

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

Advanced Silicon Technologies LLC,

Plaintiff,

v.

NXP Semiconductors N.V.,  
NXP B.V., and  
NXP USA, Inc.,

Defendants.

Civil Action No. 1:22-CV-425

**Jury Trial Demanded**

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**COMPLAINT FOR PATENT INFRINGEMENT**

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Plaintiff Advanced Silicon Technologies LLC (“AST”) files this complaint for patent infringement against Defendants NXP Semiconductors N.V., NXP B.V., and NXP USA, Inc. (collectively, “NXP”), and alleges the following:

**Nature of the Action**

1. AST sues to stop, and to recover damages caused by, NXP’s infringement of AST’s patents.
2. This action involves patents that stem from the research and design of innovative and proprietary technology developed by AST’s licensee, Advanced Micro Devices, Inc. (“AMD”). AMD is an American multi-national company and pioneer of cutting-edge graphics processor and microprocessor technology. The asserted patents cover inventions relating to important aspects of AMD’s integrated circuit and microfabrication technology.

3. Tracing its history back to Philips and Motorola Semiconductors, NXP in its present form took shape in 2015 through a merger with Freescale Semiconductor. *See, e.g.*, <https://www.nxp.com/company/about-nxp/history:NXP-HISTORY>.

### **Parties**

4. Plaintiff Advanced Silicon Technologies LLC is a Delaware limited liability company with a principal place of business in Portland, Maine, and a mailing address of 533 Congress Street, Portland, Maine 04101.

5. Defendant NXP Semiconductors N.V. is a Dutch corporation with a principal place of business at High Tech Campus 60, 5656 AG Eindhoven, Netherlands.

6. Defendant NXP B.V. is a Dutch company with a principal place of business at High Tech Campus 60, 5656 AG Eindhoven, Netherlands.

7. Defendant NXP USA, Inc. is a Delaware corporation with a principal place of business at 6501 W. William Cannon Drive, Austin, Texas 78735.

8. On information and belief, NXP Semiconductors N.V. is a publicly traded company that owns and controls NXP B.V., which in turn owns and controls NXP USA, Inc. *See, e.g.*, <https://investors.nxp.com/sec-filings/sec-filing/10-k/0001413447-21-000011>. NXP Semiconductors N.V. trades on the NASDAQ stock exchange under the symbol NXPI.

### **Jurisdiction and Venue**

9. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a) because this action presents a federal question under the patent laws of the United States, including 35 U.S.C. §§ 271, 281, 284, and 285.

10. This Court has specific or, alternatively, general personal jurisdiction over Defendant NXP Semiconductors N.V. On information and belief, NXP Semiconductors N.V. is

not subject to the jurisdiction of any state's court of general jurisdiction. Shares of NXP Semiconductors N.V. stock are routinely traded by investors, including investors in the United States, on NASDAQ and other stock exchanges under the symbol NXPI. On information and belief, investors in the United States own shares of NXP Semiconductors N.V. stock.

11. This Court also has personal jurisdiction over NXP Semiconductors N.V. because it is the sole owner of NXP B.V. and owns, directly or indirectly, NXP USA, Inc. On information and belief, NXP Semiconductors N.V. through NXP B.V. and NXP USA, Inc. directly or indirectly owns, operates, or controls facilities that include offices and fabrication facilities in Austin, Texas where infringing products are designed, developed, manufactured, tested, used, marketed, imported, exported, offered for sale, or sold into a stream of commerce that includes this District. *See* <https://www.nxp.com/company/about-nxp/worldwide-locations/united-states:USA>.

12. This Court has specific or, alternatively, general jurisdiction over Defendant NXP B.V. because NXP B.V. has engaged and continues to engage in substantial activities in this District that include causing the infringement of AST's patents. On information and belief, NXP B.V. is the parent company of NXP USA, Inc. and directly or indirectly owns, operates, or controls facilities that include offices and fabrication facilities in Austin, Texas where infringing products are designed, developed, manufactured, tested, used, marketed, imported, exported, offered for sale, or sold into a stream of commerce that includes this District. *See id.* As one example, NXP B.V. published the i.MX 8QuadMax Applications Processor Reference Manual cited in AST's Counts I and II as detailing how NXP's products infringe the exemplary asserted claims of AST's patents at issue in this action. *See generally* Exs. A, B.

13. This Court specific or, alternatively, general jurisdiction over NXP USA, Inc. because it is registered to do business in the State of Texas and operates its headquarters office and a manufacturing facility in Austin, Texas. *See* <https://www.nxp.com/company/about-nxp/worldwide-locations/united-states:USA>. NXP USA, Inc. has caused acts of infringement to occur in this District in violation of 35 U.S.C. § 271. For example, on information and belief, at its Austin, Texas facilities NXP USA, Inc. designs, develops, tests, uses, markets, imports, exports, offers to sell, and sells infringing products.

14. In addition, NXP Semiconductors N.V., NXP B.V., and NXP USA, Inc. have acted together as a joint enterprise to design, develop, test, use, market, import, export, offer to sell, and sell infringing products in the United States, including in this District. On information and belief, NXP Semiconductors N.V. controls, dictates, or encourages the activities of NXP B.V. and NXP USA, Inc., and in turn NXP B.V. controls, dictates, or encourages the activities of NXP USA, Inc., which constitute infringement of one or more claims of AST's patents.

15. Because NXP maintains more than minimum contacts with this District, the Court's exercise of jurisdiction aligns with constitutional standards of fair play and substantial justice and arises directly from NXP's purposeful contacts with this District. This Court also has jurisdiction over NXP Semiconductors N.V. and NXP B.V. upon service of the Complaint.

16. Venue is proper in this District as to Defendants NXP Semiconductors N.V. and NXP B.V. because foreign companies may be sued in any district under 28 U.S.C. § 1391(c)(3).

17. Venue is proper in this District as to Defendant NXP USA, Inc. under 28 U.S.C. § 1400(b) because it has a regular and established place of business and has committed acts of infringement in this District. NXP USA, Inc. maintains two offices, including its headquarters office, in this District. NXP advertises, for example, that semiconductor design and

manufacturing activities take place at both of its Austin, Texas facilities. *See, e.g.*, <https://www.nxp.com/company/about-nxp/worldwide-locations/united-states:USA>. NXP further advertises that “NXP owns and operates four wafer fabrication facilities in the US, two of which are in Austin, Texas . . . ,” and that “representative products of these fabs include microcontrollers (MCUs) and microprocessors (MPUs), power management devices, RF transceivers, amplifiers, and sensors.” *Id.*

### **The Asserted Patents**

18. U.S. Patent No. 7,804,435, titled “Video decoder with reduced power consumption and method thereof,” issued September 28, 2010 (“’435 patent”). The application leading to the ’435 patent was filed August 31, 2006.

19. U.S. Patent No. 8,933,945, titled “Dividing work among multiple graphics pipelines using a super-tiling technique,” issued January 13, 2015 (“’945 patent”). The application leading to the ’945 patent was filed June 12, 2003, and claims priority to U.S. Provisional Appl. No. 60/429,641, filed November 27, 2002.

20. The ’435 and ’945 patents (collectively, the “Asserted Patents”) are presumed valid and enforceable under 35 U.S.C. § 282.

21. AST owns all right, title, and interest in the Asserted Patents, including the right to assert all causes of action involving the asserted patents and the right to any remedies for infringement, including for past damages. The assignment records for the ’435 patent appear in the public prosecution history at Reel/Frames 018534/0233, 019774/0115, 024880/0593, and 036703/0421. The assignment records for the ’945 patents appear in the public prosecution history at Reel/Frames 014176/0613, 025573/0443, and 036703/0421.

### Count I: Infringement of the '435 Patent

22. AST incorporates the preceding paragraphs as if it repeated them all here.

23. The '435 patent recites 26 claims, including independent claims 1, 9, 14, 19, 22, 25, and 26.

24. Claim 1 of the '435 patent reads:

An apparatus comprising:

a power management controller operatively couplable to a video decoder that decodes at least one encoded digital video stream and in response to a determination of encoding description data that describes a scheme used to encode the input stream, varies power consumption of at least one operational portion of the video decoder.

25. NXP has infringed and continues to infringe, literally or by the doctrine of equivalents, at least claims 1, 9, 14, 19, 22, 25, and 26 of the '435 patent by making, using, selling, offering for sale, or importing products that infringe the '435 patent in the United States.

26. NXP's products that infringe the '435 patent include, for example, its i.MX family of applications processors—such as the i.MX 8 QuadMax Applications Processor—and other products with the same or similar features and functionality. Exhibit A contains an exemplary claim chart showing one way NXP infringes the '435 patent.

27. NXP has known about the '435 patent at least as early as its receipt of AST's letter of May 3, 2022, which notified NXP that at least its i.MX family of applications processors infringed at least claims 1, 9, 14, 19, 22, 25, and 26 of the '435 patent.

28. At least as early as NXP's knowledge of the '435 patent, NXP indirectly infringes the '435 patent by inducement under 35 U.S.C. § 271(c). NXP knowingly induces infringement of the '435 patent by intending others to make, use, offer for sale, or sell in the United States products covered by the '435 patent. NXP provides these products and, on information and belief, provides instructions on their use to others—*e.g.*, customers and end customers—who

provision for use, incorporate into, offer for sale, or sell in the United States products or services that directly infringe at least claims 1, 9, 14, 19, 22, 25, and 26 of the '435 patent.

29. NXP also contributes to infringement of the '435 patent by others by knowingly providing products that, when configured and combined with hardware and software supplied by partners or downstream customers, result in a system that directly infringes at least claims 1, 9, 14, 19, 22, 25, and 26 of the '435 patent. These products have no substantial non-infringing uses and constitute a material part of the invention claimed by the '435 patent.

30. NXP is liable for infringement of the '435 patent due to its actions in this District and throughout the United States. NXP's infringing conduct has caused AST to suffer damages and irreparable harm.

### **Count II: Infringement of the '945 Patent**

31. AST incorporates the preceding paragraphs as if it repeated them all here.

32. The '945 patent recites 21 claims, including independent claims 1, 18, and 21.

33. Claim 1 of the '945 patent reads:

A graphics processing circuit, comprising:

at least two graphics pipelines on a same chip operative to process data in a corresponding set of tiles of a repeating tile pattern corresponding to screen locations, a respective one of the at least two graphics pipelines operative to process data in a dedicated tile; and

a memory controller on the chip in communication with the at least two graphics pipelines, operative to transfer pixel data between each of a first pipeline and a second pipeline and a memory shared among the at least two graphics pipelines;

wherein the repeating tile pattern includes a horizontally and vertically repeating pattern of square regions.

34. NXP has infringed and continues to infringe, literally or by the doctrine of equivalents, at least claims 1, 18, and 21 of the '945 patent by making, using, selling, offering for sale, or importing products that infringe the '945 patent in the United States.

35. NXP's products that infringe the '945 patent include, for example, its i.MX family of applications processors—such as the i.MX 8 QuadMax Applications Processor—and other products with the same or similar features and functionality. Exhibit B contains an exemplary claim chart showing one way NXP infringes the '945 patent.

36. NXP has known about the '945 patent at least as early as April 25, 2016, when AST issued a subpoena to non-party NXP seeking discovery of matters including NXP's potential infringement of the '945 patent in *Certain Computing or Graphics Systems, Components Thereof, and Vehicles Containing Same*, Inv. No. 337-TA-984 (U.S.I.T.C. 2016). NXP has also known about the '945 patent at least as early as its receipt of AST's letter of May 3, 2022, which notified NXP that at least its i.MX family of applications processors infringed at least claims 1, 18, and 21 of the '945 patent.

37. At least as early as NXP's knowledge of the '945 patent, NXP indirectly infringes the '945 patent by inducement under 35 U.S.C. § 271(c). NXP knowingly induces infringement of the '945 patent by intending others to make, use, offer for sale, or sell in the United States products covered by the '945 patent. NXP provides these products and, on information and belief, provides instructions on their use to others—*e.g.*, customers and end customers—who provision for use, incorporate into, offer for sale, or sell in the United States products or services that directly infringe at least claims 1, 18, and 21 of the '945 patent.

38. NXP also contributes to infringement of the '945 patent by others by knowingly providing products that, when configured and combined with hardware and software supplied by



partners or downstream customers, result in a system that directly infringes at least claims 1, 18, and 21 of the '945 patent. These products have no substantial non-infringing uses and constitute a material part of the invention claimed by the '945 patent.

39. NXP is liable for infringement of the '945 patent due to its actions in this District and throughout the United States. NXP's infringing conduct has caused AST to suffer damages and irreparable harm.

### **Prayer for Relief**

AST asks the Court to enter judgment as follows:

- A. Declaring that NXP has infringed the '435 and '945 patents;
- B. Awarding damages in an amount to be proven at trial, but in no event less than a reasonable royalty for NXP's infringement and prejudgment and post-judgment interest at the maximum permissible rate;
- C. Awarding treble damages due to the willful, wanton, and deliberate nature of NXP's infringement under 35 U.S.C. § 284;
- D. Awarding reasonable attorneys' fees against NXP to AST as allowed under 35 U.S.C. § 285;
- E. Awarding expenses, costs (including expert witness fees), and disbursements against NXP, including prejudgment interest;
- F. Permanently enjoining NXP, its officers, agents, servants, employees, attorneys, and all others acting in concert or participation with NXP from infringing the '435 and '945 patents; and
- G. Awarding any other relief the Court deems just and proper.

**Demand for Jury Trial**

AST demands a trial by jury for all triable claims under Fed. R. Civ. P. 38.

Dated: May 5, 2022

By: /s/ Brian A. Carpenter

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