

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

MONTEREY RESEARCH, LLC,

Plaintiff,

v.

ADVANCED MICRO DEVICES, INC.,

Defendant.

Civil Action No. 6:21-cv-840

**JURY TRIAL DEMANDED**

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Monterey Research, LLC (“Monterey”), for its Complaint for Patent Infringement against defendant Advanced Micro Devices, Inc. (“AMD”), alleges as follows:

**INTRODUCTION**

1. Monterey is an intellectual property and technology licensing company. Monterey’s patent portfolio comprises over 1,500 active and pending patents worldwide, including approximately 1,200 active United States patents. Monterey’s patent portfolio stems from technology developed from a number of leading high-technology companies, including Cypress Semiconductor Corporation. Those innovations have greatly enhanced the capabilities of computer systems, increased electronic device processing power, and reduced electronic device power consumption. Among other things, those inventions produced significant technological advances, including smaller, faster, and more efficient semiconductors and integrated circuits.

2. AMD has infringed and continues to infringe Monterey’s patents. Moreover, despite Monterey notifying AMD of infringement, AMD has thus far refused to license these patents or even engage in meaningful discussions with Monterey. Instead, AMD has continued to make, use, sell, offer to sell, and/or import Monterey’s intellectual property within the United States without

Monterey's permission.

**NATURE OF THE ACTION**

3. This action arises under 35 U.S.C. § 271 for AMD's infringement of United States Patent No. 6,680,516 ("the Patent-in-Suit").

**THE PARTIES**

4. Plaintiff Monterey is a Delaware limited liability company with offices in New Jersey and California.

5. Defendant AMD is a Delaware corporation with a regular and established place of business at 7171 Southwest Parkway, Austin, Texas 78735. AMD is a publicly traded company that may be served in Texas through its registered agent for service, CT Corporation System, 1999 Bryan St., Ste. 900, Dallas, TX 75201.

**JURISDICTION AND VENUE**

6. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a) at least because this action arises under the patent laws of the United States, including 35 U.S.C. § 271 *et seq.*

7. This Court has personal jurisdiction over AMD at least because AMD has a regular and established place of business in the State of Texas. AMD also has a registered agent for service of process in Texas. In addition, AMD has committed, aided, abetted, contributed to, and/or participated in the commission of acts of infringement giving rise to this action within the State of Texas, including in this District and elsewhere, by, *inter alia*, directly and/or indirectly making, using, selling, offering for sale, importing products (including importing products made by a patented process) and/or practicing methods that practice one or more claims of the Patent-in-Suit. Furthermore, AMD has transacted and conducted business in the State of Texas, including in this District and elsewhere, and with Texas residents by making, using, selling, offering to sell, and/or

importing (including importing products made by a patented process) products and instrumentalities that practice one or more claims of the Patent-in-Suit. Among other things, AMD, directly and/or through subsidiaries, affiliates, and/or intermediaries (including distributors, retailers, and others), uses, sells, ships, distributes, imports into, offers for sale, and/or advertises or otherwise promotes its products throughout the United States, including in the State of Texas. *See, e.g.*, [www.amd.com](http://www.amd.com). Moreover, AMD has purposefully and voluntarily placed its infringing products into the stream of commerce with the expectation that those products will be purchased and used by customers and/or consumers in the State of Texas, including in this District. At least for those reasons, AMD has the requisite minimum contacts within the forum such that the exercise of jurisdiction over AMD would not offend traditional notions of fair play and substantial justice.

8. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b) and (c) and 1400(b). AMD has transacted and continues to transact business in this District. AMD also has committed and continues to commit acts of direct and/or indirect infringement in this District by, among other things, making, using, offering to sell, selling, and importing infringing products made, used, developed, tested, and otherwise practiced by AMD. AMD further, for example, develops certain embedded processors, server, discrete graphics, and other products that infringe the Patent-in-Suit. By way of further example, AMD develops certain infringing products within this District, such as, for example, the Ryzen and EPYC product families. As a further example, AMD's mask design team, responsible, in part, for the planning and construction of the design of certain products that infringe the Patent-in-Suit, is based in this District. AMD has regular and established places of business in this District, including at least at 7171 Southwest Parkway, Austin, Texas 78735.

## Our Locations



U.S.	Austin, TX	Advanced Micro Devices 7171 Southwest Pkwy  Tel: +1 512-602-1000
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(<https://www.amd.com/en/corporate/locations>)

Venue is further proper based on the facts alleged in the preceding paragraphs, which Monterey incorporates by reference as if fully set forth herein.

### **THE PATENT-IN-SUIT**

9. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

A. **U.S. Patent No. 6,680,516**

10. The '516 patent, titled "Controlled Thickness Gate Stack," was duly and properly issued by the United States Patent and Trademark Office ("USPTO") on January 20, 2004. On December 12, 2006, the USPTO issued a Certificate of Correction for the '516 patent. A true and correct copy of the '516 patent and the Certificate of Correction is attached hereto as Exhibit A.

11. Monterey is the owner and assignee of the '516 patent; owns all right, title, and interest in the '516 patent; and holds the right to sue and recover damages for infringement thereof, including past infringement.

**FACTUAL BACKGROUND**

12. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

13. The Patent-in-Suit stems from the research and design of innovative and proprietary technology developed by leading high-technology companies, including Cypress Semiconductor Corporation (“Cypress”). Cypress is an American multinational company and pioneer of cutting-edge semiconductor technology. Founded in 1982, Cypress has made substantial investments in researching, developing, and manufacturing high-quality semiconductor devices, integrated circuits, and products containing the same.

14. The Patent-in-Suit is directed to inventive technology relating to semiconductor devices, integrated circuits, and/or products containing the same.

15. Defendant AMD works closely with its customers, OEMs, foundry suppliers, distributors, and/or other third parties to make, use, sell, offer to sell, and/or import semiconductor devices, integrated circuits, and/or products containing the same. Among other things, AMD optimizes its manufacturing process for its customers and optimizes its products for integration into downstream products. AMD’s affirmative acts in furtherance of the manufacture, use, sale, offer to sell, and importation of its products in and/or into the United States include, but are not limited to, any one or combination of: (i) designing specifications for manufacture of its products; (ii) collaborating on, encouraging, and/or funding the development of processes for the manufacture of its products; (iii) soliciting and/or sourcing the manufacture of its products; (iv) licensing, developing, and/or transferring technology and know-how to enable the manufacture of its products; (v) enabling and encouraging the use, sale, or importation of its products in the United States; and (vi) advertising its products and/or downstream products incorporating them in the United States.

16. AMD also provides marketing and/or technical support services for its products from

its facilities in the United States. For example, AMD maintains a website that advertises its products, including identifying the applications for which they can be used and providing specifications for its products. *See, e.g.*, [www.amd.com/en](http://www.amd.com/en). AMD makes available user manuals, product documentation, and other materials related to its products to residents of this District and to the United States as a whole. For example, AMD provides development content for specific chip products and applications; catalogs of hardware, software, and tools documentation; relevant support articles; various software code and tools; and case-specific technical assistance

**AMD’S PRE-SUIT KNOWLEDGE OF MONTEREY’S PATENTS AND CHARGE OF INFRINGEMENT**

17. Before filing this action, Monterey, through its agent IPValue Management, Inc. (“IPValue”), notified AMD about the Patent-in-Suit and AMD’s infringement thereof. Among other things, Monterey identified the Patent-in-Suit to AMD; alleged that AMD infringed the Patent-in-Suit, including identifying exemplary infringing products; sought to engage AMD in discussions regarding AMD’s use of Monterey’s intellectual property (including the Patent-in-Suit); and offered to license the Patent-in-Suit to AMD. For example:

a. On July 24, 2020, Monterey sent a letter to AMD, notifying AMD of its infringement of certain Monterey patents, including the ’516 patent. Among other things, Monterey identified representative AMD products that utilize that patent, expressly charged that AMD and its customers infringed that patent, and explained that AMD required a license from Monterey. Monterey requested a meeting with AMD.

b. AMD provided no non-infringement arguments nor invalidity arguments regarding the infringement described in the July 24, 2020 letter.

c. On June 4, 2021, Monterey sent another letter to AMD, referencing the July 24, 2020 letter and notifying AMD of its infringement of additional Monterey patents.

d. Despite Monterey's efforts AMD still has not engaged in any meaningful discussions to end its infringement of the Patent-in-Suit and has not taken a license to them. Instead, AMD continues to knowingly, intentionally, and willfully infringe Monterey's patents directly, contributorily, and by inducement, to obtain their significant benefits without a license from Monterey.

**COUNT ONE**  
**INFRINGEMENT OF THE '516 PATENT**

18. Monterey incorporates by reference the preceding paragraphs as if fully set forth herein.

19. Monterey is the assignee and lawful owner of all right, title, and interest in and to the '516 patent.

20. The '516 patent is valid and enforceable.

21. The '516 patent is directed to semiconductor structures, particularly to a semiconductor gate stack and related features. A gate stack can include, for example, a gate insulating layer, a gate layer, a metallic layer—which may optionally be separated from the gate layer by a barrier layer—and an etch-stop layer.

22. The '516 patent explains that as the size of a semiconductor element is reduced, it does not necessarily follow that the thickness of specific layers that form that element can be equally reduced. By way of non-limiting example, the thickness of a nitride layer necessary for forming a self-aligned contact (type of contact) may still need to be at least 800 angstroms. This could lead to, among other things, designs for devices that require large aspect ratios for contact vias, and such vias may not be properly filled. An aspect ratio can be, for example, the ratio of the gate stack height to the via width.

23. The '516 patent teaches, among other things, a gate stack height of at most 2700

angstroms and a via width of at most 0.12 microns. A gate stack with a controlled thickness can, for example, help to avoid forming contact vias with a large aspect ratio. The '516 patent further teaches, among other things, a gate stack which can include a nitride layer that may be used for forming self-aligned contacts "SAC," which may be used in designs to significantly reduce device size.

24. AMD has directly infringed, and continues to directly infringe, one or more claims of the '516 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, making, using, selling, offering to sell, and/or importing (including importing products made by a patented process) in or into the United States without authorization products covered by one or more claims of the '516 patent, including, but not limited to, products with a gate stack structure with a controlled thickness, such as the Ryzen 5 3600X semiconductor device and other products in the Ryzen 5, Ryzen, Ryzen 9, Ryzen 7, Ryzen 3, Ryzen Threadripper, Ryzen Threadripper PRO, Ryzen PRO, Ryzen 9 PRO, Ryzen 7 PRO, Ryzen 5 PRO, Ryzen 3 PRO, EPYC, Radeon PRO, Instinct, Radeon Instinct, Radeon PRO W5000, Radeon PRO W5700, Radeon VII, Radeon RX 5500M, Radeon RX 5300M, Radeon RX 6000, Radeon RX 6900 XT, Radeon RX 6800 XT, Radeon RX 6700 XT, and Radeon RX 6800 product families; other AMD 14 nm, 7nm, and smaller process node semiconductor devices, integrated circuits, and products; and all other semiconductor devices, integrated circuits, and products with similar infringing technology (collectively, "the Accused '516 Products").

25. As one non-limiting example, AMD infringes claim 5 of the '516 patent. For example, the Ryzen 5 3600X semiconductor device contains:

- a. a semiconductor substrate (e.g., silicon substrate of the Ryzen 5 3600X);
- b. a gate layer, a metallic layer, an etch-stop layer, and an insulating layer (e.g., transistor gate stack and dielectric layer of the Ryzen 5 3600X);



c. a via with a via width of at most 0.12 micron (e.g., via to a portion of a transistor of the Ryzen 5 3600X);

d. and a gate stack height of at most 2700 angstroms (e.g., transistor gate stack of the Ryzen 5 3600X).

26. AMD has known of the '516 patent and its infringement of that patent since at least as early as July 24, 2020.

27. AMD, knowing its products infringe the '516 patent and with the specific intent for others to infringe the '516 patent, has induced infringement of, and continues to induce infringement of, one or more claims of the '516 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, by, among other things, actively inducing others, including its customers, to make, use, sell, offer to sell, and/or import (including import products made by a patented process) in or into the United States without authorization the Accused '516 Products, as well as products containing the same. AMD knowingly and intentionally instructs its customers, OEMs, foundry suppliers, distributors, and/or other third parties to infringe at least through user manuals, product documentation, design specifications, layout files, formulas, and other materials, such as those located on AMD's website at <https://www.amd.com/en>. For example, AMD provides data sheets, development content, diagrams, white papers, and software instructing customers on uses of AMD's products that infringe the '516 patent. *See, e.g.*, <https://www.amd.com/en/products/graphics/radeon-rx-480> and <https://www.amd.com/en/support>. Additional, non-limiting examples include the materials found on AMD's websites at <https://www.amd.com/en/products/specifications.cpu/amd-ryzen-5-3600x>.

28. AMD has contributed to the infringement of, and continues to contribute to the infringement of, one or more claims of the '516 patent under 35 U.S.C. § 271, either literally and/or

under the doctrine of equivalents, by, among other things, selling, offering to sell, and/or importing in or into the United States the Accused '516 Products, which constitute a material part of the invention of the '516 patent, knowing the Accused '516 Products to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use. *See, e.g.*, <https://www.amd.com/en/support> and <https://www.amd.com/en/products/cpu/amd-ryzen-5-3600x>.

29. Monterey has sustained and is entitled to recover damages as a result of AMD's past and continuing infringement.

30. AMD has committed—and continues to commit—acts of knowing, or at least willfully blind, infringing acts despite knowing that its actions constituted infringement of the valid and enforceable '516 patent, despite a risk of infringement that was known or so obvious that it should have been known to AMD, and/or even though AMD otherwise knew or should have known that its actions constituted an unjustifiably high risk of infringement of that valid and enforceable patent. AMD's conduct in light of these circumstances is egregious. AMD's knowing, deliberate, and willful infringement of the '516 patent entitles Monterey to increased damages under 35 U.S.C. § 284 and to attorney fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

**RELIEF REQUESTED**

Wherefore, Monterey respectfully requests that this Court enter judgment against AMD as follows:

- A. that AMD has infringed the Patent-in-Suit;
- B. that AMD's infringement of the Patent-in-Suit is and has been willful;
- C. that Monterey be awarded damages adequate to compensate it for the patent infringement that has occurred, together with pre-judgment interest, post-judgment interest, and costs;

- D. that Monterey be awarded an accounting and additional damages for any infringing sales not presented at trial;
- E. that Monterey be awarded all other damages permitted by 35 U.S.C. § 284, including without limitation increased damages up to three times the amount of compensatory damages found;
- F. that this is an exceptional case and that Monterey be awarded its costs and reasonable attorneys' fees incurred in this action as provided by 35 U.S.C. § 285;
- G. that AMD as well as its officers, directors, agents, employees, representatives, attorneys, and all others acting in privity or in concert with it, its subsidiaries, divisions, successors and assigns be permanently enjoined from further infringement of the Patent-in-Suit;
- H. that, in the event a permanent injunction preventing further infringement of the Patent-in-Suit is not granted, Monterey be awarded a compulsory ongoing licensing fee for any such further infringement; and
- I. such other relief as this Court deems just and proper.

**DEMAND FOR JURY TRIAL**

Monterey hereby demands trial by jury on all claims and issues so triable.

Dated: August 12, 2021

By: /s/ Jonas McDavit w/permission Charles  
Everingham IV

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