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

HD SILICON SOLUTIONS LLC,		
Plaintiff,		Civil Action No. 6:20-cv-1092
v.		**PATENT CASE**
MICROCHIP TECHNOLOGY INC.,		**JURY TRIAL DEMANDED**
Defendant.		

COMPLAINT FOR PATENT INFRINGEMENT

This is an action for patent infringement in which plaintiff HD Silicon Solutions LLC ("HDSS"), makes the following allegations against defendant Microchip Technology Inc. ("MTI"):

BACKGROUND

1.   This lawsuit asserts causes of action for infringement of HDSS's patents referenced in Counts One through Seven herein (collectively, the "Asserted Patents").

2.   The Asserted Patents address various core technologies in modern semiconductors, including microcontrollers, microprocessors, and programmable gate arrays.

THE PARTIES

3.   Plaintiff HDSS is an intellectual property licensing company. HDSS is organized and existing as a limited liability company under the laws of Texas with a principal place of business at 5900 Balcones Drive, Suite 100, Austin, Texas 78731.

4.   Defendant MTI is a corporation organized and existing under the laws of Delaware, with a principal place of business at 2355 West Chandler Boulevard, Chandler, Arizona 85224. MTI is doing business, either directly or through its agents, on an ongoing basis

in this judicial district and elsewhere in the United States, and has a regular and established place of business in this judicial district. MTI may be served through its registered agent The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801.

JURISDICTION AND VENUE

5.   This action arises under the patent laws of the United States, Title 35 of the United States Code, including in particular 35 U.S.C. § 271.

6.   This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

7.   This Court has personal jurisdiction over MTI because MTI has minimum contacts with Texas and this district such that this venue is a fair and reasonable one. MTI conducts substantial business in this forum, including (i) engaging in the infringing conduct alleged herein and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct, and/or deriving substantial revenue from goods and services provided to companies and individuals in Texas and in this district.

8.   Venue in the Western District of Texas is proper under 28 U.S.C. §§ 1391(b) and (c) and 1400(b).

9.   Upon information and belief, MTI has committed infringing acts in this judicial district by making, using, offering for sale, selling, or importing products or services that infringe the Asserted Patents, or by inducing others to infringe the Asserted Patents. On information and belief, MTI maintains a "regular and established" place of business in this district, including by maintaining and operating one or more places in this district where research, development, or sales are conducted or where customer service is provided.

10.   On information and belief, MTI has a regular and established physical presence in the district, including but not limited to, ownership of or control over property, equipment, or

inventory. For example, MTI has an office located at 8601 Ranch Road 2222, Park Centre Building 3, Austin, Texas 78730, which lies within this federal judicial district.

11.   In other recent actions, MTI has either admitted or not contested that this federal judicial district is a proper venue for patent infringement actions against it. *See, e.g.*, Answer to 1st Am. Compl. ¶ 14, *Vantage Micro LLC v. Microchip Tech. Inc.*, No. W-19-cv-581 (W.D. Tex. Feb. 18, 2020), ECF No. 22, *answering* 1st Am. Compl. ¶ 14, ECF No. 16 (Feb. 4, 2020); Answer ¶ 5, *Far North Patents, LLC v. Microchip Tech. Inc.*, No. 6:20-cv-221 (W.D. Tex. Jun. 23, 2020), ECF No. 17, *answering* Compl. ¶ 5, ECF. No. 1 (Mar. 25, 2020). MTI has also admitted or failed to contest that it has transacted business in this district. *See, e.g.*, Answer to 1st Am. Compl. ¶ 13, *Vantage Micro LLC v. Microchip Tech. Inc.*, No. W-19-cv-581 (W.D. Tex. Feb. 18, 2020), ECF No. 22, *answering* 1st Am. Compl. ¶ 13, ECF No. 16 (Feb. 4, 2020).

COUNT ONE
Infringement of U.S. Patent No. 7,260,731

12.   Plaintiff repeats and incorporates by reference each preceding paragraph as if fully set forth herein and further states:

13.   On August 21, 2007, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,260,731 B1 ("the '731 Patent"), entitled "Saving power when in or transitioning to a static mode of a processor." A true and correct copy of that patent is attached as Exhibit 1.

14.   HDSS is the owner by assignment of the '731 Patent and holds all substantial rights in that patent, including the sole and exclusive right to sue and recover for any and all infringement.

15.   Claim 6 of the '731 Patent recites:

> 6. A method for reducing power utilized by a system having a least a
>   processor, comprising the steps of:

determining that the processor is transitioning from a computing mode to a mode in which a system clock to the processor is disabled,

reducing core voltage being furnished by a voltage regulator to the processor to a value sufficient to maintain state during the mode in which the system clock is disabled, and

transferring operation of the voltage regulator furnishing core in a mode in which power is dissipated during a voltage transition in reduction in core voltage to a mode in which power is saved during said voltage transition in the reduction in core voltage when it is determined that the processor is transitioning from the computing mode to the mode in which the system clock to the processor is disabled.

16.   By way of example, MTI's PIC24 family of 16-bit microcontroller chips utilize what MTI refers to as "eXtreme Low-Power or XLP Technology."[1] This XLP Technology provides different power management modes, including a "Low-Voltage/Retention Sleep" mode at a reduced voltage level, to reduce power consumption by the chip's processor. In this mode, the core voltage drops from an operating voltage of 1.8V (or more) to 1.2V and the main CPU clock is shut down, but device state is maintained.[2]

17.   The "'731 Accused Chips" include at least each of the aforementioned chips as well as any other MTI chips utilizing XLP Technology supporting a Low-Voltage/Retention Sleep mode.

18.   MTI has directly infringed and continues to directly infringe one or more claims, including at least claim 6, of the '731 Patent in violation of 35 U.S.C. § 271(a) by, without authority, making, using, offering to sell, or selling in the United States or importing into the United States the '731 Accused Chips.

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[1] eXtreme Low-Power (XLP) PIC Microcontrollers: An Introduction to Microchip's Low-Power Devices, AN1267, at 1 (2017), http://ww1.microchip.com/downloads/en/AppNotes/00001267b.pdf.
[2] *Id.* at 4–5.

19.   For example, the '731 Accused Chips implement a method for reducing power utilized by the processor. The method utilizes an on-board voltage regulator that, according to MTI, "has the ability to alter functionality to provide power savings." The voltage regulator includes "two basic modules: the Voltage Regulator (VREG) and the Retention Regulator (RETREG)." In the regular operating "Run" mode of the '731 Accused Chips, "the main VREG is providing a regulated voltage with enough current to supply a device running at full speed." In this mode, the RETREG "may or may not be running, but is unused." In the Low-Voltage/Retention Sleep mode, "the device is in Sleep and all regulated voltage is provided solely by the Retention Regulator."[3]

20.   When the '731 Accused Chips determine that the processor is transitioning from Run mode to Low-Voltage/Retention Sleep mode, the voltage regulator transitions the core voltage to the processor down to 1.2V and during the transition turns off the VREG and provides voltage solely with the RETREG (also known the "low-voltage/retention regulator"). This changes the voltage regulator from a regulation mode in which power is dissipated to one in which power is saved during the voltage transition.

21.   In addition, MTI has indirectly infringed and continues to indirectly infringe the '731 Patent in violation of 35 U.S.C. § 271(b) by taking active steps to encourage and facilitate direct infringement by others, including OEMs, agent-subsidiaries, affiliates, partners, service providers, manufacturers, importers, resellers, customers, and/or end users, in this district and elsewhere in the United States, through the dissemination of the '731 Accused Chips and the creation and dissemination of promotional and marketing materials, supporting materials, instructions, product manuals, and/or technical information relating to such products (including

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[3] PIC24FV32KA304 Family Datasheet, DS30009995E, at 133 (2017), http://ww1.microchip.com/downloads/en/DeviceDoc/30009995e.pdf.

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