

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CRADLEPOINT, INC., HONEYWELL INTERNATIONAL, INC.,
SIERRA WIRELESS, INC., TCL COMMUNICATION TECHNOLOGY
HOLDINGS LIMITED, TCT MOBILE INTERNATIONAL LIMITED,
TCT MOBILE, INC., TCT MOBILE (US) INC., TCT MOBILE (US)
HOLDINGS INC., and THALES DIS AIS DEUTSCHLAND GMBH,
Petitioner,

v.

SISVEL S.P.A.,
Patent Owner.

IPR2021-00580
Patent 7,869,396 B2

Before BARBARA A. PARVIS, MONICA S. ULLAGADDI, and
AARON W. MOORE, *Administrative Patent Judges*.

ULLAGADDI, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining Some Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Cradlepoint, Inc., Honeywell International, Inc., Sierra Wireless, Inc., TCL Communication Technology Holdings Limited, TCT Mobile International Limited, TCT Mobile, Inc., TCT Mobile (US) Inc., TCT Mobile (US) Holdings Inc., and Thales DIS AIS Deutschland GmbH (“Petitioner”) filed a Petition (Paper 8, “Petition” or “Pet.”) requesting an *inter partes* review of claims 1–10 of U.S. Patent No. 7,869,396 B2 (Ex. 1001, “the ’396 patent”) pursuant to 35 U.S.C. §§ 311–319, accompanied by the supporting Declarations of Dr. Apostolos K. Kakaes (Ex. 1002) and Mr. Craig Bishop (Ex. 1007).¹ Sisvel S.p.A. (“Patent Owner”) filed a Preliminary Response (Paper 12, “Preliminary Response” or “Prelim. Resp.”), accompanied by the supporting Declaration of Mr. Regis J. Bates, Jr. (Ex. 2001).

Upon review of the record, we instituted *inter partes* review, pursuant to 35 U.S.C. § 314, as to the challenged claims based on the challenges set forth in the Petition. Paper 16 (“Institution Decision” or “Inst. Dec.”).

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 29, “PO Resp.”) accompanied by the Second Declaration of Mr. Bates (Ex. 2006), Petitioner filed a Reply to Patent Owner’s Response (Paper 40, “Pet. Reply”), and Patent Owner filed a Sur-Reply

¹ Petitioner originally included ZTE Corporation and ZTE (USA) Inc. (“ZTE”) and Dell, Inc.—ZTE and Patent Owner entered into a settlement agreement and Dell, Inc. and Patent Owner entered into a settlement agreement. Papers 13, 30. As such, we terminated the proceeding as to ZTE and Dell and reconstituted Petitioner as the remaining entities absent ZTE and Dell. *Id.*; see Papers 15, 33.

(Paper 42, “Sur-Reply”). On June 15, 2022, we held an oral hearing. A transcript of the hearing is of record. Paper 48 (“Tr.”).

For the reasons that follow, we conclude that Petitioner has proven by a preponderance of the evidence that claims 1, 2, 6, 7, and 8 of the ’396 patent are unpatentable. We further conclude that Petitioner has not proven by a preponderance of the evidence that claims 3–5, 9, and 10 are unpatentable.

II. BACKGROUND

A. *Real Parties-in-Interest*

In addition to itself, Petitioner identifies the following entities as real parties-in-interest: Dell Marketing L.P., Dell Products L.P., Dell Technologies Inc., Denali Intermediate Inc., Sierra Wireless America, Inc., Thales DIS AIS USA, LLC, Telefonaktiebolaget LM Ericsson, and Ericsson Inc. Pet. 2.² Patent Owner identifies itself as the real party-in-interest. Paper 10, 1.

B. *The ’396 Patent*

The ’396 patent relates “to a data transmission method and a data retransmission method which can reduce loss in data. . . .” Ex. 1001, 1:17–20. Techniques for reducing data loss include the Automatic Repeat Request (ARQ) method, which “is performed by a high-level layer.” *Id.* at 1:58–60. Another technique is the HARQ (Hybrid ARQ) method, which is performed by lower-level layers and “correct[s] an error of data by the use of the FEC and to retransmit the data by the use of the ARQ.” *Id.* at 1:60–64.

Figure 12, reproduced below, is a diagram illustrating an exemplary data transmission method. *Id.* at 14:34–36.

² The Dell Inc. was terminated as to this proceeding. *Supra* n.1.

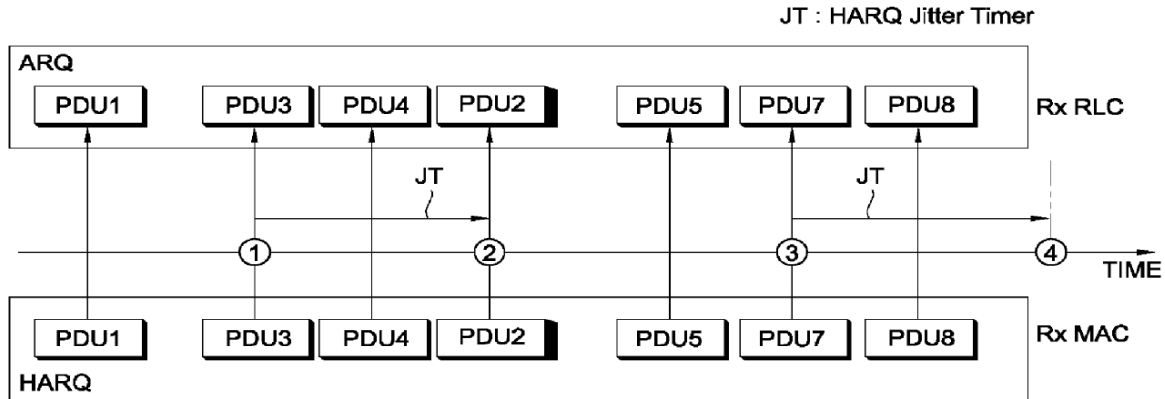


Figure 12 depicts that “the ARQ entity, that is, the RLC entity, receives PDU3 from the HARQ as a lower-level layer, that is, the MAC layer.” *Id.* at 14:38–40. Because PDU3 is received before PDU2, “the receiver checks that the gap is generated due to the inversion of transport order of the HARQ by the use of the HARQ jitter timer JT.” *Id.* at 14:40–44. The RLC entity receives PDU2 before the HARQ jitter timer expires, and so the timer stops. *Id.* at 45–46. The ARQ entity also receives PDU7 out of order, and similarly starts the HARQ jitter timer. *Id.* at 14:47–49. But, the RLC entity does not receive PDU6 before the timer expires, so “[t]he receiver judges that the reception of PDU6 fails and transmits the status report information.” *Id.* at 14:50–54. Upon receiving status report information that the receiver does not receive a certain PDU, the transmitter retransmits the PDU. *Id.* at 14:55–57. “The status report information may be information on a data block received or not received by the RLC entity of the receiver.” *Id.* at 9:23–25.

C. Related Matters

As required by 37 C.F.R. § 42.8(b)(2), the parties identify judicial matters that would affect, or be affected by, a decision in this proceeding. In particular, the parties inform us that the ’396 patent is asserted in the following district court cases:

No. 3:20-cv-01289 (N.D. Texas);

No. 1:20-cv-00649 (D. Del.);
No. 1:20-cv-00651 (D. Del.);
No. 1:20-cv-00652 (D. Del.);
No. 1:20-cv-00653 (D. Del.);
No. 1:20-cv-00654 (D. Del.);
No. 1:20-cv-00655 (D. Del.);
No. 1:20-cv-00656 (D. Del.);
No. 1:20-cv-00658 (D. Del.);
No. 1:20-cv-00659 (D. Del.);
No. 1:20-cv-22050 (S.D. Fla.);
No. 1:20-cv-22051 (S.D. Fla.); and
No. 1:20-cv-22054 (S.D. Fla.).

Pet. 2–3; Paper 10, 1.

D. Illustrative Claim

Petitioner challenges claims 1–10 of the '396 patent. Pet. 1. Claims 1 and 8 are independent. Claim 1 is illustrative and reproduced below.

1[pre] A method of performing automatic repeat request (ARQ) in a wireless communication system, the method performed by a receiver and comprising:

- 1[a] detecting whether at least one data block to be received from a transmitter is missed;
- 1[b] starting a timer when the at least one data block is detected as missed;
- 1[c] stopping the timer when the at least one data block is received from the transmitter while the timer is running, in order to prevent a triggering of a status report before the timer expires; and
- 1[d] transmitting the status report to the transmitter after the timer expires, wherein the status report comprises a positive acknowledgement indicating receipt of at least one received data block.

Ex. 1001, 16:39–53.

E. Asserted Grounds

Petitioner presents the following challenges as summarized in the chart below. Pet. 9.

Ground	Claim(s) Challenged	35 U.S.C. §	Reference/Basis
1	1–10	102 ³	Sachs ⁴
2	1–10	103(a)	Sachs
3	1–5, 7	102	Wei ⁵
4	1–5, 7	103(a)	Wei
5	6, 8–10	103(a)	Wei, 3GPP TS 25.322 ⁶

III. ANALYSIS

A. Legal Standards

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

³ The Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284 (2011) (“AIA”), included revisions to 35 U.S.C. §§ 102 and 103 that became effective after the effective filing date of the challenged claims. Therefore, we apply the pre-AIA versions of 35 U.S.C. §§ 102 and 103(a).

⁴ WO 02/091659 A2, published Nov. 14, 2002 (Ex. 1003, “Sachs”).

⁵ US 6,987,780 B2, issued Jan. 17, 2006 (Ex. 1004, “Wei”).

⁶ 3rd Generation Partnership Project (3GPP) Technical Specification (TS) 25.322 V5.9.0 (2004-12), “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Radio Link Control (RLC) protocol specification (Release 5)” (Ex. 1005, “3GPP TS 25.322”).

subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness.⁷ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). The burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in an *inter partes* review). Furthermore, Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

Thus, to prevail in an *inter partes* review, Petitioner must explain how the prior art discloses the challenged claims or how the proposed combinations of prior art would have rendered the challenged claims unpatentable. We analyze the challenges presented in the Petition in accordance with the above-stated principles.

⁷ Patent Owner does not present objective evidence of nonobviousness.

B. Level Of Ordinary Skill In The Art

Petitioner contends that:

A POSITA at or about the time of the alleged invention (January 5, 2006) would have had a degree in electrical engineering or a similar discipline, with at least three years of relevant industry or research experience, including experience designing or implementing wireless radio systems for data transmission and retransmission.

Pet. 35 (citing Ex. 1002 ¶¶ 40–53).

Patent Owner contends that a person having ordinary skill at the time of invention—January 5, 2006—in the relevant art would be one a bachelor’s degree in electrical engineering, computer sciences, or telecommunications, along with three to five or more years of practical experience in the field. A combination of more experience in the field and less education or more education and less experience in the field would also suffice.

PO Resp. 9 (citing Ex. 2001 ¶ 27). According to Patent Owner, “[a]lthough Patent Owner’s proposed level of skill in the art is similar to Petitioners’ proposal, Patent Owner includes the qualification that a combination of more experience in the field and less education, or more education and less experience in the field would also suffice.” *Id.*

The parties’ contentions as to the level of ordinary skill in the art are similar, and there does not appear to be a dispute that needs to be resolved. We adopt Petitioner’s definition as it appears to be consistent with the specification of the ’396 patent and the cited references. The findings and conclusions rendered in this Decision would not change had we adopted Patent Owner’s definition.

C. *Claim Construction*

In *inter partes* review proceedings based on petitions filed on or after November 13, 2018, such as this one, we construe claims using the same claim construction standard that would be used in a civil action under 35 U.S.C. § 282(b), as articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc), and its progeny. See 37 C.F.R. § 42.100(b).

Petitioner proposes “that all claim terms should be accorded their plain and ordinary meaning, as understood by a POSITA and consistent with the specification and file history of the ’396 patent.” Pet. 34–35. Patent Owner “agrees that the claim[] terms should be given their plain and ordinary meaning” and “reserves the right to provide alternate constructions if any of the terms become material to the Board’s decision.” PO Resp. 10.

We need not expressly define any claim term in our Decision in order to resolve the issues before us. See *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (explaining that construction is needed only for terms that are in dispute, and only as necessary to resolve the controversy). We note that the parties both implicitly construe claim limitation 1[c], “stopping the timer when the at least one data block is received from the transmitter while the timer is running, in order to prevent a triggering of a status report before the timer expires” similarly. See *e.g., infra* § III.D.2.

D. *Challenges 1 and 2—Anticipation by Sachs and Obviousness over Sachs Alone*

Petitioner contends that each of the challenged claims is unpatentable as anticipated under 35 U.S.C. § 102 over Sachs and as obvious under 35 U.S.C. § 103(a) over Sachs. Pet. 35–63.

Petitioner does not separate the anticipation and obviousness analysis. *See* Pet. 36–63. Inasmuch as anticipation is the epitome of obviousness, we analyze anticipation first. *See Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983) (internal citations omitted) (“Though it is never necessary to so hold, a disclosure that anticipates under § 102 also renders the claim invalid under § 103, for ‘anticipation is the epitome of obviousness.’”).

For the reasons that follow, we are persuaded that Petitioner establishes unpatentability by a preponderance of the evidence of claims 1, 2, 6, 7, and 8 with respect its anticipation and obviousness applying Sachs. We are not persuaded that Petitioner establishes unpatentability of claims 3–5, 9, and 10 by a preponderance of the evidence, with respect to either its anticipation or obviousness challenge applying Sachs.

1. *Overview of Sachs*

Sachs relates to “a method for performing a data transmission between a sending entity and a receiving entity,” where data is in the form of data packets, and where the receiver “delays a triggering of a reordering procedure for providing the sequence order” when a data packet is received out of order. Ex. 1003, code (57). Sachs describes that “[t]he basic idea of the present invention is to delay all mechanisms on the link layer, which exploit in-sequence reception by a certain time, which allows receiving all re-ordered packets and putting them back in the sent sequence.” *Id.* at 12:11–14. Figure 4, reproduced below, shows an embodiment that applies a timer T_reorder. *Id.* at 12:2–3.

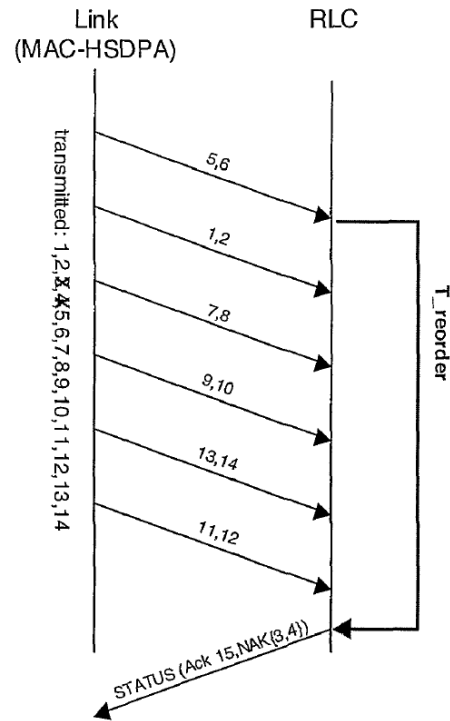


Figure 4

Figure 4 depicts an embodiment where “T_reorder is introduced in order to delay the reaction of the RLC receiver in sending a STATUS report, which triggers also the retransmissions.” *Id.* at 12:25–28. In Figure 4, the reorder-delay timer is started when PDUs 5 and 6 are received out of sequence. *Id.* at 13:2–6. In an acknowledged mode (AM), a STATUS report is placed in a buffer when a PDU is received out of order, and retransmission is delayed. *Id.* at 13:19–25. The STATUS report is updated when PDUs are received to fill the gaps in the sequence of PDUs. *Id.* at 13:25–27. When T_reorder expires, the STATUS report is removed from the buffer and transmitted. *Id.* at 13:30–31.

Figure 5, reproduced below, shows an embodiment where a reordering delay is stopped “when all outstanding PDUs are received and the sent sequence is re-established.” *Id.* at 14 1–5.

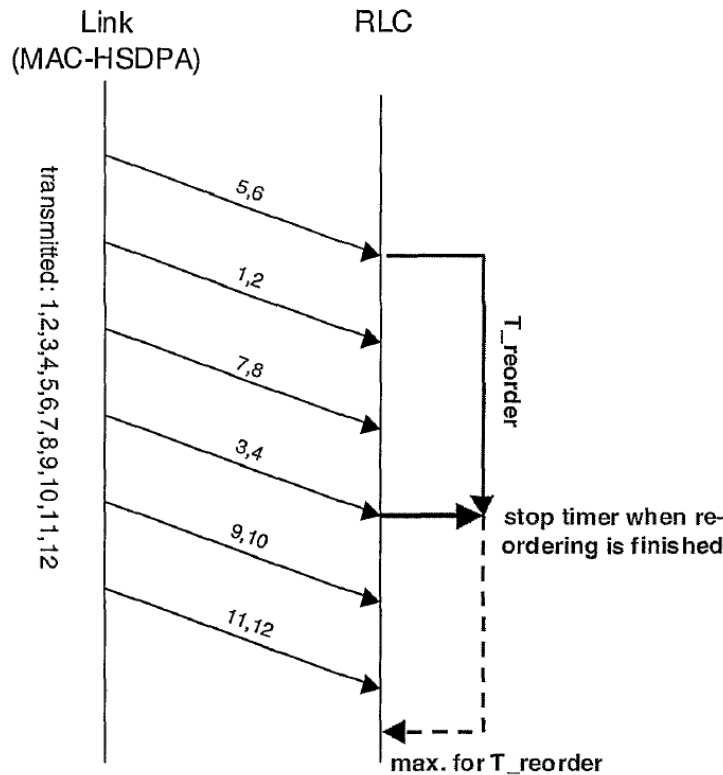


Figure 5

Figure 5 is similar to Figure 4 in that PDUs 5 and 6 are received out of order, except it shows that PDUs 3 and 4 are in fact received. *Id.* at 14:6–8. In this case, “the sequence 1, 2, 3, 4, 5, 6, 7, 8 is re-established and therefore the T-reorder timer is stopped.” *Id.* at 14:10–12.

2. Independent Claim 1

1[pre] “A method of performing automatic repeat request (ARQ) in a wireless communication system, the method performed by a receiver and comprising”

Petitioner contends that “[t]o the extent the preamble is limiting, it is disclosed by Sachs.” Pet. 36. According to Petitioner, “Sachs teaches data transmission in a wireless communication system, specifically ‘the UMTS system’” and that “transmission errors are recovered by applying the Automatic Repeat reQuest ARQ mechanism,” which Petitioner argues is

performed by a “receiver entity.” *Id.* (citing Ex. 1003, Title, Abstract, Figs. 1–2, 6–8, 1:22–23, 2:8–13, 2:16–17, 3:18–26, 4:2–5, 6:34–7:8, 8:5–12, 8:25–9:9, 10:1–4, 11:15–26, claims 1, 14).

1[a] “detecting whether at least one data block to be received from a transmitter is missed”

Petitioner contends Sachs teaches that “transmission errors are detected by searching for gaps in the sequence numbers of the received PDUs on the receiver side.” Pet. 36–37 (quoting Ex. 1003, 2:17–19) (citing Ex. 1003, Figs. 4, 5, 9:11–15, 12:28–35, claims 4, 5).

1[b] “starting a timer when the at least one data block is detected as missed.”

Petitioner contends Sachs teaches that “the delay parameter is a timer that is started for every data packet[] arriving out of sequence, and the triggering of the reordering procedure for providing the sequence at the receiver is delayed by the duration of the timer.” Pet 39 (quoting Ex. 1003, 9:11–17) (citing Ex. 1003, 9:24–32, 10:19–23, 12:34–13:7, 14:8–10, claim 2, Figs. 4, 5).

1[c] “stopping the timer when the at least one data block is received from the transmitter while the timer is running, in order to prevent a triggering of a status report before the timer expires”

Petitioner contends “Sachs explains that: ‘the timer is stopped before the timer expiry when at the reception of a data packet the sequence is established.’” Pet. 40 (quoting Ex. 1003, 9:34–10:4). According to Petitioner, “[i]n order to achieve a minimum reaction time of the link protocol, the reordering-delay shall preferably be stopped when all outstanding PDUs are received and the sent sequence is re-established.” *Id.* at 41 (quoting Ex. 1003, 14:1–5) (citing Ex. 1003, claim 6). Petitioner argues that “[t]he unwanted effect is avoided because the negative status report

(e.g., the NAK for data blocks 3,4) is not sent until the timer expires . . . , which does not happen if the timer is stopped before expiring.” *Id.* (citing Ex. 1003, Fig. 4, 8:25–9:2, 9:11–17, 9:24–10:4, 13:30–34). Petitioner also explains its contentions with respect to its annotated versions of Sachs’s Figures 4 and 5, reproduced below.

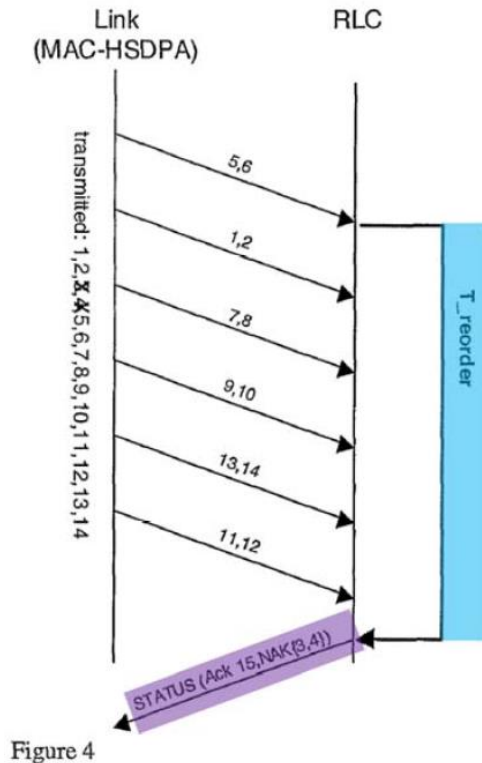


Figure 4

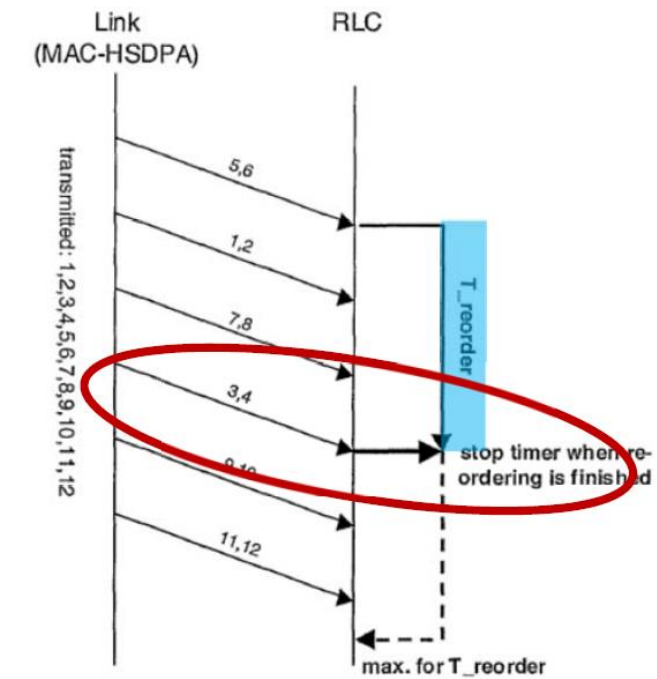


Figure 5

Id. Petitioner states that

Starting first at Figure 4 (above left), the T_reorder timer (highlighted blue) begins with detection that data blocks 1-4 are missing. When the T_reorder timer expires without receipt of data blocks 3-4, a status report consisting of both a positive acknowledgement (“ACK 15”) and a negative acknowledgement (“NAK (3,4)”) is sent (highlighted purple).

Figure 5 (above right) teaches the same embodiment except that, in this example, all of the missing data blocks (1-4) are received before the timer expires. The timer is then stopped

before expiration, and no status report indicating non-receipt of the blocks 1-4 is triggered.

Id. at 42 (citing Ex. 1003, Figs. 4, 5, 12:25–13:9, 13:30–33, 14:1–12; Ex. 1002 ¶¶ 171–173).

According to Petitioner, “Sachs’ description of this limitation is virtually identical to that of the ’396 patent” because the description associated with the ’396 patent’s Figure 12, “which illustrates stopping the timer JT at point (2), does not disclose any active ‘preventing’ process beyond the fact that a status report is not sent.” *Id.* (citing Ex. 1001, Fig. 12, 14:45–46; Ex. 1002 ¶¶ 176–177).

1[d] “transmitting the status report to the transmitter after the timer expires, wherein the status report comprises a positive acknowledgement indicating receipt of at least one received data block”

Petitioner contends Sachs teaches that “[i]n case of acknowledged mode AM[,] the triggering of the retransmission is delayed... Once T_reorder expires, the STATUS report is removed from the buffer and transmitted.” Pet. 43 (footnote omitted) (quoting Ex. 1003, 13:19–33) (citing Ex. 1003, Figs. 4–5, 9:24–32). According to Petitioner, with reference to its annotated version of Sachs’s Figure 4, “Sachs teaches that, at the expiration of the T_reorder timer, a STATUS message including a positive acknowledgement indicating receipt of at least one received data block (‘Ack 15’) is transmitted.” *Id.* (citing Ex. 1003, Fig. 4 (Petitioner’s annotated version); Ex. 1002 ¶¶ 178–181).

Patent Owner’s Response and Petitioner’s Reply

First, Patent Owner argues that Petitioner’s position “is based on the incorrect premise that limitations 1[c] and 1[d] cannot both be performed.” PO Resp. 14. Patent Owner contends that “[t]he actual language of claim 1

demonstrates that limitations 1[c] and 1[d] are not conditional” because “[t]he limitations are connected with ‘and’ demonstrating that the claim comprises a single method” and “[t]he cases cited by Petitioners confirm only that words such as ‘when’ or ‘if’ indicate conditional steps.” *Id.* (citing *Microsoft Corp. v. Uniloc, 2017 LLC*, IPR2019-01187, Final Written Decision (PTAB Jan. 19, 2021), 13) (emphasis omitted); Sur-Reply 4–5.

Petitioner persuasively responds that “[b]oth limitations refer back to the single timer described in 1[b]” and that “[l]imitations 1[c] and 1[d] are mutually exclusive: the timer either stops or expires, but it cannot do both while performing the method.” Pet. Reply 4 (citing Pet. 20 n.5; Ex. 1002 ¶¶ 121, 169). According to Petitioner, it “need therefore only demonstrate one of the mutually exclusive limitations, 1[c] **or** 1[d], in the prior art” but contends that it “nonetheless presents prior art that discloses **both** mutually-exclusive limitations in single references.” *Id.* at 5 (citing Pet. 20 n.5).

We clarify that limitations 1[c] and 1[d] cannot both occur in response to the same set of stimuli. Limitation 1[c] can be triggered in response to one set of stimuli and limitation [d] can be triggered in response to a different set of stimuli as is shown in Sachs’s figures. In order for Petitioner to prevail, it need only show one of these mutually-exclusive claim limitations to satisfy the claim, as it contends. Petitioner persuasively shows that, under a first theory, with a first set of stimuli, the timer is stopped before it expires and limitations 1[a], 1[b], and 1[c] are performed as shown in Figure 5 of Sachs. Ex. 1003, Fig. 5. Under a second theory, with a different, second set of stimuli, the timer is allowed to expire and limitations 1[a], 1[b], and 1[d] are performed as shown in Figure 4 of Sachs. *Id.* at Fig. 4. In Petitioner’s annotated version of Figure 4, PDUs 3 and 4 are not received within the time

period set by the T_reorder timer—as such, the T_reorder timer expires and a status report acknowledging PDUs up to 14 and negatively acknowledging PDUs 3 and 4 (i.e., indicating that PDUs 3 and 4 are missing) is sent. Pet.

41. In Petitioner’s annotated version of Figure 5, the T_reorder timer is stopped when out-of-order PDUs 3 and 4 are received within the time period set by the T_reorder timer and as such, the T_reorder timer is stopped before it can expire. *Id.*

Second, Patent Owner argues that, in Sachs’s Figure 5, “the T_reorder timer is directed to delaying a reordering procedure, not the triggering of a status report as in the ’396 patent.” PO Resp. 16 (citing Ex. 1003, Figs. 4, 5, Abstract, 8:25–31, 9:11–15 (“the delay parameter is a timer that is started for every data packet[s] arriving out of sequence, and the triggering of the reordering procedure . . . is delayed by the duration of the timer”)); Ex. 2001 ¶ 53). According to Patent Owner, “Sachs teaches that a reordering procedure is performed *before* any other actions are taken—including stopping the T_reorder timer” and “[t]herefore, the timer in Figure 5 is not stopped ‘in order to prevent a triggering of a status report before the timer expires’ as required by claims 1 and 8.” *Id.* at 17 (citing Ex. 2001 ¶ 53; Ex. 2006 ¶ 29); Sur-Reply 6–7.

Petitioner responds that “Sachs first teaches that ‘it is advantageous to delay a request for a retransmission of missing data packets by the timer.’” Pet. Reply 6 (citing Ex. 1003, 9:24–26). Petitioner persuasively points to Sachs’s teaching that, “[i]n a preferred embodiment, the timer is stopped before the timer expiry when ***at the reception of a data packet the sequence is established.***” *Id.* (citing Ex. 1003, 9:34–10:1). Petitioner persuasively argues that “[i]t is receipt of the missing data packet, not an artificial and

separate ‘reordering procedure,’ to which the timer is tied.” *Id.* (emphasis added). We agree that the cited evidence in Sachs more closely supports Petitioner’s position that the “timer is stopped when and because the missing PDUs are received,” and not *after* the occurrence of some *additional* step in which PDUs in the RLC buffer are shuffled into sequential order. Petitioner persuasively supports its position with, for example, its annotated version of Figure 5, reproduced above, which depicts that the T_reorder timer is stopped when out-of-order PDUs 3 and 4 are received—Sachs does not depict or describe an *additional* step of reshuffling occurring *before* the timer is stopped. Pet. 41.

Patent Owner’s argument that Sachs teaches “a reordering procedure is performed *before* any other actions are taken” is unavailing because it is not supported by the cited evidence. In support of this argument, Patent Owner’s Declarant, Mr. Regis J. Bates, Jr., offers similar testimony that “the expiry of the timer in Sachs does not trigger a status report as in the ’396 patent, instead a reordering procedure is performed *before any other actions are taken*,” but does not explain why the reordering procedure takes place before “any other actions.” Ex. 2001 ¶ 53 (citing Ex. 1003, Figs. 4, 5, Abstract, 8:25–31, 9:11–15) (emphasis added). In his Second Declaration, Mr. Bates adds no further detail or explanation and cites the same portions of Sachs. Ex. 2006 ¶ 29. None of the cited portions of Sachs sufficiently supports a finding that Sachs teaches or suggests that “a reordering procedure is performed *before any other actions are taken*,” as Patent Owner contends and as Patent Owner’s Declarant testifies. *Id.*

Third, Patent Owner argues that “Petitioners relied primarily on a different figure (Figure 5) for claim limitation 1 [c] because Figure 4 does

not disclose ‘stopping a timer’ as required in limitation 1[c]” and for this reason do not sufficiently show “a single embodiment in Sachs that meets every limitation of claims 1 or 8.” PO Resp. 17 (citing Ex. 2006 ¶ 30).

In its Reply, Petitioner points to Sachs’s disclosure that “[t]he structure of the figure 5 is similar to the figure 4” and that “[t]he difference is that the PDUs 3 and 4 are transmitted over the link.” Pet. Reply 11 (citing Ex. 1003, 14:1–10).

We need not decide whether Figure 4 and Figure 5 of Sachs are directed to different embodiments. As discussed above, Petitioner shows two different ways by which claim 1 is met—Petitioner sufficiently shows that limitations 1[a], 1[b], and 1[c] are performed in Figure 5 of Sachs. Under an alternative theory, limitations 1[a], [1[b], and 1[d] are performed in Figure 4 of Sachs. Petitioner’s showing is persuasive in both of these ways.

We have reviewed the arguments and the cited evidence and are persuaded, that Sachs sufficiently discloses the limitations recited in claim 1 under both its theories. For the foregoing reasons, we are persuaded that Petitioner sufficiently establishes unpatentability of independent claim 1 as anticipated by Sachs by a preponderance of the evidence.

In a case such as this involving a single reference obviousness ground as an alternative to an anticipation ground that we have found reasonably likely to prevail, the principle that “anticipation is the epitome of obviousness” would appear to be relevant. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1372–74 (Fed. Cir. 2019) (citing *Connell*, 722 F.2d at 1548) (affirming PTAB determination “that a prior art reference rendered certain claims obvious ‘by virtue of its anticipation of them’”). Based on the foregoing arguments and evidence, we are persuaded that Petitioner

sufficiently establishes unpatentability of independent claim 1 as obvious over Sachs by a preponderance of the evidence.

3. *Independent Claim 8*

Independent Claim 8 recites a receiver that performs substantially the same method recited in independent claim 1. Petitioner presents substantially the same showing with regard to the receiver of claim 8 as it does for the method of claim 1. *See* Pet. 45–48. Petitioner also cites portions of Sachs that describe how each limitation is performed in an “RLC receiver.” *Id.* For reasons substantially similar to those set forth for independent claim 1, we are persuaded that Petitioner sufficiently establishes unpatentability of independent claim 8 as anticipated by Sachs by a preponderance of the evidence. We are also persuaded that Petitioner sufficiently establishes unpatentability of independent claim 8 as obvious in view of Sachs by a preponderance of the evidence. *Realtime Data*, 912 F.3d at 1372–74; *Connell*, 722 F.2d at 1548.

4. *Dependent Claim 2*

Claim 2 depends from independent claim 1. Claim 2 recites “wherein the at least one data block is detected as missed when a sequence number (SN) of a currently received data block is larger than a SN of a previously received data block.”

Petitioner contends that “[c]laim 2 further specifies the manner in which a data block is detected as missed: when a sequence number of a currently received data block is larger than a sequence number of a previously received data block.” Pet. 48–49 (footnote omitted). Under a first theory, Petitioner contends that “Sachs discloses this: ‘[t]he transmission errors are detected by searching for gaps in the sequence numbers of the

received PDUs on the receiver side.” *Id.* at 49 (citing Ex. 1003, 2:17–19, 13:2–6, 14:8–10 (describing Figures 4–5)).

Under an alternative, second theory, Petitioner contends that “[t]he left-hand side of Figure 6 (above) shows Sachs’ teachings applied to an RLC receiver (‘RLC RX’) operating in ‘acknowledged mode,’ *i.e.*, with the RLC layer engaging in ARQ error recovery by requesting retransmission of missed data blocks through status reports.” *Id.* at 50 (citing Ex. 1003, Fig. 6, 2:15–34, 14:32–15:9; Ex. 1002 ¶¶ 205–206.” With respect to this alternative, second theory, Petitioner explains that

The vertical line in Figure 6 shows the arrival of PDUs with time running from top to bottom. PDU1 is the first data block received followed by PDU4. Figure 6 teaches a state variable X1, which is set to the largest sequence number of a block of in-sequence PDUs. In this example, Sachs teaches that X1 is initially set to 1, which is the largest sequence number of the in-sequence PDUs. “In the next step PDU4 is received, which is out of order. In this case T_reorder timer is started” Sachs therefore teaches that at least one data block is detected as missed (in this case two data blocks, PDUs 2,3) when the sequence number of the currently-received data block (PDU4) is larger than a sequence number of a previously received data block (PDU1).

Id. at 51 (citing Ex. 1003, 3:5–16, 12:25–13:9, 15:9–14, 15:12–16:2, Figs. 7, 8; Ex. 1002 ¶¶ 207–208).

Patent Owner’s Response

With respect to claim 2, Patent Owner argues that Petitioner does not “explain how Figure 6 relates to Figures 4 and 5,” and contends that the “omission is problematic because Figure 6 is different from and incompatible with Figures 4 and 5.” PO Resp. 18 (citing Ex. 2006 ¶ 33). In particular, Patent Owner contends that “in Figure 6, a ‘STATUS up to 6’

message is sent after the receipt of PDUs 8 and 9” whereas “[i]n Figure 4, the status message is not limited to PDUs received in order as in Figure 6.” *Id.* at 18 (Ex. 1003, Fig. 6; Ex. 2006 ¶ 33).

Patent Owner’s arguments for claim 2 are unavailing. Petitioner’s showing with respect to claim 2 is sufficient because Petitioner cites a portion of Sachs’s description accompanying Figure 5 that discloses “[b]y receiving the PDUs 5 and 6 the RLC receiver notices, that they are out of order, and the T_reorder timer is started” and that, “[a]fter receiving the PDUs 3 and 4 the sequence 1,2,3,4,5,6,7,8 is reestablished and therefore the T_reorder timer is stopped.” Ex. 1003, 14:8–10 (emphasis added). Because PDUs 5 and 6 are received before, for example, PDUs 3 and 4, Sachs discloses that “at least one data block is detected as missed” as recited in claim 2 because PDUs 3 and 4 have not yet been received.

In this particular theory, because this cited portion of Sachs accompanies Figure 5 and not Figure 6, Petitioner does cite different embodiments in support of its showing for dependent claim 2. Accordingly, we determine that Petitioner establishes sufficiently that claim 2 is unpatentable as anticipated by Sachs by a preponderance of the evidence. As anticipation is the epitome of obviousness, we further determine that Petitioner establishes sufficiently that claim 2 is unpatentable as obvious in view of Sachs by a preponderance of the evidence. *Realtime Data*, 912 F.3d at 1372–74; *Connell*, 722 F.2d at 1548.

5. Dependent Claim 3

Claim 3 depends from independent claim 1. Claim 3 recites, “wherein the at least one data block is detected as missed when a sequence number (SN) following a SN of a data block with a highest SN among received data

blocks is larger than a lowest SN of the at least one data block to be received.”

Petitioner contends that claim 3 requires that “the sequence number of the currently-received data block is higher than the sequence number of a data block that has not yet been received, *i.e.*, there is a gap in sequence numbers.” Pet. 52. According to Petitioner, “Sachs teaches this: ‘[t]he transmission errors are detected by searching for gaps in the sequence numbers of the received PDUs on the receiver side.’” *Id.* (citing Ex. 1003, 2:17–19, Fig. 6).

Petitioner also cites Sachs’s Figure 6 in support of its showing. Citing its annotated version of Sachs’s Figure 6, Petitioner contends that

This excerpt from Figure 6 (which also appears in Figures 7 and 8) applies Sachs’ teachings to an RLC receiver (“RLC AM RX”). Sachs teaches that X1 is initially set to 1, which is the largest sequence number of the in-sequence PDUs. “In the next step PDU 4 is received, which is out of order. In this case T_reorder timer is started....” Sachs therefore teaches that at least one data block is detected as missed (PDUs 2, 3) when a sequence number following a sequence number of a data block with a highest sequence number among the received data blocks (*i.e.*, SN4 from PDU4 following the then-highest SN1 from PDU1 from the received data blocks) is larger than a lowest sequence number of the at least one data block to be received (*i.e.*, SN2 from PDU2). This limitation is taught under this or any other reasonable interpretation.

Pet. 53–54 (citing Ex. 1003, Figs. 6–8, Ex. 1003, 2:15–34, 3:5–16, 12:25–13:9, 14:32–15:9, 15:16–16:2; Ex. 1002 ¶¶ 210–215) (footnote omitted).

Patent Owner’s Response and Petitioner’s Reply

With respect to claim 3, Patent Owner argues that “Figure 6 is [] directed to a different embodiment from Figures 4 and 5, which the Petitioners rely on for claim 1” and “the Petitioners do not demonstrate that

the T_reorder timer performs the same steps as the timers in either Figure 4 or 5.” PO Resp. 19 (citing Ex. 2006 ¶ 35). Patent Owner’s Declarant testifies that “Petitioners do not demonstrate that the T_reorder timer performs the same steps as the timers in either Figure 4 or 5,” “[n]or do the Petitioners explain how Figure 6 relates to Figures 4 and 5.” Ex. 2006 ¶ 35.

Petitioner responds that “Sachs explains that Figure 6 shows the same RLC receiver from Figures 4 and 5 working both in the acknowledged mode (AM) (at left) and unacknowledged mode (UM) (at right) with the additional improvement of ‘at least one additional state variable in the receiver’” and “Sachs therefore explains that Figure 6 is an extension of Figures 4-5 with one additional feature.” Pet. Reply 14 (citing Ex. 1003, 14:14–35) (emphasis omitted). Petitioner further responds that it is not relevant that “status information is provided differently in Figure 6” because Petitioner only relies on Figure 6 to demonstrate teachings of the limitation recited in claim 2, “detecting whether at least one data block to be received from a transmitter is missed” and, in any event, Petitioner argues that “Sachs’ Figure 6 **does** disclose transmitting an ACK” because “[f]igure 6 depicts transmitting a ‘STATUS up[]to 18 NACK 11.’” *Id.* (citing Ex. 1003, Fig. 6).

Sachs does not clearly delineate its embodiments. *See generally* Ex. 1003. Figure 4 is described as “[a]n embodiment of the invention by applying the timer T_reorder.” Ex. 1003, 12:2–3. Figure 5 is described as “[a]n embodiment of the invention by applying the timer T_reorder and a stop timer event.” *Id.* at 12:4–5. Sachs discloses that, “[i]n the following two embodiment [sic] of the invention are presented.” *Id.* at 12:22–23. Sachs discloses

In the first embodiment a reorder delay timer, T_reorder is introduced in order to delay the reaction of the RLC receiver in

sending a STATUS report, which triggers also the retransmissions. This embodiment is described in respect to figure 4.

....

In order to achieve a minimum reaction time of the link protocol, the reordering-delay shall preferably be stopped when all outstanding PDUs are received and the sent sequence is re-established. This is can be achieved by stopping the duration of the T_reorder timer, when reordering is finished. This embodiment is shown in figure 5. The structure of the figure 5 is similar to the figure 4. The difference is that the PDUs 3 and 4 are transmitted over the link.

....

In a further embodiment of the invention the algorithm A is simplified. For the reason of the simplification no update of the X1 variable is performed. In the following this algorithm is called algorithm D.

Id. at 12:25–29, 14:1–8, 19:29–32.

Sachs appears to refer to Figures 4 and 5 as different embodiments even though they have the same structure and differ in terms of whether “PDUs 3 and 4 are transmitted over the link.” *Id.* at 14:1–8. Sachs discloses that, “[t]o completely solve the problem of packet re-ordering[,] the previous scheme can be improved by adding at least one additional state variable in the receiver” and subsequently describes algorithms A, B, C, and D. *Id.* at 14:22–30. Sachs does not disclose that algorithms A, B, C, and D depicted in Figures 6–9 are each a different embodiment, although it does refer to the algorithms as different “implementations.” *Id.* at 14:24–25. In Sachs, algorithm D is called a “further embodiment of the invention” that simplifies algorithm A (depicted in Figure 6). *Id.* at 19:29–32. Having reviewed the entirety of Sachs, we determine that the addition of a state variable X1,

accompanied by the description of “completely solv[ing] the problem of packet re-ordering” with a particular implementation, that of algorithm A, supports the finding that Figure 6 is an embodiment that differs from that which is shown in Figures 4 and 5.

Even though Petitioner contends that the RLC receiver shown in Figure 6 is the same as that shown in Figures 4 and 5, Petitioner does not explain how the same sequence of PDUs cited in Figure 6 could have been obtained in Figures 4 or 5 in light of the fact that there is an additional state variable in the receiver of Figure 6 and a different algorithm for packet re-ordering, algorithm A. We disagree with Petitioner that it is not relevant that “status information is provided differently in Figure 6”— Petitioner does not explain whether and how the state variable affects the sequence of the PDUs received, acknowledged, missing, and unacknowledged in Figure 6. Patent Owner highlights this point in an argument set forth for claim 2: “in Figure 6, a ‘STATUS up to 6’ message is sent after the receipt of PDUs 8 and 9” whereas “[i]n Figure 4, the status message is not limited to PDUs received in order as in Figure 6.” PO Resp. 18 (Ex. 1003, Fig. 6; Ex. 2006 ¶ 33).

The fact that Petitioner only cites Figure 6 for teaching the dependent claim limitations does not absolve Petitioner of its burden to show unpatentability by a preponderance of the evidence and to point out its challenge with specificity. Petitioner’s citation to column 2, lines 17 through 19 of Sachs is not sufficient because claim 3 has a scope that is different from that of claim 2, and requires something more than showing of “a gap in sequence numbers.” See Pet. 52 (quoting Ex. 1003, 2:17–19).

Because it is unclear how Petitioner intends to combine Figures 4 and 6 or Figures 5 and 6 and why a POSITA would have been motivated to

combine the differing embodiments, we determine that Petitioner does not sufficiently carry its burden to show unpatentability of claim 3, either by anticipation or obviousness, by a preponderance of the evidence.

6. *Dependent Claims 4 and 9*

Claim 4 depends directly from independent claim 1. Claim 9 depends directly from independent claim 8.

Claims 4 and 9 recite, “wherein the at least one data block is detected as missed when a sequence number (SN) following a SN of a data block with a highest SN among received data blocks is larger than a SN following a last in-sequence received data block.”

Petitioner contends that

Dependent claims 4 and 9 further specify circumstances under which the at least one data block is detected as missed to specify that the sequence number following a data block with a highest sequence number among the received blocks (*e.g.*, SN4 from PDU4, which follows PDU1, which was the highest received sequence number) is larger than a sequence number following a last-in-sequence received data block (*e.g.*, SN2, because PDU1 is the last in-sequence received data block, and 2 follows 1). In other words, a data block is missed when the next in-sequence data block from the currently-received data block is larger than the sequence number that would follow the last in-sequence received data block, *i.e.*, there is a gap in the sequence numbers. Sachs again teaches this detection of a missed data block.

Pet. 55 (citing Ex. 1002 ¶¶ 216–220) (footnote omitted); *see id.* at 55–57 (citing Pet. §§ VIII.C, VIII.D; Ex. 1003, Figures 6–8, 2:15–34, 3:5–16, 12:25–13:9, 14:32–15:9, 15:16–16:2; Ex. 1002 ¶¶ 216–220). Petitioner cites its annotated version of Sachs’s Figure 6 for this teaching. *See id.* at 55–56.

Patent Owner's Response and Petitioner's Reply

Patent Owner presents substantially the same arguments set forth above with respect to dependent claim 3, and further argues that “Petitioners point to ‘SN4’ as being greater than ‘SN2,’ but do not explain how SN2 is ‘a last in-sequence received data block’ as required by claims 4 and 9, when the PDU2 data block had not been received before PDU4.” PO Resp. 20 (citing Ex. 2006 ¶ 37).

Petitioner responds that it

did explain how, in this example, SN4 from PDU4 follows PDU1, which was the highest in-sequence number: a data block is missed when the sequence number from the currently-received data block is larger than the sequence number that would follow the last in-sequence received data block, $SN4 > SN2$, i.e., there is a gap in the sequence numbers. Petitioner also addressed an alternate interpretation in which the “sequence number (SN) following...” is instead interpreted to be SN5.

Pet. Reply 15 (citing Pet. 55–56, 55n.16; Ex. 1002 ¶¶ 217–220). Petitioner further contends that “Patent Owner could be applying its own interpretation to ‘a last in-sequence received data block,’ for claims 4 and 9, but Patent Owner has not explained that construction and has thus waived any such argument.” *Id.* at 15 n.5 (citing Paper 17 (Scheduling Order), 8 (“[A]ny arguments not raised in the response may be deemed waived.”)).

For the reasons discussed above in Section III.D.5 with respect to dependent claim 3, we determine that Petitioner does not explain how the same sequence of PDUs cited in Figure 6 could have been obtained in Figures 4 or 5 in light of the fact that there is an additional state variable in the receiver of Figure 6 and a different algorithm for packet re-ordering, algorithm A, is implemented. Petitioner does not explain whether and how

the state variable affects the sequence of the PDUs received, acknowledged, missing, and unacknowledged in Figure 6.

Because it is unclear how Petitioner intends to combine Figures 4 and 6 or Figures 5 and 6 and why a POSITA would have been motivated to combine the differing embodiments, we determine that Petitioner does not sufficiently carry its burden to show unpatentability of claims 4 and 9, either by anticipation or obviousness, by a preponderance of the evidence.

7. *Dependent Claims 5 and 10*

Claim 5 depends directly from independent claim 1 and claim 10 depends directly from independent claim 8.

Claims 5 and 10 recite “wherein the timer is stopped when a sequence number (SN) following a SN of a data block with a highest SN among received data blocks when the timer was started is the same as a SN following the last in-sequence received data block.”

According to Petitioner, “this limitation specifies that the timer for detecting an out-of-order receipt of the missed data blocks is stopped when the sequence numbers of the received data blocks ‘follows the last in-sequence received data block,’ i.e., when the sequence is made complete.” Pet. 57–58 (citing Ex. 1002 ¶¶ 219, 221–225). Petitioner quotes the following portion of Sachs:

In order to achieve a minimum reaction time of the link protocol, the reordering-delay shall preferably be stopped when all outstanding PDUs are received and the sent sequence is re-established. This is can be achieved by stopping the duration of the T_reorder timer, when reordering is finished.

Id. at 58 (citing Ex. 1003, 14:1–5). Petitioner contends that “Figure 7 (below) illustrates stopping the timer when SN5, ‘a sequence number (SN) following ...[,] is the same as a SN following the last in-sequence received

data block,’ which is also SN5 under this alternative interpretation.” *Id.* at 59 (citing Ex. 1002 ¶ 228).

With respect to Petitioner’s annotated Figure 7, Petitioner contends that “SN5 is ‘a sequence number (SN) following’ SN4 of PDU 4, which is the ‘SN of a data block with a highest SN among received data blocks when the timer was started.’” Pet. 60. Petitioner further contends that “Sachs teaches that this (SN 5) is ‘the same’ as ‘a SN following the last in-sequence received data block,’ which is, again, SN 5” and that “[i]n short, Figure 7 teaches, yet again, that the timer is stopped when the data blocks detected as missed are received.” *Id.* at 60–61 (citing Ex. 1002 ¶ 227); *see id.* at 57 n.17 (“This limitation is met even if the ‘sequence number (SN) following . . .’ is interpreted as SN5.”).

Patent Owner’s Response and Petitioner’s Reply

Patent Owner argues that “Petitioners also rely on Figure 7 of Sachs, which is from a different embodiment” and that “Petitioners refer to ‘SN5,’ but point to Figure 7 with annotations stating that the timer is stopped when PDU2 is received, not SN5.” PO Resp. 21–22 (citing Pet. 60; Ex. 2006 ¶ 40). Patent Owner contends that, accordingly, “Petitioners do not provide an adequate explanation of how Figure 7 alone allegedly meets all of the limitations of claims 5 and 10.” *Id.* at 22 (citing Ex. 2006 ¶ 40).

Petitioner responds that

Patent Owner similarly argues that Petitioner cannot also rely on Sachs’ “different” Figure 7 to invalidate claims 5 and 10. Response, 21-22. Again, in presenting this argument, Patent Owner does not dispute Petitioner’s proof that Sachs teaches the additional limitation of dependent claims 5 and through Figures 4-5 (and at 14:1-5). And, again, for claims 5 and 10, Petitioner demonstrated that Figure 7 **also** teaches stopping the timer. Figure 7 is a further extension of the same teachings in Figures

4, 5, and 6. Sachs explains that “[t]he structure of figure 7 corresponds to figure 6. The difference is the duration of the T_reorder timer,” which does not change the claimed structures. There is nothing “different” or “incompatible” between Figures 4- 6 and 7. And, crucially, Patent Owner does not dispute that Figure 7 demonstrates stopping a timer when the missing data block is received.

Pet. Reply 16 (citing Pet. 57–61; Ex. 1002 ¶¶ 221–228; Ex. 1003, 17:14–15;

Kennametal, 780 F.3d at 1381). Petitioner further contends that

Patent Owner altogether ignores Petitioner’s first proposed interpretation for “a SN following the last in-sequence received data block” (Petition, 57-59), and challenges only the alternate interpretation in which it could instead refer to the next in-sequence SN that would arrive after the last in-sequence data block. Patent Owner is free to disagree with this interpretation; its silence as to the first interpretation concedes that Sachs discloses claims 5 and 10.

Id. at 16–17 (citing Pet. 59–61; PO Resp. 21–22).

For the reasons discussed above in Section III.D.5 with respect to dependent claim 3, we determine that Petitioner does not explain how the same sequence of PDUs cited in Figure 7 could have been obtained in Figures 4 or 5 in light of the fact that there is an additional state variable in the receiver of Figure 7 and a different algorithm for packet re-ordering, algorithm B. Petitioner does not explain whether and how the state variable affects the sequence of the PDUs received, acknowledged, missing, and unacknowledged in Figure B.

Because it is unclear how Petitioner intends to combine Figures 4 and 7 or Figures 5 and 7 and why a POSITA would have been motivated to combine the differing embodiments, we determine that Petitioner does not sufficiently carry its burden to show unpatentability of claims 5 and 10, either by anticipation or obviousness, by a preponderance of the evidence.

8. *Dependent Claim 6*

Claim 6 directly depends from independent claim 1. Claim 6 recites “wherein the at least one data block comprises a Radio Link Control (RLC) Protocol Data Unit (PDU).”

Petitioner contends that “Sachs [] teaches that the at least one data block comprises a Radio Link Control (RLC) Protocol Data Unit (PDU).” Pet. 61 (citing Ex. 1003, 1:19–2:13 (describing the “so-called Protocol Data Units PDUs” and “the Radio Link Controller RLC”), 2:15–3:16 (“A detailed description of this protocol is to be found in the 3GPP specification ‘3G TS 25.322, version 4, Universal Mobile Telecommunication System (UMTS). RLC specification’.”), 6:7–32, 7:17–34, 12:25–20:20 (discussing RLC PDUs throughout), 16:4–17, 22:1–7, Figures 1–8 (“RLC” and “PDU”)). According to Petitioner, “[a] POSITA would have understood Sachs’ references to ‘PDUs’ in an ‘RLC receiver’ to refer to ‘Radio Link Control (RLC) Protocol Data Unit[s] (PDU[s]).’” *Id.* (citing Ex. 1002 ¶¶ 229–232).

Patent Owner does not specifically contest Petitioner’s showing with respect to dependent claim 6. *See generally* PO Resp. We have reviewed the cited evidence and testimony and we are persuaded that Sachs discloses the subject matter of the limitation recited in dependent claim 6. Accordingly, we are persuaded that Petitioner establishes unpatentability of claim 6 and anticipated by Sachs by a preponderance of the evidence.

As anticipation is the epitome of obviousness, we are also persuaded that Petitioner establishes unpatentability of claim 6 as obvious in view of Sachs by a preponderance of the evidence. *Realtime Data*, 912 F.3d at 1372–74; *Connell*, 722 F.2d at 1548.

9. *Dependent Claim 7*

Claim 7 directly depends from independent claim 1. Claim 7 recites “wherein the status report further comprises a negative acknowledgement indicating a sequence number (SN) of the at least one data block detected as missed.” Petitioner contends that

Sachs further teaches that the status report further comprises a negative acknowledgement indicating a sequence number (SN) of the at least one data block detected as missed: “A STATUS report including the request for missing PDUs is sent to the sender and this triggers the retransmission. Said request has a form of a negative acknowledgment NACK for the missing PDUs.”

Pet. 62 (citing Ex. 1003, 13:19–23, 16:23–27, 17:21–32, Figures 4 (status report with a “NAK(3,4)”), 6 (status report with a “NACK 11”), 7, 8 (same)).

Patent Owner does not specifically contest Petitioner’s showing with respect to dependent claim 7. *See generally* PO Resp. We have reviewed the cited evidence and testimony and we are persuaded that Sachs discloses the subject matter of the limitations recited in dependent claim 7. In particular, we are persuaded that Figure 4 of Sachs sufficiently shows a negative acknowledgment (NAK) for missing PDUs with sequence numbers 3 and 4. Figure 4 is the same figure cited in one of Petitioner’s theories for its showing for independent claim 1. As such, the portions of Sachs cited for independent claim 1 and dependent claim 7 are not from different embodiments. Accordingly, we are persuaded that Petitioner establishes unpatentability of claim 7 as anticipated by Sachs by a preponderance of the evidence.

As anticipation is the epitome of obviousness, we are also persuaded that Petitioner establishes unpatentability of claim 7 as obvious in view of Sachs by a preponderance of the evidence. *Realtime Data*, 912 F.3d at 1372–74; *Connell*, 722 F.2d at 1548.

E. Challenges 3 and 4—Anticipation by Wei and Obviousness Over Wei Alone

Petitioner contends that claims 1–5 and 7 are unpatentable as anticipated under 35 U.S.C. § 102 over Wei and as obvious under 35 U.S.C. § 103(a) over Wei. Pet. 63–73. For the reasons that follow, we are not persuaded that Petitioner sufficiently establishes by a preponderance of the evidence unpatentability of any of claims 1–5 and 7 with respect either of its anticipation and obviousness challenges based on Wei.

1. Overview of Wei

Wei relates to “techniques for retransmitting packets by a Radio Link Protocol (RLP) in CDMA communication systems.” Ex. 1004, 1:8–11. More broadly, Wei describes techniques “for retransmitting data in any wireless communication system with a first retransmission mechanism in a first sublayer (e.g., RLP) and a second retransmission mechanism in a second sublayer (e.g., HARQ-CF).” *Id.* at 2:50–55. In an embodiment, Wei employs a “delayed NAK RLP retransmission scheme.” *Id.* at 10:52. When a receiver RLP determines that there are two missing RLP frames, for example, “instead of immediately sending NAKs at the RLP sublayer to request retransmission of these missing RLP frames, the receiver RLP starts a delayed NAK timer.” *Id.* at 11:22–27. “The receiver RLP would then send the NAKs at the expiration of the delayed NAK timer.” *Id.* at 11:27–28.

Wei also describes an improvement to the delayed NAK RLP retransmission scheme, which normally uses a conservatively long value for the delayed NAK timer because “the receiver RLP wants to wait for a certain amount of time to gain more confidence in its assessment that this RLP frame is really lost.” *Id.* at 11:67-12:3. A “missing frame may still be in the process of being transmitted by the underlying HARQ-CF.” *Id.* at 11:65–67. Accordingly, the HARQ-CF can maintain a “dynamic event-driven timer . . . for each RLP frame determined by the receiver RLP to be missing.” *Id.* at 12:10–12. “This dynamic timer has a variable duration and its expiration is triggered by events known to the receiver HARQ-CF.” *Id.* at 12:12–14. The receiver RLP can send a NAK to a transmitter RLP to request retransmission of a missing RLP frame upon the expiration of the dynamic timer or an RLP fixed timer, whichever happens first. *Id.* at 12:17–21.

2. *Independent Claim 1 and Dependent Claims 2–5 and 7*

1[pre] “A method of performing automatic repeat request (ARQ) in a wireless communication system, the method performed by a receiver and comprising”

Petitioner contends that, “[t]o the extent the preamble is limiting, it is taught by Wei,” which “teaches the use of ARQ in a wireless communication system performed by a receiver.” Pet. 64 (citing Ex. 1004, codes (14) (“RLP retransmission for CDMA communication systems”), (57) (receiver), 1:13–22 (“wireless communication systems” and receiver), 2:4–21 (receiver), 2:24–49 (ARQ), 4:61–65, 19:18–26, claims 1–3, Figs. 6–8 (“Receiver RLP”)).

1[a] “detecting whether at least one data block to be received from a transmitter is missed”

Petitioner quotes the following disclosures in Wei: “missing RLP frames are first detected (*e.g.*, by a receiver RLP)” and that “the receiver RLP detects for missing RLP frames....” Pet. 64–65 (quoting Ex. 1003, code (57), 12:26–31) (citing *id.* at 1:33–38, 2:8–10, 10:15–17, 10:31–42, 11:65–67, 13:46–54, 13:66–14:3, 16:66–17:1, 18:28–29, Figures 7–8, claims 1, 8, 16, 24; Ex. 1002 ¶ 261).

1[b] “starting a timer when the at least one data block is detected as missed.”

Petitioner contends that “Wei teaches the use of a dynamic timer that is started when at least one data block (an RLP frame) is detected as missed” and quotes Wei’s disclosure of “[a] dynamic timer is then maintained [] for each RLP frame detected to be missing.” *Id.* at 65 (citing Ex. 1004, code (57), 2:10–24, 3:15–23, 11:22–28, 11:47–55, 11:65–12:21, 12:31–35, 12:41–46, 13:26–36, 13:50–57, 16:66–17:13, Figs. 6–8, claims 1, 8, 16, 24; Ex. 1002 ¶¶ 262, 263).

1[c] “stopping the timer when the at least one data block is received from the transmitter while the timer is running, in order to prevent a triggering of a status report before the timer expires”

Petitioner quotes Wei’s disclosure that “[w]hen an once missing RLP frame is received after the dynamic timer for the frame is triggered, the receiver RLP can also send a command to the receiver HARQ-CF to cancel the dynamic timer.” *Id.* (quoting Ex. 1004, 13:10–13) (citing *id.* at code (57), 13:10–13, 14:28–31, 15:53–65, Figures 6–8, claims 15, 23, 31).

According to Petitioner, “Wei additionally teaches that receipt of the missing data block (an RLP frame) before the timer expires will prevent the triggering of a status report.” *Id.* at 66 (citing Ex. 1004, code (57), 11:23–28 (“[I]nstead of immediately sending NAKs at the RLP sublayer to request

retransmission of these missing RLP frames, the receiver RLP starts a delayed NAK timer for these missing RLP frames. The receiver RLP would then send the NAKs at the expiration of the delayed NAK timer.”), 2:16–21, 10:40–52, 11:22–28, 12:17–21). Petitioner contends that “Wei, like Sachs, teaches that stopping the timer ‘prevent[s] a triggering of a status report’ in the same manner as the ’396 patent; a status report is not transmitted while the timer is running.” *Id.* (citing Ex. 1002 ¶¶ 264–247).

1[d] “transmitting the status report to the transmitter after the timer expires, wherein the status report comprises a positive acknowledgement indicating receipt of at least one received data block”

Petitioner quotes Wei’s disclosure that “the receiver HARQ-CF may or may not provide ACK feedback for each subpacket transmitted for the receiver,” and that “[i]f the receiver receives the control message on the F-PDCCH and is also able to recover the HARQ packet based on the subpackets received on the F-PDCH, then it sends an ACK back to the transmitter.” Pet. 66–67 (quoting Ex. 1004, 8:43–9:8) (citing Ex. 1004, 4:1–16, 10:58–67, 12:55–67, 4:61–5:2, 9:9–18, 11:8–17, 17:5–38, Figs. 6 (showing the receiver transmitting both ACK and NAK messages), 7–8; Ex. 1002 ¶¶ 268–269). Petitioner contends that “[e]ven if Wei did not expressly disclose this limitation, a POSITA would have understood the well-known use of ACK messages in ARQ systems to transmit status reports comprising a positive acknowledgement (*i.e.*, an ACK) to indicate the successful receipt of at least one received data block.” *Id.* at 67 (citing Ex. 1002 ¶¶ 270–271).

Patent Owner's Response and Petitioner's Reply

Patent Owner argues that “Wei does not disclose a status report.” PO Resp. 23 (citing Ex. 2001 ¶ 58). More particularly, Patent Owner points out that “Petitioners first refer to the delayed NAK timer as the status report in the ‘stopping’ limitation of claim 1” and argues that Wei’s NAK cannot be the “status report” recited in claim 1 because the claimed status report comprises “a positive acknowledgment indicate receipt of at least one received data block.” PO Resp. 24 (citing Ex. 1001, 51–53⁸; Pet. 66; Ex. 2001 ¶ 58). Patent Owner further points out that “Petitioners [also] appear to rely on a general discussion of ACK feedback for the element of claim 1 requiring a status report comprising a positive acknowledgement.” *Id.* (citing Pet. 66–67; Ex. 2001 ¶ 60). Patent Owner also asserts that “Petitioners apparently do **not** rely on the ‘indication’ message in Figure 7 of Wei, despite discussing it earlier in the Petition” “because the ‘indication’ is a message sent between receivers and not from the receiver to the transmitter as required by claim 1 of the ’396 patent.” *Id.* at 25 (citing Ex. 2001 ¶ 60).

Petitioner responds by arguing that a “status report” was a well-known term in the art and “referred to transmission of information that could include an ACK, NACK, both, or something else.” Pet. Reply 21 (citing Ex. 1002 ¶¶ 83–85).

First, Petitioner argues that

Wei teaches that, if the dynamic timer expires, an “indication” will be sent to the receiver RLP: “The receiver RLP would interpret the indication to mean the identified missing RLP frames are indeed lost.” The receiver RLP then transmits a NACK message (referred to as a “NAK” by Wei, Ex. 1002, ¶248)

⁸ Patent Owner does not cite a corresponding column number for lines 51–53.

notifying the transmitter of the missing data blocks. Wei confirms that the receiver RLP “initiates the recovery of each missing RLP frame” with an expired timer, which a POSITA would understand necessarily requires transmitting a status report.

Pet. Reply 23–24 (citing Ex. 1004, Abstract, 2:19–21, 12:55–67, 9:12–18, claims 1, 8; Pet. 30; Ex. 1002 ¶¶ 247, 248; Ex. 1004, 13:16–18, 18:21–33, Fig. 7 (step 744)). With respect to *this* explanation, Petitioner contends that “Wei discloses transmitting status report information, including a positive acknowledgement, which *could* be sent with a NAK.” Pet. Reply 23 (citing Pet. 33 (citing Ex. 1004, 4:61–5:2, 8:62–9:8, 11:8–17, 17:5–38), 66–67 (citing Ex. 1004, 8:43–9:8, 4:1–16, 10:58–67, 12:55–67)).

Second, Petitioner contends that “Wei further teaches, in Figure 9, transmission of the HARQ-level *combination* ACK/NAK messages from the receiving terminal to the transmitting base station.” *Id.* (citing Ex. 1004, Fig. 9, 18:21–33, 18:54–57) (emphasis added). According to Petitioner, “Sachs therefore expressly teaches transmitting ACKs and NAKs together in a single status report.” *Id.* at 24.

Third, Petitioner argues “a POSITA would have understood at the relevant priority date that a status report *could include* an ACK to communicate the received data blocks to the transmitter.” *Id.* (citing Ex. 1002 ¶¶ 83–85, 123). Petitioner contends that “status reports, including ACKs, were required under the then-prevailing 3GPP standard.” *Id.* (citing Ex. 1005, 17 (“This status report may contain positive or negative acknowledgements. . . .”)).

The parties do not agree about what the status report should encompass. Petitioner argues that a status report could encompass an ACK, NAK, or both. Pet. Reply 20–21 (Ex. 1002 ¶¶ 83–85; Ex. 1032, 17:16–18:7,

83:5–14, 88:1–7, 88:13–20, 89:5–12, 90:15–91:3, 91:13–92:1, 92:9–17).

Patent Owner argues that a NAK alone cannot constitute the *claimed* status report. PO Resp. 24. We agree with Patent Owner that a NAK alone cannot constitute the claimed status report because the claimed status report must include “a positive acknowledgement indicating receipt of at least one received data block” as recited in claim 1. Petitioner’s arguments about lack of intent to disavow scope from or redefine the claim term status report are inapposite (*see* Pet. Reply 19–22) because as *recited*, the claim term status report requires a positive acknowledgment.

With regard to Petitioner’s *first* argument, the fact that a POSITA would have understood that *a* status report *could* have a positive acknowledgment does not show that the element cited by Petitioner to teach the first instance of the *claimed* status report in limitation 1[c], i.e., a NAK disclosed in relation to Wei’s delayed NAK timer (Pet. 66 (citing Ex. 1004, Abstract, 2:16–21, 10:40–52, 11:22–28, 12:17–21)), would have been understood by a POSITA to include or be accompanied by a positive acknowledgment, nor does it show why a POSITA *would have* modified the cited NAK to somehow include or be accompanied by a positive acknowledgment as is necessary for its obviousness case. This cited portion of Wei discloses a NAK, not a status report, and Petitioner does not show that the cited NAK inherently discloses a positive acknowledgment as is necessary for its anticipation case.

Petitioner does not show that the NAK disclosed in relation to Wei’s delayed NAK timer from column 11 cited for limitation 1[c] includes or is accompanied by Wei’s “ACK feedback for each subpacket transmitted for the receiver” that “may or may not be provided by the HARQ-CF timer” in

columns 8 and 9 cited for limitation 1[d]. Petitioner also does not explain any linkage between the NAK from column 11 cited for limitation 1[c] with its assertion that “the receiver transmit[s] both ACK and NAK messages” from Wei’s Figure 6 cited for limitation 1[d].

With regard to Petitioner’s *second* Reply argument, Patent Owner argues, and we agree, that Petitioner did not cite Figure 9 of Wei and its “combination” ACK/NAK message in its Petition. Sur-Reply 16. As such, we determine this argument is untimely and we do not consider it.

With regard to Petitioner’s *third* Reply argument, the fact that the “then-prevailing” 3GPP standard required status reports does not do enough to buttress Petitioner’s initial position. Whether Wei would have been understood by a POSITA to have included (in the case of obviousness) or necessarily included (in the case of anticipation) a 3GPP-compliant status report does not cure the Petition’s fatal flaw of citing two different, unlinked elements of Wei—a NAK in column 11 for limitation 1[c] and an ACK in columns 8 and 9 for limitation 1[d]—as teaching the claimed status report.

Having reviewed the entirety of the record developed during trial, we maintain our finding that the element cited for the status report in the “stopping” limitation (i.e., a NAK) overlaps with, or has any connection to, the element cited for the status report in the “transmitting” limitation (i.e., an ACK). We further find that Petitioner does not sufficiently explain how the *particular* element cited for the “stopping” limitation in Wei links to, connects with, ties to, includes, or is accompanied by the *particular* element cited for the “transmitting” limitation.

For the foregoing reasons, we are not persuaded that Petitioner establishes unpatentability of independent claim 1 by a preponderance of the

evidence with respect to either of its obviousness or anticipation challenges. Petitioner's challenges to claims 2–5 and 7 do not cure the deficiencies of Petitioner's showing with respect to independent claim 1. As such, Petitioner does not establish unpatentability of dependent claims 2–5 and 7 by a preponderance of the evidence with respect to either of its obviousness or anticipation challenges.

F. Challenge 5—Obviousness Over Wei and 3GPP TS 25.322

Petitioner contends that claims 6 and 8–10 are unpatentable as obvious under 35 U.S.C. § 103(a) over Wei and 3GPP TS 25.322. Pet. 73–80. Petitioner contends that “Wei discloses or renders obvious all elements of claims 1-5 and 7 of the '396 patent, as explained in §IX [of the Petition].” Pet. 73. Petitioner relies on Wei in substantially the same manner as set forth in Section III.E and relies on 3GPP TS 25.322 to teach radio interface protocols recited in claims 6 and 8–10. *Id.* For reasons substantially similar to those discussed above in Section III.E.2, we are also not persuaded that Wei teaches or suggests the status report recited in independent claim 8 in Petitioner's challenge based on the combination of Wei and 3GPP TS 25.322. For this reason, we are not persuaded that Petitioner establishes unpatentability of claims 6 and 8–10 as obvious in view of Wei and 3GPP TS 25.322 by a preponderance of the evidence.

IV. CONCLUSION⁹

In summary:

Claims Challenged	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–10	102	Sachs	1, 2, 6, 7, 8	3–5, 9, 10
1–10	103(a)	Sachs	1, 2, 6, 7, 8	3–5, 9, 10
1–5, 7	102	Wei		1–5, 7
1–5, 7	103(a)	Wei		1–5, 7
6, 8–10	103(a)	Wei, 3GPP TS 25.322		6, 8–10
Overall Outcome			1, 2, 6, 7, 8	3–5, 9, 10

V. ORDER

For the reasons given, it is:

ORDERED that Petitioner has established by a preponderance of evidence that claims 1, 2, 6, 7, 8 of the '396 patent are unpatentable as anticipated under 35 U.S.C. § 102 and as obvious under 35 U.S.C. § 103;

ORDERED that Petitioner does not establish by a preponderance of evidence that claims 3–5, 9, and 10 are unpatentable; and

⁹ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

FURTHER ORDERED because this is a final written decision, the parties to this proceeding seeking judicial review of our Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CRADLEPOINT, INC., HONEYWELL INTERNATIONAL, INC.,
SIERRA WIRELESS, INC., TCL COMMUNICATION TECHNOLOGY
HOLDINGS LIMITED, TCT MOBILE INTERNATIONAL LIMITED,
TCT MOBILE, INC., TCT MOBILE (US) INC., TCT MOBILE (US)
HOLDINGS INC., AND THALES DIS AIS DEUTSCHLAND GMBH,
Petitioner,

v.

SISVEL S.P.A.,
Patent Owner.

IPR2021-00580
Patent 7,869,396 B2

Before BARBARA A. PARVIS, MONICA S. ULLAGADDI, and
AARON W. MOORE, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge*, dissenting.

I respectfully dissent from the decision of the majority determining that Petitioner has shown that claims 1, 2, 6, 7, and 8 of the '396 patent unpatentable as anticipated by, or obvious in view of, Sachs.

At institution, I expressed my view that Petitioner had not shown that Sachs teaches or suggests limitations 1[c] and 8[c], “stopping the timer when

the at least one data block is received from the transmitter while the timer is running, in order to prevent a triggering of a status report before the timer expires,” which appear in every challenged claim. I explained that, in the ’396 patent, it is the starting, or running, of the timer that prevents the sending of the status report, not the *stopping* of it, and that there would not be a status report to be “prevented” “before the timer expires,” because that is what the running of the timer is avoiding.

I suggested that the amendment that added the “in order to prevent a triggering of a status report before the timer expires” language may have mistakenly been applied to the “stopping the timer” limitation, instead of the “starting a timer” limitation, which would have made more sense. As the claim was amended and then issued, however, I would have found that Petitioner had not sufficiently accounted for that limitation, because Petitioner had not shown that Sachs “*stop[s] the timer* when the at least one data block is received from the transmitter while the timer is running, *in order to prevent a triggering of a status report before the timer expires.*”

In the Institution Decision, the majority concluded that Petitioner had shown that this limitation is satisfied in Sachs because

“Sachs’ description of this limitation is virtually identical to that of the ’396 patent” because the description associated with the ’396 patent’s Figure 12, “which illustrates stopping the timer JT at point (2), does not disclose any active ‘preventing’ process beyond the fact that a status report is not sent.”

Decision 14–15 (quoting Pet. 42). I find it insufficient, however, to compare the patent’s disclosure to the prior art. Our focus must be on the claim language. The majority considered an argument by Patent Owner about the “prevent a triggering of a status report” portion of 1[c]/8[c] (*see id.* at 16–

17), but did not address my concerns about “stopping the timer . . . in order to prevent a triggering of a status report before the timer expires.”

In the Response, Patent Owner argued that Petitioner relies on “both Figures 4 and 5 of Sachs for limitation 1[c] and 8[c]” but that “Figure 4 does not disclose stopping a timer at all” and “Figure 5 discloses stopping a timer, but only when reordering is finished.” PO Resp. 16. With respect to Figure 5, Patent Owner asserted that “the T_reorder timer is directed to delaying a reordering procedure, not the triggering of a status report as in the ’396 patent.” *Id.* Patent Owner also asserted that “the dissent opinion acknowledged [that] ‘the Petition fails to account for [limitations 1[c] and 8[c]].’” *Id.* at 17 (citing Inst. Dec. 28). That was somewhat misleading, because the point of the dissent was *not* that Sachs discloses delaying a reordering procedure instead of a status report. Instead, the point was that the claims require “stopping the timer . . . in order to prevent a triggering of a status report before the timer expires,” and that Petitioner had not shown how or why the *stopping* of the Sachs timer prevents anything before the timer expires.

In the Reply, Petitioner characterizes limitations 1[c]/8[c] as “inartful,” but “respectfully submits that the *starting and running* of the timer delays the transmission of the status report, which is either sent if the timer expires or stopped if the timer is stopped.” Pet. Reply 8–9 (emphasis added). This may be true, but the 1[c]/8[c] limitation recites “stopping” the timer, not “the starting and running of the timer.”

Petitioner continues that “even under an alternative interpretation in which the starting or running of the timer prevents transmission of the status report, Sachs discloses the use of a timer in the same manner as the ’396

claims and as depicted in Figures 12 and 13.” Pet. Reply 9. Again, however, these claim limitations are not directed to “starting or running” the timer, but instead require that “stopping the timer” has a particular consequence. A proper invalidity analysis does not compare the patent’s disclosure to the prior art; instead, Sections 102 and 103 require us to correlate the “claimed invention” to the prior art, where the “claimed invention,” is “the subject matter defined by a claim in a patent or an application for a patent.” 35 U.S.C. § 100(j).

Petitioner then “addresses a POSITA’s reasonable interpretation of this limitation in light of the ’396 patent and file history.” Pet. Reply 9. I would find that the Reply is too late to start claim construction where the Petition asserted that “all claim terms should be accorded their plain and ordinary meaning” and Patent Owner then “agree[d] that the claims terms should be given their plain and ordinary meaning.” Pet. 34; PO Resp. 10. But I also would find Petitioner’s arguments insufficient to support a construction that would remedy the problem, because Petitioner focuses on “triggering,” concluding that “[i]t is the timer that temporarily prevents this request from being transmitted (while running) or averts the transmission altogether (when stopped).” Reply 10–11. This *still* fails to address the problem that the plain language of the claims recites that “stopping the timer . . . in order to prevent a triggering of a status report before the timer expires.”

The majority’s Final Written Decision tracks the Institution Decision, again relying on similarities between Sachs and the patent’s disclosure. See Final Written Decision (“FWD”) 13–15. But I do not see where the majority

confronts the “stopping the timer . . . in order to prevent a triggering of a status report before the timer expires” issue.

Indeed, it is unclear how “stopping the timer” could possibly “prevent” the sending of a status report “before the timer expires.” The whole point of the timer is that status reports are not sent while it is running. *See, e.g.*, Ex. 1001, 14:28–34 (“When a gap is generated in the buffer of the RLC entity, the timer is activated at once. When data corresponding to the gap is not received until the timer expires, it is judged that the gap is generated due to the reception failure and the status report information may be transmitted to the transmitter.”). There are only two possibilities when the timer is started. First, if the missing block is received while the timer is running, the timer is stopped. Second, if the missing block is not received while the timer is running, the timer will expire. In neither case, however, does the stopping (or expiring) of the timer “prevent a triggering of a status report.” Again—and as Petitioner acknowledges—it is the starting or running of the timer that prevents the triggering of the status report. *See* Reply 8–9 (“the starting and running of the timer delays the transmission of the status report, which is either sent if the timer expires or stopped if the timer is stopped”). The claims are basically nonsensical.

This is a problem that might have been fixed by claim construction (though that would have amounted to a substantial rewrite of the claims) or by amendment of the patent, but we have neither here.

The parties both dance around the “stopping the timer” issue. I assume Petitioner does so because the Petition does not sufficiently account for that language, and that Patent Owner does so because it is problematic for infringement and/or creates written description or enablement problems.

Nevertheless, *our* task is to determine whether Petitioner has shown, by a preponderance of the evidence, that the challenged claims are unpatentable under 35 U.S.C. § 103.

It is true that Sachs has a timer, that blocks are received while the timer is running, that the timer stops, and that a status report is sent. But that is not enough. Neither the parties nor the majority even attempt to explain how Sachs discloses “stopping the timer . . . while the timer is running, in order to prevent a triggering of a status report before the timer expires” as required by all claims. For this reason, I would find that Petitioner has not met its burden of proving that claims 1, 2, 6, 7, 8 are unpatentable in view of Sachs.

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