Plaintiff CommWorks Solutions, LLC ("CommWorks" or "Plaintiff") files this complaint against Defendant Axon Networks, Inc. ("Defendant" or "Axon") alleging, based on its own knowledge as to itself and its own actions, and based on information and belief as to all other matters, as follows:

NATURE OF THE ACTION

1. This is a patent infringement action for Defendants' infringement of the following United States Patents (collectively, the "<u>Asserted Patents</u>"), issued by the United States Patent and Trademark Office ("<u>USPTO</u>"):

	Patent No.	Title	Reference
1.	7,177,285	Time Based Wireless	https://image-
1.	7,177,203	Access Provisioning	ppubs.uspto.gov/dirsearch-
			public/print/downloadPdf/7177285,
			https://patentcenter.uspto.gov/applic
			ations/10961959
2.	7,463,596	Time Based Wireless	https://image-
		Access Provisioning	ppubs.uspto.gov/dirsearch-
			public/print/downloadPdf/7463596,
			https://patentcenter.uspto.gov/applic
		T: D 1 A	ations/11673513
3.	7,911,979	Time Based Access	https://image-
		Provisioning System And Process	<pre>ppubs.uspto.gov/dirsearch- public/print/downloadPdf/7911979,</pre>
		Alla Process	public/prilivdowilloadrdi//9119/9,
			https://patentcenter.uspto.gov/applic
			ations/12323399
4.	RE44,904	Method For	https://image-
' '	10211,501	Contention Free	ppubs.uspto.gov/dirsearch-
		Traffic Detection	public/print/downloadPdf/RE44904,
			https://patentcenter.uspto.gov/applic
			<u>ations/13171882</u>

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	Patent No.	Title	Reference
5.	7,027,465	Method For	https://image-
3.	7,027,103	Contention Free	ppubs.uspto.gov/dirsearch-
		Traffic Detection	public/print/downloadPdf/7027465,
			https://patentcenter.uspto.gov/applic
			ations/10167986
6.	6,891,807	Time Based Wireless	https://image-
	0,001,007	Access Provisioning	ppubs.uspto.gov/dirsearch-
		_	public/print/downloadPdf/6891807,
			https://patentcenter.uspto.gov/applic
			<u>ations/10341847</u>
0 D1 1 100 1			

2. Plaintiff seeks monetary damages.

PARTIES

- 3. CommWorks is a limited liability company formed under the laws of the State of Georgia with its registered office address located in Alpharetta, Georgia (Fulton County).
- 4. Defendant Axon Networks, Inc. is a corporation organized under the laws of the state of Delaware with a principal place of business at 15420 Laguna Canyon Rd., Suite 150, Irvine, CA 92618.

JURISDICTION AND VENUE

- 5. CommWorks repeats and re-alleges the allegations in the paragraphs above as though fully set forth in their entirety.
- 6. This is an action for infringement of a United States patent arising under 35 U.S.C. §§ 271, 281, and 284–85, among others. This Court has subject matter jurisdiction of the action under 28 U.S.C. § 1331 and § 1338(a).
- 7. Venue is proper against Defendant in this District pursuant to 28 U.S.C. § 1400(b) because it has maintained an established and regular place of business in this District and has committed acts of patent infringement in this District. *See In re: Cray Inc.*, 871 F.3d 1355, 1362-63 (Fed. Cir. 2017).
 - 8. Defendant is subject to this Court's specific and general personal

jurisdiction under due process and/or the California Long Arm Statute due at least to Defendant's substantial business in this judicial district, 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, or deriving substantial revenue from goods and services provided to individuals in California and in this district.

- 9. Specifically, Defendant intends to do and does business in, has committed acts of infringement in, and continues to commit acts of infringement in this District directly, and offers its services, including those accused of infringement here, to customers and potential customers located in California, including in the Central District of California.
- 10. Defendant maintains a regular and established place of business in this District, including, but not limited to, its principal place of business at 15420 Laguna Canyon Rd., Suite 150, Irvine, CA 92618.
- 11. Defendant commits acts of infringement from this District, including, but not limited to, use of the Accused Products and inducement of third parties to use the Accused Products.

THE ACCUSED PRODUCTS

- 12. CommWorks repeats and re-alleges the allegations in the paragraphs above as though fully set forth in their entirety.
- 13. Defendant uses, cause to be used, manufacture, provide, supply, or distribute one or more Axon Networks devices including, but not limited to the "Accused Products," set forth below:
- Axon Networks devices supporting **Wi-Fi Multimedia and 802.11-2007**+ functionality, including:
 - o G6500X10WG10G Wi-Fi 6 Router

G6500X10WG

10G XGSPON High Performance Wi-Fi 6 Router

COMPLIANCE

- ITU G.9807.1
- ITU G.988
- TR-247
- TR-255
- FCC
- UL/IEC/EN 62368-1
- UL 60825-1
- · Wi-Fi Alliance Wi-Fi 6, WPA3, and WMM
- CE*

Figure 1 (GX6500X10WG: 10G XGSPON High Performance Wi-Fi 6 Router, AXON NETWORKS, INC., available at https://www.axon-networks.com/products/10g (last visited Oct. 16, 2024)).

- Axon Networks devices supporting Wi-Fi Protected Setup (WPS) functionality, including:
 - o G6500X10WG10G Wi-Fi 6 Router

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TECHNICAL SPECIFICATIONS:
Model Number: G650010WG
Wi-Fi 6 Dual Band Wi-Fi
- 2.4 GHz: 4x4 (Tx/Rx) 1024 QAM 40MHz, up to 1.2Gbps
- 5 GHz: 4x4 (Tx/Rx) 1024 QAM 160MHz, up to 4.8Gbps
- Backwards compatible with 802.11a/blg/n/ac Wi-Fi
- OFDMA Uplink & Downlink§
- 1024-QAM
- 160MHz channel support***
- Programmable BSS Coloring
- Supports UNII-1, UNII-2 & UNII-2x (DFS), UNII-3 channels
- Zero-Wait DFS reentry
- MU-MIMO Downlink
High Power Wi-Fi amplifiers
Dual-Core 1.3 GHz MIPS InterAptiv™ Processor
1GB DDR3 Memory, 1GB Flash
- One (1) 10/100/1,000/10,000 Mbps - 10 Gigabit Ethernet port
- Four (4) 10/100/1,000 Mbps Gigabit Ethernet port
Fiber Port - Plug in SC/APC Fiber connector for XGSPON WAN connectivity
- Single fiber bi-directional data links symmetric 10Gbps Downstream/ 10Gbps Upstream XGSPON ONU application with XGSPON MAC function with FEC enabled.
- Supports Dying Gasp functionality
- Optical Subassembly -
- Class B+ 10Gb/s symmetric XGSPON rate
- Supports Optical classes N1/N2/E1
- Minimum optical output power 2.5mW
- Maximum optical output power 6.3mW
- Max Rx sensitivity -28.5dB
40°C to 85°C,
- 9.953Gbps, 1577nm, NRZ, PRBS 2^31-1
- ER=9dB, and
- BER=10^3
- Wavelengths: 1577nm Rx 1270nm Tx
- Supports 1270nm Burst-Mode Transmitter
- Supports 1577nm Continuous-Mode Receiver
IPv4 and IPv6 support
USB 3.0 Host port

Figure 2 (GX6500X10WG: 10G XGSPON High Performance Wi-Fi 6 Router, AXON NETWORKS, INC., available at https://www.axon-networks.com/products/10g (last visited Oct. 16, 2024)).

o G4500

Multi-color LED status



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TECHNICAL SPECIFICATIONS:

- Dual-Core 800 MHz MIPS InterAptiv Processor
- · Programmable BSS Coloring
- Supports UNII-1, UNII-2 & UNII-2x (DFS), UNII-3 channels
- · High Power Wi-Fi amplifiers
- Five 10/100/1000 Mbps gigabit Ethernet ports one WAN/LAN and four LAN
- · Reset button
- SFP Port (Supports up to 2Gbps download, 1Gbps upload)
- IPv6 Support (Internet Protocol Version 6)
- · Multi-color LED Indicator
- · WPS button Allows easy connection of devices to the network
- · Wi-Fi Certified WPA3 Enables more robust security for networks

<u>Figure 3</u> (*G4500: Software Defined Multi-Dwelling Unit*, AXON NETWORKS, INC., available at https://www.axon-networks.com/products/mdu (last visited Oct. 16, 2024)).

o LTE Router



Wireless Broadband

LTE Router

ADDITIONAL FEATURES:

- . Wi-Fi 6 dual-band dual-concurrent 2.4 GHz & 5 GHz operation
 - Dual-stream 2x2 IEEE 5GHz 802.11a/n/ac/ax at up to 2,400 Mbps
 - Dual-stream 2x2 IEEE 2.4GHz 802.11b/g/n/ ax at up to 600 Mbps
- WPA2, WPA, WEP-64, WEP-128
- WPS Push Button Wireless Setup
- . Multiple SSID with broadcast disable

¹ On April 13, 2021, "Axon Networks, a former business unit of Greenwave Systems spun off to form a new entity. . . ." Introducing Axon Networks, AXON NETWORKS, INC., available at Introducing AXON Networks (axon-networks.com) (Apr. 13, 2021) (emphasis added).

<u>Figure 4</u> (*Wireless Broadband: LTE Router*, AXON NETWORKS, INC., *available at* https://www.axon-networks.com/products/lte-router (last visited Oct. 16, 2024)).

- 14. On information and belief, Defendant provides information and assistance to its customers to enable them to use the Accused Products in an infringing manner as described below.
- 15. For these reasons and the additional reasons detailed below, the Accused Products practice at least one claim of each of the Asserted Patents.
- 16. By letter dated April 28, 2023, addressed to Siddhartha Dattagupta, Chief Executive Officer of Greenwave Systems Inc., and to Martin Manniche, Chief Executive Officer of Axon Networks, Inc.¹ (the "Notice Letter"), Defendant received notice of its infringement of CommWorks' patents, including the Asserted Patents.

COUNT I: INFRINGEMENT OF U.S. PATENT NO. 7,177,285

- 17. CommWorks repeats and re-alleges the allegations in the paragraphs above as though fully set forth in their entirety.
- 18. The USPTO duly issued U.S. Patent No. 7,177,285 (the "'285 patent") on February 13, 2007, after full and fair examination of Application No. 10/961,959 which was filed October 8, 2004. The '285 patent is entitled "Time Based Wireless Access Provisioning."
- 19. CommWorks owns all substantial rights, interest, and title in and to the '285 patent, including the sole and exclusive right to prosecute this action and enforce the '285 patent against infringers and to collect damages for all relevant times.

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- 20. CommWorks or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the '285 patent.
- 21. The claims of the '285 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components that improve upon the function and operation of preexisting network provisioning systems. The written description of the '285 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.
- 22. For example, at the time of the invention, wireless access to data networks was not yet conventional. Then existent systems for provisioning access to a network were impractical, such as for wireless devices which lacked a user interface configured for communicating provisioning information, or for simple home-based intranets, such as a wireless picture frame device lacking a control interface to read or extract identification information, such as a MAC address, to facilitate wireless access provisioning. '285 Patent at col. 3:13-26. Further, wireless devices that did have a dedicated user interface were incapable of, or cumbersome in, communicating device identification and exchanging provisioning information, still requiring a user to be technically proficient to properly initiate and complete a provisioning process. Id. at col. 3:27-36.
- 23. The invention of the '285 Patent improved upon existent network provisioning systems by enabling provisioning without requiring a user interface for the initiation of a provisioning process—"a major technological advance." *Id.* at col. The invention of the '285 Patent further improved upon existent 3:37-41. provisioning systems by providing a wireless access provisioning structure and

process with minimal device requirements and/or user proficiency, whereby a wireless device is readily provisioned by the provisioning system, and whereby other unauthorized devices within an access region are prevented from being provisioned by the provisioning system. *Id.* at col. 3:42-49. The invention of the '285 Patent further improved upon existent provisioning systems by providing a time-based wireless access provisioning system integrated with easily monitored parameters of a wireless device, such as the time monitoring of power on and/or start of signal transmission, for provisioning secure encrypted communication. *Id.* at col. 3:50-58. Moreover, the structure of the devices described in the '285 Patent was not conventional at the time of the invention. Specifically, a device such as an access point, comprising a provisioning activation button, time-based provisioning logic, access control list, wired network logic, a wired network connection and a transceiver were not conventional (or even available) at the time of the invention.

- 24. Defendant has directly infringed the '285 patent by making, using, offering to sell, selling, and/or importing the Accused Products identified above.
- 25. Defendant has directly infringed, either literally or under the doctrine of equivalents, at least claim 1 of the '285 patent, as detailed in **Exhibit A** to this Complaint (Evidence of Use Regarding U.S. Patent No. 7,177,285).
- 26. On information and belief, Defendant has infringed the '285 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering for sale, selling, and/or importing into the United States Wi-Fi Protected Setup ("WPS") compatible SoCs and/or devices, such as, for example, the Axon G6500X10WG10G Wi-Fi 6 Router, G4500, and LTE Routers (included in the "Accused Products").
- 27. For example, as detailed in Exhibit A, Defendant has infringed at least claim 1 of the '285 Patent by making, using, offering to sell, selling, and/or importing the Accused Products, which perform a process for provisioning between a wireless device and a network. *See* Exhibit A. The process for provisioning

comprises the step of tracking an operating parameter of the wireless device within a service area, wherein the operating parameter of the wireless device comprises an onset of a signal transmission of the wireless device. *Id.* The process for provisioning further comprises the step of initiating provisioning of the wireless device if the tracked operating parameter occurs within a time interval. *Id.*

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- Defendant has also indirectly infringed the '285 patent by inducing others 28. to directly infringe the '285 patent. Defendant has induced distributors and endusers, including, but not limited to, Defendant's employees, partners, contractors, or customers, to directly infringe, either literally or under the doctrine of equivalents, the '285 patent by providing or requiring use of the Accused Products. Defendant has taken active steps, directly or through contractual relationships with others, with the specific intent to cause them to use the Accused Products in a manner that infringes one or more claims of the '285 patent, including, for example, claim 1 of the '285 patent. Such steps by Defendant include, among other things, advising or directing personnel, contractors, or end-users to use the Accused Products in an infringing manner; advertising and promoting the use of the Accused Products in an infringing manner; or distributing instructions that guide users to use the Accused Products in an infringing manner. Defendant has performed these steps, which constitute induced infringement with the knowledge of the '285 patent and with the knowledge that the induced acts constitute infringement. Defendant has been aware that the normal and customary use of the Accused Products by others would infringe the '285 patent.
- 29. Defendant has also indirectly infringed by contributing to the infringement of the '285 patent. Defendant has contributed to the direct infringement of the '285 patent by its personnel, contractors, distributors, and customers. The Accused Products have special features that are specially designed to be used in an infringing way and that have no substantial uses other than ones that infringe one or more claims of the '285 patent, including, for example, claim 1 of

the '285 patent. The special features constitute a material part of the invention of one or more of the claims of the '285 patent and are not staple articles of commerce suitable for substantial non-infringing use.

30. CommWorks has been damaged as a result of the infringing conduct by Defendant alleged above. Thus, Defendant is liable to CommWorks in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT II: INFRINGEMENT OF U.S. PATENT NO. 7,463,596

- 31. CommWorks repeats and re-alleges the allegations in the paragraphs above as though fully set forth in their entirety.
- 32. The USPTO duly issued U.S. Patent No. 7,463,596 (the "'596 patent'') on December 9, 2008, after full and fair examination of Application No. 11/673,513, which was filed on February 9, 2007. The '596 patent is entitled "Time Based Wireless Access Provisioning."
- 33. CommWorks owns all substantial rights, interest, and title in and to the '596 patent, including the sole and exclusive right to prosecute this action and enforce the '596 patent against infringers and to collect damages for all relevant times.
- 34. CommWorks or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the '596 patent.
- 35. The claims of the '596 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components that improve upon the function and operation of preexisting network provisioning systems.
- 36. The written description of the '596 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of

the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

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- 37. For example, at the time of the invention, wireless access to data networks was not yet conventional. Then existent systems for provisioning access to a network were impractical, such as for wireless devices which lacked a user interface configured for communicating provisioning information, or for simple home-based intranets, such as a wireless picture frame device lacking a control interface to read or extract identification information, such as a MAC address, to facilitate wireless access provisioning. '596 Patent at col. 3:13-26. Further, wireless devices that did have a dedicated user interface were incapable of, or cumbersome in, communicating device identification and exchanging provisioning information, still requiring a user to be technically proficient to properly initiate and complete a provisioning process. *Id.* at col. 3:27-36.
- 38. The invention of the '596 Patent improved upon existent network provisioning systems by enabling provisioning without requiring a user interface for the initiation of a provisioning process—"a major technological advance." Id. at col. The invention of the '596 Patent further improved upon existent 3:37-41. provisioning systems by providing a wireless access provisioning structure and process with minimal device requirements and/or user proficiency, whereby a wireless device is readily provisioned by the provisioning system, and whereby other unauthorized devices within an access region are prevented from being provisioned by the provisioning system. *Id.* at col. 3:42-49. The invention of the '596 Patent further improved upon existent provisioning systems by providing a time-based wireless access provisioning system integrated with easily monitored parameters of a wireless device, such as the time monitoring of power on and/or start of signal transmission, for provisioning secure encrypted communication. Id. at col. 3:50-58. Moreover, the structure of the devices described in the '596 Patent was not

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conventional at the time of the invention. Specifically, a device such as an access point, comprising a provisioning activation button, time-based provisioning logic, access control list, wired network logic, a wired network connection and a transceiver were not conventional (or even available) at the time of the invention.

- 39. Defendant has directly infringed the '596 patent by making, using, offering to sell, selling, and/or importing the Accused Products identified above.
- 40. Defendant has directly infringed, either literally or under the doctrine of equivalents, at least claim 1 of the '596 patent, as detailed in **Exhibit B** to this Complaint (Evidence of Use Regarding U.S. Patent No. 7,463,596).
- 41. On information and belief, Defendant has infringed the '596 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering for sale, selling, and/or importing into the United States Wi-Fi Protected Setup ("WPS") compatible SoCs and/or devices, such as, for example, the Axon G6500X10WG10G Wi-Fi 6 Router, G4500, and LTE Routers (included in the "Accused Products").
- 42. For example, as detailed in Exhibit B, Defendant, using the Accused Products, has infringed at least claim 1 of the '596 Patent by making, using, offering to sell, selling, and/or importing the Accused Products, which perform a process for associating devices. *See* Exhibit B. The process for associating devices comprises the step of tracking an operating parameter of a first device, wherein the operating parameter of the first device comprises any of a power on of the first device, and an onset of a signal transmission of the first device. *Id.* The process for associating devices further comprises the step of automatically associating the first device with at least one other device if the tracked operating parameter occurs within a time interval. *Id.*
- 43. Defendant has also indirectly infringed the '596 patent by inducing others to directly infringe the '596 patent. Defendant has induced distributors and endusers, including, but not limited to, Defendant's employees, partners, contractors, or

customers, to directly infringe, either literally or under the doctrine of equivalents,

- the '596 patent by providing or requiring use of the Accused Products. Defendant has taken active steps, directly or through contractual relationships with others, with the specific intent to cause them to use the Accused Products in a manner that infringes one or more claims of the '596 patent, including, for example, claim 1 of the '596 patent. Such steps by Defendant include, among other things, advising or directing personnel, contractors, or end-users to use the Accused Products in an infringing manner; advertising and promoting the use of the Accused Products in an infringing manner; or distributing instructions that guide users to use the Accused Products in an infringing manner. Defendant has performed these steps, which constitute induced infringement with the knowledge of the '596 patent and with the knowledge that the induced acts constitute infringement. Defendant has been aware that the normal and customary use of the Accused Products by others would infringe the '596 patent.
- 44. Defendant has also indirectly infringed by contributing to the infringement of the '596 patent. Defendant has contributed to the direct infringement of the '596 patent by its personnel, contractors, distributors, and customers. The Accused Products have special features that are specially designed to be used in an infringing way and that have no substantial uses other than ones that infringe one or more claims of the '596 patent, including, for example, claim 1 of the '596 patent. The special features constitute a material part of the invention of one or more of the claims of the '596 patent and are not staple articles of commerce suitable for substantial non-infringing use.
- 45. CommWorks has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendant is liable to CommWorks in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT III: INFRINGEMENT OF U.S. PATENT NO. 7,911,979

- 46. CommWorks repeats and re-alleges the allegations in the paragraphs above as though fully set forth in their entirety.
- 47. The USPTO duly issued U.S. Patent No. 7,911,979 (the "'979 patent") on March 22, 2011, after full and fair examination of Application No. 12/323,399 which was filed on November 25, 2008. The '979 patent is entitled "Time Based Access Provisioning System And Process." A Certificate of Correction was issued on July 19, 2011.
- 48. CommWorks owns all substantial rights, interest, and title in and to the '979 patent, including the sole and exclusive right to prosecute this action and enforce the '979 patent against infringers and to collect damages for all relevant times.
- 49. CommWorks or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the '979 patent.
- 50. The claims of the '979 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components that improve upon the function and operation of preexisting network provisioning systems.
- 51. The written description of the '979 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.
- 52. For example, at the time of the invention wireless access to data networks was not yet conventional. Then existent systems for provisioning access to a network were impractical, such as for wireless devices which lacked a user interface configured for communicating provisioning information, or for simple home-based

intranets, such as a wireless picture frame device lacking a control interface to read or extract identification information, such as a MAC address, to facilitate wireless access provisioning. '979 Patent at col. 3:19-31. Further, wireless devices that did have a dedicated user interface were incapable of, or cumbersome in, communicating device identification and exchanging provisioning information, still requiring a user to be technically proficient to properly initiate and complete a provisioning process. *Id.* at col. 3:32-41.

53. The invention of the '979 Patent improved upon existent network

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- The invention of the '979 Patent improved upon existent network provisioning systems by enabling provisioning without requiring a user interface for the initiation of a provisioning process—"a major technological advance." *Id.* at col. The invention of the '979 Patent further improved upon existent 3:42-46. provisioning systems by providing a wireless access provisioning structure and process with minimal device requirements and/or user proficiency, whereby a wireless device is readily provisioned by the provisioning system, and whereby other unauthorized devices within an access region are prevented from being provisioned by the provisioning system. Id. at col. 3:47-53. The invention of the '979 Patent further improved upon existent provisioning systems by providing a time-based wireless access provisioning system integrated with easily monitored parameters of a wireless device, such as the time monitoring of power on and/or start of signal transmission, for provisioning secure encrypted communication. Id. at col. 3:54-62. Moreover, the structure of the devices described in the '979 Patent was not conventional at the time of the invention. Specifically, a device such as an access point, comprising a provisioning activation button, time-based provisioning logic, access control list, wired network logic, a wired network connection and a transceiver were not conventional (or even available) at the time of the invention.
- 54. Defendant has directly infringed the '979 patent by importing, selling, manufacturing, offering to sell, using, providing, supplying, or distributing the Accused Products identified above.

- 55. Defendant has directly infringed either literally or under the doctrine of equivalents, at least claim 1 of the '979 patent, as detailed in **Exhibit C** to this Complaint (Evidence of Use Regarding U.S. Patent No. 7,911,979).
- 56. On information and belief, Defendant has infringed the '979 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering for sale, selling, and/or importing into the United States Wi-Fi Protected Setup ("WPS") compatible SoCs and/or devices, such as, for example, the Axon G6500X10WG10G Wi-Fi 6 Router, G4500, and LTE Routers (included in the "Accused Products").
- 57. For example, as detailed in Exhibit C, Defendant, using the Accused Products, has infringed at least claim 1 of the '979 patent by making, using, offering to sell, selling, and/or importing the Accused Products, which perform a provisioning process performed by a provisioning system having provisioning logic. See Exhibit C. The provisioning process performed comprises tracking, by the provisioning logic, an operating parameter of a first device, wherein the operating parameter of the first device comprises any of a power on of the first device, and an onset of a signal transmission of the first device. *Id.* The provisioning process performed in the Accused Products further comprises sending a signal to initiate provisioning of the first device with a network if the tracked operating parameter occurs within a designated time interval. *Id.*
- 58. Defendant has also indirectly infringed the '979 patent by inducing others to directly infringe the '979 patent. Defendant has induced distributors and endusers, including, but not limited to, Defendant's employees, partners, contractors, or customers, to directly infringe, either literally or under the doctrine of equivalents, the '979 patent by providing or requiring use of the Accused Products. Defendant has taken active steps, directly or through contractual relationships with others, with the specific intent to cause them to use the Accused Products in a manner that infringes one or more claims of the '979 patent, including, for example, claim 1 of

- the '979 patent. Such steps by Defendant include, among other things, advising or directing personnel, contractors, or end-users to use the Accused Products in an infringing manner; advertising and promoting the use of the Accused Products in an infringing manner; or distributing instructions that guide users to use the Accused Products in an infringing manner. Defendant has performed these steps, which constitute induced infringement with the knowledge of the '979 patent and with the knowledge that the induced acts constitute infringement. Defendant has been aware that the normal and customary use of the Accused Products by others would infringe the '979 patent.
- 59. Defendant has also indirectly infringed by contributing to the infringement of the '979 patent. Defendant has contributed to the direct infringement of the '979 patent by its personnel, contractors, distributors, and customers. The Accused Products have special features that are specially designed to be used in an infringing way and that have no substantial uses other than ones that infringe one or more claims of the '979 patent, including, for example, claim 1 of the '979 patent. The special features constitute a material part of the invention of one or more of the claims of the '979 patent and are not staple articles of commerce suitable for substantial non-infringing use.
- 60. CommWorks has been damaged as a result of the infringing conduct by Defendant alleged above. Thus, Defendant is liable to CommWorks in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT IV: <u>INFRINGEMENT OF U.S. PATENT NO. RE44,904</u>

- 61. CommWorks repeats and re-alleges the allegations in the paragraphs above as though fully set forth in their entirety.
- 62. The USPTO duly and lawfully reissued U.S. Patent No. RE44,904 (the "'904 patent") on May 20, 2014. The '904 patent is entitled "Method For Contention

Free Traffic Detection."

- 63. CommWorks owns all substantial rights, interest, and title in and to the '904 patent, including the sole and exclusive right to prosecute this action and enforce the '904 patent against infringers and to collect damages for all relevant times.
- 64. CommWorks or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the '904 patent.
- 65. The claims of the '904 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components that improve upon the function and operation of preexisting network provisioning systems.
- 66. The written description of the '904 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.
- 67. For example, at the time of the invention, "conventionally ... transmission differentiation based on priority was not conducted at all." '904 Patent at col. 2:9-10. Obtaining priority information for traffic transmitted through an Access Point (AP) required searching all fields in all frames for indications of the priority state of the actual data frame, resulting in all fields in all frames being checked and all headers being analyzed, starting from the outer most headers, until the right field in the header had been found. *Id.* at col. 1:63-2:2. This measure was very complex, took a long time, and required a large amount of processing, especially for complex tunneling protocols. *Id.* at col. 2:5-8. All the frame headers and protocols which can be included in the data frames transmitted via the network had to be known, hence, the amount of information needed for identifying the data was huge. *Id.* at

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- col. 2:8-14. Such a huge amount of information was typically too heavy to handle in small and low price equipment like WLAN access points (AP). *Id.* Further, then existing systems according to the IEEE 802.11 standard did not separate traffic based on priority. *Id.* at col. 2:20-25.
- 68. The invention of the '904 Patent improved upon conventional network traffic routing systems by providing methods by which priority traffic can easily be distinguished from normal traffic without the need of complex processing making it possible to execute in a low cost and possibly low performance AP. Id. at col. 2:29-32, 3:2-4, 3:52-53. The methods of the invention of the '904 Patent further improved upon conventional network traffic routing systems by easily finding higher priority traffic from the stream of MAC layer frames without necessarily requiring knowledge of the upper layer protocols. Id. at col. 2:62-65. The methods of the invention of the '904 Patent further improved upon conventional network traffic routing systems by being protocol-independent and flexible such that their configuration may be done in an external configuration program; with the Access Point not needing to know anything about the processed traffic; further alleviating the need of complex structure of the device. Id. at col. 3:5-8, 3:14-21. A further advantage over conventional network traffic routing systems is that installation of new software or hardware in the network element would not be required when new protocols or modified protocols are introduced in the network. *Id.* at col. 3:22-31.
- 69. Defendant has directly infringed the '904 patent by importing, selling, manufacturing, offering to sell, using, providing, supplying, or distributing the Accused Products identified above.
- 70. Defendant has directly infringed either literally or under the doctrine of equivalents, at least claim 1 of the '904 patent, as detailed in **Exhibit D** to this Complaint (Evidence of Use Regarding U.S. Patent No. RE44,904).
- 71. On information and belief, Defendant, using the Accused Products, has infringed the '904 Patent pursuant to 35 U.S.C. § 271(a), literally or under the

- doctrine of equivalents, by performing methods for contention free traffic detection using Wi-Fi Multimedia ("WMM") and/or 802.11-2007+ compatible chips, such as, for example, the Axon G6500X10WG10G Wi-Fi 6 Router (included in the "Accused Products").
- 72. For example, as detailed in Exhibit D, Defendant, using the Accused Products, has infringed at least claim 1 of the '904 patent by performing a method comprising extracting a bit pattern from a predetermined position in a frame. *See* Exhibit D. The method further comprises comparing said extracted bit pattern with a search pattern. *Id.* The method further comprises identifying a received frame as a priority frame in case said extracted bit pattern matches with said search pattern. *Id.* The method further comprises forwarding said received frame to a high priority queue in case said frame is detected to be a high priority frame during a special period for sending priority traffic. *Id.* The method further comprises adjusting the duration of the special period for sending priority traffic according statistic information regarding sent priority frames. *Id.*
- 73. CommWorks has been damaged as a result of the infringing conduct by Defendant alleged above. Thus, Defendant is liable to CommWorks in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT V: INFRINGEMENT OF U.S. PATENT NO. 7,027,465

- 74. CommWorks repeats and re-alleges the allegations in the paragraphs above as though fully set forth in their entirety.
- 75. The USPTO duly issued U.S. Patent No. 7,027,465 (the "'465 patent") on April 11, 2006, after full and fair examination of Application No. 10/167,986 which was filed on June 11, 2002. The '465 patent is entitled "Method For Contention Free Traffic Detection."
 - 76. CommWorks owns all substantial rights, interest, and title in and to the

- '465 patent, including the sole and exclusive right to prosecute this action and enforce the '465 patent against infringers and to collect damages for all relevant times.
- 77. CommWorks or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the '465 patent.
- 78. The claims of the '465 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components that improve upon the function and operation of preexisting network provisioning systems.
- 79. The written description of the '465 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.
- 80. For example, at the time of the invention, "conventionally ... transmission differentiation based on priority was not conducted at all." '465 Patent at col. 2:9-10. Obtaining priority information for traffic transmitted through an Access Point (AP) required searching all fields in all frames for indications of the priority state of the actual data frame, resulting in all fields in all frames being checked and all headers being analyzed, starting from the outer most headers, until the right field in the header had been found. *Id.* at col. 1:53-59. This measure was very complex, took a long time, and required a large amount of processing, especially for complex tunneling protocols. *Id.* at col. 1:62-65. All the frame headers and protocols which can be included in the data frames transmitted via the network had to be known, hence, the amount of information needed for identifying the data was huge. *Id.* at col. 1:66-2:4. Such a huge amount of information was typically too heavy to handle in small and low price equipment like WLAN access points (AP). *Id.* Further, then

existing systems according to the IEEE 802.11 standard did not separate traffic based on priority. *Id.* at col. 2:11-15.

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- The invention of the '465 Patent improved upon conventional network 81. traffic routing systems by providing methods by which priority traffic can easily be distinguished from normal traffic without the need of complex processing making it possible to execute in a low cost and possibly low performance AP. *Id.* at col. 2:19-23, 2:60-62, 3:43. The methods of the invention of the '465 Patent further improved upon conventional network traffic routing systems by easily finding higher priority traffic from the stream of MAC layer frames without necessarily requiring knowledge of the upper layer protocols. Id. at col. 2:53-56. The methods of the invention of the '465 Patent further improved upon conventional network traffic routing systems by being protocol-independent and flexible such that their configuration may be done in an external configuration program; with the Access Point not needing to know anything about the processed traffic; further alleviating the need of complex structure of the device. Id. at col. 2:63-66, col. 3:5-11. A further advantage over conventional network traffic routing systems is that installation of new software or hardware in the network element would not be required when new protocols or modified protocols are introduced in the network. *Id.* at col. 3:12-21.
- 82. Defendant has directly infringed the '465 patent by importing, selling, manufacturing, offering to sell, using, providing, supplying, or distributing the Accused Products identified above.
- 83. Defendants has directly infringed either literally or under the doctrine of equivalents, at least claim 1 of the '465 patent, as detailed in **Exhibit E** to this Complaint (Evidence of Use Regarding U.S. Patent No. 7,027,465).
- 84. On information and belief, Defendant, using the Accused Products, have infringed the '465 patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by performing methods for contention free traffic detection

- using Wi-Fi Multimedia (WMM) and/or 802.11-2007+ compatible chips and devices, such as, for example, the Axon G6500X10WG10G Wi-Fi 6 Router (included in the "Accused Products").
- 85. For example, as detailed in Exhibit E, Defendant has infringed at least claim 1 of the '465 patent by performing a method for detecting priority of data frames in a network. See Exhibit E. The method for detecting priority of data frames comprises the step of extracting a bit pattern from a predetermined position in a frame. Id. The method for detecting priority of data frames further comprises the step of comparing said extracted bit pattern with a search pattern. Id. The method for detecting priority of data frames further comprises the step of identifying a received frame as a priority frame in case said extracted bit pattern matches with said search pattern. Id. In the method for detecting priority of data frames, the predetermined position in said frame is defined by the offset of said bit pattern in said frame. Id.
- 86. Defendant had knowledge of the '465 patent when it received the Notice Letter in April of 2023.
- 87. Furthermore, on information and belief, Defendant has a policy or practice of not reviewing the patents of others, including instructing its employees to not review the patents of others, and thus have been willfully blind of CommWorks' patent rights.
- 88. Defendant's actions are at least objectively reckless as to the risk of infringing a valid patent and this objective risk was either known or should have been known by Defendant.
- 89. Defendant's direct infringement of one or more claims of the '465 patent is, has been, and continues to be willful, intentional, deliberate, or in conscious disregard of CommWorks' rights under the patent.
- 90. CommWorks has been damaged as a result of the infringing conduct by Defendant alleged above. Thus, Defendant is liable to CommWorks in an amount

that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT VI: INFRINGEMENT OF U.S. PATENT NO. 6,891,807

- 91. CommWorks repeats and re-alleges the allegations in the paragraphs above as though fully set forth in their entirety.
- 92. The USPTO duly issued U.S. Patent No. 6,891,807 (the "'807 patent") on May 10, 2005, after full and fair examination of Application No. 10/341,847 which was filed on January 13, 2003. The '807 patent is entitled "Time Based Wireless Access Provisioning."
- 93. CommWorks owns all substantial rights, interest, and title in and to the '807 patent, including the sole and exclusive right to prosecute this action and enforce the '807 patent against infringers and to collect damages for all relevant times.
- 94. CommWorks or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the '807 patent.
- 95. The claims of the '807 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components that improve upon the function and operation of preexisting network provisioning systems.
- 96. The written description of the '807 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.
- 97. For example, at the time of the invention, wireless access to data networks was not yet conventional. Then existent systems for provisioning access to a

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network were impractical, such as for wireless devices which lacked a user interface configured for communicating provisioning information, or for simple home-based intranets, such as a wireless picture frame device lacking a control interface to read or extract identification information, such as a MAC address, to facilitate wireless access provisioning. '807 Patent at col. 3:5-18. Further, wireless devices that did have a dedicated user interface were incapable of, or cumbersome in, communicating device identification and exchanging provisioning information, still requiring a user to be technically proficient to properly initiate and complete a provisioning process. *Id.* at col. 3:19-28.

The invention of the '807 Patent improved upon existent network 98. provisioning systems by enabling provisioning without requiring a user interface for the initiation of a provisioning process—"a major technological advance." Id. at col. 3:29-33. The invention of the '807 Patent further improved upon existent provisioning systems by providing a wireless access provisioning structure and process with minimal device requirements and/or user proficiency, whereby a wireless device is readily provisioned by the provisioning system, and whereby other unauthorized devices within an access region are prevented from being provisioned by the provisioning system. *Id.* at col. 3:34-41. The invention of the '807 Patent further improved upon existent provisioning systems by providing a time-based wireless access provisioning system integrated with easily monitored parameters of a wireless device, such as the time monitoring of power on and/or start of signal transmission, for provisioning secure encrypted communication. Id. at col. 3:42-50. Moreover, the structure of the devices described in the '807 Patent was not conventional at the time of the invention. Specifically, a device such as an access point, comprising a provisioning activation button, time-based provisioning logic, access control list, wired network logic, a wired network connection and a transceiver were not conventional (or even available) at the time of the invention.

- 99. Defendant has directly infringed either literally or under the doctrine of equivalents, at least claim 17 of the '807 patent, as detailed in **Exhibit F** to this Complaint (Evidence of Use Regarding U.S. Patent No. 6,891,807).
- 100. On information and belief, Defendant has infringed the '807 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering for sale, selling, and/or importing into the United States Wi-Fi Protected Setup ("WPS") compatible consumer electronics chips, such as, for example, the Axon G6500X10WG10G Wi-Fi 6 Router, G4500, and LTE Routers (included in the "Accused Products").
- 101. For example, as detailed in Exhibit F, Defendant has infringed at least claim 17 of the '807 Patent by making, using, offering to sell, selling, and/or importing the Accused Products, which include a time based network access provisioning system between a wireless device and a network. *See* Exhibit F. The time based network access provisioning system comprises a network access point connected to the network, the network access point comprising logic for tracking operation of the wireless device. *Id.* The time based network access provisioning system further comprises logic for provisioning the wireless device if the operation of the wireless device occurs within an activatable time interval. *Id.*
- 102. Defendant had knowledge of the '807 patent when it received the Notice Letter in April of 2023.
- 103. Furthermore, on information and belief, Defendant has a policy or practice of not reviewing the patents of others, including instructing its employees to not review the patents of others, and thus have been willfully blind of CommWorks' patent rights.
- 104. Defendant's actions are at least objectively reckless as to the risk of infringing a valid patent and this objective risk was either known or should have been known by Defendant.
 - 105. Defendant's direct infringement of one or more claims of the '807 patent

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is, has been, and continues to be willful, intentional, deliberate, or in conscious disregard of CommWorks' rights under the patent.

106. CommWorks has been damaged as a result of the infringing conduct by Defendant alleged above. Thus, Defendant is liable to CommWorks in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

JURY DEMAND

107. CommWorks hereby requests a trial by jury on all issues so triable by right.

PRAYER FOR RELIEF

- CommWorks requests that the Court find in its favor and against 108. Defendants, and that the Court grant CommWorks the following relief:
 - Judgment that one or more claims of each of the Asserted Patents has been infringed, either literally or under the doctrine of equivalents, by the Defendant or others acting in concert therewith;
 - b. Judgment that Defendants account for and pay to CommWorks all damages to and costs incurred by CommWorks because of Defendants' infringing activities and other conduct complained of herein;
 - Judgment that Defendant's infringements of the '465 patent be found willful, and that the Court award treble damages for the period of such willful infringement pursuant to 35 U.S.C. § 284;
 - Pre-judgment interest on the damages caused by Defendants' infringing activities and other conduct complained of herein;
 - That this Court declare this an exceptional case and award CommWorks its reasonable attorneys' fees and costs in accordance with 35 U.S.C. § 285; and
 - All other and further relief as the Court may deem just and proper under

the circumstances.

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1	Dated: <u>October 17, 2024</u>	Respectfully submitted,
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10 11		Attorneys for Plaintiff COMMWORKS SOLIUTIONS, LLC
12	List of Exhibits	
13	A. Evidence of Use Regarding	U.S. Patent No. 7,177,285
14	B. Evidence of Use Regarding	U.S. Patent No. 7,463,596
15	C. Evidence of Use Regarding	U.S. Patent No. 7,911,979
16	D. Evidence of Use Regarding	U.S. Patent No. RE44,904
17	E. Evidence of Use Regarding	U.S. Patent No. 7,027,465
18	F. Evidence of Use Regarding	U.S. Patent No. 6,891,807
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