UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
MIDLAND/ODESSA DIVISION

TRINAMIX SENSING LLC, and TRINAMIX GMBH, Plaintiffs, – against – APPLE INC., Defendant.	**Case No. 7:26-cv-348** **COMPLAINT FOR PATENT INFRINGEMENT** **JURY TRIAL DEMANDED**

Plaintiffs trinamiX Sensing LLC and trinamiX GmbH (collectively, "trinamiX"), by and through their undersigned counsel, bring this Complaint against Defendant Apple, Inc. ("Apple") and allege as follows:

NATURE OF THE CASE

1. This is a civil action for patent infringement under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*

2. Defendant Apple has infringed and continues to infringe, directly and indirectly, one or more claims of trinamiX's U.S. Patent No. 12,530,925 ("the '925 patent"), U.S. Patent No. 12,288,421 ("the '421 patent"), U.S. Patent No. 12,456,334 ("the '334 patent"), U.S. Patent No. 12,361,760 ("the '760 patent"), U.S. Patent No. 12,298,394 ("the '394 patent"), U.S. Patent No. 12,332,352 ("the '352 patent"), and U.S. Patent No. 12,461,238 ("the '238 patent") (collectively, the "Asserted Patents"), either literally or under the doctrine of equivalents.

3. trinamiX GmbH is the legal owner by assignment of the Asserted Patents, which were duly and legally issued by the United States Patent and Trademark Office.

4. trinamiX GmbH is a limited liability company organized and existing under the laws of the Federal Republic of Germany, with its principal place of business at Industriestraße 35, 67063 Ludwigshafen am Rhein, Germany. trinamiX GmbH is a wholly owned subsidiary of BASF SE ("BASF").

5. trinamiX Sensing LLC is a limited liability company organized and existing under the laws of the State of Delaware, and is registered to transact business in Texas, with its principal place of business at 7800 Shoal Creek Boulevard, Suite 200N, Austin, Texas 78757. trinamiX Sensing LLC is a wholly owned subsidiary of trinamiX GmbH.

6. trinamiX originated from research at BASF, a chemical company headquartered in Ludwigshafen am Rhein, Germany. Beginning in or around 2010, BASF scientists working on organic solar cells identified an unexpected material effect with applications far beyond that original context, including sensing and three-dimensional measurement. That discovery led trinamiX's founding scientists to build early three-dimensional camera prototypes and to file patent applications directed to the underlying technology.

7. trinamiX GmbH was formed as a legal entity on December 16, 2014, and commenced operations in 2015, when BASF spun off a dedicated company headquartered in Ludwigshafen am Rhein, Germany, to develop advanced 3D and material sensing technologies. trinamiX GmbH holds more than 800 granted or pending patents worldwide, including the Asserted Patents.

8. In the decade since, trinamiX has grown from a startup into an operating company that designs, develops, and commercializes advanced sensing technologies, including biometric imaging, three-dimensional vision, and near-infrared spectroscopy solutions for consumer and industrial applications. trinamiX's products are directed to improving decision-making, safety, and

product authentication, and trinamiX offers them to customers in the consumer electronics, automotive, and access control markets.

9. One of trinamiX's core technologies is its face authentication system, which provides a critical layer of security beyond conventional face recognition through trinamiX's patent-protected material and skin classification technologies (hereinafter, "trinamiX's face authentication technologies"). trinamiX's face authentication technologies are the result of its development work over the last decade. They add an additional security layer to face authentication by classifying between different materials. An illumination unit captures not only a 2D image and 3D depth information of the face in front of the device, but further differentiates between real skin and other materials. Spoofing the system with a lifelike mask, 3D sculpture, or 2D printout becomes incredibly difficult. Those technologies have been tested and certified under the FIDO Biometric Component Certification Program, the IIFAA Biometric Face Security Test Requirement, and the Android Biometric Security Test. trinamiX has supplied face authentication evaluation kits to, and conducted development projects with, prospective customers evaluating trinamiX's face authentication technologies for integration into their own products.

10. trinamiX conducts a growing share of that development work in the United States. It maintains a U.S. presence through trinamiX Sensing LLC, which engages in the innovation, research, design, and development of trinamiX's face authentication products and technologies in the United States that embody the Asserted Patents. trinamiX Sensing LLC employs dedicated specialists in software engineering and development, hardware engineering, and data science at its Austin, Texas facility. As of August 2026, the U.S. team comprised twelve full-time-equivalent employees engaged in this work, or approximately one third of the personnel involved in trinamiX's biometric imaging business worldwide.

11. On information and belief, Defendant Apple is a U.S. corporation having regular and established places of business at 12535 Riata Vista Circle and 6900 West Parmer Lane, Austin, Texas. Apple designs, manufactures, uses, imports into the United States, sells, and/or offers for sale in the United States iPhones and iPads that use Face ID, including those accused herein of infringement. Apple markets, sells, and offers to sell its infringing products to actual and potential customers and end-users located in Texas and in the Western District of Texas.

JURISDICTION AND VENUE

12. This is an action for patent infringement arising under the patent laws of the United States of America, 35 U.S.C. §1, et seq., including 35 U.S.C. § 271. This Court has subject matter jurisdiction over the matters asserted herein under 28 U.S.C. §§ 1331 and 1338(a).

13. Venue in this District is proper under 28 U.S.C. § 1391 and 28 U.S.C. § 1400(b). Apple has committed acts of infringement in this District and maintains regular and established places of business in this District. Apple has continuous and systematic business contacts with the State of Texas. Apple, directly or through subsidiaries or intermediaries (including distributors, retailers, contract manufacturers, and others), conducts its business extensively throughout Texas, by shipping, manufacturing, distributing, offering for sale, selling, and advertising its products and services in the State of Texas and the Western District of Texas, including the infringing iPhones and iPads. Apple, directly or through subsidiaries or intermediaries (including distributors, retailers, contract manufacturers, and others), has purposefully and voluntarily placed its infringing products and services into this District and into the stream of commerce with the intention and expectation that they will be purchased and used by consumers in this District, including iPhones and iPads with the infringing versions of Face ID. Apple has offered and sold and continues to offer and sell these infringing products and services in this District, including at physical Apple stores located within this District. Apple also has derived substantial revenues from infringing acts.

Apple employs over 5,000 employees and has several corporate campuses in Austin, Texas, which is Apple's largest corporate hub outside of its headquarters in Cupertino, California. On information and belief, components of the Face ID authentication system are manufactured by or in partnership with companies in Texas and/or the District, including the vertical-cavity surface-emitting lasers (VCSELs) and image sensors that are used for Face ID.

14. This Court has personal jurisdiction over Apple because Apple committed acts within this District giving rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over Apple would not offend traditional notions of fair play and substantial justice. Apple has committed and continues to commit acts of infringement in this District by, among other things, making, using, offering to sell, selling, and importing products that infringe the Asserted Patents. Moreover, Apple has one or more regular and established places of business in the District, as discussed above.

TRINAMIX'S ASSERTED PATENTS

15. trinamiX GmbH owns by assignment the entire right, title, and interest in and to the '925 patent, titled "Optical skin detection for face unlock," which was duly issued by the United States Patent and Trademark Office on January 20, 2026 and names Peter Schillen, Benjamin Guthier, Friedrich Schick, Manuel Guenther, Lars Diesselberg, and Christian Lennartz as co-inventors. The '925 patent issued from U.S. Patent Application Serial No. 19/088,110, filed on March 24, 2025. The application is a continuation application of U.S. Patent Application Serial No. 18/468,352, filed September 15, 2023, which is a continuation application of U.S. Patent Application Serial No. 18/264,326, filed August 4, 2023, which is a U.S. National Phase Application of International Patent Application No. PCT/EP22/053941, filed February 17, 2022,

which claims priority to EP Patent Application Serial No. 21/157,800.0, filed February 18, 2021. A copy of the '925 patent is attached as **Exhibit 1.**

16. trinamiX GmbH owns by assignment the entire right, title, and interest in and to the '421 patent, titled "Optical skin detection for face unlock," which was duly issued by the United States Patent and Trademark Office on April 29, 2025, and names Peter Schillen, Benjamin Guthier, Friedrich Schick, Manuel Guenther, Lars Diesselberg, and Christian Lennartz as co-inventors. The '421 patent issued from U.S. Patent Application Serial No. 18/743,640, filed on June 14, 2024. The application is a continuation application of U.S. Patent Application Serial No. 18/468,352, filed September 15, 2023, which is a continuation application of U.S. Patent Application Serial No. 18/264,326, filed August 4, 2023, which is a U.S. National Phase Application of International Patent Application No. PCT/EP22/053941, filed February 17, 2022, which claims priority to EP Patent Application Serial No. 21/157,800.0, filed February 18, 2021. A copy of the '421 patent is attached as **Exhibit 2**.

17. trinamiX GmbH owns by assignment the entire right, title, and interest in and to the '334 patent, titled "Optical skin detection for face unlock," which was duly issued by the United States Patent and Trademark Office on October 28, 2025, and names Peter Schillen, Benjamin Guthier, Friedrich Schick, Manuel Guenther, Lars Diesselberg, and Christian Lennartz as co-inventors. The '334 patent issued from U.S. Patent Application Serial No. 18/468,352, filed on September 15, 2023. The application is a continuation application of U.S. Patent Application Serial No. 18/264,326, filed August 4, 2023, which is a U.S. National Phase Application of International Patent Application No. PCT/EP22/053941, filed February 17, 2022, which claims priority to EP Patent Application Serial No. 21/157,800.0, filed February 18, 2021. A copy of the '334 patent is attached as **Exhibit 3**.

18. trinamiX GmbH owns by assignment the entire right, title, and interest in and to the ’760 patent, titled “Optical skin detection for face unlock,” which was duly issued by the United States Patent and Trademark Office on July 15, 2025, and names Peter Schillen, Benjamin Guthier, Friedrich Schick, Manuel Guenther, Lars Diesselberg, and Christian Lennartz as co-inventors. The ’760 patent issued from U.S. Patent Application Serial No. 18/264,326, filed on August 4, 2023. The application is a U.S. National Phase Application of International Patent Application No. PCT/EP22/053941, filed February 17, 2022, which claims priority to EP Patent Application Serial No. 21/157,800.0, filed February 18, 2021. A copy of the ’760 patent is attached as **Exhibit 4**.

19. trinamiX GmbH owns by assignment the entire right, title, and interest in and to the ’394 patent, titled “Detector for identifying at least one material property,” which was duly issued by the United States Patent and Trademark Office on May 13, 2025, and names Friedrich Schick, Peter Schillen, Patrick Schindler, Andre Schmidt, Michael Eberspach, Christian Lennartz, Robert Send, Lars Diesselberg, Heiko Hengen, Ingmar Bruder, Jakob Unger, and Christian Bonsignore as co-inventors. The ’394 patent issued from U.S. Patent Application Serial No. 18/425,144, filed on January 29, 2024. This application is a continuation application of U.S. Patent Application Serial No. 17/439,492, filed September 15, 2021, which issued as U.S. Patent No. 11,947,013, and which is a U.S. National Phase Application of International Patent Application No. PCT/EP2020/056759, filed March 13, 2020, which claims priority to European Patent Application No. 19163250.4, filed March 15, 2019. A copy of the ’394 patent is attached as **Exhibit 5.**

20. trinamiX GmbH owns by assignment the entire right, title, and interest in and to the ’352 patent, titled “Detector for identifying at least one material property,” which was duly issued by the United States Patent and Trademark Office on June 17, 2025, and names Friedrich

Schick, Peter Schillen, Patrick Schindler, Andre Schmidt, Michael Eberspach, Christian Lennartz, Robert Send, Lars Diesselberg, Heiko Hengen, Ingmar Bruder, Jakob Unger, and Christian Bonsignore as co-inventors. The '352 patent issued from U.S. Patent Application Serial No. 18/743,352, filed on June 14, 2024. This application is a continuation of U.S. Patent Application Serial No. 18/425,144, filed on January 29, 2024, which is a continuation application of U.S. Patent Application Serial No. 17/439,492, filed September 15, 2021, which issued as U.S. Patent No. 11,947,013, and which is a U.S. National Phase Application of International Patent Application No. PCT/EP2020/056759, filed March 13, 2020, which claims priority to European Patent Application No. 19163250.4, filed March 15, 2019. A copy of the '352 patent is attached as **Exhibit 6.**

21. trinamiX GmbH owns by assignment the entire right, title, and interest in and to the '238 patent, titled "Detector for identifying at least one material property," which was duly issued by the United States Patent and Trademark Office on November 4, 2025 and names Friedrich Schick, Peter Schillen, Patrick Schindler, Andre Schmidt, Michael Eberspach, Christian Lennartz, Robert Send, Lars Diesselberg, Heiko Hengen, Ingmar Bruder, Jakob Unger, and Christian Bonsignore as co-inventors. The '238 patent issued from U.S. Patent Application Serial No. 19/041,010, filed on January 30, 2025. This application is a continuation application of U.S. Patent Application Serial No. 18/425,144, filed on January 29, 2024, which issued as the '394 patent, and which is a continuation of U.S. Patent Application Serial No. 17/439,492, filed September 15, 2021, which issued as U.S. Patent No. 11,947,013, and which is a U.S. National Phase Application of International Patent Application No. PCT/EP2020/056759, filed March 13, 2020, which claims priority to European Patent Application No. 19163250.4, filed March 15, 2019. A copy of the '238 patent is attached as **Exhibit 7.**

FACTUAL BACKGROUND

A. trinamiX's Face Authentication Technology

22. trinamiX's face authentication technologies are designed for integration across consumer electronics, automotive, and access control applications.

23. trinamiX's face authentication technologies were designed to address a well-documented security gap in conventional face authentication technology. Conventional face recognition systems are vulnerable to spoofing—researchers and journalists have repeatedly demonstrated that many face unlock features can be defeated using photographs, 3D-printed masks, or silicone replicas. The material and skin detection technologies forming a part of trinamiX's face authentication technologies address these vulnerabilities by providing specific methods of verifying that the face presented to a device belongs to a real human, and not a realistic mask, photograph, or other spoof.

24. In 2016 and 2017, trinamiX scientists developed a proprietary beam profile analysis technique, a method that projects an illumination pattern comprising a plurality of illumination features onto a scene and analyzes the reflection features generated by the scene in response to the illumination to determine properties of the illuminated surface. In plain terms, the technique projects a pattern of light onto a scene and analyzes how that light reflects back to determine object properties.

25. Over time, trinamiX recognized that its proprietary beam profile analysis technique could be applied to improve the security of conventional face authentication systems. trinamiX thus developed face authentication technologies that not only verify that a face is present in the scene, but also (i) determine whether the material of the detected face is human skin based on the properties of the reflected light, and (ii) verify that the face exhibits three-dimensional depth

consistent with real facial characteristics. trinamiX's face authentication technologies provide a powerful defense against spoofing attacks using photographs, masks, and other non-skin materials.

26. trinamiX's face authentication technologies have been tested and certified under the FIDO Biometric Component Certification Program, the IIFAA Biometric Face Security Test Requirement, and the Android Biometric Security Test, which are well-recognized industry tests for biometric security measures. trinamiX's face authentication technologies have passed these certifications with a Spoof Acceptance Rate of 0% after exposure to spoof attempts, including ultra-realistic masks, over a period of many weeks.

B. The Accused Products

27. Apple makes, uses, offers to sell, sells and/or imports into the United States mobile and portable electronic devices incorporating face authentication, 3D-sensing, and material detection capabilities, including the iPhone 15, iPhone 15 Plus, iPhone 15 Pro, iPhone 15 Pro Max, iPhone 16, iPhone 16e, iPhone 16 Pro, iPhone 16 Pro Max, iPhone 16 Plus, iPhone 17, iPhone 17e, iPhone 17 Pro, iPhone 17 Pro Max, iPhone Air, 11-inch iPad Pro (4th Generation), iPad Pro 12.9-inch (6th Generation), iPad Pro 11-inch (M4 and M5), iPad Pro 13-inch (M4 and M5) and other infringing iPhone and iPad models ("Accused Products").

28. Apple first released face authentication, called "Face ID," on or around November 3, 2017, with the iPhone X, and added it to the iPad the following year. **Exhibit 8** at 2 (The Future Is Here: iPhone X, Apple (Sept. 12, 2017), available at https://www.apple.com/newsroom/2017/09/the-future-is-here-iphone-x/).

29. On information and belief, the original release of Face ID did not incorporate trinamiX's patented technology, and lacked material and skin detection capabilities. Indeed, technical publications reported that the Face ID of the iPhone X was able to be tricked using simply constructed masks. **Exhibit 9** at 2 ("Security researchers at Bkav have reportedly defeated the

iPhone X's Face ID feature using a simply-constructed 3D mask.") (Raymond Wong, *Hackers Fool the iPhone X's Face ID Using a Cheesy-Looking Mask*, Mashable (Nov. 13, 2017), available at https://mashable.com/article/apple-iphone-x-face-id-mask-hack); **Exhibit 10** at 1 ("[R]esearchers at the Vietnamese cybersecurity firm Bkav announced that they had made a mask that could fool the iPhone X's facial recognition system, Face ID. The mask consists of a 3D-printed frame, a silicone nose that was hand-sculpted by artists, and a few photos that were layered on top of the mask.") (Daniel Oberhaus, *iPhone X's Face ID Can Be Fooled with a 3D-Printed Mask*, Vice (Nov. 13, 2017), available at https://www.vice.com/en/article/iphone-x-face-id-mask-spoof/).

30. On information and belief, Apple incorporated trinamiX's face authentication technologies into the Accused Products. These Accused Products infringe the Asserted Patents.

COUNT I: INFRINGEMENT OF U.S. PATENT NO. 12,530,925

31. trinamiX repeats and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

32. Apple has infringed and is currently infringing the '925 patent literally and/or under the doctrine of equivalents by making, using, selling, offering for sale, and/or importing into the United States, without authority, the Accused Products, which practice each and every limitation of at least claim 1 of the '925 patent.

33. As an example, the iPhone 17 embodies every limitation of at least claim 1 of the '925 patent, literally or under the doctrine of equivalents. An exemplary claim chart for independent claim 1 of the '925 patent is attached as **Exhibit 11**. The chart is based on publicly available information. trinamiX reserves the right to modify this description, including, for example, on the basis of information it obtains during discovery.

34. Apple has had actual knowledge of trinamiX's rights in the '925 patent and details of its infringement of the '925 patent based on at least the filing of this Complaint. If Apple did not have actual knowledge before the filing of the Complaint, it was willfully blind to the existence of the '925 patent and its infringement of the '925 patent. On information and belief, Apple was aware of trinamiX and the trinamiX face authentication technologies, and knew that they were patented. Apple knew or should have known of the high probability that updating its iPhones and iPads to incorporate Face ID using material and skin detection infringed at least one claim of the '925 patent.

35. On information and belief, Apple also has knowingly induced and continues to induce infringement of the Asserted Patents by others. Despite this knowledge of the Asserted Patents, Apple continues to actively encourage and instruct its distributors, customers and end users to use the Accused Products in ways that directly infringe the Asserted Patents. On information and belief, Apple's customers and end users directly infringe the Asserted Patents by, for example, using, offering to sell, and selling within the United States, and importing into the United States, without authority or license, the Accused Products. On information and belief, Apple actively, knowingly, and intentionally has induced infringement of the Asserted Patents by customers and end users by, for example, controlling the design and manufacture of, offering for sale, selling, supplying, and otherwise providing instruction and guidance regarding the Accused Products with the knowledge and specific intent to encourage and facilitate infringing uses of such products by its customers both inside and outside the United States. For example, Apple publicly provides documentation, including datasheets and manuals instructing customers on uses of the Accused Products that infringe the Asserted Patents.[1]

[1] *See, e.g.*, **Exhibit 18**.

36. By reason of Apple's infringement of the '925 patent, trinamiX has suffered substantial damages and irreparable injury, and will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court.

37. Apple's infringement of the '925 patent is exceptional and entitles trinamiX to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT II: INFRINGEMENT OF U.S. PATENT NO. 12,288,421

38. trinamiX repeats and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

39. Apple has infringed and is currently infringing the '421 patent literally and/or under the doctrine of equivalents by making, using, selling, offering for sale, and/or importing into the United States, without authority, the Accused Products, which practice each and every limitation of at least claim 1 of the '421 patent.

40. As an example, the iPhone 17 embodies every limitation of at least claim 1 of the '421 patent, literally or under the doctrine of equivalents. An exemplary claim chart for independent claim 1 of the '421 patent is attached as **Exhibit 12**. The chart is based on publicly available information. trinamiX reserves the right to modify this description, including, for example, on the basis of information it obtains during discovery.

41. Apple has had actual knowledge of trinamiX's rights in the '421 patent and details of its infringement of the '421 patent based on at least the filing of this Complaint. If Apple did not have actual knowledge before the filing of the Complaint, it was willfully blind to the existence of the '421 patent and its infringement of the '421 patent. On information and belief, Apple was aware of trinamiX and the trinamiX face authentication technologies, and knew that they were patented. Apple knew or should have known of the high probability that updating its iPhones and

iPads to incorporate Face ID using material and skin detection infringed at least one claim of the ’421 patent.

42. On information and belief, Apple also has knowingly induced and continues to induce infringement of the Asserted Patents by others. Despite this knowledge of the Asserted Patents, Apple continues to actively encourage and instruct its distributors, customers and end users to use the Accused Products in ways that directly infringe the Asserted Patents. On information and belief, Apple’s customers and end users directly infringe the Asserted Patents by, for example, using, offering to sell, and selling within the United States, and importing into the United States, without authority or license, the Accused Products. On information and belief, Apple actively, knowingly, and intentionally has induced infringement of the Asserted Patents by customers and end users by, for example, controlling the design and manufacture of, offering for sale, selling, supplying, and otherwise providing instruction and guidance regarding the Accused Products with the knowledge and specific intent to encourage and facilitate infringing uses of such products by its customers both inside and outside the United States. For example, Apple publicly provides documentation, including datasheets and manuals instructing customers on uses of the Accused Products that infringe the Asserted Patents.[2]

43. By reason of Apple’s infringement of the ’421 patent, trinamiX has suffered substantial damages and irreparable injury, and will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court.

44. Apple’s infringement of the ’421 patent is exceptional and entitles trinamiX to attorneys’ fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

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[2] *See, e.g.*, **Exhibit 18**.

COUNT III: INFRINGEMENT OF U.S. PATENT NO. 12,456,334

45. trinamiX repeats and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

46. Apple has infringed and is currently infringing the ’334 patent literally and/or under the doctrine of equivalents by making, using, selling, offering for sale, and/or importing into the United States, without authority, the Accused Products, which practice each and every limitation of at least claim 1 of the ’334 patent.

47. As an example, the iPhone 17 embodies every limitation of at least claim 1 of the ’334 patent, literally or under the doctrine of equivalents. An exemplary claim chart for independent claim 1 of the ’334 patent is attached as **Exhibit 13**. The chart is based on publicly available information. trinamiX reserves the right to modify this description, including, for example, on the basis of information it obtains during discovery.

48. Apple has had actual knowledge of trinamiX’s rights in the ’334 patent and details of its infringement of the ’334 patent based on at least the filing of this Complaint. If Apple did not have actual knowledge before the filing of the Complaint, it was willfully blind to the existence of the ’334 patent and its infringement of the ’334 patent. On information and belief, Apple was aware of trinamiX and the trinamiX face authentication technologies, and knew that they were patented. Apple knew or should have known of the high probability that updating its iPhones and iPads to incorporate Face ID using material and skin detection infringed at least one claim of the ’334 patent.

49. On information and belief, Apple also has knowingly induced and continues to induce infringement of the Asserted Patents by others. Despite this knowledge of the Asserted Patents, Apple continues to actively encourage and instruct its distributors, customers and end

users to use the Accused Products in ways that directly infringe the Asserted Patents. On information and belief, Apple's customers and end users directly infringe the Asserted Patents by, for example, using, offering to sell, and selling within the United States, and importing into the United States, without authority or license, the Accused Products. On information and belief, Apple actively, knowingly, and intentionally has induced infringement of the Asserted Patents by customers and end users by, for example, controlling the design and manufacture of, offering for sale, selling, supplying, and otherwise providing instruction and guidance regarding the Accused Products with the knowledge and specific intent to encourage and facilitate infringing uses of such products by its customers both inside and outside the United States. For example, Apple publicly provides documentation, including datasheets and manuals instructing customers on uses of the Accused Products that infringe the Asserted Patents.[3]

50. By reason of Apple's infringement of the '334 patent, trinamiX has suffered substantial damages and irreparable injury, and will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court.

51. Apple's infringement of the '334 patent is exceptional and entitles trinamiX to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT IV: INFRINGEMENT OF U.S. PATENT NO. 12,361,760

52. trinamiX repeats and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

53. Apple has infringed and is currently infringing the '760 patent literally and/or under the doctrine of equivalents by making, using, selling, offering for sale, and/or importing into the

[3] *See, e.g.*, **Exhibit 18**.

United States, without authority, the Accused Products, which practice each and every limitation of at least claim 1 of the ’760 patent.

54. As an example, the iPhone 17 embodies every limitation of at least claim 1 of the ’760 patent, literally or under the doctrine of equivalents. An exemplary claim chart for independent claim 1 of the ’760 patent is attached as **Exhibit 14**. The chart is based on publicly available information. trinamiX reserves the right to modify this description, including, for example, on the basis of information it obtains during discovery.

55. Apple has had actual knowledge of trinamiX’s rights in the ’760 patent and details of its infringement of the ’760 patent based on at least the filing of this Complaint. If Apple did not have actual knowledge before the filing of the Complaint, it was willfully blind to the existence of the ’760 patent and its infringement of the ’760 patent. On information and belief, Apple was aware of trinamiX and the trinamiX face authentication technologies, and knew that they were patented. Apple knew or should have known of the high probability that updating its iPhones and iPads to incorporate Face ID using material and skin detection infringed at least one claim of the ’760 patent.

56. On information and belief, Apple also has knowingly induced and continues to induce infringement of the Asserted Patents by others. Despite this knowledge of the Asserted Patents, Apple continues to actively encourage and instruct its distributors, customers and end users to use the Accused Products in ways that directly infringe the Asserted Patents. On information and belief, Apple’s customers and end users directly infringe the Asserted Patents by, for example, using, offering to sell, and selling within the United States, and importing into the United States, without authority or license, the Accused Products. On information and belief, Apple actively, knowingly, and intentionally has induced infringement of the Asserted Patents by

customers and end users by, for example, controlling the design and manufacture of, offering for sale, selling, supplying, and otherwise providing instruction and guidance regarding the Accused Products with the knowledge and specific intent to encourage and facilitate infringing uses of such products by its customers both inside and outside the United States. For example, Apple publicly provides documentation, including datasheets and manuals instructing customers on uses of the Accused Products that infringe the Asserted Patents.[4]

57. By reason of Apple's infringement of the '760 patent, trinamiX has suffered substantial damages and irreparable injury, and will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court.

58. Apple's infringement of the '760 patent is exceptional and entitles trinamiX to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT V: INFRINGEMENT OF U.S. PATENT NO. 12,298,394

59. trinamiX repeats and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

60. Apple has infringed and is currently infringing the '394 patent literally and/or under the doctrine of equivalents by making, using, selling, offering for sale, and/or importing into the United States, without authority, the Accused Products, which practice each and every limitation of at least claim 1 of the '394 patent.

61. As an example, the iPhone 17 embodies every limitation of at least claim 1 of the '394 patent, literally or under the doctrine of equivalents. An exemplary claim chart for independent claim 1 of the '394 patent is attached as **Exhibit 15**. The chart is based on publicly

[4] *See, e.g.*, **Exhibit 18**.

available information. trinamiX reserves the right to modify this description, including, for example, on the basis of information it obtains during discovery.

62. Apple has had actual knowledge of trinamiX's rights in the '394 patent and details of its infringement of the '394 patent based on at least the filing of this Complaint. If Apple did not have actual knowledge before the filing of the Complaint, it was willfully blind to the existence of the '394 patent and its infringement of the '394 patent. On information and belief, Apple was aware of trinamiX and the trinamiX face authentication technologies, and knew that they were patented. Apple knew or should have known of the high probability that updating its iPhones and iPads to incorporate Face ID using material and skin detection infringed at least one claim of the '394 patent.

63. On information and belief, Apple also has knowingly induced and continues to induce infringement of the Asserted Patents by others. Despite this knowledge of the Asserted Patents, Apple continues to actively encourage and instruct its distributors, customers and end users to use the Accused Products in ways that directly infringe the Asserted Patents. On information and belief, Apple's customers and end users directly infringe the Asserted Patents by, for example, using, offering to sell, and selling within the United States, and importing into the United States, without authority or license, the Accused Products. On information and belief, Apple actively, knowingly, and intentionally has induced infringement of the Asserted Patents by customers and end users by, for example, controlling the design and manufacture of, offering for sale, selling, supplying, and otherwise providing instruction and guidance regarding the Accused Products with the knowledge and specific intent to encourage and facilitate infringing uses of such products by its customers both inside and outside the United States. For example, Apple publicly

provides documentation, including datasheets and manuals instructing customers on uses of the Accused Products that infringe the Asserted Patents.[5]

64. By reason of Apple's infringement of the '394 patent, trinamiX has suffered substantial damages and irreparable injury, and will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court.

65. Apple's infringement of the '394 patent is exceptional and entitles trinamiX to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT VI: INFRINGEMENT OF U.S. PATENT NO. 12,332,352

66. trinamiX repeats and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

67. Apple has infringed and is currently infringing the '352 patent literally and/or under the doctrine of equivalents by making, using, selling, offering for sale, and/or importing into the United States, without authority, the Accused Products, which practice each and every limitation of at least claim 1 of the '352 patent.

68. As an example, the iPhone 17 embodies every limitation of at least claim 1 of the '352 patent, literally or under the doctrine of equivalents. An exemplary claim chart for independent claim 1 of the '352 patent is attached as **Exhibit 16**. The chart is based on publicly available information. trinamiX reserves the right to modify this description, including, for example, on the basis of information it obtains during discovery.

69. Apple has had actual knowledge of trinamiX's rights in the '352 patent and details of its infringement of the '352 patent based on at least the filing of this Complaint. If Apple did not have actual knowledge before the filing of the Complaint, it was willfully blind to the existence

[5] *See, e.g.*, **Exhibit 18**.

of the ’352 patent and its infringement of the ’352 patent. On information and belief, Apple was aware of trinamiX and the trinamiX face authentication technologies, and knew that they were patented. Apple knew or should have known of the high probability that updating its iPhones and iPads to incorporate Face ID using material and skin detection infringed at least one claim of the ’352 patent.

70. On information and belief, Apple also has knowingly induced and continues to induce infringement of the Asserted Patents by others. Despite this knowledge of the Asserted Patents, Apple continues to actively encourage and instruct its distributors, customers and end users to use the Accused Products in ways that directly infringe the Asserted Patents. On information and belief, Apple’s customers and end users directly infringe the Asserted Patents by, for example, using, offering to sell, and selling within the United States, and importing into the United States, without authority or license, the Accused Products. On information and belief, Apple actively, knowingly, and intentionally has induced infringement of the Asserted Patents by customers and end users by, for example, controlling the design and manufacture of, offering for sale, selling, supplying, and otherwise providing instruction and guidance regarding the Accused Products with the knowledge and specific intent to encourage and facilitate infringing uses of such products by its customers both inside and outside the United States. For example, Apple publicly provides documentation, including datasheets and manuals instructing customers on uses of the Accused Products that infringe the Asserted Patents.[6]

71. By reason of Apple’s infringement of the ’352 patent, trinamiX has suffered substantial damages and irreparable injury, and will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court.

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[6] *See, e.g.*, **Exhibit 18**.

72. Apple's infringement of the '352 patent is exceptional and entitles trinamiX to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT VII: INFRINGEMENT OF U.S. PATENT NO. 12,461,238

73. trinamiX repeats and realleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

74. Apple has infringed and is currently infringing the '238 patent literally and/or under the doctrine of equivalents by making, using, selling, offering for sale, and/or importing into the United States, without authority, the Accused Products, which practice each and every limitation of at least claim 1 of the '238 patent.

75. As an example, the iPhone 17 embodies every limitation of at least claim 1 of the '238 patent, literally or under the doctrine of equivalents. An exemplary claim chart for independent claim 1 of the '238 patent is attached as **Exhibit 17**. The chart is based on publicly available information. trinamiX reserves the right to modify this description, including, for example, on the basis of information it obtains during discovery.

76. Apple has had actual knowledge of trinamiX's rights in the '238 patent and details of its infringement of the '238 patent based on at least the filing of this Complaint. If Apple did not have actual knowledge before the filing of the Complaint, it was willfully blind to the existence of the '238 patent and its infringement of the '238 patent. On information and belief, Apple was aware of trinamiX and the trinamiX face authentication technologies, and knew that they were patented. Apple knew or should have known of the high probability that updating its iPhones and iPads to incorporate Face ID using material and skin detection infringed at least one claim of the '238 patent.

77. On information and belief, Apple also has knowingly induced and continues to induce infringement of the Asserted Patents by others. Despite this knowledge of the Asserted Patents, Apple continues to actively encourage and instruct its distributors, customers and end users to use the Accused Products in ways that directly infringe the Asserted Patents. On information and belief, Apple's customers and end users directly infringe the Asserted Patents by, for example, using, offering to sell, and selling within the United States, and importing into the United States, without authority or license, the Accused Products. On information and belief, Apple actively, knowingly, and intentionally has induced infringement of the Asserted Patents by customers and end users by, for example, controlling the design and manufacture of, offering for sale, selling, supplying, and otherwise providing instruction and guidance regarding the Accused Products with the knowledge and specific intent to encourage and facilitate infringing uses of such products by its customers both inside and outside the United States. For example, Apple publicly provides documentation, including datasheets and manuals instructing customers on uses of the Accused Products that infringe the Asserted Patents.[7]

78. By reason of Apple's infringement of the '238 patent, trinamiX has suffered substantial damages and irreparable injury, and will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court.

79. Apple's infringement of the '238 patent is exceptional and entitles trinamiX to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

PRAYER FOR RELIEF

WHEREFORE, trinamiX respectfully requests:

[7] *See, e.g.*, **Exhibit 18**.

A. That Judgment be entered that Apple has infringed the Asserted Patents, directly and indirectly, literally or under the doctrine of equivalents;

B. That, in accordance with 35 U.S.C. § 283, Apple and all 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, be enjoined from (1) infringing the Asserted Patents and (2) making, using, selling, and offering for sale, and importing the Accused Products;

C. An award of damages sufficient to compensate trinamiX for Apple's infringement under 35 U.S.C. § 284;

D. That the case be found exceptional under 35 U.S.C. § 285 and that trinamiX be awarded its attorneys' fees;

E. Costs and expenses in this action;

F. An award of prejudgment and post-judgment interest; and

G. Such other and further relief as the Court may deem just and proper.

JURY TRIAL DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiffs respectfully demand a trial by jury of any issues so triable.

Dated: September 3, 2026

/s/ Todd Briggs

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CERTIFICATE OF SERVICE

I hereby certify that the foregoing document was filed on September 3, 2026 through the Court's ECF system.

Dated: September 3, 2026

/s/ Todd Briggs