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12  
13 UNITED STATES DISTRICT COURT  
14 NORTHERN DISTRICT OF CALIFORNIA

16 MARK ROUSHION, on behalf of himself and  
all others similarly situated,

17 Plaintiff,

18 v.

19 NVIDIA CORPORATION and EVGA  
20 CORPORATION,

21 Defendants.

Case No. 15-cv-01102

**CLASS ACTION COMPLAINT**

FOR VIOLATIONS OF:

- 1) MAGNUSON-MOSS WARRANTY ACT, 15 U.S.C. §§ 2301, *et seq.*;
- 2) CAL. BUS. & PROF. CODE §§ 17200, *et seq.* (Cal. Unfair Competition Law);
- 3) CAL. BUS. & PROF. CODE §§ 17500, *et seq.* (California False Advertising Act);
- 4) CAL. CIVIL CODE §§ 1750, *et seq.* (Consumer Legal Remedies Act);
- 5) Breach of Express Warranty;
- 6) Breach of Implied Warranty of Merchantability;
- 7) Unjust Enrichment
- 8) Negligent Misrepresentation

DEMAND FOR JURY TRIAL

28

1 Plaintiff Mark Roushion (“Plaintiff”), on behalf of himself and all others similarly  
2 situated, brings this action against NVIDIA Corporation (“NVIDIA”) and EVGA Corporation  
3 (“EVGA”) (collectively, the “Defendants”). Plaintiff alleges pursuant to his personal knowledge  
4 as to himself and his own acts, and pursuant to the investigation of his counsel, and information  
5 and belief as to the other allegations of this Complaint.

6 **NATURE OF ACTION**

7 1. Plaintiff brings this nationwide class action on behalf of himself and all persons  
8 who purchased the NVIDIA GeForce GTX 970 graphics card (hereafter, the “GTX 970”), also  
9 known as a video card, display card, display adapter, or more informally as a graphics processing  
10 unit (“GPU”).

11 2. A graphics card is a specialized piece of computer hardware designed to generate  
12 the creation of images for output to a display, such as a computer monitor. Graphics cards are  
13 designed to interface with a computer’s other components to process (*i.e.*, render) graphics, which  
14 are then typically displayed on a monitor or other display device. Because stand-alone graphics  
15 cards (hereafter, “discrete graphics cards”) like the GTX 970 are specifically engineered to  
16 process graphics, they can render graphical output substantially faster than a computer’s general-  
17 purpose central processing unit (“CPU”) and random access memory (“RAM”). Thus, users can  
18 substantially increase system performance by offloading these tasks to a discrete graphics card,  
19 rather than processing graphics directly from their CPU and RAM. Additionally, modern  
20 graphics cards like the GTX 970 support a host of advanced graphical features that would not  
21 otherwise be feasible using the CPU and RAM alone.

22 3. Over the years, discrete graphics cards like the GTX 970 have evolved into  
23 miniature computers unto themselves. That is, the GTX 970 has its own casing, its own RAM, its  
24 own cooling system, its own processor, and its own dedicated power regulators:<sup>1</sup>

25  
26  
27  
28 <sup>1</sup> See <http://br.evga.com/products/enlarge.asp?pn=04G-P4-0974-KR&I=1>.

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4. Defendants falsely and misleadingly represented the technical specifications and performance of the GTX 970 in its advertising and marketing materials. Specifically, Defendants represented that the GTX 970 had 2 MB (megabytes) of L2 cache, 64 parallel processing cores called render output units (“ROPs”), and 4 GB (gigabytes) of video RAM (“VRAM”) (collectively, the “Misrepresentations”).

5. However, these specifications are false. In fact, the GTX 970 has only 1.75 MB of L2 cache, and 56 ROPs. Additionally, the purported “4 GB” of VRAM is actually divided into two pools: a main pool of 3.5 GB, and a smaller pool of 0.5 GB that runs at approximately one-seventh the speed of the 3.5 GB pool (192 GB per second, versus 28 GB per second), which causes a bottleneck that reduces the GTX 970’s performance.

6. The GTX 970 thus cannot perform as advertised and is not sold as advertised. By selling the GTX 970 with false and misleading technical specifications, Defendants deceived consumers into purchasing a graphics card that is worth substantially less than represented. Plaintiff and class members did not receive the graphics card they were promised and expected. Plaintiff and class members thus paid a premium for a product that does not perform as advertised.

**JURISDICTION AND VENUE**

7. This Court has jurisdiction over the subject matter of this civil action pursuant to 28 U.S.C. § 1331, because this is a civil action arising under the laws of the United States. This Court has supplemental jurisdiction over the state law claims pursuant to 28 U.S.C. § 1367. This

1 Court further has subject matter jurisdiction pursuant to the Class Action Fairness Act, 28 U.S.C.  
2 § 1332(d), because some members of the proposed Class are citizens of states different than  
3 Defendants, and the aggregate in controversy exceeds \$5,000,000, exclusive of interest and costs.

4 8. The Court has personal jurisdiction over Defendants because Defendants are  
5 headquartered and are authorized to do business and in fact do business in this state and  
6 Defendants have significant minimum contacts within this state, and/or otherwise intentionally  
7 avail themselves of the markets of this state through the promotion, marketing, and sale of their  
8 products in this state, to render the exercise of jurisdiction by this Court permissible under the  
9 traditional notions of fair play and substantial justice.

10 9. Venue is proper in this District pursuant to 28 U.S.C. § 1391 because Defendants  
11 do substantial business in this District, a substantial part of the events giving rise to Plaintiff's  
12 claims occurred within this District (*e.g.*, the research, development, design, and marketing of the  
13 GTX 970), and Defendant NVIDIA's principal place of business is in this District.

#### 14 **PARTIES**

15 10. Plaintiff Mark Roushion is a resident of Sonoma County, California. On or about  
16 September 22, 2014, Plaintiff Roushion purchased two EVGA-made GTX 970 graphics cards for  
17 \$349.99 each on the Newegg.com website, labeled "EVGA 04G-P4-0974-KR GeForce GTX 970  
18 4GB 256-Bit GD". Mr. Roushion decided to purchase the GTX 970 because he had a prior  
19 version of a NVIDIA discrete graphics card and wanted to purchase a version which he believed  
20 had more GB and thus more value for his money. Prior to his purchase of the GTX 970,  
21 Mr. Roushion was familiar with the card's purported technical specifications and performance  
22 characteristics, which represented that the card had 2 MB of L2 cache and 64 ROPs.  
23 Additionally, Mr. Roushion reviewed the product's labeling and information online prior to  
24 purchase, which represented that the card had 4 GB of VRAM. Mr. Roushion saw these  
25 representations prior to and at the time of purchase, and understood them as representations and  
26 warranties that the GTX 970 did, in fact, meet these specifications. Accordingly, these  
27 representations and warranties were part of the basis of the bargain, in that he attributed value to  
28

1 these specifications and would not have purchased the GTX 970 or would have purchased the  
2 GTX 970 at a significantly lower price had he known that these specifications were false.

3 11. Defendant NVIDIA Corporation is a Delaware corporation with its principal place  
4 of business at 2701 San Tomas Expressway, Santa Clara, California 95050. Defendant NVIDIA  
5 researched, designed, and marketed the GTX 970 to consumers. NVIDIA is a publically-traded  
6 company with a market capitalization of \$12.44 billion and annual revenue of \$4.68 billion.

7 12. Defendant EVGA Corporation is a California corporation with its principal place  
8 of business at 2900 Saturn Street, Brea, California 92821. Relevant to this action, EVGA  
9 manufactured the particular GTX 970 Mr. Roushion purchased. Within the industry, it is  
10 customary for designers like NVIDIA to license their designs to major electronics manufacturers  
11 like EVGA, who in turn press, package, and sell NVIDIA's graphics cards. However, each  
12 graphics card licensed to outside manufacturers must meet NVIDIA's specifications.  
13 Accordingly, as is customary in the industry, there are EVGA-made GTX 970 cards, ASUS-made  
14 GTX 970 cards, Gigabyte-made GTX 970 cards, ZOTAC-made GTX 970 cards, and PNY-made  
15 GTX 970 cards, each with virtually identical specifications and performance.

16 13. Each of the Defendants acted jointly to perpetrate the acts described herein. At all  
17 times relevant to the allegations in this matter, each Defendant acted in concert with, with the  
18 knowledge and approval of, and/or as the agent of the other Defendants within the course and  
19 scope of the agency, regarding the acts and omissions alleged.

## 20 **FACTUAL BACKGROUND**

### 21 **I. The Role of Graphics Cards in Modern Computers**

22 14. Modern computers are a collection of specialized components, each with a defined  
23 task. A computer generally has the following components: a CPU that processes instructions,  
24 memory for storage (*e.g.*, RAM or a hard drive), input from the user (*e.g.*, a mouse or keyboard),  
25 output for the user (*e.g.*, a monitor or speakers), and a control unit that coordinates the various  
26 components (*i.e.*, the motherboard).

27 15. Building off this framework, when images are rendered for output on a display  
28 device like a computer monitor, they are arranged in a series of tiny dots called pixels. For

1 example, the popular resolution 1920x1080 is arranged as a grid of pixels that number 1,920 in  
2 width and 1,080 in height, for a total of slightly over 2 million pixels. Each time the display  
3 changes – through moving a mouse, opening a program, watching a movie, playing a computer  
4 game, etc. – some or all of the pixels must be updated.

5 16. Historically, graphics were rendered with a computer’s main CPU and RAM.  
6 However, the disadvantage to this methodology is that rendering graphics occupies these  
7 components, which are simultaneously executing the operating system and numerous programs.  
8 Accordingly, commingling these tasks reduced the computer’s performance system-wide, and the  
9 quality of graphics that can be displayed is fairly limited.

10 17. In or about 1995, several companies (including NVIDIA) began marketing discrete  
11 graphics cards, which offload graphics rendering to a separate processor that is specifically  
12 engineered for this task. NVIDIA’s “NV1,” released in 1995,<sup>2</sup> was the first commercial graphics  
13 card capable of 3D rendering and video acceleration. Over time, graphics cards have evolved into  
14 miniature computers, with their own processor (a graphics processing unit, or “GPU”), RAM,  
15 cooling system, and sometimes separate power regulators.

16 18. On modern computers, graphics cards are plugged directly into the motherboard.  
17 Many graphics cards, including the GTX 970, allow users to use multiple cards at once for  
18 increased graphical performance.

19 19. The advantage of using discrete graphics cards is that the computer’s main CPU  
20 and RAM are not occupied with rendering graphics, thus improving system-wide performance.  
21 Additionally, discrete graphics cards like the GTX 970 can render graphical output substantially  
22 faster than a computer’s main CPU and RAM alone, given that they are specifically engineered  
23 for the task. Furthermore, modern graphics cards support a host of other advanced graphical  
24 features that would not otherwise be possible using the CPU and RAM alone. Essentially, games,  
25 animation, and 3D graphic applications run faster, and overall system performance is increased.

26 20. While graphics cards are a booming industry, it is dominated as a duopoly by  
27 NVIDIA and its competitor Advanced Micro Devices, Inc. (“AMD”). As of the Third Quarter

28 <sup>2</sup> See [http://www.nvidia.com/page/corporate\\_timeline.html](http://www.nvidia.com/page/corporate_timeline.html).

1 2013, NVIDIA captured 64.5% of the market, while AMD captured 35.5%. These two  
2 companies' graphics processors are found in desktop computers, laptop computers, and even in  
3 console game systems.

## 4 **II. Defendants Misrepresented the Specifications and Performance of the GTX 970**

5 21. Defendant NVIDIA designed, developed, manufactured, marketed, and sold the  
6 GTX 970. Defendant EVGA incorporated the GTX 970 into the EVGA Graphics Card, and  
7 manufactured, marketed, and sold the GTX 970 to retailers and end users as well.<sup>3</sup> These devices  
8 first hit the United States consumer market in September 2014.

9 22. In their sales and marketing, Defendants misrepresented the technical  
10 specifications and performance of the GTX 970. Specifically, Defendants falsely and  
11 misleadingly represented that the GTX 970 has 2 MB of L2 cache, 64 ROPs, and 4 GB of RAM.  
12 In actuality, the GTX 970 has 1.75 MB of L2 cache, 56 ROPs, and 3.5 GB of RAM, with a  
13 separate pool of 0.5 GB RAM that operates at one-seventh the speed of the main pool,  
14 bottlenecking the card.

15 23. L2 cache is a form of extremely high-speed memory, typically located on a  
16 processor itself (as opposed to a block of RAM). Processors will attempt to pull data from the L2  
17 cache first, and will only access the RAM if the required data is unavailable in the L2 cache.  
18 Thus, the size of L2 cache is directly correlated with performance. The larger the L2 cache is, the  
19 faster a processor can access data.

20 24. ROPs, also known as "raster operations pipelines," are parallel processing cores  
21 that assist in rendering pixels. The "fillrate," or the maximum number of pixels that can be filled  
22 per second by the graphics card, is calculated by multiplying the number of ROPs by the clock  
23 frequency of the GPU. A smaller number of ROPs on a graphics card means that the card can  
24 generate fewer pixels per second.

25 25. Prior to the sale of the GTX 970, Defendants distributed advance copies of the  
26 graphics card to reviewers and trade publications, as is customary in the industry. Accompanying

27 <sup>3</sup> See

28 [http://www.evga.com/Products/ProductList.aspx?type=0&family=GeForce+900+Series+Family  
&chipset=GTX+970](http://www.evga.com/Products/ProductList.aspx?type=0&family=GeForce+900+Series+Family&chipset=GTX+970)

1 the sample graphics card was a “GTX 970 Reviewer’s Guide,” which misleadingly states that the  
 2 GTX 970 has a 2 MB L2 cache (*i.e.*, 2,048 kilobytes of L2 cache) and 64 ROPs.<sup>4</sup> In turn, these  
 3 precise specifications were widely reported in the press.

4 26. Furthermore, NVIDIA’s website represents that the GTX 970 has “4 GB” of  
 5 RAM, which has a maximum “Memory Bandwidth” of “224 (GB/sec):”<sup>5</sup>

GTX 970 Memory Specs:	
Memory Clock	7.0 Gbps
Standard Memory Config	4 GB
Memory Interface	GDDR5
Memory Interface Width	256-bit
Memory Bandwidth (GB/sec)	224

11 27. Similarly, the GTX 970 is prominently advertised on Amazon and Newegg as  
 12 having 4 GB of RAM. Specifically, Amazon boasts that the GTX 970 has: “Gigantic 4GB 7010  
 13 MHz GDDR5 memory.”<sup>6</sup> Defendant Newegg lists the GTX 970 as having a “Memory Size” of  
 14 “4GB” and incorporates the purported “4 GB” of RAM into the very name of the product.<sup>7</sup>

15 28. The label and packaging of the GTX 970 also prominently states that the product  
 16 has “4 GB” of memory, in the form of high-speed GDDR5 RAM:



25 <sup>4</sup> See <http://www.anandtech.com/show/8935/geforce-gtx-970-correcting-the-specs-exploring-memory-allocation>.

26 <sup>5</sup> See <http://www.geforce.com/hardware/desktop-gpus/geforce-gtx-970/specifications>.

27 <sup>6</sup> See <http://www.amazon.com/ASUS-STRIX-GTX970-DC20C-4GD5-Graphics-Cards/dp/B00NJ9BJ8G>.

28 <sup>7</sup> See <http://www.newegg.com/Product/Product.aspx?Item=N82E16814487066>.

1           29. Each of these representations is false and misleading. In fact, the GTX 970 has  
2 only 1.75 MB of L2 cache, and 56 ROPs. Additionally, the purported “4 GB” of VRAM is  
3 actually divided into two pools: a main pool of 3.5 GB, and a smaller pool of 0.5 GB that runs at  
4 approximately one-seventh the speed of the 3.5 GB pool, which causes a bottleneck that reduces  
5 the GTX 970’s performance.

6           30. These facts came to light on or around January 24, 2015, when the computing  
7 website AnandTech published an article entitled “NVIDIA Publishes Statement on GeForce GTX  
8 970 Memory Allocation,” concerning problems with the GTX 970’s memory:

9           [V]arious GTX 970 owners had observed that the GTX 970 was prone to topping  
10 out its reported VRAM allocation at 3.5GB rather than 4GB, and that meanwhile  
11 the [more expensive] GTX 980 was reaching 4GB allocated in similar  
12 circumstances. This unusual outcome was at odds with what we know about the  
13 cards and the underlying GM204 GPU, as NVIDIA’s specifications state that the  
14 GTX 980 and GTX 970 have identical memory configurations: 4GB of 7GHz  
15 GDDR5 on a 256-bit bus, split amongst 4 ROP/memory controller partitions. In  
16 other words, there was no known reason that the GTX 970 and GTX 980 should be  
17 behaving differently when it comes to memory allocation.

18           Since then there has been some further investigation into the matter using various  
19 tools written in CUDA in order to try to systematically confirm this phenomena  
20 and to pinpoint what is going on. Those tests seemingly confirm the issue – the  
21 GTX 970 has something unusual going on after 3.5GB VRAM allocation....

22           Despite the outward appearance of identical memory subsystems, there is an  
23 important difference here that makes a 512MB partition of VRAM less performant  
24 or otherwise decoupled from the other 3.5GB.<sup>8</sup>

25           31. Side-by-side benchmarks confirm that the 3.5 GB pool of RAM operates at  
26 192 GB per second, while the 0.5 GB pool only operates at 28 GB per second.<sup>9</sup> Stated otherwise,  
27 the 0.5 GB pool is almost seven times slower than the 3.5 GB pool.

28           32. Later stories also found that NVIDIA’s specifications concerning the size of the  
L2 cache and the number of ROPs on the GTX 970 were similarly incorrect. Indeed, the  
Company was forced to admit that the specifications for the GTX 970 were incorrect. The

<sup>8</sup> See <http://www.anandtech.com/show/8931/nvidia-publishes-statement-on-geforce-gtx-970-memory-allocation>.

<sup>9</sup> See <http://pcper.freertrialoffer.us/reviews/Graphics-Cards/NVIDIA-Discloses-Full-Memory-Structure-and-Limitations-GTX-970>.

1 website Gamespot reported on January 27, 2015 in an article entitled “Nvidia Admits to Error in  
2 GTX 970 Specs and Memory Performance Problems”:

3 [T]he company has revealed that the published specifications for the GTX 970  
4 were partially incorrect, with the GPU actually sporting fewer ROPs and L2 cache  
5 than consumers and reviewers were initially led to believe.

6 Nvidia’s Senior VP of GPU Engineering Jonah Alben spoke to PC Perspective  
7 about the issue, with the publication noting that “despite initial reviews and  
8 information from NVIDIA, the GTX 970 actually has fewer ROPs and less L2  
9 cache than the GTX 980. NVIDIA says this was an error in the reviewer’s guide  
10 and a misunderstanding between the engineering team and the technical PR team  
11 on how the architecture itself functioned. That means the GTX 970 has 56 ROPs  
12 and 1792 KB of L2 cache compared to 64 ROPs and 2048 KB of L2 cache for the  
13 GTX 980.”<sup>10</sup>

14 33. Moreover, nowhere in Defendants’ materials do Defendants disclose that the GTX  
15 970 actually has a separate pool of RAM that runs at one-seventh the speed of the main pool.  
16 Instead, consumers are led to believe that the product has a single pool of 4 GB RAM with a  
17 maximum memory bandwidth of 224 GB/sec – which is only possible to achieve when the slower  
18 pool of 0.5 GB is in use, thereby bottlenecking the rest of the card. Consumers are also led to  
19 incorrectly believe that the GTX 970 has 2 MB of L2 cache and 64 ROPs.

20 34. On or about February 24, 2015, NVIDIA’s President and Chief Executive Officer  
21 Jen-Hsun Huang responded to concerns about the GTX 970, stating that “[w]e won’t let this  
22 happen again. We’ll do a better job next time.”<sup>11</sup> However, the GTX 970 continues to be  
23 advertised with the incorrect specifications.<sup>12</sup>

24 35. As the designers and manufacturers of the GTX 970, Defendants are in a unique  
25 position to know the exact specifications of their own product. Industry-leading designers and  
26 manufacturers of graphics cards, like Defendants, do not unwittingly mislabel the specifications  
27 of their own products.

28 <sup>10</sup> See <http://www.gamespot.com/articles/nvidia-admits-to-error-in-gtx-970-specs-and-memory/1100-6424915/>.

<sup>11</sup> See <http://blogs.nvidia.com/blog/2015/02/24/gtx-970/>.

<sup>12</sup> See, e.g., <http://www.evga.com/products/Specs/GPU.aspx?pn=59af1a79-f7d6-40fc-8325-79d75120cf69>.



1 a. Whether Defendants made inaccurate and deceptive claims about the  
2 amount of cache in the GTX 970;

3 b. Whether Defendants made inaccurate and deceptive claims about the  
4 amount of ROPs in the GTX 970;

5 c. Whether Defendants made inaccurate and deceptive claims about the  
6 amount of RAM in the GTX 970;

7 d. Whether Defendants unfairly concealed these material facts from  
8 consumers;

9 e. Whether Defendants warranted that the GTX 970 has 2 MB of L2 cache;

10 f. Whether Defendants warranted that the GTX 970 has 64 ROPs;

11 g. Whether Defendants warranted that the GTX 970 has 4 GB of VRAM;

12 h. Whether Defendants breached these warranties;

13 i. Whether Defendants violated applicable consumer protection statutes;

14 j. Whether Defendants were unjustly enriched at the expense of Plaintiff and  
15 the Class;

16 k. Whether Plaintiff and the Class were harmed, and, if so, what relief they  
17 are entitled.

18 42. Defendants engaged in a common course of conduct giving rise to the legal rights  
19 sought to be enforced by the Class members. Similar or identical statutory and common law  
20 violations and deceptive business practices are involved. Individual questions, if any, pale by  
21 comparison to the numerous common questions that predominate.

22 43. The claims of Plaintiff are typical of the claims of the Class and Subclass in that  
23 Plaintiff purchased a GTX 970 in reliance on the representations and warranties described above,  
24 and suffered a loss as a result of that purchase. Plaintiff and the Class and Subclass would not  
25 have purchased in the absence of Defendants' deceptive scheme.

26 44. Plaintiff is an adequate representative of the Class and Subclass because his  
27 interests do not conflict with the interests of the Class members he seeks to represent. Plaintiff is  
28 familiar with the basic facts that form the basis of the Class members' claims. Plaintiff has

1 retained competent counsel experienced in prosecuting class actions, and he intends to prosecute  
2 this action vigorously. Plaintiff's counsel has successfully prosecuted complex class actions,  
3 including consumer protection class actions. The interests of Class members will be fairly and  
4 adequately protected by Plaintiff and his counsel.

5 45. The class mechanism is superior to other available means for the fair and efficient  
6 adjudication of the claims of Plaintiff and the Class members. Each individual Class member  
7 may lack the resources to undergo the burden and expense of individual prosecution of the  
8 complex and extensive litigation necessary to establish Defendants' liability. Even if the Class  
9 members themselves could afford individual litigation, the court system could not.

10 46. Individualized litigation increases the delay and expense to all parties and  
11 multiplies the burden on the judicial system presented by the complex legal and factual issues of  
12 this case. Individualized litigation also presents a potential for inconsistent or contradictory  
13 judgments. In contrast, the class action device presents far fewer management difficulties and  
14 provides the benefits of single adjudication, economy of scale, and comprehensive supervision by  
15 a single court on the issue of Defendants' liability. Class treatment of the liability issues will  
16 ensure that all claims and claimants are before this Court for consistent adjudication of the  
17 liability issues.

18 **FIRST CAUSE OF ACTION**  
19 **(Violation of the Magnuson-Moss Warranty Act,**  
20 **15 U.S.C. §§ 2301, et seq.)**

21 47. Plaintiff incorporates by reference the allegations contained in all preceding  
22 paragraphs of this Complaint as if fully set forth herein and further allege as follows.

23 48. Plaintiff brings this claim individually and on behalf of the members of the  
24 proposed Class and Subclass against all Defendants.

25 49. The GTX 970 is a consumer product as defined in 15 U.S.C. § 2301(1).

26 50. Plaintiff and the Class and Subclass members are consumers as defined in  
27 15 U.S.C. § 2301(3).

28 51. Defendants are suppliers and warrantors as defined in 15 U.S.C. §§ 2301(4) and  
(5).









1 Defendants and by means of their unfair and unlawful practices, an injunction prohibiting  
2 Defendants from engaging in the same or similar unfair business practices in the future and such  
3 other and further relief as set forth in Cal. Bus. & Prof. Code §§ 17200, *et seq.*

4 **SIXTH CAUSE OF ACTION**  
5 **(Violation of the California Consumers Legal Remedies Act,**  
6 **Cal. Civ. Code §§ 1750, *et. seq.*)**

7 85. Plaintiff incorporates by reference the allegations contained in all preceding  
8 paragraphs of this Complaint as if fully set forth herein and further allege as follows.

9 86. Plaintiff brings this claim individually and on behalf of the members of the  
10 proposed Class and Subclass against all Defendants.

11 87. The product as described above were bought by Plaintiff, and other consumers  
12 similarly situated, primarily for personal, family or household purposes.

13 88. Prior to Plaintiff's purchases of the above-mentioned product, Defendants violated  
14 Cal. Civ. Code § 1770 in the following respects:

15 a. In violation of California Civil Code § 1770(a)(5), Defendants represented  
16 in marketing materials and product manuals that the GTX 970 had characteristics which they did  
17 not have, namely, that the GTX 970 had 2 MB of L2 cache, 64 ROPs, and 4 GB of VRAM. In  
18 fact, the GTX 970 has only 1.75 MB of L2 cache, and 56 ROPs. Additionally, the purported  
19 "4 GB" of VRAM is actually divided into two pools: a main pool of 3.5 GB, and a smaller pool  
20 of 0.5 GB that runs at approximately one-seventh the speed of the 3.5 GB pool, which causes a  
21 bottleneck that reduces the GTX 970's performance.

22 b. In violation of California Civil Code § 1770(a)(7), Defendants represented  
23 that the GTX 970 was of a particular standard, namely, that the GTX 970 had 2 MB of L2 cache,  
24 64 ROPs, and 4 GB of VRAM, when in fact they were not; and

25 c. In violation of California Civil Code § 1770(a)(9), Defendants advertised  
26 the GTX 970 as providing 2 MB of L2 cache, 64 ROPs, and 4 GB of VRAM, with the intent not  
27 to sell the GTX 970 as advertised; and

28 89. The above-mentioned misrepresentations resulted in the sale of the GTX 970 to  
Plaintiff and to other consumers similarly situated.









CIVIL COVER SHEET

The JS 44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. (SEE INSTRUCTIONS ON NEXT PAGE OF THIS FORM.)

I. (a) PLAINTIFFS

(b) County of Residence of First Listed Plaintiff (EXCEPT IN U.S. PLAINTIFF CASES)

(c) Attorneys (Firm Name, Address, and Telephone Number)

DEFENDANTS

County of Residence of First Listed Defendant (IN U.S. PLAINTIFF CASES ONLY)

NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED.

Attorneys (If Known)

II. BASIS OF JURISDICTION (Place an "X" in One Box Only)

- 1 U.S. Government Plaintiff, 2 U.S. Government Defendant, 3 Federal Question (U.S. Government Not a Party), 4 Diversity (Indicate Citizenship of Parties in Item III)

III. CITIZENSHIP OF PRINCIPAL PARTIES (Place an "X" in One Box for Plaintiff and One Box for Defendant)

- Citizen of This State, Citizen of Another State, Citizen or Subject of a Foreign Country, PTF DEF, Incorporated or Principal Place of Business In This State, Incorporated and Principal Place of Business In Another State, Foreign Nation

IV. NATURE OF SUIT (Place an "X" in One Box Only)

Table with 5 columns: CONTRACT, REAL PROPERTY, TORTS, CIVIL RIGHTS, PRISONER PETITIONS, FORFEITURE/PENALTY, LABOR, IMMIGRATION, BANKRUPTCY, SOCIAL SECURITY, FEDERAL TAX SUITS, OTHER STATUTES. Contains various legal categories and sub-categories with checkboxes.

V. ORIGIN (Place an "X" in One Box Only)

- 1 Original Proceeding, 2 Removed from State Court, 3 Remanded from Appellate Court, 4 Reinstated or Reopened, 5 Transferred from Another District, 6 Multidistrict Litigation

VI. CAUSE OF ACTION

Cite the U.S. Civil Statute under which you are filing (Do not cite jurisdictional statutes unless diversity):
Brief description of cause:

VII. REQUESTED IN COMPLAINT:

CHECK IF THIS IS A CLASS ACTION UNDER RULE 23, F.R.Cv.P. DEMAND \$ CHECK YES only if demanded in complaint: JURY DEMAND: Yes No

VIII. RELATED CASE(S) IF ANY

(See instructions): JUDGE DOCKET NUMBER

DATE SIGNATURE OF ATTORNEY OF RECORD

120FKKHQPCN'CUH PO GPV'EklkIN05/4+

(Place an "X" in One Box Only) ( ) SAN FRANCISCO/OAKLAND ( ) SAN JOSE ( ) EUREKA

## INSTRUCTIONS FOR ATTORNEYS COMPLETING CIVIL COVER SHEET FORM JS 44

### Authority For Civil Cover Sheet

The JS 44 civil cover sheet and the information contained herein neither replaces nor supplements the filings and service of pleading or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. Consequently, a civil cover sheet is submitted to the Clerk of Court for each civil complaint filed. The attorney filing a case should complete the form as follows:

- I.(a) Plaintiffs-Defendants.** Enter names (last, first, middle initial) of plaintiff and defendant. If the plaintiff or defendant is a government agency, use only the full name or standard abbreviations. If the plaintiff or defendant is an official within a government agency, identify first the agency and then the official, giving both name and title.
- (b) County of Residence.** For each civil case filed, except U.S. plaintiff cases, enter the name of the county where the first listed plaintiff resides at the time of filing. In U.S. plaintiff cases, enter the name of the county in which the first listed defendant resides at the time of filing. (NOTE: In land condemnation cases, the county of residence of the "defendant" is the location of the tract of land involved.)
- (c) Attorneys.** Enter the firm name, address, telephone number, and attorney of record. If there are several attorneys, list them on an attachment, noting in this section "(see attachment)".
- II. Jurisdiction.** The basis of jurisdiction is set forth under Rule 8(a), F.R.Cv.P., which requires that jurisdictions be shown in pleadings. Place an "X" in one of the boxes. If there is more than one basis of jurisdiction, precedence is given in the order shown below.  
 United States plaintiff. (1) Jurisdiction based on 28 U.S.C. 1345 and 1348. Suits by agencies and officers of the United States are included here.  
 United States defendant. (2) When the plaintiff is suing the United States, its officers or agencies, place an "X" in this box.  
 Federal question. (3) This refers to suits under 28 U.S.C. 1331, where jurisdiction arises under the Constitution of the United States, an amendment to the Constitution, an act of Congress or a treaty of the United States. In cases where the U.S. is a party, the U.S. plaintiff or defendant code takes precedence, and box 1 or 2 should be marked.  
 Diversity of citizenship. (4) This refers to suits under 28 U.S.C. 1332, where parties are citizens of different states. When Box 4 is checked, the citizenship of the different parties must be checked. (See Section III below; **NOTE: federal question actions take precedence over diversity cases.**)
- III. Residence (citizenship) of Principal Parties.** This section of the JS 44 is to be completed if diversity of citizenship was indicated above. Mark this section for each principal party.
- IV. Nature of Suit.** Place an "X" in the appropriate box. If the nature of suit cannot be determined, be sure the cause of action, in Section VI below, is sufficient to enable the deputy clerk or the statistical clerk(s) in the Administrative Office to determine the nature of suit. If the cause fits more than one nature of suit, select the most definitive.
- V. Origin.** Place an "X" in one of the six boxes.  
 Original Proceedings. (1) Cases which originate in the United States district courts.  
 Removed from State Court. (2) Proceedings initiated in state courts may be removed to the district courts under Title 28 U.S.C., Section 1441. When the petition for removal is granted, check this box.  
 Remanded from Appellate Court. (3) Check this box for cases remanded to the district court for further action. Use the date of remand as the filing date.  
 Reinstated or Reopened. (4) Check this box for cases reinstated or reopened in the district court. Use the reopening date as the filing date.  
 Transferred from Another District. (5) For cases transferred under Title 28 U.S.C. Section 1404(a). Do not use this for within district transfers or multidistrict litigation transfers.  
 Multidistrict Litigation. (6) Check this box when a multidistrict case is transferred into the district under authority of Title 28 U.S.C. Section 1407. When this box is checked, do not check (5) above.
- VI. Cause of Action.** Report the civil statute directly related to the cause of action and give a brief description of the cause. **Do not cite jurisdictional statutes unless diversity.** Example: U.S. Civil Statute: 47 USC 553 Brief Description: Unauthorized reception of cable service
- VII. Requested in Complaint.** Class Action. Place an "X" in this box if you are filing a class action under Rule 23, F.R.Cv.P.  
 Demand. In this space enter the actual dollar amount being demanded or indicate other demand, such as a preliminary injunction.  
 Jury Demand. Check the appropriate box to indicate whether or not a jury is being demanded.
- VIII. Related Cases.** This section of the JS 44 is used to reference related pending cases, if any. If there are related pending cases, insert the docket numbers and the corresponding judge names for such cases.
- Date and Attorney Signature.** Date and sign the civil cover sheet.