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

BICAMERAL LLC, Plaintiff -against- NXP USA, INC., NXP SEMICONDUCTORS USA, INC., NXP SEMICONDUCTORS N.V., and NXP B.V., Defendants	Civil Action No.: 6:18-cv-00294 **Jury Trial Demanded**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Bicameral LLC ("Bicameral"), for its Complaint against Defendants NXP USA, Inc. ("NXP-USA"), NXP Semiconductors USA, Inc. ("NXPSemi-USA"), NXP B.V. ("NXP-Netherlands"), and NXP Semiconductors N.V. ("NXPSemi-Netherlands") (collectively, "NXP-USA," "NXPSemi-USA," "NXP-Netherlands," and "NXPSemi-Netherlands" are referred to as "NXP" or "NXP Defendants" herein), hereby alleges as follows:

PARTIES

1. Plaintiff Bicameral is a limited liability company organized and existing under the laws of the State of Texas, having its principal place of business at 17330 Preston Road, Suite 200D, Dallas, Texas 75252.

2. On information and belief, Defendant NXP-USA is a Delaware corporation having its principal place of business at 6501 William Cannon Drive West, Austin, TX 78735.

3. On information and belief, Defendant NXPSemi-USA is a Delaware corporation having its principal place of business at 6501 William Cannon Drive West, Austin, TX 78735.

4. On information and belief, Defendant NXP-Netherlands is a corporation organized under

the laws of the Netherlands, having its principal place of business at High Tech Campus 60, 5656 AG Eindhoven, the Netherlands.

5. On information and belief, Defendant NXPSemi-Netherlands is a corporation organized under the laws of the Netherlands, having its principal place of business at High Tech Campus 60, 5656 AG Eindhoven, the Netherlands.

JURISDICTION AND VENUE

6. This is an action under the patent laws of the United States, 35 U.S.C. §§ 1, et seq., for infringement by NXP of claims of U.S. Patent Nos. 6,008,727; 6,321,331; 6,639,538; 6,754,223; and RE42,092 ("the Patents-in-Suit").

7. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

8. NXP-Netherlands and NXPSemi-Netherlands are subject to the personal jurisdiction of this Court because, among other things, NXP-Netherlands and NXPSemi-Netherlands have committed and continue to commit acts of patent infringement in the State of Texas, directly, through their subsidiaries, and/or through authorized distributors, including by making, using, offering to sell, and/or selling, Accused NXP Products and services in Texas, and/or importing the Accused NXP Products into Texas. In addition, or in the alternative, this Court has personal jurisdiction over NXP-Netherlands and NXPSemi-Netherlands pursuant to Fed. R. Civ. P. 4(k)(2).

9. Venue is proper as to NXP-Netherlands and NXPSemi-Netherlands in this district under 28 U.S.C. § 1391(c) because, *inter alia*, NXP-Netherlands and NXPSemi-Netherlands are foreign corporations.

10. NXP-USA is subject to personal jurisdiction of this Court because, *inter alia*, on information and belief, (i) NXP-USA maintains office locations in the State of Texas; (ii) NXP-USA is registered to transact business in the State of Texas; and (iii) NXP-USA has committed

and continues to commit acts of patent infringement in the State of Texas, including by making, using, offering to sell, and/or selling accused products and services in Texas, and/or importing the Accused Products into Texas.

11. Venue is proper as to NXP-USA in this district because, *inter alia*, on information and belief, NXP-USA maintains a regular and established place of business in this judicial district, and NXP-USA has committed and continues to commit acts of patent infringement in this judicial district, including by making, using, offering to sell, and/or selling Accused NXP Products and services in this district, and/or importing Accused NXP Products and services into this district.

12. NXPSemi-USA is subject to personal jurisdiction of this Court because, *inter alia*, on information and belief, (i) NXPSemi-USA maintains office locations in the State of Texas; (ii) NXPSemi-USA was registered to transact business in the State of Texas; (iii) NXP-USA has registered to transact business as NXPSemi-USA; and (iv) NXPSemi-USA has committed and continues to commit acts of patent infringement in the State of Texas, including by making, using, offering to sell, and/or selling accused products and services in Texas, and/or importing the Accused Products into Texas.

13. Venue is proper as to NXPSemi-USA in this district because, *inter alia*, on information and belief, NXPSemi-USA maintains a regular and established place of business in this judicial district, and NXPSemi-USA has committed and continues to commit acts of patent infringement in this judicial district, including by making, using, offering to sell, and/or selling Accused NXP Products and services in this district, and/or importing Accused NXP Products and services into this district.

BACKGROUND

On December 28, 1999, the United States Patent and Trademark Office duly and lawfully

issued U.S. Patent No. 6,008,727 (the "'727 Patent"), entitled "Selectively Enabled Electronic Tags." The '727 Patent is attached as Exhibit A.

On November 21, 2001, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 6,321,331 (the "'331 Patent"), entitled "Real Time Debugger Interface for Embedded Systems." The '331 Patent is attached as Exhibit B.

On October 28, 2003, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 6,639,538 (the "'538 Patent"), entitled "Real-Time Transient Pulse Monitoring System and Method." The '538 Patent is attached as Exhibit C.

On June 22, 2004, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 6,754,223 (the "'223 Patent"), entitled "Integrated Circuit That Processes Communication Packets With Co-Processor Circuitry To Determine A Prioritized Processing Order For a Core Processor." The '223 Patent is attached as Exhibit D.

On February 1, 2011, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. RE42,092 (the "'092 Patent"), entitled "Integrated Circuit That Processes Communication Packets With A Buffer Management Engine Having A Pointer Cache." The '092 Patent is attached as Exhibit E.

Bicameral is the assignee and owner of the right, title, and interest in and to the Patents-in-Suit, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement.

NOTICE

14. By letter dated August 23, 2018, Bicameral notified NXP-USA of the existence of the Patents-in-Suit, and of infringement thereof by NXP and its customers. Bicameral's August 23, 2018 letter identified exemplary infringing NXP products and an exemplary infringed claim for each of the Patents-in-Suit.

15. By letter dated August 23, 2018, Bicameral notified NXPSemi-USA of the existence of the Patents-in-Suit, and of infringement thereof by NXP and its customers. Bicameral's August 23, 2018 letter identified exemplary infringing NXP products and an exemplary infringed claim for each of the Patents-in-Suit.

16. By letter dated August 23, 2018, Bicameral notified NXP-Netherlands of the existence of the Patents-in-Suit, and of infringement thereof by NXP and its customers. Bicameral's August 23, 2018 letter identified exemplary infringing NXP products and an exemplary infringed claim for each of the Patents-in-Suit.

17. By letter dated August 23, 2018, Bicameral notified NXPSemi-Netherlands of the existence of the Patents-in-Suit, and of infringement thereof by NXP and its customers. Bicameral's August 23, 2018 letter identified exemplary infringing NXP products and an exemplary infringed claim for each of the Patents-in-Suit.

18. In addition, on August 28, 2001, while prosecuting U.S. Patent Application No. 09/941,284, Freescale Semiconductor, Inc., which merged with NXP, notified the U.S. Patent and Trademark Office of the existence of the '727 Patent.

19. In addition, Freescale Semiconductor, Inc., which merged with NXP, notified the U.S. Patent and Trademark Office of the existence of the '331 Patent while prosecuting U.S. Patent Application Nos. 11/864,292; 12/016,664; 12/040,215; and 13/210,281.

20. Accordingly, each of the NXP Defendants has received notice of the Patents-in-Suit and of infringement thereof by NXP and its customers.

21. As of the date of this Complaint, Bicameral has not received any response from NXP.

COUNT I: INFRINGEMENT OF THE '727 PATENT

22. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

23. On information and belief, the NXP Defendants have, individually, and jointly under

control of NXP-Netherlands and NXPSemi-Netherlands, infringed the '727 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States, and/or importing into the United States NXP UCODE RFID and all other EPC Class-1 Generation-2 UHF RFID standard compliant RFID devices, including the products identified in Attachment A ("Accused NXP Products").

24. For example, on information and belief, the NXP Defendants have infringed at least claim 1 of the '727 Patent by making, using, selling, and/or offering to sell in the United States, and/or importing into the United States, the SL3S1003 family of RFID devices. An SL3S1003 device is a single electronic tag comprising a processor, such as its digital control block. Ex. 1, p. 5. An SL3S1003 device comprises a readable memory for holding an identification number connected to the processor, such as the EEPROM holding the "Tag Identified" (TID). Ex. 1, p. 12. An SL3S1003 device comprises an antenna connected to the processor for RF broadcasting of the identification number. Ex. 1, p. 5. An SL3S1003 device comprises a power supply for powering the antenna to broadcast the identification number, such as the circuitry for supplying power to the tag. Ex. 1, p. 10. An SL3S1003 device comprises an interconnect switch integrally defined in the single electronic tag for user defined interconnection of at least two members, such as the readable memory and the processor. For example, pursuant to the EPC Radio-Frequency Identity Protocols Class-1 Generation-2 UHF RFID Protocol for Communications at 860 MHz – 960 MHz Version 1.2.0, the SL3S1003 device accepts a "Select" command based on user-defined criteria, which interconnects the memory holding the TID and the processor to selectively allow radiofrequency broadcasting of the identification number. Ex. 2.

25. On information and belief, the NXP Defendants have induced, and continue to induce, infringement of the '727 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly

inducing, directing, causing, and encouraging others, including, but not limited to, its partners, software developers, customers, distributors, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused NXP Products by, among other things, providing instructions, manuals, and technical assistance relating to the integration, set up, programming, use, operation, updates, and maintenance of said products, such as hardware manuals, software manuals, data sheets, application examples, and other technical documentation available on the NXP website.

26. On information and belief, the NXP Defendants have committed the foregoing infringing activities without a license.

27. On information and belief, the NXP Defendants' infringing activities commenced at least six years prior to the filing of this complaint, entitling Bicameral to past damages.

28. On information and belief, NXP knew the '727 Patent existed, knew of its claims, and knew of infringing NXP products while committing the foregoing infringing acts, thereby willfully, wantonly, and deliberately infringing the '727 Patent.

COUNT II: INFRINGEMENT OF THE '331 PATENT

29. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

30. On information and belief, the NXP Defendants have, individually, and jointly under control of NXP-Netherlands and NXPSemi-Netherlands, infringed the '331 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States, and/or importing into the United States ARM Cortex based devices incorporating Embedded Trace Macrocell technology, including the products identified in Attachment A ("Accused NXP Products").

31. For example, on information and belief, the NXP Defendants have infringed at least claim 1 of the '331 Patent by making, using, selling, and/or offering to sell in the United States,

and/or importing into the United States, the LPC408x/7x ARM Cortex-M4 Microcontroller. Ex. 3. The Accused NXP Products are processors having a real time debugging interface, such as the Embedded Trace Macrocell. Ex. 3, p. 2. The Accused NXP Products comprise an instruction memory means for storing instructions to be executed by said processor, such as the on-chip flash program memory. Ex. 3. The Accused NXP Products comprise program counter means directly coupled to said instruction memory means for indexing said instructions. Ex. 4, Excerpts from ARM Cortex-M4 Technical Reference Manual, p. 3-48. The Accused NXP Products comprise cause register means for indicating information regarding interrupts and exceptions, such as the Interrupt Program Status Register. Ex. 5, Exerpt from ARM Cortex-M4 Generic User Guide, p. 2-6. The Accused NXP Products comprise a first decoder means, such as the Embedded Trace Macrocell and the Trace Port Interface Unit, for indicating information about an instruction executed by said processor during a clock cycle, said first decoder means being directly coupled to said instruction memory means, said program counter means, and said cause register means, said first decoder means having a first output, such as the Trace Port Interface. Ex. 4, p. 2-21. In the Accused NXP Products, the first output provides information regarding activity of said processor in real time. Ex. 3, p. 2.

32. On information and belief, the NXP Defendants have induced, and continue to induce, infringement of the ’331 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, software developers, customers, distributors, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused NXP Products by, among other things, providing instructions, manuals, and technical assistance relating to the integration, set up, programming, use, operation, updates, and maintenance of said products, such as

hardware manuals, software manuals, data sheets, application examples, and other technical documentation available on the NXP website.

33. On information and belief, the NXP Defendants have committed the foregoing infringing activities without a license.

34. On information and belief, the NXP Defendants' infringing activities commenced at least six years prior to the filing of this complaint, entitling Bicameral to past damages.

35. On information and belief, NXP knew the '331 Patent existed, knew of its claims, and knew of infringing NXP products while committing the foregoing infringing acts, thereby willfully, wantonly, and deliberately infringing the '331 Patent.

COUNT III: INFRINGEMENT OF THE '538 PATENT

36. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

37. On information and belief, the NXP Defendants have, individually, and jointly under control of NXP-Netherlands and NXPSemi-Netherlands, infringed the '538 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States, and/or importing into the United States Digital Accelerometers, including the products identified in Attachment A ("Accused NXP Products").

38. For example, on information and belief, the NXP Defendants have infringed at least claim 1 of the '538 Patent by making, using, selling, and/or offering to sell in the United States, and/or importing into the United States, the Xtrinsic MMA865xFC digital accelerometer family. The Accused NXP Products comprise a system for characterizing a stimulus represented by an analog signal, such as acceleration along an axis. Ex. 6, NXP Xtrinsic MMA865xFC Family. The Accused NXP Products comprise conversion circuitry continuously receiving the analog signal and converting the analog signal into digital data, such as the ADC block. *Id*. The Accused NXP Products comprise digital circuitry, such as the Embedded Functions Block, in

communication with the conversion circuitry to receive continuously the digital data from the conversion circuitry, the digital circuitry dynamically computing from the digital data a value that characterizes a parameter of the stimulus while the digital circuitry continuously receives new digital data from the conversion circuitry. *Id.*

39. On information and belief, the NXP Defendants have induced, and continue to induce, infringement of the '538 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, software developers, customers, distributors, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused NXP Products by, among other things, providing instructions, manuals, and technical assistance relating to the integration, set up, programming, use, operation, updates, and maintenance of said products, such as hardware manuals, software manuals, data sheets, application examples, and other technical documentation available on the NXP website.

40. On information and belief, the NXP Defendants have committed the foregoing infringing activities without a license.

41. On information and belief, the NXP Defendants' infringing activities commenced at least six years prior to the filing of this complaint, entitling Bicameral to past damages.

42. On information and belief, NXP knew the '538 Patent existed, knew of its claims, and knew of infringing NXP products while committing the foregoing infringing acts, thereby willfully, wantonly, and deliberately infringing the '538 Patent.

COUNT IV: INFRINGEMENT OF THE '223 PATENT

43. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

44. On information and belief, the NXP Defendants have, individually, and jointly under control of NXP-Netherlands and NXPSemi-Netherlands, infringed the '223 Patent pursuant to 35

U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States, and/or importing into the United States QORIQ Platforms and Processors, including the products identified in Attachment A ("Accused NXP Products").

45. For example, on information and belief, the NXP Defendants have infringed at least claim 1 of the '223 Patent by making, using, selling, and/or offering to sell in the United States, and/or importing into the United States, the QORIQ T4240 family of communication processors. The Accused NXP Products include an integrated circuit that processes communication packets. Ex. 7, Excerpts from the QorIQ T4240 Communications Processor Deep Dive. The integrated circuit comprises co-processor circuitry, such as the Frame Manager (FMan), Queue Manager (QMan), and Buffer Manager (BMan), configured to receive and store communication packets in data buffers and determine a prioritized processing order. Ex. 8, Excerpts from T4240 Product Brief. The co-processor circuitry is configured to determine priorities for the communication packets, place entries in priority queues based on the priorities, and arbitrate the entries to establish the prioritized processing order. *Id*. The co-processor circuitry is configured to determine the priorities based on a number of outstanding requests for processing from individual ones of the priority queues, including based on algorithms used for ingress and/or egress processing. Ex. 8, pp. 25-26. The integrated circuit comprises a core processor, such as the Power Architecture processing cores, configured to execute a packet processing software application that directs the core processor to process the communication packets in the data buffers based on the prioritized processing order. Ex. 7. In the Accused NXP Products, the co-processor circuitry is configured to operate in parallel with the core processor. Ex. 8, p. 7.

46. On information and belief, the NXP Defendants have induced, and continue to induce, infringement of the '223 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly

inducing, directing, causing, and encouraging others, including, but not limited to, its partners, software developers, customers, distributors, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused NXP Products by, among other things, providing instructions, manuals, and technical assistance relating to the integration, set up, programming, use, operation, updates, and maintenance of said products, such as hardware manuals, software manuals, data sheets, application examples, and other technical documentation available on the NXP website.

47. On information and belief, the NXP Defendants have committed the foregoing infringing activities without a license.

48. On information and belief, the NXP Defendants' infringing activities commenced at least six years prior to the filing of this complaint, entitling Bicameral to past damages.

49. On information and belief, NXP knew the '223 Patent existed, knew of its claims, and knew of infringing NXP products while committing the foregoing infringing acts, thereby willfully, wantonly, and deliberately infringing the '223 Patent.

COUNT V: INFRINGEMENT OF THE '092 PATENT

50. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

51. On information and belief, the NXP Defendants have, individually, and jointly under control of NXP-Netherlands and NXPSemi-Netherlands, infringed the '092 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States, and/or importing into the United States QORIQ Platforms and Processors, including the products identified in Attachment A ("Accused NXP Products").

52. For example, on information and belief, the NXP Defendants have infringed at least claim 1 of the '092 Patent by making, using, selling, and/or offering to sell in the United States, and/or importing into the United States, the QORIQ T4240 family of communication processors.

The Accused NXP Products include an integrated circuit that processes communication packets. Ex. 7. The integrated circuit comprises a core processor, such as Power Architecture processing cores, configured to create a plurality of external buffers that are external to the integrated circuit and configured to store the communication packets where each external buffer is associated with a pointer that corresponds to the external buffer. Ex. 9, Excerpts from QorIQ SDK and Ex. 10, Excerpts from NXP DPAA Deep Dive. The integrated circuit comprises a pointer cache configured to store the pointers that correspond to the external buffers, such as, for example, BMan and/or QMan cache. The integrated circuit comprises control logic, such as the Buffer Manager (BMan), configured to allocate the external buffers as the corresponding pointers are read from the pointer cache and de-allocate the external buffers as the corresponding pointers are written back to the pointer cache. Exs. 8-10. The control logic is configured to transfer an exchaustion signal if a number of the pointers to the de-allocated buffers reaches a minimum threshold, such as a Depletion Threshold. *See, e.g.,* Ex. 10, p. 13 and Ex. 9, p. 626. The core processor is configured to create additional external buffers and their corresponding pointers in response to the exhaustion signal. For example, the Power Architecture cores may direct the BMan to create additional external buffers and their corresponding pointers when existing buffers are depleted. *Id.*

53. On information and belief, the NXP Defendants have induced, and continue to induce, infringement of the ’092 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, software developers, customers, distributors, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused NXP Products by, among other things, providing instructions, manuals, and technical assistance relating to the integration,

set up, programming, use, operation, updates, and maintenance of said products, such as hardware manuals, software manuals, data sheets, application examples, and other technical documentation available on the NXP website.

54. On information and belief, the NXP Defendants have committed the foregoing infringing activities without a license.

55. On information and belief, the NXP Defendants' infringing activities commenced at least six years prior to the filing of this complaint, entitling Bicameral to past damages.

56. On information and belief, NXP knew the '092 Patent existed, knew of its claims, and knew of infringing NXP products while committing the foregoing infringing acts, thereby willfully, wantonly, and deliberately infringing the '092 Patent.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Bicameral prays for the judgment in its favor against the NXP Defendants, and specifically, for the following relief:

A. Entry of judgment in favor of Bicameral against the NXP Defendants on all counts;

B. Entry of judgment that the NXP Defendants have infringed the Patents-in-Suit;

C. Entry of judgment that the NXP Defendants' infringement of the Patents-in-Suit has been willful;

D. Award of compensatory damages adequate to compensate Bicameral for the NXP Defendants' infringement of the Patent-in-Suit, in no event less than a reasonable royalty trebled as provided by 35 U.S.C. § 284;

E. Declaration and finding that the NXP Defendants' conduct in this case is exceptional under 35 U.S.C. § 285;

F. Award of reasonable attorneys' fees and expenses against the NXP Defendants pursuant to 35 U.S.C. § 285;

G. Award of Bicameral's costs;

H. Pre-judgment and post-judgment interest on Bicameral's award; and

I. All such other and further relief as the Court deems just or equitable.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38 of the Fed. R. Civ. Proc., Plaintiff hereby demands trial by jury in this action of all claims so triable.

Dated: October 2, 2018

Respectfully submitted,

/s/ Dmitry Kheyfits
Dmitry Kheyfits
(*Pro Hac Vice* motion to be filed)
California State Bar No. 321326
dkheyfits@kblit.com
KHEYFITS BELENKY LLP
4 Embarcadero Center, Suite 1400
San Francisco, CA 94111
Tel: 415-429-1739
Fax: 415-429-6347

Andrey Belenky
(*Pro Hac Vice* motion to be filed)
New York State Bar No. 4524898
abelenky@kheyfits.com
Hanna G. Cohen
(*Pro Hac Vice* motion to be filed)
hgcohen@kheyfits.com
New York State Bar No. 4471421
KHEYFITS BELENKY LLP
1140 Avenue of the Americas
9th Floor
New York, New York 10036
Tel. (212) 203-5399
Fax. (212) 203-6445

Raymond W. Mort, III
Texas State Bar No. 00791308
raymort@austinlaw.com

THE MORT LAW FIRM, PLLC
106 E. Sixth Street, Suite 900

Austin, Texas 78701
Tel/Fax: (512) 865-7950

Attorneys for Plaintiff Bicameral LLC