

UNITED STATES DISTRICT COURT
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. 6:22-cv-00466-ADA-DTG

Jury Trial Demanded

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Advanced Silicon Technologies LLC ("AST") files this First Amended Complaint for patent infringement under the parties' Joint Notice regarding Section VII of the Court's OGP (ECF No. 40) against Defendant NXP USA, Inc. ("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 USA, Inc. is a Delaware corporation with a principal place of business at 6501 W. William Cannon Drive, Austin, Texas 78735.

6. AST's Original Complaint (ECF No. 1) named NXP Semiconductors N.V. and NXP B.V. as defendants. AST dismissed those parties without prejudice subject to conditions set forth in a stipulation filed with the Court (ECF No. 34).

Jurisdiction and Venue

7. 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.

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

9. 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 minimum contacts in this District.

10. Venue is proper in this District under 28 U.S.C. § 1400(b) because NXP has regular and established places of business and has committed acts of infringement in this District. NXP 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

11. U.S. Patent No. 7,804,435, titled "Video decoder with reduced power consumption and method thereof," issued September 28, 2010 ("435 patent"), a true and correct copy of which is attached as Exhibit A. The application leading to the '435 patent was filed August 31, 2006.

12. 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"), a true and correct copy of which is attached as Exhibit B. 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.

13. The '435 and '945 patents (collectively, the "Asserted Patents") are presumed valid and enforceable under 35 U.S.C. § 282.

14. 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. Exhibits C and D contain true and accurate copies of the assignment records for the '435 and '945 patents, respectively.

Count I: Infringement of the '435 Patent

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

16. The '435 patent recites 26 claims, including independent claims 1, 9, 14, 19, 22, 25, and 26. *See* Ex. A, 17:43 to 20:33.

17. 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.

Ex. A, 17:54-60.

18. NXP has infringed and continues to infringe, literally or by the doctrine of equivalents, at least claims 1, 9, 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.

19. 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 E contains an exemplary claim chart showing one way NXP infringes the '435 patent.

20. 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. NXP has known about the

'435 patent at least as early as May 5, 2022, when AST filed its Original Complaint and included claim charts showing examples of how NXP infringes the '435 patent. Despite these repeated notices, on information and belief NXP has taken no steps to cease its infringement.

21. NXP has also contributed and continues to contribute to the infringement of the '435 patent by others by providing hardware and software components, including firmware, that perform the methods disclosed in at least claims 9 and 26. When a user uses NXP's processors or products containing them, those users directly infringe at least claims 9 and 26 of the '435 patent. NXP's hardware and software components are not staple articles of commerce, have no substantial non-infringing uses, and are a material part of the '435 patent's claimed invention.

22. 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

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

24. The '945 patent recites 21 claims, including independent claims 1, 18, and 21. *See* Ex. B, 9:64 to 12:38.

25. 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.

Ex. B, 9:65 to 10:10.

26. NXP has infringed and continues to infringe, literally or by the doctrine of equivalents, at least claims 1 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.

27. 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 F contains an exemplary claim chart showing one way NXP infringes the '945 patent.

28. 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. NXP has known about the '945 patent at least as early as May 5, 2022, when AST filed its Original Complaint and included claim charts showing examples of how NXP infringes the '945 patent. Despite these repeated notices, on information and belief NXP has taken no steps to cease its infringement.

29. 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.

Respectfully submitted,

Dated: May 9, 2023

By: /s/ Patrick A. Fitch

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Certificate of Service

I hereby certify that, on May 9, 2023, I electronically filed the foregoing with the Clerk of Court using the CM/ECF system, which will send notification of such filing to all counsel of record in the above-referenced matter.

/s/ Thomas J. Armento

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