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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS
Petitioner

v.

GENERAL ACCESS SOLUTIONS, LTD.
Patent Owner

IPR2023-01147
U.S. Patent No. 9,426,794

PATENT OWNER'S PRELIMINARY RESPONSE

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I. INTRODUCTION

U.S. Patent No. 9,426,794 (“the ’794 Patent”), entitled “Wireless Communication System and Device for Coupling a Base Station and Mobile Stations,” claims, among other things, that the wireless communication device include: (1) a first transceiver using wide area network (“WAN”) communication protocols to communicate with the base station, (2) a second transceiver using local area network (“LAN”) communication protocols to communicate with mobile stations, and (3) that the second transceiver monitor signal characteristics and use that information to route communications to the mobile stations. Palmer is missing these key elements and Hohnstein fares no better because the Board did not consider key claim elements in a previous IPR—accordingly, the Petition fails.

Verizon plays a game of Tinkertoys to label the prior art in a way that reads on the claims, without any attention to whether the labels appropriately apply and perform the functions as detailed in the ’794 Patent.

As a result, Palmer is missing the claimed “base station” that communicates using a “wide area wireless communication protocol,” as well as the second transceiver (*i.e.*, the LAN transceiver) that monitors signal characteristics of the LAN devices and routes information to them. Hohnstein similarly does not render the ’794 Patent obvious, because Hohnstein does not disclose elements that were not at issue in a prior IPR on a different patent, including the requisite transceivers

that use WAN and LAN network protocols and monitoring of signal characteristics by the second LAN transceiver.

In sum, the Board should deny institution because both Palmer and Hohnstein, the two primary references, fail to disclose key limitations of the claims. Although Petitioner applies superficial labels to say that it's all there, even a cursory examination of the references shows that is not the case.

II. BACKGROUND

A. WANs, LANs, and Base Stations

Computers, mobile phones, televisions, and other technology often work as part of a network. The specific network is a matter of design. Wide Area Networks or WANs connect such things as mobile phones, fixed wireless devices, and MiFi electronic devices in larger geographical areas. Local Area Networks or LANs connect computers, tablets, televisions, household devices such as appliances, thermostats, alarm systems, and other things in much smaller areas.

In cellular wireless networks, base stations or “cell towers” serve as the main communication hub for mobile wireless devices on the network. Base stations generally have a number of antennas with transceivers capable of sending and receiving radio frequency (“RF”) signals to and from wireless devices. Cellular base stations connect with mobile devices in a “hub and spoke” architecture. Communications between wireless devices such as cellphones, even if they are in

proximity to one another, are all routed through the base station serving those devices, while LAN communications often remain within the LAN.

Cellular wireless networks that offer broadband data communication, such as 4G or 5G cellular networks, are ubiquitous today. But, at the time of the '794 Patent, this technology was in its infancy, and wireless cellular networks were generally limited to voice communications, rudimentary text messaging, and limited data transmissions. *What is 5G? Everything You Need to Know About 5G*, QUALCOMM.COM, <https://www.qualcomm.com/5g/what-is-5g> (last visited October 25, 2023). The '794 Patent introduced a novel way to leverage the nascent cellular broadband technology with LAN technology to provide “hotspot” functionality to multiple mobile devices.

B. The '794 Patent

The '794 Patent is directed to a wireless device equipped with both WAN and LAN transceivers that route communications from a cellular base station to wireless LAN transceivers that provide “hotspotting” functionality for other mobile devices in the LAN. (See 4:33-36)¹ (“A wireless broadband communication system **has been proposed**, for instance, by which to permit the effectuation of any of

¹ Citations exclusively to page and line numbers are to Ex. 1001, U.S. Patent No. 9,426,794 (“the '794 Patent”).

various communication services by way of radio links ...”) (emphasis added). Wireless local area networks (“LANs”), known at the time of the ’794 Patent, differ from WANs in that “[g]enerally, the communication ranges of the mobile stations operable in such systems [wa]s relatively small.” (4:64-65)

The wireless system and device of the ’794 Patent contains two different transceivers. The first transceiver receives communications using WAN communication protocols from a base station (*e.g.*, a 4G or 5G base station) and sends that information to a second transceiver within the device. The second transceiver then routes the information to other mobile stations using a LAN communication protocol (*e.g.*, Wi-Fi protocols). Both transceivers operate wirelessly. Thus, unlike Wi-Fi devices operating in conventional wired networks, the first transceiver receives transmissions from a *wireless* cellular base station, and the second transceiver transmits *wirelessly* to mobile devices in the LAN. In doing so, the second transceiver also monitors signal characteristics and routes information to different mobile devices that take advantage of the “hotspot.”

The ’794 Patent discussed how this device could enable the creation of a novel broadband cellular system. “When WLAN service is provided to a plurality of fixed-site subscriber stations, cellular coverage areas are formed.” (3:49-51) Setting up numerous LAN access points, each of which is able to communicate with broadband cellular base stations, “provides a radio infrastructure throughout a

geographical area throughout which wireless broadband communication services are effectuable.” (5:14-16) At a time when cellular broadband was still in early development and lacked the ability to provide broadband service to mobile subscribers, the ’794 Patent created a novel system for providing this service utilizing a network of LAN transceivers connected to cellular WAN base stations.

Claim 1 recites the following wireless communication device:

A wireless communication device comprising:

- a first wireless transceiver operable to communicate with a base station, wherein the base station communicates with the first wireless transceiver and a plurality of other wireless communication devices according to a wide area wireless communication protocol, and

- a second wireless transceiver coupled to the first wireless transceiver and operable to directly communicate with a first mobile station and a second mobile station, wherein the second wireless transceiver communicates with the first mobile station and the second mobile station according to a local area wireless communication protocol,

wherein the first wireless transceiver receives from the base station a first downlink signal intended for the first mobile station and provides the first downlink signal to the second wireless transceiver and wherein the second wireless transceiver receives the first downlink signal and re-transmits the first downlink signal to the first mobile station as a second downlink signal according to the local area wireless communication protocol, and

wherein the second transceiver monitors first signal characteristics of the second downlink signal of the first mobile station and monitors second signal characteristics of the second mobile station, and based on the first signal characteristics and the second characteristics, routes

information to the first mobile station and the second mobile station, respectively.

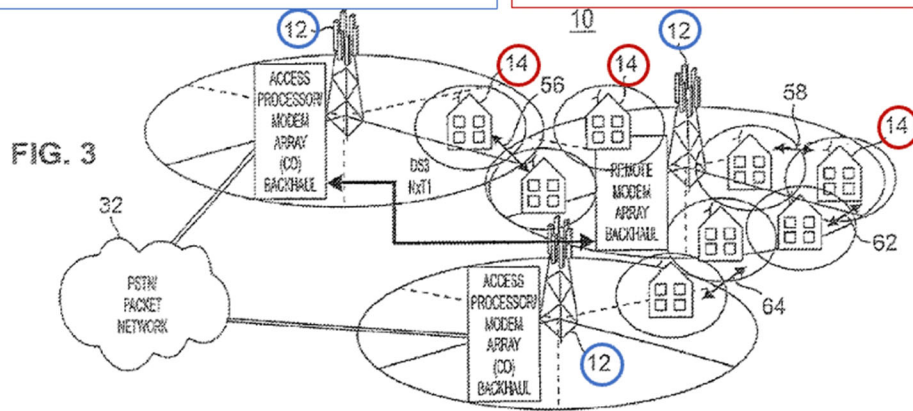
The '794 Patent thus claims a “two-layered” wireless communications system, in which the first layer consists of the wide area network established between the base station and the first transceiver and a plurality of wireless communication devices, and the second layer consists of the local area network established between the second transceiver and each of the same plurality of wireless communication devices and a plurality of mobile stations. Different “protocols” govern the communications in each layer of the combined network.²

Figure 3 of the '794 Patent illustrates the then-novel network infrastructure. A “plurality of base stations **12**” (circled in blue below) provide “broadband communication services” to subscriber stations (circled in red below). (7:31-35 9:20-22) “Each of the subscriber stations includes a WLAN transceiver.” (9:23) “The WLAN transceiver defines a coverage area **42** defining a cell,” and provides communications to mobile stations in that cell. (8:2-5) As explained in the Abstract, the base station communicates “according to a wide area wireless communication protocol,” while the WLAN communicates “according to the local area wireless communication protocol.”

² A “protocol” is a term of art in the network architecture domain, generally meaning an established set of rules for transmissions to and from wireless devices.

Fig. 3 “illustrates the communication system 10, here showing a plurality of base stations 12...” Ex. 1001 at 9:20-21.

Fig. 3 “illustrates . . . subscriber stations 14 associated with various ones of the base stations.” Ex. 1001 at 9:20-22.



Thus, the '794 Patent defines a specific architecture that includes a WAN and LAN and the accompanying protocols that govern those networks, and it also includes specific functions that the transceivers do in relaying downlink signals to the mobile stations, and then monitoring signal characteristics to route information.

Another important aspect of the '794 Patent is that the second transceiver in the wireless device monitors pertinent “signal characteristics” and based on those signal characteristics routes information to the LAN devices. A specific limitation makes this clear:

wherein the second transceiver monitors first signal characteristics of the second downlink signal of the first mobile station and monitors second signal characteristics of the second mobile station, and based on the first signal characteristics and the second characteristics, routes information to the first mobile station and the second mobile station, respectively.

(10:38-44) The transceivers of the '794 Patent thus do not merely transmit and receive signals but also perform monitoring and routing functions.

This Wireless Local Area Network transceiver—referred to as the “second transceiver” in the claims—can also orchestrate the distribution of information among mobile stations within the local area network. The fact that LANs enable communications between devices in the same local area is common today, as we all see and know with such things as modern-day SONOS systems or wireless televisions that use YouTube TV. These devices can and do directly communicate with other LAN-enabled devices, such as iPads or computers, within the LAN in your home. Many such devices lack the capability of communicating directly with a WAN (*e.g.*, an iPad that only has Wi-Fi capability and no cellular capability). Information can be routed to these devices from a WAN only via the LAN transceiver. In an industrial setting, these capabilities might be even more important because they enable secure, local communications that a company may not want shared with the cloud, and minimize use of the WAN. Because the wireless devices of the '794 Patent enable two different types of communications, they need to have routing and scheduling capabilities.

Finally, the '794 Patent describes that the “base station” has a transceiver within a cellular network that communicates with an external network, transmits forward channel broadband signals from the external network to a plurality of

wireless devices and receives reverse channel broadband signals from the plurality of wireless devices to transmit back to the external network. The patent describes transceiver base station **12** being set up and coupled to “a communication network **32** such as a public-switched telephonic network” or the Internet. (7:50-56) The base station includes a radio link “upon which forward link channels **18** and reverse link channels **22**” permit broadband communications. (7:31-34) Further, Claim 1 of the ’794 Patent expressly claims that the base station “communicates with the first wireless transceiver and a plurality of other wireless communication devices.” (10:19-22) In other words, the claimed base station does not comprise multiple individual transceivers, each communicating point-to-point with a single one of the plurality of wireless communication devices (including the one with the first wireless transceiver). Instead, the base station claimed in the ’794 Patent, which includes at least one remote modem (*see* 7:44-49, *passim*), uses a transceiver to communicate with more than one of the communication devices. A person of ordinary skill in the art would understand this based on the ’794 Patent and specifically Figure 2 (depicting “RF modem sectors”) and Figure 3 (depicting three ordinary cellular towers 12). (4:33-54, 7:44-49, 9:20-41)

C. The ’555 IPR

Verizon claims in its Petition that there are only “small differences between the claims at issue in the prior IPR” (involving U.S. Patent No. 9,225,555 (“the

'555 Patent')) and those of the '794 Patent, and that those differences “are both insubstantial and disclosed in the art.” Pet. at 1. Not so.

A comparison of Claim 1 of the '555 Patent to Claim 1 of the '794 Patent reveals significant differences. Below is a side-by-side comparison. Highlighted in yellow, blue, and green are additional limitations of the '794 Patent not present in the '555 Patent, requiring: (1) that the first transceiver use WAN communication protocols, (2) that the second transceiver communicate using LAN communication protocols, and (3) that the device monitor signal characteristics and use that information to route communications between the WAN (cellular) base station and the LAN mobile stations.

US 9,225,555 B2	US 9,426,794 B2
1. A wireless communication device, comprising: - a first transceiver in direct wireless communication with a terrestrial base station, wherein the terrestrial base station is in direct wireless communication with a plurality of wireless communication devices; and - a second wireless local area network transceiver in direct wireless broadband communication with a plurality of computing devices located within a coverage area of the second transceiver, the second transceiver being coupled to the first transceiver wherein; the first transceiver receives a first signal from the base station, the first signal intended for a first computing device of the plurality of computing devices, the second wireless local area network transceiver determines signal characteristics of the first computing device, and the second transceiver transmit the first signal to the first computing device based on the determined signal characteristics of the first computing device; and the second transceiver receives a second signal from the first computing device, the second signal intended for the base station, and the first transceiver transmits the second signal to the base station.	1. A wireless communication device, comprising: - a first wireless transceiver operable to communicate with a base station, wherein the base station communicates with the first wireless transceiver and a plurality of other wireless communication devices according to wide area wireless communication protocol; and - a second wireless transceiver coupled to the first wireless transceiver and operable to directly communicate with a first mobile station and a second mobile station, wherein the second wireless transceiver communicates with the first mobile station and the second mobile station according to a local area wireless communication protocol, wherein the first wireless transceiver receives from the base station a first downlink signal intended for the first mobile station and provides the first downlink signal to the second wireless transceiver and wherein the second wireless transceiver receives the first downlink signal and re-transmits the first downlink signal to the first mobile station as a second downlink signal according to the local area wireless communication protocol, and wherein the second transceiver monitors first signal characteristics of the second downlink signal of the first mobile station and monitors second signal characteristics of the second mobile station, and based on the first signal characteristics and the second characteristics, routes information to the first mobile station and the second mobile station, respectively.

In its Final Written Decision in the '555 IPR, the Board grappled with the term **bolded above** in the '555 Patent, specifically “second wireless local area network transceiver.” Indeed, the majority opinion exhaustively detailed in a discussion spanning over 40 pages its construction of that term, its rationale for rejecting both the Petitioner’s and Patent Owner’s constructions, and why in the Board’s view that limitation was found in the prior art. Ex. 1010, pp. 10-53. What was not part of the '555 IPR and what the majority decision never grappled with are the additional limitations of the '794 Patent highlighted in yellow and blue above—namely, the establishment of two separate networks that operate independently according to WAN and LAN protocols. Indeed, the dissenting judge in the '555 IPR, Judge Jeffrey Stephens, succinctly summarized this point as follows:

The overall purpose of the '555 patent is to provide a way to allow communication between two different communication networks, such as between (1) a wireless broadband communication system formed from fixed-site base stations and fixed-site subscriber stations, and (2) a wireless local area network (WLAN) formed with access points and mobile stations. **The fundamental point sidestepped by Petitioner and the majority is that each of these communication systems existed independently and provided for communication among devices located within their respective networks.** There is no indication that in facilitating communication from one network to the other, which is the focus of the '555 patent, their identities as separate networks would be lost. **A defining characteristic of a network is the ability for devices within it to communicate with each other *within the network*.** Thus, although not expressly recited in claim 1 separate from the WLAN transceiver or emphasized in the described embodiments, one of ordinary skill in the art would have

understood that claim 1 requires a WLAN that provides for communication within that network.

Id. at p. 3, dissenting opinion (emphasis added). Unlike the '555 IPR and the '555 Patent, Claim 1 of the '794 Patent expressly claims that the communications in the WAN take place according to a “wide area wireless communication protocol,” and that the communications in the LAN take place according to a “local area wireless communication protocol.” Where Judge Stephens wrote “although not expressly cited in claim 1” of the '555 Patent, the '794 Patent *does expressly recite* two different network protocols wherein the devices communicate with one another.

Thus, the very point that served as the crux of the disagreement between the majority opinion and dissenting opinion in the '555 IPR (whether the LAN transceiver must operate within a network where the devices in the network communicated with one another) is expressly part of the '794 claims. While the Board ultimately found the patent at issue in the '555 IPR unpatentable, the Final Written Decision demonstrates that the Petition here falls short on the '794 Patent.

Lastly, with the regard to the '555 IPR, there can be no dispute that the Board in that IPR never addressed or reached whether Hohnstein disclosed the final limitation of the '794 Patent, where the second transceiver, found in the LAN, “monitors” signal characteristics and “routes information” accordingly. That limitation is simply not present in the claims of the '555 Patent, and the Board therefore never addressed that limitation.

In sum, despite its claims that the '555 IPR supports institution here, the Petitioner fails to highlight the obvious differences. If anything, the '555 IPR demonstrates that the Hohnstein reference does not disclose the additional limitations of the '794 Patent.

D. The Prior Art

1. Palmer

Palmer, U.S. Patent No. 6,556,553, is entitled “Method for Determining When A Communication Device Should Rate Shift or Roam in a Wireless Environment.” Ex. 1004. As its title suggests, Palmer focuses on methods related to rate shifting or roaming. Palmer explains that rate shifting and roaming are necessary, “[f]or example, in a WLAN,” when a “mobile worker . . . travels within a cell or from one cell to another.” *Id.* at 1:53-65. Palmer explains that then-existing protocols for rate shifting and roaming in a LAN were “relatively inflexible,” and “may result in the loss of a network connection.” *Id.* at 2:7-30. To address these issues, Palmer proposed a method that “improves communication by dynamically and flexibly anticipating when a rate shift or roam should occur.” *Id.* at 2:60-65.

Critically, Palmer focuses on a network of LANs connected to a wired network, not a wireless wide area network. Palmer explains that its “communication system **10** includes a central host processor **12** connected to a

wired network 14.” *Id.* at 4:27-28 (emphasis added). “The **wired network 14** has a plurality of access points **16** that are coupled to the **wired network.**” *Id.* at 4:34-36 (emphasis added). Palmer’s WLAN “access point **16** acts as a bridge from the wireless communication [area] defined by its cell **18** to the wired network.” *Id.* at 4:42-44; *see also id.* at 4:64-5:9 (explaining how the system shown in Figure 2 connects mobile devices to a wired network).

The Petitioner identifies what it believes to be a disclosure of a WAN in Palmer, where it passingly refers to the fact that its “wireless communication device may also transition between buildings or comprise part of a wireless wide area network.” *Id.* at 5:17-19. But this disclosure relates to the mobile devices’ ability to communicate directly with a wireless wide area network. Palmer nowhere discloses connecting a LAN to a wireless wide area network.

2. Hohnstein

Hohnstein describes what is known as a conventional “wireless mesh network.” Mesh networks were known in the art long before the ’794 Patent.

Wireless mesh networks are single-layer, modular networks that lack the architectural designs of cellular networks utilizing base transceiver stations. In Hohnstein, each distribution point 40 connects directly with one or more other distribution points 40, with each direct connection made via a wired connection 48 or a point-to-point radio link 46. While these interconnections may be influenced

by geographical location, there are no predefined architectural rules for how to interconnect them, and numerous combinations are possible. Each component is an ATM/IP switch, with operation differing only based on what role each individual switch plays (at that time) within the overall mesh network:

Distribution points 40 are always peers at the IP and ATM layer, while access points 22 are clients of distribution points 40. As such, ***each ATM/IP switch 300 functions as a server when operating as distribution point 40 and as a client when operating as access point 22.***

Ex. 1005, 11:15-20 (emphasis added). Such an architecture is referred to as a “mesh” network, and it was fundamentally different from cellular network architectures at the time of the ’794 Patent.

Unlike Hohnstein, the ’794 Patent has two distinct networks that importantly operate according to different protocols. For example, the base station and the wireless transceiver of the ’794 Patent would never be able to swap roles given their different structure, functions, and operation. Mesh networks like Hohnstein work in the opposite way because the system adopts redundancy in both structure and function, instead of the specialization found in the ’794 Patent.

III. ARGUMENT

A. **Grounds 1, 3-5: Palmer Fails to Disclose Critical Elements of the '794 Patent, Including Wide Area and Local Area Network Protocols and the Second Transceiver Monitoring Signal Characteristics**

Ground 1 relies exclusively on Palmer; Grounds 3-5 rely primarily on Palmer. All these Grounds fail because Palmer does not teach the claimed “base station” that communicates with a “wide area wireless communication protocol.” In addition, Palmer has no disclosure that the second transceiver or LAN transceiver monitors signal characteristics of the LAN devices and routes information accordingly.

1. **Ground 1: Palmer Cannot Anticipate the Claims**

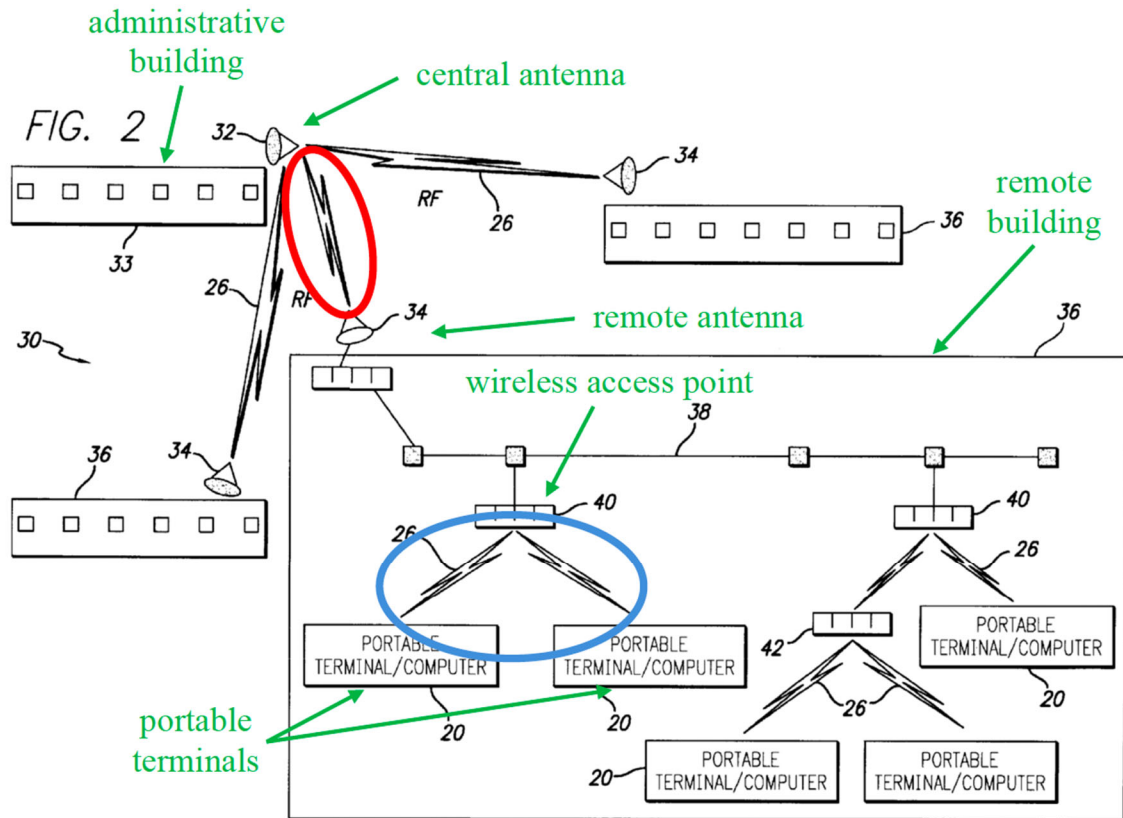
Anticipation requires that each and every element of a claim be disclosed in a single reference, arranged as in the claim. *See Silicon Graphics, Inc. v. ATI Techs., Inc.*, 607 F.3d 784, 796 (Fed. Cir. 2010); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001) (“The invention must have been known to the art in the detail of the claim; that is, all of the elements and limitations of the claim must be shown in a single prior reference, arranged as in the claim.”). Ground 1 of the Petition contends that Palmer anticipates Claims 1-4 and Claim 6 of the '794 Patent. But Palmer cannot anticipate because it's missing at least two elements of independent Claims 1 and 6: two transceivers that function in a WAN and LAN, respectively, and that operate according to specific protocols,

and the second transceiver (or LAN transceiver) that monitors signal characteristics of the mobile stations and routes information accordingly.

The Petitioner's evidence that these elements are in Palmer is flat out missing, despite its attempt to obfuscate the issue.

a. Palmer Does Not Disclose a Base Station that Communicates According to a Wide Area Wireless Communication Protocol

All claims of the '794 Patent require a first wireless transceiver that is “operable to communicate with a base station, wherein the base station communicates with the first wireless transceiver and a plurality of other wireless communication devices according to a wide area wireless communication protocol.” (10:18-22 (Claim 1); 10:59-63 (Claim 6)). For this limitation, the Petitioner argues that “Palmer's system includes a central antenna 32 provided on a central administration building 33 that communicates wirelessly with remote antennas 34 in various remote buildings.” Pet. at 11. The Petitioner provides the following annotation of Palmer's Figure 2, and argues that central antenna 32 satisfies the base station limitations:



Id. at 12. But the Petitioner cites no evidence that “central antenna 32” communicates according to wide area wireless communication protocols because it does not. The “central antenna 32” merely serves as a wireless conduit connecting the “remote antenna 34” to a wired network—central antenna 32 connects “to a **wired network** (not shown) within the administration building 33.” Ex. 1004, 5:4-9 (emphasis added). Thus, the fundamental infrastructure Palmer discloses has a wireless transceiver connected to a wired network; it nowhere contemplates the cellular broadband “backhaul” that is central to the ’794 Patent.

Unable to locate any disclosure in Palmer that “central antenna 32” operates according to a wide area wireless communication protocol, the Petitioner first

argues that geography alone should suffice—citing Palmer’s disclosure that its system “could span an entire ‘city.’” Pet. at 19. But the Challenged Claims plainly require more. By arguing that geographic scope alone should suffice, the Petitioner improperly reads out the “protocol” limitation. The law does not make allowances for an allegedly anticipating reference that has missing elements. *Silicon Graphics, Inc.*, 607 F.3d at 796 (anticipation case must show that “a single prior art reference discloses each and every element of a claimed invention”).

The Petitioner next asserts that Palmer “refers to its invention incorporating ‘the use of industry standard network protocols,’” and argues that this would include cellular protocols. Pet. at 19 (emphasis omitted). But the relevant section in Palmer **disparages** the existing “industry standard network protocols,” and explains instead how its method differs from—and improves upon—those protocols. The relevant paragraph is worth quoting in its entirety:

Accordingly, it would be desirable to provide a method for determining when a communication device should rate shift or roam in a wireless environment. The method would improve communication connections and performance by reducing the number of required retransmissions, offer an optimum bandwidth, and faster response time. **The method would further reduce network connection losses due to the use of industry standard network protocols** by the wireless media. Furthermore, the method would be flexible and anticipate the rate shift and roam requirements, even as the communication environment evolves.

Ex. 1004, 2:47-57 (emphasis added). In context, Palmer discusses how its method would reduce the “network connection losses” that occur when using the relatively

ineffective “industry standard network protocols.” Contrary to the Petitioner’s mischaracterization, the relevant language in Palmer explicitly teaches away from using wireless WAN protocols.

b. Palmer Does Not Disclose a LAN Transceiver that Monitors Signal Characteristics and Routes Information Accordingly

The Challenged Claims all require a “second transceiver” that is “operable to directly communicate” with a first and second mobile station “according to a local area wireless communication protocol,” monitors “signal characteristics” of the LAN devices and, “based on” those characteristics, “routes information to the first mobile station and the second mobile station.” (10:23-29, 10:38-44 (Claim 1)); and 10:64-11:3, 11:14-22 (Claim 6)) Palmer does not disclose this limitation as well. The Petitioner asserts that Palmer’s “wireless access point 40” is the “second wireless transceiver” of the ’794 Patent. Pet. at 20. Palmer’s wireless access point 40 is circled in blue in the Petitioner’s annotated version of Figure 2. *Id.* at 15.

But Palmer does not include any disclosure that access point 40 monitors signal characteristics of the mobile devices and routes information based on monitoring those signal characteristics. This simply is not disclosed in Palmer. Once again, the Petitioner obfuscates by citing to a passage in Palmer that discloses a “predictive method” as shown in Figure 3. *See id.* at 24-25. But

Figure 3 of Palmer says nothing at all about access point 40 monitoring signal characteristics or include a general disclosure that addresses the limitation.

To the contrary, the passage that immediately precedes the long portion excerpted by the Petitioner explains that other parts of Palmer’s system—not access point 40—perform the functions that the Petitioner alleges meet the monitoring signal characteristics limitations. Specifically, Palmer refers to examining the RF connection to the mobile devices, particularly when that signal starts to degrade, and details: “[t]his determination could be made by the wireless communication device 20 having a processor and a memory, with the processor executing a stored program for carrying out the method steps discussed below. Alternatively, the method steps may be performed centrally, for example, by the network or a central host processor.” Ex. 1004, 5:19-36 (emphases added). Thus, Palmer discloses that the “predictive method” that the Petitioner claims is “monitoring signal characteristics” is done either by the mobile station 20 in Palmer, or by the central network. Again, no reference is made to what the Petitioner identifies as its second transceiver or the LAN transceiver, which is access point 40. Anticipation requires more than loose cites to various parts of Palmer that do not support a specific disclosure of the claimed element.

The Petitioner tries to somehow “glob on” access point 40 as being part of the “network” when it claims: “Palmer’s access point 40 performs such

monitoring, as Palmer describes monitoring ‘may be performed centrally, for example, by the network’ (*id.*, 5:34-36).” Pet. at 25 (emphasis and footnote omitted). But the Petitioner fails to mention that the “network” being referred to in the relevant section in Palmer is “wired network **34**.” *See* Ex. 1004, 5:12-13. Access points 40 are not part of the “wired network 34.” Palmer also notes that this determination could be made by the “central host processor,” *id.* at 5:35-36, which Palmer explains is “connected to a wired network **14**” *id.* at 4:27-28. Never is access point 40 referred to as part of the central “network” and indeed the “wired network (34)” is part of the wired WAN, not the wireless LAN in Palmer. Thus, the Petitioner’s alleged second transceiver (access point 40) does not monitor signal characteristics at all.

Even assuming that the Petitioner has correctly identified a LAN in Palmer, and that access point 40 satisfies the second transceiver limitation, neither assumption GAS agrees with, the access point does not “monitor signal characteristics” and then route information accordingly. The Petitioner’s reliance on its expert to supply the missing claim element under the guise of obviousness cannot suffice for anticipation as well. *See* Pet. at 25-26 (“And to the extent the Board disagrees that Palmer’s access point 40 performs the monitoring, it would have nonetheless been obvious to a POSA to select the access point 40 to perform the monitoring, since it directly communicates with the portable terminals 20. Ex.

1002, ¶ 96.”). *See Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1473 (Fed. Cir. 1997) (The “knowledge” of a skilled artisan “does not grant a license to read into the prior art reference teachings that are not there. An expert’s conclusory testimony, unsupported by the documentary evidence, cannot supplant the requirement of anticipatory disclosure in the prior art reference itself.”).

2. Grounds 3-5: Palmer (Along with Mahany and/or Agrawal) Does Not Render Obvious the Claims of the ’794 Patent

The Petitioner offers a “potpourri” of additional Grounds to shore up where Palmer falls short. For reference, Petitioner seeks to add the following references, in combination with Palmer:

- **Ground 3:** adds Mahany for purposes of showing (a) a WAN and LAN structure, (b) a “base station,” (c) a first wireless transceiver that uses “wide area wireless communication protocols,” and (d) the first wireless transceiver is integrated with the second wireless transceiver as an integrated device (Claim 5);
- **Ground 4:** adds Agrawal to argue disclosure of the second transceiver monitoring signal characteristics of the mobile stations and routing information;
- **Ground 5:** adds both Mahany and Agrawal to Palmer on obviousness grounds on Claim 5, which requires that the first transceiver and second transceiver are part of an integrated device.

The common thread throughout these combinations is the “ad hoc” nature by which Petitioner reads disparate teachings that are loosely present, or not really present at all in the references, and *ipso facto* arguments that the person of ordinary skill would combine these elements with Palmer.

a. Ground 3: Palmer + Mahany

First, Mahany expressly disparages WANs. Specifically, Mahany writes the following about WANs:

To communicate with such peripheral devices, portable computers have been adapted to use RF (Radio Frequency) and infrared communication. Such configurations, however, do not always provide for efficient communication. For example, a portable computer device may be mounted in a delivery truck and a driver may desire to transmit data to, or receive data from, a host computer or peripheral device at a remote warehouse location. **While permitting such transmissions, wide area networks (WANs) only provide point-to-point communications, use a narrow bandwidth, and often exhibit heavy communication traffic. Moreover, WANs require relatively higher transmission power—a negative factor in the ever increasing need for power savings associated with portable transceiving devices. As a result, WANs are generally slow and expensive, and simply do not provide an effective overall solution.**

Ex. 1006, 3:6-20 (emphasis added). Mahany goes on to characterize WANs as being “relatively expensive” and having “delayed services.” *Id.* at 3:40-43. In the face of Mahany’s teaching away from WANs, the Petitioner argues that the person of ordinary skill would have found it obvious to “configure Palmer’s central antenna 32 as a ‘base station’ (e.g., using a cellular network) based on Mahany’s teachings, inasmuch as base-station topology was already well established and

commonly utilized in the telecommunications industry.” Pet. at 71. Petitioner’s argument must fail. *See Rembrandt Wireless Techs., LP v. Samsung Elecs. Co.*, 853 F.3d 1370, 1379 (Fed. Cir. 2017) (“Even if Upender does not teach away, its statements regarding users’ preferences are relevant to a finding regarding whether a skilled artisan would be motivated to combine”) (quotation omitted); *Leo Pharm. Prods. v. Rea*, 726 F.3d 1346, 1355 (Fed. Cir. 2013) (“Turi’s guidance actually teaches away from the Board’s posited combination or, at a minimum, provides no evidence of motivation to combine Turi with those prior solvents.”).

Other than being “known,” the Petitioner provides no specific basis why the ordinary artisan would look to Mahany when in fact it disparages WANs, which the base station would be a part of. First, the person of ordinary skill in the art would not make a “design choice” to implement Mahany’s “base station topology” when Mahany itself discourages WANs. In *Fluor Tec, Corp. v. Kappos*, for example, the Federal Circuit affirmed the USPTO’s finding that it would *not* have been an obvious design choice to modify a prior art configuration to include an expander, as the challenged claims required, because the prior art reference expressly taught to *not* use an expander in a “low-pressure” configuration, such as that in the challenged claims. 499 F. App’x 35, 41 (Fed. Cir. 2012). The court also found that, because the prior art reference disclosed two different configurations, one designed for high-pressure feed gas and one designed for low-pressure feed

gas, it would not have been obvious to modify the low-pressure configuration to accommodate high-pressure gas by adding an expander because “a skilled artisan desiring to utilize a high-pressure feed gas would have been directed to follow the alternative systems disclosed in the [prior art] that are specifically designed to accommodate a high-pressure feed gas, rather than attempt to modify the [prior art] low-pressure configuration.” *Id.* at 42.

As in *Fluor Tec*, Mahany teaches that WANs require “relatively higher transmission power—a negative factor” and “are generally slow and expensive, and simply do not provide an effective overall solution.” Ex. 1006, 3:6-20. Thus, taking Mahany’s “base station” topology and seeking to add it to Palmer would not be considered a design choice that one of ordinary skill in the art would employ. *See id.*; *In re Gal*, 980 F.2d 717, 719-20 (Fed. Cir. 1992) (different structure to achieve different purpose was not an obvious design choice).

Second, to carry its burden of proving obviousness, the Petitioner has to show, without the improper use of hindsight, that it would have been obvious to use the base station in Mahany in Palmer, when Palmer itself does not focus on a WAN and does not disclose a “base station” to begin with. *See Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1360 (Fed. Cir. 2012); *In re Hedges*, 783 F.2d 1038, 1041 (Fed. Cir. 1986) (“[T]he prior art as a whole must be considered. The teachings are to be viewed as they would have been viewed by one

of ordinary skill.”). The “base station” in Mahany does not satisfy the “base station” of the ’794 Patent that requires: (a) the “base station” have a transceiver within a cellular network that communicates with an external network, (b) transmits forward channel broadband signals from the external network to a plurality of devices, and (c) receives reverse channel broadband signals from the plurality of devices to transmit back to the external network.

The ’794 Patent describes the transceiver base station 12 being set up and coupled to “a communication network 32 such as a public-switched telephonic network.” (7:50-56) The base station includes a radio link “upon which forward link channels 18 and reverse link channels 22” permit broadband communications. (7:31-33) Further, Claim 1 of the ’794 Patent expressly claims that the base station “communicates with the first wireless transceiver and a plurality of other wireless communication devices.” (10:19-21)

The Petitioner points to Figure 45 of Mahany “describing antenna tower 4523 for WAN” as the teaching of its “base station,” but a mere antenna does not teach a base station. Also, Figure 45 in Mahany is expressly described as a “retail store” environment, and specifically depicts an inventory control system that operates as a LAN. Ex. 1006, 8:10-23. Similarly, the Petitioner cites to Figures 1b-1c “base station[s]” in LAN systems. Pet. at 71. The Petitioner’s citations to Mahany do not show a “base station” as described in the ’794 Patent, and one in

which the “base station” includes the backbone for establishing the “wide area wireless communication protocols.” Yet, that is another aspect of Mahany that the Petitioner simply cites as being disclosed. *Id.* at 71-72.

Both Mahany and Palmer describe WAN connections as a less-preferable alternative that is used when out of range of LAN connections (their inventions). Thus, neither teaches a “wide area wireless communication protocol” as utilized by a “base station,” and therefore Petitioner invoking Mahany’s vague references to “protocols” cannot suffice when they are nothing more than picking out a claim element to demonstrate that it was “known” or in the art. The Petitioner’s hindsight-driven arguments provide no credible explanation of how one would accomplish the proposed modification, or why a person of skill would expect a positive result. *See Intelligent Bio-Sys. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (emphasizing the “*utmost importance*” of petitioners introducing “*with particularity*” the rationale and evidence to “make their case *in their petition* to institute” (emphases added) (quoting 35 U.S.C. § 312(a)(3))).

Petitioner’s argument is flawed because the test is not whether one can pick off a single claimed element and argue that element standing alone is obvious. *Sanofi-Synthelabo v. Apotex, Inc.*, 550 F.3d 1075, 1086 (Fed. Cir. 2008). Instead, Section 103 expressly demands an inquiry into whether “the claimed invention *as a whole* would have been obvious.” 35 U.S.C. § 103 (emphasis added); *Sanofi-*

Synthelabo, 550 F.3d at 1086 (“The determination of obviousness is made with respect to the subject matter as a whole, not separate pieces of the claim.”).

The WAN and LAN “protocols” are fundamental to the ’794 Patent and their respective networks. To a person of ordinary skill in the art, Claim 1 of the ’794 Patent establishes a specific architecture, with a specific design and protocols by which the architecture operates. The fact that the Petitioner can reach into various references and identify the various pieces of the claimed architecture cannot suffice, particularly with regard to the “protocols” limitation that lie at the heart of the ’794 Patent. The Federal Circuit has cautioned that, in such circumstances, “our search for a reasoned basis for resort to common sense must be searching.” *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1363 (Fed. Cir. 2016). Moreover, “this is particularly true where the missing limitation goes to the heart of an invention.” *Id.* The Petitioner’s thin obviousness arguments are lacking, particularly when viewed through that lens.

According to the Petitioner, the “POSA would have found it obvious to utilize WLAN and WWAN protocols based on Mahany’s teachings, especially given Palmer explicitly contemplates its communication system covering a set of buildings or spanning an entire “city.” Pet. at 73. But this assertion alone does not provide the necessary “articulated reasoning” and “rational underpinning” for changing what Palmer discloses, which is a LAN architecture, based on a scant

reference to a system that could cover a city and no discussion in Palmer of seeking to establish a WAN architecture with protocols for that network in search of a solution to a problem. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Again, Palmer does not favor WANs in the first instance—it is about LANs—and Palmer does not identify in any regard that it was seeking to improve on a WAN by changing or modifying anything disclosed. In sum, Palmer makes vague references to its system covering a wider area, but that is not enough to combine elements of Mahany to Palmer.

With regard to Petitioner’s arguments on Claim 5 (*see* Pet. at 73-75), it states “[t]o the extent Palmer does not suggest to a POSA that the first and second wireless transceivers are part of an integrated device, Mahany discloses and/or suggests this limitation.” *Id.* at 73. But a person of ordinary skill in the art would easily recognize that Palmer does not suggest that the first wireless transceiver 34 and the second wireless transceiver 40 would be an integrated device, because they are distinct components separated by some distance on a wireless local area network 38. Indeed, Petitioner offers no reason that a person of ordinary skill would rearrange Palmer’s access points 40 and combine them with the remote antennas 34 in Palmer that are displaced “remotely” throughout a geographical area such as college campus—there is no reason, other than Petitioner’s hindsight.

Petitioner's reference to Mahany does not fix this deficiency in any way, because Mahany is about a different device. Petitioner states "Mahany describes a communications system involving WANs and LANs, including access devices that route and relay data throughout the network. Ex. 1006, 8:61-9:17, 4:7-18, 8:61-9:3, 10:48-58, 25:55-62, 43:59-62." *Id.* It is worth noting that none of these citations to Mahany mention "WAN" or describe a WAN. Mahany's written description spans 81 columns and mentions WAN as a less desirable and more costly alternative to a LAN when the distance to be communicated is too great for a LAN to work. See *supra*, at 25.

Finally, Mahany never shows data transfer between a WAN network and a LAN network, especially via a specific device having both types of transceivers. For this reason, when Petitioner points specifically to Mahany's access device 4801, which per Mahany's Fig. 48 includes a LAN transceiver circuit and a WAN transceiver circuit with dotted-line boxes (Pet. at 73-74, Ex. 1006, Fig. 48), the Figure simply reinforces Mahany's description that an access device may use a less desirable WAN link when it is unable to use a more desirable LAN link. Ex. 1006, 75:8-20. Even if Mahany does show an optional WAN transceiver alongside a LAN transceiver in one device, Mahany does not disclose Claim 5 of the '794 Patent, either alone or in combination with Palmer.

b. Ground 4: Palmer + Agrawal

The Petitioner adds Agrawal because Palmer fails to disclose that the second transceiver in the local area network plays an important role in monitoring “signal characteristics” and based on those “signal characteristics” the transceiver “routes” information to the mobile stations. (10:38-44) The Petitioner claims that Agrawal’s system “monitors the quality of the wireless link between a base station 13 and a mobile unit 14—a receiver monitors signal characteristics such as received signal strength, word-error-rate (WER), and noise or interference level, and a transmitter uses such monitored signal characteristics to control its transmission.” Pet. at 76.

First, Agrawal has nothing to do with WANs or LANs and their respective architectures, and apt to its title it discusses “Adaptive Power Control and Coding Scheme for Mobile Radio Systems.” Second, Agrawal continually refers to “receivers,” which is fundamentally different than a “transceiver” because the former simply receives signals, while the latter both receives and transmits signals. Moreover, the second transceiver or LAN transceiver in the ’794 Patent has a specific role and function by a plain reading of the claim, namely, to monitor the signal characteristics of the LAN devices and route information accordingly. The fact that a “receiver” in Agrawal, which is not part of a LAN or any specific network architecture, monitors some signal characteristics is of no moment. Even

if a person of ordinary skill in the art were to combine this “receiver” with Palmer, it would not meet the claimed limitation.

Specifically, the Petitioner goes on to compound its mistake arguing that in Agrawal “the mobile unit monitors the WER” and sends such information to the “base station [to] control[] transmissions accordingly.” *Id.* at 77. If anything, this disclosure highlights how the claimed second transceiver in the ’794 Patent is different. In Claim 1, the “mobile station” does not monitor the signal characteristics; the “mobile station” never sends such information to the “base station;” and, the “base station” does not control transmissions based on this function. Indeed, the second transceiver or LAN transceiver monitors signal characteristics and routes information. Never does the second transceiver communicate with the “base station” about the signal characteristics and let the “base station” direct transmissions. Indeed, the Petitioner goes so far as to identify the “base station” in Agrawal as the claimed “transceiver.” *Id.* The Petitioner cannot equate what the “base station” in Agrawal is doing to meet the second transceiver in the ’794 Patent, and such an argument should defeat institution on this Ground.

Lastly, the Petitioner does not even allege that Agrawal monitors signal characteristics, and “based” on monitoring signal characteristics routes information accordingly. The specific claim limitation provides:

wherein the second transceiver monitors first signal characteristics of the second downlink signal of the first mobile station and monitors second signal characteristics of the second mobile station, **and based on the first signal characteristics and the second characteristics, routes information** to the first mobile station and the second mobile station, respectively.

(10:38-44) (emphasis added) Indeed, the very purpose of the claimed second transceiver monitoring the signal characteristics is to “route information” and without such a disclosure, Agrawal falls short. Because the Petition does not allege that Agrawal provides such a teaching, combining with Palmer would not meet the claim and Ground 4 fails. Further, the PTAB cannot fill in the blanks in the legal framework of the Petitioner’s faulty argument. *In re Magnum Oil Tools Int’l Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) (“[I]t is still a system that is predicated on a petition followed by a trial in which the petitioner bears the burden of proof. Given that framework, we find no support for the PTO’s position that the Board is free to adopt arguments on behalf of petitioners that could have been, but were not, raised by the petitioner during an IPR.”).

c. Ground 5: Palmer + Agrawal + Mahany

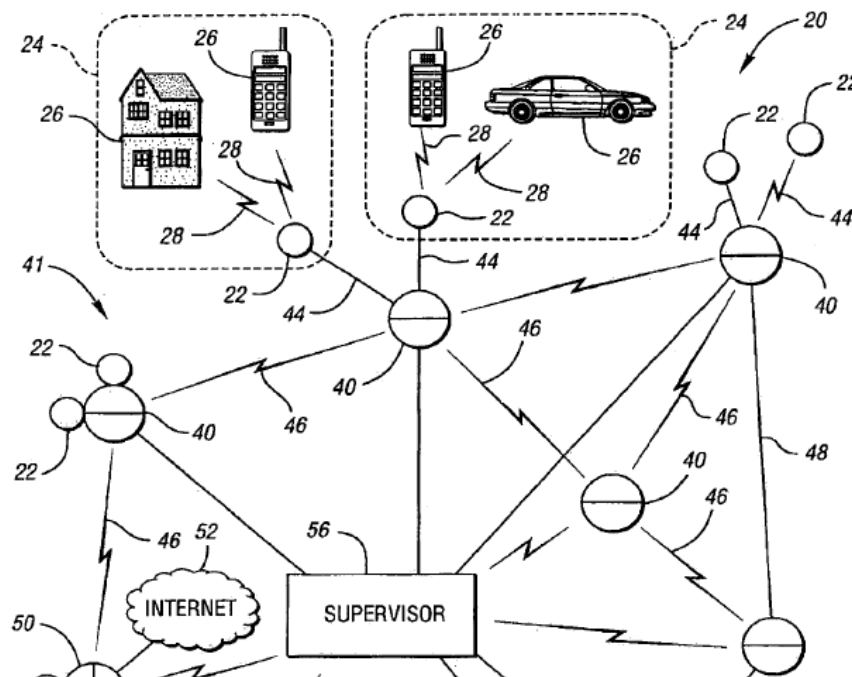
For the reasons stated *supra*, at 17-25, for Grounds 1 and 3, Ground 4 fails.

B. Ground 2: Petitioner’s Reliance on Hohnstein and the ’555 IPR Is Misplaced

The Petitioner’s starting premise for Ground 2 is that the PTAB already found “similar claims” unpatentable based on Hohnstein. Pet. at 1. But the ’794

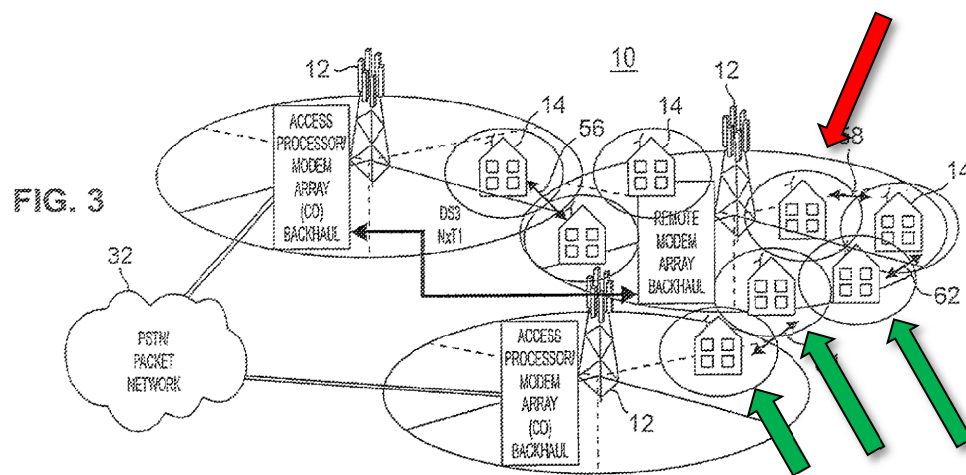
Patent has distinctly different claim limitations than those at issue in the '555 IPR, and the PTAB's decision and reasoning demonstrates this IPR is different.

Hohnstein discloses a “mesh” network that broadcasts a wireless signal through a series of stations—each receiving, transmitting, and potentially boosting the same type of wireless signal. The mesh network in Hohnstein is quite different than in the '794 Patent because in Hohnstein, it utilizes a single wireless technology across the network and transmits the signal from base stations 40 to access points 22, which provide a network for multiple devices in the coverage area of the access points 22, as shown below.



Ex. 1005, Fig. 1. The '794 Patent, on the other hand, uses two different wireless technologies: (1) a “cellular backhaul” wireless signal that is transmitted in a WAN by a base station and operates according to a WAN protocol, and (2) a Wi-Fi

wireless signal that is transmitted in a LAN by a wireless communication device, according to a LAN protocol. Thus, the '794 Patent provides cellular WAN (shown below by red arrow) and LAN coverage areas (Wi-Fi LAN) (shown below by green arrows). The WAN signal thus connects devices in the Wi-Fi LAN networks to a wider network (e.g., a cellular broadband network).



'794 Patent, Fig. 3 Therefore, Hohnstein provides for a one-layer “mesh” network, while the '794 Patent claims two distinct WAN and LAN networks.

1. The '794 Patent Includes Additional Elements Missing from the '555 Patent and from Hohnstein

The central issue in the '555 IPR was whether the wireless communication device, and specifically the “wireless local area network *transceiver*,” required a “wireless local area *network*.” Patent Owner asserted that a LAN transceiver must operate according to certain established network protocols. *See* Ex. 1010 at 19. The Board rejected Patent Owner’s construction of a LAN transceiver because, unlike

the '794 Patent, the '555 Patent “does not [] require a wireless local area *network*, but rather recites a particular type of *transceiver*.” *Id.* at 14 (emphases added).

Accordingly, the Board concluded that “the features of the network are not imported into the definition of the term transceiver.” *Id.* Based on this construction, the Board found that Hohnstein anticipated the '555 Patent.

The majority decision in the '555 IPR thus specifically avoided whether Hohnstein provided a local area network. Judge Stephens, dissenting, criticized the majority for this very reason, writing: “[T]he fundamental point sidestepped by the Petitioner and the majority is that each of these communication systems existed independently and provided for communication among devices located within their respective networks.” *Id.*, *Dissent* at 3.

This IPR presents the very issue the majority in the '555 IPR avoided. The independent claims of the '794 Patent explicitly require a second transceiver that communicates “according to a local area wireless communication protocol.” The '794 Patent claims also require another transceiver receiving communications “according to a wide area wireless communication protocol.” The Petitioner elides these critical differences between the claims of the '794 and '555 Patents, ignoring that the '794 Patent explicitly requires the precise feature whose absence from the '555 Patent formed the primary basis for the Board’s invalidation.

The Petitioner also ignores that, unlike the '555 Patent, the independent claims of the '794 Patent require the LAN transceiver to “monitor signal characteristics” of the downlink signals provided to the mobile stations and, “based on” those characteristics, “route[] information to the first mobile station and the second mobile station, respectively.” These limitations are absent from the '555 Patent, so the Board has never previously considered whether Hohnstein includes a LAN transceiver that monitors signal characteristics of the LAN devices and routes information accordingly. As discussed below, it does not.

2. Hohnstein Lacks Two Different Networks Operating According to Different Protocols, as Required by All the Challenged Claims of the '794 Patent.

The Petitioner incorrectly asserts that Hohnstein is a “communication system providing connectivity between a WWAN and a WLAN,” characterizing Hohnstein’s “distribution points 40” as the WAN and its “access points 22” as the LAN. Pet. at 37. That mischaracterizes the reference. As discussed above, Hohnstein is a single-layer, wireless mesh network. It nowhere discloses the two-layer network architecture at the heart of the '794 Patent.

Contrary to the Petitioner’s mischaracterization, the distribution points 40 and access points 22 in Hohnstein are essentially the same structure with the same functions. Each component is an ATM/IP switch, and each can act as a “server” or “client” within the overall mesh network:

Distribution points **40** are always peers at the IP and ATM layer, while access points **22** are clients of distribution points **40**. As such, *each ATM/IP switch 300 functions as a server when operating as distribution point 40 and as a client when operating as access point 22.*

Ex. 1005, 11:15-20 (emphasis added). Hohnstein's wireless mesh network is unlike the '794 Patent that defines two distinct WAN and LAN networks.

Unlike the two-layer network described in the '794 Patent, Hohnstein's distribution points **40** (which Petitioner identifies as the WAN transceivers) and access points **22** (which Petitioner identifies as the LAN transceivers) both provide the same basic function. Petitioner barely grapples with the WAN limitations of the '794 Patent. Petitioner identifies the "base station" in Hohnstein as "distribution point 40." Pet. at 49. But Hohnstein's distribution point 40 does not operate like the base station disclosed in the '794 Patent. Most importantly, Petitioner identifies no evidence that any "distribution point **40**" operates according to a "wide area wireless communication protocol," as required by the '794 Patent. To the contrary, Hohnstein describes "distribution point **40**" as simply one node in its local network. Each "distribution point **40**" is "in communication with at least one additional distribution point **40**." Ex. 1005, 5:52-54. Each distribution point "may route packets *within* distribution point network **41**." *Id.* at 5:57-58 (emphasis added). The "distribution point **40**" may receive "an information packet" from other nodes within the network, "or from an external communication system." *Id.*

at 6:34-37. But Hohnstein provides no disclosure of what this “external communication system” entails. Even if that system included a wireless WAN, the Petitioner fails to establish that “distribution point **40**” *transmits* signals according to a WAN protocol, as required for the “base station” of the ’794 Patent. To the contrary, to the extent that “distribution point **40**” transmits according to any “protocols,” they would be the same protocols that govern communications of Hohnstein’s access points **22**.

The Petitioner largely ignores this fundamental difference between the “base station” of the ’794 Patent and the distribution point 40 of Hohnstein. The Petitioner’s limited attempt to square these elements asserts that “[t]he communications between the distribution point **40** and the multiple access points **22** via wireless link 42 involve a wide area communication protocol, as Hohnstein describes such communications as ‘backhaul communication’ *that includes communication over the Internet*, which involves wide area networks and communication protocols.” Pet. at 51 (emphasis added). But the “communication over the Internet” the Petitioner references are effected by “[s]pecial distribution points, such as gateway **50**,” not distribution point **40**. Ex. 1005 at 6:57-64. The Petitioner’s dubious claim that “the Internet” necessarily invokes WAN protocols is thus utterly beside the point; distribution point **40** (which Petitioner identifies as

the “base station”) does not communicate directly with the Internet and would have no reason to utilize any associated WAN protocols.

The Petitioner’s only other support for its assertion that distribution point **40** operates according to WAN protocols fares no better. Petitioner cites to column 16:15-21, which provides “[t]he frequencies and formats for transmission are based on regulatory requirements.” This general reference to transmissions “based on regulatory requirements” provides no support for the Petitioner’s assertion that Hohnstein’s distribution point **40** operates according to a WAN protocol.

Unlike the distribution points of Hohnstein, the “base stations” of the ’794 Patent communicate with “a plurality of [] wireless communication devices according to a wide area wireless communication protocol.” (Claims 1 and 6) The specification explains that these base stations are part of a larger “communication system” that “provides for radio communications” to multiple base stations. (7:27-29) Each base station transmits forward channel broadband signals from the external network to a plurality of devices and receives reverse channel broadband signals from the plurality of devices to transmit back to the external network. (7:31-35) The base stations of the ’794 Patent thus utilize a wireless WAN to connect a plurality of wireless access devices to a wide area network. Hohnstein’s distribution point **40** does not serve this function.

3. Hohnstein Does Not Disclose a Wireless LAN that Monitors Signal Characteristics and Routes Information Accordingly

With regard to the final limitation of Claim 1 of the '794 Patent, the Petitioner spends little time arguing that Hohnstein discloses a second transceiver that monitors signal characteristics of the mobile stations and routes information accordingly. In just one paragraph, the Petitioner cites Hohnstein's disclosure that "a quality error bit rate is established for each subscriber unit **26**." Pet. at 58. But importantly it's the *subscriber unit* in Hohnstein that monitors the signal transmitted by the access point. Ex. 1005, 5:22-29 ("Control of the information rate may be achieved by having *subscriber unit 26 monitor a signaling channel* transmitted by access point **22** for each coverage area **24**. This signaling channel informs subscriber unit **26** when to transmit information, how much information to transmit, the information transmission rate and the like. The signaling channel may be controlled by a central supervisor, described below.") (emphasis added).

The Petitioner does not and cannot claim in the Petition that its second transceiver (access point **22**) monitors signal characteristics and routes information accordingly because Hohnstein discloses that the subscriber unit monitors the signal. For this reason, the Petitioner cites to Palmer as allegedly disclosing this limitation (*see* Pet. at 59), but for the reasons discussed *supra*, at 23-24, this argument fails.

Finally, the Petitioner leans on the '555 IPR again for its finding that Hohnstein disclosed a second LAN transceiver and that this transceiver determined signal characteristics of a first computing device and transmitted the first signal to that same device based on the signal characteristics. Pet. at 59-60. But, as illustrated above, the final limitation of Claim 1 of the '555 Patent differs from the final limitation in Claim 1 of the '794 Patent. Among other things, the '555 Patent lacks the “routes information” limitation of the '794 Patent, as well as the requirement that it monitor signal characteristics of both the first and second mobile stations. The Petitioner’s reliance on the Final Written Decision in the '555 IPR is misplaced.³

IV. Institution of Ground 6 Should Be Denied Because Verizon Does Not Have a Reasonable Likelihood of Success

In Ground 6, Verizon adds the Agrawal reference to Hohnstein for its disclosure of the second transceiver monitoring signal characteristics and routing

³ Patent Owner does not address Petitioner’s arguments in Ground 2 on Claim 5 of the '794 Patent because the Petition wholly fails to describe how Hohnstein discloses the purported first and second transceivers in Hohnstein as an “integrated device,” or any rationale why a person of ordinary skill in the art would have found it obvious to modify Hohnstein accordingly. *See* Pet. at 64-65.

information. For the reasons stated *supra*, at 34-35, 43, the Board should deny institution.

V. The Board Should Deny Institution Under *Fintiv*, 35 U.S.C. § 314(d)

Discretionary denial is compelling under the *Fintiv* analysis pursuant to 35 U.S.C. § 314(d). The *Fintiv* factors are:

- (1) whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
- (2) proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
- (3) investment in the parallel proceeding by the court and the parties;
- (4) overlap between issues raised in the petition and in the parallel proceeding;
- (5) whether the petitioner and the defendant in the parallel proceeding are the same party; and,
- (6) other circumstances that impact the Board’s exercise of discretion, including the merits.

Apple, Inc. v. Fintiv, Inc., IPR2020-00019, at 6 (PTAB Mar. 20, 2020) (Paper 11) (precedential). These factors weigh in favor of denying institution.

First, General Access has asserted the ’794 Patent against Verizon in litigation pending in the United States District Court for the Eastern District of Texas, *General Access Solutions Ltd. v. Cellco Partnership d/b/a Verizon Wireless*, Case No. 2-22-cv-00394 (the “Related Litigation”). There is little chance that the district court will stay the case in the event that the Board institutes because the

Related Litigation will be tried and reduced to a final judgment before any Final Written Decision.

Second, the five-year average median time from filing to trial in the Eastern District of Texas is nineteen months, *see* Ex. ___, U.S. District Court – Judicial Caseload Profile, at 35, and the Complaint against Verizon was filed in October 2022, leading to an assumed trial date of May 2024. Consistent with that estimate, the district court has set a trial date for June 2024. *See* First Amended Docket Control Order, ECF No. 55 at 1, *General Access Solutions, Ltd. v. Cellco Partnership D/B/A Verizon Wireless, et al.*, Case No. 22-cv-00394 (May 25, 2023 E.D. Tex.). If institution is granted in this IPR, a Final Written Decision would not be expected until November 2024, which is approximately five to six months after trial. This factor weighs in favor of denial. *See Roku, Inc. v. IOENGINE, LLC*, IPR2022-01551, at 10-11 (PTAB May 5, 2023) (Paper 11); *Samsung Electronics Co., Ltd. v. California Institute of Technology*, IPR2023-00133, at 14 (PTAB May 04, 2023) (Paper 10).

Third, Verizon presents no *Sotera* stipulation with its Petition, and instead relies on “compelling merits” for institution. Pet. at 83; *cf. Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, at 18-19 (PTAB Dec. 1, 2020) (Paper 12) (precedential in relevant part). But, as detailed above, there are no “compelling merits” because Verizon’s asserted grounds for invalidity are substantially

duplicative of those presented in the prior IPR. Under these circumstances, interests of judicial economy warrant denial of institution.

VI. CONCLUSION

For the foregoing reasons, General Access respectfully submits that the Board should deny institution.

Dated: October 31, 2023

Respectfully Submitted,

/Sarah E. Spires/

Sarah E. Spires (Reg. No. 61,501)

SKIERMONT DERBY LLP

1601 Elm St., Suite 4400

Dallas, Texas 75201

P: 214-978-6600/F: 214-978-6601

Lead Counsel for Patent Owner

Michael J. Valaik (*pro hac vice*)

Bartlit Beck LLP

54 W. Hubbard Street, Suite 300

Chicago, IL 60654

Tel: (312) 494-4400

michael.valaik@bartlitbeck.com

Nosson D. Knobloch (*pro hac vice*)

Bartlit Beck LLP

1801 Wewatta Street, Suite 1200

Denver, CO 80202

Tel: (303) 592-3100

nosson.knobloch@bartlitbeck.com

Back-Up Counsel for Patent Owner

CERTIFICATE OF WORD COUNT

Under the provisions of 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the Microsoft Office word count for the foregoing Patent Owner's Preliminary Response Under 35 U.S.C. § 313 and 37 C.F.R. § 42.107, excluding the table of contents, table of authorities, claim listing, certificate of word count, and certificate of service, totals 10,362 words, which is less than the 14,000 words allowed under 37 C.F.R. § 42.24(b)(1).

Dated: October 31, 2023

By: /Sarah E. Spires/
Sarah E. Spires (Reg. No. 61,501)
SKIERMONT DERBY LLP
1601 Elm Street, Suite 4400
Dallas, Texas 75201
Tel: (214) 978-6600
Fax: (214) 978-6601
sspires@skiermontderby.com
Lead Counsel for Patent Owner

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing Patent Owner's Preliminary Response was served on October 31, 2023, by delivering a copy via electronic mail to the attorneys of record for the Petitioner as follows:

Justin J. Oliver
USPTO Reg. No. 44,986
VENABLE LLP
joliver@venable.com

Stephen K. Yam
USPTO Reg. No. 64,927
VENABLE LLP
syam@venable.com

Dated: October 31, 2023

Respectfully Submitted,

/Sarah E. Spires/

Sarah E. Spires (Reg. No. 61,501)
Lead Counsel for Patent Owner