**IN THE UNITED STATES DISTRICT COURT**
**FOR THE DISTRICT OF DELAWARE**

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| INTELLECTUAL VENTURES I LLC,<br>INTELLECTUAL VENTURES II LLC,<br><br>Plaintiffs,<br><br>v.<br><br>ALTERA CORPORATION,<br>XILINX, INC.,<br><br>Defendants. | :<br>:<br>:<br>:<br>:<br>:<br>:<br>:<br>:<br>:<br>: | C.A. No. 10-1065-LPS |

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**MEMORANDUM OPINION**

July 26, 2013
Wilmington, Delaware

**STARK, U.S. District Judge:**

Pending before the Court is the issue of claim construction of various disputed terms found in U.S. Patent Nos. 5,687,325 (the "'325 patent"), 6,260,087 (the "'087 patent"), 6,272,646 (the "'646 patent"), 6,993,669 (the "'669 patent"), and 5,675,808 (the "'808 patent") (collectively, the "patents-in-suit").[1]

## I. BACKGROUND

On December 8, 2010, Intellectual Ventures I LLC and Intellectual Ventures II LLC (collectively, "Plaintiffs" or "IV") brought suit against Altera Corporation ("Altera") and Xilinx, Inc. ("Xilinx") (collectively, "Defendants") alleging infringement of the patents-in-suit.[2] The patents-in-suit relate generally to dynamic integrated circuits. The '325 and '087 patents relate to programmable logic devices, and the '808, '646, and '669 patents relate to clock management.

The parties completed briefing on claim construction on April 19, 2013. (D.I. 275, 277, 330, 332) The Court held a *Markman* hearing on May 16, 2013 (D.I. 386 (hereinafter "Tr.")).

## II. LEGAL STANDARDS

"It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (internal quotation marks omitted). Construing the claims of a patent presents a question of law. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977-78 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370, 388-90 (1996). "[T]here is no magic formula or catechism for

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[1]The patents-in-suit are located in the record at D.I. 267 Exs. A-1 to E-1.

[2]Plaintiffs also brought suit against Microsemi Corporation and Lattice Semiconductor but have subsequently settled with these defendants. The '808 patent is asserted only against Altera.

conducting claim construction." *Phillips*, 415 F.3d at 1324. Instead, the Court is free to attach the appropriate weight to appropriate sources "in light of the statutes and policies that inform patent law." *Id.*

"[T]he words of a claim are generally given their ordinary and customary meaning . . . [which is] the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id.* at 1312-13 (internal citations and quotation marks omitted). "[T]he ordinary meaning of a claim term is its meaning to the ordinary artisan after reading the entire patent." *Id.* at 1321 (internal quotation marks omitted). The patent specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

While "the claims themselves provide substantial guidance as to the meaning of particular claim terms," the context of the surrounding words of the claim also must be considered. *Phillips*, 415 F.3d at 1314. Furthermore, "[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment . . . [b]ecause claim terms are normally used consistently throughout the patent . . . ." *Id.* (internal citation omitted).

"Differences among claims can also be a useful guide. . . . For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Id.* at 1314-15 (internal citation omitted). This "presumption is especially strong when the limitation in dispute is the only meaningful difference between an independent and dependent claim, and one party is urging that the limitation in the dependent claim should be read into the independent claim." *SunRace Roots Enter. Co., Ltd. v.*

*SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003).

It is also possible that "the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs." *Phillips*, 415 F.3d at 1316. It bears emphasis that "[e]ven when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) (internal quotation marks omitted), *aff'd*, 481 F.3d 1371 (Fed. Cir. 2007).

In addition to the specification, a court "should also consider the patent's prosecution history, if it is in evidence." *Markman*, 52 F.3d at 980. The prosecution history, which is "intrinsic evidence," "consists of the complete record of the proceedings before the PTO [Patent and Trademark Office] and includes the prior art cited during the examination of the patent." *Phillips*, 415 F.3d at 1317. "[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

A court may also rely on "extrinsic evidence," which "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Markman*, 52 F.3d at 980. For instance, technical dictionaries can assist the Court in determining the meaning of a term to those of skill in the relevant art because such dictionaries "endeavor to collect the accepted meanings of terms used in various fields of science

and technology." *Phillips*, 415 F.3d at 1318. Overall, while extrinsic evidence "may be useful" to the Court, it is "less reliable" than intrinsic evidence, and its consideration "is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Id.* at 1318-19.

Finally, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998). It follows that "a claim interpretation that would exclude the inventor's device is rarely the correct interpretation." *Osram GmbH v. Int'l Trade Comm'n*, 505 F.3d 1351, 1358 (Fed. Cir. 2007).

## III. CONSTRUCTION OF DISPUTED TERMS

### A. '325 Patent

#### 1. "application specific field programmable gate array ('ASFPGA')"[3]

a. Plaintiffs' Proposed Construction: This preamble language does not require construction.

b. Defendants' Proposed Construction: "An Integrated Circuit for implementing a specific function consisting of an ASIC and an FPGA."

c. Court's Construction: This preamble language does not require construction.

The primary dispute between the parties is whether the preamble of the '325 patent is a claim limitation requiring construction. "[A]s a general rule[,] preamble language is not treated as limiting." *Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1347 (Fed. Cir. 2012). "A preamble is not regarded as limiting . . . when the claim body describes a structurally

[3]Claims 1, 2, 4.

complete invention such that deletion of the preamble phrase does not affect the structure of steps of the claimed invention." *Am. Med. Sys., Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1358-59 (Fed. Cir. 2010) (internal quotation marks omitted). In other words, a preamble is limiting if "it states a necessary and defining aspect of the invention," but not limiting if it "is simply an introduction to the general field of the claim." *Hearing Components, Inc. v. Shure Inc.*, 600 F.3d 1357, 1366 (Fed. Cir. 2010).

The Court concludes that the latter is applicable here. Both parties agree that this term is a coined term (Tr. at 10, 20), and the Court concludes that ASFPGA is a shorthand label that does not add limitations not otherwise contained in the body of the claim. The Court is also not persuaded that the disputed term was clearly relied upon during prosecution to distinguish the claimed invention. *See Symantec Corp. v. Comp. Assocs. Int'l, Inc.*, 522 F.3d 1279, 1288 (Fed. Cir. 2008). Indeed, the original application for the '325 patent stated that what is claimed is "[a]n application specific field programmable gate array ("ASFPGA")." (D.I. 330 Ex. F at 23)

**2. "fixed functional unit(s)"[4]**

a. Plaintiffs' Proposed Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

If the Court determines that this term requires construction: "circuitry composed of electrical connections that are not physically or electrically alterable and that perform a function as a unit."

b. Defendants' Proposed Construction: "hardwired functional units that are fabricated with conventional ASIC technology, and consequently are not physically alterable as with a Gate Array, or electrically alterable as with a FPGA."

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[4]Claims 1, 2.

c. Court's Construction: "circuitry composed of electrical connections that are not physically or electrically alterable and that perform a function as a unit."

The specification states that "the various electrical connections within each fixed functional unit are not physically alterable as with a Gate Array, or electrically alterable as with a FPGA." ('325 patent col. 5 ll. 19-24) The specification language supports the Court's conclusion that it is the electrical connection, rather than the unit itself, that remains fixed. Even some of Defendants' arguments support the Court's construction. Defendants argue that IV "distinguish[ed] prior art as not 'fixed' during reexamination due to the presence of configurable ***electrical connections***." (D.I. 275 at 13 (emphasis added)) Defendants also agreed at the *Markman* hearing that the plain language of the specification supports the Court's conclusion. (Tr. at 43)

While it may be the case that ASICs are hardwired, as Defendants contend, the Court is not persuaded that importing Defendants' proposed language "hardwired functional units that are fabricated with conventional ASIC technology" is appropriate. The specification, in describing a preferred embodiment, states that each "functional unit is fixed in the sense that it is fabricated with conventional ASIC technology" ('325 patent col. 5 ll. 19-21), and "possesses the same circuit density as an ASIC fabricated with a particular technology" (*id.* at col. 5 ll. 24-26). The specification does not state that ASICs are hardwired; to the contrary, the word "hardwired" does not appear in the patent.

**3. "bus interface(s)"**[5]

a. Plaintiffs' Proposed Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

Alternatively, "circuitry that can interface with a bus."[6]

b. Defendants' Proposed Construction: "circuitry that interfaces with a bus."[7]

c. Court's Construction: "circuitry that can interface with a bus."

The dispute between the parties is whether a bus can interface with circuitry or whether, instead, a bus must interface with circuitry. The Court's construction is supported by the intrinsic and extrinsic evidence.

Figure 1 states that "[t]he bus interface ***permits*** the SLC [System Logic Controller] to exchange data with a bus . . . ." ('325 patent col. 4 ll. 65-67) The specification supports the Court's conclusion that bus interfaces are capable of communicating information, but do not require it.

The extrinsic evidence, relied upon by both parties, is also consistent with the Court's construction. The IEEE Standard Dictionary of Electrical and Electronics Terms defines bus as "[a] signal line or set of lines used by an interface system to connect a number of devices and to transfer information," and interface as "[a] shared electrical boundary between parts of a computer system, through which information is conveyed." (D.I. 278 Ex. I at 140-41, 666) Both

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[5]Claims 2, 4.

[6]During the *Markman* hearing, Plaintiffs proposed an alternate construction. (Tr. at 51)

[7]Defendants amended their construction to remove the word "data." (D.I. 332 at 4, 9)

sides appear to argue for the plain and ordinary meaning of the disputed term (Tr. at 51, 53), and the Court concludes that its construction is consistent with the plain and ordinary meaning as embodied in the IEEE Standard Dictionary.

**4. "Peripheral Component Interconnect"[8]**

a. Plaintiffs' Proposed Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

b. Defendants' Proposed Construction: "Peripheral Component Interconnect ('PCI') refers to the PCI standard-not the PCIe standard."

c. Court's Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

The Court concludes that the plain and ordinary meaning of the term is appropriate. In particular, the Court is persuaded that the record does not support a disavowal or exclusion of PCIe. Both sides acknowledge that the specification does not mention PCIe, and Defendants state that PCIe bus interfaces did not exist at the time the application was filed; the accused products do not have PCI bus interfaces but, rather, PCIe interfaces. (Tr. at 58) The Court will not construe the claims by reference to an accused device. *See NeoMagic Corp. v. Trident Microsystems, Inc.*, 287 F.3d 1062, 1074 (Fed. Cir. 2002). Nor does the Court conclude that the patentee's failure to claim or describe an embodiment not yet in existence was a disclaimer.

[8]Claim 4.

## B. '087 Patent

### 1. "application specific integrated circuit ('ASIC')"[9]

a. Plaintiffs' Proposed Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

b. Defendants' Proposed Construction: "'ASIC' means an integrated circuit designed to fill a specific requirement, in which the functionality is determined at the time of fabrication, and is not physically or electrically alterable after fabrication."

c. Court's Construction: "an integrated circuit designed to fill one or more specific requirements."

The primary dispute between the parties is whether ASIC means an integrated circuit designed to fill a single requirement or one or more requirements. The Court's construction is supported by the intrinsic and extrinsic evidence.

The specification describes the present invention as employing re-programmable technology. (*See* '087 patent col. 8 ll. 11-12 (stating that present invention "may employ . . . a re-programmable FGPA technology")) A statement made by IV during reexamination is consistent with the specification. IV stated that ASIC is understood as "[a]n integrated circuit designed to fill a specific requirement of a unique application." (D.I. 278 Ex. E at 66) This is consistent with Newton's Telecom Dictionary definition of ASIC as "a chip that has been built for a specific application" and The Penguin Dictionary of Electronics' as "[a]n integrated circuit designed for a specific application, rather than a generalized-mass-produced circuit." (D.I. 278 Exs. F, G)

Plaintiffs' construction – "plain and ordinary meaning" – is unpersuasive. It is unlikely

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[9]Claims 41, 44, 45, 50, 65, 73, 83, 86, 87, 92, 107, 115, 180, 183, 184, 189, 204, 212.

that a jury would understand the plain and ordinary meaning of ASIC, given the complexity and abstract nature of the technology. Additionally, the '087 patent distinguishes between conventional ASICs and the innovative ASICs claimed by the patent, leaving some ambiguity as to what is meant by the "plain and ordinary meaning" of ASIC.

Defendants' construction is more helpful, and the Court adopts part of it. However, Defendants seek to include additional limitations, not supported by the specification or other intrinsic evidence, to the effect that "functionality is determined at the time of fabrication," and that ASICs are "not physically or electrically alterable after fabrication." The Court is not persuaded that these limitations are appropriate.

**2. "bus interface(s)"**[10]

a. Plaintiffs' Proposed Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

b. Defendants' Proposed Construction: "circuitry that interfaces with a bus."

c. Court's Construction: "circuitry that can interface with a bus."

The parties agree that the Court should construe this claim consistently with the same term of the '325 patent. (Tr. at 86) As discussed above, the Court will construe "bus" to mean "circuitry that can interface with a bus."

[10]Claims 44, 86, 183.

### 3. "during normal operation of the ASIC"[11]

a. Plaintiffs' Proposed Construction: "during operation of the ASIC, not including scanning or self-testing."[12]

b. Defendants' Proposed Construction: "while the circuit components of the ASIC are performing their intended functions, not including testing."

c. Court's Construction: "during operation of the ASIC, not including scanning or self-testing."

The parties agree that the claim term requires the negative limitation "not including scanning or self-testing." The dispute is over additional language proposed by Defendants.

The Court is not persuaded that Defendants' additional language – "while the circuit components of the ASIC are performing their ***intended functions***" (emphasis added) – is appropriate. The patent does not use the phrase "intended functions." Replacing the claim language "normal operation" with Defendants' proposed language does not provide clarity.

Both parties cite to the reexamination history and the amendment made during prosecution. In overcoming a rejection over prior art, IV argued that the prior art disclosed a need for an invention "for a way to perform scan and self-test functions for ASICs." (D.I. 260 Ex. C-5 at 10) The Court's construction recognizes the import of this prosecution history.

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[11]Claims 41, 50, 65, 73, 83, 92, 107, 180, 189, 204, 212.

[12]Plaintiffs proposed this construction at the *Markman* hearing. (Tr. at 79)

**4. "complements"**[13]

a. Plaintiffs' Proposed Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

If the Court determines that this term requires construction: "to complete or enhance by addition something additional."

b. Defendants' Proposed Construction: "performs a function lacking in the hardware, non-programmable functional block to enhance a function performed by the nonprogrammable function block."

c. Court's Construction: "performs a function lacking in the non-programmable functional block that enhances a function performed in the non-programmable functional block."

The primary dispute between the parties is whether this term requires that a function is "lacking."

The specification and reexamination support the Court's construction. The specification states that the invention improves upon the prior art because "there presently does not exist any way system builders can enhance or add hardware functionality to an existing system design other than by redesigning the system to use different ASICs," because "[o]nce ASICs have been chosen for a system, any functionality which the ASICs lack can be provided only by the system's software." ('087 patent col. 4 ll. 41-47)

During reexamination, in distinguishing prior art, IV stated that "'complementary function' encompasses a function (1) lacking in the non-programmable functional block that (2) enhances a function performed in the non-programmable functional block." (D.I. 260 Ex. C-4 at 19) The Court's construction is consistent with IV's definition of this term during

[13]Claims 41, 44, 45, 50, 65, 73, 83, 86, 87, 92, 107, 115, 180, 183, 184, 189, 204, 212.

reexamination. *See generally Digital-Vending Servs. Int'l, LLC v. Univ. of Phoenix, Inc.*, 672 F.3d 1270, 1276 (Fed. Cir. 2012) ("[I]t is particularly important not to limit claim scope based on statements made during prosecution absent a clear disavowal or contrary definition.") (internal quotation marks omitted); *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366-67 (Fed. Cir. 2002) (articulating exceptions to general rule that terms should receive plain and ordinary meaning, including when patentee acts as his own lexicographer by defining term in specification or prosecution history).

### C. '646 Patent

#### 1. "configured to"[14]

a. Plaintiffs' Proposed Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

b. Defendants' Proposed Construction: "placed in a state in which the configured entity is fully able to carry out all recited functions."

c. Court's Construction: "to set up for operation especially in a particular way."

The parties appear to agree that the Court should give the term its plain and ordinary meaning. Defendants state that their construction is "perfectly consistent with the plain English meaning" of the word configured, which is "to set up for operation especially in a particular way." (D.I. 275 at 18 (citing Webster's Ninth New Collegiate Dictionary, D.I. 278 Ex. K)) During the *Markman* hearing, Plaintiffs stated that "we could probably live with" the Webster's Dictionary definition. (Tr. at 92)

The Court is not persuaded that amendments made during prosecution support

[14]Claim 1.

Defendants' construction. Defendants argue that "configured to" was added to overcome rejections during prosecution; however, "configured to" was not added in isolation. For example, one amendment replaced "a first circuit capable of storing programmable information" with "programmable logic circuit configured to (i) generate one or more control signals and (ii) receive one or more clock signals." (D.I. 267 Ex. D-2 at 3-4) Another amendment replaced "a second circuit capable of providing a plurality of output clocks" with "a phase lock loop circuit configured to generate said one or more clock signals." (*Id.*) The amendments overcame prior art references by including "programmable logic circuit" and "phase lock loop circuit," and were not overcome solely by replacing "capable of" with "configured to." In the Court's view, there was not a clear disavowal of claim scope.

**2. "individually programmable"**[15]

a. Plaintiffs' Proposed Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

Alternatively, "each clock signal can be programmed to a certain frequency."[16]

b. Defendants' Proposed Construction: "each clock signal is independently programmable."

c. Court's Construction: "each clock signal can be programmed to a certain frequency."

The Court's construction is supported by the claim language, specification, and prosecution history. Dependent claim 13 uses "individually" to modify "programmable" and

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[15]Claim 2.

[16]In response to a request from the Court, Plaintiffs proposed an alternative construction of the term. (D.I. 375)

"independent" to modify "frequency." ('646 patent col. 6 ll. 6-8) Although claim 13 does not depend upon claim 2, in which the term appears, the Court nonetheless finds the patentee's distinct use of terms persuasive. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (stating that claim terms are normally used consistently in patent).

The specification is consistent with the Court's conclusion that "individually" and "independently" should be given separate meanings. Each time "independent" is used in the specification, it is used in reference to frequency. (*See, e.g.*, '646 patent col. 3 ll. 6-7 ("configured to operate at an independent frequency that may drive the individual logic blocks"); *id.* at col. 4 ll. 18-19 ("independent frequency that may drive the individual logic blocks of the programmable logic device"))

The Court is not persuaded by Defendants' reliance on the prosecution history and the Hotta reference. The patentee amended the claims based on Hotta to claim "a second circuit capable of providing a plurality of output clocks each capable of oscillating at a different one of a plurality of frequencies." (D.I. 376 at 1; D.I. 375 at 2 & Ex. B at 4) Defendants state that "the patentee distinguished the prior art because the applied clock signals were dependent upon and changed with ***a common frequency***." (D.I. 376 at 2) Defendants fail to explain how the amendment supports reading "independently" and "individually" as interchangeable.

## D. '669 Patent

### 1. "reconfigurable processor core"[17]

a. Plaintiffs' Proposed Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

If the Court determines that this term requires construction: "one or more processors that can be configured to perform a function."

b. Defendants' Proposed Construction: "a group of interconnected processors, each of which can be reconfigured by reprogramming to simultaneously perform multiple tasks in a complex system while achieving a specific goal such as reducing or controlling power dissipation."

c. Court's Construction: "one or more processors that can be configured to perform a function."

The specification states that "[t]he reconfigurable processor core can include one or more processors" and "can be configured to operate optimally on specific problems." ('669 patent col. 4 ll. 6-14) The Court is not persuaded that Defendants' proposed limitations are supported by the intrinsic evidence and, accordingly, declines to adopt them.

[17]Claim 1.

**2. "whole processor unit(s)"[18]**

a. Plaintiffs' Proposed Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

If the Court determines that this term requires construction: "an entire processor, such as a RISC processor or a DSP processor that can operate stand-alone."[19]

b. Defendants' Proposed Construction: "a stand-alone processor comprising a program counter, storage and circuitry for fetching, decoding, and executing sets of instructions."

c. Court's Construction: "entire processors such as RISC processors or DSP processors that can operate stand-alone."

The Court will adopt the specialized definition of the term provided by the patentee during prosecution. (D.I. 267 Ex. E-5 at 11 ("processor units are entire processors such as RISC processors or DSP processors that can operate stand-alone")) The Court is not persuaded that Defendants' construction is proper. The portion of the specification cited by Defendants describes an exemplary processor. (*See* '669 patent col. 4 ll. 24-42 ("One exemplary processor . . . .")) Even if it were proper for the Court to import limitations from the exemplar into the claim, the Court would still not adopt Defendants' construction, as Defendants seem to select arbitrarily only some elements described in the example. (*See id.* ("includes a register bank, a multiplier, a barrel shifter, an arithmetic logic unit, . . . a write data register . . . instruction pipeline, a multiplexer, one or more instruction decoders, and a read data register"))

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[18]Claims 1-6, 9-12.

[19]Plaintiffs amended their alternative construction during the *Markman* hearing to include "that can operate stand-alone." (Tr. at 121)

3. **"a controller having a plurality of clock outputs each coupled to a respective clock input of one of the whole processor units, wherein the controller is configured to independently vary a clock frequency of each whole processor unit"**[20]

a. Plaintiffs' Proposed Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

Alternatively, the term "controller" means "hardware or software that controls a circuit or system."[21]

The term "the controller is configured to independently vary a clock frequency of each whole processor unit" means that "the hardware or software that controls a circuit or system is configured to independently vary a clock frequency of each whole processor unit."

b. Defendants' Proposed Construction: The term "controller" means "a unit that controls a circuit or system by making decisions based on external or internal stimuli."

The term "the controller is configured to independently vary a clock frequency of each whole process unit" means that "the controller is configured to change the clock frequency of each whole processor on-the-fly during normal operation and independent of the clock frequency of any other whole processor."

c. Court's Construction: The term "controller" means "hardware or software that controls a circuit or system."

The term "the controller is configured to independently vary a clock frequency of each whole processor unit" means that "the hardware or software that controls a circuit or system is configured to independently vary a clock frequency of each whole processor unit."

The Court's construction is supported by the specification, which states that the controller

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[20]Claims 1, 6.

[21]In response to a request from the Court, Plaintiffs proposed an alternative construction of the term. (D.I. 375)

varies clock input in either the hardware or software. (*See* '669 patent col. 8 ll. 1-3 ("The controller can be implemented in hardware; or the power control may be implemented by means of software.")) The Court is not persuaded that Defendants' proposed construction is proper. Defendants' construction relies on an incomplete statement from the specification. In full, the specification states that "[t]he clock rate management may be pre-assigned based upon tasks or routines handled by each processor, ***or*** it may be invoked as a result of external or internal system stimuli . . . ." (*Id.* at col. 2 ll. 44-47 (emphasis added)) Defendants' construction improperly excludes controller action based on tasks or routines.

The parties appear to agree that the disputed term is at least some combination of an independent configuration to change or vary a clock frequency of each whole processor unit. The main dispute is whether the additional limitations proposed by Defendants, that the manipulation of clock frequency be "on-the-fly" and "during normal operation," are appropriate. The Court concludes that they are not. The proposed limitations are derived from the Summary section of the specification, which states that "[t]he system allows these changes [in clock rate] to occur on-the-fly, during normal operation as the processors' tasks or needs vary." (*Id.* at ll. 49-51) For reasons including the specification's use of permissive language ("allows"), the Court is not persuaded it should import these descriptions of the invention into the claim term. *See Phillips*, 415 F.3d at 1323 (emphasizing "danger of reading limitations from the specification into the claim").

**4. "configured to"**[22]

a. Plaintiffs' Proposed Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

b. Defendants' Proposed Construction: "placed in a state in which the configured entity is fully able to carry out all recited functions."

c. Court's Construction: "to set up for operation especially in a particular way."

The Court will construe this term consistently with the same term in the '646 patent, for the same reasons.

**E. '808 Patent**

**1. "each module having a defined function"**[23]

a. Plaintiffs' Proposed Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

b. Defendants' Proposed Construction: "each of the modular logic circuits is configured to perform its specific operation."

c. Court's Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

The Court concludes that Defendants' proposed construction fails to provide clarity to the disputed term. Defendants' intrinsic support is a description of a preferred embodiment (*see* '808 patent col. 7 ll. 31-35), which does not limit the claim scope. Additionally, Defendants cite to more than 100 pages of the '808 patent to argue that the specification supports their construction that each circuit is configured to perform a task, but it is difficult for the Court to

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[22]Claims 1, 4-6, 12.

[23]Claim 1.

understand specifically what, in this lengthy section of patent text, Defendants believe require the limitations they would have the Court read into this term. On the other hand, the Court concludes that the surrounding claim language provides meaning to the disputed term and, under the circumstances, no construction is necessary.

**2. "power-down" and "power-up"**[24]

a. Plaintiffs' Proposed Construction: No construction is necessary; this claim language should be accorded its plain and ordinary meaning.

Alternatively, "power-down": "voltage or current removed from a part or the whole chip."[25]

"power-up": "voltage or current supplied to a part or the whole chip."

b. Defendants' Proposed Construction: "power-down": "voltage removed from a part or the whole chip."

"power-up": "voltage supplied to a part or the whole chip."

c. Court's Construction: "power-down": "voltage or current removed from a part or the whole chip."

"power-up": "voltage or current supplied to a part or the whole chip."

The Court's construction is supported by the intrinsic evidence and extrinsic evidence. The specification indicates that "current" is a component of power. (*See* '808 patent col. 31 ll. 33-43 (describing Power Consumption Modes as consuming little current)) This is consistent with The Penguin Dictionary of Electronics' definition of "power," upon which both parties rely.

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[24]Claims 3, 4.

[25]Plaintiffs offered this modification of Defendants' construction during the *Markman* hearing. (Tr. at 139-40)

(D.I. 278 Ex. G at 9) Power is a function of voltage and current. (*Id.*)

## IV. CONCLUSION

For the reasons given above, the Court will construe the terms of the patents-in-suit consistent with this Memorandum Opinion. An appropriate Order follows.

**IN THE UNITED STATES DISTRICT COURT**
**FOR THE DISTRICT OF DELAWARE**

| | | |
|---|---|---|
| INTELLECTUAL VENTURES I LLC,<br>INTELLECTUAL VENTURES II LLC,<br><br>Plaintiffs,<br><br>v.<br><br>ALTERA CORPORATION,<br>XILINX, INC.,<br><br>Defendants. | :<br>:<br>:<br>:<br>:<br>:<br>:<br>:<br>:<br>:<br>: | C.A. No. 10-1065-LPS |

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**ORDER**

At Wilmington, this 26th day of July, 2013:

For the reasons set forth in the Memorandum Opinion issued this same date,

IT IS HEREBY ORDERED that the claim language of U.S. Patent Nos. 5,687,325 (the "'325 patent"), 6,260,087 (the "'087 patent"), 6,272,646 (the "'646 patent"), and 6,993,669 (the "'669 patent"), and 5,675,808 (the "'808 patent"), is construed as follows:

1. "**application specific field programmable gate array ('ASFPGA')**," as it appears in '325 patent claims 1, 2, and 4, is a preamble and does not require construction.

2. "**fixed functional unit(s)**," as it appears in '325 patent claims 1 and 2, is construed to mean "circuitry composed of electrical connections that are not physically or electrically alterable and that perform a function as a unit."

3. "**bus interface(s)**," as it appears in '325 patent claims 2 and 4, is construed to mean "circuitry that can interface with a bus."

4. "**Peripheral Component Interconnect**," as it appears in '325 patent claim 4, is accorded its plain and ordinary meaning.

5. "**application specific integrated circuit ('ASIC')**," as it appears in '087 patent claims 41, 44, 45, 50, 65, 73, 83, 86, 87, 92, 107, 115, 180, 183, 184, 189, 204, and 212, is construed to mean "an integrated circuit designed to fill one or more specific requirements."

6. "**bus interface(s)**," as it appears in '087 patent claims 44, 86, and 183, is construed to mean "circuitry that can interface with a bus."

7. "**during normal operation of the ASIC**," as it appears in '087 patent claims 41, 50, 65, 73, 83, 92, 107, 180, 189, 204, and 212, is construed to mean "during operation of the ASIC, not including scanning or self-testing."

8. "**complements**," as it appears in '087 patent claims 41, 44, 45, 50, 65, 73, 83, 86, 87, 92, 107, 115, 180, 183, 184, 189, 204, and 212, is construed to mean "performs a function lacking in the non-programmable functional block that enhances a function performed in the non-programmable functional block."

9. "**configured to**," as it appears in '646 patent claim 1, is construed to mean "to set up for operation especially in a particular way."

10. "**individually programmable**," as it appears in '646 patent claim 2, is construed to mean "each clock signal can be programmed to a certain frequency."

11. "**reconfigurable processor core**," as it appears in '669 patent claim 1, is construed to mean "one or more processors that can be configured to perform a function."

12. "**whole processor unit(s)**," as it appears in '669 patent claims 1-6 and 9-12, is construed to mean "entire processors such as RISC processors or DSP processors that can operate stand-alone."

13. "**controller**," as it appears in '669 patent claims 1 and 6, is construed to mean "hardware or software that controls a circuit or system."

14. "**the controller is configured to independently vary a clock frequency of each whole processor unit**," as it appears in '669 patent claims 1 and 6, is construed to mean "the hardware or software that controls a circuit or system is configured to independently vary a clock frequency of each whole processor unit."

15. "**configured to**," as it appears in '669 patent claims 1, 4-6, and 12, is construed to mean "to set up for operation especially in a particular way."

16. "**each module having a defined function**," as it appears in '808 patent claim 1, is accorded its plain and ordinary meaning.

17. "**power-down**" and "**power-up**," as they appear in '808 patent claims 3 and 4, are construed to mean "voltage or current removed from a part or the whole chip" and "voltage or current supplied to a part or the whole chip," respectively.

UNITED STATES DISTRICT JUDGE