

Filed on behalf of Intellectual Pixels Limited

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SONY INTERACTIVE ENTERTAINMENT LLC,
Petitioner,

v.

INTELLECTUAL PIXELS LIMITED,
Patent Owner.

Case No. IPR2021-00237
U.S. Patent No. 10,681,109

PATENT OWNER'S SUR-REPLY

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TABLE OF EXHIBITS

Exhibit No.	Description
2001	Disclaimer of Claims 13-18 of U.S. Patent No. 10,681,109
2002	Excerpt from IEEE 1000: The Authoritative Dictionary of IEEE Standards Terms (“IEEE Dictionary”) (7th ed. 2000)
2003	Excerpt from Microsoft Computer Dictionary (5th ed. 2002)
2004	File History of U.S. Patent No. 10,681,109
2005	U.S. Patent No. 6,929,549 (“Yamada1”)
2006	U.S. Patent No. 6,266,930
2007	Excerpts from Shelly, Cashman, and Vermaat, Discovering Computers: Fundamentals (4th ed. 2008)
2008	Frameless Rendering: Double Buffering Considered Harmful (1994)
2009	Declaration of Dr. John Hart in Support of Patent Owner Response
2010	Transcript of Deposition of Dr. Henry Fuchs (Aug. 17, 2021)
2011	Excerpt from Random House Webster’s College Dictionary (1997)
2012	McVeigh et al., “A Software-Based Real-Time MPEG-2 Video Encoder,” IEEE Transactions on Circuits and Systems for Video Technology 10(7), Oct. 2000, pp. 1178-1184
2013	H.261 Standard, available at https://www.itu.int/rec/dologin_pub.asp?lang=e&id=T-REC-H.261-198811-S!!PDF-E&type=items
2014	Fuchs, Henry, “Beyond the Desktop Metaphor: Toward More Effective Display, Interaction, and Telecollaboration in the Office of the Future via a Multitude of Sensors and Displays,” Proc. International Conference on Advanced Multimedia Content Processing, Nov. 9, 1998, pp. 30-43
2015	MPEG 2 Video standard, available at https://mpeg.chiariglione.org/standards/mpeg-2/video

Exhibit No.	Description
2016	ITU-T Recommendation H.262, available at https://www.itu.int/rec/T-REC-H.262-199507-S/en

I. INTRODUCTION

Petitioner cannot meet its burden to show invalidity of the Challenged Claims. On claim construction, the intrinsic and extrinsic evidence showing that the ordinary and customary meaning of “frame” is “a single instance of the display” is overwhelming. Moreover, even Petitioner’s evidence shows that the proper construction of “mobile device” is “handheld computing device.”

On the asserted art, Wiltshire’s silence cannot carry Petitioner’s burden to show that the combination of Wiltshire and Saha disclosed transmitting an updated image as a “[compressed] frame.” Petitioner also cannot show that Wiltshire disclosed “compressing the at least one updated image” or the “generating,” “compressing,” and “transmitting” steps of claims 1 and 8 in sequence. Petitioner’s reliance on mischaracterizations of Wiltshire cannot carry its burden.

On the “mobile device” requirement of claims 6, 11, and 12, Petitioner continues to assert its already-rejected Ground I theory based on Wiltshire. Petitioner’s alternative Ground III theory based on PC Magazine is also unavailing. PC Magazine’s Apple iBook is not a mobile device, and a POSITA would not have been motivated to use an iBook as the gambling device in Wiltshire’s commercial system.

Finally, in Ground II, Petitioner’s attempt to supplement its obviousness case for claim 2 with new evidence is improper and fails in any event. Petitioner’s

additional new theory based on using a single client in Wiltshire’s system is also improper in a reply and should not be considered. Even if considered, Petitioner cannot meet its burden to show invalidity.

The Board should confirm the patentability of all Challenged Claims.

II. CLAIM CONSTRUCTION

A. “frame”

“Frame” should be construed as “a single instance of the display.” Petitioner relies on Dr. Fuchs’ assertion that “frames represent the still images that are ordered in a sequence to produce a video or animated sequence,” which Dr. Fuchs equates with “spatial information of a video signal.” Paper 22 (“Reply”), 2; EX1002 ¶31. But Dr. Fuchs’ construction ignores the plain meaning of “frame” and rejects the ’109 Patent file history. Petitioner’s position cannot be correct. *See* Paper 17 (“POR”), 11.

Petitioner asserts that Dr. Hart’s opinions regarding “frame” contradict Petitioner’s mischaracterization of Patent Owner’s (“PO”) construction. Reply, 2-3. Petitioner falsely asserts that PO’s construction requires “fill[ing] the entire screen of a ‘client display.’” *Id.*, 2. That argument appears nowhere in Patent Owner’s Response (“POR”).

Dr. Hart’s more detailed explanation actually supports PO’s construction. Dr. Hart opined that “frame” means “a single instance of the display.” EX2009 ¶¶37,

44-51, 84. Dr. Hart further explained that “[t]he term ‘display’ used in the proposed construction for ‘frame’ refers specifically to the full image generated by the application at any given instance in time” and is “an acknowledgement that the entire display image is produced by an application running on a visual server.” *Id.* ¶¶48-49, 84.

Petitioner asserts that Dr. Hart opines that “a ‘frame’ is a ‘full image ***generated by the application*** at any given instance in time,’ regardless of whether the image takes up the entire client display.” Reply, 3 (emphasis in original). That is entirely consistent with PO’s construction. First, the definition in the first half of Petitioner’s assertion corresponds to the term “display” in the construction of “frame,” not the term “frame” itself. EX2009 ¶48. Second, as explained *supra*, Dr. Hart correctly opined that the “display” refers to the “full image generated by the application.” There is nothing contradictory about that opinion.

Finally, Petitioner takes out of context Dr. Hart’s testimony that “the term frame being used in Claim 1 isn’t referring to what the client is doing.” Reply, 3 (citing EX1025, 84:19-85:10). In context, Dr. Hart explained that because the “display” refers to the full image generated ***by the application*** running on the server, the client is not involved in generating a frame and need only display the frame. EX1025, 84:10-85:10; EX2009 ¶48 (“[T]his display of information is what is compressed and transmitted to the client for decompression and display in Claims 1

and 8.”). That much is apparent from the claim language. EX1001, 9:67-10:2, 10:41-45.

The intrinsic and extrinsic evidence support that a “frame” means “a single instance of the display.”

1. The Intrinsic Evidence Supports PO’s Construction

First, Petitioner asserts that “the claim language refutes Patent Owner’s construction.” Reply, 3. But it is well-established that “claims are read in light of the specification” and from the viewpoint of a POSITA. *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1333 (Fed. Cir. 2009). As Dr. Hart explained, “the use of the term ‘frame’ in Claims 1 and 8 of the ’109 Patent also refers to the additional context of a ‘frame’ representing the visual output of an interactive software application.” EX2009 ¶45 (citing EX1001, 9:62-64, 10:35-38). He further explained that “the term ‘frame’ would have been understood by a POSITA reading the claims in the context of the ’109 Patent specification to refer to the *entire* display and not a first portion of the display to be combined with a second portion of the display,” as described in the ’109 Patent’s Description of the Related Art. *Id.* ¶46.

Second, Petitioner asserts that the specification does not support its mischaracterization of PO’s construction. Reply, 3-4. Petitioner ignores the ’109 Patent’s repeated descriptions of frames in terms of display images, which support the proper construction of “frame” as “a single instance of the display.” EX1001,

4:17-32 (“The present invention further includes a method of displaying an image on a client....”); *id.*, 6:63-7:1 (“If the system 10 is *displaying a series of images on the client*..., the visual server 12 transmits the modified image to the client 16,18,20 *as a frame*....”¹); *id.*, 8:29-30 (“the client successfully received and *displayed the frame*.”); *see also* POR, 13-15.

Third, Petitioner incorrectly asserts that in the prosecution history, the applicant never argued “a single instance of the display” and distinguished Yamada on other grounds. Reply, 4-5. But Petitioner’s attempt to reduce applicant’s argument to “Yamada does not use the word ‘frame’” (Reply, 5 n.3) is absurd and completely ignores applicant’s second argument. EX2004, 273 (“Second, there is nothing to suggest that Yamada first generates a frame of image data and then compresses that frame prior to transmitting it to a remote client device.”). Additionally, as explained in the POR, that applicant made other arguments is irrelevant. POR, 17-18.

Finally, Petitioner disingenuously disputes that “the examiner ‘relied on Yamada’s use of the MPEG protocol’ and found it did not disclose a ‘frame,’” because the “applicant made no remarks about MPEG when distinguishing Yamada.” Reply, 5. But the examiner’s rejection relied on Yamada’s use of MPEG

¹ All emphases in this paper are added unless otherwise indicated.

compression. EX2005, 19:33-35, *cited in* EX2004, 289; POR, 7, 16, 35. Moreover, the requirement for “disavowing statements” does “not require the applicant to parrot back language used by the examiner when clearly and deliberately responding to a particular grounds for rejection.” *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1096 (Fed. Cir. 2013).

In sum, the intrinsic evidence supports PO’s construction.

2. The Extrinsic Evidence Supports PO’s Construction

Petitioner relies on mischaracterization to avoid the overwhelming extrinsic evidence supporting PO’s construction. First, Petitioner asserts that neither the IEEE Dictionary (EX2002) nor the Microsoft Computer Dictionary (EX2003) support its mischaracterization of PO’s construction. Reply, 5-6 (“does not require a ‘client display’ and does not require that the image fill the entire ‘client display’”). Petitioner does not assert that the dictionaries do not support PO’s actual construction, “a single instance of the display,” which they plainly do. *See* Reply at 5-6. Regarding the IEEE Dictionary, Petitioner falsely asserts that PO’s definition is “in the ‘television’ context.” *Id.*, 6. But the “(C)” in the definition of “display frame” (“*Synonym*: frame”) is a reference to the computer field. EX2002, 3. Petitioner also ignores Dr. Hart’s explanation that the IEEE Dictionary definition is helpful because it defines “a display frame as a single display image analogous to a frame in a motion picture” and that the “display portion of that means that you’re

seeing the entire display, and not a sub-portion of the display.” EX1025, 59:18-60:18. Similarly, regarding the Microsoft Computer Dictionary, Petitioner ignores Dr. Hart’s testimony that “[w]hen the Microsoft computer dictionary says a single screen-sized image, that is consistent with my definition of display as being the full image generated by the application at any given instance in time.” *Id.*, 76:6-10; *see also id.*, 75:15-77:16 (explaining that the construction of “frame” does not include the exact term “single screen-sized image” because it “does not address, for example, the specifics of a client server example as provided in ’109 [Patent]”).

Petitioner also unpersuasively asserts that Dr. Fuchs’ article (EX2008) is “about a different subject.” Reply, 6. Tellingly, Petitioner never addresses PO’s observation (POR, 15) that Dr. Fuchs’ usage of the term “frame” is consistent with PO’s construction.

Finally, Petitioner again relies on Saha. Reply, 6. But PO and its expert repeatedly explained that Saha failed to disclose the “frame” of claims 1 and 8. POR, 36-39; EX2009 ¶¶83-87. Petitioner also misleadingly asserts that Dr. Hart agreed “Saha discloses compressed ‘frames.’” Reply, 1. But Dr. Hart explained that “Saha’s using the term frame in a different context, discussing a frame as a single image of a sequence of images” (EX1025, 137:23-138:1) and that “Saha’s use of frame does not meet the requirements of a compressed frame for Claim 1.” *Id.*,

139:15-17; *see also id.*, 137:9-139:24. Thus, Petitioner’s reliance on Saha, which disclosed no more than Yamada, is misplaced.

The Board should construe “frame” as “a single instance of the display.”

B. “mobile device”

Petitioner asserts that PO’s construction of “mobile device” is contrary to positions taken in the parallel district court litigation (Reply, 7), but allegations in pleadings are preliminary in nature. The Board has stated that a party’s “arguments alleging that the other party takes inconsistent claim construction positions with respect to those taken in the related district court case are not helpful to our analysis, and we instead focus on the current record.” *Samsung Elecs. Co., Ltd. v. Red Rock Analytics, LLC*, IPR2018-00555, 2018 WL 4183415, at *5 n.7 (P.T.A.B. Aug. 30, 2018).

As explained *infra*, the intrinsic and extrinsic evidence support PO’s construction of “mobile device” as “handheld computing device.”

1. The Intrinsic Evidence Supports PO’s Construction

First, Petitioner’s use of a related patent to attack PO’s construction of “mobile device” in the ’109 Patent (Reply, 8) is meritless because the claims of the earlier patent do not recite “mobile device.”

Second, Petitioner incorrectly suggests that PO is attempting to “import limitations into the claims.” Reply, 9. According to Petitioner, PO’s construction

cannot be correct because the specification does not expressly “limit ‘mobile device’ to handheld computing devices.” *Id.*, 8. But “a patent applicant need not expressly state ‘my invention does not include X’ to indicate his exclusion of X from the scope of his patent because ‘the patentee’s choice of preferred embodiments can shed light on the intended scope of the claims.’” *Trustees of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1364 (Fed. Cir. 2016) (citation omitted). Regarding the specification, Petitioner relies on the specification’s reference to “common consumer client devices” and “that laptops were ‘common consumer devices’ in 2001.” Reply, 8. But that is irrelevant to whether a laptop is a “mobile device” within the meaning of claims 1 and 8.

Third, Petitioner’s attempts to distinguish PO’s case law are unavailing. Petitioner’s attempt to distinguish *Rothschild* (Reply, 9) fails because the claims in *Rothschild* recited “mobile device” just like the claims here, and the petitioner argued that a “scanner can be the mobile device.” IPR2016-00457, Paper 8 at 7 (P.T.A.B. July 27, 2016). The Board disagreed, concluding that construing “mobile device” to mean “‘a mobile communication device, such as a mobile telephone handset or Personal Digital Assistant...’ is, in our view, consistent with the descriptions of the term as it is used in the Specification, and does not impermissibly import limitations from various embodiments.” *Id.*, 10.

Petitioner’s attempt to distinguish *U.S. Automobile Association* because the “claims...recited a ‘handheld mobile device’” (Reply, 9-10) also fails because only one of the patents’ claims recited “handheld mobile device”; the other patent’s claims recited “mobile device.” *Compare* EX1038, claim 12, *with* EX1035, claim 12. And, like the ’109 Patent, the term “mobile device” appeared “only in the claims, suggesting that the[] term[] ha[s] [its] customary meaning[.]” No. 2:18-cv-366-JRG, 2019 WL 3423652, at *11 (E.D. Tex. July 29, 2019).

Petitioner’s reliance on the *Uniloc* patent’s distinction “between ‘mobile devices’ and ‘stationary terminals such as laptops, desktops, and workstations’” (Reply, 10) is also misplaced because the characterization of a laptop as a “stationary terminal,” as distinct from a “mobile device,” confirms that a POSITA understood that a laptop was not a mobile device.

Finally, Petitioner’s reliance on *Mobile Commerce Framework, Inc. v. Foursquare Labs, Inc.* is misplaced. Reply, 10-11. That case involved U.S. Patent No. 7,693,752. No. 11-CV-0481 BEN (BLM), 2013 WL 485860, at *1 (S.D. Cal. Feb. 6, 2013). The specification of that patent expressly stated that “[a]s used herein, a mobile device may also refer to any general-purpose mobile machine..., including, but not limited to,..., laptop computers,...” ’752 Patent at 11:15-19. Thus, *Mobile Commerce* is inapposite.

In sum, the intrinsic evidence and case law support PO’s construction.

2. The Extrinsic Evidence Supports PO's Construction

Despite incorrectly asserting that PO's Discovering Computers textbook (EX2007) is "not probative," Petitioner cites a reference that corroborates that textbook. Reply, 11. Petitioner's FCC Report, dated 2000, describes "mobile telephones" and "PDAs" as "handheld devices" or "handheld computing devices." EX1027, 37 ("mobile telephones and other handheld computing devices"), 66 ("Several PDAs, also referred to as handheld devices or palm pilots"). The FCC Report actually distinguishes between "handheld devices" and other devices like "laptop computers." *Id.*, 9 ("mobile telephones *and other handheld devices* to access the Internet, *as well as laptop computers and printers without cables*").

Contrary to Petitioner's suggestion, the FCC Report does not state that laptop computers are mobile devices, but instead says that "[m]obile *data* devices" include "laptop computers *equipped with wireless modems*." *Id.*, 36. The reference to "wireless modems" in the FCC Report's definition refers to a cellular modem. EX1027, 69 (describing "Internet access from a laptop through a Ricochet wireless modem," which was based on cellular technology). Moreover, the "mobile data" sector addressed in the report focuses on cellular and satellite technology. EX1027, 6 n.8; *see also id.*, 9 (describing development of new technologies in the "mobile data sector" including the "coming migration of mobile telephone networks to third generation (or '3G') technologies").

Petitioner’s remaining two references also fall short. Petitioner cites Wang (EX1026), which is merely a research paper, and Petitioner has provided no evidence that it was published in any journal or that its statements reflected the widely held view of persons of ordinary skill in the art. Also, the Encyclopedia of Computer Science references “laptop computers” under the heading “Mobility, Portability, and Utility” and under the category “Display devices” (EX1028, 27) but nowhere “list[s] laptops as examples of mobile devices” as Petitioner asserts (Reply, 11).

In sum, the extrinsic evidence, including Petitioner’s own reference, support that the proper construction of “mobile device” is “handheld computing device.”

III. WILTSHIRE DID NOT DISCLOSE “COMPRESSING THE AT LEAST ONE UPDATED IMAGE”

Claims 1 and 8 each recite a series of steps including “generating” (EX1001, 9:62, 10:35), “compressing” (*id.*, 9:65, 10:39), and then “transmitting.” *Id.*, 9:65-66, 10:39-40. Petitioner asserts that Wiltshire disclosed this sequence of steps, but Wiltshire was silent on generating an updated image, compressing that updated image, and then transmitting the compressed updated image.

First, Petitioner relies again on Wiltshire’s use of the word “update” in Figure 2. Reply, 12-13. Wiltshire was silent regarding what “update” meant in Figure 2. POR, 29-30. Wiltshire is consistent with “update” simply meaning selecting a new image to display that is already preloaded on the client. *Id.*, 30. Petitioner asserts that “[p]re-loaded images would... make no sense for interactive

video games like ‘Doom[.]’” Reply, 13. But Wiltshire never applies “Doom” to Figure 2. Moreover, even if not preloaded onto the client, selecting a preexisting image to transmit for display does not show the steps starting with “*generating* at least one updated image” required by claims 1 and 8. Petitioner fails to show that Wiltshire’s reference to “modifying the image displayed on the screen” (Reply, 12) means generating an updated image rather than selecting a different pre-existing image for display.

Second, Wiltshire’s Figure 2 described moving straight from determining whether an image was to be displayed at the client (step 220) to sending the image (step 230). EX1004, 7:9-15. Nevertheless, Petitioner mischaracterizes Wiltshire, asserting that “Wiltshire expressly discloses using ‘data compression’ to reduce ‘bandwidth’ when sending an updated image from the server to the client, and specifically sending a ‘compressed MPEG video stream.’” Reply, 13. But as explained in the POR, the reference to “compressed video MPEG stream” says nothing about any image allegedly generated in step 220 being compressed to reduce bandwidth. POR, 30-31 (also explaining that Wiltshire’s generic, isolated statement that the bandwidth requirement “can be further reduced using data compression techniques to about 100 KB/sec” is completely silent as to how that might be done and in no way disclosed or suggested that an image from step 220 might be compressed using MPEG).

Unable to overcome Wiltshire’s lack of disclosures, Petitioner resorts to mischaracterizing PO’s arguments, asserting that “Dr. Hart testified that Wiltshire does not transmit a compressed video MPEG stream at all, much less a pre-loaded one.” Reply, 16. But as Dr. Hart repeatedly explained, “[t]hat’s not what I said.” EX1025, 151:21, 152:23. Dr. Hart further explained that “when it says or even an *encoded* audio/video stream such as a compressed video MPEG stream, I believe that’s a compressed video MPEG stream stored on the server that’s being decompressed and composed on the server and a single image is being pulled out of that so it can be sent to the client by being included into the image.” *Id.*, 151:9-16; *see also id.*, 149:17-153:7. Dr. Hart’s interpretation of Wiltshire’s disclosure is far more reasonable than Petitioner’s.

Finally, instead of addressing PO’s argument that “a POSITA would not have thought using MPEG compression for a live transmission, such as an interactive game, was trivial in view of Saha, which discloses offline MPEG encoding” (POR, 31), Petitioner incorrectly asserts that “the ’109 patent also does not disclose details of how to use MPEG for live, real-time interactive games” and that “Wiltshire and the ’109 patent disclose the same level of detail on MPEG compression.” Reply, 17. Petitioner never addresses Dr. Hart’s testimony explaining the ’109 Patent’s more specific disclosure regarding how to apply compression to a live stream of rendered images. EX2009 ¶¶76-79; *see also* EX1025, 144:1-149:5. Petitioner also never

addresses (and therefore concedes) Dr. Hart’s rebuttal to Dr. Fuchs’ testimony, that Saha did not describe real-time compression. EX2009 ¶74. Moreover, as Dr. Hart explained, “the ’109 has a specific component... that compresses the image data, that’s component number 66” and “[t]hat component is missing from the design... of Wiltshire.” EX1025, 144:12-15; *see also* EX2009 ¶82. Petitioner’s attempt to remedy this failure by annotating Figure 2 to include disclosure not in Wiltshire (Reply, 15) cannot substitute for actual disclosure.

Because Wiltshire did not disclose “compressing the at least one updated image” or the “generating,” “compressing,” and “transmitting” steps of claims 1 and 8 in sequence, Petitioner cannot prevail on any Ground.

IV. THE COMBINATION OF WILTSHIRE AND SAHA DID NOT DISCLOSE A “SERVER TRANSMITS THE UPDATED IMAGE AS A [COMPRESSED] FRAME”

Neither Wiltshire nor Saha disclosed this limitation under the proper construction of the term “frame.” POR, 32-39. Petitioner incorrectly asserts that, even under PO’s construction, Wiltshire and Saha disclosed the claimed “frame.” Reply, 19. First, Petitioner asserts that Wiltshire provides examples of images that are “full displays” and “not partial displays.” *Id.* But Petitioner provides no support for that assertion other than citing to Wiltshire’s Figures 4-9.

Relying on Wiltshire’s disclosure at 8:2-7, Petitioner additionally asserts that “[b]y disclosing alternative embodiments that may use partial screen updates,

Wiltshire confirms that its main embodiment results in ‘full screen refreshes’ on the client....” *Id.*, 19-20. However, Wiltshire was silent about other embodiments (including any embodiments with full screen refreshes), and silence cannot establish the presence of a limitation. EX1025, 55:15-57:9 (“Wiltshire is silent on that.”); *Snap Inc. v. Vaporstream, Inc.*, IPR2018-00455, 2019 WL 3470763, at *7 (P.T.A.B. July 31, 2019) (“Wren is completely silent as to whether ‘New Movie’ came from the sending device as part of the message or whether it was generated by the recipient device on its own.”).

Moreover, Petitioner asserts that “Wiltshire discloses a ‘frame’ under Dr. Hart’s view that a frame is a ‘full image generated by the application at any given instance in time.’” Reply, 20. As explained in Section II.A. *supra*, that is Dr. Hart’s definition of “display” in the construction of “frame,” not “frame” itself. Regarding Dr. Hart’s construction of “display,” Petitioner’s assertion that “[t]here is **nothing in Wiltshire to suggest** that the images shown in Figure 4-9 are partial outputs of an application” (*id.*) again improperly substitutes silence for disclosure. *Snap*, 2019 WL 3470763, at *7 (“Petitioner’s reliance on Wren’s lack of disclosure... [is] not persuasive. It is Petitioner’s burden to show that a [POSITA] would have understood Figure 9A in Wren to include no message content, not Patent Owner’s burden to prove the opposite.” (internal citations omitted)).

Because neither Wiltshire nor Saha disclosed a “frame,” Petitioner cannot prevail on any Ground.

V. WILTSHIRE DID NOT DISCLOSE OR SUGGEST A “MOBILE DEVICE”

Petitioner continues to assert that Wiltshire disclosed the “mobile device” of claims 6, 11, and 12 despite the Board agreeing that Wiltshire did not. Paper 13 (“ID”), 33-35. None of Petitioner’s reply arguments hold water.

First, PO recycles its already-rejected argument regarding “Wiltshire’s ‘wireless communication pathways’ that allow ‘a mobile gaming environment’ (Ex. 1004, Abstract).” Reply, 21; ID, 34-35. Petitioner nevertheless asserts that “Patent Owner’s argument that Wiltshire’s ‘wireless communication pathways’ are between the head mounted display and the joystick is incorrect.” Reply, 20. But PO’s actual argument was that, in Wiltshire, “the ‘mobile’ nature of the gaming environment is due to the use of a ‘stereo head-mounted display together with a joystick input device’ in place of a display device,” and the Board agreed. POR, 41-42; ID, 34.

Moreover, relying on Wiltshire’s Figure 1D, Petitioner incorrectly asserts that the “wireless communication pathways” mentioned in Wiltshire’s Abstract are between “the clients and the servers.” Reply, 20-21. But “wireless communication pathways” is referenced only in Wiltshire’s Abstract and claim 11. Wiltshire’s claim 1 recites “communication pathways,” and Wiltshire’s claim 11, which

depends from claim 1, includes the “further” requirements of “a head-mounted display device; a joystick input device; and wireless communication pathways” (EX1004, 13:20-24)—confirming that “wireless communication pathways” in Wiltshire’s Abstract is not referring to the same communication pathways 130 shown in Wiltshire’s Figure 1D. Moreover, even if the “wireless communication pathways” were between the clients and the server (they are not), Wiltshire still did not disclose any “mobile device.”

Petitioner’s remaining two arguments also fall flat. First, Petitioner takes issue with PO’s observation that Wiltshire’s clients include “Wager-Acceptors.” Reply, 21. But as the Board observed, “[e]ach of the client devices shown in Figure 1D is... connected to a ‘Wager-Acceptor[.]’” ID, 35. Notably, Petitioner relies on Wiltshire’s Figure 1D embodiment throughout the Petition. *See, e.g.*, Paper 3 (“Pet.”), 15, 21, 33-35, 37, 42. Petitioner’s assertion that Wiltshire’s “wager-acceptors can include a ‘smart-card reader’ or ‘credit card reader’..., which could be used with laptops without preventing mobility” (Reply, 21) is both incorrect and irrelevant because Wiltshire did not disclose laptops. Second, Petitioner’s reliance on Wiltshire’s disclosure of Windows CE, which Petitioner alleges is suitable for handheld devices (*id.*), is misplaced because even if true, Windows CE cannot substitute for Wiltshire’s failure to disclose the claimed mobile device.

Because Wiltshire did not disclose a “mobile device,” Petitioner’s Ground III challenge to claims 6, 11, and 12 must fail.

VI. PC MAGAZINE DID NOT DISCLOSE OR SUGGEST A “MOBILE DEVICE”

Petitioner alternatively asserts that PC Magazine disclosed the “mobile device” of claims 6, 11, and 12. Reply, 21-22. But PC Magazine’s Apple iBook laptop is not a “mobile device” under the proper construction of the term. Petitioner appears to assert that the iBook’s “wireless capability” makes it a “mobile device” (*id.*, 22), but mere wireless capability does not make a device mobile.

Petitioner also asserts that “references [in PC Magazine] to the iBook as ‘portable’ do not mean it is not also a ‘mobile device.’” *Id.*, 22. According to Petitioner, “mobile telephones and PDAs are also ‘portable,’ but they are still ‘mobile devices.’” *Id.* But mobile devices are a subcategory of portable devices. Thus, while mobile devices are portable, portable devices are not necessarily mobile.

Finally, relying on screenshots from YouTube video clips posted in 2009 and 2012, Petitioner asserts that the iBook is a “handheld computing device.” *Id.*, 22-23. However, under Petitioner’s reasoning, *any* device that can be rested on the palm of one’s hand (and not grasped) would be handheld. For example, a desktop computer or a VHS player can rest on one’s hand, but no one would consider either a “mobile device.” Petitioner’s position would “eviscerate[] the claim requirement”

that the client device is a “mobile device.” *Blackberry Corp. v. Facebook, Inc.*, IPR2019-01596, 2020 WL 1080525, at *4 (P.T.A.B. Mar. 5, 2020).

Thus, Petitioner’s Ground III challenge must fail.

VII. A POSITA WOULD NOT HAVE BEEN MOTIVATED TO COMBINE PC MAGAZINE WITH WILTSHIRE AND SAHA

As explained in the POR, even if the Board were to find that a laptop was a mobile device, a POSITA would not have been motivated to use the iBook in Wiltshire’s commercial gambling system. POR, 46-52. Petitioner’s reply arguments fail to show otherwise.

First, Petitioner re-uses its argument that “Wiltshire’s client computers do not require wager-acceptors.” Reply, 24. Petitioner also asserts that “Patent Owner ignores that wager-acceptors can include card readers” and thus that laptops would not “present a security risk.” *Id.* As explained in Section V. *supra*, the Petition relies on Wiltshire’s Figure 1D embodiment, which the Board correctly observed shows each client device connected to a Wager-Acceptor. Moreover, the assertion that laptops with connected card readers would not present any security risk ignores that even present-day commercial gambling establishments still use large, bulky gaming stations, as Dr. Fuchs admitted. POR, 51 (citing EX2010, 58:2-60:9). It also ignores Wiltshire’s teaching that its invention was designed to “substantially increase[] the tamper resistance of individual gaming stations.” EX1004, 2:22-25.

Second, Petitioner incorrectly asserts that Wiltshire is not limited to a casino environment. Reply, 24. But the Board correctly observed that “Wiltshire’s system is directed at commercial gaming” and that Wiltshire’s gaming stations are equipped to facilitate that purpose. ID, 33-34. Petitioner nevertheless asserts that “Wiltshire expressly contemplates ‘non-casino games’ (Ex. 1004, 12:11).” Reply, 24. But the sentence Petitioner relies on refutes its point: “[A]ny casino game or other non-casino games where players *play against each other for money with the house taking a percentage of the stake* for providing the game.” EX1004, 12:10-13. In fact, to ignore that very teaching Dr. Fuchs improperly asserted that sentence was “irrelevant to [his] analysis of the ’109 patent.” EX2010, 53:1-7, 56:4-6. As Dr. Hart explained, “Wiltshire’s disclosure is focused on gambling and in particular commercial gambling operations provided by a ‘house’ or a casino,” which is “why Wiltshire’s Fig. 1D shows ‘Wager-Acceptor’ devices on each client computer.” EX2009 ¶111; *see also* EX1025, 38:6-40:14; *id.*, 33:23-35:16. Petitioner cannot “pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” *In re Wesslau*, 353 F.2d 238, 241 (C.C.P.A. 1965).

Third, Petitioner fails to rebut PO’s characterization of Dr. Fuchs’ opinion that “the personal computer industry had already begun shifting towards offering viable

mobile laptop products to the general public” as “merely a bald statement about what could have been achieved at the time of the invention.” Reply, 25; POR 50. Indeed, Petitioner’s reliance on the existence of laptop products goes only to whether a POSITA “***could have made*** [not whether a POSITA] ***would have been motivated to make*** the combinations or modifications of prior art to arrive at the claimed invention.” *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (bold added).

In sum, Ground III additionally fails because a POSITA would not have been motivated to combine PC Magazine with Wiltshire and Saha.

VIII. A POSITA WOULD NOT HAVE BEEN MOTIVATED TO COMBINE CHEN WITH WILTSHIRE AND SAHA

As explained previously, to close the gap in Petitioner’s Ground II obviousness case, “Petitioner would have to either depart from Chen’s teaching of use of ADSL in residences or supplement Wiltshire’s disclosure with placing clients in residences. Petitioner argued neither, and neither is supported by this record.” POR, 59. In reply, Petitioner attempts to close that gap by asserting that Wiltshire is not “limited to commercial casino establishments” and that Chen is not “limited to residential applications.” Reply, 26. Petitioner’s attempt to bolster its deficient prima facie case exceeds the proper scope of reply under 37 C.F.R. § 42.23(b). *Henny Penny Corp. v. Frymaster L.L.C.*, IPR2016-01435, 2017 WL 6551237, at *8

(P.T.A.B. Dec. 21, 2017) (disregarding new argument raised in Petitioner’s reply under 37 C.F.R. § 42.23(b)).

Moreover, neither of Petitioner’s assertions hold water. First, as explained in Section VII. *supra*, Wiltshire’s system is directed at commercial gaming involving “stake games.” Second, Petitioner incorrectly asserts that “Chen discloses... business applications like accessing database records and tele-education.” *Id.* But nothing in Chen suggests that “database records” refers to the use of ADSL outside the home. Nor is “tele-education” referring to commercial use. EX1025, 162:1-164:12.

Petitioner’s reliance on its newly-submitted references, in addition to being a violation of 37 C.F.R. § 42.23(b), is also unavailing. Kompatsiaris confirmed that ADSL “uses the existing twisted pair [*i.e.*, copper wire] infrastructure” (EX1030, 2), meaning a POSITA would not have thought ADSL could successfully be employed in a commercial gaming operation involving tens of gaming stations in a single location. Ahamed (EX1029) said no more than Kompatsiaris, and fails to show that a POSITA would have thought ADSL was an adequate choice for a commercial gaming establishment.

Petitioner also proffers an entirely new theory of invalidity in violation of 37 C.F.R. § 42.23(b). First, Petitioner asserts that “Wiltshire discloses a system...with only one client computer” and that “[t]hus, it is immaterial whether ADSL could

support more than one concurrent MPEG video stream.” Reply, 27. But the Petition specifically relied on Wiltshire’s disclosure of a plurality of clients. *See, e.g.*, Pet. at 20-21 (for Claim 1, relying on Figure 1A and disclosure that “Computer gaming system 100 includes...a ***plurality of remote client/terminal computers 120***”), 61 (for Claim 2, explaining that “Wiltshire describes using a communication pathway between the server and ***clients***”). That is not surprising because claims 3-5, 7, 10, and 12 expressly require a “plurality of client devices.” EX1001, 10:8-18, 21-26, 51-53, 57-59. Moreover, in support of its new theory, Petitioner relies solely on Wiltshire’s claim 1, which recites “one or more client/terminal computers.” Reply, 27. But Petitioner fails to show that Wiltshire’s claim 1 is entitled to Petitioner’s asserted priority date for Wiltshire. Thus, even if Petitioner could bolster its prima facie case in reply (it cannot), Petitioner cannot prevail.

Petitioner asserts in the alternative that an “application in Wiltshire need not consume the entire 1.3 Mbps bandwidth.” *Id.* But Dr. Fuchs opined in his original declaration that “an MPEG stream may require rates of ***at least*** 1.3 megabits per second.” EX1002 ¶200; *see also* Pet. at 63-64 (citing EX1006, 5); EX2010, 70:10-72:15. That was the theory upon which the Board instituted this IPR. ID at 44-45 (“Dr. Fuchs further testifies that a [POSITA] would have understood that sending compressed updated images from Wiltshire’s server to the client requires higher bandwidth of ***at least*** 1.3 Megabits per second when an MPEG stream is used....”).

Petitioner cannot change theories or even facts now. Even if it could, Petitioner's assertion that Wiltshire contemplates games "that could stream multiple concurrent MPEG videos that total less than 1.3 Mbps" (Reply, 27) is unsupported by any citation to Wiltshire and should be rejected.

Finally, Petitioner asserts that it has shown "that ADSL was one of a finite number of options for providing Internet connectivity" because PO "does not identify any options other than ADSL or cable networks as described by Dr. Fuchs." *Id.* But it is Petitioner's burden to prove invalidity, **not** PO's. Moreover, the various versions of DSL present numerous additional options. EX1029, 9 (separately referring to "DSL, HDSL, ADSL, and VHDSL applications"); EX1030, 2 ("DSL is often written as 'xDSL' indicating that it is a (growing) family of standards and technologies"). Regarding Dr. Fuchs' reliance on PC Magazine, which only mentioned "DSL," not ADSL, Petitioner asserts that "a POSITA would understand DSL to refer to ADSL." *Id.* In fact, Petitioner's own references refute its assertion. EX1029, 9 (separately referring to "DSL, HDSL, ADSL, and VHDSL applications"); EX1030, 2 ("DSL is often written as 'xDSL' indicating that it is a (growing) family of standards and technologies").

In sum, Petitioner cannot prevail on its Ground II challenge to claim 2.

IX. CONCLUSION

For at least the foregoing reasons, PO respectfully requests that the Board find that Petitioner has failed to show invalidity of the Challenged Claims.

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Dated: January 14, 2022

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that foregoing **PATENT OWNER’S SUR-REPLY**, exclusive of the parts exempted as provided in 37 C.F.R. § 42.24, contains 5,595 words and therefore complies with the type-volume limitations of 37 C.F.R. § 42.24.

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CERTIFICATE OF SERVICE

The undersigned certifies that pursuant to 37 C.F.R. § 42.6(e), a true copy of the foregoing **PATENT OWNER’S SUR-REPLY** is being served electronically on January 14, 2022 to the following lead and back-up counsel for Petitioner to the following email addresses:

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