

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

FG SRC LLC,

Plaintiff,

v.

INTEL CORPORATION,

Defendant.

Case No. 1:20-cv-00834-ADA

JURY TRIAL DEMANDED

PLAINTIFF FG SRC LLC'S OPENING CLAIM CONSTRUCTION BRIEF

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EXHIBIT	DESCRIPTION
A	U.S. Patent No. 7,149,867
B	Declaration of Ryan Kastner, Ph.D., dated November 17, 2020, referred to herein as “Kastner Dec.”
C	Excerpt from Ryan Kastner, Ph.D., et al. Parallel Programming for FPGAs 18 (2020), available at http://kastner.ucsd.edu/hlsbook/ .

Plaintiff FG SRC LLC (“SRC”) submits its opening claim construction brief which includes proper constructions and related argument for the disputed terms of U.S. Patent No. 7,149,867 (“’867 patent”).

I. GENERAL TECHNICAL BACKGROUND

A. Processor Types

The ’867 patent relates to the use of reconfigurable processors, such as Field Programmable Gate Arrays (“FPGAs”). Ex. A 1:16-24, 5:26-29. An FPGA is an integrated circuit that contains an array of programmable logic blocks and memory elements connected via programmable interconnect. Kastner Dec. ¶ 14. A user can program an FPGA to perform a specific function by configuring the logic blocks and interconnect. *Id.* This enables the user to create a hardware accelerated implementation of an algorithm by programming the FPGA in a manner that efficiently executes the algorithm. *Id.* In other words, with a reconfigurable processor such as an FPGA, the hardware adapts to the algorithm.

This can be contrasted with implementing the algorithm with software on a CPU or microprocessor. *Id.* ¶ 15. A CPU executes the algorithm by performing a sequence of instructions (e.g., arithmetic, logical, memory (load/store)) that implement the algorithm. *Id.* A different algorithm can be implemented on the CPU by changing the instructions. *Id.* The CPU is flexible; it can implement almost any algorithm. *Id.* Because the CPU hardware is fixed, it cannot be customized towards the algorithm like an FPGA implementation. *Id.* These customizations allow FPGA implementations to be orders of magnitude more efficient than implementing that algorithm as software on a CPU. *Id.*

In addition to FPGAs and CPUs, Application-Specific Integrated Circuits (“ASICs”) can also be used to execute algorithms. *Id.* ¶ 16. ASICs use custom logic and are manufactured specifically to perform one application. *Id.* Because an ASIC is purpose-built for one application, it is very

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