

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TOYOTA MOTOR CORP.,
Petitioner,

v.

INTELLECTUAL VENTURES II LLC,
Patent Owner.

IPR2022-00971
U.S. Patent No. 7,382,771 B2

Before SCOTT A. DANIELS, FREDERICK C. LANEY, and
MATTHEW S. MEYERS, *Administrative Patent Judges*.

DANIELS, *Administrative Patent Judge*.

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

I. INTRODUCTION

Toyota Motor Corp., (“Petitioner”), filed a Petition requesting *inter partes* review (“IPR”) of claims 1–7, 9, 13, and 19 of U.S. Patent No.

7,382,771 B2 (Ex. 1001, “the ’771 patent”). Paper 1 (“Pet.”). Intellectual Ventures II LLC, (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 6 (“Prelim. Resp.”). Petitioner subsequently filed a Pre-Institution Reply. Paper 9 (“Prelim. Reply”), and Patent Owner filed a Pre-Institution Sur-Reply. Paper 10 (“Prelim. Sur-reply”).

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Upon consideration of the arguments and evidence presented by Petitioner, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing the unpatentability of at least one of the challenged claims. *See* 35 U.S.C. § 314(a). Accordingly, we institute an *inter partes* review of the challenged claims.

A. Real Parties in Interest

Petitioner states that Toyota Motor Corp., Toyota Motor North America, Inc., Toyota Motor Engineering & Manufacturing North America, Inc., and Toyota Motor Sales, U.S.A., Inc., are the real parties in interest. Pet. 74. Patent Owner states that Intellectual Ventures II LLC is the real party in interest. Paper 3, 1.

B. Related Matters

The parties indicate that the ’771 patent is at issue in various lawsuits, including *Intellectual Ventures I LLC et al v. Motorola Mobility LLC*, 13-cv-61358, in the U.S. District Court for the Southern District of Florida; *Intellectual Ventures I LLC and Intellectual Ventures II LLC, v. Toyota Motor Corp. et al.*, 2:21-cv-00389 in the U.S. District Court for the Eastern District of Texas; *Intellectual Ventures I LLC and Intellectual Ventures II LLC, v. Honda Motor Co., Ltd. et al.*, 2:21-cv-00390 in the U.S. District

Court for the Eastern District of Texas; *Intellectual Ventures I LLC and Intellectual Ventures II LLC, v. General Motors Company et al.*, 6:21-cv-01088 in the U.S. District Court for the Western District of Texas, *Noblewood IP, LLC v. Alamo Drafthouse Cinemas, LLC* 9:22-cv-00084 in the U.S. District Court for the Eastern District of Texas, and *Intellectual Ventures I LLC and Intellectual Ventures II LLC, v. Honda Motor Co., Ltd. et al.*, 3:22-cv-00761 in the U.S. District Court for the Western District of Texas. Pet. 74–75, Paper 3, 2.

Patent Owner indicates that the '771 patent was involved in IPR2014-00504, *Motorola Mobility LLC v. Intellectual Ventures I LLC*, (the “*Motorola IPR*”) the Board determining in a Final Written Decision that no challenged claims were unpatentable.¹ Paper 3, 2.

C. The '771 Patent (Ex. 1001)

The '771 patent, titled “Mobile Wireless Hotspot System,” issued on June 3, 2008. Ex. 1001, code (45). The '771 patent relates to “providing a mobile wireless access point for use with high-speed wireless devices.” Ex. 1001, 1:5–7. Figure 2, as annotated by the Board, is reproduced below and

¹ In IPR2014-00504, the Board’s first Final Written Decision was vacated by the Federal Circuit, because “[t]he Board erred in its analysis of whether there was prior conception of the LAN routing system limitation.” *Intellectual Ventures II LLC v. Motorola Mobility LLC*, 692 F. App’x 627 (Fed. Cir. 2017). Subsequently, the Board was persuaded, as described in a second Final Written Decision, “that the inventors conceived the stand-alone system limitation before November 4, 2002.” *Motorola Mobility LLC v. Intellectual Ventures II LLC*, IPR2014-00504, Paper 84 at 29 (PTAB (Final Written Decision) (March 13, 2020). Based at least in part on this determination, the Board determined that Petitioner failed to show that any of the challenged claims in the '771 patent are unpatentable. *Id.* at 68.

illustrates Mobile Hotspot System (“MHS”) 40 for accomplishing this objective:

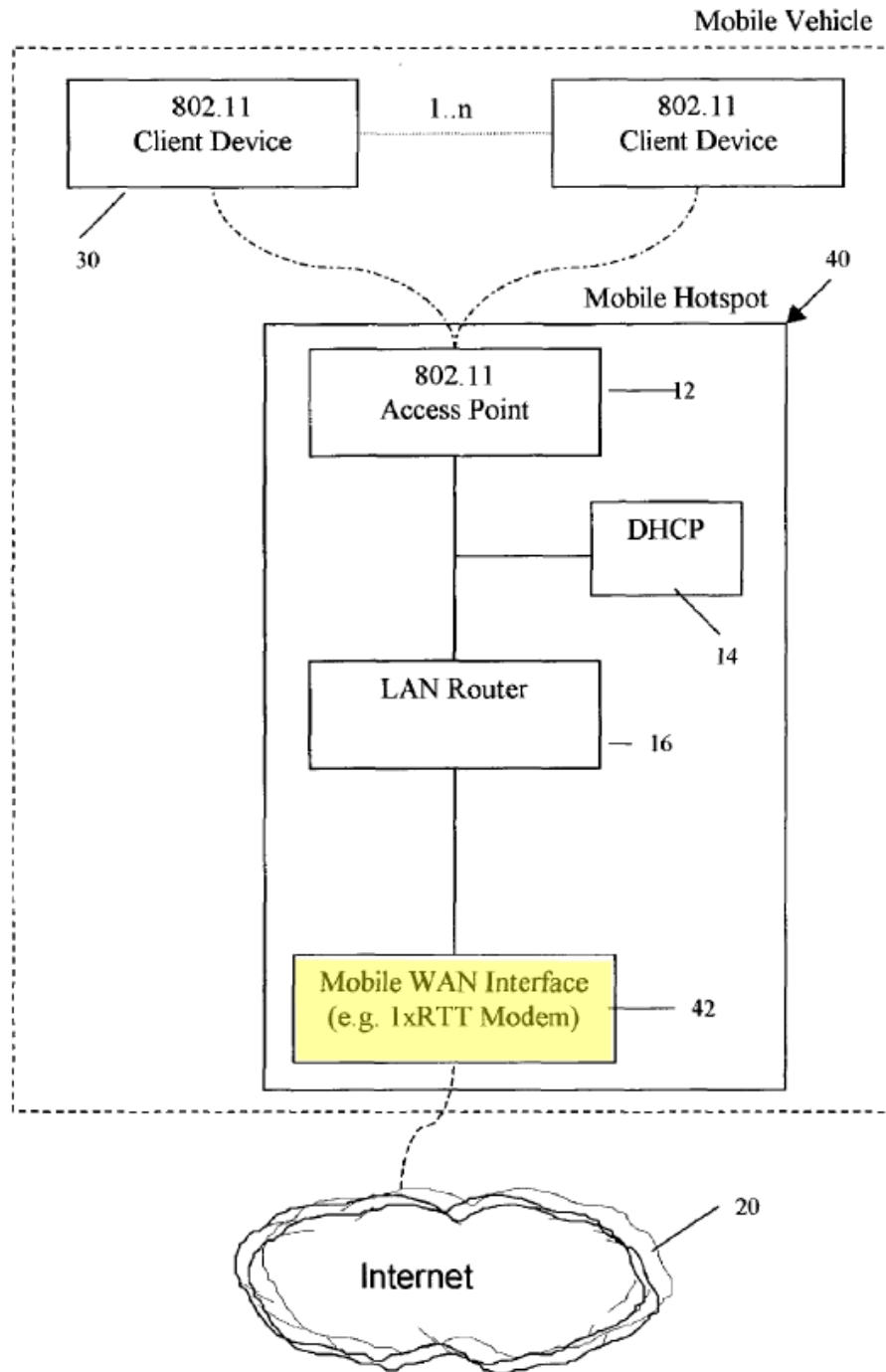


Figure 2

Figure 2 depicts Mobile Hotspot System (“MHS”) 40. MHS 40 includes access point 12 for connecting with client devices 30 and mobile long-range wireless (“WAN”) interface 42, highlighted yellow, 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.

D. Illustrative Claim

Claims 1 and 9 are independent. Claims 2–7, 13 and 19 depend from claims 1 and 9 respectively. Claim 1 illustrates the claimed subject matter and is reproduced below:²

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

² For consistency, we reproduce Petitioner’s reference numbers [1Pre]–[1d] to identify particular claim limitations. Pet. 21–33.

E. Prior Art and Asserted Grounds

Petitioner asserts that claims 1–7, 9, 13 and 19 would have been unpatentable based on the following grounds:³

Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1	1, 3, 4, 7, 9, and 13	102 ⁴	Gelvin ⁵
2	2, 4, 6, 7, and 13	103(a)	Gelvin and Gresham ⁶
3	5	103(a)	Gelvin and Brady ⁷
4	1, 3, 9, and 19	102	Jameel ⁸
5	2, 4, 6, 7, and 13	103(a)	Jameel and Gresham

II. ANALYSIS

A. Legal Standards

A “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) (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)). “A single prior art reference may anticipate without disclosing a feature of the claimed invention if such feature is necessarily present, or inherent, in that reference.” *Allergan, Inc. v. Apotex Inc.*, 754 F.3d 952, 958

³ Petitioner supports its challenges with a Declaration of Robert Akl, Ph.D. (Ex. 1002). *See infra*.

⁴ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. §§ 102–103, effective March 16, 2013. Because the application from which the ’771 patent issued has an effective filing date prior to March 16, 2013, the pre-AIA version of §§ 102–103 applies. *See* Ex. 1001, code (22).

⁵ Ex. 1005, US Patent No. 7,484,008 B1 (issued Jan. 27, 2009).

⁶ Ex. 1006, US Patent Pub. No. 2002/0160773 (published Oct. 31, 2002).

⁷ Ex. 1007, US Patent No. 9,602,608 B2 (issued Mar. 21, 2017).

⁸ Ex. 1008, Jameel, Fuchs, Stuempfle, INTERNET MULTIMEDIA ON WHEELS: CONNECTING CARS TO CYBERSPACE, IEEE 0-7803-4269-0/97 (1998).

(Fed. Cir. 2014) (citing *Schering Corp. v. Geneva Pharm.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003)).

A patent claim is unpatentable under 35 U.S.C. § 103 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. 35 U.S.C. § 103; *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). “[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *KSR*, 550 U.S. at 416 (citing *United States v. Adams*, 383 U.S. 39, 50–51 (1966)). The question of obviousness is resolved based on underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art at the time of the '771 patent

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. 9 (citing Ex. 1002 ¶ 23; Ex. 1018, 9–10).

Patent Owner did not provide a level of ordinary skill in the art on this record, and does not expressly dispute Petitioner's definition of a person of ordinary skill in the art. *See gen.* Prelim. Resp.

On this record, Petitioner's proposed level of ordinary skill in the art is not disputed and is consistent with our review and understanding of the technology and descriptions in the '771 patent and the asserted prior art references. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). For purposes of this Decision, we rely on Petitioner's proposed level of ordinary skill in the art.

C. Claim Construction

We interpret a claim "using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b)." 37 C.F.R. § 42.100(b) (2020). Under this standard, we construe the claim "in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." *Id.* Furthermore, at this stage in the proceeding, we expressly construe the claims only to the extent necessary to determine whether to institute *inter partes* review. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("[W]e need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy.'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

Petitioner explained that in the *Motorola* IPR the Board construed the following terms:

- (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.”

Pet. 10 (citing Ex. 1018, 11–12).

Petitioner argues that even though the Board construed these terms under the broadest reasonable standard in the *Motorola* IPR, “[f]or purposes of this Petition, the *Phillips* standard does not require any different construction, and Petitioner’s proffered grounds are consistent with the above constructions.” *Id.* at 11. Patent Owner does not provide any express claim constructions nor dispute Petitioner’s proposed constructions from the *Motorola* IPR.

At this preliminary stage of the proceeding, at least for the sake of consistency at institution, we rely on the Board’s earlier constructions in the *Motorola* IPR. We acknowledge that Patent Owner has not yet provided any substantive claim construction in its Preliminary Response, however Patent Owner has the opportunity to address this matter in its Patent Owner’s Response should it desire to do so.

Apart from the above discussed constructions, our analysis does not turn on any particular claim construction, and therefore we need not expressly determine any other specific claim construction at this time. And, because no claim terms are currently in dispute, we apply the plain and ordinary meaning of any remaining claims terms as discussed to any extent necessary in our analysis below. The parties are free to develop any claim construction arguments and supporting evidence they believe necessary during trial.

D. Ground 1: Claims 1, 3, 4, 7, 9, and 13 – Alleged Anticipation by Gelvin (Ex 1005)

On this record, Petitioner has established a reasonable likelihood of prevailing on its assertion that at least one of claims 1, 3, 4, 7, 9, and 13 are anticipated by Gelvin (Ground 1), for the reasons explained below.

1. Gelvin (Ex. 1005)

Gelvin is titled “Apparatus for Vehicle Internetworks” and describes that

[t]he vehicle internetwork comprises specific devices, software, and protocols, and provides for security for essential vehicle functions and data communications, ease of integration of new devices and services to the vehicle internetwork, and ease of addition of services linking the vehicle to external networks such as the Internet.

Ex. 1005, Abstract code (57). Gelvin’s network facilitates secure connection of devices coupled to the vehicle network with the Internet, where “most configuration takes place automatically and with no intervention by a vehicle owner.” *Id.* at 4:26–30. Gelvin’s Figure 3, as annotated by the Board, is reproduced below.

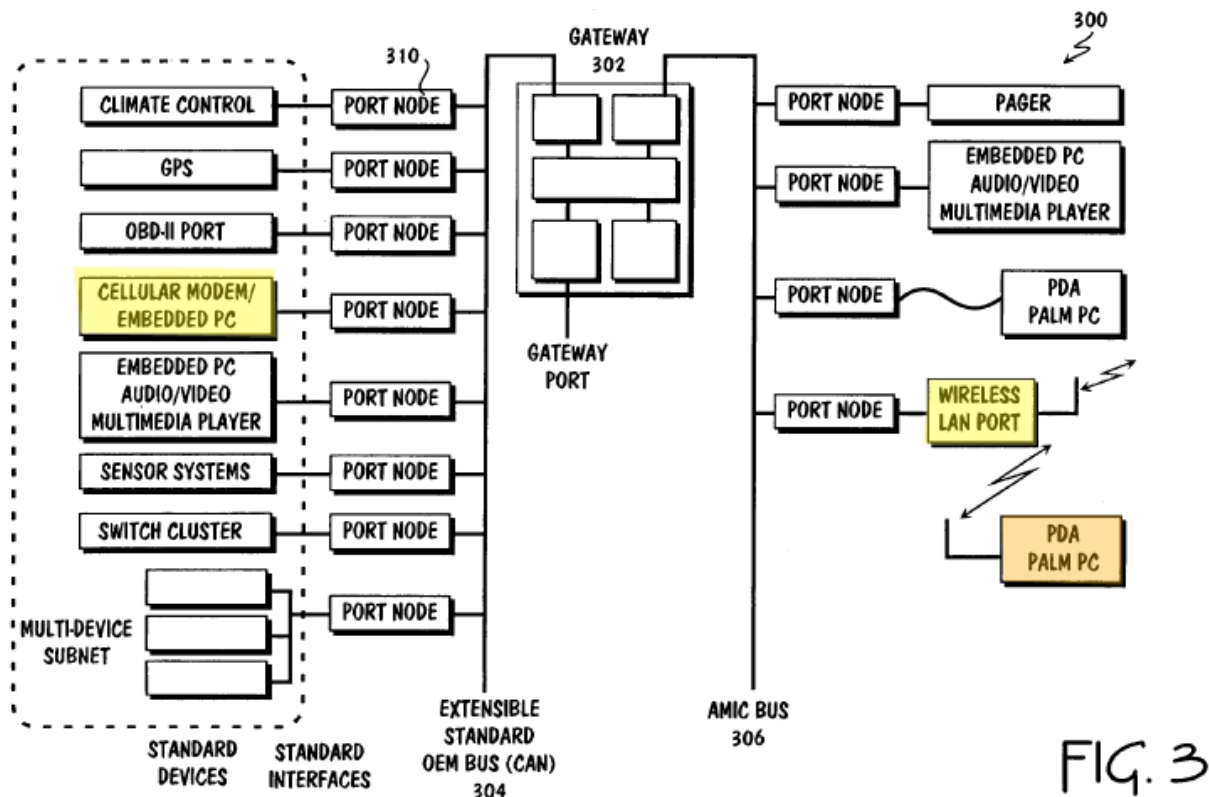


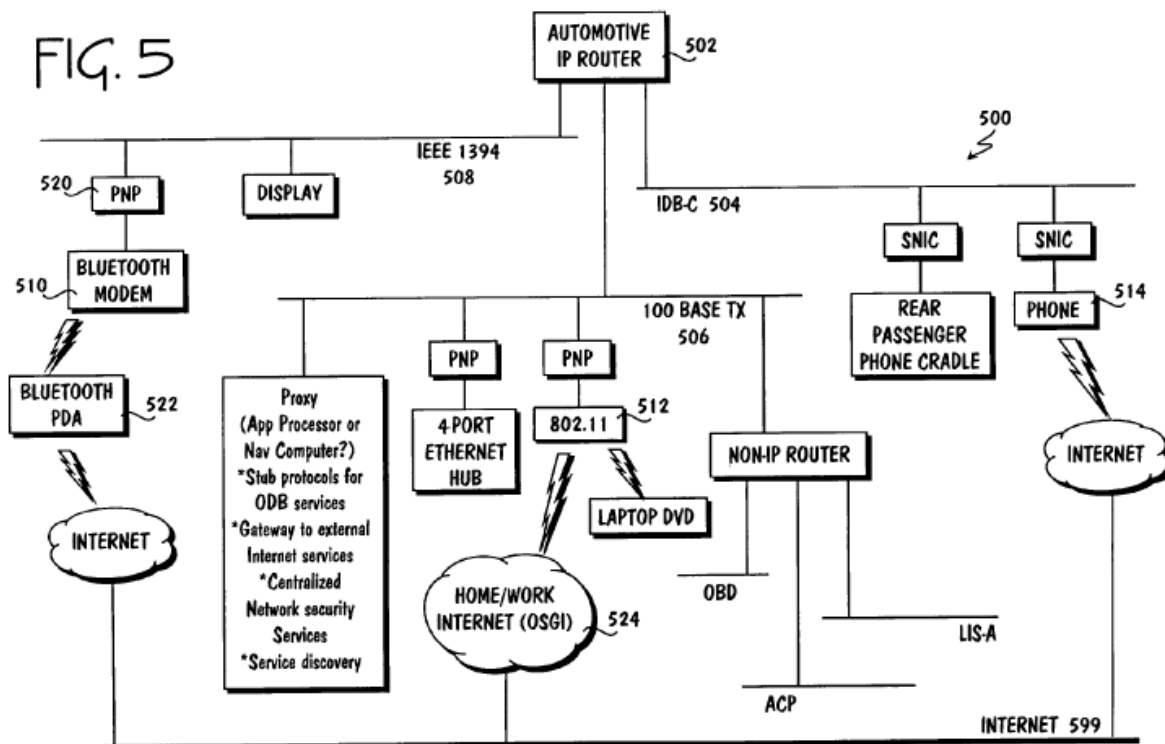
FIG. 3

Gelvin’s Figure 3 illustrates WINS (Wireless Integrated Network Sensor) vehicle internetwork architecture 300 including AMI-C (Automotive Multimedia Interface Consortium) bus 306, and OEM (Original Equipment Manufacturer) bus 304. *Id.* at 8:46–50. Gelvin teaches OEM bus 304 and AMIC bus 306 are linked to external networks, for instance the Internet, via gateway 302 which “control[s] the flow of information between vehicle networks, and between these networks and external networks. *Id.* at 8:58–61.

For connected devices, Gelvin describes that “port nodes 310 provide protocol translation for devices and networks connected to either bus 304 or 306, and additionally enable security functions to prevent unauthorized or misbehaving devices from disrupting the network.” *Id.* at 8:63–67. As shown in Figure 3, multi-media devices such as PDAs (private digital

assistants) (highlighted orange), pagers, and audio/video multi-media players connect to the WINS via wireless LAN port (highlighted yellow) and AMIC bus 306. *Id.* at 9:7–11. OEM devices, for example, GPS, cellular modem, and climate control systems connect to WINS via OEM bus 304. *Id.* at 9:1–7.

Gelvin's Figure 5, reproduced below, illustrates an embodiment of vehicular network architecture 500 showing both internal and external couplings. *Id.* at 4:52–53.



Gelvin's Figure 5 depicts an embodiment illustrating automotive IP router 502 "resident on the gateway, which serves to couple, for example, an IDB-C bus 504, 100 Base TX Ethernet 506, and an IEEE 1394 bus 508." *Id.* at 9:40–42. Gelvin explains that "[s]upported couplings to the Internet 599 include, but are not limited to, a Bluetooth modem 510, an IEEE 802.11 radio 512, and a mobile telephone 514." *Id.* at 9:42–44.

Gelvin discloses in Figure 7, as reproduced below and annotated by the Board, “the gateway functions of an embodiment linked or distributed using Internet Protocol (IP) techniques.” *Id.* at 12:25–26.

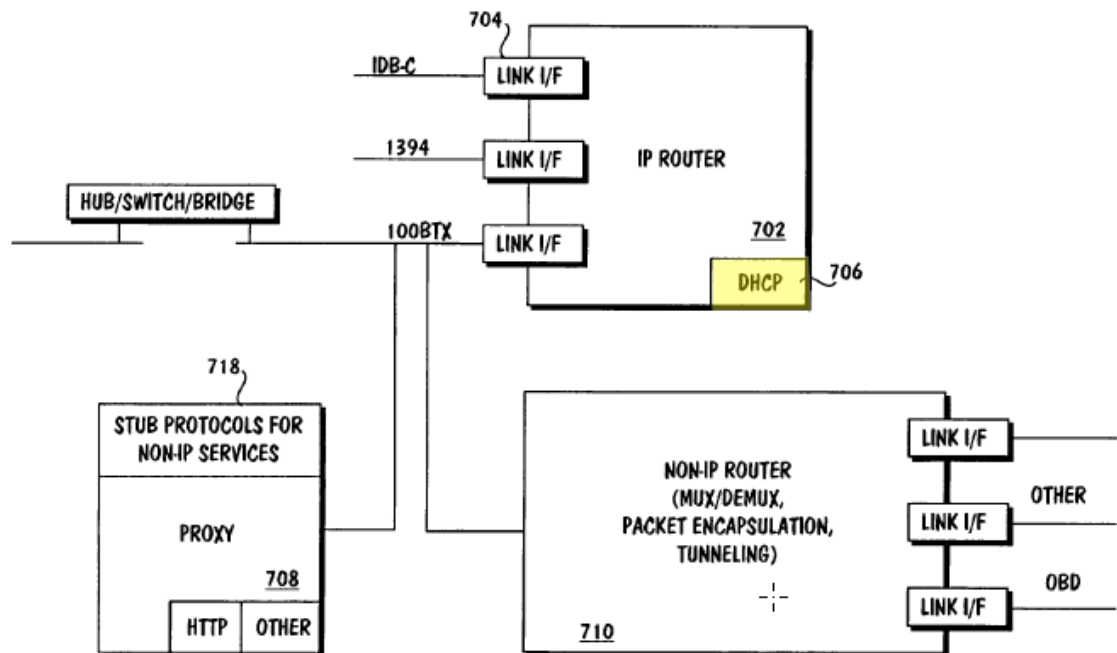


FIG. 7

Gelvin’s Figure 7, as annotated by the Board, is a block diagram illustrating gateway functions using Internet Protocol (IP) techniques “to enable continued use of legacy systems, provide security, and provide flexibility of implementation.” *Id.* at 12:27–29. Gelvin describes that “router 702 detects the networks that attach to it and assigns addresses to them. Nodes on those networks get their addresses via the dynamic host configuration protocol (DHCP) 706.” *Id.* at 12:39–40.

2. Independent Claim 1

We consider initially the elements of claim 1.

a) Petitioner’s Arguments

(1) 1[preamble] – A mobile wireless hot spot system, comprising:

Petitioner argues that to the extent the preamble is limiting, “Gelvin discloses a ‘vehicle internetwork’ that ‘provid[es] distributed network and Internet access to processors, controls, and devices in vehicles’ including local ‘wireless communication devices.’” Pet. 21 (citing Ex. 1005, 1:42–44, 6:12–13, 6:23–26, 6:32–35). Petitioner’s declarant, Dr. Akl, testifies that “[b]y coupling local devices to outside networks, Gelvin provides a mobile wireless hot spot system.” Ex. 1002 ¶ 53 (citing Ex. 1001, 1:20-29).

(2) Limitation 1[a] – a short-range, high-speed wireless access point operative to communicate with short-range client devices;

Petitioner argues Gelvin’s WINS includes “an ‘AMIC bus 306’ which connects through port nodes 310 to such devices and functions as ‘personal digital assistants, and wireless local area network (LAN) ports.’” Pet. 22 (citing Ex. 1005, 9:7–11). Petitioner points out Gelvin discloses that “wireless port nodes can be designed with particular protocols (e.g., Bluetooth) that can directly network to consumer products.” Pet. 23 (citing Ex. 1005, 19:45–55. Dr. Akl testifies that a person of ordinary skill in the art “would have understood that ‘Bluetooth’—*i.e.*, the example wireless protocol discussed in Gelvin (Gelvin, 19:45-55)—‘is a high-speed, short-range, low-power microwave wireless link technology designed to connect various types of devices such as laptops, cell phones, pagers, PDAs and other portable equipment together with little or no work by the user.’” Ex. 1002 ¶ 57.

(3) Limitation 1[b] – a long-range, wireless Internet access interface operative to communicate with the Internet;

For limitation 1[b], Petitioner argues that one way Gelvin connects the vehicle network to the Internet is via mobile telephone 514, as shown in Figure 5. According to Petitioner “[o]f various methods for connecting to the Internet, “the cell phone network has the broadest geographic context . . .” Pet. 23–24 (quoting Ex 1005, 10:37–38). Another way Petitioner asserts that Gelvin’s network connects to the Internet is using a cellular modem as shown in Figure 3. *Id.* at 24–25. According to Petitioner, Gelvin teaches that the cellular modem “may for example provide PCS [Personal Communications Service] and GSM [Global System for Mobile Communications] wide-area access to the Internet.” *Id.* at 24 (citing Ex. 1005, 28:24–25). Dr. Akl testifies that “Gelvin’s use of a mobile telephone or cellular modem (*e.g.*, PCS and GSM) provides the same type of long-range, wireless Internet access interface that the later ’771 Patent described as being operative to communicate with the Internet.” Ex. 1002 ¶ 61 (citing Ex. 1034, 141–142).

(4) Limitation 1[c] – a Local Area Network (LAN) routing system managing the data path between said wireless access point and said Internet access interface,

For limitation 1[c], Petitioner argues that Gelvin’s gateway 302 includes IP router 702 illustrated in detail at Figure 7. Pet. 26. Petitioner contends that in conjunction with router 701, dynamic host configuration protocol, DHCP 706, assigns addresses to devices connected on the LAN. *Id.* Petitioner also contends that “[b]y assigning an address to local devices via DHCP and routing external traffic from the Internet to such devices

based on the assigned IP address, Gelvin discloses ‘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.’” *Id.* at 26–27 (citing Ex. 1002 ¶ 64).

Petitioner points out that “in the *Motorola* IPR, the Board determined that functionalities such as a ‘built-in access point controller, Internet connection sharing functionality, DHCP functionality, and Wired Equivalent Privacy (WEP) functionality’ could constitute ‘managing the data path.’” Pet. 27 (quoting Ex. 1018, 29). Additionally, Dr. Akl testifies

Gelvin’s DHCP functionality routes Internet traffic to and from devices on the LAN. Gelvin’s routing system further includes a “proxy 708” that “acts as a central point for managing security and acts as a proxy for all traffic to and from the Internet” and “controls what devices are allowed to access the public Internet”—*i.e.*, it manages the data path between the wireless access point (1[a] above) and the Internet access interface (1[b] above).

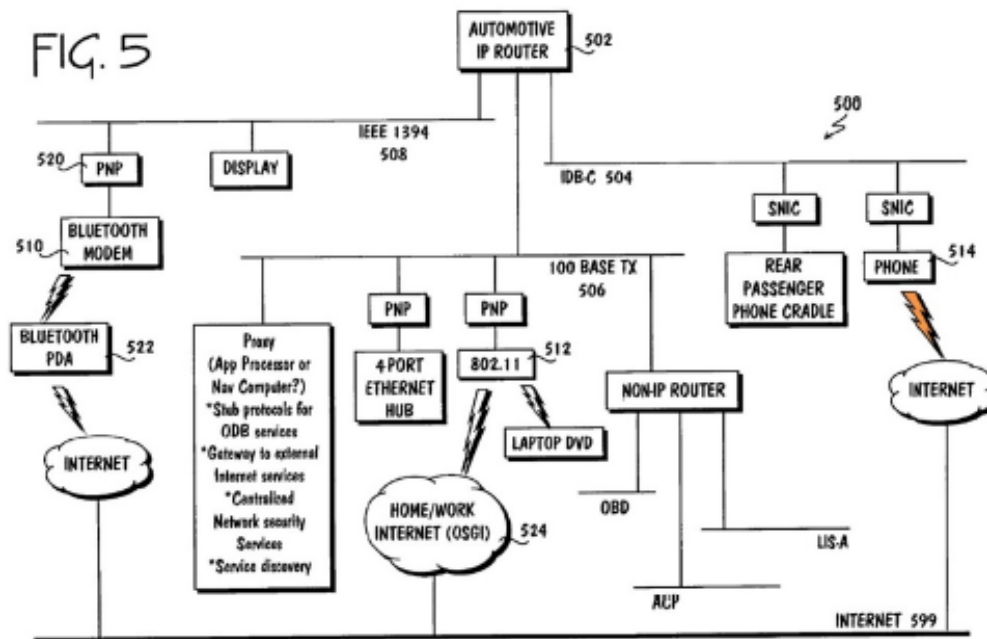
Ex. 1002 ¶ 66 (citing Ex. 1005, 13:11–16).

(5) *Limitation 1[d] – 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.*

Petitioner argues that Gelvin’s Figure 5 discloses a “stand-alone system” because it is “a system capable of operating independently of any other system.” Pet. 28 (citing Ex. 1018, 11–12), *see also* Section II.C.(3) (the Board previously construing “the term ‘stand-alone system’ as ‘a system capable of operating independently of any other system.’”).

Petitioner points to mobile phone 514, as it is connected within the WINS

network architecture, and used as an access point to the internet. *Id.*
Petitioner’s annotated Figure 5 from Gelvin is reproduced below.



Gelvin’s Figure 5, as annotated by Petitioner highlights the Internet connection provided by phone 514 on the WINS network 500. Dr. Akl testifies that through phone 514 “Gelvin provides access to the Internet independently of any other system in the same way that the ’771 patent depicts providing such Internet access.” Ex. 1002 ¶ 69 (citing Ex. 1001, Fig. 2).

Additionally, Petitioner argues that Gelvin’s Figure 7 discloses that the gateway includes IP router 702 and DHCP 706 that “assigns addresses to nodes on various onboard networks” connect Gelvin’s system to the Internet *Id.* at 28–29 (citing Ex. 1005, 12:39–43). According to Petitioner, in Gelvin “the proxy 708 ‘centrally manages the network and is responsible for security’. . . [t]he proxy 708 ‘acts as a central point for all traffic to and from the Internet.’” *Id.* at 29 (citing Ex. 1005, 12:44–45, 13:11–12). Dr. Akl testifies in support that based on an “understanding of DHCP functionality,

and consistent with the '771 Patent's discussion of a DHCP, it is my opinion that a POSITA would understand Gelvin's system to be a 'stand-alone system' due to its inclusion of such DHCP functionality on the LAN." Ex. 1002 ¶ 72 (citing Ex. 1024, 224).

b) Patent Owner's Arguments

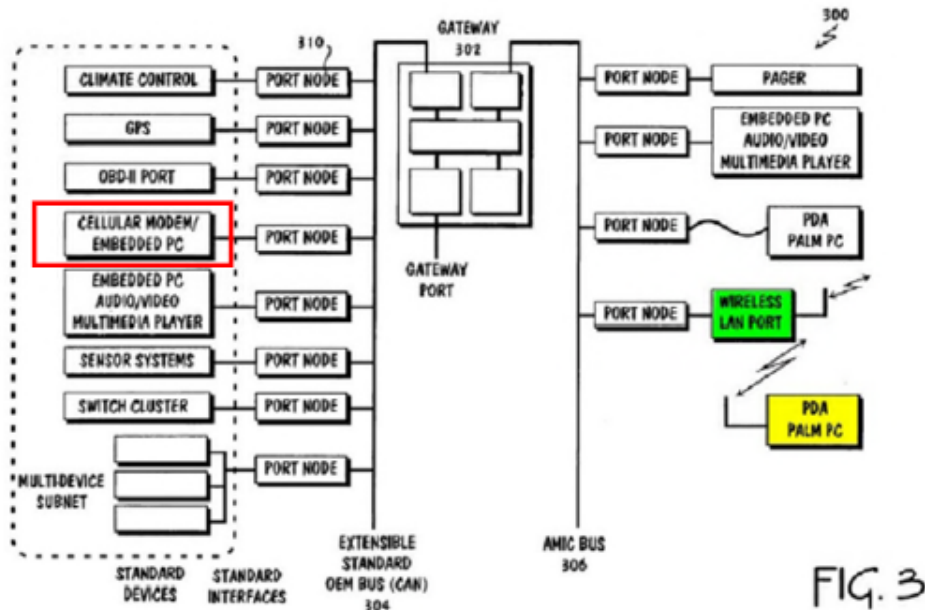
Patent Owner makes two particular arguments with respect to anticipation by Gelvin. First, that "Gelvin fails to teach a mobile wireless Hotspot through which client devices access the Internet." Prelim. Resp. 5–11 (emphasis omitted). Second, Patent Owner argues that "Gelvin fails to teach a "mobile wireless hotspot system . . . that enables client devices . . . to access the Internet without the need to access an external service controller" as recited in independent claims 1 and 9. *Id.* at 11–13 (emphasis omitted). We address these arguments below in turn.

(1) Whether Gelvin teaches a mobile wireless hotspot through which client devices access the Internet

Patent Owner argues that Gelvin's Figure 5 merely shows "a client device uses the Bluetooth protocol to access a data bus *internal* to the vehicle." *Id.* at 5. Supported by testimony from its declarant, Dr. Lomp, Patent Owner argues that "[s]ignificantly, the client device does *not* communicate with the Internet via the vehicle's internal data bus; rather, *the client device uses its own internal cellular modem to directly access the Internet.*" *Id.* (citing Ex. 2001 ¶ 30). Patent Owner contends also that "*the Petition fails to even allege that Gelvin's client device (Bluetooth PDA 522) uses mobile phone 514 to access the Internet.*" *Id.* at 6 (citing Pet. 28–33).

Similarly, referring to Petitioner's annotated Figure 3, reproduced below, Patent Owner argues that like Figure 5, "Fig. 3 and the corresponding

text of Gelvin teach only that a client device (PDA Palm PC, highlighted yellow) uses a short-range wireless protocol to connect to a wireless LAN port (highlighted green) to access a data bus *internal* to the vehicle. *Id.* at 8 (citing Ex. 2001¶ 33).



Patent Owner argues that neither of Figures 3 or 5 show that the client device, i.e., “PDA Palm PC,” actually uses Gelvin’s internal data bus and gateway to access the internet. *Id.* According to Patent Owner “the Petition fails to identify any disclosure (because there is none) that the PDA Palm PC uses this short-range connection for any purpose other than communicating with vehicle’s internal data bus (e.g., to play music from the PDA Palm PC on the car speakers).” *Id.* (citing Ex. 2001 ¶ 33). Dr. Lomp testifies that “Gelvin does not expressly teach a “mobile wireless hotspot 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,*” as required by Claim 1 of the ‘771 Patent.” Ex. 2001 ¶ 35.

Petitioner argues in its Reply that it is presumptuous to “conclude[] that because a PDA with a Bluetooth radio *may* be used to couple the vehicle to the Internet, any PDA connected to the vehicle must connect to the Internet *only* via its own internal cellular modem.” Prelim. Reply 1. (citing Prelim. Resp. 9). Petitioner argues that Gelvin’s Figure 5 teaches several ways for WINS vehicle network architecture 500 to connect to the Internet: (a) Bluetooth modem 510, (b) IEEE 802.11 radio 512, and (c) cellular or mobile telephone 514. *Id.* at 1–2. Petitioner asserts that “Gelvin uses these network couplings to provide Internet access to devices (e.g., client-devices) on various local buses.” *Id.* at 2 (citing Pet. 28–33; Ex. 1002 ¶ 71).

We consider Patent Owner’s argument, and agree to an extent, that Gelvin describes the PDA in Figure 5 as “coupl[ing] to the Internet 599 through a service provider that specializes in low-rate communications,” rather than through WINS network architecture 500. Ex. 1005, 9:48–50. But read in context, Gelvin does not appear limited to this embodiment. For example, after describing the three ways that Gelvin’s WINS network architecture 500 can couple to the internet, Gelvin broadly describes that “[t]he WINS vehicle internetwork of an embodiment includes functionality that enables convenient and secure coupling of diverse networks and devices.” *Id.* at 9:58–60. Also, Gelvin explains other ways in which the vehicle network connects with the Internet. Gelvin for instance, describes with respect to Figure 6 that “[i]n operation, the vehicular network 602 tries to select the most cost-effective communication alternative that provides the desired level of service.” *Id.* at 10:20–22. When connecting to an external ISP (Internet Service Provider), Gelvin explains that one option is “the ISP uses the vehicle’s cellular phone number to attempt to establish a coupling over the telephone network, and tunnel the packet through. While the cell

phone network has the broadest geographic extent, it also has a higher associated cost, and thus the reason for attempting other means of communication.” *Id.* at 10:35–40. Gelvin’s disclosure does not, on the record at this stage of the proceeding, appear limited to the PDA communicating via the internet on its own network. Particularly, where Gelvin provides various embodiments and communication methods and explains that given the WINS architecture, “[p]otentially, any number of available methods of communication can be attempted.” *Id.* at 10:40–41.

We acknowledge Dr. Lomp’s testimony that “Gelvin does not expressly teach a ‘mobile wireless hotspot 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.*”” Ex. 2001 ¶ 35. However, this testimony appears somewhat contradictory to Gelvin’s example of

a PDA being used for a remote banking transaction. In this case, reliance is placed upon the general design that applications assume insecure connections. Thus, the application-level security of the banking application is employed, *with the vehicle enabling Internet access by acting as an HTTP proxy.*

Ex. 1005, 17:24–30 (emphasis added). In addition, although Gelvin may not provide a specific example of the PDA in Figures 3 and 5 utilizing the vehicle internetwork architecture 500 to access the Internet, Gelvin explains with respect to Figure 7 that “[t]he proxy 708 acts as a central point for managing security and acts as a proxy for all traffic to and from the Internet . . . [i]t also manages vehicle internetwork connectivity, and controls what devices are allowed to access the public Internet.” *Id.* at 13:11–16.

Based at least in part on Gelvin’s express disclosure, at this stage of the proceeding, we are persuaded that a person of ordinary skill in the art

would understand that “devices” includes “client devices” and that Gelvin’s vehicle internetwork architecture can provide Internet access to such client devices, even if those devices, such a PDA, can themselves access the Internet. *See* Ex. 1002 ¶ 70 (Dr. Akl testifying that “as shown below in Figure 7, Gelvin discloses a ‘port and proxy architecture’ in which an IP router 702 and a proxy 708 together provide secure Internet access to devices on various local buses independent of any other system.”) (citing Ex. 1005, 12:25–38).

(2) *Whether Gelvin fails to teach a “mobile wireless hotspot system . . . that enables client devices . . . to access the Internet without the need to access an external service controller”*

Patent Owner argues that simply having DHCP functionality within the LAN does not support Petitioner’s contention that “Gelvin’s automotive network enables Internet access to the PDA Palm PC ‘without the need to access an external service controller server.’” Prelim. Resp 11–13. Patent Owner argues, specifically, that the AMI-C standard bus through which the PDA in Gelvin’s Figure 3 connects to the vehicle network “does not require or utilize DHCP.” *Id.* at 12. Dr. Lomp testifies that “it is unclear how the PDA PALM PC . . . could receive a DCHP address provided from the gateway (Reference Numeral 302) over the AMI-C bus (Reference Numeral 306).” Ex. 2001¶ 41.

Petitioner responds, first asserting that the AMI-C bus is not the only connection through which Gelvin describes the PDA connecting. Prelim. Reply 4 (citing Ex 1005 27:63–65). Second, Petitioner contends that just because DHCP is not required for the AMI-C bus, this does not mean that “an AMI-C bus cannot enable Internet access because the bus does not ‘require or utilize DHCP.’” *Id.* To its second point, Petitioner argues that

“Gelvin explicitly teaches the use of “[c]onsumer devices on an . . . AMI-C bus” to supply Internet access to the vehicle . . . [t]hus, IV’s suggestion that internet data cannot travel over an AMI-C bus directly contradicts Gelvin’s teachings.” *Id.* at 5 (citing Ex. 1005, 3:21–23).

Also, considering Petitioner’s first assertion, it does appear, as Petitioner argues that Gelvin discloses embodiments of WINS vehicle internetwork using alternative connection protocols, such as IDB-C bus 2120, as shown in Gelvin’s Figure 21 reproduced below.

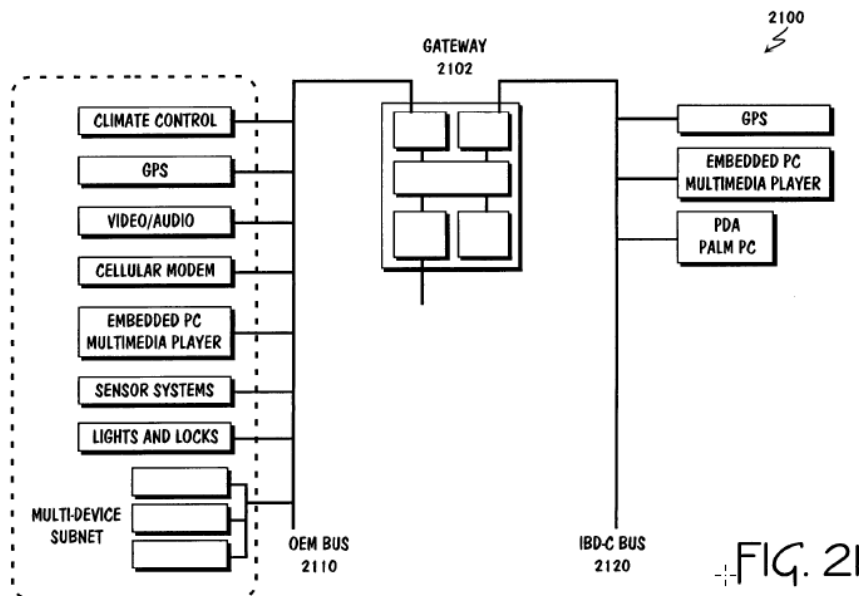


Figure 21 from Gelvin illustrates PDA connected with WINS vehicle internetwork 2100 via IDB-C bus and gateway 2102. Gelvin describes for example that “[d]evices supported on the IDB-C bus 2120 include, for example, GPS units, PC-based multi-media devices, and PDAs.” Ex. 1005, 27:63–65.

In addition, it is not entirely clear on the evidence at this stage of the proceeding, including Dr. Lomp’s testimony, that a PDA could not communicate with the Internet over an AMI-C bus simply because AMI-C “does not require or utilize DHCP” functionality. Prelim. Resp. 12. Gelvin

describes that “[c]onsumer devices on an OEM or AMI-C bus could supply connectivity and Internet access solutions for cellular, CDPD, satellite communication, and other wireless services.” Ex. 1005, 3:21–23. Petitioner also points out that Gelvin discloses “[f]or networks that do not use IP (such as AMI-C, as IV alleges), a non-IP router 710 uses proxy 708 to ‘mak[e] these non IP capable devices appear to be IP devices to the rest of the network . . .’” Prelim. Reply 4–5 (citing Ex. 1005, 12:60–13:6). Thus, there is at this stage of the proceeding, evidence that an AMI-C bus facilitates Internet communication by devices connected to the WIN vehicle internetwork despite AMI-C not requiring DHCP functionality.

Also, different from Dr. Lomp’s testimony, Dr. Akl testifies that a person of ordinary skill in the art would have understood “Gelvin to disclose a complete system for connecting to the Internet, which excludes an external service controller server.” Ex. 1002 ¶ 74. Dr. Akl testifies that in contrast to the prior art, e.g., Kokkinen,⁹ which was overcome during prosecution of the application which became the ’771 patent, “Gelvin provides the features required to access the Internet in its *onboard* system. Specifically, Gelvin provides DHCP, NAT, and security functionality *within* the vehicle and on the LAN, *i.e.*, *not* offloaded to an external service controller server.” *Id.* at 75. By way of explanation, Kokkinen’s Figure 2 illustrates DHCP block and NAT (network address translator) external to the vehicle. *See* Ex. 1015, Fig. 2, *see also* Ex. 1004, 63 (Applicant arguing that “[m]uch of the functionality is off-loaded on the service controller server 90 with the coupling between the main server 50 and the service controller server 90 being wireless.”).

⁹ US Patent Appl’n Pub. No. 2002/0073240 A1, was applied by the examiner during prosecution as an anticipation reference. Ex. 1003, 42–43.

At this stage of the proceeding, we find persuasive Petitioner's position and credit Dr. Akl's testimony that a person of ordinary skill in the art would have understood Gelvin's WINS vehicle internetwork architecture to disclose a "mobile wireless hotspot system [that] is a stand-alone system that enables client devices . . . to access the Internet without the need to access an external service controller," as called for in independent claim 1. We appreciate that there is disagreement between the experts regarding the effect of DHCP protocols and the AMI-C bus shown in Figure 3, on the ability of Gelvin's WINS vehicle internetwork architecture to enable connection of a PDA to the internet. We leave this issue for development during trial.

c) Conclusion as to Independent Claim 1

We have considered and find persuasive Petitioner's arguments and supporting evidence as set forth at pages 21–33 of the Petition. Accordingly, we determine that Petitioner has shown a reasonable likelihood that Gelvin anticipates claim 1.

d) Claims 3–4, 7, 9 and 13

Petitioner provides an element-by-element analysis of where each limitation in dependent claims 3–4, and 7 is disclosed in Gelvin. Pet. 34–37. Claim 3 requires for example "wherein said 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. Petitioner argues that Gelvin discloses that "[c]onnectivity is available for vehicle service, and data transfer to and from the vehicle 2202 (e.g., for maintenance history, email, linkage to the Internet or to provide entertainment services)." Pet. 34 (quoting Ex. 1005, 28:19–22) (emphasis omitted). Dr. Akl testifies that a person of ordinary skill in the art "would understand from Gelvin's

disclosure that when users access the WINS network, including the Internet, via devices such as personal computers, they are using Gelvin’s hotspot system in a vehicle to access the Internet via client devices.” Ex. 1002 ¶ 78.

Independent claim 9 includes substantially similar limitations to claim 1, and also requires enabling “high speed wireless Internet access . . . while said vehicle is in motion and when said vehicle is stationary.” Ex. 1001, 7:2–3.¹⁰ Petitioner argues that Gelvin’s WINS internetwork provides long-range wireless connectivity to the Internet for devices such as a mobile telephone and that “a mobile telephone network (‘3G network’) is the same mechanism that the ’771 patent describes as providing mobile/stationary Internet access to vehicle occupants.” Pet. 39 (citing Ex. 1001, 1:63–2:9; Ex. 1002 ¶¶ 92–93).

Patent Owner presents its initial arguments mainly in the context of independent claim 1. *See* Prelim. Resp. 4–13. Because we determine that Petitioner has shown a reasonable likelihood that at least independent claim 1 is anticipated by Gelvin, we leave this, and all remaining issues raised by Petitioner for trial, and do not separately address the merits of claims 3–4, 7, 9 and 13.

Accordingly, based on the arguments and evidence of parties on the record before us, we determine, for purposes of this Decision, that Petitioner has established a reasonable likelihood of prevailing on at least claim 1.

¹⁰ For certain claims with duplicate limitations Petitioner references its earlier arguments and evidence in the preceding claims. *See, e.g.*, Pet. 39 (Referencing preceding analysis relating to claim 1[a]–1[c] in Section VII.A.5.).

III. CONCLUSION

On this record, we are persuaded that Petitioner demonstrates a reasonable likelihood of prevailing on its challenges that Gelvin anticipates at least claim 1 of the '771 patent. That said, Petitioner's remaining obviousness challenges based on Gelvin and Gresham, Gelvin and Brady, as well as the challenges based on Jameel and Jameel and Gresham, are best left for trial after full development of the record. 37 C.F.R. § 42.108(c); *SAS Inst.*, 138 S. Ct. 1348, 1359–60 (2018); *see also PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (“Equal treatment of claims and grounds for institution purposes has pervasive support in *SAS*.”). We therefore institute trial on all claims and all challenges included in the Petition.

Our factual findings and determinations at this stage of the proceeding are preliminary, and based on the evidentiary record developed thus far. This is not a final decision as to the patentability of claims for which *inter partes* review is instituted. Our final decision will be based on the record as fully developed during trial.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that *inter partes* review of the '771 patent is hereby instituted as to claims 1–7, 9, 13, and 19 on all grounds set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial on the grounds of unpatentability authorized above; the trial commences on the entry date of this decision.

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For PETITIONER:

David Reese
James Barney
Aidan Skoyles
Tyler Akagi
FINNEGAN HENDERSON FARABOW GARRETT & DUNNER LLP
david.reese@finnegan.com
james.barney@finnegan.com
aidan.skoyles@finnegan.com
tyler.akagi@finnegan.com

For PATENT OWNER:

Ryan O' Donnell
Jeffrey Glabicki
Dawn Kerner
Michael Snyder
Russell Rigby
VOLPE KOENIG
rodonnell@vklaw.com
jglabicki@vklaw.com
dkerner@vklaw.com
msnyder@vklaw.com
rrigby@vklaw.com