

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

WOODBURY WIRELESS LLC

Plaintiff,

v.

NOKIA CORP., NOKIA SOLUTIONS
AND NETWORKS OY, NOKIA OF
AMERICA CORP., and NOKIA
SHANGHAI BELL CO., LTD

Defendants.

Civil Action No. 2:24-cv-772

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Woodbury Wireless LLC (“Woodbury Wireless” or “Plaintiff”), for its Complaint against Defendants Nokia Corp, Nokia Solutions and Networks Oy (“NSN Oy”), Nokia of America Corp., and Nokia Shanghai Bell Co., Ltd (individually each a “Defendant,” and collectively “Nokia” or “Defendants”), alleges the following:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1 et seq.

THE PARTIES

2. Plaintiff is a limited liability company organized and existing under the laws of the State of Texas, having its principal place of business at 102 East Lamar, Jasper, Texas 75951.

3. On information and belief, Defendant Nokia Corporation is a corporation organized and existing under the laws of Finland with a place of business at Karakaari 7, 02610 Espoo, Finland.

4. On information and belief, Defendant Nokia Solutions and Networks Oy is a corporation organized and existing under the laws of Finland with a place of business at Karaportti 3, 02610 Espoo, Finland. Upon information and belief, Nokia Solutions and Networks Oy is a wholly owned subsidiary of Nokia Corporation.

5. On information and belief, Defendant Nokia of America Corporation is a Delaware corporation and is an indirect wholly owned subsidiary of Nokia Corporation and Nokia Solutions and Networks Oy. Upon information and belief, Nokia of America Corporation has a regular and established place of business in this District at 2525 Highway 121, Lewisville, Texas 75056-5006¹ and 601 Data Dr., Plano, Texas 75075-7839².

6. On information and belief, Defendant Nokia Shanghai Bell Co., Ltd is a corporation organized and existing under the laws of China with a place of business at No. 388 Ningqiao Road, Pudong Jinqiao, Shanghai 201206, China.³ Nokia Shanghai Bell Co., Ltd is a joint venture of Nokia Corporation and China Huaxin Post & Telecommunication Economy Development Center (“China Huaxin”).

7. On information and belief, Defendants act as a single Nokia company, including through the website www.nokia.com where Nokia offers for sale and sells the accused products and services, including 802.11be-compliant access points such as the Nokia Fastmile 5G Gateway

¹ See, e.g., <https://www.nokia.com/contact-us/worldwide-offices/north-america/>.

² See, e.g., <https://www.nokia.com/we-are-nokia/worldwide-presence/north-america/>.

³ See, e.g., <https://www.wikidata.org/wiki/Q10868043>; <https://www.bell-labs.com/about/locations/shanghai-china/#gref>; <https://www.cccme.cn/shop/cccme2924/index.aspx>.

7, Nokia WiFi Beacon 19, Nokia WiFi Beacon 24, Nokia ONT XS-2437X-B, and Nokia Fastmile 5G Gateway 12, and related software such as Corteca and Nokia Wi-Fi App. These examples are not limiting.

JURISDICTION AND VENUE

8. This is an action for patent infringement arising under the Patent Laws of the United States, Title 35 of the United States Code.

9. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

10. Venue is proper in this judicial district under 28 U.S.C. §§ 1391 and 1400 because Defendants have committed acts of infringement and/or have a regular and established place of business in this District.

11. Each Defendant is subject to this Court's personal jurisdiction consistent with the principles of due process and/or the Texas Long Arm Statute.

12. Furthermore, this Court has general and specific personal jurisdiction over the Defendants under the laws of the State of Texas, due at least to their substantial business in Texas and in this judicial district, directly or through intermediaries, including: (i) at least a portion of the infringements alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct and/or deriving substantial revenue from goods and services provided to individuals in the State of Texas. Nokia has purposefully availed itself of the privileges of conducting business in the State of Texas and in this judicial district. Venue is also proper in this district because Nokia has a regular and established place of business and has committed acts of infringement in this district.

13. Nokia maintains a presence in the State of Texas, and the Eastern District of Texas in particular. For example, Nokia's website advertises that it maintains its U.S. headquarters in the State of Texas. Nokia's website further advertises that Nokia maintains established places of

business in the Eastern District of Texas, including, at least: (1) an office at 2525 Highway 121, Lewisville, Texas, 75056; and (2) a data center in Plano, Texas. (<https://www.nokia.com/we-are-nokia/worldwide-presence/north-america/>; (last visited September 15, 2024); *see IPCom, GmbH & Co. KG v. AT&T Corp., Defendant, and Nokia of Am. Corp., Intervenor*, 2:20-cv-00322-JRG, D.I. 47, ¶¶61-63 (E.D. Tex. Feb. 9, 2021) (Nokia admitting the existence of a “Nokia facility in Lewisville, Texas” and “a data center in Plano”).

14. On information and belief, Nokia maintains additional offices in nearby locations throughout Texas, including its U.S. headquarters in Dallas (<https://www.nokia.com/contact-us/worldwide-offices/north-america/>; last visited September 15, 2024) and an Innovation Center in Dallas (<https://www.nokia.com/we-are-nokia/worldwide-presence/north-america/>; last visited September 15, 2024).

15. Nokia also operates the website www.nokia.com, which is accessible to and directed toward citizens of the State of Texas and this judicial district.

16. Nokia’s infringement has caused substantial injury to Woodbury Wireless, including in this judicial district.

BACKGROUND

The Invention

17. Roc Lastinger, John Spenik, and Brian C. Woodbury are the inventors of U.S. Patent No. 12,015,457 (“the ’457 patent”; Exhibit A) (“the Patent-In-Suit”) entitled “MIMO METHODS AND SYSTEMS.” A true and correct copy of the Patent-In-Suit is attached as Exhibit A.

18. The Patent-In-Suit resulted from the pioneering efforts of Messrs. Lastinger, Spenik, and Woodbury (hereinafter “the Inventors”) in the area of wireless communications using Multiple-Input Multiple-Output (MIMO) antennas and methods of operation. These efforts

resulted in the development of “MIMO methods and systems” in the first decade of the 2000s. At the time of these pioneering efforts, conventional wireless devices used to address interference resulting from noise sources by, for example, dividing the area of coverage into sectors, using a directional antenna, and using multiple antennas to provide redundancy and spatial diversity. Those conventional wireless devices, however, would suffer reduced performance when communicating with multiple wireless devices. The Inventors conceived of the inventions claimed in the Patent-In-Suit as a way to reduce mutual interference between multiple wireless devices performance by communicating through, just by way of example, the MIMO physical sector and altering the transmission to increase performance.

19. For example, the Inventors developed a MIMO-capable system that includes directional antennas positioned in such a way that the physical sectors of the antennas of a wireless device overlap. The MIMO-capable system and methods enable the selection of a specific combination of antennas that operate as a single MIMO antenna and are oriented in a desired direction for communications. Because the physical sectors of the selected antennas that operate as a single MIMO antenna overlap, these physical sectors form a “MIMO physical sector.” As a result of the invention disclosed in the Patent-In-Suit, a wireless device is able to select an optimal combination of antennas and communication protocols in order to achieve a desired level of performance, even if noise sources or environmental conditions change.

20. As an additional example, the invention further provides for the assignment of any available channel to the selected antennas such that each individual antenna of a MIMO antenna operates on the same channel. Moreover, the invention discloses, among other things, overlapping MIMO physical sectors that use different channels such that the MIMO physical sectors may communicate with different wireless devices simultaneously with further reduced mutual

interference due to alterations in the transmission. The inventions of the Patent-In-Suit thus enable wireless devices to reduce interference from noise sources by selecting a suitable channel, such as, for example, by selecting a channel that is different from the channel used by a noise source.

Advantages Over the Prior Art

21. The patented inventions disclosed in the Patent-In-Suit, provide many different advantages over the prior art, and in particular improved the operations of wireless devices such as those used in wireless communications between computers, wireless cells, access points, wireless clients, mobile computers, hand-held devices, other mobile devices, and file servers. (*See* '457 patent at 1:35-44, 3:4-7.) One exemplary advantage is improved performance of a wireless device as a result of the selection of an optimal combination of antennas to form a MIMO physical sector for wireless communications. (*See e.g., id.* at 4:14-37.) While the MIMO physical sector that results from the combination of the selected antennas' physical sectors may be formed in a variety of ways, certain orientations and configurations of the MIMO physical sectors can provide increased performance compared to other orientations of other MIMO physical sectors under particular circumstances. (*See e.g., id.*, 8:41-9, 9:35-41.) Thus, the inventions' abilities to position antennas to form MIMO virtual sectors and then selecting a specific combination of antennas to operate as a MIMO antenna (and thus form a MIMO physical sector), permits wireless devices to respond to changes in noise sources, environmental conditions, and other factors affecting their performance. (*Id.* at 4:64-5:2, 5:3-14, 8:41-9, 9:35-41, 9:56-62, 11:58-65).

22. In certain embodiments, the invention are highly adaptable because they permit a wireless device to use a flexible and dynamic array of criteria for selecting a MIMO physical/virtual sector for communications; for example, a wireless device may rely on the presence of noise sources, noise source channels used, signal-to-strength ratio, direction of primary

data flow, signal quality, signal strength, and data throughput for its selection. (*See e.g., id.* at 10:65-11:4.) Thus, when the performance of a selected MIMO physical sector deteriorates, a wireless device can adapt and select different antennas to operate as a MIMO antenna, thereby allowing the device to adapt to changing conditions and increase the wireless device's performance. (*See e.g., id.* at 5:7-33.)

23. Another exemplary advantage of the patented invention is that a wireless device may reduce interference by assigning optimal channels for one or more MIMO physical sectors. (*See e.g., id.* at 9:35-62, 11:28-65.) Wireless devices may thus select a channel that is different from the channel used by noise sources or may assign a channel to each of its own MIMO physical sectors in a manner that reduces interference, thus providing a desired level of performance. (*See e.g., id.* at 11:28-65; *see also* 8:41-9, 9:35-41, 9:56-62.)

24. Because of these significant advantages that can be achieved through the use of the patented invention, the Patent-In-Suit present significant commercial value for companies like Nokia. Indeed, its wireless network products are touted for providing increased data speeds, reliability, and a uniform user experience. The improvements in performance that are achievable through the pioneering developments described in the Patent-In-Suit are the cause.

Technological Innovation

25. The patented inventions disclosed in the various embodiments in the Patent-In-Suit resolves technical problems related to wireless communications, particularly problems related to the utilization of wireless devices with MIMO antennas communicating with multiple other devices. As the Patent-In-Suit details, one of the limitations of the prior art was the ineffective methods for adapting to changing sources of interference such as noise sources and environmental conditions. (*See e.g., id.* at 2:47-55, 4:64-5:2.)

26. These are specific technological problems that persisted in this field, which were solved by the inventions disclosed and claimed in the Patents-in-Suit. The claims of the Patent-In-Suit recite inventive concepts that are deeply rooted in engineering technology and overcome problems specifically arising out of how to maintain desired performance levels in the face of dynamic conditions including changing noise sources, environmental conditions, or deteriorating equipment performance.

27. In addition, the claims of the Patent-In-Suit recite inventive concepts that improve the functioning of wireless devices such as wireless cells, access points, wireless clients, wireless stations, cellular networks, mobile computers, hand-held devices, and portable wireless devices particularly by allowing such wireless devices to adapt to changing conditions in order to maintain an optimum level of performance and improve communications with multiple other devices.

28. Moreover, the invention recited by the claims of the Patent-In-Suit are not merely routine or conventional uses of general-purpose computer technology to implement an abstract idea. Instead, the patented invention disclosed in the Patent-In-Suit provide novel solutions to specific problems related to providing greater network performance such as by improving signal-to-noise ratio, reducing signal and data errors, decreasing retransmission requests, decreasing interference, increasing transmission rates, increasing signal strength, and the like.

29. Nor do the patented invention claimed in the Patent-In-Suit preempt all the ways that networks may be improved, nor do the Patent-In-Suit preempt any other well-known or prior art technology. The Patent-In-Suit disclose and claim specific solutions to specific technological problems that companies have only begun to attempt to address years later.

30. The claims in the Patent-In-Suit recite combinations of elements sufficient to ensure that each claim in substance and in practice amounts to significantly more than a patent-ineligible abstract idea.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 12,015,457

31. The allegations set forth in the foregoing paragraphs are incorporated into this First Claim for Relief.

32. On May 22, 2019, Roc Lastinger, John Spenik, and Brian C. Woodbury filed United States Patent Application No. 16/420,135 (“the ’135 Application”). On June 18, 2024, the ’135 Application was duly and legally issued by the United States Patent and Trademark Office as the ’457 patent under the title “MIMO Methods and Systems.”

33. Woodbury Wireless is the assignee and owner of the right, title and interest in and to the ’457 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

34. The ’457 patent is valid and enforceable. A true and correct copy of the ’457 patent is attached hereto as Exhibit A.

35. Upon information and belief, Nokia has and continues to directly infringe one or more claims of the ’457 patent without authority by using (including without limitation testing, internal use, use for customer support) and causing to be used products and systems, including by way of example, the Accused Instrumentalities. (*See* Claim Chart for the ’457 patent, attached hereto as Exhibit B.)

36. Nokia has and continues to directly infringe, either literally or under the doctrine of equivalents, at least Claim 1 of the ’457 patent by using (including without limitation testing, internal use, use for customer support), and causing to be used, the Accused Instrumentalities. (*See* Exhibit B.) As demonstrated by Exhibit B, each and every step of Claim 1 of the ’457 patent is

performed by Nokia using the the Accused Instrumentalities. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by Nokia with respect to the '457 patent. Woodbury Wireless reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the '457 patent.

37. Nokia has had actual knowledge of the '457 patent at least as early as the date of service of this Complaint.

38. Nokia's acts of infringement have occurred within this District and elsewhere throughout the United States.

39. Woodbury Wireless has been harmed by Nokia's infringing activities.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiff demands a trial by jury on all issues triable as such.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff demands judgment for itself and against Defendants as follows:

- A. An adjudication that each Defendant has infringed the Patent-In-Suit;
- B. An award of damages to be paid by Defendants adequate to compensate Plaintiff for Defendants' past infringement of the Patent-In-Suit, and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;
- C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of Plaintiff's reasonable attorneys' fees; and

D. An award to Plaintiff of such further relief at law or in equity as the Court deems just and proper.

Dated: September 19, 2024

DEVLIN LAW FIRM LLC

/s/ Chad Henson

Clifford Chad Henson (Bar No. 24087711)

chenson@devlinlawfirm.com

Timothy Devlin

tdevlin@devlinlawfirm.com

Derek Dahlgren (*pro hac vice*)

ddahlgren@devlinlawfirm.com

Leland R. Marcus (Bar No. 24139764)

lmarcus@devlinlawfirm.com

1526 Gilpin Avenue

Wilmington, Delaware 19806

Telephone: (302) 449-9010

Facsimile: (302) 353-4251

Attorneys for Plaintiff

Woodbury Wireless LLC