

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,
SAMSUNG ELECTRONICS AMERICA, INC., and APPLE INC.,
Petitioner,

v.

IXI IP, LLC,
Patent Owner.

Case IPR2015-01445
Patent 7,016,648 B2

Before KRISTINA M. KALAN, ROBERT J. WEINSCHENK, and
JOHN A. HUDALLA, *Administrative Patent Judges*.

KALAN, *Administrative Patent Judge*.

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

I. INTRODUCTION

Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Apple Inc. (collectively “Petitioner”) filed a Petition (Paper 2, “Pet.”) to institute an *inter partes* review of claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30 of U.S. Patent No. 7,016,648 B2 (Ex. 1001, “the ’648 patent”) pursuant to 35 U.S.C. §§ 311–319. IXI IP, LLC (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”). We instituted an *inter partes* review of claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30 on certain grounds of unpatentability alleged in the Petition (Paper 8, “Dec.”). After institution of trial, Patent Owner filed a Patent Owner Response (Paper 14; “PO Resp.”) and Petitioner filed a Reply (Paper 18; “Reply”). An oral hearing was held on September 15, 2016. A transcript of the hearing has been entered into the record. Paper 26 (“Tr.”).

The Board has jurisdiction under 35 U.S.C. § 6. In this Final Written Decision, issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73, we determine that Petitioner has shown by a preponderance of the evidence that all claims for which trial is instituted, namely, claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30, are unpatentable under 35 U.S.C. § 103(a) over Liu alone and in combination with Chiloyan. Petitioner has not shown by a preponderance of the evidence that claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30, are unpatentable under 35 U.S.C. § 102(a) over Liu.

II. BACKGROUND

A. Related Matters

The parties indicate that the ’648 patent is the subject of the following district court proceedings: *IXI Mobile (R&D) Ltd. v. Samsung Electronics Co.*, Case No. 3:15-cv-03752-HSG (N.D. Cal.); *IXI Mobile (R&D) Ltd. v.*

Apple, Inc., Case No. 4:15-cv-03755-PJH (N.D. Cal.); and *IXI Mobile (R&D) Ltd. v. Blackberry Ltd.*, Case No. 3:15-cv-03754-RS (N.D. Cal.). Pet. 1–2; Paper 5, 1–2; Paper 7, 1–2.

B. The '648 Patent

The '648 patent is titled “[m]ethod, system and computer readable medium for downloading a software component to a device in a short distance wireless network” and is directed to a system that allows downloading of a software component to a short distance wireless network in response to device information. Ex. 1001 at [54], Abstract. Figure 1a of the '648 patent is reproduced below:

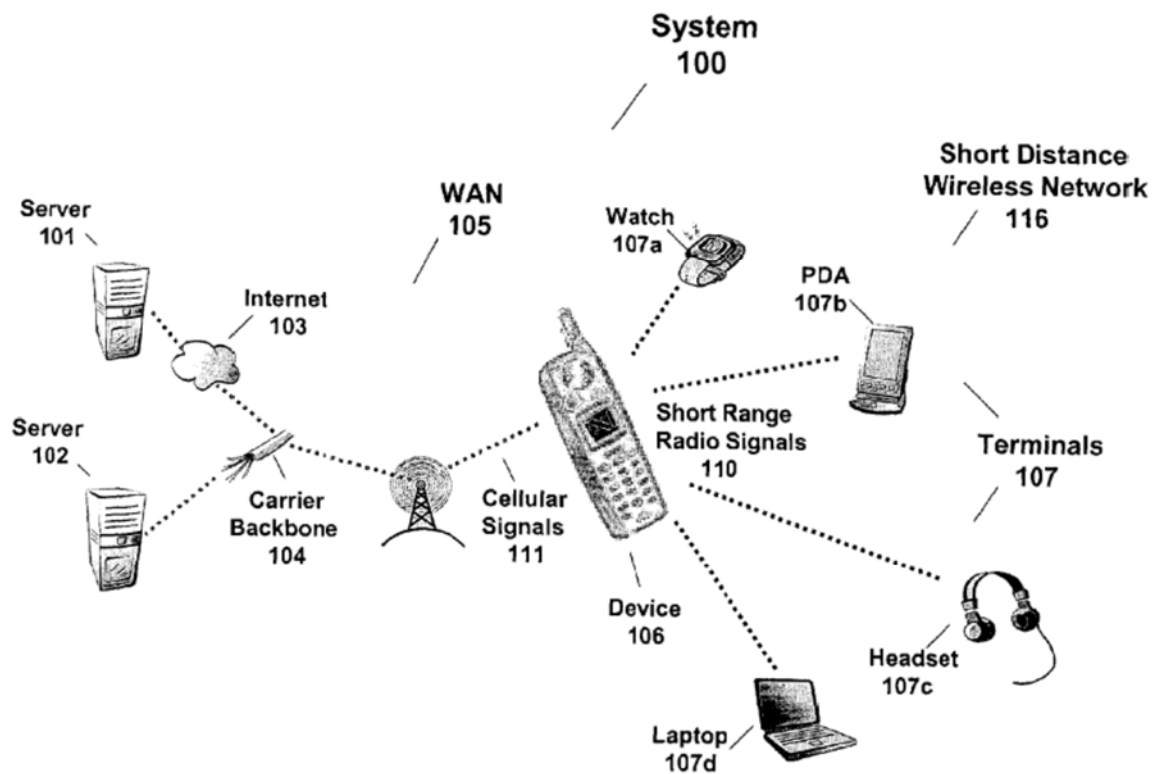


Fig. 1a

As shown above, Figure 1a illustrates system 100 having short distance wireless network 116 connected to Wide Area Network (“WAN”) 105 that includes a cellular network. *Id.* at 3:37–51. The short distance wireless network 116 includes cellular telephone 106 and other terminals 107, including watch 107a, personal digital assistant (PDA) 107b, headset 107c, and laptop computer 107d. *Id.* at 4:47–59. The ’648 patent discloses that a software component is provided to device 106 and/or terminals 107 in response to information obtained from short distance wireless network 116. *Id.* at 3:52–54.

C. Illustrative Claim

Claim 1 of the ’648 patent is reproduced below:

1. A method, comprising:
obtaining device information from a device in a short distance wireless network,
wherein the device information includes a manufacturer of the device and a type of the device,
wherein the obtaining includes:
generating a short-range radio signal, including the device information, from the device to a cellular device, and
generating a cellular signal, including the device information, from the cellular device to a processing device in a wide area network; and,
downloading a software component to the device from the processing device in response to the device information.

Ex. 1001, 15:31–45.

D. Prior Art Relied Upon by Petitioner

Petitioner relies on the following prior art:

1. Liu, WO 01/012285 A1, published February 22, 2001 (Ex. 1005, hereinafter “Liu”);¹
2. Chiloyan et al., U.S. 7,076,536 B2, issued July 11, 2006 (Ex. 1008, hereinafter “Chiloyan”).

E. Instituted Grounds of Unpatentability

We instituted *inter partes* review of claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30 of the ’648 patent on the following grounds:

Reference(s)	Basis	Claims Instituted
Liu	§ 102(a)	1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30
Liu	§ 103(a)	1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30
Liu and Chiloyan	§ 103(a)	1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30

In support of its challenges, Petitioner relies on the Declaration of Dr. Sayfe Kiaei (Ex. 1003). Patent Owner relies on the Declaration of Dr. Narayan Mandayam (Ex. 2402).

F. Level of Ordinary Skill in the Art

According to Petitioner, a person of ordinary skill in the art relevant to the ’648 patent would have a Master of Science Degree in electrical engineering, computer engineering, or computer science, or a Bachelor’s Degree in electrical engineering, computer engineering, or computer science and two or more years of experience in communication and networking

¹ Although Petitioner refers to the reference using the first name of the inventor, Dexter, we employ the more common convention and refer to the reference using the surname of the inventor, Liu. See Ex. 1005, at [72] (“Inventor: LIU, Dexter, LCD International, 226 Bellevue Avenue, Newport, RI 02840 (US)”).

systems. Pet. 7. In its Response, Patent Owner states it applies Petitioner's definition of a person of ordinary skill on in the art. PO Resp. 9.

Based on our review of the '648 patent, the types of problems and solutions described in the '648 patent and cited prior art, we adopt, for purposes of this Decision, Petitioner's definition of a person of ordinary skill in the art at the time of the claimed invention. We note that the applied prior art also reflects the appropriate level of skill at the time of the claimed invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

III. ANALYSIS

A. Claim Interpretation

The Board interprets claim terms in an unexpired patent according to the broadest reasonable construction in light of the specification of the patent in which they appear. *See Cuozzo Speed Techs., LLC v. Lee*, 136 S.Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard); 37 C.F.R. § 42.100(b). Under that standard, and absent any special definitions, we give claim terms their ordinary and customary meaning, as would be understood by one of ordinary skill in the art at the time of the invention. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definitions for claim terms must be set forth with reasonable clarity, deliberateness, and precision. *See In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Only those terms which are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Petitioner submits that “all terms of the '648 Patent should be given their broadest reasonable plain meaning.” Pet. 4. Patent Owner submits that

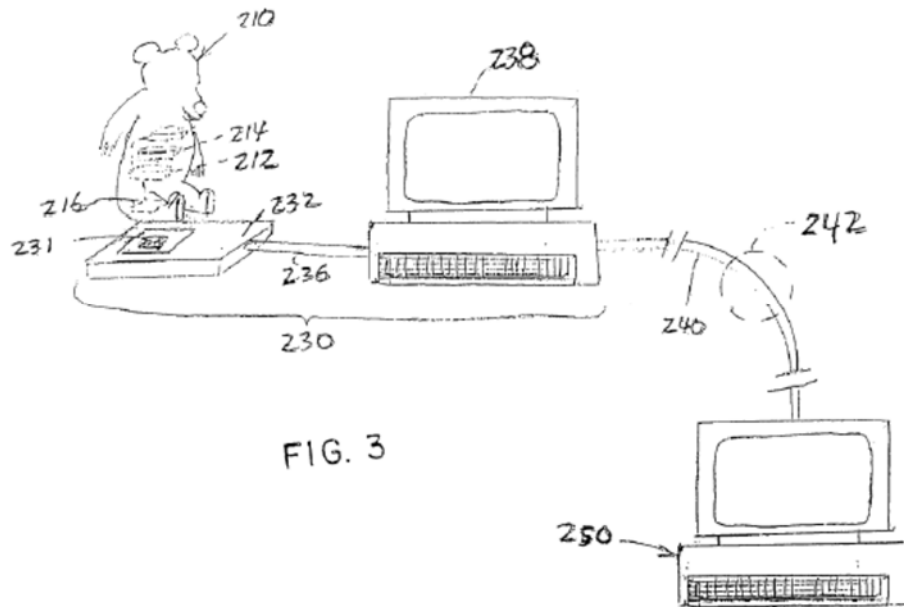
“the terms of the challenged claims should be interpreted according to their plain and ordinary meaning.” PO Resp. 9. Just as in the Decision on Institution, we apply the broadest reasonable interpretation standard here. In our Decision on Institution, we stated that “we do not explicitly construe any claim terms.” Dec. 5. We similarly see no reason to construe explicitly any claim term at this stage in this proceeding.

B. Anticipation Analysis

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). Anticipation requires “that the reference describe not only the elements of the claimed invention, but also that it describe those elements ‘arranged as in the claim.’” *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008) (quoting *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1334 (Fed. Cir. 2008)). Even if a claim element is not explicitly described in a prior art reference, the reference may still inherently disclose the element if it makes clear “that the missing descriptive matter is necessarily present in the thing described in the reference.” *Cont’l Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991); see *Schering Corp. v. Geneva Pharms., Inc.*, 339 F.3d 1373, 1379 (Fed. Cir. 2003).

1. Liu

Liu is a published international patent application titled “Networked Toys” that is directed to a remotely programmable toy, a toy interface, and a remote toy server. Ex. 1005, Abstract. Figure 3 of Liu is reproduced below:



As shown in Figure 3 above, Liu illustrates programmable toy 210, having microprocessor 212 and programmable memory 214, that can conduct wireless communication with infrared transceiver 231 in infrared communication unit 232. *Id.* at 6:31–35. Infrared unit 232 can be linked by data link 236 to computer 238, which communicates with remote server 250 via bi-directional data connection 242. *Id.* at 7:2–5. The infrared unit 232, data link 236, and computer 238 collectively constitute an interface 230 between the toy 210 and remote server 250. *Id.* at 7:2–3. In addition to an infrared link, Liu further discloses that the data link between programmable toy 210 and interface 230 can be a wireless link, “such as an infrared or radio frequency (‘RF’) link using, for example, BlueTooth, HomeRF, or any other wireless protocol and/or standard.” *Id.* at 3:32–4:1.

“The server 50 responds to queries from the programmable toy 10 and interface 30 to download data through the communication links 40, 20 and interface 30 to the programmable toy 10.” *Id.* at 4:21–24. Liu discloses that

the server may receive information from the toy through the interface, which may include information identifying toy 110 (so that appropriate programs and data may be downloaded). *Id.* at 6:16–19.

2. Analysis of Alleged Anticipation by Liu

Petitioner contends claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30 of the ’648 patent are anticipated by Liu. Pet. 11–40. Petitioner argues the method recited in claim 1 is anticipated by Liu’s disclosure of methods and systems for using a remotely programmable toy, a toy interface, and a remote toy sever. *Id.* at 11 (citing Ex. 1005, 28:21–22, Abstract). More particularly, Petitioner argues the claim 1 limitation reciting “wherein the device information includes a manufacturer of the device and a type of the device” is disclosed by Liu’s disclosure that “the toy identification data includ[es] information describing characteristics of the toy.” *Id.* at 14 (emphasis omitted) (quoting Ex. 1005, 48:12–13). Petitioner additionally relies upon Liu’s disclosure that a manufacturer registers device identifiers for a particular toy to allow “each toy to be used with the system [to] be uniquely recognized.” *Id.* at 15 (quoting Ex. 1005, 46:5–7).

a. Manufacturer Information

Claim 1 requires that “the device information includes a manufacturer of the device,” and independent claims 14, 15, and 30 contain corresponding limitations. Ex. 1001, 15:34–35, 16:14–15, 16:27–28; 18:2–3.

For this limitation, Petitioner relies on Liu’s disclosure of “toy identification data” that includes “information describing characteristics of the toy.” Pet. 14 (citing Ex. 1005, 48:12–13). Petitioner further relies on Liu’s “disclosure of a manufacturer 1670 as an entity that accesses the toy engine coupled with disclosure of multiple entities accessing the toy engine

and an administrator 1680 that performs authorization, password protection, account management, and registration of those entities” to conclude that Liu’s “environment has multiple, different manufacturers accessing the toy engine.” *Id.* at 15. Petitioner goes on to say that in such an environment, “multiple, different manufacturers register device identifiers for their toys.” *Id.* (citing Ex. 1003 ¶ 39). Petitioner also argues that Liu “contemplates multiple Brands” and “necessarily identifies the Brand of the toy being programmed such that the toy identifier necessarily includes information that identifies the Brand.” *Id.* at 16 (citing Ex. 1003 ¶ 40). Thus, a “Brand, at least in some instances, is synonymous with manufacturer such that an identification of Brand is an identification of manufacturer.” *Id.*

Patent Owner argues that the “unique identifier” of Liu upon which Petitioner relies “has nothing to do with the identity of the manufacturer.” PO Resp. 21. Rather, Patent Owner argues, the unique identifier is “akin to a MAC address” and is given so that each of the entities—manufacturer, content provider, administrator, and developer—can “provide the described services and content with specificity to each toy in the system.” *Id.* Patent Owner focuses on Figure 16 of Liu, which depicts toy 1610 and a “finite and limited set of entities,” including manufacturer 1670, “each with its own distinct role in the management and content provision for the toy.” *Id.* According to Patent Owner: “To state that this embodiment *explicitly* describes or ‘contemplates’ multiple manufacturers is not supported by the actual disclosure in Liu and amounts to improper speculation and guesswork.” *Id.* at 21–22. Patent Owner argues that Dr. Kiaei’s assessment of the disclosure of Liu is “unsupported and uncontroverted speculation” that

stretches the described embodiment to allegedly meet the challenged claim limitation. *Id.* at 22.

Petitioner replies that Liu does not support Patent Owner's single-manufacturer argument, and that "MAC addresses do, in fact, include manufacturer information." Reply 8. Petitioner asserts that Liu's reference to "a manufacturer" is made in the context of the single, exemplary "toy 1610." *Id.* at 9. Petitioner further argues that Patent Owner equates Liu's identifier to a MAC address, which includes a manufacturer of the device. *Id.* at 10. Petitioner challenges Dr. Mandayam's characterization that "MAC addresses do not include manufacturer information." *Id.* at 11 (citing Ex. 1024, 10:21–11:2).

We are unpersuaded that Liu expressly discloses that its unique identifier includes manufacturer information, as required by the independent claims. Patent Owner correctly notes that there is no explicit disclosure in Liu of manufacturer information present in the device information. PO Resp. 21–22. Petitioner has not directed us to a disclosure in Liu that expressly states that manufacturer information is present in the device information. We are unpersuaded by Dr. Kiaei's testimony, which is couched in terms of what Dr. Kiaei opines "must be" in Liu, rather than what Liu expressly discloses. Ex. 1003 ¶ 39. Dr. Kiaei's testimony discusses portions of Liu regarding manufacturer 1670 and its registration of device identifiers for toys, but these citations to Liu do not expressly disclose the disputed claim limitation. *Id.* ¶¶ 37–39. Dr. Kiaei provides no additional authority for the statements supporting the assertions in paragraphs 37–39, in particular, the statement that "each identifier must be associated in some way to the particular manufacturer of the toy to allow 'each toy to be used within the system [to]

be uniquely recognized.” Pet. 15 (citing Ex. 1003 ¶ 39); *see also* 37 C.F.R. § 42.65(a) (stating opinion testimony that does not disclose underlying facts or data “is entitled to little or no weight”). We also find unpersuasive the argument that “each identifier must be associated in some way to the particular manufacturer of the toy to allow ‘each toy to be used with the system [to] be uniquely recognized.’” Ex. 1003 ¶ 39. Liu states that, via registration of a device identification number for the toy, “each toy to be used in the system may be uniquely recognized.” Ex. 1005, 46:5–7. If, as hypothesized by Dr. Kiaei, two manufacturers registered the same toy identifier for two different toys, then by its terms, the toy would not be uniquely recognized, as required by Liu. *Id.*

Petitioner also has not carried its burden to establish that Liu inherently discloses that the device information includes a manufacturer of the device. “To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference.’” *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Inherency is not “established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *Id.* (quotation omitted).

As a preliminary matter, the section of Liu upon which Petitioner relies for its brand-based arguments appears to contain certain inconsistencies. Liu introduces the entities that may access the toy engine as “a manufacturer 1670, a content provider 1680, an administrator 1682, and a developer 1684” (Ex. 1005, 45:35–46:1), and refers to these entities in the same manner in Figure 16. However, Liu goes on to discuss “content provider 1670” (*id.* at 46:9–20), “administrator 1680” (*id.* at 46:22); and “developer 1682” (*id.* at

46:30–47:30), which are inconsistent with the initial identifications of these entities and with Figure 16. Petitioner relies on the section of Liu stating that “the content provider 1670 may be a Brand owner” to argue that “Brand, in at least some instances, is synonymous with manufacturer such that an identification of Brand is an identification of manufacturer.” Pet. 16. In response, Patent Owner argues that Liu’s use of reference numeral 1670 (rather than 1680) to refer to the “content provider” is a typographical error, and that Liu in fact identifies the content provider as a different entity than the manufacturer. PO Resp. 23–24, 23 n.4 (citing Ex. 1005, 45:34–46:3). We agree with Patent Owner that Petitioner’s inherency argument “appears to be conflating the specifically described entities involved in the toy system.” *Id.* at 23. Accordingly, we do not accept as the basis of an inherency determination Petitioner’s arguments that appear to equate the Brand owner, “content provider 1670,” with manufacturer 1670.

Although manufacturer information is something that may well be included in the unique identifier of Liu, it does not necessarily or inevitably have to be present. Petitioner characterized the “concept that a brand is synonymous with a manufacturer” as inherent. Tr. 41:22–24; Pet. 17 (Liu “includes identification of manufacturer or the toy at least in instances in which the Brand is synonymous with manufacturer, which would inherently occur.”). Petitioner does not explain adequately why or how Liu inherently describes a brand being synonymous with a manufacturer. We are not aware of any portion of Liu that requires manufacturer and brand owner to be the same in any instance; instead, Liu distinguishes between manufacturer 1670 and content provider/brand owner 1680 as different entities with different roles within the system. See Ex. 1005, 45:34–46:20. Moreover, a brand is

not always synonymous with a manufacturer. For example, a brand owner could license any number of manufacturers to make different toys under a certain brand. The original manufacturer of a toy could change ownership through sale or merger. *See* Tr. 25:15–23. Thus, the correlation of a brand with a manufacturer is not necessarily or inevitably the case in Liu. As long as each toy has a unique identifier, as described in Liu, it could be uniquely identified to requesters without necessitating manufacturer information as a component of the identifier.

Petitioner argues that MAC addresses contain manufacturer information. Reply 10–11 (citing Ex. 1024, 10:21–11:2; Ex. 1025). Although Patent Owner characterizes a MAC address as “akin to” a unique identifier (PO Resp. 21; Tr. 27:22), we have not been directed to any portion of Liu, or any persuasive evidence, stating that Liu’s unique identifier is in fact a MAC address. *Cf.* Ex. 1023, 93:25–94:3. Even if we were to accept Petitioner’s argument on this matter, it does not solve the problem that there is no express or inherent anticipation by Liu of the manufacturer information, as discussed above. Thus, we are unpersuaded, for the foregoing reasons, that the claims of the ’648 patent are anticipated by Liu.

b. Conclusion

Considering the totality of the arguments and evidence before us, we are unpersuaded by Petitioner’s position that the challenged claims are anticipated by Liu. Each of the challenged dependent claims depends from one of the independent claims containing the “manufacturer information” limitation. In view of our conclusion that the challenged independent claims are not anticipated by Liu, we find, similarly, that the dependent claims also are not anticipated by Liu.

C. Obviousness Analysis

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). A decision on the ground of obviousness must include “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). The obviousness analysis “should be made explicit” and it “can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *KSR*, 550 U.S. at 418. We analyze the asserted grounds of unpatentability in accordance with the above-stated principles.

Regarding the level of ordinary skill in the art, we have discussed, *supra*, the parties’ positions on this issue. Regarding objective evidence of nonobviousness, Patent Owner did not put forth any evidence of secondary considerations of nonobviousness in this case.

1. Whether Liu is Analogous Art

Patent Owner argues that Liu is non-analogous art. PO Resp. 51. Patent Owner submits that the ’648 patent “sought to improve short distance

network performance” and “seeks to provide a solution to the difficulty of a telecommunications operator adding value and functionality to a user while increasing revenue.” *Id.* at 52. Conversely, according to Patent Owner, Liu’s field of endeavor “is one of an entertaining toy that takes advantage of the interaction between a user [and] the toy to provide additional gameplay content.” *Id.* at 53.

Petitioner replies that Patent Owner (1) fails to identify the field of endeavor of the ’648 patent; (2) mischaracterizes the field of endeavor of Liu; and (3) attempts to define the problem identified in the ’648 patent narrowly, to show Liu as non-analogous. Reply 20–21.

Whether a prior art reference is “analogous art” that is proper to consider in an obviousness analysis is a question of fact. *In re Bigio*, 381 F.3d 1320, 1324 (Fed. Cir. 2004); *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992).

Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.

Bigio, 381 F.3d at 1325. The appropriate field of endeavor is determined by referring to the specification of the patent at issue “including the embodiments, function, and structure of the claimed invention.” *Id.* at 1325–26. “A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem.” *Clay*, 966 F.2d at 659.

In our Decision on Institution, we determined Liu is at least reasonably pertinent to the problem identified in the '648 patent because Liu involves sending software to a device connected to a local network from a remote server. Dec. 14 (citing Ex. 1005, 5:1–2, 6:13–20). We were persuaded by Petitioner that Liu expressly discloses certain limitations in the challenged claims of the '648 patent relating to receiving information from the device. *See id.* Liu discloses that the server 150 receives information from Liu's toy 110, "so that appropriate programs and data may be downloaded." Ex. 1005, 6:16–19.

We agree with Petitioner that there remains ambiguity about the field of endeavor Patent Owner seeks to identify with respect to the '648 patent. Reply 20. "The field of endeavor of a patent is not limited to the specific point of novelty, the narrowest possible conception of the field, or the particular focus within a given field." *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1001 (Fed. Cir. 2016). Petitioner characterizes the field of endeavor of both disclosures as "techniques for network communication between devices and servers," which, while broad, is not unreasonable. Reply 22. Although Liu's most noticeable feature may be a teddy bear, the underlying networking and functionality of its system place it in the same field of endeavor as the '648 patent. *See id.* at 20–21 (including citations to Liu's disclosures of aspects of network interactions between toy devices and servers). Limiting Liu's field of endeavor to "toys" is insupportably narrowing when Liu in fact discloses networking features that in numerous instances align with the disclosure of the '648 patent.

Regarding the particular problem to be solved, our position remains the same as in the Decision on Institution. Liu's disclosure is, at least,

reasonably pertinent to the problem faced by the inventors of the '648 patent, i.e., “the problem of ‘sending software to a device connected to a local network from a remote server.’” Dec. 14. Thus, we remain persuaded that Petitioner has established sufficiently that Liu is analogous art.

2. Analysis of Alleged Obviousness Based on Liu

Petitioner argues that, to the extent the Board finds Liu deficient in any anticipating feature, claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30 of the '648 patent would have been obvious in view of Liu. Pet. 40–60.

a. Manufacturer Information

Petitioner’s obviousness arguments based on Liu focus primarily on the claim 1 requirement that “the device information includes a manufacturer of the device,” which finds a corresponding requirement in independent claims 14, 15, and 30. *Id.*

Petitioner’s obviousness challenge based on Liu generally relies upon the same disclosures from Liu cited in the anticipation challenge. Petitioner argues it would have been obvious to a person of ordinary skill in the art for Liu’s device information to include a manufacturer of the device and a type of the device. Pet. 46. Petitioner offers the testimony of Dr. Kiaei that, at the time of the '648 patent, a finite number of predictable solutions existed to enable provision of different software for different manufacturers and different types of devices, and that using an identifier that includes a manufacturer and a type of the device was one well-known solution. *Id.* (citing Ex. 1003 ¶ 44 (citing Exs. 1018–1022)). Furthermore, Dr. Kiaei states that a person of ordinary skill in the art would have seen the inclusion of a manufacturer of the device and a type of device as a simple manipulation of data in an identifier with a predictable result, and would have understood that

including the manufacturer of the device and type of device in Liu's identification information would have been a matter of simple design choice. *Id.* at 47 (citing Ex. 1003 ¶ 45).

Patent Owner, for the most part, relies on its anticipation arguments as the foundation for its obviousness arguments. PO Resp. 55–60. Patent Owner argues that Petitioner's reliance "on the alleged obviousness of the device information including a manufacturer and a type of device does not cure the remaining deficiencies of the Liu reference" and therefore, Petitioner "fails to establish a *prima facie* case of obviousness based on Liu alone." *Id.* at 56. For each challenged claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30, Patent Owner argues: "As detailed above . . . and for the same reasons, Liu fails to disclose each and every element of the claim as arranged. Therefore, the Petition fails to render obvious [challenged claim]." *Id.*, *passim*.

Petitioner replies that the "standards for anticipation and obviousness are fundamentally different," and therefore, Patent Owner's "reliance on its anticipation analysis is insufficient to address Petitioner's obvious argument." Reply 23. Petitioner argues that Patent Owner does not challenge that one of ordinary skill in the art "would have understood that including the manufacturer of the device and the type of the device as characteristics in [Liu's] identification information would have been a matter of simple design choice." *Id.*

On this matter, we are persuaded by Petitioner's evidence and arguments. While inclusion of manufacturer information might not be explicitly or inherently set forth in Liu, as discussed in connection with the anticipation arguments above, Liu nevertheless discloses a manufacturer that

assigns a device identification number for the toy, so that each toy to be used within the system may be uniquely recognized. Ex. 1005, 46:5–7. As demonstrated by Petitioner, the inclusion by a manufacturer of its own information in the unique identifier is a known solution to allow provision of different software for different manufacturers and different types of devices. Pet. 46 (citing Exs. 1018–1022). Because a finite number of predictable solutions existed to enable provision of different software for different types of devices, as demonstrated by Petitioner and Dr. Kiaei, we are persuaded that one of ordinary skill in the art would have viewed inclusion of a manufacturer’s own information as one viable solution involving “simple manipulation of data in an identifier with a predictable result.” Ex. 1003 ¶ 45. In this instance, we credit Dr. Kiaei’s testimony that using an identifier that includes a manufacturer and a type of the device was one well-known solution to identify a manufacturer of the device and a type of device. *Id.* ¶¶ 44–45.

b. Dual-Baseband Configuration

Patent Owner argues, in connection with its anticipation analysis, that Lin fails to adequately disclose a dual-baseband configuration of its interface. PO Resp. 24. Patent Owner argues that the ’648 patent and its claims “require a complex architecture in the cellular device that allows the seamless connection between a short-distance wireless network, like Bluetooth, with a wide area cellular network.” *Id.* Patent Owner faults Liu for failing to provide any disclosure of how its data links between the toy and the interface and between the interface and the server would work, and for failing to describe any architecture or protocol stack to allow for a dual-baseband configuration. *Id.* at 26.

Petitioner replies that this argument is flawed because it “improperly reads claim 1 to require limitations that are only described in examples in the ’648 specification and not recited in the language of the claims.” Reply 12. Claim 1 does not recite a “protocol stack” or that it “seamlessly and simultaneously connects[s] to both a short distance network and a cellular network,” Petitioner notes, contrary to Patent Owner’s arguments. *Id.* (citing PO Resp. 24). Patent Owner’s citations are to a particular embodiment, Petitioner argues; this exemplary embodiment does not limit claim 1. *Id.* at 14. Moreover, Petitioner notes, “dual-baseband configurations” were “well known and required for communications using both cellular and Bluetooth technology—two communication techniques Liu explicitly discloses,” as confirmed by Dr. Mandayam. *Id.*

We are persuaded by Petitioner’s arguments that the dual-baseband configuration is not part of the challenged claims. Patent Owner proceeds to the argument that Liu fails to disclose a dual-baseband configuration of its interface without first establishing that the claims require such a configuration. Patent Owner selectively relies on portions of the specification, as depicted in Figures 3a and 4, in which the physical layer contains multiple basebands. PO Resp. 5–6, 24. We decline, however, to import limitations from the specification into the claims. *In re Trans Texas Holdings Corp.*, 498 F.3d 1290, 1299 (Fed. Cir. 2007) (“[W]hile ‘the specification [should be used] to interpret the meaning of a claim,’ courts must not ‘import[] limitations from the specification into the claim.’” (alterations in original) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc))). It is only when the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of

manifest exclusion or restriction that the scope of a claim is properly restricted to that of a disclosed embodiment. *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004). We perceive no such clear intention on the part of Patent Owner in this case. Figure 4, upon which Patent Owner relies, is “a software block diagram architecture . . . according to an embodiment of the present invention.” Ex. 1001, 3:18–20. Patent Owner states that the architectures in Figure 3a and Figure 4 “exemplify” certain aspects of the invention. PO Resp. 4. An exemplar of an invention is not, however, necessarily the claimed embodiment of an invention. *Superguide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (“[A] particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.”). The challenged claims are drawn to a method and system using a cellular device that generates a cellular signal, but the challenged claims do not specify a dual-baseband configuration.

c. Enabling Prior Art

Petitioner argues, in its Reply, that Patent Owner “argues that Liu is not enabled, and, thus, attempts to disqualify Liu as a valid reference.” Reply 1–4 (citing, *inter alia*, PO Resp. 20–23; Ex. 2402 ¶¶ 37–50). Petitioner further argues that Patent Owner fails to analyze the question of undue experimentation using the framework from *In re Wands*, 858 F. 2d 731, 737 (Fed. Cir. 1988). *Id.* at 4. Petitioner also contends that one of ordinary skill in the art would have understood how to implement Bluetooth and cellular technologies based on Liu’s disclosure without undue experimentation. *Id.* at 4–6.

Counsel for Patent Owner, at the oral hearing, stated that “we’re not saying Liu is not enabled. What we’re saying is that it doesn’t disclose the claimed element.” Tr. 34:22–23. Petitioner’s counsel replied that Patent Owner “walked away from their enablement argument. They said they are not making an enablement argument. I read the briefing before and I thought it was enablement argument.” *Id.* at 42:24–43:2.

In light of Patent Owner’s disavowal of an enablement argument, we do not find it necessary to resolve the purported argument. Even if we were to address the matter, we note that a prior art printed publication is presumed enabled. *See In re Antor Media Corp.*, 689 F.3d 1282, 1288 (Fed. Cir. 2012); *see also Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1355 (Fed. Cir. 2003) (concerning prior art patents). A patent owner may overcome the presumption of enablement by establishing with persuasive evidence that the prior art does not enable the claimed invention. *Impax Labs., Inc. v. Aventis Pharms. Inc.*, 545 F.3d 1312, 1316 (Fed. Cir. 2008). Even though affidavits or declarations are not required in all cases, Patent Owner “must generally do more than state an unsupported belief that a reference is not enabling.” *In re Morsa*, 713 F.3d 104, 110 (Fed. Cir. 2013). Given the allocation of the burden of production regarding the question of enablement, we are not presented with any facts or argument by Patent Owner persuading us that Patent Owner would have met its burden on this issue, even if the argument were made.

d. Dependent Claims

The parties present, in the context of anticipation, separate arguments related to the dependent claims. The parties refer back to the anticipation arguments for those claims as the basis for their obviousness arguments.

Because we determine that Liu does not anticipate the independent claims, we have not discussed the dependent claims in the anticipation analysis above. We do, however, address them in the context of the obviousness challenges, below.

Claims 2 and 16

Claim 2 requires that the “software component is downloaded in response to a user preference of a type of the software component.” Ex. 1001, 15:47–49. Claim 16 contains a similar limitation. *Id.* at 16:39–42.

In its obviousness analysis for claims 2 and 16 based on Liu alone, Petitioner cites to several of Liu’s disclosures, including those that “the user may . . . navigate through a Web site hosted by the server 150, select programs or data for download, [and] enter user information and preferences” and “downloaded content may be tailored to a user based on . . . interests.” Pet. 25–26 (citing Ex. 1005, 6:26–29, 4:32–34), 52, 58. Petitioner summarizes that because “play patterns are software components and downloads are tailored or customized to specific user indications of preferences, the software component is downloaded in response to a user preference of a type of the software component.” *Id.* at 27.

Patent Owner argues that Petitioner fails to establish that Liu discloses the download of a software component “in response to a user preference of a type of the software component” as required by claim 2. PO Resp. 32. More particularly, Patent Owner argues that nowhere “does Liu disclose that the preference is for a ‘type of software,’” but rather specific instances of data a user has previously preferred or rated. *Id.*

Petitioner replies by pointing out Liu’s disclosure that “[p]rofile data may include preferences for music, education, games, stories, news, sports,

and so forth,” and “[p]rofile data may include expressed preferences such as favorite colors, books, animals, music, games, and so forth.” Reply 15 (citing Ex. 1005, 45:7–19); Pet. 26. Petitioner points to the Petition, in which it relied on Liu’s toy server generating customized play patterns according to specific user indications of preferences, such as “educational content,” “news,” “baby nurturing,” “toy speech and animatronics,” “craft activities,” and “interaction with other gaming platforms.” Reply 16; Pet. 26.

We are persuaded that Petitioner has shown that Liu discloses “wherein the software component is downloaded in response to a user preference of a type of the software component.” Liu’s disclosure expressly and specifically refers to user preferences. Ex. 1005, 45:7–19. Those user preferences, in turn, inform Liu’s toy server as to the content, i.e. play patterns, to be downloaded. *Id.* at 42:25–27. We credit Dr. Kiaei’s testimony that “the play patterns are software components” and the “software component is downloaded in response to a user preference of a type of the software component.” Ex. 1003 ¶ 60. The “type of the software component” required by the claims is disclosed by Liu’s description of different types of customized play patterns downloaded in response to user preferences. Thus, Petitioner establishes that the Liu teaches the subject matter recited in claims 2 and 16.

Claims 3 and 17

Claim 3 requires “wherein the software component is downloaded in response to a date, and wherein the software component is an application software component.” Ex. 1001, 15:49–51. Claim 17 contains a similar limitation. *Id.* at 16:43–46.

For claims 3 and 17, Petitioner cites to several of Liu's disclosures, such as "[p]rofile data may include important dates, such as birthdays, anniversaries, holidays, and so forth," and "[p]rofile information may then be used to select or synthesize play patterns and other content for the toy." Pet. 27 (citing Ex. 1005, 45:15–16, 2:14–15), 52, 58. Petitioner argues that "by selecting software (e.g., play patterns) responsive to dates defined in profile data," Liu discloses that the software component is downloaded in response to a date. *Id.* (citing Ex. 1003 ¶ 61). Regarding the application software component, Petitioner relies on Liu's disclosure that the "data provided may be data which does not change the application software of the programmable toy 10, such as media files, or may include new executable code to reconfigure the microprocessor in the toy 10 for different functionality." *Id.* at 28 (citing Ex. 1005, 4:23–25; Ex. 1003 ¶ 62).

Patent Owner argues that Petitioner fails to establish that Liu discloses "wherein the software component is downloaded in response to a date, and wherein the software component is an application software component" as required by claim 3. PO Resp. 33. Patent Owner faults Petitioner for pointing to "discrete and unrelated features disclosed in Liu." *Id.* According to Patent Owner, the disclosure of alleged "application software" is "separate and distinct" from Liu's mention of "new executable code to reconfigure the microprocessor." *Id.* at 34.

Petitioner replies that, as discussed in the Petition, Liu discloses that "[t]he toy may receive programming from the server relating to educational content" such that "the toy may announce historical events occurring on the present date, e.g., 'On this day in 1776, the Declaration of Independence was signed,'" and that Liu teaches that play patterns may be downloaded

corresponding to specific dates such as Halloween, birthday, anniversary, Christmas, and so forth. Reply 16–17; Pet. 27–28.

Petitioner further replies that Liu, in the full quote, provides that “[t]he data provided may be data which does not change *the application software* of the programmable toy 10, such as media files, *or may include new executable code* to reconfigure the microprocessor in the toy 10 for different functionality.” Reply 17 (citing Ex. 1005, 4:23–25). According to Petitioner, Patent Owner’s argument “speculates on the nature of the executable code downloaded in Liu, while ignoring Liu’s explicit disclosure that the downloaded executable code changes the ‘application software’ of the toy device.” *Id.*

We are persuaded that Petitioner has shown that Liu discloses “wherein the software component is downloaded in response to a date, and wherein the software component is an application software component.” As discussed above, the “play patterns or other content” of Liu may be a software component. See Ex. 1003 ¶ 60 (citing Ex. 1005, 9:6–7 and 45:21–23). Those play patterns may be downloaded or received in a manner that corresponds to significant dates such as historical dates, holidays, or dates of personal significance. Ex. 1005, 15:24–33. The claim does not require that the download happen at a particular time, as Patent Owner appears to urge; rather, “in response to a date” could mean any past, present, or future date. Regarding the “application software component” limitation, we credit Dr. Kiaei’s testimony that, based on his analysis of the language of the disclosure of Liu (Ex. 1005, 4:23–25), Liu’s new executable code changes the application software of the toy and therefore is an application software

component. Thus, Petitioner establishes that Liu teaches the subject matter recited in claim 3 and claim 17.

Claims 5 and 19

Claim 5 requires “wherein the software component is downloaded in response to a user price plan.” Ex. 1001, 15:56–57. Claim 19 contains a similar limitation. *Id.* at 16:50–51.

For claims 5 and 19, Petitioner cites to several of Liu’s disclosures, such as “[t]he content provider 1670 may also wish to create content subscription services [and] adjust prices for subscription services” and “[s]everal tiers of subscription may be provided, such as a first level for basic content, a second level for enhanced content, and so forth up to a final level for all available content.” *Id.* at 28–29 (citing Ex. 1005, 46:18–19, 14:1–8), 53, 58. Petitioner argues that Liu’s provision of programming on a subscription basis with varying prices discloses that the software component is downloaded in response to a user price plan. *Id.* at 29.

Patent Owner argues that Petitioner fails to establish that Liu discloses “wherein the software component is downloaded in response to a user price plan,” because the user price plan in the ’648 patent “is different from a subscription service disclosed in Liu.” PO Resp. 36. Patent Owner describes the price plan in the ’648 patent as one based on “usage information,” and argues that one of ordinary skill in the art “would not find the subscription service of Liu to be equivalent to the user price plan detailed and claimed in the ’648 Patent.” *Id.* at 36, 38.

Petitioner faults Patent Owner for seeking to interpret the claims “as though they were limited to a single example described in the ’648 [patent] specification without justifying such a narrowing of the claims.” Reply 18.

Petitioner also argues that “claim 5 must be interpreted broadly enough to cover the subscription plan example in the ’648 patent specification in order to be consistent with the specification.”

On this point, we are unaware of any portion of the specification of the ’648 patent that would limit the “user price plan” to the one relied upon by Patent Owner. *See Openwave Sys., Inc. v. Apple Inc.*, 808 F.3d 509, 513–14 (Fed. Cir. 2015) (stating that the standard for disavowal is “exacting” and requires that specification make clear “that the invention does not include a particular feature”). Claims 5 and 19 require a “user price plan” without further detail; neither the claims nor the specification require that the user price plan be based on “usage information.” We note Petitioner’s citation to the specification of the ’648 patent, describing that the user price plan also can feature “a maximum periodic charge for unlimited usage,” and agree that this correlates to Liu’s subscription plan where price is constant and untethered to usage. Reply 18 (citing Ex. 1001, 6:46–49). Thus, Petitioner establishes that Liu teaches the subject matter recited in claim 5 and claim 19.

Claims 9 and 23

Claim 9 requires “wherein the software component is an instant messaging terminal software component.” Ex. 1001, 15:64–65. Claim 23 contains a similar limitation. *Id.* at 16:61–63.

Petitioner argues that Liu’s toy operates an instant messenger application, citing to Liu’s disclosure that “control instructions from the control device 520,” i.e. software components, “can control any of a wide variety of the capabilities of the toy” including “an instant messenger application.” Pet. 30 (citing Ex. 1005, 21:19–24; 23:1–10). Petitioner relies on Dr. Kiaei’s testimony that one of ordinary skill in the art would have

understood that a software component that can control an instant messenger application is an instant messaging terminal software component. *Id.* (citing Ex. 1003 ¶ 66).

Patent Owner argues that Petitioner fails to establish that Liu discloses “wherein the software component is an instant messaging terminal software component.” PO Resp. 39. In particular, Patent Owner focuses on Liu’s teaching that control device 520 can control the capabilities of toy 502, such as an instant messenger application. *Id.* at 39 (citing Ex. 1005, 23:1–10). Patent Owner asserts that control device 520 is not a part of the toy itself and, rather, remotely controls the toy over data link 508. *Id.* Patent Owner relies on Dr. Mandayam’s testimony to argue that one of ordinary skill in the art would not consider “control instructions” from control device 520 to be an actual instant messaging application or software component. *Id.* at 41 (citing Ex. 2404 ¶ 62).

Petitioner replies that Patent Owner improperly attempts to read an example from the specification into the claims. Reply 19. According to Petitioner, the ’648 patent’s many examples of software components include “a code fragment” and a “ringtone.” *Id.* (citing Ex. 1001, 6:55–56, 10:66–11:2). Relying on Dr. Mandayam’s testimony that “a code fragment” is “a piece of code,” (Ex. 1023, 48:24–49:5, 60:6–18) and referring back to the arguments made in the Petition, Petitioner argues that Liu’s software components (e.g. control instructions from the control device 520) downloaded from the toy server to the toy can control a variety of the toy’s capabilities, including “an instant messenger application.” Reply 19 (citing Pet. 30). Thus, Petitioner argues, the control instructions are code fragments, as they are pieces of code that control capabilities of the toy. *Id.* at 19–20.

We are persuaded by Petitioner’s arguments in its Petition that Liu’s control instructions, i.e. software components, from control device 520 control an instant messenger application in toy 502 (Ex. 1005, 23:1–10). Petitioner references the disclosure of the subject patent identifying “a code fragment” as a type of software component (Ex. 1001, 10:66–11:2), and equates this to Liu’s “control instructions from the control device 520” that control the instant messenger application in toy 502. Thus, the “instant messaging terminal software component” is taught by this disclosure. We are not made aware of any persuasive evidence to the contrary. Thus, Petitioner establishes that the Liu teaches the subject matter recited in claim 9 and claim 23.

Claims 6, 7, 13, 21, 22, 27, and 28

For claim 6’s recitation that the “the device is a Bluetooth™ device communicating with a cellular device,” Petitioner cites Liu’s teaching that the communication between toy 10 and interface 30 might be a wireless link using, for example, Bluetooth. Pet. 29 (citing Ex. 1005, 3:30–41). Claim 21 contains a similar limitation, and Petitioner relies on the same analysis. See *id.* at 38.

For claim 7, which recites “the device is a messaging terminal,” Petitioner cites Liu’s teaching that the toy performs various messaging operations and serves as a communications platform. *Id.* at 29 (citing Ex. 1005, 19:18–19, 20:3–7, 23:1–8, 31:17–21, 31:31–32:3). Claim 22 contains a similar limitation, and Petitioner relies on the same analysis. See *id.* at 38.

Claim 13 depends from claim 1 and recites “the short distance wireless network is a Bluetooth™ network.” Ex. 1001, 16:8–9. Petitioner cites Liu’s teaching that the communication between toy 10 and interface 30 might be a

wireless link using, for example, Bluetooth. Pet. 30 (referring to analysis of claim 6).

Claim 27 and 28 depend from claim 15 and recite, respectively, “a short distance wireless network” and “a wide area network including a cellular network.” Ex. 1001, 17:6–9. Similar to claim 1, Petitioner relies on Liu’s short-range wireless network and cellular network, respectively, for teaching these limitations. Pet. 38–39.

Regarding claims 6, 7, 13, 21, 22, 27, and 28, Patent Owner’s arguments are based on earlier arguments regarding the respective base claims. PO Resp. 57–60. Patent Owner does not appear to address the obviousness of claims 6, 7, 13, 21, 22, 27, and 28 over of Liu other than to argue that Petitioner “has not alleged any of the items are obvious in light of the Liu disclosure alone.” *Id.* at 56.

Nonetheless, we reconsider Petitioner’s challenges to those claims based on our standard for final decisions, and are persuaded that Petitioner has shown by a preponderance of the evidence that claims 6, 7, 13, 21, 22, 27, and 28 would have been obvious over Liu. Petitioner has demonstrated that the elements in claims 6, 7, 13, 21, 22, 27, and 28 are present in Liu for the reasons stated in the Petition, which we adopt as our own. Each of these claims depends from claim 1 or claim 15, and thus incorporates the “manufacturer information” limitation. For the same reasons as above with respect to claims 1 and 15, we are persuaded by Petitioner’s rationale, as supported by Dr. Kiaei’s testimony, that one of ordinary skill in the art would have known that the addition of manufacturer information to the device identifier would have been an improvement.

In sum, we are persuaded that Petitioner has demonstrated, by a preponderance of the evidence, that all challenged claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30 of the ’648 patent would have been obvious in view of Liu for the reasons stated in the Petition.

3. *Analysis of Alleged Obviousness based on Liu and Chiloyan*

a. *Chiloyan*

Chiloyan is titled “[m]ethod and system to access software pertinent to an electronic peripheral device at an address based on a peripheral device identifier” and is directed to a system for using a peripheral device identifier obtained from a peripheral device in order for a host device to download a device driver for the peripheral device from a remote device. Ex. 1008, Abstract. Chiloyan discloses a system having a host device, such as personal computer 20, to which many peripheral devices can be connected. *Id.* at 6:65–7:7. When a new peripheral device is connected to personal computer 20, operating system 35 queries the peripheral device for a device descriptor, which “preferably contains data fields relating to the peripheral device, including a vendor ID and a product ID.” *Id.* at 8:43–49; *see also id.* at 4:2–4 (“[D]evice descriptor includes information such as a vendor identifier and a product identifier.”). Chiloyan also describes that the peripheral devices may be connected to the host device via a wireless connection. *Id.* at 8:31–43. For example, the peripheral device can use “a wireless connection within infrared, radio frequency (RF), or other appropriate communication distance of host personal computer 20.” *Id.* at 8:38–40.

b. Analysis of Alleged Obviousness in View of Liu and Chiloyan

Petitioner contends claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30 of the '648 patent would have been obvious in view of Liu and Chiloyan. Pet. 40–45, 49–60.

Petitioner relies, in part, upon the same disclosures from Liu cited in the anticipation challenge. *Id.* at 40–52. Petitioner specifically addresses the disclosures of the Liu-Chiloyan combination with respect to the claim 1 limitation of “obtaining device information from a device in a short distance wireless network, wherein the device information includes a manufacturer of the device and a type of the device,” which limitation has corresponding language in independent claims 14, 15, and 30. *Id.* at 45. Specifically, Petitioner proposes combining the teachings of Liu with the teachings of Chiloyan regarding a host device that obtains a device descriptor from a peripheral device over a short distance wireless network. Pet. 49–51 (citing Ex. 1008, 4:2–4, 8:43–49, 9:16–19). Petitioner relies upon Chiloyan’s teaching that the “device descriptor includes information such as a vendor identifier and a product identifier” as teaching the claim 1 recitation that the “device information includes a manufacturer of the device and a type of the device.” *Id.* at 49 (quoting Ex. 1008, 4:2–4). Petitioner provides numerous reasons that one of ordinary skill in the art would have been motivated to combine Liu and Chiloyan in the manner Petitioner proposes. *Id.* at 42–44 (citing Ex. 1003 ¶¶ 79–84). More particularly, Petitioner argues it would have been obvious to a person of ordinary skill in the art to substitute Chiloyan’s device information for Liu’s device information to include a manufacturer of the device and a type of the device. *Id.* at 50 (citing Ex. 1003 ¶ 87). Petitioner offers the testimony of Dr. Kiaei that a person of

ordinary skill in the art would have found the substitution of Chiloyan's device information for Liu's device information to be a simple substitution with a predictable result that would require minimal change to the data structures in Liu. *Id.* (citing Ex. 1003 ¶ 87).

For the remaining challenged claims, Petitioner primarily relies on the disclosure of Liu, with additional reliance on the disclosure of Chiloyan in the case of certain claims. For claim 7, Petitioner argues that "[t]he cell phone in Chiloyan is a messaging terminal." Pet. 53 (citing Ex. 1003 ¶ 91). For claim 14, Petitioner argues that Chiloyan describes that its software component can be downloaded over a wide area network, such as the Internet, and because Internet communications use Internet Protocol, the downloading of the software component in Chiloyan uses Internet Protocol data packets. *Id.* at 54 (citing Ex. 1008, 7:47; Ex. 1003 ¶ 92). For claim 15, Petitioner argues that in Chiloyan, a device driver (a first software component) is provided to the host device (the cellular device). *Id.* at 57 (citing Ex. 1008, 3:44–54, 4:43–48, 8:10–13, 9:38–39; 9:49–50; Ex. 1003 ¶ 93).

Patent Owner, for the most part, relies on its anticipation arguments as the foundation for its obviousness arguments. PO Resp. 55–60. Patent Owner argues that Petitioner's reliance "on the alleged obviousness of the device information including a manufacturer and a type of device does not cure the remaining deficiencies of the Liu reference" and, therefore, Petitioner "fails to establish a *prima facie* case of obviousness based on Liu alone." *Id.* at 56. For each challenged claim 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30, Patent Owner argues: "As detailed above . . . and for the same reasons, Liu fails to disclose each and every element of the claim as

arranged. Therefore, the Petition fails to render obvious [challenged claim].” *Id.*, *passim*. Patent Owner does not appear to address the combination of Liu and Chiloyan, other than to argue that Petitioner “has not alleged any of the items are obvious . . . in light of the Liu/Chiloyan combination.” *Id.* at 56.

Petitioner replies that Patent Owner “makes no attempt to address the Liu and Chiloyan ground of unpatentability.” Reply 23. Thus, Petitioner argues, because Patent Owner “has not challenged the instituted ground of unpatentability based on Liu and Chiloyan,” Patent Owner “has admitted that Chiloyan discloses the features for which the Petition relies on Chiloyan.” *Id.* Petitioner refers to its Petition to detail the reasons a person of ordinary skill in the art would combine Liu and Chiloyan. *Id.* at 24 (citing Pet. 50).

We are persuaded that Petitioner has shown, in its Petition, that the elements of the challenged claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30 are disclosed in the combination of Liu and Chiloyan. Particularly, the manufacturer of the device and the type of device are explicitly disclosed by the vendor identifier and a product identifier in Chiloyan. Ex. 1008, 4:2–4, 8:43–49, 9:16–19. We are persuaded by Petitioner’s arguments and Dr. Kiaei’s testimony that substitution of Chiloyan’s device information for Liu’s would have been obvious as a “predictable use of prior art elements according to their established functions.” Pet. 45 (citing *KSR*, 550 U.S. at 416–18). We also are persuaded that one of ordinary skill in the art, given Liu’s disclosure of downloading data and software updates (Ex. 1005, 4:21–25, 6:22–29), would have been motivated to include Chiloyan’s concepts for downloading device drivers, which provide improved “automated access over a network to the required drivers and other related software, for both new and older peripheral devices” (Ex. 1008, 3:24–27), thereby avoiding problems

associated with manual download of device drivers. We further agree with Petitioner's characterization that a person of ordinary skill in the art "would have seen Chiloyan's device information applicable to [Liu] and found the substitution of Chiloyan's device information for [Liu's] as a simple solution with a predictable result," particularly given Chiloyan's description of "the same technical environment and techniques for transmitting device information" as Liu. Pet. 50–51 (citing Ex. 1003 ¶ 87).

Based on the arguments and evidence before us, we are persuaded that Petitioner has demonstrated by a preponderance of the evidence that claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30 are obvious over the combination of Chiloyan and Liu.

D. Motion to Exclude

Patent Owner filed a Motion to Exclude (Paper 21), to which Petitioner responded (Paper 24) and in support of which Patent Owner filed a Reply (Paper 25). Patent Owner's motion seeks to exclude (a) Exhibits 1025 and 1026 as not authenticated; (b) Exhibits 1025 and 1026 as hearsay; (c) Exhibits 1024, 1025 and 1026 as irrelevant; and (d) Exhibit 1017 because it is not referenced or explained in the Petition or Reply. Paper 21, 1–10.

Petitioner responds that (a) Exhibits 1025 and 1026 meet FRE 901; (b) Exhibits 1025 and 1026 are admissible as date information; (c) Exhibits 1024, 1025 and 1026 are relevant; and (d) Exhibit 1017 is relevant. Paper 24, 1–15.

We do not rely upon Exhibit 1026 in our present determination. Therefore, Patent Owner's Motion to Exclude need not be decided as to Exhibit 1026, so we dismiss it as moot as to this exhibit.

Petitioner relies on Exhibits 1024 and 1025 to disclose that a MAC address includes manufacturer information. Even when we consider Exhibits 1024 and 1025, as cited by Petitioner, we determine that they do not provide sufficient support in view of our determination that Liu does not require a MAC address. Accordingly, because we ultimately agree with Patent Owner's position on this issue for the reasons set forth above, even when considering the evidence that Patent Owner seeks to exclude, we dismiss as moot Patent Owner's Motion to Exclude as to Exhibits 1024 and 1025.

Patent Owner moves to exclude Exhibit 1017 on the basis of relevance "because it is not referenced or explained at all in the Petition or the Reply." Paper 21, 9. In its Opposition, Petitioner contends Dr. Kiaei referenced this exhibit in his declaration. Paper 25, 2 (citing Ex. 1003 ¶ 51). Because Dr. Kiaei relies on this exhibit in support of his testimony in this case, Patent Owner has not shown that Exhibit 1017 is irrelevant under FRE 401 and 402. Accordingly, we deny Patent Owner's motion to exclude Exhibit 1017.

Accordingly, Patent Owner's Motion to Exclude is *dismissed* as moot as to Exhibits 1024, 1025 and 1026, and *denied* as to Exhibit 1017.

III. CONCLUSION

Based on the arguments and evidence before us, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30 of the '648 patent are unpatentable under 35 U.S.C. § 103(a) over (a) Liu and (b) Liu and Chiloyan. Petitioner has not demonstrated by a preponderance of the evidence that claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30 are unpatentable under § 102(a) over Liu.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that Claims 1–3, 5–7, 9, 13–17, 19, 21–23, 27, 28, and 30 are held unpatentable;

FURTHER ORDERED that Patent Owner’s motion to exclude is *dismissed* as moot as to Exhibits 1024, 1025, and 1026 and *denied* as to Exhibit 1017; and

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

IPR2015-01445
Patent 7,016,648 B2

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