

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FLEX LOGIX TECHNOLOGIES, INC.,
Petitioner,

v.

VENKAT KONDA,
Patent Owner.

IPR2020-00262
Patent 8,269,523 B2

Before SALLY C. MEDLEY, THOMAS L. GIANNETTI, and
JO-ANNE M. KOKOSKI, *Administrative Patent Judges*.

GIANNETTI, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

Flex Logic Technologies, Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1, 15–18, 20–22, 32, and 47 (the “challenged claims”) of U.S. Patent No. 8,269,523 B2 (Ex. 1001, the “’523 patent”). Paper 1 (“Pet.”). Patent Owner Venkat Konda filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). With our authorization, Petitioner filed a reply addressing certain issues raised in the Preliminary Response. Paper 10 (“Reply”). Also with our authorization, Patent Owner filed a Sur-reply. Paper 14 (“Sur-reply”).

The standard for institution is set forth in 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted unless the information presented in the Petition and the Preliminary Response shows that “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314; *see also* 37 C.F.R § 42.4(a) (“The Board institutes the trial on behalf of the Director.”).

For the reasons that follow, we exercise our discretion under 35 U.S.C. § 325(d) and *deny* the Petition to institute *inter partes* review of the challenged claims of the ’523 patent.

A. Related Proceedings

Petitioner identifies the following district court proceeding involving the ’523 patent: *Konda Technologies Inc. v. Flex Logix Technologies, Inc.*, No. 5:18-cv-07581 (N.D. Cal.). Pet. 2.

In addition, the '523 patent is challenged by the Petitioner in two other *inter partes* reviews: IPR2020-00260 and IPR2020-00261. Pet. 3–4. Also, two post grant review proceedings brought by the Petitioner challenging a related patent (U.S. Patent No. 10,003,553) are pending: PGR2019-00037, and PGR2019-00042. *Id.* at 3. A third petition for post grant review of that related patent (PGR2019-00040) was denied. *Id.*

Patent Owner identifies also a pending application to reissue the '523 patent: U.S. Patent Application No. 16/202,067, filed November 27, 2018. Paper 4, 2.

B. Real Parties-in-Interest

Petitioner identifies Flex Logix Technologies, Inc. as the real party-in-interest. Pet. 2. Patent Owner identifies himself, Venkat Konda, as the real party-in-interest. Paper 4, 2.

C. The '523 Patent

The '523 patent is titled “VLSI Layouts of Fully Connected Generalized Networks.” Ex. 1001, (54). According to the patent, multi-stage interconnection networks are widely useful in telecommunications, parallel and distributed computing. *Id.* at 2:25–27. However VLSI (Very Large Scale Integration) layouts, known in the prior art, of these interconnection networks in an integrated circuit are inefficient and complicated. *Id.* at 2:28–30.

The most commonly-used VLSI layout in an integrated circuit is based on a two-dimensional grid model comprising only horizontal and vertical tracks. *Id.* at 2:40–42. The '523 patent describes VLSI layouts of generalized multi-stage networks for broadcast, unicast, and multicast

connections using only horizontal and vertical links. *Id.* at 3:21–24. The VLSI layouts employ shuffle exchange links, where outlet links of cross links from switches in a stage in one sub-integrated circuit block are connected to inlet links of switches in the succeeding stage in another sub-integrated circuit block. *Id.* at 3:24–28. The cross links are either vertical links or horizontal, and vice versa. *Id.* at 3:28–29.

In one embodiment the sub-integrated circuit blocks are arranged in a hypercube arrangement in a two-dimensional plane. *Id.* at 3:29–31. The VLSI layouts exploit the benefits of significantly lower cross points, lower signal latency, lower power, and full connectivity with significantly fast compilation. *Id.* at 3:31–34.

D. Illustrative Claims

Claims 1, 15–18, 20–22, 32, and 47 are challenged in the Petition. *See supra.* Claim 1 is the only independent claim. Claim 1 recites:

1. An integrated circuit device comprising a plurality of sub-integrated circuit blocks and a routing network, and

Said each plurality of sub-integrated circuit blocks comprising a plurality of inlet links and a plurality of outlet links; and

Said routing network comprising of a plurality of stages y , in each said sub-integrated circuit block, starting from the lowest stage of 1 to the highest stage of y , where $y \geq 1$; and

Said routing network comprising a plurality of switches of size $d \times d$, where $d \geq 2$, in each said stage and each said switch of size $d \times d$ having d inlet links and d outlet links; and

Said plurality of outlet links of said each sub-integrated circuit block are directly connected to said inlet links of said

switches of its corresponding said lowest stage of 1, and said plurality of inlet links of said each sub-integrated circuit block are directly connected from said outlet links of said switches of its corresponding said lowest stage of 1; and

Said each sub-integrated circuit block comprising a plurality of forward connecting links connecting from switches in a lower stage to switches in its immediate succeeding higher stage, and also comprising a plurality of backward connecting links connecting from switches in a higher stage to switches in its immediate preceding lower stage; and

Said each sub-integrated circuit block comprising a plurality straight links in said forward connecting links from switches in said each lower stage to switches in its immediate succeeding higher stage and a plurality cross links in said forward connecting links from switches in said each lower stage to switches in its immediate succeeding higher stage, and further comprising a plurality of straight links in said backward connecting links from switches in said each higher stage to switches in its immediate preceding lower stage and a plurality of cross links in said backward connecting links from switches in said each higher stage to switches in its immediate preceding lower stage,

said plurality of sub-integrated circuit blocks arranged in a two-dimensional grid of rows and columns, and

said all straight links are connecting from switches in each said sub-integrated circuit block are connecting to switches in the same said sub-integrated circuit block; and said all cross links are connecting as either vertical or horizontal links between switches in two different said sub-integrated circuit blocks which are either placed vertically above or below, or placed horizontally to the left or to the right,

each said plurality of sub-integrated circuit blocks comprising same number of said stages and said switches in each

said stage, regardless of the size of said two-dimensional grid so that each said plurality of sub-integrated circuit block with its corresponding said stages and said switches in each stage is replicable in both vertical direction or horizontal direction of said two-dimensional grid.

Ex. 1001, 35:23–36:13.

E. References and Other Evidence

The Petition relies on one reference: U.S. Patent No 6,940,308, issued September 6, 2005 (Ex. 1008, “Wong”). Pet. 5.

In addition, Petitioner submits the Declaration of Jacob Baker, Ph.D., P.E. (Ex. 1002, “Baker Decl.”).

F. Asserted Grounds of Unpatentability

Petitioner asserts the challenged claims are unpatentable on the following grounds.

Claims Challenged	Statutory Basis¹	References
1, 20, 21, 22	35 U.S.C. § 102	Wong
15–18, 32, 47	35 U.S.C. § 103	Wong

Pet. 5.

**II. PATENT OWNER’S REQUEST FOR DENIAL OF THE PETITION
UNDER 35 U.S.C. § 325(D)**

A. Background

Patent Owner asks the Board to deny the Petition under 35 U.S.C. § 325(d) because “the same prior art or arguments were previously considered by the Office.” Prelim. Resp. 40. Specifically, Patent Owner

¹ Because the application from which the ’523 patent issued was filed before March 16, 2013, citations to 35 U.S.C. §§ 102 and 103 are to their pre-AIA versions. Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29.

asserts that the prior art relied on by Petitioner, namely, Wong, “was previously considered and distinguished during prosecution of the application for the ‘523 Patent.” *Id.* Patent Owner relies on the Board’s precedential decision in *Becton, Dickinson and Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017). *Id.* at 41.

Petitioner acknowledges that “the Examiner cited *Wong* for claim rejections during prosecution of the ’275 application that ultimately issued as the ’523 patent.” Pet. 105. Nevertheless, Petitioner contends “the manner in which Petitioner relies on *Wong* has minimal or no overlap with the arguments made during examination of the ’275 application. That is because . . . the Examiner simply erred in allowing the application after the applicant added limitations via amendment.” *Id.* Specifically, Petitioner claims “the Examiner apparently did not recognize the relevance of portions of the *Wong* reference with respect to the limitations that the applicant added.” *Id.* at 105–106. Petitioner adds: “[T]he present Petition is supported by expert testimony that was not before the Examiner.” *Id.* at 106 (citing Baker Decl.).

B. Analysis

Section 325(d) of 35 U.S.C. provides that the Director may elect not to institute a proceeding if the challenge to the patent is based on matters previously presented to the Office. *Advanced Bionics, LLC v. Med-El Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 7 (PTAB Feb. 13, 2020) (precedential)². In an analysis under § 325(d), the starting

² The Board institutes trial on behalf of the Director. 37 C.F.R. § 42.4(a); *Advanced Bionics*, Paper 6 at 7 n.7.

point is the two-part framework set forth in *Advanced Bionics*:

(1) determining whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of the first part of the framework is satisfied, determining whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims. *Id.* at 8.

We must also consider the non-exclusive factors as set forth in *Becton, Dickinson*, which “provide useful insight into how to apply the framework” under § 325(d). *Advanced Bionics*, Paper 6 at 9. Those non-exclusive factors include:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;
- (b) the cumulative nature of the asserted art and the prior art evaluated during examination;
- (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
- (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;
- (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and
- (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson, Paper 8 at 17–18. “If, after review of factors (a), (b), and (d), it is determined that the same or substantially the same art or arguments previously were presented to the Office, then factors (c), (e), and (f) relate to

whether the petitioner has demonstrated a material error by the Office.”

Advanced Bionics, Paper 6 at 10.

As discussed *supra*, there is no dispute that Wong was previously presented to the Office. Pet. 105. Thus, the first criterion of the *Advanced Bionics* framework (same art or arguments) is met. *Advanced Bionics*, Paper 6 at 7–8 (“Previously presented art includes art made of record by the Examiner.”).

The second inquiry in the *Advanced Bionics* framework asks whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims. *Advanced Bionics*, Paper 6 at 8–9. *Becton, Dickinson* asks us also to consider the extent to which the asserted art was evaluated during examination, as well as the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art. *Becton, Dickinson*, Paper 8 at 17–18 (factors (c) and (d), *supra*).

Patent Owner points out that “all the claims 1– 49 were rejected by the Examiner during the prosecution of the application for the ’523 Patent either as being anticipated or obvious over Wong.” Prelim. Resp. 42. Thus, according to Patent Owner, “Wong was fully considered and distinguished during the prosecution of the application for the ’523 Patent.” *Id.*

We agree (and Petitioner does not dispute) that during prosecution of the ’523 patent, Wong was applied by the Examiner as a basis for a rejection that was overcome by the Patent Owner. Pet. 105. *Becton, Dickinson* factor (c), therefore, favors denial of the Petition.

However, Petitioner argues that “[t]he manner in which Petitioner relies on Wong has minimal or no overlap” with the arguments made during examination. *Id.* (see *Becton, Dickinson* factor (d)). Also, Petitioner argues that “the Examiner simply erred in allowing the application after the applicant added limitations via amendment.” *Id.* (see *Becton, Dickinson* factor (e)).

We have considered these arguments and find them unpersuasive. The alleged “error” by the Examiner, as well as the assertion of “minimal or no overlap,” both relate to a recitation in the claims requiring that “all of the straight links on the network connect switches within the same sub-integrated circuit block.” Pet. 67, 105–106. Petitioner contends this limitation (identified by Petitioner as limitation 1(j)) is shown in Wong’s Figures 13A and 13B. *Id.* at 67–76. Petitioner acknowledges that during prosecution, Patent Owner argued that Wong does not disclose this feature, but argues that its characterization of Wong was “incorrect.” *Id.* at 76. More specifically, Petitioner “disagrees with the applicant’s grouping of the plurality of rows of switches in figure 13A together to form a single ‘sub-integrated circuit block,’ as such a grouping is inconsistent with how a [person of ordinary skill] would have understood ‘sub-integrated circuit block’ in view of the disclosure of the ’523 patent.” *Id.* at 78.

Petitioner makes similar arguments of error by the Examiner regarding the recitation in the claims (identified as limitation 1(k)) that each of the sub-integrated circuit blocks has the same configuration and is “replicable.” *Id.* at 79–86, 105–106. Petitioner contends that Patent Owner “misrepresented” Wong:

Petitioner anticipates that PO may argue that the sub-integrated circuit blocks of Wong are not replicable in the vertical (row) dimension of the two dimensional grid, similar to PO's argument during prosecution that in Wong "[i]t is clear as the network is scaled up, only columns are increasing." *But PO misrepresented the disclosure of Wong during prosecution*, as Wong explicitly discloses that scaling up of the network can result in increased numbers of both columns and rows (i.e., both vertical and horizontal scaling.)

Id. at 84 (emphasis added) (citation omitted).

We do not consider these to be a sufficient showing of "a material error by the Office" under *Advanced Bionics*. Petitioner's arguments amount to a disagreement with Patent Owner over the application of Wong to these features of the claims. Nothing about Wong was concealed from the Examiner. The Examiner considered Wong, as well as Patent Owner's arguments, and ultimately made a determination that the claims were patentable. Ex. 1004, 57, 92. As cautioned by *Advanced Bionics*, "[i]f reasonable minds can disagree regarding the purported treatment of the art or arguments, it cannot be said that the Office erred in a manner material to patentability." *Advanced Bionics*, Paper 6 at 9. *Advanced Bionics* goes on to explain the rationale for this rule: "At bottom, this framework reflects a commitment to defer to previous Office evaluations of the evidence of record unless material error is shown." *Id.* Having considered the record presented to the Examiner in light of Petitioner's arguments, we are not persuaded of material Examiner error.

The applicant's arguments to the Examiner that Wong lacks the disclosure of a "sub-integrated circuit block" or that it is "replicable" are not unreasonable and were considered by the Examiner, who ultimately allowed

the '523 patent to issue. Ex. 1004, 94. We are not persuaded that in allowing the '523 patent, the Examiner misapprehended or overlooked the teachings of Wong. *Advanced Bionics*, Paper 6 at 8, n.9.

In summary, we determine that applying the two-part framework of *Advanced Bionics* and considering *Becton*, *Dickinson* factors (a) through (f), we are persuaded to deny the Petition under 35 U.S.C § 325(d).

III. CONCLUSION

We deny the Petition and do not institute trial as to any challenged claims on grounds stated in the Petition.

IV. ORDER

Upon consideration of the record before us, it is:

ORDERED that *inter partes* review of claims 1, 15–18, 20–22, 32, and 47 of the '523 patent is *denied* and no trial is instituted.

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