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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

REALTEK SEMICONDUCTOR CORP., a
Taiwanese corporation,

Plaintiff,

vs.

ADVANCED MICRO DEVICES, INC., a
Delaware corporation,

Defendant.

Case No. 5:22-cv-04769

**COMPLAINT FOR PATENT
INFRINGEMENT**

DEMAND FOR JURY TRIAL

1 This is an action for patent infringement arising under the Patent Laws of the United States of
2 America, 35 U.S.C. §§ 271, 281. Plaintiff Realtek Semiconductor Corporation brings this action
3 against Defendant Advanced Micro Devices, Inc. Plaintiff alleges as follows:

4 **PARTIES**

5 1. Realtek Semiconductor Corporation (“Realtek”) is a company organized under the
6 laws of Taiwan, with its principal place of business at No. 2, Innovation Road II, Hsinchu Science
7 Park, Hsinchu 300, Taiwan.

8 2. Realtek designs and develops a wide range of energy-efficient, ultra-high-speed
9 semiconductor chip products for communication networks, computer peripherals, and multimedia
10 applications.

11 3. On information and belief, Advanced Micro Devices, Inc. (“AMD”) is a corporation
12 organized and existing under the laws of the State of Delaware, with its principal place of business at
13 2485 Augustine Drive, Santa Clara, California 95054.

14 4. As discussed in detail below, Defendant’s acts of infringement include making,
15 importing, selling, offering for sale, and/or importing products in the United States, including in the
16 State of California and in this District, which infringe Realtek’s U.S. patents.

17 **JURISDICTION AND VENUE**

18 5. This action arises under the patent laws of the United States, Title 35 of the United
19 States Code. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

20 6. This Court has personal jurisdiction over Defendant in this action. Defendant is
21 subject to this Court’s specific and general personal jurisdiction. Defendant is subject to general
22 personal jurisdiction because it maintains its principal place of business in California and resides in
23 California.

24 7. Defendant AMD is also subject to this Court’s specific personal jurisdiction because
25 it conducts, and has conducted, substantial business in this forum, directly and/or through
26 intermediaries, including making, using, selling, offering for sale, and/or importing, among other
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1 things, AMD Ryzen and AMD Radeon products and similar and related products that infringe
2 Realtek's patents as set forth in this complaint.

3 8. On information and belief, the Defendant does one or more of the following with the
4 semiconductor devices used in computing and/or data processing that embody the patented
5 technology: (a) makes and uses these devices in the United States for sale to customers, including
6 customers in California; (b) imports these devices into the United States for sale to consumers,
7 including consumers in California; (c) sells them or offers them for sale in the United States,
8 including to customers in California; and/or (d) sells them to customers who incorporate them into
9 products that such customers import, sell, or offer for sale in the United States, including in
10 California.

11 9. Thus, Defendant has purposefully availed itself of the benefits of doing business in
12 the State of California and the exercise of jurisdiction over Defendant would not offend traditional
13 notions of fair play and substantial justice.

14 10. Venue is proper in this District under 28 U.S.C. § 1400(b) because Defendant AMD
15 is a corporation with its principal place of business in this District.

16 **INTRADISTRICT ASSIGNMENT**

17 11. This matter arises in the County of Santa Clara, and venue is proper in the San Jose
18 Division. Defendant is based in Santa Clara. On information and belief, a majority of Defendant's
19 design and development efforts for the accused products occurred in Santa Clara, and much of the
20 infringing conduct occurred in Santa Clara. On information and belief, individuals involved in the
21 infringing conduct are located in the San Jose division, which makes that division more convenient
22 than the San Francisco division. Plaintiff therefore respectfully requests assignment to the San Jose
23 Division.

24 **BACKGROUND**

25 12. Realtek is the owner by assignment of U.S. Patent No. 7,936,245 ("the '245 Patent"),
26 titled "Stacked Structure of a Spiral Inductor." The '245 Patent was duly and legally issued by the
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1 United States Patent and Trademark Office on May 3, 2011. A true and correct copy of the '245
2 Patent is included as Exhibit A to this Complaint.

3 13. Realtek is the owner of all rights, title, and interest in and to the '245 Patent,
4 including all rights to sue and recover for past and future infringement.

5 14. Realtek is the owner by assignment of U.S. Patent No. 8,006,218 ("the '218 Patent"),
6 titled "Power Mesh Arrangement Method Utilized in an Integrated Circuit Having Multiple Power
7 Domains." The '218 Patent was duly and legally issued in the United States Patent and Trademark
8 Office on August 23, 2011. A true and correct copy of the '218 Patent is included as Exhibit B to
9 this Complaint.

10 15. Realtek is the owner of all rights, title, and interest in and to the '218 Patent,
11 including all rights to sue and recover for past and future infringement.

12 16. Realtek is the owner by assignment of U.S. Patent No. 9,590,582 ("the '582 Patent"),
13 titled "Semiconductor Device with Inductor-Capacitor Resonant Circuit." The '582 Patent was duly
14 and legally issued by the United States Patent and Trademark Office on March 7, 2017. A true and
15 correct copy of the '582 Patent is included as Exhibit C to this Complaint.

16 17. Realtek is the owner of all rights, title, and interest in and to the '582 Patent,
17 including all rights to sue and recover for past and future infringement.

18 **COUNT I**

19 **INFRINGEMENT OF U.S. PATENT NO. 7,936,245**

20 18. Plaintiff incorporates by reference Paragraphs 1 through 17 above as if fully set forth
21 herein.

22 19. Defendant makes, uses, offers for sale, sells, and/or imports in the United States
23 products and/or services that have infringed and continue to infringe one or more claims of the '245
24 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents. Defendant's
25 infringing products include, for example and without limitation, and on information and belief, all
26 versions and variations, including predecessor and successor models, of AMD's 3rd Gen Ryzen
27 processors (*e.g.*, Ryzen 5 5600X, Ryzen 7 5800X), 4th Gen Ryzen processors, 3rd Gen Threadripper
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1 processors and 2nd Gen EPYC CPUs, AMD's Radeon 6500 XT and RX 6600XT products, and
2 other 6000 series Radeon products, and any other similar products that infringe at least one claim of
3 the '245 Patent. Defendant's infringing products are collectively referred to hereinafter as "the '245
4 Accused Products." Realtek reserves the right to discover and pursue any additional infringing
5 devices that incorporate infringing functionalities. For the avoidance of doubt, the '245 Accused
6 Products are identified to describe the Defendant's infringement and in no way limit the
7 infringement allegations against Defendant concerning other devices that incorporate the same or
8 reasonably similar structures and/or functionalities.

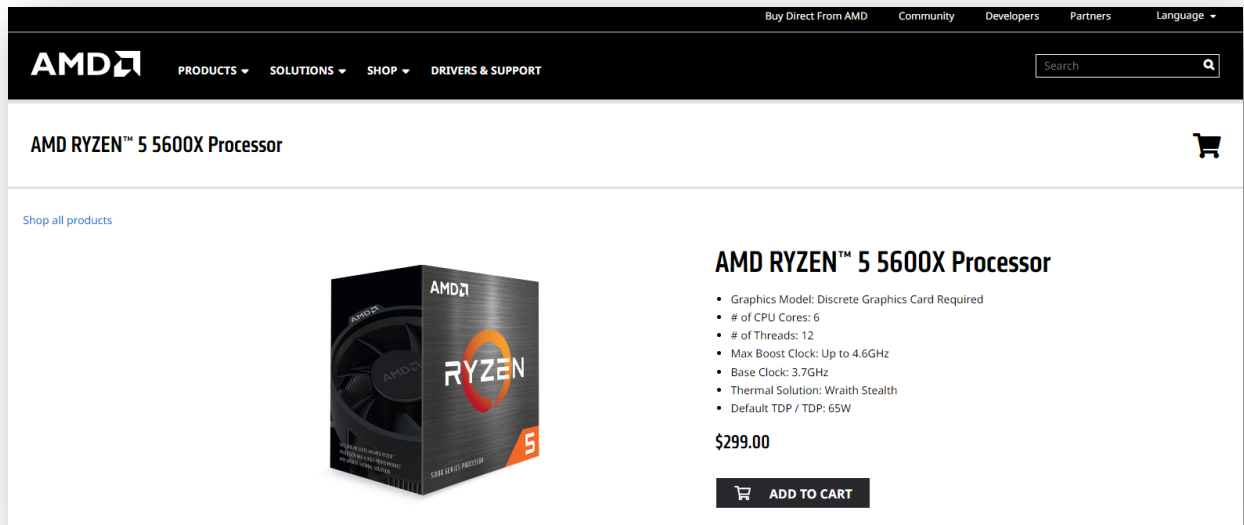
9 20. The '245 Accused Products infringe one or more claims of the '245 Patent because
10 they contain each element of those claims.

11 21. By way of example, the claim chart attached as Exhibit D, and incorporated into this
12 Complaint by reference, shows that the '245 Accused Products satisfy each element of the identified
13 claims of the '245 Patent in Exhibit D (including at least claims 1, 2, 8, 9, 10 and 12).

14 22. By making, using, offering for sale, selling, and/or importing the '245 Accused
15 Products that infringe the '245 Patent, Defendant is liable to Realtek for direct infringement of the
16 '245 Patent pursuant to 35 U.S.C. § 271(a), literally and/or under the doctrine of equivalents.

17 23. In addition, on information and belief, Defendant has induced and continues to induce
18 infringement of one or more claims of the '245 Patent by encouraging third parties such as users,
19 customers, distributors, wholesalers, retailers, affiliates, parents, subsidiaries, importers, or sellers, to
20 make, use, offer to sell, sell, and/or import into the United States without authorization the '245
21 Accused Products. The making, using, offering to sell, selling, and/or importing into the United
22 States constitutes direct infringement, literally or under the doctrine of equivalents, of one or more
23 claims of the '245 Patent by such third parties. Defendant's acts of inducement include: providing
24 the '245 Accused Products or components thereof to third parties and intending them to make, use,
25 offer to sell, sell, and/or import the '245 Accused Products; advertising the '245 Accused Products in
26 the United States; and/or encouraging the sale and offer for sale of the '245 Accused Products by
27 Defendant or other entities (for example, <https://www.amd.com/en/shop/us/Desktop%20Processors>)
28 in a manner that infringes the '245 patent. For example, upon information and belief, AMD offers

the Ryzen 5 5600X and Ryzen 7 5800X, for sale in the United States at least through the AMD online shop (<https://www.amd.com/en/direct-buy/us>) and offers the AMD Ryzen Threadripper through the AMD Store on Amazon.com:



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AMD RYZEN™ 7 5800X Processor

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AMD RYZEN™ 7 5800X Processor

- Graphics Model: Discrete Graphics Card Required
- # of CPU Cores: 8
- # of Threads: 16
- Max Boost Clock: Up to 4.7GHz
- Base Clock: 3.8GHz
- Thermal Solution: Not Included
- Default TDP / TDP: 105W

\$449.00

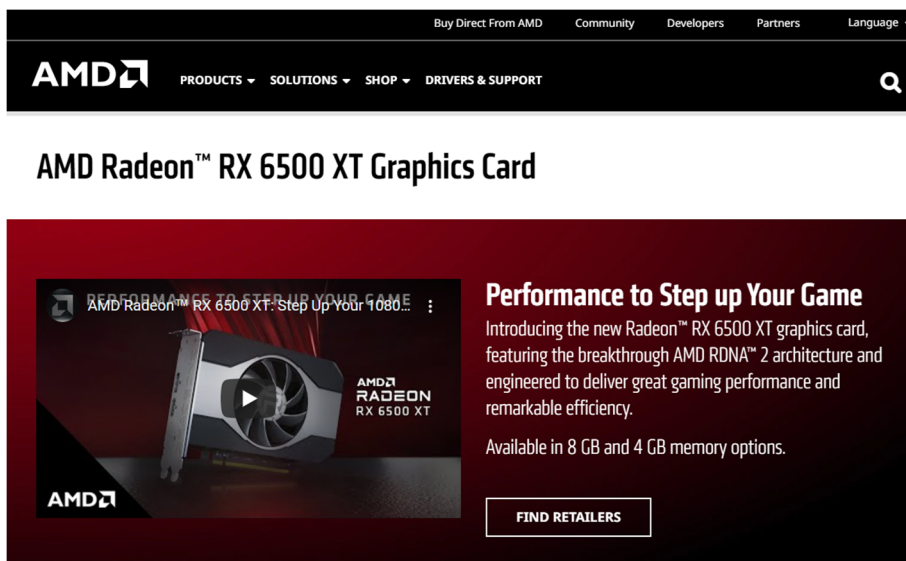
ADD TO CART

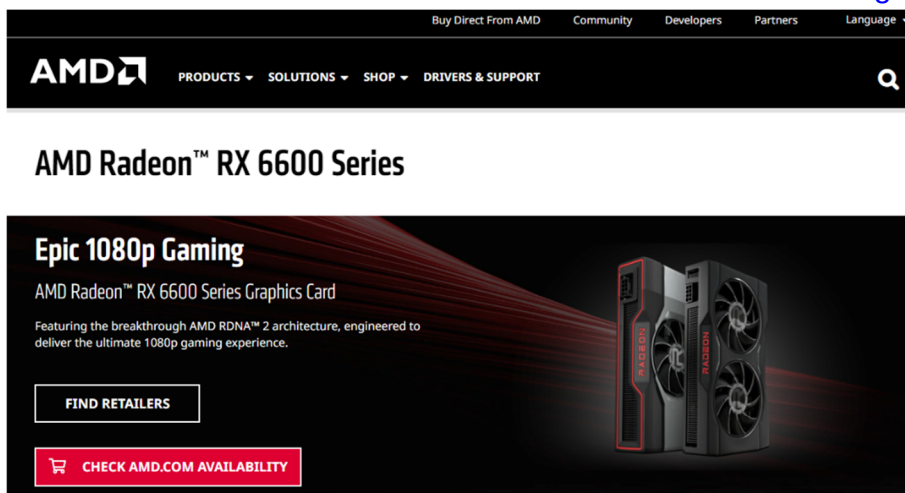


24. Likewise, on information and belief, Defendant offers AMD Radeon products directly and through distributors directly identified on AMD's webpages, such as:

<https://www.amd.com/en/products/graphics/amd-radeon-rx-6500-xt> and

<https://www.amd.com/en/products/graphics/amd-radeon-rx-6600-xt>:





25. On information and belief, Defendant has proceeded, and continues to proceed, in this manner despite knowledge of the '245 Patent and knowledge that specific actions it actively induced, and continues to actively induce, infringe the '245 Patent. For example, Defendant has been aware of the '245 Patent since at least its acquisition of Xilinx, Inc., because Xilinx cited the '245 Patent in connection with its application for U.S. Patent No. 8,860,180, but Defendant has continued to infringe and induce infringement of the '245 Patent. Defendant also has been aware of the '245 Patent since the filing of this Complaint.

26. Realtek has suffered and continues to suffer damages and irreparable harm as a result of Defendant's infringement of the '245 Patent.

27. Upon information and belief, Defendant's infringement of the '245 Patent has been and continues to be willful, deliberate, and in disregard of Realtek's patent rights. Defendant has not had, nor does it presently have, a reasonable basis for believing it has a right to engage in the acts complained of herein. Defendant's intentional, knowing, egregious, culpable, willful, wanton, malicious, bad faith, deliberate, consciously wrongful, and/or flagrant infringement justifies increased damages under 35 U.S.C. § 284 and attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT II

INFRINGEMENT OF U.S. PATENT NO. 8,006,218

28. Plaintiff incorporates by reference Paragraphs 1 through 27 above as if fully set forth herein.

1 29. Defendant makes, uses, offers for sale, sells, and/or imports in the United States
2 products and/or services that have infringed and continue to infringe one or more claims of the '218
3 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents. Defendant's
4 infringing products include, for example and without limitation, and on information and belief, all
5 versions and variations, including predecessor and successor models, of AMD's 3rd Gen Ryzen
6 processors (*e.g.*, Ryzen 5 5600X, Ryzen 7 5800X), 4th Gen Ryzen processors, 3rd Gen Threadripper
7 processors and 2nd Gen EPYC CPUs, AMD's Radeon 6500 XT and RX 6600XT products and other
8 6000 series Radeon products, and any other similar products that infringe at least one claim of the
9 '218 Patent. Defendant's infringing products are collectively referred to hereinafter as "the '218
10 Accused Products." Realtek reserves the right to discover and pursue any additional infringing
11 devices that incorporate infringing functionalities. For the avoidance of doubt, the '218 Accused
12 Products are identified to describe the Defendant's infringement and in no way limit the discovery
13 and infringement allegations against Defendant concerning other devices that incorporate the same
14 or reasonably similar structures and/or functionalities.

15 30. The '218 Accused Products infringe one or more claims of the '218 Patent because
16 they contain each element of those claims.

17 31. By way of example, the claim chart attached as Exhibit E, and incorporated into this
18 Complaint by reference, shows that the '218 Accused Products satisfy each element of the identified
19 claims of the '218 Patent identified in Exhibit E (including at least claims 12 through 18).

20 32. By making, using, offering for sale, selling, and/or importing the '218 Accused
21 Products that infringe the '218 Patent, Defendant is liable to Realtek for direct infringement of the
22 '218 Patent pursuant to 35 U.S.C. § 271(a), literally and/or under the doctrine of equivalents.

23 33. In addition, on information and belief, Defendant has induced and continues to induce
24 infringement of one or more claims of the '218 Patent, pursuant to 35 U.S.C. § 271(b), by
25 encouraging third parties such as users, customers, distributors, wholesalers, retailers, affiliates,
26 parents, subsidiaries, importers, or sellers to make, use, offer to sell, sell, and/or import into the
27 United States without authorization the '218 Accused Products. The making, using, offering to sell,
28 selling, and/or importing into the United States constitutes direct infringement, literally or under the

1 doctrine of equivalents, of one or more claims of the '218 Patent by such third parties. Defendant's
2 acts of inducement include: providing the '218 Accused Products or components thereof to third
3 parties and intending them to make, use, offer to sell, sell, and/or import the '218 Accused Products;
4 advertising the '218 Accused Products in the United States and/or encouraging the sale and offer for
5 sale of the '218 Accused Products by Defendant or other entities. For example, upon information
6 and belief, AMD offers Radeon RX6500XT graphics card, including the Radeon RX6500XT GPU,
7 for sale in the United States at least through amd.com, as set forth above in paragraphs 23 and 24.

8 34. Upon information and belief, Defendant has proceeded in this manner despite
9 knowledge of the '218 Patent and their knowledge that specific actions they actively induced and
10 continue to actively induce on the part of third parties constitute infringement of the '218 Patent.
11 Defendant also has been aware of the '218 Patent since at least the filing of this Complaint.

12 35. Realtek has suffered and continues to suffer damages and irreparable harm as a result
13 of Defendant's infringement of the '218 Patent.

14 36. Upon information and belief, Defendant's infringement of the '218 Patent has been
15 and continues to be willful, deliberate, and in disregard of Realtek's patent rights. Defendant has not
16 had, nor does it presently have, a reasonable basis for believing it has a right to engage in the acts
17 complained of herein. Defendant's intentional, knowing, egregious, culpable, willful, wanton,
18 malicious, bad faith, deliberate, consciously wrongful, and/or flagrant infringement justifies
19 increased damages under 35 U.S.C. § 284 and attorneys' fees and costs incurred in prosecuting this
20 action under 35 U.S.C. § 285.

21 **COUNT III**

22 **INFRINGEMENT OF U.S. PATENT NO. 9,590,582**

23 37. Plaintiff incorporates by reference Paragraphs 1 through 36 above as if fully set forth
24 herein.

25 38. Defendant makes, uses, offers for sale, sells, and/or imports in the United States
26 products and/or services that have infringed and continue to infringe one or more claims of the '582
27 Patent, pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents. Defendant's
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1 infringing products include, for example and without limitation, all versions and variations,
2 including predecessor and successor models, of AMD's 3rd Gen Ryzen processors (*e.g.*, Ryzen 5
3 5600X, Ryzen 7 5800X), 4th Gen Ryzen processors, 3rd Gen Threadripper processors and 2nd Gen
4 EPYC CPUs, AMD's Radeon 6500 XT and RX 6600XT products and other 6000 series Radeon
5 products, and any other similar products that infringe at least one claim of the '582 Patent.

6 Defendant's infringing products are collectively referred to hereinafter as "the '582 Accused
7 Products." Realtek reserves the right to discover and pursue any additional infringing devices that
8 incorporate infringing functionalities. For the avoidance of doubt, the '582 Accused Products are
9 identified to describe Defendant's infringement and in no way limit the discovery and infringement
10 allegations against Defendant concerning other devices that incorporate the same or reasonably
11 similar structures and/or functionalities.

12 39. The '582 Accused Products infringe one or more claims of the '582 Patent because
13 they contain each element of those claims.

14 40. By way of example, the claim chart attached as Exhibit F, and incorporated into this
15 Complaint by reference, shows that the '582 Accused Products satisfy each element of the identified
16 claims of the '218 Patent as identified in Exhibit F (including at least claims 1 through 4 and 9).

17 41. By making, using, offering for sale, selling, and/or importing the '582 Accused
18 Products that infringe the '582 Patent, Defendant is liable to Realtek for direct infringement of the
19 '582 Patent pursuant to 35 U.S.C. § 271(a), literally and/or under the doctrine of equivalents.

20 42. In addition, on information and belief, Defendant has induced and continues to induce
21 infringement of one or more claims of the '582 Patent, pursuant to 35 U.S.C. § 271(b), by
22 encouraging third parties such as users, customers, distributors, wholesalers, retailers, affiliates,
23 parents, subsidiaries, importers, or sellers to make, use, offer to sell, sell, and/or import into the
24 United States without authorization the '582 Accused Products. The making, using, offering to sell,
25 selling, and/or importing into the United States constitutes direct infringement, literally or under the
26 doctrine of equivalents, of one or more claims of the '582 Patent by such third parties. Defendant's
27 acts of inducement include: providing the '582 Accused Products or components thereof to third
28 parties and intending them to make, use, offer to sell, sell, and/or import the '582 Accused Products;

1 advertising the '582 Accused Products in the United States and/or encouraging the sale and offer for
 2 sale of the '582 Accused Products by Defendant or other entities, as discussed above in paragraphs
 3 23 and 24.

4 43. On information and belief, Defendant proceeded in this manner despite knowledge of
 5 the '582 Patent and its knowledge that specific actions it actively induced and continues to actively
 6 induce on the part of third parties constitute infringement of the '582 Patent. Defendant also has
 7 been aware of the '582 Patent since at least the filing of this Complaint.

8 44. Realtek has suffered and continues to suffer damages and irreparable harm as a result
 9 of Defendant's infringement of the '582 Patent.

10 45. On information and belief, Defendant's infringement of the '582 Patent has been and
 11 continues to be willful, deliberate, and in disregard of Realtek's patent rights. Defendant has not
 12 had, nor does it presently have, a reasonable basis for believing it has a right to engage in the acts
 13 complained of herein. Defendant's intentional, knowing, egregious, culpable, willful, wanton,
 14 malicious, bad faith, deliberate, consciously wrongful, and/or flagrant infringement justifies
 15 increased damages under 35 U.S.C. § 284 and attorneys' fees and costs incurred in prosecuting this
 16 action under 35 U.S.C. § 285.

17 **PRAYER FOR RELIEF**

18 Plaintiff respectfully prays for relief as follows:

- 19 A. a judgment that Defendant has infringed and continues to infringe one or more claims of
 20 the '245 Patent;
- 21 B. a judgment that Defendant has infringed and continues to infringe one or more claims of
 22 the '218 Patent;
- 23 C. a judgment that Defendant has infringed and continues to infringe one or more claims of
 24 the '582 Patent;
- 25 D. a judgment that Defendant has induced infringement and continues to induce
 26 infringement of one or more claims of the '245 Patent;
- 27 E. a judgment that Defendant has induced infringement and continues to induce
 28 infringement of one or more claims of the '218 Patent;

- 1 F. a judgment that Defendant has induced infringement and continues to induce
2 infringement of one or more claims of the '582 Patent;
- 3 G. a judgment that Defendant has willfully infringed one or more claims of the '245 Patent;
- 4 H. a judgment that Defendant has willfully infringed one or more claims of the '218 Patent;
- 5 I. a judgment that Defendant has willfully infringed one or more claims of the '582 Patent;
- 6 J. a permanent injunction enjoining Defendant from infringing the '245 Patent;
- 7 K. a permanent injunction enjoining Defendant from infringing the '218 Patent;
- 8 L. a permanent injunction enjoining Defendant from infringing the '582 Patent;
- 9 M. a judgment awarding Plaintiff all damages adequate to compensate for Defendant's
10 infringement, and in no event less than a reasonable royalty for Defendant's
11 infringement, including all pre-judgment and post-judgment interest at the maximum rate
12 allowed by law;
- 13 N. a judgment awarding Plaintiff treble damages pursuant to 35 U.S.C. § 284 as a result of
14 Defendant's willful conduct;
- 15 O. a judgment and order finding that this is an exceptional case within the meaning of 35
16 U.S.C. § 285 and awarding Plaintiff its reasonable attorneys' fees and costs incurred in
17 connection with this action; and
- 18 P. for such additional and further relief in law and equity, as the Court may deem just and
19 proper.

20 **JURY DEMAND**

21 Pursuant to Rule 38(b), Plaintiff demands a trial by jury of this action.
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Respectfully submitted,

Dated: August 19, 2022

By:

/s/ Jay C. Chiu

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