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

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

MICROCHIP'S INITIAL INVALIDITY CONTENTIONS

Pursuant to the Parties' Stipulated May 25, 2021 Scheduling Order (ECF 26), Microchip

Technology Inc. ("Microchip") hereby provides its Invalidity Contentions for U.S. Patent Nos.

7,260,731 (the "'731 patent"); 7,870,404 (the "'404 patent"); 7,810,002 (the "'002 patent");

7,154,299 (the "'299 patent"); 7,302,619 (the "'619 patent"); 6,774,033 (the "'033 patent")

(collectively, the "Asserted Patents"). Plaintiff HD Silicon Solutions LLC ("HDSS" or

"Plaintiff") has asserted the following claims:

- claims 1, 4, 6, 8 of the '731 patent;

- claims 1, 3, 5, 6, 11, 14, 15, 16, 18, 19, 21 of the '404 patent;

- claims 1, 2, 3, 4, 5, 6, 8, 9, 11, 12, 15, 16, 17, 18, 19 of the '002 patent;

- claims 1–16, 18, 19, 23, 24, 25 of the '299 patent;

- claims 1, 2, 3, 6, 10, 11, 12, 13, 14, 17, 21 22, 24, 26, 27, 28, 29, 30, 31 of the
  '619 patent; and

- claims 1, 2, 5, 8, 10, 13, 17 of the '033 patent (collectively, the "asserted
  claims").

Microchip makes the following invalidity contentions based upon its current knowledge,

its current understanding of HDSS' infringement contentions served on May 4, 2021, and its investigations to date. Microchip's investigation into the facts is ongoing, general fact discovery has not yet been opened in this case, and claim construction has not yet commenced. Microchip has not completed its investigation of the facts relating to this case, discovery in this action, or its preparation for trial. This disclosure is without prejudice to Microchip's right to produce evidence of additional prior art references or its right to supplement or amend the disclosures made herein.

I. IDENTIFICATION OF PRIOR ART

A. Prior Art Patents and Publications

Microchip contends that the asserted claims are invalid under 35 U.S.C. §§ 102 and/or 103 based on the following prior art patent publications. These patent publications constitute prior art under 35 U.S.C. § 102, and their patent numbers, countries of origin, and dates of publication and/or issue are included on the face of those documents. The filing dates listed below are simply the filing dates of the identified patents or patent publication; they may have earlier effective filing dates. Microchip reserves the right to supplement this list as it learns in the course of discovery of other prior art patent publications that would anticipate and/or render the asserted claims obvious.

1. The '731 patent

- NEC Electronics, Inc., "1990 Single-Chip Microcontroller Databook" (May 1990) ("NEC-Databook").

- U.S. Patent No. 6,748,545 to Helms et al. ("Helms").

- U.S. Patent No. 4,716,354 to Hacker ("Hacker").

- Thomas Burd et al., "A Dynamic Voltage Scaled Microprocessor System," in Digest of Technical Papers, 2000 IEEE Int. Solid-State Circuits Conf. (Feb. 2000)

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("Burd").

- U.S. Patent No. 6,092,207 to Kolinski et al., ("Kolinski").

- U.S. Patent No. 5,919,262 to Kikinis et al. ("Kikinis").

- Dieter Knollman, "Designing with Op Amps: Single-Formula Technique Keeps it Simple," EDN (March 2, 1998) ("Knollman").

- Advanced Configuration and Power Interface Specification, Rev. 1.0 (Dec. 22, 1996) (the "ACPI standard" or the "ACPI").

- U.S. Patent No. 5,565,761 to Hwang ("Hwang").

- U.S. Patent No. 5,627,460 to Bazinet *et al*. ("Bazinet").

- U.S. Patent No. 6,785,829 to George et al. ("George").

- U.S. Patent No. 6,772,356 to Qureshi et al. ("Qureshi").

2.   The '404 patent

- NEC Electronics, Inc., "1990 Single-Chip Microcontroller Databook," (May 1990) ("NEC-Databook").

- Anthony J. Stratakos, "High-Efficiency Low-Voltage DC-DC Conversion for Portable Applications," Univ. of California, Berkeley, Ph.D. Dissertation (1998) ("Stratakos").

- Advanced Configuration and Power Interface Specification, Rev. 1.0 (Dec. 22, 1996) (the "ACPI standard" or the "ACPI").

- Allan Baril, "Using Windows NT in Real-Time Systems," in Proceedings of the Fifth IEEE Real-Time Technology and Applications Symposium (RTAS '99) (1999) ("Baril").

- PCI Local Bus Specification, Rev. 2.2 (1998) (the "PCI Standard").

- A. Chandrakasan, V. Gutnik, and T. Xanthopoulos, "Data Driven Signal Processing: An Approach for Energy Efficient Computing," 1996 International Symposium on Low Power Electronics and Design, pp. 347-352 (1996).

- L. Nielsen and J. Sparso, "Low-Power Operation Using Self-Timed Circuits and Adaptive Scaling of the Supply Voltage," 2 IEEE Transactions on Very Large Scale Integration (VLSI) Sys., pp. 391-97 (Dec. 1994).

- W. Namgoong, M. Yu, and T. Meng, "A High-Efficiency Variable-Voltage CMOS Dynamic dc-dc Switching Regulator," IEEE International Solid-State Circuits Conference, pp. 380-81, 489 (Apr. 1997).

- G. Wei and M. Horowitz, "A Low Power Switching Supply for Self-Clocked Systems," 1996 International Symposium on Low Power Electronics and Design, pp. 313-17 (1996).

3.   The '002 patent

- U.S. Patent No. 7,248,069 to Moyer ("Moyer") (filed August 11, 2003).

- U.S. Patent Publ. 2003/0177373 to Moyer ("Moyer '373") (filed March 18, 2002).

- U.S. Patent No. 7,444,668 to Moyer ("Moyer '668") (filed May 29, 2003).

- U.S. Patent Publ. 2003/0172214 to Moyer ("Moyer '214") (filed March 8, 2002).

- U.S. Patent Publ. 2003/0204801 to Tkacik (filed April 30, 2002).

- U.S. Patent No. 7,228,440 to Giles ("Giles") (filed December 20, 2002).

- U.S. Patent No. 7,117,352 to Giles ("Giles '352") (filed December 20, 2002).

- WO 2004/046916 A2 to Watt ("Watt") (filed October 27, 2002).

- U.S. Patent No. 7,149,862 to Tune (filed September 3, 2004).

- U.S. Patent No. 7,849,310 to Watt ("Watt '310) (filed November 17, 2003).

- U.S. Patent Publ. 2004/0128507 to McKenney (filed December 30, 2002).

- U.S. Patent Publ. 2001/0016916 to Mayer (filed on February 6, 2001).

- U.S. Patent No. 8,255,700 to Kitariev (filed June 29, 2004).

- U.S. Patent No. 7,461,407 to Little (filed February 4, 2005).

- European Patent Application No. EP 1 443 338 A1 to Ravenhill (filed February 3, 2003).

- A. Menezes et al., *Handbook of Applied Cryptography* (1996).

- B. Schneier, *Applied Cryptography* (2d. ed. 1996).

- Information Technology Laboratory, National Institute of Standards and Technology, *The Keyed-Hash Message Authentication Code (HMAC)*, (FIPS Pub. 198, March 6, 2002).

- National Institute of Standards and Technology, Entity Authentication Using Public Key Cryptography (FIPS Pub. 196, February 18, 1997).

- W. Barksdale, *Practical Computer Data Communications* (Plenum Press, New York, 1st ed. 1986).

- J. Labrosse, *Embedded Systems Building Blocks* (R&D Books, 2d. ed. 2000).

- J. Rabaey et al., *Digital Integrated Circuits | A Design Perspective* (Pearson Education, Inc., 2d. ed. 2003).

- D. Lewin et al., *Design of Logic Systems* (Springer-Science and Business Media, B.V., 2d. ed. 1992).

- Gartner, Inc., *The Gartner Glossary of Information Technology Acronyms and Terms* (May 2003).

- National Communications System Technology and Standards Division,

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