

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

HEADWATER PARTNERS II LLC,
Patent Owner.

IPR2024-01468¹
Patent 9,094,868 B2

PATENT OWNER'S PRELIMINARY RESPONSE

¹ IPR2025-00426 has been joined with this proceeding.

TABLE OF CONTENTS

I. Introduction 1

II. Level of Ordinary Skill in the Art..... 1

III. Claim Construction 2

IV. The Petition fails to show unpatentability of claim 11 (and thus all claims dependent therefrom). 3

V. The Petition fails to show unpatentability of claim 12 for additional reasons..... 10

VI. Conclusion 11

PATENT OWNER'S EXHIBIT LIST

No.	Description
Ex. 2001	<i>Headwater Partners II LLC v. T-Mobile USA, Inc. et al.</i> , No. 2:24-cv-00015-JRG-RSP (lead case), First Amended Docket Control Order, Dkt. No. 70 (E.D. Tex. Jan. 27, 2025)
Ex. 2002	Federal Court Management Statistics for the Eastern District of Texas (Sept. 2024)
Ex. 2003	<i>Headwater Partners II LLC v. Cellco Partnership, d/b/a Verizon Wireless et al.</i> , No. 2:24-cv-00007-JRG-RSP, Complaint for Patent Infringement, Dkt. No. 1 (E.D. Tex. Jan. 5, 2024)
Ex. 2004	<i>Headwater Partners II LLC v. T-Mobile USA, Inc. et al.</i> , No. 2:24-cv-00015-JRG-RSP, Complaint for Patent Infringement, Dkt. No. 1 (E.D. Tex. Jan. 10, 2024)
Ex. 2005	<i>Headwater Partners II LLC v. AT&T Services, Inc. et al.</i> , No. 2:24-cv-00016-JRG-RSP, Complaint for Patent Infringement, Dkt. No. 1 (E.D. Tex. Jan. 10, 2024)
Ex. 2006	<i>Headwater Partners II LLC v. Cellco Partnership, d/b/a Verizon Wireless et al.</i> , No. 2:24-cv-00007-JRG-RSP, Proof of Service, Dkt. No. 17 (E.D. Tex. Jan. 16, 2024)
Ex. 2007	<i>Headwater Partners II LLC v. T-Mobile USA, Inc. et al.</i> , No. 2:24-cv-00015-JRG-RSP, Proof of Service, Dkt. No. 8 (E.D. Tex. Feb. 5, 2024)
Ex. 2008	<i>Headwater Partners II LLC v. AT&T Services, Inc. et al.</i> , No. 2:24-cv-00016-JRG-RSP, Proof of Service, Dkt. No. 7 (E.D. Tex. Feb. 5, 2024)
Ex. 2009	<i>Headwater Partners II LLC v. Cellco Partnership, d/b/a Verizon Wireless et al.</i> , No. 2:24-cv-00007-JRG-RSP, Plaintiff Headwater Partners II LLC's Disclosure of Asserted Claims and Infringement Contentions (E.D. Tex., served Mar. 18, 2024)
Ex. 2010	<i>Headwater Partners II LLC v. T-Mobile USA, Inc. et al.</i> , No. 2:24-cv-00015-JRG-RSP, Plaintiff Headwater Partners II LLC's Disclosure of Asserted Claims and Infringement Contentions to T-Mobile (E.D. Tex., served Mar. 18, 2024)

No.	Description
Ex. 2011	<i>Headwater Partners II LLC v. AT&T Services, Inc. et al.</i> , No. 2:24-cv-00016-JRG-RSP, Plaintiff Headwater Partners II LLC's Disclosure of Asserted Claims and Infringement Contentions to AT&T (E.D. Tex., served Mar. 18, 2024)
Ex. 2012	<i>Headwater Partners II LLC v. T-Mobile USA, Inc. et al.</i> , No. 2:24-cv-00015-JRG-RSP (lead case), Defendants' Initial Invalidity Contentions (E.D. Tex., served May 20, 2024)
Ex. 2013	U.S. Patent No. 8,639,260 to Fox et al.
Ex. 2014	August 7, 2025 Deposition Transcript of Stanley McClellan, Ph.D.

I. Introduction

To streamline this proceeding, Patent Owner disclaimed all challenged claims of the '868 patent except for claims 11–15. However, the Petition's theory for claim 11 (and thus the claims from which it depends) does not set forth even a *prima facie* case of obviousness.

Claim 11 requires that “link quality positioning information” be based on “determin[ed] UE environment information.” For the claimed “UE environment information,” the Petition relies on a sentence in prior art reference “Jarvinen” regarding “season of the year, weather, traffic, etc.” Pet. 54. But as Petitioner's expert admitted, Jarvinen does not disclose *determining* these factors. Ex. 2014, 25:3-20 (“Jarvinen's system doesn't determine what the weather is.”).

Accordingly, claim 11, and claims 12-15 dependent therefrom, should be found not unpatentable.

II. Level of Ordinary Skill in the Art

The Petition proposes that a POSITA in the field of the '868 patent “would have been someone with at least (1) a bachelor's degree in electrical engineering, computer engineering/science, or a related scientific field, and (2) either (a) a master's degree in electrical engineering, computer engineering/science, or a related field, or (b) two or more years of work or research experience in wireless networking and/or computing.” *See* Pet. at 10 (citing Ex. 1012 ¶20). For purposes of

this Preliminary Response, Patent Owner does not challenge that definition.

III. Claim Construction

The Petition states that “all claim terms should be given their plain and ordinary meaning as would be understood in the context of the ’868 Patent’s disclosure.” *Id.* at 10-11. For purposes of this Response, Patent Owner agrees.

Patent Owner notes that the Board, in its Institution Decision, indicated that it may be appropriate to construe what it means to “determin[e] a UE environment information” as recited in Claim 7 of the ’868 patent. *See* Paper No. 17 at 10–11.

Patent Owner believes that “determining” should be given its plain meaning in this context, the full scope of which need not be expressly defined for purposes of resolving the Petition’s theories. Rather, Patent Owner believes that determining specific information can be done in a variety of ways, but at the very least there must be a specific attempt by the system doing the alleged “determining” to calculate, estimate, or arrive at the information in question. By way of example (using the types of information the Petition contends is “determin[ed]”), the weather could be “determined” by taking information from a weather report, by actually measuring the weather using sensors, or by attempting to estimate the weather through other means. The system, however, must make some determination regarding the weather, and not merely measure information (such as signal strength) that the weather may

influence without any attempt to determine what the weather itself is (in the situation where weather is the information alleged to be “determined”).²

IV. The Petition fails to show unpatentability of claim 11 (and thus all claims dependent therefrom).

The Petition fails to set forth coherent theory of unpatentability for claim 11. By way of background, the Petition’s theory for claim 11 must be understood with respect to the limitations of the claims from which it depends (claims 1 and 7), and the Petition’s invalidity theory with respect to those claims.

Claims 1, 7, and 11 are reproduced below.

1[pre]. A method, comprising:

[1a] *determining a plurality of link qualities (LQs) of a user equipment (UE) for a plurality of positionings of the UE,*³

² Patent Owner further notes that *what* must be determined is the “UE environment information,” which as explained below in Section IV is distinct from the “link quality positioning information” in the context of claim 11. What types of information (such as location or orientation information) need only be determined to the extent that the Petition’s theory for claim 11 implicates location or orientation information (which it does not), because Petitioners may not introduce new theories of unpatentability in Reply.

³ All emphases in quotations are added unless otherwise specified.

- wherein at least one of the plurality of positionings includes at least a location or an orientation of the UE;
- [1b] storing information associated with the plurality of LQs for the plurality of positionings;
- [1c] estimating at least one future positioning of the UE; and
- [1d] estimating a future link quality (LQ) of the UE at the at least one future positioning of the UE based on the stored information associated with the plurality of LQs at the plurality of positionings of the UE.
7. The method of claim 1, wherein ***a link quality positioning information*** includes at least one of the determined plurality of LQs, the stored information, the estimated future positioning or the estimated future LQ.
11. The method of claim 7, further comprising ***determining a UE environment information***, wherein at least a portion of the link quality positioning information is based on the UE environment information.

Ex. 1001, Claims 1, 7, 11. As shown above, claim 1 requires “determining a plurality of link qualities (LQs) of a user equipment (UE) for a plurality of positionings of the UE.” This “plurality of [LQs]... for a plurality of positionings” is what claim 7 refers to as “link quality positioning information.” The Petition maps this LQ positioning information to Jarvinen’s “Geographical Location,” “Transmission Conditions,” and “Transmission Properties” annotated respectively in red, blue, and green in the Petition’s annotation of Jarvinen’s FIG. 3, reproduced below. *See* Pet. 24-25.

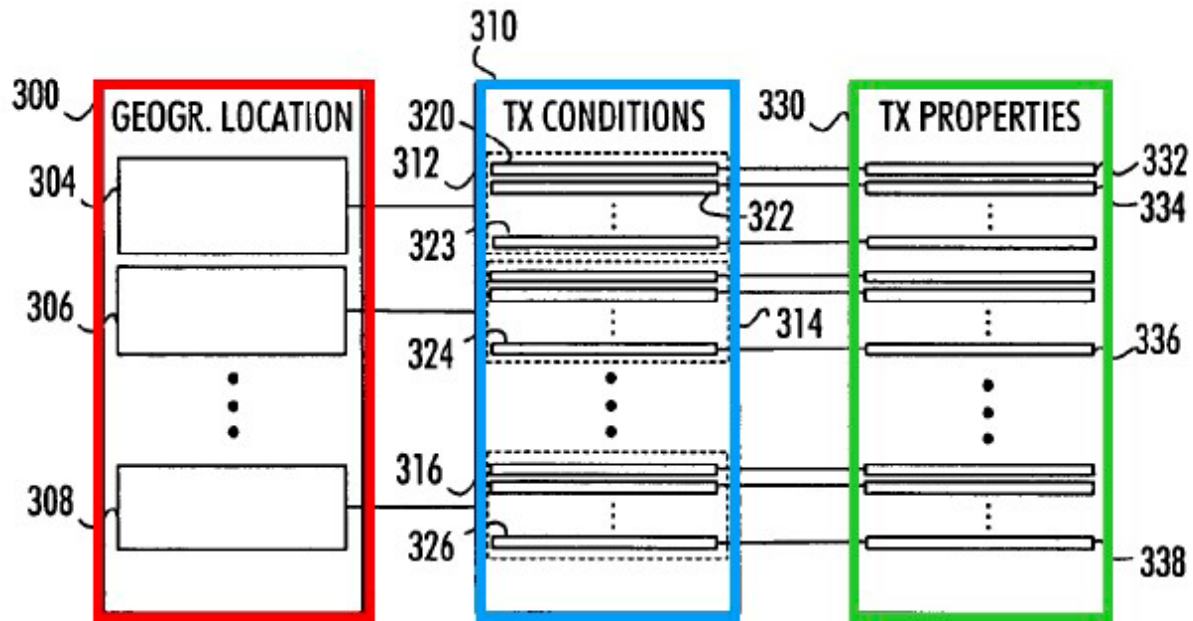


Fig 3

Pet. 24 (Petition’s annotations of Jarvinen’s FIG. 3).

Claim 1 further specifies that the “LQ positioning information” (i.e., under the Petition’s theory, the geographical location, transmission conditions, and transmission properties” must be “based on the UE environment information,” which “UE environment information” must be “determined.”

In other words, under the Petitions’ claim mapping, at least some of the information in the red, blue, and green annotations above must be based on “UE environment information” which was “determined” by the system performing the claimed method.

For the “determined UE environment information” of claim 11, the Petition relies exclusively on “season of the year, weather, traffic, etc.,” which may influence

or otherwise “affect the actual transmission properties with given transmission conditions” (i.e., influence or affect the radio environment resulting in, e.g., poor transmission properties). Pet. 54. Thus, the Petition contends that the “radio environment” (i.e., transmission properties) are influenced by determined “UE environment information” such as “season of the year, weather, traffic, etc.” Pet. 54.

However, the Petition points to *no evidence* that Jarvinen discloses *determining* the alleged UE environment information, such as season of the year, weather, or traffic. For example, nothing in Jarvinen discloses monitoring a traffic or weather report, measuring weather or traffic, or looking up or estimating the season of the year. Instead, the Petition can only show that Jarvinen discloses the UE environment information *may affect* the transmission properties, not that Jarvinen makes any attempt to *determine* (or estimate, or calculate, or any other plausible construction for “determine”—*see* Section III, *supra*) any of this UE environment information.

Indeed, Petitioner’s expert admitted that although UE environment information such as “weather” *could* potentially be considered in evaluating measuring transmission properties such as “received signal strength,” “Jarvinen’s system doesn’t determine what the weather is”:

Does Jarvinen need to know anything about the weather in order to measure received signal strength?

A. Jarvinen leaves that door open, right, when it says, can constantly monitor received signal strength and/or other communication quality metrics.

So weather can be considered in there for communication quality metrics because it's widely known that different types of signals propagate differently based on different weather conditions.

Q. Okay. How does Jarvinen's system determine what the weather is?

A. Jarvinen's system doesn't determine what the weather is. It just says that the database may contain all of these different types of communication quality metrics. And then arbitrary calculations, such as averaging, can be used with those communication quality metrics. There may be other things in different programs.

Ex. 2014, 25:3-20; *see also id.* 26:25-27:5 (“Q. Okay. Where does Jarvinen talk about measuring or evaluating the factors that may affect the actual transmission properties separate from measuring the transmission properties themselves? A. I’m not sure I understand your question. Factors that affect the measurements are not measured.”).

Accordingly, when Jarvinen discusses that transmission properties may change based on season of the year and other factors, that is a recognition of the basic fact of physics, that season of the year, weather, traffic, etc., may *influence* transmission properties. It is *not* a disclosure that season of the year, weather, traffic, etc. are *determined* by Jarvinen and that any link quality positioning information is based in any part on such a determination, as claim 11 requires.

Because the Petition fails with respect to claim 11, it also fails with respect to claims 12-15, which depend from claim 1. Notably, the Petition fails to explain how its analysis for any of these claims shows that any portion of the “link quality position information” is “*based on*” the allegedly determined UE environment information, as each of those claims requires.

Patent Owner additionally notes that, to the extent the Board may be open to the possibility that “radio environment information” is the claimed “UE environment information” (*see* Paper No. 17 at 14–15) such an interpretation is inconsistent with plain meaning and the claim language. “Radio environment information” (i.e., transmission properties of the radio channel) is distinct from “UE environment information” (i.e., the physical environment in which the UE exists, which includes things like season of the year, weather, and traffic as articulated in the Petition). As

Jarvinen and the Petition correctly point out, UE environment information *influences* radio environment information; they are not the same thing.⁴

Claim 11 of the '868 patent *also* makes this distinction clear, in reciting that at least “a portion of the link quality positioning information” (which *includes* radio environment information such as “link quality” measurements) is “*based on* the UE environment information.” In other words, link quality positioning information such as link quality measurements is *not* UE environment information in the context of the '868 patent; it must instead be *based on* UE environment information to satisfy the requirements of claim 11.

Additionally, to the extent that “UE environment information” (i.e., information about the environment in which the UE is located) could be satisfied by all *radio environment* information (such as transmission properties), then dependent claim 11 would be superfluous, because because claim 1 already recites “determining a plurality of link qualities (LQs).” Of course, information regarding quality of a radio link is information about the radio environment. But it is *not*

⁴ Notably, when the '868 patent discloses using “sensors” to determine UE environment information, it discloses “a camera, a touchscreen and/or gyroscope” (Ex. 1001, 29:3-7) none of which measure *radio environment information*. Instead, these measure the physical properties in which the UE exists (such as what objects the camera or touchscreen can perceive, or the physical movement of the UE as measured by the gyroscope).

information about the physical environment in which the UE exists, such as the information the Petition relies on such as season, weather, and traffic.

Furthermore, *even if* “UE environment information” could include all information pertaining to the radio environment (such as link quality information), such an interpretation would not save the Petition’s theory for claim 12, as discussed below.

V. The Petition fails to show unpatentability of claim 12 for additional reasons.

Claim 12 additionally recites: “The method of claim 11, wherein the UE environment information comprises information associated to one or more of a traffic load, a network load, an interference, time of day, whether [sic] information, day of year, season.”

As noted above, the Petition’s theory with respect to claim 11 fails, because the Petition relies on factors that influence Jarvinen’s transmission properties (i.e., Jarvinen’s radio environment) such as season, weather, and traffic, even though there is no disclosure in Jarvinen that discloses that Jarvinen *determines* what the season of the year, weather, or traffic are. *See* Ex. 2014, 25:3-20 (“Jarvinen doesn’t determine what the weather is.”).

Furthermore, claim 12 contains additional requirements about what the “UE environment information” must be “associated to.”⁵ To meet these additional requirements, the Petition has only a single sentence of analysis, reproduced below:

20. Claim 12: The method of claim 11, wherein the UE environment information comprises information associated to one or more of a traffic load, a network load, an interference, time of day, whether [sic] information, day of year, season.

Jarvinen also discloses UE environment information that includes “season of the year, weather, traffic, etc.” (Jarvinen, ¶0062; McClellan, ¶97.)

Pet. 54. Here, there can be no possible ambiguity—the *only* “UE environment” identified by the Petition for Claim 12 are season of the year, weather, and traffic. Thus, unless the Board finds that the Petition made a showing that Jarvinen *determines* season of the year, weather, or traffic (contrary to Dr. McClellan’s testimony), and bases the link quality positioning information on any of those determined factors, Petitioner cannot establish unpatentability of Claim 12.

VI. Conclusion

For the foregoing reasons, Patent Owner respectfully requests that the Board find the remaining challenged claims (11-15) of the ’868 patent not unpatentable.

⁵ Notably, this is different than what the UE environment must “include”—the UE environment need not “include,” e.g., “season” information, but must include “information associated to,” e.g., “season” information.

Date: August 20, 2025⁶

Respectfully submitted,

/James A. Milkey/

James A. Milkey, Reg. No. 79,503

Reza Mirzaie, Reg. No. 69,138

Marc A. Fenster, *pro hac vice* forthcoming

Dale Chang, Reg. No. 61,476

Amy E. Hayden, Reg. No. 64,817

Neil A. Rubin, Reg. No. 67,030

Philip X. Wang, Reg. No. 74,621

RUSS, AUGUST & KABAT

12424 Wilshire Blvd., 12th Floor

Los Angeles, CA 90025

Counsel for Patent Owner

⁶ Patent Owner served this response on counsel for Petitioner on August 20, 2025. However, due to PTACTS maintenance, Patent Owner could not file this response until August 21, 2025.

CERTIFICATION REGARDING WORD COUNT

Pursuant to 37 C.F.R. §42.24(d), Patent Owner certifies that there are 2,037 words in the paper excluding the portions exempted under 37 C.F.R. §42.24(a)(1).

Date: August 20, 2025

/James A. Milkey/

James A. Milkey, Reg. No. 79,503

Reza Mirzaie, Reg. No. 69,138

Marc A. Fenster, *pro hac vice* forthcoming

Dale Chang, Reg. No. 61,476

Neil A. Rubin, Reg. No. 67,030

Philip X. Wang, Reg. No. 74,621

RUSS, AUGUST & KABAT

12424 Wilshire Blvd., 12th Floor

Los Angeles, CA 90025

Counsel for Patent Owner

CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e)(1))

The undersigned hereby certifies that the above document was served on August 20, 2025, by filing this document through the Patent Trial and Appeal Case Tracking System as well as delivering a copy via electronic mail upon the following attorneys of record for the Petitioner:

Jacob K. Baron (Reg. No. 48,961)
Jacob W.S. Schneider (*pro hac vice* forthcoming)
HOLLAND & KNIGHT LLP
10 St. James Ave., 11th Floor
Boston, MA 02116
Jacob.Baron@hklaw.com
Jacob.Schneider@hklaw.com
ClientTeamHeadwaterLitigation@hklaw.com

Date: August 20, 2025

/James A. Milkey/
James A. Milkey, Reg. No. 79,503
Reza Mirzaie, Reg. No. 69,138
Marc A. Fenster, *pro hac vice* forthcoming
Dale Chang, Reg. No. 61,476
Neil A. Rubin, Reg. No. 67,030
Philip X. Wang, Reg. No. 74,621
RUSS, AUGUST & KABAT
12424 Wilshire Blvd., 12th Floor
Los Angeles, CA 90025

Counsel for Patent Owner