

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD. AND SAMSUNG
ELECTRONICS AMERICA, INC.

Petitioner

v.

MANUFACTURING RESOURCES
INTERNATIONAL, INC.

Patent Owner

Case IPR2023-00254

Patent 10,506,740

PATENT OWNER'S PRELIMINARY RESPONSE

TABLE OF CONTENTS

I. Introduction..... 1

II. Background.....2

III. Institution Should be Denied Under Section 325(d). 4

 A. Part 1 of *Advanced Bionics*: Substantially the Same Prior Art and
 Arguments were Considered During Prosecution.....5

 B. Part 2 of *Advanced Bionics*: Petitioners Failed to Demonstrate that the
 Office Erred in a Manner Material to the Patentability of the
 Challenged Claims. 12

IV. The Petition Does Not Establish a Reasonable Likelihood of Success in
Showing that a Claim is Obvious. 13

 A. Secondary Considerations Presented in Related Proceedings
 Demonstrate the Non-Obviousness of the Challenged Claims.....13

 B. Petitioners Failed to Consider their Own Praise of the Claimed
 Invention of which Petitioners were Plainly Aware. 17

 C. Claim Construction 18

V. Other Circumstances Also Warrant Denying Institution 19

VI. Conclusion 20

EXHIBIT LIST

Exhibit	Description
2001	MRI-ITC-1331_0000435123-24 (4/24/2020 Romulus Stoain email to Dunn)
2002	MRI-ITC-1331_0000435125-27, Mutual Non-Disclosure Agreement
2003	MRI-ITC-1331_0000435133-34 (5/4/2020 Romulus Stoain email to Dunn)
2004	Response to Office Action in Application No. 16/933,932, filed December 18, 2020
2005	Office Action mailed April 11, 2018, in Application No. 12/234,360
2006	Office Action mailed August 11, 2011, in Application No. 12/237,365
2007	Intentionally Omitted
2008	Decision Denying Institution of <i>Inter Partes</i> Review of U.S. Patent No. 8,854,572 in <i>Civiq Smartscales LLC v. Manufacturing Resources International, Inc.</i> , IPR2018-00774, Paper 6 (PTAB Sep. 25, 2018)

I. Introduction

The Board should deny institution under 35 U.S.C. § 325(d) because the same art has already been extensively considered by the Office, and the Petition fails to demonstrate material error in the Office’s prior decisions. Both references used in the Petition were considered by the Examiner during prosecution of the application that led to the ’740 Patent. Further, both of these references were used in rejections during prosecution of applications related to the ’740 Patent, and one was relied upon as a primary ground of rejection in a Petition for *inter partes* review of a related patent, which the Board declined to institute. The Board should reject the Petition’s attempt to re-argue these previously considered—and disregarded—prior art references and arguments.

The Petition also fails on the merits. Petitioners failed to address objective indicia of non-obviousness precluding a finding of obviousness. Samsung, which is one of the largest manufacturers of LCD screens in the world, itself has praised the patented innovations in MRI’s products and sought to engage in collaborative efforts with MRI to “embrace the MRI technology [] blended in with Samsung displays.” Ex. 2001. Petitioners Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively, “Petitioners”) failed to address objective indicia of non-obviousness of which Petitioners were aware before filing the Petition, including Samsung’s praise of the technology central to the ’740 Patent.

The Board has repeatedly “cautioned petitioners in prior proceedings that petitions may be denied if they do not address known evidence of secondary considerations,” and Petitioners cannot simply fail to address “the most probative and cogent evidence” of non-obviousness when it has been developed in the public record. *Stryker Corp., et al. v. KFx Med., LLC*, IPR2019-00817, Paper 10, at 28-29 (PTAB Sept. 16, 2019); *Robert Bosch Tool Corp. v. SD3, LLC*, IPR2016-01751, Paper 15, at 15-16, 23-34 (PTAB Mar. 22, 2017).

For these and other reasons, Patent Owner respectfully requests that the Board deny institution of the Petition.

II. Background

Patent Owner Manufacturing Resources International, Inc. (“MRI”) is a world-wide leader in the market for high-performance electronic displays for use in outdoor and semi-outdoor environments. Over the past 15+ years, MRI has made substantial advancements in outdoor and semi-outdoor electronic display technology and holds hundreds of U.S. and foreign patents. Cooling systems are critical to the successful use of electronic displays in outdoor and semi-outdoor environments. The claims of ’740 Patent are directed to systems and products for effectively and efficiently cooling outdoor and semi-outdoor electronic displays using an open loop airflow pathway and closed loop airflow pathway in combination with heat exchangers.

Prior to the early 2000s, electronic displays were predominantly used in indoor environments and in small formats. The larger the LCD display, the more heat that is generated by the display surface and backlight. When large format displays are placed in outside environments, the thermal load from ambient temperature and solar radiation may cause the outdoor electronic display to malfunction. '740 Patent at 2:3-9. Prior to MRI's invention, past systems for cooling the display attempted to remove heat from the electronic display through heat sinks and fans to direct ambient air over the electronic components. *Id.* at 2:9-12. However, such systems are insufficient in many climates, "especially when radiative heat transfer from the sun through a display window becomes a major factor." *Id.* at 2:13-15. Such systems have the further drawback that "when displays are used in outdoor environments the ambient air may contain contaminants (dust, dirt, pollen, water vapor, smoke, etc.) which, if ingested into the display for cooling the interior can cause damage to the interior components of the display." *Id.* at 2:21-25.

The '740 Patent discloses and claims solutions to these problems, using a closed loop airflow pathway in combination with an open-loop pathway coupled via heat exchangers to transfer heat from the closed loop to the open loop to cool a display device. The claimed system enables efficient heat transfer from the interior of the display device, and since such a display device is used in an outdoor setting,

also protects internal components from environmental conditions that may cause damage to sensitive components.

III. Institution Should be Denied Under Section 325(d).

MRI asks that the Board exercise its discretion to deny institution under § 325(d) because the Petition presents “the same or substantially the same prior art or arguments previously ... presented to the Office,” 35 U.S.C. § 325(d), and because Petitioners failed to meet their burden to show material error with respect to such art or arguments. *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 (PTAB Feb. 13, 2020) (precedential) (“*Advanced Bionics*”); *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017) (precedential as to Section III.C.5, first paragraph) (“*Becton*”). This Petition fails for all these reasons.

Under *Advanced Bionics*, the Board first considers “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.” IPR2019-01469, Paper 6 at 7-8. If “either condition of [the] first part of the framework is satisfied,” the Board then considers “whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.” *Id.* at 8. “If the petitioner fails to show that the Office erred, the Director may exercise his discretion not to institute *inter partes* review.” *Id.*

(citing *Becton*, IPR2017-01586, Paper 8 at 24).

Here, institution should be denied because substantially the same prior art and arguments previously were presented to the Office, the Examiner correctly resolved them, and Petitioners make no allegations to the contrary.

A. Part 1 of *Advanced Bionics*: Substantially the Same Prior Art and Arguments were Considered During Prosecution.

i. Both References Relied Upon in the Petition are Cited on the Face of the '740 Patent.

Petitioners argue that the claims would have been obvious over WO 2007/116116A1 to Karppanen (“Karppanen”) (Ground I) and GB 2402205A to Yare (“Yare”) (Ground II). The Petition meets the first prong of the *Advanced Bionics* test for denying institution under § 325(d) because each of Karppanen and Yare was considered during prosecution of the '740 Patent and appears on the face of the '740 Patent. *See SolarEdge Techs. Ltd. v. SMA Solar Tech. AG*, IPR2020-00021, Paper 8 at 10 (PTAB Apr. 10, 2020).

ii. Petitioners Improperly Suggest that the Examiner did not Consider the References Listed on the Face of the '740 Patent.

The Petition attempts to ignore that Karppanen and Yare are both cited on the face of the '740 Patent by suggesting that they “were included among hundreds of references with no indication that the Examiner meaningfully considered them.” Petition at 125. Indeed, Petitioners point to the prosecution history “in the related application that led to” U.S. Patent No. 11,013,142 to suggest “that only a cursory

review was made of the cited references.” Petition at 125 (quoting Petitioners’ Petition in IPR2023-00221). This is factually incorrect. Both the ’740 Patent and the ’142 Patent were examined by the same Examiner, Michael Matey. Both of Karppanen and Yare were expressly called to the attention of Examiner Matey in a response to an Office Action in the application that led to the ’142 Patent. *See* Ex. 2004. These statements were made in direct response to the Examiner’s criticism of the quantity of art included in the IDS and expressly identified both (1) the reference and (2) the relevance of that reference, i.e., that it had been used in a rejection of a related application.

First, with respect to Karppanen, Patent Owner expressly noted that a U.S. Publication claiming priority to Karppanen was used in rejecting a related application.

The ’468 Application is a continuation-in-part of U.S. Application Serial No. 12/234,360 filed on September 19, 2008 and the following references were specifically cited in a rejection in one or more office actions in the ’360 Application ...- ***US 2009/0279240 Karppanen***

Ex. 2004 at 12 (expressly citing a U.S. Publication that claims priority to Karppanen, i.e., PCT/FI2006/050145); *see also* Ex. 2005.

Similarly, with respect to Yare, Patent Owner pointed the Examiner to a related application in which Yare had been used to reject claims:

The ’468 Application is a continuation-in-part of U.S. Application Serial No. 12/237,365 filed on September 24, 2008 and the following references were specifically cited in a rejection in one or more office

actions in the '365 Application... **GB 2402205** Densitron Technologies PLC....

Ex. 2004 at 12 (expressly citing Yare); *see also* Ex. 2006. Thus, Petitioners' suggestion that Examiner Matey discounted these references based on statements made during prosecution of a related application is incorrect.

Further, Petitioners' argument that though the Examiner was plainly aware of Karppanen and Yare, the Examiner failed to "meaningfully consider them" (Petition at 125) is wrong as a matter of law. *See Microsoft Corp. v. Koninklijke Philips N.V.*, IPR2018-00279, Paper 11 at 12-14 (PTAB June 8, 2018) (finding that the Office considered a reference where "the Examiner signed an Information Disclosure Statement listing ... [the] reference"). Indeed, MPEP § 609 expressly requires that "[a]n information disclosure statement filed in accordance with the provisions of 37 CFR 1.97 and 37 CFR 1.98 ***will be considered by the examiner assigned to the application.***" MPEP § 609 (emphasis added).

Thus, as a matter of law and procedure, the Examiner simply cannot ignore a reference as Petitioners suggest that the Examiner did here.

iii. The Examiner of Applications Related to the Application that Issued as the '740 Patent Relied Upon Karppanen and Yare in Rejecting Similar Claims.

During prosecution the Office relied upon Karppanen and Yare to reject claims related to the claims of the '740 Patent.

With respect to Karpanen, as noted above, US 2009/0279240 ("Karppanen

II”), which claims priority to Karppanen, i.e., PCT/FI2006/050145, was used in a rejection of a parent of the ’740 Patent, Application No. 12/234,360. *See* Ex. 2005.

There, the Examiner relied on Karppanen II:

Karppanen [II] explicitly teaches it is desirable to cool displays (para. 26- 27) using an internal sealed fluid (para. 11, 14, 31) cooling the display and electronics and providing cross heat exchanger (80) in the middle part of the electronics board (see para. 32) through which external ambient air stream flows through second ducts (para. 34, 32) to provide increased cooling (para. 33) while at the same time providing the benefits of a sealed cooling gas for the electronics (para. 11, 14) preventing impurities from being introduced therein. Thereby teaching forcing ambient air into the housing of the system and exhausting air out of the housing, all while keeping the ambient air within the second ducts of the heat exchanger and sealed from the sealed cooling gas.

Ex. 2005 at 11-12.

With respect to Yare, it was used in a rejection of a different parent of the ’740 Patent, Application No. 12/237,365. *See* Ex. 2006. There, the Examiner cited to Yare for “a plenum 70 placed behind the display device 20 and accepting circulating gas (air)” in combination with other references. And Application No. 12/237,365 ultimately issued as U.S. 8,879,042. Similar to the claims at issue in the ’740 Patent, claim 1 of U.S. 8,879,042 recites:

A cooling system for an electronic display having a viewable area, the system comprising:

a front glass unit positioned in front of the viewable area of the electronic display, the front glass unit including: ... a linear polarizer disposed on at least one of the surfaces;

a first gas chamber positioned anterior to the viewable area of the electronic display;

a second gas chamber positioned posterior to the viewable area of the electronic display and operatively connected to the first gas chamber to ***provide a closed loop for circulating gas***; and

a fan positioned to force ambient air between the ***first and second gas chambers such that the ambient air does not mix with the circulating gas***.

U.S. 8,879,042 at claim 1.

Thus, both Karppanen and Yare were used in rejections during prosecution of related applications to reject elements similar to those for which those references are relied upon in the Petition.

References considered during a related application are relevant for § 325(d) purposes. *Edge Endo, LLC v. Michael Scianamblo*, IPR2018-01321, Paper 15 at 15-16 (PTAB Jan. 14, 2019) (exercising discretion to deny institution under § 325(d), and “find[ing] that the respective prosecutions of related [patents] are pertinent for consideration of whether to exercise our discretion to deny institution under Section 325(d).”); *Microsoft Corp., et al. v. Koninklijke Philips N.V.*, IPR2018-00279, Paper 11 at 9-19 (PTAB June 8, 2018).

The Examiner was fully mindful of the prior art’s teachings, yet correctly allowed the claims at issue in this proceeding. Petitioners’ reliance on cumulative references considered during prosecution of related applications confirms that the Petition’s arguments “add[] no teaching that was not before the [Office].” *Dr. Reddy’s Labs. S.A. v. Indivior UK Ltd.*, No. IPR2019-00328, 2019 WL 2361780, at *7 (PTAB Jun. 3, 2019).

iv. Yare was Further Considered and Rejected when the Board Denied Institution of *Inter Partes* Review of a Related Patent.

The Petition further ignores that Yare was a primary reference relied upon in a Petition for *inter partes* review of U.S. Patent No. 8,854,572.¹ *See* Ex. 2008, *Civiq Smartscales LLC v. Mfg. Res. Int’l, Inc.*, IPR2018-00774, Paper 6 (PTAB Sep. 25, 2018). Petitioners agree that the ’572 Patent “is related to the” ’740 Patent and that, as with the ’740 Patent, “the subject matter in the ’572 patent ... relates to cooling of electronic displays using closed and open loops.” Petition at 15.

Yet, the Petition ignores that the PTAB has already “determine[d] that Petitioners’ arguments and evidence are not sufficient to show a reasonable likelihood of prevailing with arguments that Yare anticipates claim 1.” Ex. 2008 at 12-13. The PTAB similarly “determine[d] that Petitioner has not advanced arguments and evidence sufficient to show a reasonable likelihood of prevailing with arguments that claim 1 would have been obvious in view of Yare.” *Id.* at 13.

Critically, the technical reasons the Board rejected Yare are applicable to the claims here. In particular, the Board noted that “claim 1 [of the ’572 Patent] defines a single ‘gap’ formed by placing the planar surface adjacent to the rear of the electronic display and through which cooling air is forced.” Ex. 2008 at 12. In the Petition’s consideration of Yare, “[t]he first ‘gap’ ... is purportedly defined by

¹ Petitioner included the ’572 Patent as Ex. 1027.

the rear wall of atmospheric zone 40 and the rear surface of electronic display 20 The second ‘gap’ identified—the ‘gap’ through which cooling air is forced—is atmospheric zone 40 itself” *Id.* at 13. However, “in claim 1 [of the ’572 Patent], the ‘placing’ and ‘forcing’ steps recite a single gap,” which the Petition does not reconcile. *Id.* Similarly, the claims of the ’740 Patent require such a single gap through which cooling air is forced. *See* Claim 1 (“a closed loop gas circulation path about the electronic image assembly ... a gas circulation device positioned to force circulating gas through the common heat exchanger;”); Claim 8 (“a closed loop gas circulation path encircling the electronic image assembly ... at least one fan positioned to force circulating gas through the closed loop gas circulation path;”); Claim 17 (“a closed loop gas circulation path encircling the electronic image assembly ... a front channel defined by a space between a front portion of the electronic image assembly and a front display surface located forward of and spaced apart from the front portion of the electronic image assembly, the front channel forming a part of the closed loop gas circulation path; ... at least one fan positioned to force circulating gas through the closed loop gas circulation path and the common heat exchanger;”).

Thus, for this additional reason, the Petition presents art and arguments that are cumulative of those that have already been considered and properly rejected.

B. Part 2 of *Advanced Bionics*: Petitioners Failed to Demonstrate that the Office Erred in a Manner Material to the Patentability of the Challenged Claims.

The second prong of the *Advanced Bionics* test is met because Petitioners completely failed to set forth any evidence of material error committed by the Office in its prior consideration of the prior art and allowance of the '740 Patent's claims. Petitioners do not even allege "material error" by the Office. There was none. The Board has declined "to guess or develop its own theory on what error may have been committed in prior proceedings over the [challenged] patent where the now-asserted prior art was at issue." *Atrium Med. Corp. v. Bard Peripheral Vascular, Inc.*, IPR2021-01197, Paper 11 at 23 (PTAB Jan. 10, 2022).

Accordingly, Petitioners have not, and cannot, meet their burden of establishing that "the Office erred in a manner material to the patentability of challenged claims." *Advanced Bionics*, IPR2019-01469, Paper 6 at 7-11.

Because Petitioners identify no material error, the Board should exercise its discretion under § 325(d) and deny institution of the Petition. *See, e.g., ABS Glob., Inc. v. Cytonome/ST LLC*, IPR2021-00306, Paper 13 at 13-14, 16 (PTAB June 7, 2021).

IV. The Petition Does Not Establish a Reasonable Likelihood of Success in Showing that a Claim is Obvious.

A. Secondary Considerations Presented in Related Proceedings Demonstrate the Non-Obviousness of the Challenged Claims.

There are multiple objective indicia of non-obviousness for the '740 Patent with a nexus to MRI's outdoor and semi-outdoor electronic display products, which practice the '740 Patent, including at least industry praise, commercial success, long felt need, unsuccessful attempts by others, and copying.² Petitioners at least knew about evidence of industry praise before filing the Petition because it was Samsung itself that praised MRI's patented products. *See* Exs. 2001-2003.

Objective evidence “may often establish that an invention appearing to have been obvious in light of the prior art was not.” *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340, 1349 (Fed. Cir. 2012). In fact, “[i]t is the secondary considerations that are often most probative and determinative of the ultimate conclusion of obviousness or nonobviousness.” *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573 (Fed. Cir. 1996). Here, the objective indicia of non-obviousness is compelling and overwhelms any of Petitioners' contrary arguments.

² Evidence of each of these categories has been produced in the corresponding ITC litigation subject to a protective order and thus is not separately addressed here, but will be addressed if the Board institutes a proceeding.

“Evidence that the industry praised a claimed invention or a product that embodies the patent claims weighs against an assertion that the same claimed invention would have been obvious. Industry participants, especially competitors, are not likely to praise an obvious advance over the known art. Thus, if there is evidence of industry praise of the claimed invention in the record, it weighs in favor of the non-obviousness of the claimed invention.” *Apple Inc. v. Samsung Elecs. Co., Ltd.*, 839 F.3d 1034, 1053-54 (Fed. Cir. 2016) (en banc).

MRI’s BoldVu® products have been praised in the field of electronic displays for their ability to withstand high ambient temperatures and high solar load and draw little energy for cooling systems. Samsung SDS America—an entity that is plainly related to Petitioners—praised MRI’s technical achievements as well. On April 24, 2020, Samsung SDS America told MRI:

What you’ve done at MRI *it’s impressive and unique*; I bet was not easy entering into a virgin space and then shortly after being able to pioneer a new business model based on turnkey solutions for DOOH [Digital Out Of Home], *raising the bar for high quality standards*.

Per our conversation, *I see loads of opportunities for collaboration in the outdoor space* (smart city, transit, rail, etc) *where we can embrace the MRI technology* and blended in with Samsung displays. Our customers will benefit from quality products and executions.

Ex. 2001 (MRI-ITC-1331_0000435123-24 (4/24/2020 Romulus Stoain email to Dunn) (emphasis added)). Samsung SDS America even attempted to enter into a

“Mutual Non-Disclosure Agreement” with MRI. Ex. 2002 (MRI-ITC-1331_0000435125-27). Samsung SDS America’s representative, Stoain, told Dunn that after their “discussion relative to *all weather, outdoor*, daylight viewable LCD products” he “spoke internally and [Petitioner] Samsung Electronics is looking for *a key partner in outdoor enclosures*.” Ex. 2003 (MRI-ITC-1331_0000435133-34 (5/4/2020 Romulus Stoain email to Dunn)).

“For objective evidence ... to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention.” *In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011) (emphasis & citation omitted). In an *inter partes* review, when the patent owner shows the claimed invention is embodied in a particular product, nexus between the secondary considerations associated with that product and the patent claims is presumed. *PPC Broadband, Inc. v. Corning Optical Commc’ns RF, LLC*, 815 F.3d 734, 747 (Fed. Cir. 2016) (“Because the evidence shows that the SignalTight connectors 61 are the invention disclosed and claimed in the patent, we presume that any commercial success of these products is due to the patented invention” (internal quotation marks omitted)); *see also Omron Oilfield & Marine Inc. v. MD/TOTCO*, IPR2013–00265, Paper 11 at 12 (PTAB Oct. 31, 2013) (“A prima facie case of nexus is established when the patentee shows both that there is commercial success, and

that the product that is commercially successful is the invention disclosed and claimed in the patent.”).

This is true here, because all of the secondary considerations relate to the MRI’s products and the objective evidence ties directly to the claimed features, i.e., heat transfer systems that enable “*all weather, outdoor*, daylight viewable LCD products.” Ex. 2003. For example, the praise above discusses Samsung’s belief that Patent Owner would be a “key partner in outdoor enclosures,” and that Patent Owner’s innovations are both “impressive and unique” and “rais[e] the bar for high quality standards.” Exs. 2001, 2003. In particular, Samsung saw “loads of opportunities for collaboration in the outdoor space (smart city, transit, rail, etc) where we can embrace the MRI technology and blended in with Samsung displays.” Ex. 2001.

This praise is all tied directly to the claimed invention, i.e., systems and products for effectively and efficiently cooling outdoor and semi-outdoor electronic displays using an open loop airflow pathway and closed loop airflow pathway in combination with heat exchangers. Such systems are exactly what makes these outdoor displays possible—through enabling efficient cooling while still protecting sensitive internal components from the elements.

B. Petitioners Failed to Consider their Own Praise of the Claimed Invention of which Petitioners were Plainly Aware.

“All of the *Graham* factors must be considered, including the objective indicia when present, before any conclusion regarding obviousness is reached.” *Millennium Pharm., Inc.*, 2017 WL 3013204, at *7; *see also Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1365 (Fed. Cir. 2008) (stating that objective indicia are “not just a cumulative or confirmatory part of the obviousness calculus but constitute[] independent evidence of nonobviousness”). “These indicia **cannot** be set aside in the analysis of obviousness.” *Millennium Pharm., Inc.*, 2017 WL 3013204, at *7 (emphasis added). Yet, this is exactly what Petitioners sought to do, claiming they were “not aware of any evidence of secondary considerations of nonobviousness.” Petition at 125.

Praise from a competitor—like Petitioners—is “especially” important as “competitors, are not likely to praise an obvious advance over the known art.” *Apple*, 839 F.3d at 1053-54. Any obviousness determination must consider all the *Graham* factors, and any obviousness determination must consider all the *Graham* factors, and Petitioners’ ignorance of addressing these factors is another ground for denying institution. Moreover, because Petitioners were aware of their own praise of the patented invention at the time they filed the Petition, Petitioners should not be allowed to supplement their Petition through Reply or otherwise to address evidence it should have addressed in the first instance. *See, e.g., Robert Bosch Tool*

Corp. v. SD3 LLC, IPR2016-01751, Paper 15 at 22-33 (PTAB Mar. 22, 2017)

(denying institution for failure to address objective indicia presented during an ITC proceeding); *see also Coalition for Affordable Drugs V LLC v. Hoffman–LaRoche, Inc.*, IPR2015–01792, Paper 14 at 17-18 (PTAB Mar. 11, 2016) (denying institution for failure to address objective indicia considered by Examiner during original prosecution); *see also Merial Ltd. v. VIRBAC*, IPR2014–01279, Paper 13 at 27-28 (PTAB Jan. 22, 2015) (denying institution for failure to address objective indicia considered by Examiner during original prosecution and noting “Merial was aware of the unexpected results showing which the Examiner found persuasive Merial should have addressed unexpected results in the first instance.”); *Omron Oilfield*, Paper 11 at 12-16 (denying institution for failure to address objective indicia successfully argued in a reexamination).

C. Claim Construction

Patent Owner reserves the right to later dispute Petitioners’ proposed constructions. Petitioners ask the Board to construe two terms (closed loop” and “closed gaseous loop”) without any analysis. Rather, Petitioners ask the Board to adopt the district court’s constructions from a prior litigation without any discussion or citation to evidence in support of those constructions. Petition at 15-17. Petitioners simply cite to the District Court *Markman* Order (Ex. 1026), which addresses different patents, in an improper attempt to incorporate the court’s

reasoning by reference. *See* 37 C.F.R. § 42.6(a)(3); *see also* Rules of Practice for Trials Before The Patent Trial and Appeal Board and Judicial Review of Patent Trial and Appeal Board Decisions; Final Rule, 77 Fed. Reg. 48,612, 48,617 (Aug. 14, 2012) (prohibition against incorporation by reference is to eliminate abuses that arise from incorporation).

By incorporating by reference the arguments and analysis from the Order into the Petition, Petitioners circumvent the page limits imposed on petitions for *inter partes* review. The Board should not consider information that is not provided in the Petition but is instead incorporated by reference to the cited *Markman* Order. *Apple Inc. v. ContentGuard Holdings, Inc., et al.*, IPR2015-00442, Paper 9 at 9 (PTAB Jul. 13, 2015). A petition for *inter partes* review must identify how each challenged claim is to be construed. *See* 37 C.F.R. § 42.104(b)(3). The Petition's improper incorporation by reference fails to meet this requirement.

V. Other Circumstances Also Warrant Denying Institution

Finally, the Petition should be denied because it exceeds the word count limit set forth in 37 C.F.R. § 42.24(a)(1)(i). Petitioners certify the word count as 13,940, but the Petition is only under 14,000 words because Petitioners ignore that the Petition includes hundreds of annotations in figures. These annotations include text that would not be captured by the word processing software. *See, e.g.*, Petition at 12-13 (including two figures with 49 words in annotations); 39 (including a

figure with 18 words in annotations); 40 (including a figure with 22 words in annotations); 53 (including a figure with 26 words in annotations); and 78 (including a figure with 28 words in annotations). Such annotations are found in dozens of locations throughout the 126-page Petition. With these annotations and others throughout the Petition counted the Petition significantly exceeds the 14,000-word limit.

For this additional reason, institution should be denied.

VI. Conclusion

For the foregoing reasons, institution should be denied.

Dated: March 22, 2023

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that this Preliminary Response contains 4,525 words according to the word-processing program used to prepare this paper. The foregoing word count complies with the 14,000 word type-volume limit specified by 37 C.F.R. § 42.24(b)(1).

Dated: March 22, 2023

Respectfully submitted,

/John C. Alemanni/

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Lead Counsel for Patent Owner

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing Patent Owner's Preliminary Response has been served electronically via email upon the following:

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