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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

LUCAS GENOVA, individually and on behalf
of all others similarly situated,

Plaintiff,

v.

NVIDIA CORPORATION,

Defendant.

Case No.

CLASS ACTION COMPLAINT

JURY TRIAL DEMANDED

1 Plaintiff Lucas Genova (“Plaintiff”) brings this action on behalf of himself and all others
2 similarly situated against Defendant NVIDIA Corporation (“NVIDIA”). Plaintiff makes the
3 following allegations pursuant to the investigation of his counsel and based upon information and
4 belief, except as to the allegations specifically pertaining to himself, which are based on personal
5 knowledge.

6 **NATURE OF ACTION**

7 1. This is a class action lawsuit on behalf of purchasers of the NVIDIA GeForce RTX
8 4090 graphics card (hereafter, the “RTX 4090” or the “Card”), also known as a graphics
9 accelerator, video card, display card, display adapter, or more informally as a graphics processing
10 unit (“GPU”).¹ The gravamen of this action is that Defendant marketed and sold the RTX 4090
11 with a defective and dangerous power cable plug and socket, which has rendered consumers’ cards
12 inoperable and poses a serious electrical and fire hazard for each and every purchaser. Thus,
13 Plaintiff and class members have been hit with a costly double-whammy: a premium purchase
14 price (the MSRP is \$1,599) for a dangerous product that should not have been sold in its current
15 state.

16 2. As will be explained below, a graphics card is a specialized piece of computer
17 hardware designed to rapidly manipulate and alter memory to accelerate the creation of images
18 intended for output to a display. Stated otherwise, graphics cards are designed to interface with a
19 computer’s other components to process (*i.e.*, render) graphics, which are then typically displayed
20 on a monitor or other display device. Because stand-alone graphics cards (hereafter, “graphics
21 cards”) like the RTX 4090 are specifically engineered to process graphics, they can render
22 graphical output substantially faster than a computer’s general-purpose central processing unit
23 (“CPU”) and random-access memory (“RAM”). Thus, users can substantially increase system
24 performance by offloading these tasks to a graphics card, rather than processing graphics directly
25 from their CPU and RAM. Additionally, modern graphics cards like the RTX 4090 support a host

26 ¹ Technically, a GPU is only a piece of a stand-alone graphics card like the RTX 4090, which also
27 includes casing, memory, and power regulators, among other components. Nonetheless, users will
28 sometimes use the term “GPU” to generically refer to the entire graphics card, similar to the way in
which entire computers were sometimes called “CPUs” in the 1990’s.

1 of advanced graphical features for 3D applications that would not otherwise be feasible at
2 acceptable frame rates using the CPU and RAM alone.

3 3. Over the years, discrete graphics cards like the RTX 4090 have evolved into
4 miniature computers unto themselves. That is, the RTX 4090 has its own casing, its own RAM, its
5 own cooling system, its own processor, and its own dedicated power regulators:



14 4. The importance of graphics cards in the consumer electronics space has grown
15 substantially over time as the video game market has exploded. This is because a dedicated
16 graphics card is more or less required to render modern games. What's more, as more demanding
17 and visually impressive games are released, more powerful graphics cards are required to render
18 them. This pressure has caused graphics cards to grow exponentially in computational power.

19 5. This growth comes at a cost, however: graphics cards consume inordinate amounts
20 of power now as compared to just a few years ago. By way of example, NVIDIA's top-of-the-line
21 graphics card in 2015 was the GTX 970 Ti, which was designed to draw up to 250 watts of power.²
22 The recently released RTX 4090, on the other hand, was designed to draw 450 watts during normal
23 use and up to 600 watts when overclocked.³ All that power means increased wattage and heat
24 flowing through the power cable.

25
26
27 ² NVIDIA GeForce GTX 980 Ti, <https://www.techpowerup.com/gpu-specs/geforce-gtx-980-ti.c2724> (accessed 11/09/2022)

28 ³ NVIDIA GeForce RTX 4090, <https://www.techpowerup.com/gpu-specs/geforce-rtx-4090.c3889> (accessed 11/09/2022).

1 Namely, Mr. Genova noticed that his 12VHPWR cable had melted at the point where it plugs into
2 the power cable socket on the Card. Mr. Genova was not aware that this was a defect affecting the
3 Card, and only learned of the problem after he experienced the issue and looked online to see if
4 others had experienced it as well. Had Mr. Genova known about the issue before purchasing the
5 Card, he would not have made the purchase, or he would have paid substantially less for the Card
6 than he did.

7 12. Defendant NVIDIA Corporation is a Delaware corporation with its principal place
8 of business in Santa Clara, California. Defendant NVIDIA researched, designed, and marketed the
9 RTX 4090. NVIDIA is a publicly-traded company with a market capitalization of \$344.24 billion,
10 annual revenue of \$6.7 billion, and an annual EBITDA of \$9.327 billion. Moreover, the market for
11 discrete graphics cards is a duopoly, which NVIDIA dominates. As of Q3 2022, NVIDIA captured
12 around 80% of the market, while its competitor Advanced Micro Devices, Inc. (“AMD”) captured
13 only 20%.

14 JURISDICTION AND VENUE

15 13. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §
16 1332(d) because there are more than 100 class members and the aggregate amount in controversy
17 exceeds \$5,000,000, exclusive of interest, fees, and costs, and at least one Class member is a
18 citizen of a state different from Defendant.

19 14. This Court has personal jurisdiction over Defendant because Defendant conducts
20 substantial business within California, such that Defendant has significant, continuous, and
21 pervasive contacts with the State of California. Additionally, Defendant NVIDIA’s principal place
22 of business is in this District.

23 15. Venue is proper in this District pursuant to 28 U.S.C. § 1391 because Defendant
24 does substantial business in this District, a substantial part of the events giving rise to Plaintiff’s
25 claims took place within this District (*e.g.*, the research, development, design, and marketing of the
26 RTX 4090), and Defendant NVIDIA’s principal place of business is in this District.

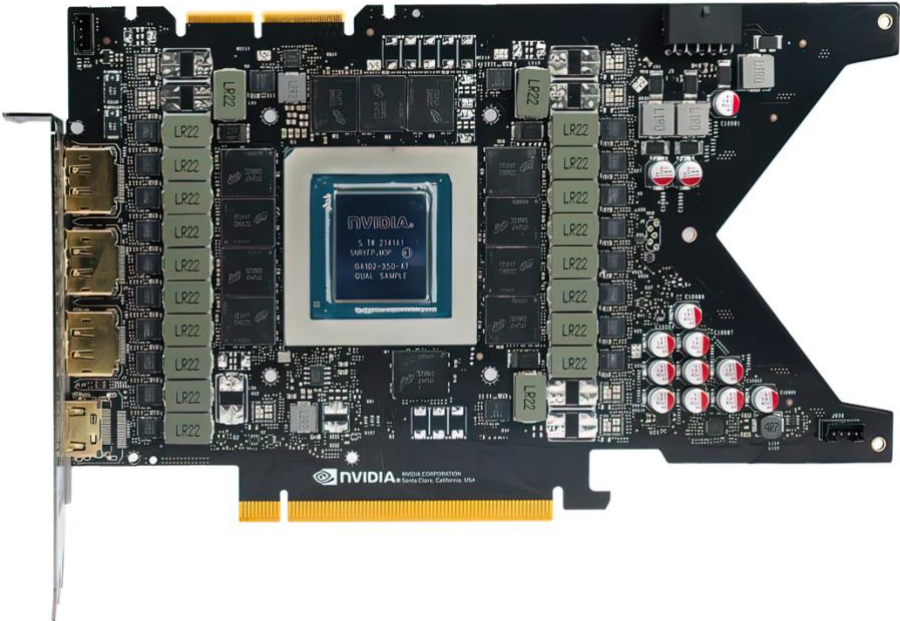
FACTUAL BACKGROUND

Graphics Cards and Power Cables

16. Preliminarily, modern computers are best understood as a collection of specialized components, each of which has a defined task. For example, the CPU processes instructions, the RAM and SSD store information, the Wi-Fi chipset handles communication with a wireless router, and so on. Another one of those components is the GPU, which renders the images a viewer sees on the computer monitor or laptop screen.

17. Rendering graphics is often computationally expensive. Historically, graphics were rendered with a computer’s main CPU and RAM. Stated otherwise, the CPU and RAM would update each pixel when necessary. However, the disadvantage to this methodology is that rendering graphics occupies these components, which are simultaneously executing the operating system, kernel, and numerous programs in user space. Accordingly, commingling these tasks on the computer’s main CPU and RAM may reduce the computer’s performance system-wide, and the quality of graphics that can be displayed at an acceptable frame rate is fairly limited.

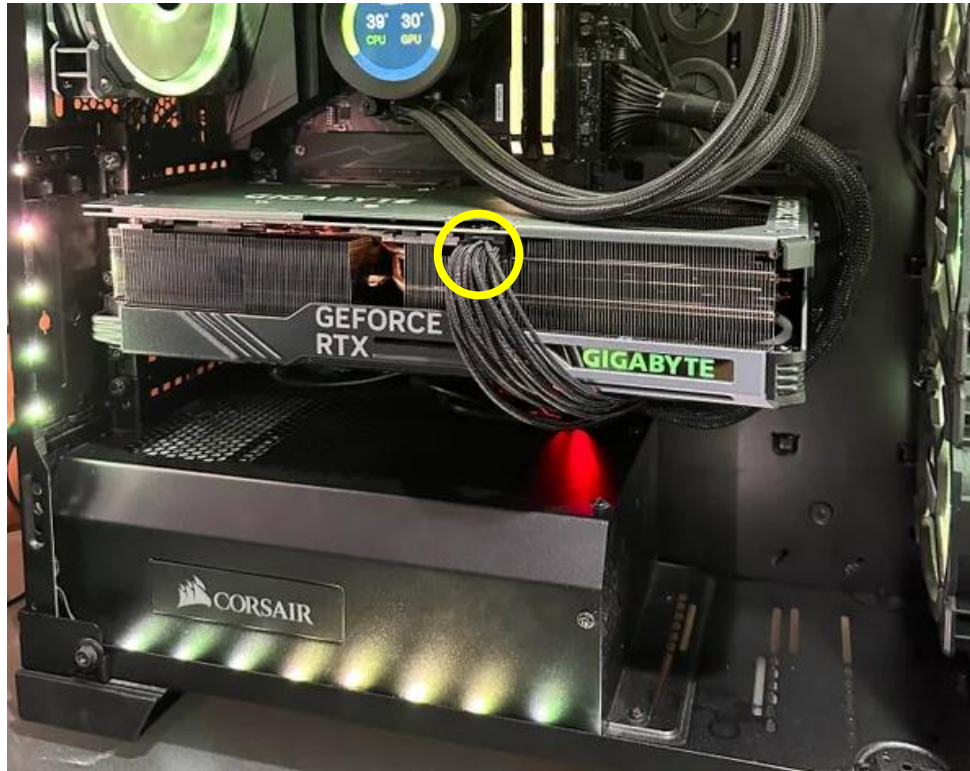
18. In or about 1995, several companies (including NVIDIA) began marketing discrete graphics cards, which offload graphics rendering to a separate processor that is specifically engineered for this task. In fact, NVIDIA’s “NV1,” released in May 1995, was the first commercial graphics card capable of 3D rendering and video acceleration. Over time, graphics cards have evolved into miniature computers – they have their own processor (a graphics processing unit, or “GPU”), their own RAM, their own cooling system, and sometimes separate power regulators. On modern computers, graphics cards are plugged directly into the motherboard, typically using the PCI Express bus. An image of the RTX 4090 “board” is depicted below. The old-plated component at the bottom of the card is what plugs into the PCI Express slot on the computer motherboard.



19. The advantage of using discrete graphics cards is that the computer’s main CPU and RAM are not occupied with rendering graphics, which improves performance system-wide. Additionally, discrete graphics cards like the RTX 4090 can render graphical output substantially faster than a computer’s main CPU and RAM alone, given that they are specifically engineered for the task. Furthermore, modern graphics cards like the RTX 4090 support a host of advanced graphical features for 3D applications that would not otherwise be feasible at acceptable frame rates using the CPU and RAM alone: anti-aliasing, anisotropic texture filtering, ambient occlusion, motion blur, tessellation, high-dynamic-range, high-resolution textures, detailed shadows, and post-processing, and ray tracing (“RTX” is a nod to the 4090’s ray tracing capabilities) among others. Simply put, this means that games run at faster frame rates with higher graphical fidelity. Animation and 3D applications will also run faster, and overall system performance is increased.

20. All of this graphical fidelity comes at a cost, however. Graphics cards such as the RTX 4090 are magnitudes more computationally powerful than prior generations of graphics cards were, but they also require significantly more power to run. By way of example, NVIDIA’s top-of-the-line graphics card in 2015 was the GTX 980 Ti, and it was designed to draw up to 250 watts of power. The recently released RTX 4090, on the other hand, draws 450 watts normally and up to 600 watts when overclocked.

1 21. Supplying all this power to the Card is accomplished by connecting the Card
2 directly to the computer’s power supply unit (“PSU”) via a 16-pin power cable.



16 *An image of the RTX 4090 inside of a desktop computer. The 16-pin power cable connects to the*
17 *Card at the point circled in yellow and leads around back to the Corsair branded PSU.*

18 22. The design of the cable is such that 12 pins supply power to the Card while four
19 smaller pins at the bottom function as “sensing” pins, telling the Card how much wattage is
20 available to it.



1 23. This “12+4” design is a relatively new standard called 12VHPWR, pronounced “12-
2 volt high-power.” It was designed with high-powered graphics cards like the RTX 4090 in mind.

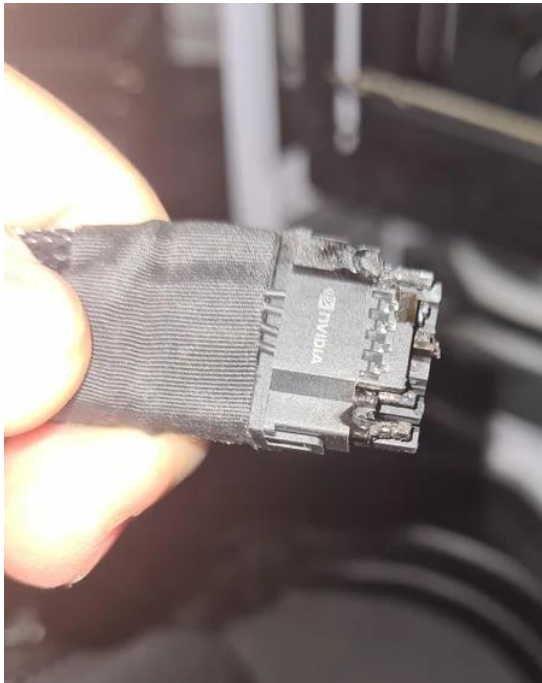
3 24. The new 12VHPWR connector has not been widely adopted by consumers yet,
4 however, so while a 12VHPWR cable can plug into the RTX 4090, the other end of the cable
5 cannot connect to the average consumer’s PSU, which uses older 6 or 8-pin designs. To rectify
6 this, NVIDIA supplies an adapter with each RTX 4090 which converts the 12VHPWR connector
7 to three or four 8-pin connectors which are plugged into the PSU.

8 25. Regardless of the type of connector that plugs into the PSU, on the other end of the
9 cable is a 12VHPWR connector which is plugged into the RTX 4090.

10 **The Defective Connection**

11 26. Almost immediately after the RTX 4090 was released, worrying reports began to
12 surface of consumers’ Cards melting at the point where the 12VHPWR connector plugs in.

13 27. The first such report occurred on October 24, 2022 when a user on Reddit.com
14 submitted a post titled “RTX 4090 Adapter burned,” along with the photos below.⁴



28 ⁴ https://www.reddit.com/r/nvidia/comments/yc6g3u/rtx_4090_adapter_burned/

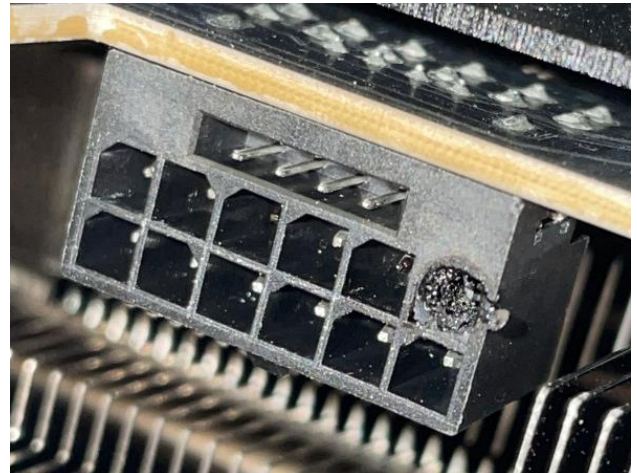
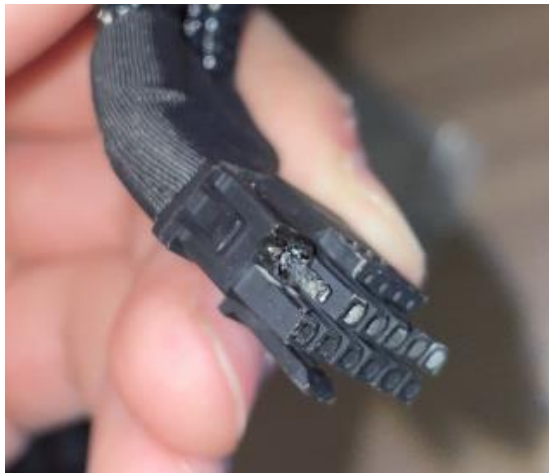
1 28. The photos show melting around the plastic housing of the 12VHPWR cable plug
2 and melting around the power cable socket on the Card.

3 29. Between October 24, 2022 and November 7, 2022 an additional 22 reports of the
4 12VHPWR cable plug and power cable socket melting were submitted to Reddit.com/r/nvidia.⁵

5 30. For example, on October 28, 2022 another reddit user posted a photo of their melted
6 connector, depicted below. As can be seen, the bottom right housing had completely melted away.
7 The user reported that they had only checked the connector because their friend had asked them to
8 after hearing reports about the issue.



18 31. On November 4, 2022 another consumer posted a photo of their melted RTX 4090
19 power cable and socket to Korean website Quasar Zone. The photos depict extensive melting in
20 both the 12VHPWR power cable and the socket on the Card.



28 ⁵ https://www.reddit.com/r/nvidia/comments/ydh1mh/16_pins_adapter_megathread/

1 32. Other users have reported smoke coming out of their Cards alongside the melting.

2 33. The melting has affected both the 12VHPWR adapter and the native 12VHPWR
3 cable.

4 34. Consumers have uniformly reported following the instructions provided by NVIDIA
5 when installing their cables. These are early adopters posting to product-specific forums. These
6 consumers, including Plaintiff Wood, are generally experienced in graphics card installation and
7 had no indication of problems at the time of installation.

8 35. The cause of the melting appears to be a defect in the cable plug or the connector
9 design such that too much current will flow through a certain pin, causing it to overheat and melt
10 the surrounding plastic.

11 36. As evidenced by the photos and the user reports, the defect in the cable or socket
12 design poses a genuine electrical or fire hazard. As such, the Cards are unsafe for anyone to use in
13 their present configuration.

14 **CLASS REPRESENTATION ALLEGATIONS**

15 37. Plaintiff Lucas Genova seeks to represent a class defined as all persons in the United
16 States who purchased a RTX 4090 (the “Class”). Excluded from the Class are persons who made
17 such purchase for purpose of resale.

18 38. Plaintiff also seeks to represent a subclass of all Class members who purchased a
19 RTX 4090 in New York (the “New York Subclass”).

20 39. Members of the Class and Subclass are so numerous that their individual joinder
21 herein is impracticable. On information and belief, members of the Class and Subclass number in
22 the thousands. The precise number of Class members and their identities are unknown to Plaintiff
23 at this time but may be determined through discovery. Class members may be notified of the
24 pendency of this action by mail and/or publication through the distribution records of Defendant
25 and third party retailers and vendors.

26 40. Common questions of law and fact exist as to all Class members and predominate
27 over questions affecting only individual Class members. Common legal and factual questions
28 include, but are not limited to:

- 1 (a) Whether the RTX 4090 12VHPWR cable adapter is
- 2 defective;
- 3 (b) Whether the RTX 4090 12VHPWR socket is defective;
- 4 (c) Whether the RTX 4090 12VHPWR power delivery system is
- 5 defective; and
- 6 (d) Whether Defendant knew about the defect before selling the
- 7 card to the public.

8 41. The claims of the named Plaintiff are typical of the claims of the Class in that the
 9 named Plaintiff purchased a RTX 4090 in reliance on the representations and warranties described
 10 above, experienced the melting defect, and suffered a loss as a result of that purchase.

11 42. Plaintiff is an adequate representative of the Class and Subclass because his interests
 12 do not conflict with the interests of the Class members he seeks to represent, he has retained
 13 competent counsel experienced in prosecuting class actions, and he intends to prosecute this action
 14 vigorously. The interests of Class members will be fairly and adequately protected by Plaintiff and
 15 his counsel.

16 43. The class mechanism is superior to other available means for the fair and efficient
 17 adjudication of the claims of Class and Subclass members. Each individual Class member may
 18 lack the resources to undergo the burden and expense of individual prosecution of the complex and
 19 extensive litigation necessary to establish Defendant’s liability. Individualized litigation increases
 20 the delay and expense to all parties and multiplies the burden on the judicial system presented by
 21 the complex legal and factual issues of this case. Individualized litigation also presents a potential
 22 for inconsistent or contradictory judgments. In contrast, the class action device presents far fewer
 23 management difficulties and provides the benefits of single adjudication, economy of scale, and
 24 comprehensive supervision by a single court on the issue of Defendant’s liability. Class treatment
 25 of the liability issues will ensure that all claims and claimants are before this Court for consistent
 26 adjudication of the liability issues.

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COUNT I

Unjust Enrichment

44. Plaintiff hereby incorporates by reference the allegations contained in all preceding paragraphs of this complaint.

45. Plaintiff brings this claim individually and on behalf of the members of the proposed Class and Subclass against Defendant.

46. Defendant has been unjustly enriched in retaining the revenues derived from Plaintiff and the Class and Subclass Members' purchases of the RTX 4090. Retention of those monies under these circumstances is unjust and inequitable because Defendant failed to disclose that the RTX 4090 has a defective and potentially dangerous power cable, rendering the Card unfit for sale. Defendants' misrepresentations and/or material omissions caused injuries to Plaintiff and the Class and Subclass Members because they would not have purchased the RTX 4090 if the true facts were known.

47. Because Defendant's retention of the non-gratuitous benefits conferred on them by Plaintiff and the Class and Subclass Members is unjust and inequitable, Defendants must pay restitution to Plaintiff and the Class and Subclass Members for its unjust enrichment, as ordered by the Court.

COUNT II

Breach Of Implied Warranty Of Merchantability

48. Plaintiff hereby incorporates by reference the allegations contained in all preceding paragraphs of this complaint.

49. Plaintiff brings this claim individually and on behalf of the members of the proposed Class and Subclass against Defendant.

50. Defendant, as the designer, manufacturer, marketer, distributor, and/or seller, impliedly warranted that the RTX 4090 had a safe and functional power cable and power cable socket which would not melt during normal use. In fact, Plaintiff and Class and Subclass members experienced their Cards melting at the point where the power cable connects to the Card, either breaking their Cards or posing a serious electrical and fire hazard, rendering their Cards useless.

1 including but not limited to the fact that it has a defective power cable or power cable socket which
2 can melt, breaking the Card or rendering it dangerous to use.

3 61. The misrepresentations and omissions made by Defendant, upon which Plaintiff and
4 Class members reasonably and justifiably relied, were intended to induce and actually induced
5 Plaintiff and Class members to purchase the RTX 4090.

6 62. The fraudulent actions of Defendant caused damage to Plaintiff and Class members,
7 who are entitled to damages and other legal and equitable relief as a result.

8 **Count IV**

9 **Violation of New York's General Business Law § 349**

10 63. Plaintiff hereby incorporates by reference and re-alleges herein the allegations
11 contained in all preceding paragraphs of this complaint.

12 64. Plaintiff brings this claim individually and on behalf of the Members of the
13 proposed New York Subclass against Defendant.

14 65. Defendant committed deceptive acts and practices by employing false, misleading,
15 and deceptive representations and/or omissions about the functionality and safety of the power
16 cable and power cable socket on the RTX 4090 graphics card.

17 66. Plaintiff Genova has standing to pursue this claim because he has suffered an injury-
18 in-fact and has lost money or property because of Defendant's deceptive acts and practices.
19 Specifically, Plaintiff Genova purchased the RTX 4090 for his own personal use. In doing so,
20 Plaintiff relied upon Defendant's false, misleading, and deceptive representations that the RTX
21 4090 was safe to use and that it would not melt at the point where the power cable plugs into the
22 socket, rendering the card unsafe to use and posing an electrical and fire hazard. Plaintiff spent
23 money in the transaction that he otherwise would not have spent had she known the truth about
24 RTX 4090.

25 67. Defendant's deceptive acts and practices were directed at consumers.

26 68. Defendant's deceptive acts and practices are misleading in a material way because
27 they violate consumers' reasonable expectations. Defendant knew consumers would purchase the
28

1 RTX 4090 and/or pay more for them under the false – but reasonable – belief that they were safe to
2 use and had functioning power cables, when they did not.

3 69. If Defendant had advertised the RTX 4090 truthfully and in a non-misleading
4 fashion, Plaintiff and New York Subclass Members would not have purchased the Card or would
5 not have paid as much as they did for it.

6 70. As a direct and proximate result of Defendant’s false, misleading, and deceptive
7 representations and/or omissions, Plaintiff Genova and other Members of the New York Subclass
8 were injured in that they: (1) paid money for graphics cards that were not what Defendant
9 represented; (2) were deprived of the benefit of the bargain because the RTX 4090s they purchased
10 was different than Defendant advertised; and (3) were deprived of the benefit of the bargain
11 because the Cards they purchased had less value than if Defendant’s representations about the
12 Cards’ usability and safety were truthful.

13 71. On behalf of himself and Members of the New York Subclass, Plaintiff Genova
14 seeks to enjoin Defendant’s unlawful acts and practices and recover his actual damages or fifty
15 (50) dollars, whichever is greater, three times actual damages, and reasonable attorneys’ fees.

16 **COUNT V**

17 **Violation of New York’s General Business Law § 350**

18 72. Plaintiff hereby incorporates by reference and re-alleges herein the allegations
19 contained in all preceding paragraphs of this complaint.

20 73. Plaintiff brings this claim individually and on behalf of the Members of the
21 proposed New York Subclass against Defendant.

22 74. Defendant engaged in a campaign of false advertising with regard to the RTX 4090
23 to mislead consumers into believing the Card is suitable for normal use, such that the 12VHPWR
24 cable and cable socket would not melt under normal operating conditions.

25 75. Plaintiff Genova has standing to pursue this claim because he has suffered an injury-
26 in-fact and has lost money or property because of Defendants’ deceptive acts and practices.
27 Specifically, Plaintiff Genova purchased the RTX 4090 for his own personal use. In doing so,
28 Plaintiff relied upon Defendant’s false, misleading, and deceptive representations that the RTX

1 4090 was safe to use and that it would not melt at the point where the power cable plugs into the
2 socket, rendering the card unsafe to use and posing an electrical and fire hazard. Plaintiff spent
3 money in the transaction that he otherwise would not have spent had she known the truth about
4 RTX 4090.

5 76. Defendants' deceptive acts and practices were directed at consumers.

6 77. Defendant's deceptive acts and practices are misleading in a material way because
7 they violate consumers' reasonable expectations. Defendant knew consumers would purchase the
8 RTX 4090 and/or pay more for them under the false – but reasonable – belief that they were safe to
9 use and had functioning power cables, when they did not.

10 78. If Defendant had advertised the RTX 4090 truthfully and in a non-misleading
11 fashion, Plaintiff and New York Subclass Members would not have purchased the Card or would
12 not have paid as much as they did for it.

13 79. As a direct and proximate result of Defendant's false, misleading, and deceptive
14 representations and/or omissions, Plaintiff Genova and other Members of the New York Subclass
15 were injured in that they: (1) paid money for graphics cards that were not what Defendant
16 represented; (2) were deprived of the benefit of the bargain because the RTX 4090s they purchased
17 were different than Defendant advertised; and (3) were deprived of the benefit of the bargain
18 because the Cards they purchased had less value than if Defendant's representations about the
19 Cards' usability and safety were truthful.

20 80. On behalf of himself and Members of the New York Subclass, Plaintiff Genova
21 seeks to enjoin Defendant's unlawful acts and practices and recover his actual damages or five
22 hundred (500) dollars, whichever is greater, three times actual damages, and reasonable attorneys'
23 fees.

24 **PRAYER FOR RELIEF**

25 WHEREFORE, Plaintiff, individually and on behalf of all others similarly situated, seeks
26 judgment against Defendants, as follows:

- 27 a. For an order certifying the nationwide Class and the Subclass under Rule 23 of the
28 Federal Rules of Civil Procedure and naming Plaintiff as representative of the Class

- 1 and Subclass and Plaintiff’s attorneys as Class Counsel to represent the Class and
- 2 Subclass members;
- 3 b. For an order declaring the Defendants’ conduct violates the statutes referenced
- 4 herein;
- 5 c. For an order finding in favor of Plaintiff, the nationwide Class, and the Subclass on
- 6 all counts asserted herein;
- 7 d. For compensatory, statutory, and punitive damages in amounts to be determined by
- 8 the Court and/or jury;
- 9 e. For prejudgment interest on all amounts awarded;
- 10 f. For an order of restitution and all other forms of equitable monetary relief;
- 11 g. For injunctive relief as pleaded or as the Court may deem proper; and
- 12 h. For an order awarding Plaintiff and the Class and Subclass his reasonable attorneys’
- 13 fees and expenses and costs of suit.

DEMAND FOR TRIAL BY JURY

Plaintiff demands a trial by jury of all issues so triable.

Dated: November 11, 2022

Respectfully submitted,

BURSOR & FISHER, P.A.

By: /s/Neal J. Deckant
Neal J. Deckant

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