

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MOTOROLA MOBILITY LLC,
Petitioner,

v.

INTELLECTUAL VENTURES II LLC,
Patent Owner.

IPR2014-00504
Patent 7,382,771 B2

Before MICHAEL W. KIM, PATRICK R. SCANLON, and
KRISTINA M. KALAN, *Administrative Patent Judges*.

SCANLON, *Administrative Patent Judge*.

JUDGMENT

Final Written Decision on Remand
Determining No Challenged Claims Unpatentable
35 U.S.C. §§ 144, 318
Dismissing Patent Owner's Motion to Exclude
37 C.F.R. § 42.64(c)

I. INTRODUCTION

We address this case on remand after a decision by the United States Court of Appeals for the Federal Circuit in *Intellectual Ventures II LLC v. Motorola Mobility LLC*, 692 F. App'x 626 (Fed. Cir. 2017) (“*Intellectual Ventures II*”).

As background, Motorola Mobility LLC (“Petitioner”) filed a Revised Petition (Paper 4, “Pet.”)¹ requesting *inter partes* review of claims 1–4, 7, and 18 of U.S. Patent No. 7,382,771 B2 (Ex. 1001, “the ’771 patent”). Intellectual Ventures II LLC (“Patent Owner”) filed a Preliminary Response (Paper 7, “Prelim. Resp.”) opposing institution of review. We instituted an *inter partes* review as to (1) claims 1 and 2 under 35 U.S.C. § 102(e) as anticipated by Boehm²; (2) claims 1, 3, 4, 7, and 18 under 35 U.S.C. § 103(a) as unpatentable over Mitchell³ and Boehm; and (3) claims 1–4 and 18 under 35 U.S.C. § 103(a) as unpatentable over Veeck,⁴ Boehm, and Mitchell. Paper 12, 20. We did not institute an *inter partes* review on any of the other grounds set forth in the Petition. *Id.*

After institution, Patent Owner filed a Patent Owner Response (Paper 20, “PO Resp.”), and Petitioner filed a Reply (Paper 26, “Pet. Reply”). Petitioner relies on the Declaration of Sumit Roy, Ph.D. (Ex. 1010, the “Roy Declaration”) and the Second Declaration of Sumit Roy, Ph.D.

¹ Paper 4 is a Revised Petition for *inter partes* review, filed March 25, 2014. The original Petition for *inter partes* review (Paper 1) has been accorded the filing date of March 10, 2014. Paper 3.

² Boehm, US 2004/0085944 A1, published May 6, 2004 (Ex. 1005, “Boehm”).

³ Mitchell, US 7,599,691 B1, issued Oct. 6, 2009 (Ex. 1006, “Mitchell”).

⁴ Veeck, US 2005/0039208 A1, published Feb. 17, 2005 (Ex. 1008, “Veeck”).

(Ex. 1012, the “Second Roy Declaration”) in support of its contentions, and Patent Owner relies on the Declaration of Ahmed H. Tewfik, Ph.D. (Ex. 2004, the “Tewfik Declaration”) and the Declaration by Larry LeBlanc (Ex. 2006, the “LeBlanc Declaration”) in support of its contentions.

Patent Owner filed a Motion for Observation (Paper 31, “Mot. for Obs.”) on the cross-examination testimony of Petitioner’s declarant, Dr. Roy. Petitioner filed a response (Paper 40, “Obs. Resp.”).

Petitioner filed a Motion to Exclude (Paper 33) certain Exhibits submitted by Patent Owner in the proceeding. Patent Owner filed an Opposition to the Motion to Exclude (Paper 37), and Petitioner filed a Reply (Paper 41).

An oral hearing was held on May 5, 2015. A transcript of that hearing is included in the record. Paper 45 (“Tr.”).

On September 9, 2015, we issued a Final Written Decision in this proceeding in accordance with 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. Paper 46 (“Final Dec.”); *see also* Paper 47 (errata). We concluded that Petitioner had demonstrated by a preponderance of the evidence that claims 1–4, 7, and 18 were unpatentable on the instituted grounds. Final Dec. 20–34, 39; Paper 47, 1–2. The Final Written Decision was appealed by Patent Owner to the United States Court of Appeals for the Federal Circuit. *See* Paper 49.

The Federal Circuit vacated our determination as to all claims, holding that the Board had erred in evaluating the evidence of prior conception offered by Patent Owner, and remanded for further consideration. *Intellectual Ventures II*, 692 F. App’x at 629. Subsequent to remand, Petitioner filed Petitioner’s Supplemental Brief on Remand

(Paper 52; “Pet. Supp. Br.”), and Patent Owner filed Patent Owner’s Supplemental Brief on Remand (Paper 53; “PO Supp. Br.”).

On July 31, 2018, we entered an Order that modified the institution decision to include review of all challenged claims and all grounds presented in the Petition, in accordance with the U.S. Supreme Court’s decision in *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348 (2018). Paper 54, 6. This Order also instructed the parties to confer to determine whether they desire any further briefing. *Id.* We subsequently authorized the parties to file supplemental briefing limited to issues raised by the newly instituted grounds. Paper 61. Pursuant to this authorization, Patent Owner filed a Supplemental Patent Owner’s Response (Paper 67; “Supp. PO Resp.”), Petitioner filed a Petitioner’s Supplemental Reply (Paper 71; “Supp. Pet. Reply”), and Patent Owner filed a Supplemental Sur-reply (Paper 72; “Supp. PO Sur-reply”).

A supplemental oral hearing was held on May 1, 2019. A transcript of that hearing is included in the record. Paper 83 (“Supp. Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine, on remand, that Petitioner has not shown by a preponderance of the evidence that claims 1–4, 7, and 18 of the ’771 patent are unpatentable. We dismiss Petitioner’s Motion to Exclude as moot.

II. BACKGROUND

A. Related Matters

The parties indicate that the ’771 patent is involved in the following lawsuit: *Intellectual Ventures I LLC and Intellectual Ventures II LLC v.*

Motorola Mobility LLC, No. 0:13-cv-61358-RSR (S.D. Fla.). Pet. 2;
Paper 6, 1.

B. The '771 Patent

The '771 patent, titled “Mobile Wireless Hotspot System,” issued on June 3, 2008, with claims 1–19. Ex. 1001, code (54), code (45), 6:16–8:30. The '771 patent relates to “providing a mobile wireless access point for use with high-speed wireless devices.” *Id.* at 1:5–7. Figure 2, reproduced below, illustrates Mobile Hotspot System (“MHS”) 40 for accomplishing this objective:

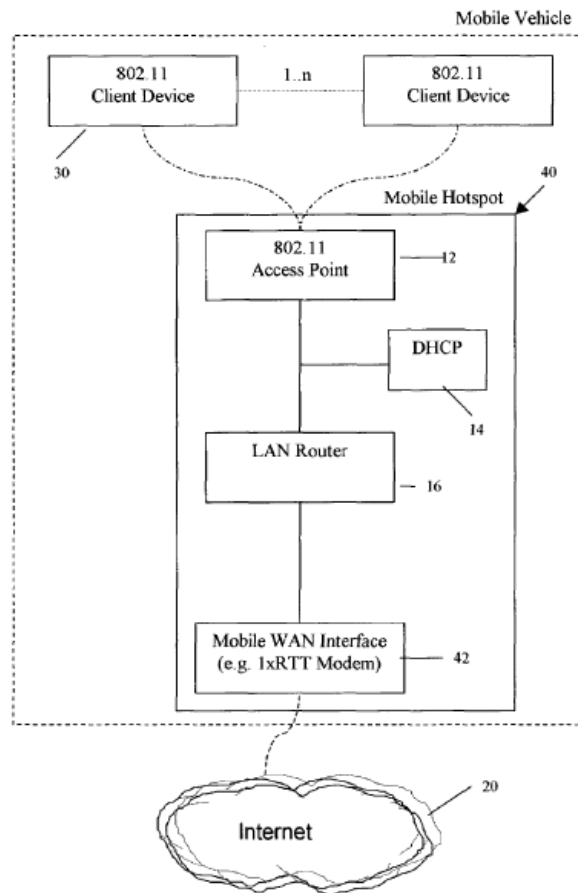


Figure 2

Figure 2 depicts MHS 40, which includes access point 12 for connecting with client devices 30 and mobile long-range wireless (“WAN”)

interface 42 for establishing an Internet connection. *Id.* at 3:37–42. Mobile WAN interface 42 allows MHS 40 to be deployed in a moving vehicle. *Id.* at 3:42–44. Local Area Network (“LAN”) router 16 directs traffic between access point 12 and mobile WAN interface 42. *Id.* at 3:33–34, 4:1.

C. Challenged Claims

As noted above, Petitioner challenges claims 1–4, 7, and 18 of the ’771 patent. Independent claim 1 is illustrative of the claimed subject matter and is reproduced below:

1. A mobile wireless hot spot system, comprising:
 - a) a short-range, high-speed wireless access point operative to communicate with short-range client devices;
 - b) a long-range, wireless Internet access interface operative to communicate with the Internet; and
 - c) a Local Area Network (LAN) routing system managing the data path between said wireless access point and said Internet access interface,

wherein said mobile wireless hotspot system is a stand-alone system that enables client devices configured for short-range, high-speed wireless Internet access to use said mobile wireless hotspot system to access the Internet without the need to access an external service controller server.

Ex. 1001, 6:16–28. Claims 2–4, 7, and 18 depend directly or indirectly from claim 1. *Id.* at 6:30–39, 6:49–52, 8:21–26.

D. Grounds of Unpatentability at Issue

Petitioner challenges claims 1–4, 7, and 18 of the ’771 patent on the following grounds:

Claims Challenged	35 U.S.C. § ⁵	References/Basis
1, 2	102(e)	Boehm
1, 3, 4, 7, 18	103(a)	Mitchell, Boehm, Kellerer ⁶
1–3, 18	103(a)	Kellerer, Boehm
4, 7, 18	103(a)	Kellerer, Boehm, Mitchell
1–4, 18	103(a)	Veeck, Kellerer, Boehm, Mitchell

III. ANALYSIS

A. Relevant Legal Principles

To prevail in challenging Patent Owner’s claims, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). “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 rests with Petitioner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review). Furthermore, Petitioner cannot satisfy its burden of proving

⁵ Because the claims at issue have an effective filing date prior to March 16, 2013 (the effective date of the applicable provisions of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”)), we apply the pre-AIA versions of 35 U.S.C. §§ 102 and 103 in this Decision.

⁶ Wolfgang Kellerer et al., (*Auto*) *Mobile Communication in a Heterogeneous and Converged World*, IEEE Personal Communications, Dec. 2001, 41 (Ex. 1007, “Kellerer”).

obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

“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.*, 814 F.2d 628, 631 (Fed. Cir. 1987). Moreover, “[b]ecause the hallmark of anticipation is prior invention, the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements ‘arranged as in the claim.’” *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008). Whether a reference anticipates is assessed from the perspective of an ordinarily skilled artisan. *See Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368 (Fed. Cir. 2003) (“[T]he dispositive question regarding anticipation [i]s whether *one skilled in the art* would reasonably understand or infer from the [prior art reference’s] teaching that every claim element was disclosed in that single reference.”).

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said 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 skill in the art; and, (4) where in evidence, so-called secondary considerations, including commercial success, long-felt but unsolved needs,

failure of others, and unexpected results. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

For an obviousness analysis, prior art references must be “considered together with the knowledge of one of ordinary skill in the pertinent art.” *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (quoting *In re Samour*, 571 F.2d 559, 562 (CCPA 1978)). Moreover, “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

B. Level of Ordinary Skill in the Art

Petitioner contends that a person having ordinary skill in the art to which the '771 patent pertains

would have been someone with a good working knowledge of communications via data networks such as wireless local area networks, wide area-networks, and the Internet. The person would have gained this knowledge either through an undergraduate education in computer science or comparable field, in combination with training or three to five years of practical working experience.

Pet. 4–5; *see also* Ex. 1010 ¶ 12 (Dr. Roy indicating the same). Dr. Tewfik testifies that a person having ordinary skill in the art to which the '771 patent pertains “would have had a bachelor’s degree in electrical and computer engineering or computer science, and at least about two years of related job experience, or an equivalent combination of education and job experience.” Ex. 2004 ¶ 7.

Factual indicators of the level of ordinary skill in the art include “the various prior art approaches employed, the types of problems encountered in

the art, the rapidity with which innovations are made, the sophistication of the technology involved, and the educational background of those actively working in the field.” *Jacobson Bros., Inc. v. U.S.*, 512 F.2d 1065, 1071 (Ct. Cl. 1975); *see also Orthopedic Equip. Co. v. U.S.*, 702 F.2d 1005, 1011 (Fed. Cir. 1983) (quoting with approval *Jacobson Bros.*).

The parties’ respective proposals are substantially similar such that there is no apparent substantively relevant difference. Having said that, based on our review of the record before us, we find that Petitioner’s stated level of ordinary skill in the art is more accurate, as it is more consistent with the evidence of record, including the asserted prior art. We note, however, that our findings in this proceeding would not differ under Patent Owner’s proposed definition. We further note that the prior art itself demonstrates the level of skill in the art at the time of the invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that “specific findings on the level of skill in the art . . . [are not required] ‘where the prior art itself reflects an appropriate level and a need for testimony is not shown’” (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985))).

C. Claim Construction

Under the version of our rules applicable to this *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b) (2017);⁷ *see also Cuozzo Speed Techs., LLC v. Lee*,

⁷ A previous amendment to this rule does not apply here because the Petition was filed before November 13, 2018. *See Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before*

136 S. Ct. 2131, 2142–46 (2016) (concluding that 37 C.F.R. § 42.100(b) “represents a reasonable exercise of the rulemaking authority that Congress delegated to the Patent Office”). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

In the Final Written Decision, we construed three claim terms. Final Dec. 6–12. In particular, we construed (1) the phrase “a Local Area Network (LAN) routing system managing the data path between said wireless access point and said Internet access interface” (the “LAN routing system limitation”) as “a system that directs data between a local area network and the Internet by managing the data path between a wireless access point and an Internet access interface;” (2) the term “Internet access” as “the ability to send and/or receive information via the Internet;” and (3) the term “stand-alone system” as “a system capable of operating independently of any other system.” *Id.*

After the remand, Patent Owner argues that our construction of the term “stand-alone system” is correct, but notes that this term is only part of the larger limitation “wherein said mobile wireless hotspot system is a stand-alone system that enables client devices configured for short-range, high-speed wireless Internet access to use said mobile wireless hotspot system to access the Internet without the need to access an external service controller server” (the “stand-alone system limitation”). Supp. PO Resp. 9. Patent

the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b), effective Nov. 13, 2018).

Owner contends that construction of the entire stand-alone system limitation should take into account both the Board's construction of the term "stand-alone system" and the rest of the language of the stand-alone system limitation. *Id.* at 10 (citing Ex. 2042 ¶ 13).

Petitioner argues that there should not be a dispute regarding claim construction of this term. Supp. Pet. Reply 3. According to Petitioner, neither party has disputed our construction of the term "stand-alone system," and the requirement that the stand-alone system must enable client devices "to access the Internet without the need to access an external service controller server" is expressly recited in the claims. *Id.*

We agree with Petitioner that Patent Owner's proposed construction of the stand-alone system limitation essentially is the same as what we have already adopted in construing the term "stand-alone system." Our construction focuses on the term itself, but this focus does not disregard or render irrelevant the "access the Internet without the need to access an external service controller server" language that is expressly recited in the claims. Furthermore, nothing in the Federal Circuit's decision indicates that any portion of our construction need be revisited or that any further construction is required. Accordingly, we adopt here our constructions from the Final Written Decision.

D. Determination of Whether Boehm Qualifies as Prior Art

The '771 patent issued from U.S. Patent Application No. 10/386,691, which was filed on March 13, 2003. Ex. 1001, code (21), code (22). Petitioner asserts that Boehm qualifies as prior art under 35 U.S.C. § 102(e) because it was filed on November 4, 2002, prior to the earliest effective filing date of the '771 patent. Pet. 12. Patent Owner contends that Boehm is

not prior art with respect to the '771 patent because a “reference is not available as prior art against a patent under 102(e) if filed after the *invention date* of the patentee.” PO Resp. 12 (citing pre-AIA 35 U.S.C. § 102(e); *Loral Fairchild Corp. v. Matsushita Elec.*, 266 F.3d 1358, 1362 (Fed. Cir. 2001)). In particular, Patent Owner contends the inventors conceived the invention prior to the November 4, 2002 filing date of Boehm, and reduced the invention to practice either before November 4, 2002 or, alternatively, after November 4, 2002, coupled with diligence beginning before November 4, 2002. *Id.* at 13–39. In support of its contentions, Patent Owner relies on the testimony of Dr. Tewfik and Mr. LeBlanc, one of the inventors of the '771 patent. *Id.* (citing Exs. 2004, 2006).

To remove Boehm as a prior art reference, the record must establish either: (1) a conception and reduction to practice before the filing date of Boehm; or (2) a conception before the filing date of the Boehm patent combined with diligence and reduction to practice after that date. *See Taurus IP, LLC v. DaimlerChrysler Corp.*, 726 F.3d 1306, 1323 (Fed. Cir. 2013). Under either approach, it must be proven that conception occurred prior to November 4, 2002. *See id.*

“Conception exists when a definite and permanent idea of an operative invention, including every feature of the subject matter sought to be patented, is known.” *Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994). Furthermore, “[t]he conception analysis necessarily turns on the inventor’s ability to describe his invention with particularity. Until he can do so, he cannot prove possession of the complete mental picture of the invention.” *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994). Objective evidence that corroborates an inventor’s

testimony regarding the conception of the invention is required “because of the danger in post-hoc rationales by an inventor claiming priority.”

Invitrogen Corp. v. Clontech Labs., Inc., 429 F.3d 1052, 1065 (Fed. Cir. 2005). The sufficiency of corroboration is determined according to a “rule of reason.” *Price v. Symsek*, 988 F.2d 1187, 1195 (Fed. Cir. 1993). Under the rule of reason, “all pertinent evidence is examined in order to determine whether the inventor’s story is credible.” *Fleming .v Escort Inc.*, 774 F.3d 1371, 1377 (Fed. Cir. 2014) (quoting *Sandt Tech., Ltd. v. Resco Metal & Plastics Corp.*, 264 F.3d 1344, 1350 (Fed. Cir. 2001)).

To establish an actual reduction to practice, as opposed to the constructive reduction to practice that occurs when a patent application is filed, a party must establish that: (1) the inventor constructed an embodiment or performed a process that satisfies every element of the claim at issue; and (2) the inventor determined that the invention would work for its intended purpose. *E.I. du Pont De Nemours & Co. v. Unifrax I LLC*, 921 F.3d 1060, 1075 (Fed. Cir. 2019). The same requirement for evidence that corroborates inventor testimony on conception under the rule of reason also applies to the reduction to practice determination. *Id.* at 1076.

Petitioner bears the burden of persuasion that the challenged claims are unpatentable, which includes the burden of establishing that any reference upon which it relies constitutes prior art under 35 U.S.C. § 102. *See* 35 U.S.C. § 316(e); *Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1576 (Fed. Cir. 1996) (holding that the challenger “bore the burden of persuasion . . . on all issues relating to the status of [the asserted reference] as prior art”). However, because Petitioner initially offered Boehm, which qualifies on its face as prior art under § 102(e), into evidence, Patent Owner bears the

subsequent procedural burden of producing evidence antedating Boehm. *See Dynamic Drinkware*, 800 F.3d at 1378–80; *In re Magnum Oil Tools* 829 F.3d at 1375. Although the burden of production can be a shifting burden, we note that the burden of persuasion is on Petitioner to ultimately prove “unpatentability by a preponderance of the evidence,” and that this burden never shifts to Patent Owner. *Dynamic Drinkware*, 800 F.3d at 1378.

In the Final Written Decision, we determined that, under the rule of reason, the evidence did not establish adequately that the inventors conceived the invention of the challenged claims prior to November 4, 2002, and, thus, that Petitioner had met its burden of proving that Boehm is prior art to the challenged claims under 35 U.S.C. § 102(e). Final Dec. 16–19. The Federal Circuit, however, held that we erred in our analysis of whether there was prior conception of the LAN routing system limitation and the stand-alone system limitation of claim 1. *Intellectual Ventures II*, 692 F. App’x at 627–29.

Specifically, with respect to the LAN routing system limitation, the Federal Circuit held that we erred by requiring Patent Owner to corroborate conception of authentication and control features, which was inconsistent with our construction of the LAN routing system limitation. *Id.* at 627. The Federal Circuit also held that we erred by not properly considering testimonial evidence provided by Patent Owner regarding whether the version of Windows 98 used in the MHS1⁸ had the capability to provide the claimed functionality of the LAN routing system. *Id.* The Federal Circuit

⁸ “MHS1” is the term the inventors used to refer to the first generation or version of their mobile wireless hotspot system. Ex. 2006 ¶ 9.

noted that “[t]he focus must be whether the totality of the evidence makes the inventor’s testimony credible.” *Id.* (citing *Fleming*, 774 F.3d at 1377).

Regarding the stand-alone system limitation, the Federal Circuit held that we erred by not properly considering Exhibit 2020—a troubleshooting guide for the MHS1 created by the inventors on December 13, 2002, approximately one month after the critical date of November 4, 2002—and Dr. Roy’s related testimony. *Id.* at 628. The Federal Circuit indicated that “[t]he rule of reason requires consideration of all pertinent evidence,” and “[d]ocuments created shortly after the critical date and even undated documents may be relevant to corroborate an inventor’s testimony.” *Id.* (citing *Lazare Kaplan Int’l, Inc. v Photoscribe Techs., Inc.*, 628 F.3d 1359, 1374 (Fed. Cir. 2010); *Ohio Willow Wood Co. v Alps S., LLC*, 735 F.3d 1333, 1348 (Fed. Cir. 2013)). In addition, the Federal Circuit held that we erred by not properly considering Exhibits 2036 and 2037 and Dr. Roy’s related testimony. *Id.*

We have reconsidered the record anew, by reviewing the parties’ positions, in light of the Federal Circuit’s guidance regarding application of the rule of reason, in determining whether there was sufficient corroboration of inventor testimony to demonstrate prior conception of the claimed invention, and subsequent prior reduction to practice, so as to remove Boehm as prior art. For the reasons that follow, we determine that Petitioner has not established, by a preponderance of the evidence, that Boehm constitutes prior art under 35 U.S.C. § 102.

1. Sufficiency of Evidence

We begin by addressing Petitioner’s argument that Patent Owner’s documentary evidence is insufficient to corroborate inventor testimony of

conception and reduction to practice. *See* Pet. Reply 1–2. According to Petitioner, such documentary evidence relies, for authentication purposes, on the testimony from Mr. LeBlanc and metadata from the documents themselves. *Id.* Petitioner asserts, however, that “a document authenticated by only an inventor does not achieve that purpose because it is not sufficiently independent.” *Id.* at 2 (quoting *Microsoft Corp. v. Surfcaster, Inc.*, 2014 WL 5337868, *10 (PTAB Oct. 14, 2014)). Petitioner also asserts that “[t]he purpose of corroboration is to prevent fraud by providing *independent* confirmation of the inventor’s testimony,” and that such documentary evidence is not independent confirmation because its authenticity relies solely on the same inventor testimony it is being used to corroborate. *Id.*

We are unpersuaded that Petitioner has met its burden with respect to this assertion, because here, unlike in *Microsoft*, Patent Owner does not rely on inventor testimony *alone* to authenticate the documentary evidence. For at least some of the documentary evidence provided by Patent Owner, Patent Owner provides *metadata* related to the documentary evidence, which is authenticating *evidence additional to* inventor testimony. Specifically, such metadata is from a shared online repository that the inventors of the ’771 patent created and maintained to store notes, documents, photographs, test results, and other materials relating to their development of the MHS1. PO Resp. 13–14 (citing Ex. 2006 ¶¶ 10–11).

For example, to corroborate Mr. LeBlanc’s inventor testimony of conception and reduction to practice, Patent Owner submits a document titled “MHS1 System Requirements Document” (Ex. 2009), which describes the MHS1. Mr. LeBlanc testifies to its authenticity (*id.* at ¶ 12), and were the authentication of Exhibit 2009 based solely on this inventor testimony,

Petitioner's assertions may be persuasive. The problem for Petitioner, however, is that Patent Owner also provides Exhibit 2010 to further authenticate Exhibit 2009. Specifically, Exhibit 2010 includes *metadata*, which is clearly authenticating evidence additional to inventor testimony, to authenticate the date of Exhibit 2009. *Id.* at 14 (citing Ex. 2006 ¶¶ 12–13). Petitioner, on the other hand, does not identify any exhibit lacking such metadata. *See* Pet. Reply 1–2. In addition, Mr. LeBlanc's testimony regarding Exhibit 2009 is corroborated explicitly by Dr. Tewfik, which is also additional to inventor testimony. Ex. 2004 ¶ 35 (“I agree with Larry LeBlanc's explanations in the foregoing claim chart. In my opinion, Exhibit 2009 establishes that the inventors of the '771 patent had conceived of the subject matter described in Claims 1–4, 7, and 18 prior to the November 4, 2002 filing date of the Boehm reference.”).

The Board has previously found, under similar circumstances, that inventor testimony, coupled with metadata of the type cited in this case, is sufficient to authenticate exhibits offered to corroborate the inventor's testimony on conception and reduction to practice. *Sonos, Inc. v. Implicit, LLC*, 2019 WL 4419356 (PTAB Sept. 16, 2019). Here, Mr. LeBlanc testifies that, while developing the MHS1, the inventors regularly recorded and documented their progress, in the ordinary course of business, by storing notes, documents, photographs, test results, and other materials relating to their development of the MHS1 in a shared online repository. Ex. 2006 ¶ 10. Mr. LeBlanc also testifies that the electronic files stored in the repository include internal metadata or timestamps indicating the dates the files were created and/or last modified. Ex. 2006 ¶ 11. Patent Owner's combination of inventor testimony *and metadata* is similar to that found

sufficient in the *Sonos* case. *Sonos*, at *21–22 (citing *ATI Tech. ULC v. Iancu*, 920 F.3d 1362, 1370–71 (Fed. Cir. 2019) (relying in part on metadata from a revision-control system to corroborate inventor testimony)).

Accordingly, we disagree that the documentary evidence submitted by Patent Owner to corroborate Mr. LeBlanc’s testimony on conception and reduction to practice are inadequately authenticated or corroborated.

Furthermore, we note that Petitioner has not addressed Exhibit 2010 with respect to this assertion. *See* Pet. Reply 1–2. Indeed, although Patent Owner has cited numerous exhibits in support of its position (PO Resp. 13–39 (citing Ex. 1001, 4:10–14, 5:18–30; Ex. 2004 ¶¶ 18, 32–35; Ex. 2006 ¶¶ 5, 7–13, 15–33, 35–39, 42–57; Ex. 2009 §§ 1.1, 1.3, 2.3, 2.4; Ex. 2018 §§ 1.2, 3.2; Ex. 2032 §§ 3.1–3.5; Exs. 2010–2012, 2014–2017, 2019–2024, 2026–2028, 2033–2034)), Petitioner has not addressed even a single such exhibit with any specificity in support of this assertion. As noted above, the burden of persuasion is on Petitioner. We are unpersuaded that Petitioner can meet such a burden here by merely casting a general aspersion across a whole class of exhibits without further analysis. *See e.g., DeSilva v. DiLeonardi*, 181 F.3d 865, 866-67 (7th Cir. 1999) (“A brief must make all arguments accessible to the judges, rather than ask them to play archaeologist with the record.”).

For the above reasons, Petitioner has not carried its burden of persuasion concerning the sufficiency of Patent Owner’s corroboratory evidence.

2. *Conception*

a) *Patent Owner's Arguments*

Patent Owner primarily relies on the testimony of Mr. LeBlanc to prove conception. PO Resp. 13–22; Tr. 28:22–29:2. As mentioned above, Patent Owner also relies on Exhibit 2009, the “MHS1 System Requirements Document,” to corroborate Mr. LeBlanc’s testimony. PO Resp. 14; *see also* Tr. 28:6–8 (referring to Exhibit 2009 as “the key document that Mr. LeBlanc points to as his conception evidence”). Patent Owner asserts that this document bears the date September 24, 2002, and this date is corroborated by the internal metadata for the document, which shows the document was last modified on September 25, 2002. PO Resp. 14 (citing Ex. 2006 ¶¶ 12–13; Ex. 2010). Thus, according to Patent Owner, “[b]ased on its last-modified date of September 25, 2002, the MHS1 System Requirements Document shows conception of the invention prior to the November 4, 2002 filing date of Boehm.” *Id.* (citing Ex. 2004 ¶ 32–33).

Mr. LeBlanc testifies that Exhibit 2009 is corroborating evidence that “shows that we had conceived of the mobile hotspot system invention no later than September 25, 2002.”⁹ Ex. 2006 ¶ 14. The LeBlanc Declaration also presents a claim chart, which Mr. LeBlanc testifies “provides citations to Exhibit 2009, along with explanations which show our conception of the subject matter described in Claims 1–4, 7, and 18 of the ’771 patent.” *Id.* ¶ 15. Patent Owner reproduces the claim chart in its Response, asserting that the claim chart illustrates where Exhibit 2009 provides corroborating

⁹ In this statement, “we” refers to Mr. LeBlanc and the other named co-inventors of the subject matter described in the ’771 patent, Eddie Ho and Kirk Moir. *See* Ex. 2006 ¶ 2.

support for the conception of each of the involved claims. PO Resp. 17–22 (citing Ex. 2006 ¶ 15; Ex. 2004 ¶¶ 34–35). In addition, Dr. Tewfik testifies that he agrees Exhibit 2009 shows that the inventors of the ’771 patent had conceived of the invention prior to November 4, 2002. Ex. 2004 ¶ 33.

With respect to claim 1, Patent Owner argues that the hardware components of the MHS1 “included a Microsoft Windows 98 laptop computer, as well as a Sierra Wireless 555 Aircard and a Prism2 card which both plugged into the laptop computer.” PO Resp. 14–15 (citing Ex. 2009 § 2.4.1). According to Patent Owner, “[t]he Sierra Wireless card provided an interface for connecting to the 1xRTT¹⁰ cellular data network, while the Prism2 card operated as an IEEE 802.11 wireless access point.” *Id.* at 15 (citing Ex. 2009 § 2.4.1; Ex. 2004 ¶¶ 34–35).

Mr. LeBlanc testifies that the “Sierra Wireless 555 Aircard” described in Exhibit 2009 corresponds to the “long-range, wireless Internet access interface operative to communicate with the Internet” of claim 1. Ex. 2006 ¶ 15 (citing Ex. 2009 §§ 2.3.2[1], 2.4.1.1.3). Mr. LeBlanc also testifies that the “Prism2 based interface card (type 2 PCMCIA card)” described in Exhibit 2009 corresponds to the “short-range, high-speed wireless access point operative to communicate with short-range client devices” of claim 1. *Id.* (citing Ex. 2009 §§ 2.3.4[1, 2], 2.4.1.1.4). Dr. Tewfik testifies that he agrees with the explanations in Mr. LeBlanc’s claim chart, and, in his opinion, “Exhibit 2009 establishes that the inventors of the ’771 patent had conceived of the subject matter described in Claims 1–4, 7, and 18 prior to

¹⁰ “1xRTT” refers to Single Carrier Radio Transmission Technology. Ex. 2006 ¶ 15.

the to November 4, 2002 filing date of the Boehm reference.” Ex. 2004 ¶ 35.

Regarding the LAN routing system limitation of claim 1, Patent Owner asserts

[t]he Windows 98 operating system included a built-in access point controller, Internet connection sharing functionality, Dynamic Host Configuration Protocol (DHCP) functionality, Network Address Translation (NAT) functionality, and Wired Equivalent Privacy (WEP) functionality. Exhibit 2009 demonstrates that the inventors had conceived of using these functions to provide a routing system for the MHS1.

PO Resp. 15 (internal citation omitted). Mr. LeBlanc testifies that Exhibit 2009 states the MHS1 was deployed on a Windows 98 laptop, and this statement shows conception of the LAN routing system of claim 1 because “[t]he Windows 98 operating system included tools and functions for providing a software access point controller, Internet connection sharing functionality, DHCP functionality, and Wired Equivalent Privacy (WEP) functionality, which used authentication.” Ex. 2006 ¶ 15 (citing Ex. 2009 §§ 2.3.4[3, 4], 2.4.1.1.1, 2.4.1.1.2). Dr. Tewfik testifies that he agrees with these explanations by Mr. LeBlanc. Ex. 2004 ¶ 35.

Patent Owner also argues that Exhibit 2009 describes that a client device can connect to the access point, such that the MHS1 allows the client device to start browsing the Internet or start an Internet-related application. PO Resp. 15 (citing Ex. 2009 § 2.3.4[1–4]). Patent Owner asserts this description demonstrates that “the inventors intended that the MHS1 would communicate Internet data between the Internet interface card and the access point,” and that the MHS1 would control access between the Internet and the client devices. *Id.* at 15–16 (citing Ex. 2004 ¶¶ 34–35). In addition, Patent

Owner argues that Exhibit 2009 describes displaying a welcome page from the MHS1 after the user starts the browser, and granting Internet access only after the welcome page is displayed. *Id.* at 16 (citing Ex. 2009 § 2.3.4[4]). Patent Owner also argues that the Prism2 card supported multiple client devices connected to the Wireless Local Area Network (WLAN), but the Sierra Wireless 555 Aircard offered only a single external Internet address. *Id.* (citing Ex. 2004 ¶¶ 34–35). Thus, according to Patent Owner, “Exhibit 2009 demonstrates that the inventors intended that the MHS1 would also control access from the Internet to the client devices.” *Id.* (citing Ex. 2009 ¶ 2.3.4[4]).

Mr. LeBlanc testifies that § 2.3.4[4] of Exhibit 2009 “indicates that a client device connects to the access point to ‘start browsing the Internet or start any other Internet related applications,’” meaning that the MHS1 has the functionality to communicate Internet data between the Sierra Wireless 555 Aircard (the Internet access interface) and the Prism2 card (the access point). Ex. 2006 ¶ 15. Mr. LeBlanc further testifies that §§ 2.3.4[3, 4] of Exhibit 2009 “describe that, after completing the DHCP process, the user starts his or her web browser and is redirected to a welcome page for authentication before being granted Internet access,” and “[a]s the Sierra Wireless 555 Aircard included only a single external Internet address while the Prism2 access point supported multiple devices connected to the WLAN, it is evident that the entire WLAN shared a single external Internet address.” *Id.* Again, Dr. Tewfik testifies that he agrees with these explanations. Ex. 2004 ¶ 35.

Regarding the stand-alone system limitation of claim 1, Patent Owner argues that “Exhibit 2009 demonstrates that the MHS1 was a stand-alone

system” because “it makes no reference to accessing an external service controller.” PO Resp. 17. According to Patent Owner, Exhibit 2009 does reference, however, “providing DHCP functionality for the client devices.” *Id.* (citing Ex. 2009 § 2.3.4). Furthermore, Patent Owner argues that “Windows 98 included built-in network address translation functionality and other services such that an external service controller was not needed.” *Id.* (citing Ex. 2004 ¶ 34).

Mr. LeBlanc testifies that § 2.3.4[3] of Exhibit 2009 “references the fact that the MHS1 itself executed the Dynamic Host Configuration Protocol (DHCP) for configuring client devices to connect with the Internet,” and “[t]he MHS1 also performed network address translation using tools and functions included in Windows 98.” Ex. 2006 ¶ 15. Mr. LeBlanc further testifies that the MHS1, thus, did not have the need to access an external service controller server to provide the DHCP functionality or to access the Internet. *Id.* Again, Dr. Tewfik testifies that he agrees with these explanations. Ex. 2004 ¶ 35.

With respect to dependent claims 2–4, 7, and 18, Patent Owner relies on Mr. LeBlanc’s claim chart and Dr. Tewfik’s testimony agreeing with Mr. LeBlanc’s explanations to show conception. PO Resp. 17, 20–22 (citing Ex. 2006 ¶ 15; Ex. 2004 ¶¶ 34–35). For claim 2, which recites that the “short-range, high-speed wireless access point uses 802.11 as a wireless standard” (Ex. 1001, 6:29–31), Mr. LeBlanc testifies that § 2.4.1.1.4 of Exhibit 2009 describes the access point hardware using the 802.11b wireless standard. Ex. 2006 ¶ 15.

Claim 3 recites that the “hotspot system is integrated into a vehicle such that passengers in said vehicle are capable of accessing the Internet

using said client devices.” Ex. 1001, 6:32–35. Mr. LeBlanc testifies that § 1.3 of Exhibit 2009 describes that the target market for the MHS1 included commuter trains, taxis, limousines, and ferries, and §§ 2.3.2[1.2.3] describe connecting the MHS1 to a rooftop antenna, securing the MHS1 under the front passenger seat, and connecting the MHS1 to an inverter to draw power from the vehicle’s electrical system. Ex. 2006 ¶ 15.

Claim 4 recites that the system of claim 1 further comprises a “local content module that stores content that can be accessed by said client devices directly through said high-speed access point.” Ex. 1001, 6:36–38. Mr. LeBlanc testifies that § 2.4.2.1.9 of Exhibit 2009 states “[t]he MHS1 shall provide local stored WEB pages for the interested users,” and “[t]hese local webpages were accessed through the wireless access point.” Ex. 2006 ¶ 15.

Claim 7 recites that the system of claim 4 “includes a short-range, high-speed wireless access interface to enable said system to download updates to said local content module using a fixed high-speed wireless access point.” Ex. 1001, 6: 48–51. Mr. LeBlanc testifies that § 2.4.1.1.4 of Exhibit 2009 references the Prism2 interface card, which was used as the wireless access point. Ex. 2006 ¶ 15. According to Mr. LeBlanc, the Prism2 interface card “was capable of operating in both a hotspot mode (where other client devices could connect to it) and a client mode, in which the interface card could connect to another wireless access point.” *Id.* Mr. LeBlanc further testifies that § 2.4.2.1.9 of Exhibit 2009 describes updating the local content. *Id.*

Claim 18 recites “a WAN Interface providing high-speed Internet access, a long range wireless Internet access interface (WAN) manager

coupled to said WAN interface, and monitoring a WAN connection of said WAN Interface in order to provide a continuous connection to the Internet.” Ex. 1001, 8:20–25. Mr. LeBlanc testifies that § 2.4.1.1.3 of Exhibit 2009 references a “CDMA2000 1XRTT interface,” and the “CDMA2000 1XRTT network was a Wide Area Network (WAN) and a member of the family of 3G cellular technology standards.” Ex. 2006 ¶ 15. Mr. LeBlanc further testifies that § 2.3.2[5, 6] of Exhibit 2009 describe that the MHS1 did not require interaction from a user to maintain operation because of a manager software module that monitored the cellular connection and reconnected to the Internet as necessary. *Id.* Again, Dr. Tewfik testifies that he agrees with these explanations as to claims 2–4, 7, and 18. Ex. 2004 ¶¶ 34–35.

b) Petitioner’s Arguments

Petitioner argues that Patent Owner’s evidence fails to show conception of the stand-alone limitation. Pet. Reply 2. In particular, Petitioner argues that “Patent Owner is using the *lack of discussion of an external DHCP server* in Exhibit 2009 to attempt to show that the system described therein affirmatively did not access an external service controller,” and this “contention does not bear scrutiny.” *Id.* at 3. According to Petitioner, “[n]owhere does Exhibit 2009 explain that the ‘DHCP process’ is carried out internally in the hotspot *without accessing an external DHCP server.*” *Id.* at 4 (citing Ex. 2009 § 2.3.4; Ex. 1012 ¶¶ 29–31).

Also, according to Petitioner, Exhibit 2018 and Exhibit 2032 “completely undercut” Patent Owner’s argument. *Id.* Specifically, Petitioner notes that Exhibit 2018 “explains that in a test deployment, the ‘[e]nd user device is set up to support dynamic IP address with *an external DHCP server,*” and Exhibit 2032 “states that some devices are ‘[s]ometime

[sic] not able to find **DHCP server.**” *Id.* (citing Ex. 2018, 8; Ex. 2032 § 3.4.2.1).

Petitioner also argues that the Tewfik Declaration (Ex. 2004) does not support Patent Owner’s assertion that the MHS1 used Windows 98, which included built-in network address translation functionality and other services such that an external service controller was not needed. *Id.* at 4–5.

Petitioner asserts that the chart in ¶ 34 of the Tewfik Declaration “was not prepared by Dr. Tewfik—it was provided to him by Patent Owner’s counsel, who in turn obtained it from the inventor, Larry LeBlanc” (*id.* at 5 (citing Ex. 1014, 8:16–9:3, 9:9–19)), and “Dr. Tewfik did nothing to verify the chart’s information other than to review Exhibit 2009 and rely on his personal experience” (*id.* (citing Ex. 1014, 10:1–14)).

In addition, Petitioner argues that

“[c]onception requires contemporaneous recognition and appreciation of the limitations of the claimed invention, not merely fortuitous inherency.” *Mycogen Plant Science, Inc. v. Monsanto Co.*, 252 F.3d 1306, 1314 (Fed. Cir. 2001). An inventor who failed to appreciate the claimed inventive features at the time of alleged conception cannot use his later recognition of those features to retroactively cure his inadequate conception. *See Hitzeman v. Rutter*, 243 F.3d 1345, 1358–59 (Fed. Cir. 2001).

Pet. Reply 5. According to Petitioner, however, “none of Patent Owner’s documents show that the patentees recognized that Windows 98 had features that would enable Internet access without accessing an external service controller server.” *Id.* Petitioner asserts that “[t]he single reference to Windows 98 [in Exhibit 2009] does not show conception of a system that enables Internet access **without an external service controller server.**” *Id.* at 6.

c) Discussion

i. Independent Claim 1

First, we note that Petitioner does not dispute Patent Owner's contentions regarding conception of the wireless access point and wireless Internet access interface limitations of claim 1. *See generally*, Pet. Reply 1–6. Based on the record before us, we are persuaded that the inventors conceived of the portions of the invention relating to these limitations before November 4, 2002, the filing date of Boehm. Specifically, Patent Owner argues that the MHS1 System Requirements Document (Ex. 2009) indicates the components of the MHS1 include a Sierra Wireless 555 Aircard and a Prism2 card. PO Resp. 14–15 (citing Ex. 2009 § 2.4.1). Patent Owner also argues that the Sierra Wireless 555 Aircard provided the wireless Internet access interface, and the Prism2 card operated as the wireless access point. *Id.* at 15 (citing Ex. 2009 § 2.4.1; Ex. 2004 ¶¶ 34–35).

Exhibit 2009, which bears the date September 24, 2002, and was last modified on September 25, 2002 (*see* Ex. 2010), specifies high level requirements for the MHS1. Ex. 2009 § 1.1. For hardware requirements, Exhibit 2009 indicates that the MHS1 shall use “a Back-end (WAN) interface, Sierra Wireless 555 Aircard, support CDMA2000 1X RTT interface” and “an 802.11b (WLAN) interface, Prism2 based interface card (type 2 PCMCIA card).” *Id.* §§ 2.4.1.1.3, 2.4.1.1.4. These descriptions are consistent with Patent Owner's contentions.

In addition, Patent Owner's argument is supported by Mr. LeBlanc's uncontested testimony. *See* Ex. 2006 ¶ 15. Specifically, Mr. LeBlanc testifies that the Sierra Wireless 555 Aircard “was an Internet access interface capable of communicating with the Internet via the long-range

cellular CDMA2000 Single Carrier Radio Transmission Technology (1xRTT) network.” *Id.* (citing Ex. 2009 §§ 2.3.2[1], 2.4.1.1.3). Mr. LeBlanc also testifies that the Prism2 card “was a radio interface card configured to operate as an access point (AP) within the context of the IEEE 802.11b wireless standard. The IEEE 802.11b standard is an industry specification for short-range high-speed wireless networking between client devices.” *Id.* (citing Ex. 2009 §§ 2.3.4[1, 2], 2.4.1.1.4). Mr. LeBlanc’s testimony is corroborated by Dr. Tewfik, who testifies that he agrees with Mr. LeBlanc’s explanations of Exhibit 2009. Ex. 2004 ¶ 35.

Accordingly, we are persuaded that the inventors conceived the wireless access point and wireless Internet access interface portions of the invention reflected in the limitations of claim 1 before November 4, 2002.

Next, we consider the LAN routing system limitation. We have interpreted this limitation as “a system that directs data between a local area network and the Internet by managing the data path between a wireless access point and an Internet access interface.” *See supra* § III.C.

We agree with Patent Owner’s assertion that the functionality of Windows 98 (i.e., built-in access point controller, Internet connection sharing functionality, DHCP functionality, and Wired Equivalent Privacy (WEP) functionality) provided a routing system for the MHS1. *See* PO Resp. 15. This assertion is supported by Mr. LeBlanc’s testimony that “[t]he Windows 98 operating system included tools and functions for providing a software access point controller, Internet connection sharing functionality, DHCP functionality, and Wired Equivalent Privacy (WEP) functionality, which used authentication.” Ex. 2006 ¶ 15 (citing Ex. 2009 §§ 2.3.4[3, 4], 2.4.1.1.1, 2.4.1.1.2).

Dr. Tewfik corroborates this testimony, testifying that he agrees with Mr. LeBlanc's explanations. Ex. 2004 ¶ 35. We credit Dr. Tewfik's testimony on this point because, although the claim chart from Exhibit 2009 was provided to Dr. Tewfik (*id.* ¶ 34), the testimony is based on his *opinion* of the claim chart, rather than being derived solely from the testimony of Mr. LeBlanc (*id.* ¶ 35). Moreover, as the Federal Circuit has pointed out, Dr. Tewfik's testimony that Windows 98 included these functionalities is based on his personal experience. *See Intellectual Ventures II*, 692 F. App'x at 627; *see also* Ex. 1014, 12:17–13:11 (Dr. Tewfik testifying that, based on his use of the system “in the late '90s,” Windows 98 had a functionality that “managed the connection between the WiFi short-range wireless system and the long range cellular data connection”). Also, Petitioner has not apprised us of any evidence suggesting that, at the time of the alleged conception, Windows 98 did not have the functionality asserted by Patent Owner.

We also agree with Patent Owner's assertion that Exhibit 2009 describes that a client device can connect to the access point, such that the MHS1 allows the client device to start browsing the Internet or start an Internet-related application, which demonstrates that “the inventors intended that the MHS1 would *communicate* Internet data between the Internet interface card and the access point.” *See* PO Resp. 15–16 (citing Ex. 2009 § 2.3.4[1–4]; Ex. 2004 ¶¶ 34–35) (emphasis added). This assertion is supported by Exhibit 2009, which describes that a user, using a DHCP enabled device “equipped with a 802.11b compatible interface,” notices and

connects to “an AP (Mobile APx).”¹¹ Ex. 2009 § 2.3.4[1–2]. Exhibit 2009 also describes that the user will have Internet access once “the association and DHCP process is complete,” and can start browsing the Internet. *Id.* § 2.3.4[3–4]. We find that the ability to browse the Internet indicates that Internet data is being communicated to the user or client device via the access point.

This assertion by Patent Owner is also supported by Mr. LeBlanc’s testimony that “[t]he MHS1 is described as having the functionality to communicate Internet data between the Sierra Wireless 555 Aircard (the Internet interface) and the Prism2 card (the access point).” Ex. 2006 ¶ 15 (citing Ex. 2009 §§ 2.3.4[3, 4], 2.4.1.1.1, 2.4.1.1.2). We credit this testimony, under the rule of reason framework, as adequately corroborated by Exhibit 2009, and Dr. Tewfik. Ex. 2004 ¶ 35. In addition, Petitioner has not apprised us of any reason that MHS1 did not communicate Internet data between the Sierra Wireless 555 Aircard and the Prism2 card.

Petitioner argues that the Board’s construction requires the LAN routing system to manage the data path, not just communicate data. Pet. Supp. Br. 7 (citing Final Dec. 26, 32). Patent Owner, however, argues that Mr. LeBlanc’s testimony shows that the MHS1 did manage the data path. PO Supp. Br. 8 (citing Ex. 2006 ¶ 24). Mr. LeBlanc testifies that “user devices could connect via WiFi and obtain an IP address via DHCP implemented locally at the MHS1. Client devices were authenticated by at least a required visit to a welcome page. After this authentication, client

¹¹ Although not stated explicitly in Exhibit 2009, it appears that “AP” refers to an access point. *See* Ex. 2020, 4 (referring to detecting “the WiFi Access Point in the Mobile Hotspot”).

devices could access the Internet via the 1xRTT cellular network connection.” Ex. 2006 ¶ 24. Patent Owner asserts this testimony “establishes that the MHS1 acted as a gateway that either allowed or prevented Internet access—and, thus, “managed the data path”—by performing at least two functions: (1) assigning IP addresses via DHCP; and (2) requiring users to visit a welcome page before gaining Internet access.” PO Supp. Br. 8–9.

Patent Owner also asserts that Exhibit 2009 corroborates Mr. LeBlanc’s testimony. *Id.* at 9. Specifically, Patent Owner argues:

Section 2.3.4 of Exhibit 2009 describes a “sign-on” process for allowing a user of a client device (referred to as a “Use Laptop or PDA”) to connect to the Internet, using a “802.11b compatible interface,” through the MHS1. First, the user turns on the client laptop or PDA and notices that a mobile access point (referred to as “AP” or “Mobile APx”) is available. Second, the user “selects to connect to” the mobile access point. Third, an “association and DHCP process is complete[d],” after which the “user will have Internet access.” Fourth, “the welcome page from MHS1 is displayed” and “the user can start browsing the Internet or start any other Internet related applications.”

Id. (internal citations omitted). In view of this evidence, we are persuaded that the MHS1 acted as a gateway by selectively allowing or preventing Internet access to user devices. As such, we are persuaded that the MHS1 not only communicated Internet data between the Sierra Wireless 555 Aircard and the Prism2 card, but also managed the data path between these components.

Accordingly, we are persuaded that the inventors conceived of the LAN routing system limitation before November 4, 2002.

We now turn to the stand-alone system limitation, which recites: “wherein said mobile wireless hotspot system is a stand-alone system that

enables client devices configured for short-range, high-speed wireless Internet access to use said mobile wireless hotspot system to access the Internet without the need to access an external service controller server.” Ex. 1001, 6:24–28.

One reason Patent Owner provides to corroborate Mr. LeBlanc’s testimony that the inventors conceived the stand-alone system is that Exhibit 2009 makes no reference to accessing an external service controller. PO Resp. 17. Accessing the Internet is the primary function of the mobile hotspot system. Ex. 1001, 2:5–9. Exhibit 2009 is a requirements documents for the MHS1, identifying the components required for the system to function. *See generally* Ex. 2009. Because access to the Internet is the ultimate objective of the MHS1, it is logical that its requirement document would include a comprehensive list of components required to access the internet. Given this background, we find that the absence of an external service controller server in this listing is significant. Furthermore, we are unpersuaded that Petitioner has carried its burden of showing that an absence of an explicitly listed external service controller server indicates that the MHS1 could not access the Internet without one.

Patent Owner also argues that Exhibit 2009 references providing DHCP functionality for the client devices. *Id.* (citing Ex. 2009 § 2.3.4). Furthermore, Patent Owner argues that “Windows 98 included built-in network address translation functionality and other services such that an external service controller was not needed.” *Id.* (citing Ex. 2004 ¶ 34).

These assertions are supported by Mr. LeBlanc’s testimony that § 2.3.4[3] of Exhibit 2009 “references the fact that the MHS1 itself executed the Dynamic Host Configuration Protocol (DHCP) for configuring client

devices to connect with the Internet,” and “[t]he MHS1 also performed network address translation using tools and functions included in Windows 98.” Ex. 2006 ¶ 15. Mr. LeBlanc further testifies that the MHS1, thus, did not have the need to access an external service controller server to provide the DHCP functionality or to access the Internet. *Id.* We credit this testimony, under the rule of reason framework, as adequately corroborated by the cited portions of Exhibit 2009 and Dr. Tewfik. *See* Ex. 2004 ¶ 35. Mr. LeBlanc also testifies that “user devices could connect via WiFi and obtain an IP address via *DHCP implemented locally* at the MHS1.” Ex. 2006 ¶ 24 (emphasis added). In addition, for the reasons discussed above in connection with the LAN routing system limitation, we agree that the Windows 98 operating system deployed on the MHS1 included DHCP functionality.

We are not persuaded by Petitioner’s argument that Exhibit 2009 fails to explain that the DHCP process is carried out internally in the MHS1, without accessing an external DHCP server. *See* Pet. Reply 4 (citing Ex. 2009 § 2.3.4; Ex. 1012 ¶¶ 29–31). This argument is flawed because it is directed to Exhibit 2009 only, and does not take into account Mr. LeBlanc’s testimony that the MHS1 executed the DHCP process. As the Federal Circuit observed, corroborating evidence need not constitute definitive proof of the inventor’s account or disclose each claim limitation. *Intellectual Ventures II*, 692 F. App’x at 627 (citing *Fleming*, 774 F.3d at 1377). Instead, “[t]he focus must be whether the totality of the evidence makes the inventor’s testimony credible.” *Id.* We determine that Exhibit 2009 adequately corroborates and lends credibility to Mr. LeBlanc’s testimony, because it describes the MHS1 providing Internet access once the DHCP

process is completed, without referencing an external DHCP server. *See* Ex. 2009 § 2.3.4[3].

In addition, Patent Owner contends that certain deposition testimony by Dr. Roy (*see* Ex. 2038, 10:3–14, 11:20–12:19, 14:19–15:16, 15:18–16:1, 38:18–42:22) is relevant to Exhibit 2020, which states at page 6 that “[t]he Mobile Hotspot assigns users private IP addresses”, and this testimony “confirms [the MHS1] was a ‘stand-alone system’ because it functioned as a DHCP server itself, not as a relay agent for a separate DHCP server.” Mot. for Obs. 1–2.

Petitioner argues that Patent Owner concedes that Exhibit 2020 was created no earlier than December 13, 2002, nearly six weeks after the Boehm filing date of November 4, 2002, and thus cannot corroborate any conception before November 4, 2002. Obs. Resp. 1; *see also* Pet. Supp. Br. 5 (arguing nothing suggests Exhibit 2020 describes a pre-Boehm system).

As noted above, this was the very reason the Federal Circuit ruled that we erred by not considering Exhibit 2020 in the Final Written Decision. *Intellectual Ventures II*, 692 F. App’x at 628. The Federal Circuit indicated that “[d]ocuments created shortly after the critical date and even undated documents may be relevant to corroborate an inventor’s testimony.” *Id.* (citing *Lazare*, 628 F.3d at 1374; *Ohio Willow Wood*, 735 F.3d at 1348). Accordingly, notwithstanding Petitioner’s argument that Exhibit 2020 cannot corroborate any conception before November 4, 2002, we consider the relevance of Exhibit 2020 vis-à-vis the inventor testimony.

Turning to the substance, Patent Owner argues that Exhibit 2020, a troubleshooting guide, refers to the “Mobile Hotspot Mk I” (i.e., Mobile

Hotspot Mark I), which Patent Owner contends shows that the guide relates to the same first generation device described in Exhibit 2009 (i.e., the MHS1). PO Supp. Br. 6–7 (citing Ex. 2020, 1–2). According to Patent Owner,

the most reasonable conclusion from the evidence is that the troubleshooting guide explains solutions to issues that users had encountered while using the same MHS1 device that had been used in the successful road test. The credibility of this conclusion is particularly strong in view of the short gap between the October 22, 2002 road test and the December 12, 2002 date of Exhibit 2020 and the lack of any indication that the inventors added features to the MHS1 during that short gap.

Id. at 7. We agree with Patent Owner that, in view of the short time between the respective creation dates of Exhibits 2009 and 2020, Exhibit 2020 refers to a device having the same configuration as the MHS1. Furthermore, Dr. Roy agrees that the “Mobile HotSpot” of Exhibit 2020 refers to the MHS1. Ex. 2038, 38:4–9.

Petitioner also argues that Exhibit 2020 does not corroborate conception of the stand-alone system limitation. Obs. Resp. 2; Pet. Supp. Br. 3–5. Specifically, Petitioner points to Dr. Roy’s testimony that Exhibit 2020 does not “indicate whether the mobile hotspot acts as a DHCP server that provides IP addresses or a relay agent that relays messages between client devices and external DHCP servers.” Pet. Supp. Br. 4 (citing Ex. 1012 ¶ 46). Petitioner also points to Dr. Roy’s testimony that (1) he disagrees “the use of the term ‘assigns’ [in Exhibit 2020] implies that there is a DHCP server within the Mobile HotSpot” (Ex. 2038, 40:1–3); (2) “[t]here is no evidence to suggest one way or the other” that Exhibit 2020’s statement that the Mobile Hotspot assigns users private IP addresses implies there is a DHCP server within the Mobile Hotspot (*id.*

at 41:4–7); and (3) “[i]f the Mobile Hotspot acts as a relay, . . . I could state with some imprecision that it assigns IP addresses to the client” (*id.* at 41:11–14). Obs. Resp. 2; Pet. Supp. Br. 4.

In response, Patent Owner argues that Dr. Roy admits that a DHCP server—not a DHCP relay—is the device that assigns IP addresses to DHCP clients. PO Supp. Br. 5 (citing Ex. 2038, 15:12–16:1). Patent Owner also argues that Dr. Roy’s “walk-back testimony” stating “with some imprecision” that the Mobile Hotspot assigns IP addresses to the client if it acts as a relay, gives Exhibit 2020 an imprecise and incorrect meaning. *Id.* at 5–6.

Although Dr. Roy’s testimony is generally unambiguous, his conflicting testimony that the Mobile Hotspot assigns IP addresses to the client if it acts as a relay is less clear because it is stated “with some imprecision.” *Id.* at 41:11–14. The qualification “with some imprecision” casts significant doubt on the probative value of the statement as a whole. Accordingly, we determine that Exhibit 2020’s statement that the Mobile Hotspot assigns users private IP addresses instead lends credibility to Mr. LeBlanc’s testimony that the MHS1 did not have the need to access an external service controller server to provide the DHCP functionality or to access the Internet. *See* Ex. 2006 ¶ 15.

Petitioner also argues that Exhibit 2018 and Exhibit 2032 show that the MHS1 used an external DHCP server. Pet. Reply 4; *see also* Pet. Supp. Br. 5–6 (making the same argument). Exhibit 2018 states the “[e]nd user device is set up to support dynamic IP address with an external DHCP server.” Ex. 2018, 8. Exhibit 2032 states “[s]ometime [sic] not able to find

DHCP server,” with reference to the Toshiba e570 PocketPC. Ex. 2032 § 3.4.2.1.

We agree with Patent Owner that both of these statements are from the perspective of the end user or client device, such as a laptop or PDA, and the MHS1 is external to such client devices. *See* PO Supp. Br. 7–8. For instance, we are persuaded that the external DHCP server mentioned in Ex. 2018 is external to the end user device, and not the MHS1. As Patent Owner argues, Dr. Roy agrees that the DHCP server is external to the end user device. Mot. for Obs. 3–4 (citing Ex. 2038, 28:10–30:11). The portion of Exhibit 2032 noted by Petitioner relates to testing with various client devices, in particular the Toshiba e570 PocketPC. Ex. 2032 §§ 3.4.2, 3.4.2.1. Thus, we find that the comment “[s]ometime [sic] not able to find DHCP server” refers to the Toshiba e570 PocketPC, rather than the MHS1, not finding the DHCP server. Indeed, the comment goes on to say: “I think this is a PocketPC issue.” Ex. 2032 § 3.4.2.1. Accordingly, we are not persuaded that Exhibit 2018 and Exhibit 2032 undercut Patent Owner’s argument that the MHS1 does not require an external DHCP server.

Next, we are not persuaded by Petitioner’s argument that “none of Patent Owner’s documents show that the patentees recognized that Windows 98 had features that would enable Internet access without accessing an external service controller server.” *See* Pet. Reply 5 (citing *Mycogen*, 252 F.3d at 1314). The Federal Circuit ruled that we erred by reasoning that Patent Owner failed to show that the inventors knew of and intended to use the functions included in Windows 98. *Intellectual Ventures II*, 692 F. App’x at 627.

Patent Owner also contends that Dr. Roy's deposition testimony regarding Exhibits 2036 and 2037 "provides additional corroboration for [Mr.] LeBlanc's testimony that he selected and used Windows 98 for its Internet Connection Sharing (ICS) tool to provide the MHS1 with NAT and DHCP functionality." Mot. for Obs. 5 (citing Ex. 2006, 7–8). Exhibits 2036 and 2037 are product guides relating to Windows 98 and Internet connection sharing, respectively. Both documents are undated with respect to creation and merely indicate they were "last reviewed" in 2007. Ex. 2036, 3; Ex. 2037, 2. Nevertheless, we have considered Exhibits 2036 and 2037 and Patent Owner's related arguments. We disagree with Patent Owner's contention that Dr. Roy's testimony regarding these exhibits provides additional corroboration for Mr. LeBlanc's testimony regarding Windows 98 functionality. The content of Exhibits 2036 and 2037 provides little to no basis to support Mr. LeBlanc's testimony of why he selected Windows 98 for the MHS1. In reaching our determination, below, we do not rely on Exhibits 2036 and 2037 for the reason discussed above.

For the above reasons, we are persuaded that the inventors conceived the stand-alone system limitation before November 4, 2002.

In conclusion, Mr. LeBlanc testifies that he and his co-inventors conceived the mobile hotspot system invention before November 4, 2002. Ex. 2006 ¶ 14. Upon reviewing the totality of the evidence, as discussed in detail above, we determine that Mr. LeBlanc's testimony is adequately corroborated and rendered credible. Accordingly, under the rule of reason, we determine that the evidence establishes that the inventors conceived the invention of claim 1 prior to November 4, 2002.

ii. Dependent Claims

As discussed above (*see supra* § III.D.2.a), Patent Owner, relying on the testimony of Mr. LeBlanc and Dr. Tewfik, asserts that the inventors conceived the subject matter of dependent claims 2–4, 7, and 18 before November 4, 2002. PO Resp. 17, 20–22 (citing Ex. 2006 ¶ 15; Ex. 2004 ¶¶ 34–35). We have reviewed Mr. LeBlanc and Dr. Tewfik’s testimony and the evidence cited therein. Under the rule of reason, we credit their testimony as adequately corroborated, and, thus, we agree with Patent Owner’s uncontested assertion that the inventors conceived the subject matter of dependent claims 2–4, 7, and 18 before November 4, 2002.

3. Reduction to Practice

Patent Owner relies on Mr. LeBlanc’s testimony in arguing that the inventors reduced their invention to practice before November 4, 2002. PO Resp. 22–28 (citing Ex. 2006). Mr. LeBlanc testifies he completed a working version of a system that connected a desktop computer to the Internet using an Ethernet cable connected to a laptop computer that had a 1xRTT interface card installed. Ex. 2006 ¶ 17. Mr. LeBlanc states this testimony is corroborated by Exhibit 2008, which is a note entitled “802.11-to 1xRTT (repost of email)” and dated September 5, 2002. *Id.* Mr. LeBlanc testifies that the note indicates his next step was to “wap-ify” the laptop computer, which meant adding a wireless access point in place of the Ethernet cable connection. *Id.* Mr. LeBlanc also testifies that Exhibit 2011, a note entitled “MHS1 DEVELOPMENT” and dated September 29, 2002, shows that co-inventor Eddie Ho recommended the inventors purchase a laptop computer to dedicate to the purpose of building the first MHS1. *Id.* ¶ 18.

Next, Mr. LeBlanc testifies that the inventors completed a prototype of the MHS1 and tested it to confirm that it worked for its intended function no later than October 22, 2002. *Id.* ¶ 19. To corroborate Mr. LeBlanc’s testimony, Patent Owner offers Exhibit 2012, which comprises three photographs, and Exhibit 2013, which Patent Owner asserts shows that the three photographs were uploaded to the inventors’ shared online repository on October 22, 2002. PO Resp. 25. Mr. LeBlanc testifies that the working prototype of the MHS1 was completed at least as earlier as October 22, 2002 because the inventors took the Exhibit 2012 photographs to commemorate the first successful road test of the MHS1. Ex. 2006 ¶ 19. The photographs are reproduced below:





Three photographs showing the MHS1 prototype and the vehicle used to road test the prototype.

In particular, Mr. LeBlanc testifies that the first and second photographs of Exhibit 2012 show the MHS1 prototype that was built according to the specifications set forth in Exhibit 2009 and was the subject of the road test. *Id.* ¶¶ 21–22. Mr. LeBlanc also testifies that these two photographs show the laptop computer used for the MHS1 prototype. *Id.* Mr. LeBlanc testifies further that the second photograph shows the MHS1 prototype installed in a minivan with a visible wire for connecting an antenna to the 1xRTT Internet interface card (which card is not visible in the photograph because it is entirely within the laptop computer) and the Prism2 card that served as the wireless access point extending from the side of the laptop computer. *Id.* ¶ 22.

Regarding the results of the road test, Mr. LeBlanc testifies that we confirmed that we were able to wirelessly access the Internet with client devices (having 802.11b functionality) through the MHS1 using a shared Internet connection. For example, we confirmed that user devices could connect via WiFi and obtain

an IP address via DHCP implemented locally at the MHS1. Client devices were authenticated by at least a required visit to a welcome page. After this authentication, client devices could access the Internet via the 1xRTT cellular network connection. The MHS1 was required to perform Network Address Translation in order to allow client devices to share the 1xRTT card's external Internet address. We confirmed that client devices could load Internet webpages and locally-stored pages. We also confirmed that the MHS1 monitored the connection to the Internet and automatically re-connected as necessary.

Id. ¶ 24. Mr. LeBlanc states that his “recollection in this regard is corroborated by the testing we carried out prior to the road trial, as demonstrated in Exhibit 2014.” *Id.*

Patent Owner also argues that Exhibit 2014 corroborates Mr. LeBlanc's testimony. PO Resp. 23–25. Patent Owner asserts Exhibit 2014 is a Microsoft Excel spreadsheet documenting the inventors' development and testing activities performed in October 2002. *Id.* at 23 (citing Ex. 2006 ¶ 25). Patent Owner also asserts that this spreadsheet was created on October 15, 2002, as corroborated by its internal metadata. *Id.* (citing Ex. 2015).

Mr. LeBlanc testifies that one of the entries in Exhibit 2014, referred to as “ticket #1015,” was opened on October 21, 2002 with the topic “Final System Testing.” Ex. 2006 ¶ 31. According to Mr. LeBlanc, this entry corroborates that the road test discussed above was performed no later than October 22, 2002. *Id.* Mr. LeBlanc also testifies that another entry, referred to as “ticket #1019,” which was opened on October 25, 2002 with the topic “Dev another demo unit based on Fujitsu laptop,” corroborates that the testing of the first demonstration unit was satisfactory, because the inventors

would not have begun building a second MHS1 unit without having confirmed operation of the first unit. *Id.* ¶ 33.

We determine that Exhibit 2012 lends credibility to Mr. LeBlanc's testimony that the inventors conducted a successful road test of the MHS1 prototype. Although they are not direct evidence that the inventors successfully tested an MHS1 prototype, the photographs give credence, under a rule of reason framework, to Mr. LeBlanc's recollection of events. For instance, we credit Mr. LeBlanc's statement that the photographs were taken to commemorate the road test (Ex. 2012 ¶¶ 19, 24). Also, the second photograph does show, in fact, a laptop computer (identified as a key component of the MHS1, as discussed above) installed in a vehicle, which would be necessary for a road test of the system. And although we rely in part on Mr. LeBlanc's own testimony with respect to the corroborative evidence, "[t]he law does not impose an impossible standard of independence on corroborative evidence by requiring that every point of a reduction to practice be corroborated by evidence having a source totally independent of the inventor; indeed, such a standard is the antithesis of the rule of reason." *Fleming*, 774 F.3d at 1377 (citing *Cooper v. Goldfarb*, 154 F.3d 1321, 1331 (Fed. Cir.1998)).

We also find that the photographs were taken on or before October 22, 2002, because Exhibit 2013 shows the photographs were uploaded to the inventors' shared online repository on October 22, 2002, indicating that the photographs had to have existed at least by that date. This finding dovetails with Mr. LeBlanc's testimony that the road test occurred no later than October 22, 2002. In addition, we find the "ticket #1015" entry of Exhibit 2014 lends some credibility, under a rule of reason framework, to Mr.

LeBlanc's testimony that a road test was performed no later than October 22, 2002 because it shows that the inventors were contemplating testing the MHS1 prototype in this time frame.

Petitioner argues that "Patent Owner must prove that the patentees constructed every element of the claimed invention, and that the system they constructed worked for its intended purpose." Pet. Reply 6 (citing *Mazzari v. Rogan*, 323 F.3d 1000, 1006 (Fed. Cir. 2003)); see also Supp. Pet. Reply 10 (making the same argument). According to Petitioner, Patent Owner has not done so because Exhibits 2012 and 2014, among others, do not discuss the specific elements of the claimed mobile hot spot system, particularly the stand-alone system limitation. Pet. Reply 6–7 (citing Ex. 1012 ¶¶ 38, 39, 41, 44, 48, 49).

We are unpersuaded by this argument. First, as noted above, corroborating evidence need not constitute definitive proof of the inventor's account or disclose each claim limitation. *Intellectual Ventures II*, 692 F. App'x at 627 (citing *Fleming*, 774 F.3d at 1377). "An inventor's testimony on conception can be corroborated through several pieces of evidence, even though no one piece of evidence independently proves conception, and even circumstantial evidence, so long as the evidence supports that the 'inventor's story is credible.'" *E.I. du Pont De Nemours*, 921 F.3d at 1076 (citing *NFC Tech., LLC v. Matal*, 871 F.3d 1367, 1372 (Fed. Cir. 2017)). As such, the failure of Exhibits 2012 and 2014 to specifically discuss each claim limitation does not render these exhibits ineffective as corroborative evidence.

Second, Mr. LeBlanc testifies that the MHS1 prototype the inventors tested was built according to the specifications set forth in Exhibit 2009, the

“MHS1 System Requirements Document.” Ex. 2006 ¶ 21. We have determined that the MHS1, as conceived by the inventors, included all of the limitations of the challenged claims. *See supra* § III.D.2.c. In addition, the second photograph in Exhibit 2012 has the filename “mhs1” (Ex. 2006 ¶ 22; Ex. 2013) and Exhibit 2014 also references the MHS1 (Ex. 2014, 2, 3), thereby suggesting that these documents pertain to a system built according to the specifications of Exhibit 2009. Therefore, we are persuaded sufficiently, under a rule of reason framework, that Exhibits 2012 and 2014, when considered in conjunction with Mr. LeBlanc’s testimony, relate to the MHS1 that includes all the limitations of the challenged claims, despite not specifically mentioning the limitations.

Petitioner also argues that the statement “need at least a couple of continued usage testing” under the “ticket #1015” entry of Exhibit 2014 shows that the system as tested did not work for its intended purpose. Pet. Reply 7 (citing Ex. 2014, 2). Mr. LeBlanc, however, testifies that “[t]his statement referred to the need for some additional testing to declare that the device was fit for deployment as a customer trial unit. This additional testing was meant to refine the product for commercial purposes.” Ex. 2006 ¶ 31. We credit Mr. LeBlanc’s testimony on this point and, therefore, are unpersuaded by Petitioner’s argument.

Accordingly, under the rule of reason, we determine that the evidence establishes sufficiently that the inventors reduced to practice the invention of the challenged claims before November 4, 2002.

4. *Conclusion*

For the above reasons, we determine that Petitioner has not met its burden of proving, by a preponderance of the evidence, that Patent Owner

did not conceive of and reduce to practice the claimed invention prior to November 4, 2002. Accordingly, we determine that Petitioner has not met its burden of proving that Boehm is prior art with respect to the challenged claims.

E. Asserted Grounds Necessarily Relying on Boehm

Petitioner asserts that claims 1 and 2 are anticipated under 35 U.S.C. § 102(e) by Boehm. Pet. 3, 12–16. Because Boehm is not prior art as to claims 1 and 2, Petitioner has failed to demonstrate, by a preponderance of the evidence, that claims 1 and 2 are anticipated by Boehm under 35 U.S.C. § 102(e).

Petitioner also asserts that claims 1–3 and 18 are unpatentable under 35 U.S.C. § 103 over Kellerer and Boehm. Pet. 3–4, 30–41. Because Boehm is not prior art as to claims 1–3 and 18, Petitioner has failed to demonstrate, by a preponderance of the evidence, that claims 1–3 and 18 would have been obvious over Kellerer and Boehm under 35 U.S.C. § 103(a).

In addition, Petitioner asserts that claims 4, 7, and 18 are unpatentable under 35 U.S.C. § 103 over Kellerer, Boehm, and Mitchell. Pet. 3–4, 41–47. Because Boehm is not prior art as to claims 4, 7, and 18, Petitioner has failed to demonstrate, by a preponderance of the evidence, that claims 4, 7, and 18 would have been obvious over Kellerer, Boehm, and Mitchell under 35 U.S.C. § 103(a).

F. Asserted Obviousness Based on Mitchell in View of Boehm and/or Kellerer

Petitioner challenges claims 1, 3, 4, 7, and 18 as unpatentable under 35 U.S.C. § 103 over Mitchell in view of Boehm and/or Kellerer. Pet. 3–4, 17–30. As such, this asserted ground actually sets forth three alternate

grounds: (1) the combination of Mitchell and Boehm, (2) the combination of Mitchell and Kellerer, and (3) the combination of Mitchell, Boehm, and Kellerer. Because Boehm is not prior art as to claims 1, 3, 4, 7, and 18, Petitioner has failed to demonstrate, by a preponderance of the evidence, that claims 1, 3, 4, 7, and 18 would have been obvious over the combination of Mitchell and Boehm or the combination of Mitchell, Boehm, and Kellerer under 35 U.S.C. § 103(a).

We address the combination of Mitchell and Kellerer below.

1. *Overview of Mitchell*

Mitchell discloses aircraft satellite communication system 300 for distributing Internet service from direct broadcast satellites to a mobile platform embodied as an aircraft. Ex. 1006, 23:18–20, Fig. 12. Figure 12 of Mitchell, reproduced below, illustrates aircraft satellite communication system 300.

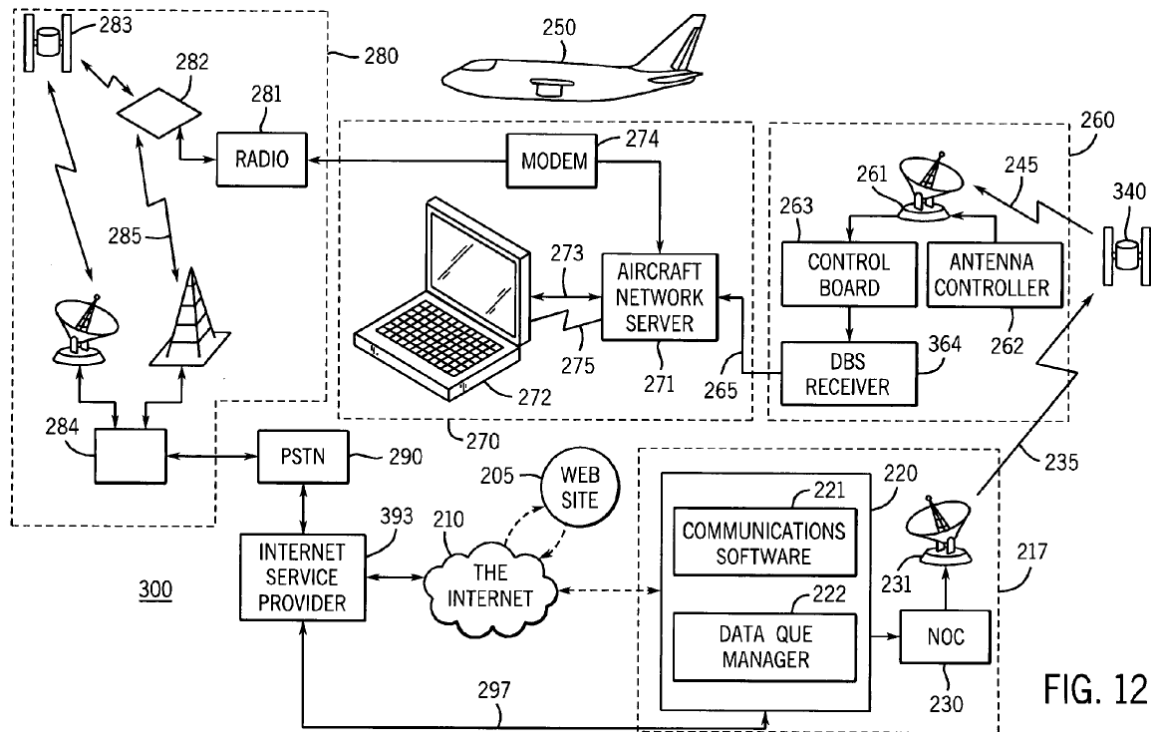


FIG. 12

Figure 12 depicts Mitchell's aircraft satellite communication system 300.

Direct broadcast satellite ("DBS") receiver system 260, on board aircraft 250, includes antenna 261 and Internet DBS receiver 364. *Id.* at 23:52–54, 57–58. Antenna 261 receives Internet service from satellite 340 via link 245, and the Internet service is processed by DBS receiver 364. *Id.* at 23:51–58, Fig. 12; *see also id.* at 19:64–67 ("The down converted L-band IF signal [from antenna 261] is sent to direct broadcast satellite receiver 264 for processing of the Internet service").

The Internet data from DBS receiver 364 are passed over serial data link 265 to aircraft network server 271, which is part of aircraft computer network 270. *Id.* at 23:61–63. Aircraft network server 271 distributes Internet service in aircraft 250—including client personal computer 272—via data link 273 or wireless network 275. *Id.* at 20:10–15, 23:64–66.

2. *Overview of Kellerer*

Kellerer "proposes a concept for a gateway architecture as an essential building block for future automobile systems. The gateway enables services and applications within a car to transparently use different wireless communication networks." Ex. 1007, 41–42. Figure 4 of Kellerer, reproduced below, illustrates the components of the gateway.

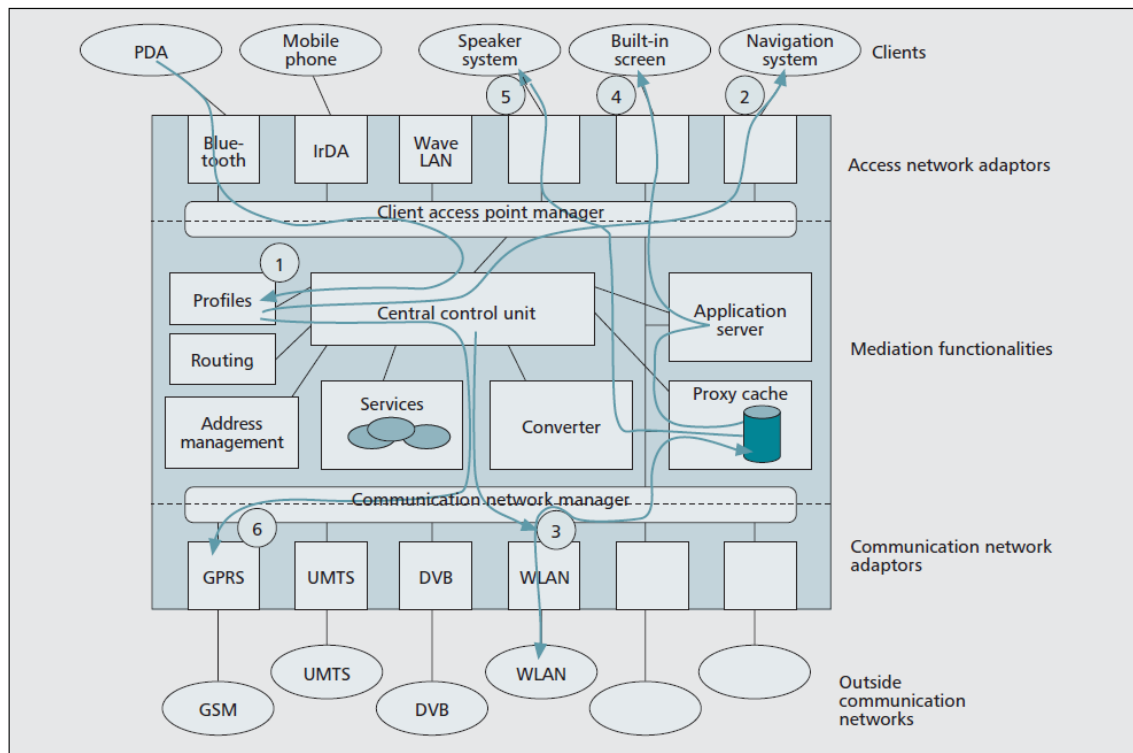


Figure 4 depicts the components of Kellerer's gateway.

The gateway includes communication network adaptors that connect the gateway to car-external communication networks and a communication network manager having global control over the adaptors. *Id.* at 45. The gateway also includes application servers, such as an email server, to provide sever functionality for certain client applications. *Id.*

3. *Independent Claim 1*

According to Petitioner, "Mitchell discloses "[a] communication system [that] is provided for use with a mobile platform." Pet. 17 (citing Ex. 1005, Abstract). Petitioner contends that Mitchell discloses

a mobile wireless hotspot system that includes: (1) a short-range, high-speed wireless access point (i.e., wireless network between aircraft server and client personal computers); (2) a long-range, wireless Internet access interface (i.e., satellite link for receiving

Internet data); and (3) a local area network (“LAN”) routing system (i.e., aircraft server for routing data between the Internet and the wireless network).

Id. at 18. Petitioner further contends that “[t]o the extent that Mitchell does not explicitly disclose that the mobile platform is a ‘stand-alone system,’ the modification of Mitchell to provide stand-alone functionality would have been obvious to one of ordinary skill in the art in view of the teachings of Boehm and/or Kellerer.” *Id.* (emphasis added). Although this phrasing does not state that Mitchell fails to disclose a stand-alone system, as claimed, we note that the Petition does not explain how Mitchell discloses this limitation, and we are not directed to any expert testimony or other evidence showing that Mitchell discloses a stand-alone system. Furthermore, the claim chart provided in the Petition identifies only Boehm and Kellerer—not Mitchell—as teaching the stand-alone system. Pet. 25–26.

Patent Owner argues that the Petition lacks an affirmative assertion that Mitchell discloses a stand-alone system and does not include any evidence that Mitchell’s mobile platform is a stand-alone system. Supp. PO Resp. 14 (citing Ex. 2042 ¶ 23). Patent Owner also argues that Dr. Roy’s testimony lacks an affirmative assertion that Mitchell discloses a stand-alone system. *Id.* at 14–15 (citing Ex. 1010 ¶ 60; Ex. 2042 ¶ 24).

In reply, Petitioner argues that the Board already considered and rejected Patent Owner’s argument that Mitchell fails to disclose the stand-alone system limitation. Supp. Pet. Reply 6 (citing Final Dec. 26–28).

According to Petitioner,

[t]he Board’s prior findings are now the law of the case, and [Patent Owner] should not be permitted to re-litigate Mitchell’s disclosure of the “stand-alone system” limitation a second time.

“The doctrine of law of the case was ‘created to ensure judicial efficiency and to prevent the possibility of endless litigation.’”

Id. (quoting *Toro Co. v. White Consol. Indus., Inc.*, 383 F.3d 1326, 1335 (Fed. Cir. 2004)). Petitioner asserts that Patent Owner identifies no reason for the Board to reopen this issue. *Id.* at 7.

Patent Owner counters that the Board’s findings in the Final Written Decision with respect to Mitchell’s disclosure are not law of the case “because no purported Board finding about the alleged teachings of Mitchell . . . was examined, relied on, or necessary to the Federal Circuit’s decision.” Supp. PO Sur-reply 5–6 (citing *Exxon Corp. v. United States*, 931 F.2d 874, 877 (Fed. Cir. 1991)).

Exxon was a tax law case that turned on the date of insolvency of a subsidiary of Exxon. *Exxon*, 931 F.2d at 875. The United States Claims Court initially decided the case, determining a first date of insolvency for the subsidiary. *Id.* at 876. Exxon appealed and the Federal Circuit reversed, but did not address the findings of fact with respect to the date of insolvency. *Id.* On remand, the Claims Court determined a different date of insolvency for the subsidiary. *Id.* In a subsequent appeal, the government argued that when the initial determination of the date of insolvency was not disturbed on appeal, it became the law of the case and not subject to further revision. *Id.* at 877. The Federal Circuit rejected this argument, holding that

when a judgment has come before us for review, and certain findings of fact were not examined in, relied on, or otherwise necessary to our decision in that appeal, law of the case does not prevent the trial court on remand from reexamining those findings, with no more deference than if the decision had never been appealed at all.

Id. The Federal Circuit also indicated that “[l]aw of the case . . . merely requires a trial court to follow the rulings of an appellate court. It does *not* constrain the trial court with respect to issues not actually considered by an appellate court” and “has long been held not to require the trial court to adhere to its own previous rulings if they have not been adopted, explicitly or implicitly, by the appellate court’s judgment.” *Id.* (quoting *Jamesbury Corp. v. Litton Indus. Prod., Inc.*, 839 F.2d 1544 (Fed. Cir.), *cert. denied*, 488 U.S. 828 (1988)) (footnote omitted).

We agree that findings we made in the Final Written Decision regarding the teachings of Mitchell were not examined in, relied on, or otherwise necessary to the Federal Circuit’s decision. Accordingly, we are not persuaded that the law of the case doctrine is applicable here. *See Exxon*, 931 F.2d at 877. Furthermore, contrary to Petitioner’s assertion, we are not reopening the issue of whether Mitchell discloses the stand-alone system limitation. Instead, we are addressing Patent Owner’s argument that the Petition fails to assert with sufficient particularity that Mitchell discloses the stand-alone system limitation.

To that end, Patent Owner argues that

[n]one of the Petition’s obviousness grounds identify, with particularity, evidence that Mitchell alone discloses the “stand-alone system” limitation. Instead, the Petition particularly identifies Boehm and Kellerer as allegedly disclosing that limitation. Thus, the Petition necessarily asserts that it would have been obvious to *modify* Mitchell to use Boehm’s or Kellerer’s alleged “stand-alone system” capability.

Supp. PO Sur-reply 7. Patent Owner also argues that the Petition’s claim chart for claim 1 identifies evidence allegedly showing that Mitchell discloses every limitation except the stand-alone system limitation, and

identifies evidence allegedly showing that Boehm and Kellerer, but not Mitchell, disclose the stand-alone system limitation. *Id.* (citing Pet. 23–26).

Patent Owner argues further that the statement in the Petition that the stand-alone system limitation would have been obvious in view of Boehm or Kellerer “[t]o the extent that Mitchell does not explicitly disclose” the limitation does not particularly identify evidence that Mitchell discloses a stand-alone system. *Id.* at 8 (citing Pet. 17). According to Patent Owner, Petitioner’s “to the extent” language is a rhetorical trick to avoid an express admission that Mitchell does not disclose the limitation. *Id.*

We agree with Patent Owner that the Petition fails to identify “with particularity” adequate evidence supporting that Mitchell alone discloses the stand-alone system limitation. *See* 35 U.S.C. § 312(a)(3); *see also* *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (“It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify ‘with particularity’ the ‘evidence that supports the grounds for the challenge to each claim.’”). As we noted above, the Petition does not explain how Mitchell discloses this limitation, nor does it identify any expert testimony or other evidence showing that Mitchell discloses a stand-alone system. Furthermore, the claim chart provided in the Petition identifies only Boehm and Kellerer—not Mitchell—as teaching the stand-alone system. Pet. 25–26.

We are not persuaded by Petitioner’s argument that the description of the system depicted in Mitchell’s Figure 12 explains “Mitchell’s teaching of a stand-alone mobile platform.” Supp. Pet. Reply 7 (citing Pet. 17–18). Although this passage of the Petition describes the mobile platform of Figure

12, it does not explain how, or even assert that, the mobile platform is a stand-alone system. Instead, the Petition relies on only Boehm and Kellerer for the stand-alone system limitation. Pet. 18–20, 25–26.

Furthermore, we agree with Patent Owner’s argument that “the Board has no license to redefine the IPR to include a Mitchell-only anticipation or obvious ground.” Supp. PO Sur-reply 8–9 (citing *SAS*, 138 S. Ct. at 1356). In *SAS*, the Supreme Court held that “[n]othing suggests the Director enjoys a license to depart from the petition and institute a *different* inter partes review of his own design.” *SAS*, 138 S. Ct. at 1356. It follows from this ruling that the Board likewise cannot materially depart from the petition during the trial after institution. Also, “the expedited nature of IPRs bring[s] with it an obligation for petitioners to make their case in their petition to institute. While the Board’s requirements are strict ones, they are requirements of which petitioners are aware when they seek to institute an IPR.” *Intelligent Bio-Sys.*, 821 F.3d at 1369.

At the supplemental hearing, Petitioner challenged Patent Owner’s reliance on *SAS*, and cited *Anacor Pharmaceuticals, Inc. v. Iancu*, 889 F.3d 1372 (Fed. Cir. 2018) in arguing that Petitioner was allowed to submit rebuttal argument and evidence to address arguments made in the Patent Owner Response. Supp. Tr. 59:15–60:4. In *Anacor*, the Federal Circuit determined that “the Board’s final written decision was based on the same combination of references . . . and the same series of inferences that the petition proposed,” and “[t]he Board did not materially deviate from the theory of obviousness set forth in the petition.” *Anacor*, 889 F.3d at 1380, 1382. Here, even though Petitioner may have been responding to Patent Owner’s argument that Mitchell did not disclose the stand-alone system

limitation, its reply arguments that Mitchell alone discloses the stand-alone system limitation presented an improper and material change from the theory of obviousness set forth in the Petition.

Accordingly, Petitioner's challenge to claim 1 relies on the combination of Mitchell and Kellerer, and not Mitchell alone. Petitioner argues that Kellerer discloses a vehicle-based gateway server that is a stand-alone system because it "performs functions related to Internet communications (e.g., providing an e-mail server and server functionality to client devices inside the vehicle)." Pet. 20 (citing Ex. 1007, 45; Ex. 1010 ¶ 62). According to Petitioner,

[a]pplying the known improvement disclosed by Kellerer (i.e., functions such as providing an e-mail server and other application servers that allow stand-alone operation) in the same way to the base system disclosed in Mitchell (i.e., a mobile platform that provides a wireless network including client personal computers with Internet access) would provide results that were predictable to one of ordinary skill in the art.

Id. (citing Ex. 1010 ¶ 62). In its claim chart, the Petition identifies three passages from Kellerer as support for the assertion that Kellerer discloses a stand-alone system. *Id.* at 26.

The first passage is "[a]n important feature of the gateway server is that the use of different access networks is transparent to the passengers inside the car. The passengers should be able to use their desired personal services even if the type of external access network changes depending on the mentioned constraints." Ex. 1007, 45. Patent Owner argues one of ordinary skill in the art would have understood the reference, to transparent use of different access networks, to indicate that the passengers could have used the gateway server without knowing how the access networks are

accessed, or that different access networks exist. Supp. PO Resp. 17 (citing Ex. 2042 ¶ 26). Patent Owner also argues that transparent access does not indicate that the gateway server *independently* provides the services need to access the Internet. *Id.* (citing Ex. 2042 ¶ 26; Ex. 2044, 11:16–18).

We agree that Kellerer’s description of the use of different access networks being transparent to the passengers does not indicate sufficiently that the gateway server independently accesses the Internet without accessing an external service controller server. As Patent Owner contends, “transparent” merely suggests that the passengers are unaware of which access networks are being used. As the second sentence of the passage indicates, passengers should continue to access the Internet even when the type of external access network changes. Furthermore, although Dr. Roy testifies that “Kellerer discloses that the vehicle-based gateway server provides transparent access to the Internet for client devices inside the vehicle,” he does not explain how this disclosure teaches providing Internet access without accessing an external service controller server. Ex. 1010 ¶ 62.

The second passage is “[c]ertain client applications (e.g., e-mail) require server functionality within the car. For this purpose, the gateway contains *application servers* (e.g., an email server).” Ex. 1007, 45. Patent Owner argues that neither an “application server” nor an “email server” necessarily includes the services needed to enable client devices to access the Internet without an external service controller server. Supp. PO Resp. 18 (citing Ex. 2042 ¶ 27). Patent Owner also argues that one of ordinary skill in the art would have understood that “application server” is a generic term for a device or software that provides access to an application, regardless of

whether the application provides Internet access, and an application server having some relationship to Internet services does not necessarily work independently such that it does not need to access an external service controller. *Id.* (citing Ex. 2042 ¶ 27). Furthermore, Dr. Tewfik testifies that he believes “it is factually incorrect to conclude that a server is a stand-alone system simply because it ‘performs functions related to Internet communications.’” Ex. 2042 ¶ 28.

Patent Owner also disputes that *all* email servers, such as that mentioned in Kellerer, provide access to the Internet without needing an external service controller server. Supp. PO Resp. 20 (citing Ex. 2042 ¶ 29). This position is supported by Dr. Tewfik:

In my opinion, the assertion that *all* e-mail servers provide client access to the Internet without needing an external service controller would simply be incorrect as a technological matter. A person of ordinary skill in the art would understand that the phrase “e-mail server” is a broad phrase for any server that provides access to e-mail. The phrase says nothing, however, about whether the server allows a client or a user to access e-mail without needing an external service controller server.

Ex. 2042 ¶ 29.

Dr. Tewfik adds that “based on my experience and knowledge in the field, a person of ordinary skill in the art would understand that many e-mail servers require an external service controller server to provide access to e-mail.” *Id.* As Patent Owner points out (Supp. PO Resp. 20), Dr. Roy also testifies that some email servers need to access an external service controller server to access the Internet. Ex. 2044, 22:6–8, 18–22. Petitioner argues that Patent Owner ignores Dr. Roy’s testimony that one of ordinary skill in the art would have understood that “Kellerer discloses a hotspot system that enables client devices ‘to access the internet without the need to access an

external service controller server.” Supp. Pet. Reply 12–13 (citing Ex. 2044, 20:9–21:19). Dr. Roy also opined that Kellerer’s statement that some client applications, such as email, require server functionality means that the gateway server enables client devices to access the Internet without the need to access an external service controller server. Ex. 2044, 20:9–21. When asked for the basis for this opinion, Dr. Roy stated “I read the features stated saying that the client -- this application uses or requires a server within the car.” *Id.* at 20:22–25. When asked why a person of ordinary skill would interpret Kellerer to state that the email server does not need to access an external service controller server, Dr. Roy stated:

So a person of ordinary skill would be someone who knows how the network protocols operate. And, you know, this is something that I teach at the university, that certainly one very popular implementation of the email protocol, which is the SMTP, simple mail transport protocol, the email resides in an email server.

In this case, Kellerer clearly says that the email server is implemented on the gateway. This application is on the gateway. And when a client, when he or she accesses the email, you connect to this client -- client connects to the email server to obtain the email.

Id. at 21:1–19. Neither of these statements adequately explains why the email server of Kellerer does not need an external service controller server. That Kellerer’s email server is within the car, and implemented on the gateway, does not address adequately whether it requires an external service controller server. Rather, we credit Dr. Tewfik’s testimony that “Kellerer does not disclose any additional details about the referenced e-mail server that in any way suggest that the e-mail server is a “stand-alone system” that is “capable of operating independently of any other system” to enable

Internet access without needing to access an external service controller server.” *See* Ex. 2042 ¶ 29.

The third passage is “[f]or example, the General Packet Radio Service (GPRS) in the Global System for Mobile Communications (GSM) and the very successful Japanese iMode service enable efficient and direct access to the Internet.” Ex. 1007, 43. Relying on the testimony of Dr. Tewfik, Patent Owner argues this passage pertains to various cellular communications standards that can be used to access the Internet, and does not discuss which networking functions are included on Kellerer’s gateway server. Supp. PO Resp. 22 (citing Ex. 2042 ¶ 31). Thus, Patent Owner argues, “Kellerer’s disclosure that GPRS, GSM, and iMode ‘enable efficient and direct access to the Internet’ refers to the *listed cellular standards* supporting Internet access, not the features of all devices that use those standards.” *Id.* at 22–23 (citing Ex. 2042 ¶ 32). According to Patent Owner, “the fact that one could choose to use GPRS, GSM, and iMode with Kellerer’s gateway server does not mean that Kellerer’s gateway server independently provides the services needed to enable a client device to access the Internet, without the need of an external access controller server.” *Id.* at 23 (citing Ex. 2042 ¶ 32).

We are persuaded by Patent Owner’s arguments, which are supported by Dr. Tewfik’s testimony, which we credit. Dr. Roy testifies that “Kellerer further discloses that the use of services such as GPRS and iMode allow for ‘direct access to the Internet’ by a vehicle-based network,” but does not explain how this disclosure teaches that Kellerer’s gateway server accesses the Internet without accessing an external service controller server. Ex. 1010 ¶ 62. Accordingly, we are not persuaded that Kellerer’s reference to “direct access to the Internet” teaches sufficiently that the gateway server

accesses the Internet without the need to access an external access controller server.

In view of the above, we are not persuaded that Kellerer discloses a stand-alone system that enables client devices to access the Internet without the need to access an external access controller server.

We determine, on the full record before us, that Petitioner has not demonstrated, by a preponderance of the evidence, that claim 1 is unpatentable under 35 U.S.C. § 103 as directed to subject matter that would have been obvious to a person of ordinary skill in the art in light of Mitchell in view of Boehm and/or Kellerer.

4. *Dependent Claims*

Claims 3, 4, 7, and 18 depend from claim 1, and each of these dependent claims thus contains all the limitations of claim 1. Accordingly, we also determine Petitioner has not demonstrated, by a preponderance of the evidence, that claims 3, 4, 7, and 18 are unpatentable under 35 U.S.C. § 103 as directed to subject matter that would have been obvious to a person of ordinary skill in the art in light of Mitchell in view of Boehm and/or Kellerer.

G. Asserted Obviousness Based on Veeck in View of Kellerer, Boehm, and/or Mitchell

Petitioner challenges claims 1–4 and 18 as unpatentable under 35 U.S.C. § 103 over Veeck in view of Kellerer, Boehm, and/or Mitchell. Pet. 47–59. Because Boehm is not prior art as to claims 1–4 and 18, we limit our analysis to the combination of Veeck in view of Kellerer and/or Mitchell.

1. Overview of Veeck

Veeck discloses a “wireless communication system for a transportation vehicle such as, for example, an aircraft, bus, cruise ship, and train.” Ex. 1008, code (57). Figure 2 of Veeck, reproduced below, illustrates wireless data management system 12.

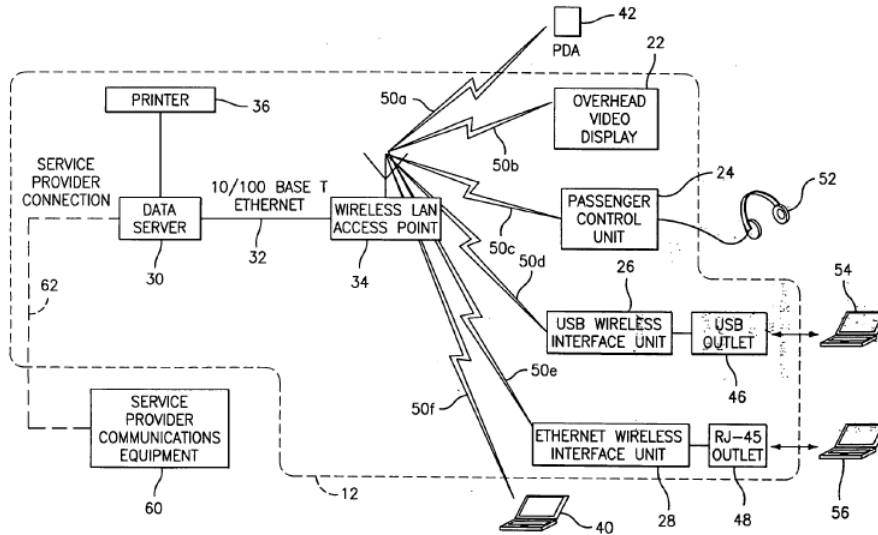


Figure 2 depicts Veeck’s wireless data management system 12.

Wireless data management system 12 distributes data, including Internet data, to passenger devices within the cabin of a transportation vehicle. *Id.* ¶¶ 22, 23. System 12 includes data server 30 coupled to wireless local area network (“WLAN”) access point 34 through serial or parallel communication connection 32. *Id.* ¶ 24. In addition, data server 30 is coupled to external service provider communications device 60 over serial or parallel interface 62. *Id.* ¶ 27. External service provider communications device 60 may be coupled to a global communications network, such as the Internet, so that data server 30 may access data content available to communications device 60 from anywhere in the world. *Id.*

Veeck also discloses that WLAN access point 34 transmits data content to wireless components within a vehicle cabin. *Id.* ¶ 25. Such wireless components include “passenger personal computing devices . . . having compliant wireless interfaces such as, for example, wireless-enabled laptops 40.” *Id.*

2. *Independent Claim 1*

Petitioner contends that Veeck discloses

a mobile wireless hotspot system that includes: (1) a short-range, high-speed wireless access point (i.e., a wireless LAN access point in communication with passenger devices); (2) a long-range Internet access interface (i.e., service provider communications device in communication with the Internet); and (3) a local area network (“LAN”) routing system (i.e., a data server that communicates data between the wireless LAN access point and the service provider communications device).

Pet. 49. Petitioner argues that, although Veeck does not disclose explicitly that its long-range Internet access interface is *wireless*, the use of a wireless Internet access interface “is implied by Veeck’s disclosure that the wireless data management system can be utilized on vehicles such as aircraft, buses, ships, and trains.” *Id.* Petitioner relies on the Roy Declaration, which states that such vehicles would require a wireless long-range Internet access interface, to support this argument. *Id.* (citing Ex. 1010, 64). Alternatively, Petitioner argues that using a long-range wireless interface would have been an obvious modification of Veeck in view of Kellerer or Mitchell. *Id.* at 49–51.

Petitioner further contends that

[t]o the extent that Veeck does not explicitly disclose that the mobile platform is . . . a “stand-alone system” that does not need to access “an external service controller server,” the

modification of Veeck to provide such stand-alone functionality would be an obvious modification to one of ordinary skill in the art in view of the teachings of Kellerer and/or Boehm.

Id. at 51–52 (emphasis added). The portion of the Petition’s claim chart pertaining to the stand-alone system limitation indicates “Veeck discloses that the wireless data management system 12 distributes Internet content and other data content to passenger devices located within the transportation vehicle cabin 10.” *Id.* at 57 (citing Ex. 1008 ¶ 22).

Petitioner argues that the Board previously rejected Patent Owner’s argument that Veeck fails to disclose the stand-alone system limitation, and the Board’s prior findings are now the law of the case. Supp. Pet. Reply 8–11 (citing *Toro Co.*, 383 F.3d at 1335). Our findings in the Final Written Decision regarding the teachings of Veeck were not examined in, relied on, or otherwise necessary to the Federal Circuit’s decision. Accordingly, we are not persuaded that the law of the case doctrine is applicable here. *See Exxon*, 931 F.2d at 877; *see also supra* § III.F.3 (discussing *Exxon* and the law of the case doctrine).

Patent Owner argues that the Petition alleges that Boehm or Kellerer disclose the stand-alone limitation, and does not identify with sufficient particularity that Veeck alone discloses this limitation. Supp. PO Sur-reply 11. According to Patent Owner, “the Petition necessarily asserts that it would have been obvious to *modify* Veeck to use Boehm’s or Kellerer’s alleged ‘stand-alone system’ capability.” *Id.* at 11–12. Patent Owner contends that Petitioner should not be allowed to change to a different ground based on Veeck only. *Id.* at 12.

Patent Owner argues further that the statement in the Petition, that the stand-alone system limitation would have been obvious in view of Boehm or

Kellerer “[t]o the extent that Veeck does not explicitly disclose” the limitation, does not particularly identify evidence that Veeck discloses a stand-alone system. *Id.* (citing Pet. 52). According to Patent Owner, Petitioner’s “to the extent” language is a rhetorical trick to avoid an express admission that Veeck does not disclose the limitation. *Id.* Patent Owner also argues that the disclosure of Veeck identified in the claim chart discloses only that Veeck’s system 12 distributes Internet content; it does not disclose that system 12 enables Internet access without accessing an external server. *Id.* (citing Ex. 1008 ¶ 22).

We agree with Patent Owner that the Petition fails to identify “with particularity” evidence sufficiently supporting that Veeck alone discloses the stand-alone system limitation. *See* 35 U.S.C. § 312(a)(3); *see also Intelligent Bio-Sys.*, 821 F.3d at 1369 (“It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify ‘with particularity’ the ‘evidence that supports the grounds for the challenge to each claim.’”). Although the portion of the claim chart pertaining to the stand-alone system limitation identifies Paragraph 22 of Veeck, any significance this disclosure may have with respect to the stand-alone system limitation is not explained in the Petition. Nor are we directed to any testimony from Dr. Roy on this point. Also, we agree with Patent Owner that Paragraph 22 does not disclose that Veeck’s system 12 enables Internet access without accessing an external server. The Petition does not include any other assertion that Veeck discloses the stand-alone system limitation.

As discussed above, we cannot redefine the Petition as asserting that Veeck alone discloses the stand-alone system limitation. *See SAS*, 138 S. Ct.

at 1356; *Intelligent Bio-Sys.*, 821 F.3d at 1369. Accordingly, Petitioner's challenge to claim 1 relies on the combination of Veeck and Kellerer and not Veeck alone.

Petitioner argues that Kellerer discloses a vehicle-based gateway server that is a stand-alone system, relying on essentially the same arguments made in connection with the combination of Mitchell and Kellerer. Pet. 52, 57–58. For the reasons discussed above, we are not persuaded that Kellerer discloses a stand-alone system that enables client devices to access the Internet without the need to access an external access controller server. *See supra* § III.F.3. Therefore, we are not persuaded that the combination of Veeck and Kellerer meets the stand-alone system limitation.

This ground relies on Mitchell for disclosing a long-range wireless interface. Pet. 50–51, 56. Mitchell, however, is not relied on for disclosing the stand-alone system limitation for this ground.

For the reasons discussed above, we determine, on the full record before us, that Petitioner has not demonstrated, by a preponderance of the evidence, that claim 1 is unpatentable under 35 U.S.C. § 103 as directed to subject matter that would have been obvious to a person of ordinary skill in the art in light of Veeck in view of Kellerer, Boehm, and/or Mitchell.

3. *Dependent Claims*

Claims 2–4 and 18 depend from claim 1, and each of these dependent claims thus contains all the limitations of claim 1. Accordingly, we also determine Petitioner has not demonstrated, by a preponderance of the evidence, that claims 2–4 and 18 are unpatentable under 35 U.S.C. § 103 as directed to subject matter that would have been obvious to a person of

ordinary skill in the art in light of Veeck in view of Kellerer, Boehm, and/or Mitchell.

H. Petitioner's Motion to Exclude

Petitioner moves to exclude Exhibits 2035–2037, which purport to be printouts from <https://support.microsoft.com>, because they “are not relevant to any issue in this proceeding and are not properly authenticated.”

Paper 33, 1. Petitioner also moves to exclude any portions of Exhibit 2038 that reference Exhibits 2035–2037. *Id.*

We do not rely, however, on Exhibits 2035–2037 in rendering our decision. *See supra* § III.D.2.c.i. We also do not rely on any portion of Exhibit 2038 that references Exhibits 2035–2037. Therefore, we *dismiss* Petitioner's Motion to Exclude as moot.

I. Patent Owner's Additional Arguments

Patent Owner argues that the Petition should be dismissed because it does not comply with 35 U.S.C. § 312(a) in view of *SAS*. Supp. PO Resp. 4–8. Patent Owner also argues that the Petition should be dismissed because it violates the AIA statute and Patent Owner's constitutional right to due process. *Id.* at 34–41. Because we are not persuaded Petitioner has demonstrated sufficiently that any of the asserted grounds renders any of the challenged claims unpatentable, we need not reach these arguments by Patent Owner.

IV. CONCLUSION

In summary:

Claims	35 U.S.C. §	Basis	Claims Shown Unpatentable	Claims Not shown Unpatentable
1, 2	102(e)	Boehm		1, 2
1, 3, 4, 7, 18	103	Mitchell, Boehm, Kellerer		1, 3, 4, 7, 18
1-3, 18	103	Kellerer, Boehm		1-3, 18
4, 7, 18	103	Kellerer, Boehm, Mitchell		4, 7, 18
1-4, 18	103	Veeck, Kellerer, Boehm, Mitchell		1-4, 18
Overall Outcome				1-4, 7, 18

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1-4, 7, and 18 are not determined to be unpatentable;

FURTHER ORDERED that Petitioner's Motion to Exclude is *dismissed*; and

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

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