United States Court of Appeals for the Federal Circuit

UNWIRED PLANET, LLC,
Plaintiff-Appellant

v.

APPLE INC.,
Defendant-Appellee

2015-1725

Appeal from the United States District Court for the Northern District of California in No. 3:13-cv-04134-VC, Judge Vince Chhabria.

Decided: July 22, 2016

JOHN BRUCE CAMPBELL, McKool Smith, PC, Austin, TX, argued for plaintiff-appellant. Also represented by KEVIN LEE BURGESS, KATHY HSINJUNG LI, JOEL LANCE THOLLANDER; THEODORE STEVENSON, III, DOUGLAS AARON CAWLEY, Dallas, TX.

MARK ANDREW PERRY, Gibson, Dunn & Crutcher LLP, Washington, DC, argued for defendant-appellee. Also represented by BRIAN BUROKER; ALEXANDER N. HARRIS, San Francisco, CA; YU-CHIEH ERNEST HSIN, HERVEY MARK LYON, STUART ROSENBERG, Palo Alto, CA; BROOKE MYERS WALLACE, Los Angeles, CA.

Before MOORE, BRYSON, and REYNA, *Circuit Judges.*

MOORE, *Circuit Judge.*

Unwired Planet, LLC ("Unwired") appeals the United States District Court for the Northern District of California's summary judgment of non-infringement on U.S. Patent Nos. 6,532,446; 6,647,260; 6,317,831; and 6,321,092 in favor of Apple Inc. ("Apple"). We affirm-in-part, vacate-in-part, and remand.

I. BACKGROUND

Unwired brought a patent infringement suit against Apple on ten patents in the United States District Court for the District of Nevada in September 2012. A year later, the case was transferred to the Northern District of California. After the transfer, Unwired dismissed without prejudice five of the ten patents it previously asserted. The district court construed ten claim terms from the remaining five patents, and the parties stipulated to non-infringement as to the asserted claims of one patent.

The district court granted summary judgment of non-infringement with respect to the '446, '260, and '831 patents. As to the '092 patent, the district court granted summary judgment of no indirect infringement, and Unwired subsequently agreed to dismiss its claim for direct infringement of the '092 patent with prejudice. On May 29, 2015, the district court entered its final judgment in favor of Apple. Unwired timely appeals, arguing that the district court erred in (i) its construction of claim terms from the '446 and '260 patents, (ii) granting summary judgment of non-infringement after resolving factual disputes against Unwired as to the '446, '260, and '831 patents, and (iii) granting summary judgment of no indirect infringement as to the '092 patent after applying

an incorrect legal standard. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

II. STANDARD OF REVIEW

If based upon the intrinsic record, we review claim construction de novo. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 574 U.S. ____, 135 S. Ct. 831, 841–42 (2015). We review summary judgment decisions under regional circuit precedent, here, the Ninth Circuit. *Lexion Med., LLC v. Northgate Techs., Inc.*, 641 F.3d 1352, 1358 (Fed. Cir. 2011). We review the district court's grant of summary judgment in favor of Apple de novo. *Greater Yellowstone Coal. v. Lewis*, 628 F.3d 1143, 1148 (9th Cir. 2010). Summary judgment is appropriate when, drawing all justifiable inferences in the nonmovant's favor, "the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a); *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986).

III. U.S. PATENT NO. 6,532,446

1. Background

Unwired challenges the district court's (i) construction of the claim term "voice input" and (ii) grant of summary judgment of non-infringement based on that term.

According to the '446 patent, there had been efforts to equip mobile devices with speech recognition technology, which generally required adding costly software and hardware resources (e.g., a faster processor, additional memory) to the mobile devices. '446 patent, col. 2 ll. 5–21. The '446 patent explains that such "modifications would add considerable cost to the final price of the mobile device, possibly pricing them out of the target price range usually occupied by mass-market mobile devices." *Id.*, col. 2 ll. 26–29. The claimed invention relates to extending speech recognition capabilities to mobile devices with limited resources by relying on network-based resources.

Id., col. 1 ll. 15–18. In the disclosed system, a mobile device sends a user's voice input to a remote speech recognition server. The server translates the received voice input into a data file that can be processed by the mobile device, and then the data file is sent back to the mobile device. *Id.*, col. 2 ll. 46–63. Unwired accused Apple's Siri service of infringing claims 15 and 35. Apple's Siri service allows a user to speak into an iOS device (e.g., iPhone, iPad) using server-based speech recognition.

On appeal, the parties dispute the construction of the claim term "voice input," which is present in both of the asserted claims. Claim 15 is a method claim that ultimately depends on claim 1, which recites "retrieving a voice input signal." Claim 35 is an apparatus claim that ultimately depends on claim 31, which similarly recites computer program code for "receiving a voice input." Both claims further recite converting the "voice input [signal] into a symbolic data file." Before the district court, Unwired argued that the plain and ordinary meaning should be given to the term, requiring no construction. Alternatively, Unwired proposed "speech input" as a construction. Apple proposed construing the term to mean "speech provided over a voice channel." The parties' claim construction dispute is whether the "voice input" should be limited to a voice input transmitted over a particular type of channel, a voice channel as opposed to a data channel.

In adopting Apple's proposed construction, the district court relied on the summary of the invention in the '446 specification. The summary consists of five paragraphs, the first of which is reproduced below:

> The present invention relates to a wireless communication system that utilizes a remote speech recognition server system to translate voice input received from mobile devices into a symbolic data file (e.g. alpha-numeric or control characters) that can be processed by the mobile devices. The

> translation process begins by establishing a voice communication channel between a mobile device and the speech recognition server. A user of the mobile device then begins speaking in a fashion that may be detected by the speech recognition server system. Upon detecting the user's speech, the speech recognition server system translates the speech into a symbolic data file, which is then sent to the user through a separate data communication channel. The user, upon receiving the symbolic data file at the mobile device, reviews and edits the content of the symbolic data file and further utilizes the file as desired. For example a user could use the symbolic data file to fill in fields in an email or a browser request field.

'446 patent, col. 2 ll. 46–63. The district court noted that the first sentence describing "[t]he present invention" is immediately followed by a sentence describing the particular task of "establishing a voice communication channel" as part of the voice recognition process. *Unwired Planet, LLC v. Apple Inc*, No. 13-cv-04134-VC, 2014 WL 5592990, at *11 (N.D. Cal. Nov. 3, 2014) (claim construction order). The district court concluded that the sentence referring to "establishing a voice communication channel" falls within the scope of the "present invention" language, and thus held that the sentence limits the scope of the claims. *Id.* at *12. It noted that the '446 patent consistently maintained the distinction between voice input sent to a server over a *voice* channel and a data file sent back to the mobile device over a *data* channel, and found this use of two separate channels to be a core feature of the invention. *Id.*; *Unwired Planet, LLC v. Apple Inc*, 106 F. Supp. 3d 1083, 1090 (N.D. Cal. 2015) (summary judgment order). Thus, the district court concluded that the voice input limitation should be construed as requiring that the voice input signal be conveyed over a voice channel.

Apple moved for summary judgment of non-infringement based on the construction, arguing that Siri transmits a user's speech to the Siri servers using the Transmission Control Protocol / Internet Protocol ("TCP/IP") and that TCP/IP is not a "voice channel." Thus, while Apple may convey a voice input signal, the signal is not conveyed over a voice channel and therefore Apple does not infringe. Unwired acknowledged that Siri sends a user's speech using TCP/IP, but argued that Siri uses a voice channel because the user's speech is sent to the Siri servers for speech recognition in a manner nearly indistinguishable from a Voice-over-IP ("VoIP") call, which persons of ordinary skill in the art recognized as using a voice channel. In response to these arguments, the district court further clarified its construction to require "[a] voice channel must be an actual, identifiable type of channel, not some ambiguous channel that can be labeled a voice channel merely because it transports voice." *Unwired Planet*, 106 F. Supp. 3d at 1090–91. It granted summary judgment of non-infringement after concluding that no reasonable jury could find Siri transmits voice input over a "voice channel." *Id.* at 1092. It explained that a voice channel must transmit voice without delays, yet Siri transmits speech using TCP/IP, which neither distinguishes between voice and non-voice data nor includes any of the properties needed to ensure real-time transmission. *Id.* at 1092–93. It pointed out that (i) Siri records 200 milliseconds of voice input before transmitting it to the Siri servers, (ii) there was no evidence that Siri transmits packets including errors to ensure real-time delivery, and (iii) the Siri channel does not receive any priority from wireless carriers or any dedicated network resources to ensure real-time transmission. *Id.*

2. Discussion

Unwired has appealed the district court's construction of "voice input." Claim terms are generally given their

ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history. *Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). We have recognized "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." *Id.* at 1365 (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1580 (Fed. Cir. 1996)).

We conclude that the district court erred in its construction of "voice input." The claims require a voice *input*, not a voice *channel*. By its plain language, the term "voice input" does not dictate the manner in which voice is to be transmitted from a mobile device to a server, and Apple does not argue otherwise. It is undisputed that a voice input signal could be transmitted over either a voice channel or a data channel or, as Apple itself does, over TCP/IP. Apple does not argue that the patentee acted as his own lexicographer and defined "voice input" different from its plain and ordinary meaning. Thus, the district court's construction, adopted at Apple's urging, can be justified if there exists a clear and unmistakable disclaimer in the specification or the prosecution history. *Thorner*, 669 F.3d at 1367. We see no such disclaimer in the specification.

We do not agree that the second sentence in the summary of the invention constitutes a disclaimer that limits the scope of every claim. A disclaimer or disavowal of claim scope must be clear and unmistakable, requiring "words or expressions of manifest exclusion or restriction" in the intrinsic record. *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1327 (Fed. Cir. 2002). We have held statements such as "the present invention includes . . . ," "the present invention is . . . ," and "all embodiments of the present invention are . . ." to be clear and unmistaka-

ble statements constituting disavowal or disclaimer. *See Luminara Worldwide, LLC v. Liown Elecs. Co.*, 814 F.3d 1343, 1353 (Fed. Cir. 2016). The summary of the invention section begins with a sentence stating that "[t]he present invention relates to a wireless communication system" using a remote speech recognition server. '446 patent, col. 2 ll. 46–50. As a preliminary matter, this first sentence does not even mention a voice communication channel. It is true, as Apple argues, that the specification discusses voice channels in many places. But it is certainly not the case that everything in that first paragraph in the summary of the invention constitutes a mandatory claim limitation to be read into claims. For example, that same paragraph describes a user receiving, using, and editing the data file. *Id.*, col. 2 ll. 58–61. It is not true that because one sentence in the paragraph begins with the "present invention" language that everything that follows in the same paragraph limits all subsequent claims. This should not be interpreted as any sort of hard rule regarding claim construction. Every claim construction, and each potential disclaimer, has to be considered in the context of each individual patent. We do not read this specification as clearly and unmistakably requiring that voice signals be transmitted exclusively over voice channels. And we will thus not import any such limitation into the claims at issue. In this context, we do not think the sentences describing the translation process rise to the level of "manifest exclusion or restriction" of the claim scope.

Moreover, the patent contains other claims, for example claim 21, that specifically recite "establishing a voice communication channel," a limitation not present in the asserted claims. If the patentee intended to restrict the claims-at-issue to require a voice input to travel over a particular type of channel, it could have included that same limitation. Claim 31, from which asserted claim 35 ultimately depends, recites "receiving a voice input"

without specifying any path on which the voice input travels—a voice channel or otherwise. And claim 1, from which asserted claim 15 ultimately depends, specifies "retrieving a voice input signal . . . *from a first communication path*" without requiring that path to be a voice channel. We see no clear disavowal in the specification to justify importing a "voice channel" limitation into every claim given these differences between the claims.

To justify the district court's construction, Apple argues that the only embodiments disclosed in the '446 patent use a voice channel. However, we have repeatedly held that it is "not enough that the only embodiments, or all of the embodiments, contain a particular limitation" to limit claims beyond their plain meaning. *Thorner*, 669 F.3d at 1366; *GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014). Apple also attempts to justify the district court's construction by arguing that the claims would be invalid as anticipated if the "voice input" were construed to have its plain meaning. We decline to address whether the asserted claims are anticipated because that issue is not before us and was not fully briefed. *See generally Radio Sys. Corp. v. Lalor*, 709 F.3d 1124, 1132 (Fed. Cir. 2013) ("[I]nvalidity cannot be an alternative ground for affirming a judgment of noninfringement absent a cross-appeal.").

3. Conclusion

We construe the claim term "voice input" to have its plain meaning, which does not require the use of any particular type of channel for its transmission. We vacate the district court's summary judgment of noninfringement as to the '446 patent because it was based on the district court's erroneous construction of "voice input."

IV. U.S. PATENT NO. 6,647,260

1. Background

Unwired challenges the district court's (i) grant of summary judgment of non-infringement based on the "user information" limitation, and (ii) construction of the claim term "provisioning" to mean "enabling or modifying communication capabilities."

The '260 patent discloses an invention for providing new or updated features and services to a mobile phone through a process referred to as "provisioning." It explains that "a number of parameters must be provisioned into [a mobile device] in order to enable communication services and applications and in order to distinguish the device from others within the communications network." '260 patent, col. 1 ll. 33–37. The patent provides a solution that allows users to provision a mobile device themselves in a secure manner, without the need to visit a physical store.

Unwired accused Apple of infringing claims 1 and its dependent claim 16, which are reproduced below:

> 1. A method for provisioning a two-way mobile communications device having a display and a user interface, the method being performed by the two-way mobile communications device and comprising:
>
> > receiving *user information required to establish a user account*;
> >
> > displaying a list of selectable identifiers on the display, each selectable identifier corresponding to a selectable service or feature for which the two-way mobile communications device can be provisioned;
> >
> > receiving a user's selection of a selectable identifier from the list;

> generating *a provisioning request comprising the user information* and *the user's selection*;
>
> establishing a communications link with a provisioning server;
>
> providing authentication information to enable a remote server to authenticate the two-way mobile communications device;
>
> sending the provisioning request to the provisioning server over the communications link;
>
> receiving a reply to the provisioning request; and
>
> provisioning the two-way mobile communications device with a feature or service based on the reply.
>
> 16. The method of claim 1, wherein receiving the reply comprises receiving a notification relating to a state of processing of the provisioning request.

Id., col. 9 ll. 15–39; col. 10 ll. 19–21 (emphases added).

The accused Apple services are Apple's App Store and iTunes Store. The App Store allows an iOS device user to purchase and download applications for the device. According to Unwired, the iTunes Store allows an iOS device user to purchase and download music, movies, and TV shows to the device, and both the App Store and the iTunes Store process a user's download requests similarly using an iTunes account.

In order to purchase an app from Apple's App Store or a song from Apple's iTunes Store, a user must first have an iTunes account. To establish an iTunes account, a user must select a password, which, according to Un-

wired, satisfies the claimed "user information required to establish a user account" limitation.

When an iOS device user with an iTunes account wants to purchase an app or a song, the user first enters his Apple ID and password to the iOS device, which sends them to Apple's servers. Second, Apple's servers respond with an "X-token," which contains a hashed version of the user's password and a timestamp generated by the servers. Third, the iOS device sends a "buyProduct request," which includes the X-token and the user's selection of content. Because an X-token is valid for 15 minutes, if a user wishes to purchase another app or song in the next 15 minutes, the iOS device simply sends a buyProduct request, bypassing the first two steps, namely, the user entering his password and Apple's servers responding with an X-token.

Before the district court, Unwired argued that the buyProduct request satisfies the "provisioning request comprising the user information and the user's selection" limitation. Specifically, Unwired argued that the hashed version of a user's password in the X-token, which is included in the buyProduct request, corresponds to the claimed "user information," and the user's selection of content (e.g., a song, an app) in the buyProduct request corresponds to the claimed "user's selection." The district court disagreed, noting that claim 1 requires "*the* user information" in the provisioning request to be the same "user information required to establish a user account," recited earlier in the claim. The district court held that a hash of the password in the buyProduct request (as part of the X-token) cannot be "*the* user information" recited in the claim, because a hashed password is different from the password itself, which corresponds to the claimed "user information required to establish a user account," recited earlier.

2. Discussion

Unwired argues that a hashed password is merely a mathematical function applied to the user's password. It argues the district court improperly resolved on summary judgment whether merely hashing the user information along with a time stamp transforms it into something non-infringing. It argues the district court erred in resolving this fact issue because the X-token contains the same substantive content, only in a different (i.e., hashed) format.

We agree with Unwired that the district court erred in granting summary judgment of non-infringement. The district court correctly noted that "*the* user information" in claim 1 refers to the same "user information" recited earlier in the claim as part of the "receiving *user information* required to establish a user account" step. However, in granting summary judgment of non-infringement, the district court essentially required the claimed "user information" to be in a particular format. We do not agree with such a reading of the term. While "user information" refers to some information, knowledge, or data on a user, the plain meaning of the term does not require that information to be in any specific format or form. For example, the English word "apple" and the Russian word for "apple" contain the same information to the extent that they both refer to the round fruit of a tree of the rose family, despite their differences in form. We think a reasonable jury could find that a hashed password in the X-token contains the same information as in the user's unmodified password, albeit in a different form.

Apple argues the hashed password cannot contain the same substantive content as the password because Unwired's expert admitted that it is impossible to determine from the hashed password what the password is. It argues the hashed password is not simply the password in a different form, citing its expert's report for support. J.A.

10251 ("[A] hash is designed so that the original input into the hash function cannot be derived from the hash value, and thus can be used for validation only.").

We are not convinced by Apple's argument. We do not think the non-reversibility of a hash function—i.e., that a hashed password cannot be decrypted into the password—is determinative of the relevant inquiry. Whether the hashed password in Apple's X-token contains the same "user information" as in a user's password is a fact question properly left to the jury. *See Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 806 (Fed. Cir. 2007). The claims do not dictate a particular form in which "user information" exists, and we decline to adopt interchangeability or reversibility as the essential characteristic in determining whether multiple forms of expression have the same underlying information.

3. Conclusion

We vacate the district court's summary judgment of non-infringement as to claims 1 and 16 of the '260 patent.[1]

V. U.S. PATENT NO. 6,317,831

1. Background

Unwired challenges the district court's grant of summary judgment of non-infringement, which was based on the claim term "narrowband channel."

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[1] Because we vacate the district court's summary judgment based on the "user information" limitation, we do not consider the district court's rejection of Unwired's alternative infringement analysis that does not rely on the hashed password for the claim limitation "the user information."

The '831 patent is related to secure data transmissions over wireless networks. '831 patent, col. 1 ll. 21–23. According to the '831 patent, to securely transfer data, a sender and a receiver must first exchange security information, referred to as "cryptographic handshake operations," which require the use of a two-way channel. *Id.*, col. 3 ll. 28–33. The '831 patent explains that even though wideband channels are usually two-way and capable of transferring data more quickly, it is often more expensive to use than a narrowband channel, which is usually a one-way channel from the server to client. *Id.*, col. 3 ll. 6–9, col. 8 ll. 14–19. It discloses improved techniques for facilitating secure data transfer using narrowband channels. *Id.*, col. 3 ll. 25–27. Unwired asserted claims 17, 23, and 25, all of which require a wideband channel to first exchange security information, and a narrowband channel to then transmit encrypted data. The parties agreed that a "narrowband channel" means a "channel with a meaningfully lower data transfer rate or bandwidth than the wideband channel." For the purposes of this appeal, claim 17 is exemplary, which is a method claim that depends on claim 14:

> 14. A method for transmitting data in a secure manner from a server to a client, said method comprising the acts of:
>
> > exchanging security information between the client and the server over a two-way channel between the client and the server;
> >
> > encrypting data to be transmitted from the server to the client based on the security information; and
> >
> > transmitting the encrypted data from the server to the client over a one-way channel between the client and the server that carries data from the server to the client,

> wherein the two-way channel is a wideband channel, and the one-way channel is a *narrowband channel*.
>
> 17. A method as recited in claim 14, wherein at least a portion of the *narrowband channel* and the wideband channel are wireless.

Id., col. 19 ll. 34–46, col. 19 ll. 52–54 (emphases added).

The accused feature is Apple's Push Notification Service ("APNS"), which is a service that allows app providers to send push notifications to iOS devices via APNS servers. An iOS device may have a number of apps that receive notifications (e.g., Facebook, Twitter, ESPN). Rather than connecting with multiple app provider servers, the iOS device only needs to connect to APNS servers, because the multiple app providers all send messages to APNS servers, which then send messages to the iOS devices. It is undisputed that the exchange of security information and the transmission of push notifications occur over TCP/IP.

2. Discussion

Apple moved for summary judgment of non-infringement, arguing that APNS does not meet the "narrowband channel" limitation.[2] Unwired's infringement theory is that the "narrowband channel" extends from an app provider (i.e., a push notification sender) to an iOS device, whereas the "wideband channel" is the channel that carries the communications between the APNS and the iOS device. It argues that the channel that

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[2] Apple also argued it was entitled to summary judgment because it uses a single channel rather than two different channels as required by the claims. In light of our conclusion regarding the narrowband channel, we need not reach this argument.

carries communications between an app provider server and an iOS device is a narrowband channel because it is at a meaningfully lower data transfer rate. According to Unwired, APNS places a 256-byte data limit on the size of a push notification from an app provider to an iOS device. Unwired argues that this limit results in 124 bytes of total overhead for a single 256-byte notification, which represents 32.6% of the total size of the transmission. It reasons that this overhead is much larger than the minimal percentage of overhead for standard TCP/IP traffic in the case of a wideband channel, and thus the channel for notifications in APNS is a narrowband channel. Unwired argues that APNS's data-size restriction is similar to the data-size restriction on SMS messages discussed in the '831 patent, which is a narrowband channel.

Apple argues that we should affirm the district court's grant of summary judgment of non-infringement because there is no genuine issue of fact; APNS does not use a narrowband channel. The stipulated construction of the narrowband channel requires "a meaningfully lower data transfer rate or bandwidth than the wideband channel." Apple argues that there is no dispute that APNS uses the same TCP/IP connection, with the bits traveling at the same speed, for both the exchange of security information and the transmission of the push message. We agree with Apple that the characteristics of the data being transmitted by APNS cannot transform the wideband channel based on TCP/IP into a narrowband channel. Under the agreed upon construction, Apple has met its burden of proving that there is no genuine issue of material fact.

3. Conclusion

We affirm the district court's summary judgment of non-infringement of claims 17, 23, and 25 of the '831 patent.

VI. U.S. PATENT NO. 6,321,092

1. Background

Unwired challenges the district court's grant of summary judgment of no indirect infringement. The '092 patent discloses an improved technology for identifying the location of a wireless station, such as a cell phone or pager. In order to more accurately locate a wireless station, the invention gathers inputs about the location of the wireless station from multiple location finding equipment ("LFE") such as handset global positioning system ("GPS"), time difference of arrival, and the use of cell/sector location. It then responds to a location request by providing the location information. Unwired alleged that the location-finding technology of iOS devices infringes claim 20, which is a method claim comprising, in relevant part, "receiving a plurality of device dependent *location inputs* provided by said location finding equipment." '092 patent, col. 16 ll. 19–20 (emphasis added).

The district court denied Apple's motion for summary judgment of no direct infringement, which was based on Apple's argument that the iOS devices only use a single "location input." The district court, however, granted Apple's motion for summary judgment of no induced or contributory infringement. It reasoned that Apple's noninfringement argument—i.e., that iOS devices only use one "location input"—is strong enough that no reasonable juror could conclude that Apple acted with actual knowledge that it was inducing or contributing to infringement. The court concluded that no reasonable juror could conclude that Apple was willfully blind because of "the strength of Apple's noninfringement argument." The district court erred by basing summary judgment on its own estimation of the objective strength of Apple's noninfringement defense. The proper focus of indirect infringement analysis is on the subjective knowledge of the accused infringer, and the district court's conclusion that

Apple's non-infringement defenses were strong at most created a factual question as to Apple's own subjective beliefs.

2. Discussion

On appeal, Apple argues that Unwired presented no evidence that Apple knew or was willfully blind to the fact that the induced acts were infringing the asserted claims of the '092 patent. Apple is correct that indirect infringement requires knowledge of the underlying direct infringement—not merely the knowledge of the existence of the patent. *Global-Tech Appliances, Inc. v. SEB S.A.*, 563 U.S. 754, 765–66 (2011); *Commil USA LLC v. Cisco Systems, Inc.*, 575 U.S. ____, 135 S. Ct. 1920, 1926 (2015). This knowledge requirement may be satisfied under the doctrine of willful blindness. *Global-Tech Appliances*, 563 U.S. at 768. The Supreme Court cautioned that the accused's deliberate indifference to a known risk of infringement alone is not sufficient. Rather, the doctrine of willful blindness requires the patentee to show not only that the accused subjectively believed that there was a high risk of infringement, but also that the accused took deliberate actions to avoid confirming infringement. *Global-Tech Appliances*, 563 U.S. at 769–70. Apple argues that Unwired's evidence at most creates a question of fact regarding Apple's knowledge of the patent but that none of the evidence supports an inference that Apple knew or was willfully blind to any infringing acts. If correct, this would be a basis for summary judgment. We defer to the district court to make this determination in the first instance. Because the district court's grant of summary judgment was based exclusively on its view of the strength of Apple's non-infringement argument, we vacate. The Supreme Court's *Global-Tech Appliances* and *Commil* decisions require a showing of the accused infringer's subjective knowledge as to the underlying direct infringement. The district court's reliance on the objective strength of Apple's non-infringement arguments as

precluding a finding of induced or contributory infringement was erroneous. In this case, we conclude only that summary judgment is inappropriate on the basis the district court decided, and we pass no judgment on how the factual issues ought to be resolved by a fact finder. The district court is not precluded from considering Apple's alternative summary judgment argument regarding knowledge.

3. Conclusion

We therefore vacate the district court's summary judgment of no indirect infringement as to claim 20 of the '092 patent. On remand, the district court may reconsider Apple's motion for summary judgment of no indirect infringement consistent with this opinion.

VII. CONCLUSION

We vacate the district court's summary judgment of non-infringement as to the asserted claims of the '446, '260, and '092 patents. We affirm the district court's summary judgment of no infringement as to the asserted claims of the '831 patent.

AFFIRMED IN PART, VACATED IN PART, AND REMANDED

COSTS

No costs.