

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.,
Petitioner,

v.

LIONRA TECHNOLOGIES LIMITED,
Patent Owner.

IPR2023-01047
Patent 7,921,323 B2

Before PATRICK R. SCANLON, NATHAN A. ENGELS, and
STEVEN M. AMUNDSON, *Administrative Patent Judges*.

ENGELS, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Petitioner Cisco Systems, Inc., filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 27, 28, 31, and 33 of U.S. Patent No. 7,921,323 B2 (Ex. 1001, “the ’323 patent”). Patent Owner Lionra Technologies Limited filed a Preliminary Response. Paper 10 (“Prelim. Resp.”).

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the Petition and any response thereto shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Upon consideration of the Petition and the evidence of record, we determine Petitioner has demonstrated a reasonable likelihood of prevailing in establishing unpatentability of at least one claim of the ’323 patent. Accordingly, we institute *inter partes* review.

A. *Real Parties-in-Interest*

Petitioner identifies itself as the sole real party-in-interest. Pet. 85. Patent Owner identifies itself as the sole real party-in-interest. Paper 3, 2.

B. *Related Matters*

The parties identify the following related proceedings:
Lionra Techs. Ltd. v. Cisco Sys., Inc., No. 2:22-cv-305 (E.D. Tex.);
Lionra Techs. Ltd. v. Hewlett Packard Enters., 2:22-cv-319 (E.D. Tex.);
Lionra Techs. Ltd. v. Fortinet, Inc., No. 2:22-cv-322 (E.D. Tex.); and
Lionra Techs. Ltd. v. Palo Alto Networks, Inc., No. 2:22-cv-334 (E.D. Tex.).
Pet. 85; Paper 3, 2.

C. Illustrative Claim

Of the challenged claims, claims 27 and 33 are independent claims, and claim 27 is copied below with bracketed labels added to reflect those referenced in the Petition.

[27.1] A communications infrastructure, comprising two or more separate signal processing circuits,

[27.2] each one of said two or more signal processing circuits including multiple ASIC devices that each itself includes a packet router,

[27.3] said packet router of each one of said ASIC devices of each given one of said respective two or more signal processing circuits being coupled through respective first and second common interfaces and an intervening high speed serial optical link to a respective packet router of each of the ASIC devices of each other of said two or more signal processing circuits

[27.4] with no other processing device intervening between the high speed optical link and said ASIC devices of each of said two or more signal processing circuits.

D. Alleged Grounds of Unpatentability

Petitioner asserts that the challenged claims would have been unpatentable on the following grounds:

Claims Challenged	35 U.S.C. §	Reference(s)/Basis
27, 28, 31, 33	103(a) ¹	Hartsell ²
27, 28, 31, 33	103(a)	Hartsell, Hauck ³

¹ The '323 patent issued from an application filed before the Leahy-Smith America Invents Act ("AIA") revisions to 35 U.S.C. § 103 became effective. Therefore, we apply the pre-AIA version of § 103; however, our analysis would be the same under the AIA version of the statute.

² US 2002/0059274 A1; published May 16, 2002. Ex. 1005.

³ Huack, Scott; *The Roles of FPGA's in Reprogrammable Systems*; Proceedings of the IEEE Vol. 86, No. 4, pp. 615–38 (1998). Ex. 1030.

Claims Challenged	35 U.S.C. §	Reference(s)/Basis
27, 28, 31, 33	103(a)	Hartsell, Raj ⁴
27, 28, 31, 33	103(a)	Hartsell, Hauck, Raj

Pet. 13. Petitioner also supports its challenge with a Declaration of Daniel Blumenthal. Ex. 1003.

II. ANALYSIS

A. Discretionary Denial Under 35 U.S.C. § 314

Patent Owner’s Preliminary Response argues the Board should exercise its discretion to deny institution under 35 U.S.C. § 314 based on the parties’ related district-court litigation. Prelim. Resp. 1–12 (addressing the factors presented in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential)). Petitioner argues we should not exercise our discretion to deny under § 314. Pet. 78–82.

On balance, *Fintiv* factors 1–5 weigh in favor of discretionary denial under § 314. In particular, based on the most recent median time-to-trial statistics for the Eastern District of Texas, the district court’s projected trial date significantly precedes our projected deadline for a final written decision (factor 2). Also, the parties and district court are significantly invested in the district-court proceeding, as the record reflects that claim construction and fact discovery have been completed (factor 3). Petitioner’s proposed stipulation that it will “cease asserting in the co-pending litigation the combination of references on which trial is instituted for the claims on which trial is instituted, to the extent Petitioner even asserts the same combination in the district court” (Pet. 81) weighs against discretionary denial (factor 4), but this type of limited stipulation is not sufficient to outweigh factors 2 and

⁴ US 6,496,291 B1; issued Dec. 17, 2002. Ex. 1007.

3 on these facts. We next turn to the “compelling merits analysis” of *Fintiv* factor 6. *CommScope Techs. LLC. v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 (PTAB Feb. 27, 2022) (precedential).

As explained below, Petitioner presents claim-by-claim, limitation-by-limitation comparisons of each of claims 27, 28, 31, and 33 to the cited prior art, with extensive citations to the prior art and supporting testimony in the Declaration of Daniel Blumenthal. At this stage, Patent Owner has not rebutted any of the evidence or arguments presented in the Petition; Patent Owner’s Preliminary Response addresses only discretionary denial.

The Director’s guidance provides that “compelling, meritorious challenges will be allowed to proceed at the PTAB even where district court litigation is proceeding in parallel.” Katherine K. Vidal, *Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation* (June 21, 2022), available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf (“Interim Procedure”). “Compelling, meritorious challenges are those in which the evidence, if rebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.” *Id.* For the reasons explained below, we determine the Petition presents a compelling, meritorious challenge, and we therefore do not exercise our discretion to deny institution under § 314.

B. Petitioner’s Showings

Petitioner provides a claim-by-claim, limitation-by-limitation comparison of each of the challenged claims to the combinations of prior art listed above, citing supporting evidence in the Declaration of Daniel

Blumenthal (Ex. 1003). Below, we review Petitioner’s showings for claim 27 as illustrative of Petitioner’s assertions.

1. *Level of Ordinary Skill in the Art*

In determining the level of skill in the art, we consider the type of problems encountered in the art, the prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field. *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986); *Orthopedic Equip. Co. v. U.S.*, 702 F.2d 1005, 1011 (Fed. Cir. 1983).

Petitioner contends a person of ordinary skill in the art at the time of the invention would have had “a master’s degree in computer science, computer engineering, electrical engineering, or an equivalent training, and approximately four to six years of work experience in the field of communication networks.” Pet. 12. Petitioner also states that a lack of work experience can be remedied by additional education or vice versa. Pet. 12 (citing Ex. 1003 ¶ 22).

Patent Owner does not address the level of ordinary skill in its Preliminary Response. For the purposes of this Decision, we apply Petitioner’s level of ordinary skill, which is consistent with the level reflected by the ’323 patent and the asserted prior art.

2. *Claim Construction*

We construe claims using the principles set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc) and related cases. *See* 37 C.F.R. § 42.100(b) (2023). Under that precedent, the words of a claim are generally given their “ordinary and customary meaning,” which is the meaning the term would have to a person of ordinary skill in the art at

the time of the invention, in the context of the entire patent including the specification. *Phillips*, 415 F.3d at 1312–13.

Petitioner addresses the language “signal processing circuits including multiple ASIC devices” of claims 27 and 31, stating that the ’323 patent states that ASIC devices include “Field Programmable Gate Arrays (‘FPGAs’) or other field programmable devices (‘FPDs’) or programmable logic devices (‘PLDs’).” Pet. 12 (citing Ex. 1001, 2:45–50). Petitioner also states that the ’323 patent identifies Xilinx Virtex-II Pro XC2VP50 FPGA devices as a commercially available example of an ASIC device. Pet. 12–13.

Patent Owner does not address claim interpretation. At this stage, we determine that it is unnecessary to construe any terms, although we preliminarily agree with Petitioner that the ’323 patent identifies FPGAs as a type of ASIC device. *See* Ex. 1001, 2:45–48; *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

3. *Alleged Obviousness of Claim 27 over Hartsell*

a) *[27.1] A communications infrastructure, comprising two or more separate signal processing circuits,*

Petitioner contends Hartsell teaches a content delivery system that includes network interconnections and multiple processing modules operating as content delivery engines. Pet. 16–23. Petitioner summarizes its showings for this recitation as follows:

Hartsell’s teaching of content delivery system 1010 coupled to a network (*communications infrastructure*) including two

transport processing engines 1050 (alone or together with network interface processing engines 1030) that each employ respective processor modules to allow independent operation from other system engines (*comprising two or more separate signal processing circuits*) renders obvious this limitation.

Pet. 23 (citing Ex. 1003 ¶ 75).

Petitioner's showings are unrebutted at this stage, and on the current record, Petitioner has adequately shown that Hartsell satisfies this recitation.⁵

b) [27.2] *each one of said two or more signal processing circuits including multiple ASIC devices that each itself includes a packet router,*

Petitioner contends Hartsell discloses two transport processing engines (*signal processing circuits*) that each include a plurality of processor modules, each of which includes an FPGA (*ASIC device*), each of which includes a packet router. Pet. 24, 35 (citing Ex. 1003 ¶¶ 72, 76, 91). Petitioner additionally presents detailed explanations with extensive citations to Hartsell and the Blumenthal Declaration. Pet. 24–40.

Petitioner's showings are unrebutted at this stage, and on the current record, Petitioner has adequately shown that Hartsell satisfies this limitation.

⁵ Because Petitioner has sufficiently shown that Hartsell teaches the “communications infrastructure” recited in the preamble, we need not determine whether the preamble is limiting at this stage of the proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

- c) [27.3] said packet router of each one of said ASIC devices of each given one of said respective two or more signal processing circuits being coupled through respective first and second common interfaces and an intervening high speed serial optical link to a respective packet router of each of the ASIC devices of each other of said two or more signal processing circuits*

Petitioner contends Hartsell teaches that each of its processor modules includes a packet router for routing requests and data between the transport processing engines, with an intervening high speed serial link between the processor modules. Pet. 41–43 (citing Ex. 1003 ¶¶ 100–102; Ex. 1005 ¶¶ 143–144, Figs. 1C’, 1C’’). Petitioner also provides additional details (and alternative theories intended to address potential arguments and claim interpretations from Patent Owner), with extensive citations to Hartsell and the Blumenthal Declaration. Pet. 41–46.

Petitioner’s showings are unrebutted at this stage, and on the current record, Petitioner has adequately shown that Hartsell satisfies this limitation.

- d) [27.4] with no other processing device intervening between the high speed optical link and said ASIC devices of each of said two or more signal processing circuits.*

Petitioner contends Hartsell renders obvious interconnections with no other processing device between each processing module. Pet. 47 (citing Ex. 1003 ¶ 110). Petitioner also provides additional details (and alternative theories intended to address potential arguments and claim interpretations from Patent Owner), with extensive citations to Hartsell and the Blumenthal Declaration. Pet. 47–48.

Petitioner’s showings are unrebutted at this stage, and on the current record, Petitioner has adequately shown that Hartsell satisfies this limitation.

e) Conclusion Regarding Claim 27

Having reviewed the arguments and evidence presented for claim 27, including unrebutted testimony in the Blumenthal Declaration, we determine the evidence of record, if unrebutted at trial, would plainly lead to a conclusion of unpatentability such that it is highly likely that Petitioner would prevail with respect to claim 27. *See OpenSky Indus., LLC v. VLSI Tech. LLC*, IPR2021-01064, Paper 102, 49–50 (PTAB Oct. 4, 2022) (precedential) (“A challenge can only ‘plainly lead to a conclusion that one or more claims are unpatentable’ if it is highly likely that the petitioner would prevail with respect to at least one challenged claim.” (quoting Interim Procedure 4)). The Petition, therefore, presents a compelling, meritorious challenge, which also meets the reasonable-likelihood-of-success standard required for institution.

4. Remaining Unpatentability Challenges

Petitioner additionally presents contentions comparing each limitation of claims 28, 31, and 33 to the teachings of Hartsell, with additional citations to the Blumenthal Declaration. Pet. 49–54. Petitioner also presents comparisons of each limitation of claims 27, 28, 31, and 33 to the teachings of Hartsell in combination with Hauck and Raj, along with reasons for combining the references. Pet. 54–77.

On the current record, Patent Owner does not rebut Petitioner’s showings.

III. CONCLUSION

For the reasons set forth above, we determine that Petitioner has demonstrated a reasonable likelihood that it will prevail with respect to at least one of claims 27, 28, 31, and 33 of the ’323 patent. We institute on all

claims and all grounds raised in the Petition. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018); 37 C.F.R. § 42.108(a) (“When instituting . . . review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”).

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review is instituted as to claims 27, 28, 31, and 33 of the ’323 patent on each of the grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the ’323 patent shall commence on the entry date of this Decision, and notice is hereby given of the institution of a trial.

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