

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

T-MOBILE USA, INC., AT&T SERVICES, INC.,
CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS,
NOKIA OF AMERICA CORPORATION, and ERICSSON INC.,
Petitioner,

v.

WIRELESS ALLIANCE, LLC,
Patent Owner.

IPR2024-00607
Patent 9,144,106 B2

Before MICHELLE N. WORMMEESTER, AMBERL. HAGY, and
ANDREW L. NALVEN, *Administrative Patent Judges*.

WORMMEESTER, *Administrative Patent Judge*.

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

I. INTRODUCTION

T-Mobile USA, Inc., AT&T Services, Inc., Cellco Partnership d/b/a Verizon Wireless, Nokia of America Corporation, and Ericsson Inc. (collectively, “Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1–4 of U.S. Patent No. 9,144,106 B2 (Ex. 1001, “the ’106 patent”). Wireless Alliance, LLC (“Patent Owner”) filed a Preliminary Response (Paper 13, “Prelim. Resp.”).

We have authority under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a). For the reasons that follow, we exercise our discretion under 35 U.S.C. § 314(a) to deny institution of *inter partes* review.

II. BACKGROUND

A. *Related Proceedings*

The parties identify three federal district court cases involving the ’106 patent: (1) *Wireless Alliance, LLC v. AT&T Mobility LLC*, No. 2:23-cv-00095 (E.D. Tex.) (hereinafter, “the District Court Litigation”); (2) *Wireless Alliance, LLC v. T-Mobile US, Inc.*, No. 2:23-cv-00096 (E.D. Tex.); and (3) *Wireless Alliance, LLC v. Verizon Communications, Inc.*, No. 2:23-cv-00097 (E.D. Tex.).¹ Pet. 4–5; Paper 11, 1 (Patent Owner’s Updated Mandatory Notices). Petitioner also identifies a co-pending petition for *inter partes* review of a related patent (IPR2024-00608). Pet. 5.

¹ A review of the docket sheets for these matters indicates that, as of July 6, 2023, they were consolidated for all pretrial issues, with the lead case being designated as Case No. 2:23-cv-00095. Herein, references to the District Court Litigation are to the consolidated cases.

B. The '106 Patent

The '106 patent describes “a carrier management method of performing a carrier deactivation procedure between a base station and a terminal in a carrier aggregation environment.” Ex. 1001, 1:19–27. In a carrier aggregation environment, the base station and the terminal communicate “by simultaneously using a plurality of carriers.” *Id.* at 1:38–45. The '106 patent explains that the base station and the terminal may communicate using a single carrier called a primary carrier when traffic is low. *Id.* at 6:1–5. If traffic increases, the base station sends an activation message to the terminal, so that an additional carrier called a secondary carrier is activated and used for communication. *Id.* at 6:8–13, 6:22–25. This allows for the data transmission rate to increase because a large volume of data can be transmitted and received by the multiple carriers. *Id.* at 6:26–28. Should traffic then decrease, the base station sends a deactivation message to the terminal, so that the secondary carrier is deactivated and only the primary carrier is used for communication. *Id.* at 6:28–30.

To illustrate one embodiment of the carrier management method, Figure 8 is reproduced below.

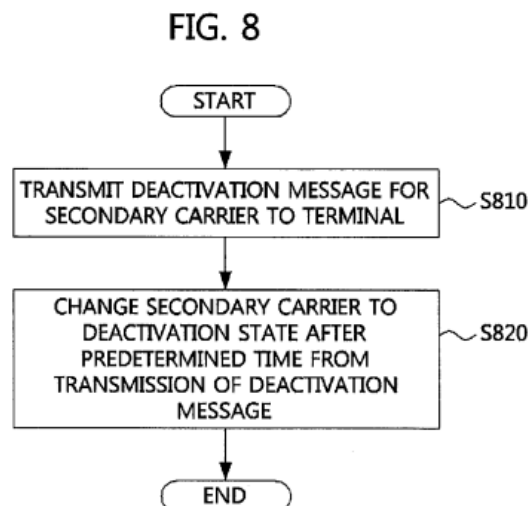


Figure 8 is a flowchart of a carrier state management method of the base station. Ex. 1001, 4:30–32. In step S810, the base station sends a deactivation message for a secondary carrier to the terminal. *Id.* at 12:63–13:1. In step S820, the base station changes the state of the secondary carrier to a deactivation state after a predetermined time from the transmission of the deactivation message. *Id.*

To illustrate the timing of these steps, Figure 10 is reproduced below.

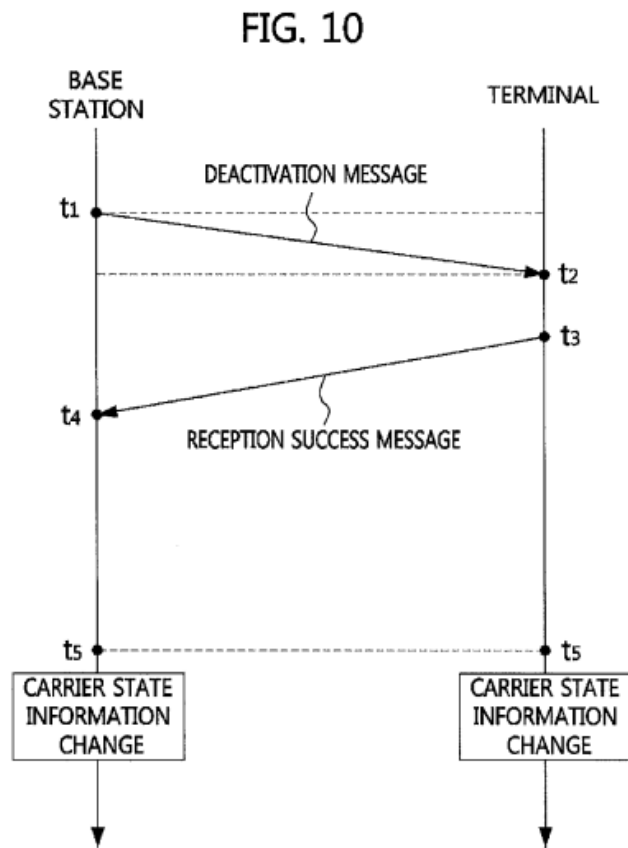


Figure 10 is a diagram of a carrier state management method. Ex. 1001, 4:36–37. The base station sends the deactivation message (step S810) at time t1. *Id.* at 13:12–14. After sending the deactivation message, the base station may stop data transmission and retransmission by the secondary carrier. *Id.* at 13:14–17. The base station may also stop DL (downlink)

transmission of the secondary carrier and initialize UL (uplink) and DL retransmission buffers. *Id.* at 13:17–20.

Next, the base station changes the state of the secondary carrier to a deactivation state (step S820) at time t_5 after the lapse of predetermined time $t_5 - t_1$ from time t_1 when the deactivation message is sent. Ex. 1001, 13:21–24, Fig. 10.

Alternatively, the base station may be configured to receive a reception success message for the deactivation message from the terminal after performing step S810 (sending the deactivation message). Ex. 1001, 13:25–29. In this case, the base station would perform step S820 (changing the secondary carrier's state to a deactivation state) after predetermined time $t_5 - t_4$ from time t_4 when the reception success message is received. *Id.* at 13:29–33.

According to the '106 patent,

The carrier state management method of the base station according to the present invention is used to solve inconsistency of state information and state change times for secondary carriers that are managed by the base station and the terminal in consideration of the occurrence of time delay for deactivation message reception and demodulation until the terminal performs a carrier state change procedure by receiving and demodulating a deactivation message when the base station has transmitted the deactivation message.

Ex. 1001, 13:3–11.

C. Illustrative Claim

Petitioner challenges claims 1–4 of the '106 patent, where claim 1 is independent. Claim 1, reproduced below, is illustrative of the claims under challenge.

1. A carrier management method of a base station for use in a carrier aggregation environment, comprising:

transmitting a deactivation message for a secondary carrier to a terminal;

changing the secondary carrier to a deactivation state after a predetermined time from the transmission of the deactivation message; and

stopping downlink (DL) transmission of the secondary carrier and initializing uplink (UL) and DL retransmission buffers after transmitting the deactivation message.

D. Asserted Challenges to Patentability

Petitioner asserts the following challenges to claims 1–4 of the '106 patent. Pet. 7, 37–61.

Claims Challenged	35 U.S.C. §	References/Basis
1–4	103(a) ²	Lee ³
1–4	103(a)	Lee, Kim ⁴

In support of its challenges, Petitioner relies on a Declaration of Dr. Joseph Camp, Ph.D. (Ex. 1009).

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. Because the application from which the '106 patent issued claims the benefit of priority to an application that was filed before this date, the pre-AIA version of § 103 applies.

³ Lee et al., U.S. Publ’n No. 2011/0026495 A1, published Feb. 3, 2011 (Ex. 1005).

⁴ Kim et al., U.S. Publ’n No. 2011/0103326 A1, published May 5, 2011 (Ex. 1006).

III. DISCRETIONARY DENIAL UNDER 35 U.S.C. § 314(a)

As noted above, the '106 patent is the subject of three related district court proceedings (the District Court Litigation). Pet. 4–5; Paper 11, 1. Patent Owner argues we should exercise discretion to deny institution under 35 U.S.C. § 314(a) because the factors identified in *Apple, Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential), weigh in favor of denying institution in view of the District Court Litigation. Prelim. Resp. 4–13. Petitioner argues we should not discretionarily deny institution. Pet. 61–64. For the reasons explained below, we exercise our discretion to deny institution on this basis.

A. *Fintiv* Analysis

We consider the following six factors to assess “whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding”:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Fintiv, Paper 11 at 5–6. In considering these factors, we apply the guidance set forth in a Memorandum regarding the “Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation” issued by the Director of the United States Patent and Trademark Office (hereinafter, “Guidance Memo”).⁵

1. Factor 1 – Likelihood of Stay

A district court stay of parallel litigation pending resolution of an *inter partes* review allays concerns about inefficiency and duplication of efforts, and strongly weighs against exercising our authority to deny institution. *Fintiv*, Paper 11 at 6.

Petitioner has not sought to stay the District Court Litigation pending in the Eastern District of Texas. See Pet. 62 (noting that this factor is “neutral because no party has requested a stay”).

Patent Owner provides statistics and data that it contends demonstrate that, even if Petitioner were to seek a stay, it would be denied. Prelim. Resp. 4–6 (noting that “[t]he Eastern District of Texas has rarely stayed a patent case pending *inter partes* review”). Patent Owner contends that this factor “should be resolved as follows: no stay exists, and the evidence and recent opinions make clear that a stay will not be granted even if this IPR is instituted.” *Id.* at 7 (citing *Fintiv*, Paper 11 at 6).

Patent Owner is likely correct that the district court would not be inclined to grant a stay, if one were even requested at this late date, given the

⁵ Available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf.

span of merely weeks between entry of our institution decision in this case and the scheduled trial date, not to mention the substantial investment by the court and the parties to date in the parallel litigation (as noted further below). Nevertheless, acknowledging the speculative nature of this assumption, we weigh this factor as neutral at best. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12 PTAB May 13, 2020) (informative) (cautioning against speculating whether the district court would grant a stay if one were requested).

2. Factor 2 – District Court Trial Date

If a district court’s trial date is earlier than the Board’s projected statutory deadline for a final written decision, the Board generally has weighed this fact in favor of exercising discretion to deny institution. *Fintiv*, Paper 11 at 9.

Petitioner asserts this factor is neutral. Pet. 62. In particular, in its Petition (filed February 29, 2024), Petitioner asserts that “[t]he earliest estimated trial date for the district court litigation is far in the future as jury selection in AT&T, T-Mobile, and Verizon is not set to begin until at least October 21, 2024.” *Id.* at 62 (citing Ex. 1013, 1 (Docket Control Order)). Petitioner then posits that “[b]ecause much can change in approximately eight months, the current trial date does not support denial.” *Id.*

Patent Owner, on the other hand, contends this factor “weighs heavily against institution” because “[t]rial is set for November 4, 2024” whereas the

final written decision is not expected to issue until September 2025.

Prelim. Resp. 7 (citing Ex. 2001 (First Amended Docket Control Order)).⁶

Considering the arguments and evidence presented by the parties in light of the present record, we find that *Fintiv* factor 2 weighs in favor of exercising discretion to deny institution. As noted above, the district court currently has set a trial date of November 4, 2024, which is over 10 months before the final written decision in this IPR would be due in mid-September 2025. Additionally, the Guidance Memo provides that the parties may present the most recent statistics on median time-to-trial for civil actions in the relevant district court. Guidance Memo, 8–9. Although neither party has presented such statistics, our review of relevant data reveals that, as of December 2023, the median time to trial for the Eastern District of Texas is 21.4 months.⁷ Applying this median time-to-trial period to the Complaint’s filing date of March 7, 2023 (*see* Pet. 4), would put the estimated trial date in December 2024, shortly after the scheduled trial date of November 4, 2024. Even this slightly later projected date is nine months before our final written decision would be due.

Because the district court would address issues relating to the validity of the ’106 patent in a trial that, by any measure, would occur many months

⁶ Patent Owner provides a First Amended Docket Control Order, dated May 2, 2024, which provides for jury selection on November 4, 2024. Ex. 2001. A review of the docket sheet reveals that a Third Amended Docket Control Order was entered on July 19, 2024, which alters some pretrial deadlines, but maintains the November 4, 2024, jury selection date. *See Wireless Alliance, LLC v. AT&T Mobility LLC*, CA No. 2:23-cv-00095, Dkt. No. 102 (E.D. Tex. July 19, 2024).

⁷ Those statistics are available at https://www.uscourts.gov/sites/default/files/fcms_na_distprofile1231.2023_0.pdf.

before we would issue a final written decision, we weigh the second *Fintiv* factor as favoring discretionary denial.

3. Factor 3 – Investment in Related District Court Litigation

We consider now the amount and type of work that will have already been completed in the parallel litigation by the court and the parties at the time of our institution decision. *See Fintiv*, Paper 11 at 9.

Petitioner contends (in its February 2024 filing) that this factor “weighs heavily against discretionary denial” because “[t]he associated district court case is still in the very early stages.” Pet. 62. In particular, Petitioner represents that “discovery is still in the preliminary stages, the Defendants filed their invalidity contentions in September 2023, and Claim Construction is not scheduled until April 10, 2024,” and that “a claim construction order will not issue prior to the PTAB’s projected institution decision date.” *Id.*

Writing months after the Petition was filed, and benefiting from additional information, Patent Owner responds that, as of the time of filing its Preliminary Response, “the parties have already invested heavily in the litigations, including serving infringement and invalidity contentions, filing discovery motions, completing fact discovery, and serving opening expert reports on infringement, damages, and invalidity.” Prelim. Resp. 8 (citing Ex. 2001, 2–3; Ex. 2006). Patent Owner further notes that, contrary to Petitioner’s prediction when filing its Petition in February 2024, the claim construction briefing and ruling were completed by April 2024. *Id.* (citing Ex. 2006 at Dkts. 74, 79; Ex. 2007). Patent Owner also notes that, by the time of this Institution Decision, “the parties will have further served

rebuttal expert reports, completed expert discovery, fully briefed dispositive motions, fully briefed *Daubert* motions, filed motions *in limine*, filed a joint pretrial order, filed proposed jury instructions, filed proposed verdict forms, filed exhibit lists, filed witness lists, and filed deposition designations.” *Id.* at 8–9 (citing Ex. 2006, 2). In short, per Patent Owner, the parties will be ready for their September 30, 2024, pretrial conference to take place shortly after issuance of our Decision, and “essentially only final preparations will need to be completed for the November 4, 2024 trial.” *Id.* at 9 (citing Ex. 2006, 1–2).

We agree with Patent Owner’s assessment that work by the parties and the district court is at an advanced stage. The District Court Litigation has been pending since March 2023, and trial is scheduled for less than two months from the issuance of this Institution Decision. Discovery and claim construction have been completed, and the parties are due to be engaging in final preparations for trial.

We find that this factor favors exercising our discretion to deny institution.

4. Factor 4 – Overlap of Issues

This factor evaluates “concerns of inefficiency and the possibility of conflicting decisions” when substantially identical prior art is submitted in both the district court and the *inter partes* review proceeding. *Fintiv*, Paper 11 at 12. In the Guidance Memo, the Director stated that “[c]onsistent with *Sotera Wireless, Inc.*, the PTAB will not discretionarily deny institution in view of parallel district court litigation where a petitioner presents a stipulation not to pursue in a parallel proceeding the same grounds or any

grounds that could have reasonably been raised before the PTAB.”

Guidance Memo, 3 (footnote omitted) (citing *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential) (“*Sotera*”)).

Petitioner does not deny overlapping issues, or offer a *Sotera*-type stipulation, but states:

Instituting trial will allow issues to be narrowed in the district court because, if instituted, Petitioner stipulates that it will not pursue invalidity against the asserted claims in the district court *using the specific combination of prior art references set forth in the grounds presented in this Petition* for purposes of establishing obviousness (*e.g.*, Lee in combination with Kim under § 103).

Pet. 63 (emphasis added) (citing *Sand Revolution II LLC v. Continental Intermodal Group-Trucking LLC*, IPR2019-01393, Paper 24 at 11–12 (PTAB June 16, 2020) (holding a similar stipulation weighs against discretionary denial)). Petitioner further states that, “[g]iven the lack of overlap between the proceedings, this factor weighs against the Board exercising discretion to deny.” *Id.*

Patent Owner counters that this factor is neutral at best. Prelim. Resp. 9. Patent Owner represents that “Petitioner[’s] in validity contentions assert the same two references (Lee and Kim) among 26 patents/publications, 92 works of non-patent literature, and three systems.” *Id.* Patent Owner further notes that Petitioner’s stipulation to forego pursuit of the “specific combination of prior art references set forth in the grounds presented in this Petition” is “a far cry from a *Sotera*-type stipulation.” *Id.*

We agree that Petitioner’s stipulation is narrower than a *Sotera* stipulation, *i.e.*, a stipulation “not to pursue in a parallel district court

proceeding the same grounds as in the petition or any grounds that could have reasonably been raised in the petition.” See Guidance Memo at 7, 9; *Sotera*, IPR2020-01019, Paper 12 at 13–14, 18. In particular, Petitioner’s stipulation not to pursue invalidity against the asserted claims in the District Court Litigation “using the specific combination of prior art references set forth in the grounds presented in this Petition” does not include the prohibition against asserting grounds or references “that could have reasonably been raised in the petition.” See Guidance Memo, 7, 9. The Board’s informative *Sand Revolution* decision expressed skepticism that such “hybrid” stipulations achieve the goals of avoiding duplication and inconsistent decisions:

Petitioner could have stipulated that it would not pursue any ground raised or that could have been reasonably raised in an IPR, *i.e.*, any ground that could be raised under §§ 102 or 103 on the basis of prior art patents or printed publications. A broader stipulation of that nature, not at issue here, might better address concerns regarding duplicative efforts and potentially conflicting decisions in a much more substantial way. Likewise, such a stipulation might help ensure that an IPR functions as a true alternative to litigation in relation to grounds that could be at issue in an IPR. Further still, Petitioner could have expressly waived in the district court any overlapping patentability/invalidity defenses. Doing so might have tipped this factor more conclusively in its favor.

Sand Revolution, Paper 24 at 12 n.5 (emphasis added). The Board in *Sand Revolution* accorded a stipulation not containing the “could have reasonably raised” provision “marginal[]” weight. *Id.* at 12.

Petitioner’s stipulation does reduce somewhat the overlap relating to the challenge presented in the Petition, but not as fully as would a *Sotera* stipulation. If we were to grant institution in this IPR, the Board would

consider the same claims of the '106 patent whose validity was previously tried before the district court. Thus, while the new stipulation “mitigates to some degree the concerns of duplicative efforts between the district court and the Board, as well as concerns of potentially conflicting decisions” (see *Sand Revolution*, Paper 24 at 12), it does not remove them. Accordingly, for the reasons given here and in *Sand Revolution*, this factor weighs only slightly against discretionary denial. See *id.*

5. Factor 5 – Identity of Parties

The parties acknowledge that the same parties are involved in both the present proceeding and the parallel District Court Litigation, and they further each represent that this factor is therefore “neutral.” Pet. 63 (citing *Sand Revolution*, Paper 24 at 12–13); Prelim. Resp. 10.

Although the parties view this factor as neutral, we determine, applying Board precedent, that this factor weighs in favor of a discretionary denial. See *Sotera*, Paper 12 at 19 (determining that where the parties in the parallel litigation are “the same” as in the *inter partes* proceeding, “this factor supports denying institution”) (citing *Fintiv*, Paper 15 (informative) at 15; *Sand Revolution*, Paper 24 at 12–13).

6. Factor 6 – Other Circumstances, Including the Merits

The sixth *Fintiv* factor takes into account other circumstances that may bear on the decision to exercise discretion to deny, such as the merits of the patentability challenges. *Fintiv*, Paper 11 at 14–16. Under this factor, “the PTAB will not deny institution based on *Fintiv* if there is compelling evidence of unpatentability.” Guidance Memo 5. Board precedent provides

that we should only consider the compelling merits standard if the first five *Fintiv* factors favor discretionary denial. *CommScope Techs. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 at 4–5 (PTAB February 27, 2023) (precedential).

As discussed above, *Fintiv* factors 2, 3, and 5 favor denial. Factor 1 is neutral, and only factor 4 weighs against denial. Thus, we determine that the first five *Fintiv* factors favor discretionary denial, and we now assess compelling merits. *CommScope*, Paper 23 at 5 (“In circumstances where, however, the Board’s analysis of *Fintiv* factors 1–5 favors denial of institution, the Board shall then assess compelling merits.”).

According to the Guidance Memo, the compelling merits standard is met when “the evidence, if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.” Guidance Memo, 4. A challenge can only meet this standard “if it is highly likely that the petitioner would prevail with respect to at least one challenged claim.” *OpenSky Indus., LLC v. VLSI Tech. LLC*, IPR2021-01064, Paper 102 at 49 (PTAB Oct. 4, 2022) (precedential) (“*OpenSky*”). We note that the Guidance Memo does not change the statutory standard for institution under 35 U.S.C. § 314(a). Instead, a determination of compelling merits will outweigh the other *Fintiv* factors, and such challenges will be allowed to proceed even if a district court litigation is proceeding in parallel. *Id.*

As discussed above, Petitioner asserts that claims 1–4 of the ’106 patent would have been obvious over Lee alone or over the proposed combination of Lee and Kim. Pet. 7, 37–61. Patent Owner disputes certain aspects of Petitioner’s analysis for claim 1. Prelim. Resp. 10–13. We have

reviewed Petitioner’s challenges and Patent Owner’s arguments, and for the reasons explained below we determine that Petitioner has not met the compelling merits standard.

Before addressing the parties’ positions, we provide an overview of Lee.

a. Overview of Lee

Lee describes “performing a carrier management procedure in a broadband wireless communication system supporting multiple carriers.” Ex. 1005 ¶ 3. A multicarrier system allows a mobile station to exchange data with a base station through a plurality of carriers including a primary carrier and a secondary carrier. *Id.* ¶¶ 6, 9. The primary carrier is a carrier that the base station and mobile station use to exchange traffic and control signaling, whereas the secondary carrier is an additional carrier that the mobile station uses for traffic. *Id.* ¶ 9. The secondary carrier comes into play according to a command by the base station. *Id.*

The base station determines whether to use a secondary carrier based on factors such as load balancing and channel quality. Ex. 1005 ¶¶ 95, 149. These factors may give rise to a need for deactivating a secondary carrier that is already activated (i.e., in use) and activating another secondary carrier that is not yet in use. *Id.* To illustrate, Figure 8 is reproduced below.

FIG. 8

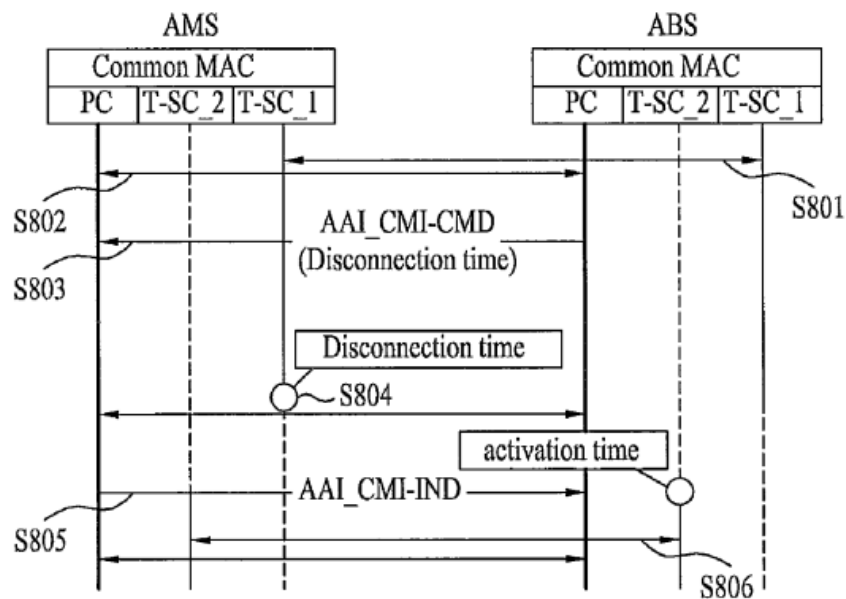


Figure 8 shows a secondary carrier management procedure. *Id.* ¶¶ 49, 159. At step S801,⁸ an Advanced Mobile Station (AMS) exchanges data with an Advanced Base Station (ABS) via a first target secondary carrier (T-SC_1).

⁸ Lee describes exchanges between the AMS and ABS via the first target secondary carrier occurring at step S802 instead of step S801. Ex. 1005 ¶ 159. This reference to step S802 appears to be a typographical error. See *id.*, Fig. 8.

Id. ¶ 159. At step S802,⁹ the AMS exchanges a control message (AAI_CM-CMD¹⁰) and data with the ABS via a primary carrier (PC). *Id.* The control message includes parameters needed to deactivate the first target secondary carrier (T-SC_1) and activate a second target secondary carrier (T-SC_2). *Id.* The control message also includes a disconnection time for the first target secondary carrier (T-SC_1) at step S803. *Id.*

Lee explains that the first and second target secondary carriers may not always be activated (i.e., in use) simultaneously where the AMS can only support a limited number of carriers. Ex. 1005 ¶ 159; *see also id.* ¶ 149 (“Although the AMS supporting the carrier aggregation mode receives *n* assigned carriers from the ABS, the AMS having only the capability . . . of aggregating only *m* carriers . . . from among the *n* assigned carriers may be present.”). Accordingly, the AMS deactivates the first target secondary carrier (T-SC_1) at the disconnection time at step S804 before activating the second target secondary carrier (T-SC_2). *Id.* ¶ 159. As shown in Figure 8, the representation of the first target secondary carrier (T-SC_1) changes from a solid line (activation) to a dotted line (deactivation) at the disconnection time. *Id.* ¶ 159, Fig. 8.

When data is ready to be sent or received via the newly activated second target secondary carrier (T-SC_2), the AMS sends an indication

⁹ Lee describes exchanges between the AMS and ABS via the primary carrier occurring at step S801 instead of step S802. Ex. 1005 ¶ 159. This reference to step S801 appears to be a typographical error. *See id.*, Fig. 8.

¹⁰ AAI_CM-CMD stands for Advanced Air Interface Carrier Management Command. Ex. 1005 ¶ 10. Figure 8 includes the designation AAI_CMI-CMD instead of AAI_CM-CMD. *Id.*, Fig. 8. This designation appears to be a typographical error.

message (AAI_CM-IND¹¹) to the ABS to inform the ABS at step S805.

Ex. 1005 ¶ 159, Fig. 8. If the ABS receives the indication message, data can be exchanged via the second target secondary carrier (T-SC_2) at step S806. *Id.*

b. Analysis

We turn now to claim 1, focusing on the disputed limitation “changing the secondary carrier to a deactivation state after a predetermined time from the transmission of the deactivation message.” Petitioner relies solely on Lee for this limitation. *See* Pet. 42–48.

Petitioner identifies Lee’s disconnection time as a “predetermined time from the transmission of the deactivation message.” Pet. 43 (“[T]he ‘disconnection time’ is a predetermined time from the transmission of the deactivation message, and Lee discloses changing the secondary carrier to a deactivation state after a predetermined time (*i.e.*, disconnection time) from the transmission of the deactivation message.”). As support, Petitioner asserts that Lee’s “disconnection time (i) is included in the deactivation (AAI_CM-CMD) message, (ii) is a predetermined time, and (iii) indicates when the change to a deactivation state should occur with respect to the deactivation (AAI_CM-CMD) message.” *Id.*

In particular, Petitioner asserts that “Lee discloses examples of the contents of the AAI_CM-CMD message when used to deactivate a

¹¹ AAI_CM-IND stands for Advanced Air Interface Carrier Management Indication. Ex. 1005 ¶ 10. Figure 8 includes the designation AAI_CMI-IND instead of AAI_CM-IND. *Id.*, Fig. 8. This designation appears to be a typographical error.

secondary carrier and discloses that the message could indicate that the disconnection time is defined in the message.” Pet. 43. As an example, Petitioner directs us to where Lee teaches that “[i]n the case where the action code of the AAI_CM-CMD message is set to ‘0’ (secondary carrier management) and the indication type#1 is set to ‘1’ (deactivation), *a disconnection time is defined.*” *Id.* (quoting Ex. 1005 ¶ 154) (emphasis added by Petitioner). Additionally, Petitioner notes that Lee’s tables “provide exemplary formats for the message that could be used for a deactivation of a secondary carrier and that include a disconnection time.” *Id.* at 44; *see also id.* at 43–45 (citing Ex. 1005 ¶¶ 153–158, 163–169, tbls.5–12).

Petitioner also asserts that “Lee further explains that in the case of deactivating multiple carriers . . . different times can be used for each carrier, or the same disconnection time can be used to deactivate all carriers simultaneously.” Pet. 44 (citing Ex. 1005 ¶ 158). According to Petitioner, an ordinarily skilled artisan “would have understood that to deactivate carriers at different times or simultaneously, the disconnection timing would have to be predetermined,” and, “[t]hus, Lee discloses defining a predetermined ‘disconnection time’ when deactivating secondary carriers.” *Id.* Petitioner adds that Lee’s “disconnection time is a predetermined time” because it is “communicated by the base station in the AAI_CMI-CMD message,” which means “the time is determined before the [mobile station] receives the command, thus making the disconnection time predetermined.” *Id.* at 46.

Petitioner further asserts that “Lee discloses changing the secondary carrier to a deactivation state after the disconnection time.” Pet. 46;

see also *id.* at 47 (“[T]he base station (ABS) changes the secondary carrier (T-SC-1) from an active state to a deactivation state after the disconnection time expires.”). To illustrate, Petitioner provides an annotated version of Figure 8 of Lee, which is reproduced below. *Id.* at 47.

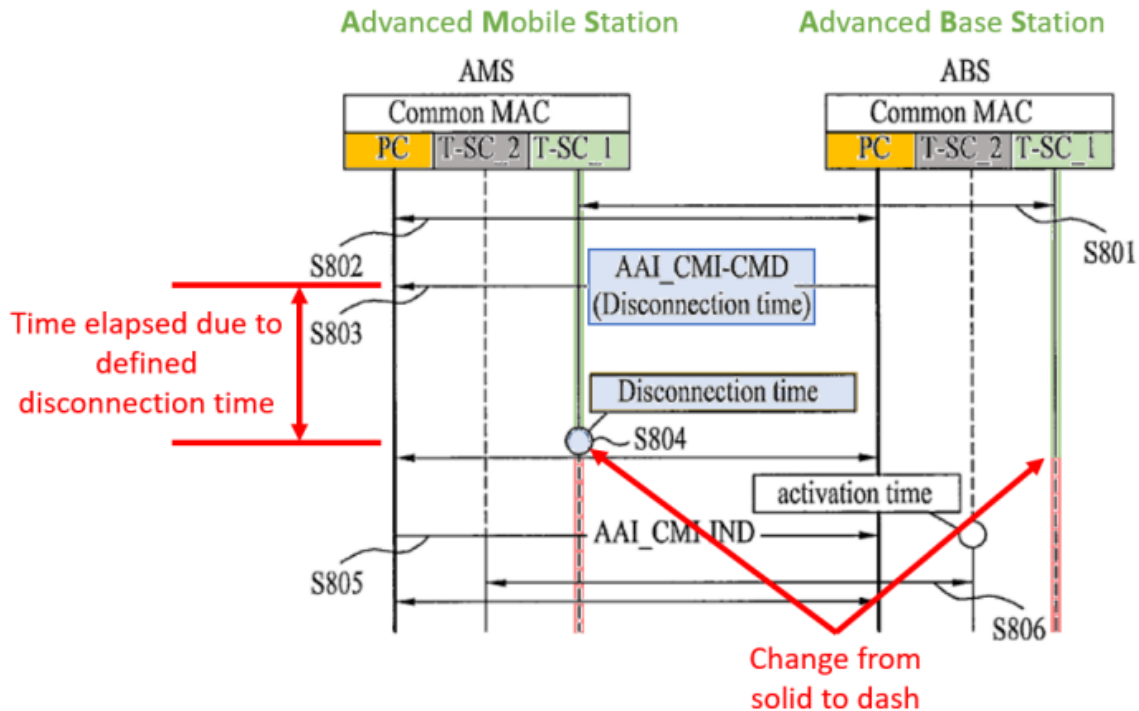


Figure 8 of Lee, as annotated by Petitioner, shows a disconnection time for use in a secondary carrier management procedure. See Ex. 1005 ¶ 159. Petitioner points to Lee’s teaching that “the representation of the first target secondary carrier (T-SC_1) is changed from a solid line (activation) to a dotted line (deactivation) at the disconnection time.” Pet. 46 (quoting Ex. 1005 ¶ 159).

Lastly, Petitioner asserts that Lee’s disconnection time “can be defined *in relation to* the AAI_CM-CMD message.” Pet. 47 (quoting Ex. 1005 ¶ 153). According to Petitioner, “[t]his is . . . shown [in Petitioner’s version of Lee’s Figure 8] as the red arrow with the label ‘Time elapsed due to defined disconnection time,’ which is connected to the time

the AAI_CMI-CMD message is sent/received and the disconnection time.” *Id.* Petitioner contends that “Lee thus discloses that the secondary carrier is deactivated after a predetermined time from the transmission of the deactivation (AAI_CM-CMD) message.” *Id.* at 47–48.

In support of its arguments, Petitioner relies on the declaration testimony of Dr. Camp. Pet. 42–48 (citing Ex. 1009 ¶¶ 133–151).

Patent Owner responds that “Petitioner[] ha[s] not demonstrated that Lee’s ‘disconnection time’ is the claimed predetermined time **from** the **transmission** of the deactivation message.” Prelim. Resp. 10–11. Starting with Petitioner’s argument that Lee teaches its disconnection time “can be defined *in relation to* the AAI_CM-CMD message” (see Pet. 47 (quoting Ex. 1005 ¶ 153)), Patent Owner contends that Petitioner does not “explain[] why the ‘relation’ is specifically ‘from the transmission.’” Prelim. Resp. 11. According to Patent Owner, Petitioner takes Lee’s teaching “out of context” because “[i]mmediately after the cited statement from Lee’s paragraph 153, Lee provides four specific examples of how the predetermined time is defined,” and “[n]one of these four examples state[s] that the ‘disconnection time’ is ‘from the transmission of the deactivation message.’” *Id.* Patent Owner asserts that three of the examples “simply state that ‘a disconnection time is defined,’” and that the fourth example “implicitly defines the ‘disconnection time’ as an event (the **reception** of the purported deactivation message).” *Id.* (citing Ex. 1005 ¶¶ 153–157).

Turning to Petitioner’s reliance on Lee’s tables (see Pet. 44–45), Patent Owner contends that “Petitioner[] argue[s] that these tables show predetermined disconnection times,” but that “Petitioner[] do[es] not further argue that the disconnection time[s] in Tables 5–12 are predetermined times

from the **transmission** of the deactivation message.” Prelim. Resp. 11–12 (citing Pet. 44–46).

Finally, Patent Owner addresses Petitioner’s annotated version of Lee’s Figure 8 showing what Petitioner describes as a “red arrow with the label ‘Time elapsed due to defined disconnection time,’ which is connected to the time the AAI_CMI-CMD message is sent/received and the disconnection time.” See Pet. 47. Patent Owner contends that Petitioner’s annotated label “indicates a time elapsed from the **receipt** of the AAI_CMI-CMD message at the terminal (called an AMS in Lee),” and that “Petitioner[] do[es] not explain why a figure demonstrating a time lapse from the **receipt** of the AAI_CMI-CMD message is relevant to ‘predetermined time *from* the **transmission** of the deactivation message.’” Prelim. Resp. 12–13.

Patent Owner adds that “Petitioner[] use[s] the ambiguous phrasing ‘sent/received’ because Petitioner[] cannot definitively establish which of the two is taught by Lee.” Prelim. Resp. 12. According to Patent Owner, “a ‘disconnection time’ cannot be defined as starting from two different starting times (the sending or the reception) because wireless messages are not sent and received at the same time.” *Id.*

As noted above, our inquiry is directed to whether the Petition meets the compelling merits standard, not the “reasonable likelihood” standard of § 314(a). On this record, we agree with Patent Owner.

Claim 1 recites “changing the secondary carrier to a deactivation state after a predetermined time from the transmission of the deactivation message.” To illustrate, Figure 10 of the ’106 patent is reproduced below.

FIG. 10

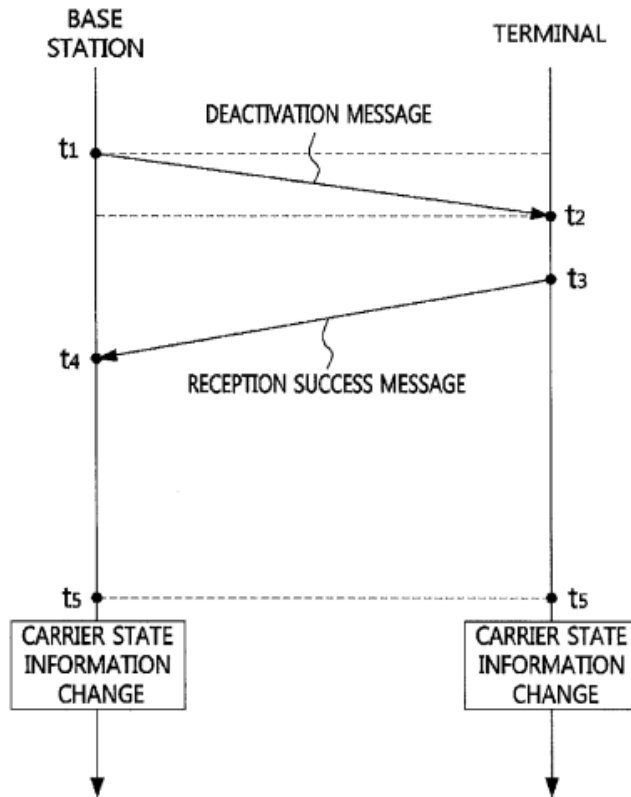


Figure 10 is a diagram of a carrier state management method. Ex. 1001, 4:36–37. The '106 patent teaches that “the base station performs the step . . . of transmitting the deactivation message to the terminal at a time t1.” *Id.* at 13:12–14. The '106 patent further teaches that “[t]he base station may perform the step . . . of changing state information for a secondary carrier that is managed by the base station to the deactivation state at a time t5 after the lapse of a predetermined time (t5–t1).” *Id.* at 13:21–24.

As discussed above, Petitioner argues that Lee’s disconnection time corresponds to the recited “predetermined time.” Pet. 43. To satisfy the limitation of claim 1 under this theory, Petitioner must show that Lee’s disconnection time is the time *from the transmission of the AAI_CM-CMD*

message (which Petitioner identifies as the recited “deactivation message”). See Pet. 42–43, 47 (Petitioner’s mapping).

Petitioner’s argument and evidence, however, include logical gaps that leave Petitioner’s case short of compelling. For example, Petitioner asserts that “Lee discloses examples of the contents of the AAI_CM-CMD message when used to deactivate a secondary carrier and discloses that the message could indicate that the disconnection time is defined in the message.” Pet. 43. As support, Petitioner points us to four examples in Lee. *Id.* (citing Ex. 1005 ¶¶ 154–157). For three of the examples, Lee describes scenarios where “a disconnection time is defined.” Ex. 1005 ¶¶ 154–156. For the fourth example, Lee describes a scenario where “[n]o disconnection time is defined in the AAI_CM-CMD message,” but “a reception time of the AAI_CM-CMD message is implicitly defined as a disconnection time.” *Id.* ¶ 157. Although these examples may show that the disconnection time can be defined in the AAI_CM-CMD message, as Petitioner contends, none of the examples readily shows the disconnection time is the time *from the transmission of the AAI_CM-CMD message*. Nor does Petitioner adequately explain how these examples show the disconnection time is the time *from the transmission of the AAI_CM-CMD message*. Lee’s fourth example in particular shows that the disconnection time is the time *of the reception* of the AAI_CM-CMD message, not the time *from the transmission* of the AAI_CM-CMD message.

We note Petitioner’s assertion that “Lee also discloses examples of the specific fields that could include the disconnection time,” where specifically “Tables 6 through 12 provide exemplary formats for the message that could be used for a deactivation of a secondary carrier and that include a

disconnection time.” Pet. 44–45. None of these tables appears to reference the disconnection time with respect to the timing of the transmission of the AAI_CM-CMD message. See Ex. 1001, tbls.5–12 (cited by Pet. 44–45). As with Lee’s four examples discussed above, Lee’s tables do not readily show the disconnection time is the time *from the transmission of the AAI_CM-CMD message*. Nor does Petitioner adequately explain how the tables show the disconnection time is the time *from the transmission of the AAI_CM-CMD message*.

As to Petitioner’s citation to Lee’s teaching that “a disconnection time of the target carrier can be defined *in relation to* the AAI_CM-CMD message,” we find this teaching alone does not say anything about whether the disconnection time is defined as the time *from the transmission of the AAI_CM-CMD message*. See Pet. 47 (quoting Ex. 1005 ¶ 153). Moreover, as Patent Owner points out, Lee immediately follows this teaching with the four examples discussed above. See Prelim. Resp. 11; Ex. 1005 ¶¶ 153–157 (describing the four examples in paragraphs 154 through 157). For the reasons given, Petitioner’s reliance on these examples does not present a compelling case that Lee’s disconnection time is defined as the time *from the transmission of the AAI_CM-CMD message*.

Petitioner argues that “the red arrow with the label ‘Time elapsed due to defined disconnection time’” in its annotated version of Lee’s Figure 8, which is reproduced below, shows the disconnection time can be defined “in relation to” the AAI_CM-CMD message. Pet. 47.

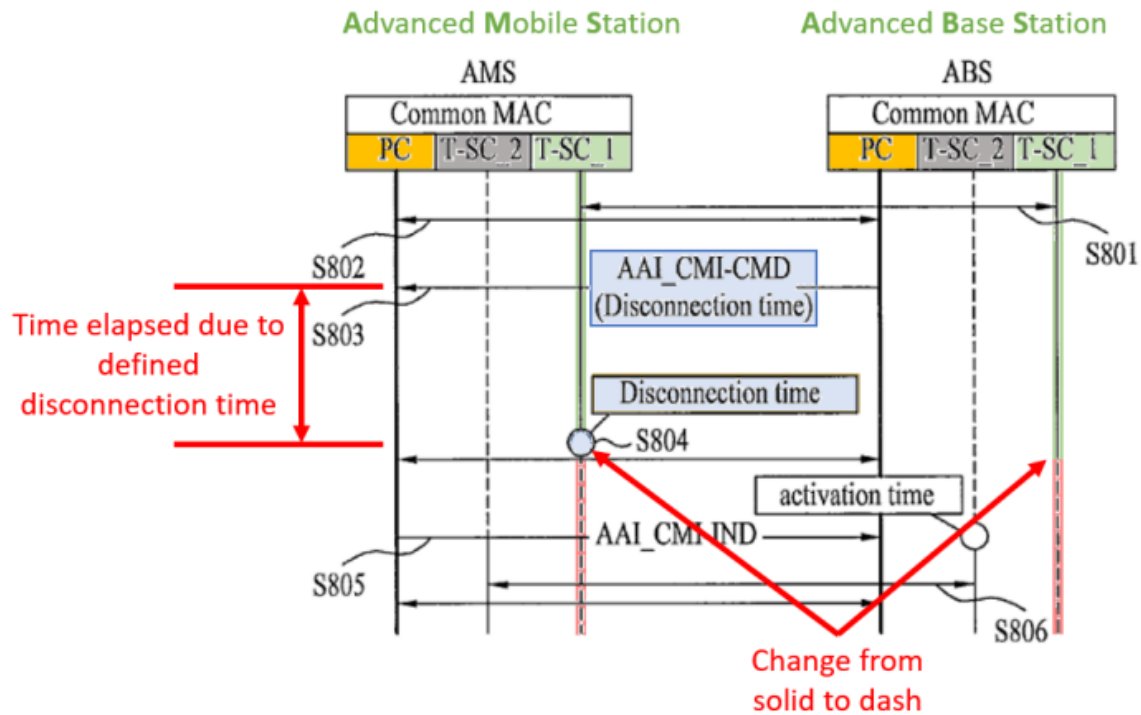


Figure 8 of Lee, as annotated by Petitioner, shows a disconnection time for use in a secondary carrier management procedure. See Ex. 1005 ¶ 159. We are not persuaded that the annotated figure supports Petitioner’s position, certainly not under the compelling merits standard. The disconnection time appears to correspond to the *time of deactivation of secondary carrier T-SC_1*, rather than the *time from the transmission of the AAI_CM-CMD message*. See *id.* (“As can be seen from FIG. 8, the representation of the first target secondary carrier (T-SC_1) is changed from a solid line (activation) to a dotted line (deactivation) at the disconnection time.”).

Even if we were to treat Lee’s disconnection time as corresponding to the “[t]ime elapsed due to defined disconnection time,” as Petitioner urges us to do, it is not clear from Lee’s Figure 8 whether the disconnection time would be the time from the *transmission* of the AAI_CM-CMD message or the time from the *reception* of the AAI_CM-CMD message. See Pet. 47 (annotated Fig. 8 of Lee). The figure appears to show the transmission and

reception of the AAI_CM-CMD message occurring at the same time. *See id.* As Patent Owner points out, however, “wireless messages are not sent and received at the same time.” Prelim. Resp. 12; *see* Ex. 1001, Fig. 10 (showing transmission of deactivation message at time t1 and reception of deactivation message at later time t2). Petitioner asserts that the “[t]ime elapsed due to defined disconnection time[]’ . . . is *connected* to the time the AAI_CMI-CMD message is sent/received and the disconnection time,” but does not explain the connection. *See* Pet. 47 (emphasis added). Without more, we remain unpersuaded that Lee’s Figure 8 provides compelling support for Petitioner’s position.

We also find flaws in Petitioner’s argument that Lee’s disconnection time is a *predetermined* time. *See* Pet. 44 (“A [person of ordinary skill in the art] would have understood that to deactivate carriers at different times or simultaneously, the disconnection timing would have to be predetermined. Thus, Lee discloses defining a predetermined ‘disconnection time’ when deactivating secondary carriers.”); *id.* at 46 (“Because the disconnection time is communicated by the base station in the AAI_CMI-CMD message, the time is determined before the [mobile station] receives the command, thus making the disconnection time predetermined.”). In addition, we find flaws in Petitioner’s argument that “Lee discloses changing the secondary carrier to a deactivation state after the disconnection time.” *Id.* Specifically, these arguments do not address claim 1’s requirement that the disconnection time is the time from the transmission of the AAI_CM-CMD message, and thus they do not support a compelling, meritorious challenge.

c. Summary

In view of the foregoing, we determine that Petitioner’s obviousness challenges based on Lee do not meet the compelling merits standard with respect to claim 1. Petitioner does not rely on Kim to teach the recited “predetermined time from the transmission of the deactivation message.” See Pet. 34–37, 48–55 (relying on Kim for limitation “stopping downlink (DL) transmission of the secondary carrier and initializing uplink (UL) and DL retransmission buffers after transmitting the deactivation message”).

Claims 2–4 depend from claim 1. Petitioner’s contentions regarding these dependent claims rely on the same analysis for the limitation of claim 1 discussed above. See Pet. 55, 57, 60. Accordingly, we also determine that Petitioner’s obviousness challenges based on Lee do not meet the compelling merits standard with respect to claims 2–4.

Because we determine that Petitioner has not presented a “compelling, meritorious challenge[]” to any claim of the ’106 patent, we find that the sixth *Fintiv* factor does not weigh against discretionary denial.

B. Fintiv Determination

We have considered the circumstances and facts before us in view of the *Fintiv* factors. As discussed above, factor 1 is neutral, factors 2, 3, and 5 weigh in favor of discretionary denial of institution, and factor 4 weighs slightly against discretionary denial. We, therefore, conclude that the evidence of record on factors 1–5 favors exercising our discretion to deny institution of an *inter partes* review. Following the Guidance Memo, we have further determined that the Petition does not show compelling evidence of unpatentability under *Fintiv* factor 6. Accordingly, we conclude that the

evidence of record favors exercising our discretion to deny institution of an *inter partes* review.

IV. CONCLUSION

Upon consideration of the Petition and Preliminary Response, and the accompanying evidence, we exercise our discretion under 35 U.S.C. § 314(a) to deny institution of an *inter partes* review challenging claims 1–4 of the ’106 patent.

V. ORDER

Accordingly, it is

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

PETITIONER:

John D. Haynes
David Frist
Michael C. Deane
ALSTON & BIRD LLP
john.haynes@alston.com
david.frist@alston.com
michael.deane@alston.com

PATENT OWNER:

Jonathan Link
Qi (Peter) Tong
RUSS AUGUST & KABAT
jlink@raklaw.com
ptong@raklaw.com