DOCKET NO.: 01033300-00348
Filed on behalf of Apple Inc.
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UNITED STATES PATENT AND TRADEMARK OFFICE

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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APPLE INC.,
Petitioner,

v.

OPTIS CELLULAR TECHNOLOGY LLC,
Patent Owner.

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Case IPR2020-00465
U.S. Patent No. 8,102,833 B2

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# PETITIONER'S NOTICE OF APPEAL

Pursuant to 35 U.S.C. §§ 141-142 and 319, 5 U.S.C. §§ 701-706, 28 U.S.C. § 1295(a)(4)(A), and 28 U.S.C. § 1651, and in accordance with 37 C.F.R. §§ 90.2-90.3, and Federal Circuit Rule 15(a)(1), notice is hereby given that Petitioner Apple Inc. appeals to the U.S. Court of Appeals for the Federal Circuit from the Decision Denying Institution of Inter Partes Review entered on September 17, 2020 (Paper 13) in IPR2020-00465, attached as Exhibit A, and all prior and interlocutory rulings related thereto or subsumed therein.

In accordance with 37 C.F.R. § 90.2(a)(3)(ii), Petitioner states that the issues for appeal include, but are not limited to:

(1) whether the U.S. Patent and Trademark Office (PTO) exceeded its statutory authority and violated the text, structure, and purpose of the Leahy-Smith America Invents Act, 35 U.S.C. §§ 311-319 (AIA), and Administrative Procedure Act, 5 U.S.C. §§ 701-706 (APA), by adopting a rule—and applying that rule to deny institution here—that purports to authorize the Patent Trial and Appeal Board (Board) to deny institution of inter partes review (IPR) based on non-statutory, discretionary factors related to the pendency of parallel patent-infringement litigation;

(2) whether the PTO exceeded its statutory authority and violated the APA by adopting a rule governing institution decisions—and applying the rule to deny

institution here—that incorporates non-statutory, discretionary factors that are arbitrary and capricious;

(3) whether the PTO exceeded its statutory authority and violated the AIA and the APA by adopting a rule to govern all institution decisions—and applying that rule to deny institution here—without following the procedures for notice-and-comment rulemaking; and

(4) whether the court of appeals has jurisdiction over this appeal, notwithstanding 35 U.S.C. § 314(d), because the PTO acted in excess of its statutory authority and outside its statutory limits or because the grounds for attacking the decision to deny institution depend on statutes, including the APA, that are less closely tied to the application and interpretation of statutes related to the decision to initiate IPR.

This Notice of Appeal is timely, having been duly filed 21 days after the date of the Decision Denying Institution of Inter Partes Review.

A copy of this Notice of Appeal is being filed simultaneously with the Board, the Clerk's Office for the United States Court of Appeals for the Federal Circuit, and the Director of the PTO.

[Signature line on next page.]

Dated: October 8, 2020

Respectfully submitted:

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ATTORNEYS FOR PETITIONER
APPLE INC.

**CERTIFICATE OF SERVICE**

Pursuant to 37 C.F.R. §§ 90.2(a)(1) and 104.2(a), I hereby certify that, in addition to being filed electronically through the Patent Trial and Appeal Board's End to End (PTAB E2E) system, a true and correct original version of the foregoing Petitioner's Notice of Appeal is being filed by Priority Express Mail on this 8th day of October, 2020, with the Director of the U.S. Patent and Trademark Office, at the following address:

Office of the General Counsel
United States Patent and Trademark Office
Madison Building East, Room 10B20
600 Dulany Street
Alexandria, VA 22314

Pursuant to 37 C.F.R. 90.2(a)(2) and Federal Circuit Rule 15(a)(1), and Rule 52(a), (e), I hereby certify that a true and correct copy of the foregoing Petitioner's Notice of Appeal is being filed in the United States Court of Appeals for the Federal Circuit using the Court's CM/ECF filing system on this 8th day of October, 2020, and the filing fee is being paid electronically using pay.gov.

I hereby certify that on October 8, 2020, I caused a true and correct copy of the foregoing Petitioner's Notice of Appeal to be served via email on the following counsel for Patent Owner:

Hong Annita Zhong (Reg. No. 66,530)

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Dated: October 8, 2020

Respectfully submitted,

BY: */David L. Cavanaugh/*
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COUNSEL FOR PETITIONER

# EXHIBIT A

Trials@uspto.gov
571.272.7822

Paper No. 13
Date: September 17, 2020

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

APPLE INC.,
Petitioner,

v.

OPTIS CELLULAR TECHNOLOGY, LLC,
Patent Owner.

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IPR2020-00465
Patent 8,102,833 B2

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Before KALYAN K. DESHPANDE, MICHAEL R. ZECHER, and JOHN P. PINKERTON, *Administrative Patent Judges*.

PINKERTON, *Administrative Patent Judge*.

# DECISION
Denying Institution of *Inter Partes* Review
*35 U.S.C. § 314(a)*

## I. INTRODUCTION

Apple Inc. ("Petitioner") filed a Petition requesting an *inter partes* review of claims 1–14 of U.S. Patent No. 8,102,833 B2 (Ex. 1001, "the '833 patent"). Paper 3 ("Pet."). Optis Cellular Technology, LLC ("Patent Owner") filed a Preliminary Response. Paper 7 ("Prelim. Resp."). Pursuant to our authorization, Petitioner filed a Reply to Patent Owner's Preliminary Response (Paper 8 ("Pet. Reply")), and Patent Owner filed a Sur-reply (Paper 9 ("PO Sur-reply"), each directed to whether we should exercise our discretion to deny institution pursuant to 35 U.S.C. § 314(a). Ex. 1073, 1; Ex. 2036, 1, 3. Pursuant to our direction, Petitioner also filed a Notice of Invalidity Grounds (Paper 10 ("Pet. Notice"), and Patent Owner filed Updated Mandatory Notice (Paper 11 ("PO Updated Notice"). Ex. 2040. Each of these notices is directed to the claims of the '833 patent asserted to be invalid, and the ground(s) of invalidity, at the trial in the U.S. District Court for the Eastern District of Texas, Marshall Division, in *Optis Wireless Technology, LLC v. Apple Inc.,* Case No. 2:19-cv-00066-JRG (E.D. Tex.) ("the underlying litigation").[1]

Under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a), we have authority to institute an *inter partes* review if "the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in

[1] As further discussed below, between August 3 and 11, 2020, a jury trial was held in the underlying litigation in the U.S. District Court for the Eastern District of Texas, Marshall Division, in which the jury rendered its verdict on August 11, 2020. *See* PO Updated Notice 1–2 (citing Ex. 2041 (Verdict Form)).

the petition." 35 U.S.C. § 314(a). Institution of an *inter partes* review is discretionary, not mandatory. *See Cuozzo Speed Techs., LLC v. Lee,* 136 S. Ct. 2131, 2140 (2016) ("[T]he agency's decision to deny a petition is a matter committed to the Patent Office's discretion."); *Harmonic Inc. v. Avid Tech., Inc.,* 815 F.3d 1356, 1367 (Fed. Cir. 2016) ("[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.").

Having considered the parties submissions, and for the reasons discussed below, we exercise discretion under 35 U.S.C. § 314(a) to deny institution of *inter partes* review.

## II. BACKGROUND

### *A. Related Matters*

Patent Owner has asserted the '833 patent against Petitioner in *Optis Wireless Technology, LLC v. Apple Inc.,* No. 2:19-cv-00066-JRG (E.D. Tex.). Pet. 2; Paper 11, 1.

Patent Owner also asserted the '833 patent against Huawei Device Co. Ltd. in *Optis Wireless Tech., LLC, v. Huawei Techs. Co.*, No. 2:17-cv-00123-JRG-RSP (E.D. Tex.) ("the Huawei litigation"). Pet. 10 n.7.

Huawei Device Co., Ltd. filed a petition for *inter partes* review of claims 1–14 of the '833 patent in *Huawei Device Co., Ltd. v. Optis Cellular Technology, LLC,* IPR2018-00807 (PTAB) ("IPR 807"). Pet. 2 (citing Ex. 1010); Paper 6, 1. On November 5, 2018, we denied institution in IPR 807. Paper 6, 1; Ex. 1011.

### *B. Overview of the '833 Patent*

The '833 patent, titled "Method for Transmitting Uplink Signals," issued on January 24, 2012, and claims priority to Korean application 10-

2008-0068634, filed on July 15, 2008, and U.S. Provisional Applications, Nos. (1) 60/972,244, filed on September 13, 2007; (2) 60/987,427, filed on November 13, 2007; and (3) 60/988,433, filed on November 16, 2007. Ex. 1001, codes (30), (60), 1:7–15.

The '833 patent relates generally to user equipment (UE) of a mobile communication system transmitting uplink signals, including ACK/NACK signals, control signals other than ACK/NACK signals, and data signals. Ex. 1001, code (57), 1:21–24. The '833 patent describes that control signals transmitted to the uplink "include uplink ACK/NACK[2] signals for HARQ communication, channel quality indicator (CQI) information, and preceding matrix index (PMI)." *Id.* at. 1:29–32. The '833 patent specifically distinguishes ACK/NACK signals from control signals other than ACK/NACK signals and states '"control signals' will mean those other than the ACK/NACK signals." *Id.* at 5:15–16; *see also id.* at 1:43–45 (stating "the control signals will mean those except for ACK/NACK signals").

The '833 patent explains that the 3GPP LTE system uses a single carrier frequency division multiplexing access (SC-FDMA) scheme for uplink signal transmission. *Id.* at 1:33–35. According to the '833 patent, the 3GPP LTE system prescribes that data signals and control signals among the uplink signals are first multiplexed and ACK/NACK signals are transmitted to the multiplexed signals by puncturing the data or control signals when

[2] Petitioner's expert, Dr. Jonathan Wells, opines that ACK/NACK signals are a type of control information or signals "sent from a UE that signifies the acknowledgment ('ACK') of receipt or a negative acknowledgment ('NACK') indicating a problem with receiving downlink data." Ex. 1002 ¶ 35 (citing Ex. 1001, 5:3–6).

uplink ACK/NACK signal transmission is required for downlink data. *Id.* at 1:35–40. As the '833 patent also describes, it was determined that, in 3GPP LTE systems, when the control information is multiplexed with the data information, "the control information is transmitted near a reference signal." *Id.* at 1:45–49. The '833 patent explains that "control signals generally require higher reliability than the data signals," and "the ACK/NACK signals require higher reliability than other types of control signals." *Id.* at 1:51–57. Accordingly, the '833 patent describes that, when uplink ACK/NACK signal transmission is required while all the control signals are transmitted by approximating to the reference signal, "problems occur in that the ACK/NACK signals can neither be transmitted by puncturing the control signals arranged near the reference signal nor be transmitted near the reference signal." *Id.* at 1:54–62. Thus, the '833 patent describes a method for transmitting uplink signals by efficiently arranging ACK/NACK signals and other control signals in a resource region considering priority among them. *Id.* at 2:7–10; *see also id.* at 2:25–27 (stating that "arranging the ACK/NACK signals at both symbols near to symbols through which a reference signal is transmitted").

The '833 patent describes transmitting information in accordance with the SC-FDMA scheme in which information sequences are transmitted using one "resource block" and one "sub-frame." *Id.* at 5:31–40. Each sub-frame includes two slots, and each slot includes 7 SC-FDMA symbols. *Id.* at 5:40–45, cl. 3. Two of the 14 SC-FDMA symbols in each sub-frame are used as reference signals that are pilot signals. *Id.* at 5:40–43. Each resource block includes 12 OFDM (orthogonal frequency division multiple access)

subcarriers and 7 SC-FDMA symbols in one slot. *Id.* at 5:37–40. The '833 patent explains that, at this time, the number of modulation symbols of the information that can be transmitted to the uplink becomes 12*12=144. *Id.* at 5:43–45. The '833 patent further explains that 144 information sequences can be transmitted through 12 virtual subcarriers and 12 SC-FDMA symbols, which "can be represented by a matrix structure of 12*12 called a time-frequency mapper." *Id.* at 5:46–49.

Figure 6 of the '833 patent is reproduced below.

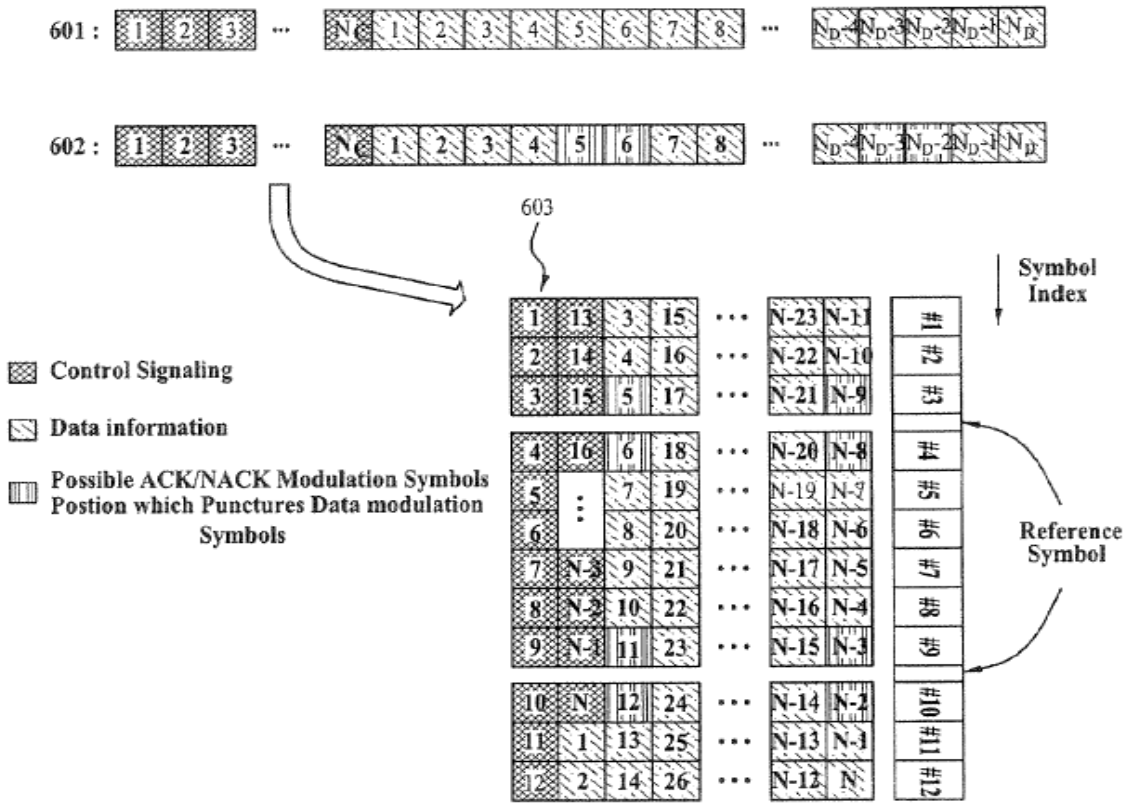


Figure 6 above is a diagram illustrating a method for transmitting uplink signals in accordance with one embodiment of the '833 patent. *Id.* at

3:33–35, 6:49–51. This figure includes three portions, arranged vertically. The top portion of Figure 6 (labeled 601) is a horizontal strip of small, square blocks representing control signals (each numbered 1 through $N_C$) and data signals (each numbered 1 through $N_D$), illustrating that control and data signals are multiplexed serially, if ACK/NACK signals are not transmitted, with control signals placed at the front (i.e., starting at the left) and data signals placed at the rear of the multiplexed signals. *Id.* at 6:60–63. The second or middle portion of Figure 6 (labeled 602) is also a horizontal strip of small, square blocks, again representing data signals and control signals multiplexed serially, with data signals placed at the front, and with ACK/NACK signals to be transmitted that "are arranged by puncturing the multiplexed data."[3] *Id.* at 6:63–66. In this portion of Figure 6, the ACK/NACK symbols are inserted in place of data signals 5, 6, $N_D$-3, and $N_D$-2.

The third portion of Figure 6 (labeled 603), which is located at the bottom, illustrates the embodiment in which information sequences such as those shown in the second portion of Figure 6 (labeled 602) are mapped with SC-FDMA symbols according to the time-first mapping method, and then transmitted on the uplink. *Id.* at 6:52–56; 6:66–7:2. This portion of Figure 6 is a two-dimensional "time-frequency region" that independent claim 1 refers to as "a 2-dimensional resource matrix." *Id.* at 6:66–7:2, 9:6–7. In

[3] As used in the '833 patent, "puncturing" means "overwriting" or "replacing" specific information. Ex. 1001, 6:15–21 ("overwritten" means that specific information is skipped and the corresponding region is mapped; "overwritten" also means that the length of the entire information is maintained equally even after specific information is inserted).

accordance with the time-first mapping method, the multiplexed signals (such as 602) are mapped row by row to the resource matrix in which rows correspond to subcarriers and columns correspond to SC-FDMA symbols. *Id.* at 6:66–7:3; 7:6–10; 9:6–21. Resource matrix 603 shows a total of 14 SC-FDMA symbols along the time axis (the vertical axis) within one subframe—12 SC-FDMA symbols (numbered from top to bottom as #1 through #12 in a column to the right of the matrix) and two SC-FDMA symbols that carry reference signals in a part between symbol indices #3 and #4 and in a part between symbol indices #9 and #10. *Id.* at 5:37–45; 7:2-5. The '833 patent explains that the ACK/NACK signals are set in such a manner that they overwrite the data signals on both sides of the parts to which the reference signals are transmitted (i.e., into SC-FCMA symbols #3, 4, 9, and 10 in Figure 6). *Id*. at 7:10–14. These overwritten ACK/NACK signals are labeled N-2, N-3, N-8, and N-9 in matrix 603, the third portion of Figure 6.

### *C. Illustrative Claims*

Challenged claims 1 and 8 are independent. Challenged claims 2–7 depend directly from claim 1; challenged claims 9–14 depend directly from claim 8. Claims 1 and 8 are illustrative of the claimed subject matter and are reproduced below (with paragraph lettering added to claim 8 consistent with claim 1):

> 1. A method for transmitting uplink signals comprising control signals and data signals in a wireless communication system, the method comprising:
>
> (a) serially multiplexing first control signals and data signals in a mobile station, wherein the first control signals are placed at a front

part of the multiplexed signals and the data signals are placed at a rear part of the multiplexed signals;

(b) mapping the multiplexed signals to a 2-dimensional resource matrix comprising a plurality of columns and a plurality of rows, wherein the columns and the rows of the 2-dimensional resource matrix correspond to single carrier frequency divisional multiple access (SC-FDMA) symbols and subcarriers for each SC-FDMA symbol, respectively, wherein a number of columns of the 2-dimensional resource matrix corresponds to a number of SC-FDMA symbols within one subframe except specific SC-FDMA symbols used for a reference signal, and wherein the multiplexed signals are mapped from the first column of the first row to the last column of the first row, the first column of the second row to the last column of the second row, and so on, until all the multiplexed signals are mapped to the 2-dimensional resource matrix;

(c) mapping ACK/NACK control signals to specific columns of the 2-dimensional resource matrix, wherein the specific columns correspond to SC-FDMA symbols right adjacent to the specific SC-FDMA symbols, wherein the ACK/NACK control signals overwrite some of the multiplexed signals mapped to the 2-dimensional resource matrix at step (b) from the last row of the specific columns; and

(d) transmitting the signals mapped to the 2-dimensional resource matrix at steps (b) and (c) by column by column to a base station.

8. A mobile station for transmitting uplink signals comprising control signals and data signals in a wireless communication system, the mobile station comprising:

(a) a processor serially multiplexing first control signals and data signals, wherein the first control signals are placed at a front part of the multiplexed signals and the data signals are placed at a rear part of the multiplexed signals;

(b) the processor mapping the multiplexed signals to a 2-dimensional resource matrix comprising a plurality of columns and a plurality of rows, wherein the columns and the rows of the 2-dimensional resource matrix correspond to single carrier frequency divisional multiple access (SC-FDMA) and subcarriers for each SC-FDMA symbol, respectively, wherein a number of columns of the 2-dimensional resource matrix corresponds to a number of SC-FDMA symbols within one subframe except specific SC-FDMA symbols used for a reference signal, and wherein the multiplexed signals are mapped from the first column of the first row to the last column of the first row, the first column of the second row to the last column of the second row, and so on, until all the multiplexed signals are mapped to the 2-dimensional resource matrix;

(c) the processor mapping ACK/NACK control signals to specific columns of the 2-dimensional resource matrix, wherein the specific columns correspond to SC-FDMA symbols right adjacent to the specific SC-FDMA symbols, wherein the ACK/NACK control signals overwrite some of the multiplexed signals mapped to the 2-dimensional resource matrix from the last row of the specific columns.

Ex. 1001, 8:65–9:32; 9:65–10:30.

*D. Asserted Ground of Unpatentability*

Petitioner challenges the patentability of claims 1–14 of the '833 patent based on the following ground:

| Claims Challenged | 35 U.S.C. § | Reference(s) |
|---|---|---|
| 1–14 | § 103(a)[4] | Qualcomm[5] in view of Cho,[6] Samsung,[7] and Qualcomm-269[8] |

In support of its contentions, Petitioner relies on the Declaration of Dr. Jonathan Wells (Ex. 1002). Pet. 6.

## III. ANALYSIS

In the Petition, which was filed on February 28, 2020, Petitioner argues that, although the trial in the underlying litigation is scheduled to begin on August 17, 2020, we should not exercise our discretion to deny institution under 35 U.S.C. § 314(a) for several reasons, including that *inter partes* review would be a more effective and efficient alternative to litigation under the circumstances, Petitioner was timely in pursuing this relief, and

[4] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), revised 35 U.S.C. § 103 effective March 16, 2013. Because the '833 patent has an effective filing date prior to the effective date of the applicable AIA amendment, we refer to the pre-AIA version of § 103. *See* Ex. 1001, codes (22), (30), (60).

[5] Qualcomm Europe, Draft Change Request: 36.212.v.8.0.0, Document R1-075037, published by November 9, 2007. Ex. 1006 ("Qualcomm").

[6] US 2006/0262871 A1, filed on May 3, 2006, and published on November 23, 2006. Ex. 1005 ("Cho").

[7] Samsung, *Control Signaling Location in Presence of Data in E-UTRA UL*, 3GPP TSG RAN #49 Document R1-073094, published by June 29, 2007. Ex. 1008 ("Samsung").

[8] Qualcomm Europe, *Rate matching details for control and data multiplexing*, 3GPP TSG-RAN #50 Document R1-073269, published by August 24, 2007. Ex. 1007 ("Qualcomm-269").

the substantive grounds discussed in the Petition. Pet. 10 (citing *General Plastic Indus. Co. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19, 9–10 (PTAB Sept. 6, 2017) (precedential in relevant part); *see also* Pet. 7–9. In its Preliminary Response, Patent Owner asserts that the trial in the parallel district court case is scheduled to start on August 3, 2020 (Prelim. Resp. 7 (citing Ex. 2002, 1)), and argues that we should exercise our discretion under 35 U.S.C. § 314(a) to deny institution of *inter partes* review due to the advanced stage of the underlying litigation. Prelim. Resp. 6–15 (citing *Apple Inc. v. Fintiv Inc.,* IPR2020-00019, Paper 11 (PTAB, March 20, 2020) (precedential, designated May 5, 2020). According to Patent Owner, "[i]nstituting this duplicative petition would prejudice Patent Owner and waste the Board's resources, may introduce the risk of inconsistent results from different fora, and contravenes Congressional intent for a speedy, just and inexpensive adjudication of the patent validity issues." *Id.* at 14.

On June 25, 2020, we authorized the parties to submit supplemental briefing on the issue of discretionary denial under 35 U.S.C. § 314(a). Ex. 1073, 1. We specifically authorized Petitioner to file an 8-page Reply to Patent Owner's Preliminary Response, and Patent Owner to file a 4-page Sur-reply, limited to "the six *Fintiv* factors the Board considers in determining whether to exercise its discretion to institute review when there is a related proceeding pending in district court." *Id.* On July 7, 2020, after the filing of Petitioner's Reply on July 2, 2020, we modified our prior authorization for supplemental briefing by authorizing Patent Owner to file an 8-page Sur-reply to address the *Fintiv* factors and respond to arguments raised in Petitioner's Reply. Ex. 2036, 1.

In determining whether to exercise our discretion under § 314(a), we are guided by the Board's precedential decisions in *NHK*[9]and *Fintiv*. In *NHK*, the Board found that the "advanced state of the district court proceeding" was a "factor that weighs in favor of denying" the petition under § 314(a). *NHK*, Paper 8 at 20. The Board determined that institution of an *inter partes* review under the circumstances present in that case "would not be consistent with 'an objective of the AIA . . . to provide an effective and efficient alternative to district court litigation.'" *Id.* (citing *Gen. Plastic*, Paper 19 at 16–17). The Board's cases considering the advanced state of a parallel proceeding "as a basis for denial under *NHK* have sought to balance considerations such as system efficiency, fairness, and patent quality." *Fintiv*, Paper 11 at 5 (collecting cases). *Fintiv* sets forth the following factors the Board balances when determining whether to exercise its discretion to deny institution:

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

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[9] *NHK Spring Co. v. Intri-Plex Techs., Inc.,* IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018) (precedential, designated May 7, 2019).

6. other circumstances that impact the Board's exercise of discretion, including the merits.

*Id.* at 5–6.

We now consider the *Fintiv* factors to determine whether to exercise discretion to deny institution under 35 U.S.C. § 314(a). "[I]n evaluating the factors, the Board takes a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review." *Id.* at 6.

*A. Fintiv Factor 1: Stay in the Underlying Litigation*

Petitioner argues that "[b]ecause no stay has been requested in the Texas case, this factor is neutral." Pet. Reply 1. Patent Owner argues that this factor favors discretionary denial because a stay is highly improbable in view of the advanced stage of the underlying litigation, including that a trial is scheduled to start on August 3, 2020, and Petitioner has only filed petitions for *inter partes* review against three of the six asserted patents in the litigation, thereby diminishing the chance Petitioner can get a stay before the jury trial. Prelim. Resp. 7–8; *see also* PO Sur-reply 1.

As discussed below, the trial in the underlying litigation already has taken place. PO Updated Notice, Paper 11, 1–2. On the present record, neither party has produced evidence that a stay of any post-trial proceedings may be requested or granted. *See generally* Pet.; Pet. Reply; Prelim. Resp.; PO sur-reply). Accordingly, this factor does not weigh in favor of or against exercising our discretion to deny institution pursuant to § 314(a).

*B. Fintiv Factor 2: Trial Date in the Underlying Litigation*

Between August 3 and August 11, 2020, a jury trial was held in the United States District Court for the Eastern District of Texas, Marshall

Division, in the underlying litigation. PO Updated Notice 1–2. On August 11, 2020, the jury returned a verdict that Petitioner had not proven by clear and convincing evidence that claim 8 of the '833 patent is invalid. *Id.* at 2 (citing Ex. 2041, 5). A final written decision in this proceeding would be due in September 2021, approximately thirteen months after completion of the district court trial. *See* Prelim. Resp. 8–10. Petitioner does not directly address this issue. *See generally* Pet. 7–10; Pet. Reply.

Accordingly, in view of the thirteen-month gap between the date of the district court jury verdict and the projected due date for a final written decision in this proceeding, this factor strongly favors exercising our discretion to deny institution pursuant to § 314(a).

*C. Fintiv Factor 3: Investment by the Court and the Parties in the Underlying Litigation*

Patent Owner contends there has been immense investment in the underlying litigation. PO Prelim. Resp. 10. In particular, Patent Owner argues the district court held a *Markman* hearing in late January and issued a claim construction order on April 7, 2020. *Id.* (citing Ex. 2005). Patent Owner also argues that the parties have exchanged expert reports and they have filed dispositive and *Daubert* motions. *Id.* (citing Ex. 2002). Patent Owner further argues that "more resources" will be devoted to the district court case in the coming months in preparation for the August trial, and that the parties "have already made and will continue to make in the next couple of months tremendous 'investment in the parallel proceeding.'" *Id.* In that regard, Patent Owner states that, since the filing of the Preliminary Response, "the parties have filed oppositions to each other's dispositive and *Daubert* motions and have agreed to file the associated replies." PO Sur-

reply 1–2. We also note that the amended docket control order set a deadline of July 17, 2020, for filing the joint pretrial order, joint proposed jury instructions, joint proposed verdict form, responses to motions in limine, updated exhibit lists, updated witness lists, and updated deposition designations, and set a deadline of July 27, 2020, for the pretrial conference. Ex. 2002, 1–2.

As Patent Owner argues, Petitioner "does not dispute any of the facts regarding *Fintiv* factor 3 presented in [Patent Owner's Preliminary Response]." PO Sur-reply 1 (citing Pet. Reply 1–2). Instead, Petitioner argues that it exercised diligence in filing the Petition based on one ground for fourteen claims and gained no "tactical advantage for the Petition from the litigation based on the time the Petition was filed." Pet. Reply 1–2. In response, Patent Owner argues that "diligence and tactical advantage are factors addressed under *General Plastic*." PO Sur-reply 2.

Contrary to Patent Owner's argument, *Fintiv* does provide that a petitioner's diligence or delay in filing a petition may be relevant under the third *Fintiv* factor. *Fintiv*, Paper 11 at 11–12. However, in view of the undisputed evidence of the expenditure of substantial time and effort by the court and the parties in preparing for and conducting a jury trial in the district court, we find this factor strongly favors exercising our discretion to deny institution pursuant to § 314(a) to prevent the inefficient use of Board resources.

### *D. Fintiv Factor 4: Overlap Between Issues Raised in the Petition and Underlying Litigation*

The parties disagree on the extent to which the issues overlap in the Petition and the underlying litigation with respect to the '833 patent.

Petitioner contends that the issues in the two proceedings do not substantially overlap. Pet. Reply 2. Petitioner argues that, at Patent Owner's request, it agreed to drop the grounds involving Qualcomm-269 and Cho in the district court case, which "mitigates concerns of duplicative efforts." *Id.* Petitioner also argues that fourteen claims are challenged in the Petition, and Patent Owner's argument about the relative amount of space in the Petition devoted to overlapping and non-overlapping claims fails because Patent Owner does not concede that the dependent claims fall with the independent claims. *Id.*

Patent Owner contends that the Petition and the district court case overlap substantially. PO Sur-reply 2–3. Patent Owner argues that Petitioner "fails to inform the Board that the ground of challenge remaining in the district court . . . relies on two of the same references (Exs. 1006 and 1008) as the Petition." *Id.* at 3–4. Patent Owner also argues that Petitioner's invalidity contentions and Dr. Wells' declaration show there are numerous similarities in Petitioner's analysis of the ground remaining in the district court and the analysis in the Petition. *Id.* at 4–5 (citing Ex. 2028, 80–83, 88–91; *Compare* Ex. 1002 ¶¶ 76–78, 79–84, 85–94, 95–101, 102–104, 105–113, 114–119, 120–123 (Petition ground) *with* Ex. 2037 ¶¶ 268–270, 271–278, 279– 288, 289–294, 295, 296–306, 307–312, 313–316 (Malladi ground). Patent Owner further argues that the fact there are more claims at issue in the Petition than those elected for trial does not favor institution because Petitioner's analysis of the dependent claims relies on essentially the same evidence and argument as for the independent claims, and therefore, there is

substantial overlap between this proceeding and the district court case. PO Prelim. Resp. 11–12.

This fourth *Fintiv* factor involves consideration of inefficiency concerns and the possibility of conflicting decisions. *Fintiv*, Paper 11 at 12. Therefore, "if the petition includes the same or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding, this fact has favored denial." *Id.* "Conversely, if the petition includes materially different grounds, arguments, and/or evidence than those presented in the district court, this fact has tended to weigh against exercising discretion to deny institution." *Id.* at 12–13.

In considering issues pertaining to the claims and the prior art asserted in the Petition and in the jury trial in the underlying litigation, there are similarities and differences with respect to both. We first consider issues of overlap with respect to the claims. At the trial in the district court, Patent Owner asserted only one claim of the '833 patent, independent claim 8. Pet. Notice 1; PO Updated Notice 1–2. The Petition, however, challenges all fourteen claims of the '833 patent; independent claims 1 and 8, as well as dependent claims 2–7 and 9–14. Pet. 6. Independent claim 8 is directed to a mobile station for transmitting uplink signals, and independent claim 1 is directed to a method for transmitting uplink signals. *See* Ex. 1001, 8:65–67, 9:65–67. A comparison of the limitations of claims 8 and 1 indicates that, except for the claimed processor of claim 8, the "multiplexing," "mapping the multiplexed signals to a 2-dimensional resource matrix," and "mapping ACK/NACK control signals" limitations of claim 8 are essentially the same as limitations (a), (b), and (c) of claim 1, respectively. We also note that in

the Petition, Petitioner argues that the prior art discloses each of the limitations of claim 1 (*see* Pet. 31–65), and then for each limitation of claim 8, argues that the limitation of claim 8 is disclosed by the art cited in the section of the Petition addressing the corresponding limitation of claim 1 (*see id.* 77–79). Besides the three limitations identified above (and being a method claim), claim 1 differs from claim 8 in that it includes a "transmitting" step. *See* Ex. 1001, 9:30–32. Thus, although only claim 8 was asserted at trial, it is substantially similar to claim 1, which is also asserted in the Petition. However, none of the twelve dependent claims were asserted at trial.

Second, we consider the overlap of issues with respect to the prior art. At trial, Petitioner asserted, and Patent Owner acknowledges that Dr. Wells testified, that claim 8 of the '833 patent was invalid for obviousness over the combination of Qualcomm, Malladi-161,[10] Samsung, and Malladi-367.[11] Pet. Notice 1; PO Updated Notice 2. Although this combination of prior art is different from the combination asserted in the Petition—Qualcomm, Cho, Samsung, and Qualcomm-269—as Patent Owner argues, two of the references—Qualcomm and Samsung—are the same. PO Sur-reply 3 (citing Exs. 1006, 1008). Patent Owner also argues that, at trial, Petitioner replaced the Petition's Qualcomm-269 (Ex. 1007) with Malladi-367 (Ex. 2034), and replaced the Petition's Cho (Ex. 1005) with Malladi-161 (Ex. 2035). *Id.* at 4. Patent Owner also argues, and we agree, that based on Petitioner's

[10] US 8,374,161 B2, issued on February 12, 2013. Ex. 2035.

[11] US 8,467,367 B2, issued June 18, 2013. Ex. 2034.

second amended invalidity contentions (Ex. 2038) served on March 31, 2020, in the underlying litigation, and Dr. Wells' analysis in his declaration (Ex. 1002) and in his expert report in the underlying litigation (Ex. 2037), Petitioner and Dr. Wells treat Cho interchangeably with Malladi-161, and they treat Qualcomm-926 interchangeably with Malladi-367. *Id.* (citing Ex. 2038, 80–83, 88–91; *Compare* Ex. 1002 ¶¶ 76–78, 79–84, 85–94, 95–101, 102–104, 105–113, 114–119, 120–123 (Petition ground) *with* Ex. 2037 ¶¶ 268–270, 271–278, 279– 288, 289–294, 295, 296–306, 307–312, 313–316 (Malladi ground)). As Patent Owner also argues, and we agree, "Dr. Wells used similar language for both what the references supposedly disclosed and the reasons for combining." *Id.*

Patent Owner also argues that, during trial, Patent Owner's expert, Dr. Madisetti, explained why the '833 patent was not rendered obvious by either a combination of Qualcomm-037 (Ex. 1006), Malladi-161 (Ex. 2035), Malladi-367 (Ex. 2034), and Samsung-094 (Ex. 1008) or a combination of Qualcomm-037 (Ex. 1006), Cho (Ex. 1005), Qualcomm-269 (Ex. 1007), and Samsung-094 (Ex. 1008). PO Update Notice 2. We are not persuaded by this argument because we do not have access to the trial record. Moreover, we agree with Petitioner that any testimony by Dr. Madisetti about additional prior art references was not part of Petitioner's invalidity case, and Patent Owner did not seek a declaration of invalidity and, therefore, could not independently introduce grounds of invalidity at trial not addressed by Petitioner's witnesses. Pet. Notice 1–2 n.1.

Thus, although the combinations of four references asserted by Petitioner at trial and in the Petition are different, two of the references,

including the primary reference Qualcomm, are the same in both combinations. And, to the extent the other two references in each combination are different, Petitioner treated the respective pairs of references interchangeably.

For the above reasons, there is substantial overlap of issues concerning the prior art asserted by Petitioner at the district court trial and the prior art asserted in the Petition. There is also substantial similarity in the issues concerning independent claims 1 and 8 because of the substantial similarity of the limitations of claim 1 challenged in the Petition and claim 8 asserted at the district court trial.

However, with respect to dependent claims 2–7 and 9–14, each of which depends from claims 1 and 8, respectively, there are no specific overlapping issues because these dependent claims were not asserted at the district court trial. Although each dependent claim further limits its underlying independent claim, we note the limitations of claims 2–7, and the limitations of corresponding claims 9–14, are substantially identical.[12] *See* Ex. 1001, 9:33–64; 10:31–64. Even when we distill these twelve dependent claims down to two identical sets of six dependent claims, the specific arguments and evidence concerning the additional limitations recited in these two sets of six dependent claims necessarily would be different than the specific arguments and evidence concerning the limitations of claim 8 that was asserted in the district court trial. As just one example, dependent

[12] In other words, except for the reference to the underlying independent claim, the additional limitations of claims 2 and 9, 3 and 10, 4 and 11, 5 and 12, 6 and 13, and 7 and 14 are substantially identical.

claims 7 and 14 each recite "wherein the signals mapped to the 2-dimensional resource matrix are transmitted through a physical uplink shared channel (PUSCH)." Ex. 1001, 9:65–67, 10:62–64. Because the PUSCH channel required by dependent claims 7 and 14 is a specific type of uplink channel for transmitting multiplexed signals that is not otherwise required by independent claims 1 and 8, the specific arguments and evidence that would be required to account for this particular limitation necessarily would be different than those required or presented for the limitations of independent claims 1 and 8.

On balance, even though there is overlap in the issues raised in the Petition and tried in the district court in the underlying litigation with respect to claims 1 and 8, we would be the first tribunal to assess the patentability of the additional limitations required by dependent claims 2–7 and 9–14. Consequently, this factor does not weigh in favor of or against exercising our discretion to deny institution pursuant to § 314(a).

### *E. Fintiv Factor 5: Whether Petitioner is the Defendant in the Underlying Litigation*

Petitioner and Patent Owner are the defendant and plaintiff, respectively, in the district court case in the underlying litigation. *See* Pet. 2; Prelim. Resp. 13. On August 11, 2020, the jury returned a verdict in Patent Owner's favor with respect to independent claim 8. PO Updated Notice, Paper 11, 2 (citing Ex. 2041, 2). Because the jury trial in the underlying litigation has concluded, we find that this factor favors exercising our discretion to deny institution pursuant to § 314(a).

### *F. Fintiv Factor 6: Other Circumstances That Impact the Board's Exercise of Discretion*

Under the sixth *Fintiv* factor, which takes into account any other relevant circumstances, Patent Owner argues that Petitioner unreasonably delayed in filing the Petition because the number of claims asserted by Patent Owner in the underlying litigation did not significantly affect drafting the Petition and "Petitioner had known about the references since at least August 19, 2019, when it served its invalidity contentions." Prelim. Resp. 13–14 (citing Ex. 2009). Petitioner asserts it was diligent in filing the Petition. Reply 1. Petitioner argues that, although its initial invalidity contentions identified nearly 140 prior art references for the seven patents asserted in the underlying litigation, Petitioner diligently evaluated the unique strengths of each prior art reference and combination, searched for additional prior art, and ultimately filed only three petitions with the Board. *Id.* Having considered the particular factual circumstances of this case, we do not consider Petitioner's filing of the Petition untimely.

Petitioner presents extensive policy arguments against the Board's application of *Fintiv* and *NHK* in determining whether to exercise discretion to deny institution under 35 U.S.C. § 314(a). Pet. Reply 6–8. We do not address these arguments because we are bound by the precedential decisions in *Fintiv* and *NHK*.

Petitioner argues that the strength of its Petition weighs against discretionary denial. Pet. Reply 3–4. Rather than point out particular strengths of the obviousness ground based on the combination of Qualcomm, Cho, Samsung, and Qualcomm-269, however, Petitioner uses its Reply to respond on the merits to some of the arguments raised by Patent

Owner in the Preliminary Response. *Id.* (citing Prelim. Resp. §§ VI.A, B, C, 56–58). Patent Owner then offers its own response in its Sur-reply. PO Sur-reply 5–7. As we reminded the parties when we authorized supplemental briefing, we will not consider any arguments regarding the merits that were not raised in the Petition or Preliminary Response. *See* Ex. 2036, 1. In any event, the parties have not identified particular strengths or weaknesses (e.g., in comparison to the obviousness ground already considered by the jury in the underlying litigation) that in our view would tip the balance either for or against discretionary denial when considered as part of a balanced assessment of the *Fintiv* factors in this case. *See Fintiv*, Paper 11 at 14–15.

Petitioner also raises additional considerations under this factor that it contends favor institution. Pet. Reply 4–6. Petitioner argues that the public interest would be served if the Board addresses the patentability of the '833 patent, which Patent Owner alleges is essential to the 3GPP standard. *Id.* at 4 (citing Ex. 1064, 9). Petitioner also argues that "the Board is well suited to address complex technical subject matter" and that an in-depth analysis of the '833 patent by the Board would enhance the integrity of the patent system. *Id.* at 5–6. We do not take Petitioner's concerns lightly, but Patent Owner correctly asserts that ample procedural safeguards exist for Petitioner to challenge the '833 patent in the district court, including the availability of an appeal to the U.S. Court of Appeals for the Federal Circuit once post-trial proceedings have been completed. PO Sur-reply 7–8.

*G. Conclusion*

Based on the particular circumstances of this case, we determine that instituting an *inter partes* review would be an inefficient use of Board

resources. As discussed above, the trial in the underlying litigation recently concluded more than one year before we would reach a final decision in this proceeding if we instituted an *inter partes* review. Moreover, the district court and the parties expended considerable time and effort in preparing for and conducting the trial. These considerations, as discussed above in regard to *Fintiv* factors two and three, strongly favor the exercise of discretionary denial. As discussed, *Fintiv* factor five also favors discretionary denial. The other considerations, as discussed above in regard to *Fintiv* factors one, four, and six are essentially neutral and do not weigh in favor of or against exercising our discretion to deny institution. Thus, there are no considerations that override the two factors strongly favoring, and one factor favoring, the exercise of discretionary denial. In particular, we are not persuaded that the Petition's showing on the merits is so strong that it outweighs the second, third, and fifth *Fintiv* factors favoring discretionary denial in this case.

On balance, after a holistic consideration of the relevant facts and the particular circumstances of this case, we conclude that efficiency and integrity of the system are best served by denying institution. Thus, we exercise our discretion under § 314(a) to deny institution of *inter partes* review.

## IV. ORDER

Accordingly, it is

ORDERED that the Petition is *denied*; and

FURTHER ORDERED that no *inter partes* review is instituted.

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