

**UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
SHERMAN DIVISION**

AX WIRELESS, LLC,  
  
Plaintiff,

v.

SONY INTERACTIVE ENTERTAINMENT,  
INC.; AND SONY INTERACTIVE  
ENTERTAINMENT LLC

Defendants.

Civil Action No. 4:25-cv-175

**JURY TRIAL DEMANDED**

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff AX Wireless, LLC, for its complaint against Defendants Sony Interactive Entertainment Inc. and Sony Interactive Entertainment LLC, alleges the following:

**NATURE OF THE ACTION**

1. This action is brought by Plaintiff AX Wireless, LLC,<sup>1</sup> and it arises under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq.*

2. Defendants Sony Interactive Entertainment Inc. and Sony Interactive Entertainment LLC.<sup>2</sup> directly and/or indirectly infringe one or more claims of the Asserted Patents identified below and as further detailed below, with the independent claims bolded. The exemplary asserted claims comprise at least:

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<sup>1</sup> “AX Wireless”.

<sup>2</sup> Collectively, “Sony” or “Defendants”.

<b><u>U.S. Patent No.</u></b>	<b><u>Exemplary Asserted Claims</u></b>
10,917,272 <sup>3</sup>	1, 11
11,646,927 <sup>4</sup>	1, 2
11,777,776 <sup>5</sup>	1, 2, 3, 4, 5, 6
12,063,134 <sup>6</sup>	1, 2, 3, 4, 5, 6, 7

A certified copy of each of the '272 patent, the '927 patent, the '776 patent, and the '134 patent (collectively the “Asserted Patents”) is attached as Exhibits A, B, C, and D respectively.

3. Defendants import into the United States, and offer for sale and sell in the United States, including on information and belief, within this judicial district, devices with wireless networking technology—including but not limited to video game consoles and components thereof<sup>7</sup> (the “Accused Products”)—that practice without license one or more claims of one or more of the Asserted Patents.

4. Sony has imported, sold for importation, and/or sold within the United States after importation video game consoles, routers, gateways, and components thereof, including (but not limited to) the accused Sony PlayStation 5 Pro (the “Exemplary Sony Accused Product”).

### **THE PARTIES**

#### **A. Plaintiff AX Wireless**

5. Plaintiff AX Wireless, LLC is a Texas limited liability company organized under the laws of the State of Texas with its headquarters at 2025 Guadalupe Street, Suite 260, Austin, TX 78705.

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<sup>3</sup> The “'272 patent”.

<sup>4</sup> The “'927 patent”.

<sup>5</sup> The “'776 patent”.

<sup>6</sup> The “'134 patent”.

<sup>7</sup> These “Accused Products” are further defined and described below.

**B. Sony**

6. On information and belief, Defendant Sony Interactive Entertainment Inc. (“SIEI”) has its principal place of business and headquarters at 1-7-1 Konan, Minato-ku, Tokyo, Japan 108-0075, Tel.: +81 50-3807-5680.

7. On information and belief, Defendant SIEI sells, offers to sell, and/or uses products and services throughout the United States, including in this judicial district, and introduces infringing products and services into the stream of commerce knowing that they would be sold and/or used in this judicial district and elsewhere in the United States.

8. On information and belief, Defendant Sony Interactive Entertainment LLC (“Sony USA”) is a limited liability company organized and existing under the laws of the state of California, with its principal place of business at 2207 Bridgepointe Parkway, San Mateo, CA 94404, Tel.: 650-655-8000. On information and belief, Sony USA has places of business at least at 2800 Summit Avenue, Plano, Texas 75074 and 1221 Coit Road, Plano, Texas 75075.

9. On information and belief, Defendant Sony USA is controlled by or otherwise acts in concert with Defendant SIEI (collectively, “Sony” or “Defendants”) as to the sale, offer for sale and/or use within the United States, including this judicial district.

10. On information and belief, Defendant Sony USA sells, offers to sell, and/or uses products and services throughout the United States, including in this judicial district, and introduces infringing products and services into the stream of commerce knowing that they would be sold and/or used in this judicial district and elsewhere in the United States.

**JURISDICTION AND VENUE**

11. This is an action for patent infringement arising under the Patent Laws of the United States, Title 35 of the United States Code.

12. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331, 1332, and 1338(a)–(b) under the patent laws of the United States, 35 U.S.C. §§ 100, *et seq.*

13. On information and belief, this Court has personal jurisdiction over SIEI pursuant to due process and/or the Texas Long Arm Statute because, *inter alia*, (i) SIEI has done and continues to do substantial business in Texas and in this judicial district, directly or through intermediaries; and (ii) SIEI has committed and continues to commit acts of patent infringement in the State of Texas, including making, using, offering to sell, and/or selling accused products in Texas, and/or importing accused products into Texas, including by Internet sales and/or sales via retail and wholesale stores, inducing others to commit acts of patent infringement in Texas, and/or committing at least a portion of any other infringements alleged herein in Texas. In addition, or in the alternative, this Court has personal jurisdiction over SIEI pursuant to Fed. R. Civ. P. 4(k)(2) because: (1) it has substantial contacts with the United States and committed and/or induced acts of patent infringement in the United States; and (2) it is not subject to jurisdiction in any state’s courts of general jurisdiction.

14. On information and belief, this Court has personal jurisdiction over Sony USA pursuant to due process and/or the Texas Long Arm Statute because, *inter alia*, (i) Sony USA has done and continues to do substantial business in Texas and in this judicial district, directly or through intermediaries; and (ii) Sony USA has committed and continues to commit acts of patent infringement in the State of Texas, including making, using, offering to sell, and/or selling accused products in Texas, and/or importing accused products into Texas, including by Internet sales and sales via retail and wholesale stores, inducing others to commit acts of patent

infringement in Texas, and/or committing a least a portion of any other infringements alleged herein.

15. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391 and 1400(b) as to SIEI, which is organized under the laws of a foreign jurisdiction. 28 U.S.C. § 1391(c)(3) provides that “a defendant not resident in the United States may be sued in any judicial district, and the joinder of such a defendant shall be disregarded in determining where the action may be brought with respect to other defendants.” *See also In re HTC Corp.*, 889 F.3d 1349 (Fed. Cir. 2018).

16. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391 and 1400(b) as to Sony USA because Sony USA has a regular and established place of business in this District and has committed acts of patent infringement in this District, and because a substantial part of the events or omissions giving rise to the claims against Sony USA occurred in this District.

## **THE ASSERTED PATENTS**

### **1. The '272 Patent**

17. AX Wireless owns by assignment the entire right, title, and interest in the '272 patent, titled “Non-transitory computer-readable information storage media for variable header repetition in a wireless OFDM network,” which issued on February 9, 2021. The '272 patent issued to inventors Joon Bae Kim and Marcos C. Tzannes, from United States Patent Application No. 16/780,589, filed February 3, 2020. It expires on August 20, 2030. A copy of the '272 patent is attached as Exhibit A.

18. The inventors of the '272 patent improved upon wireless communication systems by improving how headers are transmitted and received in an Orthogonal Frequency Division Multiplexing (OFDM) system. Specifically, the '272 patent focuses on innovations in communication systems, specifically addressing enhanced methods, systems, and protocols for

header repetition in packet-based OFDM systems (Orthogonal Frequency Division Multiplexing), widely applicable in various telecommunications environments. The invention of the '272 patent delves into both hardware and software implementations, aiming at efficiency in communications across multiple contexts, including home and access networks, modems, and telecommunications test devices, and improves communications reliability and efficiency, with a background in overcoming limitations of conventional multi-user communication systems.

## **2. The '927 Patent**

19. AX Wireless owns by assignment the entire right, title, and interest in the '927 patent, titled "Header repetition in packet-based OFDM systems," which issued on May 9, 2023. The '927 patent issued to inventors Joon Bae Kim and Marcos C. Tzannes, from United States Patent Application No. 17/540,189, filed December 1, 2021. It expires on August 20, 2030. A copy of the '927 patent is attached as Exhibit B.

20. The '927 patent focuses on advancements in communications systems, particularly on the method of header repetition within packet-based Orthogonal Frequency Division Multiplexing (OFDM) systems. The invention addresses challenges in conventional multi-user communication systems by improving the efficiency and reliability of data transmission over shared channels. The implementation can vary from software applications to hardware components, adaptable across different devices and networks, and provides a technical solution for enhancing data delivery in OFDM systems, which is fundamental for various communication technologies.

## **3. The '776 Patent**

21. AX Wireless owns by assignment the entire right, title, and interest in the '776 patent, titled "Header repetition in packet-based OFDM systems," which issued on October 3, 2023. The '776 patent issued to inventors Joon Bae Kim and Marcos C. Tzannes, from United

States Patent Application No. 17/939,904, filed September 7, 2022. It expires on August 20, 2030. A copy of the '776 patent is attached as Exhibit C.

22. The '776 patent focuses on improving communications systems through a header repetition scheme specifically designed for packet-based OFDM systems. The patent details a wireless communication device and method capable of receiving and decoding wireless packets that come in two formats. One format contains a single header field carried by an OFDM symbol, while the other format includes this same header field plus a repeated header field carried by a subsequent OFDM symbol. The device distinguishes between these two packet formats by detecting the repetition of the first header field in the second packet format, enhancing the decoding efficiency and reliability in various network environments. This invention is a significant leap in the communications field, prioritizing efficiency, and reliability in multi-user systems.

#### **4. The '134 Patent**

23. AX Wireless owns by assignment the entire right, title, and interest in the '134 patent, titled "Header repetition in packet-based OFDM systems," which issued on August 13, 2024. The '134 patent issued to inventors Joon Bae Kim and Marcos C. Tzannes, from United States Patent Application No. 18/234,879, filed August 17, 2023. It expires on August 20, 2030. A copy of the '134 patent is attached as Exhibit D.

24. The '134 patent focuses on a header repetition scheme in packet-based OFDM (Orthogonal Frequency Division Multiplexing) systems, essential for enhancing communication systems' robustness and efficiency. The invention of the '134 patent aims to improve data transmission by emphasizing header repetition strategies within communication environments, catering to both software and hardware implementations, including DSL modems, transceivers,

and various communication protocols, thereby showcasing its versatility across telecom and computer networks.

**COUNT I – INFRINGEMENT OF THE '272 PATENT**

25. Plaintiff incorporates by reference and re-alleges all of the foregoing paragraphs of this Complaint as if fully set forth herein.

26. Sony directly infringes the '272 patent under 35 U.S.C. § 271(a) by using, offering to sell, importing, and selling Accused Products within the United States, including but not limited to the Exemplary Sony Accused Product, without license or authority.

27. The Exemplary Sony Accused Product directly infringes, literally and/or under the doctrine of equivalents, at least claims 1 and 11 of the '272 patent.

28. As shown in the attached claim charts at Exhibit E, the Exemplary Sony Accused Product and the components thereof satisfy all limitations of at least claims 1 and 11 of the '272 patent.

29. Sony's direct infringement of the '272 patent has damaged Plaintiff by violating Plaintiff's right to exclude others from importing into, and using, selling, and offering to sell products that practice the '272 product in the United States.

30. The claims of the '272 patent were issued by the United States Patent and Trademark Office and are presumed by statute to be valid. They are not directed to abstract ideas and moreover contain inventive concepts sufficient to ensure that the patent amounts to significantly more than a patent on a patent ineligible concept itself. The written description of the '272 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the nonconventional and non-generic combination of claim limitations is patentably distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.



**COUNT II – INFRINGEMENT OF THE '927 PATENT**

31. Plaintiff incorporates by reference and re-alleges all of the foregoing paragraphs of this Complaint as if fully set forth herein.

32. Sony directly infringes the '927 patent under 35 U.S.C. § 271(a) by using, offering to sell, importing, and selling Accused Products within the United States, including but not limited to the Exemplary Sony Accused Product, without license or authority.

33. The Exemplary Sony Accused Product directly infringes, literally and/or under the doctrine of equivalents, at least claims 1–2 of the '927 patent.

34. As shown in the attached claim charts at Exhibit F, the Exemplary Sony Accused Product and the components thereof satisfy all limitations of at least claims 1–2 of the '927 patent.

35. Sony's direct infringement of the '927 patent has damaged Plaintiff by violating Plaintiff's right to exclude others from importing into, and using, selling, and offering to sell products that practice the '927 patent in the United States.

36. The claims of the '927 patent were issued by the United States Patent and Trademark Office and are presumed by statute to be valid. They are not directed to abstract ideas and moreover contain inventive concepts sufficient to ensure that the patent amounts to significantly more than a patent on a patent ineligible concept itself. The written description of the '272 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the nonconventional and non-generic combination of claim limitations is patentably distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

**COUNT III – INFRINGEMENT OF THE '776 PATENT**

37. Plaintiff incorporates by reference and re-alleges all of the foregoing paragraphs of this Complaint as if fully set forth herein.

38. Sony directly infringes the '776 patent under 35 U.S.C. § 271(a) by using, offering to sell, importing, and selling Accused Products within the United States, including but not limited to the Exemplary Sony Accused Product, without license or authority.

39. The Exemplary Sony Accused Product directly infringes, literally and/or under the doctrine of equivalents, at least claims 1–6 of the '776 patent.

40. As shown in the attached claim charts at Exhibit G, the Exemplary Sony Accused Product and the components thereof satisfy all limitations of at least claims 1–6 of the '776 patent.

41. Sony's direct infringement of the '776 patent has damaged Plaintiff by violating Plaintiff's right to exclude others from importing into, and using, selling, and offering to sell products that practice the '776 patent in the United States.

42. The claims of the '776 patent were issued by the United States Patent and Trademark Office and are presumed by statute to be valid. They are not directed to abstract ideas and moreover contain inventive concepts sufficient to ensure that the patent amounts to significantly more than a patent on a patent ineligible concept itself. The written description of the '272 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the nonconventional and non-generic combination of claim limitations is patentably distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

**COUNT IV – INFRINGEMENT OF THE '134 PATENT**

43. Plaintiff incorporates by reference and re-alleges all of the foregoing paragraphs of this Complaint as if fully set forth herein.

44. Sony directly infringes the '134 patent under 35 U.S.C. § 271(a) by using, offering to sell, importing, and selling Accused Products within the United States, including but not limited to the Exemplary Sony Accused Product, without license or authority.

45. The Exemplary Sony Accused Product directly infringes, literally and/or under the doctrine of equivalents, at least claims 1–7 of the '134 patent.

46. As shown in the attached claim charts at Exhibit H, the Exemplary Sony Accused Product and the components thereof satisfy all limitations of at least claims 1–7 of the '134 patent.

47. Sony's direct infringement of the '134 patent has damaged Plaintiff by violating Plaintiff's right to exclude others from importing into, and using, selling, and offering to sell products that practice the '134 patent in the United States.

48. The claims of the '134 patent were issued by the United States Patent and Trademark Office and are presumed by statute to be valid. They are not directed to abstract ideas and moreover contain inventive concepts sufficient to ensure that the patent amounts to significantly more than a patent on a patent ineligible concept itself. The written description of the '272 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the nonconventional and non-generic combination of claim limitations is patentably distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

**PRAYER FOR RELIEF**

WHEREFORE, by reason of the foregoing, Plaintiff respectfully requests that the Court enter judgment in favor of Plaintiff and against Defendants as follows:

- (a) Finding that Defendants have each infringed each of the Asserted Patents;
- (b) Issuing a permanent injunction that prohibits each Defendant, and its respective affiliates, employees, agents, officers, directors, attorneys, successors, and assigns, and all those acting on behalf of or in active concert or participation with any of them, from infringing each of the Asserted Patents;
- (c) Requiring that each Defendant pays Plaintiff damages sufficient to compensate Plaintiff for its respective infringements of each Asserted Patent and in an amount not less than a reasonable royalty;
- (d) Awarding Plaintiff prejudgment interest, post-judgment interest, and costs; and
- (e) Such other and further relief as the Court may deem appropriate

**JURY DEMAND**

Plaintiff respectfully demands a trial by jury on all issues raised by this Complaint that are properly triable by a jury.

Dated: February 20, 2025

*/s/ Clifford Chad Henson*  
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