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Paper No. 19
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

KINGSTON TECHNOLOGY COMPANY, INC.,
Petitioner,

v.

IMATION CORPORATION,
Patent Owner.

Case IPR2015-00066
Patent 6,890,188 B1

Before KEVIN F. TURNER, STACEY G. WHITE, and KERRY BEGLEY, *Administrative Patent Judges*.

BEGLEY, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

Kingston Technology Company, Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claims 10–14 and 20 of U.S. Patent No. 6,890,188 B1 (Ex. 1001, "the '188 patent"). Paper 2 ("Pet."). Pursuant to 35 U.S.C. § 314(a), we determined the Petition showed a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of

claims 10–14 and 20, and instituted an *inter partes* review of these claims on certain asserted grounds of unpatentability. Paper 6 ("Inst. Dec."). Patent Owner Imation Corporation ("Patent Owner") filed a Patent Owner Response. Paper 11 ("PO Resp."). Petitioner filed a Reply to Patent Owner's Response. Paper 12 ("Reply"). An oral hearing was held on January 15, 2016, pursuant to requests by both Petitioner and Patent Owner. Paper 18 ("Tr."); *see* Papers 14–16.

We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine Petitioner has not proven by a preponderance of the evidence that claims 10–14 and 20 of the '188 patent are unpatentable. *See* 35 U.S.C. § 316(e).

I. BACKGROUND

A. RELATED PROCEEDINGS

The parties indicate that Patent Owner asserted the '188 patent against Petitioner in the U.S. District Court for the District of Minnesota, No. 14-cv-1385. Pet. 1; Paper 5. The '188 patent also is the subject of another pending *inter partes* review, IPR2015-01557, filed by Sony Corporation ("Sony"). *See* IPR2015-01557, Decision – Institution of *Inter Partes* Review (PTAB Jan. 4, 2016) (Paper 7) ("IPR2015-01557 Inst. Dec.").

B. THE '188 PATENT

The '188 patent is directed to a memory card that includes both a device connector, conforming to a device connection standard, and a host connector, conforming to a host connection standard. Ex. 1001, [54], [57], 1:61–2:6, 3:58–61. For example, the device connector may conform to a Memory Stick ("MS"), MultiMediaCard ("MMC"), or Secure Digital ("SD") standard, whereas the host connector may conform to a Universal

Serial Bus ("USB") standard, such as a "USB tab without a conventional electrical shield." *Id.* at 2:6–10, 3:61–4:9, 12:18–21.

The dimensions of the memory card, including height, width, and thickness, "may substantially conform" to dimensions defined by a memory card standard. *Id.* at 2:11–12, 4:30–32. The memory card, however, may include "irregularities" in its shape "that are not consistent with the form factor of the memory card standard." *Id.* at 2:12–18, 4:32–40.

The memory card may "include a cover to fit over the host connector." *Id.* at 2:19–20, 4:10–23. With the cover over the host connector, the form factor of the memory card conforms to a "form factor of the memory card standard." *Id.* at 2:20–22. The cover may be removable or secured to the housing with a hinge. *Id.* at 6:24–27, 6:63–64; *see id.* at Fig. 4A, Fig. 5A.

Figure 2 of the '188 patent is reproduced below.

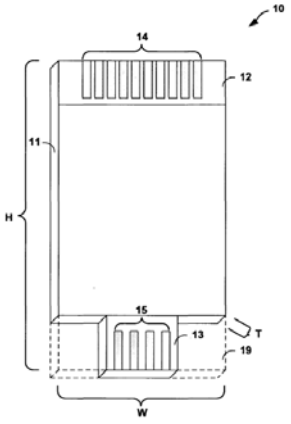

FIG. 2

Figure 2 depicts "a perspective view of . . . exemplary" memory card 10 with housing 11, device connector 12, shieldless tab 13, and cover 19. *See id.* at 3:38–40, 4:43–46, 6:18–23. Shieldless tab 13, which "protrud[es] from the housing," "is one example of a host connector in accordance with the [disclosed] invention." *Id.* at 4:43–47.

C. ILLUSTRATIVE CLAIM

Claim 10, the only independent claim of the '188 patent challenged in the Petition, is illustrative of the claimed subject matter:

> 10. A memory card comprising:
> a housing;
> a memory in the housing;
> a device connector accessible through the housing, the device connector conforming to the device connection standard and allowing access to the memory by a device compatible with the device connection standard;
> a host connector protruding from the housing, the host connector conforming to a host connection standard and allowing access to the memory upon insertion of the host connector into a computer interface compatible with the host connection standard; and
> a cover to cover the host connector, wherein the housing and the cover collectively define a form factor of the memory card that substantially conforms to a form factor of the memory card standard.

Id. at 13:39–14:6.

D. INSTITUTED GROUNDS OF UNPATENTABILITY

We instituted an *inter partes* review of the '188 patent on the following grounds of unpatentability asserted in the Petition. Inst. Dec. 16.

Claim[s]	Basis	Reference[s]
10–13 and 20[1]	§ 102[2]	European Patent Application EP 1333531 A1

[1] The Petition also challenged claim 14 under 35 U.S.C. § 102 based on Yen. *See* Pet. 3, 18, 29. We, however, did not institute review of claim 14 on this asserted ground, because we determined that the Petition did not show a reasonable likelihood that Petitioner would prevail in establishing that Yen anticipated the claim. *See* Inst. Dec. 13–14; Ex. 1001, 14:27–28.

[2] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112–29 (2011), revised 35 U.S.C. §§ 102–103, effective March 16, 2013. Because the '188 patent has an effective filing date before this date, we refer to the pre-AIA versions of §§ 102 and 103.

Claim[s]	Basis	Reference[s]
		(published Aug. 6, 2003) (Ex. 1002, "Yen").
14	§ 103	Yen and U.S. Patent No. 6,763,410 B2 (filed Mar. 10, 2003) (issued July 13, 2004) (Ex. 1005, "Yu")

U.S. Patent No. 6,813,164 B2 to Yen ("Yen '164 patent"), which shares a common written description with Yen, was cited by the examiner during the prosecution of the '188 patent. *See* Ex. 1001, [56]; Ex. 2007, 54; Ex. 2008.

II. ANALYSIS

A. LEVEL OF ORDINARY SKILL IN THE ART

We begin our analysis by addressing the level of ordinary skill in the art. Although the parties' briefing does not address the issue, each party's expert opines as to the level of ordinary skill in the art. Specifically, Petitioner's expert, Andrew Wolfe, Ph.D., proposes that a person of ordinary skill in the art would have had: (1) "a Bachelor[] of Science degree in Electrical Engineering or the equivalent," and (2) "two to four years of practical experience in digital electronics, including standard-conforming devices with flash memory." Ex. 1006 ("Wolfe Decl.") ¶ 38. Patent Owner's expert, Kenneth W. Fernald, Ph.D., takes the position that a person of ordinary skill would have had: (1) "the equivalent of a four-year degree in electrical engineering," and (2) "four years of experience in technologies relevant to memory storage systems." Ex. 2004 ("Fernald Decl.") ¶ 31.

We see no meaningful difference in the substance of each expert's opinion regarding the education required to qualify as a person of ordinary skill in the art. As to work experience, however, we agree with Dr. Wolfe that only two to four years of relevant experience is required to be a person of ordinary skill in the art, rather than four years as proposed by

Dr. Fernald.[3] Accordingly, based on our review of the '188 patent, the problems and solutions described in the patent, the prior art involved in this proceeding, and the testimony of the parties' experts, we conclude that a person of ordinary skill in the art at the time of the claimed invention would have had: (1) the equivalent of a Bachelor of Science or other four-year degree in electrical engineering, and (2) two to four years of practical experience related to memory storage devices and relevant industry standards. *See, e.g.*, Ex. 1001, [57], 1:5–9, 2:1–10, 5:15–28, 12:22–38, 12:56–13:9, 13:39–14:6.

B. Claim Construction

We next address the meaning of the claims. We interpret claims in an unexpired patent using the "broadest reasonable construction in light of the specification of the patent in which [they] appear[]." 37 C.F.R. § 42.100(b). Under this standard, we presume a claim term carries its "ordinary and customary meaning," which "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. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

1. "host connector"

We did not construe the term "host connector," as recited in claim 10, in our Decision on Institution. Neither Petitioner nor Patent Owner has proffered a construction for the term. At the oral hearing, however, Petitioner represented that its theory for the ground of anticipation by Yen turns on the construction of "host connector." *See, e.g.*, Tr. 71:22–72:11,

[3] We note that the experience required to qualify as a person of ordinary skill does not impact our analysis in this decision. Even if we adopted the proposal of Dr. Fernald, we would reach the same conclusions.

72:19–73:12.[4] Accordingly, we address the proper construction of "host connector," as recited in claim 10.

Independent claims 1 and 10 each recite a "host connector," as part of a "memory card," with several requirements, namely that the host connector "protrud[e] from the housing," "conform[] to a host connection standard," and "allow[] access to the memory upon insertion of the host connector into a computer interface compatible with the host connection standard." Ex. 1001, 12:64–13:1, 13:46–14:2. Claims 4 and 20, which depend from claims 1 and 10, respectively, add a requirement that the "host connector comprises a shieldless Universal Serial Bus (USB) tab." *Id.* at 13:15–17, 14:44–46. Accordingly, the claim language shows that the "host connector" recited in claim 10 is broad enough to encompass a USB tab without a shield. *See AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1242 (Fed. Cir. 2003) ("Under the doctrine of claim differentiation," independent claims are presumed to be "at least as broad as the claims that depend from them."); Ex. 1001, 3:15–18, 3:65–4:1, 5:32–33.

Dependent claims 3, 11, and 12, which depend directly or indirectly from claims 1 and 10, further specify the "host connection standard" to which the "host connector" conforms. Ex. 1001, 13:12–14, 14:7–17, 14:21–23. In claims 3 and 12, the "host connection standard comprises a Universal Serial Bus (USB) standard." *Id.* at 13:12–14, 14:21–23. Claim 11, in turn, lists numerous standards, including "a Universal Serial Bus (USB) standard [and] a Universal Serial Bus 2 (USB2) standard," any one of which may be the "host connection standard." *Id.* at 14:7–17.

[4] In Section II.C.1.c.i, we address how Petitioner's approach to the construction of this term violates various regulatory provisions.

The remainder of the specification often restates the claim language, stating that the "host connector" "protrud[es] from the housing," "conforms to a host connection standard," and "allows access to the memory upon insertion of the host connector into a host computer interface compatible with the host connection standard." *Id.* at 2:31–36, 2:53–58; *see, e.g.*, 2:3–6, 4:45–47, 7:20–22, 7:42–46, 8:25–28, 8:55–57. These statements do not provide additional clarity as to the meaning of the term "host connector."

The specification also explains the function of a host connector, namely, to couple or connect to a host computer. In contrast to conventional memory cards that have only a device connector and therefore require an adaptor or reader to be read by a host computer, the disclosed memory card—which also includes a host connector that "can be directly inserted into a host computer interface"—"can be coupled directly to a host computer device without using an adapter or reader." *Id.* at 1:61–2:6, 2:63–3:4. Similarly, in discussing an embodiment of the disclosed memory card with additional connectors that each conform to either a device connection or host connection standard, the specification states that the "[e]xtra connectors allow memory card 80 to couple to several portable device contacts" (device connectors) "and several computing device ports" (host connectors). *Id.* at 10:56–58. Likewise, in other "exemplary" embodiments where the host connector is a shieldless USB tab, the "tab connects directly to a USB port" and "may couple directly to a computing device's USB port allowing communication between the computing device and controller 94 [of the memory card] without an adapt[e]r or reader." *Id.* at 3:58–4:4, 10:63–67, 11:19–22.

In addition, the specification describes various "exemplary" embodiments in which the host connector constitutes a shieldless USB tab,

i.e., a USB tab without the conventional electrical shield. *See, e.g.*, *id.* at 3:15–18, 3:34–4:1, 4:43–47, 5:3–4, 5:32–33, 5:65–67, 6:36–42, 6:65–7:3; Figs. 1–9; PO Resp. 3. The specification further notes that other host connection standards "in which a shield is conventionally included on the connector" "may similarly be supported via a shieldless tab." *Id.* at 4:6–9.

Yet the specification makes clear that a host connector is not limited to a shieldless tab or, more specifically, a shieldless USB tab. Rather, the specification explains that although "[t]he host connector of the memory card has been exemplified by a shieldless USB tab," the host connector may conform to a list of numerous standards, including "a Universal Serial Bus (USB) standard [and] a Universal Serial Bus 2 (USB2) standard," "or the like." *Id.* at 12:22–38; *see also id.* at 5:15–25 (explaining the host connector may conform to a list of specific host connection standards "or another host connector standard"). Moreover, in discussing one embodiment, the specification states that "shieldless tab 13 is one example of a host connector," but "[i]n other examples, different types of host connectors may be used with or without shields." *Id.* at 4:46–49. Similarly, the specification discloses another embodiment with a "plurality of host connectors," which "may or may not comprise shieldless tabs." *Id.* at 5:48–51.

Based on our review of the '188 patent specification, the specification does not evidence an attempt by the patentee to depart from the ordinary and customary meaning of the term "host connector." Because we see nothing that further informs the meaning of the term "host connector" in the prosecution history, *see* Ex. 2007, we next consider contemporaneous technical dictionaries to shed light on the meaning of the term in the relevant art. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1317–18 (Fed. Cir. 2005). THE COMPUTER GLOSSARY (9th ed. 2001) defines a "connector" as "[a]ny

plug, socket or wire that links two devices together." Ex. 3004, 73. In addition, THE ILLUSTRATED DICTIONARY OF ELECTRONICS (8th ed. 2001) provides the following definitions of a "connector": "1. A device that provides electrical connection. 2. A fixture (either male or female) attached to a cable or chassis for quickly making and breaking one or more circuits." Ex. 3005, 141. These definitions reinforce the function of the host connector discussed in the specification.

Accordingly, based on the record before us, we conclude that a "host connector," as recited in claim 10, means a device or fixture that couples or connects to a host computer.

2. "host connector protruding from the housing"

In our Decision on Institution, we did not construe or address the scope of "host connector protruding from the housing," as recited in claim 10. After institution, Patent Owner raised arguments regarding the scope of the term in the Response and Petitioner made responsive arguments in the Reply, which require us to address aspects of its scope. *See* PO Resp. 3–5, 24–27; Reply 1–11.[5]

[5] At the oral hearing, we overruled Patent Owner's objections to Petitioner's references to our construction of the "host connector protruding from the housing" limitation of claim 10 of the '188 patent in the decision on institution in IPR2015-01557. *See* Tr. 5:16–8:22, 18:23–20:13, 26:24–32:9; IPR2015-01557 Inst. Dec., 6–10. Under the specific circumstances of this proceeding, we found it appropriate for both parties to have the opportunity to refer to and address that claim construction during the oral hearing. Because the decision in IPR2015-01557 issued after briefing in this proceeding was complete, neither party could have referenced the construction from that decision in their briefing. Patent Owner raised the same issue of the scope of the "host connector protruding from the housing" in its Response as in its Preliminary Response in IPR2015-01557, and Petitioner proffered responsive arguments in the Reply, which largely

a. Alleged Boundary Requirement

Patent Owner, in its Response, argues that the "host connector protruding from the housing" limitation requires that "the host connector must extend beyond the housing, or jut out from the housing, *with a clear boundary line between the housing and the host connector that extends beyond it*." PO Resp. 3–4, 25–26 (emphasis added). Patent Owner argues that this is the plain and ordinary meaning of the claim language and the '188 patent "compels" this interpretation. *Id.* According to Patent Owner, the '188 patent "make[s] clear" that the host connector is "distinct from the housing," specifically "the housing boundary completely ends and the host connector protrudes beyond the boundary of the housing." PO Resp. 3–4. In other words, Patent Owner appears to argue that the claim language requires the recited host connector and housing to be physically "distinct," and does not encompass "unitary" or "continuous" pieces. *See id.* at 3–5, 18, 23–24.

Petitioner responds that "host connector protruding from the housing," as recited in claim 10, is broad enough to encompass both unitary and separate structures for the host connector and the housing. Reply 2–7, 9–11. In particular, Petitioner argues that neither the '188 patent specification nor the prosecution history disavows a "unitary structure with a host connector portion and a housing portion" without a clear boundary between the host

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overlap with our subsequent claim construction analysis in our decision in IPR2015-01557. *See* PO Resp. 3–5, 24–27; Reply 2–11; IPR2015-01557 Inst. Dec., 6–10. Therefore, we found it reasonable to allow references to our intervening decision on the same issue of claim construction, which was briefed and ripe for decision in this proceeding. Moreover, we note that in reaching our conclusion on the claim construction in this Final Written Decision, we rely on the arguments and evidence presented in the parties' briefs and the record in this proceeding.

connector and housing portions. *Id.* at 10; *see id.* at 3–5. Petitioner also asserts that the claim language encompasses separate host connector and housing structures that have been "joined together." *Id.* at 2 & n.1. Moreover, Petitioner contends that Patent Owner's proposed plain and ordinary meaning of "host connector protruding from the housing" is flawed, as it contradicts the intrinsic record and excludes common uses of "protruding from." *Id.* at 3, 9–11 & n.7.

A claim term will be interpreted more narrowly than its ordinary and customary meaning only under two circumstances: (1) the "patentee sets out a definition and acts as [its] own lexicographer," or (2) the "patentee disavows the full scope of a claim term either in the specification or during prosecution." *Aventis Pharma S.A. v. Hospira, Inc.*, 675 F.3d 1324, 1330 (Fed. Cir. 2012). Such redefinition or disavowal may be explicit or implicit. *See Trs. of Columbia Univ. of New York v. Symantec Corp.*, 811 F.3d 1359, 1363–64 & n.2 (Fed. Cir. 2016).

To act as a lexicographer, the patentee "must clearly set forth a definition of the disputed claim term other than its plain and ordinary meaning," or in other words, "must clearly express an intent to redefine the term." *Aventis*, 675 F.3d at 1330 (internal citations and quotations omitted). "This clear expression . . . may be inferred from clear limiting descriptions of the invention in the specification or prosecution history." *Id.*

Similarly, to disavow claim scope, the specification or prosecution history must "make[] clear that the invention does not include a particular feature" and the feature is then "deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification" or prosecution history, "might be considered broad enough to encompass the feature in question." *SciMed Life Sys., Inc. v.*

Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1341 (Fed. Cir. 2001); *see Aventis*, 675 F.3d at 1330. To disavow claim scope, the patentee may "include[] in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope." *Aventis*, 675 F.3d at 1330 (internal quotations omitted). In this context, it is not sufficient "that the only embodiments, or all of the embodiments, contain a particular limitation." *Id.* Nor is it sufficient that "the patent drawings depict a particular embodiment of the patent." *See Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc.*, 340 F.3d 1298, 1306–07 (Fed. Cir. 2003).

We first consider the ordinary meaning of "a host connector protruding from the housing." As Patent Owner points out, MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY (11th ed. 2003) defines "protrude" as "to jut out from the surrounding surface or context." Ex. 2010, 1000; PO Resp. 25. Patent Owner also cites a definition of "from" in THE OXFORD ENGLISH DICTIONARY (2d ed. 1989), namely "[i]ndicating the starting-point or the first considered of two boundaries adopted in defining a given extent in space." Ex. 2011, 211. This dictionary has a copyright date of 1989—fifteen years before the 2004 filing date of the '188 patent. *See* Ex. 1001, [22]; Ex. 2011, 1–2.[6] Thus, we also consider more contemporaneous definitions of "from." *See, e.g.*, *Phillips*, 415 F.3d at 1313 ("[T]he 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."). The OXFORD COMPACT ENGLISH DICTIONARY (2d. ed. rev. 2003) defines "from" as "indicating the point in space or time at which a

[6] Because the relevant pages in Exhibit 2011 are not numbered, the citation is to the page numbers of the exhibit.

journey, process, or action starts." Ex. 3006, 442. THE AMERICAN HERITAGE DICTIONARY (4th ed. 2001) defines "from" as "[u]sed to indicate . . . a place or time as a starting point." Ex. 3007, 344. Together, these dictionaries demonstrate that "from" indicates the space or location of a starting point.

We do not agree with Patent Owner that the dictionary definitions of "protruding" and "from" support a narrow interpretation of the "host connector protruding from the housing," requiring a "clear boundary line between the housing and the host connector that extends beyond it," which Patent Owner proffers as the ordinary and customary meaning. PO Resp. 24–25; *see* Ex. 2010, 1000; Ex. 2011, 211; Ex. 3006, 442; Ex. 3007, 344. In this context, we find useful Petitioner's analogy to a "nose *protruding from* one's face." Reply 10 n.7. We agree with Petitioner that in common usage, a nose would be considered to protrude from a face, even though the two parts do not have an explicit boundary, division, or other demarcation and are connected or molded to one another. We conclude that, under the ordinary and customary meaning of "protruding from," one part ("host connector") can protrude, or jut out, from another part ("housing") even if the two parts combine to form a single structure or are otherwise attached, connected, joined, or molded to one another. *See* Reply 10; *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1309–11 (Fed. Cir. 2005), *abrogated on other grounds by Zoltek Corp. v. United States*, 672 F.3d 1309, 1320–23 (Fed. Cir. 2012) (holding that the recited "RF receiver" and "destination processor" were not required to be "physically separate" because the claim language, including "transfer," "connected to," and "coupled to," did not support such a narrow interpretation and instead could be satisfied even if the two components were not physically separate).

Having considered the ordinary and customary meaning of "host connector protruding from the housing," we now consider whether the specification or the prosecution history redefines the term or disavows its scope. We conclude that they do not.

Beginning with the claims, independent claim 1, like claim 10, recites "[a] memory card comprising: a housing" and "a host connector protruding from the housing." Ex. 1001, 12:55–64, 13:39–46. Neither claim 10 nor claim 1 provides any requirements regarding the manufacturing of the host connector or the housing that would limit the scope of the "protruding from" language. *See id.*; *see also* Ex. 4001 ("Wolfe Reply Decl.") ¶¶ 20–21.

Turning to the written description, Patent Owner cites to the figures of the '188 patent, particularly Figure 2 reproduced below, as evidence that the patent "compels" its more narrow interpretation of the claim language, requiring a boundary between the host connector and the housing, because "the housing boundary completely ends and the host connector protrudes beyond the boundary of the housing." PO Resp. 3–5, 25–27; Tr. 43:18–44:8, 47:3–7, 48:23–49:6.

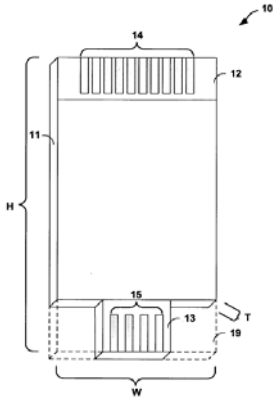

FIG. 2

Patent Owner's arguments appear to focus on the boundary or dividing line depicted between housing 11 and shieldless tab 13 of memory card 10 in Figure 2. As Patent Owner notes, the specification explains that in Figure 2,

shieldless tab 13, which is identified as a host connector, "protrude[s] from . . . housing [11]." Ex. 1001, 4:43–46. A similar line between the host connector and the housing appears in Figures 1 and 3–6, but the specification does not contain a corresponding statement specific to these figures regarding the host connector protruding from the housing. *See id.* at Figs. 1, 3–6.

The specification's depiction of a boundary or line between the host connector and the housing in these figures and reference to the host connector in Figure 2 as protruding from the housing, however, do not suffice to limit the claim language. *See, e.g.*, *Aventis*, 675 F.3d at 1330 ("[I]t is . . . not enough that the only embodiments, or all of the embodiments, contain a particular limitation to limit a claim term beyond its ordinary meaning.") (internal quotations and citations omitted); *Anchor Wall Sys.*, 340 F.3d at 1306–07 ("[T]he mere fact that the patent drawings depict a particular embodiment of the patent does not operate to limit the claims to that specific configuration."). As Patent Owner concedes, this boundary between the host connector and housing is not discussed or mentioned in the specification. *See* Tr. 43:18–44:1. Moreover, the specification describes each figure as merely "exemplary." Ex. 1001, 3:34–52, 4:43–45; *see* Reply 5.

Other relevant statements in the specification echo the claim language "host connector protruding from the housing" without providing any additional guidance on the meaning of the phrase. *See, e.g.*, Ex. 1001, 2:31–32, 2:54–55. Further, Petitioner represents that the specification does not include any detail regarding the manufacturing of the host connector and the housing that would limit the scope of the relevant claim language, and we see no such discussion in our review of the specification. Reply 4 n.2;

Wolfe Reply Decl. ¶ 17; Tr. 18:13–15. In sum, we conclude that the '188 patent specification lacks the clarity required to demonstrate that the patentee intended to redefine the claim language or disavow the claim scope.

Turning to the prosecution history, we agree with Petitioner's representation that the prosecution history provides no amendments or arguments that would inform the meaning of the "host connector protruding from the housing" limitation. *See* Ex. 2007; Reply 5 n.3. Thus, the prosecution history also does not evidence a disavowal of claim scope.

Accordingly, we conclude that the patentee of the '188 patent did not narrow the ordinary and customary meaning of "host connector protruding from the housing" by either acting as a lexicographer or disclaiming claim scope. We disagree with Patent Owner's assertions that the plain and ordinary meaning of "host connector protruding from the housing" requires physically distinct or separately molded parts or structures, with a boundary between them. *See Retractable Techs. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1303–04 (Fed. Cir. 2011) (holding that the claims, specification, and prosecution history indicated that the claimed "retainer member" and "needle holder" need not be "separately molded pieces" and instead could cover "distinct portions of a single structure"). Rather, we determine that the "host connector protruding from the housing" encompasses the host connector and the housing as different parts of a single structure, i.e., attached, connected, joined, or molded to one another.

b. Alleged Interchangeability of "protruding from the housing" and "accessible through the housing"

The parties also dispute whether the '188 patent uses the terms "protruding from the housing" and "accessible through the housing," as recited in claim 10, interchangeably such that the terms should be

understood to have the same meaning. *See* PO Resp. 4–5; Reply 7–9, 11; Ex. 1001, 13:42–46. According to Petitioner, the '188 patent describes the "same host connector structure" as both "protruding from" and "accessible through" the housing and, therefore, "the terms are used interchangeably and should be interpreted to mean the same thing." Reply 8. Patent Owner, however, argues that the difference in claim language evidences that the terms have a different meaning, reflecting a difference in positioning between the recited "host connector" and "device connector" relative to the recited "housing." PO Resp. 4–5 (citing Fernald Decl. ¶ 37).

Independent claims 1 and 10 each recite a "device connector *accessible through* the housing" and a "host connector *protruding from* the housing." Ex. 1001, 12:59–64, 13:42–46 (emphases added). As Petitioner acknowledges, absent contrary evidence, we presume the use of different terms in the claims, i.e., "protruding from" versus "accessible through," connotes different meanings. *Baran v. Med. Device Techs., Inc.*, 616 F.3d 1309, 1313, 1316 (Fed. Cir. 2010); *CAE Screenplates Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000); Reply 7. This presumption "is overcome where . . . the evidence indicates that the patentee used the two terms interchangeably." *Baran*, 616 F.3d at 1316.

Petitioner's argument that the '188 patent specification uses the terms "protruding from" and "accessible through" interchangeably overlooks differences in terminology between the portions of the specification cited in support of its argument. *See* Reply 8–9 (citing Ex. 1001, 4:43–46, 6:36–46, 7:47–55, 8:53–57). Specifically, in describing Figures 2 and 7, the specification refers to "shieldless *tab* 13" of Figure 2 and "shieldless Universal Serial Bus (USB) *tab* 63" of Figure 7 as "protruding from the housing." Ex. 1001, 4:43–46 (emphasis added), 8:53–57 (emphasis added).

In describing Figures 3, 6A, and 6B, the specification explains that "USB electrical *contacts* 25" of Figure 3 and "USB electrical *contacts* 55" of Figures 6A and B are "accessible through" the housing. *Id.* at 6:36–43 (emphasis added), 7:47–55 (emphasis added). The *tab* is described as *protruding from* the housing, but the *contacts* are described as *accessible through* the housing. Petitioner does not address or explain the terminology difference between the shieldless USB tab versus the USB contacts. *See* Reply 7–9; Tr. 21:4–10, 21:21–22:4, 23:11–25:3. The specification separately labels and identifies the tab and the contacts in each figure. *See* Ex. 1001, Figs. 2–7, 4:43–46, 5:65–67, 6:36–43, 7:48–54, 8:55–57, 9:63–65.

Moreover, Petitioner does not direct us to, and we see nothing, in the prosecution history relevant to the alleged interchangeability of "protruding from" and "accessible through" the housing.

In sum, we conclude that Petitioner has not shown sufficiently that the '188 patent uses "protruding from" and "accessible through" the housing interchangeably and, thus, has not overcome the presumption that the terms "accessible through the housing" and "protruding from the housing," as recited in claim 10, have different meanings.

3. "form factor," "hinge," and "memory card"

In our Decision on Institution, we construed "form factor" in claim 10 to mean "exterior size and shape" and "hinge" in claim 14 as "a jointed device or flexible piece on which the cover rotates, turns, or swings." Inst. Dec. 6–10. We also determined that we need not address the Petition's proposed construction of "memory card," because the Petition makes no reference to this construction in addressing the asserted grounds. *Id.* at 10.

In its Response, Patent Owner takes the position that no construction of "form factor" and "hinge" is necessary, yet "accepts" our construction.

PO Resp. 6. Patent Owner also agrees with our determination that no construction of "memory card" is necessary. *See id.* Petitioner has not disputed or otherwise addressed these determinations.

Our reasoning in this Final Written Decision does not rely on these determinations. Yet to the extent necessary to our decision, we discern no reason, based on the record developed during trial, to alter our construction of "form factor" and "hinge," or our determination that no construction of "memory card" is required. Therefore, for the reasons given in our Decision on Institution, we maintain our constructions of "form factor" and "hinge."

C. INSTITUTED GROUNDS OF UNPATENTABILITY

We turn to the instituted grounds, which allege that claims 10–13 and 20 of the '188 patent are anticipated by Yen and that claim 14 would have been obvious over Yen and Yu. Pet. 3, 18–29; Inst. Dec. 10–16. Petitioner asserts that under 35 U.S.C. § 102(a), Yen—a European patent application filed on January 31, 2002 and published on August 6, 2003—qualifies as prior art to the '188 patent, which was filed on February 27, 2004. *See* Pet. 2; Ex. 1001, [22]; Ex. 1002, [22], [43]. In addition, Petitioner argues that Yu—a U.S. patent that was filed on March 10, 2003 and issued on July 13, 2004—is prior art under 35 U.S.C. § 102(a) and (e). Pet. 3; Ex. 1005, [22], [45]. Patent Owner does not dispute Petitioner's position, and we agree with Petitioner's assertions that Yen and Yu qualify as prior art to the '188 patent under the cited standards.

1. Anticipation by Yen

a. Yen

Yen discloses two embodiments of dual-interface memory cards—one that includes a "USB low height connector," *see* Ex. 1002, 3:23–26, 3:56–57, 4:24–26; *see generally id.* at 3:23–5:20, and a second that includes a

USB interface contact, *see id.* at 5:21–24, 6:36–38, 7:30–33; *see generally id.* at 5:21–8:5. In the first embodiment, Yen discloses "USB low height connector 100," which "comprises . . . metal terminal 101, two jut pieces 102 and . . . connector part 103." *Id.* at 3:23–26. Figure 2 of Yen is reproduced below.

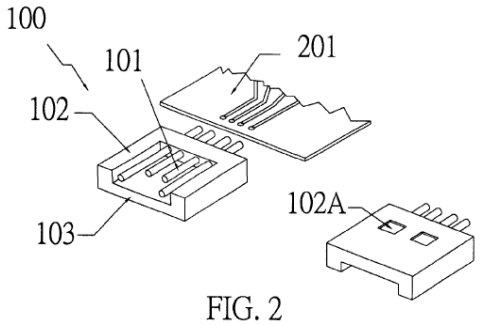

FIG. 2

Figure 2 depicts a "perspective view" of low height USB connector 100 of Yen's first embodiment. *Id.* at 2:11–12, 3:23–26. Yen explains that low height USB connector 100 has two differences from a standard USB connector, specifically, in low height USB connector 100: (1) the sides of connector part 103 are "fixedly attached with . . . jut pieces 102 respectively or integrally extend . . . jut pieces 102 respectively," and (2) the casing, which is "provided for shielding and decreasing an effect of signal delay" in the standard USB connector, is omitted. *Id.* at 3:29–33, 3:50–4:3. Yen also explains that connector 100 "can be associated with . . . print[ed] circuit board [("PCB")] 201 by way of soldering." *Id.* at 3:47–49; *see id.* at 5:2–6. Yen discloses that this low height USB connector can be used in a dual interface memory card. *See id.* at 2:14–20, 4:6–17, Figs. 3–4.

In the second embodiment, Yen seeks to eliminate the soldered joints from the first embodiment, because soldered joints on the circuit "may result in a change of impedance of transmission line to influence the high-speed transmission for data." *Id.* at 5:6–15. Yen explains that this second

embodiment uses a design concept in which "direct contact" between the signal and the "metal conductive pieces of the printed circuit board in the memory storage apparatus" is used "instead of using a connector." *Id.* at 5:11–20. In other words, Yen discloses "how to remove the connector for decreasing the number of soldered joints on the circuit and enhancing the performance of the circuit with a moderate reluctance under high speed signal transmission." *Id.* at 7:6–13.

In particular, Yen discloses "planar electrode contact 110," "without USB connector," which "can be used instead of the traditional USB connector" and eliminates the "deficiency generated from the soldered joints on the circuit." *Id.* at 5:21–24, 5:34–37; *see id.* at 7:6–13. Yen explains that metal connective pieces, or gold contacts, 111 "laid out on . . . printed circuit board 202 . . . replace . . . metal terminal 101" from the first embodiment. *Id.* at 5:29–32, 7:2–4. Further, according to Yen, USB planar electrode contact 110 "can be received in the USB slot socket of the main unit after . . . printed circuit board 202 being associated with . . . base 113 and . . . fool proof jut piece 112 is integral with . . . casing 114 and disposed at two opposite lateral sides of . . . printed circuit board 202." *Id.* at 5:21–29.

Yen explains that this "planar electrode contact without USB connector" can be "arranged on" various currently used memory cards to form a "dual interface memory card." *Id.* at 2:24–57, 6:14–16, 7:28–35. This dual interface memory card has "two different interface contacts," or "interface ends"—USB interface contact 300, or USB signal contact end 300, and application interface end 400. *Id.* at 6:36–49, 7:28–35. Figures 12 and 13 of Yen are reproduced below.

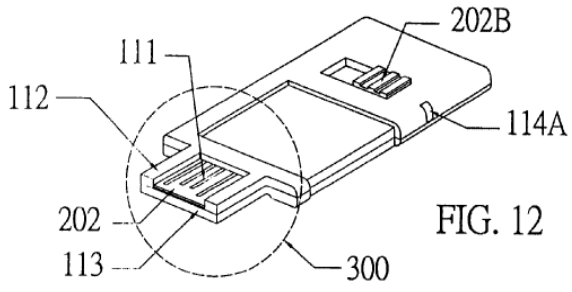

FIG. 12

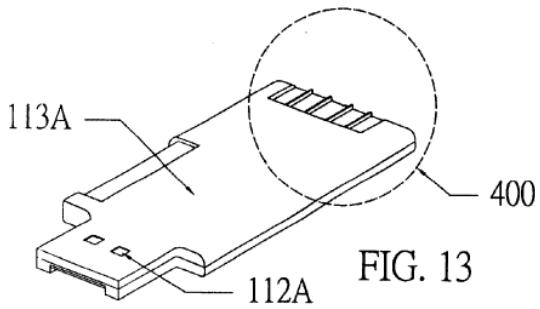

FIG. 13

Figures 12 and 13 depict a MS card as an example of the disclosed dual interface memory card, with Figure 12 showing the top and Figure 13 showing the bottom of the memory card. *See id.* at 2:51–57, 6:36–38, 7:6–9, 7:28–35. Application interface end 400, shown at the right end of the memory card in Figure 13, includes "different specifications depending on different memory cards," such as a MMC card, SD card, or MS card. *See id.* at 6:36–42, 6:46–49, 7:14–16. The memory card also features printed circuit board 202 and casings 113A, 114, which "enclose . . . printed circuit board 202." *Id.* at 7:1–2. In addition, "[g]old contacts 111, 111A are arranged on . . . printed circuit board 202 and form as a USB contact conductor and a contact conductor" of the memory card. *Id.* at 7:2–5.

In addition, the memory card may include cover guard 301 "to protect parts of the USB contact." *Id.* at 7:36–37, Fig. 14.

b. Yen's First Embodiment

Petitioner represented at the oral hearing that its position is that both the first and second embodiments of Yen anticipate claims 10–13 and 20. *See* Tr. 11:9–12:20, 25:23–26:9. Therefore, we first consider Petitioner's assertions that Yen's first embodiment anticipates these claims, before addressing Petitioner's arguments that the second embodiment of Yen is anticipatory.

Petitioner's proffered arguments and evidence that the first embodiment of Yen anticipates claims 10–13 and 20 suffer from several deficiencies. First, under 35 U.S.C. § 312(a)(3), a petition is required to "identif[y], in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim." 35 U.S.C. § 312(a)(3). Our rules further address the showing required in a petition. In particular, 37 C.F.R. § 42.104(b)(4) provides that "[t]he petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon," and 37 C.F.R. § 42.104(b)(5) adds that the Petition must "identify[] specific portions of the evidence that support the challenge." Similarly, 37 C.F.R. § 42.22(a)(2) states that a petition "must include . . . [a] full statement of the reasons for the relief requested, including a detailed explanation of the significance of the evidence."

We determine that the Petition falls short of satisfying these statutory and regulatory requirements with regard to the first embodiment of Yen. The Petition never identifies any element of Yen's first embodiment that corresponds to or discloses the "housing" and "memory in the housing" recited in claim 10. *See* Pet. 21–22; Ex. 1001, 13:39. For these limitations, the Petition identifies only elements of the second embodiment of Yen and does not include any citations to the first embodiment. *See* Pet. 21–22. In addition, although the Petition does identify elements of Yen's first embodiment that allegedly correspond to the recited "device connector" and "host connector"—element 74, which is not named in Yen, and connector 72, respectively—the only proffered support is a citation to Figure 4 of Yen. *See id.* at 22–24; Ex. 1002, 4:24–32, Fig. 4. For example, for the "host connector" limitation, requiring "a host connector protruding

from the housing, the host connector conforming to a host connection standard and allowing access to the memory upon insertion of the host connector into a computer interface compatible with the host connection standard," Ex. 1001, 13:46–14:2, the Petition includes no argument, analysis, or explanation alleging how Yen's connector 72 satisfies this claim language, *see* Pet. 23–24. Similarly, for dependent claims 11 and 12, the Petition lacks any relevant citation or explanation addressing how Yen's element 74 meets the specific device connection standards recited in each of these claims. *See id.* at 25–27; Ex. 1001, 14:7–23; Tr. 15:1–16:14.

Even considering the declaration of Dr. Wolfe, submitted in support of the Petition, Petitioner fares no better. In analyzing the challenged claims, Dr. Wolfe refers to Yen's first embodiment only for the final limitation of claim 10, reciting "a cover to cover the host connector, wherein the housing and the cover collectively define a form factor of the memory card that substantially conforms to a form factor of the memory card standard." Wolfe Decl. ¶ 62 (citing Ex. 1002 ¶ 12, Fig. 4); Ex. 1001, 14:3–6. He similarly refers to the same disclosure once in his "[b]ackground" or "overview" of Yen. *See* Wolfe Decl. ¶¶ 51, 54 (citing Ex. 1002, 4:27–29, Fig. 4), 55. Dr. Wolfe does not refer to any other disclosure of Yen's first embodiment. Nor does Dr. Wolfe identify any other element of Yen's first embodiment as corresponding to or disclosing any other limitation of claims 10–13 and 20. *See id.* ¶¶ 56–75. For example, for the "housing" and "host connector protruding from the housing" limitations of claim 10, Dr. Wolfe does not identify any element of Yen's first embodiment as disclosing these limitations and does not present any opinion regarding how Yen's first embodiment satisfies the claim language. *See id.* ¶¶ 57, 60.

Based on the deficiencies addressed above, we determine the Petition fails: (1) to specify sufficiently where each limitation of claims 10–13 and 20 are found in the first embodiment of Yen, (2) to identify sufficiently specific supporting portions of Yen's first embodiment, and (3) to provide an adequately detailed explanation of the significance of any cited evidence or elements in the first embodiment. Therefore, the Petition fails to satisfy 35 U.S.C. § 312(a)(3), 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(4)–(5) for any alleged assertion that the first embodiment of Yen anticipates claims 10–13 and 20. Accordingly, the Petition does not allege adequately anticipation by Yen based on Yen's first embodiment.

Second, given the lack of adequate reference to the first embodiment of Yen in the Petition, our Decision on Institution analyzed and identified only elements of Yen's second embodiment for which Petitioner had made a sufficient showing to institute trial. Inst. Dec. 12 (identifying elements 113A, 114, 507, 400, 300, 301 from Yen's second embodiment). Therefore, in our view, anticipation by Yen's first embodiment is not properly part of this trial, but we nonetheless address Petitioner's assertions on the issue for completeness. *See* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,765 (Aug. 14, 2012) ("Practice Guide") ("Any . . . issue not included in the authorization for review is not part of the trial."). Moreover, Patent Owner's counsel represented at the hearing that Patent Owner was not on notice of Petitioner's allegations regarding the first embodiment of Yen. *See* Tr. 58:5–8 ("I believe they only went to the second embodiment at least with their expert. I believe they only addressed the second embodiment in their petition. And [the Board] granted based on the second embodiment."). As a result of the inadequacies regarding the Petition's allegations relating to Yen's first embodiment, together with the analysis in the Decision on

Institution directed to Yen's second embodiment, if we were to determine in this Final Written Decision that Yen's first embodiment is anticipatory, Patent Owner would lack reasonable notice and opportunity to respond, to which it is entitled in this proceeding. *See Dell Inc. v. Acceleron, LLC*, Nos. 2015-1513, -1514, slip op. at 13–15 (Fed. Cir. Mar. 15, 2016); *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1080 (Fed. Cir. 2015) ("A patent owner in [an *inter partes* review] is undoubtedly entitled to notice of and a fair opportunity to meet the grounds of rejection.") (explaining Administrative Procedure Act ("APA") requirements, including that respondents be "timely inform[ed]" of "matters of fact and law asserted," which mean that an agency "may not change theories in midstream without giving respondents reasonable notice of the change and the opportunity to present argument under the new theory") (internal citations and quotations omitted).

Third, at the hearing, Petitioner argued that the first embodiment of Yen is anticipatory and made assertions regarding which element in Yen's first embodiment corresponds to some of the limitations of claim 10, including the device connector, host connector, and cover. Tr. 11:9–12:20, 15:1–16:15, 25:23–26:9. For the "housing" of claim 10, however, Petitioner stated that "[a] housing is actually not disclosed" in Yen's first embodiment. *Id.* at 11:9–15. Referencing Figure 4 of Yen, Petitioner then continued to assert that the housing "would start below" and "does not include" connector 72, and "wouldn't actually be what 74 is referring to." *Id.* at 11:19–12:15. Petitioner further argued that the housing "would be the housing portion, the cover, the casing. That encloses below 72." *Id.* at 12:8–11.

This argument at the hearing is insufficient for a number of reasons. As outlined above, our governing statute and rules make clear that the

Petition must contain the argument and evidence necessary to support Petitioner's case—but the Petition does not identify any element of the memory card in Yen's first embodiment that corresponds to the recited "housing" or provide any argument that Yen's first embodiment includes such a "housing." *See* Pet. 21–22; 35 U.S.C. § 312(a)(3); 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(4)(5). The oral hearing is not an opportunity to make new arguments or submit new evidence. *See Dell*, slip op. at 13–15 (holding that the "oral argument presented no opportunity for [petitioner] to supply evidence," as the Board's prohibition on new evidence and arguments in an oral hearing reflects the "fundamental requirements" of the APA, and a final decision based on a factual assertion raised for first time at oral argument deprived patent owner of required meaningful opportunity to respond); Practice Guide, 77 Fed. Reg. at 48,768 ("No new evidence or arguments may be presented at the oral argument."). Petitioner's arguments at the oral hearing, particularly regarding the "housing" limitation, ran afoul of these requirements.

Even if we were to consider Petitioner's arguments at oral hearing regarding the "housing" limitation of claim 10, they are merely attorney argument, devoid of evidentiary support, and are entitled to no weight. *See Gemtron Corp. v. Saint-Gobain Corp.*, 572 F.3d 1371, 1380 (Fed. Cir. 2009) ("[U]nsworn attorney argument . . . is not evidence."); *Enzo Biochem, Inc. v. Gen-Probe, Inc.*, 424 F.3d 1276, 1284 (Fed. Cir. 2005) ("Attorney argument is no substitute for evidence."). Petitioner's arguments also lack clarity regarding the identity and location of the "housing" in Yen's first embodiment and, therefore, are insufficient to demonstrate that Yen's first embodiment discloses a "housing" and the "host connector protruding from the housing," as recited in claim 10. *See* Ex. 1001, 13:40–46.

For the reasons given, we conclude that the Petition does not allege adequately that claims 10–13 and 20 are anticipated by Yen based on Yen's first embodiment, and that Petitioner has not shown by a preponderance of the evidence that Yen's first embodiment anticipates these claims.

c. *Yen's Second Embodiment*

i. Claim 10

We turn to Petitioner's assertion that Yen's second embodiment anticipates independent claim 10 of the '188 patent. The parties dispute whether the second embodiment of Yen discloses "a host connector protruding from the housing," as recited in claim 10.

The Petition does not address the construction of "host connector," as recited in claim 10. In the Petition, as well as the supporting declaration of Dr. Wolfe, Petitioner identifies the "host connector" recited in claim 10 as Yen's USB interface contact 300—including gold contacts 111, fool proof jut piece 112, base 113, and PCB 202—and asserts that this contact protrudes from casings 113A, 114. *See* Pet. 19, 23–24 (stating "USB interface 300 *protrudes* from the casings" and highlighting the parts labeled 300, 111, 112, 113, and 202 of Yen's Figure 12); Wolfe Decl. ¶¶ 53, 60 (opining that "shieldless USB interface" "300" or "USB signal contact end" "300" "*protrudes* from the casings" and highlighting the parts labeled 300, 111, 112, 113, and 202 of Yen's Figure 12); Ex. 2006 (Tr. of Dep. of Andrew Wolfe, Ph.D.), 98:11–20. The Petition also identifies Yen's "USB planar electrode contact 504," depicted in Yen's Figure 9, as the "host connector," but does not include any supporting explanation or argument for element 504. *See* Pet. 23–24.

Next, in his deposition, Dr. Wolfe expressly identified gold contacts 111 in Yen as the "host connector" and explained that he intended

to identify them as the "host connector" in his declaration. Ex. 2006, 67:25–69:10 ("Q. . . . What in Figure 12 are you considering the host connector as claimed in claim 10? A. 111."), 73:20–74:2 ("Generally, one --- the 111 is the host connector."); *see id.* at 51:9–16 ("111 is the connector . . . ."); 55:5–18. Dr. Wolfe indicated that he does not consider jut piece 112 and base 113 to be part of the "host connector," but also does not consider them to be "housing," which he identified as casings 113A, 114. *See, e.g., id.* at 44:16–46:5, 47:5–48:5, 48:19–24, 67:25–69:22; Ex. 2001. Moreover, when asked how Yen discloses the "host connector protruding from the housing" limitation of claim 10, Dr. Wolfe explained that "[t]he housing, which is 114 and 113A, has a hole in it, and 111 sticks out through that hole, and that would be within the scope of things that I would normally describe as protruding." Ex. 2006, 75:3–11; *see id.* at 55:5–18, 58:15–23, 68:17–69:2. Dr. Wolfe also stated that the host connector in Yen "could include 112 and 113" in addition to gold contacts 111, and that this combination of Yen's elements 111, 112, and 113 or the combination of elements 111 and 112 as a host connector would anticipate. *Id.* at 74:1–75:1.

Patent Owner then filed its Response, treating Yen's gold contacts 111 as the alleged "host connector." *See, e.g.*, PO Resp. 19 ("[T]he host connector shown in Figure 11 at element 111 . . . ."); Fernald Decl. ¶ 38 (identifying gold contacts 111 as "USB connector formed onto PCB"). Patent Owner did not address expressly the construction of "host connector." *See generally* PO Resp.

In its Reply, Petitioner neither identifies what Petitioner alleges to be the "host connector" of claim 10 in Yen's second embodiment, nor proffers a construction of "host connector" as recited in claim 10. *See generally* Reply. Petitioner, however, argues that jut piece 112 and base 113 in Yen's

second embodiment remain "separate from the housing." Reply 16; Wolfe Reply Decl. ¶ 13.

At the oral hearing, Petitioner—for the first time—articulated that Petitioner has alternative theories regarding the identity of the recited "host connector" in Yen's second embodiment that turn on the construction of the claim term "host connector." *See* Tr. 14:1–5 ("This Board has not construed host connector to be either the electrical contact or the assembly. So if that's something the Board chose to do, [the host connector] could be 111 or it could be the whole USB assembly including 111."), 69:6–70:13 ("[I]t would depend on how this Board defines connector . . . ."), 71:15–73:12. Specifically, Petitioner explained that:

> [I]f [the Board] decide[s] that for the '188 patent[,] the connector . . . is simply the metal contacts, then I'm going to tell you that in Yen the connector is simply 111. If [the Board] were going to tell me[,] based on [the Board's] review of the '188 patent[,] that the connector encompasses the whole assembly, including whatever casing is around it, . . . then I'm going to tell you that Yen discloses 300 as the host connector.

Id. at 71:15–17. In response to questioning regarding the proper construction of "host connector," Petitioner conceded that it had not proffered a construction of "host connector," and had not performed the analysis necessary to provide a proposed construction—stating "I'm not sure what it is. I have not performed that analysis. We did not put forth that particular thing." *Id.* at 71:15–73:12; *see id.* at 14:6–11 ("I don't know that the host connector is limited to just the USB contact."). Petitioner further represented that "this Board can decide" the identity of Yen's host connector. *Id.* at 64:11–13.

Petitioner's arguments and evidence are insufficient to establish, by a preponderance of the evidence, that Yen's second embodiment discloses a

"host connector protruding from the housing," as recited in claim 10. First, Petitioner's approach to addressing the claim construction of "host connector," identifying the recited "host connector" in Yen's second embodiment, and articulating theories as to how that "host connector protrud[es] from the housing" violates our rules in a manner that deprives Patent Owner of adequate notice and opportunity to respond. As outlined above, Petitioner did not argue until the oral hearing that it has alternative theories regarding the identity of the "host connector," which turn on the construction of the term. *See id.* at 14:1–5, 69:6–70:13, 71:15–72:24. Petitioner has never proposed or taken any position on a construction of the term, despite being asked to do so during the oral hearing. *See id.* at 14:6–11, 71:15–73:12; *see generally* Pet.; Reply. Therefore, Petitioner has never identif[ied] "*[h]ow the challenged claim is to be construed*" and "*[h]ow the construed claim* is unpatenable," including "specify[ing] where each element of the claim is found in the prior art . . . printed publication[] relied upon"—which are basic requirements of the Petition under 37 C.F.R. § 42.104(b)(3)–(4) (emphases added).

Similarly, throughout the trial—from the Petition, to Dr. Wolfe's deposition, to the oral hearing, Petitioner altered what it identified as the "host connector" in Yen's second embodiment and its theory as to how this "host connector protrud[es] from the housing" in a manner that runs astray of our statutory and regulatory framework. *See* Pet. 19, 23–24; Wolfe Decl. ¶¶ 53, 60; Ex. 2006, 55:5–18, 58:15–23, 67:25–69:10, 73:20–74:2, 75:3–11; Tr. 14:1–5, 69:6–70:13, 71:15–72:24. This violates 37 C.F.R. § 42.104(b)(4), which requires the Petition to "specify where each element of the claim is found in the prior art . . . printed publications relied upon," and 37 C.F.R. § 42.22(a)(2), which mandates that the Petition include "[a]

full statement of the reasons for the relief requested." Although petitioners certainly are entitled to argue in the alternative, Petitioner's approach in this case of stating varying positions at different times of the proceeding, without explaining until the final hearing that Petitioner intends to argue in the alternative and that the alternative theories are based on the construction of a claim term on which Petitioner has taken and can offer no position, falls far below the standards for particularity and specificity required of Petitioner's arguments and evidence in our statutory and regulatory framework. *See* 35 U.S.C. § 312(a)(3); 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(3)–(4).

Our rules and procedures are in place to afford Patent Owner adequate notice and opportunity to respond to the arguments and evidence being asserted to challenge its patent—a right to which Patent Owner is statutorily entitled. *See supra* § II.C.1.b; *Dell*, slip op. at 13–15 (holding that the Board's prohibition on new evidence and arguments in an oral hearing reflects the "fundamental requirements" of the APA, including that patent owners have notice and a fair opportunity to respond, and that reliance on assertions and evidence raised only at oral argument, after patent owner could meaningfully respond, deprives patent owner of these rights); *Belden*, 805 F.3d at 1080 (explaining that "the rules and practices of the Board generally protect against loss of patent rights without the . . . notice and opportunity to respond" to which a patent owner in an *inter partes* review is entitled under the APA). Like discovery rules in the federal rules of evidence, which are designed to prevent a so-called "trial by ambush," where a defendant is left guessing as to the asserted arguments and evidence until trial, our rules and procedures similarly aim to prevent patent owners from surprise arguments and evidence, without adequate notice and opportunity to respond. *See, e.g., Woods v. Int'l Harvester Co.*, 697 F.2d

635, 639 (5th Cir. 1983); *Sud-Chemie, Inc. v. CSP Techs., Inc.*, No. 4:03cv003, 2006 WL 2246404, at *33–34 (S.D. Ind. Aug. 4, 2006). Indeed, because the trial in an *inter partes* review begins with the Decision on Institution, by the time of the oral hearing, the trial is well under way. *See* 37 C.F.R. § 42.2. Therefore, as our Practice Guide makes clear, the final oral hearing is not the time to advance new theories of a case. *See* Practice Guide, 77 Fed. Reg. at 48,768 ("No new evidence or arguments may be presented at the oral argument.").

Petitioner's approach of altering its theories as to the identity of the recited "host connector" and how that host connector "protrud[es] from the housing," as required by claim 10—without clearly articulating that it intended to maintain alternative theories and the reason for the alternative theories until the final oral hearing—was improper under our rules and prejudicial to Patent Owner. Moreover, Petitioner's failure to proffer a construction of "host connector," despite explaining at the oral hearing that its theory for the identity of the "host connector" and how it protrudes from the housing turns on the construction of the term, likewise improperly left the Board to consider the issue of the proper claim construction and to determine if what Petitioner has identified as potential host connector structures in Yen fall within the scope of that construction, without briefing or argument from either party and without Patent Owner having a reasonable opportunity to respond to the construction.

Second, even considering the merits of Petitioner's assertions and evidence, we determine that Petitioner has not demonstrated sufficiently that Yen's second embodiment discloses the "host connector protruding from the housing" recited in claim 10, under any of the theories Petitioner presents.

Based on our review of the record, we discern three theories[7] that Petitioner presents as to how Yen's second embodiment discloses the "host connector protruding from the housing" limitation.

Before addressing the various theories, we note that, in each theory, Petitioner takes the position that only casings 113A, 114 in Yen constitute the recited "housing." *See* Ex. 2006, 45:12–13, 47:5–48:5, 98:11–20; Tr. 13:1–3; Ex. 2001. Patent Owner agrees that casings 113A, 114 in Yen's second embodiment constitute "housing." *See* PO Resp. 18, 22; Fernald Decl. ¶¶ 43–45. We agree with both parties that casings 113A, 114 are "housing" within the plain and ordinary meaning of the term, i.e., something that covers, protects, or supports, such as a case, enclosure, or casing for a

[7] In its Response, Patent Owner "presum[es]" that Dr. Wolfe's deposition testimony speculating that gold contacts 111 extend above jut piece 112 and base 113 may be a theory for the "host connector protruding from the housing." PO Resp. 31–32. We do not understand this testimony to articulate such a theory, given the context in which it arose and that Dr. Wolfe never connects his statements to the claim language. *See* Ex. 2006, 62:5–65:23, 75:15–82:7. Moreover, Petitioner never referenced such a theory in the Petition, Reply, or oral hearing. Thus, we need not consider this testimony as a theory for Yen disclosing the "host connector protruding from the housing." In addition, we note that for the testimony to be such a theory, Dr. Wolfe must be considering jut piece 112 and base 113 to be housing, which contradicts Petitioner's repeated statements to the contrary. *See* Reply 16; Ex. 2006, 45:12–13; Tr. 13:1–2; PO Resp. 32; Fernald Decl. ¶ 47. Even if we were to consider the testimony as a theory for the "host connector protruding from the housing," it is not sufficient. For example, we disagree with Dr. Wolfe that Yen's disclosure that jut piece 112 is at the "sides" of PCB 202, whereas gold contacts 111 are "laid out on" PCB 202, means that contacts 111 extend above or are higher than jut piece 112, because the jut piece could be equal in thickness or thicker than the contacts and PCB, as depicted in Yen's Figures 6, 11, and 12. Ex. 2006, 78:7–82:7; Ex. 1002, 5:21–32, Figs. 11–12; Fernald Decl. ¶ 46. Dr. Wolfe's testimony on this point also contradicts other testimony in his deposition. *See, e.g.*, Ex. 2006, 64:12–14, 65:2–8.

mechanical part. *See* PO Resp. 18, 20–21; Ex. 2006, 45:12–13, 47:5–48:5, 98:11–20; Tr. 13:1–3; Ex. 2001; Ex. 2009 (THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE (3d ed. 1996)), 603 (defining "housing" as "something that covers or protects as a: a case or enclosure (as for a mechanical part or an instrument) . . . c: a support (as a frame) for mechanical parts."); Ex. 3007 (THE AMERICAN HERITAGE DICTIONARY (4th ed. 2001)), 413 (defining "housing" as "[s]omething that covers, protects, or supports, esp. something that protects a mechanical part"); Ex. 3006 (The OXFORD COMPACT ENGLISH DICTIONARY (2d. ed. rev. 2003)), 541 (defining "housing" as "a rigid casing for a piece of equipment"); Fernald Decl. ¶ 34. In particular, Yen discloses that "casings 114 and 113A enclose the printed circuit board 202" of the memory card, and Yen's figures depict casings 113A, 114 as covering, protecting, and supporting various components, including PCB 202. Ex. 1002, 7:1–2, Figs. 10–13.

Patent Owner, however, argues the "housing" in Yen's second embodiment is not limited to casings 113A, 114 and instead also includes jut piece 112 and base 113. *See* PO Resp. 18, 22; Fernald Decl. ¶¶ 43–45, 47. Accordingly, the parties dispute whether jut piece 112 and base 113 in Yen's second embodiment should be classified as part of the recited "housing," part of the recited "host connector," or something else and, thus, whether Yen discloses the "host connector protruding from the housing" limitation of claim 10. With this background, we turn to Petitioner's theories, and supporting arguments and evidence, for how Yen discloses the "host connector protruding from the housing" limitation.

Under Petitioner's first theory, Petitioner argues that Yen's USB interface contact 300—including gold contacts 111 as well as either or both of jut piece 112 and base 113—is the "host connector." *See* Pet. 19, 23–24

(stating "USB interface 300 *protrudes* from the casings" and highlighting the parts labeled 300, 111, 112, 113, and 202 of Yen's Figure 12); Wolfe Decl. ¶¶ 53, 60; Ex. 2006, 74:1–75:1 (opining that the host connector "could include" gold contacts 111, jut piece 112, and base 113 and that the combinations of Yen's elements 111 and 112 as well as 111, 112, and 113 as the "host connector" would anticipate); Tr. 13:8–14:5, 72:1–5 (arguing that the host connector could be the whole USB assembly 300, including gold contacts 111, jut piece 112, and base 113). According to Petitioner, this "host connector" protrudes from casings 113A, 114 in Yen. *See* Pet. 19, 23–24; Wolfe Decl. ¶¶ 53, 60; Tr. 13:23–14:5. In this theory, either or both of jut piece 112 and base 113 are part of the "host connector."

Under the second theory, Petitioner asserts that only gold contacts 111 in Yen are the "host connector." *See* Ex. 2006, 51:9–16, 55:5–18, 67:25–69:10, 73:20–74:2; Tr. 69:6–70:8, 71:23–72:1. Jut piece 112 and base 113 are neither part of the "host connector," nor part of the "housing." *See, e.g.*, Ex. 2006, 44:16–46:5, 47:5–48:5, 48:19–24, 67:25–69:22; Ex. 2001; Tr. 69:6–70:8. Dr. Wolfe testified that with gold contacts 111 as the "host connector," Yen meets the "host connector protruding from the housing" limitation, because "[t]he housing, which is [casing] 114 and 113A, has a hole in it, and [gold contacts] 111 stick[] out through that hole, and that would be within the scope of things . . . normally describe[d] as protruding." Ex. 2006, 75:3–11; *see id.* at 55:5–18, 58:15–23, 68:17–69:2. At the oral hearing, Petitioner further argued that gold contacts 111 are "out in front" of casings 113A, 114. *See* Tr. 69:6–70:8. Petitioner explained that jut piece 112 and base 113—which are neither the recited "host connector" nor "housing"—"have nothing to do with th[e] analysis." *Id.*; *see* PO Resp. 31

(arguing that this theory "assumes that . . . jut piece[112] and . . . base [113] are not part of the housing").

Finally, under the third theory, Petitioner argues that with Yen's casing 113A, 114 as the "housing," "everything" and "anything in front of the housing," including gold contacts 111, jut piece 112, and base 113, "protrudes from the housing and could be the host connector." Tr. 13:13–14:5, 64:8–13, 68:20–69:5; *see* Ex. 2006, 74:1–75:1. Accordingly, in this theory, like the other two theories, jut piece 112 and base 113 are not part of the recited "housing" and similar to the first theory, they could be part of the recited "host connector."

Under these various theories asserted by Petitioner regarding how Yen discloses the "host connector protruding from the housing" limitation of claim 10, jut piece 112 and base 113 in Yen are either part of the recited "host connector," or at least not part of the recited "housing." Accordingly—under our constructions of the claim term "host connector" as a device or fixture that couples or connects to a host computer, and "host connector protruding from the housing" as broad enough to encompass the host connector and the housing as different parts of a single structure, i.e., attached, connected, joined, or molded to one another—Petitioner must proffer evidence sufficient to establish that Yen's jut piece 112 and base 113 are part of the recited "host connector" or at least not part of the recited "housing" to succeed on the theories Petitioner has presented. As we explain below, on the record before us, Petitioner failed to do so. The record reflects Petitioner did not develop or support any one theory with sufficient argument and evidence to prevail by a preponderance of the evidence.

First, Petitioner has not shown sufficiently that jut piece 112 and base 113 in Yen's second embodiment are part of a "host connector," within

the meaning of the ’188 patent claims. In contrast to Yen’s first embodiment, which identifies jut pieces 102 and connector part 103 as part of connector 100, *see* Ex. 1002, 3:23–26; Reply 13; Wolfe Reply Decl. ¶ 6, the second embodiment of Yen does not include any disclosure expressly identifying jut piece 112 and base 113 as part of a connector. Petitioner, with supporting testimony from Dr. Wolfe, asserts that the only change Yen discloses from the first embodiment to the second embodiment is the replacement of metal terminal 101 with gold contacts 111, thereby implying that all other disclosures from the first embodiment should apply equally to the second embodiment. *See* Reply 16; Wolfe Reply Decl. ¶¶ 12–13. Yen, however, discusses other changes and includes language regarding the second embodiment that can be interpreted to support understanding jut piece 112 and base 113 to instead be “housing,” as Patent Owner identifies them—none of which Petitioner has addressed adequately. *See* PO Resp. 15–24 (arguing that jut piece 112 and base 113 are “housing”); *see also* Tr. 53:21–54:5 (same).

For example, Yen repeatedly states that a purpose of its second embodiment is to “remove the connector.” Ex. 1002, 7:6–13; *see id.* at 5:11–20 (“[T]he direct contact is used instead of the connector . . . .”), 5:21–22 (“[A] principle of design with no connector is illustrated further.”). Consistent with this stated purpose, Yen often refers to the USB interface in the second embodiment as a “planar electrode contact without USB connector”—in contrast with the “low height USB connector” of the first embodiment. *Id.* at 2:11–47, 5:21–23, 5:58–6:3. In other words, Yen explains, with respect to the second embodiment, that this “planar electrode contact USB connecting device . . . provides no connector” and “that the USB interface connector is not included in the memory storage apparatus of

the present invention any[]more." *Id.* at 7:14–21, 7:50–52. Petitioner has not addressed or explained adequately this language in Yen, thereby leaving a lack of clarity in the record as to how a person of ordinary skill in the art would understand these disclosures.

Relatedly, Petitioner refers to claims 1, 5, 6, and 10 of Yen and points out that these claims, which are directed to Yen's first embodiment in light of their references to soldering, separately recite a USB "connector," or "connecting device," and a "casing," and require that the connector "expos[es] outward the casing." Reply 14–15; Ex. 1002, 5:2–6, 9:14–11:2. Yet Petitioner never addresses claims 19, 20, 24, and 25, which are directed to Yen's second embodiment, given that the references to soldering are replaced with a "metal lead wire part." Ex. 1002, 5:2–32, 11:49–12:57. These claims recite a "memory storage apparatus without interface connector" comprising a "casing" and "a set of metal lead wire part exposing outward the casing." *Id.* at 11:49–12:57. Claims 20 and 25, which depend from these claims, add that a "connecting device" "can be formed with the metal lead wire part." *Id.* at 12:10–14, 12:53–57. Like the passages of Yen discussed above, these claims directed to Yen's second embodiment cast doubt on Petitioner's position that Yen should be understood to disclose jut piece 112 and base 113 as part of a "host connector," rather than the "housing"—and have not been addressed by Petitioner.

In addition, Yen refers to other changes in the design of the "planar electrode contact" in the second embodiment, including Yen's disclosure that the USB planar electrode contact, without USB connector, "can be received in the USB slot socket of the main unit after a printed circuit board 202 being associated with a base 113 and the fool proof jut piece 112 is integral with the casing 114 and disposed at two opposite lateral sides of

the printed circuit board 202." *Id.* at 5:21–29. Although Patent Owner interprets this disclosure to mean that both base 113 and jut piece 112 are integral with casing 114, we agree with Petitioner that, because "is" is a singular verb and the location requirements of the following phrase, i.e., disposed at the sides of PCB 202, apply only to jut piece 112, it is more reasonable and appropriate to interpret this sentence to state only that jut piece 112—not base 113—"is integral with the casing 114." *See* PO Resp. 14–15; Reply 18 n.11; Ex. 2006, 72:14–73:19.

Even under this interpretation, this passage refers to changes to Yen's second embodiment, including that "printed circuit board 202" is "associated with a base 113," Ex. 1002, 5:21–23, 5:26–27, and "fool proof jut piece 112 is integral with the casing 114," *id.* at 5:26–29. Neither of these design components are discussed with respect to the first embodiment. Moreover, under contemporaneous definitions of "integral," Yen's disclosure that "fool proof jut piece 112 is integral with the casing 114" can be read to mean that jut piece 112 becomes part of casing 114, as Patent Owner interprets this language. *See* Ex. 3006 (The OXFORD COMPACT ENGLISH DICTIONARY (2d. ed. rev. 2003)), 581 (defining "integral" as "included as part of a whole" or "forming a whole; complete"); PO Resp. 14–15. Petitioner's proposed interpretation of the "integral with" language to mean only that "the jut piece must be attached to the casing" is conclusory and does not address sufficiently the meaning of the term "integral." *See* Reply 18 n.11.

As to base 113, from the first to the second embodiment, Yen alters the name of the corresponding part from "connector part 103" in the first to "base 113" in the second. *See* Ex. 1002, 3:23–26, 5:27; PO Resp. 10, 15; Reply 16; *compare* Ex. 1002, Fig. 2 (first embodiment), *with id.* at Fig. 12 (second embodiment). Additionally, in the second embodiment, base 113

shares a common element number with casing 113A. *See* Ex. 1002, 5:27, 7:1–2, Figs. 10–14. Yen elsewhere uses the same technique of common element numbers to indicate the same part, e.g., "[g]old contacts 111, 111A." *See id.* at 7:2–4. Accordingly, these disclosures of Yen support understanding Yen to disclose that base 113 is not part of a connector, as in the first embodiment, but instead is "housing"—like casing 113A.

Turning to expert testimony, the testimony of Petitioner's expert, Dr. Wolfe, regarding the identity of jut piece 112 and base 113 shifted throughout this proceeding and Dr. Wolfe never states and explains an unequivocal opinion that jut piece 112 and base 113 are part of the recited "host connector." In his declaration, Dr. Wolfe merely highlighted jut piece 112 and base 113 in Yen's Figure 12 in identifying the recited "host connector." Wolfe Decl. ¶¶ 53, 60. Then, in his deposition, Dr. Wolfe repeatedly took the position that he would not consider jut piece 112 and base 113 to be part of the recited "host connector," and only later added that they "could" be or "can be" part of the "host connector" and that this would anticipate. Ex. 2006, 73:20–75:1; *see id.* at 48:19–24, 67:25–69:22. Finally, in his reply declaration, Dr. Wolfe opines only that jut piece 112 and base 113 are "separate from the housing." Wolfe Reply Decl. ¶ 13. Notably, Dr. Wolfe has never explained why jut piece 112 and base 113 could be considered to be part of the "host connector," as recited in claim 10, or adequately addressed Yen's disclosures, outlined above, suggesting that jut piece 112 and base 113 are not part of a "host connector" but instead are "housing." In contrast, Patent Owner's expert, Dr. Fernald, has opined unequivocally that jut piece 112 and base 113 are part of the recited "housing," with supporting reasoning. Fernald Decl. ¶¶ 43, 45, 47. Therefore, on the record before us, we do not find Dr. Wolfe's testimony

sufficient to support a determination that Yen's jut piece 112 and base 113 are part of the "host connector." *See* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.").

In addition, for largely the same reasons that Petitioner has not shown that jut piece 112 and base 113 are part of the "host connector," Petitioner has failed to put forward argument and evidence sufficient to demonstrate that Yen's jut piece 112 and base 113 are not part of the "housing." As we explain above, although Petitioner takes the position that jut piece 112 and base 113 are not housing, Petitioner and Dr. Wolfe have not addressed or explained sufficiently various disclosures in Yen's second embodiment that support understanding jut piece 112 and base 113 to be part of the "housing," rather than the "host connector" of claim 10. *See* Reply 16; Wolfe Reply Decl. ¶¶ 11–13.

Moreover, in the Petition and Reply, as well as the supporting declarations, Petitioner does not address or dispute that jut piece 112 and base 113 satisfy the plain and ordinary meaning of "housing," which, as we explain above, is something that covers, protects, or supports, such as a case, enclosure, or casing for a mechanical part. *See* PO Resp. 18, 20–21; Ex. 2009, 603; Ex. 3007, 413; Ex. 3006, 541; Fernald Decl. ¶ 34; *see generally* Pet.; Reply. As Patent Owner points out, Dr. Wolfe explained in his deposition testimony that jut piece 112 and base 113 support gold contacts 111, just as casing 114 supports gold contacts 111A—thereby conceding that jut piece 112 and base 113 share a common purpose, within the ordinary meaning of "housing," with casing 114, which Petitioner and Dr. Wolfe admit is "housing." *See* Ex. 2006, 55:20–56:14; Ex. 1002, Figs. 10–11; PO Resp. 30. Dr. Wolfe also testified that "[t]here's no reason the

housing, as described in this patent, can't be made of parts." Ex. 2006, 84:9–10. Together, this testimony further undermines Petitioner's position that jut piece 112 and base 113 are not "housing."

We also agree with Patent Owner that in the course of his testimony, Dr. Wolfe appears to assume that only what Yen refers to as a "casing," can be the recited "housing," without explaining or justifying this assumption. *See* Ex. 2006, 45:21–46:25, 52:4–11, 55:20–56:14; Wolfe Decl. ¶¶ 53, 57; PO Resp. 30. On the record before us, we do not agree that any such assumption is warranted, as elements other than what Yen expressly refers to as a "casing" may satisfy the ordinary meaning of a housing.

Finally, as to Petitioner's assertion, at least under the second theory outlined above, that jut piece 112 and base 113 are not part of the "host connector"—but also are not part of the "housing"—based on our review of Yen, the '188 patent, and the rest of the record, we agree with Patent Owner and Dr. Fernald that Petitioner has not provided sufficiently sound reasoning to support such a distinction, which would create a third category of elements that do not fall into either the recited "host connector" or "housing." *See* Ex. 2006, 44:16–46:5, 47:5–48:5, 48:19–24, 53:1–56:14, 67:25–69:22; Ex. 2001; Ex. 2002; Tr. 69:6–70:8; PO Resp. 29–30. In particular, we credit Dr. Fernald's testimony that "[t]here is no credible reason one skilled in the art would make such an arbitrary distinction, particularly in view of [Yen's Figures 11 and 12,] which show that elements 113 and 112 are unified with elements 113A and 114." Fernald Decl. ¶¶ 42–43.

In sum, Petitioner has not shown by a preponderance of the evidence that jut piece 112 and base 113 are either part of the "host connector" or not part of the "housing" recited in claim 10 of the '188 patent, as necessary to

show that Yen discloses a "host connector protruding from the housing" under the theories Petitioner presented in this proceeding. Accordingly, we determine that Petitioner has not shown by a preponderance of the evidence that Yen's second embodiment discloses a "host connector protruding from the housing," as recited in claim 10, and therefore has not shown that Yen's second embodiment anticipates the claim.

ii. Dependent Claims 11–13 and 20

Dependent claims 11–13 and 20, each of which depends directly from independent claim 10, also include the limitation "a host connector protruding from the housing" based on their dependence from claim 10. *See* Ex. 1001, 13:39–14:46. Petitioner has not provided additional arguments or evidence for these dependent claims that would cure the deficiencies in Petitioner's showing that Yen discloses a "host connector protruding from the housing," outlined above for claim 10. *See* Pet. 24–28; *see generally* Reply. Accordingly, for the reasons given for claim 10, we likewise conclude that Petitioner has not shown by a preponderance of the evidence that Yen's second embodiment anticipates claims 11–13 and 20.

In addition, for claim 20, which recites that the "host connector comprises a shieldless Universal Serial Bus (USB) tab," we determine that Petitioner's second theory for the "host connector protruding from the housing" limitation, addressed above, in which gold contacts 111 allegedly constitute the "host connector," fails for an additional reason. *See* Ex. 1001, 14:44–46; *supra* § II.C.1.c.i. Specifically, gold contacts 111 alone do not constitute a "tab." *See* Ex. 1002, Figs. 10–12; Ex. 1001, Figs. 2–7, 4:43–46, 5:65–67, 6:36–43, 7:48–54, 8:55–57, 9:63–65.

2. Obviousness Over Yen and Yu

We turn to the instituted obviousness ground, alleging that claim 14 of the '188 patent is unpatentable under 35 U.S.C. § 103 as obvious over Yen and Yu. Pet. 3, 18–21, 29; Inst. Dec. 14–15.

a. Yu

Yu discloses a portable memory device, with housing 10, USB plug 30, and dustproof cap 40 to cover USB plug 30. Ex. 1005, 2:63–67. Dustproof cap 40 is connected to housing 10 by flexible strap hinge 41. *Id.* at 3:1–2. When dustproof cap 40 is open, flexible strap hinge 41 allows the cap to remain connected to housing 10 of the device so that "dustproof cap (40) is not lost." *Id.* at 3:3–5.

b. Discussion

Claim 14 depends from independent claim 10 and adds the limitation: "wherein the cover is connected to the housing via a hinge." Ex. 1001, 14:27–28. For this ground alleging obviousness over Yen and Yu, Petitioner relies on its assertions regarding the ground of anticipation by Yen for claim 10, and discusses and relies on Yu only to address the additional limitation of claim 14, namely a hinged cover. *See* Pet. 29 ("[Petitioner] submits that it would have been obvious to one of ordinary skill in the art at the time of the purported invention *to modify the cover 301 of Yen with the hinged connector cover 40 as taught by Yu*.") (emphasis added); Reply 23–24 ("[O]ne of ordinary skill wanting to provide a protective cover for Yen *would have applied the hinged cap teaching of Yu* to prevent the cover from getting lost.") (emphasis added); Wolfe Decl. ¶¶ 76–77; Wolfe Reply Decl. ¶ 27. Accordingly, in our Decision on Institution, we analyzed Yu's teachings only as to its hinged cover, concluding that Petitioner had made a sufficient showing that Yu "teaches the hinge recited in claim 14" and that

"one of ordinary skill in the art would have had sound reason, with rational underpinning, to combine Yu's hinge with the memory card disclosed in Yen." Inst. Dec. 14–15 (internal citations and quotations omitted).

Therefore, the obviousness ground, as asserted and instituted, relies exclusively on Yen for the limitations of independent claim 10, including the recited "host connector protruding from the housing." Moreover, the Petition does not argue or address separately whether the "host connector protruding from the housing" would have been taught or suggested, if not disclosed, by Yen. *See* Pet. 29. For the reasons explained above in our analysis of the asserted ground of anticipation by Yen, Petitioner has not proffered sufficient evidence that Yen teaches or suggests "a host connector protruding from the housing," as recited in claim 10.

Petitioner does not argue that Yu teaches or suggests the limitations of claim 10 or that one of ordinary skill would have or could have combined any other aspect of Yu, e.g., Yu's host connector, with Yen. Also, Patent Owner raises several issues with combining Yu's host connector with Yen's memory card—which Petitioner does not address sufficiently. PO Resp. 33–36 (arguing that it would not have been obvious to combine the standard USB host connector in Yu with Yen's memory card because Yen expressly discloses that a standard USB connector cannot be applied to its disclosed memory cards); Fernald Decl. ¶¶ 54–59; Ex. 1002, 1:53–58. Therefore, on the record before us, we cannot conclude that Yu cures the deficiencies in Petitioner's showing for claim 10 based on Yen.

Accordingly, based on the arguments and evidence of record, we conclude Petitioner has not shown by a preponderance of the evidence that claim 14 of the '188 patent is unpatentable as obvious over Yen and Yu.

D. PETITIONER'S ALTERNATIVE UNPATENTABILITY ARGUMENTS IN REPLY

In the Reply, Petitioner requests that the Board exercise its discretion to "re-visit" the instituted grounds to include obviousness grounds based on either Yen, or Yen and Yu, for claims 10–13 and 20. Reply 22. Petitioner argues that if the Board finds that "(1) Yen only discloses a unitary structure for the USB connector and main housing of the memory device;" and (2) "[c]laim 10 precludes such unitary structures, then . . . it would have been obvious . . . to use separate USB and main housing structures as such an implementation is within the routine skill of the ordinary artisan." *Id.* Alternatively, Petitioner requests that we ignore as untimely Patent Owner's arguments in the Response regarding the deficiencies in Petitioner's showing that Yen discloses the "host connector protruding from the housing" limitation of claim 10. *Id.* at 21–22. Petitioner speculates that Patent Owner strategically may not have filed a Preliminary Response to "preclude th[e] Board from instituting, *sua sponte*, on obviousness grounds in view of Yen." *Id.* Petitioner's arguments are unpersuasive.

Regarding Petitioner's assertion that we ignore Patent Owner's arguments as untimely, Patent Owner's arguments in the Response are not untimely. Patent Owner is permitted—but not required—to file a Preliminary Response. *See* 35 U.S.C. § 313 ("[T]he patent owner *shall have the right* to file a preliminary response to the petition.") (emphasis added); 37 C.F.R. § 42.207(a) ("The patent owner *may file* a preliminary response to the petition.") (emphasis added). Accordingly, we will not disregard any arguments that Patent Owner properly and timely made in its Response.

As to Petitioner's contingent argument that we alter the grounds that were asserted in the Petition and instituted in the Decision on Institution to include new obviousness grounds, we have agreed with Petitioner that the

"host connector protruding from the housing" encompasses a unitary structure. *See supra §* II.B.2.a. Therefore, the conditions of Petitioner's contingent argument are not satisfied, and we need not reach the argument.

Even if we were to consider the argument, and to assume that we have authority to alter the asserted and instituted grounds in a final decision, we would decline to alter the grounds in this case. Petitioner raised this argument and the supporting evidence for the first time in the Reply. *See* Reply 21–23. Therefore, it is untimely and outside the proper scope of a reply. *See* 37 C.F.R. § 42.23(b); Practice Guide, 77 Fed. Reg. at 48,767.

In sum, we deny Petitioner's requests to ignore Patent Owner's arguments made in the Response and to alter the grounds that were asserted in the Petition and instituted in the Decision on Institution.

III. CONCLUSION

For the reasons given, based on the arguments and evidence of record, Petitioner has not met its burden to prove by a preponderance of the evidence that claims 10–13 and 20 of the '188 patent are unpatentable under 35 U.S.C. § 102 based on Yen or that claim 14 is unpatentable under 35 U.S.C. § 103 over Yen and Yu. *See* 35 U.S.C. § 316(e).

IV. ORDER

Accordingly, it is:

ORDERED that claims 10–14 and 20 of the '188 patent have not been shown, by a preponderance of the evidence, to be unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, any party to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2015-00066
Patent 6,890,188 B1

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