

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZTE CORPORATION; ZTE (USA), INC.; and ZTE (TX), INC.,
Petitioner,

v.

WSOU INVESTMENTS LLC
D/B/A BRAZOS LICENSING AND DEVELOPMENT,
Patent Owner.

IPR2021-00694
Patent 7,489,929 B2

Before BRIAN J. McNAMARA, ROBERT J. WEINSCHENK, and
JOHN D. HAMANN, *Administrative Patent Judges*.

HAMANN, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

ZTE Corporation; ZTE (USA), Inc.; and ZTE (TX), Inc. (collectively “Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–15 of U.S. Patent No. 7,489,929 B2 (Ex. 1001, “the ’929 patent”) pursuant to 35 U.S.C. § 311. WSOU Investments, LLC d/b/a/ Brazos Licensing and Development (“Patent Owner”) filed a Patent Owner Preliminary Response (Paper 6, “Prelim. Resp.”). With our authorization,¹ Petitioner filed a Preliminary Reply to the Preliminary Response (Paper 7) relating to discretionary denial under 35 U.S.C. § 314(a), and Patent Owner filed a Preliminary Sur-Reply in response to the Preliminary Reply (Paper 8).

We have authority to determine whether to institute an *inter partes* review under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a). An *inter partes* review may be instituted if “the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018).

Upon consideration of the papers, we determine that the information presented in the Petition does not demonstrate a reasonable likelihood that Petitioner would prevail in establishing that at least one challenged claim is unpatentable. Accordingly, we deny the Petition and do not institute *inter partes* review.

¹ We authorized a preliminary reply to address the *Fintiv* factors and a preliminary sur-reply in response. Ex. 3001, 1. We do not reach these papers, however, nor do we reach the issue of discretionary denial pursuant to § 314(a) because we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that at least one claim of the ’929 patent is unpatentable.

A. Real Parties-in-Interest

Petitioner identifies themselves as real parties-in-interest. Pet. 95.
Patent Owner identifies itself as a real party-in-interest. Paper 4, 1.

B. Related Matter

The parties collectively identify the following judicial proceedings in which the '929 patent is asserted and which may affect, or be affected by, a decision in this proceeding: *WSOU Investments, LLC v. ZTE Corp.*, 6-20-cv-00488 (W.D. Tex.) and *ZTE (USA) Inc. v. WSOU Investments, LLC*, 3:21-cv-02128 (N.D. Tex.). Pet. 1 n.1; Paper 4, 2; Paper 9, 1.

C. The Challenged Patent

The '929 patent relates to “wireless communication systems.” Ex. 1001, 1:7–9. The '929 patent discloses that “[t]ypical systems include a plurality of base stations arranged to serve specific geographic areas or cells,” and that “[a]n individual can use a mobile station to communicate through the wireless communication system as their mobile station communicates with a base station serving the cell in which they are currently located.” *Id.* at 1:14–19. According to the '929 patent, “[a]s a mobile station moves from one cell to another cell, the communications for that mobile station are transferred from the base station serving the one cell to the base station serving the other cell.” *Id.* at 1:22–25. The '929 patent discloses that “[t]he process of transferring communications for a mobile station between base stations is known as ‘handoff,’” and that the new “base station is often called a target base station.” *Id.* at 1:25–27, 1:36–37.

According to the '929 patent, “[o]ne type of wireless communication system is known as a Code Division Multiple Access (CDMA) system.” *Id.* at 1:45–46. The '929 patent discloses that “[h]andoffs used in CDMA systems are known as ‘soft’ handoffs,” which “establish communication

with a target base station before terminating communication with an existing or currently serving base station.” *Id.* at 1:46–51. In other words, “[d]uring a soft handoff procedure, a mobile station is in simultaneous communication with more than one base station.” *Id.* at 1:51–53. The ’929 patent discloses that “[t]he sets of base stations typically maintained by a mobile station in a CDMA system include an active set,” which “is the set of base stations through which active communication is established.” *Id.* at 1:63–2:1. The ’929 patent discloses that “[e]ventually, the handoff process transfers communication to only one of the base stations in the active set,” and “[a]t that point, the mobile station has one communication link with the one base station within the active set.” *Id.* at 2:54–57. “Such a communication link is also referred to as a ‘leg.’” *Id.* at 2:57–58.

According to the ’929 patent, “[t]here is a need for an improved technique for completing handoffs in CDMA systems,” and that “[i]t would be beneficial to be able to avoid the use of resources required for soft handoff procedures,” while “[a]t the same time, any hard handoff procedure should be reliable enough to avoid dropped calls.” *Id.* at 3:39–43. To that end, the ’929 patent discloses embodiments that “provide[] a make-before-break hard handoff that does not use soft combining in a mobile station.” *Id.* at 3:56–59.

Figure 3, shown below, “illustrate[s] an example handoff procedure designed according to an embodiment of” the ’929 patent. *Id.* at 5:4–5.

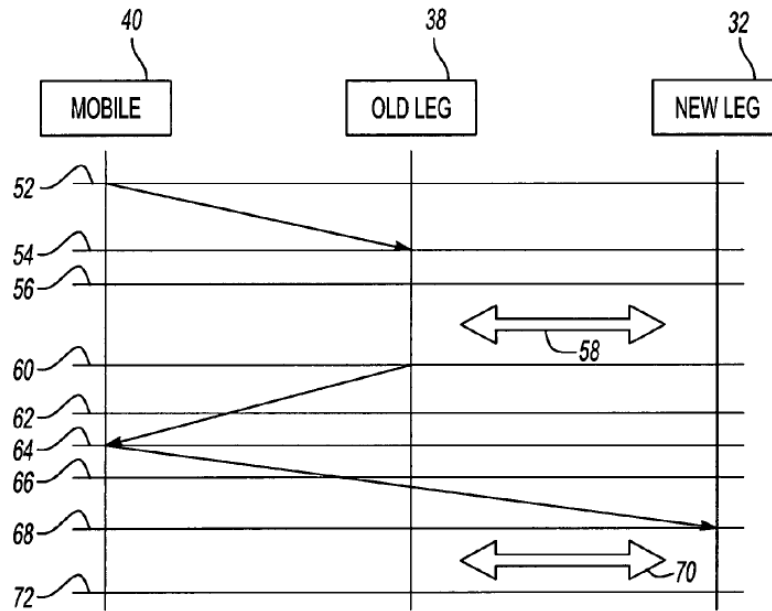


Fig-3

Figure 3 “is a timing diagram schematically showing various portions of an example handoff procedure,” in accordance with the ’929 patent’s teachings. *Id.* at 4:36–37. At 52, “the wireless network (i.e., a radio network controller) receives a measurement report from [a] mobile station 40 over the existing link (i.e., with [a] serving base station 38) as the mobile station 40 is in” its cell. *Id.* at 5:6–10. The ’929 patent discloses that “[d]epending on the conditions at that time, the measurement report may include a handoff request from the mobile station.” *Id.* at 5:10–12. At 54, “the network receives the measurement report from the mobile station 40 over the existing link through the serving base station 38.” *Id.* at 5:12–14. “At 56, the network determines whether a handoff is desired.” *Id.* at 5:15–16. The ’929 patent discloses that “[o]nce a handoff decision is made, the network communicates with a target base station (i.e., base station 32, for example) to setup a new link between the target base station 32 and the mobile station 40.” *Id.* at 5:20–23. “Such communication is schematically shown at 58 in

F[igure] 3 to represent communications between the network components and the target base station.” *Id.* at 5:23–25. “At 62, the new link achieves uplink synchronization,” and “[a]t 64, the mobile station 40 receives the active set update message, updates the active set to replace the existing link with the new link and transmits an active set update confirmation message to the network over the new link.” *Id.* at 5:49–53. The ’929 patent discloses that “[a]t 68, the active set update confirmation from the mobile station 40 is received by the network,” and “[s]ignaling between the network and the old link for releasing the old link is schematically shown at 70.” *Id.* at 5:60–63. “At 72, the existing link has been released and no longer receives or transmits any communications between the network and the mobile station 40.” *Id.* at 5:63–65.

According to the ’929 patent, “[b]y not releasing the old link until after receiving a confirmation message regarding the new link . . . , the hard handoff process . . . includes making the new link connection before breaking the existing link connection.” *Id.* at 5:66–6:3. “This represents an improvement over other hard handoff procedures where the making and breaking of the new and existing links occurred simultaneously,” according to the ’929 patent. *Id.* at 6:3–6:5. “At the same time, however, the mobile station 40 . . . only maintains one member in its active set at all times” (i.e., “the mobile station 40 replaces the existing link with the new link in the active set”). *Id.* at 6:5–9.

D. The Challenged Claims

Petitioner challenges claims 1–15 of the ’929 patent. Claim 1 is the sole independent claim. Claim 1 is reproduced below:

1. A method of communicating between a mobile station, a serving base station and a target base station comprising:

establishing a new link between the target base station and the mobile station before releasing an existing link between the mobile station and the serving base station while having only the existing link in an active set for the mobile station before releasing the existing link by

(A) determining if a handoff is desired between the serving base station and the target base station;

(B) initiating the new link between the mobile station and the target base station;

(C) transmitting an active set update message to the mobile station using the existing link between the serving base station and the mobile station;

(D) achieving uplink synchronization for the target base station to communicate with the mobile station;

(E) receiving at least one signal over the new link indicating that the mobile station has processed the transmitted active set update message; and

(F) releasing the existing link responsive to the at least one signal of step (E).

Ex. 1001, 7:27–47.

E. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–3, 6, 8–10, 12, 13, 15	102 ²	Hwang ³
4, 5	103	Hwang, Kim, ⁴ TS25.301 ⁵

² The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. §§ 102, 103 that became effective on March 16, 2013. Because the ’929 patent issued from an application filed before March 16, 2013, we apply the pre-AIA version of the statutory basis for unpatentability.

³ US 2002/0045451 A1, published Apr. 18, 2002 (Ex. 1005, “Hwang”).

⁴ WO 2004/102848 A3, published Nov. 25, 2004 (Ex. 1006, “Kim”).

⁵ 3rd Generation Partnership Project, Tech. Spec. Group (TSG) RAN; Working Group 2; Radio Interface Protocol Architecture TS 25.301 V3.2.0 (1999-10) (Ex. 1008, “TS25.301”).

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
7	103	Hwang, Kim
11, 14	103	Hwang, Miklos ⁶

Pet. 26–90. Petitioner submits the Declaration of Stephen Gray (Ex. 1003) in support of its arguments.

II. LEVEL OF ORDINARY SKILL IN THE ART

To determine whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). In assessing 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) (quoting *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986)). “[O]ne or more factors may predominate.” *Id.*

Petitioner argues that one of ordinary skill in the art at the time of the invention of the ’929 patent would have had “a bachelor’s degree in telecommunication, electrical engineering, computer engineering, or a related engineering discipline and two or more years of industry experience in the field of telecommunications, or equivalent experience, education, or

⁶ US 2008/0280611 A1, published Nov. 13, 2008 (Ex. 1007, “Miklos”).

both.” Pet 23 (citing generally Ex. 1003⁷). Petitioner adds that “[t]he person would also have [had] knowledge or familiarity with telecommunication.” *Id.* Patent Owner does not identify a level of skill in the art that one would have had at the time of the invention of the ’929 patent. *See* Prelim. Resp. 22–24.

For purposes of this Decision, and based on the current record, we adopt Petitioner’s assessment of the level of skill for one of ordinary skill in the art. Pet. 23. This definition is consistent with the ’929 patent and the asserted prior art, and we apply it in our analysis below. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

III. CLAIM CONSTRUCTION

Because the Petition was filed after November 13, 2018, we construe the challenged claims by applying the standard used in federal courts, in other words, the claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b), which is articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b) (2020). Under *Phillips*, the words of a claim are generally given their “ordinary and customary meaning,” which is the meaning they would have to a person of ordinary skill in the art at the time of the invention, in light of the specification and prosecution history. *See Phillips*, 415 F.3d at 1312–13.

⁷ We treat Petitioner’s reference to Ex. 1004 (Mr. Gray’s curriculum vitae) as a typographical error. *See* Pet. 23. One can readily ascertain that Petitioner intends to cite the declaration testimony of Mr. Gray, and in particular, paragraph 41 of Mr. Gray’s declaration. *See* Ex. 1003 ¶ 41; *see also id.* at i (Table of Contents, which shows the level of ordinary skill discussion starts at page 11).

Petitioner argues that “[n]o claim terms need to be construed by the Board at this time.” Pet. 23. Patent Owner does not identify any claim terms for construction. Prelim. Resp. 24–25.

Accordingly, we determine that no express constructions are needed for us to render our Decision on Institution. *See, e.g., Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy.’”).

IV. PRINCIPLES OF LAW

A claim is unpatentable under 35 U.S.C. § 102 “if each and every [claim] limitation is found either expressly or inherently in a single prior art reference.” *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 851 F.3d 1270, 1273 (Fed. Cir. 2017). “A claim limitation is inherent in the prior art if it is necessarily present in the prior art, not merely probably or possibly present.” *Akamai Techs., Inc. v. Cable & Wireless Internet Servs., Inc.*, 344 F.3d 1186, 1192 (Fed. Cir. 2003) (citing *Rosco, Inc. v. Mirror Lite, Co.*, 304 F.3d 1373, 1380 (Fed. Cir. 2002)).

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 of the invention to a person having ordinary skill in the art. *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence

of non-obviousness, if present.⁸ *See Graham*, 383 U.S. at 17–18. When evaluating a claim for obviousness, we also must “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

V. ALLEGED ANTICIPATION BY HWANG

Petitioner argues that Hwang anticipates claims 1–3, 6, 8–10, 12, 13, and 15. Pet. 26–73. We have reviewed the parties’ arguments and the evidence of record. For the reasons that follow, we determine that Petitioner does not demonstrate a reasonable likelihood that it would prevail in showing that at least one of these claims of the ’929 patent is anticipated by Hwang.

A. *Hwang*

Hwang “relates to a mobile communication system and, more particularly, to a method of controlling a handover by combining both a soft handover and a hard handover in an uplink synchronous transmission scheme (USTS).” Ex. 1005 ¶ 2. According to Hwang, an USTS “is used to reduce multiple access interferences using orthogonality, by controlling reception timing between mobile stations and a base station in a closed loop timing control manner.” *Id.* ¶ 4.

Figure 6, shown below, is a flow chart illustrating a preferred embodiment of Hwang. *Id.* ¶ 50.

⁸ Patent Owner does not present arguments or evidence of such objective evidence of non-obviousness. *See generally* Prelim. Resp.

FIG. 6

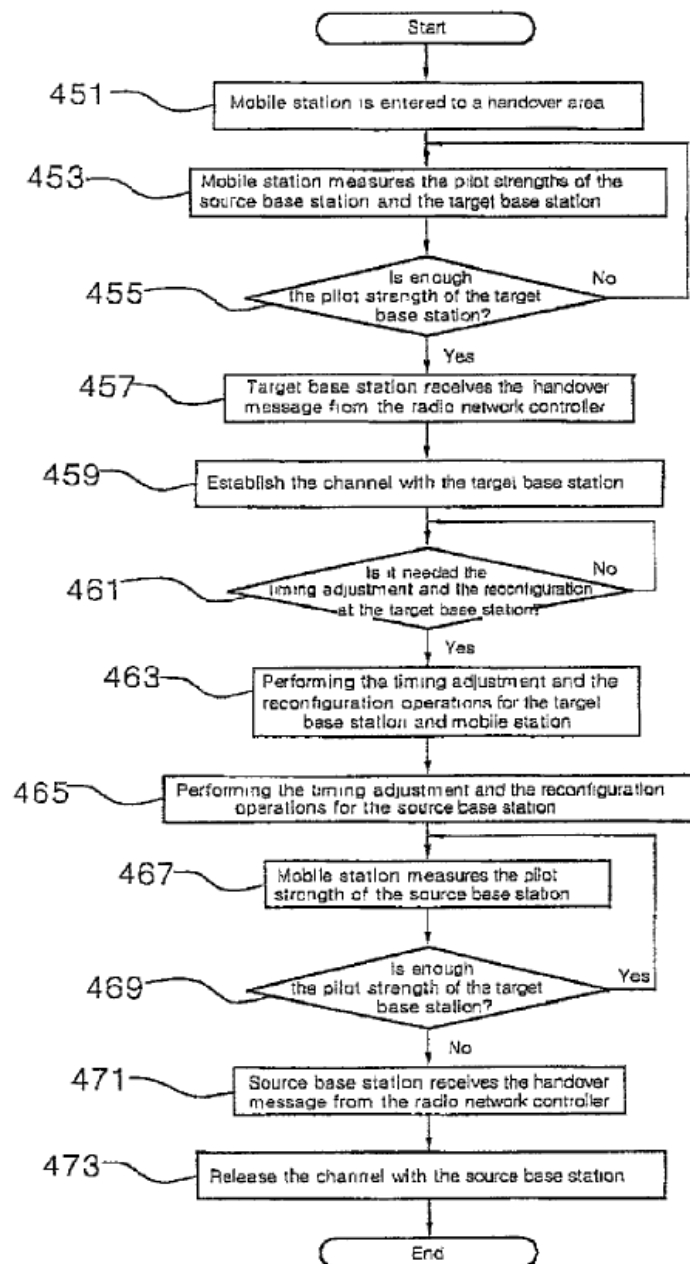


Figure “6 is a flow chart illustrating the procedure of controlling the signal timing of the mobile station when the soft handover is performed according to a preferred embodiment of” Hwang’s invention. *Id.* ¶ 53. And Figure 6 “further illustrates a method of controlling the handover by combining a soft

handover with a hard handover for controlling a transmission signal timing of a mobile station in an uplink.” *Id.*

Hwang discloses that “[i]nitially, the mobile station is positioned in the service area of the source base station, alone[, and t]herefore, the communication channel of the mobile station is connected only to the source base station.” *Id.* ¶ 54. “If the mobile station enters into an area overlapped by the cell areas of the source base station and [a] target base station, thereby initiating the handover (step 451), the mobile station measures strengths of pilot signals received from both the source base station and the target base station (step 453).” *Id.* And, according to Hwang, “the mobile station judges whether the pilot strength measured in the target base station is greater than a predetermined pilot reference value (step 455).” *Id.*

“If the intensity of the pilot signal of the target base station exceeds the threshold, based on the predetermined pilot reference value, then the communication data are transmitted to the target base station.” *Id.* “Meanwhile, the target base station receives the first handover message from the radio network controller (step 457) and sets up the communication channel with the mobile station according to the first handover message (step 459),” as disclosed by Hwang. *Id.* ¶ 55. “Consequently, both the source base station and the target base station have established the communication channel with the mobile station” (i.e., “the source base station is set up as a USTS mode, while the target base station is set up with a NON-USTS mode”). *Id.* ¶ 56.

Hwang discloses that “[m]eanwhile, the radio network controller compares the radio link quality transmitted from the mobile station and determines whether to perform the timing adjustment and the reconfiguration operations using the target base station, based on the

comparison result (step 461).” *Id.* ¶ 57. “The determination process can be performed using the link quality and the numbers of the mobile stations.” *Id.*

Hwang discloses that “[i]f the target base station is selected for performing the timing adjustment and the reconfiguration operations as a result of step 461, the target base station performs the operation using the second handover message, after receiving the handover control command from the radio network controller (step 463).” *Id.* ¶ 60. “[T]he radio network controller [also] transmits the second handover message to the source base station and, thereby, the source base station performs the timing adjustment and the reconfiguration based on the second handover message (step 465).” *Id.* “Consequently, the source base station is converted into the NON-USTS mode and the target base station is converted into the USTS mode.” *Id.*

Hwang discloses that “[m]eanwhile, the mobile station periodically measures the pilot strength of the source base station (step 467) and determines whether the pilot strength of the source base station is enough (step 469).” *Id.* ¶ 61. “The mobile station transmits the pilot strength measurement message to the radio network controller according to the results.” *Id.* “Thereafter, the mobile station receives the third handover message from the radio network controller (step 471),” and “[t]hen the mobile station deletes the source base station from the actual communication list, according to the third handover message, and transmits the handover completion message to the radio network controller (step 473).” *Id.*

B. While Having Only the Existing Link in an Active Set

Petitioner argues that Hwang discloses “establishing a new link between the target base station and the mobile station before releasing an

existing link between the mobile station and the serving base station while having only the existing link in an active set for the mobile station before releasing the existing link,” as recited in independent claim 1. Pet. 28–33. We focus on the latter part of this limitation, namely that the establishing of the claimed new link occurs “while having only the existing link in an active set for the mobile station before releasing the existing link.” Ex. 1001, 7:29–33. We agree with Patent Owner that Petitioner fails to show that Hwang discloses this limitation for several reasons, as discussed below. *See* Prelim. Resp. 25–31.⁹

First, Petitioner argues that “*Hwang* discloses a synchronous and deleting multi-step process for the handover procedure resulting in only one radio link in an active set.” Pet. 32. In particular, Petitioner argues that “*Hwang* discloses that ‘the hard handover of the uplink synchronous timing is used instead of the soft handover, since **only one of the base stations is selected**, because synchronizing the uplink synchronous timing for the source base station and the target base station cannot occur at the same time.’” *Id.* (quoting Ex. 1005 ¶ 30) (color emphasis omitted).

We find that this sentence from Hwang is unavailing. Simply put, this sentence fails to disclose anything about how Hwang manages a mobile station’s active set with respect to establishing a new link. Ex. 1005 ¶ 30. Instead, this sentence explicitly discloses that a hard handover is used for the uplink synchronous timing procedure, but does not disclose that a hard

⁹ Patent Owner sometimes argues that “the Petition fails to establish it is more likely than not” that Hwang discloses the disputed limitation. *See, e.g.*, Prelim. Resp. 25. This is not the standard, however, for deciding whether to institute an *inter partes* review. *See* 35 U.S.C. 314(a). Rather, we apply here a reasonable likelihood standard in evaluating the Petition. *Id.*

handover is used for establishing a new link. *Id.* Notably, the sentence Petitioner relies upon is immediately preceded by the following sentence: “[I]n order to improve the method of controlling the handover, a hard handover means of the uplink synchronous timing essentially required in the uplink synchronous transmission scheme *should be added together with the related art soft handover method.*” *Id.* (emphasis added). In other words, Hwang discloses using both soft and hard handovers. *See, e.g., id.* at code (57), ¶¶ 30, 53, 64. Hwang characterizes its use of both soft and hard handovers for its data flow procedure of a preferred embodiment as follows:

The data flow shown in F[igure] 7 can be classified into 1) a soft handover procedure for setting the radio link in the target base station 333 as shown in step 501, 2) a hard handover procedure for converting the synchronous mode, and 3) a soft handover procedure for releasing the radio link of the source base station 335 as shown in step 539.

Id. ¶ 64. Similarly, the sentence Petitioner quotes from paragraph 30 discloses using Hwang’s hard handover procedure for converting the synchronous mode, and using Hwang’s soft handover procedures for setting and releasing radio links. *Compare id.* ¶ 30, *with id.* ¶ 64.

We also find inapposite Hwang’s disclosure that only one of the base stations is selected for synchronizing the uplink synchronous timing. *Id.* ¶ 30. This disclosure merely recognizes that “synchronizing the uplink synchronous timing for the source base station and the target base station cannot occur at the same time.” *Id.*; *see also id.* ¶ 71 (“[O]ne mobile station cannot operate with two base stations in the USTS mode at the same time and the uplink synchronous transmission timing is synchronized with only one base station.”). And again, Petitioner does not show how the disclosure

of paragraph 30 relates to how Hwang manages a mobile station's active set with respect to establishing a new link. Pet. 32.

Second, Petitioner argues that “*Hwang* also discloses that ‘the radio link is established **either** between the mobile station and the source base station **or** between the mobile station and the target base station,’ indicating that there is only one radio link in an active set during the handover procedure.” *Id.* (quoting Ex. 1005 ¶ 56). “And when the new link between the mobile station and the target base station is not completely established and thus the existing link is not ready to be released, there is only one existing link in an active set,” according to Petitioner. *Id.*

We find that this disclosure from Hwang's paragraph 56 is unavailing. Like above, this sentence also fails to disclose anything about how Hwang manages a mobile station's active set with respect to establishing a new link (e.g., a new link between the mobile station and the target base station). Ex. 1005 ¶ 56. Moreover, Petitioner fails to address the beginning of paragraph 56 which discloses that “both the source base station and the target base station have established the communication channel with the mobile station,” where “the source base station is set up as a USTS mode, while the target base station is set up with a NON-USTS mode.” *Id.* Nor does Petitioner address Hwang's subsequent disclosure that:

[m]eanwhile, the mobile station periodically measures the pilot strength of the source base station (step 467) and determines whether the pilot strength of the source base station is enough (step 469). The mobile station transmits the pilot strength measurement message to the radio network controller according to the results. Thereafter, the mobile station receives the third handover message from the radio network controller (step 471). *Then the mobile station deletes the source base station from the actual communication list, according to the third handover*

message, and transmits the handover completion message to the radio network controller (step 473).

Id. ¶ 61 (emphasis added). In other words, Hwang discloses not deleting the source base station from the actual communication list (active set) until the pilot strength of the source base station is insufficient (e.g., when the mobile station moves further away from the source base station). *Id.*

In addition, Petitioner does not address Hwang's paragraph 65, which describes in detail Hwang's soft handover procedure for setting the radio link in the target base station 333. *Id.* ¶ 65. Paragraph 65 reads as follows:

First, the soft handover procedure for setting the radio link in the target base station 333 will be explained. If the mobile station 337 enters into a handover area, i.e., entering from the cell area of the current source base station 335 to the target base station 333, the soft handover is initiated as illustrated in step 420 of F[igure] 5, thereby setting the radio link of the target base station 333 (step 501). Here, the setting of the radio link is achieved as the radio network controller 331 requests for setting up the radio link to the target base station 333. And when the message indicating that the radio link setup has been successively accomplished is received from the target base station 333, the radio network controller 331 sends a request for an update of an active setup to the mobile station 337. The process is completed when a response indicating that *the target base station 333 has been added onto the active set by the mobile station 337* is received by the radio network controller 331.

Id. (emphasis added). In other words, Hwang discloses first adding the target base station to the mobile station's active set, which occurs before Hwang's disclosure of using a hard handover procedure for converting the synchronous mode, and before releasing the radio link for the source base station, if the mobile station moves out of the handover area. *See id.* ¶¶ 65–77. In sum, Petitioner does not show that Hwang's paragraph 56 discloses

establishing the claimed new link “while having only the existing link in an active set for the mobile station before releasing the existing link.” Pet. 32.

Third, Petitioner argues that another example of having only one existing link in the active set before releasing the existing link, is Hwang’s purported disclosure of adding the new link to an active set while removing the existing link from the active set. *Id.* In particular, Petitioner argues that “*Hwang* discloses that ‘the mobile station 329 can **add** the DRNS-base station 327 to an **active set** on the basis of the active set update command message (step 429),’ . . . and ‘mobile station 329 **removes** the radio link established on the present SRNS-base station from the **active set**.’” *Id.* at 32–33 (quoting Ex. 1005 ¶¶ 24, 26) (color emphases omitted). “Thus, there is only the existing link in an active set during *Hwang*’s handover procedure before releasing the existing link,” according to Petitioner. *Id.* at 33.

We find that these disclosures from Hwang are unavailing. In fact, we find that these portions of Hwang disclose a related art soft handover procedure, which is contrary to what is claimed. *See, e.g.*, Ex. 1005, Fig. 5, ¶ 19. For example, Hwang discloses that “the mobile station 329 can add the DRNS-base station 327 [(target base station)] to an active set on the basis of the active set update command message (step 429).” *Id.* ¶¶ 21, 24. Hwang discloses that next, “if the mobile station 329 moves away from the handover area and enters a cell area of the DRNS-base station 327, the SRNC 321 decides whether to remove . . . a communication channel between the SRNS-base station 325 and the mobile station 329.” *Id.* ¶ 25. Hwang discloses that “in the case of removing the radio link established on the SRNS-base station 325, . . . [t]he mobile station 329 removes the radio link established on the present SRNS-base station from the active set.” *Id.* ¶ 26. Hence, Hwang discloses that before mobile station 329 moves away

from the handover area, both the radio link established from SRNS-base station 325 to mobile station 329 and the radio link established from DRNS-base station 325 to mobile station 329 are part of the active set. *See, e.g., id.* ¶¶ 24–26, Fig. 5. Thus, Petitioner does not show that these portions of Hwang disclose “establishing a new link . . . while having only the existing link in an active set for the mobile station before releasing the existing link.” *Id.*; Pet. 32–33.

Accordingly, Petitioner has not demonstrated a reasonable likelihood of success in challenging independent claim 1 as being anticipated by Hwang. In addition, the Petition does not present any information with respect to dependent claims 2, 3, 6, 8–10, 12, 13, and 15 that addresses the deficiencies discussed above. Pet. 55–73. Thus, Petitioner has not demonstrated a reasonable likelihood of success in challenging claims 2, 3, 6, 8–10, 12, 13, and 15 as being anticipated by Hwang.

VI. REMAINING GROUNDS

Petitioner argues that the combination of (i) Hwang, Kim, and TS25.301 renders dependent claims 4 and 5 obvious; (ii) Hwang and Kim renders dependent claim 7 obvious; and (iii) Hwang and Miklos renders dependent claims 11 and 14 obvious. Pet. 73–90. For these grounds, Petitioner relies on its showing for independent claim 1 from which claims 4, 5, 7, 11, and 14 depend. *Id.* As we find above, however, the Petition fails to show a reasonable likelihood that Hwang teaches independent claim 1. *See supra* Section V(B). Petitioner’s showing for the remaining grounds do not cure the deficiencies discussed above. *See* Pet. 73–90. Accordingly, we determine that Petitioner has not demonstrated a reasonable likelihood of success in challenging these dependent claims as being obvious over these additional grounds.

VII. CONCLUSION

For the foregoing reasons, we determine that the information presented in the Petition does not demonstrate a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of any of the challenged claims of the '929 patent on any asserted ground of unpatentability.

VIII. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is denied and no trial is instituted.

PETITIONER:

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