

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NEC CORPORATION OF AMERICA, NEC MOBILE
COMMUNICATIONS, LTD., HTC CORPORATION, ZTE (USA),
AMAZON.COM, INC., PANTECH CO., LTD., PANTECH WIRELESS,
INC., LG ELECTRONICS, INC., LG ELECTRONICS U.S.A., INC.,
and DELL INC.,
Petitioner,

v.

CELLULAR COMMUNICATIONS EQUIPMENT LLC,
Patent Owner.

Case IPR2014-01136
Patent 8,055,820

Before JENNIFER S. BISK, GREGG I. ANDERSON and
ROBERT J. WEINSCHENK, *Administrative Patent Judges*.

BISK, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

INTRODUCTION

A. Background

Petitioner, listed above, filed a Corrected Petition (Paper 5, “Pet.”) requesting an *inter partes* review of claims 1, 2, 4, 6–10, 12, 13, 15, 17–21, 23, and 24 (the “challenged claims”) of U.S. Patent No. 8,055,820 (Ex. 1001, “the ’820 patent”). Patent Owner, Cellular Communications Equipment LLC, filed a Preliminary Response. Paper 9 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314(b); 37 C.F.R. § 42.4(a). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless the Director determines . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

After considering the Petition and Preliminary Response, we determine that Petitioner has not established a reasonable likelihood of prevailing in showing the unpatentability of the challenged claims. Accordingly, we decline to institute *inter partes* review.

B. Related Matters

The parties indicate that the ’820 patent is the subject of several concurrent proceedings in the United States District Court for the Eastern District of Texas. Pet. 1–2; Paper 6, 2–3.

*C. The Asserted Grounds of Unpatentability*¹

Petitioner contends that claims 1, 2, 4, 6–10, 12, 13, 15, 17–21, 23, and 24 of the '820 patent are unpatentable under 35 U.S.C. §§ 102, 103 based on the following grounds (Pet. 16–18; 25–49):²

Statutory Ground	Basis³	Challenged Claims
§ 102(e)	Wu	1, 2, 4, 6–10, 12, 13, 15, 17–21, 23, and 24
§ 103	Wu	1, 2, 4, 6–10, 12, 13, 15, 17–21, 23, and 24
§ 103	Zhang	1, 2, 6, 7, 12, 13, 17, 18, 23, and 24
§ 103	Zhang and Wu	1, 2, 6, 7, 12, 13, 17, 18, 23, and 24
§ 102(e)	Torsner	1, 2, 4, 6–10, 12, 13, 15, 17–21, 23, and 24
§ 103	Torsner	1, 2, 4, 6–10, 12, 13, 15, 17–21, 23, and 24
§ 103	Torsner and Wu	1, 2, 4, 6–10, 12, 13, 15, 17–21, 23, and 24

D. The '820 Patent

The '820 patent relates to managing the resources used to send data over a communications network. Specifically, the '820 patent describes increasing the efficiency of communicating, from user equipment to a network device, the status of user equipment buffers. Ex. 1001, Abstract. The buffers contained by user equipment hold data ready to be sent over the network. Reporting the status of these buffers to a network device requires communication overhead. *Id.* at 1:47–50. The '820 patent describes

¹ In a listing of challenges, Petitioner does not include anticipation by Torsner (Pet. 16–18), and does include anticipation by Zhang (Pet. 17). In the body of the Petition, however, Petitioner presents a detailed analysis of the reverse-anticipation by Torsner (Pet. 40–44), but not anticipation by Zhang (Pet. 25–49). For purposes of this decision, we consider the grounds analyzed in the body of the Petition.

² Petitioner also provides a declaration from Dr. Tim A. Williams. Ex. 1010 (“the Williams Declaration”).

³ U.S. Patent No. 7,769,926 (Ex. 1004) (“Wu”); U.S. Patent No. 8,477,695 (Ex. 1006) (“Zhang”); U.S. Patent No. 8,243,666 (“Torsner”).

embodiments that use more than one message format for reporting buffer status: “a long buffer status reporting format” and “a short buffer reporting format.” *Id.* at 1:52–55. The different formats may be chosen in such a way as to reduce overhead on the network. *Id.* at 1:47–50. Figure 5 of the ’820 patent is reproduced below.

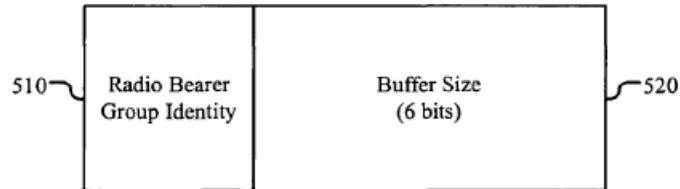


Figure 5, above, illustrates one example of a short buffer status reporting format. *Id.* at 8:40–42. This format includes radio bearer group identity 510 (which indicates the buffer whose status is being reported) and buffer size 520. *Id.* at 8:42–47. Figure 6 of the ’820 patent is reproduced below.

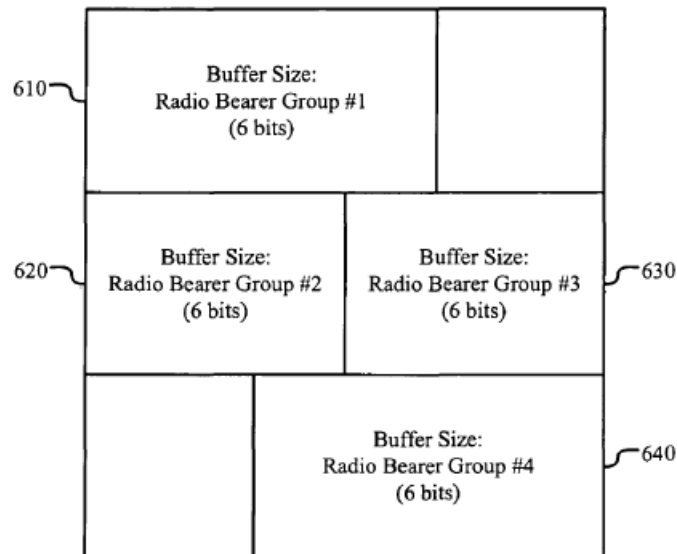


Figure 6, above, illustrates one example of a long buffer status reporting format. *Id.* at 8:51–53. This format includes an entry for the buffer size of each of four radio bearer groups, 610, 620, 630, and 640. *Id.* at 8:53–57.

Each of the four groups in the long buffer status reporting format are comprised of six bits. *Id.* at 8:57–58.

In one exemplary embodiment, user-equipment buffers are monitored until at least one buffer contains data to be communicated. *Id.* at 8:17–20. If only one of the monitored buffers contains data, the short form buffer status format is used. *Id.* at 22–24. If more than one of the monitored buffers contains data, the current uplink capacity is determined, and if the capacity is sufficient to send a long buffer status reporting message, the long format is used. *Id.* at 8:25–31. If there is not sufficient uplink capacity to send the long format, the short buffer status reporting format can be used by sending status information only of the user-equipment buffer with the highest designated priority. *Id.* at 8:20–24, 31–39.

E. Illustrative Claim

Of the challenged claims in the '820 patent, claims 1, 12, 23, and 24 are independent. Claim 1 is illustrative and recites:

1. A method, comprising:
 - monitoring a usage of a plurality of buffers;
 - detecting one of a plurality of pre-selected conditions corresponding to the plurality of buffers;
 - designating one of a plurality of buffer status reporting formats comprising a long buffer status reporting format and a short buffer status reporting format depending on the pre-selected condition detected; and
 - communicating a buffer status report to a network device in accordance with the buffer status reporting format designated, wherein the designating designates the long buffer status reporting format when there is sufficient uplink bandwidth to communicate using the long buffer status reporting format.

ANALYSIS

A. Claim Construction

We interpret claims of an unexpired patent using the broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012). On this record, and for purposes of this decision, we determine that no claim terms require express construction.

B. Grounds Based on Wu

1. Overview of Wu

Wu is a patent that issued August 3, 2010, from an application filed October 28, 2008. Ex. 1004. On its face, Wu claims priority to three provisional applications, the oldest of which was filed on October 29, 2007. *Id.* Wu describes a “method for providing a buffer status report using user equipment to calculate available space of a protocol data unit in a mobile communication network.” *Id.* at Abstract.

2. Effective Prior Art Reference

As described above, Petitioner includes Wu in several of its challenges. Pet. 25–49. According to Petitioner, Wu qualifies as prior art under 35 U.S.C. § 102(e). Pet. 20–21. Patent Owner argues, however, that Wu is not properly prior art of the ’820 patent because Wu’s filing date—October 28, 2008—is after the claimed priority date of the ’820 patent—November 5, 2007.⁴ Prelim. Resp. 9–19. Further, Patent Owner argues that

⁴ Petitioner does not dispute that the ’820 patent is entitled to the filing date of November 5, 2007—the date on which a provisional application, listed on the face of the ’820 patent, was filed. *See* Pet. 10.

the subject matter of the only provisional application pre-dating November 5, 2007, to which Wu claims priority— U.S. Provisional No. 61/000,729 (Ex. 2001) (“the ’729 Wu provisional”), filed October 29, 2007—does not support Petitioner’s challenges.

On this record, we agree with Patent Owner that Petitioner has not shown a reasonable likelihood that the subject matter upon which it relies for its challenges based on Wu is prior art to the ’820 patent. Wu constitutes prior art only for subject matter properly supported by the ’729 Wu provisional in accordance with 35 U.S.C. § 112, ¶ 1.⁵ See *In re Giacomini*, 612 F.3d 1380, 1383–85 (Fed. Cir. 2010).

Petitioner cites only to Wu, and not to the ’729 Wu provisional, when describing how the challenged claims are allegedly unpatentable over Wu. For example, the limitation “designating designates the long buffer status reporting format when there is sufficient uplink bandwidth to communicate using the long buffer status reporting format” (“the uplink bandwidth limitation”) is recited by all challenged claims. Petitioner relies on the following language in Wu for disclosing the subject matter of this limitation:

The user equipment 61 calculates available space of a transmitting Protocol Data Unit (PDU) based on the resources allocated by the base station 62 (step S704) to thereby determine whether the available space of the PDU to be transmitted is enough for filling all data of the buffer 611 of the logical channel group 601 corresponding to the arrival data (step S705) and further determine the remaining space after the data is filled up. When the available space of the PDU to be

⁵ Section 4(c) of the AIA re-designated 35 U.S.C. § 112 ¶ 1 as 35 U.S.C. § 112(a). Because the ’820 patent has a filing date before September 16, 2012 (effective date), we will refer to the pre-AIA version of 35 U.S.C. § 112.

transmitted is not enough for filling all data of the buffer 611, the user equipment uses the PDU to transmit the short buffer status report (step S706)

Ex. 1004, 5:40–50; see Pet. 27–35. This language, in turn, refers to Wu’s Figure 7(A), reproduced below.

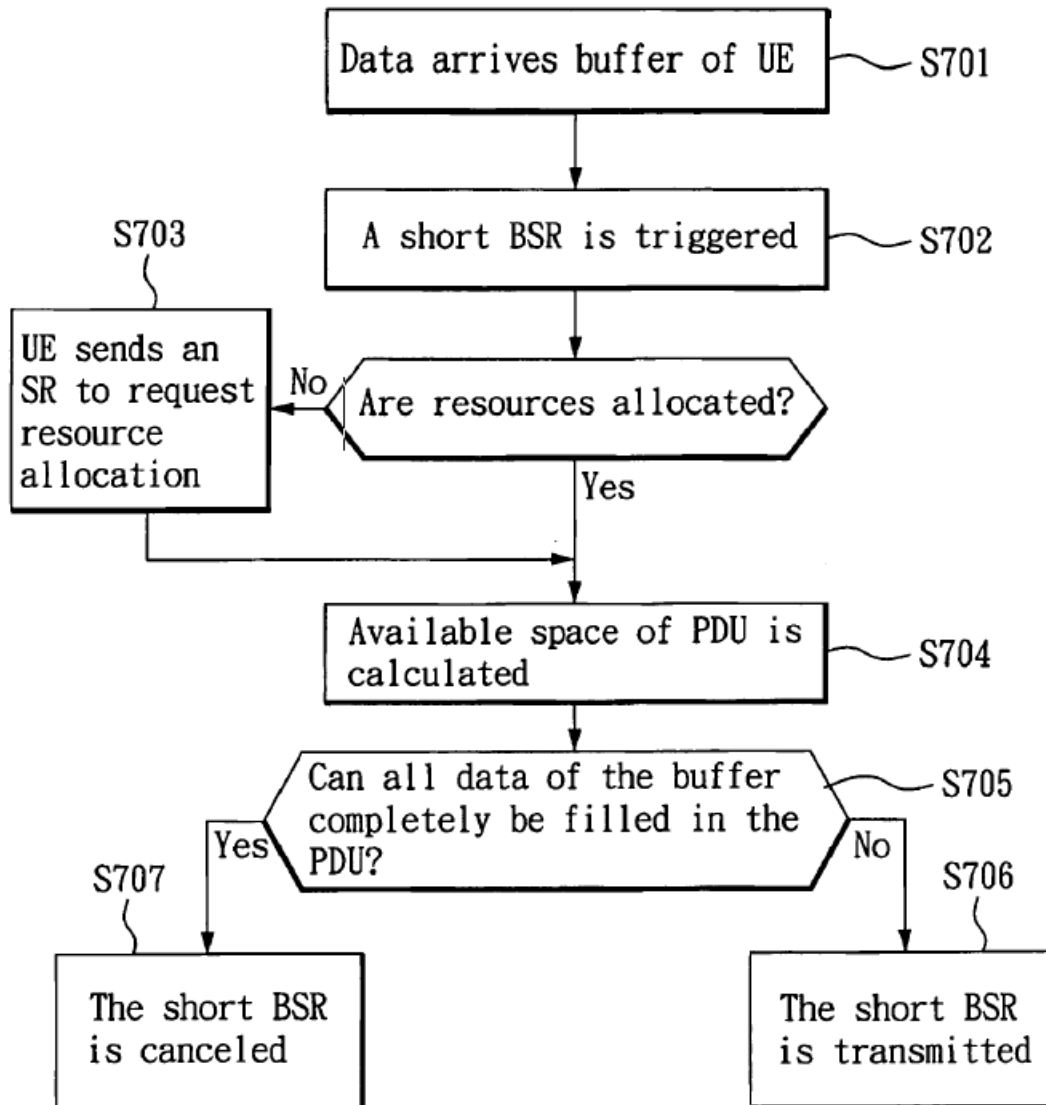


FIG. 7(A)

Figure 7(A), above, is a flowchart of “a method for providing a buffer status report (BSR) in a mobile communication network.” *Id.* at 5:26–28.

Patent Owner asserts that equivalent disclosures cannot be found in the ’729 Wu provisional. Prelim. Resp. 11–13. We have reviewed the ’729 Wu provisional, and we agree that the language and figure in Wu relied upon by Petitioner, as described above, does not have a clear counterpart in the ’729 Wu provisional. *See* Ex. 2001.⁶ The ’729 Wu provisional is a 21-page document with content that appears, on its face, significantly different from the content of Wu. For example, the ’729 Wu provisional includes two flowcharts described as follows: (1) “how to set the 2 bits content of the Complementary Reporting as the 4 level divisions in Example 1 according to Criteria 1 is as Figure 1 shows”; and (2) “how to set the 2 bits content of the Complementary Reporting as the 4 level divisions in Example 2 according to Criteria 1 is as Figure 2 shows.” It is not readily apparent whether, and if so how, these figures correspond to any of the figures of Wu, including Figure 7(A). Without direction from the Petitioner, we are not persuaded that the relied upon subject matter from Wu is also present in the ’729 Wu provisional.

In an *inter partes* review, the burden is on Petitioner to show a reasonable likelihood that it would prevail on a ground of unpatentability. Thus, Petitioner has to make a sufficient showing that the relied upon subject matter is disclosed in a reference that is

⁶ The specification of the ’729 Wu provisional does not include page numbers. Ex. 2001.

properly prior art to the challenged patent. Petitioner has not met this burden for any of the grounds that rely on Wu.

Accordingly, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail on the grounds that the challenged claims are unpatentable as anticipated by Wu or that the challenged claims are unpatentable as obvious over (1) Wu, (2) Zhang combined with Wu, or (3) Torsner combined with Wu.

C. Grounds Based on Zhang

1. Overview of Zhang

Zhang is a patent that issued July 2, 2013, from an application filed February 21, 2007. Ex. 1006. Petitioner asserts that Zhang qualifies as prior art under 35 U.S.C. § 102(e). Pet. 24. Patent Owner does not dispute this assertion in the Preliminary Response. Zhang describes a “wireless communication method and apparatus for selecting between transmission of short-version and full-version uplink scheduling requests.” Ex. 1006, Title.

2. Obviousness Over Zhang

Petitioner asserts that claims 1, 2, 6, 7, 12, 13, 17, 18, 23, and 24 are unpatentable as obvious over Zhang. Pet. 35–39. Petitioner does not assert that Zhang’s uplink scheduling requests are identical to the buffer status reports of the ’820 patent, but states that they are “similar in many respects.” *Id.* at 35. According to Petitioner, “[i]t would be a trivial modification for a skilled artisan to modify the teaching of Zhang . . . to substitute the periodic long or short buffer status reports to achieve the same or similar goal of network efficiency.” *Id.* at 36. Petitioner explains that Zhang and the ’820 patent “are from the same field and address the same problem: efficiently reporting the status of the UE’s buffers to the NodeB.” *Id.* (citing Ex. 1010).

These statements are insufficient to show obviousness for several reasons. First, Petitioner does not sufficiently explain the differences between Zhang and the claimed subject matter. Pet. 35–39. Second, Petitioner does not provide a persuasive rationale for modifying Zhang. *Id.* Third, Petitioner does not explain persuasively *how* or *why* a person of ordinary skill would have modified Zhang to produce the claimed subject matter. *Id.* Petitioner does not, therefore, provide “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR, Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

We recognize that the Williams Declaration appears to at least briefly address this issue.⁷ For example, Dr. Williams testifies that scheduling requests, as in Zhang, and buffer status reporting, as in the ’820 patent, “are very closely related” and a person of ordinary skill “would be motivated to apply the teachings of a very closely related piece of prior art to the problem of buffer reporting as it would produce the predictable result of improved efficiency in the system.” Ex. 1010 ¶ 93. Dr. Williams, referring to all asserted obviousness rejections, also testifies that “[a] person skilled in the art would combine these teachings because these references relate to . . . 3rd and 4th generation cellular systems standardized by 3GPP” and “explicit teaching, suggestion, and motivation for the modification and combination

⁷ We note that Petitioner did not point us to any particular paragraph in the Williams Declaration, but instead cited the entire 103-paragraph declaration. Pet. 36 (citing “Expert Declaration of Dr. Tim A. Williams (Ex. 1010)”). However, in reviewing the Williams Declaration, we found paragraphs 93 and 95–97 to be at least somewhat relevant to this issue. In order to comply with 37 C.F.R. § 42.6, we advise Petitioner to cite to specific paragraphs or pages of any exhibit in future filings.

can be found in technical documents from 3GPP meetings including but not limited to . . . Exhibits 1007–1009.” *Id.* at ¶¶ 95–96. These conclusory statements do not persuade us that Petitioner has shown that the claimed subject matter involved a “simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement.” *KSR*, 550 U.S. at 417. This is especially true in light of the fact that Petitioner does not direct us to any particular language of the cited 3GPP documents for the allegedly explicit suggestion for the modification of Zhang.

Further, we are not persuaded that Petitioner has shown that Zhang discloses the uplink bandwidth limitation—“wherein the designating designates the long buffer status reporting format when there is sufficient uplink bandwidth to communicate using the long buffer status reporting format.” Petitioner points to the following language in Zhang as disclosing this limitation:

According to the preferred embodiment of the present invention, the selection between a short-version uplink scheduling request and a full-version uplink scheduling request is made with a priority given to the short-version, such that the full-version uplink scheduling requests are transmitted substantially less frequently than short-version uplink scheduling requests. This reduces the signaling overhead for uplink scheduling requests without significant degradation of performance.

Ex. 1006, 4:57–65; *see* Pet. 37. Nothing in this language describes determining whether there is sufficient uplink bandwidth to send the long format of the message as required by the claim. In fact, it discusses prioritizing the short version. Although, as pointed out by Zhang, this

prioritization may result in reducing signal overhead, it does not disclose explicitly selecting a format based on the available uplink bandwidth.

Moreover, Petitioner does not point us to persuasive evidence supporting an assertion that this limitation would have been obvious to a person of skill in the art at the relevant time. Dr. Williams states “[i]t is my opinion that waiting until there is ‘sufficient bandwidth to communicate using the long buffer status reporting format’ would be considered by a person having ordinary skill in the art at the time the Zhang patent application was filed as normal procedure to minimize congestion on the uplink to the eNB scheduler” and “it would have been trivially obvious to a person of skill in the art to delay sending ABSR until the traffic on the uplink is suitably sparse.”⁸ Ex. 1010 ¶ 94. These conclusory statements do not persuade us that Petitioner has shown that the claimed subject matter involved “a simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement.” *KSR*, 550 U.S. at 417. Thus, even if we were persuaded that Zhang’s uplink scheduling requests are equivalent to the buffer status reports of the ’820 patent, we are not persuaded that the uplink bandwidth limitation would have been obvious based on the disclosure of Zhang.

Accordingly, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail on the ground that claims 1, 2, 6, 7, 12, 13, 17, 18, 23, and 24 are unpatentable as obvious over Zhang.

⁸ We note that Petitioner did not point us to the Williams Declaration in its claim chart entry for this limitation. Pet. 37. However, in reviewing the Williams Declaration, we found paragraph 94 to be at least somewhat relevant to this issue.

D. Grounds Based on Torsner

1. Overview of Torsner

Torsner is a patent that issued August 14, 2012 from a PCT application filed November 22, 2006. Ex. 1005. Petitioner asserts that Torsner qualifies as prior art under 35 U.S.C. § 102(e). Pet. 22. Patent Owner does not dispute this assertion in the Preliminary Response. Torsner describes a “method and unit for efficient reporting of scheduling information in a wireless telecommunications system.” Ex. 1005, Title.

2. Anticipation

Petitioner asserts that the challenged claims are anticipated by Torsner. Pet. 40–44. For the uplink bandwidth limitation—“wherein the designating designates the long buffer status reporting format when there is sufficient uplink bandwidth to communicate using the long buffer status reporting format”—Petitioner points to the following language of Torsner:

The user equipment should therefore be allowed to select (e.g. autonomously) the format of the buffer status report to minimize the number of bits needed (or maximize the information that can be extracted with a fixed number of bits).

Ex. 1005, 3:36–40; Pet. 40–42, 44.

Patent Owner argues that this language does not disclose that it uses the uplink bandwidth in designating which buffer status report format to use. Prelim. Resp. 19–21. We agree with Patent Owner. Although the relied upon language discloses selecting a buffer status reporting format by minimizing the number of bits, which may be relevant to efficiency, it does not disclose explicitly selecting a format based on the available uplink bandwidth. And the Petition does not further explain how this language, or

any other language of Torsner, anticipates the uplink bandwidth limitation.
See Pet. 40–44.

Dr. Williams testifies that the uplink bandwidth limitation is inherently disclosed by Torsner. Ex. 1010, ¶ 82⁹. Specifically, Dr. Williams states that “it is my opinion that while Torsner does not explicitly teach selecting the appropriate Buffer Status Report based on the sufficiency of uplink bandwidth, it is inherently disclosed.” *Id.* According to Dr. Williams, “[s]ince the device is aware of the uplink grant, it is fully aware of the sufficiency of uplink bandwidth” and “[b]y making the long-short determination based on buffer fill (and class of service) it inherently is making the decision based on uplink bandwidth capacity.” *Id.* These statements, however, do not demonstrate sufficiently that the uplink bandwidth limitation is inherent to the disclosure of Torsner. Inherency can be established when “prior art necessarily functions in accordance with, or includes, the claimed limitations.” *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349 (Fed. Cir. 2002). “Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *In re Oelrich*, 666 F.2d 578, 581 (CCPA 1981) (quoting *Hansgirk v. Kemmer*, 102 F.2d 212, 214 (1939)). Here, neither Petitioner nor Dr. Williams assert, as required by anticipation, that the uplink bandwidth limitation is *necessarily* present in the invention described by Torsner.

⁹ We note that Petitioner did not point us to any particular paragraph in the Williams Declaration. Pet. 40. However, in reviewing the Williams Declaration, we found paragraphs 82–83 to be at least somewhat relevant to this issue.

Accordingly, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail on the ground that the challenged claims are anticipated by Torsner.

3. *Obviousness*

Petitioner asserts that the challenged claims are unpatentable as obvious over Torsner. Pet. 44–49. According to Petitioner, “modifying Torsner to select the long report based on available uplink bandwidth was clearly within the knowledge of one of ordinary skill” and “would be a trivial undertaking.” *Id.* at 44–45. These statements, by itself, do not provide any rationale for modifying Torsner. Petitioner does not explain persuasively *how* or *why* a person of ordinary skill would have modified Torsner to base the choice of buffer status report format on the available uplink bandwidth.

We recognize that the Williams Declaration appears to at least briefly address this issue.¹⁰ For example, Dr. Williams testifies that the “architecture proposed by To[r]sner teaches various classes of service with differing traffic priorities” and “monitoring the fill level of various buffers.” Ex. 1010 ¶ 82. According to Dr. Williams, “[s]ince the device is aware of the uplink grant, it is fully aware of the sufficient of uplink bandwidth.” *Id.* Finally, Dr. Williams concludes that “[i]f for any reason a tribunal were to decide that it is not inherently taught, it is a trivial substitution, given the teachings, to one of ordinary skill.” *Id.* at ¶ 83. These conclusory statements do not persuade us that Petitioner has shown that the claimed

¹⁰ We note that Petitioner did not point us to any particular paragraph in the Williams Declaration. Pet. 45. However, in reviewing the Williams Declaration, we found paragraphs 82–83 and 95–97 to be at least somewhat relevant to this issue.

subject matter involved a “simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement.” *KSR*, 550 U.S. at 417. For example, Dr. Williams does not support his conclusory statement that the device disclosed in Torsner “is aware of the uplink grant.” *Id.* Nor does Dr. Williams persuasively explain his conclusion that it, therefore, follows that Torsner “is fully aware of the sufficiency of uplink bandwidth.” *Id.* Dr. Williams does not, for example, point to language in Torsner, or any other evidence, that supports these conclusions.

Further, as discussed above, Dr. Williams’s conclusion that “[a] person skilled in the art would combine these teachings because these references relate to 3rd and 4th generation cellular systems standardized by 3GPP” and “explicit teaching, suggestion, and motivation for the modification and combination can be found in technical documents from 3GPP meetings including but not limited to . . . Exhibits 1007–1009” is not persuasive. Ex. 1010, ¶¶ 95–96.

Accordingly, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail on the ground that the challenged claims are unpatentable as obvious over Torsner.

CONCLUSION

Upon consideration of the Petition and Preliminary Response, we are not persuaded that there is a reasonable likelihood that Petitioner will prevail on at least one alleged ground of unpatentability with respect to the ’820 patent. We, therefore, decline to institute *inter partes* review on any of the asserted grounds as to any of the challenged claims. 37 C.F.R. § 42.108.

ORDER

It is ordered that the Petition is *denied* as to all challenged claims, and no trial is instituted.

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