

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNIFIED PATENTS, INC.,
Petitioner,

v.

MV3 PARTNERS LLC,
Patent Owner.

IPR2019-00474
Patent 8,863,223 B2

Before JEAN R. HOMERE, JUSTIN T. ARBES, and CHRISTOPHER M. KAISER, *Administrative Patent Judges*.

HOMERE, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining No Challenged Claims Unpatentable
Dismissing Petitioner's Motion to Strike
35 U.S.C. § 318(a)

I. INTRODUCTION

Unified Patents, Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claims 1–6, 8, 10–21, 23–38, 40, 42–53, and 55–61 ("the challenged claims") of U.S. Patent No. 8,863,223 B2 (Ex. 1001, "the '223

patent”). Paper 2 (“Pet.”). MV3 Partners LLC (“Patent Owner”) filed a Preliminary Response. Paper 6. Upon consideration of the parties’ contentions and supporting evidence, we instituted an *inter partes* review pursuant to 35 U.S.C. § 314, as to the challenged claims of the ’223 patent. Paper 9 (“Inst. Dec.”).

After institution, Patent Owner filed a Response (Paper 27, “PO Resp.”); Petitioner filed a Reply to Patent Owner’s Response (Paper 32, “Pet. Reply”); and Patent Owner filed a Sur-Reply (Paper 37, “PO Sur-Reply”). Petitioner filed a Motion to Strike (Paper 43), and Patent Owner filed an Opposition to the Motion to Strike (Paper 44). *See infra* § III.E. An oral hearing was held on May 26, 2020. A transcript of the hearing has been entered into the record. Paper 49 (“Tr.”).

This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we determine that Petitioner has not demonstrated by a preponderance of the evidence that challenged claims 1–6, 8, 10–21, 23–38, 40, 42–53, and 55–61 of the ’223 patent are unpatentable.

II. BACKGROUND

A. Real Parties-In-Interest

Petitioner identifies itself as the sole real party-in-interest in this proceeding. Pet. 66. Petitioner asserts that “[n]o other party exercised control or could exercise control over [its] participation in this proceeding, the filing of this petition, or the conduct of any ensuing trial,” and provides voluntary interrogatory responses in support of that certification. *Id.* (citing

Ex. 1010). Patent Owner names itself as the real party-in-interest. Paper 4, 1.

B. Related Matters

The parties indicate that the '223 patent is involved in *MV3 Partners LLC v. Roku, Inc.*, Civil Action No. 6:18-cv-00308 (W.D. Tex. Oct. 16, 2018); *MV3 Partners LLC v. Kohl's Corp.*, Civil Action No. 6:18-cv-00373 (W.D. Tex. Dec. 21, 2018); and *MV3 Partners LLC v. Best Buy Co.*, Civil Action No. 6:18-cv-00374 (W.D. Tex. Dec. 21, 2018). Pet. 66; Paper 4, 2.

C. The '223 Patent

The '223 patent relates to a mobile set top box ("STB") for forwarding and presenting on a large screen of an external display (e.g., high definition television monitor) multimedia content including packets using predefined protocols (e.g., MPEG, IP) transmitted from various networks (e.g., 3G, satellite) via unicast or multicast broadcasts to a small screen of an authenticated user's mobile computing device. Ex. 1001, Abstract, 1:11–13, 2:58–61, 3:39–41, 4:5–8, 4:56–66, 5:15–17, 6:11–12.

Figure 2 below is illustrative.

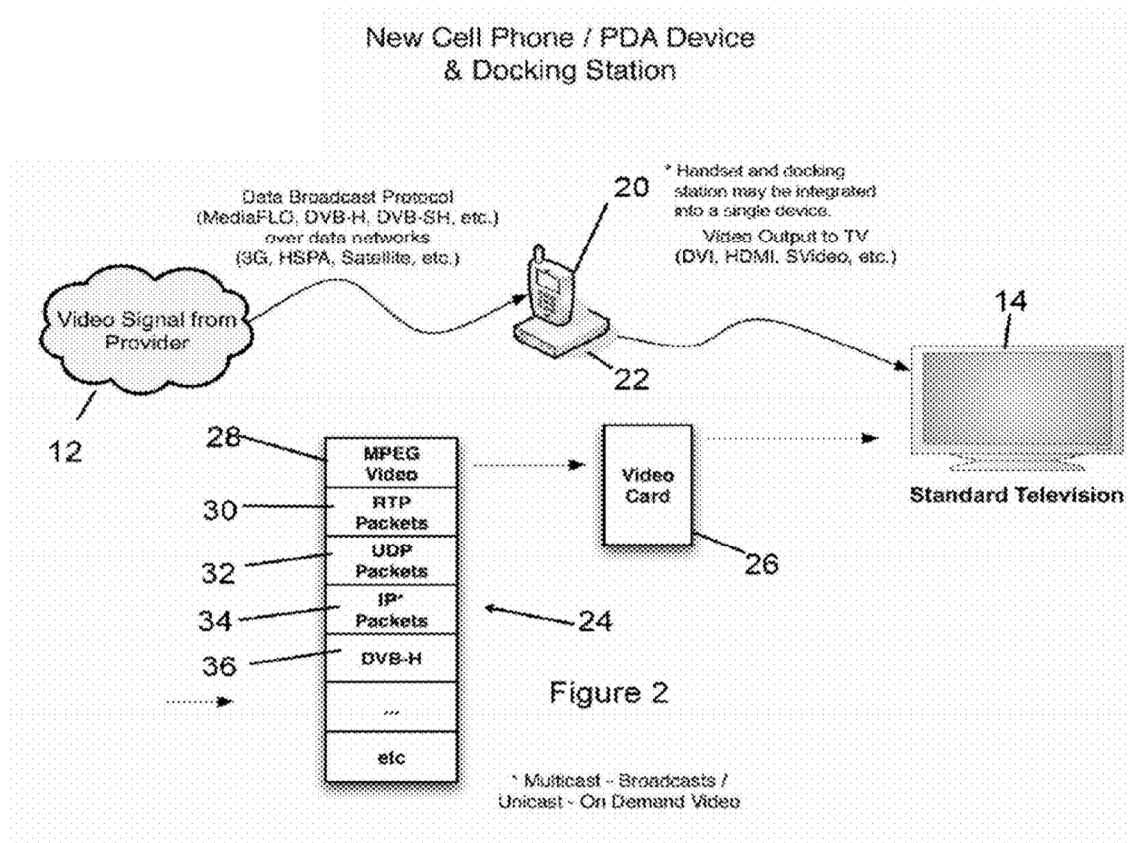


Figure 2, reproduced above, depicts mobile STB (10) facilitating the display in standard television (14) of data broadcast in unicast or multicast to mobile computing device (20). Ex. 1001, 4:47–51.

In particular, as shown in Figure 2 above, the '223 patent describes that mobile device (20) provides received multimedia content to mobile STB (10) via a docking port of docking station (22). *Id.* at 4:47–60. Upon receiving the multimedia content, mobile STB (10) authenticates mobile device (20), and determines (based on the authentication) that the user associated therewith is permitted to transmit the multimedia content to

external display (14). *Id.* at 8:47–51. Subsequently, upon determining the native size format of the multimedia content received from mobile device (20), mobile STB (10) determines the size format capable of being displayed by external display (14), and upconverts the multimedia content from a small size format to a larger size format for display on external display (14). *Id.* at 4:15–27, 4:33–39, 5:35–43.

D. Illustrative Claim

Of the challenged claims, claims 1, 30, and 32 are independent. Claim 1 is illustrative and is reproduced below with disputed limitations emphasized:

1. A mobile set top box comprising:
 - a docking port configured to accept a mobile computing device that has a native resolution of a first size format and receives media content from at least two different types of communications networks;
 - a mobile device input that receives media content from the mobile computing device accepted in the docking port;
 - a television signal input that receives at least one type of television signal;
 - a video processor configured to receive and process the media content from the mobile device input, the video processor including adaptive circuitry to process the media content transmitted from unicast and multicast broadcasts, and the video processor including circuitry and instructions operable to process a predefined protocol stack of video packets forming at least a portion of the media content;
 - a processor coupled to an electronic storage, the electronic storage comprising instructions that, when executed, cause the processor to:

execute an upconversion process by processing first media content from the mobile computing device, wherein the first media content includes digital video image information comprising a series of digital video frames, and is modified for display on a display device that is separate from the mobile set top box, the display device having a native display resolution of a second size format that is larger than the first size format of the mobile computing device, the upconversion process further comprising:

- receiving the first media content in the first size format from the mobile device input,

- querying the mobile computing device to determine the first size format,

- querying the display device,

- determining the native display resolution of the second size format of the display device based on a response resulting from the query of the display device,

- authenticating the validity of a user associated with the mobile computing device,*

- determining, based on the validity of the user, that the received first media content is permitted to be provided to the display device, and*

- upsampling the received first media content from the first size format to the second size format to generate upconverted first media content, wherein upscaling includes increasing a total number of horizontal and vertical pixels in each video frame of the series of digital video frames so that pixel dimensions in each video frame match the native display resolution of the second size format of the display device; and

render a television signal into second media content for display on the display device, comprising:

- receiving the television signal from the television input;

decoding the television signal into second media content; and
rendering the second media content based on the native display resolution of the display device to generate rendered second media content; and
an output configured to deliver the upconverted first media content and the rendered second media content from the mobile set top box to the display device.

Ex. 1001, 8:9–9:3 (emphases added).

E. Asserted Prior Art

Reference		Date	Exhibit
Wang	US 7,957,733 B2	June 7, 2011 (filed May 22, 2007)	1004
Balram	US 2008/0198264 A1	Aug. 21, 2008	1006
Bennett	US 2006/0031889 A1	Feb. 9, 2006	1005

F. Asserted Grounds of Unpatentability

Petitioner asserts the challenged claims are unpatentable on the following grounds:

Claims Challenged	35 U.S.C. §	Reference(s)/Basis
1–6, 8, 10–21, 23–38, 40, 42–53, 55–61	103(a) ¹	Wang
1–6, 8, 10–21, 23–38, 40, 42–53, 55–61	103(a)	Wang, Balram, Bennett

III. DISCUSSION

A. Claim Construction

Petitioner filed the Petition in this *inter partes* review on December 31, 2018. Because the Petition was filed after November 13, 2018,² we construe each claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340, 51,358 (Oct. 11, 2018). Under this standard, a claim is construed “in

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. Given that the application from which the ’223 patent issued was filed before this date, the pre-AIA version of § 103 applies.

² On October 11, 2018, the USPTO revised its rules to harmonize the Board’s claim construction standard with that used in federal district court. Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (now codified at 37 C.F.R. pt. 42 (2019)). This rule change applies to petitions filed on or after November 13, 2018. *Id.* at 51,340.

accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.* at 51,358; *see also Phillips v. AWH Corp.*, 415 F.3d 1303, 1321 (Fed. Cir. 2005) (en banc) (stating “the ‘ordinary meaning’ of a claim term is its meaning to the ordinary artisan after reading the entire patent”). “There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

Petitioner proposes no express claim constructions of any of the terms in the challenged claims of the ’223 patent. Pet. 5. Patent Owner proposes that the Board adopt the claim constructions of the district court in *MV3 Partners LLC v. Roku, Inc.*, No. 6:18-cv00308 (W.D. Tex. Oct. 16, 2018) (Ex. 2011). PO Resp. 7. In particular, Patent Owner proposes that the step of “determining, based on the validity of the user, that the received first media content is permitted to be provided to the display device” in claims 1, 30, and 32 be construed according to its “[p]lain and ordinary meaning.” *Id.* at 8 (citing Ex. 2011, 6). Petitioner argues that because Patent Owner provides no argument or evidence as to why those claim constructions should be adopted, the Board should decline Patent Owner’s proposition to adopt them. Pet. Reply 1.

We determine that no explicit construction of any term is necessary to resolve the issues before us. *See Nidec Motor Corp. v. Zhongshan Broad*

Ocean Motor Co., 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“Because we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy,’ . . . we need not construe [a particular claim limitation] . . . where the construction is not ‘material to the . . . dispute.’” (citations omitted)).

B. Level of Ordinary Skill in the Art

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (internal quotation and citation omitted). In that regard, Petitioner’s declarant, Anthony Wechselberger, testifies that a person having ordinary skill in the art (“PHOSITA”) at the time of the invention

would have been a person having . . . (i) at least an undergraduate degree in electrical engineering, computer science, computer engineering, or a similar technical field; and (ii) two years of experience in analysis, design, or development related to digital video processing systems, distribution networks and communications protocols, and signal formatting, with additional education substituting for less experience and vice versa.

Ex. 1003 ¶ 31. Patent Owner does not dispute Petitioner’s suggested definition of the ordinarily skilled artisan in its Response. PO Resp. 6.

On this record, we observe that Petitioner’s proffered undisputed assessment of a person of ordinary skill in the art appears to be consistent

with the level of ordinary skill in the art at the time of the invention as reflected in the prior art in the instant proceeding. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). Therefore, for purposes of this Decision, we adopt Petitioner's assessment.

C. Obviousness over Wang

Petitioner asserts that claims 1–6, 8, 10–21, 23–38, 40, 42–53, and 55–61 are unpatentable under 35 U.S.C. § 103(a) as obvious over Wang. Pet. 11–63. Patent Owner opposes. PO Resp. 18–33.

Based on the evidence in this record, we find that Petitioner has not shown by a preponderance of the evidence that Wang teaches or suggests each limitation of independent claims 1, 30, and 32, or the challenged claims depending therefrom. For the reasons explained below, Patent Owner's arguments undermine Petitioner's showing.

1. *Principles of Law*

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter 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. *See 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 skill in the art; and (4) where in evidence, so-called secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

We also recognize that prior art references must be “considered together with the knowledge of one of ordinary skill in the pertinent art.” *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (quoting *In re Samour*, 571 F.2d 559, 562 (CCPA 1978)). We analyze Petitioner’s obviousness grounds with the principles identified above in mind.

2. *Overview of Wang*

Wang describes a method and system for displaying on an external large screen display multimedia content originally destined for the smaller screen of a mobile terminal display. Ex. 1004, 3:21–32. In particular, Wang describes a set top box, upon receiving the multimedia content from the mobile computing device, converting the multimedia data to suit the format size of the larger external display. *Id.* at 14:43–49, 26:10–17. As shown in Figure 9 below, Wang discloses that mobile terminal signal conversion module (MTSCM) 912, upon receiving multimedia content transmitted to mobile device (908) by service providers (902) through network (904), reformats the multimedia content to display it on external display system (914). *Id.* at 14:50–15:3, 15:19–31, 15:52–55, 15:65–16:2, 18:32–37. Wang discloses upconverting the signal from mobile device (908) for display to larger external device (914). *Id.* at 17:43–54, 17:63–18:6. Wang describes that multimedia data are broadcast to the mobile device via multicast and unicast. *Id.* at 8:45–48, 19:46–49. Figure 9 of Wang, reproduced below, is a depiction of a mobile terminal signal conversion system.

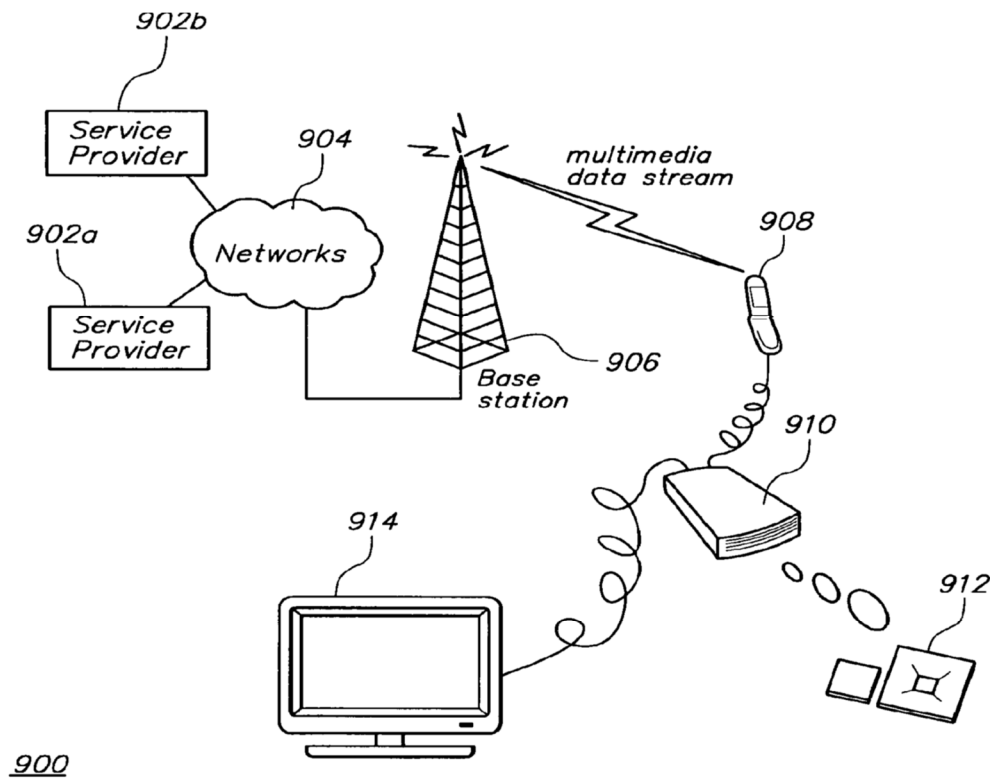


FIG. 9

Figure 9, reproduced above, depicts a system with mobile terminal signal conversion. Ex. 1004, 14:43–49.

3. *Obviousness Analysis*

Petitioner provides explanations for the claim limitations required by claims 1–6, 8, 10–21, 23–38, 40, 42–53, and 55–61, and reasons for modifying the teachings of Wang, citing Mr. Wechselberger’s Declaration for support. Pet. 11–47; Ex. 1003 ¶¶ 41, 42, 73. Claim 1 recites a mobile set top box comprising a processor coupled to electronic storage with instructions that, when executed, cause the processor to “execute an

upconversion process” comprising “authenticating the validity of a user associated with the mobile computing device” and “determining, based on the validity of the user, that the received first media content is permitted to be provided to the display device.” Ex. 1001, 8:9–51. We focus on these limitations, as they are dispositive.

a. Petitioner’s Contentions

Petitioner contends that the ’223 patent indicates that the mobile STB is capable of “authenticating a user so that the user can receive media service.” Pet. 39 (citing Ex. 1001, 3:11–13, 6:11–12). Likewise, Petitioner contends that Wang’s disclosure of authenticating a user during a purchase request (e.g., using a mobile device to download media content from the Internet) based upon a mobile device Tag ID and a password associated with the user to validate the user teaches or suggests the cited claim limitations. *Id.* at 39–40 (citing 10:31–11:27, 27:48–28:10). According to Petitioner, although Wang’s disclosed authentication serves to authenticate the user, and does not address the access rights of the individual, Wang, nonetheless, teaches using the authentication information “to access an online account.” *Id.* (citing Ex. 1004, 11:4–27, 27:49–51). Further, Petitioner contends that Wang teaches that its authentication server may reside within a wireless hub (WHUB), which may be integrated into the MTSCM STB. *Id.* at 40 (citing Ex. 1004, 9:36–38). Therefore, Petitioner submits that a PHOSITA would have been motivated to perform the multimedia purchase authentication by using Wang’s MTSCM STB having a WHUB integrated therein to verify the user’s authenticity before converting the mobile device’s multimedia content

for display on the external display device. *Id.* at 40–41 (citing Ex. 1003 ¶ 73). Additionally, Petitioner contends that a PHOSITA would have been further motivated to combine Wang’s purchase authentication with Wang’s MTSCM STB because “it was a common feature of STBs to perform authentication prior to allowing media content to be displayed, such [as] to implement parental controls to restrict access to content or to facilitate pay-per-view or video-on-demand programming.” *Id.* (citing Ex. 1003 ¶¶ 41, 42, 73; Exs. 1005 (“Bennett”), 1023 (“Romano”), 1024 (“Herrington”)).

b. Patent Owner’s Response

Patent Owner argues that Wang does not teach “authenticating the validity of a user associated with the mobile computing device” and “determining, based on the validity of the user, that the received first media content is permitted to be provided to the display device.” PO Resp. 23. In particular, Patent Owner argues that, in addition to authenticating the user associated with the mobile device, the claim also requires the further and separate step of determining whether the user is permitted to provide (or transmit) to the display device a specific media content received at the mobile device. *Id.* at 25 (citing Ex. 2013 ¶ 13). More particularly, Patent Owner asserts that the “claim limitations at issue are about whether the specific content that is already available on the user’s ‘mobile computing device’ is permitted to be provided (transmitted) to the display device.” *Id.*

Patent Owner asserts that Wang’s disclosure of authenticating a user during a purchase request, including purchasing a download of Internet

content made available immediately to a cellular phone, relates solely to *content purchase* authentication, and not to *device access* authentication. *Id.* at 25. According to Patent Owner, although Wang discloses that the WHUB may be integrated in the MTSCM STB to perform purchase authentication, the proposed modification to Wang still falls short of addressing the claimed solution of authenticating a user associated with a mobile computing device and determining that the authenticated user is permitted to provide a particular content to an external display device. *Id.* at 27. Further, Patent Owner argues that Petitioner’s contention that “a [PHOSITA] would have been motivated to combine Wang’s purchase authentication with Wang’s MTSCM STB because ‘it was a common feature of STBs to perform authentication prior to allowing media content to be displayed’” is conclusory. *Id.* at 27–28 (emphasis omitted). In particular, Patent Owner contends that none of the cited supporting references (Romano, Herrington, and Bennett) cures the noted deficiencies of Wang to teach the additional and separate step of determining whether an authenticated user associated with a mobile device is permitted to transfer or display a particular content on the external device. *Id.* (citing Ex. 1005 ¶¶ 42, 77; Ex. 2013 ¶¶ 17–20; Ex. 1023 ¶¶ 101–104; Ex. 1024, 16:23–55; Ex. 2001 ¶¶ 57–60).

c. Our Review

1. Claim 1

Patent Owner’s arguments are persuasive based on the record before us. As an initial matter, we note it is undisputed that, in addition to authenticating the validity of the user associated with the mobile device,

independent claim 1 also requires that the STB separately determine whether the user is permitted to provide to the external display device a specific media content received at the mobile device. Ex. 1001, 8:47–51. That is, the claim recites a further determining step that is an additional limitation, which implies that in some instances, the STB permits certain authenticated users to provide a specific media content to the external device, whereas in other instances, the STB does not permit other authenticated users to display the specific media content on the external display device. *See* Tr. 20:14–16 (Petitioner acknowledging that the claim recites “a separate determining step that’s determining based on validity, . . . determining whether, based on if they are valid or invalid, that the media content is permitted to be provided to the display device”). Also, according to the plain language of the claim, it is the “mobile set top box” that performs the authenticating and determining steps, not any other device, such as the “mobile computing device.” *Id.* at 8:9, 8:26–38, 8:47–51.

Petitioner provides evidence that Wang discloses an authentication server, which may reside within the WHUB, and which may be integrated into the MTSCM STB to authenticate a user during a purchase of media content before converting a mobile device’s media content for display on the external display device. *See* Pet. 40–41 (citing Ex. 1003 ¶ 73; Ex. 1004, 9:36–38). Petitioner also provides evidence that authenticating a user before providing the user access to media content was a well-known feature of STBs to restrict access or to deliver multimedia content to authorized users only. *See id.* (citing Exs. 1003, 1005, 1023, 1024). Additionally, Petitioner

provides evidence that STBs were known to perform authentication prior to allowing media content to be displayed, as well as to “implement parental controls to restrict access to content or to facilitate pay-per-view or video-on-demand programming.” *Id.* at 41 (citing Ex. 1003 ¶¶ 41, 42, 73; Exs. 1005, 1023, 1024). Therefore, evidence of record indicates that a PHOSITA, being apprised of Wang’s teaching to integrate the authentication feature into the STB, would have understood that the resulting STB would authenticate mobile users to access multimedia content.

However, Petitioner has not provided evidence that in the proposed modified system of Wang, the STB would also perform the separate, additional step of determining that the user is permitted to transmit a particular content to the external display device. Indeed, Petitioner in its Petition, and Mr. Wechselberger in his Declaration, address both limitations together, without sufficiently differentiating between the two distinct steps. *See* Pet. 39–41; Ex. 1003 ¶ 73. According to the claim, the determining step must be “based on” the validity of the user, but it is an additional claim requirement separate from the authenticating step. Ex. 1001, 8:47–51. Petitioner has not sufficiently addressed the determining step on the record before us. Instead, Petitioner’s theory is that the determining step “automatically” occurs by virtue of the authenticating step, thereby rendering the latter step meaningless (i.e., reading the latter step out of the claim). *See* Tr. 22:18–23:21 (arguing that “it flows as an automatic result of the successful authentication”), 24:22–25:15, 26:13–27:12 (arguing that “the determination flows as an automatic and natural consequence of the

authentication step”), 32:5–15, 73:16–74:12; Reply 17 (arguing that “if the user has been authenticated as valid and can receive media service, then the determination has been made that received media content is permitted to be provided to the display”). Notwithstanding that the determining step is performed “based on” the validity of the user, Petitioner has not shown, on this record, that Wang performs any additional determination beyond authenticating the user, let alone verifying that the user is permitted to transmit particular received content to another device, namely the external display device, as required by the disputed claim language. Further, to the extent that Petitioner’s arguments are premised on authenticating a user during a purchase request, that purchase only enables the user to download media content to the mobile device—it says nothing about permission to provide the “received” content to another device (e.g., the “display device”), as required by claim 1. *See* Ex. 1004, 10:31–11:27 (explaining that authentication in connection with a purchase “indicates whether the individual is who he or she claims to be, but does not address the access rights of the individual”). We credit the testimony of Patent Owner’s declarant, Dan Schonfeld, Ph.D., on these points because it clarifies that the authenticating and determining steps are distinct claims limitations, and is consistent with and supported by the cited disclosures of Wang. *See* Ex. 2013 ¶¶ 13–15, 20.

With respect to Petitioner’s arguments regarding modifying the functionality of Wang, Petitioner asserts that STBs were known to perform authentication prior to allowing media content to be displayed, as well as to

implement parental controls to restrict access to content or to facilitate pay-per-view or video-on-demand programming. Pet. 40–41. However, Petitioner has not sufficiently explained any particular modification of Wang’s system (based on the teachings of Wang alone or any of the other cited references, Romano, Herrington, and Bennett) on the record before us to sufficiently account for the determining step. That is, the notion of using parental control to determine whether an authenticated user is permitted to transmit a particular content to an external display device is wholly unsupported by the record before us. *See id.*; Ex. 2013 ¶¶ 16–19.

We have considered all of the arguments and evidence submitted by Petitioner and Patent Owner. We determine that at least one of Patent Owner’s arguments undermines Petitioner’s showing that Wang teaches or suggests the authenticating and determining limitations of claim 1. Accordingly, based on the complete record now before us, we determine that Petitioner has not demonstrated by a preponderance of the evidence that claim 1 would have been obvious over Wang.

2. Claims 2–6, 8, 10–21, 23–38, 40, 42–53, and 55–61

We have reviewed Petitioner’s explanations and supporting evidence regarding claims 2–6, 8, 10–21, 23–38, 40, 42–53, and 55–61, and we do not find them persuasive. Pet. 48–63. In addressing these claims, Petitioner builds upon its analysis for claim 1 and further relies upon Wang to explain why the additional claims also would have been obvious over Wang. *Id.* Petitioner does not provide any additional argument or evidence overcoming the deficiencies we noted above as to claim 1. *Id.* Similar to claim 1,

independent claim 30 recites “authenticating the validity of a user associated with the mobile computing device” and “determining, based on the validity of the user, that the received first media content is permitted to be provided to the display device.” Ex. 1001, 10:66–11:3. Independent claim 32 recites a mobile set top box comprising a processor coupled to electronic storage with instructions that, when executed, cause the processor to “execute an upconversion process” comprising “authenticating the validity of a user associated with the mobile computing device” and “determining, based on the validity of the user, that the received first media content is permitted to be provided to the display device.” *Id.* at 11:24–12:3. Petitioner and Patent Owner rely on the same arguments discussed above for claim 1 (as also applied to the same authenticating and determining limitations in independent claims 30 and 32). *See* Pet. 60–62; PO Resp. 32, 33. Accordingly, for the reasons given above in our analysis of claim 1, based on the complete record now before us, we determine that Petitioner has not demonstrated by a preponderance of the evidence that claims 2–6, 8, 10–21, 23–38, 40, 42–53, and 55–61 would have been obvious over Wang.

3. Conclusion

In view of the foregoing, we determine that Petitioner has not demonstrated by a preponderance of the evidence that claims 1–6, 8, 10–21, 23–38, 40, 42–53, and 55–61 are unpatentable as obvious under § 103(a) over Wang.

D. Obviousness over Wang, Balram, and Bennett

Petitioner asserts that claims 1–6, 8, 10–21, 23–38, 40, 42–53, and 55–61 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Wang, Balram, and Bennett. Pet. 11–63. Patent Owner opposes. PO Resp. 33–35.

Based on the evidence in this record, we find that Petitioner has not shown by a preponderance of the evidence that the proposed combination of Wang, Balram, and Bennett teaches or suggests each limitation of independent claims 1, 30, and 32, or the challenged claims depending therefrom. We determine that at least one of Patent Owner’s arguments undermines Petitioner’s showing.

1. Overview of Balram

Balram relates to a video format converter for improving the visual quality of a low resolution and low frame rate video signal from a portable device by converting the quality and size format of the signal content for display in a higher resolution device. Ex. 1006 ¶¶ 11, 12, 61. Figure 4 of Balram, reproduced below, illustrates the video format converter system.

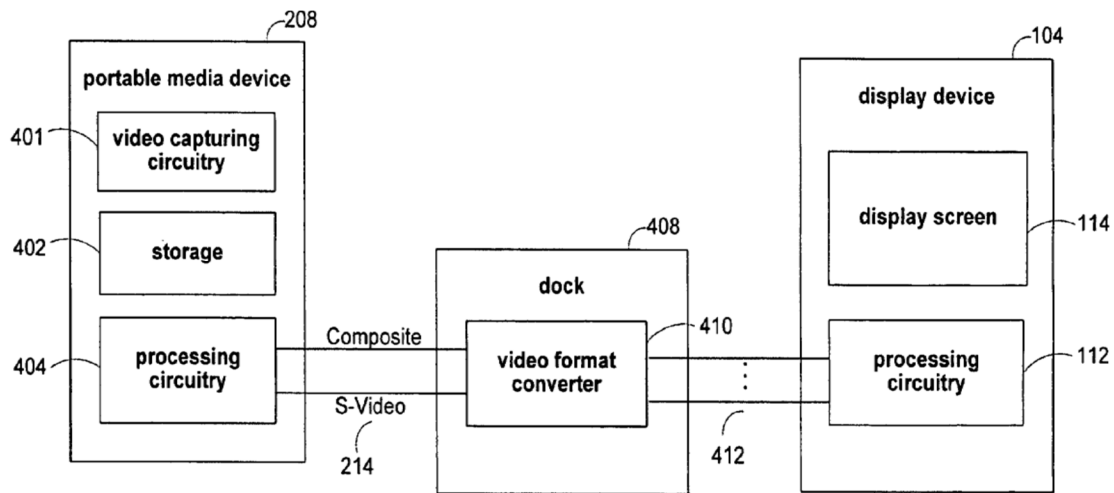


Fig. 4

Figure 4, reproduced above, depicts video format converter (410) facilitating the display in standard television (104) of data broadcast to mobile computing device (208). Ex. 1006 ¶ 61.

As depicted in Figure 4 above, Balram discloses placing portable media device (208) into docking station (408) including video format converter (410) which, upon receiving low-resolution media content from mobile device (208), increases the horizontal and vertical pixels thereof for upscaling the signal from low resolution to high resolution. *Id.* ¶¶ 46, 58, 84. Further, Balram discloses an upconversion process to reformat the smaller size format of multimedia content received from mobile device (208) into a corresponding larger size format for display on display device (104). *Id.* ¶¶ 84–88.

2. Overview of Bennett

Bennett relates to a video processing system (VPS) in a set top box that receives an input video signal and produces a plurality of video output

video signals having video with characteristics in formats suitable for each of a plurality of video devices. Ex. 1005 ¶ 14. Figure 1 of Bennett, reproduced below, illustrates the VPS.

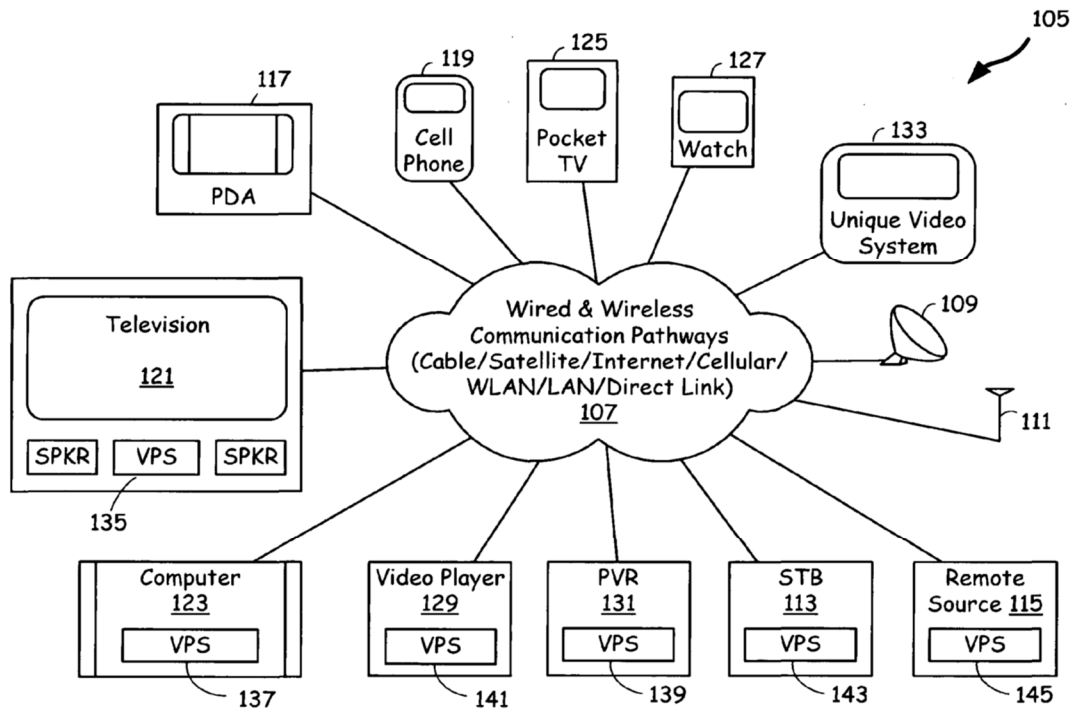


FIG. 1

Figure 1, reproduced above, illustrates VPS (143) facilitating the display of broadcast data in the unique video formats suitable for various user devices via communications network (107). Ex. 1005 ¶ 27.

As depicted in Figure 1 above, Bennett discloses that VPS (143) incorporated in set top box (113) converts a received video input signal (e.g., TV program/broadcast) in formats suitable for display in various user devices (109, 117, 119, 125, 127), including television (121). *Id.* In particular, upon receiving the video input signal, VPS (143) queries the user

devices and obtains their audio/video format requirements to determine how to reformat the video input signal, which it converts and broadcasts in formats suitable to each of the user devices. *Id.* ¶¶ 14, 51–53. Bennett also discloses an authentication process during which an Internet-based vendor or cable/satellite verifies the authenticity of a user’s credentials before being allowed to view a TV program on a pay-per-view basis. *Id.* ¶ 42.

3. Obviousness Analysis

Petitioner provides explanations for the claim limitations required by claims 1–6, 8, 10–21, 23–38, 40, 42–53, and 55–61, and reasons for modifying the teachings of Wang based on Balram and Bennett, citing Mr. Wechselberger’s Declaration for support. Pet. 11–47; Ex. 1003 ¶¶ 41, 42, 73. Again, we focus on independent claim 1’s limitations of “authenticating the validity of a user associated with the mobile computing device” and “determining, based on the validity of the user, that the received first media content is permitted to be provided to the display device.” Ex. 1001, 8:47–51.

a. Claim 1

Petitioner argues that Wang alone teaches the authenticating and determining limitations of claim 1 as set forth in our discussion of claim 1 in section III.C above. Pet. 39–41.

Patent Owner reiterates the same arguments discussed above in section III.C addressing the obviousness ground based on Wang alone, regarding alleged deficiencies in Wang, namely, Petitioner’s showing for the

authenticating and determining limitations of claim 1. PO Resp. 33–35. Petitioner does not rely upon Balram or Bennett to cure the deficiencies in Wang explained in our analysis of the ground based on Wang alone. *See* Pet. 6–11, 39–41; Reply 12–18. In light of the foregoing, we determine that Petitioner has not shown by a preponderance of the evidence that the cited teachings of Wang, Balram, and Bennett teach or suggest the aforementioned disputed limitations of claim 1. Therefore, based on the complete record now before us, we determine that Petitioner has not established by a preponderance of the evidence that claim 1 would have been obvious over the combination of Wang, Balram, and Bennett.

b. Claims 2–6, 8, 10–21, 23–38, 40, 42–53, and 55–61

We have reviewed Petitioner’s explanations and supporting evidence regarding claims 2–6, 8, 10–21, 23–38, 40, 42–53, and 55–61, and we do not find them persuasive. Pet. 48–63. In addressing these claims, Petitioner builds upon its analysis for claim 1 and further relies upon the combination of Wang, Balram, and Bennett to explain why the additional limitations also would have been obvious over the three references. *Id.* Petitioner and Patent Owner rely on the same arguments discussed above for claim 1 (as also applied to the same authenticating and determining limitations in independent claims 30 and 32). *See* Pet. 60–62; PO Resp. 35–37. Based on the record before us, for the reasons given above in our analysis of claim 1, Petitioner has not shown by a preponderance of the evidence that claims 2–6, 8, 10–21, 23–38, 40, 42–53, and 55–61 would have been obvious over the combination of Wang, Balram, and Bennett.

c. Conclusion

In view of the foregoing, we determine that Petitioner has not demonstrated by a preponderance of the evidence that claims 1–6, 8, 10–21, 23–38, 40, 42–53, and 55–61 are unpatentable as obvious under § 103(a) over the combination of Wang, Balram, and Bennett.

E. Dismissing Petitioner’s Motion to Strike

Petitioner asserts that we should strike “Exhibit 2015 and the portion of Patent Owner’s Sur-Reply on pages 12–13 that relies on this new evidence and raises a new argument regarding ‘adaptivity.’”³ Paper 43, 1 (citing Ex. 1035 (annotated version of Sur-Reply containing allegedly improper new argument)). Petitioner asserts that “Patent Owner’s new evidence and new ‘adaptivity’ argument violate the Trial Practice Guide (‘TPG’) prohibitions regarding new evidence and new issues in sur-replies.” *Id.* (citing Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019), *available at* <https://www.uspto.gov/TrialPracticeGuideConsolidated>; 37 C.F.R. § 42.12 (2018)).

Because our ultimate decision turns on a narrow issue, which does not involve the allegedly improper new evidence and argument submitted in Patent Owner’s Sur-Reply, we *dismiss* Petitioner’s Motion to Strike as moot.

³ Petitioner notes that Exhibit 2015 is an excerpt of an expert report from Alan Bovik, Ph.D., retained by a different party in a related district court proceeding that involves the ’223 patent. Paper 43, 2.

IV. CONCLUSION

In summary:

Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatent- able	Claims Not Shown Unpatent- able
1–6, 8, 10–21, 23–38, 40, 42–53, 55–61	§ 103(a)	Wang		1–6, 8, 10– 21, 23–38, 40, 42–53, 55–61
1–6, 8, 10–21, 23–38, 40, 42–53, 55–61	§ 103(a)	Wang, Balram, Bennett		1–6, 8, 10– 21, 23–38, 40, 42–53, 55–61
Overall Outcome				1–6, 8, 10– 21, 23–38, 40, 42–53, 55–61

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–6, 8, 10–21, 23–38, 40, 42–53, and 55–61 of the '223 patent have not been proven to be unpatentable;

FURTHER ORDERED that Petitioner's Motion to Strike is *dismissed*; 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.

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