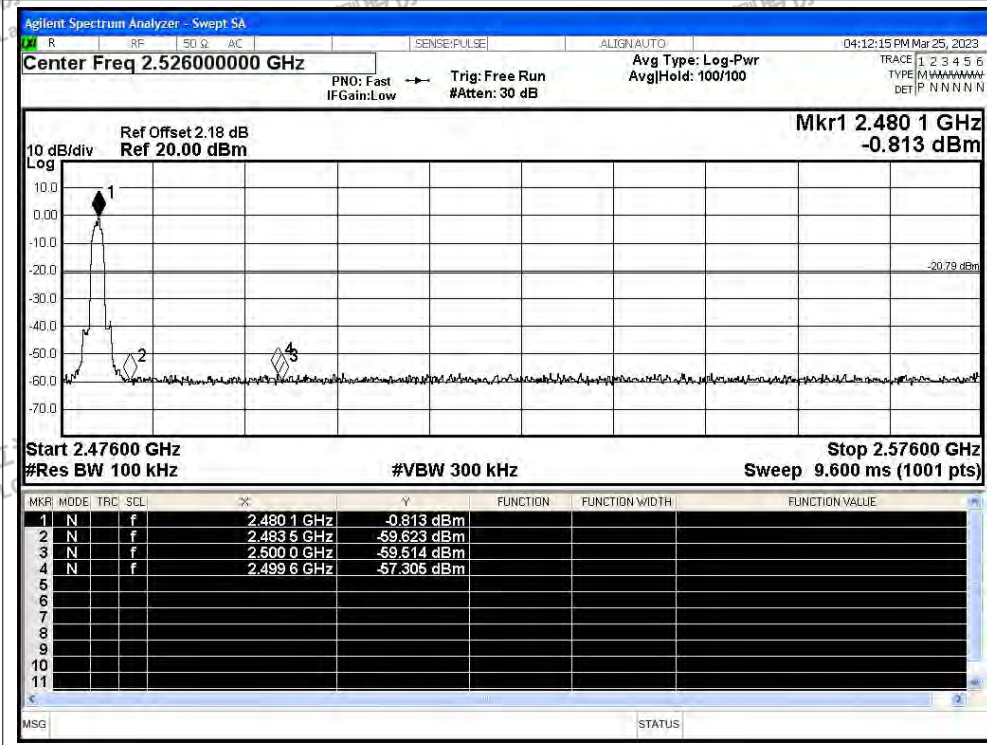




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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	-57.17	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-57.99	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-55.18	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-55.09	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-53.83	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-56.58	-20	Pass



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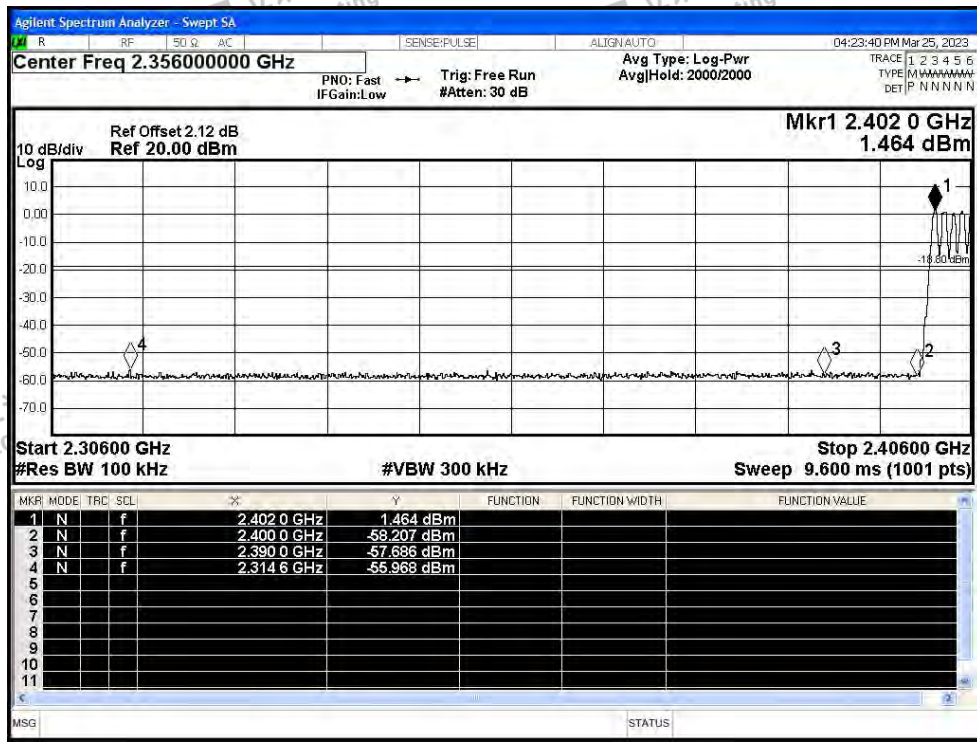


Test Graphs

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

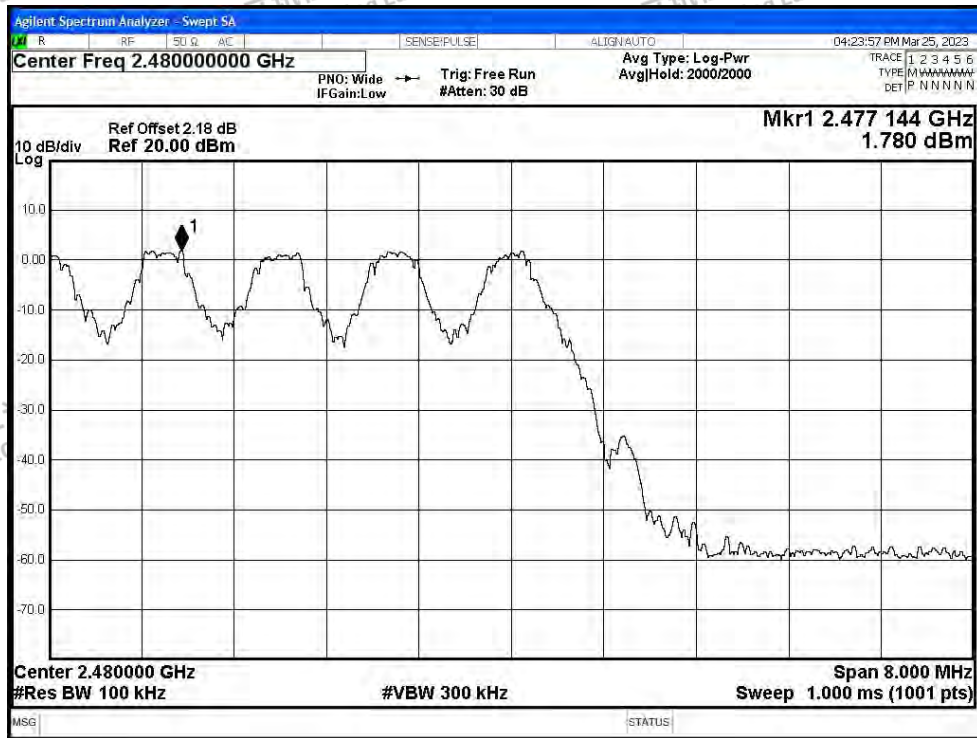


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

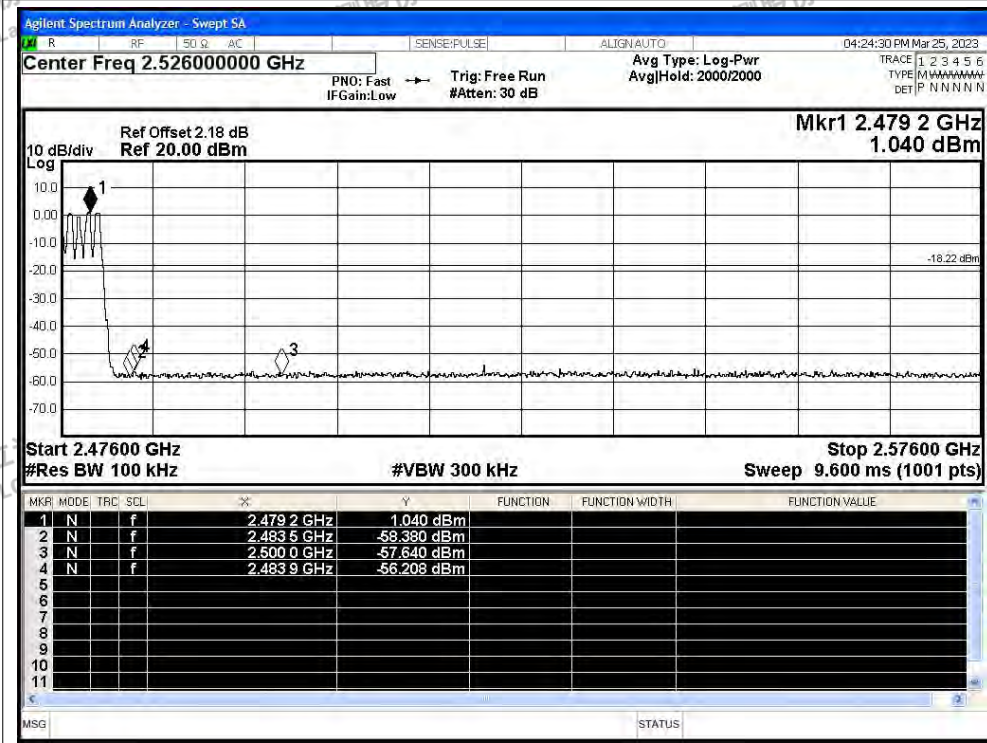




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



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

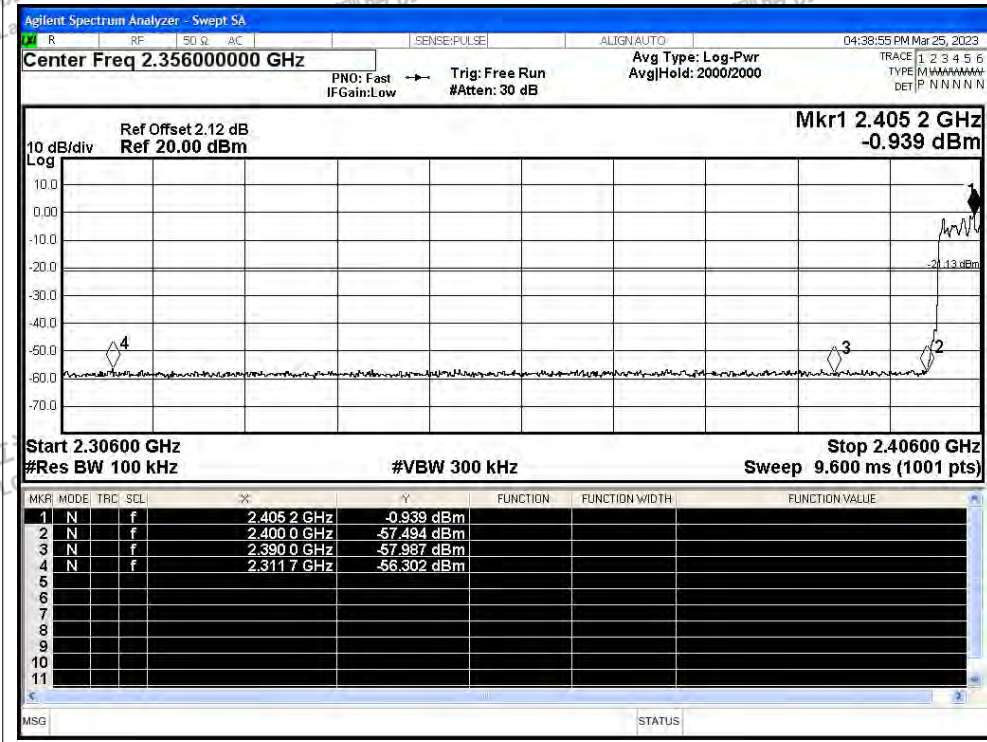




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

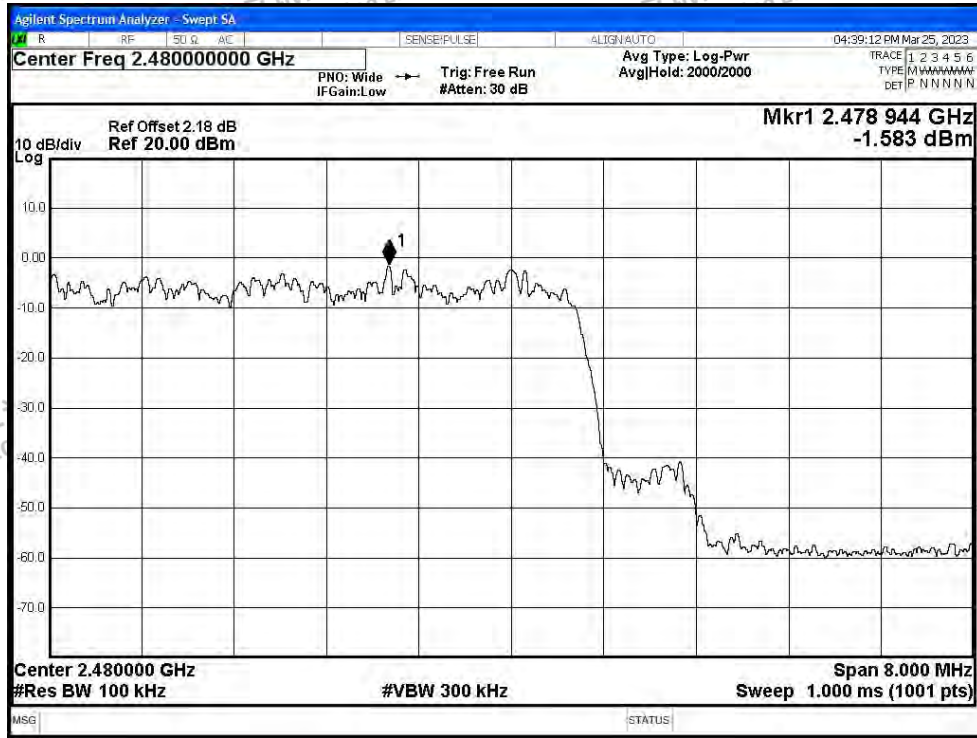


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

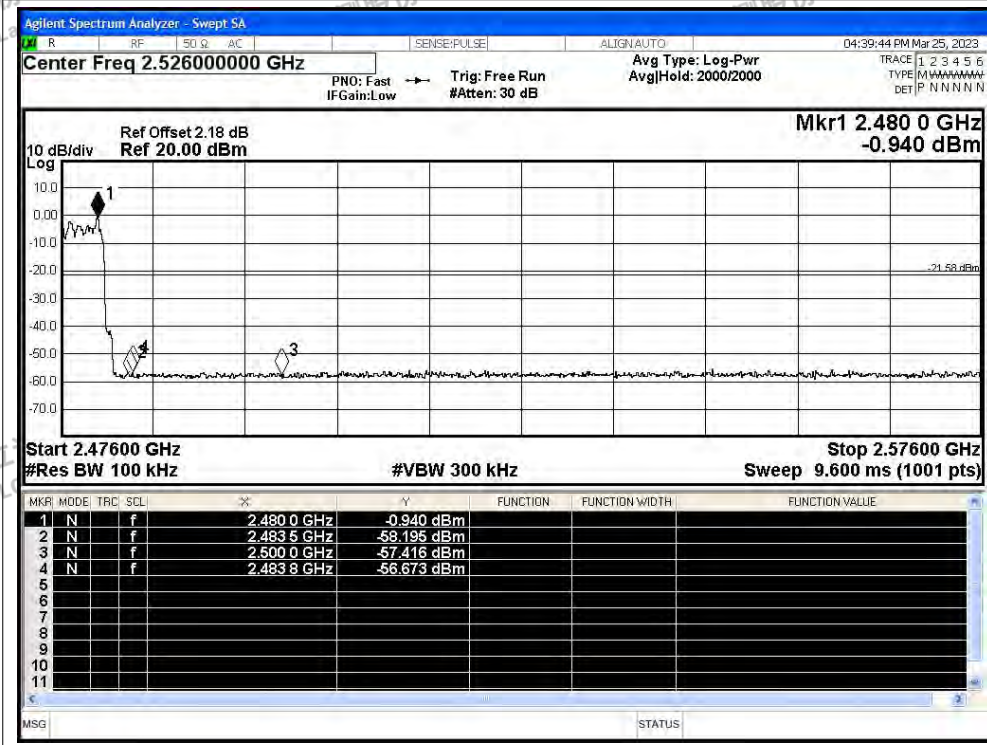




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref

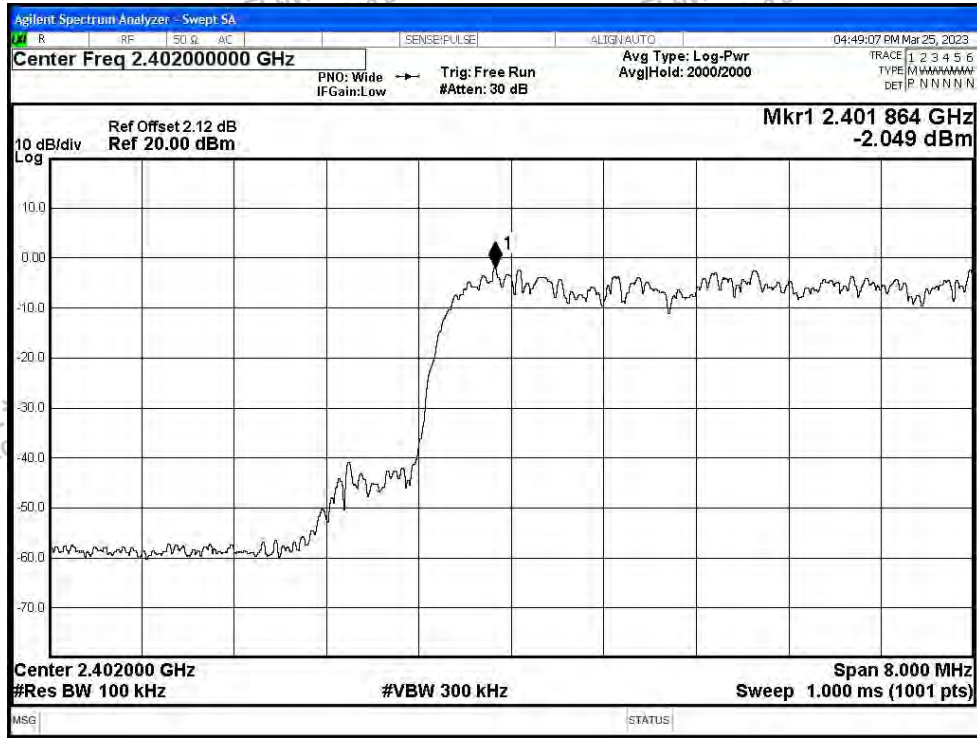


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission

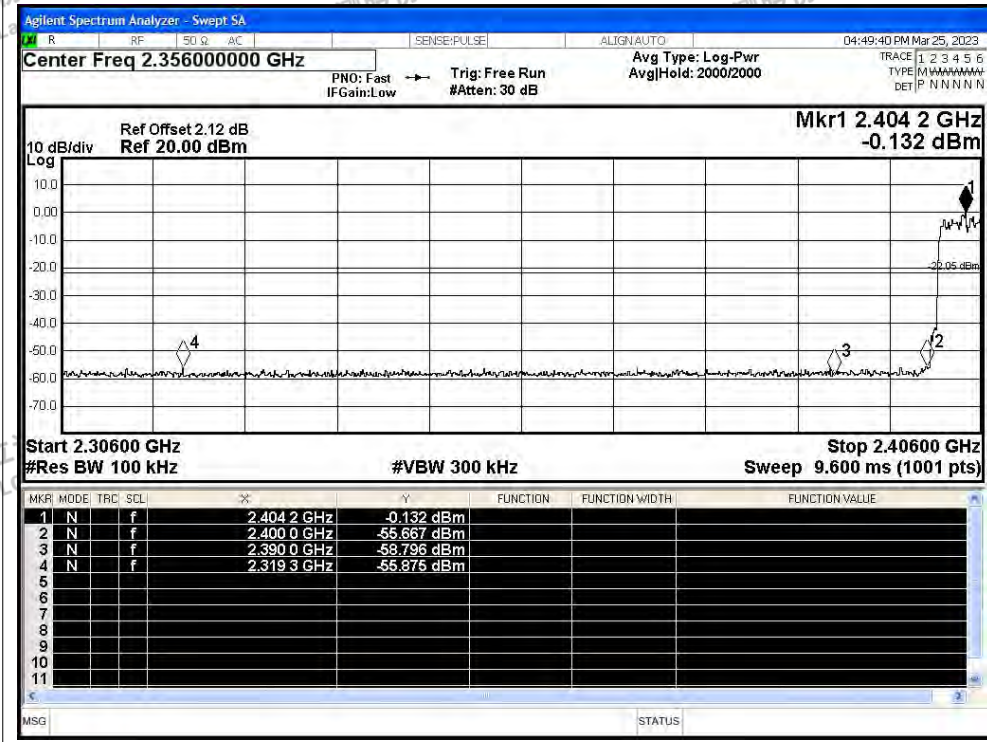




Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



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

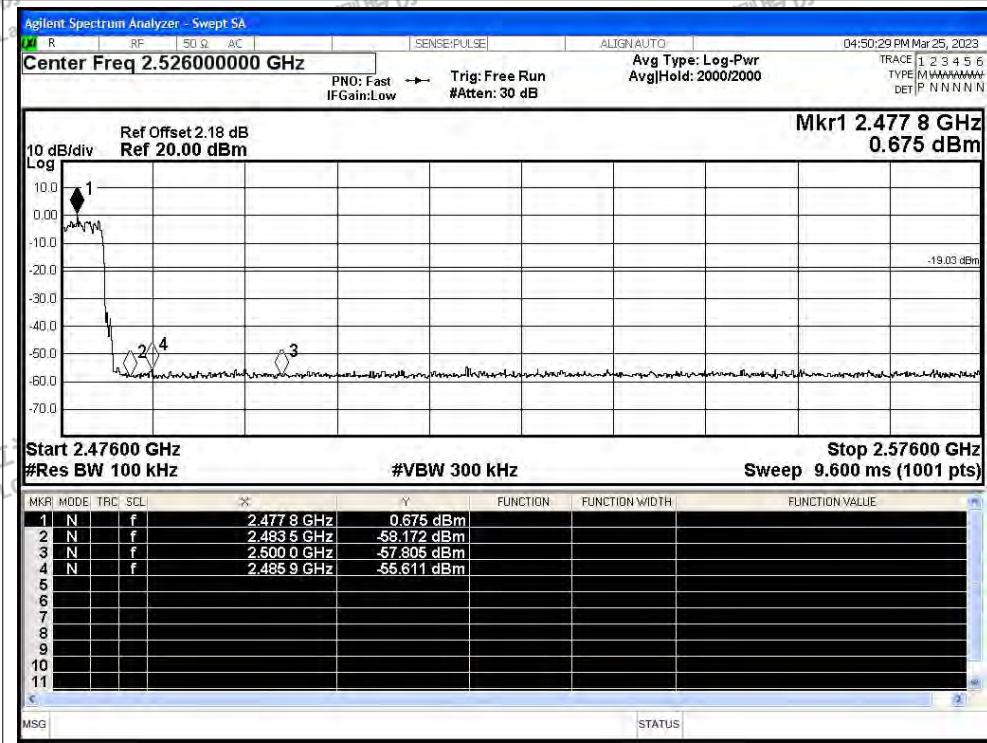




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



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	-43.37	-20	Pass
NVNT	1-DH5	2441	Ant1	-55.25	-20	Pass
NVNT	1-DH5	2480	Ant1	-53.01	-20	Pass
NVNT	2-DH5	2402	Ant1	-41.09	-20	Pass
NVNT	2-DH5	2441	Ant1	-53.93	-20	Pass
NVNT	2-DH5	2480	Ant1	-48.14	-20	Pass
NVNT	3-DH5	2402	Ant1	-54.84	-20	Pass
NVNT	3-DH5	2441	Ant1	-48.68	-20	Pass
NVNT	3-DH5	2480	Ant1	-52.74	-20	Pass

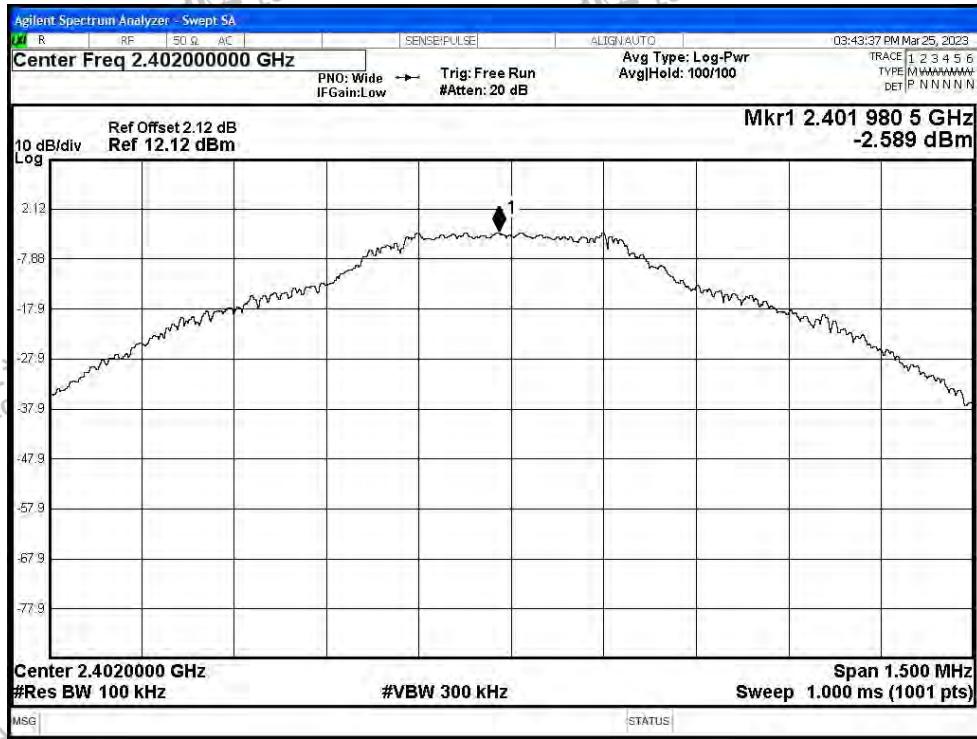


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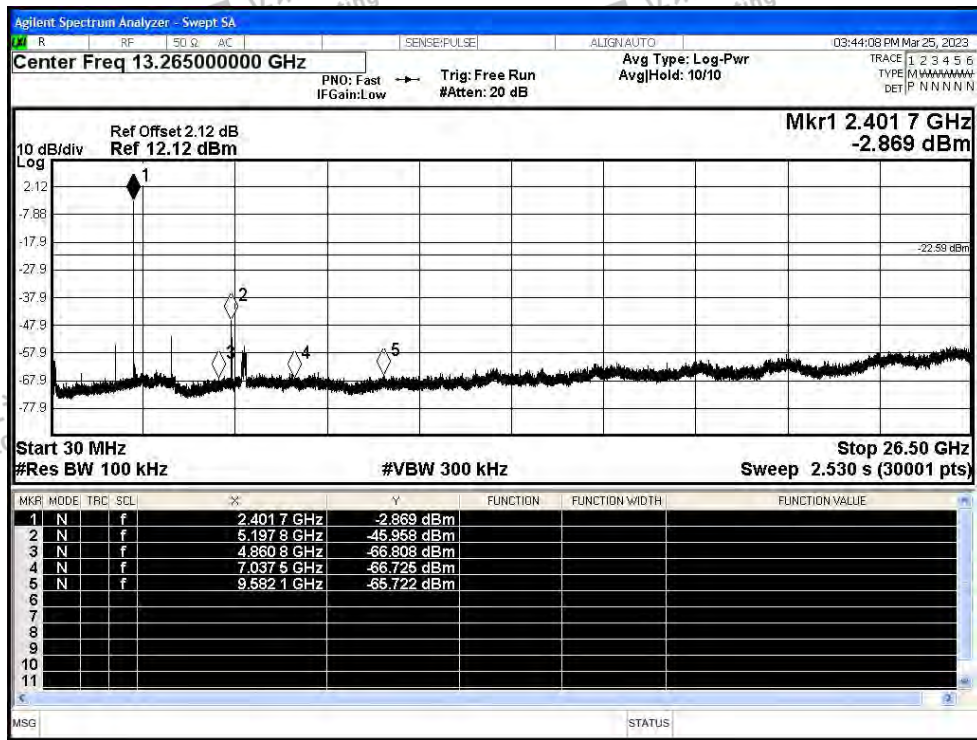


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

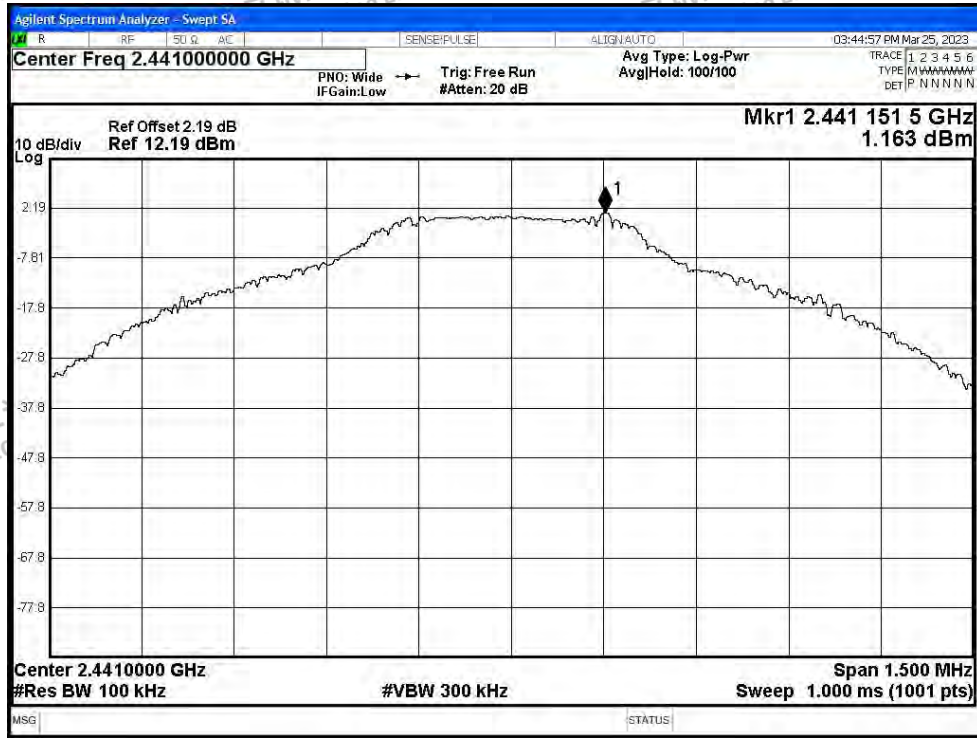


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

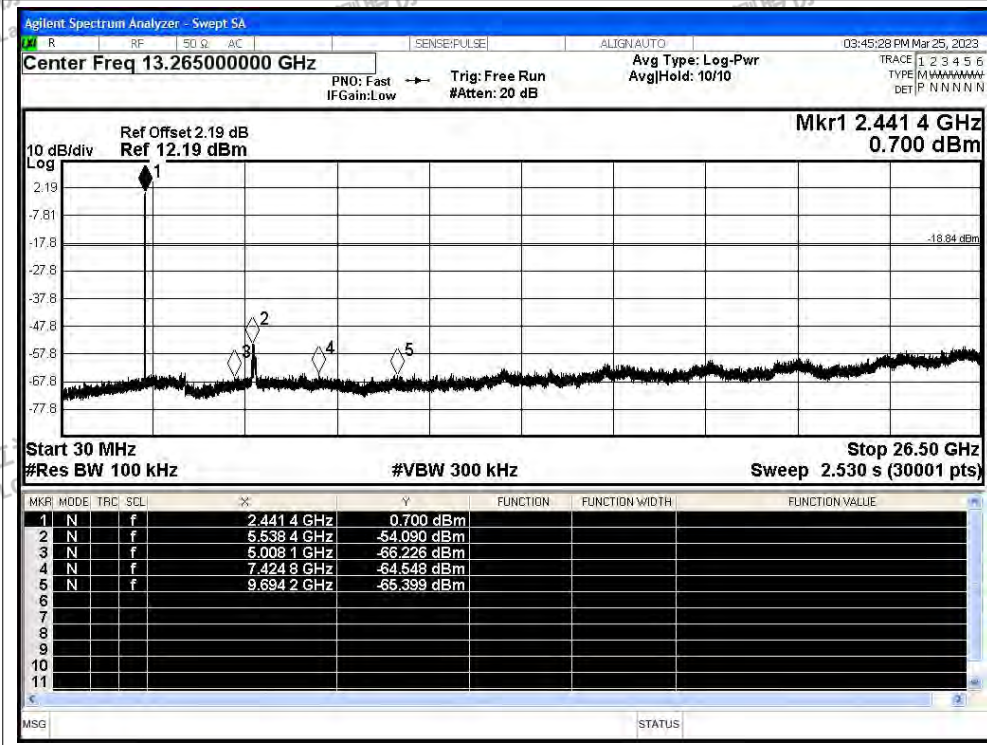




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

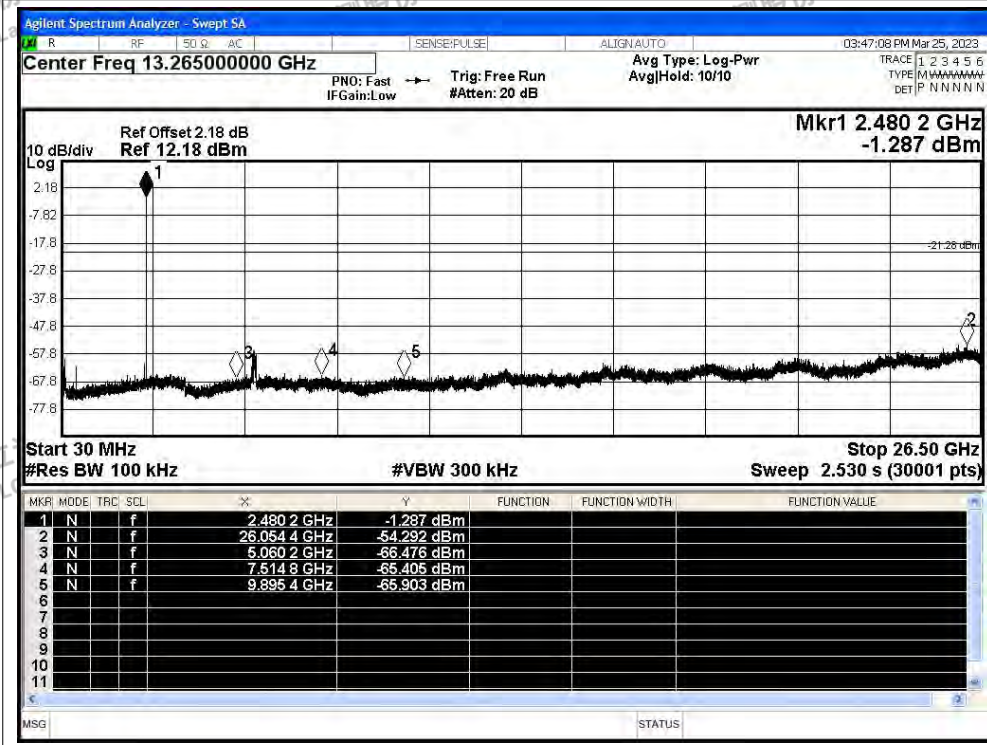




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

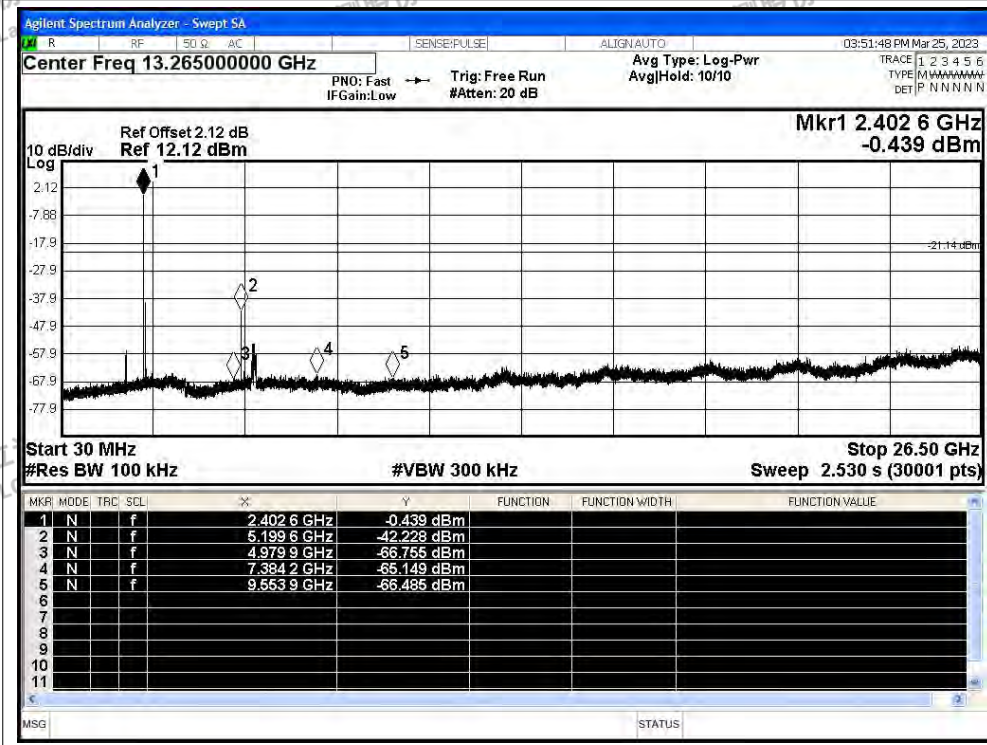




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

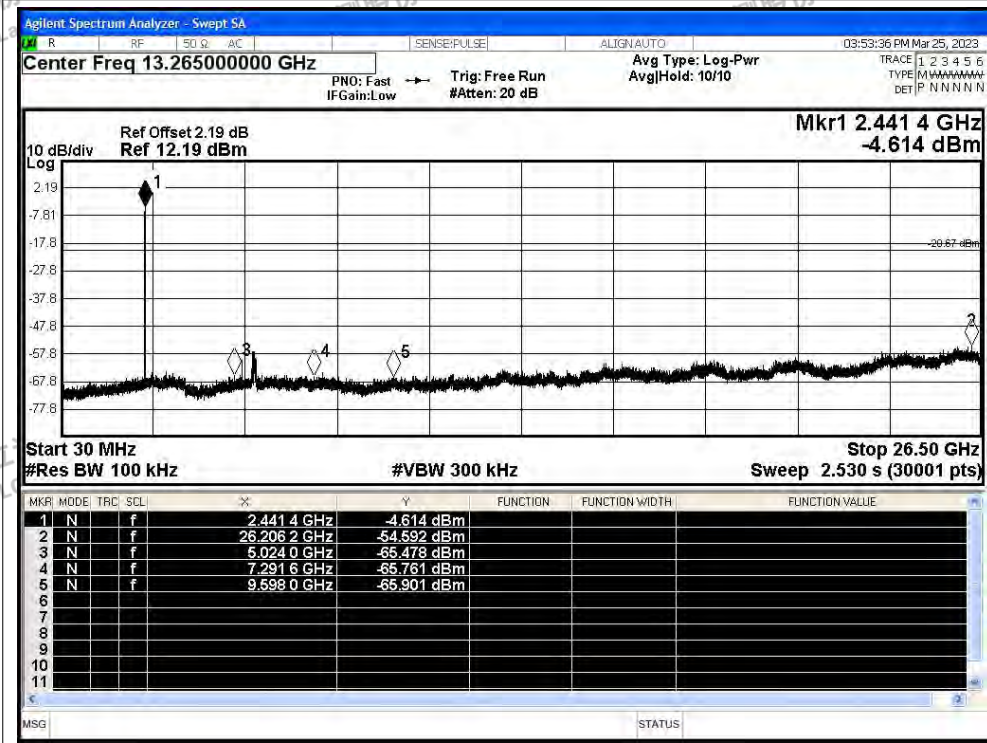




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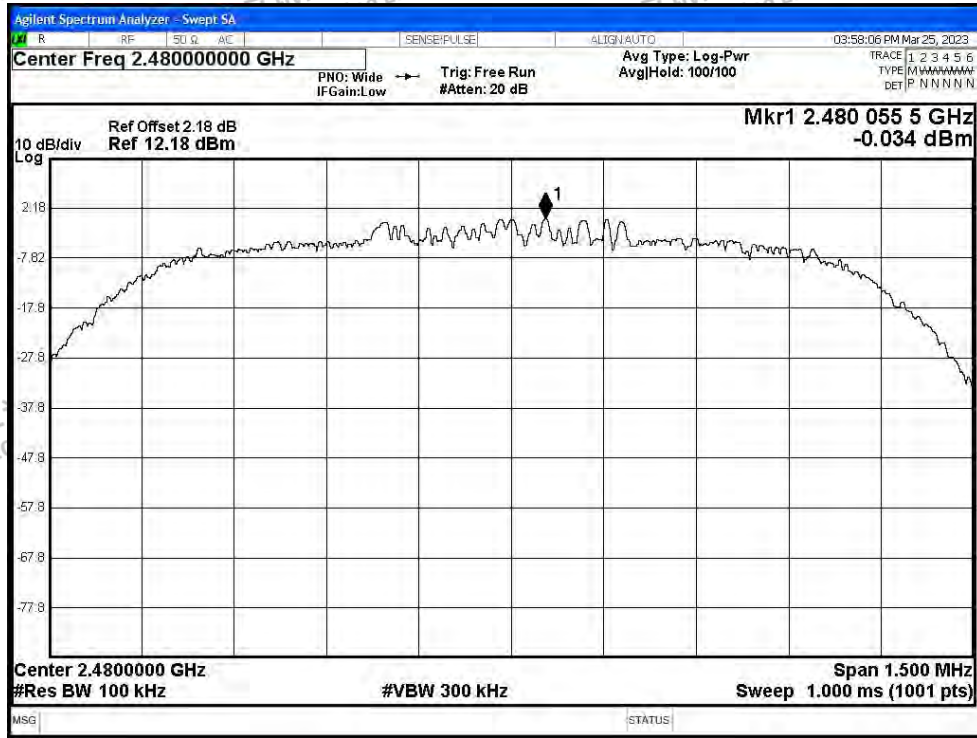


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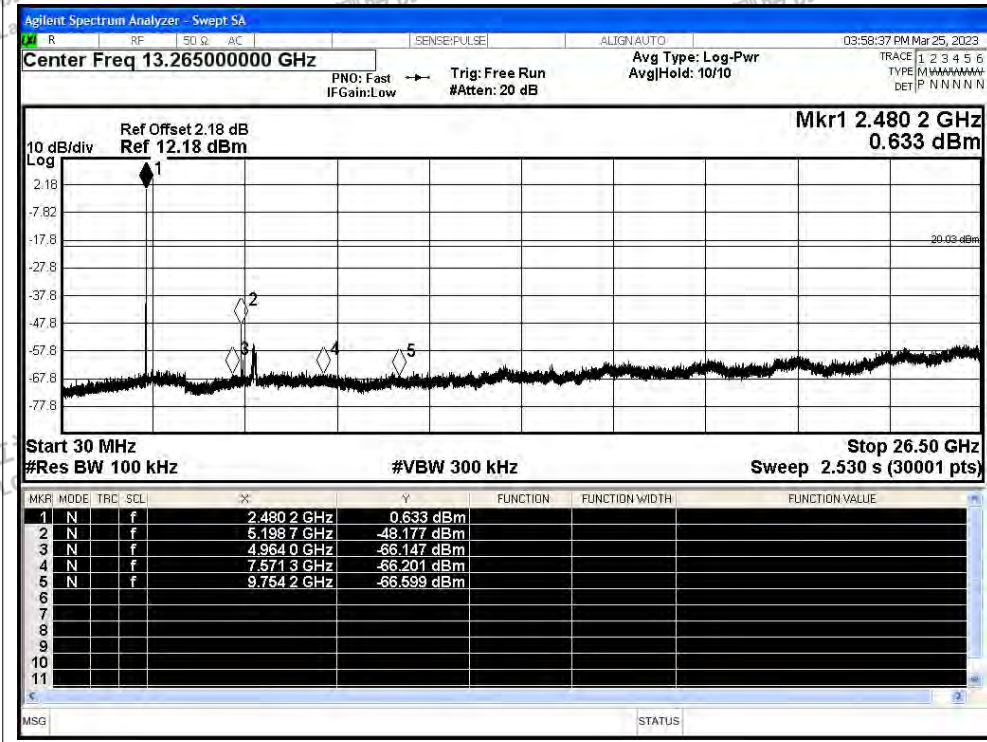




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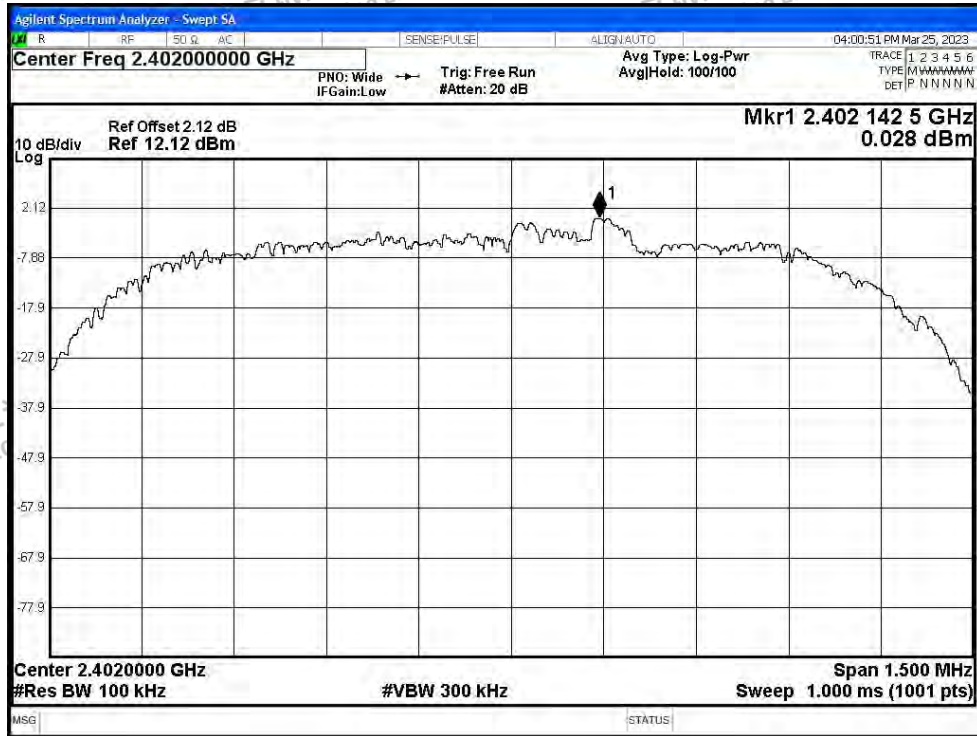


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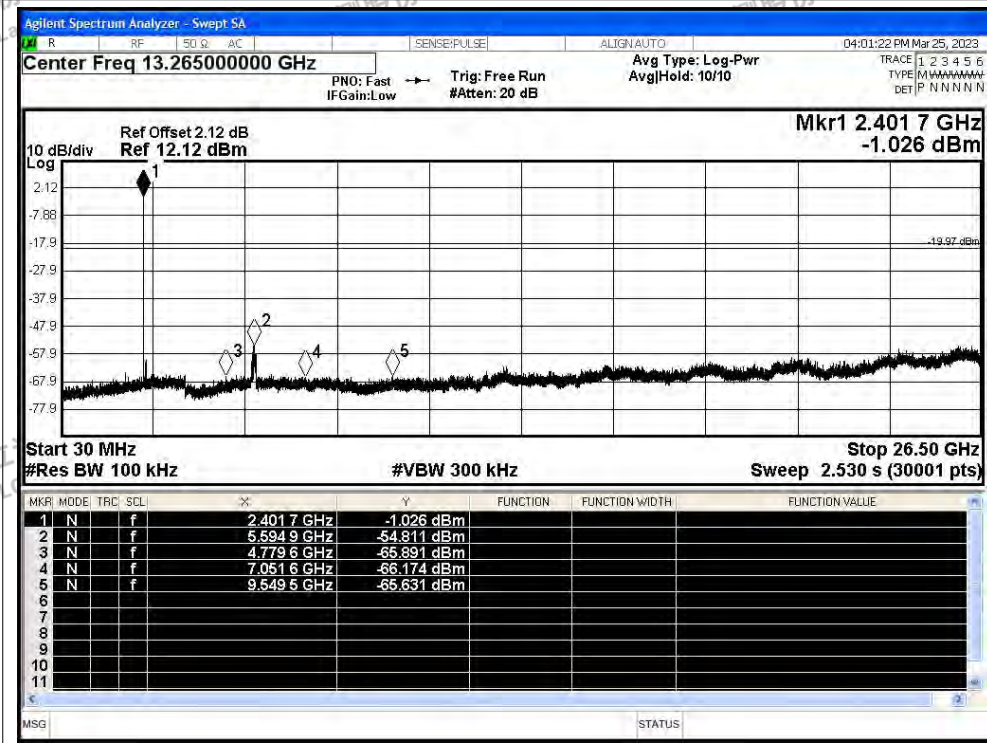




Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission

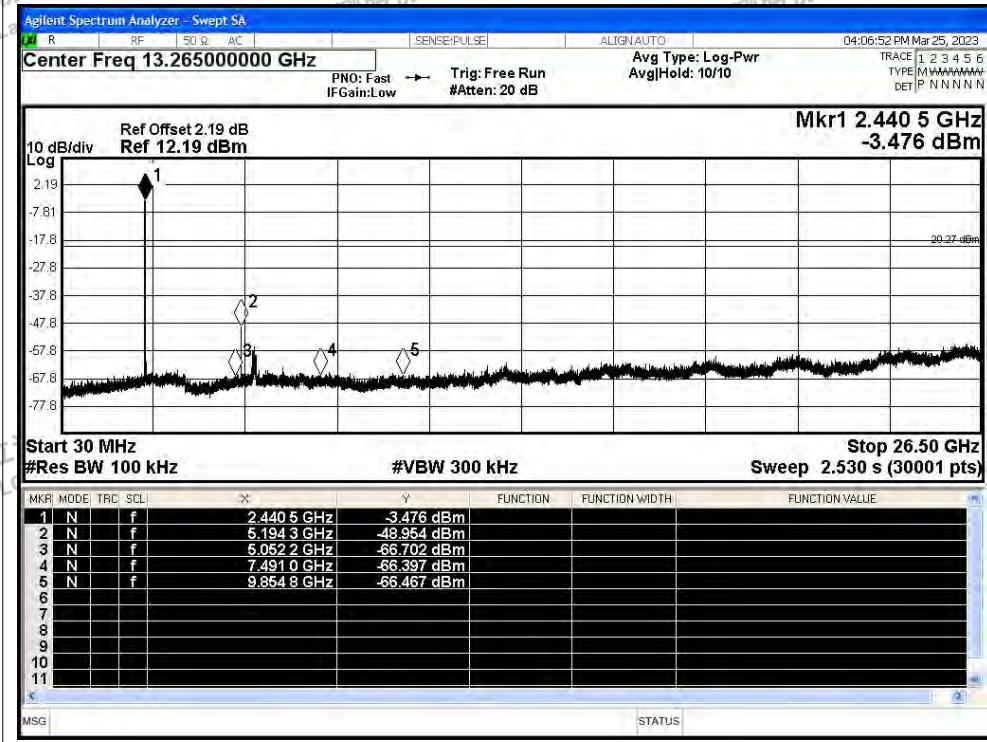




Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission

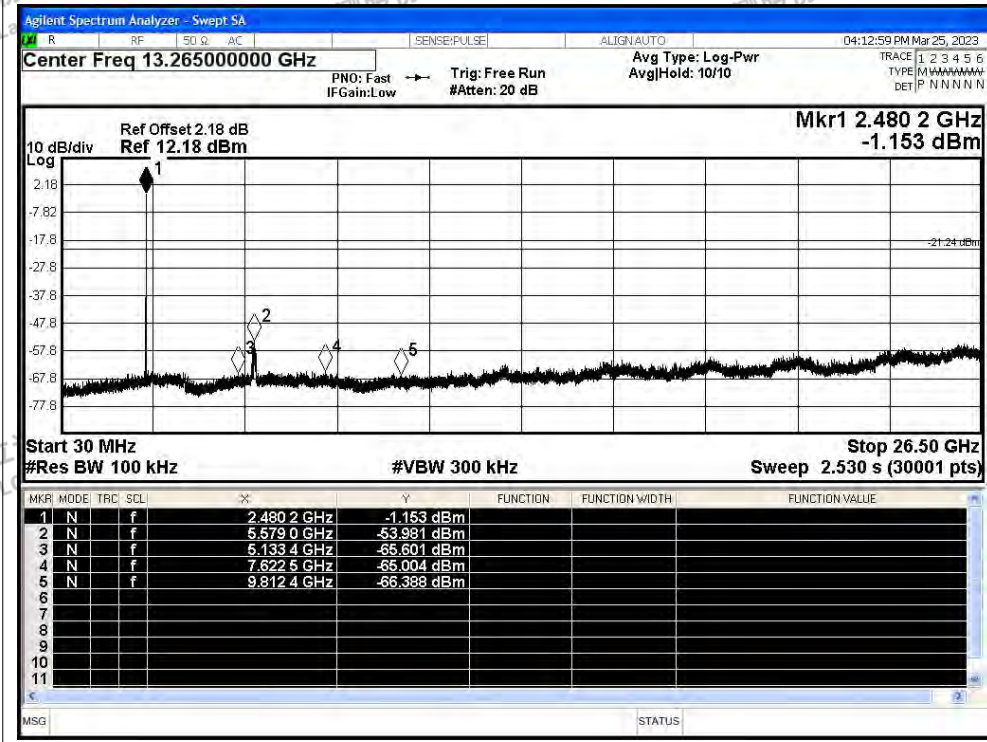




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



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	-52.29	2	44.97	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-60.26	2	37	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2373.072	-46.83	2	50.43	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2389.008	-59.71	2	37.55	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-49.42	2	47.84	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-60.05	2	37.21	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50.46	2	46.8	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-59.46	2	37.8	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2495.296	-47.04	2	50.22	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.56	-59.28	2	37.98	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.1	2	48.16	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-59.57	2	37.69	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.82	2	46.44	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-60.3	2	36.96	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2341.104	-46.86	2	50.4	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2388.336	-59.94	2	37.32	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.63	2	46.63	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-60	2	37.26	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-48.94	2	48.32	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-59.33	2	37.93	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2494.504	-46.7	2	50.56	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2484.424	-59.33	2	37.93	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.64	2	46.62	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-59.61	2	37.65	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-49.8	2	47.46	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-60.4	2	36.86	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2384.208	-47.74	2	49.52	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2385.744	-59.88	2	37.38	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-48.82	2	48.44	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-60.11	2	37.15	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-50.86	2	46.4	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-59.59	2	37.67	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2488.552	-47.35	2	49.91	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.752	-59.44	2	37.82	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-50.02	2	47.24	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-59.82	2	37.44	Average	54	Pass

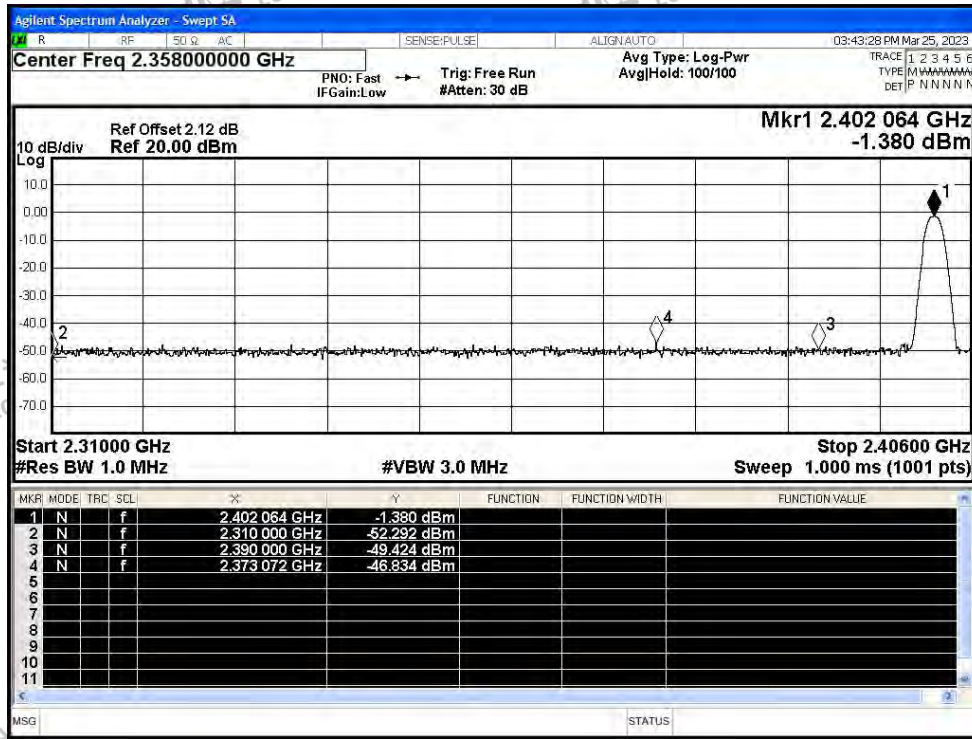


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 Scan code to check authenticity

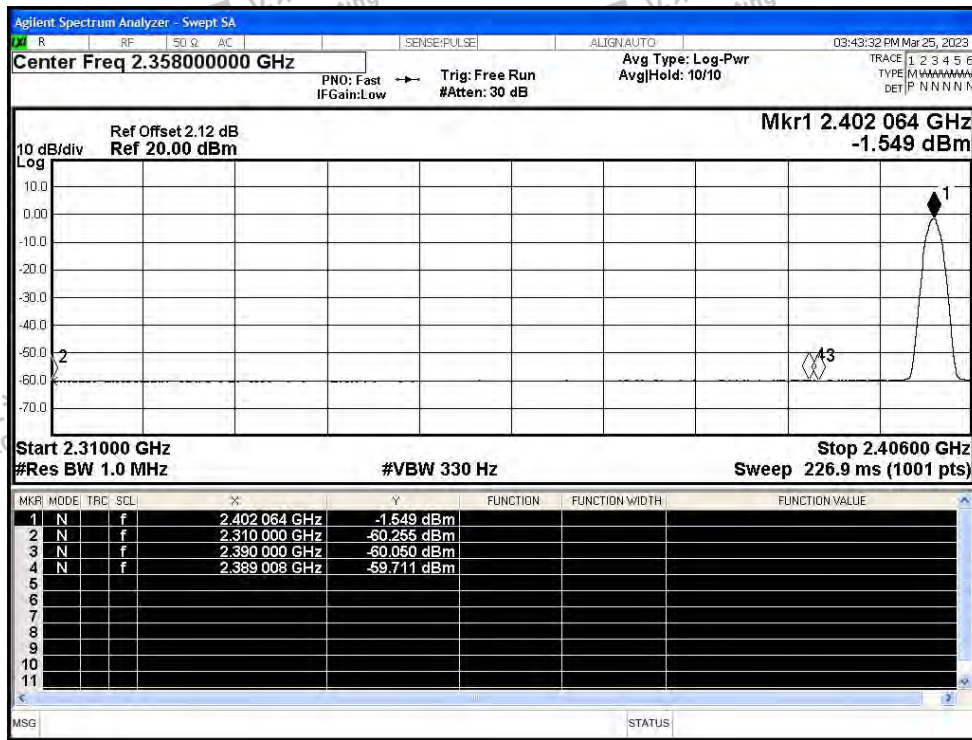


Test Graphs

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

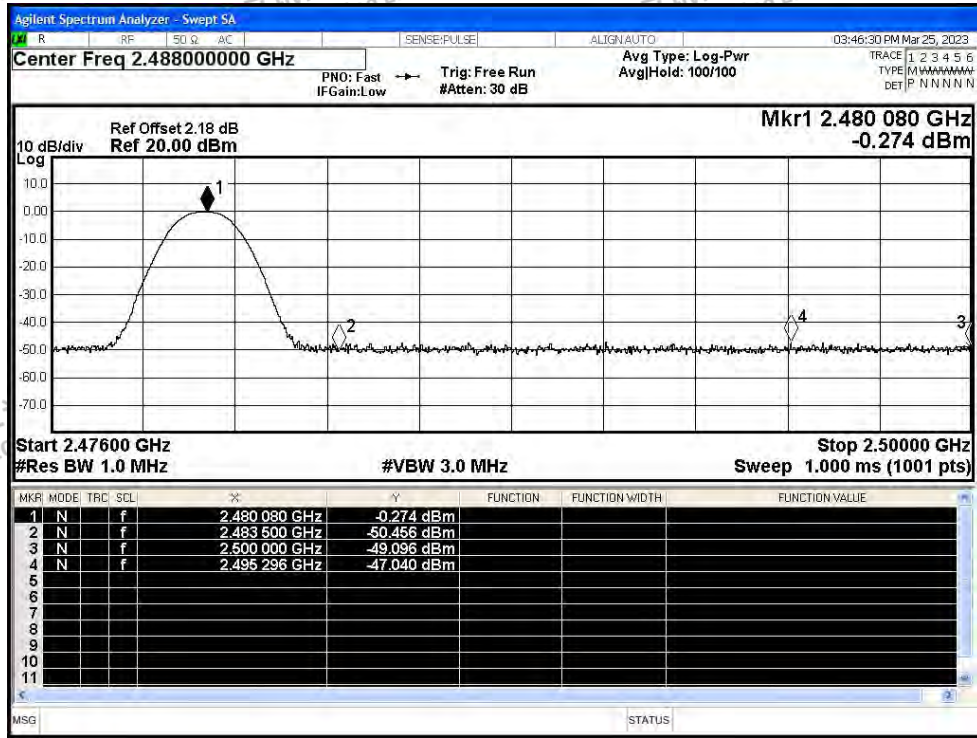


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

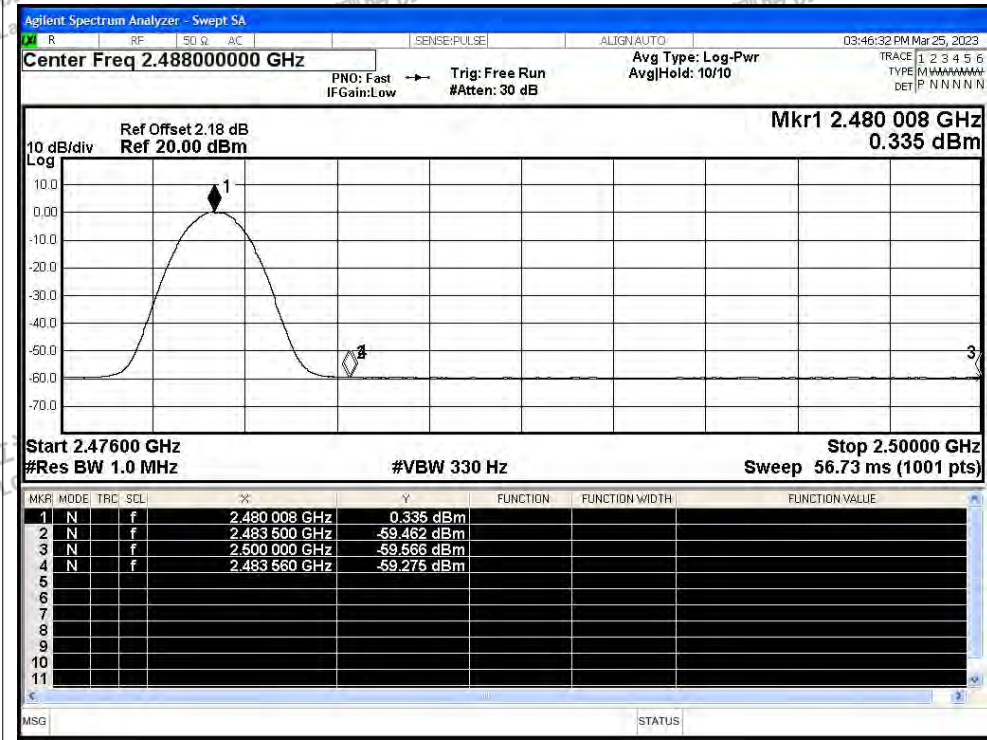




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

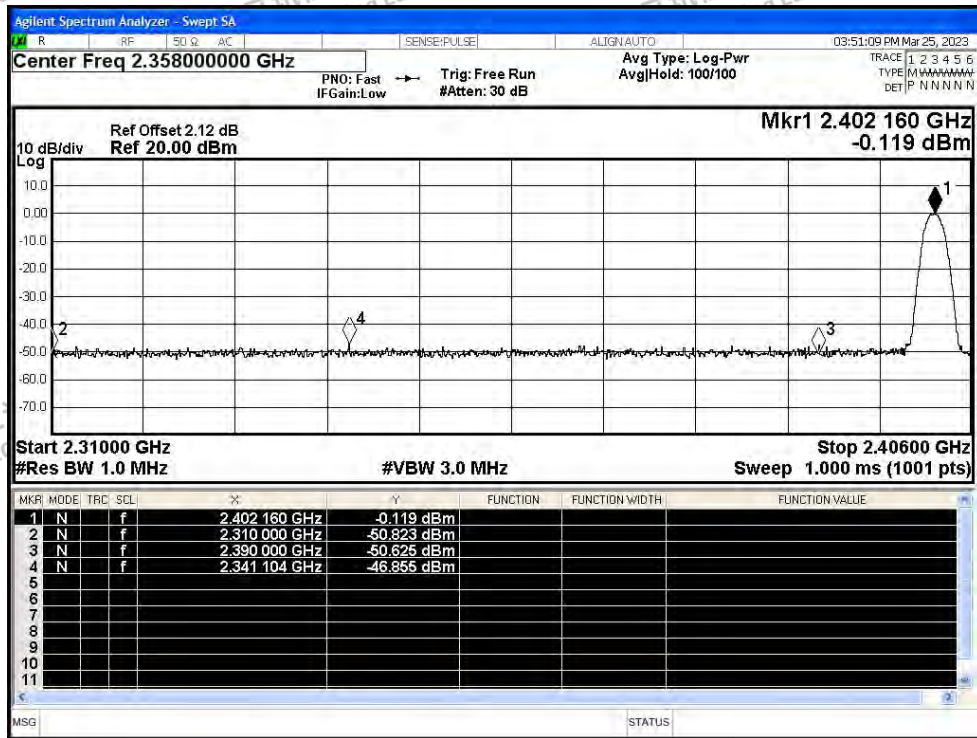


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

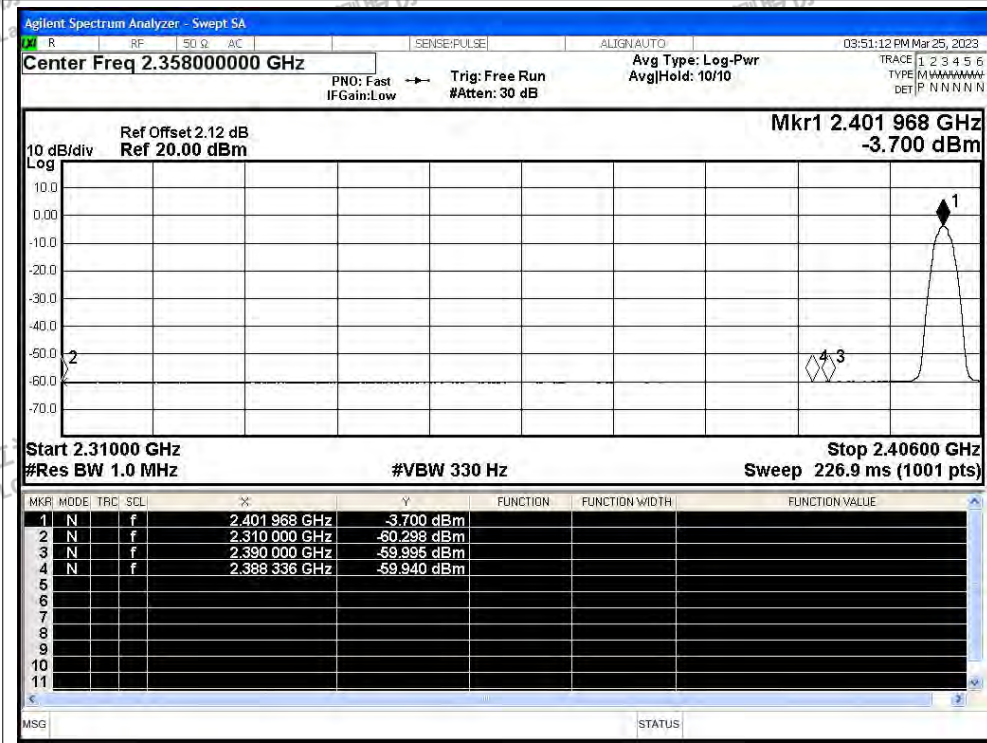




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

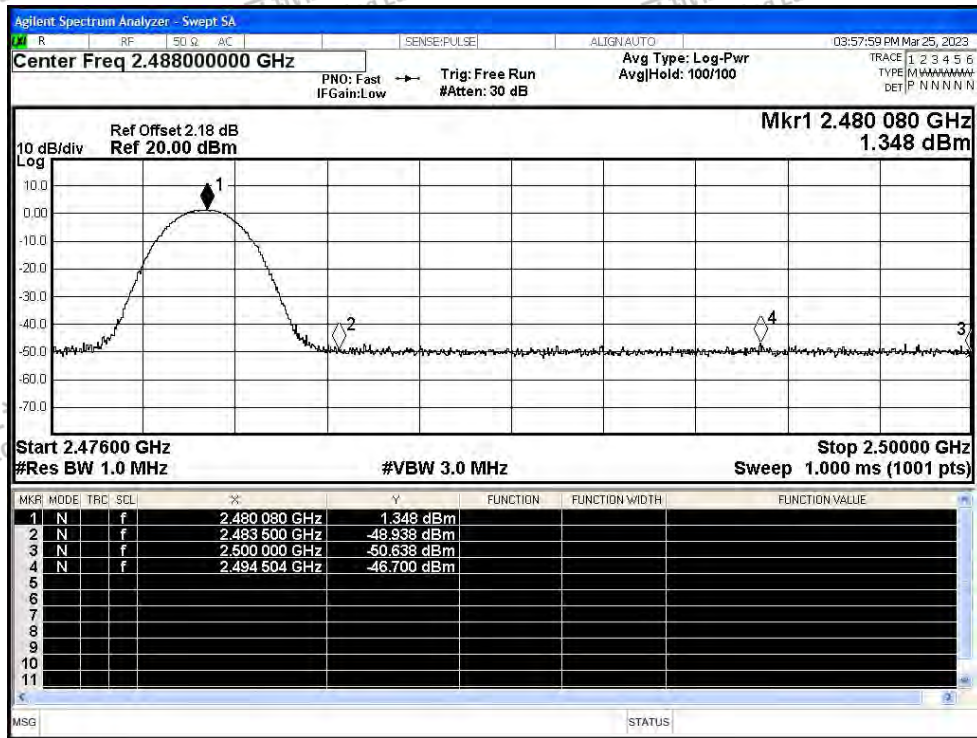


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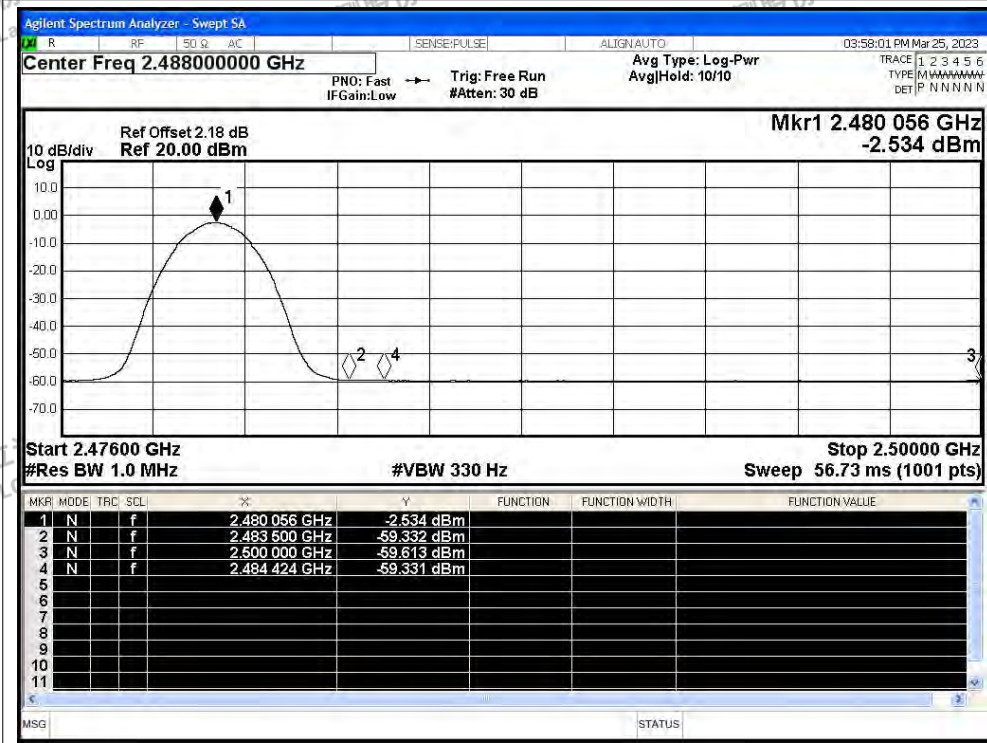




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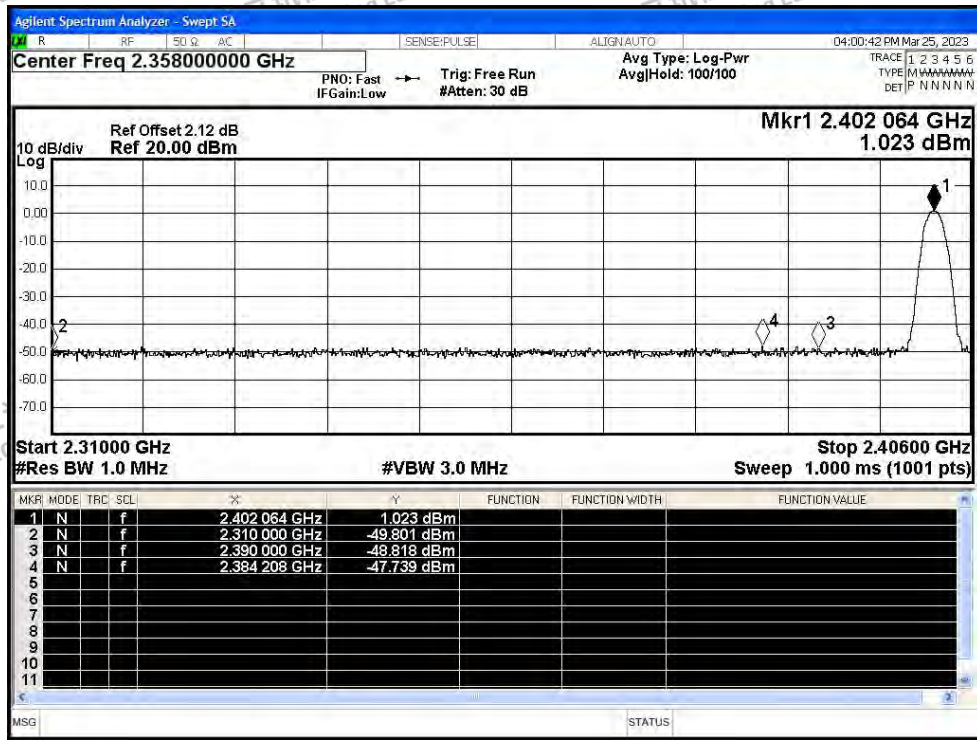


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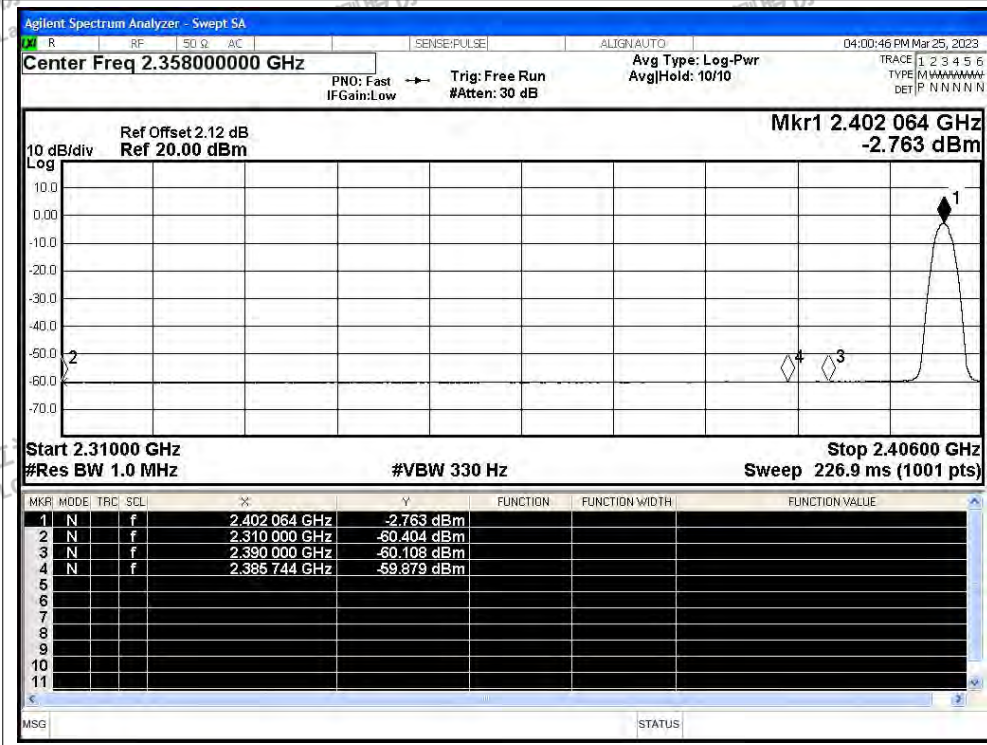




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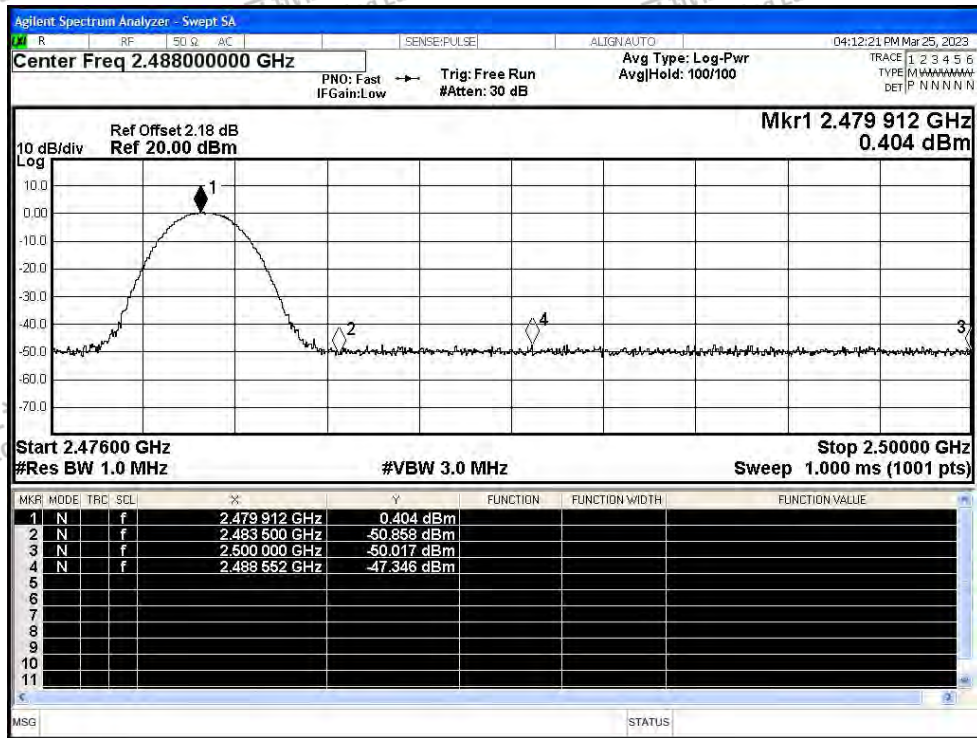


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average





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



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

