

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CORNING INCORPORATED,
Petitioner,

v.

PANDUIT CORP.,
Patent Owner.

IPR2019-00776
Patent 8,488,115 B2

Before KRISTINA M. KALAN, MICHELLE N. ANKENBRAND, and
DEBRA L. DENNETT, *Administrative Patent Judges*.

DENNETT, *Administrative Patent Judge*.

DECISION

Denying Petitioner's Request for Rehearing of Decision
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.71(d)

I. INTRODUCTION

On October 16, 2019, Corning Incorporated (“Petitioner”) filed a Request for Rehearing (Paper 16, “Rehearing Request” or “Reh’g Req.”) of our Decision denying institution of an *inter partes* review (Paper 15, “Decision” or “Dec.”) of claims 1–4 of U.S. Patent No. 8,488,115 B2 (Ex. 1001, “the ’115 patent”). In the Decision, we found that Petitioner failed to provide sufficient evidence to show that the choosing limitation of the claims would have been obvious over cited references in view of the knowledge of one of ordinary skill in the art. Dec. 20, 26, 29. We, thus, found that Petitioner did not establish a reasonable likelihood of prevailing in showing that claims 1–4 of the ’115 patent are unpatentable as obvious on any asserted ground. *Id.* at 22, 23, 27–30.

We deny the Rehearing Request for the reasons set forth below.

II. REQUEST FOR REHEARING

When considering a request for rehearing from a decision whether to institute *inter partes* review, the Board reviews its decision for an abuse of discretion. 37 C.F.R. § 42.71(c) (2018). In pertinent part, 37 C.F.R. § 42.71(d) states:

The burden of showing a decision should be modified lies with the party challenging the decision. The request must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in a motion, an opposition, or a reply.

Thus, a request for rehearing is not an opportunity merely to disagree with the Board’s assessment of the arguments or weighing of the evidence, or to present new arguments or evidence.

Petitioner requests rehearing of our Decision based on two sets of arguments: first, the Board misapprehended or overlooked substantial

evidence that the prior art discloses a negative Differential Modal Delay (“DMD”) slope and/or improperly construed an independent claim more narrowly than the dependent claims (Reh’g Req. 3–10); and, second, the Board misapprehended or overlooked substantial evidence of obviousness in choosing an optical fiber based on having a negative DMD slope (*id.* at 11–15).

We have reviewed Petitioner’s Rehearing Request and carefully considered all the arguments presented. For the following reasons, we are not persuaded that we misapprehended or overlooked any arguments or evidence.

III. DISCUSSION

A. Petitioner’s First Set of Arguments

Petitioner argues that we misapprehended or overlooked dispositive evidence that “each of Abbott,^[1] Gholami I,^[2] and Gholami II^[3] discloses and advocates for [multimode fibers (‘MMFs’)] having a negative DMD slope between some radii” or “committed legal error by construing claim 1 of the ’115 patent to require the DMD slope to *always* be negative.” Reh’g Req. 4.

Claim 1 of the ’115 patent requires, *inter alia*, “choosing . . . those optical fibers in which the result of subtracting the pulse delay at the first

¹ U.S. Patent No. 6,434,309 B1, issued Aug. 13, 2002 (Ex. 1006).

² Asghar Gholami et al., *Modal and Chromatic Dispersions Interference in VCSEL & MMF Based Gigabit Ethernet Link*, presented at Optical Fiber Commc’n Conference & Exhibition/Nat’l Fiber Optic Engineers Conference (Mar. 2009) (Ex. 1007).

³ Asghar Gholami et al., *Compensation of Chromatic Dispersion by Modal Dispersion in MMF- & VCSEL-Based Gigabit Ethernet Transmissions*, IEEE Photonics Tech. Letters J. (May 2009) (Ex. 1008).

radius from the pulse delay at the second radius is a negative number.” Ex. 1002, 6:39–42. Petitioner rotated, inverted, and annotated Abbott’s Figure 3, a DMD profile curve of a multimode optical fiber measured at 850 nm, to produce a graph with a negative slope for most (but not all) of the data. *Compare* Pet. 40–41, with Ex. 1006, Fig. 3. However, Petitioner failed to explain why the ordinarily skilled artisan, in possession of the original disclosure in Abbott, would have manipulated the data in such a manner, save for improper hindsight reconstruction. *See* Dec. 20–22. In addition, Petitioner’s choice to manipulate Abbott’s Figure 3, showing data at a wavelength of 850 nm, is telling in that the same manipulation to Abbott’s Figure 2, showing data at a wavelength of 1300 nm, would *not* result in a negative slope. *See* Ex. 1006, Fig. 2. Yet, Petitioner also identified Abbott’s disclosure relating to a DMD profile measured at 1300 nm as supporting its position. *See* Pet. 37, 40. Moreover, Petitioner contended: “As exhibited by *Figures 2 and 3* of Abbott, the preferred embodiment of Abbott would *always* have a negative DMD slope when measured at a 850 nm wavelength.” *Id.* at 40 (emphasis added).

Abbott discloses DMD profile curves with positive, neutral, and negative slopes. *See* Ex. 1006, Figs. 2, 3. Petitioner failed to explain why one of ordinary skill in the art at the time of the invention, without using the ’115 patent as a template, would have elected to consider only some selected data in Abbott, while ignoring other data, or would have elected to *choose* an optical fiber based on such consideration. *See Sensonics Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1570 (Fed. Cir. 1996) (“To draw on hindsight knowledge of the patented invention, when the prior art does not contain or suggest that knowledge, is to use the invention as a template for

its own reconstruction—an illogical and inappropriate process by which to determine patentability.” (citing *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983))). Instead, Petitioner merely cited to the conclusory opinion of its expert declarant. Pet. 42 (citing Ex. 1005 ¶ 252).

Petitioner’s arguments on rehearing regarding Gholami I and Gholami II fare no better, as they, like the Petition, require the skilled artisan to have known in advance that he or she is looking to achieve the choosing limitation of claim 1. See Reh’g Req. 4–6; see also Pet. 58–59, 72 (“[I]t would have been obvious to a POSITA to choose . . . those optical fibers in which the results of subtracting the pulse delay at the first radius from the pulse delay at the second radius is a negative number in order to obtain the improved system performance Gholami I [or II] describes.”). In the Petition, Petitioner argued in relation to Figure 3(b) of Gholami I that “[w]hen DMD measurements are presented visually, the left-or-right leaning DMD slope is readily apparent.” Pet. 55.

Figure 3(b) of Gholami I is reproduced below:

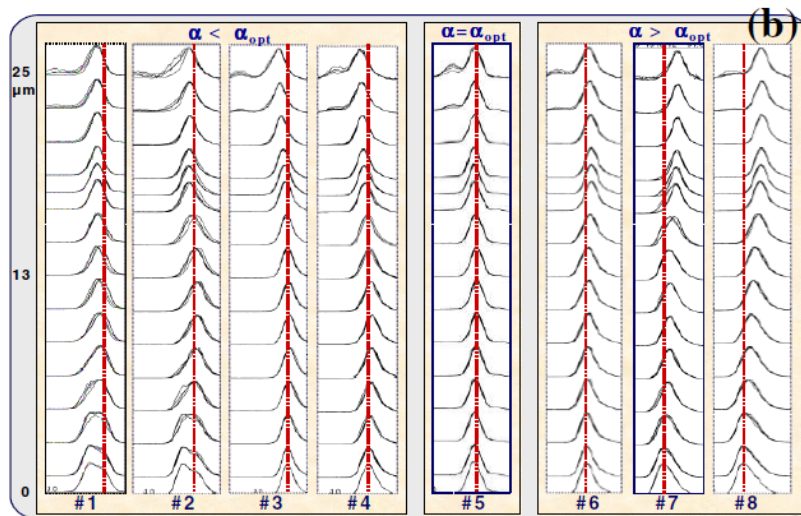


Figure 3(b) shows DMD plots of the fibers. Ex. 1007, 3. On the evidence presented, we did not agree that any left-leaning DMD slope “is readily

apparent.” See Dec. 27. Moreover, Gholami I does not equate a “left-leaning” DMD slope with any improvement. See generally Ex. 1007. Instead, Gholami I states: “Fig. 3(b) shows the DMD plots measured for MMFs #1 to #4 with $\alpha < \alpha_{\text{optimum}}$ and for MMFs #6 to #8 with $\alpha > \alpha_{\text{optimum}}$,” and “MMFs #1 to #4 with $\alpha < \alpha_{\text{optimum}}$ exhibit lower penalties ($\sim 2\text{dB}$) than MMFs #6 to #8 with $\alpha > \alpha_{\text{optimum}}$.” *Id.* at 3. Gholami I concludes:

[M]odal and chromatic dispersions interact with each other when MMFs are used with transversally multimode VCSELs (Vertical Cavity Surface Emitting Lasers). For a particular VCSEL, it is possible to design a MMF for which the modal dispersion compensates for the chromatic dispersion, resulting in better system performances. Because of this effect, when transmission distances and/or bit-rates increase, *no clear correlation between EMBc and power penalties is observed.*

Id. (emphasis added). Despite Petitioner’s contention in the Petition that, in certain cases an MMF with $\alpha < \alpha_{\text{optimum}}$ equates to a negative DMD slope “for which the result of subtracting the pulse delay at the first radius from the pulse delay at the second radius is a negative number” (see Reh’g Req. 6; Pet. 57–58), Petitioner provided no substantive evidence from which we could draw such a conclusion. As we explained in our Decision, the conclusory opinion of Petitioner’s declarant is insufficient to support this assertion. See Dec. 26–27 (Petitioner relies on conclusory statements from Dr. Ralph to bridge gaps in Gholami I’s disclosures and fails to provide sufficient evidence to support its argument).

Our findings and reasoning here, and in the Decision, apply equally to Petitioner’s arguments on rehearing based on Gholami II because Petitioner’s arguments on rehearing are the same for Gholami I and Gholami II. Reh’g Req. 5–6 (not differentiating between Gholami I and Gholami II);

see id. at 6 n.1 (“Figure 7(b) of Gholami II is essentially identical to Figure 3(b) of Gholami I.”).

The second part of Petitioner’s first argument is that we “committed legal error by construing claim 1” of the ’115 patent “as requiring the slope to ***always*** be negative.” Reh’g Req. 4, 6–8. We made no such construction, either expressly or implicitly. In fact, we determined that no claim term required express construction. Dec. 7. In arguing that we committed legal error, Petitioner points to statements in Patent Owner’s briefing (Reh’g Req. 6–9), but Petitioner identifies nothing in our Decision that indicates we construed the “choosing” limitation of claim 1 to require that the DMD slope always be negative. Consequently, Petitioner’s assertion of legal error is unsupported.

Petitioner also argues that we “misapprehended [its] argument that ‘the preferred embodiment of Abbott would always have a negative DMD slope when measured at an 850 nm wavelength.’” Reh’g Req. 9 n.3. Petitioner “clarifies” in the Rehearing Request that its “statement [in the Petition] was in the context of the ’115 Patent’s preferred metric at 9 and 15 microns.” *Id.* (citing Pet. 39–41). However, the Petition states, “As exhibited by Figures 2 and 3 of Abbott, the preferred embodiment of Abbott would always have a negative DMD slope when measured at a 850 nm wavelength.” Pet. 40. We find nothing to support that we misapprehended Petitioner’s unambiguous—if incorrect—statement in the Petition. To the extent that Petitioner is making an argument not stated in the Petition, a request for rehearing is not an opportunity to present new arguments.

Accordingly, Petitioner does not persuade us that we should grant a request for rehearing based on its first set of arguments.

B. Petitioner's Second Set of Arguments

Petitioner next argues that we misapprehended or overlooked substantial evidence of obviousness in choosing an optical fiber based on the fiber having a negative DMD slope. Reh'g Req. 11. Petitioner contends that it "identified substantial evidence as to why it would have been obvious to a POSITA to 'choose[] . . . those optical fibers in which the result of subtracting the pulse delay at the first radius from the pulse delay at the second radius is a negative number,'" as recited in claim 1. *Id.* Petitioner argues that "nothing in the claims precludes the use of **additional** fiber-selection criteria." *Id.* at 12 (citing Reply 4–5). First, as addressed above, we did not construe the claims to require that the DMD slope must always be negative. Further, although we agree with Petitioner that the claims do not preclude the use of additional fiber-selection criteria, we are not persuaded that we misapprehended any evidence that the "choosing" limitation of the claims would have been obvious. A request for rehearing is not an opportunity to disagree with the Board's weighing of the evidence or assessment of the arguments. Here, Petitioner does not direct us to anything in the record to support that we misapprehended or overlooked substantial evidence in our Decision.

Petitioner argues: (1) the prior art it cited is relevant to the technology of the '115 patent; (2) there is a direct relationship between an MMF's refractive index profile and its DMD slope; (3) Abbott explicitly advocates for an MMF having a negative slope; and (4) Gholami I and II advocate that MMFs having a refractive index profile $\alpha < \alpha_{\text{optimum}}$ provide better system performance. Reh'g Req. 12–15.

With regard to argument (1), we agree that Petitioner's cited prior art concerns technology relevant to the '115 patent. Relevance of prior art, however, does not make the "choosing" limitation obvious.

With regard to argument (2) we also agree that the '115 patent states that the DMD shift "can be related to the refractive index profile in MMF and can, therefore, be used to optimize the design of MMF to achieve improved performance." Dec. 4 (citing Ex. 1002, 2:59–62). There, however, our agreement ends. We do not agree with Petitioner's argument (3) that Abbott explicitly advocates for an MMF having a negative slope. See Reh'g Req. 13–14. Abbott discloses that, in an aspect, its "invention relates to a multimode optical fiber having a 62.5 μm core, and a cladding bounding the core." Ex. 1006, 4:21–23. Abbott further states:

[T]he multimode optical fiber exhibits a DMD profile, which when measured at a wavelength of 1300 nm, includes a first region having an average slope measured from $(r/a)^2=0.0$ to 0.25, and a second slope region having an average slope measured from $(r/a)^2=0.25$ to 0.50. The slope for the first region is preferably greater than the slope of the second region.

Id. at 4:24–30. Abbott discloses scanning a pulse from a single mode optical fiber radially across a multimode fiber core and measuring the output pulse and mean delay time for pulses launched at different outset positions with respect to the core of the multimode fiber. *Id.* at 7:45–52. Abbott defines "r" as "the radial offset of the single mode fiber relative to the center of the multimode core," and "a" as "the radius of the core of the multimode fiber." *Id.* at 7:51–59. Thus, Abbott relates that the average slope of a first region measured at $(r/a)^2=0.0$ to 0.25 is preferably greater than the average slope of a second region measured at $(r/a)^2=0.25$ to 0.50.

Petitioner does not identify where in the Petition it made the argument that Abbott *advocates* for an MMF having a negative slope. Thus, Petitioner's argument appears to be new, and a rehearing request is not an opportunity to present new arguments. In any event, Petitioner fails to explain how an ordinarily skilled artisan, given this information about the relative average slope of specified side-by-side regions of an MMF having a 62.5 μm core, would have reached the conclusion that Abbott "*advocates* for an MMF having a negative slope." See Reh'g Req. 13 (emphasis added).

Petitioner's assertion that Abbott discloses a DMD curve with a region that "slopes down" (Reh'g Req. 14), and that this is substantial evidence of obviousness of the "choosing" limitation, ignores Abbott's more complete disclosure:

In a region where the 1300 nm DMD measurement curve slopes up the index profile is essentially optimized for a wavelength less than 1300 nm, and in a region where the DMD curve slopes down the index profile is essentially optimized for a wavelength greater than 1300 nm. In the region where the DMD curve is nearly flat the index profile is essentially optimized for 1300 nm.

. . . [I]n the region where the DMD curve is slightly rising, the index profile is optimized for a wavelength slightly less than 850 nm, and in the region where the DMD curve slopes down, it indicates an index profile is optimized for a wavelength greater than 850 nm.

Ex. 1006, 9:34–40, 9:44–48. Neither Petitioner nor its declarant explained why one of ordinary skill in the art would have viewed such disclosure to render obvious choosing an MMF because the result of subtracting the pulse delay at a first radius from the pulse delay at a second, larger radius is a negative number.

Finally, Petitioner argues in argument (4) that “Gholami I and II show that MMFs with $\alpha < \alpha_{\text{optimum}}$ (having a negative DMD slope) provides better system performances than MMFs that have a refractive index that is optimal or greater than optimal.” Reh’g Req. 15. However, as discussed above and in the Decision (Dec. 24–27), the Petition presents insufficient evidence that either Gholami I or Gholami II suggests that MMFs *having a negative DMD slope* provide better system performance, or would have made it obvious to one of ordinary skill in the art to choose optical fibers in which the result of subtracting the pulse delay at the first radius from the pulse delay at the second radius is a negative number.

Accordingly, Petitioner does not persuade us that we should grant a request for rehearing based on its second set of arguments.

IV. CONCLUSION

Having reviewed and considered the arguments in Petitioner’s Rehearing Request, we conclude that Petitioner has not carried its burden of demonstrating that we misapprehended or overlooked any matters in rendering our Decision. 37 C.F.R. § 42.71(d).

The Rehearing Request is *denied*.

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