

United States Court of Appeals for the Federal Circuit

PERSONALIZED MEDIA COMMUNICATIONS, LLC,
Appellant

v.

APPLE INC.,
Appellee

2018-1936

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in No. IPR2016-
00755.

Decided: March 13, 2020

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Before REYNA, TARANTO, and STOLL, *Circuit Judges*.

STOLL, *Circuit Judge*.

Personalized Media Communications, LLC (PMC) appeals from the final written decision of the Patent Trial and Appeal Board holding certain claims of U.S. Patent No. 8,191,091 unpatentable on anticipation and obviousness grounds. PMC specifically challenges certain claim constructions underpinning the Board's anticipation and obviousness determinations. Because we agree that the Board erred in construing one of the claim terms at issue, we reverse the Board's decision as to the applicable claims. We affirm the Board's decision as to the remaining claims.

BACKGROUND

I

The '091 patent is directed to methods for enhancing broadcast communications with user-specific data by embedding digital signals in those broadcast communications. The specification discloses a number of embodiments that include analog broadcast signals with embedded digital signals.

Claim 13 of the '091 patent is illustrative:

13. A method of decrypting programming at a receiver station, said method comprising the steps of:

receiving *an encrypted digital information transmission including encrypted information*;

detecting in said *encrypted digital information transmission* the presence of an instruct-to-enable signal;

passing said instruct-to-enable signal to a processor;

determining a fashion in which said receiver station locates a first decryption key by processing said instruct-to-enable signal;

locating said first decryption key based on said step of determining;

decrypting said encrypted information using said first decryption key; and

outputting said programming based on said step of decrypting.

'091 patent col. 285 l. 61–col. 286 l. 9 (emphases added to disputed claim terms).

Independent claim 20 also recites “an encrypted digital information transmission including encrypted information.” *Id.* at col. 286 ll. 29–47. Independent claim 26 recites “an information transmission including encrypted information,” which lacks the “encrypted digital” modifier. *Id.* at col. 286 l. 63–col. 287 l. 9.

The '091 patent issued from one of several hundred continuation applications filed shortly before the GATT rules impacting patent expiration dates went into effect. Accordingly, the '091 patent has priority to at least 1987, yet remains unexpired.

II

In March 2016, Apple Inc. filed a petition requesting inter partes review of claims 13–16, 18, 20, 21, 23, 24, 26, 27, and 30 of the '091 patent. The Board instituted an IPR of all the challenged claims in September 2016. Following an oral hearing in June 2017, the Board issued a final written decision holding the challenged claims anticipated and obvious. *See generally Apple Inc. v. Personalized Media Commc'ns, LLC*, No. IPR2016-00755, 2017 WL 4175018 (P.T.A.B. Sept. 19, 2017) (*Decision*).

The Board's anticipation and obviousness determinations were premised on its construction of various claim terms. The primary prior art references asserted by Apple undisputedly disclosed mixed analog and digital information transmissions as opposed to information

transmissions that were entirely digital. PMC argued that the broadest reasonable interpretation of the claim phrase “an encrypted digital information transmission including encrypted information” must be limited to entirely digital transmissions—i.e., “an information transmission carrying *entirely digital* content at least a portion of which is encrypted.” *Decision*, 2017 WL 4175018, at *3 (quoting J.A. 468). Apple disagreed with PMC’s construction, contending that the broadest reasonable interpretation is not so limited, and may also include transmissions with information that is not encrypted or digital—i.e., “an information transmission that is partially or entirely digital, at least a portion of which is encrypted.” *Id.* (quoting J.A. 192).

After considering the claim language, specification, and prosecution history of the ’091 patent and related patents, the Board agreed with Apple:

[A]n “encrypted digital information transmission including encrypted information” includes at least some encrypted digital information, and does not preclude, with that transmission, non-encrypted information or scrambled analog information. In other words, the “transmission” requires some encrypted digital information, but does not preclude other information such as non-encrypted information or analog information, and “encrypted information” does not preclude scrambled analog information.

Id. at *9 (internal citation omitted). In doing so, the Board specifically found that there was no plain and ordinary meaning of “encrypting” at the time of the invention, as the term was used somewhat interchangeably with the analog process of “scrambling” through at least 1987. *Id.* at *14.

The Board also denied PMC’s request for rehearing, which challenged the Board’s claim construction based on three statements in the prosecution history. *See generally*

Apple Inc. v. Personalized Media Commc'ns, LLC, No. IPR2016-00755, 2018 WL 1224738 (P.T.A.B. Mar. 6, 2018) (*Rehearing Decision*). Of particular relevance here, the Board rejected PMC's reliance on the prosecution history because "the prosecution history presents a murky picture as opposed to a clear waiver." *Id.* at *11 (first citing *Inverness Med. Switz. GmbH v. Warner Lambert Co.*, 309 F.3d 1373, 1380–82 (Fed. Cir. 2002); then citing *Athletic Alts., Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996); and then citing *Rambus Inc. v. Infineon Techs. AG*, 318 F.3d 1081, 1090 (Fed. Cir. 2003)).

PMC appeals the Board's decisions. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

On appeal, PMC challenges the Board's construction of "an encrypted digital information transmission including encrypted information."¹ We review de novo the Board's ultimate claim constructions and any supporting determinations based on intrinsic evidence. *Knowles Elecs. LLC v. Cirrus Logic, Inc.*, 883 F.3d 1358, 1361–62 (Fed. Cir. 2018). We review any subsidiary factual findings involving extrinsic evidence for substantial evidence. *Id.* at 1362.

¹ PMC's challenge is more generally directed to the "encryption/decryption terms" of the challenged claims, a group that includes this phrase. *See* Appellant's Br. 27–50. We focus on this phrase because it is dispositive for the challenged claims. PMC also challenges the Board's construction of the claim terms "locates" and "locating," which appear only in claim 13 and its dependent claims. *See id.* at 50–55. Because we reverse the Board's determination for claim 13 and its dependent claims based on the Board's erroneous construction of "an encrypted digital information transmission," we do not reach this issue.

I

“The task of claim construction requires us to examine all the relevant sources of meaning in the patent record with great care, the better to guarantee that we determine the claim’s true meaning.” *Athletic Alts.*, 73 F.3d at 1578. “When construing claim terms, we first look to, and primarily rely on, the intrinsic evidence, including the claims themselves, the specification, and the prosecution history of the patent, which is usually dispositive.” *Sunovion Pharm., Inc. v. Teva Pharm. USA, Inc.*, 731 F.3d 1271, 1276 (Fed. Cir. 2013) (first citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc); then citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). We consider these various sources of meaning “[b]ecause the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent, and because patentees frequently use terms idiosyncratically.” *Phillips*, 415 F.3d at 1314.

The prosecution history, in particular, “may be critical in interpreting disputed claim terms because it ‘contains the complete record of all the proceedings before the Patent and Trademark Office, including any express representations made by the applicant regarding the scope of the claims.’” *Sunovion*, 731 F.3d at 1276 (quoting *Vitronics*, 90 F.3d at 1582). Accordingly, even where “prosecution history statements do not rise to the level of unmistakable disavowal, they do inform the claim construction.” *Shire Dev., LLC v. Watson Pharm., Inc.*, 787 F.3d 1359, 1366 (Fed. Cir. 2015). For example, an applicant’s repeated and consistent remarks during prosecution can define a claim term by demonstrating how the inventor understood the invention. *Sunovion*, 731 F.3d at 1277. Similarly, an applicant’s amendment accompanied by explanatory remarks can define a claim term by demonstrating what the applicant meant by the amendment. *Tempo Lighting, Inc. v. Tivoli, LLC*, 742 F.3d 973, 977–78 (Fed. Cir. 2014).

The broadest reasonable interpretation standard applies in this IPR proceeding.² Thus, the Board's interpretation must be reasonable in light of the specification, prosecution history, and the understanding of one skilled in the art. *See Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015), *overruled on other grounds by Aqua Prods., Inc. v. Matal*, 872 F.3d 1290 (Fed. Cir. 2017) (en banc). The broadest reasonable interpretation must also take into account "the context of the entire patent." *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1374 (Fed. Cir. 2019) (quoting *Phillips*, 415 F.3d at 1312–13); *see also In re Translogic Tech., Inc.*, 504 F.3d 1249, 1256–58 (Fed. Cir. 2007) (applying *Phillips* "best practices" to claim construction under broadest reasonable interpretation standard).

II

With these principles in mind, we turn to the broadest reasonable interpretation of "an encrypted digital information transmission including encrypted information." As framed by the parties, the issue is whether the broadest reasonable interpretation of this term is limited to digital information or can also include analog information.

A

We begin our analysis with the claim language itself. Independent claims 13 and 20 recite "receiving an

² Per recent regulation, the Board applies the *Phillips* claim construction standard to IPR petitions filed on or after November 13, 2018. *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 (Oct. 11, 2018) (codified at 37 C.F.R. § 42.100(b)). Because Apple filed its IPR petition before November 13, 2018, we apply the broadest reasonable interpretation standard.

encrypted digital information transmission including encrypted information.” ’091 patent col. 285 l. 61–col. 286 l. 9, col. 286 ll. 29–47. The claims use the adjective “digital” to describe the “information transmission,” thus supporting the view that the information is, in fact, digital. On the other hand, the claims do not say “entirely digital.” Moreover, the claims do not recite just “an encrypted digital information transmission”; rather, they state that the information transmission “includ[es] encrypted information.” This “including encrypted information” clause suggests that the adjective “encrypted” does not limit the information transmission to just encrypted information and, by the same logic, that “digital” does not limit the information transmission to just digital information.

Indeed, the Board interpreted the claims to allow for some non-digital information based on the claims’ use of the “including encrypted information” clause. The Board reasoned that PMC’s interpretation should be disfavored because it renders superfluous the phrase “including encrypted information.” PMC insists that the “digital” modifier constrains the scope of the claim term to digital information only, and that the “including encrypted information” language cannot add back in what is excluded by the word “digital.” PMC further asserts that the phrase “including encrypted information” is not surplusage because it specifies that the transmission does not have to be entirely encrypted—even as it must be entirely digital. *See Oral Arg.* at 3:32–3:58, *available at* <http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2018-1936.mp3>. While we agree with PMC that this is “not the most artful way” to achieve such an effect, *id.* at 6:44–7:26, we conclude that the claim language neither precludes PMC’s

interpretation, nor does it compel the Board's interpretation.³

The Board also reasoned that “encrypted information” must accommodate analog signals based on the presence of “programming” in the independent claims, along with certain dependent claims that further specify that encrypted information includes “television programming.” *See, e.g.*, ’091 patent col. 285 ll. 61–col. 286 ll. 9 (independent claim 13 reciting “[a] method of decrypting programming” and “outputting said programming based on said step of decrypting”), col. 286 ll. 23–24 (dependent claim 18 reciting “said encrypted information includes television programming”). In support of its interpretation, the Board pointed to the specification’s express definition of “programming,” which “*refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming [as] well as combined medium programming.*” *Decision*, 2017 WL 4175018, at *2 (quoting ’091 patent col. 6 ll. 31–34). According to the Board, “everything that is transmitted electronically” must include “conventional analog television signals.” *Id.* at *11.

Although we agree with the Board that the specification’s broad definition of “programming” could encompass analog signals, we do not agree that it necessarily requires them. Instead, the definition is largely agnostic to the particular technology employed. In other words, that “programming” can encompass many things does not mean

³ Unfortunately, the ordinary meaning of “encrypted” does not impart a more precise understanding of the claim limitation. As the Board found, the meaning of “encryption”—and particularly whether it applied to analog or digital data—was “in flux” in the 1980s. *Decision*, 2017 WL 4175018, at *14. Neither party challenges this finding on appeal.

that “decrypting” or “encrypted information” encompasses many things. The specification’s definition of “programming” focuses on the types of audiovisual material transmitted, not the means of transmittal. Indeed, the definition only requires that the material be transmitted *electronically*. We therefore do not agree that the specification’s definition of “programming” compels that “encrypted information,” as used in the disputed claim term, must include analog signals. But even if we assume that “programming” necessarily includes analog signals, PMC’s interpretation would still remain plausible. For the same reasons discussed above, the “digital” modifier for “transmission” could still serve as a limit on the scope of the claim such that the dependent claims cover only all-digital transmissions of television programming.

In support of its interpretation, the Board also referenced claim language from a related patent, “wherein the at least one encrypted digital information transmission is *unaccompanied by any non-digital information transmission*,” as evidence that PMC knew how to exclude analog signals from the claimed transmissions when it wanted to. *Decision*, 2017 WL 4175018, at *5 (emphasis modified) (quoting U.S. Patent No. 8,559,635 col. 288 ll. 13–16). Although we agree that language from related patent claims can be relevant, this particular evidence is counterbalanced by other claims of the ’091 patent itself. Claim 26 distinctly recites “an information transmission including encrypted information,” without the “digital” modifier. ’091 patent col. 286 l. 63–col. 287 l. 9. Before the Board and this court, PMC conceded that claim 26 covers mixed digital and analog transmissions. *Decision*, 2017 WL 4175018, at *4 (noting PMC’s argument that “[t]hose mixed analog/digital embodiments support the broader ‘information transmission’ (claim 26) instead” (quoting J.A. 472)); *see also* Oral Arg. at 34:23–34:55. PMC’s concession is consistent with an interpretation of the claims in

which “digital” is used to specify transmissions that are all-digital.

In view of the plain claim language and the parties’ arguments, we cannot say that the Board’s interpretation of the claim language is unreasonable. But we cannot say that the claim language is decisive either. Rather, both proposed constructions are equally plausible in view of the claim language.

B

We turn next to the specification. As the Board correctly points out, the specification of the ’091 patent does not expressly define the phrase “encrypted digital information transmission.” The Board also correctly notes that the specification contemplates and discloses a number of mixed analog and digital embodiments consistent with the Board’s interpretation.

In support of its interpretation, PMC points to two “definitional passages” from the specification that, in its view, distinguish the digital processes of “encryption” and “decryption” from the analog processes of “scrambling” and “descrambling.” Appellant’s Br. 24; *see also id.* at 30–35. The first passage discusses prior art:

Various scrambling means are well known in the art for scrambling, *usually* the video portion of *analogue television transmissions* in such a fashion that only subscriber stations with appropriate descrambling means have capacity to tune suitably to the television transmissions and display the transmitted television image information. Encryption/decryption means and methods, well known in the art, can regulate the reception and use of, *for example, digital video and audio television transmissions*, digital audio radio and phonograph transmissions, digital broadcast print transmission, and digital data communications.

'091 patent col. 143 ll. 20–30 (emphases added). The second passage cited by PMC discusses decryption in the context of the invention:

Decryptors, 107, 224 and 231, are conventional decryptors, well known in the art, *with capacity for receiving encrypted digital information*, decrypting said information by means of a selected cipher algorithm and a selected cipher key, and outputting the decrypted information.

Id. at col. 147 ll. 21–26 (describing Fig. 4) (emphasis added).

While these passages are consistent with PMC's interpretation of the disputed claim term as being entirely digital, they fall short of limiting encryption and decryption to all-digital processes. They are not definitional; instead, they are merely illustrations that use open-ended, permissive phrases such as “usually,” “for example,” and “with capacity for.” And when considered in the context of the more than 280 columns of text in the specification of the '091 patent, these two passages fall far short of defining the relevant terms through repeated and consistent use.

The specification discloses an Example #7, the “Wall Street Week” embodiment, which PMC identifies as the basis for the claims of the '091 patent. *See* Appellant's Br. 16–21; *see also* '091 patent col. 148 l. 5–col. 160 l. 27 (Example #7). The specification explains that the Wall Street Week transmission consists of “digital video” and “digital audio.” '091 patent col. 148 ll. 13–16; *see also id.* at col. 153 ll. 40–47 (“said information being . . . encrypted digital video”). In support of its interpretation, the Board identified a different passage of the specification that expressly states that the “Wall Street Week” embodiment can include analog signals:

It is obvious to one of ordinary skill in the art that the foregoing is presented by way of example only

and that the invention is not to be unduly restricted thereby since modifications may be made in the structure of the various parts without functionally departing from the spirit of the invention. . . . And for example, *the “Wall Street Week” transmission may be of conventional analog television*, and the decryptors, 107, 224, and 231, may be conventional descramblers, well, known [*sic*] in the art, that descramble analog television transmissions and are actuated by receiving digital key information.

Id. at col. 159 ll. 46–61 (emphasis added). According to the Board, the specification expressly discloses that the decryptors from Example #7 may be “descramblers” used for analog television. PMC responds that this passage merely describes modifications to Example #7, not the scope of Example #7 itself.

We find that this passage is sufficient to demonstrate that the Board’s construction is plausible in view of the specification, which expressly contemplates that mixed digital and analog systems are within the “spirit of the invention” and the “Wall Street Week” embodiment. *Id.* But we do not find this passage decisive. Embodiments described in a specification can certainly inform the meaning of a disputed claim term, but “a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.” *Resonate Inc. v. Alteon Websystems, Inc.*, 338 F.3d 1360, 1364–65 (Fed. Cir. 2003) (citing *Electro Med. Sys., S.A. v. Cooper Life Scis., Inc.*, 34 F.3d 1048 (Fed. Cir. 1994)). So too if the claim language is narrower than the embodiment. At bottom, the challenged claims are not necessarily limited by, or coextensive with, Example #7—regardless of whether Example #7 includes or excludes analog signals.

Thus, we conclude that the evidence from the specification also fails to resolve the scope of the disputed claim term.

C

We next turn to the prosecution history for guidance. PMC points to three statements in the prosecution history that, in PMC's view, limit the scope of the claims to all-digital transmissions. For the reasons that follow, we agree with PMC, and accordingly, we adopt PMC's construction of "encrypted digital information transmission."

As originally drafted, none of the original claims included the "encrypted digital" language. Instead, they recited "an information transmission including encrypted information," the same phrase included in issued claim 26. *See, e.g.*, J.A. 2242–43 (claims 13 and 20 then numbered as pending claims 45 and 52, respectively). When the applicant first presented the claims at issue to the examiner, the applicant expressly relied on a prior decision of the Board to distinguish the newly presented claims from the prior art of record. That prior art included both Gilhousen⁴ and Mason,⁵ the two primary prior art references asserted by Apple in the IPR proceedings on appeal. The applicant explained:

Each of the [newly presented] claims is patentable in light of the prior art. . . . [The prior art references before the examiner] disclose the use of encoded control signals or other data to control the unscrambling of an analog video signal. The claims of this amendment, however, claim material relating to the encryption and decryption of signals. . . . The Board of Patent Appeals and Interferences decided in *Ex parte* Personalized Media

⁴ U.S. Patent No. 4,613,901.

⁵ U.S. Patent No. 4,736,422.

Communications, LLC . . . that encryption requires a digital signal. Each of the claims of this amendment involves the use of digital signals through reference to “decryption” and “encryption.” “Encryption and decryption,” the Board goes on to say, “are not broad enough to read on scrambling and unscrambling.” Therefore, because [the prior art references] are directed to unscrambling of analog signals, none teach or suggest a method of controlling the decryption of digital information as is presented in the claims of this amendment.

J.A. 2245–46 (quoting *Ex parte Personalized Media Commc'ns, LLC*, No. 2008-4228, 2008 WL 5373184, at *27 (B.P.A.I. Dec. 19, 2008)).

The examiner rejected the newly presented claims as anticipated by Mason. In response, the applicant reiterated its reliance on the Board's prior decision distinguishing encryption and decryption from scrambling and unscrambling. The applicant then distinguished Mason on the following basis:

Although Mason uses the terms “encrypting” and “scrambling” interchangeably, the invention's scope is limited to an analog television system. Mason characterizes the invention as a Direct Broadcast Satellite (“DBS”) system. DBS systems were originally designed only to accommodate analog transmissions. Mason does not contemplate digital transmissions, therefore it does not address encryption. Its scope is limited to scrambling and unscrambling. Mason does not anticipate claims 45–50 and 52–56.

J.A. 2291 (internal citations omitted).

The examiner was not persuaded. Facing a final rejection based on Mason, the applicant amended the claims to include the modifier “encrypted digital” such that they

recited “an *encrypted digital* information transmission including encrypted information”—i.e., the claim term at issue on appeal. In its accompanying remarks, the applicant once again repeated its reliance on the Board’s prior decision distinguishing encryption and decryption from scrambling and unscrambling. The applicant further explained:

Applicants’ [sic] had argued in their Amendment After Final Rejection that although Mason uses the terms “encrypting” and “scrambling” interchangeably, it could not teach encryption because it only disclosed an analog signal transmission. . . . Without abandoning their previous argument, Applicants acknowledge that it can be argued that Mason teaches encrypted elements as part of its analog information transmission. *But it does not teach the encryption of an entire digital signal transmission.* For the sake of advancing prosecution, Applicants amend independent claims 45 and 52 to clarify that the information transmission received is an encrypted digital information transmission. . . . This amendment in no way affects Applicants’ position that encryption requires a digital signal. Applicants amend the claims to provide clarification as an earnest attempt to advance the prosecution of the application.

J.A. 2312–13 (emphasis added).

The Board rejected this evidence because, in its view, PMC’s statements during prosecution did not constitute a clear and unmistakable surrender sufficient to rise to the level of disclaimer. *See Decision*, 2017 WL 4175018, at *16–*17; *Rehearing Decision*, 2018 WL 1224738, at *5–*11. According to the Board, PMC’s arguments to the examiner seeking to distinguish Mason did not “clearly disavow mixed analog and digital information transmissions.” *Decision*, 2017 WL 4175018, at *16. Instead, PMC “ambiguously quotes statements from a reexamination Board

decision for a related patent without adopting those statements as its own.” *Rehearing Decision*, 2018 WL 1224738, at *6. Because “the prosecution history presents a murky picture as opposed to a clear waiver,” the Board reasoned that it should be discounted for the purpose of claim construction. *Id.* at *11 (first citing *Inverness*, 309 F.3d at 1380–82; then citing *Athletic Alts.*, 73 F.3d at 1580; and then citing *Rambus*, 318 F.3d at 1090).

We disagree with the Board’s legal analysis and conclusion. Even where “prosecution history statements do not rise to the level of unmistakable disavowal, they do inform the claim construction.” *Shire*, 787 F.3d at 1366. An applicant’s repeated and consistent remarks during prosecution can define a claim term—especially where, as here, there is “no plain or ordinary meaning to the claim term” and the specification provides no clear interpretation. *Sunovion*, 731 F.3d at 1276–77. Similarly, an applicant’s amendment accompanied by explanatory remarks can define a claim term where, as here, the claim language and specification fail to provide meaningful guidance. *Tempo Lighting*, 742 F.3d at 977–78. Thus, the Board erred by effectively requiring the prosecution history evidence to rise to the level of a disclaimer in order to inform the meaning of the disputed claim term. Assuming without deciding that PMC’s statements and amendments were inadequate to give rise to a disclaimer, we still find that the prosecution history provides persuasive evidence that informs the meaning of the disputed claim phrase and addresses an ambiguity otherwise left unresolved by the claims and specification.

During prosecution, the applicant repeatedly and consistently voiced its position that encryption and decryption require a digital process in the context of the ’091 patent. The applicant never abandoned that position. Indeed, the applicant amended the claims—giving rise to the claim term at issue on appeal—only to clarify its position that “encryption requires a digital signal.” J.A. 2312. And to

the extent that the applicant's earlier prosecution statements were ambiguous regarding whether the *entire* signal must be digital, the applicant's remarks accompanying the amendment made its position clear. The applicant asserted that the amended claims should be allowed because the prior art "does not teach the encryption of an *entire* digital signal transmission." *Id.* (emphasis added). Accordingly, we conclude that the applicant's repeated and consistent statements during prosecution, along with its amendment to the same effect, are decisive as to the meaning of the disputed claim term—even if those statements do not rise to the level of a disclaimer. *See Shire*, 787 F.3d at 1366; *Tempo Lighting*, 742 F.3d at 977–78; *Sunovion*, 731 F.3d at 1276–77.

D

The Board's determination that claims 13–16, 18, 20, 21, 23, and 24 of the '091 patent are unpatentable was predicated on its determination that "an encrypted digital information transmission including encrypted information" includes mixed digital and analog signals. All the grounds of unpatentability for these claims rely on prior art that uses mixed analog and digital signals. Because we find that the disputed claim term is limited to all-digital signals, we reverse the Board's unpatentability determination for those claims.

Claims 26, 27, and 30 do not include the disputed claim term and instead recite "an information transmission including encrypted information." Because the prosecution history statements and amendments that we found decisive to the interpretation of "encrypted digital information transmission" do not apply to claims 26, 27, and 30, and because PMC conceded to the Board and this court that these claims include mixed digital and analog signals within their scope, we affirm the Board's unpatentability determination for these claims.

PERSONALIZED MEDIA COMM'NS, LLC v. APPLE INC.

19

CONCLUSION

We have considered the parties' other arguments, and we do not find them persuasive. For the foregoing reasons, we reverse the Board's final written decision invalidating claims 13–16, 18, 20, 21, 23, and 24 of the '091 patent. We affirm the Board's decision invalidating claims 26, 27, and 30 of the '091 patent.

AFFIRMED-IN-PART, REVERSED-IN-PART

COSTS

No costs.