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9 IN THE UNITED STATES DISTRICT COURT

10 FOR THE CENTRAL DISTRICT OF CALIFORNIA, SOUTHERN DIVISION

11 TECHNOLOGY IN ARISCALE, LLC,

12 Plaintiff,

13 vs.

14 RAZER USA, LTD.,

15 Defendant.
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Case No.: Not yet assigned

**COMPLAINT FOR PATENT
INFRINGEMENT**

DEMAND FOR JURY TRIAL

1 <https://www.razer.com/about-razer>

2 6. Further, this Court has personal jurisdiction over Razer because it has
3 engaged, and continues to engage, in continuous, systematic, and substantial
4 activities within this State, including the substantial marketing and sale of products
5 and services within this State and this District. This Court has personal jurisdiction
6 over Razer because Razer has committed acts giving rise to Ariscale’s claims for
7 patent infringement within and directed to this District and has derived substantial
8 revenue from its goods and services provided to individuals in this State and this
9 District. Razer has purposefully availed itself of the privilege of conducting
10 business within this District; has established sufficient minimum contacts with this
11 District such that it should reasonably and fairly anticipate being haled into court in
12 this District; has purposefully directed activities at residents of this State; and at
13 least a portion of the patent infringement claims alleged herein arise out of or are
14 related to one or more of the foregoing activities.

15 7. Relative to patent infringement, Razer has committed, continues to
16 commit, and, on information and belief, will commit acts in violation of 35 U.S.C.
17 § 271, and has made, used, marketed, distributed, offered for sale, and/or sold
18 infringing products and services in this State, including in this District, and
19 otherwise engaged in infringing conduct within and directed at, or from, this District.
20 Such infringing products and services include at least (1) Razer laptops and (2)
21 Razer handhelds (to be released in January 2023, per Razer’s website at
22 <https://www.razer.com/mobile-handhelds/razer-edge>). All such infringing systems
23 are collectively referred to herein as the “Razer Systems.” Such Razer Systems have
24 been, continue to be, and, on information and belief, will be, offered for sale,
25 distributed to, sold, and used in this District, and the infringing conduct has caused,
26 and continues to cause, injury to Ariscale, including injury suffered within this
27 District. These are purposeful acts and transactions in this State and this District
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1 such that Razer reasonably should know and expect that it could be haled into this
2 Court because of such activities.

3 8. Venue is proper because Razer maintains regular and established
4 places of business in this District, including at its principal place of business, one
5 of Razer’s dual headquarters, in Irvine, California (the other located in Singapore).
6 On information and belief, Razer has transacted and, at the time of filing this
7 Complaint, is continuing to transact business within the Central District of
8 California. For all of these reasons, personal jurisdiction exists and venue is proper
9 in this Court under 28 U.S.C. §§ 1391(b)(1), (2) and (c)(2) and 28 U.S.C. § 1400(b).

10 **PATENT-IN-SUIT**

11 9. On March 20, 2012, the United States Patent and Trademark Office
12 (“USPTO”) duly and legally issued United States Patent No. 8,139,652, titled
13 “Method and Apparatus for Decoding Transmission Signals in a Wireless
14 Communication System”. A true and correct copy of the ‘652 patent is attached as
15 **Exhibit A** to this Complaint.

16 10. The ‘652 patent stems from U.S. Patent Application No. 12/158,559,
17 which was filed on June 20, 2008, and which is a National Stage Entry of PCT
18 Application No. PCT/KR2006/005901, which was filed on December 29, 2006,
19 which claims the benefit of Korean Patent Application No. 10-2005-0133234,
20 which was filed on December 28, 2005.

21 11. The Asserted Patent identifies Kang-min Lee and Sung-Jin Kang as
22 the inventors (the “Inventors”).

23 12. By assignment, Ariscale owns all right, title, and interest in and to the
24 Asserted Patent. Ariscale has the right to sue and recover for the infringement of
25 the Asserted Patent.

26 13. The specification of the Asserted Patent discloses shortcomings in the
27 prior art and then provides a detailed technical explanation of how the claimed
28 inventions resolves or overcomes those shortcomings. Accordingly, the claims of

1 the Asserted Patent are directed to patent eligible subject matter under 35 U.S.C. §
2 101. The claims are not directed to abstract ideas and the technologies covered by
3 the claims comprise ordered combinations of features and functions that, at the time
4 of the invention, were not, alone or in combination, well-understood, routine, or
5 conventional.

6 14. The Asserted Patent is valid and enforceable.

7 15. An embodiment of the invention described in the '652 patent is
8 reflected, for example, in Claim 1 of the '652 patent:

9 A computer-implemented method for decoding a transmission signal,
10 the method comprising:

11 receiving, using a computer processor, the transmission signal, which
12 is formed by repeating symbols including downlink frame prefix information,
13 encoding repeated symbols to form encoding blocks, and interleaving the
14 encoding blocks;

15 deinterleaving, using a computer processor, the received transmission
16 signal;

17 combining, using a computer processor, symbols at the same positions
18 of deinterleaved encoding blocks among the repeated symbols in the
19 deinterleaved transmission signal; and

20 decoding, using a computer processor, the combined symbols.

21 16. The inventions described and claimed in the '652 patent improve
22 reception performance in wireless systems by mutually combining symbols
23 including information requiring superior reception performance. Moreover, the
24 inventions provide an improvement in computer networking functionality rather
25 than economic or other tasks for which a computer is used in its ordinary capacity.

26 **FACTUAL BACKGROUND**

27 **IEEE 802.11 Wi-Fi Standard**

1 17. The Institute of Electrical and Electronics Engineers (IEEE) has
2 developed standards for wireless communications over local area networks
3 (referred to as “Wi-Fi” and “WiFi”). Wi-Fi usage is widespread in modern
4 electronic products, including laptops, handhelds, smartphones, routers, desktops
5 with wireless functionality, and other devices that have wireless connections.

6 18. IEEE Wi-Fi standards are set forth in IEEE 802.11. The 802.11
7 standardization process began in the 1990s and the first version of 802.11 was
8 referred to as 802.11a. In subsequent years, further versions of the 802.11 standard
9 were adopted, including an 802.11ac version.

10 19. Key improvements of the 802.11ac version of the standard include
11 maintaining better speed and data rates with less information loss, according to
12 implementation using specific modulation schemes. Wireless systems gaining these
13 key improvements that are implemented in accordance with IEEE 802.11ac infringe
14 Ariscale’s patented transmission signal decoding technology.

15 20. These key improvements to the 802.11ac version of the standard were
16 also incorporated into subsequent versions of the standard, which are backward
17 compatible with the 802.11ac version. As such, later, backward compatible versions
18 also implement Ariscale’s patented transmission signal decoding technology.

19 21. Decoding signals transmitted according to 802.11ac standard (e.g.
20 VHT-SIG-B waveform signals) that are received using a computer processor, are
21 formed by repeating symbols including downlink frame prefix information (e.g.
22 VHT-SIG-B field), are encoded in blocks and such blocks are interleaved, includes
23 a computer processor deinterleaving the received transmission signal (e.g. via a
24 BCC deinterleaver), combining, using a computer processor, symbols at the same
25 position of deinterleaved encoding blocks among the repeated symbols (e.g. via
26 averaging repeated soft values), and such combined symbols are decoded using a
27 computer processor (e.g. via a Viterbi decoder). Accordingly, on information and
28 belief, it is clear to those of ordinary skill in the art that practicing methods of

1 decoding received signals that have been transmitted according to the 802.11ac
2 standard infringes ARISCALE's Asserted Patent.

3 **Razer's Infringing Products**

4 22. On information and belief, Razer designs, manufactures, uses, offers
5 for sale, sells, and/or imports into the United States products that comply with
6 and/or otherwise facilitate wireless communication in compliance with the IEEE
7 802.11ac wireless standard and thereby infringe the Asserted Patent. Razer's
8 products that incorporate such 802.11ac compliance and infringe the Asserted
9 Patent include, but are not limited to, the Wi-Fi compatible products listed in
10 **Exhibit B** ("Razer's Accused Products").

11 23. Razer's sales and marketing materials confirm that Razer's Accused
12 Products are compliant with the 802.11ac and/or later, backward compatible
13 standards. As such, on information and belief, Razer's Accused Products use
14 Ariscale's patented transmission signal decoding technology.

15 24. On information and belief, Razer markets and sells IEEE 802.11ac
16 compliant products to customers via channels such as its website and/or various
17 distributors with the knowledge that these products will be incorporated into and
18 sold in in this District, California, and the United States.

19 **COUNT I**

20 **(Infringement of U.S. Patent No. 8,139,652)**

21 25. Ariscale re-alleges and incorporates by reference the allegations of the
22 preceding paragraphs of this Complaint as if fully set forth herein.

23 26. This cause of action arises under the patent laws of the United States,
24 and in particular, 35 U.S.C. §§ 271, *et seq.*

25 27. Ariscale is the sole owner of the '652 patent with all substantial rights
26 to the '652 patent, including the exclusive right to enforce, sue, and recover
27 damages for past and future infringements.

1 28. The ‘652 patent is valid and enforceable and was duly issued in full
2 compliance with Title 35 of the United States Code.

3 29. Razer has knowledge of the ‘652 patent at least based on a letter sent
4 by Ariscale’s undersigned counsel dated December 9, 2022 and delivered on
5 December 12, 2022 to Razer’s USA headquarters at 9 Pasteur Suite 100, Irvine, CA
6 92618 and signed for by a Razer employee as confirmed by FedEx.

7 30. Razer has knowledge of the ‘652 patent based on the filing and service
8 of this Complaint.

9 **Direct Infringement - 35 U.S.C. § 271(a)**

10 31. On information and belief, Razer has directly infringed and continues
11 to directly infringe one or more claims of the ‘652 patent in this District and
12 elsewhere in California and the United States.

13 32. To this end, Razer has infringed and continues to infringe, either by
14 itself or via an agent, at least claims 1-2 and 14-15 of the ‘652 patent by, among
15 other things, making, offering to sell, selling, testing, and/or using the Razer Blade
16 devices (including the 14 - 144Hz GeForce RTX 3060 – Mercury, 14- QHD 165
17 Hz – GeForce RTX 3070 Ti – Mercury, 14 - QHD 165Hz – GeForce RTX 3070 Ti
18 – Quartz, 14 - QHD 144Hz – GeForce RTX 3060 Ti – Black, 14 - QHD 165Hz –
19 GeForce RTX 3070 Ti – Black, 14 - QHD 165Hz – GeForce RTX 3080 Ti – Black,
20 15 - QHD 240Hz – GeForce RTX 3060 – Black, 15 - QHD 240Hz – GeForce RTX
21 3070 Ti – Black, 15 - QHD OLED 240Hz – GeForce RTX 3070 Ti – Black, 15 -
22 Full HD 360Hz – GeForce RTX 3070 Ti – Black, 15 - Full HD 360Hz – GeForce
23 RTX 3080 Ti – Black, 15 - QHD 240Hz – GeForce RTX 3080 Ti – Black, 17 -
24 QHD 240Hz – GeForce RTX 3060 – Black, 17 - UHD 144Hz – GeForce RTX 3070
25 Ti – Black, 17 - QHD 240Hz – GeForce RTX 3070 Ti – Black, 17 - QHD 240Hz –
26 GeForce RTX 3070 Ti – Black, 17 – Full HD 360Hz – GeForce RTX 3070 Ti –
27 Black, 17 – 4K 144Hz – GeForce RTX 3080 Ti – Black, and 17 – Full HD 240 Hz
28 – GeForce RTX 2080 Max-Q – Black).

1 33. Upon information and belief, Razer is liable for direct infringement of
2 the ‘652 patent pursuant to 35 U.S.C. § 271(a) because it manufactures, makes, has
3 made, uses, practices, imports, provides, supplies, distributes, sells, and/or offers
4 for sale products and/or systems that practice at least claims 1-2 and 14-15 of the
5 ‘652 patent.

6 **Indirect Infringement – 35 U.S.C. § 271(b), (c)**

7 34. Despite having knowledge of the ‘652 patent, Razer has specifically
8 intended and continues to specifically intend, for persons who acquire and use its
9 various Razer Blade laptop devices (including the 14 - 144Hz GeForce RTX 3060
10 – Mercury, 14- QHD 165 Hz – GeForce RTX 3070 Ti – Mercury, 14 - QHD 165Hz
11 – GeForce RTX 3070 Ti – Quartz, 14 - QHD 144Hz – GeForce RTX 3060 Ti –
12 Black, 14 - QHD 165Hz – GeForce RTX 3070 Ti – Black, 14 - QHD 165Hz –
13 GeForce RTX 3080 Ti – Black, 15 - QHD 240Hz – GeForce RTX 3060 – Black,
14 15 - QHD 240Hz – GeForce RTX 3070 Ti – Black, 15 - QHD OLED 240Hz –
15 GeForce RTX 3070 Ti – Black, 15 - Full HD 360Hz – GeForce RTX 3070 Ti –
16 Black, 15 - Full HD 360Hz – GeForce RTX 3080 Ti – Black, 15 - QHD 240Hz –
17 GeForce RTX 3080 Ti – Black, 17 - QHD 240Hz – GeForce RTX 3060 – Black,
18 17 - UHD 144Hz – GeForce RTX 3070 Ti – Black, 17 - QHD 240Hz – GeForce
19 RTX 3070 Ti – Black, 17 - QHD 240Hz – GeForce RTX 3070 Ti – Black, 17 – Full
20 HD 360Hz – GeForce RTX 3070 Ti – Black, 17 – 4K 144Hz – GeForce RTX 3080
21 Ti – Black, and 17 – Full HD 240 Hz – GeForce RTX 2080 Max-Q – Black),
22 including its customers, to use devices in a manner that infringes at least claims 1-
23 2 and 14-15 of the ‘652 patent. This is evident when Razer encourages and instructs
24 customers and other end users in the use and operation of its networking
25 compatibility for such Blade devices via the IEEE 802.11ac standard.

26 35. In particular, despite having knowledge of the ‘652 patent, Razer has,
27 on information and belief, provided, and continues to provide, materials that
28 specifically teach and encourage customers and other end users about the use of its

1 devices with 802.11ac compatibility in an infringing manner. By providing such
2 instructions, Razer knows (and has known), or should know (and should have
3 known), that its actions have actively induced, and continue to actively induce,
4 infringement. End users of Razer's Accused Products directly infringe at least
5 claims 1-2 and 14-15 of the '652 patent when using their wireless connectivity,
6 which are designed and marketed toward infringing use by Razer's customers, by
7 wirelessly connecting to other devices. Razer is liable for induced infringement
8 under 35 U.S.C. § 271(b).

9 36. Despite having knowledge of the '652 patent, Razer has specifically
10 intended and continues to specifically intend, for persons who acquire and use its
11 various Razer Edge handheld devices (including the Razer Edge Wi-Fi, Edge
12 Founders Edition, and Edge 5G), including its customers, to use devices in a manner
13 that infringes claims 1-2 and 14-15 of the '652 patent. This is evident when Razer
14 encourages and instructs customers and other end users in the use and operation of
15 networking compatibility for such Edge devices via the IEEE 802.11ac standard.

16 37. Additionally, Razer knows, and has known, that devices with IEEE
17 802.11ac connectivity perform specific, intended functions. Such specific, intended
18 functions perform and/or are a material part of the inventions of the '652 patent and
19 are not staple articles of commerce suitable for substantial non-infringing uses.

20 38. Specifically, each Razer device with 802.11ac wireless connectivity
21 infringes at least claims 1-2 and 14-15 of the '652 patent. Razer is therefore liable
22 for contributory infringement under 35 U.S.C. § 271(c) on the basis that Razer
23 product users who wirelessly connect their products according to 802.11ac are
24 infringing the '652 patent, as are the products themselves.

25 **Damages**

26 39. Ariscale has been damaged as a result of Razer's infringing conduct
27 described in this Count. Razer is thus liable to Ariscale in an amount that adequately
28 compensates for Razer's infringements, which, by law, cannot be less than a

1 reasonable royalty, together with interest and costs as fixed by this Court under 35
2 U.S.C. § 284.

3 **DEMAND FOR A JURY TRIAL**

4 Ariscale demands a trial by jury on all issues triable of right by jury pursuant
5 to Rule 38 of the Federal Rules of Civil Procedure.

6 **PRAYER FOR RELIEF**

7 Ariscale respectfully requests that this Court enter judgment in its favor and
8 against Razer, and that the Court grant Ariscale the following relief:

9 a) Judgment and Order that Razer has directly infringed one or more
10 claims of the patent-in-suit;

11 b) Judgment and Order that Razer has indirectly infringed one or more
12 claims of the patent-in-suit through induced and/or contributory infringement;

13 c) Judgment and Order that Razer must pay Ariscale’s past and future
14 damages and costs under 35 U.S.C. § 284, including supplemental damages arising
15 from any continuing, post-verdict infringement for the time between trial and entry
16 of the final judgment, together with an accounting, as needed, as provided under 35
17 U.S.C. § 284;

18 d) Judgment and Order that Razer must pay Ariscale reasonable ongoing
19 royalties on a go-forward basis after Final Judgment;

20 e) Judgment and Order that Razer must pay Ariscale pre-judgment and
21 post-judgment interest on the damages award and the taxation of all allowable costs
22 against Razer;

23 f) For a judgment in favor of Ariscale that this case is “exceptional”
24 under 35 U.S.C. § 285, and an award to Ariscale of its reasonable attorneys’ fees
25 incurred in this action;

26 g) For such other and further relief as this Court shall deem appropriate.

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1 Dated: December 23, 2022

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11 TECHNOLOGY IN ARISCALE, LLC

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