



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Wireless earbuds

Test Model: BSTWS43

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	0.953	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.936	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.942	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.26	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.264	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.285	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.253	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.252	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.289	N/A	Pass

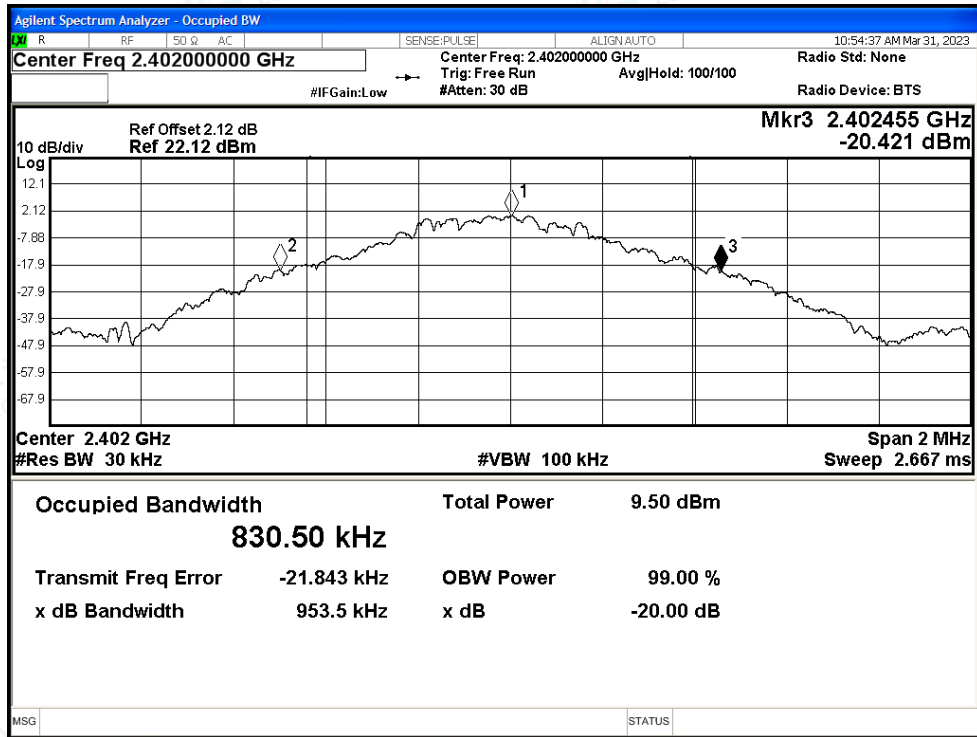


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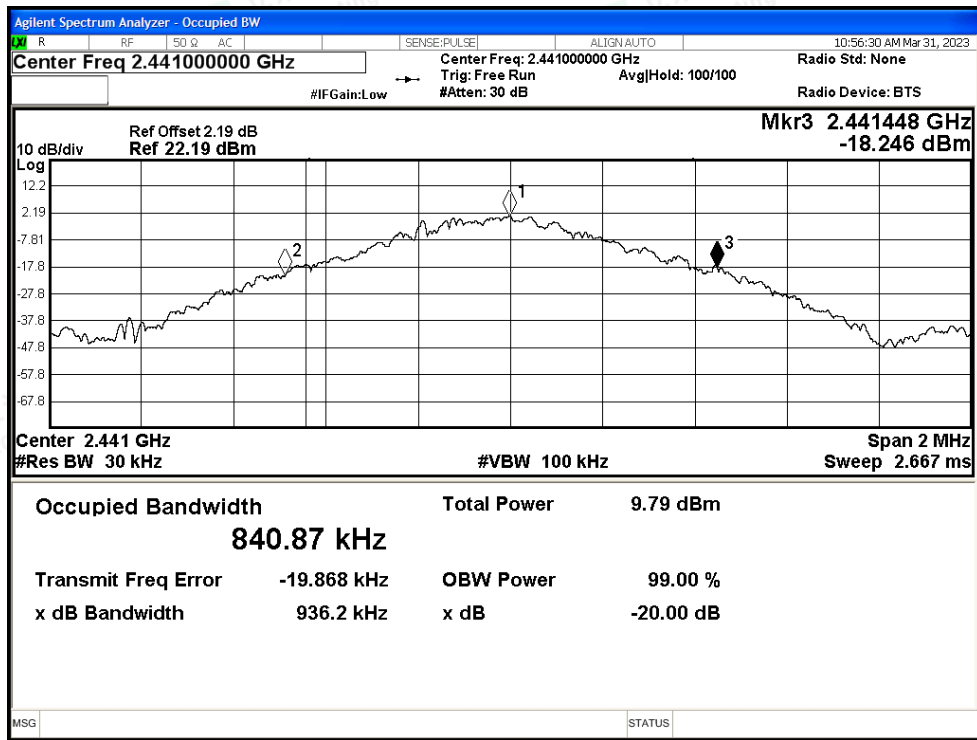


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

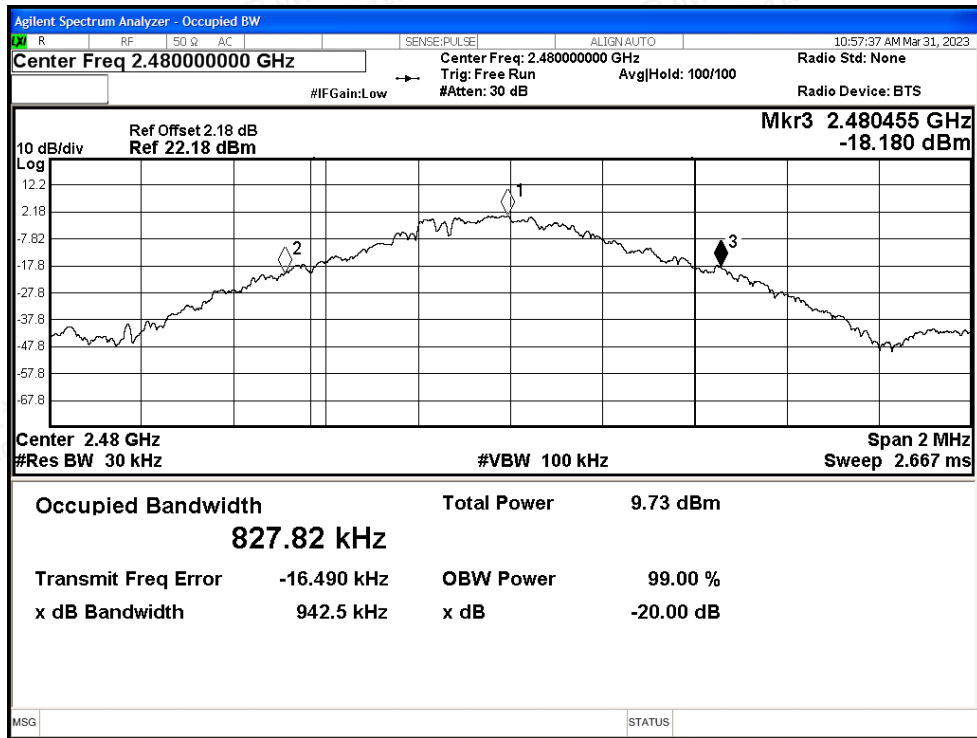


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

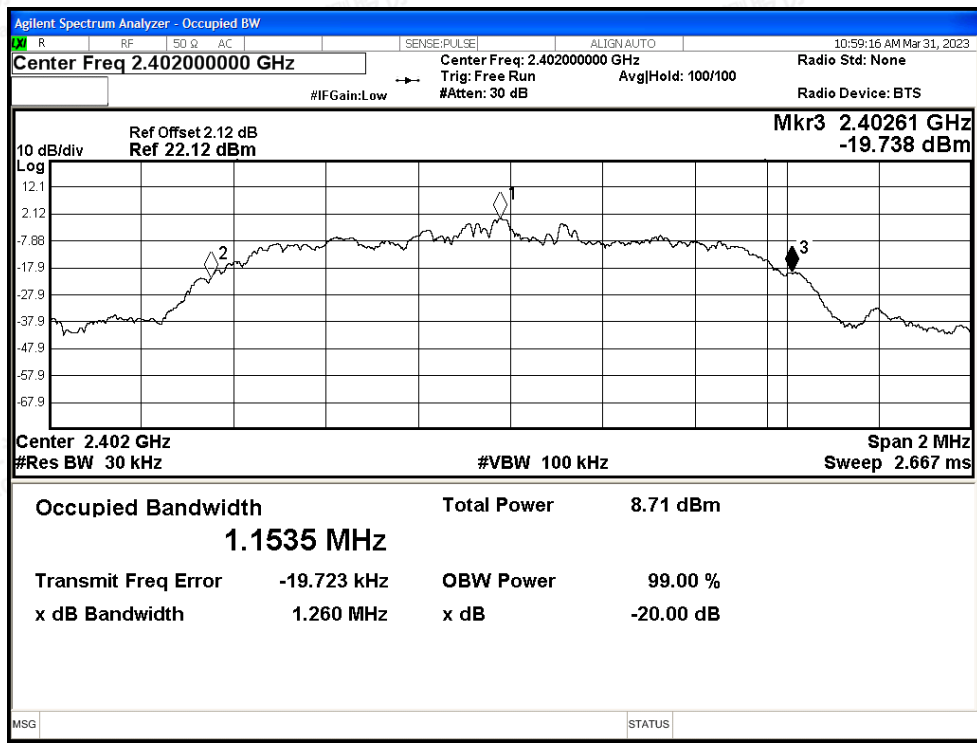




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

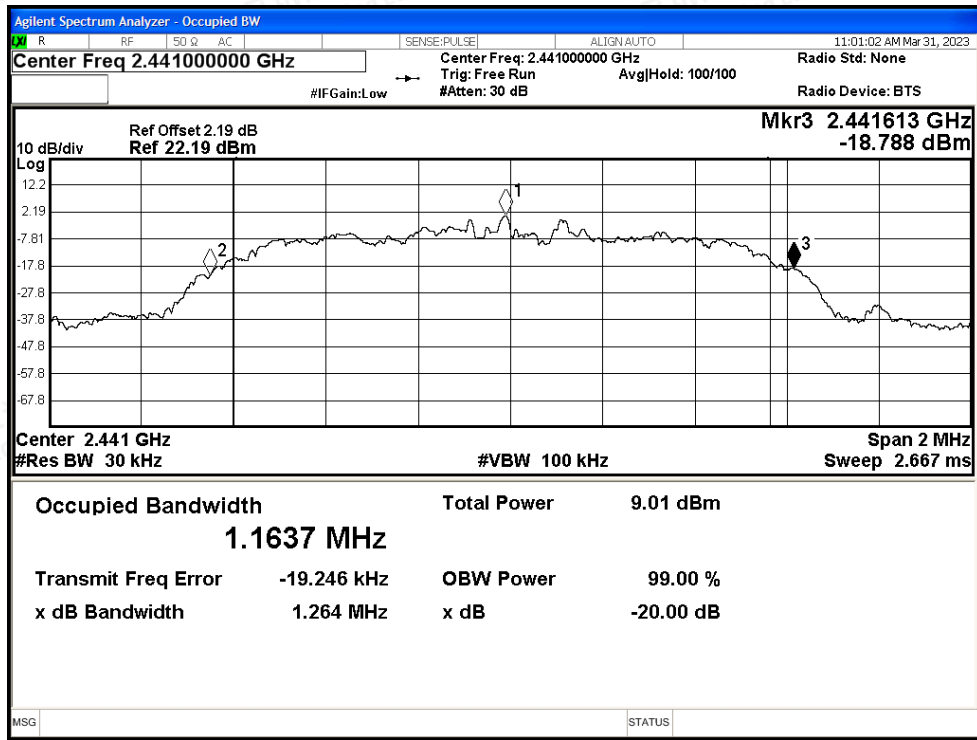


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

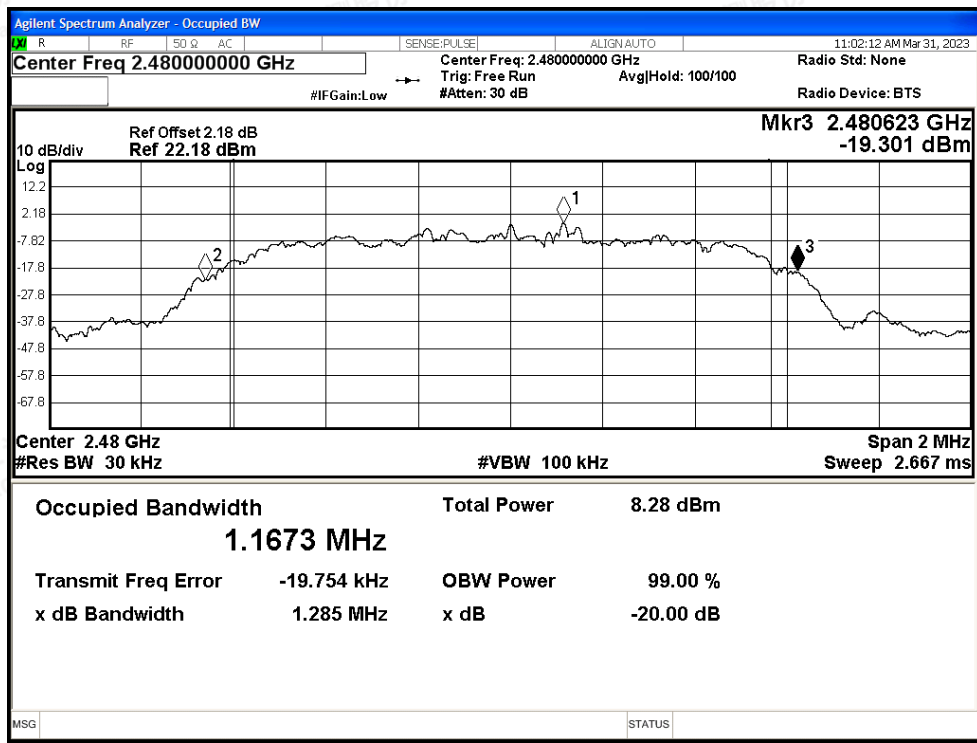




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

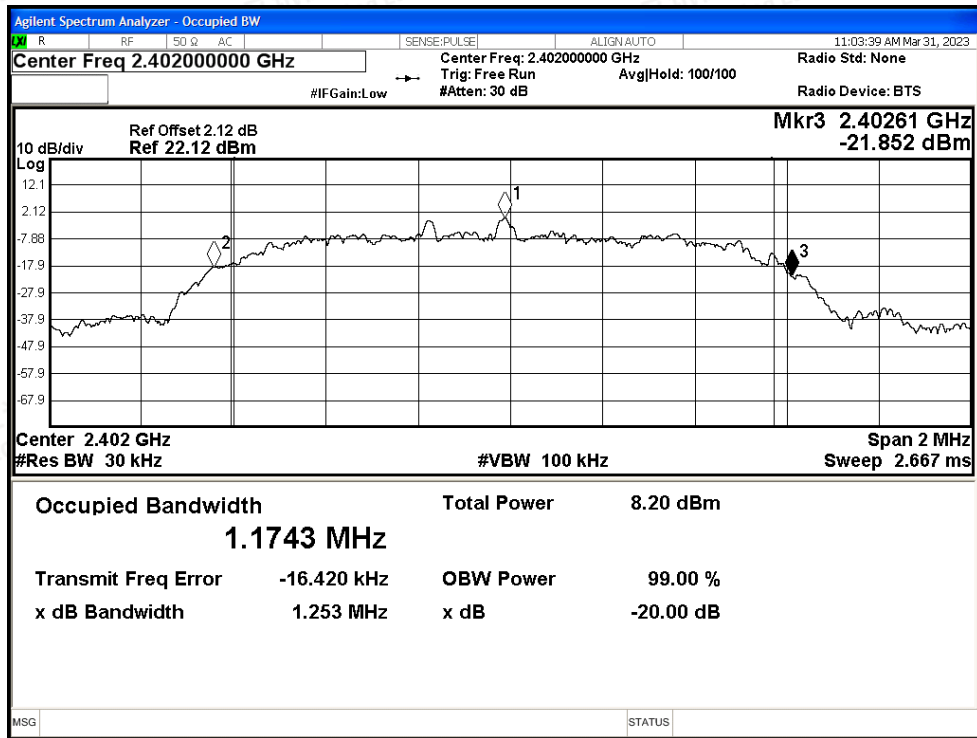


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

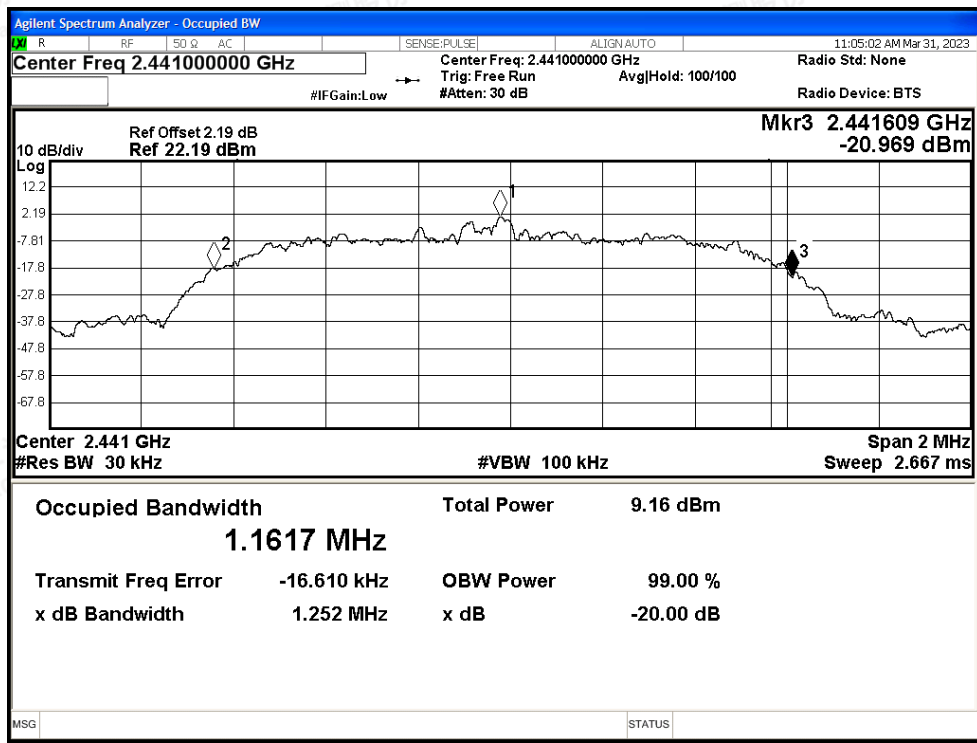




-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1

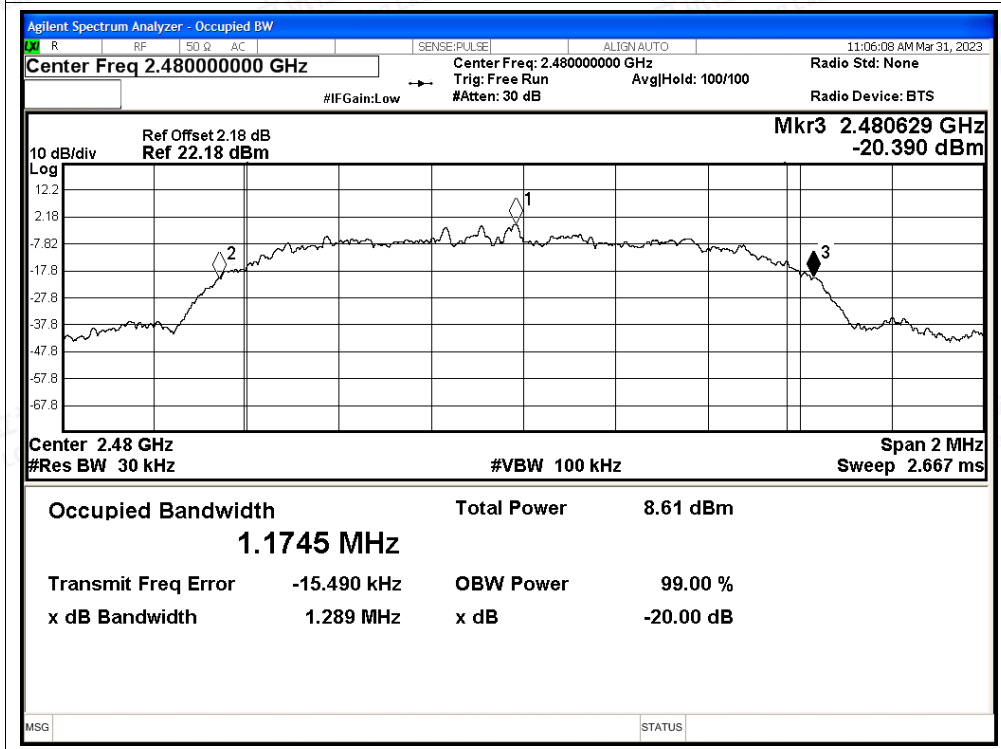


-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1





A.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	3.14	21	Pass
NVNT	1-DH5	2441	Ant1	3.78	21	Pass
NVNT	1-DH5	2480	Ant1	3.44	21	Pass
NVNT	2-DH5	2402	Ant1	4.09	21	Pass
NVNT	2-DH5	2441	Ant1	4.65	21	Pass
NVNT	2-DH5	2480	Ant1	4.29	21	Pass
NVNT	3-DH5	2402	Ant1	4.72	21	Pass
NVNT	3-DH5	2441	Ant1	5.3	21	Pass
NVNT	3-DH5	2480	Ant1	4.89	21	Pass

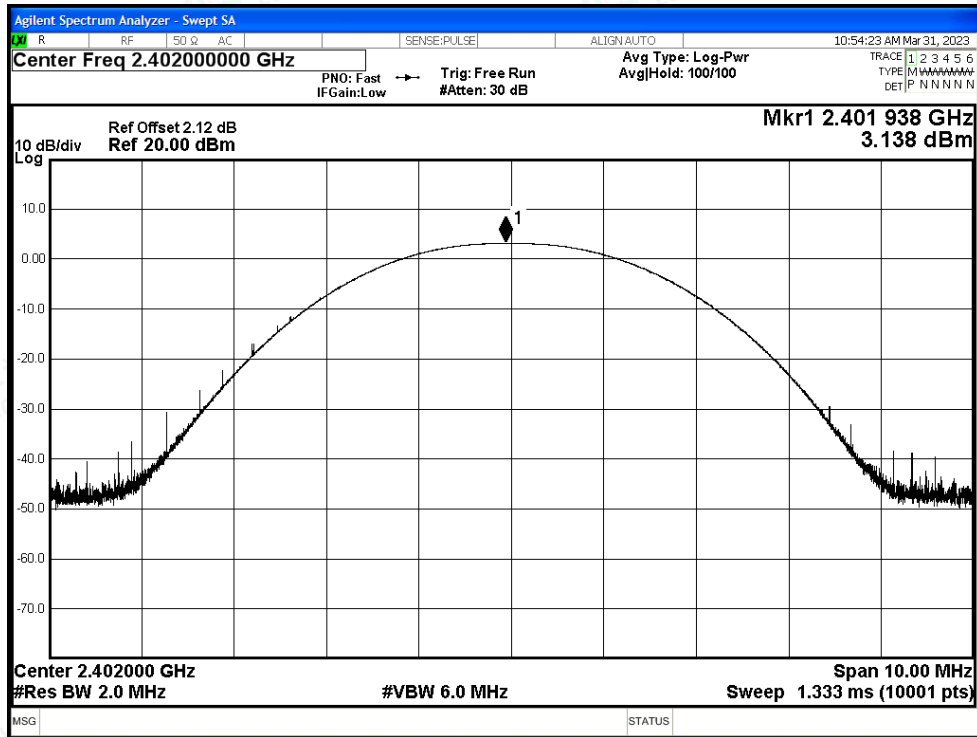


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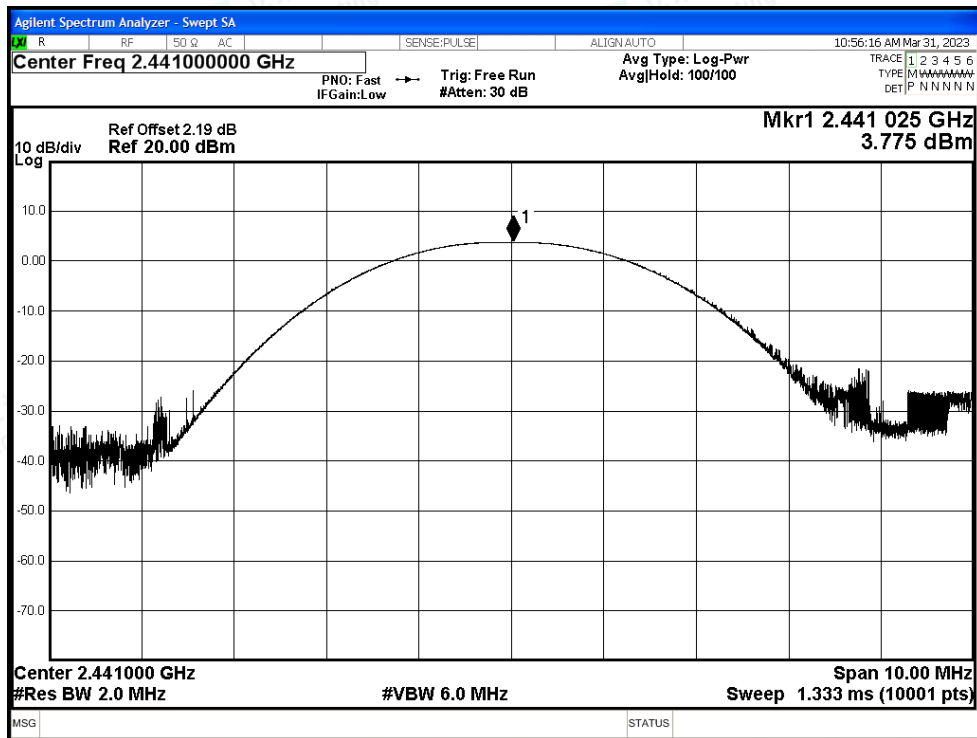


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

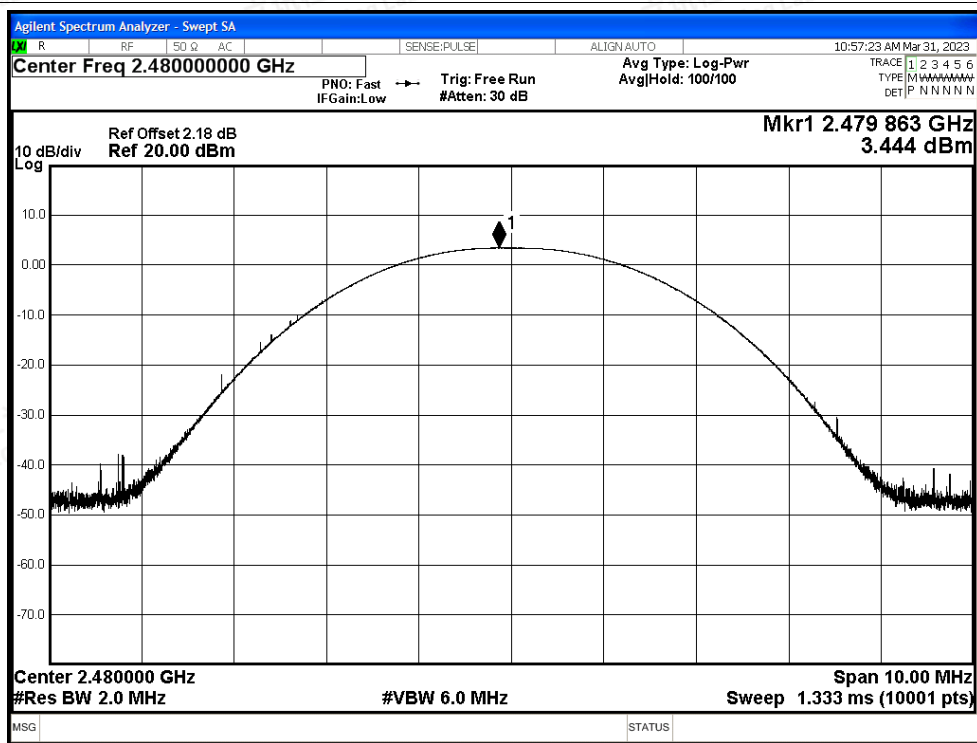


Power NVNT 1-DH5 2441MHz Ant1

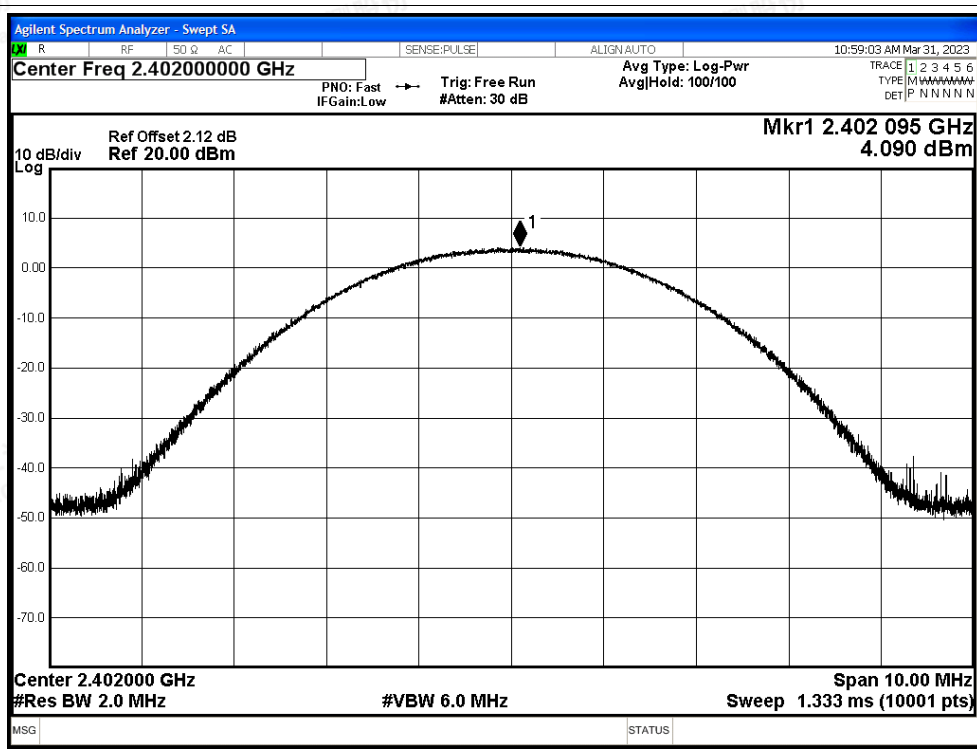




Power NVNT 1-DH5 2480MHz Ant1

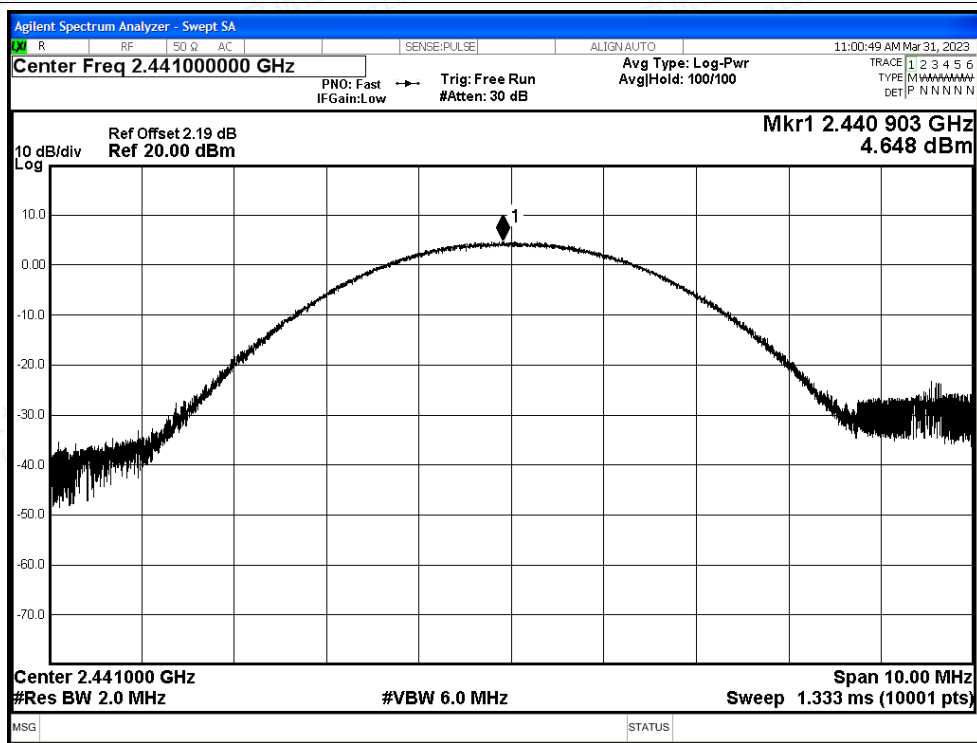


Power NVNT 2-DH5 2402MHz Ant1

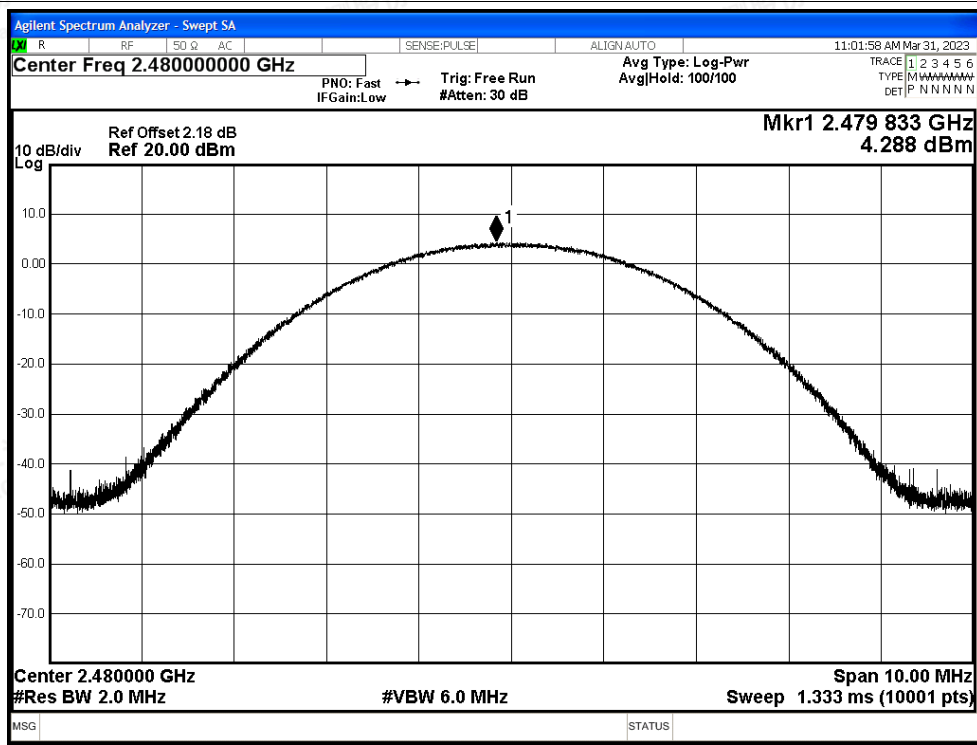




Power NVNT 2-DH5 2441MHz Ant1

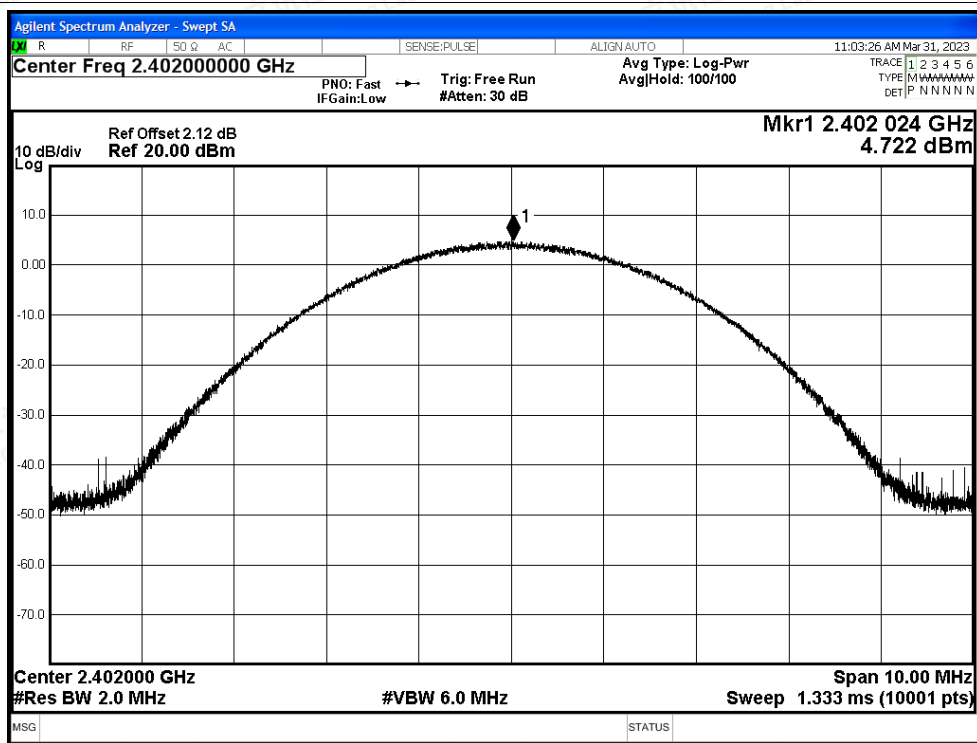


Power NVNT 2-DH5 2480MHz Ant1

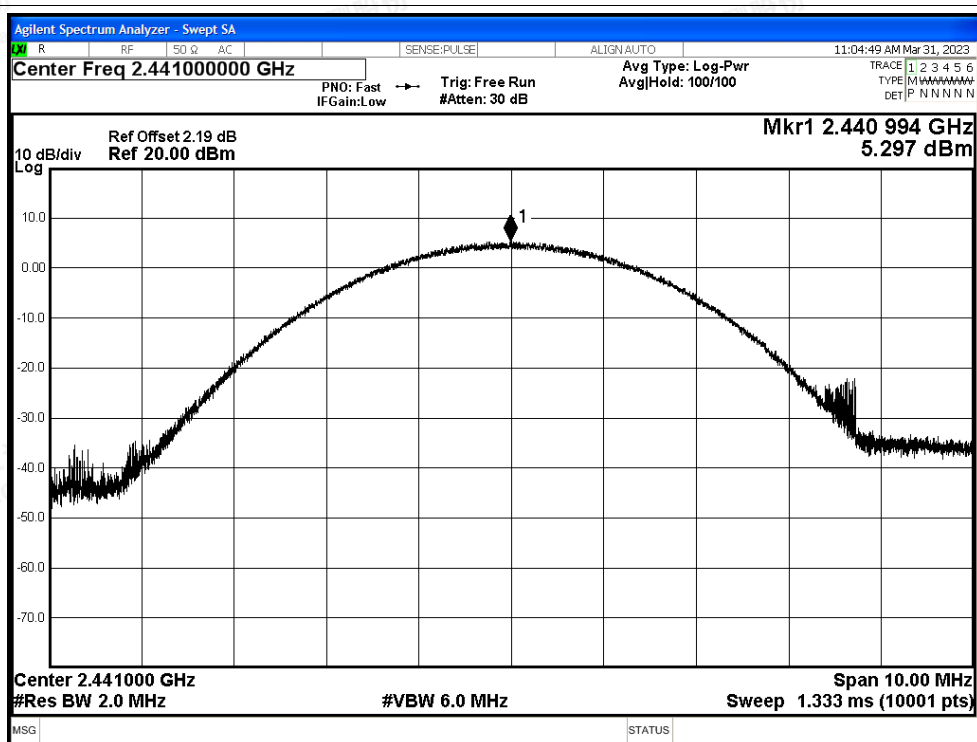


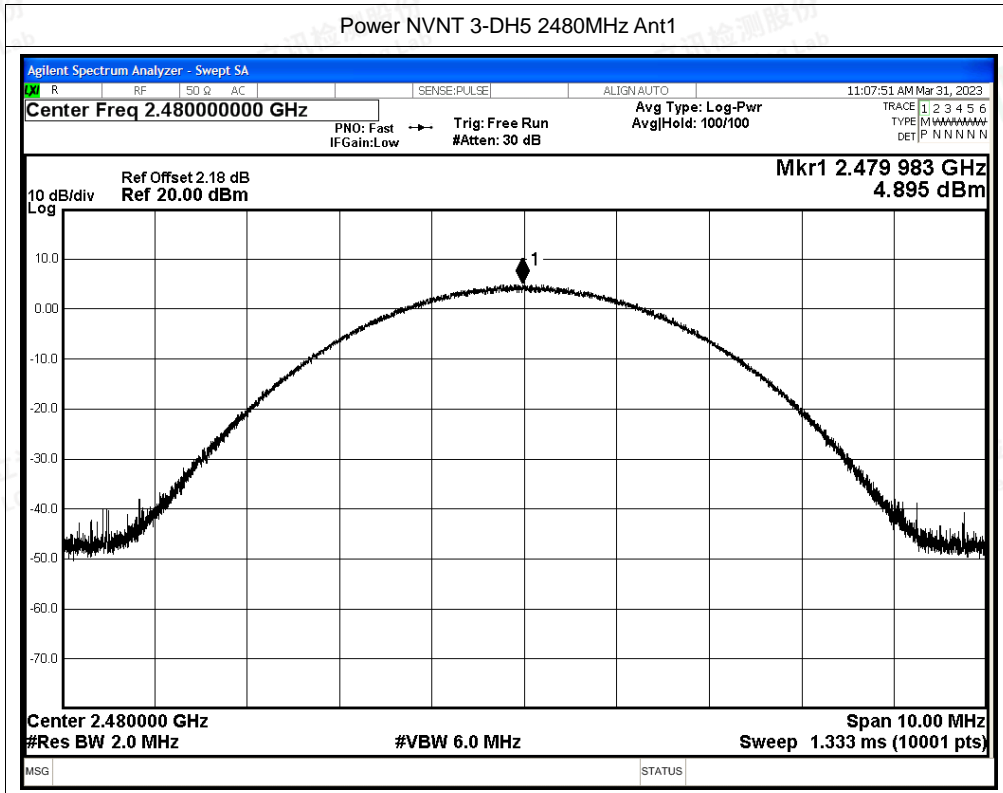


Power NVNT 3-DH5 2402MHz Ant1



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	2402.002	2403	0.998	0.636	Pass
NVNT	2-DH5	Ant1	2401.986	2403.1	1.114	0.857	Pass
NVNT	3-DH5	Ant1	2401.98	2402.978	0.998	0.860	Pass

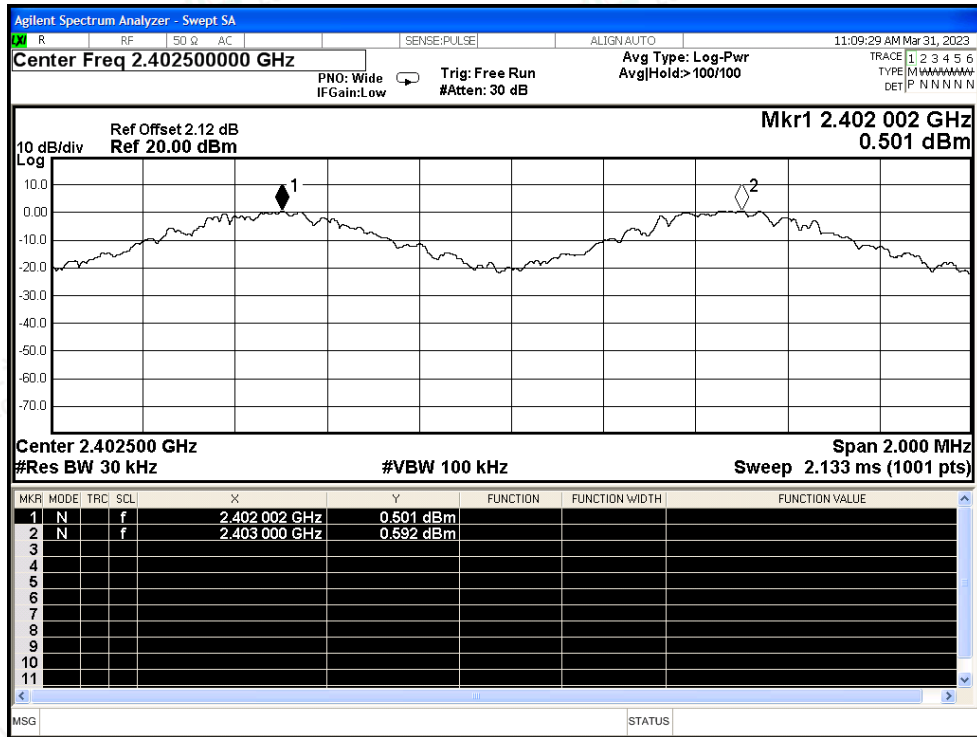


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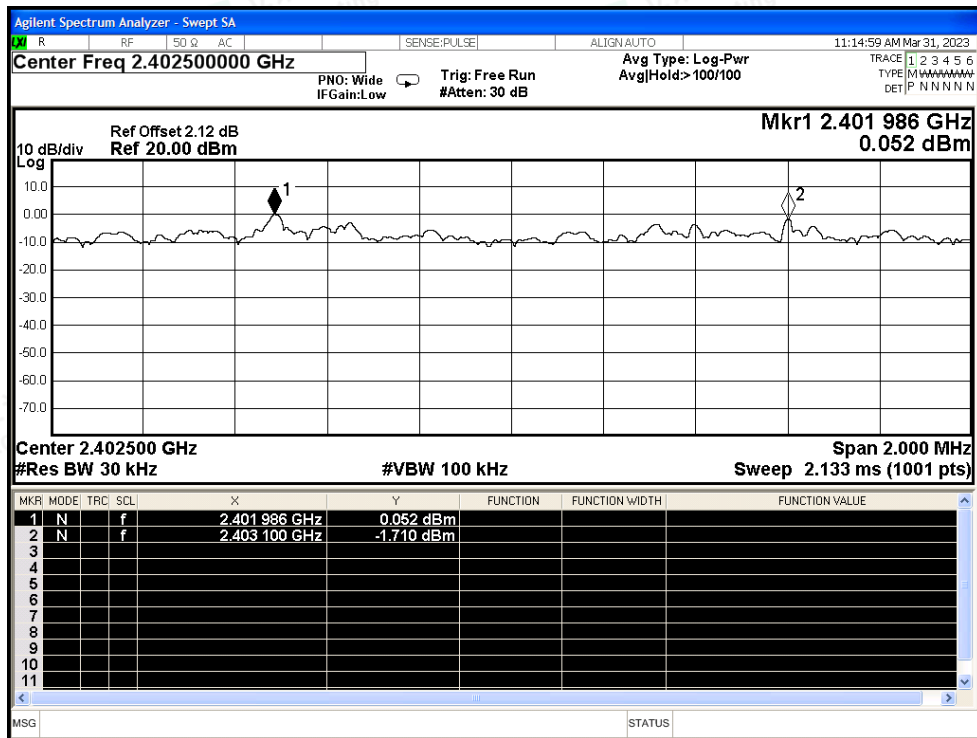


Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1

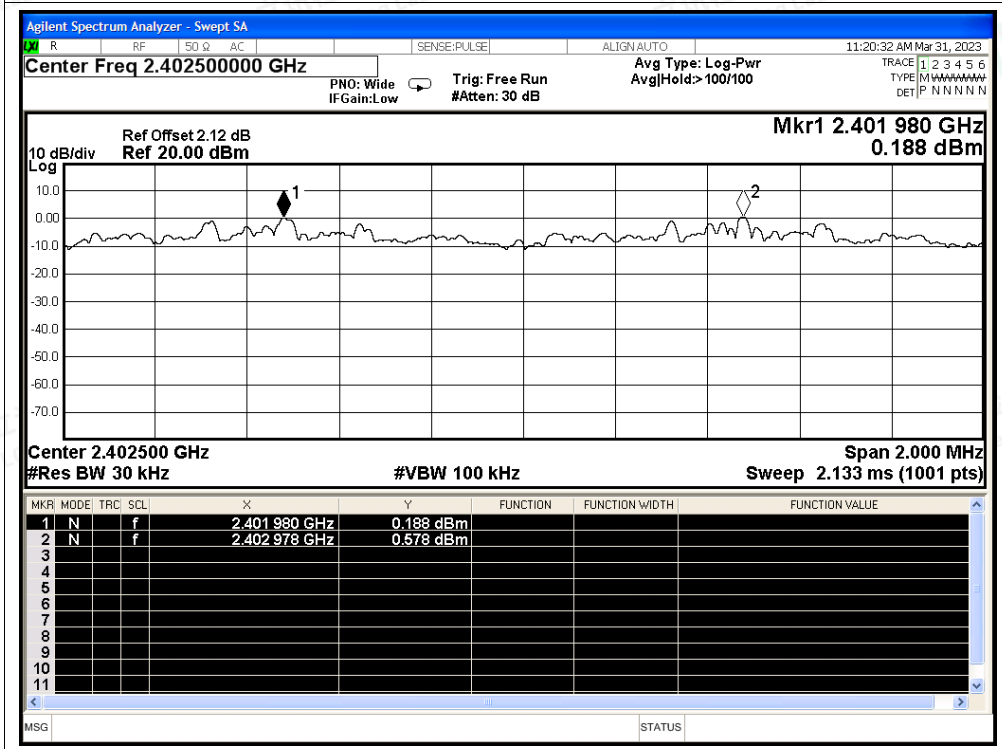


CFS NVNT 2-DH5 2402MHz Ant1





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	0.499	52.395	105	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.895	324.24	112	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	295.494	102	31600	400	Pass

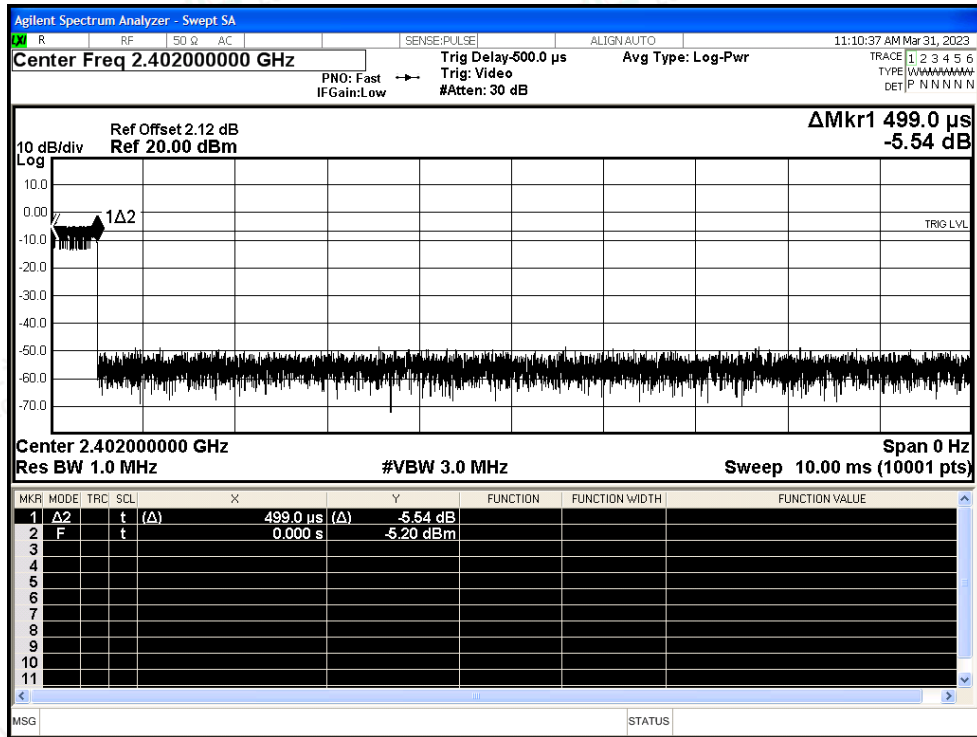


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Scan code to check authenticity

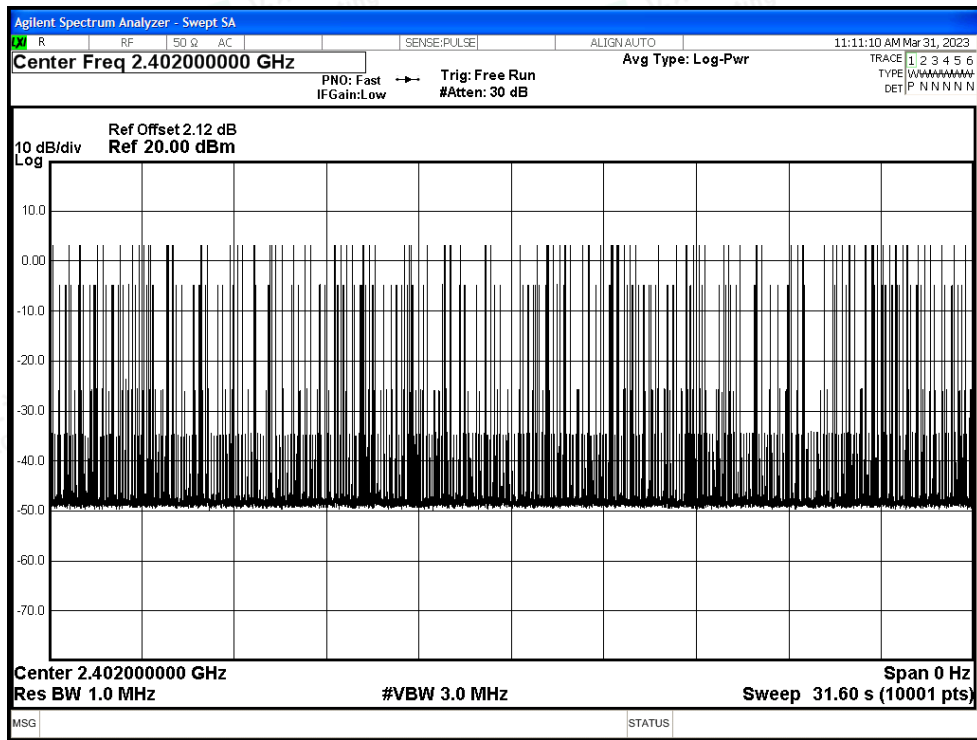


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

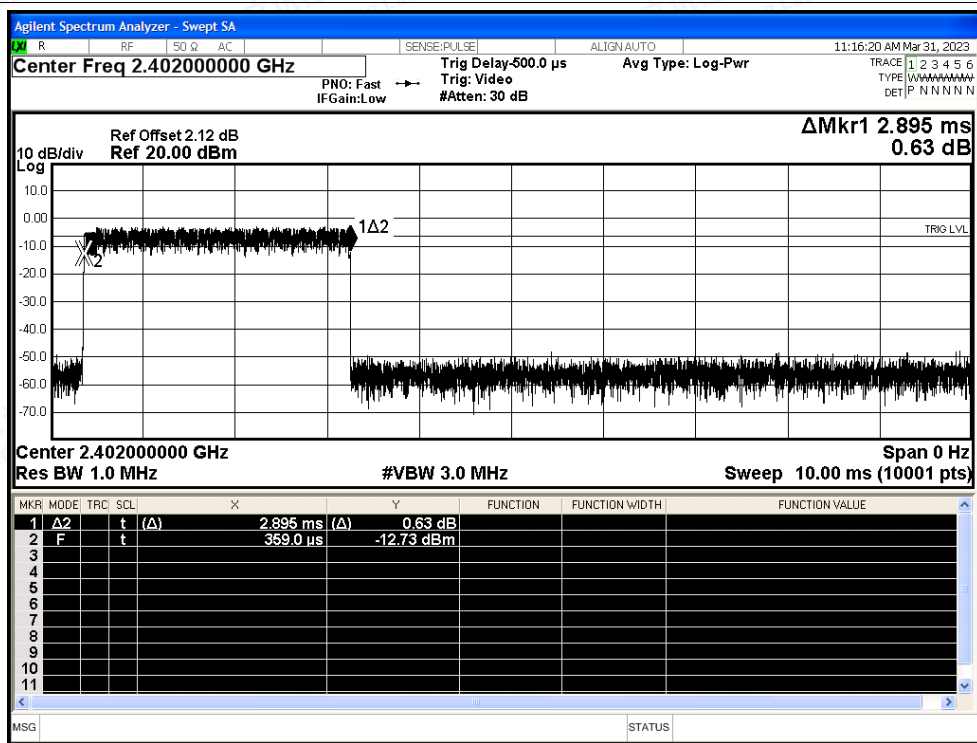


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

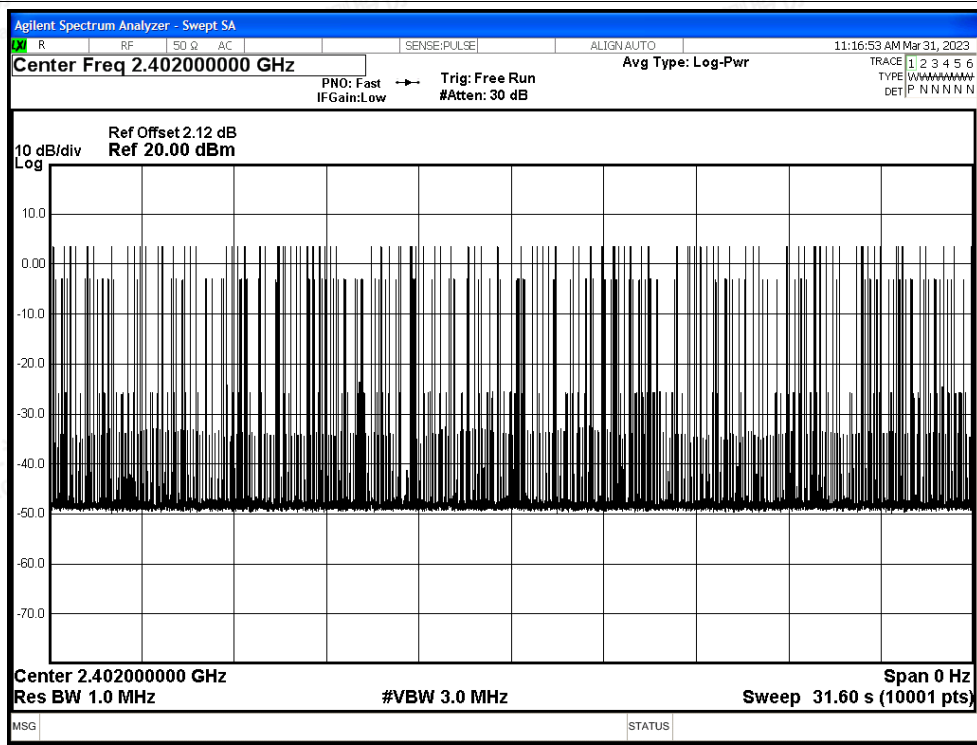




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst

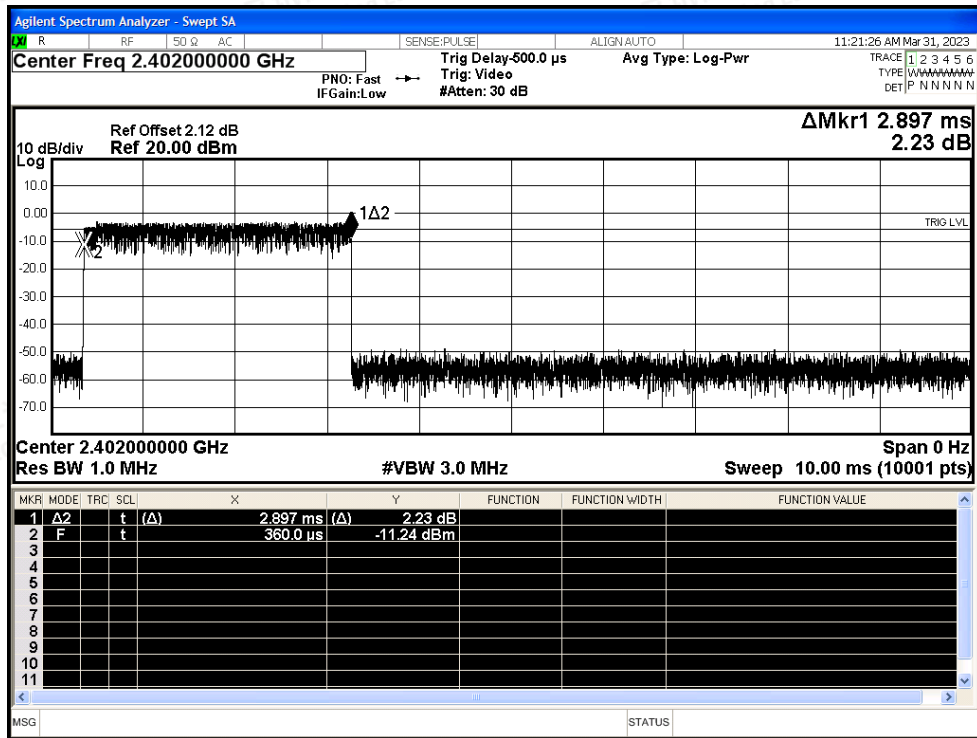


Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

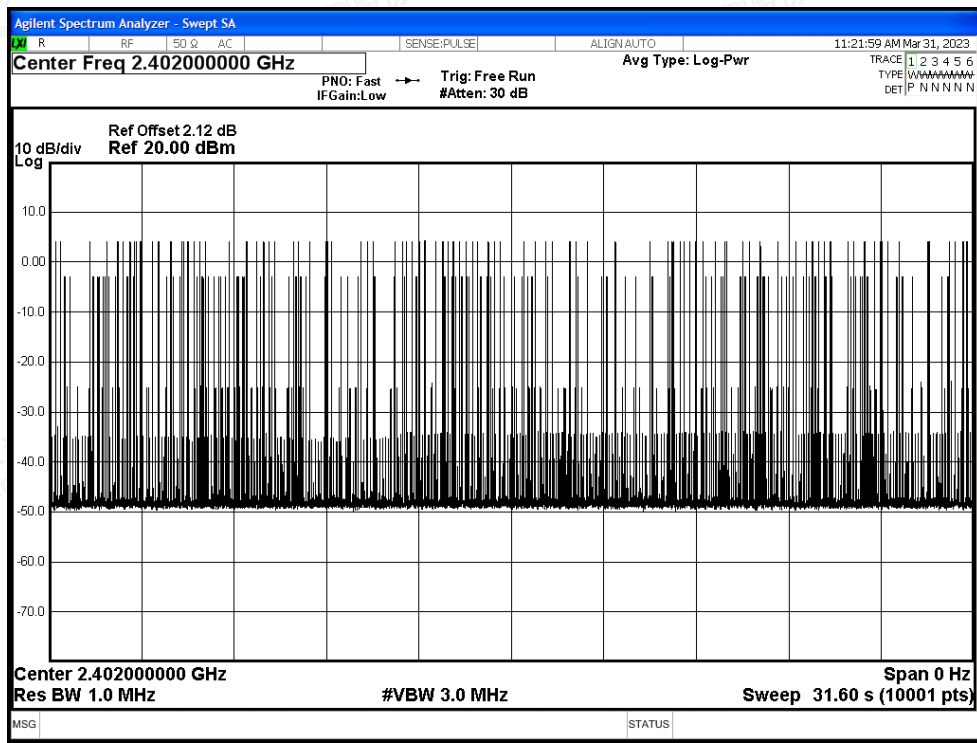




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated





A.5 Number of Hopping Channel

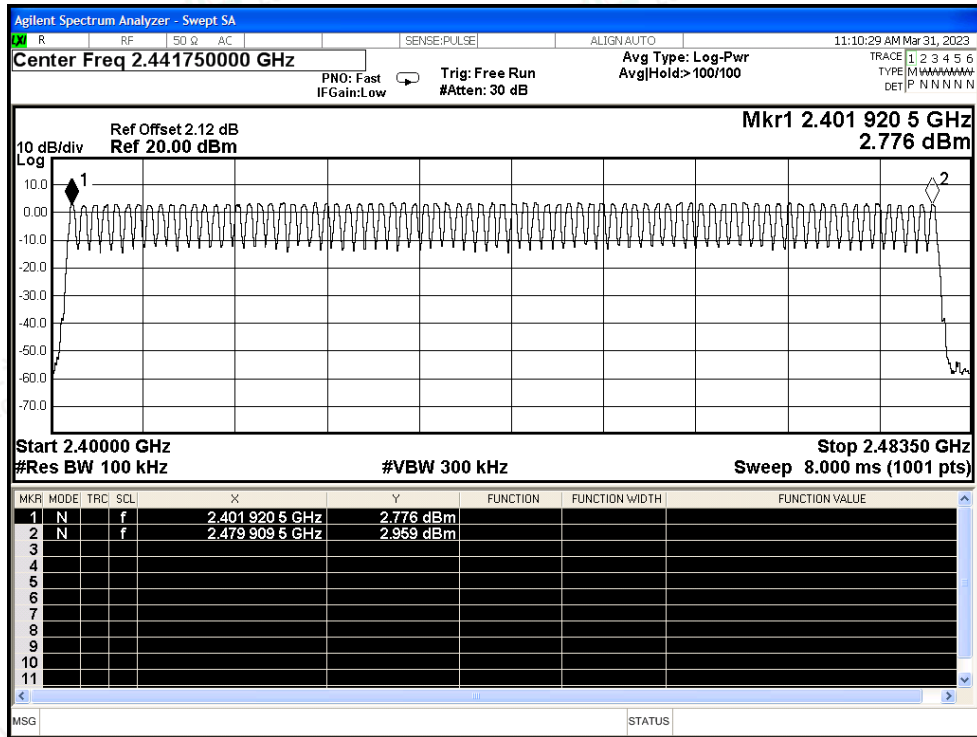
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



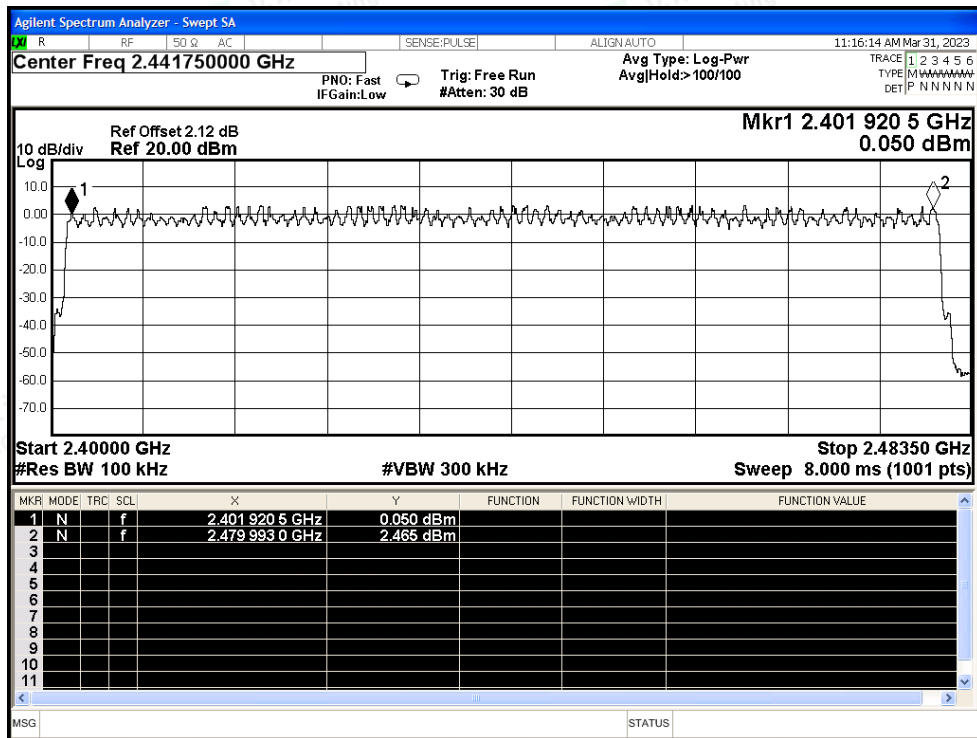


Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1

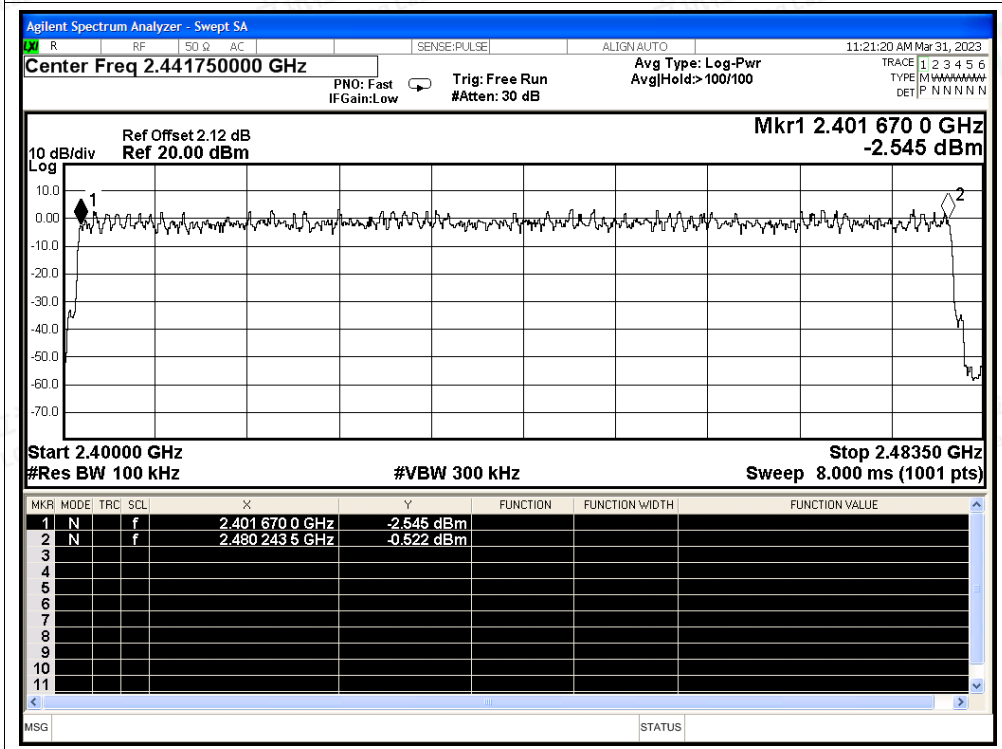


Hopping No. NVNT 2-DH5 2402MHz Ant1





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	-53.98	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-59.8	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-55.39	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-57.81	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-53.44	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-58.69	-20	Pass

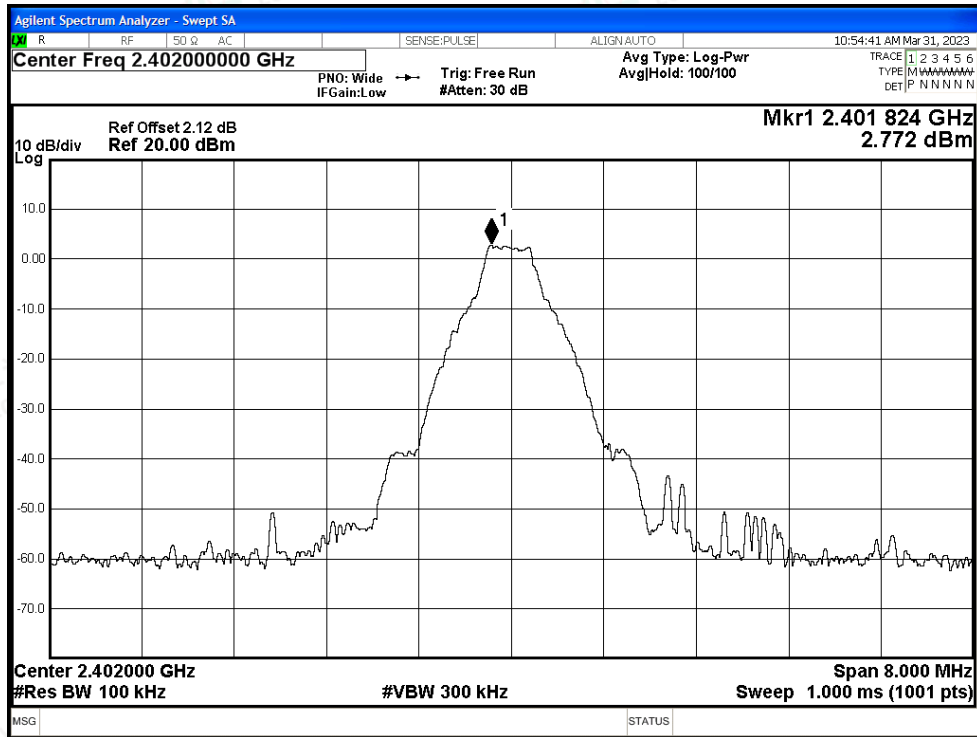


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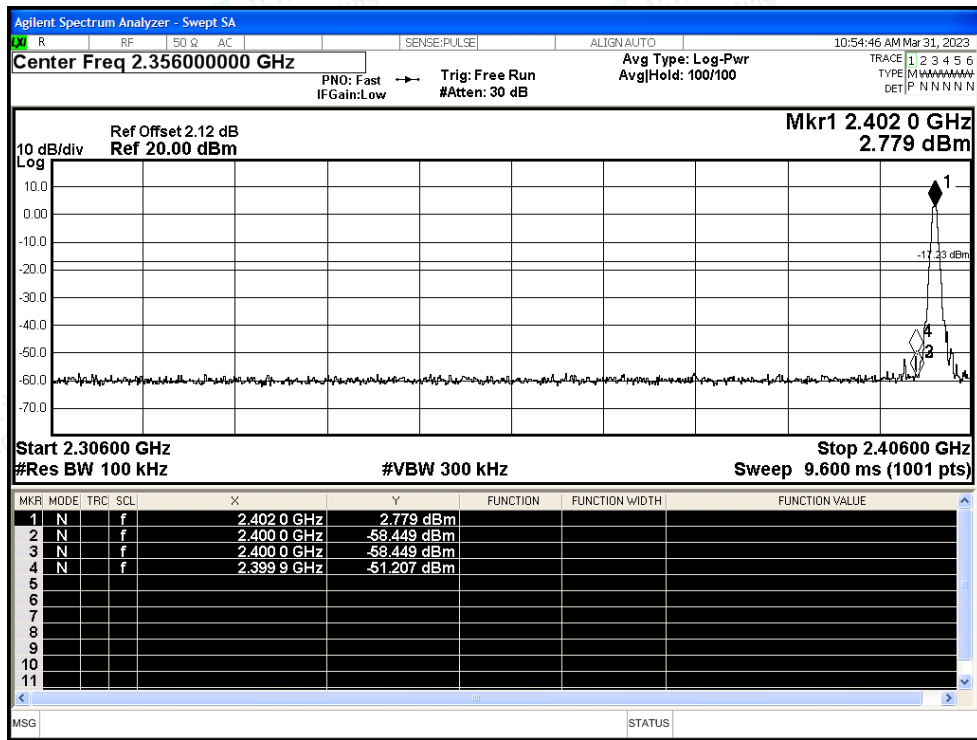


Test Graphs

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

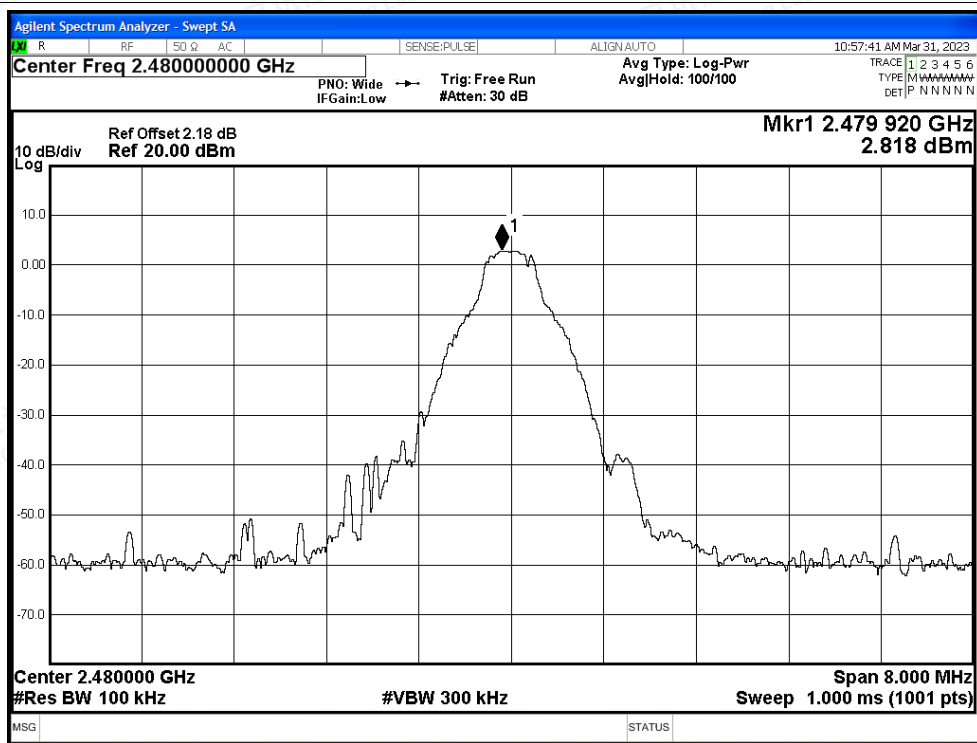


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

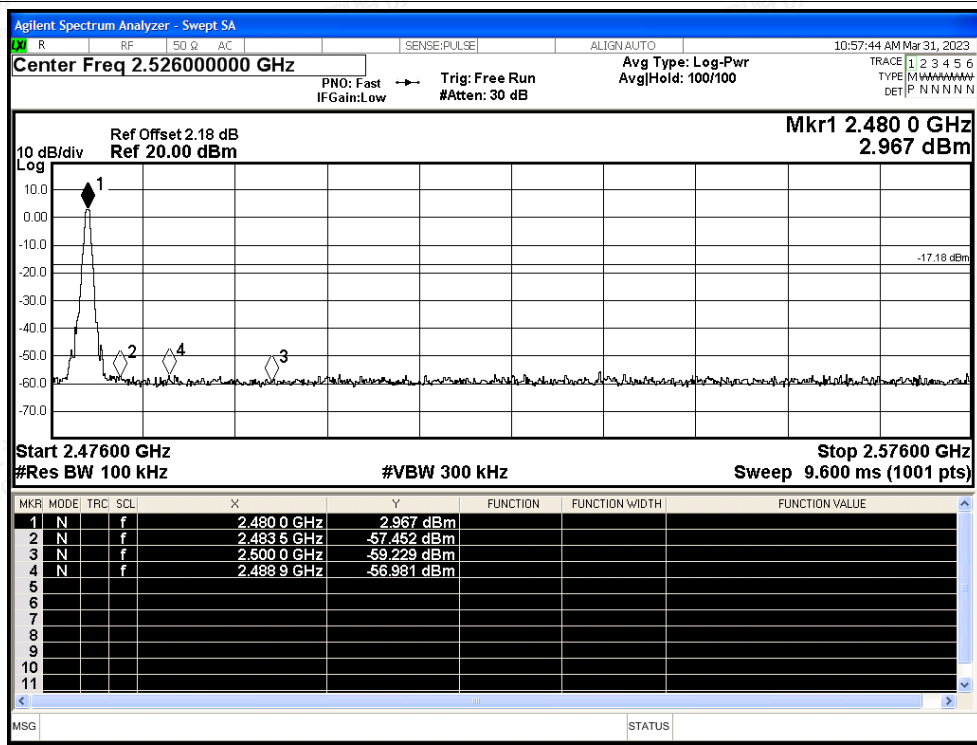




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

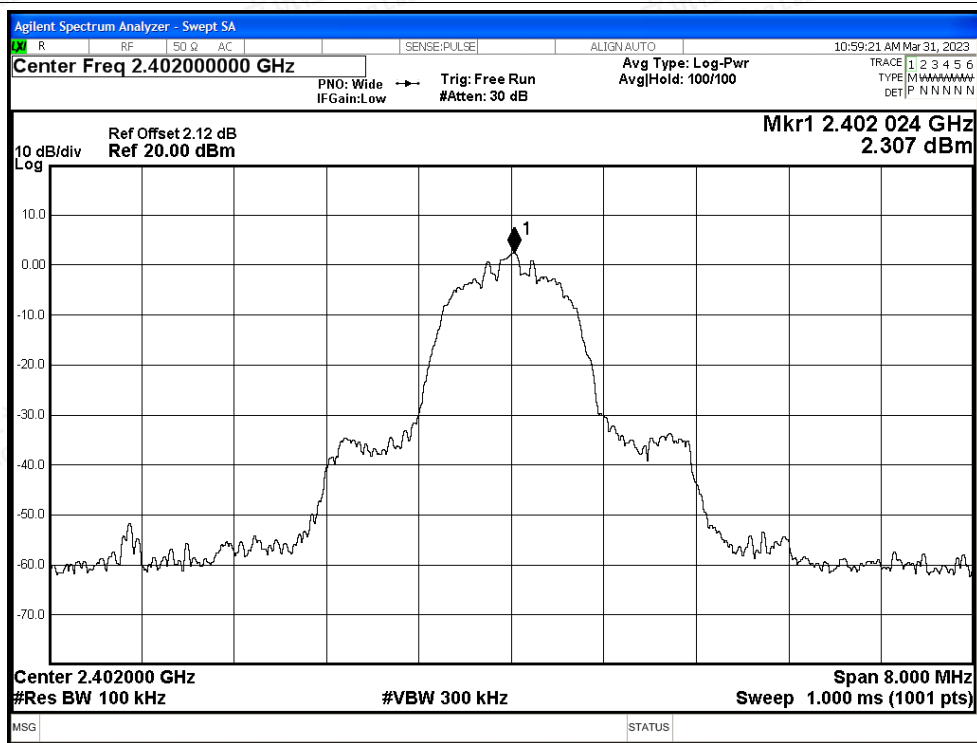


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

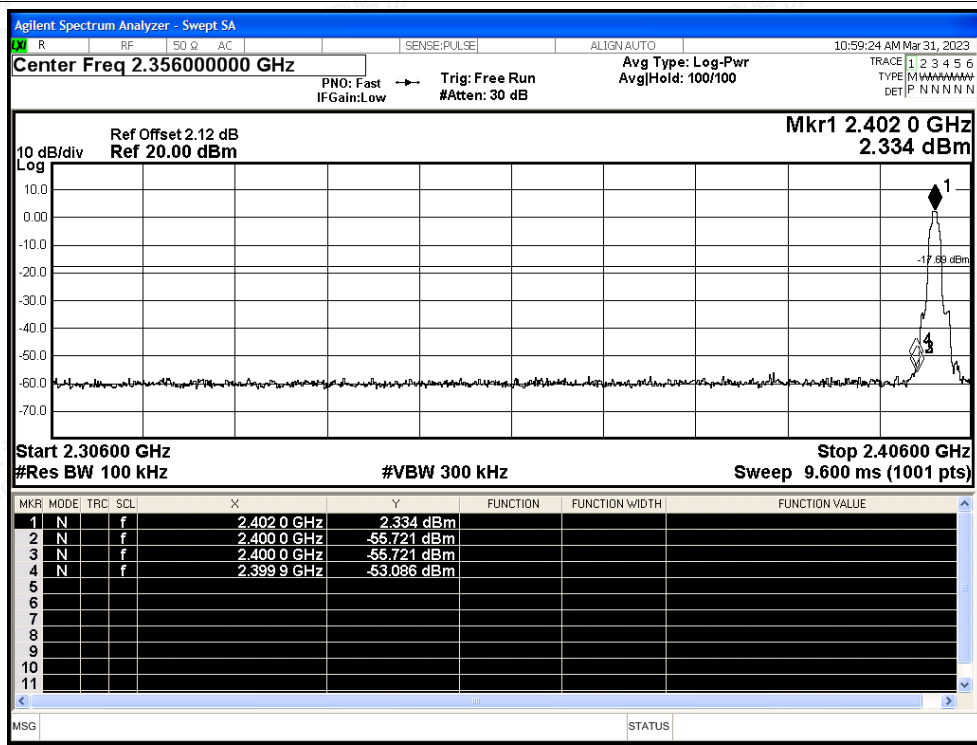




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



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

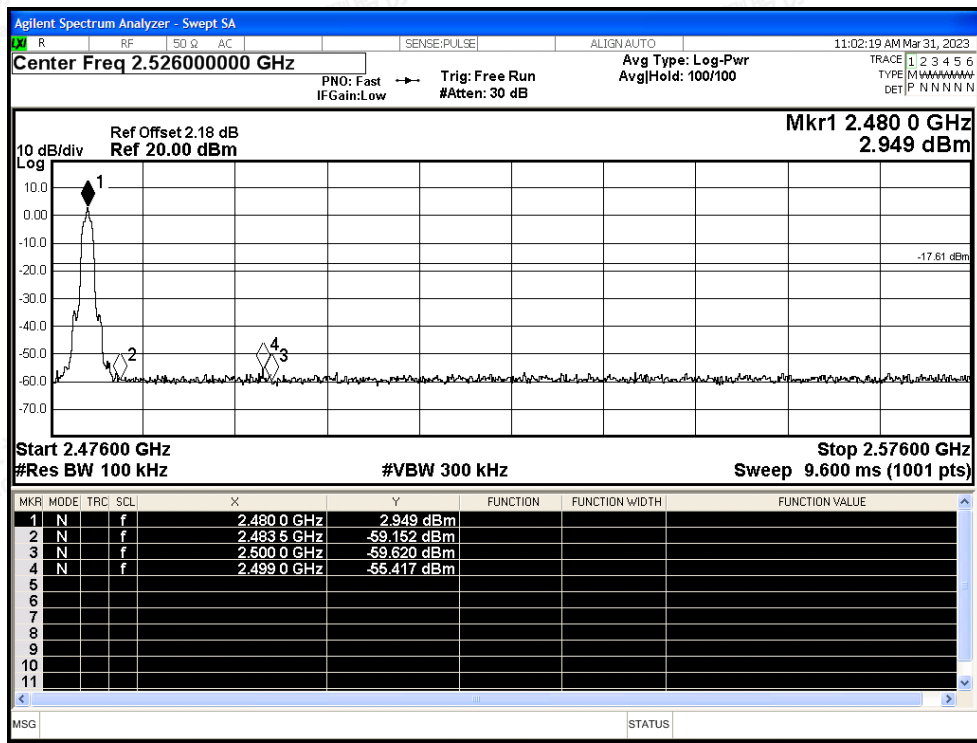




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



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

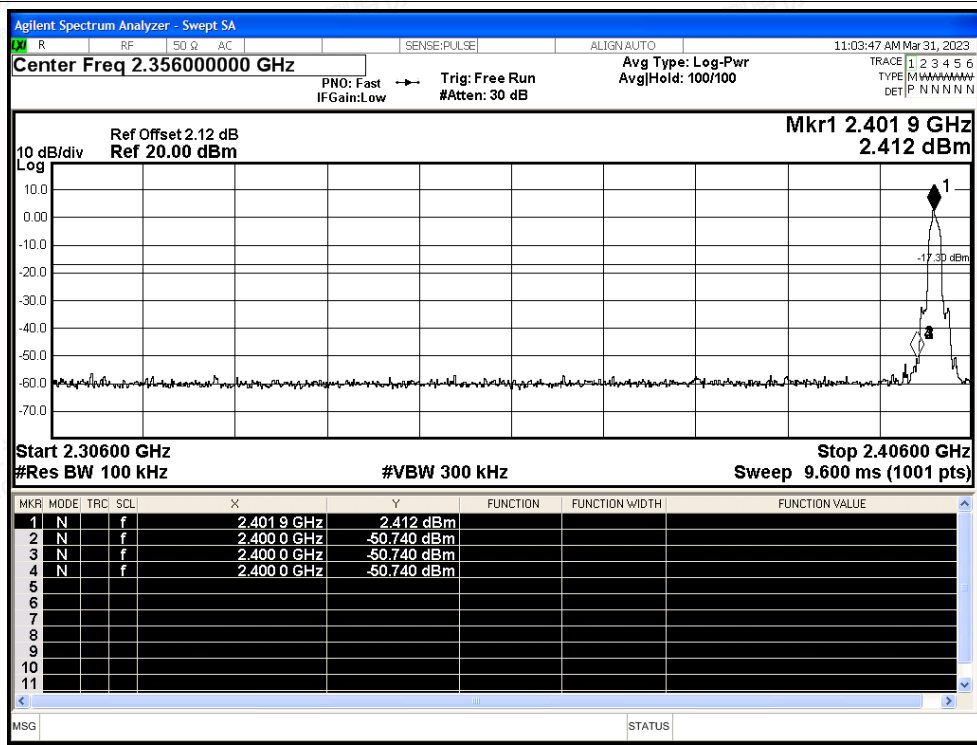




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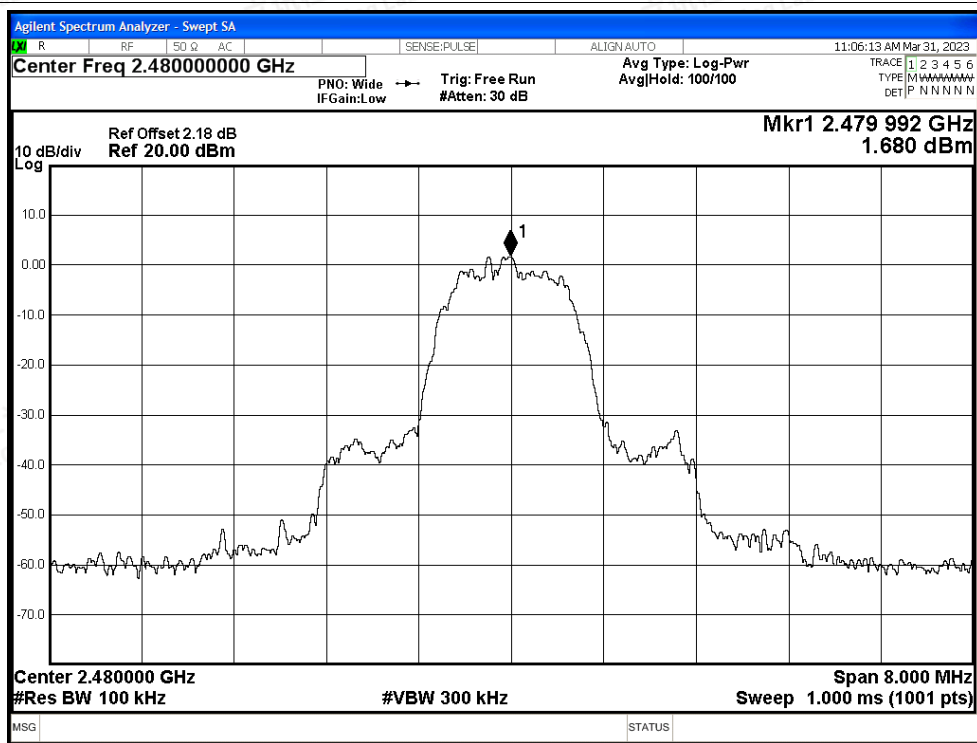


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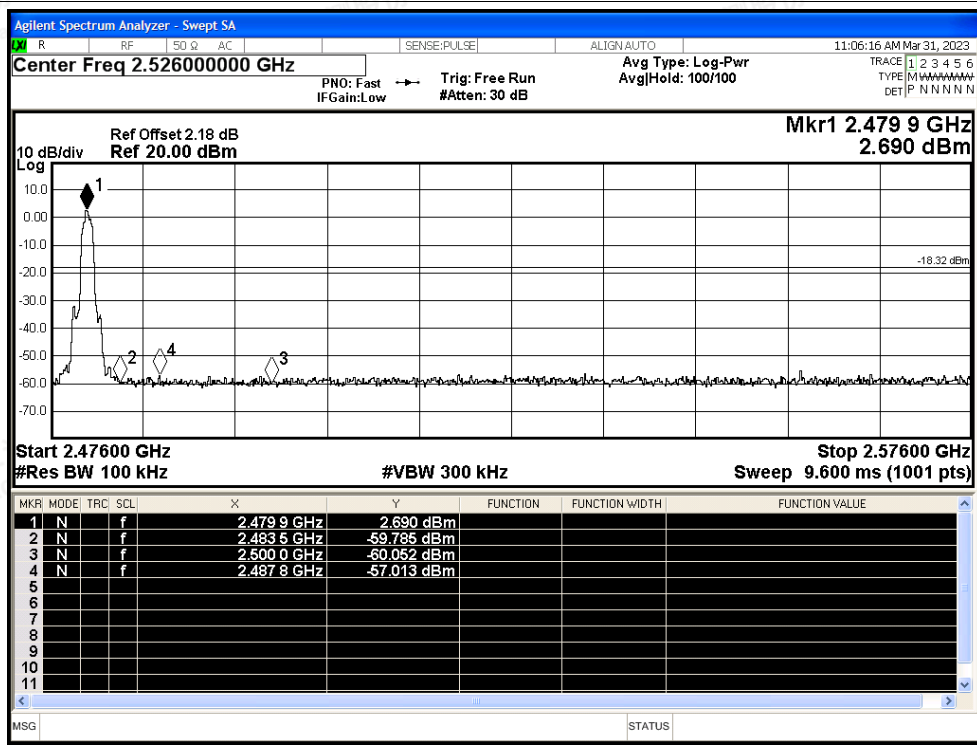




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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	-57.63	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-59	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-57.95	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-58.05	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-57.86	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-58.42	-20	Pass

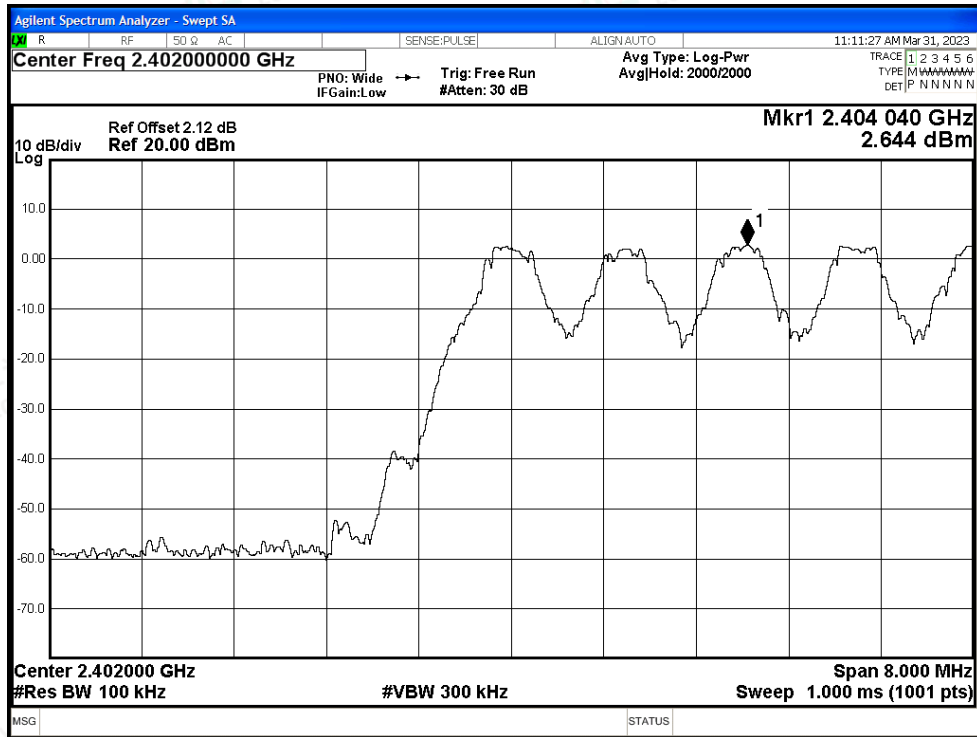


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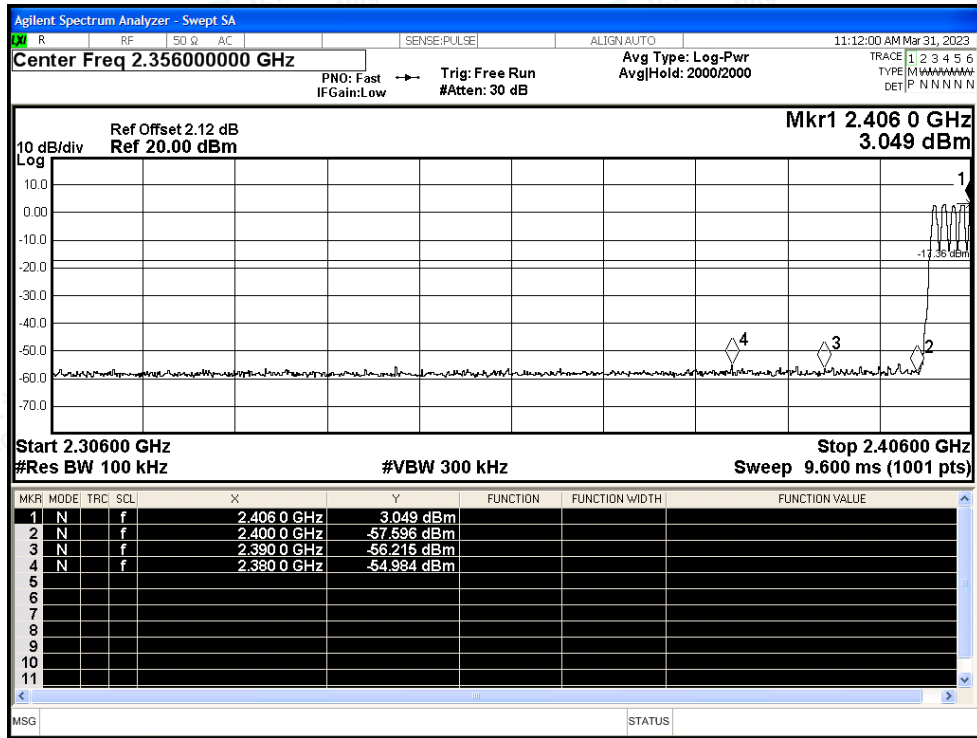


Test Graphs

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

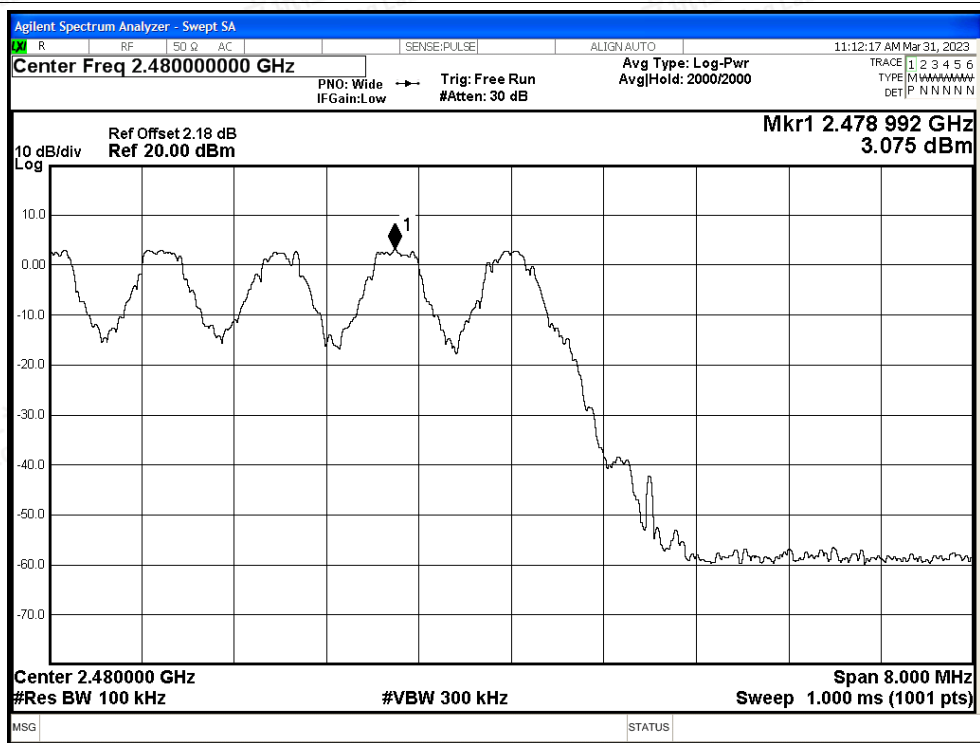


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

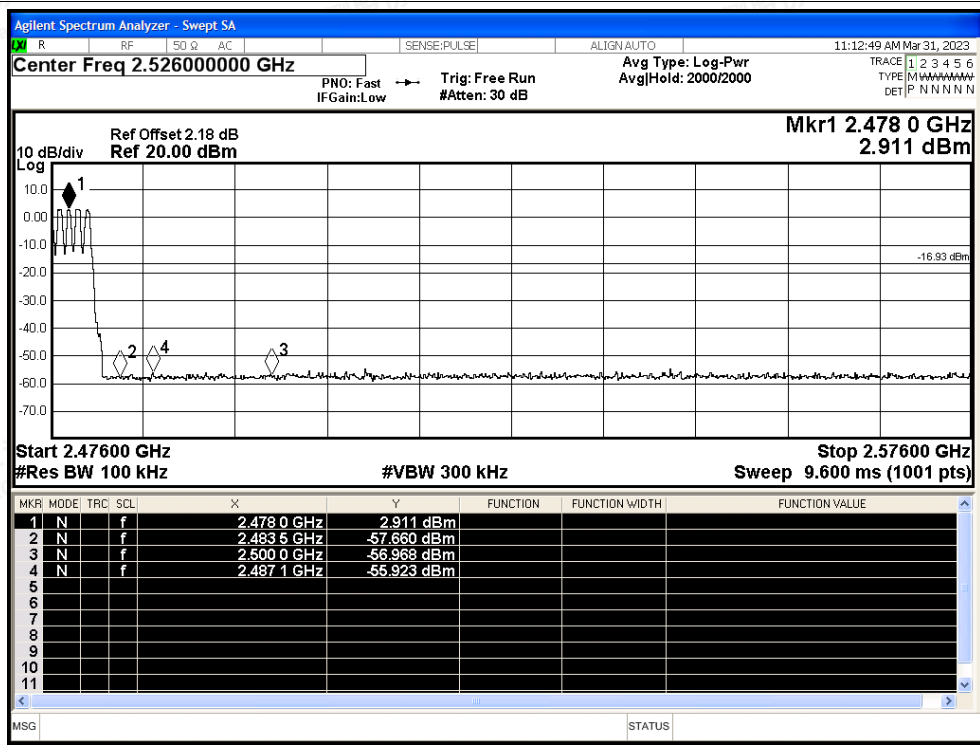




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref

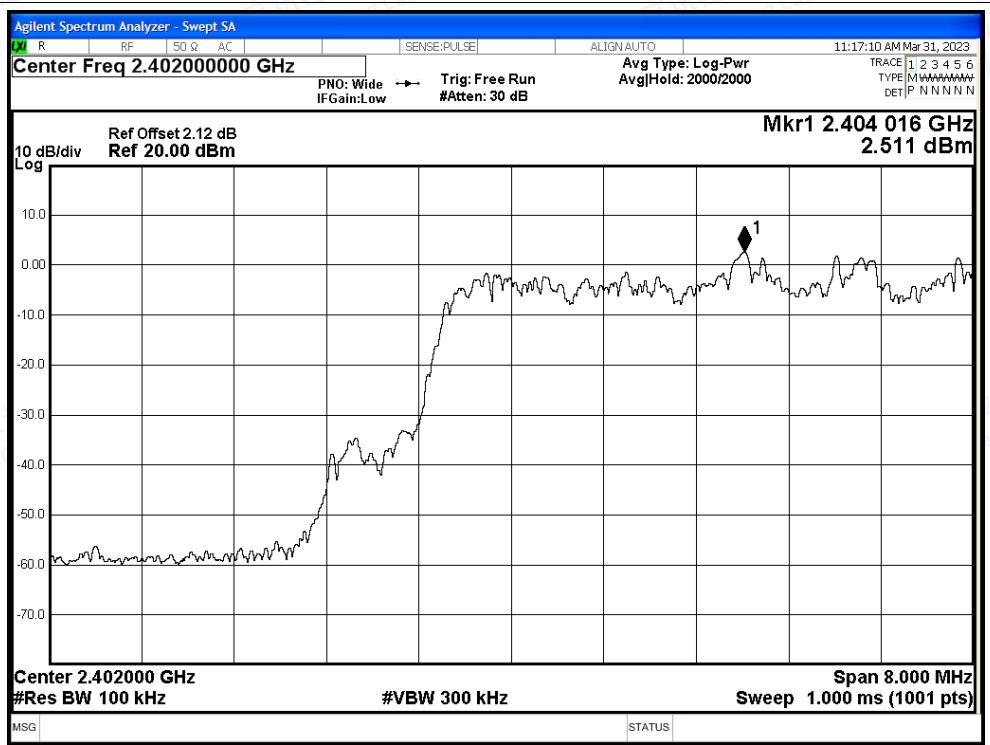


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission

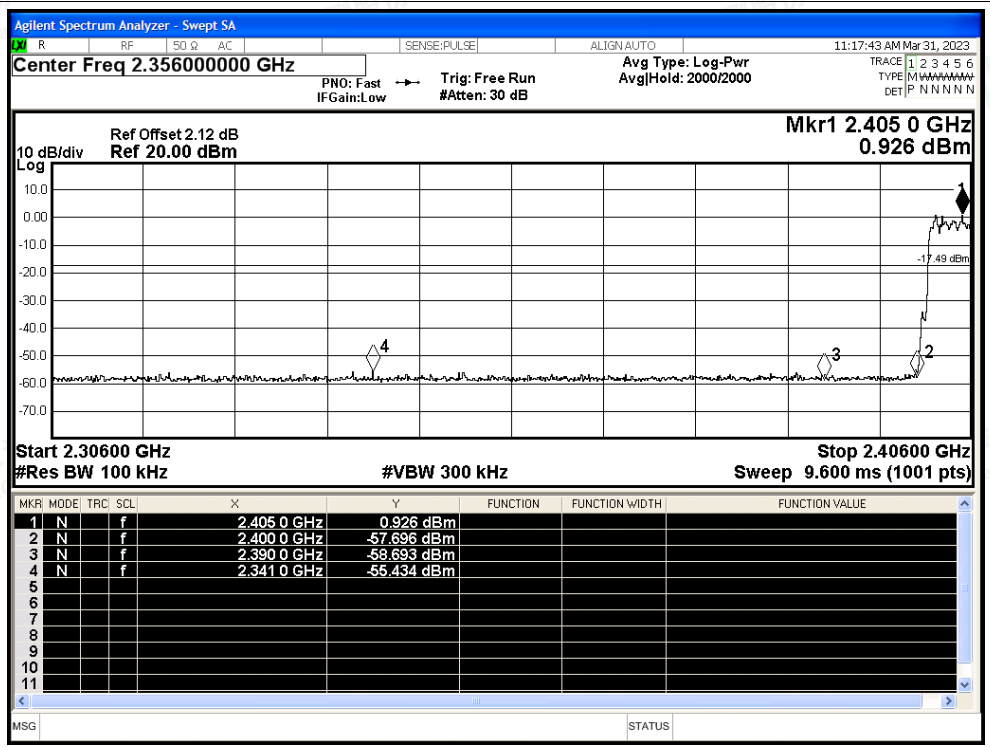




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

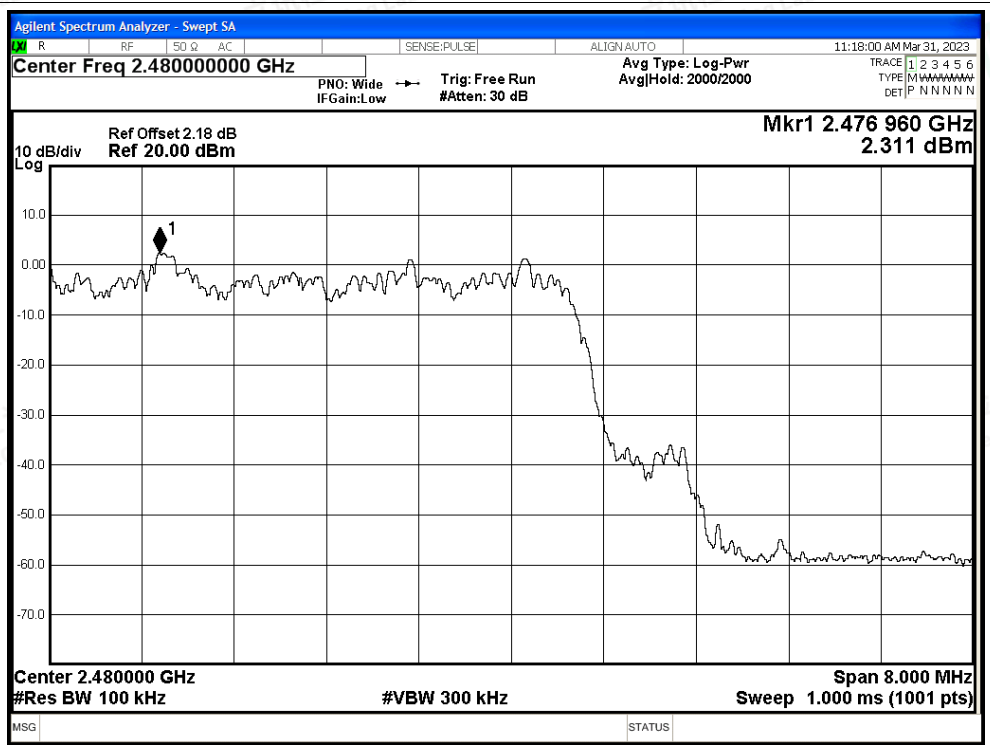


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

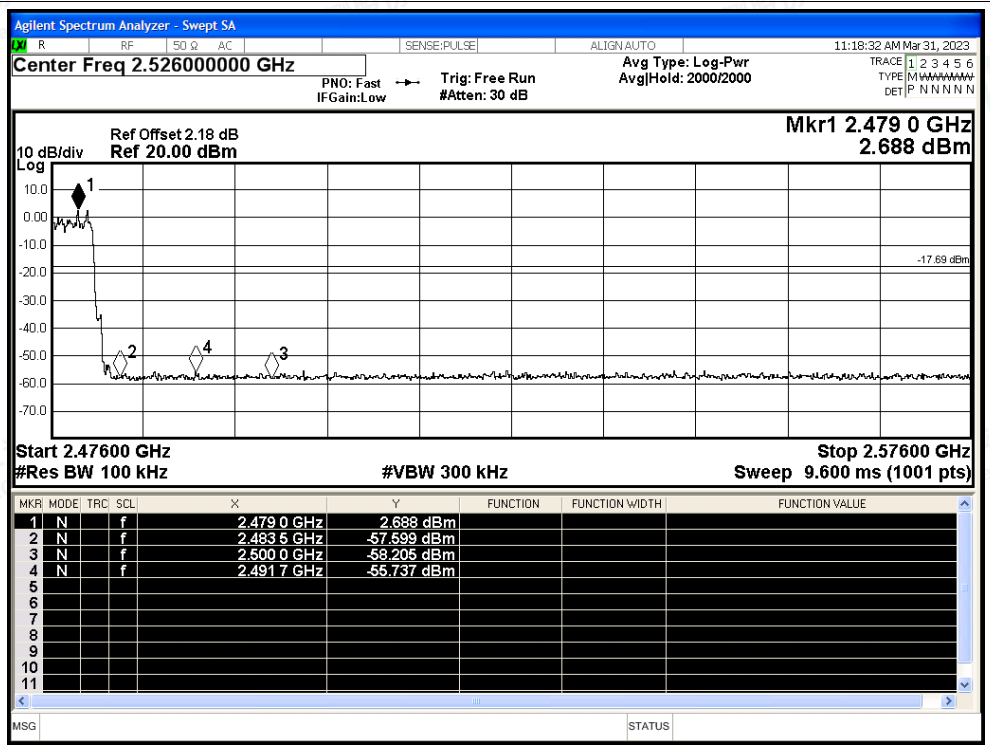




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref

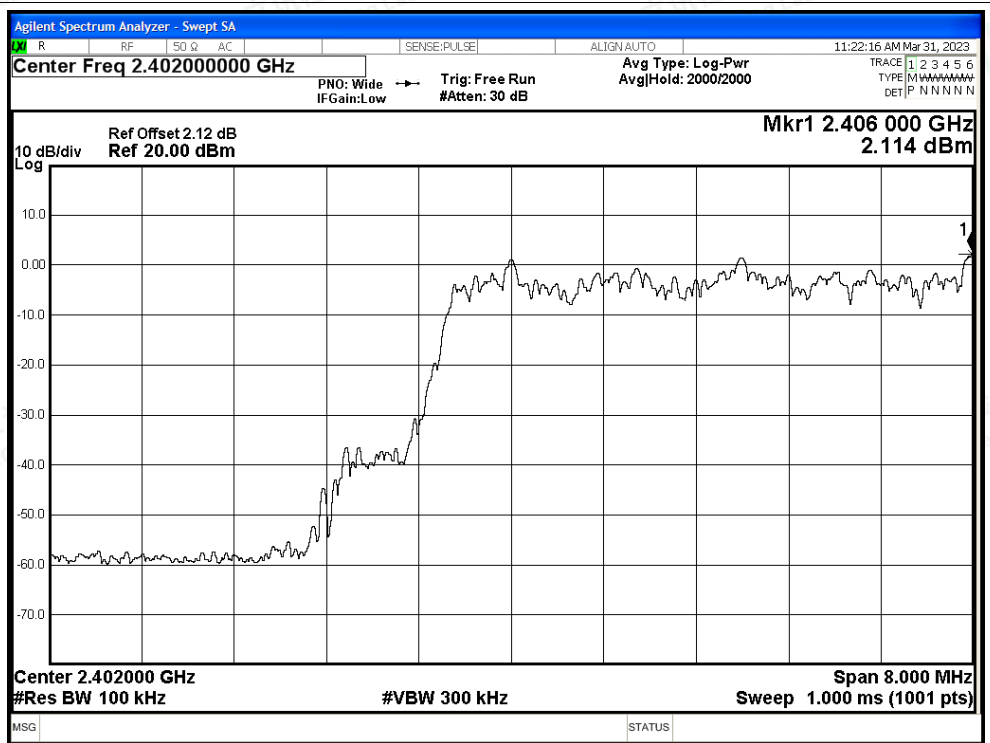


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission

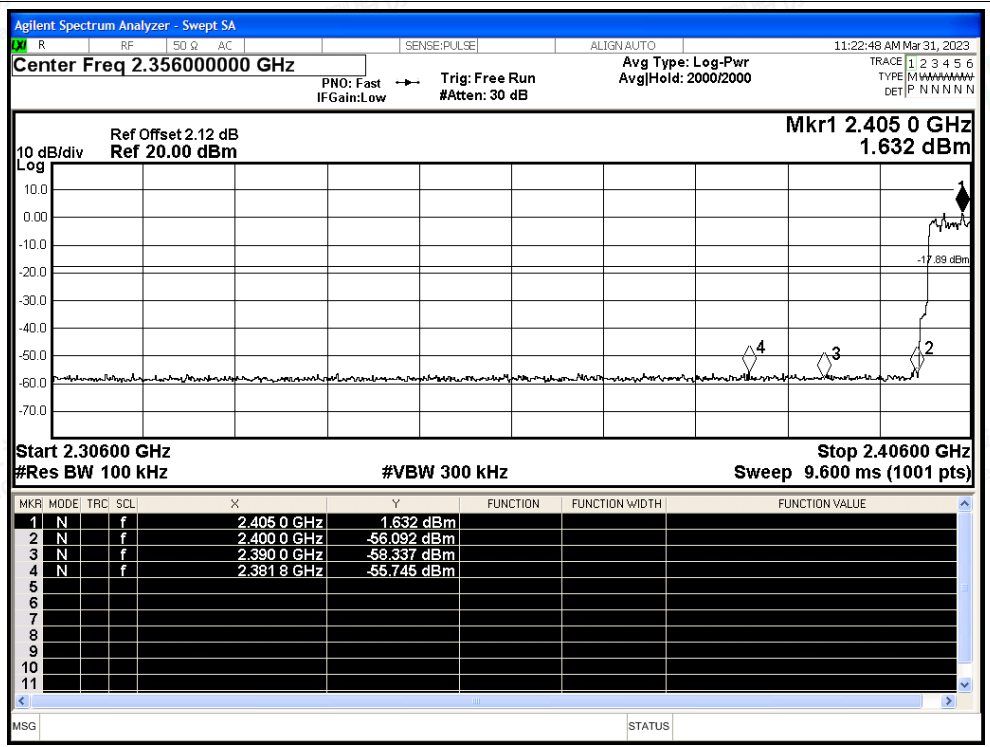




Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref

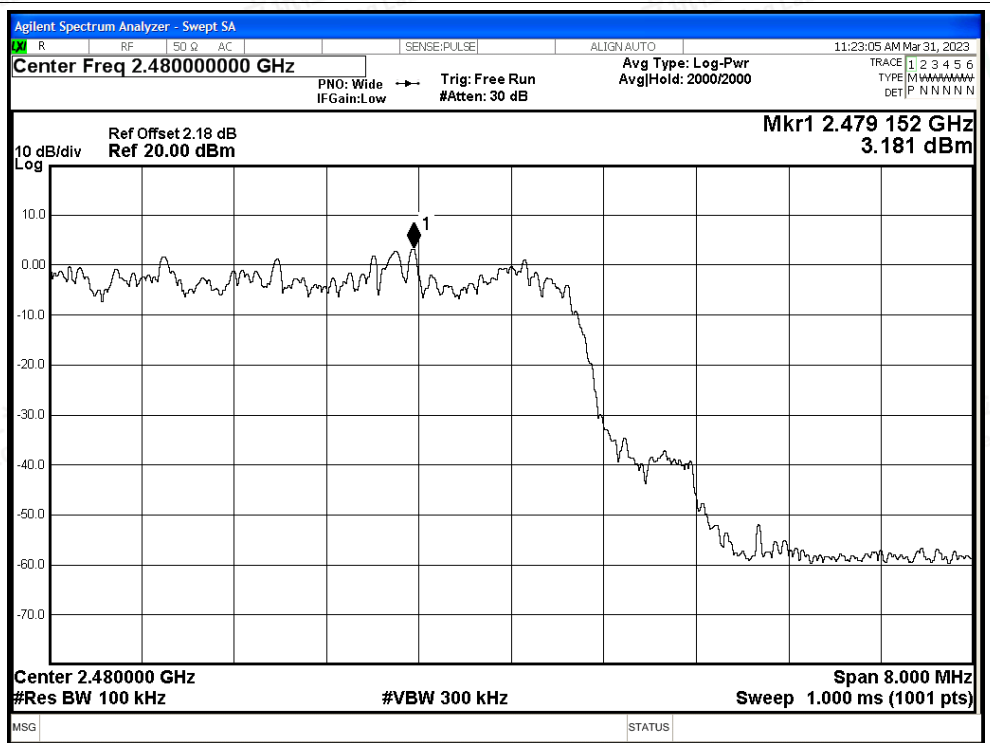


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission

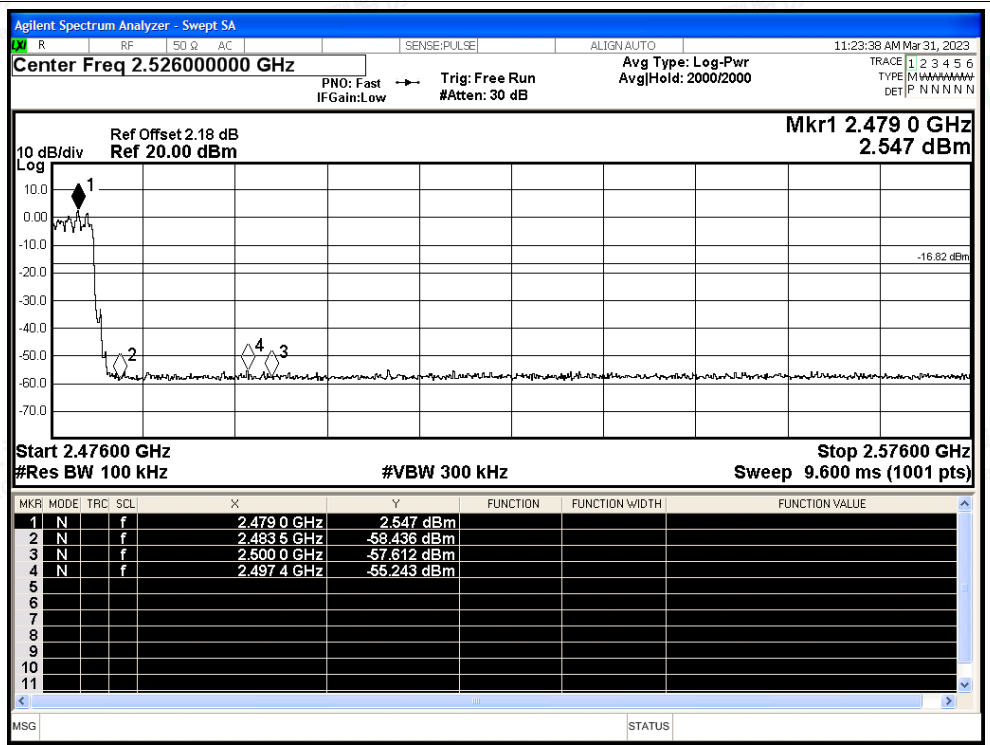




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



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	-35.2	-20	Pass
NVNT	1-DH5	2441	Ant1	-37.61	-20	Pass
NVNT	1-DH5	2480	Ant1	-38.47	-20	Pass
NVNT	2-DH5	2402	Ant1	-40.56	-20	Pass
NVNT	2-DH5	2441	Ant1	-42.2	-20	Pass
NVNT	2-DH5	2480	Ant1	-44.19	-20	Pass
NVNT	3-DH5	2402	Ant1	-41.11	-20	Pass
NVNT	3-DH5	2441	Ant1	-40.63	-20	Pass
NVNT	3-DH5	2480	Ant1	-40.26	-20	Pass

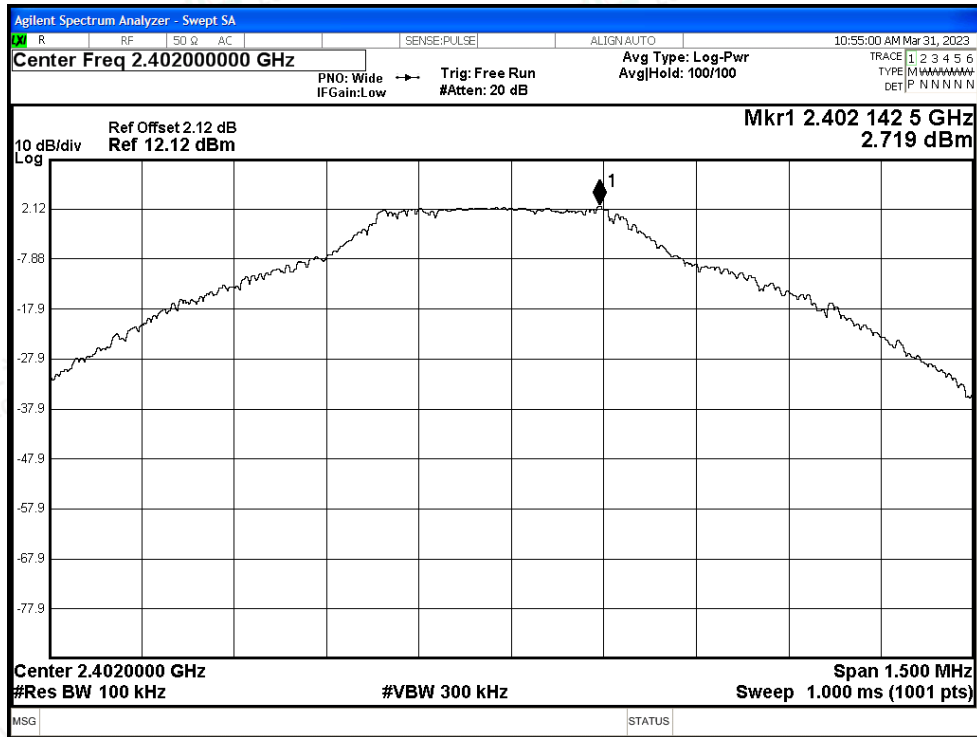


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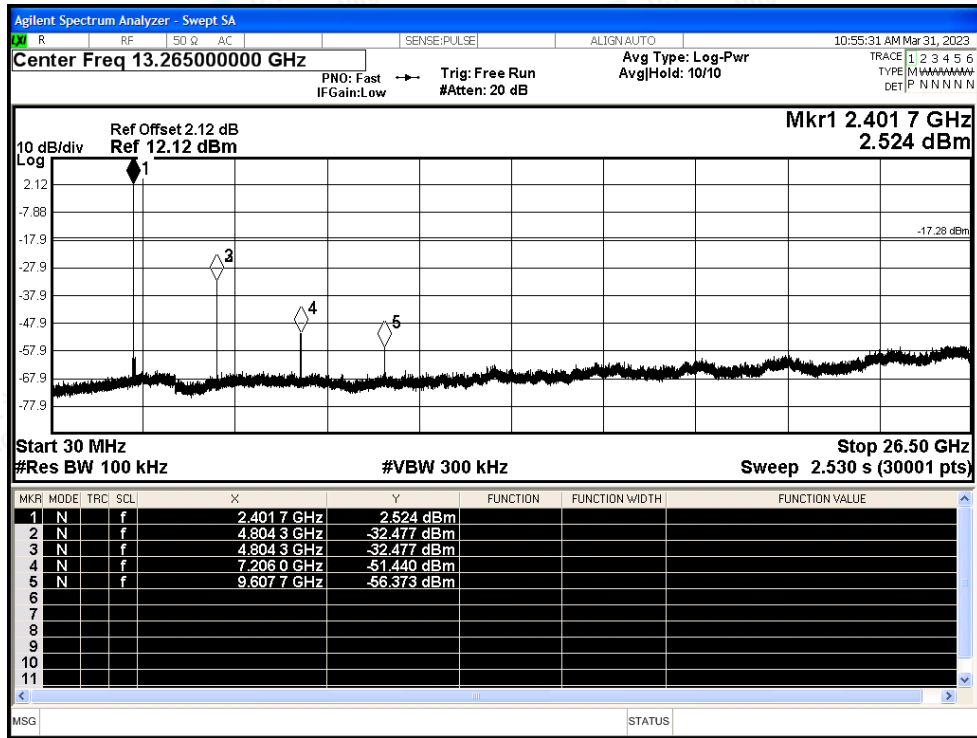


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

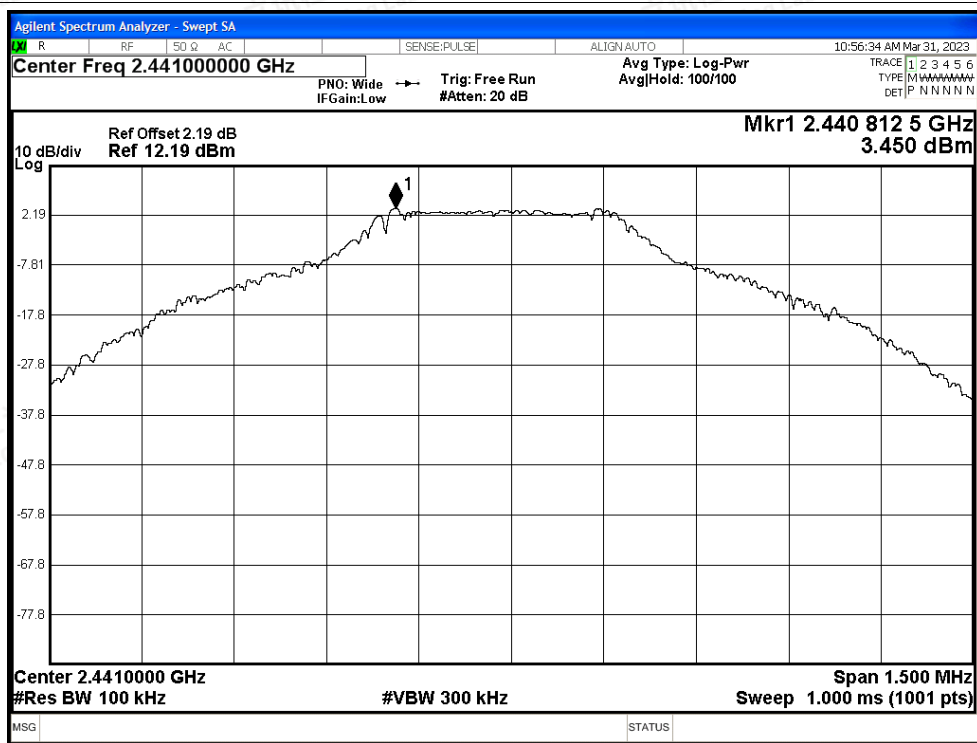


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

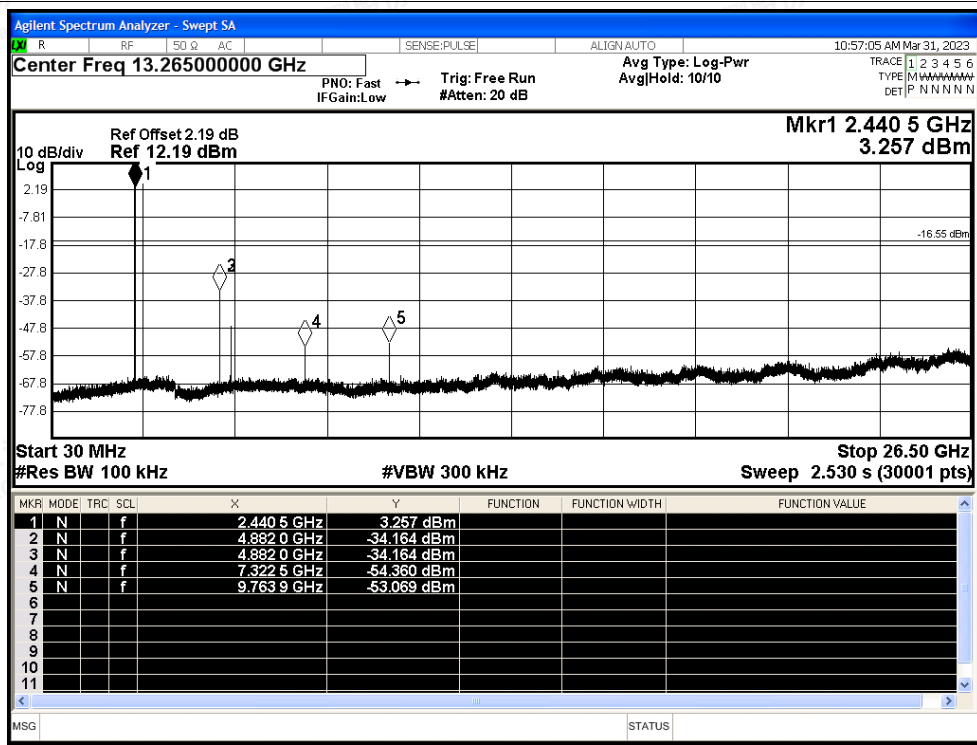




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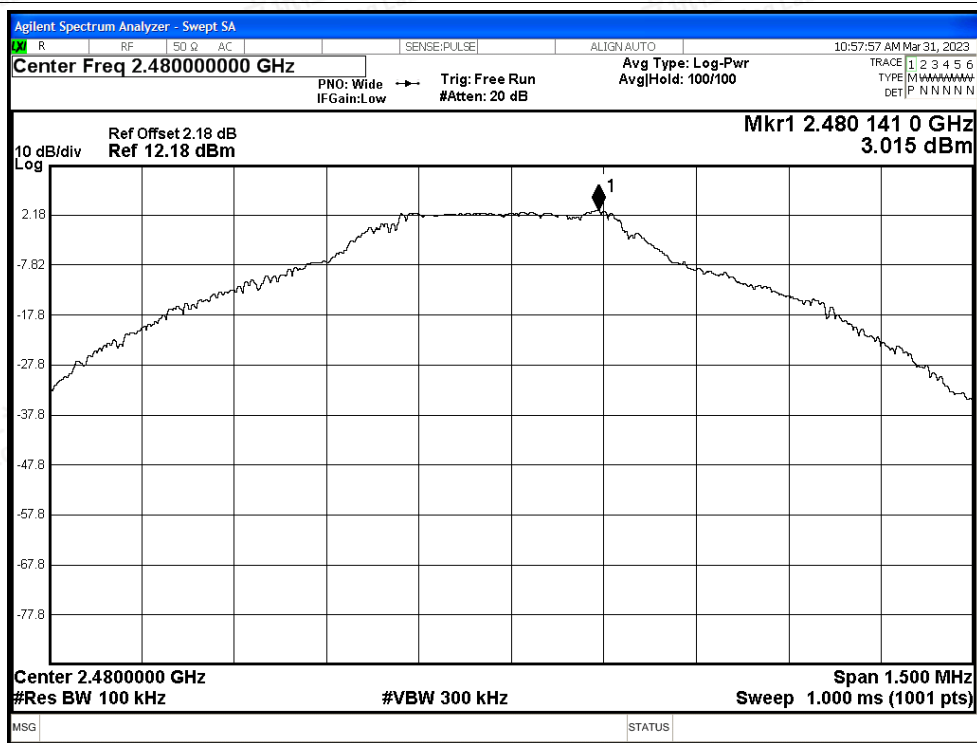


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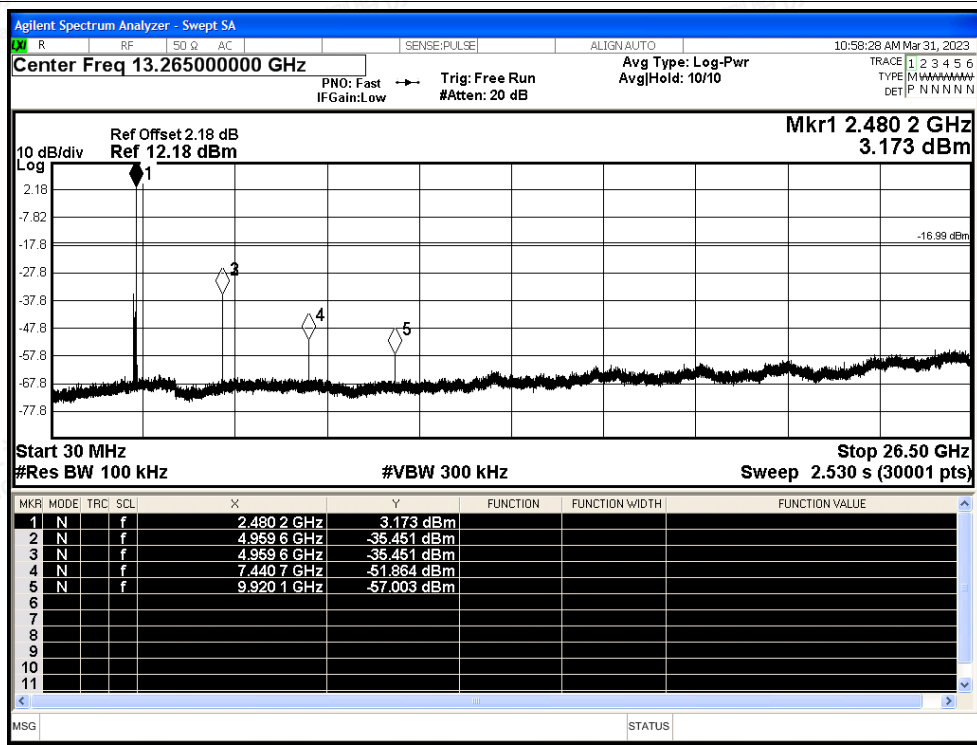




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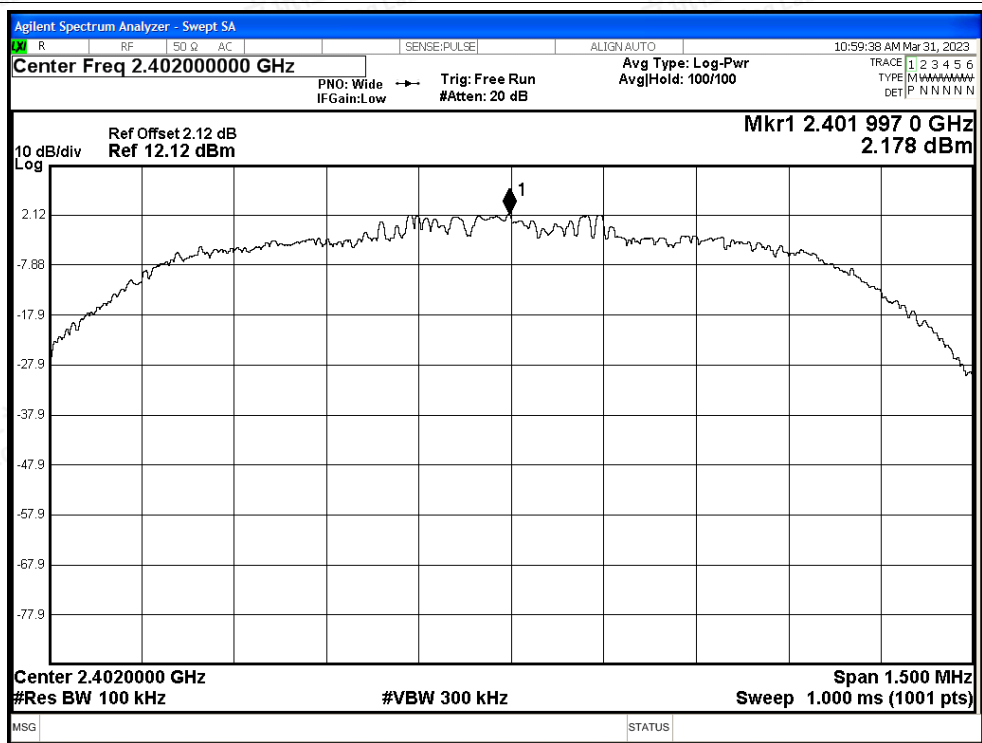


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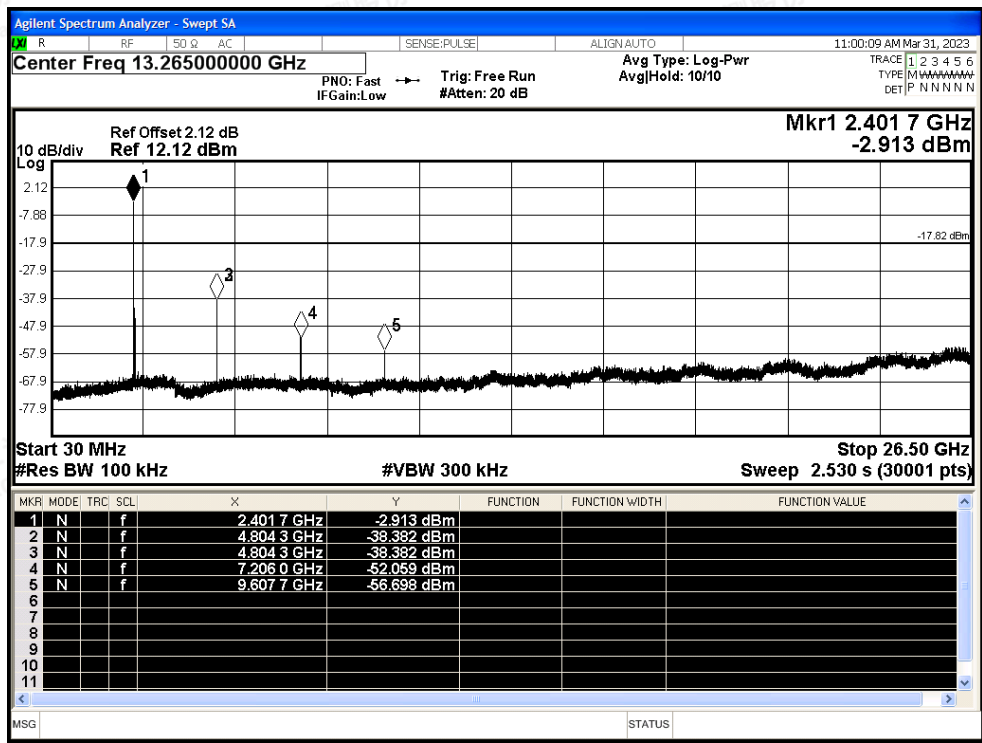




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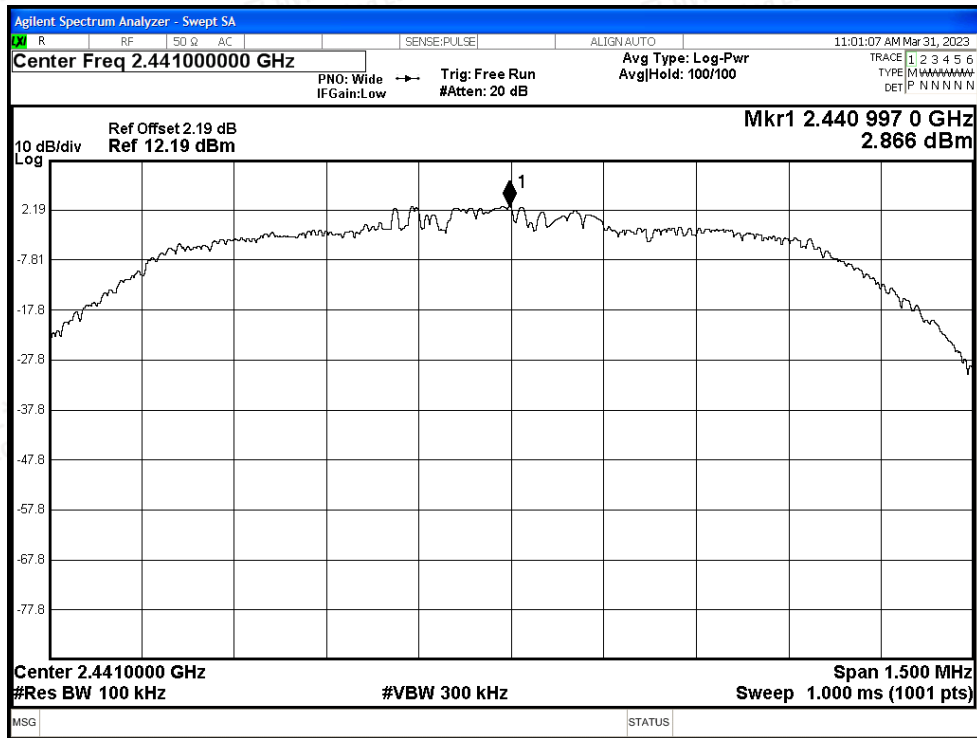


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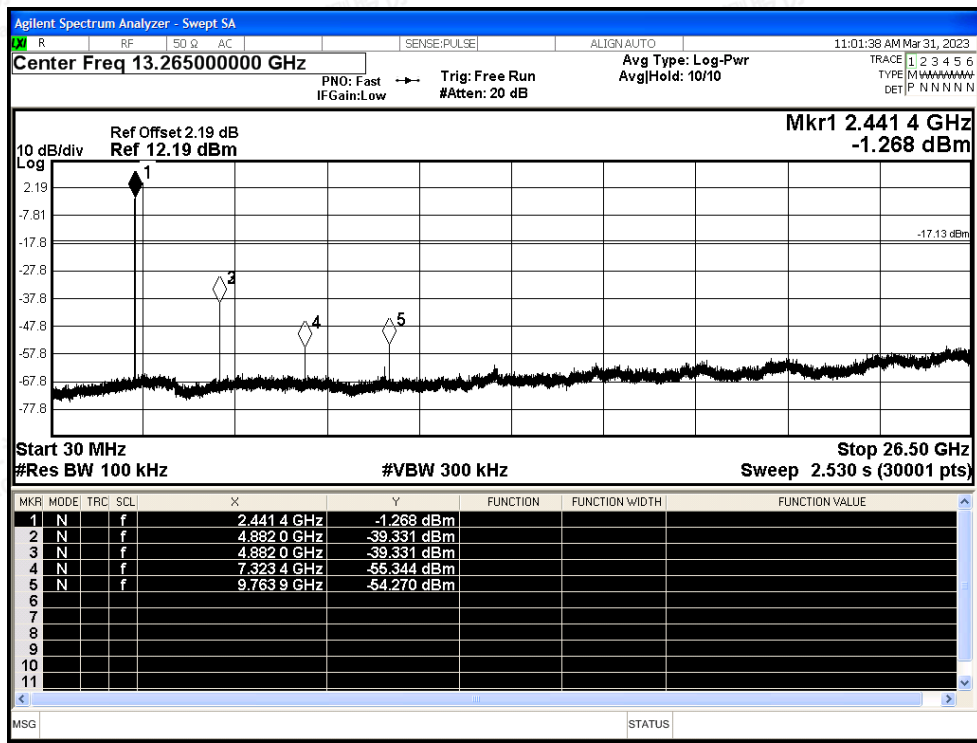




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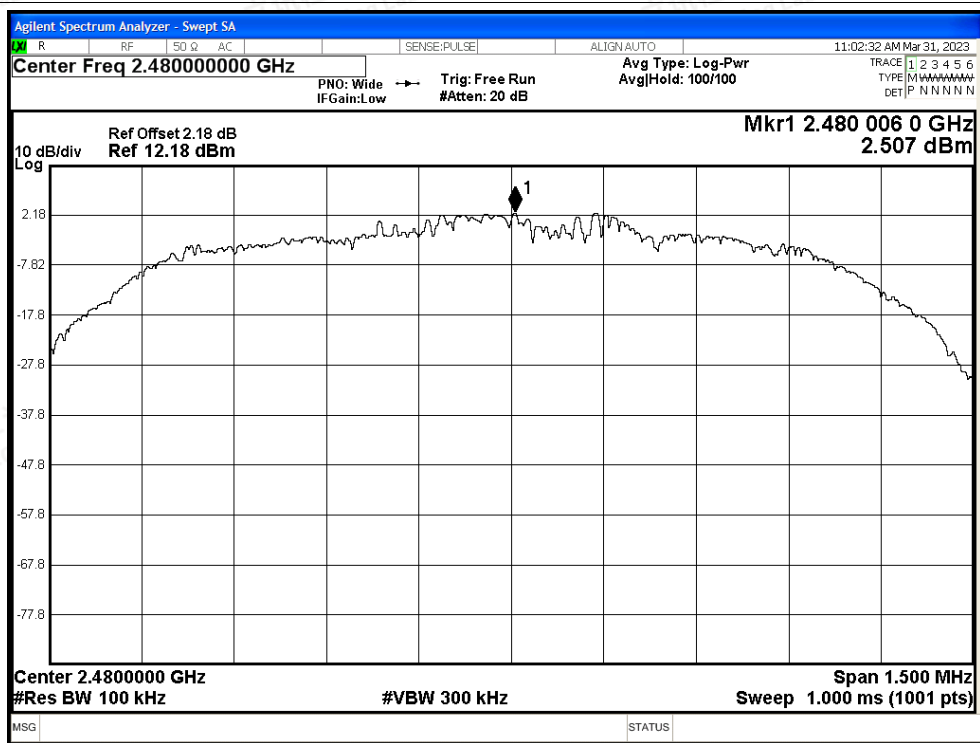


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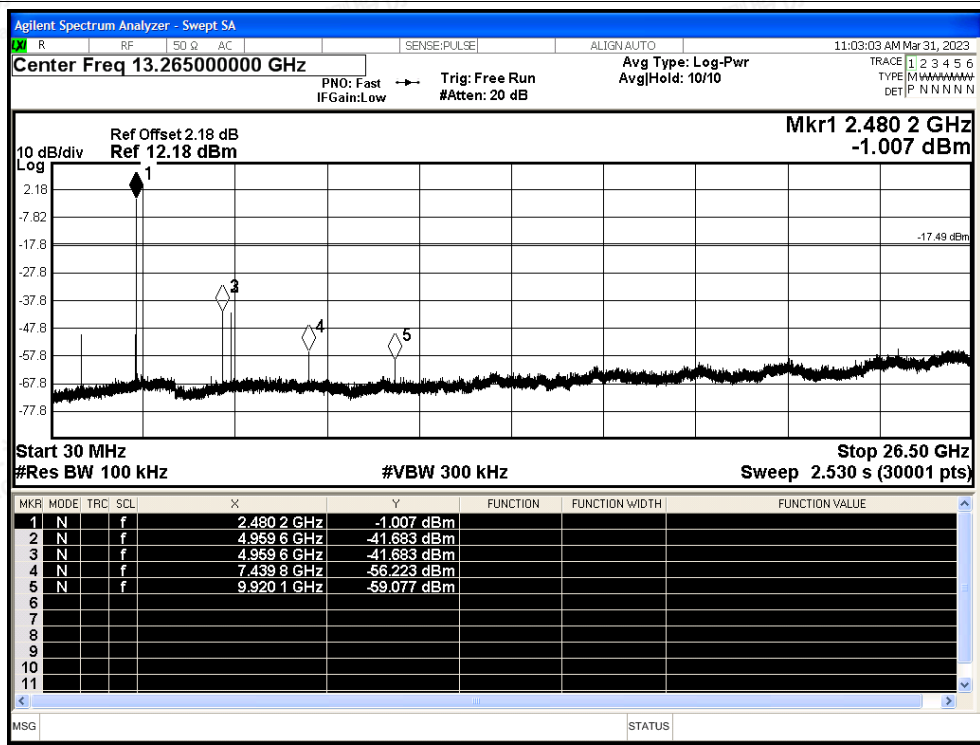




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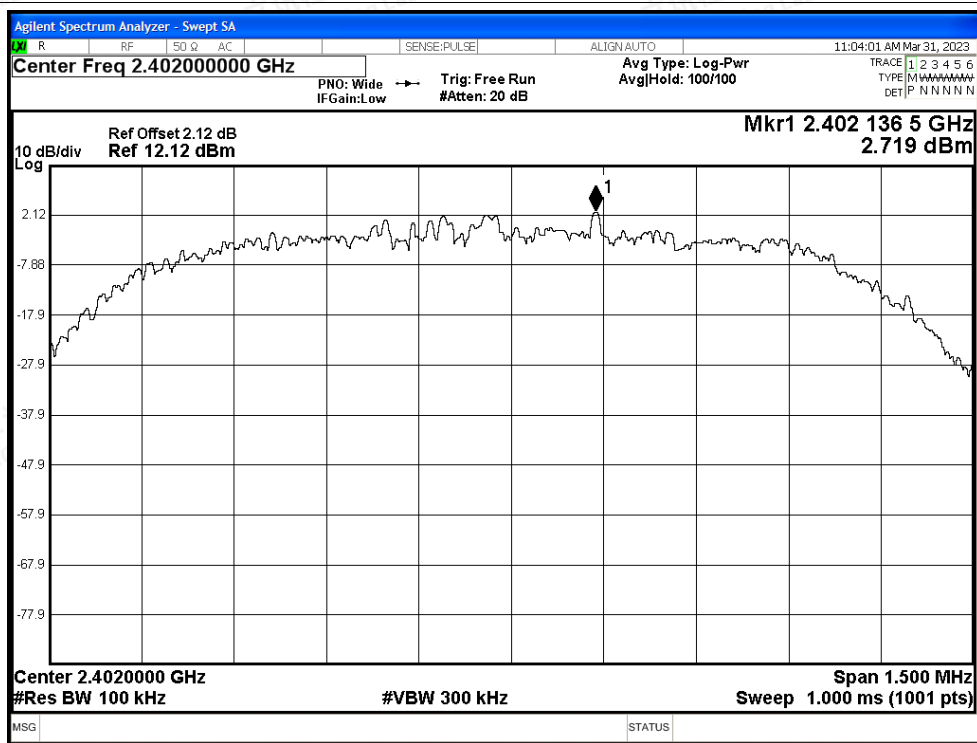


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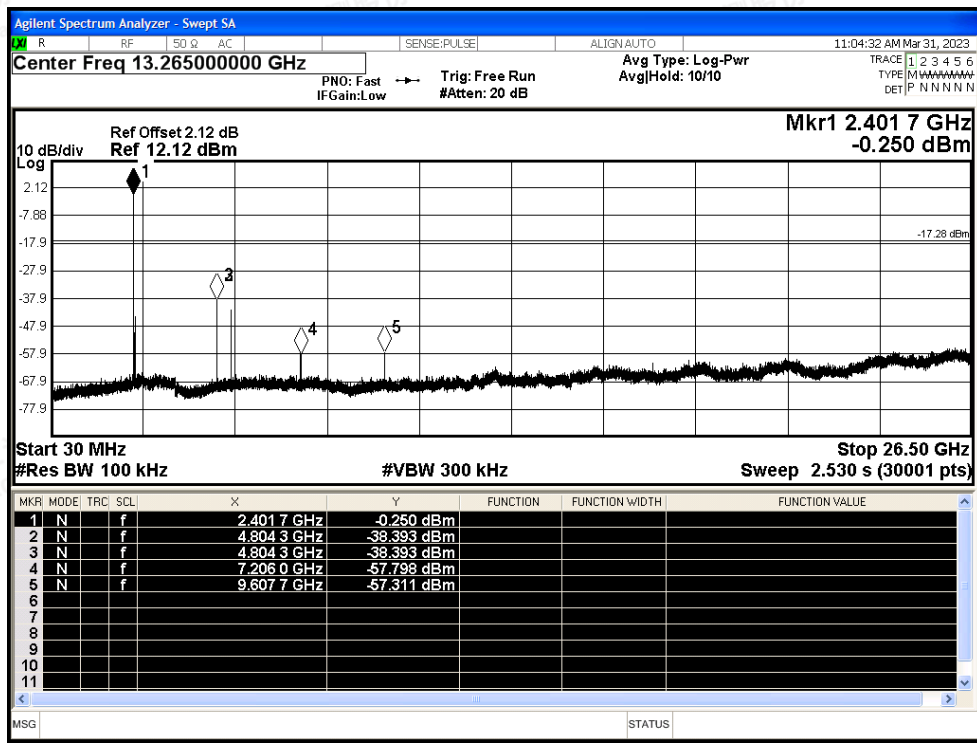




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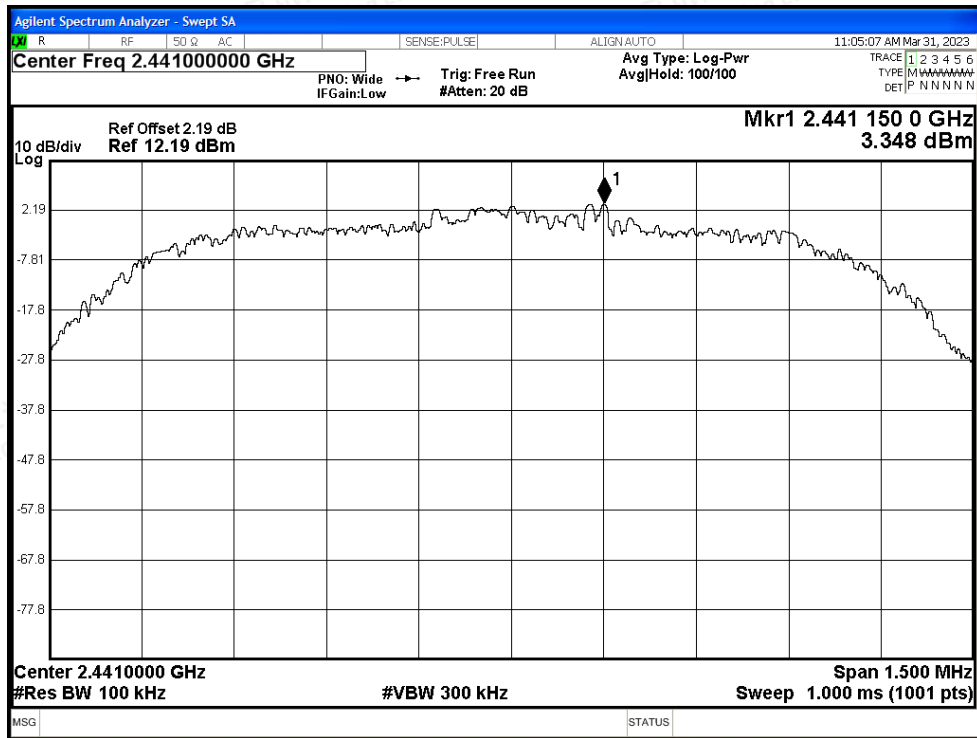


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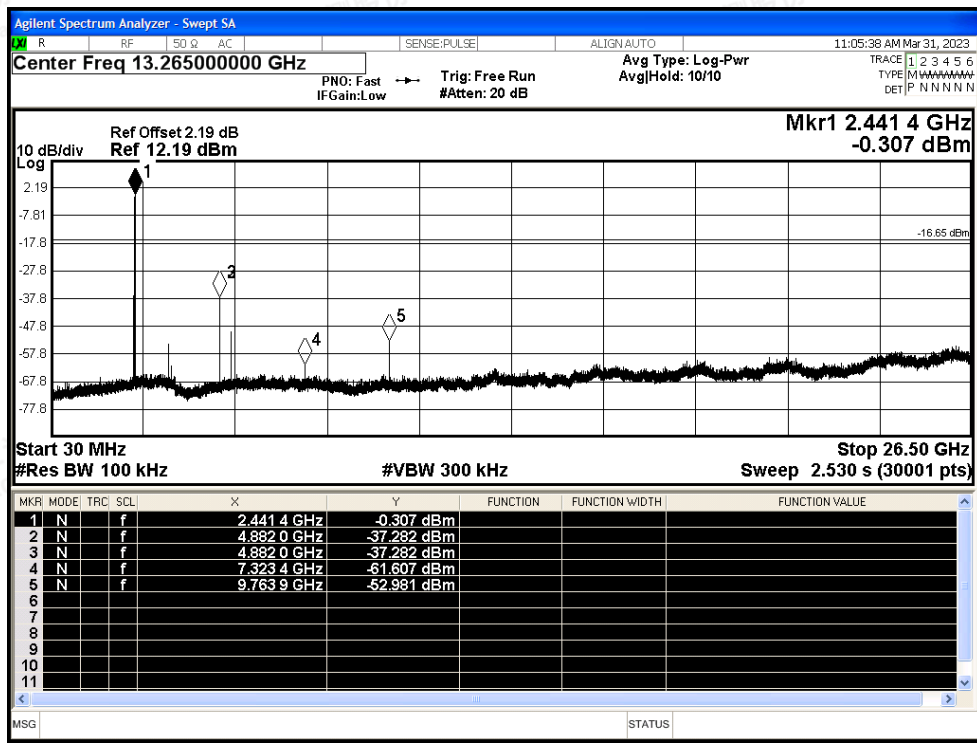




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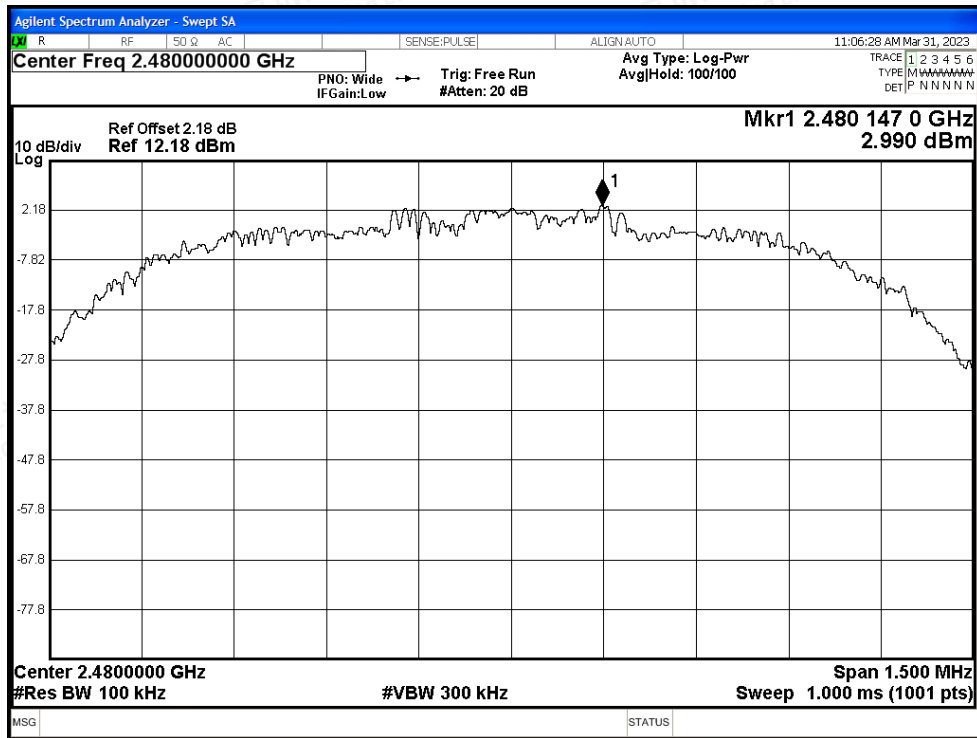


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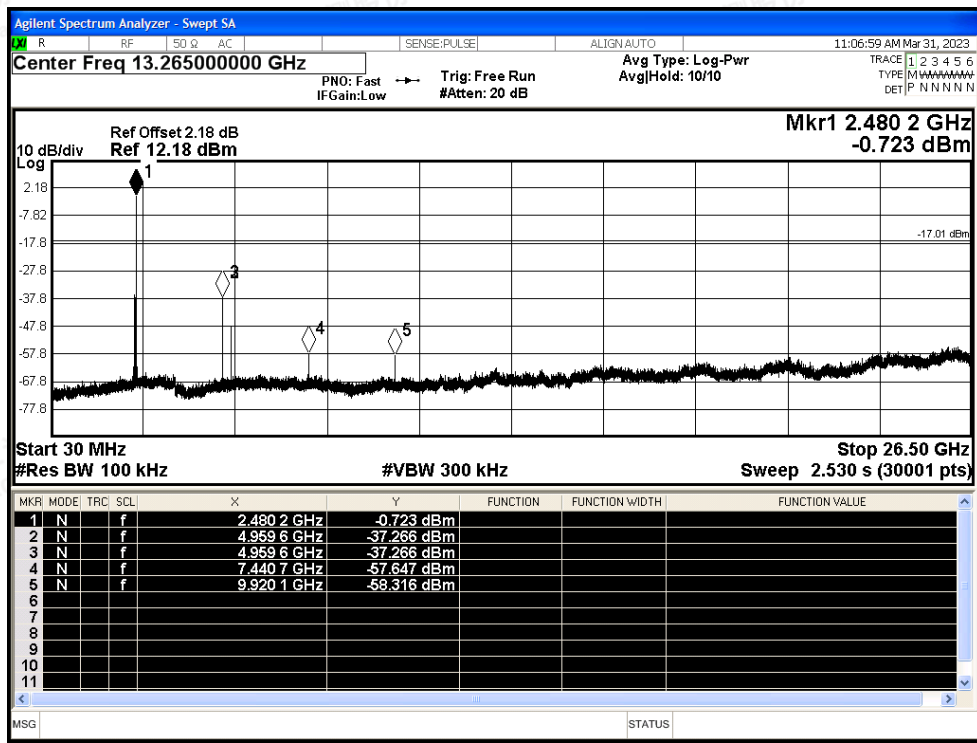




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



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	-50.35	3	47.88	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-60.25	3	37.98	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2389.968	-47.23	3	51.00	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2376.048	-58.62	3	39.61	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-47.23	3	51.00	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-59.99	3	38.24	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.97	3	48.26	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-58.74	3	39.49	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2499.832	-46.56	3	51.67	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.56	-58.66	3	39.57	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.27	3	48.96	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-59.77	3	38.46	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.38	3	47.85	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-60.48	3	37.75	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2350.032	-47.61	3	50.62	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2376.24	-59.33	3	38.90	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.86	3	47.37	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-59.93	3	38.30	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-48.35	3	49.88	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-59.02	3	39.21	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.8	-43.65	3	54.58	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-59.02	3	39.21	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.21	3	48.02	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-59.65	3	38.58	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.83	3	47.40	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-60.39	3	37.84	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2337.264	-47.25	3	50.98	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2375.856	-59.37	3	38.86	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-51.39	3	46.84	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-60.01	3	38.22	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-48.65	3	49.58	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-59.13	3	39.10	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.608	-44.5	3	53.73	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.584	-59.07	3	39.16	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-49.84	3	48.39	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-59.78	3	38.45	Average	54	Pass

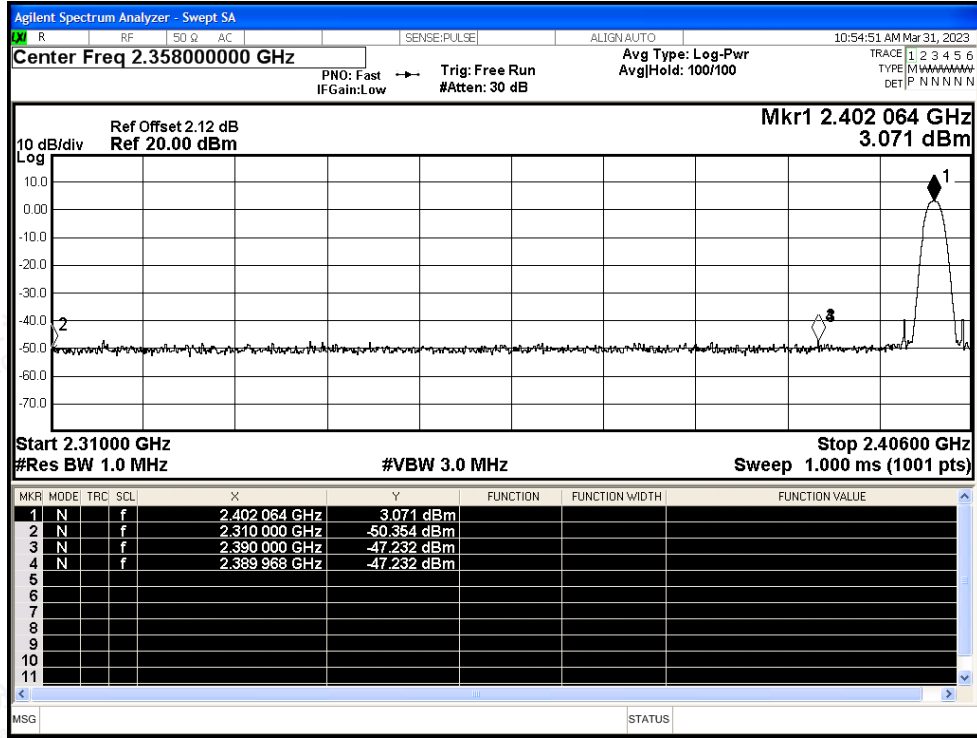


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 Scan code to check authenticity

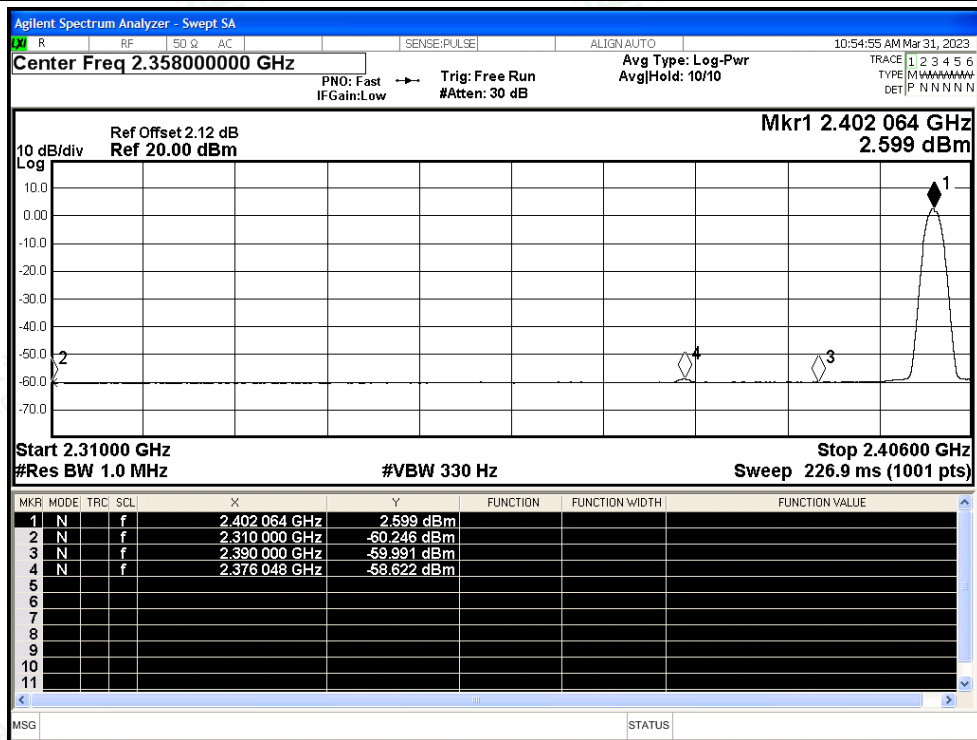


Test Graphs

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

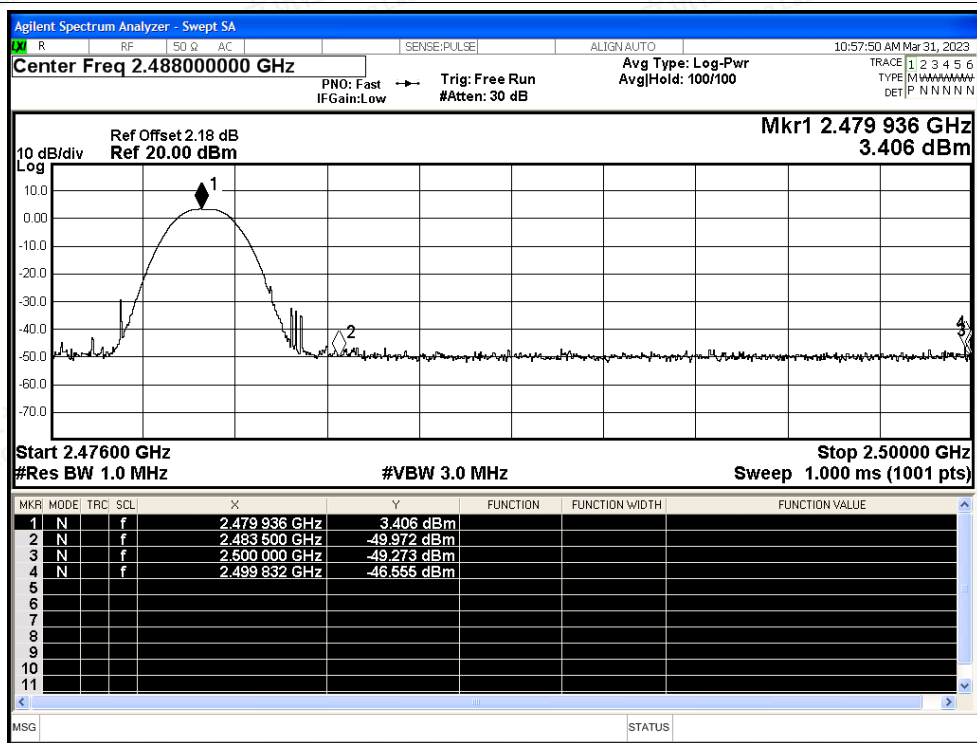


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

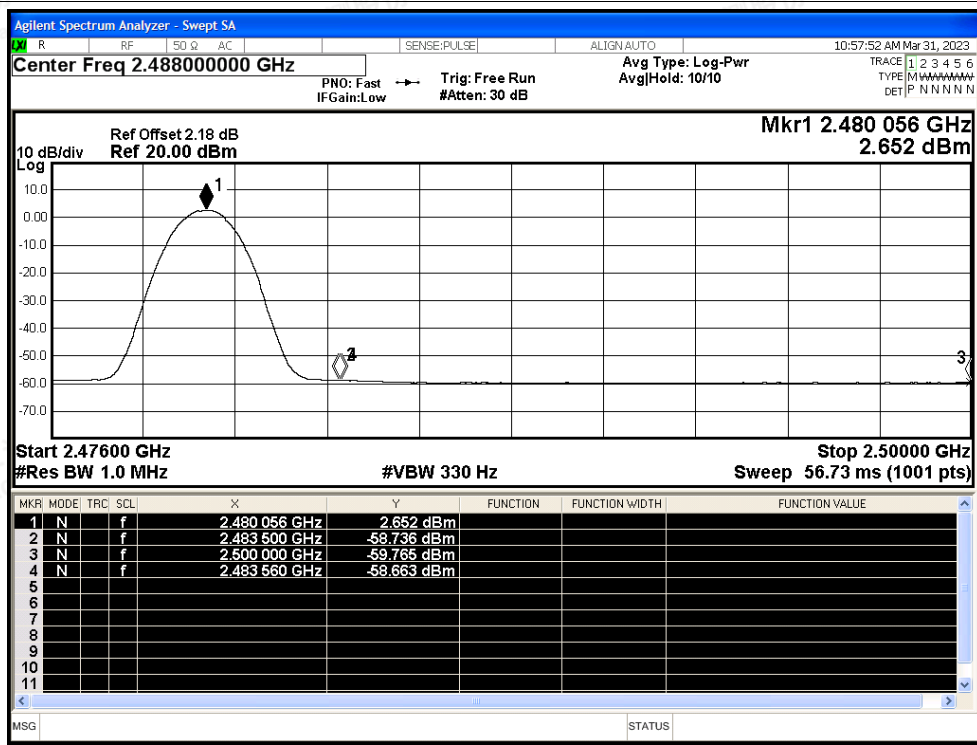




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

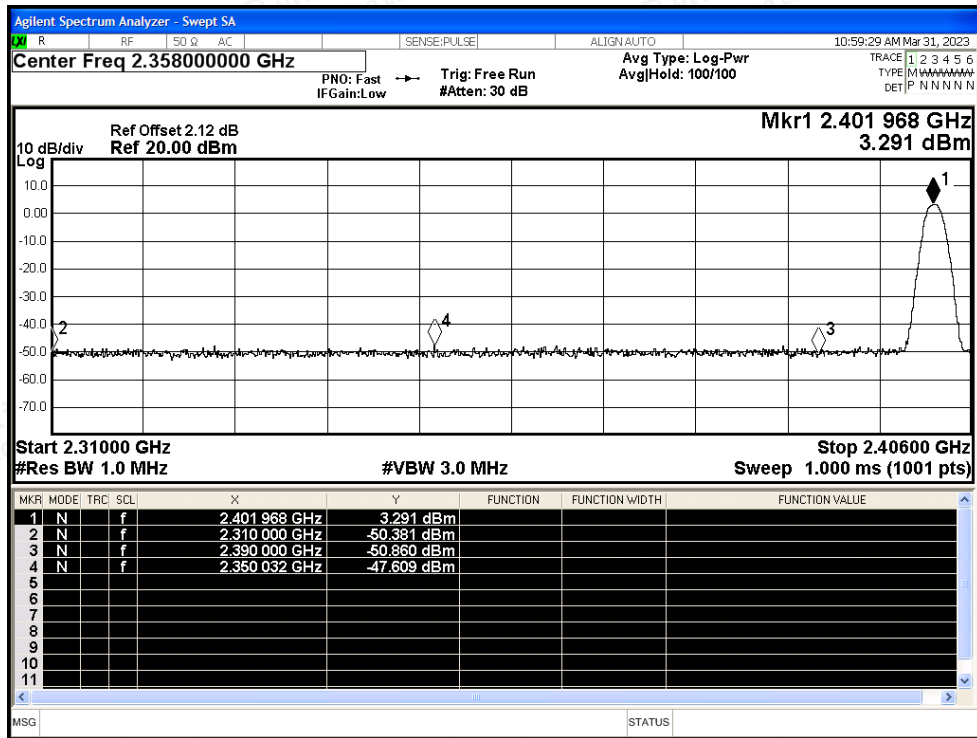


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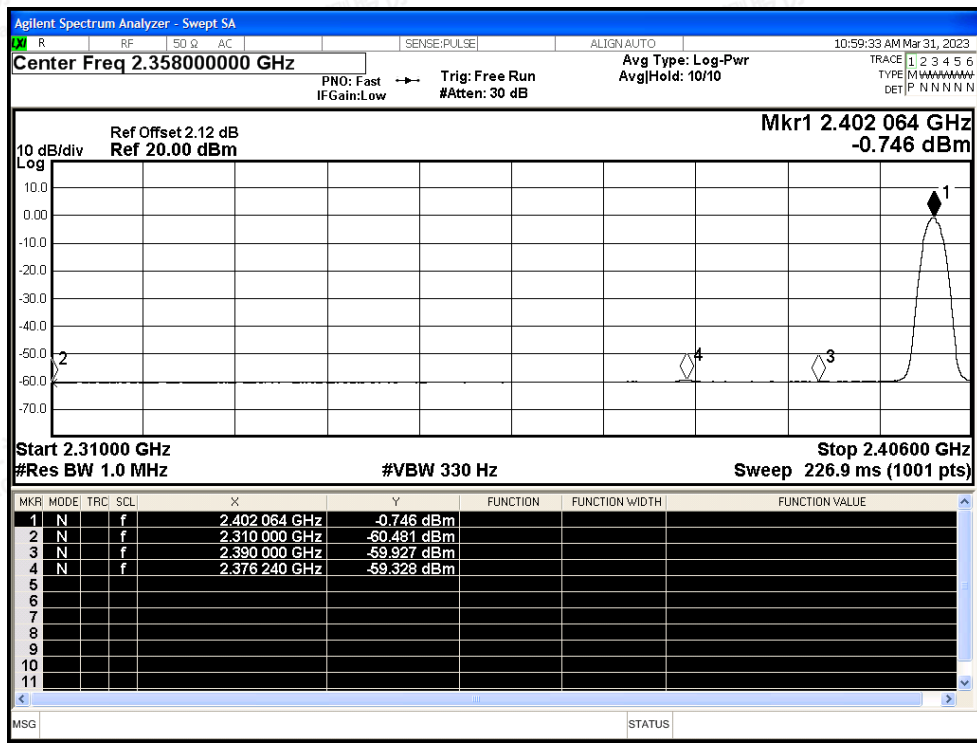




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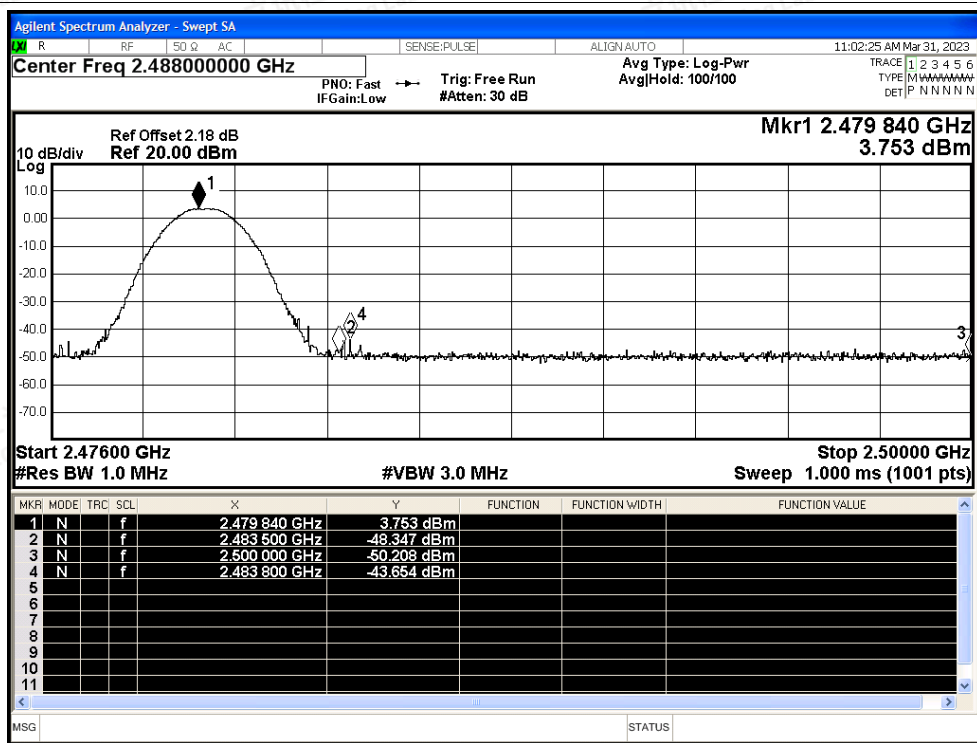


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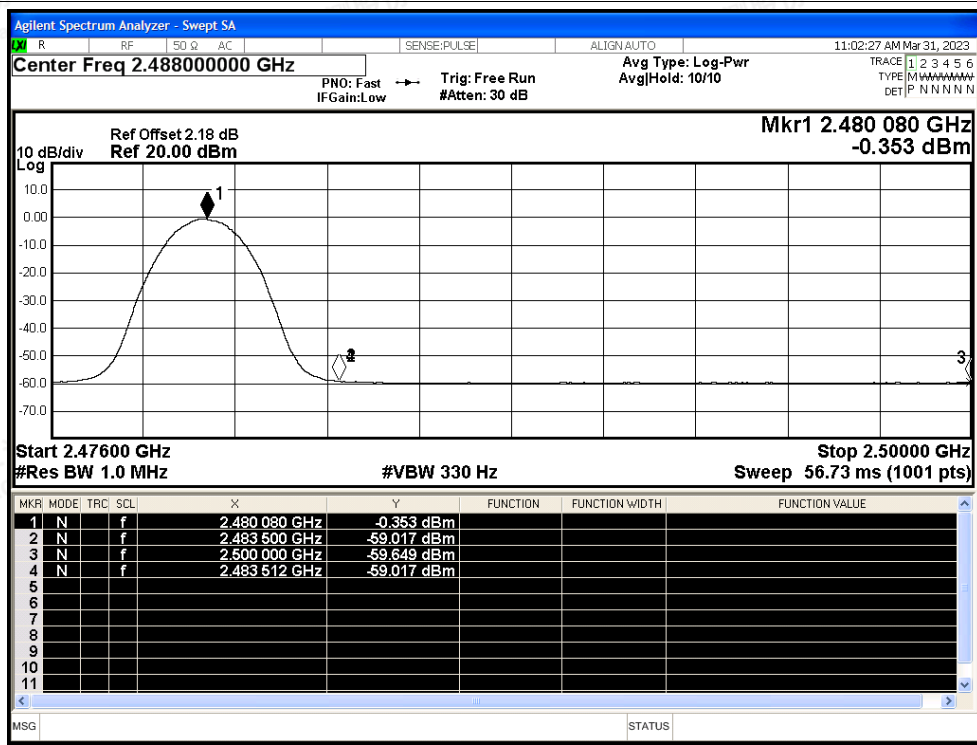




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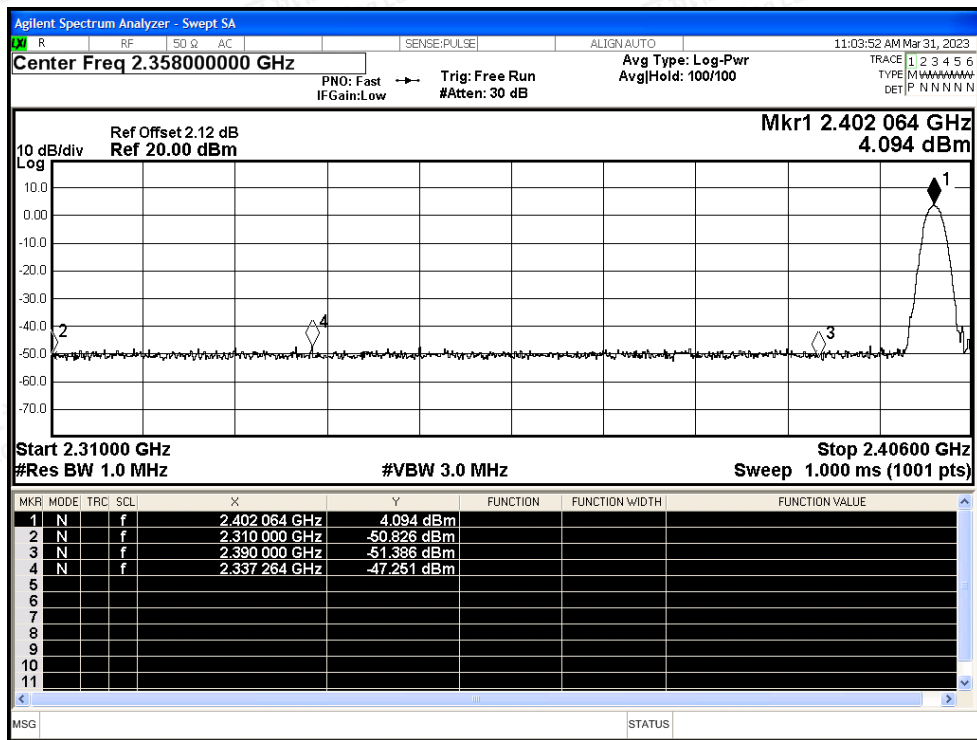


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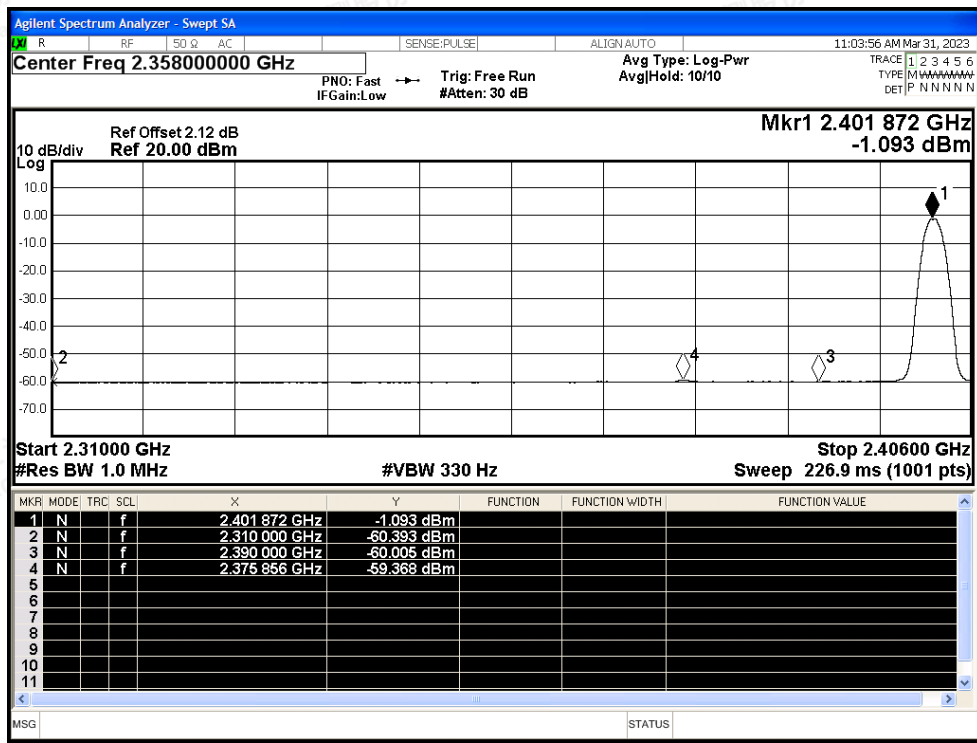




Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak

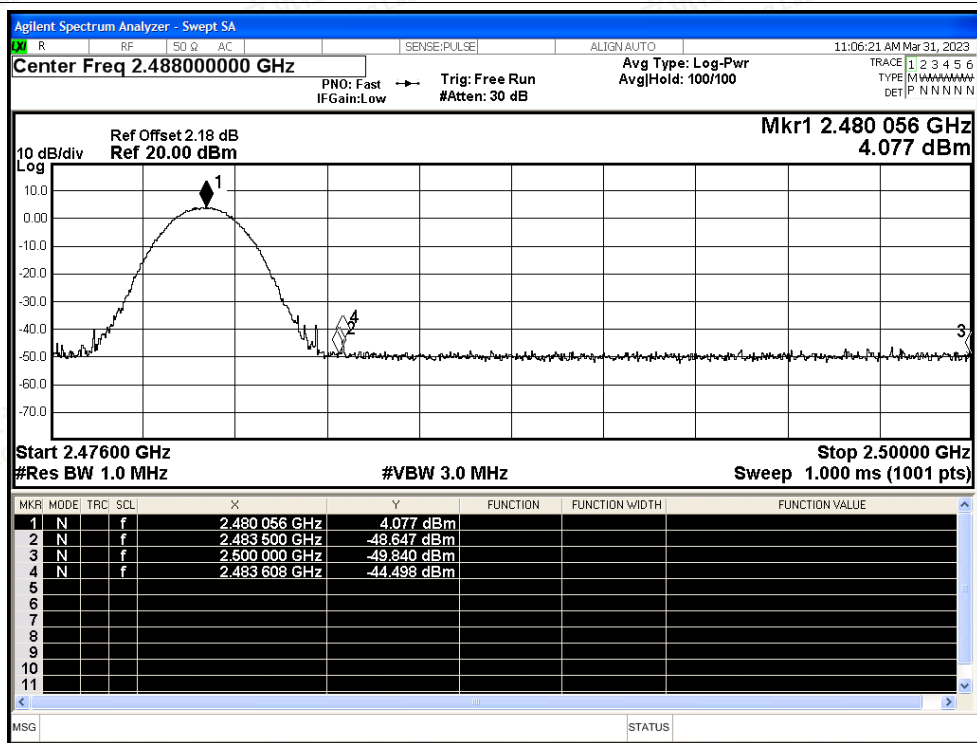


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average





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



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

