

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

OPTi, Inc.	§	
	§	
Plaintiffs,	§	
	§	
v.	§	CIVIL ACTION NO. 2:07-CV-278 (TJW)
	§	
Advanced Micro Devices, Inc., et al.,	§	
	§	
Defendants.	§	
	§	

**MEMORANDUM OPINION AND ORDER**

**I. Introduction**

The plaintiff OPTi Inc. (“OPTi”) alleges that defendants Advanced Micro Devices, Inc. (“AMD”), Standard Microsystems Corporation (“SMSC”) and VIA Technologies, Inc. (“VIA”) (collectively “defendants”) infringe OPTi’s Low Pin Count (“LPC”) patents. OPTi alleges infringement of claims 1, 11, 12, 13, 18, and 19 of United States Patent No. 6,098,141 (“the ’141 Patent”) and claims 1 and 5 of United States Patent No. 5,944,807 (“the ’807 Patent”). The patents-in-suit share a common specification. Several of the same terms or similar terms in dispute were construed by this Court in *OPTi v NVIDIA, Inc.*, 2:04-cv-377 (TJW) (E.D. Texas).

**II. Background of Technology**

In the earliest days of microcomputers, there were no core logic chipsets. The central processor communicated directly with the peripheral devices in the computer. As computers got more complicated, however, chipsets were introduced as a way of coordinating the vast array of functional communications, thereby freeing CPU resources for other applications.

The LPC patents disclose an interface to be used between a host device and one or more peripheral devices. To reduce the pin count on an interface connector, the patent discloses an interface that eliminates the distinct buses conventionally required to support distinct communications. These communications include addressing functions<sup>1</sup>, data transfers<sup>2</sup>, interrupt requests<sup>3</sup>, DMA requests<sup>4</sup>, and DMA acknowledge-type communications<sup>5</sup>. The LPC patents utilize a process known as multiplexing on a single bus structure to eliminate the distinct lines performing these functions.

As disclosed in the LPC patents, an interface is the connection between various devices comprising a computer. These interfaces consist of conductors on which the devices transmit signals to one another. The most common type of interface is known as a bus and it allows the devices to exchange data and operate in coordination with one another. Two types of buses prevalent during the development of the technology disclosed in the LPC patents were the Industry Standard Architecture (“ISA”) bus and the Peripheral Component Interconnect (“PCI”) bus. The ISA bus first emerged in the early 1980’s with the PCI bus appearing a decade later.

The PCI bus failed to replace the ISA bus because of the continued need to support legacy peripherals and low cost devices compatible with the ISA bus. The ISA bus dedicated separate conductors to transmit signals for each function that the device performed. Thus, when

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<sup>1</sup> Addressing functions are the codes identifying where a piece of information is stored.

<sup>2</sup> Data transfers are the physical transfer of data from point to point over a transmission medium.

<sup>3</sup> Interrupt requests are requests from a peripheral device to interrupt the CPU.

<sup>4</sup> DMA requests (Direct Memory Access request) are requests from a peripheral device to direct access memory.

<sup>5</sup> DMA acknowledge-type communications (Direct Memory Access acknowledge-type communication) are signals acknowledging the DMA request.

a device connected to the ISA bus transferred data to or from another device, it would use multiple communication lines. The bus would use a dedicated “address” line to transmit the address of the “target” device, and a separate line dedicated to transmitting a “command” signal identifying the type of transaction it wanted to engage in. Further, the bus would still use other signal lines dedicated to transmitting the data itself.

OPTi addressed the need of having multiple separate signal lines available to handle the ISA and PCI devices by multiplexing the multiple signal lines onto a single bus. The basic idea of multiplexing is that instead of dedicating a single transmission channel to a single signal governing a single function, the channel will transmit multiple signals used for multiple purposes at different times or frequencies. For example, different devices using the circuit may be assigned time slots so that the line is used for one purpose for a fixed period, then for another purpose, then a third, then the first one picks up where it left off and so on. This is known as time division multiplexing. There are various other forms of multiplexing available depending on the medium of transfer, the devices and the functions involved. In utilizing multiplexing techniques, OPTi reduced the size of its chipsets and reduced the number of signal lines needed on an ISA bus from 80 to 22. OPTi called this version CISA (“Compact Industry Standard Architecture”).

The abstract of the LPC patents states:

An I/O interface, compatible with industry standards, for interfacing a host to a peripheral device. The interface includes a clock signal, a bus, an address latch enable signal, a peripheral device ready signal, a command signal, a device selected backoff signal, and a reset signal, resulting in an I/O interface capable of ISA-compatible operation with only 22 pins. Address, data command, interrupt request, and DMA request information are communicated

between the host and the peripheral device via a single bus by multiplexing the information on the bus using phasing techniques.

The following claims are representative of the '141 patent:<sup>6</sup>

1. A computer system comprising:

a **host platform**;

a **peripheral device**; and

a plurality of signal lines **coupling** said **host platform** to said **peripheral device**, said plurality of signal lines comprising:

an address-data bus to carry **in a multiplexed manner** address information for a **first cycle**, data information for said **first cycle**, and **cycle** definition information for said **first cycle**, said **cycle** definition information including a **cycle** type and a **cycle** direction, said **cycle** type **identifying at least a memory cycle or an I/O cycle**, said **cycle** direction identifying at least a read direction or a write direction.

18. A method of interfacing a **host system** with a **peripheral device**, comprising the steps of:

- (a) communicating address information between said **host system** and said **peripheral device** on a bus;
- (b) communicating data information between said **host system** and said **peripheral device** on said bus,
- (c) communicating command information between said **host system** and said **peripheral device** on said bus said command information including a **cycle** type and a **cycle** direction, said **cycle** type identifying a memory **cycle** or an I/O **cycle**, said **cycle** direction identifying a read direction or a write direction; and
- (d) communicating **DMA information** between said **host system** and said **peripheral device** on said bus;

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<sup>6</sup> Disputed terms are in **bold**.

wherein said address information, said data information, and said **DMA information** are multiplexed on said bus.

The following claim is representative of the '807 patent:

1. A method of interfacing a **host system** with a **peripheral device**, comprising the steps of:
  - (a) communicating address information between said **host system** and said **peripheral device** on a bus;
  - (b) communicating data information between said **host system** and said **peripheral device** on said bus;
  - (c) communicating ISA command information between said **host system** and said **peripheral device** on said bus; wherein said address information, said data information, and said ISA command information are **multiplexed** on said bus.

### **III. General Principles Governing Claim Construction**

“A claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using or selling the protected invention.” *Burke, Inc. v. Bruno Indep. Living Aids, Inc.*, 183 F.3d 1334, 1340 (Fed. Cir. 1999). Claim construction is an issue of law for the court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996).

To ascertain the meaning of claims, the court looks to three primary sources: the claims, the specification, and the prosecution history. *Markman*, 52 F.3d at 979. Under the patent law, the specification must contain a written description of the invention that enables one of ordinary skill in the art to make and use the invention. A patent's claims must be read in view of the specification, of which they are a part. *Id.* For claim construction purposes, the description may act as a sort of dictionary, which explains the invention and may define terms used in the claims.

*Id.* “One purpose for examining the specification is to determine if the patentee has limited the scope of the claims.” *Watts v. XL Sys., Inc.*, 232 F.3d 877, 882 (Fed. Cir. 2000).

Nonetheless, it is the function of the claims, not the specification, to set forth the limits of the patentee’s claims. Otherwise, there would be no need for claims. *SRI Int’l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc). The patentee is free to be his own lexicographer, but any special definition given to a word must be clearly set forth in the specification. *Intellicall, Inc. v. Phonometrics*, 952 F.2d 1384, 1388 (Fed. Cir. 1992). And, although the specification may indicate that certain embodiments are preferred, particular embodiments appearing in the specification will not be read into the claims when the claim language is broader than the embodiments. *Electro Med. Sys., S.A. v. Cooper Life Scis., Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994).

This court’s claim construction decision must be informed by the Federal Circuit’s decision in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). In *Phillips*, the court set forth several guideposts that courts should follow when construing claims. In particular, the court reiterated that “the claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Id.* at 1312 (emphasis added)(quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To that end, the words used in a claim are generally given their ordinary and customary meaning. *Id.* The ordinary and customary meaning of a claim term “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 1313. This principle of patent law flows naturally from the recognition that inventors are usually persons who are skilled in the field of

the invention. The patent is addressed to and intended to be read by others skilled in the particular art. *Id.*

The primacy of claim terms notwithstanding, *Phillips* made clear that “the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.* Although the claims themselves may provide guidance as to the meaning of particular terms, those terms are part of “a fully integrated written instrument.” *Id.* at 1315 (quoting *Markman*, 52 F.3d at 978). Thus, the *Phillips* court emphasized the specification as being the primary basis for construing the claims. *Id.* at 1314-17. As the Supreme Court stated long ago, “in case of doubt or ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims.” *Bates v. Coe*, 98 U.S. 31, 38 (1878). In addressing the role of the specification, the *Phillips* court quoted with approval its earlier observations from *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998):

Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The 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.

Consequently, *Phillips* emphasized the important role the specification plays in the claim construction process.

The prosecution history also continues to play an important role in claim interpretation. The prosecution history helps to demonstrate how the inventor and the PTO understood the

patent. *Phillips*, 415 F.3d at 1317. Because the file history, however, “represents an ongoing negotiation between the PTO and the applicant,” it may lack the clarity of the specification and thus be less useful in claim construction proceedings. *Id.* Nevertheless, the prosecution history is intrinsic evidence. That evidence is relevant to the determination of how the inventor understood the invention and whether the inventor limited the invention during prosecution by narrowing the scope of the claims.

*Phillips* rejected any claim construction approach that sacrificed the intrinsic record in favor of extrinsic evidence, such as dictionary definitions or expert testimony. The en banc court condemned the suggestion made by *Tex. Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193 (Fed. Cir. 2002), that a court should discern the ordinary meaning of the claim terms (through dictionaries or otherwise) before resorting to the specification for certain limited purposes. *Id.* at 1319-24. The approach suggested by *Tex. Digital*—the assignment of a limited role to the specification—was rejected as inconsistent with decisions holding the specification to be the best guide to the meaning of a disputed term. *Id.* at 1320-21. According to *Phillips*, reliance on dictionary definitions at the expense of the specification had the effect of “focus[ing] the inquiry on the abstract meaning of words rather than on the meaning of the claim terms within the context of the patent.” *Id.* at 1321. *Phillips* emphasized that the patent system is based on the proposition that the claims cover only the invented subject matter. *Id.* What is described in the claims flows from the statutory requirement imposed on the patentee to describe and particularly claim what he or she has invented. *Id.* The definitions found in dictionaries, however, often flow from the editors’ objective of assembling all of the possible definitions for a word. *Id.* at 1321-22.

*Phillips* does not preclude all uses of dictionaries in claim construction proceedings. Instead, the court assigned dictionaries a role subordinate to the intrinsic record. In doing so, the court emphasized that claim construction issues are not resolved by any magic formula. The court did not impose any particular sequence of steps for a court to follow when it considers disputed claim language. *Id.* at 1323-25. Rather, *Phillips* held that a court must attach the appropriate weight to the intrinsic sources offered in support of a proposed claim construction, bearing in mind the general rule that the claims measure the scope of the patent grant.

The parties dispute numerous terms. The court has attempted to address the terms in light of the disputes raised by the parties. The court now turns to a discussion of the disputed claim terms.

#### IV. Agreed Claim Constructions

Claim Term	Agreed Construction
"bus"	a set of signal lines
"address-data bus"	a bus that carries both address information and data"
"address information"	at least a portion of an address"
"command information"	information relating to one or more commands for controlling a bus transfer, rather than to address or data
"correlates to at least one ISA command"	information correlating to one or more of the commands recognized in the Industry Standard Architecture bus standard
"ISA command information"	information correlating to one or more of the commands recognized in the Industry Standard Architecture bus standard
"cycle" and "first cycle"	a sequence of events to accomplish the task of a communication on a bus
"identifying at least a memory cycle or an I/O cycle"	no construction needed

## V. Specific Terms in Dispute

### 1. “host platform”

The parties dispute whether certain narrowing terms such as “bus controller,” “CPU or host bus,” and “electrically connected” are necessary to define “host platform.” To support its construction, OPTi points to this court’s prior construction of the term “host platform” in the ‘141 patent in *OPTi v. NVIDIA, Inc.*, 2:04-cv-377, Dkt. No. 96 (TJW) (E.D. Texas). There, the Court agreed with OPTi that “host platform” means “a bus controller to which a CPU is connected by a CPU or host bus and to which peripheral devices are connected by a peripheral bus.” Defendants argue that the “host platform” is “interface circuitry electrically coupled to peripherals and a CPU.” Defendants contend that “electrically” connected is the ordinary meaning of coupled in the context of electrical circuitry and that it is no broader than the court’s prior construction.

The focus of the LPC patents, as described in the abstract and the specification, is directed at interfacing a host to a peripheral device. ‘807, 3:21-23; ‘141, 3:24-26. The patent does not specifically mention the term “bus controller,” but does reference an ISA controller that is not part of the “host platform.”<sup>7</sup> The ISA controller, therefore, is also a bus controller. In all instances, save for one, when the term “host platform” appears in the detailed description, the term appears as “host platform interface circuitry.” ‘807, 4:53-5:12; 6:53-7:64; 8:17-9:18;9:19-11:31; 11:61-13:37. “Host platform interface circuitry 115 communicates address, data,

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<sup>7</sup> ‘807: 6:57-61: “Host platform interface circuitry 115 gets address information from CPU 120 via bus 125, A[23:0], as well as cycle definition and command information (e.g., M/IO#, W/R#, SBHE#) from either CPU 120 or an ISA controller (not shown).”

interrupt request, and DMA request information to/from a peripheral device 130 via a bidirectional address-data bus...” ‘807, 4:58-60; ‘141, 4:62-64. These signal lines link the host platform to the peripheral devices across the interface. The host platform, therefore, is the interface circuitry that allows for these communications. The only time the term “host platform” does not appear as “host platform interface circuitry” is when it appears as “host platform interface device 831.” ‘807, 12:57; ‘141, 12:64. Reference numeral 831, however, refers to a peripheral device such that the “host platform interface device” is attached to the host platform, but is not the host platform itself. ‘807, 12:14, 17, 23, 26, 33; ‘141, 12:21, 24, 30, 33, 40. The court, therefore, finds that “host platform” must include interface circuitry.

Defendants’ attempt to read a requirement into the claims that the “host platform” is “electrically connected” to peripherals and a CPU is not persuasive. There is no support in the specification or the claims for an electrical connection. The terms “electrical,” “electric,” and “electronic” never even appear in the specification. Further, as discussed in the court’s previous construction of “host platform,” the “host platform” is connected to a CPU by a CPU or host bus and a peripheral device by a peripheral bus. *NVIDIA*, at 11-13.

Accordingly, the court adopts a modified version of its prior construction. The court defines “host platform” as **“interface circuitry to which a CPU is connected by a CPU or host bus and to which peripheral devices are connected by a peripheral bus.”**

## **2. “host system”**

The parties dispute whether “host system” is synonymous with “host platform” or whether the “host platform” is part of the “host system.” OPTi looks to this Court’s construction of “host” in the *NVIDIA* case to support its proposal. There, the Court noted that “the

specification uses “host” and “host platform interface circuitry 115” interchangeably.<sup>8</sup> The court, however, found that “host” was synonymous with “host platform,” not that “host system” was synonymous with “host platform.”

Defendants argue for an interpretation of “host system” that is broader than “synonymous with host platform.” Defendants point to the specification where Fig. 1 is described as having a “host side” and refers to “system DRAM” which is not part of the host platform interface circuitry. ‘807, 8:20; ‘141, 8:23. Defendants further point to the prosecution history of the ‘807 patent. Claim 46 as filed in the original ‘807 application used the term “said host platform.” Hsue Ex. 5, ‘807 Prosecution History, 9/4/97 Office Action at 4. Claim 46 depended from original claim 38, which used the term “host system.” *Id.* The PTO Examiner objected to the term “said host platform” in Claim 46 as lacking proper antecedent basis. *Id.* Defendants contend that the Examiner’s rejection is evidence that he did not equate the two terms. Furthermore, in response to the rejection, OPTi amended original claim 46 to replace the term “host platform” with “host system.” Hsue Ex. 6, ‘807 Prosecution History, 2/4/98 Response at 17. Although improper antecedent basis is not necessarily indicative of the Examiner’s interpretation of the term, the terms are different, and the court must construe the term as it appears in the patent. *Phillips v. AWK Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005); M.P.E.P. § 706.01 (objections are different from rejections and indicate a problem with a claim’s form, not its substance).

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<sup>8</sup> *NVIDIA*, at 13 (“*Host platform interface circuitry 115 asserts CMD# synchronously with the rising edge of ATCLK. Host can also optionally inhibit its ISA MRD#/MWR# lines.*” ‘141 7:55-58 (emphasis added); *see also* ‘141, 9:52-54, 10:1-5.).

The ordinary and customary meaning of a claim term “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.” *Phillips*, 415 F.3d at 1313. The plain meaning of the term “system” implies an aggregation of smaller parts, something that the term “platform” does not. Figure 1 of the LPC patents clearly shows a host side and a device side. Contained within the host side is the host platform interface circuitry, a CPU, a clock, an IRQ/DRQ generation circuit and multiple busses connecting different devices. ‘807, 4:53-5:12; ‘141, 4:57-16. The host side, therefore, is plainly different from the host platform. However, the term “host system” does not appear in the specification, but appears solely in the claims. Even if the patentee intended “host system” to be synonymous with “host platform,” the court cannot now rewrite the claim. “It is the job of the patentee, and not the court, to write patents carefully and consistently.” *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1373 (Fed. Cir. 2004).

The claim language guides the court’s conclusion of host system. “Host system” only appears in claim 1 of the ‘807 patent. The claimed “host system” does not communicate with components contained on the host side of the interface, but only with peripheral devices. *See* ‘807 patent, claim 1. Contrarily, the “host platform” explicitly communicates with the CPU and the IRQ/DRQ generation circuit, all of which exist on the host side of the interface. ‘807, 5:9-12, 10:60-65, 11:8-11, 11:23-28; ‘141, 5:13-16, 10:65-11;3, 11:13-17, 11:22-32. Where the “host platform” communicates with components on the host side and the “host system” only communicates with peripheral devices, “host system” and “host platform” cannot be the same. Similarly, Claim 18 of the ‘141 patent and its subsequent dependent claims do not claim any communications between the “host system” and the components contained on the host side.

Claim 1 of the '807 patent and claim 18 of the '141 patent disclose a method of interfacing a host system, synonymous with the host side shown in Figure 1, with a peripheral device. The “host system” contains at least a host platform and a CPU, but may contain other devices. The court has construed “host platform” as requiring a connection to a CPU whereas the “host system” actually contains a CPU. Accordingly, the court construes “host system” to mean **“at least a host platform and a CPU.”**

### **3. “peripheral device”**

The parties agree that a “peripheral device” is an add-on device, but dispute whether the add-on device must be on a bus, and if so, the type of bus. OPTi argues that the “peripheral devices” of the LPC patents must be peripheral devices on an I/O bus. Defendants contend that OPTi’s construction impermissibly reads details from the specification into the claims.

OPTi points to language in the background and abstract of the specification where the patent is directed to an I/O interface, compatible with industry standards, for interfacing a host to a peripheral device.<sup>9</sup> Defendants argue that nothing in the claims requires a particular type of bus. Defendants contend that the Summary of the Invention does not use the phrase “I/O bus” and even though the phrase may have been used in other parts of the specification, the claims do not specifically refer to an “I/O bus.” ‘807, 3:21-4:3; ‘141, 3:24-4:7.

The claims of the ‘807 patent only claim “a bus” and refer back to “said bus.” Additionally, when the patent claim requires a particular kind of bus it so provides.<sup>10</sup> For example, claim 1 of the ‘141 patent specifically states in part: “a plurality of signal lines

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<sup>9</sup> “The present invention, roughly described, is directed to an interface to be used between a host device and one or more peripheral devices.” ‘141 Patent, 3:24-27.

coupling the host platform to said peripheral device, said plurality of signal lines comprising: an *address-data bus* to carry in a multiplexed manner address information for a first cycle...”

The core of the invention requires that the peripheral devices are connected to some type of bus. ‘807, 3:33-44; ‘141, 3:38-47. The term “peripheral bus” entails the specific bus types contemplated by the specification and suggested by OPTi. Consistent with the construction of “host platform,” peripheral buses connect the host platform to the peripheral devices. Similarly here, the term “peripheral device” is construed to mean **“an add-on device on a peripheral bus.”**

#### 4. “coupling”

Coupling refers to the “plurality of signal lines” and the nature of the connection between the claimed multiplexed “address data buses” and the “host platform.” The parties dispute whether “coupling” refers to a direct connection between the host platform and signal lines or whether the connection must be done electronically.

There is nothing in the specification requiring an electrical connection. The terms “electrical,” “electric,” and “electronic” never even appear in the specification. The figures and the specification repeatedly show the host platform directly connected to peripheral devices by a plurality of signal lines. *See* Figs. 1 and 8; ‘807, 4:53-5:12, 7:14-17, 12:13-24, 13:23-27; ‘141, 4:57-5:16, 7:17-21, 12:20-30, 13:29-33. Defendants argue that the patentee explicitly used “directly” when necessary and used “coupling” when an indirect connection is permissible.<sup>11</sup>

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<sup>10</sup> “address data-bus” ‘807, claim 16; ‘141, claims 1-7, 10-11, 14, 17, 22.

<sup>11</sup> “Connecting speaker 895 directly to line 805 would cause the line to begin a transition when it was tri-stated. Therefore, speaker 895 should be further coupled with a high impedance input 892...” ‘807, 13:21-24.

Defendants' example, however, does not pertain to multiplexing which in the context of the claims, is the purpose of "coupling" a plurality of signal lines to the host platform. '807, 4:56-67; '141 4:60-5:4. Further, an indirect connection would not allow multiplexing to occur. Multiplexing requires streams of data to "take turns" using a common signal line. An indirect connection would interrupt this process. It is precisely the direct connection of the signal lines to the host platform that drives the number of pins whose reduction is a principal goal of the patent. Accordingly, the court construes the term "coupling" to mean "**directly connecting.**"

#### 5. "multiplexed/multiplexed manner"

The principal dispute is whether *each* signal line of the bus has to carry different types of information (Defendants' construction), or whether only *some common* signal lines carry the different types of information (OPTi's construction). The parties agree that multiplexing involves transmitting different types of information over a shared medium at different times, and that the shared medium is a bus.

Neither OPTi, nor defendants have shown reason to stray from the courts previous construction of "multiplexed/in a multiplexed manner." As compared to the parties' current dispute, the court's prior construction construed "multiplexed" as referring to "individual signal lines." *NVIDIA* at 18-19. OPTi now proposes that the term refers to "one or more common signal lines" while defendants propose "each signal line." Despite the parties' current contentions, in the Joint Claim Construction and Prehearing Statement, both parties asked the court to adopt its previous construction if choosing not to construe the term in accordance with their currently proposed constructions. Dkt. No. 186-2 at 2.

Accordingly, the court construes “multiplexed/multiplexed manner” as it did in the *NVIDIA* case as **“individual signal lines carry more than one type of specific information in a time interleaved manner (i.e., one specified type of information is carried at a first time and second specified type is carried at a second time).”**

#### **6. “interface/ an interface for interfacing”**

The parties dispute whether the “interface” includes circuitry. The parties further dispute what devices the “interface” connects and whether the connection is an electrical connection.

The preamble of claim 11 of the ‘141 patent recites an “interface for interfacing said [computer system device] with a second computer system device.” Defendants contend that in the context of this claim, the interface is the signal lines that electrically connect the elements. Defendants also point to language in the Abstract, which, states that “[t]he interface includes a clock signal, a bus, an address latch enable signal, peripheral device ready signal, a command signal, a device selected back-off signal, and a reset signal.” Defendants further contend that the detailed description calls for a set of distinct signal lines. ‘807, 4:57-5:9; ‘141:61-5:13. Defendants argue that these examples support a construction that includes sets of distinct signal lines.

The term “bus” means “a set of signal lines” and throughout the claims, the term “interface” refers to a bus *and*, in addition, distinct signal lines. Claim 11 of the ‘141 patent states that the “interface” comprises “an address-data bus.” Claim 16, which depends from claim 11, as well as claim 8 of the ‘807 patent refer to an “interface” comprising or further comprising

“a bus” *and* other signal lines.<sup>12</sup> OPTi attempts to read “circuitry” into the construction, but this limitation is not supported in the claims or the specification. All circuitry, other than the interface signal lines themselves, is in the devices, not the interface. ‘807 Claim 1 (“method of interfacing a host system with a peripheral device...”); Claim 8 (“interface structure for interfacing a host platform with a peripheral device...”); ‘141 Claim 18 (“method of interfacing a host system with a peripheral device...”); Claim 11 (“interface for interfacing said device with a second computer system device...”). The specification discloses that the host platform interface circuitry is coupled to the interface, not a part of the interface. ‘807, 7:14-17; ‘141, 7:17-21. Further, claim 11 only claims that the interface “carries” multiplexed information. The claim itself does not require the interface itself to perform any multiplexing function. ‘141 patent, claim 11. Plaintiff, therefore, attempts to include limitations not found in the claims. Accordingly, the court construes the term “interface/an interface for interfacing” to mean **“a bus for communicating between the host and peripheral devices.”**

**7. “DMA information”; “DMA request information”; DMA acknowledge information”**

The parties dispute whether the phrases “DMA information,” “DMA request information” and “DMA acknowledge information” actually have a hidden modifier such that *all* of the particular information is required. OPTi contends that only *some* of the DMA information

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<sup>12</sup> Claim 11 of the ‘141 patent states that the “interface” comprises “an address-data bus.” Claim 16 states that the interface *further* comprises “a clock signal line; an ALE signal line; an IOCHRDY signal line; a device selected backoff signal line; and a CMD# signal line.” (emphasis added). Claim 8 of the ‘807 patent refers to an “interface” comprising “a bus” *and* other signal lines (emphasis added).

is necessary whereas defendants contend that the claims refer to multiplexing DMA information, not just some DMA information.

In support of its construction, OPTi proposes this court construe these terms similar to the way the court construed “address information” in the *NVIDIA* case. In *NVIDIA*, the court found that the “address information” required just a part of an address, rather than an entire address. Dkt. No. 96 at 16-17. OPTi contends that the same rationale applies to DMA information. Claim 11 specifically recites that “DMA information” can include “either DMA request information or DMA acknowledge information.” OPTi contends that “either” indicates that some information may be omitted such that only some information is actually needed.

Defendants’ contention that claim 11 calls for all of the DMA information is not persuasive. The claim does not call for all of the DMA information, but only what is necessary for a particular operation. Defendants attempt to read limitations into the claim term in suggesting that because “DMA information” includes “either DMA request information or DMA acknowledge information,” it necessarily includes both. As OPTi correctly points out, some operations may require DMA request information or DMA acknowledge information such that some information may be omitted.

Accordingly, the court construes the term “DMA request information” to mean **“some or all of the information to effect a DMA transfer”**; “DMA request information” to mean **“some or all of the information to request a DMA transfer”**; and “DMA acknowledge information” to mean **“some or all of the information to acknowledge a DMA transfer.”**

## 8. “interrupt request information”

The parties request the court to construe “interrupt request information” in a fashion similar to its construction of “DMA information,” “DMA request information” and “DMA acknowledge information.” Accordingly, the court construes “interrupt request information” to mean **“some or all of the information to effect an interrupt request.”**

## 9. “second computer system device”

OPTi contends that “second computer system device” means “a peripheral device if and only if the (first) device is not a peripheral device.” Defendants contend that this term requires no construction.

Defendants’ objection to OPTi’s construction indicates a dispute between the parties over the term’s construction. The court must resolve disputes between parties regarding the proper scope of the claims. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 967 (Fed. Cir. 1995). The parties dispute the scope of the claim terms, not the meaning of the words themselves. “A determination that a claim term “needs no construction” or has the “plain and ordinary meaning” may be inadequate when a term has more than one “ordinary” meaning or when reliance on a term’s “ordinary” meaning does not resolve the parties’ dispute.” *O2 Micro Intern. Ltd. V. Beyond Innovation Technology Co., Ltd.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008). The court, therefore, will construe the term.

In support of its construction, OPTi argues that the term “device” broadly refers to any component of the computer, modifying the device or relying on context to indicate the type of device. The patent is directed to an interface to be used between a host device and one or more peripheral devices, and, in some instances, memory devices. ‘807 3:21-23; ‘141, 3:25-26. The

LPC patents, however, do not describe a system for communicating between peripheral devices as defendants would allow.

OPTi's finds support for its proposed construction in the specification such that the LPC patents are directed to an interface for interfacing a host to a peripheral device, and specifically not for interfacing two different peripheral devices. '807 3:21-23; '141, 3:25-26. Therefore, the court construes "second computer system device" to mean **"a peripheral device if and only if the (first) device is not a peripheral device."**

## VI. Conclusion

The court adopts the above definitions for those terms in need of construction. The parties are ordered that they may not refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the court.

SIGNED this 5th day of August, 2009.



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T. JOHN WARD  
UNITED STATES DISTRICT JUDGE